SHEET

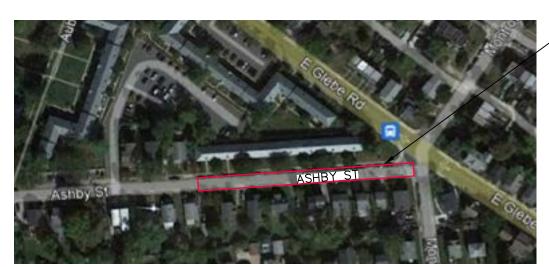
DATE: 06/14/23 | >

**01** OF **24** SCALE AS SHOWN

COVER SHEET G-001 G-002 GENERAL NOTES, ABBREVIATIONS & LEGEND G-003 EXISTING SURVEY AND TEST PIT INFORMATION G-004 EXISTING SURVEY AND TEST PIT INFORMATION EXISTING CONDITIONS AND DEMOLITION PLAN — ASHBY STREET C-101 EXISTING CONDITIONS AND DEMOLITION PLAN — EAST ALEXANDRIA AVENUE C-102 C-103 EXISTING CONDITIONS AND DEMOLITION PLAN — EAST OAK STREET C-104 |EXISTING CONDITIONS AND DEMOLITION PLAN — EAST MAPLE STREET C-201 ASHBY STREET PLAN AND PROFILE C-202 EAST ALEXANDRIA AVE PLAN AND PROFILE C-203 EAST OAK STREET PLAN AND PROFILE C-204 EAST MAPLE STREET PLAN AND PROFILE I EAST MAPLE STREET PLAN AND PROFILE II C-205 C-501 DETAILS I DETAILS II C-502 C-503 EROSION & SEDIMENT CONTROL NOTES AND DETAILS C-701 17 MOT NOTES C-702 MOT DETAILS C-703 ASHBY STREET TRAFFIC CONTROL PLAN C-704 ALEXANDRIA AVENUE TRAFFIC CONTROL PLAN PHASE C-705 ALEXANDRIA AVENUE TRAFFIC CONTROL PLAN PHASE

> SANITARY SEWER CAPACITY UPSIZING PROJECT-1

> > LOCATION



SHEET INDEX

TITLE

SHEET NUMBER

C-706 C-707 C-708

AREA MAP - ASHBY ST SCALE 1" = 200

SOURCE: GOOGLE MAPS



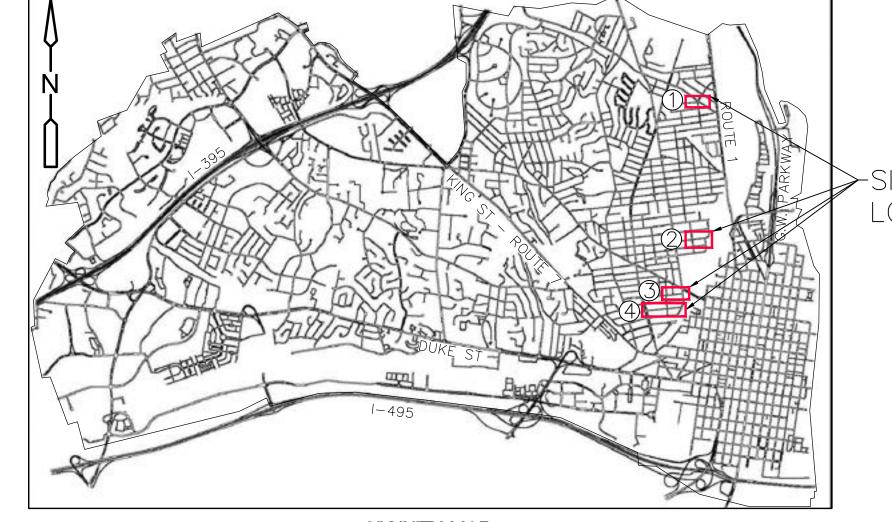
② AREA MAP - E ALEXANDRIA AVE SCALE 1" = 200'



3 AREA MAP - E OAK ST SCALE 1" = 200'SOURCE: GOOGLE MAPS



(4) AREA MAP - E MAPLE ST SCALE 1" = 200' SOURCE: GOOGLE MAPS



VICINITY MAP SCALE 1" = 4000'

# PROJECT DESCRIPTION:

ASHBY STREET - APPROXIMATELY 290 LINEAR FEET SAN. SEWER REPLACEMENT AND ONE

NEW MANHOLE B. EAST ALEXANDRIA AVENUE - APPROXIMATELY 475 LINEAR FEET SAN. SEWER REPLACEMENT

AND ONE NEW MANHOLE EAST OAK STREET - APPROXIMATELY 623 LINEAR FEET SAN. SEWER REPLACEMENT EAST MAPLE STREET - APPROXIMATELY 1,067

LINEAR FEET SAN. SEWER REPLACEMENT

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES. APPROVED DATE: 06/28/2023 DIRECTOR RECOMMENDED FOR APPROVAL DEPUTY DIRECTOR OF OPERATIONS

RECOMMENDED FOR APPROVAL

Erin Bevis-Carver for William Skrabak DEPUTY DIRECTOR OF INFRASTRUCTURE & ENVIRONMENTAL QUALITY RECOMMENDED FOR APPROVAL

Lalit Sharma DATE: 06/28/2023 DEPUTY DIRECTOR OF RIGHT-OF-WAY & DEVELOPMENT SERVICES RECOMMENDED FOR APPROVAL

DATE: 06/28/2023 DEPUTY DIRECTOR OF TRANSPORTATION

DEPARTMENT OF PROJECT IMPLEMENTATION

APPROVED DIRECTOR

CALL BEFORE YOU DIG. DIAL 811 IN VIRGINIA OR 1-800-552-7001

RECOMMENDED FOR APPROVAL

06/14/2023 R. Chehade DATE: DIVISION CHIEF

### **EXISTING CONDITIONS SURVEY NOTES**

HORIZONTAL DATUM: BASED UPON VIRGINIA COORDINATE SYSTEM 1983-NORTH ZONE VERTICAL DATUM: BASED UPON NORTH AMERICAN VERTICAL DATUM 1988

BENCHMARKS HAVE BEEN PROVIDED FOR USE BY CONTRACTOR

- 1. FOR EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES, NOTIFY VIRGINIA ONE CALL (811), 72 HOURS BEFORE THE START OF ANY EXCAVATION OR CONSTRUCTION.
- 2. LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. ANY DISCREPANCIES ARE TO BE REPORTED IMMEDIATELY TO THE OWNER AND ENGINEER. REDESIGN AND APPROVAL BY REVIEWING AGENCIES SHALL BE OBTAINED. IF NECESSARY. CONTRACTOR SHALL DIG TEST PITS BY HAND AT ALL UTILITY CROSSINGS TO VERIFY EXACT LOCATION.

### **GENERAL NOTES**

- 1. OWNER: CITY OF ALEXANDRIA
- 2. TOTAL SITE AREA: 69,740 SQUARE FEET OR 1.60 ACRES OF WHICH 69,740 SQUARE FEET OR 1.60 ACRES WILL BE DISTURBED WITH THIS PROJECT.
- 3. SOIL BORING INFORMATION IS INCLUDED IN THE SPECIFICATIONS.
- 4. NO PORTION OF THE SUBJECT PROPERTY LIES WITHIN A CITY OF ALEXANDRIA RESOURCE PROTECTION AREA.
- 5. THERE IS NO OBSERVABLE EVIDENCE OF CEMETERIES OR BURIAL GROUNDS ON THIS PROPERTY.
- 6. ALL PAVEMENT MARKINGS THAT ARE DISTURBED OR REMOVED DURING CONSTRUCTION MUST BE REPLACED BY THE CONTRACTOR.
- 7. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE MOST CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS, INCLUDING BUT NOT LIMITED TO, ENVIRONMENTAL PROTECTION AGENCY (EPA), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), VIRGINIA OCCUPATIONAL AND SAFETY HEALTH COMPLIANCE PROGRAM (VOSH ENFORCEMENT), VIRGINIA OVERHEAD HIGH VOLTAGE LINE SAFETY ACT, NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS), AND NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH (NIOSH).
- 8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK WITH REPRESENTATIVES OF UTILITY COMPANIES AND FOR THE IMPLEMENTATION OF REQUIRED UTILITY-RELATED WORK.
- 9. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE UPON ENCOUNTERING ANY HAZARDOUS MATERIALS DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL DOCUMENT SAME TO THE OWNER'S REPRESENTATIVE AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
- 10. PRIOR TO COMMENCING NEW WORK, THE CONTRACTOR SHALL PROTECT FROM DAMAGE ALL EXISTING ADJACENT AREAS. ALL ADJACENT AREAS DAMAGED BY THE CONTRACTOR SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE CITY OF ALEXANDRIA.
- 11. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY OWNERS REPRESENTATIVE UPON ENCOUNTERING ANY EXISTING UTILITIES AND/OR UTILITY SYSTEM STRUCTURES NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL DOCUMENT SAME TO THE UTILITY OWNER'S REPRESENTATIVE AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
- 12. VEGETATION TO BE REMOVED SHALL BE APPROVED BY THE CITY ARBORIST.

GUIDELINES OF THE CITY OF ALEXANDRIA.

- 13. PROVIDE, IMPLEMENT AND FOLLOW A TREE CONSERVATION AND PROTECTION PROGRAM THAT IS DEVELOPED TO THE SATISFACTION OF THE CITY ARBORIST.
- 14. PROVIDE PROTECTION OF EXISTING VEGETATION IN COMPLIANCE WITH LANDSCAPE
- 15. CONTRACTOR MUST PROVIDE DOCUMENTATION OF COMMUNICATION WITH THE ADJACENT PROPERTY OWNER(S) VERIFYING NOTIFICATION OF CONSTRUCTION IMPACT, POTENTIAL FOR LOSS, AND AGREED UPON REMEDIAL MEASURES PERTAINING TO THE EXISTING TREE(S) ON ADJACENT PROPERTIES THAT WILL BE AFFECTED BY PROJECT
- 16. THE CONTRACTOR SHALL PROVIDE SPECIFIC CONSTRUCTION STAGING INFORMATION THAT INDICATES THE METHODS, AND PROCEDURES TO BE IMPLEMENTED FOR PROTECTION OF EXISTING ON-SITE AND OFF-SITE VEGETATION.
- 17. TREE PROTECTION SHALL BE PROVIDED WHERE SILT FENCE IS NOT ADEQUATE. PROTECTION SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE DRIP LINE OF THE TREES TO BE SAVED. THE CONTRACTOR WILL CONSULT THE SITE INSPECTOR BEFORE THE CONSTRUCTION STARTS. TREE PROTECTION FENCING MUST BE ESTABLISHED AND APPROVED BY THE CITY ARBORIST BEFORE ANY CLEARING OR CONSTRUCTION CAN BE STARTED. TO THE EXTENT POSSIBLE ALL TREE PROTECTION SHALL BE INSTALLED AT THE DRIP LINE OF THE TREE(S.)
- 18. ALL SANITARY SEWERS SHALL BE CONSTRUCTED TO THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS.
- 19. ALL EXISTING LATERAL PIPES MUST BE CONFIRMED BY THE CONTRACTOR AS ACTIVELY IN USE BEFORE BEING CONNECTED TO THE NEW SEWER MAIN.
- 20. THE CONTRACTOR SHALL VERIFY AND PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION.
- 21.THE CONTRACTOR SHALL IDENTIFY ANY LOCATION(S) AND OBTAIN APPROVAL FROM THE CITY PRIOR TO USING AS STAGING AND STORAGE SPACE.
- 22. THE CONTRACTOR SHALL PRESENT REDLINE DRAWINGS TO THE CITY OF ALEXANDRIA'S CONSTRUCTION REPRESENTATIVE PRIOR TO PAY REQUEST APPROVAL AND FINAL COMPLETION.
- 23.CULVERTS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE PROPER LOCATION AND GRADE TO FACILITATE DRAINAGE AT THE CONTRACTOR'S EXPENSE.
- 24.CONTRACTOR SHALL DEVELOP AND SUBMIT A CONSTRUCTION SEQUENCING PLAN FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING CONSTRUCTION.
- DEPARTMENT OF PROJECT IMPLEMENTATION, INCLUDING INTERRUPTION OF UTILITY SERVICES AND DISRUPTION OF VEHICULAR TRAFFIC.

25.CONTRACTOR SHALL COORDINATE ALL WORK WITH THE CITY OF ALEXANDRIA'S

- 26. CONTRACTOR SHALL PERFORM ALL WORK IN FULL CONFORMANCE TO ALL CITY, STATE, AND FEDERAL REGULATIONS CONCERNING PROTECTION OF PUBLIC, WORKERS, ENVIRONMENT, AND PROPERTY.
- 27.ALL EXISTING MATERIALS REMOVED SHALL BE HAULED OFF SITE AND DISPOSED AT THE CONTRACTOR'S EXPENSE PER PREVAILING LOCAL, STATE, AND/OR FEDERAL REGULATIONS.

- 28.PROJECT CONSTRUCTION IS TO REMAIN WITHIN CITY PROPERTY, PUBLIC STREET DEDICATED RIGHT-OF-WAY AND/OR EXISTING UTILITY EASEMENTS. ANY CONSTRUCTION ACTIVITY ENCROACHMENT BEYOND THESE LIMITS WILL BE THE CONTRACTOR'S LIABILITY FOR REPLACEMENT COSTS ASSOCIATED WITH ANY DAMAGES OR SURFACE REPLACEMENT, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- 29. CONTRACTOR SHALL INCLUDE ALL COSTS FOR INVESTIGATIVE FIELD WORK IN LOCATING AND UNCOVERING EXISTING MANHOLES, SERVICE LINES AND SEWER MAINS TO COMPLETE PROJECT CONSTRUCTION AS PLANNED IN THEIR CONTRACT BID PROPOSAL AT NO DIRECT PAYMENT, EXCEPT AT SPECIFIC LOCATIONS WHERE A PAY ITEM IS NOTED ON THE DRAWINGS. STATIONS LISTED ON THE DRAWINGS FOR THE LOCATIONS OF THE SEWER SERVICE LINES WERE OBTAINED FROM AVAILABLE DOCUMENTS AND ARE LISTED TO ASSIST THE CONTRACTOR: HOWEVER, THE LIST MAY NOT BE COMPLETE OR ACCURATE.
- 30.OWNER SHALL HAVE PRIORITY FOR THE SELECTION OF SALVAGED EQUIPMENT AND MATERIALS. ANY EQUIPMENT AND MATERIAL SELECTED TO REMAIN THE PROPERTY OF THE OWNER SHALL BE REMOVED AND DELIVERED TO A LOCATION AS DESIGNATED BY THE OWNER. ANY MATERIAL NOT RETURNED TO THE OWNER SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR IN COMPLIANCE WITH PREVAILING REGULATIONS. CAREFULLY REMOVE AND PROTECT ITEMS SELECTED BY THE OWNER TO BE
- 31. CONTRACTOR SHALL MAINTAIN A SAFE INGRESS AND EGRESS FOR HOMEOWNERS, BUSINESSES AND ADJACENT PROPERTIES AT ALL TIMES DURING CONSTRUCTION.

PRIOR TO THE ISSUANCE OF A DEMOLITION PERMIT OR LAND DISTURBANCE PERMIT, A RODENT ABATEMENT PLAN SHALL BE SUBMITTED TO THE CITY OF ALEXANDRIA BUILDING AND FIRE CODE ADMINISTRATION THAT WILL OUTLINE STEPS THAT WILL BE TAKEN TO PREVENT THE SPREAD OF RODENTS FROM THE CONSTRUCTION SITE TO THE SURROUNDING COMMUNITY AND SEWERS. THE CONTRACTOR CAN CONTACT ALEXANDRIA DEPARTMENT OF CODE ADMINISTRATION AT (703) 746-4200 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION. PLEASE BE ADVISED ONCE ANY DEMOLITION HAS BEEN COMPLETED, ANY ABOVE GROUND BAIT BOXES MUST BE RELOCATED WITHIN 50 FEET OF A STRUCTURE IN KEEPING WITH EPA REGULATIONS. IF THIS IS NOT POSSIBLE, THEY SHALL BE REMOVED AND REGULAR INSPECTIONS OF THE SITE CONDUCTED BY VIRGINIA LICENSED PEST EXTERMINATOR TO ENSURE THE SITE REMAINS RODENT FREE.

- 1. THE CONTRACTOR SHALL VISIT THE SITE AND SHALL VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION
- 2. ALL AREAS, ON OR OFF-SITE, WHICH ARE DISTURBED BY THIS CONSTRUCTION AND WHICH ARE NOT PAVED OR BUILT UPON, SHALL BE ADEQUATELY STABILIZED TO CONTROL EROSION AND SEDIMENTATION. THE MINIMUM ACCEPTABLE STABILIZATION SHALL CONSIST OF PERMANENT GRASS, SEED MIXTURE TO BE AS RECOMMENDED BY THE CITY AGENT. ALL SLOPES 3:1 AND GREATER SHALL BE SODDED AND PEGGED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY OF ALEXANDRIA.
- 3. EXISTING CONSTRUCTION SHALL BE REMOVED TO NEAREST JOINT. NEW CONSTRUCTION SHALL BE PROVIDED AS SHOWN AND ANY DAMAGED AREA SHALL BE REPAIRED TO MATCH CONDITIONS EXISTING PRIOR TO CONSTRUCTION.
- 4. TOPS OF EXISTING STRUCTURES WHICH REMAIN IN USE ARE TO BE ADJUSTED IN ACCORDANCE WITH THE FINISHED GRADE AS SHOWN IN PLANS. ALL PROPOSED STRUCTURE TOP ELEVATIONS ARE TO BE VERIFIED BY THE CONTRACTOR WITH THE PLANS. MINOR ADJUSTMENTS TO MEET FINISHED GRADE ELEVATIONS MAY BE
- 5. CONSTRUCTION STAKEOUT SHALL BE UNDER THE DIRECT SUPERVISION OF A LICENSED LAND SURVEYOR IN THE COMMONWEALTH OF VIRGINIA. CUT SHEETS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL WITHIN 24 HOURS OF THE CONSTRUCTION STAKEOUT.
- 6. SMOOTH GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF THE EXISTING ROAD TO THE PROPOSED ENTRANCE AND/OR CURB & GUTTER TO PRECLUDE THE FORMING OF FALSE AND/OR THE PONDING OF WATER ON THE ROADWAY.
- 7. PROPOSED PAVEMENT SECTION DEPTH(S) IS BASED ON A CBR VALUE OF 10. LABORATORY TESTS OF SUBGRADE SOIL SHALL BE PERFORMED FOR ACTUAL DETERMINATION OF REQUIRED SUBGRADE THICKNESS PRIOR TO PAVING. IN THE CASE OF PAVEMENT PATCHES, PAVEMENT SECTION MUST MEET OR EXCEED EXISTING
- 8. ALL PAVEMENT MARKING TO MEET THE REQUIREMENTS OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS AND SHALL BE IN FULL COMPLIANCE WITH THE VDOT ROAD AND BRIDGE SPECIFICATIONS FOR A TYPE B, CLASS I PAVEMENT MARKING.
- 9. THE CONTRACTOR MUST ENSURE THAT POSITIVE DRAINAGE OCCURS ON SITE TO PREVENT PONDING OR DRAINAGE PROBLEMS ON ADJACENT PROPERTIES.
- 10. CONTRACTOR MUST ENSURE THAT THERE IS NO DISTURBANCE ON ADJACENT PROPERTIES.
- 11.IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN UTILITY SERVICES AT ALL TIMES DURING CONNECTION AND/OR CONSTRUCTION.
- 12. THE CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL, PER VIRGINIA WORK AREA PROTECTION MANUAL, 2011 EDITION, REVISION 2.1: NOVEMBER 1, 2020, DURING CONSTRUCTION. NO SIDE AND/OR CROSS WALK SHALL BE CLOSED DURING CONSTRUCTION. IF SIDE AND/OR CROSS WALK NEED TO BE CLOSED TO FACILITATE THE CONSTRUCTION THEN THE CONTRACTOR SHALL PROVIDE A SIDE AND/OR CROSS WALK CLOSURE PLAN TO THE SATISFACTION OF THE DIRECTOR OF THE DEPARTMENT OF PROJECT IMPLEMENTATION (DPI).

