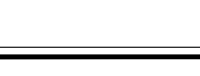
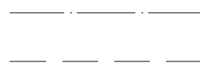
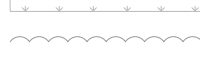
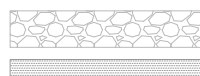
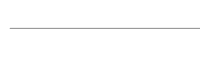
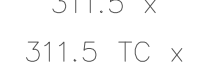
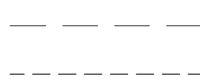
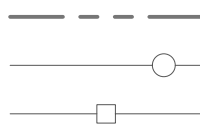
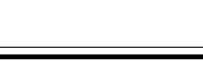
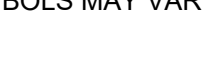
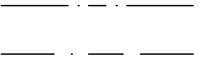
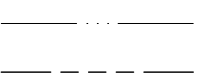
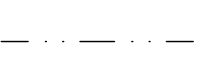
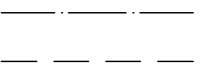
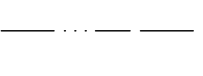
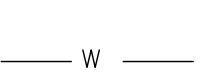
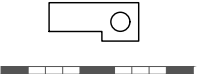
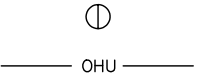
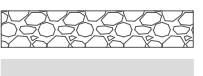
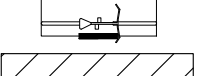
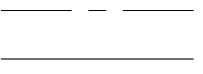
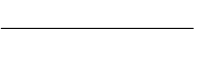
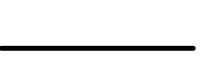
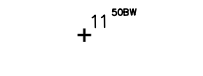
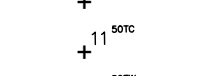
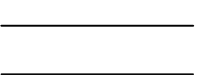


LEGEND

EXISTING



NEW



DESCRIPTION

BOUNDARIES

BENCHMARK

SITE PROPERTY LINE

ADJACENT PROPERTY LINE

BUILDING SETBACK

PARKING SETBACK

SITE TEXT

PARKING CONTOUR

TOPOGRAPHY

INDEX CONTOUR

INTERVAL CONTOUR

SPOT ELEVATION

TOP OF CURB ELEVATION

TOP OF WALL ELEVATION

BOTTOM OF WALL ELEVATION

STREAM

STREAM BUFFER

100 YEAR FLOODPLAIN

BUILDING

BUILDING

RETAINING WALL

STAIRS

EDGE OF PAVEMENT

ROAD CENTERLINE

FRONT OF CURB

BACK OF CURB

CG-12 TRUNCATED DOME

SIDEWALK

BIKE PARKING

HANDICAP ACCESSIBLE AISLE

HANDICAP PARKING

MATERIAL

CONCRETE

RIPRAP

ASPHALT

EC-2 MATTING

EC-3 MATTING

WETLAND

TREELINE

FENCE

UTILITY

UTILITY POLE

GUY WIRE

OVERHEAD UTILITY

UNDERGROUND UTILITY

STORM

STORM MANHOLE

DROP INLET

STORM SEWER

ROOF DRAIN

SANITARY

SANITARY MANHOLE

SANITARY SEWER MAIN

SANITARY SEWER LATERAL

WATER

WATER LINE

WATER SERVICE LINE (WS)

WATER METER

WATER METER VAULT

FIRE HYDRANT

FIRE DEPARTMENT CONNECTION

GAS

GAS LINE

EASEMENTS

CONSTRUCTION

GRADING

ACCESS

SIGHT DISTANCE

UTILITY

STORMWATER FACILITY MAINTENANCE

STORMWATER ACCESS

DRAINAGE

SANITARY

WATERLINE

GASLINE

NOTE:

1. THE SIZE OF THE SYMBOLS MAY VARY FROM WHAT IS SHOWN.

OWNER/DEVELOPER

999 Rio LLC
338 Rio Road W
Charlottesville, VA 22901
contact: brice.craig@craigbuilders.com

PLAN PREPARATION

Shimp Engineering, P.C.
912 East High Street
Charlottesville, VA 22902
(434) 227-5140

ZONING

NMD - Neighborhood Model District
ZMA201900001 approved on March 4, 2020
ZMA202200006 approved by the Board of Supervisors on May 3, 2023

The Code of Development associated with ZMA202200006 establishes design guidelines, specific regulations, and block characteristics for the development of this property
Overlays: Entrance Corridor, Airport Impact Area

Initial site plan SDP2023-00035 approved on July 14, 2023

MAGISTERIAL DISTRICT

Rio

SOURCE OF TITLE

DB 4505 PG 218

SETBACKS

Per ZMA202200006, setbacks are provided as follows:

FRONT MINIMUM: 3'
FRONT MAXIMUM: 40'
SIDE MINIMUM: 3'
SIDE MAXIMUM: 15'
REAR MINIMUM: 3'
REAR MAXIMUM: None

SOURCE OF BOUNDARY AND TOPOGRAPHY

Boundary & topographic survey provided by:
Meridian Planning Group, LLC, March 20, 2019.

BENCHMARK

Datum for topography is NAVD 88
Visually verified by Shimp Engineering Staff on 04/13/2023

FLOODZONE

According to FEMA Flood Insurance Rate Map, effective date February 4, 2005 (Community Panel 51003C0279D), this property is not located within a Zone AE 100-year floodplain.
This site is within the Meadow Creek Watershed.
This site is not within a watershed of a public water supply.

WATER & SANITARY SERVICES

Site is served by ACSA public water and sewer.

GENERAL CONSTRUCTION NOTES

- Prior to any construction within any existing right-of-way, including connection to any existing road, a permit shall be obtained from the Virginia Department of Transportation (VDOT). This plan as drawn may not accurately reflect the requirements of the permit. Where any discrepancies occur the requirements of the permit shall govern.
- All materials and construction methods shall conform to the current specifications and standards of VDOT unless otherwise noted.
- Erosion and siltation control measures shall be provided in accordance with the approved erosion control plan and shall be installed prior to any clearing, grading or other construction.
- All slopes and disturbed areas are to be fertilized, seeded and mulched.
- The maximum allowable slope is 2:1 (horizontal:vertical). Where reasonably obtainable, lesser slopes of 3:1 or better are to be achieved.
- Paved, rip-rap or stabilization mat lined ditch may be required when in the opinion of the County Engineer or designee it is deemed necessary in order to stabilize a drainage channel.
- All traffic control signs shall conform with the Virginia Manual for Uniform Traffic Control Devices.
- Unless otherwise noted all concrete pipe shall be reinforced concrete pipe - Class III.
- All excavation for underground pipe installation must comply with OSHA Standards for the Construction Industry (29 CFR Part 1926).

GENERAL WATER & SEWER NOTES

- Work shall be subject to inspection by Albemarle County Service Authority inspectors. The Contractor will be responsible for notifying the proper service authority officials at the start of the work.
- The location of existing utilities across the line of the proposed work are not necessarily shown on the plans and where shown, are only approximately correct. The contractors shall on his own initiative locate all underground lines and structures as necessary.
- All materials and construction shall comply with the current edition of the general water and sewer construction specifications as adopted by the Albemarle County Service Authority.
- Datum for all elevations shown in National Geodetic Survey.
- The contractor shall be responsible for notifying "MISS UTILITY" (1-800-552-7001).
- All water and sewer pipes shall have a minimum of 3.5 feet of cover measured from the top of pipe, over the centerline of pipe. This includes all fire hydrant lines, service laterals and water lines, etc.
- All water and sewer appurtenances are to be located outside of roadside ditches.
- Valves on deadend lines shall be rodded to provided adequate restraint for the valve during a future extension of the line.
- Trees are not permitted in the ACSA easement.
- The contractor shall be responsible to comply with the no-lead regulation regarding brass fittings effective January 4, 2014 (Senate Bill 3874 which amends the Safe Drinking Water Act).
- All public water and sewer facilities shall be dedicated to the Albemarle County Service Authority.
- Backflow prevention is required for all connections to the water main.

RWSA GENERAL NOTES

- All materials and methods of construction shall comply with the latest version of the General Water and Sewer Design and Construction Standards - Version 1.0, adopted in December 2015, except as modified below or modified in special notes.
- RWSA shall approve all construction materials and methods of construction. A preconstruction conference shall be held with RWSA prior to the start of any work.
- The contractor shall be responsible for notifying Miss Utility (1-800-552-7001).
- RWSA Engineer (Victoria Fort at (434) 877-2970 ext. 205) shall be notified three business days prior to the start of construction.
- All work is subject to inspection by RWSA staff. No tie-ins to the existing system shall be made without coordination with and the presence of RWSA staff. No work shall be conducted on RWSA facilities on weekends or holidays without special written permission from RWSA.
- For sanitary sewer line construction: RWSA may require bypass pumping for tie-ins to the existing system. All doghouse manholes must be pressure-tested before a connection is made to the system.
- The location of existing utilities as shown on the plans is from data available at the time of design and is not necessarily complete or accurate. The Contractor shall be responsible for the verification of the location, size and depth of all existing utilities, both surface and subsurface. The Contractor shall immediately notify the Engineer of any discrepancies between the plans and field conditions. The Contractor shall use due diligence to protect all utilities and structures from damage at all times, whether shown on the plans or not. Damage to any existing utilities shall be repaired by the Contractor to the original condition at no additional cost to the Owner.
- Erosion and sediment control facilities shall not be permitted in the RWSA easement without special written permission from RWSA. No grading shall be permitted in the RWSA easement unless permitted otherwise by RWSA in writing.
- No blasting shall be permitted within 100 feet of RWSA facilities without written permission and RWSA approval of the blasting plan. Ground monitoring during blasting and a pre-blast survey may be required. For blasting within 100 feet of any operative RWSA sewerlines, bypass pumping and/or pre- and post-CCTV may be required. RWSA may also require certification from a licensed professional engineer stating that the proposed blasting will not damage any RWSA facilities. Damage to any utilities due to blasting shall be repaired by the Contractor to the original condition at no additional cost to the Owner.
- The contractor shall observe minimum separation requirements for utility crossings. When a crossing is made under an existing facility, adequate structural support shall be provided for the existing pipe. The area of the crossing shall be backfilled with compacted 57 stone to the springline of the existing pipe.
- New water main installations shall be pressure tested, chlorinated, flushed and have water samples approved prior to making any permanent connection to the public water system. Approved methods of filling and flushing new water mains will be required to prevent any contamination of the public water system.
- All easements for new RWSA facilities shall be recorded prior to placing the new facilities into service.
- No permanent structural facilities will be permitted in the RWSA easement. This includes building overhangs, retaining walls, footers for any structure, drainage structures, etc.
- Trees are not permitted in the RWSA easement.

EXISTING USE

Vacant Land

PROPOSED USE

Residential, Gross residential density: 20 du/ac
Lots 1-14: Two-Family, 2 units/building, 28 units total
Lots 15-24: Attached single-family, 10 units total

LAND USE SCHEDULE

EXISTING	Area	%
Building	3,939 SF	4.7%
Pavement	2,348 SF	2.8%
Sidewalk	0 SF	0%
Open Space	77,261 SF	92.5%
Total=	83,548 SF	(1.918 ac.)

PROPOSED	Area	%
Building	15,336 SF	18.4%
Pavement	27,353 SF	32.7%
Sidewalk	4,866 SF	5.8%
Open space	35,993 SF	43.1%
Total=	83,548 SF	(1.918 ac.)

BUILDING HEIGHT

Per ZMA202200006, maximum building height is 35'.

PARKING SCHEDULE

Two-Family units: 1 bedroom, 1.5 spaces per unit, 28 units total

= 42 spaces required
Single-Family Attached: 2 or more bedrooms, 2 spaces per unit, 10 units total
= 20 spaces required

Total:	62 spaces required
	62 spaces provided

FIRE FLOW

Total estimated flow is 3,526 gpm. Ten-pound drop for a Q20 could not be achieved at the time of hydrant flow test. ISO needed fire flow is 1,500 gpm.

RECREATION

Recreational area shall comply with conditions of approved ZMA20220006. The site shall provide amenity area no less than 20% of the total site area. Section 4.16 of the Albemarle County Zoning Ordinance shall apply to all recreational facilities. 16,710 SF required, 18,666 SF provided

SIGNS

All signs and pavement markings shall conform with the latest edition of the MUTCD Guidelines.
A sign permit must be issued in accordance with the Albemarle County Sign Regulations prior to placement of any signs on-site.
Contractor shall provide handicap signs as shown on plan.

GENERAL NOTES

- The information and data shown or indicated with respect to the existing underground utilities at or contiguous to the site are based on information and data furnished to the owner and engineer by the owners of such underground facilities or others. The owner or engineer shall not be responsible for the accuracy or completeness of such information or data. The contractor shall have full responsibility for confirming the accuracy of the data, for locating all underground utilities, for coordination of the work with owners of such underground utilities during construction, for the safety and protection thereof and repairing any damage thereto resulting from the work. All of these conditions shall be met at no additional cost to the owner. The contractor shall contact "Miss Utilities" of Virginia at 1-800-552-7001 prior to the start of work.
- When working adjacent to existing structures, poles, etc., the contractor shall use whatever methods that are necessary to protect structures from damage. Replacement of damaged structures shall be at the contractor's expense.
- The contractor shall be responsible for protecting all existing site structures from damage and coordinating work so that the owner can make necessary arrangements to modify/protect existing structures from damages.
- The contractor shall be responsible for notifying all utility owners, adjacent land owners whose property may be impacted and the Virginia Department of Transportation prior to completing any off-site work.
- Contractor shall notify and coordinate all work involving existing utilities with utility owners, at least 72 hours prior to the start of construction.
- Contractor shall immediately report any discrepancies between existing conditions and contract documents to the owner and engineer.
- Contractor shall submit for the approval of the owner submittals of all specified materials listed in the plans, to include shop drawings, manufacturer's specifications and laboratory reports. The owner's approval of submittals will be general and will not relieve the contractor from the responsibility of adherence to the contract and for any error that may exist.
- All bare areas shall be scarified, limed, fertilized, seeded and mulched.
- All trees, saplings, brush, etc. shall be removed from within the right of way and the drainage easements.
- Visibility of all mechanical equipment from the Entrance Corridor shall be eliminated.
- Retaining walls require separate building permits.
- All water service lines, sanitary laterals, and sprinkler lines must be visually inspected by the Albemarle County Building Department from the main to the structure.
- Accessible parking spaces, access aisles, and accessible route shall be installed in accordance with ICC ANSI A117.1-09.
- Where the flood level rims of plumbing fixtures are below the elevation of the manhole cover of the next upstream manhole in the public sewer, the fixtures shall be protected by a backwater valve installed in the building drain, branch of the building drain or horizontal branch serving such fixtures. Plumbing fixtures having flood level rims above the elevation of the manhole cover of the next upstream manhole in the public sewer shall not discharge through a backwater valve."
- All roof drains shall discharge in a manner not to cause a public nuisance and not over sidewalks.
- Buildings or structures built before January 1, 1985 must have an asbestos survey performed in order to apply for a demolition permit. Asbestos removal permits are required if positive for such from Albemarle County and VDOLI. Contact VDOLI for their additional requirements and permits for demolition projects and 540-562-3580x131.

VDH NOTES

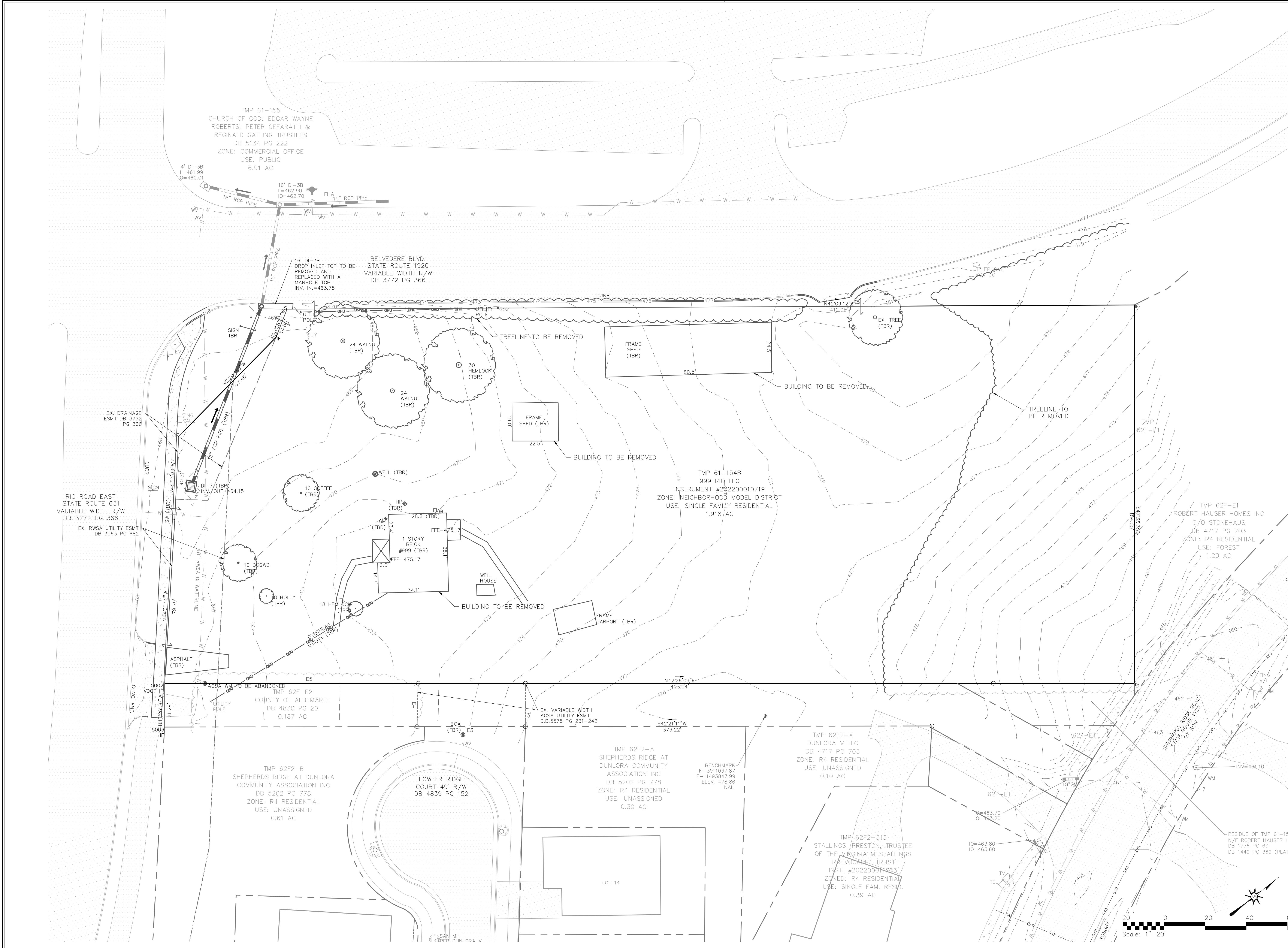
Existing wells shall be abandoned in accordance with Virginia Department of Health Private Well Regulations.

