## PRINCE GEORGE COUNTY DEPARTMENT OF PUBLIC UTILITIES

ALL MATERIALS FOR SEWER AND WATER SYSTEMS SHOWN SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS OF PRINCE GEORGE COUNTY APPLICABLE AT THE TIME OF NOTICE TO PROCEED.

- FOR SEWER AND WATER INSTALLATION WITHIN EXISTING VDOT R/W; UTILITY CONTRACTORS MUST NOTIFY VDOT WHEN INSTALLATION BEGINS SO THAT DENSITY CAN BE TESTED ON TRENCH BACKFILL (95% ASTM. D-698 @ OPTIMUM
- THE INSTALLATION OF A SEWER BACKFLOW DEVICE IS REQUIRED FOR ALL SERVICE CONNECTIONS WHERE THE FINISHED FLOOR ELEVATION IS LOWER THAN THE NEAREST DOWNGRADE AND/OR UPGRADE MANHOLE TOP ELEVATIONS. THIS DEVICE WILL BE INSPECTED BY THE BUILDING INSPECTION DEPARTMENT.
- 4. ALL WATER SERVICE CONNECTIONS BELOW THE <u>ELEVATION</u> CONTOUR OR WHERE THE PRESSURE IS GREATER THAN 80 P.S.I. WILL REQUIRE INDIVIDUAL PRESSURE REGULATORS AS REQUIRED BY BOCA CODE.
- VERTICAL DATUM IS BASED ON MEAN SEA LEVEL (USC & GS DATUM). HORIZONTAL CONTROLS ARE BASED ON VIRGINIA STATE PLANE COORDINATE GRID, SOUTH ZONE, NORTH AMERICAN DATUM OF 1983 (NAD 83).
- CONTRACTOR SHALL PROPERLY NOTIFY ALL PROPERTY OWNERS TWO (2) WEEKS PRIOR TO THE START OF ANY CONSTRUCTION (INCLUDING LAND CLEARING). NOTIFICATION SHALL BE IN THE FORM OF A LETTER SIMILAR TO THE "SAMPLE" REFLECTED IN THE COUNTY'S LATEST WATER AND SEWER SPECIFICATIONS

#### REQUIRED INFORMATION FOR TITLE PAGE

APPLICANTS NAME TAX MAP NUMBER DATE OF PLANNING ----

COMMISSION APPROVAL

STANDARD CG-2

CONCRETE TO BE A3 IF
CAST IN PLACE, 4,000 PSI
IF PRECAST.

SPECIFICATION REFERENCE

STANDARD SEWER AND WATER NOTES DES-2

- BARS A AND C

STANDARD SEWER AND WATER NOTES DES-2
REVISIONS

PRINCE GEORGE COUNTY

. THE ENGINEER WILL CERTIFY THAT THE ROADS ARE WITHIN 6-INCHES OF SUBGRADE

SHALL NOTIFY VDOT 48 HOURS IN ADVANCE WHEN INSTALLATION BEGINS SO THAT

FOR SEWER AND WATER INSTALLATION WITHIN EXISTING VDOT R/W; UTILITY CONTRACTORS

. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON THE PLANSIN AREAS OF CONSTRUCTION PRIOR TO STARTING THE WORK. CONTACT ENGINEER IMMEDIATELY, IF: LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLAN, OR IF: THERE APPEARS TO BE A CONFLICT, AND UPON

FINISHED FLOOR ELEVATION IS LOWER THAN THE TOP UPGRADE MANHOLE. THIS DEVICE

DISCOVERY OF ANY UTILITY NOT SHOWN ON THE PLAN CALL MISS UTILITY OF VIRGINIA AT 1-800-552-7001 (TOLL FREE)

