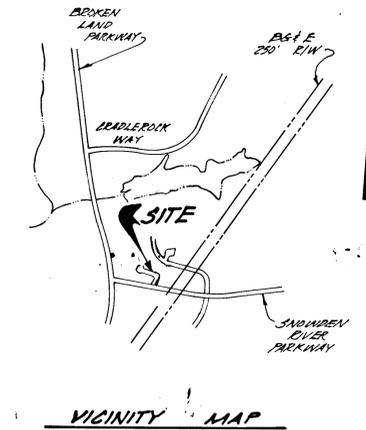


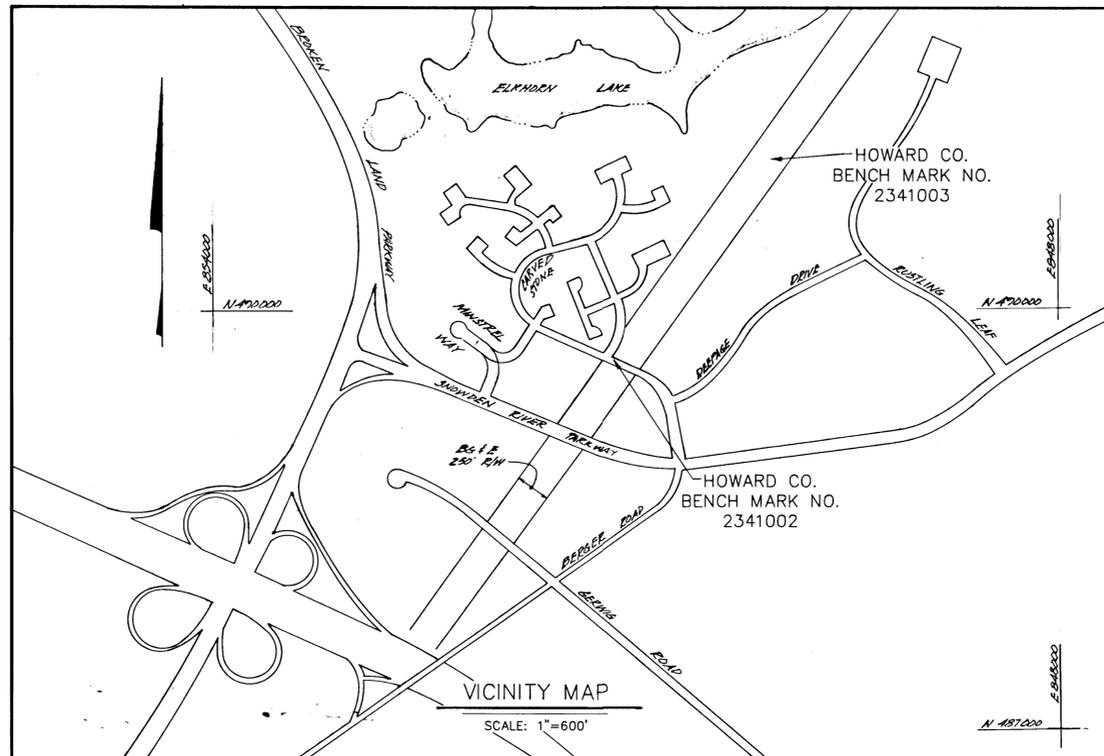
MINSTREL WAY ROAD RELOCATION PLANS

VILLAGE OF OWEN BROWN 2/2 HOWARD COUNTY, MARYLAND 6th ELECTION DISTRICT



GENERAL NOTES

- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES WHERE DIRECTED BY THE ENGINEER A MINIMUM OF TWO WEEKS IN ADVANCE OF ANY CONSTRUCTION.
- CONTRACTOR TO NOTIFY THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS AT LEAST THREE DAYS BEFORE CONSTRUCTION OPERATIONS. 992-24363
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST THREE DAYS IN ADVANCE OF CONSTRUCTION OPERATIONS:
BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS: 992-2366
STATE HIGHWAY ADMINISTRATION: 531-5533
BALTIMORE GAS & ELECTRIC-CONTRACTOR SERVICES: 561-2585
BALTIMORE GAS & ELECTRIC-UG DAMAGE CONTROL: 234-5621
BALTIMORE GAS & ELECTRIC-TROUBLE SHOOTING: 298-9013
MISS UTILITY: 1-800-257-7777
COLONIAL PIPELINE COMPANY: 795-1390
C&P TELEPHONE COMPANY: 725-9976
AT&T CABLE DIVISION: 393-3553
- ALL ELEVATIONS SHOWN ARE BASED ON U.S.C. AND U.S.G.S. MEAN SEA LEVEL DATUM 1929.
- ALL COORDINATES BASED ON THE MARYLAND STATE GRID SYSTEM.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS, SPECIFICATIONS, AND DETAILS OF CONSTRUCTION, VOL. IV. CONTRACTOR SHALL HAVE A COPY OF VOL. IV ON SITE.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHTS-OF-WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CODE.
- INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING AND SIGNALLING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 1984 REVISED EDITION.
- APPROXIMATE LOCATIONS OF EXISTING UTILITIES ARE SHOWN. CONTRACTOR TO VERIFY AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATIONS SHALL BE IMMEDIATELY REPAIRED AT THE CONTRACTOR'S EXPENSE.
- ALL REINFORCED CONCRETE FOR STORM DRAIN STRUCTURES SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3500 psi.
- CONTRACTOR TO RESTORE ALL EXISTING PAVING, SIDEWALKS OR LAWNS AFFECTED BY THE CONSTRUCTION SHOWN HEREON TO A CONDITION COMPARABLE TO THAT EXISTING PRIOR TO CONSTRUCTION.
- ALL STORM DRAIN BEDDING TO BE CLASS 'C' EXCEPT WHERE OTHERWISE NOTED.
- TOP OF INLET ELEVATIONS SHOWN ARE GIVEN AT THE TOP OF CURB AT THE CENTER OF THE INLET.
- THE LOCATION AND NUMBER OF TREES SHOWN ON THIS PLAN ARE THE MINIMUM NUMBER REQUIRED AND ARE USED FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITIONS AND BUILDER'S LANDSCAPE PROGRAM. BOND RELEASE IS CONTINGENT UPON SECTION 16.131 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, AS APPROVED BY THE OFFICE OF PLANNING AND ZONING.



