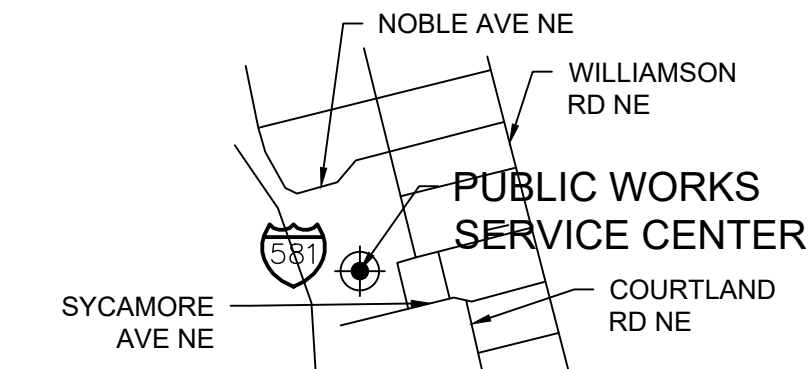


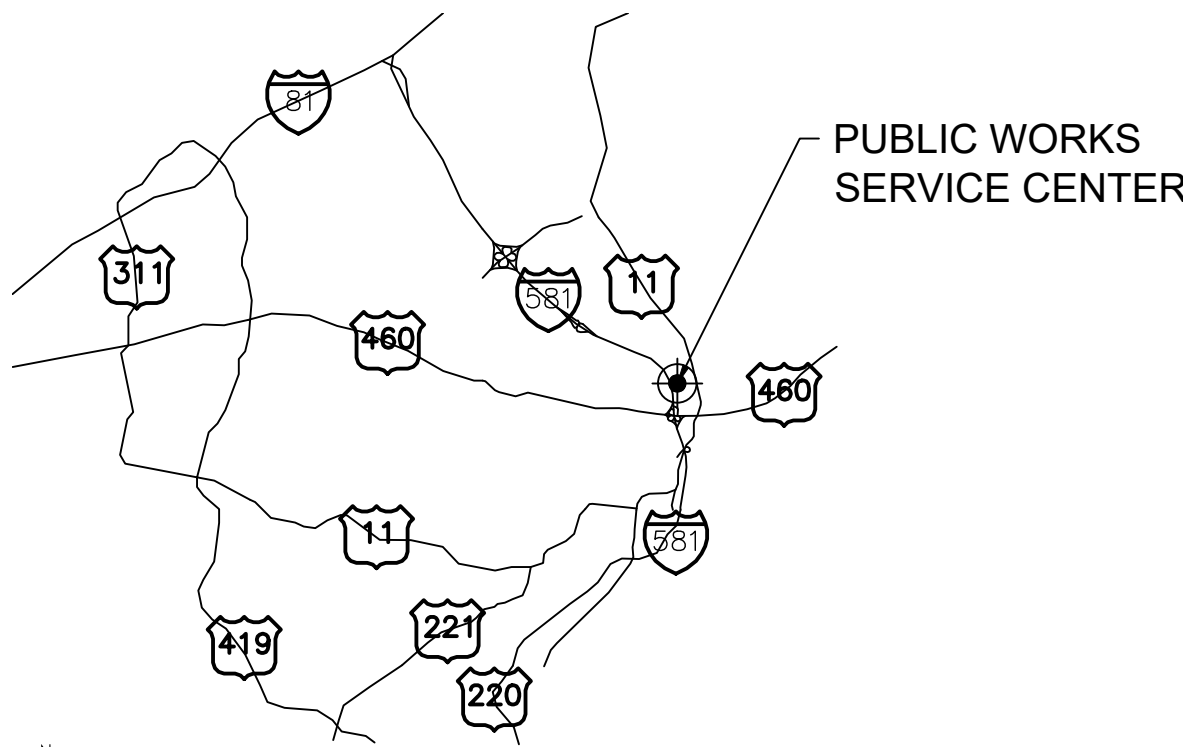
GENERAL PROJECT INFORMATION

PROJECT SITE	TAX MAP NO.	ACREAGE	DEVELOPED ACREAGE	ZONING	FLOOD ZONE	PERMIT AUTHORITY
PUBLIC WORKS SERVICE CENTER	3080433	19.58	5.78	I-1	X	CITY OF ROANOKE

PROPERTY OWNER IDENTIFICATION	
OWNER/AUTHORIZED AGENT:	JAMES NUCKLES
OWNER'S ADDRESS:	PHONE: (540) 853-2953 215 CHURCH AVE SW ROOM 350 ROANOKE, VA 24011
SUBMITTING ENGINEER:	SPECTRUM DESIGN PC
ENGINEER'S ADDRESS:	PHONE: (540) 342-6001 10 CHURCH AVE SE ROANOKE, VA 24011



PROJECT VICINITY
SCALE: N.T.S.



PROJECT LOCATION
SCALE: N.T.S.

CITY OF ROANOKE CONSTRUCTION NOTES:

NOTICE: ALL LANDOWNERS, DEVELOPERS AND CONTRACTORS

FAILURE TO COMPLY WITH THE CONSTRUCTION PROCEDURE REQUIREMENTS LISTED BELOW MAY RESULT IN THE COSTLY REMOVAL OF STRUCTURES, TIME DELAYS OR THE ISSUANCE OF A STOP WORK ORDER.

CONSTRUCTION PROCEDURE REQUIREMENTS:

- RIGHT-OF-WAY EXCAVATION PERMIT - PRIOR TO THE COMMENCEMENT OF ANY DIGGING, ALTERATION OR CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY (STREETS, ALLEYS, PUBLIC EASEMENTS), A RIGHT-OF-WAY EXCAVATION PERMIT SHALL BE APPLIED FOR AND OBTAINED BY THE CONTRACTOR FROM THE CITY OF ROANOKE.
- LAND DISTURBANCE PERMIT - AN APPROVED EROSION AND SEDIMENT CONTROL PLAN FOR ANY BORROW/FILL SITES ASSOCIATED WITH THE PROJECT MUST BE SUBMITTED PRIOR TO THE ISSUANCE OF A LAND DISTURBANCE PERMIT.
- PLANS AND PERMITS - A COPY OF THE PLANS AS APPROVED BY THE CITY (SIGNED BY THE PROPERTY CITY OFFICIALS) AND ALL PERMITS ISSUED BY THE CITY SHALL BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES OF ONGOING CONSTRUCTION.
- LOCATION OF UTILITIES - THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.
- CONSTRUCTION ENTRANCE - THE CONTRACTOR SHALL INSTALL AN ADEQUATE CONSTRUCTION ENTRANCE FOR ALL CONSTRUCTION RELATED EGRESS FROM THE SITE. SIZE AND COMPOSITION OF CONSTRUCTION ENTRANCE SHALL BE AS SHOWN ON THE PLANS.
- STREETS TO REMAIN CLEAN - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT THE PUBLIC STREET ADJACENT TO THE CONSTRUCTION ENTRANCE REMAINS FREE OF MUD, DIRT, DUST, AND/OR ANY TYPE OF CONSTRUCTION MATERIALS OR UTTER AT ALL TIMES.
- BARRICADES/DITCHES - THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF ALL EXCAVATED DITCHES AND SHALL FURNISH AND ENSURE THAT ALL BARRICADES PROPERTY AND NECESSARY FOR THE SAFETY OF THE PUBLIC ARE IN PLACE.
- SEWER AND PAVEMENT REPLACEMENT - CONSTRUCTION OF SANITARY SEWERS AND THE REPLACEMENT OF PAVEMENT SHALL BE IN ACCORDANCE WITH APPROVED STANDARDS AND SPECIFICATIONS OF THE CITY OF ROANOKE AND THE WESTERN VIRGINIA WATER AUTHORITY.
- APPROVED PLANS/CONSTRUCTION CHANGES - ANY CHANGE OR VARIATION FROM CONSTRUCTION DESIGN AS SHOWN ON THE OFFICIALLY APPROVED PLANS SHALL BE APPROVED BY THE EROSION AND SEDIMENT CONTROL AGENT PRIOR TO SAID CHANGES OR VARIATION IN CONSTRUCTION BEING MADE.
- FINAL ACCEPTANCE/CITY** - THE OWNER OR DEVELOPER SHALL FURNISH THE CITY OF ROANOKE'S PLANNING BUILDING AND DEVELOPMENT DEPARTMENT WITH A FIELD SURVEYED FINAL CORRECT SET OF AS-BUILT PLANS OF THE NEWLY CONSTRUCTED STORM DRAIN AND/OR STORMWATER MANAGEMENT FACILITIES PRIOR TO FINAL ACCEPTANCE AND ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE CITY. AS-BUILT PLANS SHALL BE PROVIDED IN THE STATE PLANE VIRGINIA SOUTH COORDINATE SYSTEM, NAD 1983, FIPS 4502 FEET, US SURVEY FEET, DATUM NA 83, IN THE FORM OF 1 PAPER COPY AND 1 DIGITAL AUTOCAD FILE.

ROANOKE CITY PROJECT NO.:

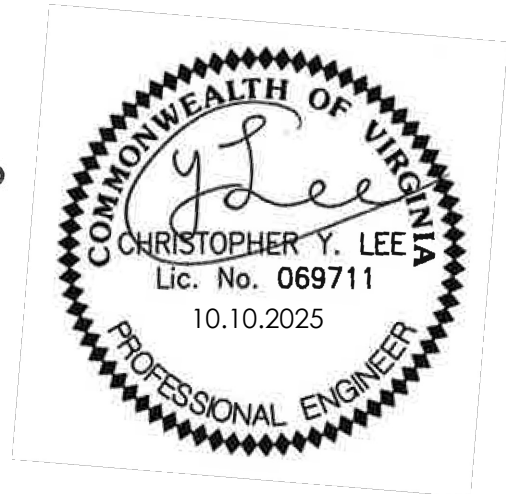
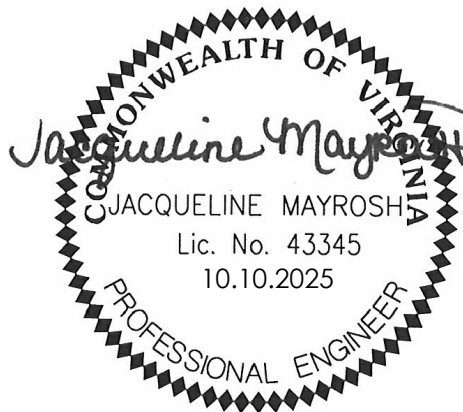
RFP #24-10-66 / PLAN #6997

SPECTRUM PROJECT NUMBER:

23181

1802 COURTLAND RD NE

ROANOKE, VA 24007



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PROJECT PHASE:

BID DOCUMENTS

PROJECT DATE:

10.10.2025

CODE DATA/DESIGN CRITERIA:

APPLICABLE BUILDING CODES:

2021 MOTOR FUEL DISPENSING FACILITIES AND REPAIR GARAGES CODE (NFPA 30A)
2021 VIRGINIA CONSTRUCTION CODE (VCC)
2021 VIRGINIA ENERGY CONSERVATION CODE (VECC), CLIMATE ZONE 4A
2021 VIRGINIA PLUMBING CODE (VPS)
2021 VIRGINIA MECHANICAL CODE (VMC)
2021 VIRGINIA STATEWIDE FIRE PREVENTION CODE (VSFFC)
2020 LIQUEFIED PETROLEUM GAS CODE (NFPA 58)
2020 NATIONAL ELECTRICAL CODE (NFPA 70)
2019 STANDARD FOR INSTALLATION OF SPRINKLER SYSTEMS (NFPA 13)
2019 NATIONAL FIRE ALARM AND SIGNALING CODE (NFPA 72)
2017 STANDARD FOR ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES (ANSI 117.1)

BUILDING DATA:

BUILDING	USE	AREA (SF)	HEIGHT (FT)
MAIN BLDG	B / S-1	68876	EXISTING
FIRE STATION #2	B / R-2 / S-1	5924	EXISTING
BRINE BLDG	U	1571	EXISTING
BOAT STORAGE	U	2210	EXISTING
POLE BARN	U	18748	EXISTING
METAL BLDG 1	U	6422	EXISTING
METAL BLDG 2	U	2433	EXISTING
METAL GARAGE 1	U	3357	EXISTING
METAL GARAGE 2	U	681	EXISTING
WASH HOUSE	U	3700	EXISTING
BLDG 1	U	607	EXISTING
BLDG 2	U	727	EXISTING
BLDG 3	U	189	EXISTING
DECANTING FACILITY	U	1441	EXISTING
TANK FARM BLDG	S / U	600	15
NEW FUEL CANOPY	U	10120	15.5

SHEET NUMBER:

G000-PW

City of Roanoke
Planning, Building, & Development
COMPREHENSIVE DEVELOPMENT PLAN
APPROVED
by plkr1 10/21/2025

ENGINEERS' NOTES

SPECTRUM DESIGN, PC ASSUMES NO RESPONSIBILITY FOR INFORMATION ON OR ADEQUACY OF THE PLANS UNTIL THEY HAVE BEEN APPROVED BY REQUIRED PUBLIC AUTHORITIES.

COMMENCEMENT OF ANY WORK ON THE PROJECT IS AT THE SOLE RISK OF THE OWNER/DEVELOPER.

GENERAL NOTES

STANDARDS: ALL MATERIALS AND METHODS SHALL COMPLY WITH THE APPLICABLE STANDARDS OF THE AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT), VIRGINIA STORMWATER MANAGEMENT HANDBOOK (VSMH), COMMONWEALTH OF VIRGINIA DEPARTMENT OF HEALTH (VDH) AND/OR THE CITY OF ROANOKE, LATEST EDITIONS. RECOMMENDATIONS OF APPLICABLE MATERIALS MANUFACTURERS SHALL ALSO BE FOLLOWED AS PART OF THIS CONTRACT.

DEBRIS: CONSTRUCTION DEBRIS SHALL BE CONTAINERIZED IN ACCORDANCE WITH THE VIRGINIA LITTER CONTROL ACT. NO LESS THAN ONE LITTER RECEPTACLE SHALL BE PROVIDED ON SITE. ALL DAMAGED MATERIAL OR SURPLUS EXCAVATED MATERIAL NOT SUITABLE FOR USE AS FILL, BACKFILL OR TOPSOIL SHALL BECOME THE PROPERTY OF THE CONTRACTOR TO DISPOSE OF OFFSITE AS HE WISHES, WITHOUT INJURY TO THE OWNER OR ANY INDIVIDUAL.

ALL WORK WITHIN PUBLIC R/W SHALL ADHERE TO THE CITY OF ROANOKE EXCAVATION AND RESTORATION STANDARDS. COPIES OF THESE STANDARDS ARE AVAILABLE AT THE CITY OR ONLINE IN *.PDF FORMAT AT WWW.ROANOKEVA.GOV.
SPECIFIC AREAS TO ADDRESS INCLUDE:
A. WIDTHS AND DEPTHS OF PAVEMENT RESTORATION INCLUDING EITHER REPLACEMENT OR MILL AND OVERLAY.
B. PAVEMENT MARKING REPLACEMENT OR ADDITIONS WHERE DISTURBED OR RELOCATED.
C. SIGNALIZED INTERSECTIONS: AFTER LOOP DETECTOR LOCATION BY MISS UTILITY, ALL LOOPS DISTURBED SHALL BE REPLACED OR REPAIRED WITHIN THREE BUSINESS DAYS.
D. SIGNS: SALVAGE SIGN PANELS AND HARDWARE RELOCATED DURING WORK. POSTS SHALL BE STEEL U-CHANNEL. COORDINATE WITH CITY TRANSPORTATION.
E. FORMS: PERMIT APPLICATION, PERMIT BOND, AND WORK LOCATION SHEET.

OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND FEES TO PERFORM WORK WITHIN ALLEY AND PUBLIC RIGHT-OF-WAY.

OBTAIN AND PAY FOR ALL UTILITY AND STREET OPENING PERMITS REQUIRED BY THE CITY FOR UTILITY OR RETAINING WALL INSTALLATIONS.

UTILITIES SHOWN WERE OBTAINED FROM BEST AVAILABLE SOURCES. CONTRACTOR SHALL ASSUME MINOR DISCREPANCIES AND ASSUME COSTS ASSOCIATED TO CONNECT OR PROVIDE MINOR ADJUSTMENTS.

ALL NEW AND/OR RELOCATED UTILITIES, INCLUDING UTILITY LATERALS AND SERVICE LINES, AND ELECTRICAL FEEDS SHALL BE UNDERGROUND. CONTRACTOR SHALL PROVIDE 2 WEEKS NOTICE TO CITY PROJECT MANAGER PRIOR TO ANY UTILITY DISRUPTION.

CONTRACTOR SHALL UTILIZE A/E CAD BASE DRAWING FOR STAKEOUT BY A VIRGINIA LICENSED SURVEYOR IN THE COMMONWEALTH OF VIRGINIA.

CONTRACTOR SHALL COORDINATE WITH OWNER FOR PROJECT PHASING.

SEQUENCE OF CONSTRUCTION

NOTE: REFER TO SHEETS C004-PW & C005-PW FOR PHASING PLAN.

1. INSTALL SYCAMORE GATE INFRASTRUCTURE INCLUDING TREE REMOVAL, EARTHWORK, RETAINING WALL, AND GATE. MANUAL OPERATION OF GATE WILL BE ALLOWED UNTIL ELECTRICAL POWER SERVICE IS INSTALLED FOR OPERATOR.
2. CONSTRUCT IMPOUND LOT INCLUDING LIGHTING, CAMERAS, FENCING/GATE, STRIPING, PAVEMENT, AND BOLLARDS.
3. CONSTRUCT FLEET STORAGE LOT INCLUDING LIGHTING, CAMERAS, FENCING/GATE, AND STRIPING.
4. RELOCATE POLICE IMPOUND AND FLEET STORAGE LOTS.
5. CONSTRUCT NEW TANK FARM AND COMPLETE SYCAMORE FENCE ENCLOSURE. DEMOLISH EXISTING VEHICULAR GATE.
6. CONSTRUCT NEW FUEL ISLANDS. EXISTING FUEL ISLAND AND TANK FARM MUST STAY IN SERVICE.
7. CONSTRUCT COURTLAND PARKING LOT AND SIDEWALK INCLUDING PEDESTRIAN CROSSING AND H/C SPACES. DEMOLISH EXISTING PARKING LOT ENTRANCE. INSTALL NEW WATER VAULT AND REPLACE HYDRANT #12557.
8. CONSTRUCT NEW PEDESTRIAN GATE AND SIDEWALK. INSTALL NEW FIRE HYDRANT ADJACENT TO NEW PEDESTRIAN GATE.
9. EXISTING FUEL ISLANDS AND TANK FARM TO BE DEMOLISHED BY OWNER.
10. BEGIN ASPHALT PAVING. MAINTAIN ACCESS TO WASH HOUSE AND FUEL ISLANDS.

DEMOLITION NOTES

1. THE FOLLOWING GENERAL NOTES APPLY FOR DEMOLITION SHEETS C006-PW AND C007-PW. REFER TO PROPOSED CONDITION SHEETS FOR MORE INFORMATION.
2. WHERE INDICATED OR WHERE IN CONFLICT WITH NEW CONSTRUCTION, EXISTING TOPOGRAPHICAL AND PLANIMETRIC FEATURES (BUILDING STRUCTURE AND FOUNDATION, SIGN AND FOUNDATION, ASPHALT PAVEMENT, CURB, UTILITY POLES, OVERHEAD UTILITIES, UNDERGROUND INFRASTRUCTURE, ROCKS, AND LANDSCAPING FEATURES) WITHIN LIMITS OF CLEARING AND GRADING (LIMITS OF DISTURBANCE) ARE TO BE REMOVED.
- 2.1. EXCAVATION REQUIREMENTS: EXISTING ASPHALT GRADES ARE INTENDED TO BE USED AS THE TEMPORARY SURFACE INSOFAR AS OBSTRUCTIONS ARE REMOVED AND PROPOSED GRADES AS SHOWN HAVE BEEN ADJUSTED.
3. THE LOCATION OF EXISTING UTILITIES, INCLUDING UNDERGROUND UTILITIES, IS INDICATED ON THE DRAWINGS INSOFAR AS THEIR EXISTENCE AND LOCATION WERE KNOWN AT THE TIME OF THE PREPARATION OF THE DRAWINGS. HOWEVER, NOTHING IN THESE CONTRACT DOCUMENTS SHALL BE CONSTRUED AS A GUARANTEE THAT SUCH UTILITIES ARE IN THE LOCATION INDICATED OR THAT THEY ACTUALLY EXIST, OR THAT OTHER UTILITIES ARE NOT WITHIN THE AREA OF OPERATIONS. THE CONTRACTOR SHALL MAKE ALL NECESSARY INVESTIGATIONS TO DETERMINE THE EXISTENCE, LOCATIONS, AND DIMENSIONS OF SUCH UTILITIES. THE CONTRACTOR SHALL PAY FOR ANY DAMAGE TO AND FOR ANY MAINTENANCE AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES.
4. ALL EXISTING UTILITIES TO REMAIN IN PLACE UNLESS OTHERWISE NOTED. COORDINATE WITH UTILITY SERVICE COMPANY PRIOR TO PERFORMING DEMOLITION WORK.
5. ALL DEMOLISHED UTILITIES SHALL BE REMOVED AND TRENCHES BACKFILLED PER SPECIFICATIONS.
6. THE CONTRACTOR SHALL CONTACT "MISS UTILITY" (1-800-552-7001) 48 HOURS PRIOR TO WORKING IN THE VICINITY OF THE EXISTING UTILITIES.
7. FLOODNOTE: CAPTION PROPERTY DOES NOT LIE WITHIN THE LIMITS OF A FLOOD BOUNDARY AND IS DESIGNATED BY FEMA BOUNDARY "X" (UNSHADED) AS DETERMINED BY LUMSDEN ASSOCIATES PC, SURVEYOR.
8. CONTRACTOR IS RESPONSIBLE FOR PROPER DISPOSAL OF ALL DEMO MATERIALS.
9. OWNER TO COORDINATE REMOVAL OF CONTENTS OF ANY STRUCTURE TO BE DEMOLISHED OR RELOCATED PRIOR TO WORK.
10. TREE DEMOLITION SHALL INCLUDE COMPLETE STUMP AND ROOT SYSTEM DEMOLITION, AS WELL AS ANY GRADING, BACKFILL, AND SEEDING NECESSARY. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL MEASURES NECESSARY TO DIRECT VEHICLE AND PEDESTRIAN TRAFFIC SAFELY AND EFFICIENTLY AROUND THE CONSTRUCTION AREA. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ANY ROAD/LANE CLOSURES OR SAFETY PLANS REQUIRED. TYPICAL WORK HOURS AFFECTING TRAFFIC ARE 8 AM TO 4 PM. SEE DETAILS ON SHEETS C507-PW & C508-PW.
- 11.

GRADING & TRENCHING NOTES

CLEAR, GRUB & STRIP: ALL VEGETATION AND OVERBURDEN INCLUDING TOPSOIL, ORGANIC MATERIAL AND ANY UNSATISFACTORY SOIL MATERIALS, SHALL BE REMOVED TO THE EXTENT OF GRADING INDICATED ON THE GRADING PLAN.

BACKFILL: ON SITE BACKFILL BENEATH PAVEMENT SHALL BE COMPACTED 21-A STONE. BACKFILL WITHIN LAWN SPACES SHALL BE SOIL AND SHALL NOT REQUIRE A PROCTOR.

COMPACTION: FILL MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING SIX (6) INCHES AND COMPACTED TO NINETY-FIVE (95) PERCENT OF ITS MAXIMUM DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D698 (STANDARD PROCTOR). SEPARATE PROCTORS SHALL BE RUN FOR EACH SOIL TYPE BEING USED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INFORM THE TESTING AGENCY OF SOURCES OF FILL OR BACKFILL MATERIAL.

RIGHT-OF-WAY: ALL TRENCHING, BACKFILLING AND PATCHING WITHIN PUBLIC RIGHT-OF-WAY SHALL CONFORM TO THE CITY OF ROANOKE AND WVWA STANDARDS AND REQUIREMENTS INCLUDING TESTING AND INSPECTION PROCEDURES.

PAVEMENT NOTES

STANDARDS: ALL CONSTRUCTION METHODS AND MATERIALS SHALL BE IN ACCORDANCE WITH THE VDOT "ROAD & BRIDGE STANDARDS & SPECIFICATIONS," LATEST EDITION AND THE LATEST REQUIREMENTS OF THE CITY OF ROANOKE.

UTILITIES: ALL UTILITIES SHALL BE IN PLACE PRIOR TO LAYING THE BASE MATERIAL.

PAVEMENT MARKING: RIGHT OF WAY PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH VDOT STANDARDS, LATEST EDITION.

DRAINAGE NOTES

NATURAL DRAINAGE: THE CONTRACTOR SHALL MAKE PROVISIONS AT ALL TIMES TO ALLOW NATURAL DRAINAGE TO FLOW THROUGH THE WORK AREA WITH MINIMUM DAMAGE TO THE NEW CONSTRUCTION AND NO DAMAGE TO ADJACENT PROPERTY OR THE EXISTING DOWNSTREAM STORM DRAINAGE SYSTEM, WHETHER NATURAL OR MAN-MADE.

MATERIALS: REFER TO STORM SCHEDULE ON SHEET C301-PW FOR PIPING MATERIALS.

UNDERGROUND CONVEYANCE CONNECTIONS TO EXISTING STORM DRAIN PIPES AND STRUCTURES SHALL BE VIA INSERTA TEE MANIFOLD ADAPTOR, UNLESS NOTED OTHER WISE. COORDINATE PRIVATE DRAINAGE NETWORK CONNECTIONS TO CITY OF ROANOKE STORMWATER NETWORK WITH CITY OF ROANOKE, STORMWATER DIVISION.

FLOOD: THE SUBJECT PROPERTY IS NOT WITHIN THE LIMITS OF THE FEMA 100 YEAR FLOOD BOUNDARY.

RECONDITIONING EXISTING SURFACES TO REMAIN: RECONDITION EXISTING SURFACES DAMAGED BY CONTRACTOR'S OPERATIONS, INCLUDING STORAGE OF MATERIALS AND EQUIPMENT, AND MOVEMENT OF VEHICLES. ALSO RECONDITION EXISTING LANDSCAPED AREAS WHERE MINOR REGRADING IS REQUIRED.

WATER NOTES

STANDARDS: CONSTRUCTION OF ALL WATER LINES, STRUCTURES, AND PAVEMENT REPLACEMENT SHALL CONFORM TO THE REQUIREMENTS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) "ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS" AND THE COMMONWEALTH OF VIRGINIA/STATE BOARD OF HEALTH (VDH) "WATER WORKS REGULATIONS" LATEST EDITIONS, AS MINIMUM STANDARDS, AS WELL AS THOSE OF THE WESTERN VIRGINIA WATER AUTHORITY (WVWA). SEE DETAILS.

SURFACE & COVER: IN AREAS OF WATER LINE CONSTRUCTION, GRADES SHALL BE WITHIN SIX (6) INCHES OF FINISHED SUBGRADE PRIOR TO THE COMMENCEMENT OF THIS WORK. MINIMUM CLEAR COVER OVER ALL WATER PIPE SHALL BE THREE (3) FEET, UNLESS NOTED OTHERWISE - COORDINATE WITH WVWA AND OTHER UTILITY OWNERS RIGHT OF WAY.

TAPS/CONNECTIONS: ALL CONNECTIONS TO EXISTING WATER MAINS AND METER BOXES SHALL BE PERFORMED BY THE CONTRACTOR AND COORDINATED WITH WVWA.

SEPARATION: THE CONTRACTOR SHALL COMPLY WITH THE STATE WATER WORKS REGULATIONS PERTAINING TO SEPARATION OF WATER AND SANITARY SEWER.

MATERIALS AND BEDDING: SEE PROJECT MANUAL.

SERVICE: SEE PROJECT MANUAL.

FINISH GRADE: THE CONTRACTOR SHALL LOCATE AND UNCOVER ALL VALVE BOXES PRIOR TO PAVEMENT/SURFACE TREATMENT OF PAVED AREAS AND ADJUST THE TOPS TO ROAD GRADES, IF NECESSARY.

SEWER NOTES

STANDARDS: CONSTRUCTION OF ALL SANITARY SEWER LINES, STRUCTURES, AND PAVEMENT REPLACEMENT SHALL CONFORM TO THE REQUIREMENTS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) "ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS" AND THE COMMONWEALTH OF VIRGINIA/STATE BOARD OF HEALTH (VDH) "SEWAGE HANDLING AND DISPOSAL REGULATIONS" LATEST EDITIONS, AS MINIMUM STANDARDS, AS WELL AS THOSE OF THE WVWA. SEE DETAILS.

SURFACE & COVER: IN AREAS OF SEWER CONSTRUCTION, GRADES SHALL BE THREE (3) FEET OVER THE CROWN OF THE PIPE TO BE LAID OR WITHIN SIX (6) INCHES OF FINISHED SUBGRADE PRIOR TO THE COMMENCEMENT OF THIS WORK. MINIMUM CLEAR COVER OVER PROPOSED LINES SHALL BE THREE (3) FEET.

SEPARATION: THE CONTRACTOR SHALL COMPLY WITH THE STATE WATER WORKS REGULATIONS PERTAINING TO SEPARATION OF WATER AND SANITARY SEWER. WHEN THE SEWER CANNOT MAINTAIN TEN (10) FEET HORIZONTAL SEPARATION MEASURED EDGE TO EDGE OR EIGHTEEN (18) INCHES VERTICAL SEPARATION EDGE TO EDGE (BELOW WATERLINE), THE SEWER SHALL BE CONSTRUCTED OF AWWA APPROVED MECHANICAL JOINT WATER PIPE AND PRESSURE TESTED IN PLACE TO FIFTY (50) PSI WITHOUT LEAKAGE PRIOR TO BACKFILLING.

MATERIAL & BEDDING: PIPE AND FITTINGS SHALL BE POLYVINYL CHLORIDE (PVC) SDR-35 AND SHALL CONFORM TO ASTM D-3034. BEDDING SHALL BE PER DETAILS D1 & D3 ON SHEET C506-PW.

TAPS: ALL CONNECTIONS TO EXISTING SANITARY SEWER MAINS SHALL BE MADE BY THE CONTRACTOR AND COORDINATED WITH THE WVWA.

MANHOLE CONNECTIONS: PIPE SHALL BE CONNECTED TO MANHOLES THROUGH PRECAST OPENINGS AND JOINED WITH EITHER A FLEXIBLE BOOT ADAPTER OR A PIPE SEAL GASKET. TRANSITIONS BETWEEN ALLOWABLE TYPES OF PIPE SHALL BE MADE WITH AN ADAPTER COUPLING APPROVED BY THE WVWA WITHIN THE RIGHT-OF-WAY.

FINISH GRADE: THE CONTRACTOR SHALL LOCATE AND UNCOVER ALL SEWER MANHOLES PRIOR TO PAVEMENT/SURFACE TREATMENT OF PAVED AREAS AND ADJUST THE TOPS TO ROAD GRADES, IF NECESSARY.

ITEMS TO BE SALVAGED:

1. EXISTING SOUTH VEHICLE GATE CARD READER
2. EXISTING SOUTH VEHICLE GATE PEDESTAL
3. EXISTING SOUTH VEHICLE GATE MOTOR
4. EXISTING SOUTH VEHICLE GATE RFID READER
5. LIGHT FIXTURES

PARKING CALCULATIONS

MAXIMUM PARKING ALLOWED: 273 SPACES

EXISTING PARKING: 226 SPACES
EXISTING H/C PARKING: 5 SPACES (7 REQUIRED)
EXISTING ON-SITE LOADING SPACES: 0 SPACES

TOTAL PARKING PROPOSED: 251 SPACES
TOTAL H/C PARKING PROPOSED: 7 SPACES (7 REQUIRED)
TOTAL ON-SITE LOADING SPACES PROPOSED: 0 SPACES

IMPERVIOUS COVERAGE CALCULATIONS

EXISTING IMPERVIOUS COVERAGE: 17.01 AC, 86.9% (90% ALLOWED)
PROPOSED IMPERVIOUS COVERAGE: 17.36 AC, 88.7% (90% ALLOWED)

FLOOR AREA RATIO (FAR) CALCULATIONS

MAXIMUM FAR ALLOWED: 2.0

EXISTING BUILDING SQUARE FOOTAGE:
EXISTING SITE AREA: 852838 SF
FAR = XXX/852838 = 0.XXX

SPECTRUM DESIGN
architects | engineers

Plaza Suite 1
10 Church Avenue, SE
Roanoke, VA 24011
540.342.6001
SPECTRUMPC.COM



CITY OF ROANOKE
REFUELING CENTERS
PUBLIC WORKS
SERVICE CENTER

ROANOKE CITY PROJECT NO.: RFP #24-10-66
Spectrum Design Project No.: 23181



PROJ. MGR.: CHECKED BY: DRAWN BY:
MAR MAR AGA

SHEET ISSUE DATE:
10.10.2025

PROJECT PHASE:
BID DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

KEY PLAN:

SHEET NAME:
GENERAL NOTES

SHEET NUMBER:
C001-PW

City of Roanoke
Planning, Building, & Development
COMPREHENSIVE DEVELOPMENT PLAN

APPROVED
by plkr1 10/21/2025

ARJ APPROVAL STAMP

STORM SEWER TABLE:

D1 TOP: 994.38' INVO 24": 990.68' SHELF: 990.98'	D6 TOP: 985.23' INVIN 15": 981.23' INVIN 18": 981.03' INVO 24": 980.83' SHELF: 981.03'	D11 INVO 6": 1003.90'	D12 INVO 6": 1003.69'	D13 INVO 6": 1003.88'	D14 INVO 6": 1003.90'	D15 TOP: 979.30' INVIN 15": 969.98' INVIN 24": 972.98' INVO 30": 968.80' SHELF: 968.56'	D16 TOP: 979.30' INVIN 15": 969.98' INVIN 24": 972.98' INVO 30": 968.80' SHELF: 968.56'	D17 TOP: 981.29' INVIN 30": 968.29' INVO 30": 968.19' SHELF: 968.05'	D18 TOP: 981.56' INVIN 15": 967.31' INVIN 30": 967.11' INVO 36": 966.71' SHELF: 966.43'	D19 TOP: 981.43' INVIN 36": 965.96' INVO 36": 966.06' SHELF: 965.21'	D20 TOP: 981.31' INVIN 36": 963.75' INVIN 24": 966.57' INVO 42": 963.51' SHELF: 963.33'	D21 TOP: 976.76' INVIN 54": 967.45' INVO 54": 967.30' SHELF: 967.11'	D22 TOP: 976.70' INVIN 54": 966.87' INVO 54": 966.87' SHELF: 966.35'	D23 TOP: 976.58' INVIN 15": 972.33' INVO 15": 971.95' SHELF: 972.04'	D24 TOP: 975.21' INVO 15": 972.93' SHELF: 972.76'	D25 TOP: 972.70' INVIN 15": 968.10' INVO 15": 968.10' FFE: 967.84'	D26 TOP: 972.31' INVO 15": 968.71' FFE: 968.45'	D27 TOP: 971.88' INVIN 54": 962.61' INVO 54": 962.51' SHELF: 964.25'	D28 TOP: 962.76' INVIN 60": 955.51' INVO 66": 955.46' SHELF: 955.21'	D29 TOP: 962.44' INV 18": 958.16' SHELF: 958.07'	D30 TOP: 974.39' INVO 15": 970.97'	D31 TOP: 986.77' INVIN 4": 984.53' INVIN 6": 983.47' INVO 6": 983.42' SHELF: 983.43'	D32 TOP: 986.80' INVIN 6": 982.86' INVO 8": 980.55' SHELF: 980.82'	D33 TOP: 983.24' INVIN 8": 980.34' INVO 15": 980.14' SHELF: 979.88'	D34 TOP: 982.67' INVIN 15": 979.21' INVO 15": 979.16' SHELF: 978.86'	D35 TOP: 986.24' INVIN 12": 977.65' INVIN 15": 978.65' INVO 24": 977.73' SHELF: 977.09'	D40 TOP: 985.79' INVIN 8": 981.79' INVIN 8": 981.59' INVO 10": 981.39' SHELF: 981.69'	D46 TOP: 970.96' INVIN 36": 954.66' INVO 36": 954.50' SHELF: 955.59'	D53 TOP: 977.48' INVO 15": 972.39' SHELF: 972.47'	D61 TOP: 975.45' INVIN 18": 969.25' INVO 24": 969.15'	D68 TOP: 983.75' INVIN 36": 974.93' INVO 36": 974.77'	D74 END OF PIPE INVIN: UNOBSERVABLE INVO 8": 979.39'			
D2 TOP: 981.74' INVIN 24": 979.04' INVIN 24": 978.84' INVO 24": 975.84' SHELF: 976.04'	D7 TOP: 985.24' INVO 18": 981.24' SHELF: 981.54'	D8 TOP: 991.55' INVIN 6": 986.15' INVIN 6": 986.15' INVO 15": 985.65' SHELF: 986.95'	D9 TOP: 1000.28' INVIN 6": 997.48' INVIN 6": 997.48' INVO & SHELF UNOBSERVABLE	D10 TOP: 1000.24' INVIN 6": 998.64' INVIN: UNOBSERVABLE INVO 4" PVC: 998.54' INVO 6": 998.54'	D11 TOP: 979.81' INVIN 60": 969.81' INVO 54": 969.73' SHELF: 968.96'	D12 TOP: 979.30' INVIN 15": 969.98' INVIN 24": 972.98' INVO 30": 968.80' SHELF: 968.56'	D13 TOP: 981.29' INVIN 30": 968.29' INVO 30": 968.19' SHELF: 968.05'	D14 TOP: 981.43' INVIN 36": 965.96' INVO 36": 966.06' SHELF: 965.21'	D15 TOP: 979.30' INVIN 15": 969.98' INVIN 24": 972.98' INVO 30": 968.80' SHELF: 968.56'	D16 TOP: 979.30' INVIN 15": 969.98' INVIN 24": 972.98' INVO 30": 968.80' SHELF: 968.56'	D17 TOP: 981.29' INVIN 30": 968.29' INVO 30": 968.19' SHELF: 968.05'	D18 TOP: 981.56' INVIN 15": 967.31' INVIN 30": 967.11' INVO 36": 966.71' SHELF: 966.43'	D19 TOP: 981.43' INVIN 36": 965.96' INVO 36": 966.06' SHELF: 965.21'	D20 TOP: 981.31' INVIN 36": 963.75' INVIN 24": 966.57' INVO 42": 963.51' SHELF: 963.33'	D21 TOP: 976.76' INVIN 54": 967.45' INVO 54": 967.30' SHELF: 967.11'	D22 TOP: 976.70' INVIN 54": 966.87' INVO 54": 966.87' SHELF: 966.35'	D23 TOP: 976.58' INVIN 15": 972.33' INVO 15": 971.95' SHELF: 972.04'	D24 TOP: 975.21' INVO 15": 972.93' SHELF: 972.76'	D25 TOP: 972.70' INVIN 15": 968.10' INVO 15": 968.10' FFE: 967.84'	D26 TOP: 972.31' INVO 15": 968.71' FFE: 968.45'	D27 TOP: 971.88' INVIN 54": 962.61' INVO 54": 962.51' SHELF: 964.25'	D28 TOP: 962.76' INVIN 60": 955.51' INVO 66": 955.46' SHELF: 955.21'	D29 TOP: 962.44' INV 18": 958.16' SHELF: 958.07'	D30 TOP: 974.39' INVO 15": 970.97'	D31 TOP: 986.77' INVIN 4": 984.53' INVIN 6": 983.47' INVO 6": 983.42' SHELF: 983.43'	D32 TOP: 986.80' INVIN 6": 982.86' INVO 8": 980.55' SHELF: 980.82'	D33 TOP: 983.24' INVIN 8": 980.34' INVO 15": 980.14' SHELF: 979.88'	D34 TOP: 982.67' INVIN 15": 979.21' INVO 15": 979.16' SHELF: 978.86'	D35 TOP: 986.24' INVIN 12": 977.65' INVIN 15": 978.65' INVO 24": 977.73' SHELF: 977.09'	D40 TOP: 985.79' INVIN 8": 981.79' INVIN 8": 981.59' INVO 10": 981.39' SHELF: 981.69'	D46 TOP: 970.96' INVIN 36": 954.66' INVO 36": 954.50' SHELF: 955.59'	D53 TOP: 977.48' INVO 15": 972.39' SHELF: 972.47'	D61 TOP: 975.45' INVIN 18": 969.25' INVO 24": 969.15'	D68 TOP: 983.75' INVIN 36": 974.93' INVO 36": 974.77'	D74 END OF PIPE INVIN: UNOBSERVABLE INVO 8": 979.39'

SANITARY SEWER TABLE:

S1 TOP: 991.65' INVIN: 988.35' INVO: 988.30' SHELF: 989.05'	S6 TOP: 976.29' INVIN 12": 965.02' INVO 12": 964.88' SHELF: 965.54'	S11 TOP: 983.40' INVIN 8": 977.90' INVO 8": 977.90' SHELF: 977.92'	S16 TOP: 969.24' INVIN 12": 958.34' INVO 12": 957.74' SHELF: 958.66'	S21 TOP: 985.76' INVIN 4": 984.36' INVIN 6": 982.36' INVIN 10": 981.46' INVO 12": 981.16' SHELF: 981.26'
S2 TOP: 994.32' INVIN 8": 986.82' INVIN 6": 986.62' INVIN 12": 973.82' INVO 12": 973.80' SHELF: 974.62'	S7 TOP: 976.27' INVIN 12": 963.81' INVO 12": 964.32' SHELF: 964.91'	S12 TOP: 981.12' INVIN 4": 978.10' INVO 6": 978.07' SHELF: 978.32'	S17 TOP: 962.61' INVIN 12": 955.69' INVO 12": 955.64' SHELF: 956.26'	S22 TOP: 996.82' INVIN 8": 989.72' INVO 8": 989.72' SHELF: 990.32'
S3 TOP: 986.11' INVIN 12": 972.58' INVO 12": 972.44' SHELF: 972.97'	S8 TOP: 972.04' INVIN 12": 961.84' INVO 12": 960.64' SHELF: 961.09'	S13 TOP: 980.68' INVIN 8": 971.18' INVO 10": 971.13' SHELF: 971.37'	S18 TOP: 962.62' INVIN 8": 957.12' INVIN 8": 955.72' INVO 8": 955.42' SHELF: 955.92'	S23 TOP: 964.75' INVIN 12": 954.05' INVO 12": 953.95'
S4 TOP: 978.84' INVIN 12": 969.46' INVO 12": 967.72' SHELF: 968.28'	S9 TOP: 971.04' INVIN 12": 959.79' INVIN 10": 959.40' INVIN 8": 963.14' INVO 12": 959.54' SHELF: 960.20'	S14 TOP: 986.57' INVIN 4": 975.52' INVIN 10": 974.17' INVO 10": 974.12' SHELF: 974.04'	S19 TOP: 966.20' INVIN 8": 958.90' INVIN 8": 958.70' INVO 8": 958.70' SHELF: 959.30'	
S5 TOP: 978.39' INVIN 12": 967.39' INVO 12": 967.42' SHELF: 968.03'	S10 TOP: 971.59' INVIN 10": 964.61' INVIN 8": 968.54' INVO 10": 963.79'	S15 TOP: 985.98' INVIN 8": 977.98' INVO 10": 977.93' SHELF: 978.13'	S20 TOP: 980.84' INVO 8": 977.14' SHELF: 977.24'	

ABBREVIATIONS

A/C	AIR CONDITIONING UNIT
AC	ACRES
BLDG	BUILDING
CLF	CHAINLINK FENCE
CMP	CORRUGATED METAL PIPE
CNC	CONCRETE PIPE
CPP	CORRUGATED PLASTIC PIPE
C&G	CURB & GUTTER
DB	DEED BOOK
DIP	DUCTILE IRON PIPE
DT	DIESEL TANK
EX.	EXISTING
FL	FUEL
FF	FINISH FLOOR ELEVATION
G	UNDERGROUND GAS
GEN	ELECTRIC GENERATOR
GS	GREASE TRAP
GW	GUY WIRE
H/C	HANDICAPPED
HVAC	HEATING, VENTILATION & AIR CONDITIONING
IV	INTERNET VAULT
INV	INVERT
IP	IRON PIN
LOD	LIMITS OF DISTURBANCE
L.B.WL.	CONCRETE LOCK BLOCK WALL
M.B.WL.	MODULAR BLOCK WALL
MB	MAP BOOK
NP	NO PARKING
OHU	OVERHEAD UTILITIES
P	PROPANE
PG	PAGE
PK NAIL	MASONRY NAIL
PT	PROPANE TANK
PVC	POLYVINYL CHLORIDE PIPE
PS	PARKING STRIPE
RCP	REINFORCED CONCRETE PIPE
ROA. CO.	ROANOKE COUNTY
RW	RAZOR WIRE
R/W	RIGHT OF WAY
SDMH	STORM DRAINAGE MANHOLE
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
STP	STEPS
STL	STEEL
TBOX	TELEPHONE BOX
TCP	TERRA COTTA PIPE
T.C.P.	TELEPHONE CONTROL PANEL
TYP.	TYPICAL
UGE	UNDERGROUND ELECTRIC
UT	UNDERGROUND COMMUNICATIONS
VCP	VITRIFIED CLAY PIPE
W	WATERLINE
WLE	WATER LINE EASEMENT
WWA	WESTERN VIRGINIA WATER AUTHORITY

LEGEND

●	EXISTING PROPERTY MONUMENT
⊗	SURVEY CONTROL MONUMENT
○	DEEDED CORNER
----	PROPERTY LINE
—+—	FENCE
→+00→	EXISTING MAJOR CONTOUR LINE
---99---	EXISTING MINOR CONTOUR LINE
→+00→	PROPOSED MAJOR CONTOUR LINE
→99→	PROPOSED MINOR CONTOUR LINE
◆	BENCHMARK
⊕	UTILITY POLE
+###	SPOT ELEVATION
⊗	PROPOSED SANITARY SEWER MANHOLE
⊗	PROPOSED STORM SEWER MANHOLE
⊗	WATER MANHOLE
⊗	ELECTRICAL MANHOLE
∞	CLEANOUT
☆	LIGHTPOLE
⊕	STREET LIGHT
⊕	YARD HYDRANT
⊕	GUY POLE
⊕	GUY WIRE
⊕	TELEPHONE VAULT
⊕	TELEPHONE MANHOLE
⊕	TELEPHONE PEDESTAL
⊕	MONITORING WELL
⊕	FUEL PUMP
⊕	FUEL FILLER CAP
⊕	ELECTRIC TRANSFORMER
⊕	ELECTRIC BOX
⊕	ELECTRIC VAULT
⊕	ELECTRIC HANDHOLE
⊕	ELECTRIC METER
⊕	COMMUNICATIONS VAULT
•	BOLLARD
+	SIGN
⊕	FIRE HYDRANT
⊕	WATER VALVE
⊕	GAS VALVE
⊕	WATER METER
⊕	GAS METER
⊕	WATER SPIGOT
⊕	POST INDICATOR VALVE
⊕	TREE (DECIDUOUS)
⊕	TREE (CONIFEROUS)
⊕	SHRUB
---	STORM SEWER LINE
⊕	MAILBOX
⊕	DOWNSPOUT
→XXX→	SUSPECTED UTILITY

SPECTRUM DESIGN
architects | engineers



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CITY OF ROANOKE
REFUELING CENTERS
PUBLIC WORKS
SERVICE CENTER

ROANOKE CITY PROJECT NO.: **RFP #24-10-66**
Spectrum Design Project No.: **23181**



PROJ. MGR.:
MAR
CHECKED BY:
MAR
DRAWN BY:
AGA

SHEET ISSUE DATE:
10.10.2025

PROJECT PHASE:
BID DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

KEY PLAN:

SHEET NAME:
**LEGEND & EXISTING
STRUCTURES TABLES**

SHEET NUMBER:

C002-PW

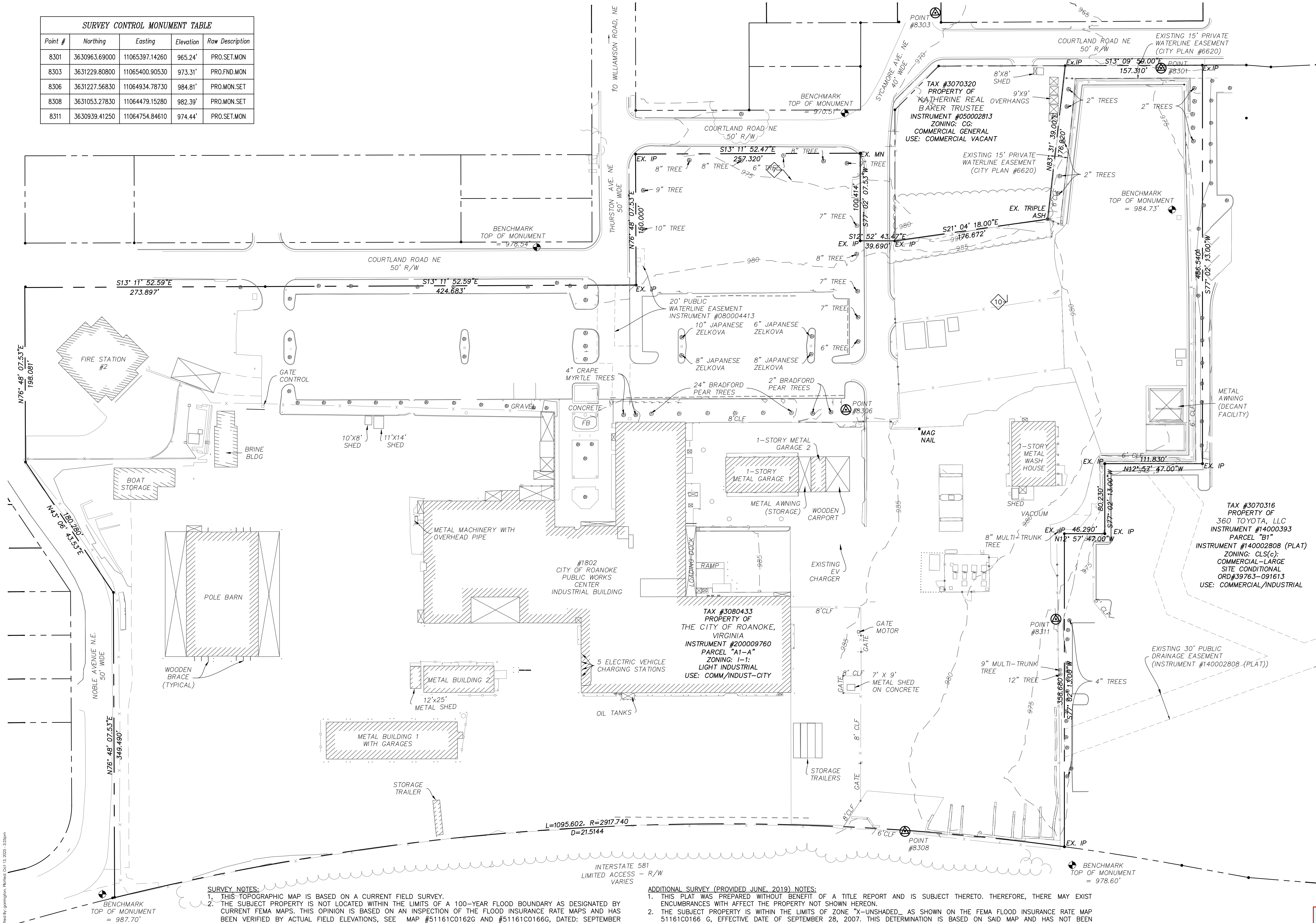
City of Roanoke
Planning, Building, & Development
COMPREHENSIVE DEVELOPMENT PLAN

APPROVED

by plkr1 10/21/2025

ARJ APPROVAL STAMP

SURVEY CONTROL MONUMENT TABLE				
Point #	Northing	Easting	Elevation	Raw Description
8301	3630963.69000	11065397.14260	965.24'	PRO.SET.MON
8303	3631229.80800	11065400.90530	973.31'	PRO.FND.MON
8306	3631227.56830	11064934.78730	984.81'	PRO.MON.SET
8308	3631053.27830	11064479.15280	982.39'	PRO.MON.SET
8311	3630939.41250	11064754.84610	974.44'	PRO.SET.MON



SURVEY NOTES:

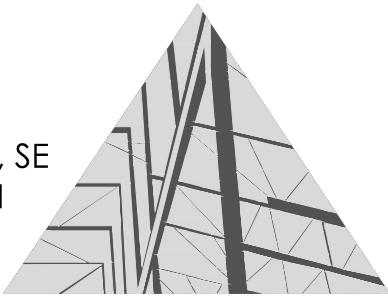
- THIS TOPOGRAPHIC MAP IS BASED ON A CURRENT FIELD SURVEY.
- THE SUBJECT PROPERTY IS NOT LOCATED WITHIN THE LIMITS OF A 100-YEAR FLOOD BOUNDARY AS DESIGNATED BY CURRENT FEMA MAPS. THIS OPINION IS BASED ON AN INSPECTION OF THE FLOOD INSURANCE RATE MAPS AND HAS BEEN VERIFIED BY ACTUAL FIELD ELEVATIONS, SEE MAP #51161C0162G AND #51161C0166G, DATED: SEPTEMBER 28, 2007, ZONE "X" (UN-SHADED). AREA OF MINIMAL FLOOD HAZARD.
- THIS PLAT WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT AND ENCUMBRANCES MAY EXIST WHICH EFFECT THE SUBJECT PROPERTY THAT ARE NOT SHOWN HEREON.
- THE VERTICAL CONTROL (NAVD 88) FOR THIS PROJECT WAS BASED ON TRIMBLE'S KEYNET VRS GPS NETWORK.
- COORDINATE VALUES AS SHOWN HEREON ARE SURFACE COORDINATES ESTABLISHED BY SCALING THE GRID COORDINATES AT POINT #10006 (N:3631221.128710', E:11065120.107110', ELEV.: 979.96') BY A COMBINED SCALE FACTOR OF 1.0000955579.
- CONTOURS AS SHOWN ARE AT A 1-FOOT CONTOUR INTERVAL.
- THIS PLAT DOES NOT GUARANTEE THE EXISTENCE OR LOCATION OF ANY UNDERGROUND UTILITIES. ALL SURFACE UTILITIES WERE FIELD LOCATED. UNDERGROUND UTILITIES PER MARKINGS AND REPORT BY GPRS, INC. ON MARCH 26, 2024. UTILITY LINES SHOULD BE FIELD VERIFIED PRIOR TO THE START OF ANY CONSTRUCTION.

ADDITIONAL SURVEY (PROVIDED JUNE, 2019) NOTES:

- THIS PLAT WAS PREPARED WITHOUT BENEFIT OF A TITLE REPORT AND IS SUBJECT THERETO. THEREFORE, THERE MAY EXIST ENCUMBRANCES WITH AFFECT THE PROPERTY NOT SHOWN HEREON.
- THE SUBJECT PROPERTY IS WITHIN THE LIMITS OF ZONE "X-UNSHADED", AS SHOWN ON THE FEMA FLOOD INSURANCE RATE MAP 51161C0166 G, EFFECTIVE DATE OF SEPTEMBER 28, 2007. THIS DETERMINATION IS BASED ON SAID MAP AND HAS NOT BEEN VERIFIED BY ACTUAL FIELD ELEVATIONS.
- ALL FENCE IS 8" CHAIN LINK FENCE TOPPED WITH BARBED WIRE UNLESS OTHERWISE NOTED.
- THE UTILITIES SHOWN HEREON BY PARKER DESIGN GROUP ARE BASED ON FIELD LOCATION OF OBSERVED EVIDENCE OF UTILITIES AS MARKED BY MISS UTILITIES MAY, 2019 (TICKET #A913602954-00A) & EXISTING RECORD AVAILABLE AT TIME OF SURVEY. REMARKING OF UTILITIES AND VERIFICATION ARE SUGGESTED BEFORE ANY POSSIBLE EARTH WORK IS PERFORMED.
- THIS TOPOGRAPHIC SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF ALAN CLEMONS, FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION; THAT THE IMAGERY AND/OR ORIGINAL DATA WAS OBTAINED JUNE, 2019 AND THAT THIS PLAT, MAP OR DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS THE MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.
- ELEVATIONS AND CONTOURS SHOWN HEREON ARE BASED ON GPS DERIVED DATUM. VA/ STATE PLANE, VIRGINIA SOUTH, NAVD 88.

SPECTRUM DESIGN
architects | engineers

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CITY OF ROANOKE REFUELING CENTERS PUBLIC WORKS SERVICE CENTER

ROANOKE CITY PROJECT NO.: **RFP #24-10-66**
Spectrum Design Project No.: **23181**



PROJ. MGR.: **MAR** CHECKED BY: **MAR** DRAWN BY: **AGA**

SHEET ISSUE DATE:
10.10.2025

PROJECT PHASE:
BID DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

KEY PLAN:

SHEET NAME:
**OVERALL EXISTING
SITE LAYOUT**

SHEET NUMBER:
C003-PW

City of Roanoke
Planning, Building, & Development
COMPREHENSIVE DEVELOPMENT PLAN

APPROVED
by plkr1 10/21/2025

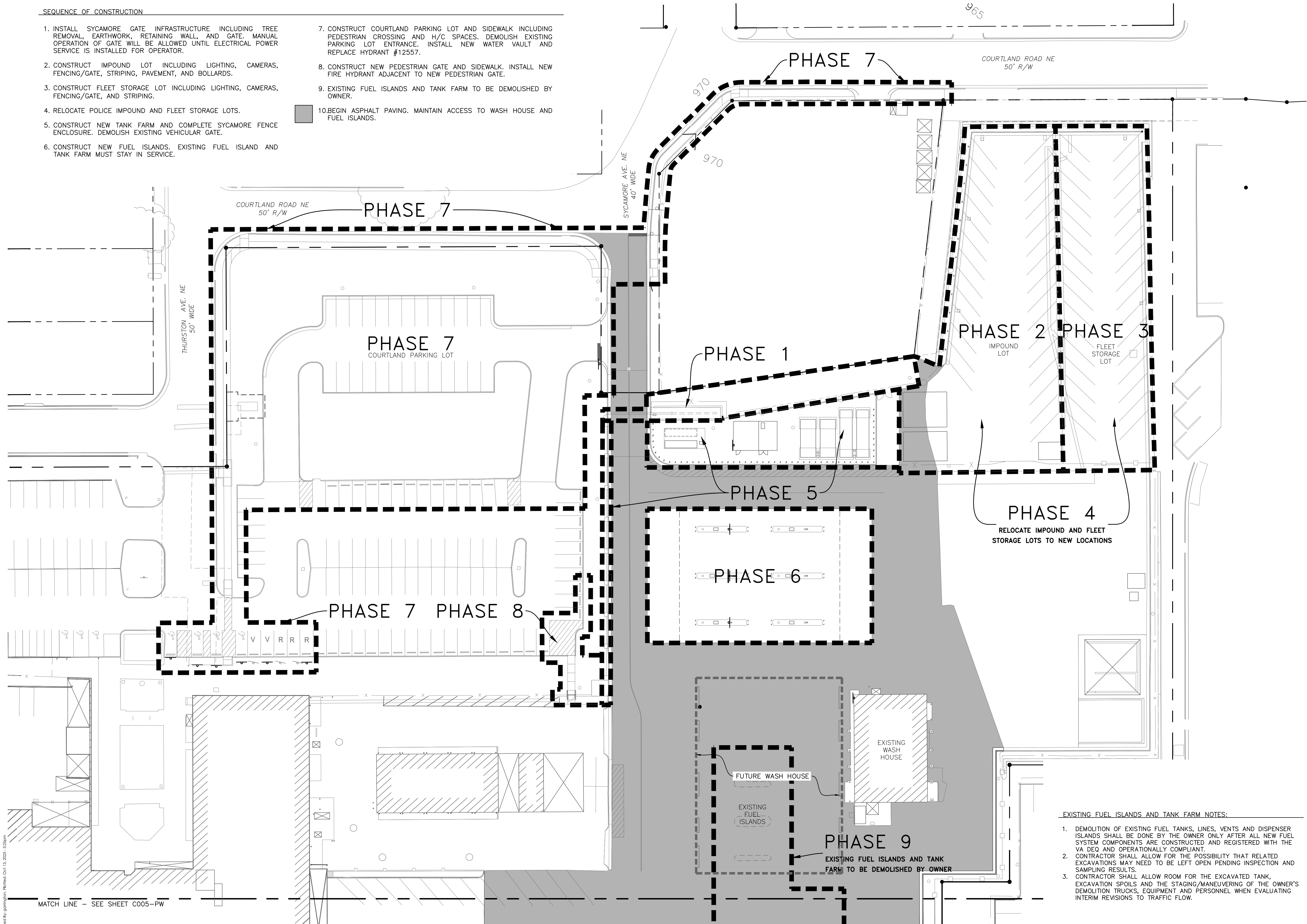
ARJ APPROVAL STAMP

1" = 50'-0"

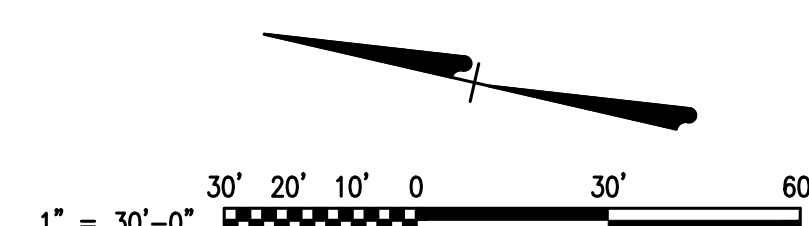


1. INSTALL SYCAMORE GATE INFRASTRUCTURE INCLUDING TREE REMOVAL, EARTHWORK, RETAINING WALL, AND GATE. MANUAL OPERATION OF GATE WILL BE ALLOWED UNTIL ELECTRICAL POWER SERVICE IS INSTALLED FOR OPERATOR.
2. CONSTRUCT IMPOUND LOT INCLUDING LIGHTING, CAMERAS, FENCING/GATE, STRIPING, PAVEMENT, AND BOLLARDS.
3. CONSTRUCT FLEET STORAGE LOT INCLUDING LIGHTING, CAMERAS, FENCING/GATE, AND STRIPING.
4. RELOCATE POLICE IMPOUND AND FLEET STORAGE LOTS.
5. CONSTRUCT NEW TANK FARM AND COMPLETE SYCAMORE FENCE ENCLOSURE. DEMOLISH EXISTING VEHICULAR GATE.
6. CONSTRUCT NEW FUEL ISLANDS. EXISTING FUEL ISLAND AND TANK FARM MUST STAY IN SERVICE.

7. CONSTRUCT COURTLAND PARKING LOT AND SIDEWALK INCLUDING PEDESTRIAN CROSSING AND H/C SPACES. DEMOLISH EXISTING PARKING LOT ENTRANCE. INSTALL NEW WATER VAULT AND REPLACE HYDRANT #12557.
8. CONSTRUCT NEW PEDESTRIAN GATE AND SIDEWALK. INSTALL NEW FIRE HYDRANT ADJACENT TO NEW PEDESTRIAN GATE.
9. EXISTING FUEL ISLANDS AND TANK FARM TO BE DEMOLISHED BY OWNER.
10. BEGIN ASPHALT PAVING. MAINTAIN ACCESS TO WASH HOUSE AND FUEL ISLANDS.



1. DEMOLITION OF EXISTING FUEL TANKS, LINES, VENTS AND DISPENSER ISLANDS SHALL BE DONE BY THE OWNER ONLY AFTER ALL NEW FUEL SYSTEM COMPONENTS ARE CONSTRUCTED AND REGISTERED WITH THE VA DEQ AND OPERATIONALLY COMPLIANT.
2. CONTRACTOR SHALL ALLOW FOR THE POSSIBILITY THAT RELATED EXCAVATIONS MAY NEED TO BE LEFT OPEN PENDING INSPECTION AND SAMPLING RESULTS.
3. CONTRACTOR SHALL ALLOW ROOM FOR THE EXCAVATED TANK, EXCAVATION SPOILS AND THE STAGING/MANEUVURING OF THE OWNER'S DEMOLITION TRUCKS, EQUIPMENT AND PERSONNEL WHEN EVALUATING INTERIM REVISIONS TO TRAFFIC FLOW.



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540.342.6001
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ROANOKE CITY PROJECT NO.: **RFP #24-10-66**
Spectrum Design Project No.: **23181**



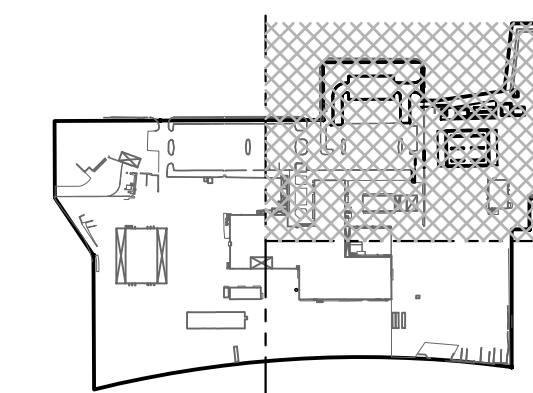
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SHEET NAME:
PHASING PLAN

SHEET NUMBER:

SHEET NUMBER:
C004-PW

City of Roanoke
Planning, Building, & Development

COMPREHENSIVE DEVELOPMENT PLAN

APPROVED

by plkr1 10/21/2025

L
AHJ APPROVAL STAMP

SEQUENCE OF CONSTRUCTION

1. INSTALL SYCAMORE GATE INFRASTRUCTURE INCLUDING TREE REMOVAL, EARTHWORK, RETAINING WALL, AND GATE. MANUAL OPERATION OF GATE WILL BE ALLOWED UNTIL ELECTRICAL POWER SERVICE IS INSTALLED FOR OPERATOR.
2. CONSTRUCT IMPOUND LOT INCLUDING LIGHTING, CAMERAS, FENCING/GATE, STRIPING, PAVEMENT, AND BOLLARDS.
3. CONSTRUCT FLEET STORAGE LOT INCLUDING LIGHTING, CAMERAS, FENCING/GATE, AND STRIPING.
4. RELOCATE POLICE IMPOUND AND FLEET STORAGE LOTS.
5. CONSTRUCT NEW TANK FARM AND COMPLETE SYCAMORE FENCE ENCLOSURE. DEMOLISH EXISTING VEHICULAR GATE.
6. CONSTRUCT NEW FUEL ISLANDS. EXISTING FUEL ISLAND AND TANK FARM MUST STAY IN SERVICE.

7. CONSTRUCT COURTLAND PARKING LOT AND SIDEWALK INCLUDING PEDESTRIAN CROSSING AND H/C SPACES. DEMOLISH EXISTING PARKING LOT ENTRANCE. INSTALL NEW WATER VAULT AND REPLACE HYDRANT #12557.

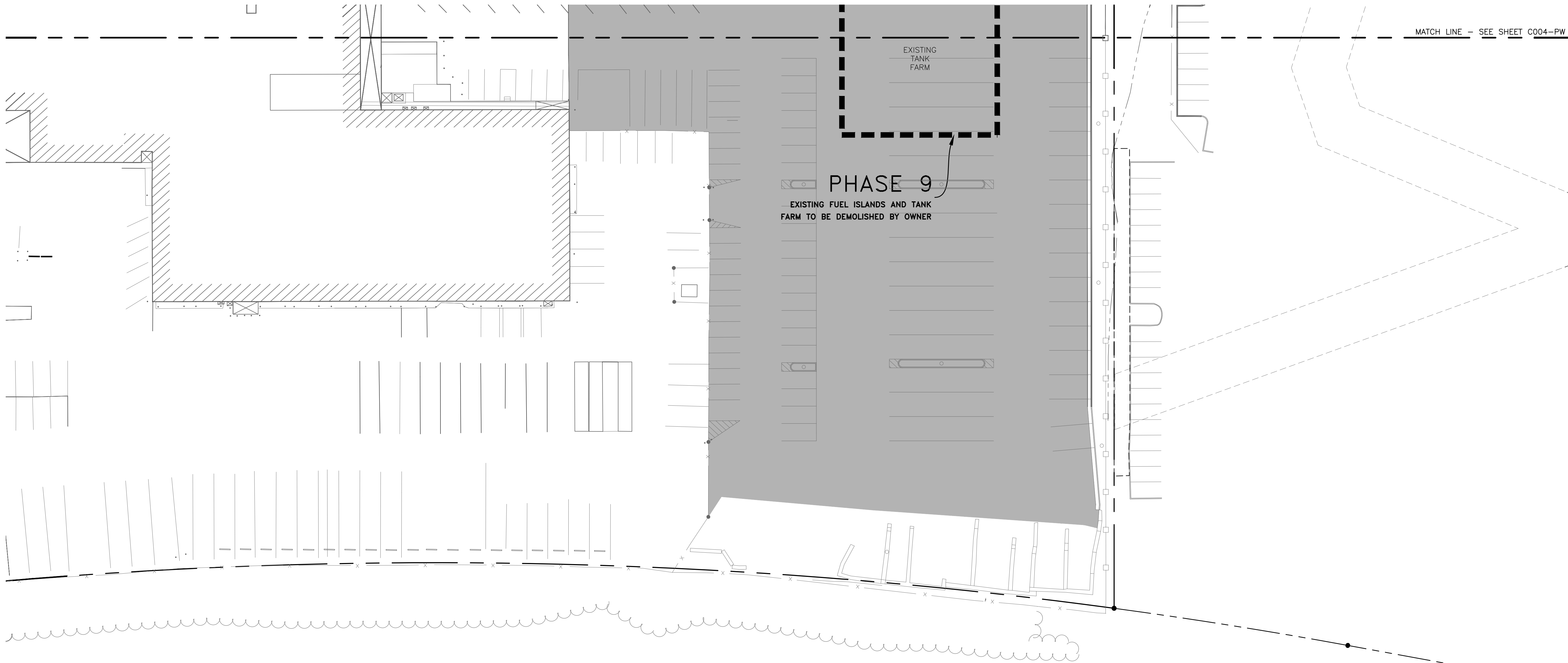
8. CONSTRUCT NEW PEDESTRIAN GATE AND SIDEWALK. INSTALL NEW FIRE HYDRANT ADJACENT TO NEW PEDESTRIAN GATE.

9. EXISTING FUEL ISLANDS AND TANK FARM TO BE DEMOLISHED BY OWNER.

10. BEGIN ASPHALT PAVING. MAINTAIN ACCESS TO WASH HOUSE AND FUEL ISLANDS.

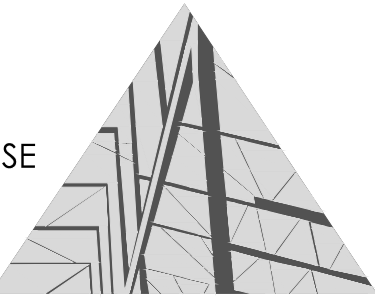
EXISTING FUEL ISLANDS AND TANK FARM NOTES:

1. DEMOLITION OF EXISTING FUEL TANKS, LINES, VENTS AND DISPENSER ISLANDS SHALL BE DONE BY THE OWNER ONLY AFTER ALL NEW FUEL SYSTEM COMPONENTS ARE CONSTRUCTED AND REGISTERED WITH THE VA DEQ AND OPERATIONALLY COMPLIANT.
2. CONTRACTOR SHALL ALLOW FOR THE POSSIBILITY THAT RELATED EXCAVATIONS MAY NEED TO BE LEFT OPEN PENDING INSPECTION AND SAMPLING RESULTS.
3. CONTRACTOR SHALL ALLOW ROOM FOR THE EXCAVATED TANK, EXCAVATION SPOILS AND THE STAGING/MANEUVERING OF THE OWNER'S DEMOLITION TRUCKS, EQUIPMENT AND PERSONNEL WHEN EVALUATING INTERIM REVISIONS TO TRAFFIC FLOW.



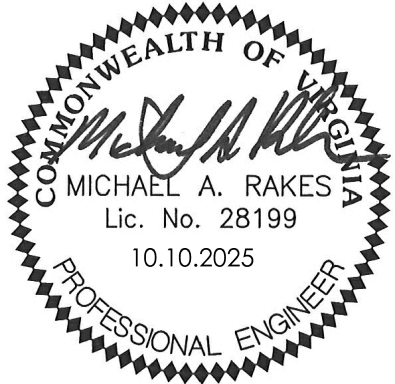
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ROANOKE CITY PROJECT NO.: **RFP #24-10-66**
Spectrum Design Project No.: **23181**



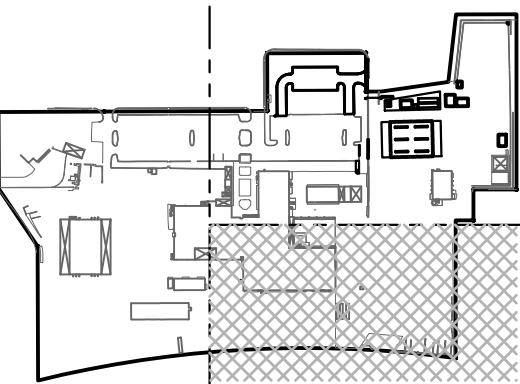
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SHEET ISSUE DATE:
10.10.2025

PROJECT PHASE:
BID DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

KEY PLAN:



SHEET NAME:
PHASING PLAN

SHEET NUMBER:
C005-PW

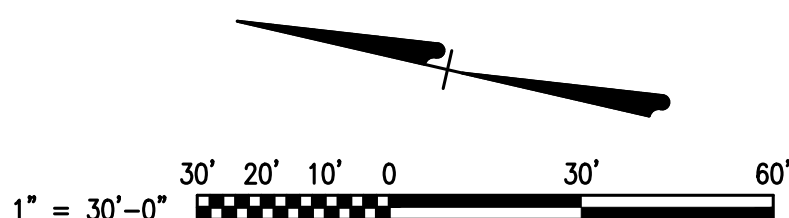
City of Roanoke
Planning, Building, & Development

COMPREHENSIVE DEVELOPMENT PLAN

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1. REFER TO C101-PW FOR PROPOSED NEW PAVEMENT EXTENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION/EXCAVATION/FINE GRADING REQUIRED FOR PROPOSED PAVEMENT SECTION TO MEET NEW LINE AND GRADE. EXISTING SURFACE SHALL BE DEMOLISHED TO EXISTING BASE MATERIAL.
2. ALL EXISTING TREES TO REMAIN TO BE PROTECTED BY CONTRACTOR.
3. EXISTING STREET TREES ANTICIPATED TO BE RELOCATED/REPLACED BY OWNER PRIOR TO THE START OF CONSTRUCTION OF THIS PROJECT.
4. REFER TO SHEET C003-PW FOR EXISTING TREE DIAMETERS.

- 1 REMOVE EXISTING LIGHT POST AND FOUNDATION
- 2 REMOVE OVERHEAD UTILITIES, COORDINATE WITH UTILITY OWNERS AS REQUIRED
- 3 REMOVE EXISTING FENCING, POSTS, AND FOUNDATIONS

	TO BE DEMOLISHED BY CONTRACTOR
	DEMOLISHED BY OWNER (N.I.C.)

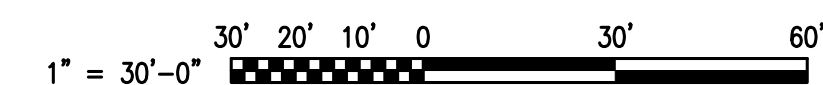
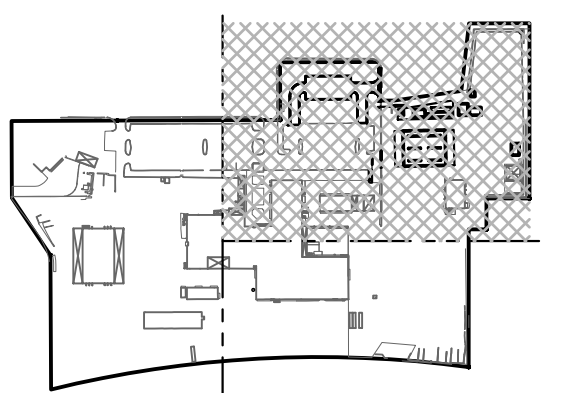


Figure 1 shows a triangular rock mass with a vertical crack and a horizontal crack. The crack is labeled 'SE'.

COMMONWEALTH OF VIRGINIA
MICHAEL A. RAKES
Lic. No. 28199
10.10.2025
PROFESSIONAL ENGINEER

KEY PLAN:

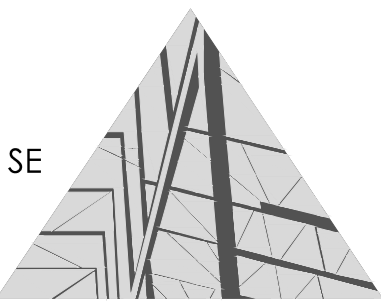


SHEET NUMBER:

SHEET NUMBER:
C006-PW

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AHJ APPROVAL STAMP



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Spectrum Design Project No.: 23181



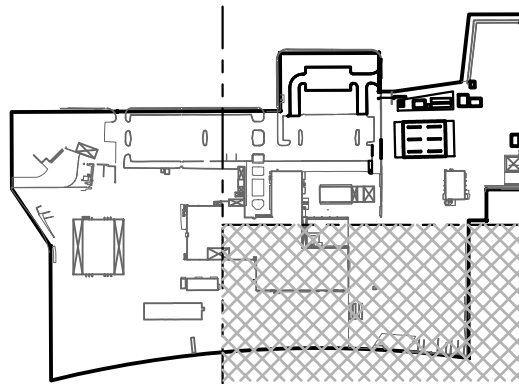
PROJ. MGR.: CHECKED BY: DRAWN BY:
MAR MAR AGA

SHEET ISSUE DATE:
10.10.2025

PROJECT PHASE:
BID DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

KEY PLAN:



SHEET NAME:
EXISTING CONDITIONS
& DEMOLITION PLAN

SHEET NUMBER:

C007-PW

City of Roanoke
Planning, Building, & Development

COMPREHENSIVE DEVELOPMENT PLAN

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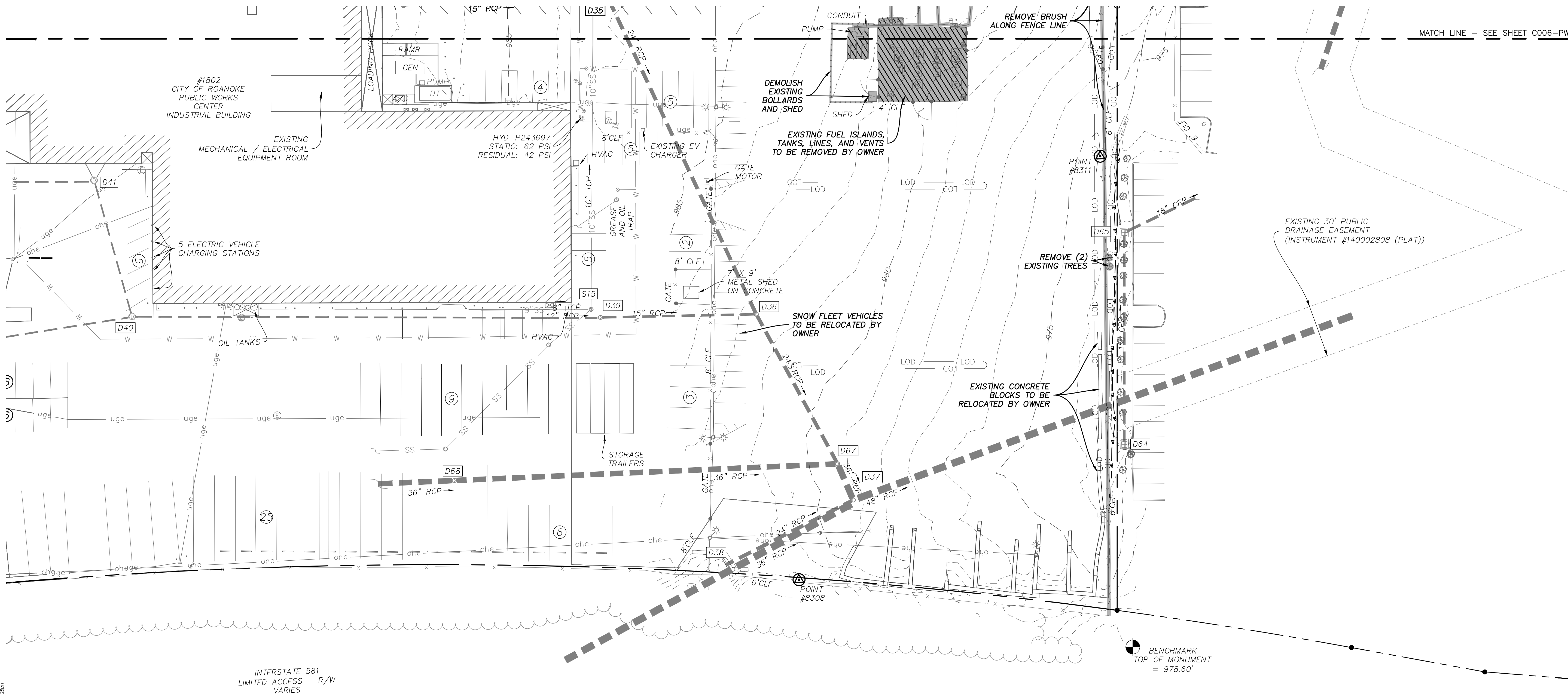
AHJ APPROVAL STAMP

EXISTING CONDITIONS & DEMOLITION NOTES:

1. REFER TO C102-PW FOR PROPOSED NEW PAVEMENT EXTENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION/EXCAVATION/FINE GRADING REQUIRED FOR PROPOSED PAVEMENT SECTION TO MEET NEW LINE AND GRADE. EXISTING SURFACE SHALL BE DEMOLISHED TO EXISTING BASE MATERIAL.
2. ALL EXISTING TREES TO REMAIN TO BE PROTECTED BY CONTRACTOR.
3. REFER TO SHEET C003-PW FOR EXISTING TREE DIAMETERS.

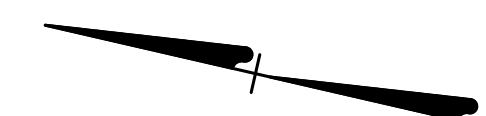
LEGEND

- TO BE DEMOLISHED BY CONTRACTOR
- DEMOLISHED BY OWNER (N.I.C.)



INTERSTATE 581
LIMITED ACCESS - R/W
VARIES

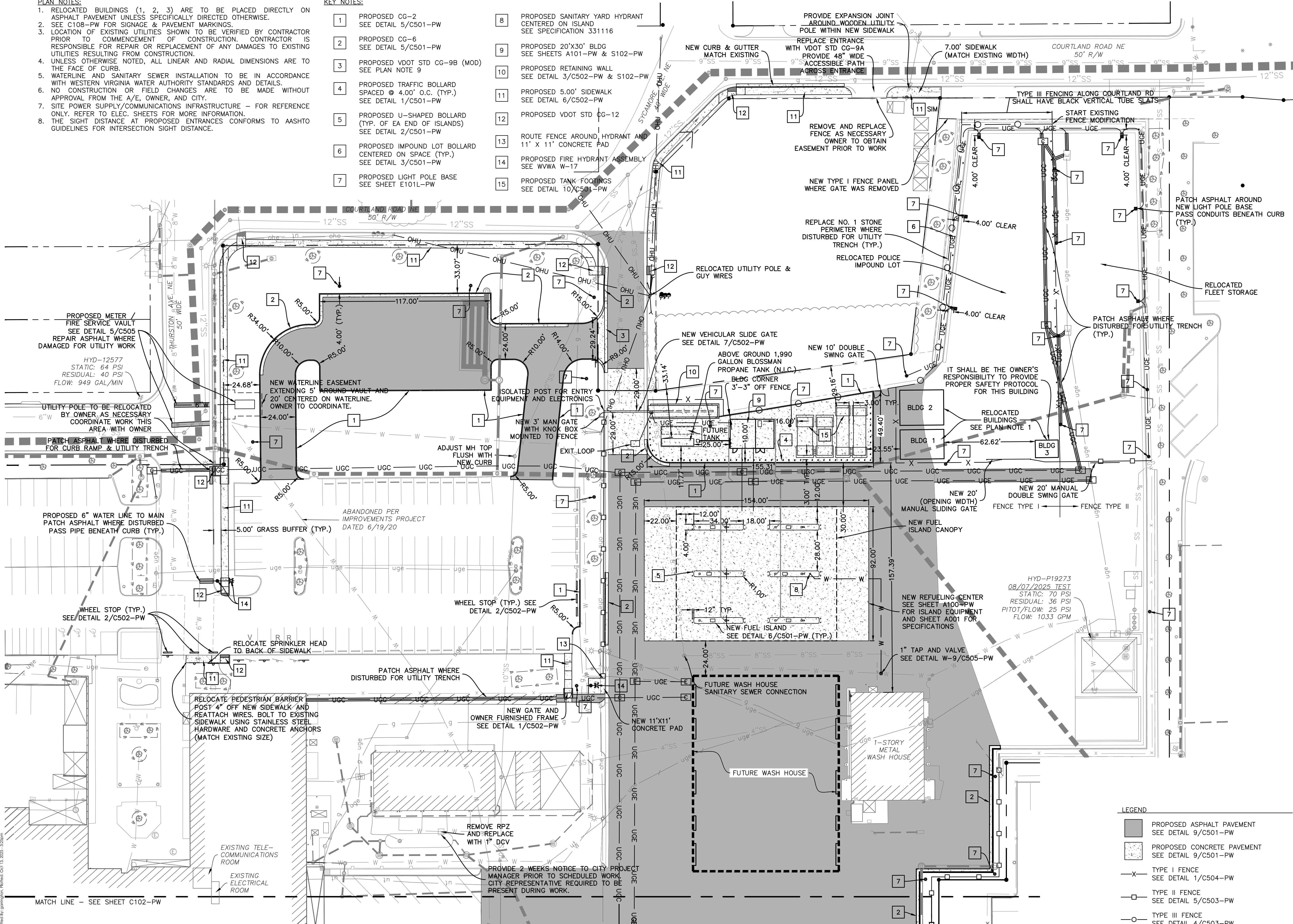
1" = 30'-0"



- PLAN NOTES:
1. RELOCATED BUILDINGS (1, 2, 3) ARE TO BE PLACED DIRECTLY ON ASPHALT PAVEMENT UNLESS SPECIFICALLY DIRECTED OTHERWISE.
 2. SEE C108-PW FOR SIGNAGE & PAVEMENT MARKINGS.
 3. LOCATION OF EXISTING UTILITIES SHOWN TO BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ANY DAMAGES TO EXISTING UTILITIES RESULTING FROM CONSTRUCTION.
 4. UNLESS OTHERWISE NOTED, ALL LINEAR AND RADIAL DIMENSIONS ARE TO THE FACE OF CURB.
 5. WATERLINE AND SANITARY SEWER INSTALLATION TO BE IN ACCORDANCE WITH WESTERN VIRGINIA WATER AUTHORITY STANDARDS AND DETAILS.
 6. NO CONSTRUCTION OR FIELD CHANGES ARE TO BE MADE WITHOUT APPROVAL FROM THE A/E, OWNER, AND CITY.
 7. SITE POWER SUPPLY/COMMUNICATIONS INFRASTRUCTURE - FOR REFERENCE ONLY. REFER TO ELEC. SHEETS FOR MORE INFORMATION.
 8. THE SIGHT DISTANCE AT PROPOSED ENTRANCES CONFORMS TO AASHTO GUIDELINES FOR INTERSECTION SIGHT DISTANCE.

KEY NOTES:

- | | | | |
|---|--|----|--|
| 1 | PROPOSED CG-2
SEE DETAIL 5/C501-PW | 8 | PROPOSED SANITARY YARD HYDRANT
CENTERED ON ISLAND
SEE SPECIFICATION 331116 |
| 2 | PROPOSED CG-6
SEE DETAIL 5/C501-PW | 9 | PROPOSED 20'X30' BLDG
SEE SHEETS A101-PW & S102-PW |
| 3 | PROPOSED VDOT STD CG-9B (MOD)
SEE PLAN NOTE 9 | 10 | PROPOSED RETAINING WALL
SEE DETAIL 3/C502-PW & S102-PW |
| 4 | PROPOSED TRAFFIC BOLLARD
SPACED @ 4.00' O.C. (TYP.)
SEE DETAIL 1/C501-PW | 11 | PROPOSED 5.00' SIDEWALK
SEE DETAIL 6/C502-PW |
| 5 | PROPOSED U-SHAPED BOLLARD
(TYP. OF EA END OF ISLANDS)
SEE DETAIL 2/C501-PW | 12 | PROPOSED VDOT STD CG-12 |
| 6 | PROPOSED IMPOUND LOT BOLLARD
CENTERED ON SPACE (TYP.)
SEE DETAIL 3/C501-PW | 13 | ROUTE FENCE AROUND HYDRANT AND
11' X 11' CONCRETE PAD |
| 7 | PROPOSED LIGHT POLE BASE
SEE SHEET E101L-PW | 14 | PROPOSED FIRE HYDRANT ASSEMBLY
SEE WVWA W-17 |
| | | 15 | PROPOSED TANK FOOTINGS
SEE DETAIL 10/C501-PW |



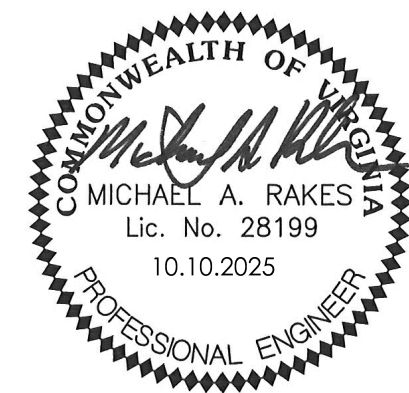
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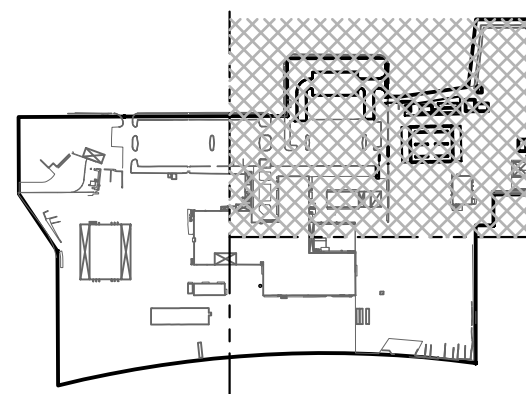
PROJ. MGR.: CHECKED BY: DRAWN BY:
MAR MAR AGA

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SHEET NAME:
**DIMENSIONAL LAYOUT
& UTILITY PLAN**

SHEET NUMBER:

C101-PW

City of Roanoke
Planning, Building, & Development
COMPREHENSIVE DEVELOPMENT PLAN

APPROVED

by plkr1 10/21/2025

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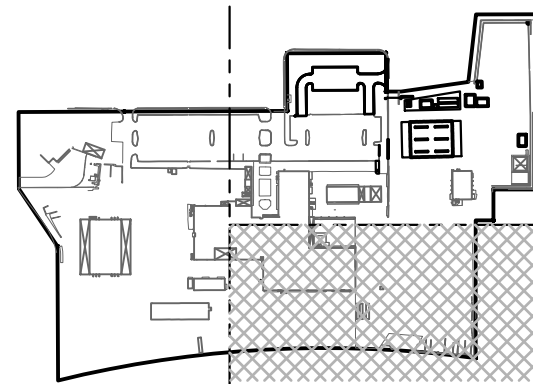
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& UTILITY PLAN**

SHEET NUMBER:
C102-PW

City of Roanoke
Planning, Building, & Development

COMPREHENSIVE DEVELOPMENT PLAN

APPROVED

by plkr1 10/21/2025

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PLAN NOTES:

- SEE C109-PW FOR SIGNAGE & PAVEMENT MARKINGS.
- LOCATION OF EXISTING UTILITIES SHOWN TO BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ANY DAMAGES TO EXISTING UTILITIES RESULTING FROM CONSTRUCTION.
- UNLESS OTHERWISE NOTED, ALL LINEAR AND RADIAL DIMENSIONS ARE TO THE FACE OF CURB.
- WATERLINE AND SANITARY SEWER INSTALLATION TO BE IN ACCORDANCE WITH WESTERN VIRGINIA WATER AUTHORITY STANDARDS AND DETAILS.
- NO CONSTRUCTION OR FIELD CHANGES ARE TO BE MADE WITHOUT APPROVAL FROM THE A/E, OWNER, AND CITY.
- SITE POWER SUPPLY/COMMUNICATIONS INFRASTRUCTURE - FOR REFERENCE ONLY. REFER TO ELEC. SHEETS FOR MORE INFORMATION.

LEGEND

- PROPOSED ASPHALT PAVEMENT
SEE DETAIL 9/C501-PW
- TYPE II FENCE
SEE DETAIL 5/C503-PW

KEY NOTES:

- 1 PROPOSED LIGHT POLE BASE
SEE SHEET E102L-PW
- 2 PROPOSED CG-6
SEE DETAIL 5/C501-PW

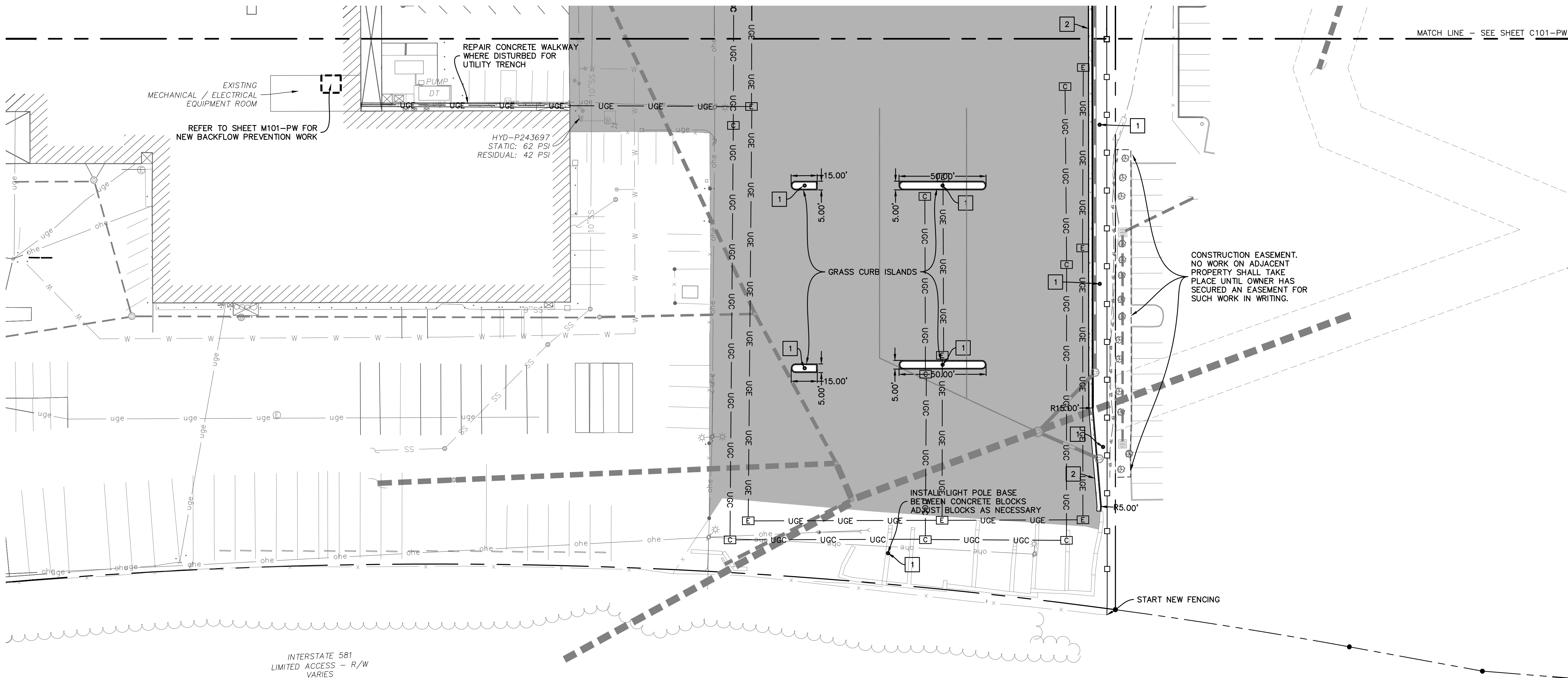
FIRE FLOW DATA

#	STATIC (PSI)	RESIDUAL (PSI)	FLOW (GPM)	DATE
HYD-12558	64	55	2500	08/11/25
HYD-12577	64	40	949	-
HYD-P19273	70	36	1033	08/07/25
HYD-12557	(62)	(28)	(805)	-
HYD-P243697	62	42	-	11/18/24
NEW HYD	(62)	TBD	(983)	TBD

(VALUES PROJECTED)

(VALUES PROJECTED)


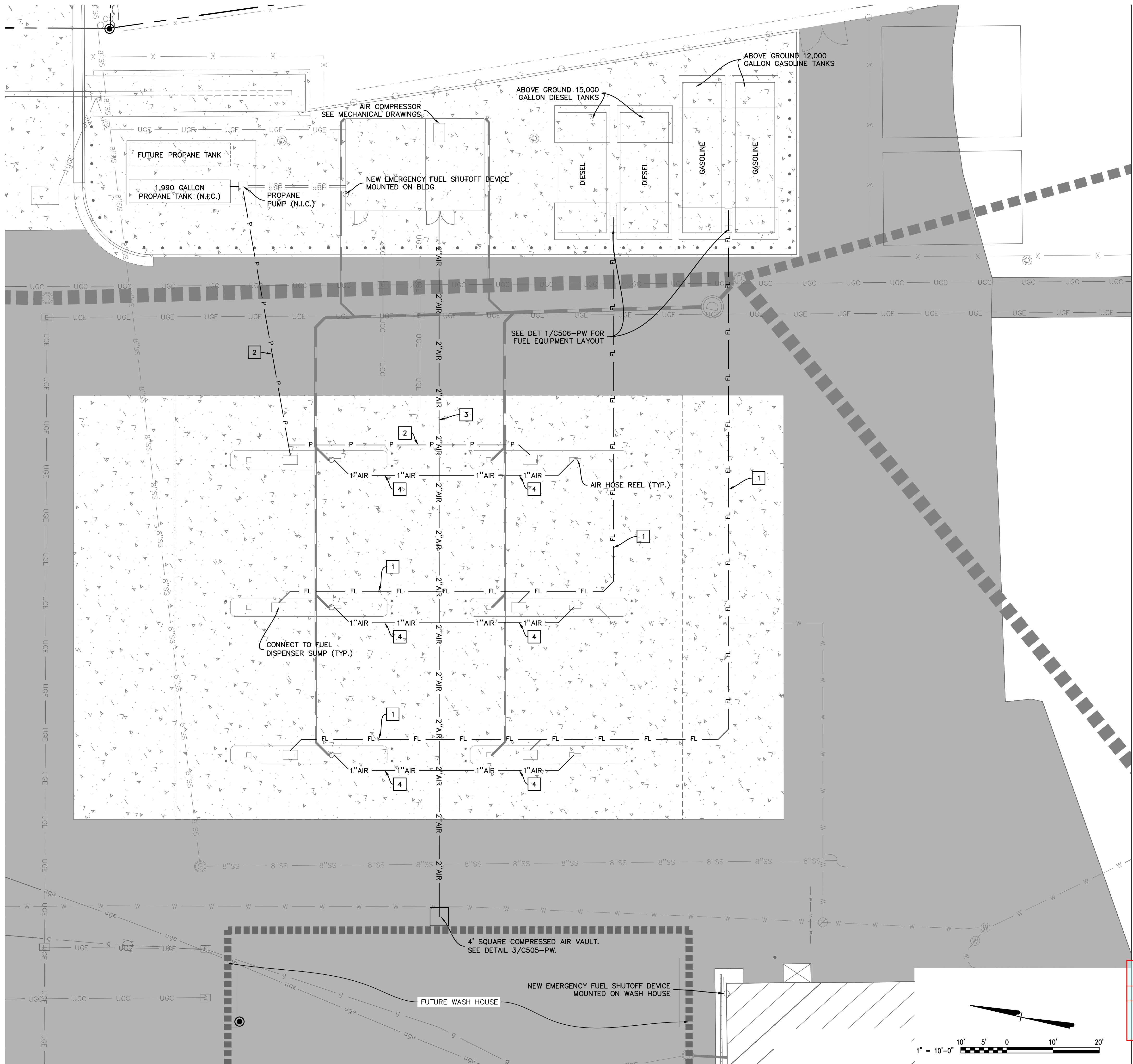
*CONTRACTOR SHALL HAVE NEW FIRE HYDRANTS TESTED AND HAVE RESULTS PUBLISHED TO OWNER, A/E, AND WESTERN VIRGINIA WATER AUTHORITY.



