MISS UTILITY OF VIRGINIA:

THE CONTRACTOR SHALL CALL "MISS UTILITY" 48 HOURS PRIOR TO THE START OF EXCAVATION. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT THE ENGINEER IMMEDIATELY IF THE LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLAN, IF THERE APPEARS TO BE A CONFLICT, AND/OR UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON PLAN. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE RELOCATION OF ANY UTILITY WITHIN THE EXISTING AND OR RIGHT OF WAY REQUIRED BY THE DEVELOPMENT. CONTACT MISS UTILITY OF VIRGINIA: 1-800-552-7001 (TOLL FREE)

GENERAL NOTES

- ROADS WILL BE STAKED ON ONLY ONE SIDE. REPLACEMENT OF THESE HUBS AND ANY OTHER STAKING WILL BE DONE BY THE CONTRACTOR AT HIS EXPENSE. THE CONTRACTOR SHALL INSPECT THE CONTROL STAKING MENTIONED ABOVE AND VERIFY BEFORE CONSTRUCTION.
- ALL GRADE STAKES DESTROYED BY THE CONTRACTOR, SHALL BE REPLACED AT HIS EXPENSE.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PRESERVE THE EXISTING RIGHT OF WAY STONES. ANY
- MARKERS DAMAGED SHALL BE REPLACED AT HIS EXPENSE. CLEARING AND GRUBBING SHALL BE COMPLETE WITHIN THE RIGHT OF WAYS AS INDICATED ON LAYOUT PLAN.
- ALL DRAINAGE EASEMENTS TO BE CLEARED, GRUBBED, AND GRADED TO CONTAIN WATER FROM PIPE CULVERTS AND TO EXTEND TO A NATURAL WATERCOURSE.
- EXCESS EXCAVATION TO BE DISPOSED OF AS DIRECTED BY THE OWNER.
- ALL FILLETS AT INTERSECTIONS TO HAVE 35' RADII UNLESS OTHERWISE NOTED.
- GRADE LINES ON PROFILES DENOTE FINISHED GRADE OF CENTER LINE OF ROAD.
- BASE MUST BE APPROVED BY VDOT FOR DEPTH, TEMPLATE, AND COMPACTION BEFORE SURFACE TREATMENT IS APPLIED.
- PERMIT TO TIE INTO EXISTING ROADS, SHALL BE OBTAINED FROM RESIDENT ENGINEER PRIOR TO ROAD CONSTRUCTION.
- 11. ALL UTILITIES TO BE IN PLACE PRIOR TO LAYING BASE MATERIAL.

SEWER AND WATER NOTES

- ALL MATERIALS FOR SEWER AND WATER SYSTEMS SHOWN SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE LATEST APPLICABLE SPECIFICATION OF PRINCE GEORGE COUNTY.
- BE RESPONSIBLE FOR NOTIFICATION OF APPROPRIATE COUNTY OFFICIALS 48 HOURS PRIOR TO START OF WORK.
- MINIMUM CLEAR COVER FOR ALL WATER PIPE SHALL BE 3.5 FEET.
- THE UTILITY OWNER IS RESPONSIBLE FOR OBTAINING ANY HIGHWAY PERMITS AND FOR SENDING A COPY TO THE COUNTY PRIOR TO START OF CONSTRUCTION.
- ANY LOT WITH LESS THAN 50 FEET OF FRONTAGE SHALL HAVE FRONT CORNERS OR END OF 6' CONNECTION
- STAKED PRIOR TO CONSTRUCTION OF A 6' SEWER SERVICE. 6. SEWER PIPE SHALL BE PVC. ALL SEWER JOINTS SHALL BE CLASS A. BEDDING SHALL BE CLASS B MINIMUM; BEDDING SHALL BE AS SHOWN IN DETAIL ON SHEET 2.
- SEWER GRADES ARE BASED ON ARIAL PHOTOGRAPHY BY LOUISA AERIAL SURVEYS USING NAVD88 DATUM
- 8. CONTRACTOR SHALL INSTALL 6" SEWER SERVICE CONNECTIONS TO ALL LOTS (R/W LINE OR EDGE OF EASEMENT)
- 9. ALL WATER SERVICES ARE TO BE PVC ROLL PLASTIC, CTS.
- 10. THE CONTRACTOR WILL INSTALL ALL WATER CONNECTIONS AND METER BOXES.
- 11. FIRE HYDRANT PUMPER CONNECTIONS SHALL FACE IN THE DIRECTION OF THE ARROW.
- THE EXACT MANHOLE TOP SHALL BE ON THE SAME GRADE AS THE FINISHED ROAD GRADE AND AS NOTED ON SEWER CUT SHEETS. THE USE OF HEIGHT ADJUSTMENT RINGS IS PROHIBITED.
- IT SHALL BE REMOVED AND ACCEPTABLE MATERIAL USED FOR BACKFILLING THE TRENCH.
- 14. THE ENGINEER WILL CERTIFY THAT THE ROADS ARE WITHIN 6" OF SUBGRADE BEFORE WATERLINE CONSTRUCTION CAN BEGIN.
- 15. FOR SEWER AND WATER INSTALLATION WITHIN EXISTING VDOT R/W; UTILITY CONTRACTORS SHALL NOTIFY VDOT 48 HOURS IN ADVANCE WHEN INSTALLATION BEGINS SO THAT DENSITY CAN BE TESTED (95% @ OPTIMUM MOISTURE +20%).
- OF ANY UTILITY NOT SHOWN ON THE PLAN. TO MISS THE UTILITY CALL "MISS UTILITY" OF CENTRAL VIRGINIA: 1-800-552-7001 (TOLL FREE).
- THE INSTALLATION OF BACK FLOW DEVICE IS REQUIRED IN ALL HOUSES WHERE THE FINISHED FLOOR ELEVATION IS LOWER THAN UPGRADE MANHOLES. THIS DEVICE WILL BE INSPECTED BY THE COUNTY BUILDING INSPECTOR. 18. INDIVIDUAL WATER SERVICES TO BE 3/4".
- 19. ALL WATERLINE VALVES MUST BE LOCATED ON THE TEE OR CROSS WHEN APPLICABLE.
- 20. ALL MANHOLES IN UTILITY EASEMENTS ARE TO HAVE THE CONCRETE SECTION EXTENDED ONE FOOT ABOVE THE GROUND.
- . A SMOOTH TRANSITION OF DROP MANHOLE MUST BE PROVIDED FOR EACH LATERAL OR SANITARY SEWER ENTERING A SANITARY MANHOLE.
- 22. ALL FIRE HYDRANTS SHALL BE O.S.H.A. RED IN COLOR.