BENCH MARKS

- HOWARD COUNTY BENCH MARK NO. 2341002 ELEV. 359.68
CONCRETE MONUMENT LOCATED ON TRANSMISSION LINES (BG&E TOWERS 29/29E) HALFWAY BETWEEN CURB AND SIDEWALK ON THE SOUTH SIDE OF CARVED STONE WAY.
- HOWARD COUNTY BENCH MARK NO. 2341003 ELEV. 367.23
CONCRETE MONUMENT LOCATED ON TRANSMISSION LINE R/W (BG&E TOWERS 27/27E) 154' ± FROM THE END OF HICKORY LIMB ROAD IN THE COMMUNITY OF HOPEWELL.

SHEET INDEX

SHEET NO.	DESCRIPTION
1.	TITLE
2.	ROAD CONSTRUCTION PLAN AND PROFILE
3.	DRAINAGE AREA MAP
4.	GRADING AND SEDIMENT CONTROL PLAN
5.	EROSION AND SEDIMENT CONTROL DETAILS

APPROVED: DEPARTMENT OF PUBLIC WORKS

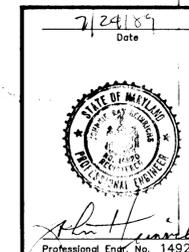
James B. Papp 11-7-89
CHIEF-BUREAU OF ENGINEERING DATE

