

ALEXANDRIA RENEW ENTERPRISES RIVERRENEW TUNNEL DEWATERING PUMP STATION PRELIMINARY SITE PLAN

CITY OF ALEXANDRIA, VA AUGUST 14, 2019

SITE ZONING:

1800 LIMERICK ST. ALEXANDRIA, VA 22314 ALEXRENEW.COM

ENGINEER/OWNER'S ADVISOR:

1725 DUKE ST. #250 ALEXANDRIA, VA 22314

BROWN AND CALDWELL 1725 DUKE ST. #250 ALEXANDRIA, VA 22314 ATTN: JUSTIN CARL, P.E. JCARL@BRWNCALD.COM

ATTORNEY:

MCGUIRE WOODS 1750 TYSONS BOULEVARD #1800 **TYSONS, VA 22102** ATTN: JONATHAN RAK JRAK@MCGUIREWOODS.COM

ARCHITECT:

INTERAGENCY INC. 1301 DELAWARE AVE SW, STE N712 WASHINGTON DC 20024 ATTN: JOHN LI, AIA, LEED AP JOHN.LI@INTERAGENCY.BIZ

LANDSCAPE ARCHITECT:

WETLAND STUDIES AND SOLUTIONS, INC. 5300 WELLINGTON BRANCH DRIVE GAINESVILLE, VA 20155 ATTN: DILLON CONNER, P.L.A. DCONNER@WETLANDS.COM

EXISTING USES ON THE S	SITE:	SEWER AND WASTEWATER TREATMENT FACILITY UTILITY COMPANY OFFICES SEWER AND WASTEWATER TREATMENT FACILITY PUMPING STATION								
PROPOSED USES ON THE	E SITE:									
		UTILITY COMPAN	NY OFFICES							
ITEM:	REQUIRED		EXISTING	PROPOSED						
WRRF SITE AREA:	N/A		1,559,267 SF	1,559,267 SF						
WRRF BUILDING AREA:	N/A		360,007 SF	383,638 SF						
TDPS LOT AREA	N/A		N/A	43,952 SF						
TDPS BUILDING AREA:	N/A		N/A	23,631 SF						
FAR:	0.25, UP TO 0.5 WITH SUP	5 PERMISSIBLE	0.231	0.246						
BUILDING HEIGHT:	35 FT, UP TO 50	FT	35 FT	50 FT						
	PERMISSIBLE WI	TH SUP								
BUILDING INFORMATION										
GROSS SQUARE FOOTAG	E:	23,631 SF								
NET SQUARE FOOTAGE:		18,958 SF								
OPEN SPACE (GROUND L	EVEL):	20,231 SF								
AVERAGE FINISHED GRAI	DE:	15'-0"								
BUILDING HEIGHT:		50'-0" ABOVE GRADE								
BUILDING SETBACKS REC	QUIRED:	N/A								
BUILDING SETBACKS PRO	OVIDED:	160' FROM LOT LINE								
		286' FROM CENTERLINE OF HOLLAND LANE								
LOT FRONTAGE REQUIRE	D:	N/A								

ZONING TABULATIONS

UT

LOT FRONTAGE PROVIDED: PARKING SPACES: REQUIRED PER § 8-200 (A)(21) COMPACT:

STANDARD	
ADA:	
TOTAL	
LOADING SPACES:	
REQUIRED:	
PROVIDED:	
TRIP GENERATION:	

N/A

N/A FOR UTILITY ZONE, NO OCCUPIED OFFICE SPACE WITHIN BUILDING

0	
5	
2	
7	

N/A

N/A

3

SPECIAL USE DEVELOPMENT REQUESTS

PARKING REDUCTION

- SPECIAL USE UTILITIES
- SPECIAL USE PERMIT TO INCREASE THE BUILDING HEIGHT **TO 50-FT**
- 2)

NOTES:

		1725 DUKE STREET
		SUITE 250
D	•	ALEXANDRIA, VA 22314
	۲	(703) 739-4212
L		WWW.BROWNANDCALDWELL
	_	



					SEAL					SCALE:	AS SHOWN
					EAL HOLD					DATE:	AUGUST 2019
										DRAWN BY:	KTP
1800 LIMERICK STREET] PRELIMINARY [CHECKED BY:	JRC
ALEXANDRIA, VA 22314					NOT FOR					SUBMITTED BY:	J. CARL
(703) 549-3381										CONTRACT NO .:	
WWW.RIVERRENEW.COM					CONSTRUCTION					19-079	
	NO.	DESCRIPTION	ΒY	DATE		NO.	DESCRIPTION	BY	DATE	DWG NO.	SHEET NO.
		PRE-BID REVISION			MAN CONAL ENAM		POST-BID REVISION			G-01	01 OF 37

PROJECT NARRATIVE

ALEXANDRIA RENEW ENTERPRISES (ALEXRENEW) PREPARED THIS NARRATIVE IN SUPPORT OF THE ENCLOSED TUNNEL DEWATERING PUMPING STATION (TDPS) PRELIMINARY SITE PLAN (DSUP NO. 2019-0013) SUBMITTAL AS A MAJOR AMENDMENT TO THE APPROVED SITE PLAN UNDER DSUP NO. 2009-0017. THE TDPS IS PART OF RIVERRENEW, A MAJOR INFRASTRUCTURE PROGRAM TO REMEDIATE ALEXANDRIA'S COMBINED SEWER SYSTEM, AND WILL INCLUDE A NEW SUPERSTRUCTURE AT ALEXRENEW'S WATER RESOURCE RECOVERY FACILITY (WRRF). RIVERRENEW INCLUDES A DEEP STORAGE/CONVEYANCE TUNNEL SYSTEM TO REDUCE DISCHARGES OF COMBINED SEWAGE INTO THE POTOMAC RIVER, HOOFFS RUN, AND HUNTING CREEK FROM THE FOUR EXISTING COMBINED SEWER OUTFALLS (OUTFALLS 001-004) IN ALEXANDRIA. RIVERRENEW IS NECESSARY TO MEET THE GOALS OF THE LONG TERM CONTROL PLAN UPDATE PREPARED BY ALEXRENEW AND THE CITY OF ALEXANDRIA TO COMPLY WITH THE 2017 VIRGINIA LAW THAT REQUIRES THE CONTROLS TO BE IN PLACE BY JULY 1, 2025. THE TDPS WILL PUMP COMBINED SEWER FLOWS FROM THE RIVERRENEW TUNNEL SYSTEM TO THE WRRF SURFACE FOR TREATMENT

THE TDPS WAS INCLUDED AS PART OF THE RIVERRENEW CONCEPT PLAN SUBMITTAL DATED OCTOBER 9, 2018. DUE TO THE NEED TO PROGRESS THE TUNNEL SYSTEM CONCEPT TO DETERMINE THE FACILITY NEEDS OF THE TDPS, IT WAS DECIDED IN SUBSEQUENT DISCUSSIONS WITH CITY STAFF TO PROCESS THE TDPS UNDER DSUP NO. 2009-0013 AND SEPARATE IT FROM THE RIVERRENEW TUNNEL SYSTEM DEVELOPMENT SPECIAL USE PERMIT (DSUP NO. 2018-0020) THAT IS CURRENTLY UNDER REVIEW BY THE CITY.

THE TDPS WILL BE PROCURED VIA THE SAME DESIGN-BUILD CONTRACT AS THE RIVERRENEW TUNNEL SYSTEM. DETAILED DESIGN OF THE TDPS WILL BE THE RESPONSIBILITY OF THE SELECTED DESIGN-BUILD TEAM. THE INTENT OF THESE DOCUMENTS IS TO FRAME REQUIREMENTS AND RESTRICTIONS THAT MAY BE PLACED ON THE DESIGN-BUILDER AT THIS STAGE TO MINIMIZE THE POTENTIAL FOR FUTURE CHANGES AND CLAIMS. GENERAL INFORMATION REGARDING THE TDPS AND OTHER WRRF FACILITIES ARE PROVIDED BELOW.

NEW FACILITIES ARE REQUIRED AT THE WRRF TO ACCOMMODATE AND TREAT ADDITIONAL WET WEATHER FLOWS COLLECTED AND CONVEYED BY THE RIVERRENEW TUNNEL SYSTEM. THE PROPOSED FACILITIES AT THE ALEXRENEW WRRF INCLUDE A TDPS INSTALLED WITHIN THE MINING SHAFT DEEP SCREENING AND RAKER SYSTEM, HYDRAULIC GRADE LINE CONTROL STRUCTURE, ODOR CONTROL UNITS, AND ASSOCIATED SEWER CONNECTIONS. A NEW SUPERSTRUCTURE IS PROPOSED TO HOUSE THE TDPS, SCREENING SYSTEM, AND ODOR CONTROL UNITS. THE SUPERSTRUCTURE INCLUDES A CONTROL ROOM, ELECTRICAL ROOM, AND MECHANICAL ROOM. ALEXRENEW PROPOSES TO DEMOLISH BUILDING . (ALEXRENEW'S FORMER ADMINISTRATIVE BUILDING) IN ORDER TO PROVIDE SUFFICIENT SPACE FOR NEW WET WEATHER FACILITIES. INCLUDING THE MINING SHAFT, TDPS, AND NEW SUPERSTRUCTURE. THE PROJECT TO RELOCATE THE EXISTING FACILITIES IN BUILDING J AND THE SUBSEQUENT DEMOLITION WERE SUBMITTED AS A MINOR AMENDMENT TO THE EXISTING DSUP NO. 2009-0017 ON FEBRUARY 20, 2019. CONSTRUCTION ACTIVITIES AT THE WRRF ARE SUBJECT TO THE SOUTHWEST QUADRANT SMALL AREA PLAN.

ENVIRONMENTALLY SENSITIVE SITE DESIGN ELEMENTS

- SOLAR PANELS
- VEGETATED ROOF
- STORMWATER BMPs
- LOCALLY NATIVE SPECIES
- HIGH EFFICIENCY PLUMBING AND LIGHT FIXTURES

APPROVED

DIRECTOR

DIRECTOR

SPECIAL USE PERMIT NO. 2019-0013

DEPARTMENT OF PLANNING & ZONING

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES SITE PLAN NO.

DATE

DATE

DATE

PAGE NO.

1) THIS SITE DOES NOT CONTAIN AREAS PREVIOUSLY MAPPED AS MARINE CLAYS

THIS PROJECT IS NOT LOCATED IN THE COMBINED SEWER AREA.

CHAIRMAN, PLANNING COMMISSION DATE RECORDED

INSTRUMENT NO. DEED BOOK NO.

			-	
		GENERAL NOTES		a. CROSSING WATER MAIN OVER AND UNDER A SANITARY OR STORM SEWER: WHEN A WATER MAIN OVER CROSSE UNDER CROSSES A SANITARY/STORM SEWER THEN THE VERTICAL SEPARATION BETWEEN THE BOTTOM OF ONE
	1. 2.	OWNER: ALEXANDRIA RENEW ENTERPRISES./CITY OF ALEXANDRIA SANITATION AUTHORITY ADDRESS: 1500 EISENHOWER AVENUE ALEXANDRIA, VA		SANITARY/STORM SEWER OR WATER MAIN) TO THE TOP OF THE OTHER (WATER MAIN OR SANITARY/ STORM SEV
	3.	AREA TABULATIONS ARE PROVIDED ON SITE SPECIFIC SHEETS		SHALL BE AT LEAST 18" FOR SANITARY SEWER AND 12" FOR STORM SEWER; HOWEVER, IF THIS CANNOT BE ACH THEN BOTH THE WATER MAIN AND SANITARY/STORM SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (I
	4. 5.	THE SITE IS LOCATED IN THE CHESAPEAKE BAY WATERSHED. CONSTRUCTION PERMITS ARE REQUIRED FOR THIS PROJECT. THE APPROVED SITE PLAN MUST BE ATTACHED TO THE PERMIT		AWWA C-151 (ANSI A21.51) CLASS 52 WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A
		APPLICATION THAT FULLY DETAILS THE CONSTRUCTION AS WELL AS LAYOUTS AND SCHEMATICS OF THE MECHANICAL,		DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING AND THE PIPES SHALL BE PRESSURE TESTED IN PLACE WITHOUT LEAKA
	6.	ELECTRICAL, AND PLUMBING SYSTEMS. ALL PUBLIC AND PRIVATE EASEMENTS OR ALL KNOWN PUBLIC AND PRIVATE EASEMENTS, INCLUDING ALL UTILITY, EGRESS,		PRIOR TO INSTALLATION. SANITARY SEWERS UNDER CREEKS AND STORM SEWER PIPE CROSSINGS WITH LESS 1 CLEARANCE SHALL BE ENCASED IN CONCRETE.
		AND CONSERVATION RESTRICTIONS ARE SHOWN. THE APPLICANT SHALL NOT CONSTRUCT ANY PERMANENT STRUCTURES OVER ANY EXISTING OR PROPOSED PUBLIC AND/OR PRIVATE EASEMENTS UNLESS OTHERWISE APPROVED BY THE PLANNING		CLEARANCE SHALL BE ENCASED IN CONCRETE.
		COMMISSION AND CITY OF ALEXANDRIA COUNCIL.		b. NO WATER MAIN PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF SANITARY/STORM SEWE MANHOLE. MANHOLES SHALL BE PLACED AT LEAST 10 FEET HORIZONTALLY FROM THE WATER MAIN WHENEVER
	7.	BUILDING HEIGHT SHALL NOT EXCEED THE ALLOWABLE LIMIT BY CITY OF ALEXANDRIA ZONING ORDINANCE OR AS APPROVED BY THE PLANNING COMMISSION AND CITY OF ALEXANDRIA COUNCIL.		POSSIBLE. WHEN LOCAL CONDITIONS PROHIBIT THIS HORIZONTAL SEPARATION, THE MANHOLE SHALL BE WATE
	8.	ALL NEW CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA		CONSTRUCTION AND TESTED IN PLACE.
	9.	AND TO THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE (USBC). PRIOR TO COMMENCING NEW WORK, THE DESIGN-BUILDER SHALL PROTECT FROM DAMAGE ALL EXISTING ADJACENT AREAS.		c. CROSSING EXISTING OR PROPOSED UTILITIES: UNDERGROUND TELEPHONE, CABLE. TV, GAS, AND ELECTRICAL I
		IF CITY'S EXISTING PUBLIC INFRASTRUCTURE, INCLUDING BUT NOT LIMITED, TO STREETS, ALLEYWAYS, DRIVEWAY APRONS,		BANKS SHALL BE CROSSED MAINTAINING A MINIMUM OF 12" OF SEPARATION OR CLEARANCE WITH WATER MAI SANITARY, OR STORM SEWERS. IF THIS SEPARATION CANNOT BE ACHIEVED THEN THE SEWER PIPE MATERIAL SI
		SANITARY AND STORM SEWERS, STREET LIGHTING, TRAFFIC AND PEDESTRIAN SIGNALS, SIDEWALKS, CURB AND GUTTER, AND STORM WATER DROP INLET STRUCTURES ARE DAMAGED BY THE DESIGN-BUILDER OR BY ACTIVITIES RELATING TO THE		DUCTILE IRON PIPE (DIP) AWWA C-151 (ANSI A21.51) CLASS 52 FOR A DISTANCE OF 10 FEET ON EACH SIDE OF 1 POINT OF CROSSING AND PRESSURE TESTED IN PLACE WITHOUT LEAKAGE PRIOR TO INSTALLATION. SANITARY/S
		SITE CONSTRUCTION THEN THE APPLICANT SHALL REPAIR THE SAME TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION		SEWERS AND WATER MAIN CROSSING OVER THE UTILITIES SHALL HAVE ADEQUATE STRUCTURAL SUPPORT (PIEF
		AND ENVIRONMENTAL SERVICES (T&ES). A PRE-CONSTRUCTION WALK/SURVEY OF THE SITE SHALL OCCUR WITH CONSTRUCTION AND INSPECTION STAFF TO DOCUMENT EXISTING CONDITIONS PRIOR TO ANY LAND DISTURBING ACTIVITY.	5	SUPPORT AND/OR CONCRETE ENCASEMENT) TO PREVENT DAMAGE TO THE UTILITIES. RIP RAP SHALL BE DESIGNED AS PER THE REQUIREMENTS OF VIRGINIA EROSION AND SEDIMENT CONTROL HANDBO
	10.	ALL IMPROVEMENTS TO THE CITY'S RIGHT-OF-WAY SUCH AS CURB, GUTTER, SIDEWALK, AND DRIVEWAY APRONS, ETC., ARE	5.	LATEST EDITION.
	11.	DESIGNED PER THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS. ALL STREET CUT AND PATCH WORK LOCATED IN PUBLIC RIGHT-OF-WAYS, REQUIRED FOR ANY UTILITY INSTALLATION SHALL BE	6.	A SEPARATE GEOTECHNICAL AND HYDROGEOLOGICAL INVESTIGATION REPORT SHALL BE SUBMITTED TO FIRE AND CO ADMINISTRATION AND TRANSPORTATION AND ENVIRONMENTAL SERVICES INCLUDING RECOMMENDATIONS FROM A
		PERFORMED IN STRICT ACCORDANCE WITH THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS AND TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES).		GEOTECHNICAL PROFESSIONAL FOR PROPOSED CUT SLOPES AND EMBANKMENTS, IF DEEMED NECESSARY BY THE
	12.	DESIGN-BUILDER MUST ENSURE THAT THERE IS NO DISTURBANCE ON ADJACENT PROPERTIES WITHOUT RECORDED	7.	DEPARTMENT. PER THE REQUIREMENTS OF TITLE 5: TRANSPORTATION AND ENVIRONMENTAL SERVICES, CHAPTER 3, SECTION 5-3-2
	13	EASEMENT OR NOTARIZED LETTER OF PERMISSION FROM THE ADJACENT PROPERTY OWNERS. ALL REQUIRED STATE AND FEDERAL PERMITS, WHICH COULD INCLUDE PERMITS FROM THE VIRGINIA DEPARTMENT OF		SECTION 5-3-3; CUSTOMER UTILITY SERVICES AND TRANSMISSION, DISTRIBUTION AND MAIN LINES, RESPECTIVELY S
	-0.	CONSERVATION AND RECREATION (VDCR), VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (VDEQ), VIRGINIA	8.	PLACED UNDERGROUND UNLESS OTHERWISE SPECIFICALLY EXEMPTED. THE DESIGN-BUILDER SHALL PROVIDE CUT SHEETS TO THE CHIEF, DIVISION OF CONSTRUCTION AND INSPECTION (C&
		DEPARTMENT OF HISTORIC RESOURCES (VDHR), UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA), ARMY CORPS OF ENGINEERS AND VIRGINIA MARINE RESOURCES, MUST BE IN PLACE FOR ALL PROJECT CONSTRUCTION AND		DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO CONSTRUCTION.
		MITIGATION WORK PRIOR TO RELEASE OF THE FINAL SITE PLAN. THIS INCLUDES THE STATE REQUIREMENT FOR A VIRGINIA	9.	IF THESE NOTES AND THE CITY OF ALEXANDRIA DESIGN STANDARDS AND SPECIFICATIONS DO NOT COVER ANY DESIG ASPECTS OF THE PROJECT THEN THE IMPROVEMENTS WILL BE DESIGNED PER THE STANDARDS AND SPECIFICATIONS
		STORMWATER MANAGEMENT PROGRAM (VSMP) GENERAL PERMIT FOR DISCHARGES OF STORMWATER FROM CONSTRUCTION ACTIVITIES FOR LAND DISTURBING ACTIVITIES GREATER THAN 2,500. INFORMATION REGARDING THE VSMP		VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT), VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESC AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO), MANUAL OF TRAFFIC CONT
	11	GENERAL PERMIT CAN BE FOUND ONLINE AT: HTTP://WWW.DCLVIRGINIA.GOV/SOIL AND WATER/VSMP.SHTML.		DEVICES (MUTCD), VIRGINIA WORK AREA PROTECTION MANUAL (VWAPM), RECOMMENDED STANDARDS FOR WASTEW
	14.	PERMITS FROM THE CITY OF ALEXANDRIA OFFICE OF ENVIRONMENTAL QUALITY (OEQ), TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES), AND BUILDING AND FIRE CODE ADMINISTRATION SHALL BE OBTAINED BY THE		FACILITIES (TEN STATE STANDARDS), AND ANY OTHER STANDARDS APPROVED BY THE DIRECTORS OF TRANSPORTATI ENVIRONMENTAL SERVICES, PLANNING AND ZONING, FIRE AND CODE ADMINISTRATION, AND RECREATION, PARKS &
		APPLICANT, AS REQUIRED AND DOCUMENTED HEREIN. THE DESIGN-BUILDER CAN CONTACT ALEXANDRIA FIRE AND CODE ADMINISTRATION DEPARTMENT AT (703) 838-4644 OR (703) 746-4200 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.		CULTURAL ACTIVITIES. THE PLAN SHALL PROVIDE APPROPRIATE REFERENCE AND INCLUDE THE SOURCE OF THE
	15.	ANY WORK IN THE PUBLIC RIGHT OF WAY SHALL REQUIRE A SEPARATE PERMIT FROM THE DIRECTOR, TRANSPORTATION AND		INFORMATION AND/OR STANDARDS USED IN DEVELOPING THE PLAN.
		ENVIRONMENTAL SERVICES. THE DESIGN-BUILDER CAN CONTACT THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES AT (703) 746-4035 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.		GENERAL EROSION AND SEDIMENT CONTROL NOTES: DESIGN BUILDER'S RESPONSIBI
	16.	THE PROPERTY ADDRESS MUST BE CLEARLY MARKED IN THE FRONT AND BACK OF THE PROPOSED DEVELOPMENT SITE		
	17.	DURING CONSTRUCTION FOR EMERGENCY RESPONSE PURPOSE IN CONTRASTING COLORS FOR EASY IDENTIFICATION. THE APPLICANT SHALL CONTACT THE CRIME PREVENTION UNIT OF THE ALEXANDRIA POLICE DEPARTMENT AT 703-838-4520	1.	AN EROSION AND SEDIMENT CONTROL PLAN MUST BE APPROVED BY THE DIRECTOR OF TRANSPORTATION AND
		REGARDING SECURITY HARDWARE FOR NEW CONSTRUCTION. THIS SHALL BE COMPLETED PRIOR TO ISSUANCE OF BUILDING	2.	ENVIRONMENTAL SERVICES PRIOR TO ANY LAND DISTURBING ACTIVITY GREATER THAN 2,500 SQUARE FEET. ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND
	18.	PERMIT. ROOF DRAINAGE SYSTEM, SUMP PUMP DISCHARGE, AND FOUNDATION DRAIN SYSTEM MUST BE INSTALLED SO AS NEITHER	2.	MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA AND VIRGINIA
	10	TO ADVERSELY IMPACT UPON, NOR CAUSE EROSION DAMAGE TO ADJACENT PROPERTIES OR THE PUBLIC RIGHT OF WAY. THE DESIGN-BUILDER MUST ENSURE THAT POSITIVE DRAINAGE OCCURS ON SITE TO PREVENT PONDING OR DRAINAGE		EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH), VIRGINIA REGULATIONS §4VAC50-30 EROSION AND SEDIME CONTROL REGULATIONS.
ს	19.	PROBLEMS ON ADJACENT PROPERTIES.	3.	AN EROSION AND SEDIMENT CONTROL PLAN WILL BE INCLUDED IN THE FINAL PLANS FOR APPROVAL BY THE DIRECTOR
.DW	20.	IN THE EVENT, THE PROPOSED ROOF DRAINAGE AND/OR SUMP PUMP DISCHARGE, AND FOUNDATION DRAIN SYSTEMS AND/OR GRADING ADVERSELY IMPACTS AND/OR CREATES A NUISANCE ON PUBLIC RIGHT OF WAY OR PRIVATE PROPERTIES	4.	TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR REFERENCE BY THE EROSION AND SEDIMENT CONTROL PER A "CERTIFIED LAND DISTURBER" (CLD) SHALL BE NAMED IN A LETTER TO THE DIVISION CHIEF OF CONSTRUCTION AND
TES'		THEN THE APPLICANT SHALL BE RESPONSIBLE TO PROVIDE ADDITIONAL IMPROVEMENTS TO THE ROOF DRAINAGE AND/OR		INSPECTION (C&I), DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO ANY LAND DISTUR
S S		SUMP PUMP DISCHARGE AND FOUNDATION DRAIN SYSTEMS AND/OR GRADING TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES.		ACTIVITIES. IF THE CLD CHANGES DURING THE PROJECT, THAT CHANGE MUST BE NOTED IN A LETTER TO THE DIVISIO A NOTE TO THIS EFFECT SHALL BE PLACED ON THE PHASE I EROSION AND SEDIMENT CONTROL SHEETS ON THE SITE
ERAL	21.	A SEPARATE DESIGN IS REQUIRED FOR ALL WALLS 24" AND OVER IN HEIGHT FROM THE GRADE AND SUBJECT TO SEPARATE	5.	THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, CONSTRUCTION AND INSPECTION (C&I) DI
GENE		PERMITS TO BE OBTAINED BY THE OWNER. GEOTECHNICAL AND STRUCTURAL DESIGN IS TO BE COMPLETED BY OTHERS. THE FINAL SITE PLAN WILL SHOW LOCATION, PROPOSED GRADING, AND DESIGN OF ALL THE WALLS.		MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENTS OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION. THE RESPONS
02–(ALL SANITARY LATERALS AND/OR SEWERS NOT SHOWN IN THE EASEMENTS SHALL BE OWNED AND MAINTAINED PRIVATELY.	G	CERTIFIED LAND DISTURBER (CLD) SHALL ATTEND THE PRE-CONSTRUCTION MEETING.
-S	23.	ALL STORM DRAINS NOT SHOWN WITHIN AN EASEMENT OR IN A PUBLIC RIGHT OF WAY SHALL BE OWNED AND MAINTAINED PRIVATELY.	6.	SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND ALL OTHER EROSION AND SEDIMENT C MEASURES INTENDED TO CONTROL EROSION AND TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY
Ē	24.	ALL WATER FACILITY CONSTRUCTION SHALL CONFORM TO VIRGINIA AMERICAN WATER COMPANY STANDARDS AND	7	DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE. CONSTRUCTION SHALL BE SEQUENCED SUCH THAT GRADING OPERATION CAN BEGIN AND END AS QUICKLY AS POSSI
SUP.		SPECIFICATIONS. DESIGN-BUILDER SHALL CONTACT VIRGINIA AMERICAN WATER COMPANY AT (703) 549-7080 TO COORDINATE CONSTRUCTION AND INSPECTION OF WATER FACILITIES.	1.	AREAS NOT TO BE DISTURBED MUST BE CLEARLY MARKED OR FLAGGED.
0-0	25.	THE SIDEWALKS SHALL REMAIN OPENED DURING CONSTRUCTION OR PEDESTRIAN ACCESS SHALL BE MAINTAINED TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES THROUGHOUT THE CONSTRUCTION	8.	AN INSPECTION BY THE CITY OF ALEXANDRIA IS REQUIRED AFTER INITIAL INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND BEFORE ANY CLEARING OR GRADING CAN BEGIN.
T∕31		OF THE PROJECT.		A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIME
CEP	26.	PRIOR TO THE RELEASE OF THE FINAL SITE PLAN, A TRAFFIC CONTROL PLAN FOR CONSTRUCTION DETAILING PROPOSED CONTROLS TO TRAFFIC MOVEMENT, LANE CLOSURES, CONSTRUCTION ENTRANCES, HAUL ROUTES, AND STORAGE AND	10	. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN THOSE INDICATED ON THESE PLANS INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS, THE DESIGN-BUILDER SHALL SUBMIT A
CON		STAGING SHALL BE PROVIDED FOR INFORMATION PURPOSE; HOWEVER, AN AMENDED TRAFFIC CONTROL PLAN, IF REQUIRED	11	SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE CITY OF ALEXANDRIA . THE DESIGN-BUILDER IS TO KEEP DENUDED AREAS TO A MINIMUM. PERMANENT OR TEMPORARY SOIL STABILIZATION
TDPS		BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES SHALL BE SUBMITTED TO THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES ALONG WITH THE BUILDING PERMIT APPLICATION. THE FINAL SITE PLAN		BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITI
L L L		SHALL INCLUDE A STATEMENT "FOR INFORMATION ONLY" ON THE TRAFFIC CONTROL PLAN SHEETS.		TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT I GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO
DSU		EXISTING CONDITIONS SURVEY NOTES		THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR. ANY STOCKPILED MATERIAL WHICH WILL REMAIN IN PL
ITS/	1	HORIZONTAL DATUM* NORTH AMERICAN DATUM OF 1983, NAD 83		LONGER THAN 10 DAYS MUST BE SEEDED FOR TEMPORARY VEGETATION AND MULCHED WITH STRAW MULCH OR OTHERWISE STABILIZED.
ERM		VERTICAL DATUM* NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD 88*	12	ALL TEMPORARY EARTH BERMS, DIVERSIONS AND SEDIMENT CONTROL DAMS SHALL BE SEEDED AND MULCHED OR
-0 -	2.	UTILITY INFORMATION, AS SHOWN ON THIS PLAN, IS TAKEN FROM THE RECORDS AND/OR FIELD SURVEY COMPLETED BY DEWBERRY, DATED NOVEMBER 2018 ; AND CANNOT BE GUARANTEED. FOR EXACT LOCATIONS OF EXISTING UNDERGROUND	13	OTHERWISE STABILIZED AS SOON AS POSSIBLE BUT NO LATER THAN 48 HOURS AFTER GRADING. . ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND
_ (47		UTILITIES, NOTIFY "MISS UTILITY" AT 1-800-257-7777 AND 811 72 HOURS BEFORE THE START OF ANY EXCAVATION OR CONSTRUCTION. THE DESIGN-BUILDER IS ENCOURAGED TO VISIT DOMINION VIRGINIA POWER WEB SITE AT WWW.DOM.COM	11	DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED. DURING DEWATERING OPERATIONS. WATER SHALL BE PUMPED THROUGH AN APPROVED FILTERING DEVICE OR PASS
-CAD		(KEYWORD SAFETY) FOR ADDITIONAL SAFETY INSTRUCTIONS.		THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT
-00 1	3.	LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED BY DESIGN-BUILDER PRIOR TO CONSTRUCTION. THE DESIGN-BUILDER SHOULD DIG TEST PITS BY HAND AT ALL UTILITY CROSSINGS TO VERIFY EXACT LOCATION.	15	ADVERSELY IMPACT FLOWING STREAMS OR OFF-SITE PROPERTY. . THE DESIGN-BUILDER SHALL INSPECT ALL EROSION CONTROL MEASURES DAILY AND AFTER EACH RUNOFF-PRODUCII
^s/	4.	THE BOUNDARY INFORMATION FOR THE SITES IS BASED ON A CURRENT FIELD SURVEY PREPARED BY DEWBERRY. DATED		RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTR
ATIO		NOVEMBER 2018 IN ACCORDANCE WITH THE REQUIREMENTS OF VIRGINIA ASSOCIATION OF LAND SURVEYORS.		DEVICES SHALL BE MADE IMMEDIATELY. . THE DESIGN-BUILDER IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES AS
ST,		*PER MEMORANDUM TO INDUSTRY, JULY 20, 2005; THE PLAN SHALL BE PREPARED USING VIRGINIA STATE PLANE (NORTH ZONE) COORDINATES BASED ON NAD83 AND NAVD88; HOWEVER, IF THE CURRENT DRAWINGS ARE PREPARED USING NORTH AMERICAN DATUM OF 1927 (NAD27)		NECESSARY TO PREVENT EROSION AND SEDIMENTATION AND AS DETERMINED BY THE DIRECTOR OF TRANSPORTATION
PING		AND NORTH GEODETIC VERTICAL DATUM OF 1929 (NGVD29) THEN THE AS-BUILT DRAWINGS SHALL PROVIDE A CONVERSION TABLE OF SANITARY AND STORM SEWER DATA IN THE NAD83 AND NAVD88 DATUMS.	17	ENVIRONMENTAL (T&ES) SERVICES OF THE CITY OF ALEXANDRIA. . ANY DENUDED SLOPES, EITHER DISTURBED OR CREATED BY THIS PLAN THAT EXCEED
PUM				a. 2500 SQUARE FEET SHALL BE SODDED AND PEGGED FOR STABILITY AND EROSION CONTROL. AT THE COMPLETION PROJECT AND PRIOR TO THE RELEASE OF THE BOND, ALL DISTURBED AREAS SHALL BE STABILIZED PERMANENTLY
Q		DESIGN GUIDELINES FOR SITE PREPARATION	1	ALL TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED.
A A	1.	THE APPLICANT SHALL COMPLY WITH THE CHESAPEAKE BAY PRESERVATION ACT IN ACCORDANCE WITH ARTICLE XIII OF		 ALL VEHICLES SHALL BE CLEANED BEFORE ENTERING ONTO THE PUBLIC RIGHT-OF-WAY. THE WASH WATER FROM THE CONSTRUCTION ENTRANCE SHALL BE FILTERED THROUGH THE PROVIDED SILT FENCE 1
TUNNEI		THE CITY'S ZONING ORDINANCE, WHICH INCLUDE THE REQUIREMENTS FOR STORMWATER POLLUTANT LOAD REDUCTIONS,		ENSURE THAT NO SEDIMENT LADEN RUNOFF IS ALLOWED TO RUNOFF ON TO THE ADJACENT PROPERTY OR THE PUBL
5		TREATMENT OF WATER QUALITY VOLUME DEFAULT, AND STORMWATER QUANTITY MANAGEMENT ACCORDING TO ALEXANDRIA SUPPLEMENT TO THE NORTHERN VIRGINIA BMP HANDBOOK.	20	RIGHT OF WAY. . INSTALL SILT FENCE AND TREE PROTECTION, WHERE APPLICABLE.
PM 001	2.	ALL SANITARY SEWERS SHALL BE CONSTRUCTED TO THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS. MINIMUM DIAMETER OF SANITARY SEWERS SHALL BE 10" IN THE PUBLIC RIGHT-OF-WAY AND SANITARY LATERAL 6" FOR		. DUST CONTROL SHALL BE ACCOMPLISHED BY TEMPORARY VEGETATIVE COVER AND BY IRRIGATION AS NEEDED.
2:56 SIGN		ALL COMMERCIAL AND INSTITUTIONAL DEVELOPMENTS; HOWEVER, A 4" SANITARY LATERAL WILL BE ACCEPTABLE FOR		
12:12 DES		SINGLE FAMILY RESIDENCES. THE ACCEPTABLE PIPE MATERIALS WILL BE POLYVINYL CHLORIDE (PVC) ASTM D-3034-77 SDR 26, ASTM 1785-76 SCHEDULE 40, DUCTILE IRON PIPE AWWA C-151 (ANSI A21.51) CLASS 52, OR REINFORCED		SEQUENCE OF CONSTRUCTION FOR INSTALLATION OF EROSION
9 1 1 1 1		CONCRETE PIPE ASTM C-76 CL IV (FOR 12" OR LARGER DIAMETERS). CL III MAY BE ACCEPTABLE ON PRIVATE PROPERTIES.		AND SEDIMENT CONTROL DEVICES: DESIGN BUILDER'S RESPONSIBILITY
5/201 HEMA		THE ACCEPTABLE MINIMUM AND MAXIMUM VELOCITIES WILL BE 2.5 FPS AND 10 FPS, RESPECTIVELY. LATERALS SHALL BE CONNECTED TO THE SANITARY SEWER THROUGH A MANUFACTURED "Y" OR "T" APPROVED SEWER SADDLE. WHERE THE	1	
8/5/ - SCH		LATERALS ARE BEING CONNECTED TO EXISTING TERRACOTTA PIPES, REPLACE THE SECTION OF MAIN AND PROVIDE	ĺ ^{⊥.}	INSTALL PERIMETER EROSION AND SEDIMENT CONTROLS; AND STABILIZE CONSTRUCTION ENTRANCE AS SHOWN ON PLAN.
, 310 ∕310	3.	MANUFACTURED "Y" OR "T", OR ELSE INSTALL A MANHOLE. ALL STORM SEWERS SHALL BE CONSTRUCTED TO THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS. MINIMUM	2.	ALL VEGETATION PRESERVATION AND PROTECTION METHODS SHALL BE APPROVED/VERIFIED IN FIELD BY THE CITY ARBORIST PRIOR TO COMMENCEMENT OF ANY GROUND DISTURBING ACTIVITY.
₽ A M A		DIAMETER OF STORM SEWERS SHALL BE 18" IN THE PUBLIC RIGHT-OF-WAY AND MINIMUM SIZE STORM SEWER CATCH BASIN LEAD IS 15". THE ACCEPTABLE PIPE MATERIALS WILL BE AWWA C-151 (ANSI A21.51) CLASS 52 OR REINFORCED	3.	INSTALL INLET PROTECTION AT EXISTING STORM DRAIN INLETS AS NECESSARY AND AS SHOWN ON THIS PLAN.
: KELVIN COLES DATE: \\FILESERVER\WWP\310		CONCRETE PIPE ASTM C-76 CL IV. FOR ROOF DRAINAGE SYSTEM, POLYVINYL CHLORIDE (PVC) ASTM D-3034-77 SDR 26	4.	INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL PRACTICES AS NECESSARY AND AS DIRECTED BY THE EROSI SEDIMENT CONTROL INSPECTOR.
COL		WILL BE 2 O EPS AND 15 EPS. RESPECTIVELY	5.	CONDUCT DEMOLITION AND CONSTRUCTION ACTIVITIES ACCORDING TO THE APPLICABLE PLANS.
ILESI ILESI	4.	LATERAL SEPARATION OF SEWERS AND WATER MAINS: A HORIZONTAL SEPARATION OF 10' (EDGE TO EDGE) SHALL BE	6.	AS CONTRIBUTARY DRAINAGE AREAS ARE STABILIZED AND WITH THE PERMISSION OF THE EROSION AND SEDIMENT CONTROL INSPECTOR, REMOVE INDIVIDUAL EROSION AND SEDIMENT CONTROL PRACTICES.
		PROVIDED BETWEEN A STORM OR SANITARY SEWER AND A WATER LINE; HOWEVER, IF THIS HORIZONTAL SEPARATION CANNOT BE ACHIEVED THEN THE SEWER AND WATER MAIN SHALL BE INSTALLED IN SEPARATE TRENCHES AND THE	7.	UPON COMPLETION OF DEMOLITION, CONSTRUCTION AND LAND DISTURBING ACTIVITIES; PROVIDE PERMANENT
Å		BOTTOM OF THE WATER MAIN SHALL BE AT LEAST 18" ABOVE OF THE TOP OF THE SANITARY/STORM SEWER. IF BOTH THE HORIZONTAL AND VERTICAL SEPARATIONS CANNOT BE ACHIEVED THEN THE SEWER PIPE MATERIAL SHALL BE DUCTILE		STABILIZATION ACCORDING TO APPROVED METHODS AND REMOVE ALL REMAINING EROSION AND SEDIMENT CONTROMEASURES WITH THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL INSPECTOR.
Ë E E		IRON PIPE (DIP) AWWA C-151 (ANSI A21.51) CLASS 52 AND PRESSURE TESTED IN PLACE WITHOUT LEAKAGE PRIOR TO		
LAST SAVED DRAWING ID:		INSTALLATION.		
LAS DRA				