- INSTALLED TO THE EDGE OF THE EASEMENT. A CARSONITE MARKER SHALL ALSO BE INSTALLED TO INDICATE
- IT SHALL BE SUPPLIED WITH 4 CODED KEYS THAT WILL WORK WITH THEALL NOZZLE CAPS. THE CODED LOCK/KEY
- 27. ALL HYDRANTS AND BENDS SHALL BE EQUIPPED WITH MEGA LUGS, KICKERS AND THRUST BLOCKS. 28. PRESSURE REDUCING VALVES SHALL BE USED ON LOTS WHERE THE STATIC PRESSURE IN THE SYSTEM EXCEEDS
- 80 PSI. FOR SECTION TWO, LOTS 17-29 AND 35-44 WILL NEED PRESSURE REDUCING VALVES. CLEANOUTS SHALL BE INSTALLED ON ALL SANITARY LATERALS IN ACCORDANCE WITH PRINCE GEORGE COUNTY
- SPECIFICATIONS. THESE CLEANOUTS SHOULD BE INSTALLED AT THE EDGE OF THE RIGHT OF WAY. 30. 2" AND 3" FORCE MAIN PIPING TO BE HDPE SDR II PRESSURE CLASS 160 WITH FUSED CONNECTIONS.
- SANITARY SEWER SERVICE FOR LOTS 14-15, 26-37, AND 42-48 SHALL BE PROVIDED BY CONNECTIONS INTO THE EXISTING 6" FORCE MAIN.
- 32. LOTS 4-9 AND 14-48 ARE TO HAVE INDIVIDUAL GRINDER PUMPS FOR EACH HOUSE AND A FORCE MAIN HOUSE CONNECTION PROVIDED AS DETAILED ON SHEET C1.2.
- 33. UTILITY INSPECTOR SHALL BE CONTACTED BEFORE INDIVIDUAL SERVICE CONNECTIONS ARE COVERED. 34. ALL MANHOLES WITHIN 1,000 FT OF A FORCE MAIN DISCHARGE SHALL BE COATED AS MANUFACTURED BY RAVEN.
- ALL INDIVIDUAL WATER SERVICES AND SEWER CONNECTIONS SHALL BE MADE USING DOUBLE BANDED EPOXY COATED 36. A 'W' AND 'S' SHALL BE STAMPED INTO THE CURB WHILE THE CONCRETE IS STILL WET. THESE MARKS SHALL INDICATE
- THE ACTUAL LOCATION OF THE WATER AND SEWER CONNECTIONS FOR EACH LOT. WRAP AS MANUFACTURED BY SEALING SYSTEMS, INC. THE SEAL SHALL BE MADE OF EPDM (ETHYLENE PROPYLENE DIENE MONOMER) RUBBER WITH A MINIMUM THICKNESS OF 65 MILS. EACH UNIT SHALL HAVE A 2—INCH WIDE MASTIC STRIP ON THE TOP AND BOTTOM EDGE OF THE RUBBER WRAP. THE MASTIC SHALL BE NON-HARDENING BUTYL RUBBER SEALANT
- WITH A MINIMUM THICKNESS OF 125 MILS 38. THE BOXES FOR THE SEWER CONNECTIONS MUST BE MARKED AS SEWER CONNECTIONS RATHER THAN WATER METER.
- 39. ALL INDIVIDUAL GRINDER PUMPS SHALL BE EONE PUMPS OF LIKE TYPE AND HORSEPOWER. PUMPS MUST BE CAPABLE OF A MINIMUM OF 11GPM AT 150' OF HEAD.
- 40. ALL WATER LINE VALVES LOCATED OUTSIDE THE PAVEMENT NEED TO BE ENCLOSED IN A 12"X12"X6" CONCRETE