# **ENVIRONMENTAL SITE ASSESSMENT**

- 1. THERE ARE NO TIDAL WETLANDS, TIDAL SHORES, TRIBUTARY STREAMS, FLOODPLAINS, CONNECTED TIDAL WETLANDS, ISOLATED WETLANDS, HIGHLY ERODIABLE/PERMEABLE SOILS OR BUFFER AREAS ASSOCIATED WITH SHORES, STREAMS, OR WETLANDS LOCATED ON THE SITE. FURTHER, THERE ARE NO WETLAND PERMITS REQUIRED FOR THIS DEVELOPMENT PROJECT. ADDITIONALLY, THERE ARE NO KNOWN UNDERGROUND STORAGE TANKS OR AREAS OF SOIL OR GROUNDWATER CONTAMINATION ON THE SITE.
- 2. THE CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, DIVISION OF ENVIRONMENTAL QUALITY MUST BE NOTIFIED IF UNUSUAL OR UNANTICIPATED CONTAMINATION OR UNDERGROUND STORAGE TANKS, DRUMS, AND CONTAINERS ARE ENCOUNTERED AT THE SITE. IF THERE IS ANY DOUBT ABOUT PUBLIC SAFETY OR A RELEASE TO THE ENVIRONMENT, THE ALEXANDRIA FIRE DEPARTMENT MUST BE CONTACTED IMMEDIATELY BY CALLING 911. THE TANK OR CONTAINERS REMOVAL, ITS CONTENTS, ANY SOIL CONTAMINATION AND RELEASES TO THE ENVIRONMENT WILL BE HANDLED IN ACCORDANCE WITH FEDERAL, STATE, AND CITY REGULATIONS.
- 3. ALL WELLS TO BE DEMOLISHED IN THIS PROJECT, INCLUDING MONITORING WELLS MUST BE CLOSED IN ACCORDANCE WITH STATE WELL REGULATION. CONTACT JOE

- FIANDER AND COORDINATE WITH THE ALEXANDRIA HEALTH DEPARTMENT AT 703-838-4400 EXT 255.
- 4. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE 11, CHAPTER 5, WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:
  - a. MONDAY THROUGH FRIDAY FROM 7 AM TO 6 PM AND
  - b. SATURDAYS FROM 9 AM TO 6 PM.
  - c. NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS.
  - d. PILE DRIVING IS FURTHER RESTRICTED TO THE FOLLOWING HOURS: MONDAY THROUGH FRIDAY FROM 9 AM TO 6 PM AND
  - SATURDAYS FROM 10 AM TO 4 PM.

CONSTRUCTION MATERIALS; AND

- 1. PER DEQ GUIDANCE MEMO 15-2003, FOR LINEAR DEVELOPMENT PROJECTS SUCH AS THIS THAT WILL NOT RESULT IN SIGNIFICANT CHANGES TO THE PREDEVELOPMENT RUNOFF CHARACTERISTICS OF THE LAND SURFACE AFTER THE COMPLETION OF CONSTRUCTION AND FINAL STABILIZATION. THE REQUIREMENT FOR THE PREPARATION AND IMPLEMENTATION OF A STORM WATER MANAGEMENT PLAN IS WAIVED.
- THE DISTURBED LAND WHERE WORK HAS BEEN COMPLETED MUST BE ADEQUATELY STABILIZED ON A DAILY BASIS. THE OWNER AND/OR CONSTRUCTION ACTIVITY OPERATOR WILL DESIGN, INSTALL, IMPLEMENT, AND MAINTAIN POLLUTION PREVENTION **MEASURES TO:**
- A.MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS:
- B.MINIMIZE THE EXPOSURE OF BUILDING MATERIALS, BUILDING PRODUCTS, CONSTRUCTION WASTES, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE, AND OTHER MATERIALS PRESENT ON-SITE TO PRECIPITATION AND TO STORMWATER;
- C.MINIMIZE THE DISCHARGE OF POLLUTANTS FROM SPILLS AND LEAKS AND IMPLEMENT CHEMICAL SPILL AND LEAK PREVENTION AND RESPONSE PROCEDURES;
- D.PROHIBIT THE DISCHARGE OF WASTEWATER FROM THE WASHOUT OF CONCRETE; E.PROHIBIT THE DISCHARGE OF WASTEWATER FROM THE WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS, AND OTHER
- F.PROHIBIT THE DISCHARGE OF FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE.

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

- 1. NO MORE THAN 100 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME. ALL EXCAVATED MATERIAL TO BE REPLACED INTO TRENCH SHALL BE STOCKPILED ON THE HIGH SIDE OF THE TRENCH. IF ANY TRENCH WORK WILL REMAIN OPENED AFTER THE END OF THE WORKDAY, ALL NEEDED EROSION AND SEDIMENT CONTROLS SHALL BE EMPLOYED. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
- 2. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION, AND AS DETERMINED BY THE CITY OF ALEXANDRIA.
- 3. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
- 4. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MATTER THAT DOES NO ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
- 5. UTILITY CORRIDORS IN CONTAMINATED SOIL SHALL BE OVER EXCAVATED BY 2 FEET AND BACKFILLED WITH "CLEAN" SOIL
- 6. ALL NEW INSTALLATIONS AND/OR REINSTALLATIONS OF UTILITIES SUCH AS ELECTRICAL LINES, GAS PIPES, COMMUNICATION CABLES INCLUDING WATER AND SEWER LATERALS BOTH ON PRIVATE PROPERTY AND IN THE PUBLIC RIGHT OF WAY IN THE CITY OF ALEXANDRIA SHALL BE PROVIDED WITH 3" AND 6" WIDE 5 MIL OVERALL THICKNESS DETECTABLE UNDERGROUND WARNING TAPES (DUWT). THE 3" DUWT SHALL BE INSTALLED AT DEPTHS OF 12" TO 18" AND 6" WIDE AT A DEPTH OF 24" SO AS TO MAKE UNDERGROUND INSTALLATIONS EASY TO FIND USING A NON-FERROUS LOCATOR. THE DUWT SHALL BE WITH ALUMINUM BACKING OR SOLID ALUMINUM CORE LAMINATED WITH A PROTECTIVE CLEAR FILM ON BOTH SIDES, SEALING AND PROTECTING THE GRAPHICS FROM UNDERGROUND MOISTURE, ACIDS, ALKALIS, AND OTHER SOIL SUBSTANCES. ALL DUWT TAPES SHALL BE PRINTED IN BLACK INK ON AMERICAN PUBLIC WORKS ASSOCIATION (APWA) APPROVED COLORS TO MEET OR EXCEED INDUSTRY STANDARDS. THE FOLLOWING ARE THE APWA COLOR CODES:

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

# UTILITY CONTACT

DOMINION VIRGINIA POWER	888-667-3000
VERIZON COMMUNICATIONS	888-826-2355
COMCAST	888-683-1000
WASHINGTON GAS	703-750-1000
PEPCO	202-833-7500
VIRGINIA AMERICAN WATER	800-452-6863
SANITARY SEWER - CITY OF ALEX.	703-746-4488

CONTRACTOR SHALL CONFORM TO THE OVERHEAD HIGH VOLTAGE ACT (EFFECTIVE JULY 1, 2003) AND SHALL CONTACT THE NECESSARY AUTHORITIES PRIOR TO START OF CONSTRUCTION.

### **ARCHAEOLOGY NOTES**

- 1. THE APPLICANT SHALL CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE
- 2. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.
- 3. IT IS ILLEGAL TO DISTURB HUMAN REMAINS WITHOUT OBTAINING APPROPRIATE LEGAL AUTHORIZATION. IF BURIALS ARE FOUND DURING THE ARCHAEOLOGICAL INVESTIGATION AND NEED TO BE MOVED PRIOR TO DEVELOPMENT, THE APPLICANT SHALL BE RESPONSIBLE FOR THE ARCHAEOLOGICAL REMOVAL AND FOR OBTAINING THE NECESSARY LEGAL DOCUMENTS, INCLUDING A PERMIT FROM THE VIRGINIA DEPARTMENT OF HISTORIC RESOURCES FOR THE ARCHAEOLOGICAL REMOVAL OF BURIALS.

C-1 ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED IN COMPLIANCE WITH SECTION 11-411 OF THE ZONING ORDINANCE.

### <u>ABBREVIATIONS</u>

ASPH	ASPHALT	LF	LINEAR FOOT
ELEV	ELEVATION	MH	MANHOLE
EXIST	EXISTING	NAVD	NORTHERN AMERICAN VERTICAL DAT
CI	CAST IRON	N/S/E/W	NORTH/SOUTH/EAST/WEST
CLF	CHAIN LINK FENCE	PVC	POLYVINYL CHLORIDE PIPE
CONC	CONCRETE	PL	PROPERTY LINE
CP	CONCRETE PIPE	RCP	REINFORCED CONCRETE PIPE
CULV	CULVERT	RTK	REAL TIME KINEMATICS
CIPP	CURED IN PLACE PIPE	R/W	RIGHT-OF-WAY
DI	DUCTILE IRON	SD	STORM DRAIN
DIP	DUCTILE IRON PIPE	SDR	STANDARD DIMENTIONAL RATIO
G	GAS	SS	SANITARY SEWER MAIN
GPS	GLOBAL POSITIONING SYSTEM	STL	STEEL
HDPE	HIGH-DENSITY POLYETHYLENE	SW	SIDEWALK
I.D.	INNER DIAMETER	TBM	TEMPORARY BENCHMARK
IN	INCHES	TYP	TYPICAL
INV	INVFRT		

### <u>LEGEND</u>

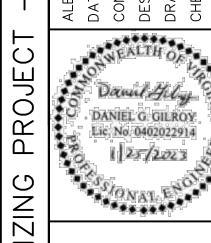
	<u>EXISTING</u>	<u>PROPOSED</u>
UTILITY POLE	UP CD	
GUY WIRE	$\wedge$	
TREE		
MANHOLE	C	
GRATE INLET		
UTILITY HAND BOX TRAVERSE	^	
LIGHT POLE	<u>&amp;</u> Ø	
SIGN (METAL)	<del>-</del>	
WATER METER	⊚ WM	
POST/BOLLARD	•	
WATER VALVE	wo Ø	
FIRE HYDRANT UTILITY MANHOLE	MHO	
BUSH	6	
EDGE OF VEGETATION	~~~~	
PEDESTRIAN SIGNAL	8	
PROPERTY LINE/R.O.W. LINE		
SANITARY SEWER MANHOLE	S	•
STORM SEWER MANHOLE		
GAS VALVE	O GAS	
CLEANOUT	O	
SOIL BORING		
END OF INFORMATION	eoi	
ELECTRIC METER	<b>(3)</b>	
TRANSFORMER	TR	
TEST PIT	$igoplus_{TH-2}$	
INLET PROTECTION		
SANITARY SEWER LINE	<b>_</b> → _	
SANITARY SEWER LATERAL		
STORM SEWER MANHOLE	D	
STORM SEWER LINE	<u>21"RCP</u>	
UNDERGROUND WATER LINE	WL	
UNDERGROUND GAS LINE	—— GAS ——	
OVERHEAD ELECTRIC	OHE	
UNDERGROUND ELECTRIC LINE	—— UGE ——	
UNDERGROUND TELEPHONE LINE	—— TEL ——	
UNDERGROUND FIBER OPTIC LINE	—— FO ——	
UNKNOWN UNDERGROUND LINE		
LIMITS OF DISTURBANCE		LOD

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**02** OF **24** 

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ASHBY STREET

STRUCTURE # | GIS FACILITY ID | NORTHING

001831SMH 6989883.22

				STO	DRM STRUCTURE A	AS-BUILT	TABLE	1				
STRUCTURE #	GIS FACILITY ID	NORTHING	EASTING	RIM ELEV.	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. OUT
ST1		6984528.18	11894600.70	39.46							12" RCP (E)	35.56
ST2		6984485.80	11894615.74	39.65							12" RCP (ST4)	35.61
ST3	007784IN	6984489.46	11894647.64	39.15							12" RCP (ST4)	35.02
ST4	003185SMH	6984497.33	11894637.40	39.22	12" RCP (ST2)	35.17	12" RCP (ST3)	34.86	15" RCP (S)	34.25	15" RCP (ST5)	34.08
ST5	003184SMH	6984622.35	11894621.84	36.44	15" RCP (ST4)	32.50	12" RCP (W)	32.84			15" RCP (N)	32.50
ST6		6984528.99	11894861.97	35.80							15" RCP (W)	32.85
ST7		6984562.46	11894856.42	35.78							15" RCP (W)	32.78
ST8	003175SMH	6984561.99	11895119.43	38.25	18" RCP (ST11)	32.28	36" RCP (S)	32.27			36" RCP (ST10)	32.25
ST9		6984595.43	11895100.03	38.00							15" RCP (E)	34.98
ST10	003177SMH	6984727.34	11895097.00	41.02	36" RCP (ST8)	32.00						
ST11	003176SMH	6984550.22	11895139.20	38.51	18" RCP (NE)	34.23					18" RCP (ST8)	34.11
				SF)	WER STRUCTURE A	\ \S-RI III T 1						
					VER STRUCTURE P		ADEL					
STRUCTURE #	GIS FACILITY ID	NORTHING	EASTING	RIM ELEV.	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. OUT
SS1	006993SSMH	6984514.40	11894627.88	39.56	10" RCP (W)	30.63	10" RCP (CIPP) (E)	30.28	10" RCP (S)	30.24	10" RCP (N)	30.18
SS2	006992SSMH	6984581.16	11895123.50	38.56	10" RCP (E)	31.24	10" RCP (S)	31.29	8" RCP (N)	31.34	10" RCP (CIPP) (W)	31.23

ST2*	001830SMH	6989854.75	11894851.29	26.93	21" RCP (SE)	21.29					21" RCP (ST4)	21.15
ST3*	006412IN	6989821.44	11894869.67	26.87							12" RCP (ST4)	24.38
ST4*	001829SMH	6989853.56	11894835.66	26.71	21" RCP (ST2)	21.00	18" RCP (ST1)	21.02	12" RCP (ST3)	21.12	24" RCP (ST9)	20.99
ST5*	001814SMH	6989803.80	11894844.06	26.74	30" RCP (S)	21.84					30" RCP (ST6)	21.83
ST6*	001828SMH	6989817.45	11894825.67	26.78	30" RCP (ST5)	21.64					30" RCP (ST7)	21.63
ST7*	006441IN	6989811.91	11894727.15	24.98	30" RCP (ST6)	20.55					36" RCP (ST9)	20.51
ST8*	006442IN	6989835.88	11894678.05	24.75							15" RCP (ST9)	21.34
ST9*	001788SMH	6989840.87	11894688.49	25.04	15" RCP (ST8)	19.94	24" RCP (ST4)	20.12	36" RCP (ST7)	19.82	30" RCP (N)	19.78
ST10	001832SMH	6989912.66	11894840.61	27.08	12" RCP (NE)	25.38					12" RCP (ST1)	23.08
ST11	001849SMH	6989886.06	11894877.84	27.14	12" RCP (N)	24.84					12" RCP (ST1)	23.42
				SANITARY	SEWER STRUCTU	RE AS-BUII	LT TABLE					
STRUCTURE #	GIS FACILITY ID	NORTHING	EASTING	RIM ELEV.	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. O
SS1*	003858SSMH	6989874.96	11894840.55	26.98	10" RCP (SS2)	16.27	10" RCP (SE)	16.20	10" RCP (NE)	16.84	12" RCP (NW)	15.85
SS2*	003856SSMH	6989833.57	11894845.67	27.02	8" VCP (SS3)	17.29	10" RCP (S)	17.31			10" RCP (SS1)	17.26
							4" DIDE					

STORM STRUCTURE AS-BUILT TABLE

26.86 | 12" RCP (ST11) | 21.64

PIPE INFO.

21.36 | 12" RCP (ST10) | 21.61 | 18" RCP (ST4) | 21.18

8" VCP (SS2) 20.19

RIM ELEV.

EASTING

11894859.00

003884SSMH 6989808.921 11894556.63 26.21 8" RCP (W) 20.21

NOTE: THE \* SYMBOL DENOTES INVERT MEASURE DOWNS PER COA PROJECT 07-08-02

# EAST OAK STREET

1. RIM AND INVERT ELEVATIONS SHOWN IN AS-BUILT TABLES ARE GIVEN IN FEET.

2. SURVEY DATA FROM DECEMBER 2021.

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EXISTING SURVEY AND TEST PIT INFORMATION

G-003

SHEET

**03** OF **24** 

SCALE NONE

1	6984582.489	11895116.746	Storm	Storm	36" from plans	RCP	38.37	2.89	35.48
2	6989828.505	11894800.485	Telephone	Telephone	2 - 3 1/2" Conduits	PVC	25.98	3.45	22.53
3	6982396.434	11893937.765	Storm	Twin Storm	2 - 12"	RCP	22.93	1.35	21.58
4	6982430.113	11894251.749	Storm	None	N/A	N/A	24.74	-	-
1*	6981892.213	11893973.586	Electric	Gas	2 1/2"	Metallic	19.21	2.61	16.6

Utility Found Utility Size Utility Material Ground Level (ft) Utility (ft) Elevation (ft)

			EAST MAPL	E STREET STO	ORM STRUCTURE AS-B	UILT TABL	E			
STRUCTURE #	GIS FACILITY ID	NORTHING	EASTING	RIM ELEV.	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. OUT
ST1	005933IN	6981876.99	11893683.81	18.28					12" RCP (ST2)	15.58
ST2	005930IN	6981845.71	11893687.09	18.01	12" RCP (ST1)	15.23			18" RCP (S)	15.11
ST3		6981829.06	11893249.65	16.08					15" PVC (ST4)	14.38
ST4	007758IN	6981821.01	11893175.28	16.50	15" PVC (ST3)	14.12			12" CI (ST5)	14.09
ST5	003155SMH	6981792.58	11893170.67	16.58	12" CI (ST4)	13.65	15" RCP (E)	13.72	15" PVC (SW)	13.61
			EAST MAPLE STR	EET SANITAR	RY SEWER STRUCTURE	AS-BUILT	TABLE			
STRUCTURE #	GIS FACILITY ID	NORTHING	EASTING	RIM ELEV.	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. OUT
SS7	006917SSMH	6981913.23	11894191.12	19.76	15" PVC (NE)	13.91			10" RCP (SS1)	13.86
SS1	006920SSMH	6981882.58	11893885.45	18.62	10" RCP (E)	12.58			10" RCP (SS2)	12.60
SS2	006897SSMH	6981860.40	11893676.71	18.15	10" RCP (SS1)	11.87			10" RCP (SS3)	11.87
SS3	006809SSMH	6981833.33	11893420.98	16.42	10" RCP (SS2)	10.71			10" RCP (SS4)	10.70
SS4	006799SSMH	6981804.41	11893149.42	16.62	10" RCP (SS3)	9.72			10" RCP (SS5)	9.64
SS5	006810SSMH	6981794.63	11893131.81	17.12	*10" RCP (SS4 & SS6)	9.60	24" RCP (NW)	9.25	24" RCP (SE)	9.08
SS6	006734SSMH	6981795.91	11893072.60	17.60	*10" RCP (NW)	*11.70			*10" RCP (SS5)	*10.38

TEST PIT TABLE

<b>EAST</b>	<b>MAPLE</b>	STREET

\*AS-BUILT INFORMATION FROM PREVIOUS SURVEY: S:\CAD\SURVEY\2007\MAPLEE\MAPLEE.DWG

Northing

Test Pit No.

