

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. [Signature] 11/29/87
DIRECTOR DATE

William B. [Signature] 11-29-87
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: For Septic Systems and Wells

HOWARD COUNTY HEALTH DEPARTMENT

COUNTY HEALTH OFFICER DATE

APPROVED: Howard County DEPT. of Planning and Zoning

PLANNING DIRECTOR DATE

CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT

DATE

APPROVED: Howard County Department of Recreation & Parks

DIRECTOR DATE

APPROVED: HOWARD COUNTY BUREAU OF FACILITIES

CHIEF DATE

APPROVED: HOWARD COUNTY BUREAU OF HIGHWAYS

CHIEF 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."

James [Signature] 11/29/87
Howard County Department of Public Works Date

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 4/22/89
John C. Batten Date

403 Malcolm Drive, Westminster, MD (301) 876-3383

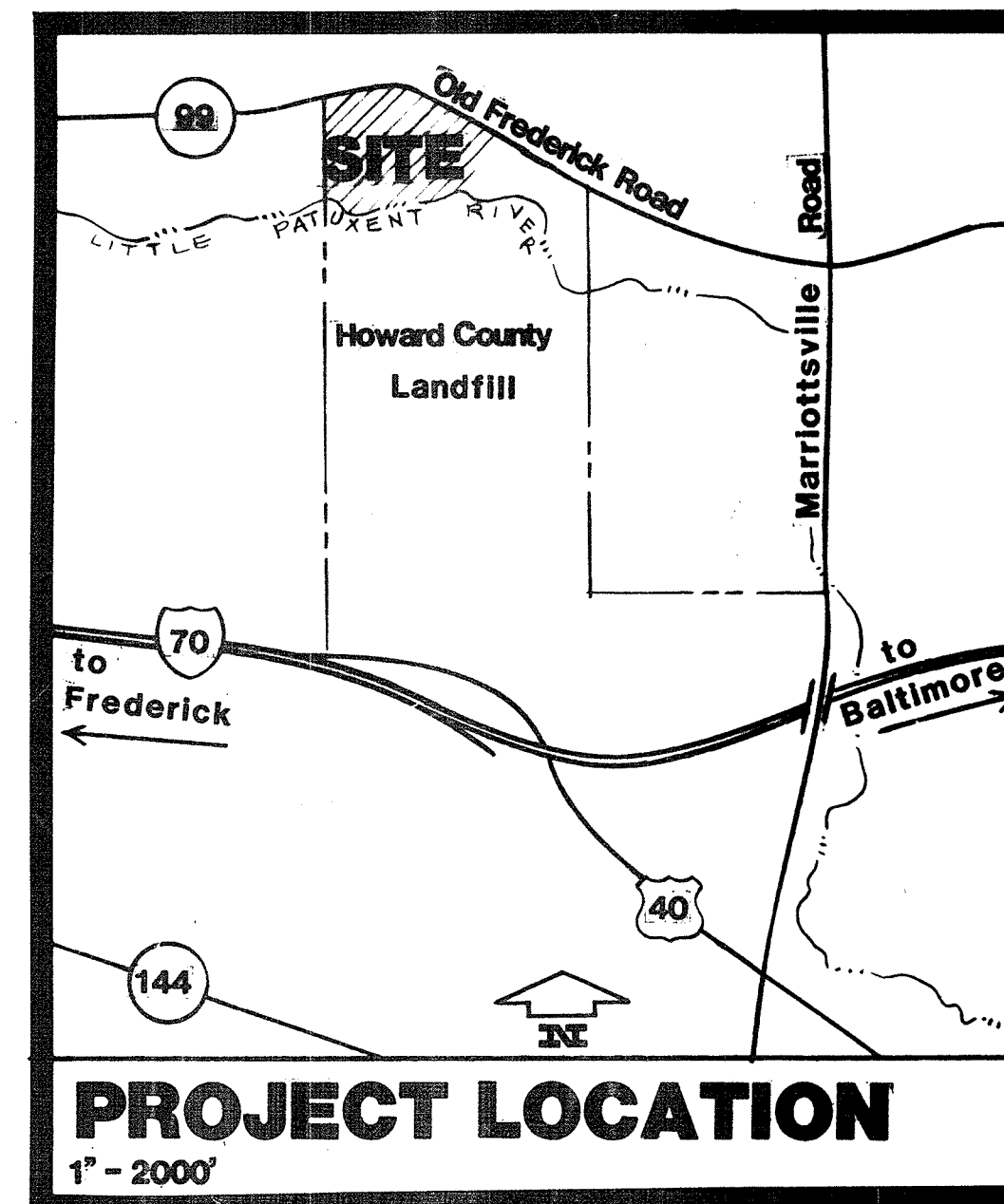
Reviewed for Howard S.C.D. and meets Technical Requirements.

U.S. Soil Conservation Service Date

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

Howard S.C.D. Date

PLAN APPROVAL STAMP



SITE DATA

SITE ADDRESS

11685 MD Route 99
Marriottsville, Maryland

SITE ANALYSIS

Zoning	
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

SITE DATA

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

DESIGN CONSULTANT

J. Christopher BATTEN, inc.
403 Malcolm Drive, Westminster, MD
301-876-3383

INDEX OF PLANS

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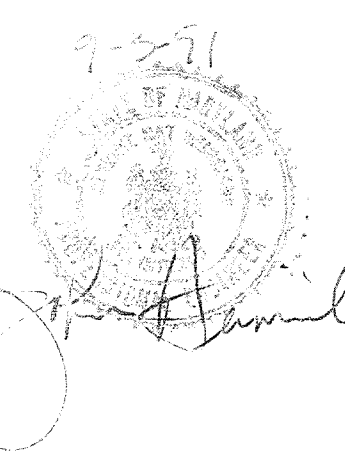
W-1 Well House

CONSTRUCTION PLANS

NOVEMBER 27, 1989 SDP 90-18

XXAL-89-001

880



REVIEWED: NO FAMILIES NOTIFIED
HOWARD COUNTY HEALTH DEPARTMENT
Joyce M. Boylston for 1/24/92
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
1/27/92
DIRECTOR
Anna Helms 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
1/24/92
DIRECTOR
James E. Kelly 1/24/92
CHIEF, BUREAU OF ENGINEERING DATE

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

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: NONE
SEWER: NONE

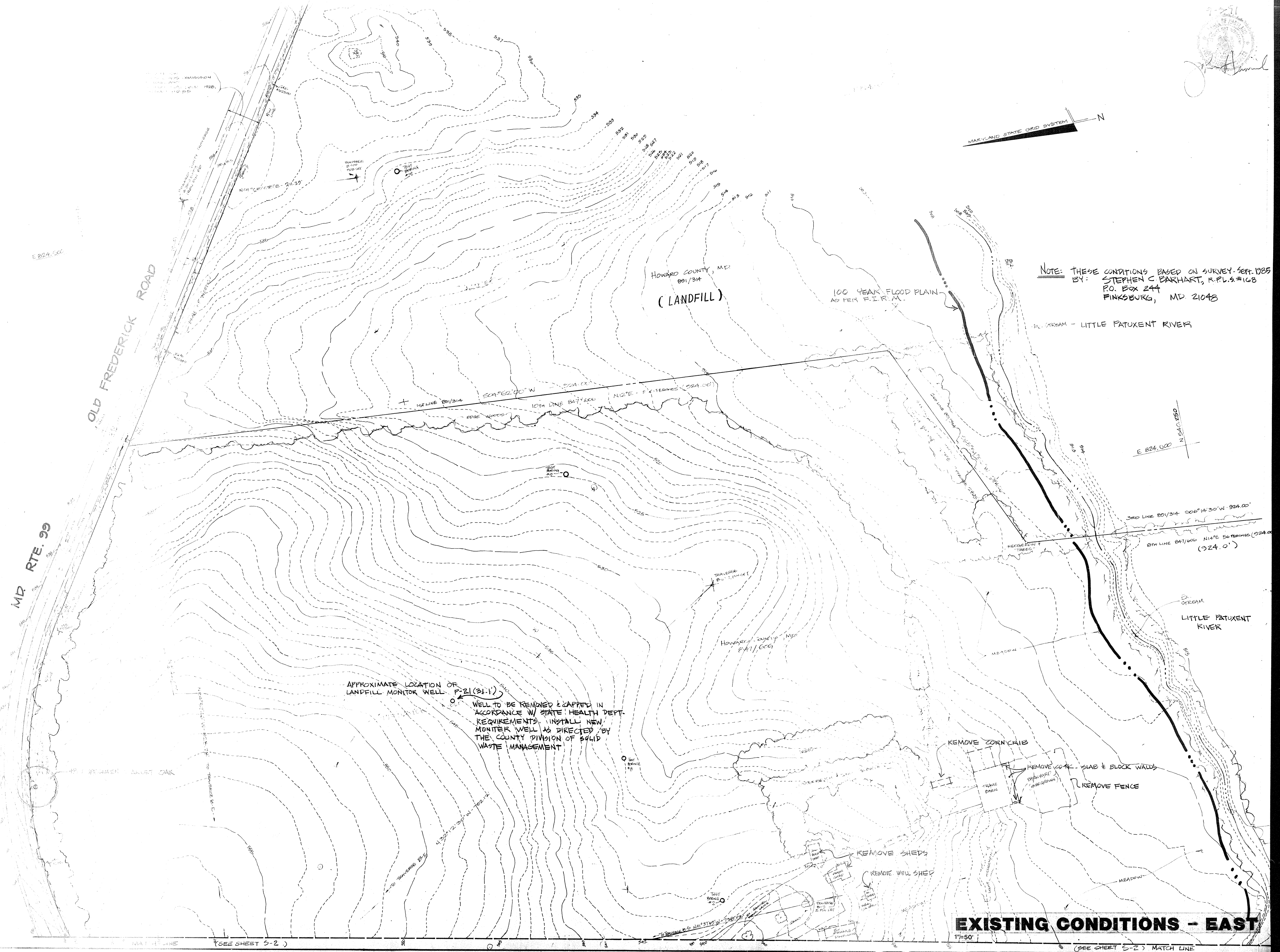
JANUARY 24, 1992



SHEET

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of 20



EXISTING CONDITIONS - EAST

1"=50'

(SEE SHEET S-2) MATCH LINE
DATE: 02/02/92 SCALE: 1"=50' XXAL-92-5001



SDP #90-18

ALPHA RIDGE PARK

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 James Batten 1/27/92
 DIRECTOR DATE
 Emma H. Homan 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. [Signature] 1/24/92
 DIRECTOR DATE
 [Signature] 1-24-92
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVAL STAMP

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 0030

WATER:
 SEWER: NONE

JANUARY 24, 1992

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

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of 20

SDP 3 of 21

EXISTING CONDITIONS - WEST

1" = 50'

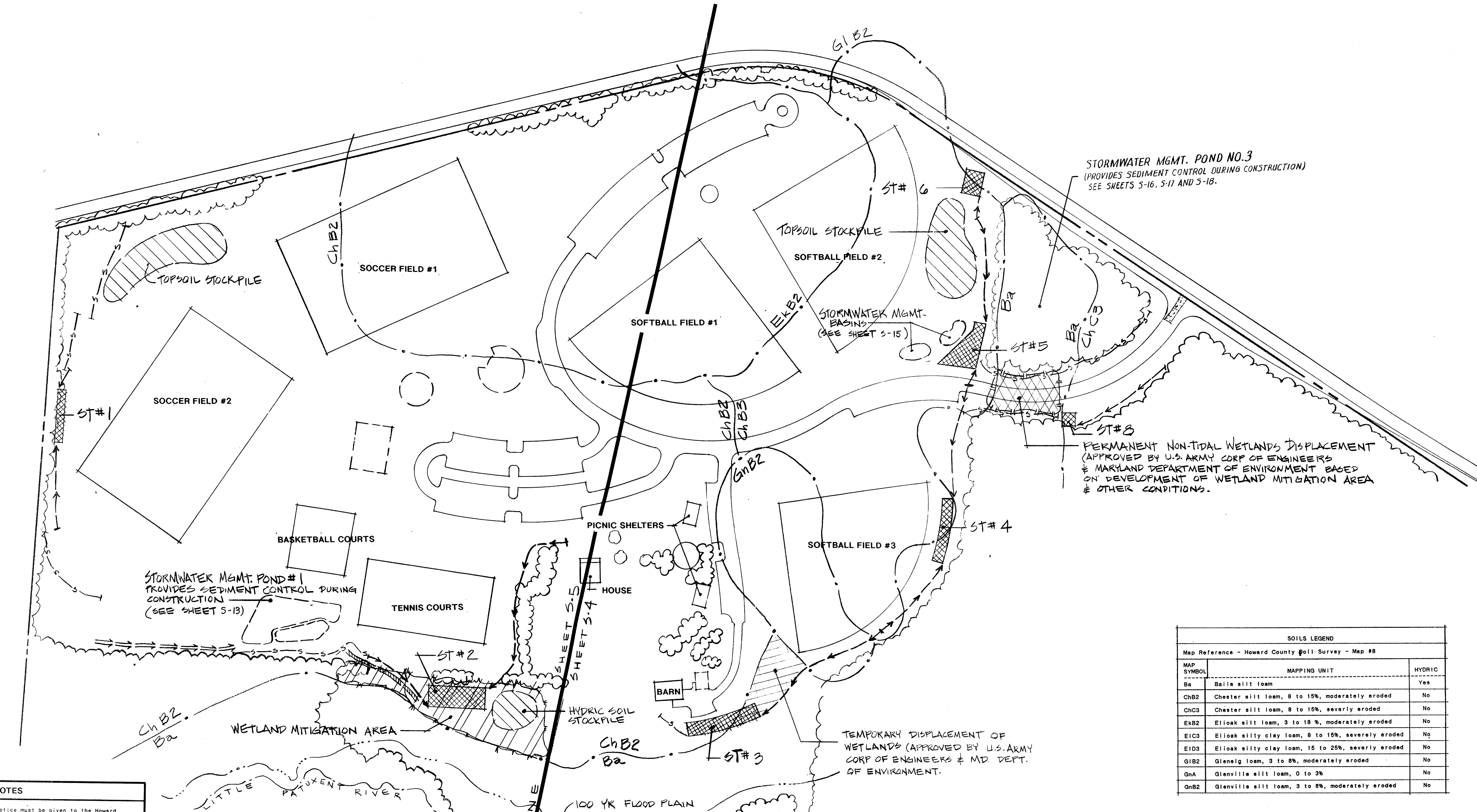
REVIEWED NO FACILITIES REQUIRED

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DIRECTOR: James S. Keatts
1/27/92
DATE
Chief, Division of Community Planning and Land Development
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 S. Keatts
1/24/92
DATE
1/24/92
DATE
Chief, Bureau of Engineering

APPROVAL STAMP



STORMWATER MGMT. POND NO.3
(PROVIDES SEDIMENT CONTROL DURING CONSTRUCTION)
SEE SHEETS 5-16, 5-17 AND 5-18.

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 Reference - Howard County Soil Survey - Map #8		
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	Eliok silt loam, 3 to 18 %, moderately eroded	No
E1C3	Eliok silty clay loam, 8 to 16%, severely eroded	No
E1D3	Eliok silty clay loam, 15 to 25%, severely eroded	No
G1B2	Glenelg loam, 3 to 8%, moderately eroded	No
GnA	Glenville silt loam, 0 to 3%	No
GnB2	Glenville silt loam, 3 to 8%, moderately eroded	No

- SEDIMENT CONTROL NOTES**
- 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 (892-2437).
 - All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
 - Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes, and all slopes greater than 5%; b) 14 days for all other disturbed or graded areas on the project site.
 - All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
 - All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50), and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
 - All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
 - Site Analysis:
Total Area of Site: 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: 95,000 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 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."

Howard County Department of Public Works
3450 Court House Drive, Ellicott City, MD (301) 922-2040
Date: 1/27/92

"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, Landscape Architect
8 North Church Street, Westminster, MD (301) 876-3383
Date: 1/27/92

Reviewed for HOWARD COUNTY, S.C.D.
Name: [Signature]
Title: [Signature]
Date: 1/27/92

Reviewed for HOWARD COUNTY, S.C.D.
Name: [Signature]
Title: [Signature]
Date: 1/27/92

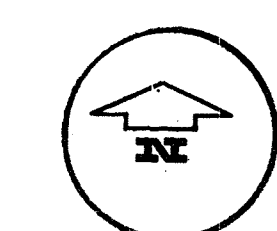
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

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

9-391
[Signature]



SEDIMENT CONTROL PLAN

1"=100'

SHEET

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of 20

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

REVIEWED NO FACILITIES REQUIRED

HOWARD COUNTY HEALTH DEPARTMENT
Joyce M. Boyd, MD per sign 1/24/92
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

James S. Breen 1/27/92
DIRECTOR DATE
Emma Holmquist 1/27/92
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR PRIVATE WATER AND NO GENERATE, FOR STORM DRAINAGE SYSTEMS

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
James P. ... 1/24/92
DIRECTOR DATE
... 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 8030
WATER:
SEWER: NONE

JANUARY 24, 1992

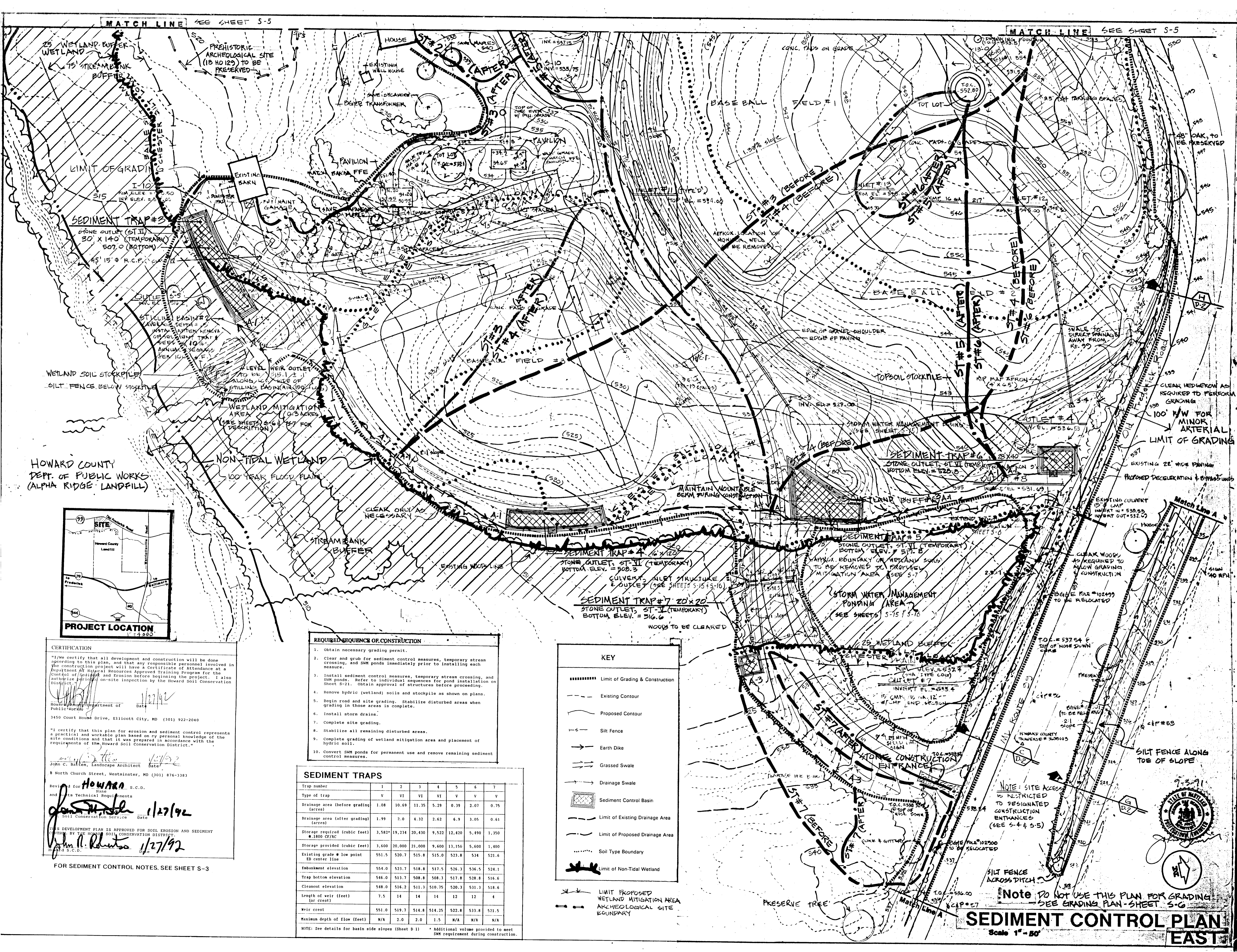
REVISED AUG. 24, 1992
(ADD WETLAND MITIGATION AND ARCHEOLOGIC AREAS)



