EXISTING IMPERVIOUS AREA: 0.55 ACRES PROPOSED IMPERVIOUS AREA: 0.92 ACRES

SOURCE OF SURVEY, BOUNDARY, AND TOPOGRAPHY:

STAUNTON, VA 24401 (540) 885-0920 JOE.MEDLEY@TIMMONS.COM CONDUCTED: 03/27/2020 - 04/01/2020 VA811 TICKET: A008300774, 3/26/2020

HORIZONTAL DATUM: NAVD83 & STATE PLANE, VIRGINIA SOUTH ZONE

VERTICAL DATUM: NAVD88

CURRENT USE: VACANT OFFICE SPACE/SERVICE GARAGE/RESIDENTIAL DUPLEX

> MIXED USE APARTMENT/COMMERCIAL BUILDING (96) 1-BEDROOM UNITS

(24) 2-BEDROOM UNITS 120 UNITS TOTAL (RENTAL - 115 MARKET RATE, 5 AFFORDABLE)

1,300 SF COMMERCIAL SPACE

2015 IBC, 2015 VCC, 2015 IECC, 2015 IPC, 2015 IMC, 2014 NEC, ICC A117.1 ANSI - 2009

CONSTRUCTION TYPES: LOWER AND UPPER FIRE AREA, W/ 3-HOUR HORIZONTAL BUILDING SEPARATION (SECTION 510.2) LOWER FIRE AREA:

S-2 USE: TYPE 1B CONSTRUCTION B USE: TYPE 3A CONSTRUCTION R-2 USE: TYPE 3A CONSTRUCTION UPPER FIRE AREA:

R-2 USE: TYPE 3A CONSTRUCTION A-3 USE: TYPE 3A CONSTRUCTION

ZONED: IC - INDUSTRIAL CORRIDOR (SP21-00001)

SETBACKS: FRONT: NO MIN., 20' MAX. SIDE/REAR: NONE

MAXIMUM ALLOWABLE BUILDING HEIGHT: 6 STORIES, ELEV. 520 (SP21-00001)

PROPOSED BUILDING HEIGHT: ELEV. 511.88

PROPOSED DENSITY: 111 UNITS/ACRE

PARKING SPACES REQUIRED:

PROPOSED USE:

1 SPACE PER STUDIO, 1-BEDROOM, OR 2-BEDROOM UNIT 120 UNITS PROPOSED X 1 SPACE/UNITS = 120 SPACES 3.5 SPACES/1,000 SF GFA COMMERCIAL SPACE 3,000 SF COMMERCIAL X 3.5 SPACES/1,000 SF = 10.5 SPACES

TOTAL REQUIRED = 131 SPACES (5 ACCESIBLE SPACES, 1 VAN ACCESSIBLE SPACE)

TOTAL PARKING SPACES PROVIDED: 184 SPACES (9 ACCESSIBLE SPACES)

BICYCLE PARKING REQUIRED:

MAXIMUM REQUIREMENT 1 SPACE PER 2 RESIDENTIAL UNITS 120 UNITS PROPOSED X 1 SPACE/2 UNITS = 60 SPACES MAXIMUM REQUIREMENT 1 SPACE/1,000 SF GFA COMMERCIAL SPACE 3,000 SF COMMERCIAL X 1 SPACE/1,000 SF = 3 SPACES TOTAL MAXIMUM REQUIRED = 63 SPACES MAXIMUM

BICYCLE PARKING PROVIDED: 52 SPACES (40 INDOOR, 12 OUTDOOR. SEE SHEET C4.04)

LOCATION OF NEARBY FIRE HYDRANTS:

1. ON THE NORTHWEST SIDE OF THE SITE ALONG THE PRIVATE ACCESS ROAD (TO BE RELOCATED, ADJACENT TO DRIVEWAY TO

PROJECT TIMING: THE ANTICIPATED START DATE FOR THE PROJECT IS FALL 2021. CONSTRUCTION ACTIVITIES ARE ANTICIPATED TO LAST APPROXIMATELY 18 MONTHS.

PUBLIC UTILITY NOTES:

- A. PER THE VIRGINIA DEPARTMENT OF HEALTH WATERWORKS REGULATIONS (PART II, ARTICLE 3, SECTION 12 VAC 5-590 THROUGH 630), ALL BUILDINGS THAT HAVE THE POSSIBILITY OF CONTAMINATING THE POTABLE WATER DISTRIBUTION SYSTEM (HOSPITALS, INDUSTRIAL SITES, BREWERIES, ETC.) SHALL HAVE A BACKFLOW PREVENTION DEVICE INSTALLED WITHIN THE FACILITY. THIS DEVICE SHALL MEET SPECIFICATIONS OF THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE, SHALL BE TESTED IN REGULAR INTERVALS AS REQUIRED, AND TEST RESULTS SHALL BE SUBMITTED TO THE REGULATORY COMPLIANCE ADMINISTRATOR IN THE DEPARTMENT OF UTILITIES.
- B. ALL BUILDINGS THAT MAY PRODUCE WASTES CONTAINING MORE THAN ONE HUNDRED (100) PARTS PER MILLION OF FATS, OIL, OR GREASE SHALL INSTALL A GREASE TRAP. THE GREASE TRAP SHALL MEET SPECIFICATIONS OF THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE, MAINTAIN RECORDS OF CLEANING AND MAINTENANCE, AND BE INSPECTED ON REGULAR INTERVALS BY THE REGULATORY COMPLIANCE ADMINISTRATOR IN THE DEPARTMENT OF UTILITIES.
- C. PLEASE CONTACT THE REGULATORY COMPLIANCE ADMINISTRATOR AT 970-3032 WITH ANY QUESTIONS REGARDING THE GREASE TRAP OR BACKFLOW PREVENTION DEVICES.

AMENDING AND REENACTING A SPECIAL USE PERMIT FOR PROPERTY LOCATED AT 1221, 1223 and 1225 HARRIS STREET

WHEREAS, landowner CVILLE BUSINESS PARK, LLC is the current owner ("Landowner") of certain land identified on 2019 City Tax Map 34 as Parcels 90B, 90C, and 90.1 (City Real Estate Parcel Identification Nos. 340090B00, 340090C00, and 340090100, and current street addresses of 1221, 1223 and 1225, respectively) and having, collectively, an area of approximately 2.446 acres (106,547 square feet) (the "Subject Property"), and

WHEREAS, Landowner proposes to recevelop the Subject Property for a specific project, described as follows: a mixed use building at a height of up to six (6) stories, containing retail and commercial space on the ground floor facing Allied Street and Harris Street, respectively, containing up to 120 residential dwelling units above the ground floor, and containing underground parking (the "Project"), for an overall density within the area of the Subject Property of up to 50 dwelling units per acre (DUA); and

WHEREAS, the Subject Property is located within the Industrial Corridor zoning

WHEREAS, the Project is described in more detail within the Landowner's drawings submitted in connection with SP19-00010, as modified by floor plans and elevation drawings dated January 21, 2021 submitted in connection with SP21-00001 (collectively, the "Application

WHEREAS, on March 9, 2021 the Planning Commission and City Council conducted a joint public hearing on the proposed SUP Amendment (SP21-00001) after notice and advertisement as required by law; and

WHEREAS, upon consideration of the comments received during the joint public hearing on SP21-00001, the information provided by the Landowner within the Application Materials, and the information provided within the Staff Report, the Planning Commission voted to recommend approval of the proposed amended Special Use Permit for the Project; and

WHEREAS, upon consideration of the Planning Commission's recommendation, the Staff Report, public comments received at the public hearing, as well as the factors set forth within Sec. 34-157 of the City's Zoning Ordinance, this Council finds and determines that granting the proposed amended Special Use subject to suitable conditions would serve the public necessity, convenience, general welfare or good zoning practice; now, therefore,

BE IT RESOLVED by the Council of the City of Charlottesville, Virginia that, pursuant to City Code §§ 34-457(b)(5)(a.), 34-458(b), and 34-480, an amended special use permit is hereby approved and granted to authorize one mixed use building, with a height of up to six (6) stories and containing up to 120 residential dwelling units above the ground floor, within the Subject Property, subject to the following conditions:

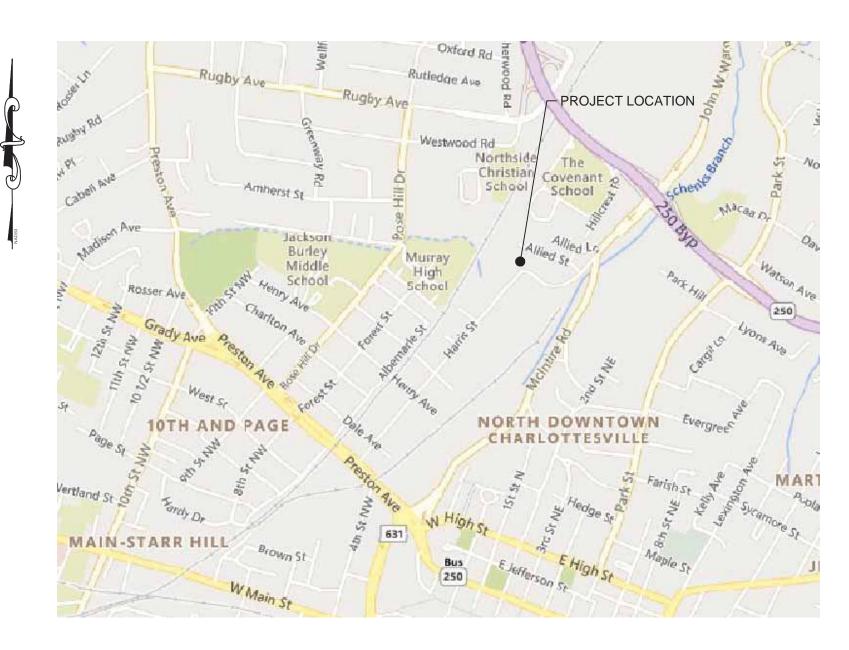
- 1. The specific development being approved by this special use permit ("Project"), as described within the Application Materials (including the modified floor plans and elevations dated January 21, 2021) shall have the following minimum attributes/
- a. Not more than one building shall be constructed on the Subject Property (the "Building"). The Building shall be a six-story Mixed Use Building, containing up to 120 residential dwelling units, ground floor commercial floor area, and underground parking, with overall residential density of up to 50 DUA within the area of the Subject Property.
- b. The highest point of the Building as defined within City Code §34-1100(a), shall not exceed an elevation of 520 feet above sea level. Exclusions from measurement of building height shall be those referenced within §34-1101(a).
- c. The ground floor areas along Harris Street and Allied Street shall be used and occupied, respectively, for retail and commercial uses. The square footages of floor area to be used for retail and commercial uses shall be no less than depicted in the January 21, 2021 floor plans and elevation drawings.
- d. Underground parking shall be provided within a parking garage structure constructed underneath the Building.
- e. The Landowner shall provide a preliminary traffic study of the immediate area surrounding the building, as well as traffic impact on Allied Street, Harris Street and the intersection of Harris Street and McIntire Road. The scope of the traffic study shall be approved by the City Traffic Engineer prior to submission, and must be submitted to the City for review and comment prior to the approval of the
- 2. Within the Building, five (5) affordable dwelling units shall be provided for rental by low- or moderate-income persons, as follows: three (3) one-bedroom units and two (2) two-bedroom units. Each of these units shall be an "affordable dwelling unit" as defined in City Code §34-12 throughout a period of ten (10) years.
- 3. During the first two months for which dwelling units are leased within the Building, five (5) dwelling units shall be reserved for lease to persons who hold housing choice vouchers at rents for which the vouchers can be used. Prior to commencement of this initial leasing period, Landowner shall notify the Charlottesville Redevelopment and Housing Authority that the 5 reserved units are, or will be, available to persons with

Fyra Thomas

Kyna Thomas, CMC Clerk of Council

CITY'S EDGE (FORMERLY 1223 HARRIS STREET SUP) FINAL SITE PLAN

1223 HARRIS ST CITY OF CHARLOTTESVILLE, VIRGINIA 06/04/2021



VICINITY MAP

SCALE: 1'' = 1,000'

OWNER:

C-VILLE BUSINESS PARK LLC 224 14th STREET NW CHARLOTTESVILLE, VA 22903

ENGINEER OF RECORD:

TIMMONS GROUP 608 PRESTON AVENUE SUITE 200 CHARLOTTESVILLE, VA 22902 CONTACT: CLINT SHIFFLETT, P.E. TELEPHONE: 434-327-1690

APPROVALS DIRECTOR OF NEIGHBORHOOD DEVELOPMENT SERVICES

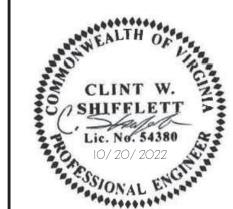
ВМР ТҮРЕ	PRACTICE	LEVEL	LATITUDE	LONGITUDE	TOTAL DA	IMP. DA	PERV. DA	P REMOVED	12 DIG. HUC.	*SWM MAINT.
	(1-15)	(1 or 2)			(AC)	(AC)	(AC)	(LBS)		AGR. INST. #
N/A										
TOTALLOD	(A.C.)		1.14							
		Ic (LDC)	1.14	1						
	TAL LOD (AC) TAL P REMOVED BY BMP'S (LBS)			2						
TOTAL P CRI	EDITS PURCHAS	ED (LBS)	0.91							
TOTAL P CRI	EDITED TO PROJ	ECT (LBS)	0.91							
TOTAL P REC	QUIRED (LBS)		0.91							
*LAND DIST	URBING #	•								
* SWM BON	ID RELEASE DAT	E								
		* TO BE EN	NTERED BY CITY OF	_ CHARLOTTESV	ILLE STAFE					

* OFFSITE NUTRIENT CREDIT PURCHASE WILL BE UTILIZED TO MEET STORMWATER QUALITY REQUIREMENTS

		- 1					WEEKDAY			
		. It is to treat			A	M PEAK HO	UR	P	PM PEAK HOUR IN OUT 9 10 32 21 41 30	
LAND USE	ITE CODE	AMOUNT	UNITS	ADT	IN	OUT	TOTAL	IN	OUT	TOTA
Proposed Zoning	107 14 20 07									
Shopping Center	820	5,000	SF (GFA)	189	3	2	5	9	10	19
Multifamily Housing - Low Rise	221	120	Dwelling Units	652	11	32	43	32	21	53
Pr	oposed Total			841	14	34	48	41	30	72

Sheet Number	Sheet Title
C0.00	COVER SHEET
C1.00	NOTES & DETAILS
C1.01	NOTES & DETAILS
C1.02	NOTES & DETAILS
C1.03	NOTES & DETAILS
C1.04	NOTES & DETAILS
C2.00	EXISTING CONDITIONS
C2.01	DEMOLITION PLAN
C3.00	EROSION & SEDIMENT CONTROL NOTES & DETAILS
C3.01	EROSION & SEDIMENT CONTROL NOTES & DETAILS
C3.02	EROSION & SEDIMENT CONTROL PLAN - PHASE I
C3.03	EROSION & SEDIMENT CONTROL PLAN - PHASE II
C3.04	EROSION & SEDIMENT CONTROL PLAN - PHASE III
C3.05	EROSION & SEDIMENT CONTROL PLAN - PHASE IV
C3.06	EROSION & SEDIMENT CONTROL PLAN - PHASE V
C4.00	LAYOUT PLAN
C4.01	UTILITIES PLAN
C4.02	UTILITY CALCULATIONS
C4.03	UTILITY CALCULATIONS
C4.04	PARKING PLAN
C5.00	GRADING PLAN
C6.00	STORMWATER MANAGEMENT PLAN - POINTS OF ANALYSIS 1, 2, &
C6.01	STORMWATER MANAGEMENT PLAN - OFFSITE
C6.02	STORMWATER MANAGEMENT CALCULATIONS
C6.03	OUTFALL CHANNEL AND PIPE ANALYSIS & SWM DETAILS
C6.04	INLET DRAINAGE AREA PLAN AND SITE OUTFALL ANALYSIS
C6.05	CMP STORAGE PIPE DETAILS
C7.00	PROFILES
C7.01	PROFILES
C7.02	PROFILES
L1.00	LANDSCAPE PLAN
E1.0	LIGHTING CUT SHEETS
E2.0	PHOTOMETRIC PLAN
E2.1	PHOTOMETRIC PLAN
E2.3	PHOTOMETRIC PLAN
E2.2	PHOTOMETRIC PLAN
E2.4	PHOTOMETRIC PLAN
E2.5	PHOTOMETRIC PLAN
	TOTAL = 38 SHEETS

Location:	1223 Harris	s Street		21.549				
Date of Test:			The late of the la	Time:		(am)		
Performed by	r: (list all)	Franklin Shifflett, Antho	ny White, Chi	ris Vohwink	el, Budo	ly Dods	on	
	Hydrant ID:	Location:	Pipe Size	Nozzle Size (in)	Pres Static	sure Res.	Flow (gpm)	Duration (min:sec
Residual Hydrant:	03032	1223 Harris Street	6	2.5	97	90		
Flow Hydrant #1	03031	1201 Harris Street	6	2.5			974	2.00
Flow Hydrant #2	03040	Allied Street	8	2.5			1405	2.00
Flow Hydrant #3				2.5				
Flow Hydrant #4				2.5				
Flow Hydrant #5				2.5				



08/24/21

K. FLYNN **DESIGNED BY** . SHIFFLET CHECKED BY SHIFFLET SCALE

2

44983 SHEET NO.

CO.00

GENERAL NOTES:

UTILITIES

- 1. ANY DAMAGE TO EXISTING UTILITIES CAUSED BY CONTRACTOR OR ITS SUBCONTRACTORS SHALL BE CONTRACTOR'S SOLE RESPONSIBILITY AND REPAIRED AT CONTRACTOR'S EXPENSE. 2. THE CONTRACT DOCUMENTS DO NOT GUARANTEE THE EXISTENCE, NON-EXISTENCE OR LOCATION OF UTILITIES. CONTRACTOR SHALL VERIFY THE EXISTENCE AND LOCATION OR THE NON-EXISTENCE OF UTILITIES. AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION OR CONSTRUCTION, CONTRACTOR SHALL NOTIFY MISS UTILITY (1-800-552-7001) AND/OR THE RESPECTIVE UTILITY COMPANIES FOR GAS, WATER, SEWER, POWER, PHONE AND CABLE. CONTRACTOR SHALL TIMELY ARRANGE TO HAVE THE VARIOUS UTILITIES LOCATED, AND TO HAVE THEM REMOVED OR RELOCATED, OR TO DETERMINE THE METHOD OF PROTECTION ACCEPTABLE TO THE RESPECTIVE OWNER, IF THE METHOD OF PROTECTION IS NOT OTHERWISE SPECIFIED. CONTRACTOR SHALL CONDUCT ITS WORK IN THE VICINITY OF EXISTING UTILITIES IN ACCORDANCE WITH THE RESPECTIVE UTILITY'S RULES AND REGULATIONS. ANY COST INCURRED FOR REMOVING, RELOCATING OR PROTECTING UTILITIES SHALL BE BORNE BY CONTRACTOR UNLESS INDICATED OTHERWISE. CONTRACTOR SHALL EXCAVATE TO LOCATE BURIED UTILITIES FAR ENOUGH IN ADVANCE OF ITS WORK TO ALLOW FOR HORIZONTAL AND OR VERTICAL ADJUSTMENTS TO ITS WORK AND/OR THE UTILITIES. NO ADJUSTMENT IN COMPENSATION OR SCHEDULE WILL BE ALLOWED FOR DELAYS RESULTING FROM CONTRACTOR'S FAILURE TO CONTACT AND COORDINATE WITH UTILITIES.
- . WHEN THE WORK CROSSES EXISTING UTILITIES, THE EXISTING UTILITIES SHALL BE ADEQUATELY SUPPORTED AND PROTECTED FROM DAMAGE DUE TO THE WORK. ALL METHODS FOR SUPPORTING AND MAINTAINING THE EXISTING UTILITIES SHALL BE APPROVED BY THE RESPECTIVE UTILITY COMPANY AND/OR THE ENGINEER. CONTRACTOR SHALL EXERCISE CARE TO INSURE THAT THE GRADE AND ALIGNMENT OF EXISTING UTILITIES ARE MAINTAINED AND THAT NO JOINTS OR CONNECTIONS ARE DISPLACED. BACKFILL SHALL BE CAREFULLY PLACED AND COMPACTED TO PREVENT FUTURE DAMAGE OR SETTLEMENT TO EXISTING UTILITIES. ANY UTILITIES REMOVED AS PART OF THE WORK, AND NOT INDICATED TO BE REMOVED OR ABANDONED, SHALL BE RESTORED USING MATERIALS AND INSTALLATION EQUAL TO THE UTILITY'S STANDARDS.
- 4. CONTRACTOR SHALL NOTIFY LANDOWNERS, TENANTS AND THE ENGINEER PRIOR TO THE INTERRUPTION OF ANY SERVICES. SERVICE INTERRUPTIONS SHALL BE KEPT TO A MINIMUM. 5. THE CONTRACTOR SHALL NOTIFY THE CITY UTILITIES DIVISION AT LEAST TWO FULL WORKING DAYS IN ADVANCE TO ARRANGE GAS SERVICE LINE ADJUSTMENTS TO BE PERFORMED BY THE
- 6. ALL WATER METER, VALVES AND FIRE HYDRANT ADJUSTMENTS/RELOCATIONS SHALL BE COORDINATED OR PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH THE CITY OF
- 7. PER THE VIRGINIA DEPARTMENT OF HEALTH WATERWORKS REGULATIONS (PART II, ARTICLE 3, SECTION 12 VAC 5-590 THROUGH 630), ALL BUILDINGS THAT HAVE THE POSSIBILITY OF CONTAMINATING THE POTABLE WATER DISTRIBUTION SYSTEM (HOSPITALS, INDUSTRIAL SITES, BREWERIES, ETC.) SHALL HAVE A BACKFLOW PREVENTION DEVICE INSTALLED WITHIN THE FACILITY. THIS DEVICE SHALL MEET SPECIFICATIONS OF THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE, SHALL BE TESTED IN REGULAR INTERVALS AS REQUIRED, AND TEST RESULTS SHALL BE SUBMITTED TO THE REGULATORY COMPLIANCE ADMINISTRATOR IN THE DEPARTMENT OF UTILITIES.
- 8. PLEASE CONTACT THE REGULATORY COMPLIANCE ADMINISTRATOR AT 970-3032 WITH ANY QUESTIONS REGARDING THE GREASE TRAP OR BACKFLOW PREVENTION DEVICES.

EROSION CONTROL & WORK AREA PROTECTION AND MAINTENANCE

CHARLOTTESVILLE PUBLIC WORKS REQUIREMENTS.

- 1. ALL FENCES REQUIRED TO BE REMOVED OR DISTURBED BY CONSTRUCTION SHALL BE SALVAGED, STORED, PROTECTED AND RE-INSTALLED BY CONTRACTOR. IF SUCH FENCE MATERIAL CANNOT BE REUSED DUE TO DAMAGE CAUSED BY CONTRACTOR, CONTRACTOR SHALL INSTALL NEW FENCE OF THE SAME TYPE OF MATERIAL. TEMPORARY FENCING REQUIRED BY PRIVATE PROPERTY OWNERS SHALL BE PROVIDED BY CONTRACTOR. CONTRACTOR IS ADVISED TO CONTACT PROPERTY OWNERS AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF REMOVING ANY FENCE IN ORDER TO COORDINATE RELOCATION AND TO ESTABLISH AND CONFIRM WITH THE OWNER THE PRE-CONSTRUCTION CONDITION OF ANY FENCE TO BE REMOVED, DISTURBED OR REPLACED.
- 2. CONTRACTOR IS PERMITTED TO WORK IN THE PUBLIC RIGHT-OF-WAY AND ANY TEMPORARY OR PERMANENT EASEMENT SHOWN ON THE PLANS. HOWEVER, CONTRACTOR SHALL NOTIFY PROPERTY OWNER(S) FORTY-EIGHT (48) HOURS PRIOR TO WORKING ON ANY PRIVATE PROPERTY TO COORDINATE ACCESS AND TO DETERMINE A STORAGE AREA FOR MATERIALS IF NEEDED. COORDINATION OF ACCESS TO PUBLIC RIGHT-OF-WAY AND STORAGE OF MATERIALS THEREON SHALL BE COORDINATED WITH THE ENGINEER. CONTRACTOR'S FAILURE TO SO NOTIFY AND COORDINATE WITH PROPERTY OWNERS AND/OR THE ENGINEER MAY RESULT IN DELAYS. NO ADDITIONAL COMPENSATION OR TIME FOR PERFORMANCE WILL BE GIVEN FOR ANY SUCH
- CONTRACTOR SHALL, AT HIS EXPENSE, MAINTAIN THE WORK SITE IN A CLEAN AND ORDERLY APPEARANCE AT ALL TIMES. ALL DEBRIS AND SURPLUS MATERIAL COLLECTED SHALL BE DISPOSED OF OFF THE WORK SITE BY CONTRACTOR, AT HIS EXPENSE.
- 4. EXISTING LAWNS, TREES, SHRUBS, FENCES, UTILITIES, CULVERTS, WALLS, WALKS, DRIVEWAYS, POLES, SIGNS, RIGHT-OF-WAY MONUMENTS, MAILBOXES AND THE LIKE SHALL BE PROTECTED FROM DAMAGE DURING THE WORK. ANY DAMAGE CAUSED TO SUCH ITEMS SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST. PROPERTY PINS DISTURBED BY CONTRACTOR THAT ARE NOT SHOWN ON THE PLANS TO BE DISTURBED SHALL BE RESTORED BY A LICENSED SURVEYOR AT CONTRACTOR'S EXPENSE
- CONTRACTOR SHALL EMPLOY EROSION CONTROL DEVICES AND METHODS AS REQUIRED TO MEET THE REQUIREMENTS AND INTENT OF THE CITY EROSION CONTROL ORDINANCE. CONTRACTOR SHALL PROVIDE THE NECESSARY DIVERSION DITCHES, DIKES OR TEMPORARY CULVERTS REQUIRED TO PREVENT MUD AND DEBRIS FROM BEING WASHED ONTO THE STREETS OR PROPERTY. CONTRACTOR'S VEHICLES SHALL BE KEPT CLEAN TO PREVENT MUD OR DUST FROM BEING DEPOSITED ON STREETS. NO AREA SHALL BE LEFT DENUDED FOR MORE THAN SEVEN (7) CALENDAR DAYS.
- 6. CONTRACTOR SHALL CLEAN UP, RESTORE, PERMANENTLY SEED AND MAINTAIN ALL DISTURBED AREAS IMMEDIATELY UPON COMPLETION OF WORK ON EACH SITE. TOPSOIL, SEED, FERTILIZER AND MULCH SHALL BE PLACED IN ACCORDANCE WITH CITY STANDARDS ON ALL DISTURBED AREAS. A PERMANENT STAND OF GRASS ADEQUATE TO PREVENT EROSION SHALL BE ESTABLISHED PRIOR TO FINAL ACCEPTANCE.
- AS DETERMINED BY THE ENGINEER, ANY DEFECTIVE, FAULTY, CRACKED, BROKEN OR GRAFFITIED SIDEWALKS, DRIVEWAYS, HANDICAP RAMPS OR CURB & GUTTER SHALL BE REMOVED AND REPLACED PRIOR TO FINAL ACCEPTANCE. NO ADDITIONAL PAYMENT WILL BE MADE FOR SUCH

EARTHWORK AND SITE CONDITIONS

- 1. EXCEPT AS OTHERWISE SHOWN ON THE PLANS, ALL CUTS AND FILLS SHALL MATCH EXISTING SLOPES OR BE NO GREATER THAN 2:1.
- 2. NO NEW SIDEWALK SHALL EXCEED 2.0% CROSS-SLOPE (PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAFFIC). 3. ALL GRADING AND IMPROVEMENTS TO BE CONFINED TO THE PROJECT AREA UNLESS OTHERWISE
- INDICATED. 4. ALL MATERIALS AND INSTALLATION DETAILS SHALL CONFORM TO THE CITY OF CHARLOTTESVILLE ENGINEERING DIVISION STANDARDS AND ALL OTHER APPLICABLE CITY
- ANY UNUSUAL OR UNANTICIPATED SUBSURFACE CONDITIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER.
- contractor shall verify all dimensions, elevations and locations prior to BEGINNING WORK, AND IMMEDIATELY NOTIFY THE ENGINEER IN THE EVENT THERE ARE ANY DISCREPANCIES BETWEEN SUCH CONDITIONS AND THOSE SHOWN ON THE PLANS AND SPECIFICATIONS.

CONCRETE AND ASPHALT

- 1. ALL FORMS SHALL BE INSPECTED BY THE ENGINEERING INSPECTOR BEFORE ANY CONCRETE IS PLACED. THE ENGINEER INSPECTOR MAY REQUIRE CONTRACTOR, AT NO ADDITIONAL COST, TO REMOVE AND REPLACE CONCRETE PLACED PRIOR TO OR WITHOUT SUCH INSPECTION.
- 2. ALL MATERIAL INSIDE FORMS SHALL BE CLEAN AND FREE OF ALL ROCKS AND OTHER LOOSE DEBRIS. SUB-BASE MATERIAL SHALL BE COMPACTED BY MECHANICAL MEANS.
- 3. CONCRETE SHALL NOT BE PLACED UNLESS THE AIR TEMPERATURE IS AT LEAST 40 DEGREES FAHRENHEIT (F) IN THE SHADE AND RISING.

