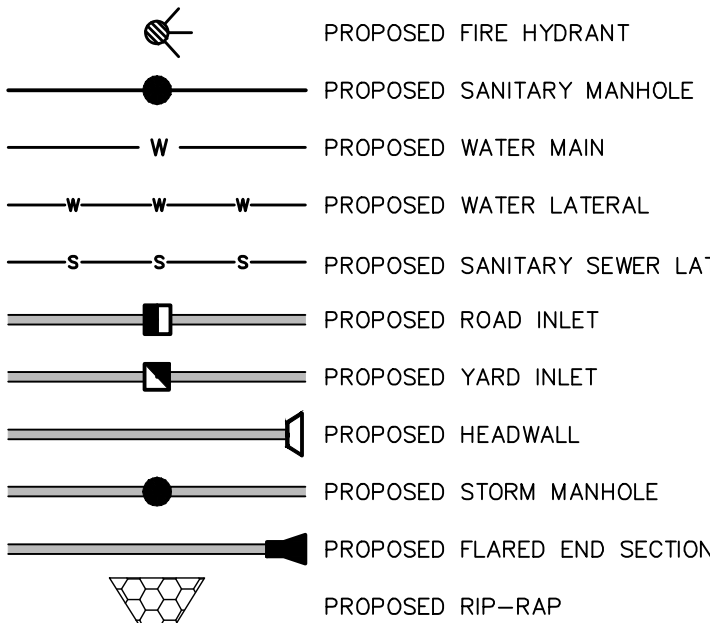


UTILITY NOTES

- GAS, ELECTRIC, TELEPHONE, CABLE TV AND STREET LIGHTING SHALL BE INSTALLED UNDERGROUND IN ACCORDANCE WITH REGULATION OF LOCAL UTILITY COMPANY & THE TOWNSHIP OF VERONA AND WILL BE WITHIN AN EASEMENT OR DEDICATED PUBLIC RIGHT OF WAY.
- SEPARATE UTILITY PERMIT APPLICATIONS WILL BE REQUIRED FOR ANY PROPOSED UTILITY WORK (GAS, ELECTRIC, WATER, SEWER, ETC.) IN NJDOT R.O.W.
- POTABLE WATER SERVICE & SANITARY SEWER SERVICE ON SITE TO BE PRIVATE.
- ALL MATERIALS, METHODS AND DETAILS OF CONSTRUCTION FOR SANITARY SEWER SHALL CONFORM TO THE REGULATIONS OF THE TOWNSHIP OF VERONA, ESSEX COUNTY UTILITIES AUTHORITY, AND THE STATE OF NEW JERSEY.
- ALL SANITARY SEWER AND WATER MAIN INSTALLATION SHALL CONFORM TO THE TOWNSHIP OF VERONA SANITARY SEWER AND WATER MAIN CONSTRUCTION STANDARDS.
- THE CONTRACTOR(S) SHALL DETERMINE THE LOCATION OF EXISTING STRUCTURES AND UTILITIES ABOVE AND BELOW GROUND BEFORE BEGINNING CONSTRUCTION IN ORDER TO AVOID INTERFERENCE WITH SAME.
- ALL ON SITE WATER MAINS TO BE 6" OR 8" CEMENT UNCLUTED DUCTILE IRON PIPE CONFORMING TO A.N.S.I. A 21.51 (AWWA C151), CLASS 52, WITH EITHER MECHANICAL OR PUSH-UP JOINTS.
- ALL ON SITE SANITARY SEWER GRAVITY MAINS SHALL BE 8" POLYVINYL CHLORIDE PIPE TYPE PSM, SDR-35, CONFORMING TO ASTM D3034 WITH PUSH-UP JOINTS (UNLESS OTHERWISE SPECIFIED ON THE PLANS).
- AT SANITARY SEWER MAIN AND WATER MAIN CROSSINGS, CONSTRUCT SANITARY SEWER MAIN A MINIMUM OF EIGHTEEN (18) INCHES BELOW WATER MAIN OR ENCASE SANITARY SEWER MAIN IN CONCRETE SIX (6) INCHES THICK FOR A DISTANCE OF TEN (10) FEET ON BOTH SIDES OF WATER MAIN. DUCTILE IRON PIPE MAY BE SUBSTITUTED FOR CONCRETE ENCASEMENT.
- PROVIDE EIGHTEEN (18) INCHES OF CLEARANCE BETWEEN STORM DRAINS CROSSING SANITARY SEWER MAINS.
- PROVIDE FOUR (4) FEET MINIMUM COVER OVER WATER MAINS AND PROVIDE THREE (3) FEET MINIMUM COVER OVER SEWER LATERALS AT CURB LINE.
- FIRE HYDRANT LOCATIONS SHALL BE APPROVED BY LOCAL FIRE OFFICIAL.
- STORM WATER MANAGEMENT FOR SITE SHALL MEET LOCAL, COUNTY AND STATE REQUIREMENTS.
- ALL STORM DRAIN PIPES SHALL BE REINFORCED CONCRETE, CLASS III, WALL "B" UNLESS NOTED OTHERWISE, AND CONFORM TO THE REQUIREMENTS OF ASTM C755, JOINT MATERIAL SHALL CONFORM TO ASTM C443.
- THE NEW JERSEY ONE CALL SYSTEM SHOULD BE CONTACTED A MINIMUM OF THREE (3) BUSINESS DAYS PRIOR TO ANY EXCAVATION OR SOIL DISTURBANCE ON-SITE OR WITHIN PUBLIC ROAD. CALL 811 OR (800)-272-1000.
- ALL UTILITY CONNECTIONS AND RELOCATIONS ARE SHOWN SCHEMATICALLY. THE CONTRACTOR SHALL CONTACT AND COORDINATE WITH EACH UTILITY COMPANY OR AUTHORITY TO PROVIDE THE MOST APPROPRIATE LOCATION FOR UTILITY CONNECTIONS AND/OR RELOCATIONS.
- EXISTING SITE AND UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN COLLECTED FROM VARIOUS SOURCES AND IS NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS. CONTRACTOR SHOULD FIELD VERIFY PRIOR TO CONSTRUCTION.
- THE VERTICAL DATUM SHOWN IS BASED ON NAVD83 AS ESTABLISHED USING GPS METHODS AND THE SMARTNET NETWORK.
- BACKFLOW PREVENTION DEVICES FOR DOMESTIC AND FIRE SERVICE CONNECTIONS SHALL BE PROVIDED PER TOWNSHIP OF VERONA STANDARDS. ANY REDUCED PRESSURE ZONE ASSEMBLIES (RPZ) SHALL BE LOCATED IN AN INTERNAL UTILITY ROOM WITH FLOOR DRAIN.
- WATER VALVES 16" DIAMETER OR GREATER SHALL BE BUTTERFLY TYPE.
- ALL STORM AND SANITARY SEWER CASTINGS, MANHOLES, CATCH BASINS, FRAMES, GRATES, AND OTHER COMPONENTS SHALL BE AMERICAN MADE AND BEAR APPROVAL/CERTIFICATION FROM THE NJDOT.

