CEDARWOOD

SECTIONS ONE & TWO

RIVES DISTRICT

PRINCE GEORGE COUNTY, VIRGINIA

TAX MAP : 43 (A) 130

ZONING : R - 1

JANUARY 6, 1988

REVISED : MARCH 14, 1997

APPROVED FOR CONSTRUCTION
SUBJECT TO INSPECTION BY COUNTY ENGINEER
DATE September 11, 1997

APPROVAL FOR:
STORMWATER MANAGEMENT
WATER DISTRIBUTION
SANITARY SEWER COLLECTION
EROSION AND SEDIMENT CONTROL
CHESAPEAKE BAY COMPLIANCE

APPROVED BY: Stephen C. McBride
COUNTY ENGINEER

GENERAL NOTES

1. THE MOST CURRENT EDITION OF THE ROAD AND BRIDGE SPECIFICATIONS AND THE MOST CURRENT EDITION OF THE ROAD DESIGNS AND STANDARDS OF THE VIRGINIA DEPARTMENT OF HIGHWAYS AND TRANSPORTATION SHALL GOVERN THE FOLLOWING:
   A. POURING, CURING, FORMS, WORKMANSHIP, ETC. OF ALL CONCRETE USED ON THIS PROJECT.
   B. STABILIZED BASE COURSE MATERIAL AND SURFACE TREATMENT OR BITUMINOUS SURFACE.
   C. MATERIALS AND INSTALLING OF ALL PIPE CULVERTS.
2. ALL CURB AND GUTTER FILLETS AT INTERSECTIONS ARE TO HAVE 30' RADII UNLESS OTHERWISE NOTED.
   ALL EARTH DITCH FILLETS AT INTERSECTIONS ARE TO HAVE 35' RADII UNLESS OTHERWISE NOTED.
3. BACKFILL FOR ALL UTILITIES WITHIN PROPOSED SUBDIVISION STREETS SHALL BE PLACED GENERALLY IN ACCORDANCE WITH COUNTY SPECIFICATIONS AND THE FOLLOWING CRITERIA:
   A. NO TRENCH SHALL BE BACKFILLED UNTIL AUTHORIZED BY THE COUNTY. MATERIALS USED FOR BACKFILL FROM THE BOTTOM OF THE TRENCH TO TWELVE (12"") INCHES ABOVE THE PIPE SHALL BE SELECT MATERIAL FREE FROM FROST, LARGE CLODS, STONES AND DEBRIS. IT SHALL BE THOROUGHLY AND CAREFULLY COMPACTED TO INSURE A SOUND BACKFILL AROUND AND OVER THE PIPE.
   B. BACKFILL SHALL BE COMPACTED BY MECHANICAL TAMPING THROUGHOUT THE DEPTH OF THE TRENCH TO OBTAIN 95% DENSITY AT OPTIMUM MOISTURE +2%. THIS IS TO INSURE A SUITABLE SUBBASE, ACCEPTABLE TO THE ROAD ENGINEER FOR THE PROPOSED ROADS.
   C. IF IN THE OPINION OF THE COUNTY OR ROAD ENGINEER, THE MATERIAL TAKEN FROM THE DITCH IS NOT SUITABLE FOR BACKFILLING, IT SHALL BE REMOVED AND ACCEPTABLE MATERIAL USED FOR BACKFILLING AND TRENCH.
4. TOP ELEVATIONS OF SEWER MANHOLES TO BE SET TO COINCIDE WITH THE PAVEMENT GRADE.
5. ALL UTILITIES TO BE IN PLACE BEFORE LAYING BASE MATERIAL (AGGREGATE, TYPE 21-A).
6. CLEARING AND GRUBBING SHALL BE COMPLETE WITHIN THE ENTIRE RIGHT OF WAY UNLESS OTHERWISE APPROVED BY THE ROAD ENGINEER.
7. THE LOCATION OF ALL DRAINAGE STRUCTURES ON THESE PLANS IS APPROXIMATE. FINAL FIELD LOCATION MAY BE MADE BY THE ENGINEER TO MEET FIELD CONDITIONS.
8. GRADE LINES ON PROFILES DENOTE FINISHED GRADE AT CENTER LINE OF ROAD.
9. ALL VEGETATION AND OVERBURDEN TO BE REMOVED FROM SHOULDER TO SHOULDER PRIOR TO THE CONDITIONING OF THE SUBGRADE.
10. ALL DRAINAGE EASEMENTS TO BE CLEARED AND GRUBBED AND GRADED TO CONTAIN WATER FROM PIPE CULVERTS.
11. LENGTH OF ALL PIPE CULVERTS SHOWN ON THESE PLANS IS APPROXIMATE ONLY.
12. CONCRETE FROM CURB AND GUTTER SHALL BE CLASS A-3 PER CURRENT SPECIFICATIONS OF THE VIRGINIA DEPARTMENT OF HIGHWAYS AND TRANSPORTATION.
13. THE VIRGINIA DEPARTMENT OF HIGHWAYS AND TRANSPORTATION APPROVAL OF THESE PLANS WILL EXPIRE THREE (3) YEARS FROM THE DATE OF APPROVAL.