- 4. CONCRETE SHALL NOT BE PLACED UNTIL STEEL DOWELS HAVE BEEN INSTALLED IN EXISTING CONCRETE IN ACCORDANCE WITH CITY STANDARDS.
- 5. 1/2" PREMOLDED EXPANSION JOINT MATERIAL SHALL BE PLACED AT A MAXIMUM OF 30' INTERVALS ON NEW SIDEWALK, CURB, CURB & GUTTER, AT EACH END OF DRIVEWAY ENTRANCES, AT EACH END OF HANDICAP RAMPS, SOME POINT ON ENTRANCE WALKS AND STEPS ADJUSTMENTS, AND ALONG BUILDINGS AND WALLS WHERE NEW CONCRETE SIDEWALKS ARE PLACED AGAINST THEM.
- 6. ALL EXISTING CURBS, CURB & GUTTER, SIDEWALK AND STEPS TO BE REMOVED SHALL BE TAKEN OUT TO THE NEAREST JOINT. DEMOLITION AND DISPOSAL COST TO BE INCLUDED IN OTHER UNIT BID ITEMS. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.
- 7. DRIVEWAY ADJUSTMENTS ARE TO BE DONE IN GENTLE TRANSITIONS RATHER THAN ABRUPT BREAKS AT THE BACK OF WALKS. GRAVEL DRIVEWAYS ABOVE STREET GRADE SHALL BE PAVED FOR A MINIMUM DISTANCE OF 20' BEYOND THE BACK OF THE SIDEWALK OR CURB & GUTTER APRON WHERE APPLICABLE.
- 8. EXISTING ASPHALT PAVEMENT SHALL BE SAW CUT AND REMOVED AS PER THE SPECIFICATIONS. REMOVAL SHALL BE DONE IN SUCH A MANNER AS TO NOT TEAR, BULGE OR DISPLACE ADJACENT PAVEMENT. EDGES SHALL BE CLEAN AND VERTICAL, ALL CUTS SHALL BE PARALLEL OR PERPENDICULAR TO THE DIRECTION OF TRAFFIC.
- 9. DISPOSAL OF ALL EXCESS MATERIAL IS THE RESPONSIBILITY OF CONTRACTOR.

DRAINAGE

- 1. CONTRACTOR SHALL EXERCISE CARE, ESPECIALLY AT INTERSECTIONS AND GUTTER LINES, TO PROVIDE POSITIVE DRAINAGE. ANY AREAS WHERE WATER IS PONDING SHALL BE CORRECTED BY CONTRACTOR AT NO ADDITIONAL COST. POSITIVE DRAINAGE OF ALL ROADWAY AREAS TO THE STORM DRAIN INLETS OR OTHER ACCEPTABLE DRAINAGE CHANNELS AS NOTED ON THE PLANS
- 2. CONTRACTOR SHALL MAINTAIN EXISTING STREAMS, DITCHES, DRAINAGE STRUCTURES, CULVERTS AND FLOWS AT ALL TIMES DURING THE WORK. CONTRACTOR SHALL PAY FOR ALL PERSONAL INJURY AND PROPERTY DAMAGE WHICH MAY OCCUR AS A RESULT OF FAILING TO MAINTAIN ADEQUATE DRAINAGE.
- 3. ALL PIPES, DI'S AND OTHER STRUCTURES SHALL BE INSPECTED BY THE ENGINEERING INSPECTOR BEFORE BEING BACKFILLED OR BURIED. THE ENGINEERING INSPECTOR MAY REQUIRE CONTRACTOR, AT NO ADDITIONAL COST, TO UNCOVER AND RE-COVER SUCH

5. ALL STORM SEWER PIPE AND DROP INLETS SHALL BE CLEARED OF DEBRIS AND ERODED

- STRUCTURES IF THEY HAVE BEEN BACKFILLED OR BURIED WITHOUT SUCH INSPECTION. 4. REMOVED PIPE SHALL BE THE PROPERTY OF CONTRACTOR AND IF NOT SALVAGED FOR RE-USE, SHALL BE DISPOSED OF LAWFULLY.
- MATERIAL PRIOR TO FINAL ACCEPTANCE. 6. ALL STORM SEWER PIPE JOINTS SHALL BE SEATED AND SEALED IN ACCORDANCE WITH THE
- MANUFACTURER'S SPECIFICATIONS. 7. ALL EXISTING ROOF DRAINS AND OTHER DRAINAGE CONDUIT TIED INTO EXISTING PIPE SHALL BE TIED INTO NEW PIPE. ALL EXISTING ROOF DRAINS AND OTHER DRAINAGE CONDUIT BLOCKED OR DISRUPTED FROM THEIR PRE-CONSTRUCTION DRAINAGE PATTERNS SHALL BE SHORTENED, EXTENDED OR OTHERWISE CONNECTED TO THE NEW WORK USING MATERIALS
- 8. A CITY STORMWATER MANAGEMENT INSPECTOR SHALL BE CONTACTED 24-HOURS IN ADVANCE OF THE DETENTION SYSTEM INSTALLATION.

APPROVED BY THE ENGINEERING INSPECTOR, AND IN SUCH A WAY THAT THE NEW DRAINAGE

VEGETATION

PATTERNS ARE ACCEPTABLE TO ENGINEER.

- PRIOR TO REMOVING ANY VEGETATION, CONTRACTOR SHALL MEET WITH THE PROPERTY OWNERS AND THE ENGINEER TO REVIEW THE LIMITS OF CONSTRUCTION AND OBTAIN PERMISSION TO REMOVE VEGETATION REQUIRED TO DO THE WORK
- 2. TREE AND PLANT ROOTS OR BRANCHES THAT MAY INTERFERE WITH THE WORK SHALL BE TRIMMED OR CUT ONLY WITH THE APPROVAL OF THE OWNER AND ENGINEER. ANY TREES OR PLANTS WHICH ARE SHOWN TO REMAIN THAT DO NOT INTERFERE WITH THE WORK, BUT ARE DAMAGED BY CONTRACTOR OR HIS SUBCONTRACTORS, SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST.

TRAFFIC AND SIGNAGE

- 1. ALL TEMPORARY NO PARKING REQUIREMENTS SHALL BE PROVIDED BY CONTRACTOR WITH APPROVAL OF THE TRAFFIC ENGINEER.
- 2. CONTRACTOR SHALL PROVIDE NECESSARY REFLECTORS, BARRICADES, TRAFFIC CONTROL
- DEVICES AND/OR FLAG PERSONS TO INSURE THE SAFETY OF ITS WORKERS AND THE PUBLIC. 3. CONTRACTOR SHALL MAINTAIN SAFE AND PASSABLE PUBLIC ACCESS TO PROPERTIES AND THE PUBLIC RIGHT-OF-WAY DURING CONSTRUCTION. EXCEPT AS APPROVED IN ADVANCE IN
- WRITING BY THE ENGINEER, TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES THROUGH WORK AREAS WITHIN THE PUBLIC RIGHT-OF-WAY. THESE TRAFFIC CONTROLS SHALL BE IN ACCORDANCE WITH THE MOST CURRENT MUTCD MANUAL. ACCESS FOR EMERGENCY VEHICLES SHALL BE MAINTAINED AT ALL TIMES. ADDITIONALLY CONTRACTOR SHALL PROVIDE ADEQUATE PEDESTRIAN BARRIERS AND MAINTAIN PEDESTRIAN CIRCULATION DURING CONSTRUCTION.
- 4. EXCEPT AS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER. THE WORK SHALL BE COORDINATED AND PERFORMED IN A MANNER SO THAT ALL EXISTING FIRE HYDRANTS SHALL BE ACCESSIBLE AT ALL TIMES DURING THE WORK. 5. CONTRACTOR SHALL NOTIFY PROPERTY OWNER(S) TWELVE (12) HOURS IN ADVANCE OF
- BLOCKING ANY ENTRANCE. NO ENTRANCE SHALL BE BLOCKED FOR MORE THAN TWELVE (12) HOURS IN ANY 24 HOUR PERIOD WITHOUT APPROVAL OF THE PROPERTY OWNER, EXCEPT WHERE NEW ENTRANCES ARE CONSTRUCTED. 6. WITHIN 24 HOURS OF THEIR REMOVAL, CONTRACTOR SHALL REPLACE MAILBOXES, STREET SIGNS, TRAFFIC SIGNS, AND THE LIKE THAT ARE REMOVED FOR CONSTRUCTION. PERMANENT
- OR SUITABLE TEMPORARY ITEMS WILL BE USED AS THE STATUS OF WORK PERMITS. PERMANENT OR TEMPORARY STOP SIGNS MUST BE IN PLACE AT ALL TIMES. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE CITY TRAFFIC DIVISION ONE FULL
- WORKING DAY PRIOR TO ANY CONCRETE POUR WHERE TRAFFIC AND STREET SIGNS ARE TO BE REPLACED. UPON SUCH NOTIFICATION, THE CITY WILL PROVIDE SIGN POST SLEEVES, WHEN NEEDED, AND IDENTIFY THE LOCATION WHERE SIGNS ARE TO BE PLACED.
- 8. ALL SIGNAGE AND PAVEMENT MARKINGS SHALL BE SHOWN ON PLANS AND SHALL BE CONSISTENT WITH THE MUTCD.
- 9. A TEMPORARY STREET CLOSURE PERMIT IS REQUIRED FOR CLOSURE OF SIDEWALKS, PARKING PACES, AND ROADWAYS AND IS SUBJECT TO APPROVAL BY THE CITY TRAFFIC ENGINEER.

MISCELLANEOUS

- 1. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, INSPECTIONS, BONDS, AND OTHER APPROVAL RELATED ITEMS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, LOCAL, STATE, AND FEDERAL POLICIES. CONTACT FOR CITY STREET/SIDEWALK CUT PERMITS, PLEASE CALL (434) 970-3361.
- 2. THE CONTRACTOR WILL BE REQUIRED TO PLACE "DEAR NEIGHBOR" DOOR HANGER NOTIFICATIONS ON THE FRONT DOOR OF ALL RESIDENCES AFFECTED BY THE CONSTRUCTION AND "SIDEWALK" SAFETY SIGNS AT EACH LOCATION WITH WORKING CREWS. THIS SHALL BE DONE PRIOR TO ANY WORK STARTING.
- 3. RETAINING WALLS WITH A MAX HEIGHT OF 12" OR LESS SHALL BE POURED IN CONTINUITY WITH THE SIDEWALK. WALLS WITH A MAX HEIGHT GREATER THAN 12" SHALL BE SEGMENTAL BLOCK

GENERAL NOTES

- CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS FOR AS BUILT DOCUMENTATION. AS REQUIRED BY THE LOCALITY. THIS INCLUDES, BUT IS NOT LIMITED TO, TESTING, INSTALLATION DOCUMENTATION, SURVEY, ETC. ALL REQUIREMENTS SHALL BE DISCUSSED WITH THE LOCALITY PRIOR TO BEGINNING CONSTRUCTION.
- 2. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT VIRGINIA DEPARTMENT OF TRANSPORTATION'S SPECIFICATIONS AND STANDARDS.
- 3. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL CONSULT THE ENGINEER AND VERIFY THE APPROVAL OF THE PLANS BY ALL FEDERAL, STATE AND LOCAL AGENCIES.
- 4. THE CONTRACTOR SHALL VERIFY THE ELEVATIONS OF ALL POINTS OF CONNECTION OR PROPOSED WORK TO EXISTING CURBS, SANITARY LINES, WATERLINES, ETC, PRIOR TO
- 5. UPON DISCOVERY OF SOILS THAT ARE UNSUITABLE FOR FOUNDATIONS, SUBGRADES, OR OTHER ROADWAY CONSTRUCTION PURPOSES, THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE OWNER. THESE AREAS SHALL BE EXCAVATED BELOW PLAN GRADE AS DIRECTED BY THE OWNER, BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED IN ACCORDANCE WITH CURRENT.
- ALL STORM SEWER DESIGN AND CONSTRUCTION TO BE IN ACCORDANCE WITH VDOT I AND I
- LD-94 (D) 121.13. 7. ALL RCP STORM SEWER PIPE SHALL BE REINFORCED TONGUE AND GROVE CONCRETE PIPE IN ACCORDANCE WITH ASTM-C-76. PIPE SHALL BE MINIMUM CLASS III OR GREATER IN
- ACCORDANCE WITH CURRENT VDOT STANDARDS AND SPECIFICATIONS. 8. IF PRE-CAST UNITS ARE TO BE USED CERTIFICATION AND VDOT STAMP WILL BE REQUIRED ON
- ALL UNITS. 9. ALL CONCRETE SHALL BE VDOT CLASS A4 (4,000 PSI), UNLESS OTHERWISE NOTED.
- 10. DESIGN CHANGES, SPECIFIED MATERIALS CHANGES AND/OR FIELD CHANGES FROM THE APPROVED PLANS NEED TO BE RESUBMITTED TO THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. A LETTER OF EXPLANATION SHALL ACCOMPANY THE REVISED PLANS AND/OR THE DRAINAGE CALCULATIONS, WHICH MUST BE SUBMITTED AND APPROVED BY THE ENGINEER.
- 11. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT ENGINEER IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON PLAN. IF THERE APPEARS TO BE A CONFLICT, AND/OR UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THIS PLAN, CALL MISS UTILITY OF CENTRAL VIRGINIA AT 1-800-552-7001.
- 12. THE INSTALLATION OF SEWER, WATER, AND GAS MAINS (INCLUDING SERVICE LATERALS AND SLEEVES) SHALL BE COMPLETED PRIOR TO THE PLACEMENT OF AGGREGATE BASE COURSE.
- 13. A PRIME COAT SEAL BETWEEN THE AGGREGATE BASE AND BITUMINOUS CONCRETE WILL BE REQUIRED AT THE RATE OF 0.30 GALLONS PER SQUARE YARD (REC-250 PRIME COAT) PER VDOT STANDARDS AND SPECIFICATIONS.
- 14. THE SCHEDULING OF AGGREGATE BASE INSTALLATION AND SUBSEQUENT PAVING ACTIVITIES SHALL ACCOMMODATE FORECAST WEATHER CONDITIONS PER SECTION 315 OF THE ROAD AND BRIDGE SPECIFICATIONS.
- 15. THE OWNERS REPRESENTATIVE SHALL HAVE APPROVED THE AGGREGATE BASE COURSE(S) FOR DEPTH, TEMPLATE AND PERFORMED THE REQUIRED FIELD INSPECTION (PROOF ROLL) PRIOR TO PLACEMENT OF ANY SURFACE COURSE(S). CONTACT THE OWNER FOR INSPECTION FOR THE
- AGGREGATE BASE COURSE(S) 48 HOURS PRIOR TO APPLICATION OF THE SURFACE COURSE(S). 16. ALL VEGETATION AND ORGANIC MATERIAL MATERIAL IS TO BE REMOVED FROM THE PROPOSED
- 17. CERTIFICATION AND SOURCE OF MATERIALS ARE TO BE SUBMITTED TO THE OWNER FOR ALL MATERIALS AND BE IN ACCORDANCE WITH THE ROAD AND BRIDGE SPECIFICATIONS, AND ROAD AND BRIDGE STANDARDS
- 18. ALL NEW HANDICAP ACCESSIBLE REQUIREMENTS ON-SITE AND WITHIN ALL NEW STRUCTURES SHALL COMPLY WITH THE 2006 UNIFORM STATEWIDE BUILDING CODE, 2006 VIRGINIA
- CONSTRUCTION CODE, AND ICC/ANSI A117.1-03. 19. HORIZONTAL AND VERTICAL SIGHT DISTANCES SHALL BE FREE OF PARKED VEHICLES.
- 20. THIRD PARTY INSPECTORS WILL NEED TO BE ON-SITE DURING ROAD AND CONSTRUCTION TO DOCUMENT THAT THE ROAD WAS CONSTRUCTED ACCORDING TO THE CURRENT VERSION OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS. REPORTS, SHALL BE SENT TO THE ENGINEERING DEPARTMENT FOR REVIEW AS CONSTRUCTION PROGRESSES. FURTHERMORE, THE AN INSPECTOR ROM THE ENGINEERING DEPARTMENT NEEDS TO BE CONTACTED NO MORE THAN 24 HOURS IN ADVANCE OF ROAD CONSTRUCTION.

FIRE DEPARTMENT

BUILDING STREET NUMBERS SHALL BE PLAINLY VISIBLE FROM STREET.

PAVEMENT LIMITS PRIOR TO CONDITIONING OF THE SUBGRADE.

- 2. A KNOXBOX KEY BOX SHALL BE MOUNTED TO THE SIDE OF THE FRONT OR MAIN ENTRANCE.
- 3. AN ELEVATOR KEYBOX WILL BE REQUIRED.
- 4. OVERHEAD WIRING OR OTHER OBSTRUCTIONS SHALL BE HIGHER THAN 13.5'.
- 5. AN APPROVED WATER SUPPLY DURING CONSTRUCTION SHALL BE MADE AVAILABLE AS SOON AS COMBUSTIBLE MATERIAL ARRIVES ON SITE.
- 6. IF THE FLOOR LEVEL OF THE HIGHEST STORY IS MORE THAN 30' ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS, THEN A CLASS I STANDPIPE SYSTEM MUST BE INSTALLED IN ADDITION TO THE SPRINKLER SYSTEM.
- WHERE A BUILDING HAS BEEN CONSTRUCTED TO A HEIGHT GREATER THAN 50' OR FOUR STORIES, AT LEAST ONE TEMPORARY LIGHTED STAIRWELL SHALL BE PROVIDED UNLESS OR MORE PERMANENT STAIR ARE ERECTED AS THE CONSTRUCTION PROGRESSES.
- 8. BUILDINGS FOUR OR MORE STORIES IN HEIGHT SHALL BE PROVIDED WITH NOT LESS THAN ONE STANDPIPE FOR USE DURING CONSTRUCTION. SUCH STANDPIPES SHALL BE INSTALLED WHEN THE PROGRESS OF CONSTRUCTION IS NOT MORE THAN 40' IN HEIGHT ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT ACCESS. SUCH STANDPIPE SHALL BE PROVIDED WITH FIRE DEPARTMENT HOSE CONNECTIONS AT ACCESSIBLE LOCATIONS ADJACENT TO USABLE STAIRS. SUCH STANDPIPES SHALL BE EXTENDED AS CONSTRUCTION PROGRESSES TO WITHIN ONE FLOOR OF THE HIGHEST POINT OF CONSTRUCTION HAVING SECURED DECKING OR FLOORING. INSTALLATION OF THE STANDPIPE SYSTEM SHALL BEGIN AT THE 2ND FLOOR LEVEL.
- 9. SMOKING TO BE ALLOWED IN ONLY DESIGNATED SPACES WITH PROPER RECEPTACLES. "NO SMOKING" SIGNS SHALL BE POSTED AT EACH BUILDING SITE AND WITHIN EACH BUILDING DURING CONSTRUCTION.
- 10. WASTE DISPOSAL OF COMBUSTIBLE DEBRIS SHALL BE REMOVED FROM THE BUILDING AT THE
- END OF EACH WORKDAY. 11. CUTTING AND WELDING. OPERATIONS INVOLVING THE USE OF CUTTING AND WELDING SHALL BE DONE IN ACCORDANCE WITH CHAPTER 35, OF THE VIRGINIA STATEWIDE FIRE PREVENTION
- CODE, ADDRESSING WELDING AND HOTWORK OPERATIONS. 12. FIRE EXTINGUISHERS SHALL BE PROVIDED WITH NOT LESS THAN ONE APPROVED PORTABLE FIRE EXTINGUISHER AT EACH STAIRWAY ON ALL FLOOR LEVELS WHERE COMBUSTIBLE METERIALS
- 13. REQUIRED VEHICLE ACCESS FOR FIRE FIGHTING SHALL BE PROVIDED TO ALL CONSTRUCTION OR DEMOLITION SITES. VEHICLE ACCESS SHALL BE PROVIDED WITHIN 100' OF TEMPORARY OR PERMANENT FIRE DEPARTMENT CONNECTIONS. VEHICLE ACCESS SHALL BE PROVIDED BY EITHER TEMPORARY OR PERMANENT ROADS, CAPABLE OF SUPPORTING VEHICLE LOADING UNDER ALL WEATHER CONDITIONS. VEHICLE ACCESS SHALL BE MAINTAINED UNTIL PERMANENT FIRE APPARATUS ACCESS ROADS ARE AVAILABLE. ALL PAVEMENT SHALL BE CAPABLE OF SUPPORTING FIRE APPARATUS WEIGHING 85,000LBS.
- 14. A PERMIT IS REQUIRED FOR FIRE LINE INSTALLATION. A DETAILED DRAWING (2 SETS) SHOWING FITTINGS AND THRUST BLOCKS MUST BE SUBMITTED WITH THE PERMIT APPLICATION. ONCE INSTALLED, THE FIRE LINE REQUIRES A VISUAL INSPECTION AND A PRESSURE TEST INSPECTION BY THE FIRE MARSHALL'S OFFICE.
- 15. FIRE HYDRANTS, FIRE PUMP TEST HEADER, FIRE DEPARTMENT CONNECTIONS OR FIRE SUPPRESSION SYSTEM CONTROL VALVES SHALL REMAIN CLEAR AND UNOBSTRUCTED BY LANDSCAPING, PARKING OR OTHER OBJECTS. LANDSCAPING IN THE AREA OF THESE ITEMS SHALL BE OF THE TYPE THAT WILL NOT ENCROACH ON THE REQUIRED FIVE FOOT RADIUS ON MATURITY OF THE LANDSCAPING.

SASHIFFLETT Lic. No. 54380 10/20/2022

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K. FLYNN DESIGNED BY . SHIFFLETT SCALE

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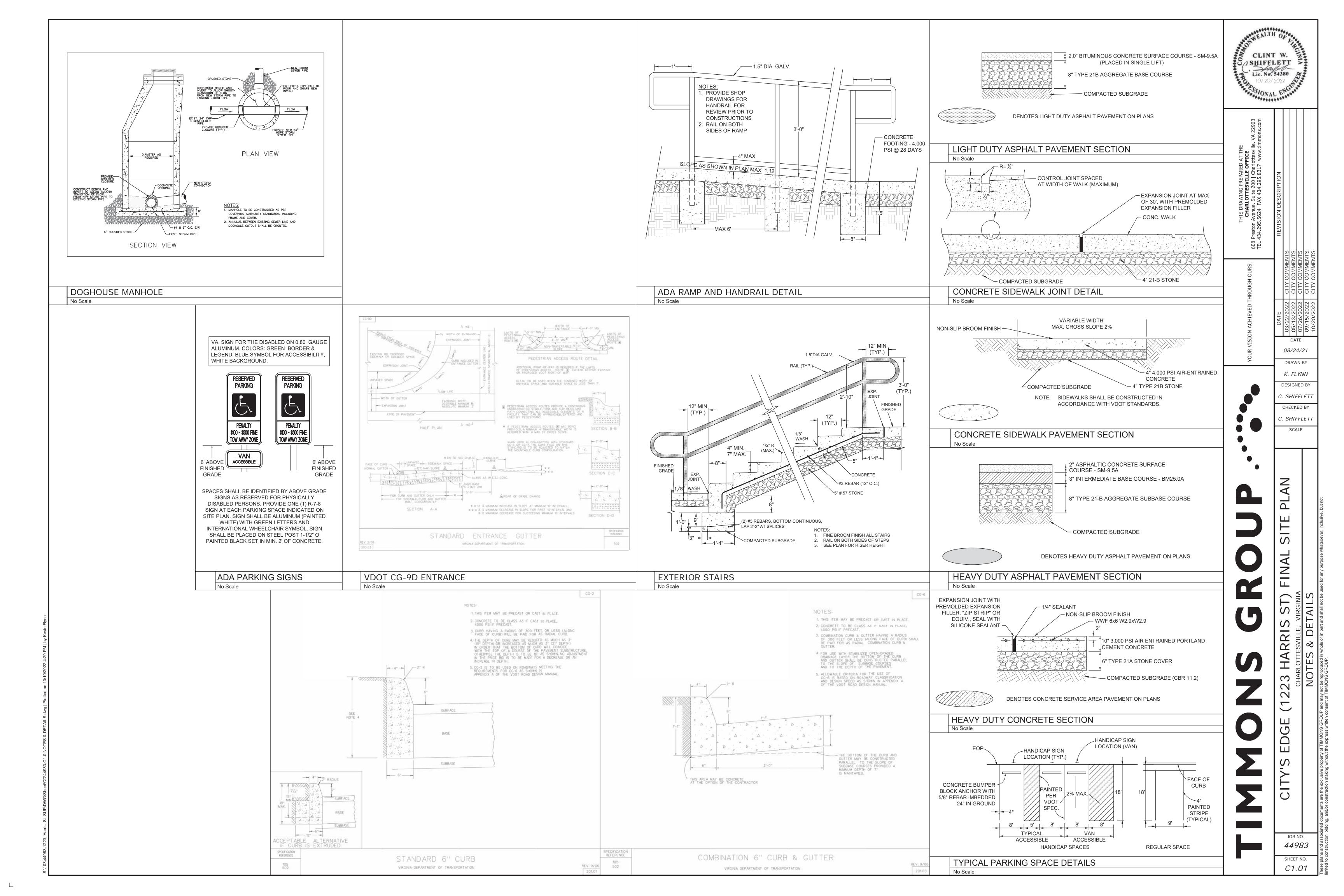
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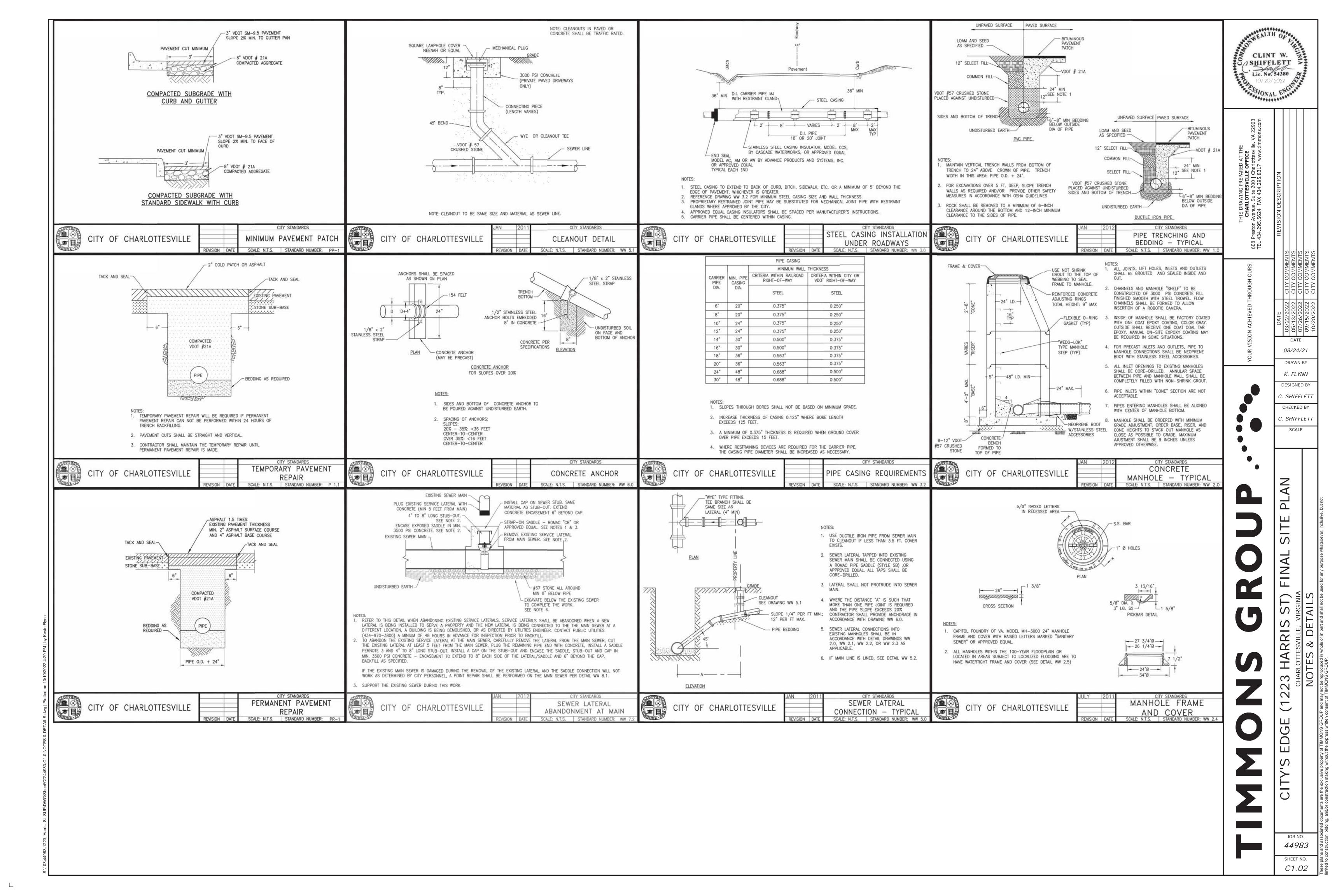
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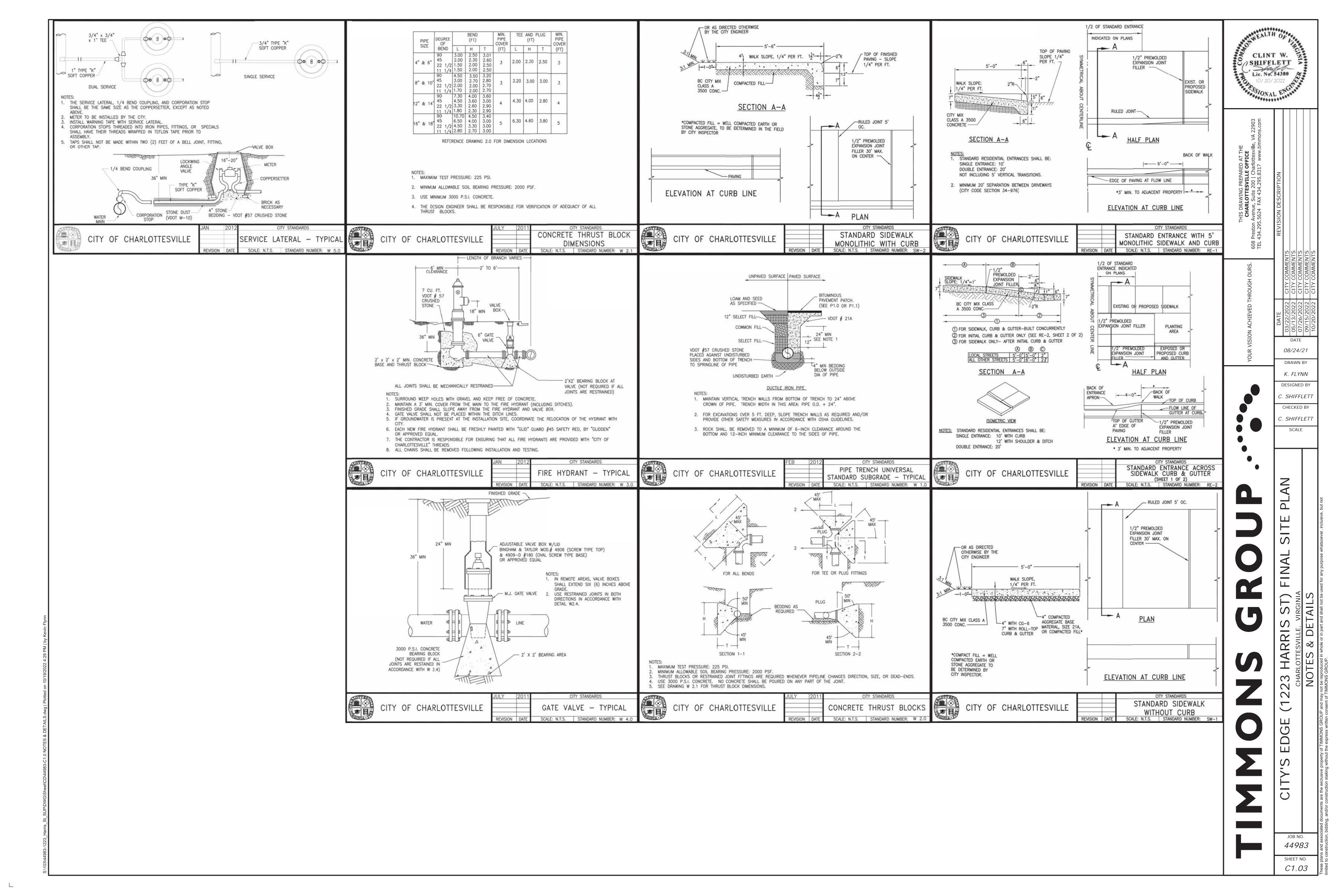
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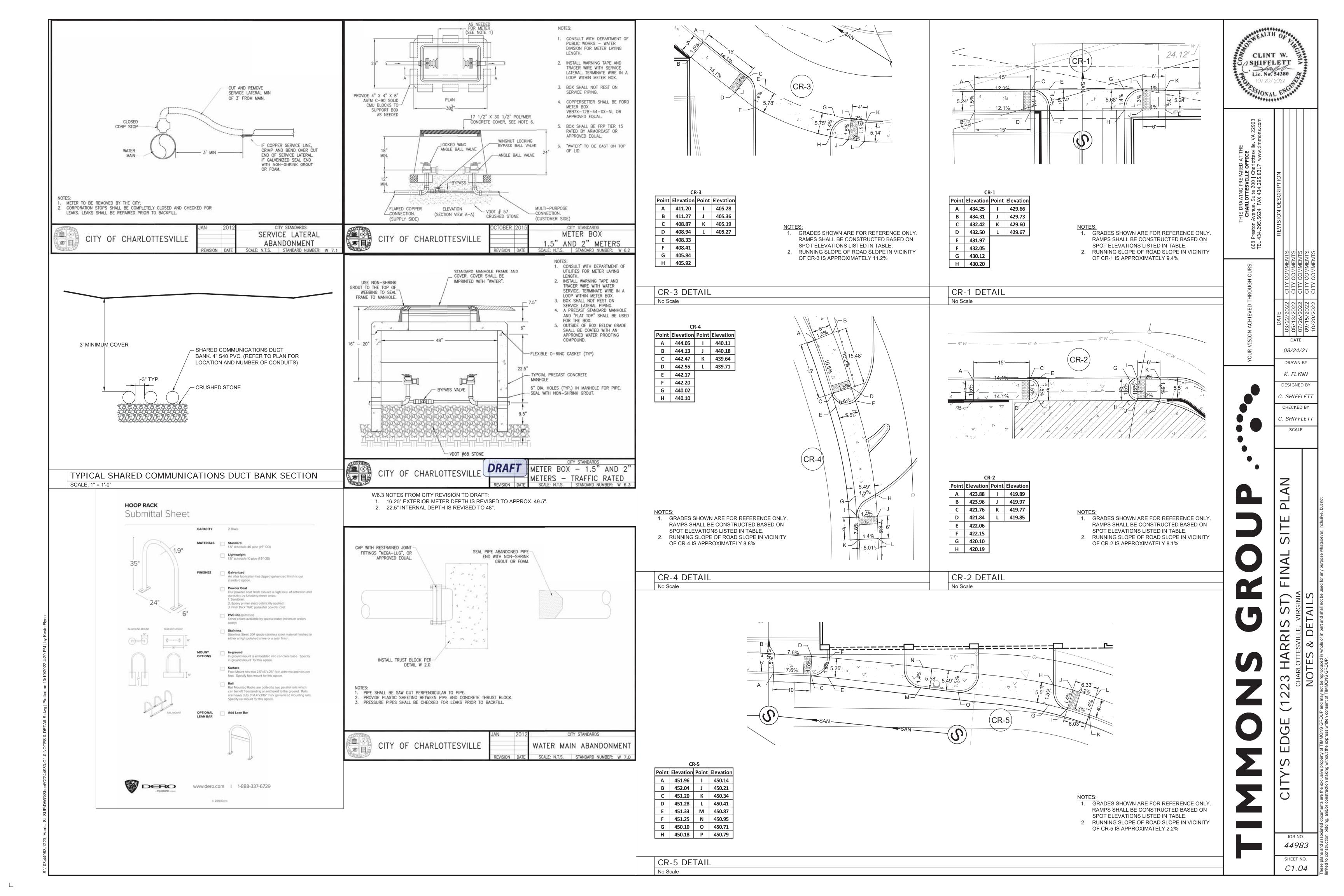
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SITE PLAN LEGEND