3117	00311731111	0302400.00	1105-10-11:00	22.07	21 1(6) (9)111)	13.02	13 1(0) (3) 1)	15.57	12 1(813)	15.07			21 (811)	10.50
					EAST OAK STREE	I SANITARY	SEWER STRUCTURE	E AS-BUILL I	ABLE					
STRUCTURE #	GIS FACILITY ID	NORTHING	EASTING	RIM ELEV.	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. OUT
SS1	006924SSMH	6982435.07	11894271.29	25.15	15" CLAY (CIPP) (SS3)	16.87	15" CI (N)	16.40					15" CI (SS1W)	16.19
SS2		6982398.37	11894062.76	23.27	8" RCP (W)	19.13	4" RCP (S)	19.24	4" RCP (S)	19.20			8" RCP (E)	19.17
SS3	006922SSMH	6982395.19	11893894.60	23.72	15" CLAY (SS5)	18.06	8" PVC (SS4)	18.32					12" CLAY (CIPP) (SS1)	18.06
SS4	006923SSMH	6982416.23	11893891.83	23.69	8" PVC (N)	18.69							8" PVC (SS3)	18.67
SS5	006921SSMH	6982369.70	11893651.71	26.06	10" RCP (N)	19.88	8" RCP (W)	19.88					15" CLAY (SS3)	19.70

STRUCTURE #	GIS FACILITY ID	NORTHING	EASTING	RIM ELEV.	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. OUT
ST1	003118SMH	6982421.76	11894250.83	24.52	24" RCP (ST14)	17.40	12" RCP (ST2)	18.56					30" RCP (SE)	17.40
ST2	005972IN	6982462.56	11894245.74	25.61	12" RCP (NW)	22.85							15" RCP (ST1)	22.55
ST3	005969IN	6982424.87	11894039.33	23.36									12" RCP (ST14)	21.06
ST4	005966IN	6982396.16	11894042.63	23.22	12" RCP (S)	20.84							15" RCP (ST14)	19.62
ST5	005963IN	6982391.57	11893993.42	23.13									15" RCP (N)	20.20
ST6	005960IN	6982413.30	11893932.21	23.49									TWIN 10" RCP	21.23
ST7	003114SMH	6982414.98	11893909.10	23.52	12" RCP (N)	21.7							TWIN 10" RCP (ST9)	21.67
ST8	003113SMH	6982411.40	11893873.90	23.89									TWIN 10" RCP (S)	21.79
ST9	003116SMH	6982388.67	11893910.42	23.14	TWIN 10" RCP (ST7)	20.56	24" RCP (ST11)	20.04					24" RCP (ST14)	20.10
ST10	005961IN			23.52									15" RCP (ST11)	20.72
ST11	003115SMH	6982387.06	11893896.33	23.23	18" RCP (ST13)	20.17	TWIN 10" RCP (ST8)	20.59	15" RCP (ST10)	20.47			24" RCP (ST9)	20.13
ST12	005948IN			25.52									12" RCP (ST13)	23.67
ST13	003142SMH	6982361.47	11893644.41	25.87	15" RCP (SW)	21.97	18" RCP (W)	21.87	12" CI (NW)	23.60	12" RCP (ST12)	23.57	18" RCP (ST11)	21.63
ST14	003117SMH	6982400.60	11894041.86	22.67	24" RCP (ST11)	19.02	15" RCP (ST4)	19.57	12" RCP (ST3)	19.87			24" RCP (ST1)	18.90

EAST OAK STREET STORM STRUCTURE AS-BUILT TABLE

OF ALEXANDRIA, VIRGINIA IMENT OF PROJECT IMPLEMENTATION 301 KING STREET ALEXANDRIA, VIRGINIA 22314

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					STORM	STRUCTURE AS	S-BUILT TABLE					
STRUCTURE #	ТҮРЕ	NORTHING	EASTING	TOP ELEV.	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. OUT
1	STORM MANHOLE	6981810.2700	11894178.5400	19.12				13.65 (IN	NV. AT C/L) (RE	CESSED PIPES)	,	
2	CURB INLET	6981942.3880	11894221.4820	20.32							12" RCP	17.72
3	STORM MANHOLE	6982034.0780	11894316.0470	21.41		14.41	(INV. AT C/L) (UN	NABLE TO VIS	UALLY CONFIR	M SIZE OR MAT	., LID BLOCKED BY \	WALL)

					SANITARY SEWER STE	RUCTURE A	S-BUILT TABLE					
STRUCTURE #	GIS FACILITY ID	NORTHING	EASTING	RIM ELEV.	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. OUT
А	006920SSMH	6981882.6080	11893885.4140	18.62	10" PVC (B)	12.58					10" PVC (SS2)	12.6
В	006917SSMH	6981913.0970	11894191.1970	19.76	18" PVC (C)	13.91					10" PVC (A)	13.86
С	006913SSMH	6981942.899	11894250.36	20.12				14.15 (IN	IV. AT C/L) (REC	ESSED PIPE	)	
D	006947SSMH	6982058.483	11894311.58	21.21							15" RCP (C) (RECESSED PIPE)	14.61
E	006912SSMH	6982016.651	11894306.12	21.14	10" RCP (FROM GIS)	16.64					10" RCP (F)	16.61
F	006914SSMH	6981915.951	11894250.88	20.28	10" PVC (E)	16.08					10" RCP (G)	16.06
G	006919SSMH	6981781.939	11894180.42	19.46	10" RCP (F)	15.29					10" RCP (FROM GIS)	15.23
Н	006916SSMH	6981918.062	11894224.61	20.05			(	CANNOT RE	MOVE DUST CO	VER TO ACC	CESS	
I	006915SSMH	6981918.022	118994236.5	20			(	CANNOT RE	MOVE DUST CO	VER TO ACC	CESS	

- 1. TOP AND INVERT ELEVATIONS ARE GIVEN IN FEET.
- 2. SURVEY DATA FROM OCTOBER 2022.

DESIGN 100%

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REVISIONS BY DESCR

DATE

OF ALEXANDRIA, VIRGINIA IMENT OF PROJECT IMPLEMENTATION 301 KING STREET ALEXANDRIA, VIRGINIA 22314

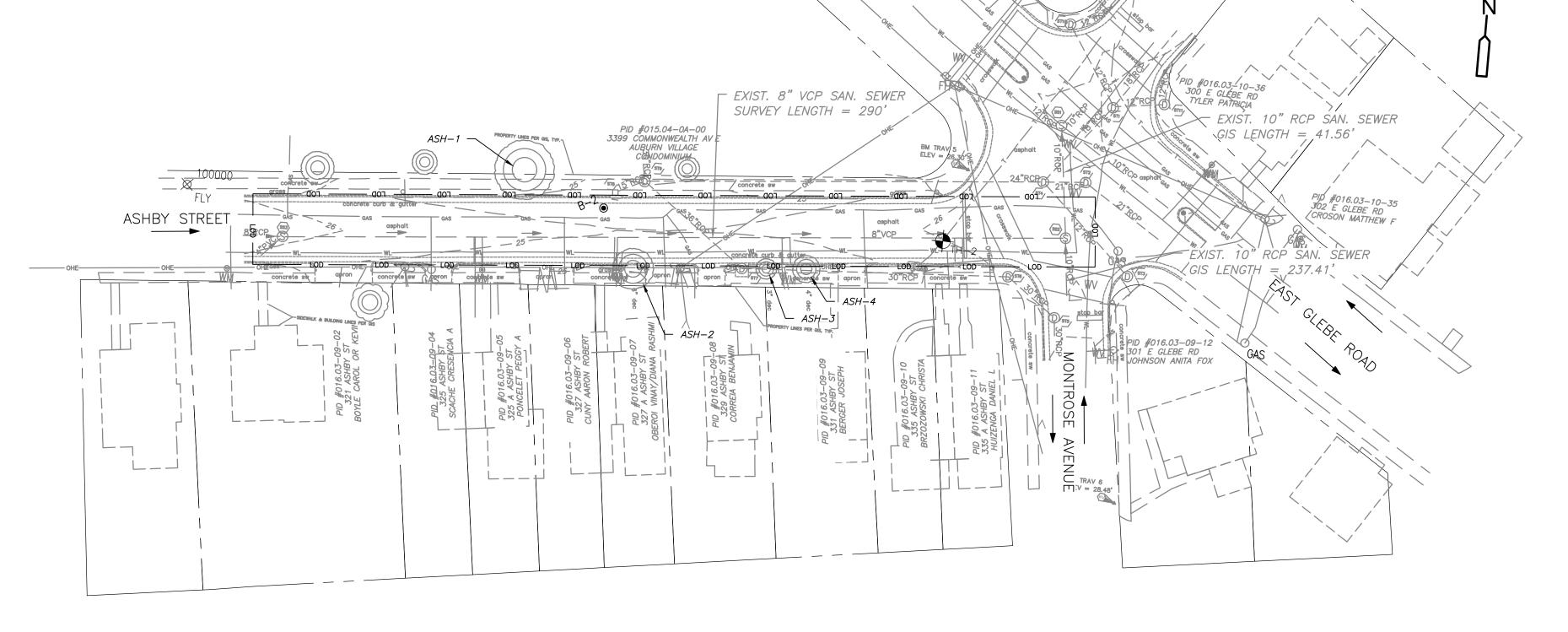
Daniel G Glekov. UPSIZING PROJECT SEWER CAPACITY SANITARY

EXISTING SURVEY AND TEST PIT INFORMATION

G-004 SHEET

**04** OF **24** SCALE NONE

SURVEY CONTROL POINT						
POINT #	ELEVATION	NORTHING	EASTING			
TRAV 5	26.30	6989855.6590	11894807.5400			
TRAV 6	28.48	6989737.3760	11894872.2000			



- 1. HORIZONTAL DATUM FOR PROJECT CONTROL IS BASED UPON VA. COORDINATE SYSTEM OF 1983 (MYCS2), AND WAS ESTABLISHED BY THE CITY OF ALEXANDRIA PER RTK GPS OBSERVATION ON 03/16/21.
- 2. VERTICAL DATUM FOR PROJECT CONTROL IS BASED UPON NAVD 88/GEOID 18, AND WAS ESTABLISHED BY THE CITY OF ALEXANDRIA PER RTK GPS OBSERVATION ON 03/16/2021.
- 3. PORTION OF THE SUBSURFACE UTILITY DESIGNATION (NOT INCLUDING STORM AND SANITARY SEWER) WAS PERFORMED BY VA 811 AND THEIR ASSIGNS APRIL 2021. TICKET NUMBER IS A108500531-00A AND PORTIONS HAVE BEEN DESIGNATED AND LOCATED BY PRECISION MEASUREMENTS, INC. THE DESIGNATION CONFORMS TO THE AMERICAN SOCIETY OF CIVIL ENGINEERS ASCE STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA 9CI/ASCE 38-02 FOR QUALITY LEVEL QL A/B/C/D. 3.1. UTILITY NOTES:
  - a. STORM AND SANITARY SEWER MANHOLES WERE FIELD SURVEYED BY CITY OF ALEXANDRIA SURVEY SECTION IN APRIL 2021 AND FIELD VERIFIED BY PRECISION MEASUREMENTS, INC. ON DECEMBER 2021. STORM AND SANITARY SEWER PIPES ARE DEPICTED AT "QUALITY LEVEL C". b. ALL OTHER SUBSURFACE UTILITIES ARE DEPICTED PER PAINT MARKS FROM 811 POSITIVE RESPONSE TICKET, UNLESS OTHERWISE NOTED HEREON.
- 4. EXISTING STRIPING/TRAFFIC PAINT IS NOT SHOWN ON THIS SURVEY.
- 5. TOPOGRAPHIC SURVEY FROM FACE OF CURB TO FACE OF CURB WAS OBTAINED BY THE CITY OF
- ALEXANDRIA. OUTSIDE OF THESE LIMITS WAS OBTAINED BY PRECISION MEASUREMENTS, INC. 6. THE FOLLOWING NOTES PERTAIN TO INFORMATION SHOWN PER CITY OF ALEXANDRIA GIS: PURSUANT TO SECTION 54.1-402 OF THE CODE OF VIRGINIA, ANY DETERMINATION OF TOPOGRAPHY OR CONTOURS, OR ANY DEPICTION OF PHYSICAL IMPROVEMENTS, PROPERTY LINES
- MODIFICATION OR CONSTRUCTION OF IMPROVEMENTS TO REAL PROPERTY OR FOR FLOOD PLAIN DETERMINATION. THE MAPS PROVIDED HEREUNDER ARE PROVIDED "AS IS" AND THE CITY EXPRESSLY DISCLAIMS ALL WARRANTIES, UCC AND OTHERWISE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES AS TO ACCURACY OF THE MAPS AND MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND FURTHER EXPRESSLY DISCLAIMS RESPONSIBILITY FOR ALL INCIDENTAL, CONSEQUENTIAL OR SPECIAL

DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE MAPS.

OR BOUNDARIES IS FOR GENERAL INFORMATION ONLY AND SHALL NOT BE USED FOR THE DESIGN,

TREE TABLE

--- LOD --- LIMITS OF DISTURBANCE

1. CONTRACTOR TO FIELD VERIFY DEPTH AND LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.

NOTES:

TREE NO.	SIZE (IN.)	TYPE
ASH-1*	-	-
ASH-2*	6	DEC
ASH-3	3	DEC
ASH-4	4	DEC

# TREE NOTES:

- 1. A LIST OF TREES WITHIN THE LOD IS PROVIDED
- CONSTRUCTION.
- OF ALEXANDRIA WHERE TREE TRIMMING IS REQUIRED.
- \* THIS TREE MAY BE IMPACTED DURING CONSTRUCTION DEPENDING ON CONSTRUCTION TECHNOLOGY, TOOLS, AND METHODOLOGY USED

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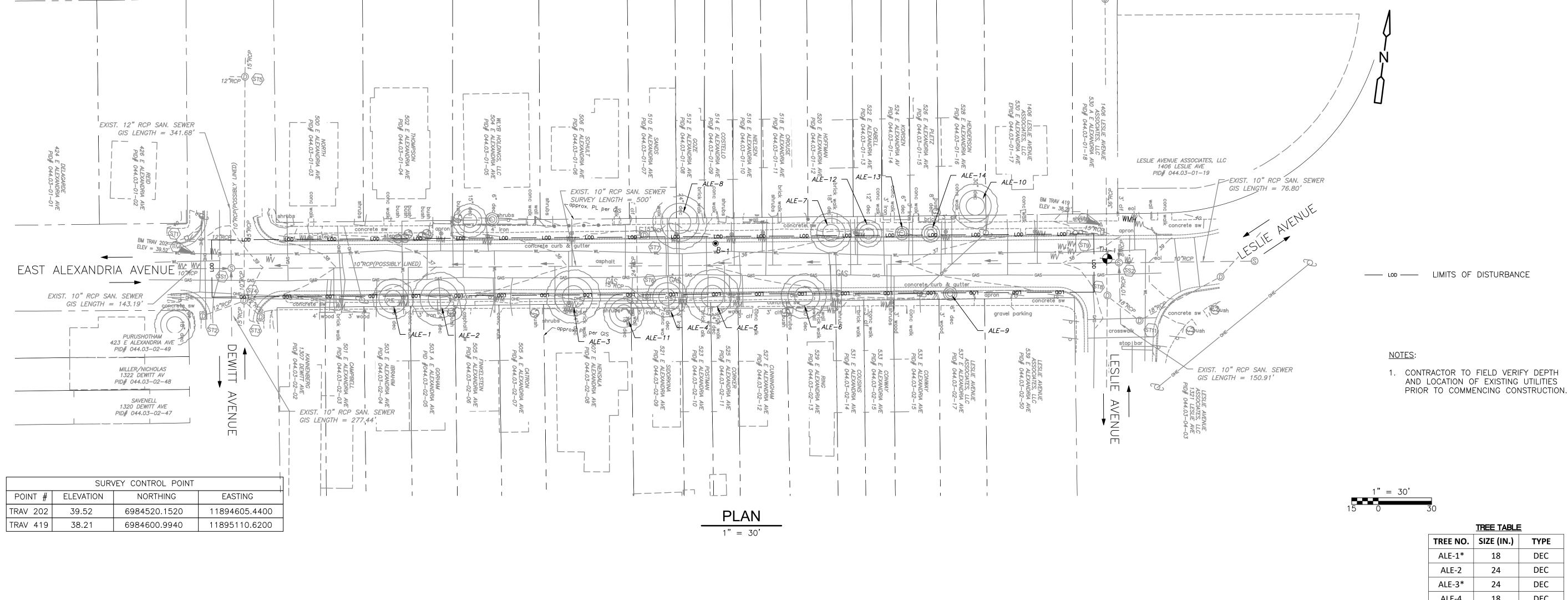
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**05** OF **24** SCALE AS SHOWN

- ABOVE.
- 2. NOT ALL TREES MAY BE IMPACTED DURING
- 3. CONTRACTOR SHALL COORDINATE WITH THE CITY



SURVEY NOTES:

- 1. HORIZONTAL DATUM FOR PROJECT CONTROL IS BASED UPON VA. COORDINATE SYSTEM OF 1983 (MYCS2), AND WAS ESTABLISHED BY THE CITY OF ALEXANDRIA PER RTK GPS OBSERVATION ON 03/16/21.
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- 3.1. UTILITY NOTES: a. STORM AND SANITARY SEWER MANHOLES WERE FIELD SURVEYED BY CITY OF ALEXANDRIA SURVEY SECTION IN APRIL 2021 AND FIELD VERIFIED BY PRECISION MEASUREMENTS, INC. ON DECEMBER 2021. STORM AND SANITARY SEWER PIPES ARE DEPICTED AT "QUALITY LEVEL C". b. ALL OTHER SUBSURFACE UTILITIES ARE DEPICTED PER PAINT MARKS FROM 811 POSITIVE
- RESPONSE TICKET, UNLESS OTHERWISE NOTED HEREON. 4. EXISTING STRIPING/TRAFFIC PAINT IS NOT SHOWN ON THIS SURVEY.
- 5. TOPOGRAPHIC SURVEY FROM FACE OF CURB TO FACE OF CURB WAS OBTAINED BY THE CITY OF ALEXANDRIA. OUTSIDE OF THESE LIMITS WAS OBTAINED BY PRECISION MEASUREMENTS, INC.
- 6. THE FOLLOWING NOTES PERTAIN TO INFORMATION SHOWN PER CITY OF ALEXANDRIA GIS: PURSUANT TO SECTION 54.1-402 OF THE CODE OF VIRGINIA, ANY DETERMINATION OF
- TOPOGRAPHY OR CONTOURS, OR ANY DEPICTION OF PHYSICAL IMPROVEMENTS, PROPERTY LINES OR BOUNDARIES IS FOR GENERAL INFORMATION ONLY AND SHALL NOT BE USED FOR THE DESIGN, MODIFICATION OR CONSTRUCTION OF IMPROVEMENTS TO REAL PROPERTY OR FOR FLOOD PLAIN DETERMINATION.

