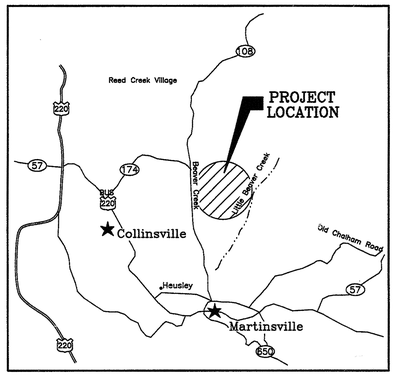


VICINITY MAP
NO SCALE

## CIVIL SHEET INDEX

| NO. | TITLE | REVISION No. | DATE |
|---|---|---|---|
| C100 | EXISTING CONDITIONS PLAN | – | 7/12/02 |
| C200 | SITE LAYOUT & STAKING PLAN | – | 7/12/02 |
| C300 | GRADING PLAN | – | 7/12/02 |
| C400 | UTILITY PLAN | – | 7/12/02 |
| C600 | EROSION & SEDIMENT CONTROL PLAN | – | 7/12/02 |
| C700 | DETAIL SHEET | – | 7/12/02 |
| C701 | DETAIL SHEET | – | 7/12/02 |
| C702 | DETAIL SHEET | – | 7/12/02 |

NOTES:
1. EXISTING BOUNDARY AND TOPOGRAPHY, INFORMATION PROVIDED BY HENRY COUNTY AND HAS NOT BEEN FIELD SURVEYED OR VERIFIED BY CARLISLE ASSOCIATES.
2. EXISTING UTILITY INFORMATION SHOWN PROVIDED BY HENRY COUNTY.
3. THE PROPERTY SHOWN IS LOCATED ON HENRY COUNTY TAX MAP NO. 30-4((A))41x (PORTION), AND IS ZONED FOR INDUSTRIAL USE.
4. THERE IS NO 100 YEAR FLOOD PLAIN DEFINED ON THIS PROPERTY.
5. CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-552-7001 TO LOCATE UNDERGROUND UTILITIES 48 HOURS PRIOR TO ANY EXCAVATION.
8. WORK WITHIN THE HIGHWAY RIGHT OF WAY SHALL BE COMPLETED IN ACCORDANCE WITH VDOT STANDARDS AND SPECIFICATIONS.

CURRENT PROPERTY OWNER:
DEVELOPMENT AUTHORITY OF HENRY COUNTY

DEVELOPER:
KNAUSS FOODS, INC.
625 EAST BROAD STREET
QUAKERTOWN, PA 18951
PHONE: 215-536-4220
FAX: 215-536-1129

ENGINEER:
CARLISLE ASSOCIATES, INC.
1015 GERVAIS STREET
COLUMBIA, SOUTH CAROLINA 29201
(803) 252-3232

UTILITY CONTACTS:
WATER AND SEWER:
HENRY COUNTY PUBLIC SERVICE AUTHORITY
STEVE PLANTE (ENGINEERING) (276) 634-2525
TIM PACE (ENGINEERING) (276) 634-2559

CITY OF MARTINSVILLE
JOHN DYCHES (276) 656-5154

ELECTRIC POWER:
AEP - LINDSEY SMITH (276) 627-1257

GAS:
SOUTHWESTERN VA GAS
RANDY SMITH (276) 632-5662

PHONE:
SPRINT - PAGE BROCKENBROUGH (276) 666-4324

CABLE:
ADELPHIA (276) 638-6422

| LOCATION | DATE | BY | APP. |
|---|---|---|---|
| | | | |

REVISIONS
APPROVALS
PROJECT MANAGER
ARCHITECT OF RECORD
ZANDERS
SITE ENGINEERING
FRIEDNER
STRUCTURAL ENGINEERING
CARSON
MECHANICAL ENGINEERING
BRYANT
ELECTRICAL ENGINEERING
FUNDERBURK

DRAWN: CDK
DESIGNED: EJR
CHECKED: JFF

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ENGINEERS & CONTRACTORS
P.O. BOX 1104 - MARION, S.C.
TELEPHONE: 843-423-4931

CARLISLE ASSOCIATES
ARCHITECTS ENGINEERS
1015 GERVAIS STREET
COLUMBIA, SOUTH CAROLINA 29201
803-252-3232

PROJECT TROY

PROJECT TITLE

SHEET TITLE

EXISTING CONDITIONS PLAN

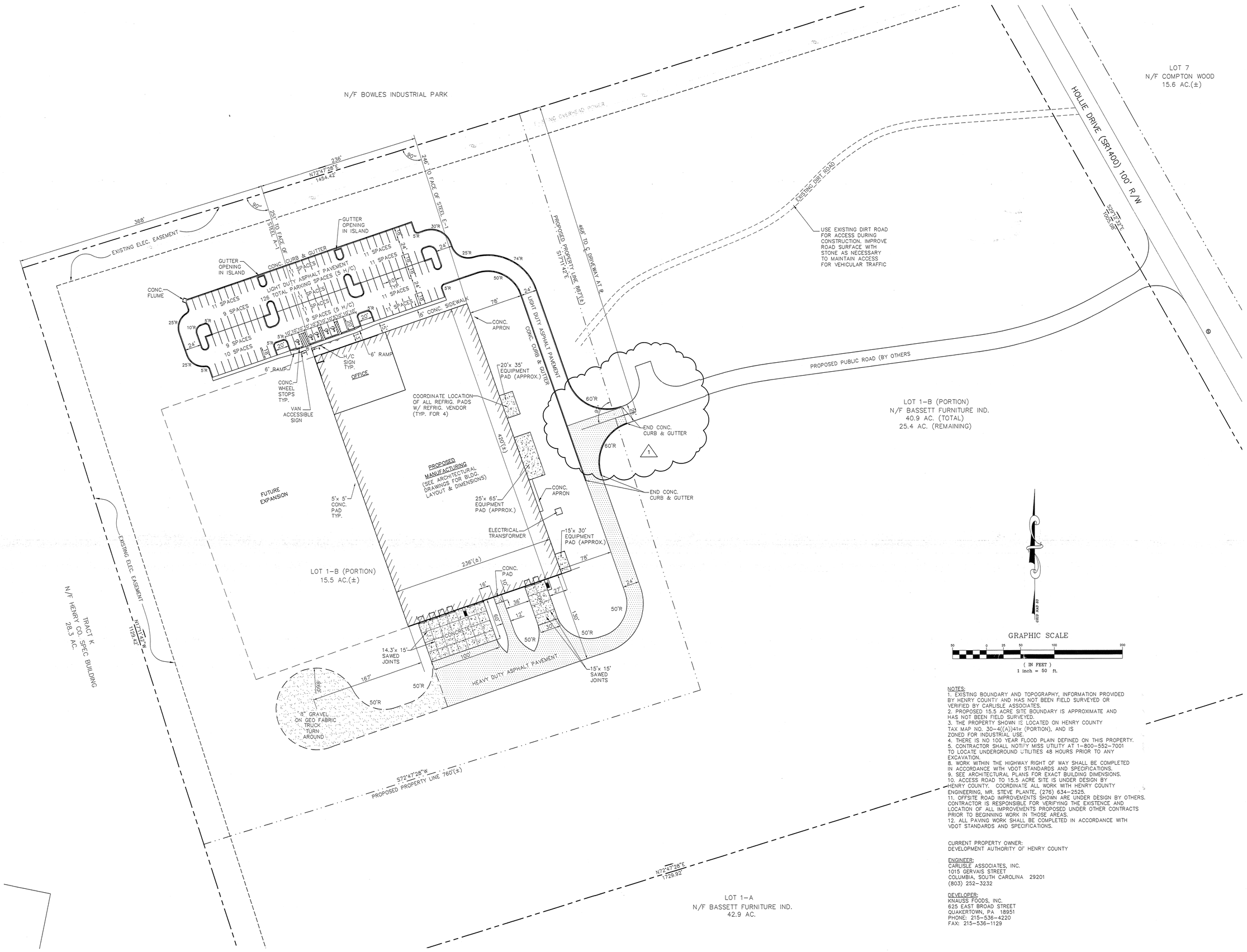
FILE NAME: T46_cplan
DATE: 7/12/02

COMMONWEALTH OF VIRGINIA
JERRY F. FRIEDNER
No. 18445
PROFESSIONAL ENGINEER

SHEET NUMBER
C100

1 OF 8 SHEETS

Knauss Foods




NOTES:
1. EXISTING BOUNDARY AND TOPOGRAPHY, INFORMATION PROVIDED BY HENRY COUNTY AND HAS NOT BEEN FIELD SURVEYED OR VERIFIED BY CARLISLE ASSOCIATES.
2. PROPOSED 15.5 ACRE SITE BOUNDARY IS APPROXIMATE AND HAS NOT BEEN FIELD SURVEYED.
3. THE PROPERTY SHOWN IS LOCATED ON HENRY COUNTY TAX MAP NO. 30-4((A))41x (PORTION), AND IS ZONED FOR INDUSTRIAL USE.
4. THERE IS NO 100 YEAR FLOOD PLAIN DEFINED ON THIS PROPERTY.
5. CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-552-7001 TO LOCATE UNDERGROUND UTILITIES 48 HOURS PRIOR TO ANY EXCAVATION.
8. WORK WITHIN THE HIGHWAY RIGHT OF WAY SHALL BE COMPLETED IN ACCORDANCE WITH VDOT STANDARDS AND SPECIFICATIONS.
9. SEE ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS.
10. ACCESS ROAD TO 15.5 ACRE SITE IS UNDER DESIGN BY HENRY COUNTY. COORDINATE ALL WORK WITH HENRY COUNTY ENGINEERING, MR. STEVE PLANTE, (276) 634-2525.
11. OFFSITE ROAD IMPROVEMENTS SHOWN ARE UNDER DESIGN BY OTHERS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXISTENCE AND LOCATION OF ALL IMPROVEMENTS PROPOSED UNDER OTHER CONTRACTS PRIOR TO BEGINNING WORK IN THOSE AREAS.
12. ALL PAVING WORK SHALL BE COMPLETED IN ACCORDANCE WITH VDOT STANDARDS AND SPECIFICATIONS.

CURRENT PROPERTY OWNER:
DEVELOPMENT AUTHORITY OF HENRY COUNTY

ENGINEER:
CARLISLE ASSOCIATES, INC.
1015 GERVAIS STREET
COLUMBIA, SOUTH CAROLINA 29201
(803) 252-3232

DEVELOPER:
KNAUSS FOODS, INC.
625 EAST BROAD STREET
QUAKERTOWN, PA 18951
PHONE: 215-536-4220
FAX: 215-536-1129

| LOCATION | DATE | BY | APP. |
|---|---|---|---|
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| | | | |
| | | | |
| | | | |
| NOTED | 9/27/02 | CDK | DHL |
| 1 HENRY CO. COMMENTS | | | |

REVISIONS

APPROVALS
PROJECT MANAGER
-
ARCHITECT OF RECORD
ZANDERS
SITE ENGINEERING
FRIEDNER
STRUCTURAL ENGINEERING
CARSON
MECHANICAL ENGINEERING
BRYANT
ELECTRICAL ENGINEERING
FUNDERBURK

DRAWN: CDK
DESIGNED: EJR
CHECKED: JFF

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ENGINEERS & CONTRACTORS
P.O. BOX 1104 - MARION, S.C.
TELEPHONE: 843-423-4931