1" = 30'-0"

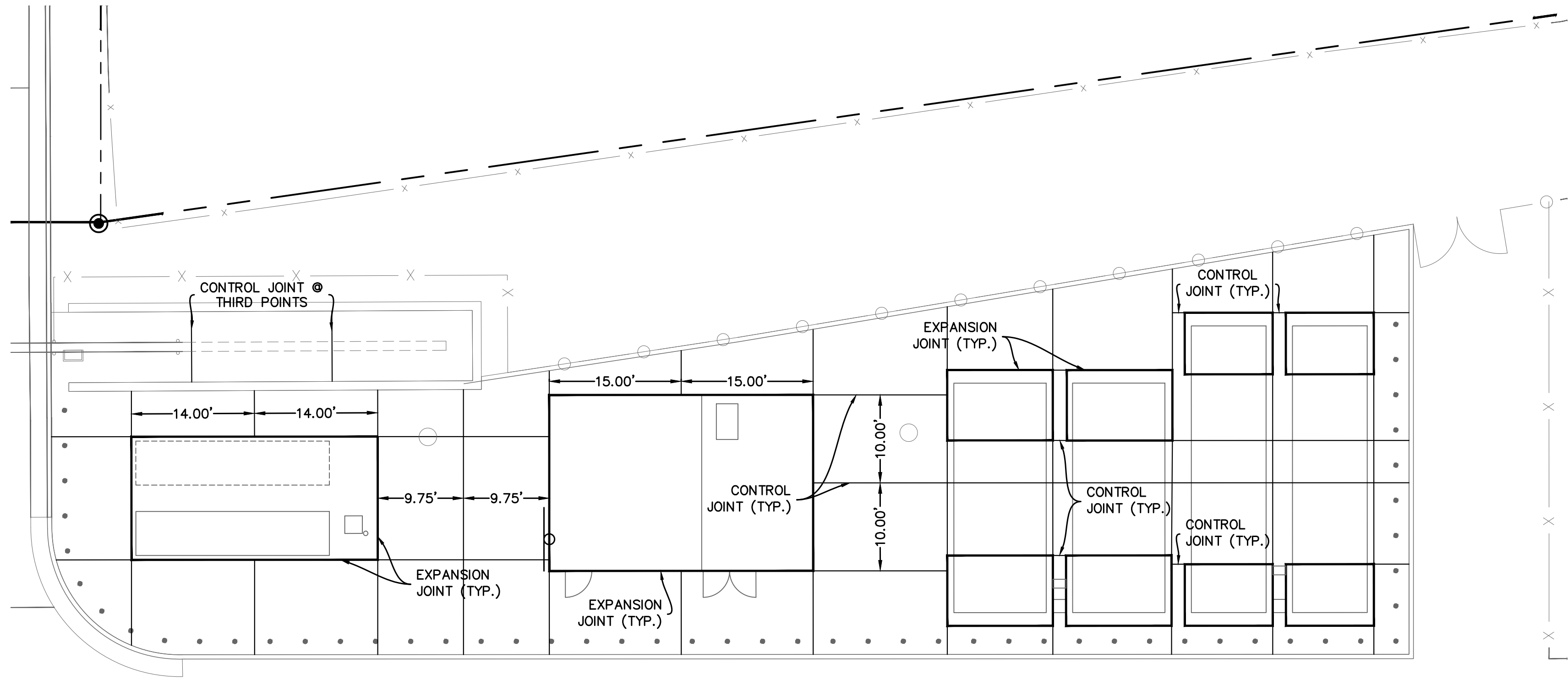


1	2" DOUBLE WALL FLEX PIPING IN 4" CORRUGATED PLASTIC CONDUIT PER MANUFACTURER SEE DETAIL 3/C506-PW FOR TRENCH SECTION
2	TRENCHING, PIPING, & VALVES BY BLOSSMAN N.I.C.
3	2" HDPE PIPING IN 4" STEEL CARRIER PIPE SEE DETAIL 4/C505-PW FOR TRENCH SECTION
4	1" HDPE PIPING IN 4" STEEL CARRIER PIPE SEE DETAIL 4/C505-PW FOR TRENCH SECTION

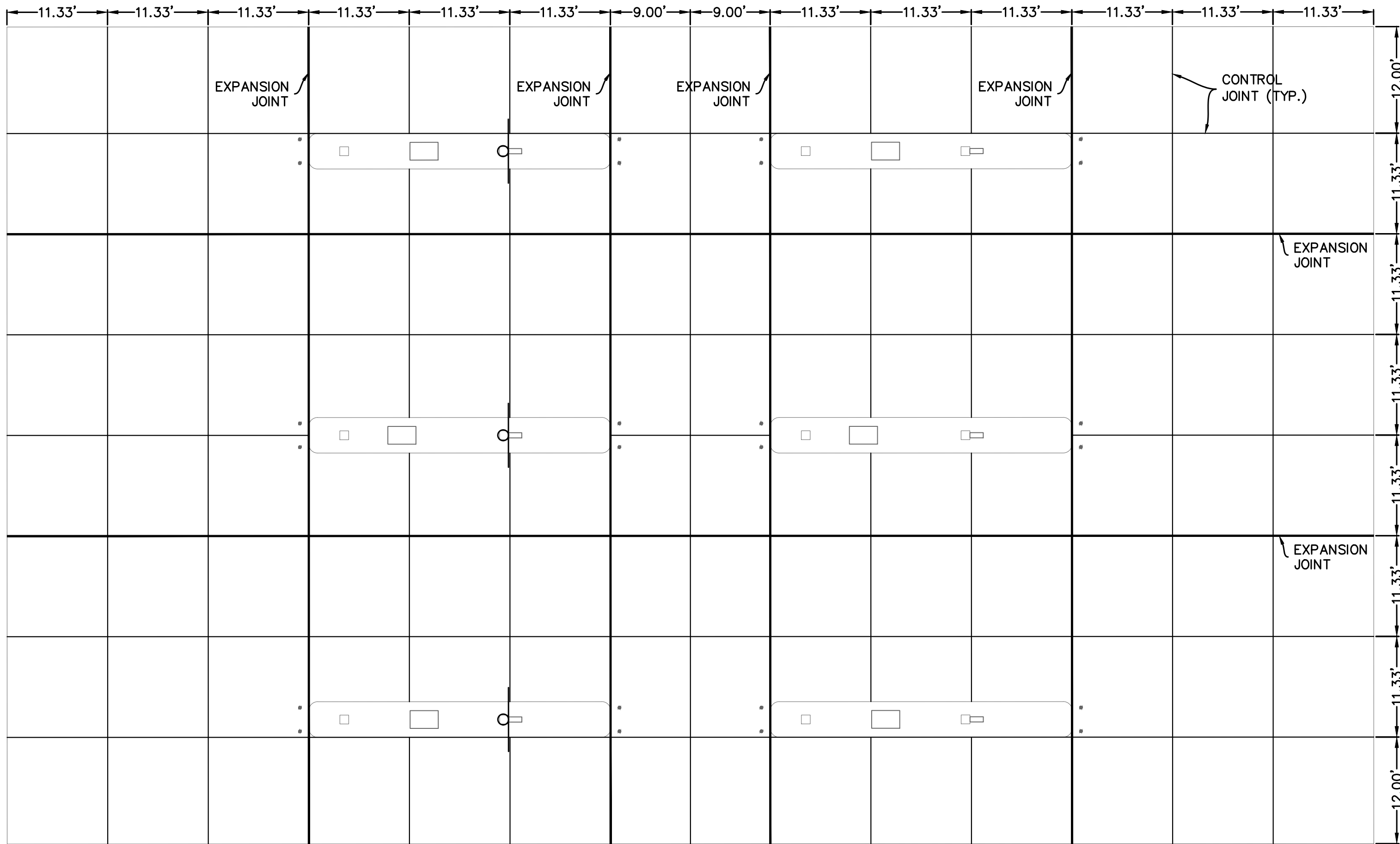


COMMONWEALTH OF VIRGINIA
MICHAEL A. RAKES
Lic. No. 28199
10.10.2025
PROFESSIONAL ENGINEER

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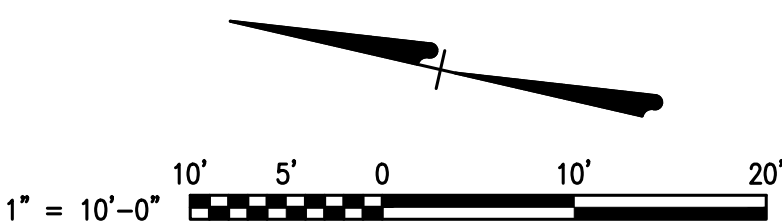


TANK FARM



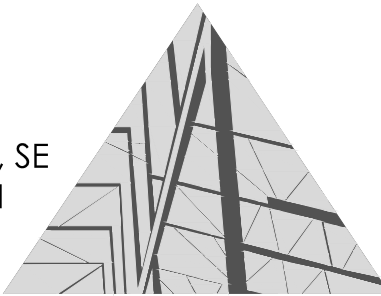
REFUELING CENTER

- SCORING PLAN NOTES:
1. PROVIDE 1/2" EXPANSION JOINT BETWEEN ALL FLATWORK EDGES AROUND BUILDINGS AND WHERE INDICATED ON THE PLAN. ALLOW 1/2" AT TOP FOR SEALANT. SEE DETAIL 6/C501-PW.
 2. ALL CONCRETE JOINTS SHALL BE BEVELED. SEE DETAIL 6/C501-PW FOR JOINT CONDITIONS AT FUEL ISLANDS.



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ROANOKE CITY PROJECT NO.: RFP #24-10-66
Spectrum Design Project No.: 23181



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CHECKED BY: MAR
DRAWN BY: AGA

SHEET ISSUE DATE:
10.10.2025

PROJECT PHASE:
BID DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

KEY PLAN:

SHEET NAME:
SCORING PLAN

SHEET NUMBER:
C104-PW

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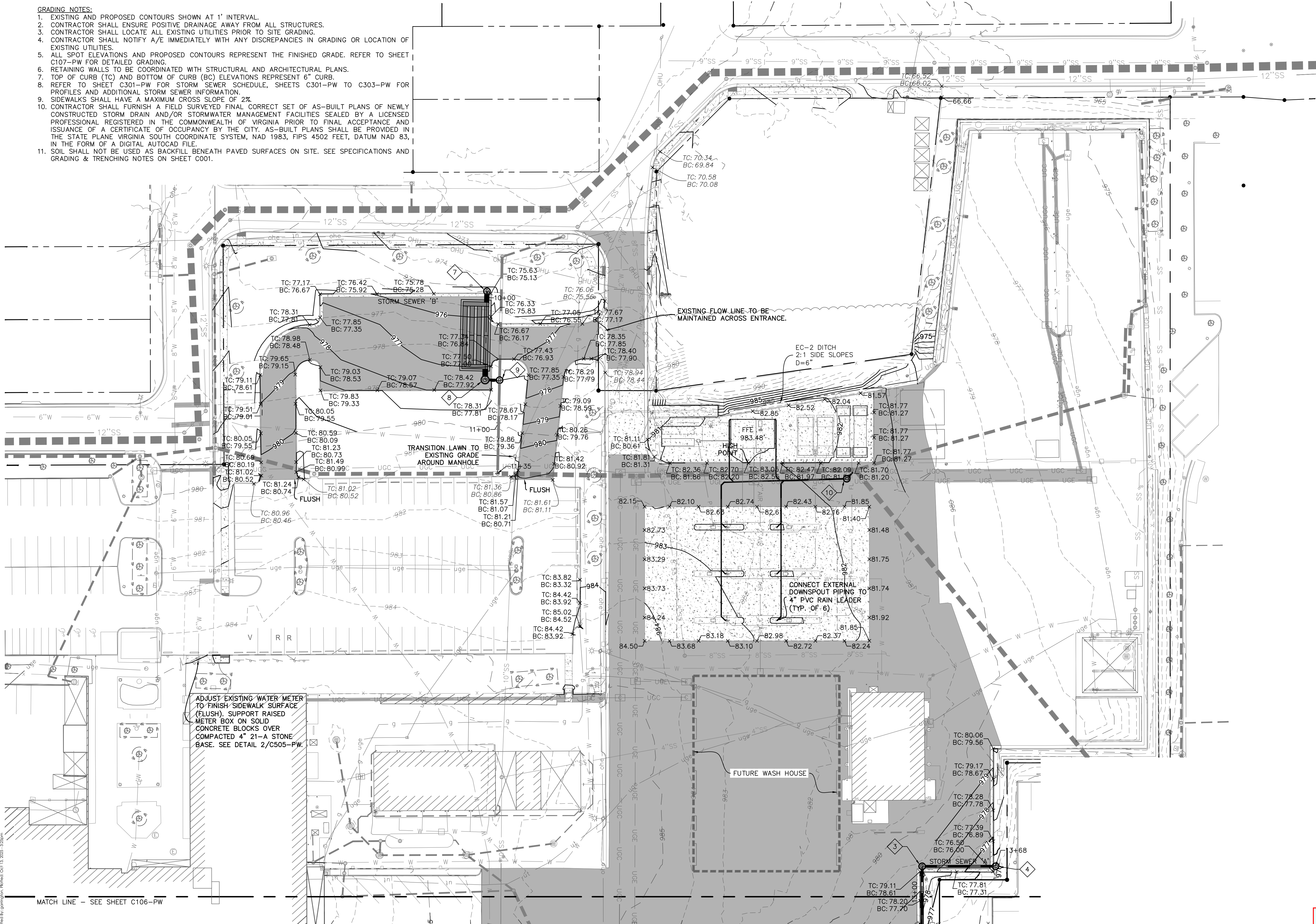
COMPREHENSIVE DEVELOPMENT PLAN

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by plkr1 10/21/2025

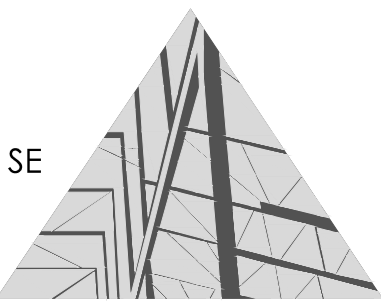
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- GRADING NOTES:
1. EXISTING AND PROPOSED CONTOURS SHOWN AT 1' INTERVAL.
 2. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES.
 3. CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES PRIOR TO SITE GRADING.
 4. CONTRACTOR SHALL NOTIFY A/E IMMEDIATELY WITH ANY DISCREPANCIES IN GRADING OR LOCATION OF EXISTING UTILITIES.
 5. ALL SPOT ELEVATIONS AND PROPOSED CONTOURS REPRESENT THE FINISHED GRADE. REFER TO SHEET C107-PW FOR DETAILED GRADING.
 6. RETAINING WALLS TO BE COORDINATED WITH STRUCTURAL AND ARCHITECTURAL PLANS.
 7. TOP OF CURB (TC) AND BOTTOM OF CURB (BC) ELEVATIONS REPRESENT 6" CURB.
 8. REFER TO SHEET C301-PW FOR STORM SEWER SCHEDULE, SHEETS C301-PW TO C303-PW FOR PROFILES AND ADDITIONAL STORM SEWER INFORMATION.
 9. SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2%.
 10. CONTRACTOR SHALL FURNISH A FIELD SURVEYED FINAL CORRECT SET OF AS-BUILT PLANS OF NEWLY CONSTRUCTED STORM DRAIN AND/OR STORMWATER MANAGEMENT FACILITIES SEALED BY A LICENSED PROFESSIONAL REGISTERED IN THE COMMONWEALTH OF VIRGINIA PRIOR TO FINAL ACCEPTANCE AND ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE CITY. AS-BUILT PLANS SHALL BE PROVIDED IN THE STATE PLANE VIRGINIA SOUTH COORDINATE SYSTEM, NAD 1983, FIPS 4502 FEET, DATUM NAD 83, IN THE FORM OF A DIGITAL AUTOCAD FILE.
 11. SOIL SHALL NOT BE USED AS BACKFILL BENEATH PAVED SURFACES ON SITE. SEE SPECIFICATIONS AND GRADING & TRENCHING NOTES ON SHEET C001.



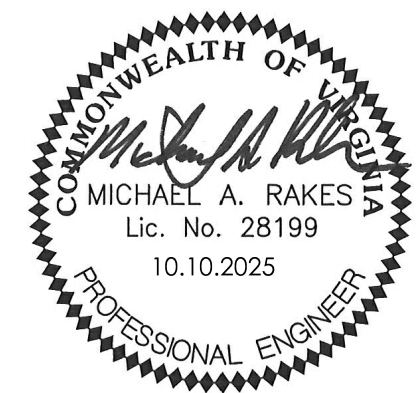
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Spectrum Design Project No.: **23181**



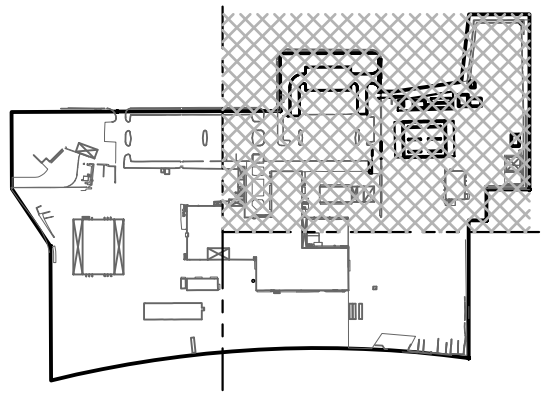
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KEY PLAN:



SHEET NAME:
GRADING PLAN

SHEET NUMBER:
C105-PW

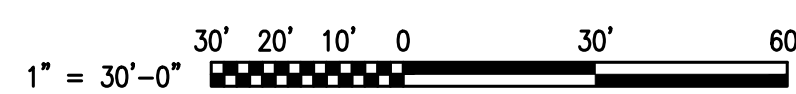
City of Roanoke
Planning, Building, & Development

COMPREHENSIVE DEVELOPMENT PLAN

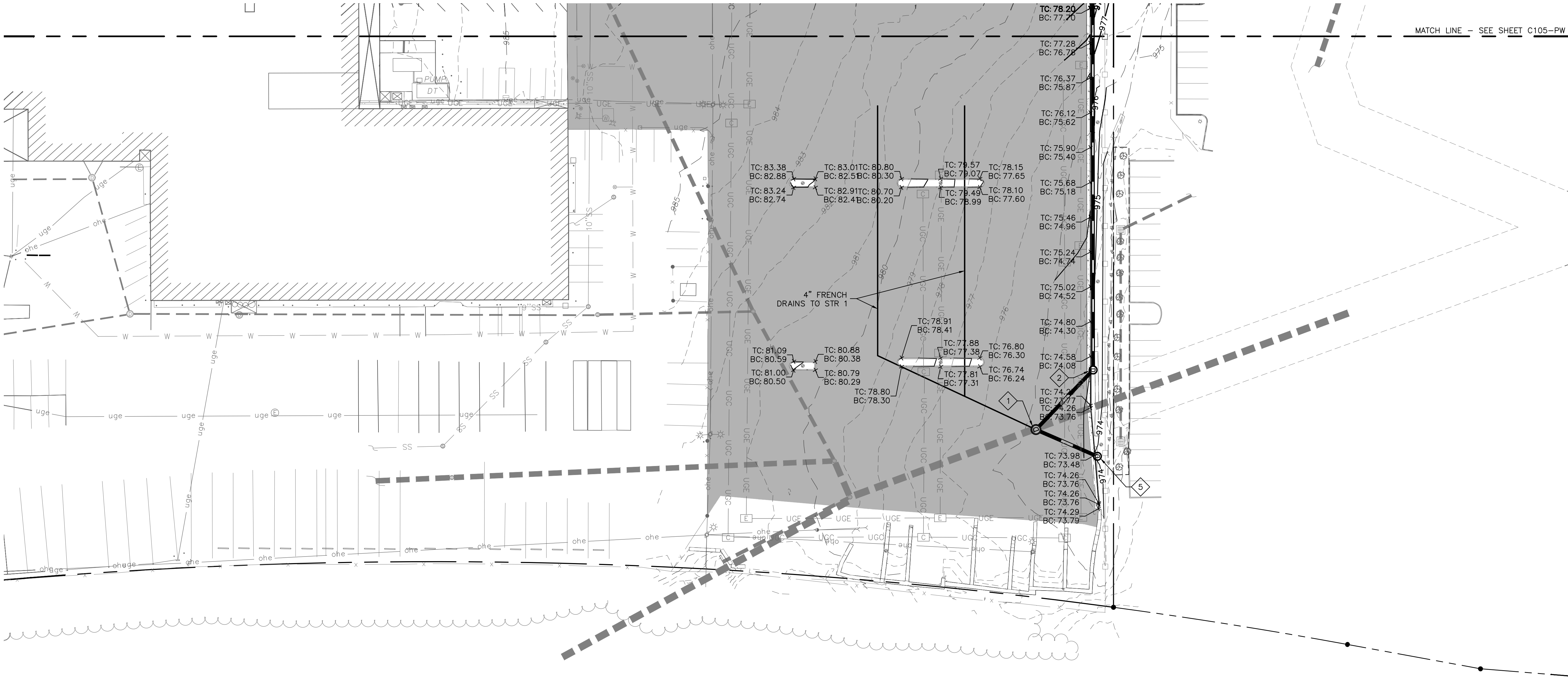
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- GRADING NOTES:
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 - CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES.
 - CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES PRIOR TO SITE GRADING.
 - CONTRACTOR SHALL NOTIFY A/E IMMEDIATELY WITH ANY DISCREPANCIES IN GRADING OR LOCATION OF EXISTING UTILITIES.
 - ALL SPOT ELEVATIONS AND PROPOSED CONTOURS REPRESENT THE FINISHED GRADE. REFER TO SHEET C107-PW FOR DETAILED GRADING.
 - ALL TOP OF WALL (TW) AND BOTTOM OF WALL (BW) ELEVATIONS REPRESENT THE FINISHED GRADE AT THE WALL FACE.
 - RETAINING WALLS TO BE COORDINATED WITH STRUCTURAL AND ARCHITECTURAL PLANS.
 - TOP OF CURB (TC) AND BOTTOM OF CURB (BC) ELEVATIONS REPRESENT 6" CURB.
 - REFER TO SHEET C301-PW FOR STORM SEWER SCHEDULE, SHEETS C301-PW TO C303-PW FOR PROFILES AND ADDITIONAL STORM SEWER INFORMATION.
 - SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2%.
 - CONTRACTOR SHALL FURNISH A FIELD SURVEYED FINAL CORRECT SET OF AS-BUILT PLANS OF NEWLY CONSTRUCTED STORM DRAIN AND/OR STORMWATER MANAGEMENT FACILITIES SEALED BY A LICENSED PROFESSIONAL REGISTERED IN THE COMMONWEALTH OF VIRGINIA PRIOR TO FINAL ACCEPTANCE AND ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE CITY. AS-BUILT PLANS SHALL BE PROVIDED IN THE STATE PLANE VIRGINIA SOUTH COORDINATE SYSTEM, NAD 1983, FIPS 4502 FEET, DATUM NAD 83, IN THE FORM OF A DIGITAL AUTOCAD FILE.
 - SOIL SHALL NOT BE USED AS BACKFILL BENEATH PAVED SURFACES ON SITE. SEE SPECIFICATIONS AND GRADING & TRENCHING NOTES ON SHEET C001.



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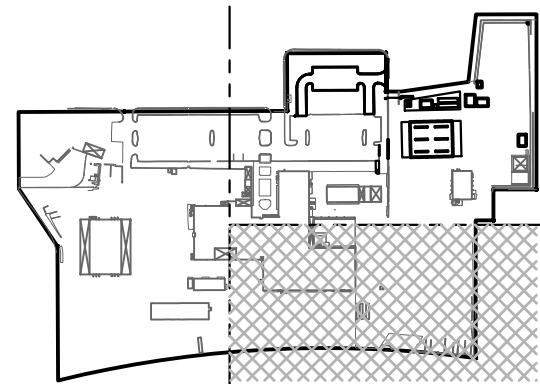
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KEY PLAN:



SHEET NAME:
GRADING PLAN

SHEET NUMBER:
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COMPREHENSIVE DEVELOPMENT PLAN

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1" = 30'-0"



30' 20' 10' 0 30' 60'



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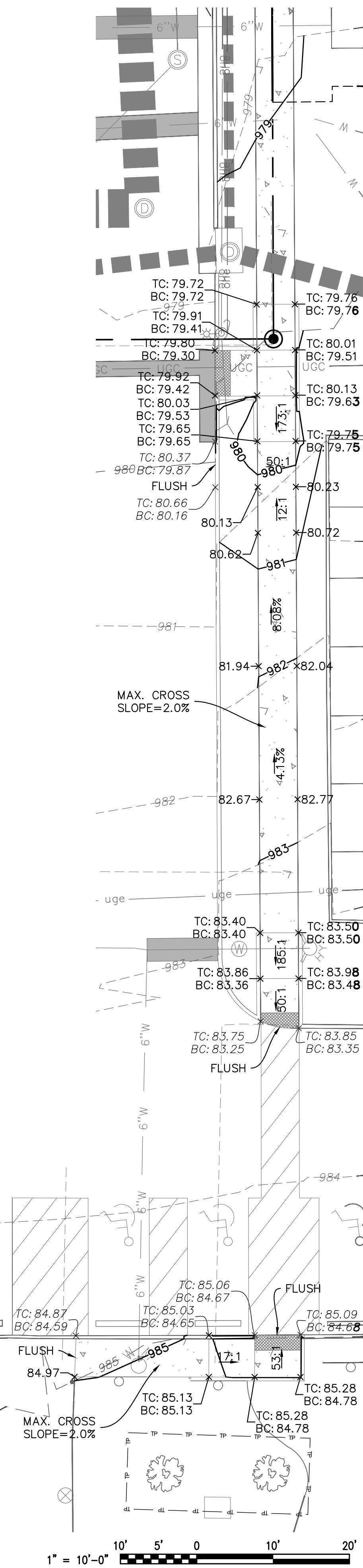
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SHEET NUMBER:
C107-PW

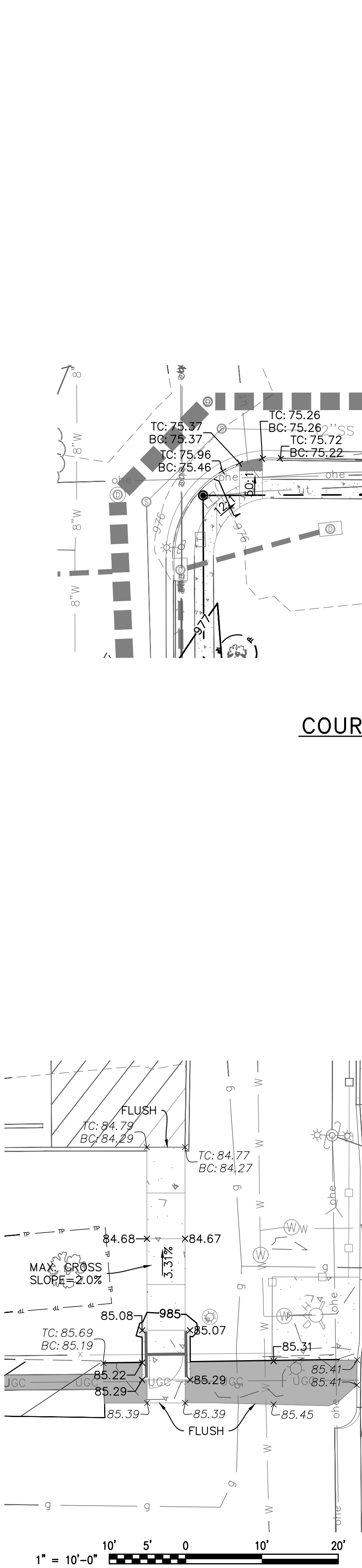
City of Roanoke
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COMPREHENSIVE DEVELOPMENT PLAN

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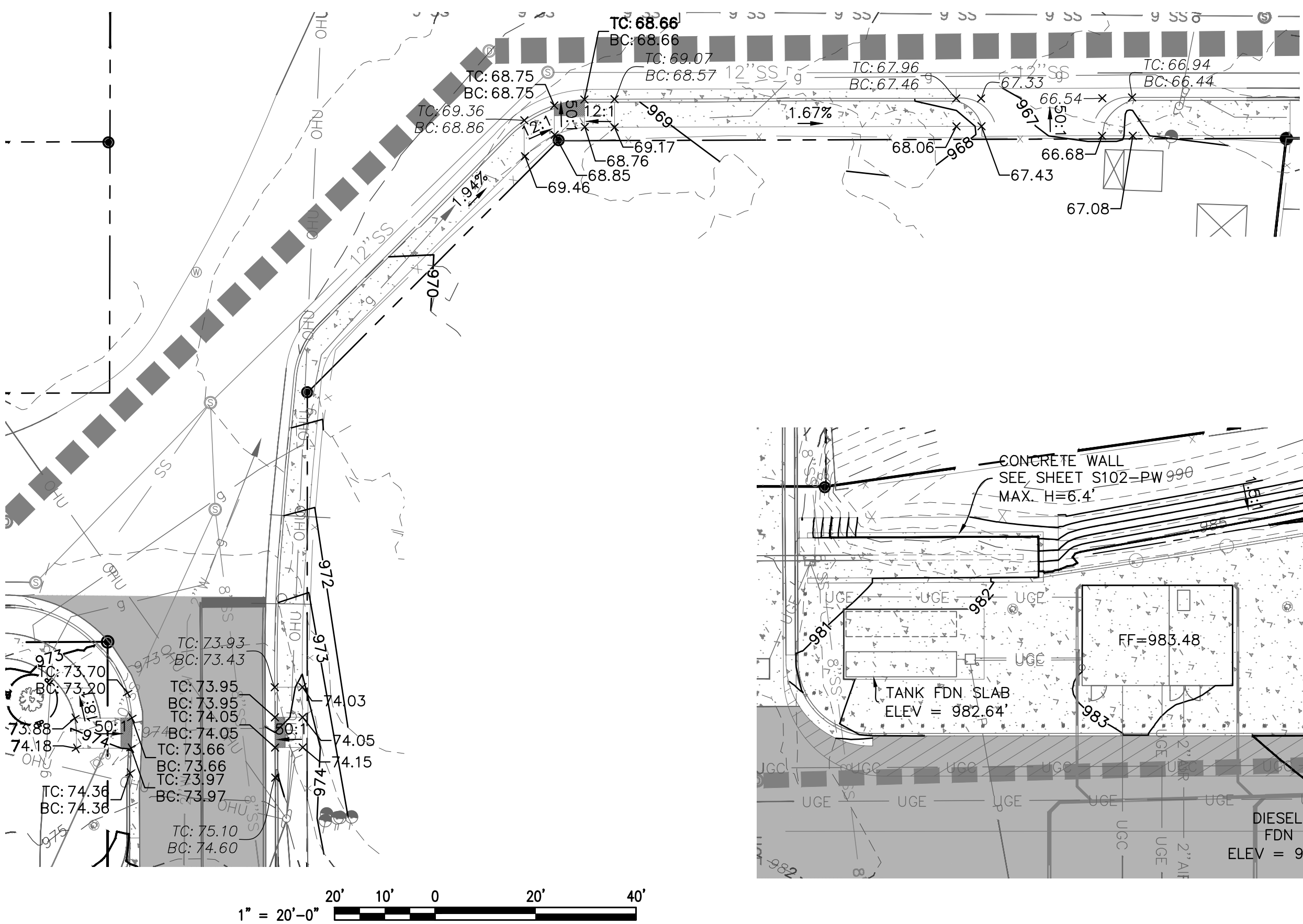
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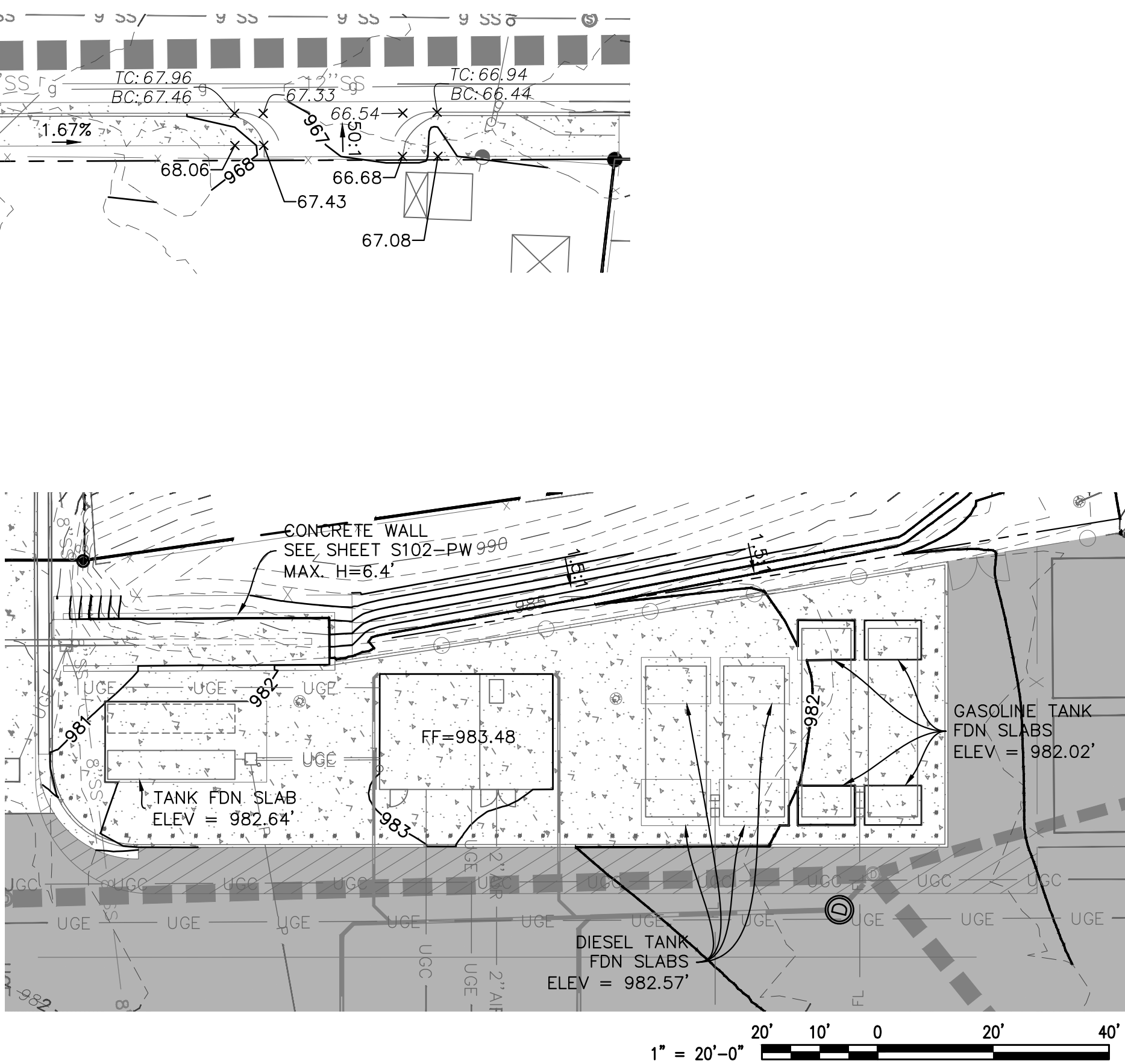
SIDEWALK



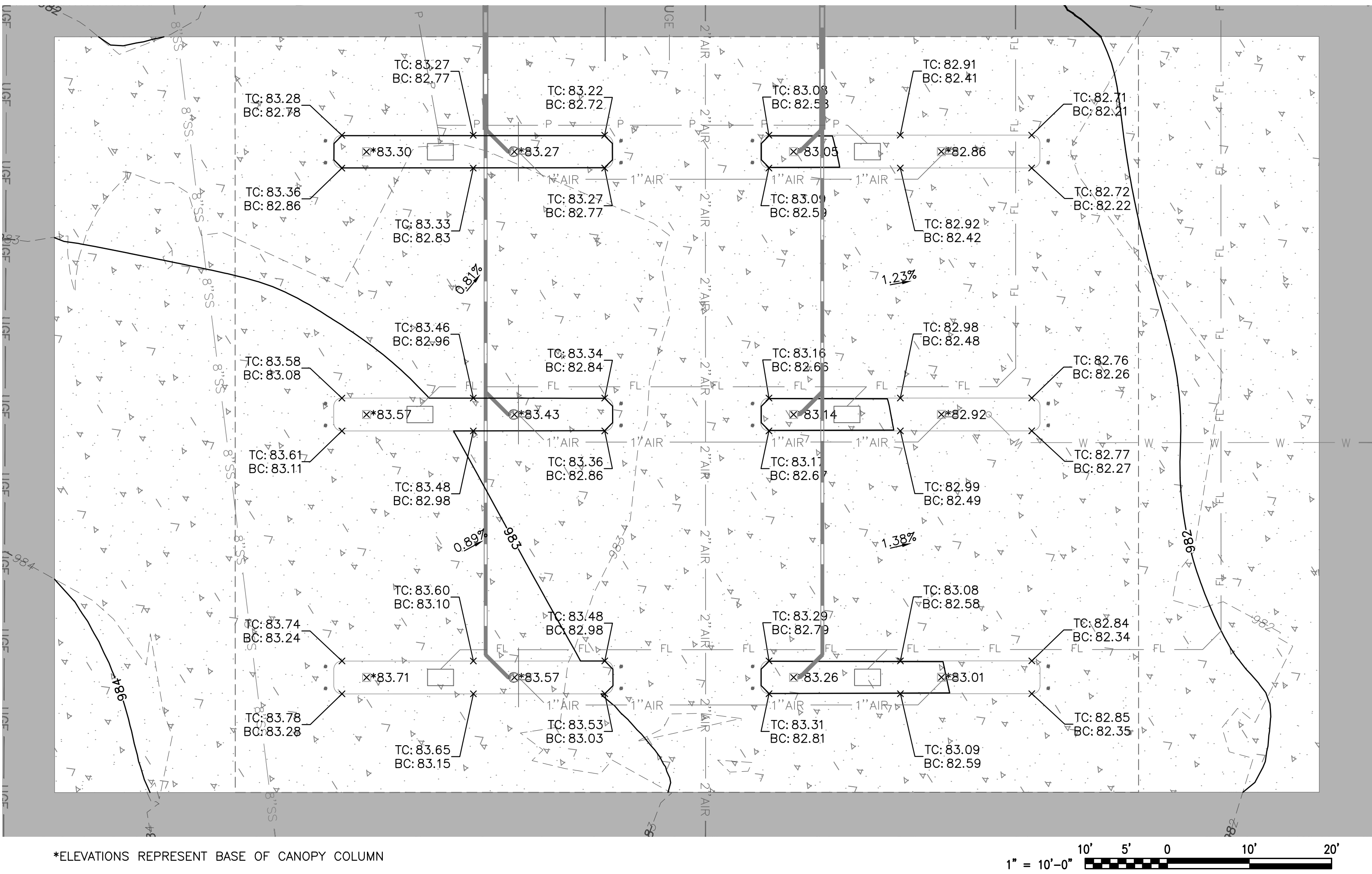
PEDESTRIAN GATE



COURTLAND SIDEWALK



TANK FARM



REFUELING CENTER

*ELEVATIONS REPRESENT BASE OF CANOPY COLUMN

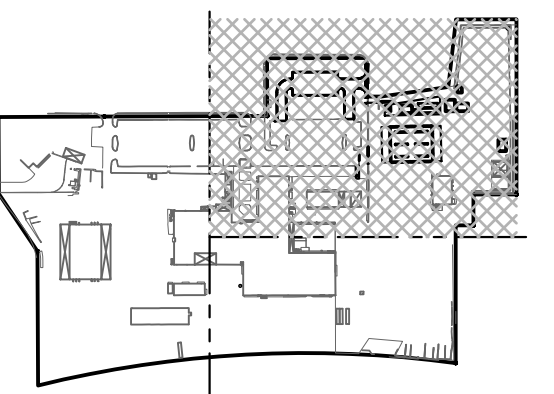
1. ALL PROPOSED SIGNING AND PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION AND THE STATE ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS, CURRENT EDITIONS UNLESS NOTED OTHERWISE.
2. SIGN POSTS AND FOUNDATION SHALL BE IN ACCORDANCE WITH VDOT STD. STP-1.
3. PROPOSED SIGN LOCATIONS ARE APPROXIMATE. FINAL LOCATIONS TO BE DETERMINED BY THE CONTRACTOR. LOCATIONS SHALL BE MODIFIED, DEPENDING ON FIELD CONDITIONS, TO AVOID CONFLICT WITH UNDERGROUND UTILITIES OR OTHER OBSTRUCTIONS, AND TO COMPLY WITH THE STANDARDS IN NOTE 1.
4. A MEETING SHALL BE COORDINATED BY THE CONTRACTOR WITH THE OWNER ONE WEEK PRIOR TO ANY PAVEMENT MARKING WORK.
5. ALL SIGNS AND PAVEMENT MARKINGS ARE TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
6. SIGNS THAT ARE TO REMAIN AND ARE LOCATED WITHIN THE DISTURBED AREA ARE TO BE REMOVED, STORED AND REINSTALLED BY THE CONTRACTOR. SHALL BE RESPONSIBLE FOR STORAGE OF SIGNS WHEN NECESSARY. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO NEW OR EXISTING SIGNS BEING REPLACED OR REINSTALLED.

- ① THERMOPLASTIC TYPE B, CLASS I ROAD MARKINGS
4" WIDE, YELLOW
- ② THERMOPLASTIC TYPE B, CLASS I ROAD MARKINGS
AND STRIPING
4" WIDE, WHITE
- ③ TYPE A PARKING LOT MARKINGS
4" WIDE, YELLOW PAINT
- ④ NOT USED
- ⑤ NO PARKING
THERMOPLASTIC TYPE B, CLASS I ROAD MARKINGS
4" WIDE, WHITE, 1' OFFSET ON CENTER
- ⑥ STOP LINE
THERMOPLASTIC TYPE B, CLASS I ROAD MARKINGS
24" WIDE, WHITE AS SHOWN
- ⑦ H/C SYMBOL
SEE DETAIL 4/C502-PW

- A H/C PARKING SIGN
SEE DETAIL 5/C502
- B PROPOSED R1-1: STOP SIGN
- C (2) NEW "NO SMOKING"
SIGNS AT EVERY COLUMN
MOUNTED FACING THE USER
- D NEW "EMERGENCY FUEL SHUTOFF"
SIGN MOUNTED ON BLDG
- E NEW "SPILL KIT" SIGN
MOUNTED ON CANOPY COLUMN



KEY PLAN:



SHEET NUMBER:

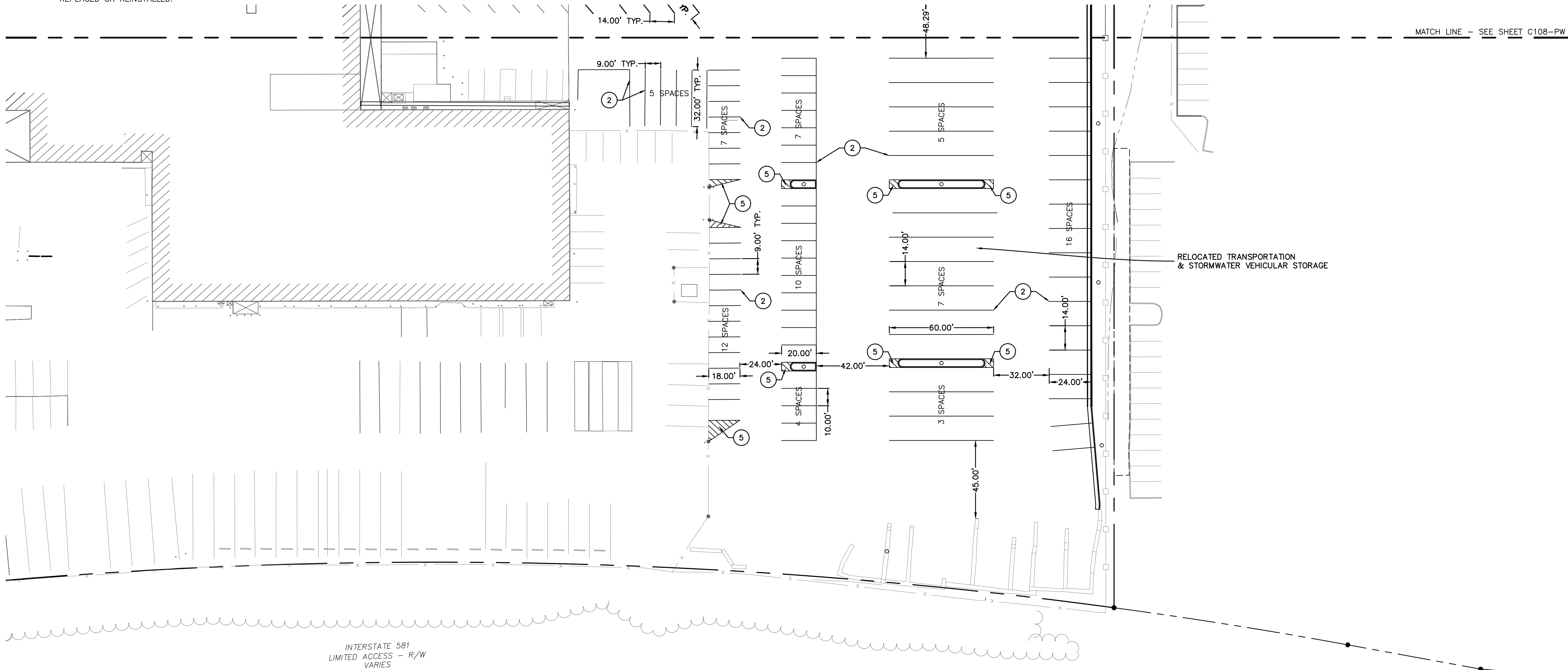
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AHJ APPROVAL STAMP

NOTES

1. ALL PROPOSED SIGNING AND PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, AND THE VDOT ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS, CURRENT EDITIONS.
2. SIGN POSTS AND FOUNDATION SHALL BE IN ACCORDANCE WITH VDOT STD. STP-1.
3. PROPOSED SIGN LOCATIONS ARE APPROXIMATE. FINAL LOCATION TO BE DETERMINED BY CONTRACTOR. LOCATIONS SHALL BE MODIFIED, DEPENDING ON FIELD CONDITIONS, TO AVOID CONFLICT WITH UNDERGROUND UTILITIES OR OTHER OBSTRUCTIONS, AND TO COMPLY WITH THE STANDARDS IN NOTE 1.
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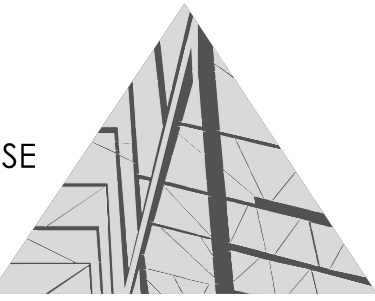
PAVEMENT STRIPING AND MARKING

- ① THERMOPLASTIC TYPE B, CLASS I ROAD MARKINGS
4" WIDE, YELLOW
- ② THERMOPLASTIC TYPE B, CLASS I ROAD MARKINGS
AND STRIPING
4" WIDE, WHITE
- ③ TYPE A PARKING LOT MARKINGS
4" WIDE, WHITE PAINT
- ④ NOT USED
- ⑤ NO PARKING
THERMOPLASTIC TYPE B, CLASS I ROAD MARKINGS
4" WIDE, WHITE, 1' OFFSET ON CENTER
- ⑥ STOP LINE
THERMOPLASTIC TYPE B, CLASS I ROAD MARKINGS
24" WIDE, WHITE AS SHOWN



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Spectrum Design Project No.: 23181



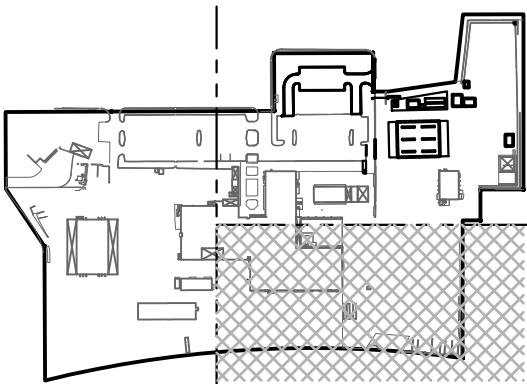
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MAR MAR AGA

SHEET ISSUE DATE:
10.10.2025

PROJECT PHASE:
BID DOCUMENTS

SCALE:
**AS SHOWN
24"x36" SHEET**

KEY PLAN:



SHEET NAME:
**SIGNAGE & PAVEMENT
MARKING PLAN**

SHEET NUMBER:

C109-PW

City of Roanoke
Planning, Building, & Development

COMPREHENSIVE DEVELOPMENT PLAN

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by plkr1 10/21/2025

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1" = 30'-0"

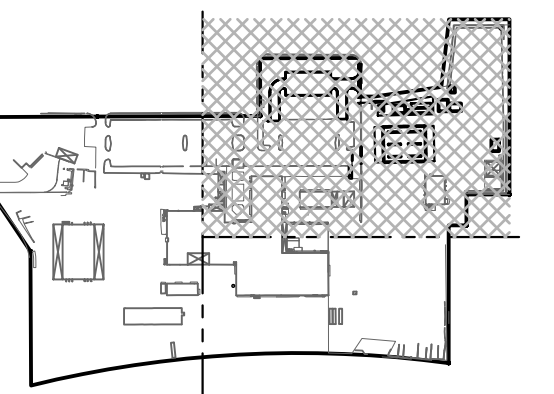


1. ALL LANDSCAPING MATERIALS SHALL MEET THE SPECIFICATIONS AND STANDARDS OF THE AMERICANHORT. ONLY HEALTHY PLANTING MATERIALS SHALL BE USED.
2. TREE PROTECTION AREAS SHALL BE CLEARLY MARKED PRIOR TO ANY LAND DISTURBANCE. GRADING, CLEARING, STORAGE OF MATERIALS, DUMPING OF MATERIALS, AND PARKING OF TRANSPORTING VEHICLES AND EQUIPMENT SHALL BE PROHIBITED INSIDE ANY TREE PROTECTION AREAS.
3. TREE PROTECTION DEVICES SHALL BE INSTALLED PRIOR TO ANY CLEARING OR GRADING ON THE SITE. SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL COMPLETION OF ALL GUARANTEED IMPROVEMENTS SHOWN. SEE C20X-PW FOR TREE PROTECTION DETAILS.
4. TREES SHALL NOT BE PLANTED WITHIN TEN (10) FEET OF SEWER LINES OR LATERALS.
5. SEE SHEET C503-PW FOR LANDSCAPE DETAILS AND PLANT SCHEDULE.

PARKING AREA = 7722 SF
CANOPY REQUIREMENT (20%) = 1545 SF
CANOPY PROVIDED = 2124 SF (27%)



KEY PLAN:

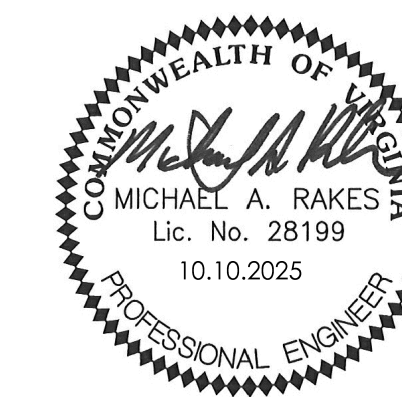


SHEET NUMBER:
C110-PW

COMPREHENSIVE DEVELOPMENT PLAN

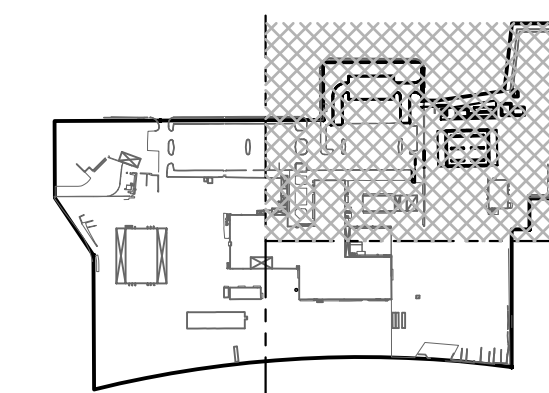
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ROANOKE CITY PROJECT NO.: **RFP #24-10-66**
Spectrum Design Project No.: **23181**



SCALE:
AS SHOWN
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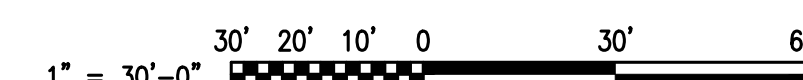
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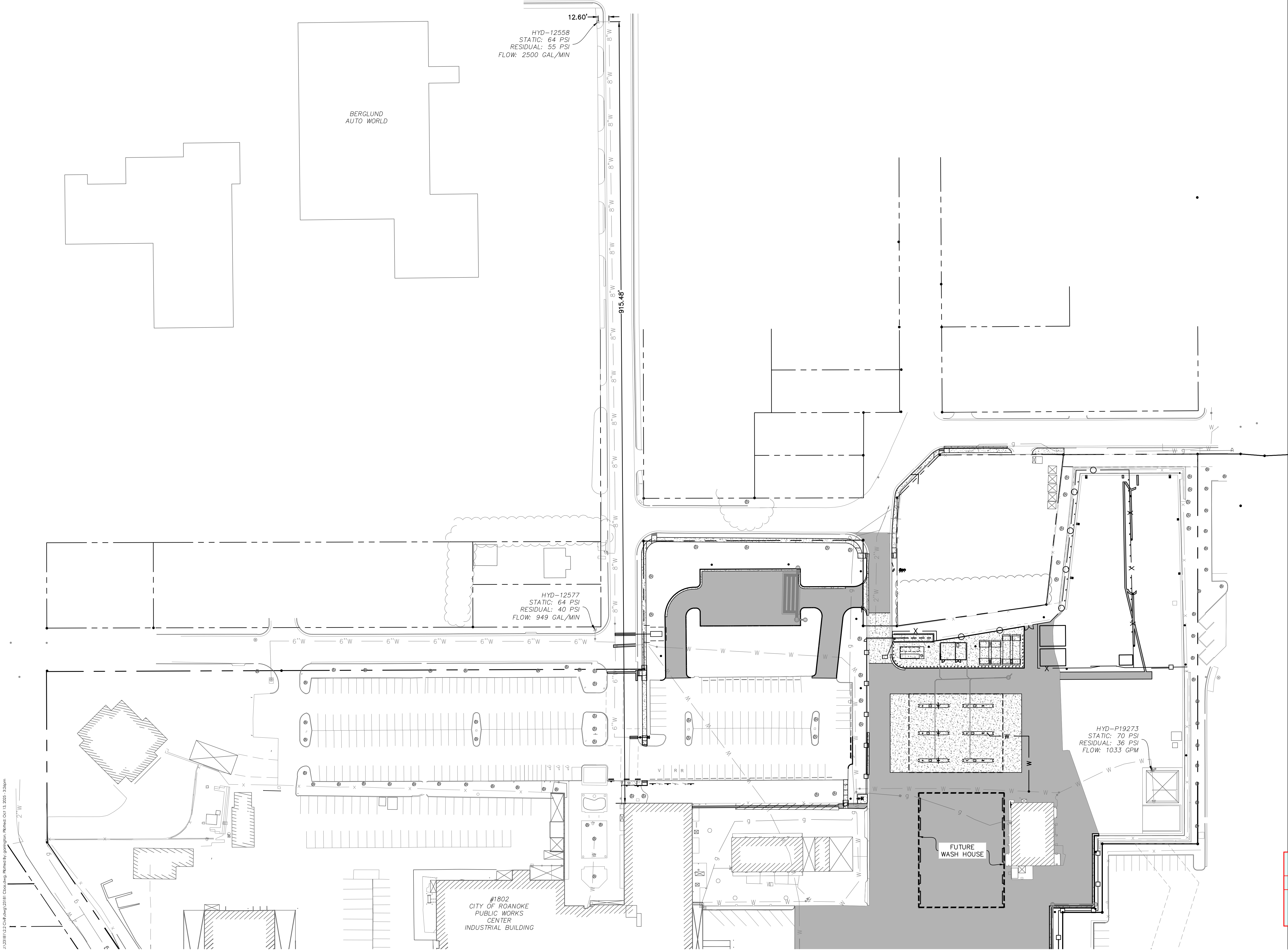


SHEET NUMBER:
C111-PW

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Spectrum Design Project No.: **23181**



PROJ. MGR.: **MAR** CHECKED BY: **MAR** DRAWN BY: **AGA**

SHEET ISSUE DATE:
10.10.2025

PROJECT PHASE:
BID DOCUMENTS

SCALE:
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KEY PLAN:

SHEET NAME:
**HYDRANT PROXIMITY
PLAN FOR PERMITTING**

SHEET NUMBER:
C112-PW

City of Roanoke
Planning, Building, & Development

COMPREHENSIVE DEVELOPMENT PLAN

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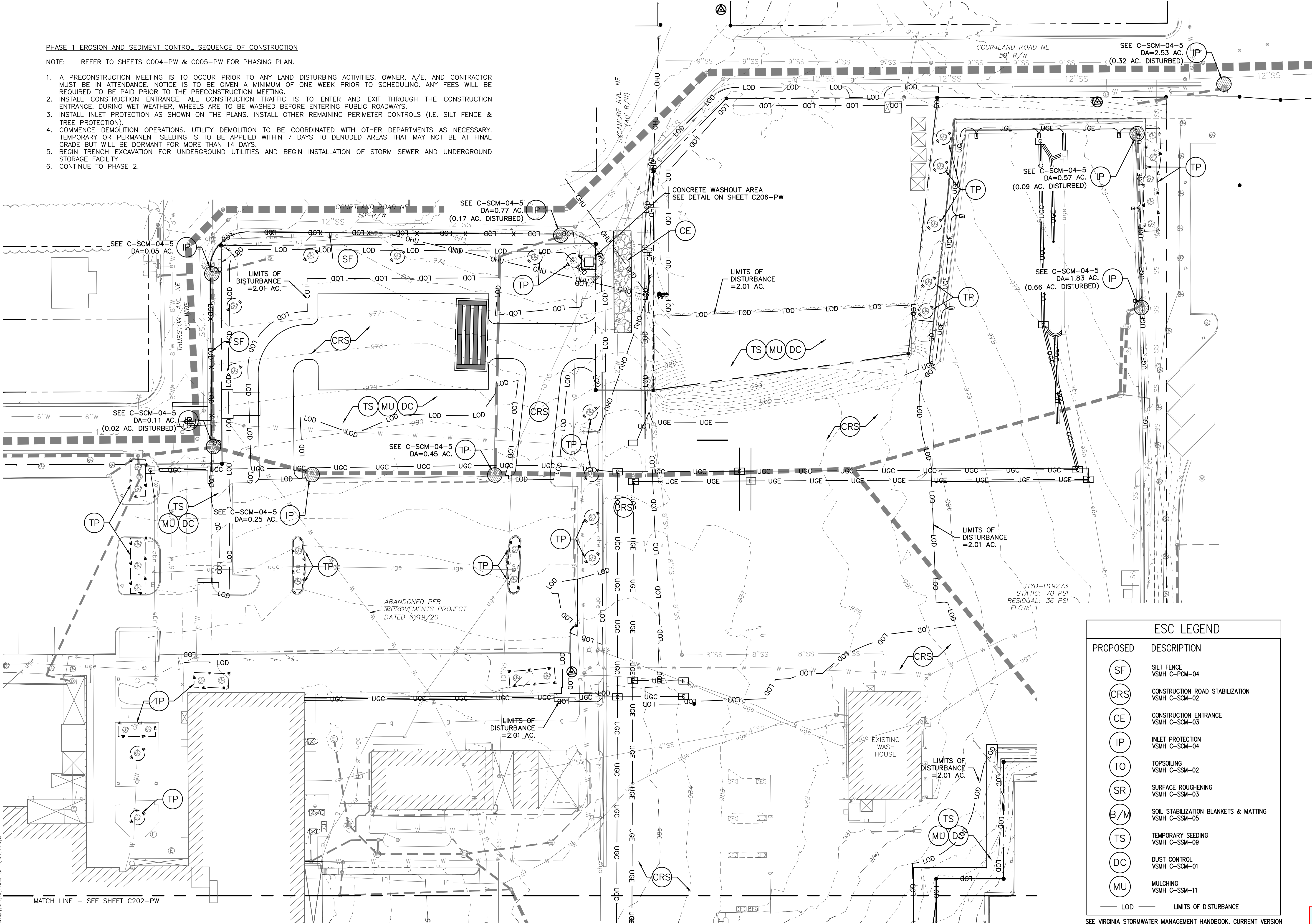
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PHASE 1 EROSION AND SEDIMENT CONTROL SEQUENCE OF CONSTRUCTION

NOTE: REFER TO SHEETS C004-PW & C005-PW FOR PHASING PLAN.

1. A PRECONSTRUCTION MEETING IS TO OCCUR PRIOR TO ANY LAND DISTURBING ACTIVITIES. OWNER, A/E, AND CONTRACTOR MUST BE IN ATTENDANCE. NOTICE IS TO BE GIVEN A MINIMUM OF ONE WEEK PRIOR TO SCHEDULING. ANY FEES WILL BE REQUIRED TO BE PAID PRIOR TO THE PRECONSTRUCTION MEETING.
2. INSTALL CONSTRUCTION ENTRANCE. ALL CONSTRUCTION TRAFFIC IS TO ENTER AND EXIT THROUGH THE CONSTRUCTION ENTRANCE. DURING WET WEATHER, WHEELS ARE TO BE WASHED BEFORE ENTERING PUBLIC ROADWAYS.
3. INSTALL INLET PROTECTION AS SHOWN ON THE PLANS. INSTALL OTHER REMAINING PERIMETER CONTROLS (I.E. SILT FENCE & TREE PROTECTION).
4. COMMENCE DEMOLITION OPERATIONS. UTILITY DEMOLITION TO BE COORDINATED WITH OTHER DEPARTMENTS AS NECESSARY. TEMPORARY OR PERMANENT SEEDING IS TO BE APPLIED WITHIN 7 DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL BE DORMANT FOR MORE THAN 14 DAYS.
5. BEGIN TRENCH EXCAVATION FOR UNDERGROUND UTILITIES AND BEGIN INSTALLATION OF STORM SEWER AND UNDERGROUND STORAGE FACILITY.
6. CONTINUE TO PHASE 2.

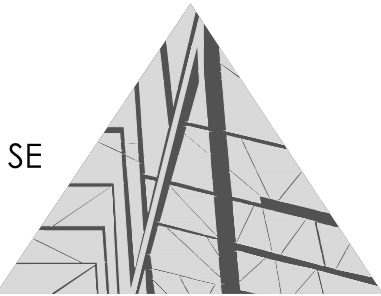


ESC LEGEND	
PROPOSED	DESCRIPTION
(SF)	SILT FENCE VSMH C-PCM-04
(CRS)	CONSTRUCTION ROAD STABILIZATION VSMH C-SCM-02
(CE)	CONSTRUCTION ENTRANCE VSMH C-SCM-03
(IP)	INLET PROTECTION VSMH C-SCM-04
(TO)	TOPSOILING VSMH C-SSM-02
(SR)	SURFACE ROUGHENING VSMH C-SSM-03
(B/M)	SOIL STABILIZATION BLANKETS & MATTING VSMH C-SSM-05
(TS)	TEMPORARY SEEDING VSMH C-SSM-09
(DC)	DUST CONTROL VSMH C-SCM-01
(MU)	MULCHING VSMH C-SSM-11
— LOD —	LIMITS OF DISTURBANCE

SEE VIRGINIA STORMWATER MANAGEMENT HANDBOOK, CURRENT VERSION

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Spectrum Design Project No.: **23181**



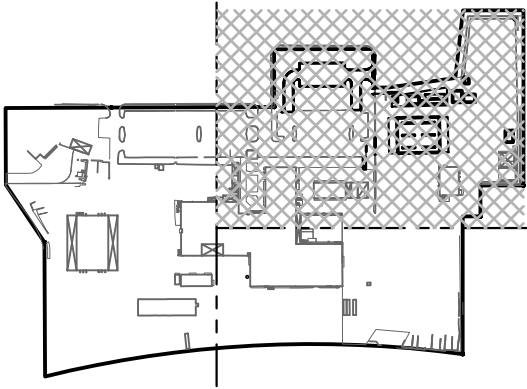
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SHEET ISSUE DATE:
10.10.2025

PROJECT PHASE:
BID DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

KEY PLAN:



SHEET NAME:
EROSION & SEDIMENT
CONTROL PLAN
PHASE 1

SHEET NUMBER:
C201-PW

City of Roanoke
Planning, Building, & Development
COMPREHENSIVE DEVELOPMENT PLAN

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by plkr1 10/21/2025

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NOTE: REFER TO SHEETS C004-PW & C005-PW FOR PHASING PLAN.

1. A PRECONSTRUCTION MEETING IS TO OCCUR PRIOR TO ANY LAND DISTURBING ACTIVITIES. OWNER, A/E, AND CONTRACTOR MUST BE IN ATTENDANCE. NOTICE IS TO BE GIVEN A MINIMUM OF ONE WEEK PRIOR TO SCHEDULING. ANY FEES WILL BE REQUIRED TO BE PAID PRIOR TO THE PRECONSTRUCTION MEETING.
2. INSTALL CONSTRUCTION ENTRANCE. ALL CONSTRUCTION TRAFFIC IS TO ENTER AND EXIT THROUGH THE CONSTRUCTION ENTRANCE. DURING WEATHER, WHEELS ARE TO BE WASHED BEFORE ENTERING PUBLIC ROADWAYS.
3. INSTALL INLET PROTECTION AS SHOWN ON THE PLANS. INSTALL OTHER REMAINING PERIMETER CONTROLS (I.E. SILT FENCE & TREE PROTECTION).
4. COMMENCE CONSTRUCTION OPERATIONS. UTILITY DEMOLITION TO BE COORDINATED WITH OTHER DEPARTMENTS AS NECESSARY.
5. TEMPORARY OR PERMANENT SEEDING IS TO BE APPLIED WITHIN 7 DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL BE DORMANT FOR MORE THAN 14 DAYS.
6. BEGIN TRENCH EXCAVATION FOR UNDERGROUND UTILITIES AND BEGIN INSTALLATION OF STORM SEWER AND UNDERGROUND STORAGE FACILITY.
6. CONTINUE TO PHASE 2.

SEE VIRGINIA STORMWATER MANAGEMENT HANDBOOK, CURRENT VERSION

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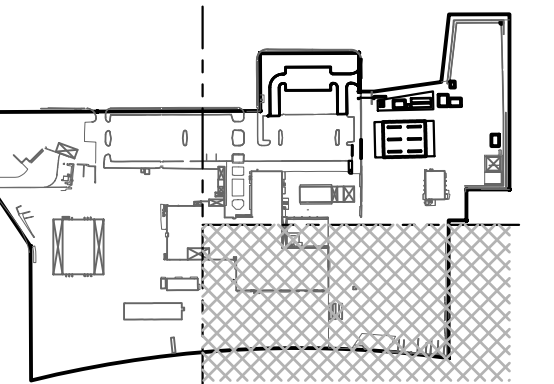
ROANOKE CITY PROJECT NO.: RFP #24-10-66
Spectrum Design Project No.: 23181



SHEET ISSUE DATE:
10.10.2025

SCALE:
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24"x36" SHEET

KEY PLAN:



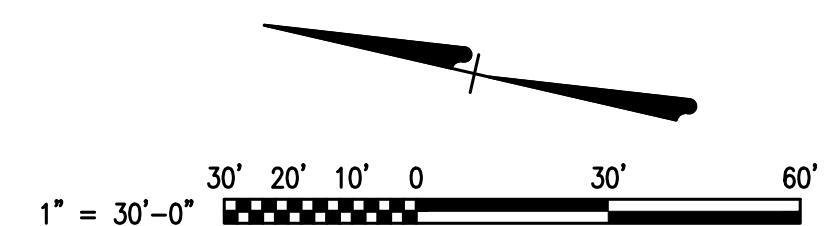
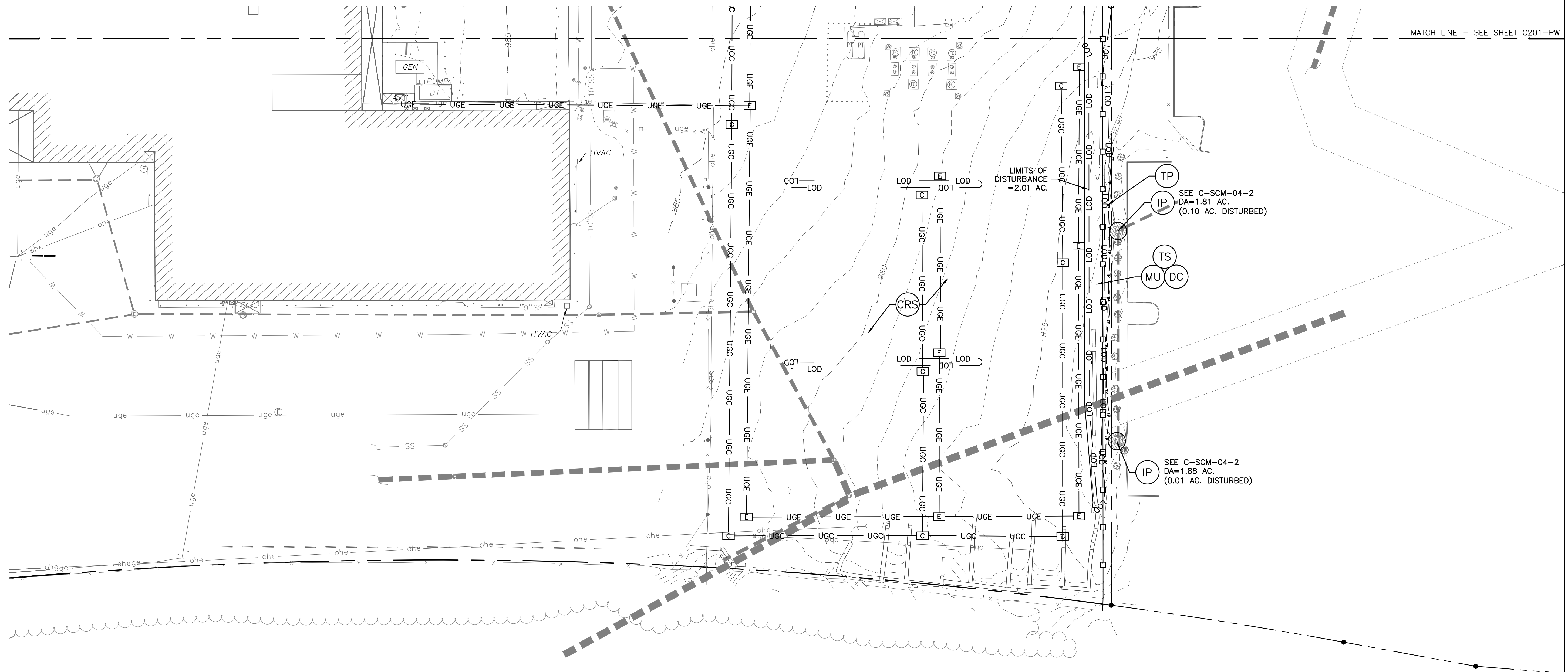
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C202-PW

COMPREHENSIVE DEVELOPMENT PLAN

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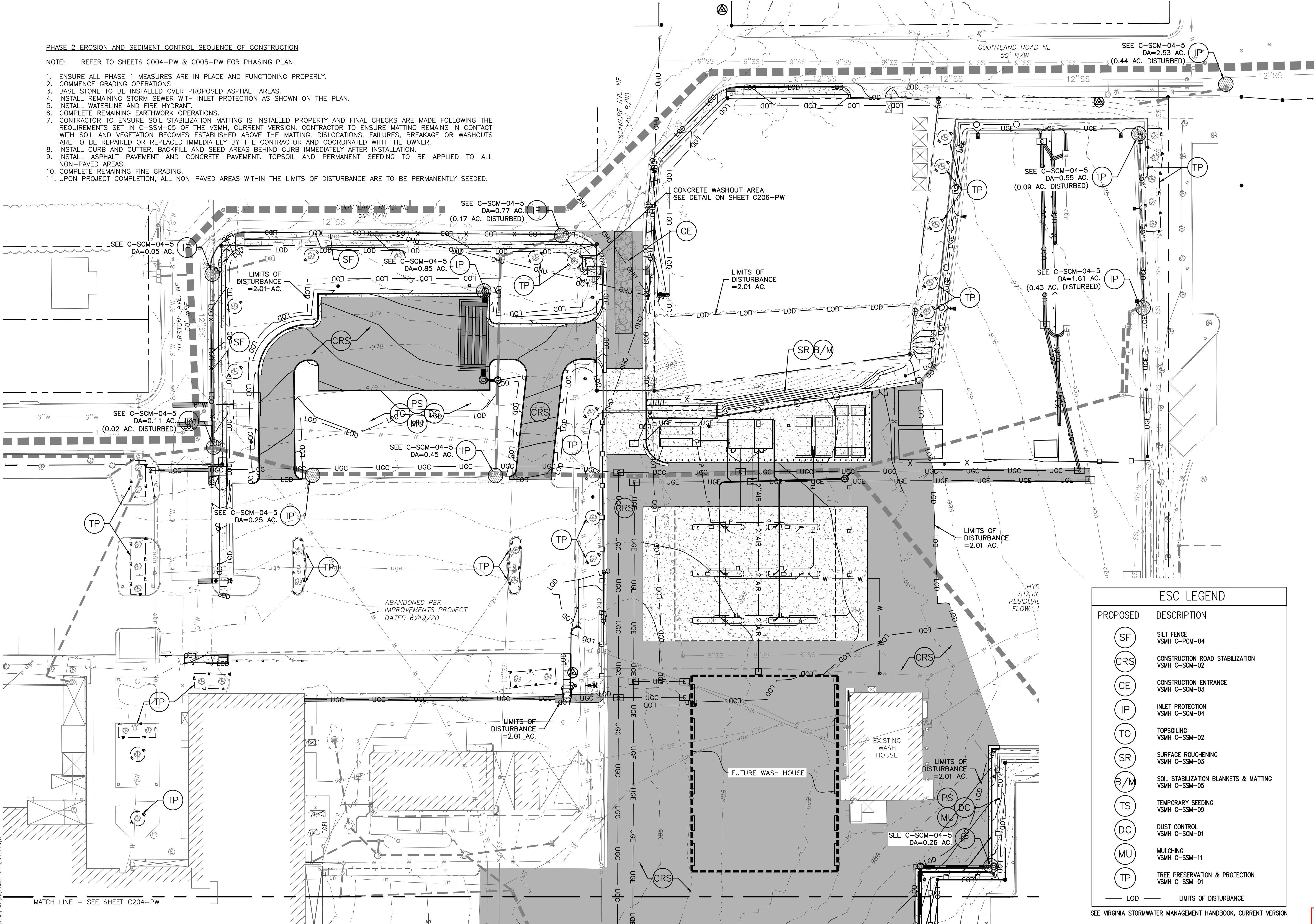


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PHASE 2 EROSION AND SEDIMENT CONTROL SEQUENCE OF CONSTRUCTION

NOTE: REFER TO SHEETS C004-PW & C005-PW FOR PHASING PLAN.

1. ENSURE ALL PHASE 1 MEASURES ARE IN PLACE AND FUNCTIONING PROPERLY.
2. COMMENCE GRADING OPERATIONS.
3. BASE STONE TO BE INSTALLED OVER PROPOSED ASPHALT AREAS.
4. INSTALL REMAINING STORM SEWER WITH INLET PROTECTION AS SHOWN ON THE PLAN.
5. INSTALL WATERLINE AND FIRE HYDRANT.
6. COMPLETE REMAINING EARTHWORK OPERATIONS.
7. CONTRACTOR TO ENSURE SOIL STABILIZATION MATTING IS INSTALLED PROPERTY AND FINAL CHECKS ARE MADE FOLLOWING THE REQUIREMENTS SET IN C-SSM-05 OF THE VSMH. CURRENT VERSION. CONTRACTOR TO ENSURE MATTING REMAINS IN CONTACT WITH SOIL AND VEGETATION BECOMES ESTABLISHED ABOVE THE MATTING. DISLOCATIONS, FAILURES, BREAKAGE OR WASHOUTS ARE TO BE REPAIRED OR REPLACED IMMEDIATELY BY THE CONTRACTOR AND COORDINATED WITH THE OWNER.
8. INSTALL CURB AND GUTTER, BACKFILL AND SEED AREAS BEHIND CURB IMMEDIATELY AFTER INSTALLATION.
9. INSTALL ASPHALT PAVEMENT AND CONCRETE PAVEMENT, TOPSOIL AND PERMANENT SEEDING TO BE APPLIED TO ALL NON-PAVED AREAS.
10. COMPLETE REMAINING FINE GRADING.
11. UPON PROJECT COMPLETION, ALL NON-PAVED AREAS WITHIN THE LIMITS OF DISTURBANCE ARE TO BE PERMANENTLY SEEDDED.

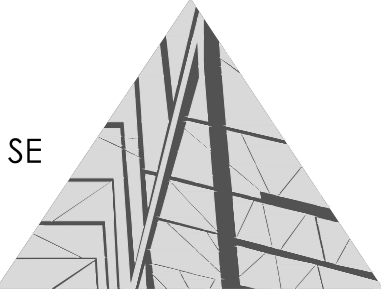


ESC LEGEND	
PROPOSED	DESCRIPTION
(SF)	SILT FENCE VSMH C-PCM-04
(CRS)	CONSTRUCTION ROAD STABILIZATION VSMH C-SSM-02
(CE)	CONSTRUCTION ENTRANCE VSMH C-SSM-03
(IP)	INLET PROTECTION VSMH C-SSM-04
(TO)	TOPSOILING VSMH C-SSM-02
(SR)	SURFACE ROUGHENING VSMH C-SSM-03
(B/M)	SOIL STABILIZATION BLANKETS & MATTING VSMH C-SSM-05
(TS)	TEMPORARY SEEDING VSMH C-SSM-09
(DC)	DUST CONTROL VSMH C-SSM-01
(MU)	MULCHING VSMH C-SSM-11
(TP)	TREE PRESERVATION & PROTECTION VSMH C-SSM-01
LOD	LIMITS OF DISTURBANCE

SEE VIRGINIA STORMWATER MANAGEMENT HANDBOOK, CURRENT VERSION

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ROANOKE CITY PROJECT NO.: RFP #24-10-66
Spectrum Design Project No.: 23181



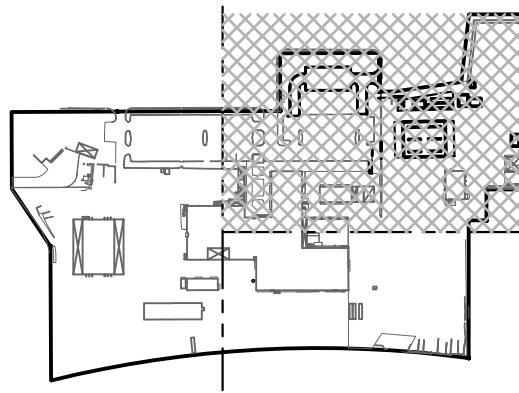
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MAR MAR AGA

SHEET ISSUE DATE:
10.10.2025

PROJECT PHASE:
BID DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

KEY PLAN:



SHEET NAME:
EROSION & SEDIMENT
CONTROL PLAN
PHASE 2

SHEET NUMBER:

C203-PW

City of Roanoke
Planning, Building, & Development

COMPREHENSIVE DEVELOPMENT PLAN

APPROVED








by plkr1 10/21/2025

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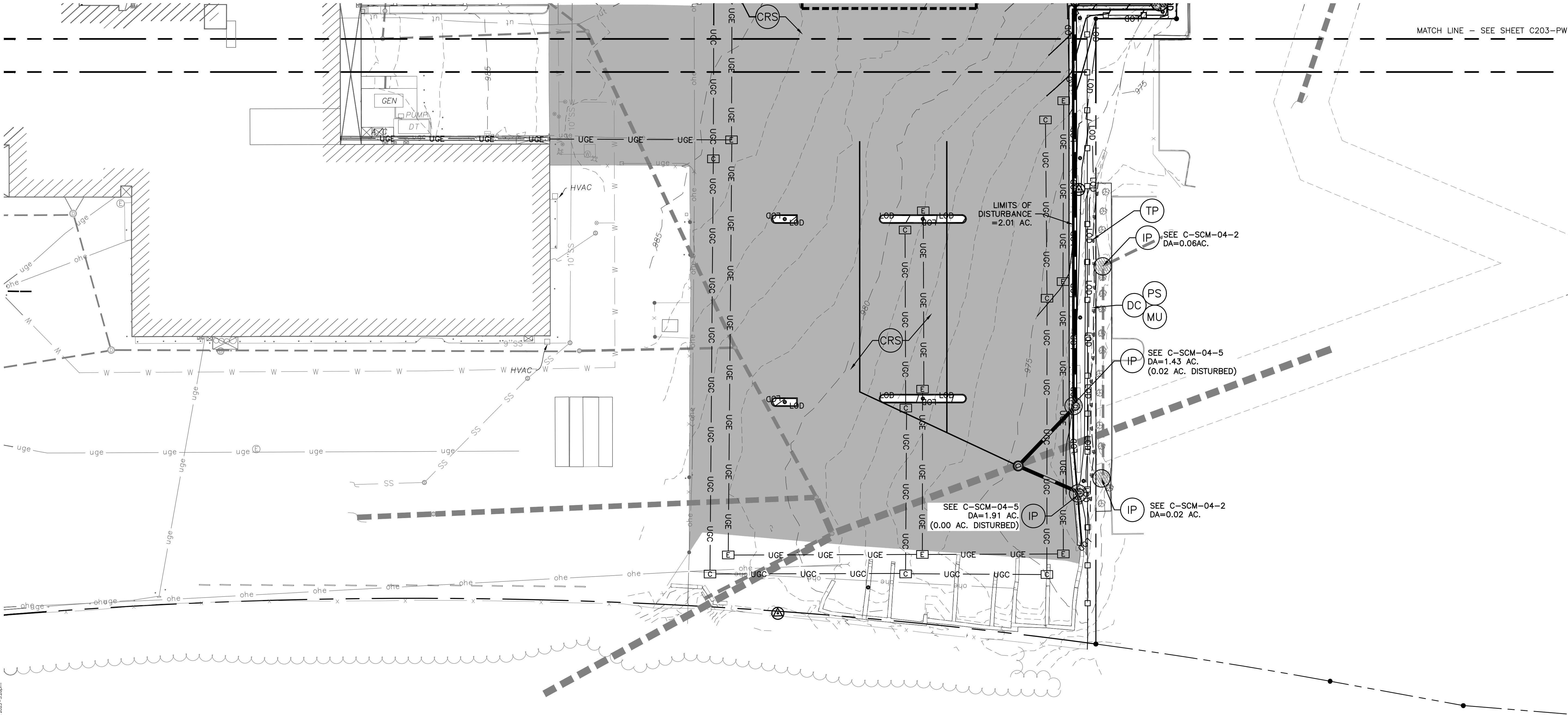
PHASE 2 EROSION AND SEDIMENT CONTROL SEQUENCE OF CONSTRUCTION

NOTE: REFER TO SHEETS C004-PW & C005-PW FOR PHASING PLAN.

1. ENSURE ALL PHASE 1 MEASURES ARE IN PLACE AND FUNCTIONING PROPERLY.
2. COMMENCE GRADING OPERATIONS.
3. BASE STONE TO BE INSTALLED OVER PROPOSED ASPHALT AREAS.
4. INSTALL REMAINING STORM SEWER WITH INLET PROTECTION AS SHOWN ON THE PLAN.
5. INSTALL WATERLINE AND FIRE HYDRANT.
6. COMPLETE REMAINING EARTHWORK OPERATIONS.
7. CONTRACTOR TO ENSURE SOIL STABILIZATION MATTING IS INSTALLED PROPERTY AND FINAL CHECKS ARE MADE FOLLOWING THE REQUIREMENTS SET IN C-SSM-05 OF THE VSMH, CURRENT VERSION. CONTRACTOR TO ENSURE MATTING REMAINS IN CONTACT WITH SOIL AND VEGETATION BECOMES ESTABLISHED ABOVE THE MATTING. DISLOCATIONS, FAILURES, BREAKAGE OR WASHOUTS ARE TO BE REPAIRED OR REPLACED IMMEDIATELY BY THE CONTRACTOR AND COORDINATED WITH THE OWNER.
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10. COMPLETE REMAINING FINE GRADING.
11. UPON PROJECT COMPLETION, ALL NON-PAVED AREAS WITHIN THE LIMITS OF DISTURBANCE ARE TO BE PERMANENTLY SEEDED.