SHEET

S-4

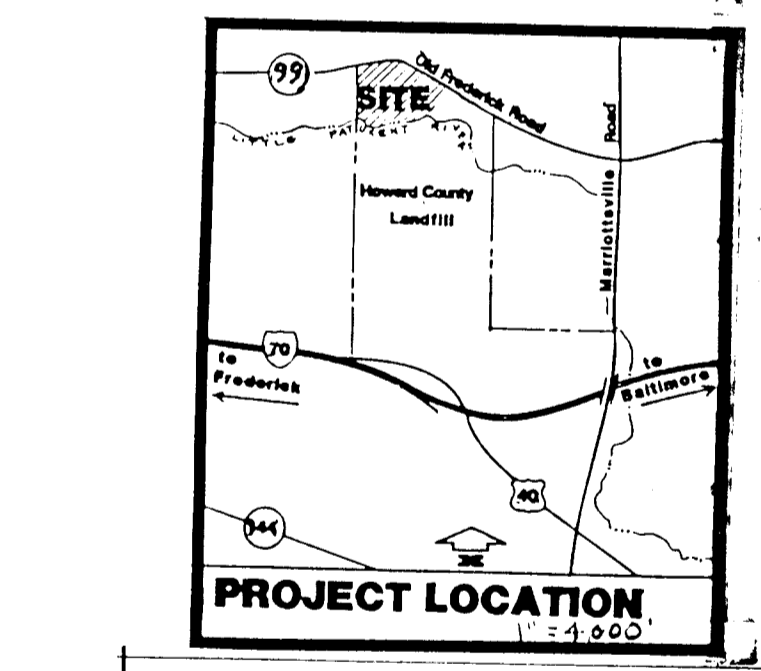
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MATCH LINE SEE SHEET S-5

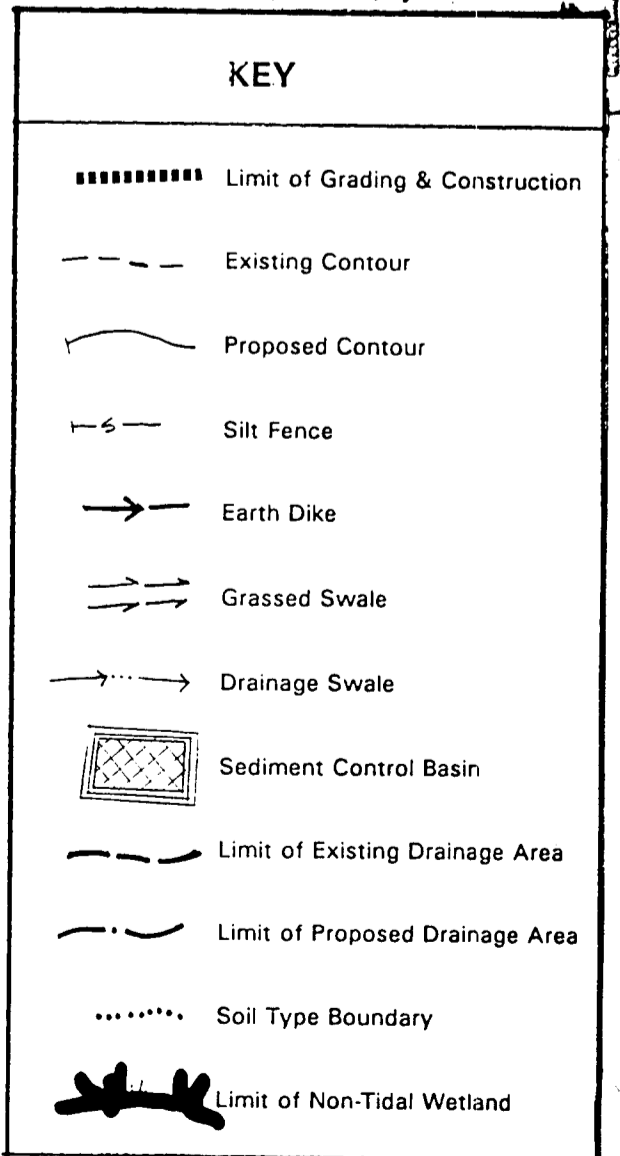
MATCH LINE SEE SHEET S-5

HOWARD COUNTY
DEPT. OF PUBLIC WORKS
(ALPHA RIDGE LANDFILL)



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 erosion and sedimentation before beginning the project. I also authorize personnel on-site inspection by the Howard Soil Conservation District.
John C. Batten, Landscape Architect
John C. Batten, Landscape Architect
8 North Church Street, Westminster, MD (301) 876-3383

- REQUIRED SEQUENCE OF CONSTRUCTION
1. Obtain necessary grading permit.
 2. Clear and grub for sediment control measures, temporary stream crossing, and SWM ponds immediately prior to installing each measure.
 3. Install sediment control measures, temporary stream crossing, and SWM 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 SWM 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
Embankment 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
Cleanout 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 SWM requirement during construction.

SEDIMENT CONTROL PLAN EAST

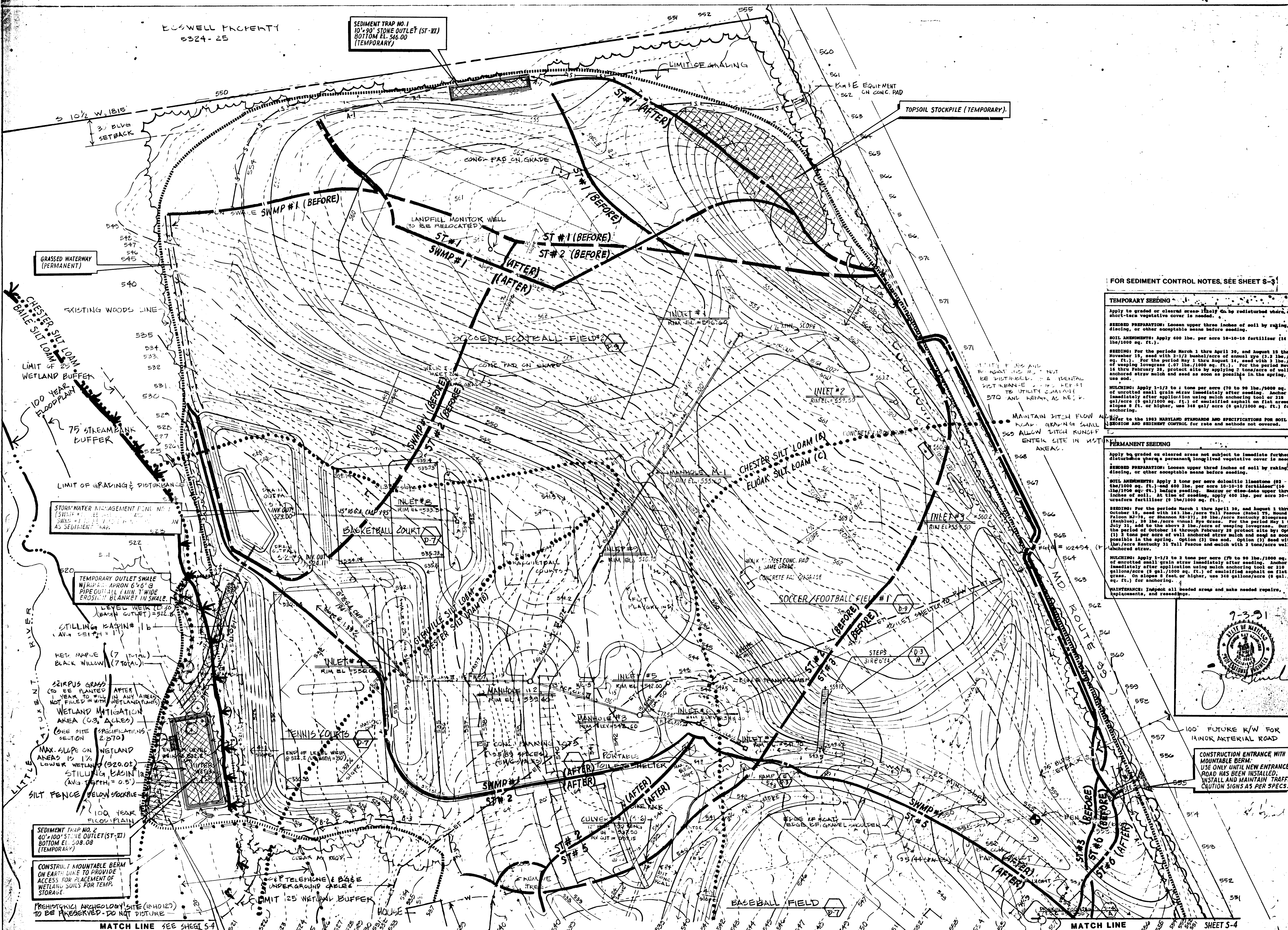
Scale 1" = 50'

REVIEWED NO FACILITIES REQUIRED

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
James M. Boyle, Director
1/27/92
Emina Hadzovic, 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 M. Boyle, Director
1/24/92
James M. Boyle, Chief, Bureau of Engineering
1/24/92



FOR SEDIMENT CONTROL NOTES, SEE SHEET S-3

TEMPORARY SEEDING
Apply to graded or cleared areas that are not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
SEEDING PREPARATION: Loosen upper three inches of soil by raking, discing, or other acceptable means before seeding.
SOIL AMENDMENTS: Apply 400 lbs. per acre 10-10-10 fertilizer (14 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 (3.2 lbs./1000 sq. ft.). For the period May 1 thru August 14, seed with 3 lbs./acre of seeding lovegrass (0.7 lbs./1000 sq. ft.). For the period November 15 thru February 28, protect site by applying 5 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 3 tons per acre (70 to 90 lbs./5000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 210 gal/acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas, slopes 8 ft. or higher, use 348 gal/acre (8 gal/1000 sq. ft.) for anchoring.
Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

PERMANENT SEEDING
Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
SEEDING PREPARATION: Loosen upper three inches of soil by raking, discing, or other acceptable means before seeding.
SOIL AMENDMENTS: Apply 2 tons per acre dolomitic limestone (93 lbs./1000 sq. ft.) and 400 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq. ft.) before seeding. Maximize or disperse upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 urea fertilizer (14 lbs./1000 sq. ft.).
SEEDING: For the periods March 1 thru April 30, and August 15 thru October 15, seed with 1 1/2 lbs./acre Tall Fescue (Rebel 75, Round Dog, Falcon 2175, or Shannon 21-21); 20 lbs./acre Kentucky Bluegrass (Knaplus), 20 lbs./acre annual ryegrass. For the period May 1 thru July 31, seed to the above 2 lbs./acre of seeding lovegrass. During the period of October 15 through February 28 protect site by October 15 thru February 28, protect site by applying 5 tons/acre of well anchored straw mulch and seed as soon as possible in the spring. Option (1) use sod. Option (2) seed with 40 lbs./acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.
MULCHING: Apply 1-1/2 to 3 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 gal/acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas, slopes 8 ft. or higher, use 348 gal/acre (8 gal/1000 sq. ft.) for anchoring.
MAINTENANCE: Inspect all seeded areas and make needed repairs, replacements, and reseeding.

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

REVISED 8/25/92
WETLAND MITIGATION AREA
REVISED TO AVOID
ARCHAEOLOGICAL SITE

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

SHEET
S-5
of 20

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

SEDIMENT CONTROL PLAN - WEST

Scale 1" = 50'

REVIEWED NO FACILITIES REQUIRED

HOWARD COUNTY DEPT. OF PUBLIC WORKS
 1/24/92

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 1/27/92

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 1/27/92

APPROVED: FOR PUBLIC USE AND USE OF HIGHWAY, FOR OTHER PURPOSES
 1/24/92

APPROVED: 1/24/92

APPROVAL STAMP

SITE DATA

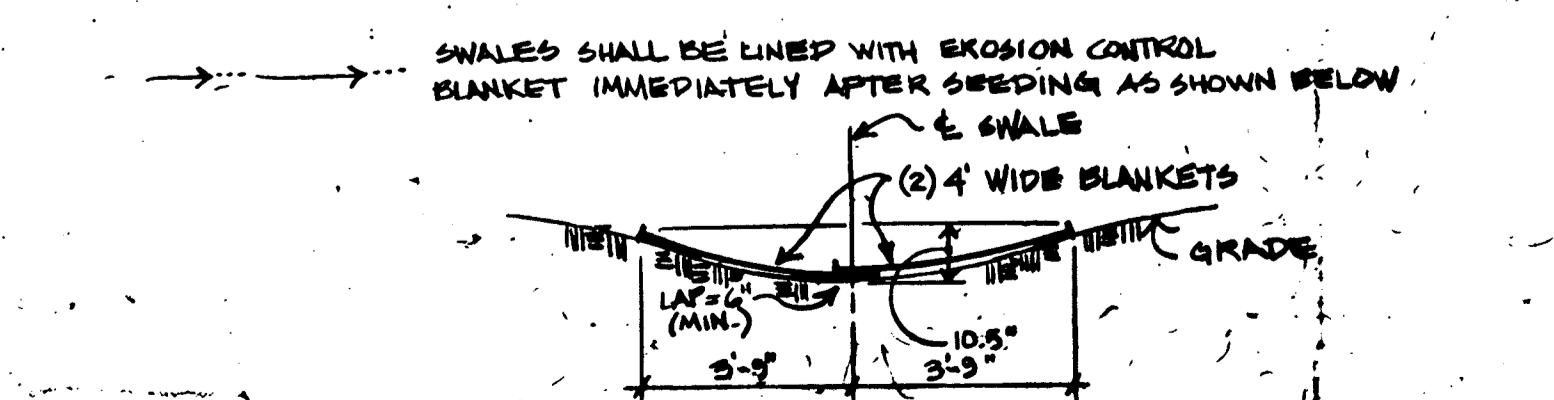
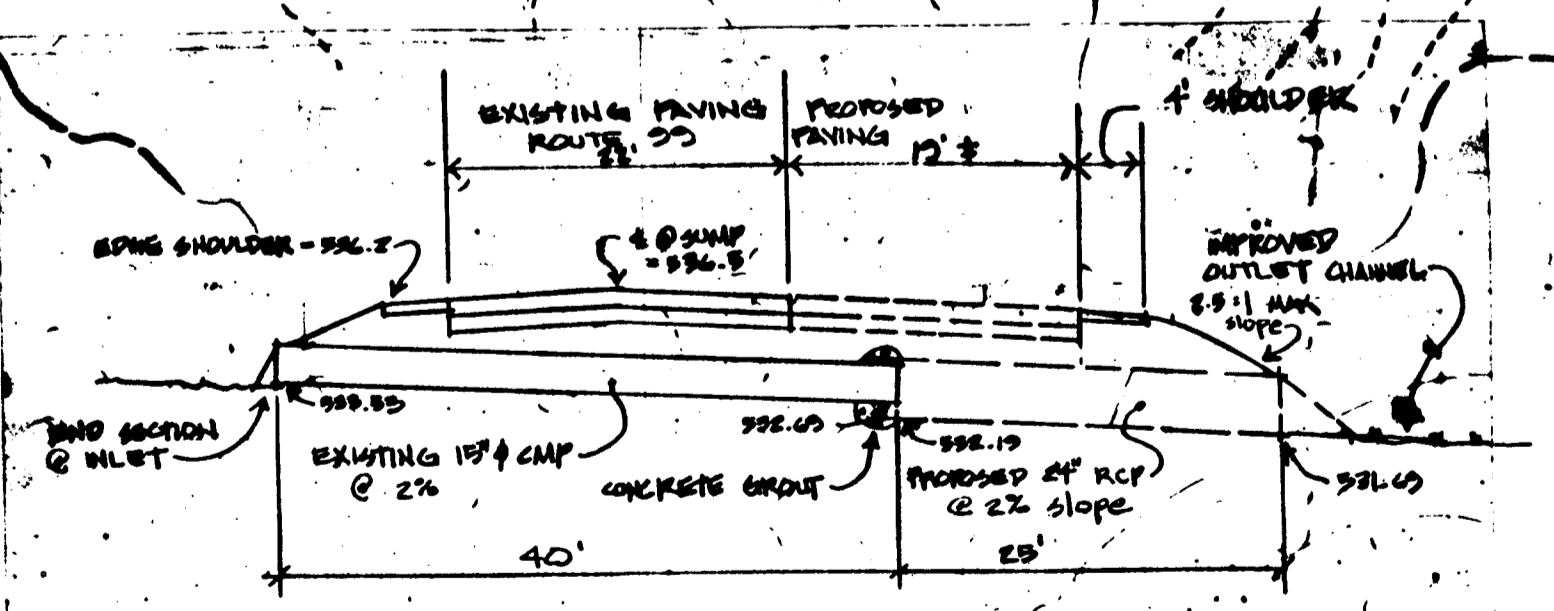
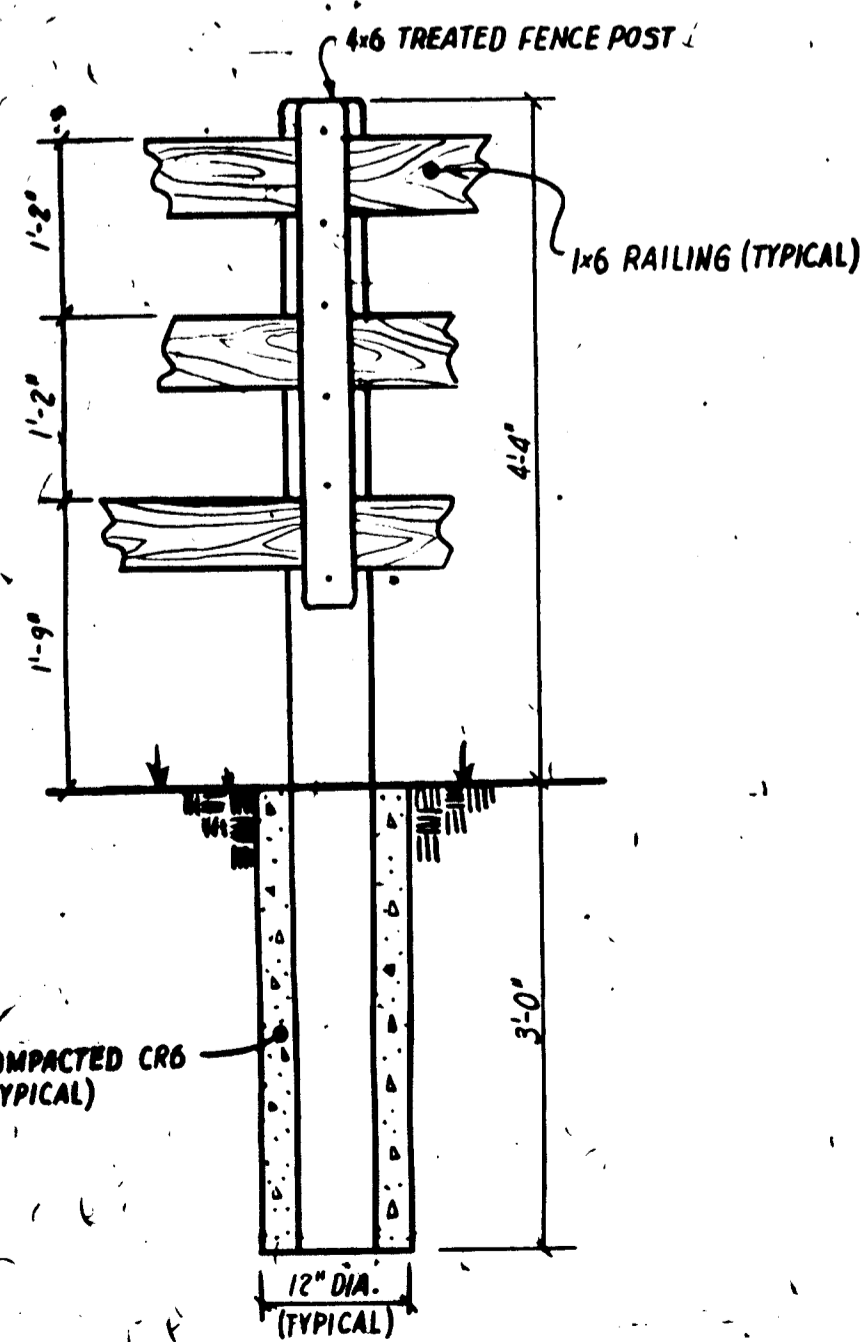
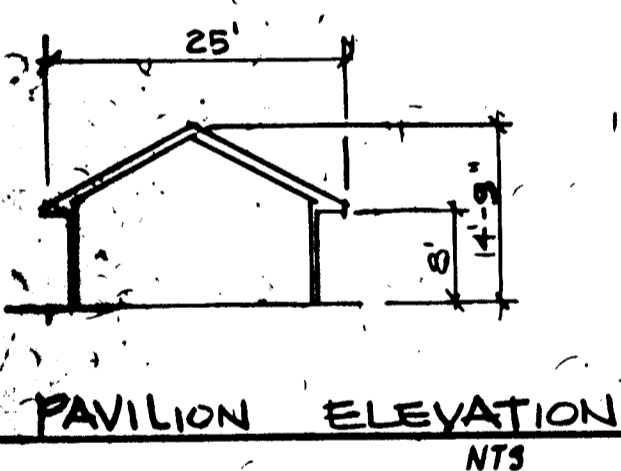
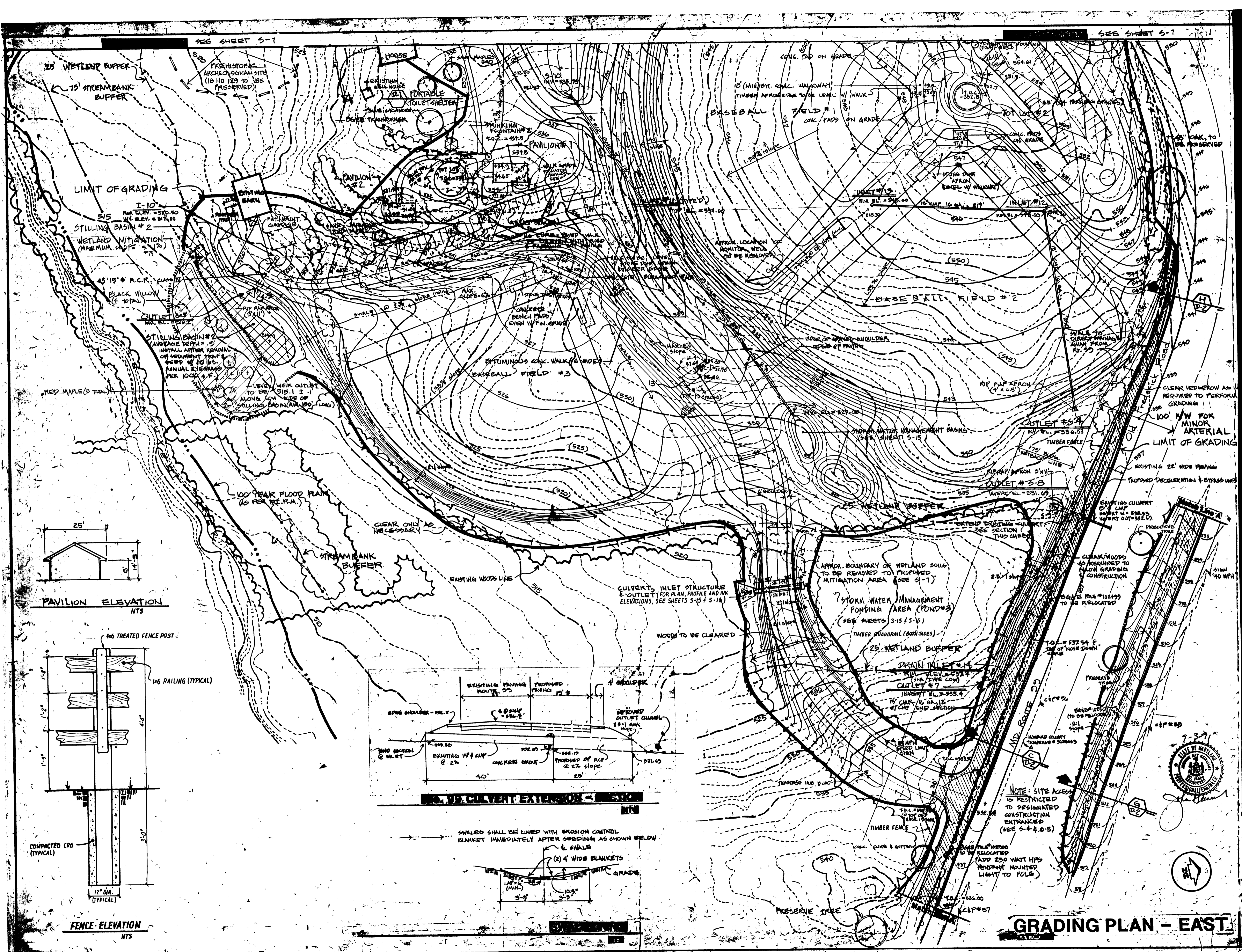
OWNER: HOWARD COUNTY
 DEPT. OF PUBLIC WORKS
 PROPOSED IMPROVEMENT: PARK
 DEED REF. LIBER 847, FOLIO 608
 TAX MAP #10, PARCEL #23
 ELECTION DISTRICT #3
 CENSUS TRACT 6030
 WATER:
 SEWER: NONE