10. THE INSTALLATION OF A BACKFLOW DEVICE IS REQUIRED IN ALL HOUSES WHERE THE

12. ALL WATERLINE VALVES MUST BE LOCATED ON THE TEE OR CROSS WHEN APPLICABLE.

EXTENDED ONE FOOT ABOVE THE GROUND OR DETAIL MAN -2B SHALL BE USED

14. A SMOOTH TRANSITION OF A DROP MANHOLE MUST BE PROVIDED FOR EACH LATERAL

16. METER BOXES PROVIDED SHALL BE CAST IRON 12"x18"x24" HIGH WITH CAST IRON LIDS.

THE METER ASSEMBLIES ARE TO BE SUPPLIED WITH NEPTUNE PROREAD ENCODERS AND R900I PIT MIU (RF) ATTACHED TO THE LID. METERS ARE TO BE COMPATIBLE WITH THE PROPOSED SYSTEM. A WAND TYPE VISUAL READER

COMPATIBLE WITH THE PROREAD SYSTEM WILL BE SUPPLIED TO THE UTILITY

17. ALL SANITARY SEWER LATERALS THAT ARE INSTALLED OUTSIDE OF THE R/W ARE TO HAVE THE CLEANOUT INSTALLED AT THE EDGE OF THE EASEMENT. A CARSONITE MARKER SHALL ALSO BE INSTALLED TO INDICATE THEIR LOCATION.

18. ALL HYDRANTS AND BENDS SHALL BE EQUIPPED WITH MEGA LUGS, KICKERS

19, PRESSURE REDUCING VALVES SHALL BE USED ON LOTS WHERE THE STATIC

20 CLEANOUTS ARE TO BE INSTALLED ON ALL SANITARY LATERALS IN ACCORDANCE

WITH PRINCE GEORGE COUNTY SPECIFICATIONS, THESE CLEANOUTS SHOULD BE

PRESSURE IN THE SYSTEM EXCEEDS 80 PSI OR AS REQUIRED BY

13. ALL MANHOLES IN UTILITY EASEMENTS ARE TO HAVE THE CONCRETE SECTION

DEPARTMENT OF PUBLIC UTILITIES

BEFORE WATERLINE CONSTRUCTION CAN BEGIN.

11. INDIVIDUAL WATER SERVICES SHALL BE 3/4"

DENSITY CAN BE TESTED (95% @ OPTIMUM MOISTURE + 20%)

WILL BE INSPECTED BY THE COUNTY BUILDING INSPECTOR.

OR SANITARY SEWER ENTERING A SANITARY MANHOLE

15. ALL FIRE HYDRANTS SHALL BE O.S.H.A. RED IN COLOR.

DEPARTMENT WITH THE WATER METERS.

INSTALLED AT THE EDGE OF THE R/W.

AND THRUST BLOCKS.

NOTES CONT:

STANDARD SEWER AND WATER NOTES | DES-2

## PRINCE GEORGE COUNTY DEPARTMENT OF PUBLIC UTILITIES

#### NOTES CONT:

- 21. UTILITY INSPECTOR SHALL BE CONTACTED BEFORE INDIVIDUAL SERVICE CONNECTIONS ARE COVERED.
- 22. ALL MANHOLES WITHIN 1,000 FEET OF A FORCE MAIN DISCHARGE SHALL BE COATED AS REQUIRED IN THE LATEST COUNTY SPECIFICATIONS.
- 23. ALL INDIVIDUAL WATER AND SEWER CONNECTIONS SHALL BE MADE USING DOUBLE BANDED, STAINLESS STEEL, EPOXY COATED SADDLES.
- 24. A 'W' AND 'S' SHALL BE STAMPED IN THE CURB WHILE THE CONCRETE IS STILL WET. THESE MARKS SHALL INDICATE THE ACTUAL LOCATION OF THE WATER AND SEWER CONNECTIONS FOR EACH LOT.
- 25. ALL MANHOLES SHALL BE SEALED AT THE JOINTS WITH AN EXTERNAL RUBBER SLEEVE SIMILAR TO THE INFI-SHIELD SEAL 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.
- 26. THE BOXES FOR THE SEWER CONNECTIONS MUST BE MARKED AS SEWER CONNECTIONS RATHER THAN WATER METER.