14. THE CONTRACTOR WILL SEED ALL SLOPES AS SOON AS POSSIBLE TO ELIMINATE UNNECESSARY EROSION. NO DISTURBED SURFACE WILL BE LEFT UNSEEDED. WHERE REQUIRED, ALL ROADS DITCHES ARE TO BE PAVED IN ACCORDANCE WITH STANDARD PG-2A-1 (MODIFIED TO FIT TYPICAL SECTION) WITH MINIMUM DEPTH TO CONTAIN TEN YEAR STORM, UNLESS OTHERWISE DIRECTED BY THE ENGINEER IN WRITING.
15. VIRGINIA DEPARTMENT OF HIGHWAYS AND TRANSPORTATION APPROVAL OF SUBDIVISION ROAD PLANS DOES NOT PRECLUDE THE RIGHT TO ADD ADDITIONAL FACILITIES, SUCH AS SEEDING, PAVING, SILT DAMS, SILT BASINS, ETC., AS MAY BE DEEMED NECESSARY BY THE DEPARTMENT PRIOR TO THE ACCEPTANCE OF SUCH ROADS IN ORDER TO LIMIT SILTATION AND POLLUTION OF NEARBY LAKES, PONDS, STREAMS AND ADJACENT PROPERTY.
16. ALL DRAINAGE EASEMENTS ARE TO EXTEND TO A NATURAL WATER COURSE.
17. SLOPE EASEMENTS FOR FILL SLOPES ARE REQUIRED WHERE SLOPES EXCEED PROPOSED RIGHT OF WAY LIMITS.
18. PERMIT TO TIE INTO EXISTING ROAD SHALL BE OBTAINED FROM RESIDENT ENGINEER PRIOR TO ROAD CONSTRUCTION.
19. THE CONTRACTOR WILL SEED ALL SLOPES AND EASMENTS WITH AT LEAST A TEMPORARY SEEDING WITHIN FIFTEEN (15) DAYS AFTER THE COMPLETION OF STREET GRADING OR SEWER SEWER PLACEMENT TO ELIMINATE UNNECESSARY EROSION. NO DISTURBED AREA WILL BE ALLOWED PRIOR TO THE ACCEPTANCE OF THE ROAD INTO THE STATE SYSTEM.
20. ALL PRIVATE ENTRANCE CULVERTS ARE TO BE CLASS III CONCRETE PIPE AND 20 FEET IN LENGTH, UNLESS OTHERWISE NOTED. DIAMETERS 15"
21. EXISTING CUL-DE-SACS TO BE REMOVED WHEN ERRYOSED ROADS ARE CONSTRUCTED.
22. ALL SUBGRADE MATERIAL SHALL HAVE A MINIMUM CBR VALUE OF TEN (10).
23. PAVEMENT DESIGN SHALL BE SPECIFIED ON PLANS, AS WELL AS ROADWAY CATEGORY.
24. ROAD ENGINEER MUST BE NOTIFIED PRIOR TO ANY CONSTRUCTION OF SUBDIVISION STREETS.
25. CUL-DE-SACS SHALL BE CONSTRUCTED AT THE END OF ALL DEAD END ROADS UNLESS AUTHORIZED BY THE ROAD ENGINEER (ELIMINATE STUBS IF POSSIBLE).
26. THE BASE MATERIAL FOR ALL STREETS MUST BE APPROVED BY THE ROAD ENGINEER PRIOR TO THE PLACEMENT OF THE SURFACE COURSE. IF UNSUITABLE MATERIAL FOR THE SUBGRADE IS ENCOUNTERED THEN THE ROAD ENGINEER MUST BE NOTIFIED PRIOR TO THE PLACEMENT OF THE BASE MATERIAL.
27. BASE MUST BE APPROVED BY VDH & T FOR DEPTH, TEMPLATE AND COMPACTION BEFORE SURFACE IS APPLIED.
28. THE LOCATION OF EXISTING UTILITIES, STORM SEWERS, SANITARY SEWER, GAS LINES, WATER LINES, ELECTRICAL LINES AND TELEPHONE LINES EITHER UNDERGROUND AND/OR OVERHEAD ACROSS OR ALONG THE LINE OF PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS AND WHERE SHOWN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL ON HIS OWN INITIATIVE AND AT NO EXTRA COST, LOCATE ALL UNDERGROUND LINES AND STRUCTURES AS NECESSARY. NO CLAIMS FOR DAMAGES OR EXTRA COMPENSATION SHALL ACCRUE TO THE CONTRACTOR FROM THE PRESENCE OF SUCH PIPES OR OTHER OBSTRUCTIONS OR FROM ANY DELAY DUE TO THE REMOVAL OR REARRANGEMENT OF SAME.
29. ALL CUT AND FILL SLOPES AND DRAINAGE SLOPES WHICH ARE NOT PAVED SHALL BE SEEDED UNTIL A GOOD STAND OF GRASS IS OBTAINED IS ACCORDANCE WITH THE VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK AND THE FOLLOWING TABLE:
   A. 100 LB. PER 1000 SQ. FT. GROUND LIMESTONE OR EQUIVALENT. NO SOIL TEST REQUIRED FOR INITIAL ESTABLISHMENT.