JANUARY 24, 1992

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

J. CHRISTOPHER BATTEN, INC.
 Land Planning & Design Consultant
 8 North Church Street
 Annapolis, Maryland 21403
 301-474-5200

SHEET
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 of 20



GRADING PLAN - EAST

REVIEWED NO FACILITIES REQUIRED
HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER
1/24/92

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DIRECTOR
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
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR
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 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-8
of 20
SDP 9 of 21

MANHOLE SCHEDULE

No.	Type	Size	Inv. Out	Rim Elev.
M-1	Standard Precast	12'-0"	549.82	555.60
M-2	Shallow Precast	---	534.75	539.40
M-3	Shallow Precast	---	536.36	542.60

INLET SCHEDULE

No.	Type	Q cfs	Inv. Out	Rim Elev.
I-1	YARD INLET	2.30	552.27	556.60
I-2	YARD INLET	0.36	554.74	559.50
I-3	YARD INLET	0.27	556.45	559.50
I-4	'S'	13.48	526.28	530.00
I-5	YARD INLET	0.58	538.45	542.00
I-6	YARD INLET **	4.44	537.71	543.00
I-7	'S'	4.75	538.80	541.70
I-8	YARD INLET	1.25	530.25	533.80
I-9	YARD INLET	4.03	537.21	540.75
I-10	'D' INLET	4.39	517.00	520.50
I-11	'S'	5.29	530.78	534.00
I-12	YARD INLET **	1.88	539.83	545.00
I-13	YARD INLET	0.52	542.45	545.00
I-14	COG - 10	0.85	534.00	537.40
I-15	'D' INLET	1.53	536.52	539.02

OUTLET SCHEDULE

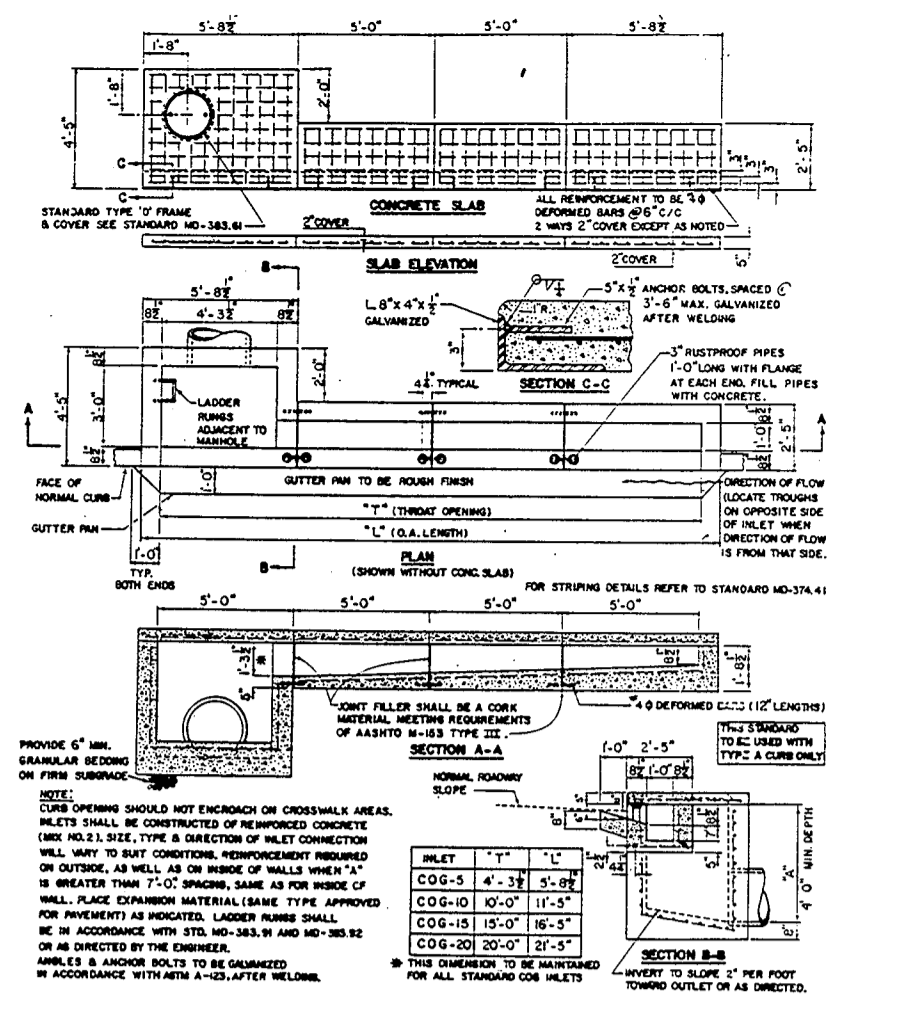
Struct. No.	Disch. CFS (Q10)	Pipe Dia. (in.)	Length of Apron	Width of Apron (in.)	Stone Size
S-1	1.25	15	4	5.25	4
S-2	13.5	24	10	12	4
S-3	5.29	15	9	10.5	4
S-4	1.88	15	4	5.25	4
S-5	4.39	15	9	10.3	4
S-8	0.85	15	4	5.25	4

DRAINAGE AREA RUNOFF DATA

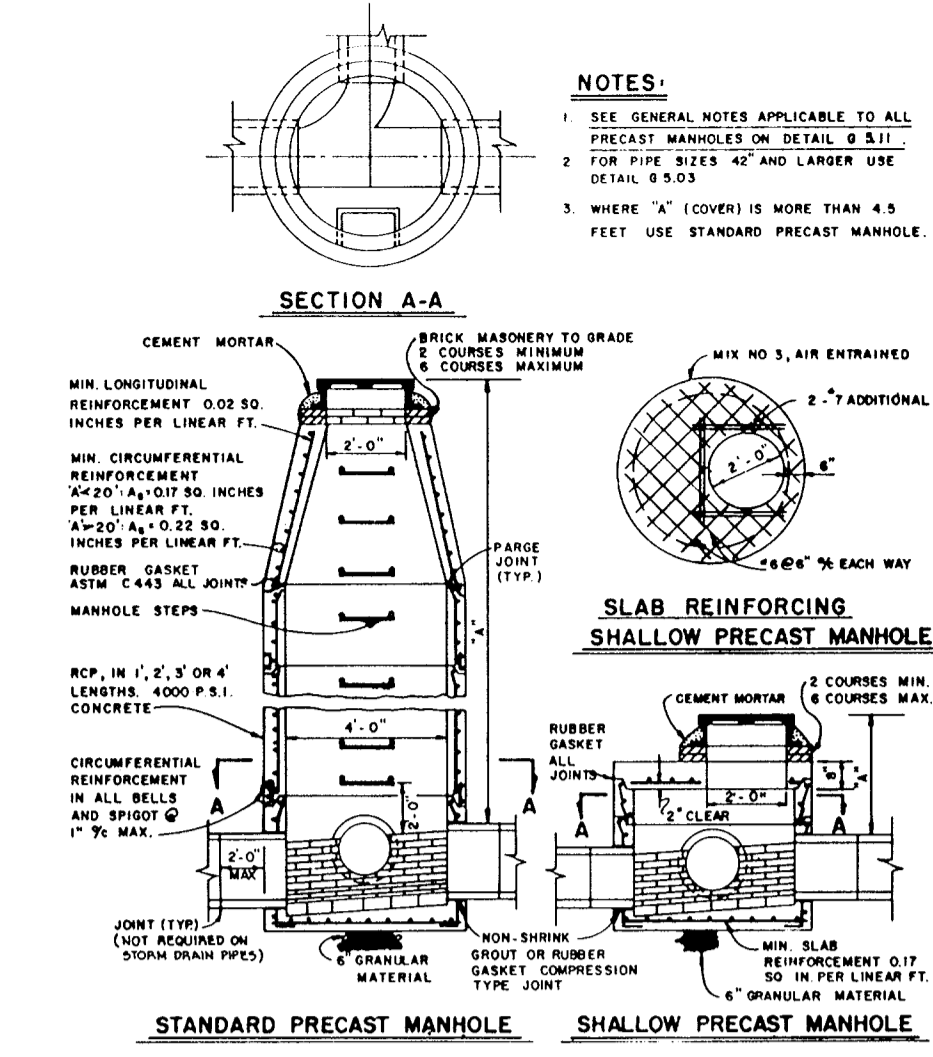
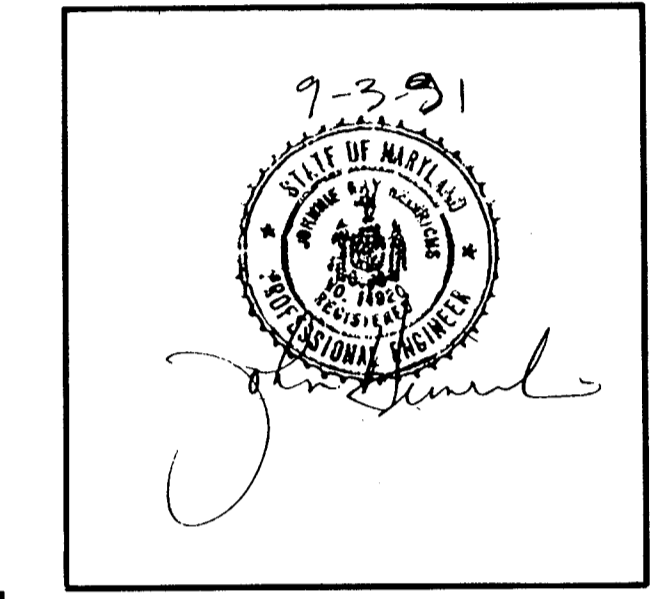
STRUCTURE	AREA (acres)	C	Q (CFS)
I-1	1.71	0.20	2.30
I-2	0.34	0.20	0.36
I-3	0.27	0.20	0.27
I-4	1.93	0.53	13.48
I-5	0.40	0.27	0.58
I-6	0.08	0.95	4.44
I-7	2.95	0.27	4.06
I-8	0.88	0.28	1.25
I-9	1.53	0.25	4.03
I-10	1.52	0.47	4.39
I-11	3.06	0.29	5.29
I-12	0.54	0.38	1.88
I-13	0.30	0.26	0.52
I-14	0.11	0.95	0.85
I-15	0.33	0.55	1.53
S-10	0.41	0.53	3.36
C-2	8.13	0.29	*

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

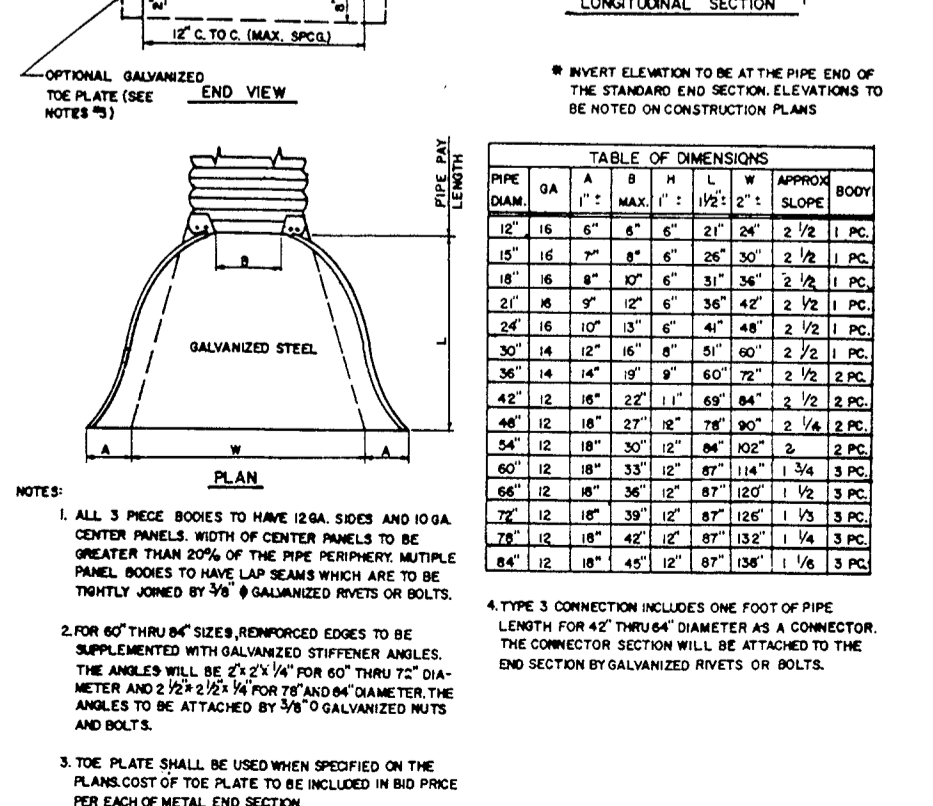
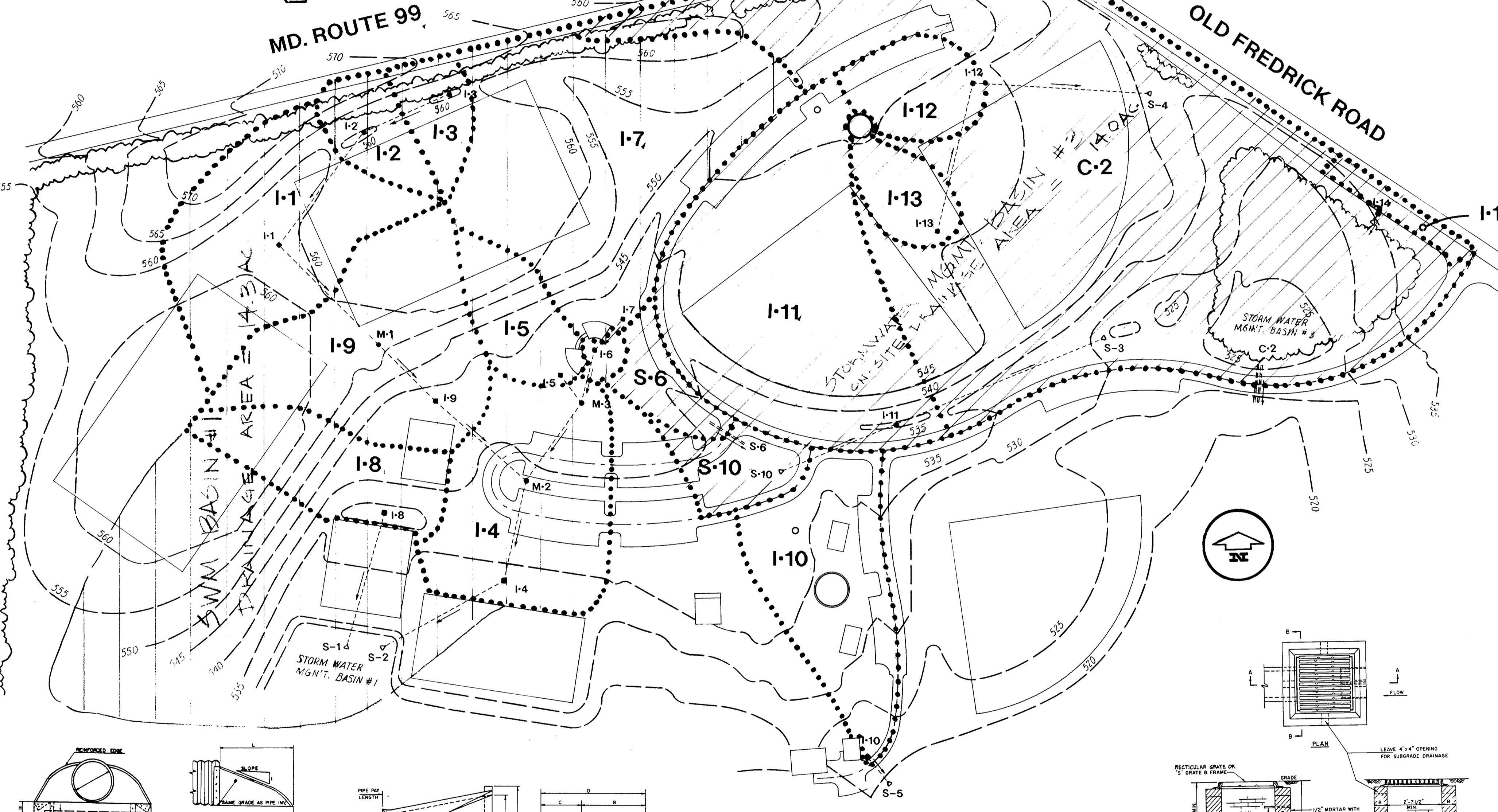
* EXTENDED DEPTH INLETS WILL REQUIRE 24" RCCP LONGER THAN 4 FEET.