', WE HEREBY CERTIFY THAT THE LOT LINES, LOT NUMBERS, BLOCK NUMBERS AND THE OFFICIAL RECORDED PLAT, AND NO CHANGES WILL BE MADE WITHOUT PRIOR APPROVAL FROM THE UTILITY DEPARTMENT. IF ANY CHANGES ARE APPROVED, REVISED WATER AND/OR SEWER PLANS WILL BE SUBMITTED WITHIN 48 HOURS AFTER APPROVAL.

STORM SEWER SCHEDULE

. PIPE LENGTHS ARE MEASURED FROM CENTER TO CENTER OF STRUCTURE 2. VDOT STD. ST-1 STEPS ARE REQUIRED FOR ALL STRUCTURES

WITH A HEIGHT GREATER THAN OR EQUAL TO 4.0 FT. 3. INSTALL GEOTEXTILE FILTER FABRIC AROUND THE WEEP HOLE FOR ALL SAG DROP INLETS (DI-3CS).

DI-3B, L=8', TOP=97.30, H=4.55'

66.73 LF OF 15" CL. III CONC. PIPE @ 6.70% INV. IN=92.75, INV. OUT=88.28 DI-3B, L=6', TOP=103.70, H=6.70'

71.60 LF OF 15" CL. III CONC. PIPE @ 5.80% INV. IN=97.00, INV. OUT=92.85

156.00 LF OF 15" CL. III CONC. PIPE @ 14.00% INV. IN=86.38, INV. OUT=64.54

MH-1, TOP = 73.39, H=15.45, W/SL-128.00 LF OF 15" CL. III CONC. PIPE @ 1.89% INV. IN=57.94, INV. OUT=57.41

DI-3C, L=6', TOP=94.29, H=7.91'

DI-1, TOP=93.33, H=12.33, W/SL-1

100.56 LF OF 15" CL. III CONC. PIPE @ 14.00% INV. IN=81.00, INV. OUT=66.92 MH-1, TOP=71.60, H=4.78

84.00 LF OF 15" CL. III CONC. PIPE @ 7.00% INV. IN=66.82, INV. OUT=60.94 DI-3C, L=8', TOP=67.20, H=6.51'

DI-3B, L=6', TOP=69.01, H=4.01'

32.00 LF OF 15" CL. III CONC. PIPE @ 1.56% INV. IN=65.00, INV. OUT=64.50DI-3B, L=6', TOP=69.01, H=4.61'

_____ 84.50 LF OF 15" CL. III CONC. PIPE @ 4.09% INV. IN=64.40, INV. OUT=60.94 88.00 LF OF 15" CL. III CONC. PIPE @ 2.09% INV. IN=60.84, INV. OUT=59.00 W/ ES-1

DI-3B, L=6', TOP=50.39, H=4.39' 56.22 LF OF 15" CL. III CONC. PIPE @ 1.69% INV. IN=46.00, INV. OUT=45.05

DI-3C, L=10', TOP=50.22, H=5.27'49.09 LF OF 15" CL. III CONC. PIPE @ 14.00% INV. IN=44.95, INV. OUT=38.08

DI-3B, L=8', TOP=50.26, H=16.18', W/SL-120.00 LF OF 15" CL. III CONC. PIPE @ 14.00%

INV. IN=34.08, INV. OUT=31.28 DI-3B, L=8', TOP=54.03, H=5.03'

40.00 LF OF 15" CL. III CONC. PIPE @ 3.52% INV. IN=49.00, INV. OUT=47.59DI-3B, L=10', TOP=54.03, H=6.54'

188.22 LF OF 15" CL. III CONC. PIPE @ 5.00% INV. IN=47.49, INV. OUT=38.08

MH-1, TOP=42.50, H=17.22, W/SL-132.00 LF OF 18" CL. III CONC. PIPE @ 2.97% INV. IN=25.28, INV. OUT=24.33 W/ ES-1

DI-3C, L=10', TOP=42.00, H=6.49'176.00 LF OF 15" CL. III CONC. PIPE @ 8.00% INV. IN=35.51, INV. OUT=21.43

MH-1, TOP=26.17, H=6.84

36.00 LF OF 15" CL III CONC. PIPE @ 2.00% INV. IN=19.33, INV. OUT=18.61 DI-3C, L=8', TOP=122.06, H=4.36'40.00 LF OF 15" CL. III CONC. PIPE @ 0.50%

INV. IN=117.70, INV. OUT=117.50 DI-3C, L=8', TOP=122.06, H=4.66'

82.33 LF OF 15" CL. III CONC. PIPE @ 1.18% INV. IN=117.40, INV. OUT=116.43 96 LF OF 15" CL IV CONC. PIPE @ 0.50% INV. IN=123.00, INV. OUT=122.52