   B. 25 LB. OF 5-20-10 FERTILIZER OR EQUIVALENT PER 1000 SQ. FT.
   C. VARIETIES TO BE SEEDED:
      1. SPRING SEEDING - MARCH 1 THRU MAY 1; MIXTURE #5 AT 1 LB. PER 1000 SQ. FT.
      2. SUMMER SEEDING - MAY 1 THRU AUGUST 1; MIXTURE #6 AT 1½ LBS. PER 1000 SQ. FT.
      3. AUTUMN SEEDING - AUGUST 1 THRU OCTOBER 1; MIXTURE #5 AT 1 LB. PER 1000 SQ. FT.
      4. MULCH 80 LB. STRAW PER 1000 SQ. FT., OR ASPHALT MULCH 10 GAL. PER 1000 SQ. FT.
      5. ALL SEEDING MUST BE MULCHED.
30. AUTHORIZED LOCAL OFFICIALS SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF THE WORK TO BE STARTED SO AN AUTHORIZED REPRESENTATIVE MAY BE ASSIGNED TO MAKE ANY AND ALL NECESSARY INSPECTIONS OF THE WORK PERFORMED.
31. CONTRACTOR SHALL CALL FOR COUNTY INSPECTION OF ALL PIPE LINE INSTALLATION PRIOR TO PLACING BACKFILL.
32. WHEN ALL IMPROVEMENTS ARE COMPLETED, ALL DRAINAGE AND SANITARY SEWER LINES ARE FLUSHED AND CLEANED OF FOREIGN MATTER AND ALL CURBS AND GUTTERS AND STREETS ARE CLEANED AND FREE OF DIRT AND DEBRIS, THE SUBDIVIDER SHALL NOTIFY THE APPROPRIATE LOCAL OFFICIAL TO MAKE FINAL INSPECTION, A REPRESENTATIVE OF THE SUBDIVIDER SHALL BE PRESENT AT THE FINAL INSPECTION.
33. THE CONTRACTOR SHALL NOTIFY THE LOCAL INSPECTOR AT LEAST 24 HOURS BEFORE PLACING BASE STONE SO THE SUBGRADE MAY BE INSPECTED AND 24 HOURS BEFORE PLACING SURFACE COURSE SO THE LOCAL INSPECTOR WILL BE ON SITE.
34. WHERE SPRINGS ARE ENCOUNTERED WITHIN THE RIGHT OF WAY, STANDARD SPRING BOXES SHALL BE PROVIDED AND PIPED TO THE NEAREST DRAINAGE OUTLET.
35. WHERE DITCHES ARE DEEPENED TO ACCOMMODATE CULVERTS, THE SLOPE FROM THE SHOULDER TO THE DITCH SHALL BE MAINTAINED 2.7:1, THEREBY MOVING THE DITCH PROFILE FURTHER FROM CENTERLINE.
36. CONTRACTOR SHALL NOTIFY "MISS UTILITY" BEFORE BEGINNING ANY EXCAVATION (1-800-552-7001).
37. ALL CONCENTRATED DRAINAGE BEING CONVEYED FROM ROADSIDE DITCHES IN CUT SECTIONS INTO FILL SECTIONS SHOULD BE CONFINED ALONG SUCH AREAS BY TOE DITCHES WHERE ADJACENT PROPERTY SLOPES AWAY FROM ROADWAY, TO PREVENT CONCENTRATED DRAINAGE FROM BEING TURNED ONTO ADJACENT LOTS.
38. ALL ROADSIDE DITCHES SHOWN AS PAVED ON PLANS ARE TO BE PAVED IN ACCORDANCE WITH THE STANDARD TYPICAL SECTION OR SPECIAL SECTION AS SHOWN ON PLANS, UNLESS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER, IN WRITING. ANY ADDITIONAL PAVINGS OF THE DITCHES, OTHER THAN THOSE SHOWN ON THE ROAD PLANS, WILL BE DETERMINED PRIOR TO ACCEPTANCE OF THE ROADS INTO THE VDH & T SECONDARY ROAD SYSTEM.
39. EXCESS EXCAVATION TO BE DISPOSED OF AS DIRECTED BY THE ENGINEER.
40. THE REQUIREMENT TO PUGMILL AGGREGATE BASE WILL BE WAIVED IN THE EVENT THAT THE SURFACE COURSE IS APPLIED AFTER A MINIMUM 60 DAY WAITING PERIOD BEGINNING AT THE COMPLETION OF THE INSTALLATION OF THE AGGREGATE BASE. IN THE EVENT THAT THE SURFACE COURSE IS APPLIED PRIOR TO 60 DAYS, THE PUGMILL REQUIREMENT WILL APPLY.
41. WATER AND SEWER CONTRACTORS MUST NOTIFY VDH & T IN WRITING WHEN INSTALLATION BEGINS SO THAT DENSITY CAN BE TESTED (95% @ ± 2% OPTIMUM MOISTURE).
42. THE CONSTRUCTION OF ALL UTILITIES ON THIS PROJECT SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS FOR THE CONSTRUCTION OF UTILITIES IN THE COUNTY OF PRINCE GEORGE, VIRGINIA.