Lawrence H. Weiland 10/26/89
CHIEF-BUREAU OF HIGHWAYS DATE

Donald W. Brown 11/3/89
CHIEF-LAND DEVELOPMENT DIVISION DATE

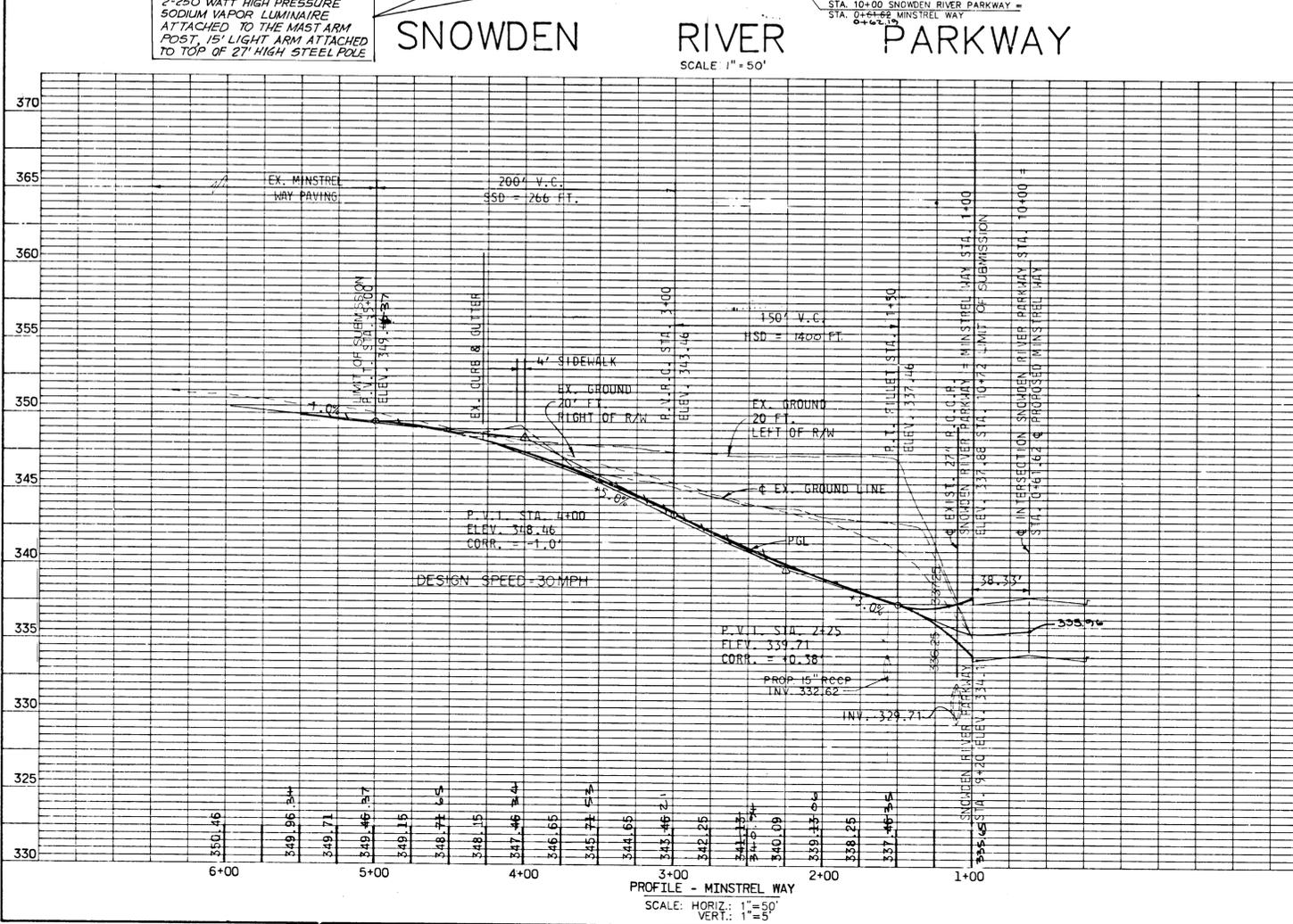
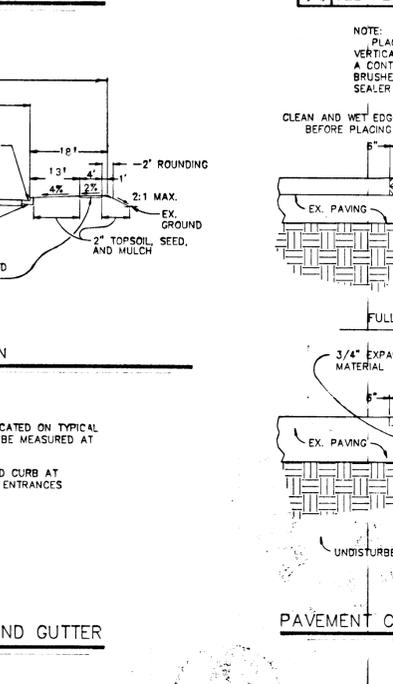
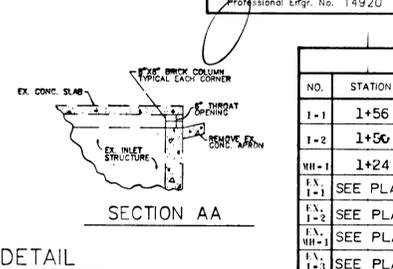
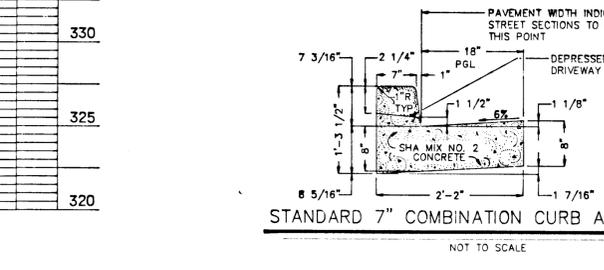
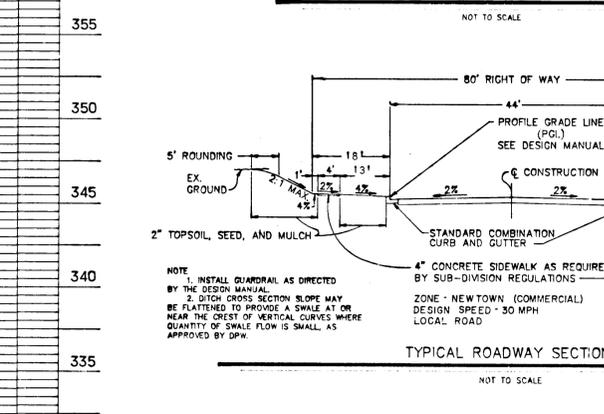
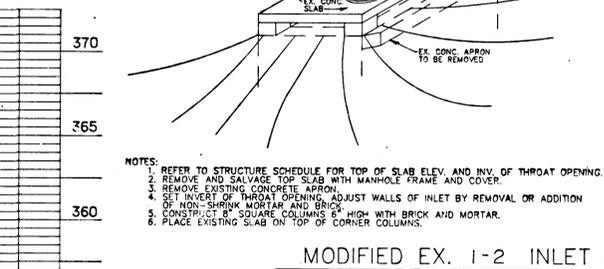
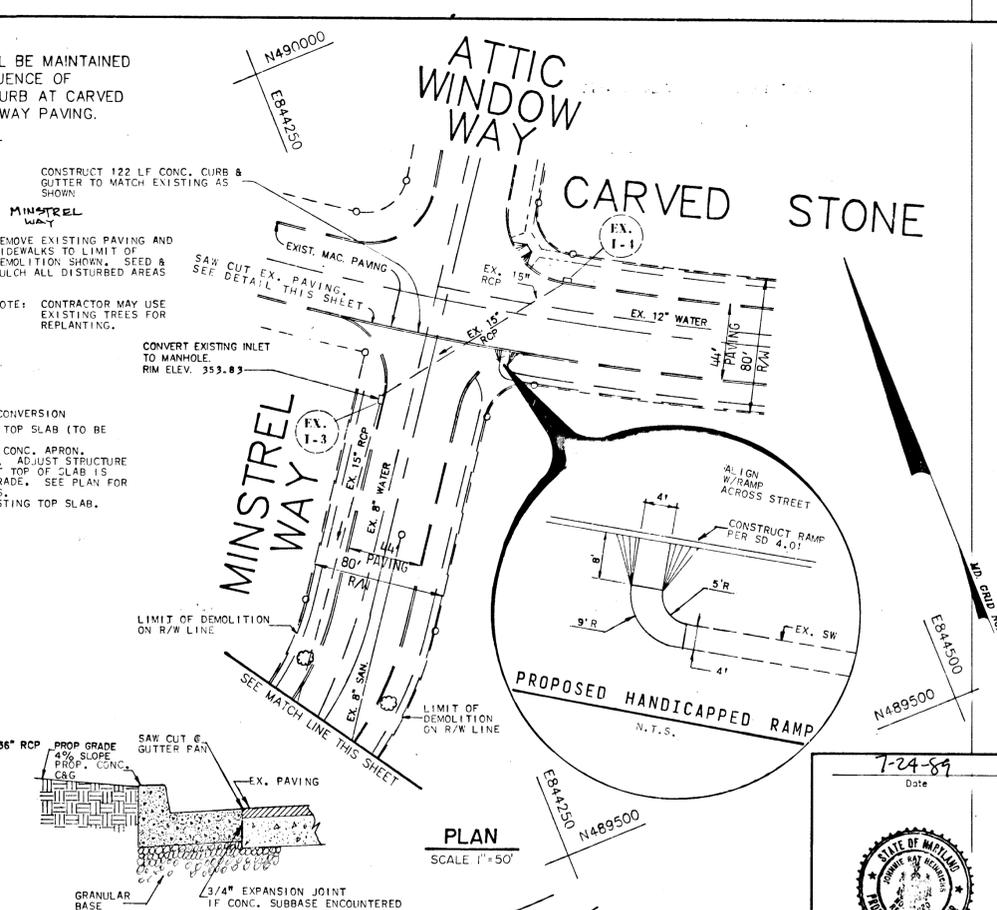
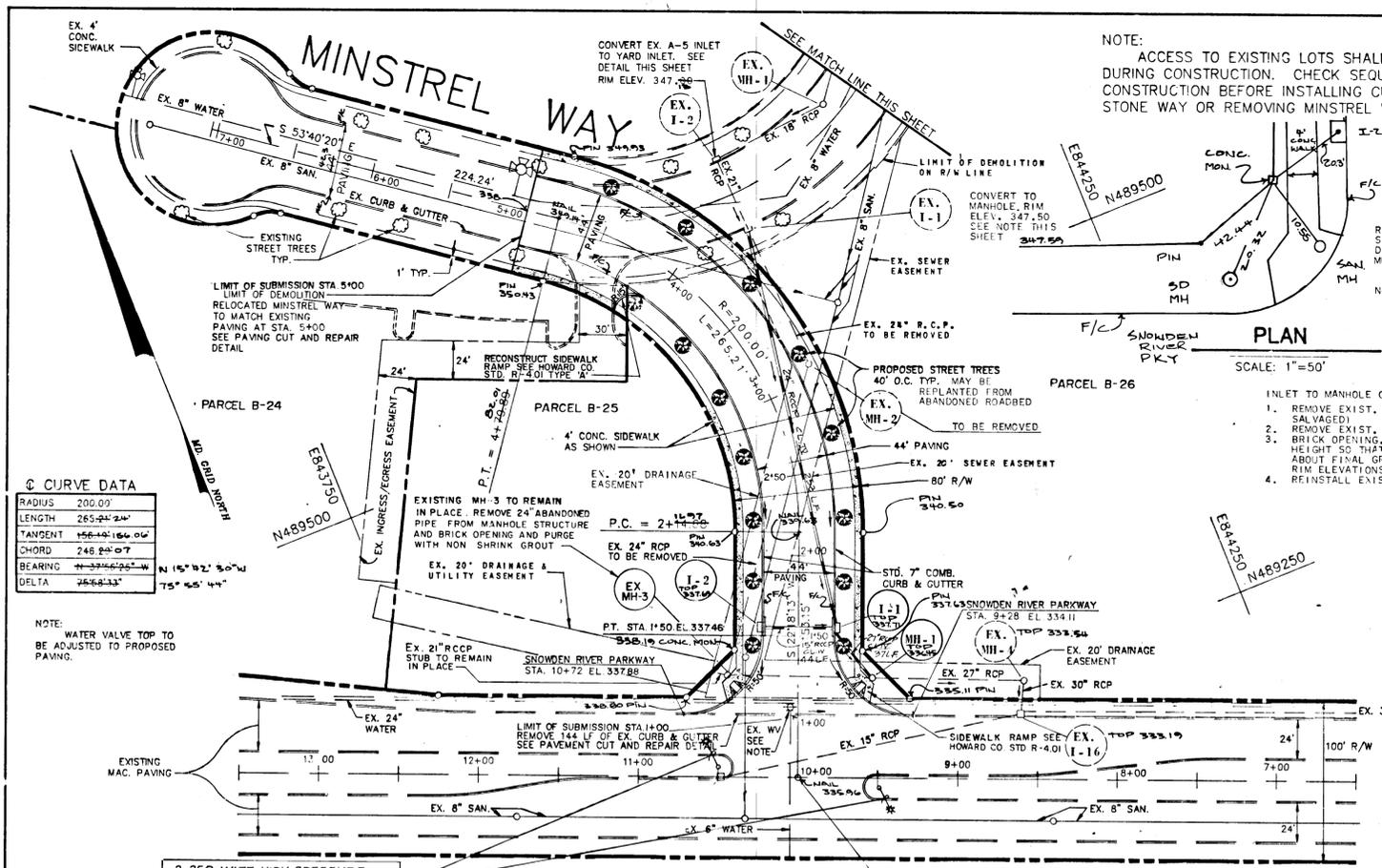
APPROVED: DEPT. OF PLANNING AND ZONING