ITE TRIP GENERATION

Use Description	ITE	Qty	AM			PM			Daily Total
			In	Out	Total	In	Out	Total	
Two-Family Housing (Low-Rise)	220	28 units	8	24	32	21	12	33	255
Single-Family Attached Housing	215	10 units	1	4	5	1	1	2	26

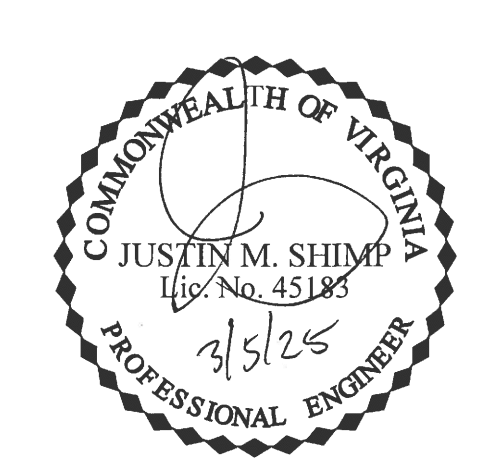
FIRE PROTECTION

During demolition and/or construction, the following fire prevention



SHIMP ENGINEERING & ARCHITECTURE
LAND PLANNING - PROJECT MANAGEMENT

912 E. HIGH ST. CHARLOTTESVILLE VA 22902 434.227.5140 JUSTIN@SHIMP-ENGINEERING.COM



FINAL SITE DEVELOPMENT PLAN
999 RIO ROAD

ALBEMARLE COUNTY, VIRGINIA
SUBMISSION:
2023.09.05

REVISION:
1) 2023.09.18 [ACSA]
2) 2024.02.29 [COUNTY COMMENTS & ACSA]
3) 2024.07.08 [COUNTY COMMENTS & ACSA]
4) 2025.03.05 [COUNTY COMMENTS]

FILE NO. 19.006

EXISTING CONDITIONS

C2

TMP 61-155
CHURCH OF GOD; EDGAR WAYNE
ROBERTS; PETER CEFARATTI &
REGINALD GATLING TRUSTEES
DB 5134 PG 222
ZONE: COMMERCIAL OFFICE
USE: PUBLIC
6.91 AC

BELVEDERE BLVD.
STATE ROUTE 1920
VARIABLE WIDTH R/W
DB 3772 PG 366

MILL & OVERLAY
APPROX. 2,474 SF
PER WP-2

RIO ROAD EAST
STATE ROUTE 631
VARIABLE WIDTH R/W
DB 3772 PG 366

281 SF
ROW
DEDICATION

EX. V.V. PUBLIC
SWM FACILITY
ESMT INSTRUMENT
#2024-10280

TMP 62F-E2
COUNTY OF ALBEMARLE
DB 4830 PG 20
0.187 AC

TMP 62F2-B
SHEPHERDS RIDGE AT DUNLORA
COMMUNITY ASSOCIATION INC
DB 5202 PG 778
ZONE: R4 RESIDENTIAL
USE: UNASSIGNED
0.61 AC

FWLER RIDGE
COURT 49' R/W
DB 4839 PG 152

EX. VARIABLE WIDTH
ACSA UTILITY ESMT
D.B.5675 PG 231-242

TMP 62F2-A
SHEPHERDS RIDGE AT
DUNLORA COMMUNITY
ASSOCIATION INC
DB 5202 PG 778
ZONE: R4 RESIDENTIAL
USE: UNASSIGNED
0.30 AC

EX. 10' TEMPORARY
GRADING ESMT
INSTRUMENT
#2024-9978
BENCHMARK
N-3911037.87
E-11493847.99
ELEV. 478.86
NAIL

TMP 62F2-X
DUNLORA V LLC
DB 4717 PG 703
ZONE: R4 RESIDENTIAL
USE: UNASSIGNED
0.10 AC

TMP 62F2-313
STALLINGS, PRESTON, TRUSTEE
OF THE VIRGINIA M. STALLINGS
IRREVOCABLE TRUST
INST. #202200011363
ZONED: R4 RESIDENTIAL
USE: SINGLE FAM. RESID.

- AFFORDABLE UNITS:
- UNIT 3 - BOTTOM UNIT (LOT 2)
 - UNIT 9 - BOTTOM UNIT (LOT 5)
 - UNIT 11 - BOTTOM UNIT (LOT 6)
 - UNIT 36 (LOT 22)
 - UNIT 37 (LOT 23)
 - UNIT 38 (LOT 24)

SHIMP
ENGINEERING &
LAND PLANNING - PROJECT MANAGEMENT

912 E. HIGH ST. 434.227.5140
CHARLOTTESVILLE VA, 22902 JUSTIN@SHIMP-ENGINEERING.COM



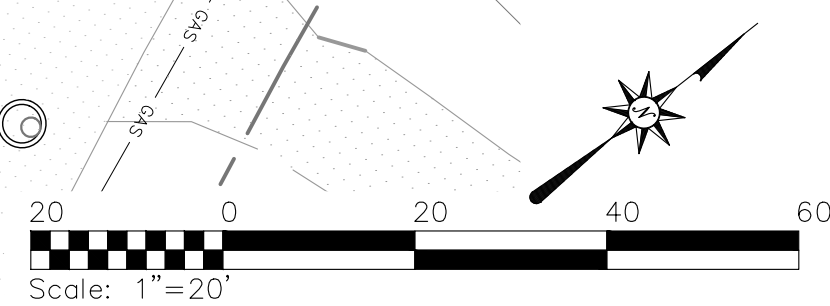
FINAL SITE DEVELOPMENT PLAN
999 RIO ROAD

ALBEMARLE COUNTY, VIRGINIA
SUBMISSION:
2023.09.05
REVISION:
1) 2023.09.18 [ACSA]
2) 2024.02.29 [COUNTY COMMENTS & ACSA]
3) 2024.07.08 [COUNTY COMMENTS & ACSA]
4) 2025.03.05 [COUNTY COMMENTS]

FILE NO. 19.006

SITE LAYOUT

C3



RWSA inspector to be on-site for any grading within the RWSA easement.

TMP 61-155
CHURCH OF GOD; EDGAR WAYNE
ROBERTS; PETER CEFARATTI &
REGINALD GATLING TRUSTEES
DB 5134 PG 222
ZONE: COMMERCIAL OFFICE
USE: PUBLIC
6.91 AC

BELVEDERE BLVD.
STATE ROUTE 1920
VARIABLE WIDTH R/W
DB 3772 PG 366

REVERSED GUTTER @5.00%
MAXIMUM SLOPE WHERE
PROPOSED CG-12 IS
LOCATED WITH 2.00%
LANDING AND FLUSH CURB

RIO ROAD EAST
STATE ROUTE 631
VARIABLE WIDTH R/W
DB 3772 PG 366

EX. V.V. PUBLIC
SWM FACILITY
ESMT INSTRUMENT
#2024-10280

TMP 62F-E2
COUNTY OF ALBEMARLE
DB 4830 PG 20
0.187 AC

TMP 62F2-B
SHEPHERDS RIDGE AT DUNLORA
COMMUNITY ASSOCIATION INC
DB 5202 PG 778
ZONE: R4 RESIDENTIAL
USE: UNASSIGNED
0.61 AC

FWLER RIDGE
COURT 49' R/W
DB 4839 PG 152

LOT 14

TMP 62F2-A
SHEPHERDS RIDGE AT
DUNLORA COMMUNITY
ASSOCIATION INC
DB 5202 PG 778
ZONE: R4 RESIDENTIAL
USE: UNASSIGNED
0.30 AC

EX. 10' TEMPORARY
GRADING ESMT
INSTRUMENT
#2024-9978
BENCHMARK
N-3911037.87
E-11493847.99
ELEV. 478.86
NAIL

TMP 62F2-X
DUNLORA V LLC
DB 4717 PG 703
ZONE: R4 RESIDENTIAL
USE: UNASSIGNED
0.10 AC

TMP 62F2-313
STALLINGS, PRESTON, TRUSTEE
OF THE VIRGINIA M. STALLINGS
IRREVOCABLE TRUST
INST. #202200011363
ZONED: R4 RESIDENTIAL
USE: SINGLE FAM. RESID.

TMP 62F-E1
ROBERT HAUSER HOMES INC
C/O STONEHAUS
DB 4717 PG 703
ZONE: R4 RESIDENTIAL
USE: FOREST
1.20 AC



FINAL SITE DEVELOPMENT PLAN
999 RIO ROAD

ALBEMARLE COUNTY, VIRGINIA

SUBMISSION:

2023.09.05

REVISION:

1) 2023.09.18 [ACSA]

2) 2024.02.29 [COUNTY COMMENTS & ACSA]

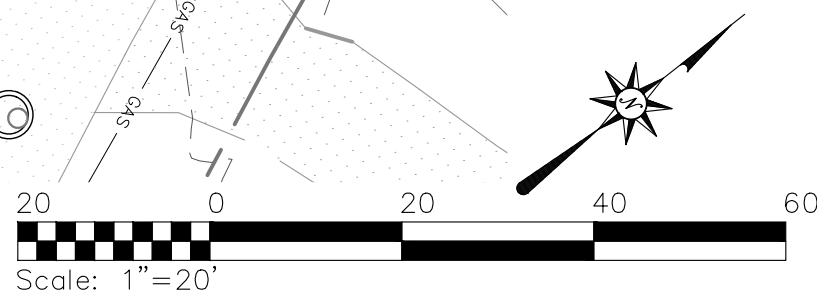
3) 2024.07.08 [COUNTY COMMENTS & ACSA]

4) 2025.03.05 [COUNTY COMMENTS]

FILE NO.

19.006

GRADING PLAN



C4

999 Rio Road							
Drainage Summary Table							
From Point	To Point	Pipe Diameter (in)	Pipe Length (ft)	Up Invert El	Down Invert El	Inv Slope %	Remarks
1	2	3	4	5	6	7	8
B2	B1	15	114.03	467.00	466.00	0.88%	B2 is a new 16-ft DI-3B B1 is a new outlet protection B2-B1 is a new RCP pipe
A4	A3	15	41.86	465.10	464.85	0.60%	A4 is a new standpipe structure A3 is a new DI-7 structure A4-A3 Pipe is a new HDPE
A3	A2	15	88.93	464.75	463.75	1.12%	A3 is a new DI-7 structure A2 is a new manhole top on existing base A3 to A2 pipe is a new RCP

ISO NEEDED FIRE FLOW DATA:

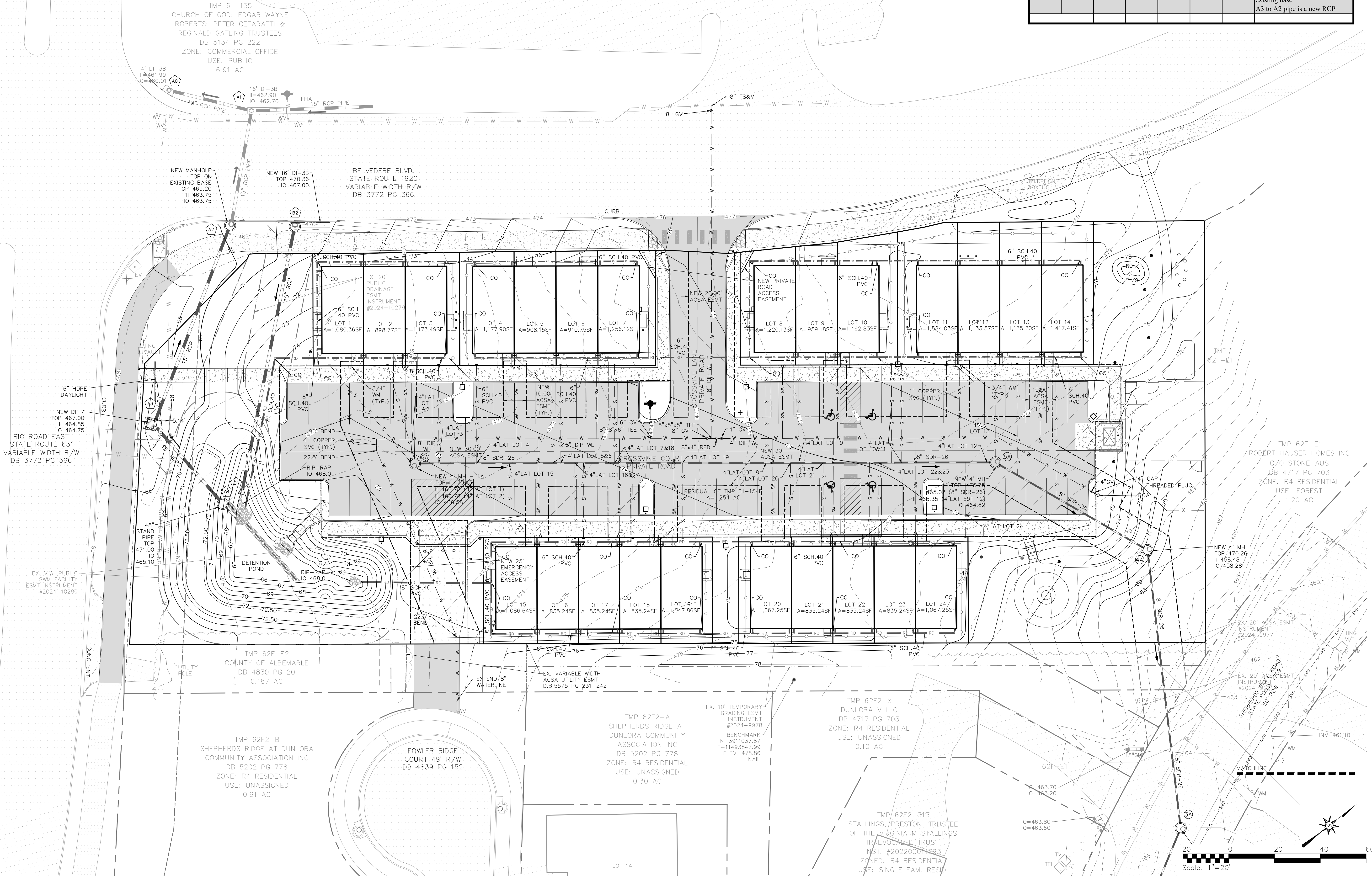
TOWNHOMES ARE CONSTRUCTION TYPE V-B WITH 3000 SF MAX FLOOR AREA PER UNIT.

ISO NEEDED FIRE FLOW = 1500 GPM

AVAILABLE FIRE FLOW = 3,526 GPM

NOTES:

- CONTRACTOR SHALL NOTIFY THE RWSA INSPECTOR DURING AND THE RWSA INSPECTOR MUST BE PRESENT DURING ALL ACTIVITIES WITHIN THE RWSA EASEMENT.
- THE RWSA INSPECTOR REQUIRES A 3 DAYS NOTICE PRIOR TO INSPECTING SITE ACTIVITIES WITHIN THE RWSA EASEMENT.



912 E. HIGH ST.
CHARLOTTESVILLE VA, 22902 JUSTIN@SHIMP-ENGINEERING.COM

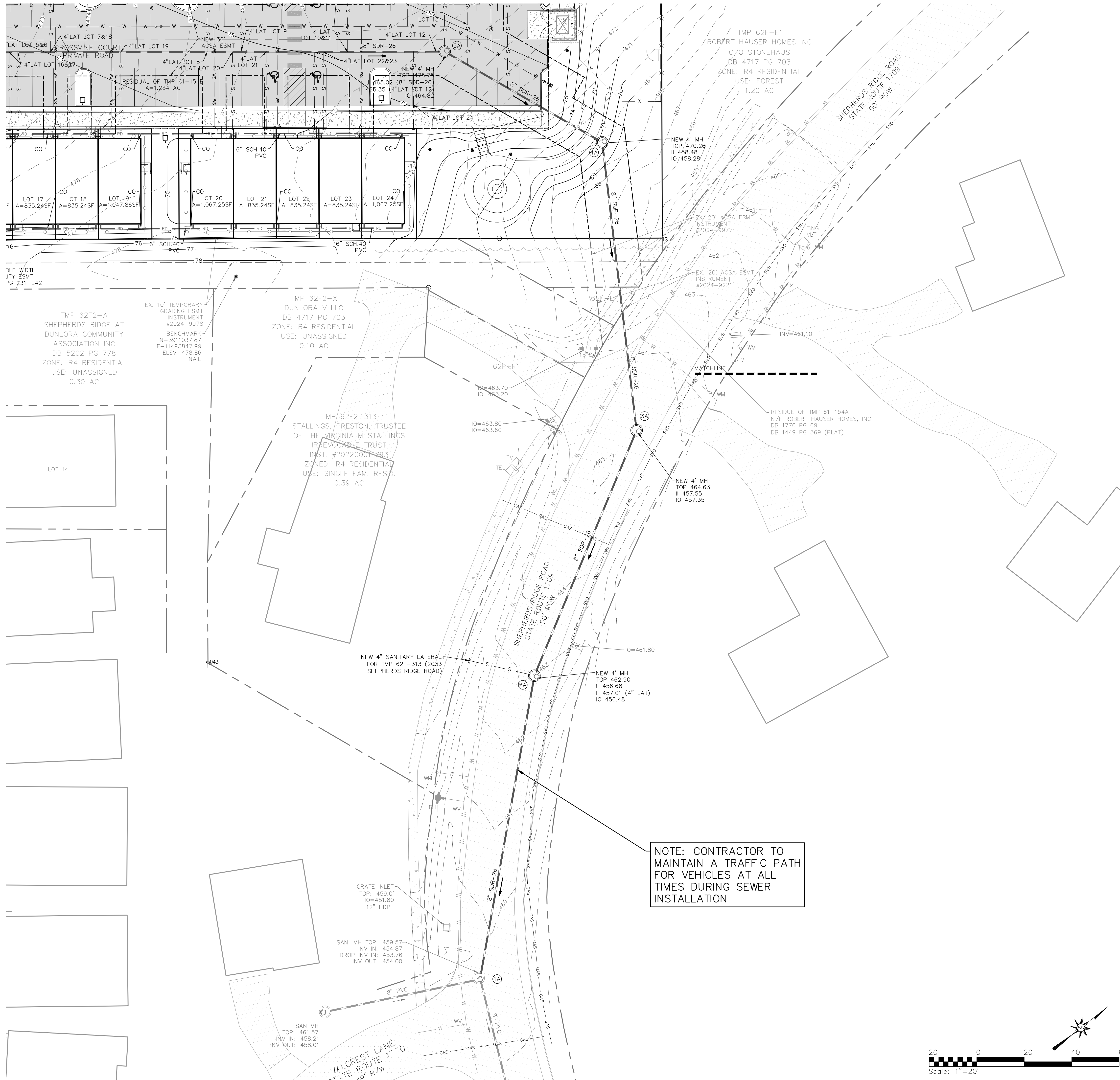


FINAL SITE DEVELOPMENT PLAN
999 RIO ROAD

ALBEMARLE COUNTY, VIRGINIA
SUBMISSION:
2023.09.05
REVISION:
1) 2023.09.18 [ACSA]
2) 2024.02.29 [COUNTY COMMENTS & ACSA]
3) 2024.07.08 [COUNTY COMMENTS & ACSA]
4) 2025.03.05 [COUNTY COMMENTS]

FILE NO. 19.006

UTILITY PLAN



SHIMP

ENGINEERING

LAND PLANNING - PROJECT MANAGEMENT

912 E. HIGH ST.

CHARLOTTESVILLE VA, 22902

434.227.5140

JUSTIN@SHIMP-ENGINEERING.COM



FINAL SITE DEVELOPMENT PLAN

999 RIO ROAD

ALBEMARLE COUNTY, VIRGINIA

SUBMISSION:

2023.09.05

REVISION:

1) 2023.09.18 [ACSA]

2) 2024.02.29 [COUNTY COMMENTS & ACSA]

3) 2024.07.08 [COUNTY COMMENTS & ACSA]

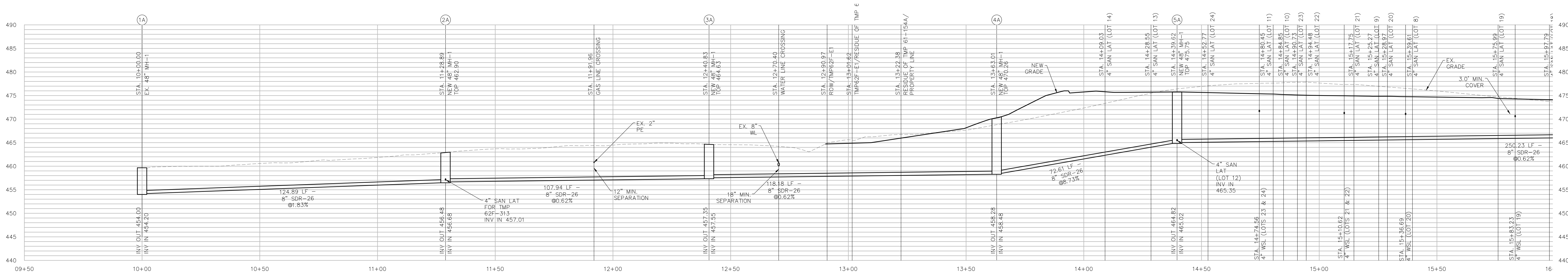
4) 2025.03.05 [COUNTY COMMENTS]

FILE NO.