CARLISLE ASSOCIATES
ARCHITECTS ENGINEERS
1015 GERVAIS STREET
COLUMBIA, SOUTH CAROLINA 29201
803-252-3232

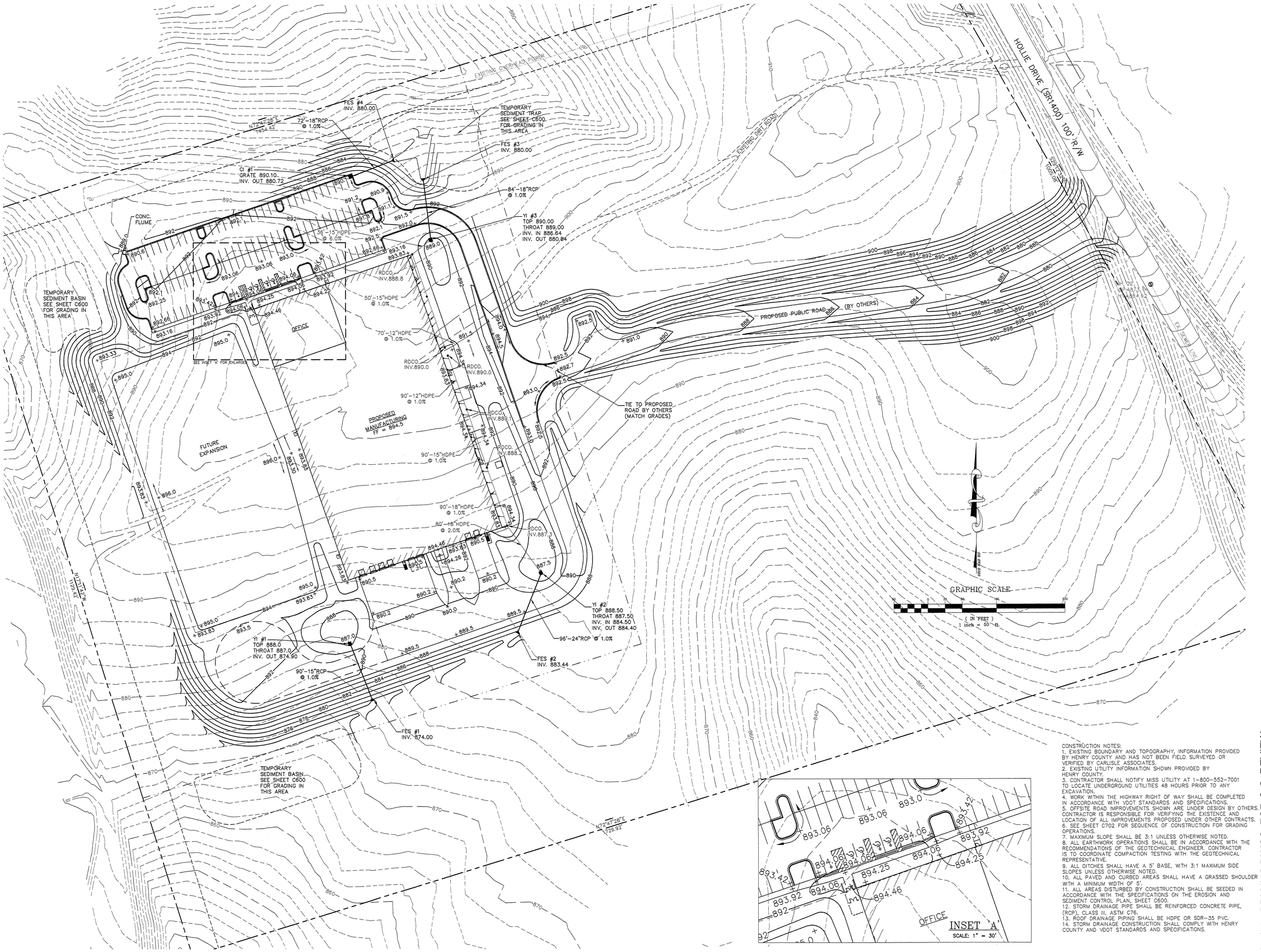
PROJECT TITLE
PROJECT TROY

SHEET TITLE
SITE LAYOUT & STAKING PLAN

FILE NAME: T46_cplan
DATE: 7/12/02

REGISTERED PROFESSIONAL ENGINEER
JERRY E. FRIEDNER
No. 18445
9/27/02
PROFESSIONAL ENGINEER

SHEET NUMBER
C200
R1




CONSTRUCTION NOTES:
1. EXISTING BOUNDARY AND TOPOGRAPHY, INFORMATION PROVIDED BY HENRY COUNTY AND HAS NOT BEEN FIELD SURVEYED OR VERIFIED BY CARLISLE ASSOCIATES.
2. EXISTING UTILITY INFORMATION SHOWN PROVIDED BY HENRY COUNTY.
3. CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-552-7001 TO LOCATE UNDERGROUND UTILITIES 48 HOURS PRIOR TO ANY EXCAVATION.
4. WORK WITHIN THE HIGHWAY RIGHT OF WAY SHALL BE COMPLETED IN ACCORDANCE WITH VDOT STANDARDS AND SPECIFICATIONS.
5. OFFSITE ROAD IMPROVEMENTS SHOWN ARE UNDER DESIGN BY OTHERS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXISTENCE AND LOCATION OF ALL IMPROVEMENTS PROPOSED UNDER OTHER CONTRACTS.
6. SEE SHEET C702 FOR SEQUENCE OF CONSTRUCTION FOR GRADING OPERATIONS.
7. MAXIMUM SLOPE SHALL BE 3:1 UNLESS OTHERWISE NOTED.
8. ALL EARTHWORK OPERATIONS SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER. CONTRACTOR IS TO COORDINATE COMPACTION TESTING WITH THE GEOTECHNICAL REPRESENTATIVE.
9. ALL DITCHES SHALL HAVE A 5' BASE, WITH 3:1 MAXIMUM SIDE SLOPES UNLESS OTHERWISE NOTED.
10. ALL PAVED AND CURBED AREAS SHALL HAVE A GRASSED SHOULDER WITH A MINIMUM WIDTH OF 5'.
11. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE SEEDED IN ACCORDANCE WITH THE SPECIFICATIONS ON THE EROSION AND SEDIMENT CONTROL PLAN, SHEET C600.
12. STORM DRAINAGE PIPE SHALL BE REINFORCED CONCRETE PIPE, (RCP), CLASS III, ASTM C76.
13. ROOF DRAINAGE PIPING SHALL BE HDPE OR SDR-35 PVC.
14. STORM DRAINAGE CONSTRUCTION SHALL COMPLY WITH HENRY COUNTY AND VDOT STANDARDS AND SPECIFICATIONS.

| LOCATION | DATE | BY | APP. |
|---|---|---|---|
| | | | |

REVISIONS

APPROVALS

PROJECT MANAGER
-
ARCHITECT OF RECORD
ZANDERS
SITE ENGINEERING
FRIEDNER
STRUCTURAL ENGINEERING
CARSON
MECHANICAL ENGINEERING
BRYANT
ELECTRICAL ENGINEERING
FUNDERBURK

DRAWN: CDK
DESIGNED: EJR
CHECKED: JFF

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ENGINEERS & CONTRACTORS
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TELEPHONE: 843-423-4931

CARLISLE ASSOCIATES

ARCHITECTS ENGINEERS

1015 GERVAIS STREET
COLUMBIA, SOUTH CAROLINA 29201
803-252-3232

PROJECT TITLE
PROJECT TROY

SHEET TITLE
GRADING & STORM DRAINAGE PLAN

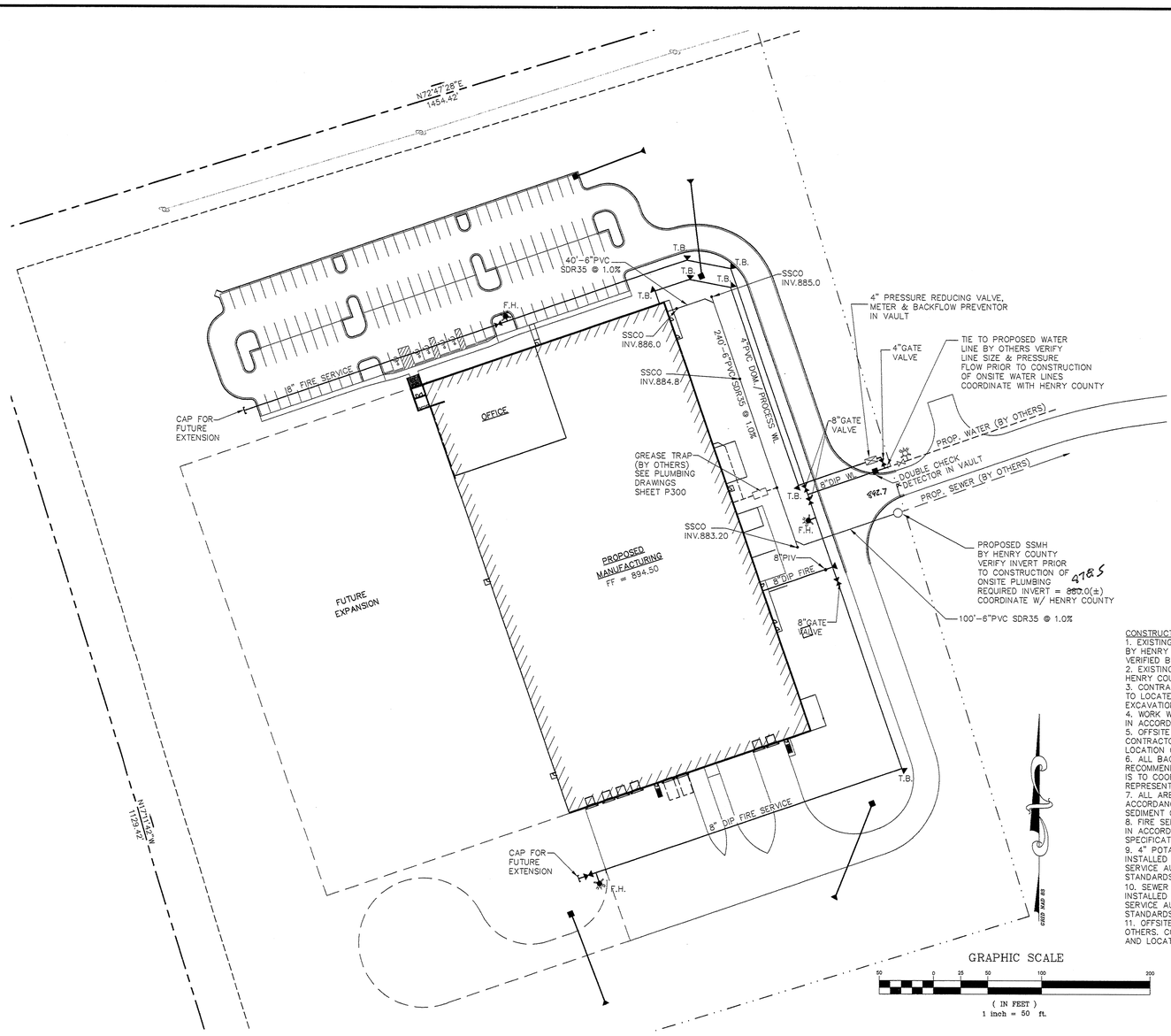
FILE NAME: T46_cplan

DATE: 7/12/02

COMMONWEALTH OF VIRGINIA
JERRY T. FRIEDNER
No. 18445
SEAL
PROFESSIONAL ENGINEER

SHEET NUMBER
C300

8/20/02 - PRICING DWGS. FOR G.C. REVIEW




GRAPHIC SCALE

50 0 25 50 100 200

( IN FEET )
1 inch = 50 ft.