DI-3B, L=12', TOP=100.60, H=6.10' 79.64 LF OF 15" CL III CONC. PIPE @ 4.70% 26B INV. IN=94.50, INV. OUT=90.76 DI-3B, L=12', TOP=94.26, H=3.60'

168 LF OF 60" CL III CONC. PIPE @ 3.02% INV. IN=29.69, INV. OUT=24.62, W/ EW-2

TEMPORARY PIPES

<u>/21\</u>

160.00 LF OF 15" ADS N-12 PLASTIC PIPE @ 5.81% INV. IN = 90.66, INV. OUT = 81.36

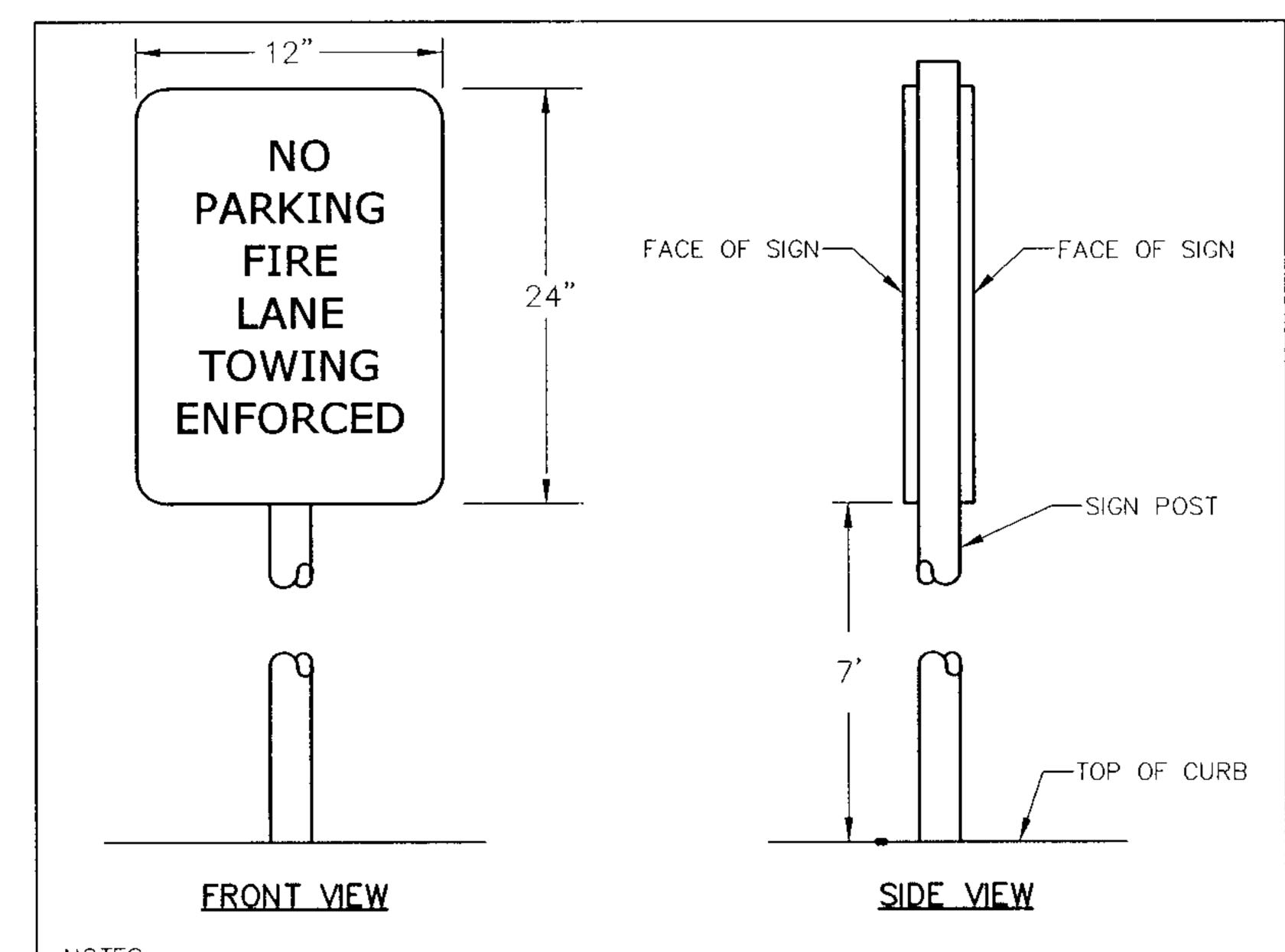
SANITARY SEWER SCHEDULE

DIRECTION DISTANCE 2-1 S 25'59'21" E 348.93' 1-EX7 S 26'39'03" E 247.35'

C/L ROAD DATA

	LINE TAI	3LE
LINE	LENGTH	BEARING
L1	675.49	N26'39'03"W
L2	123.31	N40'56'29"W
L3	126.15	N53'55'40"W
L4	441.91	N72'26'07"W
L5	383.78	S63'20'57"W
L6	51.77	S35'35'46"W
L7	84.56	S40'06'21"W
L8	127.79	S21*58'26"E
L9	155.89	S02'18'48"W
L10	365.36	S17'33'53"W
L11	259.30	S03'09'19"E
L12	225.46	S20*19'59"W