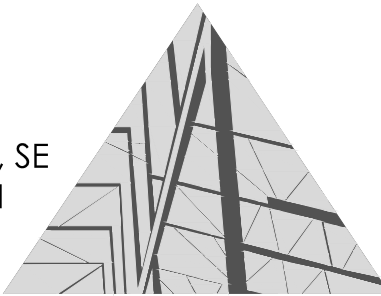
ESC LEGEND	
PROPOSED	DESCRIPTION
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	INLET PROTECTION VSMH C-SSM-04
	PERMANENT SEEDING VSMH C-SSM-10
	DUST CONTROL VSMH C-SSM-01
	MULCHING VSMH C-SSM-11
	TREE PRESERVATION & PROTECTION VSMH C-SSM-01
	LIMITS OF DISTURBANCE

SEE VIRGINIA STORMWATER MANAGEMENT HANDBOOK, CURRENT VERSION



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Spectrum Design Project No.: 23181



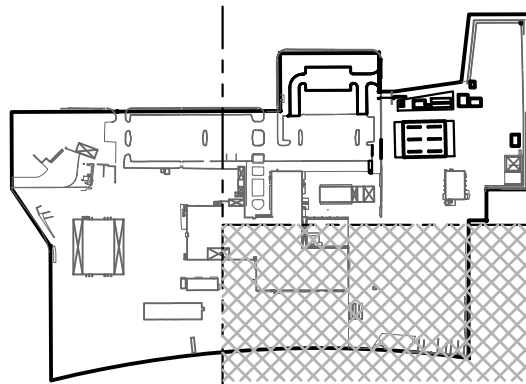
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MAR MAR AGA

SHEET ISSUE DATE:
10.10.2025

PROJECT PHASE:
BID DOCUMENTS

SCALE:
**AS SHOWN
24"x36" SHEET**

KEY PLAN:



SHEET NAME:
**EROSION & SEDIMENT
CONTROL PLAN
PHASE 2**

SHEET NUMBER:
C204-PW

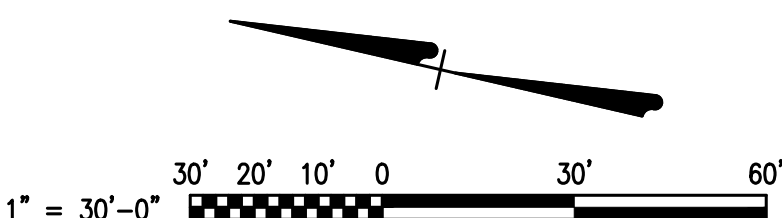
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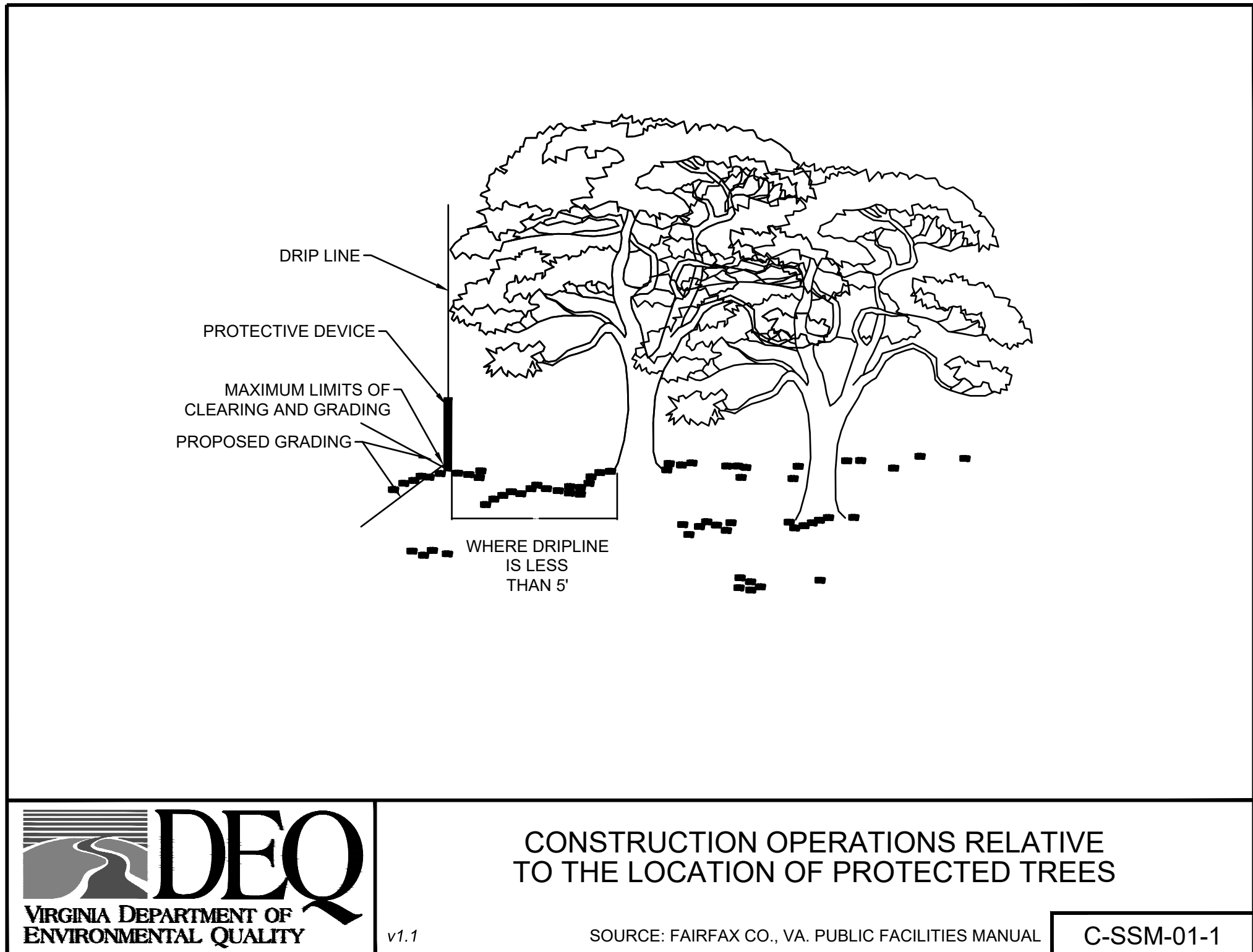
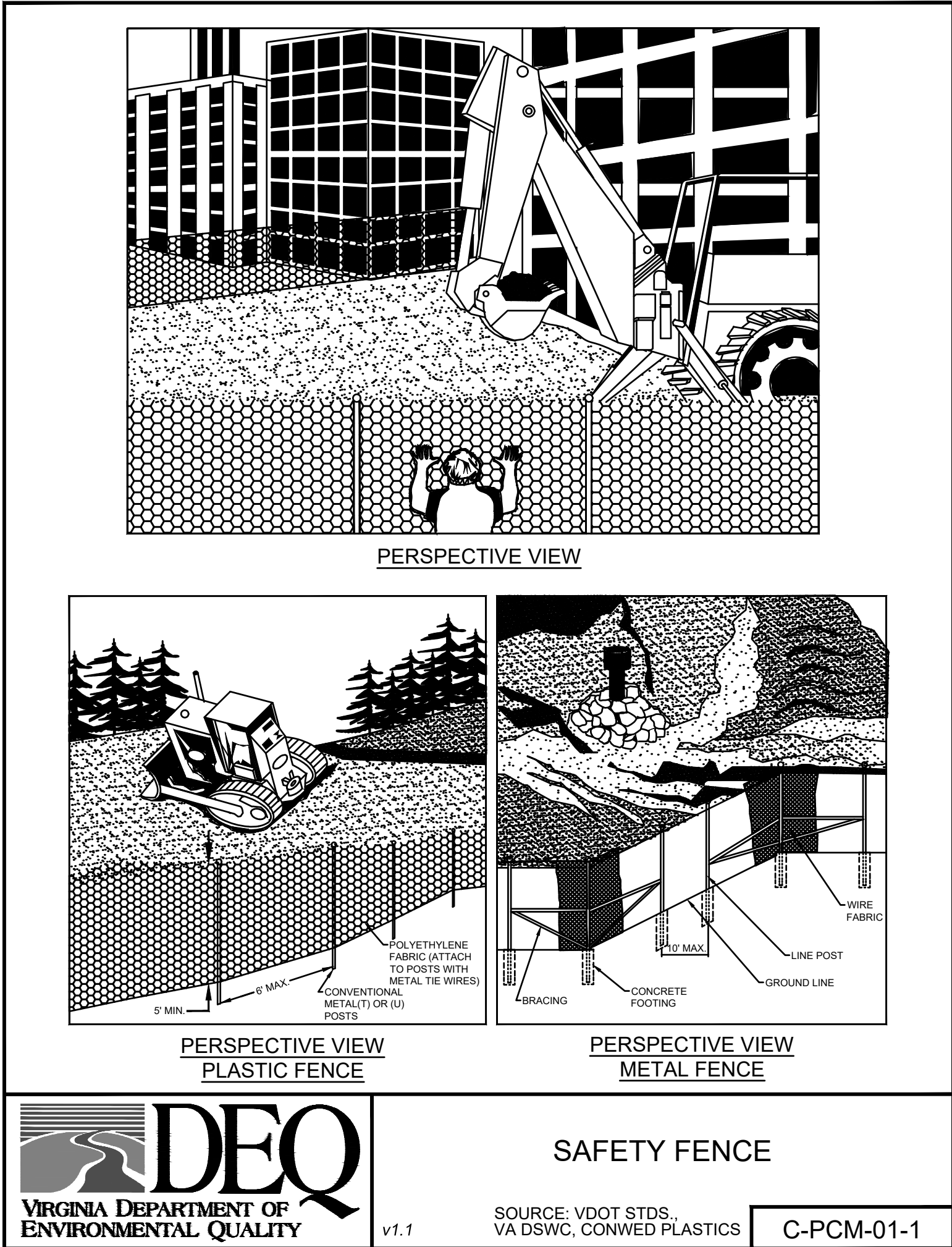
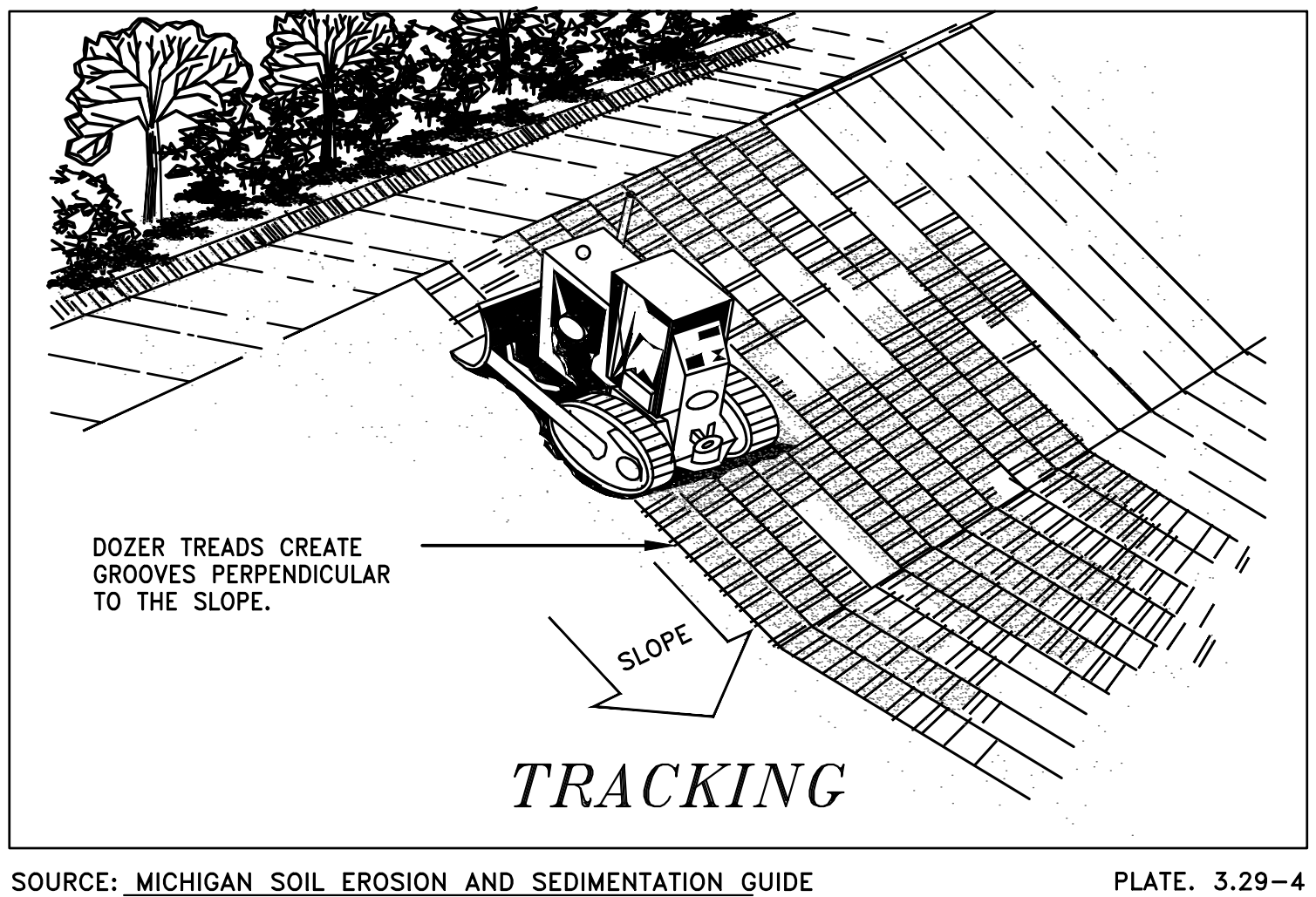
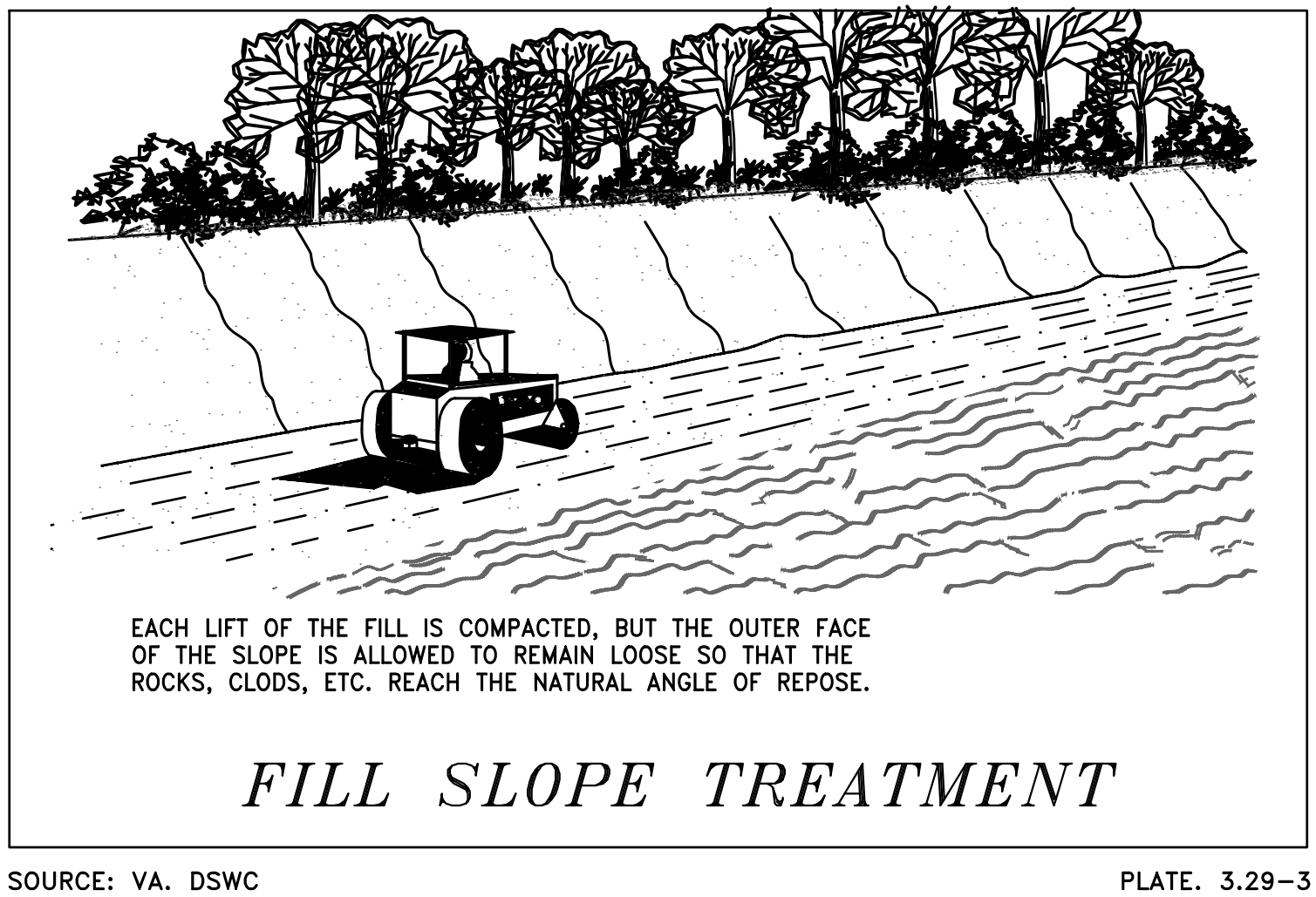
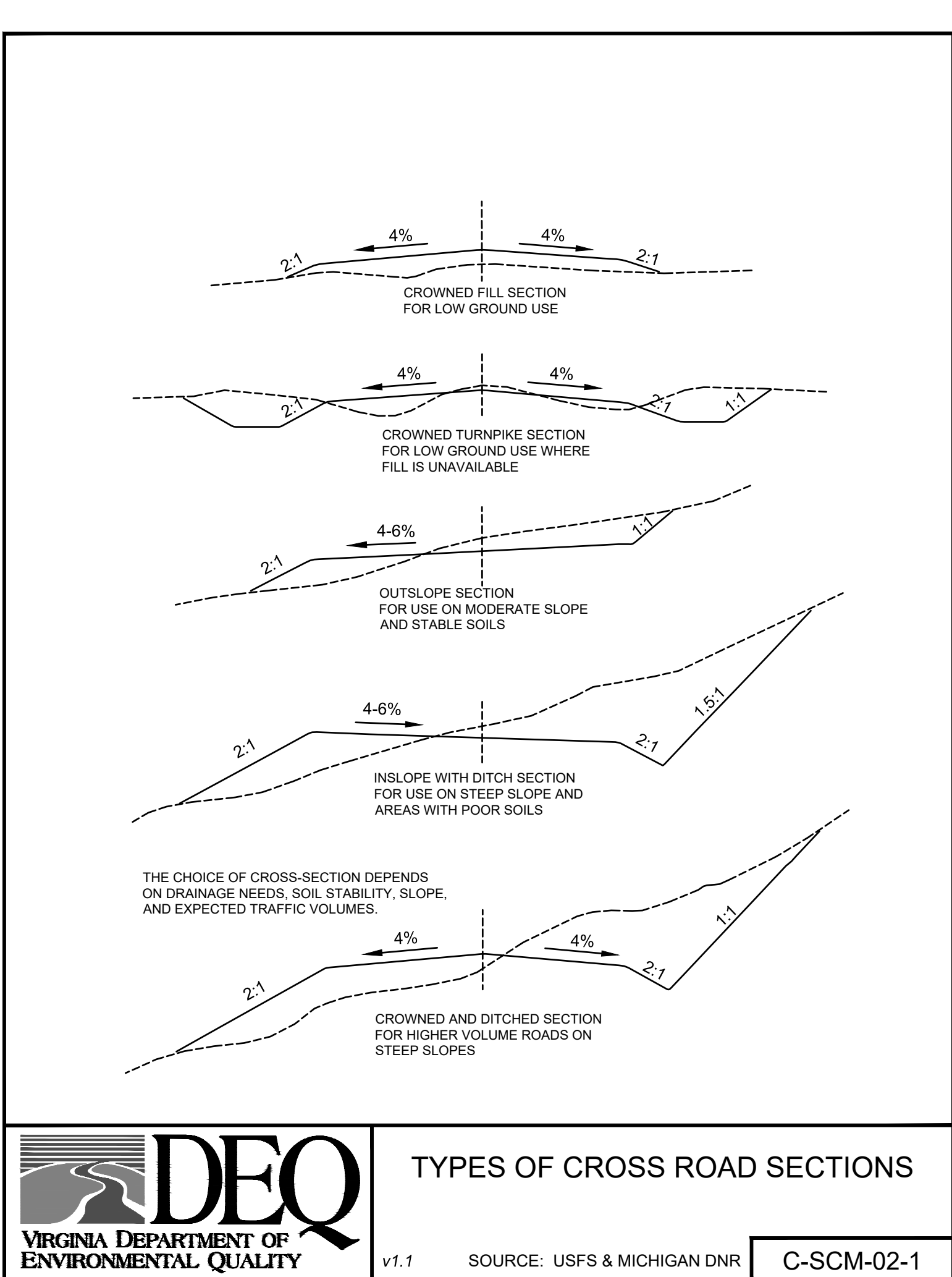
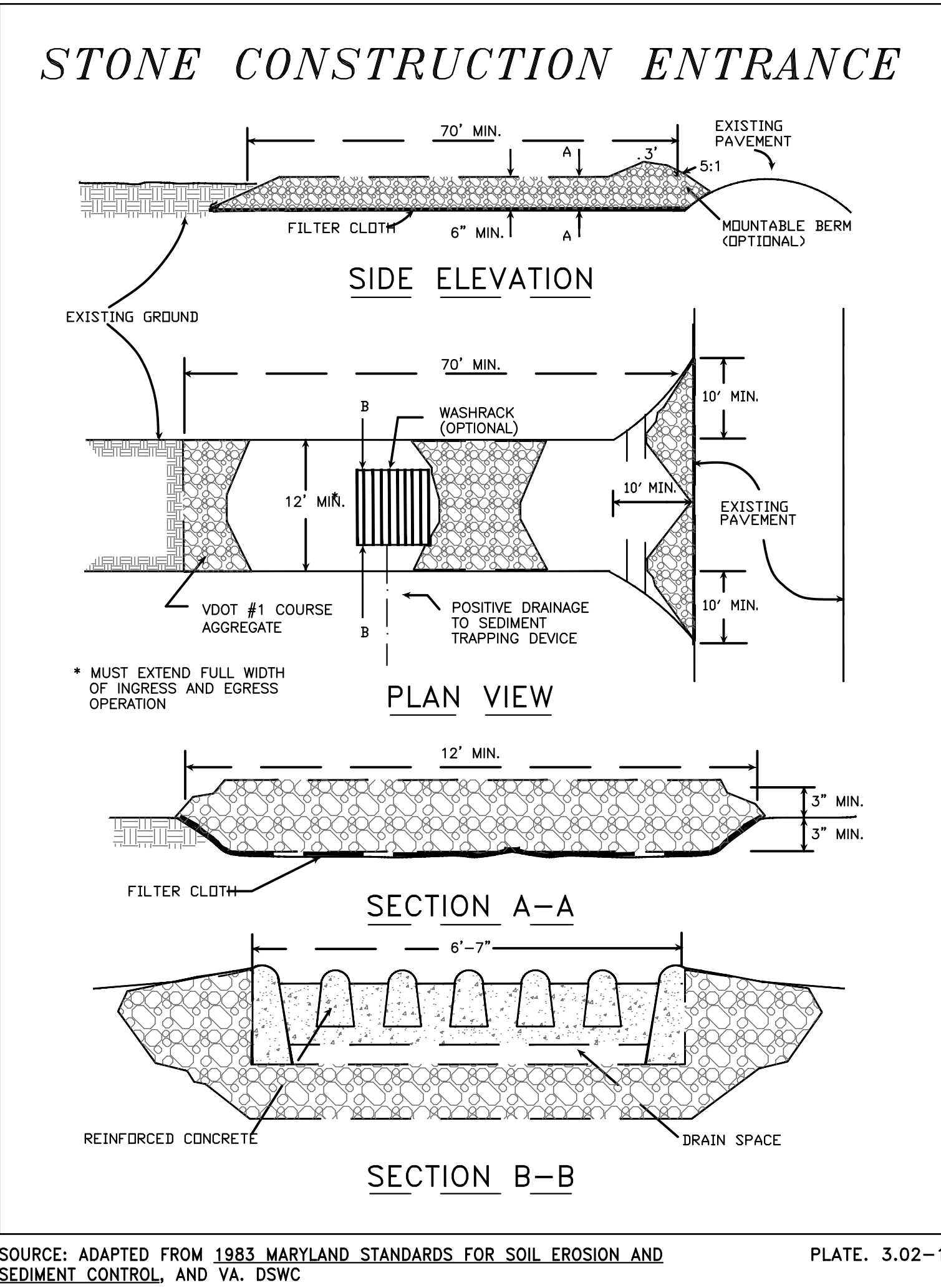
COMPREHENSIVE DEVELOPMENT PLAN

APPROVED

by plkr1 10/21/2025

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CITY OF ROANOKE
REFUELING CENTERS
PUBLIC WORKS
SERVICE CENTER

ROANOKE CITY PROJECT NO.: **RFP #24-10-66**
Spectrum Design Project No.: **23181**



PROJ. MGR.: **MAR** CHECKED BY: **MAR** DRAWN BY: **AGA**

SHEET ISSUE DATE:
10.10.2025

PROJECT PHASE:
BID DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

KEY PLAN:

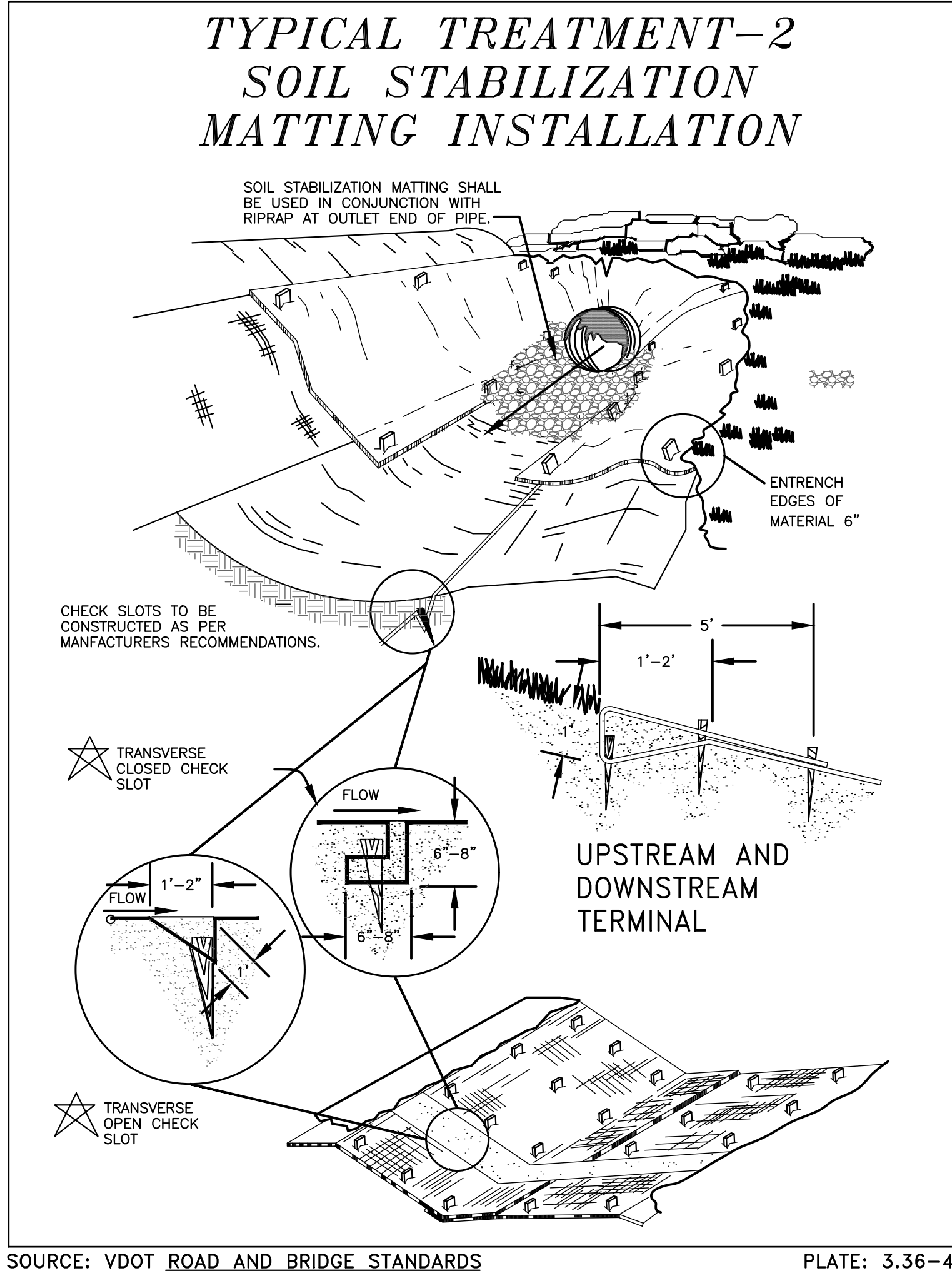
SHEET NAME:
EROSION & SEDIMENT
CONTROL DETAILS

SHEET NUMBER:
C205-PW

City of Roanoke
Planning, Building, & Development
COMPREHENSIVE DEVELOPMENT PLAN

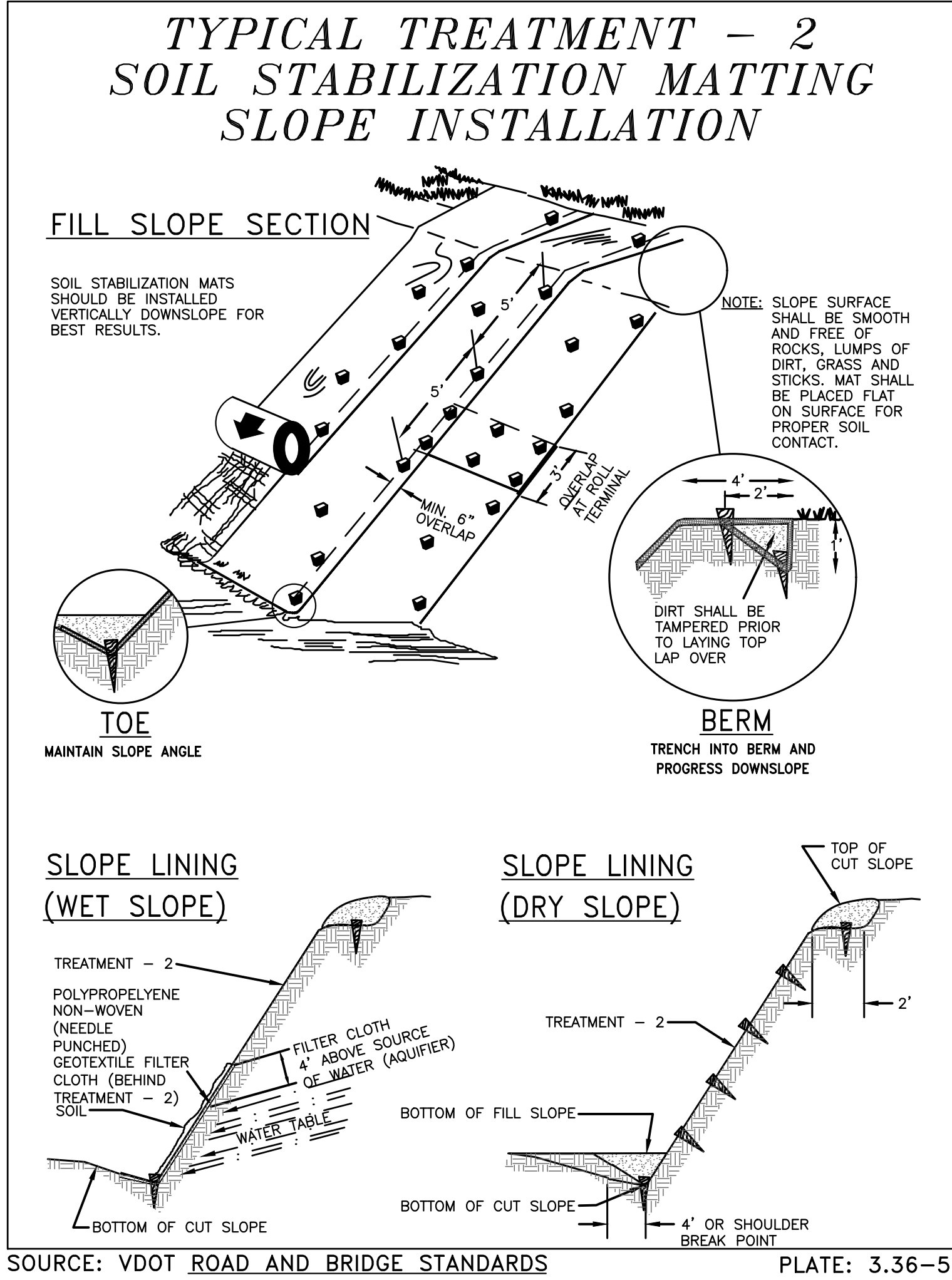
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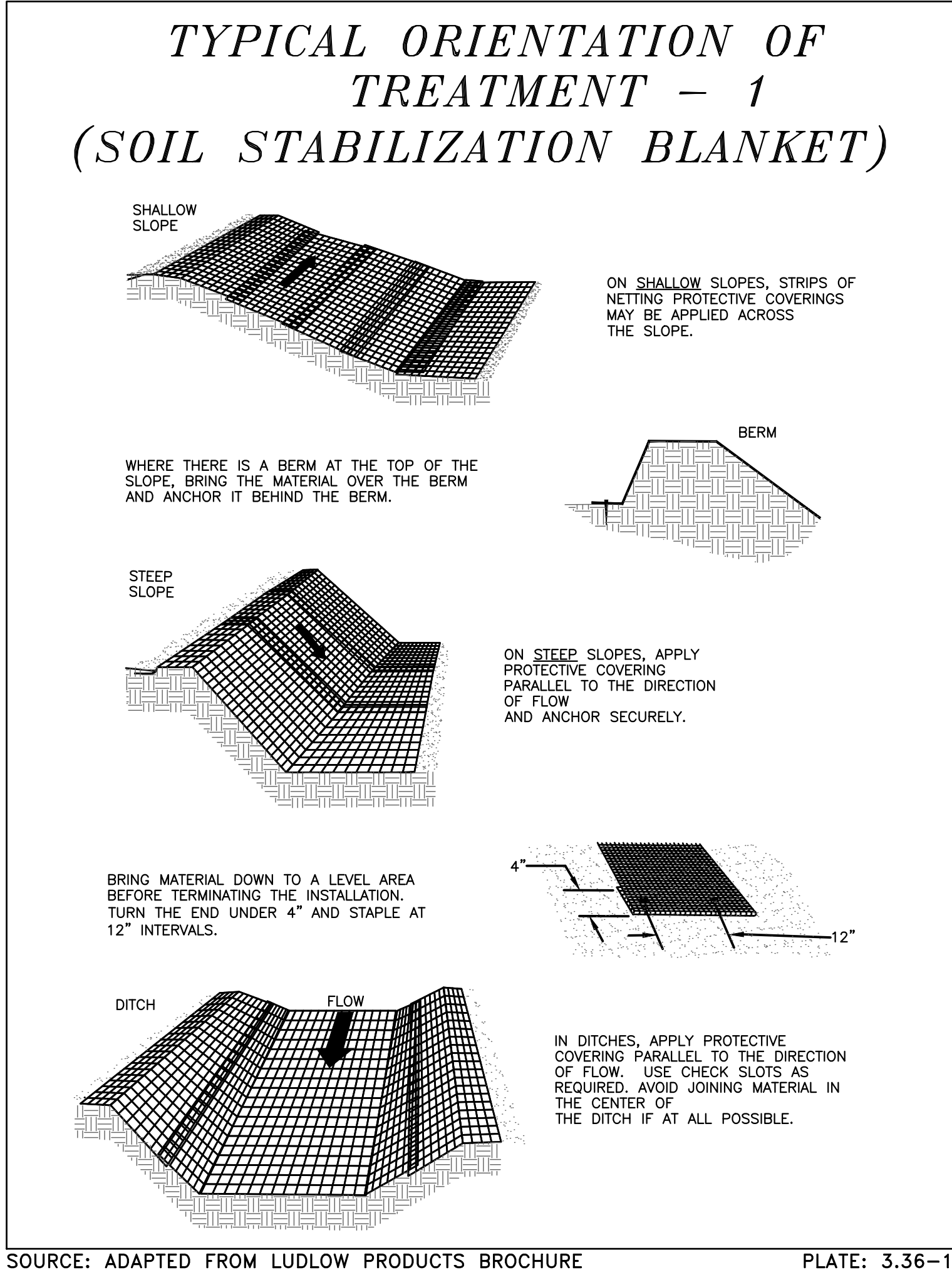
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PLATE: 3.36-4



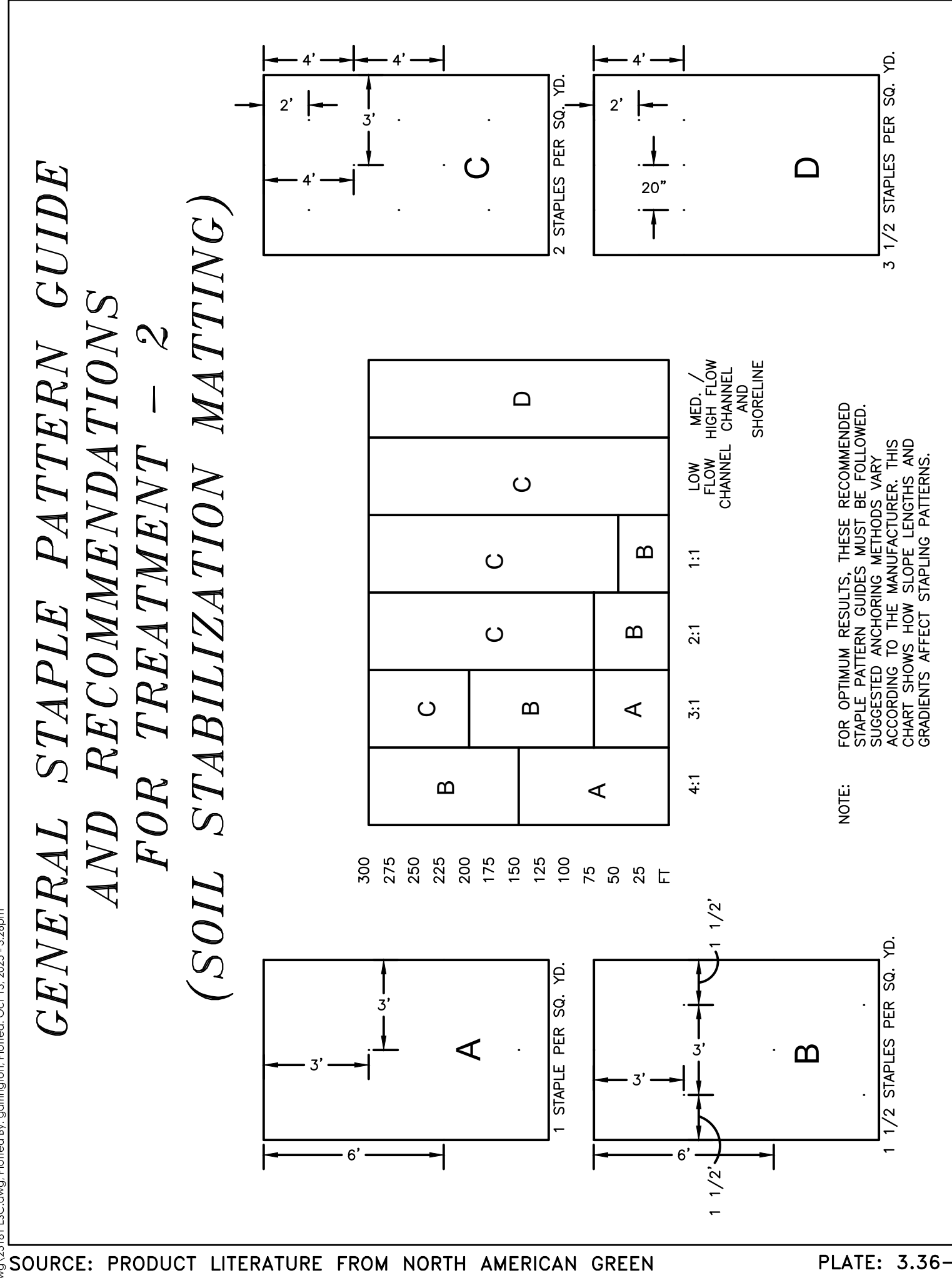
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PLATE: 3.36-5



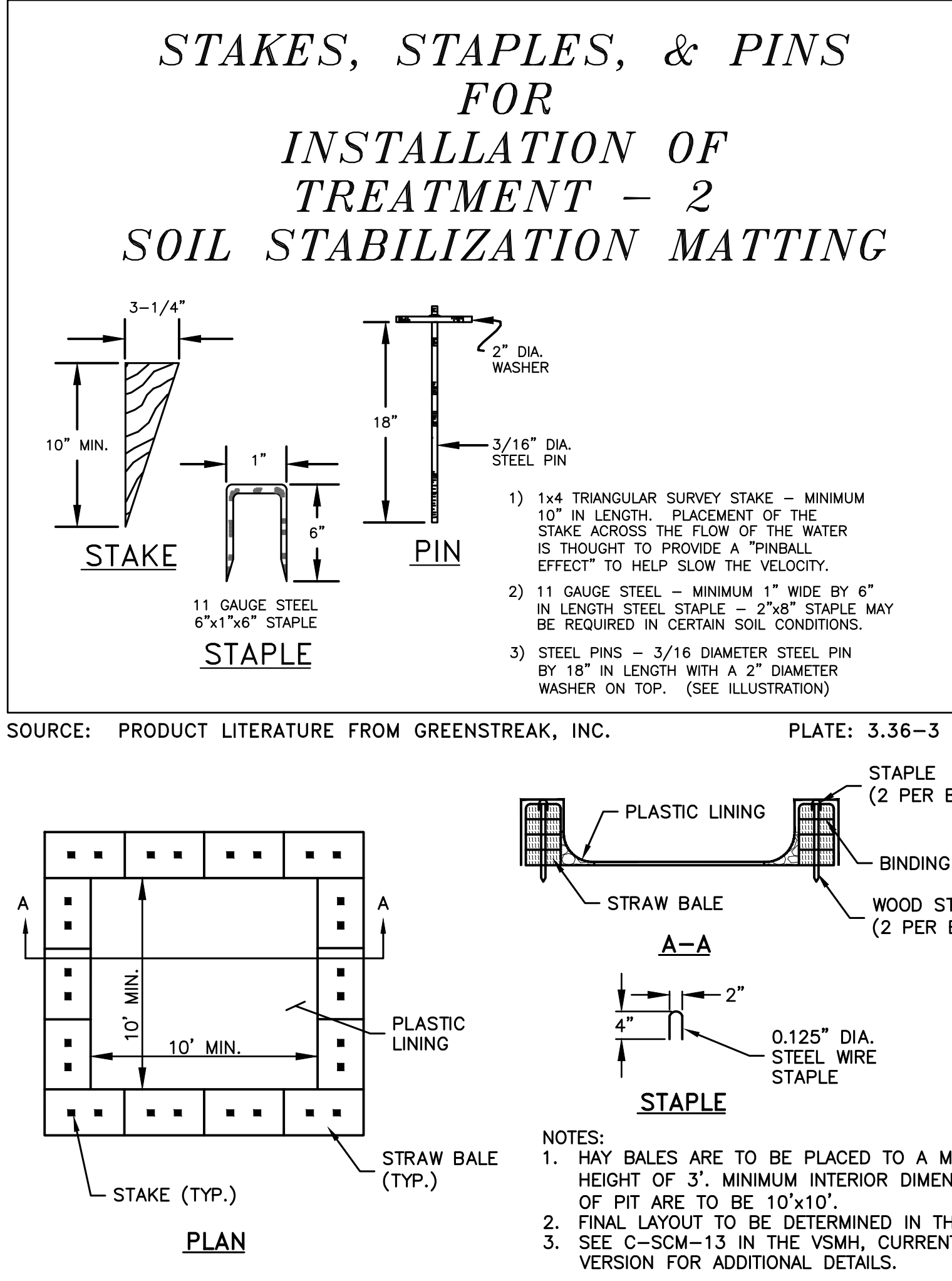
SOURCE: ADAPTED FROM LUDLOW PRODUCTS BROCHURE

PLATE: 3.36-1



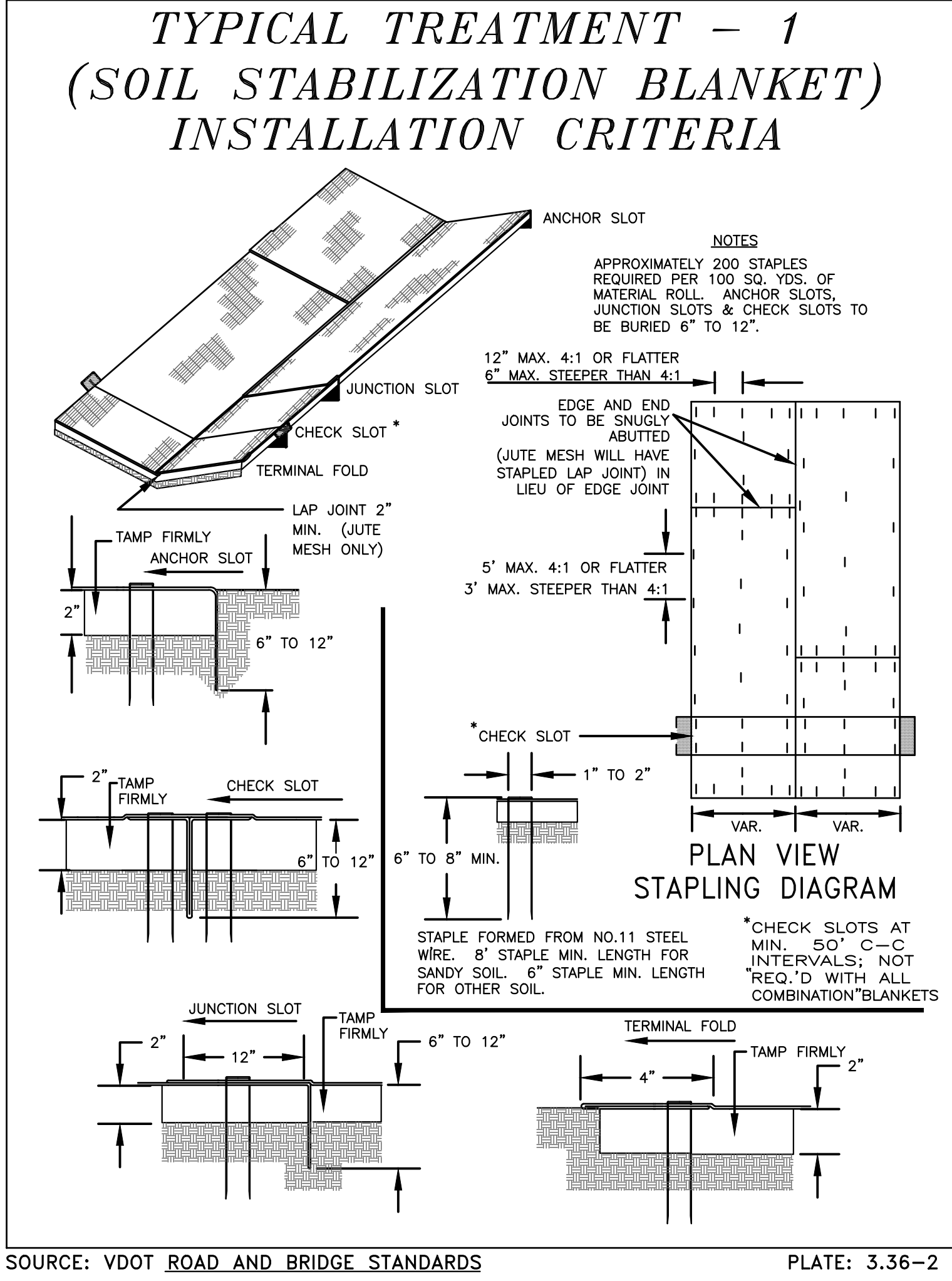
SOURCE: PRODUCT LITERATURE FROM NORTH AMERICAN GREEN

PLATE: 3.36-6



SOURCE: PRODUCT LITERATURE FROM GREENSTREAK, INC.

PLATE: 3.36-3

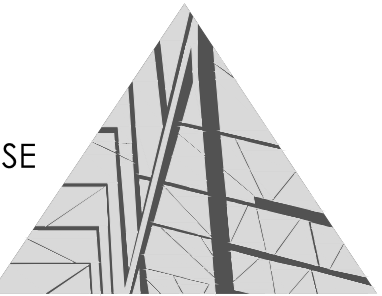


SOURCE: VDOT ROAD AND BRIDGE STANDARDS

PLATE: 3.36-2

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**CITY OF ROANOKE
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KEY PLAN:

SHEET NAME:
**EROSION & SEDIMENT
CONTROL DETAILS**

SHEET NUMBER:
C206-PW

City of Roanoke
Planning, Building, & Development
COMPREHENSIVE DEVELOPMENT PLAN

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EROSION AND SEDIMENT CONTROL NARRATIVE

RESPONSIBLE LAND DISTURBER

Upon award of the Construction Contract, the Contractor shall employ a Responsible Land Disturber, who is certified by the Department of Environmental Quality (DEQ), to assume this responsibility for the project. The name of this person is to be designated in writing by the Contractor to the State ESC plan approving authority, the A/E, and the Owner along with copies of their certification prior to any land disturbance. The Responsible Land Disturber for this project shall be in charge of and is responsible for carrying out the land-disturbing activities on this project. Should the certified Land Disturber change at any time during the life of this project then the Land Disturbing Permit will become void, and a new Permit must be obtained. Hereinafter RLD shall be interpreted as the Responsible Land Disturber. Relative to the SWPP Plan the RLD shall be the "Operator".

STORM WATER POLLUTION PREVENTION PLAN & REGISTRATION STATEMENT

A Virginia Pollutant Discharge Elimination System (VPDES) Permit for the Discharge of Stormwater from Construction Activities is required for projects disturbing one (1) acre or greater. Disturbance for this project is greater than 1 acre (2.01 acres) and is to conform to the requirements of the VPDES Permit.

PROJECT DESCRIPTION

The purpose of this project is for site improvements to the Roanoke City Public Works Service Center. The site is located at 1802 Courtland Rd NE in Roanoke City, adjacent to Haley Toyota of Roanoke. Infrastructure extensions and improvements are necessary for the new site improvements. Total disturbance for this project is 2.01 acres, 1.31 of which are impervious in the post developed condition. The resulting construction will increase the net impervious cover of the site by 0.40 acres. For the purposes of this narrative, the "Site" shall be defined as the areas within these subject properties to be disturbed.

EXISTING SITE CONDITIONS

The existing site houses the Roanoke City Public Works Service Center main building, Roanoke Fire Station #2, refueling stations and tank farm, existing wash house, decant facility, employee parking lots, police impound lot, several storage buildings, and several miscellaneous storage areas. The proposed improvements do not interfere with the surrounding areas of the Annex building or the High School. The existing site consists of the Middle School building, parking, and vehicle and pedestrian paths and sidewalks to access the site. The quality of existing surface conditions vary with most impervious surfaces, excluding the building footprint, needing to be replaced or resurfaced. Disturbed areas surrounding the School are anticipated to improve drainage. Current site runoff is collected and conveyed through underground storm pipes to two separate outfalls to Hidens Branch. The existing school building is to remain with no reduction to the existing footprint. There are no known wetlands or jurisdictional waters on site.

ADJACENT PROPERTY

Generally, the site is surrounded by commercial properties and mixed density residential lots. The site is directly bound by Noble Avenue NE to the North, Courtland Road NE to the East, Haley Toyota of Roanoke to the South, and Interstate 581 to the West.

OFF-SITE AREAS

No off-site disturbance is anticipated by these plans.

Should land disturbance on any off-site area be needed, the Contractor shall submit to Roanoke City Department of Planning and Zoning a copy of plans, land disturbing permit, and/or agreement in lieu of approved by the appropriate Federal, State, or local authorities.

Should some material be wasted off-site to a site owned by others or the Contractor, it is the Contractor's responsibility to assure that said source has a current, approved Erosion Control Plan in accordance with the Virginia Stormwater Management Handbook, Current Version.

Should borrow, excavation waste or spoil areas proposed not have a current approved ESC Plan, an ESC Plan shall be submitted and approved by the Department of Environmental Quality and local authorities prior to any land disturbance in accordance with the Erosion Control notes in these plans and Virginia State Laws.

SOILS

No formal subsurface exploration has been completed for this construction.

NRCS Soil Survey information of the existing soils is found in Section 1.0 of the Erosion & Sediment Control and Stormwater Management Plan. Soil boundaries are shown on the Drainage Maps found in Appendix B of the Narrative.

CRITICAL EROSION AREAS

The existing site consists of gravel and paved areas and stabilized grass that may become disturbed during construction activities. Site runoff is to be controlled with erosion, perimeter, sediment, and surface stabilization measures in accordance with local standards and the DEQ Virginia Stormwater Management Handbook, Current Version.

EROSION AND SEDIMENT CONTROL MEASURES

Unless otherwise indicated, all vegetative and structural erosion and sediment control practices will be constructed and maintained in accordance with the minimum standards and specifications to the Virginia Stormwater Mangment Handbook, current version. References to VDOT refer to the Virginia Department of Transportation "Road and Bridge Standards and Specifications," latest edition. A copy of the approved ESC Plan and Narrative and the Virginia Stormwater Management Handbook, Current Version, shall be maintained at the jobsite at all times.

EROSION CONTROL MEASURES

- Temporary Diversion Dike (C-ECM-04):** Temporary ridge of compacted soil constructed to convey clean stormwater runoff through or around disturbed land. Temporary diversion dikes collecting sediment laden runoff work as a conveyance in conjunction with other erosion and sediment control devices.
Sequence of Installation: Prior to any land disturbance.
Removal Event: Following permanent stabilization of the contributing drainage area.
- Outlet Protection (C-ECM-15):** Structurally lined aprons or other forms of energy-dissipating devices placed at the outlets of pipes, curb openings, ditch turnouts, or paved channel sections to slow discharge velocity from the outlet to prevent an erosive condition.
Sequence of Installation: Installed prior to conveyance accepting flow.
Removal Event: Permanent practice and shall not to be removed.

PERIMETER CONTROL MEASURES

- Silt Fence (C-PCM-04) & Super Silt Fence (C-PCM-04-3):** Temporary sediment barrier consisting of a synthetic filter fabric entrenched and stretched across and attached to supporting posts.
Sequence of Installation: Prior to any land disturbance.
Removal Event: Following permanent stabilization of the contributing drainage area.

SEDIMENT CONTROL MEASURES

- Construction Road Stabilization (C-SCM-02):** Stabilization of temporary construction access routes, onsite vehicle transportation routes, and construction parking areas.
Sequence of Installation: Upon completion of roadway or parking grading.
Removal Event: Immediately prior to paving.
- Temporary Stone Construction Entrance (C-SCM-03):** A pad with a fabric filter liner underneath the stone located at points of vehicular ingress and egress on a construction site to minimize the amount of sediment, such as dirt or mud, leaving or being tracked from outside the construction site attached to vehicles.
Sequence of Installation: Prior to any land disturbance.
Removal Event: Immediately prior to paving.
- Inlet Protection (C-SCM-04):** Sediment filter or an excavated impoundment around a storm drain inlet or curb inlet. Protects inlets of storm sewers from erosion and sedimentation during construction. 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 sediment.
Sequence of Installation: Immediately following structure installation or before land disturbance of a contributing drainage are to an existing structure.
Removal Event: Following permanent stabilization of the contributing drainage area.
- Culvert Inlet Protection (C-SCM-05):** A sediment filter located at the inlets of culverts.
Sequence of Installation: Immediately following structure installation or before land disturbance of a contributing drainage area to an existing structure.
Removal Event: Following permanent stabilization of the contributing drainage area.
- Temporary Sediment Trap (C-SCM-11):** A temporary ponding basin formed by constructing an embankment, often earthen or composed of compost filter sock, with a stone outlet.
Sequence of Installation: First step device installed prior to any disturbance upslope or to the contributing drainage area.
Removal Event: Following permanent stabilization of the contributing drainage area.
- Concrete Washout Pit (C-SCM-13):** A temporary excavated or above-ground lined constructed pit or prefabricated container in which truck mixers and equipment can be washed.
Sequence of Installation: First step prior to construction of any poured concrete.
Removal Event: Following installation of all concrete site elements.

SURFACE STABILIZATION MEASURES

- Topsoiling (C-SSM-02):** As a BMP, entails preserving and using the surface layer of undisturbed soil, often enriched in organic matter, to obtain a more desirable planting growth medium and enhance final site stabilization.
Sequence of Installation: Following final grading/surface roughening where applicable.
Maintenance: Areas which fail to establish vegetative cover adequate to prevent rill erosion are to be reseeded.
Removal Event: Permanent practice and shall not be removed.
- Surface Roughening (C-SSM-03):** The practice of providing a rough soil surface with horizontal depressions to reduce runoff velocity, increase infiltration, aid the establishment of vegetation, and reduce erosion.
Sequence of Installation: Following grading activities where applicable.
Maintenance: Reseed as needed areas which fail to establish adequate vegetative cover. Fill, regrade, and seed in areas with visible rill erosion.
Removal Event: As needed until final grade is achieved. Permanent practice once final grade is met.
- Soil Stabilization Blankets & Matting (C-SSM-05):** Protective blankets on a prepared planting area of a steep slope, channel, or shoreline.
Sequence of Installation: Following establishment of final grade and placement of lime, fertilizer, and seed.
Removal Event: Not Applicable.
- Temporary Seeding (C-SSM-09):** Establishment of a temporary vegetative cover on disturbed areas by seeding with appropriate rapidly growing annual plants.
Sequence of Installation: Within 7 days of land disturbing activity when cleared areas will not be brought to final grade within 14 days.
Maintenance: Areas which fail to establish vegetative cover adequate to prevent rill erosion are to be reseeded.
Removal Event: As needed for final grading.
- Permanent Seeding (C-SSM-10):** Establishment of a perennial vegetative cover on disturbed areas by planting seed.
Sequence of Installation: Within 7 days of achieving final grade or as noted above.
Maintenance: Areas which fail to establish vegetative cover adequate to prevent rill erosion are to be reseeded, following identification of the cause of poor germination. Contractor is responsible for establishment of permanent seed.
Removal Event: Not Applicable.
- Mulching (C-SSM-11):** Application of a protective blanket of straw or other plan residues/materials to the soil surface during the establishment of temporary and permanent seeding.
Sequence of Installation: Following establishment of final grade and placement of lime, fertilizer, and seed or in areas which cannot be seeded because of the season.
Removal Event: Not Applicable, unless used for temporary cover in areas which cannot be seeded because of the season.

MANAGEMENT STRATEGIES

- The RLD shall amend the SWPP Plan whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to surface waters and which has not otherwise been addressed in the plan or if the plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified in the permit, or in otherwise achieving the general objectives of controlling pollutants in storm water discharges from construction activities. Also amend to identify any new contractor that will implement a measure of the plan.
- The RLD shall be responsible for the installation and maintenance of all erosion and sediment control practices maintaining them in good and effective operating condition.
- The RLD shall notify the Architect/Engineer when the local governing official has inspected and approved all in-place erosion and sediment control devices, required by local ordinances to be in place prior to land disturbance.
- Construction shall be sequenced so that the duration of grading operations is as brief as possible.
- Maintenance of inlet and outlet protection shall be given high priority.
- Temporary seeding or other stabilization shall follow within 7 days after grading, or installation if a temporary measure.
- Areas which are not to be disturbed shall be clearly marked by flags, signs, etc.
- No solid materials, including building materials, garbage, and debris shall be discharged to surface waters of the State, except as authorized by a Section 404 permit.
- 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. The generation of dust shall be minimized.
- Ensure and demonstrate compliance with applicable State and/or local waster disposal, sanitary sewer or septic system regulations.
- All sediment removed from sediment trapping measures or cleaning operations shall be appropriately wasted so as not to become a dust or sediment problem elsewhere.
- After achieving adequate stabilization, the temporary E&S controls will be cleaned up and removed.

MAINTENANCE

The contractor shall inspect all erosion control measures immediately after each run-off producing rainfall event, at least daily during prolonged rainfall, at least weekly when no rainfall occurs, and in accordance with any permit regulations. The following items shall be checked in particular:

- Inlet protection and sediment traps shall be checked regularly for sediment cleanout. Remove sediment prior to it reaching ½ the design depth of the trap.
- Silt fences shall be checked regularly for structural/functional integrity. Remove any sediment deposits – do not allow buildup.
- All seeded areas shall be checked regularly to see that a good stand is maintained. Areas should be fertilized and reseeded as needed.

POTENTIAL POLLUTION SOURCES & STORED MATERIALS

The RLD shall prepare a list of all potential sources of pollution and all construction and waste materials expected to be stored on-site and update as appropriate. Examples would be vehicle fueling area, fuel delivery vehicle, fertilizer, chemicals, temp. sanitary waste facilities, concrete washouts, etc. For each listed item list its location and describe necessary controls to reduce pollutants from these materials including storage practices to minimize exposure to storm water as well as spill prevention and response, schedule of implementation and maintenance necessary for effectiveness.

INSPECTIONS

The RLD shall inspect disturbed areas of the construction site and areas used for storage of materials that are exposed to precipitation, strudtural control measures, and locations where vehicles enter or exit the site. The inspections shall be conducted at least once every four (4) days and within forty-eight (48) hours after a rain event greater than 0.25" inches.

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. ESC measures identified in the plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off-site sediment tracking.

Based on the results of the inspection, the site description identified in the plan and pollution prevention measures shall be revised as appropriate, within seven (7) calendar days following the inspection. Such modifications shall provide for timely implementation of any changes to the plan within seven (7) calendar days following the inspection and before next anticipated storm event, if practical.

REPORTING

A report summarizing the scope of the inspection, names and qualifications of personnel making the inspection, the date of the inspection, major observations, and actions taken as a result of the inspection shall be made and retained by the Contractor. Where no incidents of noncompliance are reported, report shall certify that facility is in compliance plans and any permits; keep reports with this narrative. The report shall be certified in accordance with the permit.

STORM WATER MANAGEMENT

All runoff from the site will be collected, contained, and released to meet current Commonwealth of Virginia Standards and Regulations for Stormwater Quantity as set forth in 9VAC25-850-600 and the Virginia Stormwater Management Handbook, Current Version. The Water Quality requirements will be achieved through the purchase of offsite nutrient credits per 9VAC25-875-590.

UNDERGROUND UTILITY INSTALLATION

Underground utilities are to be installed in accordance with MS-16 criteria and any additional state or local requirements.

PROHIBITION OF NON-STORM WATER DISCHARGES

- The following non-storm water discharges are allowed: discharges from fire fighting activities; fire

hydrant flushing; waters used to wash vehicles where detergents are not used; water used to control dust; potable water sources including waterline flushing; hydrostatic testing; routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used; air conditioning condensate; uncontaminated compressor condensate; uncontaminated ground water or spring water; and foundation or footing drains where flows are not contaminated with process materials such as solvents.

- Except for allowed discharges listed above, sources of non-storm water that are combined with storm water discharges from the construction site must be identified on the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water components.

CONTRACTORS

Identify for each measure identified in the plan, the Contractor/subcontractor that will implement the measure. All contractors identified above must sign the following certification statement. All certifications must be included in the SWPP Plan.

"I certify under penalty of law that I understand the terms and conditions of this Virginia Pollutant Discharge Elimination System (VPDES) general permit that authorizes the storm water discharges from the construction activity identified as part of this certification."

Name & title of signatory (Responsible Corporate Official, General Partner, or Sole Proprietor)

Name, address & phone of contracting firm

Address of other identifying description of the site

Date certification made

DISPLAY & STATUS OF PLAN

Plan with a copy of the permit must be maintained on-site and kept available for DEQ and City inspectors at all times from the date of commencement of construction to the date of final stabilization. Note that this narrative and RLD's log of inspection reports and all certifications are part of the plan (keep with this narrative).

The Plan with all attachments, reports, etc. shall be retained by the contractor for at least three (3) years from the date that the site is finally stabilized.

SCHEDULE

Record of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated.

Perimeter controls shall be installed after clearing and grubbing necessary for installation of the measure, but before the clearing and grubbing for the remaining portions of the site. The perimeter controls shall be actively maintained until final stabilization of those portions of the site upward of the perimeter control. Temporary perimeter controls may be removed after final stabilization.

Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than seven (7) days after the construction activities have temporarily or permanently ceased, unless construction activity will resume within twenty-one (21) days after ceasing. Permanent seeding shall be done within 30 days if construction has permanently ceased.

Whenever water seeps from a slope face, adequate subsurface interception (french drain) shall be provided discharging to the nearest suitable stabilized channel.

All temporary ESC 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 administrator. Trapped sediment and other disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.

NOTICE OF TERMINATION

When the site has been finally stabilized and all the storm water discharges from construction activities that are authorized by the permit are eliminated, the permit holder must submit a Notice of Termination that is certified in accordance with permit. The terms and conditions of the permit shall remain in effect until a completed Notice of Termination is submitted to DEQ. Also, coordinate project close out with the City of Roanoke and utilize the VSMP Project Completion Form.

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CONTROL NOTES**

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C208-PW

**City of Roanoke
Planning, Building, & Development**
COMPREHENSIVE DEVELOPMENT PLAN

APPROVED

by plkr1 10/21/2025

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Erosion and Sediment Control Criteria, Techniques, and Methods: Minimum Standards

- NOTE:
✓ CHECKMARK INDICATES ITEM IS APPLICABLE TO PROJECT.
N/A N/A – NOT APPLICABLE.

MS-1
✓
STABILIZATION
Permanent or temporary soil stabilization shall be applied to denuded areas (bare soil) within 7 days after final grade is reached on any portion of the site. Temporary soil stabilization will be applied within 7 days to denuded areas that may not be at final grade but will remain dormant for longer than 14 days. Permanent stabilization will be applied to areas that are to be left dormant for more than 1 year.

MS-2
✓
STOCKPILES, WASTE, AND BORROW AREAS
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. Locations of stockpiles and borrow pits should be identified on the site plans, and stockpiles should have perimeter erosion and sediment control measures installed as well as located with enough setback distance from streams, waterways, and entrances/line of sight. Soil stockpiles should not exceed 2H:1V.

MS-3
✓
PERMANENT VEGETATION
A permanent vegetative cover will be established on denuded areas not otherwise permanently stabilized. Permanent vegetation will not be considered established until a ground cover is achieved that, is uniform, mature enough to survive and will inhibit erosion.

MS-4
✓
FIRST-STEP MEASURES
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 will be made functional before upslope land disturbance takes place.

MS-5
✓
EARTHEN STRUCTURE STABILIZATION
Stabilization measures will be applied to earthen structures, such as dams, dikes, channels, and diversions immediately after installation.

MS-6
✓
TRAPS AND BASINS
Sediment traps and sediment basins will be designed and constructed based upon the total drainage area to be served by the trap or basin. Sediment traps should not be used for more than 18 months unless they are designed as a permanent impoundment.
A. The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area, and the trap will only control drainage areas less than 3 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 twenty-five 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
Cut and fill slopes will be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within 1 year of permanent stabilization will be provided with additional slope stabilizing measures until the problem is corrected.

MS-8
✓
CONCENTRATED RUNOFF
Concentrated runoff will not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume, or slope drain structure.

MS-9
✓
WATER SEEPS
When water seeps from a slope face, adequate drainage or other protection will be provided.

MS-10
✓
INLET PROTECTION
All storm sewer inlets that are made operable during construction will be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.

MS-11
✓
OUTLET PROTECTION
Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining will be installed in both the conveyance channel and receiving channel.

MS-12
N/A
WATERCOURSE CONSTRUCTION
When work in a live watercourse is performed, precautions will be taken to minimize encroachment, control sediment transport, and stabilize the work area to the greatest extent possible during construction. Non-erodible material will be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by non-erodible cover materials. Check dams, silt fence, and other perimeter controls should not be placed across a live watercourse.

MS-13
N/A
TEMPORARY VEHICULAR STREAM CROSSING
When a live watercourse must be crossed by construction vehicles more than twice in any 6-month period, a temporary vehicular stream crossing constructed of non-erodible material will be provided.

MS-14
N/A
OTHER WATERCOURSE REGULATIONS
All applicable federal, state, and local regulations pertaining to working in or crossing live watercourses will be met.

MS-15
N/A
BED AND BANK STABILIZATION
The bed and banks of a watercourse will be stabilized immediately after work in the watercourse is completed.

MS-16
✓
UTILITY CONSTRUCTION
Underground utility lines will 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 will be placed on the uphill side of trenches.
c. Effluent from dewatering operations will 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 offsite property.
d. Material used for backfilling trenches will be properly compacted in order to minimize erosion and promote stabilization.
e. Re-stabilization will be accomplished in accordance with Part V or teh Regulation, 9VAC25-875-470 et. seq.
f. Applicable safety requirements will be met.

MS-17
✓
VEHICULAR TRACKING AND CONSTRUCTION ENTRANCES
Where construction vehicle access routes intersect paved or public roads, provisions will 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 will be cleaned thoroughly at the end of each day. Sediment will be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing will be allowed only after sediment is removed in this manner. This provision will apply to individual development lots as well as to larger land-disturbing activities.

MS-18
✓
TEMPORARY CONTROL REMOVAL
All temporary erosion and sediment control measures will be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the VESMP or VESCP authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures will be permanently stabilized to prevent further erosion and sedimentation.

- MS-19
ADEQUATE STORMWATER CONVEYANCE TO ADEQUATE STORMWATER OUTFALL
Properties and waterways downstream from development sites will 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. Stream restoration and relocation projects that incorporate natural channel design concepts are not manmade channels and shall be exempt from any flow rate capacity and velocity requirements for natural or manmade channels:
a. ✓ Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or manmade receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.
b. Adequacy of all channels and pipes shall be verified in the following manner:
1. The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is 100 times greater than the contributing drainage area of the project in question; or
2. Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks.
✓b. All previously constructed manmade channels shall be analyzed by the use of a 10-year storm to verify that stormwater will not overtop the stormwater's banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and
✓c. Pipes and storm sewer systems shall be analyzed by the use of a 10-year storm to verify that stormwater will be contained within the pipe or system.
c. If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall:
1. Improve the channels to a condition where a 10-year storm will not overtop the banks and a two-year storm will not cause erosion to the channel, the bed, or the banks;
2. Improve the pipe or pipe system to a condition where the 10-year storm is contained within the appurtenances;
3. Develop a site design that will not cause the predevelopment peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the predevelopment peak runoff rate from a 10-year storm to increase when runoff outfalls into a manmade channel; or
4. Provide a combination of channel improvement, stormwater detention, or other measures which is satisfactory to the VESCP or VESMP authority to prevent downstream erosion.
d. ✓ The applicant shall provide evidence of permission to make the improvements.
e. ✓ All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project.
f. ✓ If the applicant chooses an option that includes stormwater detention, the applicant shall obtain approval from the VESCP or VESMP authority for a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.
g. ✓ Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipators shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel.
h. ✓ All on-site channels must be verified to be adequate.
i. ✓ Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe, or pipe system or to a detention facility.
j. N/A In applying these stormwater management criteria, individual lots or parcels in a residential, commercial, or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.
k. ✓ All measures used to protect properties and waterways shall be employed in a manner that minimizes impacts on the physical, chemical and biological integrity of rivers, streams, and other waters of the state.
l. N/A Any plan approved prior to July 1, 2014, that provides for stormwater management that addresses any flow rate capacity and velocity requirements for natural or manmade channels shall satisfy the flow rate capacity and velocity requirements for natural or manmade channels if the practices are designed to (i) detain the water quality volume and to release it over 48 hours; (ii) detain and release over a 24-hour period the expected rainfall resulting from the one year, 24-hour storm; and (iii) reduce the allowable peak flow rate resulting from the 1.5-year, two-year, and 10-year 24-hour storms to a level that is less than or equal to the peak flow rate from the site assuming it was in a good forested condition, achieved through multiplication of the forested peak flow rate by a reduction factor that is equal to the runoff volume from the site when it was in a good forested condition divided by the runoff volume from the site in its proposed condition, and shall be exempt from any flow rate capacity and velocity requirements for natural or manmade channels as defined in any regulations promulgated pursuant to § 62.1-44.15:54 or 62.1-44.15:65 of the Code of Virginia (ESCL).
m. ✓ For plans approved on and after July 1, 2014, the flow rate capacity and velocity requirements of § 62.1-44.15:52 A of the Code of Virginia (ESCL) and this subdivision 19 shall be satisfied by compliance with water quantity requirements in the VESMA and attendant regulations, unless such land-disturbing activities (i) are in accordance with provisions for time limits on applicability of approved design criteria in 9VAC25-875-480 or grandfathering in 9VAC25-875-490, in which case the flow rate capacity and velocity requirements of § 62.1-44.15:52 A of the Code of Virginia (ESCL) shall apply; or (ii) are exempt pursuant to § 62.1-44.15:34 G of the Code of Virginia (VESMA).
n. ✓ Compliance with the water quantity minimum standards set out in 9VAC25-875-600 shall be deemed to satisfy the requirements of this subdivision 19.

GENERAL EROSION & SEDIMENT CONTROL NOTES	
1.	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 Stormwater Management Handbook, Current Version, and Virginia Regulations (9VAC25-875) Virginia Erosion and Stormwater Management Regulations.
2.	The plan approving authority must be notified one week prior to the pre-construction conference, one week prior to the commencement of land disturbing activities, and one week prior to final inspection.
3.	All erosion and sediment control measures are to be placed prior to or as the first step in clearing.
4.	A copy of the approved erosion and sediment control plan shall be maintained on the site at all times.
5.	Prior to commencing land disturbing activities in areas other than 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 the plan approving authority.
6.	The contractor is responsible for installation of any additional erosion control measures necessary to prevent erosion and sedimentation as determined by the plan approving authority.
7.	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.
8.	During dewatering operations, water will be pumped into an approved filtering device.
9.	The contractor shall inspect all erosion control measures periodically 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.

MULCHING TABLE		
SEEDING AREA REQUIREMENTS (UNLESS OTHERWISE DIRECTED BY LANDSCAPE PLANS)		
MULCHES	RATE (LBS/1000 SF)	NOTES
STRAW OR HAY	70 – 90	FREE FROM WEEDS AND COARSE MATTER. MUST BE ANCHORED. SPREAD BY MULCH BLOWER OR BY HAND. USE MIN. 2 TONS PER ACRE FOR WINTER COVER
FIBER MULCH	35 (MIN.)	DO NOT USE FIBER MULCH FOR WINTER COVER OR DURING HOT, DRY, PERIODS. APPLY AS SLURRY. WHEN FIBER MULCH IS THE ONLY AVAILABLE MULCH DURING PERIODS WHEN STRAW SHOULD BE USED, APPLY AT A MIN. RATE OF 2000 LBS/ACRE OR 45 LBS/1,000 SF
HARDWOOD MULCH REQUIREMENTS (UNLESS OTHERWISE DIRECTED BY LANDSCAPE PLANS)		
MULCHES	RATE (CY/1000 SF)	NOTES
SHREDDED HARDWOOD BARK	1 – 2	MUST BE FREE OF WEEDS, DEBRIS, AND COARSE MATTER. AIR-DRIED. DO NOT USE IN FINE TURF AREAS. APPLY WITH MULCH BLOWER, CHIP HANDLER, OR BY HAND.

SEEDING TABLE						
PLANT MATERIAL FOR TEMPORARY SEEDING REQUIREMENTS*						
PLANTING DATES	ACCEPTABLE PLANT SPECIES	SCIENTIFIC NAME	SEEDING RATE (LBS/ACRE)		SOIL pH	LIMING RATE (TON/ACRE)
SEPT 1 – FEB 15	50/50 MIX OF ANNUAL RYEGRASS AND WINTER RYE	LOLIUM MULTIFLORUM AND SECALE CEREALE	50–100		BELOW 4.2	3
FEB 16– APR 30**	ANNUAL RYEGRASS	LOLIUM MULTIFLORUM	60–100		4.2 TO 5.2	2
MAY 1** – AUG 31	GERMAN MILLET	SETARIA ITALICA	50		5.2 TO 6	1
*MULCH IMMEDIATELY IN ACCORDANCE WITH MULCHING TABLE ON THIS SHEET AND VA STORMWATER MANAGEMENT HANDBOOK, CURRENT VERSION.						
**THE SHIFT DATE FOR ANNUAL RYE TO GERMAN MILLET SHOULD BE APRIL 15 FOR THE PIEDMONT AND COASTAL PLAIN, RATHER THAN MAY 1.						
PERMANENT SEEDING MIXTURE REQUIREMENTS*						
SEED SPECIES	PERCENT OF TOTAL	SEEDING RATE (LBS/ACRE)	SEED MIXES ARE SUGGESTIONS FOUND IN THE VA STORMWATER MANAGEMENT HANDBOOK AND ARE SUBJECT TO MODIFICATION BASED ON SITE-SPECIFIC CONDITIONS BY AN AGRONOMIST OR OTHER QUALIFIED REVEGETATION PROFESSIONALS. ALL SEED RATES ARE EXPRESSED AS PURE LIVE SEED (PLS) AS SHOWN IN TABLE C-SSM-10-9 OF THE VA STORMWATER MANAGEMENT HANDBOOK, CURRENT VERSION.			
TURF-TYPE TALL FESCUE	90–100%	150–200				
KENTUCKY BLUEGRASS	0–10%					
IMPROVED PERENNIAL RYEGRASS 0–10%						
*MULCH IMMEDIATELY IN ACCORDANCE WITH MULCHING TABLE ON THIS SHEET AND VA STORMWATER MANAGEMENT HANDBOOK, CURRENT VERSION.						

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Spectrum Design Project No.: 23181



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MAR MAR AGA

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PROJECT PHASE:
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24"x36" SHEET

KEY PLAN:

SHEET NAME:
EROSION & SEDIMENT
CONTROL NOTES

SHEET NUMBER:
C209-PW

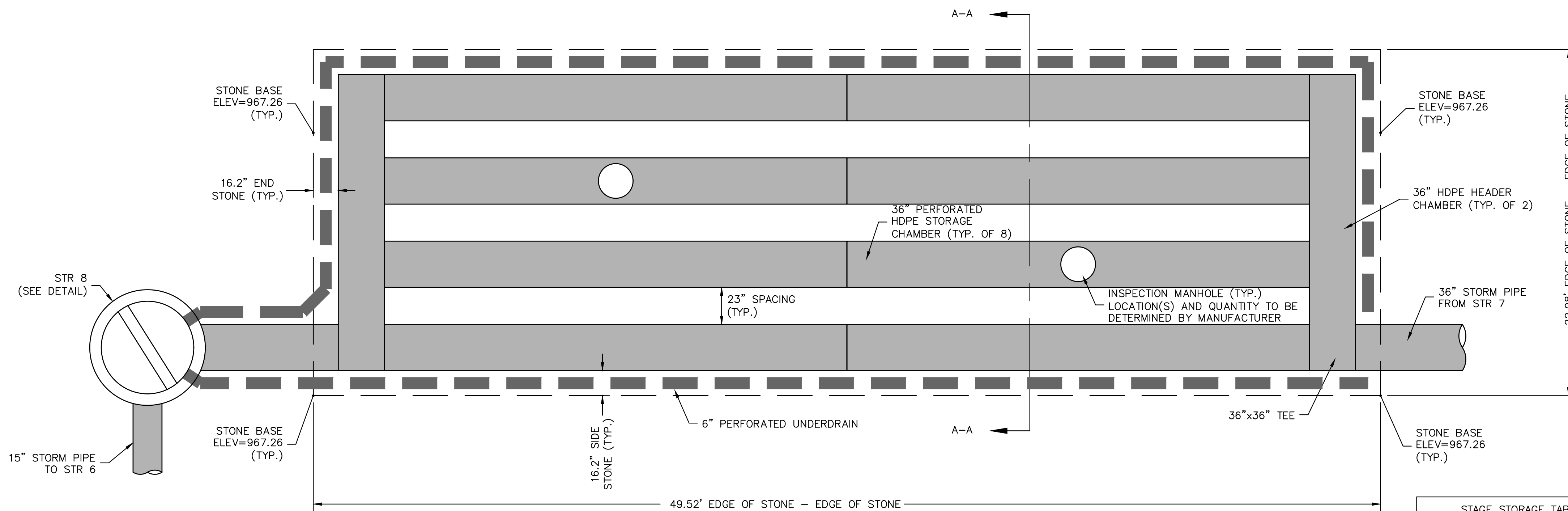
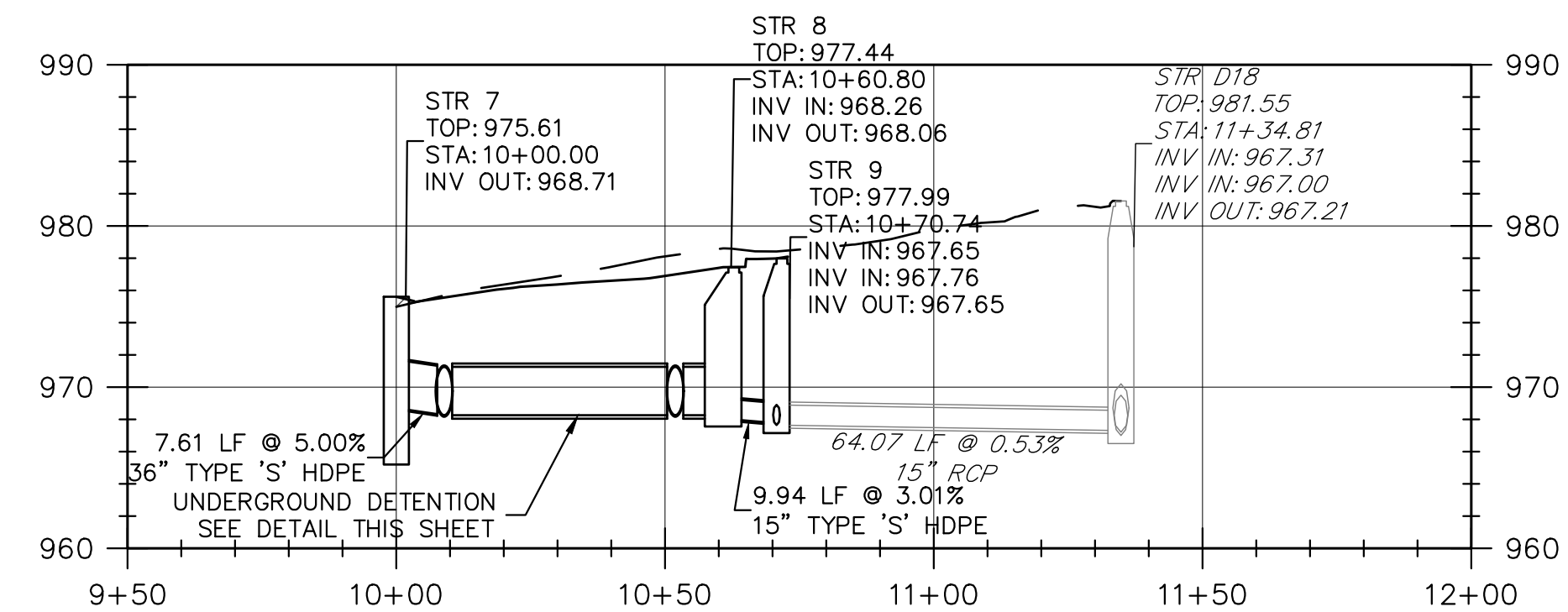
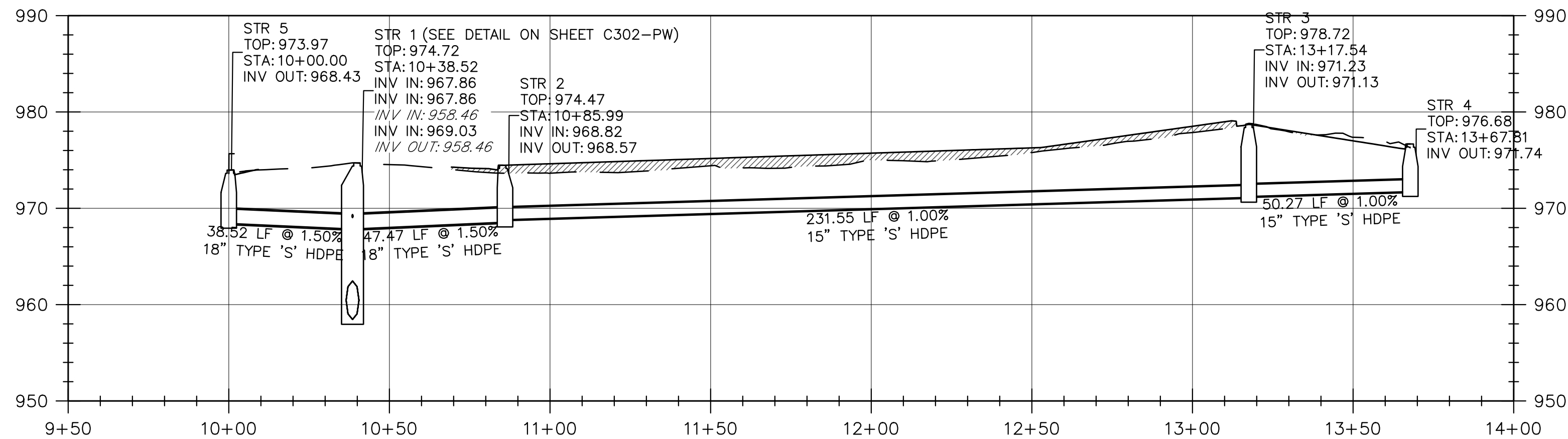
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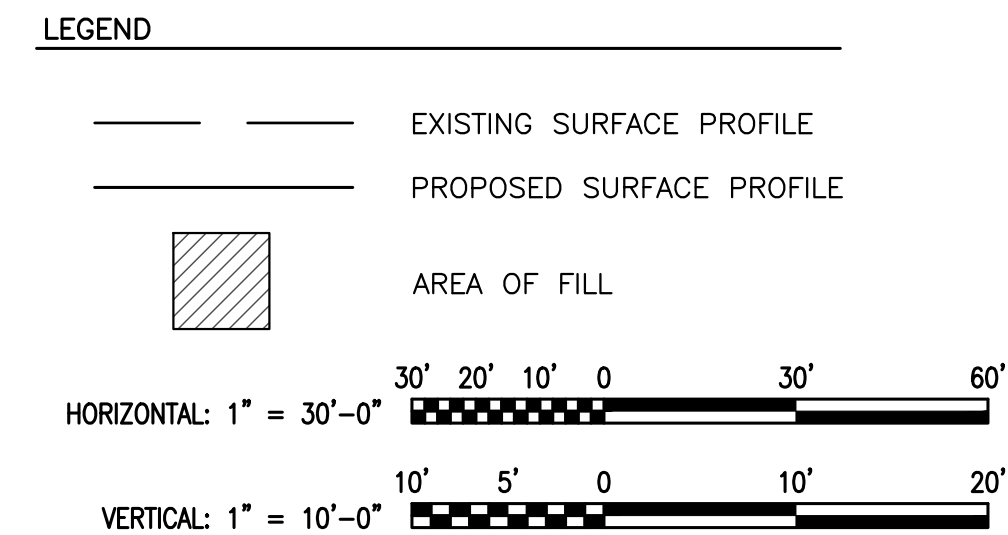
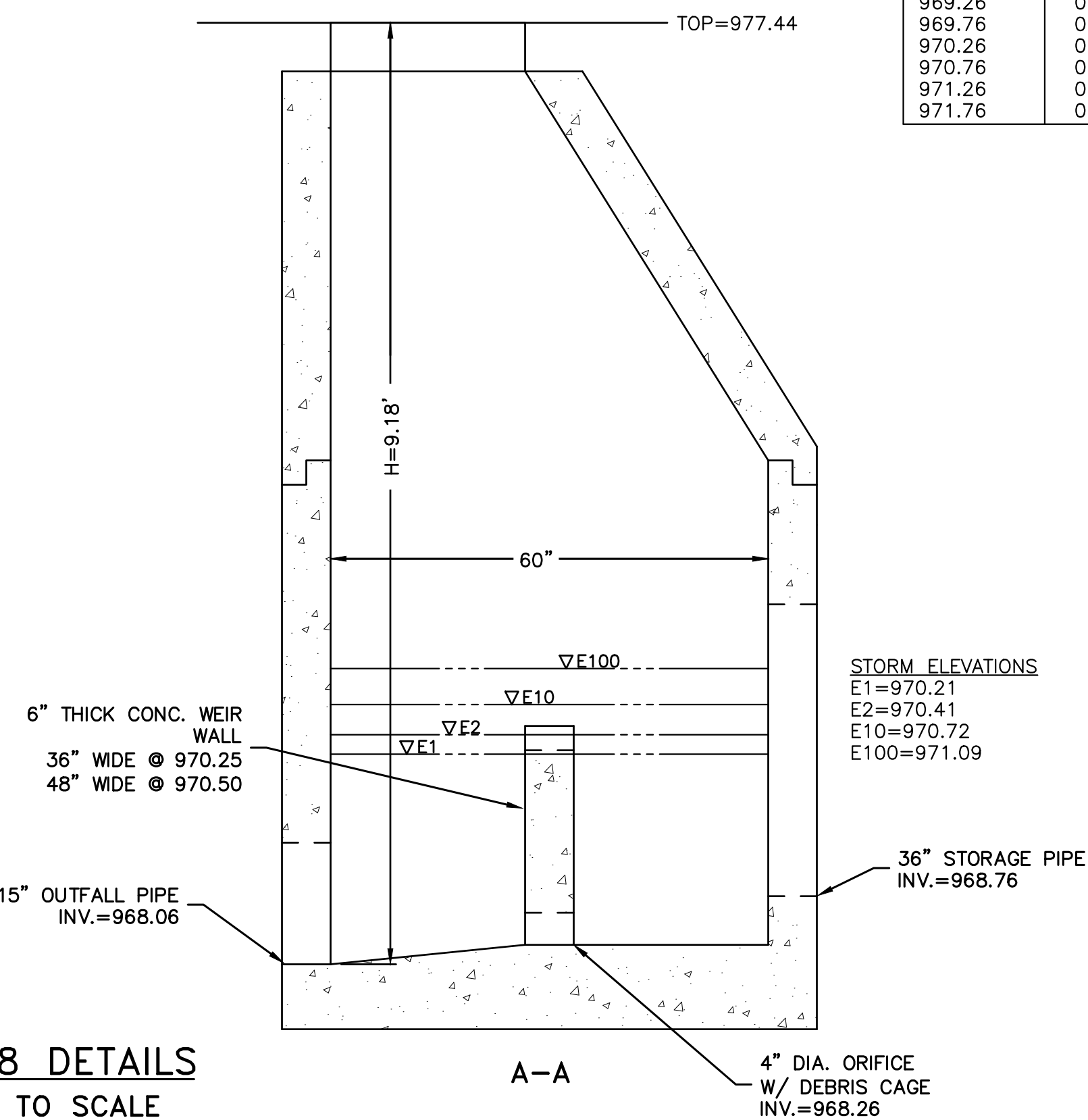
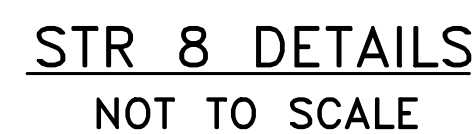
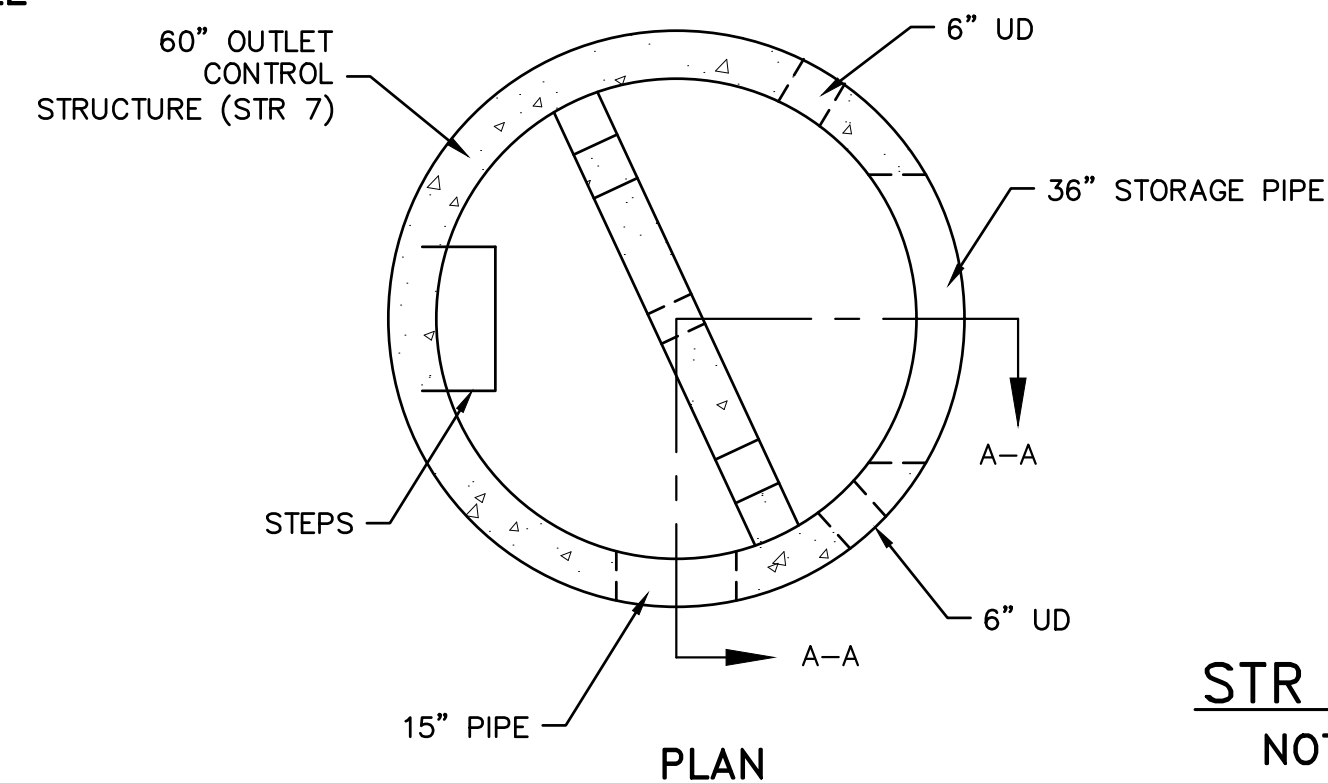
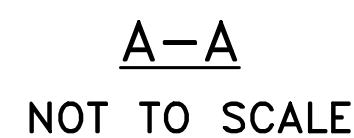
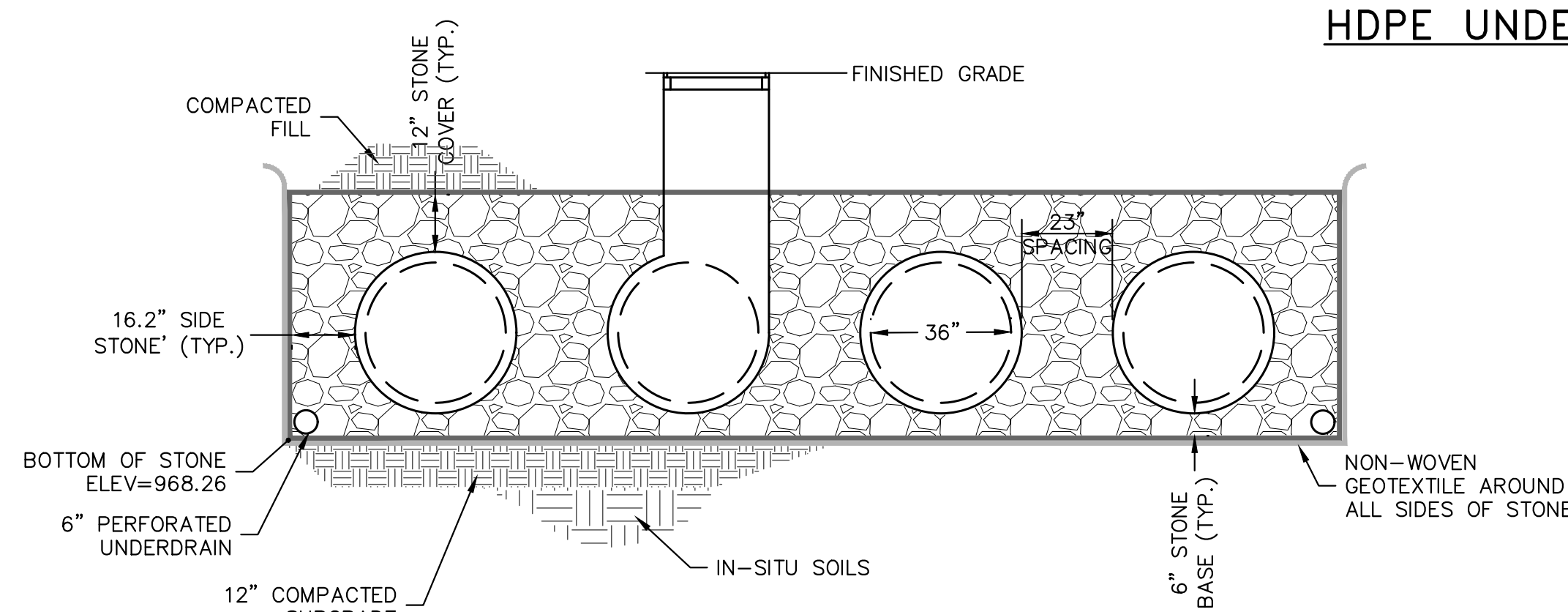
by plkr1 10/21/2025

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STORM SEWER 'A' PROFILE



STAGE STORAGE TABLE	
ELEVATION	VOLUME (AC-FT)
968.26	0.000
968.76	0.005
969.26	0.011
969.76	0.018
970.26	0.027
970.76	0.036
971.26	0.045
971.76	0.052



STORM SCHEDULE

72" DOGHOUSE MANHOLE, TOP=974.72, H=16.26'
 18" INV. IN=967.86 (x2)
 4" INV. IN=969.03
 48" INV. IN=958.46
 48" INV. OUT=958.46

47.47 LF OF 18" TYPE 'S' HDPE @ 1.50%
 INV. UPPER=968.57 INV. LOWER=967.86

DI-3B, TOP=974.47, H=5.90', L=12'
 15" INV. IN=968.82
 18" INV. OUT=968.57

231.55 LF OF 15" TYPE 'S' HDPE @ 1.00%
 INV. UPPER=971.13 INV. LOWER=968.82

48" MANHOLE, TOP=978.72, H=7.59'
 15" INV. IN=971.23
 15" INV. OUT=971.13

50.27 LF OF 15" TYPE 'S' HDPE @ 1.00%
 INV. UPPER=971.74 INV. LOWER=971.23

DI-3C, TOP=976.68, H=4.94', L=4'
 15" INV. OUT=971.74

DI-3C, TOP=973.97, H=5.54', L=16'
 15" INV. OUT=968.43

38.52 LF OF 18" TYPE 'S' HDPE @ 1.50%
 INV. UPPER=968.43 INV. LOWER=967.86

NOT USED

SWM WATER QUALITY DEVICE
 SEE DETAIL SHEET C302-PW

7.61 LF OF 36" TYPE 'S' HDPE @ 5.00%
 INV. UPPER=968.71 INV. LOWER=968.33

SWM OUTLET CONTROL STRUCTURE
 SEE DETAIL THIS SHEET

9.94 LF OF 15" TYPE 'S' HDPE @ 3.01%
 INV. UPPER=968.06 INV. LOWER=967.76

48" MANHOLE, TOP=977.99, H=10.34'
 15" INV. IN=967.76
 15" INV. IN=967.65
 15" INV. OUT=967.65

SWM WATER QUALITY DEVICE
 SEE DETAIL SHEET C302-PW

*PROVIDE INLET SHAPING FOR ALL STRUCTURES.
 SEE DETAIL ON SHEET C303-PW.

STORMWATER MAINTENANCE PLAN

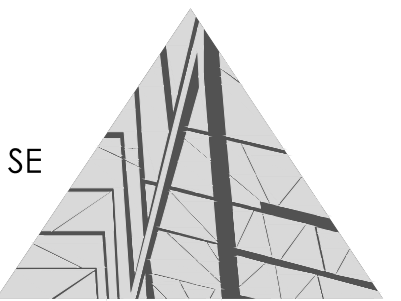
GENERALLY, THE OWNER IS RESPONSIBLE FOR PROVIDING OR COORDINATING ALL FACILITY INSPECTION AND REQUIRED MAINTENANCE. REQUIREMENTS LISTED ARE TO BE TAKEN AS A MINIMUM AND DO NOT REPRESENT THE FULL LIMIT OF RESPONSIBILITY, ANY STANDING WATER THAT IS TO BE REMOVED FROM THE SITE DURING MAINTENANCE OPERATIONS MUST BE DISPOSED OF PER THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, CURRENT EDITION, AND ANY LOCAL REQUIREMENTS.

UNDERGROUND DETENTION FACILITY
INSPECTION OF SUBSURFACE PIPES SHOULD BE PERFORMED AT A MINIMUM OF ONCE PER YEAR. CLEANING SHOULD BE DONE AT THE DISCRETION OF THE INDIVIDUALS RESPONSIBLE TO MAINTAIN PROPER STORAGE AND FLOW. WHILE MAINTENANCE CAN GENERALLY BE PERFORMED YEAR ROUND, IT SHOULD BE SCHEDULED DURING A RELATIVELY DRY SEASON. THE FOLLOWING IS THE RECOMMENDED PROCEDURE TO INSPECT THE SYSTEM IN SERVICE.

1. LOCATE THE RISER SECTION OF THE DETENTION SYSTEM. REMOVE THE LID FROM THE RISER.
2. MEASURE THE SEDIMENT BUILDUP. ONLY CERTIFIED CONFINED SPACE ENTRY PERSONNEL HAVING APPROPRIATE EQUIPMENT SHOULD BE PERMITTED TO ENTER THE DETENTION FACILITY.
3. IF BLOCK, RIGID, MANHOLE MATERIALS, OR OTHER OBSTRUCTIONS ARE PRESENT, BUILDUP, OBSTRUCTIONS, OR OTHER PROBLEMS, OBSTRUCTIONS SHOULD BE REMOVED AT THIS TIME.
4. IF MEASURED SEDIMENT IS BETWEEN 5%-20% OF THE STORAGE PIPE DIAMETER, CLEANING SHOULD BE CONSIDERED. IF SEDIMENT BUILDUP EXCEEDS 20% CLEANING SHOULD BE PERFORMED AT THE EARLIEST OPPORTUNITY. A THOROUGH CLEANING OF THE SYSTEM (MANHOLS AND laterals) SHALL BE PERFORMED BY EITHER MANUAL METHODS OR A VACUUM TRUCK.

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Spectrum Design Project No.: 23181



PROJ. MGR.: **MAR** CHECKED BY: **MAR** DRAWN BY: **AGA**

SHEET ISSUE DATE:
10.10.2025

PROJECT PHASE:
BID DOCUMENTS

SCALE:
AS SHOWN
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KEY PLAN:

STORM SEWER PROFILES & STORMWATER MANAGEMENT PLAN

SHEET NUMBER:

SHEET NUMBER:
C301-PW

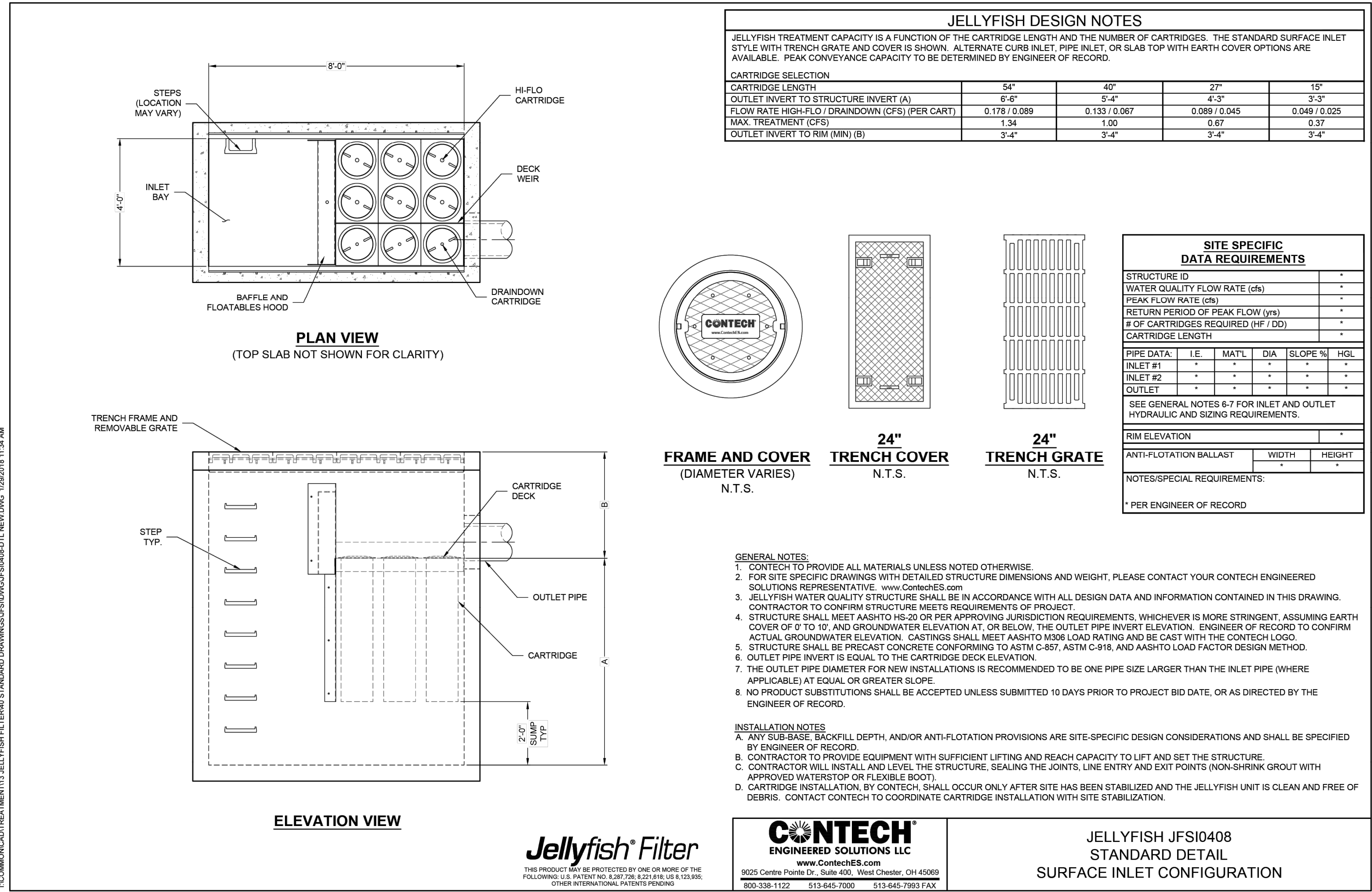
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MAINTENANCE IS TO BE PERFORMED IN ACCORDANCE WITH THE CONTECH ENGINEERED SOLUTIONS JELLYFISH FILTER MAINTENANCE GUIDE. SEE GUIDE FOR FREQUENCY OF MAINTENANCE.

TYPICAL INSPECTION ACTIVITIES CONDUCTED FROM SURFACE OBSERVATIONS AND INSPECTIONS INCLUDE:

- OBSERVE IF STANDING WATER IS PRESENT
- OBSERVE IF THERE IS ANY PHYSICAL DAMAGE TO THE DECK OR CARTRIDGE LIDS
- OBSERVE THE AMOUNT OF DEBRIS IN THE MAINTENANCE ACCESS WALL OR INLET BAY (VAULT SYSTEMS)

MAINTENANCE ACTIVITIES INCLUDE:

- REMOVAL OF OIL, FLOATABLE TRASH AND DEBRIS
- REMOVAL OF COLLECTED SEDIMENTS
- RINSING AND RE-INSTALLING THE FILTER CARTRIDGES
- REPLACE FILTER CARTRIDGE TENTACLES, AS NEEDED.