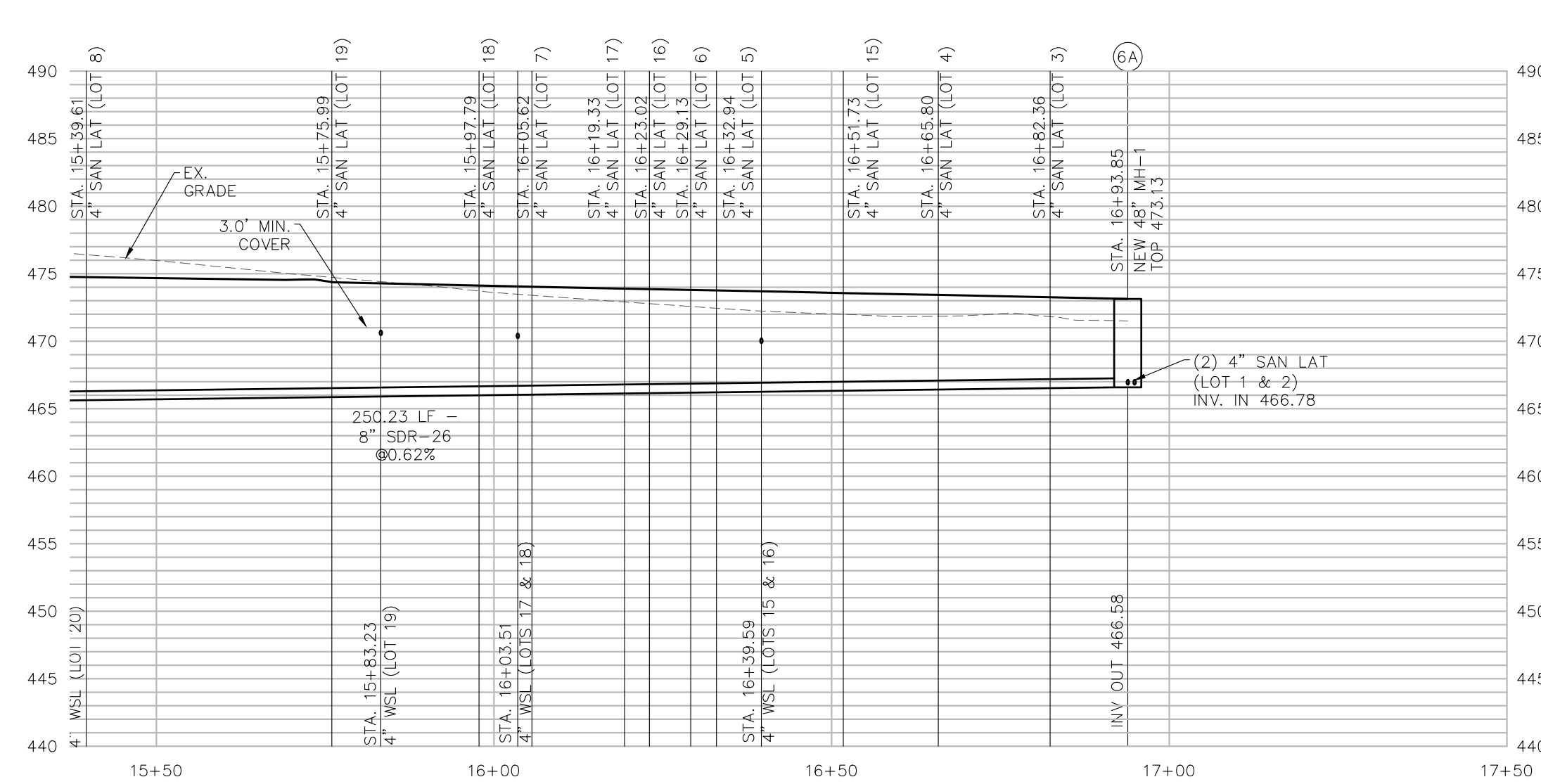
19.006

OFF-SITE SEWER CONNECTION

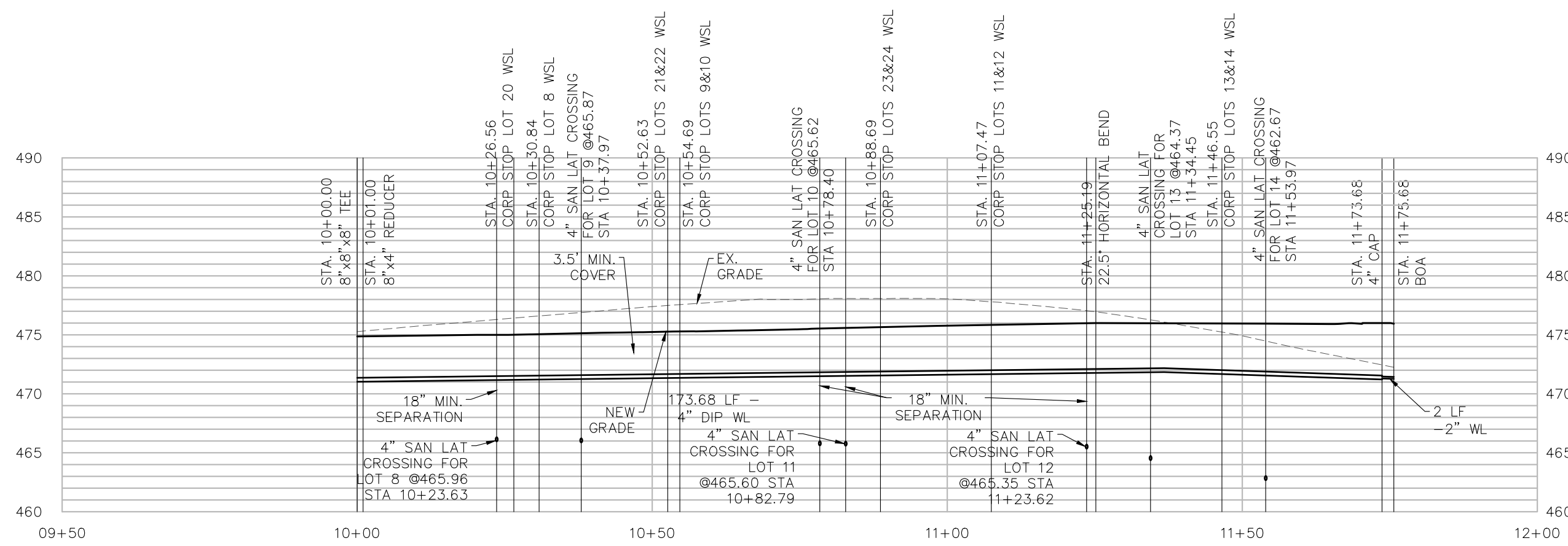
C6



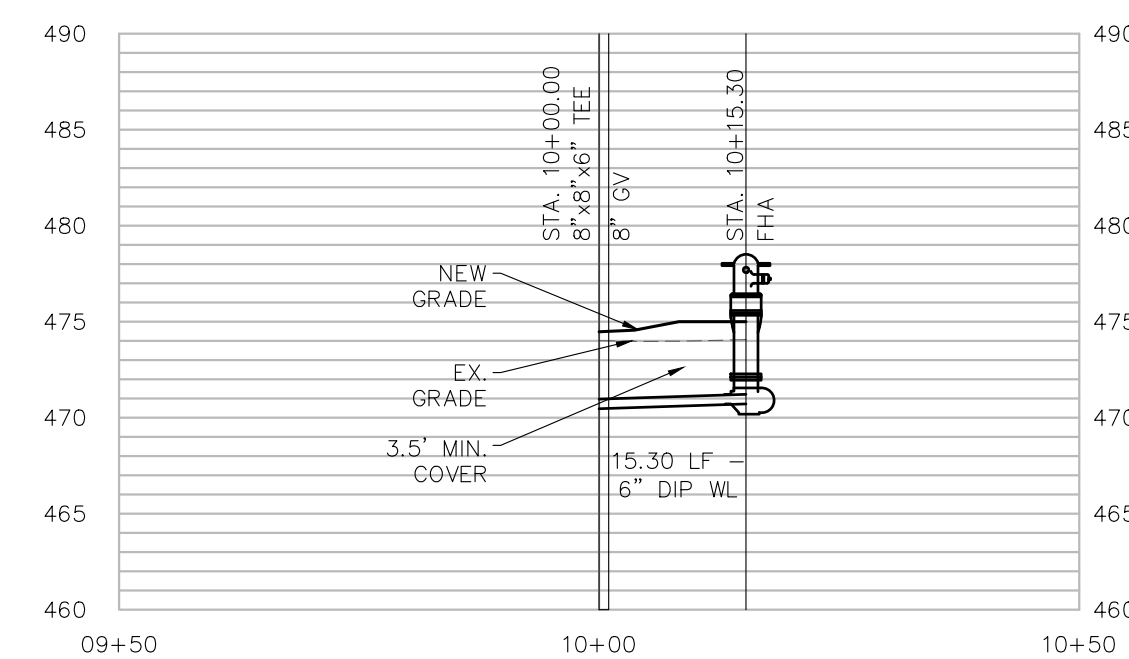
1 SANITARY SEWER PROFILE 1A-6A
C7 HORZ: 1"=20'
VERT: 1"=10'



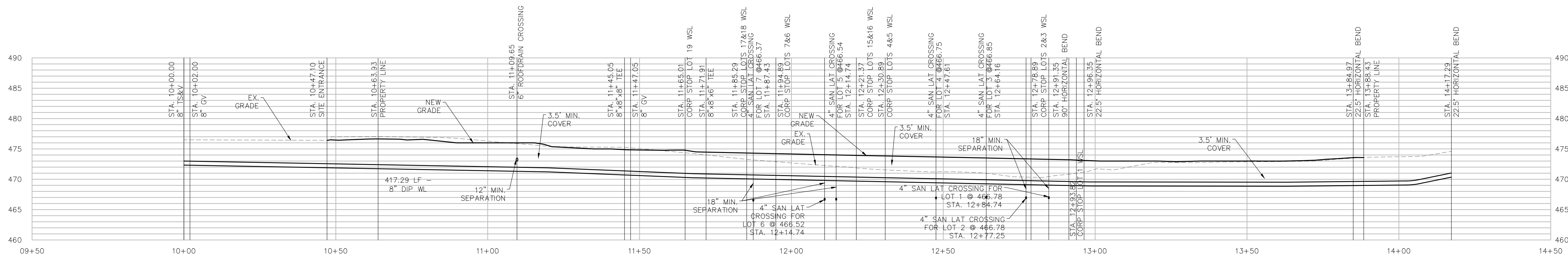
2 SANITARY SEWER PROFILE 1A-6A - CONTINUED
C7 HORZ: 1"=20'
VERT: 1"=10'



3 4" DIP WATER LINE PROFILE
C7 HORZ: 1"=20'
VERT: 1"=10'



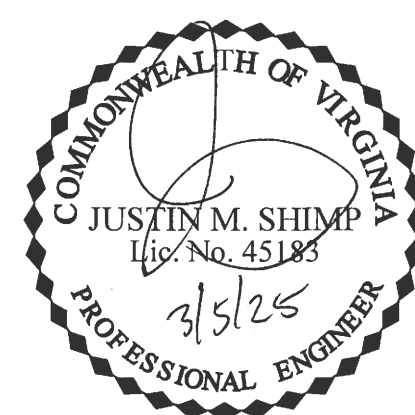
4 6" DIP WATER LINE PROFILE
C7 HORZ: 1"=20'
VERT: 1"=10'



5 8" DIP WATER LINE PROFILE
C7 HORZ: 1"=20'
VERT: 1"=10'



912 E. HIGH ST. 434.227.5140
CHARLOTTESVILLE VA, 22902 JUSTIN@SHIMP-ENGINEERING.COM



FINAL SITE DEVELOPMENT PLAN 999 RIO ROAD

ALBEMARLE COUNTY, VIRGINIA
SUBMISSION:
2023.09.05

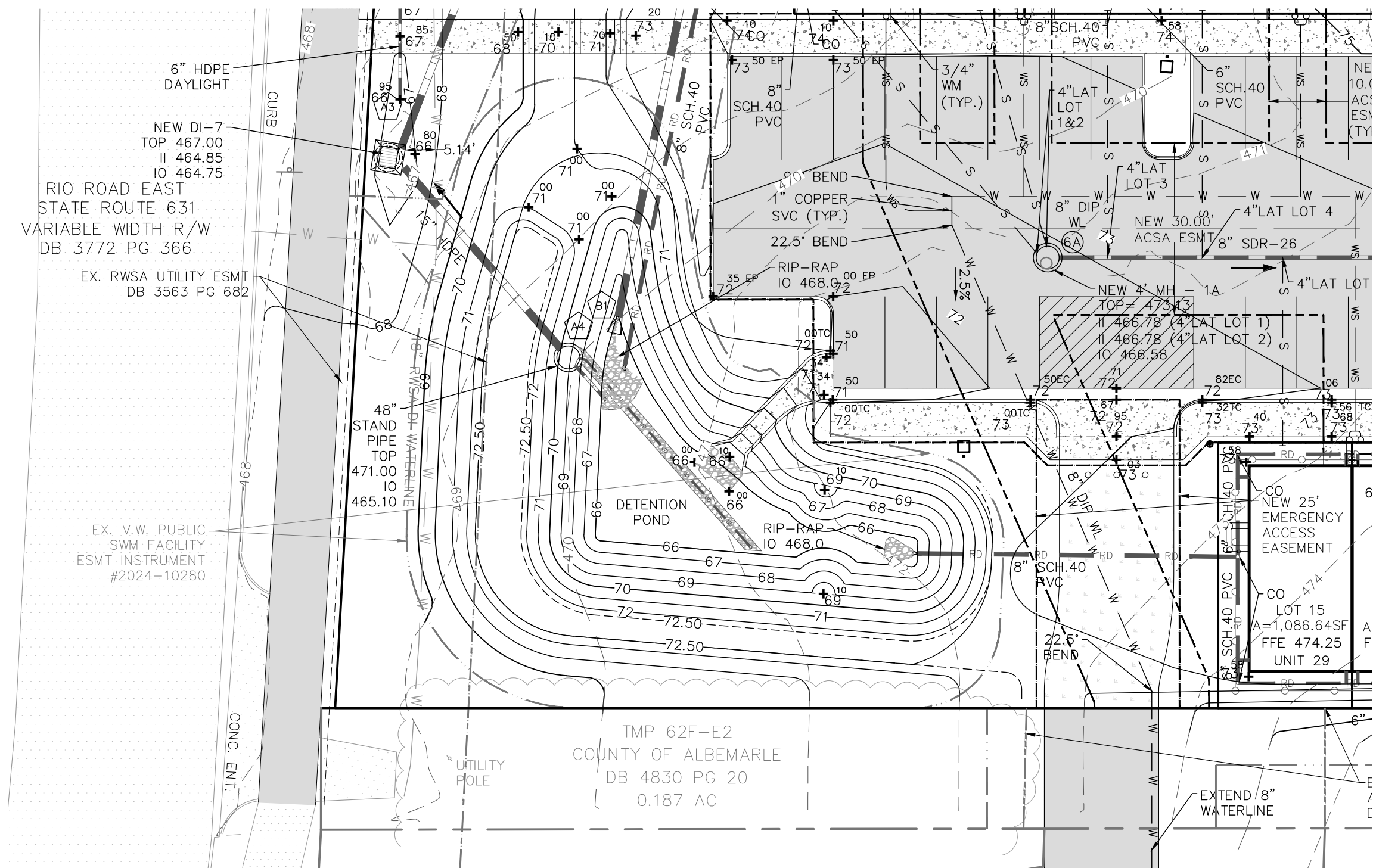
REVISION:
1) 2023.09.18 [ACSA]
2) 2024.02.29 [COUNTY COMMENTS & ACSA]
3) 2024.07.08 [COUNTY COMMENTS & ACSA]
4) 2025.03.05 [COUNTY COMMENTS]

FILE NO.

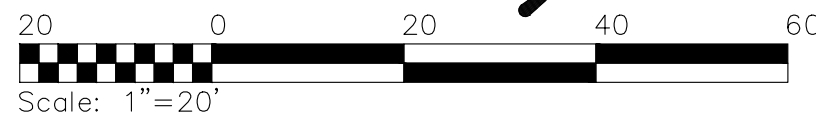
19.006

WATER & SANITARY SEWER PROFILES

C7



1 POND PLAN VIEW

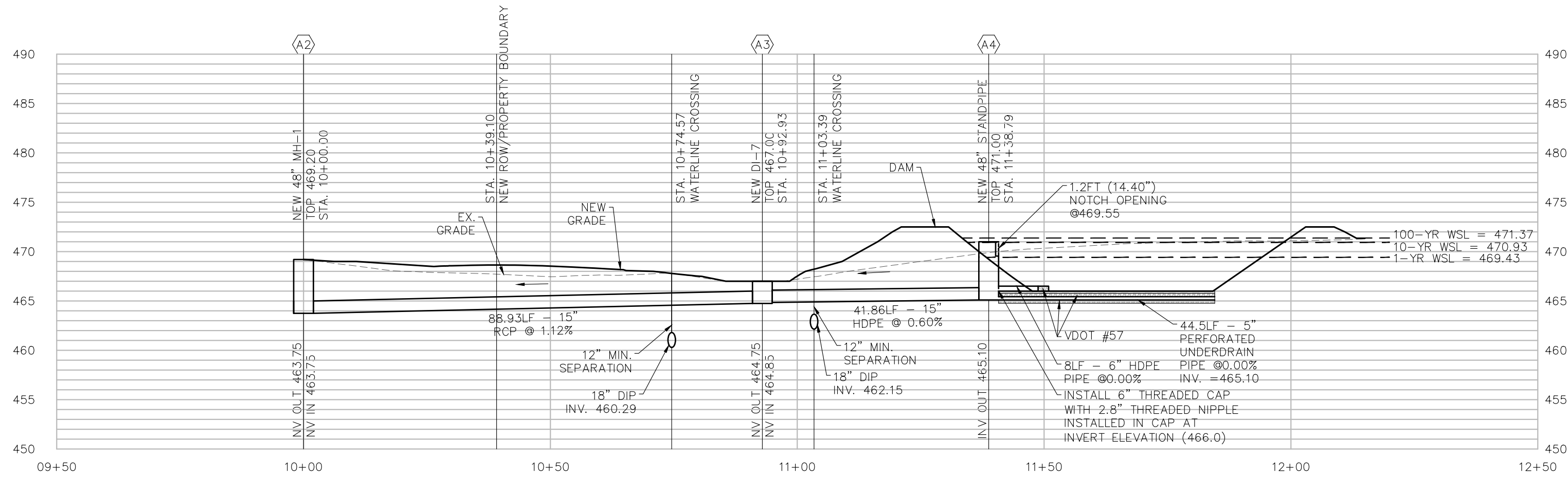


EARTH FILL NOTES

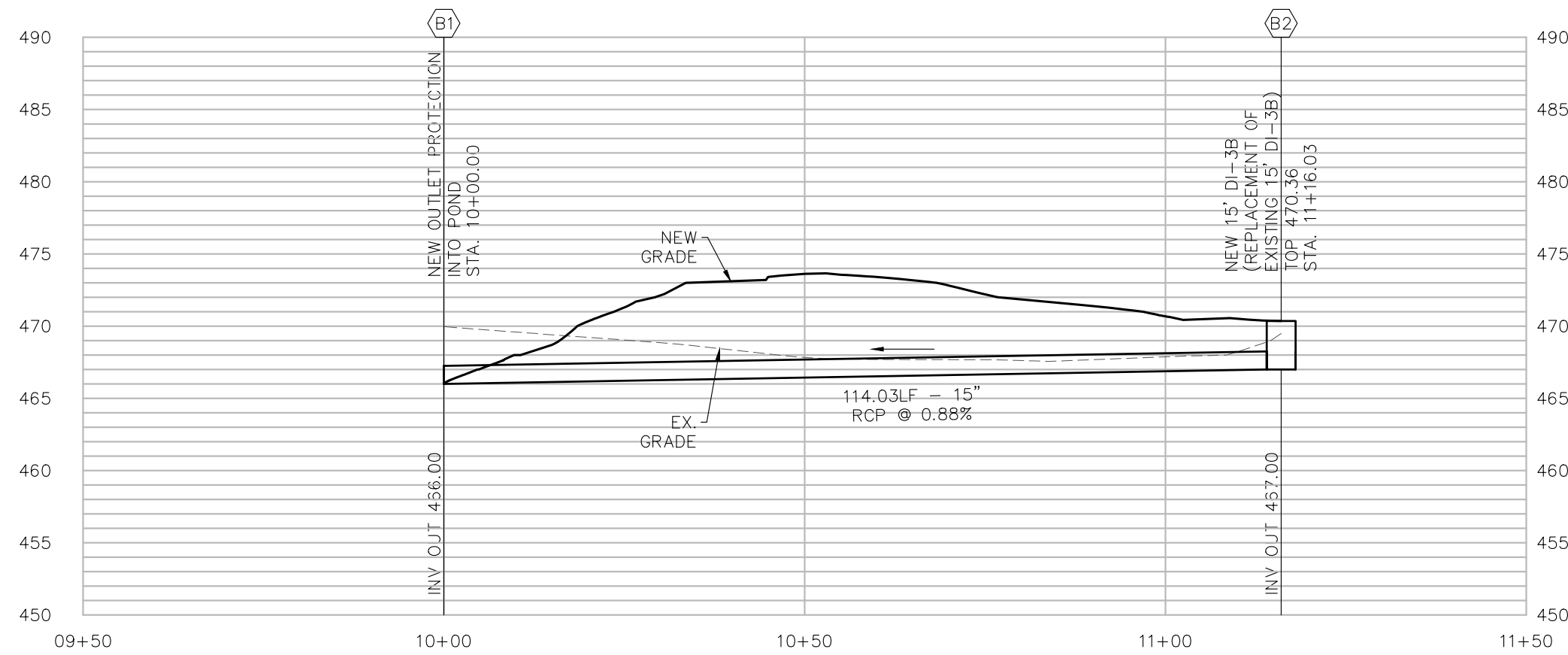
- Material** - Fill material should be taken from an approved, designated borrow area. It should be free of roots, stumps, wood, rubbish, stones greater than 6 inches, and frozen or other objectionable materials. Fill material for the center of the embankment and the cutoff trench should conform to Unified Soil Classification GC, SC, or CL. Consideration may be given to the use of other materials in the embankment based on the recommendations of a geotechnical engineer supervises the design and construction.
- Placement** - Areas on which fill is to be placed should be scarified before its placement. Fill material should be placed in layers a maximum of 8 inches thick (before compaction), which should be continuous over the entire length of the fill. The most permeable borrow material should be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.
- Compaction** - Fill material should be compacted with appropriate compaction equipment such as a sheepfoot, rubber-tired or vibratory roller. The number of required passes by the compaction equipment over the fill material may vary with soil conditions. Fill material should contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The minimum required density is 95% of maximum dry density with a moisture content within $\pm 2\%$ of the optimum, unless otherwise specified by the engineer. Each layer of the fill should be compacted as necessary to obtain minimum density and the engineer should certify, at the time of construction, that each fill layer meets the minimum density requirement. All compaction is to be determined by either Standard Proctor Test (ASTM D698) or the Modified Proctor Test (ASTM D1557) as directed by the geotechnical engineer based on site and soil conditions and the size and type of structure being built.
- Cutoff Trench** - The cutoff trench should be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The equipment used for excavation should govern the bottom width of the trench, with the minimum width being 4 feet. The depth should be at least 4 feet below existing grade or as shown on the plans. The side slopes of the trench should be 1H:1V or flatter. The backfill should be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.
- Top Soil** - The surface layer of compacted fill should be scarified prior to placement of at least 6 inches of topsoil. The topsoil shall be stabilized with in accordance with the Virginia Erosion and Sediment Control Handbook, latest edition.