Wesley J. J. Langley 11/14/89
CHIEF-DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE



OWNER/DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT
LAND COMPANY
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS
32 WEST ROAD
TOWSON, MARYLAND 21284



Date	No	Revision Description

APPROVED: DEPARTMENT OF PUBLIC WORKS

[Signature] 11-9-89
DATE

[Signature] 10/26/89
DATE

[Signature] 11/3/89
DATE

APPROVED: DEPT. OF PLANNING AND ZONING

[Signature] 1/16/89
DATE

THE HOWARD RESEARCH AND DEVELOPMENT LAND COMPANY
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS, PLANNERS
32 WEST ROAD
TOWSON, MARYLAND 21284

AREA: VILLAGE OF OWEN BROWN
SECTION 2 AREA 2
TAX MAP 42 PARCEL 410
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: **PLAN AND PROFILE MINSTREL WAY**

Des By	G.B.Z.	Scale	AS SHOWN	Proj No	13-034
Drn By	J.P.	Date	7/14/89	DRAWING NO	2 OF 5
Chk By	J.R.H.	Approved			

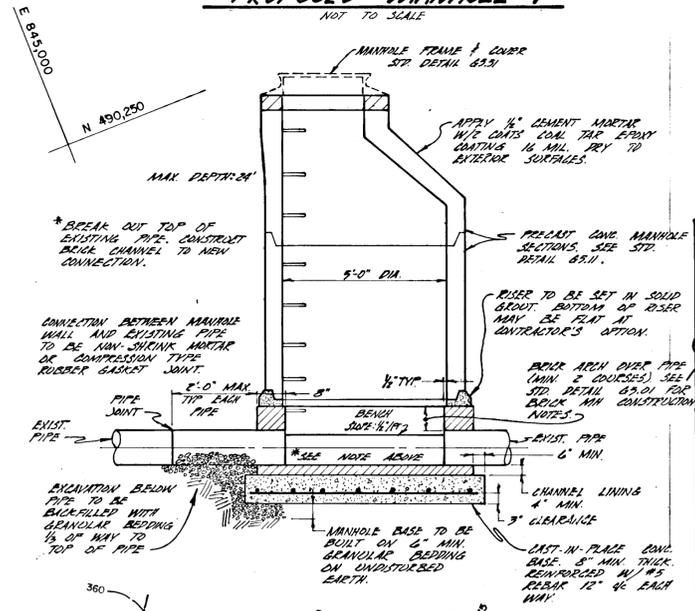
STRUCTURE SCHEDULE					
NO.	STATION	OFFSET	TYPE	TOP ELEV.	REMARKS
1-1	1+56	22.00' RT	A-5	337.80	W/DEFLECTORS SD 4.83
1-2	1+50	22.00' LT	A-5	337.80	W/DEFLECTORS SD 4.83
MH-1	1+24	47.00' RT	SPECIAL	337.00	SEE DETAIL SHT.
EX. 1-1	SEE PLAN		A-5	347.55	CONVERT TO MH
EX. 1-2	SEE PLAN		A-5	347.00	CONVERT TO YARD INLET
EX. MH-1	SEE PLAN		STD.	348.18	ADJUST RIM ELEV.
EX. 1-3	SEE PLAN		A-5	353.83	CONVERT TO MH

NOTE: PLACE HOT LIQUID ASPHALT SEALER (AE-5 OR AS APPROVED BY D.P.W.) ALONG VERTICAL FACE OF EXISTING PAVING PRIOR TO PLACING NEW MATERIAL TO ENSURE A CONTINUOUS BOND. UPON COMPLETION OF PAVING, EXCESS SEALER SHALL BE BRUSHED INTO JOINT BETWEEN OLD AND NEW SURFACES TO PREVENT EXCESS SEALER FROM BEING TRACKED BY TRAFFIC.

NOTE: CLEAN AND WET EDGES OF CUT BEFORE PLACING CONCRETE

NOTE: 1. INSTALL GUARDRAIL AS DIRECTED BY THE DESIGN MANUAL.
2. DITCH CROSS SECTION SLOPE MAY BE FLATTENED TO PROVIDE A SWALE AT OR NEAR THE CREST OF VERTICAL CURVES WHERE QUANTITY OF SWALE FLOW IS SMALL AS APPROVED BY DPM.