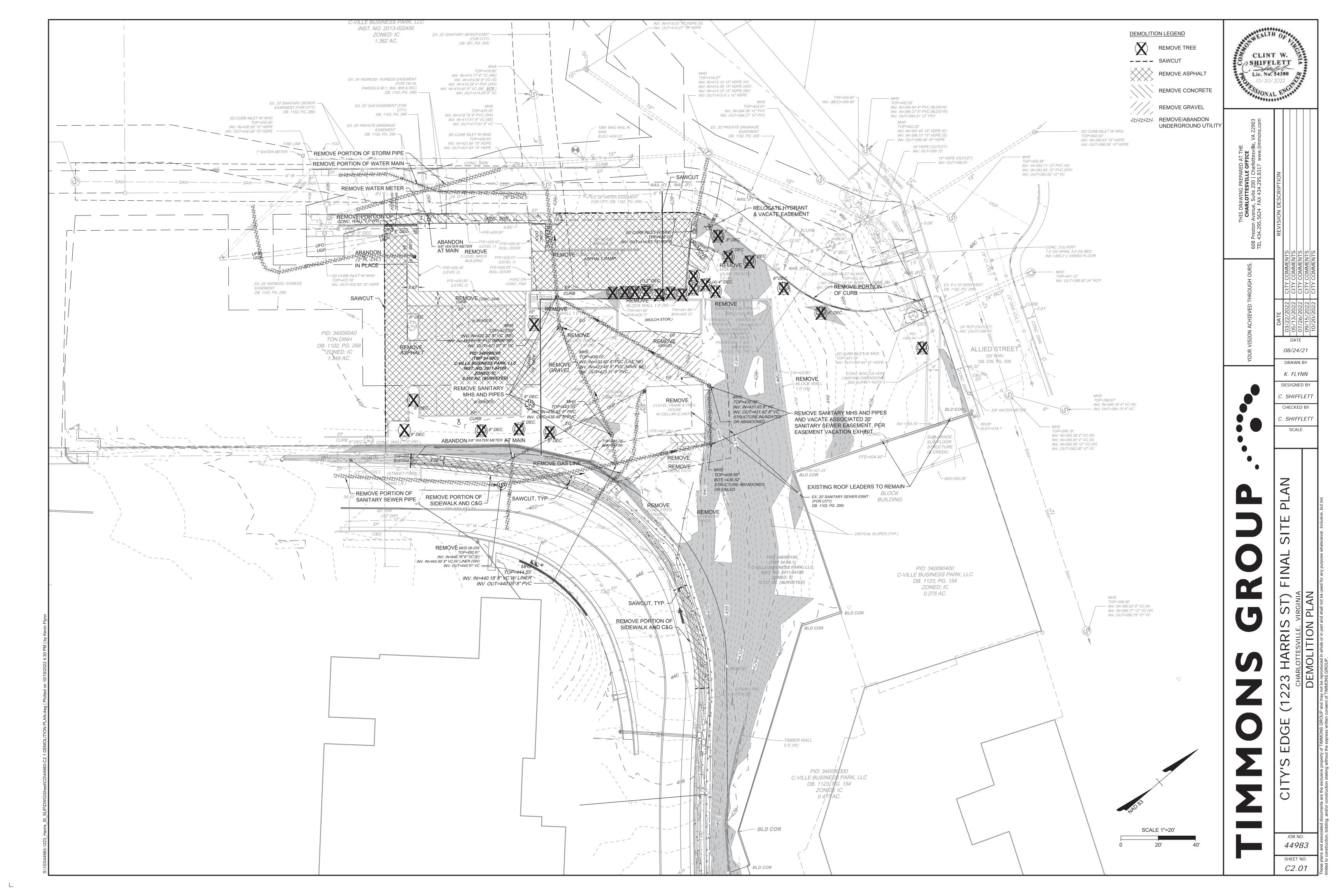












#### **EROSION AND SEDIMENT CONTROL NARRATIVE:**

THIS PROJECT IS THE GRADING, UTILITIES, AND GENERAL SITE CONSTRUCTION FOR A PROPOSED MIXED-USE COMMERCIAL/MULTI-FAMILY RESIDENTIAL BUILDING AND STRUCTURED PARKING, WITH 6 STORIES ABOVE GRADE AND 4 STORIES INTEGRATED INTO THE SLOPING GRADE. THE E&SC LIMITS OF DISTURBANCE IS 1.14 ACRES. CONSTRUCTION SHALL START APRIL 2022 AND END AUGUST 2023.

THE SITE IS BOUNDED BY HARRIS STEET TO THE SOUTHEAST, ALLIED STREET AND EXISTING COMMERCIAL BUILDINGS TO THE NORTHEAST, AND AN UNNAMED ACCESS ROAD TO THE NORTHWEST. ADJOINING ON THE SOUTHWEST IS AN EXISTING PARKING LOT.

THE SITE IS CURRENTLY PARTIALLY DEVELOPED WITH TWO 2-STORY BUILDINGS AND GRAVEL AND ASPHALT PARKING AREAS. THERE IS APPROXIMATELY 0.68 AC OF EXISTING IMPERVIOUS AREA, AND THE REMAINDER OF THE SITE IS GRASSED YARD AND HILLSIDES. THE SITE GENERALLY SLOPED TOWARD THE NORTHWEST TO ALLIED STREET. SLOPES VARY ACROSS THE SITE RANGING FROM 0% TO 80%, WITH SEVERAL EXISTING RETAINING WALLS.

TOPSOIL MUST BE STRIPPED FROM GRADED AREAS AND STOCKPILED FOR USE IN FINAL GRADING AND PERMANENT STABILIZATION. DUE TO ON-SITE SPACE CONSTRAINTS, STOCKPILES WILL BE STORED OFF SITE AT A SITE WITH AN APPROVED EROSION AND SEDIMENT PLAN. STOCKPILES WILL BE STABILIZED WITH TEMPORARY VEGETATION TO PREVENT SOIL LOSS AND SEDIMENT TRANSPORT. ADDITIONAL SITE WORK WILL REQUIRE EXPORT OF CUT MATERIAL, WHICH WILL ALSO BE TRANSPORTED TO A SITE WITH AN APPROVED EROSION AND SEDIMENT CONTROL PLAN.

THERE ARE NO CRITICAL EROSION AREAS ON THIS SITE.

#### **EROSION AND SEDIMENT CONTROL MEASURES**

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE CURRENT ADDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. THE MINIMUM STANDARDS OF THE VESCH SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE BY LOCAL AUTHORITIES HAVING JURISDICTION.

#### STORMWATER RUNOFF CONSIDERATIONS

STORMWATER RUNOFF WILL BE MANAGED BY MEETING THE 1% RULE FOR THE MAJORITY OF THE SITE. TWO SMALL AREAS SHEET FLOW AWAY FROM THE SITE, TOWARD ALLIED STREET AND TOWARD HARRIS STREET, WITH POST-DEVELOPED FLOW RATES NOT EXCEEDING PRE-DEVELOPED FLOW RATES. OFFSITE NUTRIENT CREDITS WILL BE PURCHASED FOR WATER QUALITY.

#### STRUCTURAL PRACTICES

- TEMPORARY CONSTRUCTION ENTRANCE 3.02 A TEMPORARY CONSTRUCTION ENTRANCE SHALL BE PROVIDED AT THE LOCATION INDICATED ON THE PLANS. IT IS IMPERATIVE THAT THIS MEASURE BE MAINTAINED THROUGHOUT CONSTRUCTION. ITS PURPOSE IS TO REDUCE THE AMOUNT OF MUD TRANSPORTED ONTO PAVED PUBLIC ROADS BY MOTOR VEHICLES OR RUNOFF.
- 2. SILT FENCE BARRIER 3.05 SILT FENCE SEDIMENT BARRIERS SHALL BE INSTALLED DOWNSLOPE OF AREAS WITH MINIMAL GRADES O FILTER SEDIMENT-LADEN RUNOFF FROM SHEET FLOW AS INDICATED. ITS PURPOSE IS TO INTERCEPT SMALL AMOUNTS OF SEDIMENT FROM DISTURBED AREAS AND PREVENT SEDIMENT FROM LEAVING THE SITE.
- 3. STORM DRAIN INLET PROTECTION 3.07 STONE FILTERS SHALL BE PLACED AT THE INLET OF ALL DRAINAGE STRUCTURES AS INDICATED ON PLANS. ITS PURPOSE IS TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAINAGE SYSTEM PRIOR TO
- PERMANENT STABILIZATION. 4. DIVERSION DIKE - 3.09 & 3.11 A RIDGE OF COMPACTED SOIL CONSTRUCTED AT THE TOP OR BASE OF A SLOPING DISTURBED AREA WHICH DIVERTS OFF-SITE RUNOFF AWAY FROM UNPROTECTED SLOPES AND DO A STABILIZED OUTLET, OR TO DIVERT
- SEDIMENT-LADEN RUNOFF TO A SEDIMENT TRAPPING STRUCTURE. MAXIMUM EFFECTIVE LIFE IS 18 MONTHS 5. SEDIMENT TRAP - 3.13 A TEMPORARY BARRIER OR DAM WITH A CONTROLLED STORMWATER RELEASE TO DETAIN SEDIMENT-LADEN RUNOFF FROM DISTURBED AREAS IN "WET" AND "DRY" STORAGE LONG ENOUGH FOR THE MAJORITY OF THE SEDIMENT TO SETTLE
- 6. <u>DUST CONTROL</u> 3.39 DUST CONTROL IS TO BE USED THROUGH THE SITE IN AREAS SUBJECT TO SURFACE AND AIR MOVEMENT.

- 1. TOPSOIL (TEMPORARY STOCKPILE) 3.30 TOPSOIL SHALL BE STRIPPED FROM AREAS TO BE GRADED AND STOCKPILED FOR LATER SPREADING. STOCKPILE LOCATIONS SHALL BE LOCATED ONSITE AND SHALL BE STABILIZED WITH TEMPORARY SILT FENCE AND
- 2. TEMPORARY SEEDING 3.31 ALL DENUDED AREAS WHICH WILL BE LEFT DORMANT FOR MORE THAN 30 DAYS SHALL BE SEEDED WITH FAST GERMINATING TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING OF THOSE AREAS. SELECTION OF THE SEED MIXTURE SHALL DEPEND ON THE TIME OF YEAR IT IS APPLIED.
- 3. PERMANENT SEEDING 3.32 FOLLOWING GRADING ACTIVITIES, ESTABLISH PERENNIAL VEGETATIVE COVER BY PLANTING SEED TO REDUCE EROSION, STABILIZE DISTURBED AREAS, AND ENHANCE NATURAL BEAUTY.
- 4. SOIL STABILIZATION BLANKETS & MATTING 3.36 A PROTECTIVE COVERING BLANKET OR SOIL STABILIZATION MAT SHALL BE INSTALLED ON PREPARED PLANTING AREAS OF CHANNELS TO PROTECT AND PROMOTE VEGETATION ESTABLISHMENT AND REINFORCE ESTABLISHED TURF.

# MANAGEMENT STRATEGIES

L. PROVIDE SEDIMENT TRAPPING MEASURES AS A FIRST STEP IN GRADING, SEED AND MULCH IMMEDIATELY FOLLOWING INSTALLATION.

- 2. PROVIDE TEMPORARY SEEDING OR OTHER STABILIZATION IMMEDIATELY AFTER GRADING.
- 3. ISOLATE TRENCHING FOR UTILITIES AND DRAINAGE FROM DOWNSTREAM CONVEYANCES IN ORDER TO MINIMIZE PERIMETER
- 4. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE MAINTAINED UNTIL THEY ARE NO LONGER REQUIRED TO COMPLY WITH THE CONTRACT DOCUMENTS OR STATE LAW.

# PERMANENT STABILIZATION

ALL NON-PAVED AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISHED GRADING. SEEDING SHALL BE IN ACCORDANCE WITH STD. & SPEC. 3.32, PERMANENT SEEDING. SEED TYPE SHALL BE AS SPECIFIED FOR "MINIMUM CARE LAWNS" AND "GENERAL SLOPES" IN THE HANDBOOK FOR SLOPES LESS THAN 3:1. FOR SLOPES GREATER THAN 3:1, SEED TYPE SHALL BE AS SPECIFIED FOR "LOW MAINTENANCE SLOPES" IN TABLE 3.32-D OF THE HANDBOOK. FOR MULCH (STRAW OR FIBER) SHALL BE USED ON ALL SEEDED SURFACES. IN ALL SEEDING OPERATIONS SEED, FERTILIZER AND LIME SHALL BE APPLIED PRIOR TO MULCHING.

# SEQUENCE OF INSTALLATION:

# PHASE I - SHEET C3.02

- 1. A PRE-CONSTRUCTION MEETING IS REQUIRED WITH THE CITY OF CHARLOTTESVILLE E&S INSPECTOR, CONTRACTOR, OWNER, AND ENGINEER. THIS MEETING SHALL TAKE PLACE ON SITE.
- 2. INSTALL INLET PROTECTION AND PERIMETER MEASURES: SILT FENCE, SAFETY FENCE, AND TREE PROTECTION.
- 3. INSTALL CONSTRUCTION ENTRANCE 1.
- 4. DISTURBING A MINIMAL AMOUNT OF CONCRETE, EXCAVATE SEDIMENT TRAP AND INSTALL TEMPORARY GRATE TOP TO INLET. 5. INSPECT SILT FENCE AND SEDIMENT TRAP DAILY TO ENSURE THAT IT IS FUNCTIONING PROPERLY. ADDITIONAL MEASURES OR MODIFICATIONS TO EXISTING MEASURES MAY BE REQUESTED BY CITY INSPECTOR TO ENSURE THAT SEDIMENT LADEN RUNOFF IS PREVENTED FROM LEAVING THE SITE.

# PHASE II - SHEET C3.03

- 1. AFTER ALL E&SC ITEMS SHOWN ON THE PHASE I E&SC PLAN ARE INSTALLED AND INSPECTED BY THE CITY E&S INSPECTOR, CONTRACTOR MAY BEGIN SITE DEMOLITION. EXISTING SANITARY MAIN CROSSING SITE SHALL REMAIN OPERATIONAL AT THIS TIME. EXISTING RETAINING WALL ON NORTH SIDE OF SITE SHALL REMAIN IN PLACE THROUGHOUT THIS PHASE. 2. INSTALL DIVERSION DIKE. ROUGH GRADE 401 LEVEL. INSTALL CONSTRUCTION ENTRANCE 2 AND SILT FENCE. INSTALL NEW
- SANITARY MAIN ALONG SOUTH SIDE OF SITE. 3. AFTER DEMOLITION AND ROUGH GRADING ARE COMPLETE, STABILIZE DISTURBED AREAS WITH TEMPORARY SEEDING AND
- MULCHING. 4. CONSTRUCT BUILDING SLAB AT 401 LEVEL. INSTALL NEW SANITARY MAIN ON SOUTH SIDE OF SITE.
- 5. CONTACT CITY UTILITIES PRIOR TO DEMOLITION OF EXISTING SANITARY MAIN CROSSING SITE. AFTER NEW SANITARY MAIN
- ON SOUTH SIDE OF SITE IS ACCEPTED AND OPERATIONAL, REMOVE EXISTING SANITARY MAIN CROSSING SITE. 6. STABILIZE DISTURBED AREAS WITH TEMPORARY SEEDING AND MULCHING.
- 7. INSPECT SILT FENCE AND SEDIMENT TRAP DAILY TO ENSURE THAT THEY ARE FUNCTIONING PROPERLY. ADDITIONAL MEASURES OR MODIFICATIONS TO EXISTING MEASURES MAY BE REQUESTED BY CITY INSPECTOR TO ENSURE THAT SEDIMENT LADEN RUNOFF IS PREVENTED FROM LEAVING THE SITE.

# PHASE III - SHEET C3.04

- REMOVE CONSTRUCTION ENTRANCE 2 AND SILT FENCE ADJACENT TO BUILDING SLAB. ADJUST SITE PERIMETER SILT FENCE. DEMOLISH EXISTING RETAINING WALL AND ANY REMAINING ELEMENTS SHOWN FOR DEMOLITION ON SHEET C2.01.
- 3. ROUGH GRADE 408 LEVEL. INSTALL DIVERSION DIKES, CHECK DAMS, AND SILT FENCE. INSTALL RIGHT-OF-WAY DIVERSION
- IN SOUTHWEST CORNER OF SITE. ROUGH GRADE DRIVEWAY TO 441 ENTRANCE OF BUILDING. INSTALL RELATED RETAINING WALLS.
- 5. INSTALL CONSTRUCTION ENTRANCE 4.
- AFTER DEMOLITION AND ROUGH GRADING ARE COMPLETE, STABILIZE THE SITE WITH TEMPORARY SEEDING AND MULCHING. CONSTRUCT GARAGE SLAB AT 408 LEVEL.
- 8. STABILIZE DISTURBED AREAS WITH TEMPORARY SEEDING AND MULCHING.
- 9. INSPECT SILT FENCE, DIVERSION DIKES AND SEDIMENT TRAP DAILY TO ENSURE THAT THEY ARE FUNCTIONING PROPERLY. ADDITIONAL MEASURES OR MODIFICATIONS TO EXISTING MEASURES MAY BE REQUESTED BY CITY INSPECTOR TO ENSURE THAT SEDIMENT LADEN RUNOFF IS PREVENTED FROM LEAVING THE SITE.

### SEQUENCE OF INSTALLATION (CONTINUED)

- PHASE IV SHEET C3.05 1. ROUGH GRADE 421 LEVEL. REMOVE DIVERSION DIKES, CHECK DAMS, SILT FENCE ADJACENT TO BUILDING SLAB, AND
- CONSTRUCTION ENTRANCE 3. ADJUST SITE PERIMETER SILT FENCE.
- ROUGH GRADE 421 LEVEL. INSTALL DIVERSION DIKES AND CHECK DAMS. AFTER DEMOLITION AND ROUGH GRADING ARE COMPLETE, STABILIZE THE SITE WITH TEMPORARY SEEDING AND MULCHING.
- CONSTRUCT BUILDING SLAB AT 421 LEVEL
- STABILIZE DISTURBED AREAS WITH TEMPORARY SEEDING AND MULCHING.
- INSPECT SILT FENCE, DIVERSION DIKES AND SEDIMENT TRAP DAILY TO ENSURE THAT THEY ARE FUNCTIONING PROPERLY. ADDITIONAL MEASURES OR MODIFICATIONS TO EXISTING MEASURES MAY BE REQUESTED BY CITY INSPECTOR TO ENSURE THAT SEDIMENT LADEN RUNOFF IS PREVENTED FROM LEAVING THE SITE.

#### PHASE V - SHEET C3.06

- 1. PRIOR TO REMOVAL OF SEDIMENT TRAP, ALL CONTRIBUTING DRAINAGE AREAS MUST BE STABILIZED AND INSPECTED BY THE CITY OF CHARLOTTESVILLE E&S INSPECTOR. REMOVE CONSTRUCTION ENTRANCE 1 AND EXCAVATED SEDIMENT TRAP. REMOVE EXISTING INLET AND PIPE ASSOCIATED WITH TRAP.
- CONTINUE ADDITIONAL SITE DEMOLITION AS NECESSARY FOR WORK IN THIS PHASE.
- INSTALL REMAINING PORTIONS OF BUILDING SLAB AND FOUNDATIONS.
- INSTALL ADDITIONAL INLET PROTECTION AS THE STORM SYSTEM IS CONSTRUCTED AND BECOMES OPERATIONAL AFTER BUILDING SLABS AND WALLS ARE IN PLACE AND ROUGH GRADING IS COMPLETE, CONTRACTOR SHALL CONTACT CITY
- OF CHARLOTTESVILLE INSPECTOR FOR ON-SITE PRE-CONSTRUCTION MEETING PRIOR TO CONSTRUCTION OF STORMWATER MANAGEMENT FACILITIES. BEGIN INSTALLATION OF SWM 1B AND SWM 1C-1A.
- 6. FINE GRADE PROJECT AREA. APPLY PERMANENT SOIL STABILIZATION WITHIN SEVEN DAYS AFTER FINAL GRADE IS ACHIEVED. 7. ALL STORMWATER PIPING AND STRUCTURES SHALL BE INSPECTED FOR SILT/SEDIMENT. IF PRESENT SILT/SEDIMENT SHALL
- BE CLEANED OUT FOR THE SYSTEM TO THE SATISFACTION OF THE E&S INSPECTOR. 8. MULCH AND SEED ALL AREAS TO BE GRASS IN FINAL CONDITION AS SOON AS FINAL GRADE IS ACHIEVED. PREVIOUSLY
- PAVED AREAS SHALL BE ROTOTILLED WITH 6" OF AMENDED TOP SOIL PRIOR TO PERMANENT SEEDING BEING APPLIED. 9. ONCE CONSTRUCTION IS COMPLETE AND ALL CONTRIBUTING AREAS ARE STABILIZED, EROSION CONTROL MEASURES CAN BE REMOVED UPON APPROVAL FROM THE E&S INSPECTOR.

#### MINIMUM STANDARDS

AN EROSION AND SEDIMENT CONTROL PROGRAM ADOPTED BY A DISTRICT OR LOCALITY MUST BE CONSISTENT WITH THE FOLLOWING CRITERIA, TECHNIQUES AND METHODS:

- MS-1. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.
- MS-2. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
- MS-3. A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.
- MS-4. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.
- MS-5. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.

MS-6. SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.

A. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA AND THE TRAP SHALL ONLY CONTROL DRAINAGE AREAS LESS THAN THREE ACRES.

- B. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A 25-YEAR STORM OF 24-HOUR DURATION, RUNOFF COEFFICIENTS USED IN RUNOFF CALCULATIONS SHALL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO EXIST WHILE THE SEDIMENT BASIN IS UTILIZED.
- MS-7. CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.
- MS-8. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.
- MS-9. WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.
- MS-10. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE
- MS-11. BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.
- MS-12. WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.
- MS-13. WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.
- MS-14. ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES
- MS-15. THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS
- MS-16. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
  - A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
  - B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
  - C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE
  - D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
  - E. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
  - F. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
- MS-17. WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL DEVELOPMENT LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.

#### MINIMUM STANDARDS (CONTINUED)

- MS-18. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
- MS-19. PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE WITH THE STANDARDS AND CRITERIA LISTED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, CHAPTER 8 PAGES 20-24.

#### GENERAL EROSION AND SEDIMENT CONTROL NOTES:

- UNLESS OTHERWISE INDICATED, CONSTRUCT AND MAINTAIN ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS VR 625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS.
- THE CONTROLLING EROSION AND SEDIMENT CONTROL AUTHORITY WILL MAKE A CONTINUING REVIEW AND EVALUATION OF THE METHODS AND EFFECTIVENESS OF THE EROSION CONTROL PLAN.
- ES-3: PLACE ALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO OR AS THE FIRST STEP IN CLEARING, GRADING, OR LAND DISTURBANCE.
- MAINTAIN A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN ON THE SITE AT ALL TIMES.
- PRIOR TO COMMENCING LAND-DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFFSITE BORROW OR WASTE AREA), SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE ARCHITECT/ENGINEER AND THE CONTROLLING EROSION AND SEDIMENT CONTROL AUTHORITY FOR REVIEW AND ACCEPTANCE.
- PROVIDE ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE RESPONSIBLE LAND DISTURBER.
- ALL DISTURBED AREAS SHALL DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND-DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT.
- DURING DEWATERING OPERATIONS, PUMP WATER INTO AN APPROVED FILTERING DEVICE, ENSURE THAT PUMP INLET IS KEPT ABOVE SETTLED SEDIMENT.
- INSPECT ALL EROSION CONTROL MEASURES DAILY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. MAKE ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES IMMEDIATELY

#### SOILS INFORMATION

88 - UDORTHENTS - 2 TO 25 PERCENT SLOPES, MORE THAN 80 INCHES TO RESTRICTIVE FEATURES. HYDROLOGIC SOILS GROUP B.

91 - URBAN LAND - 0 TO 25 PERCENT SLOPES, 10 INCHES TO DENSIC MATERIAL. HYDROLOGIC SOIL GROUP B.

127B- ELIOAK - 2 TO 7 PERCENT SLOPES, MORE THAN 80 INCHES TO RESTRICTIVE FEATURES. HYDROLOGIC SOILS GROUP B.