LEGEND

SHEET #	DESCRIPTION
1	COVER SHEET
1D	DETAILS
1H	HYDRAULIC ANALYSIS/EROSION CONTROL
2	MASTER UTILITIES
3	UTILITIES PLAN
4	UTILITIES PLAN
5	UTILITIES PLAN
6	UTILITIES PROFILE
7	UTILITIES PROFILE
8	UTILITIES PROFILE
9	ROAD AND DRAINAGE PLAN
10	ROAD AND DRAINAGE PLAN
11	ROAD AND DRAINAGE PLAN
12	ROAD AND DRAINAGE PROFILES
13	ROAD AND DRAINAGE PROFILES
14	ROAD AND DRAINAGE PROFILES
15	PROFILES
PS-1	PUMP STATION
PS-2	PUMP STATION PLAN AND PROFILE

DRAINAGE SUMMARY - SECTION ONE

1. Drop Inlet, St'd DI-3B, Throat Length = 10.0'
   H = 4.85' Top = 134.15 W/Steps St'd ST-1
   21" Inv. Out = 129.30 6'-21" Stub Inv. In = 132.15
   21' Left of Station 15+36.15 Cedar Run Road

1-2. 93'-21" RCP Class III, Slope = 1.20%
   Inv. In = 129.30 Inv. Out = 128.18

2. Drop Inlet, St'd DI-3C, Throat Length = 20.0'
   H = 5.73 Top = 133.41 W/18-I Inlet Shaping
   W/Steps St'd ST-1 21" Inv. In = 128.18
   24" Inv. Out = 127.68
   31' Right of Station 16+12.62 Cedar Run Road

2-4. 218'-27" RCP Class III, Slope = 0.50%
   Inv. In = 127.68 Inv. Out = 126.59

3. Drop Inlet, St'd DI-3C, Throat Length = 20.0'
   H = 4.58' Top = 131.84 W/ Steps St'd ST-1
   21" Inv. Out = 127.26
   21' Left of Station 18+36.16 Cedar Run Road

3-4. 43'-21" RCP Class III, Slope = 0.40%
   Inv. In = 127.26 Inv. Out = 127.09

8. Drop Inlet, St'd DI-3B, Throat Length = 8.0'
   H = 5.44 Top = 138.15 W/ Steps St'd ST-1
   15" Inv. Out = 132.71
   20' Left of Station 24+60.45 Cedar Run Road