) UNDER A SANITARY OR STORM SEWER: WHEN A WATER MAIN OVER CROSSES OR DRM SEWER THEN THE VERTICAL SEPARATION BETWEEN THE BOTTOM OF ONE (I.E., ER MAIN) TO THE TOP OF THE OTHER (WATER MAIN OR SANITARY/ STORM SEWER) ARY SEWER AND 12" FOR STORM SEWER; HOWEVER, IF THIS CANNOT BE ACHIEVED SANITARY/STORM SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) 52 WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE SING AND THE PIPES SHALL BE PRESSURE TESTED IN PLACE WITHOUT LEAKAGE SEWERS UNDER CREEKS AND STORM SEWER PIPE CROSSINGS WITH LESS THAN 6 N CONCRETE.

THROUGH OR COME IN CONTACT WITH ANY PART OF SANITARY/STORM SEWER PLACED AT LEAST 10 FEET HORIZONTALLY FROM THE WATER MAIN WHENEVER INS PROHIBIT THIS HORIZONTAL SEPARATION, THE MANHOLE SHALL BE WATERTIGHT ACE.

ED UTILITIES: UNDERGROUND TELEPHONE, CABLE. TV, GAS, AND ELECTRICAL DUCT AINING A MINIMUM OF 12" OF SEPARATION OR CLEARANCE WITH WATER MAIN, THIS SEPARATION CANNOT BE ACHIEVED THEN THE SEWER PIPE MATERIAL SHALL BE 151 (ANSI A21.51) CLASS 52 FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE RE TESTED IN PLACE WITHOUT LEAKAGE PRIOR TO INSTALLATION. SANITARY/STORM GING OVER THE UTILITIES SHALL HAVE ADEQUATE STRUCTURAL SUPPORT (PIER CASEMENT) TO PREVENT DAMAGE TO THE UTILITIES.

RANSPORTATION AND ENVIRONMENTAL SERVICES, CHAPTER 3, SECTION 5-3-2 AND VICES AND TRANSMISSION. DISTRIBUTION AND MAIN LINES. RESPECTIVELY SHALL BE RWISE SPECIFICALLY EXEMPTED.

CUT SHEETS TO THE CHIEF, DIVISION OF CONSTRUCTION AND INSPECTION (C&I), ID ENVIRONMENTAL SERVICES PRIOR TO CONSTRUCTION. ANDRIA DESIGN STANDARDS AND SPECIFICATIONS DO NOT COVER ANY DESIGN

PROVEMENTS WILL BE DESIGNED PER THE STANDARDS AND SPECIFICATIONS OF ATION (VDOT), VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH), HWAY AND TRANSPORTATION OFFICIALS (AASHTO), MANUAL OF TRAFFIC CONTROL A PROTECTION MANUAL (VWAPM), RECOMMENDED STANDARDS FOR WASTEWATER ND ANY OTHER STANDARDS APPROVED BY THE DIRECTORS OF TRANSPORTATION AND AND ZONING, FIRE AND CODE ADMINISTRATION, AND RECREATION, PARKS & PROVIDE APPROPRIATE REFERENCE AND INCLUDE THE SOURCE OF THE SED IN DEVELOPING THE PLAN.

IMENT CONTROL NOTES: DESIGN BUILDER'S RESPONSIBILITY

PLAN WILL BE INCLUDED IN THE FINAL PLANS FOR APPROVAL BY THE DIRECTOR, AL SERVICES FOR REFERENCE BY THE EROSION AND SEDIMENT CONTROL PERMIT. HALL BE NAMED IN A LETTER TO THE DIVISION CHIEF OF CONSTRUCTION AND INSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO ANY LAND DISTURBING NG THE PROJECT, THAT CHANGE MUST BE NOTED IN A LETTER TO THE DIVISION CHIEF. ED ON THE PHASE I EROSION AND SEDIMENT CONTROL SHEETS ON THE SITE PLAN. N AND ENVIRONMENTAL SERVICES, CONSTRUCTION AND INSPECTION (C&I) DIVISION O THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE NG ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION. THE RESPONSIBLE

LL ATTEND THE PRE-CONSTRUCTION MEETING. TER DIKES, SEDIMENT BARRIERS AND ALL OTHER EROSION AND SEDIMENT CONTROL

OSION AND TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND ADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE. SUCH THAT GRADING OPERATION CAN BEGIN AND END AS QUICKLY AS POSSIBLE. CLEARLY MARKED OR FLAGGED.

- ID SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES. ING ACTIVITIES IN AREAS OTHER THAN THOSE INDICATED ON THESE PLANS
- ITE BORROW OR WASTE AREAS, THE DESIGN-BUILDER SHALL SUBMIT A LAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE CITY OF ALEXANDRIA. JDED AREAS TO A MINIMUM. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL IN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL R LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS IORE THAN ONE YEAR. ANY STOCKPILED MATERIAL WHICH WILL REMAIN IN PLACE

FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES AS SEDIMENTATION AND AS DETERMINED BY THE DIRECTOR OF TRANSPORTATION AND

RED OR CREATED BY THIS PLAN THAT EXCEED ED AND PEGGED FOR STABILITY AND EROSION CONTROL. AT THE COMPLETION OF THE

E OF THE BOND, ALL DISTURBED AREAS SHALL BE STABILIZED PERMANENTLY AND MENT CONTROLS SHALL BE REMOVED.

NSTRUCTION FOR INSTALLATION OF EROSION

MENT CONTROLS; AND STABILIZE CONSTRUCTION ENTRANCE AS SHOWN ON THIS

STORM DRAIN INLETS AS NECESSARY AND AS SHOWN ON THIS PLAN. IMENT CONTROL PRACTICES AS NECESSARY AND AS DIRECTED BY THE EROSION AND

- INSTRUCTION AND LAND DISTURBING ACTIVITIES; PROVIDE PERMANENT
- ED METHODS AND REMOVE ALL REMAINING EROSION AND SEDIMENT CONTROL EROSION AND SEDIMENT CONTROL INSPECTOR.

STORMWATER MANAGEMENT PLAN

THERE IS A STORMWATER INLET AVAILABLE WITHIN 100' OF THE SITE. THEREFORE SURFACE AND SUBSURFACE CONNECTED WITH CONTINUOUS UNDERGROUND PIPE TO THIS INLET PER THE REQUIREMENETS OF CITY OF ALE SECTION 8-1-22.

ENVIRONMENTAL SITE ASSESSMENT

THERE ARE NO TIDAL WETLANDS, TIDAL SHORES, TRIBUTARY STREAMS, CONNECTED TIDAL WETLANDS, ISOLAT WETLANDS, HIGHLY ERODIABLE/PERMEABLE SOILS OR BUFFER AREAS ASSOCIATED WITH SHORES, STREAMS LOCATED ON THE SITE. FURTHER, THERE ARE NO WETLAND PERMITS REQUIRED FOR THIS DEVELOPMENT PRO ADDITIONALLY, THERE ARE NO KNOWN UNDERGROUND STORAGE TANKS OR AREAS OF SOIL OR GROUNDWAT CONTAMINATION.

THE FOLLOWING SITES INCLUDED IN THIS PLAN ARE LOCATED WITHIN THE FLOODPLAIN:

- OUTFALL 001 ROBINSON TERMINAL NORTH OUTFALL 002 - ROBINSON STREET NORTH
- OUTFALL 003/4 HOOFFS RUN DIVERSION SEWER
- WRRF SOUTH BRIDGE d. PERIMETER ROAD CONSTRUCTION STAGING AREA e.
- THE CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, OFFICE OF ENVIRONMENTAL SERVICES, OFFICE, OF QUALITY MUST BE NOTIFIED IF UNUSUAL OR UNANTICIPATED CONTAMINATION OR UNDERGROUND STORAGE T AND CONTAINERS ARE ENCOUNTERED AT THE SITE. IF THERE IS ANY DOUBT ABOUT PUBLIC SAFETY OR A RELEA ENVIRONMENT, THE ALEXANDRIA FIRE DEPARTMENT MUST BE CONTACTED IMMEDIATELY BY CALLING 911. TH CONTAINER'S REMOVAL, ITS CONTENTS, ANY SOIL CONTAMINATION AND RELEASES TO THE ENVIRONMENT WIL IN ACCORDANCE WITH FEDERAL, STATE, AND CITY REGULATIONS.
- ALL WELLS TO BE DEMOLISHED IN THIS PROJECT, INCLUDING MONITORING WELLS MUST BE CLOSED IN ACCOR VIRGINIA STATE WATER CONTROL BOARD (VSWBC) REQUIREMENTS. CONTACT ENVIRONMENTAL HEALTH SPECIA COORDINATE WITH THE ALEXANDRIA HEALTH DEPARTMENT AT 703-838-4400 EXT 267/255.
- ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE 11. CHAPTE PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS: MONDAY THROUGH FRIDAY FROM 7 AM TO 6 PM AND
 - SATURDAYS FROM 9 AM TO 6 PM.
 - NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS.
- PILE DRIVING IS FURTHER RESTRICTED TO THE FOLLOWING HOURS:
- MONDAY THROUGH FRIDAY FROM 9 AM TO 6 PM AND SATURDAYS FROM 10 AM TO 4 PM.

UTILITY WORKS

UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING MINIMUM STANDARDS SECTION 4VAC50-30-40 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH) AND ADDITIONA PRACTICES FOLLOWED BY THE CITY OF ALEXANDRIA:

- a. ALL PRIVATE UTILITIES SHALL BE LOCATED OUTSIDE OF THE PUBLIC RIGHT-OF-WAY AND PUBLIC UTILITY EASEN THE UTILITY OWNERS HAVE FRANCHISE AGREEMENT WITH THE CITY OF ALEXANDRIA; HOWEVER, NO ELECTRIC TRANSFORMERS AND SWITCH GEARS/CONTROL BOXES SHALL BE PLACED IN THE PUBLIC RIGHT OF WAY.
- b. ALL THE EXISTING AND PROPOSED PUBLIC AND PRIVATE UTILITIES AND EASEMENTS SHALL BE SHOWN AND A NARRATION OF VARIOUS UTILITIES SHALL BE PROVIDED ON THE PLAN. IT IS THE DESIGN-BUILDER 'S RESPONSIBILITY TO MAINTAIN UTILITY SERVICES AT ALL TIMES DURING CONNEC
- CONSTRUCTION.
- NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
- EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
- EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIM DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS O PROPERTY
- MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ACCORDANCE WITH THE C g.
- ALEXANDRIA STANDARDS AND SPECIFICATIONS TO MINIMIZE EROSION AND PROMOTE STABILIZATION. SHOULD UTILITY CONSTRUCTION BE PERFORMED AFTER COMPLETING EARTHWORK, THE DESIGN-BUILDER SH RESPONSIBLE FOR ACHIEVING 98 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D- 15 COMPACTION IN ALL TRENCH BACKFILL
- RE-STABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE VIRGINIA REGULATIONS §4VAC50-30 SEDIMENT CONTROL REGULATIONS, VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH). APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
- THE DESIGN-BUILDER IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL CONTROL MEASURES AS NECE PREVENT EROSION AND SEDIMENTATION, AS DETERMINED BY THE DIRECTOR OF TRANSPORTATION AND ENVI SERVICES, CITY OF ALEXANDRIA.
- A REMEDIATION PLAN SHALL BE SUBMITTED DETAILING HOW CONTAMINATED SOILS AND/OR GROUNDWATER WITH, INCLUDING PLANS TO REMEDIATE UTILITY CORRIDORS.
- UTILITY CORRIDORS IN CONTAMINATED SOIL SHALL BE OVER EXCAVATED BY 2 FEET AND BACKFILLED WITH "C GRADING CAN BE PERFORMED ON INSTALLATION OF UTILITIES. ALL UTILITIES SUCH AS ELECTRICAL LINES, GAS PIPES, COMMUNICATION CABLES, INCLUDING WATER AND SE
- ON PRIVATE PROPERTY IN THE CITY OF ALEXANDRIA SHALL BE PROVIDED WITH MINIMUM 3" WIDE 5 MIL OVER DETECTABLE UNDERGROUND WARNING TAPE (DUWT). THE DUWT SHALL BE INSTALLED AT DEPTHS OF 12" TO WIDTHS OF 3" AND 24" FOR WIDTHS OF 6" SO AS TO MAKE UNDERGROUND INSTALLATIONS EASY TO FIND US NON-FERROUS LOCATOR. THE DUWT SHALL BE WITH ALUMINUM BACKING OR SOLID ALUMINUM CORE LAMINA PROTECTIVE CLEAR FILM ON BOTH SIDES, SEALING AND PROTECTING THE GRAPHICS FROM UNDERGROUND N ACIDS, ALKALIS, AND OTHER SOIL SUBSTANCES. ALL DUWT TAPES SHALL BE PRINTED IN BLACK INK ON AMERI WORKS ASSOCIATION (APWA) APPROVED COLORS TO MEET OR EXCEED INDUSTRY STANDARDS.

UTILITY COLOR CODES

COLOR	CODES
RED	CAUTION BURIED ELECTRIC POWER LINES, CABLES, CONDUITS, AND LIGHTING CABL
YELLOW	CAUTION GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
ORANGE	CAUTION COMMUNICATIONS, ALARM OR SIGNAL LINES, CABLES, OR CONDUITS
BLUE	CAUTION POTABLE WATER
PURPLE	CAUTION RECLAIMED WATER, IRRIGATION AND SLURRY LINES
GREEN	CAUTION SEWER, DRAIN LINES, AND FORCE MAIN

SIGN CONSTRUCTION NOTES

A SEPARATE PERMIT IS REQUIRED FOR SIGN CONSTRUCTION

LANDSCAPE NOTES

- ALL PROTECTION AND PRESERVATION MEASURES FOR EXISTING VEGETATION, INCLUDING MAINTENANCE AND SHALL BE PREPARED IN COMPLIANCE WITH LANDSCAPE GUIDELINES OF THE CITY OF ALEXANDRIA AND APPRC CITY ARBORIST IN-FIELD PRIOR TO COMMENCEMENT OF ANY SITE DISTURBING AND CONSTRUCTION ACTIVITIES ALL VEGETATION PRESERVATION AND PROTECTION METHODS SHALL BE APPROVED/VERIFIED IN FIELD BY THE
- ARBORIST PRIOR TO COMMENCEMENT OF ANY GROUND DISTURBING ACTIVITY. LOCATION AND METHOD FOR PROTECTION AND PRESERVATION OF EXISTING TREES WILL BE SHOWN ON DEMO
- SEDIMENT AND EROSION CONTROL, AND LANDSCAPE PLAN SHEETS. IT IS THE DESIGN-BUILDER 'S RESPONSIBILITY TO MAKE SURE THAT ANY EXISTING LANDSCAPING WHICH IS TO I
- RELOCATED ON THE SITE WILL BE CAREFULLY STORED IN A DESIGNATED AREA BEFORE BEING REPLANTED. COM WITH THE OWNER FOR MUTUALLY AGREEABLE STORAGE LOCATIONS FOR LANDSCAPE MATERIAL SHALL BE TH RESPONSIBILITY OF THE DESIGN-BUILDER. THE DESIGN-BUILDER SHALL BE RESPONSIBLE FOR THE REPLACEM MATERIAL THAT DOES NOT SURVIVE STORAGE AND REPLANTING.
- APPLICANT MUST INCLUDE ON THE PLAN DOCUMENTATION OF COMMUNICATION WITH THE ADJACENT PROPER VERIFYING NOTIFICATION OF AN AGREEMENT WITH CONSTRUCTION IMPACT, POTENTIAL FOR LOSS, AND AGREE REMEDIAL MEASURES PERTAINING TO THE EXISTING TREE(S) ON ADJACENT PROPERTIES THAT WILL BE AFFEC PROJECT WORK.
- INCLUDE SPECIFIC CONSTRUCTION STAGING INFORMATION ON THE PLAN THAT INDICATES THE METHODS, AND TO BE IMPLEMENTED FOR PROTECTION OF EXISTING ON-SITE AND OFF-SITE VEGETATION.
- PROPOSED PLANTING SHALL BE PROVIDED IN COMPLIANCE WITH LANDSCAPE GUIDELINES OF THE CITY OF AL SPECIFICATION FOR ALL PLANTINGS SHALL BE IN ACCORDANCE WITH THE CURRENT AND MOST UP TO DATE EI ANSI-Z60.1, THE AMERICAN STANDARD FOR NURSERY STOCK AS PRODUCED BY THE AMERICAN ASSOCIATION (NURSERYMEN; WASHINGTON, D.C.
- THE APPLICANT SHALL MAKE SUITABLE ARRANGEMENTS FOR PRE-SELECTION TAGGING, PRE-CONTRACT GROW UNDERTAKING SPECIALIZED PLANTING STOCK DEVELOPMENT WITH A NURSERY OR GROWER THAT IS CONVEN LOCATED TO THE PROJECT SITE, OR UTILIZING OTHER PROCEDURES THAT WILL ENSURE AVAILABILITY OF SPEC MATERIALS. IN THE EVENT THAT SHORTAGES AND/OR INABILITY TO OBTAIN SPECIFIED PLANTINGS OCCURS, RE EFFORTS INCLUDING SPECIES CHANGES, ADDITIONAL PLANTINGS AND MODIFICATION TO THE LANDSCAPE PLA UNDERTAKEN BY THE APPLICANT. ALL REMEDIAL EFFORTS SHALL, WITH PRIOR APPROVAL BY THE CITY, BE PE THE SATISFACTION OF THE DIRECTORS OF PLANNING & ZONING, RECREATION, PARKS & CULTURAL ACTIVITIES TRANSPORTATION & ENVIRONMENTAL SERVICES.