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



PRECAST MANHOLE
NTS

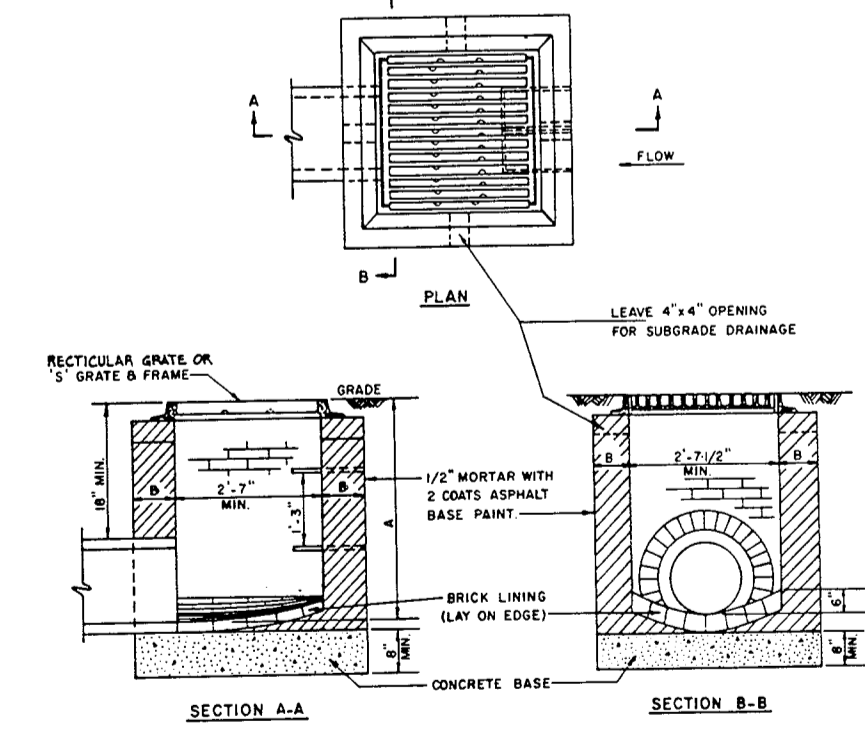


METAL END SECTION
NTS

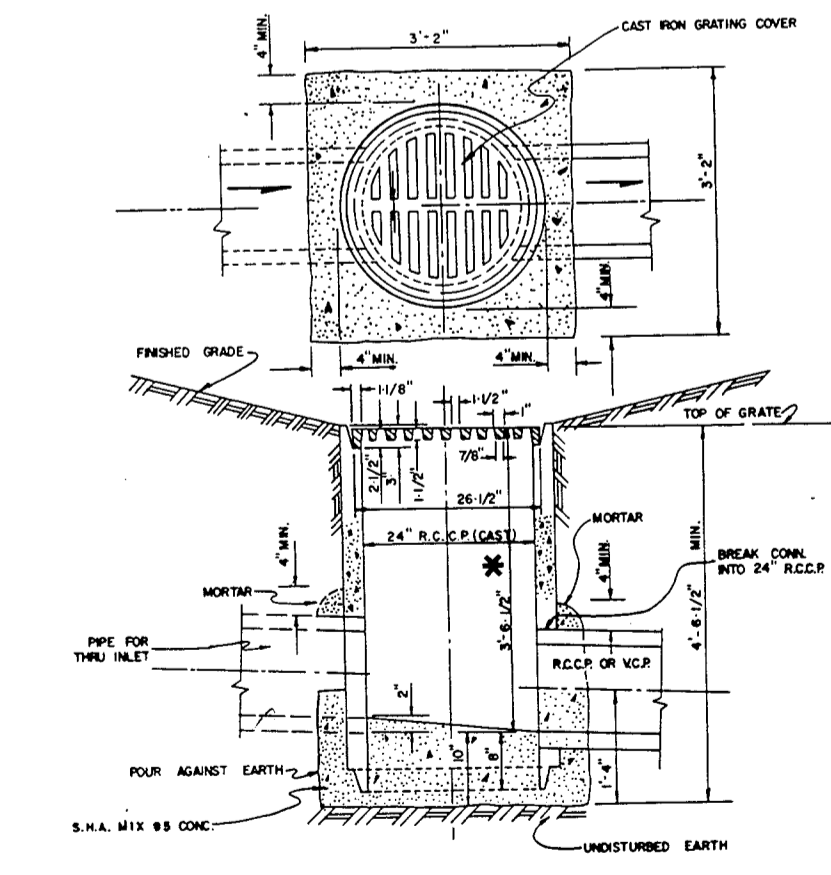
CONC. END SECTION
NTS

STORM DRAIN COORDINATES

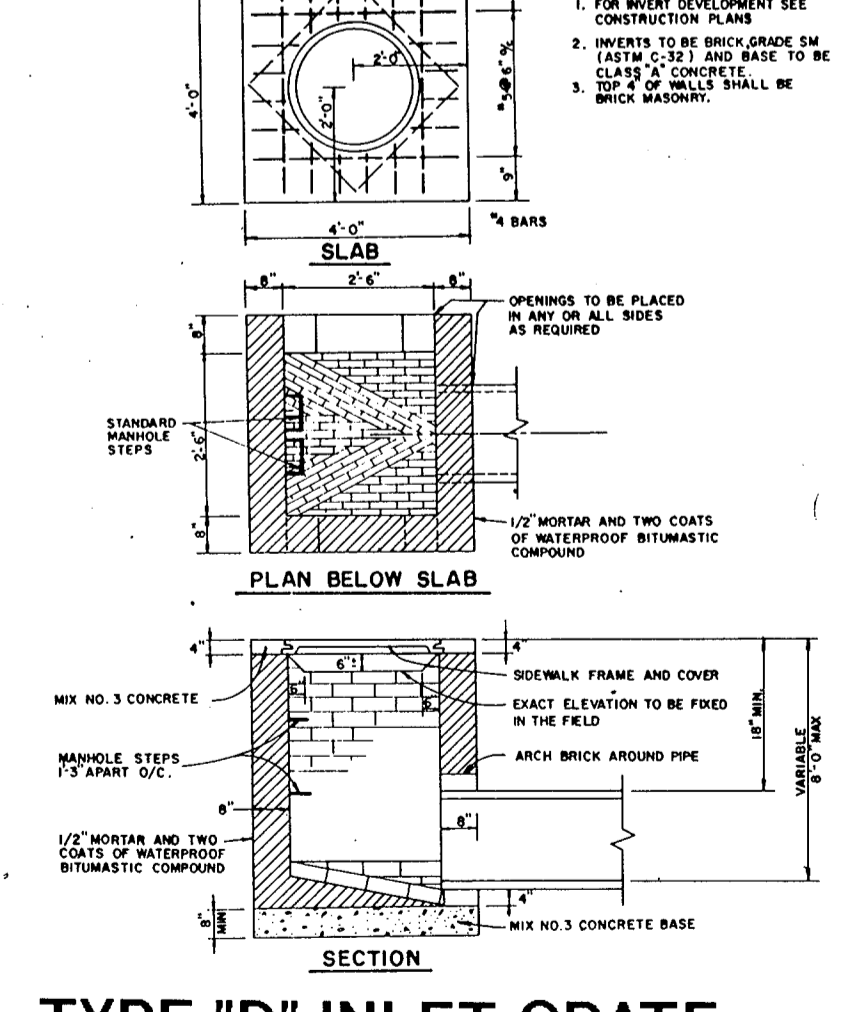
POINT NO.	STRUCTURE	NORTH	EAST
360	I-3	542007.0271	823124.4218
361	I-2	541952.2663	823003.2184
362	I-1	541789.4421	822883.6680
363	M-1	541649.2602	823026.3181
364	S-1	541221.7977	822983.7545
365	I-6	541643.2767	823333.8810
366	M-3	541567.9190	823315.4451
367	I-7	541687.8654	823374.0288
368	I-6	541607.5867	823285.0070
369	I-9	541569.3565	823107.6287
370	M-2	541456.5143	823237.4387
371	I-4	541314.6829	823207.2915
372	I-8	541409.7056	823035.8660
373	S-2	541220.3832	823037.7523
374	I-11	541538.8740	823767.0499
375	I-10	541065.7179	823726.9232
376	S-3	541864.4365	824055.9427
377	I-13	541816.4424	823821.0470
378	I-12	542027.8807	823869.8614
379	S-4	542014.7967	824119.5188
380	I-14	541845.8269	824450.2902
381	S-7	541835.7994	824443.6986
382	S-10	541473.6805	823603.5696
383	S-5	541030.9770	823755.5252
384	I-15	541533.5926	823503.2601



TYPE "S" INLET
NTS



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

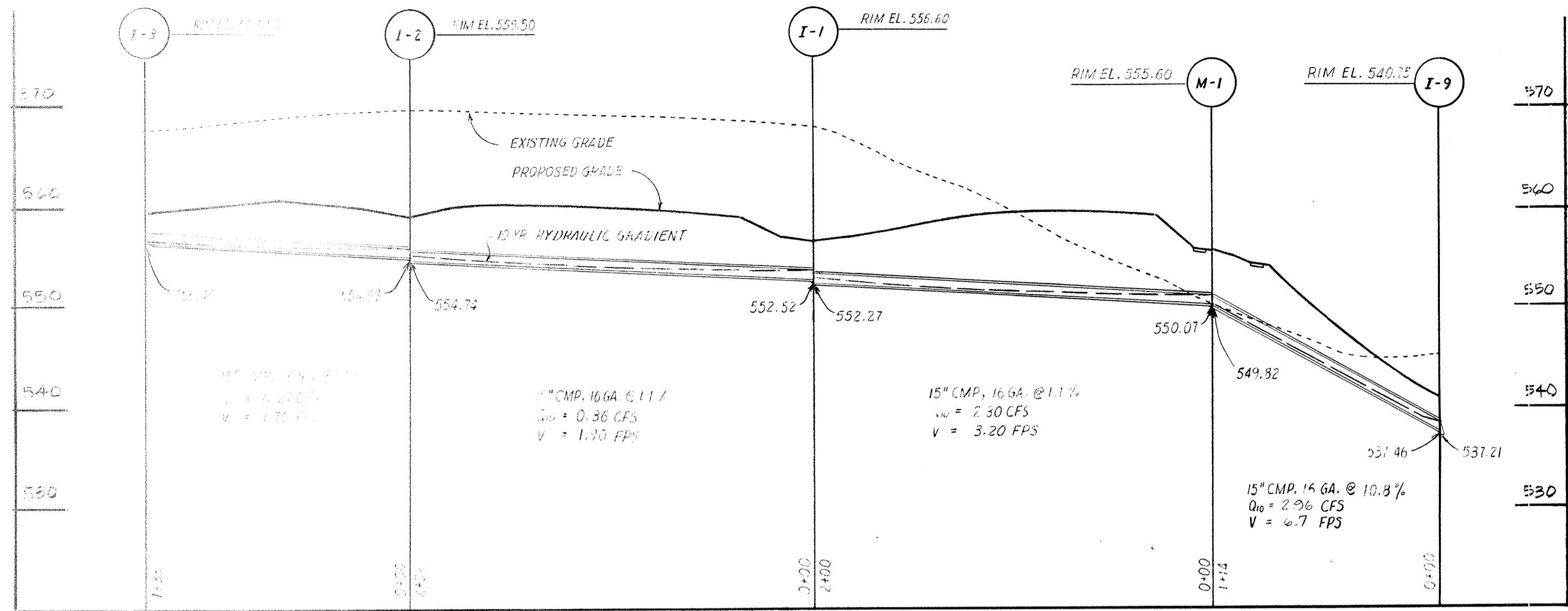
James M. Englander, Jr. 1/24/92
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

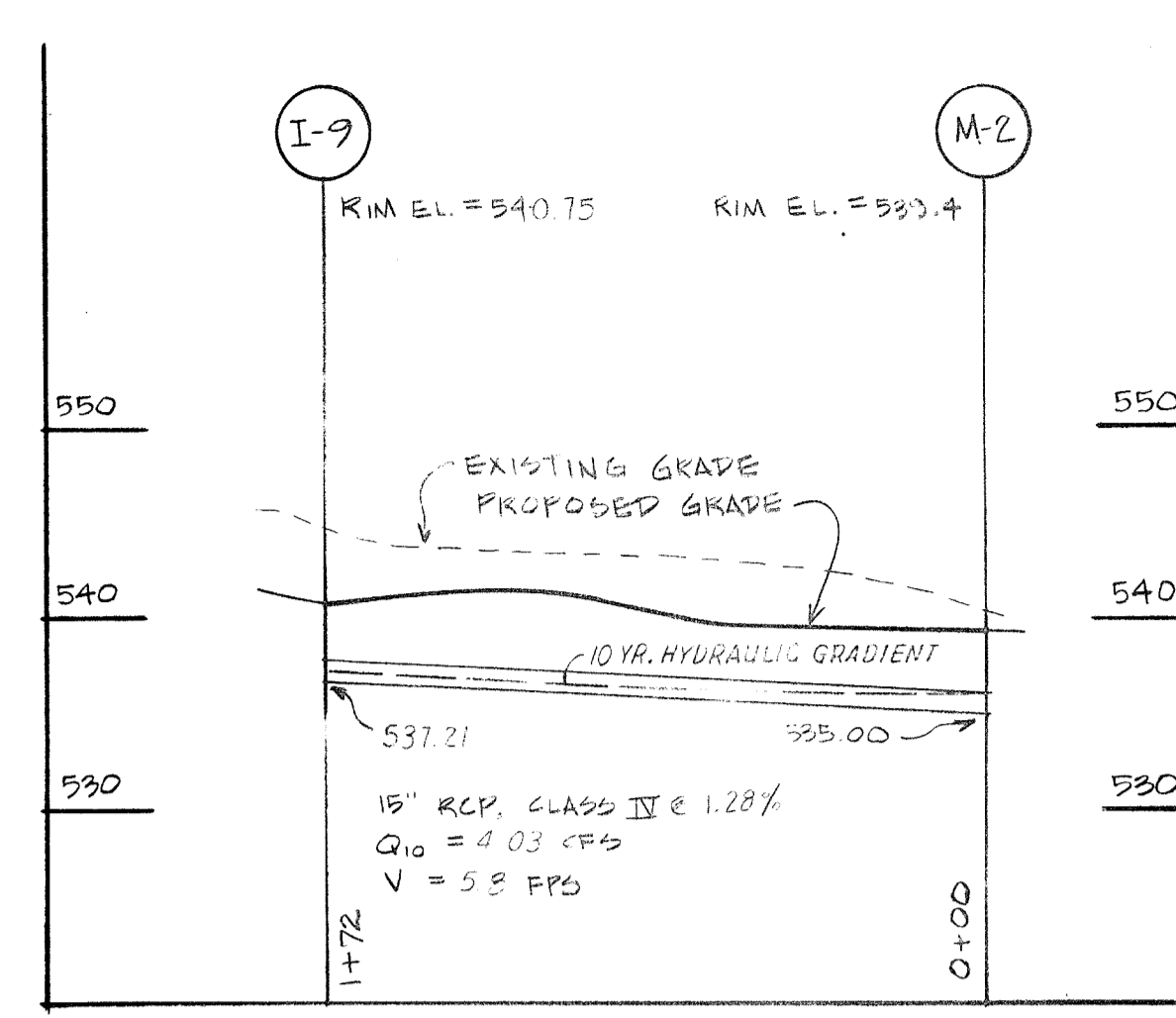
James Smith 1/27/92
DATE
Emma Honnert 1/21/92
DATE
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

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

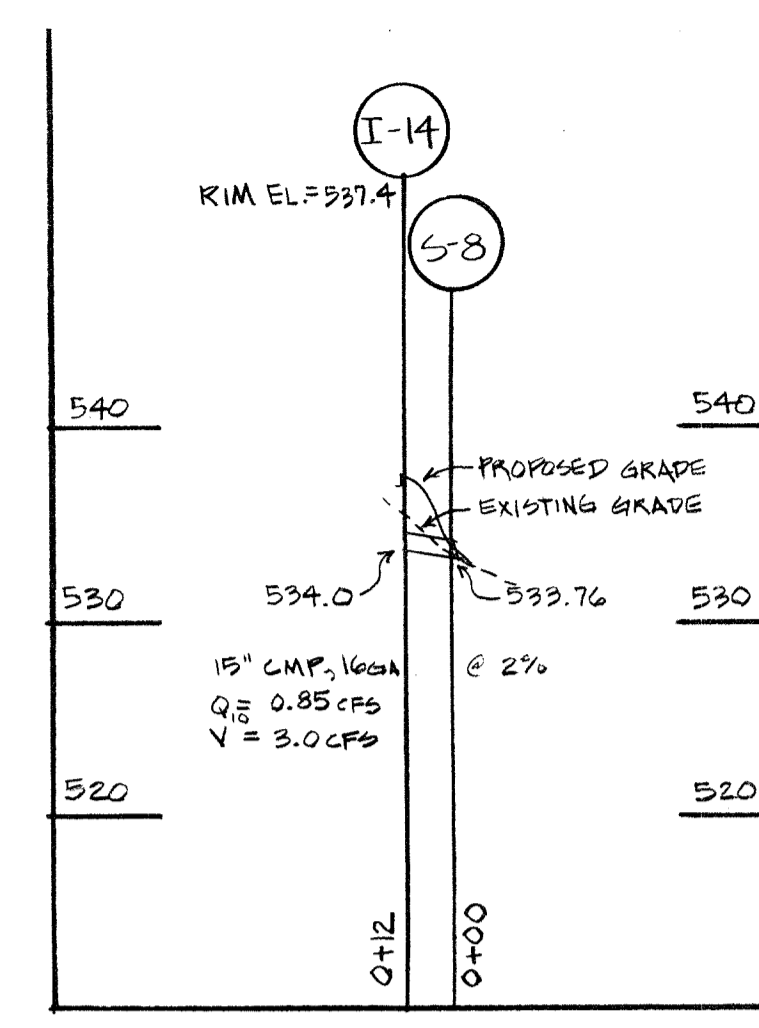
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
James M. Englander, Jr. 1/24/92
DATE
Director
James M. Englander, Jr. 1/24/92
DATE
Chief, Bureau of Engineering



