

HORIZONTAL CONTROL

01	Howard County Traverse Pt. #3638002	542072.4930	823079.7780
02	Howard County Traverse Pt. #3638003	541870.9210	824534.9980
03	Iron Pin Traverse Pt. (B-5)	542010.0612	823530.3129
04	PK Nail in Rd. (B-8)	541937.2929	824355.8921
05	Iron Pin (B-9)	541272.3300	823551.3106
06	Iron Pin (B-10)	541339.8366	823952.5131
07	Conc. Mon.	541895.7775	822523.0110

PROPOSED ROADS & PARKING LOTS

40	541798.1752	824592.4889	89	541549.3693	823506.5874	189	541302.8479	823777.7731	200	542030.6209	823373.6394	241	541478.8815	823485.6777
41	541735.5032	824551.2915	100	541559.8419	823490.8325	160	541301.9229	823709.6094	201	541493.7193	823579.4590	242	541473.8815	823486.6727
42	541900.2927	824300.6036	101	541579.4984	823504.6028	161	541297.0092	823740.5344	202	541426.4899	823605.2312	243	541473.0079	823481.7675
43	541610.8365	824221.7672	102	541721.1891	823603.8638	162	541294.2341	823725.7933	203	541448.8997	823596.6405	244	541455.2622	823484.6230
44	541452.1841	825113.1001	103	541801.8010	823447.1619	163	541199.6590	823736.6802	204	541419.9933	823497.1826	245	541447.6560	823367.2461
45	541450.4326	825111.9788	104	541586.6502	823427.2759	164	541185.1676	823198.6754	205	541424.8940	823486.1911	246	541462.6551	823367.4106
46	541688.3689	824693.8304	105	541810.3530	823435.2244	165	541199.7936	823741.6764	206	541423.9222	823491.2859	247	541462.7319	823362.4104
47	541743.2987	824610.2678	106	541631.2114	823442.2191	166	541184.7964	823741.8753	207	541436.6478	823488.4304	248	541467.7309	823362.5092
48	541718.2239	824593.7889	107	541620.5114	823422.9965	167	541164.7861	823756.8753	208	541389.1004	823483.9876	249	541467.9366	823364.7676
49	541734.5186	824568.5961	108	541725.1538	823402.1013	168	541179.8768	823756.8495	209	541388.1737	823484.8404	250	541462.9394	823354.6201
50	541752.6988	824544.5818	109	541767.6666	824518.5825	110	541179.7888	823756.8495	210	541387.3396	823479.9097	251	541463.1289	823348.6229
51	541767.6666	824518.5825	111	541792.7584	824535.0614	111	541179.7888	823756.8495	211	541387.3396	823479.9097	252	541463.1289	823348.6229
52	541802.5951	824387.9361	112	541802.5951	824387.9361	112	541179.7888	823756.8495	212	541387.3396	823479.9097	253	541463.1289	823348.6229
53	542018.4051	824071.5764	113	541828.4671	823438.6354	113	541179.7888	823756.8495	213	541387.3396	823479.9097	254	541463.1289	823348.6229
54	542173.6684	823973.5010	114	541816.3977	823458.7648	114	541179.7888	823756.8495	214	541387.3396	823479.9097	255	541463.1289	823348.6229
55	542173.6684	823973.5010	115	541828.4671	823438.6354	115	541179.7888	823756.8495	215	541387.3396	823479.9097	256	541463.1289	823348.6229
56	541892.4024	824301.8238	116	541871.9813	823462.9724	116	541179.7888	823756.8495	216	541387.3396	823479.9097	257	541463.1289	823348.6229
57	541816.2415	824348.1318	117	541876.9664	823466.0053	117	541179.7888	823756.8495	217	541387.3396	823479.9097	258	541463.1289	823348.6229
58	541908.2589	824239.8689	118	541876.9664	823466.0053	118	541179.7888	823756.8495	218	541387.3396	823479.9097	259	541463.1289	823348.6229
59	541589.6113	824329.2576	119	541854.3574	823486.0041	119	541179.7888	823756.8495	219	541387.3396	823479.9097	260	541463.1289	823348.6229
60	541589.2567	824218.6147	120	541851.3535	823490.0012	120	541179.7888	823756.8495	220	541387.3396	823479.9097	261	541463.1289	823348.6229
61	541593.4132	824224.9216	121	541854.3574	823486.0041	121	541179.7888	823756.8495	221	541387.3396	823479.9097	262	541463.1289	823348.6229
62	541562.9090	823918.0507	122	541845.6396	823505.7440	122	541179.7888	823756.8495	222	541387.3396	823479.9097	263	541463.1289	823348.6229
63	541569.6701	823497.7176	123	541895.0672	823464.0673	123	541179.7888	823756.8495	223	541387.3396	823479.9097	264	541463.1289	823348.6229
64	-----	-----	124	542034.5941	823507.2561	124	541179.7888	823756.8495	224	541387.3396	823479.9097	265	541463.1289	823348.6229
65	-----	-----	125	542022.4521	823516.0636	125	541179.7888	823756.8495	225	541387.3396	823479.9097	266	541463.1289	823348.6229
66	-----	-----	126	542025.3731	823520.1199	126	541179.7888	823756.8495	226	541387.3396	823479.9097	267	541463.1289	823348.6229
67	-----	-----	127	542021.3056	823523.0277	127	541179.7888	823756.8495	227	541387.3396	823479.9097	268	541463.1289	823348.6229
68	-----	-----	128	542023.1615	823525.6363	128	541179.7888	823756.8495	228	541387.3396	823479.9097	269	541463.1289	823348.6229
69	541249.0149	824123.2226	129	542027.2420	823527.7467	129	541179.7888	823756.8495	229	541387.3396	823479.9097	270	541463.1289	823348.6229
70	541608.4671	824173.7076	130	542024.4739	823518.2521	130	541179.7888	823756.8495	230	541387.3396	823479.9097	271	541463.1289	823348.6229
71	541604.1965	824168.0557	131	542030.1167	823526.8358	131	541179.7888	823756.8495	231	541387.3396	823479.9097	272	541463.1289	823348.6229
72	541589.3146	824166.1772	132	542031.3452	823529.0643	132	541179.7888	823756.8495	232	541387.3396	823479.9097	273	541463.1289	823348.6229
73	541558.5523	823977.5871	133	542028.4739	823518.2521	133	541179.7888	823756.8495	233	541387.3396	823479.9097	274	541463.1289	823348.6229
74	541573.1327	823971.1973	134	542018.2640	823502.8853	134	541179.7888	823756.8495	234	541387.3396	823479.9097	275	541463.1289	823348.6229
75	541570.9777	823965.8652	135	542023.2212	823512.6778	135	541179.7888	823756.8495	235	541387.3396	823479.9097	276	541463.1289	823348.6229
76	541475.4744	823964.4989	136	542018.2640	823502.8853	136	541179.7888	823756.8495	236	541387.3396	823479.9097	277	541463.1289	823348.6229
77	541572.9536	823911.4852	137	542029.5840	823524.0464	137	541179.7888	823756.8495	237	541387.3396	823479.9097	278	541463.1289	823348.6229
78	541552.8644	823924.6162	138	541489.6970	823478.5313	138	541179.7888	823756.8495	238	541387.3396	823479.9097	279	541463.1289	823348.6229
79	541476.9031	823912.8788	139	542080.5452	823606.5771	139	541179.7888	823756.8495	239	541387.3396	823479.9097	280	541463.1289	823348.6229
80	541493.8059	823768.3956	140	542071.1378	823581.7684	140	541179.7888	823756.8495	240	541387.3396	823479.9097	281	541463.1289	823348.6229
81	541478.9608	823770.5464	141	542116.6967	823654.0054	141	541179.7888	823756.8495	241	541				

ALPHA RIDGE PARK

CAPITAL PROJECT N - 3087

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

OWNER HOWARD COUNTY DEPARTMENT OF RECREATION & PARKS

3300 North Ridge Road Suite 170, Ellicott City, MD 21043

CERTIFICATIONS

HOWARD COUNTY GOVERNMENT

APPROVED: Storm Drainage Systems and Roads

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

James J. Sullivan
DIRECTOR DATE 1/24/92

William S. Kelly
CHIEF, BUREAU OF ENGINEERING DATE 1-24-92

APPROVED: Howard County DEPT. of Planning and Zoning

Joseph R. Batten
PLANNING DIRECTOR DATE 1/27/92

Elmwood Helmreich
CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT DATE 1/27/92

APPROVED: Howard County Department of Recreation & Parks

DIRECTOR DATE

APPROVED: HOWARD COUNTY BUREAU OF FACILITIES

CHIEF *NA* DATE

APPROVED: HOWARD COUNTY BUREAU OF HIGHWAYS

CHIEF *NA* DATE

APPROVED: HOWARD COUNTY ROADS BRIDGES STORM DRAINS DIVISION

CHIEF DATE

SOIL CONSERVATION DISTRICT

"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."

William S. Kelly
Howard County Department of Public Works DATE 1-24-92

3450 Court House Drive, Ellicott City, MD (301) 922-2040

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

John C. Batten
John C. Batten DATE 1/22/89

8 North Church Street, Westminster, Md. 21157 (301) 876-3383

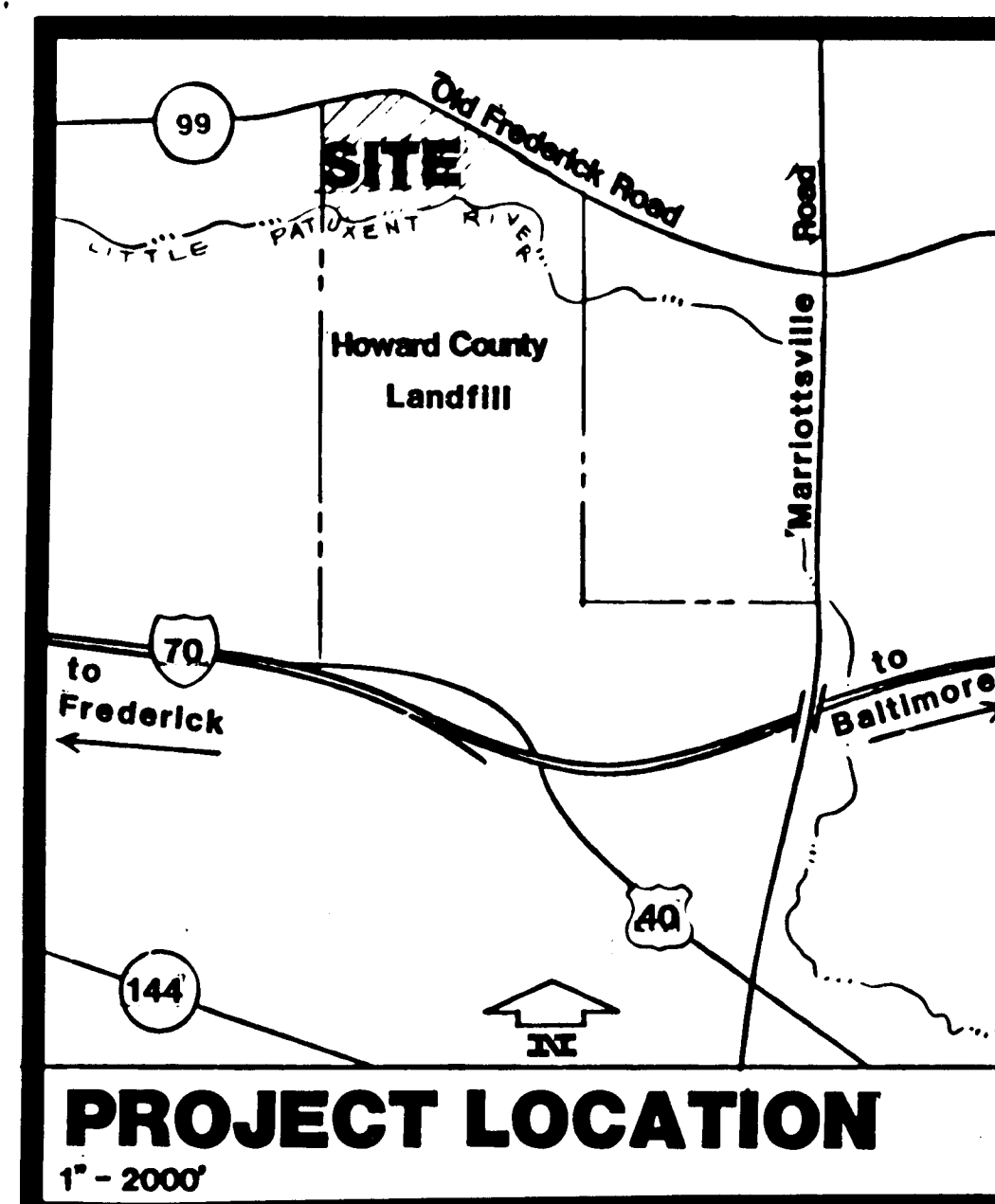
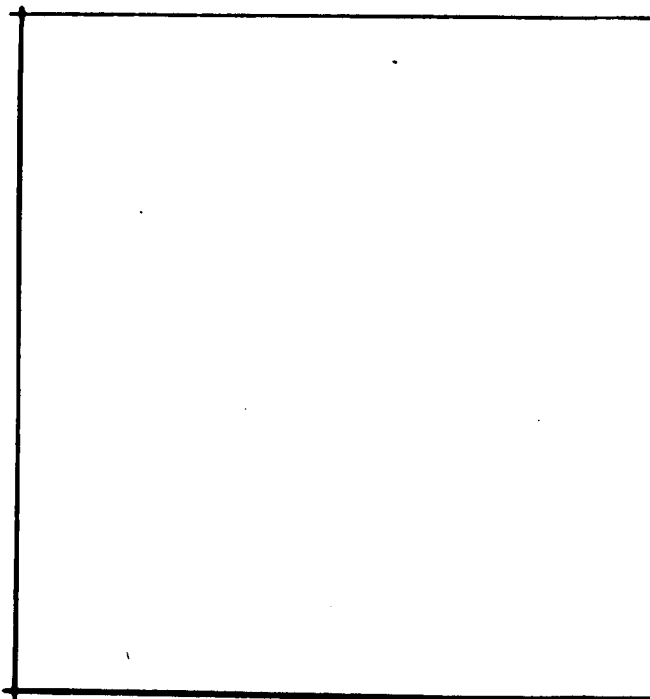
Reviewed for Howard S.C.D. and meets Technical Requirements.

James M. Hester
Soil Conservation Service DATE 1/27/92

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

John R. Rhetore
Howard S.C.D. DATE 1/27/92

PLAN APPROVAL STAMP



SITE DATA

(PROJECT BACKGROUND)

SITE ADDRESS
11685 MD Route 99
Marriottville, Maryland

SITE ANALYSIS

Area of Site	72.4 Acres
Area Disturbed	33.0 Acres
Existing Impervious	0.11 Acres
Proposed Impervious	4.37 Acres
Total Increased Impervious	4.26 Acres
Total Revegetated Area	28.5 Acres
Proposed Use	Recreation
No. of Parking Spaces	201
No. of Handicapped Parking Spaces	10

SITE DATA

Liber 847 Folio 606
Tax Map #10
Election District #3
Census Tract 6030
Lot # (None)
Parcel #23
Zoning - R

Date final plan approved: 1-27-92

DESIGN CONSULTANT

J. Christopher BATTEN, inc.
8 N. CHURCH STREET WESTMINSTER, MD. 21157
301-876-3383

INDEX OF SHEETS

Title
T-1 Title Page & Drawing Index with Signature Blocks, Site Analysis, Location Map, General Notes

Site Plans

- S-1 Existing Conditions - East
- S-2 Existing Conditions - West
- S-3 Sediment Control Plan
- S-4 Sediment Control Plan - East
- S-5 Sediment Control Plan - West
- S-6 Grading Plan - East
- S-7 Grading Plan - West
- S-8 Storm Drain Areas, Data, Details, Structure Schedule
- S-9 Storm Drain Profiles
- S-10 Road Profile
- S-11 Road Profile
- S-12 Road Profile
- S-13 Stormwater Management - Pond 1 Plan
- S-14 Stormwater Management - Pond 1 Profiles
- S-15 Stormwater Management - Pond 3 Plan
- S-16 Stormwater Management - Pond 3 Profiles & Details
- S-17 Stormwater Management - Ponds 1 & 3 Construction Specifications & Details
- S-18 Sediment Control Details
- S-19 Road Sections
- S-20 Site Details
- A-1 Road Layout Coordinates
- A-2 Walkway Layout - East
- A-3 Walkway Layout - West
- A-4 Layout & Locations
- A-5 Portable Toilet Shelters
- A-6 Baseball Fields
- A-7 Pavilions - Soccer Fields - Tot Lots
- A-8 Tennis Courts & Basketball Courts
- A-9 Entrance - Sign, Fence, & Gate
- A-10 Site Details

GENERAL NOTES

1. All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA Standards and specifications if applicable.
2. The contractor shall notify the Department of Public Works (Bureau of Construction Inspection at (301) 792-7372 at least five (5) working days prior to the start of work.
3. The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
4. Traffic control devices, markings, and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
5. All plan dimensions are to the face of curb unless otherwise noted.
6. Stormwater management control is provided by two dry ponds on-site.
7. Wetlands water quality certificate #89-WQ-0317 issued July 1989.
8. No traffic study required. State Highway access permit to be granted based on letter from John Contestabile (SHA) to Elmina Hilsenrath, Howard County, November 4, 1991.
9. Existing utilities located by topographic survey - referenced on Sheet S-1, "Existing Conditions".

CONSTRUCTION PLANS

OCTOBER 24, 1991 SDP 90-18
(Original Submittal November 27, 1989) SDP 1 of 21
Revised JANUARY 25, 1992

XXAL-92-001
C.P.# N-3087 SEE FILE #880

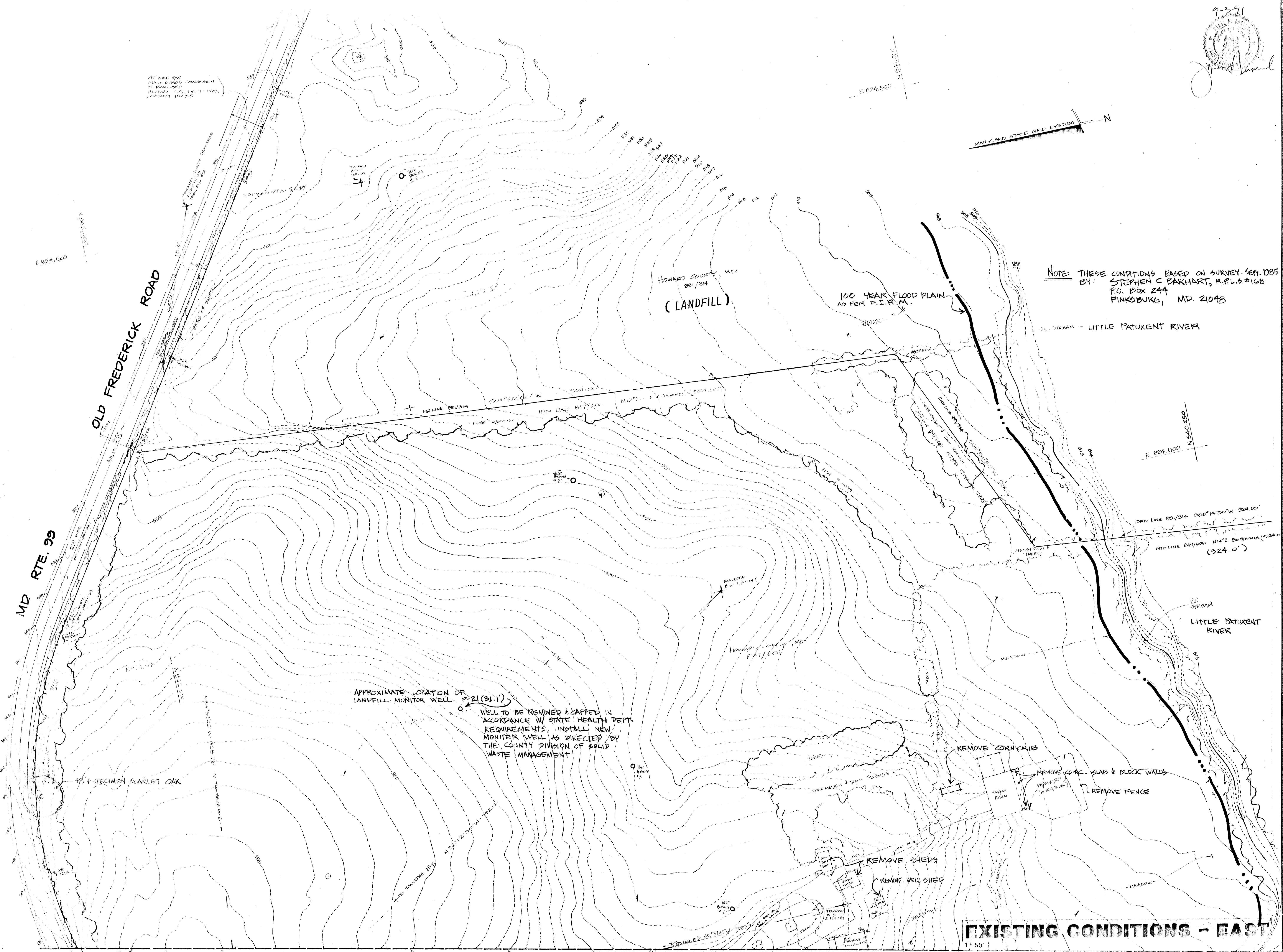
880

REVIEWED: NO FACILITIES REQUIRED
 HOWARD COUNTY HEALTH DEPARTMENT
James M. Boyd 1/24/92
 HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
James S. Batten 1/27/92
 DATE
Anna Schmidt 1/27/92
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR PRIVATE WATER AND NO SEWERAGE, FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
James J. Lee 1/27/92
 DIRECTOR DATE
William E. Ray 1/27/92
 CHIEF, BUREAU OF ENGINEERING DATE

9-3-91



NOTE: THESE CONDITIONS BASED ON SURVEY 4th. 1985
 BY: STEPHEN C. BARKHART, R.P.L.S.#168
 P.O. BOX 244
 FINKSBURG, MD. 21048

APPROXIMATE LOCATION OF LANDFILL MONITOR WELL P-21(21-1)
 WELL TO BE REMOVED & CAPPED IN ACCORDANCE W/ STATE HEALTH DEPT. REQUIREMENTS. INSTALL NEW MONITOR WELL AS DIRECTED BY THE COUNTY DIVISION OF SOLID WASTE MANAGEMENT

REMOVE ZORNCRIB
 REMOVE CORN. SLAB & BLOCK WALLS
 REMOVE FENCE

REMOVE SHEDS
 REMOVE WELL SHED

EXISTING CONDITIONS - EAST

APPROVAL STAMP

SITE DATA

OWNER: HOWARD COUNTY
 DEPT. OF PUBLIC WORKS

PROPOSED IMPROVEMENT: PARK

DEED REF. LIBER 847, FOLIO 606

TAX MAP #10, PARCEL #23

ELECTION DISTRICT #3

CENSUS TRACT 6030

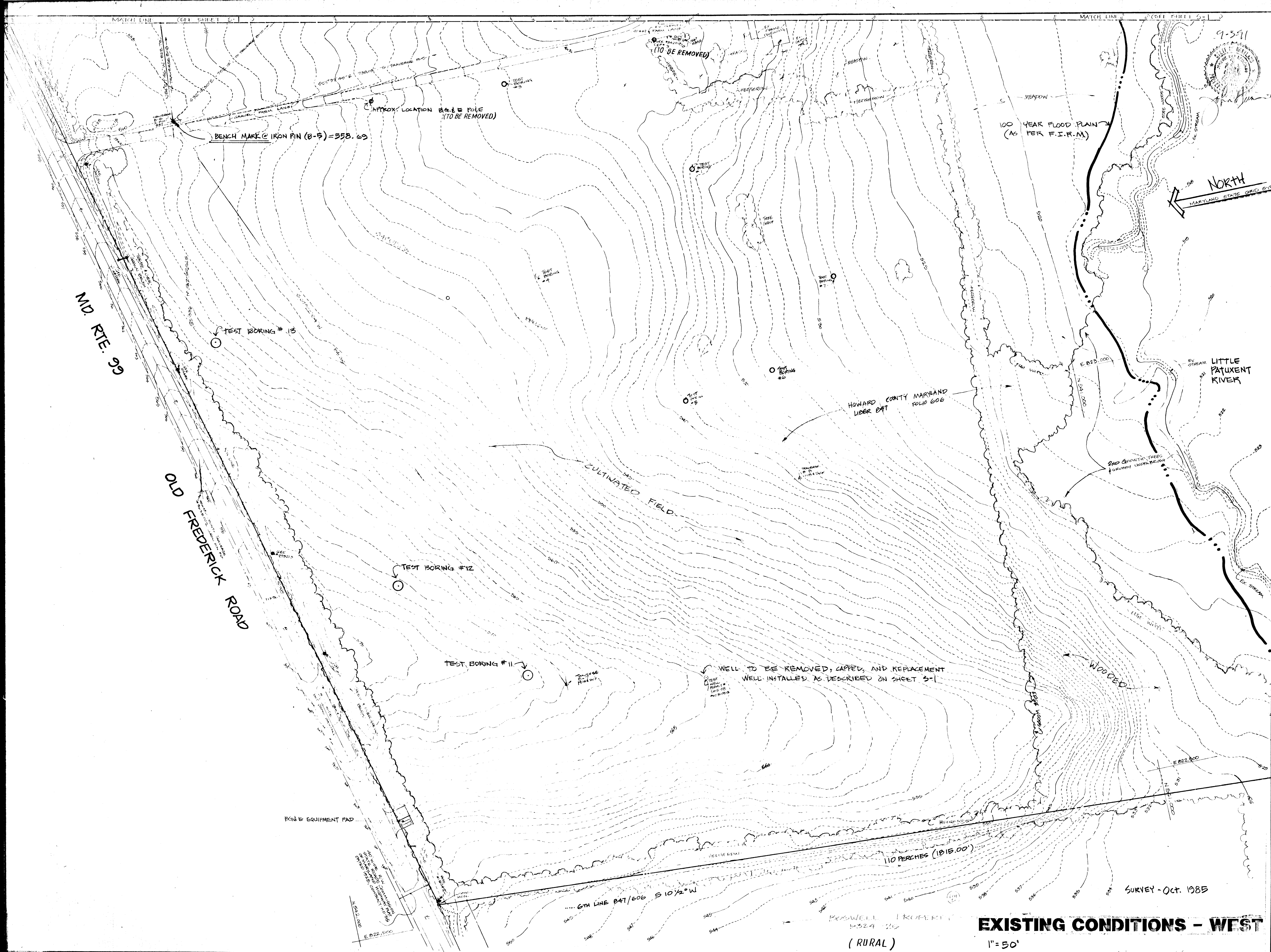
WATER: _____

SEWER: NONE

JANUARY 24, 1992

J. CHRISTOPHER BATTEN, INC.
 Land Planning & Design Consultant
 8 North Church Street
 Westminster, Maryland 21157
 301-876-3383

SHEET
S-1
 of 20



SDP #90-18
 ALPHA RIDGE PARK

REVIEWED NO FACILITIES REQUIRED
 HOWARD COUNTY HEALTH DEPARTMENT
 James M. Boyd per JFM 1/24/92
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 James R. Kettner 1/27/92
 DIRECTOR DATE
 Emma W. Holmatt 1/27/92
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR PRIVATE WATER AND NO SEWERAGE, FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 James G. Shaw 1/24/92
 DIRECTOR DATE
 D. S. Ray 1-24-92
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVAL STAMP

SITE DATA
 OWNER: HOWARD COUNTY
 DEPT. OF PUBLIC WORKS
 PROPOSED IMPROVEMENT: PARK
 DEED REF. LIBER 847, FOLIO 606
 TAX MAP #10, PARCEL #23
 ELECTION DISTRICT #3
 CENSUS TRACT 6030
 WATER: _____
 SEWER: NONE

JANUARY 24, 1992

SHEET
S-2
 of 20

J. CHRISTOPHER
 BATTEN, INC.
 Land Planning &
 Design Consultant
 8 North Church Street
 Westminster, Maryland 21157
 301-876-3383

EXISTING CONDITIONS - WEST

1" = 50'

(RURAL)

SDP 90-18

REVIEWED NO FACILITIES REQUIRED

Joyce M. ... 1/24/92

James R. ... 1/27/92

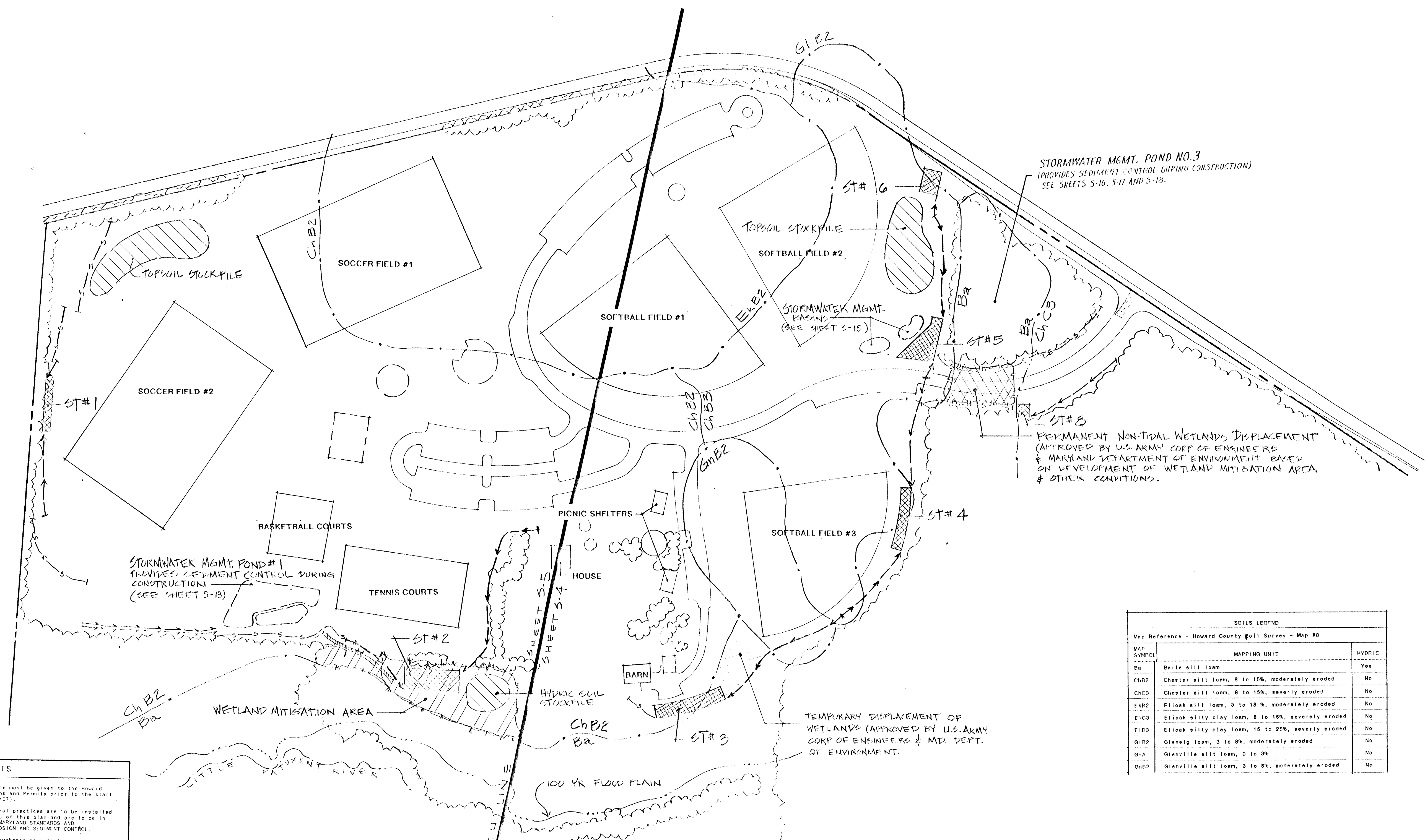
Anna H. ... 1/27/92

APPROVED FOR PRIVATE WATER AND NO SURFACE EROSION DURING CONSTRUCTION

James R. ... 1/24/92

James R. ... 1/24/92

APPROVAL STAMP



STORMWATER MGMT. POND NO.3
 (PROVIDES SEDIMENT CONTROL DURING CONSTRUCTION)
 SEE SHEETS 3-16, 3-17 AND 3-18.

PERMANENT NON-TIDAL WETLANDS DISPLACEMENT
 (APPROVED BY U.S. ARMY CORP OF ENGINEERS
 & MARYLAND DEPARTMENT OF ENVIRONMENT BASED
 ON DEVELOPMENT OF WETLAND MITIGATION AREA
 & OTHER CONDITIONS.)

TEMPORARY DISPLACEMENT OF
 WETLANDS (APPROVED BY U.S. ARMY
 CORP OF ENGINEERS & MD. DEPT.
 OF ENVIRONMENT.)

SOILS LEGEND		
MAP SYMBOL	MAPPING UNIT	HYDRIC
Ba	Belle silt loam	Yes
ChB2	Chester silt loam, 8 to 15%, moderately eroded	No
ChC3	Chester silt loam, 8 to 15%, severely eroded	No
EK2	Elloak silt loam, 3 to 18%, moderately eroded	No
E1C3	Elloak silty clay loam, 8 to 16%, severely eroded	No
F1D3	Elloak silty clay loam, 15 to 25%, severely eroded	No
G1B2	Glenelig loam, 3 to 8%, moderately eroded	No
G1A	Glenville silt loam, 0 to 3%	No
G1B2	Glenville silt loam, 3 to 8%, moderately eroded	No

- SEDIMENT CONTROL NOTIS**
- A minimum of 24 hours notice must be given to the Howard County Office of Inspections and Permits prior to the start of any construction (892-2423).
 - 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 seedings (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: 72.4 acres
 Area Disturbed: 33.0 acres
 Area to be roofed or paved (ultimately): 4.37 acres
 Area to be vegetatively stabilized: 28.5 acres
 Total Cut: 96,000 C.Y.
 Total Fill: 87,180 C.Y. ±
 Excess soil (approx. 9,000 C.Y.) to be hauled to landfill for cover material.
 - 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.

CERTIFICATION

"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 Sedimentation before beginning the project. I also authorize \$1,000 for site inspection by the Howard Soil Conservation District."

John C. Batten 1/27/92
 John C. Batten, Landscape Architect

3450 Court House Drive, Ellicott City, MD (301) 922-2040

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

John R. Batten 1/27/92
 John R. Batten, S.C.D.
 Sincere Technical Requirements

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

John R. Batten 1/27/92

SEDIMENT CONTROL PLAN

1"=100'

SITE DATA

OWNER: HOWARD COUNTY
 DEPT. OF PUBLIC WORKS

PROPOSED IMPROVEMENT: PARK
 DETAIL: LIBER 817, F.O.I.D. 603
 TAX MAP #10, PARCEL #23
 ELECTION DISTRICT #3
 GENUS TRACT 6032
 WATER: _____
 SEWER: NONE

JANUARY 24, 1992

CHRISTOPHER
 BATTEN, INC.
 Land Planning &
 Design Consultant
 8 North Church Street
 Westminster, Maryland 21157
 301-536-3848

SHEET
 of 20
 SDP # 90-18
 SDP 4 of 21

REVIEWED NO FACILITIES REQUIRED
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: *James M. Boyd* 1/24/92
COUNTY HEALTH OFFICER DATE

APPROVED: *James M. Boyd* 1/27/92
DIRECTOR DATE

APPROVED: *Emma Halverson* 1/27/92
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR PRIVATE WATER AND NO SEWERAGE, FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: *James P. Schum* 1/24/92
DIRECTOR DATE

APPROVED: *William P. Ray* 1/24/92
CHIEF, BUREAU OF ENGINEERING DATE

APPROVAL STAMP

SITE DATA

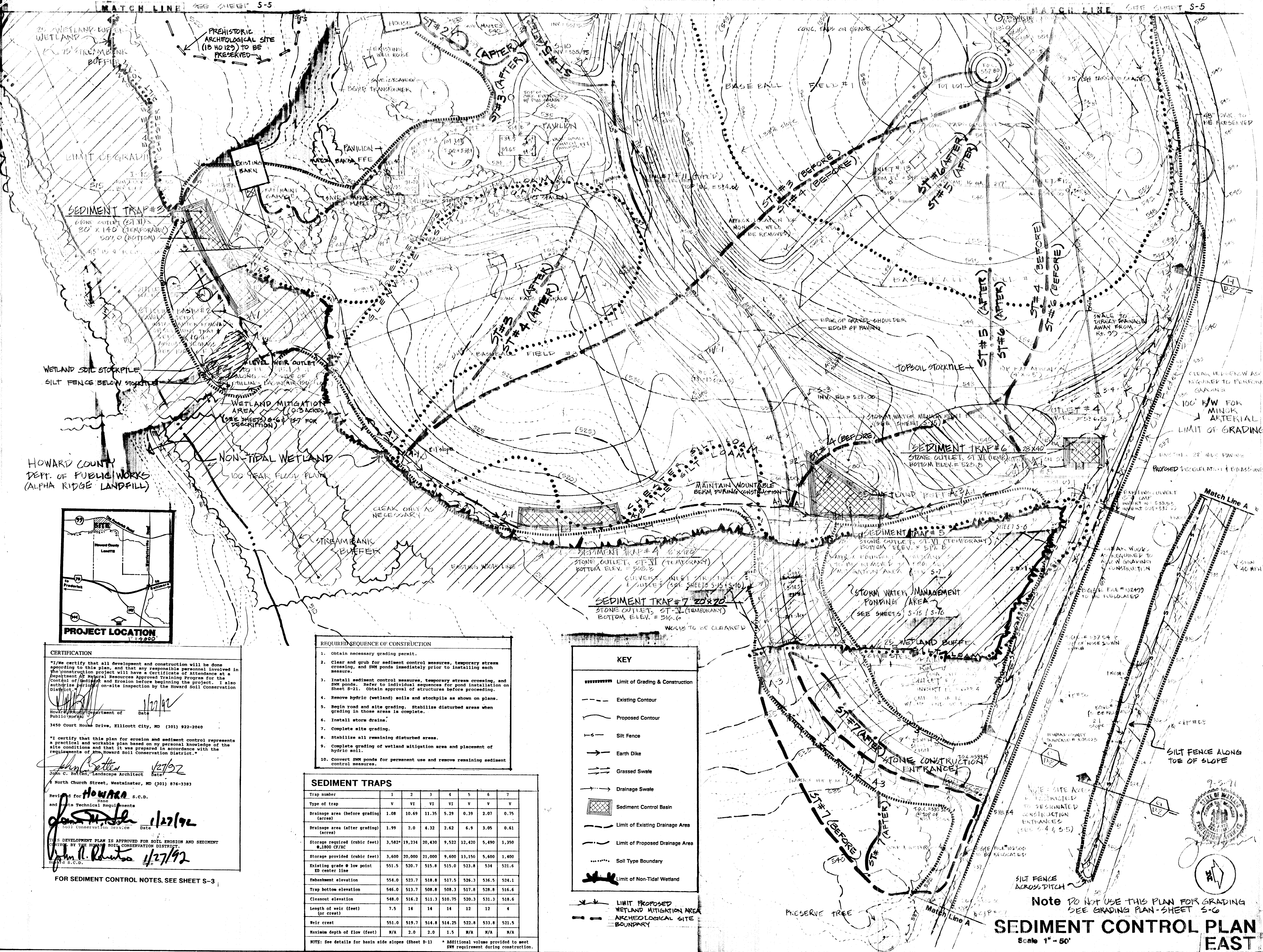
OWNER: HOWARD COUNTY
DEPT. OF PUBLIC WORKS
PROPOSED IMPROVEMENT: PARK
DEED REF. LIBER 847, FOLIO 008
TAX MAP #10, PARCEL #23
ELECTION DISTRICT #3
CENSUS TRACT 0030
WATER: NONE
SEWER: NONE

JANUARY 24, 1992

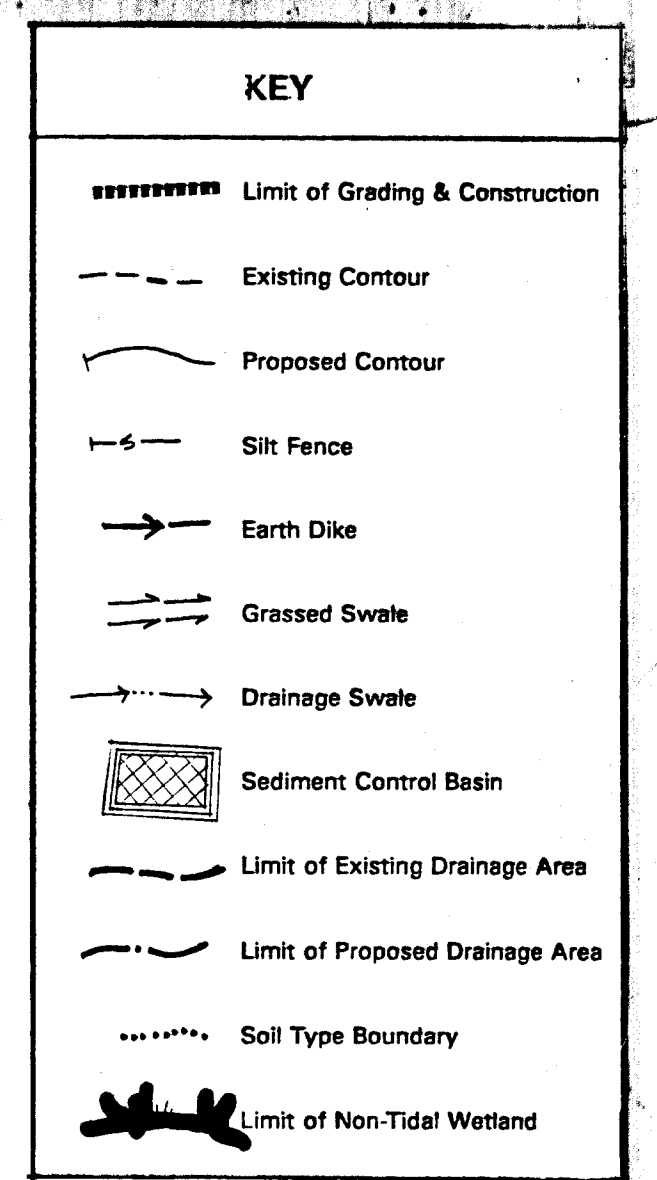
REVISION AUG. 24, 1992
(ADD WETLAND MITIGATION AND ARCHEOLOGIC AREAS)

SHEET
S-4
of 20
SDP #90-18

J. CHRISTOPHER BATTEN, INC.
Land Planning & Design Consultant
8 North Church Street
Washington, Maryland 21157
301-876-3383



- REQUIRED SEQUENCE OF CONSTRUCTION**
1. Obtain necessary grading permit.
 2. Clear and grub for sediment control measures, temporary stream crossing, and SW ponds immediately prior to installing each measure.
 3. Install sediment control measures, temporary stream crossing, and SW ponds. Refer to individual sequences for pond installation on Sheet S-21. Obtain approval of structures before proceeding.
 4. Remove hydric (wetland) soils and stockpile as shown on plans.
 5. Begin road and site grading. Stabilize disturbed areas when grading in those areas is complete.
 6. Install storm drains.
 7. Complete site grading.
 8. Stabilize all remaining disturbed areas.
 9. Complete grading of wetland mitigation area and placement of hydric soil.
 10. Convert SW ponds for permanent use and remove remaining sediment control measures.



SEDIMENT TRAPS

Trap number	1	2	3	4	5	6	7
Type of trap	V	VI	VI	VI	V	V	V
Drainage area (before grading) (acres)	1.08	10.69	11.35	5.29	0.39	2.07	0.75
Drainage area (after grading) (acres)	1.99	2.0	4.32	2.62	6.9	3.05	0.61
Storage required (cubic feet) @ 1800 CF/AC	3,582	19,234	20,430	9,522	12,420	5,490	1,350
Storage provided (cubic feet)	3,600	20,000	21,000	9,600	13,150	5,600	1,400
Existing grade @ low point ED center line	551.5	520.7	515.8	515.0	523.8	534	521.6
Bankbank elevation	554.0	523.7	518.8	517.5	526.3	536.5	524.1
Trap bottom elevation	546.0	513.7	508.8	508.3	517.8	528.8	516.6
Cleantest elevation	548.0	516.2	511.3	510.75	520.3	531.3	518.6
Length of weir (feet) (or crest)	7.5	14	14	14	12	12	4
Weir crest	551.0	519.7	514.8	514.25	522.8	533.8	521.5
Maximum depth of flow (feet)	N/A	2.0	2.0	1.5	N/A	N/A	N/A

NOTE: See details for basin side slopes (Sheet D-1) * Additional volume provided to meet SW requirement during construction.