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STORMWATER
MANAGEMENT
DETAILS

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C302-PW

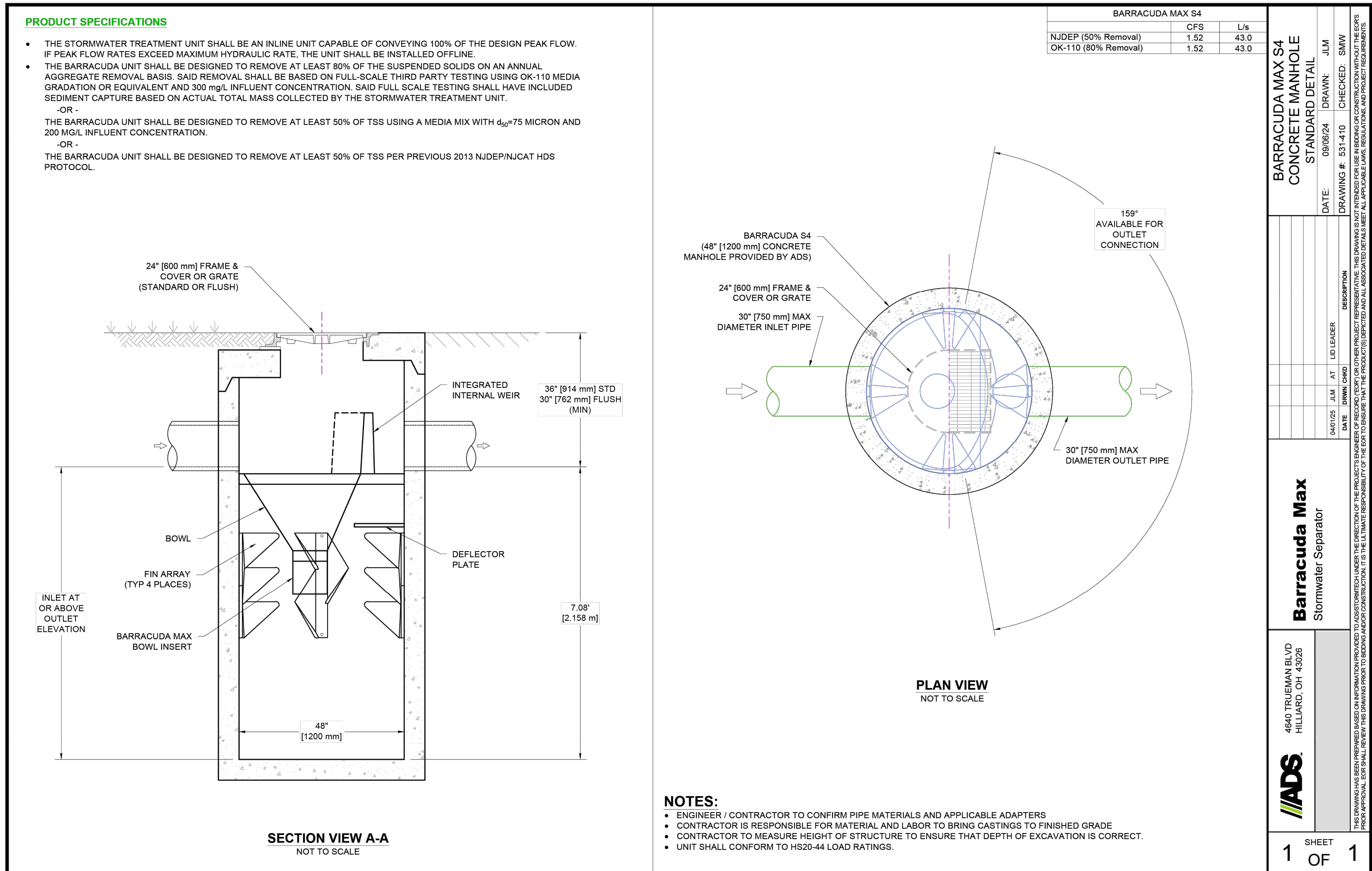
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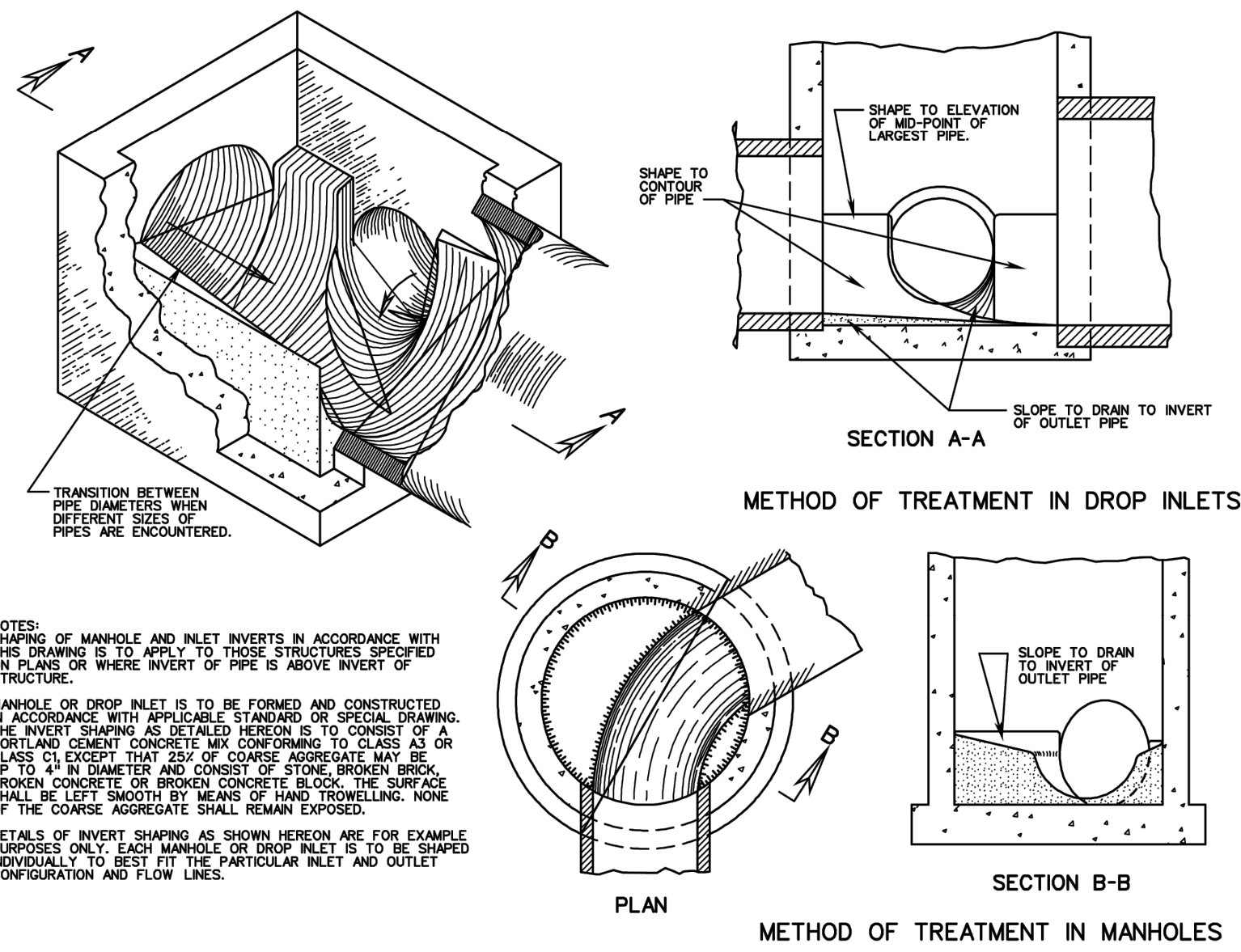
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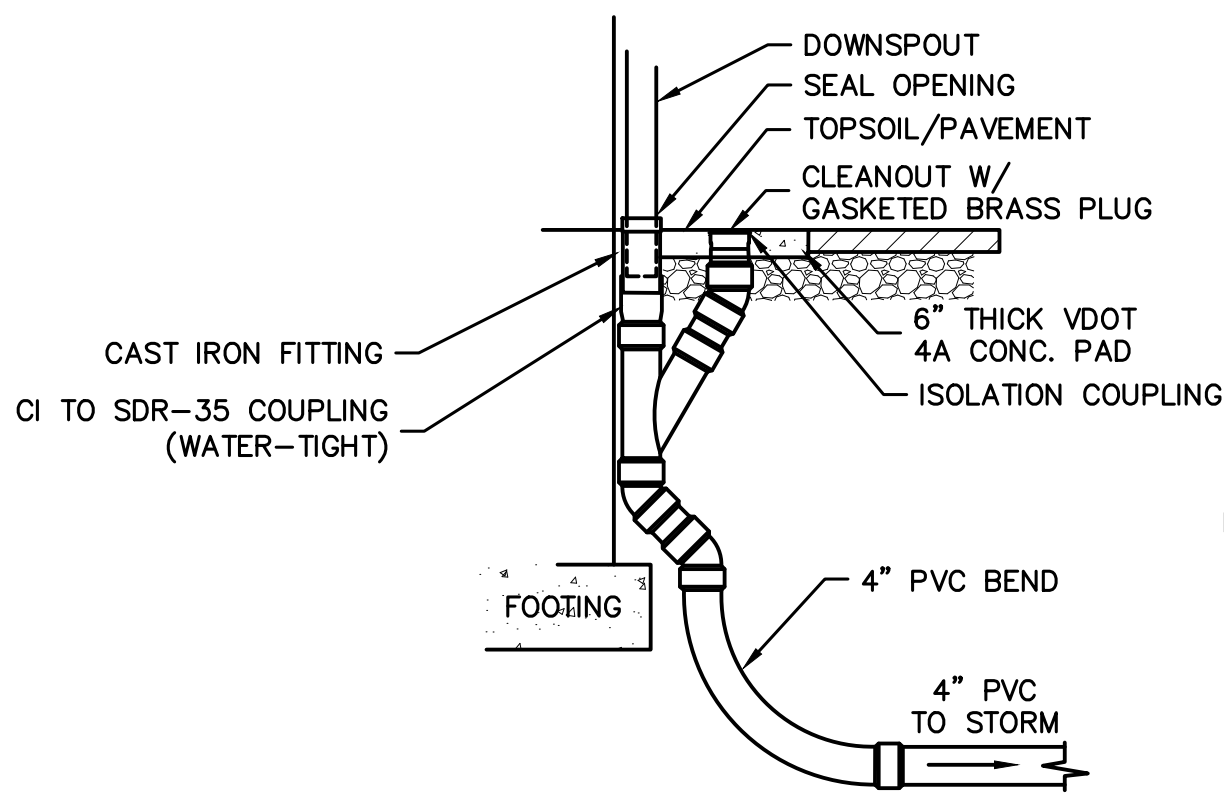
MAINTENANCE IS TO BE PERFORMED IN ACCORDANCE WITH THE ADS BARRACUDA MAX AND BARRACUDA MAINTENANCE GUIDE. SEE GUIDE FOR FREQUENCY OF MAINTENANCE.

GENERAL MAINTENANCE INSTRUCTIONS ARE AS FOLLOWS:

- REMOVE THE MANHOLE COVER TO PROVIDE ACCESS TO THE POLLUTANT STORAGE.
- USE A VACUUM TRUCK OR OTHER SIMILAR EQUIPMENT TO REMOVE ALL WATER, DEBRIS, OILS AND SEDIMENT.
- USE A HIGH PRESSURE HOSE TO CLEAN THE MANHOLE OF ALL REMAINING SEDIMENT AND DEBRIS. THEN, USE A VACUUM TRUCK TO REMOVE THE WATER.
- FILL THE CLEANED MANHOLE WITH WATER UNTIL THE LEVEL REACHES THE INVERT OF THE OUTLET PIPE.
- REPLACE THE MANHOLE COVER.
- DISPOSE OF THE POLLUTED WATER, OILS, SEDIMENT AND TRASH AT AN APPROVED FACILITY.

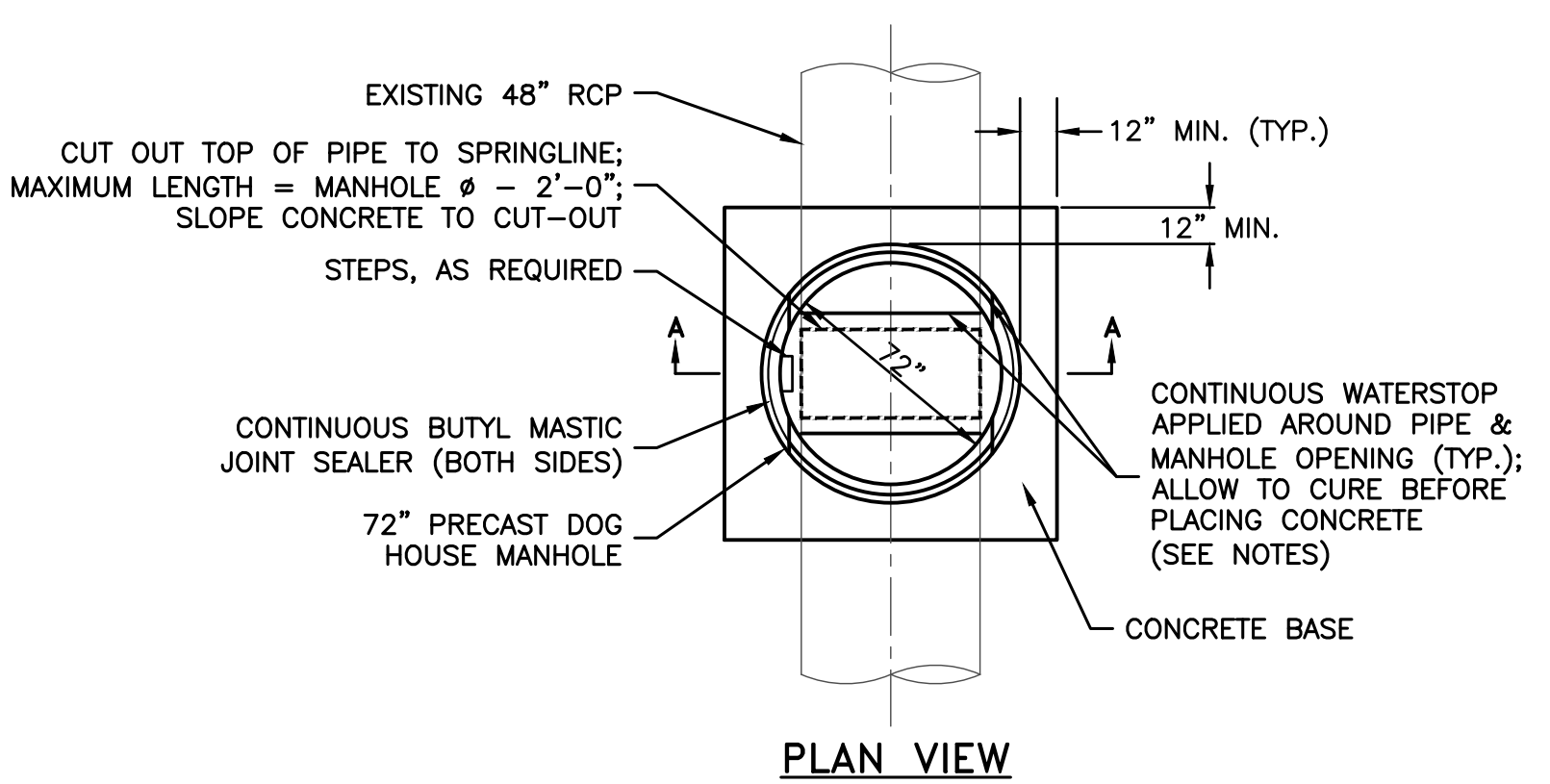


INLET SHAPING

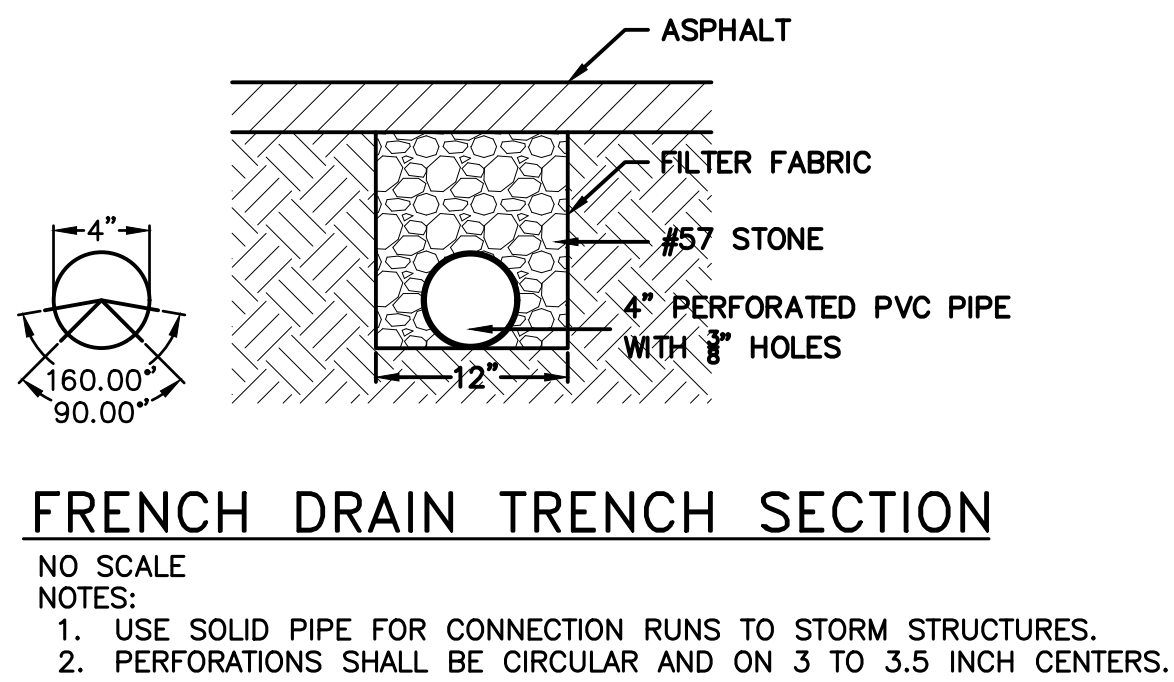


COMBINATION DOWNSPOUT/CLEANOUT

1. WATERSTOP MUST BE ALLOWED TO FULLY CURE BEFORE CONTACT WITH WET CONCRETE IS ALLOWED.
2. FIRST POUR: TOP SURFACE OF FIRST POUR SHALL CREATE A SMOOTH, FLAT, LEVEL BEARING SURFACE TO FACILITATE A WATERTIGHT SEAL BETWEEN POURED BASE AND PRECAST MANHOLE SECTION. CONCRETE SHALL BE 4,000 PSI CONCRETE AND MUST CURE 7-DAYS BEFORE SETTING MANHOLE SECTION.
3. SECOND POUR: MANHOLE SHALL BE COMPLETELY SET INCLUDING FRAME AND COVER BEFORE PLACING SECOND POUR. CONCRETE BONDING AGENT SHALL BE APPLIED TO ALL SURFACES/COLD JOINTS WHERE NEW CONCRETE IS TO BE POURED AGAINST EXISTING. CONCRETE SHALL BE 4,000 PSI AND SHALL BE ALLOWED TO CURE FOR 3-DAYS PRIOR TO PLACING BACKFILL.
4. MANHOLE DIAMETER IS TO BE CONFIRMED BY MANUFACTURER.



DOG HOUSE MANHOLE (STR #1)



FRENCH DRAIN TRENCH SECTION

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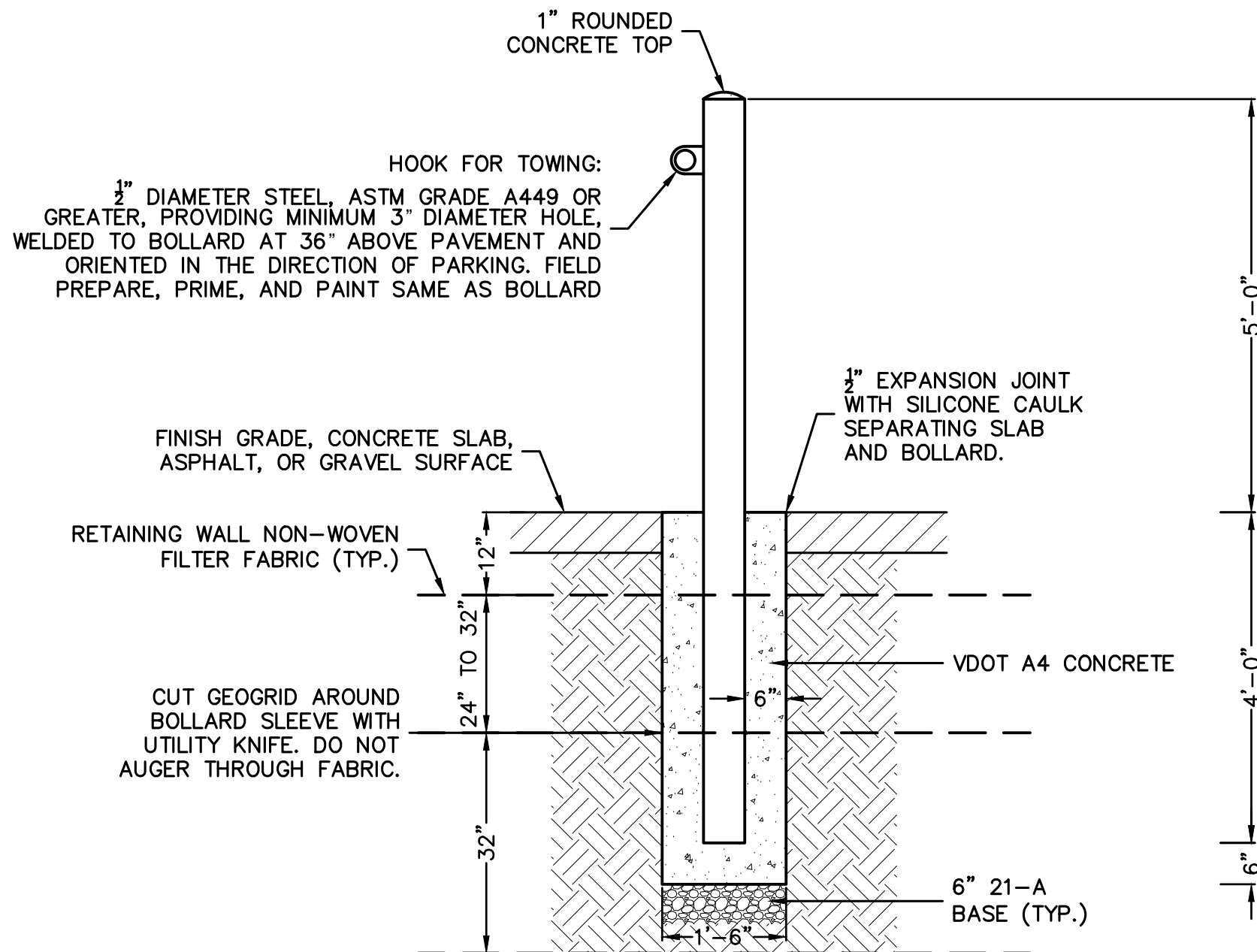
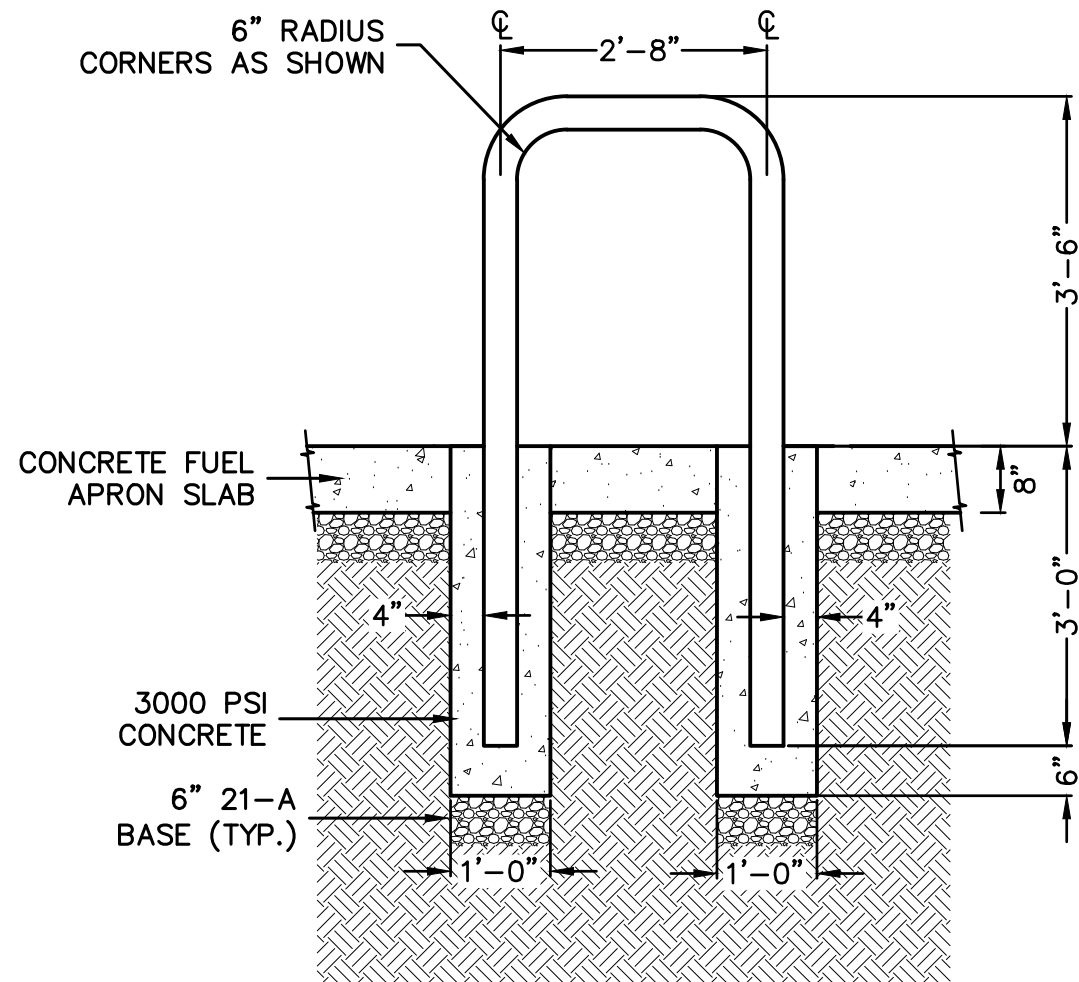
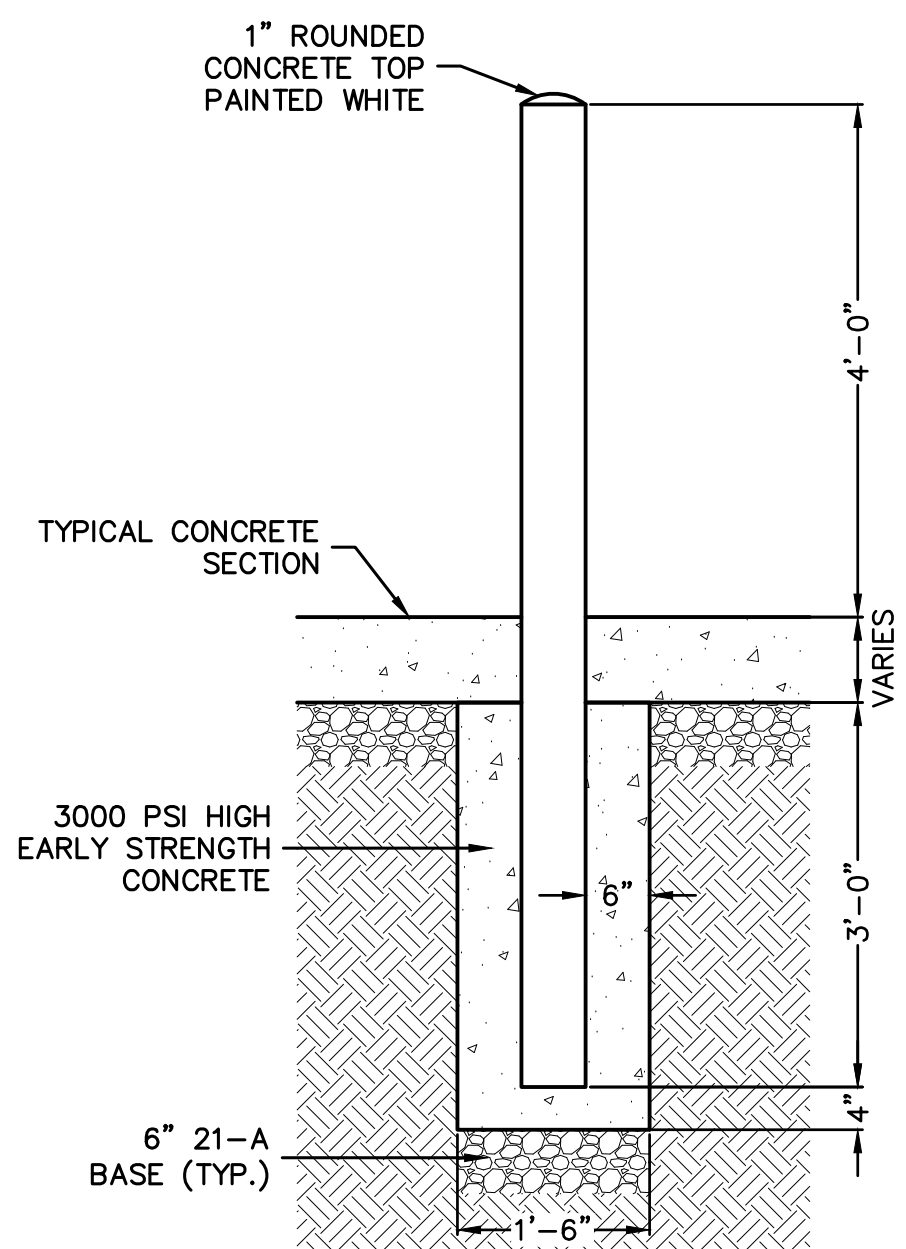
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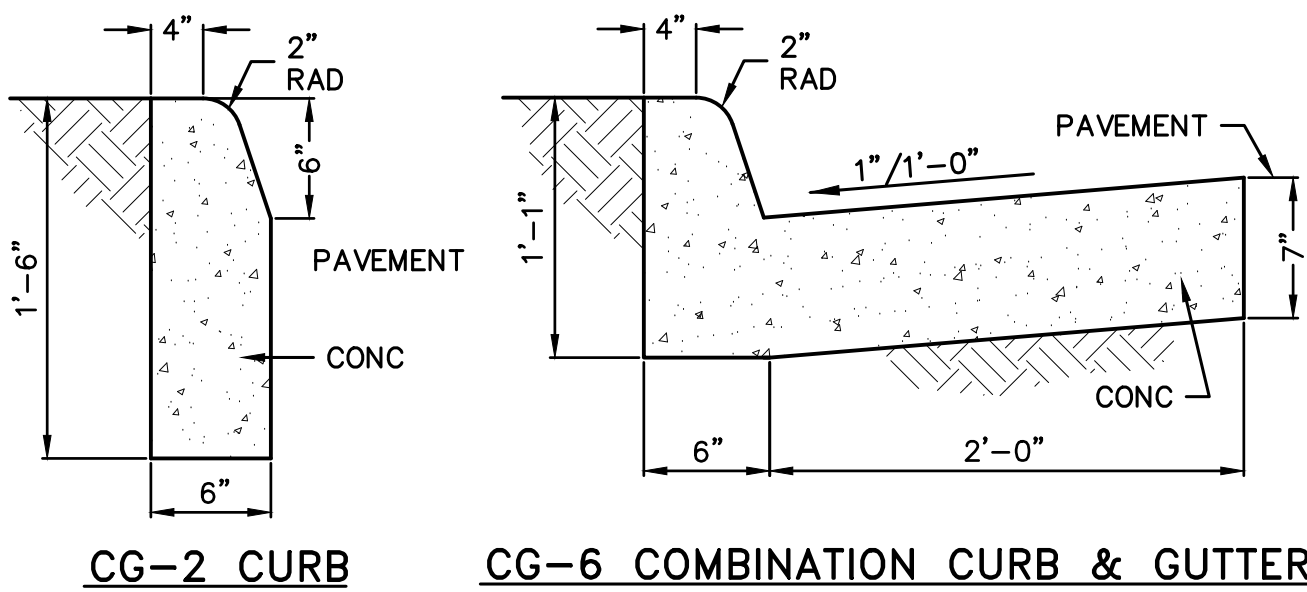


1 TRAFFIC BOLLARD DETAIL (6" DIA)
C101 C501 NO SCALE
NOTE:
6" DIAMETER SCH 40 STEEL PIPE BOLLARD FILLED WITH 3000 PSI CONCRETE. PAINT WITH RUST PROHIBITIVE PRIMER AND ENAMEL INTERNATIONAL YELLOW (TOP SHALL BE WHITE). FIELD VERIFY BOLLARD LOCATIONS WITH ARCHITECT.

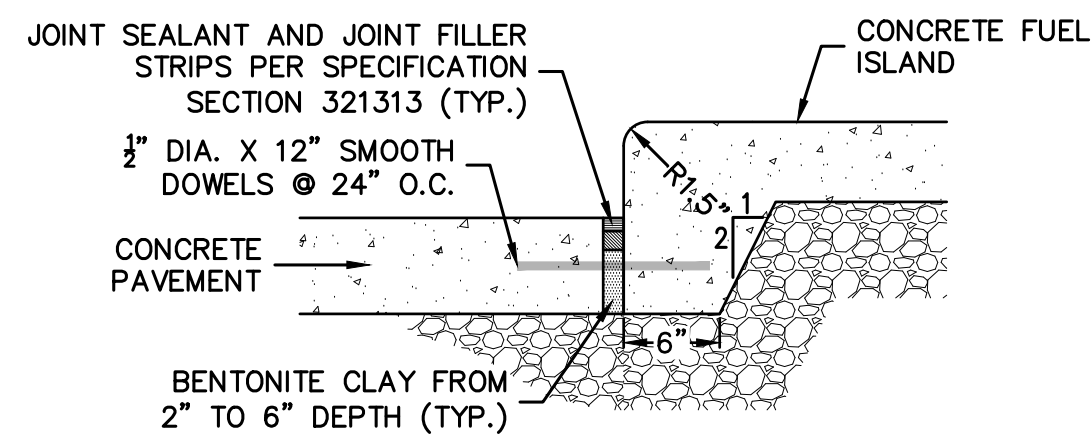
2 U-SHAPED BOLLARD DETAIL
C101 C501 NO SCALE
NOTE:
4" DIAMETER U-SHAPED SCH 40 STEEL PIPE BOLLARD FILLED WITH VDOT A4 CONCRETE. PAINT WITH RUST PROHIBITIVE PRIMER AND ENAMEL INTERNATIONAL YELLOW.

3 IMPOUND LOT BOLLARD DETAIL (6" DIA)
C101 C501 NO SCALE
NOTE:
6" DIAMETER SCH 40 STEEL PIPE BOLLARD FILLED WITH VDOT A4 CONCRETE. PAINT WITH RUST PROHIBITIVE PRIMER AND ENAMEL INTERNATIONAL YELLOW.

4 NOT USED

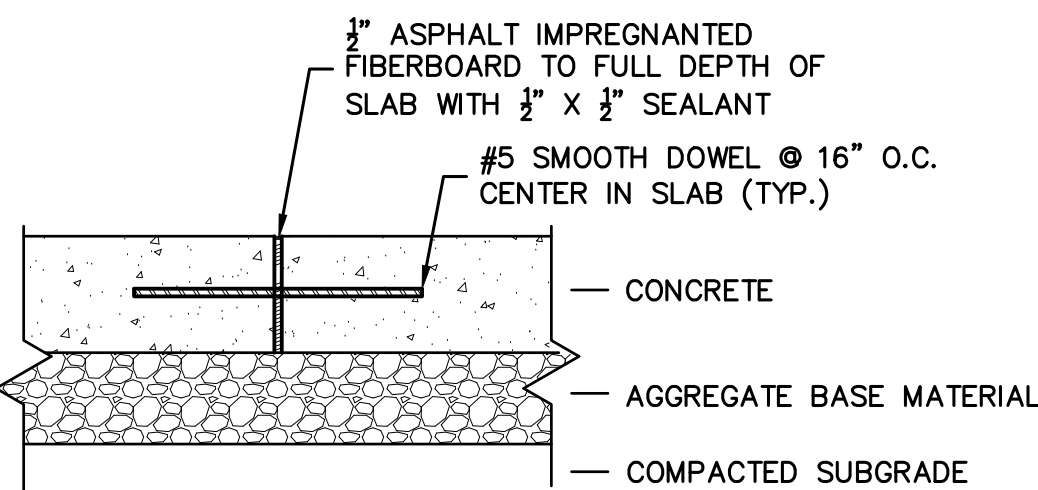


5 CURBING
C101 C501 NO SCALE
NOTE: BASE AND SUBGRADE PER VDOT STDS.

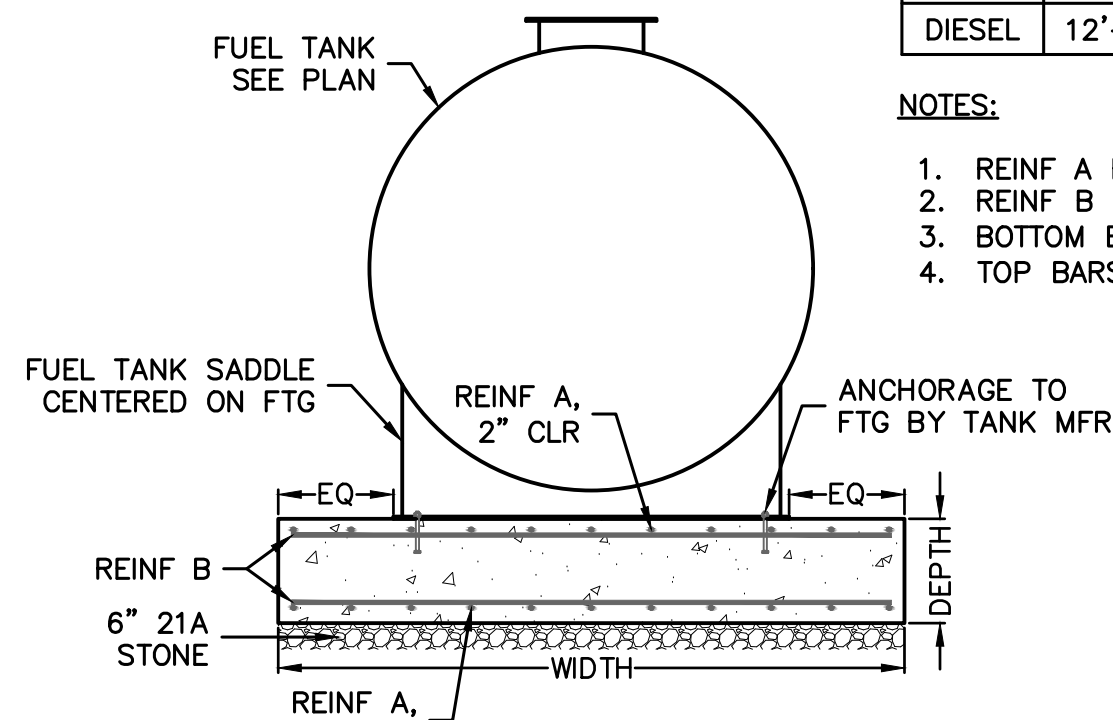


6 ISLAND EDGE DETAIL
C101 C501 NO SCALE
NOTE: SEE DETAIL 9/C501-PW FOR CONCRETE, BASE STONE, AND SUBGRADE REQUIREMENTS.

7 NOT USED



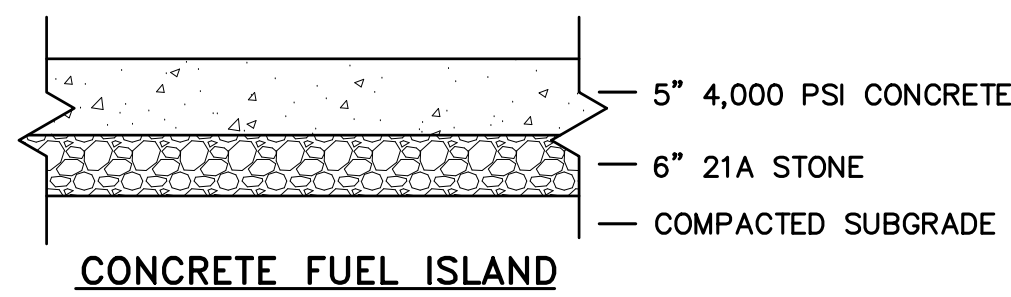
8 EXPANSION JOINT DETAIL
C101 C501 NO SCALE



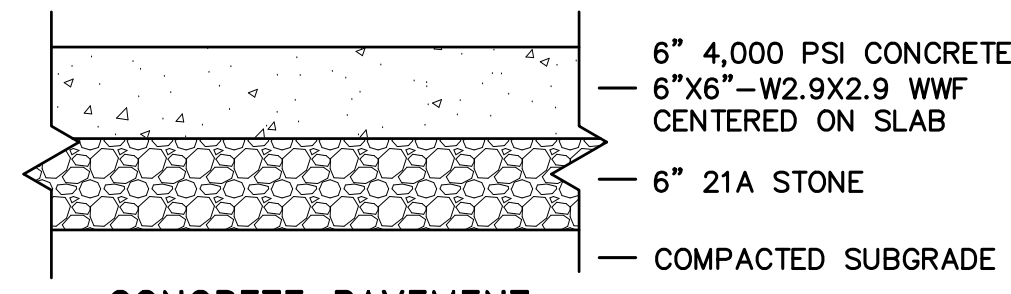
10 TANK FOOTING DETAIL
C101 C501 NO SCALE

FOOTING SCHEDULE						
MARK	WIDTH	LENGTH	DEPTH	REINF A	REINF B	
GASOLINE	10'-0"	7'-0"	2'-0"	(9)#7	(7)#7	
DIESEL	12'-0"	8'-0"	2'-0"	(11)#7	(7)#7	

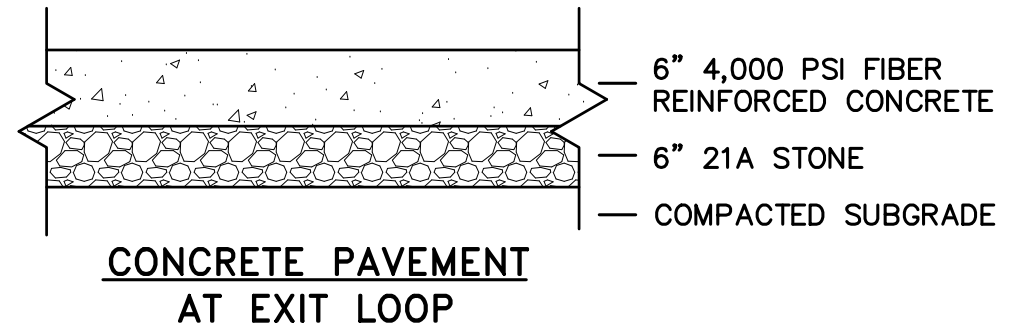
- NOTES:
1. REINF A BARS ARE PARALLEL TO THE LENGTH.
 2. REINF B BARS ARE PARALLEL TO THE WIDTH.
 3. BOTTOM BARS SHALL HAVE 3" CLEAR COVER.
 4. TOP BARS SHALL HAVE 2" CLEAR COVER.



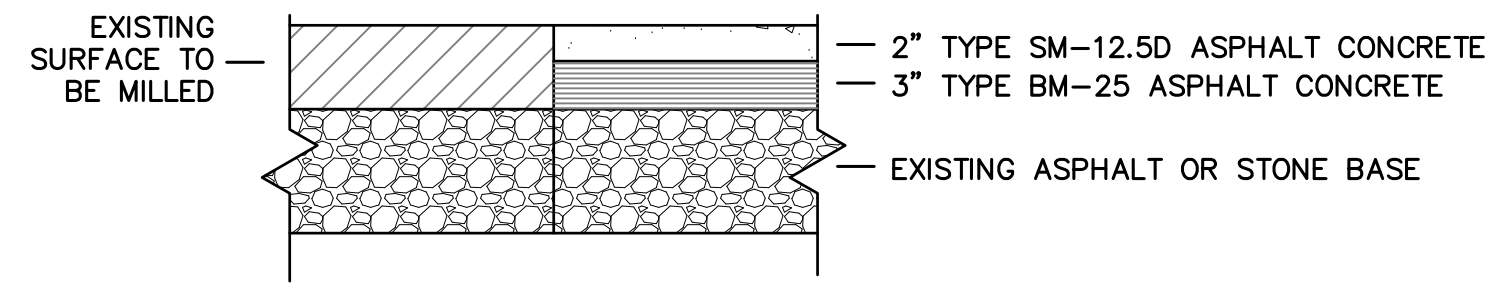
CONCRETE FUEL ISLAND



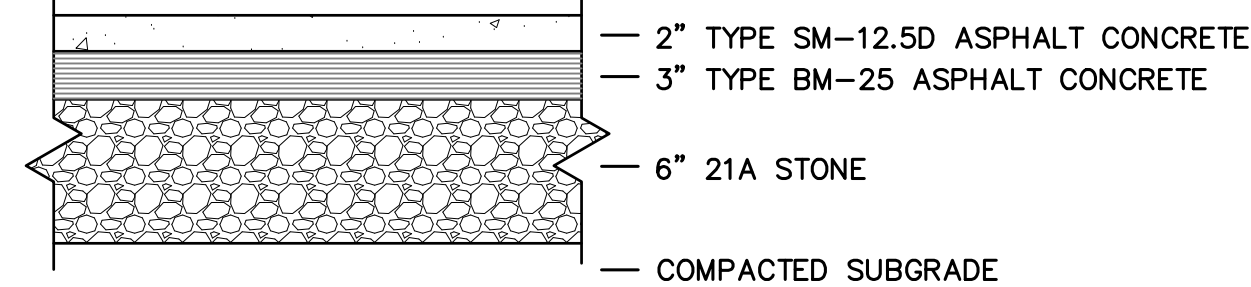
CONCRETE PAVEMENT



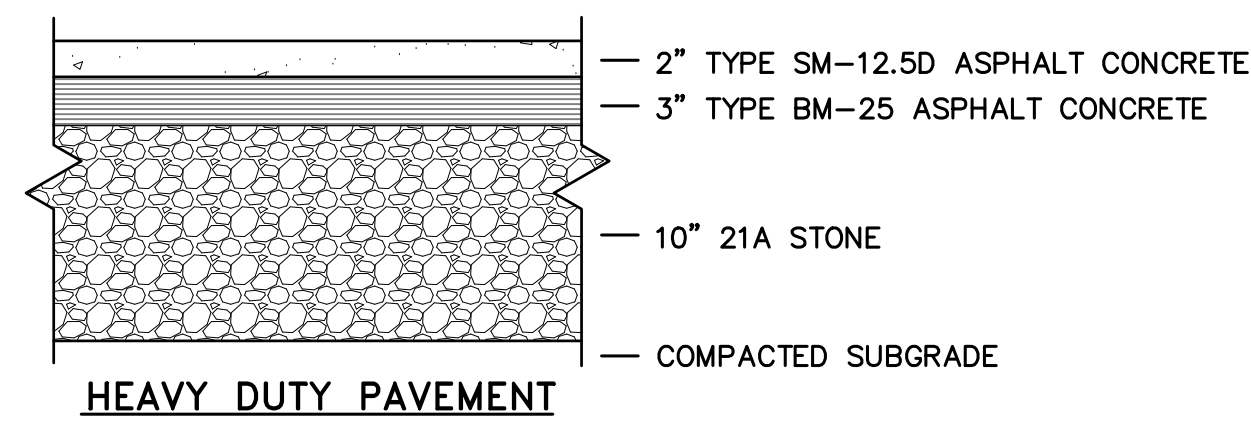
CONCRETE PAVEMENT AT EXIT LOOP



ASPHALT OVERLAY

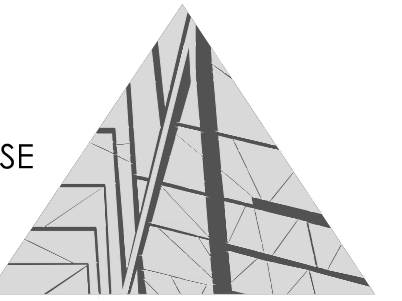


REGULAR DUTY PAVEMENT



HEAVY DUTY PAVEMENT

9 PAVEMENT SECTIONS
C101 C501 NO SCALE



CITY OF ROANOKE
REFUELING CENTERS
PUBLIC WORKS
SERVICE CENTER

ROANOKE CITY PROJECT NO.: RFP #24-10-66
Spectrum Design Project No.: 23181



PROJ. MGR.: CHECKED BY: DRAWN BY:
MAR MAR AGA

SHEET ISSUE DATE:
10.10.2025

PROJECT PHASE:
BID DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

KEY PLAN:

SHEET NAME:

SITE DETAILS

SHEET NUMBER:

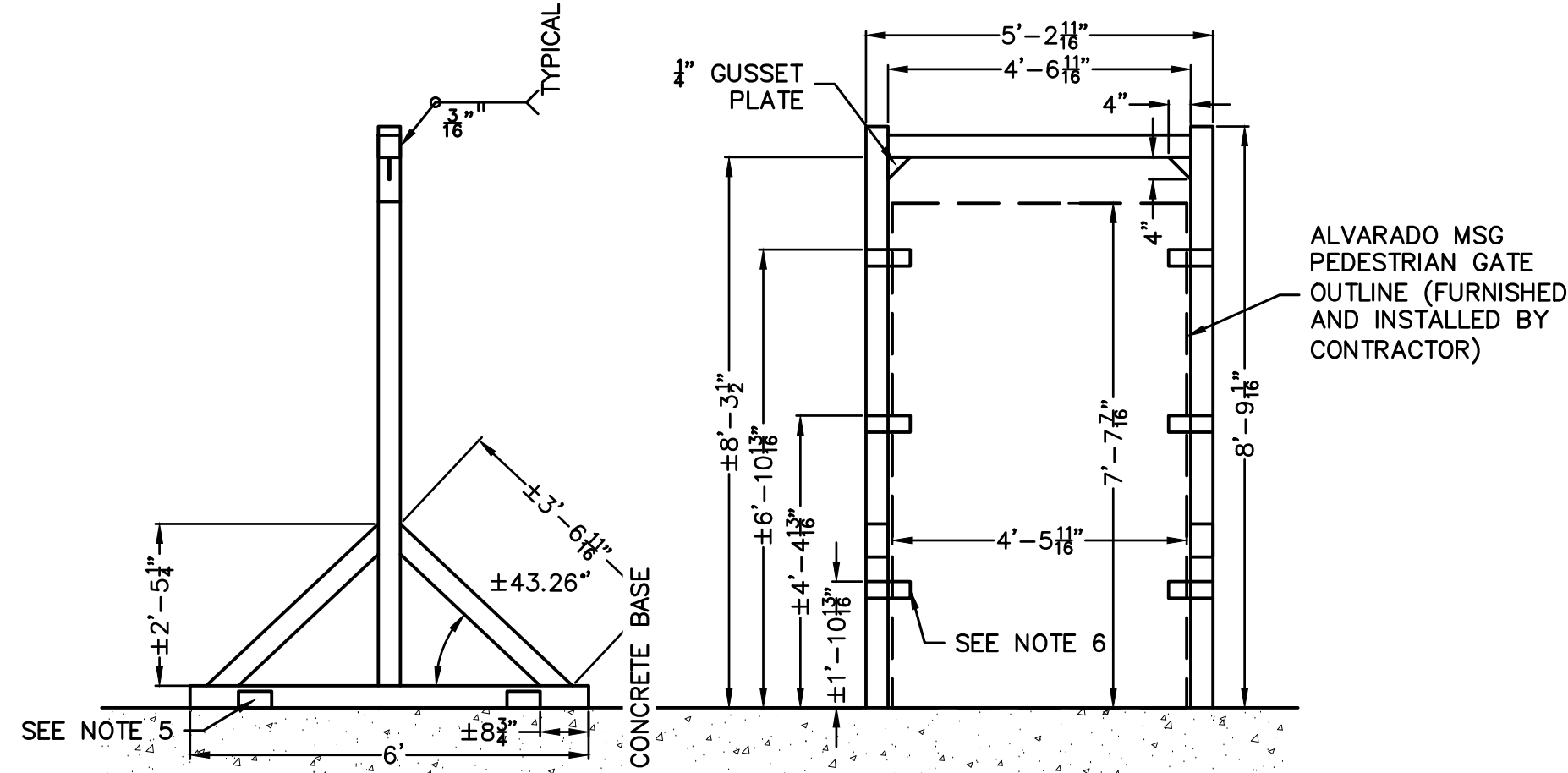
C501-PW

City of Roanoke
Planning, Building, & Development
COMPREHENSIVE DEVELOPMENT PLAN

APPROVED

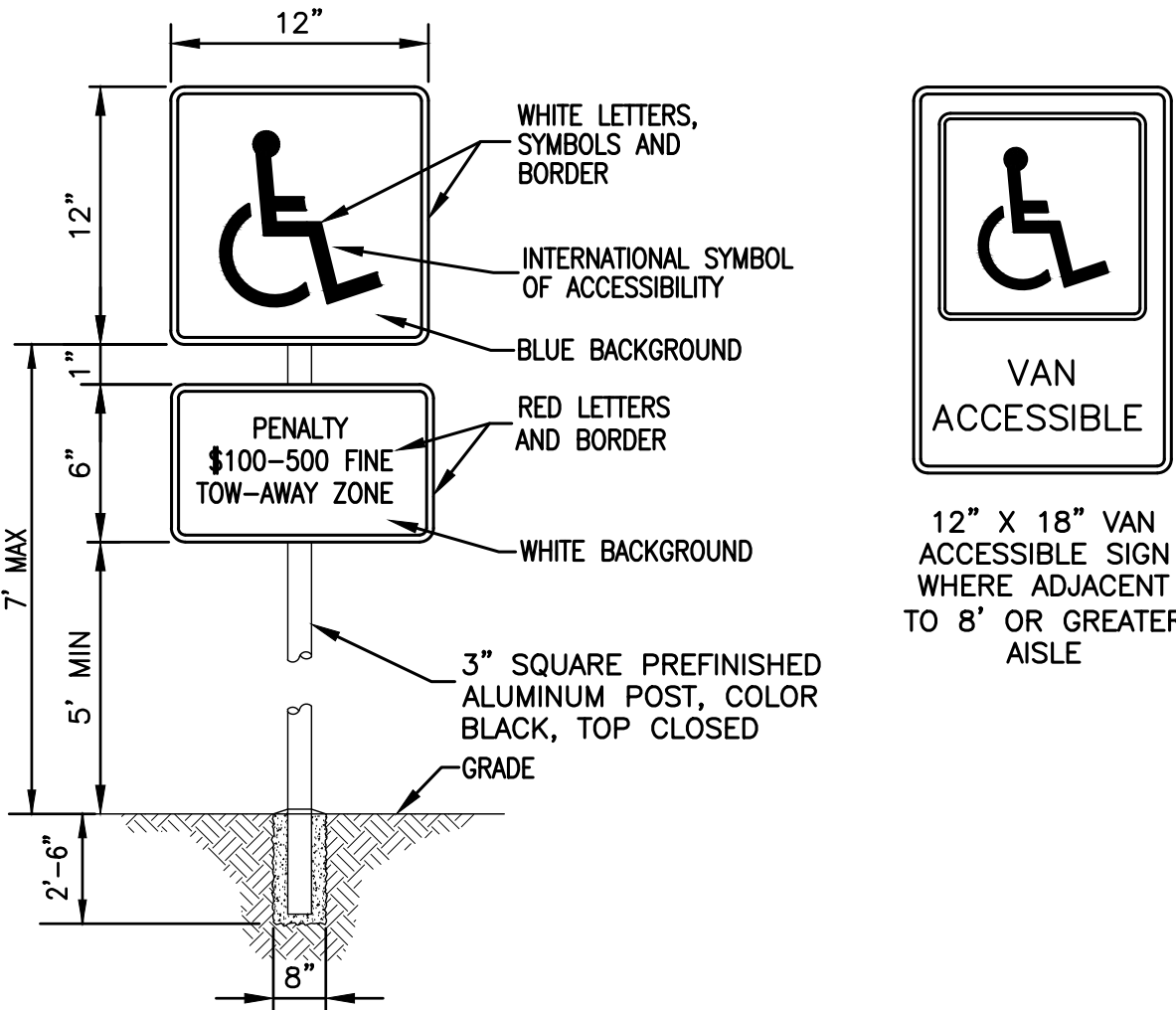
by plkr1 10/21/2025

AHJ APPROVAL STAMP

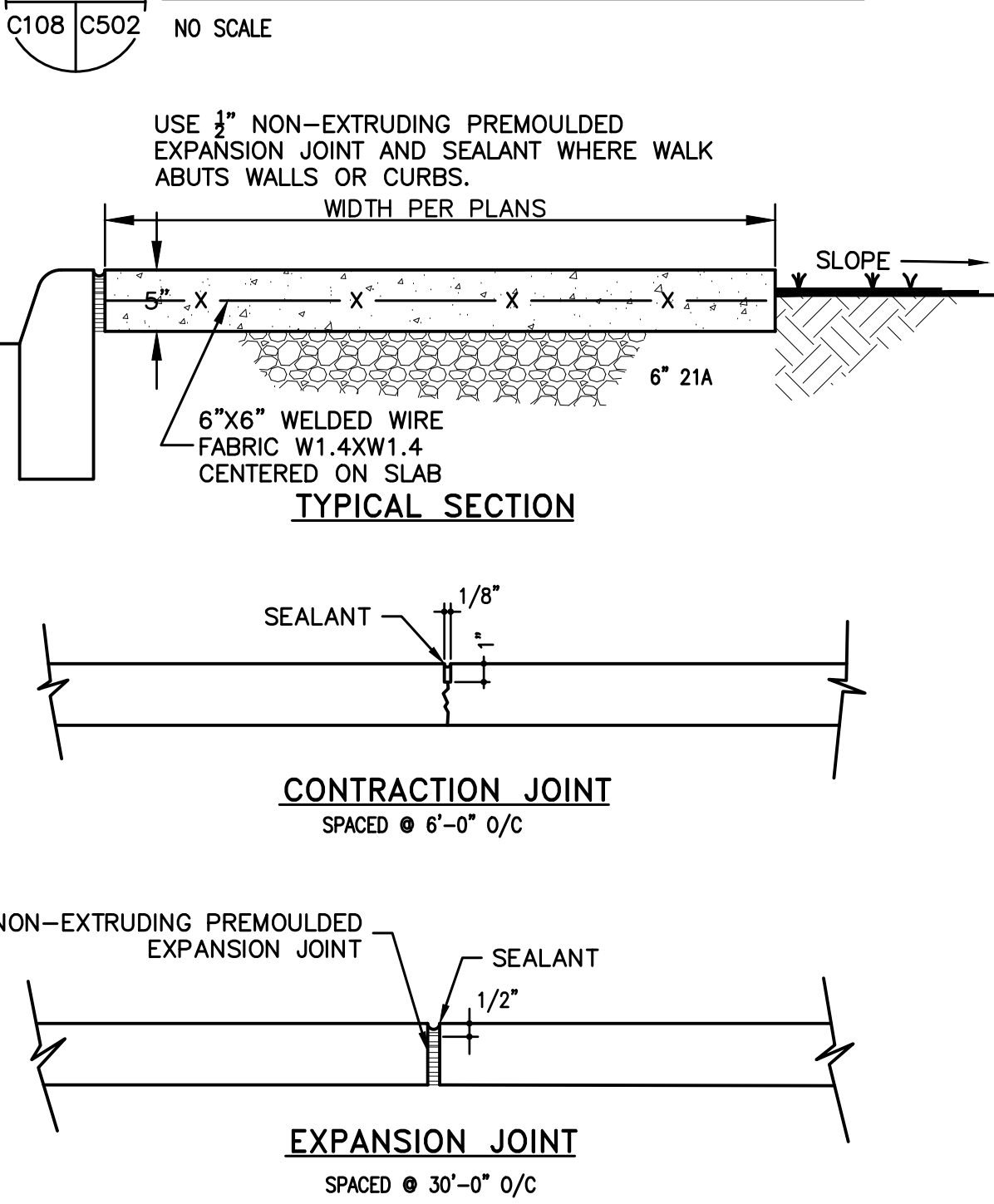


1 OWNER PROVIDED PEDESTRIAN GATE FRAME

- NO SCALE
NOTES:
1. ALL STEEL IS 4"x4"x1/4" (A36) UNLESS NOTED OTHERWISE
 2. CAP ALL ENDS WITH 1/4" PLATE (A36)
 3. WELDING ELECTRODE = E70XX
 4. POWDER COAT ALL STEEL BLACK
 5. L3X3X1/4" (A36) CLIP ANGLE WITH HOLE TO ACCOMMODATE 3/4" CONCRETE ANCHOR
 6. CONNECT/BOLT PEDESTRIAN GATE TO FRAME WITH 1/2" PLATE
 7. COORDINATE POWER AND ACCESS CONTROLS WITH ELECTRICAL X/E501
 8. ALVARADO MSG GATE SHALL INCLUDE THE FOLLOWING:
 - 8.1. MSGX-PX ELECTRIC LOCK CONTROL
 - 8.2. TRANSFORMER 110VAC
 - 8.3. CARD READER PLATE
 - 8.4. INFILL MESH
 - 8.5. KICKPLATE
 - 8.6. POWDER COAT OVER GALVANIZED FINISH (BLACK)

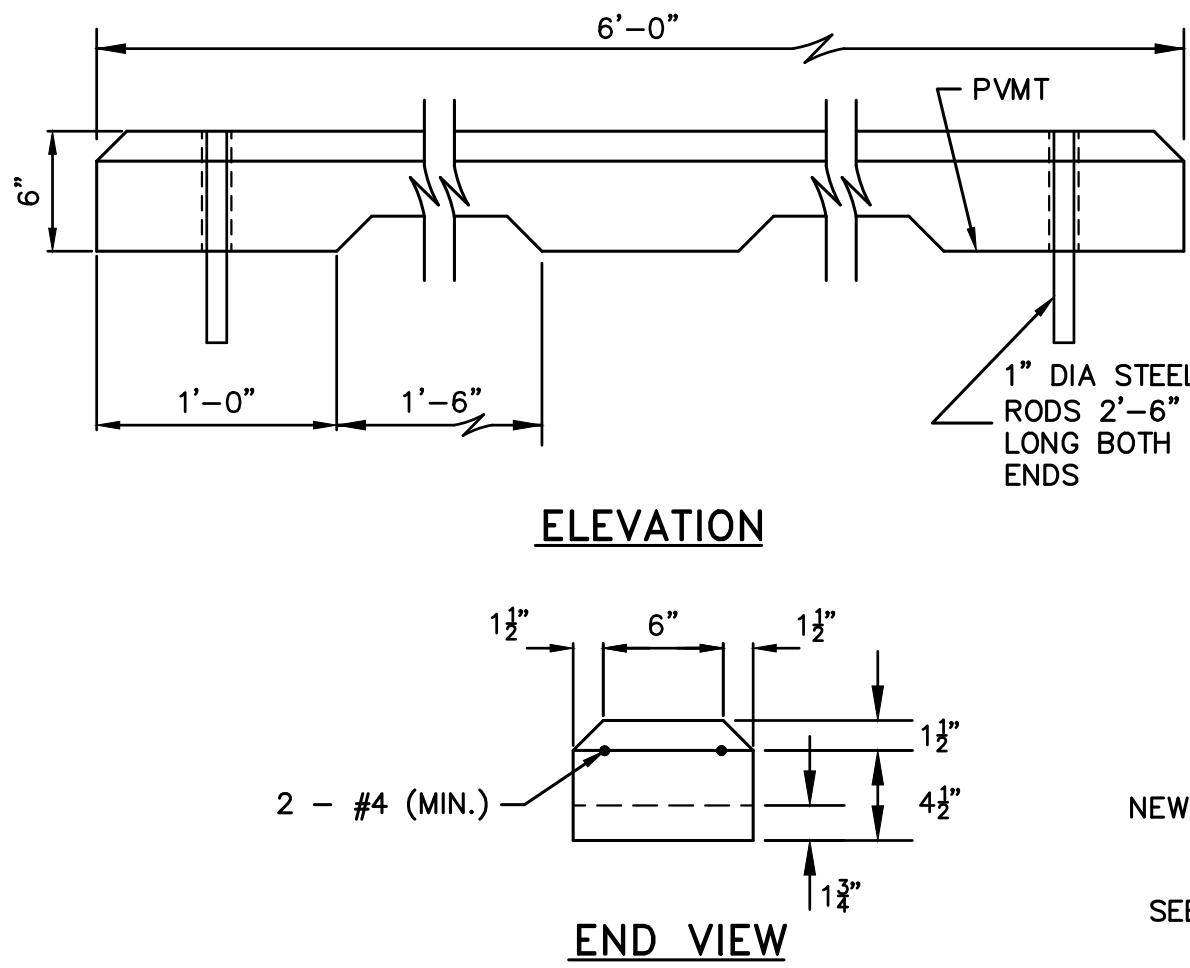


5 HANDICAPPED PARKING SIGN



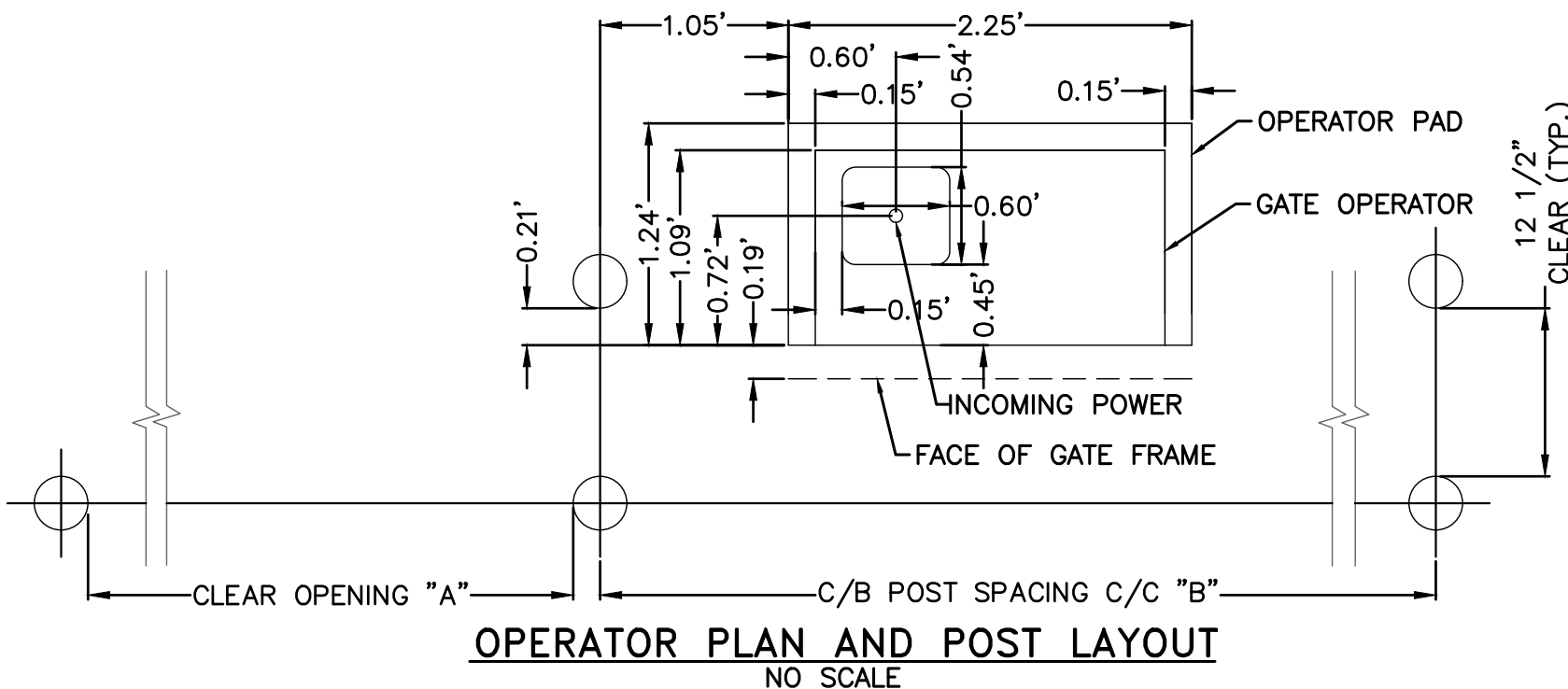
6 SIDEWALK/TANK FARM DETAILS

NOT TO SCALE



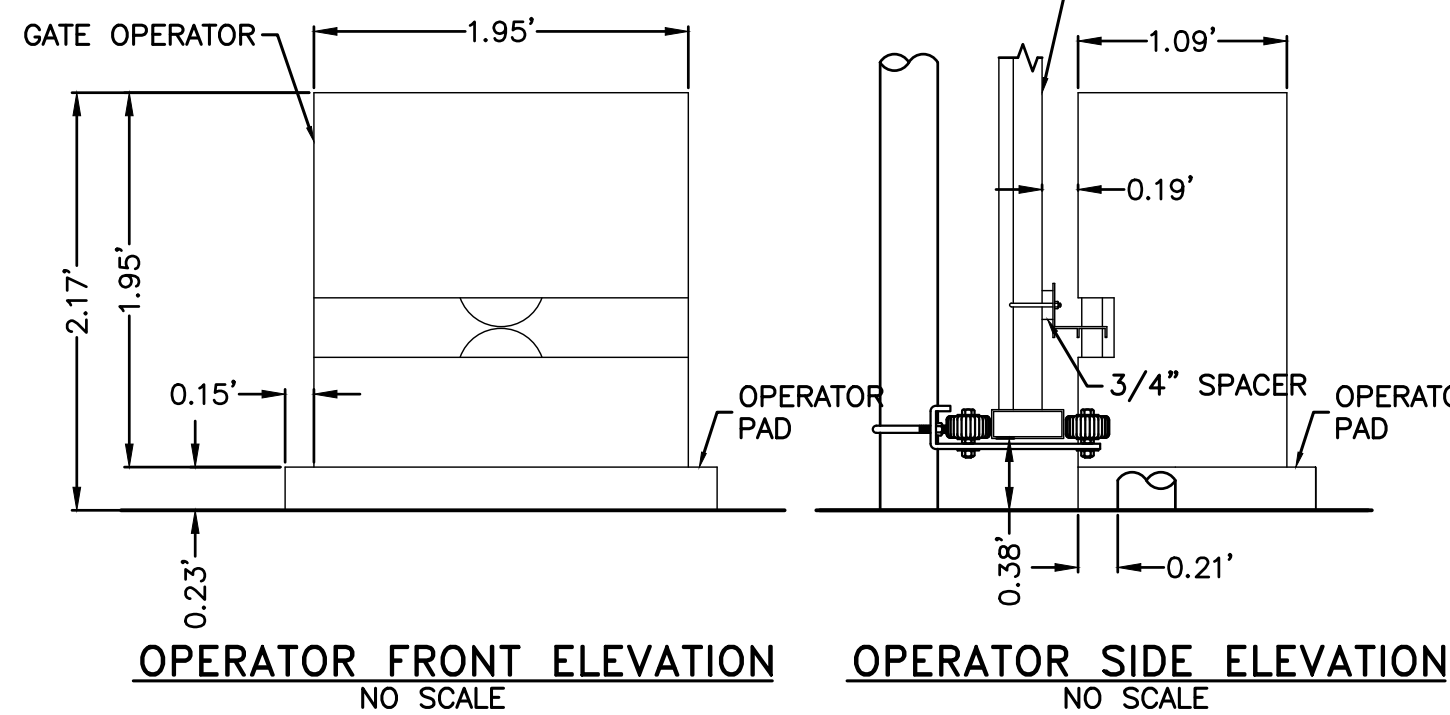
2 PRECAST WHEEL STOP

NO SCALE



OPERATOR PLAN AND POST LAYOUT

NO SCALE

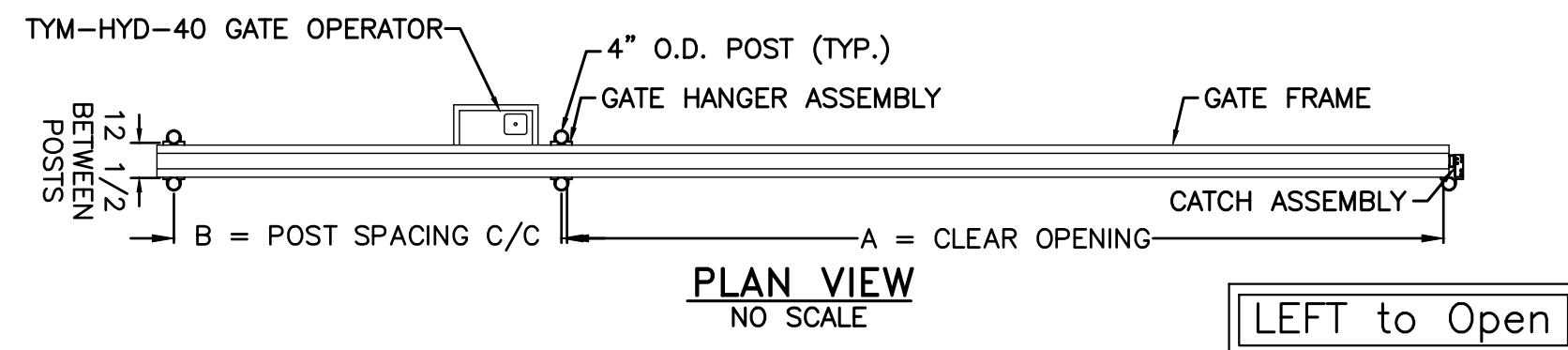


OPERATOR FRONT ELEVATION

NO SCALE

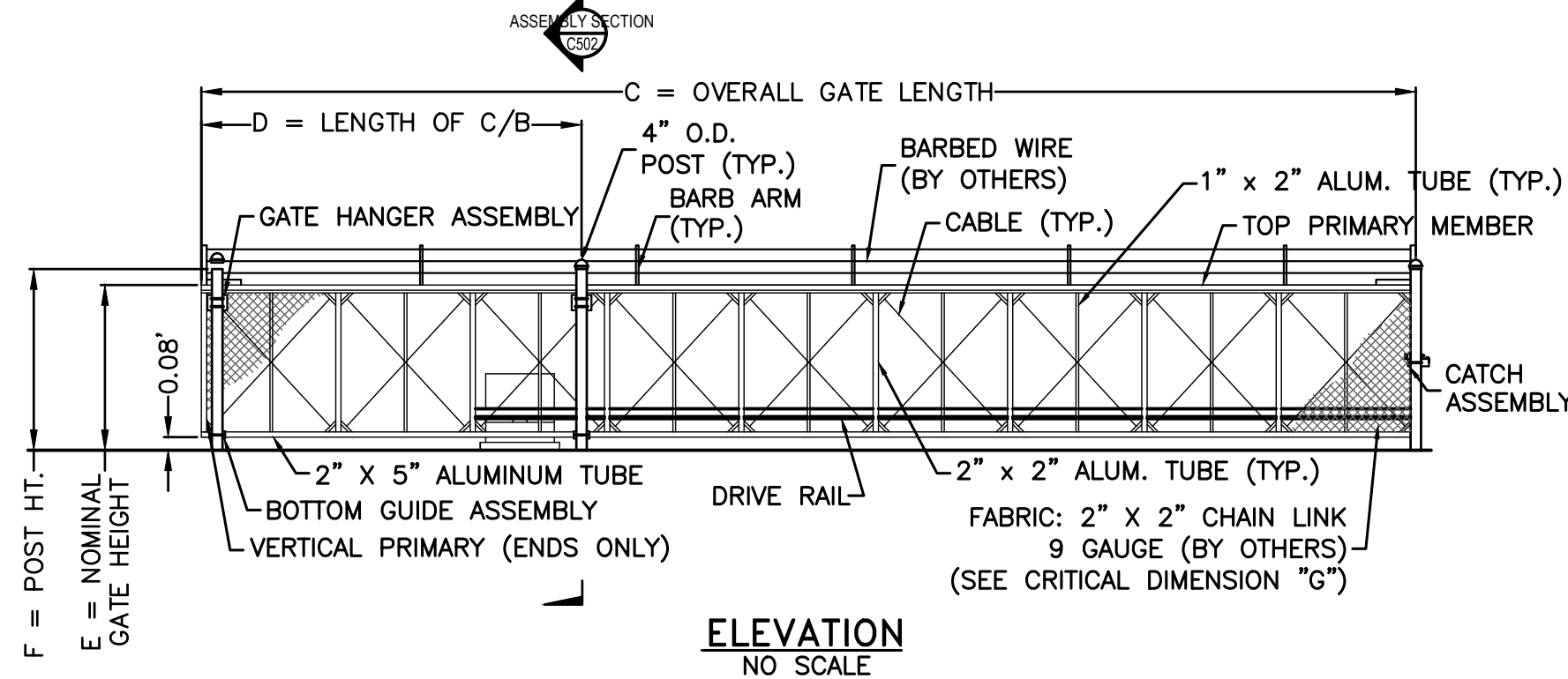
OPERATOR SIDE ELEVATION

NO SCALE



PLAN VIEW

NO SCALE

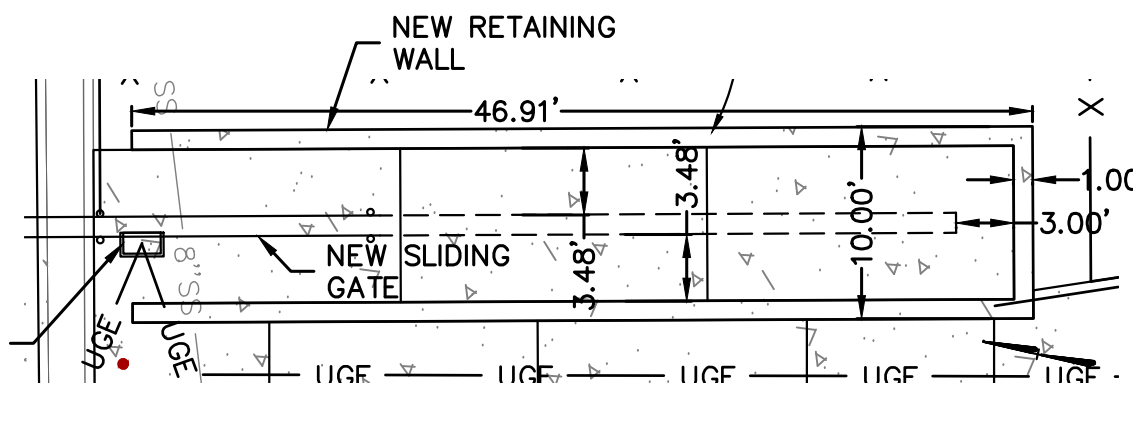


ELEVATION

NO SCALE

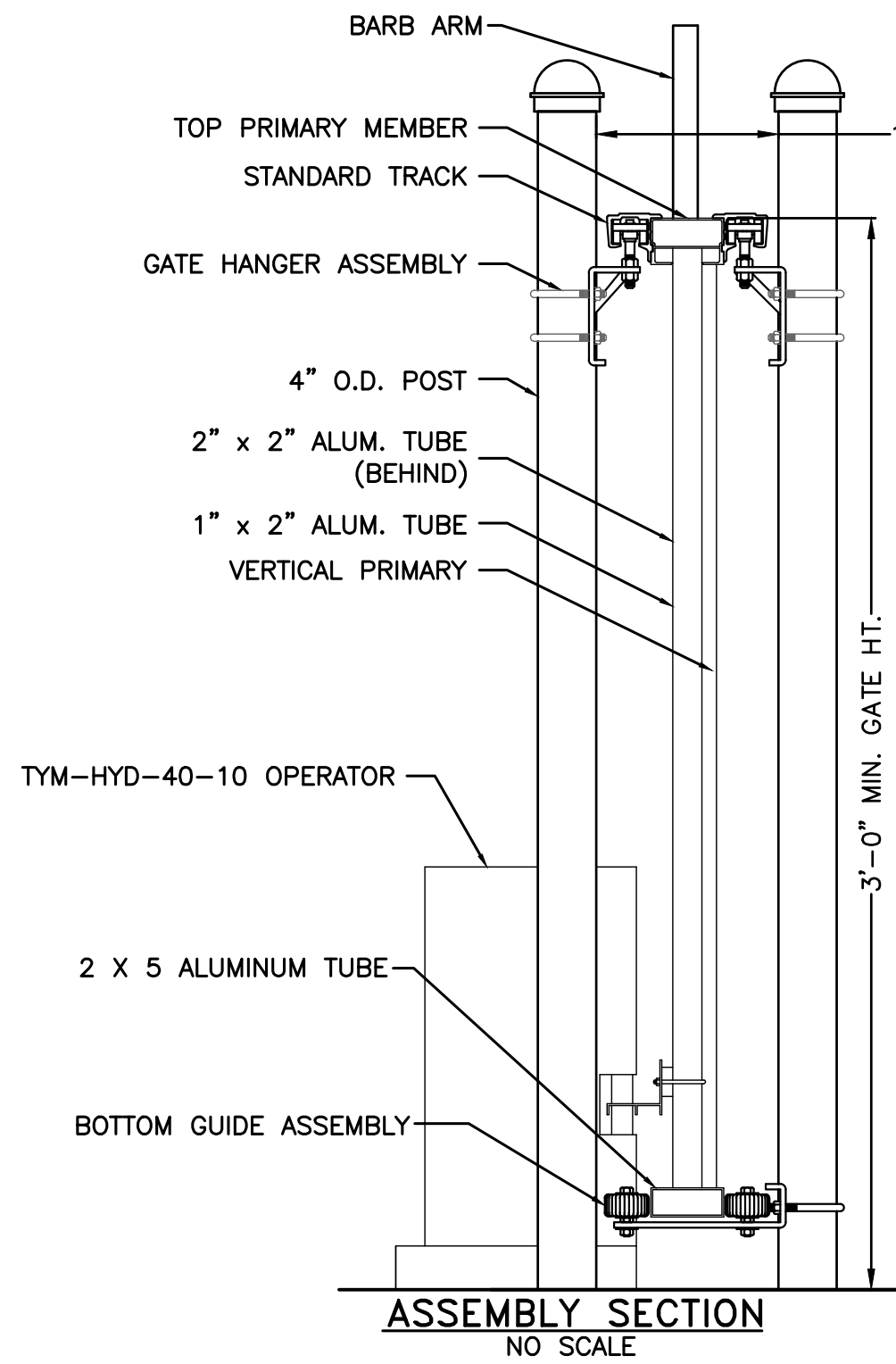
7 FULL CANTILEVER AUTOMATIC SLIDE GATE DETAILS

- NO SCALE
NOTES:
1. GATE ELEVATION IS VIEWED FROM THE OUTSIDE OF THE SECURE AREA LOOKING IN.
 2. SEE SHEET E101-PW FOR ELECTRICAL DETAILS.
 3. TYMETAL CS931 R2 USED AS BASIS OF DESIGN. SUBMIT SHOP DRAWING OF GATE FOR REVIEW AND APPROVAL.
 4. ALL GATE FENCING SHALL BE BLACK VINYL COATED, NO SLATS.
 5. ENTRY EQUIPMENT AND ELECTRONICS ARE PROHIBITED FROM BEING MOUNTED TO FENCING OR GATE POSTS AND MUST BE MOUNTED ON AN ISOLATED SEPARATE POST SPECIFICALLY INTENDED FOR ENTRY EQUIPMENT AND ELECTRONICS.



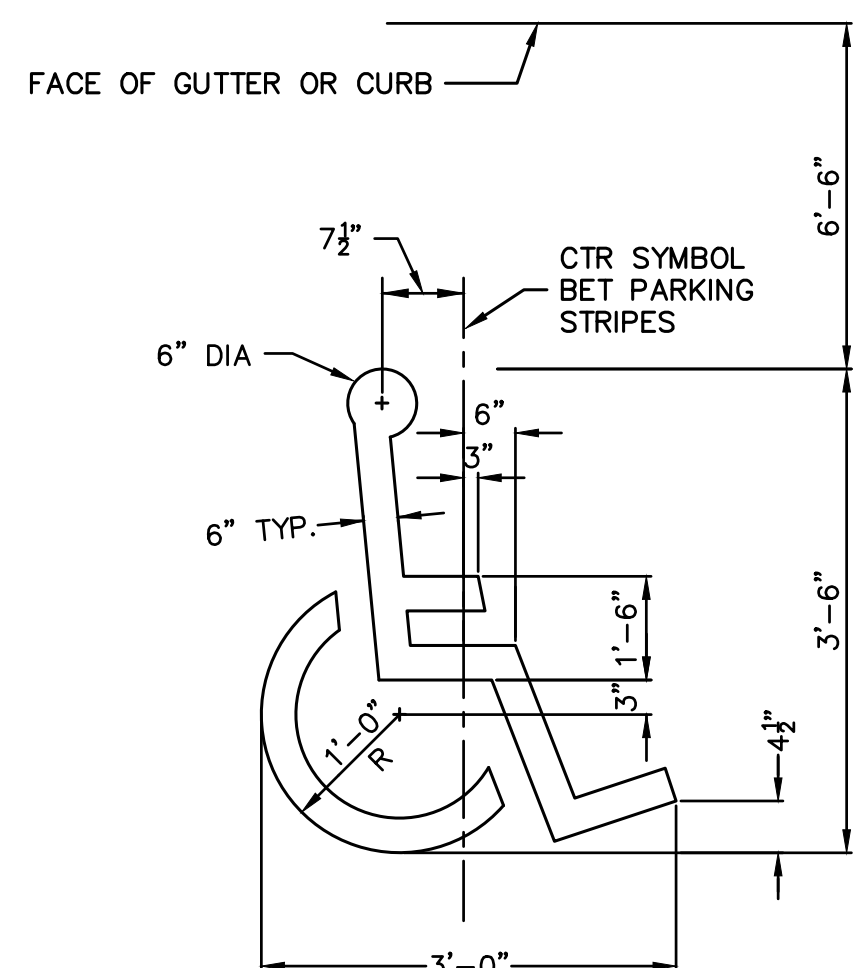
3 RETAINING WALL ENLARGEMENT

SCALE: 1" = 10'-0"



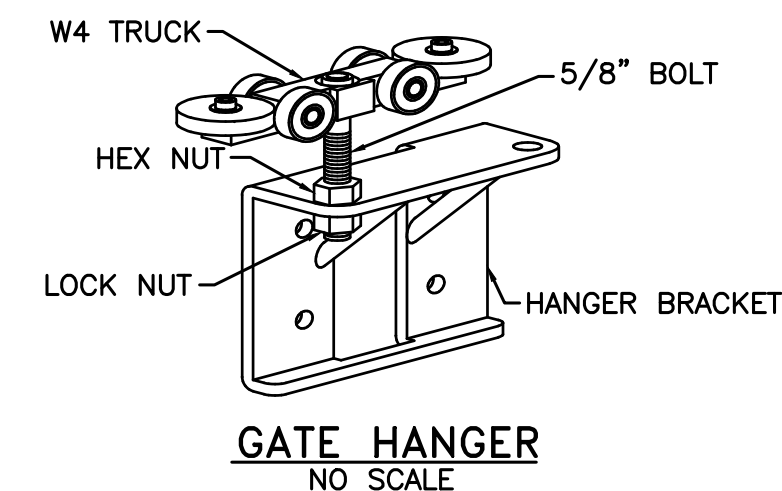
ASSEMBLY SECTION

NO SCALE



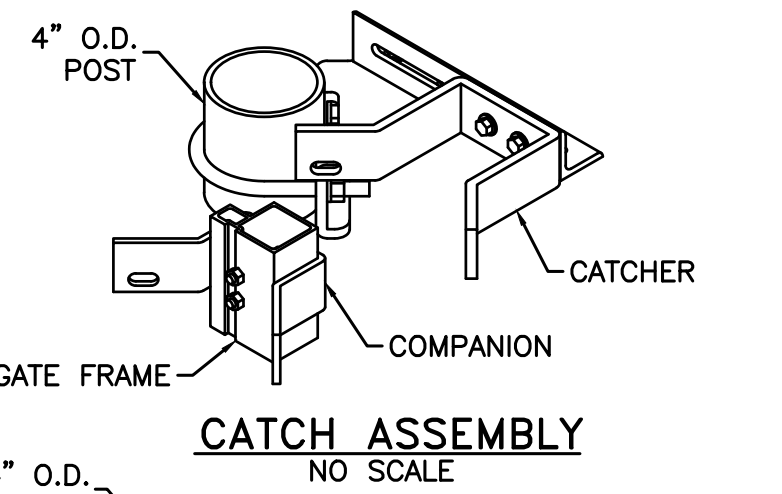
4 HANDICAPPED SYMBOL

NO SCALE



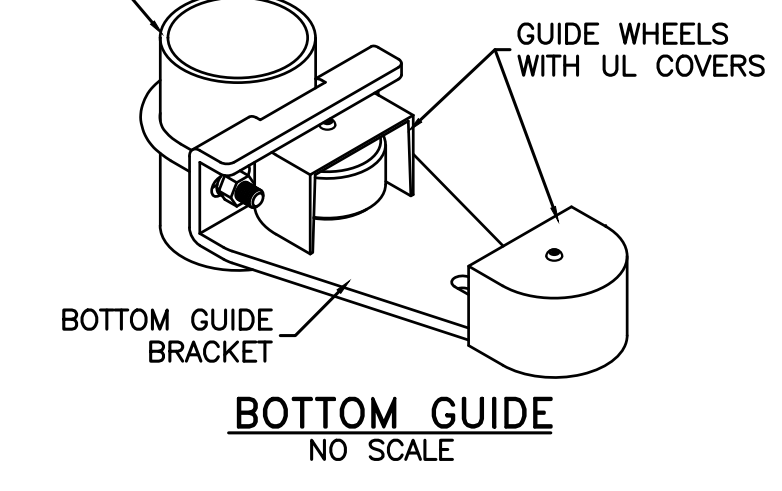
GATE HANGER

NO SCALE



CATCH ASSEMBLY

NO SCALE



BOTTOM GUIDE

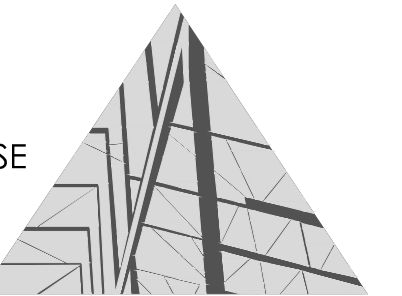
NO SCALE

CRITICAL DIMENSION CHART		
A	CLEAR OPENING	30'-0"
B	COUNTERBALANCE POST SPACING C/C	14'-1"
C	OVERALL GATE LENGTH	45'-0"
D	COUNTERBALANCE LENGTH	15'-0"
E	NOMINAL GATE HEIGHT	8'-0"
F	POST HEIGHT	9'-6"
G	FABRIC HEIGHT	7'-0"

NOMINAL GATE SIZE
30'W X 8'H

SPECTRUM DESIGN
architects | engineers

Plaza Suite 1
10 Church Avenue, SE
Roanoke, VA 24011
540.342.6001
SPECTRUMPC.COM



CITY OF ROANOKE REFUELING CENTERS PUBLIC WORKS SERVICE CENTER

ROANOKE CITY PROJECT NO.: RFP #24-10-66
Spectrum Design Project No.: 23181



PROJ. MGR.: CHECKED BY: DRAWN BY:
MAR MAR AGA

SHEET ISSUE DATE:
10.10.2025

PROJECT PHASE:
BID DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

KEY PLAN:

SHEET NAME:
SITE DETAILS

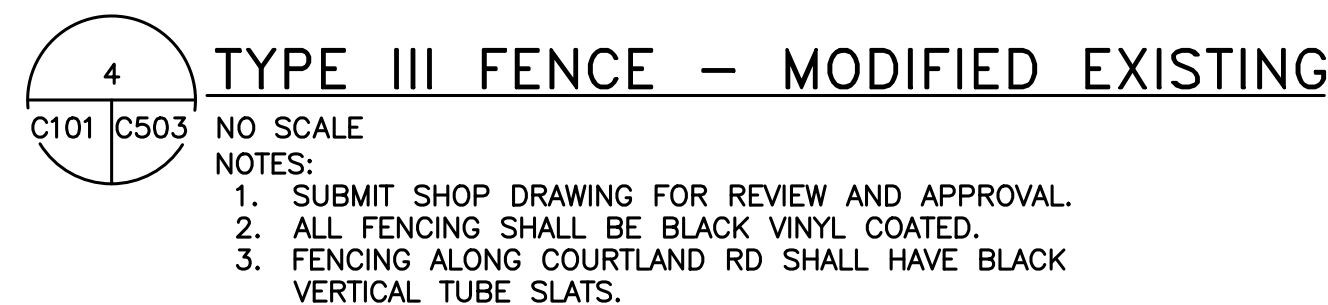
SHEET NUMBER:
C502-PW

City of Roanoke
Planning, Building, & Development

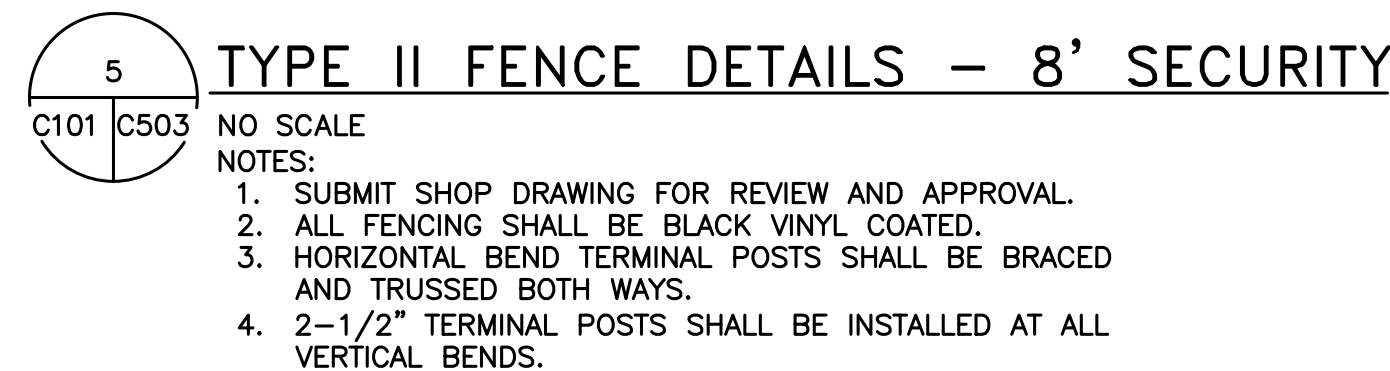
COMPREHENSIVE DEVELOPMENT PLAN

APPROVED
by plkr1 10/21/2025

AHJ APPROVAL STAMP



PROJECT LOD = 2.19 AC
CANOPY REQUIREMENT (10%) = 0.219 AC (9540 SF)
CANOPY PROVIDED = 0.355 AC (15470 SF, 16%)



KEY PLANS

SHEET NUMBER:
C503-PW

by plkr1 10/21/2025

L
AHJ APPROVAL STAMP



CITY OF ROANOKE
REFUELING CENTERS
PUBLIC WORKS
SERVICE CENTER

ROANOKE CITY PROJECT NO.: RFP #24-10-66
Spectrum Design Project No.: 23181



PROJ. MGR.:
MAR
CHECKED BY:
MAR
DRAWN BY:
AGA

SHEET ISSUE DATE:
10.10.2025

PROJECT PHASE:
BID DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

KEY PLAN:

SHEET NAME:
SITE DETAILS

SHEET NUMBER:
C504-PW

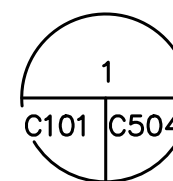
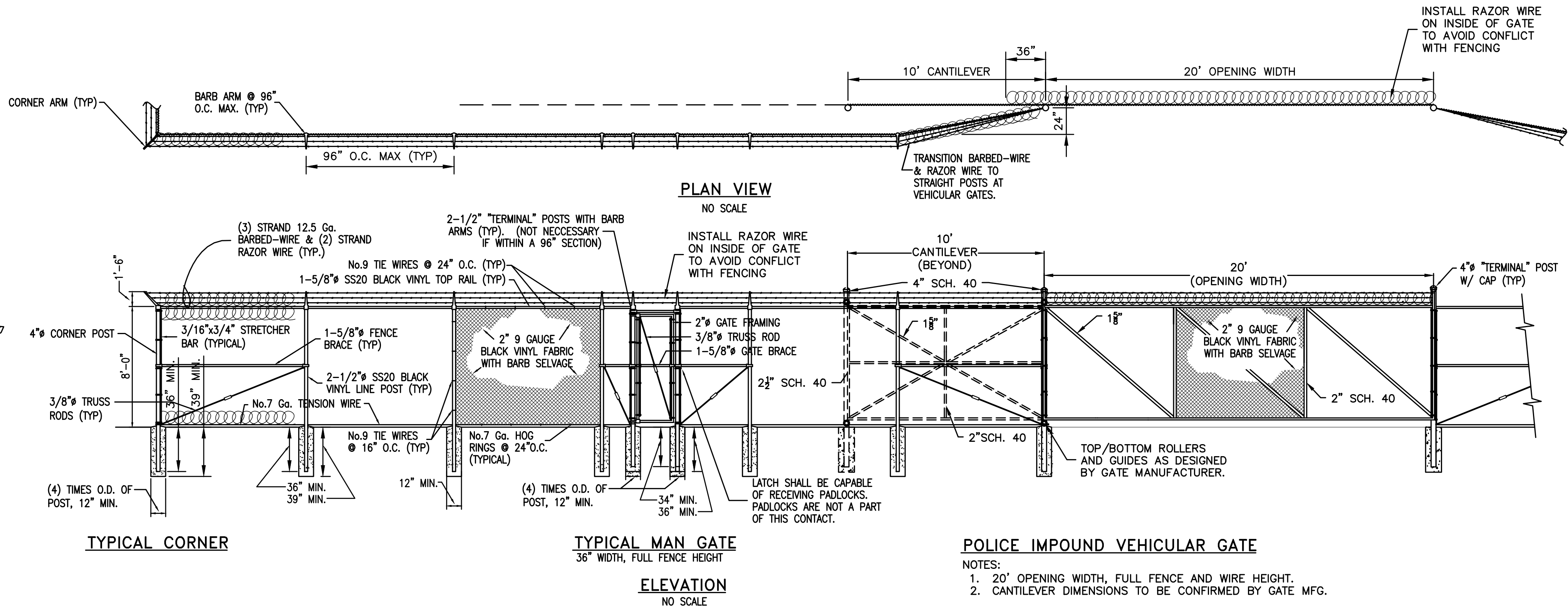
City of Roanoke
Planning, Building, & Development

COMPREHENSIVE DEVELOPMENT PLAN

APPROVED

by plkr1 10/21/2025

AHJ APPROVAL STAMP

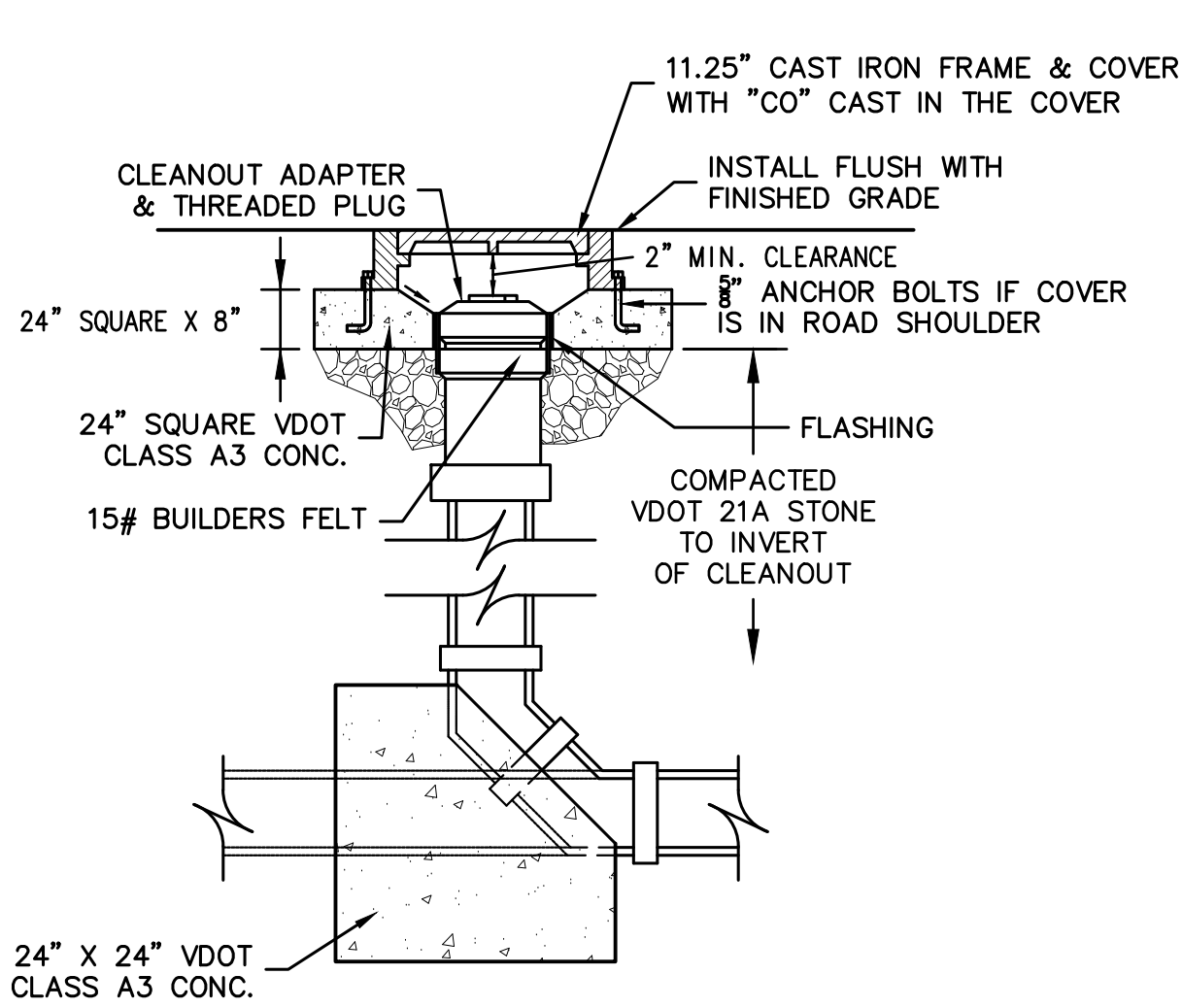


TYPE I FENCE DETAILS - 8' SECURITY

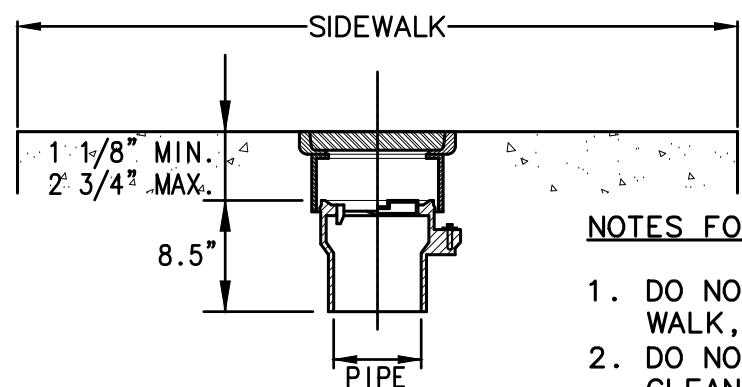
NO SCALE

NOTES:

- SUBMIT SHOP DRAWING FOR REVIEW AND APPROVAL.
- ALL FENCING SHALL BE BLACK VINYL COATED.
- HORIZONTAL BEND TERMINAL POSTS SHALL BE BRACED AND TRUSSED BOTH WAYS.
- 2-1/2" TERMINAL POSTS SHALL BE INSTALLED AT ALL VERTICAL BENDS.