NOTES

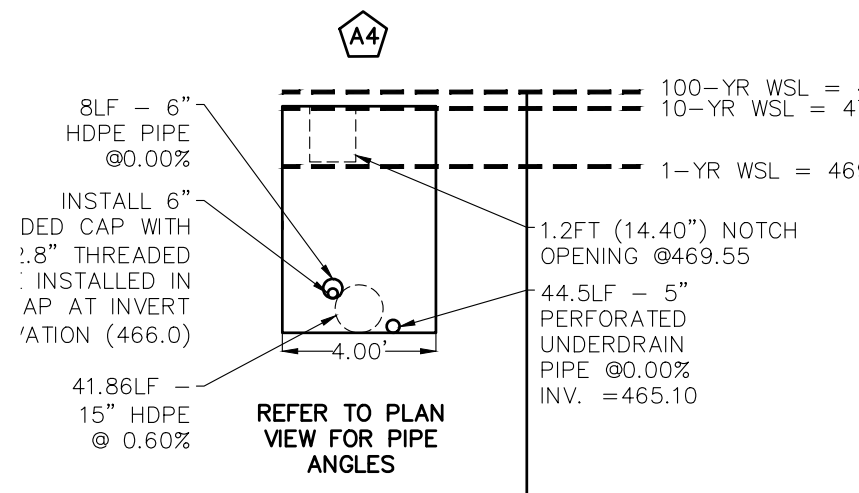
- UNDERDRAIN PIPE SHALL BE PROTECTED WITH FABRIC
- BOTTOM OF POND AREA = 770 SF @466.00 ELEVATION
- TOP OF POND AREA=3,908 SF @ ELEVATION 472.00
- 95% COMPACTION REQUIRED FOR ALL FILL BENEATH STORMWATER PIPES



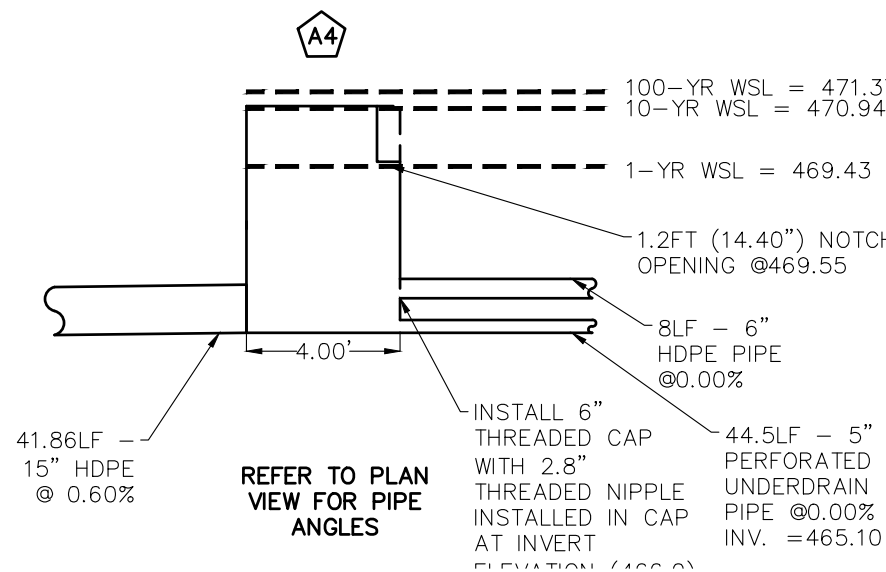
2 A2-POND STORM PROFILE
HORZ: 1"=20'
VERT: 1"=10'



3 B1-B2 STORM PROFILE
HORZ: 1"=20'
VERT: 1"=10'



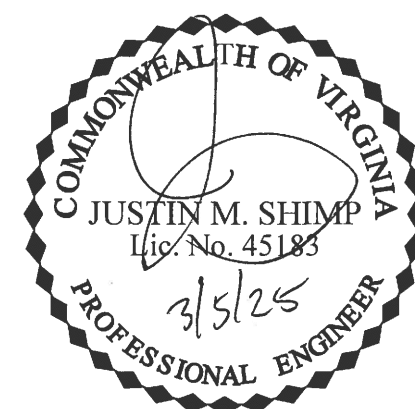
4 STR. A4 DETAIL - 1
1"=5'



5 STR. A4 DETAIL - 2
1"=5'



912 E. HIGH ST. 434.227.5140
CHARLOTTESVILLE VA, 22902 JUSTIN@SHIMP-ENGINEERING.COM



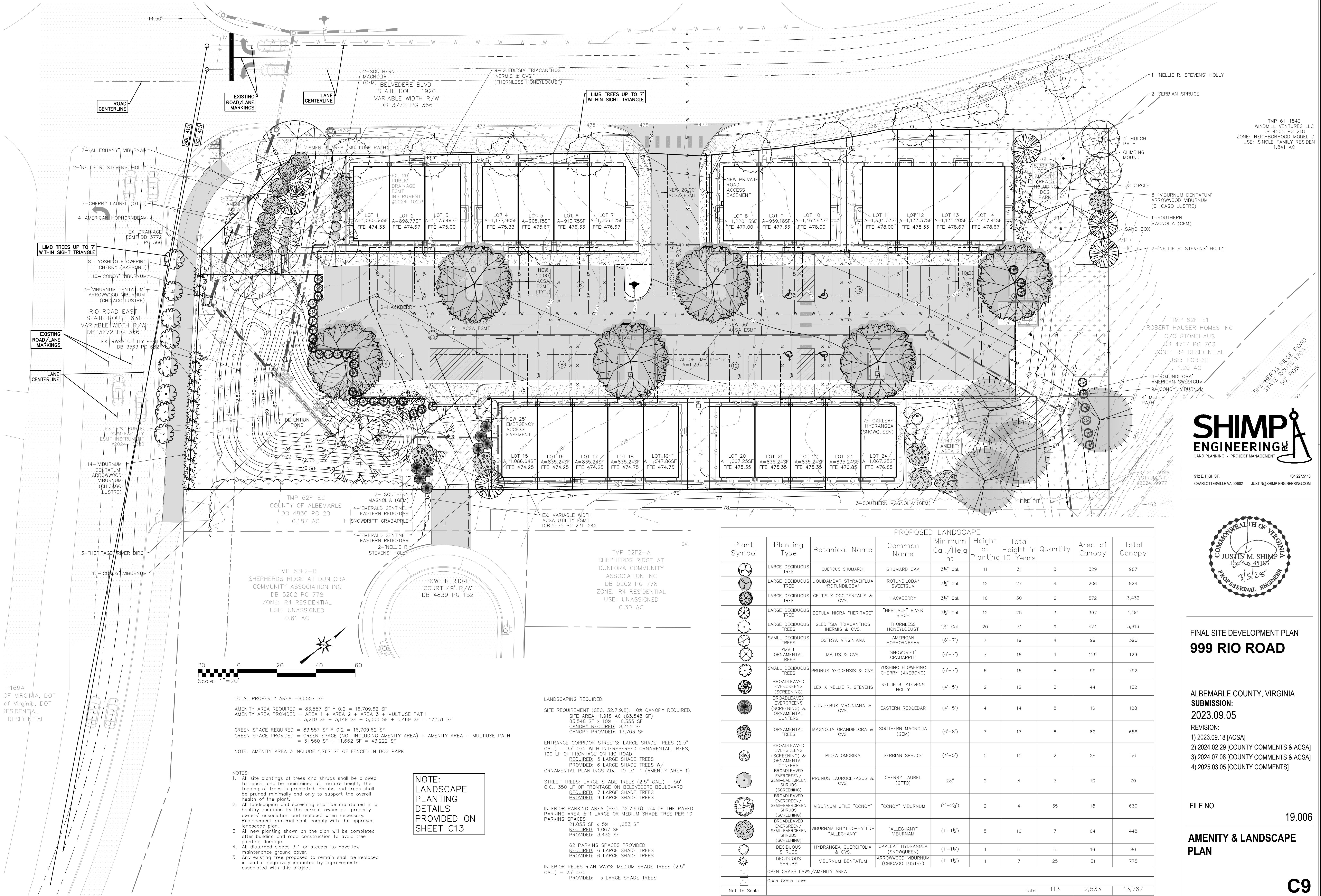
FINAL SITE DEVELOPMENT PLAN
999 RIO ROAD

ALBEMARLE COUNTY, VIRGINIA
SUBMISSION:
2023.09.05
REVISION:
1) 2023.09.18 [ACSA]
2) 2024.02.29 [COUNTY COMMENTS & ACSA]
3) 2024.07.08 [COUNTY COMMENTS & ACSA]
4) 2025.03.05 [COUNTY COMMENTS]

FILE NO. 19.006

**STORM SEWER
PROFILES**

C8



TMP 61-154B
WINDMILL VENTURES LLC
DB 4505 PG 218
ZONE: NEIGHBORHOOD MODEL D
USE: SINGLE FAMILY RESIDENT
1.841 AC

TMP 62F-E1
ROBERT HAUSER HOMES INC
C/O STONEHAUS
DB 4717 PG 703
ZONE: R4 RESIDENTIAL
USE: FOREST
1.20 AC
3- 'ROTUNDILOBA' AMERICAN SWEETGUM
9- 'CONOY' VIBURNUM
4' MULCH PATH
SHEPHERDS RIDGE ROAD
STATE ROUTE 1709
50' ROW

SHIMP ENGINEERING
LAND PLANNING - PROJECT MANAGEMENT

912 E. HIGH ST.
CHARLOTTESVILLE VA 22902

434.227.5140
JUSTIN@SHIMP-ENGINEERING.COM



FINAL SITE DEVELOPMENT PLAN
999 RIO ROAD

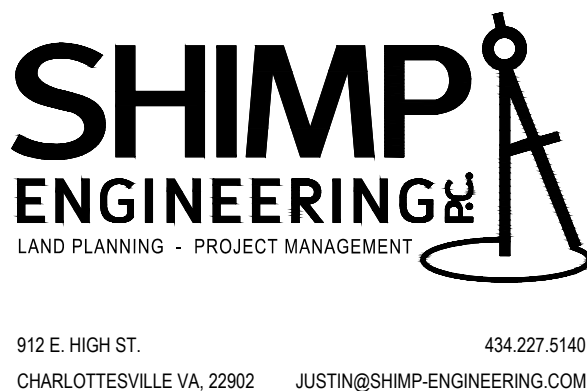
ALBEMARLE COUNTY, VIRGINIA
SUBMISSION:
2023.09.05

REVISION:

- 1) 2023.09.18 [ACSA]
- 2) 2024.02.29 [COUNTY COMMENTS & ACSA]
- 3) 2024.07.08 [COUNTY COMMENTS & ACSA]
- 4) 2025.03.05 [COUNTY COMMENTS]

FILE NO. 19.006

AMENITY & LANDSCAPE PLAN



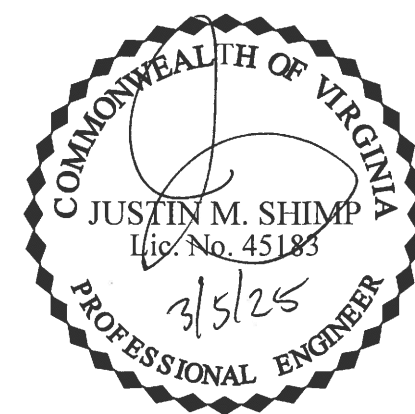
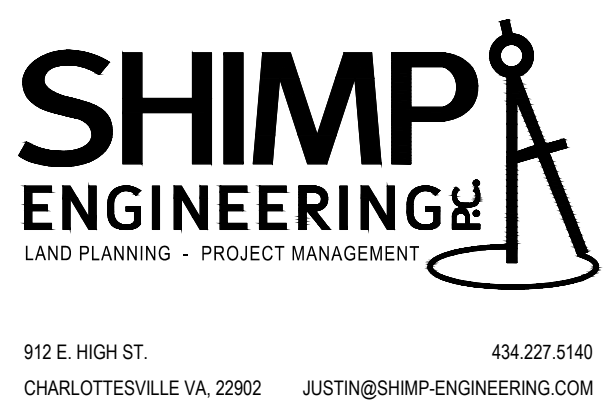
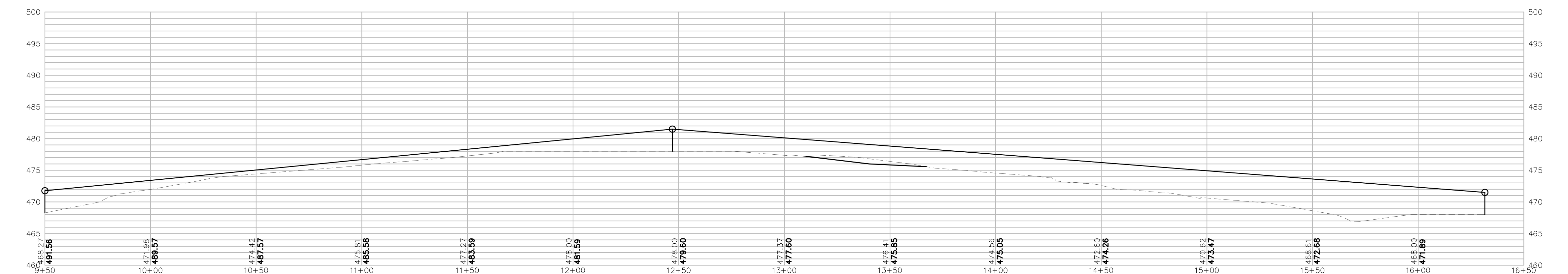
The image shows the Gardco by @ignify logo on the left. To its right is a table with three rows: 'Wall Mount', 'GeoForm', and 'GCS LED wall sconce'. Further right is a 3D rendering of the GCS LED wall sconce, a modern, curved, dark-colored light fixture. On the far right is the LEED logo.

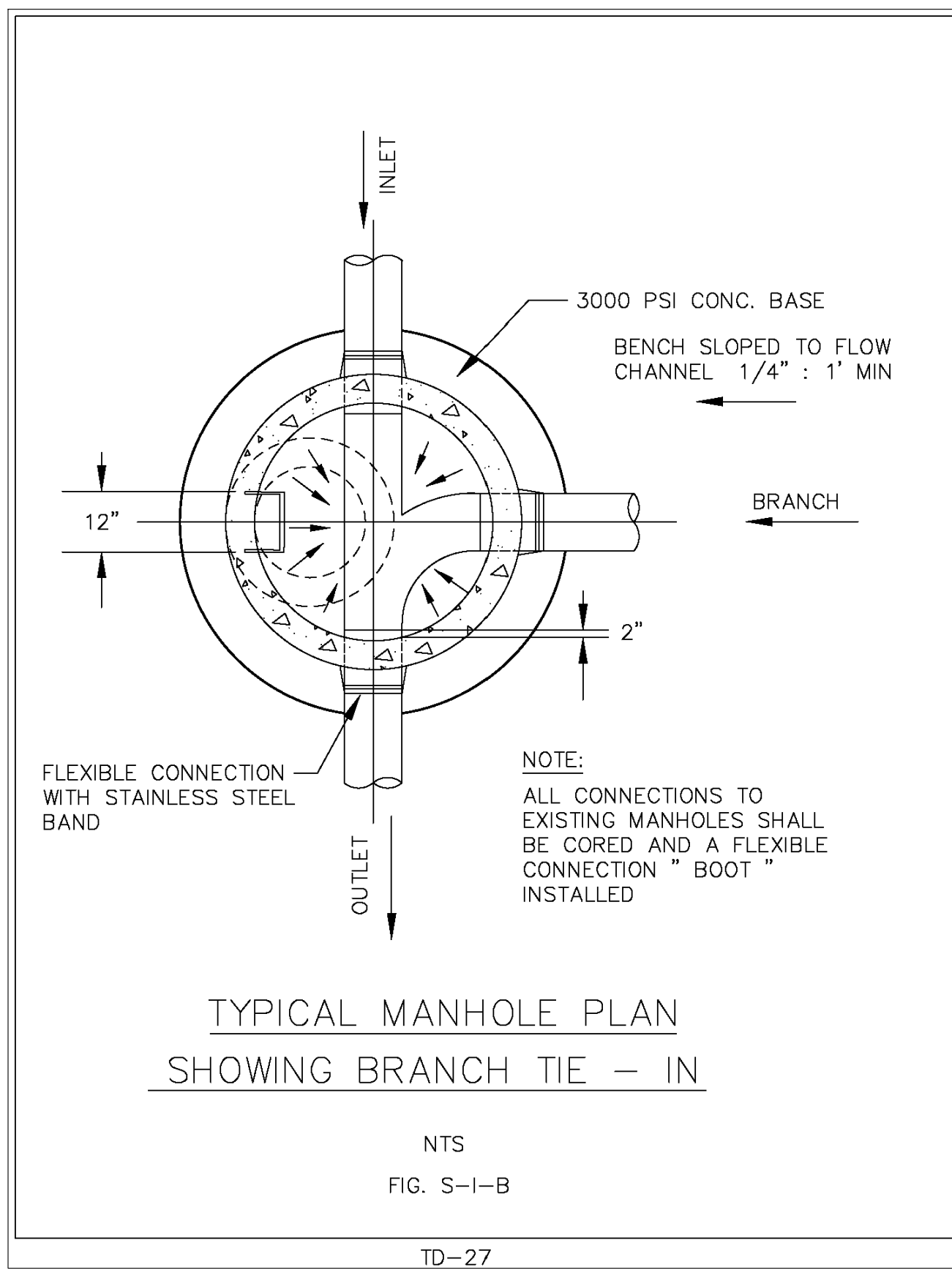
Garco GeoForm cylinder small LED wall sconce features a compact geometric design that will complement a range of architectural styles. GeoForm is available with two light engines: highly efficient precision plus optics which feature type 2, 3, and 4 distributions, as well as light effects optics which offer wall wash, spot, and pencil beam distributions. GeoForm with light effects may be inverted for a wet location uplight option. Emergency battery backup option provides path-of-egress illumination. Multiple control options, including wireless Interact Pro outdoor, further enhance energy savings.