CERTIFICATION

"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 Course of Sediment and Erosion Control Training Program for the Department of Natural Resources Approved Training Program for the authorize prior to on-site inspection by the Howard Soil Conservation District."

John C. Batten 1/27/92
John C. Batten, Landscape Architect
8 North Church Street, Westminister, MD (301) 876-3383

Revised for **Howard** S.C.D.
and its Technical Requirements
John C. Batten 1/27/92
John C. Batten, S.C.D. Date

FOR SEDIMENT CONTROL NOTES, SEE SHEET S-3

Note DO NOT USE THIS PLAN FOR GRADING
SEE GRADING PLAN-SHEET S-6

SEDIMENT CONTROL PLAN EAST
Scale 1" = 50'

REVIEWED NO FACILITIES REQUIRED
HOWARD COUNTY HEALTH DEPARTMENT

James M. Boylander, Jr. 1/24/92
COUNTY HEALTH OFFICER

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

James S. Smith 1/27/92
DIRECTOR
Anna Holmquist 1/27/92
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: FOR PRIVATE WATER AND NO SEWERAGE, FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS

James S. Smith 1/24/92
DIRECTOR
James S. Smith 1/24/92
CHIEF, BUREAU OF ENGINEERING

APPROVAL STAMP

SITE DATA

OWNER: HOWARD COUNTY
DEPT. OF PUBLIC WORKS
PROPOSED IMPROVEMENT: PARK
DEED REF. LIBER 847, FOLIO 686
TAX MAP #10, PARCEL #23
ELECTION DISTRICT #3
CENSUS TRACT 6030
WATER: NONE
SEWER: NONE

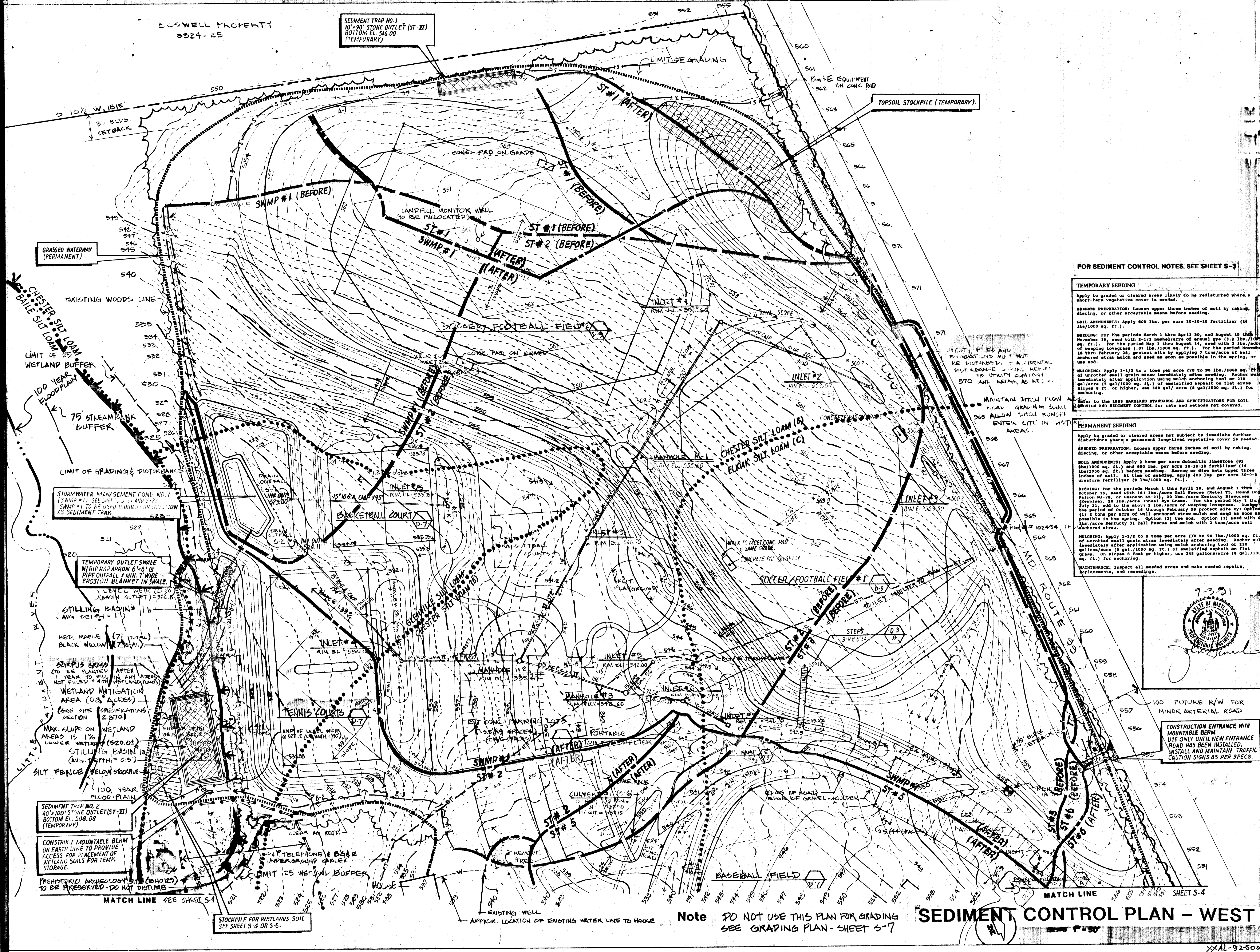
JANUARY 24, 1992

REVISED 8/25/92
WETLAND MITIGATION AREA
REVISOR'S ARCHAEOLOGICAL SITE

J. CHRISTOPHER
BATTEN, INC.
Land Planning &
Design Consultant
8 North Church Street
Westminster, Maryland 21157
301-476-3383

SHEET
S-5
of 20

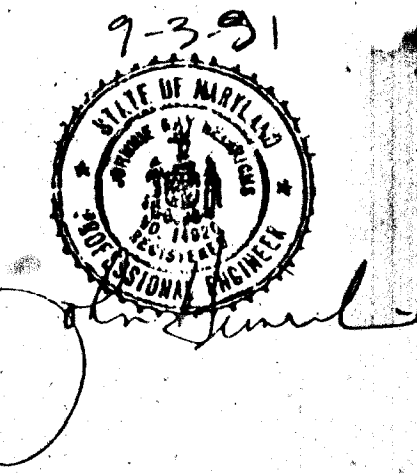
SDP # 92-18



FOR SEDIMENT CONTROL NOTES, SEE SHEET S-3

TEMPORARY SEEDING
Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.
SEEDBED PREPARATION: Loosen upper three inches of soil by raking, disking, or other acceptable means before seeding.
SOIL AMENDMENTS: Apply 400 lbs. per acre 10-10-10 fertilizer (16 lbs./1000 sq. ft.).
SEEDING: For the periods March 1 thru April 30, and August 15 thru November 15, seed with 2-1/2 bushels/acre of annual ryegrass (2.2 lbs./1000 sq. ft.). For the period May 1 thru August 14, seed with 5 lbs./acre of creeping lovegrass (.07 lbs./1000 sq. ft.). For the period November 15 thru February 28, protect site by applying 2 tons/acre of well-anchored straw mulch and seed as soon as possible in the spring, or use sod.
MULCHING: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs./1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 210 gellons/acre (5 gal./1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gals/acre (8 gal./1000 sq. ft.) for anchoring.
MAINTENANCE: Inspect all seeded areas and make needed repairs, replacements, and reseedings.

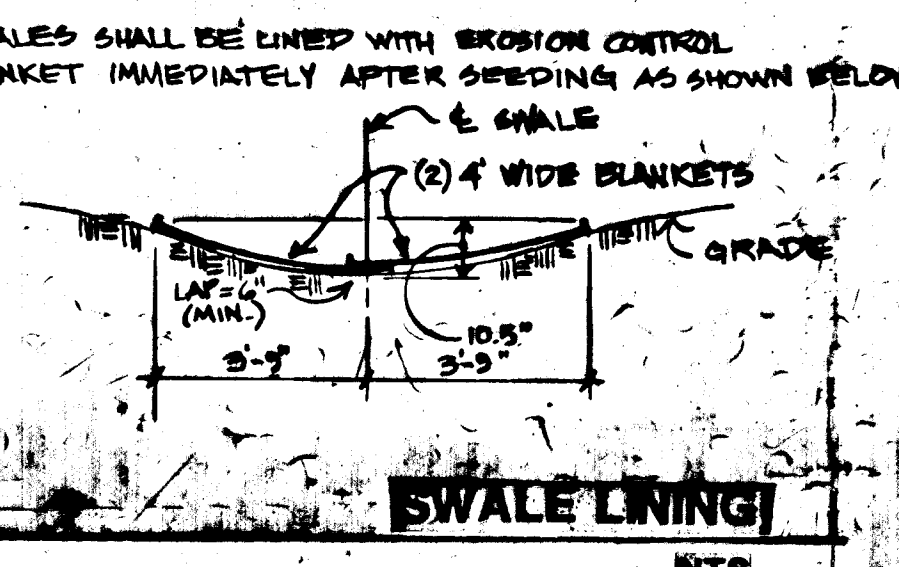
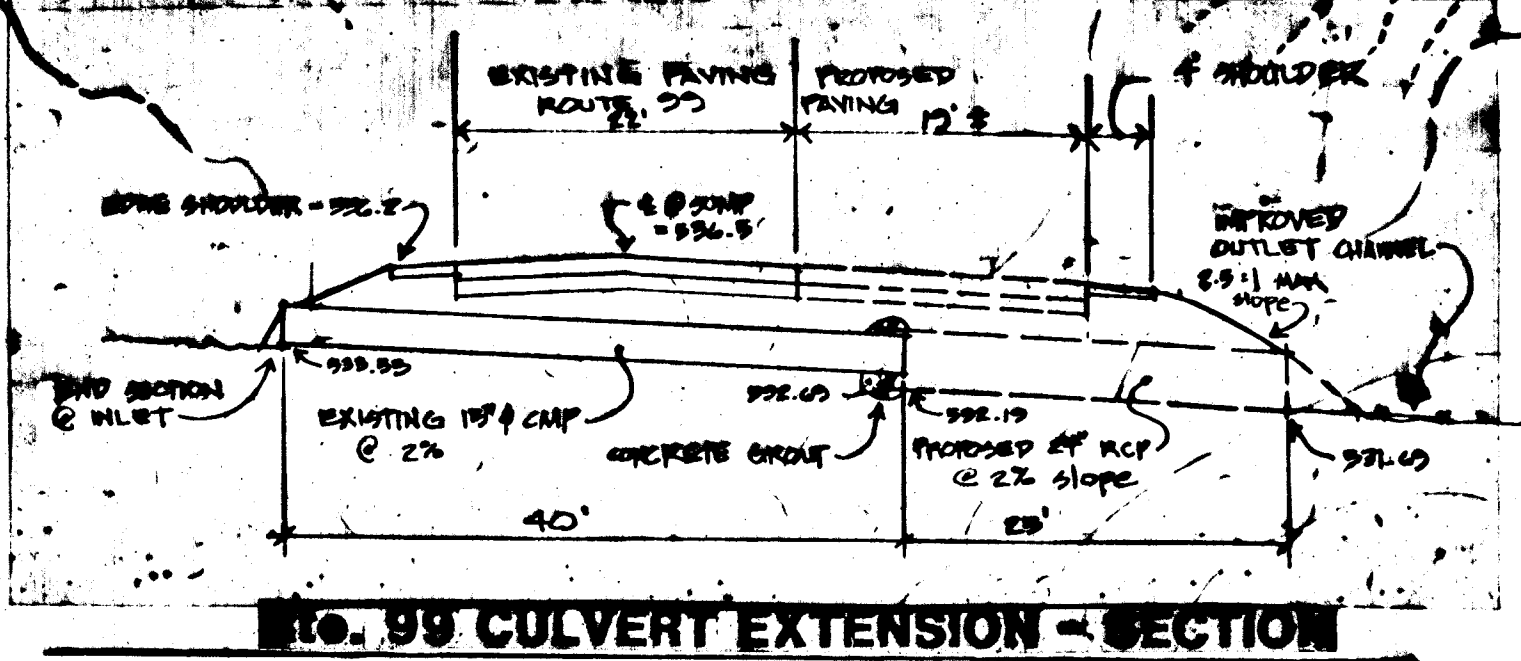
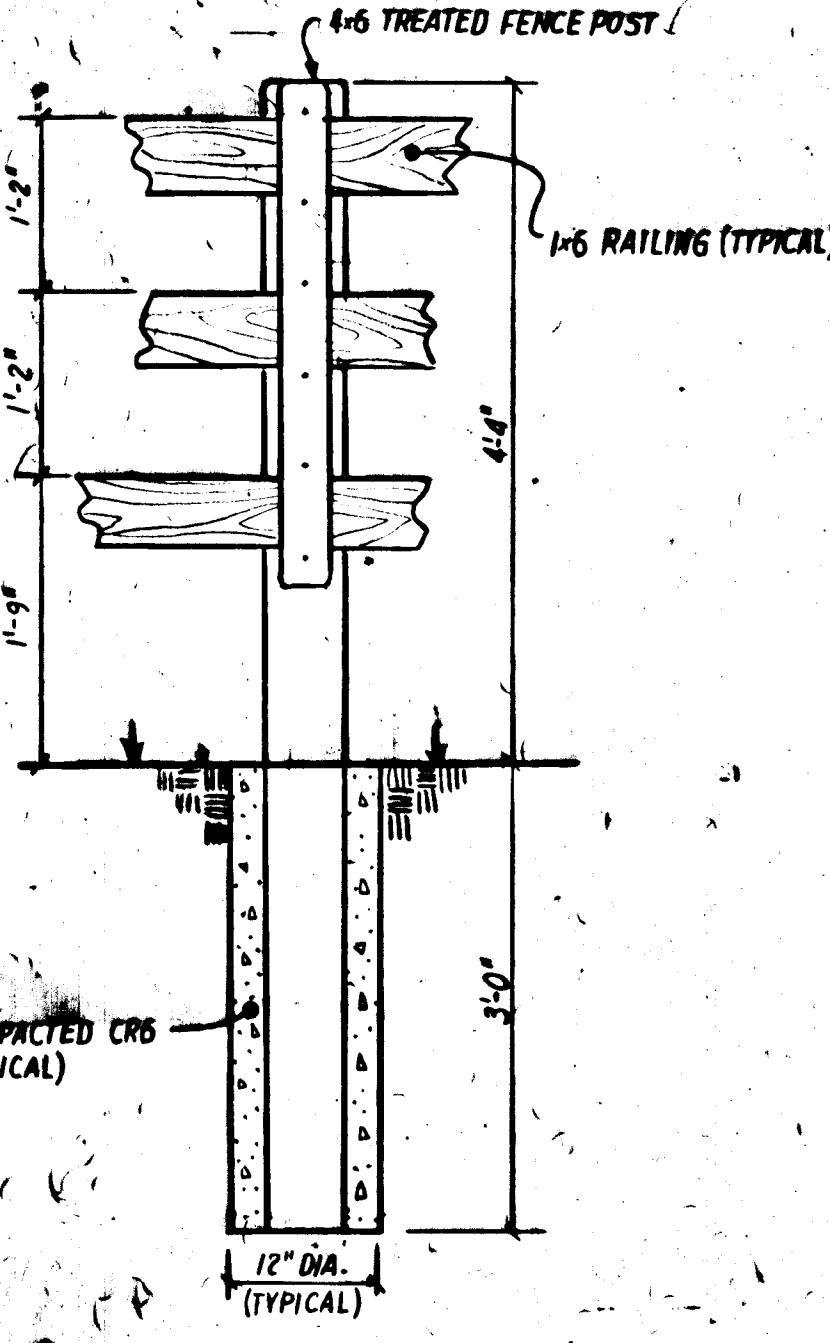
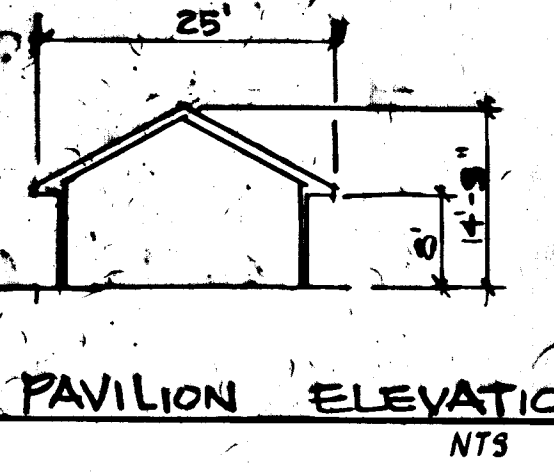
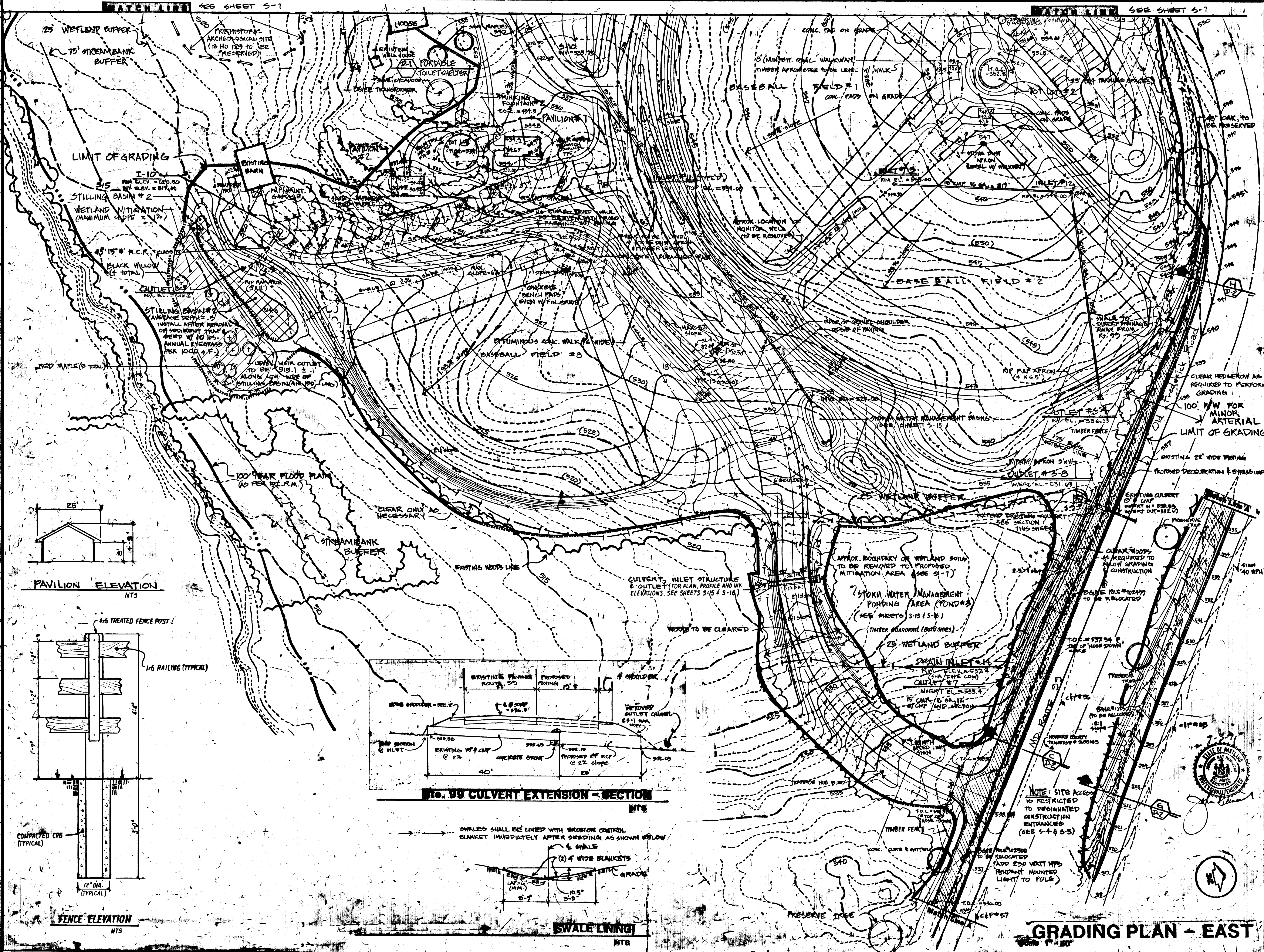
PERMANENT SEEDING
Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
SEEDBED PREPARATION: Loosen upper three inches of soil by raking, disking, or other acceptable means before seeding.
SOIL AMENDMENTS: Apply 2 tons per acre dolomitic limestone (92 lbs./1000 sq. ft.) and 400 lbs. per acre 10-10-10 fertilizer (16 lbs./1000 sq. ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs./1000 sq. ft.).
SEEDING: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 16 lbs./acre Tall Fescue (Rabel 75, Round Top, Felton 4275, or Shannon 42-27), 20 lbs./acre Kentucky Bluegrass (Kenblue), 30 lbs./acre Annual Ryegrass. For the period May 1 thru July 31, add to the above 2 lbs./acre of creeping lovegrass. During the period of October 16 through February 28 protect site by Option (1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs./acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.
MULCHING: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs./1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 210 gellons/acre (5 gal./1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gals/acre (8 gal./1000 sq. ft.) for anchoring.
MAINTENANCE: Inspect all seeded areas and make needed repairs, replacements, and reseedings.



Note DO NOT USE THIS PLAN FOR GRADING SEE GRADING PLAN - SHEET S-7

SEDIMENT CONTROL PLAN - WEST

XXAL-92-5005



SDP #90-18
ALPHA RIDGE PARK

REVIEWED NO FACILITIES REQUIRED
HOWARD COUNTY PUBLIC WORKS DEPARTMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DIRECTOR: *[Signature]* DATE: 1/24/92

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR: *[Signature]* DATE: 1/24/92

APPROVED: BUREAU OF ENGINEERING
DATE: 1-24-92

APPROVAL STAMP

SITE DATA

OWNER: HOWARD COUNTY
DEPT. OF PUBLIC WORKS

PROPOSED IMPROVEMENT: PARK
DEED REF. LIBER 847, FOLIO 608

TAX MAP #10, PARCEL #23

ELECTION DISTRICT #3

CENSUS TRACT 6030

WATER: [Symbol]

SEWER: NONE

JANUARY 24, 1992

REVISED AUG. 25, 1992
ADDED WETLAND
MITIGATION AREA &
ARCHAEOLOGICAL SITE

J. CHRISTOPHER BATTEN, INC.
Land Planning &
Design Consultant

1 North Church Street
Waldorf, Maryland 21157
301-876-3383

SHEET S-6
of 20

SDP #90-18

REVIEWED NO FACILITIES REQUIRED

HOWARD COUNTY HEALTH DEPARTMENT
Joyce M. Boyd
1/24/92

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
James S. Brown
1/27/92
Anna Helms
1/27/92

APPROVED: FOR PRIVATE WATER AND NO SEWERAGE, FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
James P. ...
1/24/92
Bureau of Engineering
1-24-92

APPROVAL STAMP

SITE DATA

OWNER: HOWARD COUNTY DEPT. OF PUBLIC WORKS
PROPOSED IMPROVEMENT: PARK
DEED REF. LIBER 847, FOLIO 606
TAX MAP #10, PARCEL #23
ELECTION DISTRICT #3
CENSUS TRACT 6030
WATER: ...
SEWER: NONE

JANUARY 24, 1992

SHEET
J. CHRISTOPHER BATTEN, INC.
Land Planning & Design Consultant
8 North Church Street
Westminster, Maryland 21157
301-876-3383
S-8
of 20
SDP 9 of 21

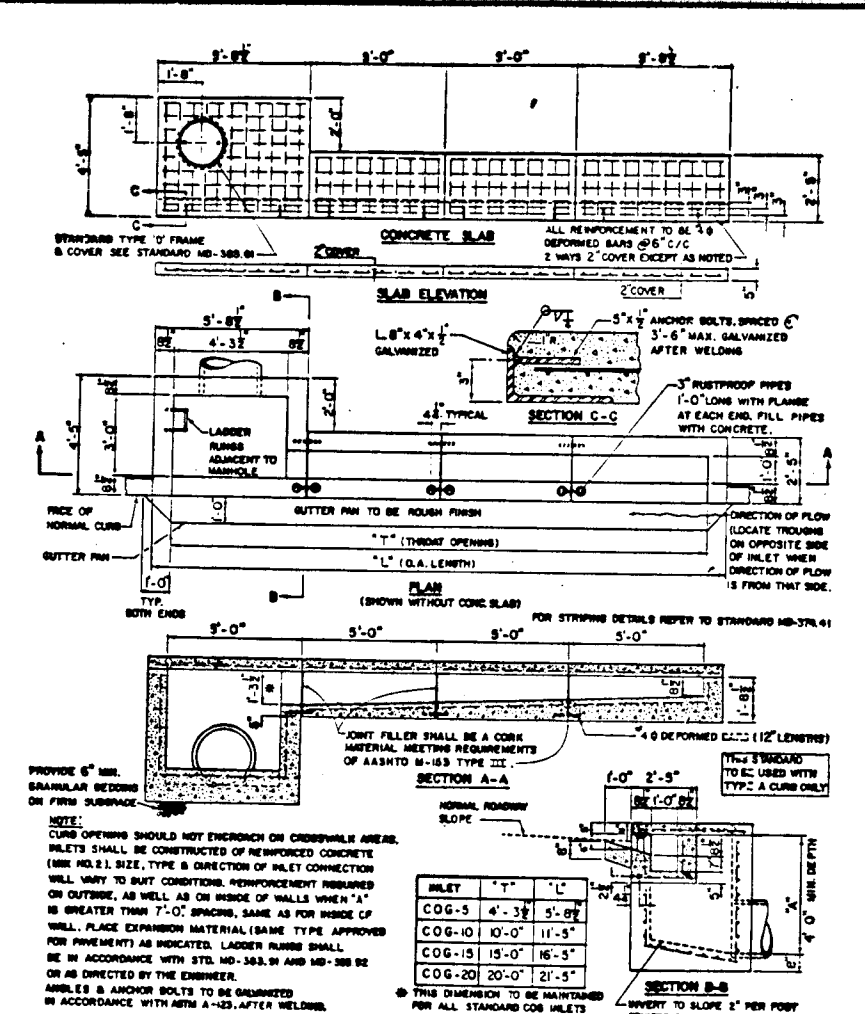
MANHOLE SCHEDULE table with columns: No., Type, Size, Inv., Out, Rim Elev.

INLET SCHEDULE table with columns: No., Type, Q cfs, Inv., Out, Rim Elev.

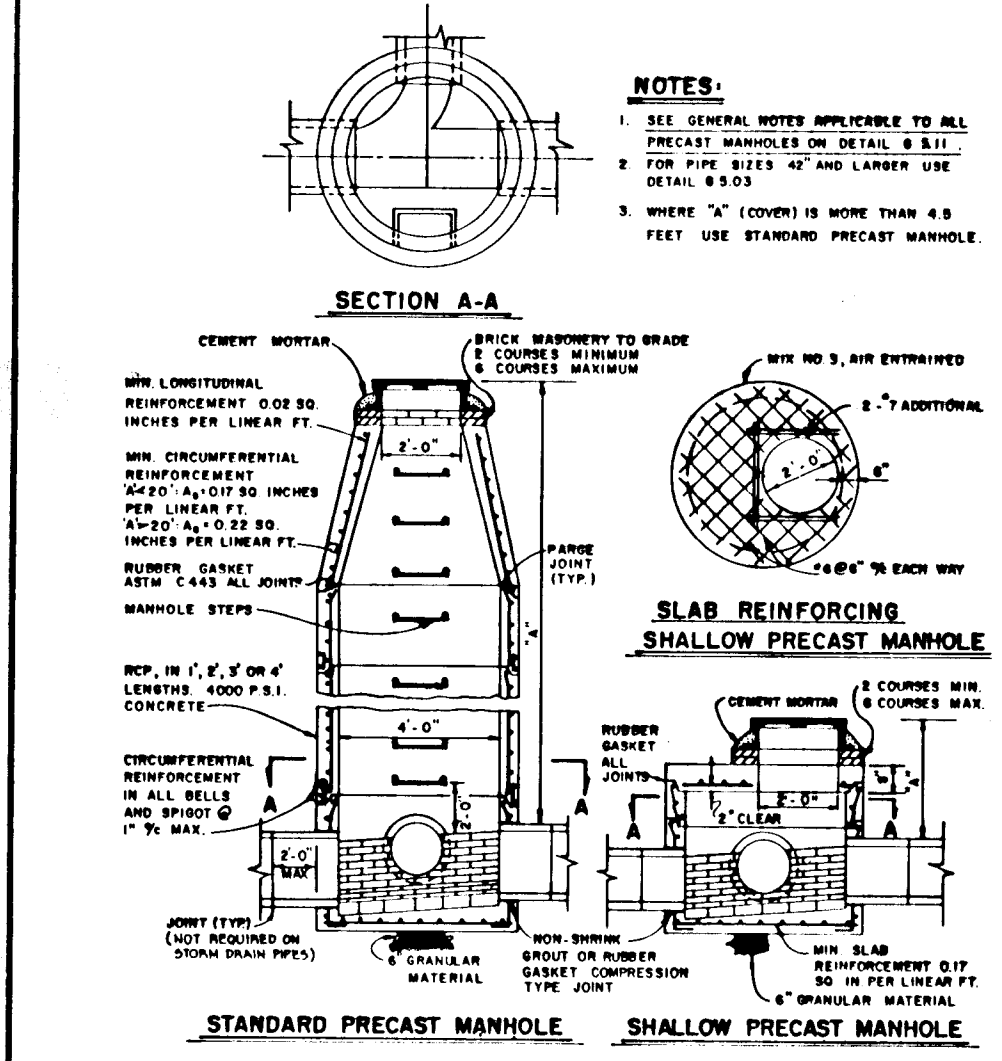
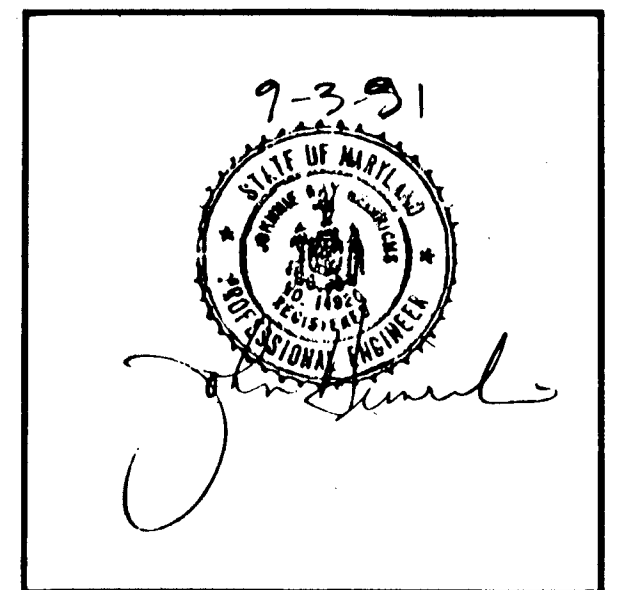
OUTLET SCHEDULE table with columns: Struct. No., Disch. CFS, Pipe Dia. (in.), Length of Apron, Width of Apron, Stone Size (in.)

DRAINAGE AREA RUNOFF DATA table with columns: STRUCTURE, AREA (acres), C, Q (CFS)

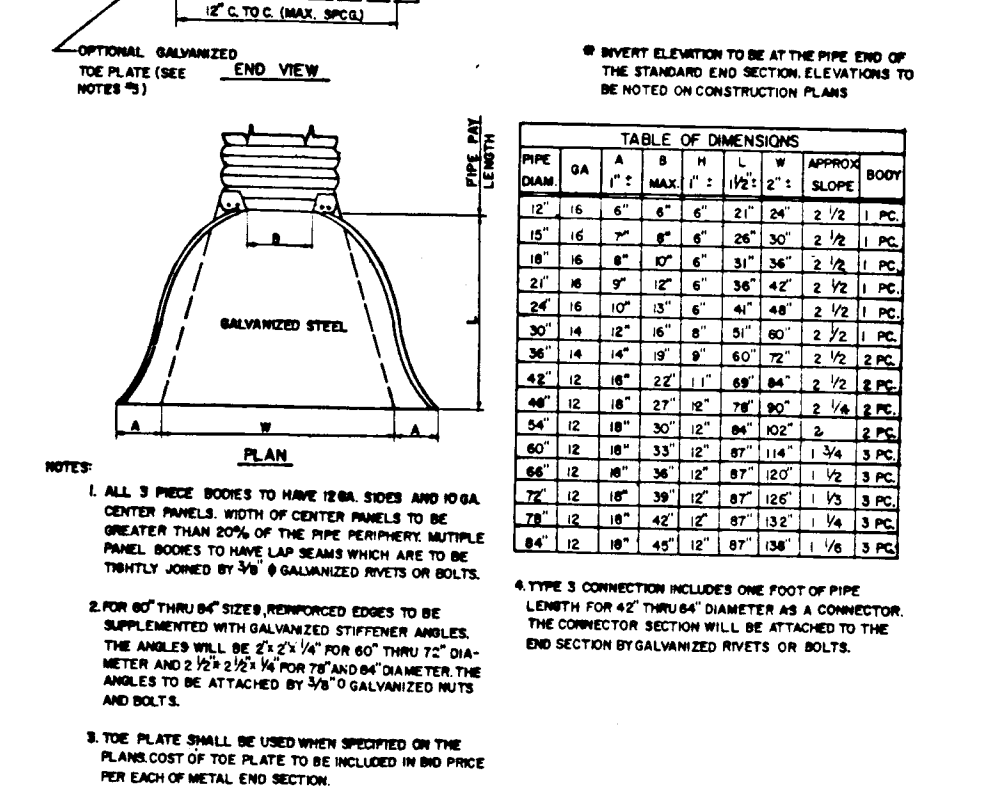
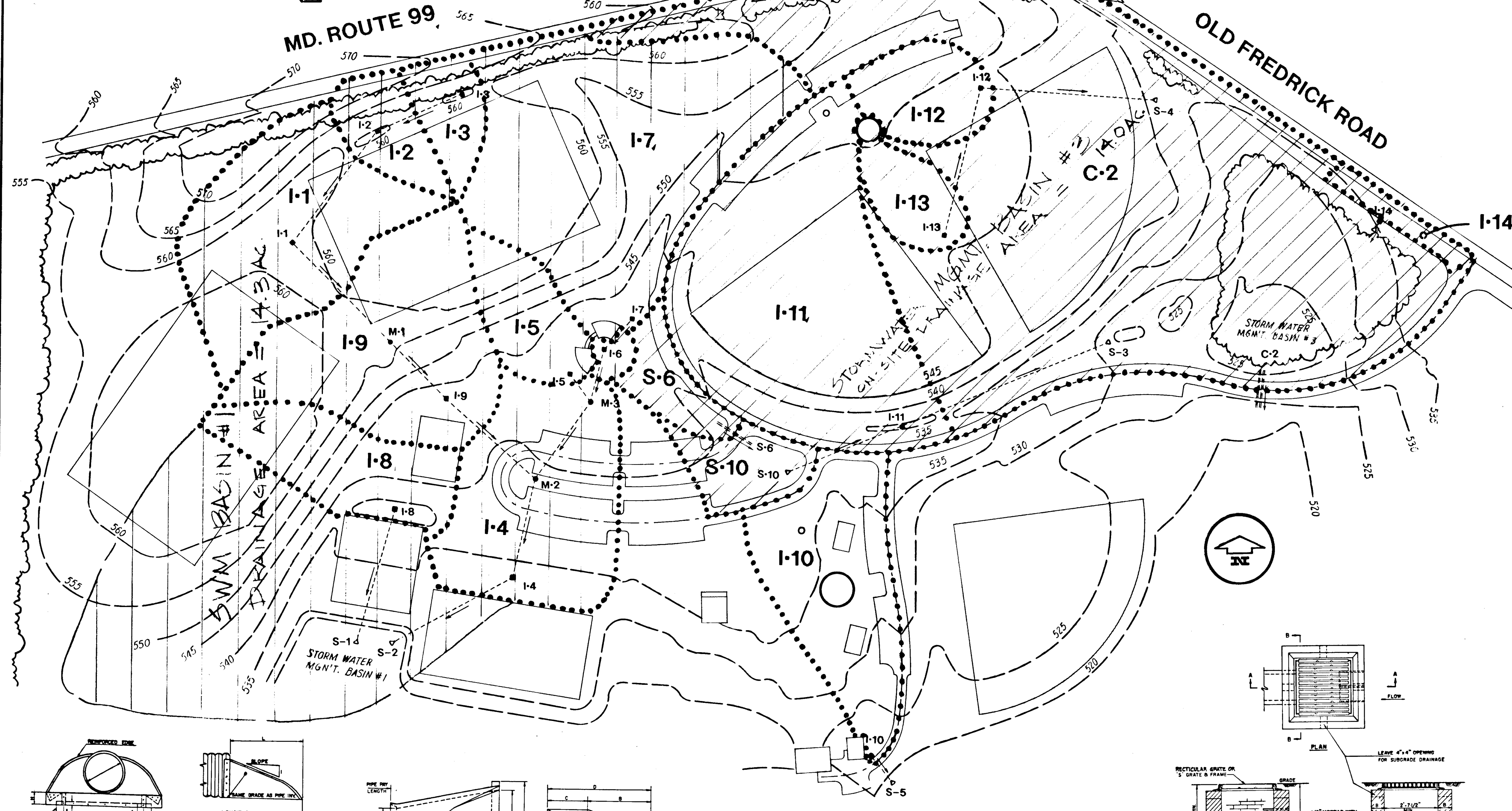
* Refer to storm water management analysis
** Extended depth inlets will require 24" RCCP longer than 4 feet.



STANDARD 10" COG INLET
NTS MARYLAND S.H.A. STD. NO. MD-374.31

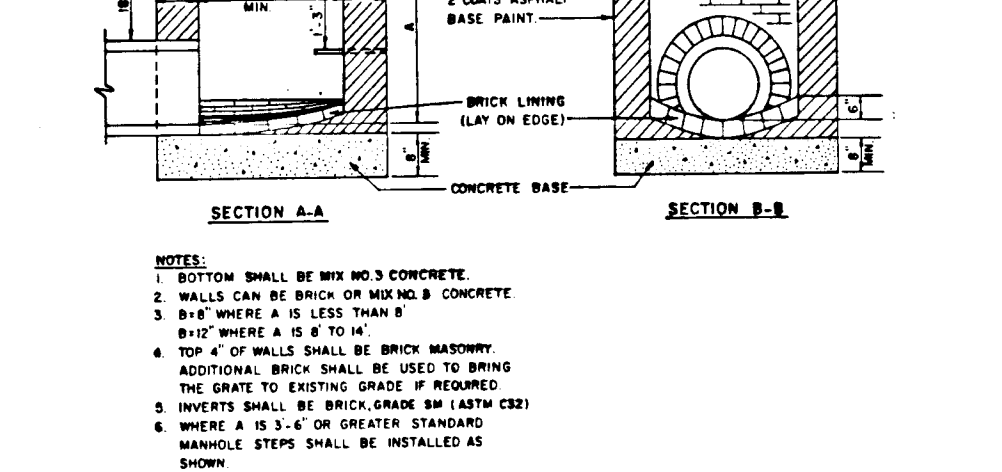


PRECAST MANHOLE
NTS

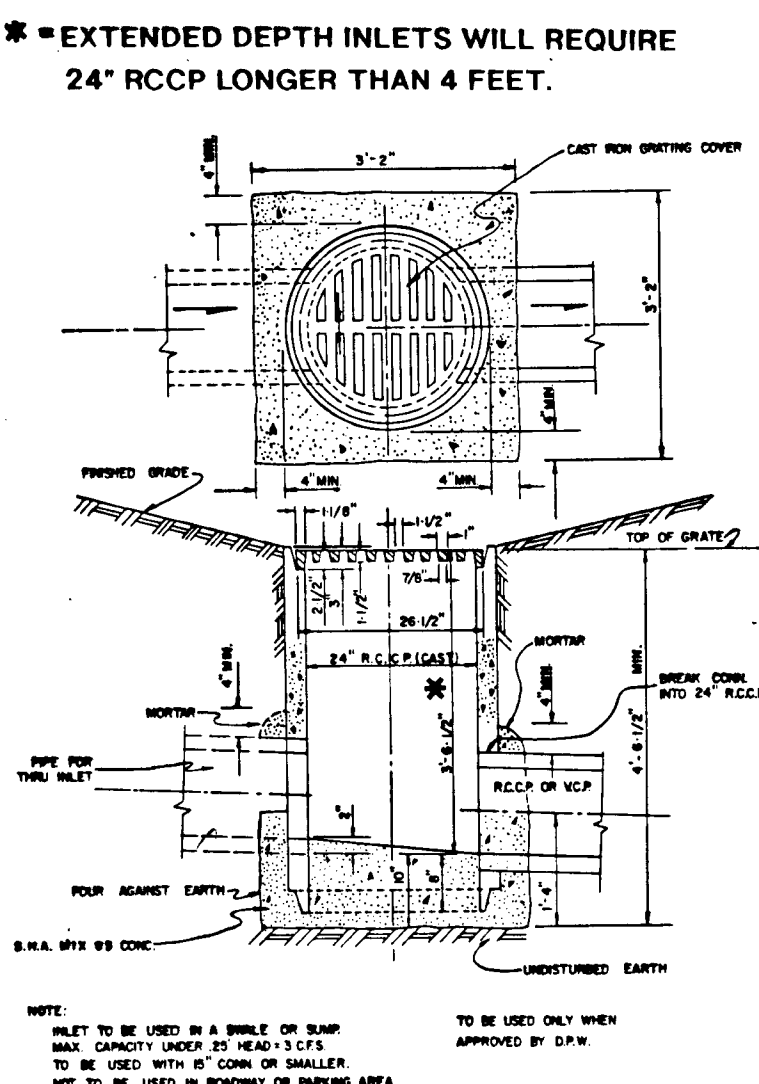


METAL END SECTION
CONC. END SECTION
NTS

STORM DRAIN COORDINATES table with columns: POINT NO., STRUCTURE, NORTH, EAST



TYPE "S" INLET
YARD INLET
NTS



TYPE "D" INLET GRATE
NTS

STORM DRAIN AREAS, DATA, DETAILS AND STRUCTURE SCHEDULE
SCALE: 1" = 100'

REVIEWED NO FACILITIES REQUIRED

HOWARD COUNTY HEALTH DEPARTMENT

James M. England, PE 1/24/92

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

James M. England, PE 1/24/92

Emmanuel Holmuth, PE 1/24/92

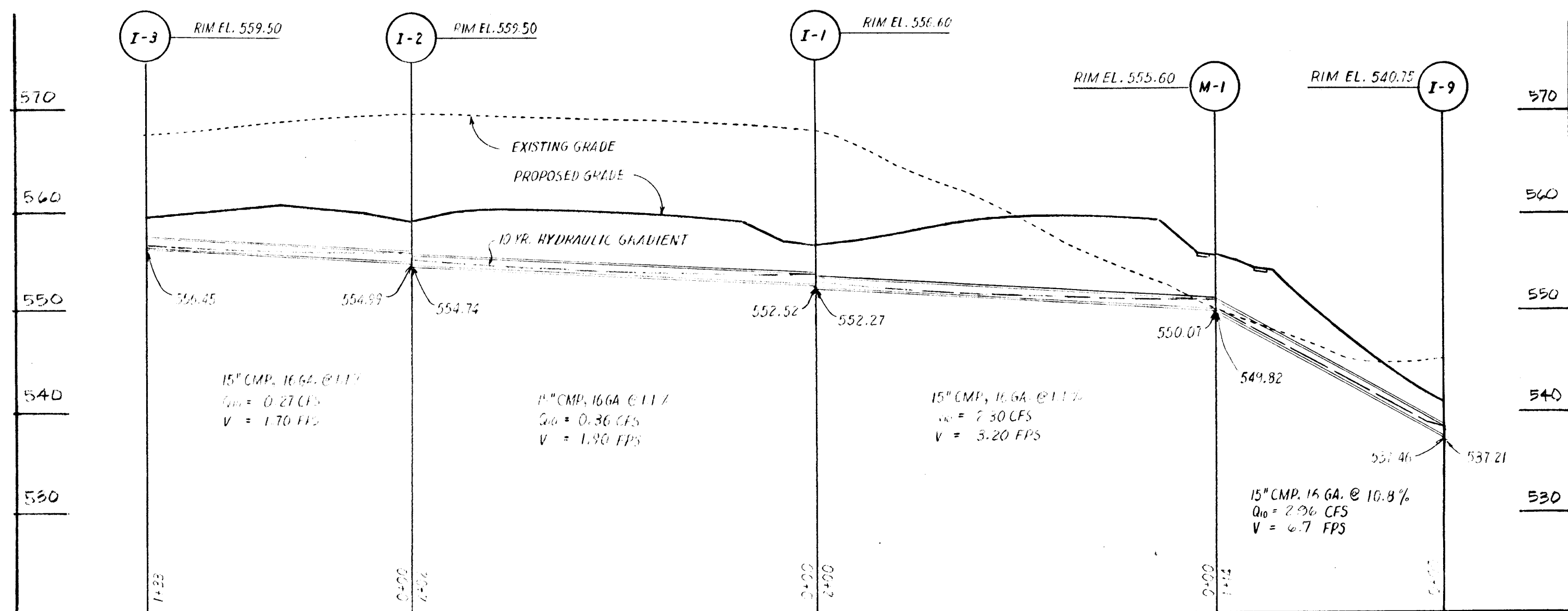
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