8-9. 55'-15" RCP Class III, Slope = 0.30%
   Inv. In. = 132.71 Inv. Out = 132.54

9. Drop Inlet, St'd DI-3C, Throat Length = 8.0'
   H = 5.14 Top 137.43 W/ Steps St'd ST-1
   15" Inv. In = 132.54 18" Inv. Out = 132.29
   31' Right of Station 24+42.86 Cedar Run Road

9-7. 206'-18" RCP Class III, Slope = 0.95%
   Inv. In = 132.29 Inv. Out = 130.33

6. Drop Inlet, St'd DI-3B, Throat Length = 14.0'
   H = 4.58 Top = 134.08 W/ Steps St'd ST-1
   21" Inv. Out = 129.50 6'-18" Stub Inv. In = 132.08
   21' Left of Station 22+36.16 Cedar Run Road

6-7. 43'-21" RCP Class III, Slope = 0.40%
   Inv. In = 129.50 Inv. Out = 129.24

7. Drop Inlet, St'd DI-3B, Throat Length = 8.0'
   H = 5.09 Top = 134.08 W/Steps St'd ST-1
   18" Inv. In = 130.33 21" Inv. In 129.24
   24" Inv. Out = 128.99 W/18-I Inlet Shaping
   21' Right of Station 22+36.16 Cedar Run Road

7-5. 147'-24" RCP Class III, Slope = 0.80%
   Inv. In = 128.99 Inv. Out = 127.81

12. Drop Inlet, St'd DI-3C, Throat Length = 6.0'
   H = 3.64 Top = 133.82 15" Inv. Out = 130.18
   17' Right of Station 13+00.00 Heathwood Court

12-11. 35' - 15" RCP Class III, Slope = 0.20%
   Inv. In = 130.18 Inv. Out = 130.11

11. Drop Inlet, St'd DI-3C, Throat Length = 6.0'
   H = 3.81 Top = 133.82
   15" Inv. In = 130.11 15" Inv. Out = 130.01
   17' Left of Station 13+00.00 Heathwood Court

11-5. 291' - 15" RCP Class III, Slope = 0.50%
   Inv. In = 130.01 Inv. Out = 128.56

5. Drop Inlet, St'd DI-3C, Throat Length = 10.0'
   H = 5.75 Top = 133.06 W/Steps St'd ST-1
   24" Inv. In = 127.81 15" Inv. In = 128.56
   30" Inv. Out = 127.31
   31' Right of Station 20+90.63 Cedar Run Road

5-4. 261' - 30" RCP Class III, Slope = 0.50%
   Inv. In = 127.31 Inv. Out = 126.00

4. Drop Inlet, St'd DI-3C, Throat Length = 14.0'
   H = 6.31 Top = 131.84 W/Steps St'd ST-1
   27" Inv. In = 126.59 21" Inv. In = 127.09
   30" Inv. In = 126.00 48" Inv. Out = 125.84
   W/18-I Inlet Shaping
   21' Right of Station 19+30.03 Cedar Run Road
   C/L Station 10+21 Drainage Outfall A.

4-10. 361' - 42" RCP Class II, Slope = 0.40%
   Inv. In = 125.84 Inv. Out = 124.40

10. Manhole, St'd MH-2 W/Steps St'd ST-1
   H = 4.16, Top = 130.00
   42" Inv. In = 124.40 42" Inv. Out = 124.30
   C/L Station 13+61 Drainage Outfall A

10-13. 80' - 42" RCP Class II, Slope = 0.40%
   Inv. In = 124.30 Inv. Out = 123.98

13. Drop Inlet, St'd DI-7 W/Steps St'd ST-1
   H = 4.12 Top 128.00 W/18-I Inlet Shaping
   42" Inv. In = 123.98 42" Inv. Out = 123.88
   C/L Station 14+41 Drainage Outfall A

13-14. 339' - 42" RCP Class II, Slope = 0.50%
   Inv. In = 123.88 Inv. Out = 122.18

14. Manhole, St'd MH-2, W/Steps St'd St-1
   H = 10.42 Top = 132.5 W/18-I Inlet Shaping
   42" Inv. In = 122.18 42" Inv. Out = 122.08
   C/L Station 17+80 Drainage Outfall A

14-31. 196' - 42" RCP Class II, Slope = 0.50%
   Inv. In = 122.08 Inv. Out = 121.10

31. Manhole, St'd MH-2, W/Steps St'd St-1
   H = 7.00' Top = 128.00 W/18-I Inlet Shaping
   42" Inv. In = 121.10 18" Inv. In = 123.00
   42" Inv. Out = 121.00
   C/L Station 19+96 Drainage Outfall A