PROPOSED MANHOLE 1
NOT TO SCALE



APPROVED: DEPARTMENT OF PUBLIC WORKS
 APPROVED: DEPARTMENT OF HIGHWAYS
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
 APPROVED: DEPARTMENT OF COMMUNITY PLANNING AND LAND DEVELOPMENT

BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND FEASIBLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

BY THE DEVELOPER:
 I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS

Date	No	Revision	Description

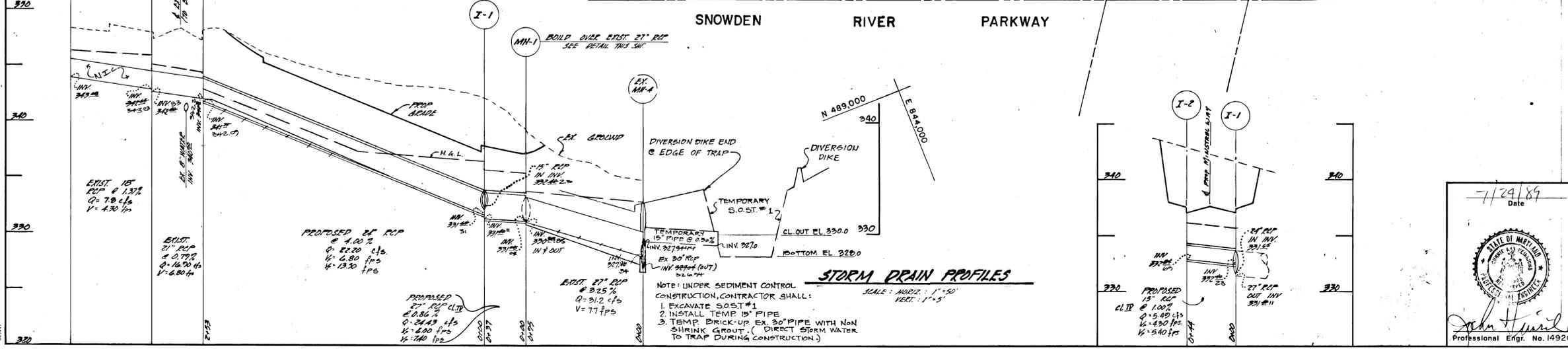
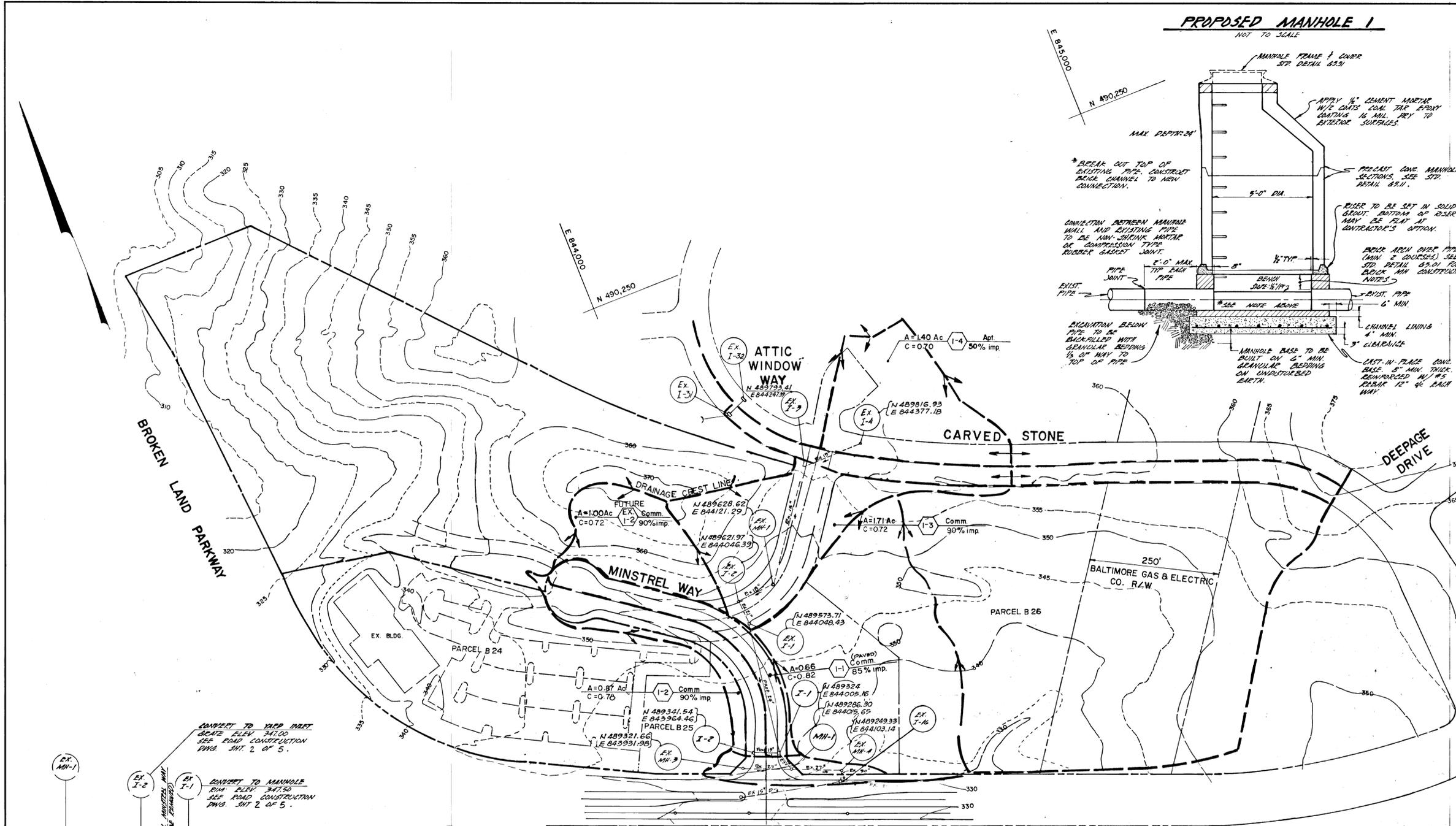
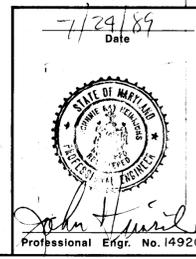
THE HOWARD RESEARCH AND DEVELOPMENT LAND COMPANY
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