James M. England, PE 1/24/92

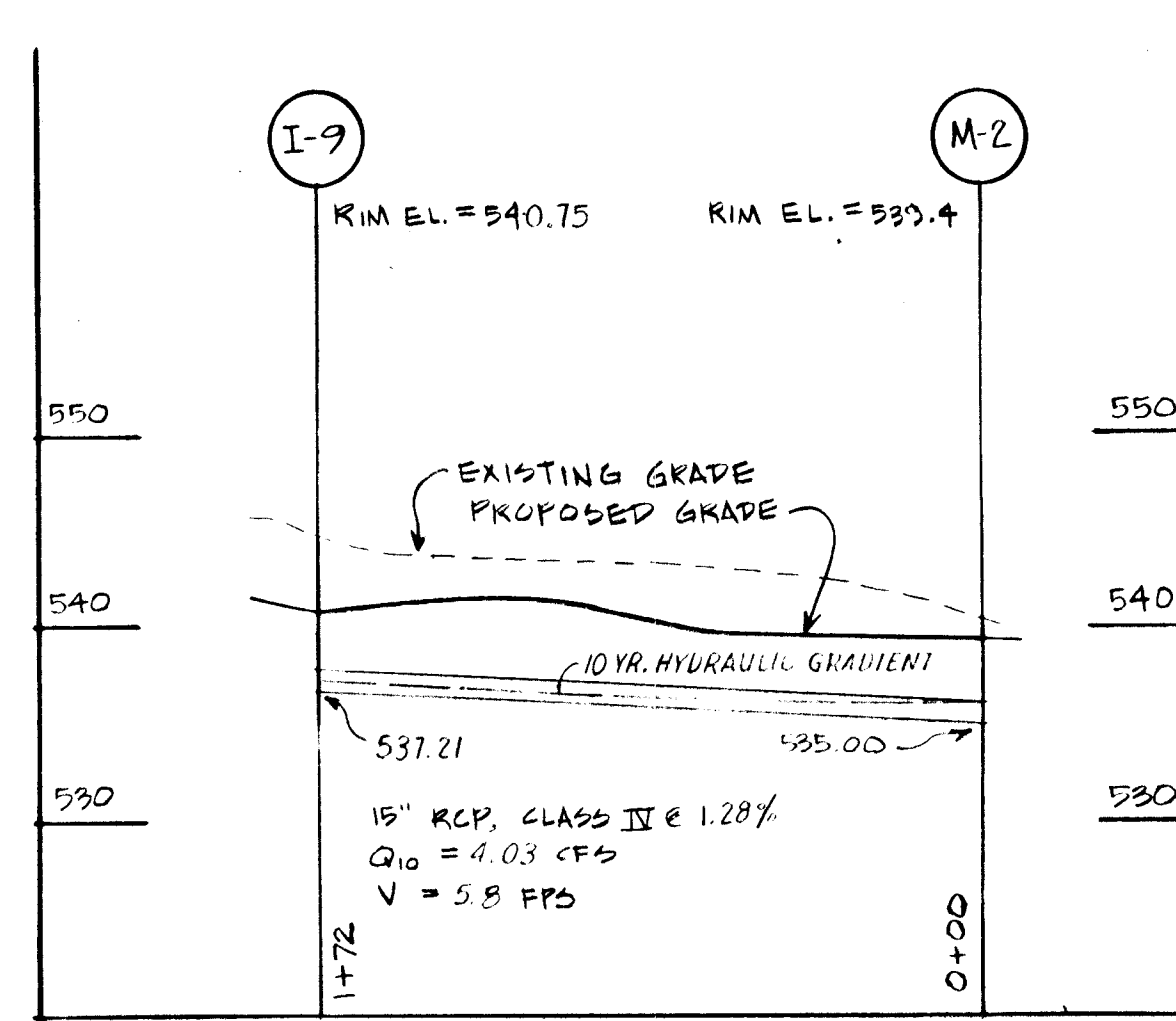
Director

James M. England, PE 1/24/92

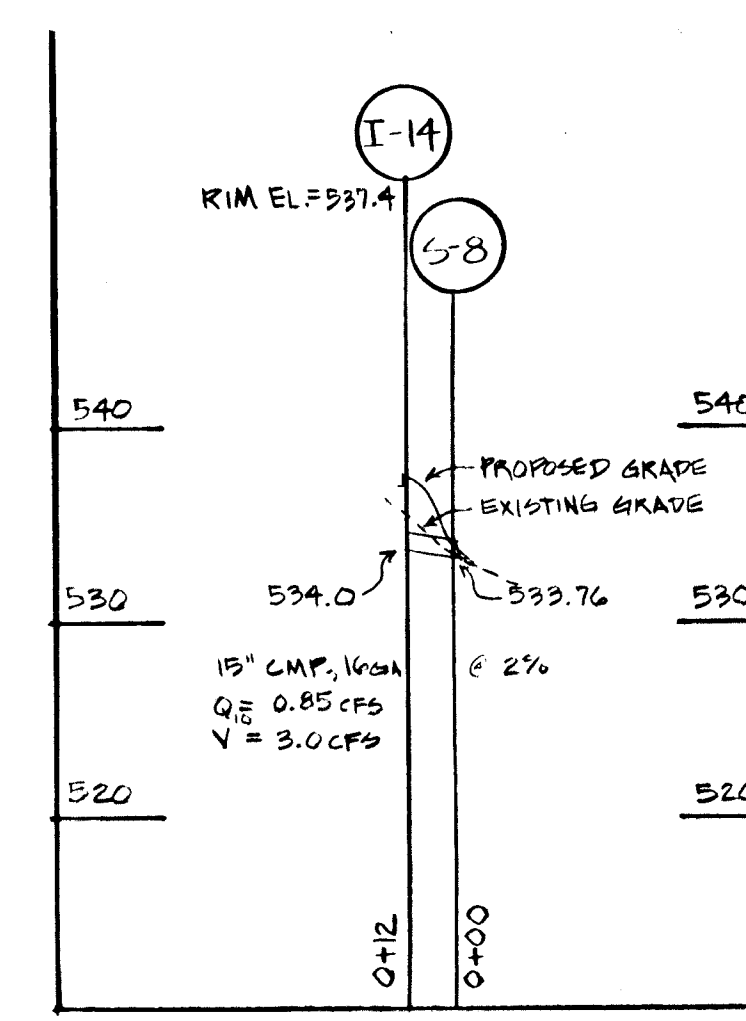
Chief, Bureau of Engineering



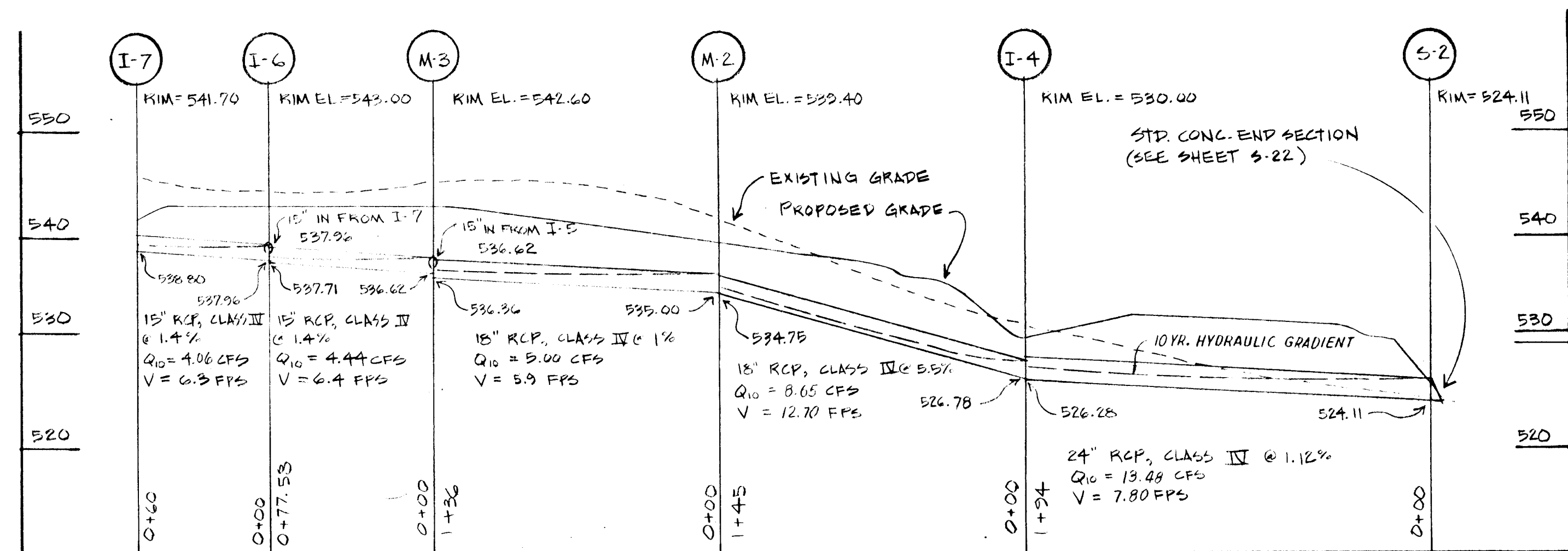
INLET 3 to INLET 9



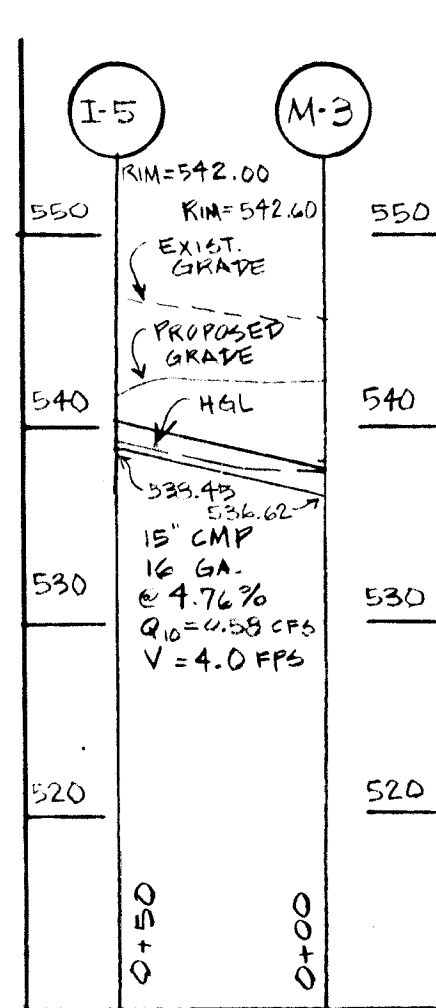
INLET 9 to MANHOLE 2



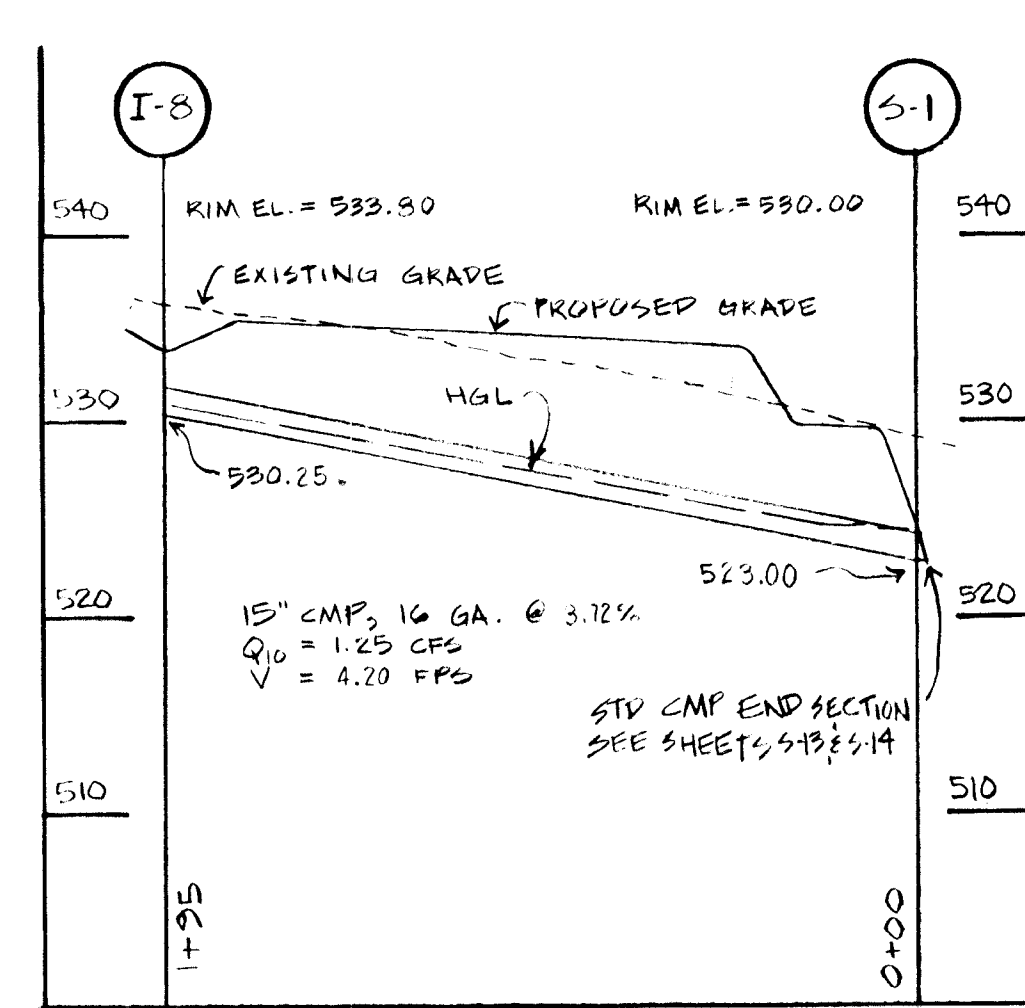
INLET 14 to STRUCTURE 8



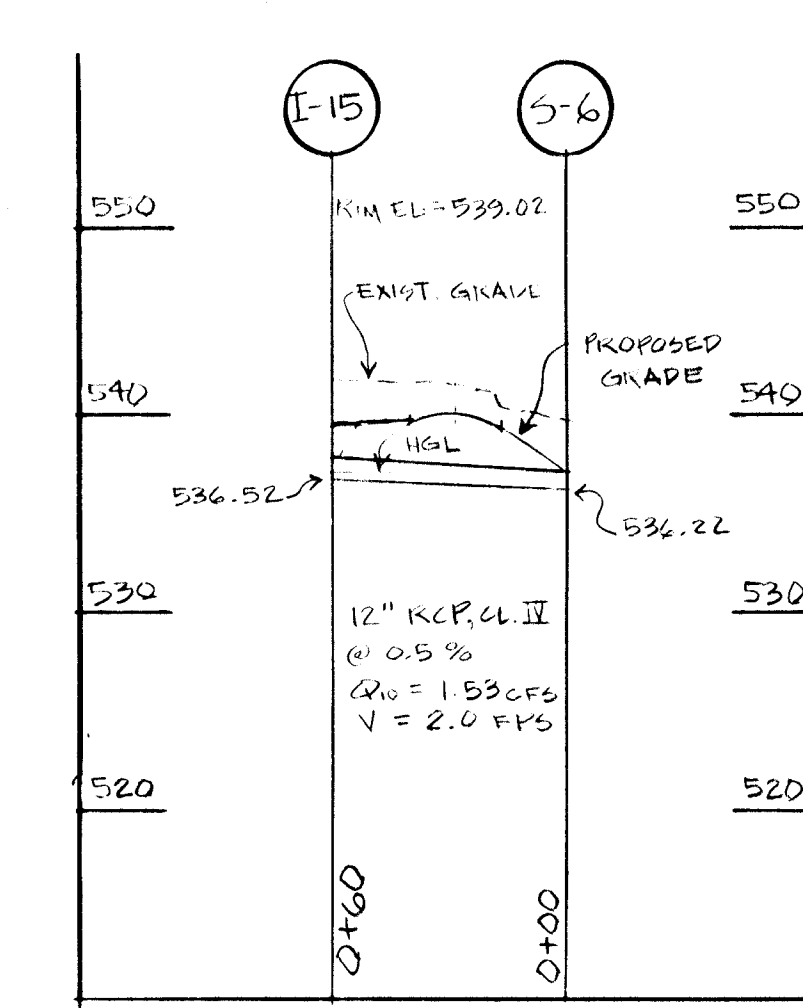
INLET 7 to STRUCTURE 2



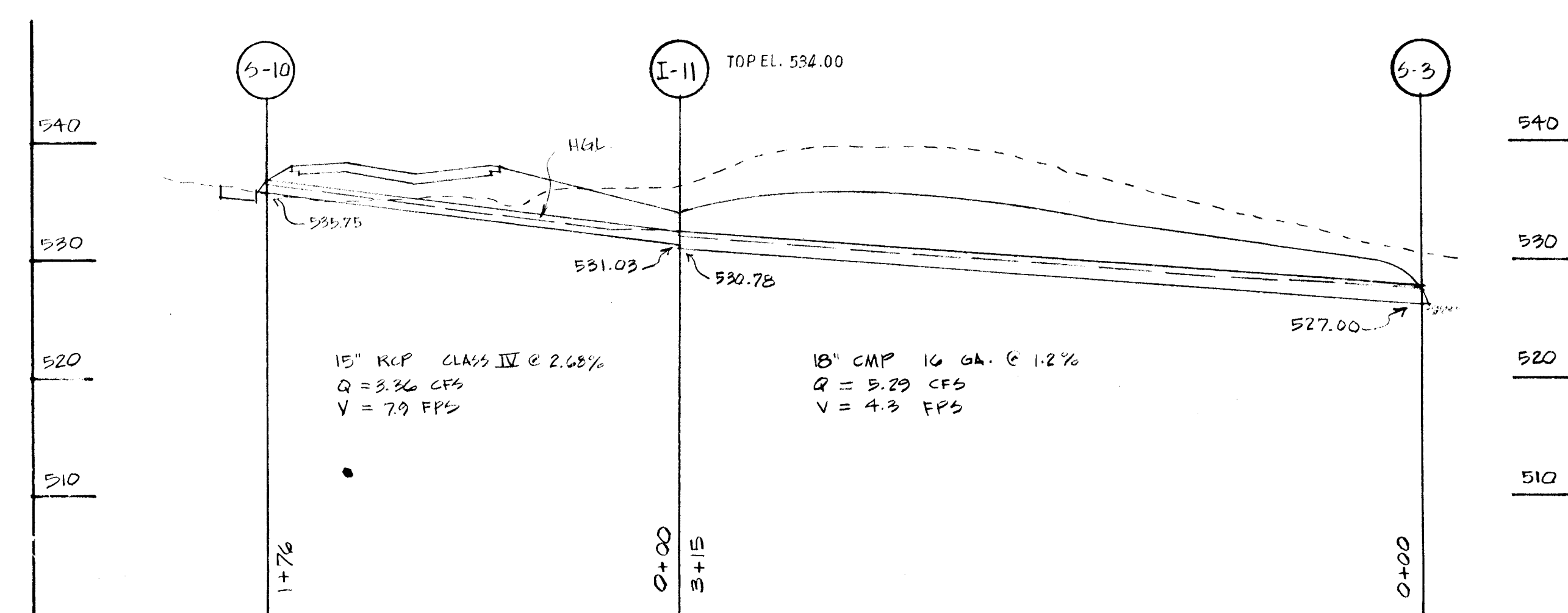
I-5 to M-3



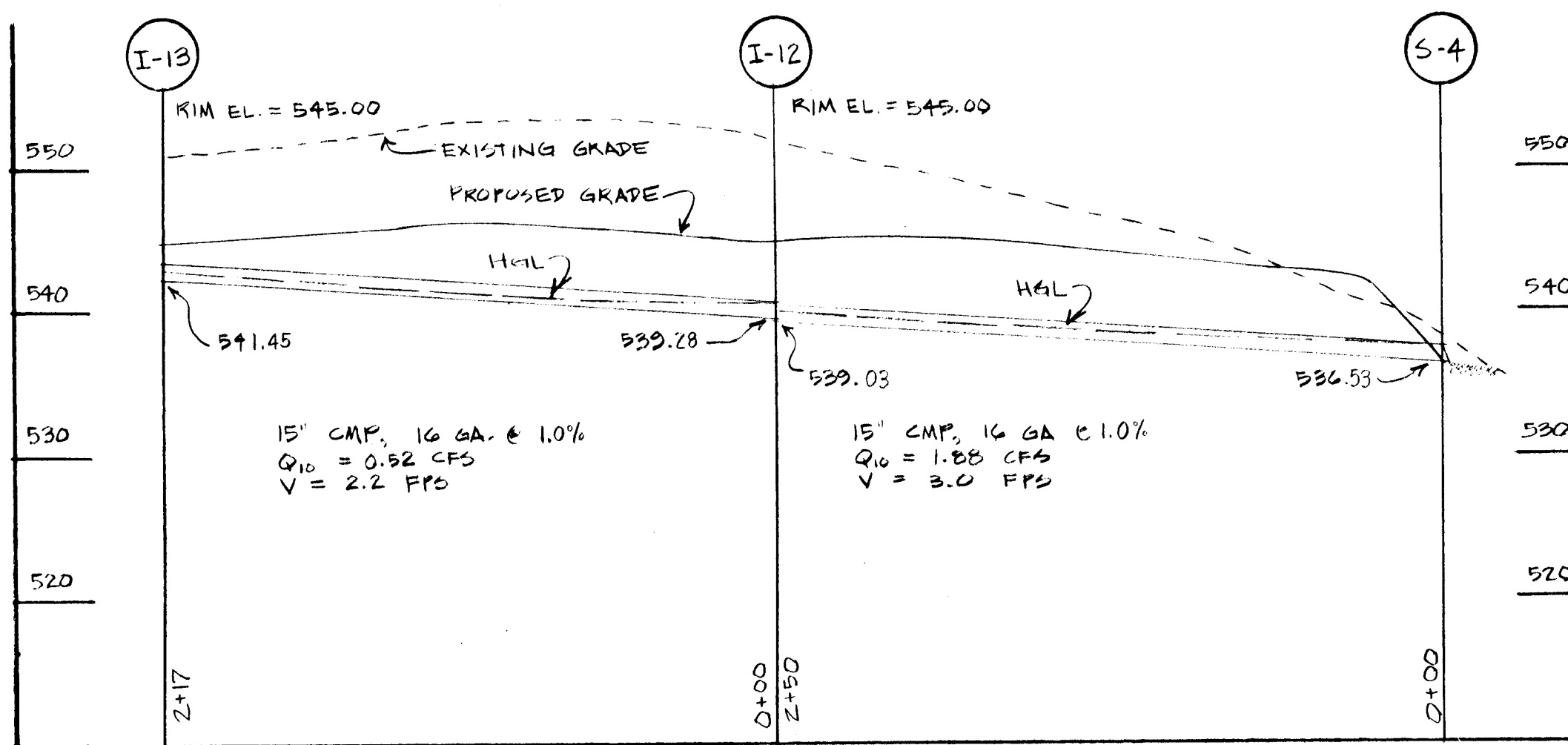
INLET 8 to S-1



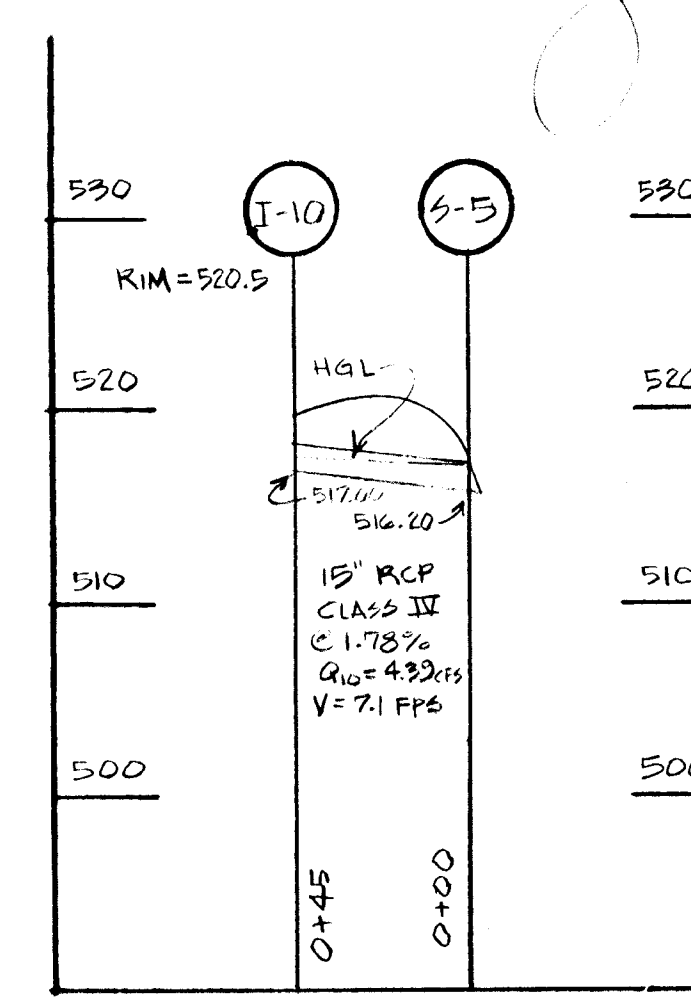
INLET 15 to S-6



STRUCTURE 10 to STRUCTURE 3



INLET 13 to STRUCTURE 4



INLET 10 to STRUCTURE 5

NOTE FOR OUTLET STRUCTURES & APRONS SEE SHEETS S-8 & S-13

STORM DRAIN PROFILES

SCALES: Vertical 1" = 10' Horizontal 1" = 50'

SITE DATA

OWNER: HOWARD COUNTY DEPT. OF PUBLIC WORKS

PROPOSED IMPROVEMENT: PARK

DEED REF: LIBER 847, FOLIO 606

TAX MAP #10, PARCEL #23

ELECTION DISTRICT #3

CENSUS TRACT 6030

WATER: [Symbol]

SEWER: NONE

JANUARY 24, 1992

J. CHRISTOPHER BATTEN, INC. Land Planning & Design Consultant

SHEET

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of 20

SDP 10 of 21

SDP-90-18

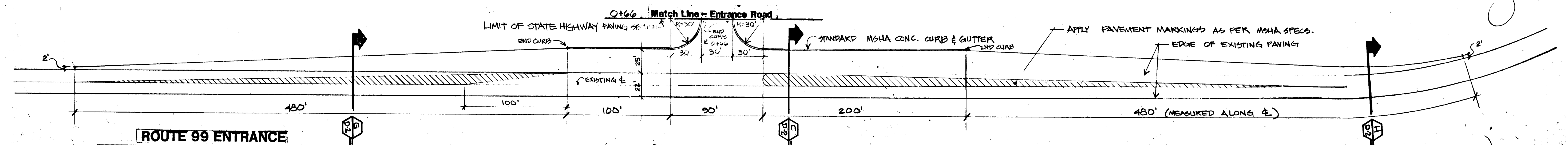
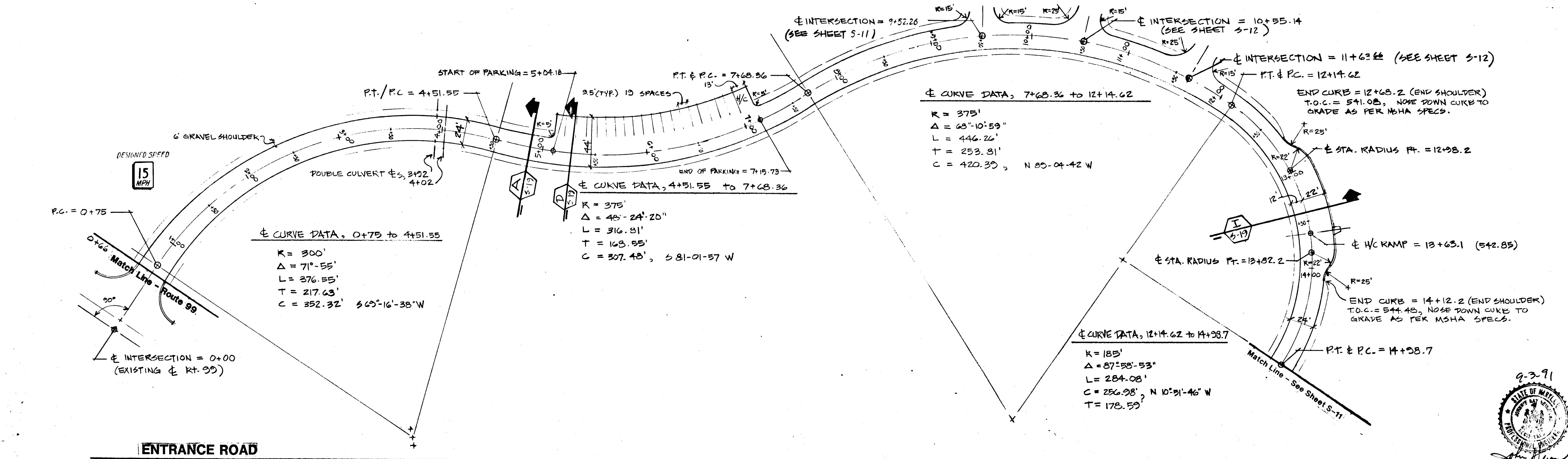
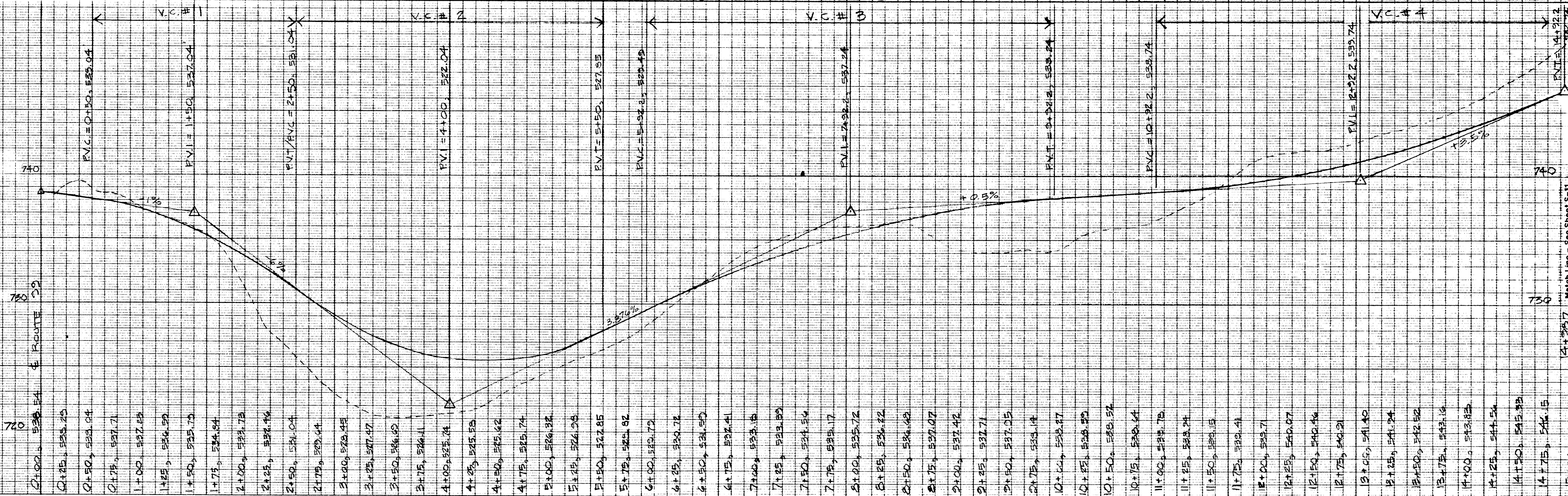
XXAL-92-5009

REVIEWED NO FACILITIES REQUIRED

HOWARD COUNTY HEALTH DEPARTMENT
James M. Englander, Jr. 1/24/92
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DIRECTOR: James R. Smith 1/27/92
DATE: 1/27/92
EMMAUS BELMONT 1/27/92
DATE: 1/27/92
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: FOR PRIVATE WATER AND NO SEWERAGE, FOR STORM DRAINAGE SYSTEMS AND P.U.C. WORKS
HOWARD COUNTY DEPARTMENT OF P.U.C. WORKS
James J. Lane 1/24/92
DATE: 1/24/92
D. S. S. & R. 1/24/92
DATE: 1/24/92
CHIEF, BUREAU OF ENGINEERING



NOTES:
 1) PAVING SECTIONS - SEE SHEET D-2
 2) ALL EXISTING PAVING MARKINGS MUST BE ELIMINATED BY CONTRACTOR AS DIRECTED BY S.H.A. REPRESENTATIVE
ROUTE 99 ENTRANCE & MAIN ROAD 0-00 TO 14-98.7 ROAD PROFILE
 SCALES: Profile Horiz. 1" = 50' Vert. 1" = 4' PLAN 1" = 50'

APPROVAL STAMP

SITE DATA
 OWNER: HOWARD COUNTY DEPT. OF P.U.C. WORKS
 PROPOSED IMPROVEMENT: PARK DEED REF. LIBER 847, P.O. NO 6006
 TAX MAP #10, PARCE. #23
 ELECTION DISTRICT #3
 CENSUS TRACT 6030
 WATER: _____
 SEWER: NONE

JANUARY 24, 1992

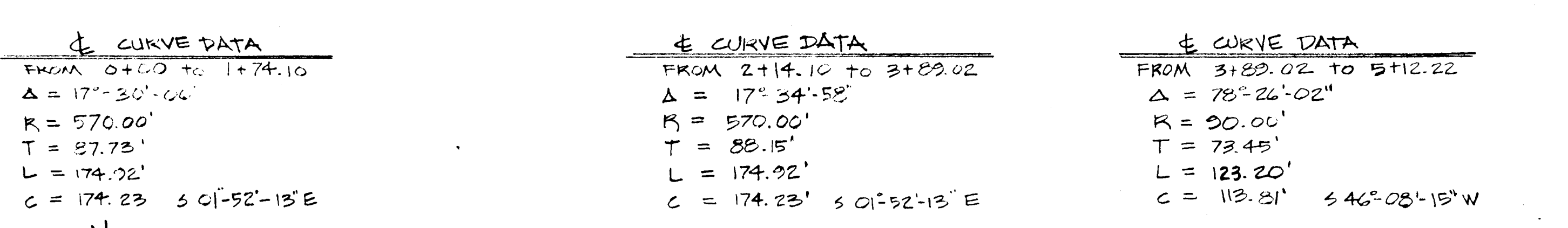
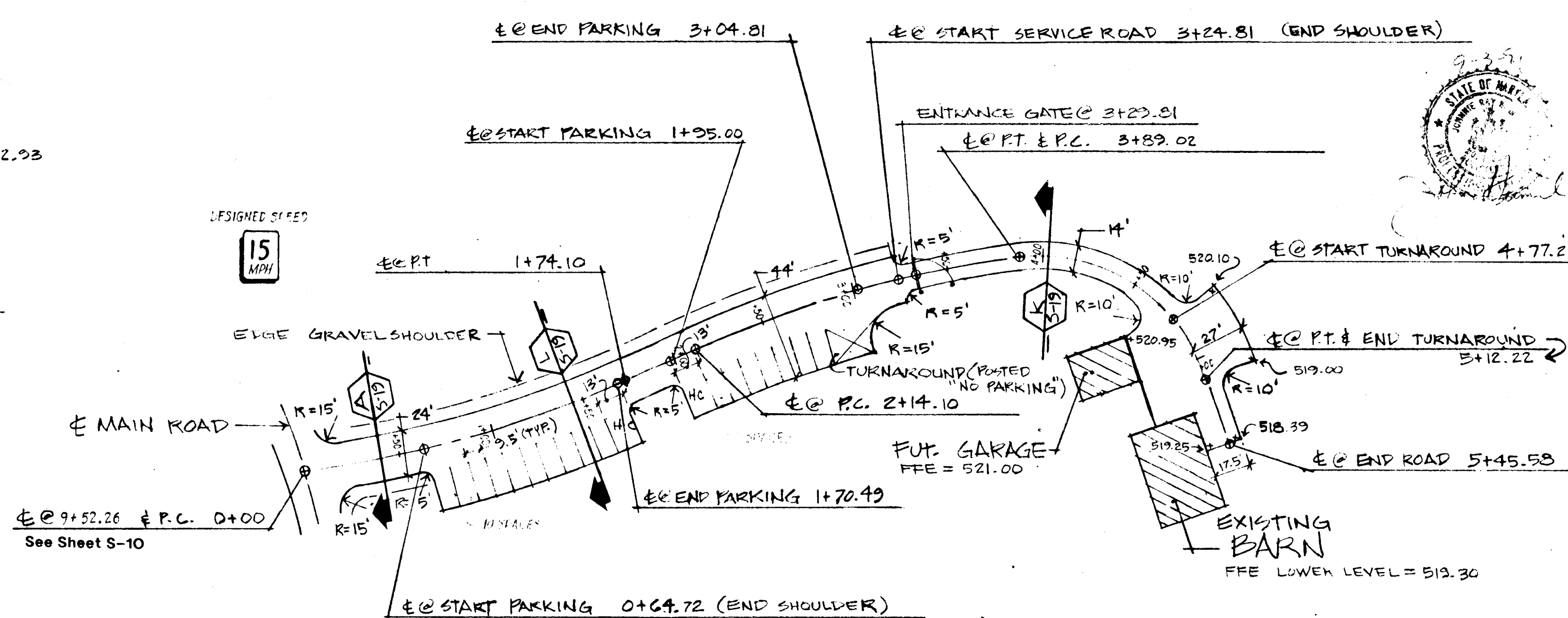
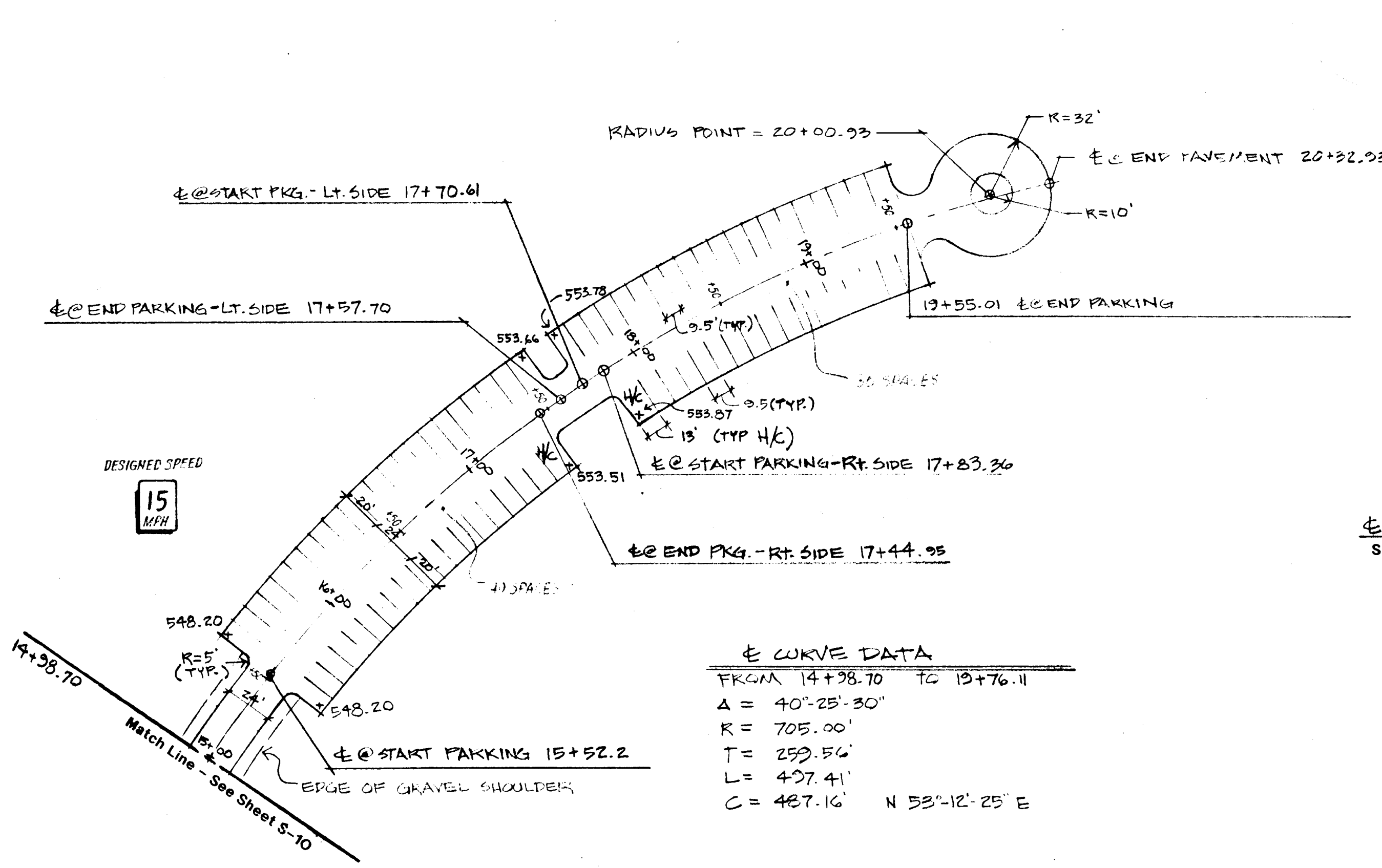
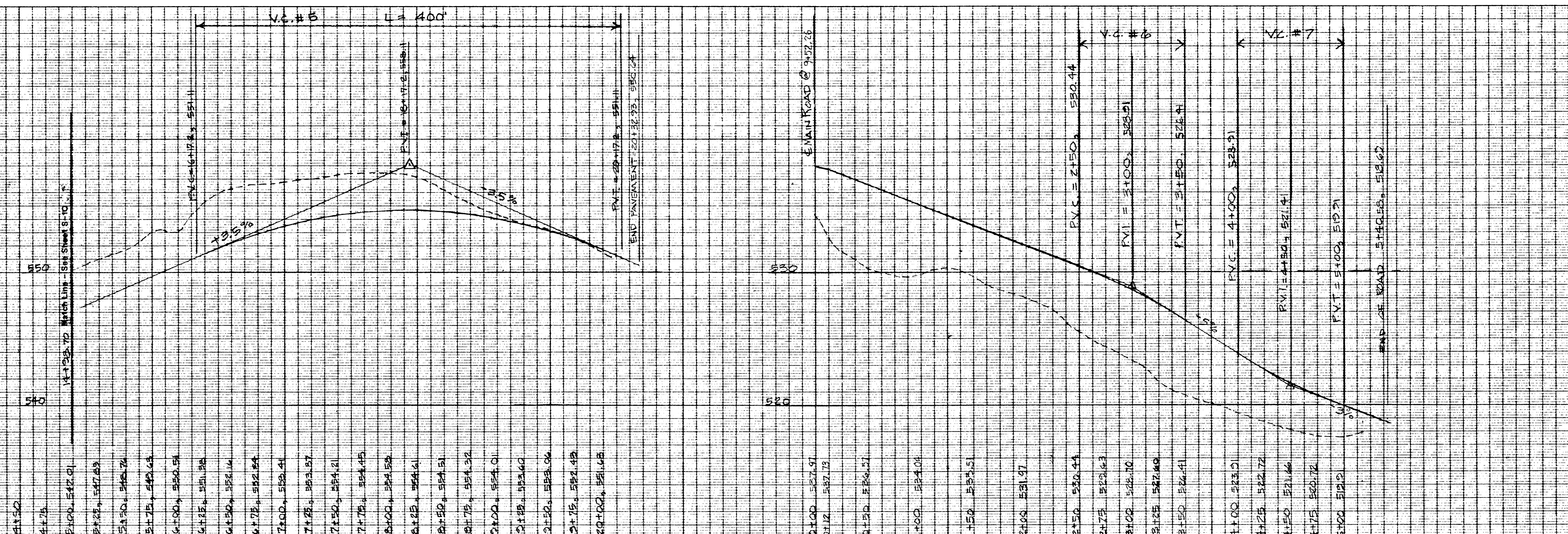
SHEET
S-10
 of 20
 J. CHRISTOPHER BATTEN, INC.
 Land Planning & Design Consultant
 1 North Church Street
 Westminster, Maryland 21157
 301-876-3383