31-Outfall 25' - 42" RCP Class II, Slope = 0.75%
   Inv. In = 121.00 Inv. Out = 120.81

Outfall Paved Ditch, St'd PG-5, See Detail and Table

DRAINAGE SUMMARY - SECTION TWO

21. Drop Inlet, St'd DI-3C, Throat Length = 20.0'
   H = 3.50 Top = 142.43 W/Steps St'd St-1
   18" Inv. Out = 138.93
   20' Left of Station 35+54.77 Cedar Run Road

21-22. 43' - 18" RCP Class III Slope = 0.40%
   Inv. In = 138.93 Inv. Out 138.76

22. Drop Inlet, St'd DI-3C, Throat Length = 6.0'
   H = 4.17 Top = 142.43 W/Steps St'd St-1
   18" Inv. In = 138.76 6'-18" Stub Inv. In = 140.43
   24" Inv. Out = 138.26
   20' Right of Station 38+93.08 Cedar Run Road

22-23. 315' -24" RCP Class III, Slope = 0.50%
   Inv. In = 138.26 Inv. Out = 136.69

23. Manhole, St'd MH-2
   H = 8.50 Top = 145.09 W/Steps St'd ST-1
   24" Inv. In = 136.69 24" Inv. Out = 136.59
   20' Right of Station 38+93.08 Cedar Run Road

23-24. 346' - 24" RCP Class III, Slope = 1.80%
   Inv. In = 136.59 Inv. Out = 130.36

24. Drop Inlet, St'd DI-3B, Throat Length = 6.0'
   H = 4.10 Top = 134.36 W/Steps St'd ST-1
   24" Inv. In = 130.36 24" Inv. Out = 130.26
   20' Right of Station 42+60.69 Cedar Run Road

24-25. 213' - 24" RCP Class III, Slope = 0.50%
   Inv. In = 130.26 Inv. Out = 129.20

28. Drop Inlet, St'd DI-3C, Throat Length = 16.0'
   H = 3.50 Top = 142.68
   21" Inv. Out = 139.18
   27' Left of Station 16+63.27 Pepperwood Lane

28-29. 251' - 18" RCP Class III, Slope = 1.60%
   Inv.In = 139.18 Inv. Out = 135.16

29. Drop Inlet, St'd DI-3B, Throat Length = 6.0'
   H = 7.86 Top = 138.90 W/Steps St'd St-1
   18" Inv. In = 135.16 18" Inv. In = 131.04
   20' Left of Station 19+07.15 Pepperwood Lane

29-25. 224' - 18" RCP Class III, Slope = 0.60%
   Inv. In = 131.04 Inv. Out = 129.70

25. Drop Inlet, St'd DI-3C, Throat Length = 12.0'
   H = 4.56 Top = 133.26 W/Steps St'd St-1
   24" Inv. In = 129.20 18" Inv. In = 129.70
   30" Inv. Out = 128.70 W/18-I Inlet Shaping
   21' Right of Station 44+80.84 Cedar Run Road

25-26. 156' - 30" RCP Class III, Slope = 0.50%
   Inv. In = 128.70 Inv. Out = 127.92

26. Drop Inlet, St'd DI-3C, Throat Length = 16.0'
   H = 4.63 Top = 132.45 W/Steps St'd ST-1
   30" Inv. In = 127.92 30" Inv. Out = 127.82
   W/18-I Inlet Shaping
   17' Right of Station 46+40.30 Cedar Run Road

26-27. 35' - 30" RCP Class III, Slope = 0.60%
   Inv. In = 127.82 Inv. Out = 127.61

27. Drop Inlet, St'd DI-3C, Throat Length = 16.0'
   H = 4.94 Top = 132.45 W/Steps St'd ST-1
   30" Inv. In = 127.61 30" Inv. Out = 127.51
   17' Left of Station 46+40.30 Cedar Run Road

27-Outfall 163'-36" RCP Class III, Slope = 0.30%
   Inv. In = 127.51 Inv. Out = 126.83

Outfall Paved Ditch, St'd PG-5, See Detail and Table

30. Drop Inlet, St'd DI-3C, Throat Length = 16.0'
   H = 4.05 Top = 134.73 W/Steps St'd ST-1
   18" Inv. Out = 130.68
   C/L Station 10+47.17 Drainage Outfall B

30-31. 128' - 18" RCP Class III, Slope 6.00%
   Inv. In = 130.68 Inv. Out = 123.00