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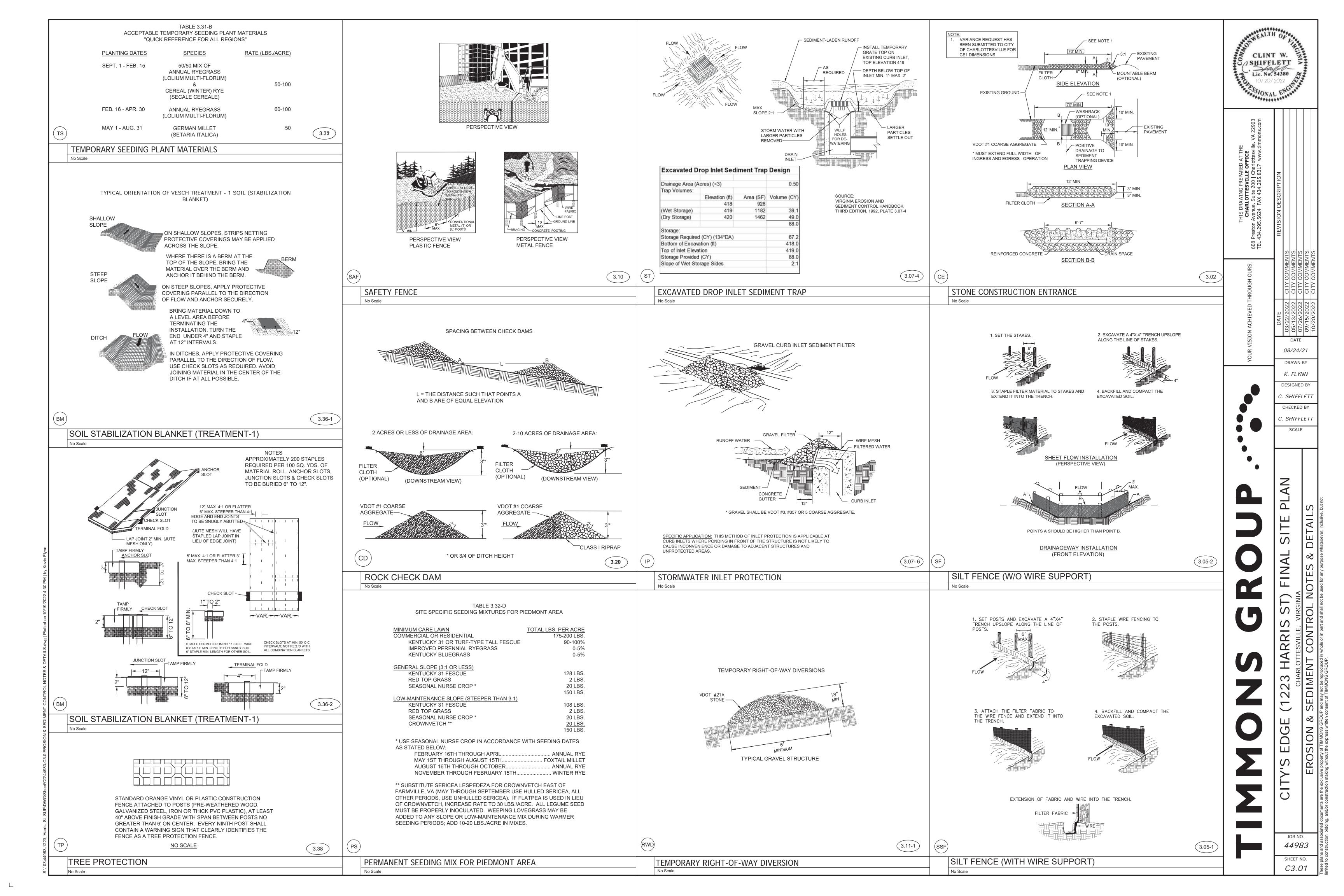
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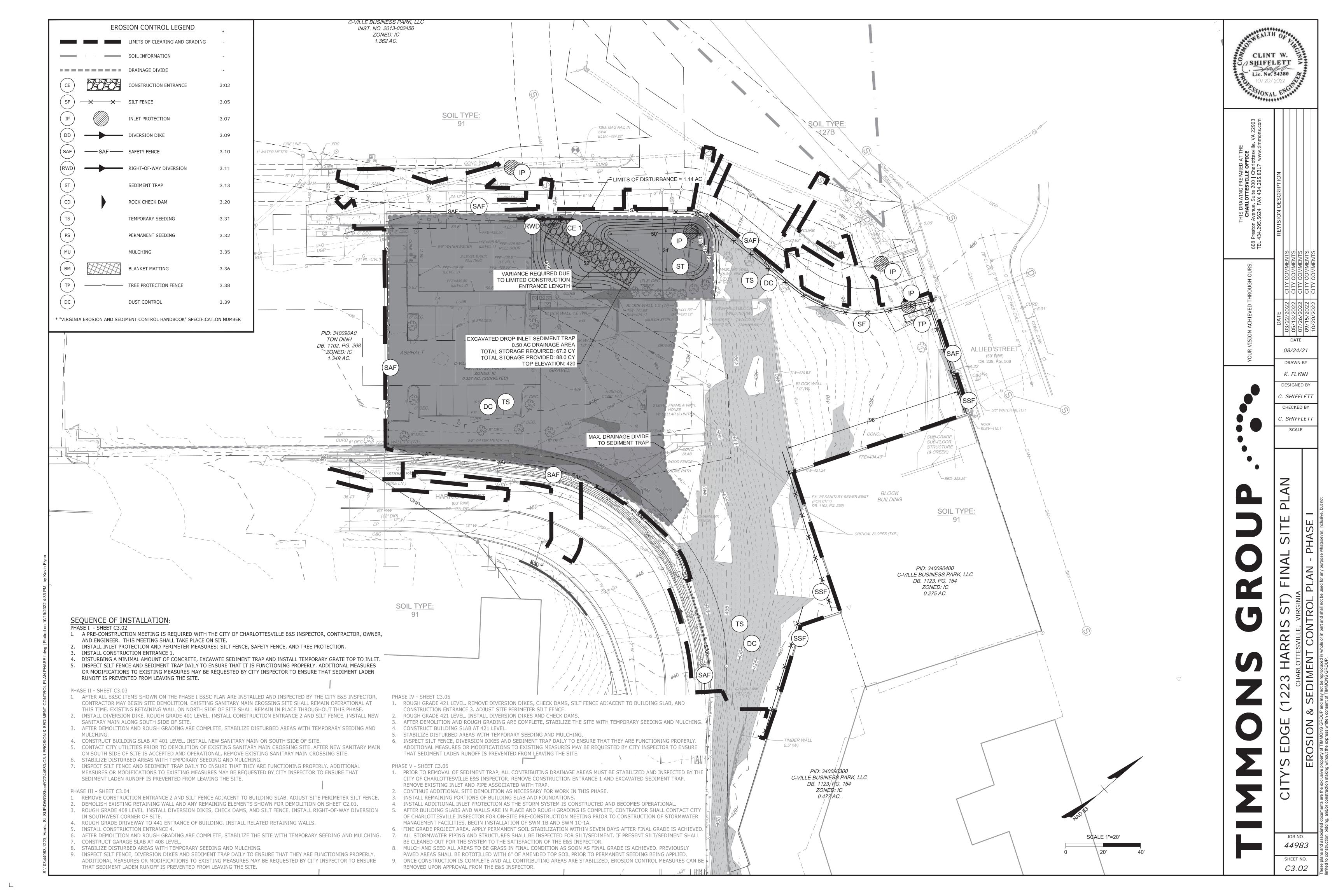
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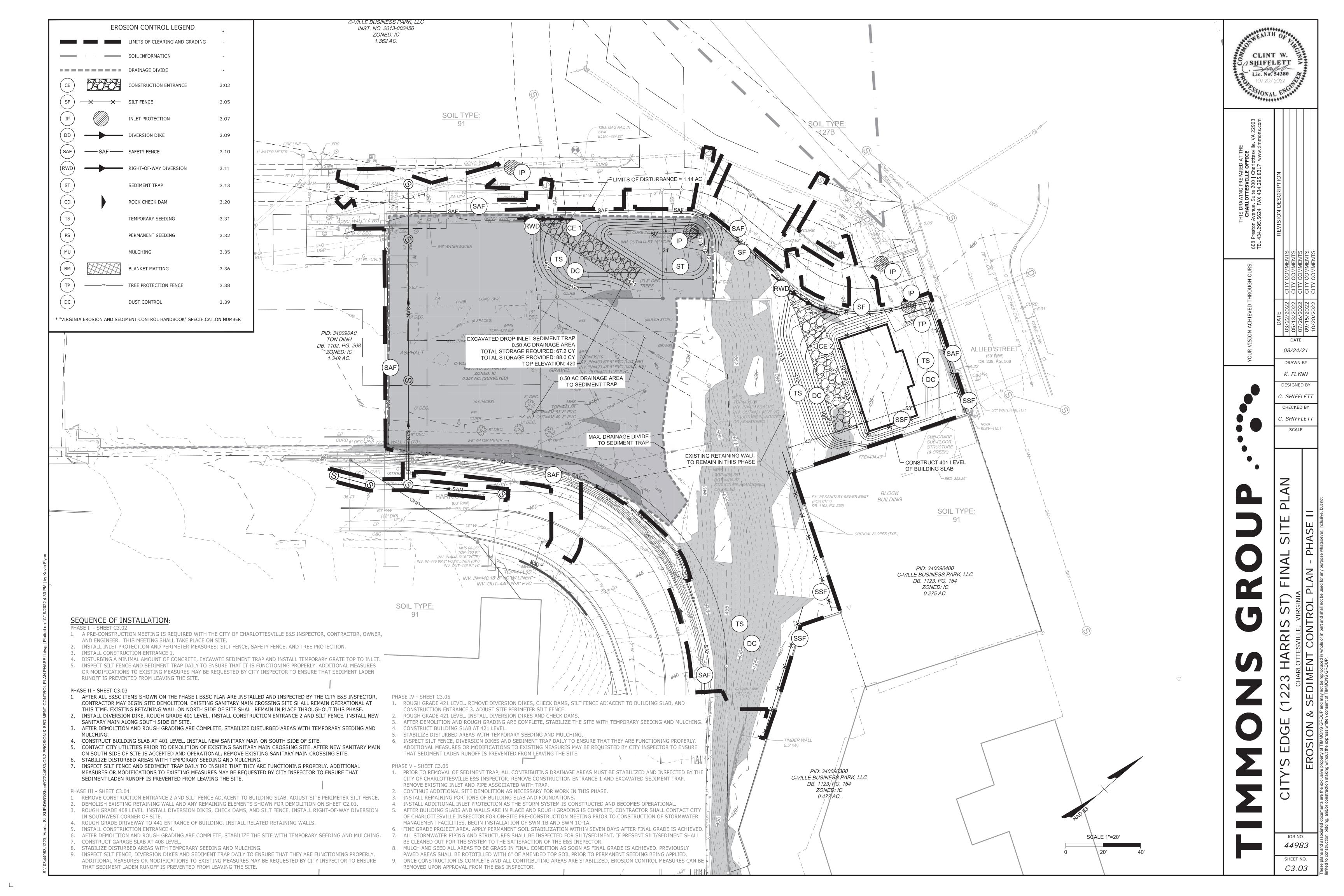
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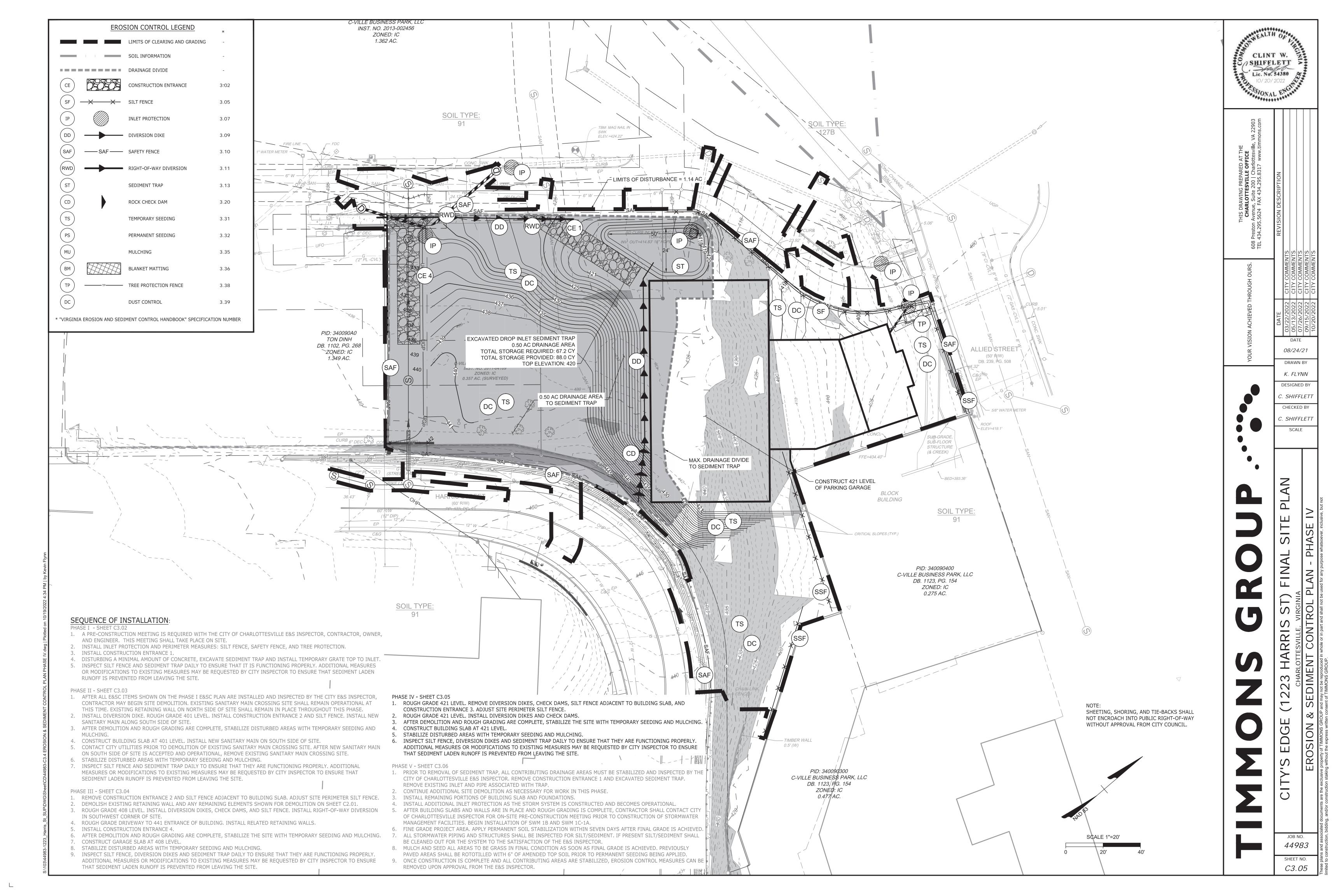
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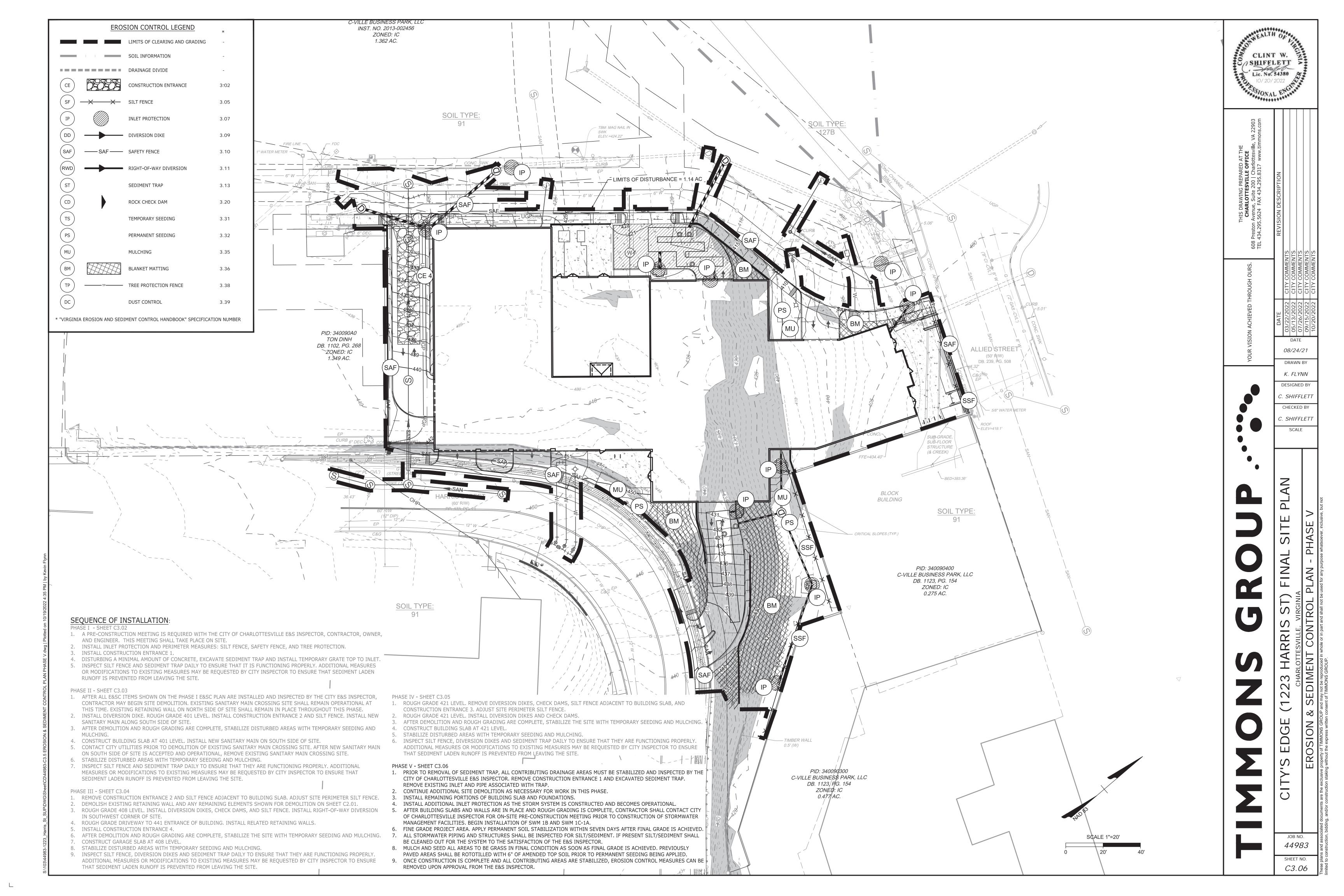


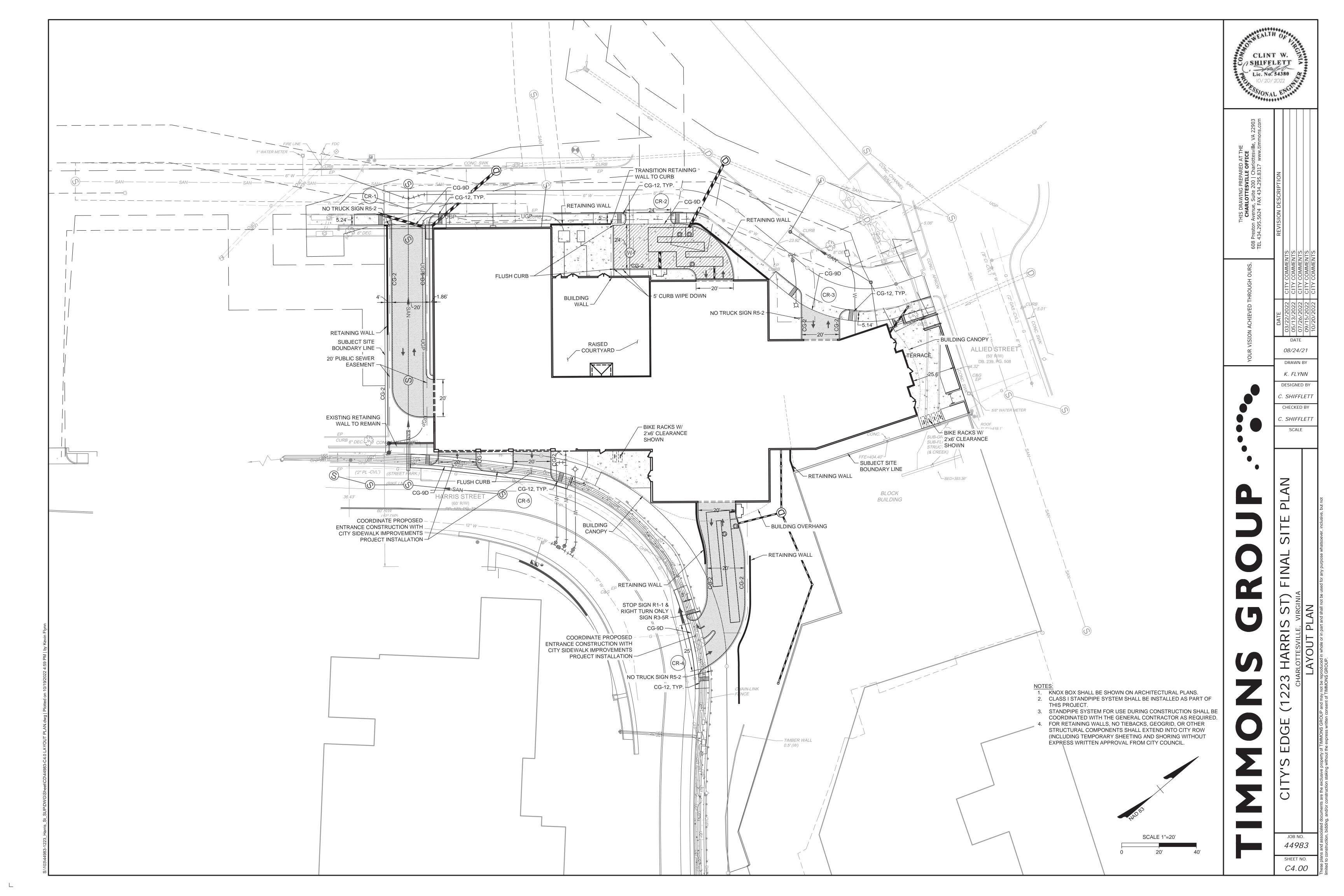


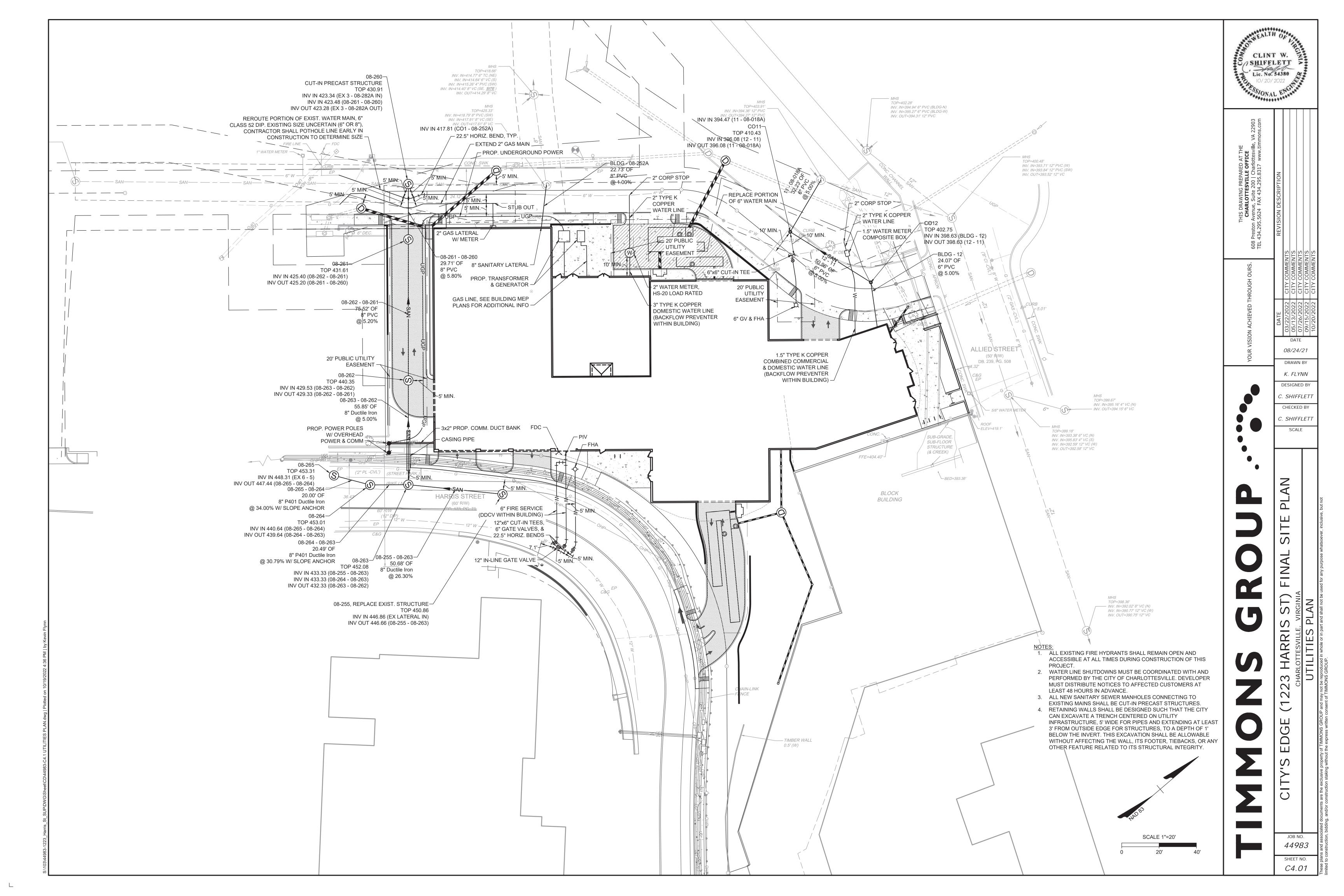












WATER METE	R SIZING PER	AWWA M22, THIRD	EDITION (FO	OR RESIDENTIAL	AREA)
FIXTURE	FIXTURE VALUE 60 PSI	FIXTURE UNITS PER FIXTURE	NO. OF FIXTURES	FIXTURE UNITS PER FIXTURE	FIXTURE V
BATHTUB	8	Х		=	
BEDPAN WASHERS	10	Х		=	
BIDET	2	х		=	
DENTAL UNIT	2	Х		=	
DRINKING FOUNTAIN - PUBLIC	2	Х	1	=	2.00
KITCHEN SINK	2.2	x		=	
LAVATORY	1.5	Х	113	=	169.50
SHOWERHEAD (SHOWER ONLY)	2.5	х	110	=	275.00
SERVICE SINK	4	×	3	=	12.00
TOILET - FLUSH VALVE	35	×	3	=	105.00
- TANK TYPE	4	Х	110	=	440.00
URINAL – PEDESTAL FLUSH VALVE	35	Х		=	
– WALL FLUSH VALVE	16	Х		=	
WASH SINK (EACH SET OF FAUCETS)	4	х	110	=	440.00
DISHWASHER	2	x	110	=	220.00
WASHING MACHINE	6	×		=	
HOSE (50 FT. WASH DOWN) - ½ IN.	5	Х		=	
- % IN.	9	Х		=	
- ¾ IN.	12	×	2	=	24
	COMBINE	D FIXTURE TOTAL	I	1	1687.50

 COMBINED FIXTURE VALUE TOTAL WATER-FLOW DEMAND (PER FIXTURE VALUE FROM FIGURE 4-2 OR 4-3)

Figure 4-2 Water-flow demand per fixture value—enlarged scale from Figure 4-1

Combined Fixed Value, 10³ units

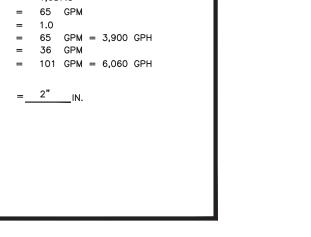
Figure 4-3 Water-flow demand per fixture value

AWWA Manual M22

= 65 GPM 3. PRESSURE ADJUSTMENT FACTOR (TABLE 4.3 - FIXTURE OUTLET FROM 60-70 PSI) 4. CUSTOMER PEAK DEMAND ( WATER-FLOW DEMAND #2 x PRESS. ADJ. FACTOR #3) = 65 GPM = 3,900 GPH 5. EXTERNAL HOSE BIBS = (3) HOSE BIBS x (12) FIXTURE VALUE x (1.0) PRESS. ADJ. FACTOR = 36 GPM 6. TOTAL FIXED DEMAND = ITEM #5 + ITEM #6

ESTIMATING DEMANDS USING FIXTURE VALUES 33

METER SIZE CHOSEN PER TABLE 6-1



		SIZING PER AWWA AL UNITS and RE			
FIXTURE	FIXTURE VALUE 60 PSI	FIXTURE UNITS PER FIXTURE	NO. OF FIXTURES	FIXTURE UNITS PER FIXTURE	FIXTURE VALUE
HYDRATION STATION - PUBLIC	2	Х	1	=	2.00
LAVATORY	1.5	X	12	=	18.00
TOILET - FLUSH VALVE	35	X	2	=	70.00
- TANK TYPE	4	X	10	=	40.00
URINAL – PEDESTAL FLUSH VALVE	35	Х		=	
– WALL FLUSH VALVE	16	Х		=	
SHOWERHEAD (SHOWER ONLY)	2.5	Х	10	=	25.00
SERVICE SINK	4	X		=	
WASH SINK (EACH SET OF FAUCETS)	4	X	10	=	40
DISHWASHER	2	X	10	=	20
WASHING MACHINE	45	Х		=	
HOSE (50 FT. WASH DOWN) - ½ IN.	5	Х		=	
– % IN.	9	Х		=	
- ¾ IN.	12	Х	5	=	60
	COMBINE	D FIXTURE UNITS			275.00