REVIEWED NO FACILITIES REQUIRED
HOWARD COUNTY DEPARTMENT
Jorge M. Boyd *Jorge M. Boyd* 1/24/92
PUBLIC HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DIRECTOR *James Smith* 1/27/92
Anna Filomath 1/27/92
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR PRIVATE WATER AND NO SEWERAGE, FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR *James P. ...* 1/24/92
William S. ... 1/24/92
CHIEF, BUREAU OF ENGINEERING DATE

APPROVAL STAMP



☉ MAIN ROAD 14-98.17 & ROAD TO MAINTENANCE GARAGE ROAD PROFILE

SCALES: Profile Horiz. 1"=50' Vert. 1"=4'
Plan 1"=50'

SITE DATA
OWNER: HOWARD COUNTY DEPT. OF PUBLIC WORKS
PROPOSED IMPROVEMENT: PARK
DEED REF. LIBER 847, FOLIO 606
TAX MAP #10, PARCEL #23
ELECTION DISTRICT #3
CENSUS TRACT 6830
WATER: ...
SEWER: NONE

JANUARY 24, 1992

SHEET
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of 20
SDP 12 of 21
SDP-90-18

J. CHRISTOPHER BATTEN, INC.
Land Planning & Design Consultant
8 North Church Street
Westminster, Maryland 21157
301-476-3383

xxAL-92-011

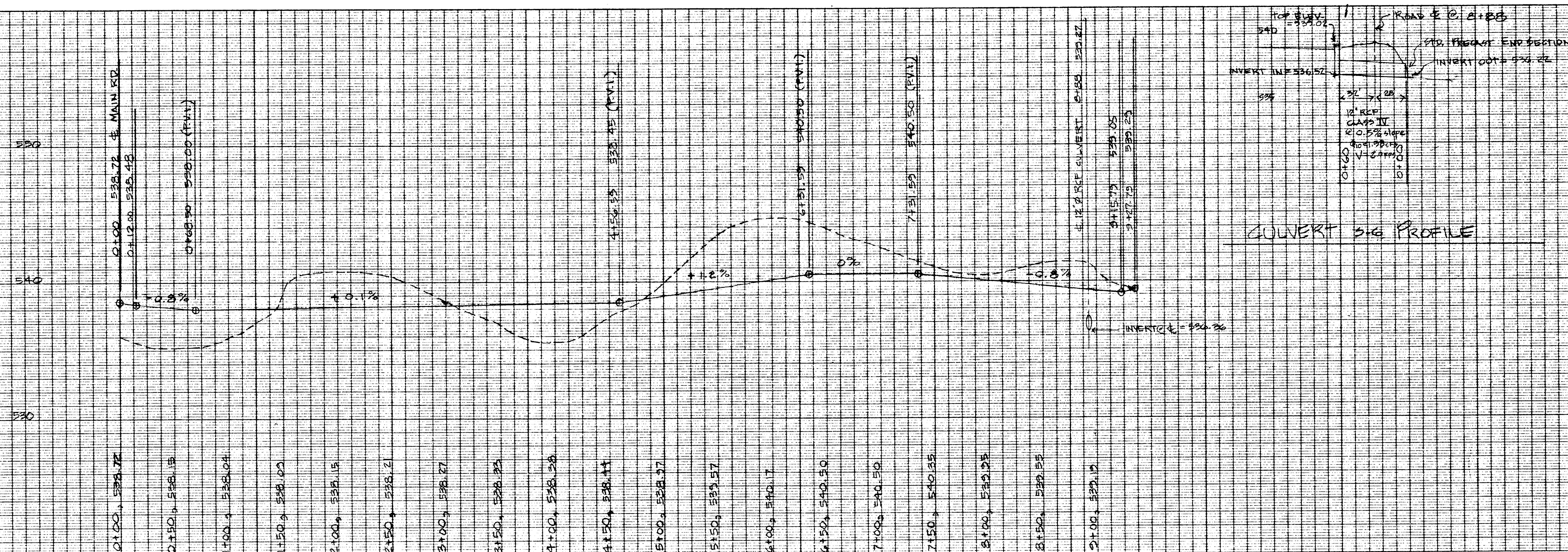
REVIEWED NO FACILITIES REQUIRED

HOWARD COUNTY HEALTH DEPARTMENT
 JAMES M. ... 1/24/92
 COUNTY HEALTH OFFICER DATE

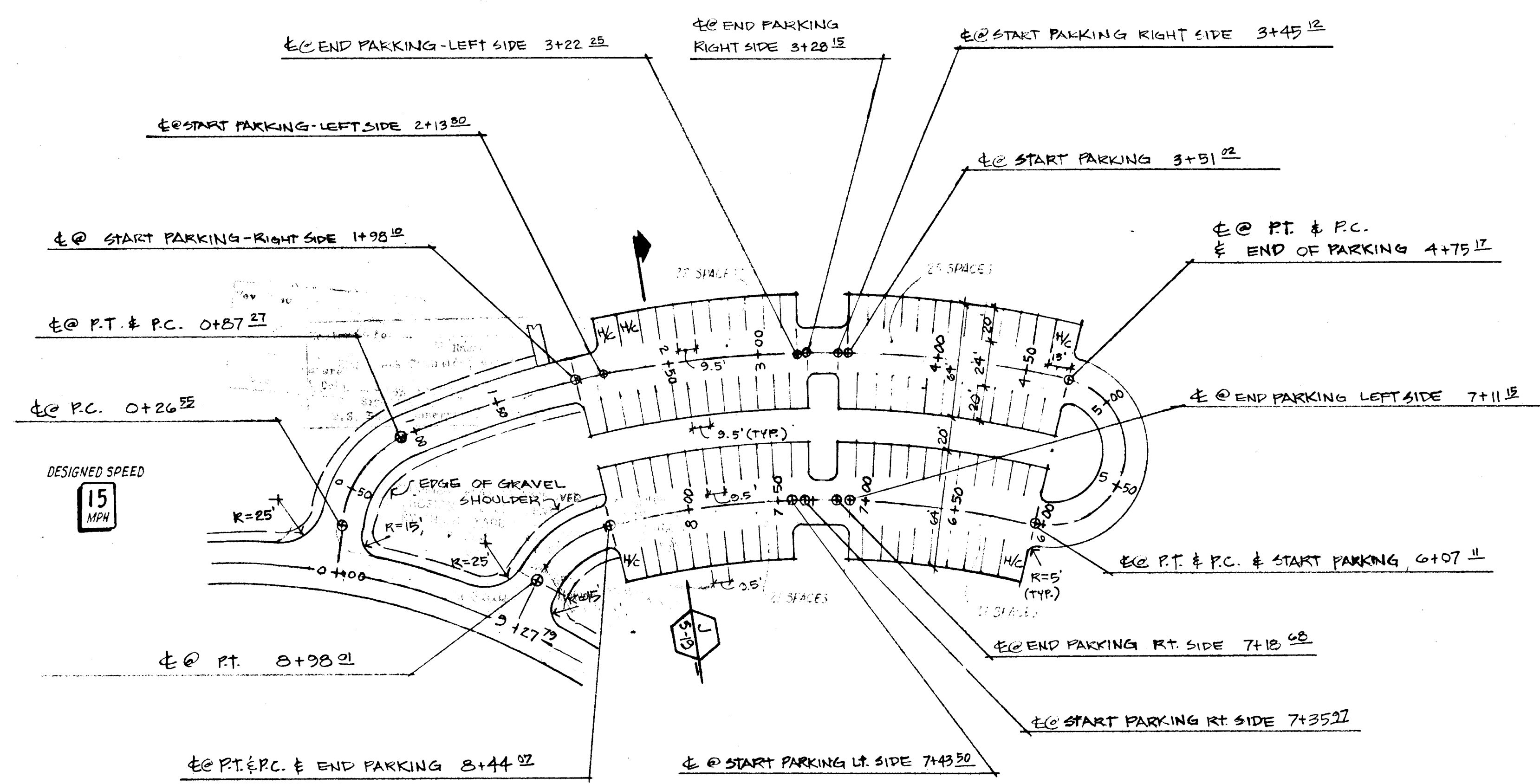
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 JAMES B. ... 1/27/92
 DIRECTOR DATE
 EMMA ... 1/27/92
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR PRIVATE WATER AND NO SEWERAGE, FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 JAMES ... 1/24/92
 DIRECTOR DATE
 ... 1-24-92
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVAL STAMP



CONVERT SIG PROFILE



NOTE:

NO VERTICAL CURVE COMPUTATIONS HAVE BEEN PREPARED FOR THIS SECTION OF ROAD DUE TO THE LIMITED SLOPES. ALSO THIS IS A LOW SPEED TRAVEL AREA THROUGH THE PARKING LOT.

HORIZONTAL CURVE DATA

STATIONS	DELTA	RADIUS	ARC TANGENT	CHORD BEARING & DISTANCE
0+26.22 to 0+87.27	57°59'15"	60.00'	40.72' 33.25'	S 40°01'57" W 58.17'
0+87.27 to 4+75.12	35°00'00"	635.00'	387.90' 200.21'	S 86°31'33" W 381.90'
4+75.12 to 6+07.12	180°00'00"	42.00'	131.94' NONE	N 14°01'33" E 84.00'
6+07.12 to 8+44.22	24°38'27"	551.00'	236.96' 120.34'	N 88°36'13" E 235.14'
8+44.22 to 8+98.21	50°39'54"	61.00'	53.94' 28.88'	N 53°41'38" E 52.20'

NOTES:

1.) PAVING SECTIONS - SEE SHEET D-2

PARKING LOT LOOP ROAD PROFILE

SCALE: Profile Horiz. 1"=50' Vert. 1"=5' Plan 1"=50'



JANUARY 24, 1992

J. CHRISTOPHER BATTEN, INC.
 Land Planning & Design Consultant
 8 North Church Street
 Westminster, Maryland 21157
 301-476-3383

SHEET
S-12
 of 20
 SDP 13 of 21
 SDP-90-18

REVIEWED NO FACILITIES REQUIRED
 HOWARD COUNTY HEALTH DEPARTMENT
 Joyce M. [Signature] 1/24/92
 HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 1/27/92
 DIRECTOR DATE
 [Signature] 1/27/92
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND USE DATE

APPROVED: FOR PRIVATE WATER AND NO SEWERAGE, FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 1/24/92
 DIRECTOR DATE
 [Signature] 1-24-92
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVAL STAMP

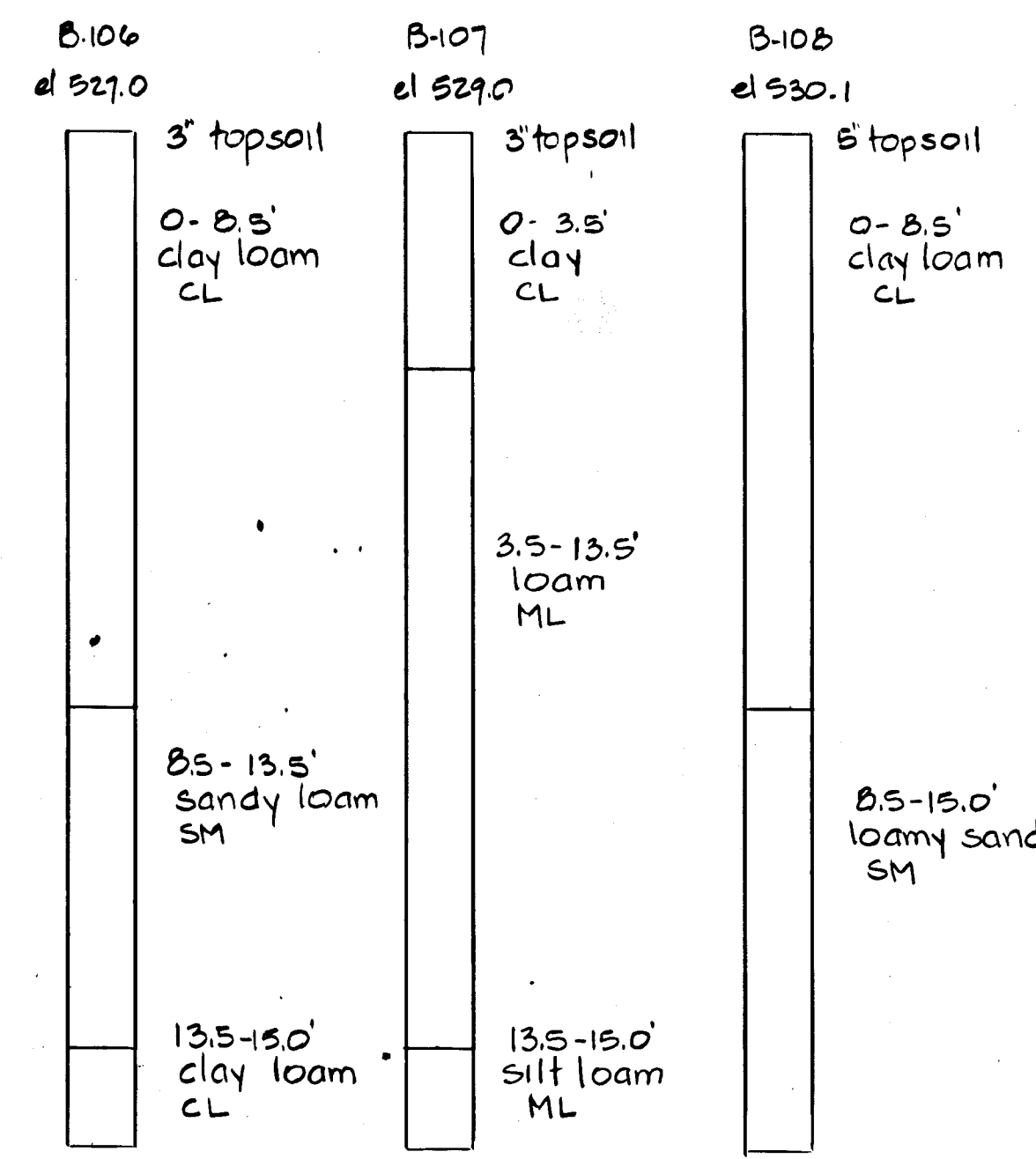
SITE DATA
 OWNER: HOWARD COUNTY DEPT. OF PUBLIC WORKS
 PROPOSED IMPROVEMENT: PARK
 DEED REF. LIBER 847, FOLIO 606
 TAX MAP #10, PARCEL #23
 ELECTION DISTRICT #3
 CENSUS TRACT 6030
 WATER: _____
 SEWER: NONE

JANUARY 24, 1992

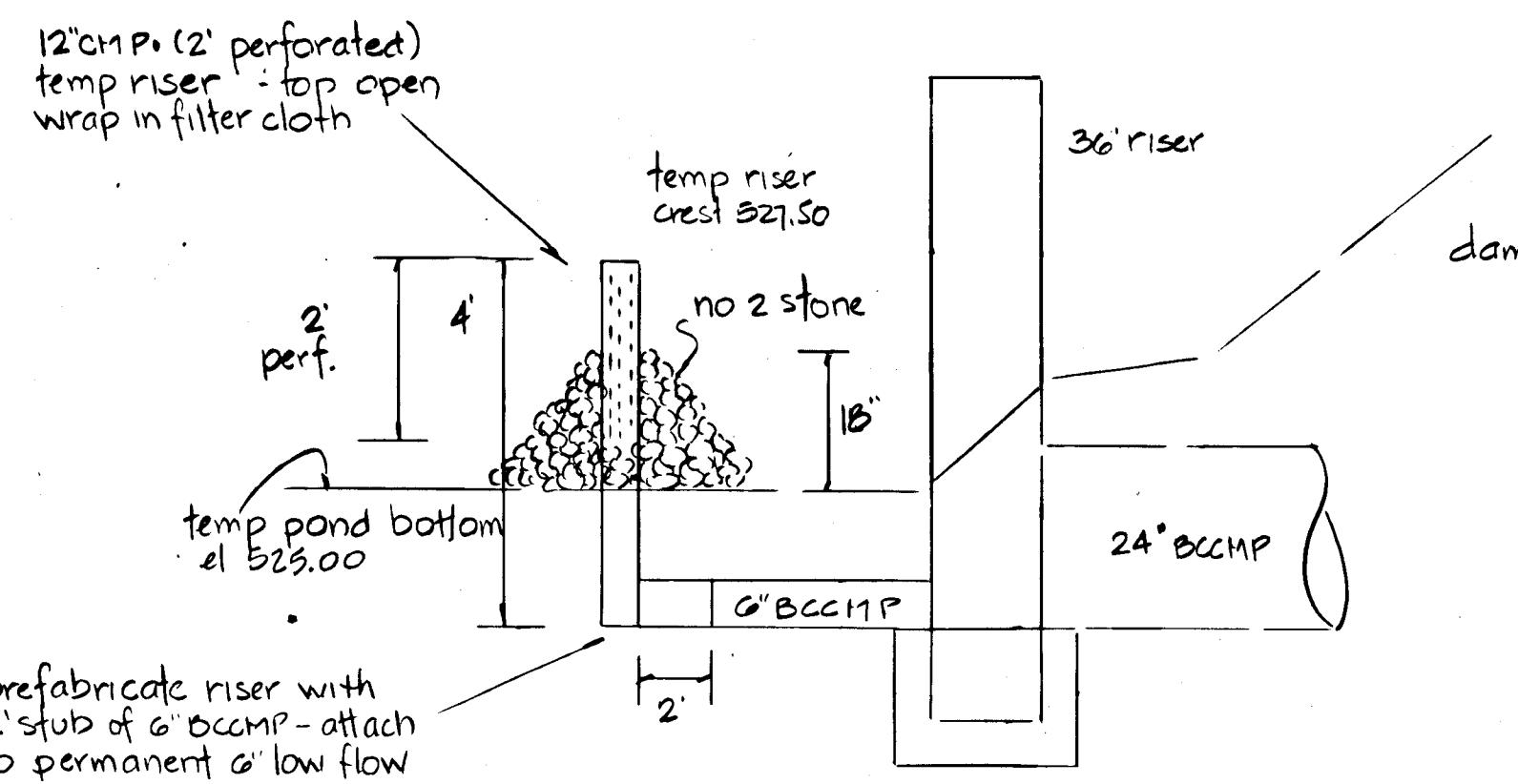
SHEET
S-13
 of 20

J. CHRISTOPHER BATTEN, INC.
 Land Planning & Design Consultant
 8 North Church Street
 Westminster, Maryland 21157
 301-876-3383

- SEQUENCE OF CONSTRUCTION - SWM POND # 1
- Note: Minimum sediment control measures to be in place prior to pond construction include: trap #2.
1. Clear and grub pond area.
 2. Install silt fence along outside toe of dam (see plan).
 3. Dig and install core trench.
 4. Install [36"] riser and barrel, outfall protection, and temporary riser with stone. Install a temporary outfall channel to existing grade @ 0.5% (approx 170 LF).
 5. Place dam fill and excavate storage area.
 6. Grade diversion and stabilize.
 7. Stabilize disturbed areas.
- During site grading and construction - clean out sediment when it reaches elevation 527.0, or 6" below top of temporary riser.
8. At the completion of site grading and stabilization, convert pond for permanent use.
 - a. Clean out sediment.
 - b. Remove temporary riser and stone.
 - c. Grade bottom and side of pond to final configuration.
 - d. Excavate for stone infiltration trench.
 - e. Lay fabric, place stone, and install observation well as indicated in specifications, sheet
 - f. Remove trash rack, cut [36"] riser, replace trash rack.
 - g. Stabilize disturbed areas.
- Note: When trap #2 is removed and stilling basins 1-a & b are installed, remove temporary outfall channel and adjust outfall protection as necessary to blend into basin 1-b.



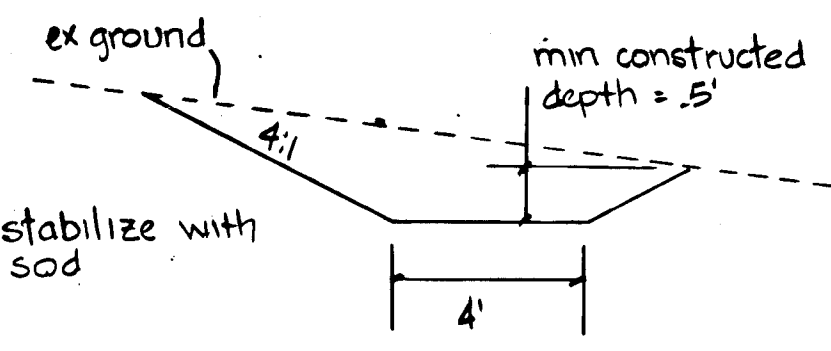
Soil boring logs
 no scale



Temporary Riser Detail
 no scale

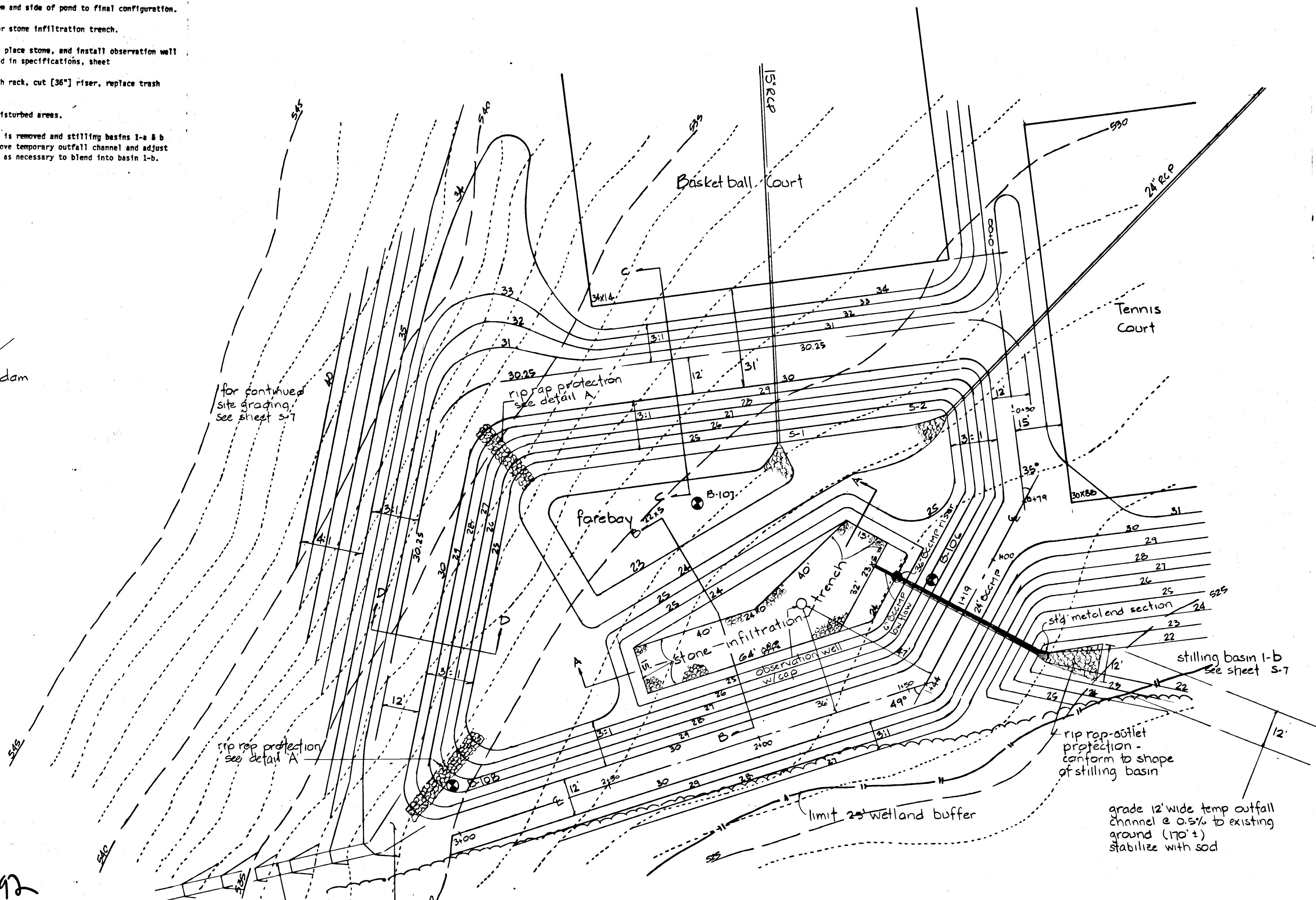
Approved for HOWARD S.C.D. Name [Signature] Date 1/27/92
 Signature [Signature]
 U.S. Soil Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
 Approved [Signature] Date 1/27/92
 Howard S.C.D.

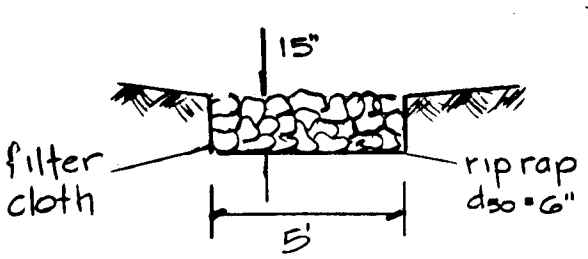


Diversion Channel Detail
 no scale

construct channel to match existing slope - minimum construction depth: 0.5' channel grade will vary stabilize entire cut area with sod



Rip Rap Protection Detail A
 (no scale)



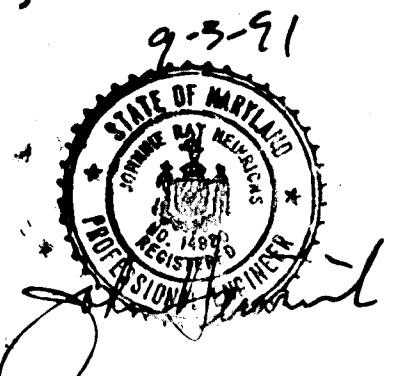
channel continues along woods line to top of hill - see grading plan (west) sheet S-7

4' bottom 4' sides diversion channel see detail

flare channel to match pond grading

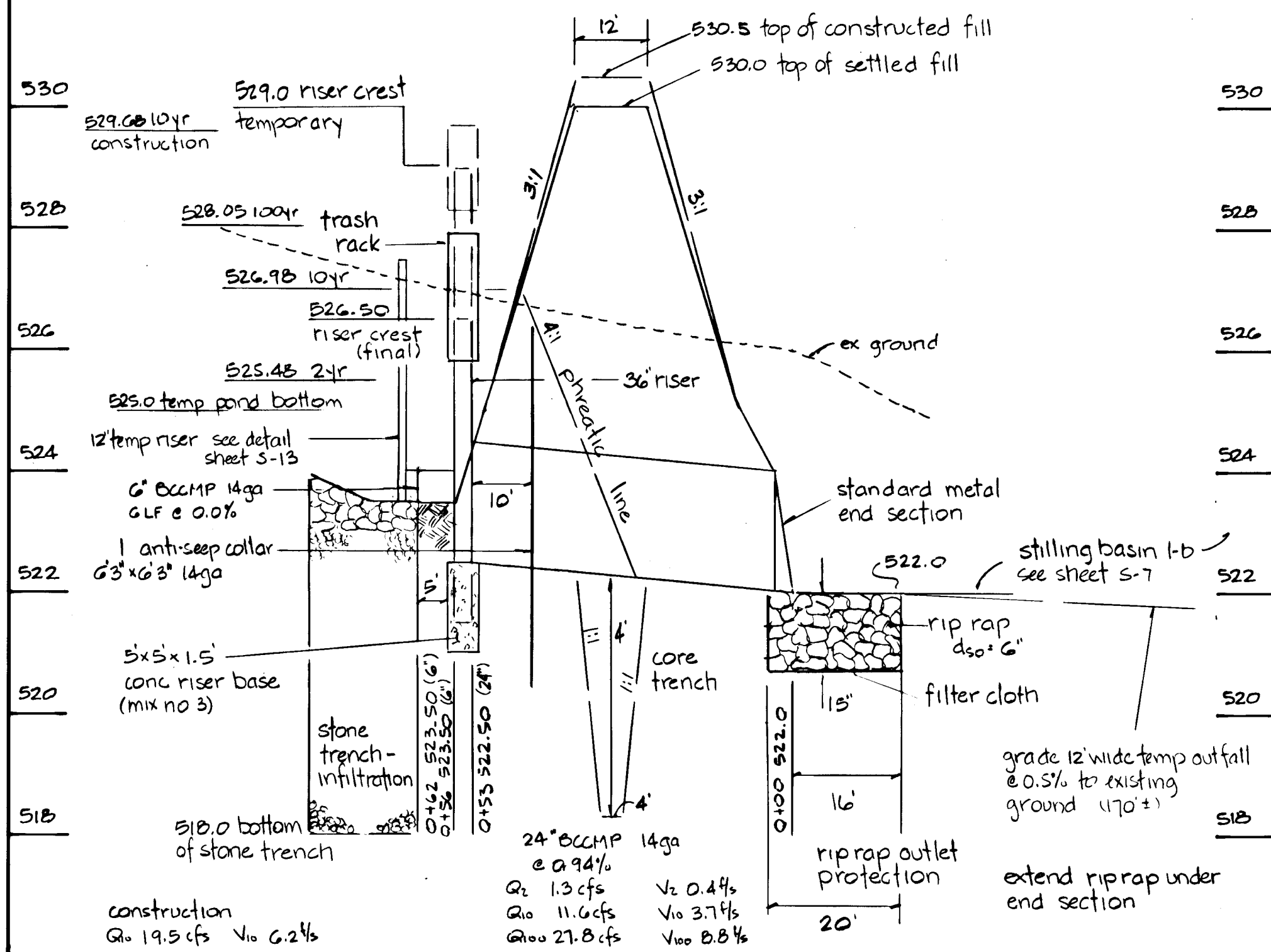
grade 12' wide temp outfall channel @ 0.5% to existing ground (170'±) stabilize with sod

Stormwater Management
 Pond #1
 Plan
 1-20'



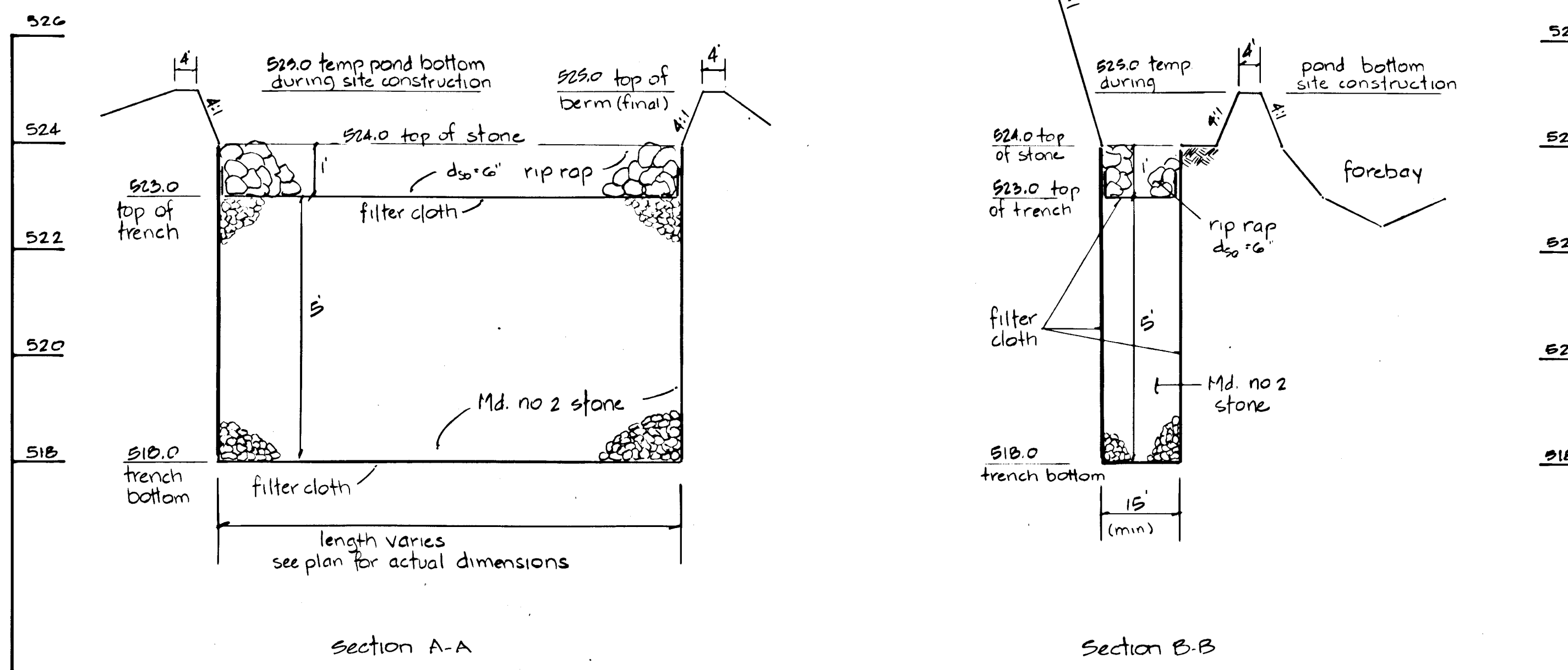
**Profile - Principal Spillway
and
Cross Section of Dam**

scale vert 1/2" hor 1/20"



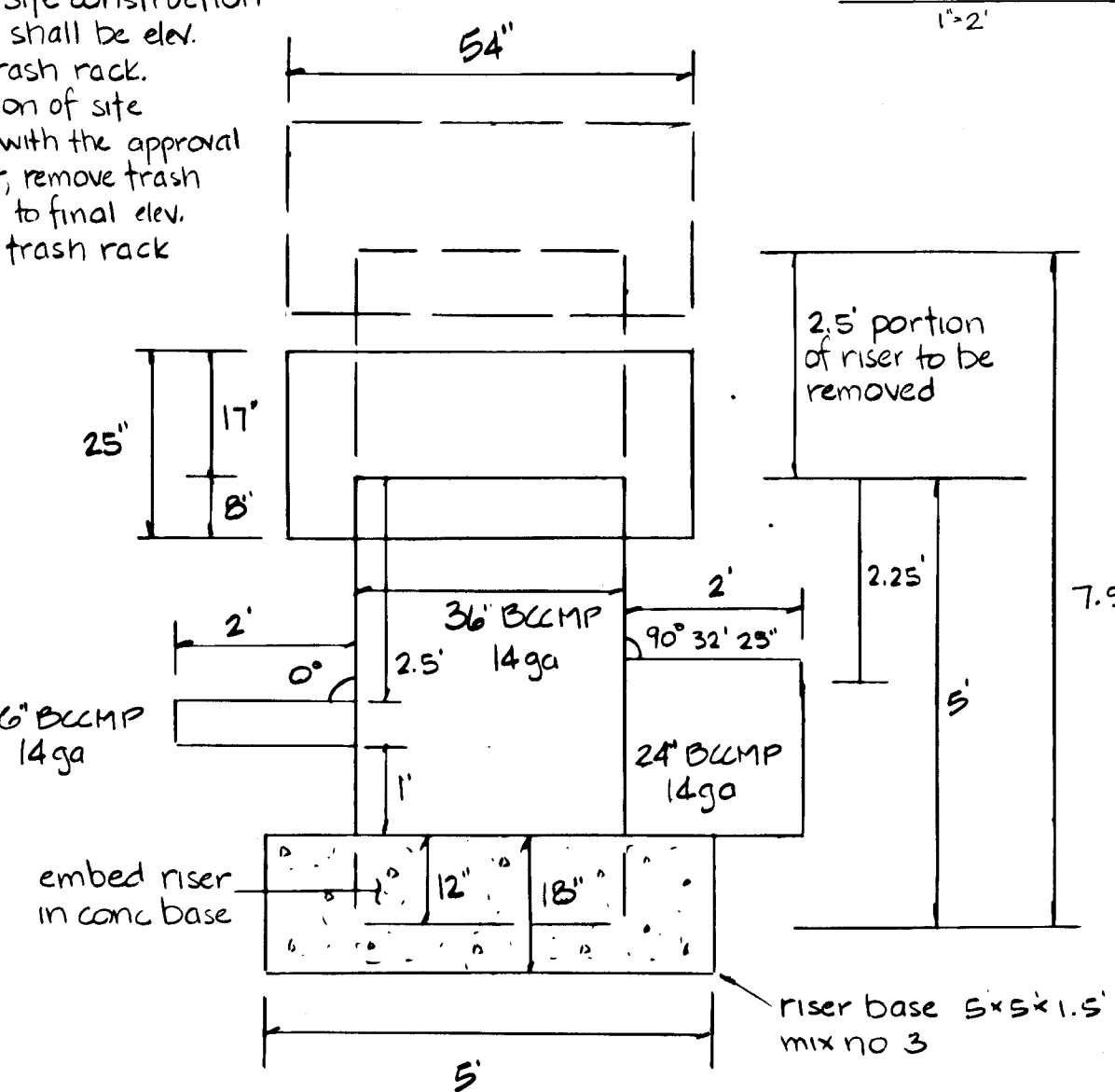
Sections - Infiltration Trench

scale vert 1/2" hor 1/20"



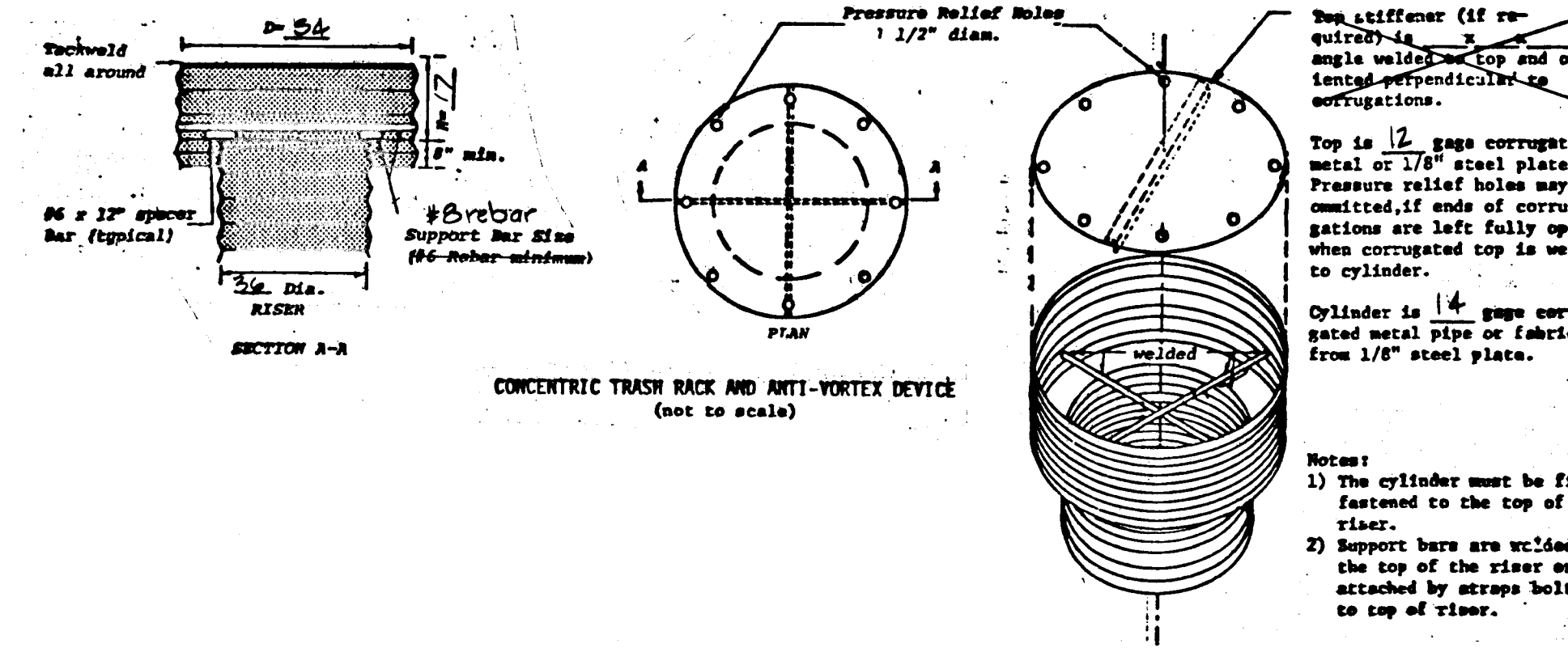
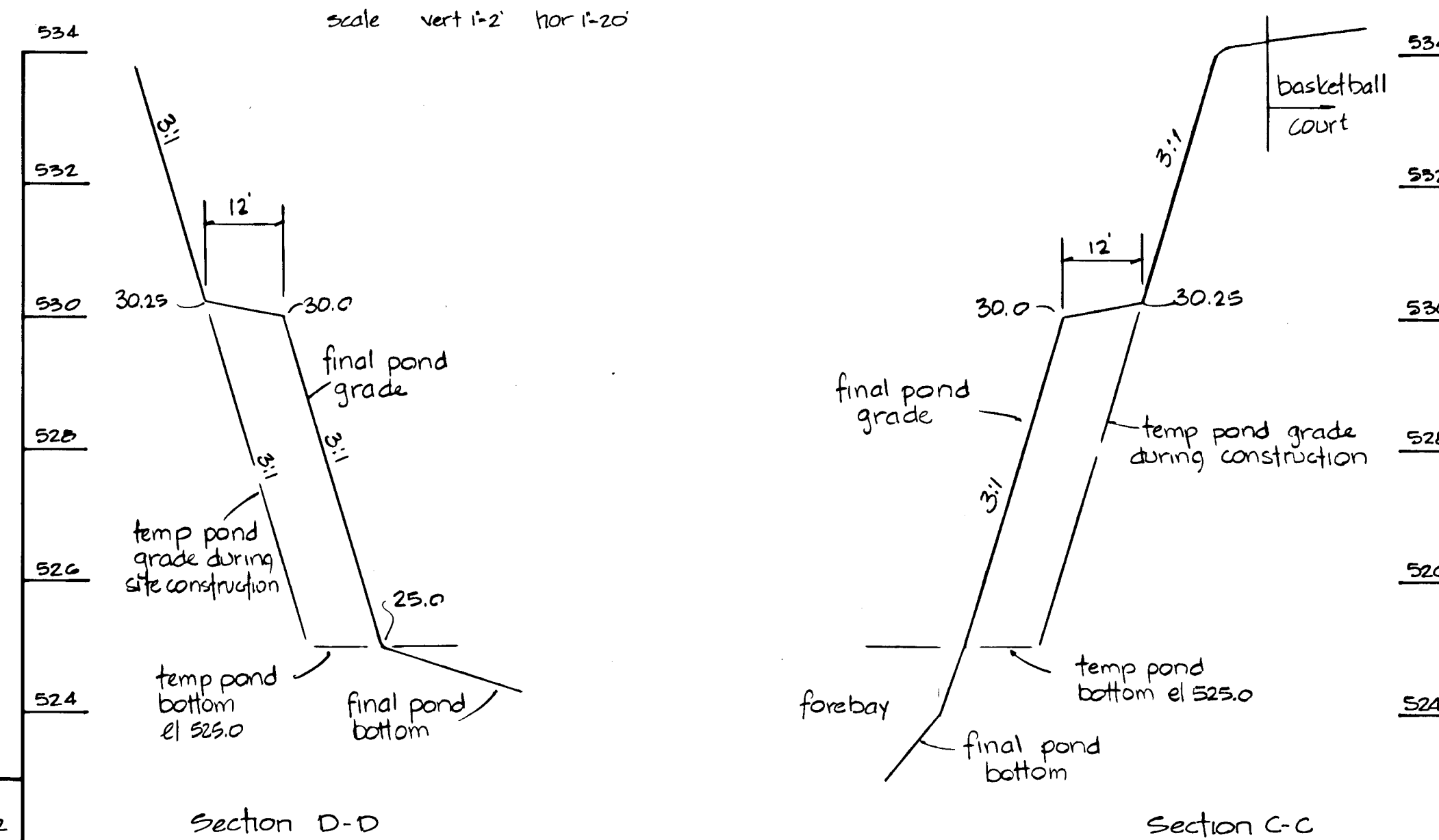
Riser Detail

1/2"