[illegible]

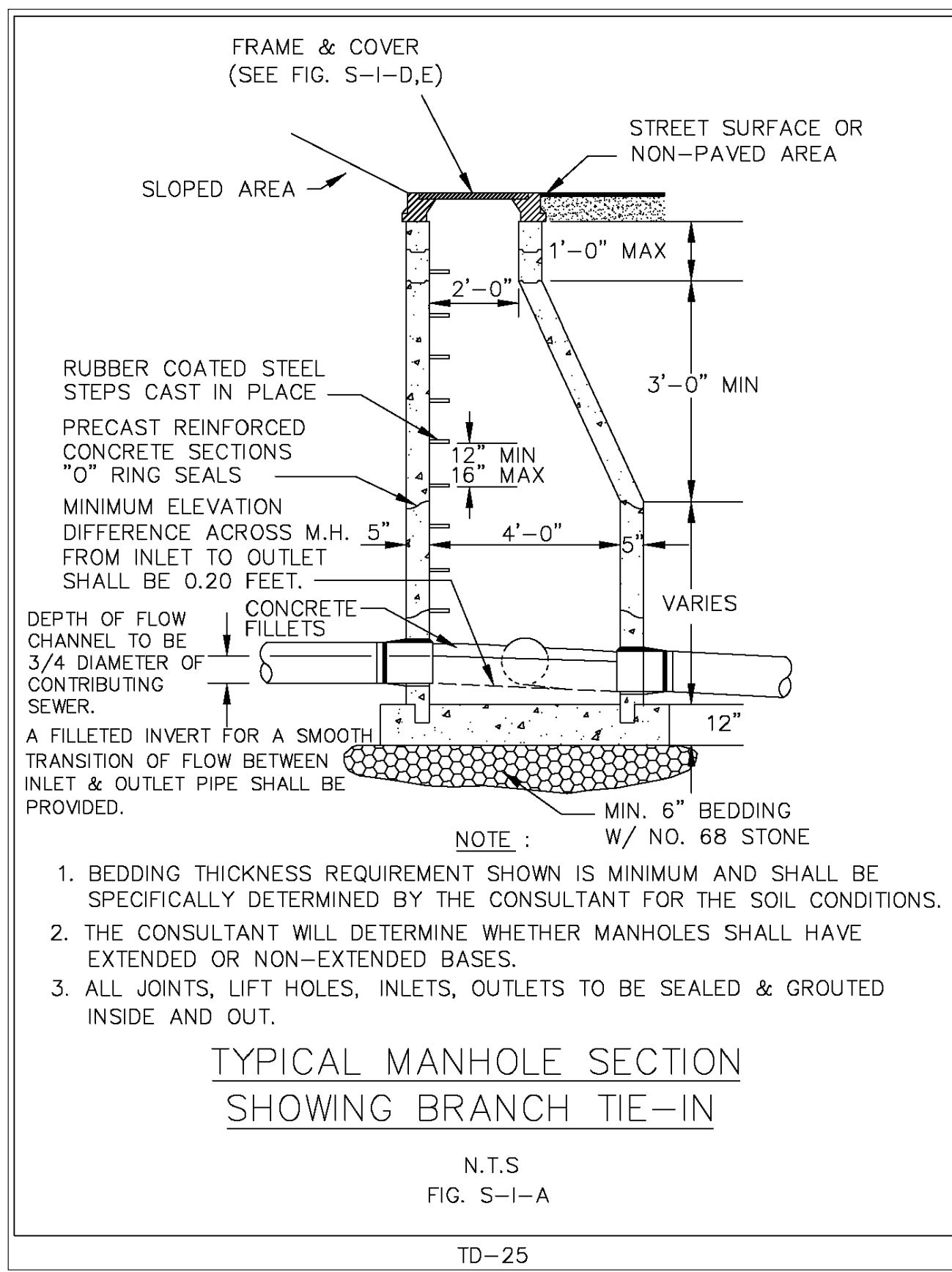
1. Only available in 120-277V or UNV.	4. 120-277V only. Luminaire must be ordered with DLEA option if using WIAP.
2. Only one option can be selected from Dimming Controls column.	5. Only available in 120-277, must specify voltage.
3. Not available with Emergency battery pack.	6. Not available with "Light Effects" B01, B02, B03.

- | Luminaire Accessories (order separately) | |
|--|--|
| WIAP-LB-GBS-(F) ¹ | InteractPro remote control module. GeoForm block small (GBS) housing, specify finish |
| WIAP-LB-GCS-(F) ¹ | InteractPro remote control module. GeoForm cylinder small (GCS) housing, specify finish |
| GF-WB-8K | Wall Mounted Box for surface conduit, painted black |
| GF-INV | Inversion Mounting kit (required with inverted mounting) |
| IRTP015 | Handheld remote for grouping and configuration of wireless Interact Pro (WIAP).
At least one required per site. |

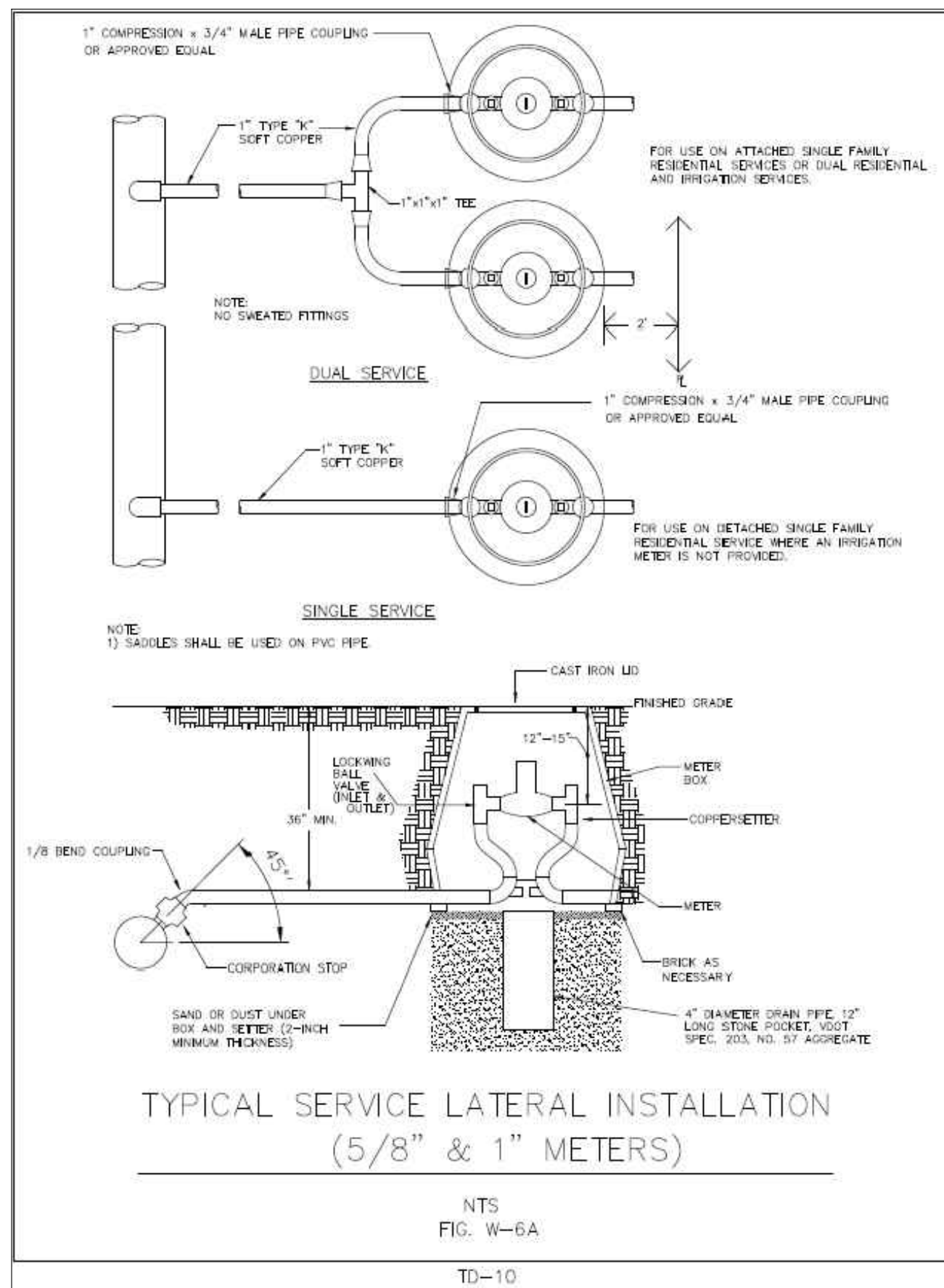




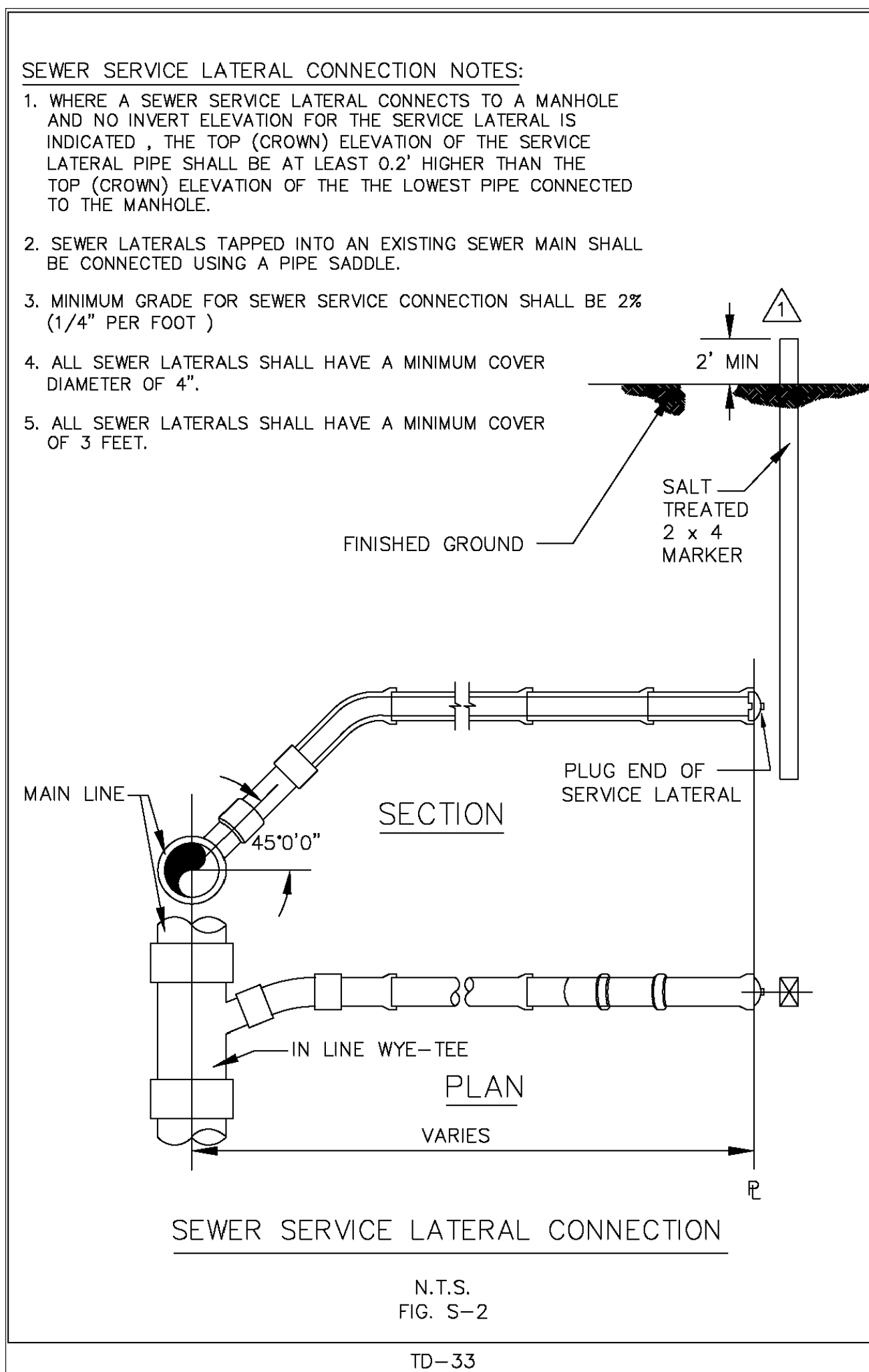
1 ACSA: TYPICAL MH TIE IN PLAN VIEW
C12 NOT TO SCALE



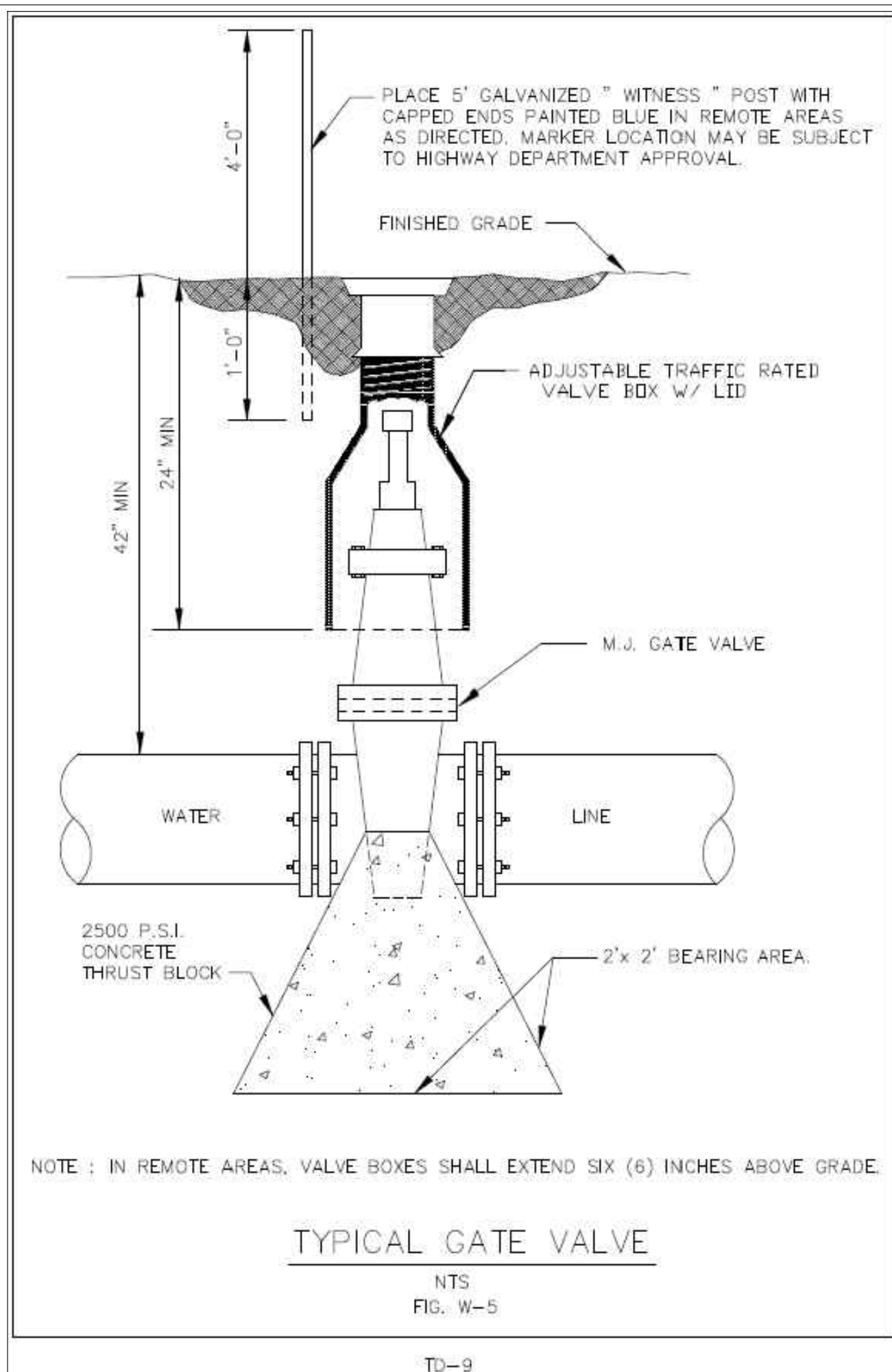
3 ACSA: TYP. MANHOLE SECTION BRANCH TIE-IN
C12 NOT TO SCALE



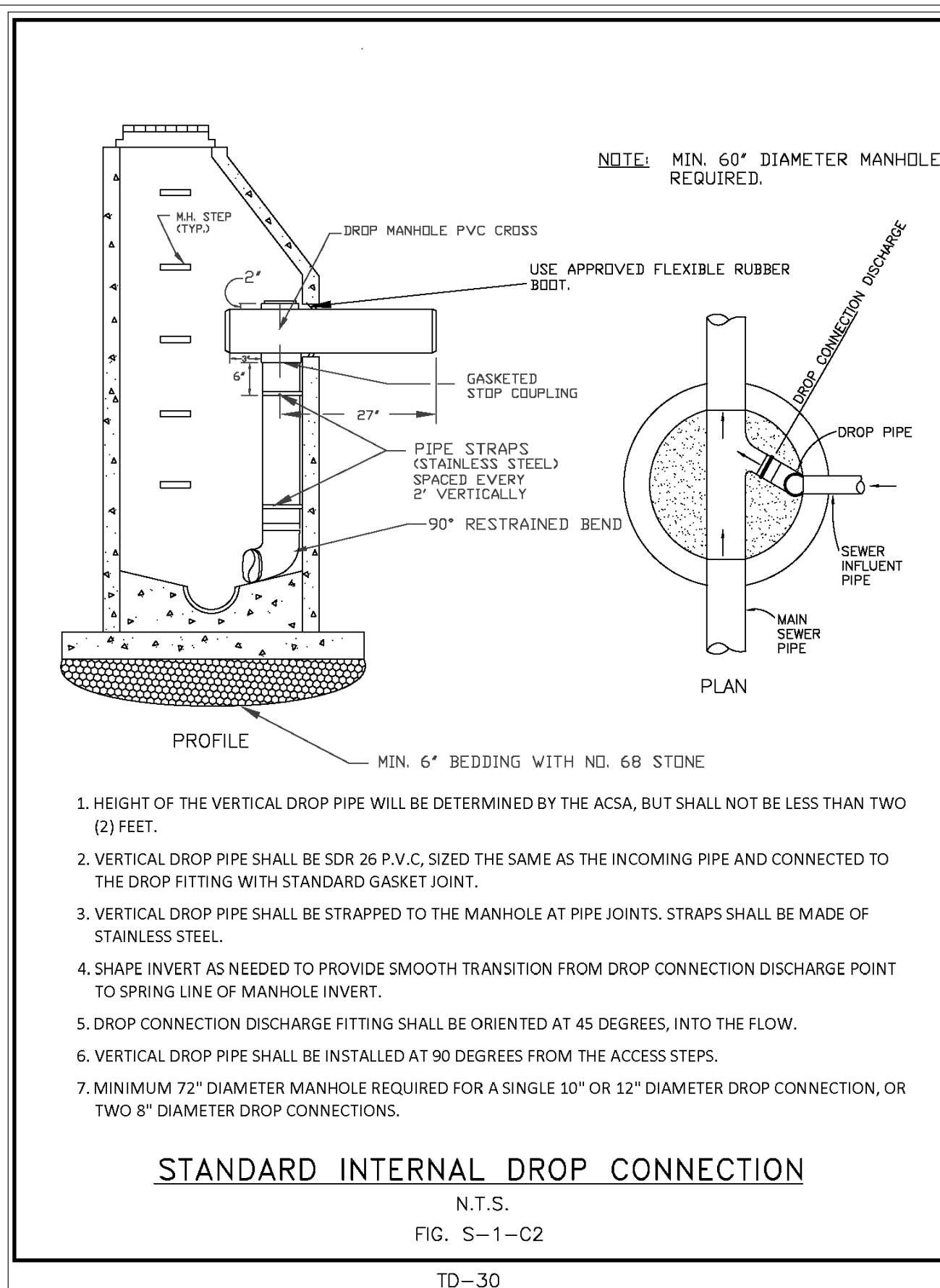
5 ACSA: TYP. SERVICE LATERAL INSTALLATION
C12 NOT TO SCALE