DRAINAGE IS XANDRIA CODE TED		IN LIEU OF MORE STRENUOUS SPECIFICATIONS, ALL LANDSCAPE RELATED WORK SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CURRENT AND MOST UP-TO-DATE EDITION (AT TIME OF CONSTRUCTION) OF LANDSCAPE SPECIFICATION GUIDELINES AS PRODUCED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF MARYLAND, DISTRICT OF COLUMBIA AND					2		2		
TFD	11.						Riv	10	r		
		VIRGINIA; GAITHERSBURG, MARYLAND. PRIOR TO COMMENCEMENT OF LANDSCAPE INSTALLATION/PLANTING OPERATIONS, A PRE-INSTALLATION/CONSTRUCTION MEETING WILL BE SCHEDULED WITH THE CITY'S ARBORIST AND LANDSCAPE ARCHITECTS TO		1	_	Re		e	M		
OR WETLANDS DJECT. ER	12.	REVIEW THE SCOPE OF INSTALLATION PROCEDURES AND PROCESSES. MAINTENANCE FOR THIS PROJECT SHALL BE PERFORMED IN PERPETUITY BY THE APPLICANT/OWNER/SUCCESSOR, IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES AND/OR AS CONDITIONED BY PROJECT APPROVAL.			ALE	XAN V.RI\	IDRIA /ERF	A, VA RENE	x 223 EW.(314	
	13.	A CERTIFICATION LETTER FOR TREE WELLS, TREE TRENCHES AND PLANTINGS ABOVE STRUCTURE SHALL BE PROVIDED BY THE PROJECT'S LANDSCAPE ARCHITECT. THE LETTER SHALL CERTIFY THAT ALL BELOW GRADE CONSTRUCTION IS IN COMPLIANCE WITH APPROVED DRAWINGS AND	SE	A1	0	Ca	ald	wel	l j	R	
VIRONMENTAL ANKS, DRUMS, ASE TO THE IE TANK OR LL BE HANDLED RDANCE WITH IALIST AND ER 5, WHICH	14.	SPECIFICATIONS. THE LETTER SHALL BE SUBMITTED TO THE CITY ARBORIST AND APPROVED PRIOR TO APPROVAL OF THE LAST AND FINAL CERTIFICATE OF OCCUPANCY FOR THE PROJECT. THE LETTER SHALL BE SUBMITTED BY THE OWNER/APPLICANT/SUCCESSOR AND SEALED AND DATED AS APPROVED BY THE PROJECT'S LANDSCAPE ARCHITECT. AS-BUILT DRAWINGS FOR THIS LANDSCAPE PLAN AND/OR IRRIGATION/WATER MANAGEMENT SYSTEM WILL BE PROVIDED IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES. AS-BUILT DRAWINGS SHALL INCLUDE CLEAR IDENTIFICATION OF ALL VARIATION(S) AND CHANGES FROM APPROVED DRAWINGS INCLUDING LOCATION, QUANTITY AND SPECIFICATION OF ALL PROJECT ELEMENTS.		2002		NG	ALT IM TR Von	FQ	R	ZX	N
										Щ	
	1. 2.	A SEPARATE PERMIT IS REQUIRED FOR DEMOLITION; HOWEVER, NO DEMOLITION SHALL BEGIN UNTIL ALL EROSION AND SEDIMENT AND TREE PROTECTION CONTROLS ARE IN PLACE AND ARE APPROVED BY AN EROSION AND SEDIMENT CONTROL INSPECTOR OF THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE MOST CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS,								BY DATE	
S DESCRIBED IN L APPLICABLE MENTS UNLESS		INCLUDING BUT NOT LIMITED, TO ENVIRONMENTAL PROTECTION AGENCY (EPA), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), VIRGINIA OCCUPATIONAL AND SAFETY HEALTH COMPLIANCE PROGRAM (VOSH ENFORCEMENT), VIRGINIA OVERHEAD HIGH VOLTAGE LINE SAFETY ACT, NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS), AND NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH								TION	
DESCRIPTIVE	3. 4.	(NIOSH). THE DESIGN-BUILDER SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK WITH REPRESENTATIVE UTILITY COMPANIES AND FOR THE IMPLEMENTATION OF REQUIRED UTILITY-RELATED WORK. THE DESIGN-BUILDER SHALL IMMEDIATELY NOTIFY THE OWNER UPON								DESCRIPTION	
		ENCOUNTERING ANY HAZARDOUS MATERIALS DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES. THE DESIGN-BUILDER SHALL DOCUMENT SAME TO THE OWNER AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE									
ENT TRAPPING DR OFF-SITE	5.	TAKEN. DISCONNECTION OF SERVICES AND SYSTEMS SUPPLYING UTILITIES TO BE ABANDONED OR DEMOLISHED SHALL BE COMPLETED PRIOR TO OTHER SITE								Ŋ	
CITY OF		DEMOLITION IN FULL COMPLIANCE WITH APPLICABLE CODES, REGULATIONS, AND THE REQUIREMENTS OF UTILITY PURVEYORS HAVING JURISDICTION. THE									
551)		DESIGN-BUILDER SHALL BE RESPONSIBLE FOR COORDINATION WITH THE UTILITY PURVEYORS, PAYMENT OF ASSOCIATED FEES AND PROCUREMENT OF ALL NECESSARY PERMITS.									
EROSION AND	6.	PRIOR TO REMOVAL OF MATERIALS OVER EXISTING UTILITY SYSTEMS, THE DESIGN-BUILDER SHALL DOCUMENT EXISTING CONDITIONS AND, IF AT VARIANCE WITH CONDITIONS AS REPRESENTED ON THE PLANS, NOTIFY THE									
ESSARY TO RONMENTAL	7.	OWNER AND OBTAIN DIRECTIONS AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN. THE DESIGN-BUILDER SHALL BACKFILL EXCAVATED AREAS WITH APPROVED									
		MATERIALS /CLEAN FILLS PER THE REQUIREMENTS OF VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT).									
CLEAN" SOIL. WER LATERALS	8.	THE DESIGN-BUILDER SHALL PROTECT AND PREVENT DAMAGE TO EXISTING ON-SITE UTILITY DISTRIBUTION FACILITIES THAT ARE TO REMAIN. ACTIVE UTILITY DISTRIBUTION FACILITIES ENCOUNTERED DURING DEMOLITION AND/OR			A, VA			RAL NOTES			
ALL THICKNESS 18" FOR DUWT NG A	9.	CONSTRUCTION ACTIVITIES SHALL BE SHUT OFF AT THE SERVICE MAIN WITH THE APPROVAL OF THE OWNER'S REPRESENTATIVE. DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES, THE		ERRENEW	KANDRIA,			AL NO			ENERAL
ATED WITH A MOISTURE, RICAN PUBLIC	5.	DESIGN-BUILDER SHALL IMMEDIATELY NOTIFY THE OWNER UPON ENCOUNTERING ANY EXISTING UTILITIES AND/OR UTILITY SYSTEM STRUCTURES NOT SHOWN ON THESE PLANS. THE DESIGN-BUILDER SHALL DOCUMENT THE SAME AND FORWARD THE INFORMATION TO THE OWNER AND OBTAIN		RIVE	ALEXA			GENER			GEI
BLES	10.	DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN. THE DESIGN-BUILDER OR APPLICANT SHALL WORK WITH THE CITY STAFF TO REUSE THE EXISTING, LEFTOVER, UNUSED, AND/OR DISCARDED BUILDING MATERIALS AS PART OF THE DEMOLITION PROCESS OR THE CONSTRUCTION DEBRIS MUST BE REMOVED TO AN APPROVED LANDFILL WITH ADEQUATE									
		FREQUENCY IN ACCORDANCE WITH THE VIRGINIA STATE LITTER CONTROL ACT.									
	<u>SI</u> 1.	ORMWATER BMP FACILITIES MAINTENANCE AGREEMENT THE DESIGN-BUILDER SHALL SUBMIT TO THE CITY OF ALEXANDRIA A									
		STORMWATER BMP FACILITIES MAINTENANCE AGREEMENT WITH FINAL NO.2 SUBMISSION. THE MAINTENANCE AGREEMENT SHALL BE REGISTERED WITH ALEXANDRIA LAND RECORDS.								DATE	
PENALTIES									+	BY	
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OLITION,										Z	
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	STORMWATER BMP NOTES
1.	THE STORMWATER BEST MANAGEMENT PRACTICES (BMP) REQUIRED FOR THIS PROJECT SHALL BE COSNTRUCTED AND INSTALLED UNDER THE DIRECT SUPERVISION OF THE DESIGN-BUILDER OR HIS DESIGNATED REPRESENTATIVE. THE DESIGN-BUILDER SHALL MAKE A WRITTEN CERTIFICATION TO THE CITY THAT THE BMPS ARE CONSTRUCTED AND INSTALLED AS DESIGNED AND IN ACCORDANCE WITH THE APPROVED SITE PLAN. IN ADDITION, AGGREGATE LAYERS AND COLLECTOR PIPES MAY NOT BE INSTALLED UNLESS THE DESIGN-BUILDER OR HIS REPRESENTATIVE IS PRESENT.
2.	THE DESIGN BUILDER SHALLED UNLESS THE DESIGN-BUILDER OR HIS REPRESENTATIVE IS PRESENT. THE DESIGN BUILDER SHALL FURNISH THE CITY WITH AN OPERATION AND MAINTENANCE MANUAL FOR ALL BMPS ON THE PROJECT. THE MANUAL SHALL INCLUDE AN EXPLANATION OF THE FUNCTION AND OPERATIONS OF EACH BMP AND ANY SUPPORTING UTILITIES, CATALOG CUTS ON ANY MECHANICAL OR ELECTRICAL EQUIPMENT AND A SCHEDULE OF ROUTINE MAINTENANCE FOR THE BMPS AND SUPPORTING EQUIPMENT.
	CONSTRUCTION NOTES
•	THE EXISTING UNDERGROUND UTILITIES SHOWN HEREIN ARE BASED UPON AVAILABLE INFORMATION. THE DESIGN-BUILDER SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS, THE DESIGN-BUILDER SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN ON THE PLANS, HE SHALL IMMEDIATELY NOTIFY THE OWNER AND ENGINEERING OF RECORD AND TAKE NECESSARY ACTION AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUATION OF SERVICE. THE DESIGN-BUILDER SHALL DIG TEST PITS AS REQUIRED FOLLOWING NOTIFICATION AND MARKING OF ALL EXISTING
	UTILITIES TO VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES TEST HOLES TO BE PERFORMED AT LEAST 30 DAYS PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES ARE TO BE REPORTED IMMEDIATELY TO THE OWNER AND ENGINEER OR RECORD. REDESIGN AND APPROVAL BY REVIEWING AGENCIES SHALL BE OBTAINED, IF REQUIRED. THE DESIGN-BUILDER SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER AND THE ENGINEER OR RECORD OF ANY
	CHANGES OR CONDITIONS ATTACHED TO PERMITS OBTAINED FROM ANY AUTHORITY ISSUING PERMITS. THE DESIGN-BUILDER SHALL VISIT THE SITE AND SHALL VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION. THE DESIGN-BUILDER SHALL CLEAR THE SITE OF ALL TREES, BUILDINGS, FOUNDATIONS, ETC., WITHIN THE LIMITS OF CONSTRUCTION UNLESS OTHERWISE SPECIFIED, AND SHALL BE RESPONSIBLE FOR ENSURING THAT EXISTING UTILITIES ARE DISCONNECTED.
•	THE DESIGN-BUILDER SHALL PROVIDE OVER-LOT GRADING TO PROVIDE POSITIVE DRAINAGE AND PRECLUDE PONDING OF WATER.
	ALL AREAS, ON OR OFF-SITE, WHICH ARE DISTURBED BY THIS CONSTRUCTION AND WHICH ARE NOT PAVED OR BUILT UPON, SHALL BE ADEQUATELY STABILIZED TO CONTROL EROSION AND SEDIMENTATION. THE MINIMUM ACCEPTABLE STABILIZATION SHALL CONSIST OF PERMANENT GRASS, SEED MIXTURE TO BE AS RECOMMENDED BY THE CITY AGENT. ALL SLOPES 3:1 AND GREATER SHALL BE SODDED AND PEGGED OF OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY OF
-	ALEXANDRIA. ALL ABOVE GROUND UTILITIES SERVING THE SITE SHALL BE RELOCATED AS REQUIRED BY THE OWNING UTILITY COMPANIES. THE DESIGN-BUILDER SHALL BE RESPONSIBLE FOR MAKING ALL ARRANGEMENTS AND COORDINATING ALL WORK REQUIRED FOR THE NECESSARY RELOCATIONS.
0	PRIOR TO BEGINNING OF CONSTRUCTION, DESIGN-BUILDER SHALL VERIFY FROM THE ARCHITECTURAL DRAWINGS ALL DIMENSIONS, DETAILS, AND TREATMENTS FOR THE PROPOSED BUILDINGS, WALKWAYS, AND OTHER PROPOSED CONSTRUCTION WHERE INDICATED ON THE PLANS. THE DESIGN-BUILDER IS TO VERIFY INVERT, SIZE, AND LOCATION OF BUILDING UTILITY CONNECTIONS WITH THE MECHANICAL
1.	PLANS PRIOR TO PLACEMENT OF UNDERGROUND UTILITIES. EXISTING BUILDINGS, FENCES AND OTHER EXISTING PHYSICAL FEATURES ARE TO BE REMOVED AS REQUIRED BY THE CONSTRUCTION.
	EXISTING CONSTRUCTION SHALL BE REMOVED TO NEAREST JOINT. NEW CONSTRUCTION SHALL BE PROVIDED AS SHOWN AND ANY DAMAGED AREA SHALL BE REPAIRED TO MATCH CONDITIONS EXISTING PRIOR TO CONSTRUCTION OR TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.
	ALL PRIVATE BUILDING CONNECTIONS ARE TO BE INSTALLED IN ACCORDANCE WITH THE CURRENT PLUMBING CODE. TOPS OF EXISTING STRUCTURES WHICH REMAIN IN USE ARE TO BE ADJUSTED IN ACCORDANCE WITH THE GRADING PLAN. ALL PROPOSED STRUCTURE TOP ELEVATIONS ARE TO BE VERIFIED BY THE DESIGN-BUILDER WITH THE SITE GRADING PLANS. IN CASE OF CONFLICT, THE GRADING PLAN SHALL SUPERSEDE PROFILE ELEVATIONS. MINOR ADJUSTMENTS TO MEET FINISHED GRADE ELEVATIONS, IF REQUIRED, SHALL BE MADE IN THE FIELD WITH THE APPROVAL OF SITE INSPECTOR OF THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.
5.	THE DESIGN, CONSTRUCTION, FIELD PRACTICES, AND METHODS SHALL CONFORM TO THE REQUIREMENTS SET FORTH BY THE CITY OF ALEXANDRIA ZONING ORDINANCE AND DESIGN AND CONSTRUCTION STANDARDS MANUAL. FAILURE TO COMPLY WITH THE CODE, APPLICABLE MANUALS, AND PROVISIONS OF THE CONSTRUCTION AND ESCROW AGREEMENTS OR THE PERMITS SHALL BE DEEMED A VIOLATION.
	THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE OWNER OR DESIGN BUILDER OF ANY LEGAL RESPONSIBILITIES WHICH MAY BE REQUIRED BY THE CODE OF VIRGINIA OR ANY ORDINANCE ENACTED BY THE CITY OF ALEXANDRIA. CONSTRUCTION STAKEOUT SHALL BE UNDER THE DIRECT SUPERVISION OF A LICENSED LAND SURVEYOR IN THE
	COMMONWEALTH OF VIRGINIA. THE DESIGN-BUILDER IS REFERRED TO STRUCTURAL, GEOTECHNICAL, MECHANICAL, AND ARCHITECTURAL PLANS FOR FOUNDATION TREATMENT INCLUDING, BUT NOT LIMITED TO, SHEETING AND SHORING FOR BUILDING EXCAVATION,
	WATERPROOFING FOR FILL AGAINST BUILDINGS, LOCATION OF MECHANICAL EQUIPMENT, AND CONNECTIONS AT THE FACES OF BUILDINGS. SMOOTH GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF THE EXISTING ROAD TO THE PROPOSED ENTRANCE AND/OR CURB & GUTTER TO PRECLUDE THE FORMING OF FALSE GUTTER AND/OR PONDING OF WATER ON THE ROADWAY.
	THE DESIGN-BUILDER SHALL BE RESPONSIBLE FOR MAKING A SMOOTH TRANSITION TO EXISTING CURB AND SIDEWALKS, IF APPLICABLE. THE CALIFORNIA BEARING RATIO (CBR) VALUES OF IN-SITU MATERIALS SHALL BE DETERMINED BY FIELD AND/OR
-	LABORATORY TESTS FOR ACTUAL DETERMINATION OF REQUIRED THICKNESSES OF SURFACE, BASE, SUB-BASE, AND SUB GRADE MATERIALS. THE PAVEMENT SECTION SHALL BE DESIGNED BY A GEOTECHNICAL LICENSED PROFESSIONAL ENGINEER TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR ALL PAVEMENTS INCLUDING EMERGENCY VEHICLE EASEMENT (EVE) TO SUPPORT H-20 LOADING. IN THE CASE OF PAVEMENT PATCHES, PAVEMENT
2.	SECTION MUST MEET OR EXCEED EXISTING SECTION. THE THICKNESSES OF SUB-BASE, BASE, AND WEARING COURSE SHALL BE DESIGNED USING "CALIFORNIA METHOD" AS SET FORTH ON PAGE 3-76 OF THE SECOND EDITION OF A BOOK ENTITLED, "DATA BOOK FOR CIVIL ENGINEERS, VOLUME ONE, DESIGN" WRITTEN BY ELWYN E. SEELYE. AN ALTERNATE PAVEMENT SECTION DESIGNED TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR ALL PAVEMENTS INCLUDING EMERGENCY VEHICLE EASEMENT (EVE) TO SUPPORT H-20 LOADING BASED ON CBR AND VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) METHOD (VASWANI
3.	METHOD) AND STANDARD MATERIAL SPECIFICATIONS SHALL BE ACCEPTABLE. EMERGENCY VEHICLE EASEMENTS (EVE) AND AMERICAN WITH DISABILITY (ADA) ACCESSIBLE PARKING SPACES MUST BE DELINEATED WITH PAVEMENT MARKINGS PER THE CITY OF ALEXANDRIA STANDARD SIGNAGE AND AMERICAN WITH
	DISABILITIES (ADA) REQUIREMENTS. ALL STRIPING SHALL MEET THE REQUIREMENTS OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS (LATEST EDITION) AND SHALL BE THERMOPLASTIC UNLESS OTHERWISE SPECIFIED.
	ALL EARTHWORK OPERATIONS ARE TO BE PERFORMED UNDER THE FULL TIME, ON-SITE SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER WITH GEOTECHNICAL TESTING IN ACCORDANCE WITH CONSTRUCTION SPECIFICATIONS AND GEOTECHNICAL REPORT REQUIREMENTS. THE DESIGN-BUILDER SHALL NOT CAUSE OR PERMIT VEHICLES TO IDLE FOR MORE THAN 10 MINUTES WHEN PARKED.
7.	
	RESOURCE PROTECTION AREA NOTES
	THE SUBJECT PROPERTY LIES WITHIN A CITY OF ALEXANDRIA RESOURCE PROTECTION AREA (RPA). FIELD DEMARCATED/VERIFIED 50 FEET AND 100 FEET RESOURCE PROTECTION AREA LINES ARE SHOWN ON THE SITE PLAN. DEVELOPMENT AND USES PROPOSED IN THE RPA ARE IN COMPLIANCE WITH THE REQUIREMENTS OF ARTICLE 13-107 OF THE ALEXANDRIA ZONING ORDINANCE (AZO).
	FLOODPLAIN NOTES
•	THE SITE LIES WITHIN 100-YEAR FLOODPLAIN WATER SURFACE ELEVATION (WSE) AND THE 100-YEAR FLOODPLAIN WSE IS SHOWN ON THE SITE PLAN PER THE DEMARCATION OF THE CURRENT FLOOD INSURANCE RATE MAP (FIRM) PUBLISHED BY FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA). THE PLAN DEMONSTRATES COMPLIANCE WITH FLOODPLAIN ORDINANCE SECTION 6- 300 TO SECTION 6-311 OF ARTICLE VI

THE FOLLOWING LINESTYLES ARE USED THROUGHOUT THE DRAWING:

NEW WORK EXISTING FEATURE FUTURE WORK

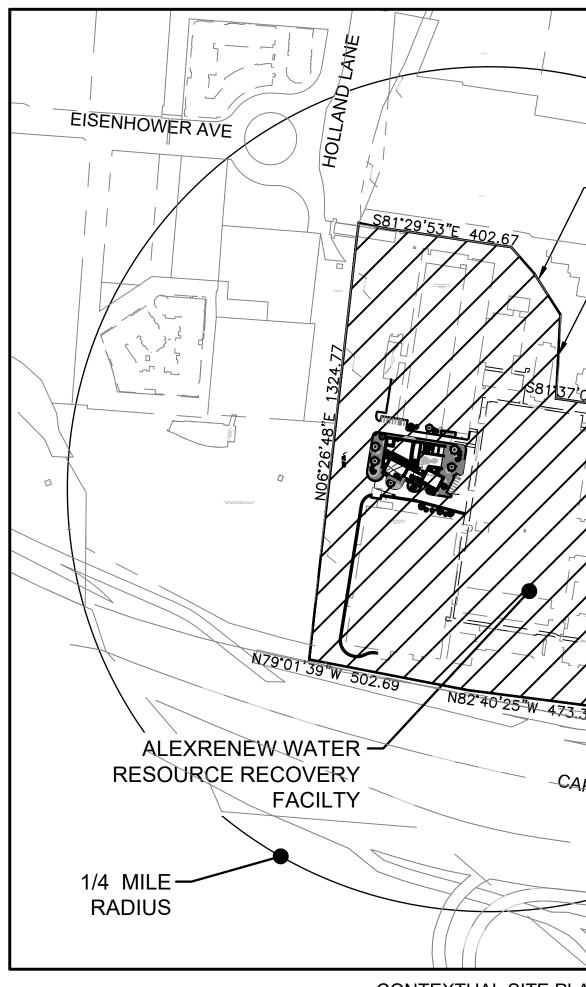
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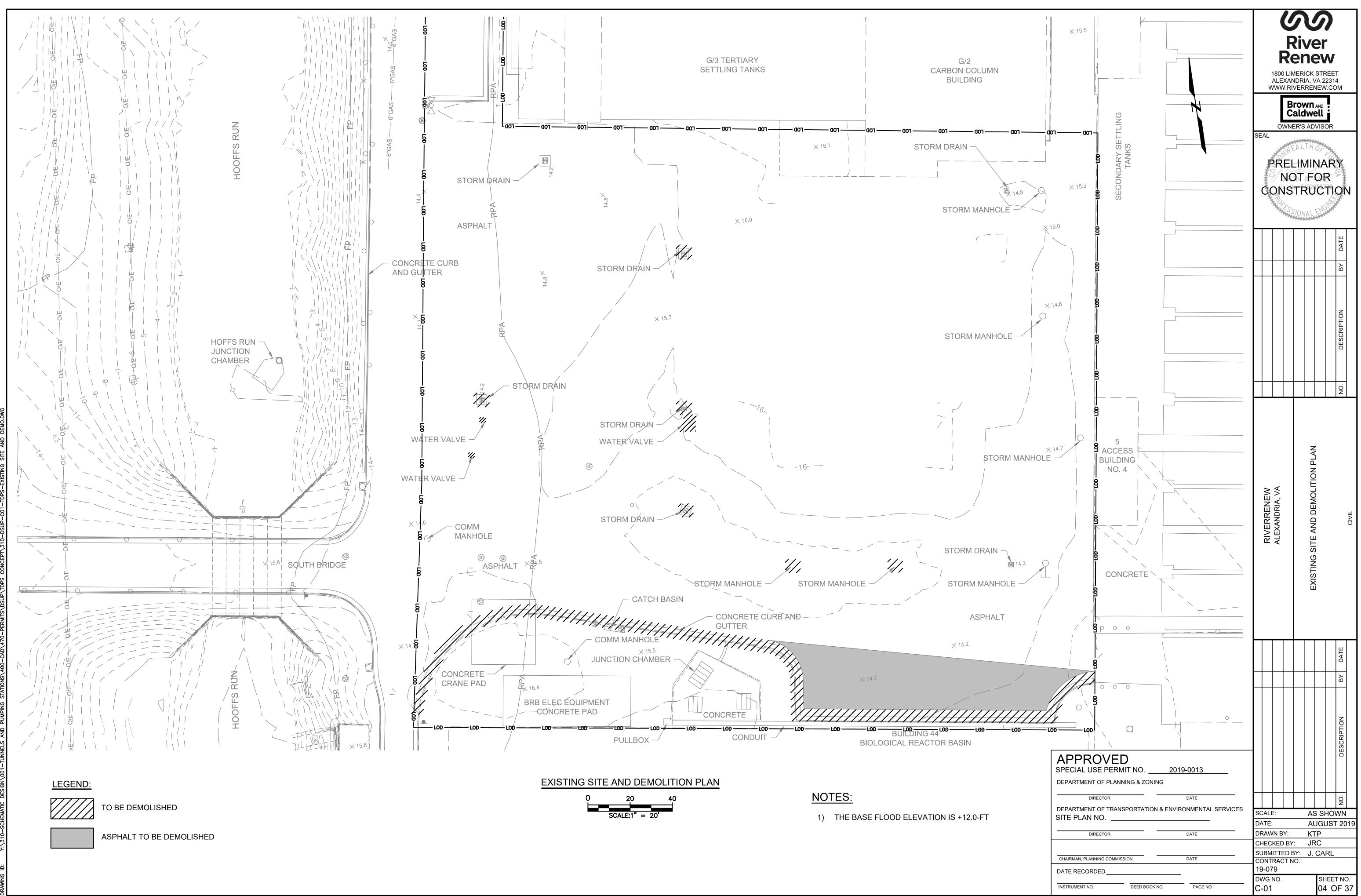
LINESTYLE SYSTEM

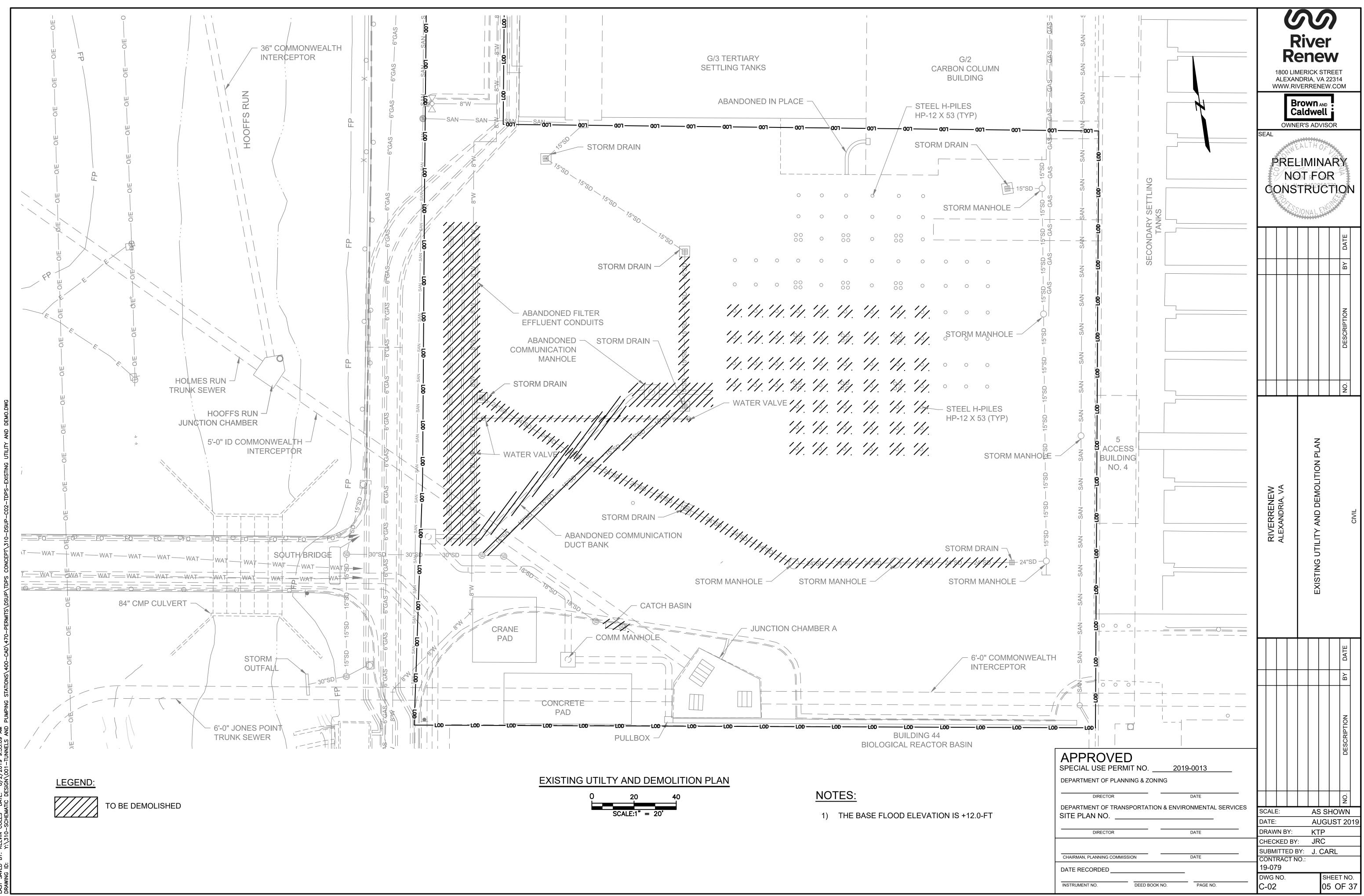
DESCRIPTION - BUILDING PAVEMENT/CONCRETE ----- WALK —— FENCE ROAD STRIPING — MAJOR CONTOUR - MINOR CONTOUR SPOT ----- STREAM TREELINE \sim Shrub line WETLAND AREA WETLAND IMPACT (PERMANENT) TREE 20"+ TREE 11"-20" TREE ALEXRENEW SOIL BORING HISTORICAL SOIL BORING CATCH BASIN

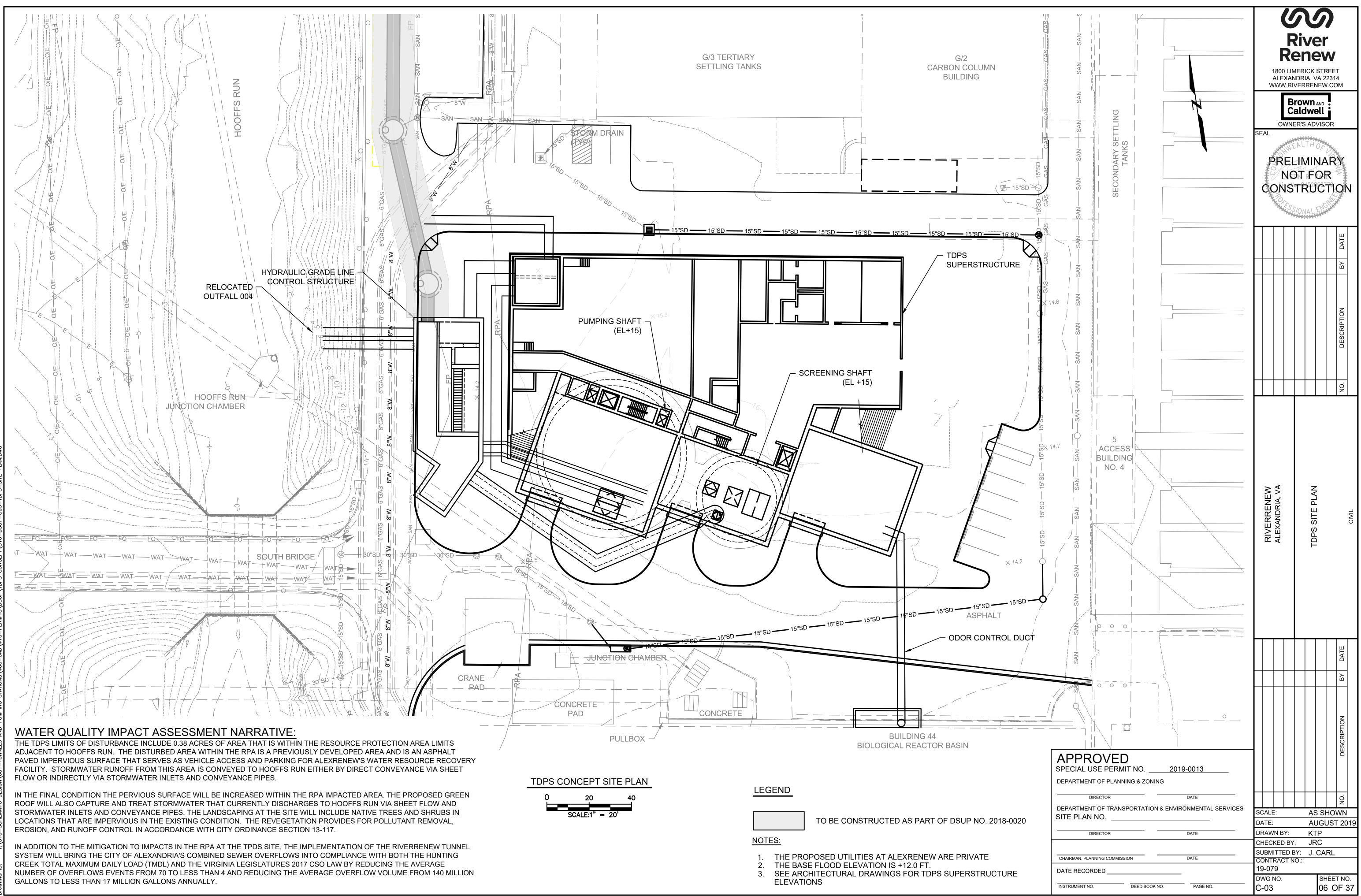


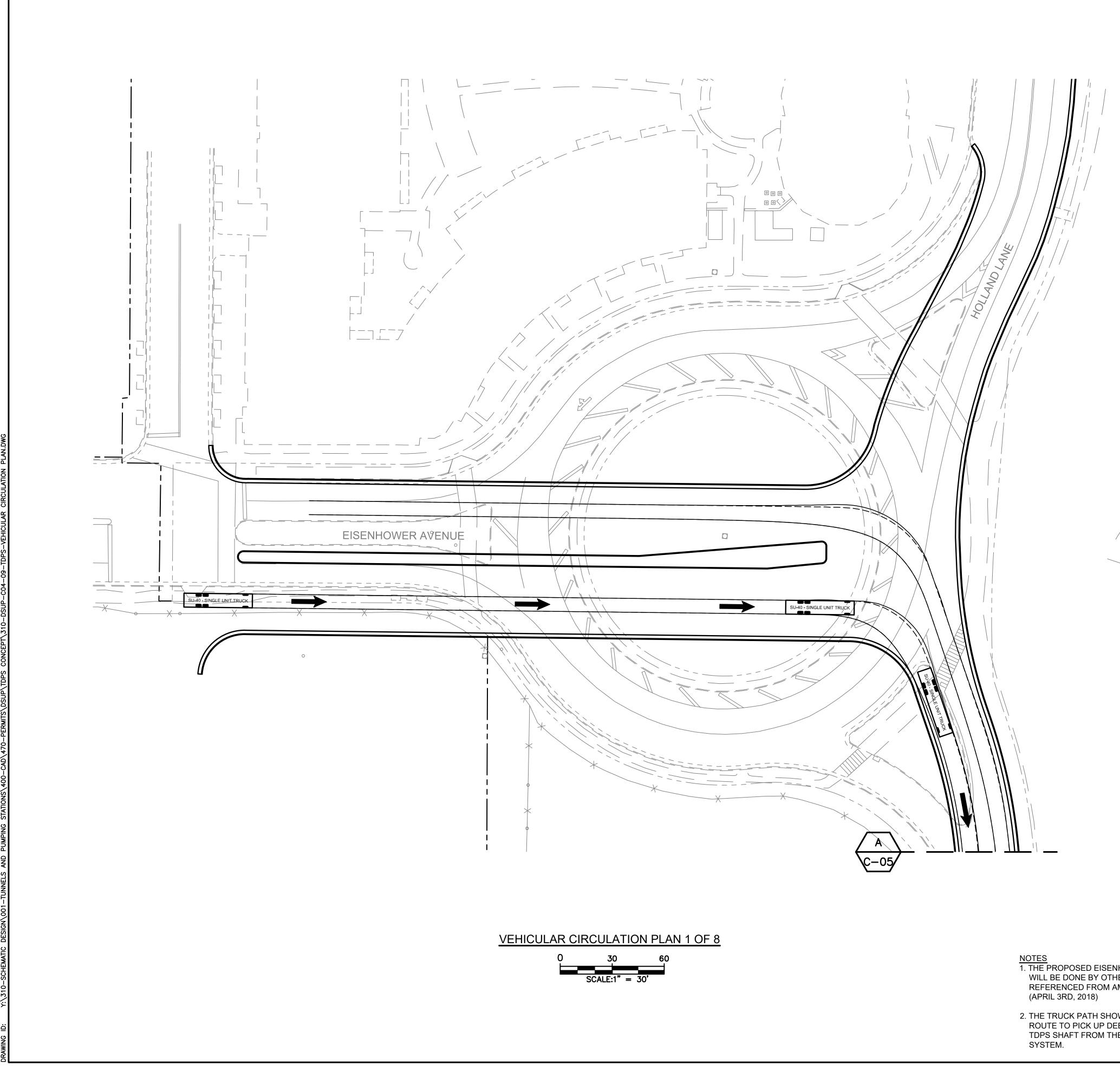
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APITAL BELTW		RIVERRENEW ALEXANDRIA, VA	GENERAL NOTES AND CONTEXTUAL SITE PLAN GENERAL
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	DIRECTOR DATE DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES SITE PLAN NO.	SCALE:	AS SHOWN
	DIRECTOR DATE	DATE: DRAWN BY:	AUGUST 2019 KTP
	CHAIRMAN, PLANNING COMMISSION DATE	CHECKED BY SUBMITTED I CONTRACT N	BY: J. CARL
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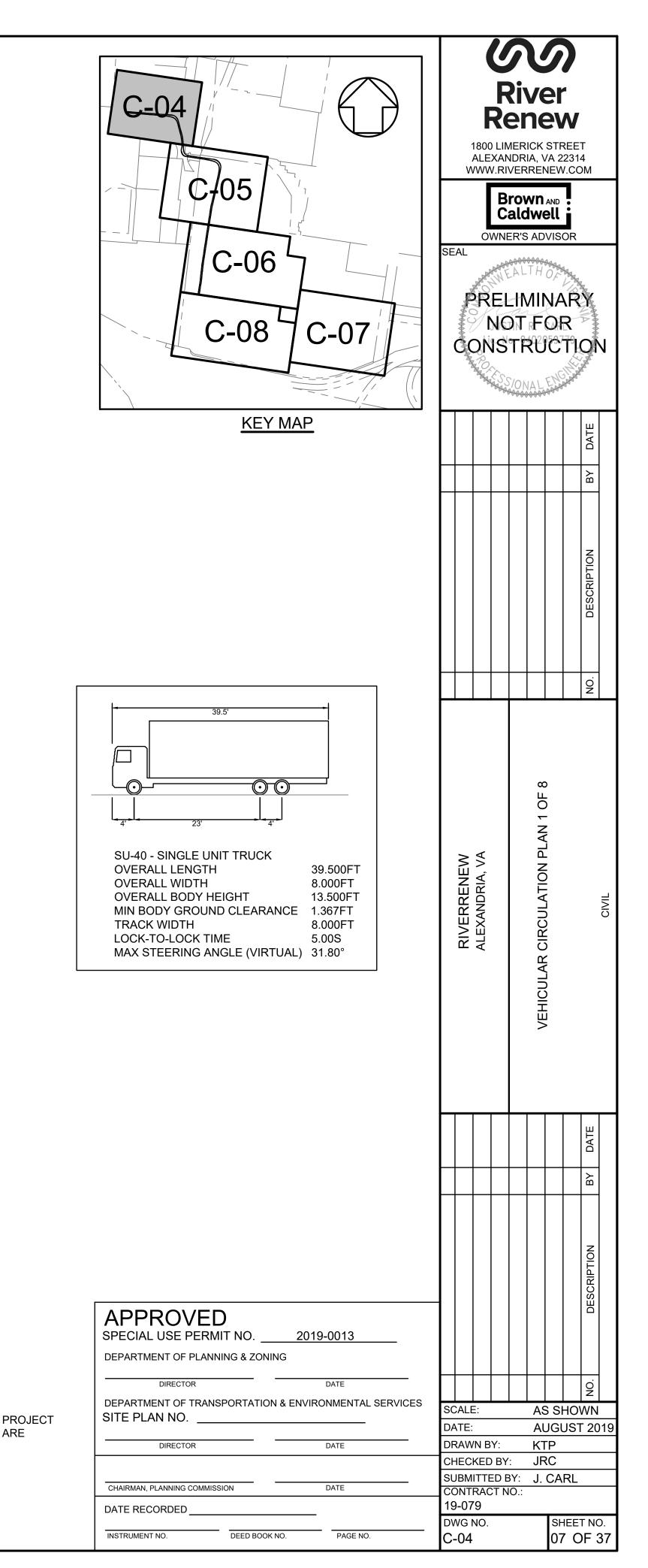