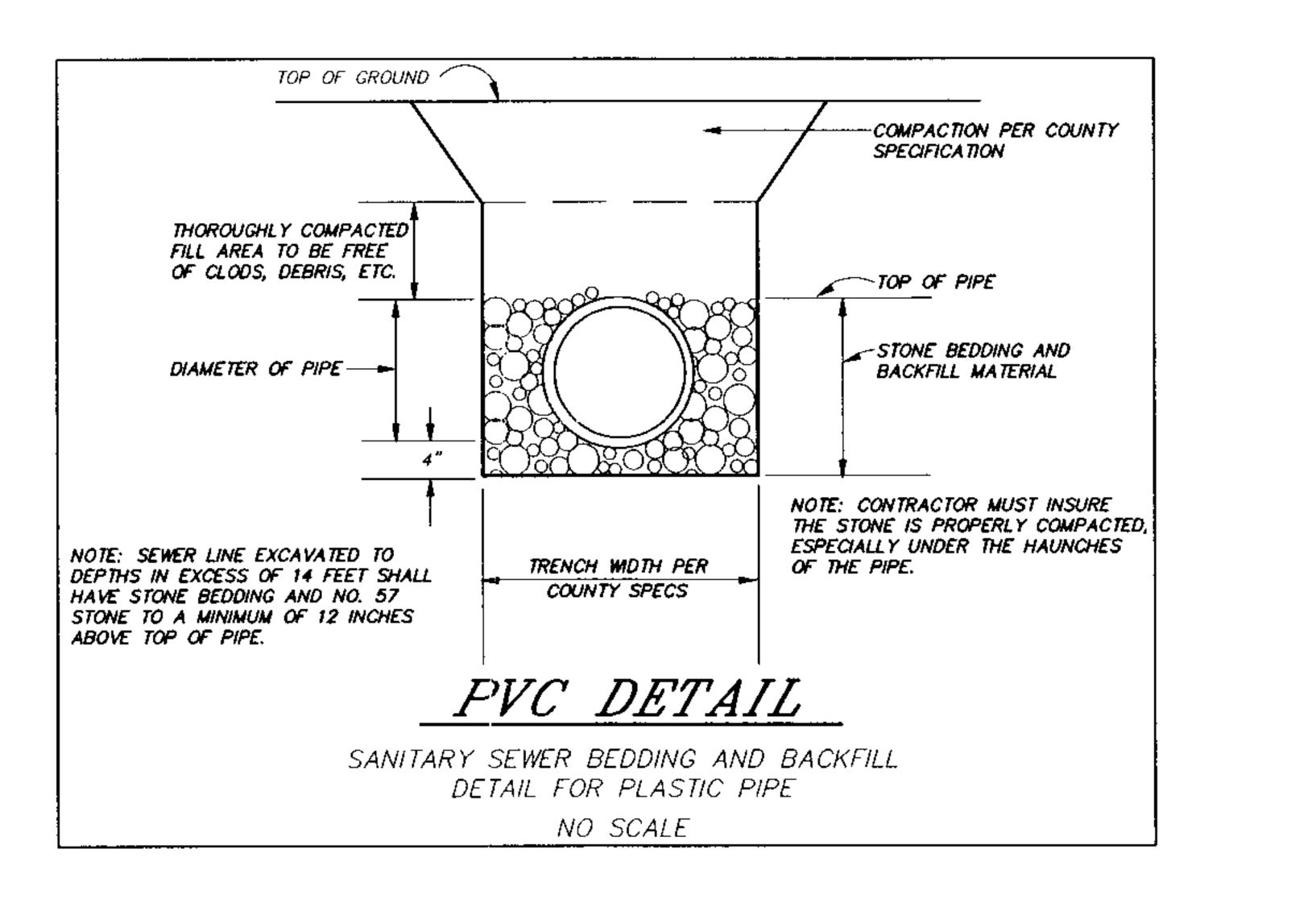
CURVE TABLE										
CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD BEARING	CHORD				
C1	500.00	124.71	62.68	14"17'27"	N33*47'46"W	124.39				
C3	500.00	113.33	56.91	12'59'10"	N47°26'04"W	113.08				
C4	300.00	96.91	48.88	18'30'28"	N63°10'53"W	96.49				
C5	200.00	216.70	120.36	62'04'47"	S09'03'58"W	206.25				
C6	350.00	93.16	46.86	1515'04"	N09'56'20"E	92.89				
C7	280.00	101.26	51.19	20'43'12"	S07'12'17"W	100.71				
C8	280.00	201.74	105.47	41"16'53"	S23'47'46"E	197.40				
C9	280.00	316.53	177.59	64'46'12"	N12°03'07"W	299.94				