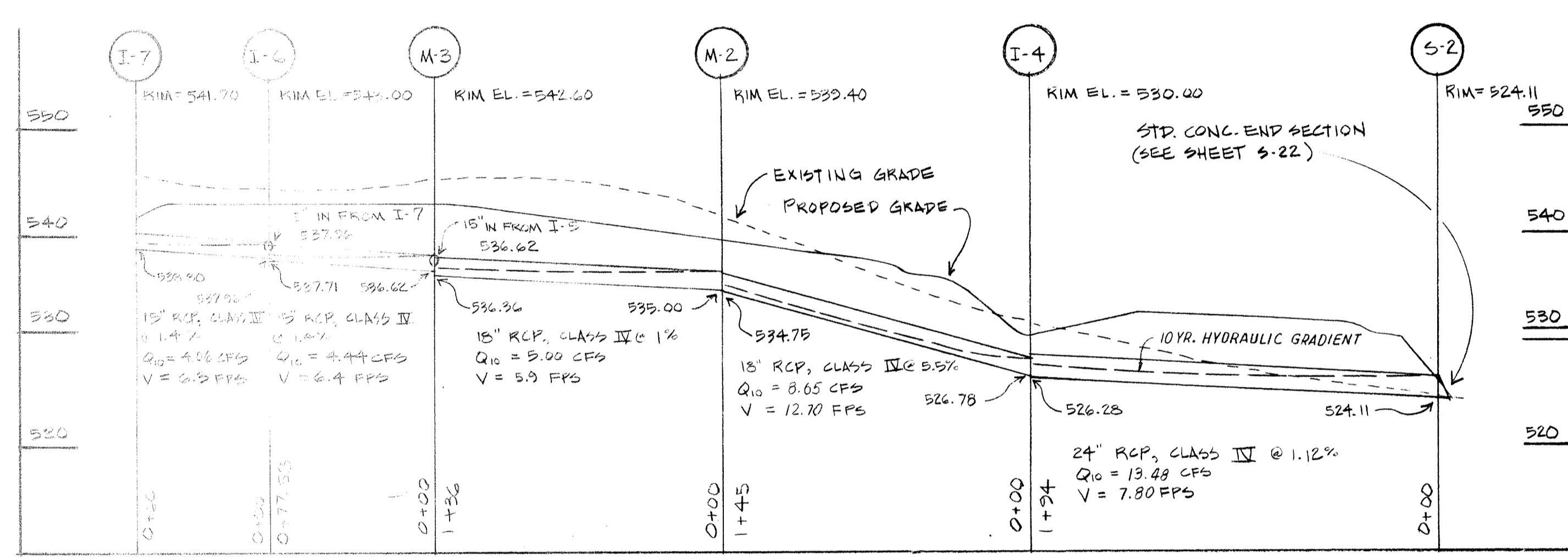
INLET 3 to INLET 9



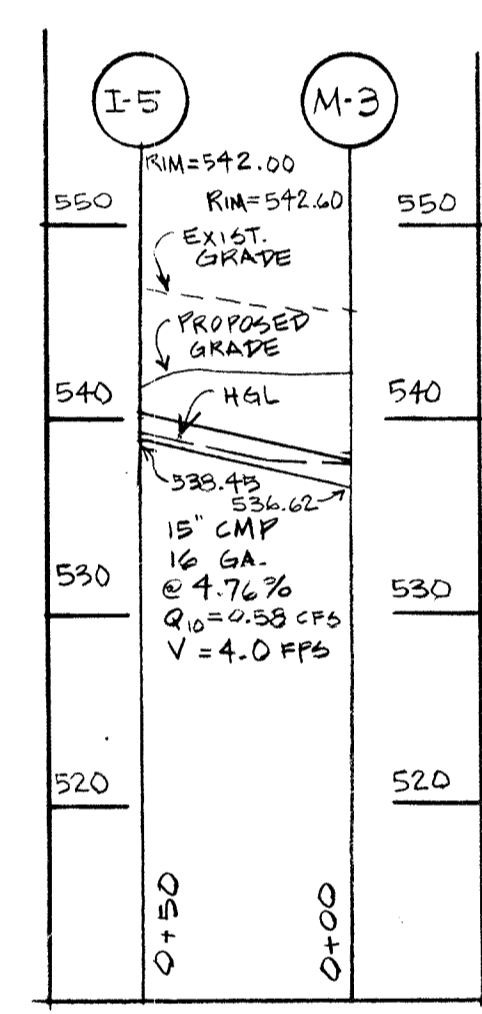
INLET 9 to MANHOLE 2



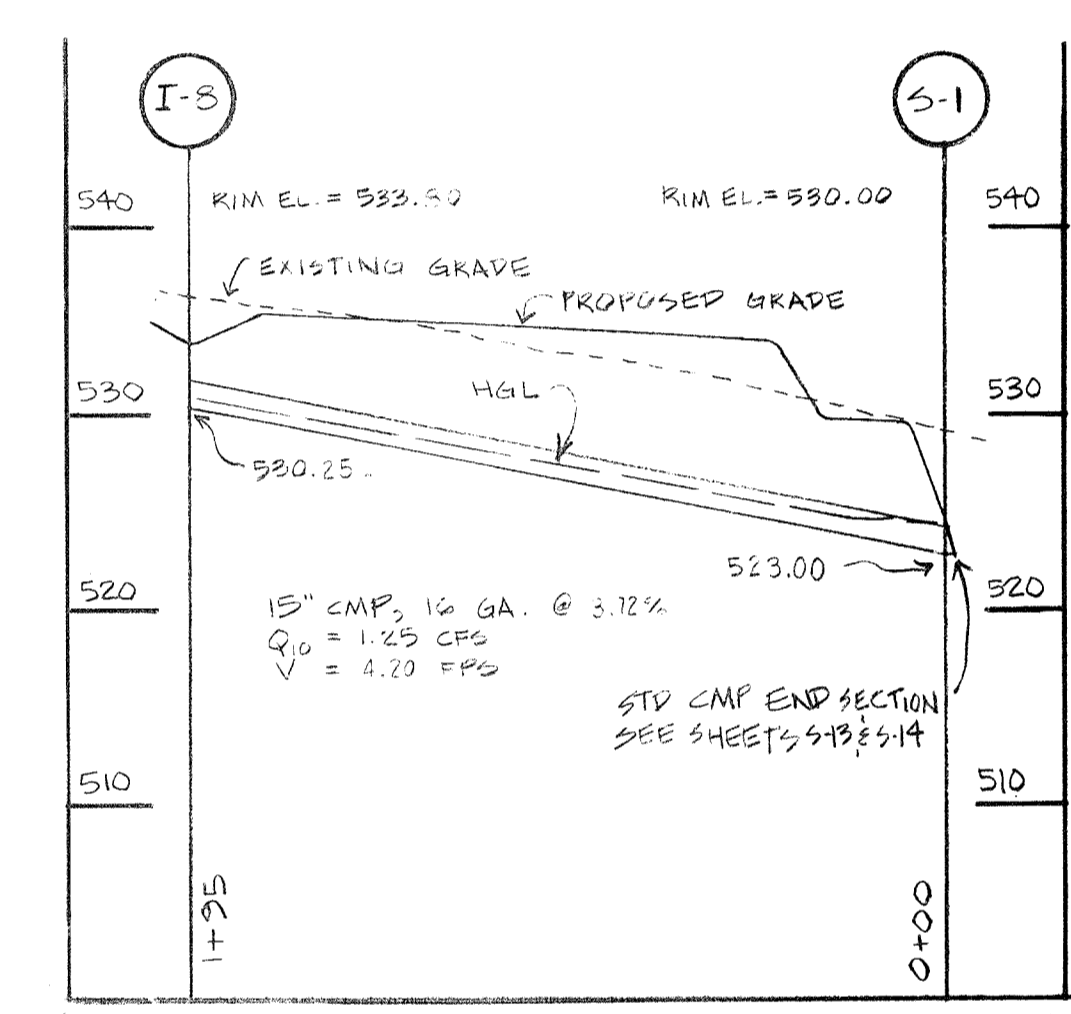
INLET 14 to STRUCTURE 8



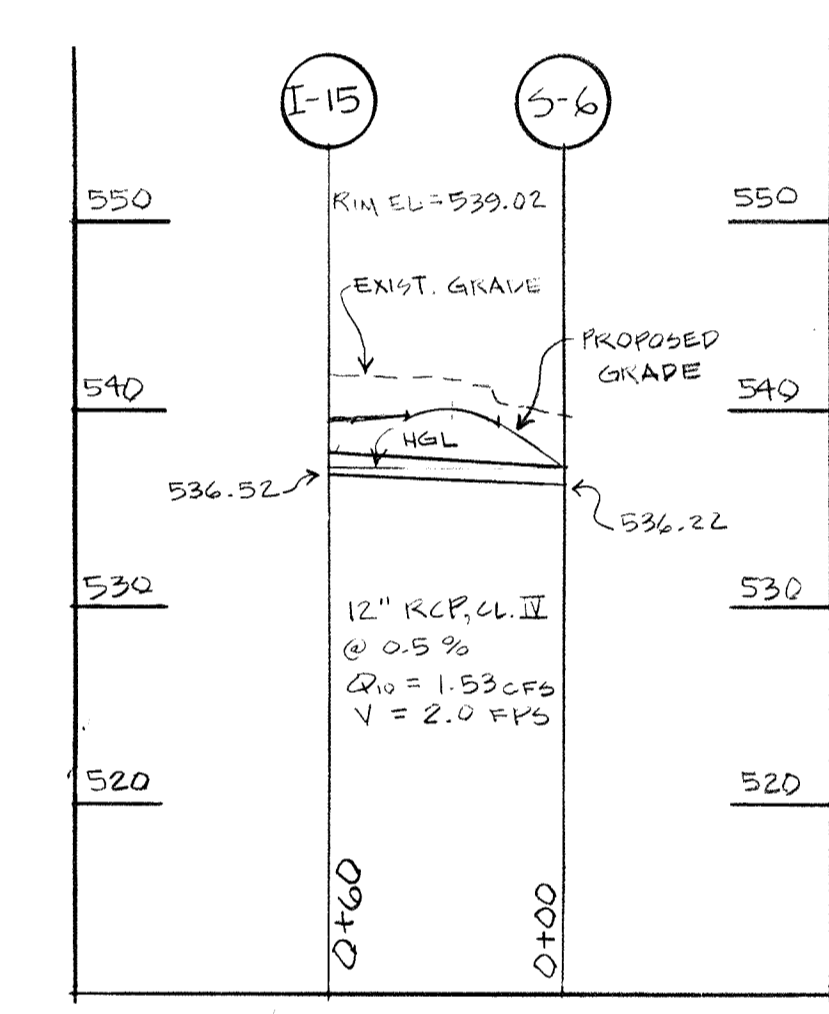
INLET 7 to STRUCTURE 2



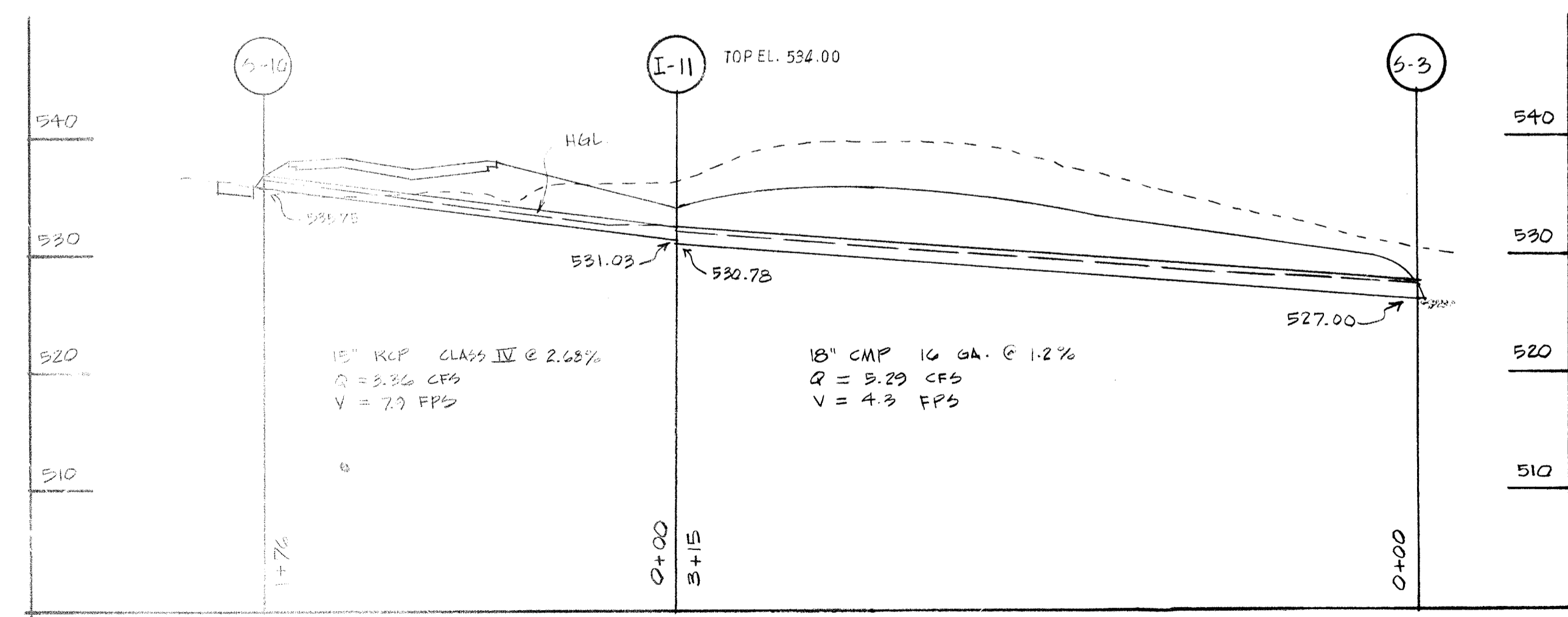
I-5 to M-3



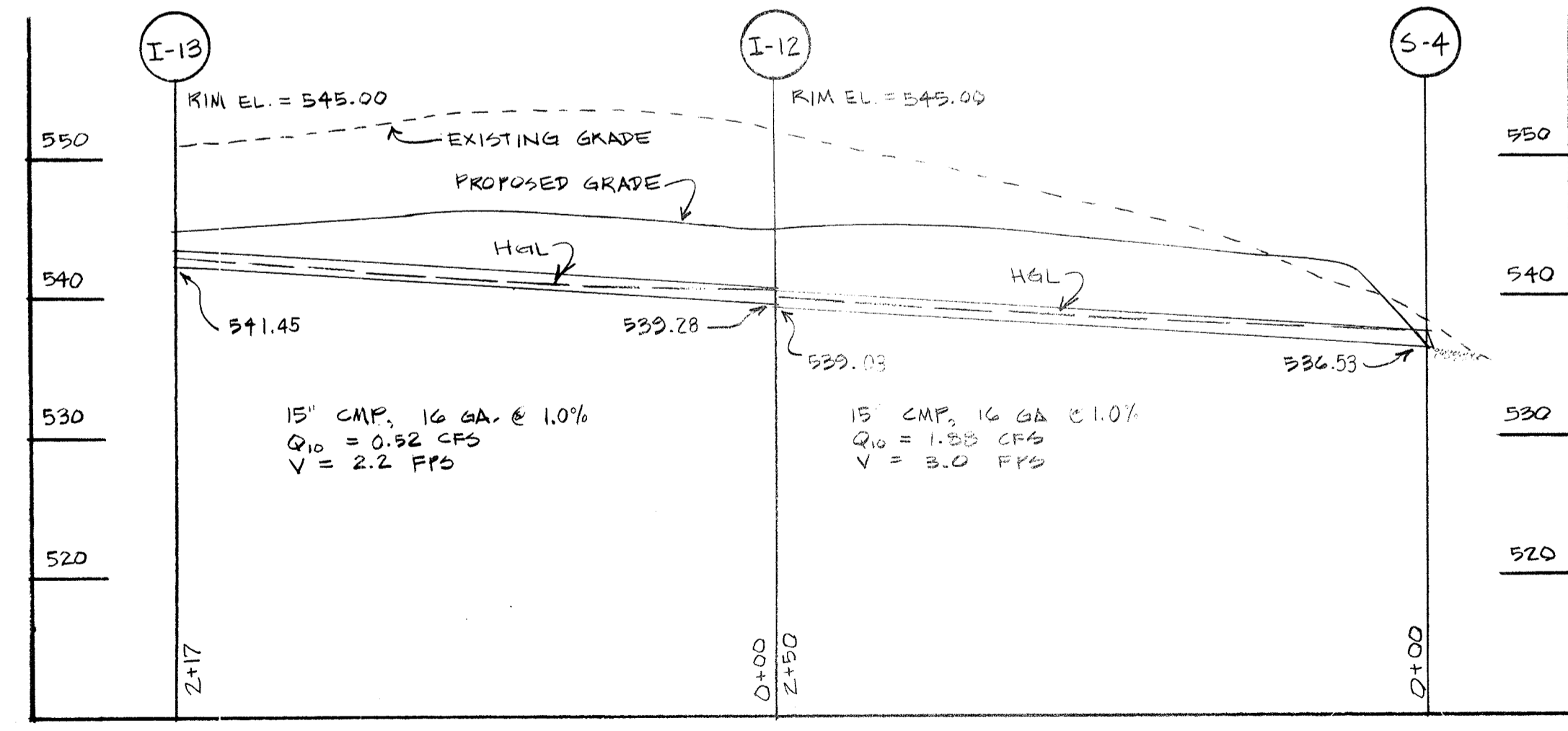
INLET 8 to S-1



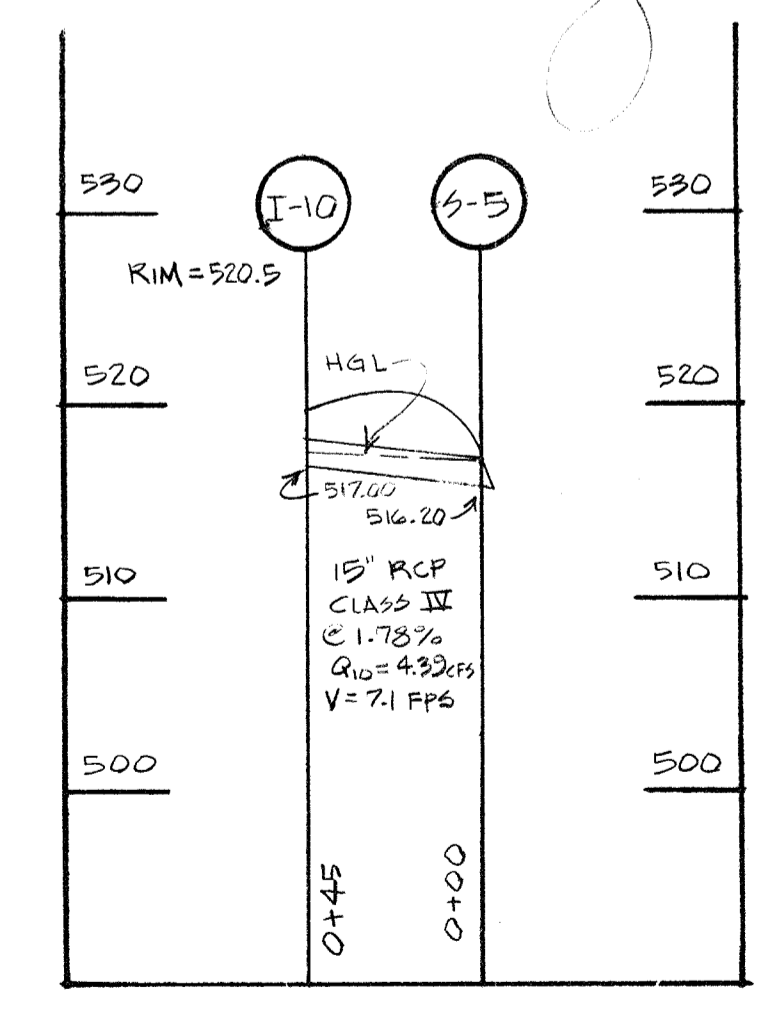
INLET 15 to S-6



STRUCTURE 10 to STRUCTURE 3



INLET 13 to STRUCTURE 4

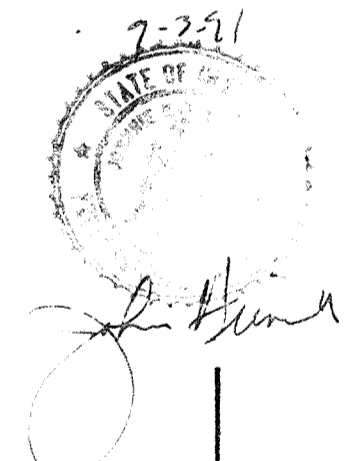


INLET 10 to STRUCTURE 5

NOTE: FOR OUTLET STRUCTURES & APPLIC: SEE SHEETS S-8 & S-13

STORM DRAIN PROFILES

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



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:
SEWER: NONE

JANUARY 24, 1992

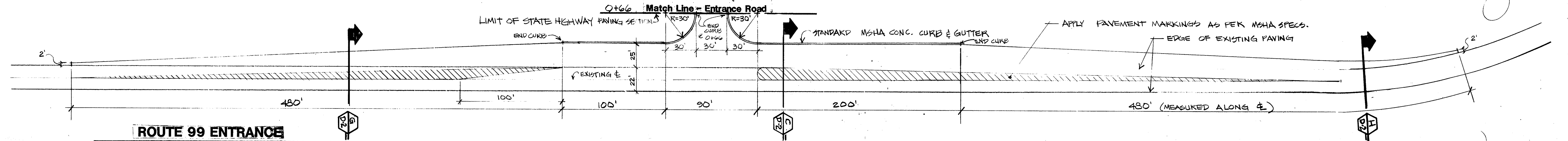
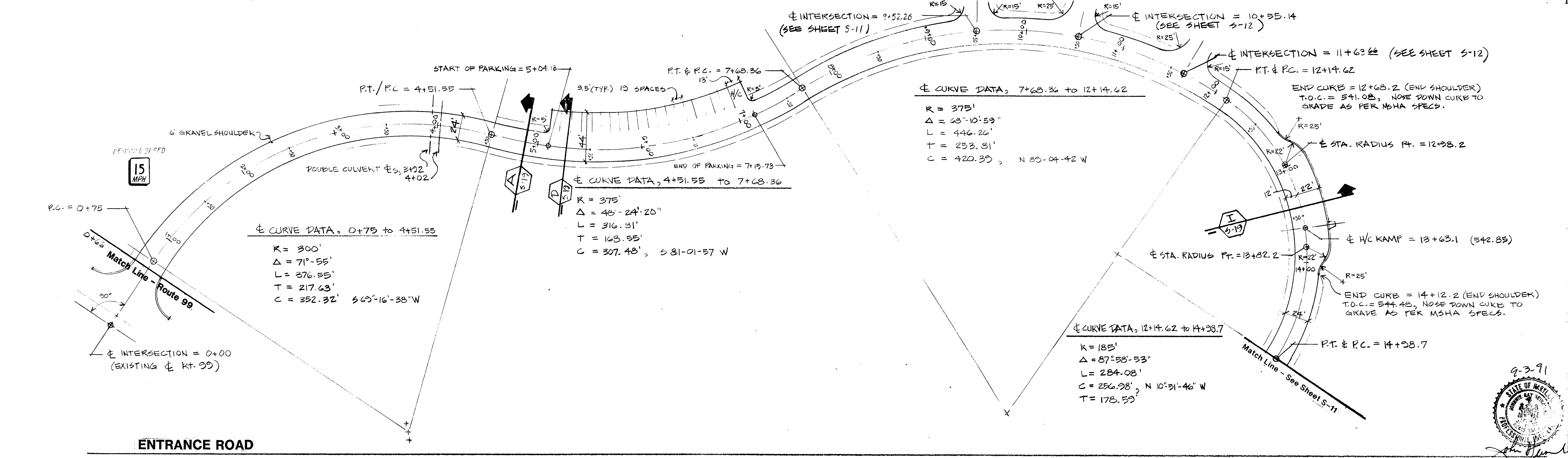
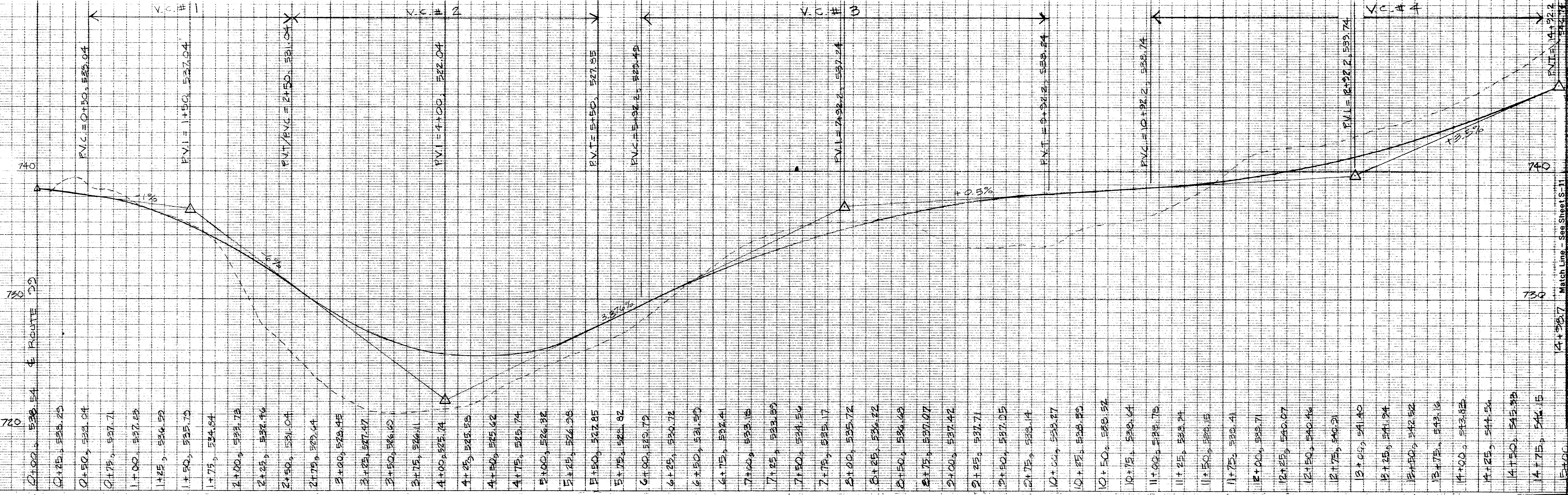
J. CHRISTOPHER BATTEN, INC.
Land Planning & Design Consultant
8 North Church Street
Westminster, Maryland 21157
301-876-3383

SHEET
S-9
of 20
SDP 10 of 21

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
James R. Smith, Director 1/22/92
Emmuel Helomath, 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 P. Kim, Director 1/24/92
William E. Riley, Chief, Bureau of Engineering 1-24-92



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

APPROVAL STAMP

SITE DATA
OWNER: HOWARD COUNTY DEPT. OF PUBLIC WORKS
PROPOSED IMPROVEMENTS: PARKING