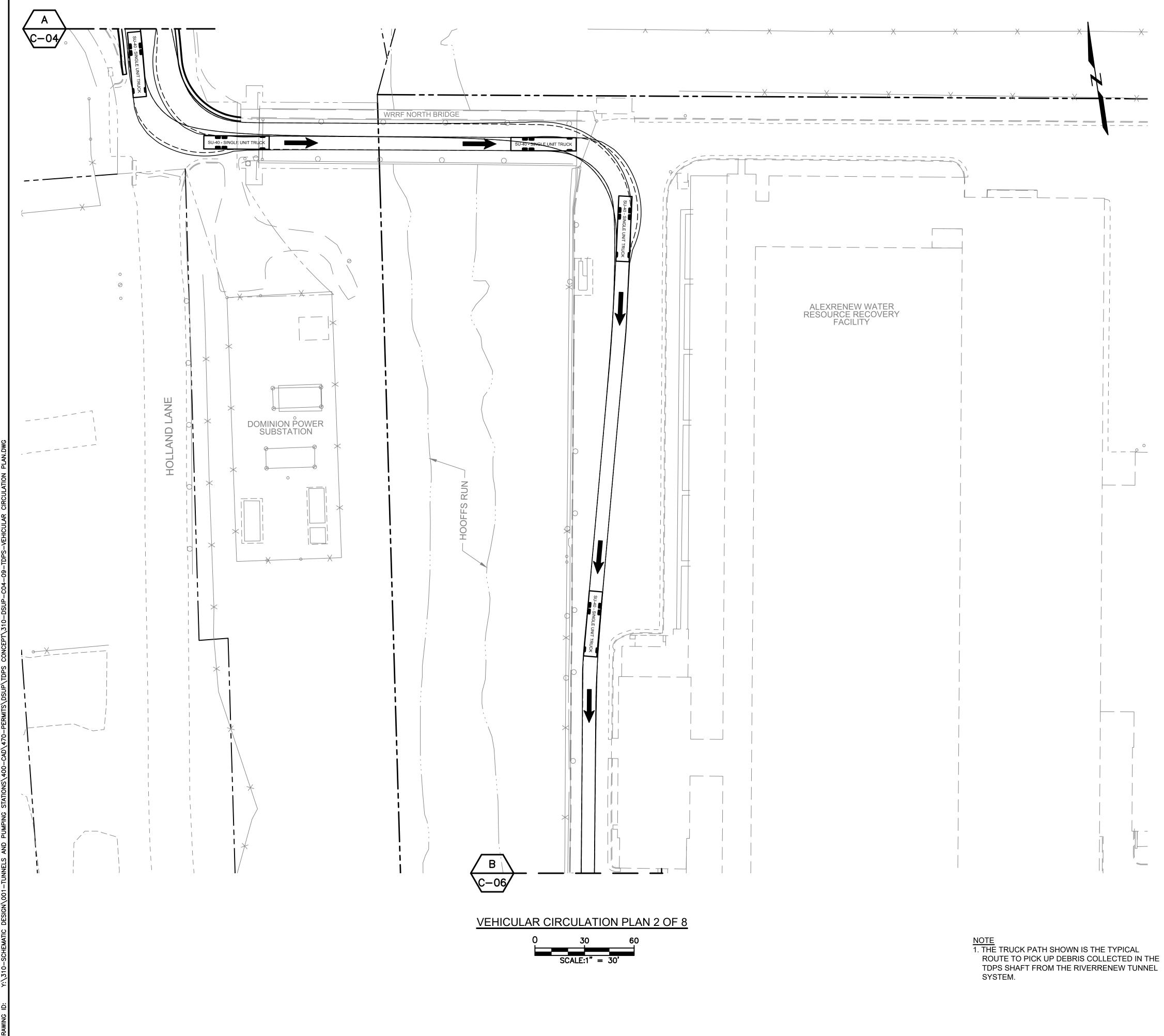




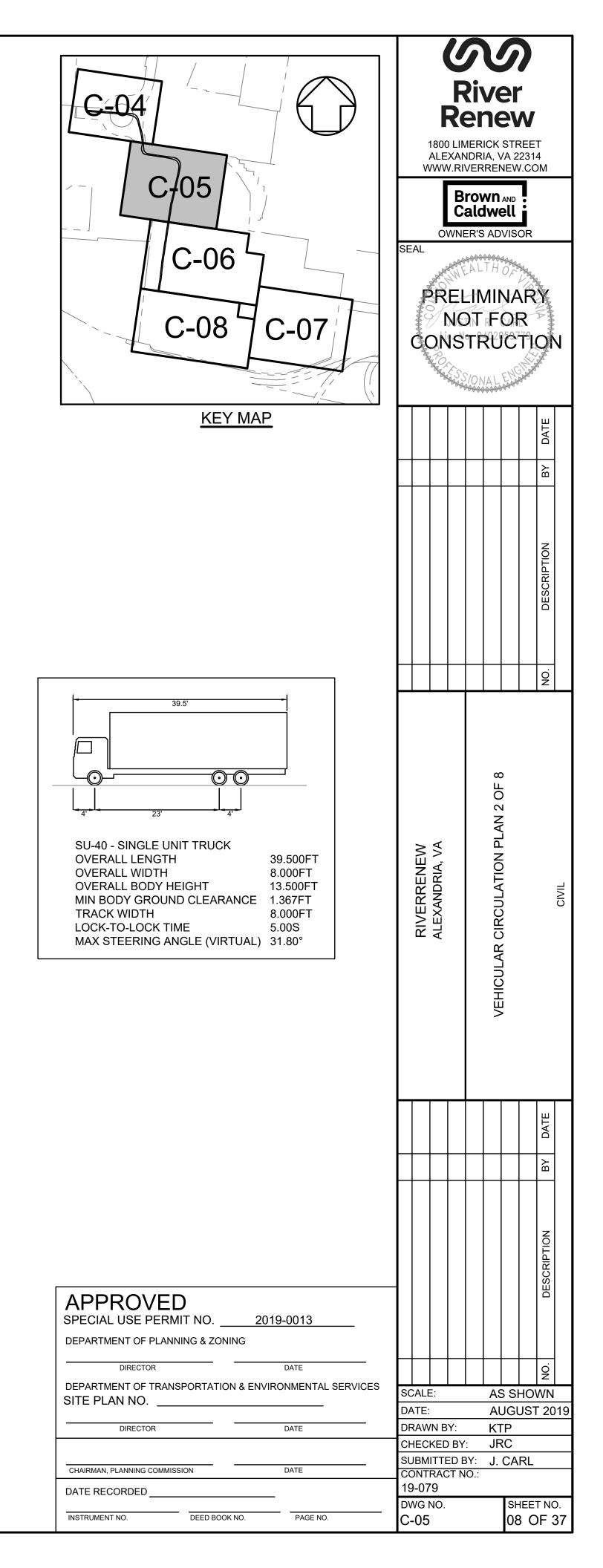


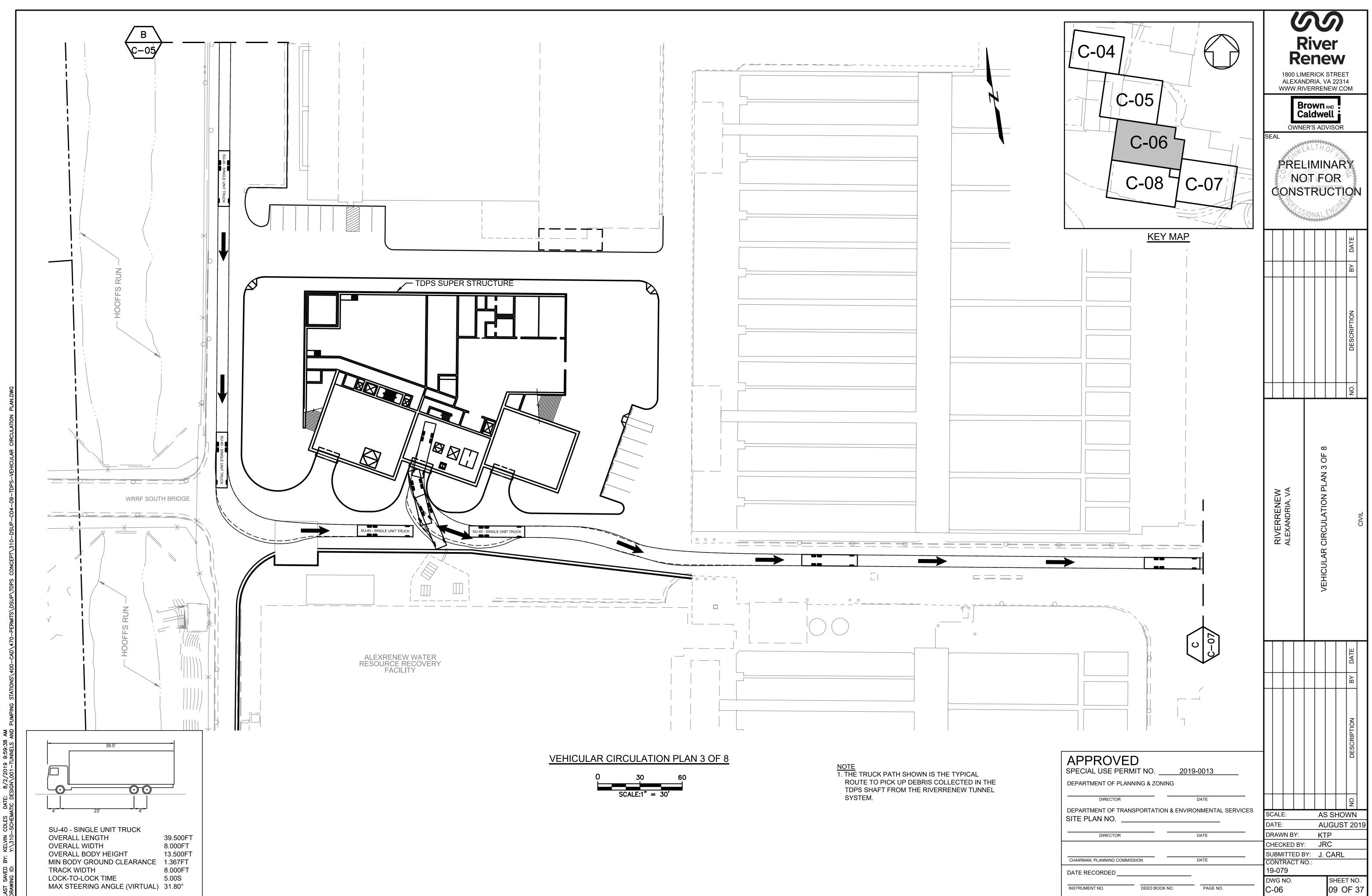
- 1. THE PROPOSED EISENHOWER AVENUE WIDENING PROJECT WILL BE DONE BY OTHERS. THE EXTENTS SHOWN ARE REFERENCED FROM AMT PROJECT NO. 106-425.06
- 2. THE TRUCK PATH SHOWN IS THE TYPICAL ROUTE TO PICK UP DEBRIS COLLECTED IN THE TDPS SHAFT FROM THE RIVERRENEW TUNNEL



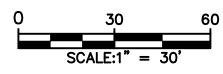


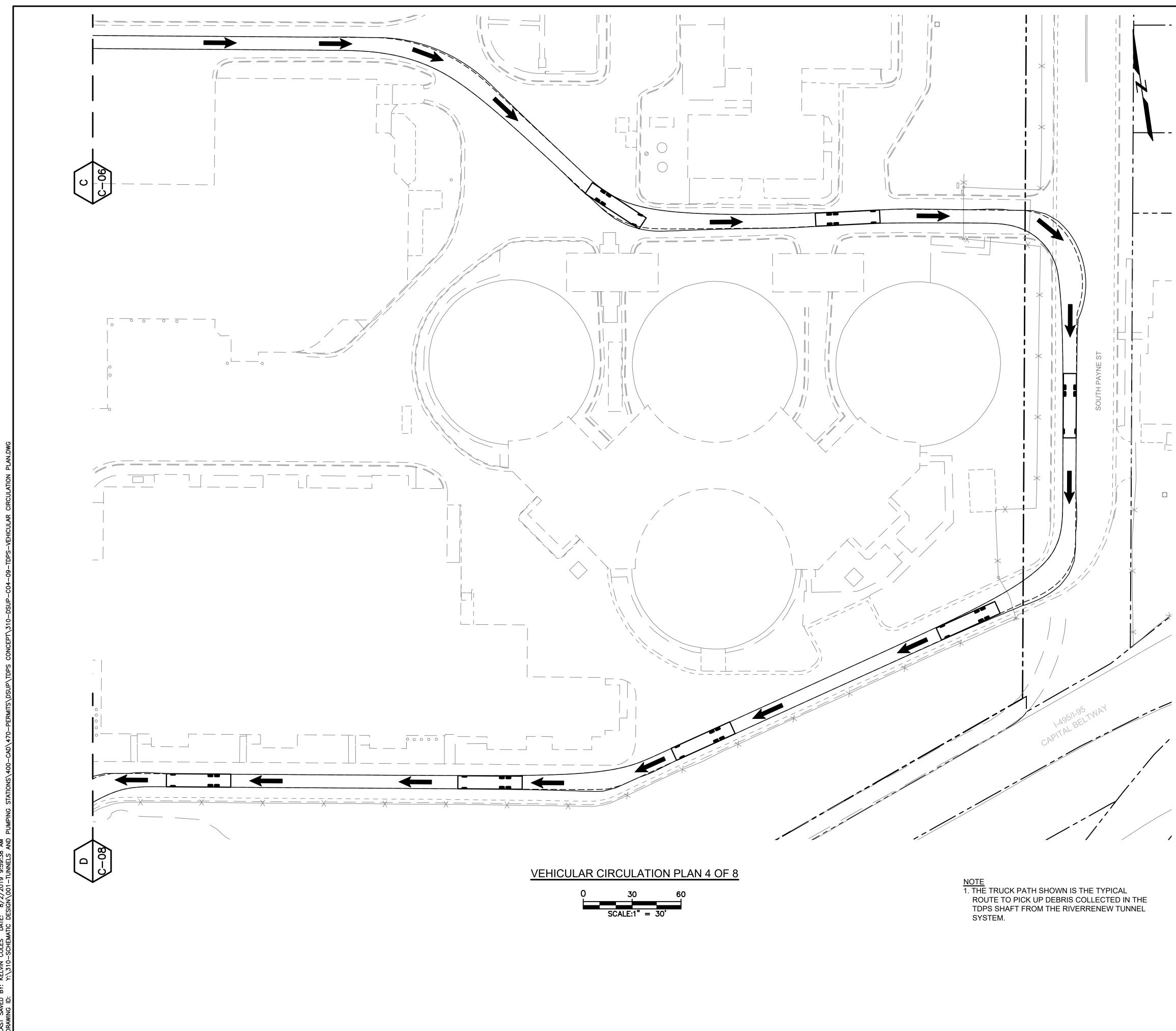
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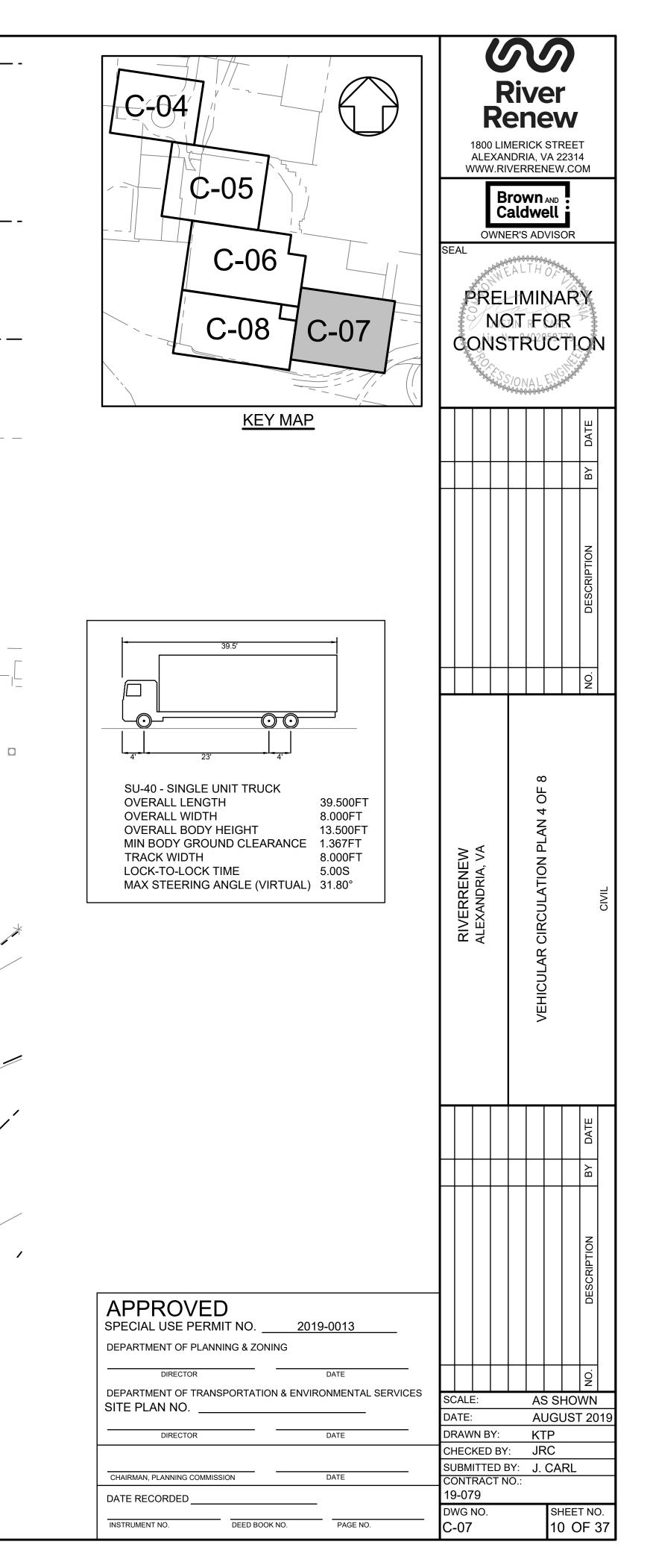


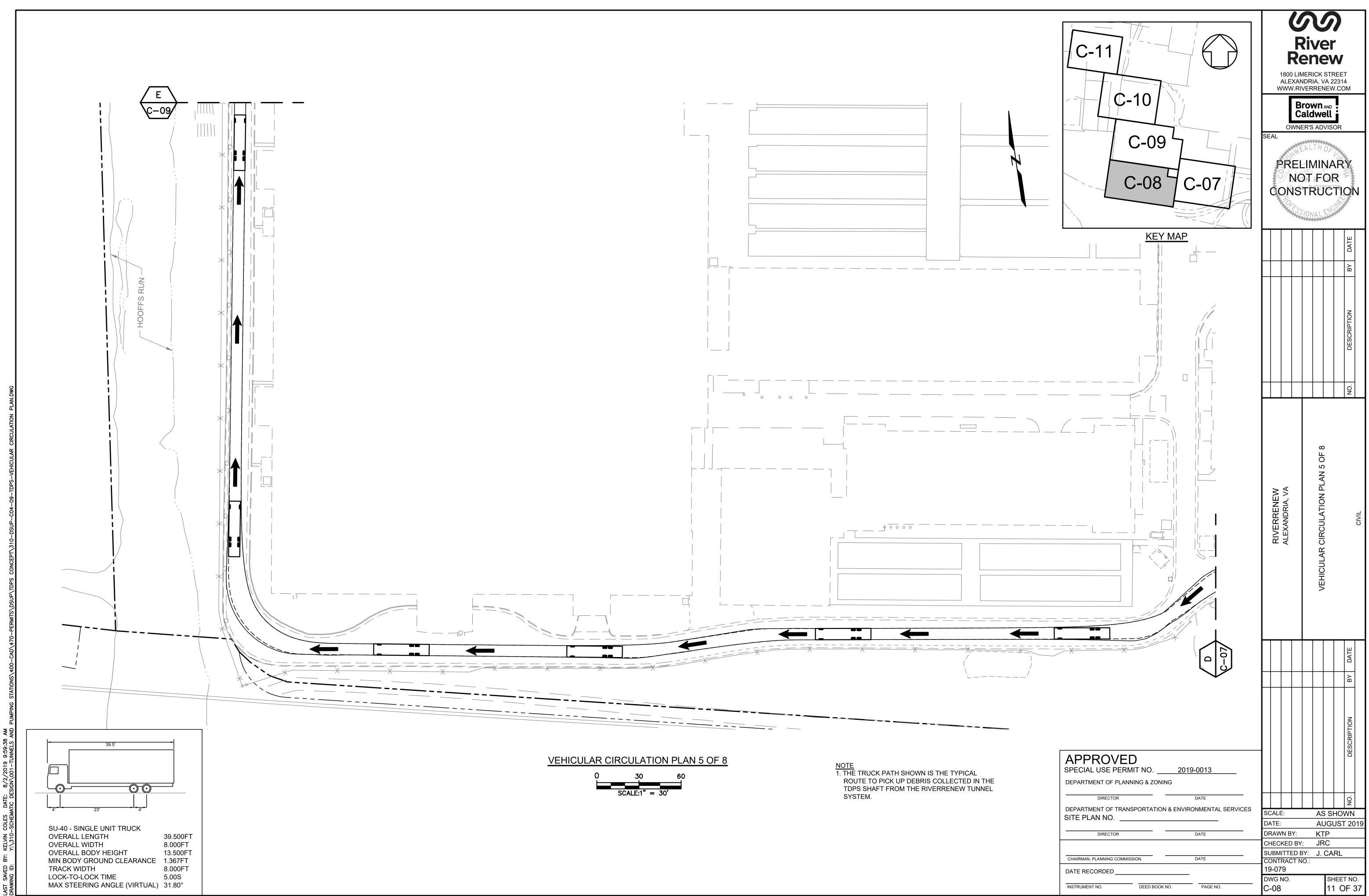


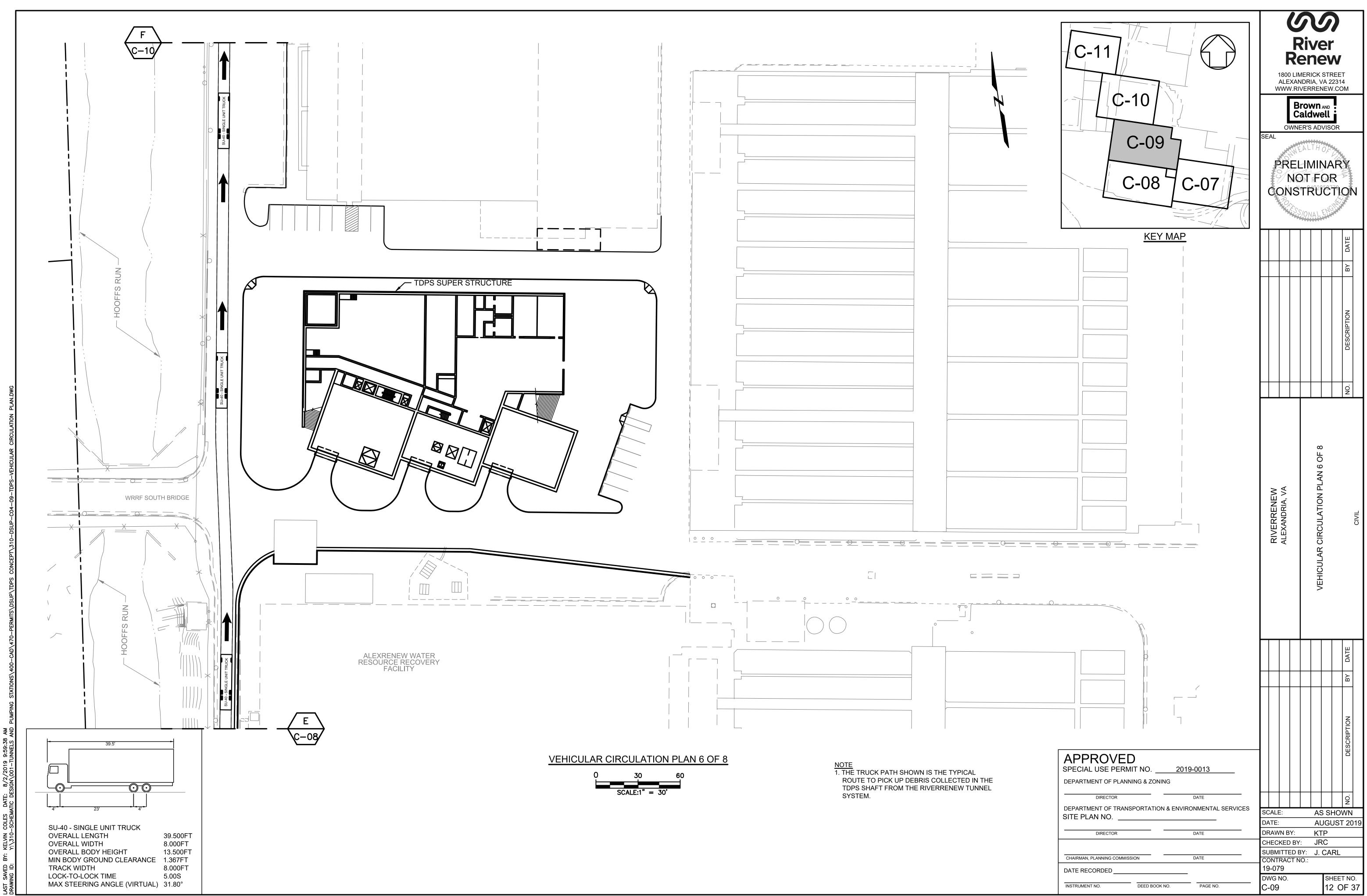
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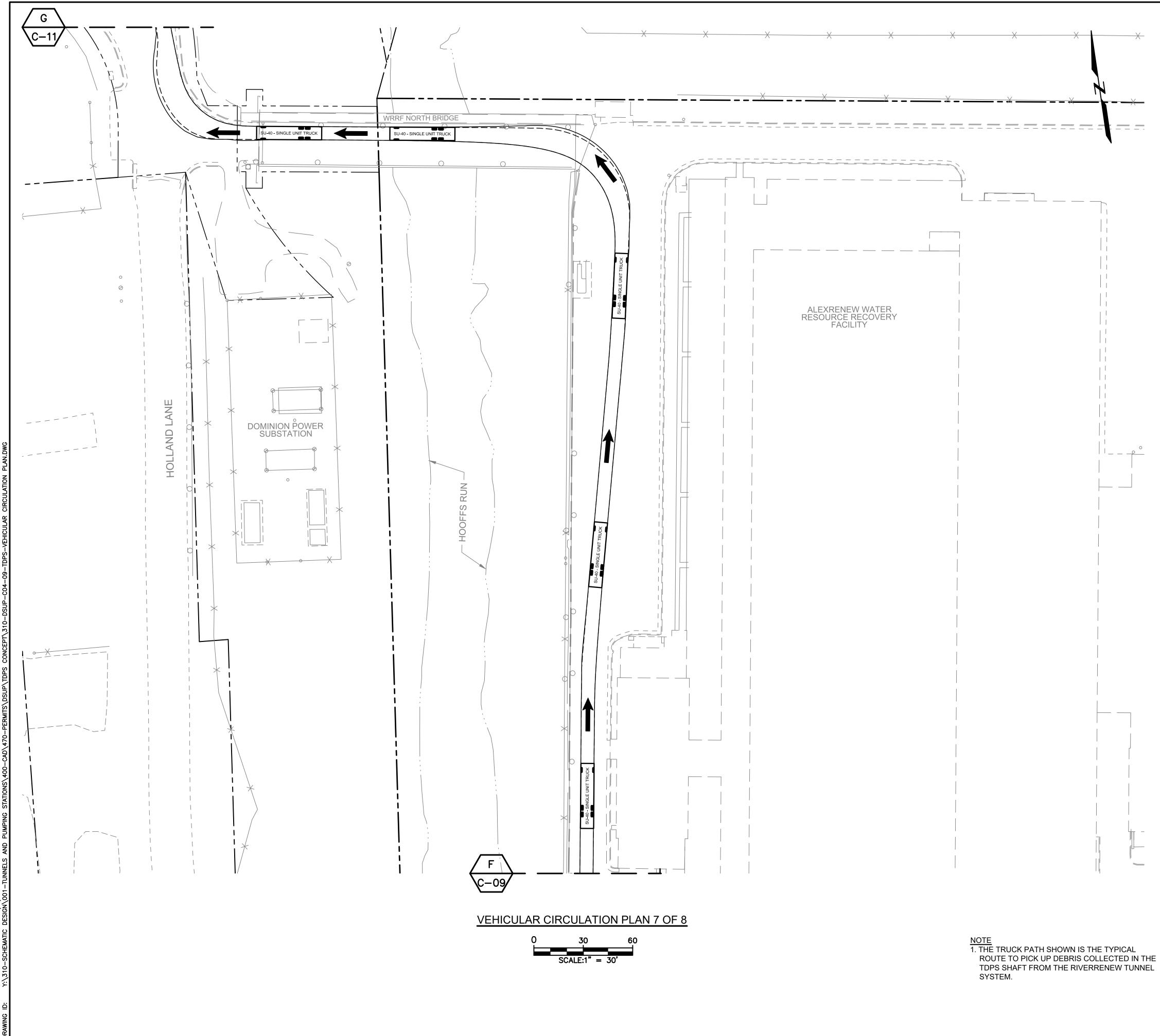