CENTURY ENGINEERING, INC.
 CONSULTING ENGINEERS • PLANNERS
 32 WEST ROAD
 TOWSON, MARYLAND 21204

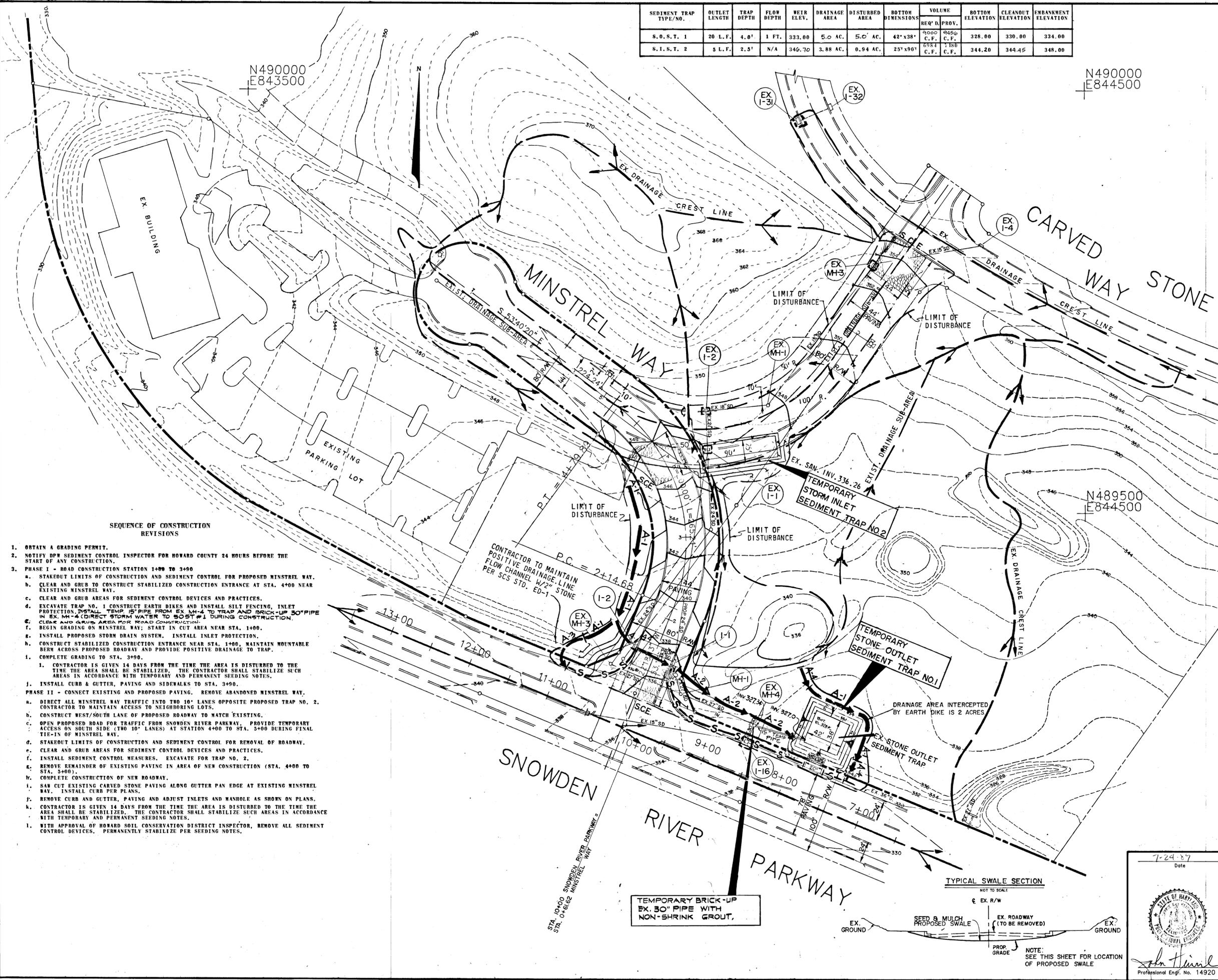
AREA VILLAGE OF OWEN BROWN
 SECTION 2 AREA 2
 TAX MAP 42 PARCEL 410
 6th ELECTION DIST. OF HOWARD COUNTY, MD.

TITLE DRAINAGE AREA MAP
MINSTREL WAY

Des By G.B.Z. Scale 1"=100' Proj No 89-034
 Dwn By G.M.B. Date 7/14/89 Drawing No. 3 OF 5
 Chk By J.R.H. Approved



SEDIMENT TRAP TYPE/NO.	OUTLET LENGTH	TRAP DEPTH	FLOW DEPTH	WEIR ELEV.	DRAINAGE AREA	DISTURBED AREA	BOTTOM DIMENSIONS	VOLUME REQ'D	BOTTOM ELEVATION	CLEANOUT ELEVATION	EMBANKMENT ELEVATION
S.O.S.T. 1	20 L.F.	4.0'	1 FT.	333.00	5.0 AC.	5.0' AC.	42'x38'	9000 C.F.	328.00	330.00	334.00
S.I.S.T. 2	5 L.F.	2.5'	N/A	346.70	3.88 AC.	0.94 AC.	25'x90'	6881 C.F.	344.20	344.45	348.00



APPROVED: DEPARTMENT OF PUBLIC WORKS

William W. McLeod 11-7-89
 CHIEF-BUREAU OF ENGINEERING DATE

William W. McLeod 8/26/89
 CHIEF-BUREAU OF HIGHWAYS DATE

Paul J. ... 11/3/89
 CHIEF-LAND DEVELOPMENT DIVISION DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

... 11/1/89
 CHIEF-DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

BY THE ENGINEER:
 "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

John H. ... 7/24/89
 SIGNATURE OF ENGINEER DATE

BY THE DEVELOPER:
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

James M. ... 7/24/89
 SIGNATURE OF DEVELOPER DATE

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS

James M. ... 10/19/89
 S. SOIL CONSERVATION DISTRICT DATE

THIS DEVELOPMENT PLAN IS AS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John L. ... 10/19/89
 HOWARD S.C.D. DATE

THE HOWARD RESEARCH AND DEVELOPMENT LAND COMPANY
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 301-992-6370

CENTURY ENGINEERING, INC.
 301-823-6070
 CONSULTING ENGINEERS, PLANNERS
 32 WEST ROAD
 TOWSON, MARYLAND 21204

AREA VILLAGE OF OWEN BROWN
 SECTION 2 AREA 2
 TAX MAP 42 PARCEL 410
 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE GRADING AND SEDIMENT CONTROL PLAN
 MINSTREL WAY

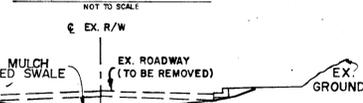
Des By G.B.Z. Scale 1"=50' Proj No 89-034
 Dwn By J.P. Date 7/14/89 DRAWING NO
 Chk By J.R.H. Approved 4 OF 5