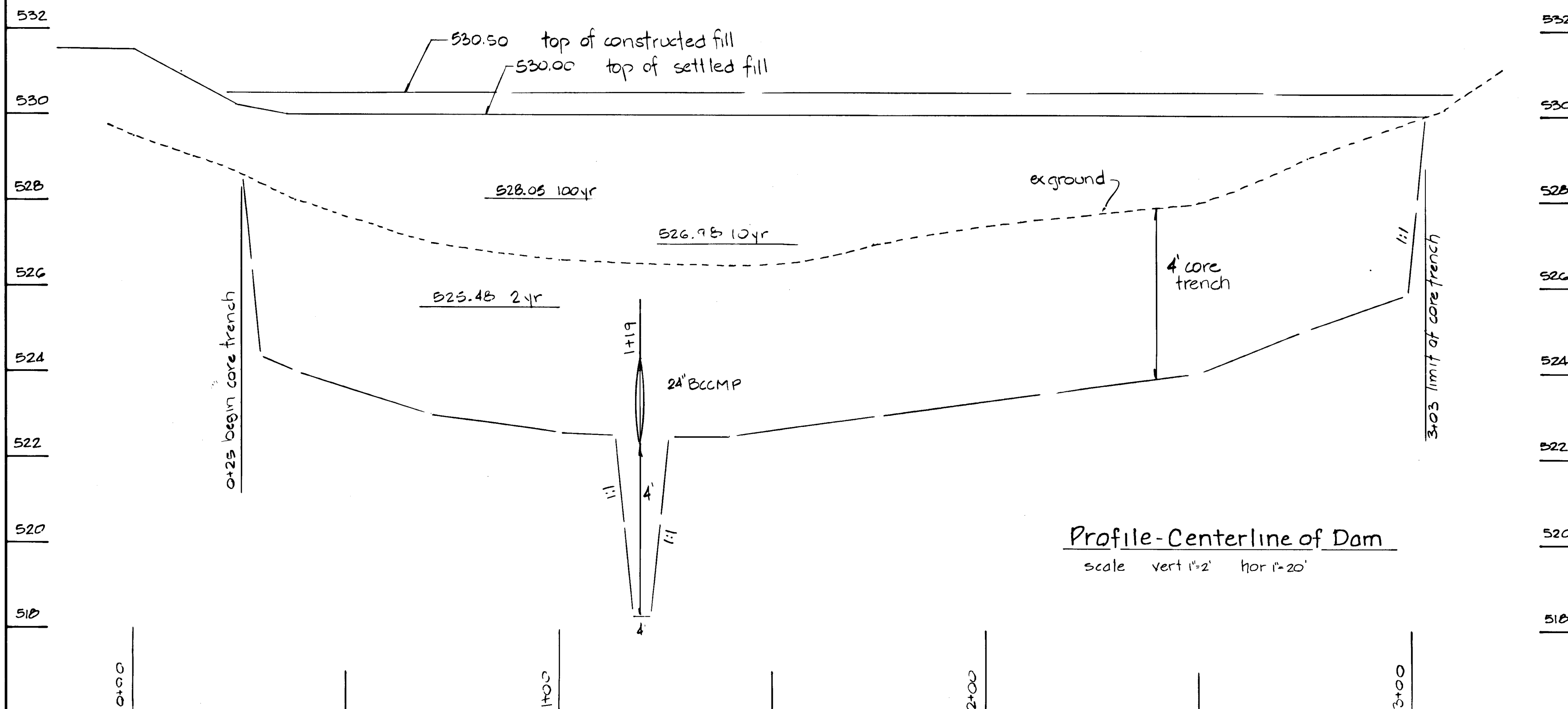


Sections - Pond Sides

scale vert 1/2" hor 1/20"



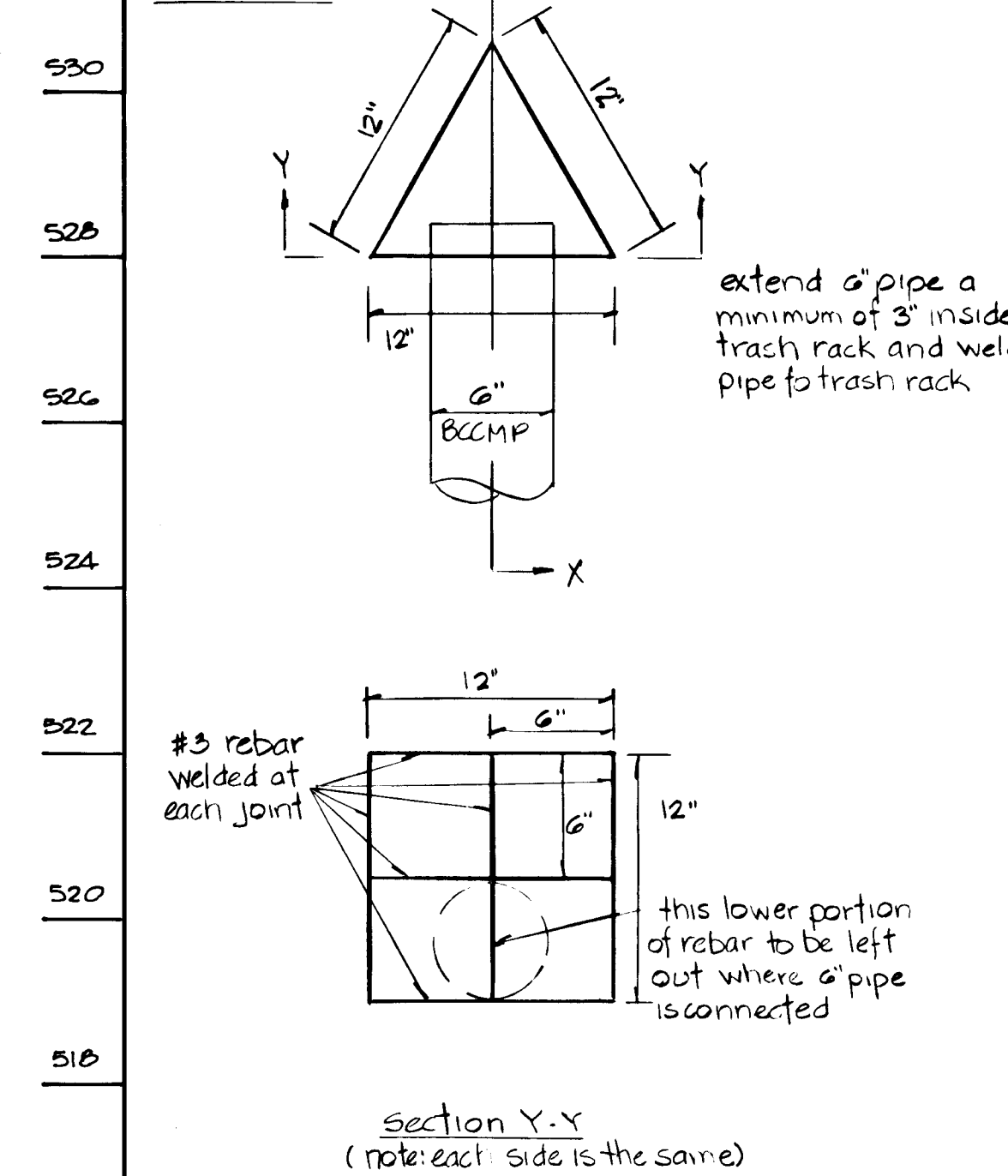
Note: during site construction the riser crest shall be elev. 529.0 with trash rack. Upon completion of site stabilization, with the approval of the inspector, remove trash rack, cut riser to final elev. 526.5, replace trash rack.



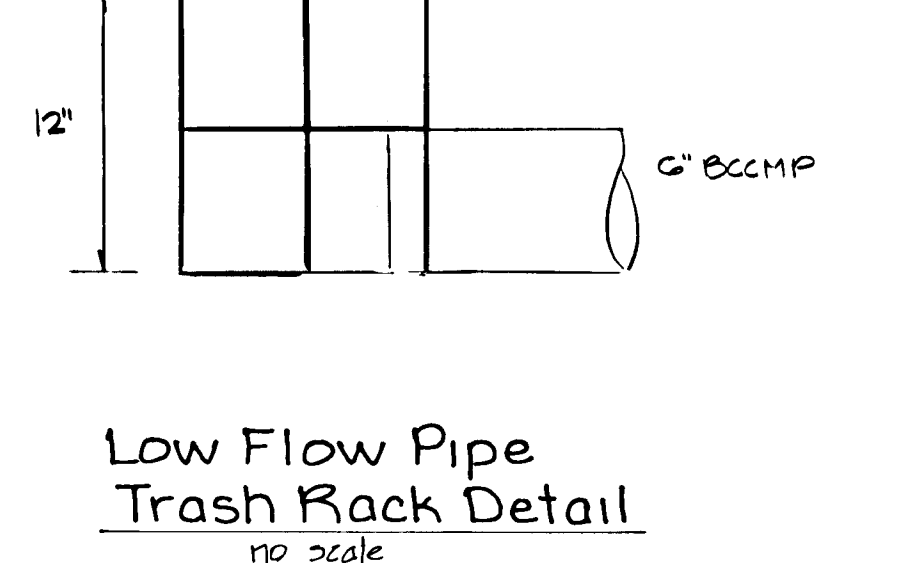
Profile-Centerline of Dam

scale vert 1/2" hor 1/20"

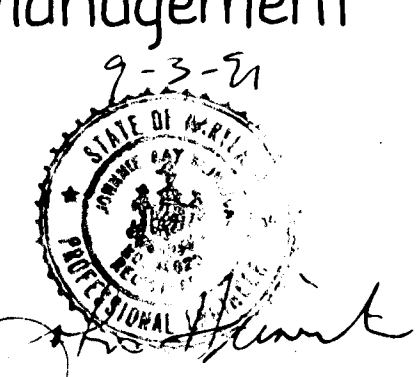
Plan View



Section X-X



**Stormwater Management
Pond #1
Profiles**



REVIEWED NO FACILITIES REQUIRED
HOWARD COUNTY HEALTH DEPARTMENT
Joseph M. Knapke, Jr. 1/24/92
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DIRECTOR
James R. Batten 1/27/92
DATE
Emma Holmquist 1/29/92
DATE
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: FOR PRIVATE WATER AND NO SEWERAGE, FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR
James R. Batten 1/24/92
DATE
James R. Batten 1/24/92
DATE
CHIEF, BUREAU OF ENGINEERING

APPROVAL STAMP

1986 DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT
Approved: [Signature] 1/27/92
Howard R. D. D.

Approved for: [Signature] S. G. G.
Name
and seal. Technical Requirements
Signature Date 1/27/92
U.S. Soil Conservation Service

SITE DATA
OWNER: HOWARD COUNTY
DEPT. OF PUBLIC WORKS
PROPOSED IMPROVEMENT: PARK
DEED REF. LIBER 847, FOLIO 606
TAX MAP #10, PARCEL #23
ELECTION DISTRICT #3
CENSUS TRACT 6030
WATER:
SEWER: NONE

JANUARY 24, 1992

**J. CHRISTOPHER
BATTEN, INC.**
Land Planning &
Design Consultant
8 North Church Street
Westminster, Maryland 21157
301-876-3383

SHEET
S-14
of 20

REVIEWED NO FACILITIES REQUIRED

HOWARD COUNTY HEALTH DEPARTMENT
James M. Engle, Director 1/24/92

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
James Batten, Director 1/27/92
Emanuel Helms, Chief, Division of Community Planning and Land Development 1/27/92

APPROVED: FOR PRIVATE WATER AND NO SEWERAGE, FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
James G. Lewis, Director 1/24/92
Debra B. Reed, Chief, Bureau of Engineering 1/24/92

APPROVAL STAMP

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

Approved: [Signature] 1/27/92
Howard S.O.D.

Reviewed For: [Signature] S.O.D.
Name: [Signature]
Signature: [Signature] Date: 1/27/92
U.S. Soil Conservation Service

SITE DATA

OWNER: HOWARD COUNTY
DEPT. OF PUBLIC WORKS
PROPOSED IMPROVEMENT: PARK
DEED REF. LIBER 847, FOLIO 606
TAX MAP #10, PARCEL #23
ELECTION DISTRICT #3
CENSUS TRACT 6030
WATER: NONE
SEWER: NONE

JANUARY 24, 1992

J. CHRISTOPHER BATTEN, INC.
Land Planning & Design Consultant
8 North Church Street
Westminster, Maryland 21157
301-876-3383

SHEET

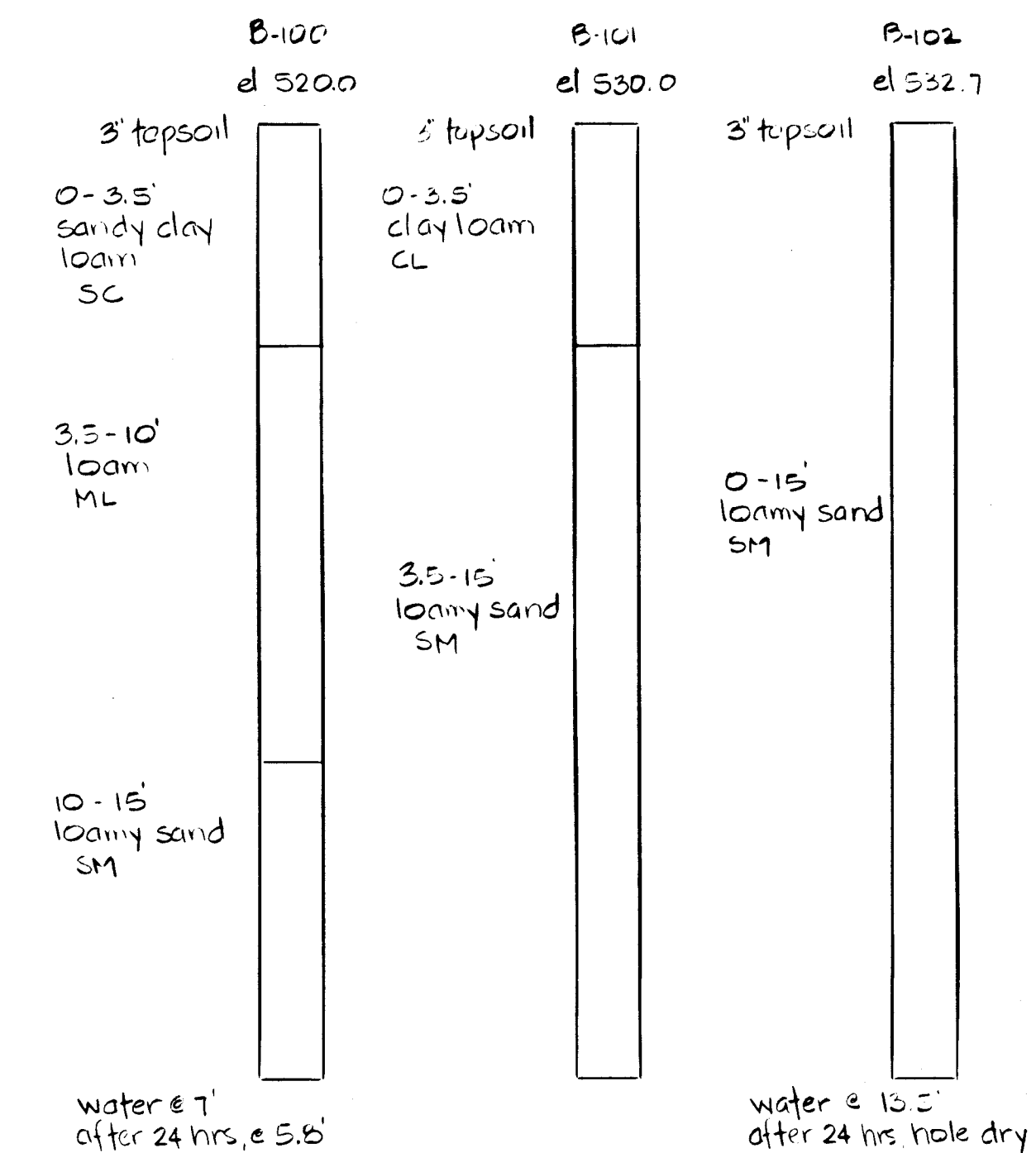
S-15

of 20

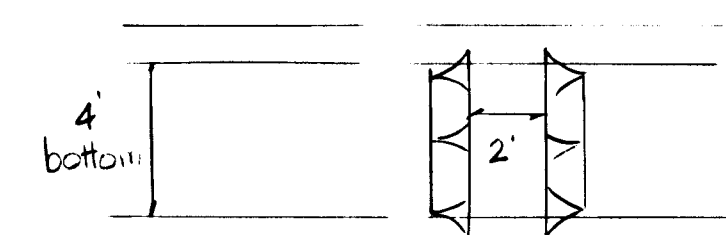
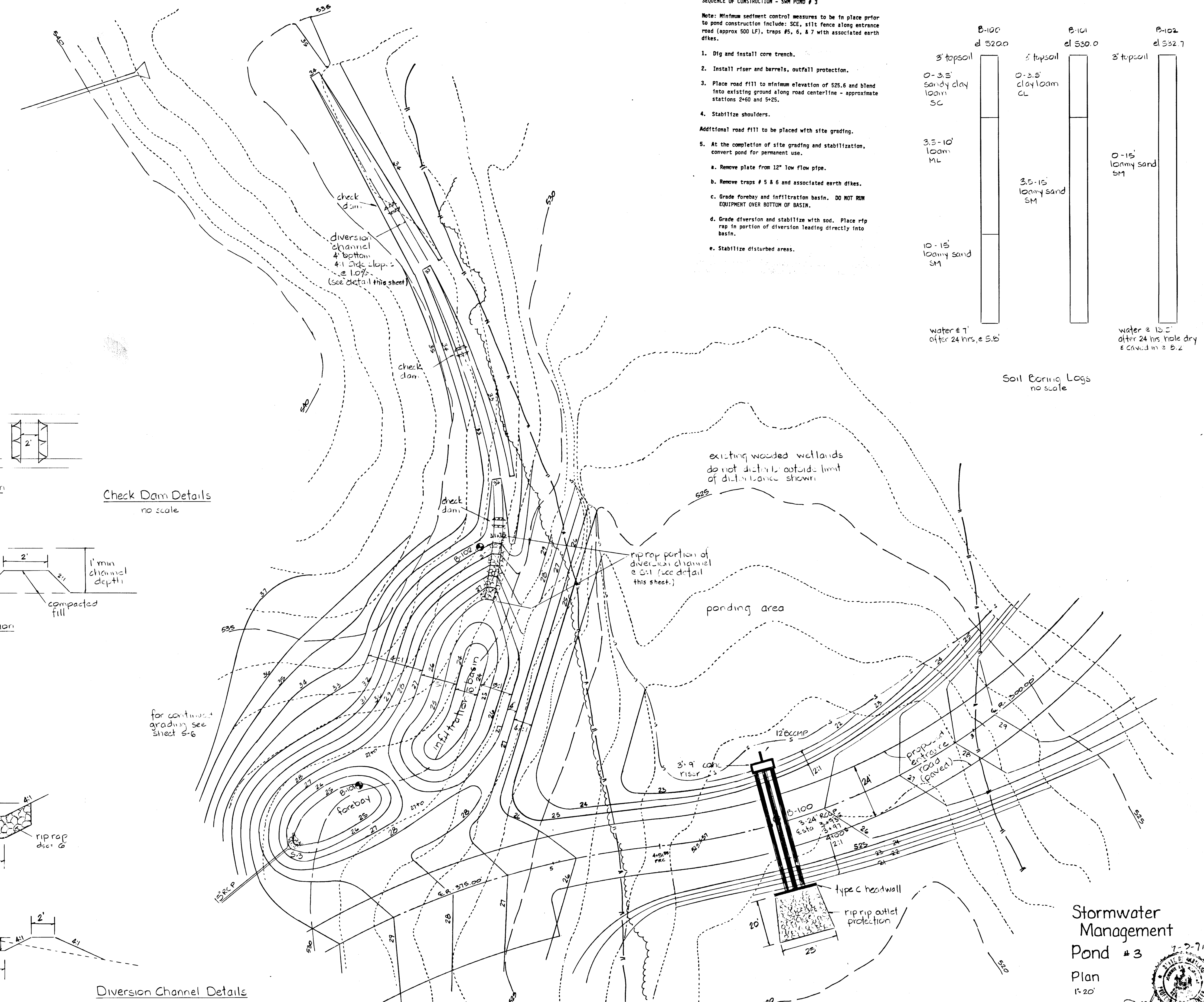
SEQUENCE OF CONSTRUCTION - SWM POND # 3

Note: Minimum sediment control measures to be in place prior to pond construction include: SCE, silt fence along entrance road (approx 500 LF), traps #5, 6, & 7 with associated earth dikes.

- Dig and install core trench.
 - Install riser and barrels, outfall protection.
 - Place road fill to minimum elevation of 525.6 and blend into existing ground along road centerline - approximate stations 2+60 and 5+25.
 - Stabilize shoulders.
- Additional road fill to be placed with site grading.
- At the completion of site grading and stabilization, convert pond for permanent use.
 - Remove plate from 12" low flow pipe.
 - Remove traps # 5 & 6 and associated earth dikes.
 - Grade forebay and infiltration basin. DO NOT RUN EQUIPMENT OVER BOTTOM OF BASIN.
 - Grade diversion and stabilize with sod. Place rip rap in portion of diversion leading directly into basin.
 - Stabilize disturbed areas.

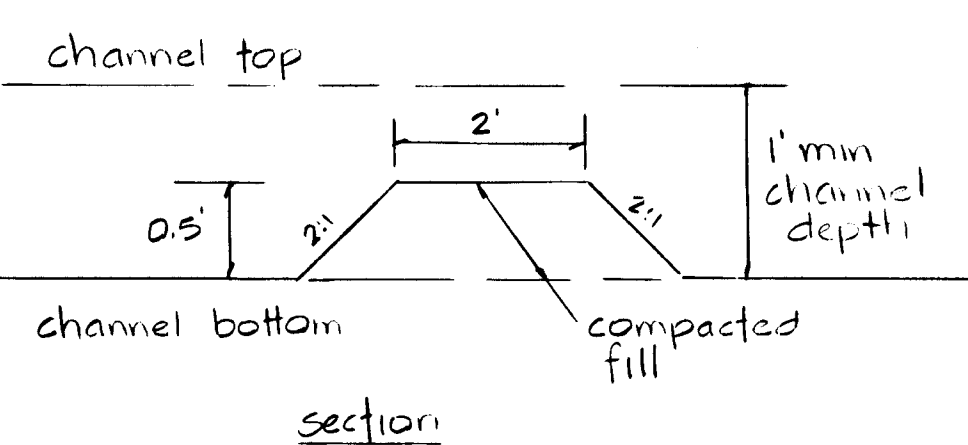


Soil Boring Logs
no scale

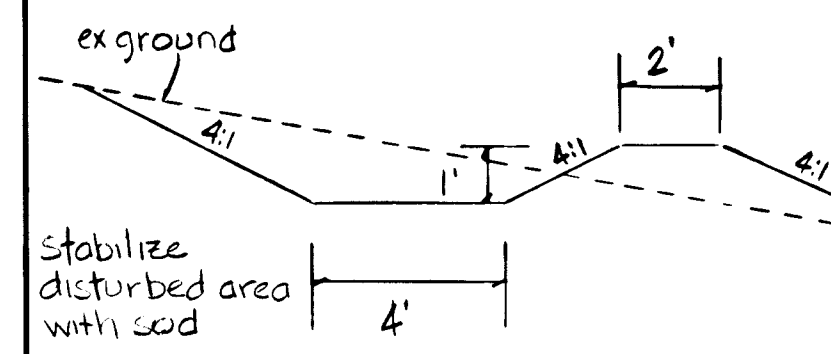
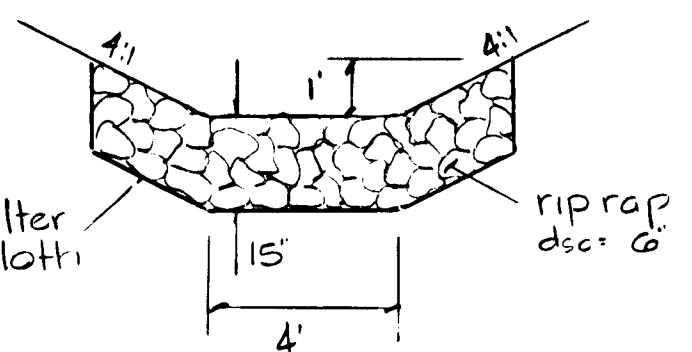


Place check dams @ 75' intervals along diversion channel - see plan view for locations

Check Dam Details
no scale



for portion of channel @ 5:1 into basin use rip rap as shown



Diversion Channel Details
no scale

Stormwater Management Pond # 3
Plan 1-20'



XXAL-92-S015

REVIEWED NO FACILITIES REQUIRED

HOWARD COUNTY HEALTH DEPARTMENT
James M. Boyd, Jr. 1/24/92
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

James R. Batten 1/27/92
DIRECTOR DATE

Approved: Howard County Department of Planning and Zoning
James R. Batten 1/27/92
DIRECTOR DATE

APPROVED: FOR PRIVATE WATER AND NO SEWERAGE, FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

James P. Lu 1/24/92
DIRECTOR DATE

Approved: Howard County Department of Public Works
James P. Lu 1/24/92
DIRECTOR DATE

Approved: Howard County Department of Public Works
James P. Lu 1/24/92
DIRECTOR DATE

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Approved: Howard County Department of Public Works
James P. Lu 1/24/92
DIRECTOR DATE

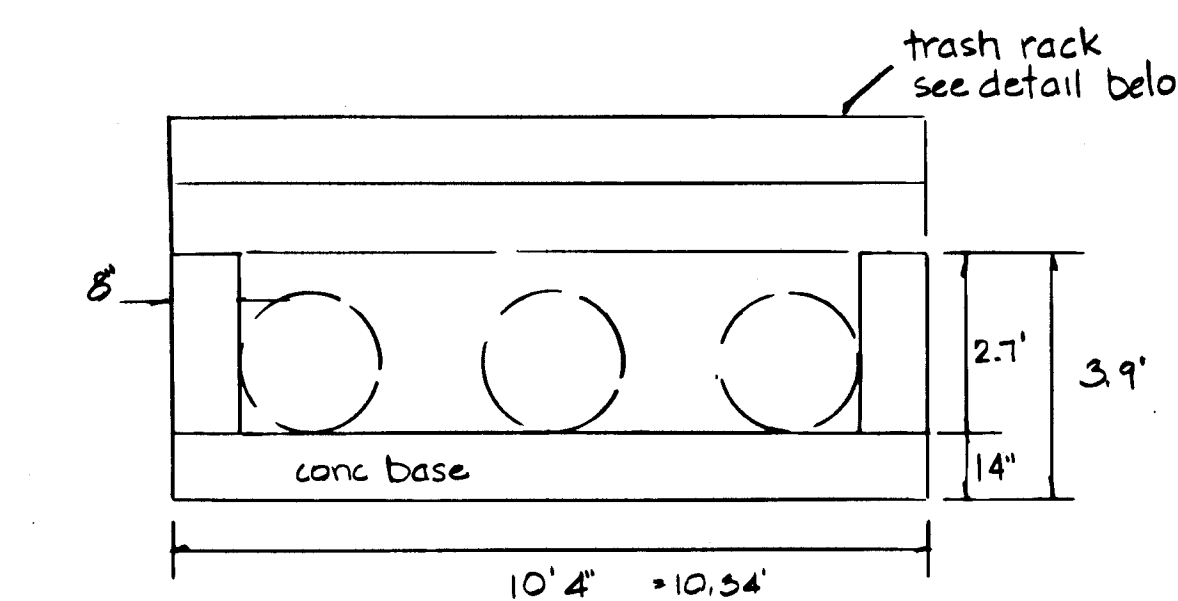
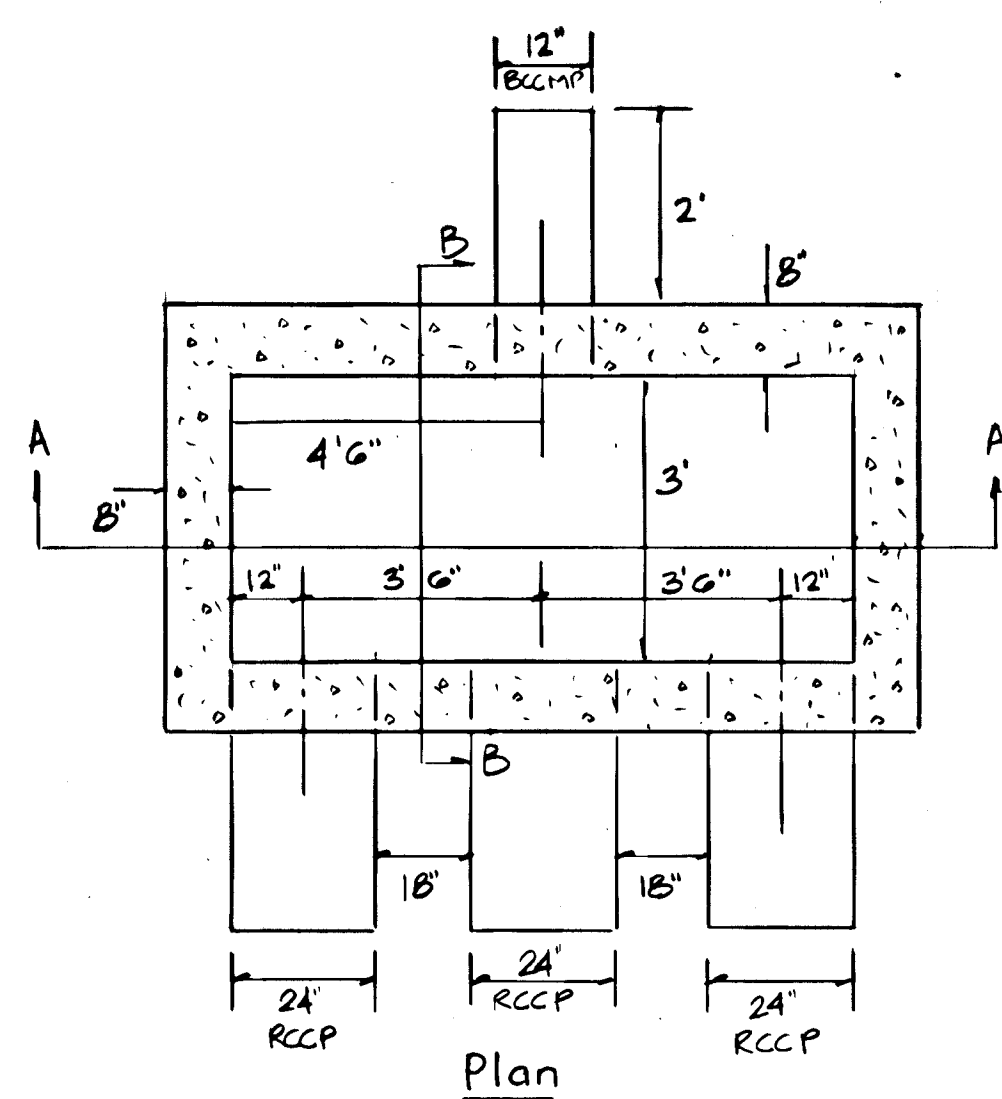
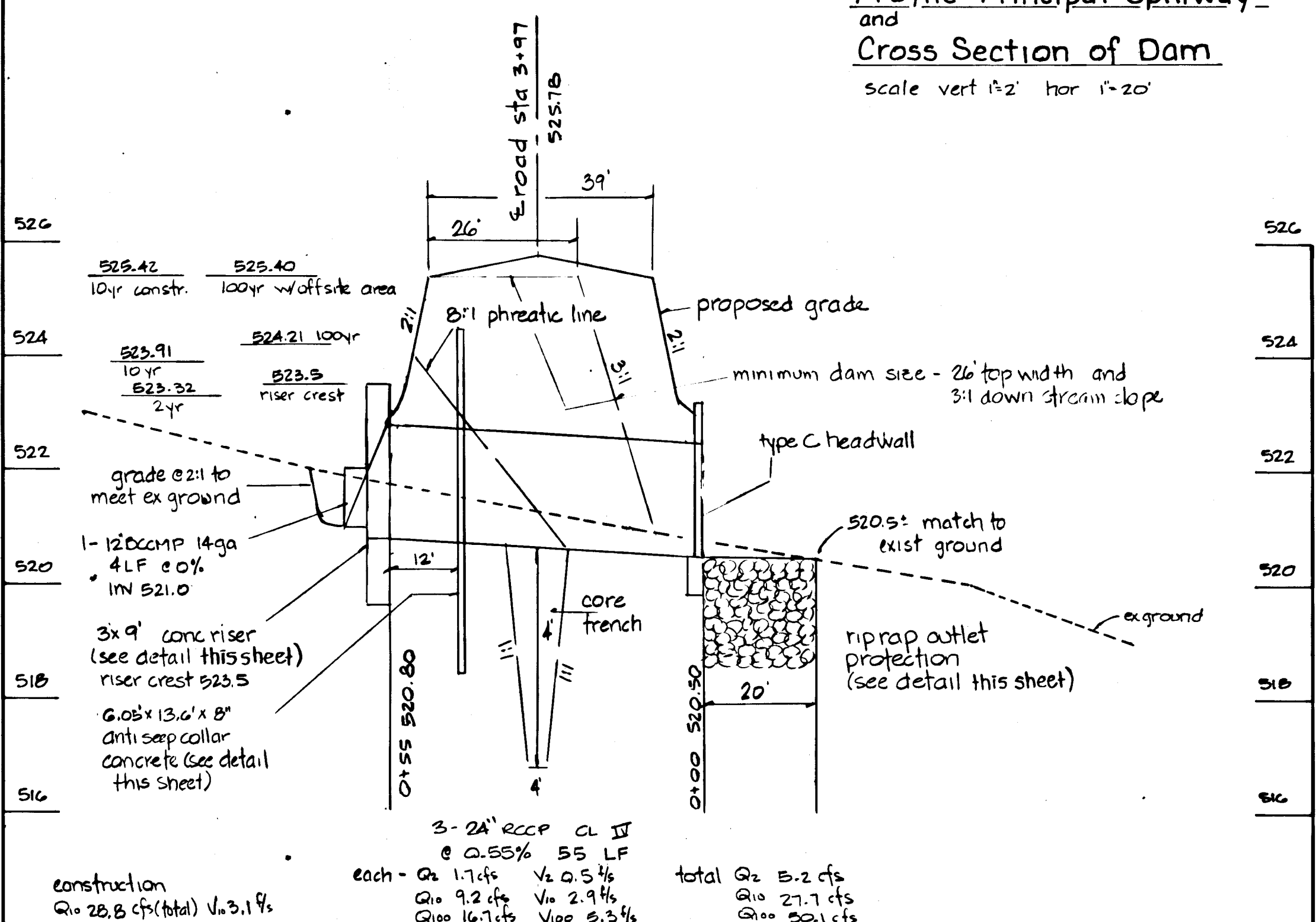
Approved: Howard County Department of Public Works
James P. Lu 1/24/92
DIRECTOR DATE

Approved: Howard County Department of Public Works
James P. Lu 1/24/92
DIRECTOR DATE

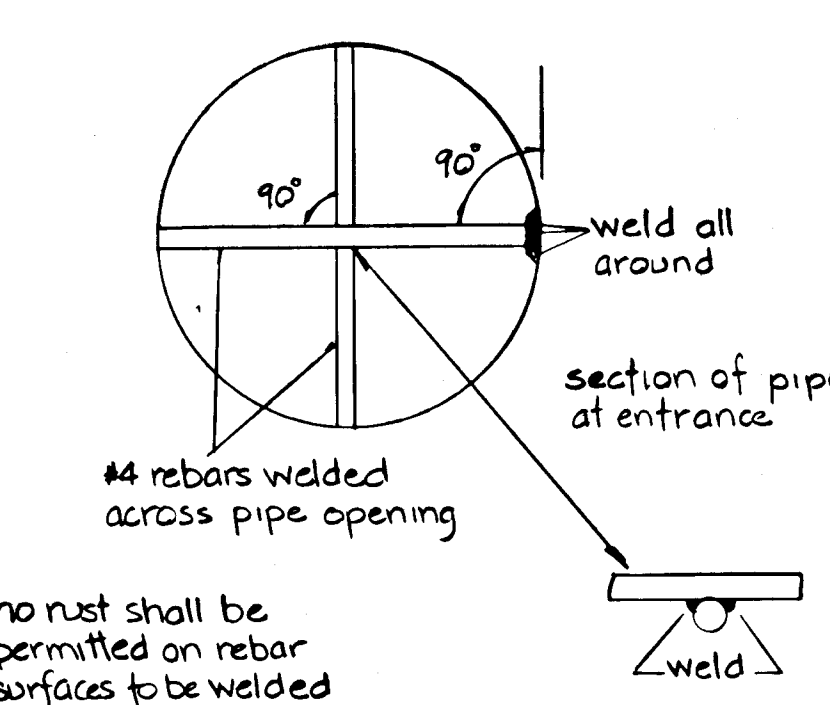
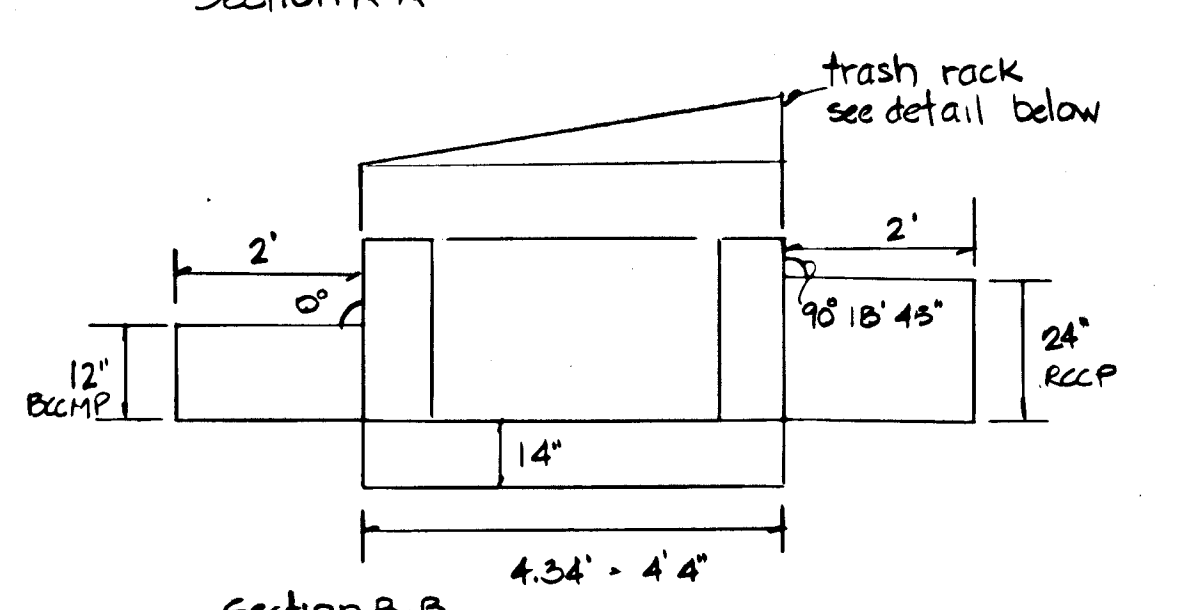
Approved: Howard County Department of Public Works
James P. Lu 1/24/92
DIRECTOR DATE

Profile-Principal Spillway
and
Cross Section of Dam

scale vert 1"=2' hor 1"=20'

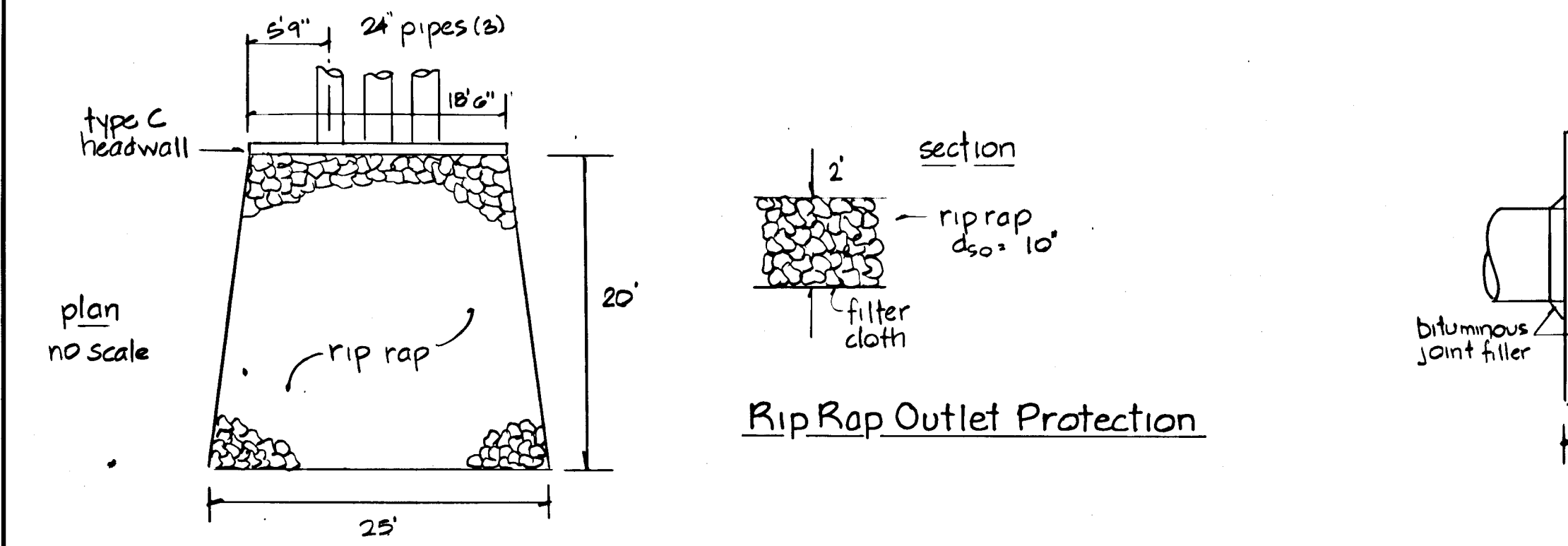


- Notes:
1. Slab - concrete base - shall be mx no 3 concrete
2. Walls shall be reinforced mx no 3 concrete
3. Reinforcing shall be #4 @ 10" o.c. each way in E of walls. Reinforcing continuous at corners. All laps 1'4".