1. COMBINED FIXTURE VALUE TOTAL 2. WATER-FLOW DEMAND (PER FIXTURE VALUE FROM FIGURE 4-2 OR 4-3)

3. PRESSURE ADJUSTMENT FACTOR (TABLE 4.3 - FIXTURE OUTLET FROM 60-70 PSI)

= 1.0 4. CUSTOMER PEAK DEMAND ( WATER-FLOW DEMAND #2 x PRESS. ADJ. FACTOR #3) = 68 GPM = 4,080 GPH
5. EXTERNAL HOSE BIBS = (1) HOSE BIBS x (12) FIXTURE VALUE x (1.0) PRESS. ADJ. FACTOR = 18 GPM 6. TOTAL FIXED DEMAND = ITEM #5 + ITEM #6 = 86 GPM = 5,160 GPH

METER SIZE CHOSEN PER TABLE 6-1

= 68 GPM

= 1,687.5

150 140 130 120 110 100 80 80 90 40 30 40 30 10 00 90 90 90 90 90 90 90 90 90 90 90 90		nters	Domestic No Impai		RESIDEN	BTIAL U	Domies Apartm	AND R			ALUES RCIAL S	
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130 120 110 100 100 100 100 100 100 100 10	Hotels Shopping Ger Restaurants Public School Public School Public School Public School Public School	ntórs ls ls	No Impai 0 500	600	700		Apartir Motels Condo Trailer	nenti minums Parks	1,500	1,200	1,300	
120 110 100 100 100 100 100 100 100 100	Shopping Cer Restaurants Putitic School Putitic Sustain Hospifals		No Impai 0 500	600	700		Apartir Motels Condo Trailer	nenti minums Parks	1,500	1,200	1,300	
110 100 100 100 100 100 100 100 100 100	Public School		No Impar 0 500	600	700		Apartir Motels Condo Trailer	nenti minums Parks	1,500	1,200	1,300	
100 100 100 100 100 100 100 100	Hospifals		No Impar 0 500	600	700		Apartir Motels Condo Trailer	nenti minums Parks	1,300	1,200	1,300	
90 80 80 70 90 80 80 80 80 80 80 80 80 80 80 80 80 80			No Impar 0 500	600	700		Apartir Motels Condo Trailer	nenti minums Parks	1,300	1,200	1,300	
100 so			No Impar 0 500	600	700		Apartir Motels Condo Trailer	nenti minums Parks	1,100	1,200	1,300	
50 40 30 20 10			No Impar 0 500	600	700		Condo Trailer	minums. Parks	1,100	1,200	1,300	
50 40 30 20 10		300 400	0 500	600			L Trinitor	Parks	1,100	,200	1,300	
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40 30 20 10 0		300 400					900	1,000	1,100	,200	1,300	
30 20 10 0		300 400					900	1,000	1,100	,200	1,300	
10		300 400					900	1,000	1,100	1,200	1,300	
10		300 400					900	1,000	1,100	1,200	1,300	
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- 11	Public Buildings	1					11	-	+++		$\pm$	
§ 250												
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0	1 2	3 4			7	8	. 9	10	- 11	12	13	
						10" units						
gure 4-3 W	ater-flow der	mand re	r fixtur	e value								
	350 300 300 250 300 400 400 400 400 400 400 400 400 40	Domestic Use Hesidemial Subtu Hotels Shopping Center Hestaurants Public Schools Public Schools Public Schools Public Buildings Hospitals Apartments Motels Condominimis Trailer Parks	Domestic Use Hesidemial Suburb Hotels Shopping Centers Hestaurants Public Schools Public Public Buildings Hospitals Apartments Motels Condominums Trailer Parks  150 100 100 1 2 3 4	Domestic Use Residential Subtarb Hostels Shopping Centers Public Schools Public S	Domeetic Use Residential Suburb Hotels Shopping Centlers Restaurants Public Schools Public Buildings Hospitals Apartments Motels Condomnums Trailer Parks  100 100 100 100 100 100 100 100 100 1	Dicriestic Use Residemtal Suburb Hotels Shopping Centers Psychic Buildings Hospitals Apartments Motels Condomniums Trailer Parks 150 100 100 100 100 100 100 100 100 100	Domestic Use Residential Subtarb Hosels Shopping Centers Public Schools Public Sc	Domestic Use Residential Subtarb Hosels Shopping Centers Public Schools Public Sc	Besiderrial Suburb Healis Shopping Centers Hestaurants Public Schools Public Schools Public Public Buildings Hospitals Apartments Motels Condominamis Trailer Parks  Trailer Parks  Tombined Fixed Value, 10 ³ units  Bure 4-3 Water-flow demand per fixture value	Besidential Suburb Health Shopping Carriers Hesturrants Public Schools Public Buildings Hospital Apartments Motels Condomnums Trailer Parks  Domestic Use Only No Intigation  To Combined Fixed Value, 10 ³ units  gure 4-3 Water-flow demand per fixture value	Domestic Usa Residential Suburb Hotels Shopping Centerrs Restaurants Public Buildings Hospitals Apartments Motels Condomnams Trailer Packs  Condomnams Trailer Packs  Convibined Fixed Value, 10 ² units  gure 4-3 Water-flow demand per fixture value	Domestic Usa Residential Suburb Hotels Shopping Ceritars Restaurants Public Schools Public Bullishing Hospitals Moretes Condominiums Trailer Parks  Combined Fixed Value, 10 ³ units  gure 4-3 Water-flow demand per fixture value

FIXTURE	FIXTURE VALUE 60 PSI	FIXTURE UNITS PER FIXTURE	NO. OF FIXTURES	FIXTURE UNITS PER FIXTURE	FIXTURE VALU
HYDRATION STATION - PUBLIC	2	Х	1	=	2
BATHTUB	8	Х		=	
BEDPAN WASHERS	10	Х		=	
BIDET	2	Х		=	
DENTAL UNIT	2	Х		=	
DRINKING FOUNTAIN - PUBLIC	2	Х	1	=	2.00
KITCHEN SINK	2.2	Х		=	
LAVATORY	1.5	Х	125	=	187.50
SHOWERHEAD (SHOWER ONLY)	2.5	Х	120	=	300.00
SERVICE SINK	4	Х	3	=	12.00
TOILET - FLUSH VALVE	35	Х	5	=	175.00
- TANK TYPE	4	Х	120	=	480.00
URINAL – PEDESTAL FLUSH VALVE	35	Х		=	
– WALL FLUSH VALVE	16	Х		=	
WASH SINK (EACH SET OF FAUCETS)	4	Х	120	=	480.00
DISHWASHER	2	Х	120	=	240.00
WASHING MACHINE	6	Х		=	
HOSE (50 FT. WASH DOWN) - ½ IN.	5	Х		=	
- % IN.	9	Х		=	
- ¾ IN.	12	Х	8	=	96
	COMBINE	D FIXTURE TOTAL		•	1972.50

2. WATER-FLOW DEMAND (PER FIXTURE VALUE FROM FIGURE 4-2 OR 4-3) 3. PRESSURE ADJUSTMENT FACTOR (TABLE 4.3 - FIXTURE OUTLET FROM 60-70 PSI) 4. CUSTOMER PEAK DEMAND ( WATER-FLOW DEMAND #2 x PRESS. ADJ. FACTOR #3)

5. EXTERNAL HOSE BIBS = (3) HOSE BIBS x (12) FIXTURE VALUE x (1.0) PRESS. ADJ. FACTOR = 36 GPM 6. TOTAL FIXED DEMAND = ITEM #5 + ITEM #6

= 1.0 = 149 GPM = 8,940 GPH = 185 GPM = 11,100 GPH

= 149 GPM

70 SIZING WATER SERVICE LINES AND METERS Table 6-1 AWWA meter standards Change- High- Head Loss at
Minimum Low-Normal over Range Normal Maximum Maximum
Flow Rate, Flow Rate, (Compound Flow Rate, Flow Rate Flow, Vi in. N/A % in. 0.50 2 0.75 3 1 in. 155 in. 2 in. % in. 0.25 1 0.50 1 in. 0.75 3 1½ in. Turbine class II 13/2 in. N/A 435 1,600 2,800 2,400 10 in. 4,200 3,500 12 in. 4,400 5,300 16 in. 7,800 20 in. 12,000 Compound class II 2 in. 0.25 1 0.50 2 175 350 15 3 in. 600 15 1,350 15 1,600 15 4 in. 0.75 3 300 6 in. 1.50 5 8 in. Fire service, type II—compound 3 in 1,600 12 2,800 12 1,600 2,200 4,400 12 Source: Data are drawn from AWWA Standards C700, C701, C702, C703, C704, C708, C710, C712, C713, and C714, latest revision. N/A = not applicable. * Minimum flow rate is per the applicable AWWA standard for the bypass meter employed. (Table continued on next page.) AWWA Manual M22

Associates Architects

P.O. Box 78 Charlottesville, VA 22902 (434) 977-2791 (434) 977-0593 (FAX)

MENTS T

APARTM STREET

EDGE

CITY' 1225

NO DESCRIPTION DATE

REVISIONS

SCALE

DATE 9-15-21 DWN BY PL

CHECKED BY DV

PROJECT NO

DRAWING NO

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CLINT W.
SHIFFLETT
Lic. No. 54380
10/20/2022

08/24/21

K. FLYNN

DESIGNED BY C. SHIFFLETT

CHECKED BY . SHIFFLETT

SCALE

FINAL

HARRIS 22  $\overline{\phantom{a}}$ 

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C4.02

# PROPOSED DOMESTIC WATER AND SANITARY SEWER CALCULATIONS (FOR OVERALL PROJECT):

(AHS APARTMENTS, CHARLOTTESVILLE, VA)

### A. <u>AVERAGE DAILY FLOW:</u>

LEVEL 00   RETAIL (1177 SF)   -	D AVERAGE DAII (GAL/ DAY	DAILY FLOV DAY)
LEVEL G2	54.00	O
LEVEL G3	400	)
LEVEL G4  APARTMENT (1BR) 4 8 100  APARTMENT (2BR) 1 3 100  LEVEL G5  APARTMENT (1BR) 5 10 100  COMMERCIAL (1950 SF) PER 1000 SOUARE FEET 250  LEVEL 1  APARTMENT (1BR) 17 34 100  LEVEL 2  APARTMENT (2BR) 5 15 100  LEVEL 2  APARTMENT (2BR) 5 15 100  LEVEL 3  APARTMENT (2BR) 5 15 100  LEVEL 4  APARTMENT (2BR) 5 15 100  APARTMENT (2BR) 5 15 100  LEVEL 3  APARTMENT (2BR) 5 15 100  APARTMENT (2BR) 7 10 20 100  APARTMENT (2BR) 7 10 20 100	400	)
LEVEL 64         APARTMENT (2BR)         1         3         100	1000	0
APARTMENT (2BR)	800	)
LEVEL G5     OFFICE (625 SF)     1500       LEVEL 1     APARTMENT (1BR)     17     34     100       LEVEL 2     APARTMENT (2BR)     5     15     100       LEVEL 2     APARTMENT (1BR)     17     34     100       LEVEL 3     APARTMENT (1BR)     17     34     100       LEVEL 4     APARTMENT (1BR)     17     34     100       LEVEL 5     APARTMENT (2BR)     5     15     100       LEVEL 5     APARTMENT (2BR)     5     15     100       LEVEL 5     APARTMENT (1BR)     10     20     100       LEVEL 5     APARTMENT (1BR)     10     20     100       LEVEL 5     APARTMENT (2BR)     3     9     100	300	)
COMMERCIAL (1950 SF)	1000	0
LEVEL 1  APARTMENT (1BR)  17  34  100  APARTMENT (2BR)  5  15  100  APARTMENT (1BR)  17  34  100  LEVEL 2  APARTMENT (2BR)  5  15  100  APARTMENT (2BR)  5  15  100  APARTMENT (1BR)  17  34  100  LEVEL 3  APARTMENT (2BR)  5  15  100  APARTMENT (2BR)  5  15  100  APARTMENT (2BR)  5  15  100  LEVEL 4  APARTMENT (1BR)  17  34  100  LEVEL 5  APARTMENT (2BR)  5  15  100  APARTMENT (2BR)  5  100  APARTMENT (2BR)  3  9  100	21.0	)
LEVEL 1  APARTMENT (2BR) 5 15 100  LEVEL 2  APARTMENT (1BR) 17 34 100  APARTMENT (2BR) 5 15 100  LEVEL 3  APARTMENT (1BR) 17 34 100  APARTMENT (2BR) 5 15 100  APARTMENT (2BR) 5 15 100  APARTMENT (2BR) 5 15 100  LEVEL 4  APARTMENT (1BR) 17 34 100  APARTMENT (2BR) 5 15 100  APARTMENT (2BR) 5 15 100  APARTMENT (2BR) 5 15 100  APARTMENT (2BR) 3 9 100	487.5	5
APARTMENT (2BR) 5 15 100	3400	0
LEVEL 2  APARTMENT (2BR) 5 15 100  LEVEL 3  APARTMENT (1BR) 17 34 100  APARTMENT (2BR) 5 15 100  APARTMENT (2BR) 17 34 100  LEVEL 4  APARTMENT (1BR) 17 34 100  APARTMENT (2BR) 5 15 100  APARTMENT (2BR) 5 15 100  APARTMENT (2BR) 3 9 100	1500	0
APARTMENT (2BR) 5 15 100  LEVEL 3  APARTMENT (1BR) 17 34 100  APARTMENT (2BR) 5 15 100  LEVEL 4  APARTMENT (1BR) 17 34 100  APARTMENT (1BR) 17 34 100  APARTMENT (2BR) 5 15 100  APARTMENT (2BR) 5 15 100  APARTMENT (2BR) 3 9 100	3400	0
LEVEL 3  APARTMENT (2BR) 5 15 100  LEVEL 4  APARTMENT (1BR) 17 34 100  APARTMENT (2BR) 5 15 100  APARTMENT (2BR) 5 15 100  LEVEL 5  APARTMENT (1BR) 10 20 100  APARTMENT (2BR) 3 9 100	1500	0
APARTMENT (2BR) 5 15 100  LEVEL 4  APARTMENT (1BR) 17 34 100  APARTMENT (2BR) 5 15 100  APARTMENT (2BR) 10 20 100  APARTMENT (2BR) 3 9 100	3400	0
LEVEL 4  APARTMENT (2BR) 5 15 100  APARTMENT (1BR) 10 20 100  APARTMENT (2BR) 3 9 100	1500	0
APARTMENT (2BR) 5 15 100  LEVEL 5 APARTMENT (1BR) 10 20 100  APARTMENT (2BR) 3 9 100	3400	0
LEVEL 5  APARTMENT (2BR) 3 9 100	1500	0
APARTMENT (2BR) 3 9 100	2000	0
TOTAL APARTMENTS 120 -	900	)
TOTAL	26962.5	2.5
PROPOSED ESTIMATED SEWAGE DEMAND (4)		

(1) THE NUMBERS OF APARTMENT.

(2) THE NUMBERS OF PERSON.

- (3) POTABLE WATER AND SANITARY SEWER STANDARD SPECIFICATIONS AND DETAILS CITY OF CHARLOTTESVILLE, VIRGINIA 2012 (TABLE A & TABLE B) (4) SEWAGE FLOWS ARE ASSUMED TO BE 80% OF THE TOTAL WATER USAGE. TOTAL SEWAGE DEMAND IS CALCULATED BY TOTAL WATER DEMAND FLOW X 80%
- AVERAGE DOMESTIC WATER DEMAND = 26962.5 GALS/DAY (AVG)
- PROPOSED SEWAGE FLOW = 21570 GALS/DAY (AVG)

# B. MAXIMUM FLOW:

- MAXIMUM FACTOR = 250%
- MAXIMUM DOMESTIC WATER FLOW = 250% x AVERAGE = 250% x 26962.5 = 67406.25 GALS/DAY = 2808.6 GALS/HOUR (MAXIMUM)
- MAXIMUM SEWAGE FLOW = 250% x AVERAGE = 250% x 21570 GALS/DAY = 53925 GALS/ DAY = 2246.9 GALS/HOUR (MAXIMUM)

# C. PEAK FLOW:

- PEAKING FACTOR = 400%
- PEAK DOMESTIC WATER FLOW = 400% x AVERAGE= 400% x 26962.5 = 107850 GALS/DAY = 4493.75 GALS/HOUR (PEAK)
- PEAK SEWAGE FLOW = 400% x AVERAGE = 400% x 21570 GALS/DAY = 86280 GALS/DAY = 3595 GALS/HOUR (PEAK)



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APARTMENTS STREET

EDGE

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DATE 9-15-21 DWN BY PL CHECKED BY DV

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608 Preston / TEL 434.295.

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SHIFFLETT
Lic. No. 54380
10/20/2022

08/24/21

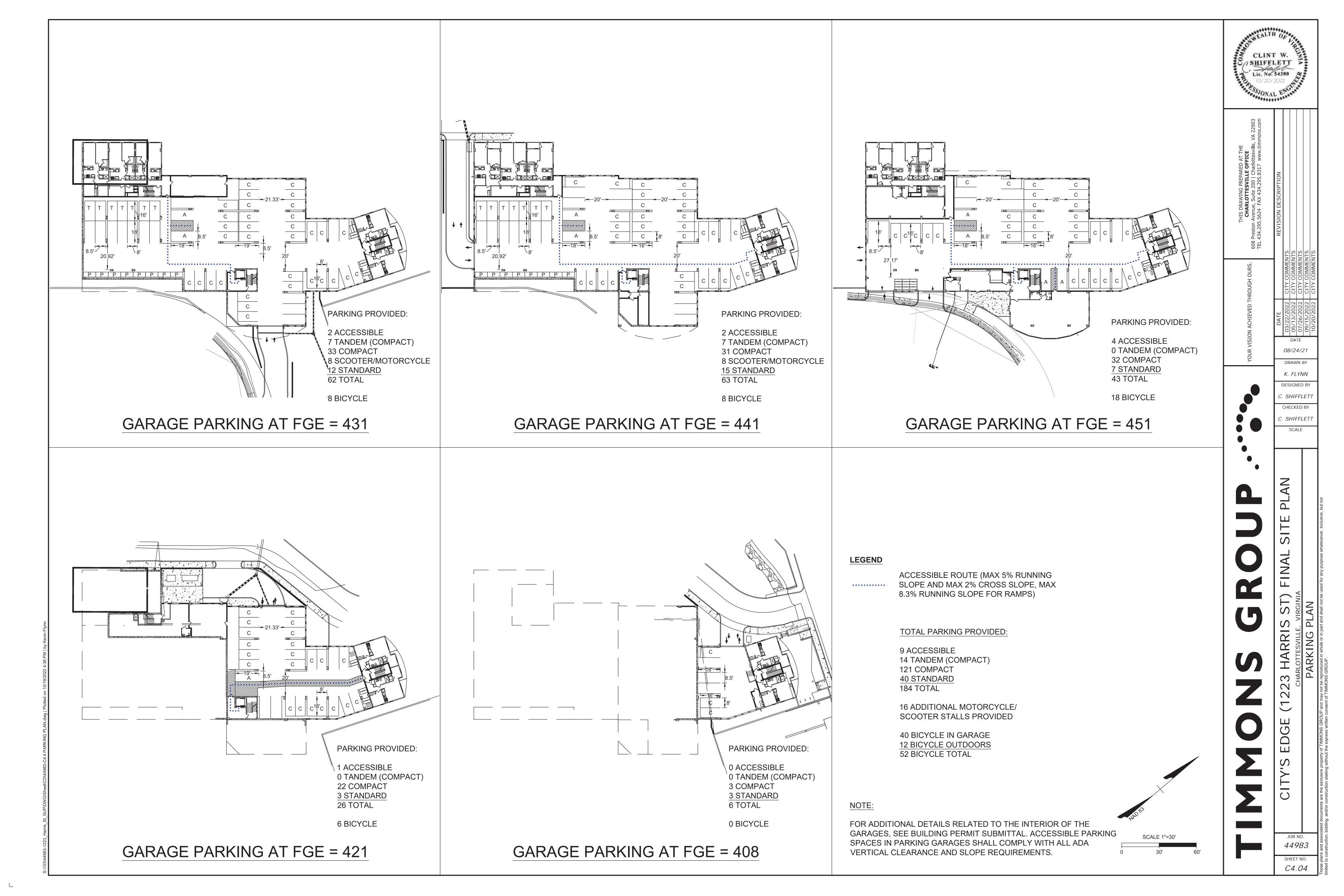
K. FLYNN DESIGNED BY C. SHIFFLETT CHECKED BY

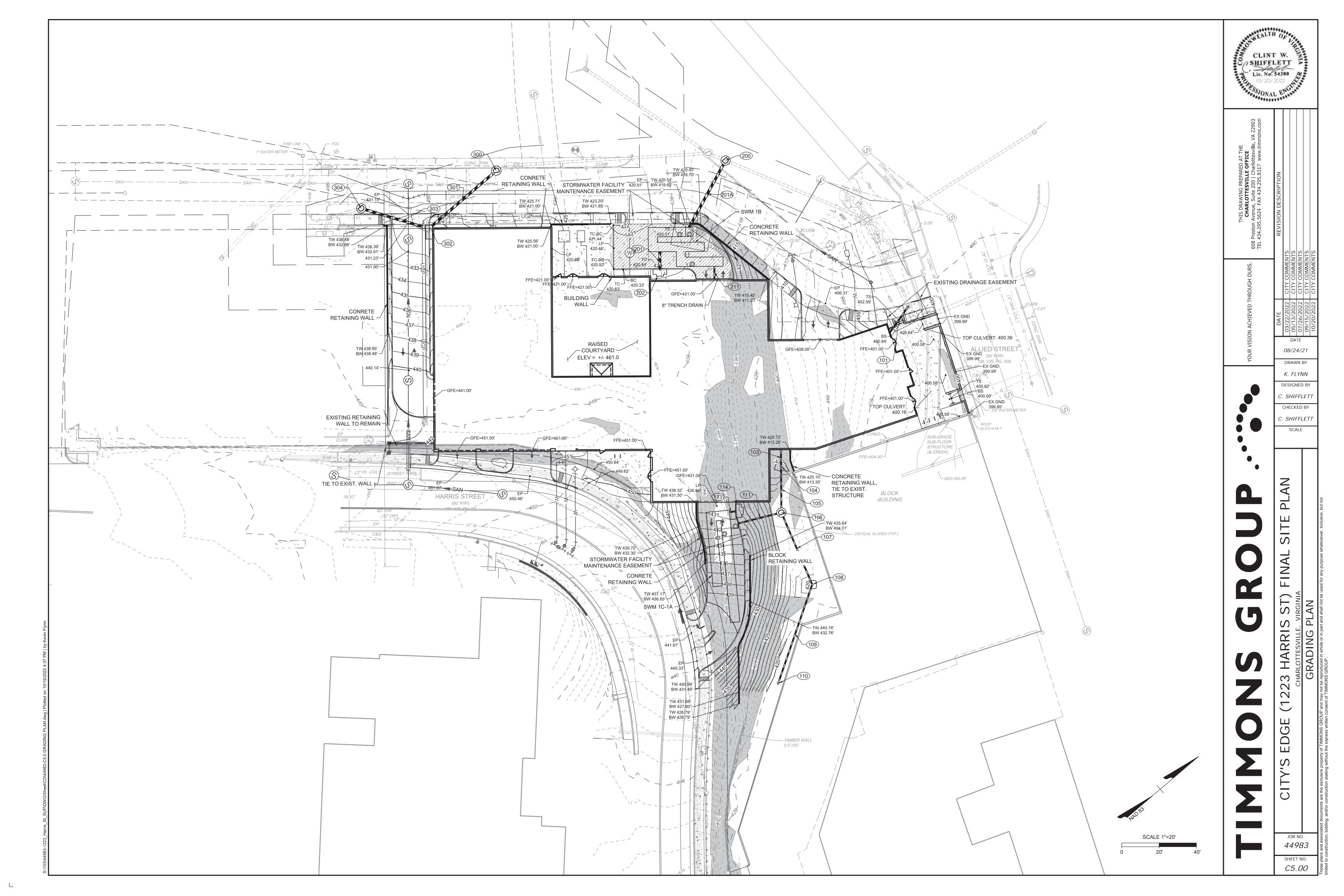
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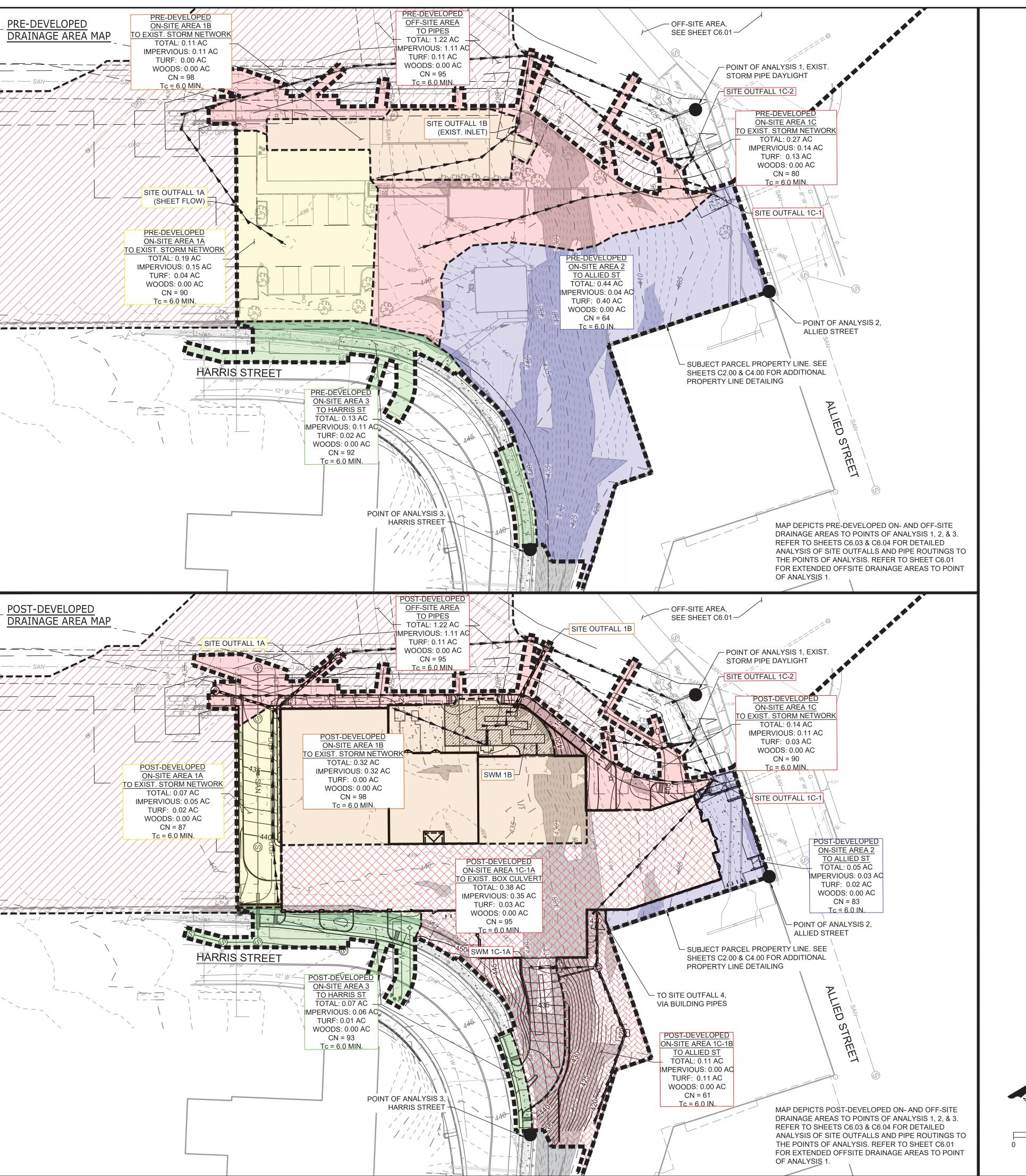
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### WATER QUANTITY NARRATIVE

IN THE EXISTING CONDITION, RUNOFF LEAVES THE SITE VIA 6 OUTFALL LOCATIONS.

SITE OUTFALLS 1A, 1B, 1C-1, & 1C-2 DRAIN TO THE EXISTING STORMWATER CONVEYANCE SYSTEM ASSOCIATED WITH THE PRIVATE DRIVE ON THE WEST SIDE OF THE SITE, WHICH DAYLIGHTS INTO AN OPEN CHANNEL (POINT OF ANALYSIS 1). THE CITY OF CHARLOTTESVILLE HAS HISTORIC KNOWLEDGE OF FLOODING IN THIS LOCATION.

RUNOFF FROM SITE OUTFALL 2 LEAVES THE SITE AS CHANNEL FLOW ALONG THE EXISTING GUTTER ON ALLIED STREET.

RUNOFF FROM SITE OUTFALL 3 LEAVES THE SITE AS CHANNEL FLOW ALONG THE EXISTING GUTTER ON HARRIS STREET.

RUNOFF FROM THE PROPOSED DEVELOPMENT LEAVES THE SITE VIA 6 SITE OUTFALL LOCATIONS.

AREA 1B DRAINS TO SWM 1B DETENTION PIPE, BEFORE LEAVING THE SITE VIA SITE OUTFALL 1B. AREA 1C-1A DRAINS TO SWM 1C-1A, BEFORE LEAVING THE SITE VIA SITE OUTFALL 1C-1. SITE OUTFALLS 1A, 1B, 1C-1, & 1C-2 DRAIN TO THE EXISTING STORMWATER CONVEYANCE SYSTEM ASSOCIATED WITH THE PRIVATE DRIVE ON THE WEST SIDE OF THE SITE, WHICH DAYLIGHTS INTO AN OPEN CHANNEL (POINT OF ANALYSIS 1).

POINT OF ANALYSIS 1 IS LOCATED WHERE THE EXISTING STORMWATER CONVEYANCE SYSTEM ENTERS THE EXISTING OPEN CHANNEL. CHANNEL ADEQUACY HAS BEEN DEMONSTRATED FROM SITE OUTFALLS 1A, 1B, 1C-1, & 1C-2 TO THE EXISTING OPEN CHANNEL, WHERE THE SITE AREA IS LESS THAN 1% OF THE TOTAL WATERSHED AREA. FLOOD PROTECTION AND CHANNEL PROTECTION CRITERIA ARE MET AND HAVE BEEN DEMONSTRATED AT POINT OF ANALYSIS 1.