CONSTRUCTION NOTES:

1. EXISTING BOUNDARY AND TOPOGRAPHY, INFORMATION PROVIDED BY HENRY COUNTY AND HAS NOT BEEN FIELD SURVEYED OR VERIFIED BY CARLISLE ASSOCIATES.
2. EXISTING UTILITY INFORMATION SHOWN PROVIDED BY HENRY COUNTY.
3. CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-552-7001 TO LOCATE UNDERGROUND UTILITIES 48 HOURS PRIOR TO ANY EXCAVATION.
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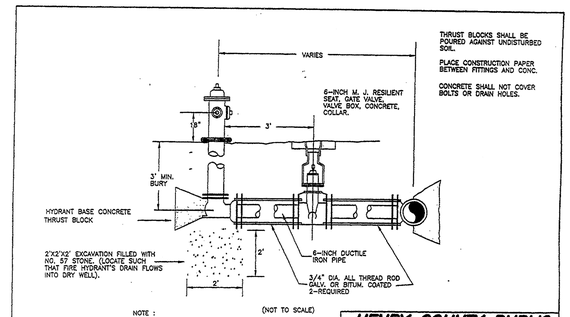
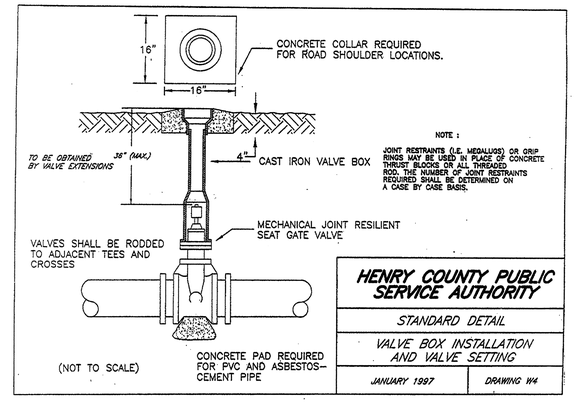
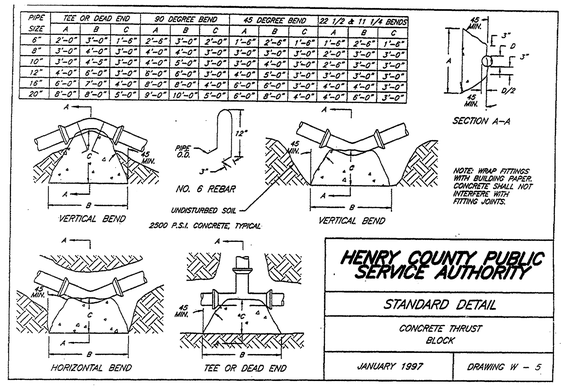
5. OFFSITE ROAD IMPROVEMENTS SHOWN ARE UNDER DESIGN BY OTHERS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXISTENCE AND LOCATION OF ALL IMPROVEMENTS PROPOSED UNDER OTHER CONTRACTS.
6. ALL BACKFILLING OPERATIONS SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER. CONTRACTOR IS TO COORDINATE COMPACTION TESTING WITH THE GEOTECHNICAL REPRESENTATIVE.
7. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE SEEDED IN ACCORDANCE WITH THE SPECIFICATIONS ON THE EROSION AND SEDIMENT CONTROL PLAN, SHEET C600.
8. FIRE SERVICE LINE SHALL BE INSTALLED IN ACCORDANCE WITH NFPA AND HENRY COUNTY STANDARDS AND SPECIFICATIONS. DESIGN BY OTHERS - SHOWN FOR COORDINATION ONLY.
9. 4" POTABLE WATER LINE SHALL BE C900 PVC AND SHALL BE INSTALLED IN ACCORDANCE WITH HENRY COUNTY PUBLIC SERVICE AUTHORITY AND VIRGINIA DEPARTMENT OF HEALTH STANDARDS AND SPECIFICATIONS.
10. SEWER LINE SHALL BE 6" PVC SDR-35 AND SHALL BE INSTALLED IN ACCORDANCE WITH HENRY COUNTY PUBLIC SERVICE AUTHORITY AND VIRGINIA DEPARTMENT OF HEALTH STANDARDS AND SPECIFICATIONS.
11. OFFSITE UTILITY IMPROVEMENTS SHOWN ARE UNDER DESIGN BY OTHERS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXISTENCE AND LOCATION OF ALL UTILITIES PROPOSED UNDER OTHER CONTRACTS.



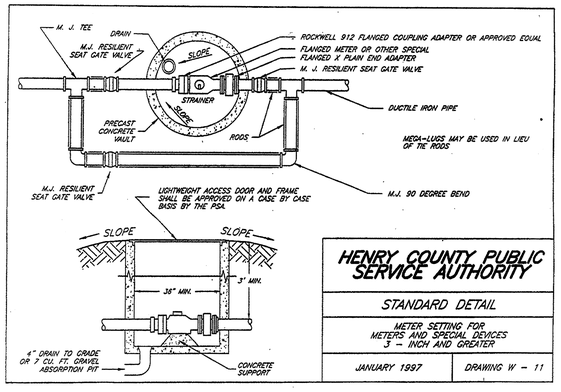

HENRY COUNTY PUBLIC SERVICE AUTHORITY
FIRE HYDRANT ASSEMBLY
JANUARY 1997 | DRAWING W3



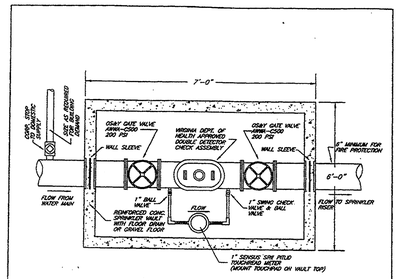

HENRY COUNTY PUBLIC SERVICE AUTHORITY
STANDARD DETAIL
VALVE BOX INSTALLATION AND VALVE SETTING
JANUARY 1997 | DRAWING W4




HENRY COUNTY PUBLIC SERVICE AUTHORITY
STANDARD DETAIL
CONCRETE THRUST BLOCK
JANUARY 1997 | DRAWING W - 5



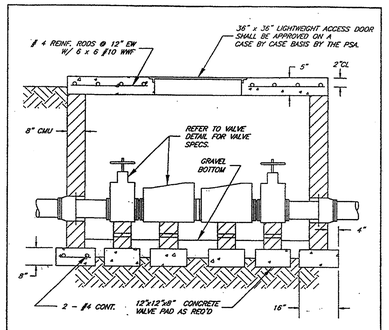

HENRY COUNTY PUBLIC SERVICE AUTHORITY
STANDARD DETAIL
METER SETTING FOR METERS AND SPECIAL DEVICES 3 - INCH AND GREATER
JANUARY 1997 | DRAWING W - 11




PLAN - DOUBLE DETECTOR CHECK VAULT
(NOT TO SCALE)

- REFER TO NFPA 13 & NFPA 24.
- VAULT TO BE INSTALLED AT LEAST 40' FROM BUILDING
- METER TO BE ACCESSIBLE TO METER READERS
- VALVE AND METER SIZES WILL VARY ACCORDING TO DEMAND
- SIAMESE CONNECTION REQUIRES ADDITIONAL SWING CHECK VALVE ON MAIN
- ALL INSTALLATIONS SHALL BE SUBMITTED IN PLAN FORM AND APPROVED IN WRITING PRIOR TO INSTALLATION.
- DOUBLE DETECTOR CHECK VALVE DEVICE SHALL BE ON APPROVED LIST FROM VIRGINIA DEPARTMENT OF HEALTH. CONTACT ENGINEERING & MAPPING DEPARTMENT. (540) 634-2325.

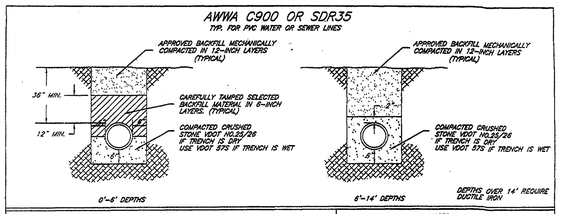
HENRY COUNTY PUBLIC SERVICE AUTHORITY
DOUBLE DETECTOR CHECK VALVE ASSEMBLY DETAIL
JANUARY 1997 | DRAWING W12

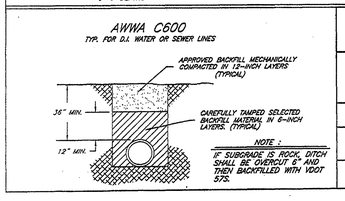



VAULT DETAIL

1. STEEL SHALL CONFORM TO ASTM 615-60.
2. LADDER MAY BE REQUIRED IF VAULT EXCEEDS 36" DEPTH.
3. CONCRETE TOP SHALL BE 3500 PSI @ 28 DAYS.
4. CONCRETE AT FOOTINGS SHALL BE 3000 PSI @ 28 DAYS.

HENRY COUNTY PUBLIC SERVICE AUTHORITY
VAULT DETAIL
JANUARY 1997 | DRAWING W - 13




NOTES :
1. DIG TRENCH TO PROVIDE FOR PIPE BELLS.
2. DEPTHS GREATER THAN 14' REQUIRE DUCTILE IRON PIPE.

HENRY COUNTY PUBLIC SERVICE AUTHORITY
STANDARD DETAIL
PIPE BEDDING
JANUARY 1997 | DRAWING W6

| LOCATION | DATE | BY | APP. |
|---|---|---|---|
| | | | |

REVISIONS

APPROVALS
PROJECT MANAGER
ARCHITECT OF RECORD ZANDERS
SITE ENGINEERING FRIEDNER
STRUCTURAL ENGINEERING CARSON
MECHANICAL ENGINEERING BRYANT
ELECTRICAL ENGINEERING FUNDERBURK

DRAWN: CDK
DESIGNED: EJR
CHECKED: JFF

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ENGINEERS & CONTRACTORS
P.O. BOX 1104 - MARION, S.C.
TELEPHONE: 843-423-4931

CARLISLE ASSOCIATES
ARCHITECTS ENGINEERS
1015 GERVAIS STREET
COLUMBIA, SOUTH CAROLINA 29201
803-252-3232

PROJECT TROY

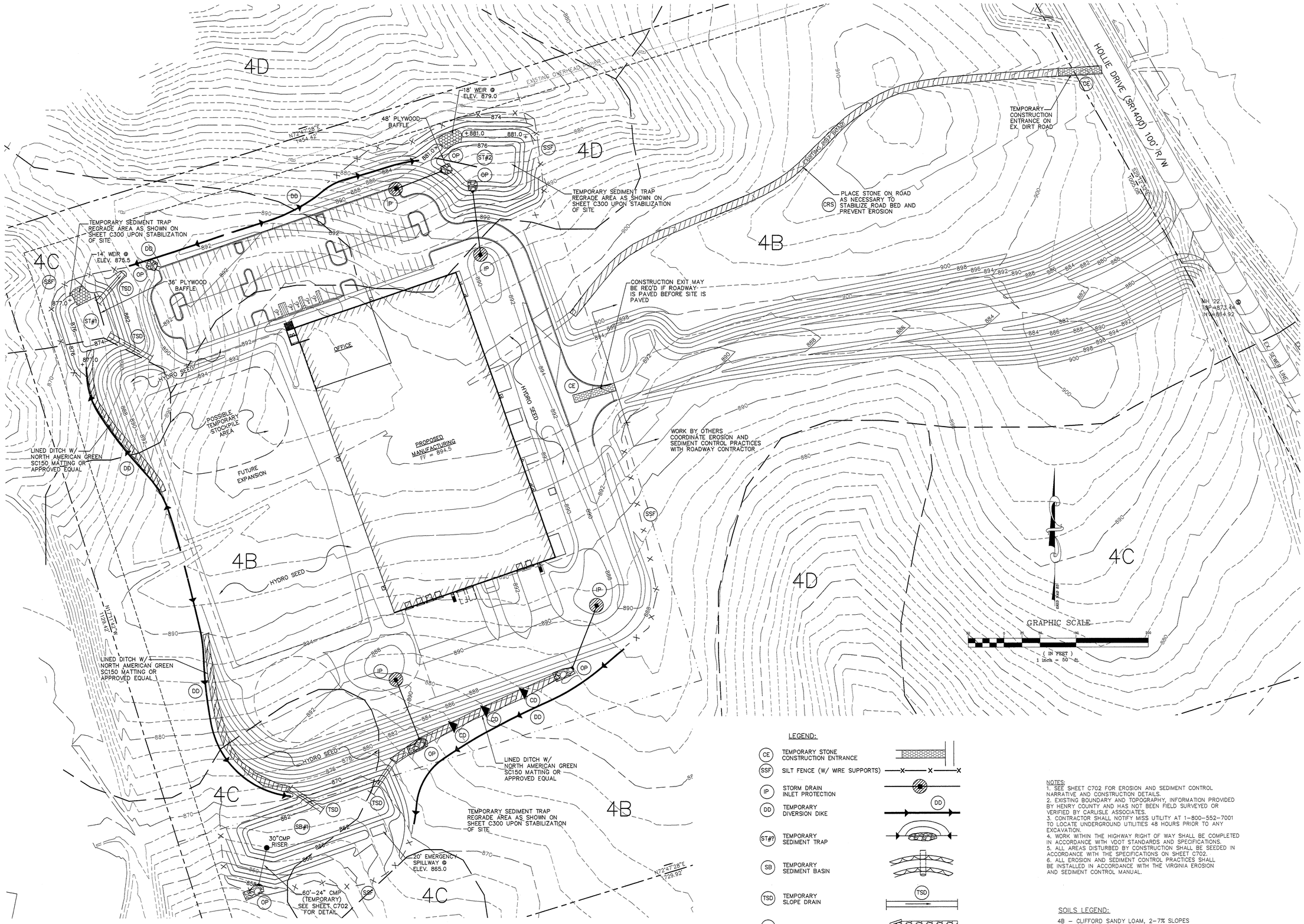
PROJECT TITLE

SHEET TITLE
UTILITY PLAN

FILE NAME: T46_cplan
DATE: 7/12/02

COMMONWEALTH OF VIRGINIA
JEFFREY FRIEDNER
No. 18445
8/29/02
PROFESSIONAL ENGINEER

SHEET NUMBER
C400




| TRAP NUMBER | DRAINAGE AREA(Ac) | WET STORAGE REQUIRED | BOTTOM ELEVATION | ELEVATION @ TOP OF WET STORAGE | BASIN DIMENSIONS @ TOP OF WET STORAGE | SURFACE AREA @ TOP OF WET STORAGE | DEPTH(ft.) | VOLUME OF WET STORAGE PROVIDED(cf.) | DRY STORAGE REQUIRED (cf.) | ELEV. @ TOP OF GRAVEL WEIR | BASIN DIMENSIONS @ TOP OF GRAVEL WEIR | AREA OF TOP OF GRAVEL OUTLET(sf.) | DEPTH(ft.) | VOLUME OF WET STORAGE PROVIDED(cf.) | ELEVATION TOP OF EMBANKMENT | WIDTH OF GRAVEL OUTLET WEIR (ft.) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2.2 | 3979 | 874.0 | 875.5 | 70x 45 | 3150 | 1.5 | 4162 | 3979 | 876.5 | 75x 55 | 4125 | 1.0 | 4125 | 877.5 | 14 | |
| 2 | 2.8 | 5065 | 876.0 | 877.5 | 80x 50 | 4000 | 1.5 | 5812 | 5065 | 880.0 | 85x 55 | 4675 | 1.5 | 7012 | 879.0 | 18 | |