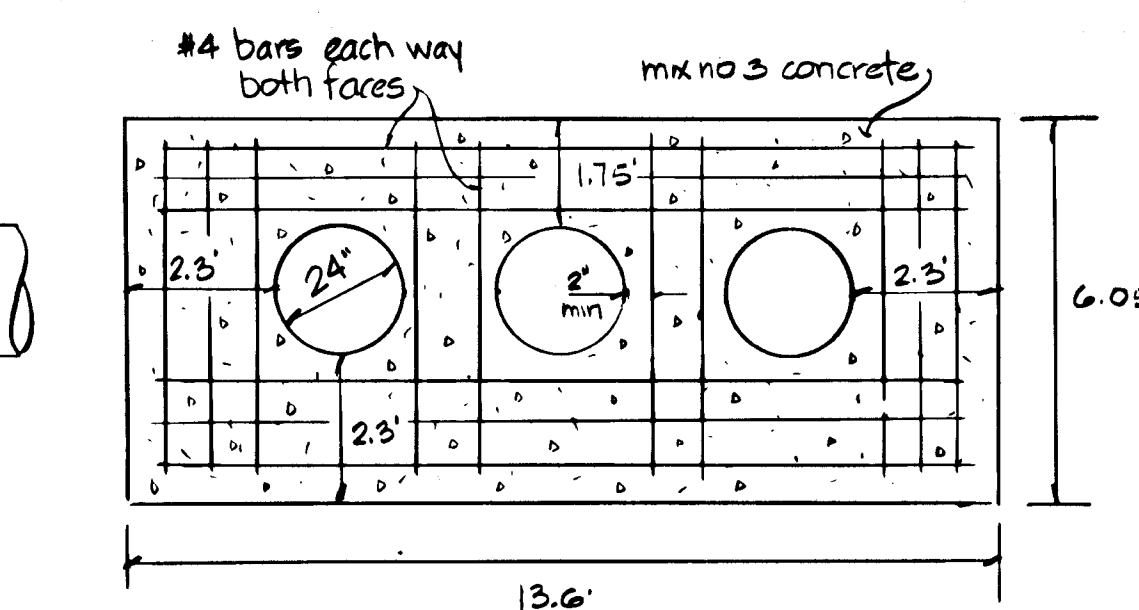


Riser Details
no scale

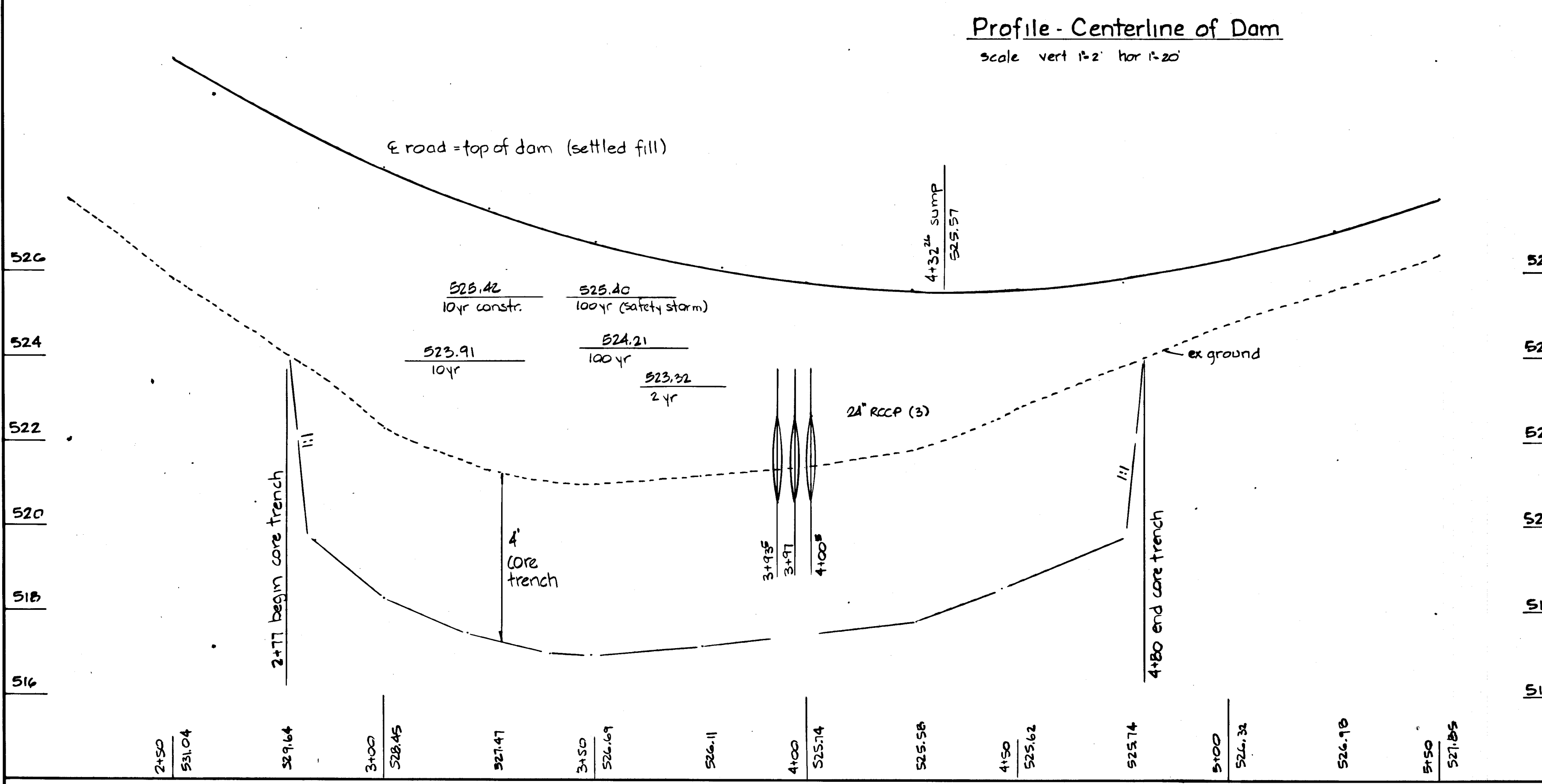
Trash Rack for LowFlow Pipe
no scale



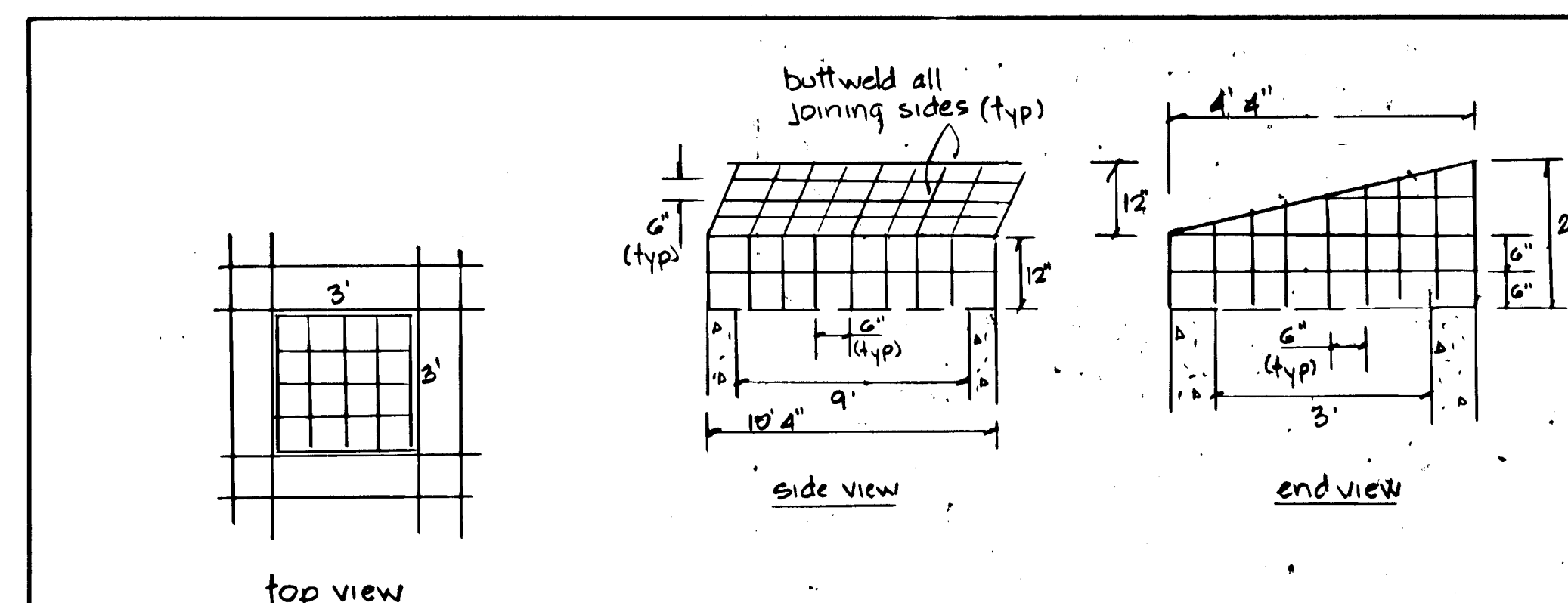
Riprap Outlet Protection



Anti-Seep Collar
no scale



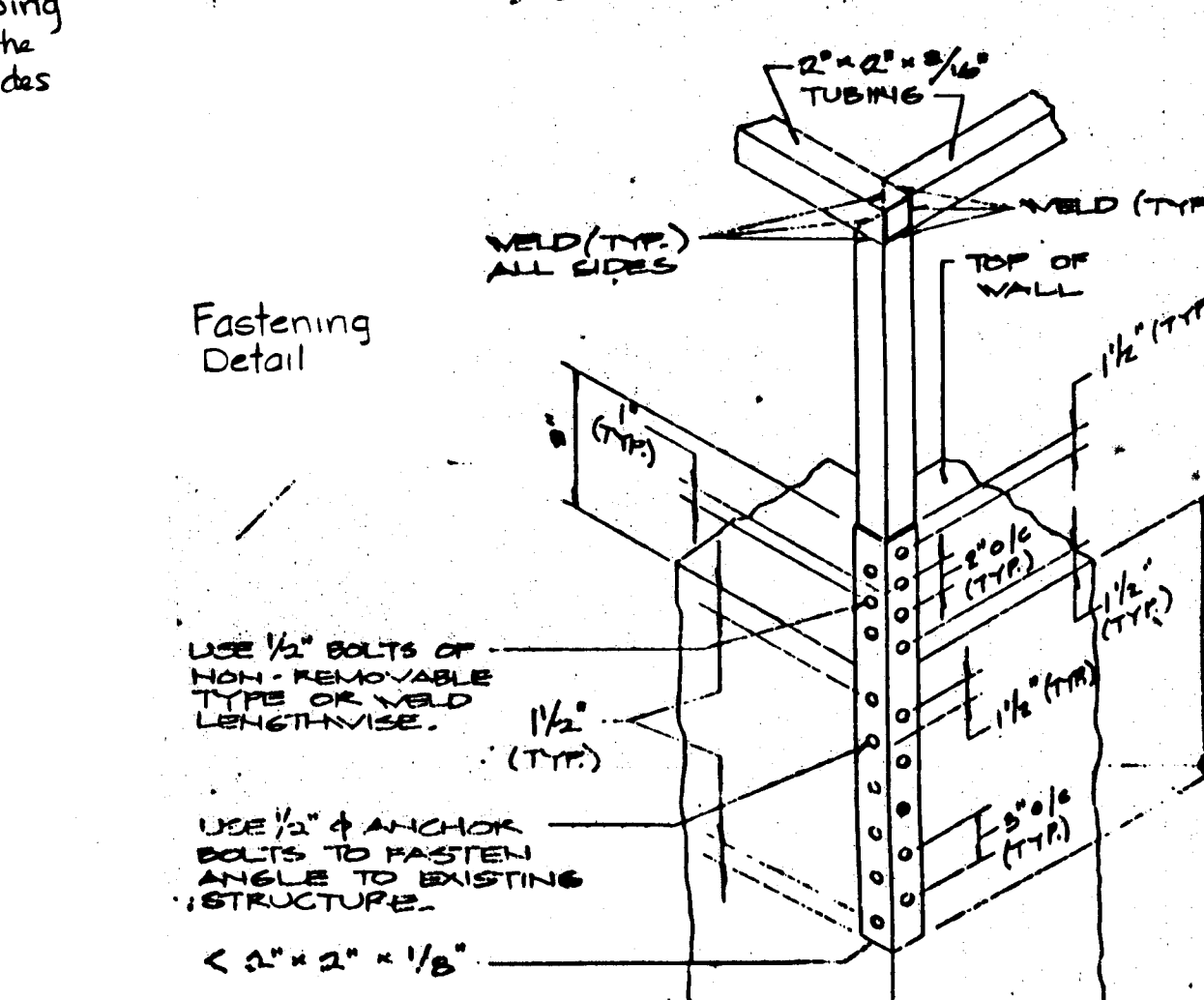
Profile - Centerline of Dam
scale vert 1"=2' hor 1"=20'



Riser Trash Rack Details
no scale

on top - leave a 3'x3' opening, fabricate separate grid with the tubing to fit inside 3'x3' opening bolt over the opening using 2x2x1/8 angles on all 4 sides (use removable bolts so that grid may be removed for access into riser)

Contractor shall field measure the riser dimensions for exact fitting of trash rack. The entire trash rack shall be galvanized after fabrication



SITE DATA

OWNER: HOWARD COUNTY
DEPT. OF PUBLIC WORKS
PROPOSED IMPROVEMENT: PARK
DEED REF. LBER 847, FOLIO 606
TAX MAP #10, PARCEL #23
ELECTION DISTRICT #3
CENSUS TRACT 6030
WATER: NONE
SEWER: NONE

JANUARY 24, 1992

J. CHRISTOPHER BATTEN, INC.
Land Planning & Design Consultant
8 North Church Street
Wheaton, Maryland 21157
301-976-3363

1. GENERAL

Unless otherwise noted, all material and construction practices shall conform to these plans and specifications and to the following:

Standard Specifications for Construction & Materials of the Maryland State Highway Administration, 1982 and as amended.
Standards and Specifications for Ponds of the Soil Conservation Service of Maryland (MD-378), July, 1981 and as amended.

2. SITE PREPARATION

Areas designated for borrow areas, embankment and structural works shall be cleared, grubbed, and stripped of topsoil. All trees, vegetation, roots, and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the pond or reservoir will be cleared of all trees, brush, logs, fences, rubbish, and other objectionable material unless otherwise designated on these plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 50 foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam or reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

3. EARTHWORK AND EARTH FILL

3.1 Material

The earth fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stone greater than 6", frozen or other objectionable material. The embankment shall be constructed to an elevation which provides for anticipated settlement to the design elevation. The fill height all along the length of the embankment shall be increased 10% above the design elevation (including freeboard) unless otherwise shown on the plans. Fill material for the center of the embankment and cut-off trench shall conform to Unified Soil Classification CL, GC, SC, or CH. Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

3.2 Placement

Areas on which earth fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 8 inch maximum thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most porous borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

3.3 Compaction

The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed a minimum of four complete passes of a sheepsfoot, rubber tired, or vibratory roller. The entire surface of each lift shall be compacted to 95% of AASHTO T-99 (or equivalent ASTM Specifications) and certified by the engineer at the time of construction. Fill material shall contain sufficient moisture so that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet not so wet that water can be squeezed out.

3.4 Cutoff Trench

Where specified, a cutoff trench shall be excavated along or parallel to the centerline of the embankment as shown on these plans. The bottom width of the trench shall be as shown on the drawings, with the minimum width being 4 feet. The depth shall be as shown on the plans and shall be at least 4 feet below existing grade. The side slopes of the trench shall be 1:1 or flatter. The backfill material for the cutoff trench shall be compacted with equipment or rollers to assure maximum density and minimum permeability. Compact as outlined above to 95% of AASHTO T-99 density. All cutoff trench backfill material shall meet the requirements of Unified Soil Classification SC or CL.

3.5 Impervious Core

Where specified, an impervious core shall be constructed along or parallel to the centerline of the embankment as shown on these plans. The top width of the core shall be as shown on the drawing, with the minimum width being 4 feet. The side slopes of the impervious core shall be 1:1 or flatter. The top elevation of the core shall be as shown on these plans and shall be at least to the riser crest elevation. Backfill and compaction requirements for the impervious core shall be the same as for the cutoff trench.

3.6 Structural Backfill

Backfill material to be placed adjacent to structures shall be of the type and quality conforming to that specified for the adjoining fill material. The backfill shall be placed in horizontal layers not to exceed 4 inches in thickness and compacted by hand tampers or other compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than 4 feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe unless there is a compacted fill of 24 inches or greater over the structure pipe.

5.1 Concrete

Section 918 (Portland Cement Concrete Mixtures), Mix No. 3.

5.2 Reinforcement

Section 610 (Reinforcement for Concrete Structures)
Section 911 (Reinforcing Steel, Wire Rope and Wire Mesh)

In addition, reinforcing steel shall meet ASTM Specification A615, Grade 60. Steel angles, anchor bars and appurtenances shall be ASTM A36.

4. PIPE CONDUITS

All pipes shall be circular in cross section.

4.1 Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe.

Materials - (steel pipe) This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to all of the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings or an approved equal may be used: Nexon, PlastCoat, Blac-Klad, and Beth-Co-Loy. Coated corrugated steep pipe shall meet the requirements of AASHTO M-245 and M-246.

Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

Connections - All connections with pipes must be completely watertight. The drain pipe of barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands shall not be considered watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the band width. The following type connections are acceptable for pipes less than 48" in diameter: flanges on both ends of the pipe, a 12" wide standard lap type band with 12" wide by 3/8" thick closed cell circular neoprene gasket; and a 12" wide hugger type band with O-ring gaskets having a minimum diameter of 1/2" greater than the corrugation depth. Pipes 48" in diameter and larger shall be connected by a 24" long annular corrugated band using rods and lugs. A 12" wide by 3/8" thick closed cell circular neoprene gasket will be installed on the end of each pipe for a total of 24".

Mechanically corrugated pipe shall have either continuously welded seams or have lock seams.

Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

Backfilling shall conform to "Structure Backfilling."

Laying Pipe - The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.

4.2 Reinforced Concrete Pipe

Materials - Reinforced concrete pipe conduits shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Specification C-351. An approved equivalent is ANWA Specification C-302.

Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3 inches or as shown on the drawings.

Laying Pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the riser.

Backfilling shall conform to Structural Backfilling.

Other details (anti-seep collars, valves, etc.) shall be shown on the drawings.

4.3 Polyvinyl Chloride (PVC) Pipe - All of the following criteria shall apply for polyvinyl chloride (PVC) pipe:

Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.

Joints and connections to anti-seep collars shall be completely watertight.

Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

Backfilling shall conform to "Structure Backfilling."

Other details (anti-seep collars, valves, etc.) shall be as shown on the plans.

5. CONCRETE

Concrete shall meet the requirements set forth in the Maryland State Highway Administration "Standards and Specifications for Construction and Materials," 1982, as amended, including:

5.1 Concrete

Section 918 (Portland Cement Concrete Mixtures), Mix No. 3.

5.2 Reinforcement

Section 610 (Reinforcement for Concrete Structures)
Section 911 (Reinforcing Steel, Wire Rope and Wire Mesh)

In addition, reinforcing steel shall meet ASTM Specification A615, Grade 60. Steel angles, anchor bars and appurtenances shall be ASTM A36.

6. STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized in accordance with the specifications shown hereon and with the "1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control," as amended, immediately after finishing grading. All 2:1 slopes shall be sodded. Unless otherwise noted, all other disturbed areas shall be stabilized with permanent seeding.

6.1 Sod

Specifications - Sod shall be "KY-31" Tall Fescue or Kentucky Bluegrass/Red Fescue mixture, or approved equal. Class of turfgrass sod shall be Maryland or Virginia state certified or approved sod.

6.2 Permanent Seeding

Seeded Preparation - Loosen upper 3 inches of soil by raking, discing or other acceptable means before seeding.

Soil Amendments - Apply 2 tons per acre of dolomitic limestone (92 lbs./1000 sq.ft.) and 600 lbs. per acre of 10-10-10 fertilizer (14 lbs./1000 sq.ft.) before seeding. Harrow or disc 1 time and fertilizer into upper 3 inches of soil. At time of seeding, apply 400 lbs. per acre (9 lbs./1000 sq.ft.) of 30-0-0 ureaform fertilizer. 1000 lbs. per acre (23 lbs./1000 sq.ft.) of 10-10-10 fertilizer before harrowing or discing may be substituted for the 10-10-10 and 30-0-0 fertilizers listed above.

Seeding - For the periods:

- 1) March 1 thru April 30 and August 1 thru October 15, 15,000 lbs. per acre (2 lbs./1000 sq.ft.) Kentucky 31 Tall Fescue.
2) May 1 thru July 31, 15,000 lbs. per acre (2 lbs./1000 sq.ft.) Kentucky 31 Tall Fescue and 2 lbs. per acre (0.05 lbs./1000 sq.ft.) weeping lovegrass.
3) October 16 thru February 28, protect the site by one of the following:

- A) Apply 2 tons per acre (92 lbs./1000 sq.ft.) of well anchored straw mulch and seed as soon as possible in the spring.
B) Use sod, installed per these specifications.
C) Seed with 87 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

Mulching - Apply 1.5 to 2 tons per acre (69 lbs./1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using 218 gallons per acre (5 gal./1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal./1000 sq.ft.) for anchoring.

Maintenance - Inspect all seeded areas and make needed repairs, replacements and reseeding.

6.3 Temporary Seeding

Seeded Preparation - Loosen upper 3 inches of soil by discing, raking, or other acceptable means before seeding.

Soil Amendments - Apply 600 lbs. per acre of 10-10-10 fertilizer (14 lbs./1000 sq.ft.).

Seeding - For the periods:

- 1) March 1 thru April 30 and August 15 thru November 15, 2,500 (bushels) per acre annual Rye.
2) May 1 thru August 14, 3 lbs. per acre of weeping lovegrass.
3) November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in spring, or use sod.

Mulching & Maintenance - Same as Permanent Seeding.

7. EROSION & SEDIMENT CONTROL

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized, as shown on these plans and as set forth in the "1983 Standards and Specifications for Soil Erosion and Sediment Control" of the Soil Conservation District, as amended. State and local laws concerning pollution abatement will be followed.

8. FILTER CLOTH

Filter Cloth shall be Miraf 140N, Dupont Type 3341 or 3401, or approved equal.

9. BASKETS

All Baskets shall be Class IV, with PVC-coated wire baskets.

10. ROCK RIPRAP

All rock shall be dense, sound, and free from cracks, seams, or other defects conducive to accelerated weathering. The rock fragments shall be angular to subrounded in shape. The least dimension of an individual rock fragment shall not be less than one-third the greatest dimension of the fragment.

The rock shall have the following properties:

- 1. Bulk specific gravity (saturated surface-dry basis) not less than 2.5
2. Absorption not more than three percent.
3. Soundness: weight loss in five cycles not more than 20 percent when sodium sulfate is used.

Bulk specific gravity and absorption shall be determined according to ASTM C 127. The test for soundness shall be performed according to ASTM C 88.

The riprap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the riprap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks. Filter cloth shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 919.12

11. FENCE

Construct fencing in accordance with the State Highway Administration Standard Details 690.01 and 690.02. Use specifications for a 6-foot fence, substituting 42" fabric and 6" or 1 1/2" posts. Construct the gate in accordance with SHA Standard Detail 692.01 with 42" fabric. The fabric used for the fence and gate must conform to AASHTO Designation H181-74.

12. CARE OF WATER DURING CONSTRUCTION

All work on permanent structures shall be carried out in areas free from water. The contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for the removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to sumps from which the water shall be pumped.

INFILTRATION TRENCH

An infiltration trench shall not be constructed or placed in service until all of the contributing drainage area has been stabilized and approved by the responsible inspector.

TRENCH PREPARATION

Excavate the trench to the design dimensions. Excavated materials shall be placed away from the trench sides to enhance trench wall stability. Large tree roots must be trimmed flush with the trench sides in order to prevent fabric puncturing or tearing during subsequent installation procedures. The side slope of the trench shall be roughened where sheared and/or sealed by heavy equipment.

FABRIC LAYOUT

The filter fabric roll must be cut to the proper width prior to installation. The cut width must include sufficient material to conform to trench perimeter irregularities and for a 6 inch minimum top overlap. Place the fabric roll over the trench and unroll a sufficient length to allow placement of the fabric down into the trench. Stones or other anchoring objects should be placed on the fabric at the edge of the trench to keep the fabric from blowing during windy periods. When overlaps are required between rolls, the upstream roll should lap a minimum of 2 feet over the downstream roll in order to provide a shingled effect. The overlap ensures fabric continuity and ensures that the fabric conforms to the excavation surface during aggregate placement and compaction.

STONE AGGREGATE PLACEMENT AND COMPACTION

The stone aggregate should be placed in lifts and compacted using plate compactors. As a rule of thumb, a maximum loose lift thickness of 12 inches is recommended. The compaction process ensures fabric conformity to the excavation sides, thereby reducing the potential for soil piping, fabric clogging, and settlement problems.

OVERLAPPING AND COVERING

Following the stone aggregate placement, the filter fabric shall be folded over the stone aggregate to form a 6 inch minimum longitudinal lap. The desired fill soil or stone aggregate shall be placed over the lap at sufficient intervals to maintain the lap during subsequent backfilling.

CONTAMINATION

Care shall be exercised to prevent natural or fill soils from intermingling with the stone aggregate. All contaminated stone aggregate shall be removed and replaced with uncontaminated stone aggregate.

VOIDS BEHIND FABRIC

voids can be created between the fabric and excavation sides and shall be avoided. (Removing boulders or other obstructions from the trench walls is not a void.) Natural soils should be placed in these voids at the most convenient time during construction to ensure fabric conformity to the excavation sides. Soil piping and fabric clogging, and possible surface subsidence will be avoided by this remedial process.

UNSTABLE EXCAVATION SIDES

Vertically excavated walls may be difficult to maintain in areas where the soil moisture is high or where soft cohesive soils predominate. These conditions may require laying back of the side slopes to maintain stability; trapezoidal rather than rectangular cross sections may result.

VEGETATIVE BUFFER

A vegetative buffer of at least 20 feet (wider, if possible) shall be used to intercept surface runoff from all impervious areas.

TRAFFIC CONTROL

Heavy equipment and traffic shall be restricted from traveling over the infiltration areas to minimize compaction of the soil.

OBSERVATION WELL

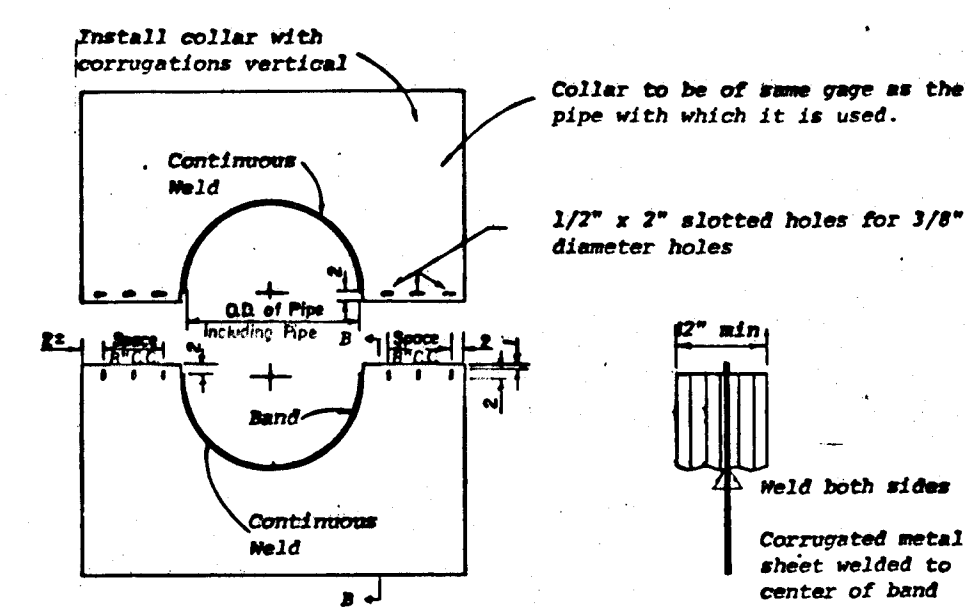
An observation well, as described in subsection 3.3.4.8 and Figure 3.5 of Maryland State Standards and Specifications for Infiltration Practices shall be installed in the trench at the well at the time of installation will be clearly marked on the well cap.

MAINTENANCE

Infiltration trenches shall be designed to minimize maintenance however, it is recognized that all infiltration facilities are subject to clogging by sediment, oil, grease, and other debris. In addition, the performance and longevity of these structures is not well documented. Consequently, a monitoring observation well is required for all infiltration structures.

The observation well shall be monitored periodically. For the first year after completion of construction, the well should be monitored on a quarterly basis and after every large storm, it is recommended that a log book be maintained indicating the rate at which the facility deneters after large storms and the depth of the well for each observation. Once the performance characteristics of the structure have been verified, the monitoring schedule can be reduced to an annual basis, unless the performance data indicates that a more frequent schedule is required.

Sediment build-up in the top foot of stone aggregate or the surface inlet should be monitored on the same schedule as the observation well. A monitoring well in the top foot of stone aggregate will be required when the trench has a stone location. Sediment deposit shall not be allowed to build up to the point where it will reduce the rate of infiltration into the trench.



- NOTES FOR COLLARS:
1. All materials to be in accordance with construction and construction material specifications.
2. When specified on the plans, coating of collars shall be in accordance with construction and construction material specifications.
3. Unassembled collars shall be marked by painting or tagging to identify matching pairs.
4. The lap between the two half sections and between the pipe and connecting band shall be caulked with asphalt mastic at time of installation.
5. Each collar shall be furnished with two 1/2" diameter rods with standard tank lugs for connecting collars to pipe.

DETAILS OF CORRUGATED METAL ANTI-SEEP COLLAR

ENGINEER'S CERTIFICATION

I hereby certify that these plans have been prepared by me or under my supervision and meet the minimum standards of the Howard County Department of Public Works and the Howard County Soil Conservation District.

Signature: John H. Howard, 14920 1/24/92

DEVELOPER'S/LANDOWNER'S CERTIFICATION

I/We hereby certify that all proposed work shown on these construction drawing(s) and on the approved sediment control drawing(s) will be accomplished pursuant to these plans. I/We also understand that it is my/our responsibility to have the construction supervised and certified, including the submittal of "As-Built" plans within thirty (30) days of completion, by a registered Professional Engineer.

Signed: _____ Date: _____

AS-BUILT CERTIFICATION

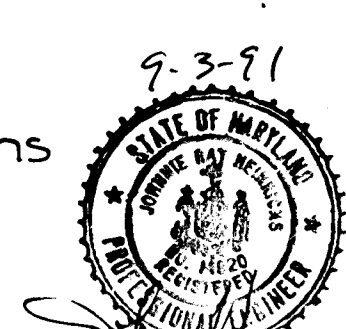
I hereby certify that the facility shown on these plans was constructed as shown on the "As-Built" plans, and meets the approved plans and specifications.

Signed: _____ PE # _____ Date: _____

CERTIFICATION BLOCKS ON THIS SHEET APPLY EQUALLY TO THE FOLLOWING SHEETS:

- S-4, SEDIMENT CONTROL PLAN - EAST
S-5, SEDIMENT CONTROL PLAN - WEST
S-6, GRADING PLAN - EAST
S-7, GRADING PLAN - WEST
S-13, STORMWATER MANAGEMENT POND 1 PLAN
S-14, STORMWATER MANAGEMENT POND 1 PROFILES
S-15, STORMWATER MANAGEMENT POND 3 PLAN
S-16, STORMWATER MANAGEMENT POND 3 PROFILES & DETAILS

Stormwater Management Ponds 1 & 3 Construction Specifications Details



REVIEWED NO FACILITIES REQUIRED

Signature: James M. Boylston, 1/24/92

Signature: _____ 1/27/92

Signature: _____ 1/27/92

Signature: _____ 1/24/92

Signature: _____ 1-24-92

Signature: _____ 1-24-92

Signature: _____ 1-24-92

APPROVAL STAMP

Registered for HOWARD COUNTY S.O.D.
Signature: _____ 1/27/92
U.S. Soil Conservation Service