RUNOFF FROM SITE OUTFALL 2 LEAVES THE SITE AS CHANNEL FLOW ALONG THE EXISTING GUTTER ON ALLIED STREET. CHANNEL PROTECTION REQUIREMENTS ARE MET WITH THE ENERGY BALANCE EQUATION AT POINT OF ANALYSIS 2. FLOOD PROTECTION REQUIREMENTS ARE MET BY ENSURING THAT THE POST-DEVELOPED Q₁₀ FLOW RATE AT POINT OF ANALYSIS 2 DOES NOT EXCEED THE PRE-DEVELOPED CONDITION.

RUNOFF FROM SITE OUTFALL 3 LEAVES THE SITE AS CHANNEL FLOW ALONG THE EXISTING GUTTER ON HARRIS STREET. CHANNEL PROTECTION REQUIREMENTS ARE MET WITH THE ENERGY BALANCE EQUATION AT POINT OF ANALYSIS 3. FLOOD PROTECTION REQUIREMENTS ARE MET BY ENSURING THAT THE POST-DEVELOPED Q₁₀ FLOW RATE AT POINT OF ANALYSIS 3 DOES NOT EXCEED THE PRE-DEVELOPED CONDITION.

# WATER QUALITY ANALYSIS

IMPERVIOUS = 0.55 ACRES

# PRE DEVELOPED AREA

FOREST/OPEN SPACE = 0.00 ACRES MANAGED TURF = 0.59 ACRES

PRE DEVELOPED LOAD (TP) (LB/YR) = 1.46

POST DEVELOPED AREA FOREST/OPEN SPACE = 0.00 ACRES MANAGED TURF = 0.22 ACRES IMPERVIOUS = 0.92 ACRES

POST DEVELOPED LOAD (TP) (LB/YR) = 2.09 MAXIMUM PERCENT REDUCTION REQUIRED FOR REDEVELOPMENT = 20%

TOTAL LOAD REDUCTION REQUIRED (LB/YR) = 0.91 LB/YR

0.91 LB/YR REMAINING REMOVAL REQUIRED NUTRIENT CREDITS TO BE PURCHASED FROM A DEQ-APPROVED NUTRIENT CREDIT BANK IN ACCORDANCE WITH VIRGINIA CODE 62.1-44.15:35

# POINT OF ANALYSIS

**— — —** DRAINAGE DIVIDE

■ ■ ■ LIMITS OF DISTURBANCE

T_C FLOW PATH

(TO POINT OF ANALYSIS 1, DRAINAGE AREA 1A VIA SITE OUTFALL 1A) (TO POINT OF ANALYSIS 1,

VIA SWM 1B & SITE DRAINAGE AREA 1B OUTFALL 1B) (TO POINT OF ANALYSIS 1,

DRAINAGE AREA 1C VIA SITE OUTFALLS 1C-1

(TO POINT OF ANALYSIS 1,

OFF-SITE DRAINAGE (TO POINT OF ANALYSIS 1) AREA TO PIPES (TO POINT OF ANALYSIS 1, DRAINAGE AREA 1C-1A VIA SWM 1C-1A & SITE OUTFALL 1C-1) 75 DRAINAGE AREA 1C-1B VIA SITE OUTFALL 1C-1) DRAINAGE AREA 2 (TO POINT OF ANALYSIS 2) DRAINAGE AREA 3 (TO POINT OF ANALYSIS 3)



HIS DRAWING PREPARE

CHARLOTTESVILLE

Avenue, Suite 200 | Cha
5624 FAX 434 295 831

08/24/21 DRAWN BY K. FLYNN **DESIGNED BY** 

. SHIFFLETT CHECKED BY **SHIFFLETT** 

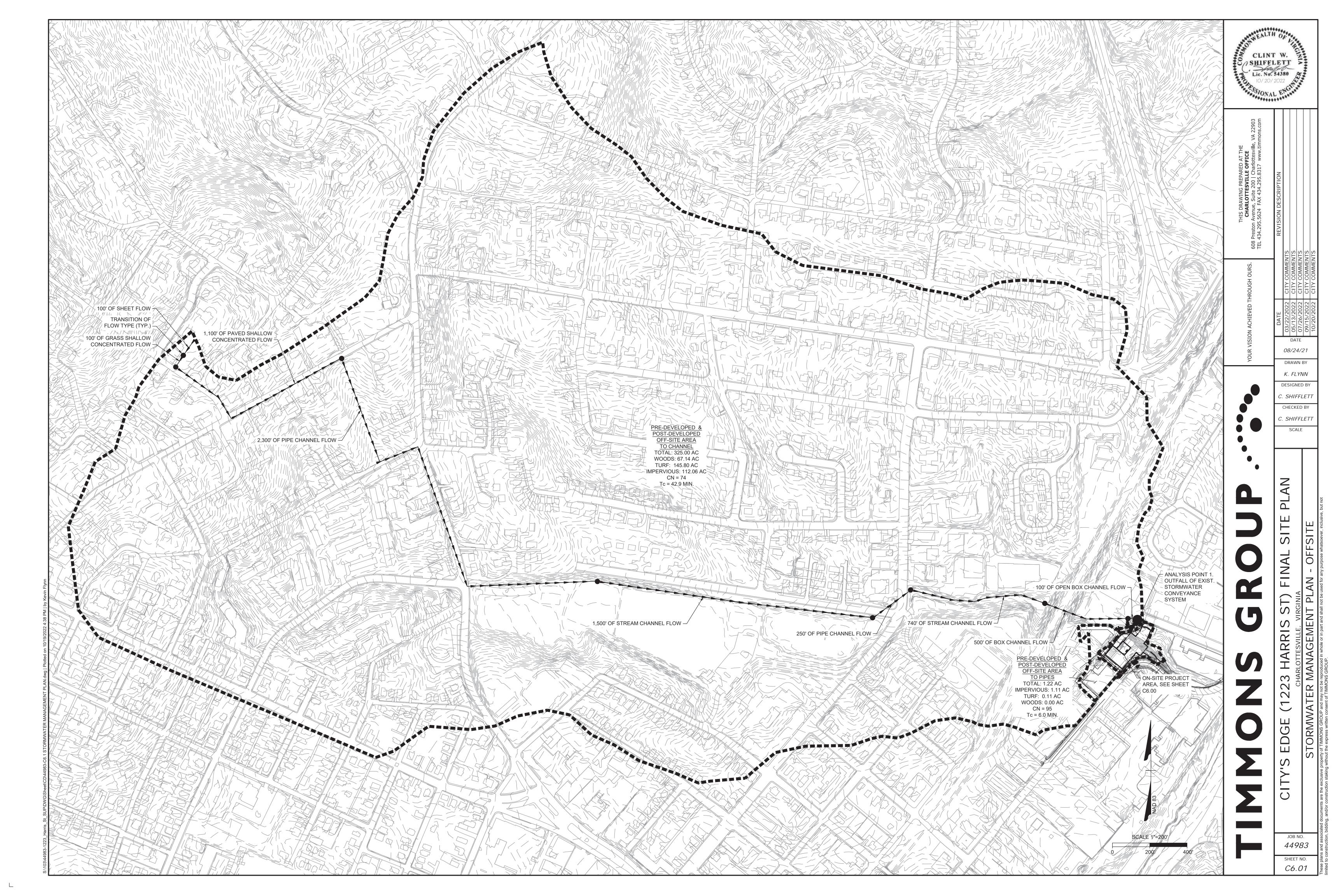
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JOB NO. 44983 SHEET NO. *C6.00* 



SCALE 1"=30'



CHANNEL PROTECTION:

SEE SHEET C6.03 FOR FORM LD-229 ANALYSIS OF THE POST-DEVELOPED STORMWATER CONVEYANCE SYSTEM, INCLUDING EXISTING PIPES, FROM SITE OUTFALLS 1A, 1B, 1C-1, & 1C-2 TO THE EXISTING OPEN CHANNEL, DEMONSTRATING CHANNEL ADEQUACY TO POINT OF ANALYSIS 1.

MANNING'S FORMULA HAS BEEN USED TO DETERMINE THE 2-YEAR 24-HOUR STORM PEAK FLOW RATE IN THE EXISTING OPEN CHANNEL, WHERE THE SITE'S CONTRIBUTING DRAINAGE AREA IS LESS THAN 1.0% OF THE TOTAL WATERSHED AREA. STUDIES HAVE SHOWN THE EROSIVE VELOCITY FOR GABION BASKETS TO BE APPROXIMATELY 18-22 FPS.

CHANNEL SECTION 1 - UPSTREAM OF EXISTING STORM PIPE DAYLIGHT & POINT OF ANALYSIS 1

 $Q_{(2-YR)} = 286.19 \text{ CFS}$ 

 $V_{2-YR} = 7.07 \text{ FPS} \le V_{MAX \text{ ALLOWABLE}} \approx 18-22 \text{ FPS}$  OK

CHANNEL SECTION 2 - DOWNSTREAM OF EXISTING STORM PIPE DAYLIGHT & POINT OF ANALYSIS 1  $Q_{(2-YR)} = 287.59 \text{ CFS}$ 

 $V_{2-YR} = 7.61 \text{ FPS} \le V_{MAX \text{ ALLOWABLE}} \approx 18-22 \text{ FPS}$  OK

CHANNEL PROTECTION CRITERIA AS DESCRIBED IN 9VAC25-870-66 B 1a HAVE BEEN MET THROUGH DEMONSTRATION THAT DOWNSTREAM MANMADE CHANNELS DO NOT EXPERIENCE EROSION, AND IN ACCORDANCE WITH 9VAC25-870-66 B 4a, THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1.0% OF THE TOTAL WATERSHED AREA AT THE POINT OF ANALYSIS.

ADDITIONALLY, NOTE THAT WHERE THE EXISTING STORMWATER CONVEYANCE SYSTEM ENTERS THE EXISTING OPEN CHANNEL, THE 2-YEAR 24-HOUR POST-DEVELOPED PEAK FLOW RATE MATCHES THE PRE-DEVELOPED PEAK FLOW RATE.

FLOOD PROTECTION:

POST-DEVELOPED Q₁₀ ≤ PRE-DEVELOPED Q₁₀

12.93 CFS (POST-DEVELOPED  $Q_{10}$ )  $\leq$  12.97 CFS (PRE-DEVELOPED  $Q_{10}$ )

FLOOD PROTECTION CRITERIA AS DESCRIBED IN 9VAC25-870-66 C 2b HAVE BEEN MET THROUGH DEMONSTRATION THAT THE POST-DEVELOPMENT PEAK FLOW RATE FROM THE 10-YEAR 24-HOUR STORM EVENT IS LESS THAN THE PRE-DEVELOPMENT PEAK FLOW RATE FROM THE SAME STORM AT POINT OF ANALYSIS 1 INSIDE THE EXISTING STORMWATER CONVEYANCE PIPE SYSTEM. NO ADDITIONAL DOWNSTREAM ANALYSIS IS REQUIRED.

# WATER QUALITY ANALYSIS

PRE DEVELOPED AREA

FOREST/OPEN SPACE = 0.00 ACRES MANAGED TURF = 0.59 ACRES IMPERVIOUS = 0.55 ACRES

PRE DEVELOPED LOAD (TP) (LB/YR) = 1.46

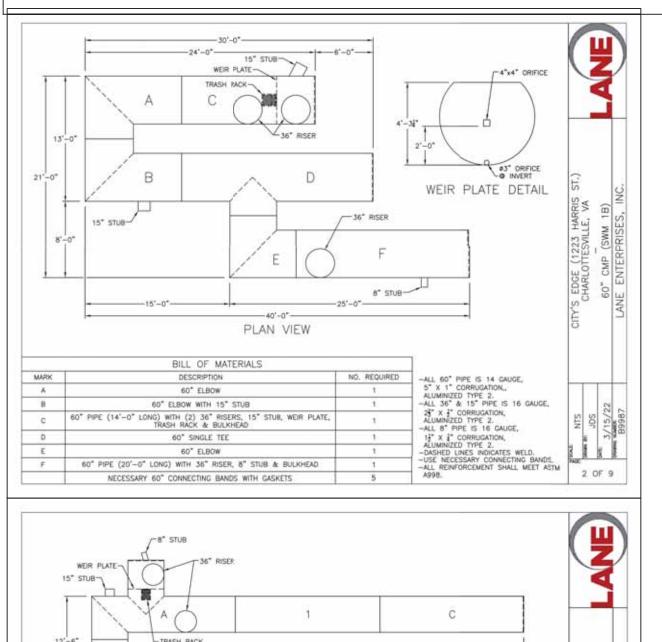
POST DEVELOPED AREA FOREST/OPEN SPACE = 0.00 ACRES MANAGED TURF = 0.22 ACRES

IMPERVIOUS = 0.92 ACRES

POST DEVELOPED LOAD (TP) (LB/YR) = 2.09 MAXIMUM PERCENT REDUCTION REQUIRED FOR REDEVELOPMENT = 20%

# TOTAL LOAD REDUCTION REQUIRED (LB/YR) = 0.91 LB/YR

0.91 LB/YR REMAINING REMOVAL REQUIRED NUTRIENT CREDITS TO BE PURCHASED FROM A DEQ-APPROVED NUTRIENT CREDIT BANK IN ACCORDANCE WITH VIRGINIA CODE 62.1-44.15:35



PLAN VIEW

13" X 1" CORRUGATION,
ALUMNIZED TYPE 2.

-DASHED LINES INDICATES WELD.

-USE NECESSARY CONNECTING BANDS.

-ALL REINFORCEMENT SHALL MEET ASTM

A998.

2 OF 9

WEIR PLATE DETAIL

60" ELBOW SINGLE TEE WITH (2) 36" RISER, 15" STUB, 8" STUB, WEIR PLATE, TRASH RACK & BULKHEAD

60" ELBOW

60" PIPE (20'-0" LONG) WITH BULKHEA

60" PIPE (20'-0" LONG)

NECESSARY 60" CONNECTING BANDS WITH GASKETS

#### WATER QUANTITY - TO ALLIED STREET (POINT OF ANALYSIS 2)

DRAINAGE AREA ANALYSIS (PRE-DEVELOPED)

PRE-DEVELOPED ON-SITE AREA 2 TO ALLIED STREET AREA = 0.44 ACRES IMPERVIOUS = 0.04 ACRES MANAGED TURF = 0.40 ACRES WOODED = 0.00 ACRES

Q (CFS) V (AC-FT) 1 YEAR 0.32 2 YEAR 0.57 10 YEAR 1.50

Tc = 6.0 MIN.

#### DRAINAGE AREA ANALYSIS (POST-DEVELOPED)

POST-DEVELOPED ON-SITE AREA 2 TO ALLIED STREET AREA = 0.05 ACRES IMPERVIOUS = 0.03 ACRES MANAGED TURF = 0.02 ACRES WOODED = 0.00 ACRES Tc = 6.0 MIN.

Q (CFS) V (AC-FT) 1 YEAR 0.13 2 YEAR 0.17 10 YEAR 0.31

### CHANNEL PROTECTION (ENERGY BALANCE):

 $Q_{DEVELOPED} \le 0.80 * (Q_{PRE-DEVELOPED} * RV_{PRE-DEVELOPED}) / RV_{DEVELOPED}$ 

0.13 CFS ≤ 0.80 * (0.32 CFS * 0.018 AC-FT) / (0.006 AC-FT) = 0.77 CFS

### FLOOD PROTECTION:

POST-DEVELOPED Q₁₀ ≤ PRE-DEVELOPED Q₁₀

0.31 CFS (POST-DEVELOPED  $Q_{10}$ )  $\leq$  1.50 CFS (PRE-DEVELOPED  $Q_{10}$ )

# WATER QUANTITY - TO HARRIS STREET (POINT OF ANALYSIS 3)

DRAINAGE AREA ANALYSIS (PRE-DEVELOPED)

PRE-DEVELOPED ON-SITE AREA 3 TO HARRIS STREET AREA = 0.13 ACRES IMPERVIOUS = 0.11 ACRES MANAGED TURF = 0.02 ACRES WOODED = 0.00 ACRES Tc = 6.0 MIN.

Q (CFS) V (AC-FT) 1 YEAR 0.47 2 YEAR 0.59 10 YEAR 0.95

DRAINAGE AREA ANALYSIS (POST-DEVELOPED)

POST-DEVELOPED ON-SITE AREA 3 TO HARRIS STREET AREA = 0.07 ACRES IMPERVIOUS = 0.06 ACRES MANAGED TURF = 0.01 ACRES WOODED = 0.00 ACRES Tc = 6.0 MIN.

Q (CFS) V (AC-FT) 1 YEAR 0.26 0.013 2 YEAR 0.33 10 YEAR 0.52

# CHANNEL PROTECTION (ENERGY BALANCE):

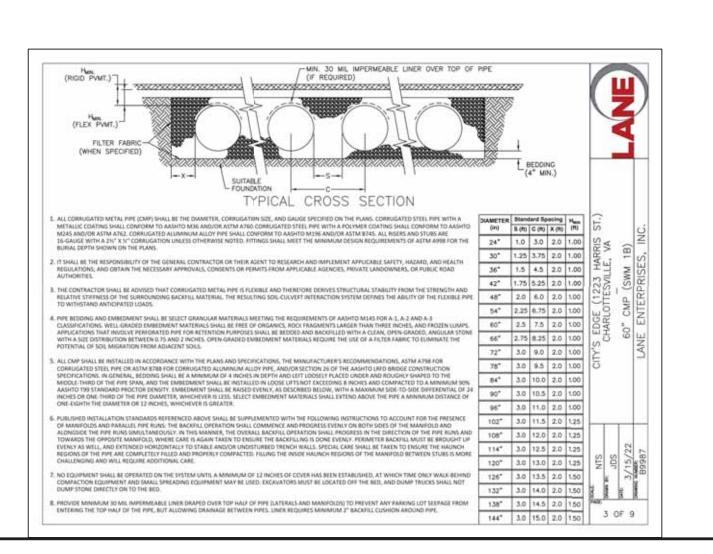
Q_{DEVELOPED} ≤ 0.80 * (Q_{PRE-DEVELOPED} * RV_{PRE-DEVELOPED}) / RV_{DEVELOPED}

 $0.26 \text{ CFS} \le 0.80 * (0.47 \text{ CFS} * 0.024 \text{ AC-FT}) / (0.013 \text{ AC-FT})$ = 0.69 CFS

# **FLOOD PROTECTION:**

POST-DEVELOPED Q₁₀ ≤ PRE-DEVELOPED Q₁₀

 $0.52 \text{ CFS (POST-DEVELOPED } Q_{10}) \le 0.95 \text{ CFS (PRE-DEVELOPED } Q_{10})$ 



CLINT W. SASHIFFLETT Lic. No. 54380 10/20/2022

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Avenue, Suite 200 | Cha

DATE

08/24/21 DRAWN BY K. FLYNN

**DESIGNED BY** C. SHIFFLETT CHECKED BY SHIFFLETT

SCALE

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JOB NO. 44983

SHEET NO. *C6.02* 

PIPE A	PIPE ADEQUACY ANALYS		S		LOCATIO	ON:	City of Ch	arlottesvill	е					
					COUNTY	<b>/</b> :	Charlottes	sville		Checke	ed by:			
STORM F	REQUENCY	10												
											UNITS	ENG	LISH	
1			DDADI		nen	LOPE	D.D.F.D.	T ET ELO	-	prov	CITE		C 1	
PIPE	FROM	то	DRAIN. AREA	WEIGHTED		OFF Total	UPPER	LOWER	LENGTH		SIZE	SHAPE	Capacity	
NO.	POINT	POINT	"A"	"CN"	Hereinen	1 Otal	END	END	LENGTI	SLOTE	Dia.	SHALL		Q < CAPACIT
			Acre		CFS	CFS			Ft.	Ft./Ft.	In.		CFS	
EX-1	Existing 1	Existing 2	0.26	97	1.97	1.97	432.83	430.59	8.80	0.255	15	Circular	35.31	ок
EX-2	Existing 2	300	0.34	93	2.48	4.45	430.58	425.82	57.60	0.083	15	Circular	20.12	ок
301	302	300	0.07	86	0.41	0.41	426.15	425.92	23.30	0.010	15	Circular	6.95	ок
EX-2b	300	Existing 3	_ Q	141	Q.	4.86	425.82	421.95	46.75	0.083	15	Circular	20.14	ок
EX-3	Existing 3	Existing MH	0.07	95	0.51	5.37	421.93	414.39	103.03	0.073	15	Circular	18.93	ок
EX-6	Existing 6	Existing MH	0.44	94	3.31	3.31	414.27	413.10	79.48	0.015	15	Circular	7.84	ок
EX-4	Existing MH	200	- 4	148	- 2	8.68	413.00	411.17	10.00	0.183	15	Circular	29.94	ок
211	TD-2	SWM 1B	0.00	98	0.02	0.02	416.75	416.62	6.63	0.020	8	Circular	1.83	ок
201	202	SWM 1B	0.06	95	0.45	0.45	415.50	415.44	3.13	0.019	15	Circular	9.69	ок
201A	SWM 1B	200			1.26	1.26	413.00	412.16	42.00	0.020	15	Circular	9.90	ок
EX-4b	200	Existing MH	-			9.94	411.17	396.13	82.14	0.183	15	Circular	29.95	ок
113	TD-1	SWM 1C-1A	*		0.55	0.55	426.70	426.67	1.67	0.018	8	Circular	1.75	ок
111	SWM 1C-1A	106	-	(*).	1.11	1.11	423.00	420.35	20.39	0.130	8	Circular	4.72	ок
109	110	108	0.02	61	0.05	0.05	415.70	414.86	56.06	0.015	8	Circular	1.60	ок
107	108	106	0.06	61	0.18	0.23	414.76	414.13	41.95	0.015	8	Circular	1.60	ок
105	106	104		180		1.34	414.03	413.65	25.01	0.015	8	Circular	1.61	ок
103	104	BLDG	0.02	61	0.05	1.39	413.55	413.42	8.68	0.015	8	Circular	1.60	ок
101	BLDG	Existing 8		1/28	- 2	1.39	398.00	397.74	17.24	0.015	12	Circular	4.74	ок
EX-8	Existing 8	Existing 7	0.05	86	0.32	1.71	397.64	397.13	27.28	0.019	15	Circular	9.57	ок
EX-7	Existing 7	Existing MH	0.20	95	1.55	3.26	397.01	396.13	24.23	0.036	15	Circular	13.34	ок
EX-5	Existing MH		-	121	-	13.20	396.08	395.72	7.65	0.047	18	Circular	24.69	ок

1223 Harris Street

Designed by: A. Mabee

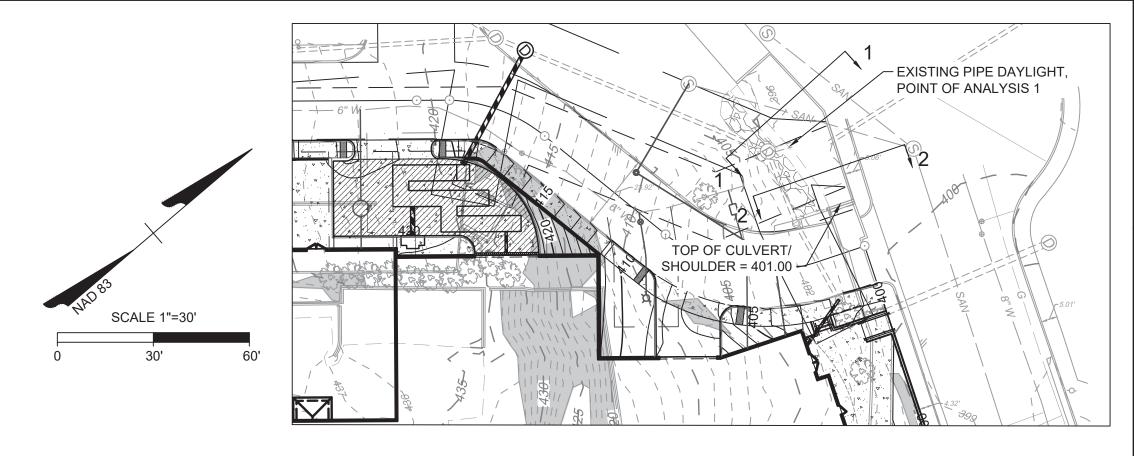
- 1. FLOWS USED FOR EXISTING PIPE CHANNEL ADEQUACY ANALYSIS WERE GENERATED FROM TR-55 10-YEAR 24-HOUR STORM EVENT.
- SEE DESIGN CALCULATIONS AND NARRATIVE BOOK FOR ADDITIONAL INFORMATION.
- 2. FOR CONSERVATIVE DESIGN, UPSTREAM CONTRIBUTING FLOWS HAVE BEEN ADDED DIRECTLY TOGETHER, WITHOUT ACCOUNTING FOR DIFFERING TIMES OF CONCENTRATION OR ON-SITE DETENTION. THIS PRODUCES GREATER RUNOFF VALUES THAN WILL ACTUALLY OCCUR IN THE STORMWATER CONVEYANCE SYSTEM, DEMONSTRATING THE SYSTEM IS CAPABLE OF CARRYING THE WORST-CASE FLOW FROM THE 10-YEAR STORM.

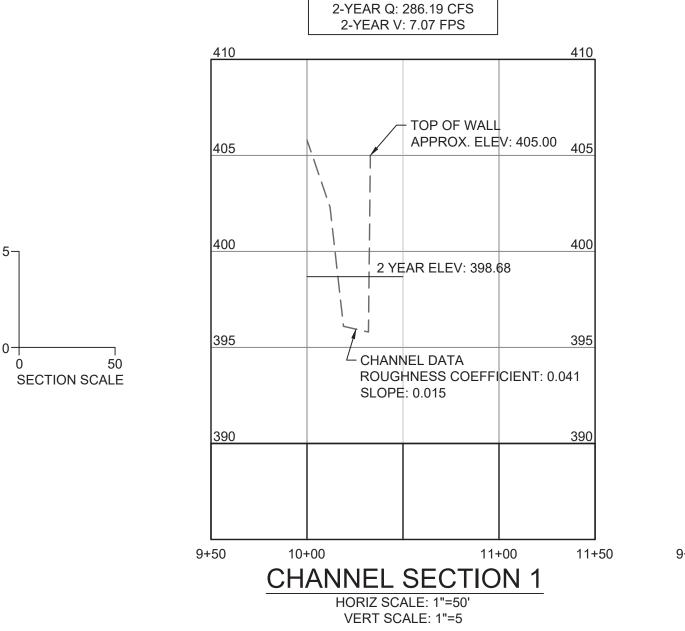
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	9VAC25-87	0-66:					CITY	EXISTII		ILLE - OU	IFALL IA	BULATION	ICHARI	T				PROPOSE	D				
									_			Runoff										Runoff	
												Volume										Volume	
					Offsite							(Vr/RV),	Runoff		Offsite							(Vr/RV),	Runoff
Outfall		Receiving	Compliance		Contribution		Тс	Q1	Q2	Q10	Q100	1-yr	Volume		Contribution		Тс	Q1	Q2	Q10	Q100	1-yr	Volume
Designation	LOA Designation	Channel Type	Method	DA (acres)	(Acres)	CN	(min)	(CFS)	(CFS)	(CFS)	(CFS)	On-Site	Units	DA (Acres)	(Acres)	CN	(min)	(CFS)	(CFS)	(CFS)	(CFS)	On-Site	Units
Site Outfall 1A	Point of Analysis 1	Manmade	B.1.a	0.19	0.00	90	6.0	0.64	0.82	1.35	2.32	0.032	Ac-ft	0.07	0.00	87	6.0	0.21	0.28	0.47	0.83	0.010	Ac-ft
Site Outfall 1B	Point of Analysis 1	Manmade	B.1.a	0.11	0.00	98	6.0	0.46	0.56	0.85	1.40	0.026	Ac-ft	0.32	0.00	98	6.0*	0.68	0.85	1.26	4.55	0.075	Ac-ft
Site Outfall 1C	Point of Analysis 1	Manmade	B.1.a	0.27	0.00	80	6.0	0.60	0.83	1.56	2.97	0.029	Ac-ft	0.63	0.00	88	6.0**	0.95	1.35	2.25	7.40	0.106	Ac-ft
Site Outfall 2	Point of Analysis 2	Manmade	B.1.b	0.44	0.00	64	6.0	0.32	0.57	1.50	3.56	0.018	Ac-ft	0.05	0.00	83	6.0	0.13	0.17	0.31	0.57	0.006	Ac-ft
Site Outfall 3	Point of Analysis 3	Manmade	B.1.b	0.13	0.00	92	6.0	0.47	0.59	0.95	1.61	0.024	Ac-ft	0.07	0.00	93	6.0	0.26	0.33	0.52	0.87	0.013	Ac-ft
TOTAL				1.14										1.14									

*Post-Developed Q values incorporate SWM 1B storage facility. Post-Deveveloped Tc on this table indicates time of concentration to the facility.