LEGEND:

- (CE) TEMPORARY STONE CONSTRUCTION ENTRANCE
- (SSF) SILT FENCE (W/ WIRE SUPPORTS)
- (IP) STORM DRAIN INLET PROTECTION
- (DD) TEMPORARY DIVERSION DIKE
- (ST#?) TEMPORARY SEDIMENT TRAP
- (SB) TEMPORARY SEDIMENT BASIN
- (TSD) TEMPORARY SLOPE DRAIN
- (OP) OUTLET PROTECTION
- (CD) ROCK CHECK DAMS
- (11C) SOIL TYPE & BOUNDARY
- (CRS) CONSTRUCTION ROAD STABILIZATION

NOTES:
1. SEE SHEET C702 FOR EROSION AND SEDIMENT CONTROL NARRATIVE AND CONSTRUCTION DETAILS.
2. EXISTING BOUNDARY AND TOPOGRAPHY, INFORMATION PROVIDED BY HENRY COUNTY AND HAS NOT BEEN FIELD SURVEYED OR VERIFIED BY CARLISLE ASSOCIATES.
3. CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-552-7001 TO LOCATE UNDERGROUND UTILITIES 48 HOURS PRIOR TO ANY EXCAVATION.
4. WORK WITHIN THE HIGHWAY RIGHT OF WAY SHALL BE COMPLETED IN ACCORDANCE WITH VDOT STANDARDS AND SPECIFICATIONS.
5. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE SEEDED IN ACCORDANCE WITH THE SPECIFICATIONS ON SHEET C702.
6. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL MANUAL.

SOILS LEGEND:

4B – CLIFFORD SANDY LOAM, 2–7% SLOPES
4C – CLIFFORD SANDY LOAM, 7–15% SLOPES
4D – CLIFFORD SANDY LOAM, 15–25% SLOPES

| LOCATION | DATE | BY | APP. |
|---|---|---|---|
| | | | |

REVISIONS

APPROVALS

PROJECT MANAGER -
ARCHITECT OF RECORD ZANDERS
SITE ENGINEERING FRIEDNER
STRUCTURAL ENGINEERING CARSON
MECHANICAL ENGINEERING BRYANT
ELECTRICAL ENGINEERING FUNDERBURK

DRAWN: CDK
DESIGNED: EJR
CHECKED: JFF

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ELA
ENGINEERS & CONTRACTORS
P.O. BOX 1104 - MARION, S.C.
TELEPHONE: 843-423-4931

CARLISLE ASSOCIATES
ARCHITECTS ENGINEERS
1915 GERVAIS STREET
COLUMBIA, SOUTH CAROLINA 29201
803-252-3032

PROJECT TROY

PROJECT TITLE

SHEET TITLE

EROSION & SEDIMENT CONTROL PLAN

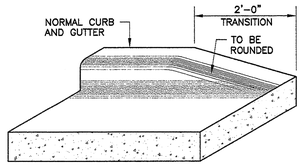
FILE NAME: T46_cplan

DATE: 7/12/02

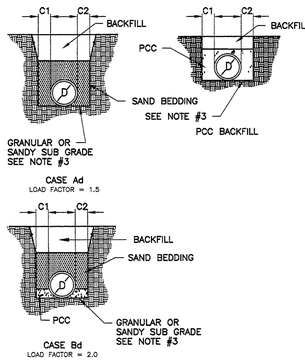
COMMONWEALTH OF VIRGINIA
JERRY F. FRIEDNER
No. 18445
PROFESSIONAL ENGINEER
7/12/02

SHEET NUMBER

C600



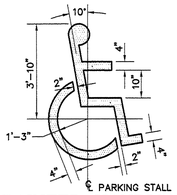

## FEATHERING OF CURB AND GUTTER DETAIL
NO SCALE



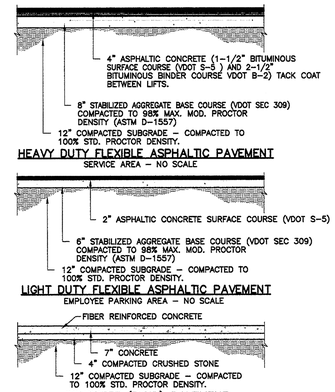

NOTES:

1. BACKFILL IN STREET SHALL BE SAND OR WELL GRANULATED GRANULAR MATERIAL APPROVED BY THE ENGINEER. BACKFILL OUTSIDE OF STREET LIMITS MAY BE NONORGANIC MATERIAL FROM TRENCH EXCAVATION.
2. ALL REINFORCED CONCRETE PIPE SHALL BE PLACED IN ACCORDANCE WITH "CASE Ad" BEDDING UNLESS OTHERWISE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER.
3. IF OTHER GRANULAR OR SANDY MATERIAL IS ENCOUNTERED AT SUBGRADE THE TRENCH BOTTOM SHALL BE OVER EXCAVATED TO A DEPTH OF AT LEAST 3 INCHES AND BACKFILLED WITH SAND, NO. 3 OR NO. 4 CRUSHED ROCK EXCEPT THAT NO. 3 ROCK SHALL NOT BE USED UNDER PIPE 24 INCHES OR LESS IN DIAMETER. ALL COST FOR OVER EXCAVATING AND BACKFILLING WITH GRANULAR MATERIAL SHALL BE BORNE BY THE CONTRACTOR.
4. C1 AND C2 SHALL NOT BE LESS THEN 6 INCHES.
5. C1 PLUS C2 SHALL NOT BE GREATER THEN 24 INCHES, IF THE TRENCH WIDTH IS EXCAVATED TO A GREATER WIDTH THE CONTRACTOR SHALL FURNISH AND PLACE "CASE Bd" BEDDING AT HIS OWN EXPENSE.
6. PIPES 21 INCHES IN DIAMETER AND SMALLER WITH 2 FEET OF COVER OR LESS, AND PIPES 24 INCHES IN DIAMETER OR GREATER WITH 1 FOOT OF COVER OR LESS SHALL BE PLACED IN ACCORDANCE WITH "P.C.C. BACKFILL" BEDDING.
7. P.C.C. SHALL SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF AT LEAST 2,000 P.S.I.
8. THE CONTRACTOR SHALL OBTAIN A PERMIT FROM THE STATE DIVISION OF INDUSTRIAL SAFETY PRIOR TO EXCAVATING ANY TRENCH 5 FEET OR MORE IN DEPTH.
9. EXCESS MATERIAL FROM TRENCH EXCAVATION SHALL BE REMOVED AND DISPOSED OF AT THE CONTRACTORS EXPENSE.

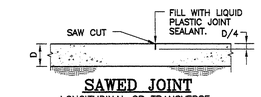
## PIPE TRENCH BEDDING
NO SCALE



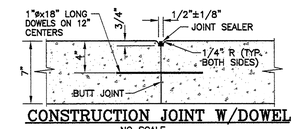

## PAINTED HANDICAP SYMBOL DETAIL
NO SCALE



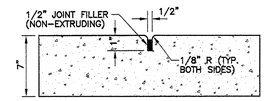

## PAVEMENT SECTIONS
NO SCALE



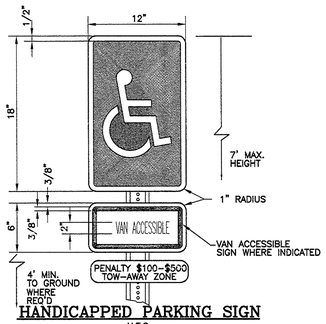

## SAWED JOINT
LONGITUDINAL OR TRANSVERSE
NO SCALE



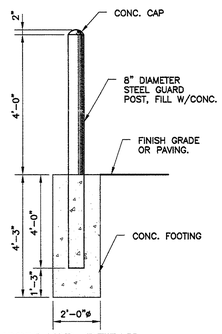

## CONSTRUCTION JOINT W/DOWEL
NO SCALE



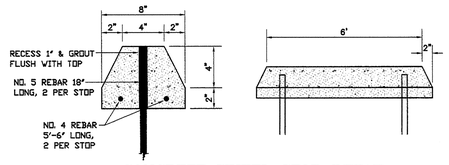

## CONTRACTION JOINT
NO SCALE



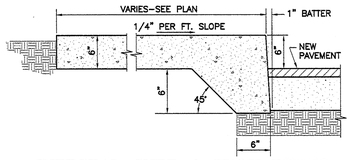

## HANDICAPPED PARKING SIGN
N.T.S.



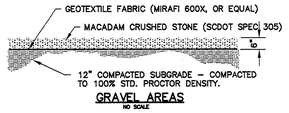

## BOLLARD DETAIL
NO SCALE



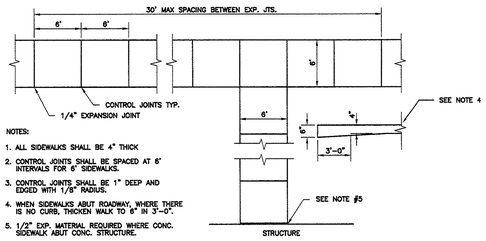

## CONCRETE WHEEL STOP DETAIL
NOT TO SCALE




## INTEGRAL CURB & WALK DETAIL
NO SCALE



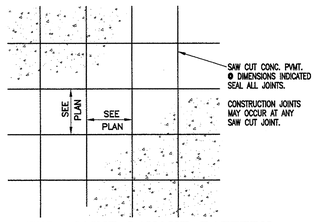

## GRAVEL AREAS
NO SCALE



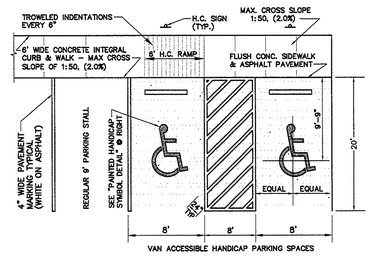

NOTES:

1. ALL SIDEWALKS SHALL BE 4" THICK
2. CONTROL JOINTS SHALL BE SPACED AT 6' INTERVALS FOR 6" SIDEWALKS.
3. CONTROL JOINTS SHALL BE 1" DEEP AND EDGED WITH 1/8" RADIUS.
4. WHEN SIDEWALKS ABUT ROADWAY, WHERE THERE IS NO CURB, THICKEN WALK TO 8" IN 3'-0".
5. 1/2" EXP. MATERIAL REQUIRED WHERE CONC. SIDEWALK ABUT CONC. STRUCTURE.