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TREE NO.	SIZE (IN.)	TYPE
ALE-1*	18	DEC
ALE-2	24	DEC
ALE-3*	24	DEC
ALE-4	18	DEC
ALE-5	24	DEC
ALE-6*	30	DEC
ALE-7*	18	DEC
ALE-8*	24	DEC
ALE-9	6	DEC
ALE-10*	30	DEC
ALE-11	18	DEC
ALE-12*	12	DEC
ALE-13	6	DEC
ALE-14	8	DEC

# TREE NOTES:

- 1. A LIST OF TREES WITHIN THE LOD IS PROVIDED
- ABOVE. 2. NOT ALL TREES MAY BE IMPACTED DURING CONSTRUCTION.
- 3. CONTRACTOR SHALL COORDINATE WITH THE CITY OF ALEXANDRIA WHERE TREE TRIMMING IS REQUIRED.
- \* THIS TREE MAY BE IMPACTED DURING CONSTRUCTION DEPENDING ON CONSTRUCTION TECHNOLOGY, TOOLS, AND METHODOLOGY USED

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David Hly ? DANIEL G. GILROY Lic. No. 0402022914 1 25/2023 TOWAL S

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**06** OF **24** SCALE AS SHOWN

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6982388.1310

6982451.8730

POINT # |

TRAV 5

1. HORIZONTAL DATUM FOR PROJECT CONTROL IS BASED UPON VA. COORDINATE SYSTEM OF 1983 (MYCS2), AND WAS ESTABLISHED BY THE CITY OF ALEXANDRIA PER RTK GPS OBSERVATION ON 03/16/21.

2. VERTICAL DATUM FOR PROJECT CONTROL IS BASED UPON NAVD 88/GEOID 18, AND WAS ESTABLISHED BY THE CITY OF ALEXANDRIA PER RTK GPS OBSERVATION ON 03/16/2021.

11893907.8700

11893943.4600

11894240.7700

3. PORTION OF THE SUBSURFACE UTILITY DESIGNATION (NOT INCLUDING STORM AND SANITARY SEWER) WAS PERFORMED BY VA 811 AND THEIR ASSIGNS APRIL 2021. TICKET NUMBER IS A108500531-00A AND PORTIONS HAVE BEEN DESIGNATED AND LOCATED BY PRECISION MEASUREMENTS, INC. THE DESIGNATION CONFORMS TO THE AMERICAN SOCIETY OF CIVIL ENGINEERS ASCE STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA 9CI/ASCE 38-02 FOR QUALITY LEVEL QL A/B/C/D. 3.1. UTILITY NOTES:

a. STORM AND SANITARY SEWER MANHOLES WERE FIELD SURVEYED BY CITY OF ALEXANDRIA SURVEY SECTION IN APRIL 2021 AND FIELD VERIFIED BY PRECISION MEASUREMENTS, INC. ON DECEMBER 2021. STORM AND SANITARY SEWER PIPES ARE DEPICTED AT "QUALITY LEVEL C".

b. ALL OTHER SUBSURFACE UTILITIES ARE DEPICTED PER PAINT MARKS FROM 811 POSITIVE RESPONSE TICKET, UNLESS OTHERWISE NOTED HEREON.

4. EXISTING STRIPING/TRAFFIC PAINT IS NOT SHOWN ON THIS SURVEY. 5. TOPOGRAPHIC SURVEY FROM FACE OF CURB TO FACE OF CURB WAS OBTAINED BY THE CITY OF ALEXANDRIA. OUTSIDE OF THESE LIMITS WAS OBTAINED BY PRECISION MEASUREMENTS, INC.

6. THE FOLLOWING NOTES PERTAIN TO INFORMATION SHOWN PER CITY OF ALEXANDRIA GIS: PURSUANT TO SECTION 54.1-402 OF THE CODE OF VIRGINIA, ANY DETERMINATION OF TOPOGRAPHY OR CONTOURS, OR ANY DEPICTION OF PHYSICAL IMPROVEMENTS, PROPERTY LINES OR BOUNDARIES IS FOR GENERAL INFORMATION ONLY AND SHALL NOT BE USED FOR THE DESIGN, MODIFICATION OR CONSTRUCTION OF IMPROVEMENTS TO REAL PROPERTY OR FOR FLOOD PLAIN DETERMINATION.

THE MAPS PROVIDED HEREUNDER ARE PROVIDED "AS IS" AND THE CITY EXPRESSLY DISCLAIMS ALL WARRANTIES, UCC AND OTHERWISE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES AS TO ACCURACY OF THE MAPS AND MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND FURTHER EXPRESSLY DISCLAIMS RESPONSIBILITY FOR ALL INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE MAPS.

		•
TREE NO.	SIZE (IN.)	TYPE
OAK-1*	15	DEC
OAK-2*	12	DEC
OAK-3*	15	DEC
OAK-4*	18	DEC
OAK-5*	27	DEC
OAK-6*	24	DEC
OAK-7*	15	DEC
OAK-8*	30	DEC
OAK-9*	24	DEC
OAK-10*	10	DEC
OAK-11*	15	DEC

# TREE NOTES:

- 1. A LIST OF TREES WITHIN THE LOD IS PROVIDED
- ABOVE. 2. NOT ALL TREES MAY BE IMPACTED DURING CONSTRUCTION.
- 3. CONTRACTOR SHALL COORDINATE WITH THE CITY OF ALEXANDRIA WHERE TREE TRIMMING IS REQUIRED.
- \* THIS TREE MAY BE IMPACTED DURING CONSTRUCTION DEPENDING ON CONSTRUCTION TECHNOLOGY, TOOLS, AND METHODOLOGY USED

DESIGN

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EXANDRIA, Project imf King stree-

Danil Hly ? DANIEL G. GILROY Lic. No. 0402022914 1 25/2023

PANALES -A A A

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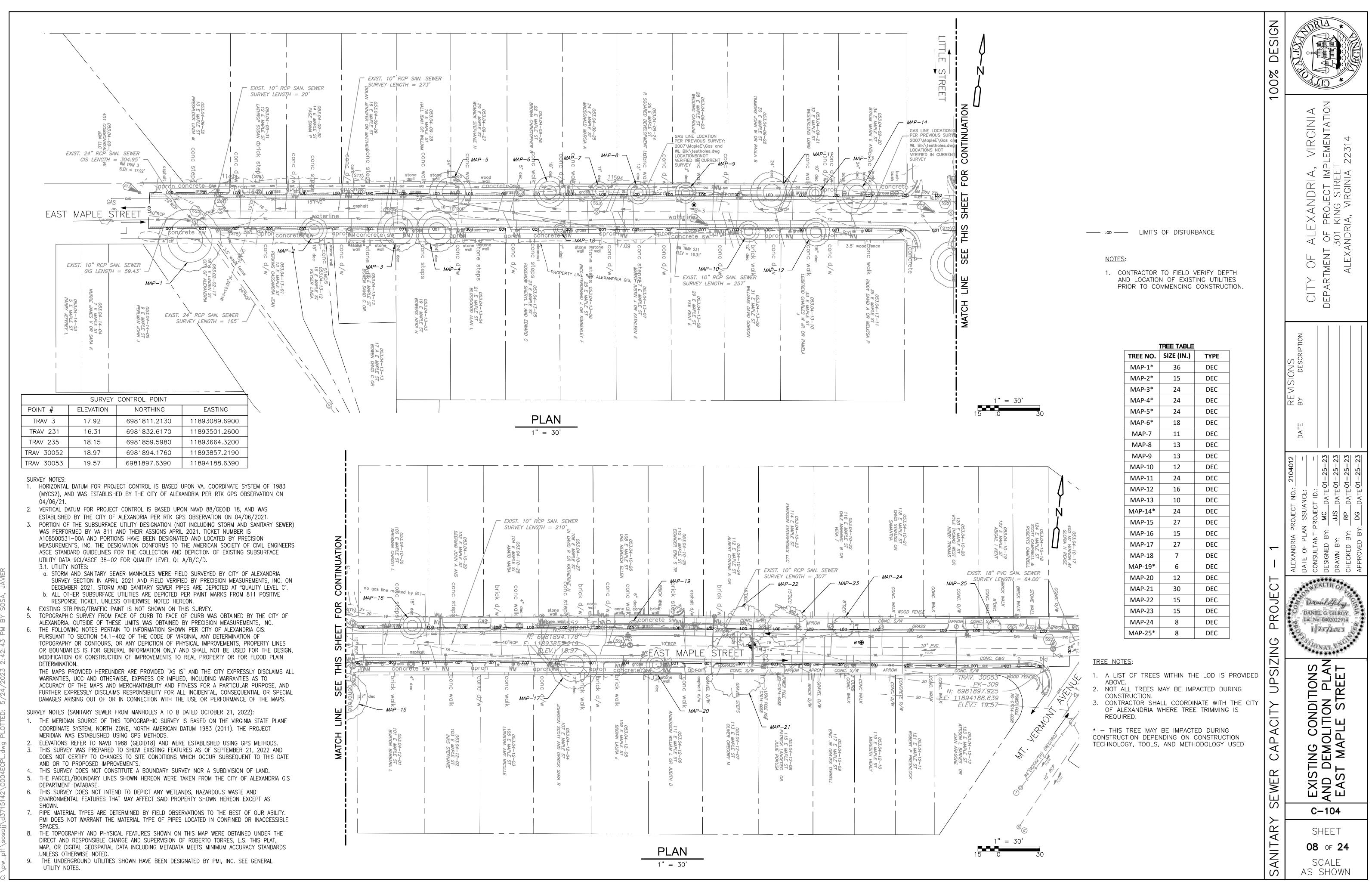
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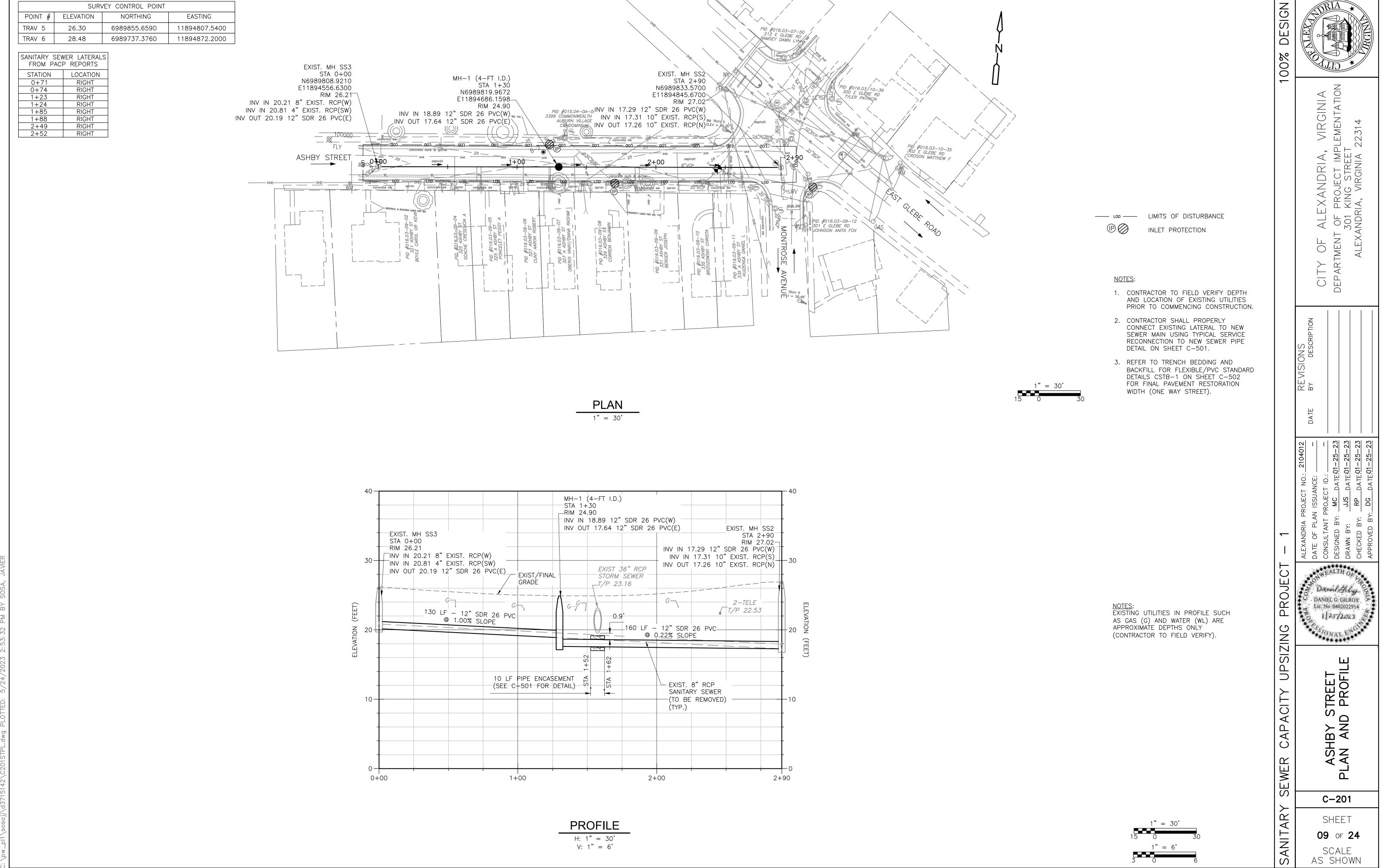
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 $Z \overline{\sqcup}_{\perp}$ C-103