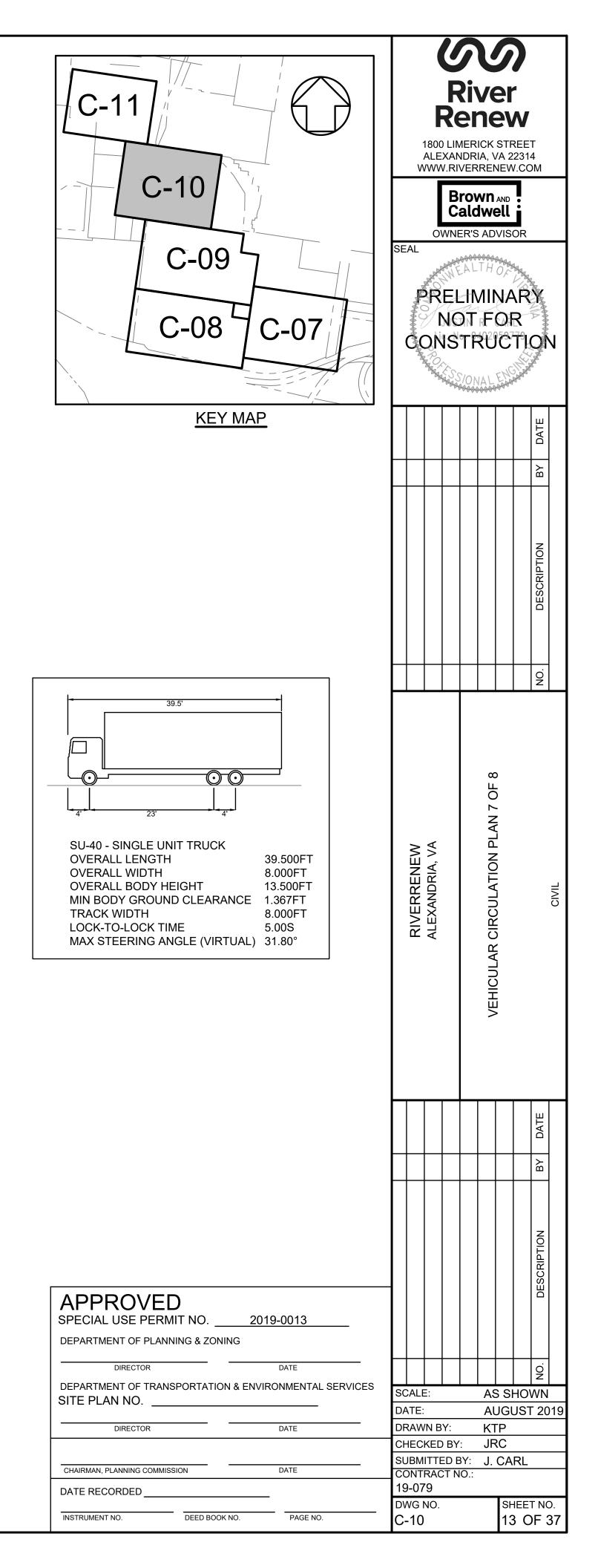


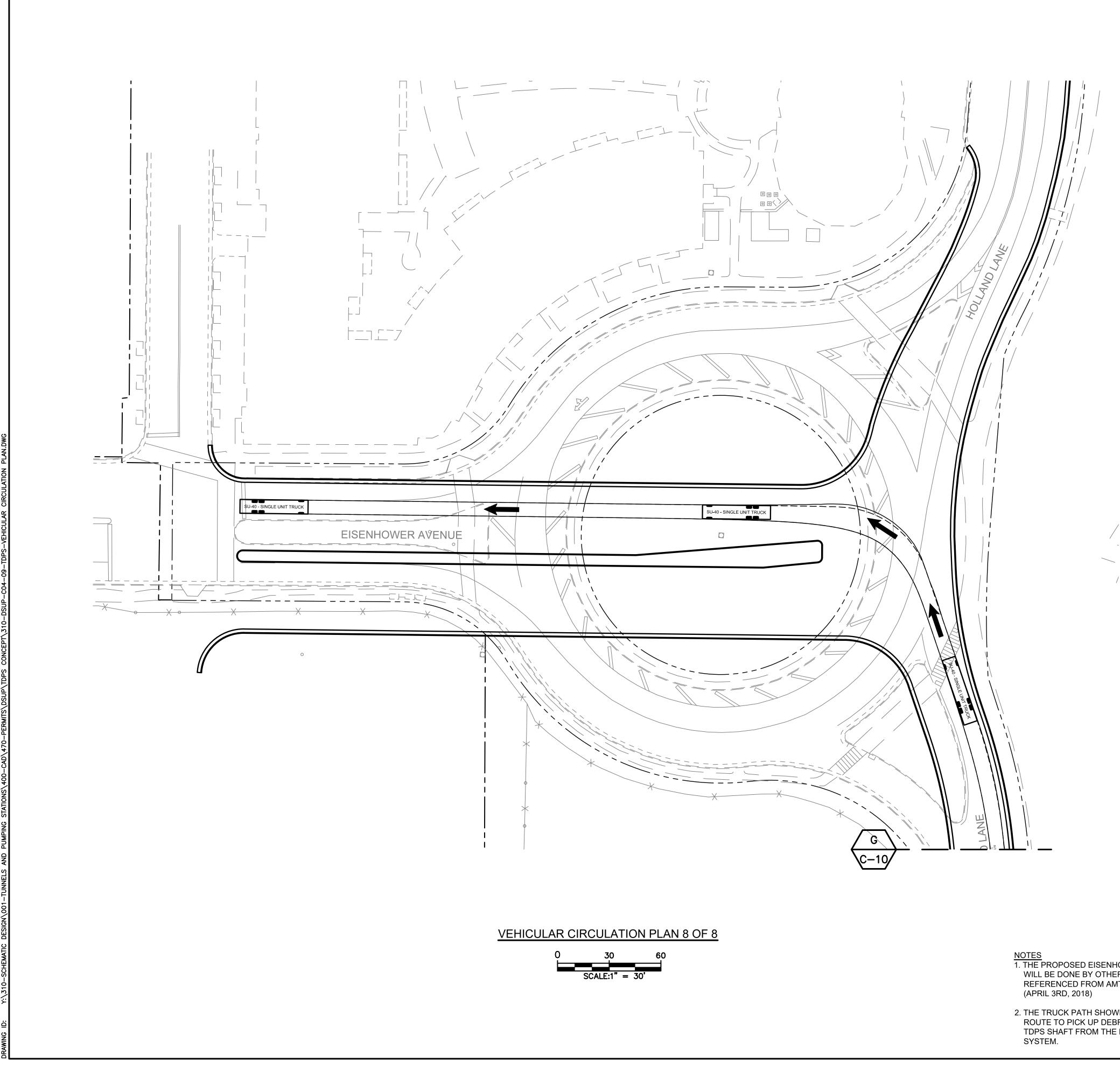


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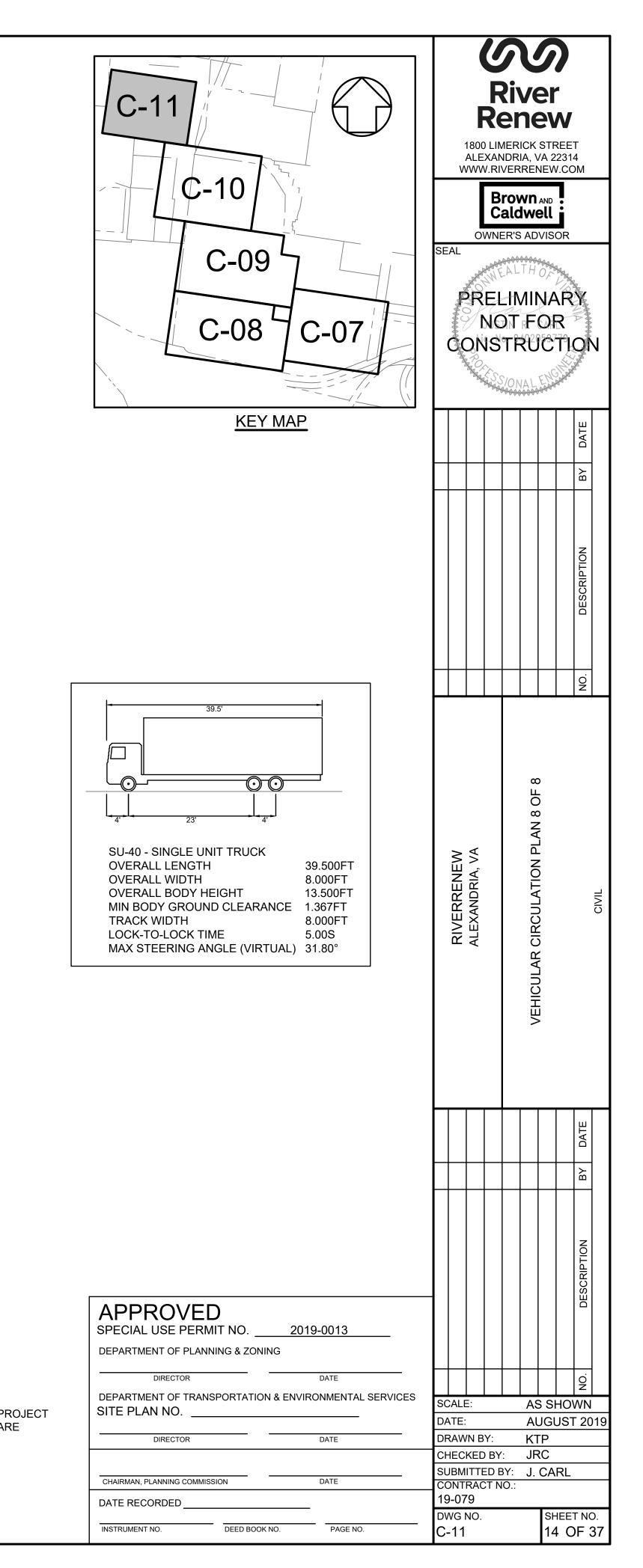


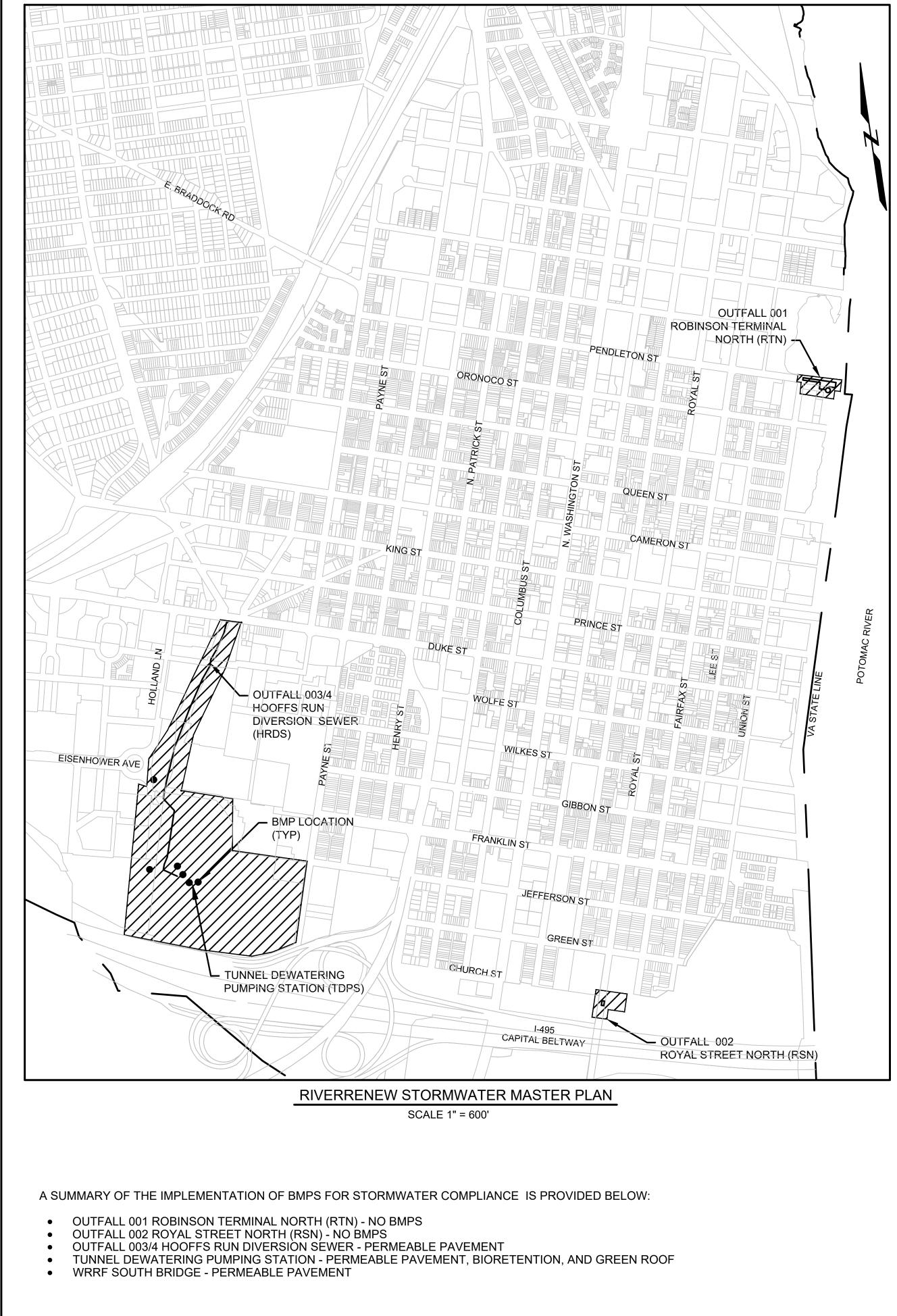
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 \mathcal{O} RIVERRENEW STORMWATER MANAGEMENT NARRATIVE **River** Renew 1800 LIMERICK STREET ALEXANDRIA, VA 22314 WWW.RIVERRENEW.COM **Brown** AND Caldwell **OWNER'S ADVISOR** PRELIMINARY NOT FOR CONSTRUCTION PERMITTED THROUGH DSUP PERMIT NO. 2018-0020 AND AMENDMENTS TO DSUP PERMIT NO. 2009-0017 AT THE TIME OF THIS SUBMITTAL. \sim THE RIVERRENEW PRELIMINARY ENGINEERING REPORT TO COMPLY WITH CHAPTER 790, SECTION 940 OF THE VIRGINIA ADMINISTRATIVE CODE. RIVER **APPROVED** SPECIAL USE PERMIT NO. 2019-0013 **DEPARTMENT OF PLANNING & ZONING** DIRECTOR DATE DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES SCALE: AS SHOWN SITE PLAN NO. DATE: AUGUST 201 DRAWN BY: KTP DIRECTOR DATE CHECKED BY: JRC SUBMITTED BY: J. CARL

CHAIRMAN, PLANNING COMMISSION

DATE RECORDED

INSTRUMENT NO.

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SHEET NO. 15 OF 37

19-079

DWG NO.

C-12

A STORMWATER MANAGEMENT NARRATIVE FOR EACH OF THE SITES IN THE RIVERRENEW STORMWATER MASTER PLAN IS INCLUDED BELOW TO TUNNEL DEWATERING PUMPING STATION THE SITE PROPOSES TO COMPLY WITH ALL STORMWATER MANAGEMENT REQUIREMENTS. THE PUMPING SHAFT ROOF, SCREENING SHAFT ROOF, AND THROUGH THE GREEN ROOF, IT WILL BE CONVEYED TO BIORETENTION AND PERMEABLE PAVEMENT FACILITIES FOR ADDITIONAL TREATMENT. THE RECOVERY FACILITY. THESE AREAS ARE EXEMPT FROM STORMWATER NUTRIENT REDUCTION REQUIREMENTS. ONLY THE DRAINAGE AREA TO THE THE SITE PROPOSES TO COMPLY WITH ALL STORMWATER MANAGEMENT REQUIREMENTS. THE AFRICAN AMERICAN HERITAGE PARK TRAIL WILL BE WATER RESOURCE RECOVERY FACILITY SOUTH BRIDGE THE SITE PROPOSES TO COMPLY WITH ALL STORMWATER MANAGEMENT REQUIREMENTS. THE RIVERRENEW SITE SECURITY AND ACCESS PROJECT THE PERIMETER ROAD CONSTRUCTION STAGING AREA IMPERVIOUS AREA PLAN IS INCLUDED IN THE PROCESS AIR COMPRESSOR BLOWER PROJECT (MINOR AMENDMENT DSP#2009-00017). THERE IS NO PROPOSED MODIFICATION TO THE IMPERVIOUS AREA AND NO BMPS PROPOSED AT THIS

DEMONSTRATE COMPLIANCE WITH ZONING ORDINANCE 13-109(F). FINAL STORMWATER MANAGEMENT FOR EACH SITE SHALL BE DETERMINED DURING THE FINAL SITE PLAN DEVELOPMENT. SEE THIS PLAN FOR DETAILS. ODOR CONTROL ROOM ROOF RUNOFF SHALL BE COLLECTED AND TREATED THROUGH A VEGETATED GREEN ROOF. AFTER THE RUNOFF IS TREATED BIORETENTION AND PERMEABLE PAVEMENT FACILITIES AROUND THE BUILDING TREAT STORMWATER RUNOFF AT GRADE FROM IMPERVIOUS AND PERVIOUS SURFACES. THE GRADING OF THE SITE IS SUCH THAT ALL STORMWATER RUNOFF WILL FLOW TOWARDS STORM WATER INLETS THAT CONVEY STORMWATER TO HOOFFS RUN. **OUTFALL 001 - ROBINSON TERMINAL NORTH** THE SITE PROPOSES TO COMPLY WITH ALL STORMWATER MANAGEMENT REQUIREMENTS. THE DIVERSION FACILITY RUNOFF SHALL BE COLLECTED VIA A TRENCH DRAIN AND CONVEYED TO THE ROBINSON TERMINAL NORTH DROP SHAFT AND TREATED AT THE ALEXRENEW WATER RESOURCE NORTH AND EAST OF THE DIVERSION FACILITY (DRAINAGE AREA A) IS SUBJECT TO STORMWATER REQUIREMENTS. NO BMPS ARE PROPOSED AT THIS LOCATION. **OUTFALL 002 - ROYAL STREET NORTH** THE SITE PROPOSED TO COMPLY WITH STORMWATER MANAGEMENT REQUIREMENTS THROUGH THE RIVERRENEW STORMWATER MASTERPLAN. NO BMPS ARE PROPOSED AT THIS LOCATION. **OUTFALL 003/4 - HOOFFS RUN DIVERSION SEWER** EXTENDED SOUTH TO CONNECT TO BOTH HOLLAND LANE AND EISENHOWER AVENUE. APPROXIMATELY 2,100 SQUARE FEET OF PERMEABLE PAVEMENT WILL BE USED TO CAPTURE STORMWATER RUNOFF BEFORE BEING CONVEYED TO HOOFFS RUN. INCLUDE APPROXIMATELY 770 SQUARE FEET OF PERMEABLE PAVEMENT THAT WILL CAPTURE STORMWATER RUNOFF FROM IMPERVIOUS SURFACES ALONG ALEXRENEW'S SOUTH BRIDGE BEFORE BEING CONVEYED TO HOOFFS RUN. PERIMETER ROAD CONSTRUCTION STAGING AREA LOCATION. 2. THE SITES INCLUDED IN THE STORMWATER MASTER PLAN ALIGN WITH THE TECHNICALLY PREFERRED ALTERNATIVES IDENTIFIED IN

NOTES 1. THE RIVERRENEW STORMWATER MASTER PLAN CONSISTS OF COMPONENTS OF THE RIVERRENEW PROGRAM THAT ARE BEING

BMP DATA BLOCKS

DRAINAGE AREA	IMPERVIOUS	PERVIOUS	TOTAL
SITE AREA	2.34	2.96	5.30
ON-SITE TREATED	1.27	0.00	1.27
OFF-SITE TREATED	0.00	0.00	0.00
TOTAL TREATED	1.27	0.00	1.27
ANY ON-SITE DISCONNECTED BY A VEGETATED BUFFER (25-FT)	0.00		
TOTAL ON-SITE TREATED OR DISCONNECTED			1.27

BMP TYPE	AREA TREATED BY BMP (ACRES)	IMPERVIOUS AREA TREATED BY BMP (ACRES)	BMP PHOSPHOROUS REMOVAL EFFICIENCY (%)
HRDS - Permeable Pavement #1 (Spec #7)	0.09	0.09	25%
TDPS - Vegetated Roof #2 (Spec #5)	0.52	0.52	0%
TDPS - Bioretention #1 (Spec #9)	0.22	0.22	25%
TDPS - Permeable Pavement #1 (Spec #7)	0.27	0.27	25%
WRRF - Permeable Pavement #1 (Spec #7)	0.02	0.02	25%

MISCELLANEOUS		
TOTAL WQV TREATED:	YES	NO
DETENTION ON SITE:	YES	NO
PROJECT WATERSHED:	POTOMAC RIVER W	ATERSHED
PROJECT DISCHARGES TO:	POTOMAC RIVER W	ATERSHED

RIVERRENEW STORMWATER MASTERPLAN COMPLIANCE SUMMARY

PRE DEVELOPMENT RUNOFF CALCULATIONS

Pre Development Curve Number Calculations				
Area (ac)	Percent (%)	CN		
3.07	58%	80		
2.23	42%	98		
5.30	100%	88		

Description
Grass cover, Good, HSG D
Paved parking, HSG D

Pre Development Time of Concentrations					
Тс	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
5.0					Direct Entry

Pre Development Runoff Volume				
	1-Yr	2-Yr	10-Yr	100-Yr
Rainfall Depth (P)	2.7	3.2	5.2	8.2
CN	88	88	88	88
S = 1000/CN-10	1.42	1.42	1.42	1.42
0.2S	0.28	0.28	0.28	0.28
Rv = (P-0.2S)2/(P-0.2S)+S	1.52	1.96	3.81	6.71

Post Development C	urve Number Calculatio	ons			
Area (ac)	Percent (%)	CN	Description		
2.96	56%	80	Grass cover	, Good, HSG D	
2.34	44%	98	Paved parking, HSG D		
5.30	100%	88			
Post Development T	ime of Concentrations				
Тс	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
5.0					Direct Entry
De et Develorment D					
Post Development R	unon volume	1-Yr	2-Yr	10-Yr	100-Yr
		I-YI	Z- Y I	10-11	100-11
Rainfall Depth (P)		2.7	3.2	5.2	8.2
CN		88	88	88	88
S = 1000/CN-10		1.37	1.37	1.37	1.37
0.2S		0.27	0.27	0.27	0.27

1.55

1.99

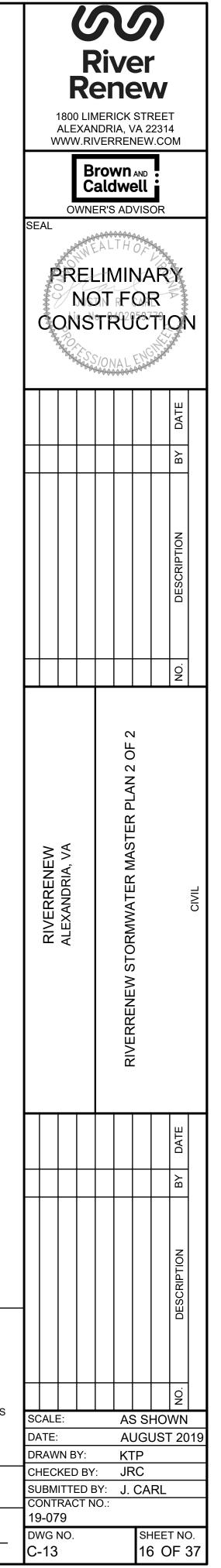
3.85

6.76

Post Development Cur	ve Number Calculati	ons			
Area (ac)	Percent (%)	CN	Description		
2.96	56%	80	Grass cover, Good, HSG D Paved parking, HSG D		
2.34	44%	98			
5.30	100%	88			
Post Development Tim	e of Concentrations				
Тс	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
5.0					Direct Entry
Post Development Run	off Volume				
		1-Yr	2-Yr	10-Yr	100-Yr
Rainfall Depth (P)		2.7	3.2	5.2	8.2
CN		88	88	88	88
S = 1000/CN-10		1.37	1.37	1.37	1.37
0.25		0.27	0.27	0.27	0.27

0.2S Rv = (P-0.2S)2/(P-0.2S)+S

POST DEVELOPMENT RUNOFF CALCULATIONS



APPROVED	
SPECIAL USE PERMIT NO	2019-0013
DEPARTMENT OF PLANNING & ZOI	NING

DIRECTOR	DATE
	TION & ENVIRONMENTAL SERVICES
SITE PLAN NO	

DATE

DATE

PAGE NO.

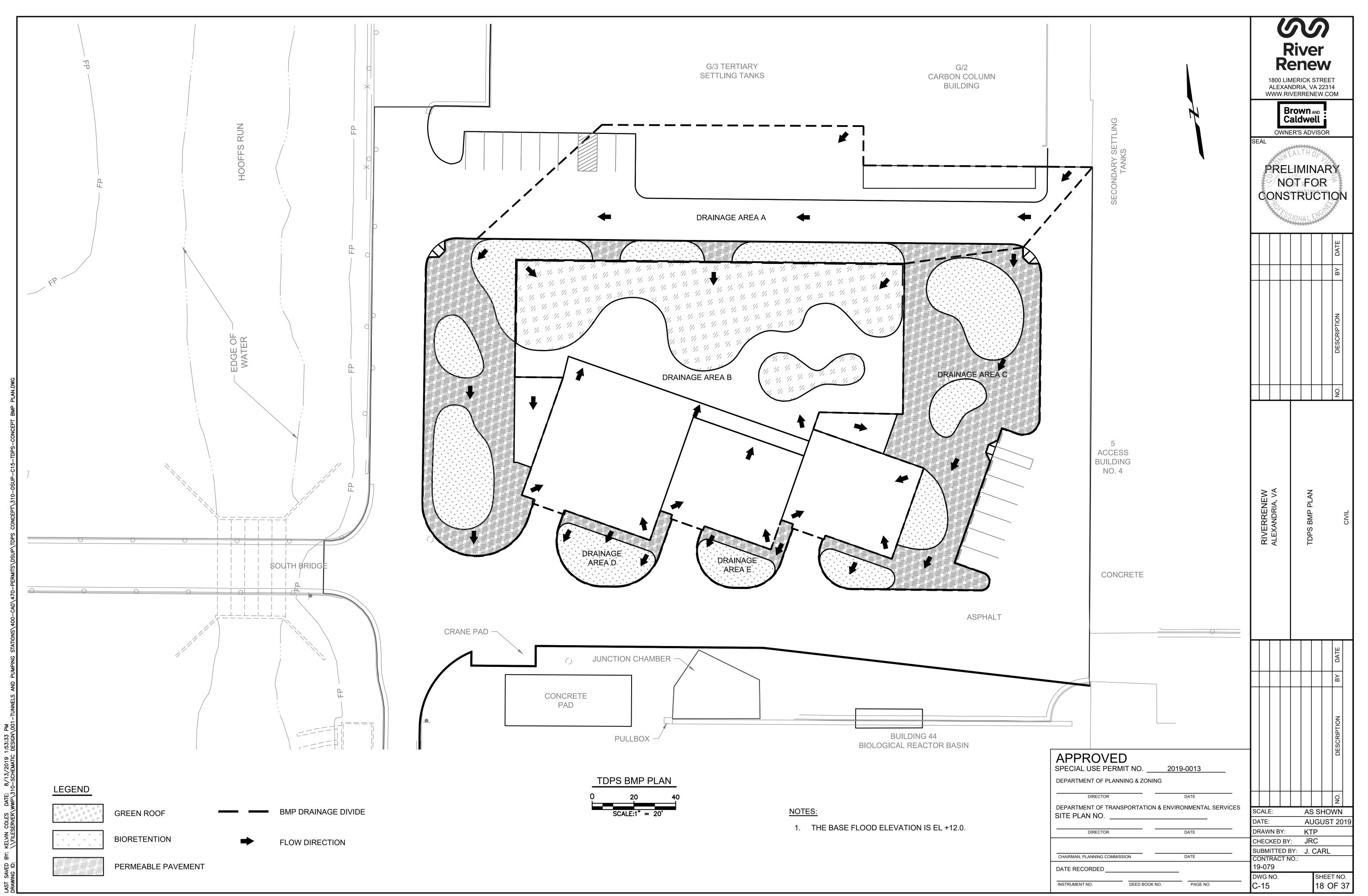
DIRECTOR

CHAIRMAN, PLANNING COMMISSION

DATE RECORDED

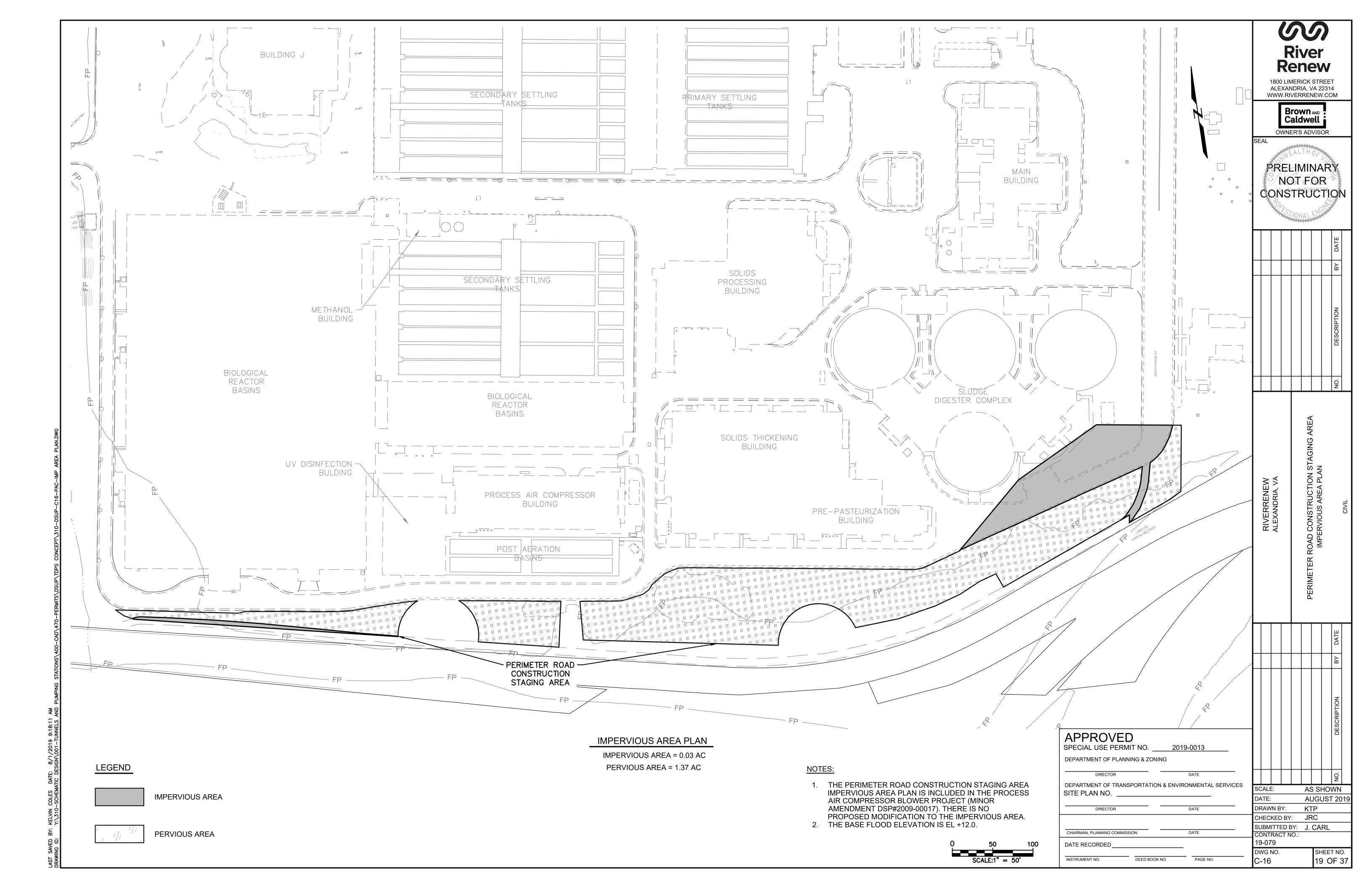
INSTRUMENT NO. DEED BOOK NO.