LIST OF MATERIALS

SANITARY SEWER (GRAVITY)		
8" PVC SEWER PIPE	7514.91	L.F.
MANHOLE FRAME & COVER	34	EACH
VERTICAL FEET - MANHOLES	280.65	V.F.
SERVICE CONNECTIONS	115	EACH
WATER		
8" PVC WATER LINE	5239	L.F.
6" PVC WATER LINE	2938	L.F.
BORE	40	L.F.
8"X8"X8" TEE	5	EACH
8"X6"X8" TEE	9	EACH
6"X6"X6" TEE	4	EACH
90 DEGREE BEND	4	EACH
45 DEGREE BEND	1	EACH
22-1/2 DEGREE BEND	1	EACH
11-1/4 DEGREE BEND	3	EACH
8"X6" REDUCER	2	EACH
8" GATE VALVE	34	EACH
6" GATE VALVE	7	EACH
LOCKING VALVE BOX	1	EACH
8" BLIND CAP	1	EACH
2" BLOW OFF	1	EACH
FIRE HYDRANT ASSEMBLIES	11	EACH
SERVICE CONNECTIONS	115	EACH
FORCE MAIN		
4" PVC PIPE	2710	L.F.
90 DEGREE BEND	1	EACH
45 DEGREE BEND	6	EACH
22-1/2 DEGREE BEND	2	EACH
11-1/4 DEGREE BEND	2	EACH
SWING CHECK VALVE	2	EACH
6" PLUG VALVE	2	EACH

ROAD TREATMENT

Cedar Run Road
9+74 to 13+11 Category IV,
Typical Section C and Transition
6" Aggregate Base
5" B-3 Bituminous Concrete
1-1/2" S-5 Bituminous Concrete Surface

13+11 to 16+52 Category IV,
Typical Section A
6" Aggregate Base
5" B-3 Bituminous Concrete
1-1/2" S-5 Bituminous Concrete Surface

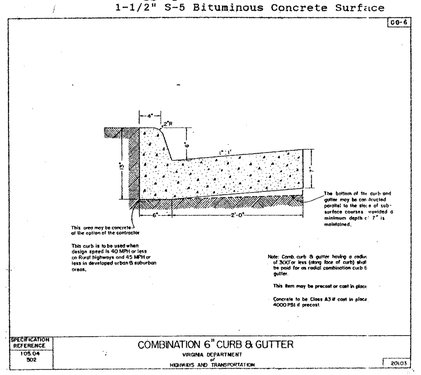
16+52 to 24+11 Category III,
Typical Section A
10" Aggregate Base
1-1/2" S-5 Bituminous Concrete Surface

24+11 to 45+31 Category II,
Typical Section B
8" Aggregate Base
1-1/2" S-5 Bituminous Concrete Surface

45+31 to End Category I,
Typical Section D
6" Aggregate Base
1-1/2" S-5 Bituminous Concrete Surface

Pepperwood Lane
10+00 to End Category II,
Typical Section B
8" Aggregate Base
1-1/2" S-5 Bituminous Concrete Surface

Rothwood Court, Heathwood Court, Crystalwood Court, Cherrywood Court Category I,
Typical Section D
6" Aggregate Base
1-1/2" S-5 Bituminous Concrete Surface



PRINCE GEORGE COUNTY UTILITY NOTES

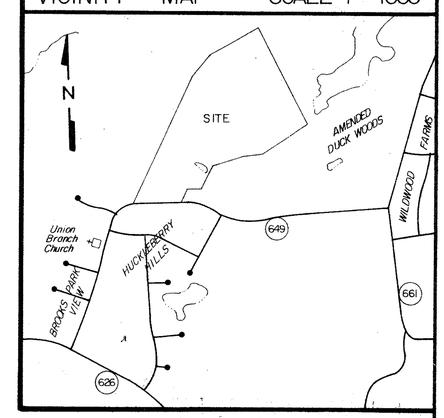
WATER

1. WATER LINES ARE TO BE CONSTRUCTED ACCORDING TO DESIGN STANDARDS AND SPECIFICATIONS FOR UTILITY CONSTRUCTION IN PRINCE GEORGE COUNTY.
2. WATER LINE TO BE CLASS 150 PIPE WITH CAST IRON FITTINGS WITH RING TIGHT BELLS CONFORMING TO ASA 2110 AND AWWA C-100.
3. ALL WATER LINES TO EXTEND A MINIMUM OF ONE SECTION PAST VALVE BEFORE CAPPING.
4. FIRE HYDRANTS ARE TO BE THREADED ACCORDING TO PRINCE GEORGE COUNTY FIRE DEPARTMENT REQUIREMENTS.
5. MINIMUM CLEAR COVER OVER TOP OF PIPE SHALL BE 3'-6".
6. BEFORE CONSTRUCTION OF THIS WATER LINE CAN BEGIN, THE ENGINEER MUST CERTIFY IN WRITING THAT THE ROADS ARE WITHIN 6" OF FINAL SUB-GRADE.