TRAFFIC BEARING OR GRASS



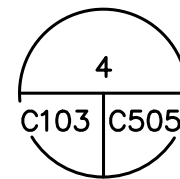
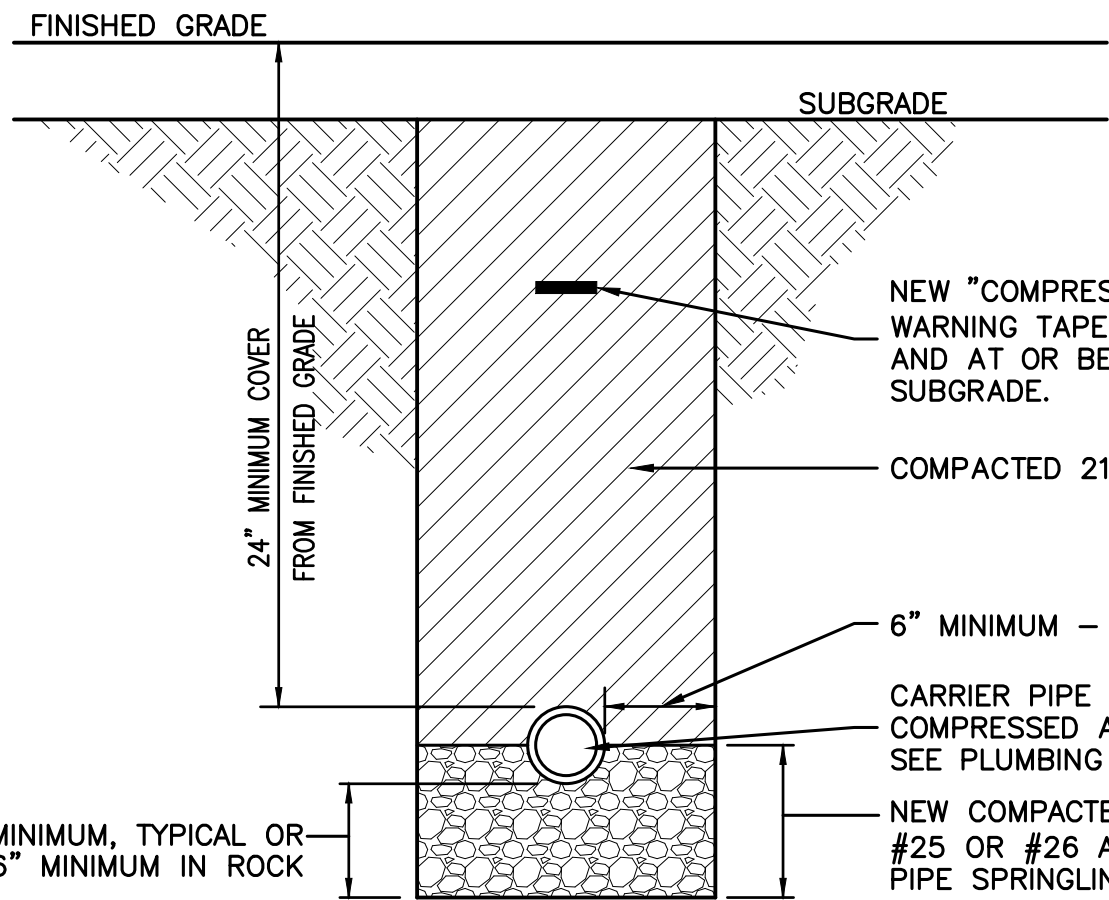
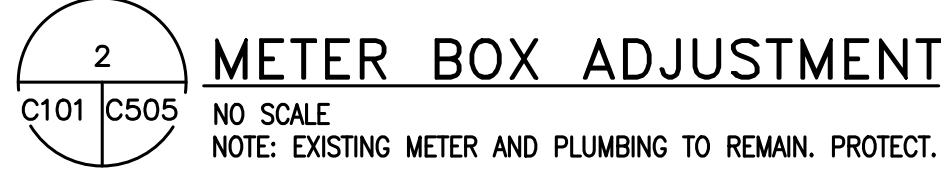
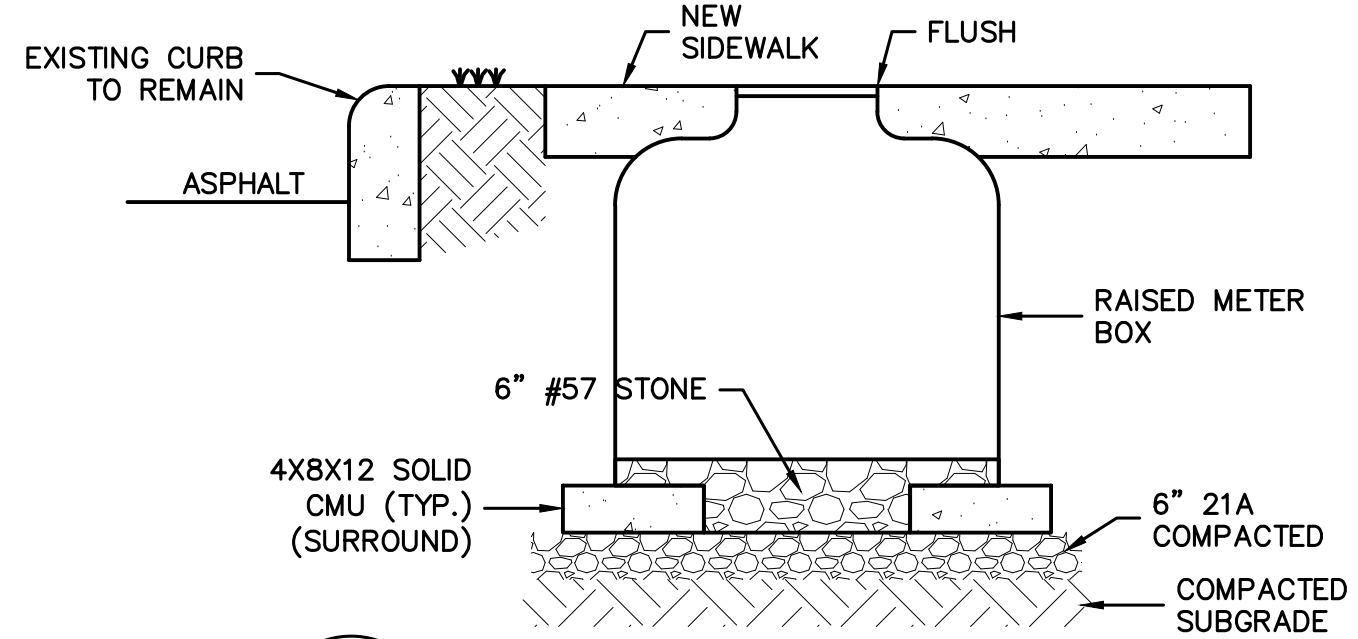
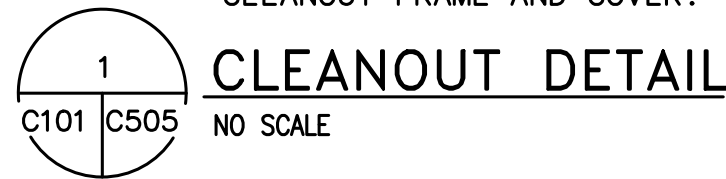
CONCRETE WALK

NOTES FOR SIDEWALK APPLICATIONS:

1. DO NOT STRIKE SHAPE OF COLLAR WITHIN CONC. WALK, ALLOW WALK TO BE COLLAR.
2. DO NOT STRIKE WALK JOINT THRU OR WITHIN 5" OF CLEANOUT FERRULE.
3. CLEANOUT: CAST IRON WITH DUCTILE IRON TOP, MOUNT FLUSH WITH FINISHED GRADE.

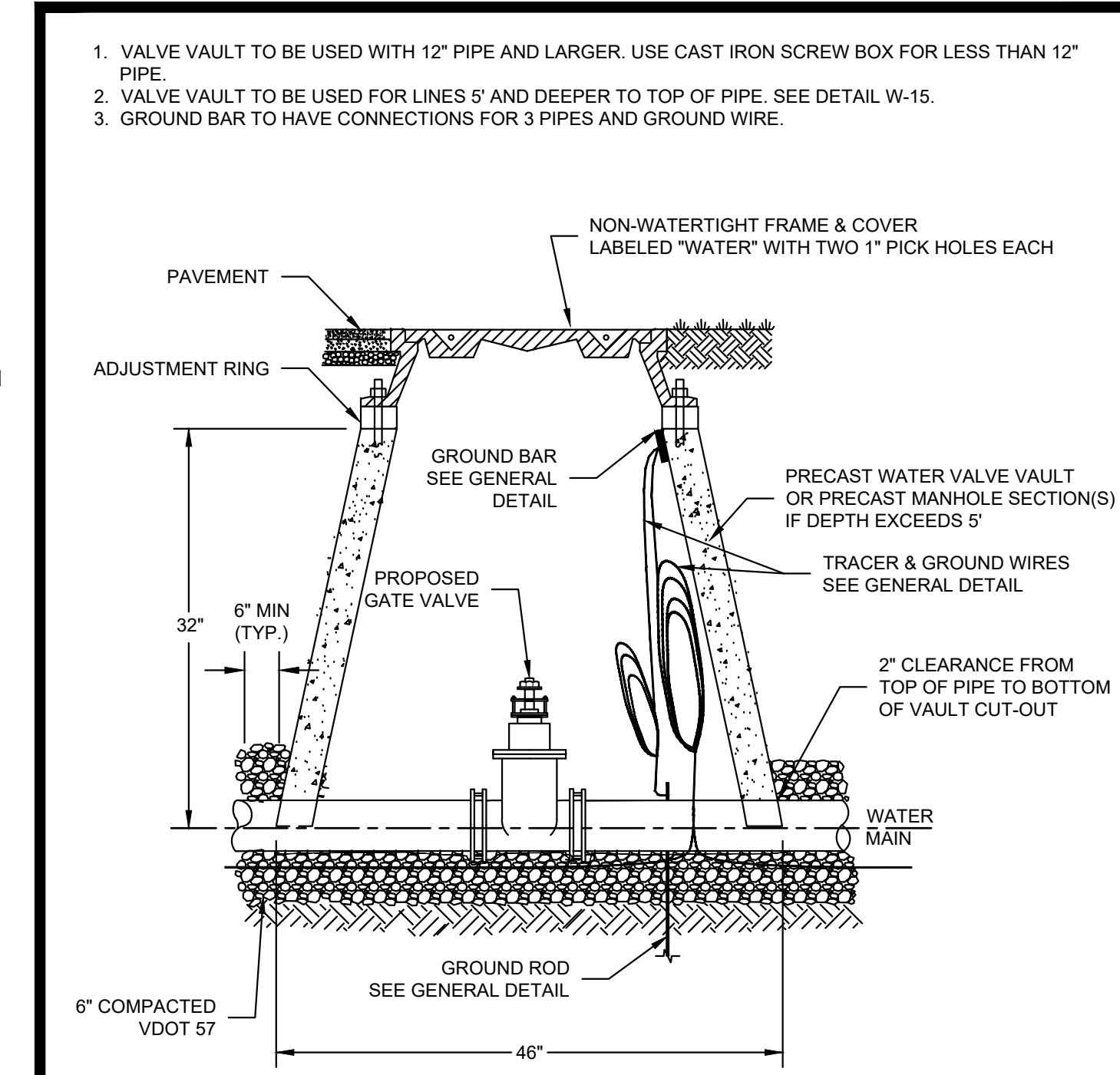
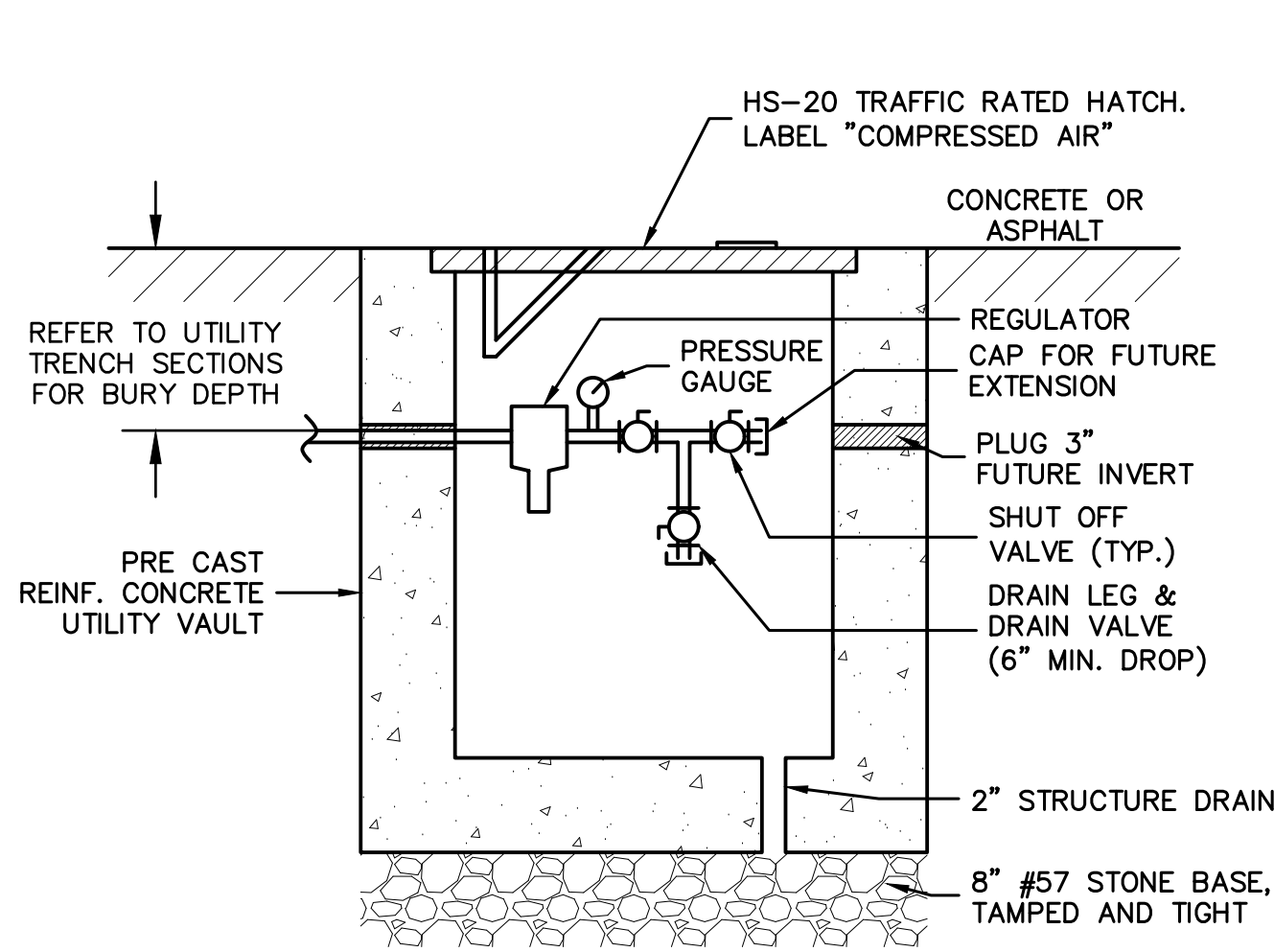
NOTES FOR PAVEMENT & GRASS APPLICATIONS:

1. FOR INSTALLATION WITHIN EXISTING PAVEMENT, PATCH SHALL MATCH EXISTING PAVEMENT SECTION UNLESS PRIME AND SEAL THEN USE SM-12.5D PATCH (3" MIN.)
2. PVC CLEANOUT WITH 11.25" TRAFFIC BEARING CLEANOUT FRAME AND COVER.



COMPRESSED AIR LINE TRENCH SECTION

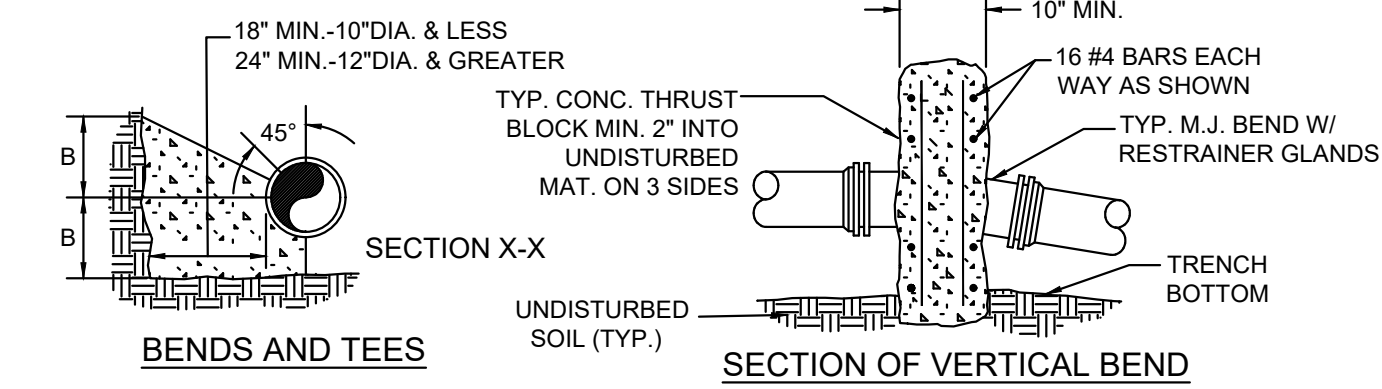
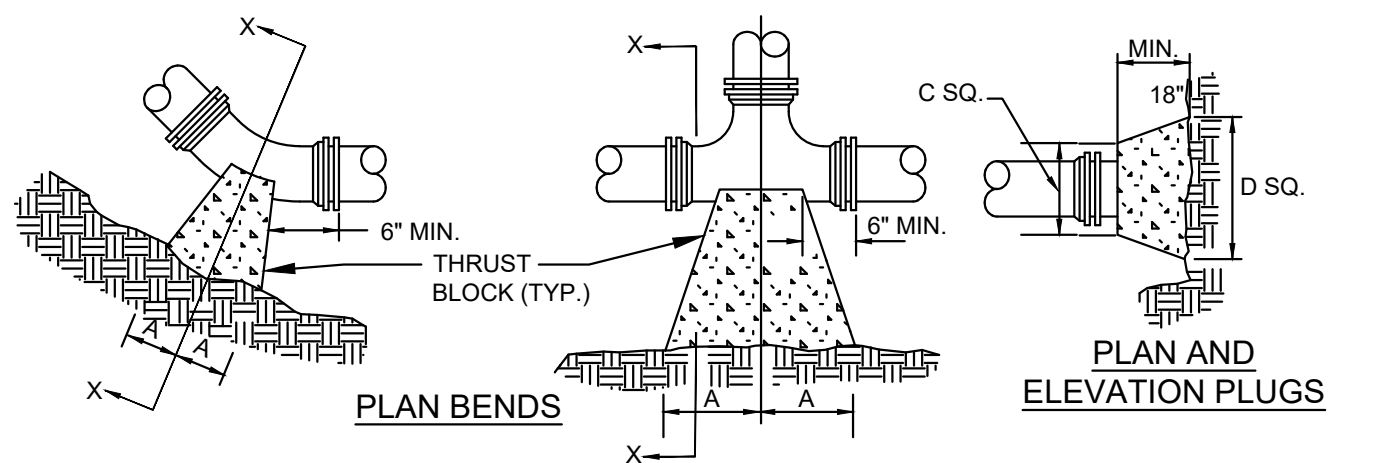
- NO SCALE
NOTES:
1. UNLESS DEFINED ELSEWHERE BY SPECS (BOUND OR ON PLAN SHEETS), BACKFILL SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER.
 2. AIR LINES SHALL HAVE A CONSTANT GRADIENT FROM SOURCE TO VAULT.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

WATER LINE VALVE & VAULT

W-9
09/2024



- NOTES
1. FOR VERT. BEND DOWN IN EXCESS OF 11 1/4" BEND, ANCHORAGE SHALL BE DESIGNED BY ENGINEER.
 2. FOR VERT. BEND UPWARD, BLOCKING TO BE SIMILAR TO THAT FOR HORIZ. BEND.
 3. GLANDS & BOLTS SHALL BE PROTECTED FROM CONC. WITH PLASTIC SHEETING WHEN POURING THRUST BLOCKS.
 4. ALL THRUST BLOCK & SUPPORT CONCRETE SHALL BE 3000 PSI READY MIX CONCRETE.
 5. THRUST BLOCKS WITH "B" DIMENSION GREATER THAN 30" SHALL HAVE THE RESTRAINED PIPE INSTALLED WITH A MINIMUM OF 4" OF COVER.
 6. REFER TO "MINIMUM THRUST RESTRAINT OF PIPE JOINTS DESIGN LENGTHS" DETAIL FOR WHEN THRUST BLOCKS ARE REQUIRED TO BE USED.
 7. WHEN THRUST BLOCK IS REQUIRED BUT NOT FEASIBLE TO CONSTRUCT, THRUST COLLAR SHALL BE USED. SEE "THRUST COLLAR" DETAIL.

PRESSURE = 200psi BEARING = 2000psf FACTOR OF SAFETY = 1.5												
PIPE SIZE	90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		TEE		PLUG	
	A	B	A	B	A	B	A	B	A	B	C	D
4"	8"	12"	8"	8"	6"	6"	6"	6"	11"	9"	10"	6"
6"	18"	12"	8"	10"	8"	8"	8"	8"	11"	10"	12"	18"
8"	18"	13"	10"	10"	8"	8"	8"	8"	11"	12"	12"	24"
10"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
12"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
16"	26"	20"	16"	18"	11"	13"	11"	13"	18"	20"	20"	36"
24"	82"	42"	62"	30"	44"	22"	22"	16"	82"	42"	82"	42"
30"	185"	42"	100"	42"	52"	42"	40"	30"	185"	42"	185"	42"

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

FIRE HYDRANT ASSEMBLY

W-17
09/2024

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

THRUST BLOCK REQUIREMENTS

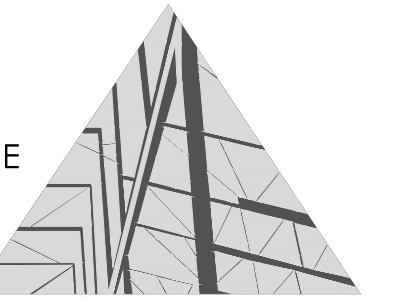
W-18
09/2024



- NO SCALE
NOTES:
1. SUBMIT ACTUAL DESIGN TO PARTICIPATING UTILITY FOR APPROVAL.

SPECTRUM DESIGN architects | engineers

Plaza Suite 1
10 Church Avenue, SE
Roanoke, VA 24011
540.342.6001
SPECTRUMPC.COM



CITY OF ROANOKE REFUELING CENTERS PUBLIC WORKS SERVICE CENTER

ROANOKE CITY PROJECT NO.: **RFP #24-10-66**
Spectrum Design Project No.: **23181**



PROJ. MGR.: **MAR** CHECKED BY: **MAR** DRAWN BY: **AGA**

SHEET ISSUE DATE:
10.10.2025

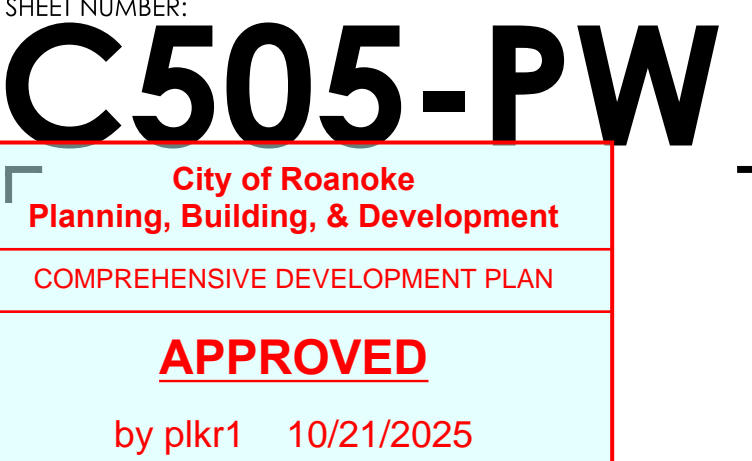
PROJECT PHASE:
BID DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

KEY PLAN:
UTILITY DETAILS

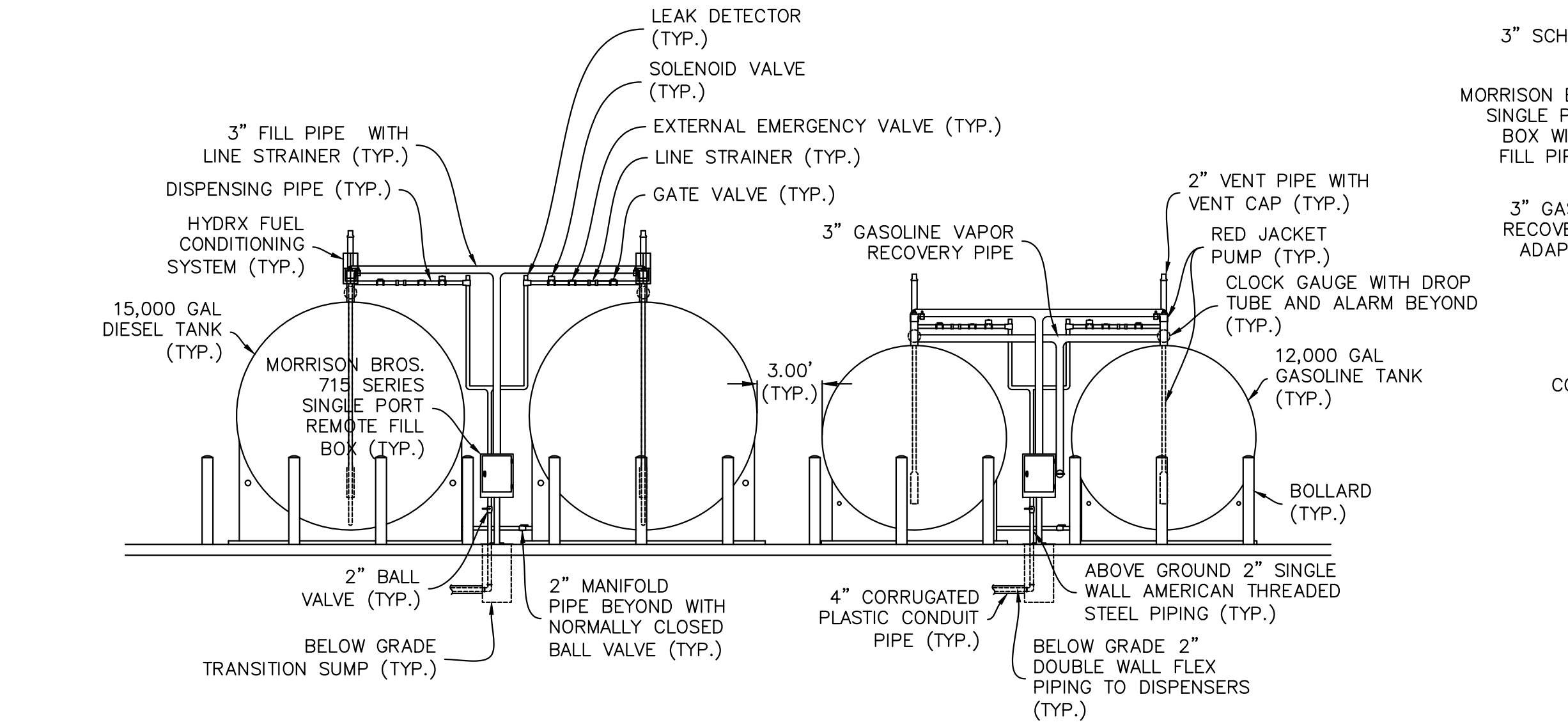
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SHEET NUMBER:

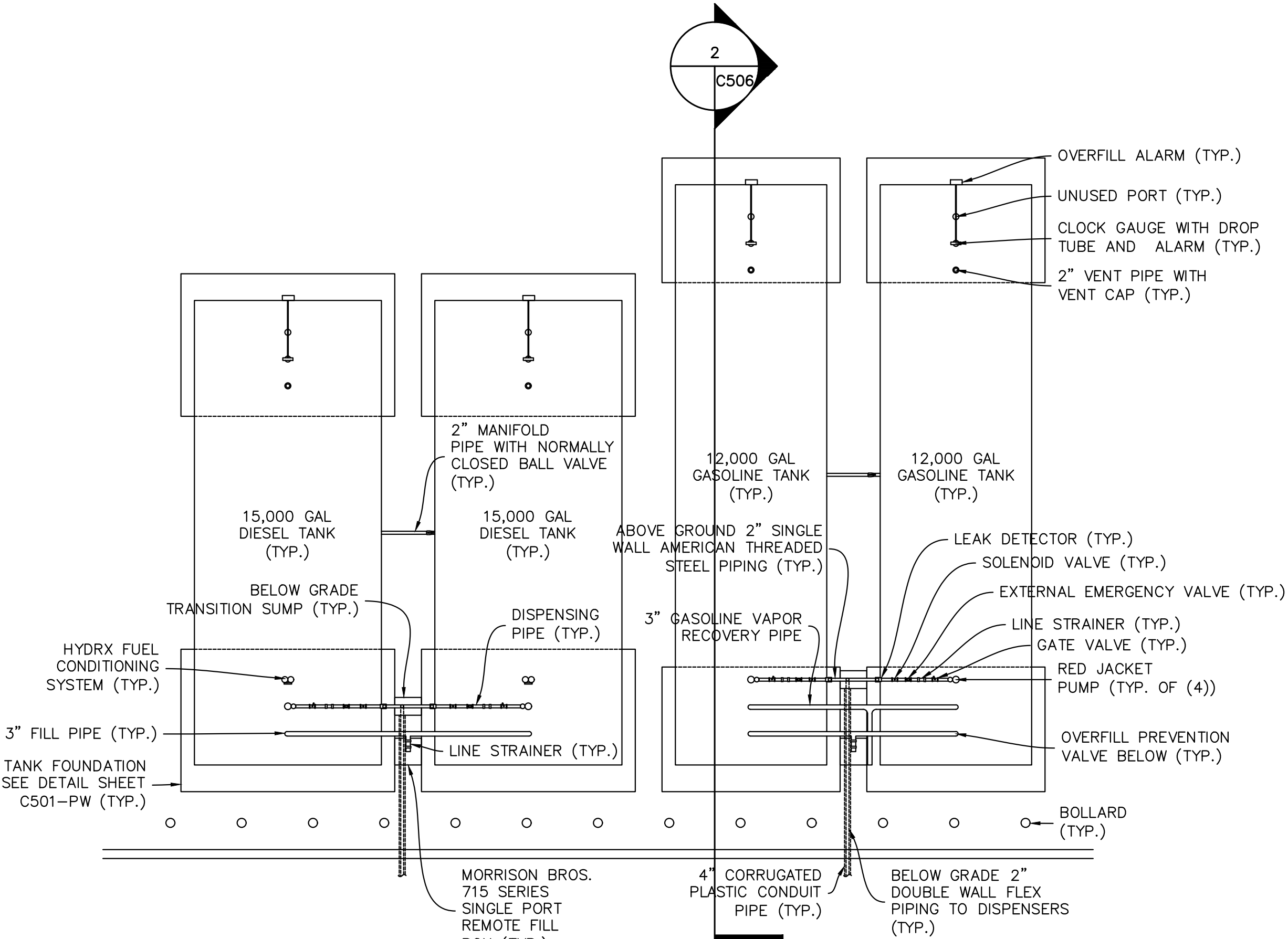


AHJ APPROVAL STAMP

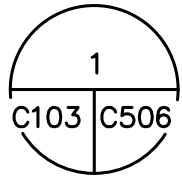
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ELEVATION VIEW



PLAN VIEW

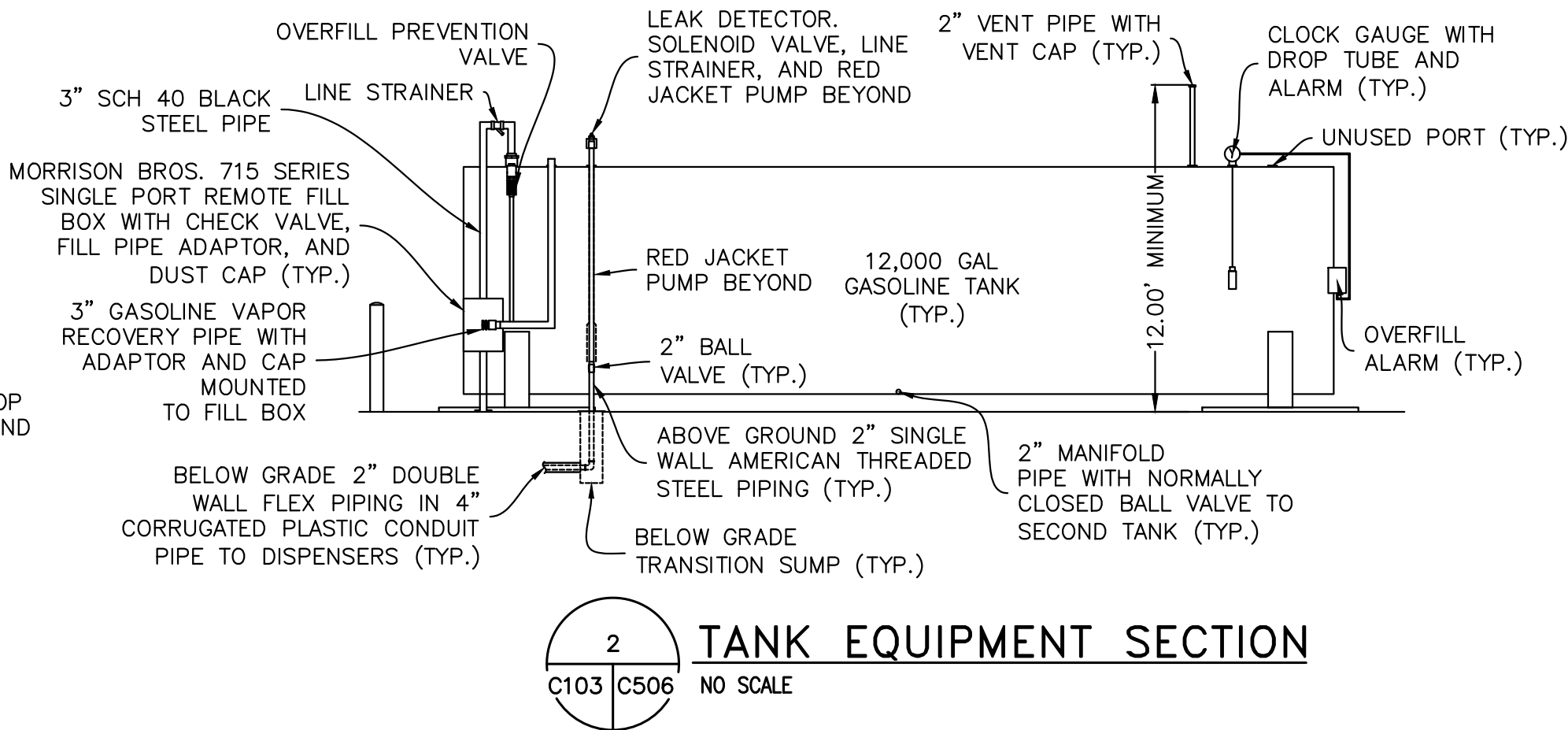


TANK EQUIPMENT DETAIL

NO SCALE

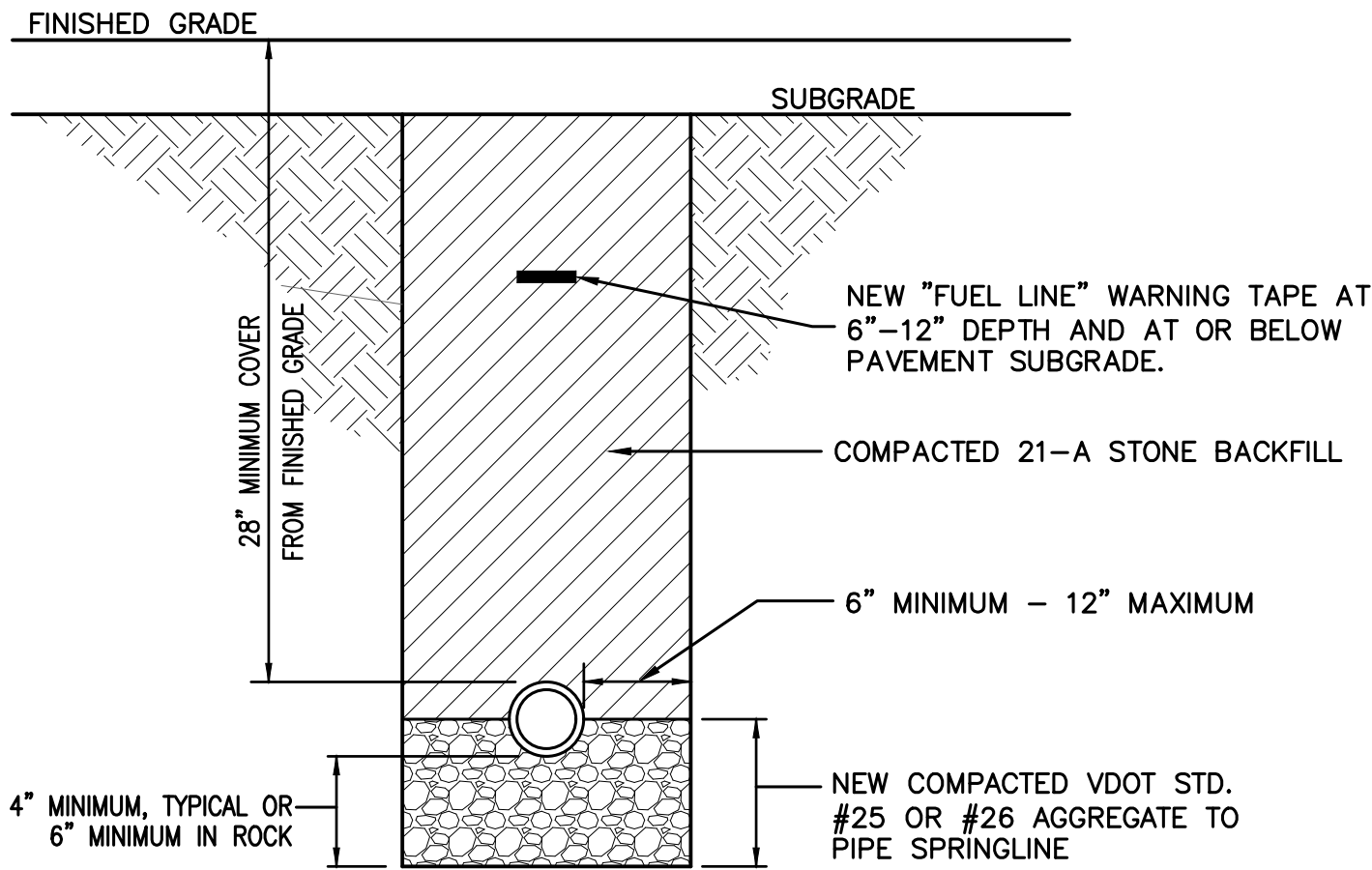
NOTES:

1. CONTRACTOR RESPONSIBLE FOR ALL COORDINATION WITH FUEL MANAGEMENT SYSTEM.
2. ALL EXPOSED METALLIC PIPE FITTINGS SHALL BE PAINTED WITH RUST PROHIBITIVE PAINT, COLOR BLACK.
3. EACH TANK SHALL HAVE "NO SMOKING" & "NO OPEN FLAME" SIGNS VISIBLE ON ALL SIDES OF TANK.



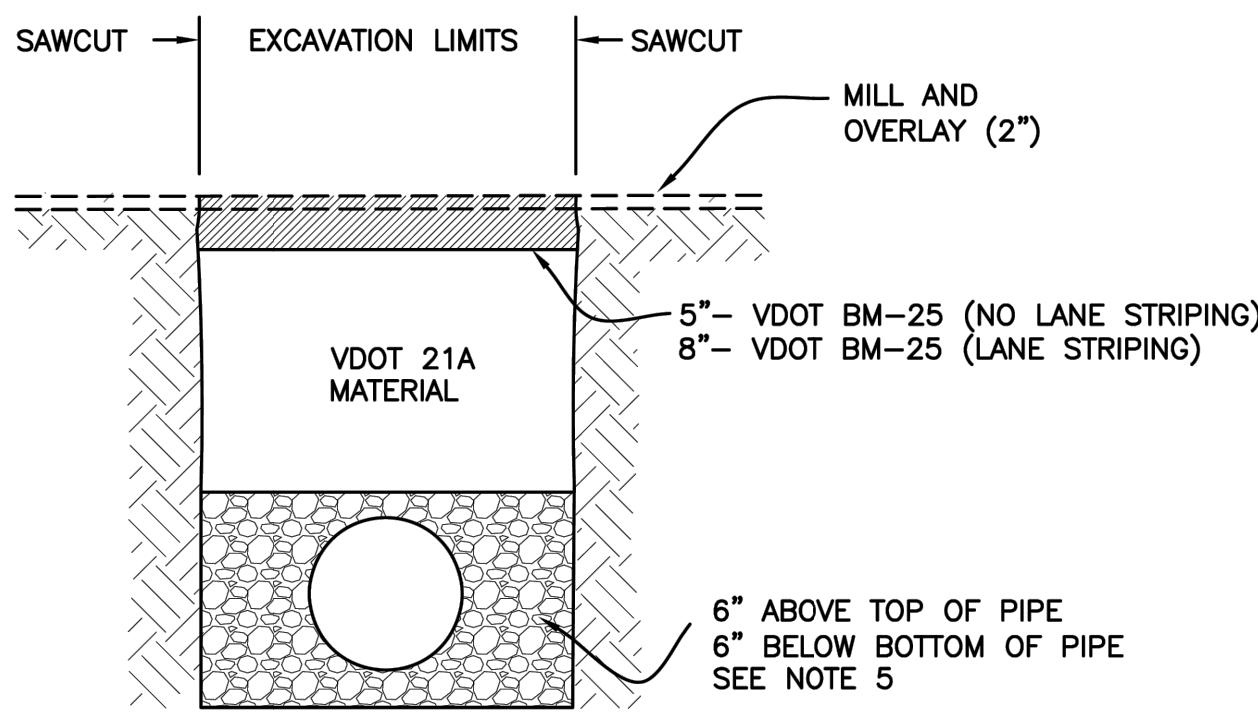
TANK EQUIPMENT SECTION

NO SCALE



DIESEL/GASOLINE TRENCH SECTION

NO SCALE

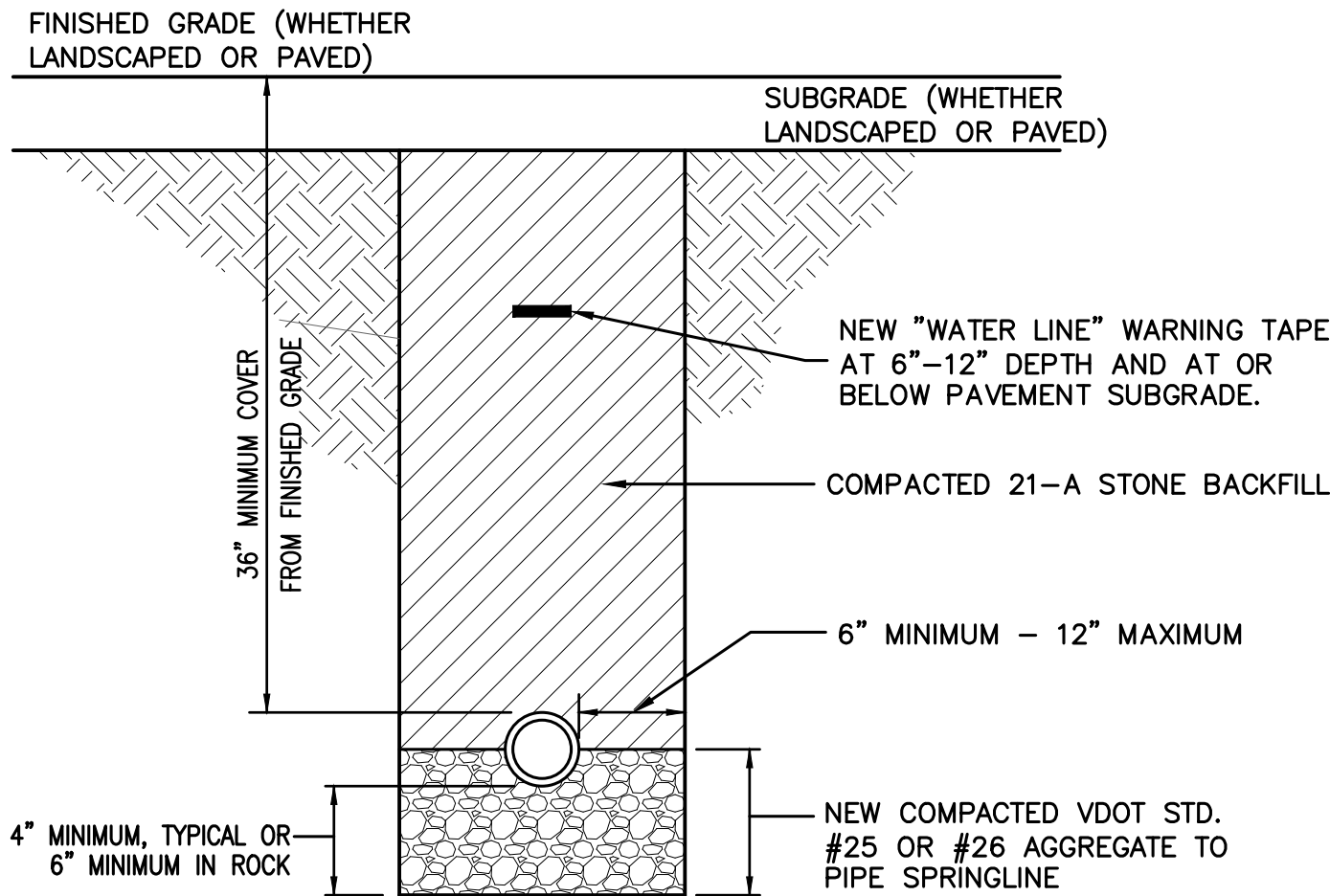


PIPE BACKFILL DETAIL UNDER ASPHALT PAVEMENT WITH MILL AND OVERLAY RESTORATION (NTS)

NOTES:

1. VDOT 21A SHALL BE COMPACTED TO 95% (ASTM D698).
2. THE BM-25 SHALL BE INSTALLED TO THE TOP OF THE TRENCH AS A TEMPORARY RIDING SURFACE. AS PART OF THE FINAL RESTORATION THE MILL AND OVERLAY OPERATION WILL MILL OFF THE TOP 2" OF BM-25 AND OVERLAY WITH SURFACE MIX.
3. BM-25 SHALL BE INSTALLED IN TWO LIFTS AND COMPACTED TO VDOT RBS.
4. DISPOSE OF EXCESS EXCAVATED SOIL/MATERIAL AT AN OFF-SITE LOCATION IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL LAWS. STOCKPILING ON-SITE SHALL BE LIMITED.
5. IF PIPE IS GREATER THAN OR EQUAL TO 6" IN DIAMETER THEN BEDDING SHALL BE VDOT NO. 57 AGGREGATE. IF PIPE IS LESS THAN 6" IN DIAMETER THEN BEDDING SHALL BE VDOT NO. 10 SCREENINGS COMPACTED TO 95% (ASTM D698).

D1-PIPEBACKFILL.DWG



NEW WATER LINE TRENCH SECTION

NO SCALE

UNLESS DEFINED ELSEWHERE BY SPECS (BOUND OR ON PLAN SHEETS), BACKFILL SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER.



PIPE BACKFILL DETAIL UNDER CURB, GUTTER, SIDEWALK AND FOUNDATION (NTS)

NOTES:

1. VDOT 21A SHALL BE COMPACTED TO 95% (ASTM D698).
2. THIS DETAIL ALSO APPLIES TO ANY AREA WITHIN 5' OF CURB, GUTTER OR SIDEWALK.
3. DISPOSE OF EXCESS EXCAVATED SOIL/MATERIAL AT AN OFF-SITE LOCATION IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL LAWS. STOCKPILING ON-SITE SHALL BE LIMITED.
4. IF PIPE IS GREATER THAN OR EQUAL TO 6" IN DIAMETER THEN BEDDING SHALL BE VDOT NO. 57 AGGREGATE. IF PIPE IS LESS THAN 6" IN DIAMETER THEN BEDDING SHALL BE VDOT NO. 10 SCREENINGS COMPACTED TO 95% (ASTM D698).

D3-PIPEBACKFILL.DWG

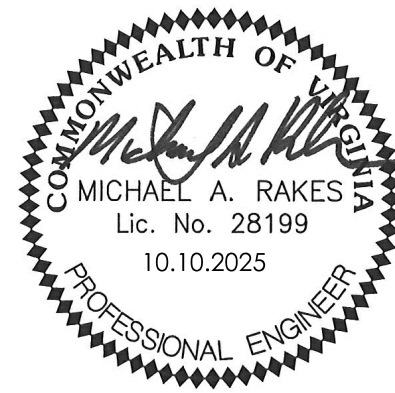
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CITY OF ROANOKE
REFUELING CENTERS
PUBLIC WORKS
SERVICE CENTER

ROANOKE CITY PROJECT NO.: **RFP #24-10-66**
Spectrum Design Project No.: **23181**



PROJ. MGR.: **MAR** CHECKED BY: **MAR** DRAWN BY: **AGA**

SHEET ISSUE DATE:
10.10.2025

PROJECT PHASE:
BID DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

KEY PLAN:

SHEET NAME:

UTILITY DETAILS

SHEET NUMBER:

C506-PW

City of Roanoke
Planning, Building, & Development

COMPREHENSIVE DEVELOPMENT PLAN

APPROVED

by plkr1 10/21/2025

AHJ APPROVAL STAMP

Typical Traffic Control
Lane Closure on a Two-Lane Roadway Using Flaggers
(Figure TTC-23.2)

NOTES

Guidance:

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:

4. Portable Temporary Rumble 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).
7. Cone spacing shall be based on the posted speed and the values in Table 6H-4 on Page 6H-6.¹
8. A shadow vehicle with at least one high intensity amber rotating, flashing, or¹ oscillating light shall be parked 80'-120' in advance of the first work crew.

Option:

8. A SLOW (W21-V10) sign¹ 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.

Guidance:

9. If the queue of traffic reaches the BE PREPARED TO STOP (W3-4) sign then the signs, and if used the PTRS¹ 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 crossing (see Figure TTC-56 for additional information on highway-rail crossings).

Standard:

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

Option:

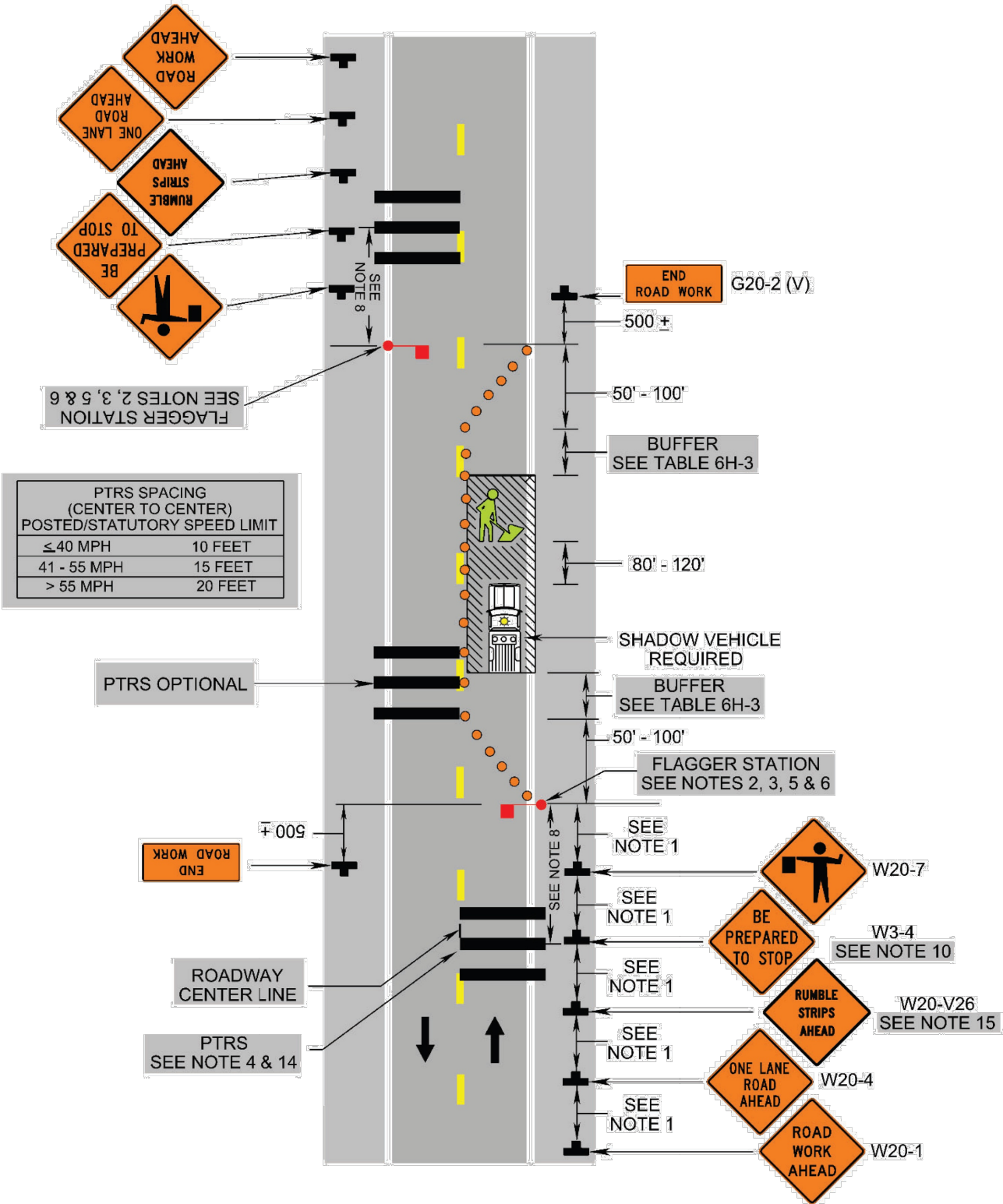
12. Cones may be eliminated when using a pilot vehicle operation or when the total roadway width is 20 feet or less.
13. For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be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

Standard:

14. When used³, 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

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



1: Revision 1 – 4/1/2015
2: Revision 2 – 9/1/2019
3: Revision 2.1 – 11/1/2020

Typical Traffic Control
Flagging Operation at a Signalized Intersection
(Figure TTC-30.2)

NOTES

Guidance:

1. The control of traffic through the intersection in order of preference should be:
 - a. Obtain the services of law enforcement personnel with the approved signing as shown².
 - b. Divert the effective routes to other roads and streets as approved and directed by the District Traffic Engineer.
 - c. Place a state certified flagger on each leg of the intersection with the approved signing as shown.
2. Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less, 500'-800' where the posted speed limit is greater than 45 mph. For urban streets 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.
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 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
4. When law enforcement officers or flaggers are used to control movement at the signalized intersection, portable temporary rumble strips and signing as shown¹ should be used when the expected operation will last longer than 3 hours.²

Standard:

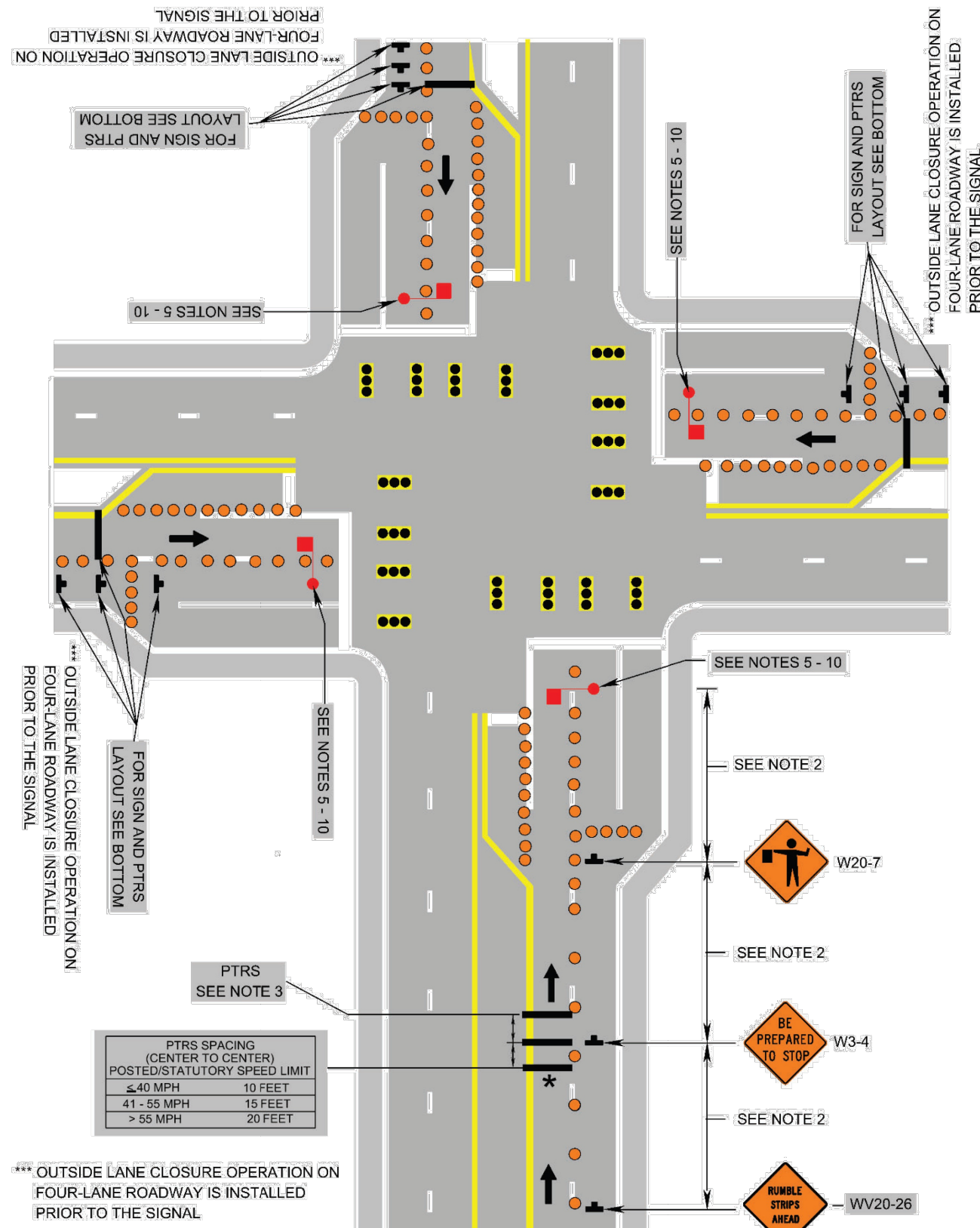
5. For flagging operations,¹ a stationary lane closure shall be installed in advance of the signalized intersection for all approaches with two or more lanes for through traffic.
6. For flagging operations,¹ all turn lanes at the intersection shall be closed.
7. Electrical power supply to signals shall be turned off while flaggers are controlling traffic through the intersection.
8. To prevent accidental intrusion into the flagger station, cone spacing shall not exceed 10' on centers from the graphic flagger sign to the flagger station. Cones shall be installed in the closed lane, perpendicular to traffic, prior to the flagging station.
9. A lead flagger shall be assigned to control all flagger operations. One flagger shall be stationed to control each approach of the intersection. Flaggers shall alternate right-of-way to traffic such that traffic moves through the intersection one approach at a time.
10. Flagger stations shall be illuminated during planned night time work operations with a minimum of horizontal luminance of 5-foot candles (50 lux) (see Section 6E.08).
11. On divided highways having a median wider than 8', right and left sign assemblies shall be required.

Option:

12. PTRS may be incorporated into the advanced warning area of lane closures on multi-lane roadways, see Section 6F.99 and TTC-16.²
13. RIGHT TURN LANE CLOSED AHEAD (W20-V13R) and/or LEFT TURN LANE CLOSED AHEAD (W20-V13L) sign(s) may be used when closing the turn lanes.
14. For a high volume of turning movements, additional traffic control devices, such as signs (graphic NO LEFT TURN (R3-2), NO RIGHT TURN (R3-1), RIGHT TURN LANE CLOSED AHEAD (W20-V13R) and/or LEFT TURN LANE CLOSED AHEAD (W20-V13L)), cones and vehicles may be used.
15. Traffic signals may be on the flash mode when traffic through the intersection when controlled by a law enforcement officer.¹
16. Travel and turn lanes may remain open if a law enforcement officer is controlling traffic through the intersection.¹

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

Flagging Operation at a Signalized Intersection
(Figure TTC-30.2)



2: Revision 2 – 9/1/2019

Typical Traffic Control
Street Closure Operation with Detour
(Figure TTC-34.2)

NOTES

Guidance:

1. 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.
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 traveled way.
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

Option:

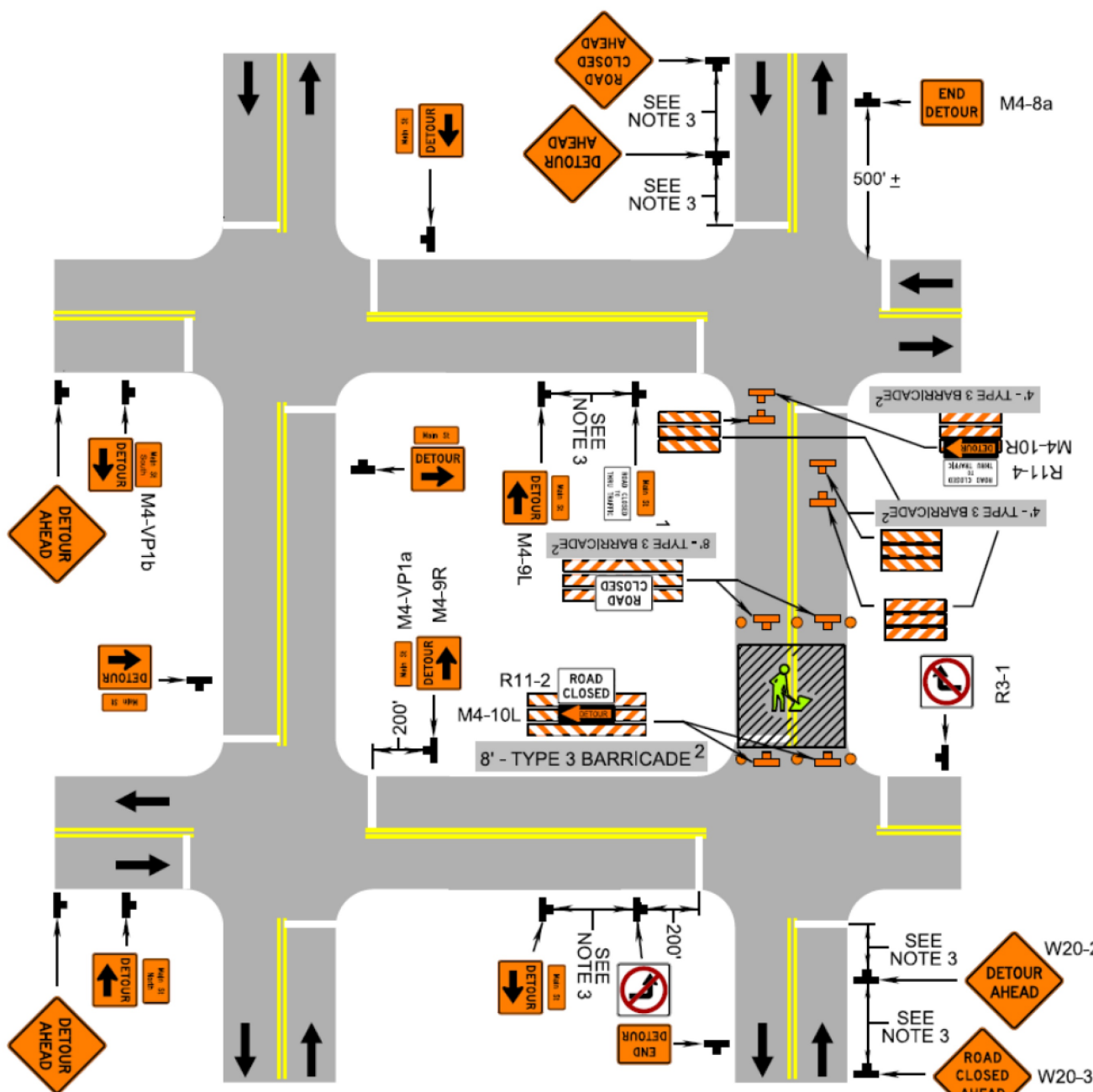
6. Flashing warning lights and/or flags may be used to call attention to the advance warning signs.
7. Flashing warning lights may be used on Type 3 Barricades.
8. Detour signs may be located on the far side of intersections. A Detour sign with an advance arrow may be used in advance of a turn.
9. A 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.
- Support:
11. See Chapter 6I for additional information on incident management traffic control.

2: Revision 2 – 9/1/2019

Street Closure Operation with Detour
(Figure TTC-34.2)



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

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KEY PLAN:

SHEET NAME:
DETAILS

SHEET NUMBER:
C507-PW

City of Roanoke
Planning, Building, & Development
COMPREHENSIVE DEVELOPMENT PLAN

APPROVED
by plkr1 10/21/2025

AHJ APPROVAL STAMP

Typical Traffic Control
Sidewalk Closure and Bypass Sidewalk Operation
(Figure TTC-35.1)
NOTES

Standard:

- When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.

Guidance:

- Where high speeds are anticipated, a temporary traffic barrier and, if necessary, a crash cushion should be used to separate the temporary sidewalks from vehicular traffic.
- Audible information devices should be considered where midblock closings and changed crosswalk areas cause inadequate communication to be provided to pedestrians who have visual disabilities.
- Temporary markings should be considered for operations exceeding three days in duration.

Option:

- Only the TTC devices related to pedestrians are shown. Other devices, such as lane closure signing or ROAD NARROWS (W5-1) signs, may be used to control vehicular traffic.
- For nighttime closures, Type A Flashing warning lights may be used on barricades that support signs and close sidewalks.
- Signs, such as KEEP RIGHT (R4-V7R) and KEEP LEFT (R4-V7L), may be placed along a temporary sidewalk to guide or direct pedestrians.

Standard:

- All sidewalk closures shall be closed with Type 3 Barricades. The SIDEWALK CLOSED (R9-9) sign and the SIDEWALK CROSS HERE (R9-11) sign shall be installed above the Type 3 barricade. The KEEP RIGHT sign can cover the top rail of the Type 3 Barricade.

2: Revision 2 – 9/1/2019

Typical Traffic Control
Crosswalk Closure and Pedestrian Detour Operation
(Figure TTC-36.2)
NOTES

Standard:

- When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.
- Curb parking shall be prohibited for at least 50 feet in advance of the midblock crosswalk.

Guidance:

- Audible information devices should be considered where midblock closings and changed crosswalk areas cause inadequate communication to be provided to pedestrians who have visual disabilities.
- Pedestrian traffic signal displays controlling closed crosswalks should be covered or deactivated.
- Temporary markings should be considered for operations exceeding three days in duration.

Option:

- Only the TTC devices related to pedestrians are shown. Other devices, such as lane closure signing or ROAD NARROWS (W5-1) signs, may be used to control vehicular traffic.
- For nighttime closures, Type A Flashing warning lights may be used on barricades supporting signs and closing sidewalks.

Standard:

- In order to maintain the systematic use of the fluorescent yellow-green background for school warning signs in a jurisdiction, the fluorescent yellow-green background for school warning signs shall be used in TTC zones.
- All sidewalk closures shall be closed with Type 3 Barricades. The SIDEWALK CLOSED (R9-9) sign and the SIDEWALK CROSS HERE (R9-11) sign shall be installed above the Type 3 Barricade. The KEEP RIGHT sign can cover the top rail of the Type 3 Barricade.

Support:

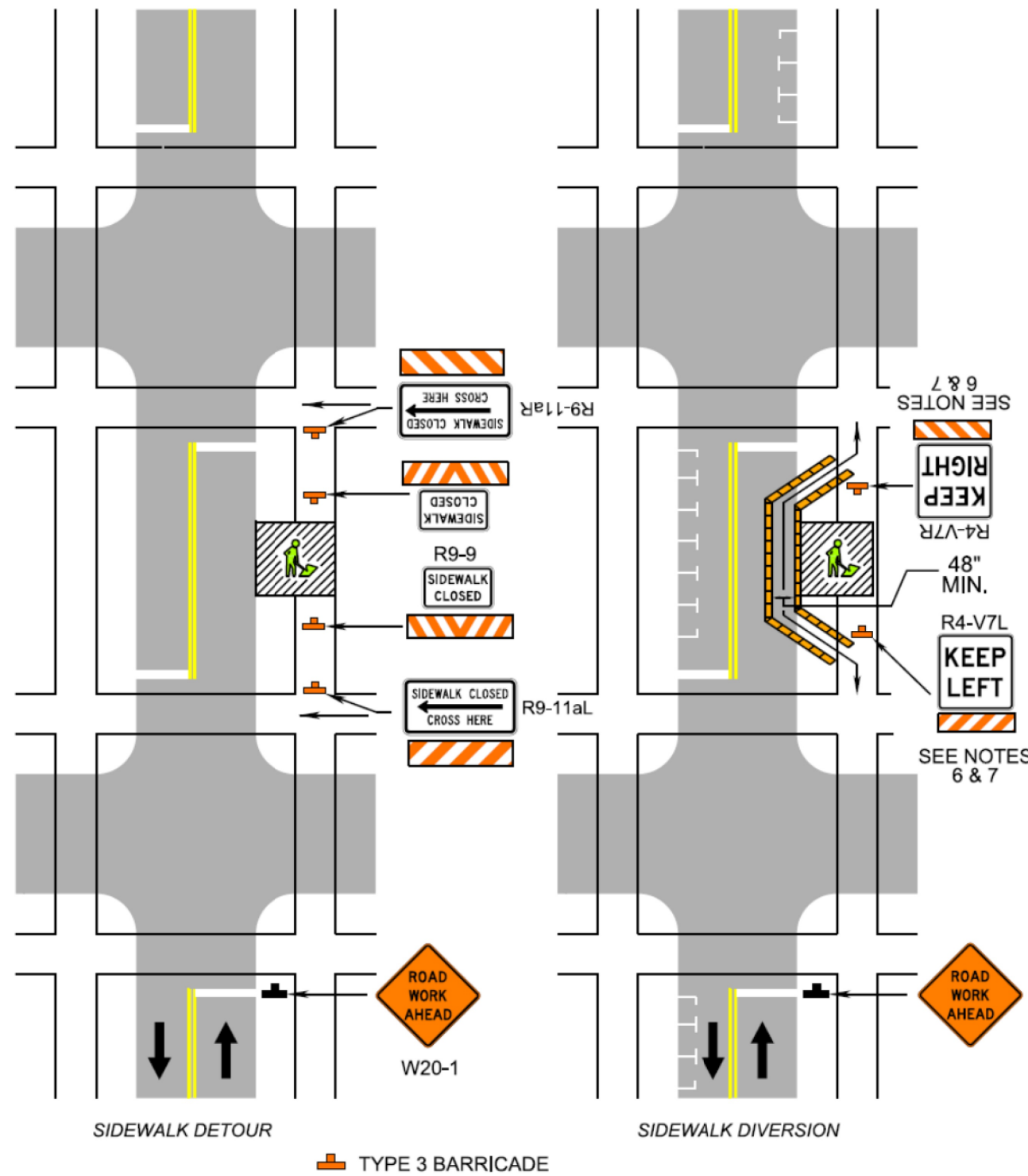
- Refer to Sections 3B-16 through 3B-18 of the 2009 MUTCD and the Virginia Supplement to the MUTCD¹ for crosswalk¹ lines, yield lines and other related TTC devices that may be used to control vehicular traffic at midblock crosswalks.

Standard:

- The YIELD HERE TO PEDESTRIANS (R1-5) sign shall be placed at the Yield Line.
- Fluorescent yellow-green PEDESTRIAN TRAFFIC (W11-2) symbol sign, AHEAD (W16-9p) plaque and ARROW (W16-7p) plaque shall be used to identify the work zone crosswalk.

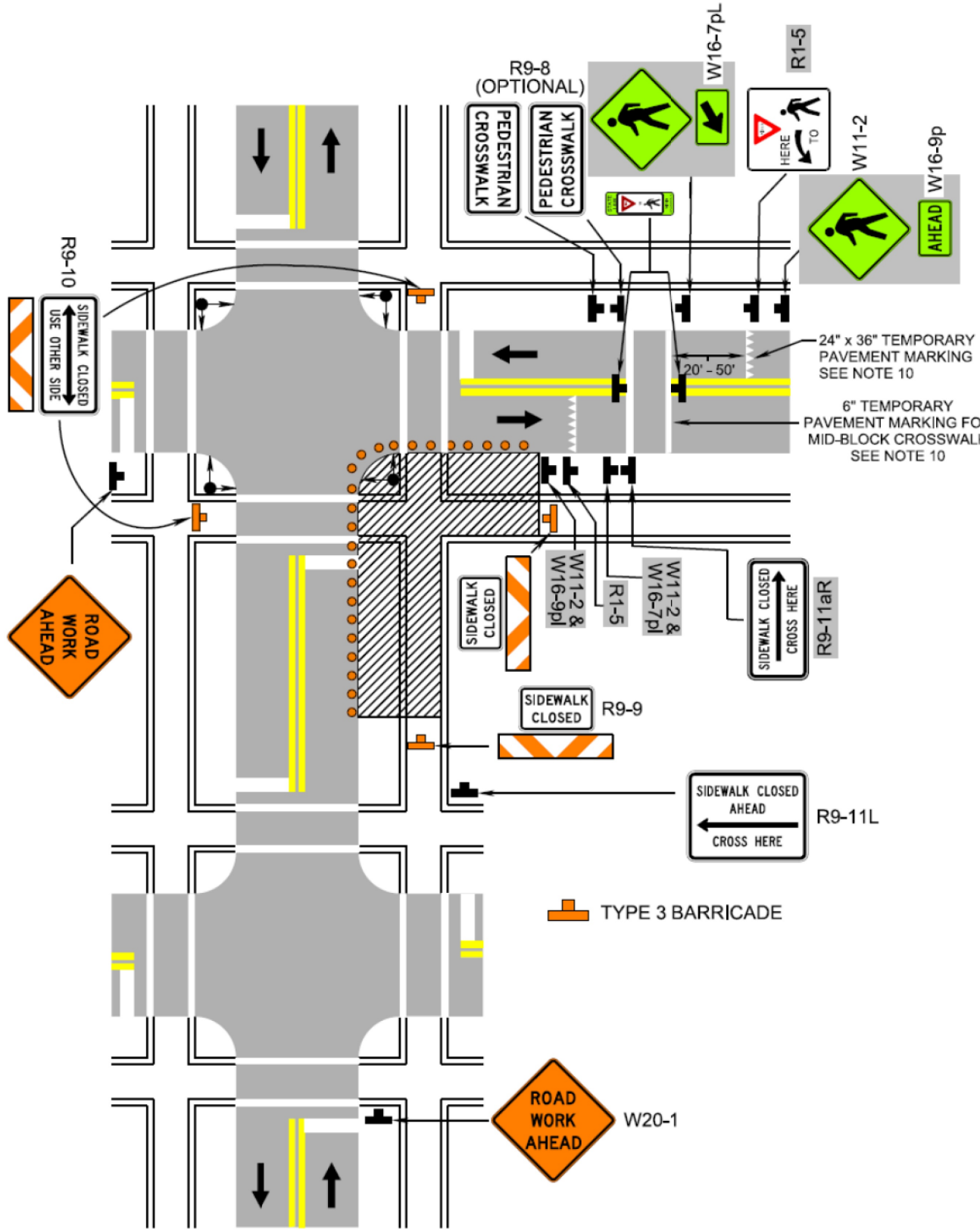
1: Revision 1 – 4/1/2015
2: Revision 2 – 9/1/2019

Sidewalk Closure and Bypass Sidewalk Operation
(Figure TTC-35.1)



2: Revision 2 – 9/1/2019

Crosswalk Closure and Pedestrian Detour Operation
(Figure TTC-36.2)



1: Revision 1 – 4/1/2015
2: Revision 2 – 7/1/2018

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City of Roanoke
Planning, Building, & Development
COMPREHENSIVE DEVELOPMENT PLAN

APPROVED
by plkr1 10/21/2025

AHJ APPROVAL STAMP

A. GENERAL

1. THE DESIGN, CONSTRUCTION, QUALITY AND SAFETY OF ALL WORK PERFORMED ON THE PROJECT SHALL CONFORM TO THE FOLLOWING GOVERNING BUILDING CODES, INCLUDING ALL REFERENCED STANDARDS WITHIN:
- A. VIRGINIA UNIFORM STATEWIDE BUILDING CODE (VUSBC) - 2021.
- B. INTERNATIONAL BUILDING CODE (IBC) - 2021.
- C. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, ASCE 7-22.
2. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND OTHER DISCIPLINE DRAWINGS. THE CONTRACTOR SHALL COORDINATE AND VERIFY THE REQUIREMENTS OF OTHER DISCIPLINES AND TRADES AS TO THE LOCATION, SIZE, AND DIMENSIONS OF ALL ANCHORS, SLEEVES, OPENINGS, CHASES, HANGERS, AND ADDITIONAL ITEMS WITH THE STRUCTURAL WORK. ANY REFERENCE TO ARCHITECTURAL OR OTHER DISCIPLINE MATERIALS, SYSTEMS, OR CONCEPTS IS FOR GENERAL REFERENCE AND CLARITY ONLY.
3. THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AND BRACING REQUIRED TO ERECT AND MAINTAIN THE STRUCTURE IN PROPER ALIGNMENT UNTIL PERMANENT SUPPORTS AND LATERAL BRACING ARE IN PLACE. THE DESIGN, ADEQUACY, AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC. IS THE RESPONSIBILITY OF THE CONTRACTOR.
4. OPEN WEB STEEL JOISTS SHOWN ON THE FRAMING PLANS ARE LOCATED SCHEMATICALLY UNLESS SPECIFICALLY DIMENSIONED. ACTUAL LAYOUT SHALL BE SPECIFIED BY THE MANUFACTURER AND COORDINATED BY THE CONTRACTOR. SPACING SHALL NOT EXCEED MAXIMUM INDICATED ON THE STRUCTURAL DRAWINGS. LAYOUTS SHALL BE COORDINATED WITH OTHER TRADES INCLUDING, BUT NOT LIMITED TO: HVAC EQUIPMENT, PIPING, DUCTWORK, AND ARCHITECTURAL PARTITION WALLS.
5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, ETC. NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE NEW PORTIONS OF THE STRUCTURE TO THE EXISTING STRUCTURE. THE CONTRACTOR SHALL VERIFY ALL MEASUREMENTS NECESSARY FOR PROPER FABRICATION AND ERECTION OF ALL STRUCTURAL MEMBERS.
6. THE STRUCTURAL FRAMING HAS BEEN CONFIGURED AND DESIGNED TO ACCOMMODATE THE MECHANICAL UNITS SPECIFIED IN THE CONTRACTOR DOCUMENTS. THE CONTRACTOR SHALL COORDINATE ALL DIMENSIONS RELATED TO THE MECHANICAL UNITS. IF MECHANICAL UNITS OTHER THAN THOSE SPECIFIED ARE APPROVED AND USED, THE CONTRACTOR SHALL CONTACT THE STRUCTURAL ENGINEER TO REVIEW ALL SUBSTITUTIONS AND MAKE CHANGES TO THE STRUCTURAL FRAMING AS REQUIRED. THE COSTS ASSOCIATED WITH THIS WORK, INCLUDING FEES FOR REVIEW AND REDESIGN, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
7. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF STRUCTURAL STEEL FRAMING, STEEL JOISTS, STEEL DECK, AND THEIR ASSOCIATED CONNECTIONS THAT REQUIRE SPRAYED ON FIRE PROOFING. THESE ITEMS SHALL NOT BE SHOP OR FIELD PRIMED.
8. THIS PROJECT IS SUBJECT TO VUSBC CHAPTER 17 SPECIAL INSPECTIONS. REFER TO STATEMENT OF SPECIAL INSPECTIONS FOR REQUIREMENTS. OWNER SHALL RETAIN A QUALIFIED TESTING AND INSPECTION AGENCY. CONTRACTOR SHALL COORDINATE TESTING AND INSPECTIONS AND PROVIDE ACCESS TO THE WORK.

B. DESIGN CRITERIA

1. UNLESS NOTED OTHERWISE, ALL DESIGN LOADS ARE BASED ON THE FOLLOWING DATA IN ACCORDANCE WITH THE VUSBC.
2. RISK CATEGORY IV
3. FLOOR LIVE LOADS:
- A. SLABS-ON-GRADE, STORAGE 125 PSF
- B. SLABS-ON-GRADE, VEHICLE 250 PSF
- C. AREAS NOT OTHERWISE SPECIFIED 100 PSF
4. FLOOR LIVE LOAD REDUCTIONS ALLOWED PER THE VUSBC HAVE BEEN APPLIED TO THE REACTIONS AND LOADS INDICATED ON THE DRAWINGS. NO FURTHER REDUCTION IS PERMITTED.
5. ROOF LIVE LOAD (UNREDUCIBLE), $L_R = 20$ PSF
6. SNOW LOADS:
- A. GROUND SNOW LOAD, $P_g = 61$ PSF
- B. EXPOSURE FACTOR, $C_e = 1.0$
- C. THERMAL FACTOR, $C_T = 1.2$
- D. FLAT ROOF SNOW LOAD, $P_f = 0.7^\circ\text{C}^\circ\text{C}^\circ\text{P}_g = 51.2$ PSF
- E. SNOW LOADS SHALL BE INCREASED FOR PARTIAL LOADING, UNBALANCED, DRIFTING, AND SLIDING CONDITIONS AS REQUIRED BY ASCE 7-22.
7. WIND LOADS:
- A. ULTIMATE DESIGN WIND SPEED $= V_{ULT} = 120$ MPH
- B. NOMINAL DESIGN WIND SPEED $= V_{NOM} = V_{ULT} \cdot 0.775 = 93$ MPH
- C. EXPOSURE CATEGORY B
- D. OPEN, LOW-RISE SIMPLE DIAPHRAGM BUILDING
- E. INTERNAL PRESSURE COEFFICIENT, $G_{CH} = +/- 0.18$
- F. THE DESIGN WIND PRESSURE FOR EXTERIOR COMPONENTS AND CLADDING SHALL BE DETERMINED IN ACCORDANCE WITH ASCE 7-22.
8. TORNADO LOADS:
- A. EFFECTIVE PLAN AREA, $A_E = 9,384$ SF
- B. TORNADO WIND SPEED, $V_T = 56$ MPH < 80 MPH. TORNADO LOADS NOT REQUIRED.
9. SEISMIC LOADS:
- A. MAPPED SPECTRAL RESPONSE ACCELERATIONS
- a. $S_S = 0.22$
- b. $S_1 = 0.069$
- B. SITE CLASS D
- C. SPECTRAL RESPONSE COEFFICIENTS
- a. $S_{DS} = 0.18$
- b. $S_{D1} = 0.097$
- D. SEISMIC DESIGN CATEGORY C
- E. BASIC SEISMIC-FORCE RESISTING SYSTEM:
- a. STEEL SYSTEMS NOT SPECIFICALLY DESIGNED FOR SEISMIC RESISTANCE, $R = 3.0$.
- F. SEISMIC RESPONSE COEFFICIENT, $C_s = 0.09$
- G. ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE

C. FOUNDATIONS AND BUILDING EARTHWORK

1. ALL BUILDING PAD EARTHWORK AND FOUNDATION CONSTRUCTION SHALL CONFORM TO THE FOLLOW:
- A. DIVISION 31 SPECIFICATIONS
- B. "REPORT OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION" PREPARED BY FROEHLING & ROBERTSON, DATED JANUARY 16, 2025. THE RECOMMENDATIONS OF THIS REPORT ARE HEREIN MADE A PART OF THE REQUIREMENTS OF THESE CONTRACT DOCUMENTS. THE ALLOWABLE DESIGN SOIL BEARING PRESSURE SHALL BE 1,500 PSF. THE ALLOWABLE DESIGN LATERAL ACTIVE PRESSURE SHALL BE 24 PSF/FT.
2. THE OWNER SHALL RETAIN A TESTING AGENCY STAFFED WITH A QUALIFIED GEOTECHNICAL ENGINEER LICENSED IN THE COMMONWEALTH OF VIRGINIA TO INSPECT AND APPROVE THE SUBGRADE INCLUDING FILL AND BACKFILL MATERIALS AND OPERATIONS.
3. ALL FILL AND BACKFILL MATERIAL SHALL BE SELECTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AND APPROVED BY THE GEOTECHNICAL ENGINEER. ALL FILL AND BACKFILL MATERIAL SHALL BE PLACED IN LOOSE LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS AND COMPACTED TO A MINIMUM OF 95 PERCENT STANDARD PROCTOR (ASTM D-698).
4. ALL PIERS AND FOOTINGS ARE LOCATED ON COLUMN CENTERLINES OR GRID LINES UNLESS NOTED OTHERWISE.
5. FOUNDATION WALLS OR GRADE BEAMS HAVING EARTH PLACED ON EACH SIDE SHALL HAVE BOTH SIDES BACKFILLED SIMULTANEOUSLY. NO UNBALANCED FILL OR BACKFILL SHALL BE PLACED AGAINST BASEMENT WALLS UNLESS THE WALLS ARE BRACED EITHER BY TEMPORARY BRACING OR BY PERMANENT FLOOR CONSTRUCTION INCLUDING BASEMENT SLABS-ON-GRADE WHERE APPLICABLE.
6. NO FOUNDATION CONCRETE SHALL BE INSTALLED UNTIL ALL FOUNDATION WORK HAS BEEN COORDINATED WITH UNDERGROUND UTILITIES. FOOTINGS SHALL BE LOWERED WHERE REQUIRED TO AVOID UTILITIES. PROVIDE SLEEVES THROUGH FOUNDATION WALLS THAT ALLOW A MINIMUM OF 1" CLEAR AROUND THE PIPE OR CONDUIT.

CAST-IN-PLACE CONCRETE

1. ALL CAST-IN-PLACE CONCRETE CONSTRUCTION SHALL CONFORM TO THE FOLLOWING:
- A. ACI 318-19 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE."
- B. ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE."
- C. CRSI "MANUAL OF STANDARD PRACTICE"
- D. DIVISION 3 SPECIFICATIONS
2. MATERIALS
- A. REINFORCING STEEL: ASTM A615, GRADE 60
- B. WELDED WIRE FABRIC (WWF): ASTM A185, $F_y = 65$ KSI
3. PROVIDE THE FOLLOWING CONCRETE MIXES FOR THE STRUCTURES INDICATED WITH THE 28-DAY COMPRESSIVE STRENGTH (f'_c) AND ENTRAINED AREA SPECIFIED. ALL MIXES SHALL BE NORMAL WEIGHT.
- | | USE | f'_c | ENTRAINED AIR |
|--------------------------|-----|----------|---------------|
| FOOTINGS | | 4000 PSI | |
| EXTERIOR WALLS AND PIERS | | 4500 PSI | 6% +/- 1.5% |
| INTERIOR SLABS-ON-GRADE | | 4000 PSI | |
4. DO NOT PROVIDE AIR ENTRAINING ADMIXTURES IN MIXES FOR INTERIOR SLABS-ON-GRADE OR SLABS ON STEEL DECK.
5. REFER TO CIVIL FOR EXTERIOR CONCRETE PAVEMENT.
6. PROVIDE WELDED WIRE FABRIC IN SHEETS, ROLLS WILL NOT BE ACCEPTED.
7. FIELD BENDING OF CONCRETE REINFORCING STEEL IS NOT PERMITTED UNLESS APPROVED BY THE STRUCTURAL ENGINEER.
8. UNLESS NOTED OTHERWISE, CLEAR CONCRETE COVER OVER REINFORCING SHALL BE:
- | | UNFORMED SURFACES CAST AGAINST EARTH: | 3" |
|---------------------------|---------------------------------------|--------|
| EXTERIOR FORMED SURFACES: | | 2" |
| INTERIOR FORMED SURFACES: | | 1-1/2" |
9. CONTINUOUS REINFORCING IN WALLS AND SLABS MAY BE SPLICED, AS REQUIRED, PROVIDING BARS ARE OF THE LONGEST PRACTICAL LENGTH AND ALL SPLICES ARE SHOWN ON THE SHOP DRAWINGS. WHEREVER POSSIBLE, SPLICES SHALL BE STAGGERED. UNLESS NOTED OTHERWISE, PROVIDE CONTACT TENSION LAP SPLICES PER THE FOLLOWING SCHEDULE.
- | BAR SIZE | LAP SPLICE (IN) |
|----------|-----------------|
| | TOP OTHER |
| #3 | 24 19 |
| #4 | 32 25 |
| #5 | 40 31 |
| #6 | 48 37 |
| #7 | 70 54 |
| #8 | 80 62 |
| #9 | 91 70 |
10. UNLESS OTHERWISE NOTED OR SHOWN, PROVIDE DOWELS WITH ACI STANDARD 90 DEG HOOKS IN FOOTINGS TO MATCH REINFORCEMENT IN WALL, PIERS, AND COLUMNS. PROVIDE LAP SPLICES WITH VERTICAL AS SCHEDULED.
11. SEE ARCHITECTURAL, PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR LOCATIONS OF PENETRATIONS AND EMBEDDED ITEMS. PROVIDE SLEEVES TO ALLOW DIFFERENTIAL SETTLEMENT BETWEEN THE FOUNDATION WALL AND THE PENETRATION CONDUIT. COORDINATE PENETRATIONS AND EMBEDDED ITEMS WITH REINFORCING. SLIGHTLY SPREAD REINFORCEMENT WHERE POSSIBLE. REFER TO TYPICAL DETAILS WHERE REINFORCING MUST BE CUT.
12. REFER TO AND COORDINATE WITH OTHER DISCIPLINE DRAWINGS FOR ITEMS TO BE INCORPORATED IN THE CONCRETE WORK INCLUDING, BUT NOT LIMITED TO FLOOR DRAINS, CONDUIT, PIPE SLEEVES, FLOOR OUTLETS, ANCHOR BOLTS, ETC.
13. BASE PLATES, ANCHOR BOLTS, SUPPORT ANGLES AND OTHER STEEL EXPOSED TO EARTH OR GRANULAR FILL SHALL BE COVERED WITH A MINIMUM OF 3 INCHES OF CONCRETE.
14. UNLESS OTHERWISE SHOWN ON THE ARCHITECTURAL DRAWINGS, PROVIDE 3/4" CHAMFERS AT ALL CONCRETE EDGES THAT ARE EXPOSED TO VIEW IN THE FINISHED CONDITION.
15. SLOPE SLABS-ON-GRADE AND SLABS ON STEEL DECK AS INDICATED ON THE STRUCTURAL AND / OR THE ARCHITECTURAL DRAWINGS. COORDINATE SLAB-ON-GRADE DEPRESSIONS WITH FINISH FLOOR MATERIALS, ENTRANCE MATS, AND OTHER ITEMS. REFER TO TYPICAL DETAILS.