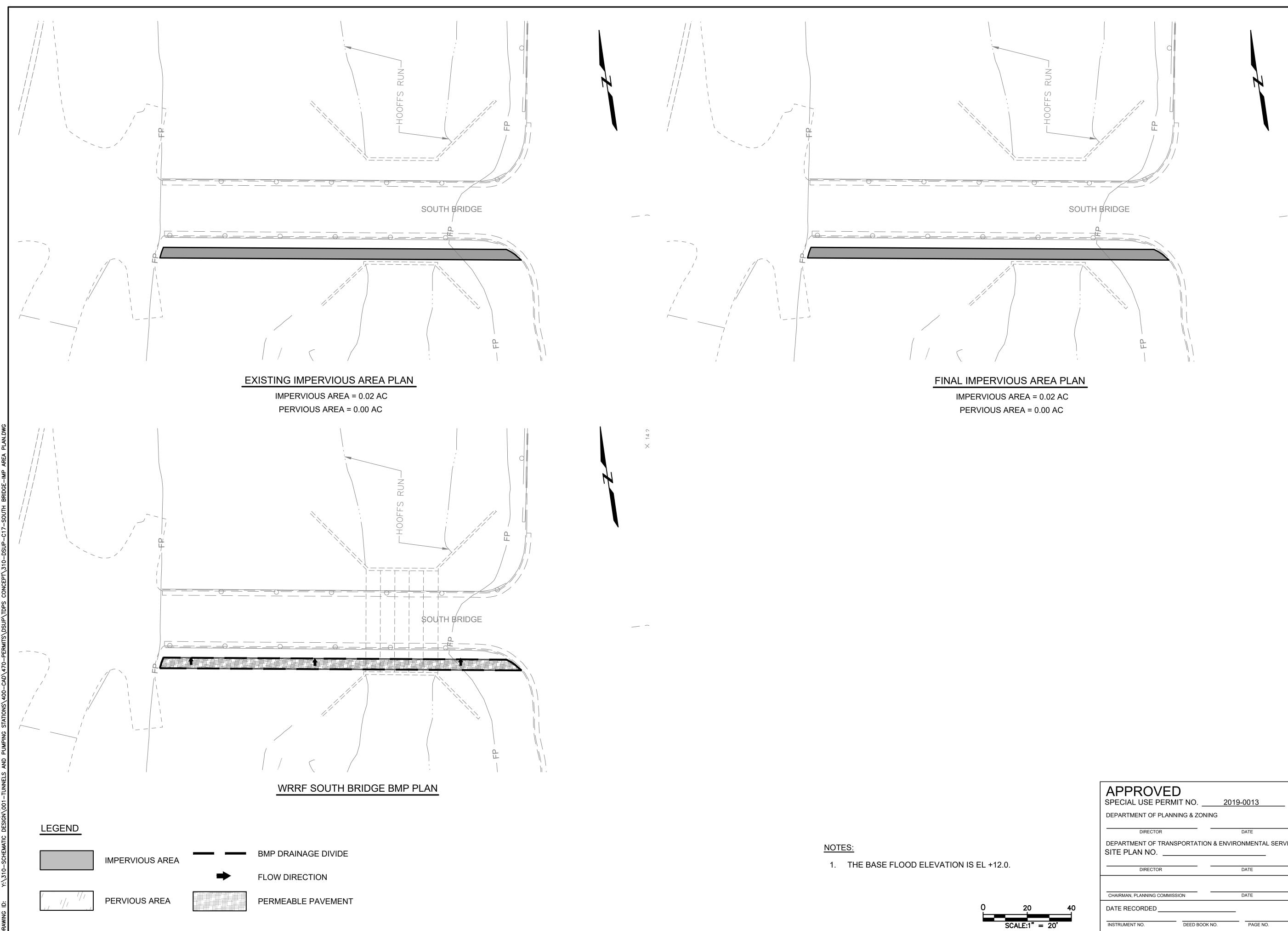




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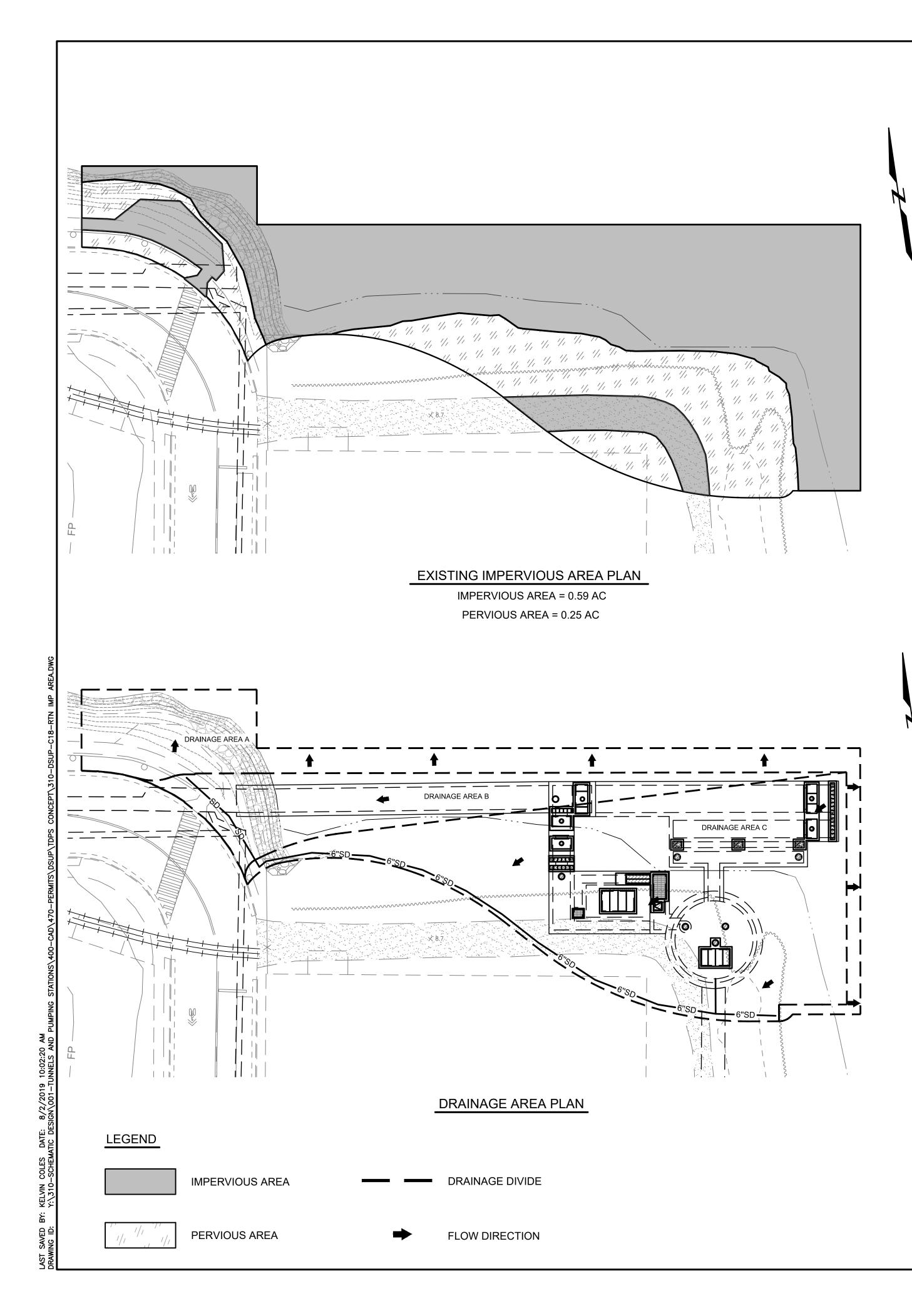


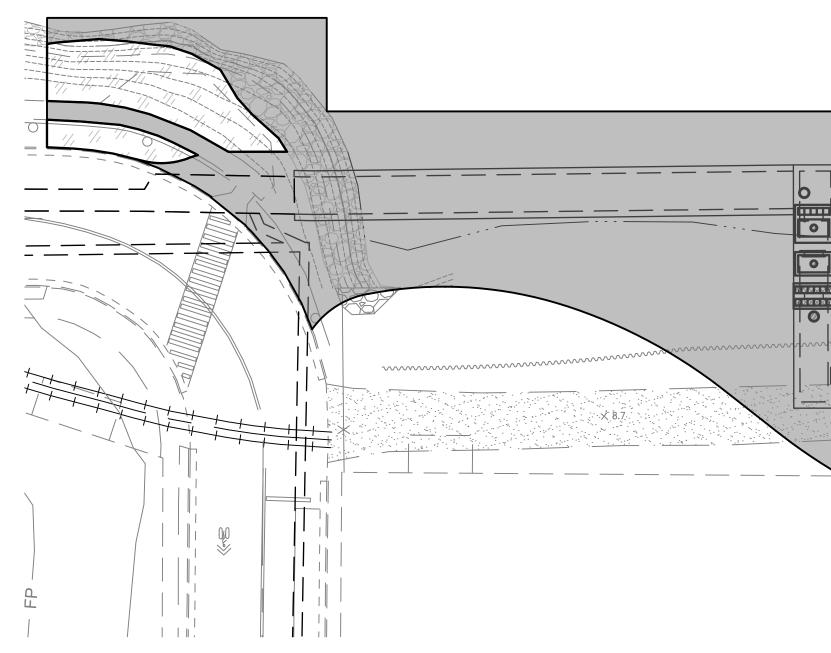


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River Renew Non Limerick Street Alexandria, va 22314 WWW.RIVERRENEW.COM Isour AND Caldwell OWNER'S ADVISOR SEAL PRELIMINARY NOT FOR ONSTRUCTIO	
BY DATE	-
DESCRIPTION	
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RIVERRENEW ALEXANDRIA, VA MRRF SOUTH BRIDGE IMPERVIOUS AREA PLAN	CIVIL
DATE	
DESCRIPTION	
<u>9-0013</u>	
DATE ONMENTAL SERVICES SCALE: AS SHOWN DATE DATE DRAWN BY: KTP	1
CHECKED BY: JRC SUBMITTED BY: J. CARL CONTRACT NO.:	

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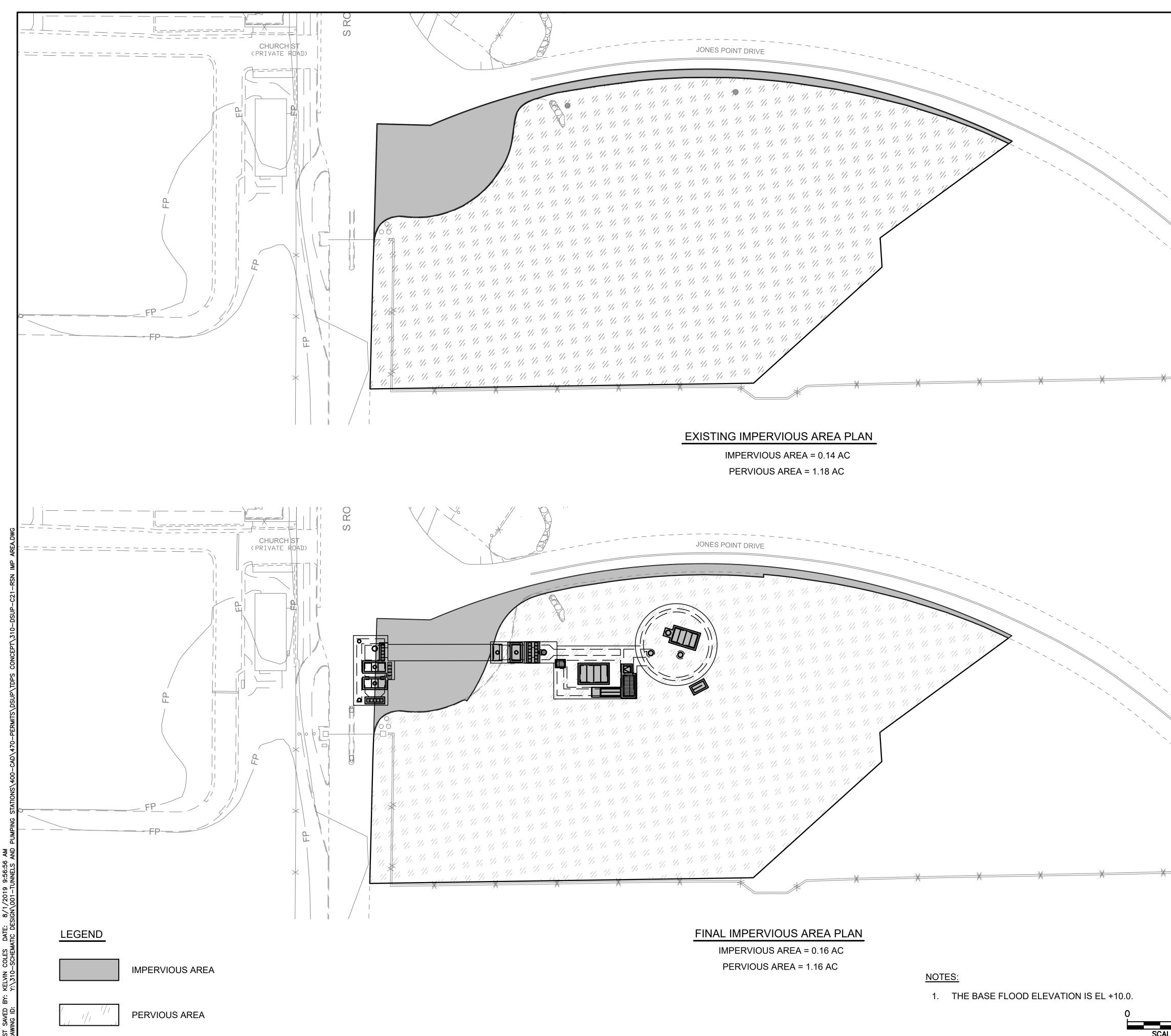
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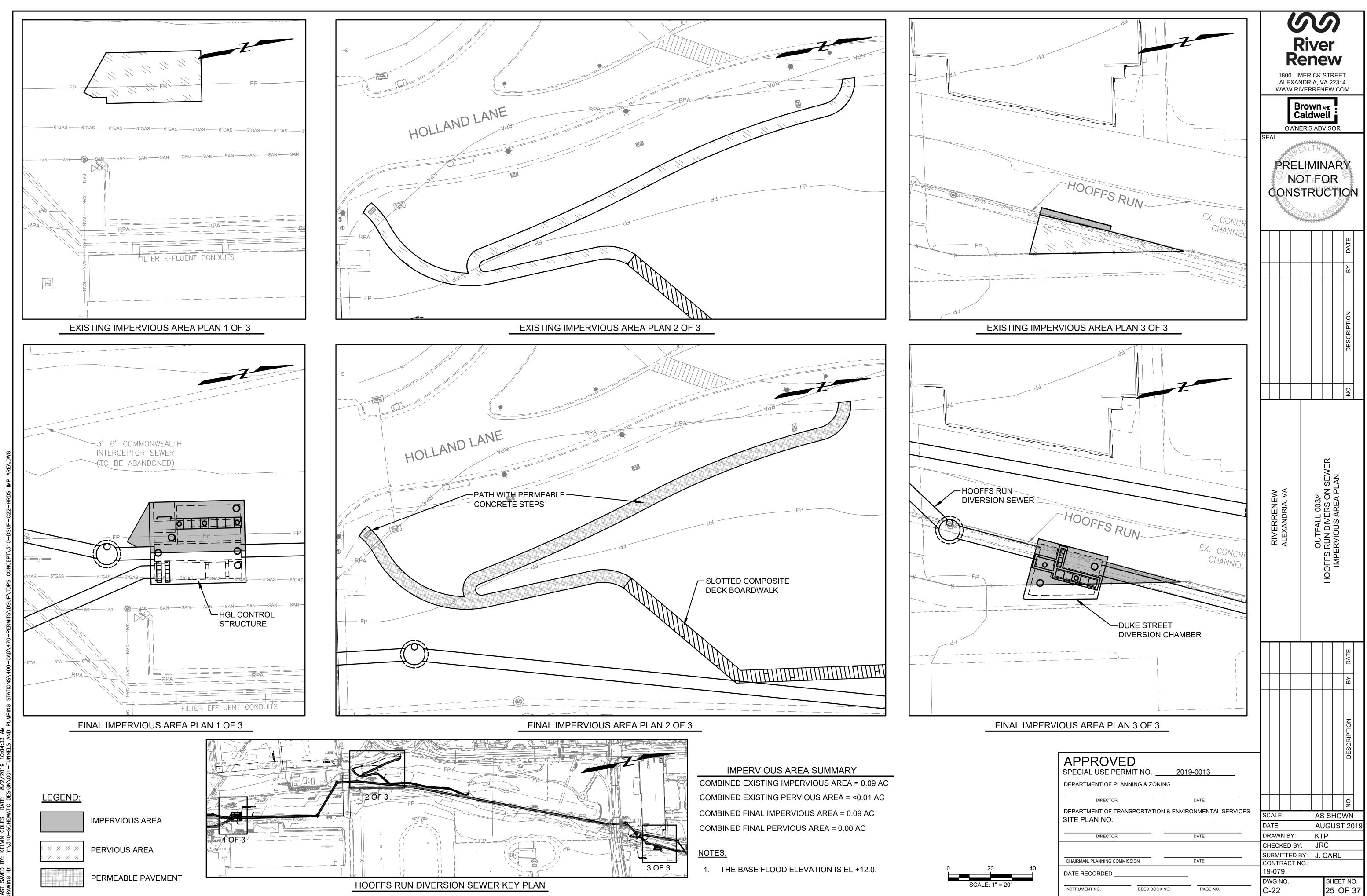
- STORMWATER RUNOFF FROM DRAINAGE AREAS B AND C WILL BE CONVEYED TO THI ROBINSON TERMINAL NORTH DROP SHAFT AND TREATED AT THE ALEXRENEW WATE RESOURCE RECOVERY FACILITY AND ARE EXEMPT FROM STORMWATER NUTRIENT REDUCTION REQUIREMENTS. ONLY DRAINAGE AREA A IS INCLUDED IN THE VRRM CALCULATIONS. THESE AREAS ARE EXEMPT FROM THE VIRGINIA STORMWATER NUT REDUCTION REQUIREMENT.
- 2. THE BASE FLOOD ELEVATION IS EL +10.2
- 3. THE PROPOSED PROMENADE DOES NOT INCREASE ROADWAY FLOODING AS DEMON THROUGH THE FLOODPLAIN ENCROACHMENT ANALYSIS SUBMITTED TO THE CITY OF 23, 2019.



HE APPROVED SPECIAL USE PERMIT NO 2019-0013 DEPARTMENT OF PLANNING & ZONING DATE TRIENT DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES SCALE: AS SHOWN DATE JULY OF DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES SCALE: AS SHOWN DATE JULY OF DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES SCALE: AS SHOWN DATE JULY OF DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES SCALE: AS SHOWN DATE JULY OF UNATE JULY OF DIRECTOR DATE DIRECTOR DATE OHARMAN PLANNING COMMISSION DATE ONTRACT NO.: JULY OF				1800 L ALEXA	NDRIA	/er lev ck stf	N REET 2314
			Caldwell OWNER'S ADVISO				
		me see many and a second secon		PRE	OT R	FOI	R TION
US AREA PLAN REA = 0.00 AC Image: Second accord accor							
ER ER SPECIAL USE PERMIT NO 2019-0013 HUND ON UNIT VINUE	US AREA						ON
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E APPROVED SPECIAL USE PERMIT NO. 2019-0013 DEPARTMENT OF PLANNING & ZONING DATE RIENT DIRECTOR DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES SITE PLAN NO. DATE DIRECTOR DATE DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES SITE PLAN NO. DATE DIRECTOR DATE CHECKED BY: JRC SUBMITTED BY: J. CARL CONTRACT NO.: 19.079			BIVERENEW	ALEXANDRIA, VA		OUTFALL 001 ROBINSON TEMRINAL NORTH	
IR SPECIAL USE PERMIT NO2019-0013 DEPARTMENT OF PLANNING & ZONING RIENT				ALEXANDRIA, VA		OUTFALL 001 ROBINSON TEMRINAL NORTH	DATE
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		1800 LI ALEXA WWW.R CO OWN SEAL	ACCTION
			DESCRIPTION BY DATE
		RIVERRENEW ALEXANDRIA, VA	OUTFALL 002 ROYAL STREET NORTH IMPERVIOUS AREA PLAN CIVIL
			DATE
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30 60 E:1" = 30'	CHAIRMAN, PLANNING COMMISSION DATE DATE RECORDED	CONTRACT I 19-079 DWG NO. C-21	



Project Name: Date:	RiverRenew	- DSUP 2018-0	0020 - Stormwater M	Master Plan Alt 1		CLEA	R ALL	data input cells constant values	_					
e Information		Linear Dev	velopment Project?	No				calculation cells final results						
st-Development Project (Tr	reatmen	t Volume a	and Loads)											
		Ent		d Area <i>(acres)</i> →			BMP Design Sp		2013 Dr	aft Stds & Specs				IN
			increase in impervi	reduction required: ous cover (acres) is: tion for Site (lb/yr):	0.113798018		Land cover areas en	Linear project? ntered correctly? ed area entered?	 Image: A start of the start of					MA
ReDevelopment Land Cover (acres)												-		
t/Open Space (acres) undisturbed	A Soils	B Soils	C Soils	D Soils 0.00	Totals 0.00									Site
ged Turf (acres) disturbed, graded for or other turf to be mowed/managed vious Cover (acres)				1.70	1.70 2.20]							Runoff Reducti	on Volume :
				2.20	3.90	 							Nullen Actual	
t/Open Space (acres) undisturbed,	A Soils	B Soils	C Soils	D Soils	Totals 0.00									RUNOFF RED TP LOAD A
cted forest/open space or reforested land ged Turf (acres) disturbed, graded for or other turf to be mowed/managed				0.00	1.59									TP LOA
vious Cover (acres) Area Check	ОК.	OK.	ОК.	2.31 OK.	2.31									
stants			Runoff Coefficient											NITROGEN LOA
al Rainfall (inches) t Rainfall Event (inches) Phosphorus (TP) EMC (mg/L) Nitrogen (TN) EMC (mg/L)	43 1.00 0.26 1.86		Forest/Open Space Managed Turf Impervious Cover	A Soils 0.02 0.15 0.95	B Soils 0.03 0.20 0.95	C Soils 0.04 0.22 0.95	D Soils 0.05 0.25 0.95							
t TP Load (lb/acre/yr)	0.41		Impervious Cover	0.95	0.95	0.95								FINAL POST TP LOA
LAND COVER SUMMARY PRE-		OPMENT		Land Cover Summ		LAND COVE	ER SUMMARY P		OPMEN	Land Cover Sumn	nary Bast			TP LOA
Pre-ReDevelopment Forest/Open Space Cover (acres)	Listed 0.00	Adjusted ¹		Post ReDev. & N Forest/Open Space	, , ,	-	Post-ReDev Forest/Open Space			Post-Development Ne			REM	AINING TP LOA
Weighted Rv(forest) % Forest	0.00	0.00		Cover (acres) Weighted Rv(forest) % Forest	0.00		Cover (acres) Weighted Rv(forest) % Forest	0.00					Total	Nitrogen (Fo
Managed Turf Cover (acres)	1.70 0.25	0.25		Managed Turf Cover (acres) Weighted Rv (turf)	1.59 0.25		Managed Turf Cover (acres) Weighted Rv (turf)	1.59 0.25						PC
% Managed Turf	44%	42%		% Managed Turf	41%		% Managed Turf	42%						NITROGEN LOA
Impervious Cover (acres) Rv(impervious)	2.20 0.95	2.20		Impervious Cover (acres) Rv(impervious)	2.31 0.95		ReDev. Impervious Cover (acres) Rv(impervious)	2.20 0.95		New Impervious Cover (acres) Rv(impervious)	0.11	HE		
% Impervious Total Site Area (acres)	56% 3.90	58% 3.78		% Impervious Final Site Area (acres)	59% 3.90		% Impervious 7 Total ReDev. Site Area (acres)	58% 3.78		-				
Site Rv	0.64	0.66		Final Post Dev Site Rv	0.67		ReDev Site Rv	0.66						
Treatment Volume and Nu re-ReDevelopment Treatment Volume				Final Post-Development		Tre	Atment Volume an		d	Post-Development	0.00			
(acre-ft)	0.2094	0.2071		Treatment Volume (acre-ft)	0.2161	-	Treatment Volume (acre-ft)	0.2071		Treatment Volume (acre-ft)	0.0090			
e-ReDevelopment Treatment Volume (cubic feet)	9,123	9,019		Final Post-Development Treatment Volume (cubic feet)	9,412		Post-ReDevelopment Treatment Volume (cubic feet)	9,019		Post-Development Treatment Volume (cubic feet)	392			
				Final Post-		-	Post-ReDevelopment					$\left \cdot \right $		
Pre-ReDevelopment TP Load (lb/yr)	5.73	5.67		Development TP Load (lb/yr)	5.91		Load (TP) (lb/yr)*	5.67		Post-Development TP Load (lb/yr)	0.25		*Notes (see below	w):
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	1.47	1.50		Final Post-Development TP Load per acre (Ib/acre/yr)	1.52		Post-ReDevelopment TP Load per acre (lb/acre/yr)	1.50					[1] The curve numbe	
Baseline TP Load (lb/yr) L lbs/acre/yr applied to pre-redevelopment area exclu	uding pervious	1.55					Max. Reduction Required	20%					requirements. See VF	
land proposed for new impervious cover)							ReDevelopment Load)						[2] Runoff Volume (R watershed-inches an	
sted Land Cover Summary: Development land cover minus pervious land cove Icreage proposed for new Impervious cover.	er (forest/open	space or managed					TP Load Reduction Required for Redeveloped Area	1.13		TP Load Reduction Required for New Impervious Area (lb/yr)	0.20	Ш.	RV(watershed-inch)	
ted total acreage is consistent with Post-ReDevelo, npervious cover).	opment acreage	(minus acreage of	r				(lb/yr)						[3] Adjusted CNs are	based on runoff
nn I shows load reduction requriement for new imp opment load limit, 0.41 lbs/acre/year).	pervious cover (based on new												
					1	1								
риненк тойй инте, онч позуйо су уситу.			Post-Dev	velopment Requ	uirement for S	Site Area								
ранент пова типу в жа над велез у вен j.				velopment Requ		Site Area 1.33								Curve nu
ματεία ποσα πάτας σ.«κ. πως σεί σ. γουτ j.			TP Load	Reduction Required	l (lb/yr)	1.33								
	e-ReDevelopme	nt TN Load (lb/yr)	TP Load		l (lb/yr)	1.33 poses Only) Final Post-1	Development TN Load	42.30						rainage Area A
	e-ReDevelopme	nt TN Load (lb/yr)	TP Load	Reduction Required	l (lb/yr)	1.33 poses Only) Final Post-1	Development TN Load pment & New Impervious (lb/yr)	42.30					Forest/Open Sp forest/oper	rainage Area A pace undisturb n space or refore
	e-ReDevelopme	nt TN Load (lb/yr)	TP Load	Reduction Required	l (lb/yr)	1.33 poses Only) Final Post-1	pment & New Impervious	42.30					Forest/Open Sp forest/oper Managed Turf dis	Curve nui rainage Area A pace undisturb n space or refore sturbed, graded to be mowed/man
	e-ReDevelopme	nt TN Load (lb/yr)	TP Load	Reduction Required	l (lb/yr)	1.33 poses Only) Final Post-1	pment & New Impervious	42.30					Forest/Open Sp forest/open Managed Turf dis turf to	rainage Area A bace undisturb n space or refore sturbed, graded
	e-ReDevelopme	nt TN Load (lb/yr)	TP Load	Reduction Required	l (lb/yr)	1.33 poses Only) Final Post-1	pment & New Impervious	42.30					Forest/Open Sp forest/open Managed Turf dis turf to	rainage Area A bace undisturb n space or refore sturbed, graded f be mowed/man
	₽-ReDevelopme	nt TN Load (lb/yr)	TP Load	Reduction Required	l (lb/yr)	1.33 poses Only) Final Post-1	pment & New Impervious	42.30	1				Forest/Open Sp forest/open Managed Turf dis turf to	rainage Area A bace undisturb n space or refore sturbed, graded f be mowed/man
	e-ReDevelopme	nt TN Load (lb/yr)	TP Load	Reduction Required	l (lb/yr)	1.33 poses Only) Final Post-1	pment & New Impervious	42.30					Forest/Open Sp forest/open Managed Turf dis turf to Ir	rainage Area A bace undisturb n space or refore sturbed, graded be mowed/man mpervious Cover
	₽-ReDevelopme	nt TN Load (lb/yr)	TP Load	Reduction Required	l (lb/yr)	1.33 poses Only) Final Post-1	pment & New Impervious	42.30					Forest/Open Sp forest/open Managed Turf dis turf to Ir RV _{Develop}	rainage Area A pace undisturb n space or refore sturbed, graded be mowed/man npervious Cover ed (watershed-
	e-ReDevelopme	nt TN Load (lb/yr)	TP Load	Reduction Required	l (lb/yr)	1.33 poses Only) Final Post-1	pment & New Impervious	42.30					Forest/Open Sp forest/open Managed Turf dis turf to Ir RV _{Develop}	rainage Area A pace undisturb n space or refore sturbed, graded be mowed/man npervious Cover ed (watershed-
	e-ReDevelopme	nt TN Load (lb/yr)	TP Load	Reduction Required	l (lb/yr)	1.33 poses Only) Final Post-1	pment & New Impervious	42.30					Forest/Open Sp forest/open Managed Turf dis turf to Ir RV _{Develop}	rainage Area A pace undisturb n space or refore sturbed, graded be mowed/man npervious Cover ed (watershed-
Pre	e-ReDevelopme	nt TN Load (lb/yr)	TP Load	Reduction Required	i (lb/yr)	1.33 poses Only) Final Post-1	pment & New Impervious		I R BMP A	REAS			Forest/Open Sp forest/open Managed Turf dis turf to Ir RV _{Develop}	rainage Area A pace undisturb n space or refore sturbed, graded t be mowed/man npervious Cover ed (watershed-
Pre			TP Load Nit	Reduction Required	i (lb/yr)	1.33 poses Only) Final Post- (Post-ReDevelo	pment & New Impervious			REAS			Forest/Open Sp forest/open Managed Turf dis turf to Ir RV _{Develop}	rainage Area A bace undisturb n space or refore sturbed, graded f be mowed/man
rainage Area A sinage Area A Sprest/Open Space (acres)			TP Load Nit	Reduction Required rogen Loads (Info) D Soils 0.000 1 1.27 2	i (lb/yr) prmational Purp prmational P	1.33 poses Only) Final Post-I (Post-ReDevelo	pment & New Impervious	CLEA	R BMP A	REAS s Available for Removal in pment Treatment Volume		2.75	Forest/Open Sp forest/open Managed Turf dis turf to Ir RV _{Develop}	rainage Area A pace undisturb n space or refore sturbed, graded t be mowed/man npervious Cover ed (watershed-
rainage Area A sinage Area A sinage Area Land Cover (acres) Forest/Open Space (acres) Managed Turf (acres)	A Soils	B Soils	TP Load 41.00 -	Reduction Required rogen Loads (Info) D Soils 0.000 1 1.27 2	i (lb/yr) prmational Purg prmational P	1.33 poses Only) Final Post-I (Post-ReDevelo	pment & New Impervious	CLEA	R BMP A	s Available for Removal in			Forest/Open Sp forest/open Managed Turf dis turf to Ir RV _{Develop}	rainage Area A pace undisturb n space or refore sturbed, graded t be mowed/man npervious Cover ed (watershed-
rainage Area A ainage Area A binage Area A Land Cover (acres) Forest/Open Space (acres) Managed Turf (acres) Impervious Cover (acres) Ormwater Best Management Pi	A Soils	B Soils R = Runoff R Managed Tu	C Solls C Solls C Solls C Solls C Solls	Reduction Required rogen Loads (Info 	I Ib/yr) prmational Purp	1.33 poses Only) Final Post-I (Post-ReDevelo Cover Rv 0.00 0.00 0.00 0.395 Tc f Volume Tc	pment & New Impervious	CLEA Total P Po ficiency Phospho	R BMP A Phosphoru ost Develo rus Load sstream	s Available for Removal in pment Treatment Volume Untreated Pr Phosphorus Load Re	in D.A. A (ft ³)		Forest/Open Sp forest/open Managed Turf dis turf to Ir RVDevelop RVDevelop	rainage Area A pace undisturb n space or refore sturbed, graded t be mowed/man npervious Cover ed (watershed-
rainage Area A sinage Area A Managed Turf (acres) Managed Turf (acres) Impervious Cover (acres) Ormwater Best Management Pi	A Soils ractices (R Runoff Reduction Cfe	B Soils R = Runoff R Managed Tu Credit Area	C Solls	Reduction Required rogen Loads (Info 	I Ib/yr) prmational Purp	1.33 poses Only) Final Post-I (Post-ReDevelo Cover Rv 0.00 0.00 0.00 0.395 Tc f Volume Tc	tal BMP Phosph eatment Removal Ef	CLEA Total P Po ficiency Phospho	R BMP A Phosphoru ost Develo rus Load sstream	s Available for Removal in pment Treatment Volume Untreated Pr Phosphorus Load Re	in D.A. A (ft ³) nosphorus moved By actice (lb)	4,377 Remaining hosphorus Lo	Forest/Open Sp forest/open Managed Turf dis turf to Ir RVDevelop RVDevelop RVDevelop	rainage Area A bace undisturb n space or refore sturbed, graded be mowed/man npervious Cover ed (watershed- veloped (watersh weloped (watersh Efficiency (%
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rainage Area A sinage Area A Land Cover (acres) Forest/Open Space (acres) Forest/Open Space (acres) Managed Turf (acres) Impervious Cover (acres) Managed Turf (acres) Impervious Cover (acres) Practice Practice //egetated Roof #1 (Spec #5) 1.b. Vegetated Roof #2 (Spec #5) 2.a. Permeable Pavement #1 (Spec #7) 3.b. Permeable Pavement #2 (Spec #7) Sa. Bioretention #1 or Micro-Bioretention #2 or Micro-Bioretention #	A Soils ractices (R Runoff Reduction Cre (%) 45 60 45 75 40	R = Runoff R dit Credit Area (acres) 0.00 0.00 0.00 1000 1	TP Load Nitt 41.00 C Soils	Reduction Required rogen Loads (Info 	Image: Second	1.33 POSES Only) Final Post-I (Post-ReDevelo Post-ReDevelo 0 1.33 alaining f Volume ft ³) Tr ft ³) 0 1.77 0 717 0 731 0 731 0 PRACTICES IN D. PRACTICES IN D.	tal BMP (lb/yr) Phosph Removal Ef Removal Ef (%) 0 0 1,792 0 1,329 25 0 0 1,329 25 0 0 1,329 25 0 0 1,329 25 0 50 754 25 0 50 SITE (lb/yr) 1.3: A. A (lb/yr) 2.7: A. A (lb/yr) 1.4: A. A (lb/yr) 1.2: SITE (lb/yr) 1.3: A. A (lb/yr) 1.4: A. A (lb/yr) 1.4: A. A (lb/yr) 1.4: A. A (lb/yr) 1.4:	CLEA Total P P P P Orus Ficiency Phospho from U P P ractic 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R BMP A Phosphoru ost Develo	s Available for Removal in pment Treatment Volume Untreated Phosphorus Load to Practice (Ib) 0.00 0 1.12 0 0.83 0 0.00 0 0 0.00 0 0 0.00 0 0 0.00 0 0 0 0	in D.A. A (ft ³) nosphorus moved By actice (lb) 0.00 0.67 0.49 0.00 0.00 0.67 0.49 0.00 0.00 0.67 0.00 0.67 0.00 0.67 0.00 0.67 0.00 0	4,377 Remaining hosphorus Lo (lb) 0.00 0.45 0.34 0.00 0.21	Forest/Open Sp forest/open Managed Turf dis turf to Ir RVDevelop RVDevelop RVDevelop	rainage Area A bace undisturb n space or refore sturbed, graded be mowed/man mpervious Cover ed (watershed- reloped (watersh reloped (watersh reloped (watersh reloped for the state reloped for th
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	METHO	D CALCI	JLATIONS	FOR RIV	ERRENE	W STO	RMWATER	MASTER	PLAN				
	Site	Results (W	/ater Qualit	v Complian	ce)			Site Summar	'Y lenew - DSUP 2018-0020 - :	Stormwater Mag	tor Plan Alt 1		
Ar	ea Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK	= Date: NA	enew - DSOF 2018-0020 -	Total R	infall (in): bed Acreage:	43 3.90	
	EN SPACE (ac)	0.00	0.00	0.00	0.00	0.00	ОК.	Site Land Cover	L Summary		Sea Alleager	5.50	
IPERVIOUS COVER	TREATED (ac)	1.12	0.00	0.00	0.00	0.00	ОК.		nent Land Cover (acres	4			
MANAGED TU NAGED TURF AREA	TREATED (ac)	0.00 0.00	0.00	0.00	0.00	0.00	ОК.			A soils	B Soils	C Soils	D Soils
	AREA CHECK	OK.	ОК.	ОК.	OK.	OK.		Forest/Open (acres Managed Turf (acr		0.00	0.00	0.00	0.00 1.70
e Treatment Vo	olume (ft ³)	9,412						Impervious Cover (acres)	0.00	0.00	0.00	2.20
and TP By Drai	nage Area							 Bost-BoDovelon	ment Land Cover (acre				L
UCTION VOLUME A	CHIEVED (ft ³)	D.A. A 1,975	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL	-		A soils	B Soils	C Soils	D Soils
VAILABLE FOR REM	OVAL (lb/yr)	2.75	0.00	0.00	0.00	0.00	2.75	Forest/Open (acres Managed Turf (acr		0.00	0.00	0.00	0.00 1.59
D REDUCTION ACH		1.43 1.32	0.00	0.00	0.00	0.00	1.43 1.32	Impervious Cover (acres)	0.00	0.00	0.00	2.31
D REDUCTION ACH	IEVED (lb/yr)	10.50	0.00	0.00	0.00	0.00	10.50	Site Tv and Land	Cover Nutrient Loads				L
Total Pho											Development vevelopment	Post-	Post- Development
-DEVELOPMENT TP	LOAD (lb/yr)	5.91								•	mpervious)	ReDevelopment	(New Impervious)
D REDUCTION REQ	IEVED (lb/yr)	1.33 1.43						Site Rv Treatment Volume	(ft ³)).67 ,412	0.66 9,019	0.95 392
TP LOAD REMAI		4.49 0.00	**					TP Load (lb/yr)			5.91	5.67	0.25
		N EXCEEDED BY	0.09 LB/YEAR **									1	
or Information		42.30						Total TP Load Redu	iction Required (Ib/yr)	1	33	1.13	0.20
D REDUCTION ACH	IEVED (lb/yr)	10.50 31.80									Final Post-Dev	velopment Load	
			J					TN Load (lb/yr)		(nt & New Impervio	us)
						1			Site Com	nliance S	ummary		
	Runo	off Volume	e and Curve	Number Ca	lculations				Site Com	pliance 3	unnar y		
										N		uction Required -ReDevelopmen	2
		_	esign storm rai									-KeDevelopinen	
		1-year sto 2.56	2-year sto 3.10	4.76									
		Use NOAA A	tlas 14 (http://hdsc.n	ws.noaa.gov/hdsc/pj	fds/)				Total	Runoff Volur	ne Reduction (ft ³) 1,975	
									Total TP Lo	ad Reductio	n Achieved (lb/	' yr) 1.43	
			e area are limited in	their applicability fo	or determining and c	lemonstrating	compliance with wate	r quantity —	Total TN Lo	ad Reductio	n Achieved (lb/	(yr) 10.50	
e and Documentatio			in unite (n			Deleves Fruet							
preadsheet as RV(w	atershed-inch) ca						tion. Runoff measured age areas are equal. Of		Remaini	ing Post Dev	elopment TP Lo (lb/	4.49	
ed by the drainage a									Remain	ning TP Load	Reduction (lb/	0.00	** TAR
reduction volumes	as calculated in L	D.A. tabs. An alter	rnative CN adjustme	nt calculation for V	egetated Roofs is inc	luded in BMP s	specification No. 5.				Requi	leu	
	-		ve Numbers a		-				Drainage	Area Su	mmary		
mbers (CN, CN	adj) and run	off depths (R	V _{Developed}) are	computed wit	th and without	reduction	practices.					D.A. /	D.
A		A Soils		C Soils			Total Area (acres)		Forest/Open (0.00	0
ed, protected ested land	Area (acres) CN	0.00 <u>30</u>	0.00	0.00 70	0.00 77		Runoff Reduction Volume (ft ³)		Managed Turf			0.00	0
for yards or other aged	Area (acres) CN	0.00	0.00 61	0.00	0.00 80				Total Area (ac			1.27	0
	Area (acres) CN	0.00 <u>98</u>	0.00 98	0.00 98	1.27 98								
					CN _{(D.A. A})			Drainage A	Area Com	pliance Sun	nmary	
		1 year story		n 10 year sta	98								
<i>inch)</i> with no Ru	noff Reductior	1-year stori 1* 2.33	m 2-year storr 2.87	n 10-year sto 4.52	rm				TP Load Redu	ced (lb/yr)		D.A. 1.43	D .
ned-inch) with Ru			2.44	4.09					TN Load Redu			10.50	
	Adjusted CN* ee Notes abov		94	94						Runof	F Volume au	nd CN Calcu	lations
										Kunor	volume a		
										Target Ra	infall Event (in)		1-year storm
													2.50
											Drainage Ar CN	eas	RV & CN
											RR (ft ³)		
Nitrogen Load Untre from Upstream Nitrogen	Load to Removed By	Remaining Nitrogen Load (Ibs)									1	id	RV wo RR (ws-in
Roof (RR)		, <i>y</i>									1-year return	period	RV w RR (ws-in CN adjusted
8.0		3.22											RV wo RR (ws-in
Pavement (RR) 0.00 5.9	97 3.51	2.46									2-year return	period	RV w RR (ws-in CN adjusted
0.0	00 0.00	0.00											RV wo RR (ws-ii
0.00 3.3		1.22									10-year return	period	RV w RR (ws-in CN adjusted
0.00 0.0	00 0.00	0.00											en aujustea
NITROGEN REMOVED WITH RUN SEE WATER QUALITY COMPLI	TOTAL RUNOFF REDUCTI OFF REDUCTION PRACTICE! ANCE TAB FOR SITE CAL	IN D.A. A (lb/yr) 10.	50	INCI STO COM	 _UDEDIN RMWATER IPRESSOR	THE VIR POLLUT PROJEC	RGINIA RUN TION PREVE CT (MINOR	OFF REDUC [®] NTION PLAN AMENDMEN [®]	ER ROAD CO TION METHOD I IS ASSOCIA I DSP#2009- EASURES FOF	CALCU TED WI -0017)	LATIONS. 14 THE P AND INCL	A SEPAR ROCESS	ATE VIRG