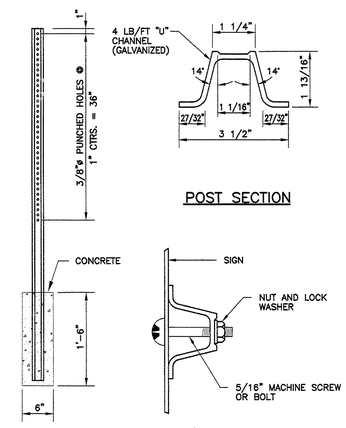
## STANDARD JOINT LAYOUT FOR CONCRETE SIDEWALKS
NO SCALE




## TYP. JOINT LAYOUT PATTERN
NO SCALE




## DETAIL FOR 90° HANDICAPPED PARKING
NO SCALE

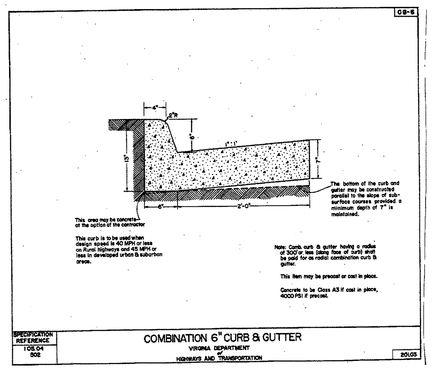


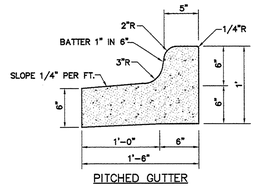

POST SECTION

POST

MOUNTING DETAIL

## HANDICAPPED PARKING SIGN POST
N.T.S.




PITCHED GUTTER

1. CURB AND GUTTER TO BE CONSTRUCTED IN 10 FOOT LENGTHS.
2. 1/2 INCH EXPANSION JOINTS SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 30 FEET, AT THE ENDS AND MID-POINT OF RETURNS, AND AT ANY POINT WHERE THE NEW CURB AND GUTTER ABUTS OTHER CONCRETE STRUCTURES.
3. 5' LONG TRANSITIONS SHALL BE PROVIDED BETWEEN NORMAL GUTTER AND PITCHED GUTTER, UNLESS NOTED OTHER-WISE ON THE PLANS.

## COMBINATION CURB & GUTTER
NO SCALE

| LOCATION | DATE | BY | APP. |
|---|---|---|---|

REVISIONS

APPROVALS

PROJECT MANAGER

ARCHITECT OF RECORD
ZANDERS

SITE ENGINEERING
FRIEDNER

STRUCTURAL ENGINEERING
CARSON

MECHANICAL ENGINEERING
BRYANT

ELECTRICAL ENGINEERING
FUNDERBURK

DRAWN: CDK
DESIGNED: EJR
CHECKED: JFF

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1015 GERVAIS STREET
COLUMBIA, SOUTH CAROLINA 29201
803-252-3232

PROJECT
TROY

PROJECT TITLE

SHEET TITLE

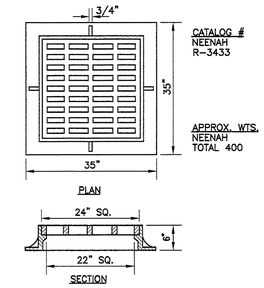
DETAIL SHEET

FILE NAME: T46C700
DATE: 7/12/02

COMMONWEALTH OF VIRGINIA
JERRY L. FRIEDNER
No. 18465
7/12/02
PROFESSIONAL ENGINEER

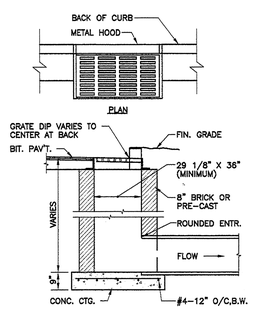
SHEET NUMBER

C700




## FRAME & GRATE DETAIL

NO SCALE




NEENAH FOUNDRY CO.

| | APPROX. WTS. | CATALOG NO. |
|---|---|---|
| FRAME } GRATE } HOOD } | 690# | R 3246-A |

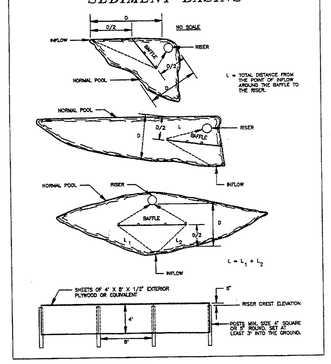
NOTE:
CONTRACTOR SHALL USE NEENAH FOUNDRY CO. FRAME, GRATE, AND HOOD OR APPROVED EQUAL.

## STANDARD CURB INLET

NO SCALE

1992 3.14

### EXAMPLE PLAN VIEWS OF BAFFLE LOCATIONS IN SEDIMENT BASINS



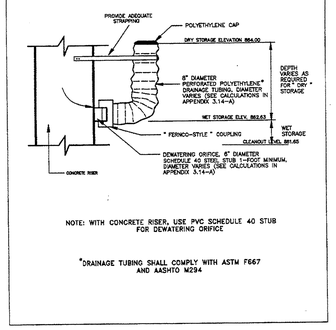

Source: USDA-SCS

Plate 3.14-6



1992 3.14

### RECOMMENDED DEWATERING SYSTEM FOR SEDIMENT BASINS




NOTE: WITH CONCRETE RISER, USE PVC SCHEDULE 40 STUB FOR DEWATERING ORIFICE

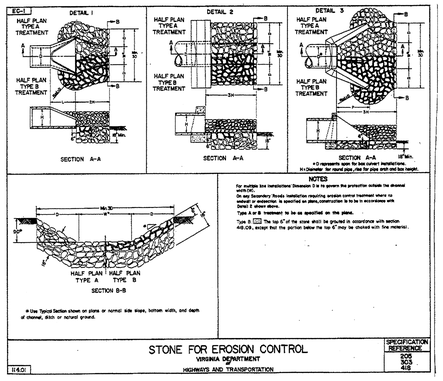
*DRAINAGE TUBING SHALL COMPLY WITH ASTM F667 AND AASHTO M294

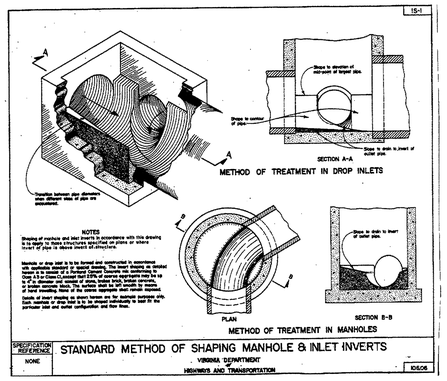
Source: Va. DSWC

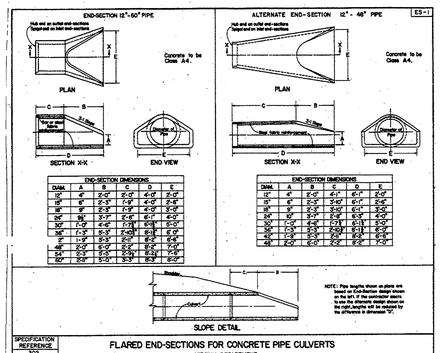
Plate 3.14-15

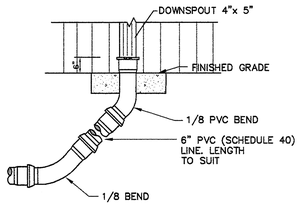
## TEMPORARY BASIN OUTLET BOX DETAIL

NO SCALE



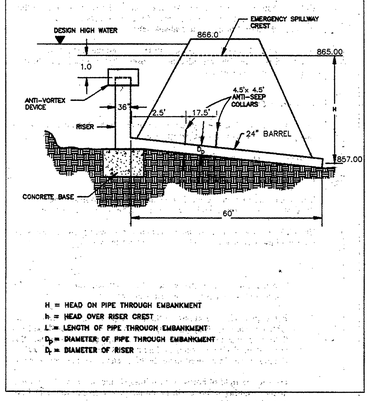




## TYPICAL ROOF DRAIN & DOWNSPOUT DETAIL

NO SCALE

1992 3.14

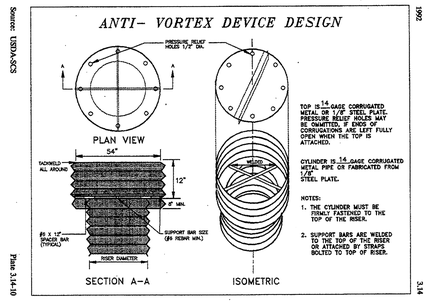
### PRINCIPAL SPILLWAY DESIGN

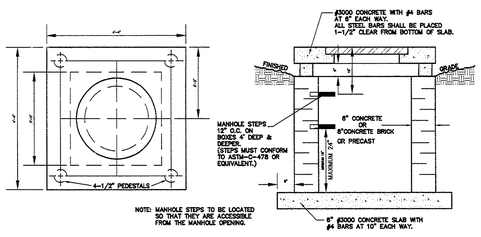



Source: Va. DSWC

Plate 3.14-7





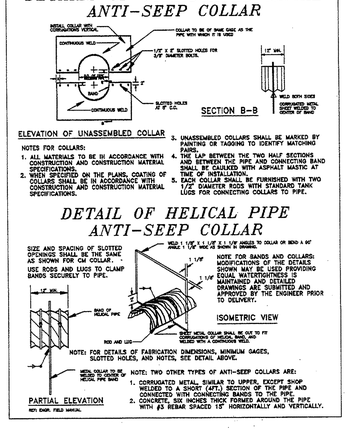

PLAN & SIDE VIEW

## YARD INLET DETAIL

NO SCALE

1992 3.14

### DETAILS OF CORRUGATED METAL ANTI-SEEP COLLAR



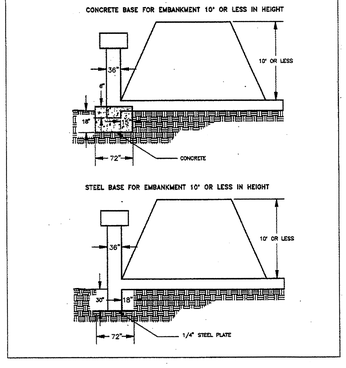

Source: USDA-SCS

Plate 3.14-13



1992 3.14

### RISER PIPE BASE CONDITIONS FOR EMBANKMENTS LESS THAN 10' HIGH




Source: Va. DSWC

Plate 3.14-14



| LOCATION | DATE | BY | APP. |
|---|---|---|---|
| | | | |

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BRYANT

ELECTRICAL ENGINEERING
FUNDERBURK

DRAWN: CDK
DESIGNED: EJR
CHECKED: JFF

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PROJECT TROY

PROJECT TITLE

SHEET TITLE

DETAIL SHEET

FILE NAME: T46C701

DATE: 7/12/02

SHEET NUMBER

C701

7 OF 8 SHEETS

EROSION & SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION: THIS PROJECT CONSISTS OF SITE PREPARATION FOR A 100,800 SF MANUFACTURING PLANT, AND ASSOCIATED PARKING, DRIVES, LOADING AND STORAGE AREAS AND UTILITY EXTENSIONS.

EXISTING SITE CONDITIONS: THE MAJORITY OF THE 15.5 ACRE TRACT IS WOODED, WITH ROLLING SLOPES. DEVELOPMENT WILL BE OCCURRING MAINLY ON THE HIGH AREA OF THE SITE, WITH SEDIMENT TRAPS AND BASINS CONSTRUCTED IN THE MAJOR DRAINAGE WAYS. THERE ARE NO WETLAND AREAS IDENTIFIED ON THE SITE.

SOILS: PREDOMINANT SOIL TYPES ON THE SITE INCLUDE CLIFFORD SANDY LOAMS OF VARYING SLOPES.

CRITICAL EROSION CONTROL AREAS: CRITICAL AREAS ON THE SITE INCLUDE THE OUTFALLS FOR THE STORM DRAINAGE PIPES, AND CARE WILL HAVE TO BE TAKEN ON ALL OF THE STEEPER SLOPES TO PROTECT THEM FROM CONCENTRATED RUNOFF.

EROSION AND SEDIMENT CONTROL MEASURES: ALL VEGETATIVE STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS CONTAINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.

STRUCTURAL PRACTICES:

1. TEMPORARY CONSTRUCTION ENTRANCE, 3.02. TEMPORARY CONSTRUCTION ENTRANCES SHALL BE CONSTRUCTED AT THE END OF THE EXISTING DIRT ROAD WHERE IT INTERSECTS HOLLIE DRIVE. IF THE PROPOSED PUBLIC ROADWAY IS CONSTRUCTED PRIOR TO THE COMPLETION OF THE PAVING ONSITE, A SECOND CONSTRUCTION ENTRANCE SHOULD BE CONSTRUCTED WHERE THE SITE DRIVEWAY EXITS THE PROPERTY ONTO THE ROADWAY.