PRINCE GEORGE COUNTY

DEPARTMENT OF PUBLIC UTILITIES

27. ALL GATE VALVE BOXES LOCATED OUTSIDE THE PAVEMENT NEED TO BE ENCLOSED IN A 12"x12"x6" CONCRETE ENLOSURE.

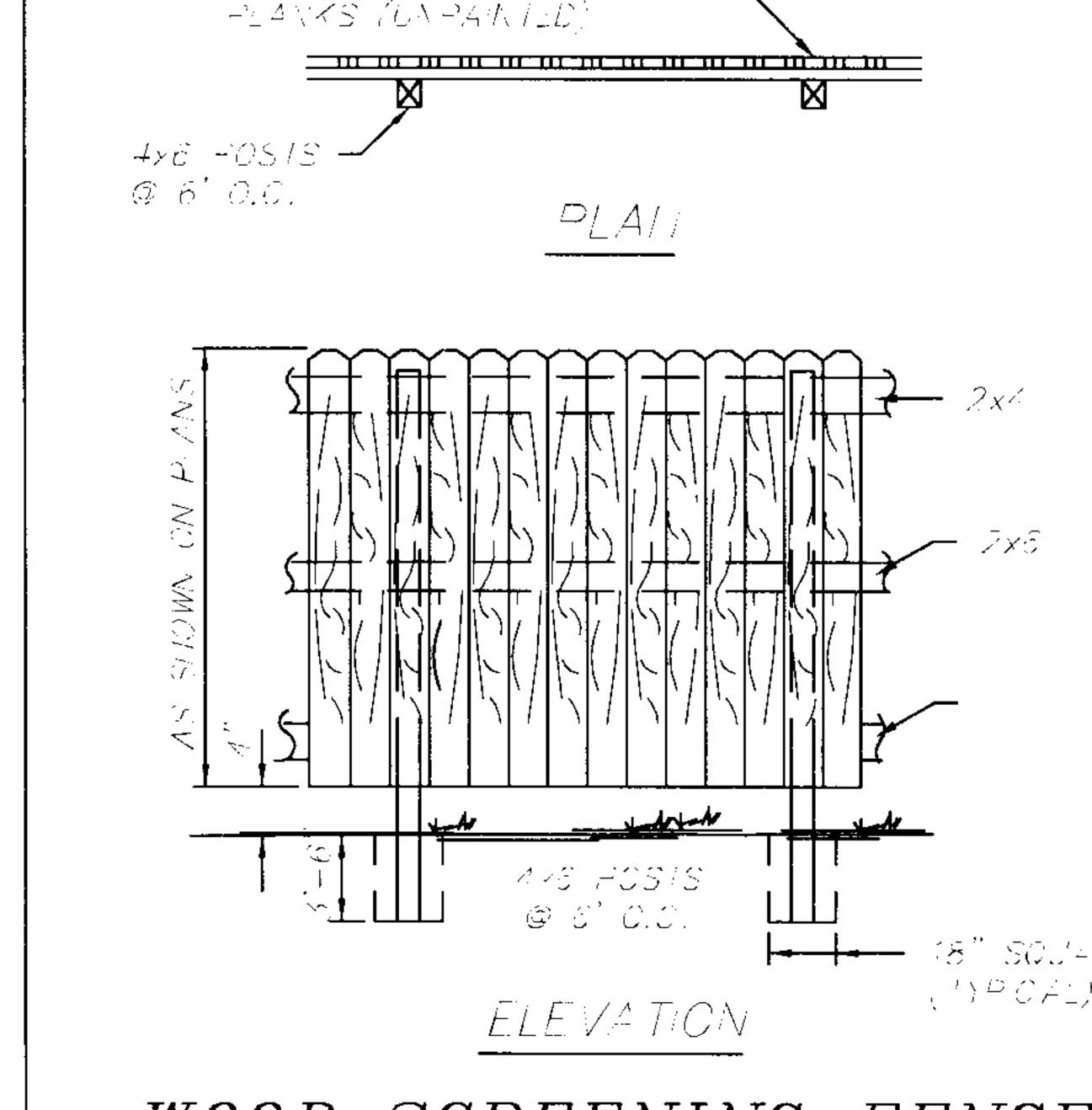
### CONSTRUCTION NOTES

- THE DEVELOPER IS REPONSIBLE FOR INSPECTION OF THE AGGREGATE BASE COURSE(S) 48 HOURS PRIOR TO APPLICATION OF THE SURFACE COURSE(S).
- ALL GRADE STAKES DESTROYED BY THE CONTRACTOR, SHALL BE REPLACED AT HIS EXPENSE.
- EXCESS EXCAVATION TO BE DISPOSED OF AS DIRECTED BY THE OWNER.