Totals 0.00 1.70 2.20 3.90		f Total 0 44 56 100						R 1800 L ALEX VWW.	S River LIMER ANDR RIVER Brow Calc		STRE A 22 EW.	EET 314 COM
0.00 1.59 2.31 3.90 Adjusted P ReDevelopm 0.66 9,019 5.67	1 1	TP Lo	Pre- velopment ad per acre /acre/yr) 1.50	inal Post-Developm TP Load per acre (lb/acre/yr) 1.52	. I	teDevelopment TP .oad per acre (lb/acre/yr) 1.50	C	N	STF	RF6	DR	
Pre- ReDevelopm 41.00	nent											DESCRIPTION BY DATE
RGET TP RI	EDUCTION	N EXCEEDED	BY 0.09 L	B/YEAR **								ÖN
0.00 0.00 0.00	D.A. (0.00 0.00 0.00 0.00		D.A. D 0.00 0.00 0.00 0.00	D.A. E 0.00 0.00 0.00 0.00		Total 0.00 0.00 1.27 1.27	ERRENEW	KANDRIA, VA		LER CALCULATIONS		CIVIL
0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00		0.00 0.00 0.00	0.00 0.00 0.00		0.00 0.00 1.27	RIVERRENEW	ALEXANDRIA, VA		STORMWATER CALCULATIONS		CIVIL
in) 2.3	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	C C 0-year storm 4.76 rainage Area B 0 0 0 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0	0.00 0.00 1.27 1.27 1.27 1.27 Drainage Area E 0 0 0.00 0.00	RIVERENEW	ALEXANDRIA, VA		STORMWATER CALCULATIONS		BY DATE CIVIL
0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	C C C O-year storm 4.76 rainage Area B 0 0 0 0.00	0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0 0 0 0 0 0 0 0 0	0.00 0.00 1.27 1.27 1.27 1.27 Drainage Area E 0 0 0 0.00	RIVERRENEW	ALEXANDRIA, VA		STORMWATER CALCULATIONS		DATE

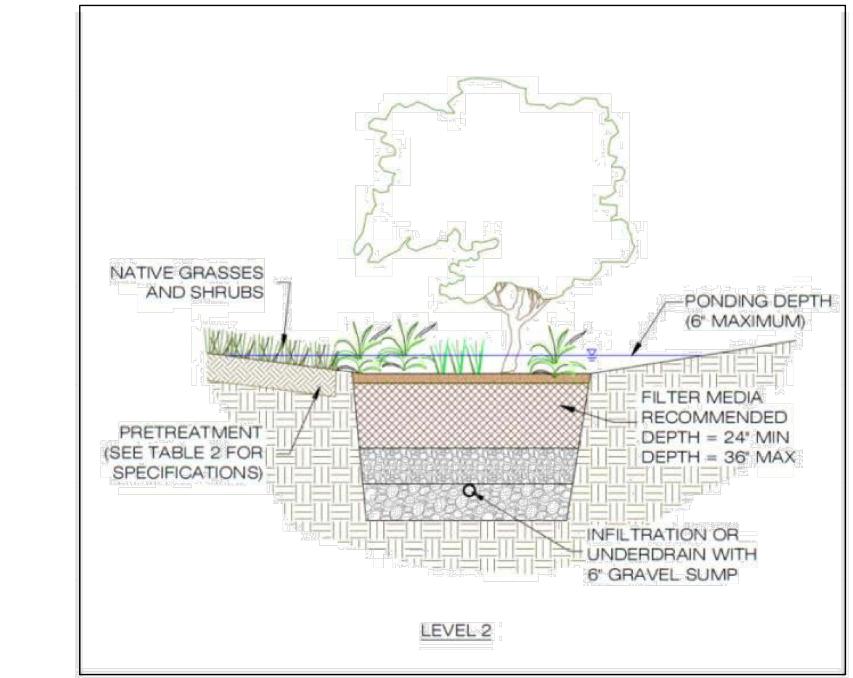
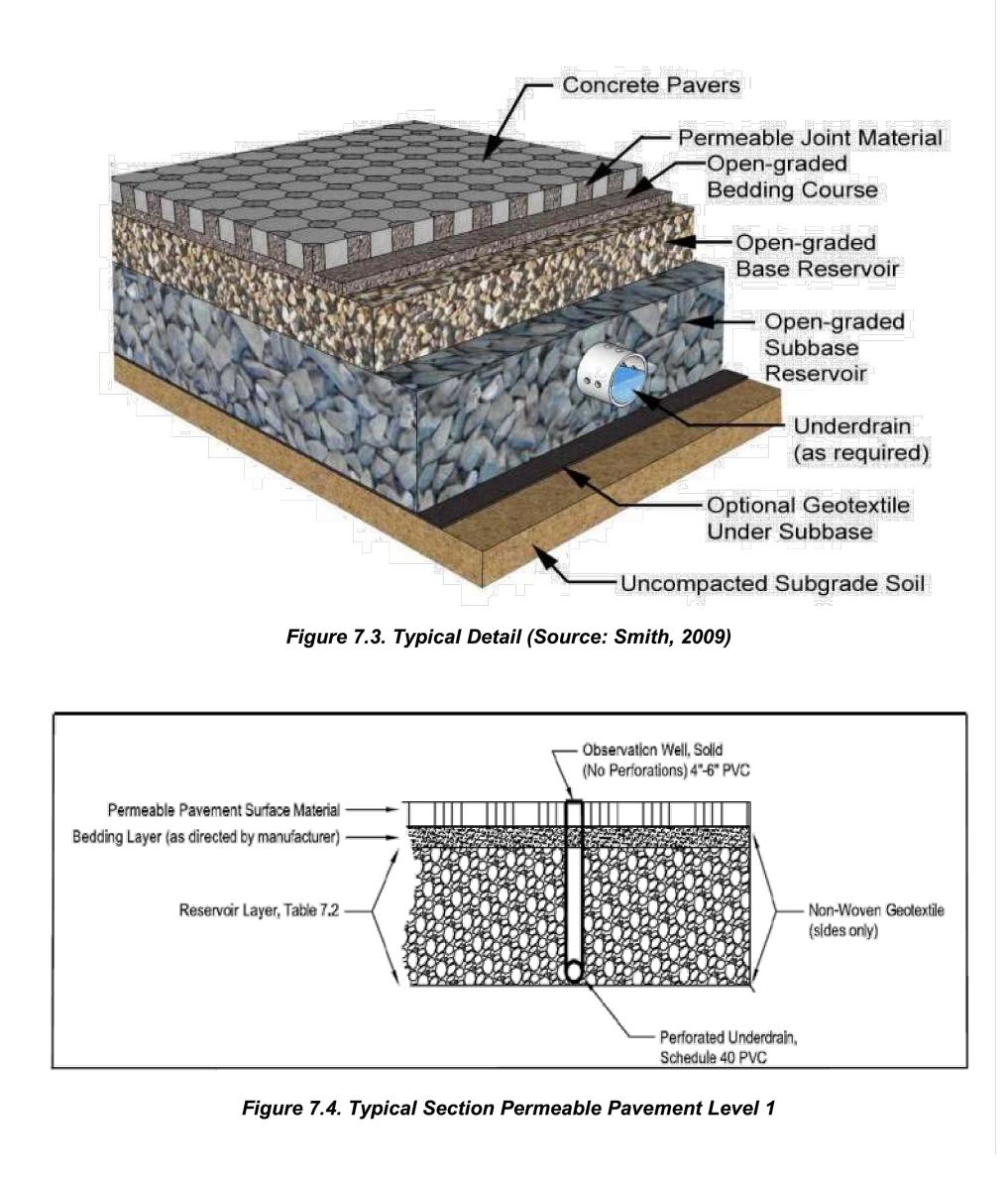


Figure 9.3. Typical Micro-Bioretention Basin (Rain Garden) Level 1 and Level 2



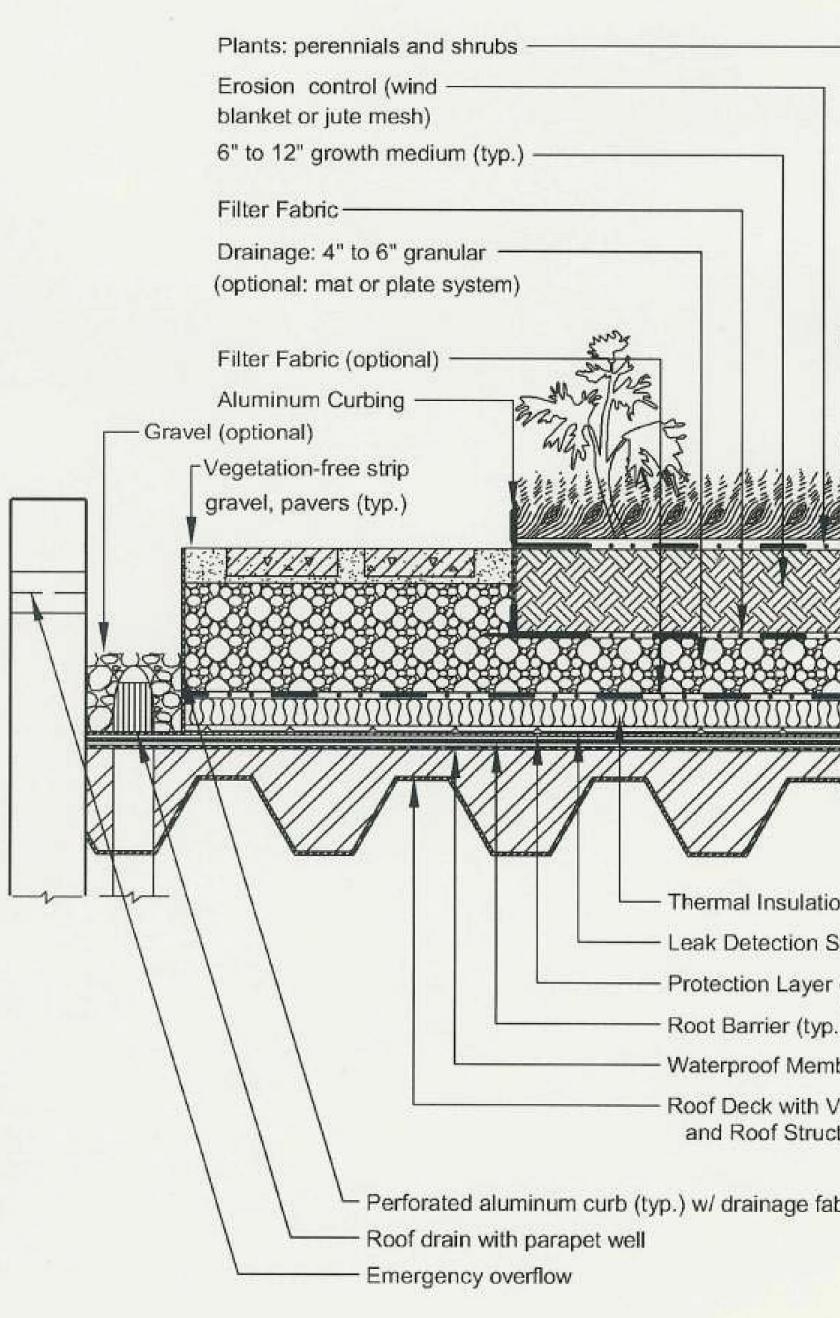
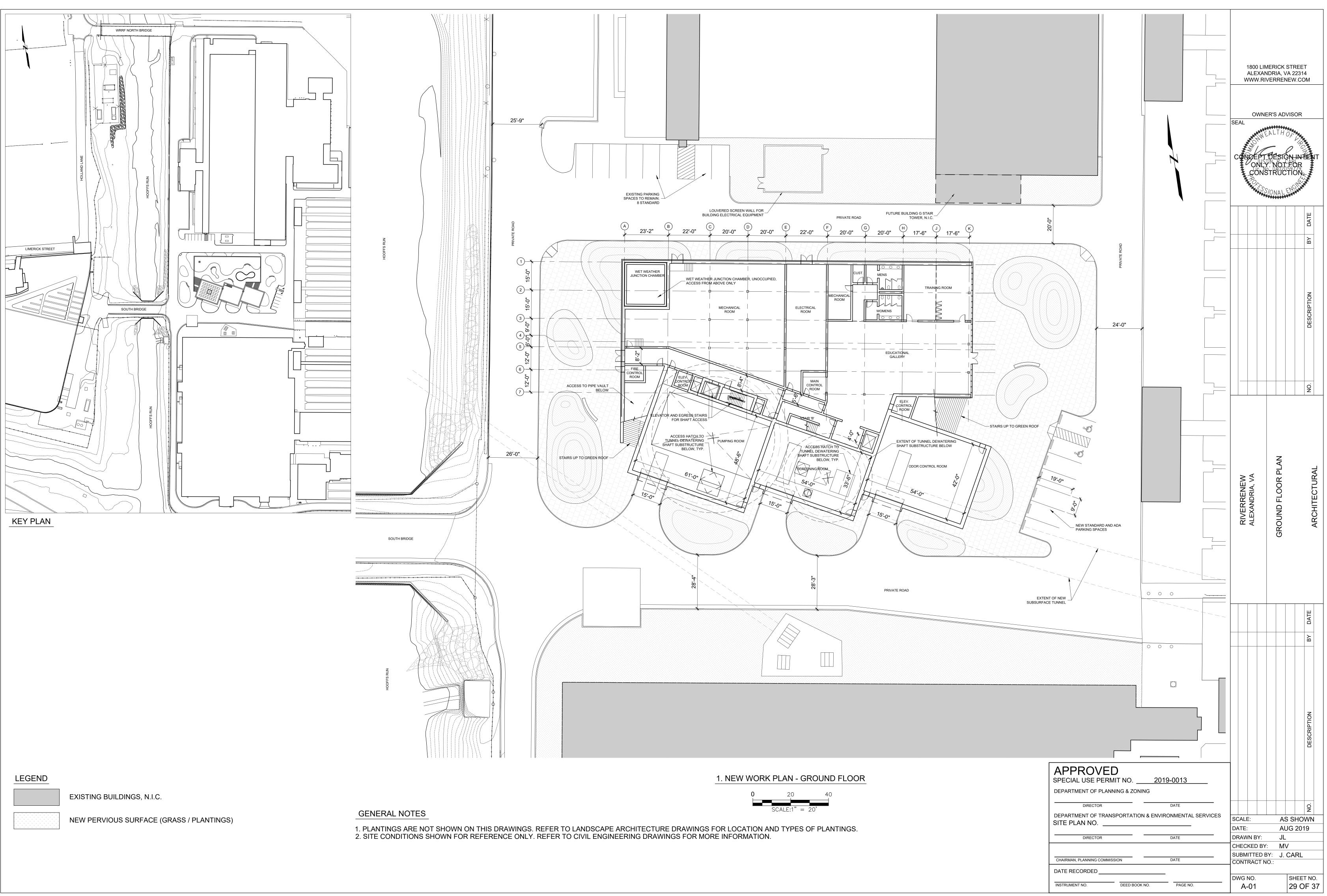


Figure 5.3. Typical Section – Intensive Veget (Source: Northern VA Regional Commis

	1800 LIM ALEXAN WWW.RIV	A Contraction of the second se
	Cá	ROWN AND Aldwell ER'S ADVISOR
	SEAL PREL NG	IMINARY TFOR TRUCTION
		BY DATE
deptres varies		DESCRIPTION
V//////		ÖŽ
on (optional) System (optional) (typ.) o.) hbrane (typ.) Vapor Barrier cture	RIVERRENEW ALEXANDRIA, VA	BMP DETAILS
tated Roof ssion)		BY DATE
		DESCRIPTION
APPROVED SPECIAL USE PERMIT NO. 2019-0013 DEPARTMENT OF PLANNING & ZONING		
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES SITE PLAN NO	SCALE: DATE:	AS SHOWN AUGUST 2019
DIRECTOR DATE CHAIRMAN, PLANNING COMMISSION DATE	DRAWN BY: CHECKED BY SUBMITTED B CONTRACT N	Y: J. CARL
DATE RECORDED INSTRUMENT NO. DEED BOOK NO. PAGE NO.	19-079 DWG NO. C-25	SHEET NO. 28 OF 37





ALLOWABLE F YES 75' 3 62,000 SF ACTUAL F YES 50' 1 23,681 SF OCCUPANCY ANALYSIS MAX. ALLOWABLE SQUARE FOOTAGE MAX. OCCUPANTS ACCESSORY STORAGE AREAS; 300 GROSS 5,696 GSF 19 MECHANICAL AND ELECTRICAL ROOMS ASSEMBLY - UNCONCENTRATED 15 NET 1,035 NSF 69 ASSEMBLY - EXHIBIT GALLERY 30 NET 3,751 NSF 126 MECHANICAL MAXIMUM OCCUPANCY 214
Interval Image: Source of Construction: Image: Sourc
Interpretended Image: Source Classification: F-1 TYPE OF CONSTRUCTION: IIB NUMBER OF STORES ABOVE GRADE: 1 HICH RISS (YN): NO COVERED MALI (YN): NO FIRE ALARM (YN): YES CALCULATED OCCUPANT LOAD: 214 ACTUAL MAXIMUM OCCUPANT LOAD: 40 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS) PRIMARY STRUCTURAL FRAME $\frac{REQUIRED}{0}$ 0 BEARING WALLS, INTERIOR 0 0 BEARING WALLS, INTERIOR 0 0 NONBEARING WALLS, ND PARTITIONS, EXTERIOR PER TABLE 602 PER TABLE 602 PROOF CONSTRUCTION AND ASSOCIATED SECONDARY MEMBERS 0 0 NONBEARING WALLS, AND PARTITIONS, EXTERIOR PER TABLE 602 PER TABLE 602 PEOOR CONSTRUCTION AND ASSOCIATED SECONDARY MEMBERS 0 0 ROOF CONSTRUCTION AND ASSOCIATED SECONDARY MEMBERS 0 0 ALLOWABLE GROUP F YES 3' 62,000 SF ALLOWABLE GROUP EVEN MAX ALLOWABLE MAX OCCUPANTS ACCESSORY STORAGE AREAS; 300 GROSS 5
PRIMARY STRUCTURAL FRAME RECURED PROVIDED DEARING WALLS, INTERIOR 0 0 NONBEARING WALLS, INTERIOR PER TABLE 602 PER TABLE 602 NONBEARING WALLS, SAND PARTITIONS, EXTERIOR PER TABLE 602 PER TABLE 602 NONBERAING WALLS, INTERIOR 0 0 NONBEARING WALLS, SAND PARTITIONS, INTERIOR 0 0 FLOOR CONSTRUCTION AND ASSOCIATED SECONDARY MEMBERS 0 0 NONBEARING WALLS, INTERIOR 0 0 REGHT AND AREA ANALYSIS 0 0 ALLOWABLE F YES 75' 3 62,000 SF ACTUAL F YES 50' 1 23,681 SF OCCUPANCY ANALYSIS MAX. ALLOWABLE SQUARE FOOTAGE MAX. OCCUPANTS ACCESSORY STORAGE AREAS; 300 GROSS 5,696 GSF 19 MECHANICAL AND ELECTRICAL ROOMS 30 NET 3,751 NSF 69 ASSEMBLY - UNCONCENTRATED 15 NET 1,035 NSF 69 AND MUSEUM TOTAL MAXIMUM OCCUPANCY 214
PRIMARY STRUCTURAL FRAME 0 0 0 0 BEARING WALLS, EXTERIOR 0 0 0 NONBEARING WALLS, INTERIOR PARTITIONS, INTERIOR PER TABLE 602 NONBEARING WALLS AND PARTITIONS, INTERIOR PER TABLE 602 NONBEARING WALLS AND PARTITIONS, INTERIOR 0 0 FLOOR CONSTRUCTION AND ASSOCIATED SECONDARY MEMBERS 0 0 0 HEIGHT AND AREA ANALYSIS ALLOWABLE <u>F YES 75 3 62,000 SF</u> ACTUAL F YES 50' 1 23,681 SF OCCUPANCY ANALYSIS MECHANICAL AND ELECTRICAL ROOMS ACCESSORY STORAGE AREAS; 300 GROSS 5,696 GSF 19 MECHANICAL AND ELECTRICAL ROOMS ASSEMBLY - UNCONCENTRATED 15 NET 1,035 NSF 69 ASSEMBLY - EXHIBIT GALLERY 30 NET 3,751 NSF 126 AND MUSEUM TOTAL MAXIMUM OCCUPANCY 211
ALLOWABLE F YES 75' 3 62,000 SF ACTUAL F YES 50' 1 23,681 SF OCCUPANCY ANALYSIS MAX. ALLOWABLE SQUARE FOOTAGE MAX. OCCUPANTS ACCESSORY STORAGE AREAS; MECHANICAL AND ELECTRICAL ROOMS 300 GROSS 5,696 GSF 19 ASSEMBLY - UNCONCENTRATED 15 NET 1,035 NSF 69 ASSEMBLY - EXHIBIT GALLERY AND MUSEUM 30 NET 3,751 NSF 126 TOTAL MAXIMUM OCCUPANCY 214
ALLOWABLE F YES 75' 3 62,000 SF ACTUAL F YES 50' 1 23,681 SF <u>MAX. ALLOWABLE SQUARE FOOTAGE MAX. OCCUPANTS</u> ACCESSORY STORAGE AREAS; 300 GROSS 5,696 GSF 19 MECHANICAL AND ELECTRICAL ROOMS ASSEMBLY - UNCONCENTRATED 15 NET 1,035 NSF 69 ASSEMBLY - EXHIBIT GALLERY 30 NET 3,751 NSF 126 TOTAL MAXIMUM OCCUPANCY 214
MAX. ALLOWABLE SQUARE FOOTAGE MAX. OCCUPANTS ACCESSORY STORAGE AREAS; 300 GROSS 5,696 GSF 19 MECHANICAL AND ELECTRICAL ROOMS 15 NET 1,035 NSF 69 ASSEMBLY - UNCONCENTRATED 15 NET 1,035 NSF 69 ASSEMBLY - EXHIBIT GALLERY AND MUSEUM 30 NET 3,751 NSF 126 TOTAL MAXIMUM OCCUPANCY 214
ACCESSORY STORAGE AREAS; 300 GROSS 5,696 GSF 19 MECHANICAL AND ELECTRICAL ROOMS 15 NET 1,035 NSF 69 ASSEMBLY - UNCONCENTRATED 15 NET 1,035 NSF 69 ASSEMBLY - EXHIBIT GALLERY 30 NET 3,751 NSF 126 AND MUSEUM 214
MECHANICAL AND ELECTRICAL ROOMS ASSEMBLY - UNCONCENTRATED 15 NET 1,035 NSF 69 ASSEMBLY - EXHIBIT GALLERY 30 NET 3,751 NSF 126 AND MUSEUM TOTAL MAXIMUM OCCUPANCY 214
ASSEMBLY - EXHIBIT GALLERY 30 NET 3,751 NSF 126 AND MUSEUM TOTAL MAXIMUM OCCUPANCY 214
PLUMBING FIXTURE ANALYSIS OCCUPANCY TYPE: F-1 TOTAL OCCUPANT LOAD: 214 FEMALE OCCUPANT LOAD: 107 MALE OCCUPANT LOAD: 107
PLUMBING FIXTURE COUNTS WATER CLOSETS LAVATORIES
FEMALE MALE FEMALE MALE 1 PER 100 1 PER 100 1 PER 100 1 PER 100
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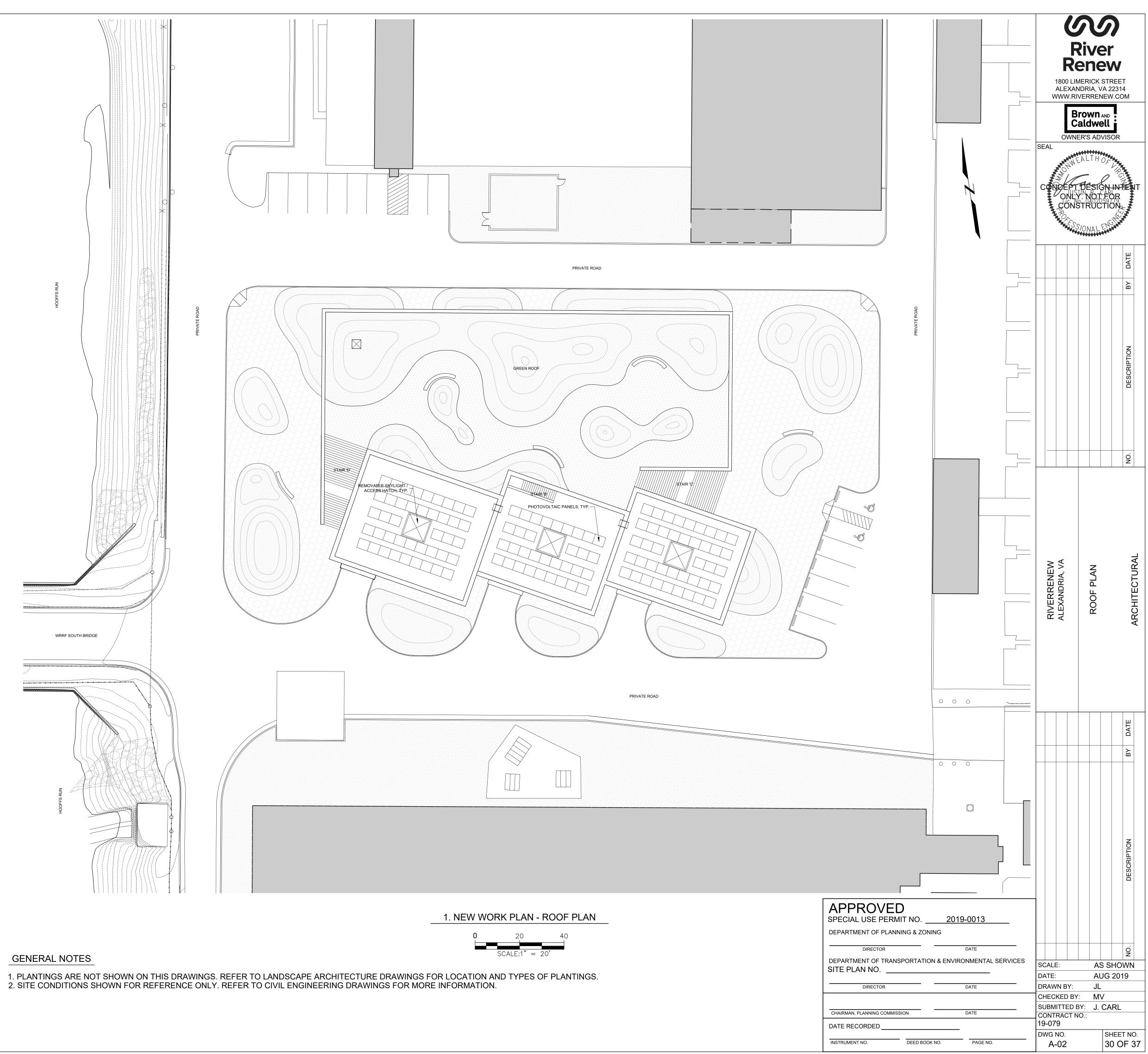
LEGEND

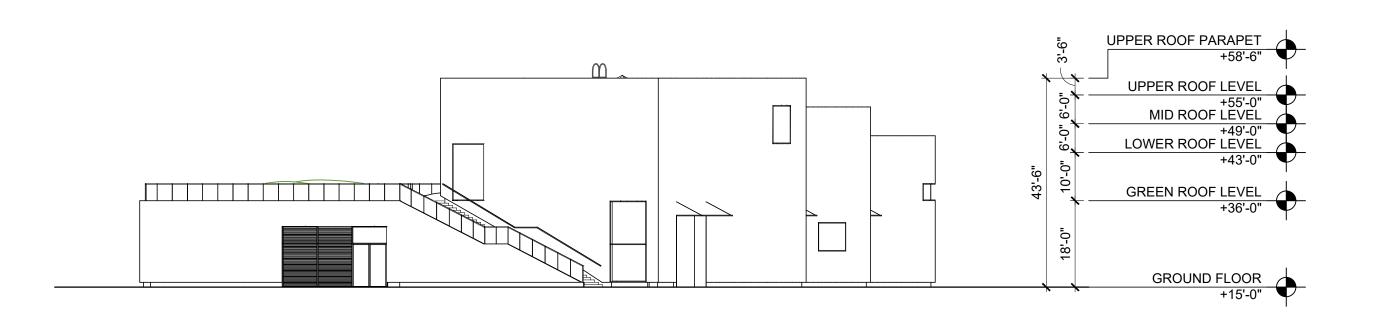
EXISTING BUILDINGS, N.I.C.