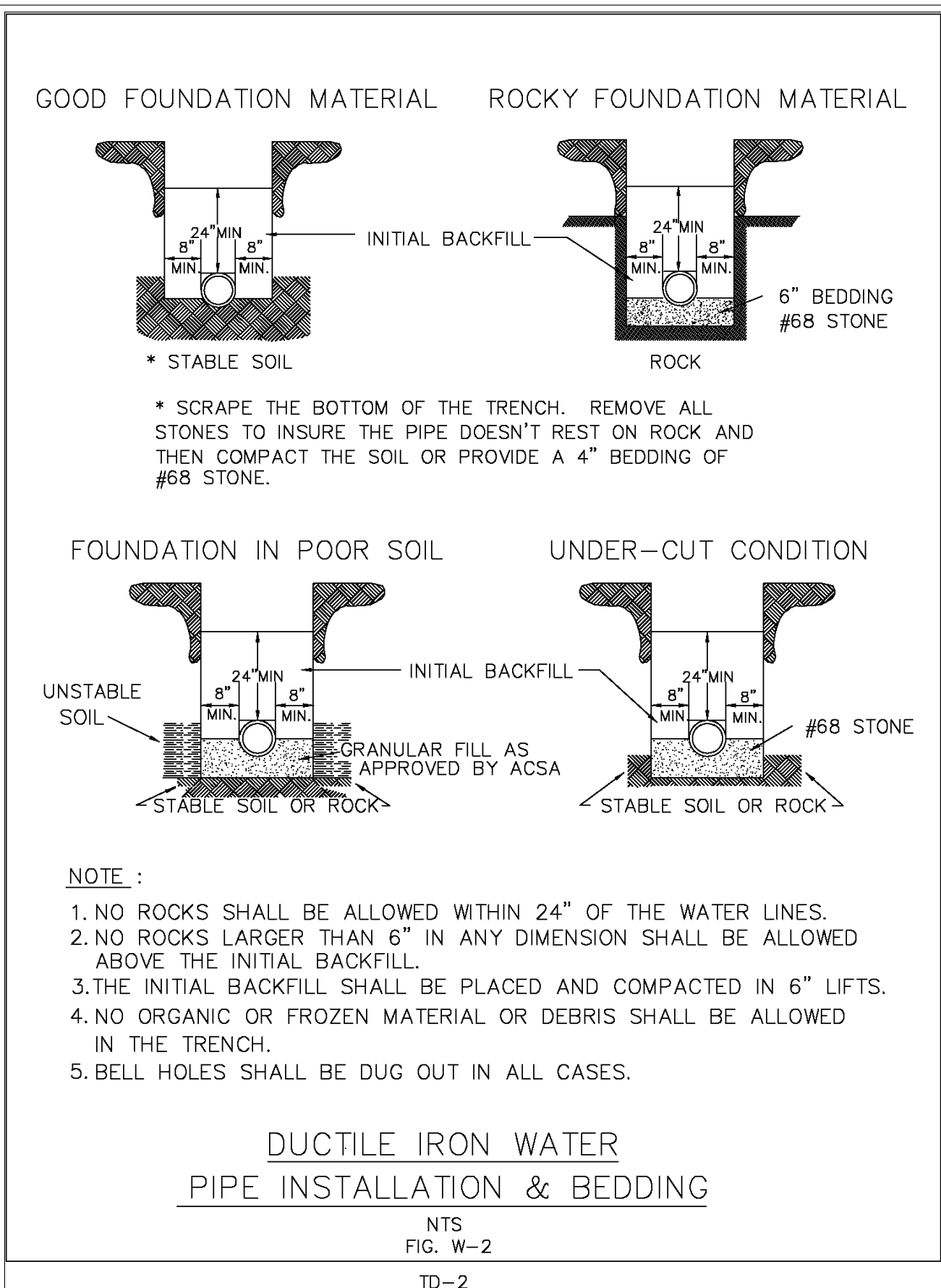
7 ACSA: SEWER LATERAL CONNECTION
C12 NOT TO SCALE



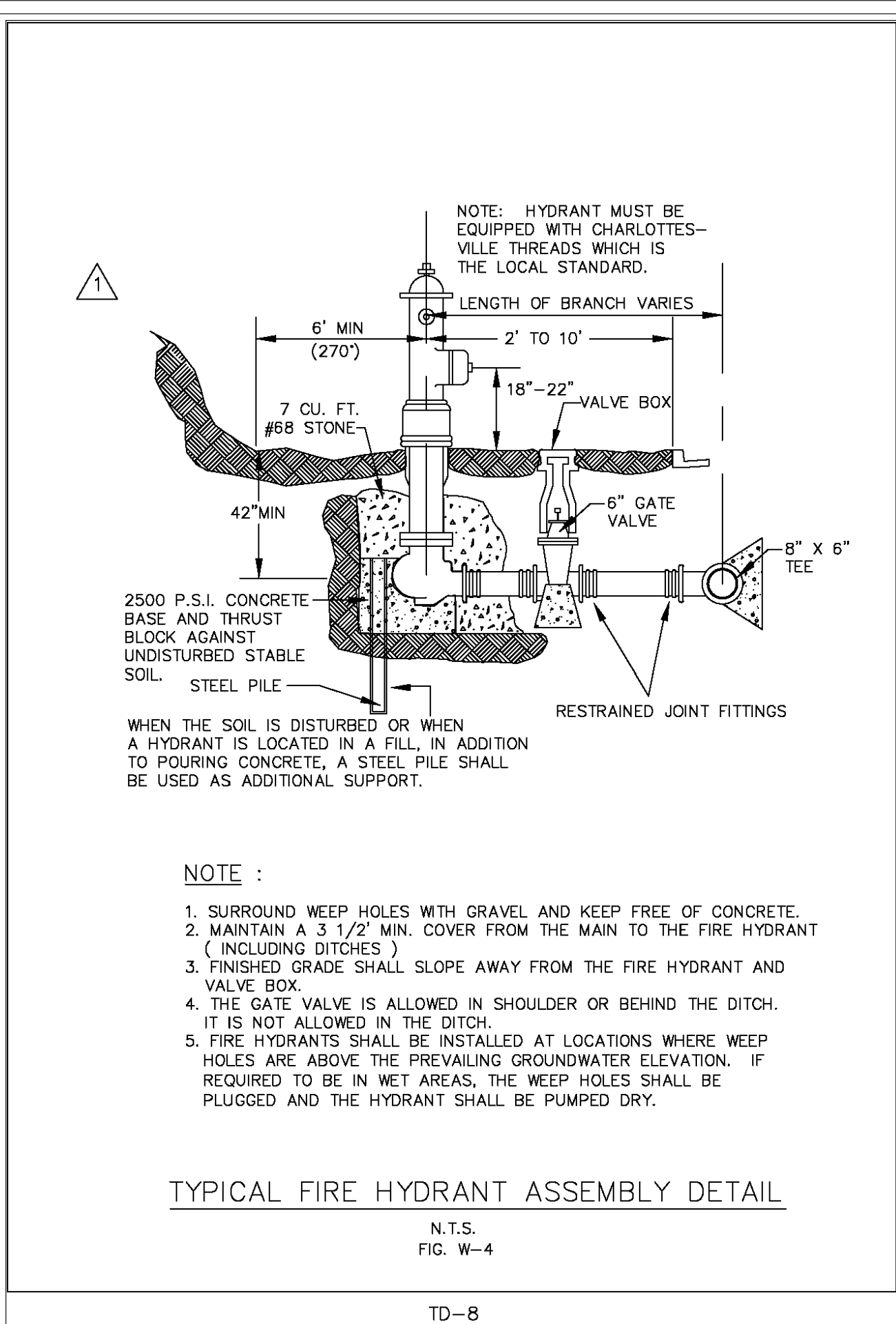
2 ACSA: GATE VALVE (TYP.)
C12 NOT TO SCALE



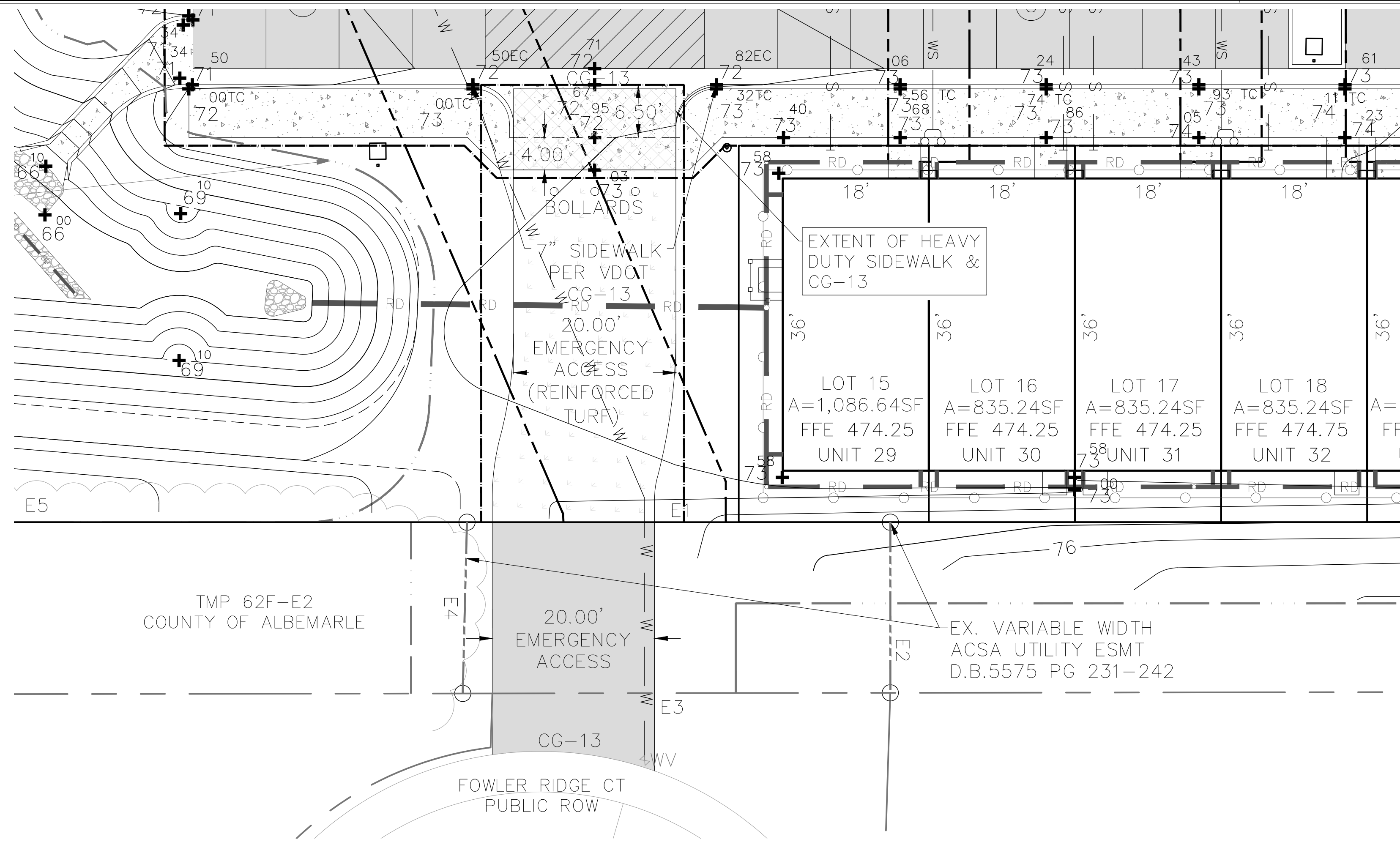
4 ACSA: INTERNAL DROP CONNECTION
C12 NOT TO SCALE



6 ACSA: DIP INSTALLATION
C12 NOT TO SCALE



8 ACSA: FIRE HYDRANT ASSEMBLY
C12 NOT TO SCALE



1 EMERGENCY ACCESS LAYOUT DETAIL
C13 SCALE: 1"=10'



Based on the evaluation, the following materials are recommended for the Geoweb application at the site. We assumed a heavier axle loading to account for construction traffic on the road.

- Prepare sub-grade to a minimum CBR of 6.0%.
- Provide a 4800 Bask enhanced woven geotextile separation layer on top of the sub-grade and install in accordance with Manufacturer instructions including overlaps based on sub-grade CBR.
- Presto Geoweb GWO30V5 (8 - inch) panels filled with Engineered Fill.
- Engineered infill shall be a mix of topsoil and aggregate having a homogeneous mixture of a clear crushed aggregate having an AASHTO #5 or similar designation blended with pulverized topsoil and a minimum 30% void space for air and/or water. The aggregate portion shall have a particle range from 0.375 to 1.0 inches (9.5 to 25 mm) with a D_{50} of 0.5 inches (13 mm). The pulverized topsoil portion shall equal 25% of the total volume. The topsoil shall be blended with the aggregate to produce a homogeneous mixture. Once placed, the engineered fill shall be compacted to a 95% Standard Proctor.
- Connect the Geoweb sections with ATRAB Keys at each interleaf and end to end connection.
- Pre-shape the Geoweb panels before infill placement.
- Limit the drop of infill into the Geoweb panels to prevent distortion.
- Provide 2 inch wear surface of engineered fill.

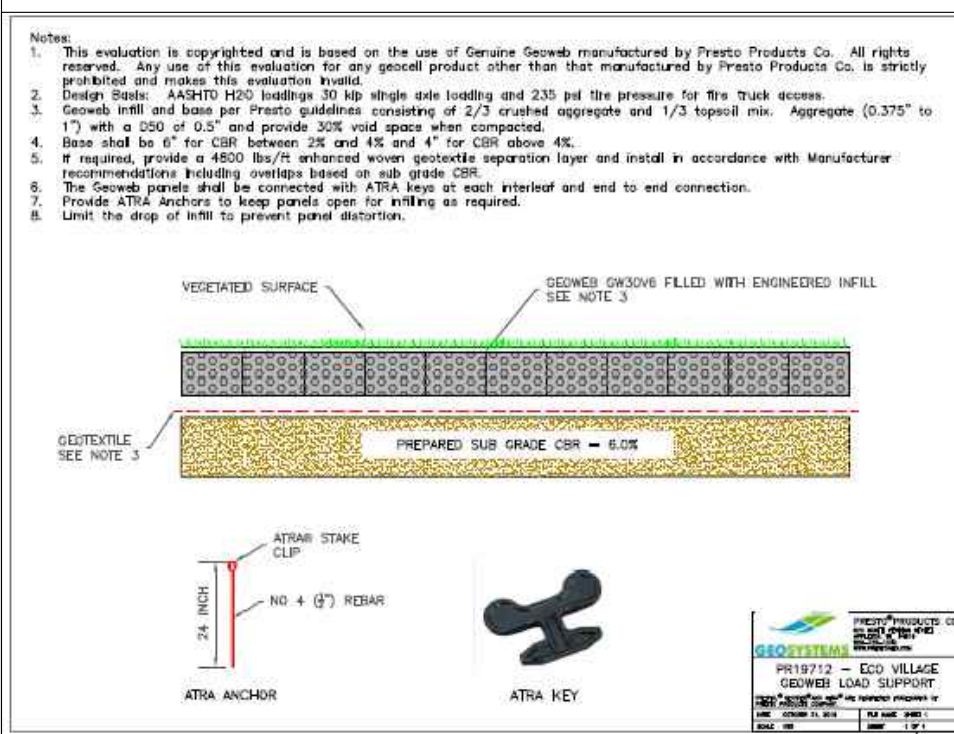
For additional Load Support Resources, click here:
[Load Support Design Engineering Resource Package](#)

If you have any questions or need any additional information, please call.

Stonely,

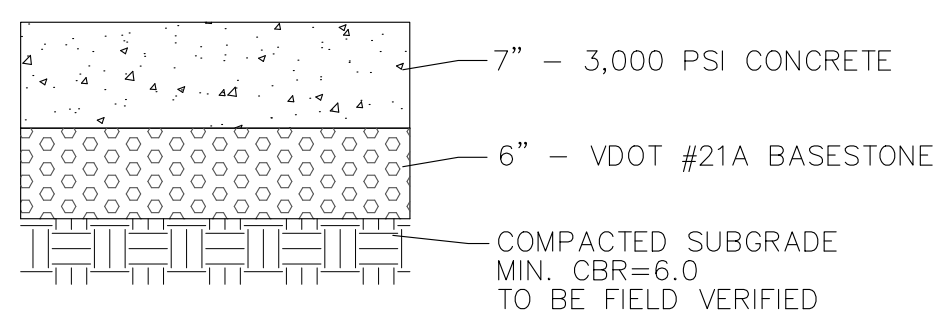
Sam Jenkins
Senior Project Engineer
Civil Design Engineer
Presto Geosystems

© Geosystems INC. All Rights Reserved. Design and Construction of Geosystems for Use in Virginia and Other States.

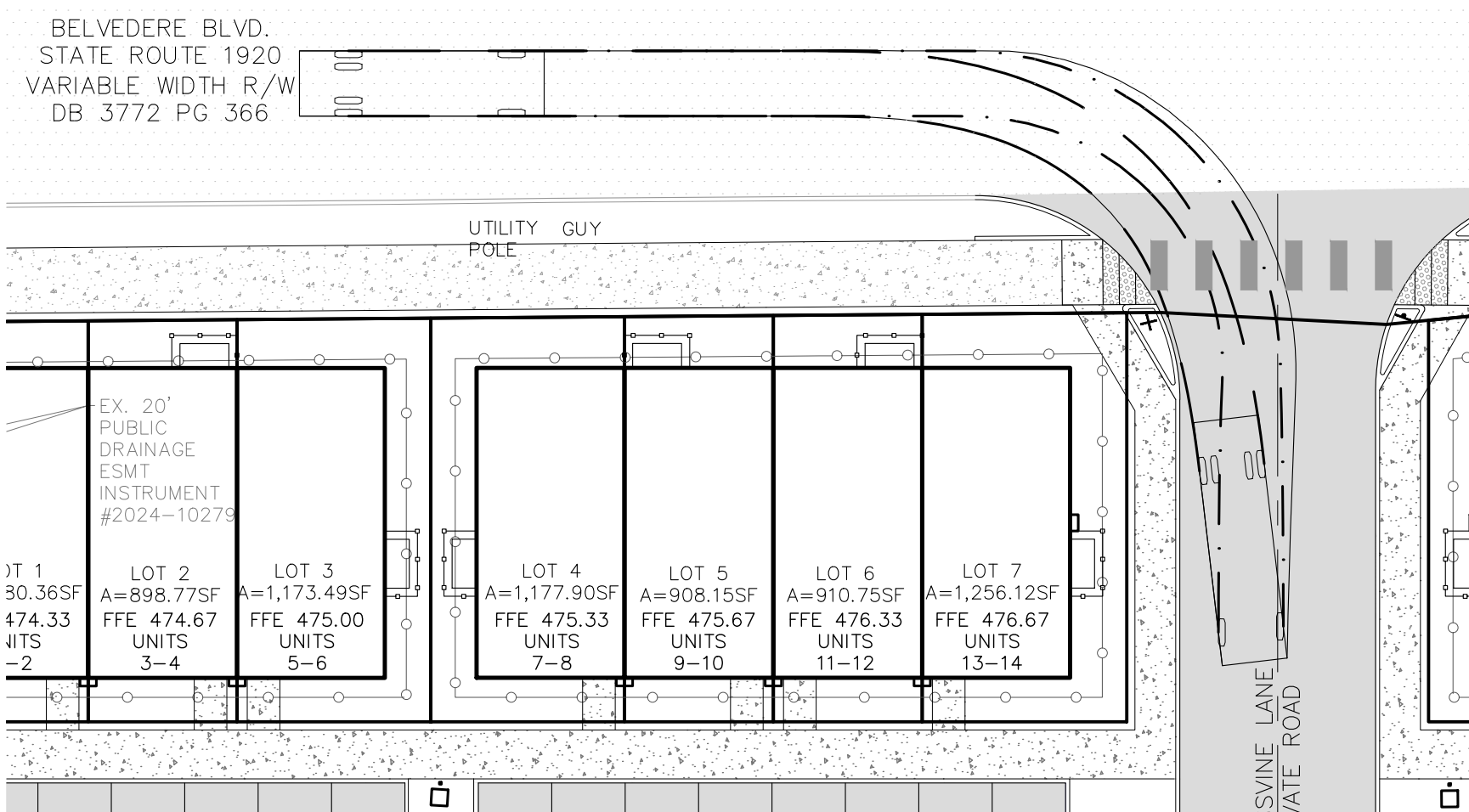


2 EMERGENCY ACCESS REINFORCED TURF GEOCELL - MFR DETAILS
C13 NOT TO SCALE

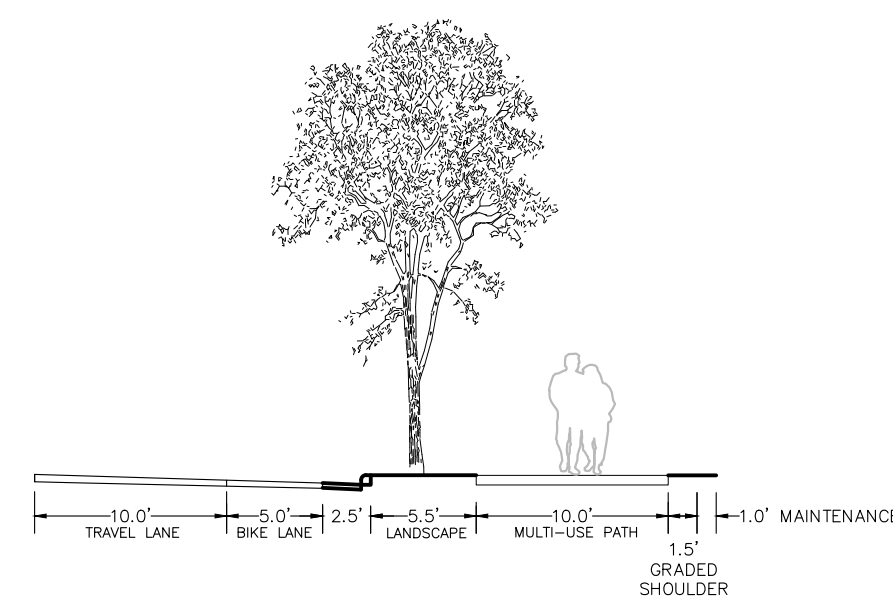
NOTE: Emergency access must be able to support 80,000 lbs in all weather conditions.