Professional Eng. No. 14920

- SEQUENCE OF CONSTRUCTION REVISIONS**
- OBTAIN A GRADING PERMIT.
 - NOTIFY DPW SEDIMENT CONTROL INSPECTOR FOR HOWARD COUNTY 24 HOURS BEFORE THE START OF ANY CONSTRUCTION.
 - PHASE I - ROAD CONSTRUCTION STATION 1+00 TO 3+00
 - STAKEOUT LIMITS OF CONSTRUCTION AND SEDIMENT CONTROL FOR PROPOSED MINSTREL WAY.
 - CLEAR AND GRUB TO CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE AT STA. 4+00 NEAR EXISTING MINSTREL WAY.
 - CLEAR AND GRUB AREAS FOR SEDIMENT CONTROL DEVICES AND PRACTICES.
 - EXCAVATE TRAP NO. 1 CONSTRUCT EARTH DIKES AND INSTALL SILT FENCING, INLET PROTECTION, INSTALL TEMP. 15" PIPE FROM EX. MH-4 TO TRAP AND BRICK-UP 30" PIPE IN EX. MH-4 (DIRECT STORM WATER TO SOST #1 DURING CONSTRUCTION).
 - CLEAR AND GRUB AREA FOR ROAD CONSTRUCTION.
 - BEGIN GRADING ON MINSTREL WAY; START IN CUT AREA NEAR STA. 1+00.
 - INSTALL PROPOSED STORM DRAIN SYSTEM. INSTALL INLET PROTECTION.
 - CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE NEAR STA. 1+00. MAINTAIN MOUNTABLE BERM ACROSS PROPOSED ROADWAY AND PROVIDE POSITIVE DRAINAGE TO TRAP.
 - COMPLETE GRADING TO STA. 3+00.
 - CONTRACTOR IS GIVEN 14 DAYS FROM THE TIME THE AREA IS DISTURBED TO THE TIME THE AREA SHALL BE STABILIZED. THE CONTRACTOR SHALL STABILIZE SUCH AREAS IN ACCORDANCE WITH TEMPORARY AND PERMANENT SEEDING NOTES.
 - INSTALL CURB & GUTTER, PAVING AND SIDEWALKS TO STA. 3+00.
 - PHASE II - CONNECT EXISTING AND PROPOSED PAVING. REMOVE ABANDONED MINSTREL WAY.
 - DIRECT ALL MINSTREL WAY TRAFFIC INTO TWO 10' LANES OPPOSITE PROPOSED TRAP NO. 2. CONTRACTOR TO MAINTAIN ACCESS TO NEIGHBORING LOTS.
 - CONSTRUCT WEST/SOUTH LANE OF PROPOSED ROADWAY TO MATCH EXISTING.
 - OPEN PROPOSED ROAD FOR TRAFFIC FROM SNOWDEN RIVER PARKWAY. PROVIDE TEMPORARY ACCESS ON SOUTH SIDE (TWO 10' LANES) AT STATION 4+00 TO STA. 3+00 DURING FINAL TIE-IN OF MINSTREL WAY.
 - STAKEOUT LIMITS OF CONSTRUCTION AND SEDIMENT CONTROL FOR REMOVAL OF ROADWAY.
 - CLEAR AND GRUB AREAS FOR SEDIMENT CONTROL DEVICES AND PRACTICES.
 - INSTALL SEDIMENT CONTROL MEASURES. EXCAVATE FOR TRAP NO. 2.
 - REMOVE REMAINDER OF EXISTING PAVING IN AREA OF NEW CONSTRUCTION (STA. 4+00 TO STA. 5+00).
 - COMPLETE CONSTRUCTION OF NEW ROADWAY.
 - SAW CUT EXISTING CARVED STONE PAVING ALONG GUTTER PAN EDGE AT EXISTING MINSTREL WAY. INSTALL CURB PER PLANS.
 - REMOVE CURB AND GUTTER, PAVING AND ADJUST INLETS AND MANHOLE AS SHOWN ON PLANS.
 - CONTRACTOR IS GIVEN 14 DAYS FROM THE TIME THE AREA IS DISTURBED TO THE TIME THE AREA SHALL BE STABILIZED. THE CONTRACTOR SHALL STABILIZE SUCH AREAS IN ACCORDANCE WITH TEMPORARY AND PERMANENT SEEDING NOTES.
 - WITH APPROVAL OF HOWARD SOIL CONSERVATION DISTRICT INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES. PERMANENTLY STABILIZE PER SEEDING NOTES.

TEMPORARY BRICK-UP EX. 30" PIPE WITH NON-SHRINK GROUT.

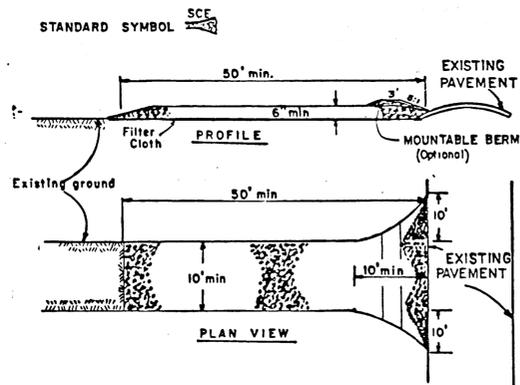
TYPICAL SWALE SECTION



NOTE: SEE THIS SHEET FOR LOCATION OF PROPOSED SWALE

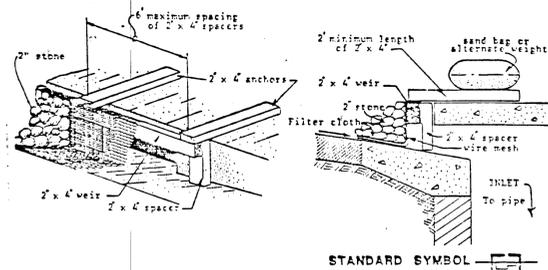


STABILIZED CONSTRUCTION ENTRANCE
not to scale



- CONSTRUCTION SPECIFICATIONS**
- Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
 - Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
 - Thickness - Not less than six (6) inches.
 - Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
 - Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
 - Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
 - Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment applied, dropped, washed or tracked onto public rights-of-way must be removed immediately.
 - Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
 - Periodic inspection and needed maintenance shall be provided after each rain.

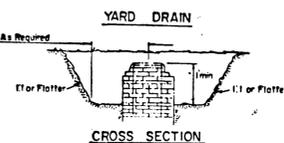
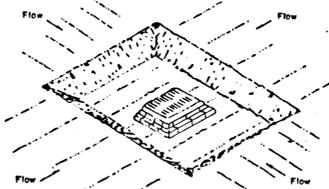
CURB INLET PROTECTION DETAIL



B. Curb Inlet Protection.

- Attach a continuous piece of wire mesh (30" min. width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
- Place a piece of approved filter cloth (40-65 sieve) of the same dimensions as the wire mesh over the wire mesh and securely attach to the 2" x 4" weir.
- Securely nail the 2" x 4" weir to 9" long vertical spacers to be located between the weir and inlet face (max. 6" apart).
- Place the assembly against the inlet throat and nail (minimum 2" lengths of 2" x 4" to the top of the weir at spacer locations. These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
- The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
- Form the wire mesh and filter cloth to the concrete gutter and against the face of curb on both sides of the inlet. Place clean 2" stone over the wire mesh and filter fabric in such a manner as to prevent water from entering the inlet under or around the filter cloth.
- This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
- Assure that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow into inlet.