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

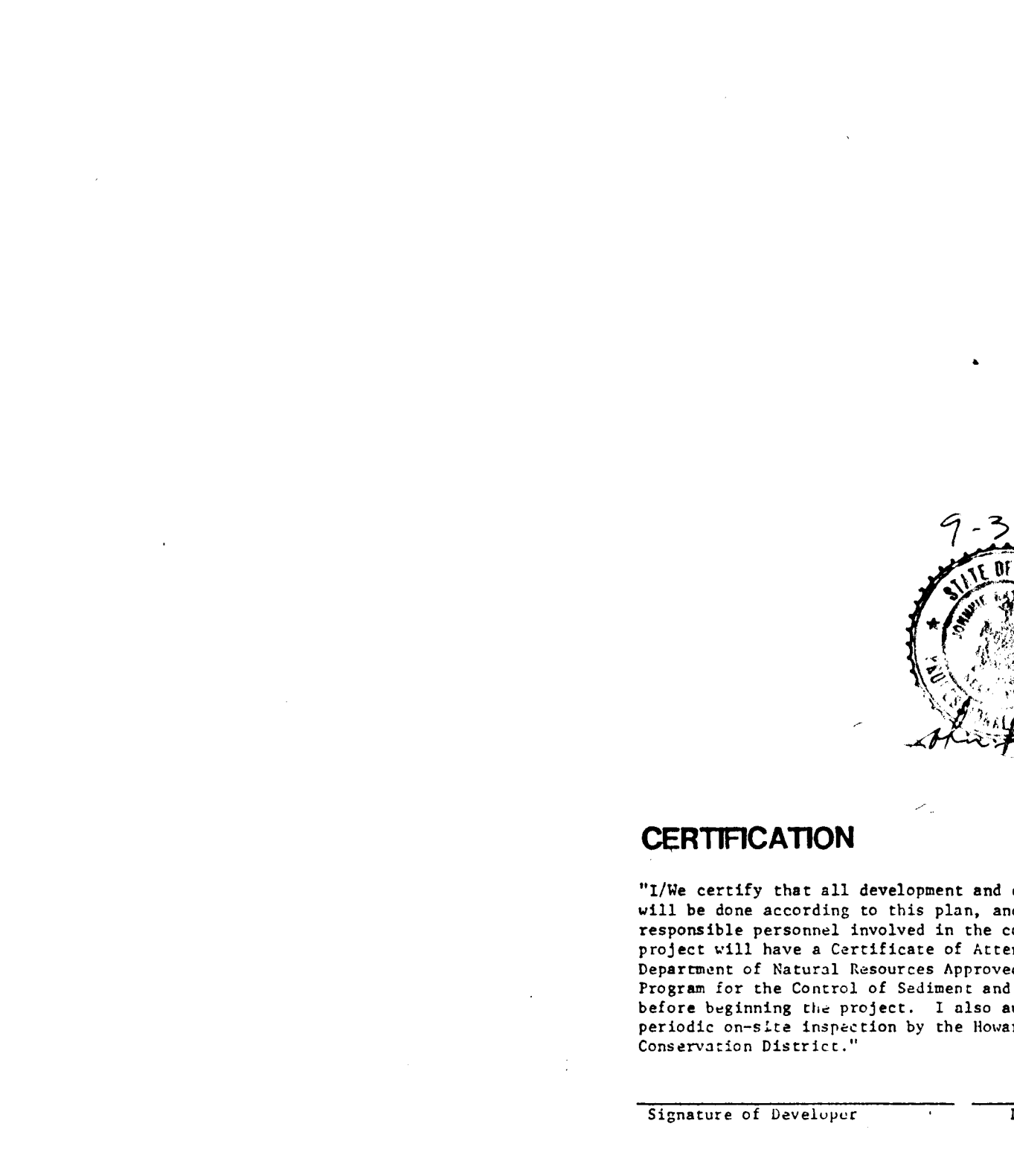
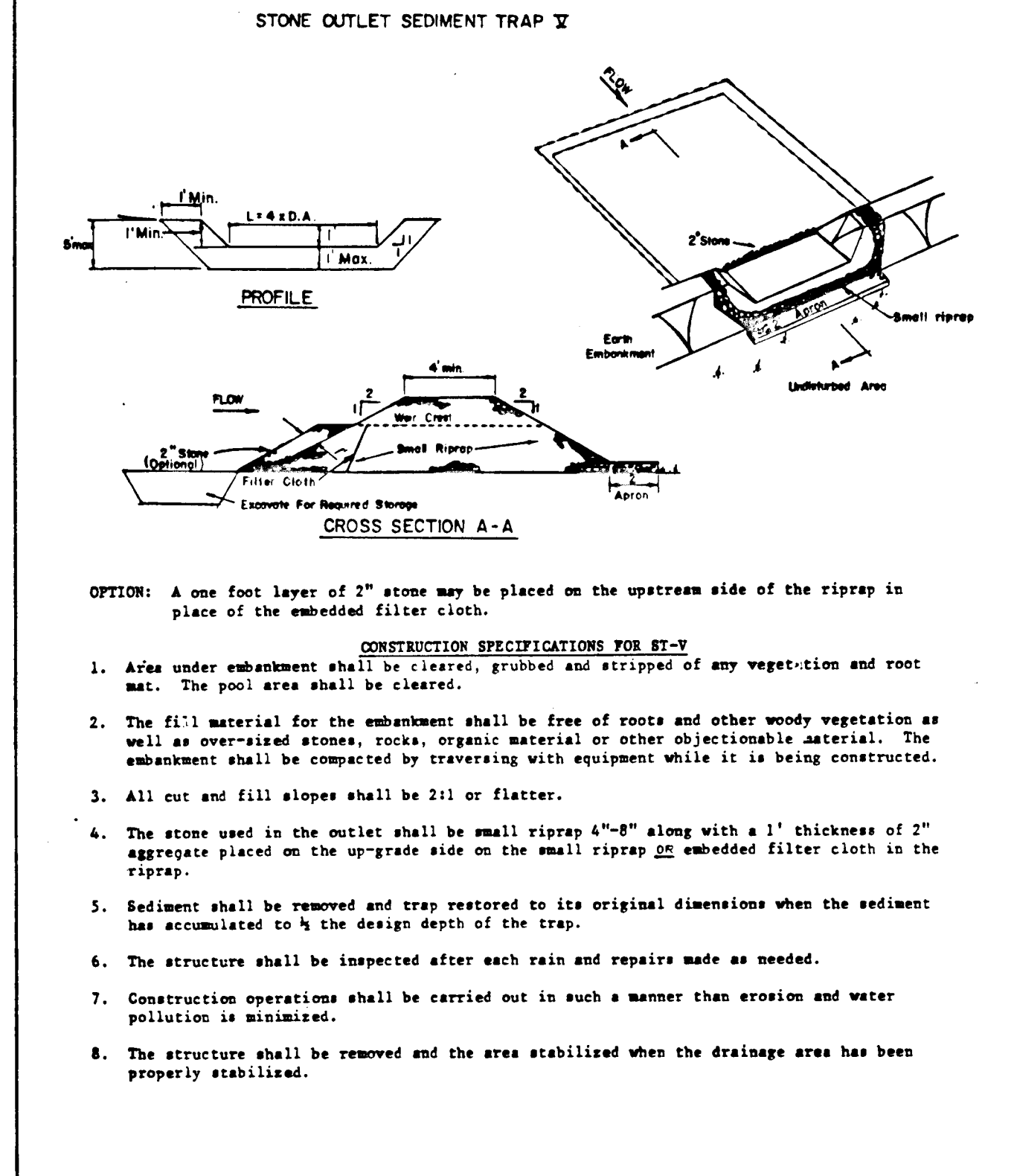
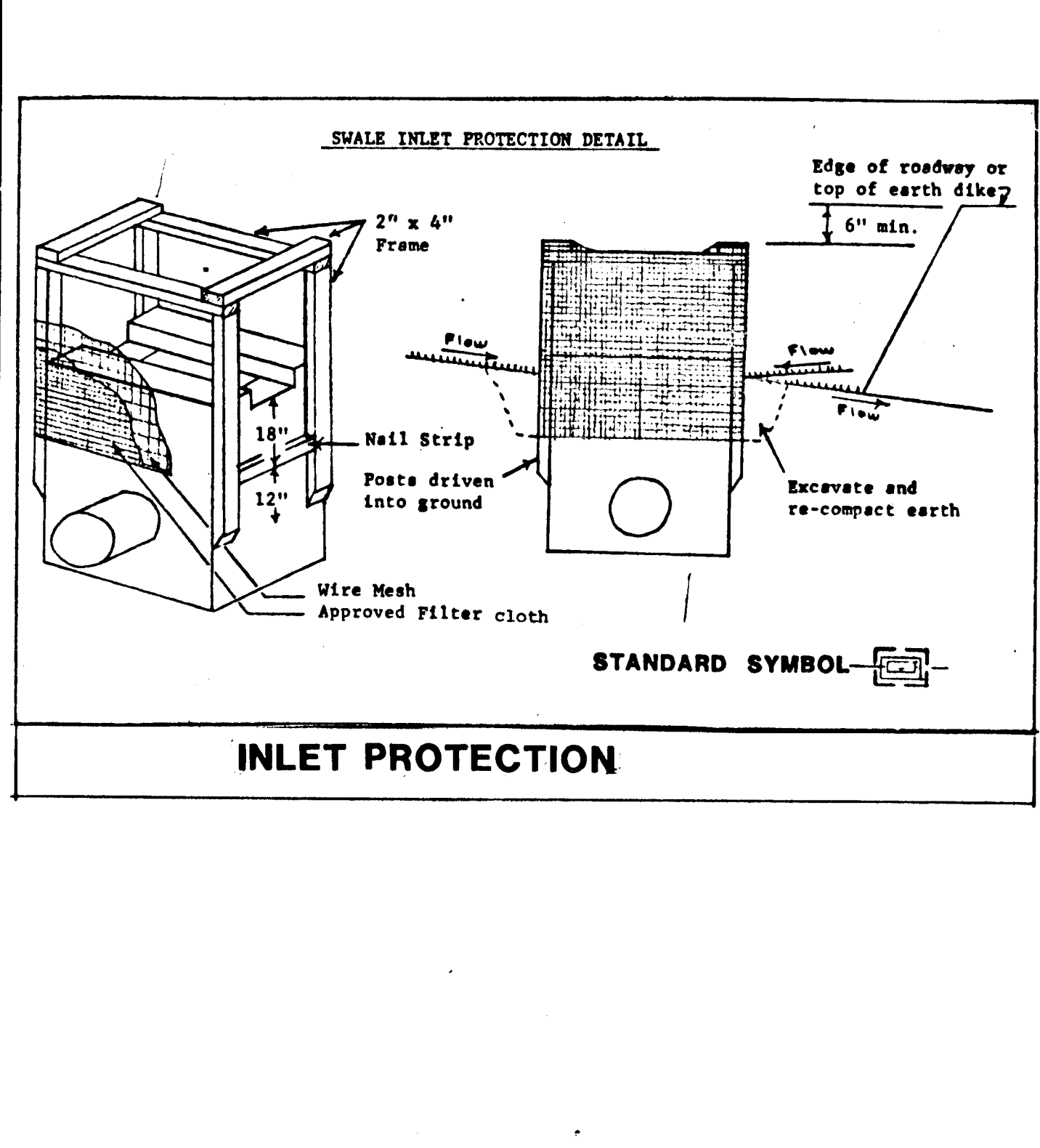
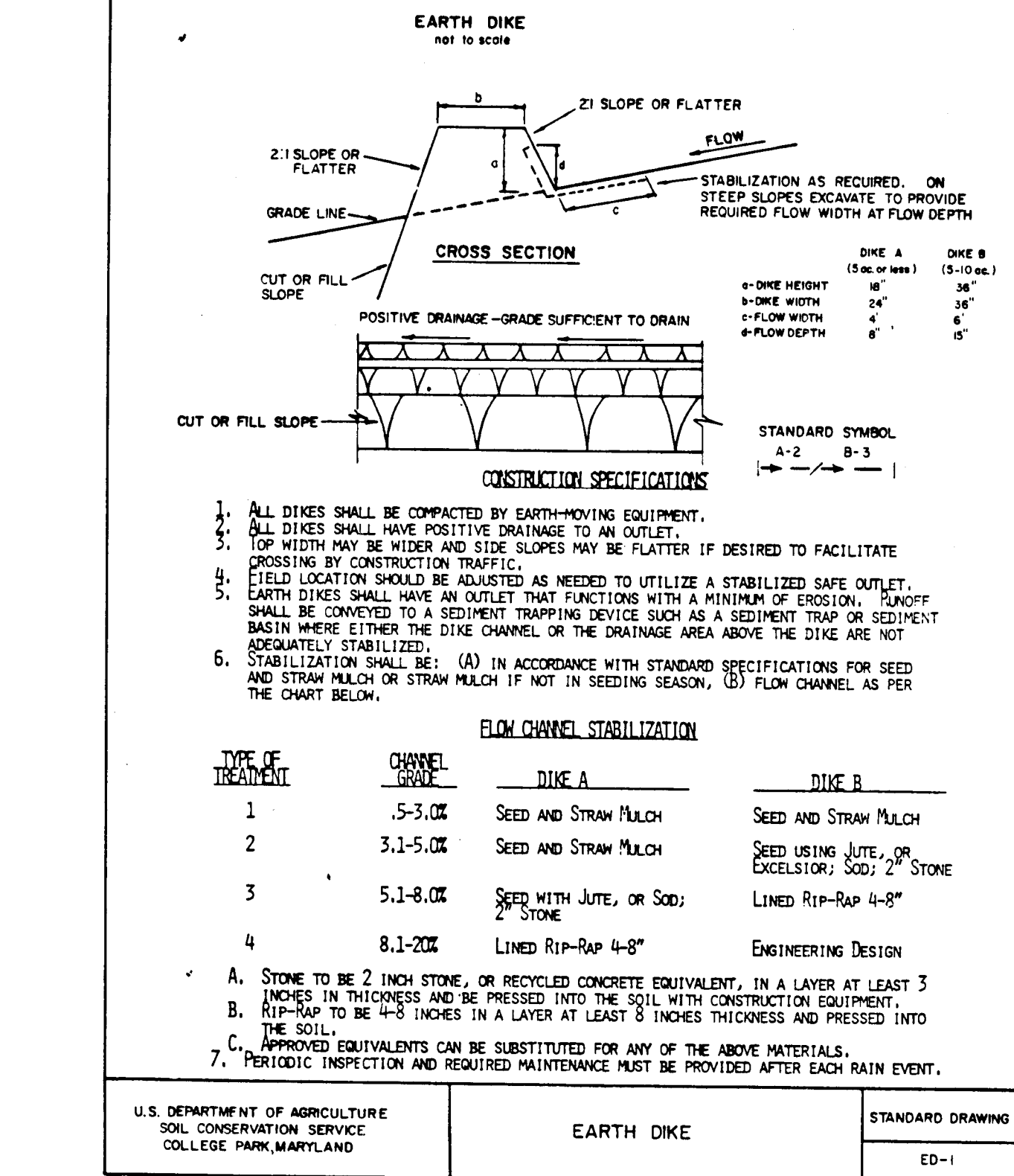
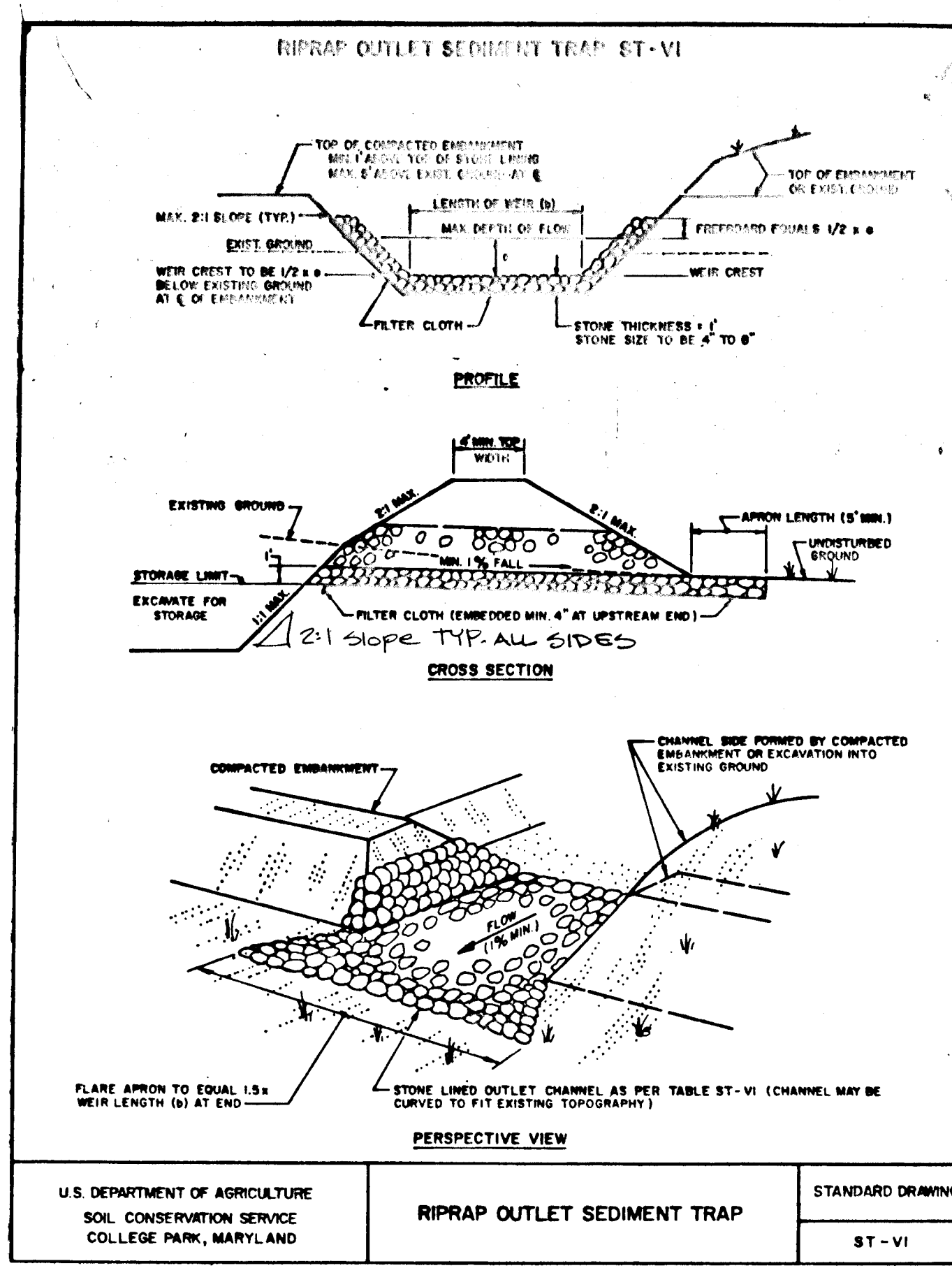
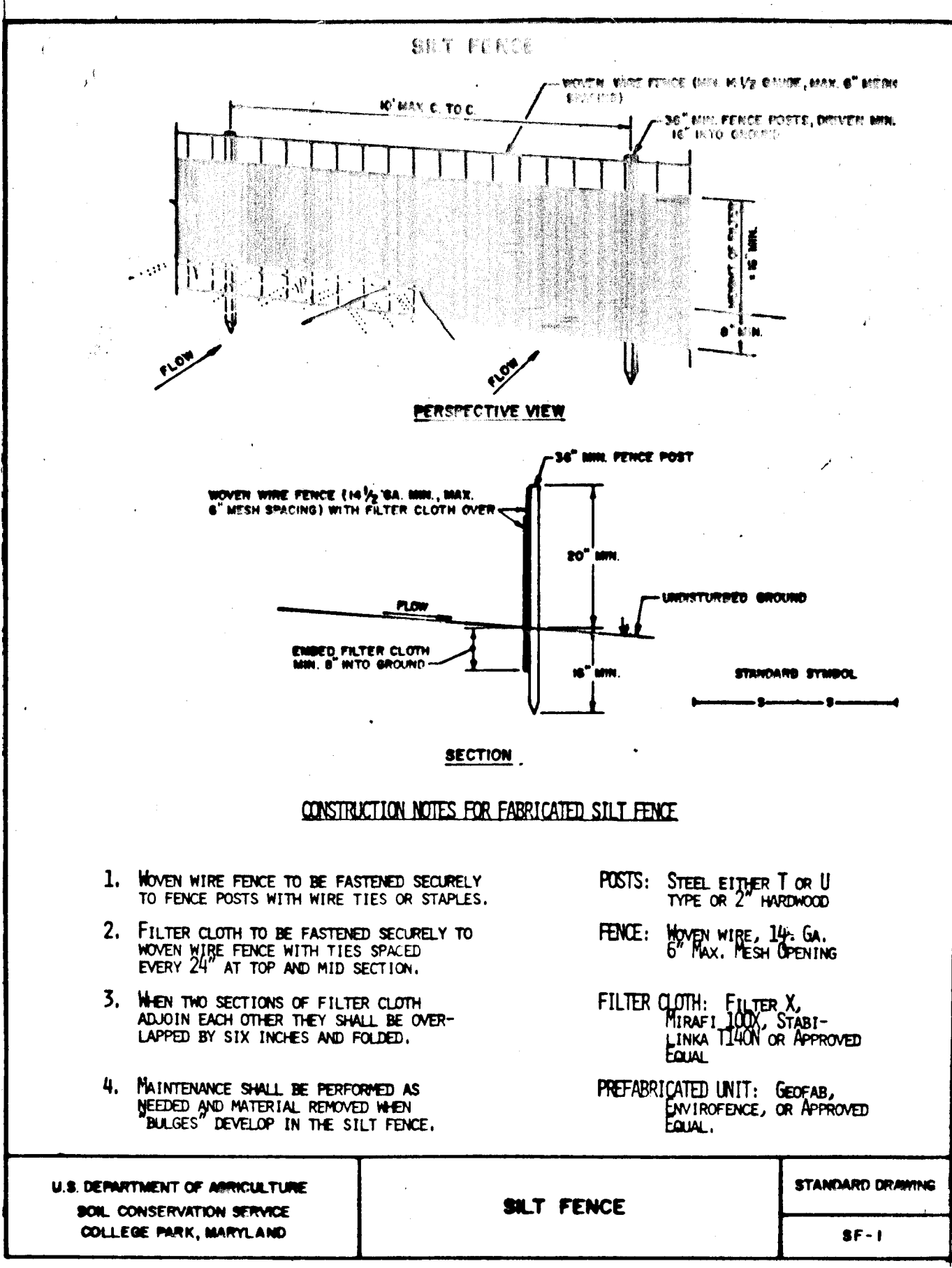
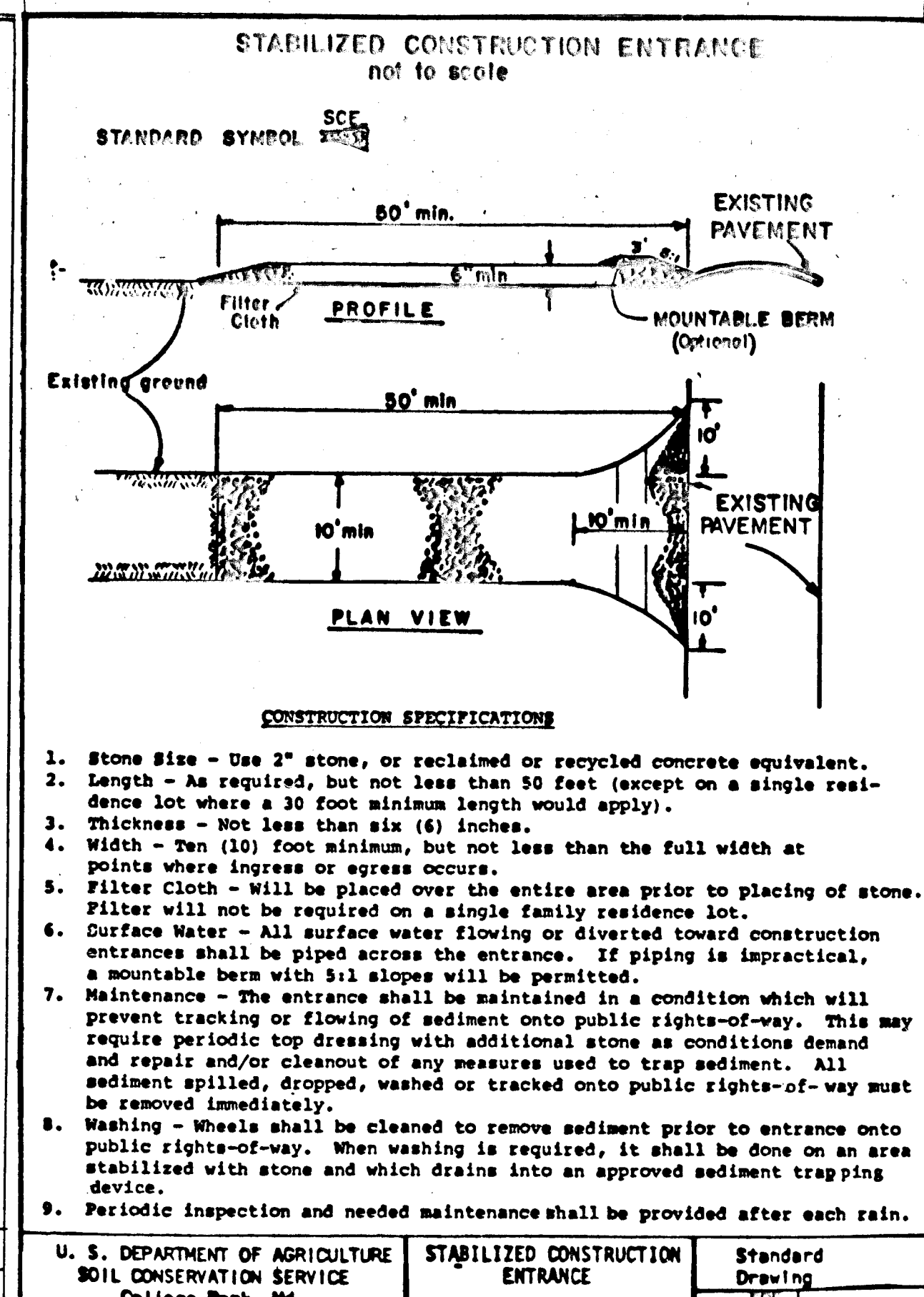
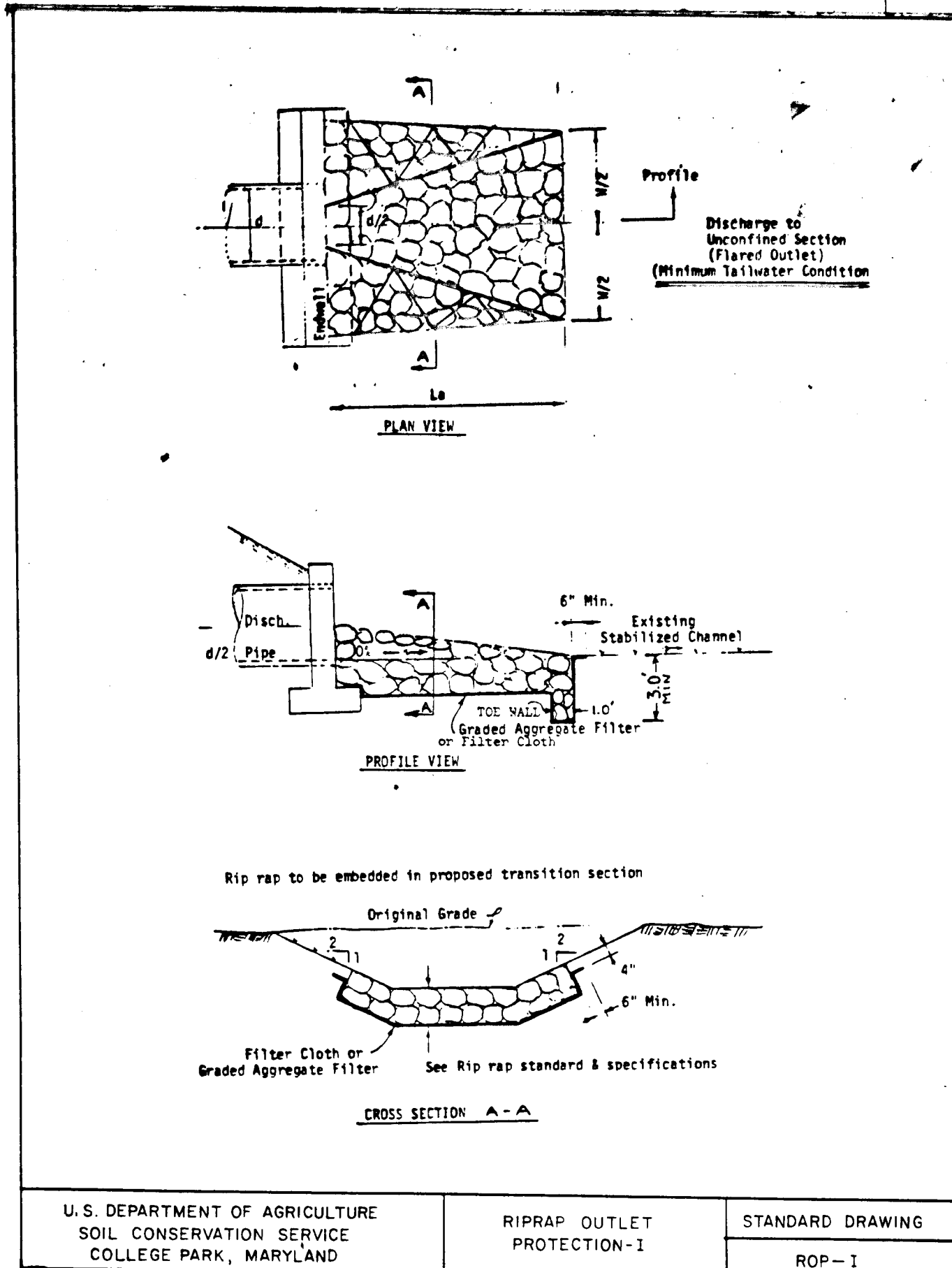
Approved: _____ 1/27/92
Howard S.O.D.

SITE DATA

OWNER: HOWARD COUNTY DEPT. OF PUBLIC WORKS
PROPOSED IMPROVEMENT: PARK
DETD REF. LITER 847, FOLIO 626
TAX MAP #10, PARCEL #23
ELECTION DISTRICT #3
CENSUS TRACT 60020
WATER: _____
SEWER: NONE

JANUARY 24, 1992

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of 20
SDP 18 of 21
SDP-90-18



SDP #90-18

ALPHA RIDGE PARK

REVIEWED NO FACILITIES REQUIRED

HOWARD COUNTY HEALTH DEPARTMENT

Approved: *Joseph M. Boyd* per *SR* 1/24/92
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Director: *James Smith* 1/27/92
DATE

APPROVED: DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

Director: *James Smith* 1/27/92
DATE

APPROVED: FOR PRIVATE WATER AND NO SEWERAGE, FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director: *James Smith* 1/27/92
DATE

Director: *James Smith* 1/27/92
DATE

APPROVAL STAMP

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

Approved: *J.P. R. R. R.* 1/27/92
HOWARD S.C.D.

Reviewed for: *HOWARD* S.C.D.
Name: *John C. Batten*
Signature: *John C. Batten* Date: *1/27/92*
U.S. Soil Conservation Service

9-3-91
SOIL OF MARYLAND
STATE OF MARYLAND

CERTIFICATION

"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."

Signature of Developer: _____ Date: _____

Signature of Landscape Architect: *John C. Batten* Date: *1/15/92*

Reviewed for HOWARD S.C.D. and meets Technical Requirements

U.S. Soil Conservation Service Date: _____

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

Signature: _____ Date: _____

HOWARD S.C.D. Date: _____

JANUARY 24, 1992

SITE DATA

OWNER: HOWARD COUNTY
DEPT. OF PUBLIC WORKS

PROPOSED IMPROVEMENT: PARK

DEED REF. LIBER 847, FOLIO 606

TAX MAP #10, PARCEL #23

ELECTION DISTRICT #3

CENSUS TRACT #0030

WATER: _____

SEWER: NONE

SHEET

S-18

of 20

SDP-90-18
XX4L-92-S018
SDP 17 of 21

REVIEWED NO FACILITIES REQUIRED

HOWARD COUNTY DEPARTMENT
JOYCE M. BODENPETERSON
COUNTY HEALTH OFFICER 1/24/92

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

JAMES BATTEN
DIRECTOR 1/27/92

EMERALD HARMON
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT 1/22/92

APPROVED: FOR PRIVATE WATER AND NO SEWERAGE, FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
JAMES M. LEE
DIRECTOR 1/24/92

WILLIAM E. REAY
CHIEF, BUREAU OF ENGINEERING 1/24/92

APPROVAL STAMP

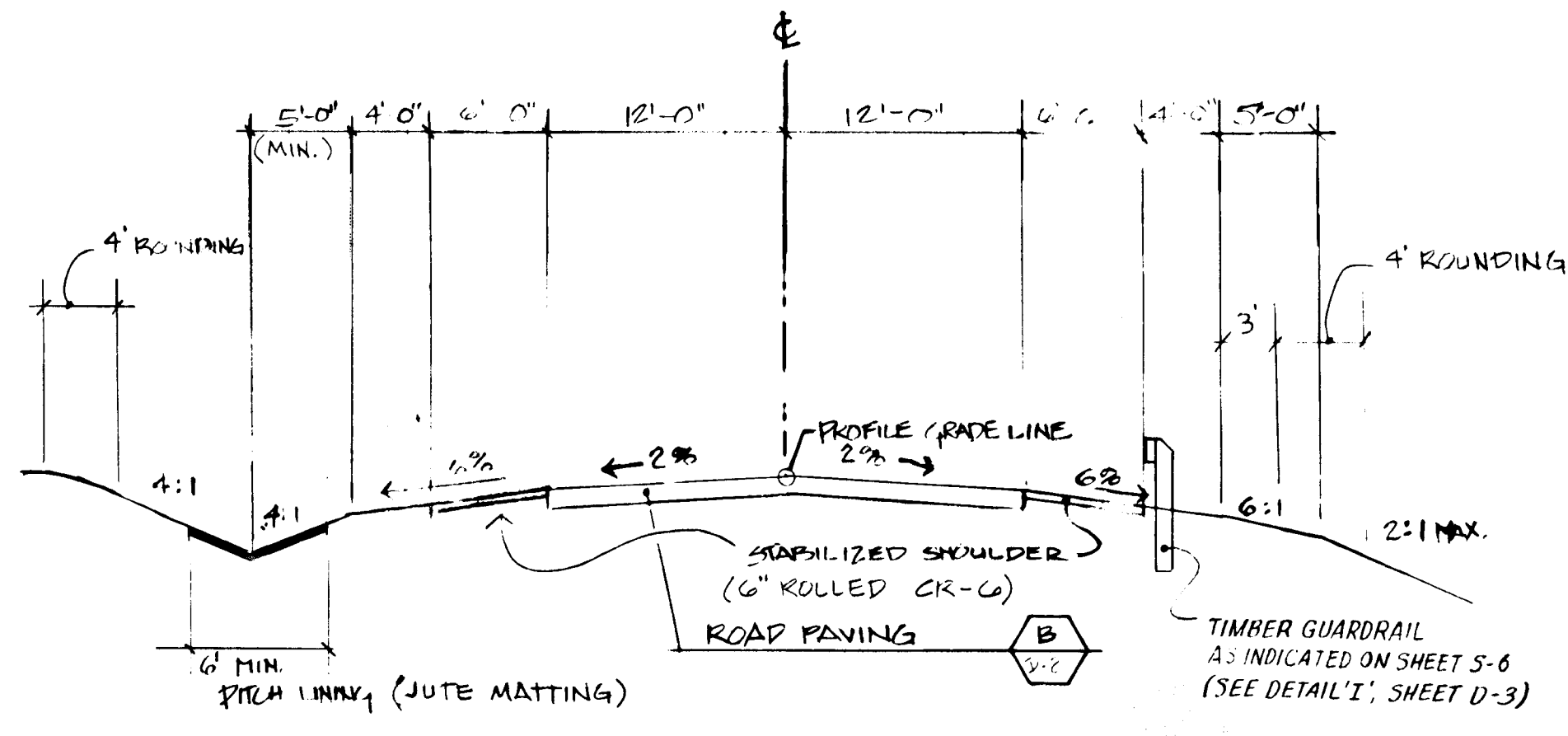
SITE DATA

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DEPT. OF PUBLIC WORKS
PROPOSED IMPROVEMENT: PARK
DEED REF. LIBER 847, FOLIO 808
TAX MAP #10, PARCEL #23
ELECTION DISTRICT #3
CENSUS TRACT 6030
WATER:
SEWER: NONE

JANUARY 24, 1992

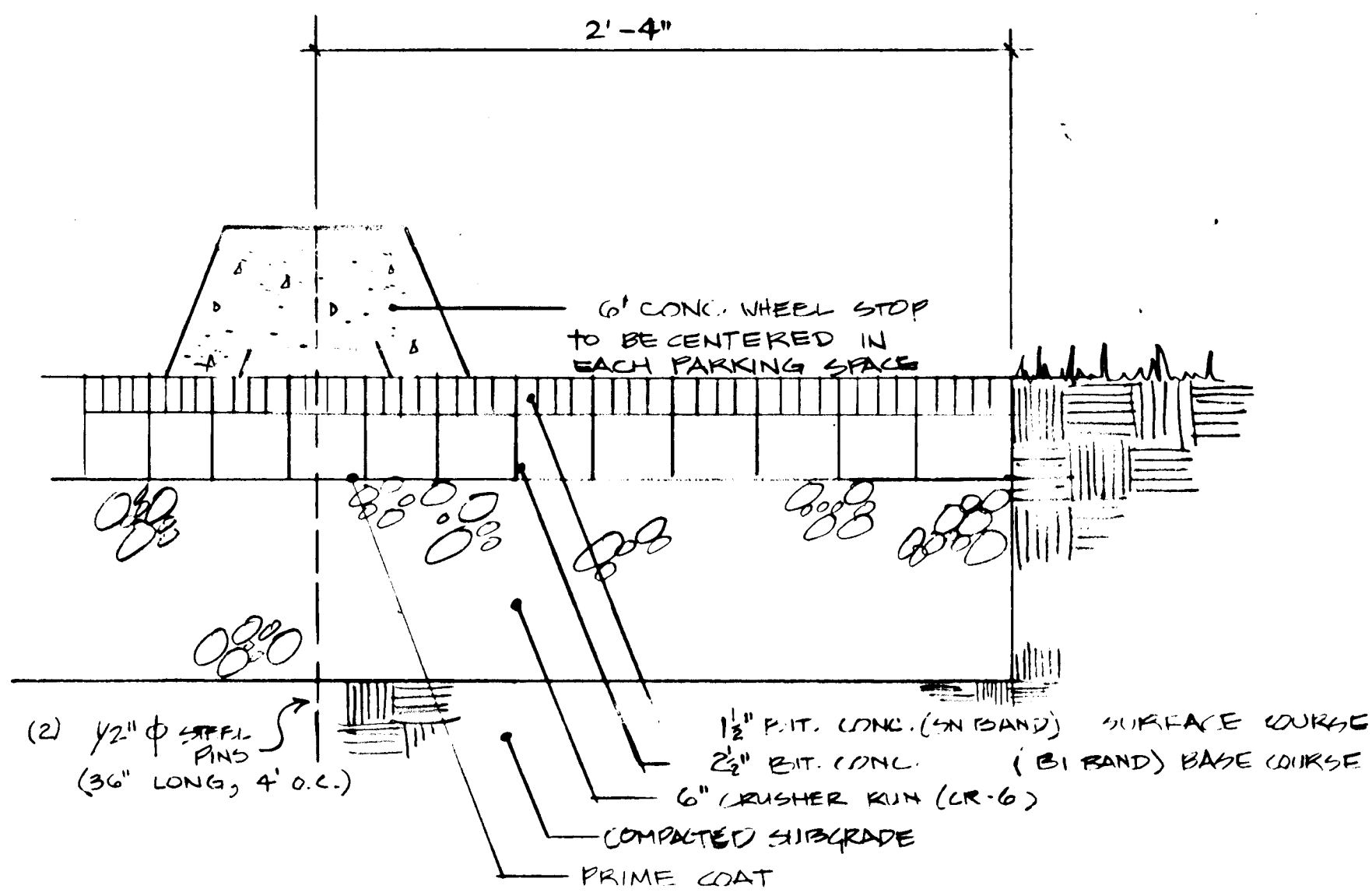
J. CHRISTOPHER BATTEN, INC.
Land Planning & Design Consultant
8 North Church Street
Westminster, Maryland 21157
301-876-3383

SHEET
S-19
of 20
SDP 20 of 21



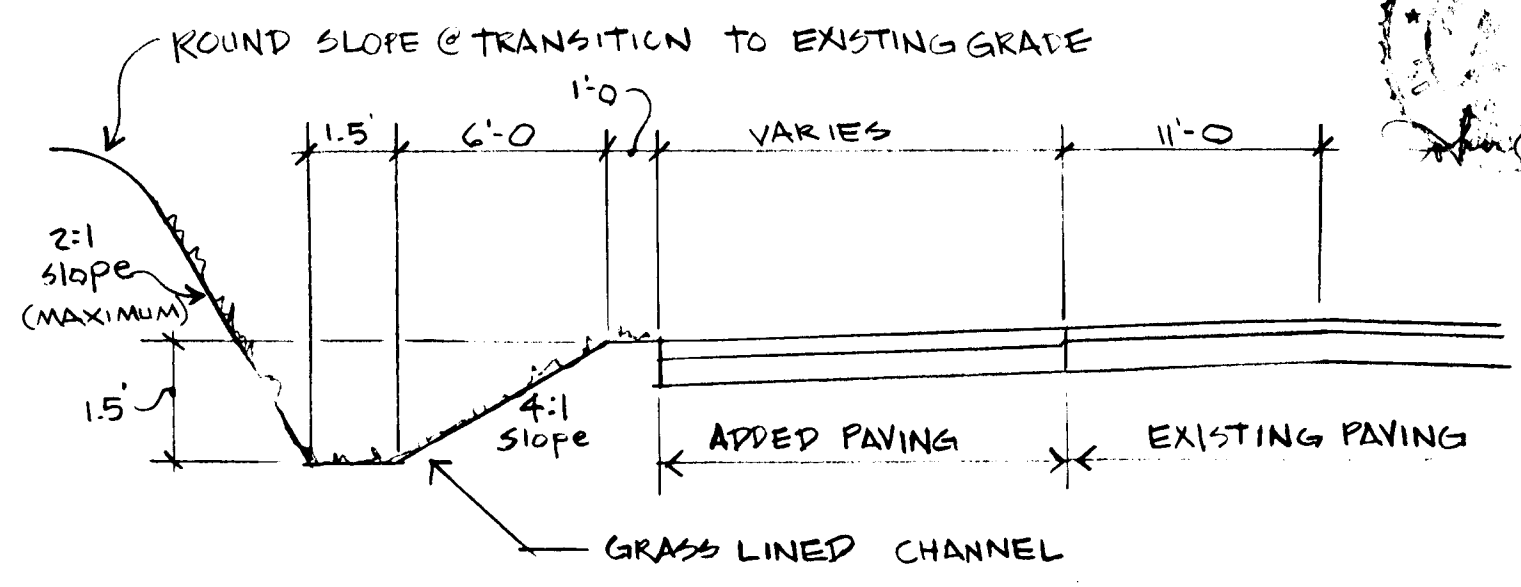
TYPICAL ROAD SECTION

NTS



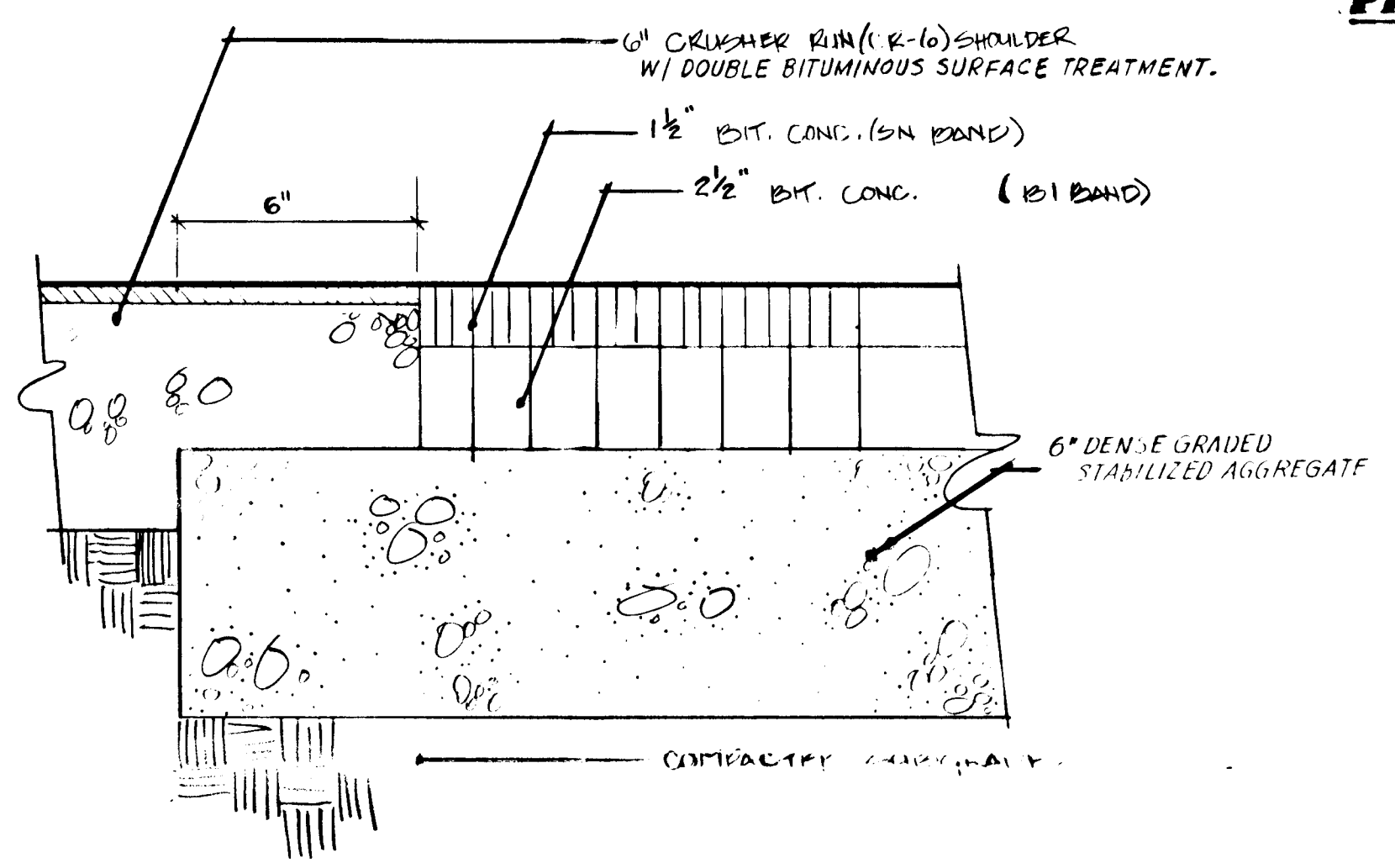
PARKING LOT PAVING & WHEEL STOPS

Not to Scale



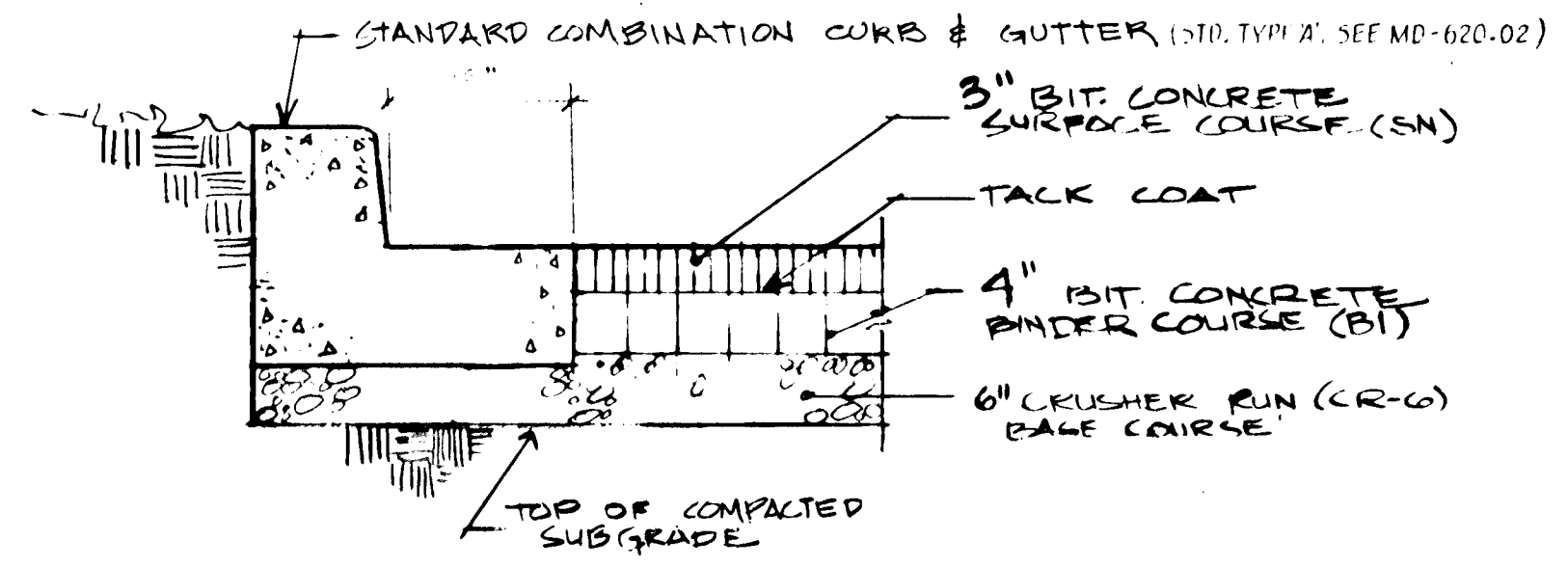
ROUTE 99 - CHANGE OF SPEED LANE (WEST)

NTS



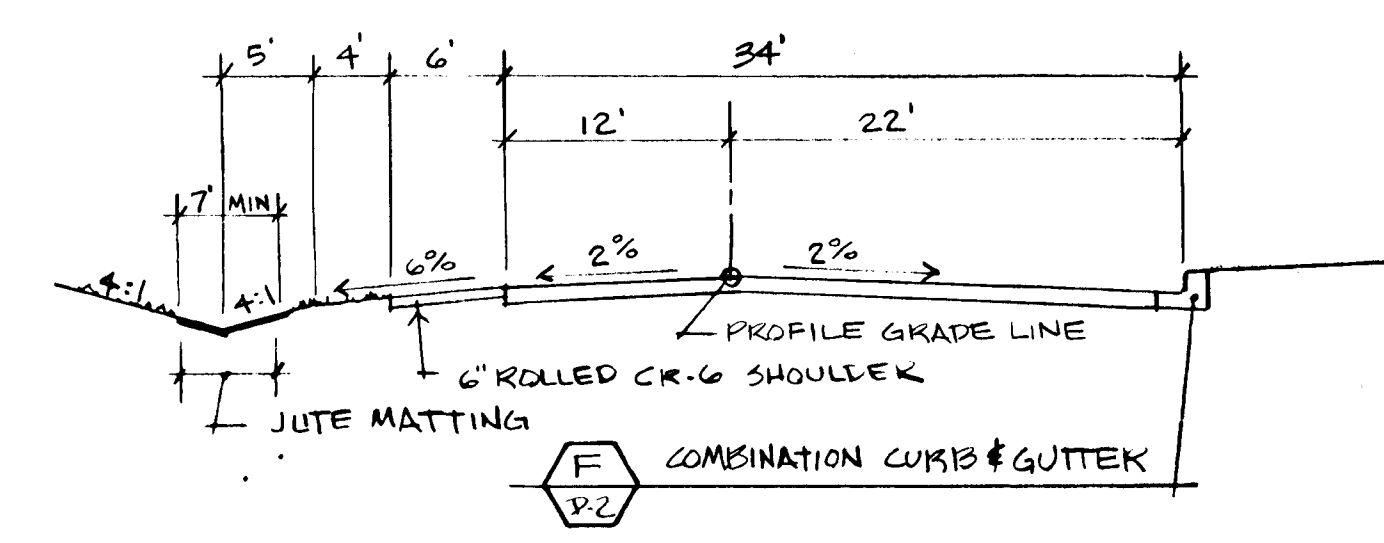
ROAD PAVING #1 (FOR PARK ROADS & PARKING)

Not to Scale



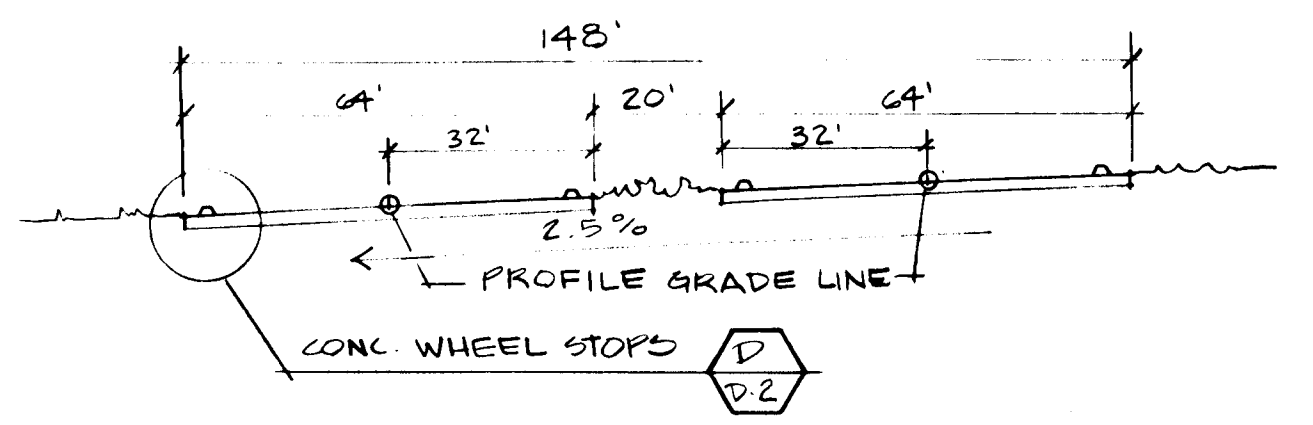
ROAD PAVING #2 (For State Highway)

Not to Scale



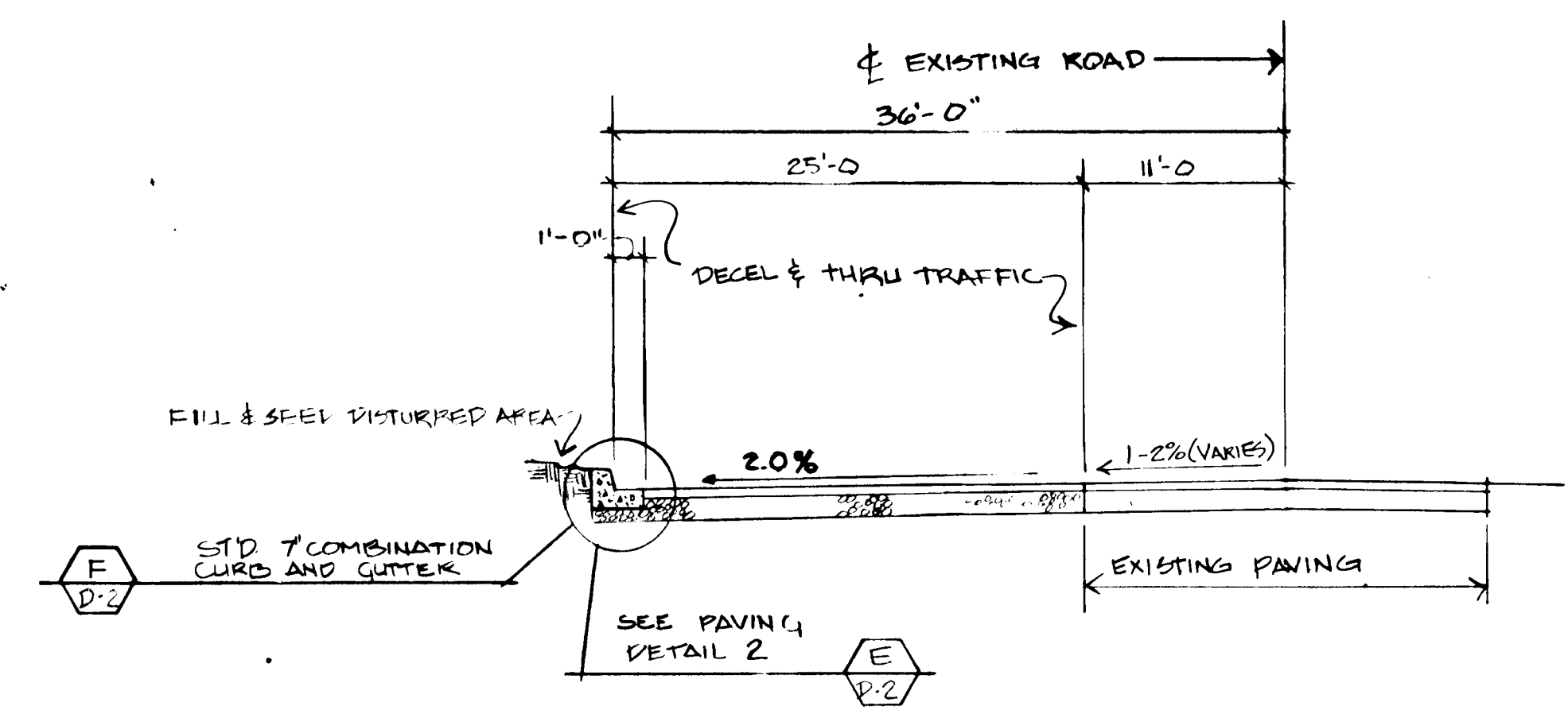
ROAD at DROP OFF/PICK UP

NTS



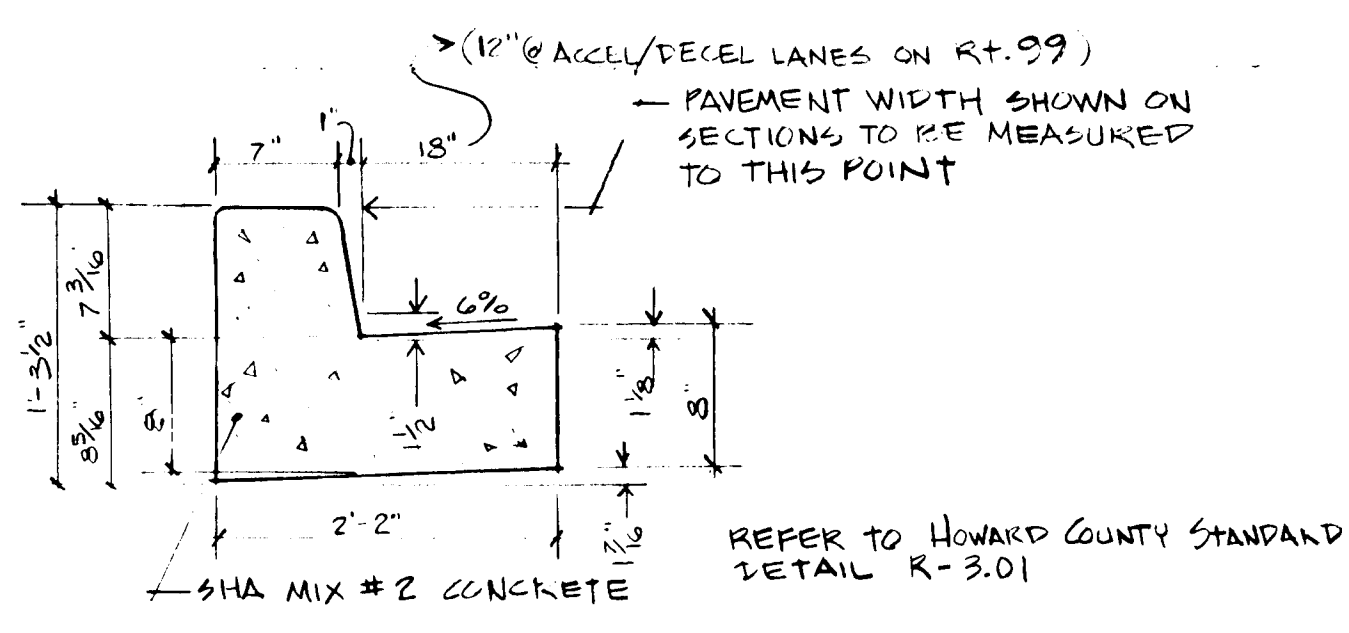
MAIN PARKING LOT

NTS



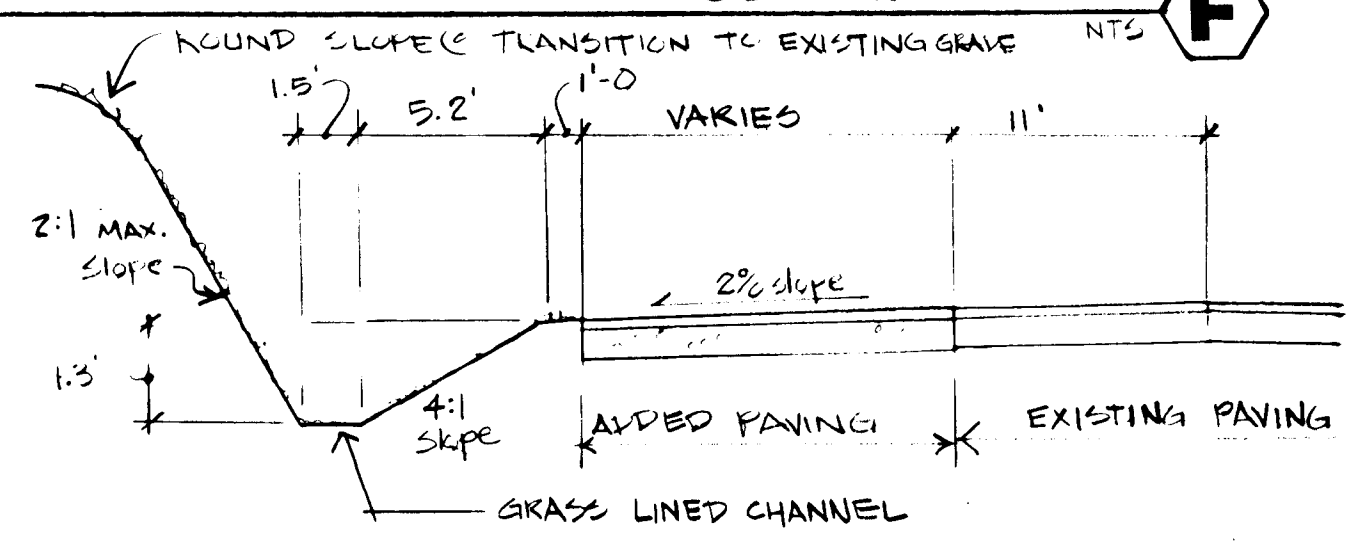
TYPICAL SECTION CHANGE OF SPEED LANE W/ CURBING