**Post-Developed Q values incorporate SWM 1C-1A storage facility combined with undetained areas to Site Outfall 1C Link" in design calculations booklet). Post-Developed Tc on this table indicates time of concentration to the facility. City of Charlottesville Department of Public Works-Engineering Division Version 1.0-10-21-2020

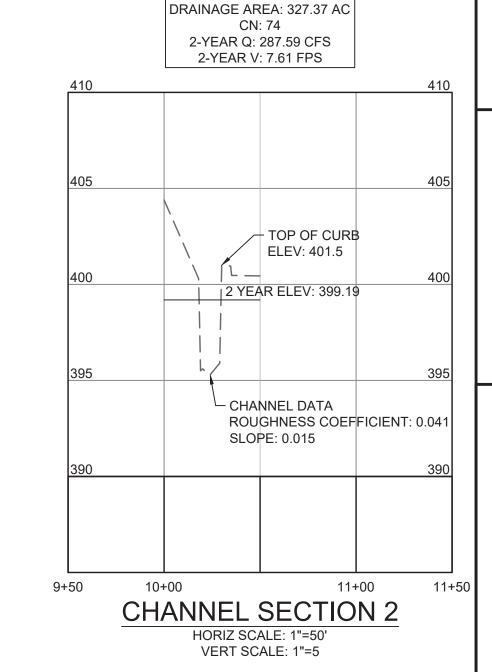
- 1. SITE OUTFALLS 1A, 1B, & 1C ARE ANALYZED AT THE COMBINED POINT OF ANALYSIS 1 AT THE OPEN CHANNEL. 2. SITE OUTFALL 1C INCLUDES DRAINAGE AREAS 1C, 1C-1A, & 1C-1B.
- 3. PROPOSED FLOWS LISTED FOR SITE OUTFALLS 1B & 1C ARE SHOWN DOWNSTREAM OF SWM 1B & SWM1C-1A.
- 4. SEE DESIGN CALCULATIONS AND NARRITVE BOOK FOR ADDITIONAL INFORMATION REGARDING ADEQUACY OF EXISTING STORM PIPES, OPEN CHANNEL, AND CONCRETE BOX CULVERT BETWEEN SITE OUTFALLS AND POINT OF ANALYSIS.





DRAINAGE AREA: 325.00 AC

CN: 74





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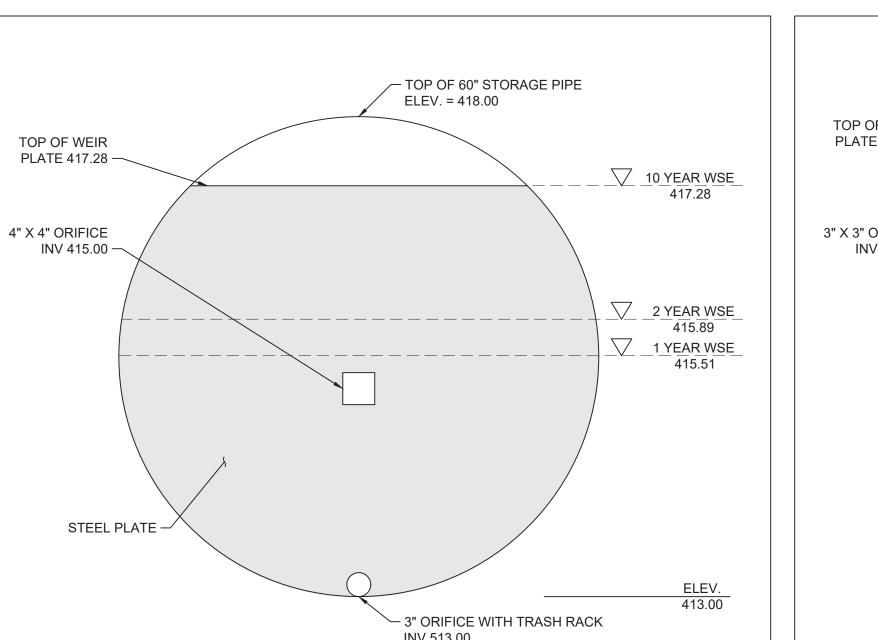
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Avenue, Suite 200 | Charlottesvil
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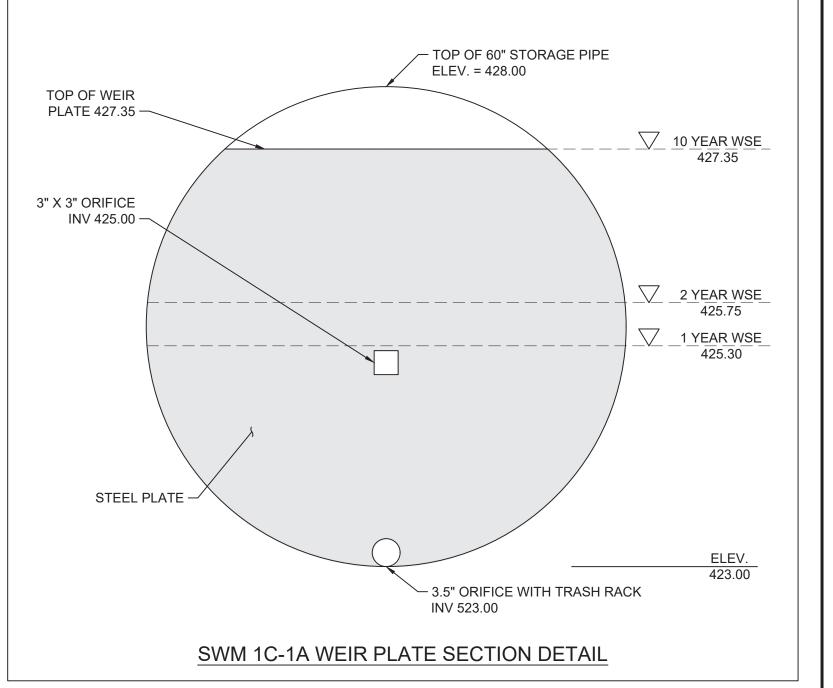
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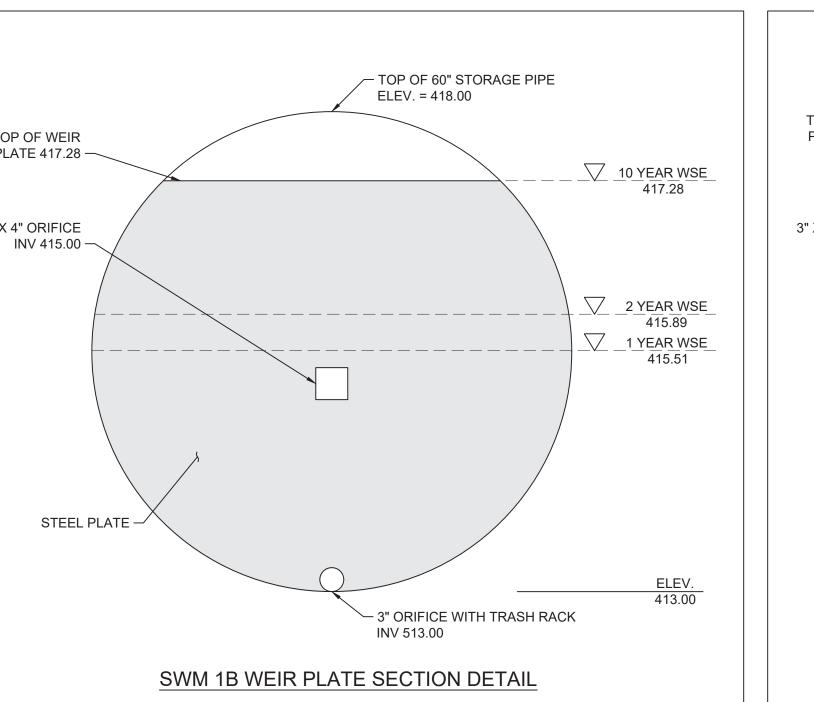
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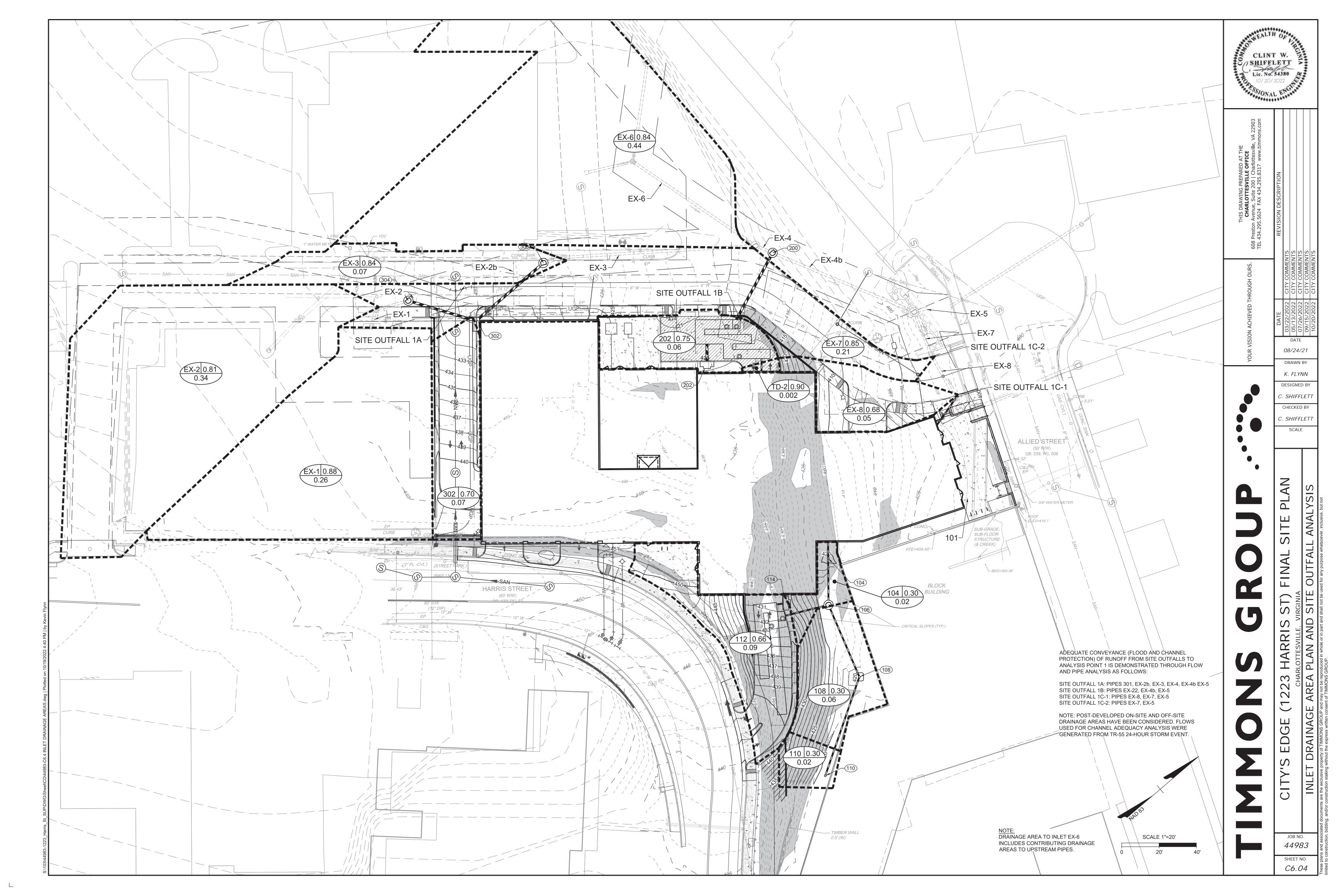


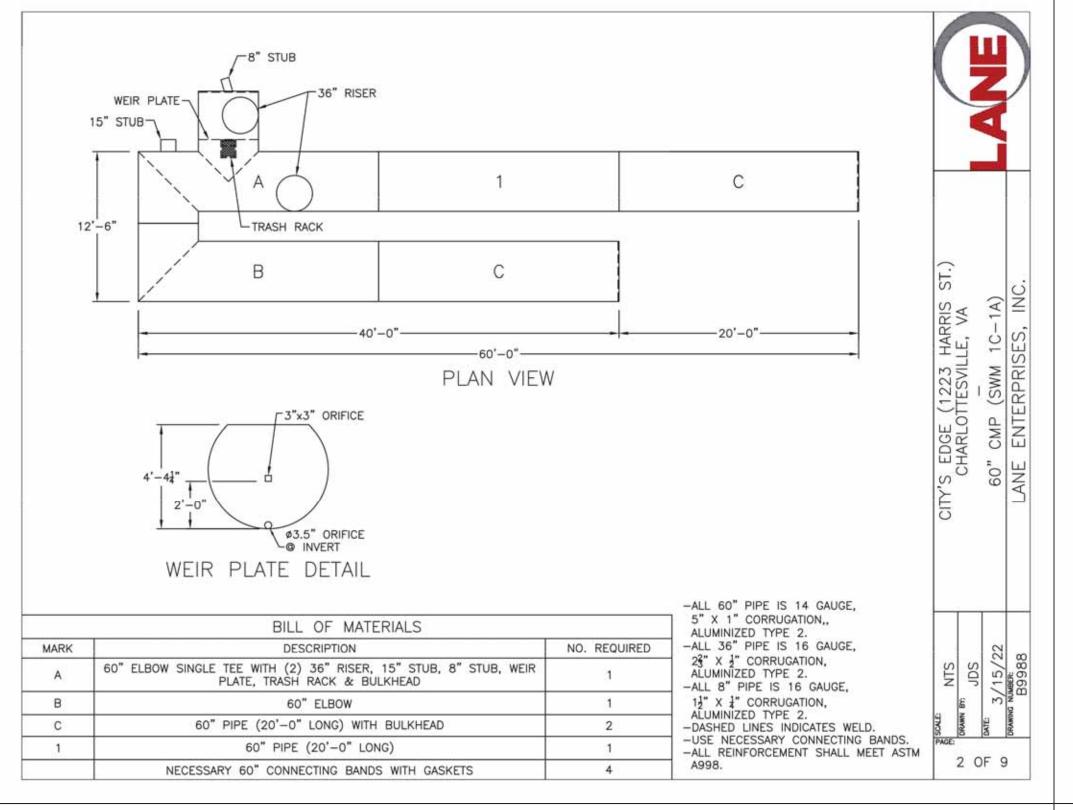
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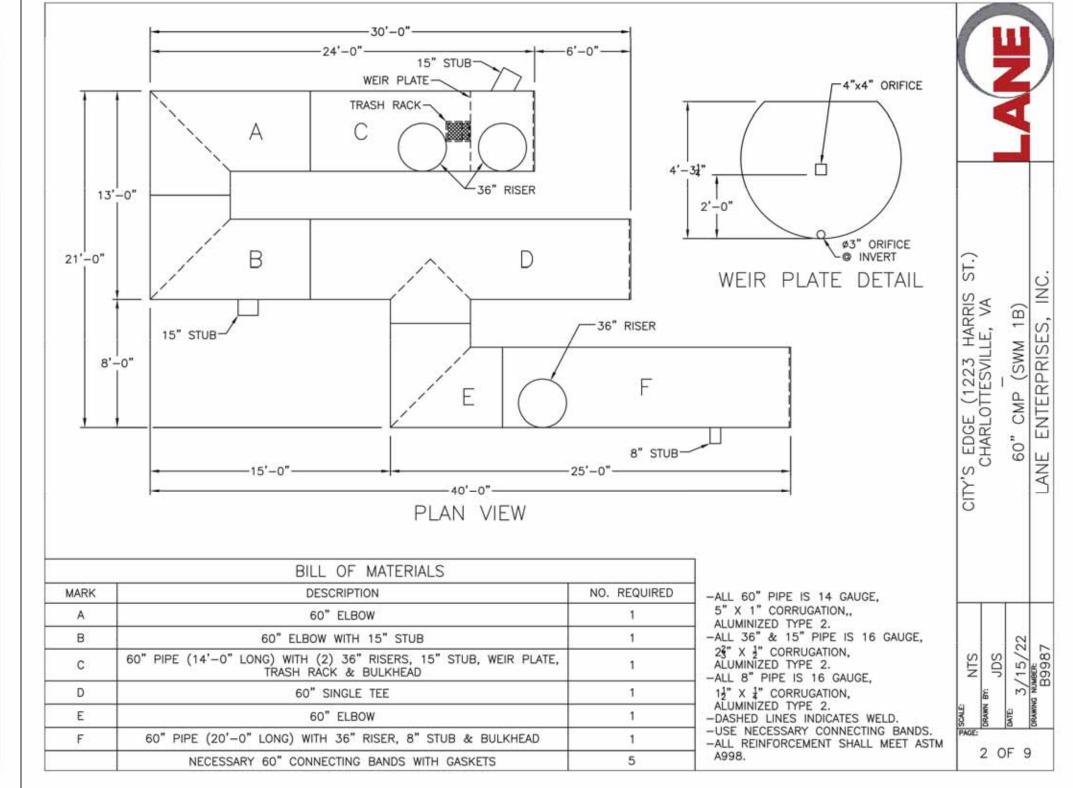
*C6.03* 

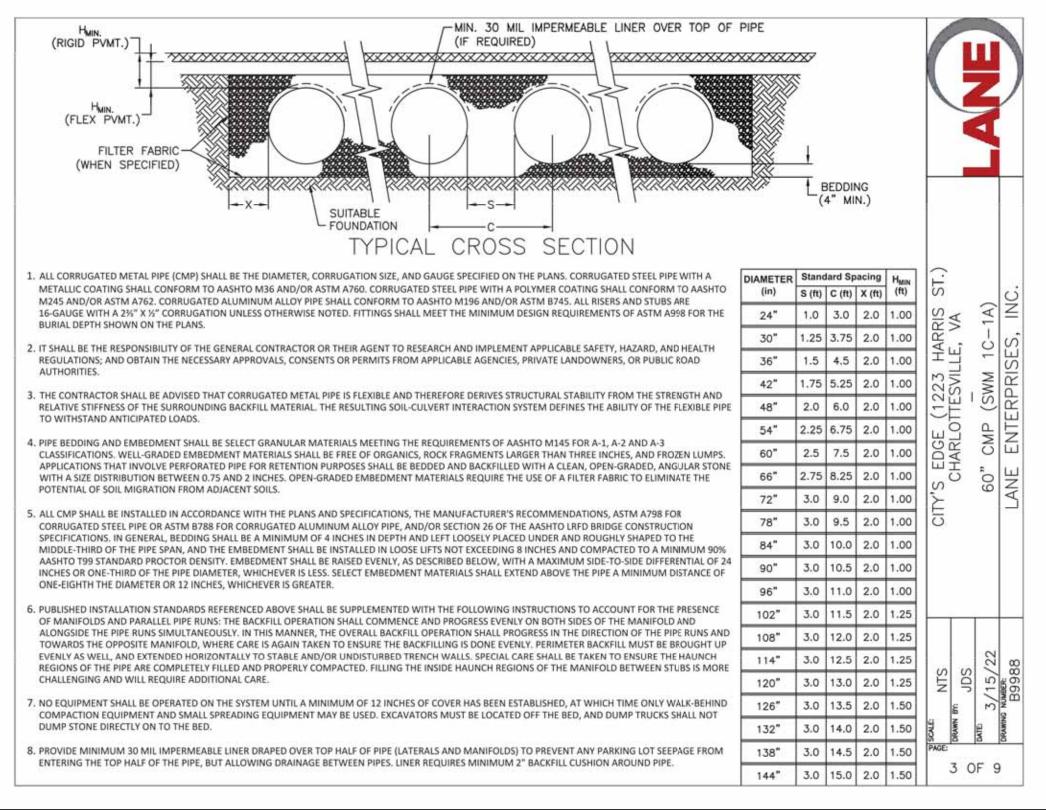
DETENTION SYSTEM INSPECTION/MAINTENANCE SCHEDULE: INSPECT PIPE SYSTEM BOTH UPSTREAM AND DOWNSTREAM OF WEIR

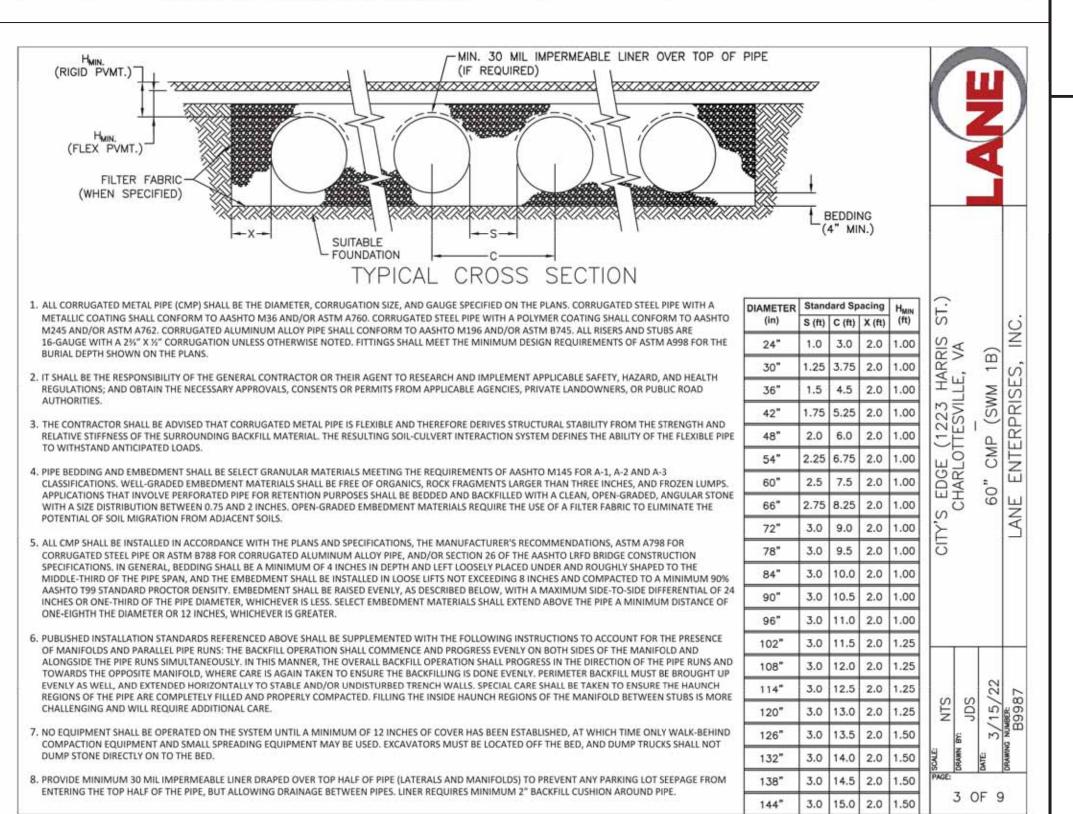
- PLATE CONTROL STRUCTURE FOR SEDIMENT BUILDUP ON A YEARLY BASIS. 2. INSPECT WEIR PLATE CONTROL STRUCTURE FOR CLOGGED ORIFICES ON A
- YEARLY BASIS. IF ANY CONTROL ORIFICES ARE CLOGGED, REMOVE DEBRIS. 3. EACH DETENTION PIPE SHALL BE CLEANED OUT ANNUALLY, OR MORE
- FREQUENTLY IF ANNUAL INSPECTION/CLEANING SHOWS MORE SEDIMENT THAN ANTICIPATED.