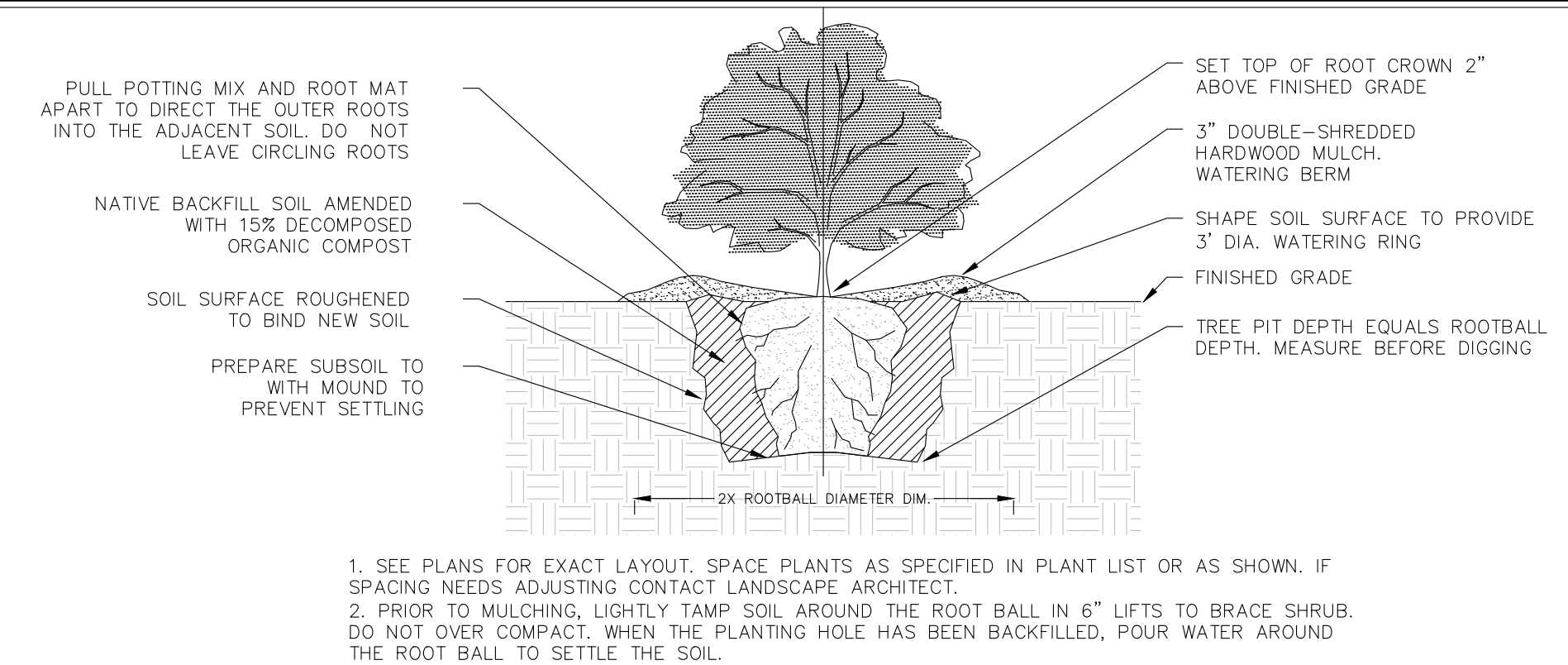
3 HEAVY DUTY SIDEWALK SECTION
C13 NOT TO SCALE



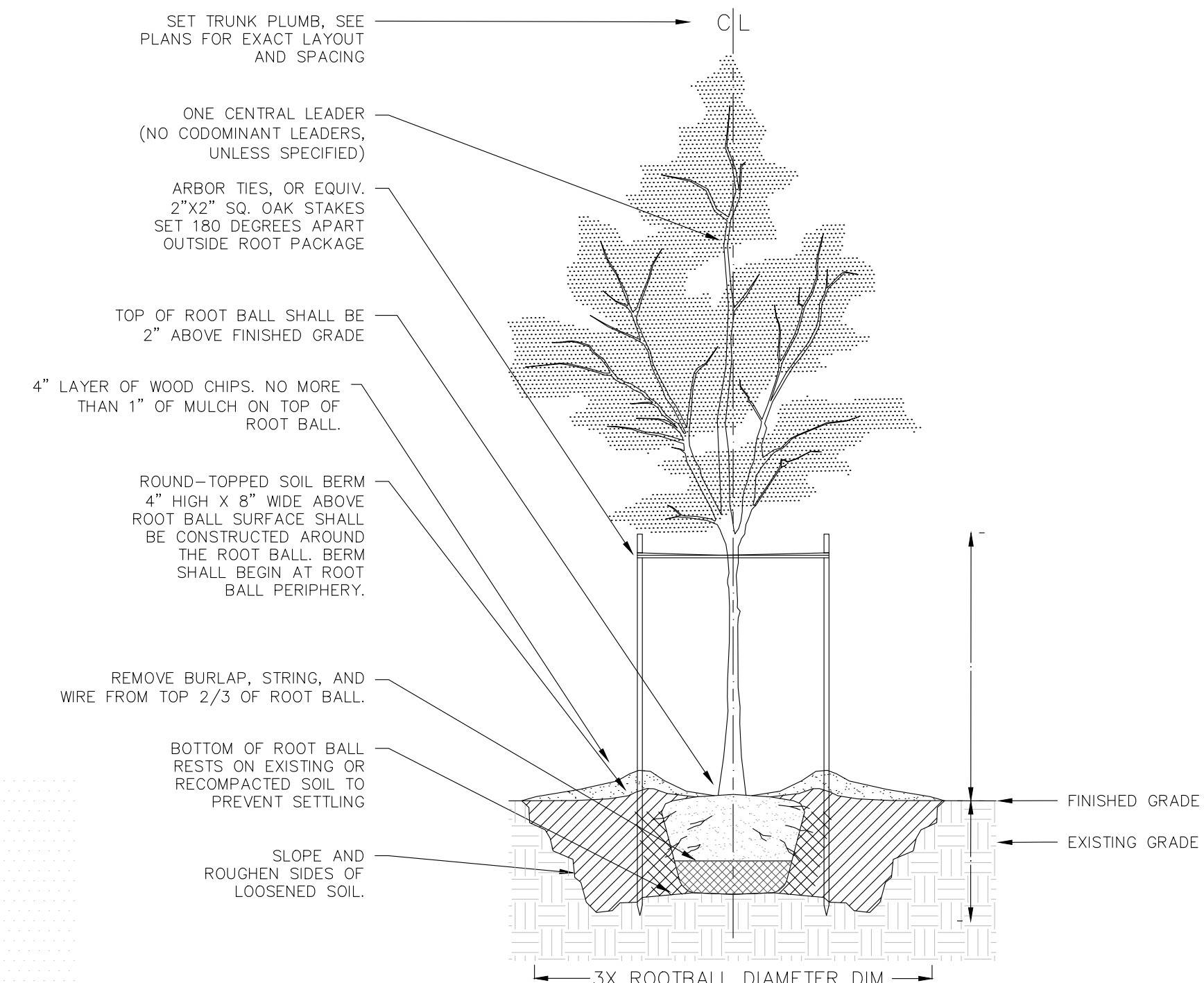
4 SU-30 AUTOTURN DIAGRAM
C13 NOT TO SCALE



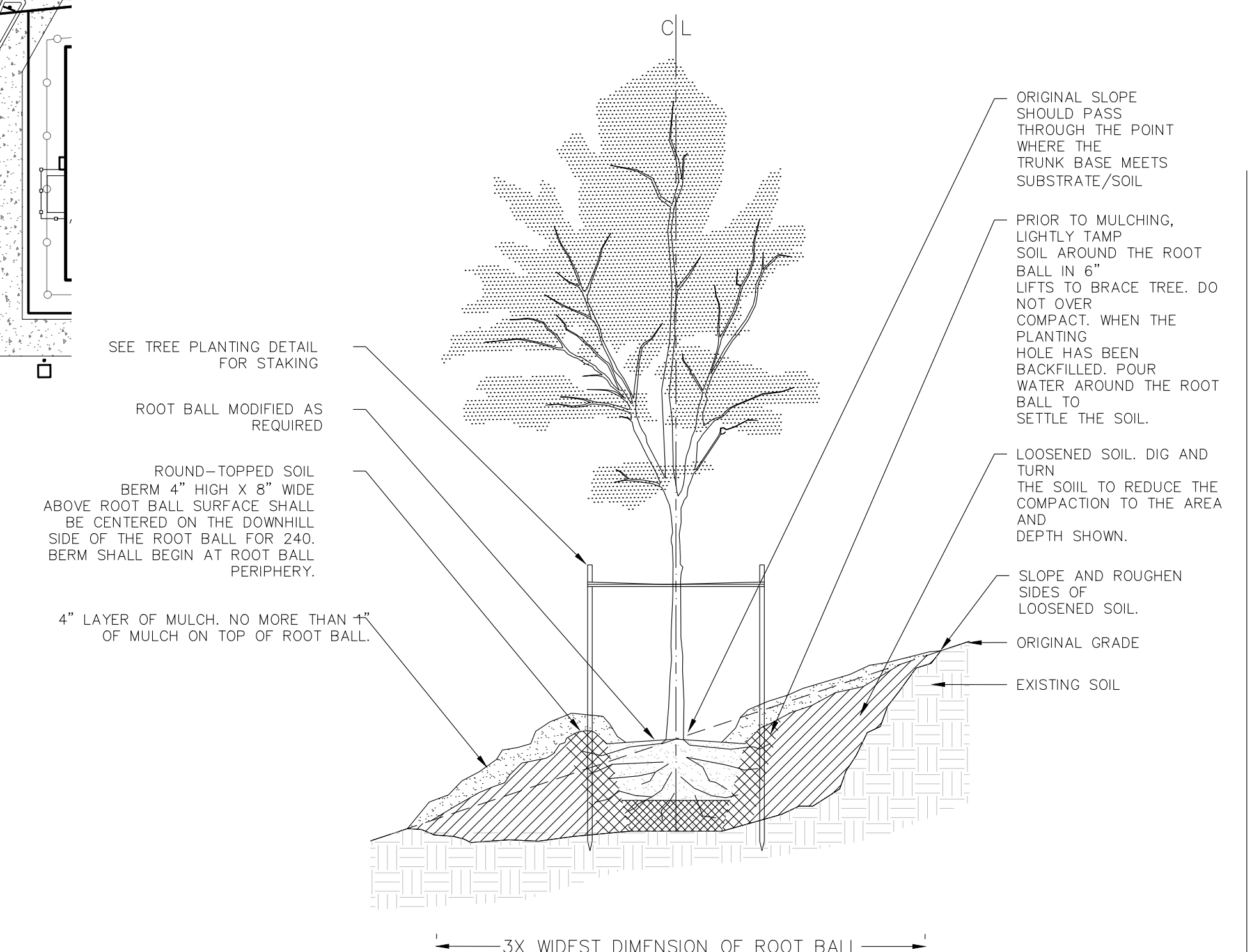
5 RIO ROAD EAST STREET SECTION
C13 NOT TO SCALE



5 SHRUB PLANTING - SECTION
C13 Not To Scale



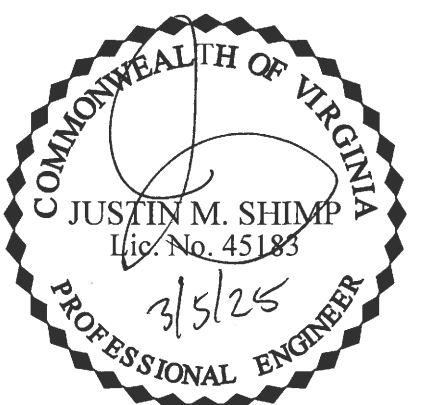
6 TREE PLANTING DETAIL
C13 Not To Scale



7 TREE ON SLOPE @ 25% (4:1) to 50% (2:1)
C13 Not To Scale



912 E. HIGH ST. 434.227.5140
CHARLOTTESVILLE VA, 22902 JUSTIN@SHIMP-ENGINEERING.COM



FINAL SITE DEVELOPMENT PLAN 999 RIO ROAD

ALBEMARLE COUNTY, VIRGINIA
SUBMISSION:

2023.09.05

REVISION:

- 1) 2023.09.18 [ACSA]
- 2) 2024.02.29 [COUNTY COMMENTS & ACSA]
- 3) 2024.07.08 [COUNTY COMMENTS & ACSA]
- 4) 2025.03.05 [COUNTY COMMENTS]

FILE NO.

19.006

SITE DETAILS

C13

**Typical Traffic Control
Stationary Operation on a Shoulder
(Figure TTC-4.2)**

NOTES

Standard

1. For long-term stationary work (more than 3 days) on divided highways having a median wider than 8', sign assemblies on both sides of the roadway shall be required as shown (ROAD WORK AHEAD (W20-1), RIGHT SHOULDER CLOSED AHEAD (W21-5bR), RIGHT SHOULDER CLOSED (W21-5aR)), even though only one shoulder is being closed. For operations less than 3 days in duration, sign assemblies will only be required on the side where the shoulder is being closed.

Guidance

2. Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.

Option

3. The SHOULDER WORK (W21-5) sign on an intersecting roadway may be omitted where drivers emerging from that roadway will encounter another advance warning sign prior to this activity area.
4. For short duration operations of 60 minutes or less, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity amber rotating, flashing, or oscillating lights is used.

Standard:

5. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, or oscillating lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, or oscillating lights.

6. Taper length (L) shall be at the following:

Taper Length 1					
Speed Limit (mph)	9	10	11	12	Remarks
25	85	105	115	125	L-SW/R0
30	135	150	165	180	L-SW/R0
35	185	205	225	245	L-SW/R0
40	240	270	295	320	L-SW/R0
45	405	450	485	540	L-SW
Limited Access highways shall use a 1000' merging taper regardless of the posted speed, for shifting taper see Table 6H-2					
Shoulder Taper = 75 L Minimum					
Taper Length 2					
Speed Limit (mph)	9	10	11	12	Remarks
50	450	500	550	600	L-SW
55	495	550	605	660	L-SW
60	540	600	660	720	L-SW
65	585	650	715	780	L-SW
70	630	700	770	840	L-SW

7. Channelizing device spacing shall be at the following:

Channelizing Device Spacing			
Location Spacing	Speed Limit (mph)	Location Spacing	Speed Limit (mph)
0-35' 36+	0-35' 36+	0-35' 36+	0-35' 36+
Transition 20' 40'	Travelway 40' 80'	Construction Access 80' 120'	

*Construction access spacing may be increased to this distance, but shall not exceed one access per 1/4 mile.

8. On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.
9. The buffer space length shall be as shown in Table 6H-3 on Page 6H-5 for the posted speed limit.
10. A truck-mounted attenuator (TMA) shall be used on the shield vehicle on Limited Access highways and multi-lane roadways with posted speed limit equal to or greater than 45 mph for operations with a duration greater than 60 minutes.
11. When a side road intersects the highway within the temporary traffic control zone, additional traffic control devices shall be placed as needed.

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

**Lane Closure Operation with Temporary Traffic Barrier¹
(Figure TTC-20.2)**

NOTES

Guidance:

1. See Table 6H-5, page 6H-6, for recommended spacing of advance warning signs.
2. SHOULDER CLOSED (W21-5a) signs should be used on Limited-Access Highways where there is no opportunity for disabled vehicles to pull off the roadway (see Figure TTC-6).
3. When closing a lane, a PCMS should be used in advance of the first warning sign if all of the left side signs cannot be installed.
4. If drivers cannot see a pull-off area beyond the closed shoulder, information regarding the length of the shoulder closure should be provided in feet or miles, as appropriate.
5. An emergency pull-off area should be provided per Section 6E.18 and Temporary Traffic Control Figure TTC-8.

Standard:

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

- Group 2 channelizing device spacing shall be at the following:

Group 2 Channelizing Device Spacing			
Location Spacing	Speed Limit (mph)	Location Spacing	Speed Limit (mph)
0-35' 36+	0-35' 36+	0-35' 36+	0-35' 36+
Transition 20' 40'	Travelway 40' 80'	Construction Access 80' 120'	

*Construction access spacing may be increased to this distance, but shall not exceed one access per 1/4 mile.

8. For taper lengths, see TTC-19.2.
9. See Table 6H-6 for barrier transition flare rate.² When the barrier transition flare³ is on a horizontal alignment, the total offset shall be prorated around the curve in lieu of a straight-line flare.
- End treatment of a barrier in order of preference:
 - a. Where guardrail exists, attach to barrier with appropriate fixed object attachment.
 - b. Where cut slope exists, bury barrier into cut slope and provide for drainage as needed.
 - c. Extend end of barrier until it is beyond the established clear zone (see Figure 5 on Page A-4 of Appendix A for clear zone values).
 - d. When barrier end is inside the established clear zone, attenuator service Type I or Type II shall be used. Refer to L&D special design drawings.
- Barrier panels 8 inches in width and 12 inches in height shall be placed on top of the concrete barrier and spaced on 40' centers along the transition or taper sections and spaced on 80' centers along the parallel or tangent sections. Reflectized surface shall be fluorescent orange prismatic lens sheeting. The light at the beginning of the barrier run and at the breakpoint where the barrier becomes parallel to the roadway shall be a Type B flashing light. Barrier delineators shall be spaced on 20' centers along the transition or taper sections and spaced on 80' centers and centered in-between the barrier panels along the parallel or tangent sections⁴ approximately 24 inches up from the roadway surface.

Guidance:

12. Eradication of existing pavement markings should be as shown in Figure TTC-55.

Option:

13. The barrier shown in this typical application is an example of one method that may be used to close a shoulder and lane on a long-term project.
14. Long-term transverse rumble strips may be installed to enhance the work zone see Chapter 6E, Section 6E.99 paragraph 12 and 13 for installation guidance and spacing.

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

**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.

Standard:

4. Portable Temporary Rumble Strips (PTRS) shall be used as noted in Section 6E.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.
8. A shadow vehicle with at least one high-intensity amber rotating, flashing, or oscillating light shall be parked 80'-120' in advance of the first work crew.

Option:

8. A SLOW (W21-1V10) 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 PTRS should be repositioned 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 should be extended so that the transition area precedes the highway-rail crossing (see Figure TTC-36 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.

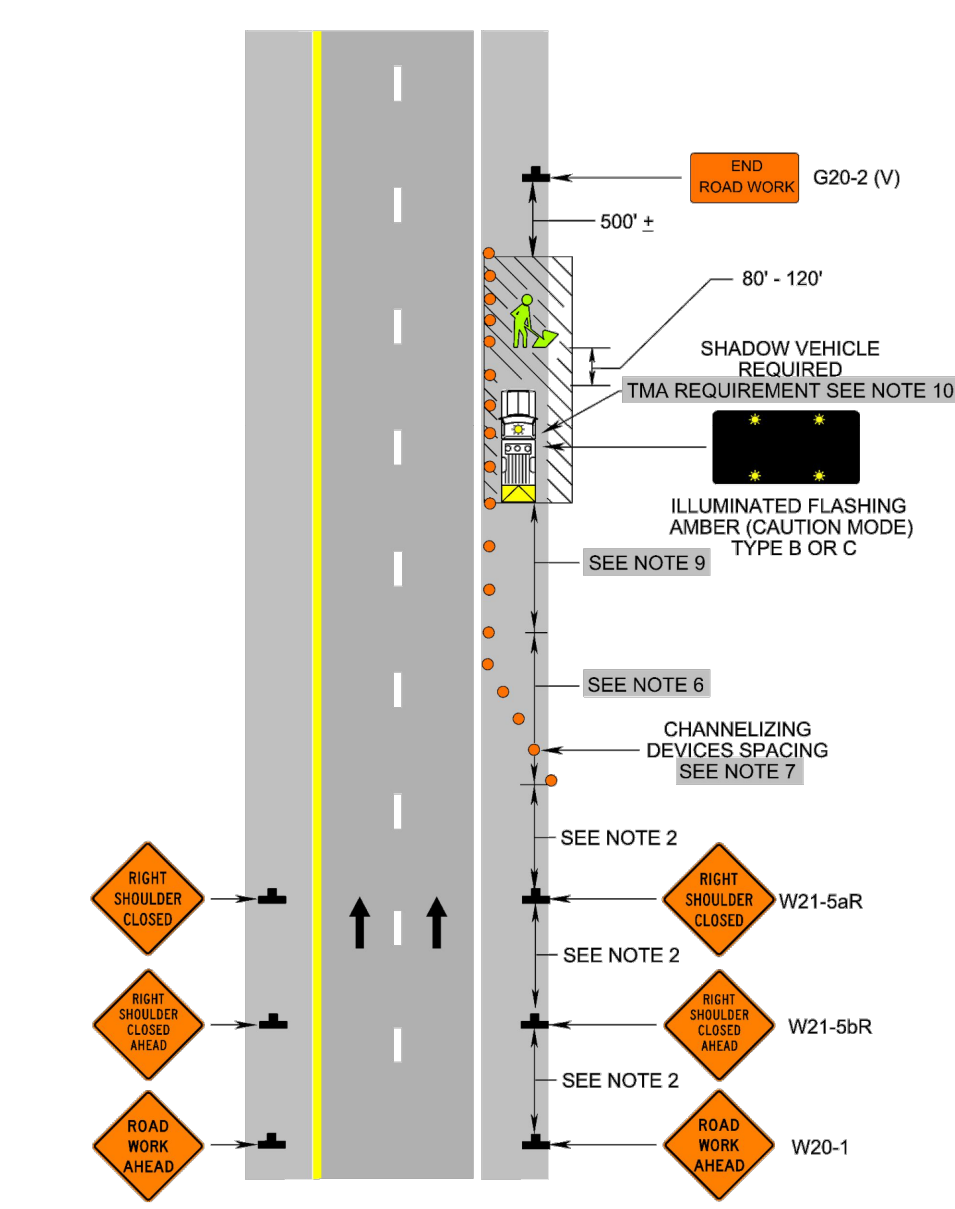
13. For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be visible to road users approaching from both directions, may be used (see Chapter 6E).