NTS



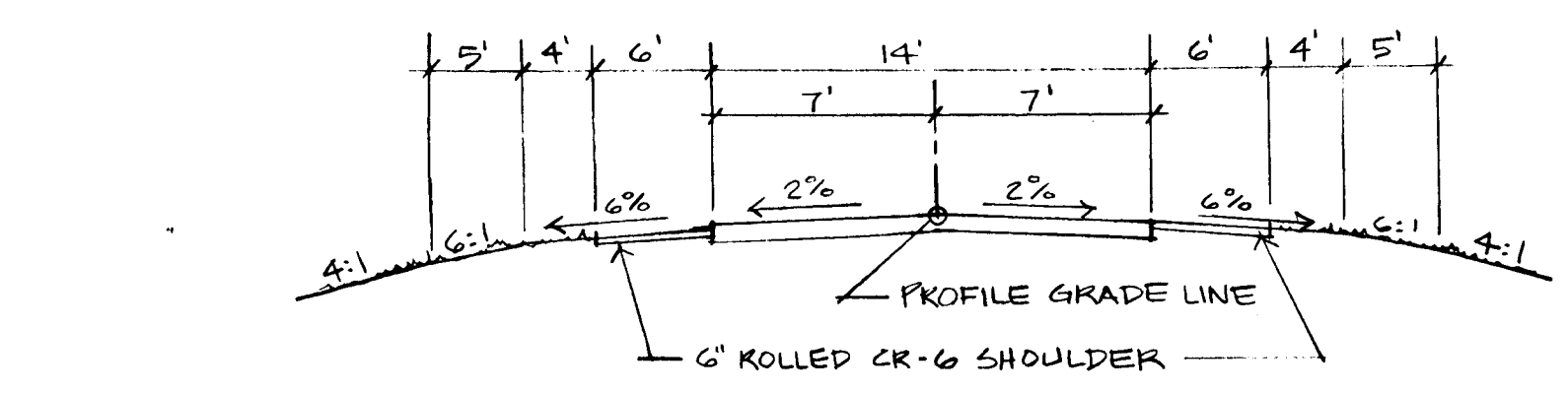
CURB & GUTTER

NTS



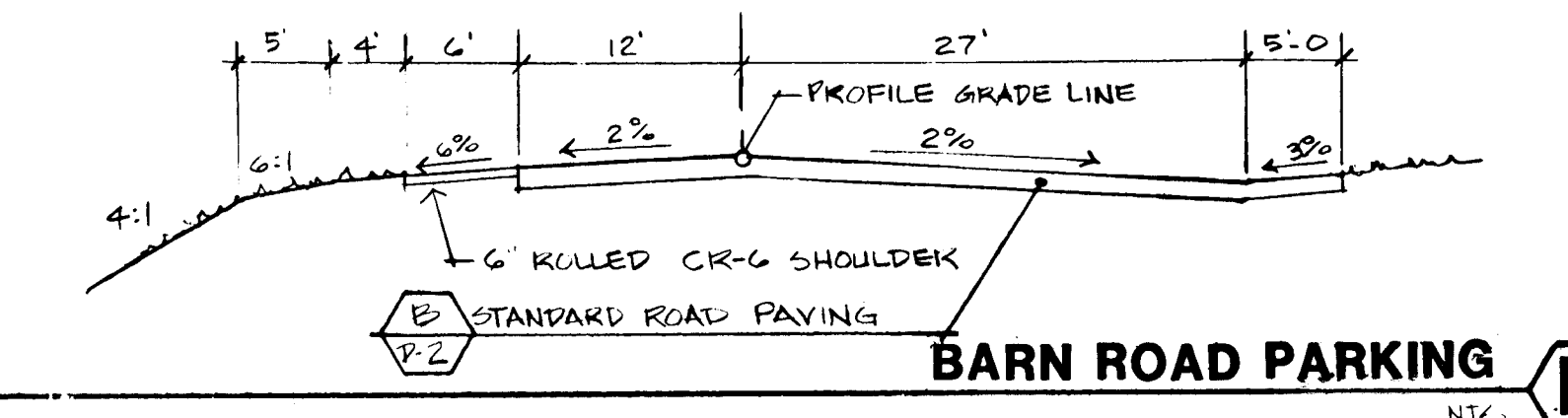
ROUTE 99 - CHANGE OF SPEED LANE (EAST)

NTS



BARN/ SERVICE ROAD

NTS

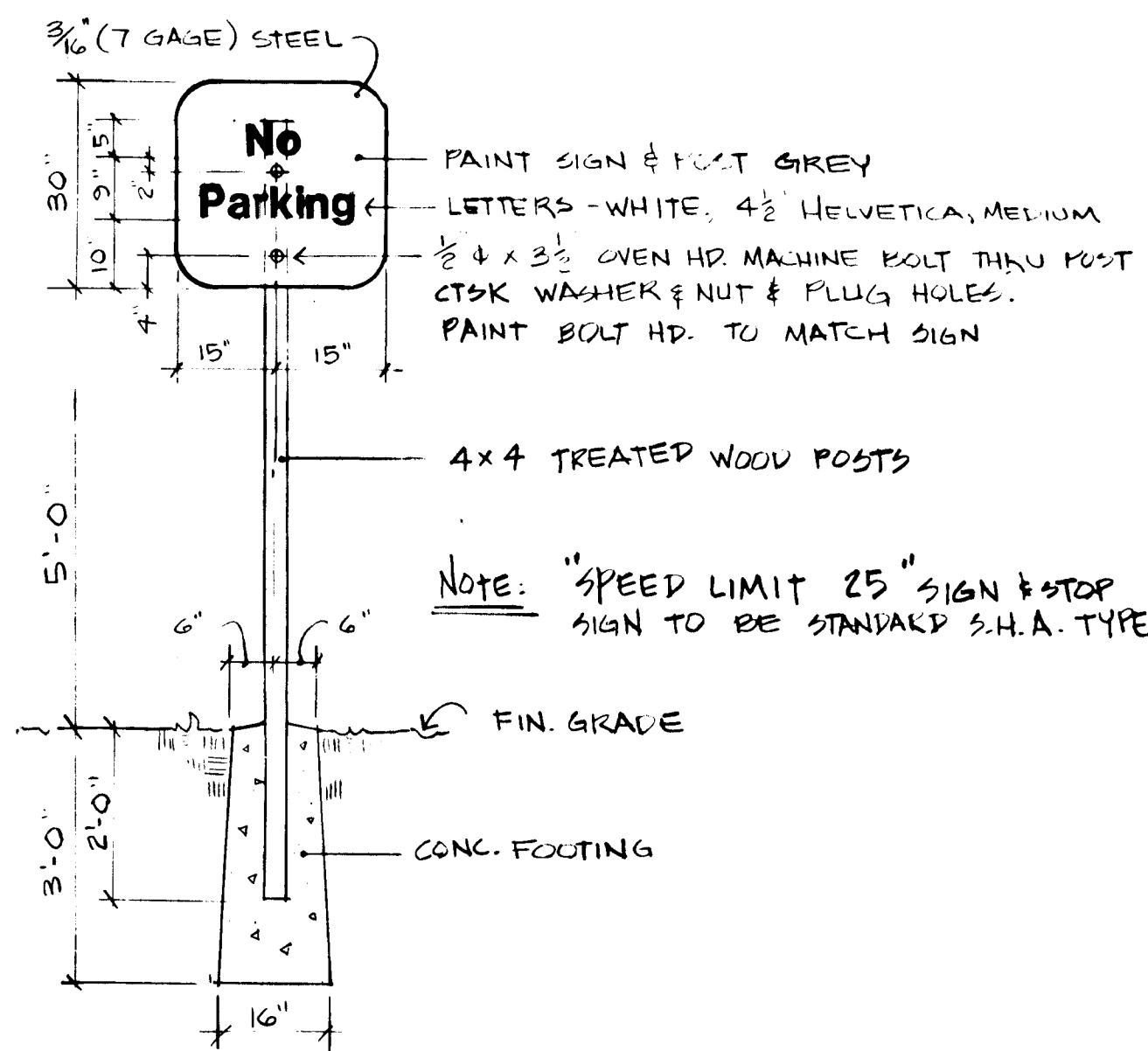


BARN ROAD PARKING

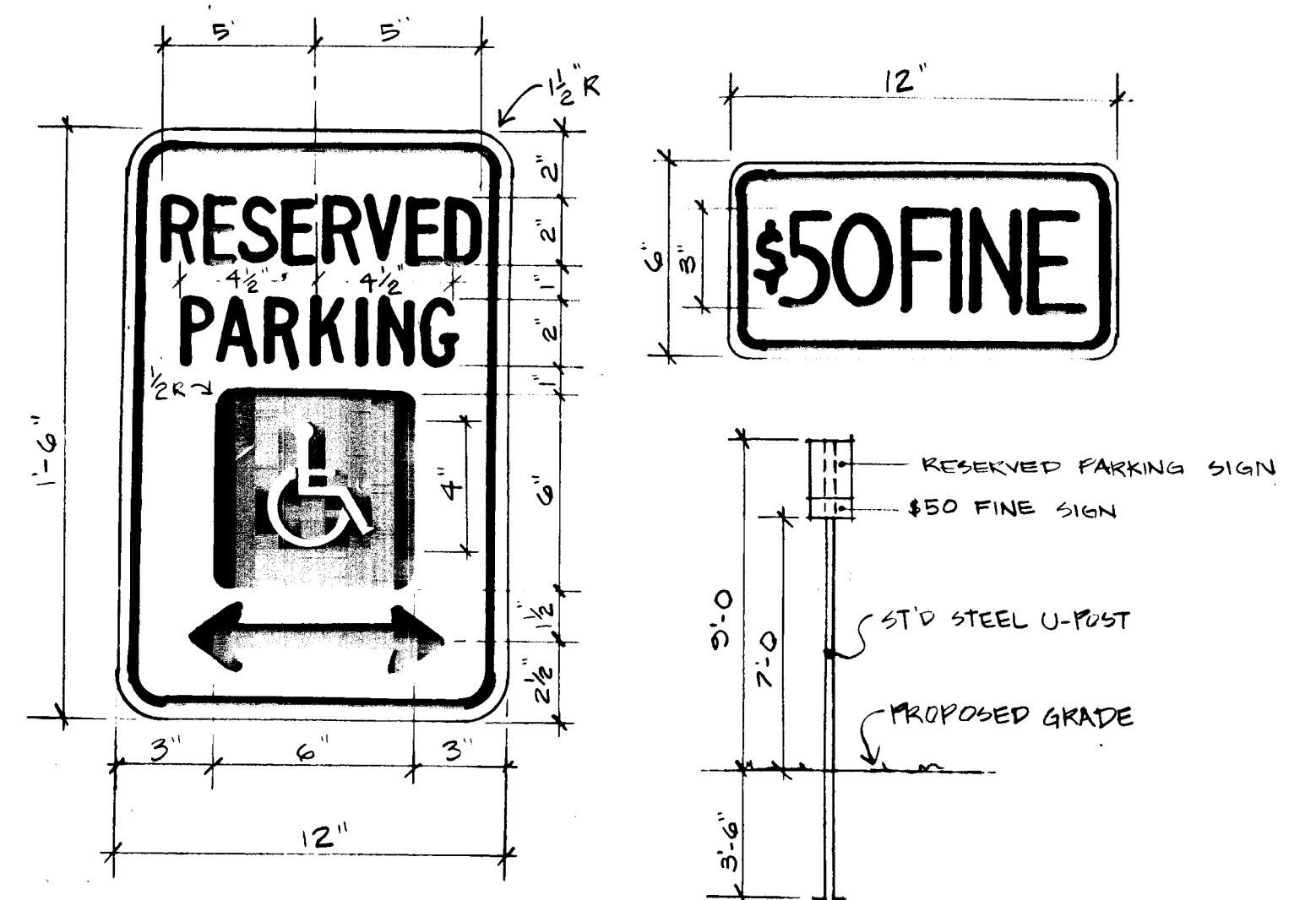
NTS

ROAD SECTIONS & DETAILS

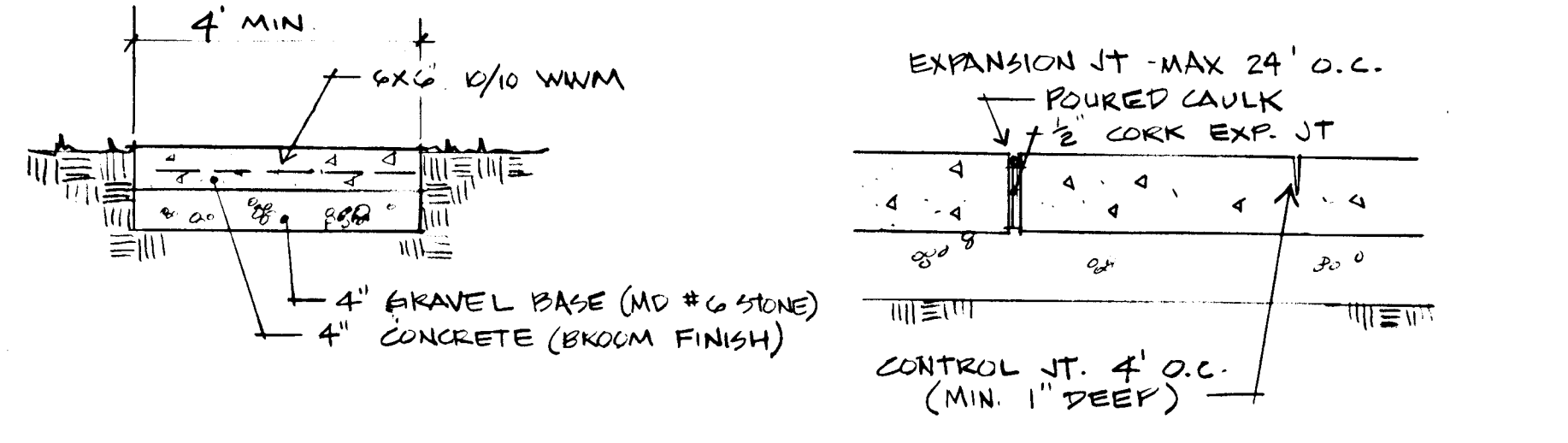
FOR DETAIL OF WIDENING STRIPS ALONG EXISTING ROADWAYS, SEE SHEET D-3



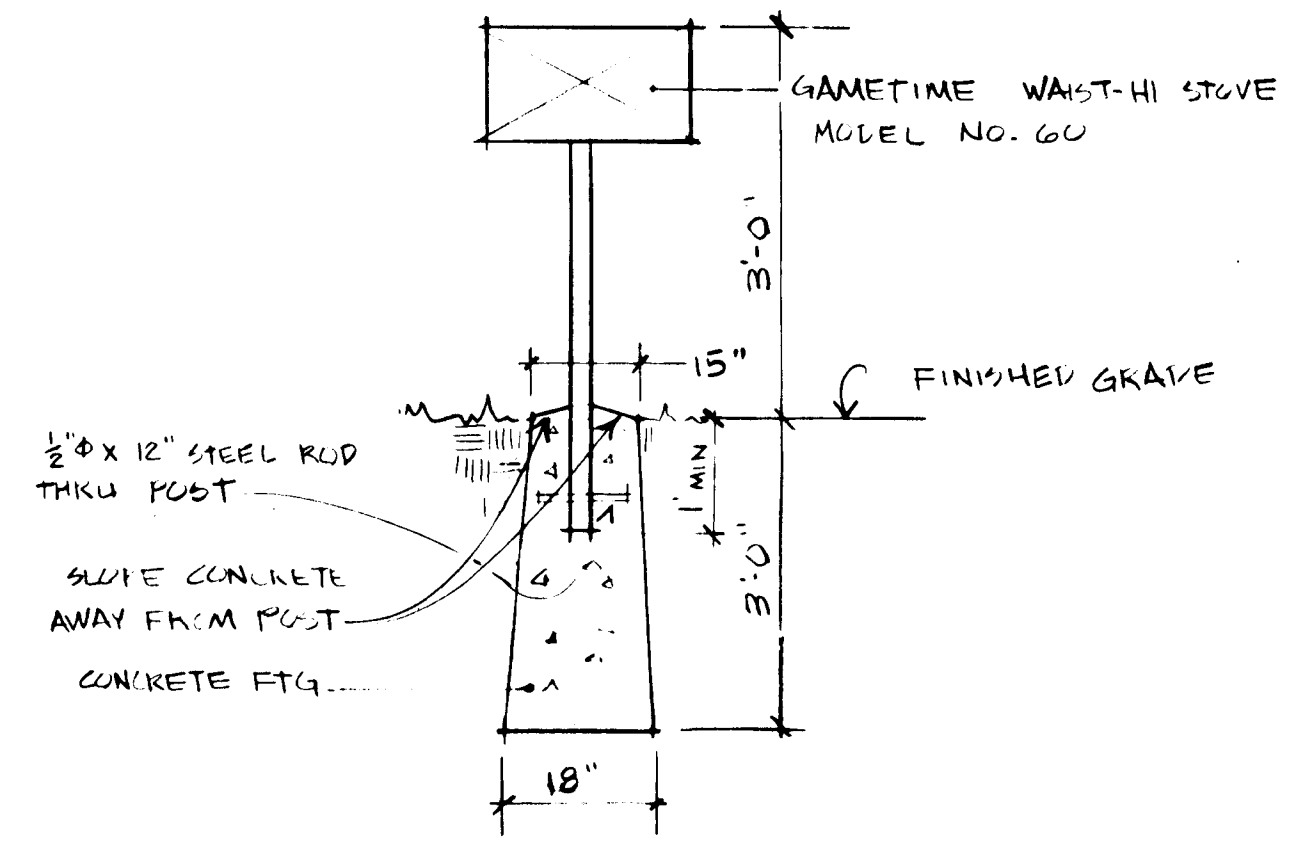
TRAFFIC SIGNS A
1/2" - 1"



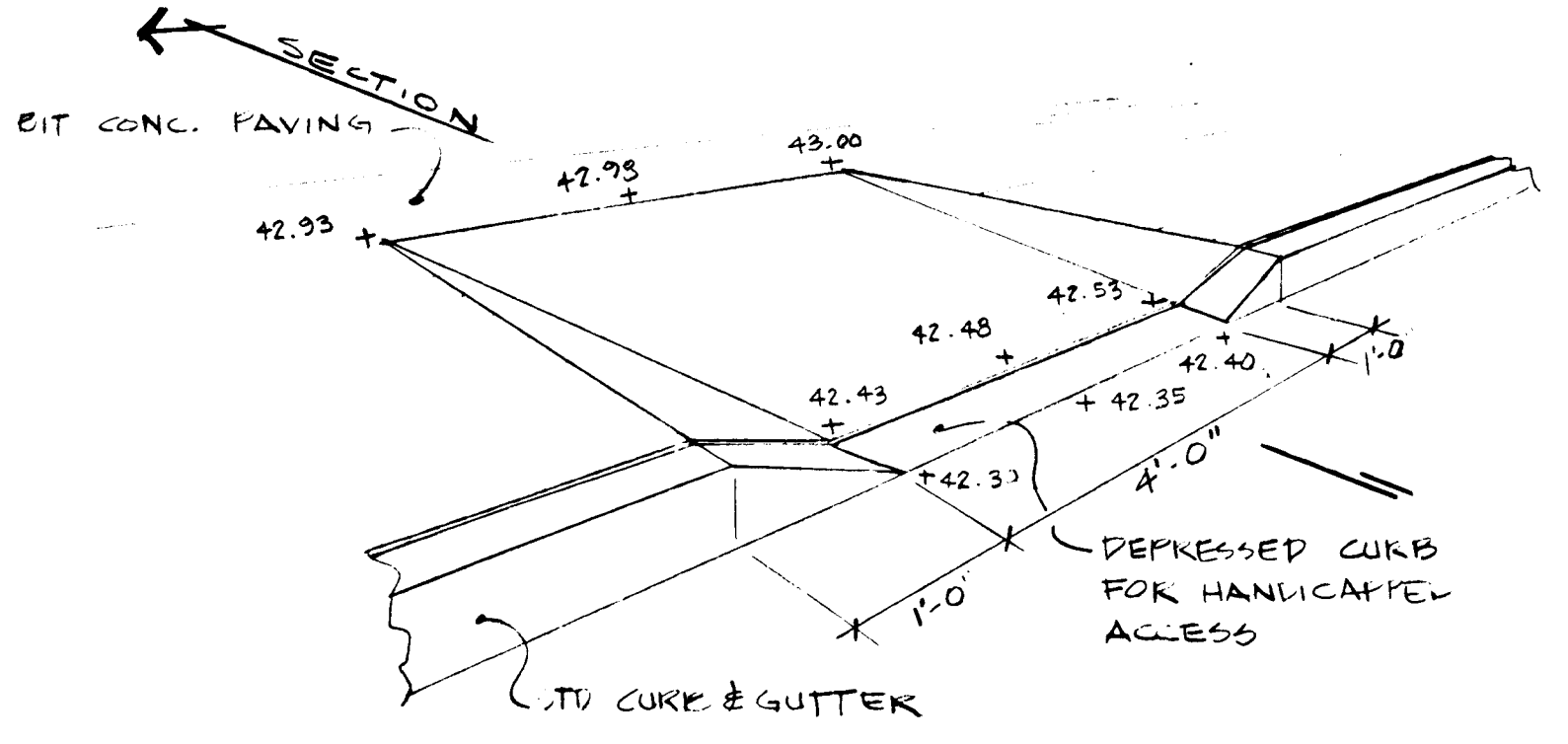
HANDICAPPED PARKING SIGN B
NTS



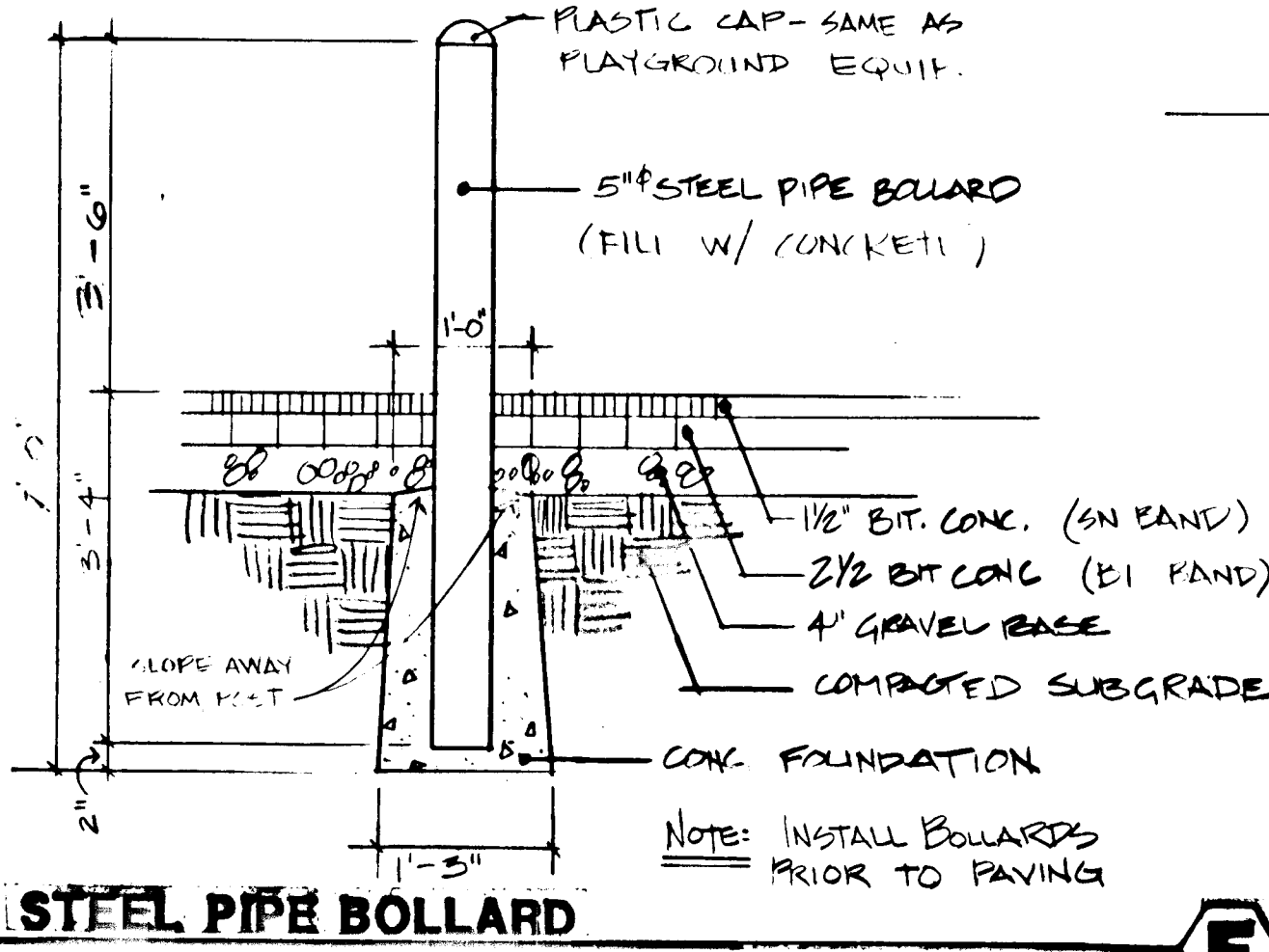
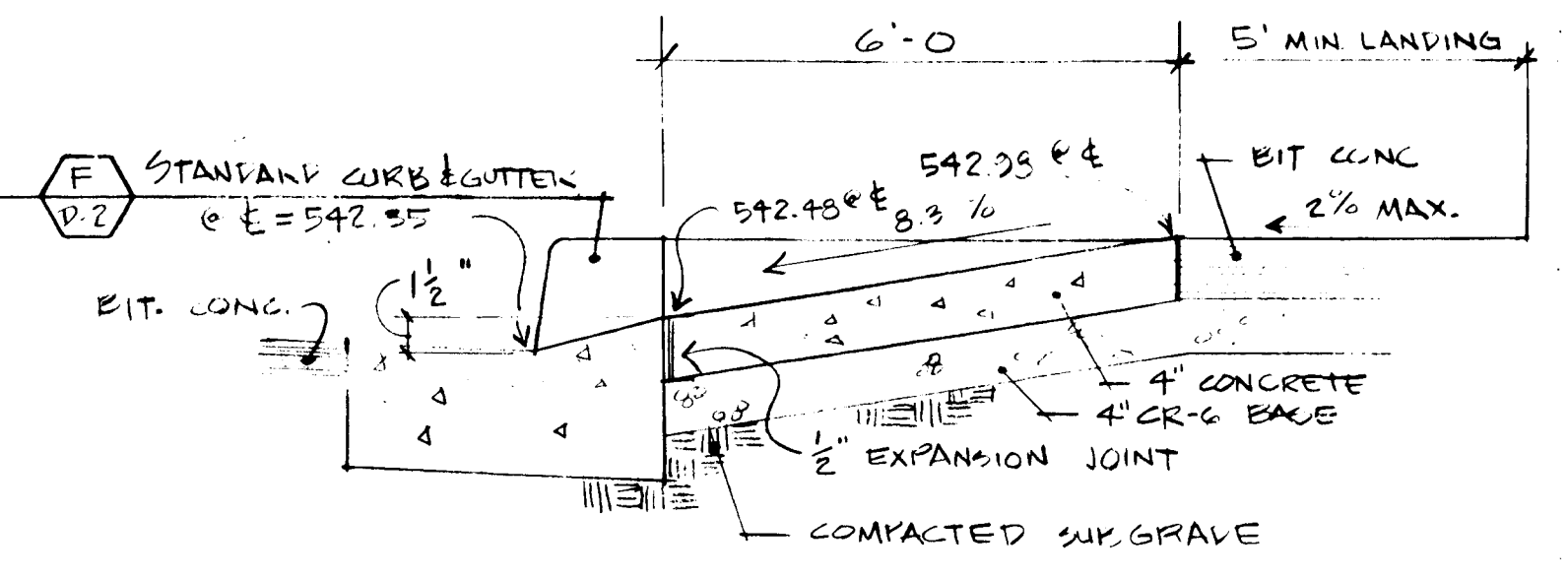
CONCRETE SIDEWALK C
NTS



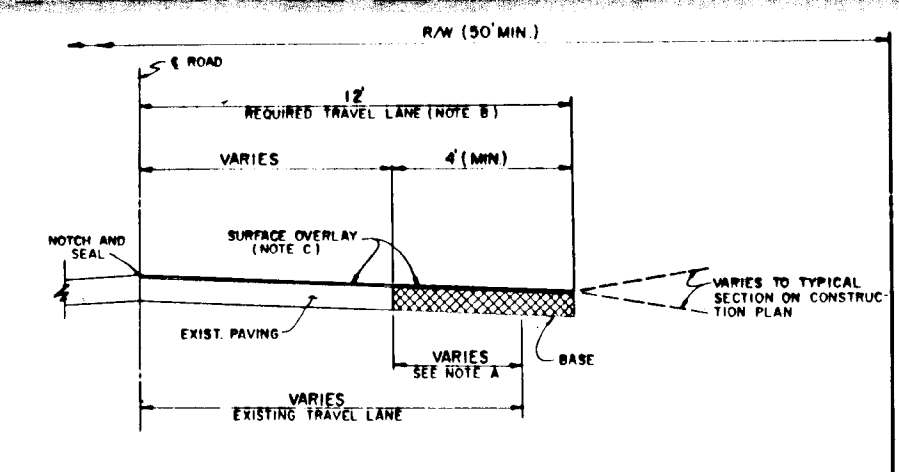
BARBEQUE GRILL D
not to scale



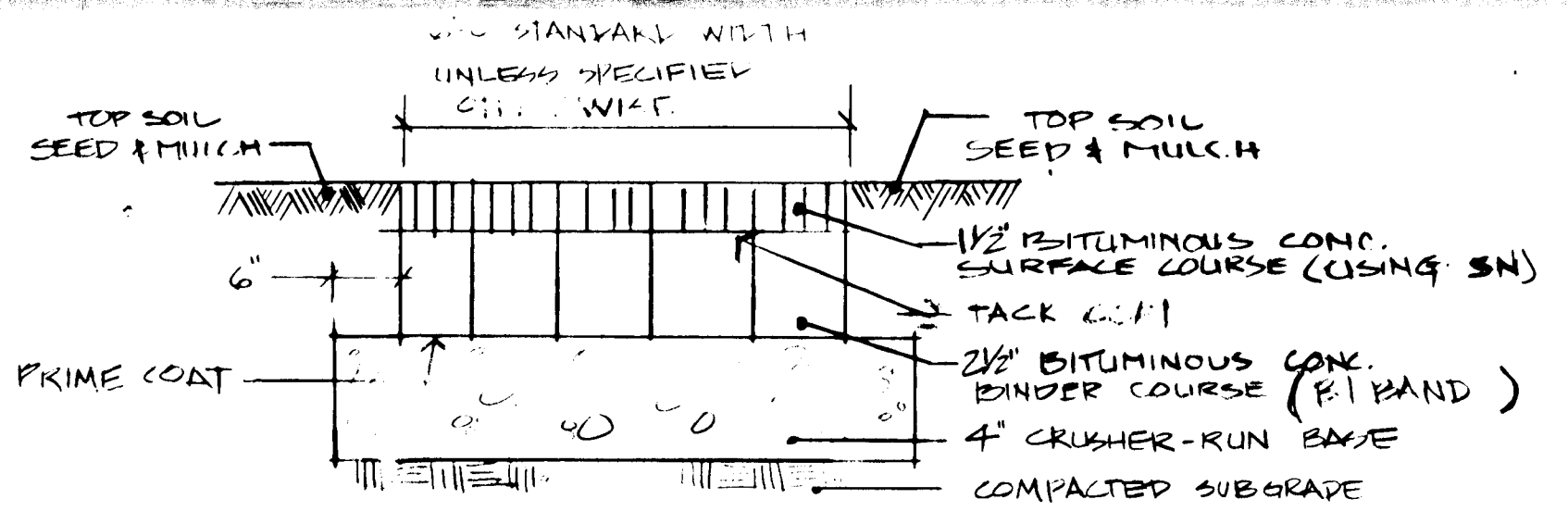
HANDICAPPED RAMP E
not to scale



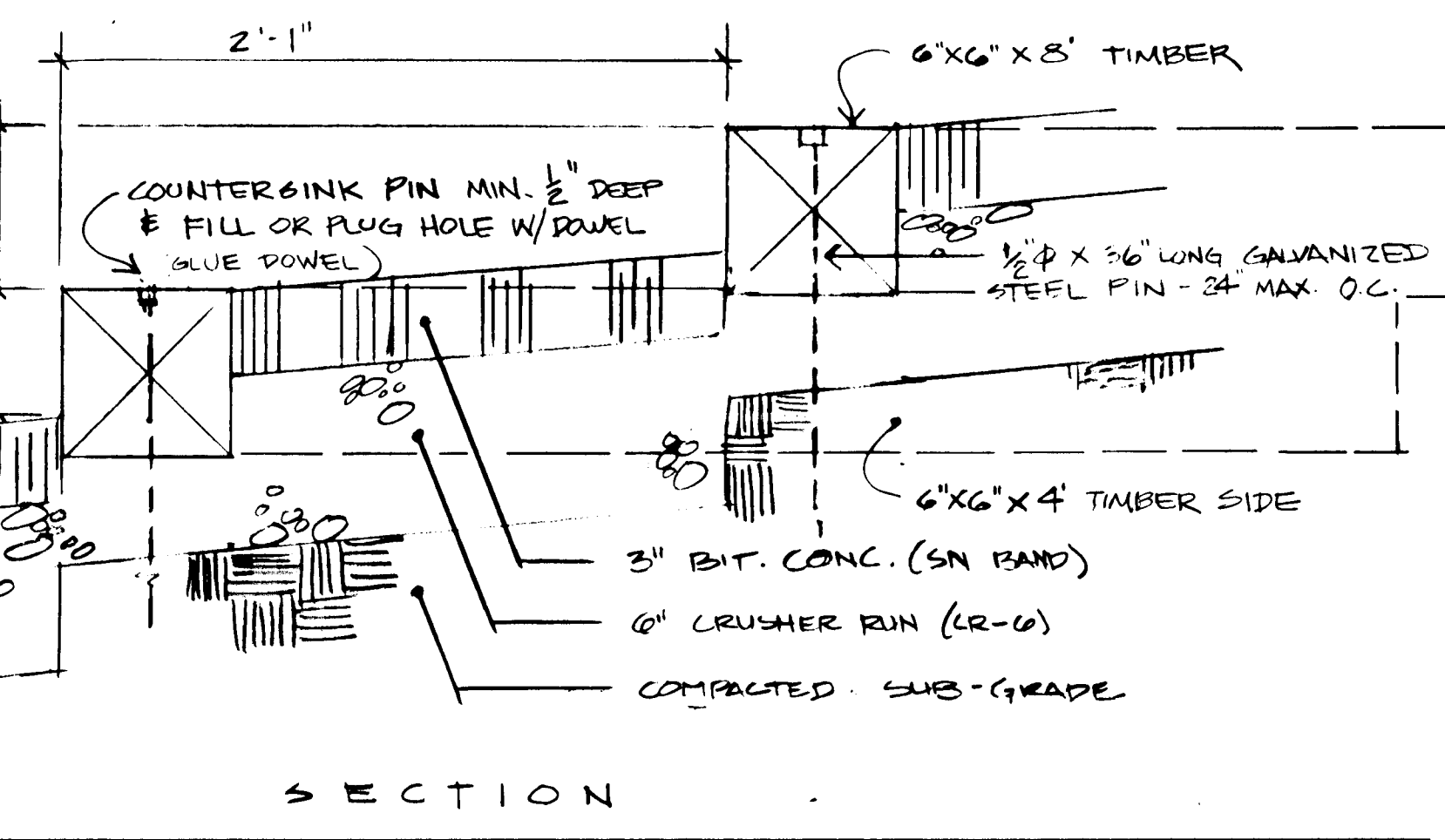
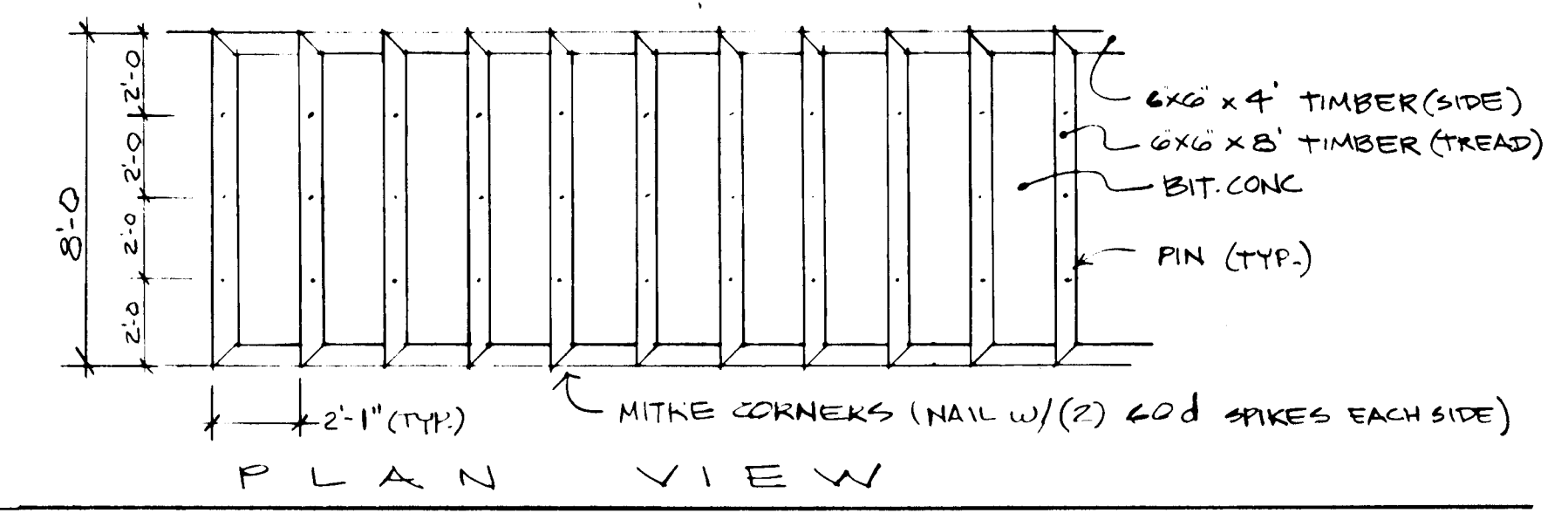
STEEL PIPE BOLLARD F



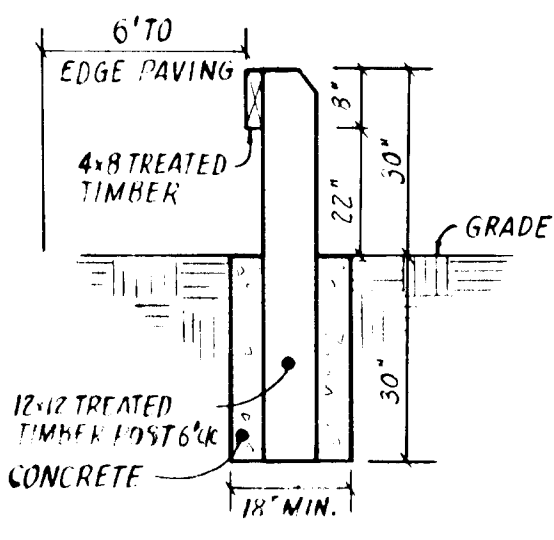
WIDENING STRIPS ALONG EXISTING ROADWAYS G-2 M
Not To Scale



BITUMINOUS CONCRETE PATHWAY G
Not to Scale



TIMBER STEPS H
Not to Scale



TIMBER GUARD RAIL I
nts

SITE DETAILS

SDP #90-18
ALPHA RIDGE PARK
REVIEWED NO FACILITIES REQUIRED
HOWARD COUNTY HEALTH DEPARTMENT
Joyce M. Boyd, Director 1/24/92
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
James R. Batten, Director 1/27/92
Approval Stamp: James R. Batten, Director 1/27/92

APPROVED FOR PRIVATE WATER AND NO SEWERAGE, FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
James R. Batten, Director 1/24/92
Approval Stamp: James R. Batten, Director 1/24/92

APPROVAL STAMP

SITE DATA
OWNER: HOWARD COUNTY
DEPT. OF PUBLIC WORKS
PROPOSED IMPROVEMENT: PARK
DEED REF. LIBER 847, F.O. 10 606
TAX MAP #10, PARCEL #23
ELECTION DISTRICT #3
CENSUS TRACT 6030
WATER: NONE
SEWER: NONE

JANUARY 24, 1992

J. CHRISTOPHER BATTEN, INC.
Land Planning & Design Consultant
8 North Church Street
Westminster, Maryland 21157
301-876-3383

SHEET
S-20
of 20

SDP 21 of 21
SDP-90-18