2. SILT FENCE BARRIERS, 3.05 SILT FENCING SHALL BE INSTALLED AT THE TOE OF ALL SLOPES AND AREAS WHICH SHEET FLOW TO OFF SITE PROPERTY.

3. INLET PROTECTION, 3.07. ALL STORM DRAIN STRUCTURES SHALL BE PROTECTED WITH INLET PROTECTION. THESE MEASURES CAN INCLUDE SILT FENCING, GRAVEL AND WIRE MESH, GRAVEL CURB INLET PROTECTION OR GRAVEL AND BLOCK. ALL INLETS WILL BE PROTECTED UNTIL THE AREA WHICH DRAINS TO THEM IS STABILIZED.

4. TEMPORARY SEDIMENT TRAPS, 3.13. TEMPORARY SEDIMENT TRAPS SHALL BE INSTALLED IN ALL AREAS WHERE CONCENTRATED FLOW WILL BE LEAVING THE PROPERTY. THEY SHALL BE USED WITH FILL DIVERSIONS AND DIVERSION DIKES TO DIRECT WATER INTO THE TRAPS. THE OUTLET OF THE TRAPS WILL CONSIST OF GRAVEL AND RIPRAP. THESE TRAPS MAY BE EXCAVATED.

5. OUTLET PROTECTION, 3.18. CLASS I, DRY RIP RAP SHALL BE INSTALLED AT ALL STORM DRAIN OUTFALLS.

6. TEMPORARY SEEDING, 3.31. ANY DISTURBED AREA WHICH WILL NOT BE RE-GRADED FOR A PERIOD OF MORE THAN 30 DAYS SHALL RECEIVE TEMPORARY SEEDING TO PREVENT EROSION.

7. PERMANENT SEEDING, 3.32. ALL DISTURBED AREAS WILL RECEIVE PERMANENT SEEDING ONCE FINAL GRADING HAS BEEN COMPLETED.

CONSTRUCTION SEQUENCE:

1. FLAG LIMITS OF CLEARING. INSTALL SILT FENCE AT LIMITS OF DISTURBED AREAS WHERE FLOW IS DIRECTED OFFSITE. INSTALL TREE PROTECTION AS NECESSARY.

2. INSTALL GRAVEL CONSTRUCTION ENTRANCE AT HOLLIE DRIVE.

3. CONSTRUCT TEMPORARY SEDIMENT TRAPS, TEMPORARY SEDIMENT BASIN, AND DIVERSIONS AT THE LIMITS OF CONSTRUCTION AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN.

4. CLEAR AND STRIP ONLY PORTIONS OF THE SITE NECESSARY TO INSTALL THE EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN ON THE PLAN.

5. ONCE THE EMBANKMENTS FOR THE SEDIMENT BASINS ARE CONSTRUCTED AND IN PLACE, THE REMAINDER OF THE SITE CAN BE CLEARED AND GRADED. AS THE SITE IS BROUGHT UP, THE SEDIMENT BASIN EMBANKMENTS SHALL BE RAISED AND MAINTAINED.

6. TEMPORARY SILT TRAPS AND SEDIMENT BASINS SHALL BE MAINTAINED AND CLEANED OUT AS NECESSARY. SILT FENCING SHALL BE INSPECTED ON A WEEKLY BASIS, AND AFTER ANY STORM EVENT GREATER THAN 1/2 INCH OF RAIN. SEDIMENT TRAPS AND BASINS SHALL BE CLEANED OUT WHEN SEDIMENT ACCUMULATES TO 1/2 OF THEIR CAPACITY. SILT FENCING SHALL BE REPLACED AS NECESSARY, AND SEDIMENT ACCUMULATED SHALL BE REMOVED WHEN IT EXCEEDS A DEPTH OF 6 INCHES.

7. STORM DRAINAGE SHALL BE INSTALLED AND INLET PROTECTION PLACED AS SOON AS THE GRADE IS BROUGHT UP TO ELEVATIONS WHERE SUFFICIENT COVER CAN BE PLACED OVER THE PIPE.

8. UTILITIES SHALL BE INSTALLED WHEN THE SITE IS BROUGHT TO FINAL GRADE. TRENCHING OPERATIONS WILL BE PROTECTED WITH SILT FENCING AND DIVERSIONS AS NECESSARY. AFTER BACKFILLING, DISTURBED AREAS SHALL BE SEEDED WITH TEMPORARY OR PERMANENT SEEDING AS APPROPRIATE.

9. COMPLETE SITE GRADING OPERATIONS. INSTALL PAVEMENT BASE AS SOON AS POSSIBLE TO STABILIZE DRIVES AND TO REDUCE EROSION FROM THE PARKING LOT AREAS.

10. COMPLETE BUILDING CONSTRUCTION. INSTALL ROOF DRAIN COLLECTION SYSTEM AS SOON AS POSSIBLE TO MINIMIZE THE RUNOFF FROM THE ROOF AREA ONTO DISTURBED EARTH.

11. PAVING, PERMANENT SEEDING AND LANDSCAPING. REMOVE ACCUMULATED SEDIMENT FROM TEMPORARY SILT TRAPS AND SEDIMENT BASINS. REGRADE TO REQUIRED CONFIGURATION AND COMPLETE PERMANENT SEEDING.

12. SILT FENCING AND INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE A GOOD STAND OF GRASS IS OBTAINED AND ALL AREAS ARE STABILIZED. ANY ERODED AREAS SHALL BE REGRADED AS NECESSARY AND RESEEDED.

1992 3.31

Mulching

1. Seedings made in fall for winter cover and during hot and dry summer months shall be mulched according to MULCHING, Std. & Spec. 3.35, except that hydromulches (fiber mulch) will not be considered adequate. Straw mulch should be used during these periods.

2. Temporary seedings made under favorable soil and site conditions during optimum spring and fall seeding dates may not require mulch.

Re-seeding

Areas which fail to establish vegetative cover adequate to prevent rill erosion will be re-seeded as soon as such areas are identified.

TABLE 3.31-B

ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS

"QUICK REFERENCE FOR ALL REGIONS"

| Planting Dates | Species | Rate (lbs./acre) |
|---|---|---|
| Sept. 1 - Feb. 15 | 50/50 Mix of Annual Ryegrass (Lolium multi-florum) & Cereal (Winter) Rye (Secale cereale) | 50 - 100 |
| Feb. 16 - Apr. 30 | Annual Ryegrass (Lolium multi-florum) | 60 - 100 |
| May 1 - Aug 31 | German Millet (Setaria italica) | 50 |

Source: Va. DSWC

III - 287

1992 3.32

TABLE 3.32-D
SITE SPECIFIC SEEDING MIXTURES FOR PIEDMONT AREA

| | Total Lbs. Per Acre |
|---|---|
| **Minimum Care Lawn** | |
| - Commercial or Residential | 175-200 lbs. |
| - Kentucky 31 or Turf-Type Tall Fescue | 95-100% |
| - Improved Perennial Ryegrass | 0-5% |
| - Kentucky Bluegrass | 0-5% |
| **High-Maintenance Lawn** | 200-250 lbs. |
| - Kentucky 31 or Turf-Type Tall Fescue | 100% |
| **General Slope (3:1 or less)** | |
| - Kentucky 31 Fescue | 128 lbs. |
| - Red Top Grass | 2 lbs. |
| - Seasonal Nurse Crop * | 20 lbs. |
| | 150 lbs. |
| **Low-Maintenance Slope (Steeper than 3:1)** | |
| - Kentucky 31 Fescue | 108 lbs. |
| - Red Top Grass | 2 lbs. |
| - Seasonal Nurse Crop * | 20 lbs. |
| - Crownvetch ** | 20 lbs. |
| | 150 lbs. |

* Use seasonal nurse crop in accordance with seeding dates as stated below:
February 16th through April .......... Annual Rye
May 1st through August 15th .......... Foxtail Millet
August 16th through October .......... Annual Rye
November through February 15th .......... Winter Rye

** Substitute Sericea lespedeza for Crownvetch east of Farmville, Va. (May through September use hulled Sericea, all other periods, use unhulled Sericea). If Flatpea is used in lieu of Crownvetch, increase rate to 30 lbs./acre. All legume seed must be properly inoculated. Weeping Lovegrass may be added to any slope or low-maintenance mix during warmer seeding periods; add 10-20 lbs./acre in mixes.

III - 303

TABLE 3.35-A

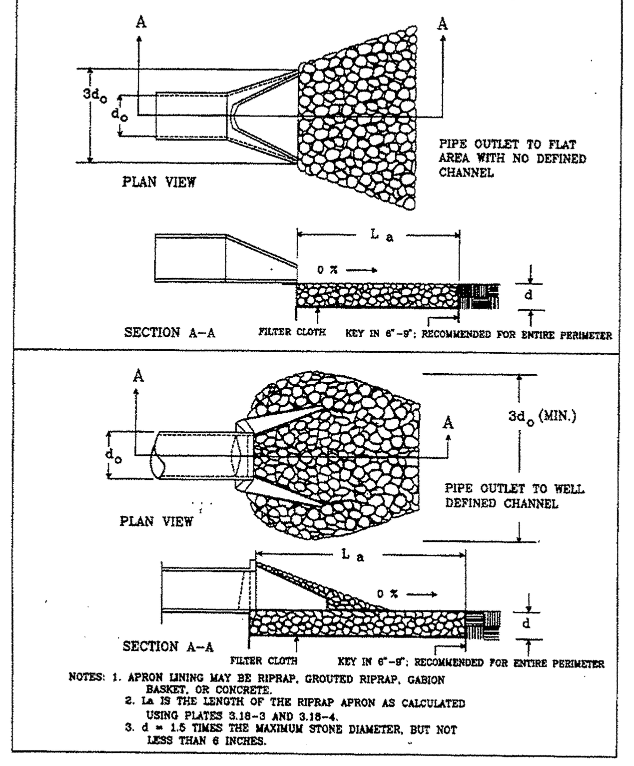
ORGANIC MULCH MATERIALS AND APPLICATION RATES

| MULCHES: | RATES: Per Acre | RATES: Per 1000 sq. ft. | NOTES: |
|---|---|---|---|
| Straw or Hay | 1½ - 2 tons (Minimum 2 tons for winter cover) | 70 - 90 lbs. | Free from weeds and coarse matter. Must be anchored. Spread with mulch blower or by hand. |
| Fiber Mulch | Minimum 1500 lbs. | 35 lbs. | Do not use as mulch for winter cover or during hot, dry periods.* Apply as slurry. |
| Corn Stalks | 4 - 6 tons | 185 - 275 lbs. | Cut or shredded in 4-6" lengths. Air-dried. Do not use in fine turf areas. Apply with mulch blower or by hand. |
| Wood Chips | 4 - 6 tons | 185 - 275 lbs. | Free of coarse matter. Air-dried. Treat with 12 lbs nitrogen per ton. Do not use in fine turf areas. Apply with mulch blower, chip handler, or by hand. |
| Bark Chips or Shredded Bark | 50 - 70 cu. yds. | 1-2 cu. yds. | Free of coarse matter. Air-dried. Do not use in fine turf areas. Apply with mulch blower, chip handler, or by hand. |

* When fiber mulch is the only available mulch during periods when straw should be used, apply at a minimum rate of 2000 lbs./ac. or 45 lbs./1000 sq. ft.