- THE OWNER SHALL ACQUIRE ANY AND ALL NECESSARY CONSTRUCTION PERMITS. STAKING SHALL BE DONE ONLY BY A CERTIFIED LAND SURVEYOR. DO NOT STAKE FROM
- TO ADDITIONAL FACILITIES SUCH AS CEEDING, PAVING, SILT DAMS, ETC. AS MAY BE DEEMED TO LIMIT SILTATION AND POLLUTION OF NEARBY LAKES, PONDS, STREAMS AND ADJACENT PROPERTY. CONTACT VDOT FOR INSPECTION OF THE AGGREGATE BASE COURSE(S) 48 HOURS PRIOR TO THE APPLICATION OF THE SURFACE COURSE(S).

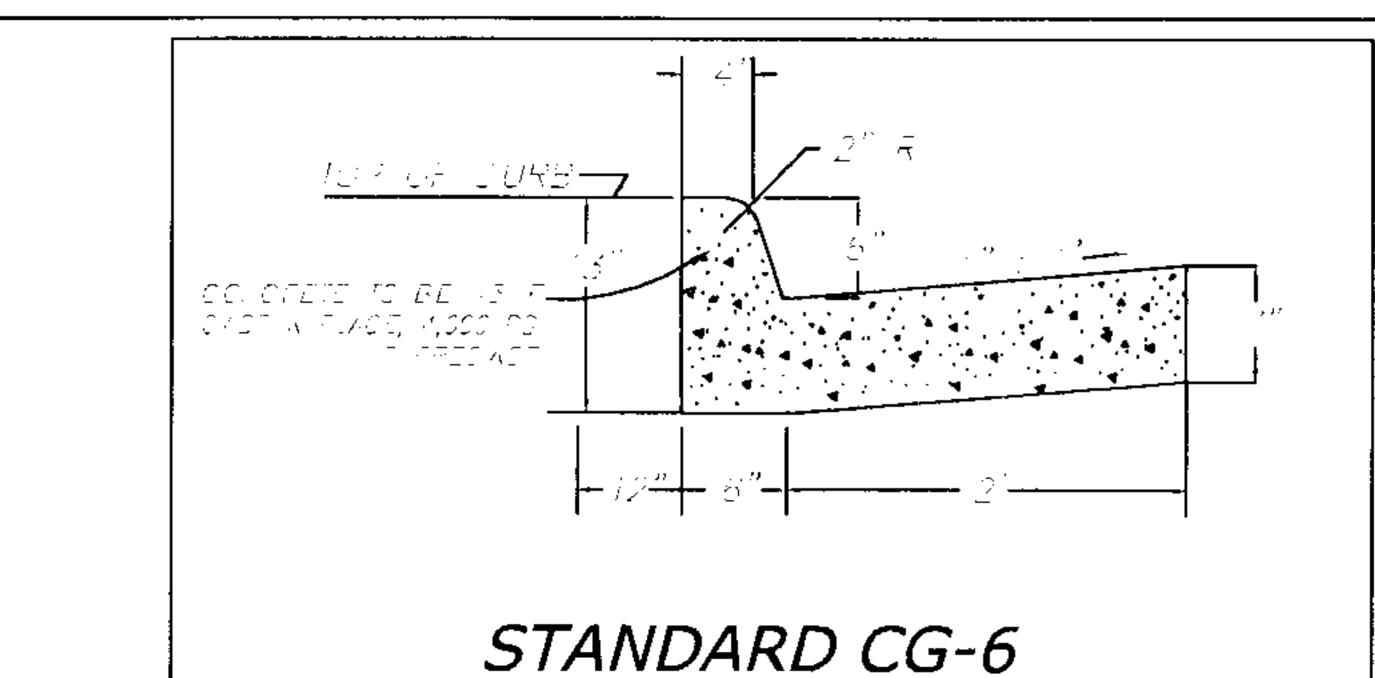
OF WAY STONES. ANY MARKERS DAMAGED SHALL BE REPLACED AT HIS EXPENSE.