SHEET

**07** OF **24** SCALE AS SHOWN



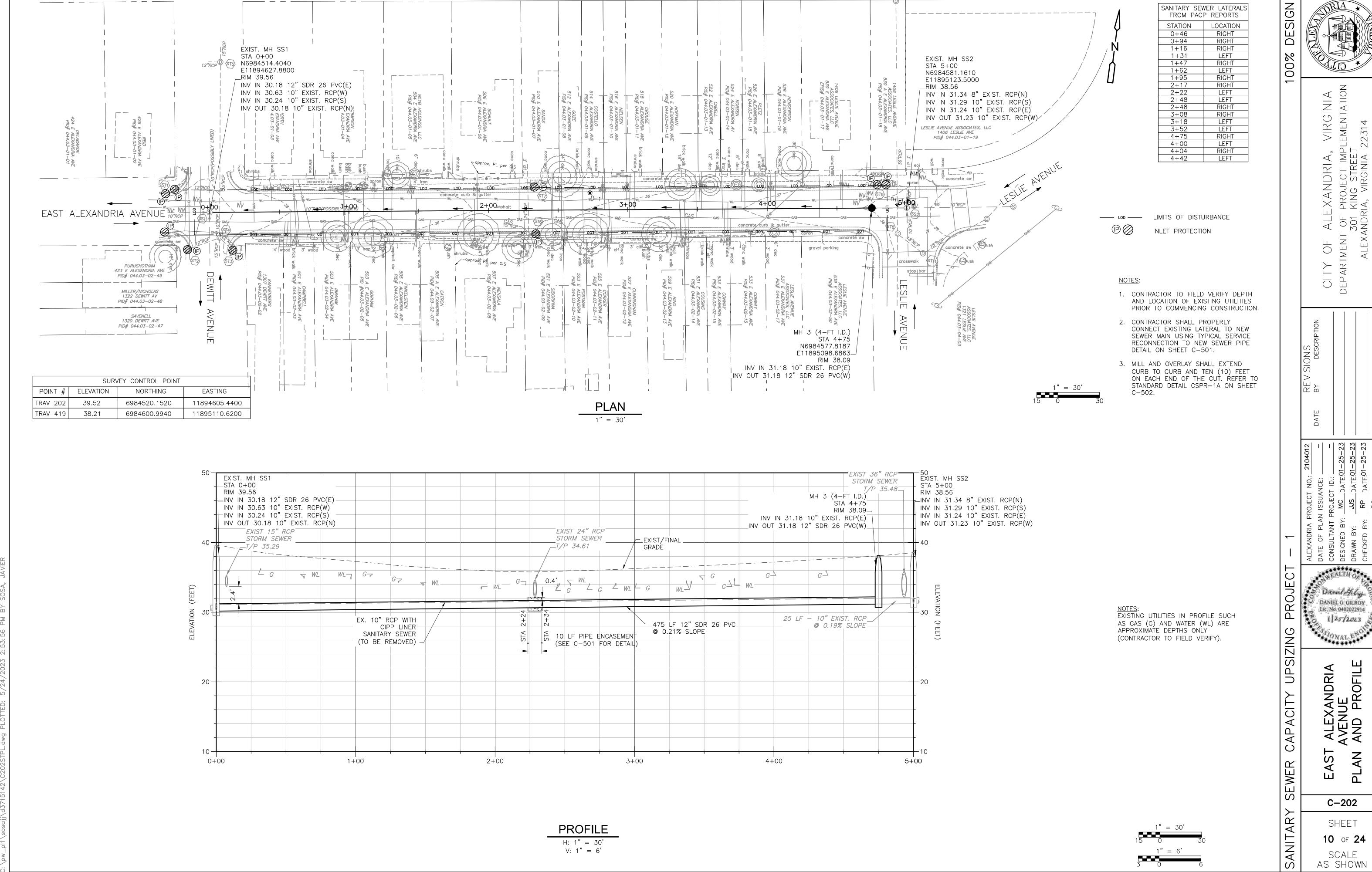


SURVEY CONTROL POINT

NORTHING

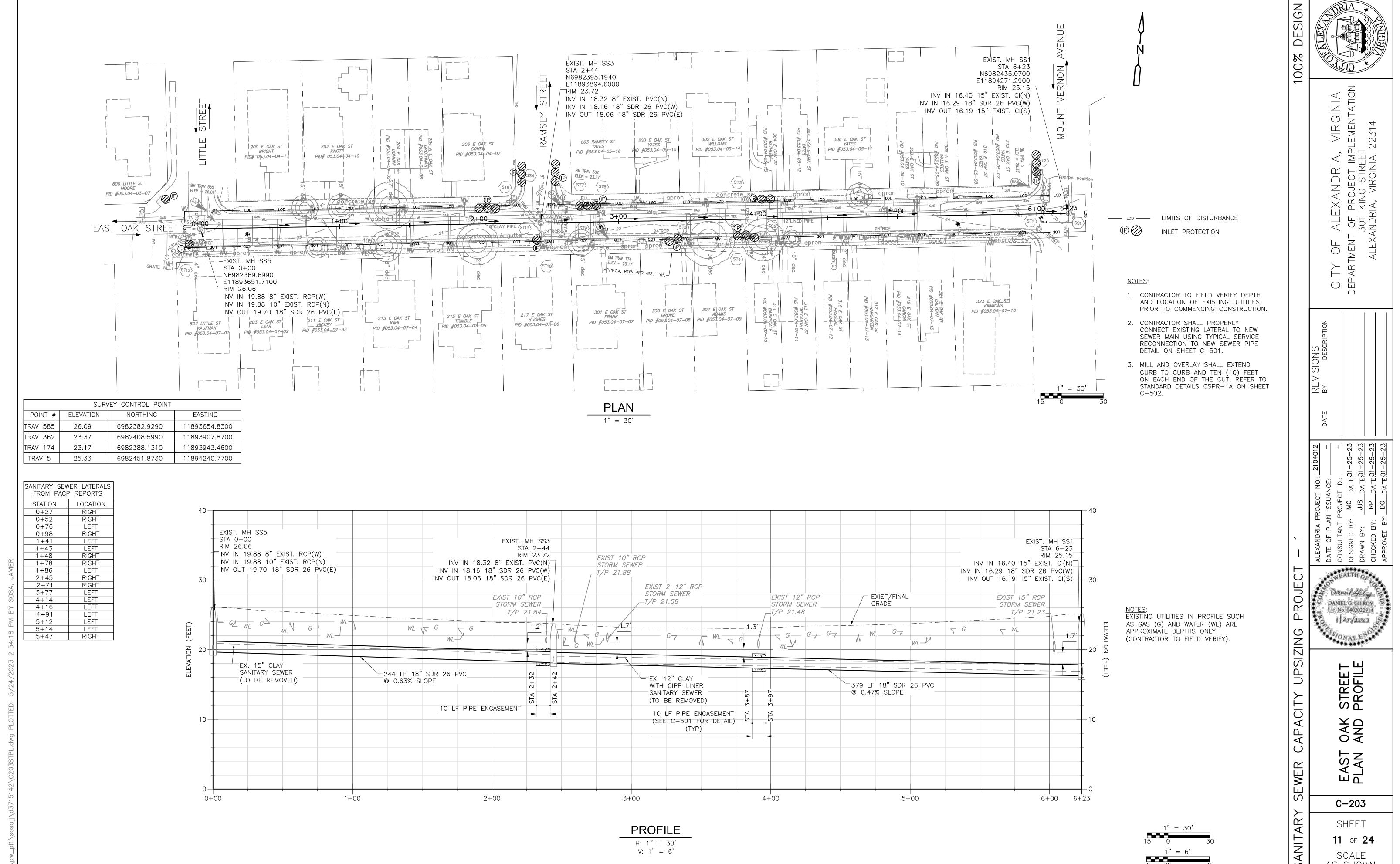
EASTING

POINT # | ELEVATION



H: 1" = 30' V: 1" = 6'

10 of 24 SCALE AS SHOWN

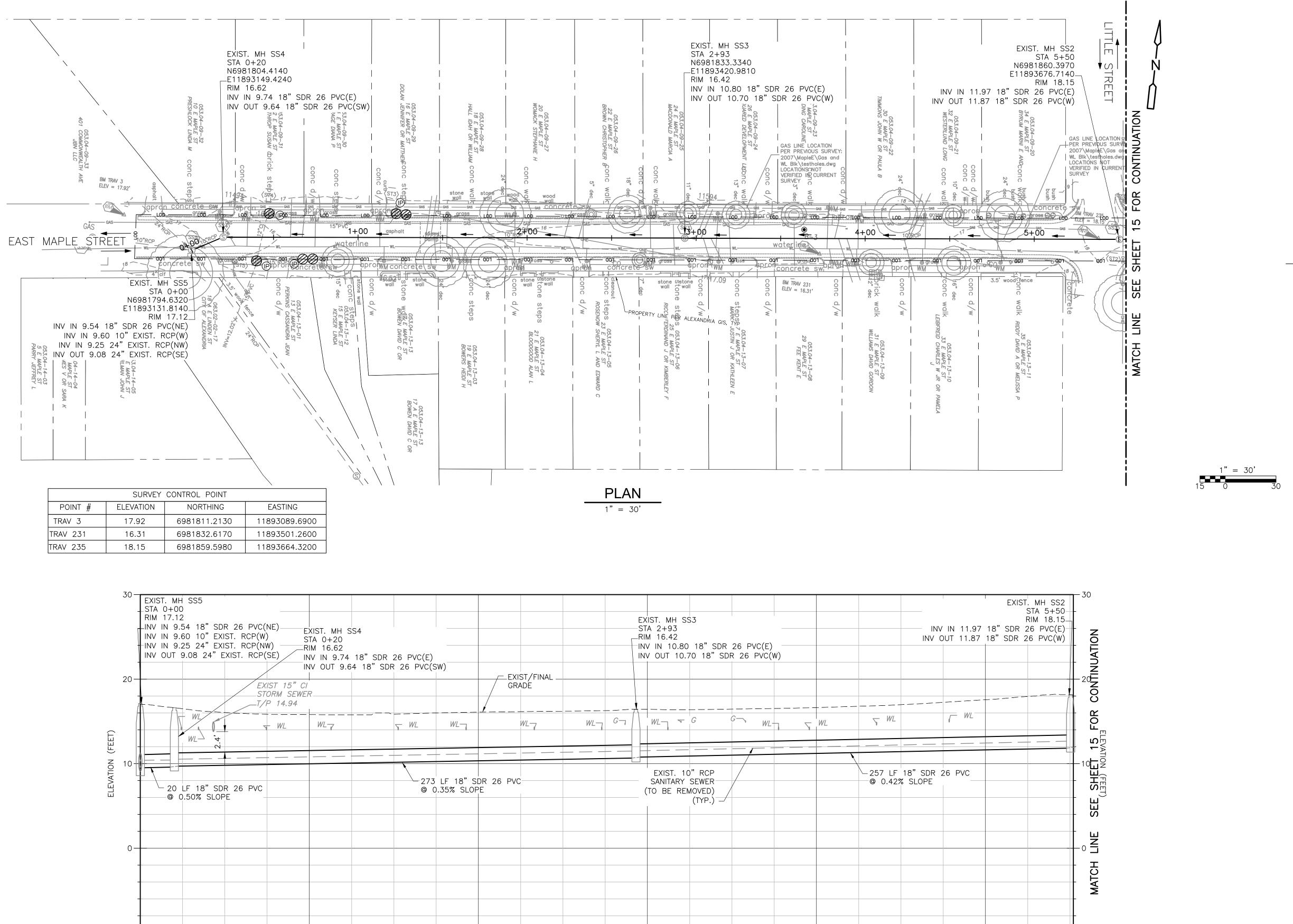


V: 1" = 6'

11 OF 24

SCALE AS SHOWN

S



3+00

**PROFILE** 

H: 1" = 30'V: 1" = 6'

4+00

5+00

5+52

2+00

1+00

-10-

0+00

FROM PACP REPORTS STATION LOCATION 0+60 LEFT LEFT 0+67 LEFT 1 + 401+43 LEFT 1+45 RIGHT 2+22 2+25 2+30 3+00 3+03 LEFT 3+04 RIGHT 3+09 3+82 LEFT 3+84 RIGHT 3+89 RIGHT RIGHT 4+23 4+25 LEFT 4+26 RIGHT 4+77

4+82

SANITARY SEWER LATERALS

---- LIMITS OF DISTURBANCE

INLET PROTECTION

- 1. CONTRACTOR TO FIELD VERIFY DEPTH AND LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
- 2. CONTRACTOR SHALL PROPERLY CONNECT EXISTING LATERAL TO NEW SEWER MAIN USING TYPICAL SERVICE RECONNECTION TO NEW SEWER PIPE DETAIL ON SHEET C-501.
- 3. MILL AND OVERLAY SHALL EXTEND CURB TO CURB AND TEN (10) FEET ON EACH END OF THE CUT. REFER TO STANDARD DETAILS CSPR-1A ON SHEET C-502.

NOTES: EXISTING UTILITIES IN PROFILE SUCH AS GAS (G) AND WATER (WL) ARE APPROXIMATE DEPTHS ONLY (CONTRACTOR TO FIELD VERIFY).

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DESIGN

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DANIEL G. GILROY Lic. No. 0402022914 25/2023 

STREE ROFILE

MAPLE AND PF

EAST PLAN

C-204

SHEET

**12** OF **24** 

SCALE AS SHOWN

PROJE

SIZING

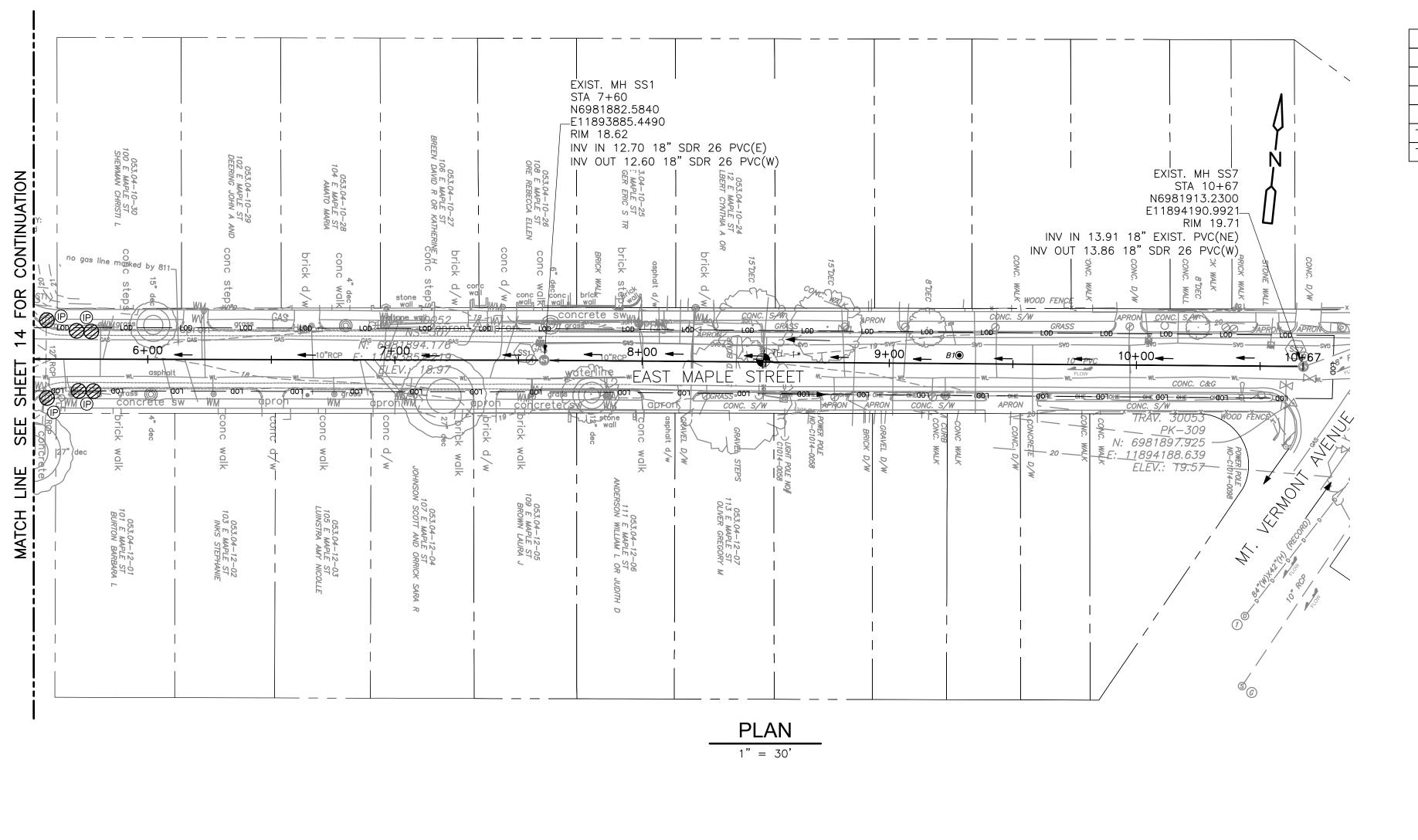
UP

ACITY

CAP,

SEWER

SANITAR



EXIST. MH SS1

INV IN 12.70 18" SDR 26 PVC(E)
INV OUT 12.60 18" SDR 26 PVC(W)

8+00

**PROFILE** 

H: 1" = 30' V: 1" = 6'

/ EXIST/FINAL

-GRADÉ

EXIST 2 1/2" GAS

─307 LF 18"SDR 26 PVC —@ 0.38% SLOPE —

\_T/P 16.60

9+00

\_\_STA 7+60 \_\_RIM 18.62

WL

\_210 LF 18" SDR 26 PVC\_

7+00

@ 0.30% SLOPE

	SURVEY	CONTROL POINT	
POINT #	ELEVATION	NORTHING	EASTING
TRAV 3	17.92	6981811.2130	11893089.6900
TRAV 231	16.31	6981832.6170	11893501.2600
TRAV 235	18.15	6981859.5980	11893664.3200
TRAV 30052	18.97	6981894.1760	11893857.2190
TRAV 30053	19.57	6981897.6390	11894188.6390

SANITARY SEV FROM PACI	VER LATERALS P REPORTS
STATION	LOCATION
5+66	RIGHT
5+82	LEFT
6+06	RIGHT
6+15	RIGHT
6+22	LEFT
6+86	RIGHT
6+88	RIGHT
6+92	RIGHT
6+96	LEFT
7+44	LEFT

EXIST. MH SS7

EXIST 10" PVC

-SANITARY SEWER

(TO BE REMOVED)

<del>|</del> 10 ≥

10+67

(FEET)

INV IN 13.91 18" EXIST. PVC(NE)-

INV OUT 13.86 18" SDR 26 PVC(W)

10+00

STA 10+67— RIM 19.71—

— LOD — LIMITS OF DISTURBANCE

SIGN

DE

100%

VIRGINIA Ementation

EXANDRIA,
- PROJECT IMF
1 KING STREET

 $\exists$ 

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CIT

INLET PROTECTION

- 1. CONTRACTOR TO FIELD VERIFY DEPTH AND LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
- 2. CONTRACTOR SHALL PROPERLY CONNECT EXISTING LATERAL TO NEW SEWER MAIN USING TYPICAL SERVICE RECONNECTION TO NEW SEWER PIPE DETAIL ON SHEET C-501.
- 3. MILL AND OVERLAY SHALL EXTEND CURB TO CURB AND TEN (10) FEET ON EACH END OF THE CUT. REFER TO STANDARD DETAILS CSPR-1A ON SHEET C-502.

LA PRO NOTES: EXISTING UTILITIES IN PROFILE SUCH AS WATER (WL) AND GAS (G) ARE APPROXIMATE DEPTHS ONLY (CONTRACTOR TO FIELD VERIFY).

PROJEC-

**UPSIZING** 

CAPACITY

SEWER

SANITARY

MAPLE STREET AND PROFILE

EAST PLAN

C-205

SHEET

13 of 24

SCALE AS SHOWN

EXIST 12" RCP

STORM SEWER

EXIST. 10" RCP

SANITARY SEWER

(TO BE REMOVED)

(TYP.)\_

6+00

\_T/P 16.43

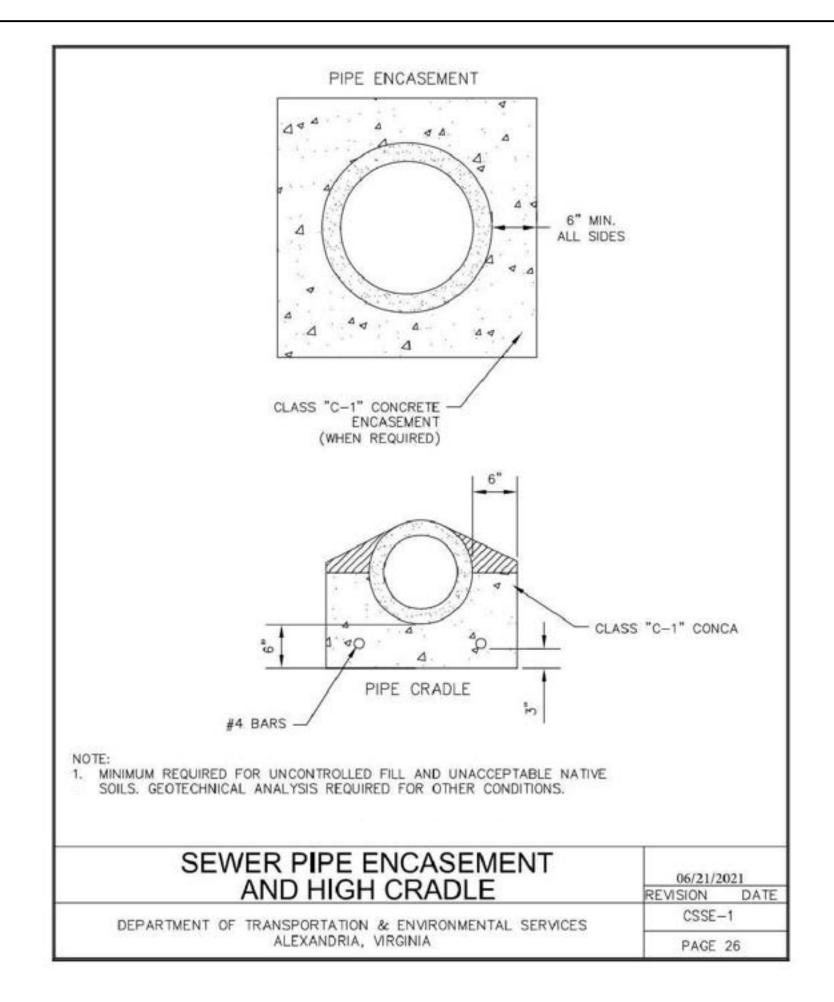
T\_ WL\_

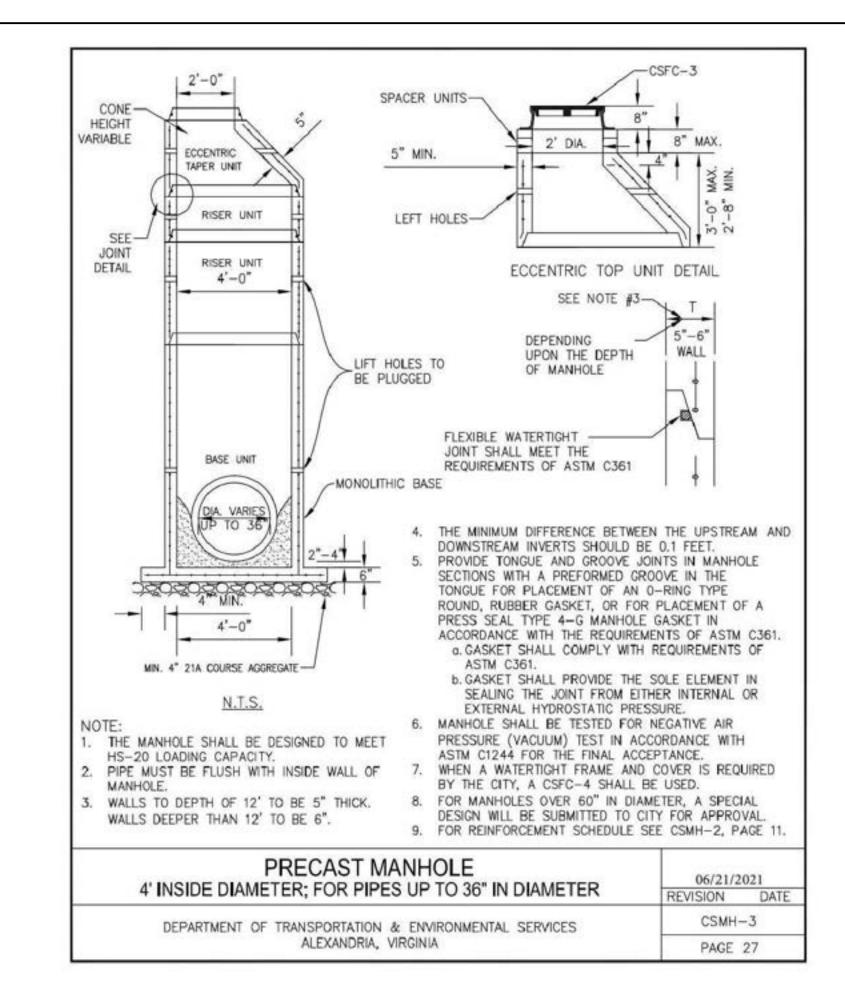
ON (FEET)