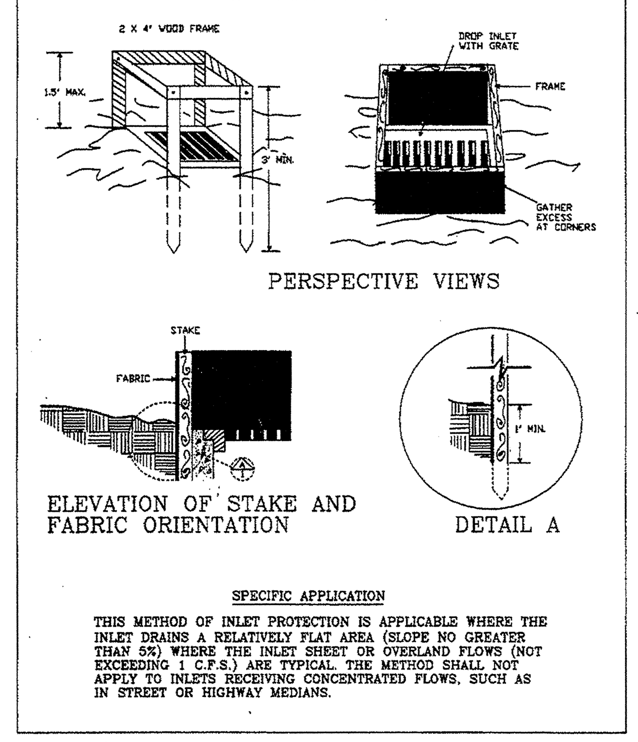
Source: Va. DSWC

## PIPE OUTLET CONDITIONS



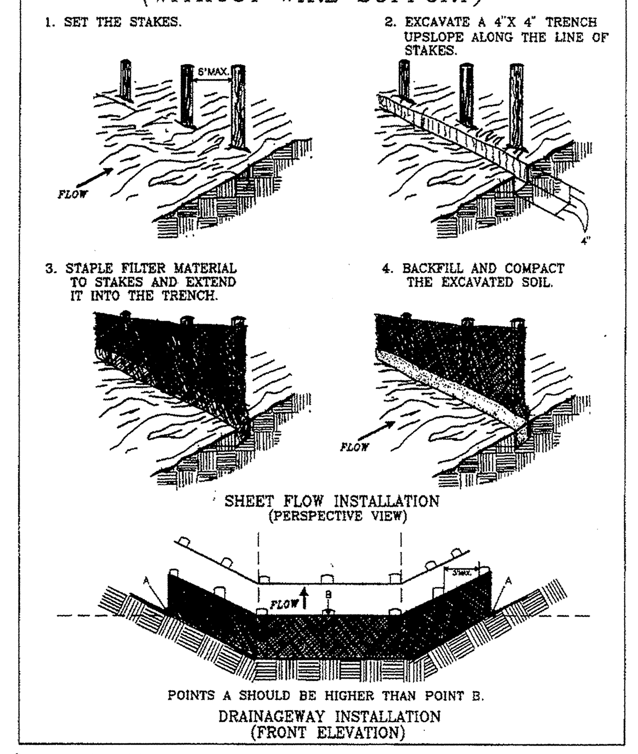

Source: Va. DSWC Plate 3.18-1

## SILT FENCE DROP INLET PROTECTION



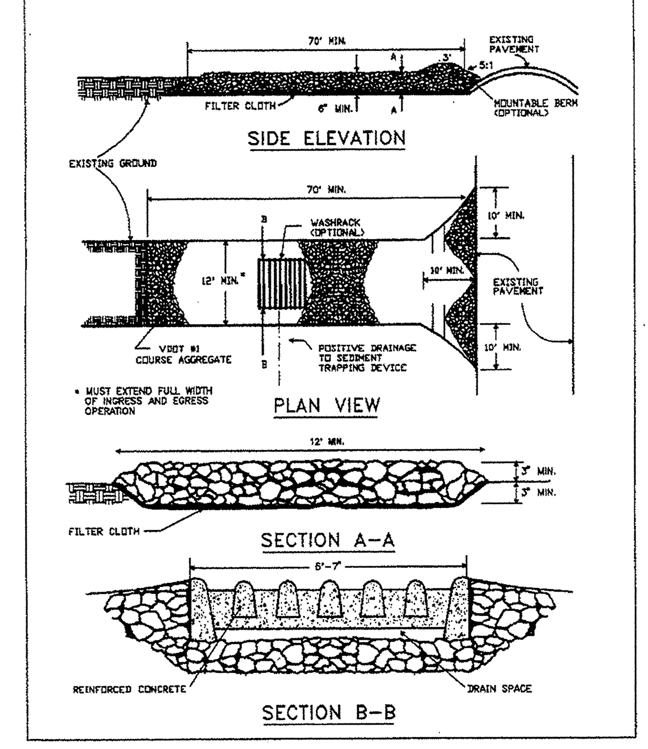

Source: N.C. Erosion and Sediment Control Planning and Design Manual, 1988 Plate 3.07-1

## CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)



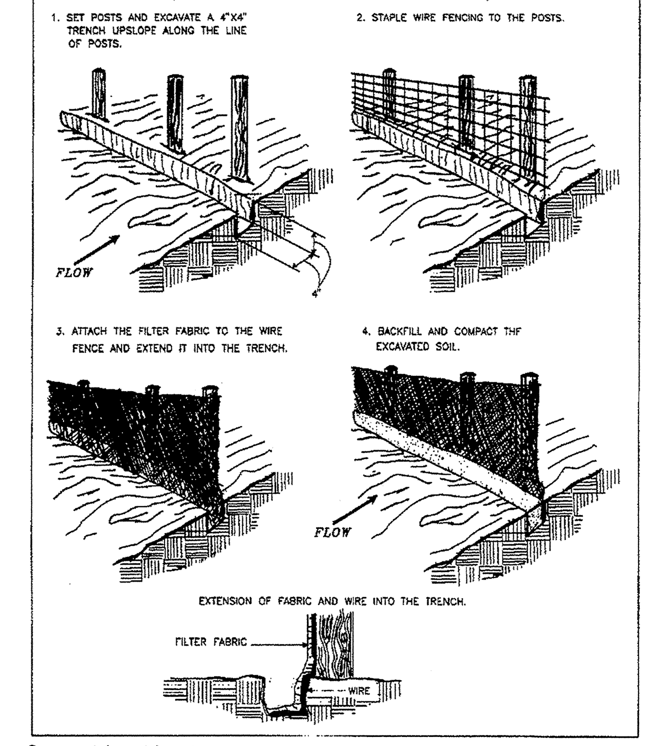

Source: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant Plate 3.05-2

## STONE CONSTRUCTION ENTRANCE



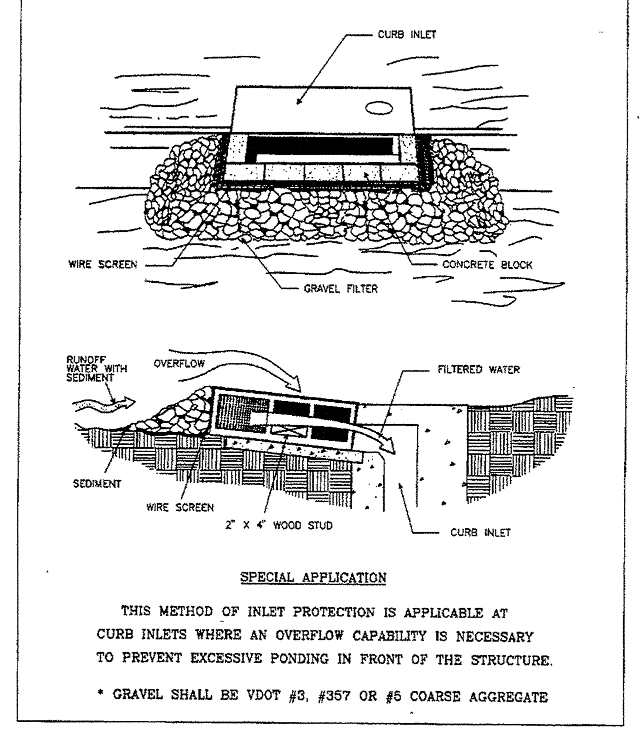

Source: Adapted from 1983 Maryland Standards for Soil Erosion and Sediment Control, and Va. DSWC Plate 3.02-1

## CONSTRUCTION OF A SILT FENCE (WITH WIRE SUPPORT)



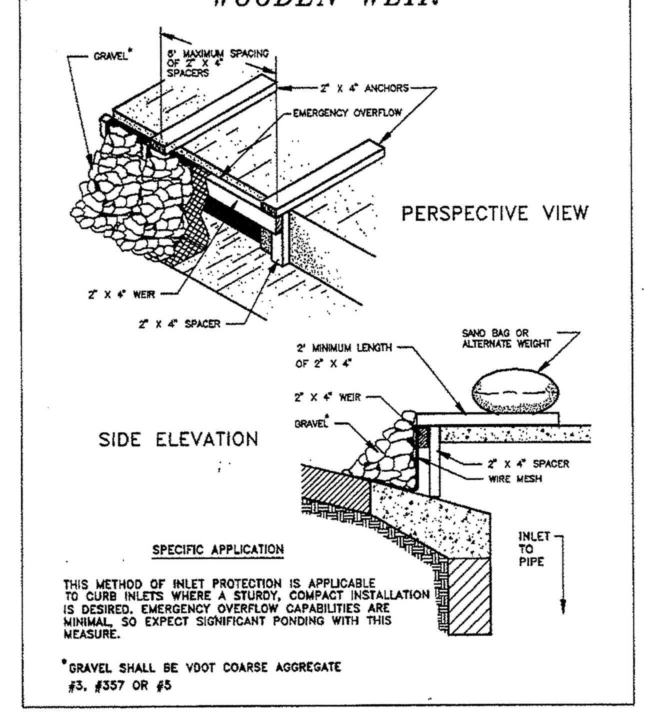

Source: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant Plate 3.05-1

## BLOCK & GRAVEL CURB INLET SEDIMENT FILTER



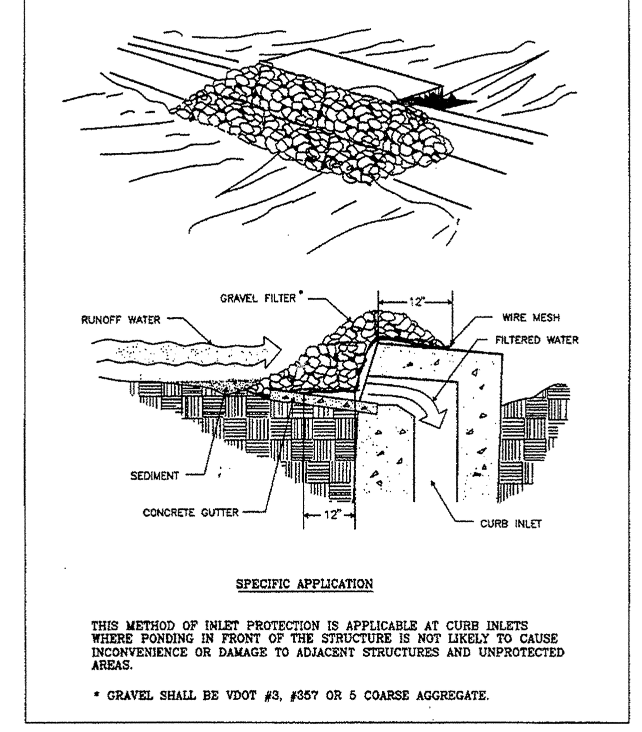

Source: Va. DSWC Plate 3.07-8

## CURB INLET PROTECTION WITH 2-INCH X 4-INCH WOODEN WEIR



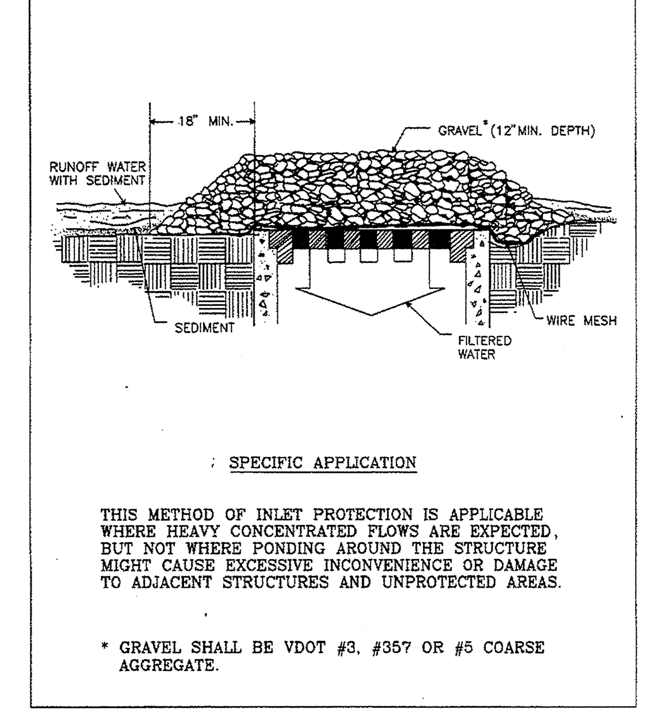

Source: 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control, and USDA-SCS Plate 3.07-7