LEGEND



INLET TYPES	
INLET #	TYPE
101	'A'
102	'B'
103	'B'
104	'E'
105	'B'
106	'E'
107	'E'
108	'A'
200	'E'
201	'E'
203	'E'
204	'B'
302	'E'
303	'E'
304	'E'
305	'E'
307	12" YARD
400	'B'
404	12" YARD
405	'B' (8")

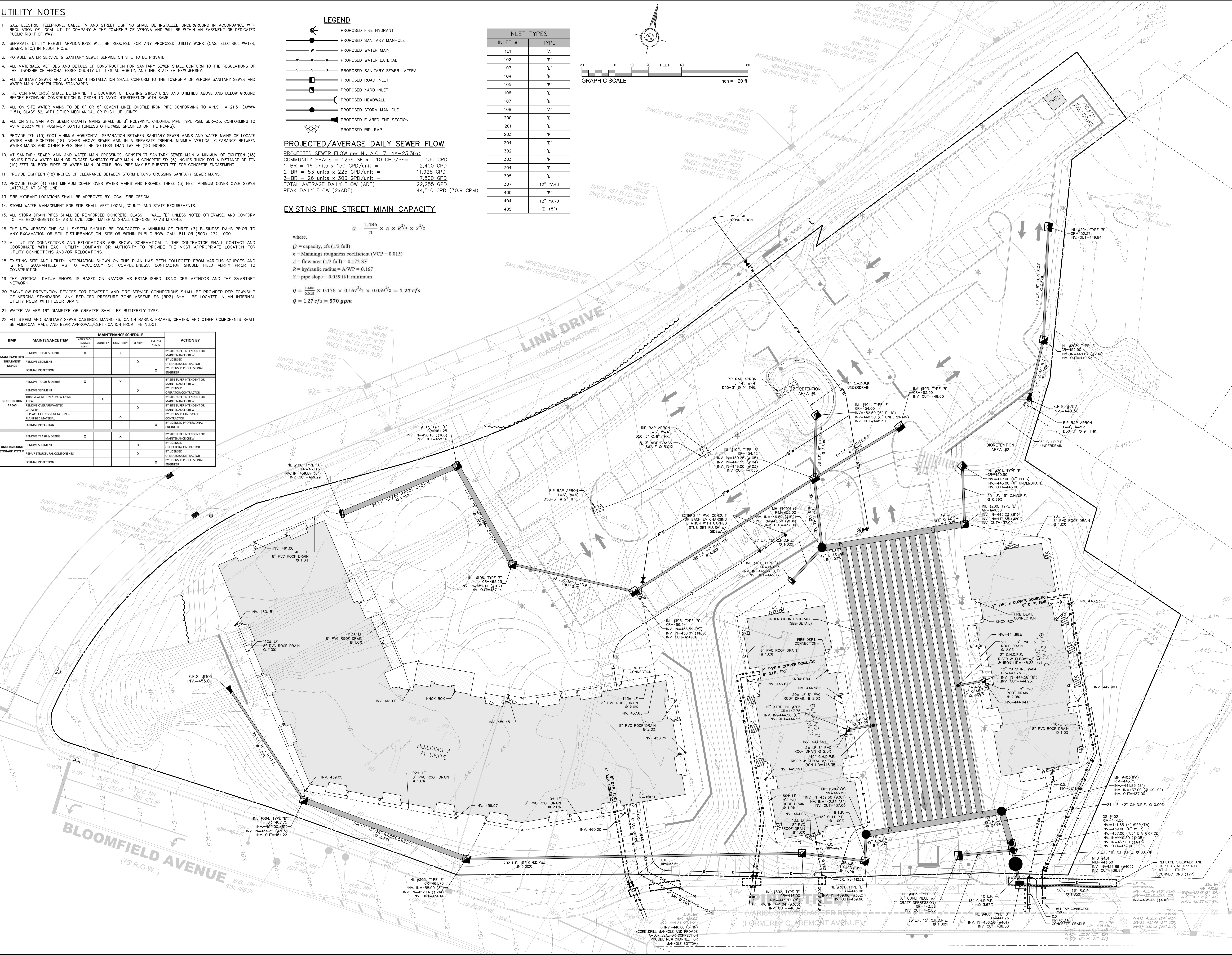
PROJECTED/AVERAGE DAILY SEWER FLOW

PROJECTED SEWER FLOW per N.J.A.C. 7:14A-23.3(a)
COMMUNITY SPACE = 1296 SF x 0.10 GPD/SF = 130 GPD
1-BR = 16 units x 150 GPD/unit = 2,400 GPD
2-BR = 53 units x 225 GPD/unit = 11,925 GPD
3-BR = 26 units x 300 GPD/unit = 7,800 GPD
TOTAL AVERAGE DAILY FLOW (ADF) = 22,255 GPD
PEAK DAILY FLOW (2xADF) = 44,510 GPD (30.9 GPM)

EXISTING PINE STREET MAIN CAPACITY

where,
 $Q = \frac{1.486}{n} \times A \times R^{2/3} \times S^{1/2}$
 Q = capacity, cfs (1/2 full)
 n = Mannings roughness coefficient (VCP = 0.015)
 A = flow area (1/2 full) = 0.175 SF
 R = hydraulic radius = A/WP = 0.167
 S = pipe slope = 0.059 ft/ft minimum
 $Q = \frac{1.486}{0.015} \times 0.175 \times 0.167^{2/3} \times 0.059^{1/2} = 1.27 \text{ cfs}$
 $Q = 1.27 \text{ cfs} = 570 \text{ gpm}$

BMP	MAINTENANCE ITEM	MAINTENANCE SCHEDULE				ACTION BY
		AFTER EACH RAINFALL EVENT	MONTHLY	QUARTLY	YEARLY	
MANUFACTURED TREATMENT DEVICE	REMOVE TRASH & DEBRIS	X				BY SITE SUPERINTENDENT OR MAINTENANCE CREW