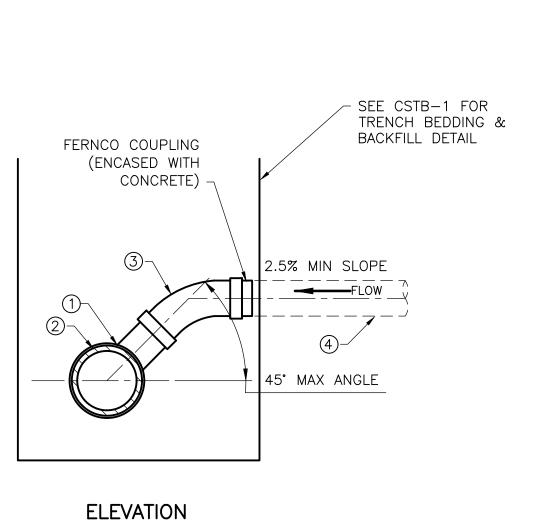
ELEVATIO SHEET

5+52

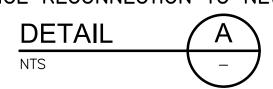








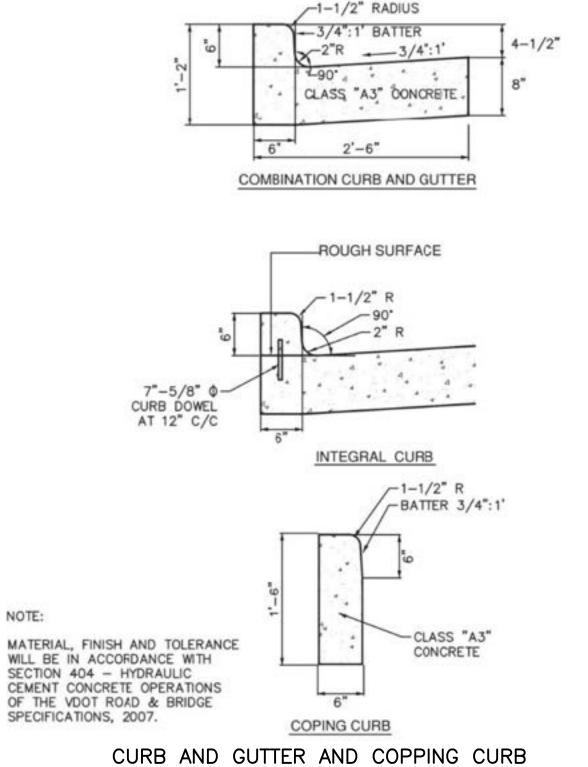
TYPICAL SERVICE RECONNECTION TO NEW SEWER PIPE



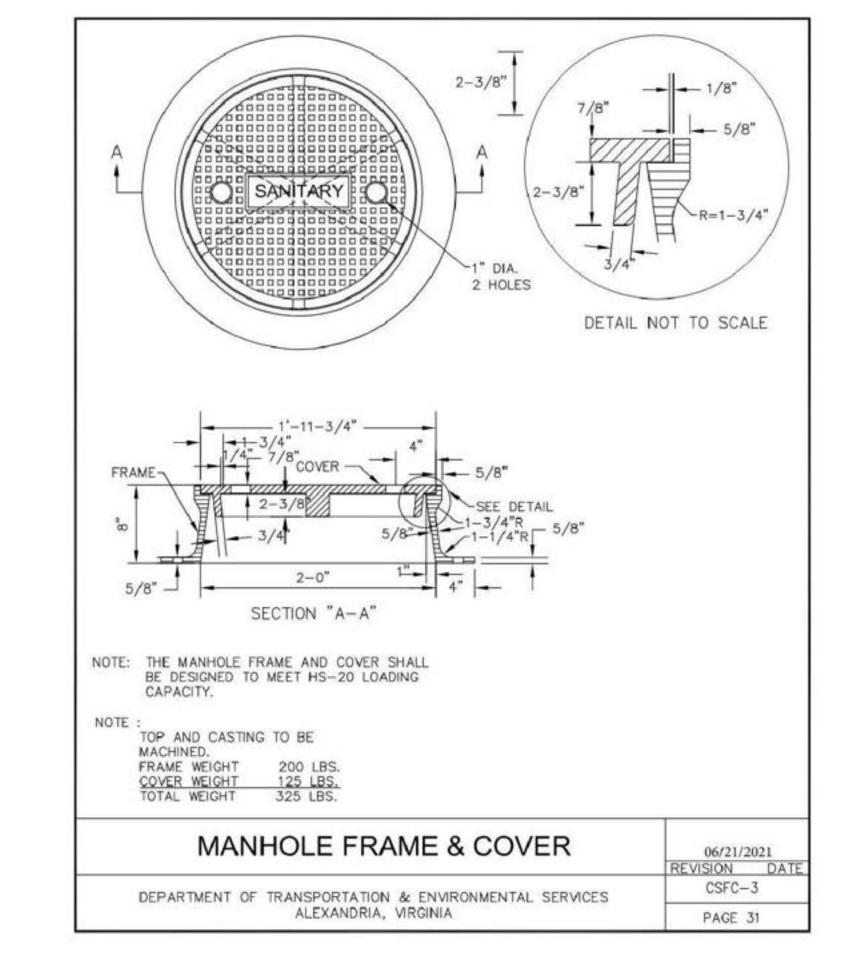
NOTES: 1. WYE.

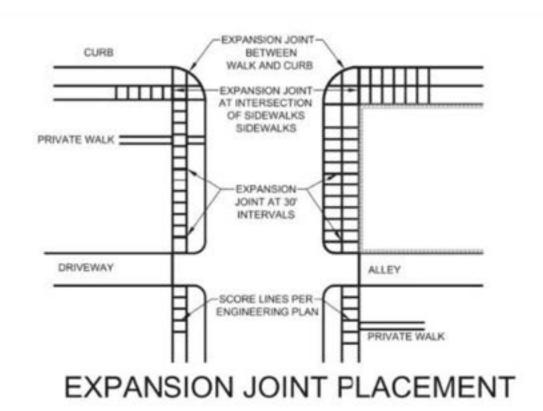
2. EXISTING SEWER MAIN.

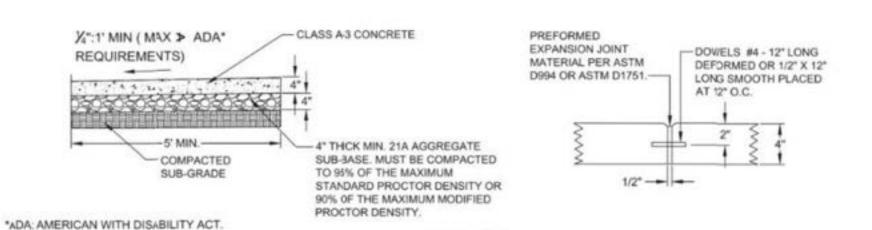




CSCG-1







# SIDEWALK SECTION

# (N.T.S.) EXPANSION JOINT

# NOTES:

- SCORING OF CONCRETE SLAB SHALL BE SAW CUT NOT MORE THAN 3/16" IN WIDTH AND NOT MORE THAN %" DEEP.
   THE EXPANSION JOINTS SHALL BE ½" WIDE AND SHALL BE THE FULL THICKNESS OF THE CONCRETE SLAE, AND SHALL BE OF PRE-FORMED EXPANSION JOINT MATERIAL CONFORMING TO THE REQUIREMENTS OF ASTM D994 ASPHALT OR ASTM D1751 FIBRE. EXPANSION MATERIAL SHALL BE SECURED IN A MANNER THAT WILL PREVENT MOVEMENT OR DISPLACEMENT OF CONCRETE DURING PLACEMENT.
- 3. THE EXPANSION JOINTS SHALL BE PLACED PERPENDICULAR TO CONCRETE CURB AT A DISTANCE OF 30' CR COINCIDING WITH THE SCORING.
- THE SCORING.

  4. DOWELS SHALL BE PLACED AT THE END OF A SIDEWALK PLACEMENT, AT INTERRUPTIONS FOR A DRIVEWAY, OR IF SIDEWALK
- SLABS ARE POURED AT DIFFERENT TIMES.

  5. SAWING OF JOINTS SHALL BE CONDUCTED AS SOON AS THE CONDITION OF THE CONCRETE PERMITS AND BEFORE ANY RANDOM CRACKING APPEARS.

ALL STRUCTURAL ITEMS TO CONFORM TO THE LATEST EDITION OF UNIFORM STATEWIDE BUILDING CODE (USBC) REQUIREMENTS.
 PRIOR TO CONSTRUCTION, ALL STRUCTURAL CROSS SECTIONS SHALL BE REVIEWED BY A QUALIFIED STRUCTURAL AND/OR GEOTECHNICAL ENGINEER, AND MODIFIED AS NECESSARY BASED ON THE SITE SPECIFIC GEOTECHNICAL REPORT.

CONCRETE SIDEWALK
CSSW-1

XAND  $\forall$  $\bigcirc$  $\overline{\bigcirc}$ PROJE DANIEL G. GILROY Lic. No. 0402022914 25/2023 ZING Openal S UP ACI AP DE WER SE C-501 AR SHEET ANIT, 14 OF 24 SCALE NONE S

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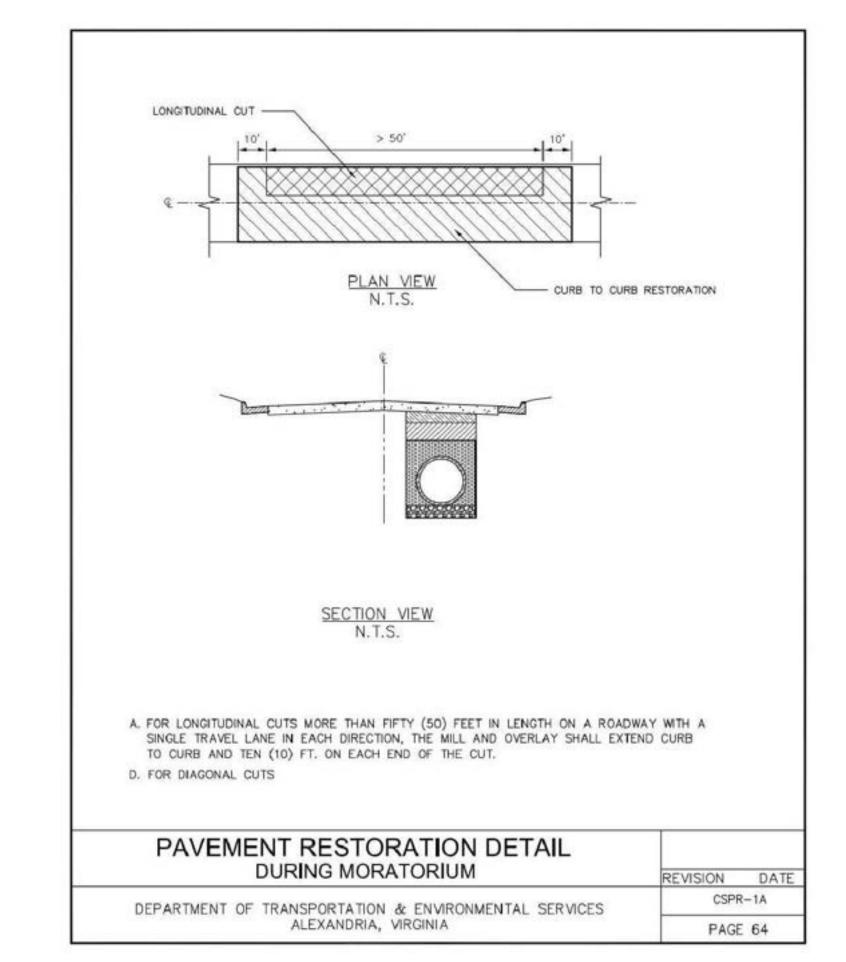
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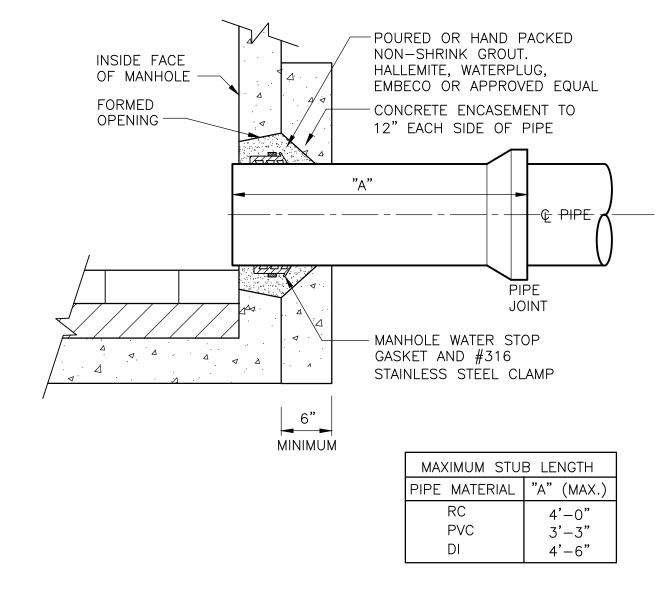
X X

### NOTE:

- 1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT ASTM D2321 STANDARD, AS MODIFIED
- 2. MINIMUM COVER FOR ALL H-25 LOADING APPLICATIONS SHALL BE 3'-6". MINIMUM COVER IS MEASURED FROM THE TOP OF PIPE TO THE TOP OF A RIGID PAVEMENT OR BOTTOM OF FLEXIBLE/ASPHALT PAVEMENT SECTIONS.
- 3. UNSTABLE TRENCH BOTTOM MATERIAL AND/OR ROCK SHALL BE EXCAVATED TO A DEPTH SPECIFIED BY THE ENGINEER AND SHALL BE REPLACED WITH CLASS I MATERIAL PER CURRENT ASTM D2321 STANDARD OR 21-A COMPACTED TO 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY OR 90% OF THE MAXIMUM MODIFIED PROCTOR DENSITY. WHEN STANDING WATER IS IN PIPE FOUNDATION AREA, #57 STONE CAN BE USED AS A BACKFILL IN THE SUBFOUNDATION WITH THE CONDITION THAT #57 STONE SHALL BE CAPPED WITH A MINIMUM 4" CRUSHER RUN OR 21-A PRIOR TO PLACEMENT OF A PIPE (COMPACTION TESTING ON #57 STONE IS NOT REQUIRED; SEAT STONE IN TRENCH). FOR SEVERE CONDITIONS, THE ENGINEER MAY REQUIRE A SPECIAL FOUNDATION SUCH AS PILES OR SHEETING CAPPED WITH CONCRETE MAT, CONTROL OF QUICK AND UNSTABLE TRENCH BOTTOM CONDITIONS MAY BE ACCOMPLISHED WITH THE USE OF APPROPRIATE GEOFABRICS.
- 4. BEDDING MATERIAL SHALL BE CLASS I MATERIAL #26 AND #27 PER CURRENT ASTM D2321 STANDARD OR VDOT AGGREGATE #8 OR CRUSHER RUN AGGREGATE #25 OR #26 CONFORMING TO THE REQUIREMENTS OF SECTION 205 AND 302 OF VDOT ROAD AND BRIDGE SPECIFICATIONS, WORK MATERIAL UNDER PIPE TO PROVIDE HAUNCH SUPPORT.
- 5. INITIAL BACKFILL MATERIAL SHALL BE CLASS I MATERIAL PER CURRENT ASTM D2321 STANDARD OR VDOT AGGREGATE #8, #68, OR #78, OR CRUSHER RUN AGGREGATE #25 OR #26 CONFORMING TO THE REQUIREMENTS OF SECTION 205 OF VDOT ROAD AND BRIDGE SPECIFICATIONS; OR AGGREGATE BASE MATERIAL SIZE 21 A OR FLOWABLE FILL. THE BACKFILL SHALL BE INSTALLED IN LIFTS AND COMPACTED PER ASTM D2321, AS APPLICABLE. BACKFILL SHALL EXTEND TO NOT LESS THAN 1'-O" ABOVE THE TOP OF THE PIPE.
- 6. EXCAVATED MATERIAL BACKFILLED IN 6" LAYERS TO 95% COMPACTION. SELECT MATERIAL, WHERE CALLED FOR, MAY BE USED.
- 7. BACKFILL UNDER PAVED ROAD TO BE SELECT MATERIAL VDOT 21A.
- 8. SHEETING LEFT IN PLACE SHALL BE EITHER STEEL OF PRESSURE TREATED WOOD.