DEED REF.: LIBER 847, F.O. 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
4 North Church Street
Westminster, Maryland 21157
301-476-3383

SHEET
S-10
of 20
SDP-90-18 xx4L-92-S010

REVIEWED NO FACILITIES REQUIRED

HOWARD COUNTY HEALTH DEPARTMENT

James M. Boyd, M.D., P.E. 1/24/92
 (Seal) HEALTH OFFICER DATE

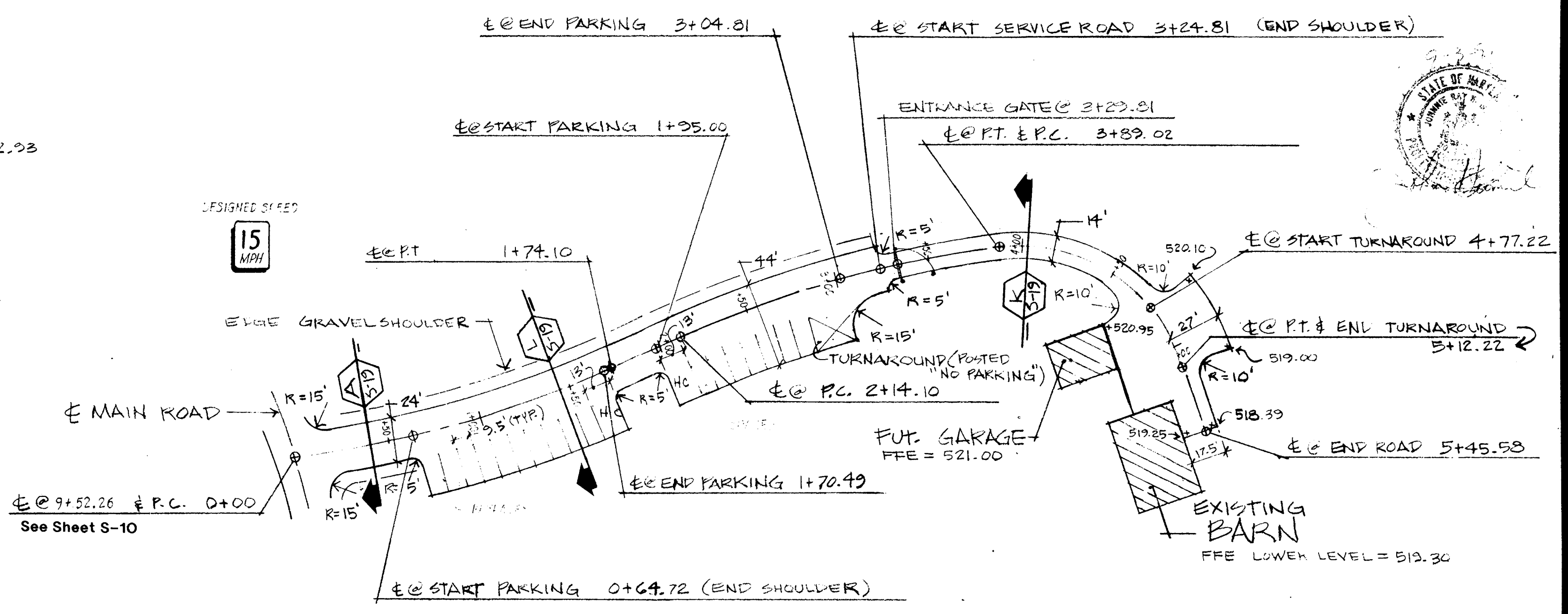
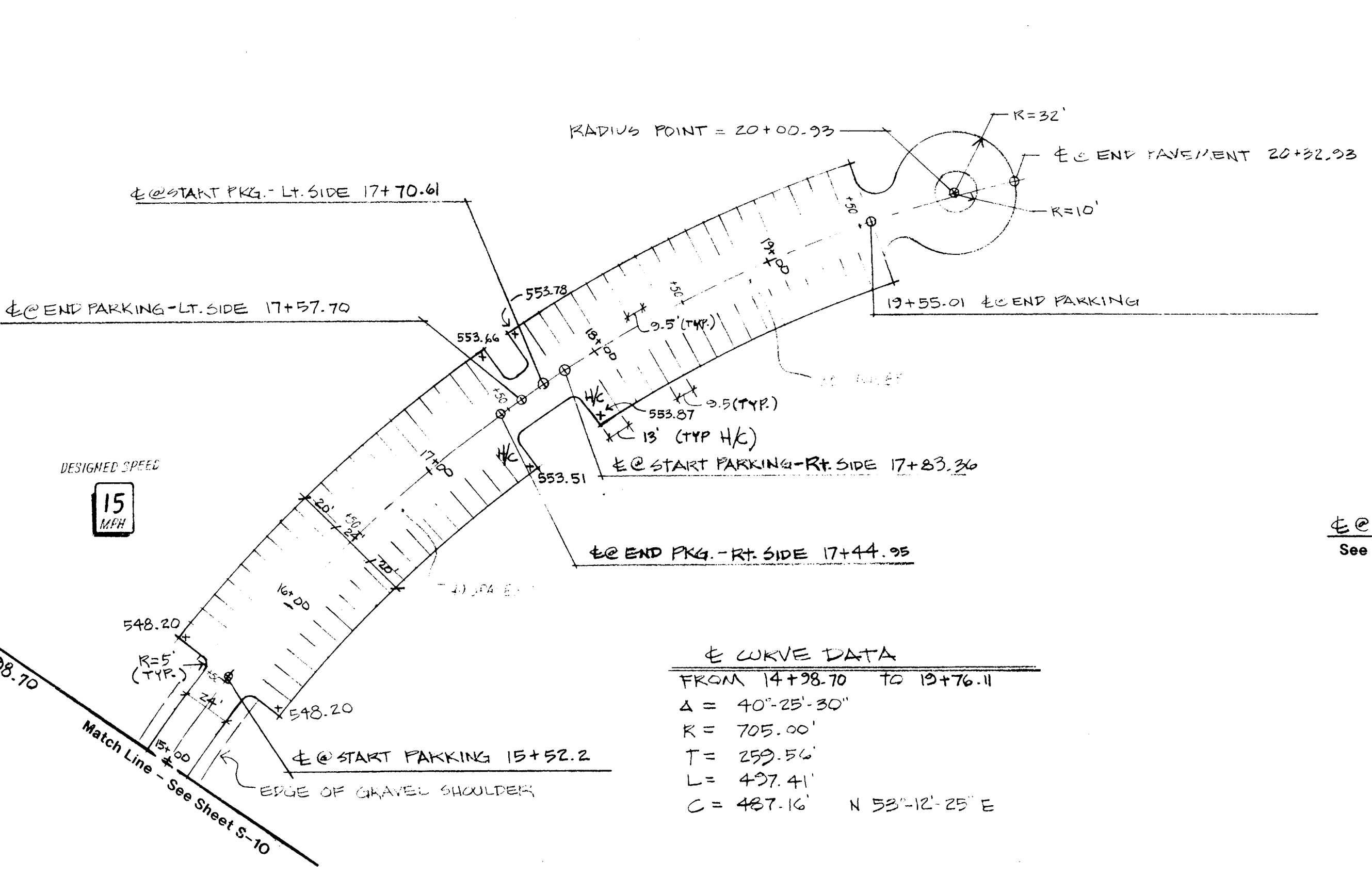
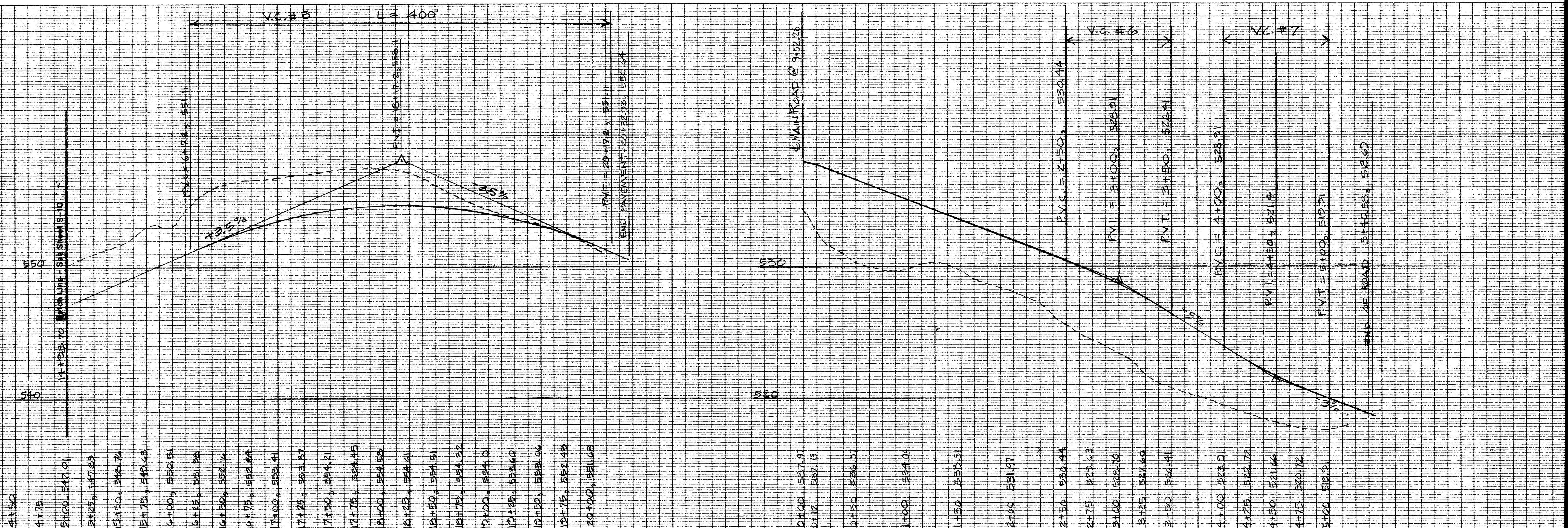
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Joseph Smith 1/27/92
 DIRECTOR DATE
 Emma Hulmeath 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. Kelly 1/24/92
 DIRECTOR DATE
 William S. Ray 1-24-92
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVAL STAMP



☒ CURVE DATA
 FROM 14+38.70 TO 19+76.11
 Δ = 40°-25'-30"
 K = 705.00'
 T = 259.56'
 L = 437.41'
 C = 487.16' N 52°-12'-25" E

☒ CURVE DATA
 FROM 0+00 TO 1+74.10
 Δ = 17°-30'-06"
 K = 570.00'
 T = 37.73'
 L = 174.02'
 C = 174.23' S 01°-52'-13" E

☒ CURVE DATA
 FROM 2+14.10 TO 3+89.02
 Δ = 17°-34'-58"
 K = 570.00'
 T = 38.15'
 L = 174.92'
 C = 174.23' S 01°-52'-13" E

☒ CURVE DATA
 FROM 3+89.02 TO 5+12.22
 Δ = 78°-26'-02"
 K = 30.00'
 T = 73.45'
 L = 123.20'
 C = 113.21' S 46°-03'-15" W

NOTES:
 1) PAVING SECTIONS - SEE SHEET P-2

☒ 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 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-11

of 20
 SDP 12 of 21

XXAL-92-011

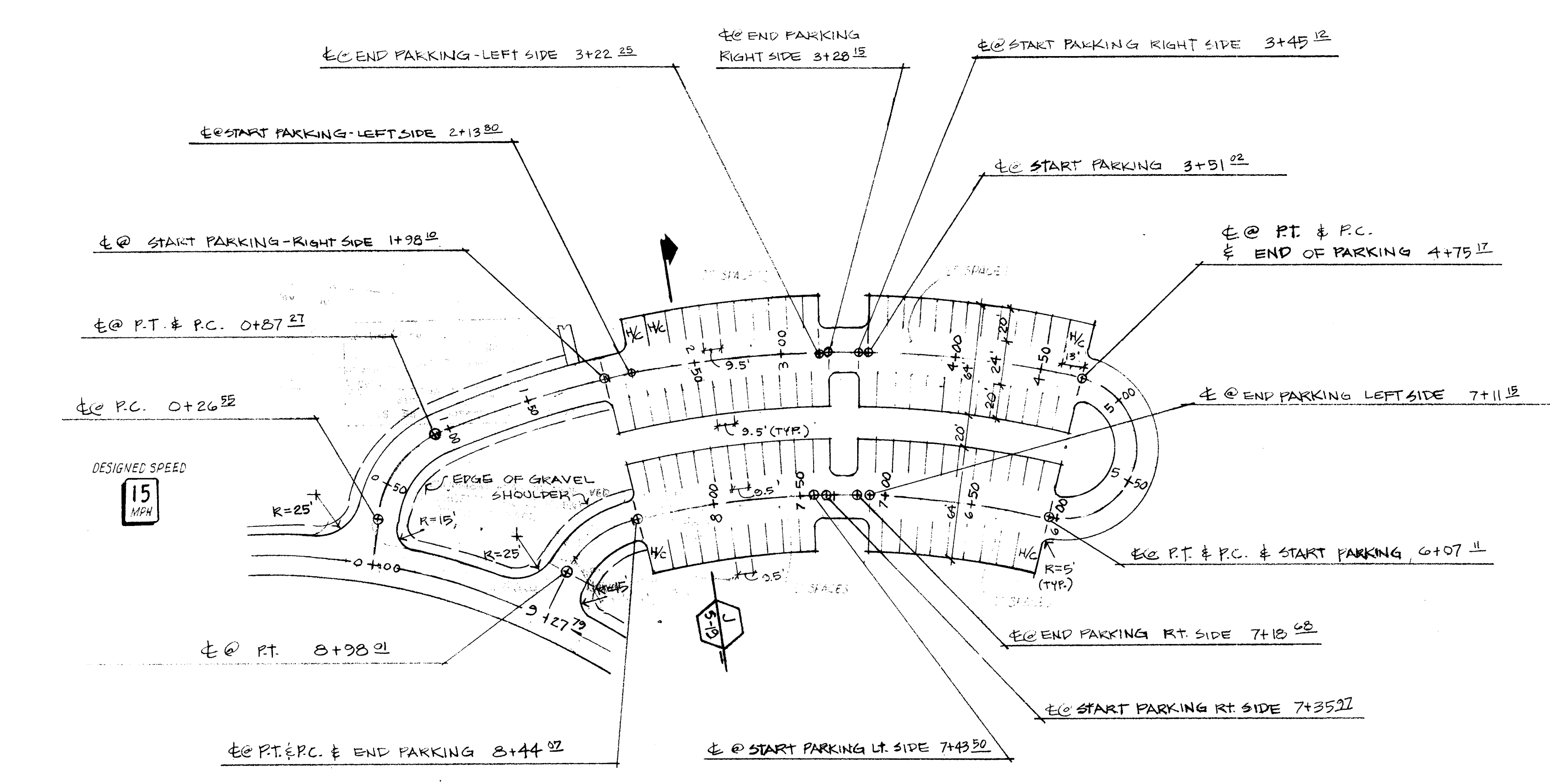
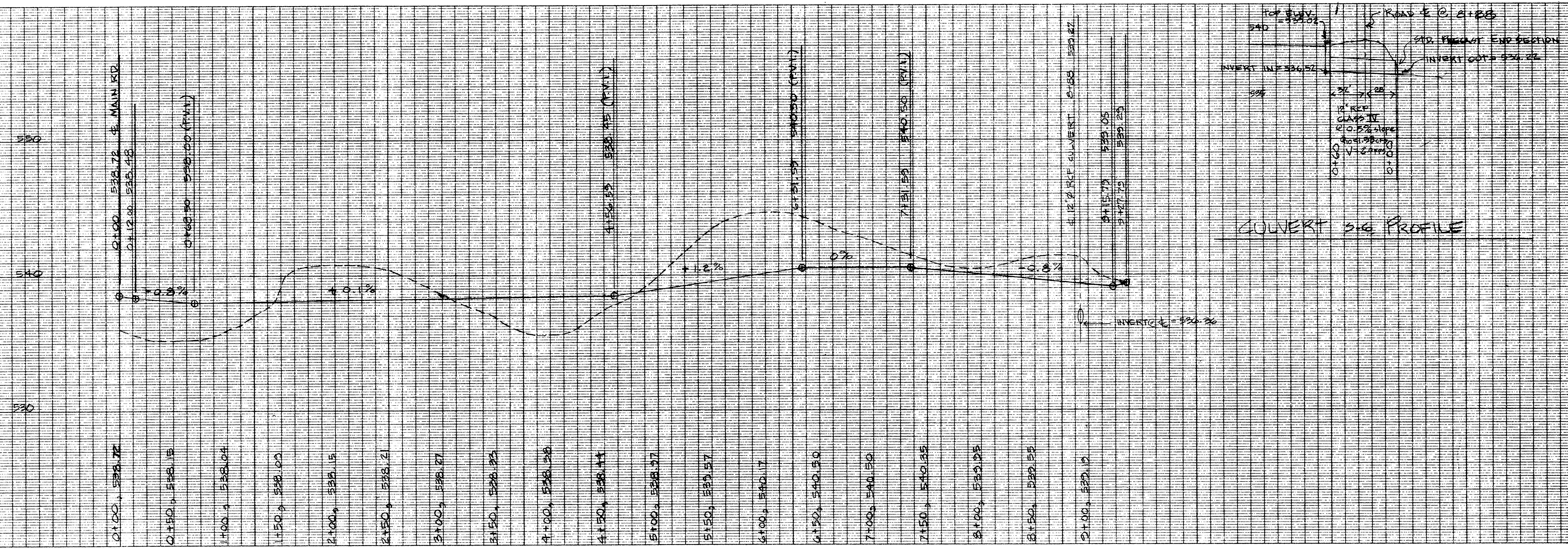
SDP-90-18