Standard:

14. When used², three portable temporary rumble (PTRS) strips shall be installed across the entire travel lane adjacent to the BE PREPARED TO STOP (W3-4) sign. The portable temporary rumble strips shall be monitored and adjusted as necessary during the work shift to ensure proper placement on the roadway. When the PTRS are installed, the RUMBLE STRIPS AHEAD (W20-13a) sign shall also be utilized.

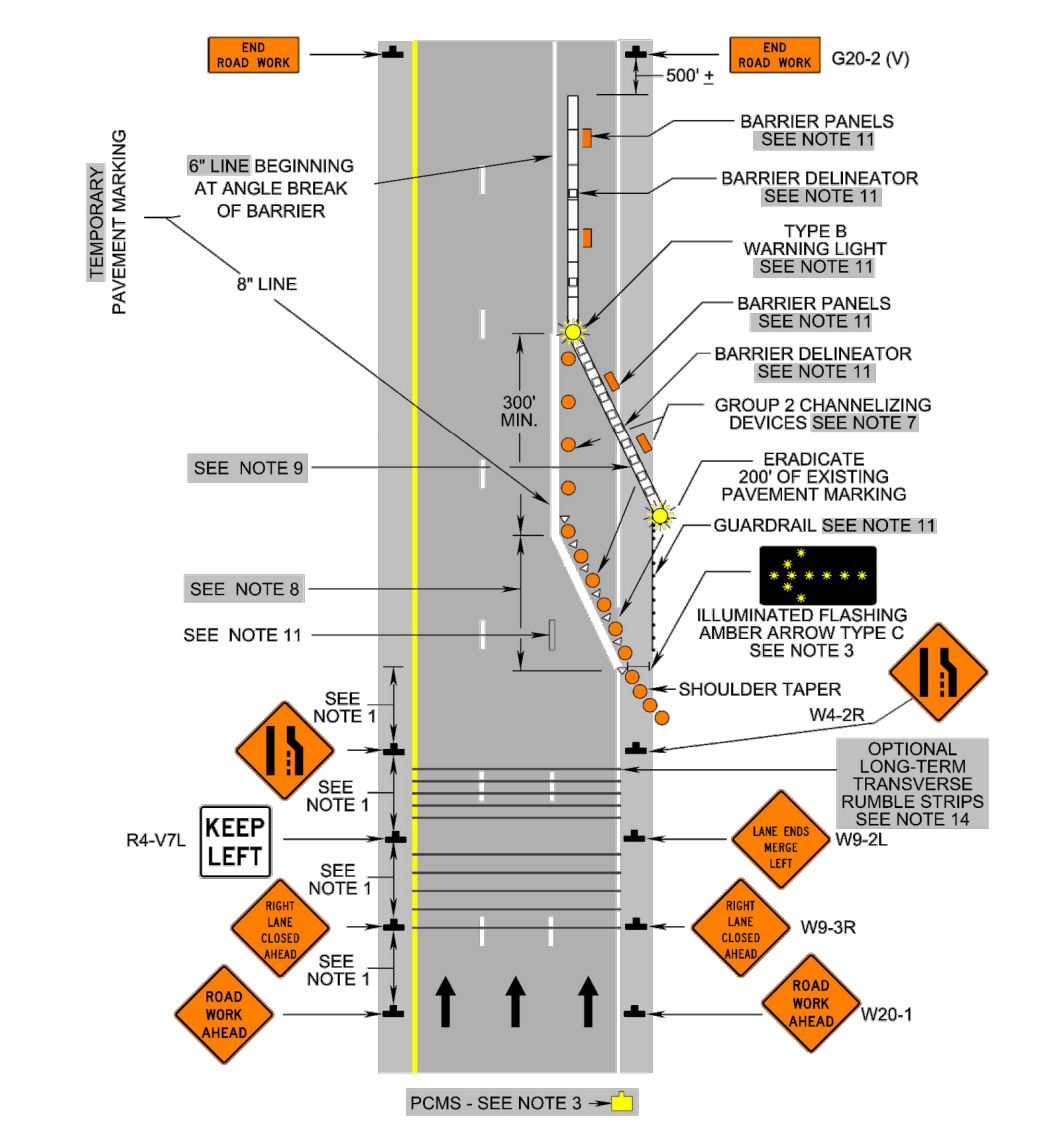
1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

**Stationary Operation on a Shoulder
(Figure TTC-4.2)**



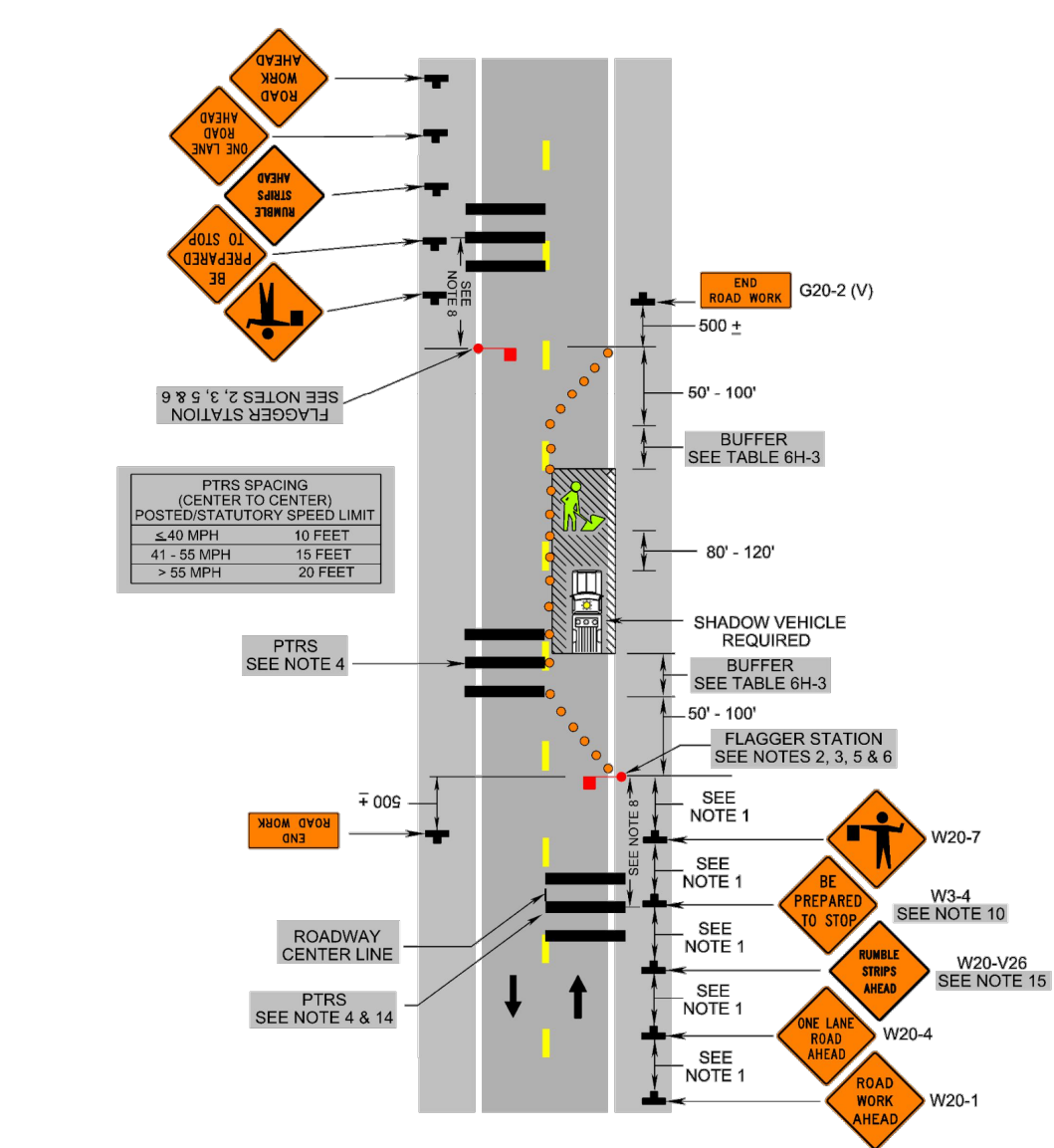
1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

**Lane Closure Operation with Temporary Traffic Barrier¹
(Figure TTC-20.2)**

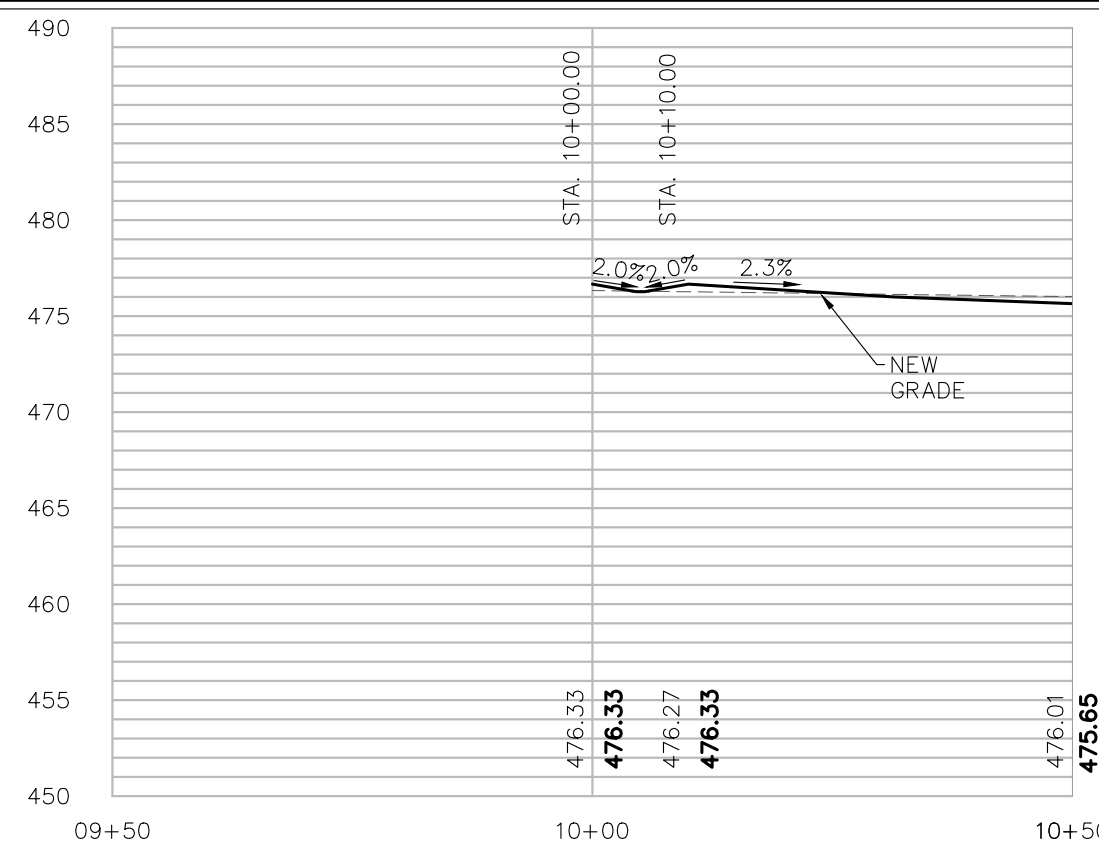


1: Revision 1 - 4/1/2015
2: Revision 2 - 7/1/2018

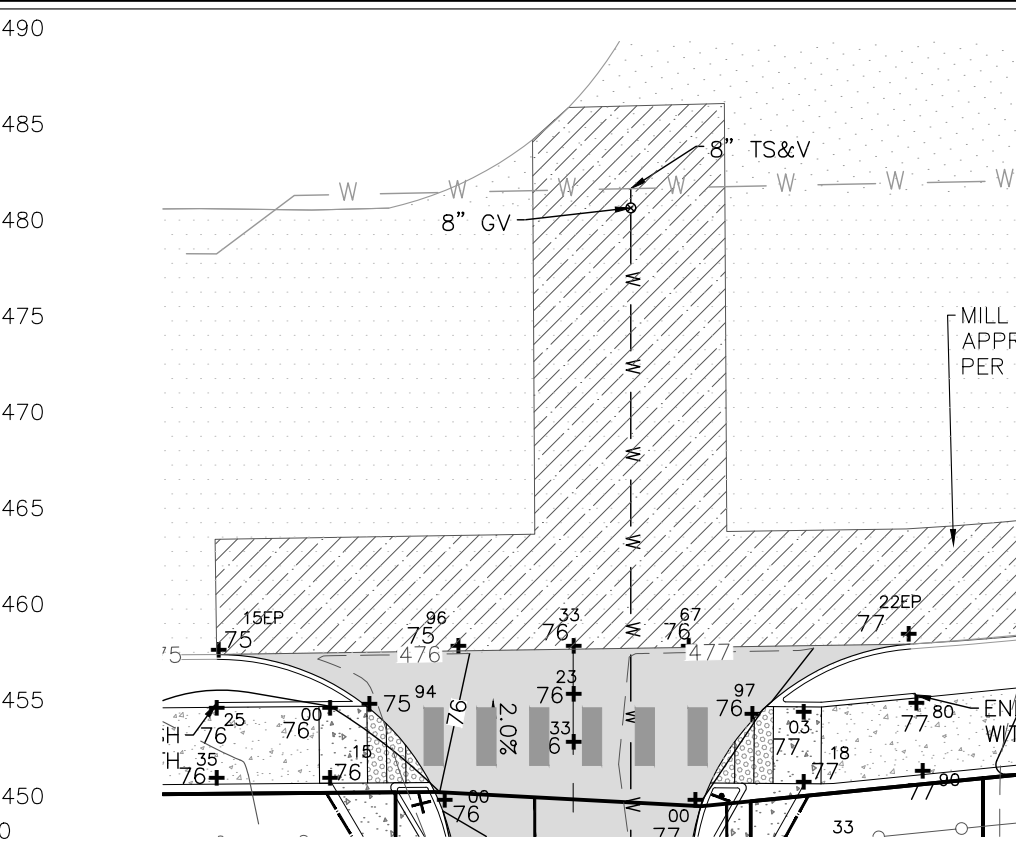
**Lane Closure on a Two-Lane Roadway Using Flaggers
(Figure TTC-23.2)**



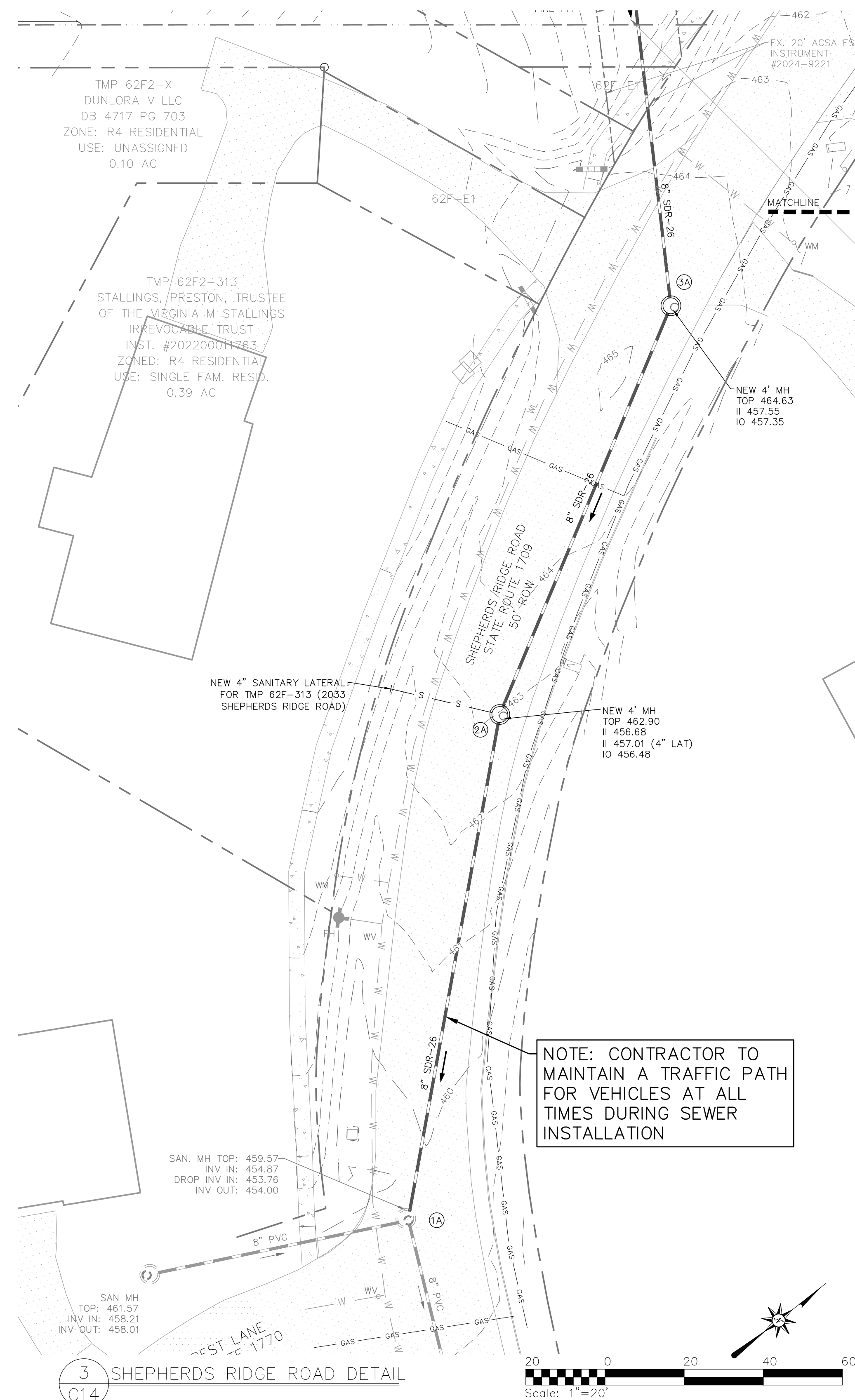
1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019



2 RIO ROAD ENTRANCE PROFILE
C14 HORIZ: 1"=20'
VERT: 1"=10'



1 RIO ROAD ENTRANCE DETAIL
C14 SCALE: 1"=10'



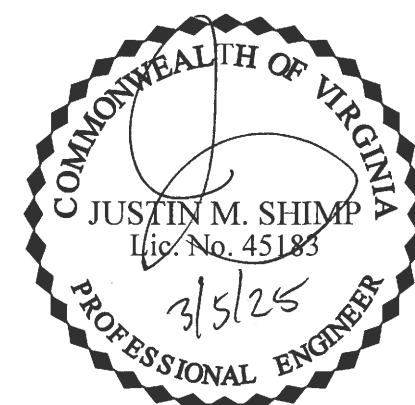
NOTE:

A TEMPORARY TRAFFIC CONTROL PLAN (TTC) IS REQUIRED TO OBTAIN A PERMIT TO WORK WITHIN VDOT RIGHT OF WAY.

MAINTENANCE OF TRAFFIC: TTC 20.2 & 23.2 TO BE USED DURING ENTRANCE INSTALLATION. TTC 4.2 TO BE USED FOR MULTI-USE PATH INSTALLATION.

SHIMP ENGINEERING
LAND PLANNING • PROJECT MANAGEMENT

912 E. HIGH ST. 434.227.5140
CHARLOTTESVILLE, VA 22902 JUSTING@SHIMP-ENGINEERING.COM



**FINAL SITE DEVELOPMENT PLAN
999 RIO ROAD**

ALBEMARLE COUNTY, VIRGINIA

SUBMISSION:

2023.09.05

REVISION:

1) 2023.09.18 [ACSA]

2) 2024.02.29 [COUNTY COMMENTS & ACSA]

3) 2024.07.08 [COUNTY COMMENTS & ACSA]

4) 2025.03.05 [COUNTY COMMENTS]

FILE NO.

19.006

**MOT PLAN &
VDOT DETAILS**

C14