TRENCH BEDDING & BACKFILL DETAIL	06/21/2021
NOTES FOR PVC	REVISION DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES	CSTB-1A
ALEXANDRIA, VIRGINIA	PAGE 36



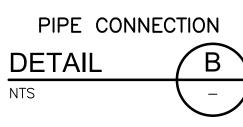


# NOTES:

- 1. CONTRACTOR SHALL RESHAPE MANHOLE INVERTS AND BENCHES UPON COMPLETION OF SEWER MAIN TIE-IN.
- 2. RESHAPED INVERTS SHALL BE U-SHAPED WITH DEPTHS MATCHING THE PLANS.
- INVERT CHANNEL SHALL PROVIDE SMOOTH FLOW TRANSITION FOR FLOW OF SEWER, WITH NO DISRUPTION OF FLOW FROM THE HIGHEST INLET SEWER MAIN TO THE OUTLET SEWER MAIN.
- 4. ALL BENCHES AND INVERT CHANNELS SHALL BE SMOOTH AND FREE OF SHARP EDGES, PROTRUSIONS, AND DROPS.



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DANIEL G. GILROY Lic. No. 0402022914 25/2023 ONATE /

C-502 SHEET

15 of 24 SCALE NONE

### GENERAL EROSION AND SEDIMENT CONTROL NOTES

- AN EROSION AND SEDIMENT CONTROL PLAN MUST BE APPROVED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO ANY LAND DISTURBING ACTIVITY GREATER THAN 2,500 SQUARE
- THE CONTRACTORS ARE TO KEEP DENUDED AREAS TO A MINIMUM. AN EROSION AND SEDIMENT CONTROL PLAN IS INCLUDED WITH THESE FINAL PLANS FOR APPROVAL BY T&ES FOR REFERENCE BY THE EROSION AND SEDIMENT CONTROL PERMIT. ALL EROSION/SEDIMENT CONTROL MEASURES WILL CONFIRM TO THE CURRENT STANDARD OF THE CITY OF ALEXANDRIA AND THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH).
- 3. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH) AND VIRGINIA REGULATIONS §4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.
- 4. T&ES MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENTS OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION. CERTIFIED RESPONSIBLE LAND DISTURBER (CRLD) IS REQUIRED TO ATTEND PRE-CONSTRUCTION MEETING.
- ALL EROSION AND SEDIMENT CONTROL MEASURE ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING. AN INSPECTION BY THE CITY OF ALEXANDRIA IS REQUIRED AFTER INITIAL INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND BEFORE ANY CLEARING OR GRADING CAN BEGIN.
- 6. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN THOSE INDICATED ON THESE PLANS INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY
- ALL DISTURBED AREAS OF THE SITE NOT TO BE WORKED FOR SEVEN OR MORE CALENDAR DAYS MUST BE STABILIZED.
- ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
- 10. DURING THE DEWATERING OPERATION, WATER WILL BE PUMPED THROUGH AN APPROVED FILTERING DEVICE.
- 11. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES DAILY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
- 12. 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 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.
- 13. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION AND AS DETERMINED BY THE CITY
- 14. ANY DENUDED SLOPES, EITHER DISTURBED OR CREATED BY THIS PLAN THAT EXCEED 2,500 SQUARE FEET SHALL BE SODDED AND PEGGED FOR STABILITY AND EROSION CONTROL. AT THE COMPLETION OF THE PROJECT AND PRIOR TO THE RELEASE OF THE BOND, ALL DISTURBED AREAS SHALL BE STABILIZED PERMANENTLY AND ALL TEMPORARY EROSION AND SEDIMENT CONTROLS SHOULD BE REMOVED.
- 15. AT THE COMPLETION OF THE PROJECT, ALL DISTURBED AREAS SHALL BE STABILIZED AND ALL TEMPORARY EROSION AND SEDIMENT CONTROL SHALL BE REMOVED.

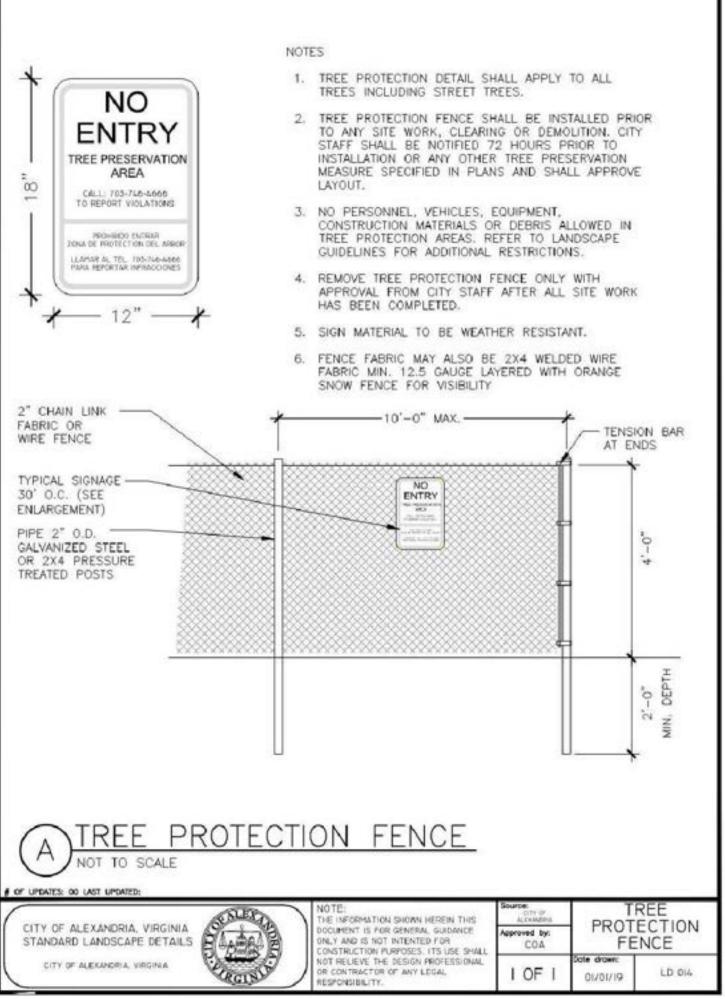
### SEQUENCE OF CONSTRUCTION

- INSTALL INLET PROTECTION AT EXISTING STORM DRAIN INLETS AS NECESSARY.
- CONDUCT THE DEMOLITION AND CONSTRUCTION ACTIVITIES ACCORDING TO THE APPLICABLE PLANS. AS CONTRIBUTORY DRAINAGE AREAS ARE STABILIZED AND WITH THE PERMISSION OF THE EROSION AND
- SEDIMENT CONTROL INSPECTOR, REMOVE INDIVIDUAL EROSION AND SEDIMENT CONTROL PRACTICES.
- 4. INSTALL ADDITIONAL EROSION IN SEDIMENT CONTROL PRACTICES AS NECESSARY AND AS DIRECTED BY THE EROSION AND SEDIMENT CONTROL INSPECTOR.
- 5. UPON COMPLETION OF DEMOLITION, CONSTRUCTION AND LAND DISTURBING ACTIVITIES AND WITH THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL INSPECTOR: REMOVE ALL REMAINING EROSION AND SEDIMENT CONTROL PRACTICES AND PROVIDE PERMANENT STABILIZATION ACCORDING TO APPROVED METHODS.
- 6. CONSTRUCTION DEBRIS MUST BE REMOVED TO AN APPROVED LANDFILL WITH ADEQUATE FREQUENCY IN ACCORDANCE WITH THE VIRGINIA STATE LITTER CONTROL ACT.

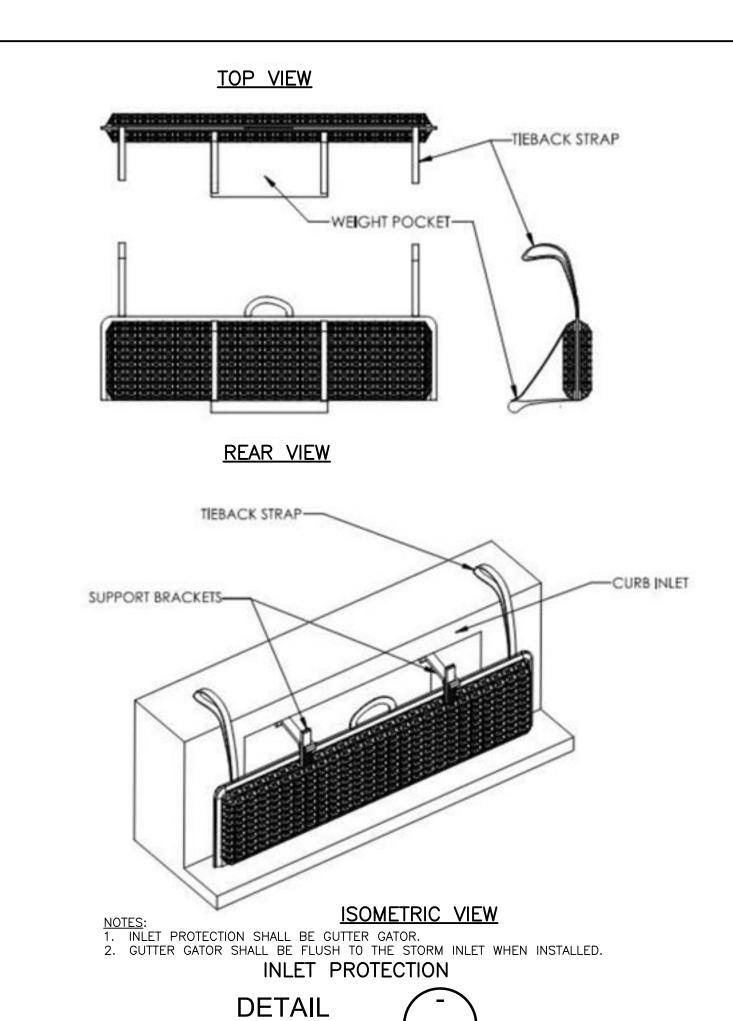
<u> EROSION & SEDIMENT CONTROL</u> IMPERMEABLE AREA DISTURBED: 69,740 SQFT PERMEABLE AREA DISTURBED: 0.00 SQFT TOTAL AREA DISTURBED: 69.740 SQFT

WETLAND DISTURBANCE PERMANENT: 0.00 ACRES TEMPORARY: 0.00 ACRES

<u>RESOURCE PROTECTION AREA DISTURBANCE</u> PERMANENT: 0.00 ACRES TEMPORARY: 0.00 ACRES



1. CONTRACTOR SHALL FIELD COORDINATE WITH CITY ARBORIST FOR THE TREE BRANCH PRUNING RELATED WORK.





THE FOLLOWING NOTES SHALL BE PROVIDED ON LANDSCAPE PLAN SUBMISSIONS FOR ALL PROJECTS THAT REQUIRE APPROVAL BY THE CITY AS OUTLINED IN CHAPTER 3 OF THE CITY'S 2019 LANDSCAPE QUIDELINES: 1)THE PROPERTY OWNER AND/OR APPLICANT, SPECIFIER, CONTRACTOR AND INSTALLER OF PLANT MATERIAL ARE RESPONSIBLE FOR UNDERSTANDING AND ADHERING TO THE STANDARDS SET FORTH IN THE MOST RECENT VERSION OF THE CITY OF ALEXANDRIA LANDSCAPE GUIDELINES AND APPLICABLE CONDITIONS OF APPRIOVAL. ALL QUESTIONS REGARDING APPLICATION OF, OR ADHERENCE TO, THE STANDARDS AND/OR CONDITIONS OF APPROVAL SHALL BE DIRECTED TO THE CITY PRIOR TO COMMENCEMENT OF DEMOLITION, CONSTRUCTION, OR ANY LAND DISTURBING ACTIVITY.

2)THE CITY-APPROVED LANDSCAPE PLAN SUBMISSION, INCLUDING PLANT SCHEDULE, NOTES AND DETAILS SHALL BE THE DOCUMENT USED FOR INSTALLATION PURPOSES AND ALL PROCEDURES SET FORTH IN THE LANDSCAPE GUIDELINES MUST BE FOLLOWED.

3)THE CONTRACTOR SHALL NOT INTERFERE WITH ANY TIRES PROTECTION MEASURES OR IMPACT ANY EXISTING VEGETATION IDENTIFIED TO BE PRESERVED PER THE APPROVED TIRES AND VEGETATION PROTECTION PLAN. 4) ANY CHANGES, ALTERATIONS OR MODIFICATIONS TO THE SITE CONDITIONS THAT AFFECT VEGETATION PROTECTION PORTECTION PORTECTION PLAN

5)INSTALLATION OF PLANT MATERIAL MAY ONLY OCCUR DURING THE PLANTING SEASONS IDENTIFIED IN THE LANDSCAPE GUIDELINES.

7)SUBSTITUTIONS TO THE APPROVED PLANT MATERIAL SHALL NOT OCCUR UNTIL WRITTEN APPROVAL IS PROVIDED BY THE CITY.

6)IN LIEU OF MORE STRENUOUS SPECIFICATIONS, ALL LANDSCAPE RELATED WORK SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CURRENT AND MOST UP-TO-DATE EXITION (AT TIME OF CONSTRUCTION) OF LANDSCAPE SPECIFICATION GUIDELINES AS PRODUCED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF MARYLAND, DISTRICT OF COLUMBIA AND VIRGINIA; GAITHERSBURG, MARYLAND.

8)MAINTENANCE FOR THIS PROJECT SHALL BE PERFORMED BY THE OWNER, APPLICANT, SUCCESSOR(S) AND/OR ASSIGN(S) IN PERPETUITY AND IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES AND AS CONDITIONED BY PROJECT APPROVAL, AS APPLICABLE.

B) STANDARD LANDSCAPE PLAN NOTES FOR DEVELOPMENT SITE PLANS:

IN ADDITION TO THE NOTES PROVIDED ABOVE, THE FOLLOWING NOTES SHALL BE PROVIDED ON LANDSCAPE PLAN SUBMISSIONS FOR ALL DSP/DSUP PROJECTS:

1) THE APPROVED METHOD(S) OF PROTECTION MUST BE IN PLACE FOR ALL VEGETATION TO BE PRESERVED ON-SITE AND ADJACENT TO THE PROJECT SITE PURSUANT TO THE APPROVED TREE AND VEGETATION PROTECTION PLAN AND DETAILS PRIOR TO COMMENCEMENT OF DEMOLITION, CONSTRUCTION, OR ANY LAND DISTURBANCE. THE APPLICANT SHALL NOTIFY THE PLANNING & ZONING (P&Z) PROJECT MANAGER ONCE THE TREE PROTECTION METHODS ARE IN PLACE. NO DEMOLITION, CONSTRUCTION, OR LAND DISTURBANCE MAY OCCUR UNTIL AN INSPECTION IS PERFORMED BY THE CITY AND WRITTEN CONFIRMATION IS PROVIDED BY THE CITY WHICH VERIFIES CORRECT INSTALLATION OF THE TREE PROTECTION MEASURES.

2)THE APPLICANT MUST CONTACT THE PAZ PROJECT MANAGER PRIOR TO COMMENCEMENT OF LANDSCAPE INSTALLATION/PLANTING OPERATION TO SCHEDULE A PRE-INSTALLATION MEETING. THE MEETING SHOULD BE HELD BETWEEN THE APPLICANT'S GENERAL CONTRACTOR, LANDSCAPE CONTRACTOR, LANDSCAPE ARCHITECT, THE P&Z PROJECT MANAGER AND THE CITY ARBORIST (AS APPLICABLE) TO REVIEW THE SCOPE OF INSTALLATION PROCEDURES AND PROCESSES DURING AND AFTER INSTALLATION.

3)THE FOLLOWING INFORMATION SHALL BE PROVIDED TO THE PAZ PROJECT MANAGER AT LEAST FIVE (5) BUSINESS DAYS PRIOR TO THE LANDSCAPE PRE-INSTALLATION MEETING: 1) A LETTER THAT CERTIFIES THAT THE PROJECT LANDSCAPE ARCHITECT PERFORMED PRE-SELECTION TAGGING FOR ALL TREES PROPOSED WITHIN THE PUBLIC RIGHT OF WAY AND ON PUBLIC LAND PRIOR TO INSTALLATION. THIS LETTER MUST BE SIGNED AND SEALED BY THE PROJECT LANDSCAPE ARCHITECT, AND 2) A COPY OF THE SOIL BULK DENSITY TEST REPORT VERIFYING THAT MAXIMUM COMPRESSION RATES ARE MET. 4)ALL CONSTRUCTION WASTE SHALL BE REMOVED PRIOR TO PLANTING.

5)AS-BUILT DRAWINGS FOR THIS LANDSCAPE AND/OR IRRIGATION/WATER MANAGEMENT SYSTEM WILL BE PROVIDED IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES, THE CITY CODE OF ORDINANCES, AND ALL APPLICABLE PLAN PREPARATION CHECKLISTS. AS-BUILT DRAWINGS SHALL INCLUDE CLEAR IDENTIFICATION OF ALL VARIATION(S) AND CHANGES FROM APPROVED DRAWINGS INCLUDING LOCATION, QUANTITY AND SPECIFICATION OF ALL PROJECT ELEMENTS.

6) AREAS OF BARE SOIL WILL NOT BE ACCEPTED. MULCHED AREAS AND PLANTING AREAS SHALL BE WEED FREE UPON ACCEPTANCE OF THE PROJECT BY THE CITY.



OF UPDATES: 01 LAST UPDATED: 12/02/2019

CITY OF ALEXANDRIA, VIRGINIA STANDARD LANDSCAPE DETAILS CITY OF ALEXANDRIA, VIRGINIA

IE INFORMATION SHOWN HEREIN THIS DOCUMENT IS FOR GENERAL CUIDANCE ONLY AND IS NOT INTENTED FOR ISTRUCTION PURPOSES. ITS USE SHALL NOT RELIEVE THE DESIGN PROFESSIONAL OR CONTRACTOR OF ANY

STANDARD LANDSCAPE PLAN NOTES

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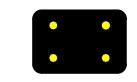
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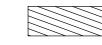
16 of 24 SCALE NONE

ILLUMINATED FLASHING

AMBER ARROW PANEL TYPE C



ILLUMINATED FLASHING AMBER
(CAUTION MODE) ARROW
PANEL TYPE B OR C



AREA UNDER CONSTRUCTION

**→** 

TRAFFIC FLOW

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CHANNELIZING DEVICE

ARROW PANEL

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FLAGGER STATION

# MAINTENANCE OF TRAFFIC NOTES

1. CONSTRUCTION WORK INCLUDES AN OPEN CUT CONSTRUCTION ALONG THE FOLLOWING AREAS:

A. APPROXIMATELY 290 LINEAR FEET OF 12-INCH SDR 26 PVC ON ASHBY STREET.

B. APPROXIMATELY 475 LINEAR FEET OF 12-INCH SDR 26 PVC ON EAST ALEXANDRIA AVENUE.

C. APPROXIMATELY 623 LINEAR FEET OF 18-INCH SDR 26 PVC ON EAST OAK STREET.

D. APPROXIMATELY 1,067 LINEAR FEET OF 18-INCH SDR 26 PVC ON EAST MAPLE STREET.

TRAFFIC CONTROL DEVICES, TEMPORARY PAVEMENT MARKINGS AND TEMPORARY ASPHALT CONCRETE WHERE REQUIRED SHALL BE INSTALLED FOR ALL PHASES.