K. ROUGH CARPENTRY (WOOD FRAMING)

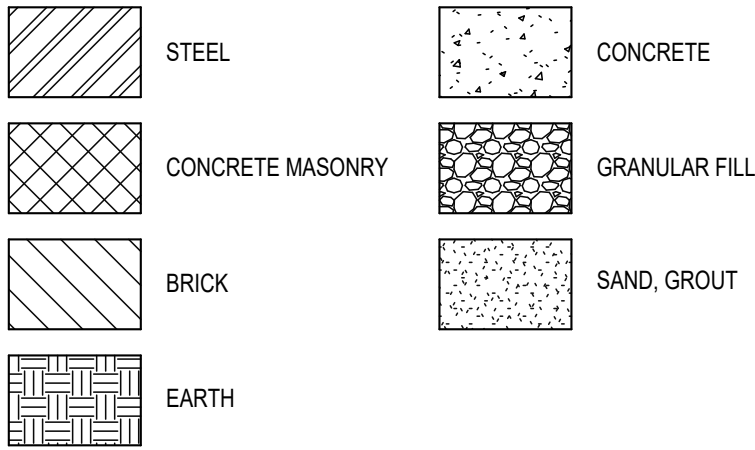
1. ALL WOOD CONSTRUCTION SHALL CONFORM TO THE FOLLOWING:
- A. AF&PA NDS-2018.
2. UNLESS NOTED OTHERWISE, ALL JOISTS, POSTS, HEADERS, RAFTERS, AND BEAMS SHALL BE VISUALLY GRADED NO. 2 SOUTHERN YELLOW PINE.
3. UNLESS NOTED OTHERWISE, WALLS SHALL BE FRAMED PER SECTION 2308.5 OF IBC 2021 WITH VISUALLY GRADED NO. 2 SPRUCE-PINE-FIR.
4. UNLESS NOTED OTHERWISE, CUTTING, NOTCHING, AND DRILLING OF FRAMING SHALL ONLY BE PERMITTED PER SECTIONS 2308.5.9 AND 2308.5.10 OF IBC 2021.
5. ALL BLOCKING AND BRIDGING MAY BE NO. 3 OR STUD GRADE SOUTHERN YELLOW PINE.
6. ALL FRAMING SHALL HAVE A MAXIMUM MOISTURE CONTENT OF 19% AT TIME OF INSTALLATION.
7. PROVIDE CROSS BRIDGING OR 2X BLOCKING FOR ALL WOOD JOISTS AND TRUSSES AND SOLID BLOCKING BETWEEN ALL JOISTS AT SUPPORTS.
8. UNLESS NOTED OTHERWISE ON THE DRAWINGS, FASTENING OF ALL WOOD MEMBERS SHALL BE PER THE FASTENING SCHEDULE LOCATED IN TABLE 2304.10.2 OF IBC 2021.
9. TIMBER CONNECTORS CALLED FOR ON THE DRAWINGS ARE MANUFACTURED BY THE SIMPSON STRONG-TIE COMPANY. CONNECTORS BY OTHER MANUFACTURERS MAY BE USED IF THEY HAVE ICC-ES APPROVAL AND THEIR LOAD CAPACITY IS EQUAL TO OR GREATER THAN THE CONNECTOR SPECIFIED. USE MANUFACTURER'S FURNISHED NAILS AND FASTENERS.
10. RATED PLYWOOD SHEATHING SHALL CONFORM TO APA STANDARD PS1. ORIENTED STRAND BOARD (OSB MAY BE SUBSTITUTED FOR PLYWOOD AS LONG AS IT MEETS THE SAME APA STRUCTURAL WOOD PANEL RATING. SMOOTH COMMON NAILS SHALL BE USED ON ALL STRUCTURAL SHEATHING. PROVIDE THE FOLLOWING SHEATHING AND FASTENING, UNLESS NOTED OTHERWISE.
- A. FLOORS: 3/4" TONGUE-IN-GROOVE PLYWOOD FASTENED WITH 8D COMMON NAILS @ 6" OC ALONG EDGES AND AT 12" OC AT INTERMEDIATE FRAMING MEMBERS.
- B. ROOFS: 5/8" PLYWOOD OR OSB FASTENED WITH 8D COMMON NAILS @ 6" OC ALONG PANEL EDGES AND AT 12" OC AT INTERMEDIATE FRAMING MEMBERS.
- C. EXTERIOR WALLS: 7/16" PLYWOOD OR OSB WITH 8D COMMON NAILS @ 6" OC ALONG PANEL EDGES AND @ 12" OC TO INTERMEDIATE FRAMING MEMBERS. INSTALL BLOCKING BETWEEN STUDS AT HORIZONTAL PANEL EDGES.
11. PREFABRICATED WOOD I-JOIST MEMBERS SHALL BE TJI 360 TRUS JOIST BY WEYERHAUSER AND BE ERECTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. OTHER MANUFACTURERS MAY BE SUBSTITUTED, PROVIDED JOISTS BY OTHER MANUFACTURER HAVE ICC-ES APPROVAL AND THEIR LOAD CAPACITY AND STIFFNESS ARE EQUALS TO OR GREATER THAN THOSE SPECIFIED.
12. LAMINATED VENEER LUMBER (LVL) MEMBER SHALL BE 2.0E, 2600 Fb MICROLAM BY WEYERHAUSER AND BE ERECTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ANOTHER MANUFACTURER MAY BE SUBSTITUTED PROVIDED BEAMS BY OTHER MANUFACTURER HAVE ICC-ES APPROVAL AND THEIR LOAD CAPACITY AND STIFFNESS ARE EQUAL TO OR GREATER THAN THOSE SPECIFIED.
13. SET ALL JOISTS WITH THE CROWN UP.
14. INSTALL PLYWOOD TO A MINIMUM TWO-SPAN CONTINUOUS CONDITION WITH LONGER FACTORY EDGE PERPENDICULAR TO THE FRAMING MEMBERS, WITH END JOINT STAGGERED, AND SHEET ENDS BEARING ON FRAMING MEMBERS.
15. UNLESS NOTED OTHERWISE, LOAD-BEARING HEADERS SHALL BE SUPPORTED AT EACH END WITH (2) JACK STUDS. INSTALL KING STUDS AT EACH END OF THE OPENING EQUAL TO HALF THE NUMBER OF STUDS INTERRUPTED BY THE OPENING. BUILD UP HEADERS AND SUPPORTS PER TABLE 2304.10.2 OF IBC 2021.
16. UNLESS NOTED OTHERWISE, AT BEAMS, PROVIDE BUILT-UP POSTS AT LEAST AS WIDE AS THE BEAM ABOVE. PROVIDE KING STUDS WITH SHIMS AS REQUIRED TIGHT TO THE SIDES OF THE BEAM OR SOLID BLOCK AT EACH.
17. ALL LUMBER IN CONTACT WITH MASONRY OR CONCRETE SHALL BE PRESERVATIVE TREATED.

STRUCTURAL ABBREVIATIONS

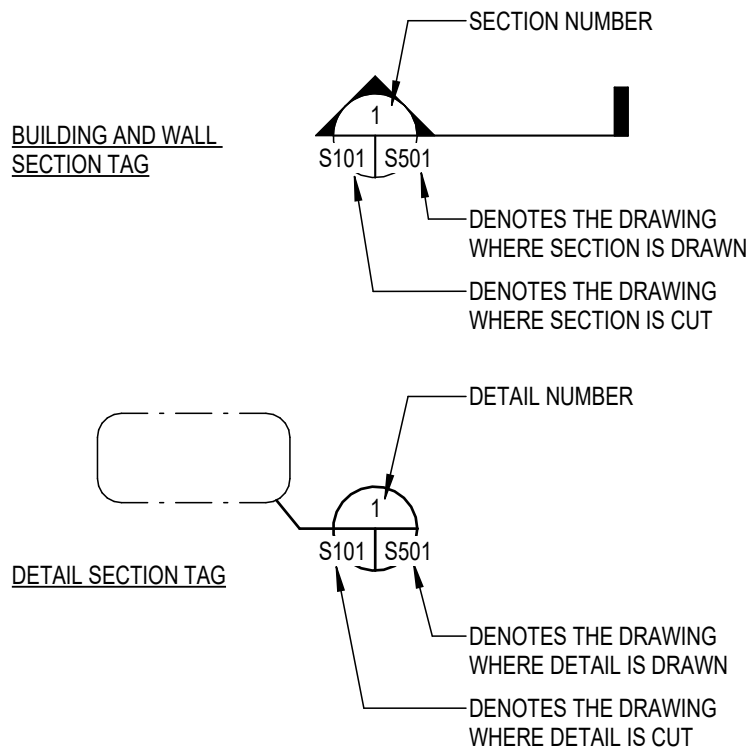
AR	ANCHOR ROD
BRG	BEARING
B./BOT	BOTTOM
B.O.	BOTTOM OF
BTWN	BETWEEN
CLR	CLEAR
CL	CENTER LINE
COL	COLUMN
CMU	CONCRETE MASONRY UNIT
CONT	CONTINUOUS
CJ	CONSTRUCTION OR CONTROL JOINT
DIA	DIAMETER
ELEV	ELEVATION
EMB	EMBEDMENT
EXIST. (E)	EXISTING
EW	EACH WAY
EF	EACH FACE
EJ	EXPANSION JOINT
FTG	FOOTING
FNDN	FOUNDATION
F.O.	FACE OF
FS	FOOTING STEP
GA	GAGE
GALV	GALVANIZED
HP	HIGH POINT
ID	INSIDE DIAMETER
I.F.O.	INSIDE FACE OF
K	KIPS (KILOPOUNDS)
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LP	LOW POINT
MAX	MAXIMUM
MIN	MINIMUM
MISC	MISCELLANEOUS
NS	NEAR SIDE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO. #	NUMBER
O.C.	ON CENTER
OD	OUTSIDE DIAMETER
O.F.O.	OUTSIDE FACE OF
OPNG	OPENING
OPP	OPPOSITE
PL	PLATE
PT	PRESERVATIVE TREATED
R	RADIUS
REINF	REINFORCEMENT
REQ'D	REQUIRED
SPEC	SPECIFICATION
SIM	SIMILAR
T/	TOP
T.O.	TOP OF
T.O.S.	TOP OF STEEL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VIF	VERIFY IN FIELD
WWF	WELDED WIRE FABRIC
WITH	WITH
WP	WORK POINT

LEGENDS

MATERIAL LEGEND



SYMBOL LEGEND



COLUMN GRID LINE



NORTH DIRECTION



SPOT ELEVATION



BENCHMARK ELEVATION



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ROANOKE CITY PROJECT NO.: **RFP #24-10-66**
SPECTRUM DESIGN PROJECT NO.: **23181**



PROJ. MGR.: **MAR** CHECKED BY: **JM** DRAWN BY: **HFR**

SHEET ISSUE DATE:
06.19.2025

PROJECT PHASE:
CONSTRUCTION DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

SHEET REVISIONS:

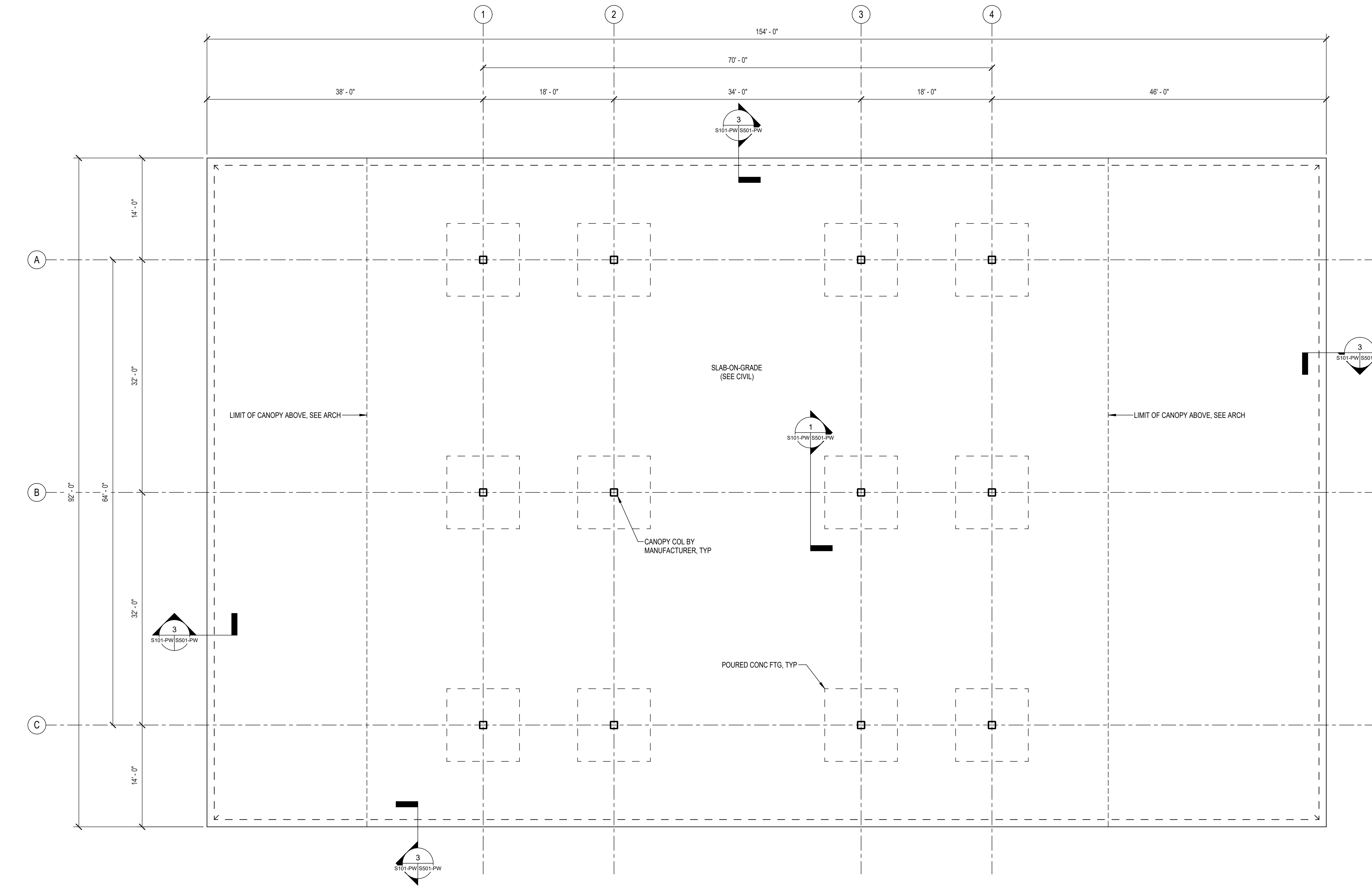
SHEET NAME:

GENERAL NOTES

SHEET NUMBER:

S001-PW





1 FUEL ISLAND FOUNDATION PLAN

S101-PW SCALE: 1/8" = 1'-0"

FOUNDATION PLAN GENERAL NOTES:

1. REFER TO GENERAL NOTES ON SHEET S001.
2. REFER TO ARCHITECTURAL DRAWINGS AND STRUCTURAL SECTIONS AND DETAILS FOR DIMENSIONS, ELEVATIONS, AND OFFSETS NOT INDICATED.
3. SEE CIVIL FOR REFERENCE ELEVATION (+0'-0"). ALL ELEVATIONS ARE NOTED THUS: (+/- X'-X") RELATIVE TO THE REFERENCE ELEVATION.

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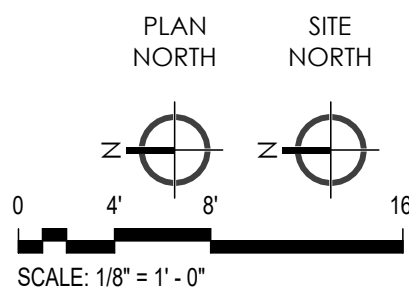
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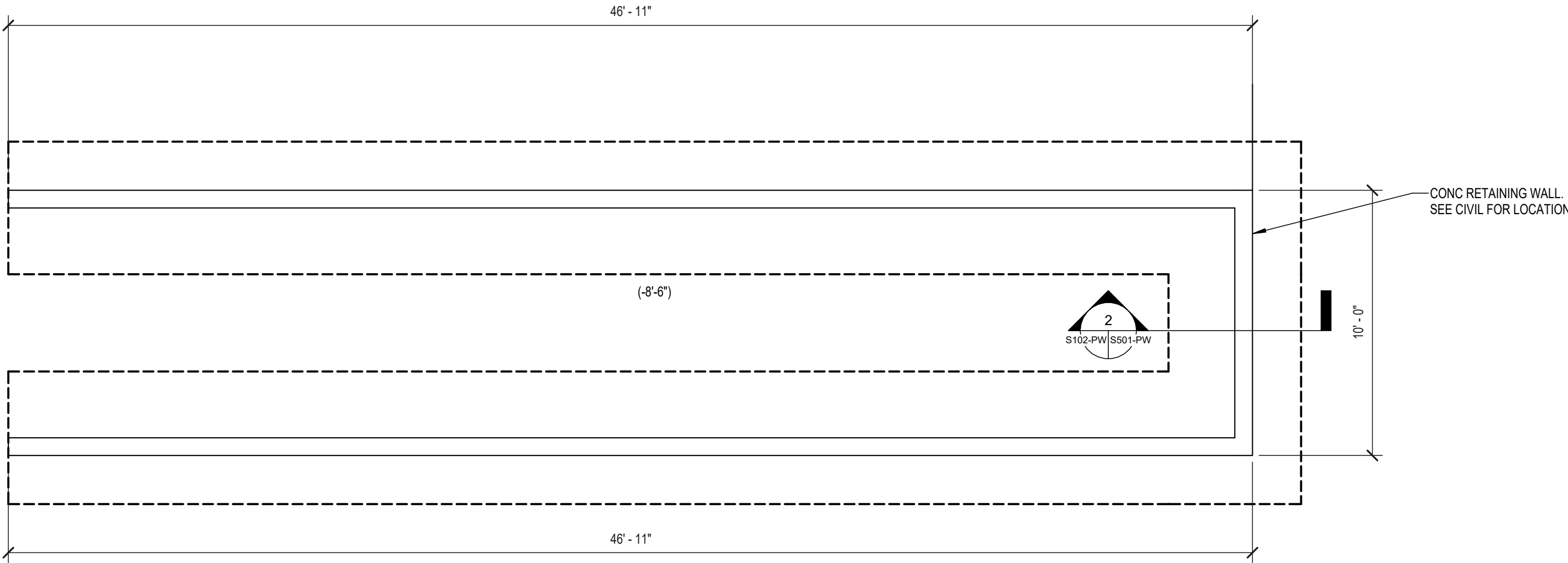
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SHEET REVISIONS:

SHEET NAME:
FUEL ISLAND
FOUNDATION PLAN

SHEET NUMBER:
S101-PW



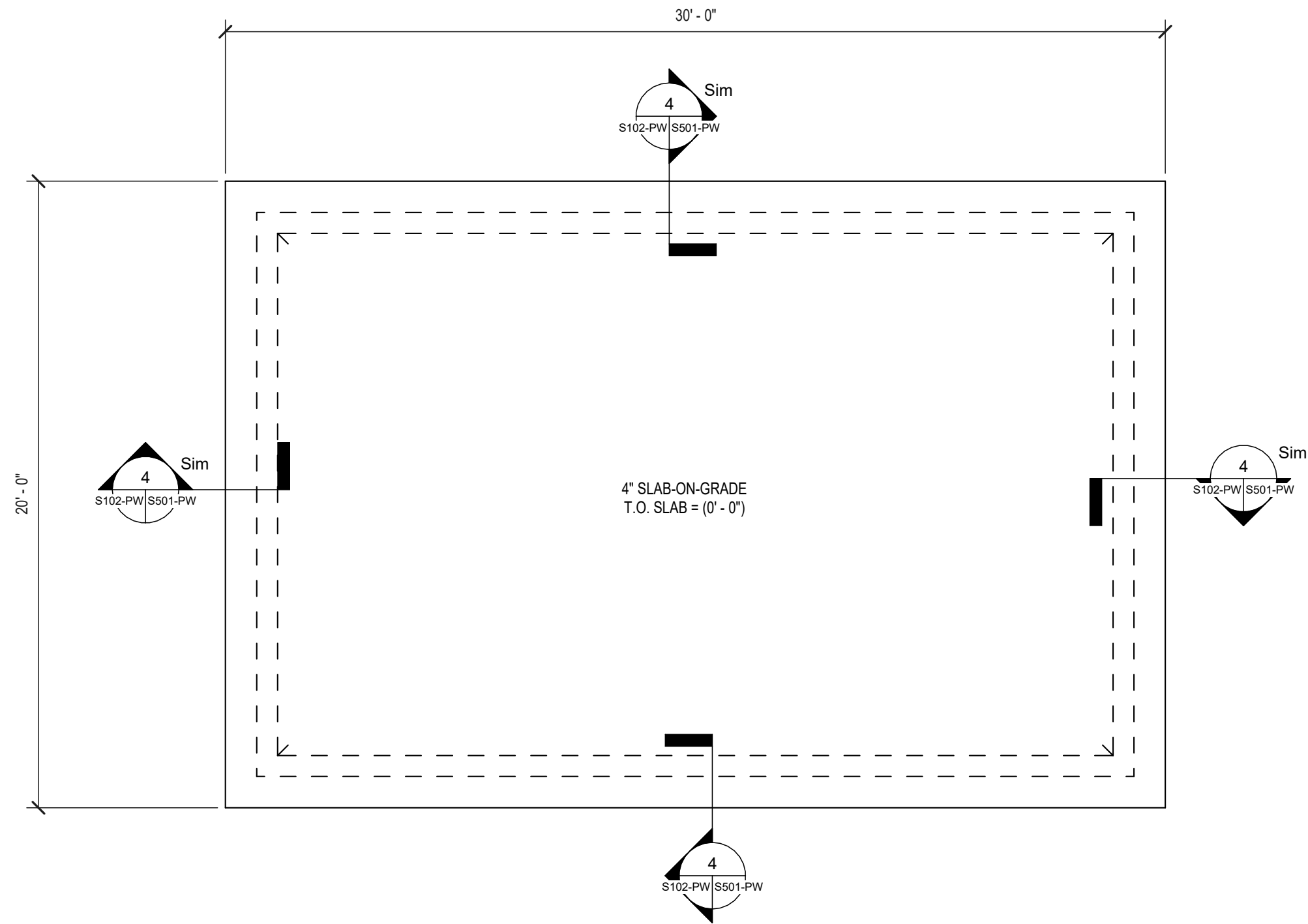


1 TANK FARM RETAINING WALL PLAN

S102-PW SCALE: 1/4" = 1'-0"

FOUNDATION PLAN GENERAL NOTES:

- REFER TO GENERAL NOTES ON SHEET S001.
- REFER TO ARCHITECTURAL DRAWINGS AND STRUCTURAL SECTIONS AND DETAILS FOR DIMENSIONS, ELEVATIONS, AND OFFSETS NOT INDICATED.
- SEE CIVIL FOR REFERENCE ELEVATION (+0'-0"). ALL ELEVATIONS ARE NOTED THUS: (+/- X'-X") RELATIVE TO THE REFERENCE ELEVATION.



2 TANK FARM BLDG FOUNDATION PLAN

S102-PW SCALE: 1/4" = 1'-0"

FOUNDATION PLAN GENERAL NOTES

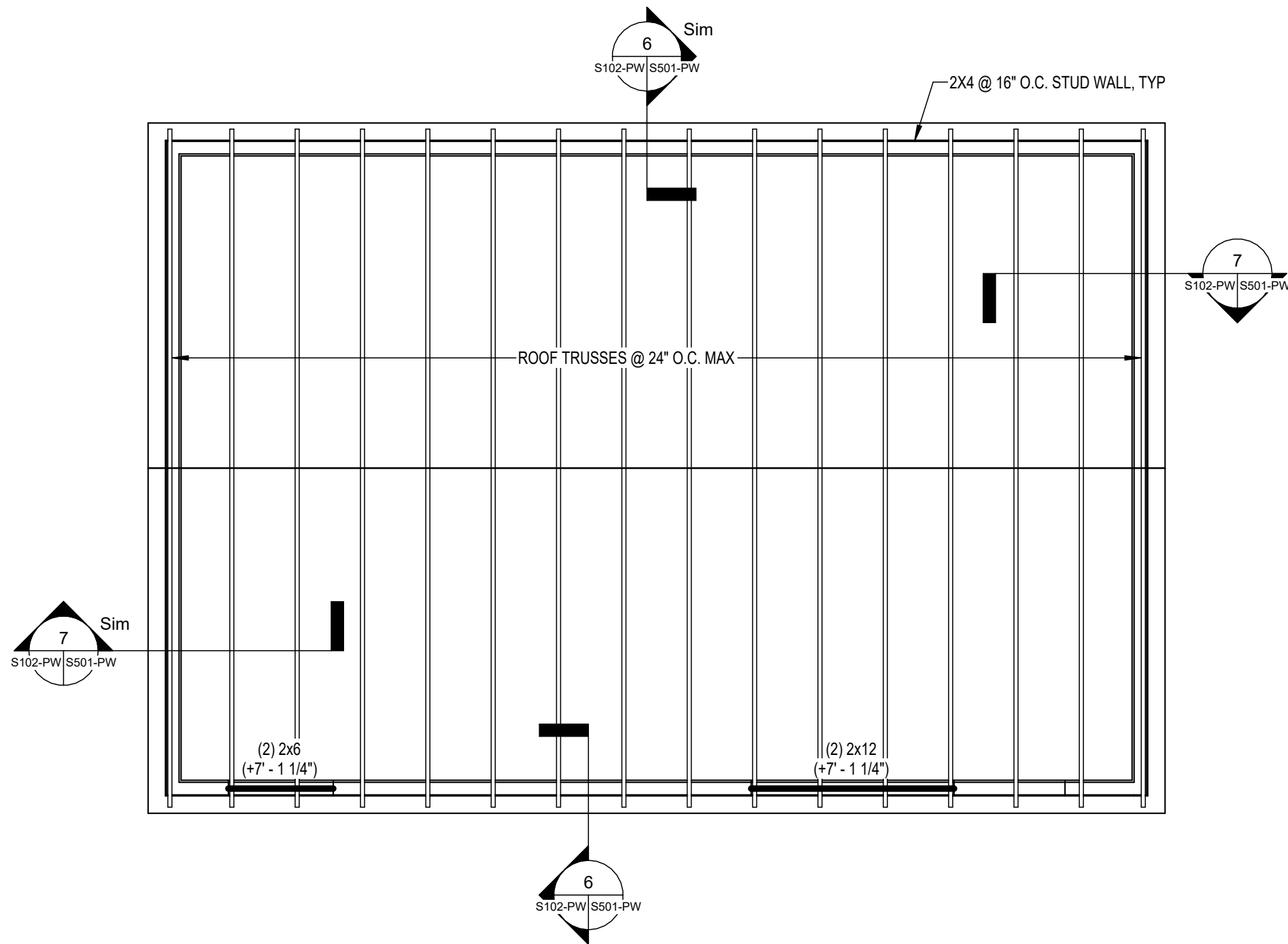
- REFER TO GENERAL NOTES ON SHEET S001.
- REFER TO ARCHITECTURAL DRAWINGS AND STRUCTURAL SECTIONS AND DETAILS FOR DIMENSIONS, ELEVATIONS, AND OFFSETS NOT INDICATED.
- SEE CIVIL FOR REFERENCE ELEVATION (+0'-0"). ALL ELEVATIONS ARE NOTED THUS: (+/- X'-X") RELATIVE TO THE REFERENCE ELEVATION.
- SEE 4/S501-PW FOR TYPICAL SLAB-ON-GRADE CONSTRUCTION.

3 TANK FARM BLDG ROOF FRAMING PLAN

S102-PW SCALE: 1/4" = 1'-0"

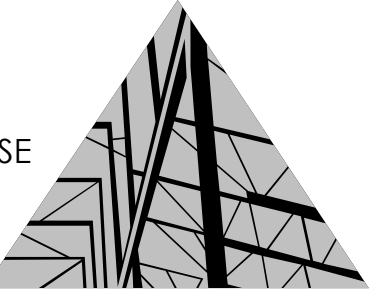
ROOF FRAMING PLAN GENERAL NOTES:

- REFER TO GENERAL NOTES ON SHEETS S001.
- REFER TO ARCHITECTURAL DRAWINGS AND STRUCTURAL SECTIONS AND DETAILS FOR DIMENSIONS, ELEVATIONS, AND OFFSETS NOT INDICATED.
- SEE CIVIL FOR REFERENCE ELEVATION (+0'-0"). ALL ELEVATIONS ARE NOTED THUS: (+/- X'-X") RELATIVE TO THE REFERENCE ELEVATION.



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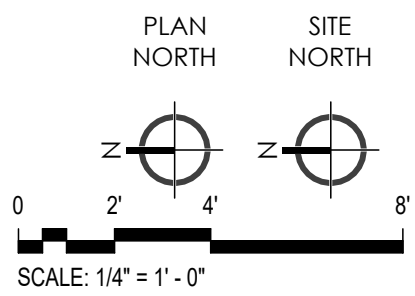
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SHEET NAME:

TANK FARM FRMAING AND FOUNDATION PLAN

SHEET NUMBER:

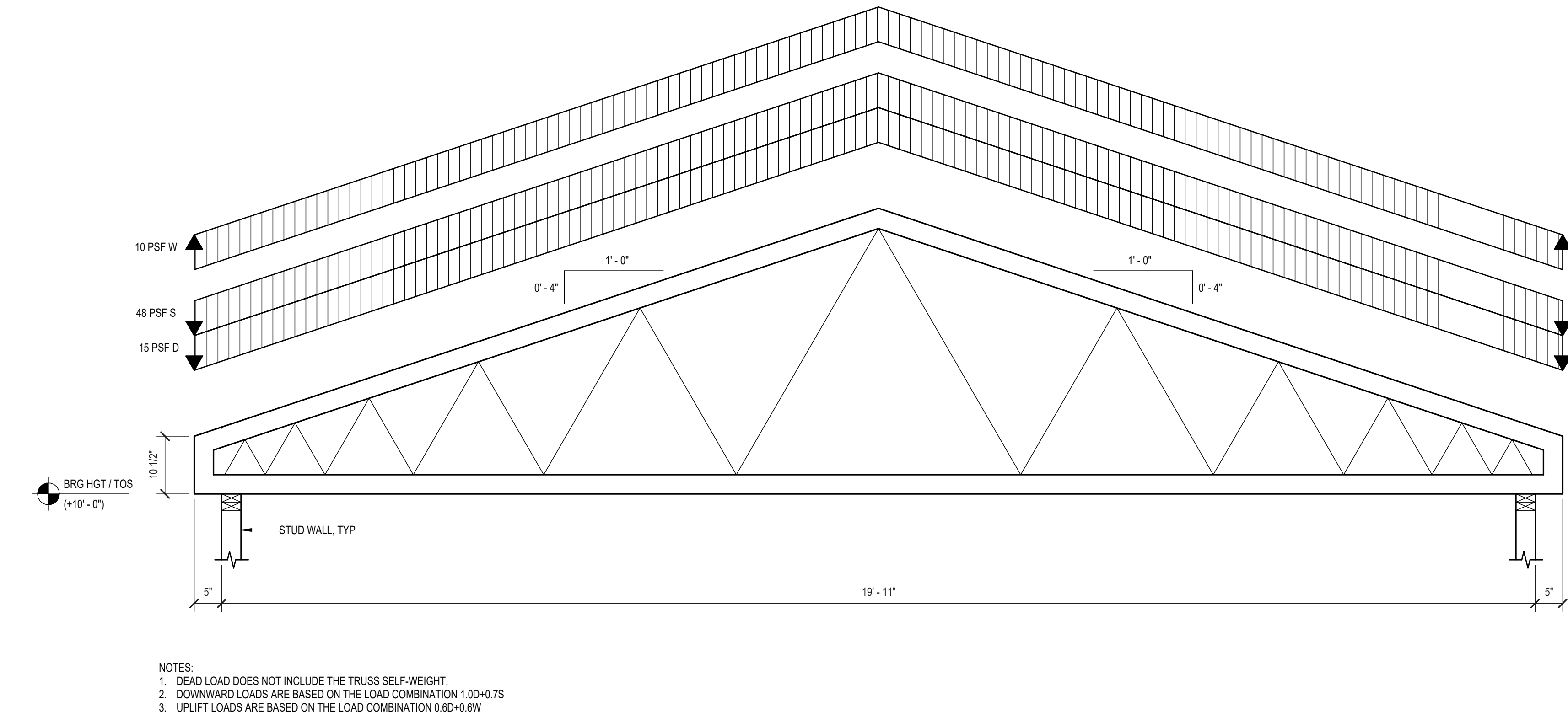
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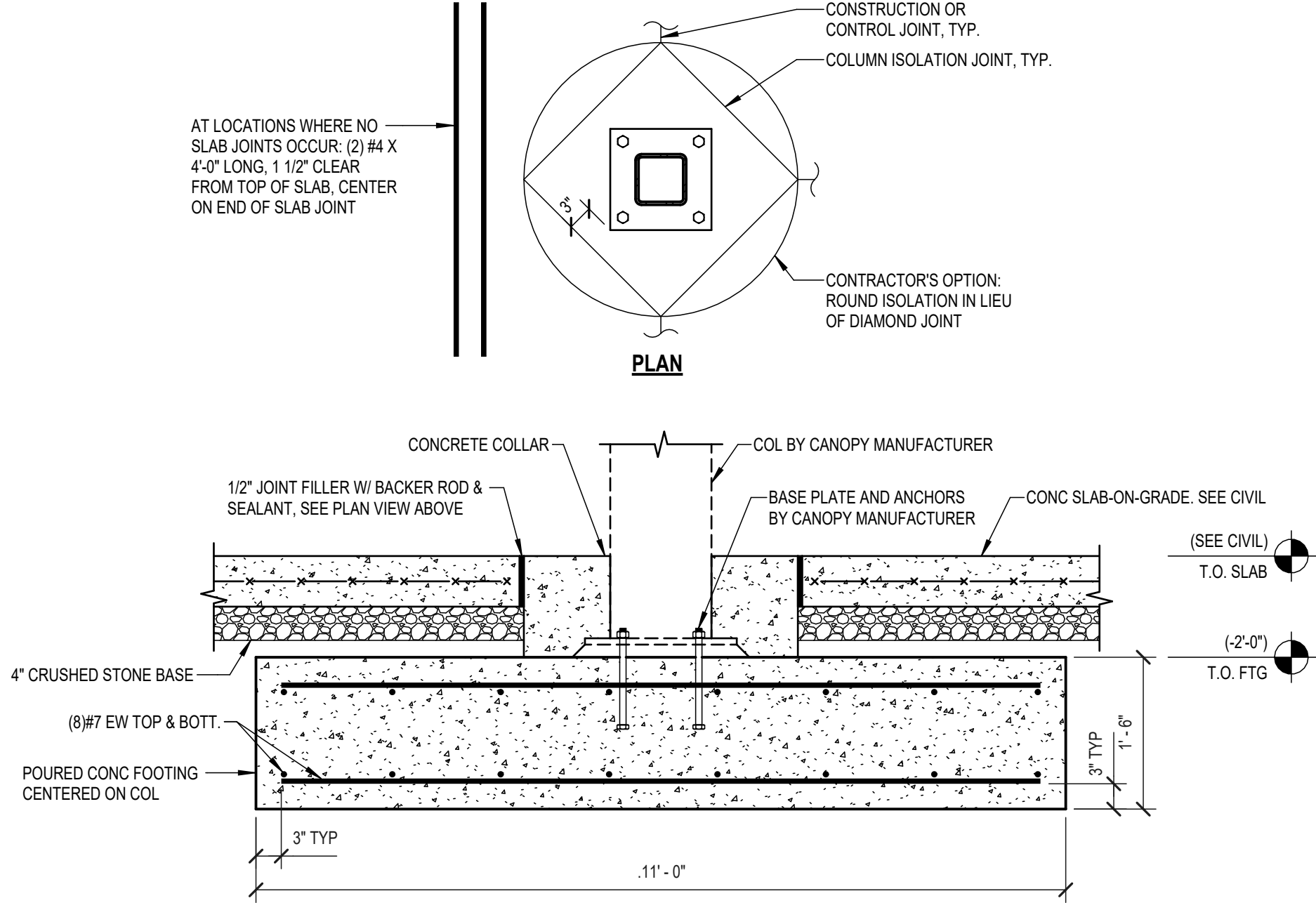
5 TANK FARM BLDG TRUSS PROFILE

S501-PWSCALE: 3/4" = 1'-0"



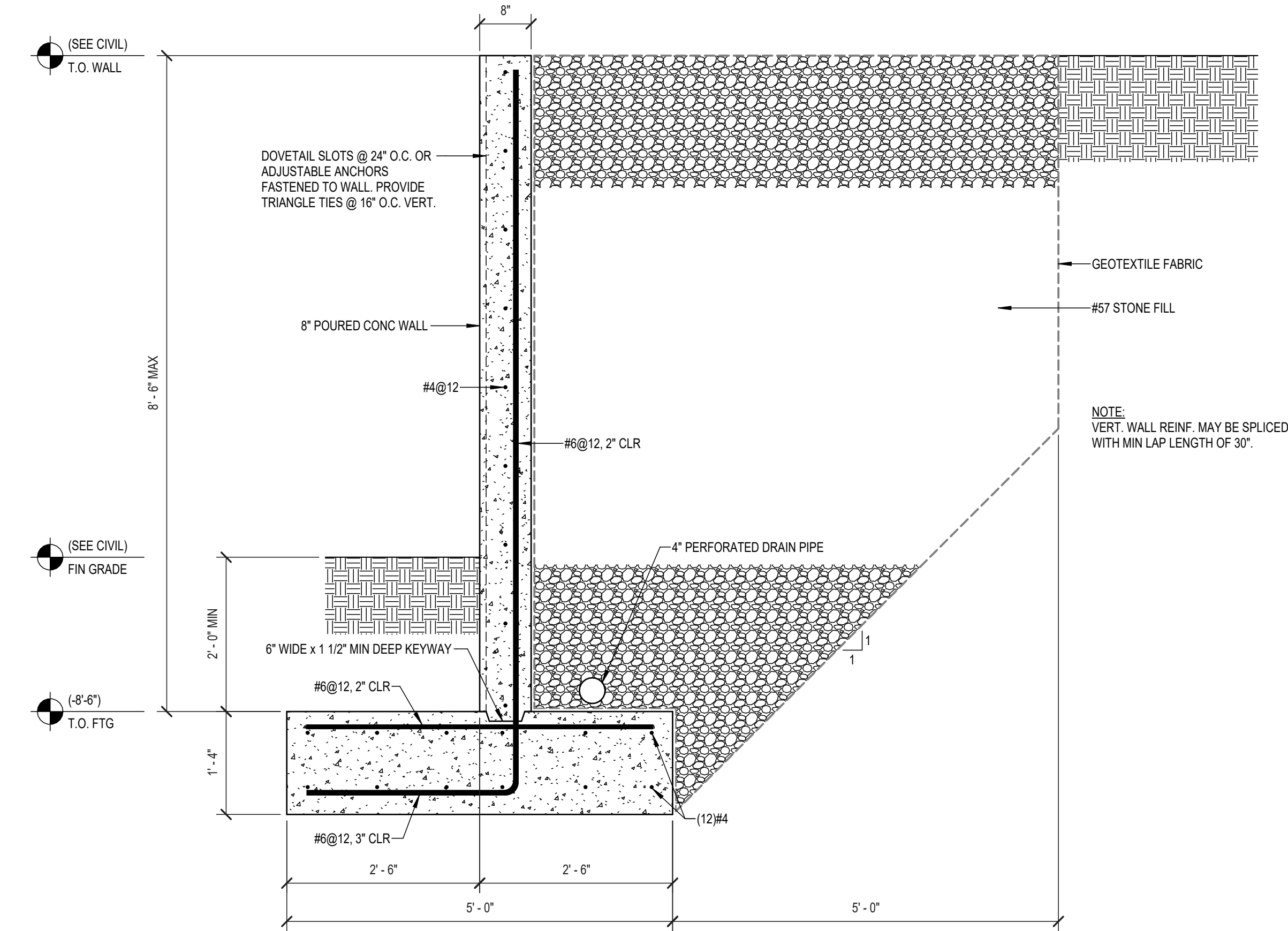
1 SECTION

S501-PWSCALE: 3/4" = 1'-0"
REF: S101-PW



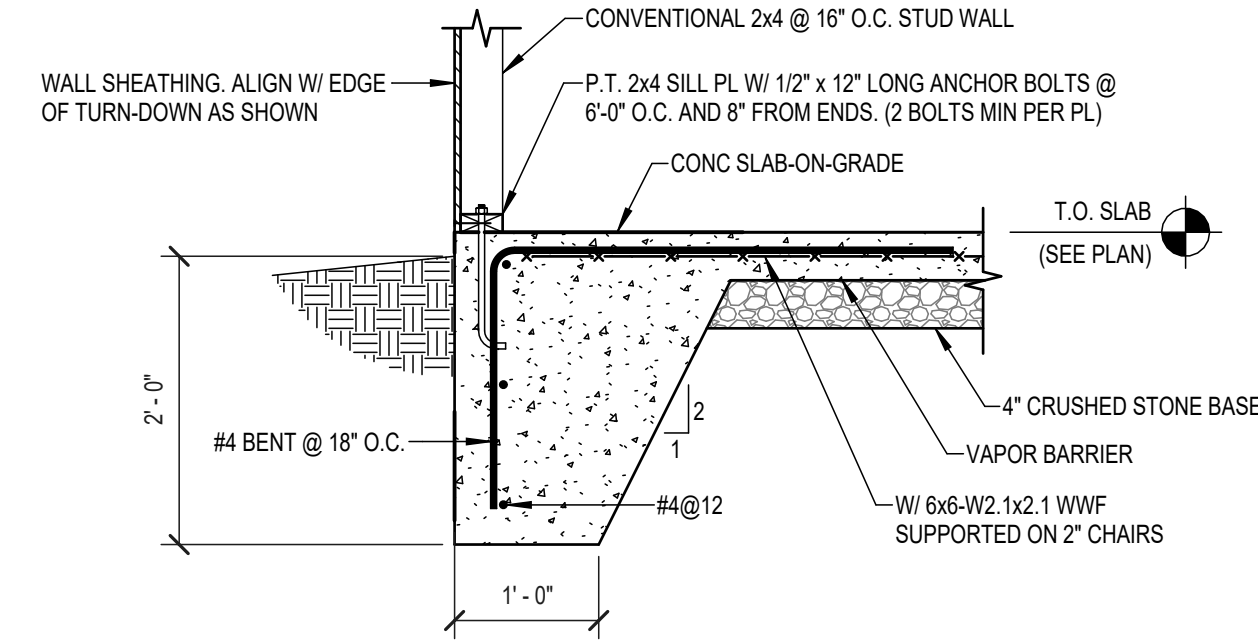
2 SECTION

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REF: S102-PW



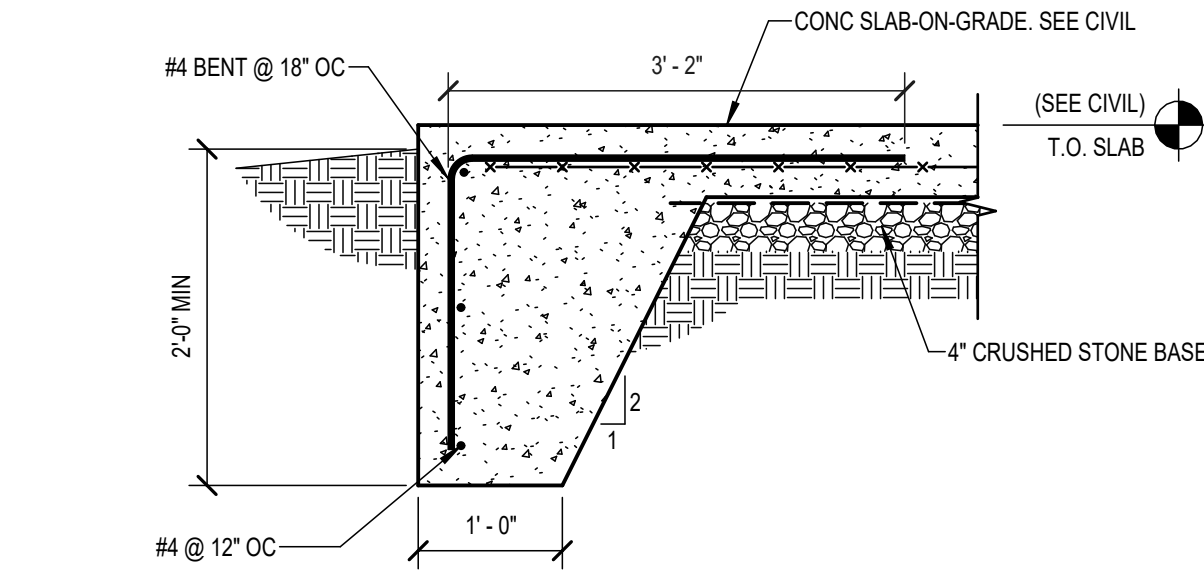
4 SECTION

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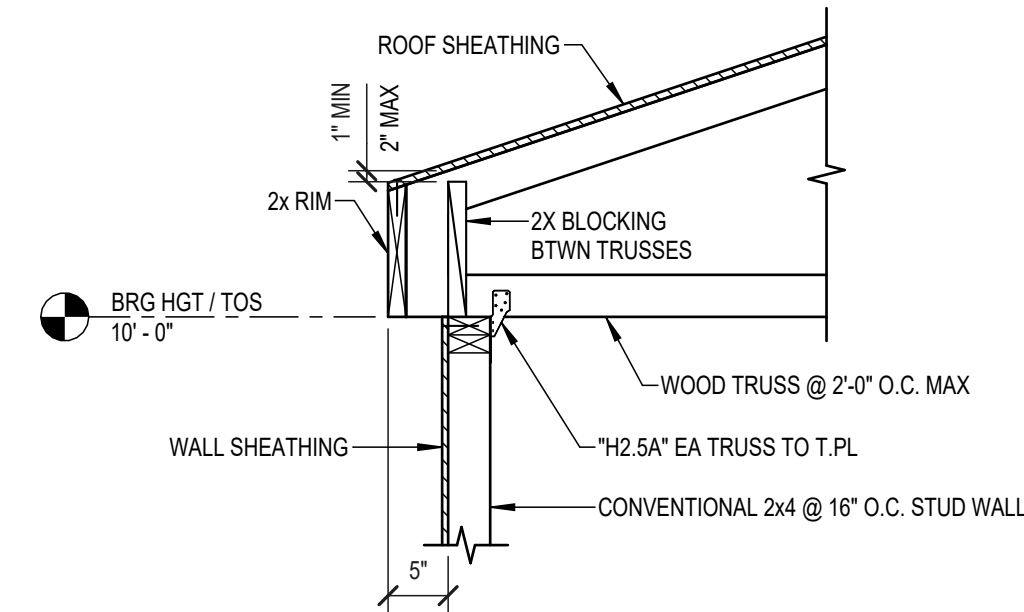
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S501-PWSCALE: 3/4" = 1'-0"
REF: S101-PW



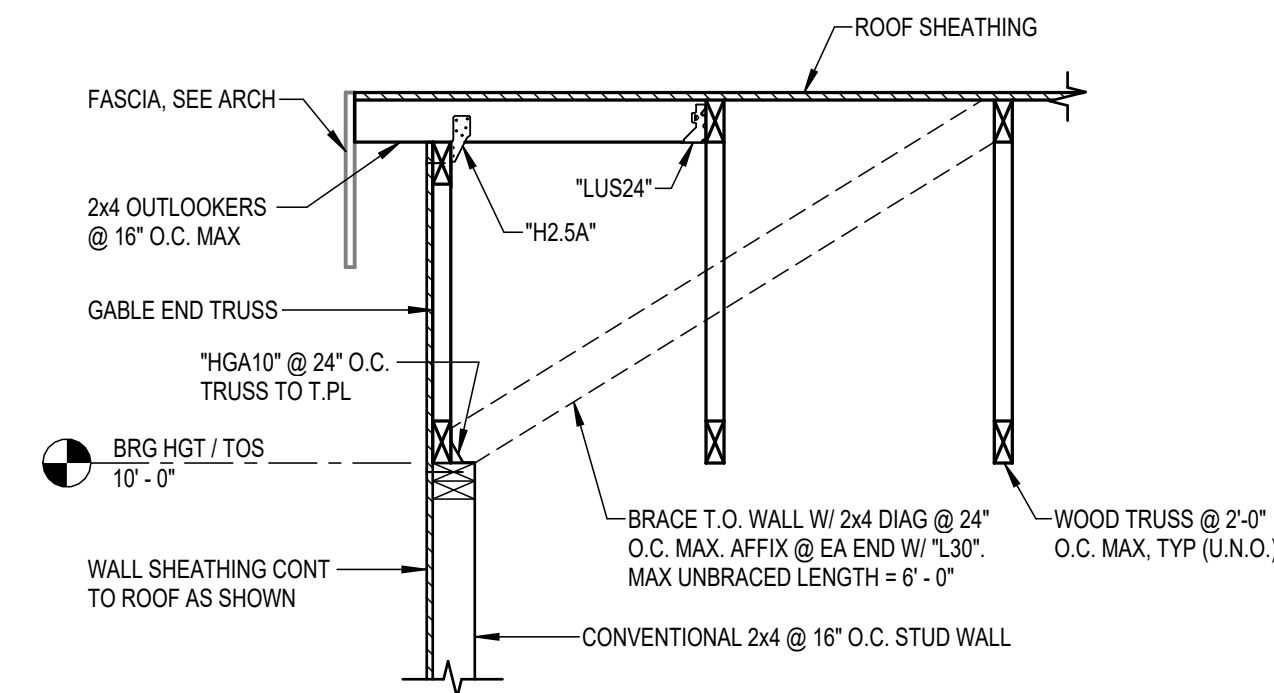
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REF: S102-PW



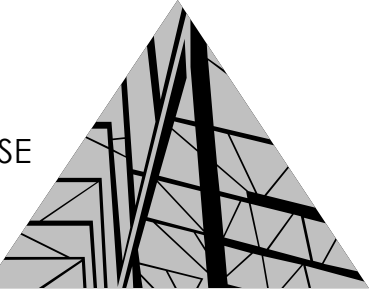
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S501-PWSCALE: 3/4" = 1'-0"
REF: S102-PW



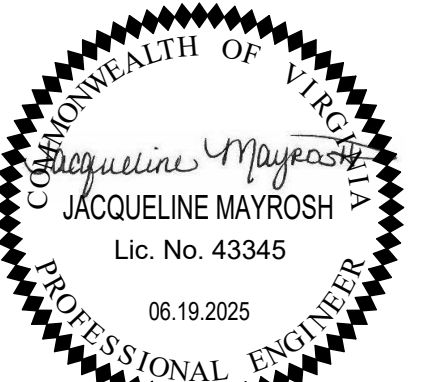
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ROANOKE CITY PROJECT NO.: **RFP #24-10-66**
SPECTRUM DESIGN PROJECT NO.: **23181**



PROJ. MGR.: **MAR** CHECKED BY: **JM** DRAWN BY: **HFR**

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06.19.2025

PROJECT PHASE:
CONSTRUCTION DOCUMENTS

SCALE:
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SHEET REVISIONS:

SHEET NAME:

SECTIONS AND DETAILS

SHEET NUMBER:

S501-PW



APPROVED by: nkmorgan
10/15/2025 5:07:11 PM

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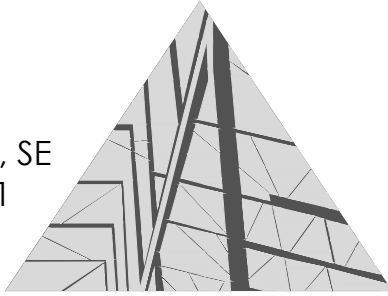
EQUIPMENT SPECIFICATIONS: ITEMS AND QUANTITIES LISTED BELOW ARE INTENDED TO BE A BASIS OF DESIGN, BUT NOT INCLUSIVE OF ALL COMPONENTS REQUIRED FOR A FUNCTIONING, CODE COMPLIANT, SYSTEM, UNLESS NOTED AS OWNER FURNISHED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INCLUDING ALL QUANTITIES AND COMPONENTS REQUIRED FOR A FUNCTIONING, CODE COMPLIANT SYSTEM THAT ARE NOT LISTED BELOW. SUBSTITUTIONS ALLOWED PER SPECIFICATION DIV 01.

MARK	QTY.	PART #	DESCRIPTION	OWNER FURNISHED/CONTRACTOR INSTALLED	OWNER FURNISHED/OWNER INSTALLED*
	DISPENSERS				
	DEF				
	2	2335101862	ROTH 275 GALLON DOUBLE--WALL DEF STORAGE TANK EQUIPPED WITH 120V DEF PUMP SYSTEM, 35' DEF HOSE REEL, DEF NOZZLE, 4PIN COUPLERS, CUSTOM DIP TUBE, ROTH TANK GAUGE, LOCKABLE FILL CAP, AND ROTH TANK REEL BRACKET.	X	
	DIESEL				
	1	9850GXTW1DZ	MASTER: ULTRA--HIGH FLOW GASBOY ATLASX PRIME DIESEL DISPENSER WITH FRONT NOZZLE, DUAL SIDED PRIME OPTION (Z--ATO--PRME02), (1) INTERNAL DISPENSER CONTROLLER (Z--ATO--INDSPC), (2) CATLOW 1"x15' COMPLETE HOSE ASSEMBLY (Z--HHC--HAH816). CITY OF ROANOKE DESIRES USE OF DEDICATED FUEL MAGNETIC STRIPE CARDS AND KEY FOBs FOR AUTHORIZATION.	X	
	1	9853GXTW1DZ	SATELLITE: STANDARD FLOW GASBOY ATLASX PRIME DIESEL DISPENSER WITH FRONT NOZZLE, DUAL SIDE PRIME OPTION (Z--ATO--PRME02), (2) CATLOW 3/4" X 15' COMPLETE HOSE ASSEMBLY (Z--HHC--HAG809). UNIT IS TO BE CONNECTED TO THE PRIME MASTER VIA CAT 5. CITY OF ROANOKE DESIRES USE OF DEDICATED FUEL MAGNETIC STRIPE CARDS AND KEY FOBs FOR AUTHORIZATION.	X	
	1	--	30,000 GALLON DIESEL FUEL		X
	GASOLINE				
	1	9853GXTW1DZ	MASTER: STANDARD FLOW GASBOY ATLASX PRIME GASOLINE DISPENSER WITH FRONT NOZZLE, DUAL SIDE PRIME OPTION (Z--ATO--PRME02), (1) INTERNAL DISPENSER CONTROLLER (Z--ATO--INDSPC), (2) CATLOW 3/4" X 15' COMPLETE HOSE ASSEMBLY (Z--HHC--HAG809). CITY OF ROANOKE DESIRES USE OF DEDICATED FUEL MAGNETIC STRIPE CARDS AND KEY FOBs FOR AUTHORIZATION.	X	
	1	9853GXTW1DZ	SATELLITE: STANDARD FLOW GASBOY ATLASX PRIME GASOLINE DISPENSER WITH FRONT NOZZLE, DUAL SIDE PRIME OPTION (Z--ATO--PRME02), (2) CATLOW 3/4" X 15' COMPLETE HOSE ASSEMBLY (Z--HHC--HAG809). UNIT IS TO BE CONNECTED TO THE PRIME MASTER VIA CAT 5. CITY OF ROANOKE DESIRES USE OF DEDICATED FUEL MAGNETIC STRIPE CARDS AND KEY FOBs FOR AUTHORIZATION.	X	
	1	--	24,000 GALLON GASOLINE		X
	PROPANE				
	1	IPS--9899KXZD	MASTER: GASBOY ATLAS PRIME PROPANE DISPENSER WITH IN DISPENSER CONTROLLER (ORCU) AND FRONT NOZZLE, DUAL SIDE PRIME OPTION (Z--ATO--PRME02), (2) IPS--ELAFLEX--L--KIT LPG FUELING NOZZLE W/ 10' FILLING HOSE, PULL AWAY VALVE PROTECTION AND LEAD HOSE. PRIME MASTER COMMUNICATION TO THE SITE BACK OFFICE VIA CAT5 (WIRELESS OPTIONS AVAILABLE).		
	1	IPS--9899KXZD	SATELLITE: GASBOY ATLAS PRIME PROPANE DISPENSER WITH FRONT NOZZLE, DUAL SIDE PRIME OPTION (Z--ATO--PRME02), (2) IPS--ELAFLEX--L--KIT LPG FUELING NOZZLE W/ 10' FILLING HOSE, PULL AWAY VALVE PROTECTION AND LEAD HOSE. UNIT COMMUNICATION CONNECTED TO THE PRIME MASTER VIA CAT 5.		
	FUEL MANAGEMENT SYSTEMS				
	1	TLS--450PLUS	AUTOMATIC TANK GAUGE	X	
	2	0881115--880	880 US RADAR LEVEL SENSOR CAT--M1 VEEDER--ROOT 1NCE	X	
	2	HYDRX	HYDRX FUEL CONDITIONING SYSTEM	X	
	TANKS				
	2	--	15,000 GALLON UL--2085 FIREGUARD HORIZONTAL TANK		
	2	--	12,000 GALLON, 96" OUTER DIAMETER UL--2085 FIREGUARD HORIZONTAL TANK		
	1	--	1,990 GALLON HORIZONTAL PROPANE TANK		X (BLOSSMAN GAS)
	ISLAND EQUIPMENT				
	1	S4H	WOODFORD SANITARY YARD HYDRANT, SEE SPECIFICATIONS SECTION 331116		
	3	--	HEAVY DUTY, BRIGHT YELLOW, WEATHER RESISTANT STORAGE BIN FOR SPILL RESPONSE WITH HINGED LID CAPABLE OF STORING (10) BAGS OF GRANULAR OIL/FUEL ABSORBENT		
	EQUIPMENT				
	1	20095	KAESER 20095 SIMPLEX COMPRESSOR STATION INCLUDING THE KAESER SK--20 SIGMA PROFILE 20 HP ROTARY SCREW AIR COMPRESSOR WITH INTEGRATED DRYER AND SIGMA CONTROL 2 PROGRAMMABLE CONTROLLER CAPABLE OF SUPPLYING 76.6 CFM AT 160 PSIG OPERATING PRESSURE. MOUNT ON 4" CONCRETE HOUSE KEEPING PAD.		
	6	2790--500	MILTON INDUSTRIAL AIR HOSE REEL -- 3/4" NPT, 300 PSI MAX WITH BAYONET STYLE TIRE INFLATOR GAUGE, HEAVY DUTY STRAIGHT HEAD AIR CHUCK, AND 12' HOSE.		
	1	RC25 OR DL18	PROPANE PUMP		X (BLOSSMAN GAS)
	2	9235--3	STAINLESS STEEL VACUUM WITH (3) 1.6 HP & 120V MOTORS REQUIRING 30 AMPS, ON/OFF SWITCH, 15' 2" DIA. THREADED BLACK HOSE		
EQ1	2	96"W x 24' D x 72" H	EXTRA HEAVY DUTY METAL STORAGE RACK W/ (3) SHELF LEVELS W/ WIRE DECK W/ MIN. 14GA UPRIGHT STEEL FRAMES AND MIN 12 GA STEEL SUPPORT BEAMS -- BY GLOBAL INDUSTRIAL (OR APPROVED EQUAL)		
	MISCELLANEOUS				
	1	--	PEDESTRIAN GATE FRAME	X	
FEC			FIRE EXTINGUISHER (2A20BC) AND CABINET		
	1	MSGX--PX	ALVARADO PEDESTRIAN GATE WITH PULL HANDLE, MICROSWITCH PUSH BAR, INFILL MESH, 110 TRANSFORMER, CARD READER PLATE, AND KICKPLATE. BLACK POWDER COAT OVER GALVANIZED FINISH.		

*OWNER INSTALLED ITEMS MAY BE OWNER OR VENDOR INSTALLED

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CITY OF ROANOKE
REFUELING CENTERS
PUBLIC WORKS
SERVICE CENTER

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Spectrum Design Project No.: 23181



PROJ. MGR.: CHECKED BY: DRAWN BY:
MAR MAR AGA

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AS SHOWN
24"x36" SHEET

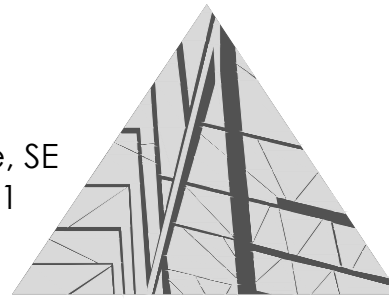
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KEY PLAN:

SHEET NAME:
NOTES &
SPECIFICATIONS

SHEET NUMBER:
A001-PW





CITY OF ROANOKE
REFUELING CENTERS
PUBLIC WORKS
SERVICE CENTER

ROANOKE CITY PROJECT NO.: RFP #24-10-66
Spectrum Design Project No.: 23181



PROJ. MGR.: MAR
CHECKED BY: DCV
DRAWN BY: DGM

SHEET ISSUE DATE:
06.19.2025

PROJECT PHASE:
CONSTRUCTION DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

SHEET REVISIONS:

KEY PLAN:

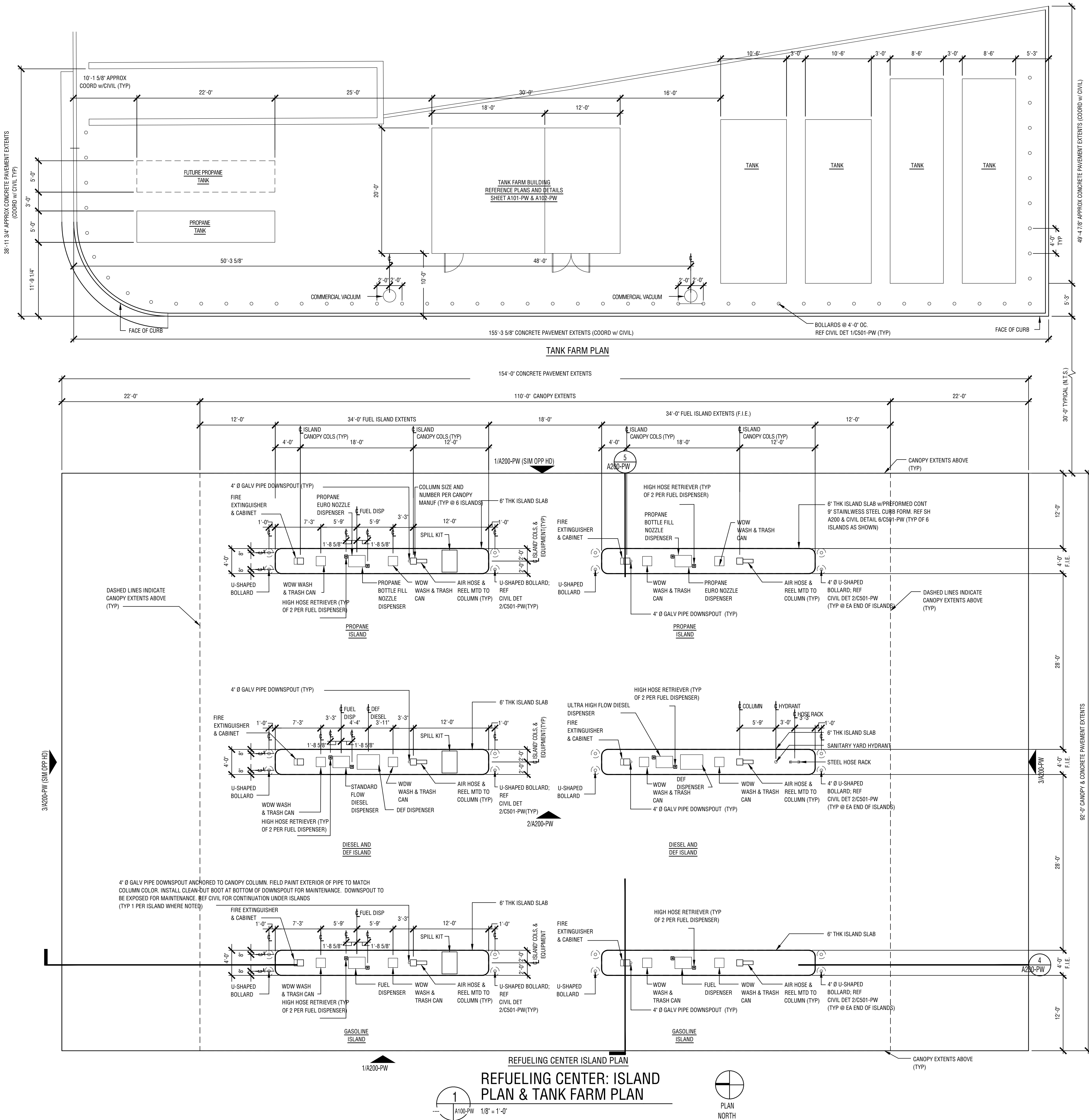
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REFUELING CENTER
ISLAND PLAN &
TANK FARM PLAN

SHEET NUMBER:

A100-PW

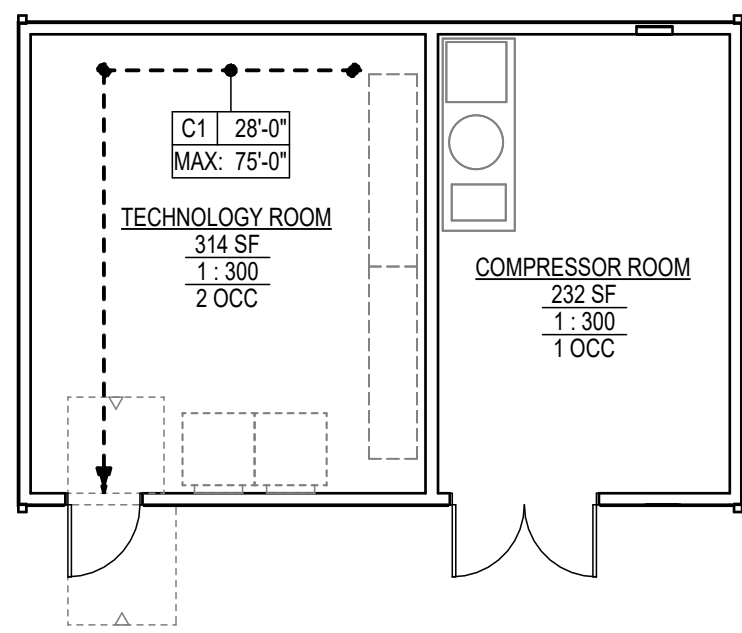


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AHJ APPROVAL: 317416



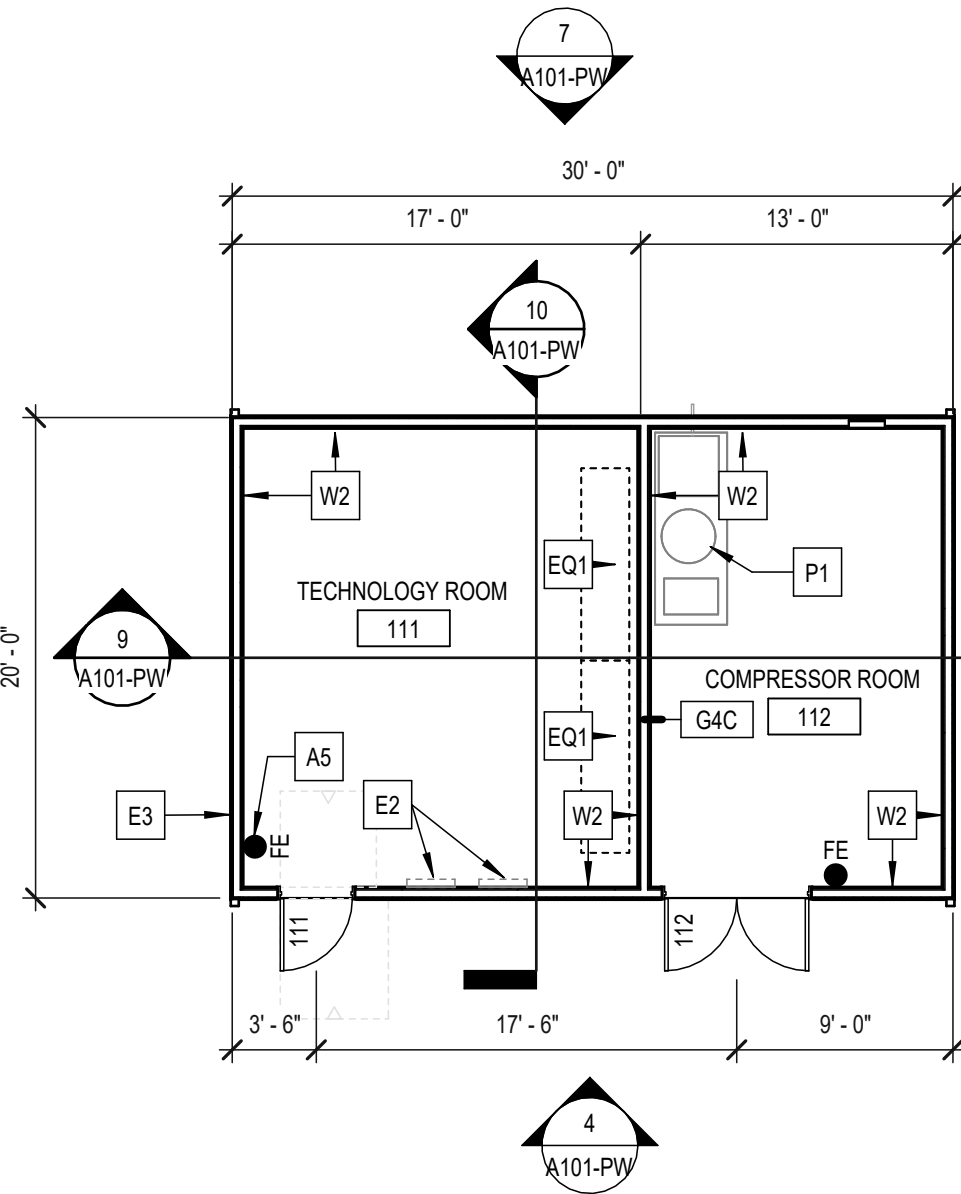
PROJECT CODE SUMMARY

PROJECT DESCRIPTION THE PROJECT IS GENERALLY DESCRIBED AS (GIVE BRIEF DESCRIPTION OF PROJECT)	
CHAPTER 1: ADMINISTRATION - APPLICABLE BUILDING CODES	
2021 VIRGINIA CONSTRUCTION CODE (VCC) 2021 VIRGINIA PLUMBING CODE (VPC) 2021 VIRGINIA MECHANICAL CODE (VMC) 2021 VIRGINIA ENERGY CONSERVATION CODE (VECC), CLIMATE ZONE 4A 2021 VIRGINIA STATEWIDE FIRE PREVENTION CODE (VSFPC) 2020 NATIONAL ELECTRICAL CODE (NFPA 70) 2017 STANDARD FOR ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES (ANSI 117.1)	
CHAPTER 3: USE AND OCCUPANCY CLASSIFICATION	
PRIMARY USE GROUP: U - UTILITY (SECTION 312)	
CHAPTER 4: SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY: N/A	
CHAPTER 5: GENERAL BUILDING HEIGHTS & AREAS	
MIXED USE AND OCCUPANCY:	SINGLE / MAIN OCCUPANCY (SECTION 508.2)
BUILDING HEIGHT ALLOWABLE (TABLE 504.3):	40 FT
BUILDING HEIGHT PROVIDED:	15 FT
NUMBER OF STORIES ALLOWABLE (TABLE 504.4):	1 STORY
NUMBER OF STORIES PROVIDED:	1 STORY
ALLOWABLE AREA FACTOR (TABLE 506.2)	
BUILDING AREA ALLOWED PER STORY:	5,500 SF
BUILDING AREA PROVIDED PER STORY:	600 SF
CHAPTER 6: TYPE OF CONSTRUCTION	
CONSTRUCTION TYPE (SECTION 602): VB (UNPROTECTED, COMBUSTIBLE)	
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (TABLE 601)	
PRIMARY STRUCTURAL FRAME:	0 HR
BEARING WALLS	
EXTERIOR:	0 HR
INTERIOR:	0 HR
NONBEARING WALLS	
EXTERIOR:	0 HR
INTERIOR:	0 HR
FLOOR CONSTRUCTION:	0 HR
ROOF CONSTRUCTION:	0 HR
CHAPTER 7: FIRE & SMOKE PROTECTION FEATURES	
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS (TABLE 705.5) (X = DISTANCE TO PROPERTY LINE) X ≥ 30 FT: 0 HR	
FIRE WALLS (SECTION 706): N/A	
FIRE BARRIERS (SECTION 707): N/A	
DRAFTSTOPPING (SECTION 718): N/A	
CHAPTER 8: INTERIOR FINISHES	
INTERIOR FINISH REQUIREMENTS (TABLE 803.13) USE GROUP U	
VERTICAL EXITS & PASSAGEWAYS: N/A	
EXIT ACCESS CORRIDORS: N/A	
ROOMS / ENCLOSED SPACES: N/A	
CHAPTER 9: FIRE PROTECTION SYSTEMS	
AUTOMATIC SPRINKLER SYSTEM (SECTION 903): NS - NOT REQUIRED	
PORTABLE FIRE EXTINGUISHERS (SECTION 906.1): PROVIDED PER THIS SECTION	
FIRE ALARM AND DETECTION SYSTEM (SECTION 907.2): NOT REQUIRED	
CHAPTER 10: MEANS OF EGRESS	
DESIGN OCCUPANT LOAD (TABLE 1004.5): ACCESSORY STORAGE, MECHANICAL EQUIPMENT - 300 GROSS SF / OCCUPANT. 600 SF / 300 SF = 2 OCCUPANTS	
COMMON PATH OF TRAVEL (SECTION 1006.2.1): WITH(OUT) SPRINKLER SYSTEM = 75 FT MAX. ACTUAL MAXIMUM COMMON PATH OF EGRESS TRAVEL = 28 FT	
CHAPTER 11: ACCESSIBILITY	
ACCESSIBLE ROUTE (SECTION 1104.1): AT LEAST ONE ACCESSIBLE ROUTE IS REQUIRED	
PARKING AND PASSENGER LOADING FACILITIES (SECTION 1106): ACCESSIBLE PARKING SPACES ARE PROVIDED IN PARKING LOT - SEE CIVIL DRAWINGS	
CHAPTER 29: PLUMBING SYSTEMS:	
MINIMUM PLUMBING FACILITIES (VCC SECTION 2902/ VPC SECTION 403): NOT REQUIRED	
2021 VIRGINIA ENERGY CONSERVATION CODE	
CD101.1 GENERAL THESE PROVISIONS SHALL BE PERMITTED AS AN ALTERNATIVE TO BUILDING THERMAL ENVELOPE REQUIREMENTS FOR BUILDING AREAS CONTAINING USES THAT ARE CLASSIFIED AS GROUP F, S OR U.	
TABLE CD102.2(1) CLIMATE ZONE 4 ROOF: ATTIC = R-30 WALLS ABOVE GRADE: WOOD FRAMED = R-13 UNHEATED SLABS = NR	



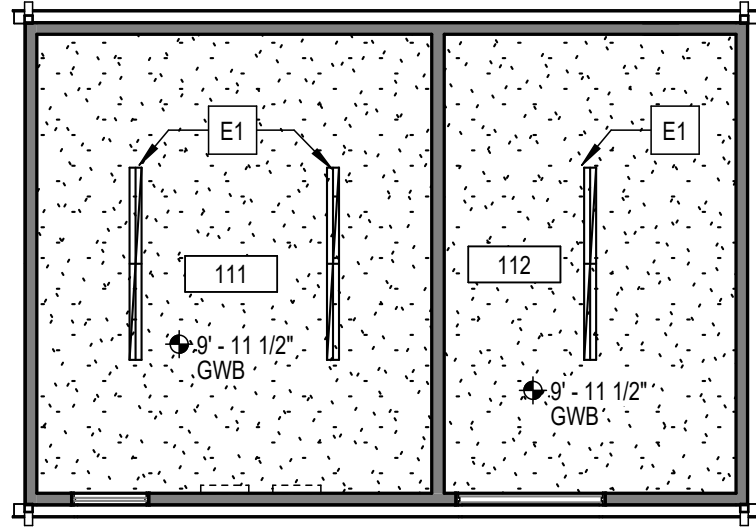
1 LIFE SAFETY PLAN

A101-PWSCALE: 1/8" = 1'-0"
REF: A101-PW



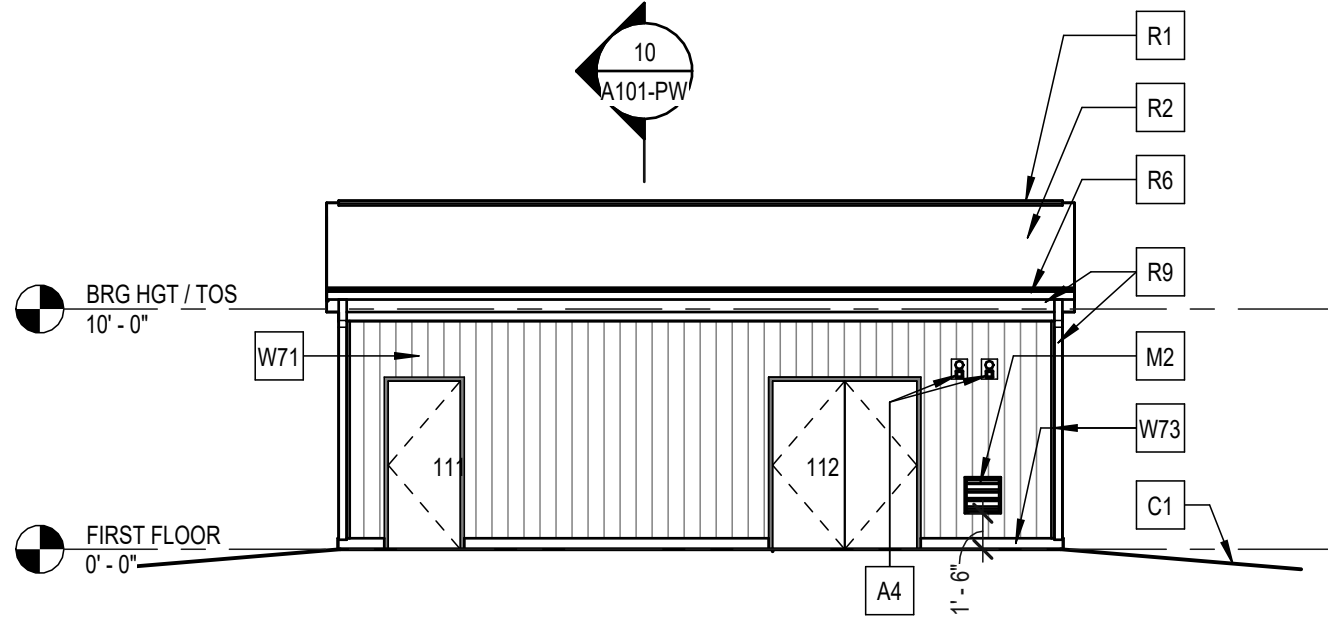
2 FLOOR PLAN

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REF: A101-PW



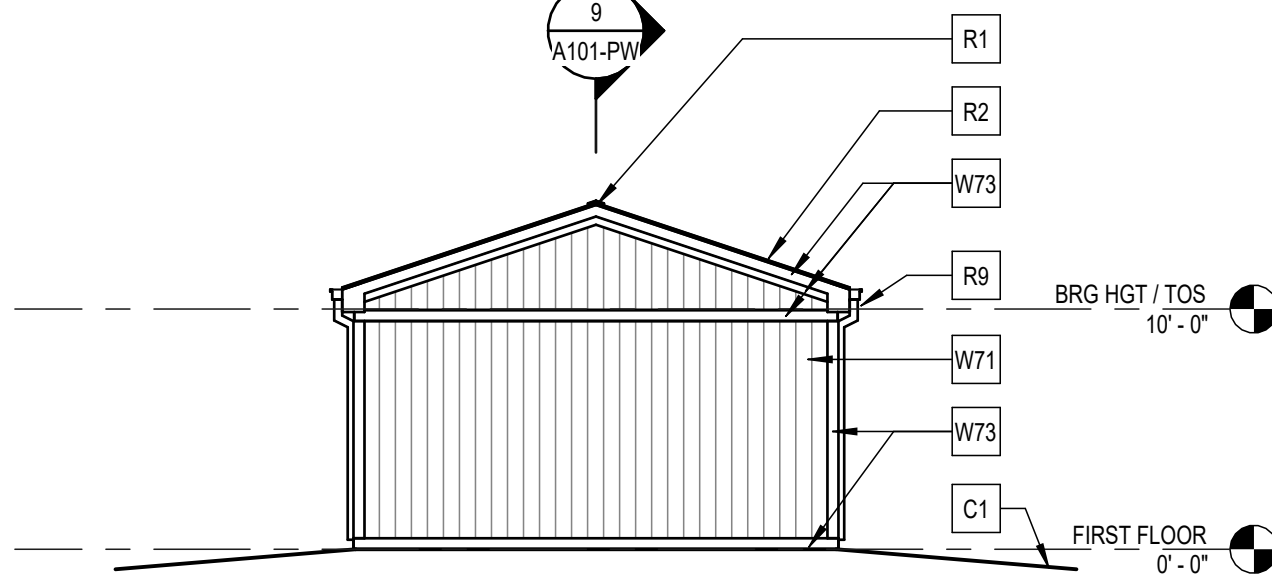
3 REFLECTED CEILING PLAN

A101-PWSCALE: 1/8" = 1'-0"
REF: A101-PW



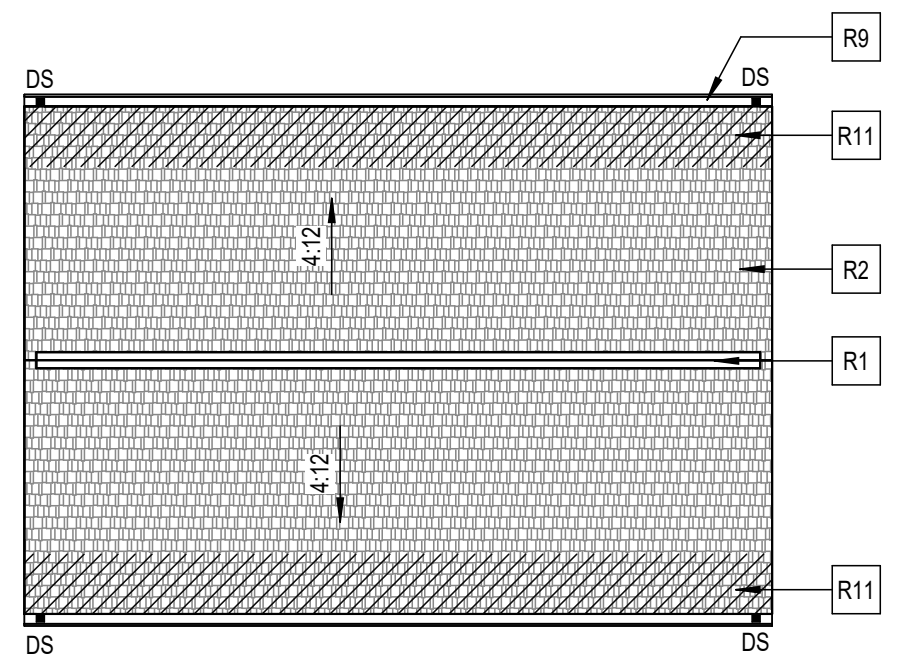
4 WEST ELEVATION

A101-PWSCALE: 1/8" = 1'-0"
REF: A101-PW



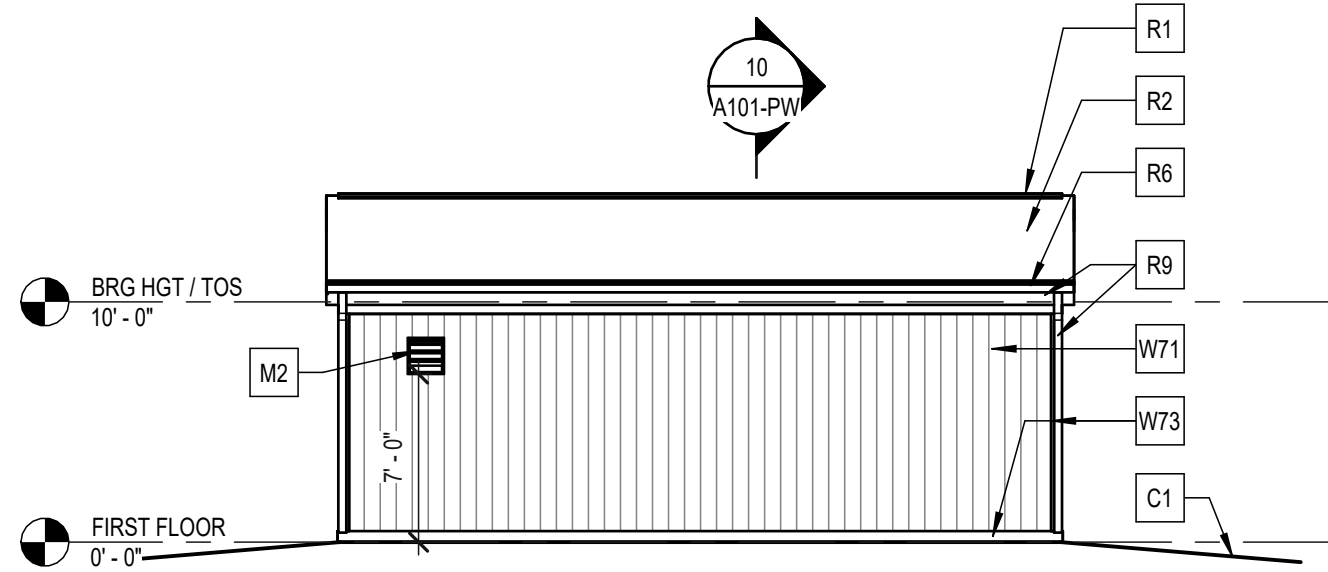
5 SOUTH ELEVATION

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REF: A101-PW



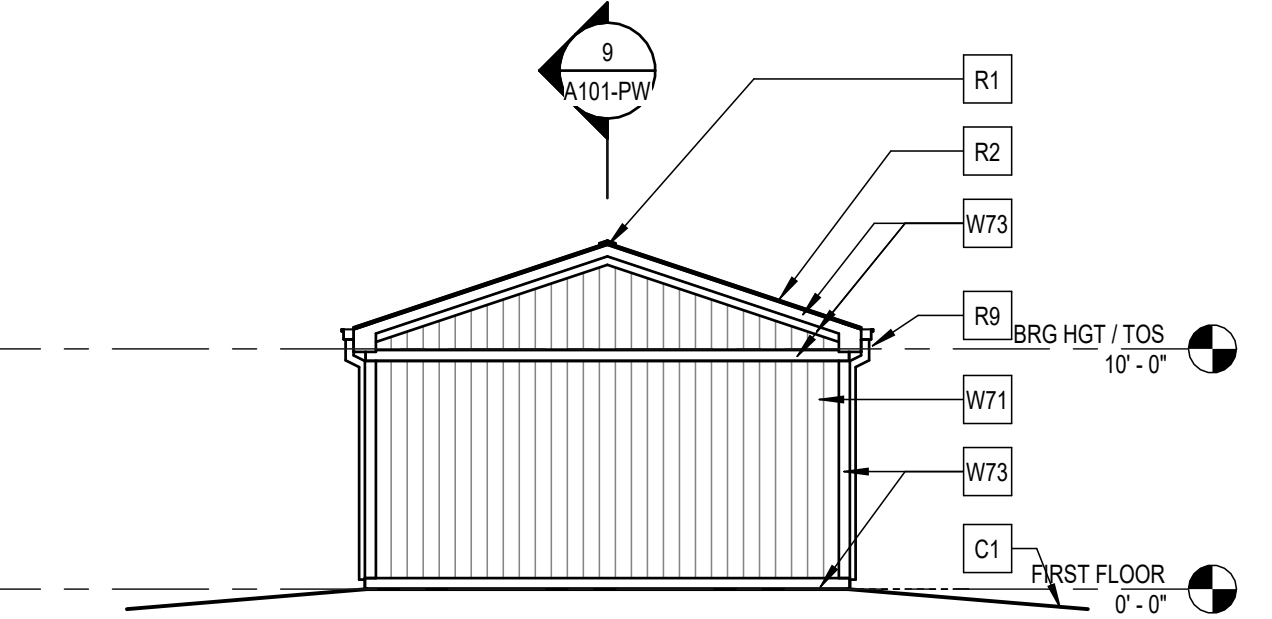
6 ROOF PLAN

A101-PWSCALE: 1/8" = 1'-0"
REF: A101-PW



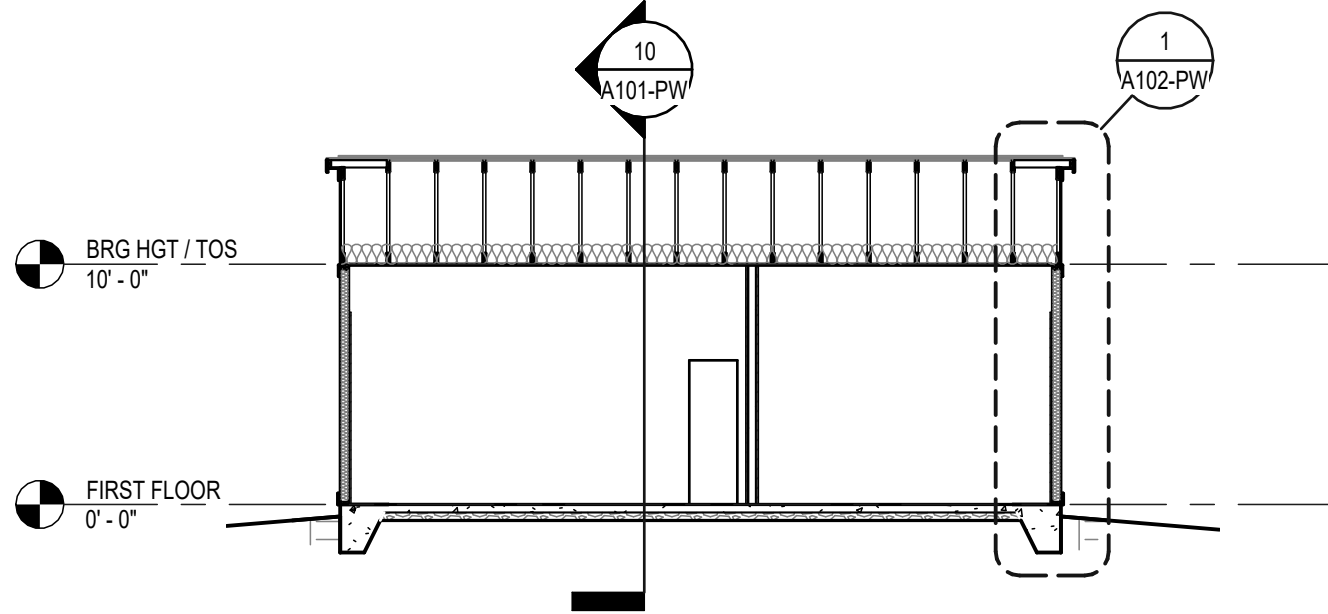
7 ELEVATION

A101-PWSCALE: 1/8" = 1'-0"
REF: A101-PW



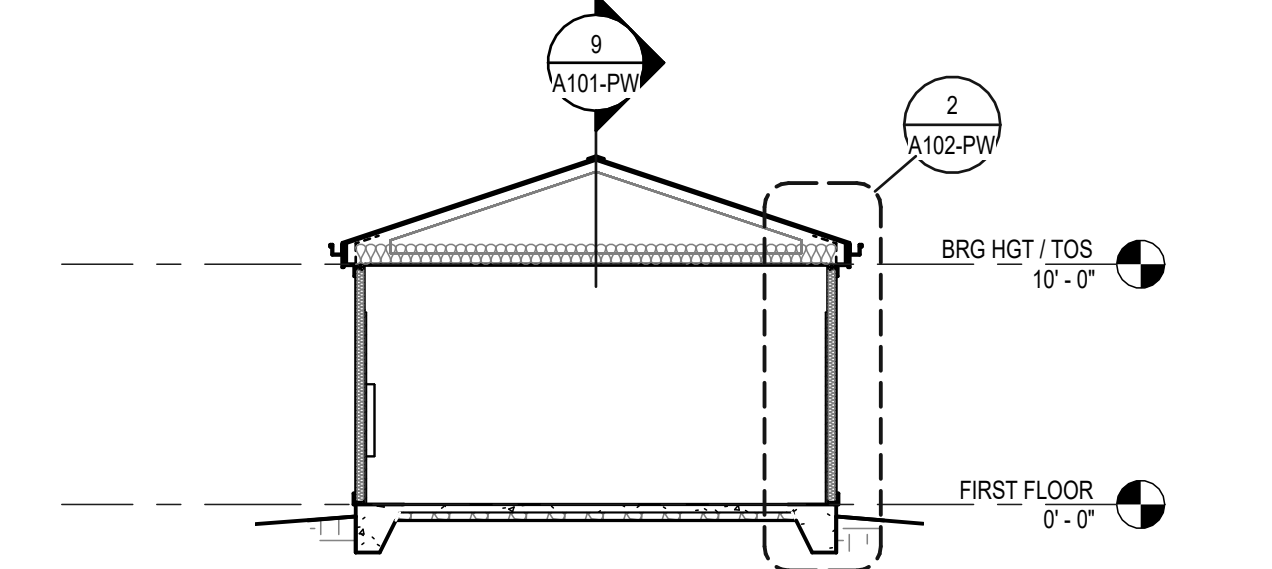
8 ELEVATION

A101-PWSCALE: 1/8" = 1'-0"
REF: A101-PW



9 BUILDING SECTION

A101-PWSCALE: 1/8" = 1'-0"
REF: A101-PW



10 BUILDING SECTION

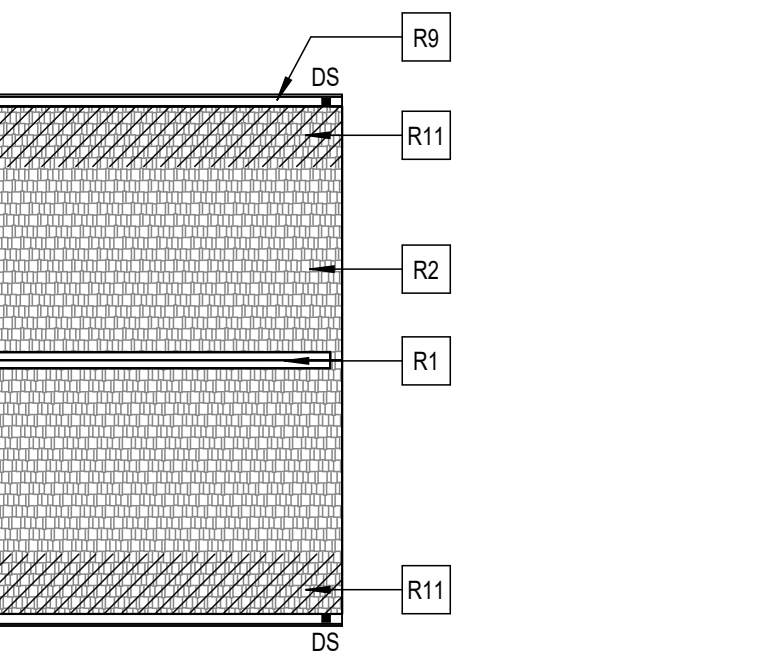
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REF: A101-PW

FLOOR PLAN GENERAL NOTES

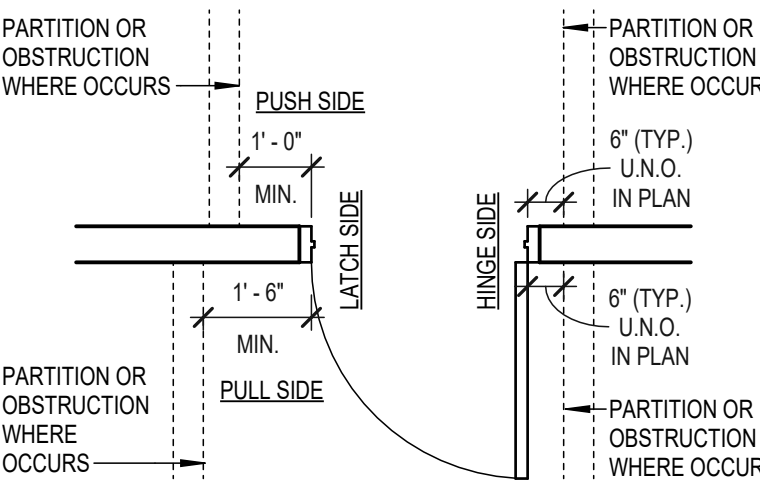
GN-1: DIMENSION GUIDELINES:
• NEW CONSTRUCTION = PLAN DIMENSIONS ARE TO FACE OF FRAMING MEMBERS AT GWB, FACE OF MASONRY, AND CENTERLINE OF STRUCTURAL GRID U.N.O.

SHEET KEYNOTES

- A4 OVERFILL ALARM (TYP OF 2)
- A5 PROVIDE MP5, 2A-10B-C FIRE EXTINGUISHER (FE) ON BRACKET. MOUNT BRACKET AT 48" AFF. TYP OF (2)
- C1 FINISH GRADE - SEE CIVIL DRAWINGS
- E1 LIGHT FIXTURE - SEE ELECTRICAL DRAWINGS
- E2 ELECTRICAL EQUIPMENT - SEE ELECTRICAL DRAWINGS
- EQ1 STORAGE RACK
- M2 18" X 18" MECHANICAL LOUVER
- R1 CONTINUOUS RIDGE VENT
- R2 ARCHITECTURAL SHINGLES
- R6 1x12 PREFINISHED ALUMINUM WRAPPED FASCIA BOARD
- R9 PREFINISHED ALUMINUM GUTTER AND DOWNSPOUT
- R11 PROVIDE ICE /WATER SHIELD MIN. 24" HORIZONTALLY BEYOND INSIDE FACE OF EXTERIOR WALL
- W2 3/4" PLYWOOD TO 8'-0" AFF - FULL LENGTH OF WALL
- W71 FIBER CEMENT PANEL SIDING W/ 8" GROOVES ORIENTED VERTICAL - PAINTED
- W73 1X6 FIBER CEMENT TRIM - PAINTED



MINIMUM DOOR CLEARANCE LEGEND



ANSI 117.1 2017
WHERE LATCH SIDE OF DOORWAYS ARE LOCATED ADJACENT TO A PERPENDICULAR PARTITION AND NOT OTHERWISE DIMENSIONED:

• PUSH SIDE - PROVIDE 1'-0" MIN. CLEAR BETWEEN INSIDE EDGE OF FRAME OPENING AND FINISH FACE OF ADJACENT PARTITION.

• PULL SIDE - PROVIDE 1'-6" MIN. CLEAR BETWEEN INSIDE EDGE OF FRAME OPENING AND FINISH FACE OF ADJACENT PARTITION.