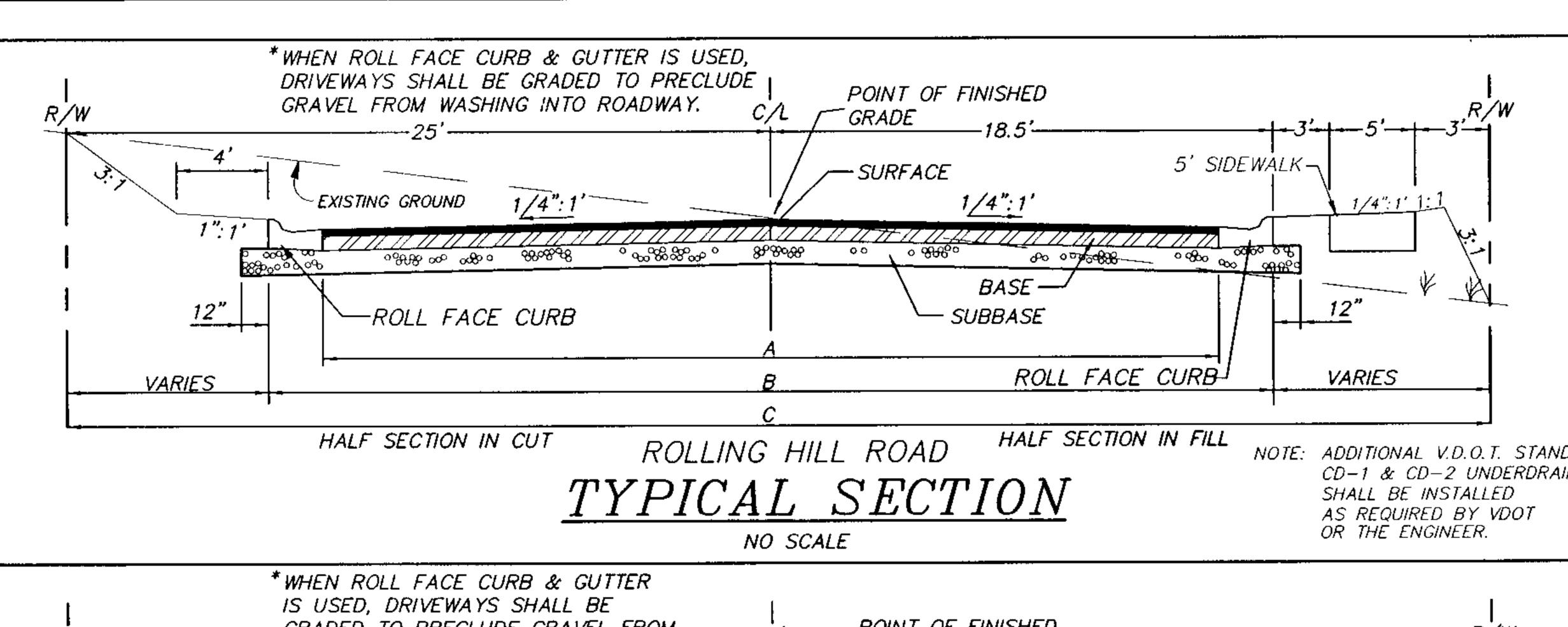


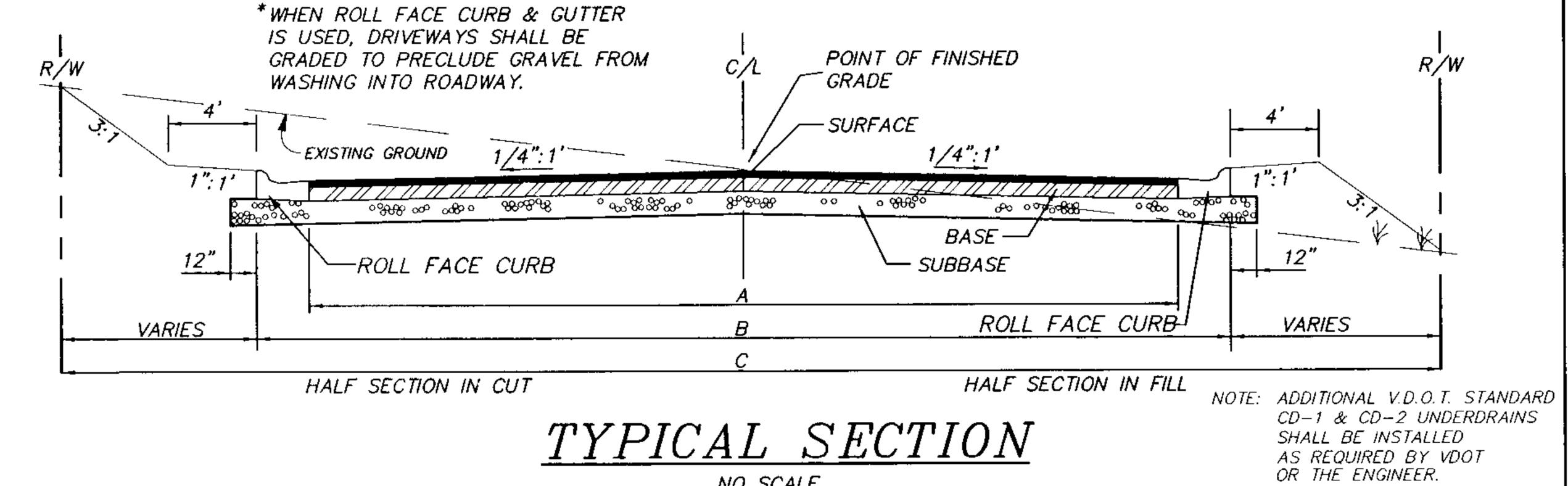
THIS DRAWING IS FOR GUIDANCE ONLY. FOR MORE ACCURATE DETAILS RELATED TO SIGN FABRICATION AND HIGHWAYS.