## GRAVEL CURB INLET SEDIMENT FILTER



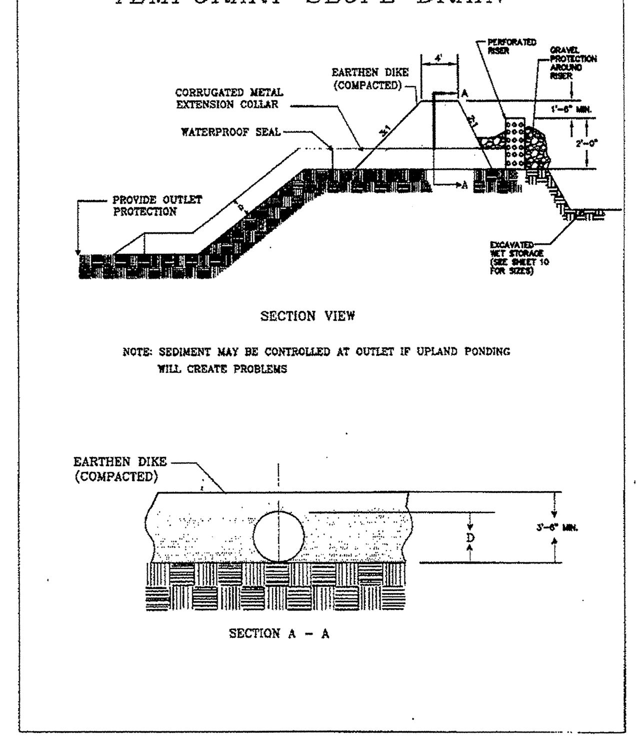

Source: Va. DSWC Plate 3.07-6

## GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER



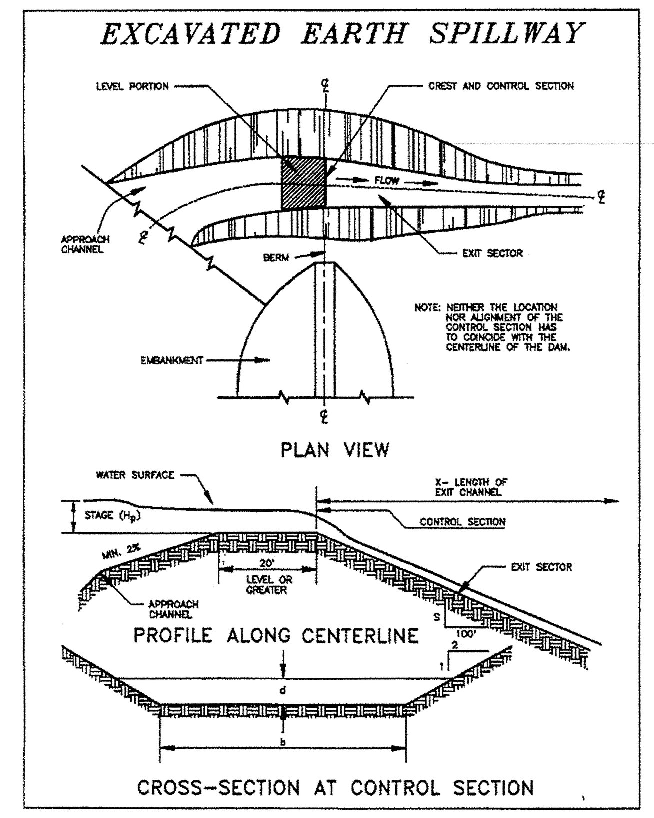

Source: Va. DSWC Plate 3.07-2

## TEMPORARY SLOPE DRAIN



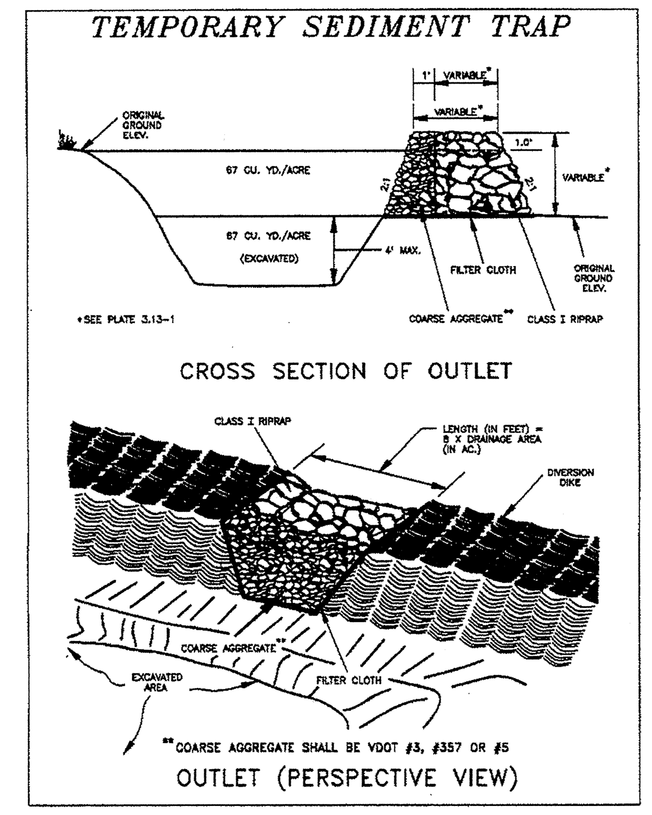

Source: Va. DSWC Plate 3.15-1

## EXCAVATED EARTH SPILLWAY



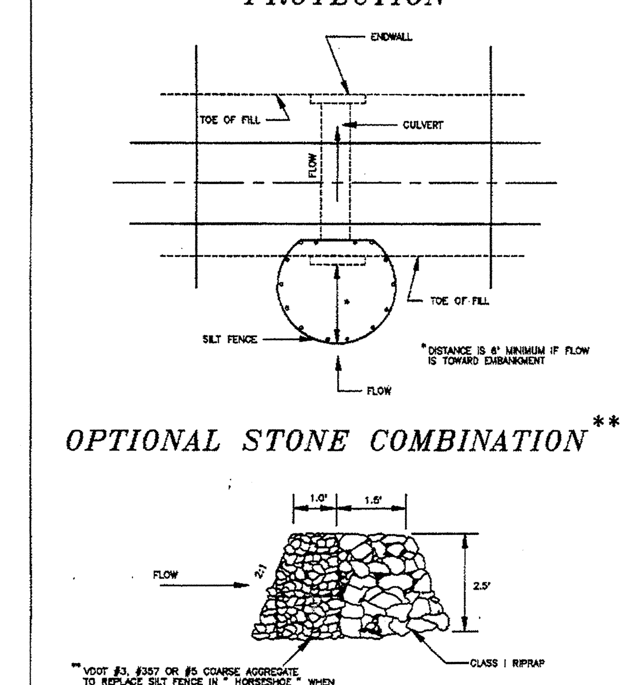

Source: USDA-SCS Plate 3.14-9

## TEMPORARY SEDIMENT TRAP



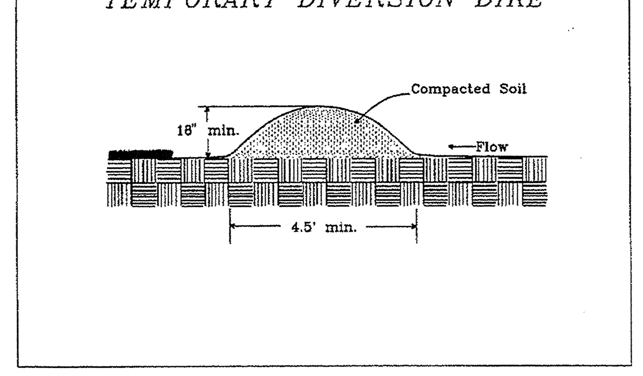

Source: Va. DSWC Plate 3.13-2

## SILT FENCE CULVERT INLET PROTECTION

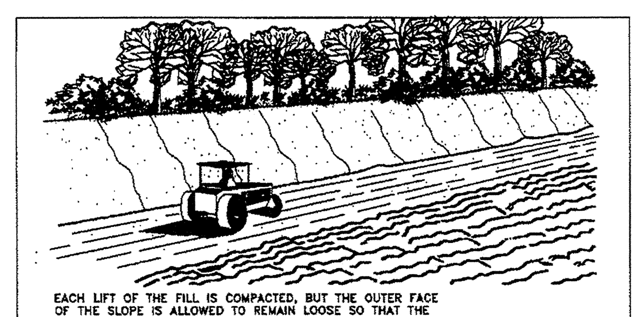



Source: Adapted from VDOT Standard Sheets and Va. DSWC Plate 3.08-1

## TEMPORARY DIVERSION DIKE

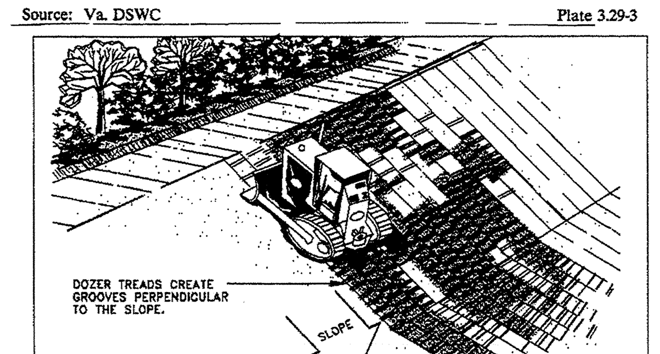



Source: Va. DSWC Plate 3.09-1




## FILL SLOPE TREATMENT

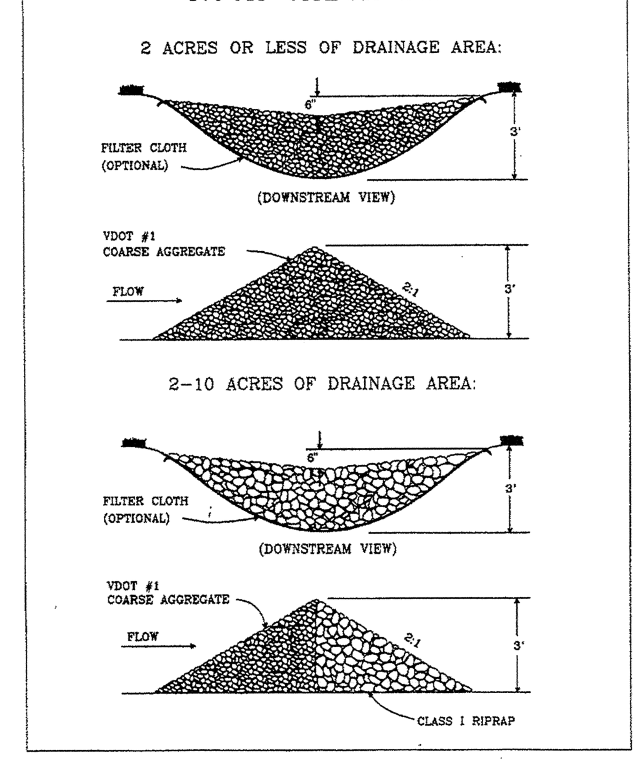
Source: Va. DSWC Plate 3.29-3




## TRACKING

Source: Michigan Soil Erosion and Sedimentation Guide Plate 3.29-4

## ROCK CHECK DAM




Source: Va. DSWC Plate 3.20-1

| LOCATION | DATE | BY | APP. |
|---|---|---|---|

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APPROVALS

PROJECT MANAGER

ARCHITECT OF RECORD ZANDERS

SITE ENGINEERING FRIEDNER

STRUCTURAL ENGINEERING CARSON

MECHANICAL ENGINEERING BRYANT

ELECTRICAL ENGINEERING FUNDERBURK

DRAWN: CDK

DESIGNED: EJR

CHECKED: JFF

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PROJECT TROY

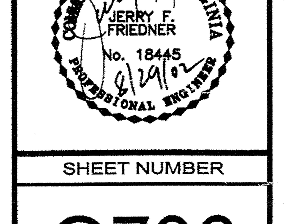
PROJECT TITLE

SHEET TITLE

DETAIL SHEET

FILE NAME: T46C702

DATE: 7/12/02




SHEET NUMBER

C702