DVB POUCH SAWN TREATED -

- 3. ALL UTILITIES TO BE IN PLACE PRIOR TO LAYING BASE MATERIAL.
- LANDSCAPING: SITE IMPROVEMENT WILL BE INSTALLED AND MAINTAINED SO AS NOT TO INTERFERE WITH SIGHT DISTANCE OF DRIVERS WITHIN THE PARKING AREA OR AT ENTRANCE/EXIT LOCATIONS.
- 10. SEE VDOT SUBDIVISION AND SITE CONSTRUCTION PLAN GENERAL NOTES.



WOOD SCREENING FENCE



PRINCE GEORGE COUNTY DEPARTMENT OF PUBLIC UTILITIES

THE CONNECTOR PIPE SHALL BE CEMENT LINED IN ACCORDANCE WITH AWWA BREAKAWAY FLANGE (SEE -NOTE E) HYDRANT BREAKAWAY FLANGE SHOULD BE LOCATED NO MORE THAN 6' ABOVE FINISHED GRADE. EDGE OF ROW 12'x12'x6'CONCRETE ENGLOSURE APPROX. 21'---HOLE WITH CONCRETE PLACE STONE OVER WEEP HOLE AREA.

PRODUCT AS MANUFACTURED BY ASSURED

(A) HYDRANT ISOLATION VALVE TO BE LOCATED AS CLOSE TO THE HYDRANT AS POSSIBLE (B) MINIMUM COVER AT DITCH MUST BE 3'6" OR GREATER.

TYPICAL FIRE HYDRANT DETAIL

HYDRANT THRUST

SEE NOTE B)

REVISIONS

DRWG. NO. FIR-2 REVISIONS -

3" OR LARGER DOUBLE CHECK ASSEMBLY AND VAULT SHT. 1 OF 2 REVISIONS

NOT REQUIRE A STAMESE CONNECTION.

\* (E) REQUIRED (MAIN LINE SIZE) " X 4"

BITUMINOUS COATING

\*\* BLOWUP DETAIL A

\* (F) 4" CHECK VALVE

CONSTRUCTION, SEE PART IV, & PART V OF THE SPECIFICATIONS. DRWG. NO. DATE

POURED IN PLACE CONCRETE

EXT. COATING

LW/AVERAGE OF 24"

LIST OF APPROVED

MANUFACTURERS).