SIGN COLORS: RED LETTERS AND BORDER ON A REFLECTORIZED WHITE BACKGROUND. TWO (2) INCH "C" SERIES.

FIRE LANE SIGN

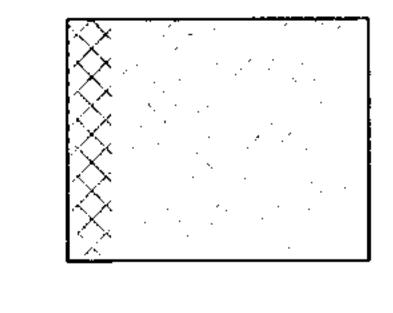




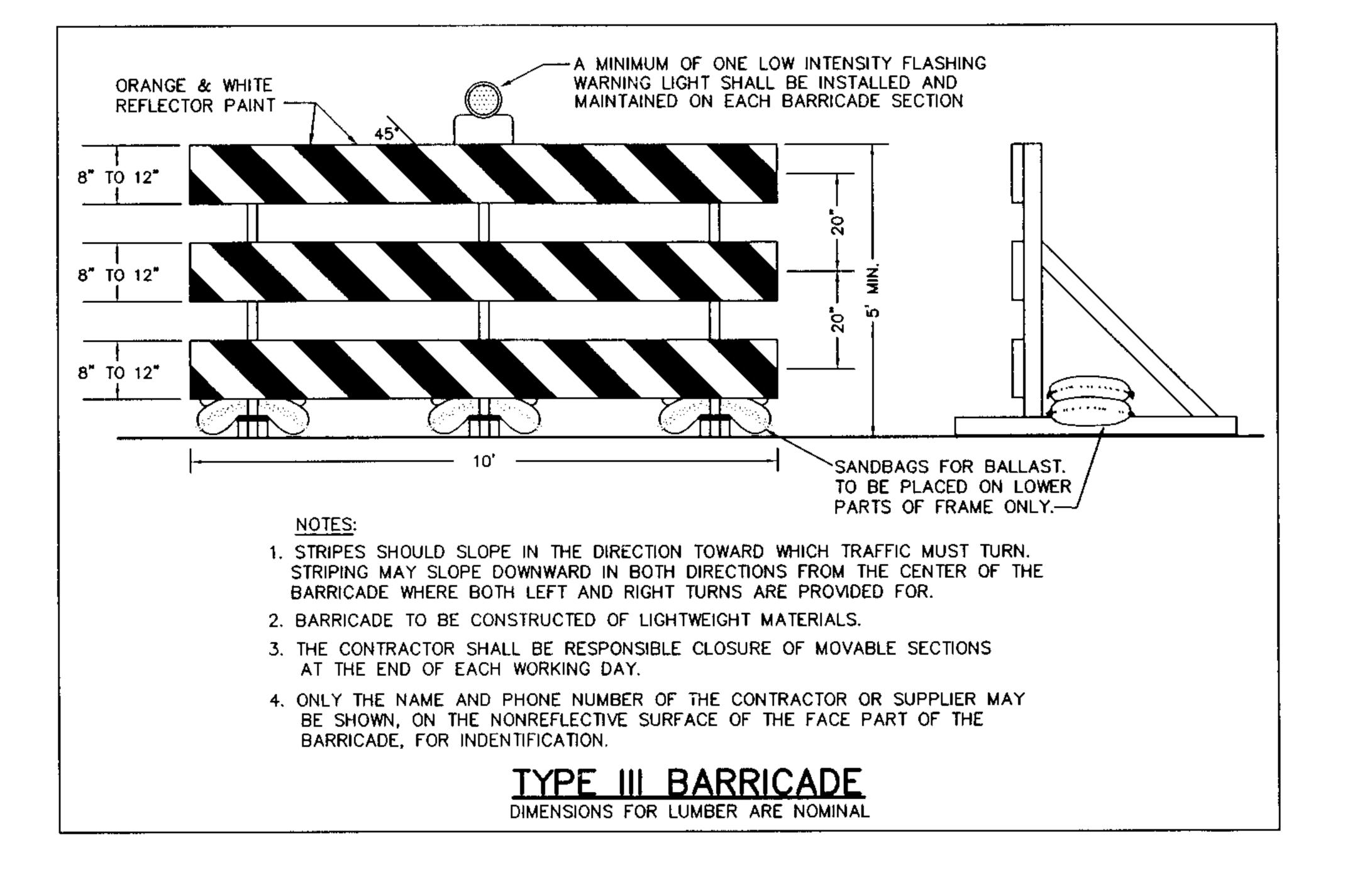


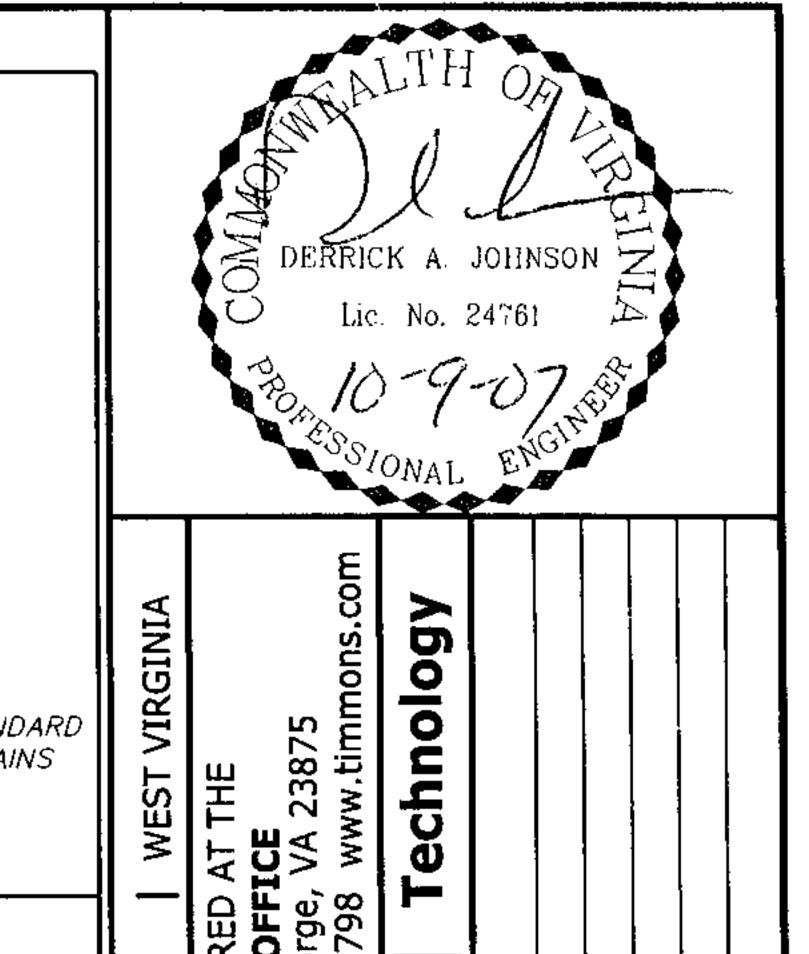
		ROAD	CLASSIFICAT	ION SCHED	ULE		
ROAD NAMES ③ STA. TO STA.	VPD	PAVEMENT DESIGN (1) (2)			"A"	"B"	"C"
		SUBBASE	BASE	SURFACE	PVM'T. WIDTH E/P - E/P	B/C-B/C	R/W WIDTH
MEADOWS DRIVE STA. 0+24 TO STA. 14+50	940	6" 21-B	3.0" BM-25.0	2" SM-9.5A	31	37	50
MEADOWS DRIVE STA. 14+50 TO STA. 18+00	30		6" 21-B	2" SM-9.5A	23	29	50
ROLLING HILL ROAD STA. 0+24 TO STA. 5+75	810	6" 21-B	3.0" BM-25.0	2" SM-9.5A	31	<i>37</i>	<i>54.5</i>
ROLLING HILL ROAD STA. 5+75 TO STA. 9+50	60		6" 21-B	2" SM-9.5A	31	<i>37</i>	54.5
ROLLING HILL ROAD STA. 9+50 TO STA. 15+75	180		6" 21-B	2" SM-9.5A	31	<i>37</i>	<i>54.5</i>
ROLLING HILL COURT STA. 0+24 TO STA. 4+00	100		6" 21-B	2" SM-9.5A	23	29	50
HAWKSBILL PLACE STA. 0+00 TO STA. 4+00	90		6" 21-B	2" SM-9.5A	23	29	50

(1) PAVEMENT SECTIONS ARE BASED ON A MINIMUM DESIGN CER VAILUE OF 10. PAVEMENT DESIGN MAY BE REVISED DUE TO ACTUAL SUBGRADE CONDITIONS. (2) A PRIME COAT SHALL BE APPLIED BETWEEN THE AGGREGATE BASE AND ASPHALT COURSES IN ACCORDANCE WITH V.D.O.T. STANDARDS REFER TO PLAN SHEET FOR THE END OF CURB AND GUTTER.



6" 21B STONE > --- COMPACTED SUBGRADE GRAVEL DETAIL





29 JAN 2007 DRAWN BY DESIGNED BY

K. HALPAUS CHECKED BY D. JOHNSON SCALE