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DATE

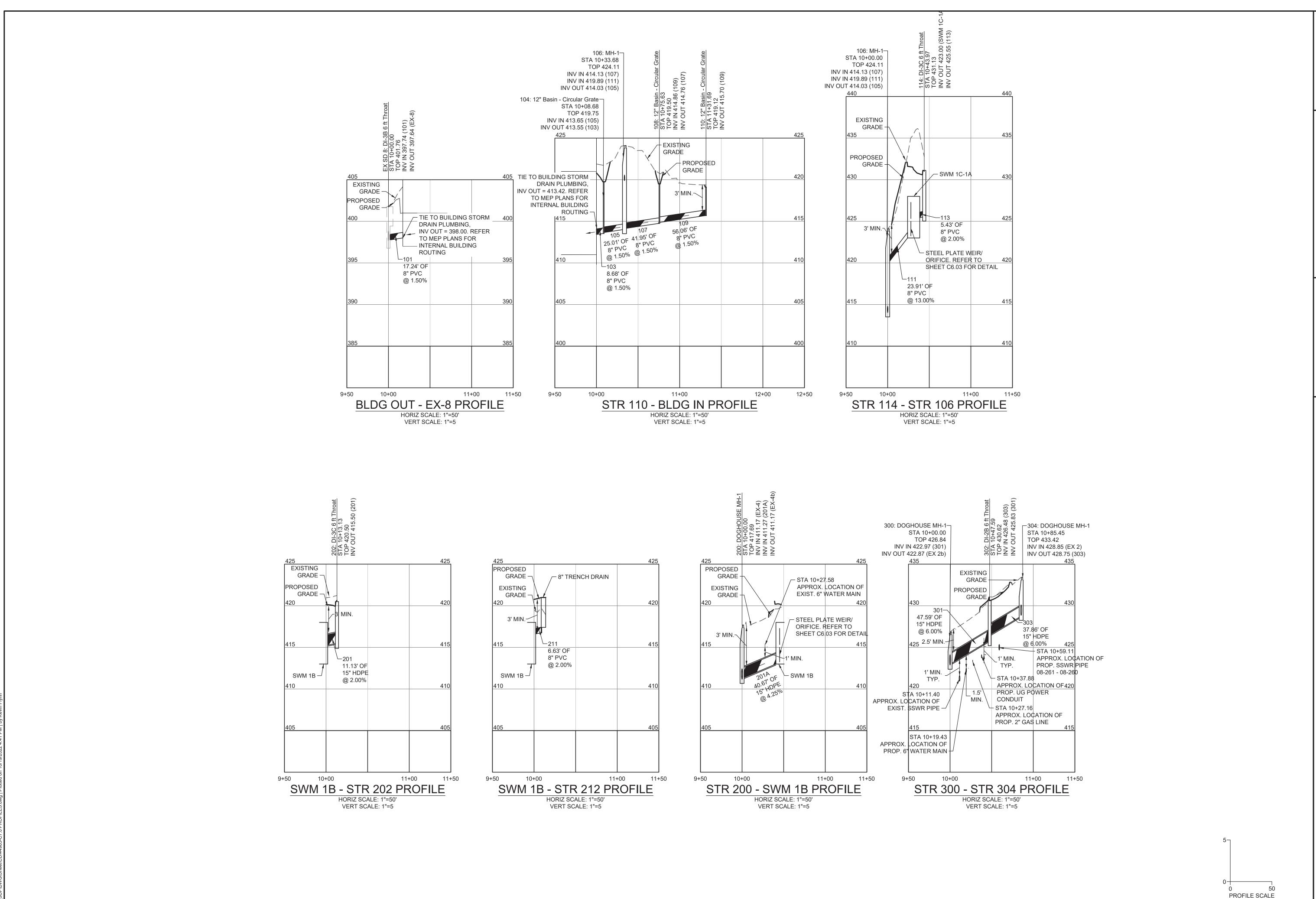
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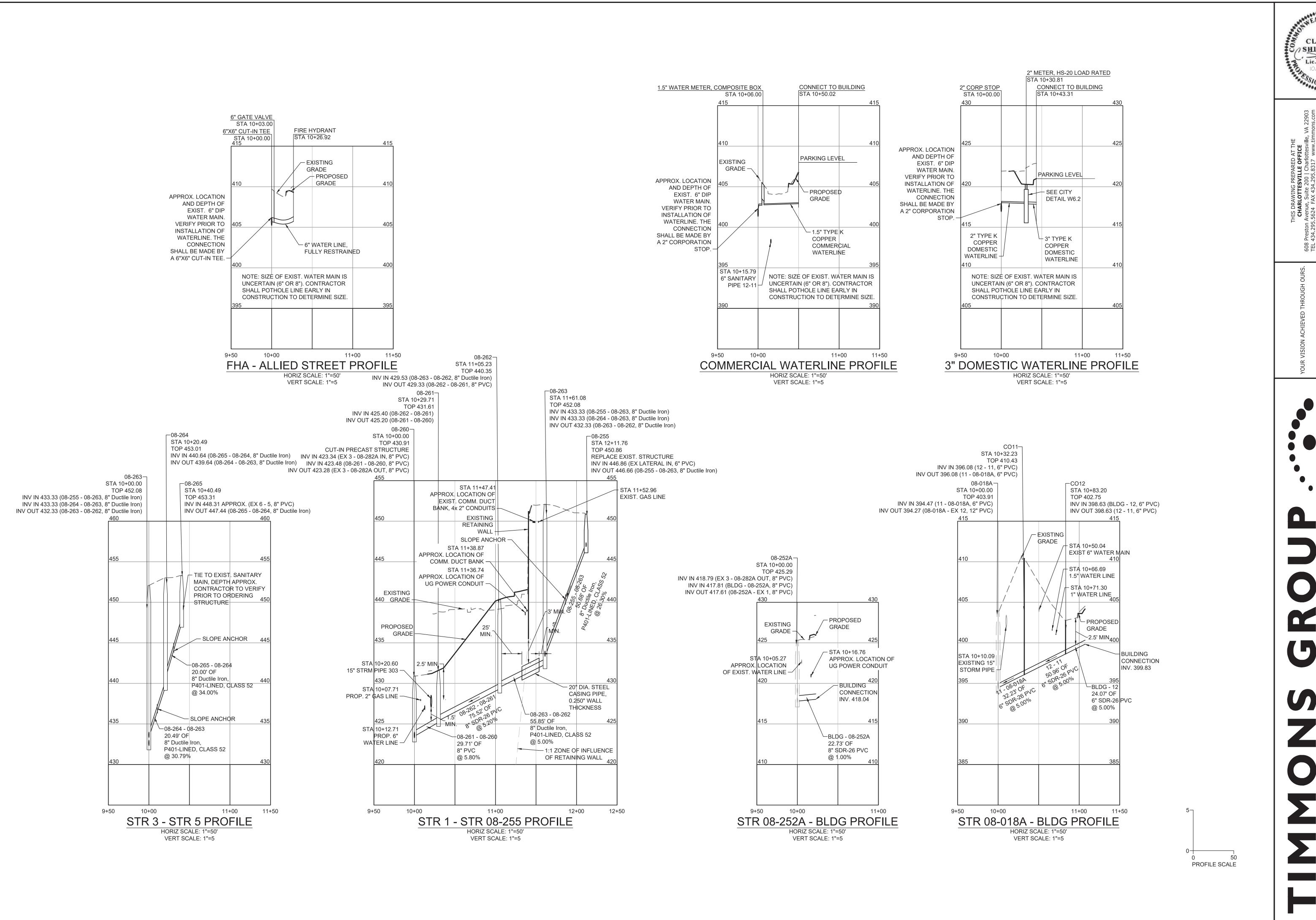
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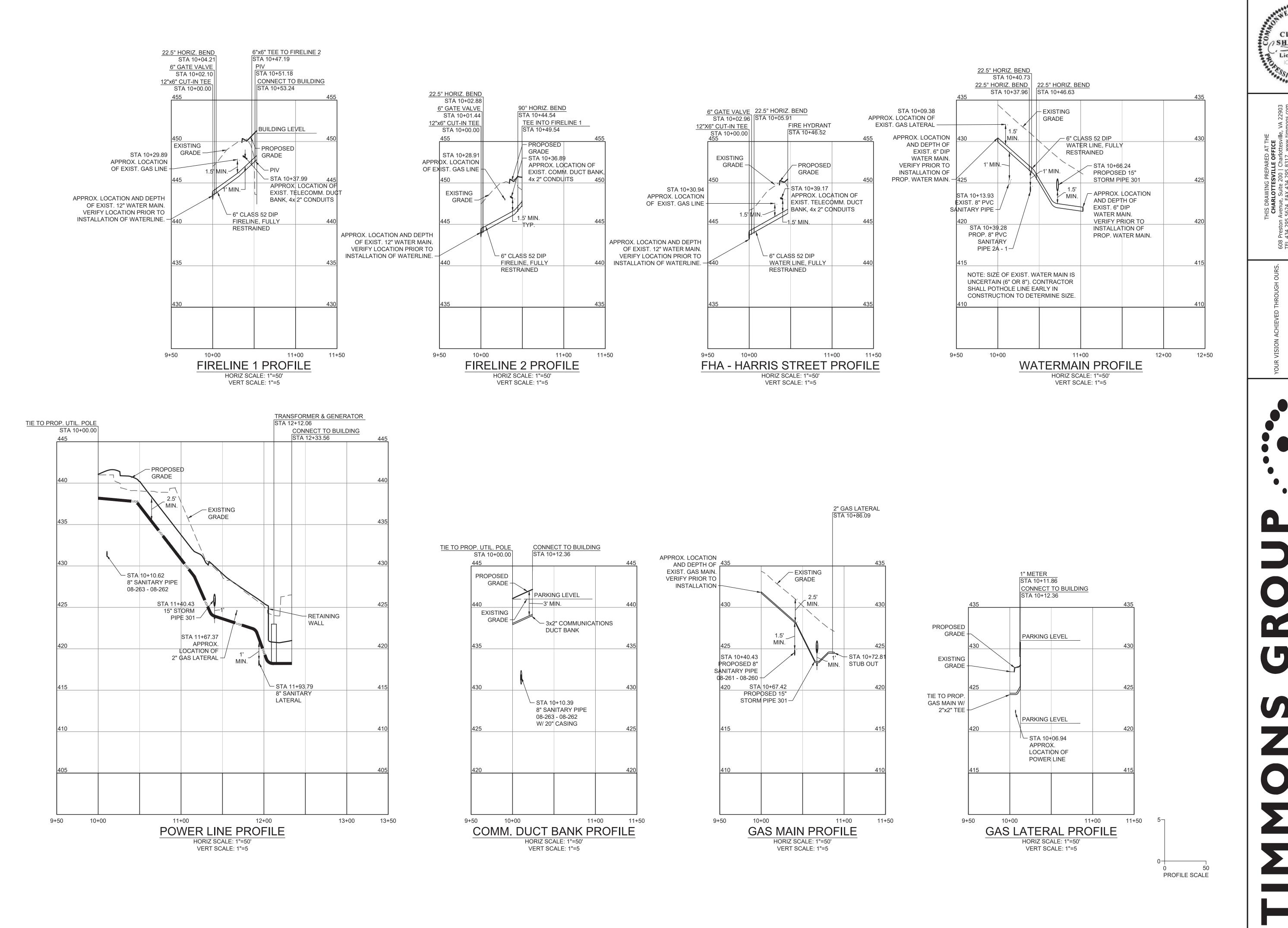
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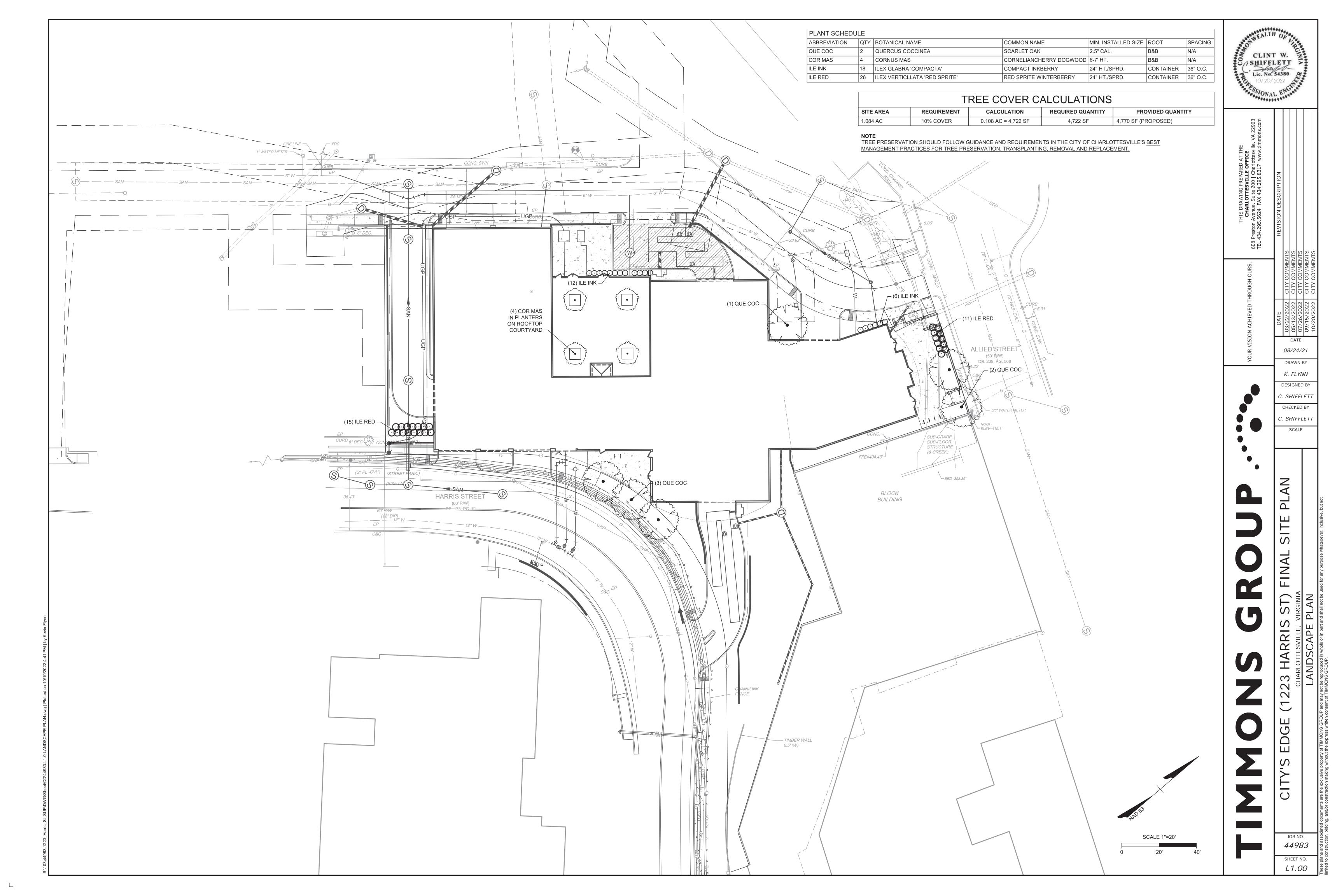
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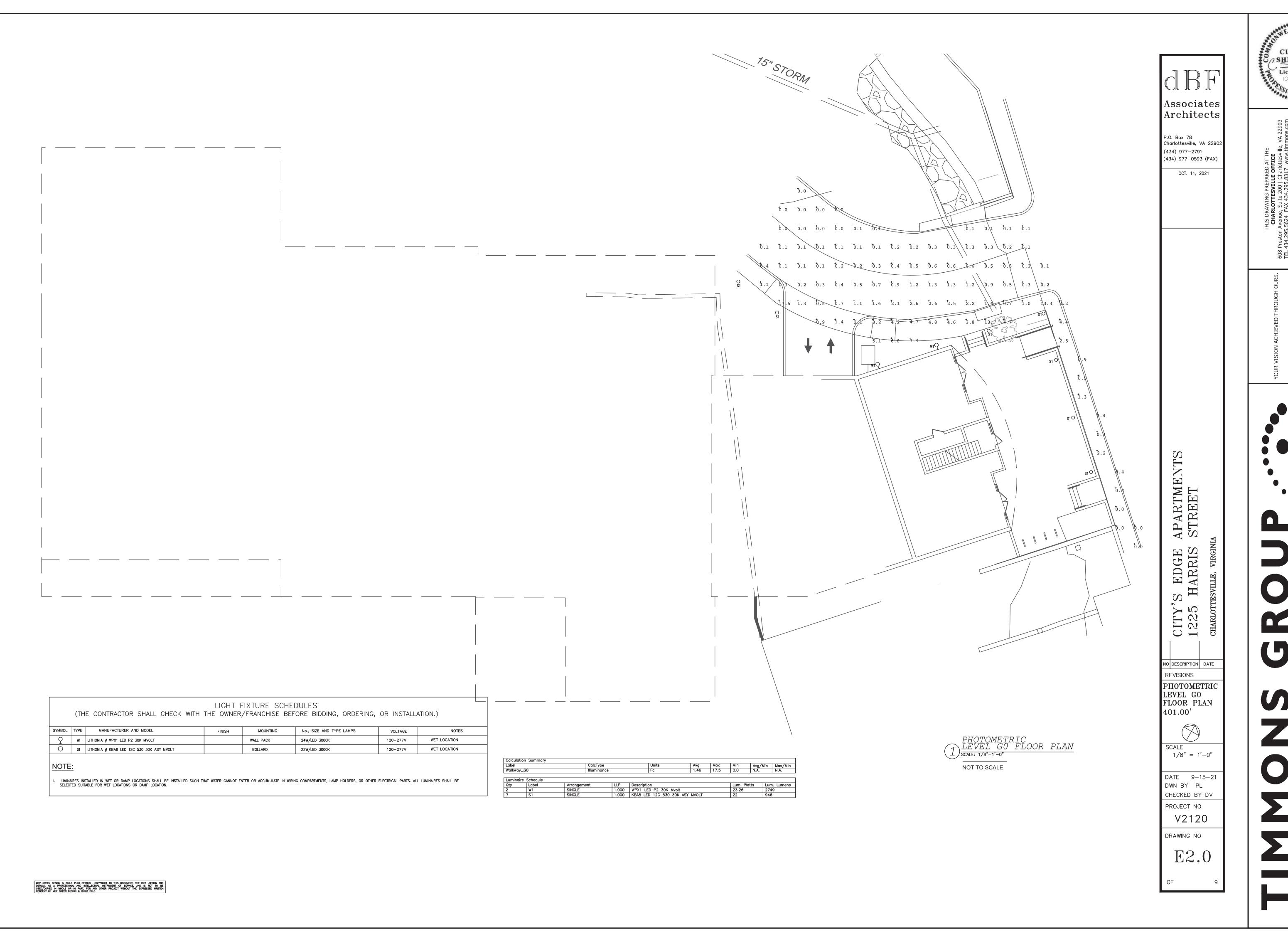
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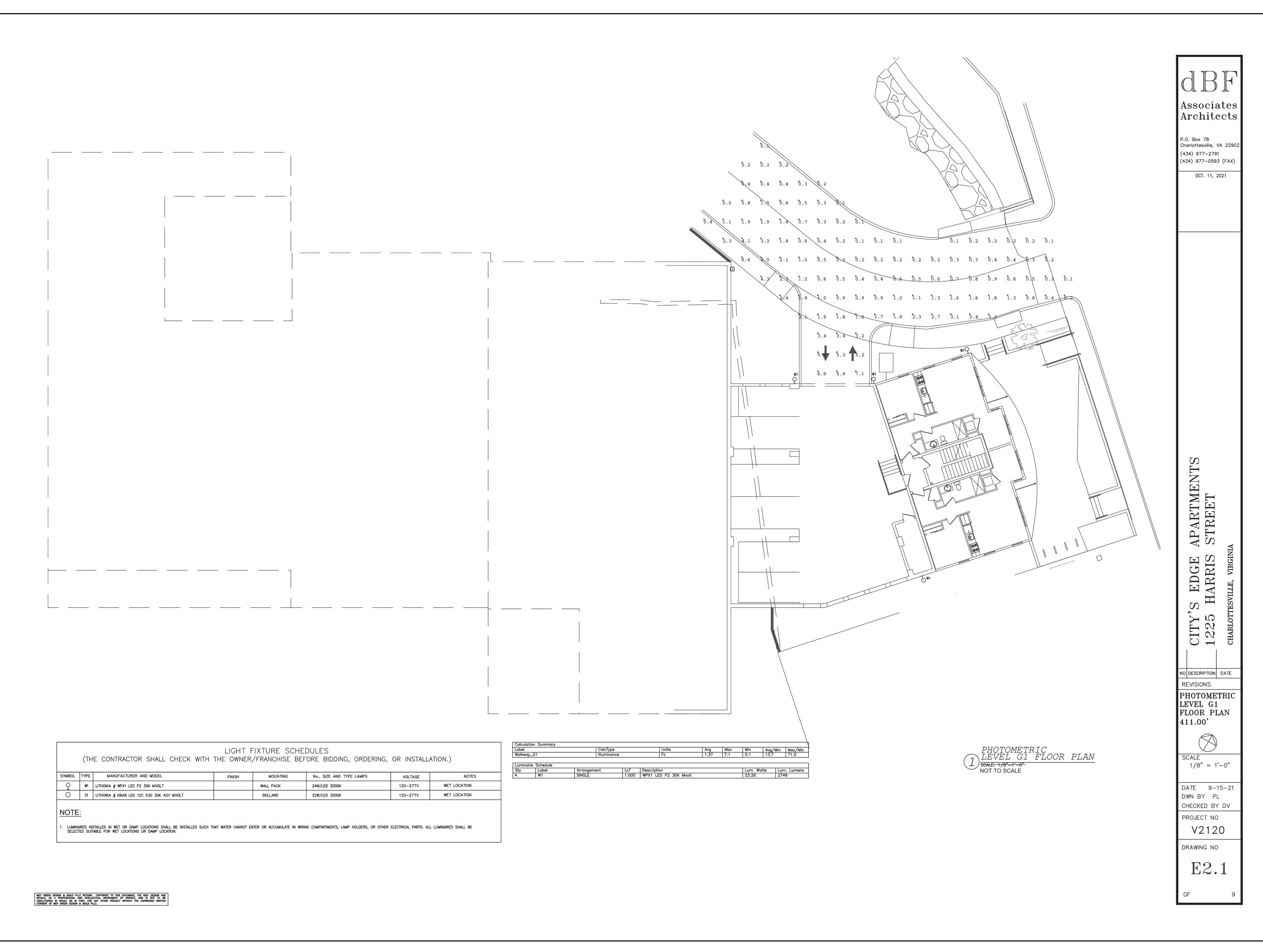
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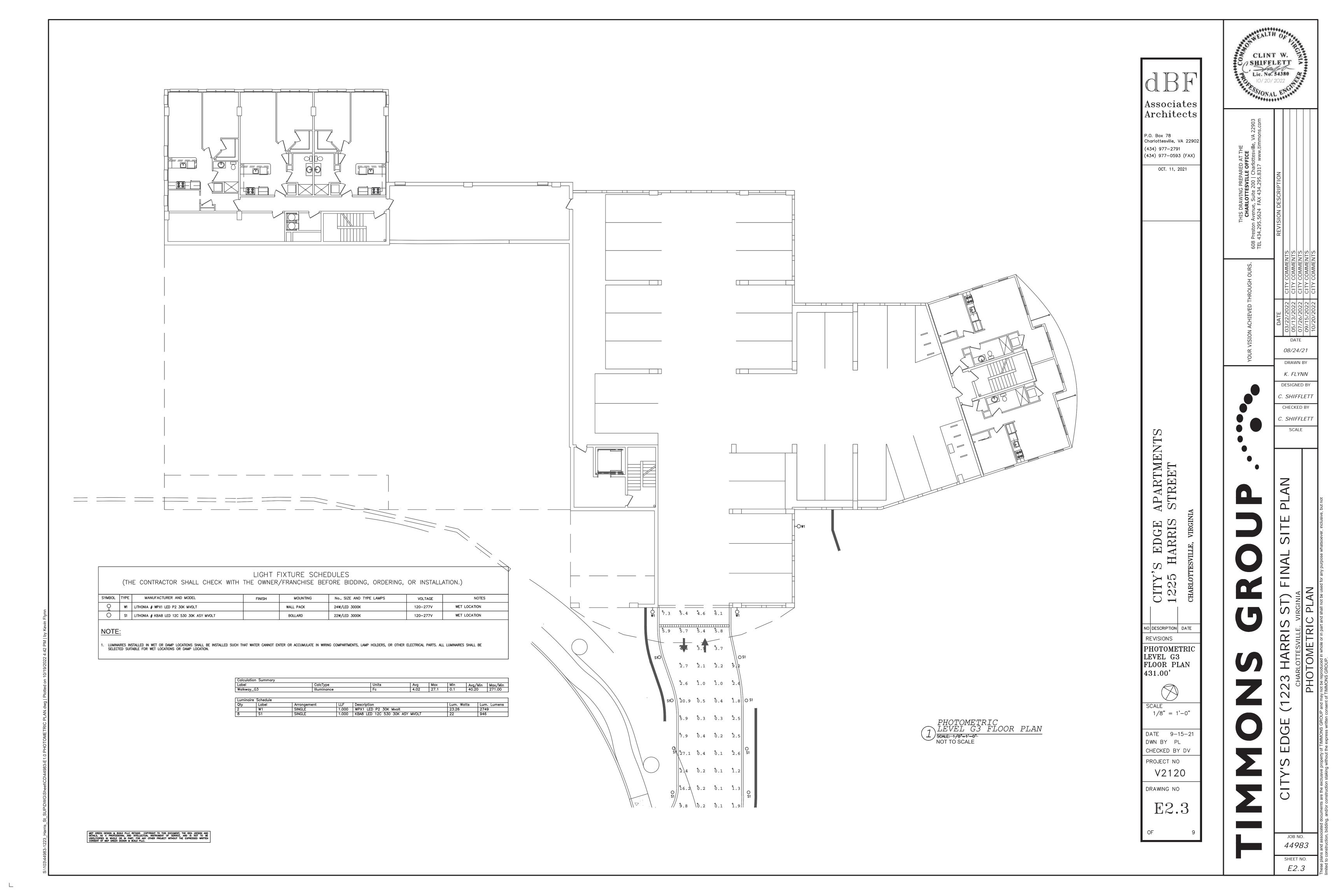


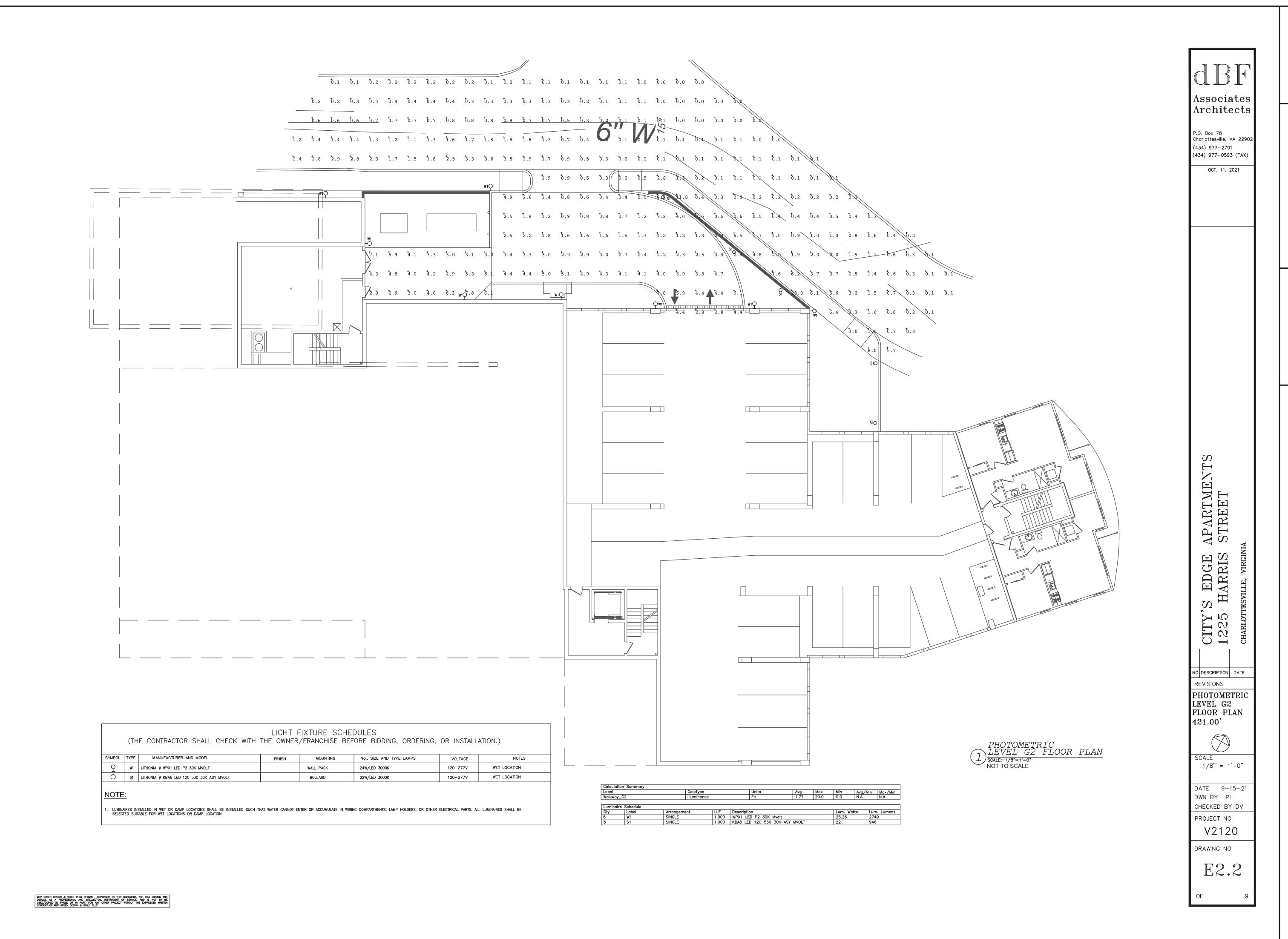
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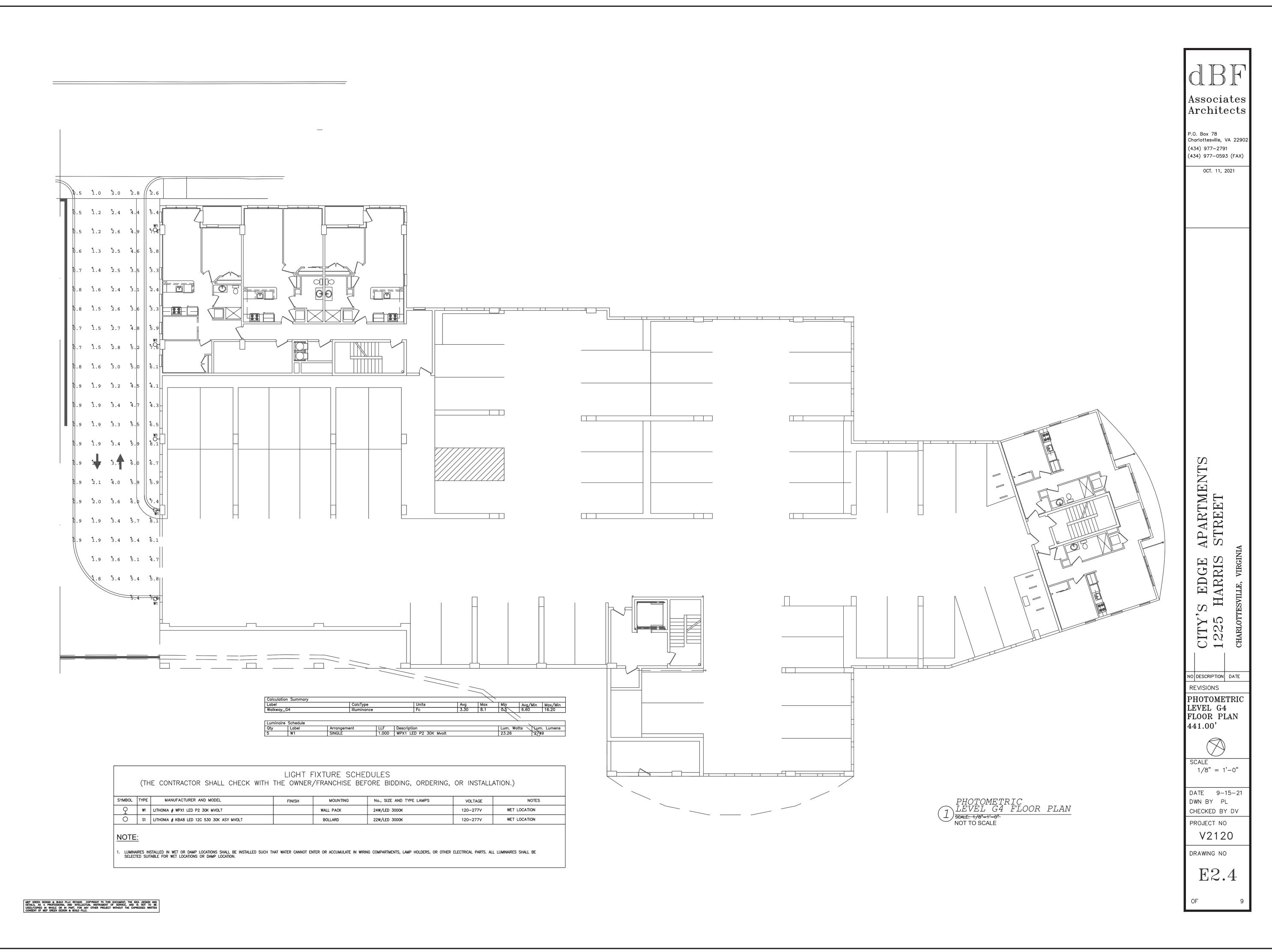




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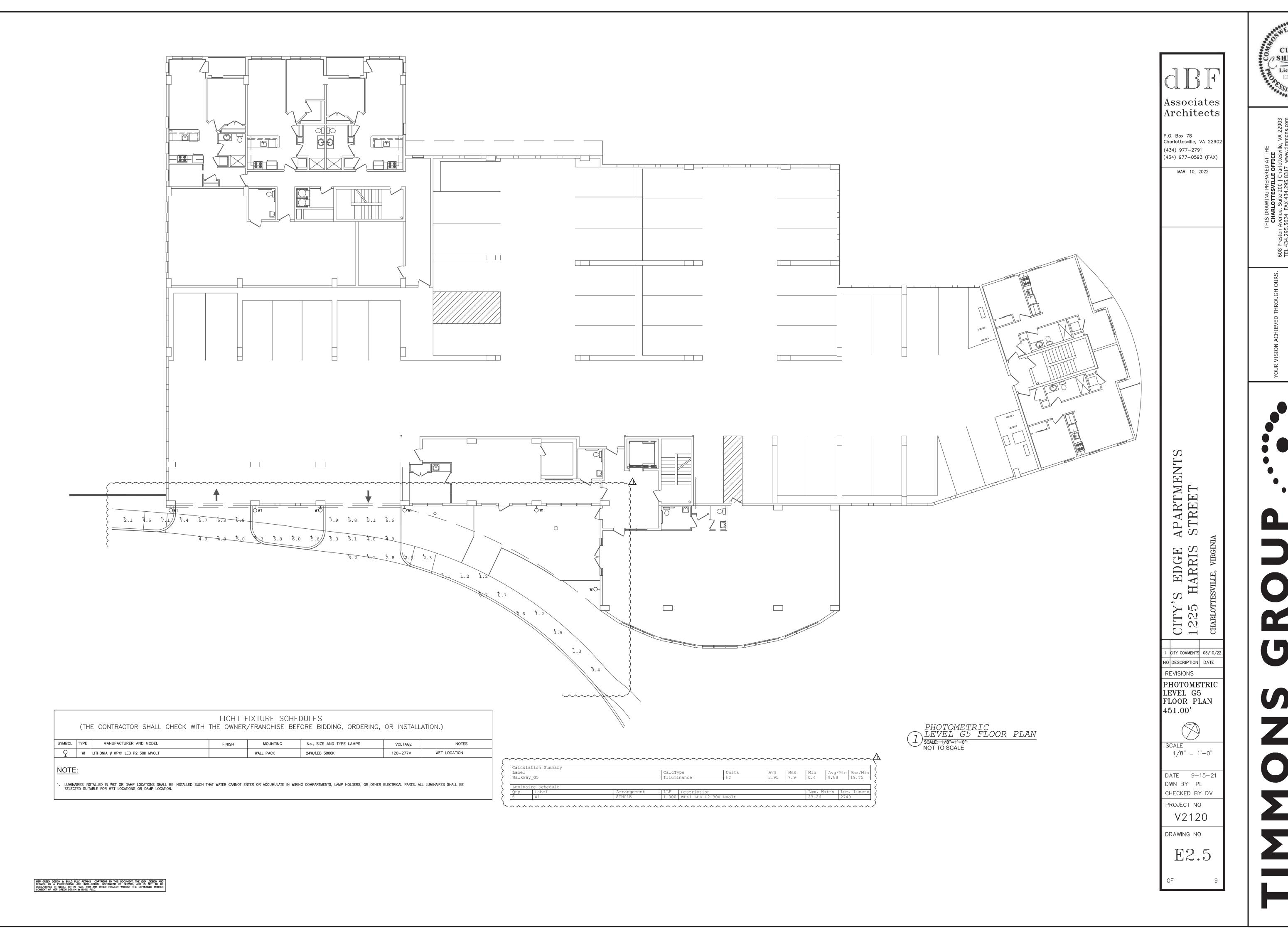
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