NORTH



SCALE: 1/8" = 1'-0"

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PUBLIC WORKS
SERVICE CENTER

ROANOKE CITY PROJECT NO.: RFP #24-10-66
SPECTRUM DESIGN PROJECT NO.: 23181



PROJ. MGR.: MAR
CHECKED BY: TBD
DRAWN BY: TLR

SHEET ISSUE DATE:
06.19.2025

PROJECT PHASE:
CONSTRUCTION DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

SHEET REVISIONS:

SHEET NAME:

TANK FARM BUILDING
PLANS AND
ELEVATIONS

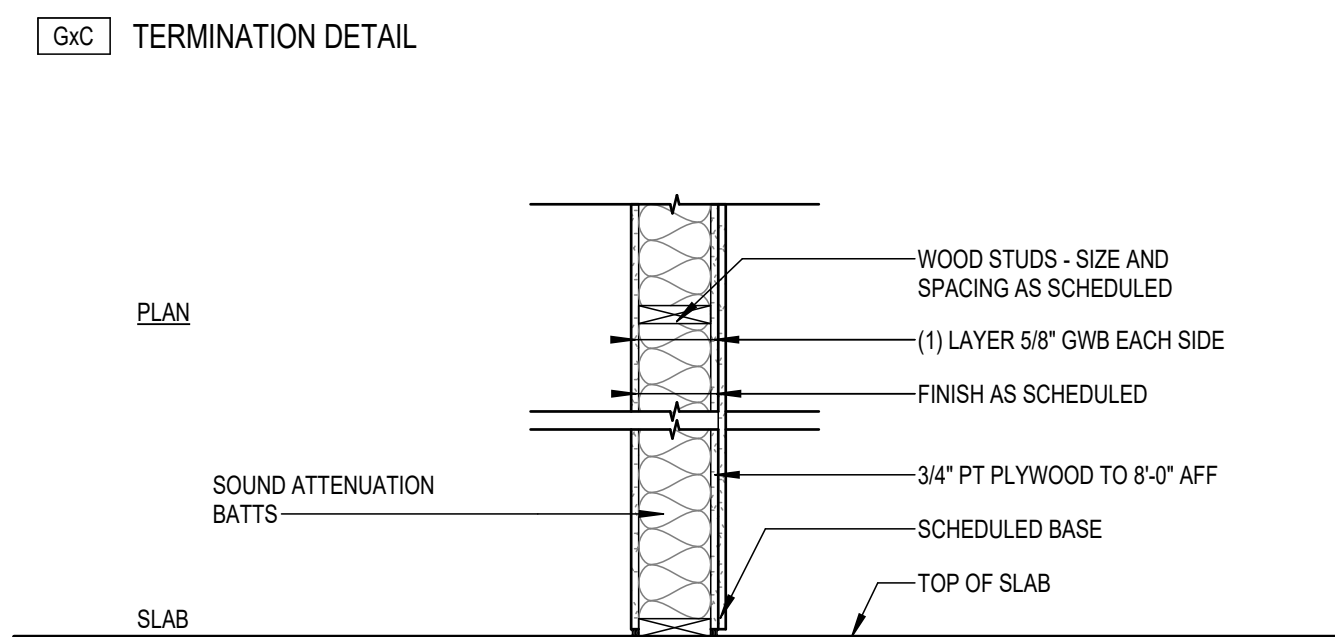
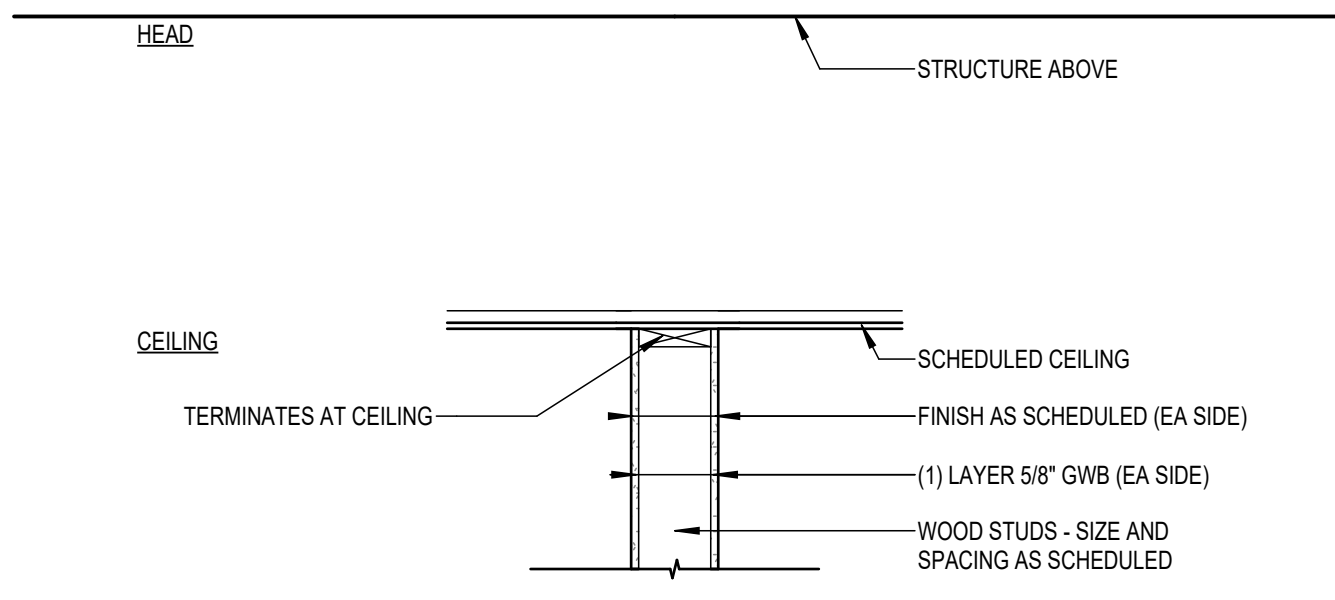
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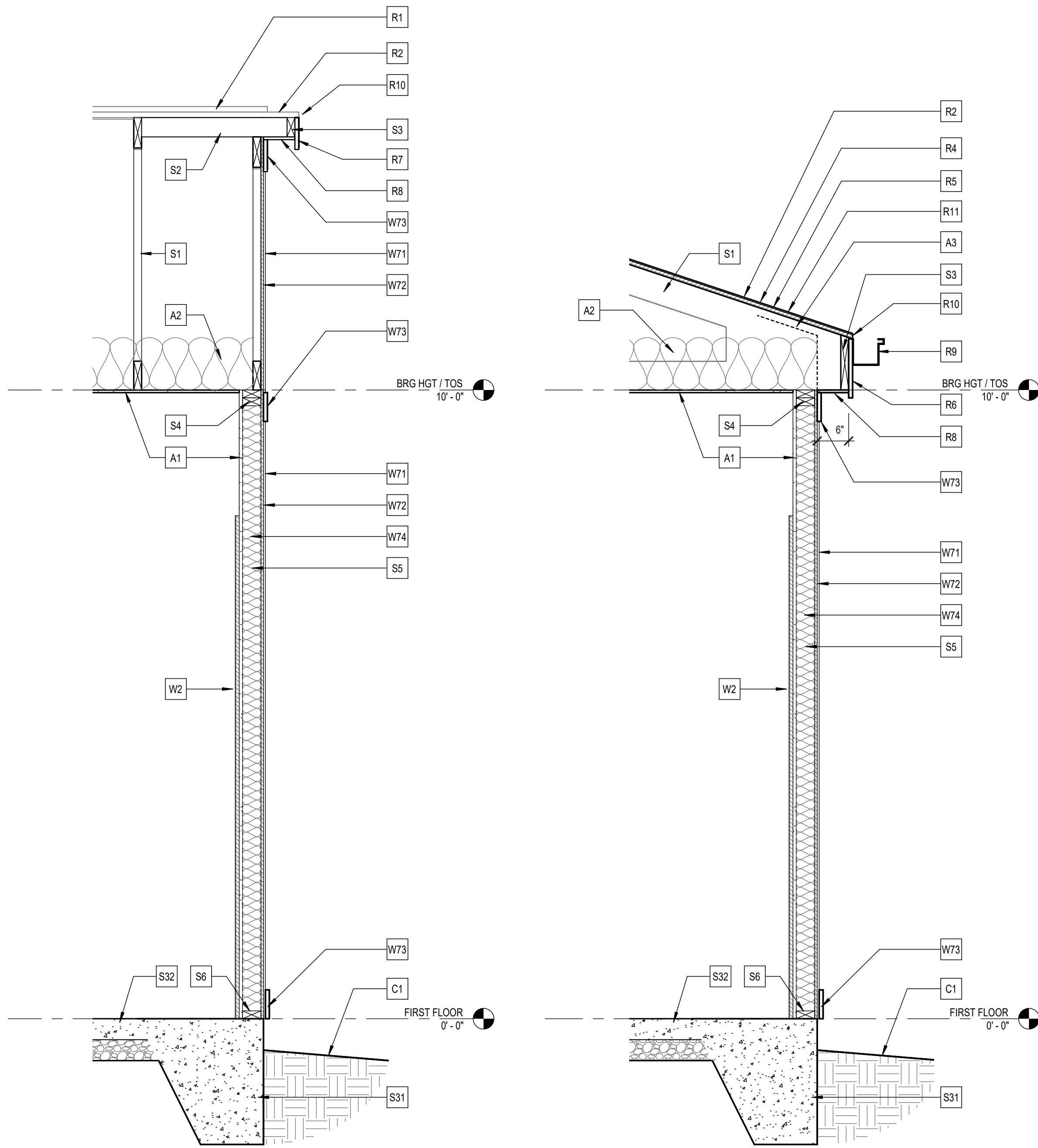


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PARTITION TYPE											
ASSEMBLY TAG	TOTAL WIDTH	STRUCT. WIDTH	MIN. GAUGE	MAX. SPACING	LIMITING HEIGHT	UL NO.	FIRE RATING	TERM. DETAIL	STC		KEYNOTES
									RATING	TEST	
G4C	6 1/4"	3 1/2"	--	16"	CEILING	--	--	GxC	--	--	--



1 WALL SECTION

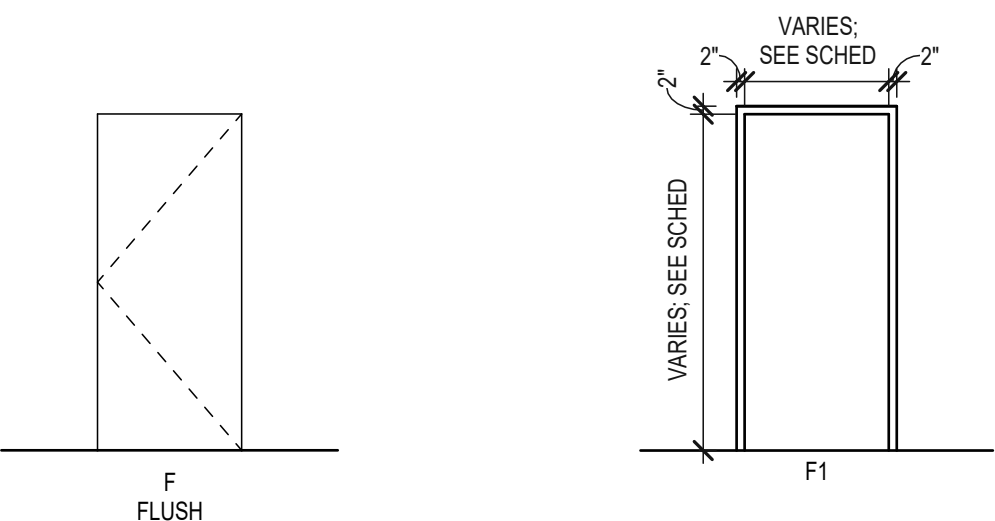
A102-PW SCALE: 3/4" = 1'-0"
REF: A101-PW

2 WALL SECTION

A102-PW SCALE: 3/4" = 1'-0"
REF: A101-PW

ROOM FINISH SCHEDULE							
ROOM NO.	ROOM NAME	FLOOR	WALL		CEILING		REMARKS
			BASE	FINISH	MATL	FINISH	
111	TECHNOLOGY ROOM	CONC	--	PAINT	GWB	PAINT	--
112	COMPRESSOR ROOM	CONC	--	PAINT	GWB	PAINT	--

DOOR AND FRAME SCHEDULE															
DOOR MARK	DOOR					FIRE RATING	FRAME				THRESH	HWDRE SET	AC	AO	KEYNOTES
	ELEV	PAIR	MATL	WIDTH	HEIGHT		ELEV	MATL	HEAD	JAMB					
111	F	--	INSUL MTL	3'-0"	7'-0"	--	F1	HM							
112	F	PAIR	INSUL MTL	6'-0"	7'-0"	--	F1	HM							



DOOR ELEVATION TYPES

SCALE: 1/4" = 1'-0'

FRAME ELEVATION TYPES

SCALE: 1/4" = 1'-0"

WALL SECTION & DETAILS GENERAL NOTES

GN-1: FINISH GRADES, FOOTINGS, AND FOUNDATIONS ARE SHOWN FOR ILLUSTRATION ONLY - SEE CIVIL AND STRUCTURAL DRAWINGS.

XX SHEET KEYNOTES

- | | |
|-----|---|
| A1 | 5/8" GWB |
| A2 | ATTIC INSULATION (R-30 MIN) |
| A3 | INSULATION BAFFLE |
| C1 | FINISH GRADE - SEE CIVIL DRAWINGS |
| R1 | CONTINUOUS RIDGE VENT |
| R2 | ARCHITECTURAL SHINGLES |
| R | UNDERLAYMENT |
| R5 | 5/8" PLYWOOD SHEATHING |
| R6 | 1x12 PREFINISHED ALUMINUM WRAPPED FASCIA BOARD |
| R7 | 1x6 PREFINISHED ALUMINUM WRAPPED FASCIA BOARD |
| R8 | PERFORATED FIBER CEMENT SOFFIT BOARD |
| R9 | PREFINISHED ALUMINUM GUTTER AND DOWNSPOUT |
| R10 | PREFINISHED ALUMINUM Drip EDGE |
| R11 | PROVIDE ICE /WATER SHIELD MIN. 24" HORIZONTALLY BEYOND INSIDE FACE OF EXTERIOR WALL |
| S1 | PRE-ENGINEERED WOOD ROOF TRUSSES @ 24" O.C. |
| S2 | 2x4 LOOKOUT FRAMING @ 16" O.C. |
| S3 | 2X SUBFRAMING |
| S4 | 2x4 TOP PLATE |
| S5 | 2x4 WOOD STUDS @ 16" O.C. |
| S6 | 2x4 PT WOOD BOTTOM PLATE |
| S31 | CONCRETE FOUNDATION - SEE STRUCTURAL DRAWINGS |
| S32 | CONCRETE SLAB - SEE STRUCTURAL DRAWINGS |
| W2 | 3/4" PLYWOOD TO 8'-0" AFF - FULL LENGTH OF WALL |
| W71 | FIBER CEMENT PANEL SIDING W/ 8" GROOVES ORIENTED VERTICAL - PAINTED |
| W72 | 1/2" PLYWOOD WALL SHEATHING W/ INTEGRAL WEATHER RESISTIVE BARRIER |
| W73 | 1X6 FIBER CEMENT TRIM - PAINTED |
| W74 | 3 1/2" FIBERGLASS BATT INSULATION (R-13 MIN) |

DOOR SCHEDULE & SIGNAGE GENERAL NOTES

GN-1: SEE SPECIFICATIONS FOR DOOR HARDWARE SETS. DOOR LOCKING HARDWARE SHALL BE "KEYED" TO OWNER'S STANDARD. CONTRACTOR TO COORDINATE WITH OWNER AND DOOR LOCKING HARDWARE MANUFACTURER.

DOOR SCHEDULE INDICATORS

<u>MATERIAL / FINISH LEGEND:</u>	<u>ADDITIONAL ABBREVIATIONS</u>
HM - HOLLOW METAL	PR - PAIR

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**CITY OF ROANOKE
PUBLIC WORKS
SERVICE CENTER**

ROANOKE CITY PROJECT NO.: **RFP #24-10-66**
SPECTRUM DESIGN PROJECT NO.: **23181**



PROJ. MGR.: **MAR** CHECKED BY: **TBD** DRAWN BY: **TLR**

SHEET ISSUE DATE:
06.19.2025

PROJECT PHASE:
CONSTRUCTION DOCUMENTS

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SHEET REVISIONS:

SHEET NAME:

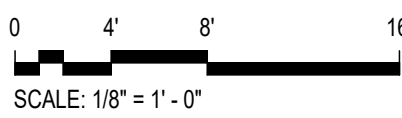
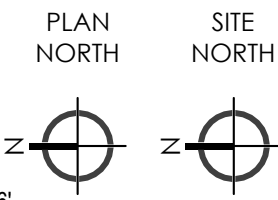
TANK FARM BUILDING WALL SECTIONS, DOOR, ROOM, & WALL SCHEDULES

SHEET NUMBER:

A102-PW



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CITY OF ROANOKE
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PUBLIC WORKS
SERVICE CENTER

ROANOKE CITY PROJECT NO.: RFP #24-10-66
Spectrum Design Project No.: 23181



PROJ. MGR.: MAR
CHECKED BY: DGV
DRAWN BY: DGM

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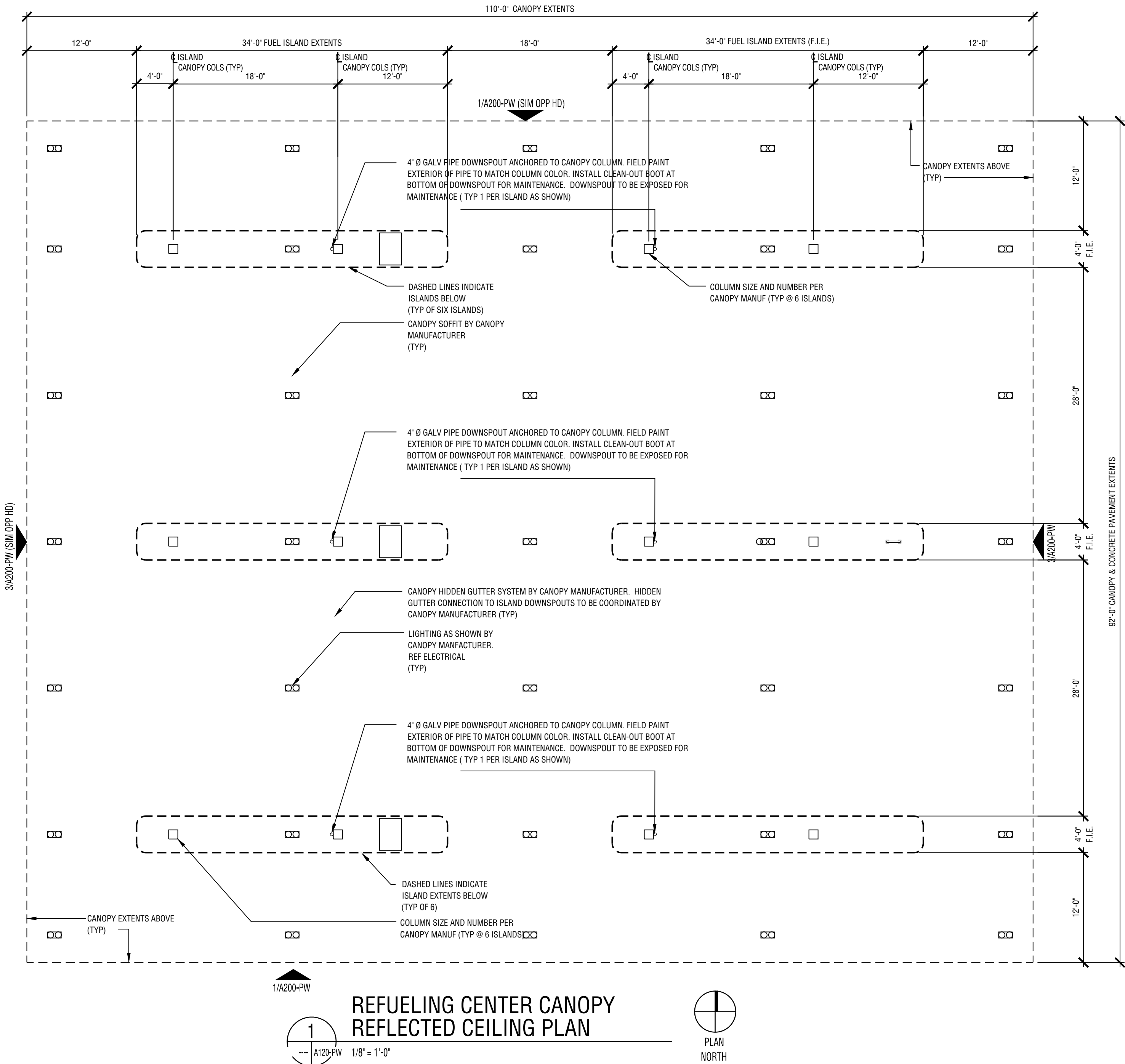
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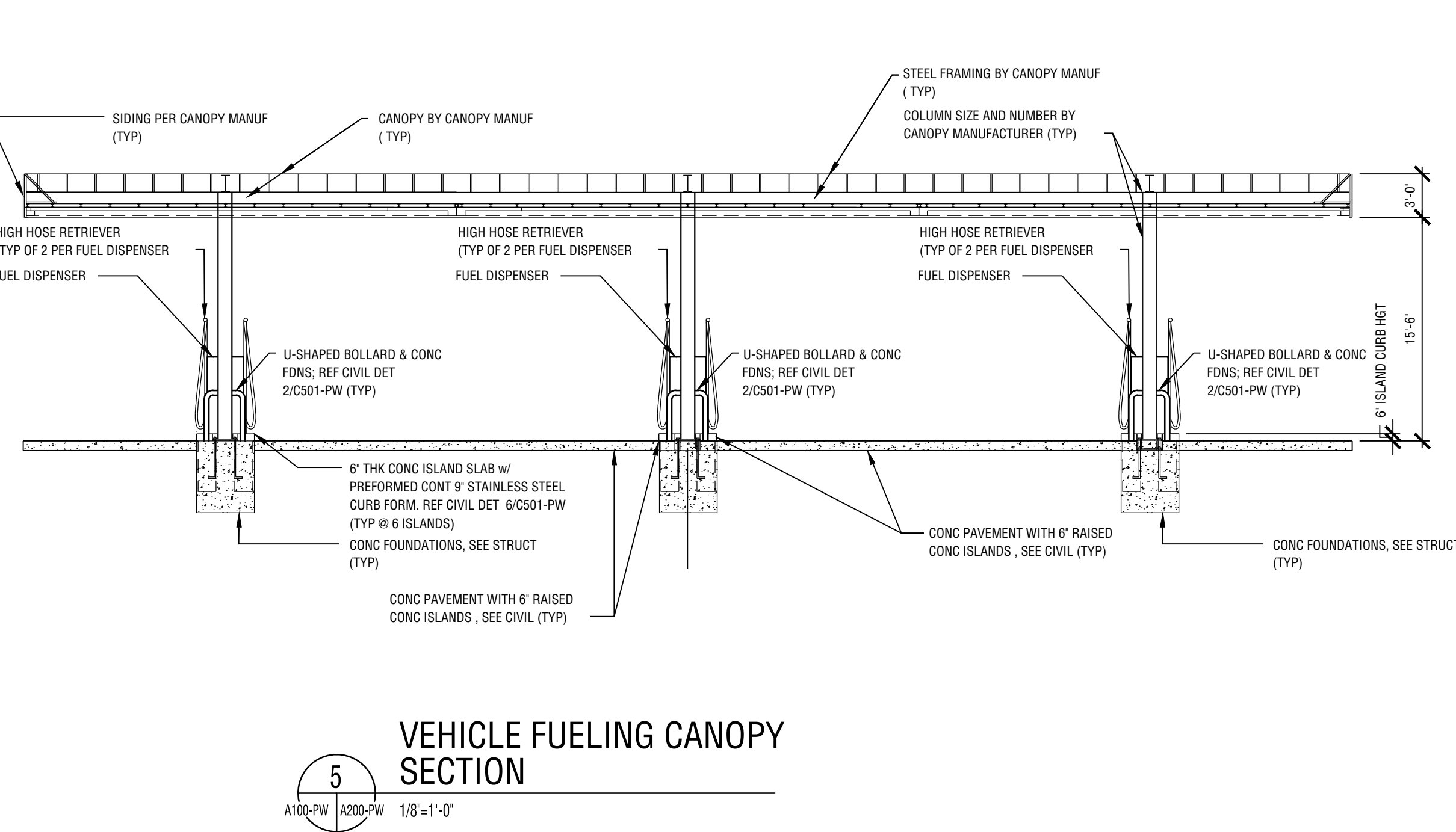
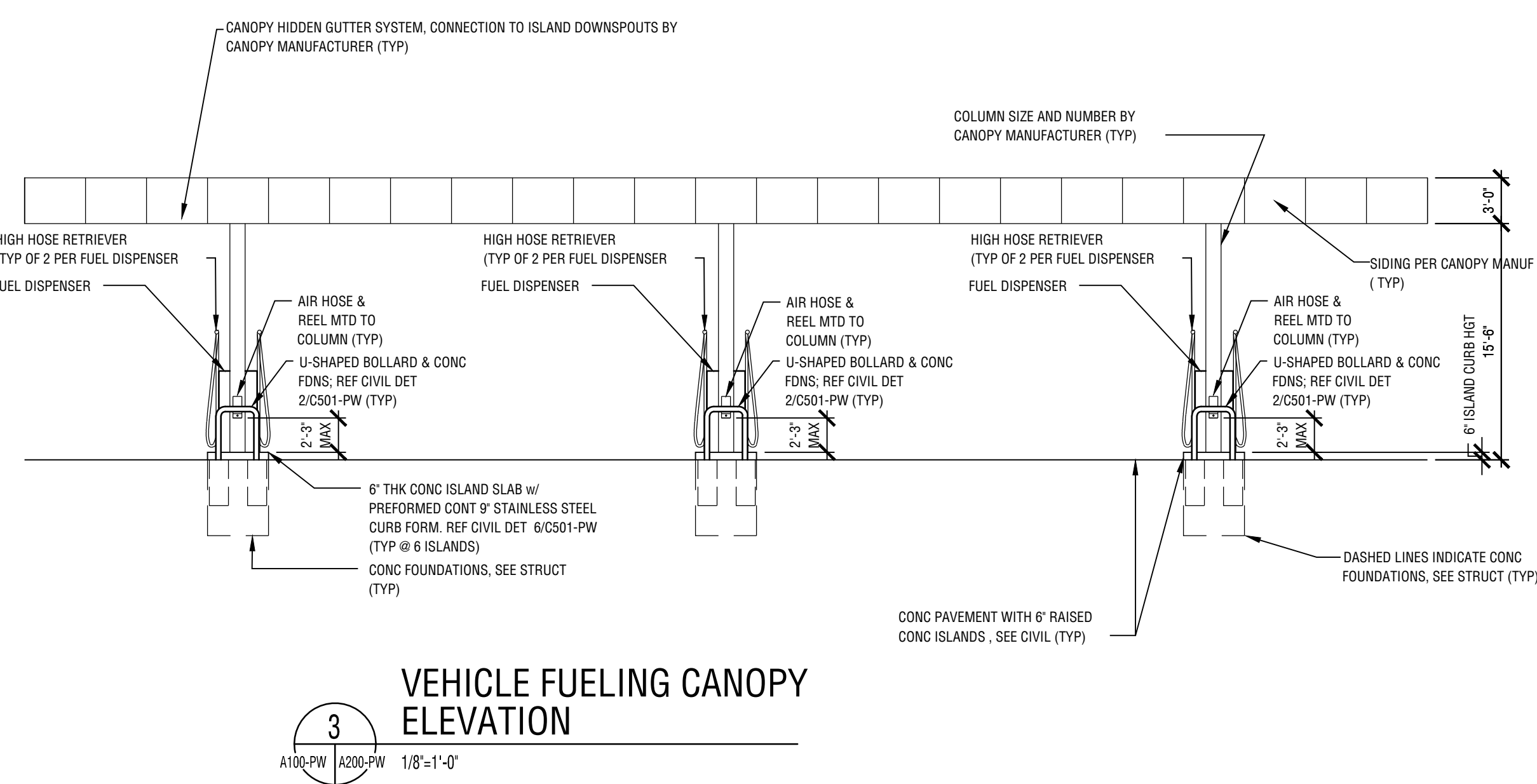
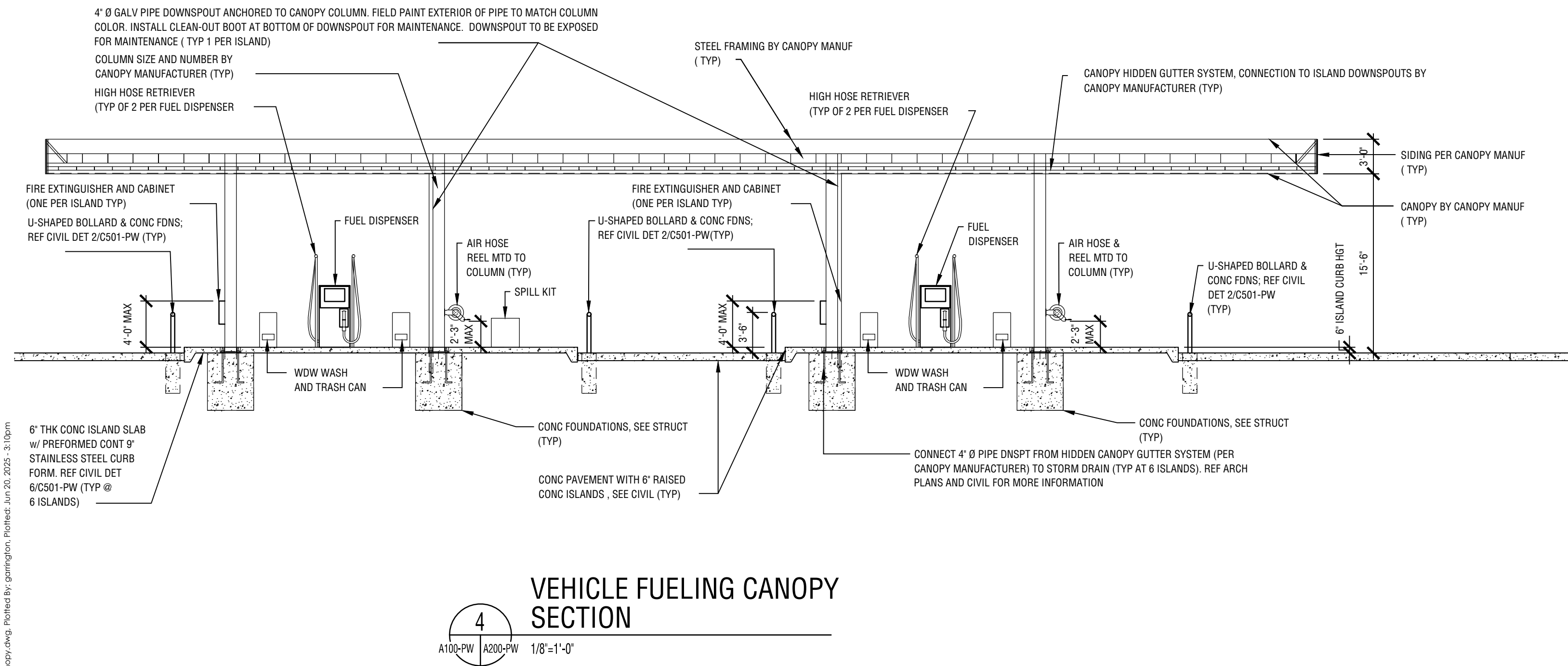
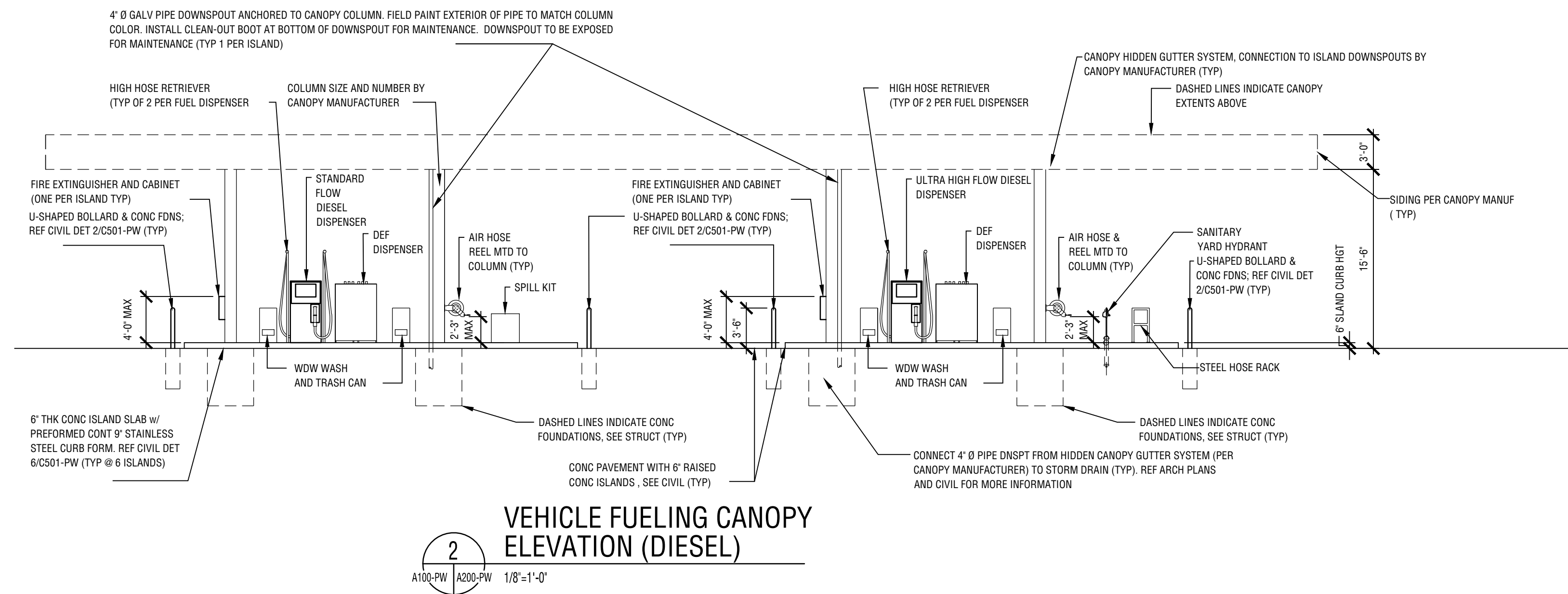
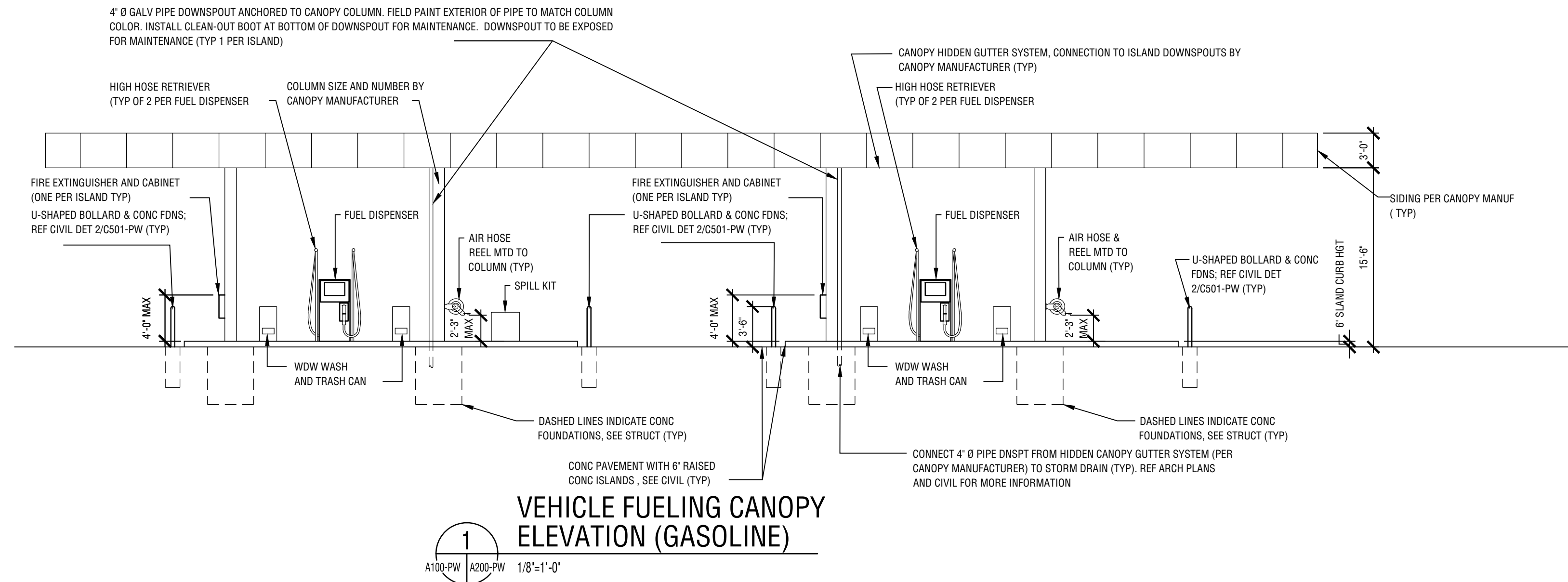
SHEET REVISIONS:

KEY PLAN:

SHEET NAME:
VEHICLE FUELING
ISLAND CANOPY
REFLECTED CEILING
PLAN

SHEET NUMBER:
A120-PW





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CITY OF ROANOKE REFUELING CENTERS PUBLIC WORKS SERVICE CENTER

ROANOKE CITY PROJECT NO.: **RFP #24-10-66**
Spectrum Design Project No.: **23181**



PROJ. MGR.: **MAR**
CHECKED BY: **DCV**
DRAWN BY: **DGM**

SHEET ISSUE DATE:
06.19.2025

PROJECT PHASE:
CONSTRUCTION DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

SHEET REVISIONS:

KEY PLAN:

SHEET NAME:
**SECTIONS &
ELEVATIONS**

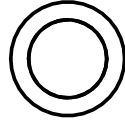

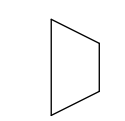
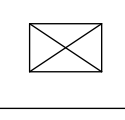
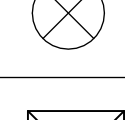
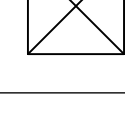
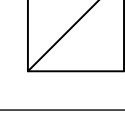
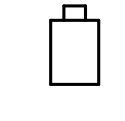
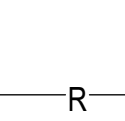
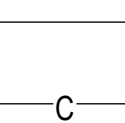
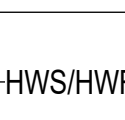
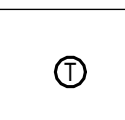

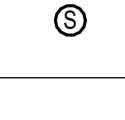
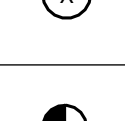
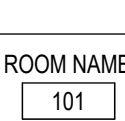
SHEET NUMBER:
A200-PW



GRAPHIC SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. THE PLANS ARE, TO A GREAT EXTENT, DIAGRAMMATIC IN NATURE. DRAWING SCALES SHOULD BE VERIFIED FROM DIMENSIONS ON ARCHITECTURAL PLANS. THE INFORMATION PRESENTED IS AS EXACT AS COULD BE SECURED. THE CONTRACTOR SHALL OBTAIN EXACT LOCATION, MEASUREMENTS LEVELS, ETC. AT THE SITE AND SHALL SATISFACTORILY ADAPT THE WORK TO THE ACTUAL CONDITIONS AT THE PROJECT SITE.
2. CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO SUBMITTING A BID TO REVIEW THE CONDITIONS AT THE SITE AND INFORM THEMSELVES OF ALL DETAILS.
3. ALL WORK SHALL COMPLY WITH FEDERAL, STATE (INCLUDING 2018 VIRGINIA UNIFORM STATEWIDE BUILDING CODE) AND LOCAL REGULATIONS. CONTRACTOR SHALL FOLLOW INDUSTRY STANDARDS WITH REGARDS TO SAFETY ACCORDING TO AUTHORITY HAVING JURISDICTION.
4. CONTRACTOR SHALL PROVIDE COMPLETE AND FUNCTIONING HVAC SYSTEMS. MAJOR ITEMS ARE SHOWN ON DRAWINGS. CONTRACTOR SHALL PROVIDE ALL APPURTENANCES AND INCIDENTAL ITEMS REQUIRED TO PROVIDE A FULLY FUNCTIONING SYSTEM. ANY OBSERVED FAULTS OR AMBIGUITY IN THIS PLAN SET SHALL BE CALLED TO THE ATTENTION OF THE OWNER IMMEDIATELY, SO THAT THE MATTER MAY BE RESOLVED PRIOR TO SUBMISSION OF BIDS.
5. CONTRACTOR SHALL THOROUGHLY CLEAN HIS WORK AREA DAILY.
6. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF HVAC WITH WORK OF OTHER TRADES. MINOR DEVIATIONS FROM THE PLANS MAY BE MADE TO AVOID MINOR CONFLICTS. WHEN MAJOR CONFLICTS ARE APPARENT, THE ARCHITECT SHALL BE ADVISED IMMEDIATELY, AND AFFECTED WORK SHALL NOT BE INSTALLED UNTIL THE CONFLICT HAS BEEN RESOLVED.
7. ALL DUCTWORK SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS. DUCT DIMENSIONS INDICATED ARE SHEET METAL DIMENSIONS. FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF SIDE SHOWN OR INDICATED.
8. DUCTWORK SHALL BE SUSPENDED FROM THE BUILDING STRUCTURE IN ACCORDANCE WITH THE LATEST SMACNA DUCT CONSTRUCTION STANDARDS. DUCTWORK SUPPORTS SHALL BE SECURELY ATTACHED TO THE BEAMS.
9. ALL OPEN END DUCTWORK SHALL BE COVERED WITH WIRE MESH SCREENS OF 1 INCH BY 1 INCH OPENINGS.
10. CONDENSATE DRAINS SHALL BE TYPE L COPPER OR PVC. CONDENSATE DRAIN SHALL BE INSTALLED WITH A SLOPE OF 1/4 INCH PER LINEAR FOOT. CONDENSATE DRAINS SHALL BE TRAPPED AT EACH UNIT. CONDENSATE DRAINS SHALL BE A MINIMUM OF 1 INCH DIAMETER AND SHALL OTHERWISE BE OF THE SAME SIZE AS THE UNIT CONNECTION, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
11. HYDRONIC PIPING SMALLER THAN THREE INCHES SHALL BE TYPE L DRAWIN-TEMPER COPPER WITH SOLDERED JOINTS. PROVIDE UNIONS ON BOTH SIDES OF EACH VALVE AND PIECES OF EQUIPMENT.
12. PROVIDE DIELECTRIC UNIONS WHERE CONNECTIONS ARE MADE BETWEEN DISSIMILAR METALS.
13. HVAC CONTROLS SHALL BE PROVIDED TO MEET PERFORMANCE REQUIREMENTS AND SEQUENCE OF OPERATIONS. ALL HVAC CONTROLS SHALL INTERFACE WITH THE BUILDING'S EXISTING BUILDING AUTOMATION SYSTEM (BAS).
14. PROVIDE MOTOR STARTERS, ELECTRICAL DISCONNECTS, TRANSFORMERS, CONTROL WIRING, SENSORS, ACTUATORS, LOGIC CONTROLLERS AND ALL ACCESSORIES NECESSARY FOR AUTOMATIC OPERATION OF MECHANICAL EQUIPMENT.
15. PROVIDE WALL MOUNTED SENSORS AT 48 INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED. COORDINATE LOCATION OF WALL MOUNTED SENSORS WITH WALL SWITCHES.
16. COORDINATE THE LOCATION OF DRAINS, SENSORS, THERMOSTATS, ETC., WITH ALL CASEWORK EQUIPMENT, MECHANICAL ROOM EQUIPMENT, ETC., PRIOR TO COMMENCING INSTALLATION. WORK THAT IS NOT PROPERLY COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE CONTRACTOR.
17. CONTRACTOR SHALL EXERCISE CARE IN THE COURSE OF WORK SO AS TO ENSURE THAT EXISTING UTILITY SERVICE IS NOT ACCIDENTALLY INTERRUPTED. FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO ELECTRICAL LINES. VERIFY THE LOCATION, SIZE, TYPE, ETC., OF EACH.
18. ALL NEW WORK SHALL BE HUNG FROM STRUCTURE, NOT FROM THE WORK OF OTHER TRADES.
19. WHERE FIRE PROOFING IS SPRAYED ON STRUCTURE, THEN ALL CONDUITS, PIPING, ETC., SHALL BE LOWERED TO BE BELOW FULL THICKNESS OF FIRE PROOFING WITH NO INTERFERENCE.
20. ALL PENETRATIONS OF FIRE AND SMOKE RATED ASSEMBLIES SHALL BE APPROPRIATELY FIRE STOPPED PER AN APPROVED UL LISTED STANDARD. CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO INSULATED PIPING PENETRATIONS.
21. ALL DUCTWORK, PIPING, CONDUCTS, ETC. IN ROOMS WITH CEILING SHALL BE ABOVE CEILING, EXCEPT AS NOTED.
22. LOCATIONS OF PIPING, DUCTS AND EQUIPMENT ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. DO NOT SCALE THE DRAWINGS.
23. ALL OFFSETS AND FITTINGS IN DUCTS AND PIPING ARE NOT NECESSARILY SHOWN. PROVIDE ADDITIONAL OFFSETS AND FITTINGS WHERE NECESSARY FOR A COMPLETE FUNCTIONAL SYSTEM.
24. COORDINATE ALL HVAC WORK WITH ELECTRICAL, PLUMBING AND OTHER TRADES TO AVOID INTERFERENCE WITH PIPING, DUCTS, CONDUIT AND OTHER EQUIPMENT.
25. INSTALL ALL PIPING DUCTWORK AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURERS' INSTALLATION INSTRUCTIONS. IF INSTRUCTIONS ARE IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEER PRIOR TO INSTALLATION FOR CLARIFICATION. PROVIDE MANUFACTURER RECOMMENDED ACCESS AND SERVICE CLEARANCES FOR ALL EQUIPMENT.
26. BEFORE INSTALLATION, EQUIPMENT CONTRACTOR SHALL VERIFY THAT COILS CAN BE REMOVED WITHOUT INTERFERENCE AND THAT FILTERS CAN BE READILY REPLACED.
27. SEAL ALL NEW DUCTWORK JOINTS WITH WATER-BASED SEALANT.
28. ALL MOTOR DRIVEN EQUIPMENT (SUCH AS PUMPS AND FANS) SHALL BE INSTALLED WITH FLEXIBLE CONNECTIONS TO DUCTWORK, PIPING, CONDUIT, ETC., UNLESS OTHERWISE NOTED.
29. WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH OTHER BUILDING SYSTEMS, CONTACT THE ENGINEER BEFORE INSTALLATION. REFER ALSO TO ARCHITECTURAL WALL INTERIOR AND EXTERIOR WALL ELEVATIONS, CEILING HEIGHTS AND OTHER DETAIL OF THESE DOCUMENTS.
30. DOUBLE WIDTH TURNING VANES SHALL BE INSTALLED IN ALL SUPPLY, RETURN AND EXHAUST RECTANGULAR DUCTWORK ELBOWS.
31. VALVES, BALANCING DAMPERS AND ANY MECHANICAL/ ELECTRICAL ITEM REQUIRING ACCESS SHALL NOT BE LOCATED ABOVE A HARD CEILING. IF THIS IS NOT POSSIBLE, THEN AN APPROPRIATELY SIZED ACCESS DOOR SHALL BE INSTALLED TO ALLOW FOR MAINTENANCE.
32. COORDINATE ALL WALL AND CHASE PENETRATIONS WITH STRUCTURAL DRAWINGS AND PEMB INSTALLER.
33. MINIMUM CONCRETE PAD THICKNESS SHALL BE 4 INCHES FOR INDOOR EQUIPMENT AND 6 INCHES FOR OUTDOOR EQUIPMENT. ALL PADS SHALL EXTEND BEYOND THE EQUIPMENT A MINIMUM OF 4 INCHES ON EACH SIDE.
34. CONTROL WIRING LESS THAN 100 VOLTS SHALL BE PROVIDED IN MECHANICAL WORK. WIRING 100 VOLTS AND GREATER SHALL BE PROVIDED IN ELECTRICAL WORK. CONTROL WIRING SHALL BE CONCEALED ABOVE CEILING OR WITHIN WALL CONSTRUCTION WHERE POSSIBLE. CONTROL WIRING THAT IS NOT CONCEALED ABOVE CEILING OR WITHIN WALL CONSTRUCTION SHALL BE INSTALLED IN RACEWAY AS SPECIFIED IN ELECTRICAL WORK. CONTROL WIRING OUTDOORS AND IN MECHANICAL ROOMS SHALL BE INSTALLED IN RACEWAY AS SPECIFIED IN ELECTRICAL WORK.
35. BASIS OF DESIGN AND LISTED MANUFACTURERS ARE INTENDED TO SHOW GENERAL SIZE, CONFIGURATION, LOCATION, AND PERFORMANCE REQUIREMENTS. BASIS OF DESIGN AND LISTED MANUFACTURERS ARE NOT INTENDED TO LIMIT COMPETITIVE BIDDING OR LIMIT EQUIPMENT TO A SINGLE VENDOR.

	FAN
	BALANCING DAMPER
	CONCENTRIC REDUCER
	RECTANGULAR DUCT TAKEOFF
	ROUND DUCT TAKEOFF
	SUPPLY DIFFUSER
	RETURN / EXHAUST DIFFUSER
	MOTOR-OPERATED DAMPER
	REFRIGERANT LINESET
	CONDENSATE DRAIN PIPING
	HEATING WATER PIPING
	WALL-MOUNTED THERMOSTAT
	WALL-MOUNTED HUMIDISTAT
	WALL-MOUNTED SWITCH
	SHEET NOTE
	CONNECT NEW TO EXISTING
<div>ROOM NAME 101</div>	ROOM NAME AND NUMBER

MECHANICAL LEGEND

N.T.S.

MECHANICAL SHEET LIST

SHEET NO.	SHEET NAME
M001-PW	MECHANICAL GENERAL NOTES
M002-PW	MECH EQUIPMENT SCHEDULES
M101-PW	MECHANICAL PLANS

MECHANICAL ABBREVIATIONS

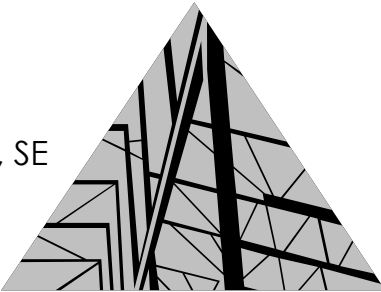
AFF	ABOVE FINISHED FLOOR	MBH	BTU PER HOUR (THOUSANDS)
ADJ	ADJUSTABLE	MECH	MECHANICAL
AVG	AVERAGE	MIN	MINIMUM
BHP	BRAKE HORSEPOWER	N/A	NOT APPLICABLE
BI	BACKWARD INCLINED (FAN)	NC	NOISE CRITERIA / NORMALLY CLOSED
BLDG	BUILDING	NIC	NOT IN CONTRACT
BTU	BRITISH THERMAL UNIT	NO	NORMALLY OPEN / NUMBER
BTUH	BTU PER HOUR	NTS	NOT TO SCALE
CFM	CUBIC FEET PER MINUTE	OA	OUTSIDE AIR
CI	CAST IRON	OBD	OPPOSED BLADE DAMPER
CO	CLEAN OUT	OD	OUTSIDE DIAMETER
CONC	CONCRETE	OSA	OUTSIDE AIR
COND	CONDENS - (ER, ING, ATE)	OAT	OUTSIDE AIR TEMPERATURE
CONT	CONTINU - (E, ED, OUS, ATION)	OTP	OPEN TO PLENUM
CF	CUBIC FEET	PD	PRESSURE DROP/ DIFFERENCE
(D)	DEMO	PH	PHASE
dB	DECIBEL	PPM	PARTS PER MILLION
DB	DRY BULB	PRV	PRESSURE REDUCING VALVE
DDC	DIRECT DIGITAL CONTROL(S)	PSI	POUNDS PER SQUARE INCH
DEG	DEGREE	PSIA	PSI, ABSOLUTE
DEMO	DEMOLISH(ED)	PSIG	PSI, GAUGE
DIA	DIAMETER	P&T	PRESSURE & TEMPERATURE RELIEF VALVE
(E)	EXISTING	(R)	RELOCATE(D)
EA	EACH	R	RADIUS
EAT	ENTERING AIR TEMPERATURE	RA	RETURN (AIR)
EFF	EFFICIENCY	RECIRC	RECIRCULAT - (E, ING, OR)
ELEV	ELEVATION	REQ	REQUIRED
ELEC	ELECTRIC(AL)	RH	RELATIVE HUMIDITY
ENT	ENTERING	RPM	REVOLUTIONS PER MINUTE
EQUIP	EQUIPMENT	SA	SUPPLY (AIR)
ESP	EXTERNAL STATIC PRESSURE	SAT	SATURATION
EWI	ENTERING WATER TEMPERATURE	SCFM	CFM, STANDARD CONDITIONS
EA	EXHAUST (AIR)	SD	SMOKE DAMPER
EXIST	EXISTING	SEC	SECOND
(F)	FUTURE	SF	SQUARE FEET
F	FAHRENHEIT	SP	STATIC PRESSURE
FPS	FEET PER SECOND	SPEC	SPECIFICATION(S)
FT	FOOT OR FEET	SQFT	SQUARE FEET
GA	GAUGE	SS	STAINLESS STEEL
GAL	GALLON(S)	STD	STANDARD
GALV	GALVANIZED	TEMP	TEMPERATURE
GPH	GALLONS PER HOUR	TONS	TONS OF REFRIGERATION
GPM	GALLONS PER MINUTE	TSP	TOTAL STATIC PRESSURE
HG	MERCURY	TSTAT	THERMOSTAT
HOA	HAND OFF AUTO	TYP	TYPICAL
HP	HEAT PUMP / HORSEPOWER	VAC	VACUUM
HR	HOUR	VAV	VARIABLE AIR VOLUME
HTG	HEATING	VD	VOLUME DAMPER
HZ	HERTZ (FREQUENCY)	VEL	VELOCITY
IN	INCHES)	VENT	VENTILATION
INWC	INCHES OF WATER COLUMN	VFD	VARIABLE FREQUENCY DRIVE
KW	KILOWATT	VOL	VOLUME
KWH	KILOWATT-HOUR	W/	WITH
LAT	LEAVING AIR TEMPERATURE	WB	WET BULB
LBS	POUNDS	WPD	WATER PRESSURE DROP
LVG	LEAVING	WT	WEIGHT
LWT	LEAVING WATER TEMPERATURE	ZD	ZONE DAMPER
MAX	MAXIMUM		

GENERAL MECHANICAL NOTES

1. DDC/BAS CONTROLS COMMUNICATIONS, TO INCLUDE ROUTERS, GATEWAYS AND NON-FACTORY INSTALLED CONTROLLERS SHALL BE BY TRANE AND SHALL BE FULLY COMPATIBLE WITH THE EXISTING TRANE CONTROL SYSTEM UTILIZED BY ROANOKE CITY PUBLIC WORKS. COORDINATE NEW CONTROLLERS AND NEW EQUIPMENT WITH TRANE CONTROLS.
2. CONTRACTOR SHALL TAKE CARE TO ROUTE EXPOSED DUCT WORK PARALLEL, PERPENDICULAR, OR 45 DEG RELATIVE TO BUILDING STRUCTURE.

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CITY OF ROANOKE
PUBLIC WORKS
SERVICE CENTER

ROANOKE CITY PROJECT NO.: **RFP #24-10-66**
SPECTRUM DESIGN PROJECT NO.: **23181**



PROJ. MGR.: **MAR** CHECKED BY: **MAR** DRAWN BY: **TLP**

SHEET ISSUE DATE:
06.19.25

CONSTRUCTION DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

SHEET REVISIONS:

MECHANICAL GENERAL
NOTES

SHEET NUMBER:

M001-PW



IT COOLING SYSTEM SCHEDULE															
SPECIFICATIONS SECTION 238126															
INDOOR UNIT												OUTDOOR UNIT			
MARK	SERVES	TYPE	CFM, H / M / L	TOTAL COOLING, MBH	SENSIBLE COOLING, MBH	MIN SEER2	HEATING @ 47F, MBH	HEATING @ 17F, MBH	HSPF2	ELECTRICAL	MODEL	MARK	VOLTS / PHASE	MCA / MOCP	MODEL
AH-1	PANEL ROOM	WALL MOUNT	222 / 160 / 134	12.0	9.2	25.6	18.1	12.0	10.7	POWER FROM OUTDOOR UNIT	NTXWST12B112AA	CUH-1	208 / 230 / 1	10 / 15	NTXSST12B112AA
AH-2	PANEL ROOM	WALL MOUNT	222 / 160 / 134	12.0	9.2	25.6	18.1	12.0	10.7	POWER FROM OUTDOOR UNIT	NTXWST12B112AA	CUH-2	208 / 230 / 1	10 / 15	NTXSST12B112AA

- NOTE:
- MODEL NUMBERS LISTED ARE TRANE.
 - COOLING CAPACITIES ARE BASED ON 80F DB / 67F WB ENTERING AIR TEMPERATURE AND 95F DB OUTDOOR AIR TEMPERATURE.
 - HEATING CAPACITIES ARE BASED ON 70F DB ENTERING AIR TEMPERATURE AND 47F DB OUTDOOR AIR TEMPERATURE.
 - PROVIDE 3/4" CONDENSATE DRAIN FOR EACH UNIT.
 - EACH UNIT SHALL HAVE A TERMINAL UNIT CONTROLLER AND WALL MOUNTED TEMPERATURE SENSOR WITH SETPOINT ADJUSTMENT AND FAN MODE SWITCH.
 - EACH UNIT SHALL HAVE SINGLE POINT POWER CONNECTION AND A UNIT MOUNTED DISCONNECT SWITCH.
 - PROVIDE LOW-AMBIENT KIT CAPABLE OF OPERATING DOWN TO 14 DEG F.

EXHAUST FAN SCHEDULE																	
MARK	AREA SERVED	DESCRIPTION	DRIVE	EXHAUST CFM	EXHAUST ESP (IN W.C.)	HP	BHP	MAX SONES	SPEED CONTROLLER	CONTROLS	V/PH	MCA	MOCP	WEIGHT (LBS)	MODEL NO.	BASIS OF DESIGN	
EF-1	AIR COMPRESSOR ROOM	EXHAUST FAN	DIRECT	410	0.25	1/6	6.4	5.5	1-1	WALL SWITCH, T-STAT. BAS	115/1	-	-	45	SQ-95-VG6X-QD	GREENHECK	

- NOTE:
- PROVIDE FANS WITH UNIT MOUNTED DISCONNECT SWITCH EXCEPT WHERE CONTROLLED BY WALL SWITCH WITHIN LINE OF SIGHT.
 - PROVIDE DIRECT DRIVE FAN WITH ECM MOTORS AND MANUFACTURER'S REMOTE DIAL SPEED CONTROLLER (EQUAL TO GREENHECK VARI-GREEN).
 - PROVIDE FANS WITH MOTORIZED LOW-LEAKAGE DISCHARGE DAMPER INTERLOCKED WITH FAN OPERATION USING A DELAY RELAY.
 - FAN SHALL BE FURNISHED WITH HANGING VIBRATION AND HOUSING INSULATION KITS.

ELECTRIC UNIT HEATER SCHEDULE									
MARK	AREA SERVED	TYPE	KW	MOTOR HP	V/P	AMPS	WEIGHT (LBS)	MODEL	MANUFACTURER
EUH-1	AIR COMPRESSOR ROOM	ELECTRIC WALL/CEILING MOUNTED	3.3	1/40	208/1	16	25	FIF5103N	TPI CORP./MARKEL
				-	-	-	-		

- NOTE:
- PROVIDE WITH FACTORY INSTALLED THERMOSTAT
 - PROVIDE WITH MANUFACTURER'S WALL/CEILING BRACKET..

LOUVER SCHEDULE										
MARK	AREA	SERVICE	DESCRIPTION	SYSTEM	HEIGHT	WIDTH	DEPTH	FREE AREA	MODEL NO.	MANUFACTURER
L-1	AIR COMPRESSOR ROOM	SUPPLY		EA-1	18	18	4	1-1	ESD-408	GREENHECK
L-2	AIR COMPRESSOR ROOM	EXHAUST		EA-1	18	18	4	1-1	ESD-403	GREENHECK

- NOTE:
- EXTRUDED ALUMINUM WITH FACTORY BAKED ENAMEL PAINT.
 - PROVIDE FINISH COLOR CHART FOR SELECTION.
 - PROVIDE ALUMINUM BIRDSCREEN.
 - COORDINATE ACTUAL SELECTION WITH ACTUAL WALL THICKNESS AND ASSOCIATED DAMPER.
 - COORDINATE EXACT LOCATION OF LOUVER WITH STRUCTURAL STEEL AND ARCHITECTUAL DRAWINGS.
 - IF DUCT CONNECTION TO LOUVER IS SMALLER THAN LOUVER PROVIDE INSULATED DUCT TRANSITION FITTING THAT COVERS ENTIRE LOUVER.
 - PROVIDE DUCT AND/OR DAMPER CONNECTION AS REQUIRED.

ZONE SCHEDULE									
ZONE	COOLING				HEATING				NOTES
	OCCUPIED		UNOCCUPIED		OCCUPIED		UNOCCUPIED		
	DB DEG F	WB/RH	BB DEG F	WB/RH	DB DEG F	WB/RH	BB DEG F	WB/RH	
PANEL ROOM (111)	-	-	75	55	-	-	55	-	-
AIR COMPRESSOR ROOM (112)	-	-	85	-	-	-	55	-	1

- NOTE:
- EXHAUST ONLY. FOR COOLING.

BACK FLOW PREVENTER(BFP) SCHEDULE									
MARK	AREA	SERVICE	MATERIAL	DESCRIPTION	DIAMETER	LENGTH	MODEL NO.	MANUFACTURER	NOTES
BFP-1	MECHANICAL ELECTRICAL EQUIPMENT ROOM	SUPPLY	STAINLESS STEEL	DOUBLE CHECK VALVE ASSEMBLY	6"	25"	ES-A-DERINGER 20	AMES FIRE & WATERWORKS	SUITABLE FOR VERTICAL INSTALLATION

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SHEET ISSUE DATE:
06.19.25

PROJECT PHASE:
CONSTRUCTION DOCUMENTS

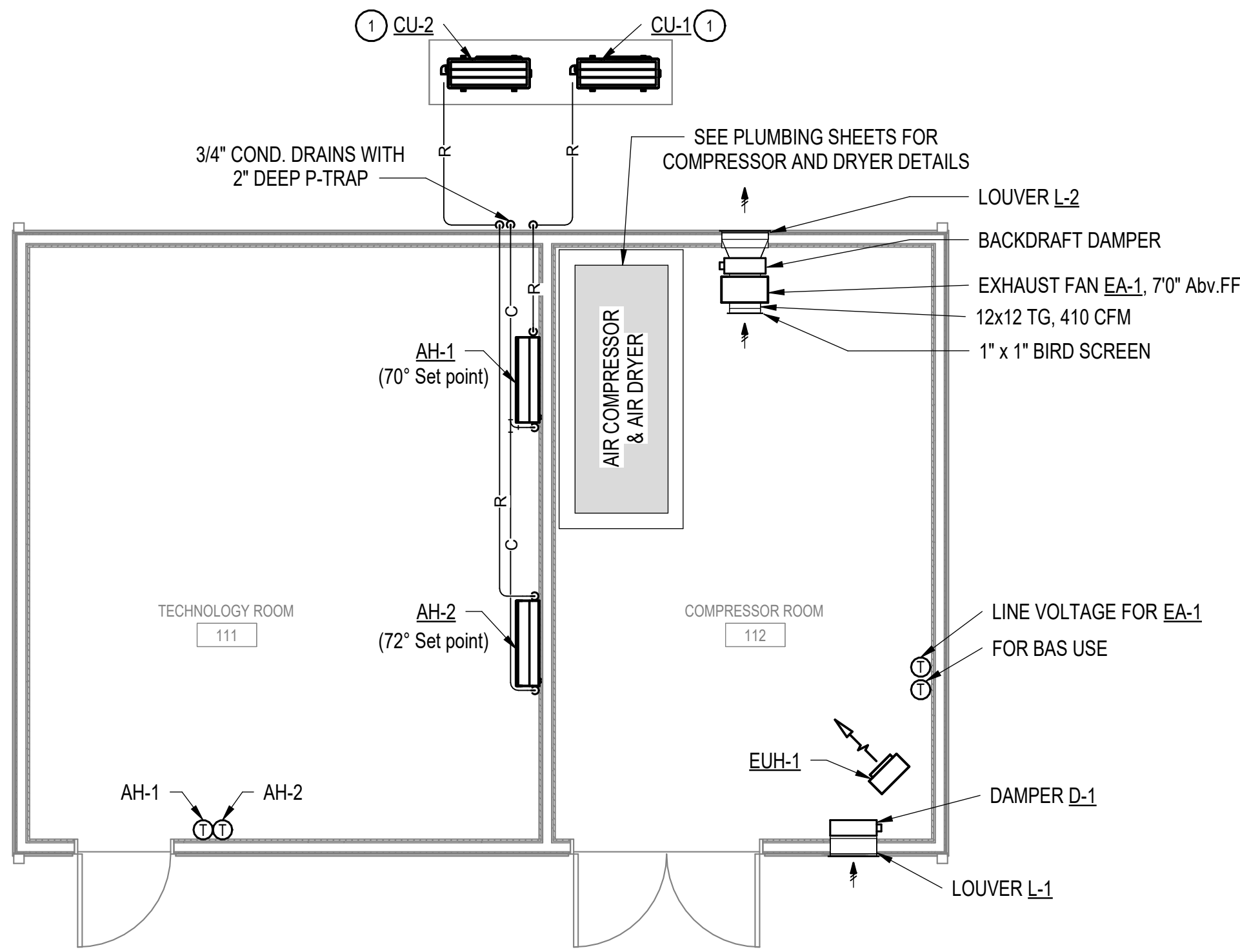
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24"x36" SHEET

SHEET REVISIONS:

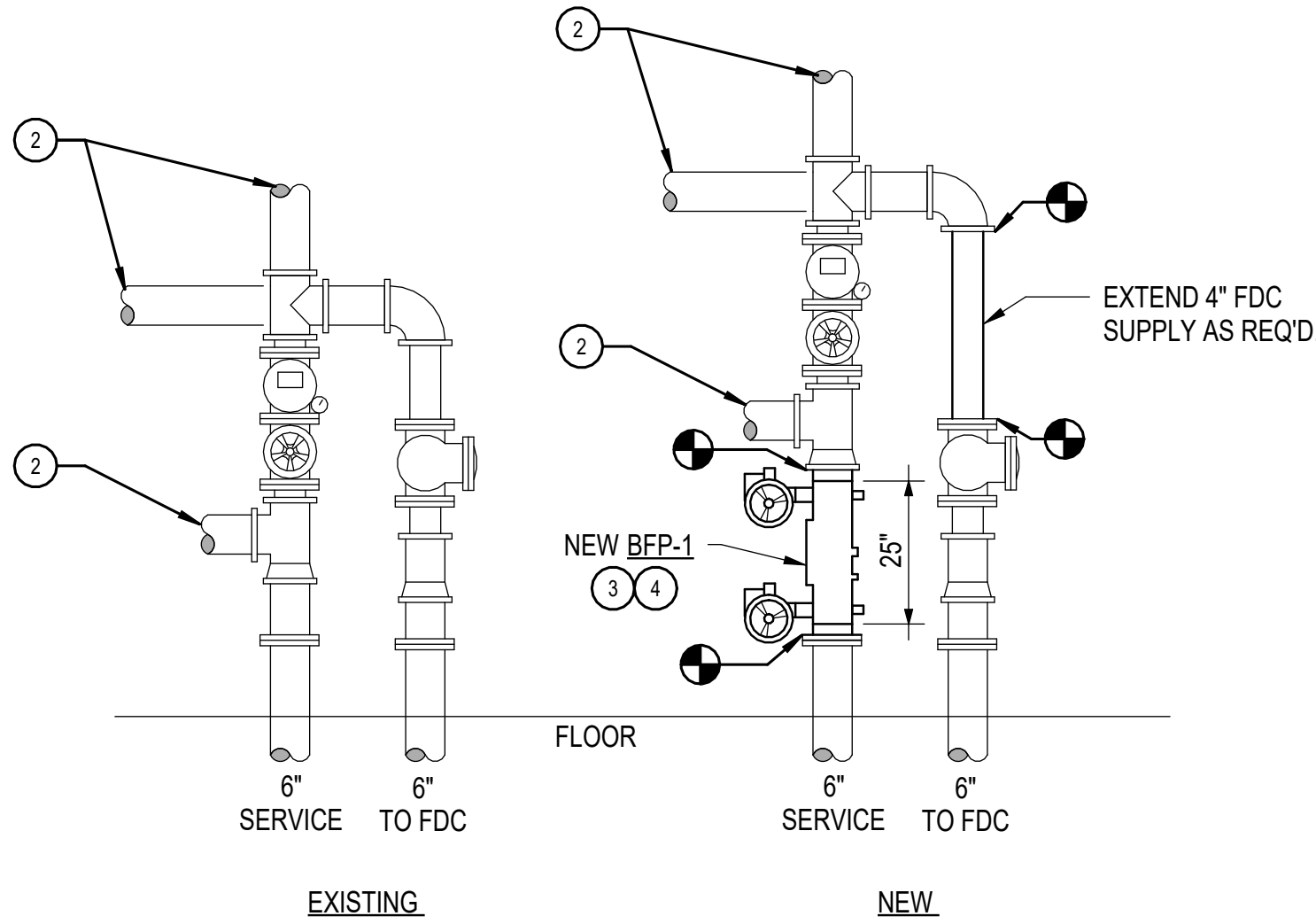
SHEET NAME:
**MECH EQUIPMENT
SCHEDULES**

SHEET NUMBER:
M002-PW

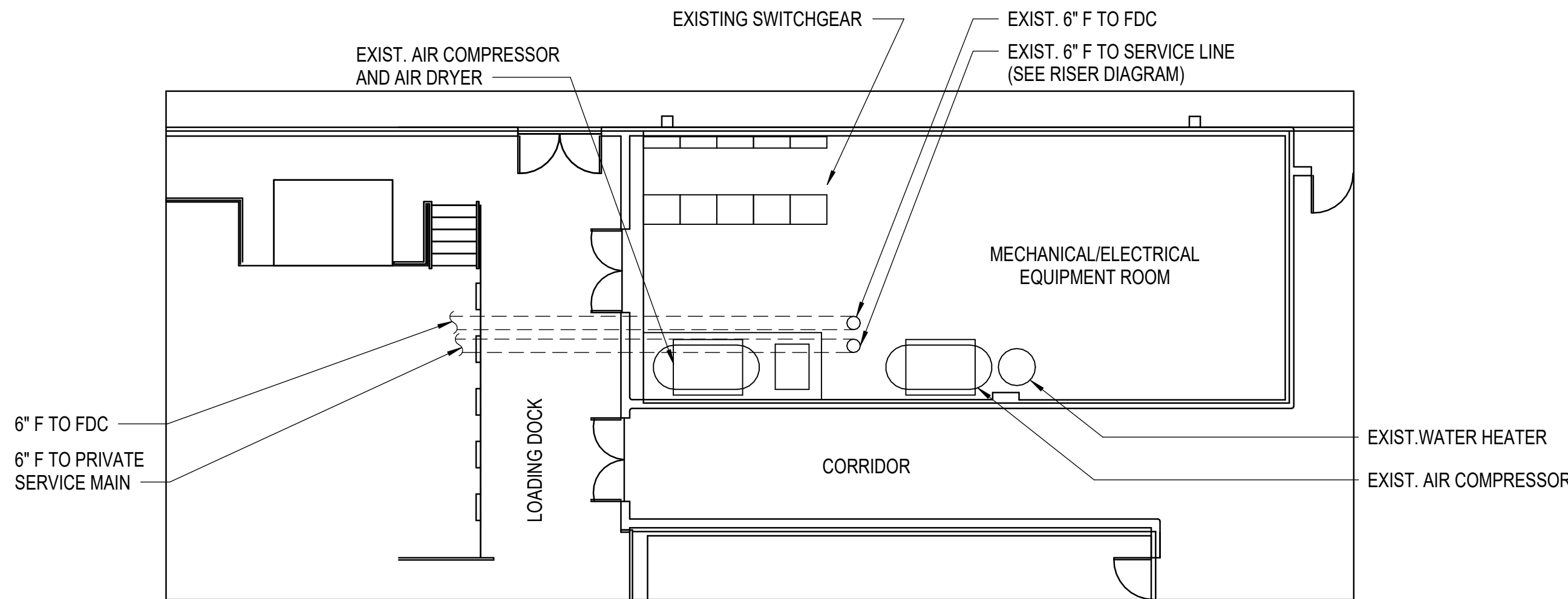




FIRST FLOOR MECH - TANK FARM BUILDING
SCALE: 1/4" = 1'-0"



FIRE RISER DIAGRAM - PWSC
N.T.S.



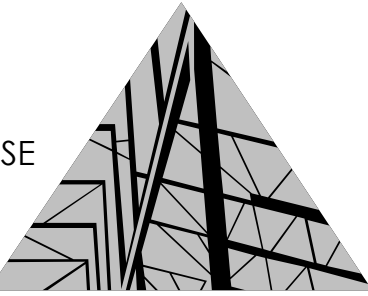
PARTIAL PWSC PLAN
N.T.S.

SHEET NOTES

- 1 PROVIDE REFRIGERANT PIPING SIZES ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- 2 INSERTION OF THE NEW BACKFLOW PREVENTER WILL REQUIRE RAISING, ADJUSTING, SHORTENTING, AND RECONNECTING PIPING AND EQUIPMENT ARRANGEMENTS ABOVE AND CONNECTED TO BOTH THE FIRE SERVICE AND FDC PIPING SYSTEMS. CONTRACTOR SHALL PROVIDE AND ACCOUNT FOR ALL DOWNSTREAM MODIFICATIONS REQUIRED FOR THE INSTALLATION INCLUDING PIPING, FITTINGS, COUPLINGS, HANGERS, BRACES, SUPPORTS, BRACKETS AND ACCESSORIES REQUIRED FOR A COMPLETE AND FUNCTIONING SYSTEM.
- 3 BACKFLOW PREVENTER INSTALLATION SHALL REQUIRE COORDINATION WITH THE CITY OF ROANOKE PUBLIC WORKS DEPARTMENT FOR SCHEDULING THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS AND EFFORT RELATED TO REQUIRED FIRE WATCHES OR OTHER PROCEDURES REQUIRED BY THE FIRE MARSHAL DURING THE WORK OR IF FIRE SERVICE IS INTERRUPTED.
- 4 PROVIDE 2 WEEKS NOTICE TO CITY PROJECT MANAGER PRIOR TO SCHEDULED WORK ON INSTALLATION OF BACKFLOW PREVENTER. CITY REPRESENTATIVE IS REQUIRED TO BE PRESENT DURING WORK. BUILDING PERMIT AND TESTING IS REQUIRED. WEEKEND AND AFTER-HOURS WORK TIMES SHALL BE ANTICIPATED.

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CITY OF ROANOKE PUBLIC WORKS SERVICE CENTER

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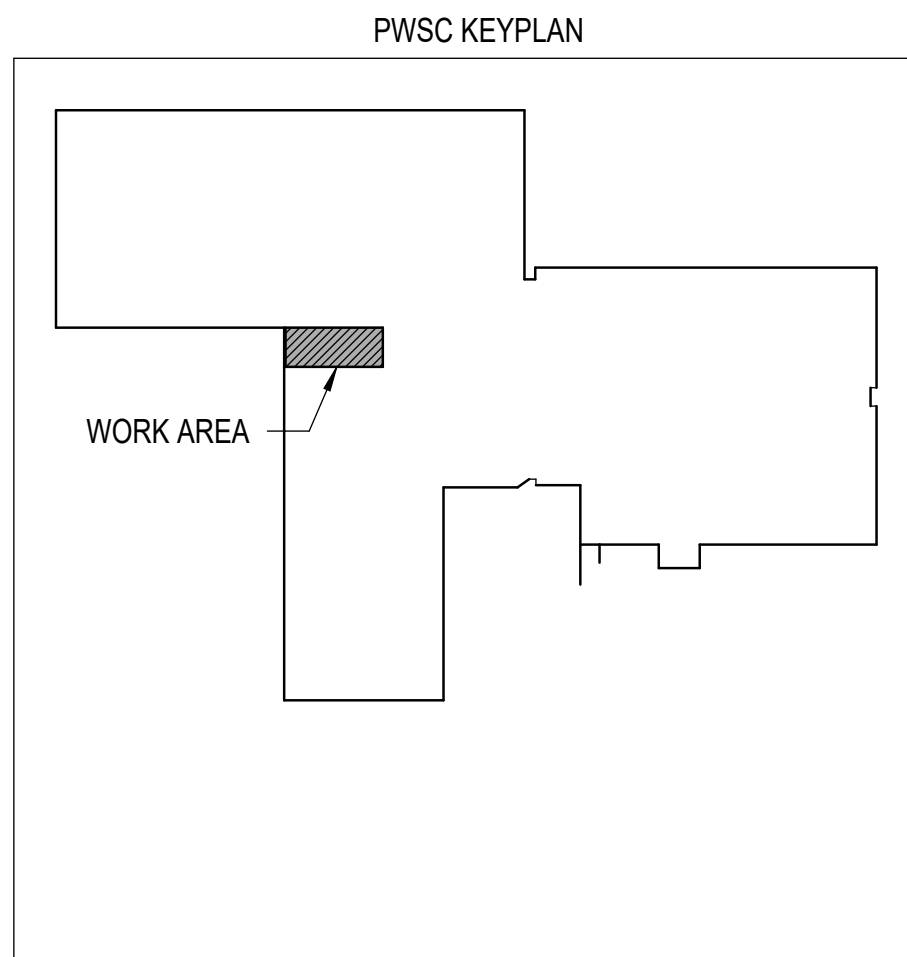
PROJECT PHASE:
CONSTRUCTION DOCUMENTS

SCALE:
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24"x36" SHEET

SHEET REVISIONS:

SHEET NAME:
MECHANICAL PLANS

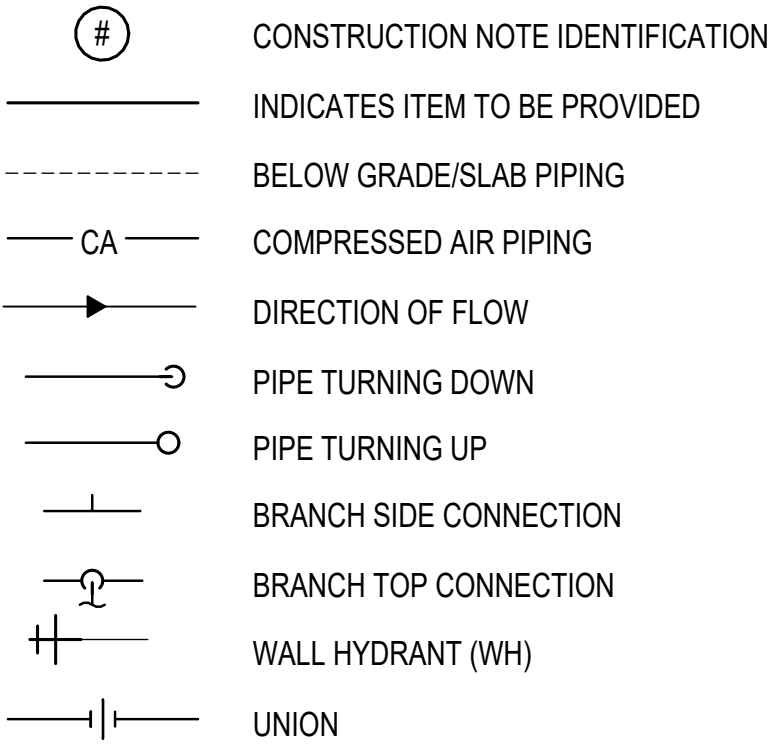
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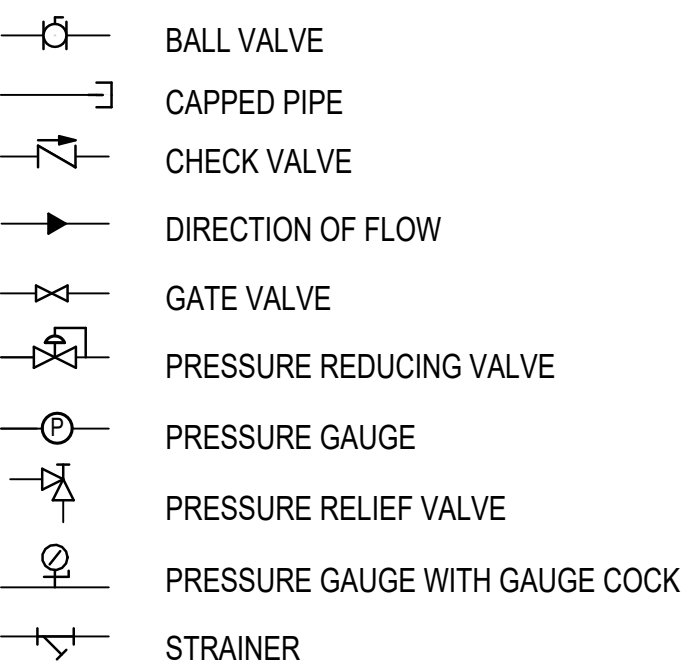
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SYMBOLS LEGEND



VALVES AND ACCESSORIES

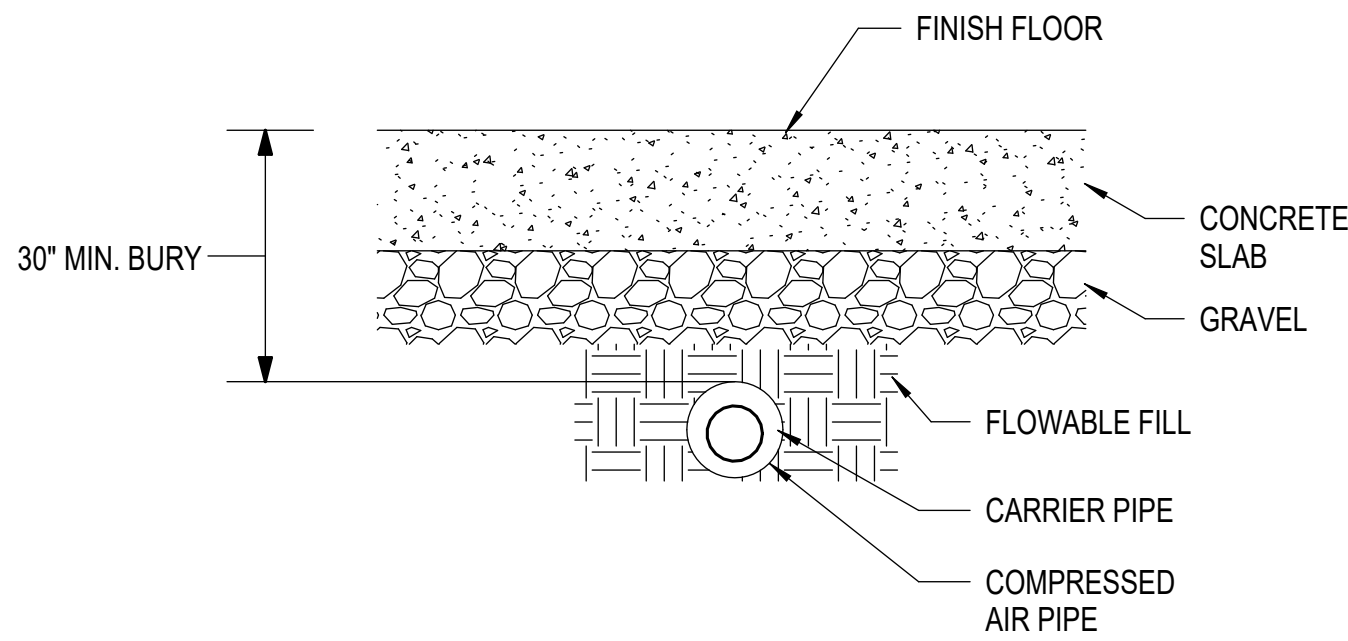


PLUMBING ABBREVIATIONS

A	COMPRESSED AIR	DN	DOWN
ABBR	ABBREVIATION	EA	EACH
ABV	ABOVE	FBO	FURNISHED BY OWNER
AFF	ABOVE FINISHED FLOOR	FLR	FLOOR
AFG	ABOVE FINISHED GRADE	FR	FROM
BEL	BELOW	FT	FEET
BET	BETWEEN	HR	HOSE REEL
BFF	BELOW FINISHED FLOOR	IN	INCH, INCHES
BFP	BACKFLOW PREVENTER	MAX	MAXIMUM
BTU	BRITISH THERMAL, UNIT	MBH	THOUSAND BTU PER HOUR
CA	COMPRESSED AIR	MH	MOUNTING HEIGHT
CONC	CONCRETE	MIN	MINIMUM
CONN	CONNECT, CONNECTION	MTD	MOUNTED
CONT	CONTINUED	NIC	NOT IN CONTRACT
CORD	COORDINATE	PRV	PRESSURE REDUCING VALVE
CW	COLD WATER	YH	YARD HYDRANT

GENERAL PLUMBING NOTES

- DIVISION 22 PLUMBING WORK INCLUDES COMPRESSED AIR SYSTEMS INSIDE BUILDING AND TO 5' OUTSIDE BUILDING; AND CONDENSATE DRAINAGE SYSTEMS INSIDE BUILDING AND TO 5' OUTSIDE BUILDING.
- OBTAIN AND PAY FOR ALL PERMITS AND CERTIFICATES NECESSARY TO CONSTRUCT AND PLACE IN OPERATION ALL WORK TO BE DONE UNDER THIS SECTION. PROCURE AND PAY FOR ALL LEGALLY IMPOSED CHARGES MADE BY THE AUTHORITIES FOR FULL INSPECTION AND APPROVAL SERVICES OF THE BUREAUS ADMINISTERING ALL APPLICABLE CODES AND REGULATIONS. FOR THIS WORK, FOLLOW 2022 VIRGINIA UNIFORM STATEWIDE BUILDING CODE (VUSBC), 2021 VIRGINIA PLUMBING CODE (VPC), AND 2021 VIRGINIA FUEL GAS CODE (VFGC).
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE WORK UNDER THIS SECTION WITH THE HEATING, AIR CONDITIONING, VENTILATING, ELECTRICAL, AND OTHER SUBCONTRACTORS.
- PIPE ROUTING SHOWN IS SCHEMATIC IN NATURE AND IS NOT INTENDED TO INDICATE EXACT LOCATION OF PIPING AND VALVES. CONTRACTOR SHALL PROVIDE ANY ADDITIONAL FITTINGS REQUIRED TO PROPER INSTALLATION AND TO MAINTAIN PROPER CLEARANCES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL WORK AND MATERIAL UNDER THIS CONTRACT, AND SHALL BE RESPONSIBLE FOR ANY DAMAGE INCURRED BY HIM.
- INSTALL ALL FIXTURES AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE FOR MANUFACTURER'S RECOMMENDED ACCESS AND SERVICE CLEARANCES.
- PROVIDE ALL MISCELLANEOUS WORK, EQUIPMENT, MATERIALS, PIPING, VALVES, CONTROLS, INSULATION, CONNECTIONS, SPECIALTIES, AND ASSOCIATED PARTS REQUIRED TO COMPLETE THE WORK
- ALL ELECTRICAL APPARATUS FURNISHED UNDER THIS SECTION SHALL BE APPROVED BY THE UNDERWRITERS' LABORATORIES AND SHALL BE SO LABELED OR LISTED WHERE SUCH IS APPLICABLE.
- PIPES PASSING THROUGH OR UNDER WALLS OR FOOTING BELOW GRADE SHALL BE PROVIDED WITH CAST IRON SLEEVES OR CONCRETE OR MASONRY-RELIEVING ARCHES THAT SHALL CREATE APPROXIMATELY 2" CLEAR SPACE ABOVE THE PIPES.
- ALL OTHER PIPES PASSING THROUGH CONCRETE OR MASONRY FLOORS, WALLS, BEAMS, AND PARTITIONS SHALL BE PROVIDED WITH STANDARD WEIGHT STEEL PIPE SLEEVES. IN THE CASE OF INSULATED PIPES, THE SLEEVES SHALL BE LARGE ENOUGH TO PASS PIPE AND INSULATION. IN ALL CASES, 1/2 INCH CLEARANCE AROUND PIPE AND INSULATION SHALL BE MAINTAINED.
- ESCUTCHEONS: PROVIDE NICKEL OR CHROMIUM PLATED FLOOR, WALL, AND CEILING PLATES AROUND ALL EXPOSED BARE AND INSULATED PIPES WHERE THEY PASS THROUGH OR INTO FLOORS, WALLS, AND CEILINGS OF FINISHED AND OCCUPIED SPACES. IN THE CASE OF INSULATED PIPES, THE PLATES SHALL FIT THE INSULATION SNUGLY.
- FIRESTOP ALL PENETRATIONS THROUGH RATED WALLS, CEILINGS AND FLOORS WITH LISTED ASSEMBLIES AND SLEEVE WHERE REQUIRED.
- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF FIXTURE LOCATIONS AND MOUNTING HEIGHTS.
- PROVIDE DIELECTRIC UNIONS WHERE CONNECTIONS ARE MADE BETWEEN DISSIMILAR METALS.
- WHEN RUNNING ANY TYPE OF PIPING BELOW A FOOTER, OR IN THE ZONE OF INFLUENCE THE PIPING SHALL BE BACKFILLED WITH CEMENTITIOUS FLOWABLE FILL. LOCATE PIPING OUTSIDE OF THE ZONE OF INFLUENCE. THE ZONE OF INFLUENCE IS THE AREA UNDER THE FOOTER WITHIN A 45 DEGREE ANGLE PROJECTING DOWN FROM THE BOTTOM EDGE OF THE FOOTER OF ALL SIDES OF THE FOOTER. ADDITIONALLY, GREASE, TRAPS, MANHOLES, VAULTS AND OTHER UNDERGROUND STRUCTURES SHALL BE INSTALLED AWAY FROM BUILDING WALLS SO AS TO BE OUTSIDE OF THE ZONE OF INFLUENCE.

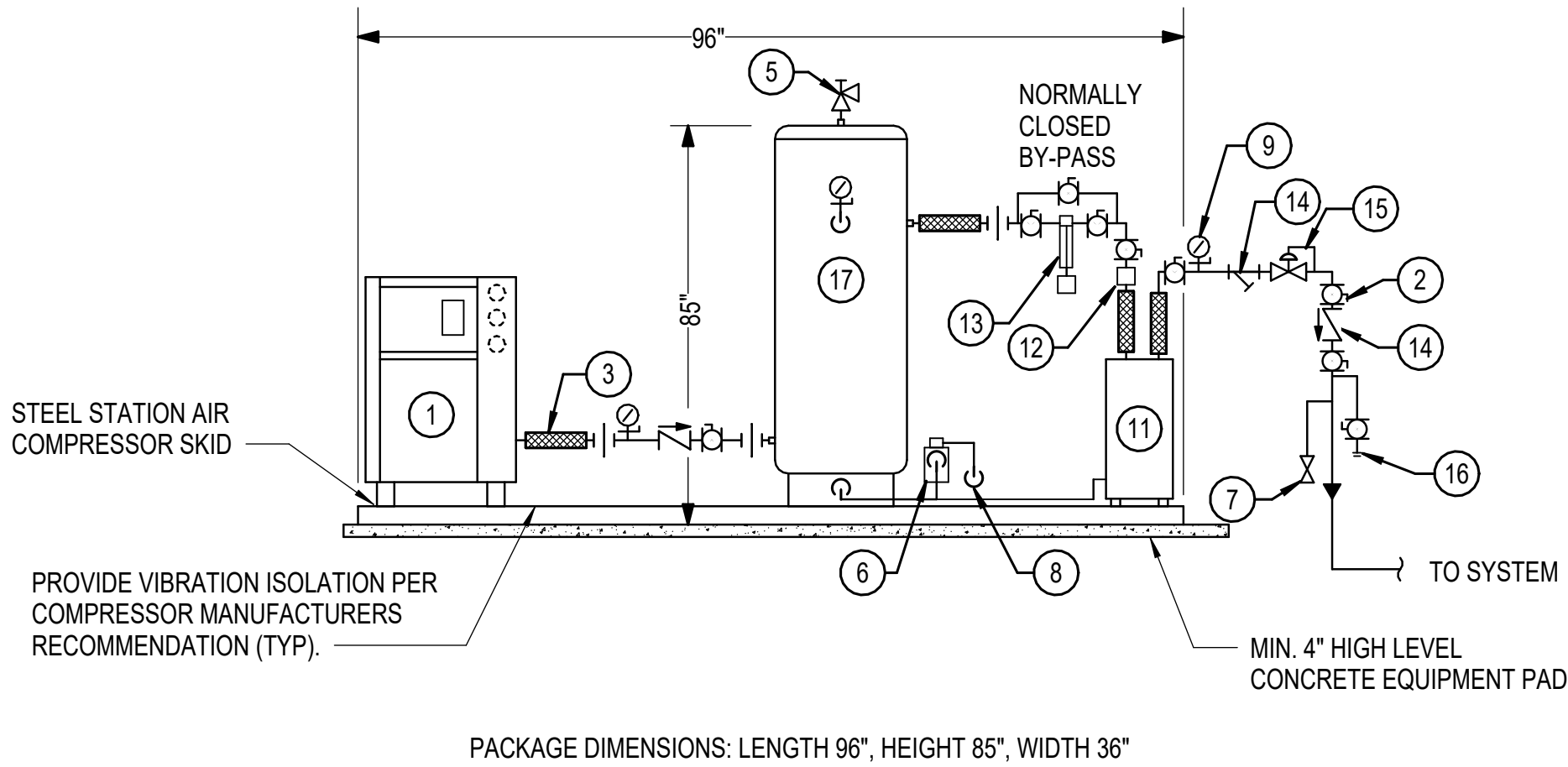


4 DETAIL - COMPRESSED AIR & SLEEVE BELOW SLAB

P001- PW N.T.S.

AIR COMPRESSOR PIPING DIAGRAM NOTES:

- AIR COMPRESSOR (AC-1)
- BALL VALVE
- FLEX CONNECTION
- UNION
- SAFETY RELIEF VALVE - SET @ 175 PSI
- AUTOMATIC DRAIN VALVE
- DRAIN VALVE
- CONDENSATION DRAIN
- PRESSURE GAUGE (0-250 PSI RANGE)
- CHECK VALVE
- REFRIGERATED AIR DRYER (AD-1)
- WATER SEPARATOR (AMG650-N14D)
- MAINLINE FILTER (AFF37B-N14D-T)
- STRAINER
- PRESSURE REGULATING VALVE (R1120)
- QUICK AIR COMPRESSOR CONNECTOR
- 200 GALLON VERTICAL AIR RECEIVER (AR-1)

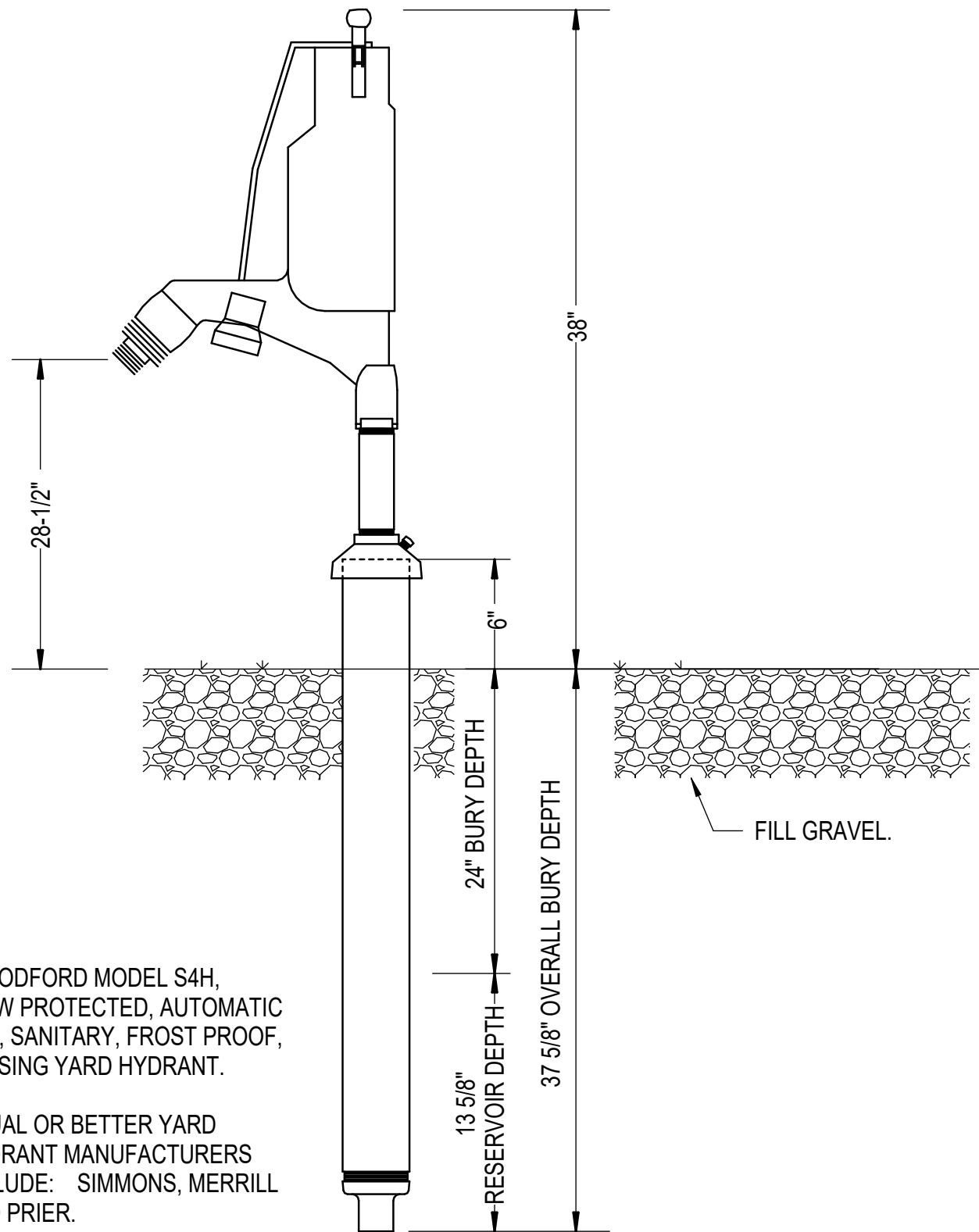


1 DETAIL - AIR COMPRESSOR PIPING CONNECTION

P001- PW N.T.S.