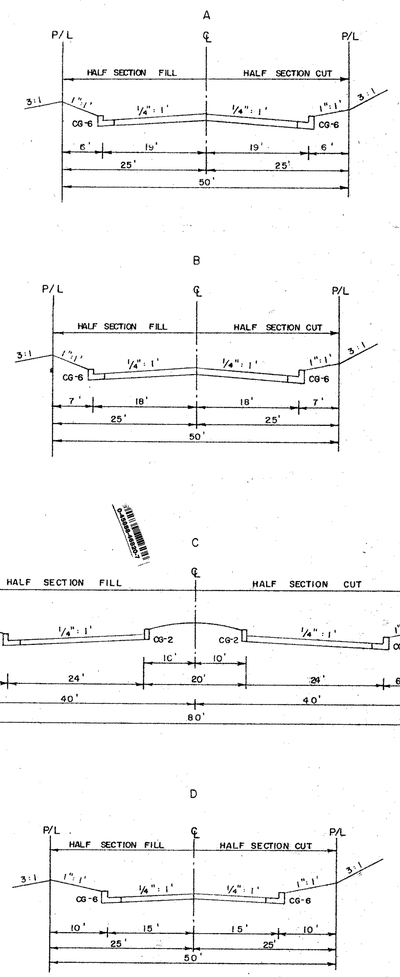
SEWER

1. DATUM FOR ALL ELEVATIONS IS M.S.L. (U.S.C. & G.S.)
2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT SANITARY SEWER AND WATER SPECIFICATIONS OF PRINCE GEORGE COUNTY. ALL WORK SHALL BE SUBJECT TO INSPECTION BY PRINCE GEORGE COUNTY INSPECTORS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROPER COUNTY OFFICIALS 48 HOURS PRIOR TO START OF WORK. A PRE-CONSTRUCTION MEETING BETWEEN CONTRACTOR AND ENGINEER WILL BE MANDATORY.
3. GRADE STAKES WILL BE SET BY CHARLES C. TOWNES & ASSOCIATES, P.C. COPIES OF CUT SHEETS WILL BE SENT TO PRINCE GEORGE COUNTY.
4. PIPE STRENGTHS TO BE AS FOLLOWS: 1. CONCRETE ASTM C-76 CLASS III OR ASTM C-14. CLASS III 2. PVC ASTM D3034. SDR-35 3. ABS ASTM D2751. SDR-23.5 EXCEPT AS SHOWN ON PROFILE.
5. ALL MANHOLES SHALL BE PRECAST CONCRETE.
6. JOB SHALL BE BID ON A UNIT PRICE BASIS. ALL EXCAVATION SHALL BE UNCLASSIFIED.
7. EXISTING UTILITIES, WHERE SHOWN, ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY ALL SUCH LOCATIONS BEFORE START OF WORK.
8. ALL PIPE BEDDING TO CLASS B EXCEPT AS SHOWN FOR PLASTIC PIPE.
9. ALL SANITARY SEWER LINES WITH LESS THAN 5' COVER WILL BE MADE OF DUCTILE IRON PIPE.
10. BEFORE BEGINNING WORK, CONTRACTOR SHALL CONTACT "MISS UTILITY" 1-800-552-7001.

VICINITY MAP SCALE : 1" = 1000'



TYPICAL ROAD SECTIONS



OWNER / DEVELOPER

CEDARWOOD PROPERTIES
5100 OAKLAWN BOULEVARD
HOPEWELL, VIRGINIA 23860
PHONE : (804) 541-1901

FINAL

CHARLES C. TOWNES & ASSOCIATES
Engineers, Planners, Land Surveyors
110 Norfolk Ave., P.O. Box 97
Colonial Heights, Va. 23834
804-526-6766

COMMONWEALTH OF VIRGINIA
CERTIFICATE No. # 10476
PROFESSIONAL ENGINEER

REVISIONS DATE	ITEM
9-9-88	
9-11-94	Larger Lots
4-8-97	

DATE
SCALE
DRAWN BY
CHECKED BY
F.B. #
SHEET # 1