	REMOVE SEDIMENT				X	BY LICENSED CONTRACTOR
BIORETENTION AREAS	FORMAL INSPECTION				X	BY LICENSED PROFESSIONAL ENGINEER
	REMOVE TRASH & DEBRIS	X		X		BY SITE SUPERINTENDENT OR MAINTENANCE CREW
	REMOVE SEDIMENT				X	BY LICENSED CONTRACTOR
	TRIM VEGETATION & MOW LAWN AREAS		X			BY SITE SUPERINTENDENT OR MAINTENANCE CREW
	REMOVE OVERGROWN GROWTH				X	BY SITE SUPERINTENDENT OR MAINTENANCE CREW
UNDERGROUND STORAGE SYSTEM	REPAIR STRUCTURAL COMPONENTS				X	BY LICENSED CONTRACTOR
	FORMAL INSPECTION				X	BY LICENSED PROFESSIONAL ENGINEER



DRAFT

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New Jersey Certificate of Authorization No. 246A2799900

REV	DATE	DESCRIPTION
1	12/14/21	REVISED FOR UTILITY AGENCY APPLICATIONS
2	2/10/22	REVISED PER COUNTY AND RESOLUTION COMPLIANCE
3	2/10/22	REVISED PER NJDOT TIA COMMENTS
4	12/26/24	REVISED PER B.O.B. & C. ROAD MODIFICATION

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UTILITY PLAN
FINAL MAJOR SITE PLAN
VERONA FLATS
BLOCK 2301, LOTS 11, 12, 14-17, PORTION OF 18, AND 19, TAX MAP #23.01
TOWNSHIP OF VERONA, ESSEX COUNTY, NEW JERSEY

DATE:	OCT. 28, 2021	SCALE:	1" = 20'
DESIGN:	JSK	DRAWN:	TJG
JOB NO.:	20024	FILE NAME:	20024-06-UTL
REF. NO.:	SD06.01		
SHEET NO.:	6	OF	13