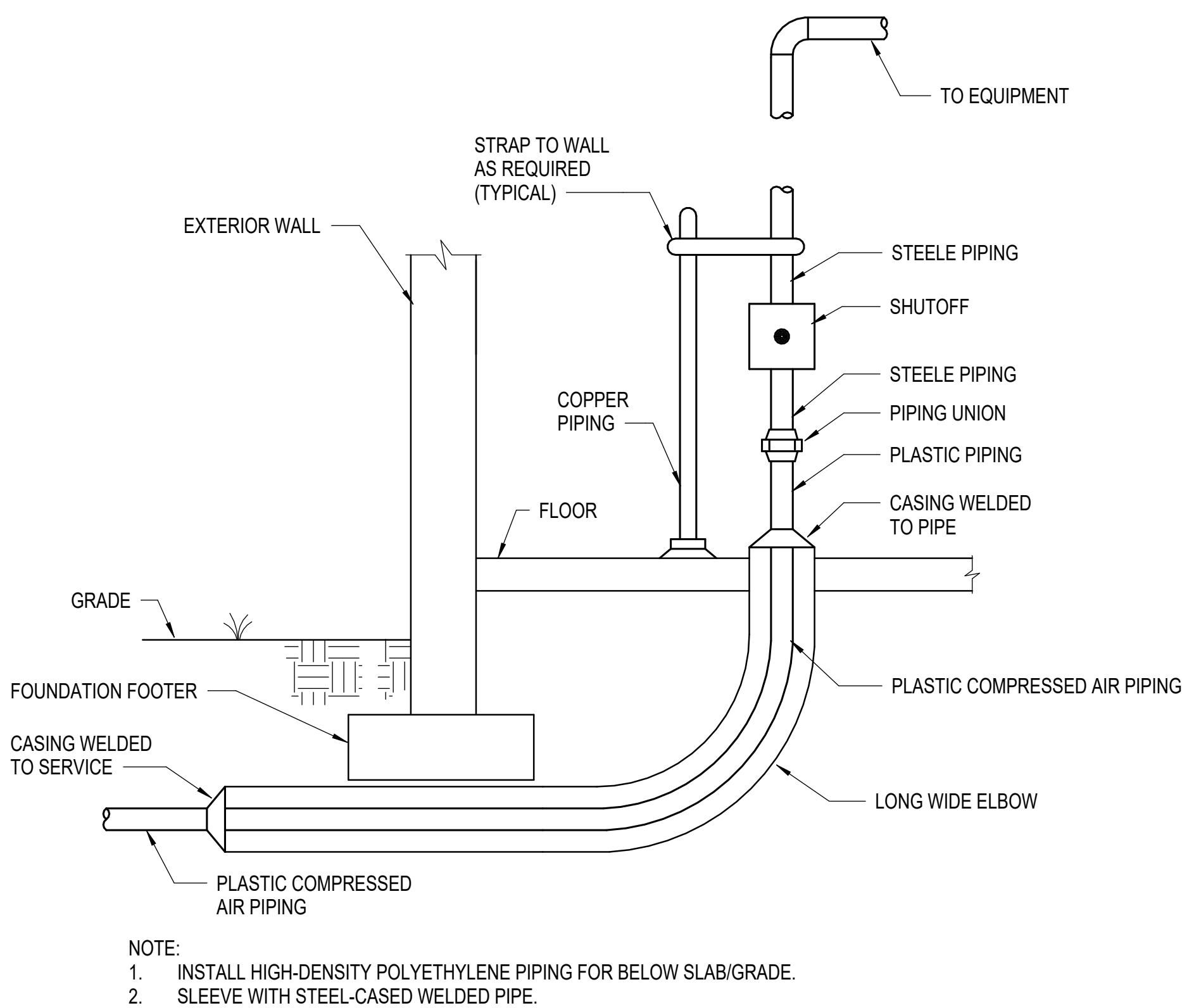
AIR COMPRESSOR SCHEDULE											
MARK	NAME	LOCATION	MODEL NO	MANUFACTURER	TYPE	NORMAL PRESSURE	ELECTRICAL			HP	MANUFACTURERS BASIS OF DESIGN
							VOLTS	PHASE	AMPS		
AC-1	AIR COMPRESSOR	TANK FARM BUILDING	SK 20	KAESER	ELECTRIC	160	208-240	3	42	20	SYSTEM MAXIMUM POSITIVE PRESSURE AT 160 POUND PER SQUA RE INCH.SPEED-CONTROLLED MOTOR FOR A LARGE FLOW RATE CONTROL RANGE.
AD-1	AIR DRYER	TANK FARM BUILDING	TB26	KAESER	ELECTRIC	95	115	1	-	-	WITH PLUG-IN POWER CORD AND AUTOMATIC DRAIN.
AR-1	AIR RECEIVER TANK	TANK FARM BUILDING	-	KAESER	-	200	-	-	-	-	VERTICAL 200 GALLON ASME CODED ARE RECEIVER FOR 200 PSIG WORKING PRESSURE WITH BASE RING.

NOTES: 1. (EQUAL COMPRESSOR MANUFACTURERS INCLUDE MASTER MODEL MST-15VFD, ENGI MODEL EN15-125.)



2 YARD HYDRANT (YH-1) DETAIL

P001- PW N.T.S.

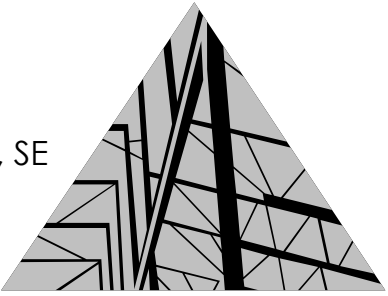


3 DETAIL - COMPRESSED AIR PIPE SLEEVE

P001- PW N.T.S.

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CITY OF ROANOKE
PUBLIC WORKS
SERVICE CENTER

ROANOKE CITY PROJECT NO.: RFP #24-10-66
SPECTRUM DESIGN PROJECT NO.: 23181



PROJ. MGR.: MAR
CHECKED BY: MAR
DRAWN BY: MKJ

SHEET ISSUE DATE:
06.19.2025

PROJECT PHASE:
CONSTRUCTION DOCUMENTS

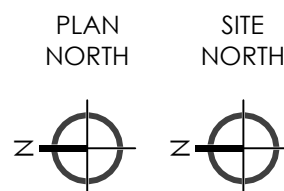
SCALE:
AS SHOWN
24"x36" SHEET

SHEET REVISIONS:

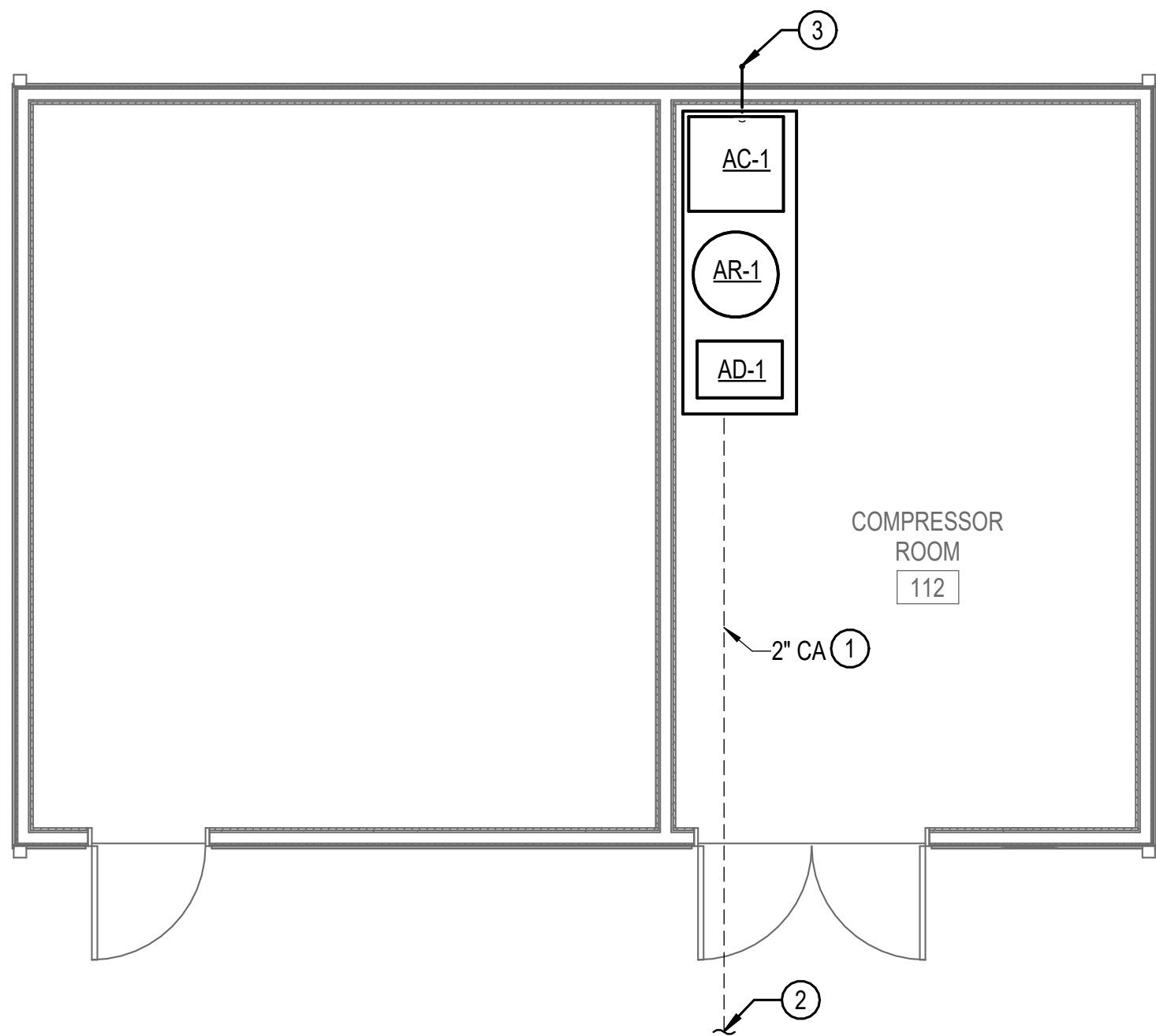
SHEET NAME:
PLUMBING - NOTES,
LEGEND AND
SCHEDULES

SHEET NUMBER:

P001- PW

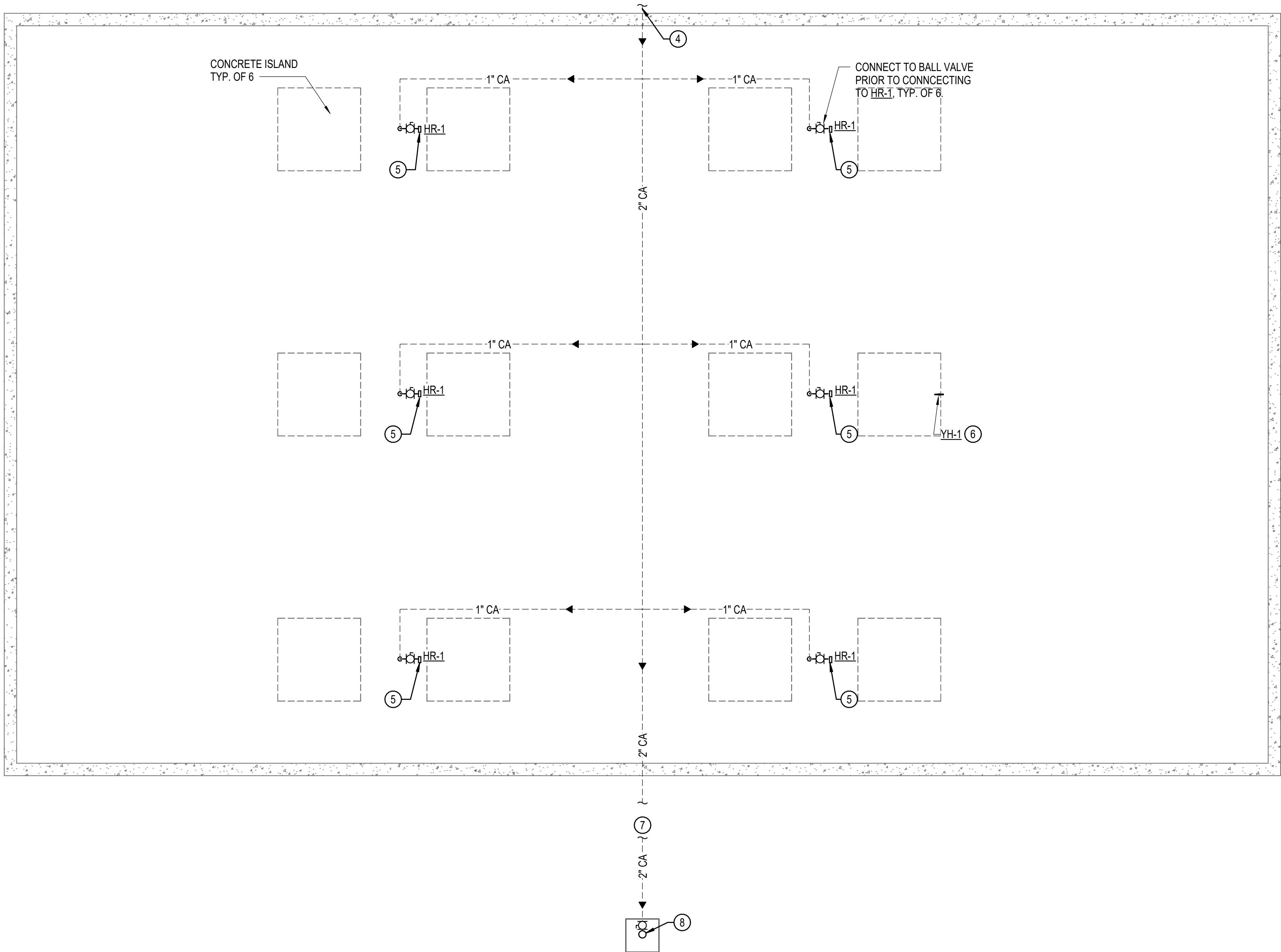


AHJ APPR



2 PLUMBING - TANK FARM BUILDING - PIPING

P101-PW SCALE: 1/4" = 1'-0"



1 PLUMBING - FUELING ISLAND SITE PLAN - PIPING

P101-PW SCALE: 1/8" = 1'-0"

GENERAL NOTES

- SEE PLUMBING FIXTURE SCHEDULE P601 FOR EQUIPMENT CONNECTION SIZE, P501, PLUMBING DETAILS.
- FIRESTOP ALL PENETRATIONS THROUGH RATED WALLS, CEILINGS AND FLOORS WITH LISTED ASSEMBLIES AND SLEEVE WHERE REQUIRED.
- ALL PIPING CONSIDER NEW, UNLESS OTHERWISE NOTED ON PLANS.
- ALL COMPRESS AIR PIPING BELOW GRADE TO BE SLEEVE WITH PVC.
- CONTRACTOR SHALL THOROUGHLY CLEAN WORK AREA DAILY.

SHEET NOTES

- ROUTE BELOW SLAB. SEE SHEET P001 DETAILS 3 & 4 FOR COMPRESSED AIR PIPING BELOW SLAB/GRADE.
- ROUTE CA TO FUEL ISLANDS, SEE SHEET C103-PW FOR OVERALL SITE PLAN.
- ROUTE 1" CONDENSATE DRAIN FROM AIR COMPRESSOR OUT THROUGH EXTERIOR WALL TERMINATING ABOVE GRADE.
- ROUTE 2" CA PIPING DOWN FROM TANK FARM BUILDING.
- ROUTE CA PIPING UP TO HOSE REEL MOUNTED ON CONCRETE PAD.
- ROUTE CW PIPING UP TO YARD HYDRANT MOUNTED IN CONCRETE PAD ON TOP.
- ROUTE 2" CA TO VAULT AT FUTURE WASH HOUSE. SEE SHEET C103-PW FOR SITE PLAN.
- TERMINATE IN VAULT WITH BALL VALVE AND END CAP. REFER TO DETAIL 3/C505-PW FOR VAULT REQUIREMENTS.

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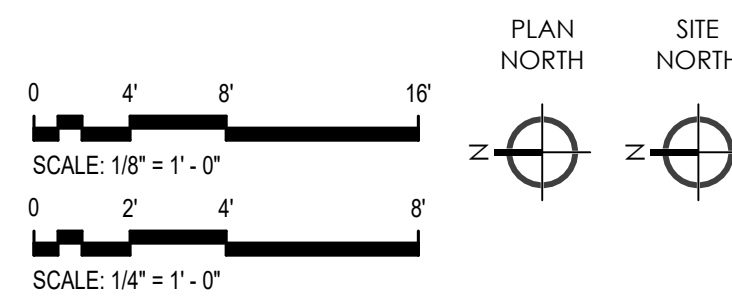
PROJECT PHASE:
CONSTRUCTION DOCUMENTS

SCALE:
AS SHOWN
24"x36" SHEET

SHEET REVISIONS:

SHEET NAME:
PLUMBING - FLOOR
PLAN - PIPING

SHEET NUMBER:
P101-PW



LEGEND/SYMBOLS - SECTION A		LEGEND/SYMBOLS - SECTION B	
POWER		SECURITY/ACCESS CONTROL	
	DUPLEX RECEPTACLE		CARD READER
	DUPLEX RECEPTACLE WITH GROUND FAULT INTERRUPTER		SECURITY CAMERA CAMERA
	EMERGENCY PUSH BUTTON		
		POWER DISTRIBUTION AND EQUIPMENT	
			PANELBOARD
			MOTOR
DATA COMMUNICATIONS			
	COMPUTER WALL OUTLET		
	TELEPHONE WALL OUTLET		
	WIRELESS ACCESS POINT		
LIGHT FIXTURES - (SYMBOL SHAPE MAY VARY. REFER TO SCHEDULE)		CONDUIT AND WIRING	
	LIGHTING FIXTURES, LETTER "A" - INDICATES FIXTURE TYPE. "ED-9" - INDICATES CIRCUITS		HOMERUN TO PANELBOARD
			WIRERUN
			WIRERUN - BENEATH FLOOR
			UG ELECTRIC PRIMARY
			UG ELECTRIC SECONDARY
SWITCH AND CONTROL			
	OCCUPANCY SENSOR		
		GROUNDING SYSTEM	
			ELECTRICAL GROUND
			NUMBERED CONSTRUCTION NOTES
			NUMBERED DEMOLITION NOTES

POLE DESCRIPTION
BASIS OF DESIGN: CREE:
S-S-S-4-11-25-CW-BS-1D-C-BK-OPTION(GFI).
SQUARE, M RATED, NON TAPERED POLE OF STRUCTURAL STEEL TUBING (ASTM A 500 GRADE B) WITH A MINIMUM YIELD STRENGTH OF 50,000 P.S.I. (4-6" POLES) OR 46,000 P.S.I. (3" POLES) WELDED TO A FORMED CARBON STEEL BASE PLATE (ASTM A-36 HRS) WITH A MINIMUM YIELD STRENGTH OF 36,000 P.S.I.
ANCHOR BOLTS (F1554 GRADE 55) ARE "L" BENT BARS HAVING A MINIMUM YIELD STRENGTH OF 55,000 P.S.I. THE BOLTS ARE AT LEAST PARTIALLY GALVANIZED PER ASTM A153 SPECIFICATIONS AND FURNISHED COMPLETE WITH TWO HEX NUTS AND 2 FLAT WASHERS BASE COVER IS 2 PC.16 GA. PAINTED GALVANIZED STEEL WHICH CONNECTS WITH TWO 410 STAINLESS STEEL SCREWS INCLUDED. POLE CAP IS PAINTED PVC.

FINISH SHALL FEATURE E-COAT EPOXY PRIMER WITH A DURABLE, DARK BRONZE, POWDER TOPCOAT, PROVIDING RESISTANCE TO CORROSION, ULTRAVIOLET DEGRADATION, AND ABRASION.

UL LISTED FOR ELECTRICAL GROUND BONDING.

SEE SHEET E002 FOR INSTALLATION DETAILS.

LUMINAIRE SCHEDULE/LEGEND									
CALLOUT	SYMBOL	LAMP	DESCRIPTION	DRIVER	MOUNTING / POLE HEIGHT	BASIS OF DESIGN (BOD)	INPUT WATTS	VOLTS	LUMENS
A		(1) LED 4000K	RSX AREA LUMINAIRE SIZE 3 P2 LUMEN PACKAGE 4000K CCT TYPE R2 DISTRIBUTION WITH EGS SHIELD AND INTEGRAL PHOTOCELL	ELECTRONIC	POLE 25 FOOT	LITHONIA RSX3-LED-P2-40K-R2 -EGS	222	UNIVERSAL VOLTAGE	27570
A2		(1) LED 4000K	RSX AREA LUMINARIES SIZE 3 P3 LUMEN PACKAGE 4000K CCT TYPE R2 DISTRIBUTION WITH EGS SHIELD AND INTEGRAL PHOTOCELL	ELECTRONIC	POLE 25 FOOT	LITHONIA RSX3-LED-P3-40K-R2 -EGS	266	UNIVERSAL VOLTAGE	32285
B		(1) LED 4000K	RSX AREA LU LUMINARIES SIZE 3 P3 LUMEN PACKAGE 4000K CCT TYPE R2 DISTRIBUTION AND INTEGRAL PHOTOCELL	ELECTRONIC	POLE 25 FOOT	LITHONIA RSX3-LED-P3-40K-R2	265	UNIVERSAL VOLTAGE	32285
C		(1) LED 5000K	ULTRA SLIM 11116" PROFILE DIECAST HOUSING, FLAT CLEAR TEMPERED GLASS LENS, WATER RESISTANT, SEALED IP66 RATED, FULL SHIELDED OUT-OFF REQUIRED, WITH MOTION SENSOR	ELECTRONIC	SURFACE	LSI, INDUSTRIES INC. CRSU SC LED HO 50 UE WH7	125	UNIVERSAL VOLTAGE	19071
D		(1) LED 5000K	96" LOW PROFILE ENCLOSED AND GASKETED INDUSTRIAL FIXTURE, SURFACE MOUNTED	ELECTRONIC	SURFACE	LITHONIA FEM1.96-3000LM-L-PAFL- MD- WVOLT G210 5000K 80CRI	53	UNIVERSAL VOLTAGE	8910

LIGHTING FIXTURE SCHEDULE NOTES:

BASIS OF DESIGN: THE LIGHTING DESIGN SHOWN IS BASIS OF DESIGN AND IS INTENDED ONLY TO SHOW GENERAL SIZE, CONFIGURATION AND DESCRIPTION OF FIXTURES.

POLE FIXTURES CONTROLS: ALL POLE FIXTURES SHALL BE DUSK TO DAWN FIXTURES. ON AT 100%.

CANOPY FIXTURE CONTROLS: ALL CANOPY FIXTURES SHALL BE CONTROLLED BY LIGHTING CONTACTOR. TIMER TO BE SET BY OWNER. ON AT 50% & 100% WHEN MOTION IS DETECTED.

ELECTRICAL SPECIFICATIONS:

- PROVIDE SURGE PROTECTION DEVICE (SPD) SPD UNITS SHALL BE COMPLETE WITH DISCONNECTING MEANS AND SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE SERVICE EQUIPMENT OR WITHIN IT. SPD UNITS SHALL BE RATED FOR 250KA SURGE CURRENT PER PHASE OR 129KA SURGE CURRENT PER MODE. L-G, L-N, N-G.
- ALL SAFETY SWITCHES SHALL BE SIMILAR OR EQUAL TO SQUARE-D, HEAVY DUTY H SERIES WITH PADLOCK CAPABILITY. COORDINATE WITH EQUIPMENT SUPPLIER AND WITH SPECIFICATIONS. PROVIDE NEMA-1 SWITCHES INDOORS AND NEMA-3R SWITCHES OUTDOORS AND IN WET OR DAMP LOCATIONS. PROVIDE FUSIBLE TYPE UNLESS NOTED OTHERWISE.
- COMBINATION FUSIBLE MOTOR STARTERS SHALL BE GENERAL PURPOSE CLASS-A MAGNETIC CONTROLLER COMPLETE WITH FUSIBLE DISCONNECT IN A COMMON NEMA-1 ENCLOSURE WITH EXTERNAL PADLOCK HANDLE. PROVIDE FUSE CLIPS FOR CLASS-R FUSES.
- DUPLEX 120V RECEPTACLES SHALL BE 20 AMP, FEDERAL SPEC GRADE DUPLEX RECEPTACLES, COLOR GRAY, WITH STAINLESS STEEL PLATES. WHERE QUADPOLE RECEPTACLES ARE NOTED, PROVIDE TWO DUPLEX RECEPTACLES ON A COMMON PLATE. FLUSH RECEPTACLES ON CMU WALL MAY USE OVERSIZED PLATES.
- DUPLEX GROUND FAULT RECEPTACLES INDOORS SHALL BE 20 AMP DUPLEX GF1 TYPE WITH FEED THROUGH AND STANDARD COVER.
- NEW WEATHERPROOF GROUND FAULT DUPLEX RECEPTACLES SHALL BE 20 AMP DUPLEX GF1 TYPE WITH LEXAN WEATHERPROOF WHILE-IN-USE COVER.
- ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR BELOW GRADE EXCAVATION REQUIRED FOR INSTALLATION OF CONDUIT AND WIRING IN ACCORDANCE WITH THE FOLLOWING:
 - TRENCHES TO BE GRADED TO UNIFORM PITCH AND NO WIDER THAN NECESSARY AND FREE FROM LOOSE EARTH.
 - CLEAN BACKFILL SHALL BE USED AND THOROUGHLY TAMPED IN LAYERS NOT EXCEEDING 6" TO A MINIMUM DEPTH OF 1' OVER TOP OF CONDUIT.
 - USE COMPACTED BACKFILL FOR ENTIRE DEPTH OF EXCAVATION UNDER SLAB ON GRADE.
- INSTALLATION OF DIRECT BURIAL CONDUIT
 - PROVIDE EXCAVATION AND SHAPING OF TRENCH BOTTOMS TO PROVIDE UNIFORM BEARING AND SUPPORT OF CONDUIT(S). SHAPE SUB-GRADE TO PROVIDE CONTINUOUS SUPPORT FOR JOINTS, FITTINGS AND BODIES OF CONDUITS. REMOVE PROJECTING STONES AND SHARP OBJECTS ALONG TRENCH SUBGRADE. EXCAVATE TRENCHES 8 INCHES DEEPER THAN ELEVATION REQUIRES IN ROCK OR OTHER UNYIELDING BEARING MATERIAL TO ALLOW FOR BEDDING COURSE IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACTION: PLACE BACKFILL OR SUB-GRADES FREE OF MUD, FROST, SNOW, OR ICE. PLACE AND COMPACT BEDDING COURSE ON TRENCH BOTTOMS AND WHERE INDICATED. SHAPE BEDDING COURSE TO PROVIDE CONTINUOUS SUPPORT FOR JOINTS, FITTINGS, AND BODIES OF CONDUITS. BACKFILL TRENCHES EXCAVATED UNDER FOOTING AND WITHIN 18 INCHES OF BOTTOM OF FOOTINGS PLACE AND COMPACT INITIAL BACKFILL UP ON BOTH SIDES AND ALONG THE FULL LENGTH OF CONDUIT TO AVOID DAMAGE OR DISPLACEMENT. FIRMLY HAND-TAMP BACKFILL AROUND CONDUIT TO PROVIDE MAXIMUM SUPPORTING STRENGTH. AFTER PLACING CONTROLLED BACKFILL TO WITHIN 12" OF FINISHED GRADE, MAKE FINAL CONDUIT CONNECTIONS AT END OF RUN AND COMPLETE BACKFILLING WITH NORMAL COMPACTION TO 85 PERCENT OR TO MATCH CIVIL COMPACTIONS REQUIREMENTS FOR THAT AREA WHICHEVER IS GREATER.
 - PROVIDE MANUFACTURED DUCT ELBOWS AND STUB UPS AT POLES, EQUIPMENT AND AT BUILDING ENTRANCES THROUGH THE FLOOR, UNLESS OTHERWISE INDICATED. ENCASE ELBOWS FOR STUB UP DUCTS THROUGHOUT THE LENGTH OF THE ELBOW.
 - PROVIDE MANUFACTURED RIGID STEEL CONDUIT ELBOWS FOR STUB-UPS AT POLES, EQUIPMENT AND AT BUILDING ELECTRIC ENTRANCES THROUGH THE FLOOR, COUPLE STEEL CONDUITS TO DUCTS WITH ADAPTERS DESIGNED FOR THIS PURPOSE AND ENCASE COUPLING WITH 3 INCHES OF CONCRETE. FOR STUB-UPS AT EQUIPMENT MOUNTED ON OUTDOOR CONCRETE BASES, EXTEND STEEL CONDUIT HORIZONTALLY A MINIMUM OF 60 INCHES FROM THE EDGE OF THE EQUIPMENT PAD OR FOUNDATION. INSTALL INSULATED GROUNDING BUSHINGS ON TERMINATION AT EQUIPMENT. WARNING TAPE: BURY UNDERGROUND WARNING TAPE APPROXIMATELY 12" ABOVE DIRECT BURIED CONDUITS. ALIGN TAPE ALONG THE WIDTH AND ALONG THE CENTERLINE OF CONDUIT.

9. GROUNDING

- PROVIDE GROUNDING IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE AND ADDITIONALLY AS INDICATED.
- PROVIDE TRIAD GROUND USING 10X3/4" COPPER CLAD GROUND RODS AS INDICATED. PLACE RODS NO LESS THAN 36 INCHES FROM METER STRUCTURE. CONNECT GROUND RODS TO GROUND SYSTEM USING MINIMUM 20 COPPER CABLE. BURIED UNDERGROUND CONNECTIONS TO GROUND RODS SHALL USE EXOTHERMICALLY WELDED CONNECTIONS. ACCESSIBLE GROUND ROD CONNECTIONS SHALL USE CLAMPS. USE EXOTHERMIC CONNECTIONS FOR ALL UNDERGROUND SPLICES.
- TEST GROUND SYSTEM RESISTANCE AND PROVIDE ADDITIONAL GROUND RODS TO BRING GROUND SYSTEM RESISTANCE TO LESS THAN 5 OHMS FOR BOTH TRIAD GROUND SYSTEM AND GENERATOR GROUND SYSTEM. PROVIDE A MINIMUM OF 10 FEET SEPARATION FROM EXISTING RODS FOR SUPPLEMENTAL GROUND RODS.
- GRADE AND ABOVE GRADE BOXES
 - GENERAL REQUIREMENTS: BOXES INSTALLED IN DAMP OR WET LOCATIONS SHALL BE LISTED FOR USE IN WET LOCATIONS. ALL BOXES SHALL BE LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.
 - METAL FLOOR BOXES: MATERIAL: CAST METAL OR PVC COATED GALVANIZED METAL TYPE FULLY ADJUSTABLE, SHAPE RECTANGULAR. PROVIDE DIVIDER AS SEPARATOR BETWEEN DATA/COMMUNICATIONS AND POWER WHEN INDICATED.
 - METAL CEILING AND WALL BOXES: GALVANIZED METAL COMPLYING WITH NEMA OS1 AND UL 514A. PROVIDE WITH DIVIDER BETWEEN POWER AND LOW VOLTAGE SECTION WHEN INDICATED.
 - CAST METAL OUTLET AND DEVICE BOXES COMPLY WITH NEMA FB 1. FERROUS ALLOY, TYPE FD, WITH GASKETED COVER.

11. HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND WIRING

- BOXES AND HAND HOLES FOR USE IN UNDERGROUND SYSTEMS SHALL BE DESIGNED AND IDENTIFIED AS DEFINED IN NFPA 70, FOR INTENDED LOCATION AND APPLICATION. BOXES INSTALLED IN WET AREAS SHALL BE LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.
- POLYMER-CONCRETE HAND HOLES AND BOXES WITH POLYMER-CONCRETE COVER: MOLDED OF SAND AND AGGREGATE, BOUND TOGETHER WITH POLYMER RESIN, AND REINFORCED WITH STEEL FIBERGLASS OR A COMBINATION OF THE TWO. COMPLY WITH SCTE 77 STANDARD. CONFIGURATION: DESIGN FOR FLUSH BURIAL CONFIGURATION WITH INTEGRAL CLOSED BOTTOM UNLESS OTHERWISE INDICATED.
- COVER: WEATHERPROOF, SECURED BY TAMPER-RESISTANT LOCKING DEVICES AND HAVING STRUCTURAL LOAD RATING CONSISTENT WITH ENCLOSURE AND HANDHOLE LOCATION.
- COVER FINISH: NONSKID FINISH SHALL HAVE A MINIMUM COEFFICIENT OF FRICTION OF 0.50.
- COVER LEGEND: MOLDED LETTERING, "ELECTRIC"
- CONDUIT ENTRANCE PROVISIONS: CONDUIT TERMINATING FITTINGS SHALL MATE WITH ENTERING DUCTS FOR SECURE, FIXED INSTALLATION IN ENCLOSURE WALL.
- HAND HOLES: FOR 12 INCHES WIDE BY 24 INCHES LONG AND LARGER: HAVE INSERTS FOR CABLE RACKS AND PULLING-IN IRONS INSTALLED BEFORE CONCRETE IS POURED.
- INSTALL HAND HOLES AND BOXES LEVEL AND PLUMB AND WITH ORIENTATION AND DEPTH COORDINATED WITH DEFLECTIONS REQUIRED FOR PROPER ENTRANCES.
- UNLESS OTHERWISE INDICATED, SUPPORT UNITS ON A LEVEL BED OF CRUSHED STONE OR GRAVEL, GRADED FROM 1/2-INCH SIEVE TO NO. 4 SIEVE AND COMPACTED TO SAME DENSITY AS ADJACENT UNDISTURBED EARTH.
- ELEVATION: IN PAVED AREAS, SET SO COVER SURFACE WILL BE FLUSH WITH FINISHED GRADE. SET COVERS OF OTHER ENCLOSURES 1 INCH ABOVE FINISHED GRADE.
- INSTALL HAND HOLES WITH BOTTOM BELOW FROST LINE AT 24" MINIMUM BELOW GRADE.
- FIELD-CUT OPENINGS FOR CONDUITS ACCORDING TO ENCLOSURE MANUFACTURER'S WRITTEN INSTRUCTIONS. CUT WALL OF ENCLOSURE WITH A TOOL DESIGNED FOR MATERIAL TO BE CUT. SIZE HOLES FOR TERMINATING FITTINGS TO BE USED, AND SEAL AROUND PENETRATIONS AFTER FITTINGS ARE INSTALLED.

12. CONNECTORS AND SPLICES

- DESCRIPTION: FACTORY-FABRICATED CONNECTORS AND SPLICES OF SIZE, AMPACITY RATING, MATERIAL, TYPE, AND CLASS FOR APPLICATION AND SERVICE INDICATED, LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION. USE SINGLE OR MULTI-TAP INSULATED CONNECTORS TO FIT THE APPLICATION. FOR BELOW GRADE SPLICES PROVIDE WATERPROOF CONNECTIONS RATED FOR DIRECT BURIAL.
- MAKE SPLICES, TERMINATIONS, AND TAPS THAT ARE COMPATIBLE WITH CONDUCTOR MATERIAL AND THAT POSSESS EQUIVALENT OR BETTER MECHANICAL STRENGTH AND INSULATION RATINGS THAN UNSPLICED CONDUCTORS. USE OXIDE INHIBITOR IN EACH SPLICE, TERMINATION, AND TAP FOR SPLICING INVOLVING ALUMINUM CONDUCTORS.
- TIGHTEN ELECTRICAL CONNECTORS AND TERMINALS ACCORDING TO MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES. IF MANUFACTURER'S TORQUE VALUES ARE NOT INDICATED, USE THOSE SPECIFIED IN UL 486A-486B.

13. EXCAVATIONS

- CONTACT MISS UTILITY AT 811, 1-800-552-7001, OR [HTTP://WWW.MISSUTILITYOFVIRGINIA.COM](http://www.missutilityofvirginia.com) NO LESS THAN 72 HOURS PRIOR TO EXCAVATION AND DO NOT DISTURB THE SOIL UNTIL THE DIG TICKET HAS BEEN PROCESSED.
- MISS UTILITY WILL NOT MARK PRIVATE UTILITIES WHICH MAY BE PRESENT ON THIS SITE. ENSURE THAT ALL UTILITIES, PUBLIC AND PRIVATE, ARE MARKED PRIOR TO EXCAVATION.

14. SECURITY SYSTEM

- PROVIDE ROUGH IN FOR SECURITY DEVICES AND CARD READERS AS INDICATED. PROVIDE BOXES, CONDUITS, FITTINGS AND PULL STRINGS. INSTALLATION OF SECURITY DEVICES ARE OUTSIDE OF THE CONTRACT BY OWNER SELECTED VENDOR. CAMERA ROUGH IN IS INCLUDED IN THE CONTRACT. CONTRACTOR TO COORDINATE WITH OWNER SELECTED VENDOR AND PROVIDE MARK UP DRAWINGS THAT INDICATE ROUGH IN REQUIREMENTS THAT ARE DEVIATIONS FROM CONTRACT DOCUMENTS.

15. LOW VOLTAGE CONTROL WIRING

- PROVIDE LOW VOLTAGE CONTROL WIRING AND CONDUIT FOR A COMPLETE AND OPERATIONAL FUELING SYSTEM. CONTRACTOR TO COORDINATE WITH OWNER SELECTED VENDOR(S).

16. ELECTRICAL IDENTIFICATION SHALL BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING PROVISIONS:

- ENGRAVING STOCK MELAMINE PLASTIC LAMINATE LABELS, BLACK WITH WHITE CORE, FASTENED WITH PAN-HEAD SCREWS AND EXPANSION SHIELDS ON BLOCK WALLS OR CONTACT TYPE PERMANENT ADHESIVE FOR DIRECT FASTENING TO EQUIPMENT FOR ALL MAJOR PIECES OF ELECTRICAL EQUIPMENT INCLUDING AS A MINIMUM BUT NOT LIMITED TO ALL SAFETY DISCONNECT SWITCHES, ENCLOSED BREAKERS, EMERGENCY POWER SYSTEM INVERTERS, METER ENCLOSURES, CURRENT TRANSFORMER CABINETS, PANEL BOARDS AND SWITCH BOARDS.
- PROVIDE MANUFACTURERS STANDARD VINYL CLOTH SELF ADHESIVE CABLE/ CONDUCTOR MARKERS OR WRAP AROUND TYPE NUMBERED TO SHOW CIRCUIT IDENTIFICATION IN EACH BOX/ENCLOSURE/CABINET WHERE WIRES OF MORE THAN ONE CIRCUIT OR SYSTEM ARE PRESENT. MATCH IDENTIFICATION WITH OTHER MARKING SYSTEMS USED.
- PERMANENT BRIGHT COLORED CONTINUOUS PRINTED PLASTIC UNDERGROUND LINE MARKERS SHALL BE BURIED ABOVE ALL UNDERGROUND ELECTRICAL CONDUCTOR RUNS 6" BELOW GRADE.

17. WIRING

ALL WIRING SHALL BE IN CONDUIT. RIGID METAL WHERE EXPOSED OUTDOORS AND BELOW SWITCH HEIGHT OR SUBJECT TO DAMAGE; PVC SCHEDULE 40 WHERE BELOW GRADE OR UNDER NON TRAFFIC AREAS OR CONCRETE ENCASED AND PVC SCHEDULE 80 WHERE BELOW DRIVEWAYS OR OTHER TRAFFICKED AREAS. FLEXIBLE FOR EQUIPMENT CONNECTIONS AND EMT OTHERWISE. A SEPARATE GREEN INSULATED GROUND WIRE SHALL BE INSTALLED IN ALL CONDUITS. ALL CONDUIT SHALL BE NEATLY RUN AND SUPPORTED PER NATIONAL ELECTRIC CODE.

- BUILDING WIRE SHALL BE SINGLE CONDUCTORS IN CONDUIT OR RACEWAY. CONDUCTORS SHALL BE COPPER, #12 MINIMUM CONDUCTOR SIZE, SOLID FOR #10 AWG AND SMALLER, STRANDED FOR #8 AWG AND LARGER. FOR ABOVE-GROUND APPLICATIONS USE THIN-TURN, 80%VC INSULATION. FOR CIRCUITS WHERE ANY PART OF THE CIRCUIT IS BELOW GRADE USE CONDUCTORS WITH XHHW-2, 800 VAC RATED INSULATION.

19. SUPPORT AND ANCHORAGE

- PROVIDE SUPPORT AND ANCHORAGE THAT ARE ADEQUATE IN TENSION, SHEAR, AND PULL-OUT FORCE TO RESIST MAXIMUM LOADS CALCULATED OR IMPOSED WITH A MINIMUM STRUCTURAL SAFETY FACTOR OF FIVE.
- STEEL SLOTTED SUPPORT SYSTEMS: COMPLY WITH MFMA-3 FACTORY FABRICATED COMPONENTS FOR FIELD ASSEMBLY WITH FINISH SUITABLE FOR THE ENVIRONMENT.
- FOR ATTACHMENT TO CONCRETE AND SOLID MASONRY, USE WEDGE-TYPE, ZINC-COATED STEEL EXPANSION ANCHOR FASTENERS. DRILL HOLES AT LOCATIONS AND DEPTHS THAT AVOID REINFORCING BARS. FOR CONNECTIONS TO HOLLOW MASONRY USE ALL-STEEL SPRINGHEAD TYPE TOGGLE BOLTS.
- FOR CLAMPING TO STEEL STRUCTURAL ELEMENTS USE WELDED STEEL STUDS, BEAM CLAMPS OR SPRING-TENSION CLAMPS.
- FOR CONNECTIONS TO WOOD USE LAG SCREWS OR THROUGH BOLTS.
- HANGER RODS TO BE THREADED STEEL.
- FOR CONNECTIONS TO LIGHT STEEL USE SHEET METAL SCREWS.
- FOR ITEMS MOUNTED ON HOLLOW WALLS AND NONSTRUCTURAL BUILDING SURFACES USE SLOTTED-CHANNEL RACKS ATTACHED TO SUBSTRATE.
- FASTEN HANGERS AND SUPPORTS SECURELY IN PLACE WITH PROVISIONS FOR STRUCTURAL AND THERMAL MOVEMENT.
- SEPARATE DISSIMILAR METALS AND METAL PRODUCTS FROM CONTACT WITH WOOD OR CEMENTITIOUS MATERIALS BY PAINTING EACH METAL SURFACE IN AREA OF CONTACT WITH A BITUMINOUS COATING OR BY OTHER PERMANENT SEPARATION.
- EMT AND RSC MAY BE SUPPORTED BY OPENINGS THROUGH STRUCTURAL MEMBERS AS PERMITTED IN NFPA-70.

L RACEWAY SUPPORT INTERVALS

RACEWAY TYPE	MAX DISTANCE TO FIRST SUPPORT	MAX SUPPORT INTERVAL	MAX LENGTH OF RUN
M/CABLE	12 INCHES	54 INCHES	NONE
FMC, LFMC	12 INCHES	54 INCHES	72 INCHES
RSC/RAC <1" DIA	36 INCHES	120 INCHES	NONE
RSC/RAC 1" DIA	36 INCHES	144 INCHES	NONE
RSC/RAC >1" DIA	36 INCHES	PER NEC	NONE
EMT	36 INCHES	120 INCHES	NONE

RNC C 388-30" ACCORDING TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.

EMERGENCY POWER OFF (EPO)

MOTOR FUEL DISPENSING FACILITIES:
INSTALLATION SHALL COMPLY WITH NEC 514.11 MOTOR FUEL DISPENSING FACILITIES.

EMERGENCY TELEPHONE

INDUSTRIAL, WEATHERPROOF TELEPHONE, SINGLE LINE, AUTO-DIAL, GRAY, SURFACE MOUNT, DETACHABLE PROGRAMMING KEYPAD, HINGE DOOR, PROXIMITY DETECTING HOOK SWITCH WITH NO MOVING PARTS, SIX FOOT HYTREL CORD WITH NOISE CANCELING AND VOLUME CONTROL HANDSET ASSEMBLY

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SERVICE CENTER

ROANOKE CITY PROJECT NO.: **RFP #24-10-66**
Spectrum Design Project No.: **23181**



PROJ. MGR.:
MAR

CHECKED BY:
MAR

DRAWN BY:
CLH

SHEET ISSUE DATE:
06.19.2025

PROJECT PHASE:
CONSTRUCTION DOCUMENTS

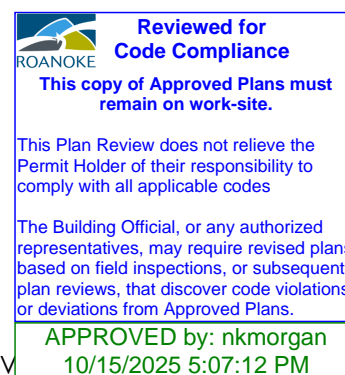
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24"x36" SHEET

SHEET REVISIONS:

KEY PLAN:

SHEET NAME:
ELECTRICAL -
GENERAL NOTES

SHEET NUMBER:
E001-PW



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AHJ APPROV

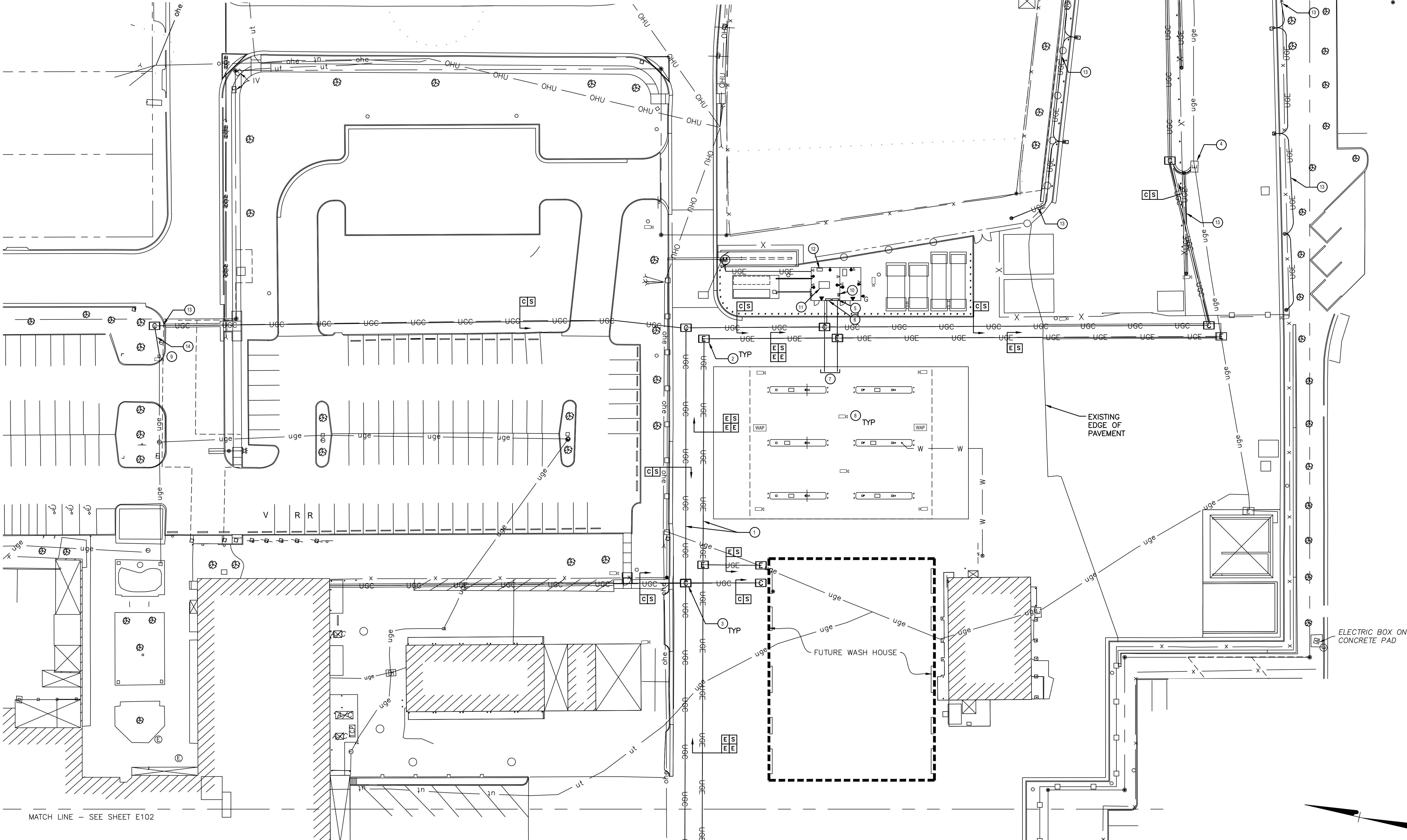
GENERAL NOTES:

1. SEE SHEET E001-PW FOR LEGEND AND GENERAL NOTES.
2. SEE SHEET E501-PW & E502-PW FOR ELECTRICAL DETAILS.
3. SEE SHEET E601-PW FOR ELECTRICAL ONE-LINE DIAGRAMS AND PANEL SCHEDULES.

SHEET NOTES:

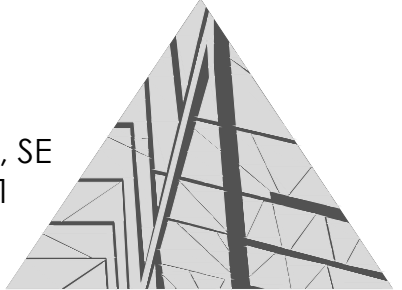
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2. PRECAST ELECTRICAL MANHOLES, TYPICAL. SEE SHEET E501-PW FOR DETAILS.
3. PRECAST COMMUNICATIONS MANHOLES, TYPICAL.
4. EXISTING ELECTRICAL MANHOLES.
5. ELECTRICAL PANEL ED, SEE PANEL SCHEDULE E601-PW
6. VEEDER ROOT PANEL.
7. COORDINATE CONDUIT RUNS FOR FUEL ISLANDS WITH ONE-LINE DIAGRAM, SHEET E601-PW.
8. NEW SECURITY CAMERA LOCATIONS BY OTHERS, TYPICAL. PROVIDE CONDUIT AND PULL STRING TO EACH LOCATION.
9. EXISTING CAMERA LOCATION. NEW SECURITY CAMERA BY OTHERS. PROVIDE CONDUIT AND PULL STRING TO THIS LOCATION AS INDICATED.

10. LIGHTING CONTACTOR, FOR CANOPY LIGHTING CONTROL. SEE SHEET E501 FOR DETAILS.
11. NETWORK RACK BY OTHERS, (40" X 30") WITH 3 FOOT CLEARANCE ALL SIDES.
12. DOOR SECURITY CABINET BY OTHERS, (24" X 20" X 6.5").
13. TRENCH (2) 2" CONDUITS FOR ELECTRICAL / COMMUNICATIONS. SEE TRENCH DETAIL # 2, SHEET E502-PW.
14. TRENCH (1) 2" CONDUITS FOR ELECTRICAL / COMMUNICATIONS. SEE TRENCH DETAIL # 1, SHEET E502-PW.



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ROANOKE CITY PROJECT NO.: RFP #24-10-66
Spectrum Design Project No.: 23181



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MAR MAR CLH

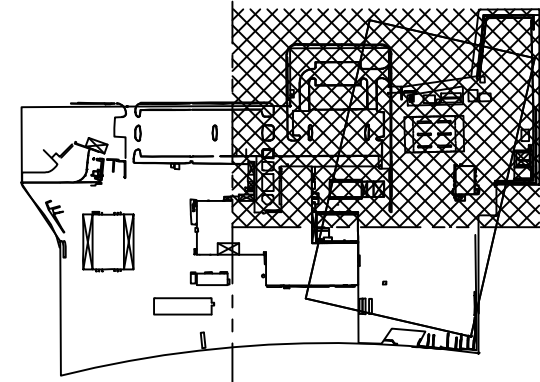
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KEY PLAN:



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ELECTRICAL -
SITE PLAN

SHEET NUMBER:
E101-PW



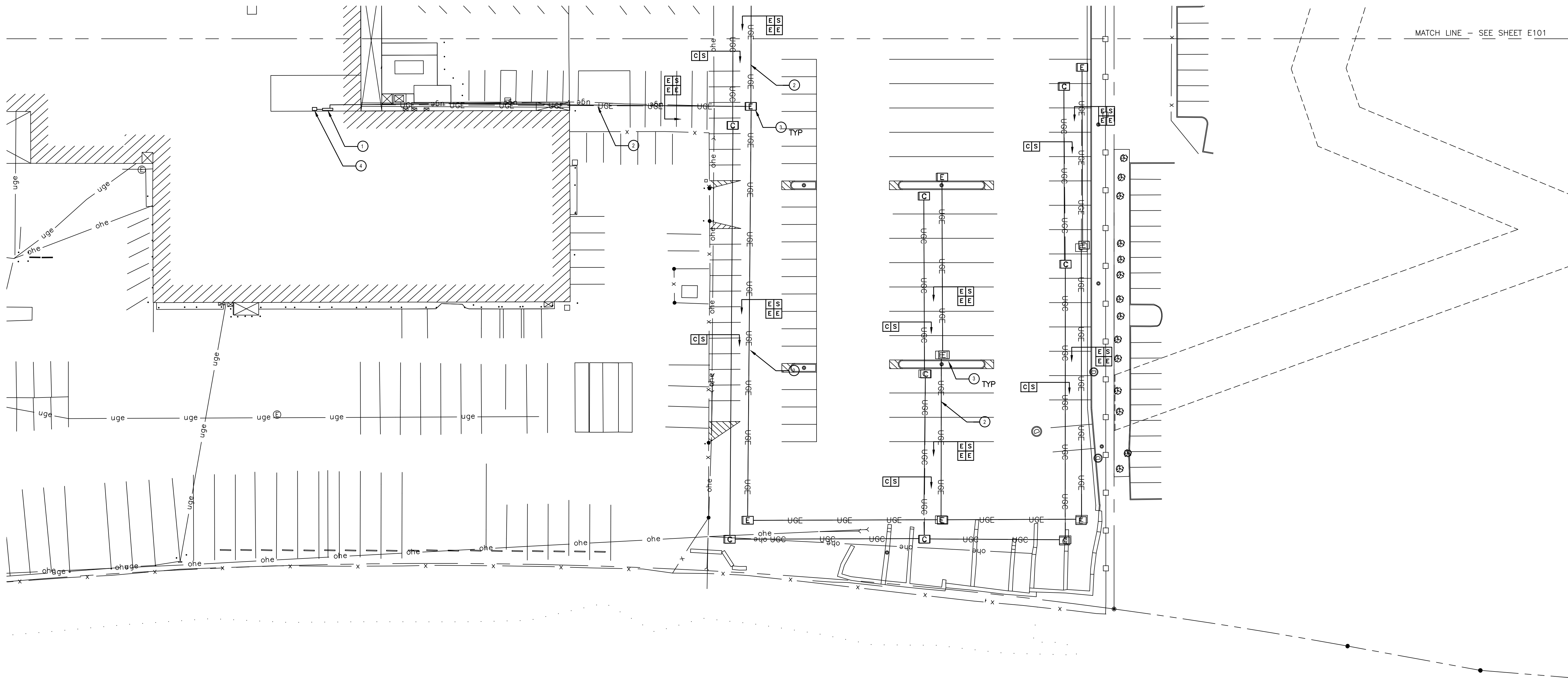
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GENERAL NOTES:

1. SEE SHEET E001-PW FOR LEGEND AND GENERAL NOTES.
2. SEE SHEET E501-PW FOR ELECTRICAL DETAILS.
3. SEE SHEET E601-PW FOR ELECTRICAL ONE-LINE DIAGRAM AND PANEL SCHEDULES.

SHEET NOTES:

1. EMERGENCY PANEL EA TO BE REPLACED.
2. ELECTRICAL/COMMUNICATIONS DUCTBANK, TYPICAL.
SEE SHEET E501-PW FOR DUCTBANK DETAILS.
3. PRECAST ELECTRICAL MANHOLES, TYPICAL.
SEE SHEET E501-PW FOR DETAILS.
4. AUTOMATIC TRANSFER SWITCH,



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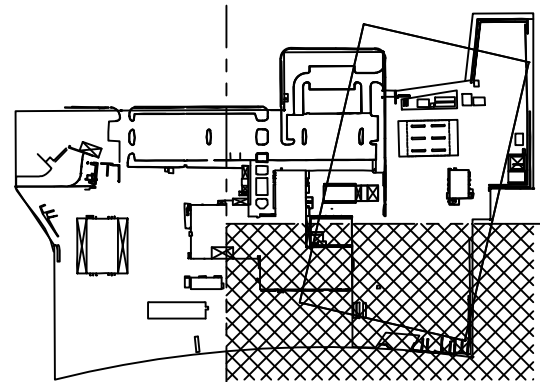
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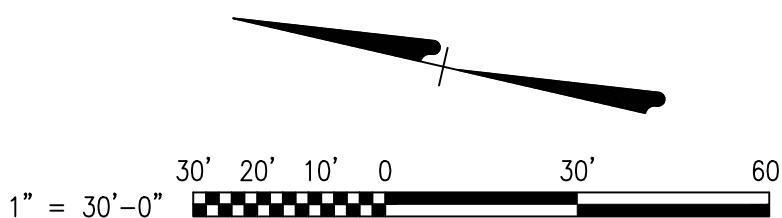
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KEY PLAN:



SHEET NAME:
ELECTRICAL -
SITE PLAN

SHEET NUMBER:
E102-PW

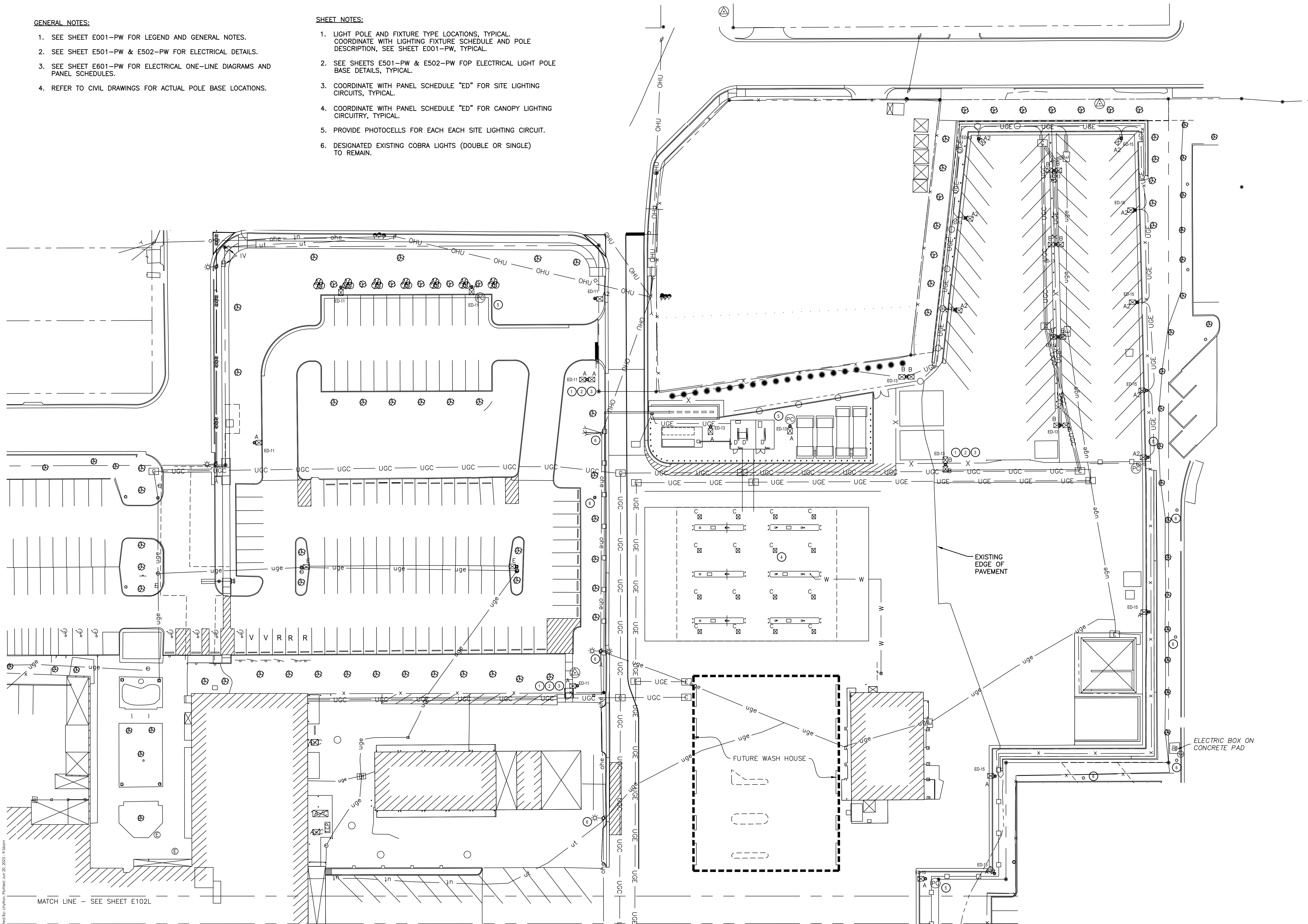


GENERAL NOTES:

1. SEE SHEET E001-PW FOR LEGEND AND GENERAL NOTES.
2. SEE SHEET E501-PW & E502-PW FOR ELECTRICAL DETAILS.
3. SEE SHEET E601-PW FOR ELECTRICAL ONE-LINE DIAGRAM AND PANEL SCHEDULES.
4. REFER TO CIVIL DRAWINGS FOR ACTUAL POLE BASE LOCATIONS.

SHEET NOTES:

1. LIGHT POLE AND FIXTURE TYPE LOCATIONS, TYPICAL. COORDINATE WITH LIGHTING FIXTURE SCHEDULE AND POLE DESCRIPTION, SEE SHEET E001-PW, TYPICAL.
2. SEE SHEETS E501-PW & E502-PW FOR ELECTRICAL LIGHT POLE BASE DETAILS, TYPICAL.
3. COORDINATE WITH PANEL SCHEDULE "ED" FOR SITE LIGHTING CIRCUITS, TYPICAL.
4. COORDINATE WITH PANEL SCHEDULE "ED" FOR CANOPY LIGHTING CIRCUITRY, TYPICAL.
5. PROVIDE PHOTOCELLS FOR EACH EACH SITE LIGHTING CIRCUIT.
6. DESIGNATED EXISTING COBRA LIGHTS (DOUBLE OR SINGLE) TO REMAIN.



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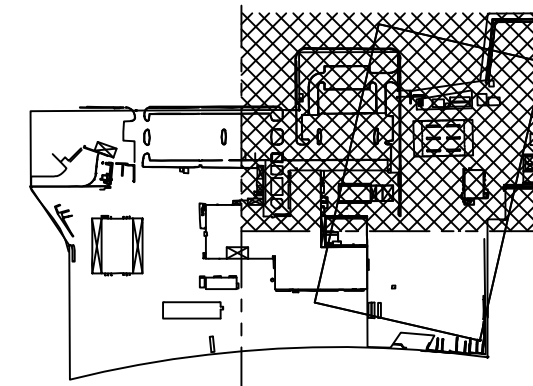
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ELECTRICAL -
SITE PLAN

SHEET NUMBER:
E101L-PW

Reviewed for
Code Compliance
This copy of Approved Plans must
remain on work-site.

This Plan Review does not relieve the
Permit Holder of their responsibility to
comply with all applicable codes.

The Building Official, or any authorized
representatives, may require revised plans
based on field inspections, or subsequent
plan reviews, that discover code violations,
or deviations from approved Plans.

APPROVED by: nkmorgan
10/15/2025 5:07:12 PM

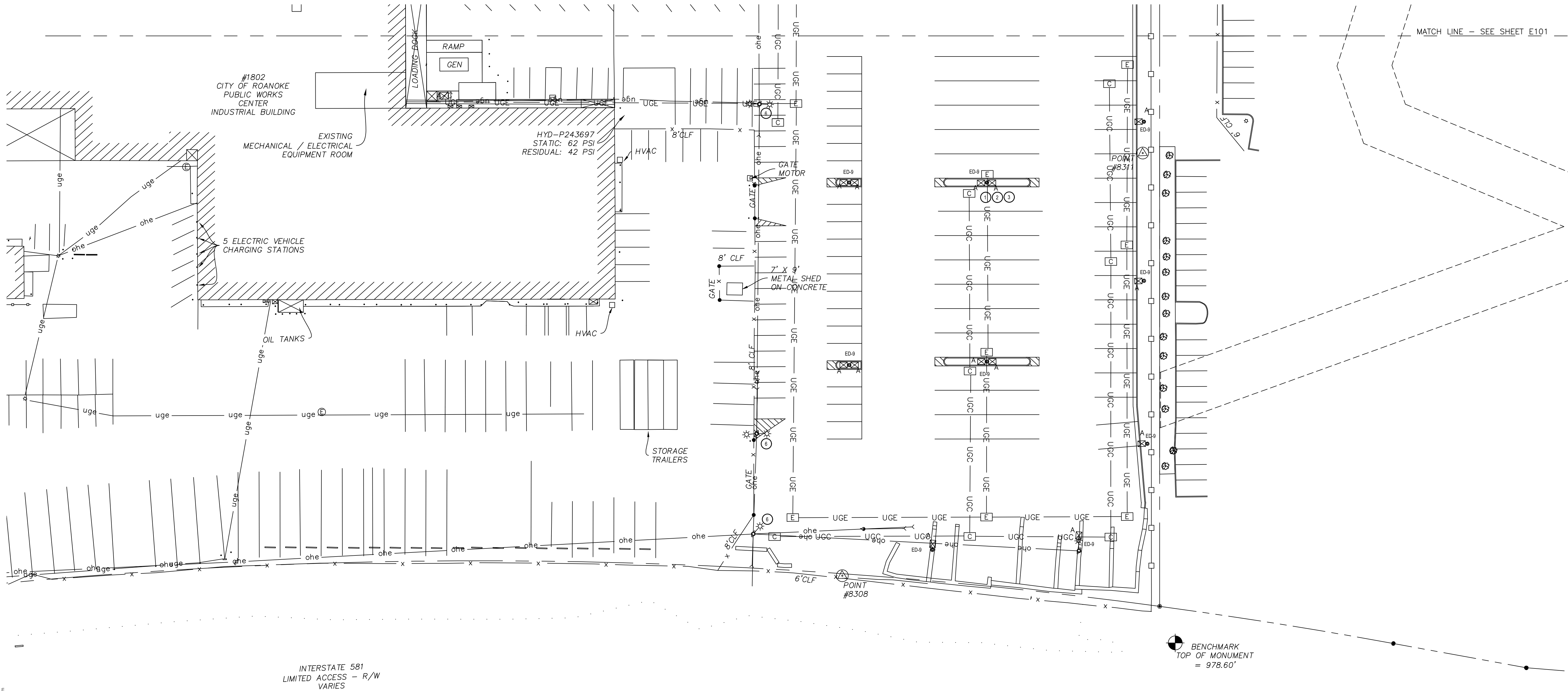
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GENERAL NOTES:

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2. SEE SHEET E501-PW & E502-PW FOR ELECTRICAL DETAILS.
3. SEE SHEET E601-PW FOR ELECTRICAL ONE-LINE DIAGRAM AND PANEL SCHEDULES.
4. REFER TO CIVIL DRAWINGS FOR ACTUAL POLE BASE LOCATIONS.

SHEET NOTES:

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2. SEE SHEETS E501-PW & E502-PW FOP ELECTRICAL LIGHT POLE BASE DETAILS, TYPICAL.
3. COORDINATE WITH PANEL SCHEDULE "ED" FOR SITE LIGHTING CIRCUITS, TYPICAL.
4. PROVIDE PHOTOCELLS FOR EACH EACH SITE LIGHTING CIRCUIT, TYPICAL.
5. NOT USED.
6. DESIGNATED EXISTING COBRA LIGHTS (DOUBLE OF SINGLE) TO REMAIN.



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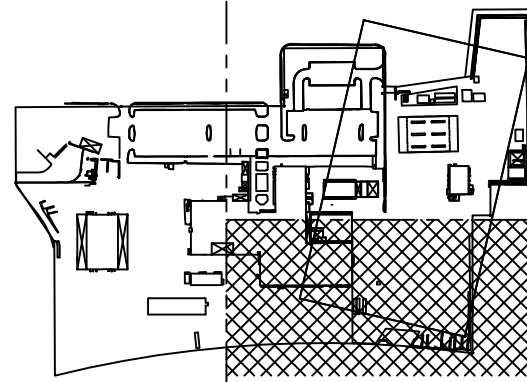
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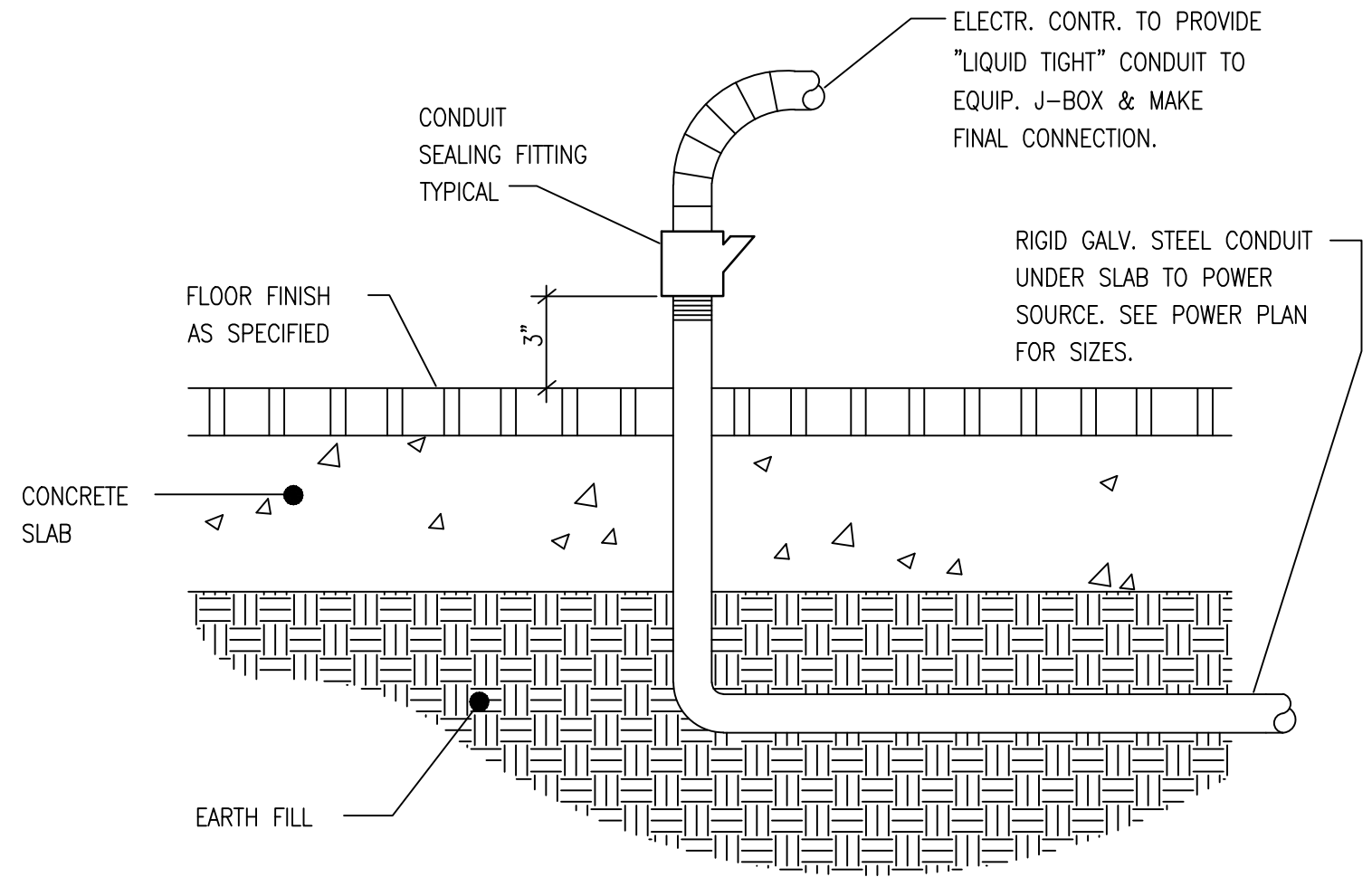


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ELECTRICAL -
SITE PLAN

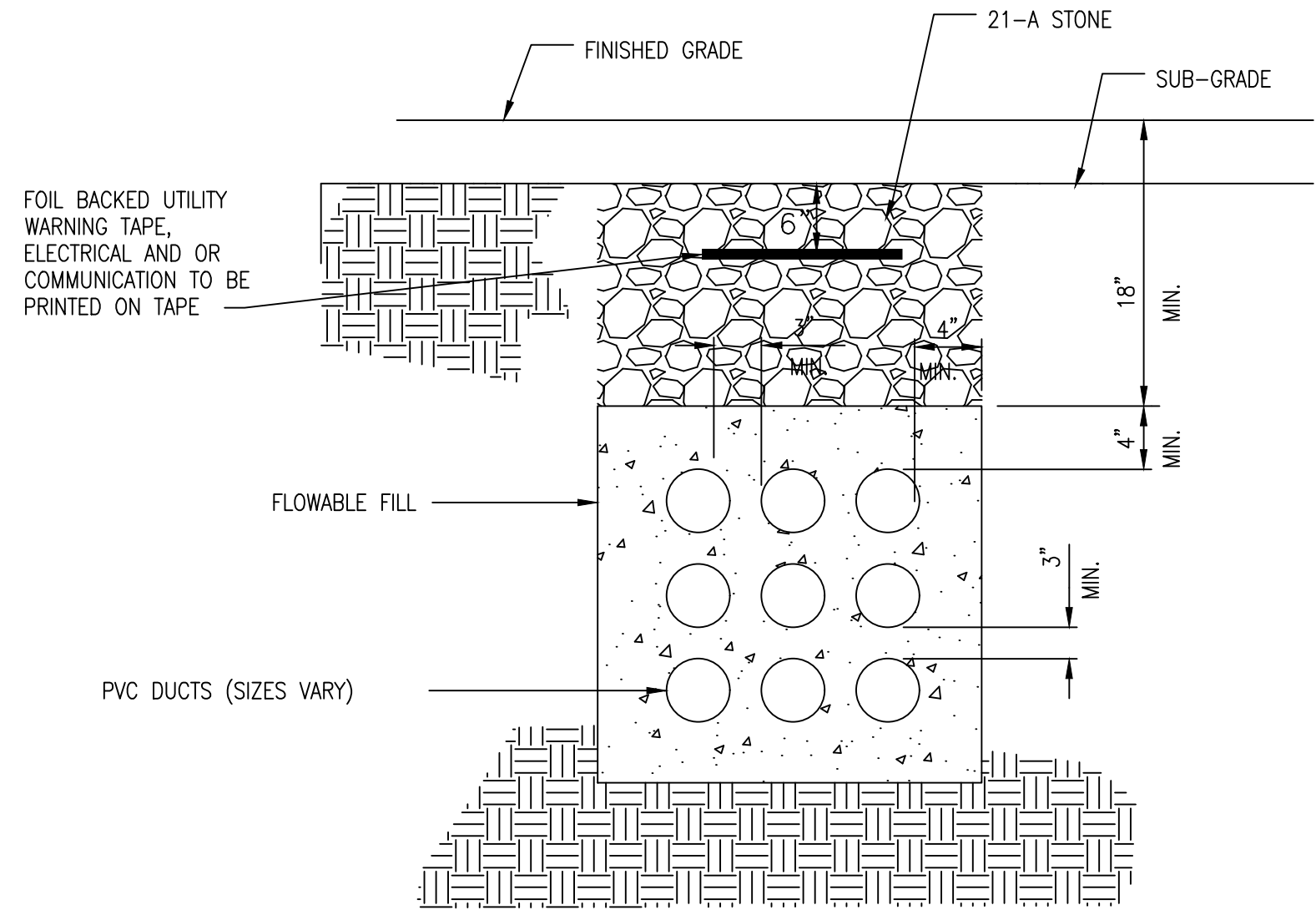
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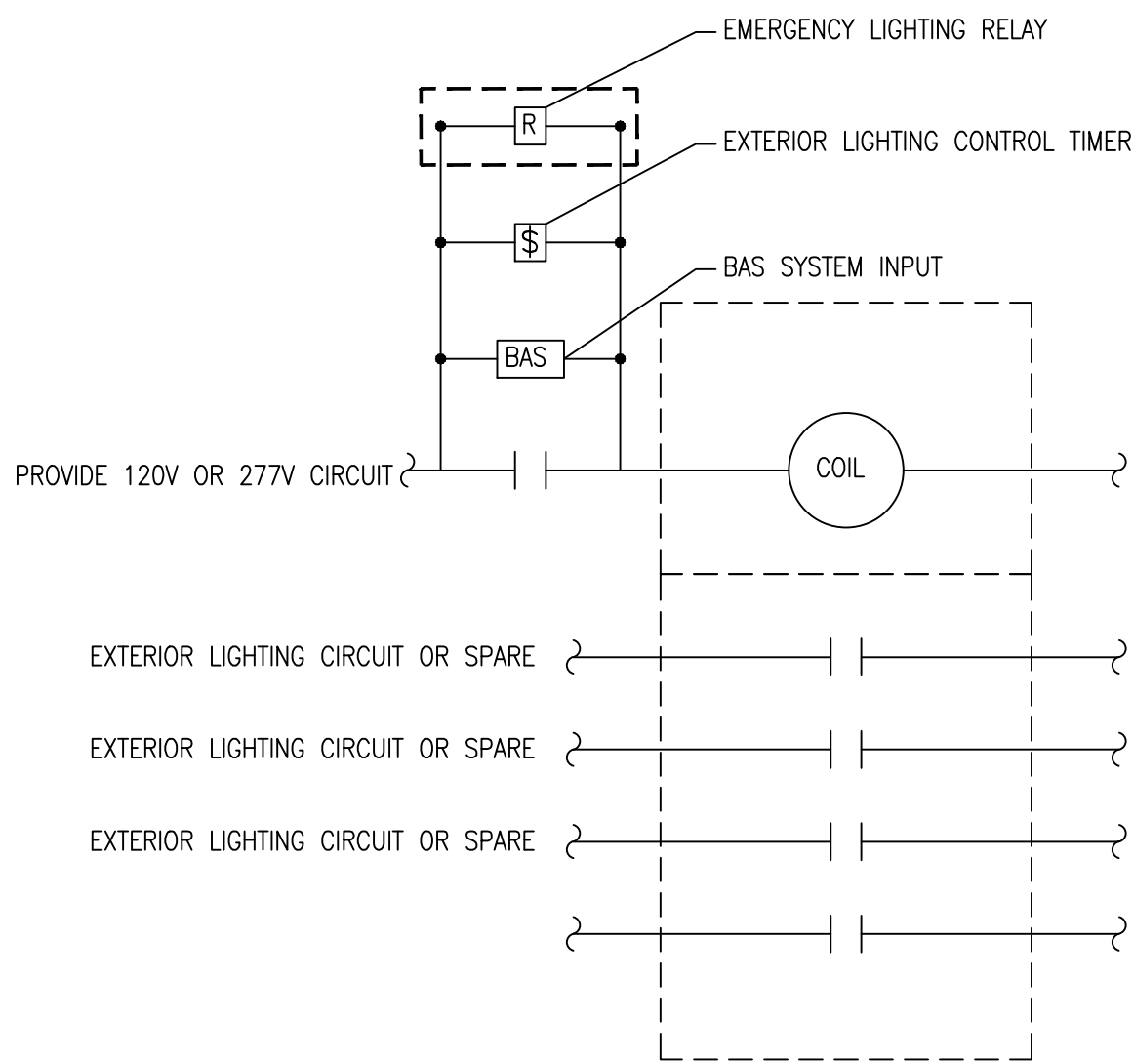
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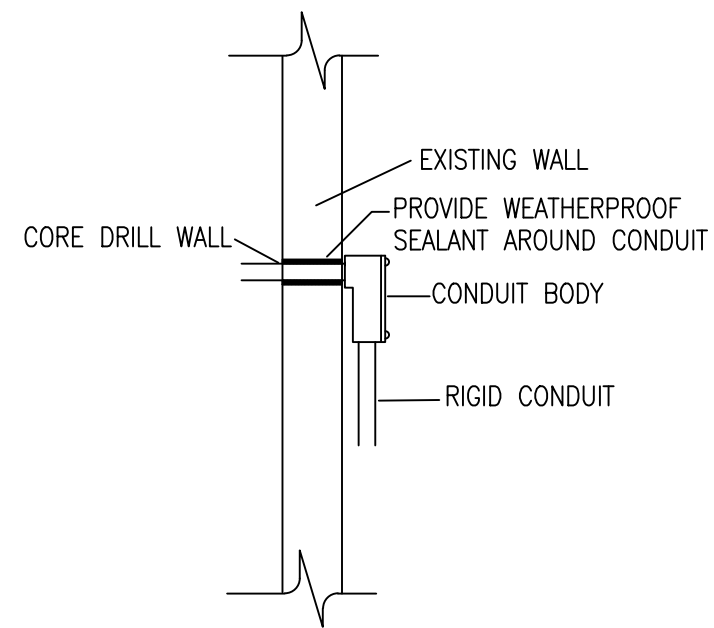
TYPICAL CONDUIT STUB-UP
NOT TO SCALE



TYPICAL SECTION - DUCT BANK
NOT TO SCALE

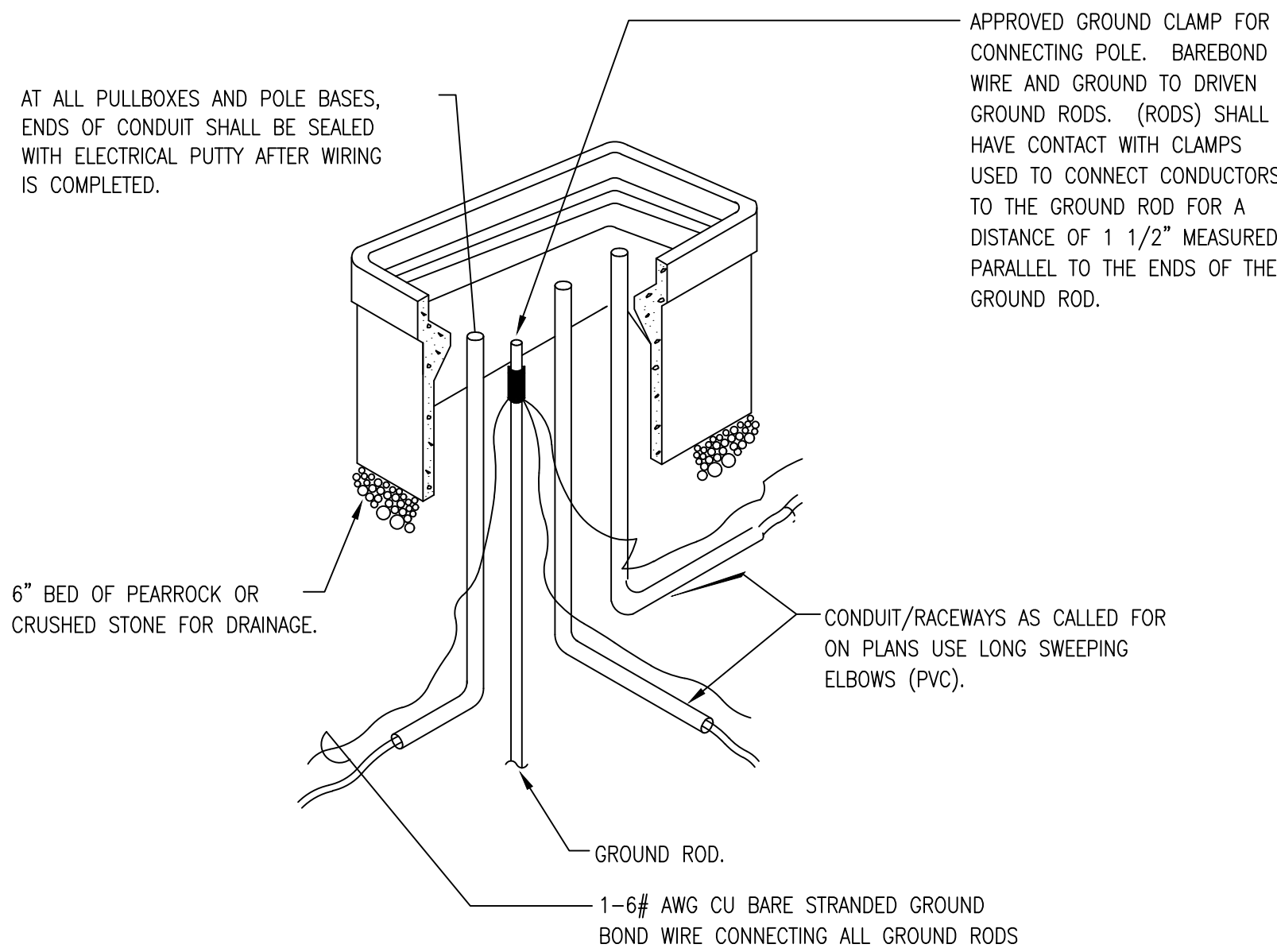


TYPICAL LIGHTING CONTACTOR DETAIL
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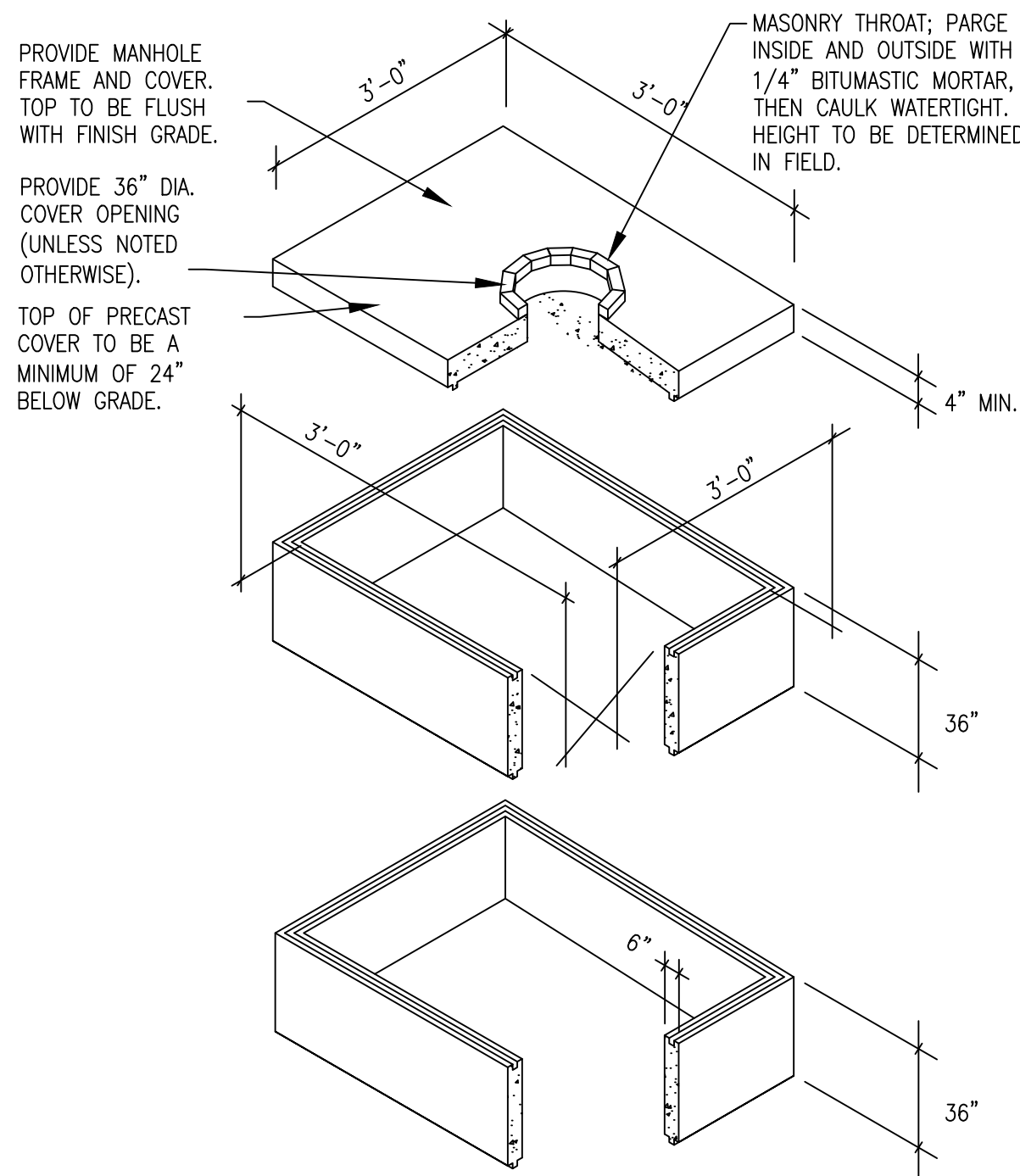


TYPICAL CONDUIT PENETRATION
NOT TO SCALE

- NOTES:
- CONDUITS NOT TERMINATING IN OR AT PULLBOXES NEED NOT RUN THROUGH PULLBOXES UNLESS REQUIRED FOR PULLING NEC.
 - INSIDE DIMENSIONS TO BE:
10 1/2" x 17 1/4"
13" x 24"
17" x 28"
 - COVER TO BE PROVIDED:
CAST IRON TRAFFIC COVER
CONCRETE PEDESTRIAN COVER
 - PULLBOX TO BE PRECAST; BROOKS, A.C. MILLER, OR HUGHES SUPPLY

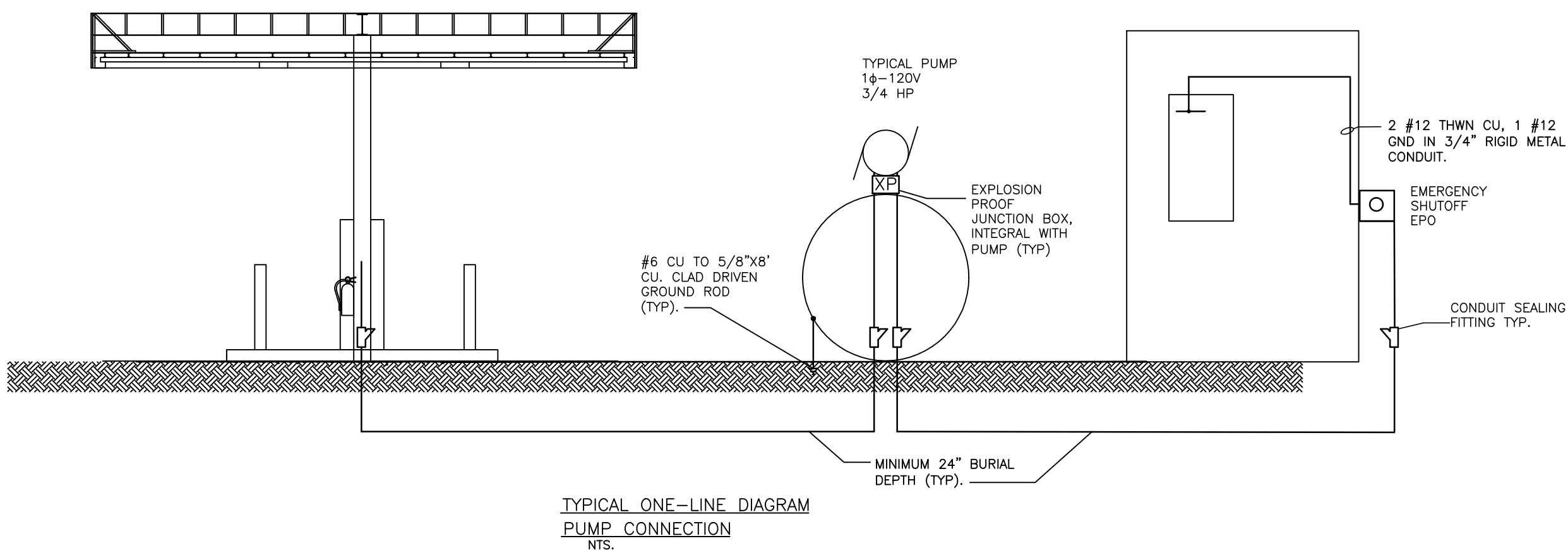


ELECTRICAL PULL BOX DETAIL
NOT TO SCALE

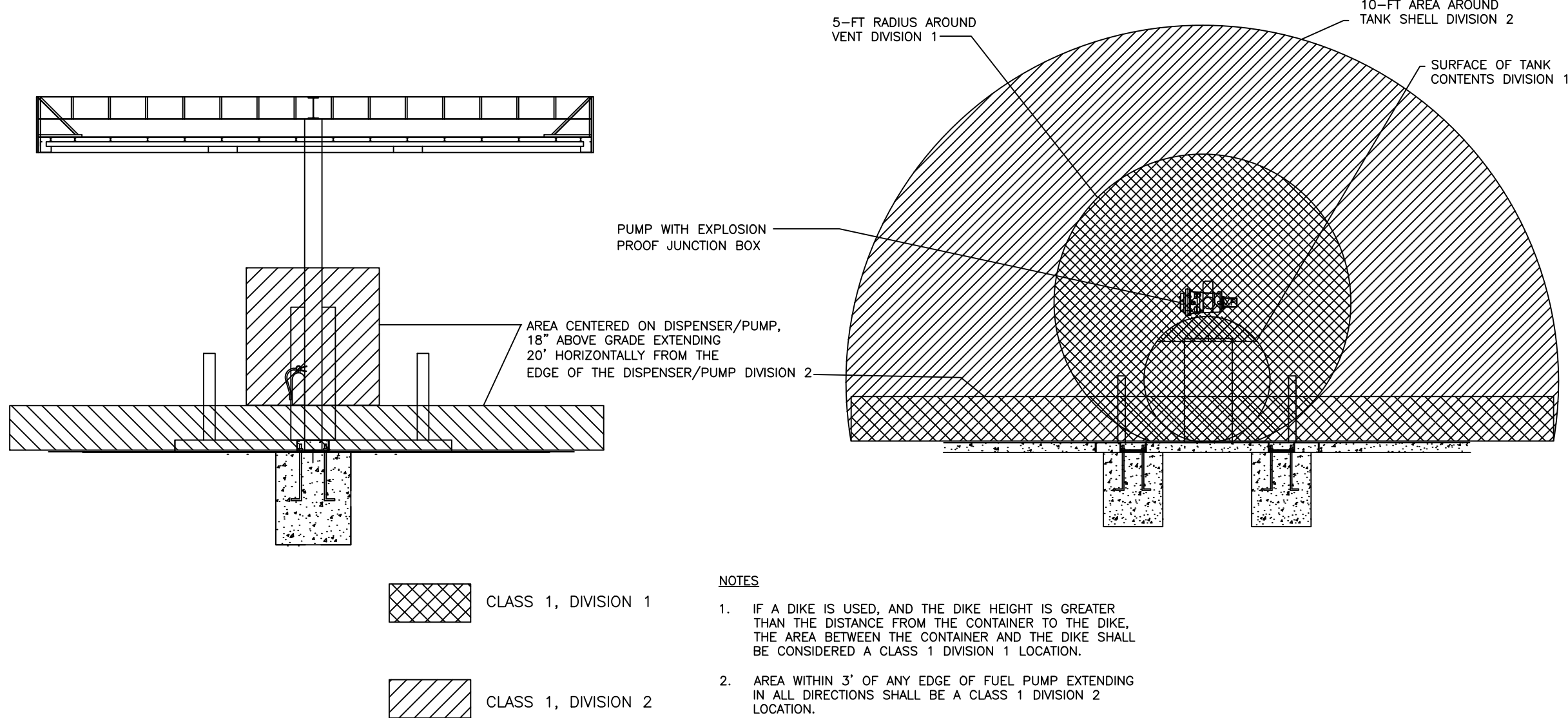


- INSTALLATION NOTES:
- REINFORCEMENT FOR H-20 BRIDGE LOADING.
 - PROVIDE KNOCKOUTS, PULLING IRONS, AND INSERTS AS REQUIRED.
 - ALL METAL SUPPORTS, CABLE RACKS, AND CABLE SHIELD TO BE CONNECTED TO GROUND ROD.
 - ALL JOINTS TO BE SEALED WATER TIGHT, COAT ALL SIDES, TOP AND BOTTOM WITH 1/4" BITUMASTIC PRIOR TO INSTALLATION.
 - ALL PENETRATIONS TO BE CAULKED WATER TIGHT.

PRECAST PULL BOX INSTALLATION DETAIL
NOT TO SCALE



- NOTES:
- EXTERIOR MOUNTED EMERGENCY SHUTOFF (EPO) SHALL BE NON FUSED WITH A NEMA 3R RATING. EPO SHALL BE MOUNTED OUT OF THE HAZARDOUS AREA, BUT NO FURTHER THAN 100 FEET FROM THE DISPENSER(S). EPO SHALL BE CAPABLE OF BEING LOCKED IN THE OPEN POSITION. EMERGENCY SHUTOFF DEVICES OR ELECTRICAL DISCONNECTS SHALL DISCONNECT POWER TO ALL DISPENSING DEVICES; TO ALL REMOTE PUMPS SERVING THE DISPENSING DEVICES; TO ALL ASSOCIATED POWER, CONTROL, AND SIGNAL CIRCUITS; AND TO ALL OTHER ELECTRICAL EQUIPMENT IN THE HAZARDOUS (CLASSIFIED) LOCATIONS SURROUNDING THE FUEL DISPENSING DEVICES.
 - THE EPO SHALL BE CLEARLY IDENTIFIED AS THE SHUTOFF FOR THE PUMP(S). EPO MUST BE CAPABLE OF DISCONNECTING ALL CIRCUIT CONDUCTORS SIMULTANEOUSLY, INCLUDING THE GROUNDING CONDUCTOR.
 - WIRING SHALL BE INSTALLED IN THREADED RIGID METAL CONDUIT OR THREADED STEEL INTERMEDIATE METAL CONDUIT. ANY PORTION OF CONDUIT INSTALLED UNDER THE HAZARDOUS AREA SHALL BE SEALED WITHIN 10 FEET OF THE POINT OF EMERGENCE. THERE SHALL BE NO UNION, COUPLING, BOX, OR FITTING BETWEEN THE CONDUIT SEAL AND THE POINT OF EMERGENCE ABOVE GRADE.
 - ALL METAL RACEWAYS AND ALL NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT SHALL BE GROUNDING AND BONDED. LOCKNUT-BUSHING AND DOUBLE LOCKNUT TYPES OF CONTACTS SHALL NOT BE DEPENDED ON FOR BONDING PURPOSES. BONDING JUMPERS WITH PROPER FITTINGS SHALL BE USED. NEC 250.92(B)(2)-(B)(4)
 - JUNCTION BOXES AT PUMPS SHALL BE RATED NEMA 3R AND NEMA 7D-EXPLOSION PROOF.



- NOTES:
- IF A DIKE IS USED, AND THE DIKE HEIGHT IS GREATER THAN THE DISTANCE FROM THE CONTAINER TO THE DIKE, THE AREA BETWEEN THE CONTAINER AND THE DIKE SHALL BE CONSIDERED A CLASS 1 DIVISION 1 LOCATION.
 - AREA WITHIN 3' OF ANY EDGE OF FUEL PUMP EXTENDING IN ALL DIRECTIONS SHALL BE A CLASS 1 DIVISION 2 LOCATION.

HAZARDOUS AREA DETAIL - CLASS 1, DIVISION 1 & 2
NOT TO SCALE

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Spectrum Design Project No.: **23181**



PROJ. MGR.: **MAR** CHECKED BY: **MAR** DRAWN BY: **CLH**

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ELECTRICAL - DETAILS

SHEET NUMBER:
E501-PW





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