REVIEWED NO FACILITIES REQUIRED

HOWARD COUNTY HEALTH DEPARTMENT
 JESSIE M. BRADSHAW JR. 1/24/92
 COUNTY HEALTH OFFICER DATE

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

APPROVED: FOR PRIVATE WATER AND NO REVENUE, FOR STORM DRAINAGE SYSTEMS
 AND PUBLIC ROADS
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 JAMES J. KEM 1/29/92
 DIRECTOR DATE
 W. RAY 1-29-92
 CHIEF, BUREAU OF ENGINEERING DATE



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+26.55 to 0+87.27	57°59'-13"	60.00'	60.72'	33.25'	S 40°-01'-57" W 58.17'
0+87.27 to 4+75.12	35°-00'-00"	65.00'	387.90'	200.21'	S 86°-21'-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+44.02	24°-38'-27"	551.00'	236.96'	120.34'	N 88°-36'-13" E 235.14'
8+44.02 to 8+98.02	50°-33'-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"=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 6030
 WATER: NONE
 SEWER: NONE

JANUARY 24, 1992



SHEET
S-12

of 20

Signature: *Joyce M. Boyd* Date: 1/24/92

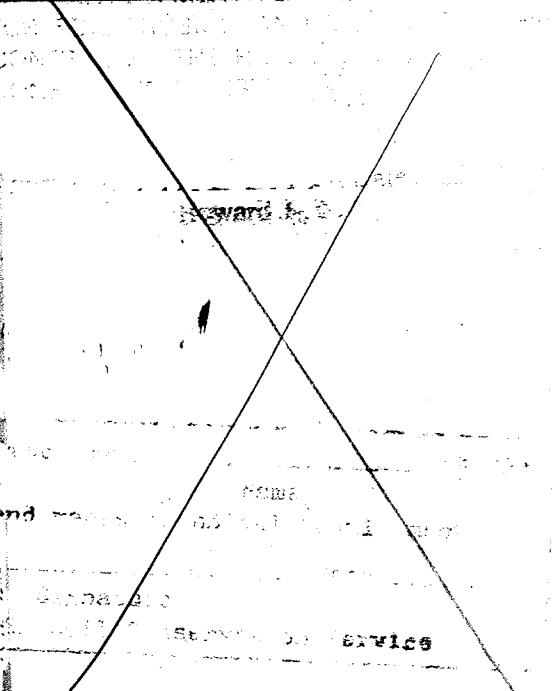
Signature: *James R. Smith* Date: 1/27/92

Signature: *Emma H. Hildreth* Date: 1/27/92

Signature: *James P. Linn* Date: 1/28/92

Signature: *Debra S. Kelly* Date: 1-24-92

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: 6030
WATER: SEWER: NONE

JANUARY 24, 1992



SHEET

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of 20

SEQUENCE OF CONSTRUCTION - SWM POND # 1

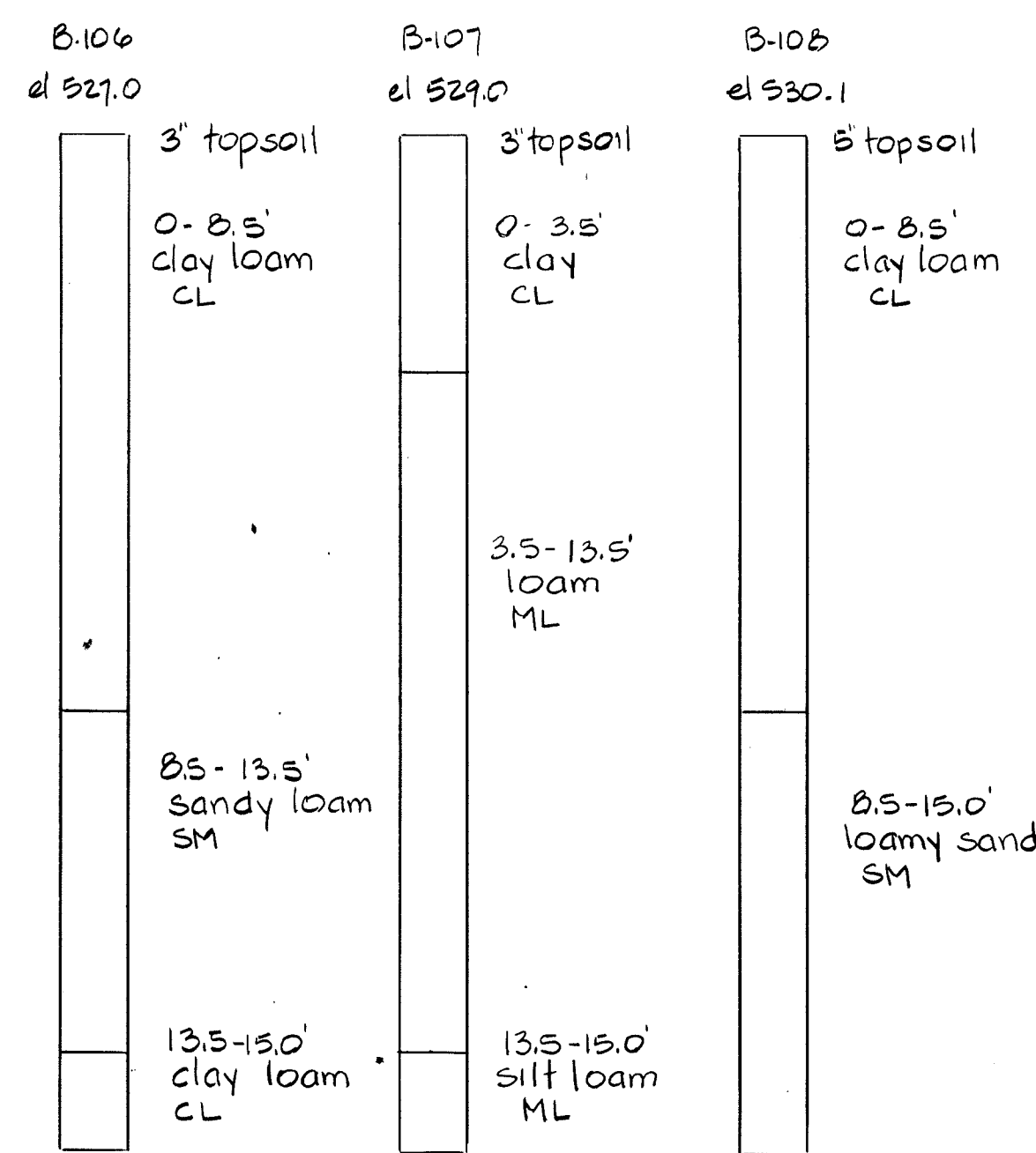
Note: Minimum sediment control measures to be in place prior to pond construction include: trap #2.

- 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.

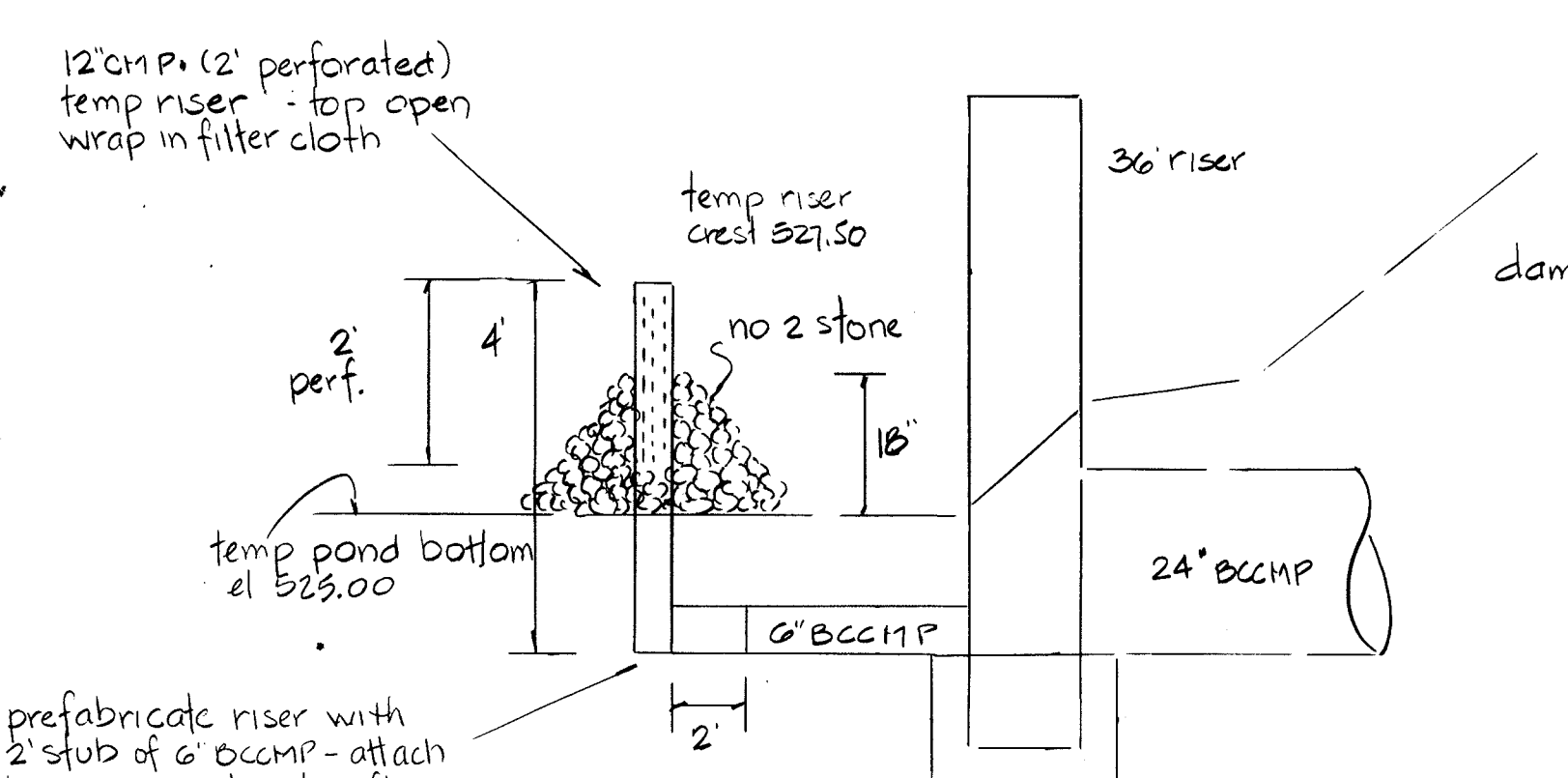
During site grading and construction - clean out sediment when it reaches elevation 527.0, or 6" below top of temporary riser.

- 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.



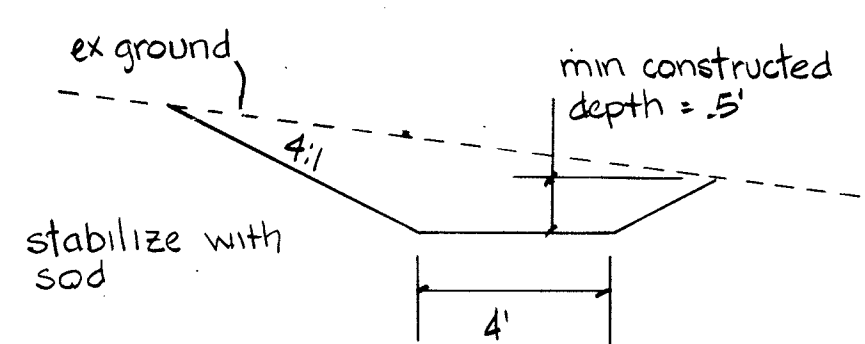
Soil boring logs no scale



Temporary Riser Detail no scale

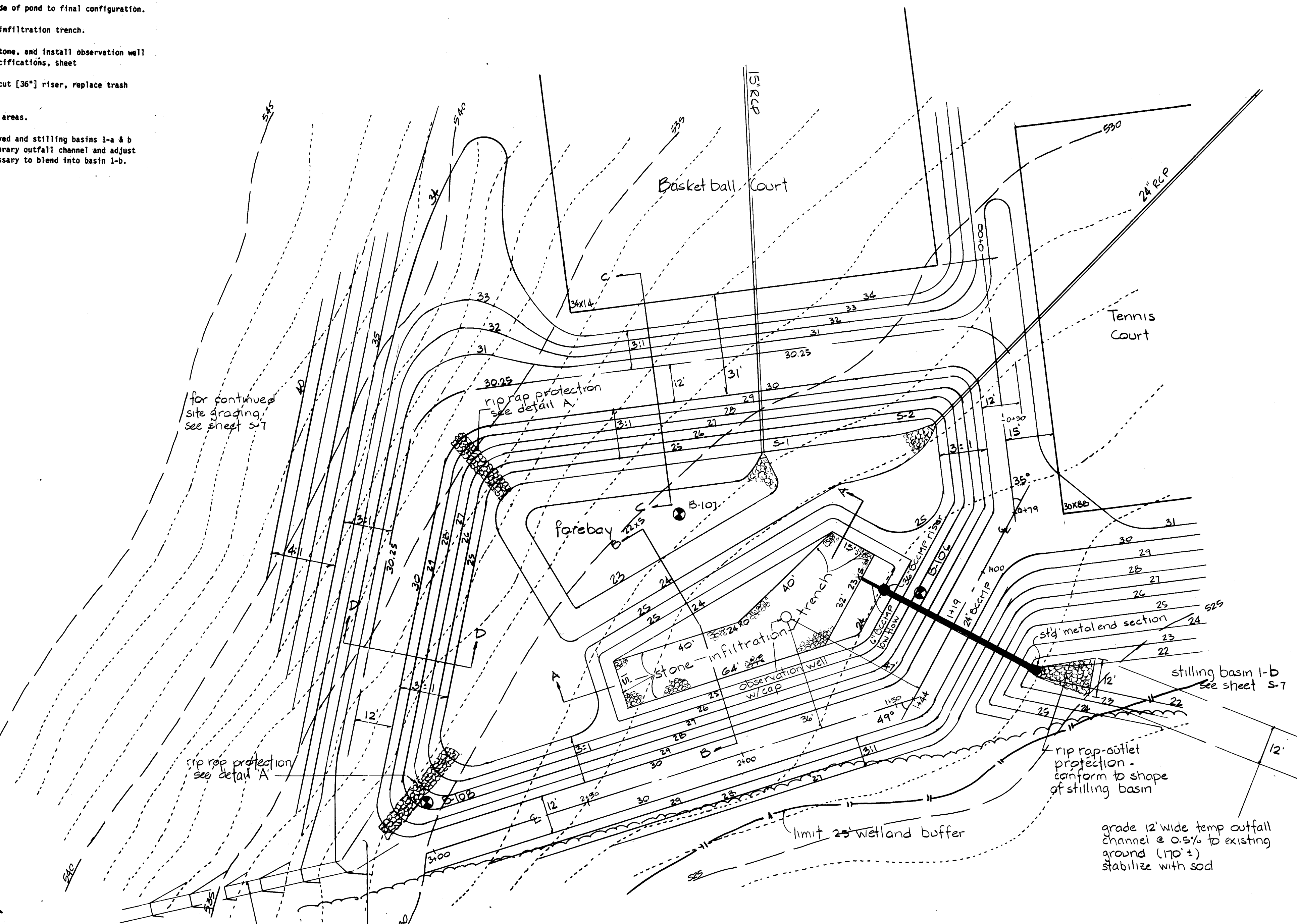
Reviewed for HOWARD S.O.D. Name: *James R. Smith* Date: 1/27/92 Signature: *James R. Smith* U.S. Soil Conservation Service

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

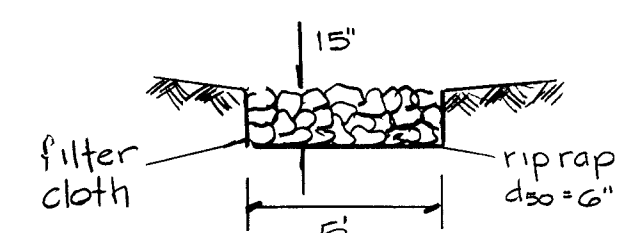


Diversion Channel Detail no scale

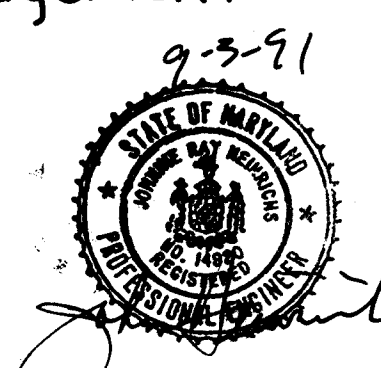
construct channel to match existing slope - minimum construction depth: 0.5' channel grade will vary stabilize entire cut area with sod



Rip Rap Protection Detail A (no scale)

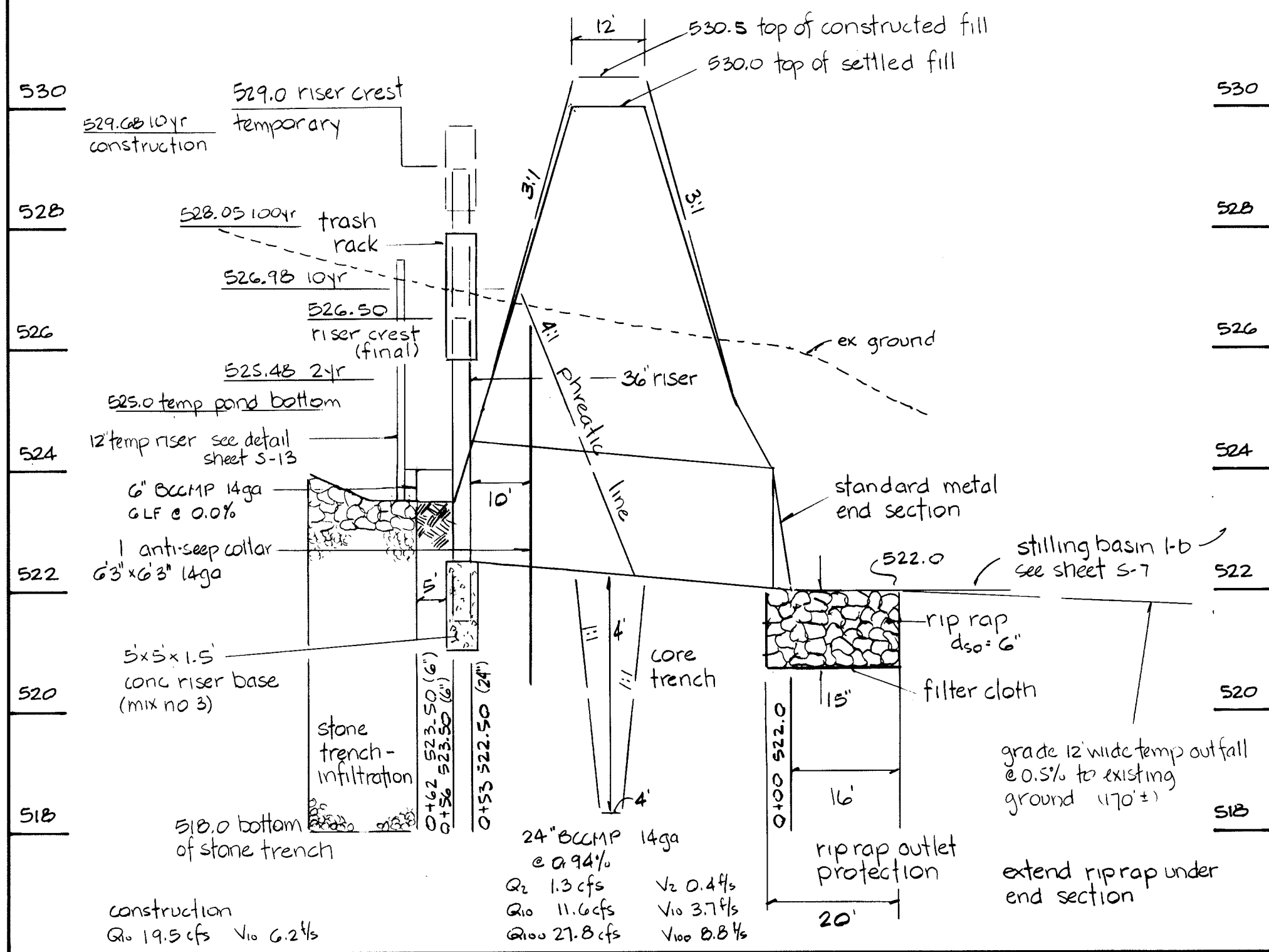


Stormwater Management Pond #1 Plan 1"=20'