2. ITEMS FOR TEMPORARY MAINTENANCE OF TRAFFIC SHALL BE PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND THE "VIRGINIA WORK AREA PROTECTION MANUAL."

3. THE CONTRACTOR SHALL FURNISH, INSTALL AND OPERATE MIN. 2 (TWO) PORTABLE VARIABLE MESSAGE SIGNS WITH CLOSURE INFORMATION AHEAD OF WORK AREA 3 WEEKS PRIOR TO CLOSURE.

4. THE CONTRACTOR SHALL COVER ANY EXISTING SIGN WHICH IS NOT APPLICABLE, AS DIRECTED BY THE

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH VDOT AND ANY OTHER CONTRACTORS IN THE AREA.

6. THE CONTRACTOR SHALL NOT DISTURB OR REMOVE ANY TRAFFIC CONTROL SIGNS, PARKING METERS OR COVER ANY OTHER TRAFFIC CONTROL DEVICE WITHOUT PRIOR PERMISSION FROM THE TRAFFIC ENGINEERING DIVISION. ANY TRAFFIC SIGNAL CONDUIT, CABLE OR TRAFFIC DETECTION DEVICES DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO COST TO THE CITY.

7. AT THE END OF WORK DAY, ALL EXCAVATIONS SHALL BE FILLED WITH BASE ASPHALT AND SHALL BE OPENED FOR TRAFFIC.

8. MAINTENANCE OF TRAFFIC PLANS AND DETAILS SHOWN HERE SHALL BE FOLLOWED BY THE CONTRACTOR DURING CONSTRUCTION. SHOULD THE CONTRACTOR DESIRE TO FOLLOW AN ALTERNATE PLAN THEY SHALL SUBMIT THE PLAN PRIOR TO CONSTRUCTION TO VDOT.

9. THE CONTRACTOR SHALL CONTACT THE CITY OF ALEXANDRIA, DEPARTMENT OF TRANSPORTATION PRIOR TO INSTALLATION OF PERMANENT PAVEMENT MARKINGS.

10. THE CONTRACTOR SHALL REMOVE EXISTING PAVEMENT MARKING IN CONFLICT WITH TEMPORARY PAVEMENT MARKINGS.

11. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE 11, CHAPTER 5, WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:

A. MONDAY THROUGH FRIDAY FROM 7 AM TO 6 PM AND

B. SATURDAYS FROM 9 AM TO 6 PM.

C. NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS.

D. PILE DRIVING IS FURTHER RESTRICTED TO THE FOLLOWING HOURS:
MONDAY THROUGH FRIDAY FROM 9 AM TO 6 PM AND
SATURDAYS FROM 10 AM TO 4 PM.

12. TRAFFIC CONTROL PLANS ARE BASED ON THE VIRGINIA WORK AREA PROTECTION MANUAL TTC-16.2, TTC-23.2. TTC-28.2 & TTC-34.2 (2011 EDITION REVISION 2.1).

September 2019

Page 6H-5

Table 6H-2, Taper Length Criteria and Taper Length Chart

Type of Taper	Taper Length (L)		
Merging	L= Minimum		
Shifting	See table below <sup>2</sup>		
Shoulder	1/4 L Minimum		
Two-Way Traffic	50 Feet Minimum, 100 Feet Maximum		
Downstream	50 Feet Minimum, 100 Feet Maximum		

Posted Speed		Domarka			
Limit (mph)	9	10	11	12	Remarks
≤ 25	95	105	115	125	L= S2W/60
30	135	150	165	180	
35	185	205	225	245	
40	240	270	295	320	
45	405	450	495	540	L=SW
50	450	500	550	600	
55	495	550	605	660	
60	540	600	660	720	*
65	585	650	715	780	1.00
70	630	700	770	840	

\* Limited Access highways shall use a 1000' merging taper regardless of the posted speed.
Shifting Tapers - full lane width shifts on Limited Access Highways shall use a 750' shifting taper for posted speeds less than 65 mph and a 1000' shifting taper for posted speeds equal to or greater than 65 mph. For all other roadways ¾ L should be used.²

Table 6H-3, Length of the Longitudinal Buffer Space1

Posted Speed Limit (mph)	Distance (Feet)
≤20	115 – 120
25	155 - 1651
30	200 - 210
35	250 - 260
40	305 - 325 <sup>1</sup>
45	360 - 380
50	425 - 445
55	500 - 530 <sup>1</sup>
60	570 - 600¹
65	645 - 675
70	730 - 760

1: Revision 1 - 4/1/20152: Revision 2 - 9/1/2019

ANITARY SEWER CAPACITY UPSIZING PROJECT - 1

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CITY OF ALEXANDRIA, VIRGINIA Department of project implementation 301 king street

ALEXANDRIA PROJECT NO.: 2104012

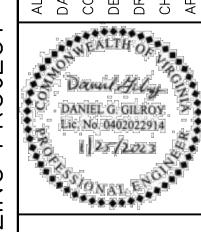
DATE OF PLAN ISSUANCE: —

CONSULTANT PROJECT ID.: —

DESIGNED BY: MC DATE:01-25-23

CHECKED BY: RP DATE:01-25-23

APPROVED BY: DG DATE:01-25-23



MOT NOTES

C-701 SHEET

**17** of **24** SCALE

NONE

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required.

Standard:

Speed Limit

Spacing

the posted speed limit is 45 mph or less.

9 10 11 12

40 240 270 295 320 L=S\*W/60

45 405 450 495 540 L=SW

Shifting Tapers see Table 6H-2.2

mounted attenuator shall be used.

The supplemental PTRS may be eliminated.<sup>2</sup>

or oscillating lights.

placed as needed.

1: Revision 1 - 4/1/2015

2: Revision 2 - 9/1/2019

7. Channelizing device spacing shall be at the following:

185 205 225 245 L=S\*W/80

signs cannot be installed.2

September 2019

Remarks

Page 6H-41

September 2019.

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Page 6H-77

SHEET 18 of 24

NONE

C - 702

Page 6H-54 Typical Traffic Control

> Lane Closure on a Two-Lane Roadway Using Flaggers (Figure TTC-23.2) NOTES

- 1. Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less, and 500'-800' where the posted speed limit is greater than 45 mph.
- 2. Care should be exercised when establishing the limits of the work zone to insure maximum possible sight distance in advance of the flagger station and transition, based on the posted speed limit and at least equal to or greater than the values in Table 6H-3. Generally speaking, motorists should have a clear line of sight from the graphic flagger symbol sign to the flagger.
- 3. To maintain efficient traffic flow in a flagging operation on a two-lane roadway, the maximum time motorists should be stopped at a flagger station is 8 minutes for high volume roadways (average daily traffic of 500 or more vehicles per day) to a maximum of 12 minutes for low volume roadways (less than 500 vehicles per day). For additional information see Section 6E.07.2

### Standard:

- Portable Temporary Rumle Strips (PTRS) shall be used as noted in Section 6F.99.
- 5. Flagging stations shall be located far enough in advance of the work space to permit approaching traffic to reduce speed and/or stop before passing the work space and allow sufficient distance for departing traffic in the left lane to return to the right lane before reaching opposing traffic (see Table 6H-3 on Page 6H-5).
- 6. All flaggers shall be state certified and have their certification card in their possession when
- performing flagging duties (see Section 6E.01, Qualifications for Flaggers). Cone spacing shall be based on the posted speed and the values in Table 6H-4 on Page 6H-6.
- 8. A shadow vehicle with at least one high intensity amber rotating, flashing, or oscillating light shall be parked 80'-120' in advance of the first work crew.

- A SLOW (W21-V10) sign<sup>2</sup> may be required in this area to give advance warning of the operation ahead by slowing approaching traffic prior to reaching the flagger station or queued traffic.
- PTRS should be readjusted at greater distances. 10. When a highway-rail crossing exists within or upstream of the transition area and it is anticipated that queues resulting from the lane closure might extend through the highway-rail grade crossing, the temporary traffic control zone should be extended so that the transition area precedes the highway-rail

9. If the queue of traffic reaches the BE PREPARED TO STOP (W3-4) sign then the signs, and if used the

# crossing (see Figure TTC-56 for additional information on highway-rail crossings).

At night, flagger stations shall be illuminated, except in emergencies (see Section 6E.08).

# Option:

- Cones may be eliminated when using a pilot vehicle operation or when the total roadway width is 20 feet
- 13. For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be visible to road users approaching from both directions, may be used (see Chapter 6E),

### Standard:

14. When used2, three portable temporary rumble (PTRS) strips shall be installed across the entire travel lane adjacent to the BE PREPARED TO STOP (W3-4) sign. The portable temporary rumble strips shall be monitored and adjusted as necessary during the work shift to ensure proper placement on the roadway. When the PTRS are installed, the RUMBLE STRIPS AHEAD (W20-V26) sign shall also be utilized.

1: Revision 1 - 4/1/2015 2: Revision 2 - 9/1/2019

### raffic of 500 or more vehicles per day) to a maximum of 12 minutes for low volume roadways (less than 500 vehicles per day). For additional information see Section 6E.07.

Page 6H-64

4. Channelizing device spacing shall be on 20' centers or less.

the posted speed limit is greater than 45 mph.

a. Obtain the services of law enforcement personnel.

### PTRS shall be used as noted in Section 6F.99.

signs see Figure TTC-34.

# 6. If room permits, a shadow vehicle with at least one rotating amber light or high intensity amber flashing

### or oscilllating1 light should be parked 80'-120' in advance of the first work crew. Standard:

**Typical Traffic Control** 

Lane Closure Operation in an Intersection

(Figure TTC-28.2)

NOTES

b. Detour the effective routes to other roads and streets as approved and directed by the District Traffic

Appropriate signing as shown should be used for law enforcement and flagging operations. For detour

c. Place a state certified flagger on each leg of the intersection controlling a single lane of traffic.

2. Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less, 500'-800' where

3. To maintain efficient traffic flow in a flagging operation on a two-lane roadway the maximum time

motorist should be stopped at a flagger station is 8 minutes for high volume roadways (average daily

1. The control of traffic through the intersection in order of preference should be:

### 7. For emergency situations (any non-planned operation) of 30 minutes or less duration, two rotating amber lights or high intensity amber flashing or oscillating' lights mounted on the vehicle and visible for 360° shall be required in addition to the channelizing devices shown around the vehicle.

# Also, vehicle hazard warning signals shall be used.

- 8. If the work space extends across a crosswalk, the crosswalk should be closed using the information and devices shown in Figure TTC-36.
- be physically impossible to make certain turns, especially for large vehicles.

9. Turns can be prohibited as required by vehicular traffic conditions. Unless the streets are wide, it might

- This plan should be used for streets without posted route numbers.
- 2. On multi-lane streets, Detour signs with an Advance Turn Arrow should be used in advance of a turn.

Typical Traffic Control

Street Closure Operation with Detour

(Figure TTC-34.2)

NOTES

- 3. Sign spacing distance should be 225'-275' where the posted speed limit is 30 to 35 mph, and 100'-200' where the posted speed is 25 mph or less.
- 4. If the road is opened for a significant distance beyond the intersection and/or there are significant origin/destination points beyond the intersection, the ROAD CLOSED (R11-2) and Detour Arrow (M4-10) signs on Type 3 Barricades should be located at the corners of intersecting closed roadway or the
- 5. In urban areas, signs on an eight foot Type 3 barricade, should not cover more than half of the top two rails. On a four foot Type 3 barricade, a sign should not cover more than the top rail. When used alone on a four foot Type 3 barricade, the ROAD CLOSED (R11-1) sign or the ROAD CLOSED TO THRU TRAFFIC (R11-4) sign should be installed above the Type 3 barricade.2

Page 6H-76

Guidance:

- Flashing warning lights and/or flags may be used to call attention to the advance warning signs.
- Flashing warning lights may be used on Type 3 Barricades.
- 8. Detour signs may be located on the far side of intersections. A Detour sign with an advance arrow may be used in advance of a turn.
- 9. A Street Name (M4-VP1a) plaque may be mounted with the Detour sign. The Street Name plaque may be either white on green or black on orange.

### Standard:

# 10. When used, the Street Name plaque shall be placed above the Detour sign.

11. See Chapter 61 for additional information on incident management traffic control.

Page 6H-65

1: Revision 1 - 4/1/2015 2: Revision 2 - 9/1/2019

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September 2019

2: Revision 2 - 9/1/2019

3: Revision 2.1 -11/1/2020

Outside Lane Closure Operation on a Four-Lane Roadway (Figure TTC-16.2)

Typical Traffic Control

Outside Lane Closure Operation on a Four-Lane Roadway

(Figure TTC-16.2)

NOTES

1. On divided highways having a median wider than 8', right and left sign assemblies shall be

Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign

3. When closing a lane, a PCMS should be used in advance of the first warning sign if all of the left side

4. Care should be exercised when establishing the limits of the work zone to insure maximum possible

sight distance in advance of the transition, based on the posted speed limit and at least equal to or

All vehicles, equipment, workers, and their activities should be restricted to one side of the pavement.

L=S2W/60

6. Taper length (L) and channelizing device spacing shall be at the following:

Spacing

separate arrow board shall be used for each closed lane (see Figure TTC-18).

20' 40' Travelway

greater than the values in Table 6H-3. For Limited Access highways a minimum of 1000' is desired.

istruction access spacing may be increased to this distance, but shall not exceed one access per ¼ mile.

8. An arrow board shall be used when a lane is closed. When more than one lane is closed, a

9. The buffer space length shall be shown in Table 6H-3 on Page 6H-5 for the posted speed limit.

10. A shadow vehicle with either a Type B or C arrow board operating in the caution mode, or at

11. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber

12. When a side road intersects the highway within the TTC zone, additional TTC devices shall be

13. PTRS and their supporting signs may be used, see Sections 6F.99 and 6G.25. Long-term transverse

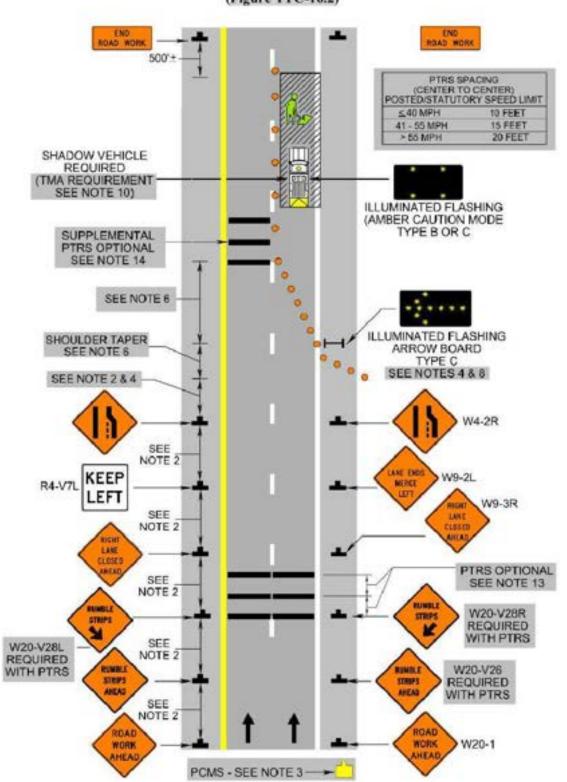
rumble strips may be used in long-term situations, see Section 6F.99 and TTC-20,2

least one high intensity amber rotating, flashing, or oscillating light shall be parked 80'-120' in advance of the first work crew. When the posted speed limit is 45 mph or greater, a truck-

rotating, flashing, or oscillating lights but can be used to supplement the amber rotating, flashing,

merging taper regardless of the posted speed. Shoulder Taper = % L Minimum

spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where



September 2019

Lane Closure on a Two-Lane Roadway Using Flaggers

(Figure TTC-23.2) -500 ± PLAGGER STATION SEE TABLE 6H-3 PTRS SPACING (CENTER TO CENTER) STED/STATUTORY SPEED SHADOW VEHICLE REQUIRED PTRS OPTIONAL SEE TABLE 6H-3 FLAGGER STATION SEE NOTES 2, 3, 5 & 6 SEE NOTE 10 ROADWAY CENTER LINE SEE NOTE 15 PTRS SEE NOTE 4 & 14

1: Revision 1 - 4/1/2015 2: Revision 2 - 9/1/2019

3: Revision 2.1 - 11/1/2020

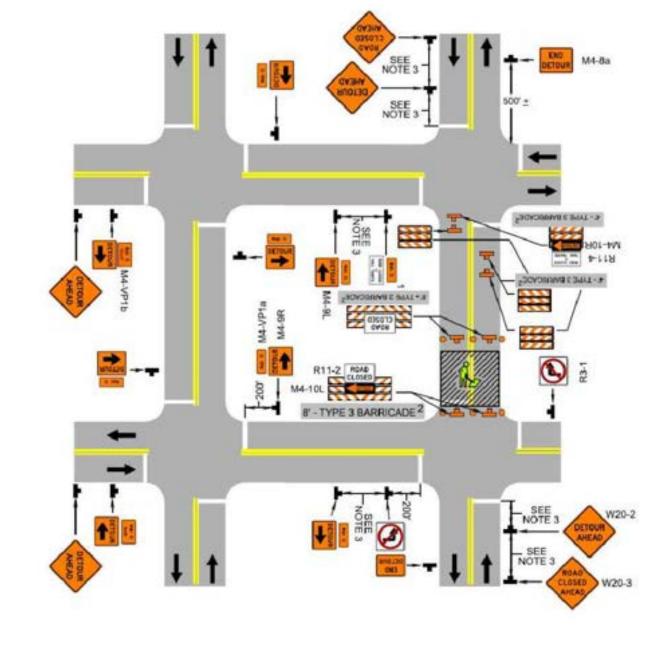
September 2019 Lane Closure Operation in an Intersection (Figure TTC-28.2)

SEE BOTTOM RIGHT AND NOTE 2 TUOYAL MOIS ROT SEE NOTE 3 NOITATS FLAGGER SEE TABLE 6H-3 BUFFER 500' ± - 20, - 100, SEE NOTE 5 SEE TABLE 6H-3 FLAGGER STATION SEE NOTE 3 SEE NOTE PTRS SPACING (CENTER TO CENTER) POSTED/STATUTORY SPEED NOTE 2 ≤40 MPH 41 - 55 MPH

September 2019

2: Revision 2 - 9/1/2019

Street Closure Operation with Detour (Figure TTC-34.2)



2: Revision 2 - 9/1/2019

1: Revision 1 - 4/1/2015 2: Revision 2 - 9/1/2019

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