NEW PERVIOUS SURFACE (GRASS / PLANTINGS)

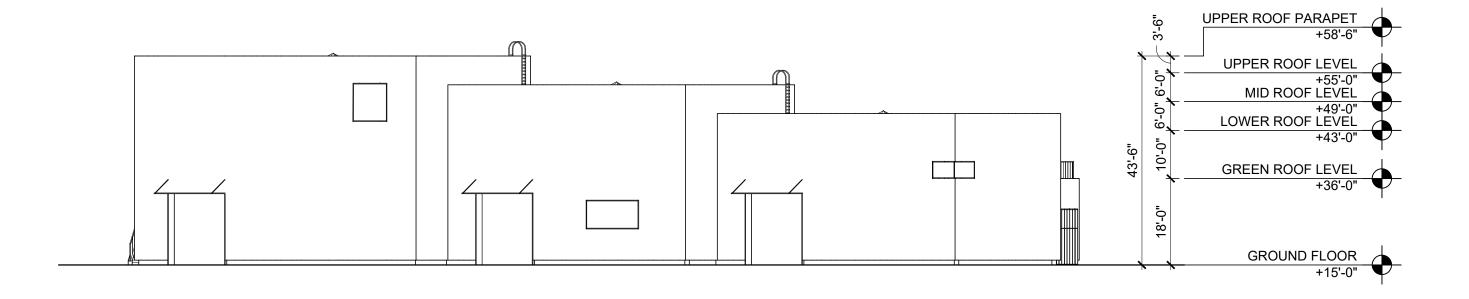
GENERAL NOTES

WRRF SOUTH BRIDGE

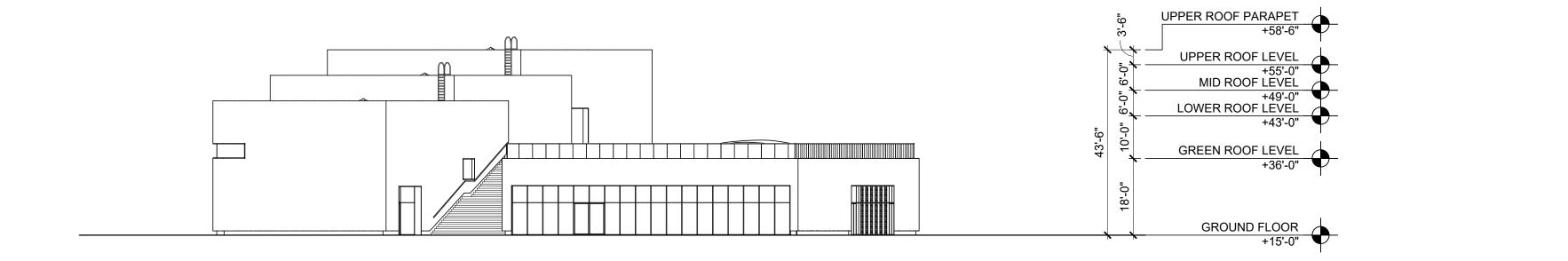




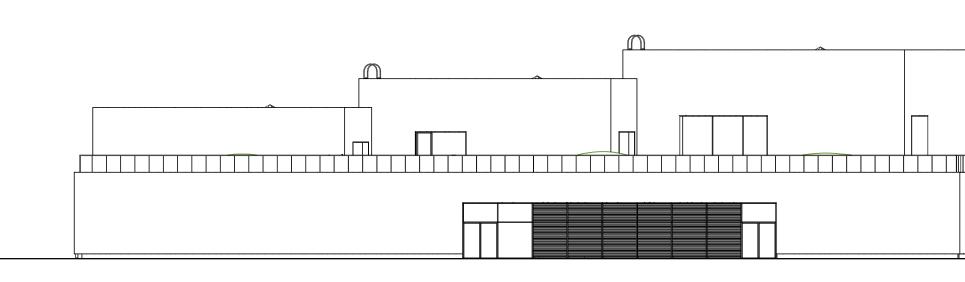
1. NORTHWEST ELEVATION



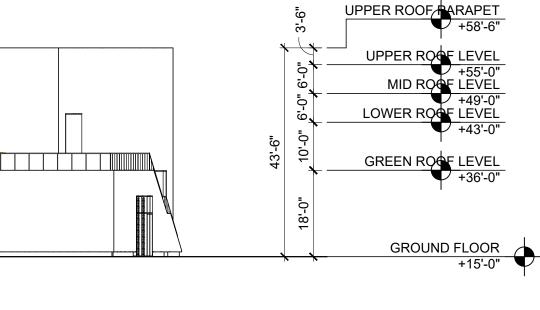
2. SOUTHWEST ELEVATION

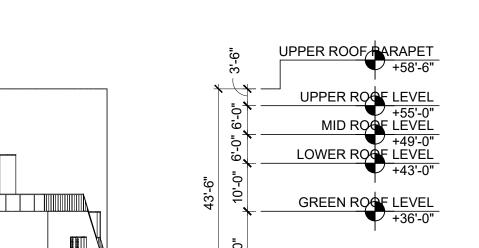


3. SOUTHEAST ELEVATION





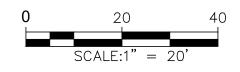




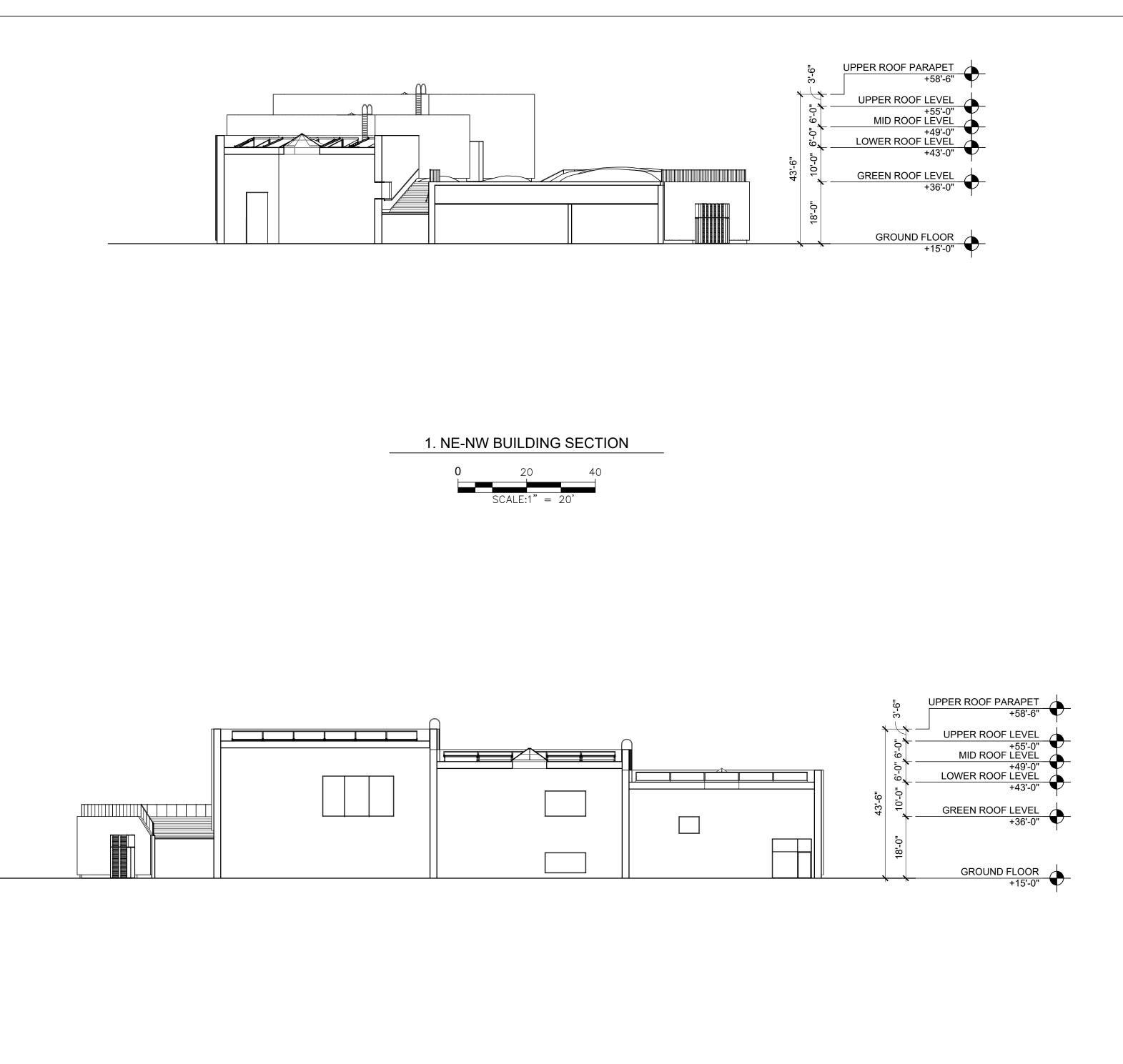






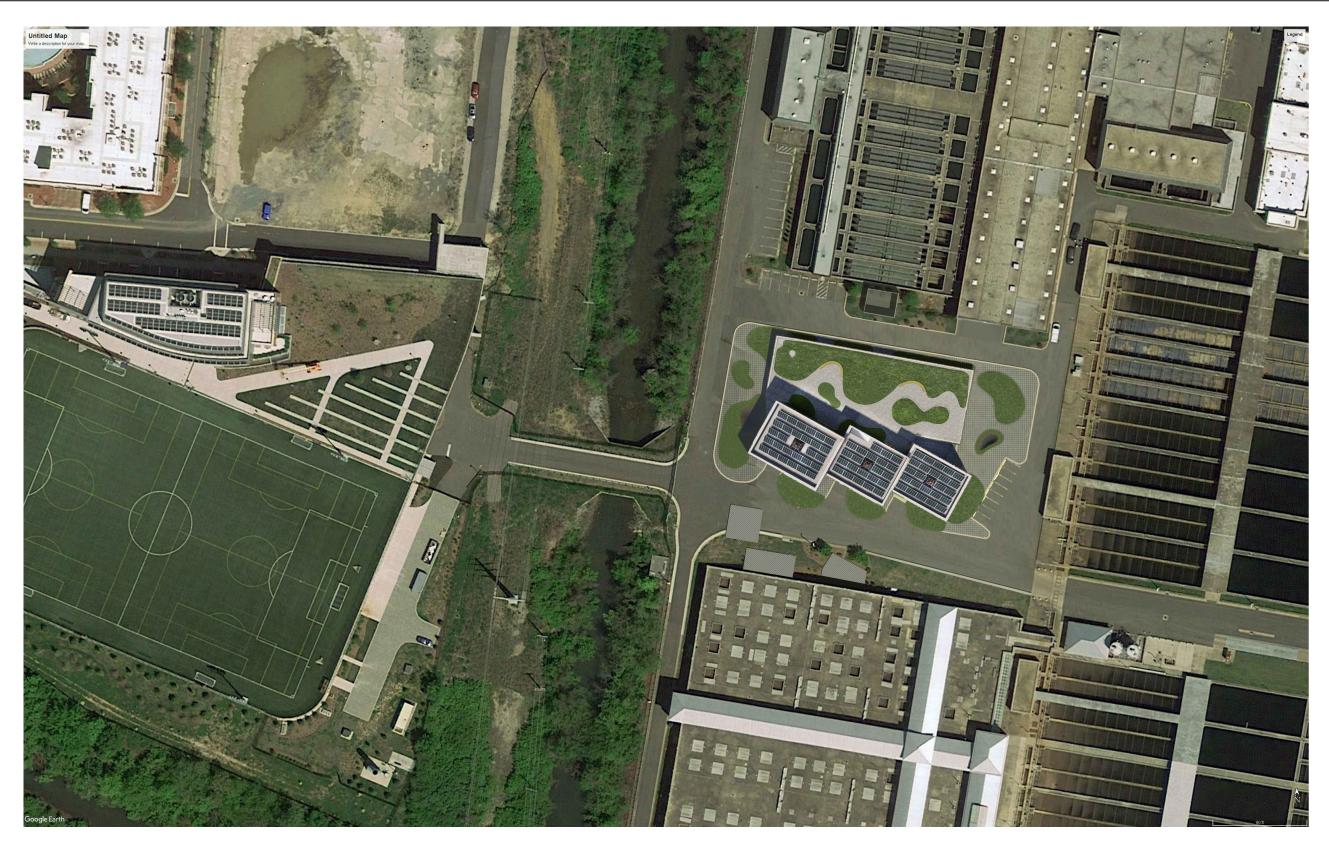


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		STRUCTION
		DESCRIPTION
		<u> </u>
	RIVERRENEW ALEXANDRIA, VA	BUILDING ELEVATIONS ARCHITECTURAL
		BY DATE
APPROVED		DESCRIPTION
SPECIAL USE PERMIT NO. 2019-0013 DEPARTMENT OF PLANNING & ZONING DIRECTOR DATE DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES SITE PLAN NO.	SCALE: DATE: DRAWN BY:	
CHAIRMAN, PLANNING COMMISSION DATE DATE RECORDED	CHECKED BY SUBMITTED CONTRACT N 19-079 DWG NO. A-03	BY: J. CARL





20	4	0
SCALE:1"	= 20'	



1. BIRDS' EYE VIEW OF SITE FROM DIRECTLY ABOVE

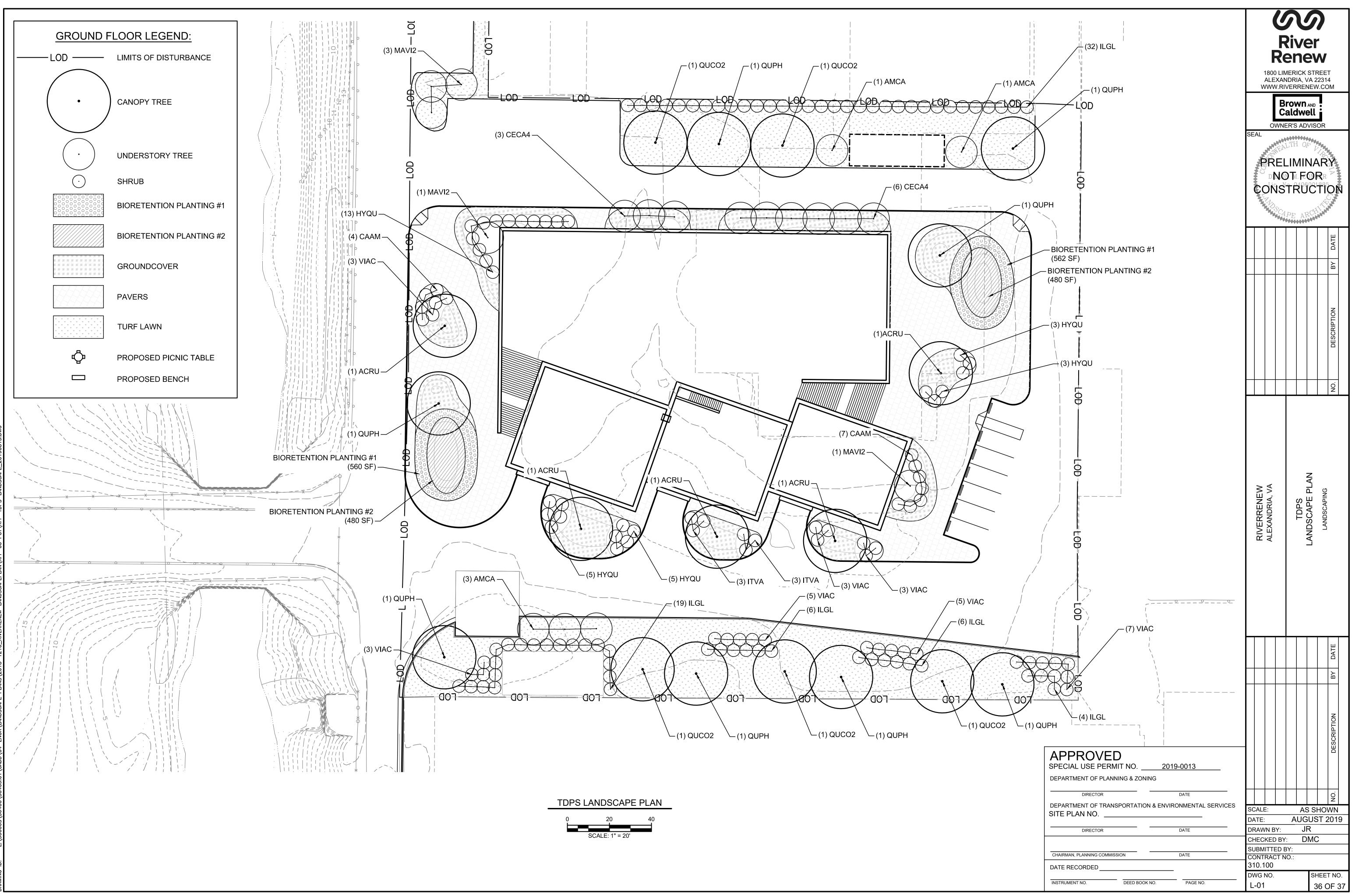


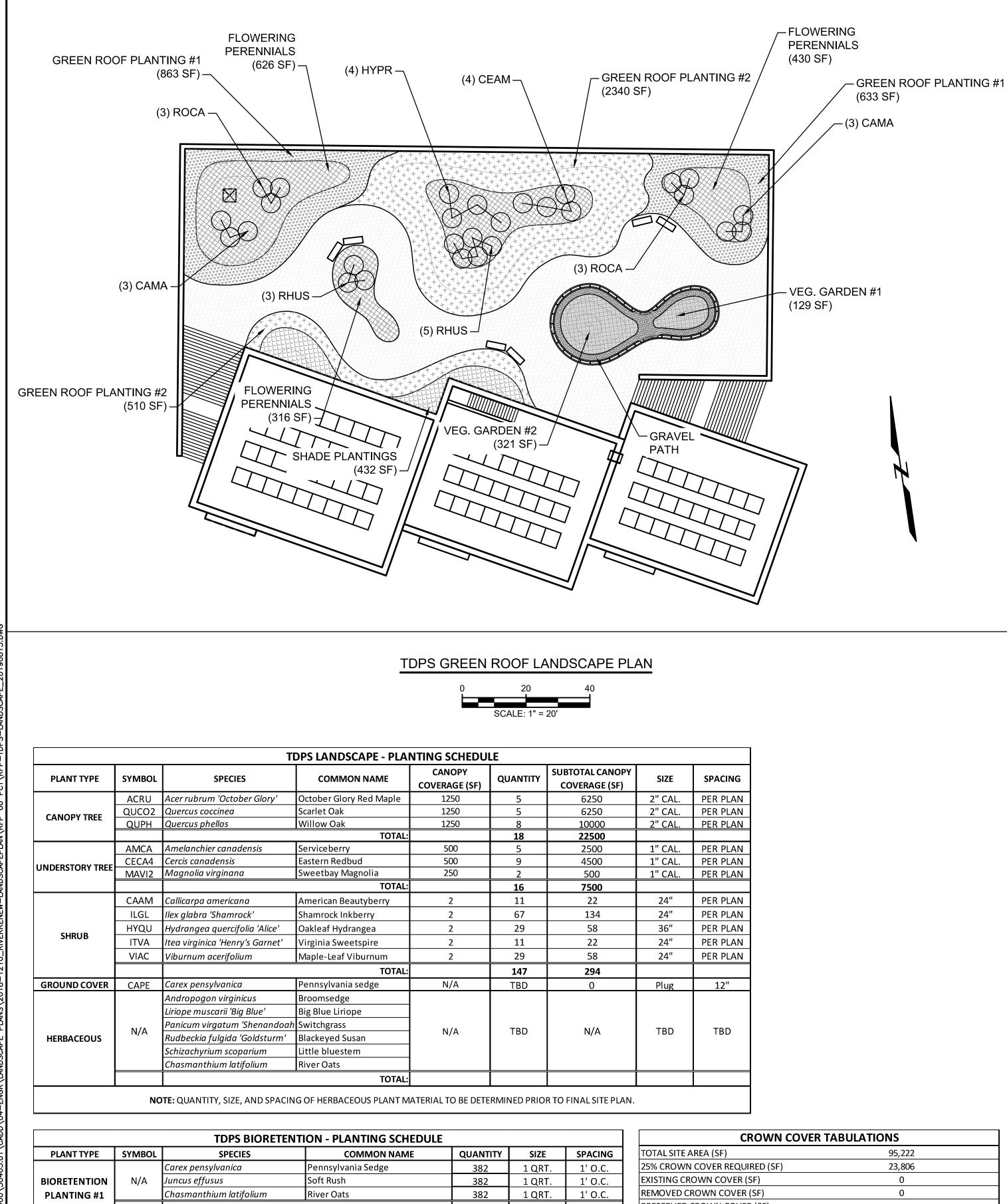
2. BIRDS' EYE VIEW OF BUILDING FROM NORTHWEST

APPROVED SPECIAL USE PERMIT NO 2019-0013 Image: Constraint of the second secon	
DEPARTMENT OF PLANNING & ZONING DIRECTOR DATE DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES SITE PLAN NO. DIRECTOR DATE DATE DATE	
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INSTRUMENT NO. DEED BOOK NO. PAGE NO. A-	Ο.

S River Renew 1800 LIMERICK STREET ALEXANDRIA, VA 22314 WWW.RIVERRENEW.COM Brown AND Caldwell OWNER'S ADVISOR SEAL ONCEPT DESIGN INTENT ONLY. NOT FOR CONSTRUCTION DATE BY . NO NS DERINGS BUILDING SECTIOI AND PERSPECTIVE RENI RIVERRENEW ALEXANDRIA, VA ARCHITECTURA DATE B . NO AS SHOWN AUG 2019 JL DBY: MV TED BY: J. CARL CT NO.:

SHEET NO. 32 OF 37





TOTAL:

TOTAL: 1116

Aster novae-angliae 'Purple Dome' Purple Dome New England Aster

Panicum virgatum 'Shenandoah' Switchgrass

be-Pye Weed

Eupatorium fistulosum

1146

372

372

372

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1 GAL.

1 GAL.

2' O.C.

2' O.C.

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BIORETENTION

PLANTING #2

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CROWN COVER TABULATIONS						
TOTAL SITE AREA (SF)	95,222					
25% CROWN COVER REQUIRED (SF)	23,806					
EXISTING CROWN COVER (SF)	0					
REMOVED CROWN COVER (SF)	0					
PRESERVED CROWN COVER (SF)						
Crown Cover from Preserved Trees	0					
Crown Cover from Preserved Shrubs	0					
PROPOSED CROWN COVER (SF)						
Crown Cover from Proposed Trees	30,000					
Crown Cover from Proposed Shrubs	294					
TOTAL CROWN COVER PROVIDED (%)	31.8%					
TOTAL CROWN COVER PROVIDED (SF)	30,294					

PLANTING NOTES:

- 1. All protection and preservation measures for existing vegetation, including maintenance shall be approved by the City Arborist in-field prior to commencement of any site disturbing activity.
- 2. Specification for all plantings shall be in accordance with the current and most up to date edition of ANSI-Z60.1, The American Standard for Nursery Stock as produced by the American Association of Nurserymen; Washington, DC.
- 3. The applicant has made suitable arrangements for pre-selection tagging, pre-contract growing, or is undertaking specialized planting stock development with a nursery or grower that is conveniently located to the project site, other procedures that will ensure availability of specified materials. In the event that shortages and/or inability to obtain specified plantings occurs, remedial efforts including species changes, additional plantings and modification to the landscape plan shall be undertaken by the applicant. All remedial efforts shall, with prior approval by the city, be performed to the satisfaction of the Directors of Planning & Zoning, Recreation, Parks & Cultural Activities and Transportation & Environmental Services.
- 4. In lieu of more strenuous specifications, all landscape related work shall be installed and maintained in accordance with the current and most up-to-date edition (at time of construction) of Landscape Specification Guidelines as produced by the Landscape Contractors Association of Maryland, District of Columbia and Virginia; Gaithersburg, Maryland.
- 5. Prior to commencement of landscape installation/planting operations, a pre-installation/construction meeting will be scheduled with the City's Arborist and Landscape Architects to review the scope of installation procedures and processes.
- 6. Maintenance for this project shall be performed in perpetuity, in compliance with City of Alexandria Landscape Guidelines and/or as conditioned by project approval.
- 7. A certification letter for tree wells, tree trenches and plantings above structure shall be provided by the project's Landscape Architect. The letter shall certify that all below grade construction is in compliance with approved drawings and specifications. The letter shall be submitted to the City Arborist and approved prior to approval of the last and final Certificate of Occupancy for the project. The letter shall be submitted by the owner/applicant/successor and sealed and dated as approved by the project's Landscape Architect.
- 8. As-built drawings for this landscape and/or irrigation/water management system will be provided in compliance with City of Alexandria Landscape Guidelines. As-built drawings shall include clear identification of all variation(s) and changes from approved drawings including location, quantity and specification of all project elements.

		TDPS GREENROOF -	PLANTING SCHEDULE			
PLANT TYPE	SYMBOL	SPECIES	COMMON NAME	QUANTITY	SIZE	
		Delosperma nubigenum 'Basutolan	Trailing Hardy Ice Plant	214		
		Sedum acre 'Aureum'	Golden Stonecrop	214		
GREENROOF PLANTING #1		Sedum hybridum 'Immergrunchen'	Little Evergreen Stonecrop	214		
	N/A	Sedum kamtschaticum	Russian Stonecrop	214	PLUG	
		Sedum lanceolatum	Spearleaf Stonecrop	214		
		Sedum sexangulare	Tasteless Stonecrop	214		
		Sedum tetractinum	Chinese Sedum	214		
			TOTAL:	1498		
		Allium senescens ssp. montanum	Mountain Garlic	406		
		Delosperma cooperii	lce Plant	406		
		Delosperma 'Kelaidis'	lce Plant	406		
GREENROOF	N/A	Sedum album 'France'	Stonecrop	406	PLUG	
PLANTING #2	,,,	Sedum spurium 'Fuldaglut'	Blaze of Fulda Stonecrop	406	1200	
		Sedum spurium 'John Creech'	John Creech Stonecrop	406		
		· · ·		406		
		Sedum spurium 'Summer Glory'	Dragon's Blood Stonecrop TOTAL:			┝
				2842		⊢
	CAMA	Callicarpa americana	Beautyberry	6		
	CEAM	Ceanothus americanus	New Jersey Tea	4		
GREENROOF	RHUS	Rhus aromatica	Fragrant Sumac	8	3 GAL.	F
SHRUBS	HYPR	Hypericum prolificum	Shrubby St. John's Wort	4		
	ROCA	Rosa carolina	Pasture Rose	6		<u> </u>
			TOTAL:	28		
		Andropogon virginicus	Broomsedge			
		Asclepias tuberosa	Butterfly Weed			
		Baptisia australis	Blue Wild Indigo			
		Liatris squarrosa	Plains Blazing Star			
		Opuntia humifusa	Eastern Prickly-Pear			
FLOWERING	N/A	Panicum virgatum 'Shenandoah'	Switchgrass	N/A	QRT.	
PERENNIALS		Rudbeckia fulgida 'Goldsturm'	Blackeyed Susan			
		Schizachyrium scoparium	Little bluestem			
		Symphyotrichum laeve	Smooth Aster			
		Vernonia fasciculata Achillea millefolium	Ironweed Vorrow			
			Yarrow			<u> </u>
			TOTAL:			┣—
		Fragaria	Strawberry			
		Solanum Canaisum	Tomato Rod Donnor			
	N/A	Capsicum Lactuca	Red Pepper Lettuce	N/A	TBD	
VEGETABLE	N/A	Raphanus	Radish	N/A	ТБО	
GARDEN		Ocimum	Basil			
		Allium	Leeks or Onions			
		Amann	TOTAL:			_
						-
		Heuchera americana	Coral bells			
		Polystichum acrostichoides	Christmas fern			
SHADE	N/A	Eurybia divaricata Phlox subulata	White wood aster Moss Phlox	N/A	TBD	
PLANTINGS						
		Carex pensylvanica Carex plantaginea	Pennsylvania Sedge Plantain-Leaved Sedge			
						⊢
		S ARE BASED ON A SPACING OF 2 PLU				
USE A COMBINAT	TION OF PL	JGS AND CUTTINGS, INSTALLATION R	ATES AND QUANTITIES WILL	VARY FROM T	HUSE LIST	ЕD

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River

Renew

1800 LIMERICK STREET

ALEXANDRIA, VA 22314 WWW.RIVERRENEW.COM

Brown AND

Caldwell

OWNER'S ADVISOR

PRELIMINARY

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CONSTRUCTION

SEAL

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	PER PLAN			Ľ	A		-	J			
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		DEPARTMENT OF PLANNING & ZONING									
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