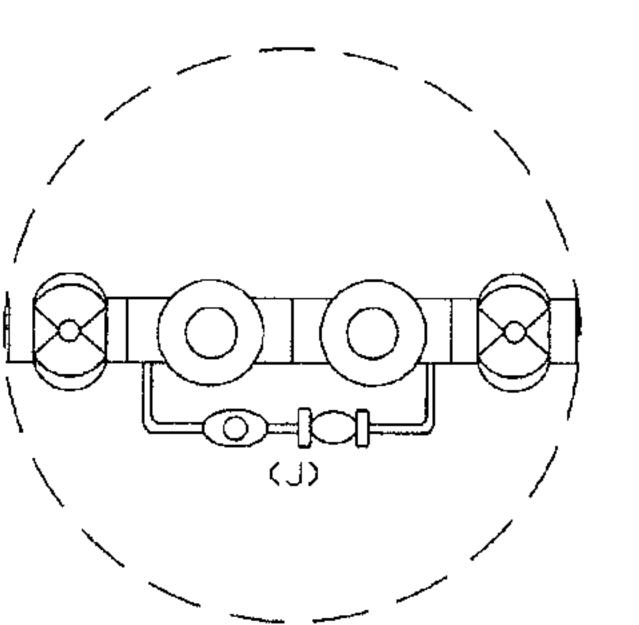
CLEARANCE

SUMP WHERE WATER TABLE IS A PROBLEM OR GRAVITY DRAIN WHERE WATER TABLE IS NOT

(J) BYPASS LINE W/DETECTOR METER & BACKFLOW

DEPARTMENT OF PUBLIC UTILITIES

PRINCE GEORGE COUNTY



BLOWUP DETAIL A

DETECTOR CHECK ASSEMBLY AS OUTLINED BELOW:

- HYDRANTS TO BE INSTALLED OFF A PRIVATELY MAINTAINED (FIRE SUPPRESSION) WATER LINE,
- AFTER THOROUGH EVALUATION AND CONSULTATION WITH OTHER MAY BE REQUESTED TO SHOW THAT CERTAIN FIRE HYDRANT LINES BE PRIVATELY MAINTAINED RATHER THAN PUBLICLY MAINTAINED, OR
- UNDER UNUSUAL CIRCUMSTANCES, AND WHEN IT IS DEEMED APPROPRIATE BY COUNTY STAFF THAT A DOUBLE DETECTOR SPEAKING, THIS WOULD BE A CASE WHERE THERE IS A POTENTIAL FOR ABOVE-AVERAGE WATER LOSS (UNACCOUNTABLE WATER).

GUIDELINES FOR THE USE OF DOUBLE DETECTOR CHECK

Lic. No. 24761

2008 Dela 102 JULY 2008

K.HALPAUS **DESIGNED BY** 

K.HALPAUS

SHEET NO.

DRWG. NO.

25056

# V<sub>1</sub> - 1.000 CU. FT. V<sub>2</sub> - 0.583 CU. FT. V<sub>3</sub> - 0.750 CU. FT. V4 - 0.708 CU. FT. BARS A NO. 4-FROM PICTORIAL VIEW IT IS SEEN THAT: $V = V_1 W + 2V_2 (N-1) + V_3 (WN+1) + 2V_4$ SUBSTITUTING VALUES OF ELEMENTARY VOLUMES: V = 1.000 W+1.166(N-1)+0.750(WN+1)+1.416V<sub>1</sub>, V<sub>2</sub>, V<sub>3</sub> & V<sub>4</sub> - INDICATE ELEMENTARY VOLUMES USED IN COMPUTING V. W - INDICATES CLEAR WIDTH OF STEPS, IN FEET, BETWEEN N - INDICATES NUMBER OF STEPS IN INSTALLATION EXCLUSIVE - INDICATES LENGTH OF BARS A, IN INCHES. L1 = 13.416N + 8" - INDICATES LENGTH OF BARS B, IN INCHES. L2 = 12W + 9" - INDICATES LENGTH OF BARS C, IN INCHES. L3 = 13.416N + 18"

STANDARD CONCRETE STEPS FOR 2:1 SLOPE

VIRGINIA DEPARTMENT OF TRANSPORTATION