STORM INLET SEDIMENT TRAP ST-III



CONSTRUCTION SPECIFICATION FOR ST-III

- Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The volume of sediment storage shall be 1800 cubic feet per acre of contributory drainage.
- The structure shall be inspected after each rain and repairs made as needed.
- Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
- The sediment trap shall be removed and the area stabilized when the constructed drainage area has been properly stabilized.
- All cut slopes shall be 1:1 or flatter.

SEDIMENT CONTROL NOTES

- A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (992-2437)
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR permanent seedings (Sec. 51) sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52.) Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector
- Site Analysis:
Total Area of Site: 143 Acres
Area Disturbed: 172 Acres
Area to be roofed or paved: 622 Acres
Area to be vegetatively stabilized: 237 Acres
Total Cur: 2765 Cu. yds
Total Fill: 2765 Cu. yds
Offsite waste/borrow area location: N/A
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment controls must be provided, if deemed necessary by the Howard County DPW sediment control inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls; but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.

APPROVED: DEPARTMENT OF PUBLIC WORKS
William J. ... 4-7-89
CHIEF-BUREAU OF ENGINEERING DATE
William W. ... 8/26/89
CHIEF-BUREAU OF HIGHWAYS DATE
Paul ... 11/3/89
CHIEF-LAND DEVELOPMENT DIVISION DATE
APPROVED: DEPT. OF PLANNING AND ZONING

Mark S. ... 11/14/89
CHIEF-DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

BY THE ENGINEER:
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
John H. ... 7/24/89
SIGNATURE OF ENGINEER DATE

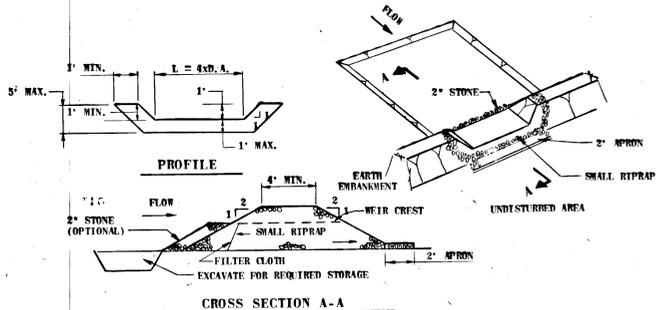
BY THE DEVELOPER:
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
James M. ... 7/24/89
SIGNATURE OF DEVELOPER DATE

REVIEWED FOR HOWARD S.C.D. & MEETS TECHNICAL REQUIREMENTS
James M. ... 10/19/89
U.S. SOIL CONSERVATION DISTRICT DATE

THIS DEVELOPMENT PLAN IS AS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
John L. ... 10/19/89
HOWARD S.C.D. DATE

Date	No	Revision	Description
THE HOWARD RESEARCH AND DEVELOPMENT LAND COMPANY THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044			
CENTURY ENGINEERING, INC. (301) 823-8070 CONSULTING ENGINEERS • PLANNERS 32 WEST ROAD TOWSON, MARYLAND 21204			
AREA	VILLAGE OF OWEN BROWN		
	SECTION 2	AREA 2	
	TAX MAP 42	PARCEL 410	
	6th ELECTION DIST. OF HOWARD COUNTY, MD.		
TITLE	EROSION & SEDIMENT CONTROL DETAILS MINSTREL WAY		
Des By	G.B.Z.	Scale	NOT TO SCALE
Proj	No	89-034	
Dwn By	G.M.B.	Date	
Chk By	J.R.H.	Approved	
Drawing No.	5 OF 5		

STONE OUTLET SEDIMENT TRAP V

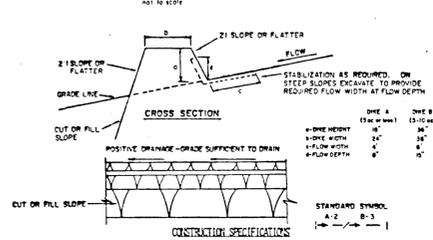


OPTION: A ONE FOOT LAYER OF 2" STONE MAY BE PLACED ON THE UPSTREAM SIDE OF THE RIPRAP IN PLACE OF THE EMBEDDED FILTER CLOTH.

CONSTRUCTION SPECIFICATIONS FOR ST-V

- AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
- THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS AND OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRANSMING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
- ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
- THE STONE USED IN THE OUTLET SHALL BE SMALL RIPRAP 6"-8" ALONG WITH A 1" THICKNESS OF 2" AGGREGATE PLACED ON THE UP-GRADE SIDE ON THE SMALL RIPRAP OR EMBEDDED FILTER CLOTH IN THE RIPRAP.
- SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP.
- THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
- CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION IS MINIMIZED.
- THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

EARTH DIKE



CONSTRUCTION SPECIFICATIONS

- ALL DIKES SHALL BE COMPACTED BY EARTHMOVING EQUIPMENT.
- ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
- TOP WIDTH MAY BE WIDER AND SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
- FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
- EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. FLOWP SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT SEPARATELY STABILIZED.
- STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON; (B) FLOW CHANNEL AS PER THE SHOOT BILL.

FLOW CHANNEL STABILIZATION

TYPE OF HEADCUT	CHANNEL SIZE	DIKE A	DIKE B
1	5-3.00	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.00	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELSION; SOO; 2" STONE
3	5.1-8.00	SEED WITH JUTE, OR SOO; 2" STONE	LINED RIP-RAP 4-8"
4	8.1-22	LINED RIP-RAP 4-8"	ENGINEERING DESIGN

A. STONE TO BE 2" MIN. STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3" THICK AND TO BE COMPACTED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
B. RIP-RAP TO BE 4-8" IN A LAYER AT LEAST 8" THICK AND COMPACTED INTO THE SOIL.
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.
D. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

- WHEN WIRE FENCE IS TO BE FASTENED TO WOODEN POSTS WITH WIRE TIES OR STAPLES.
- WHEN WIRE FENCE IS TO BE FASTENED TO METAL POSTS WITH WIRE TIES OR STAPLES.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AC. FOLDED.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BAGS" DEVELOP IN THE SILT FENCE.

7/24/89
Date
John H. ...
Professional Engr. No. 14920