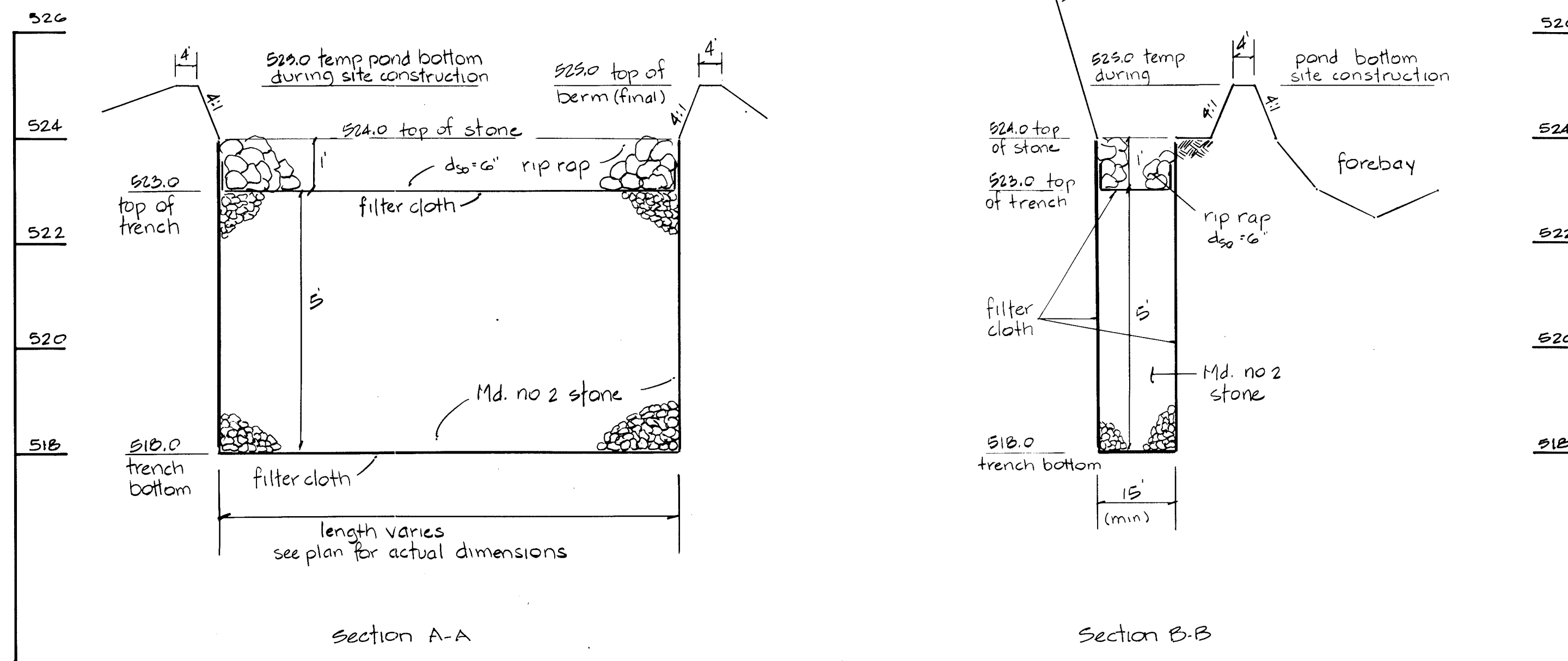


880

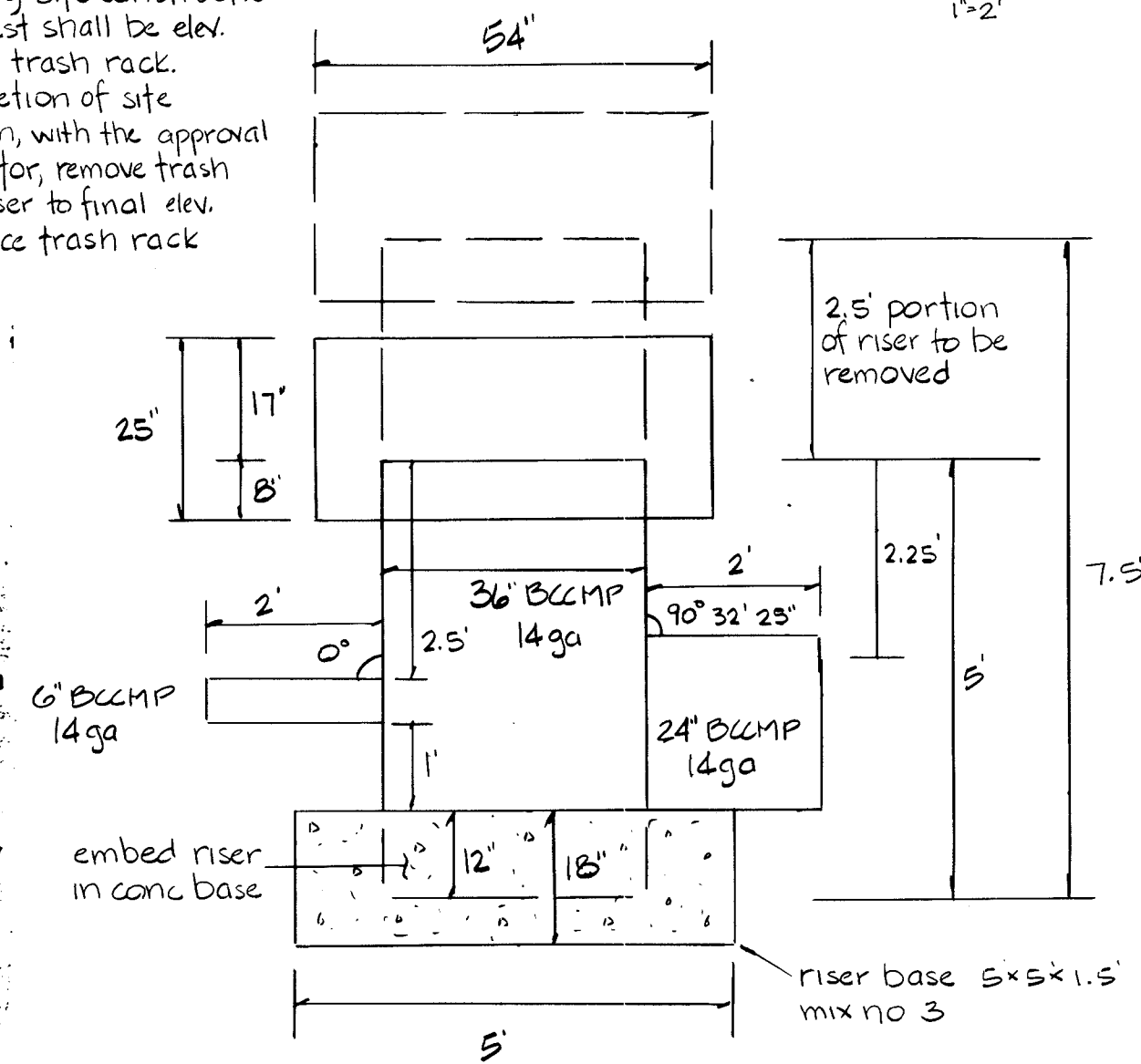
**Profile - Principal Spillway
and
Cross Section of Dam**
scale vert 1:2' hor 1:20'



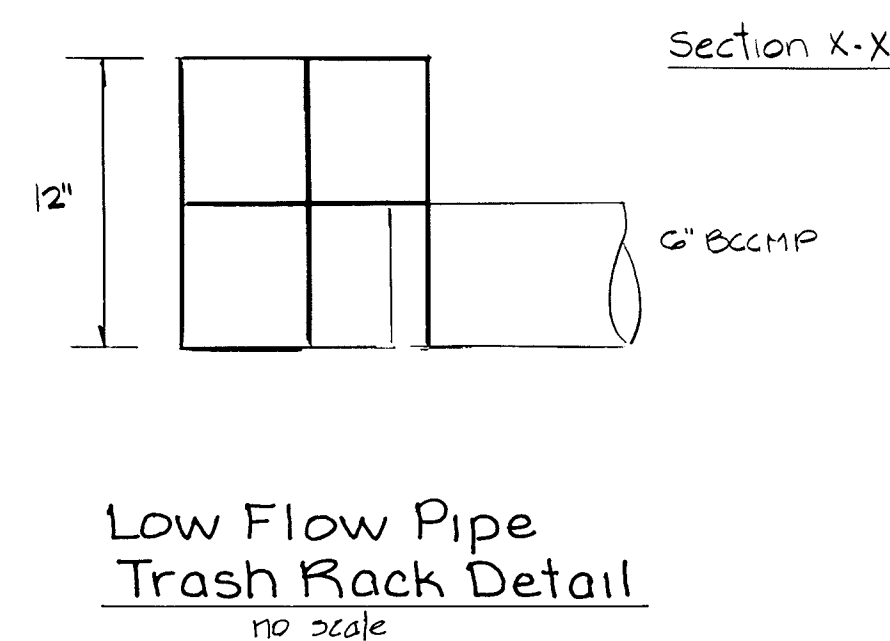
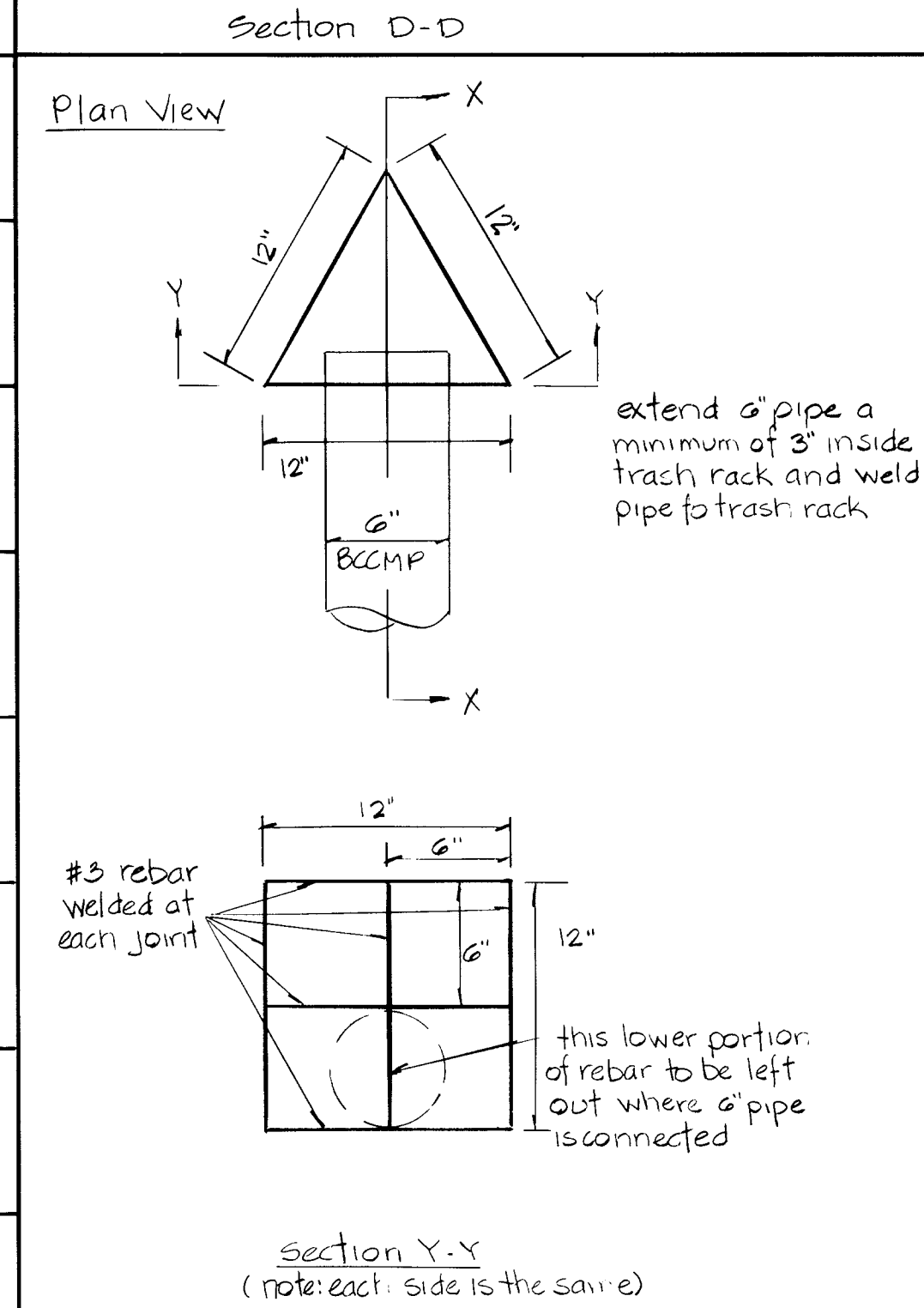
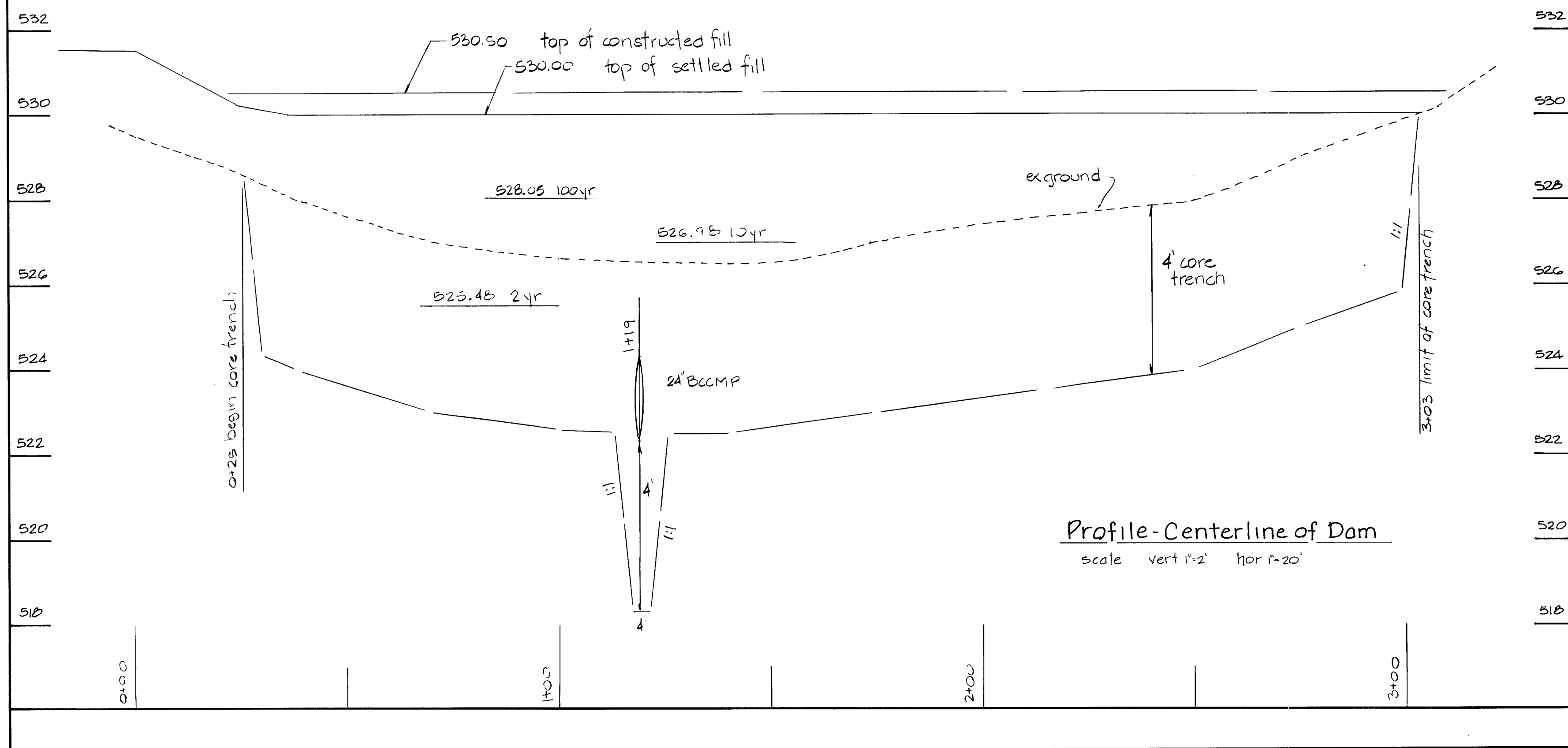
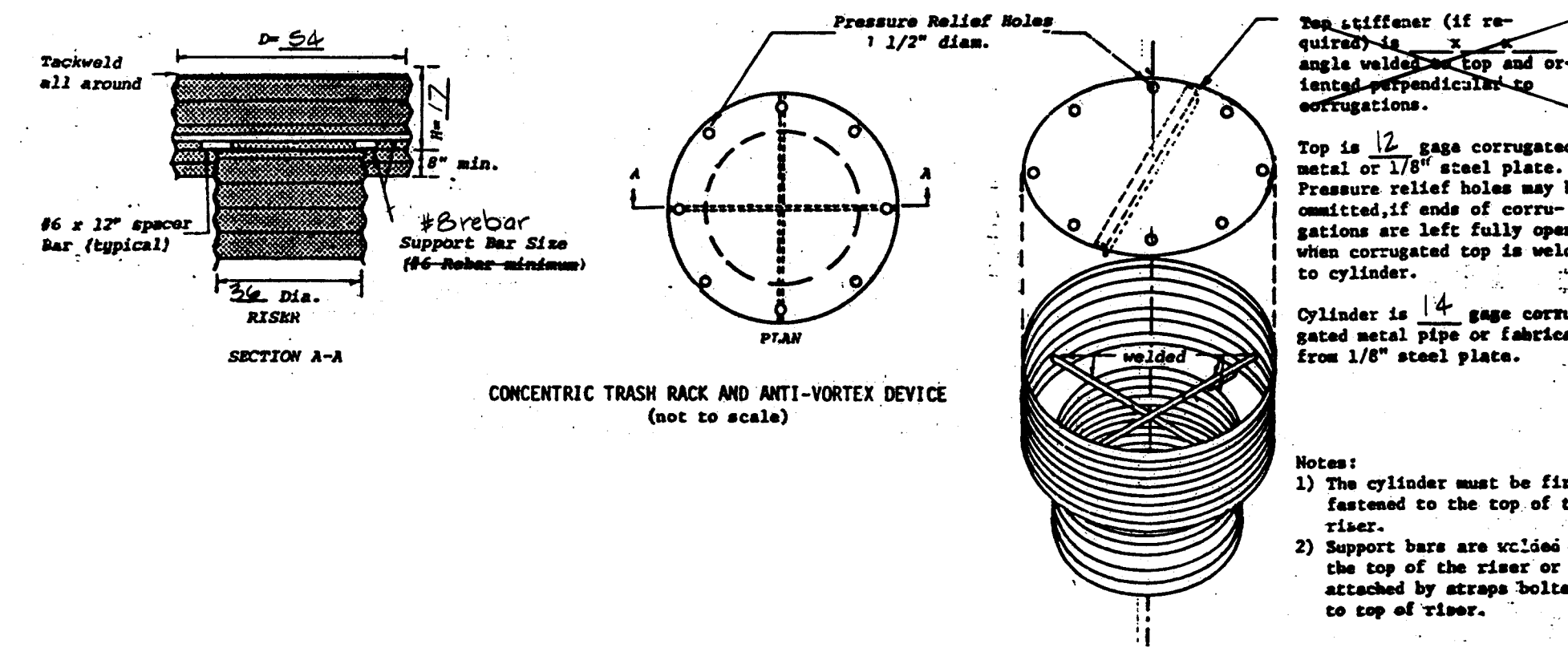
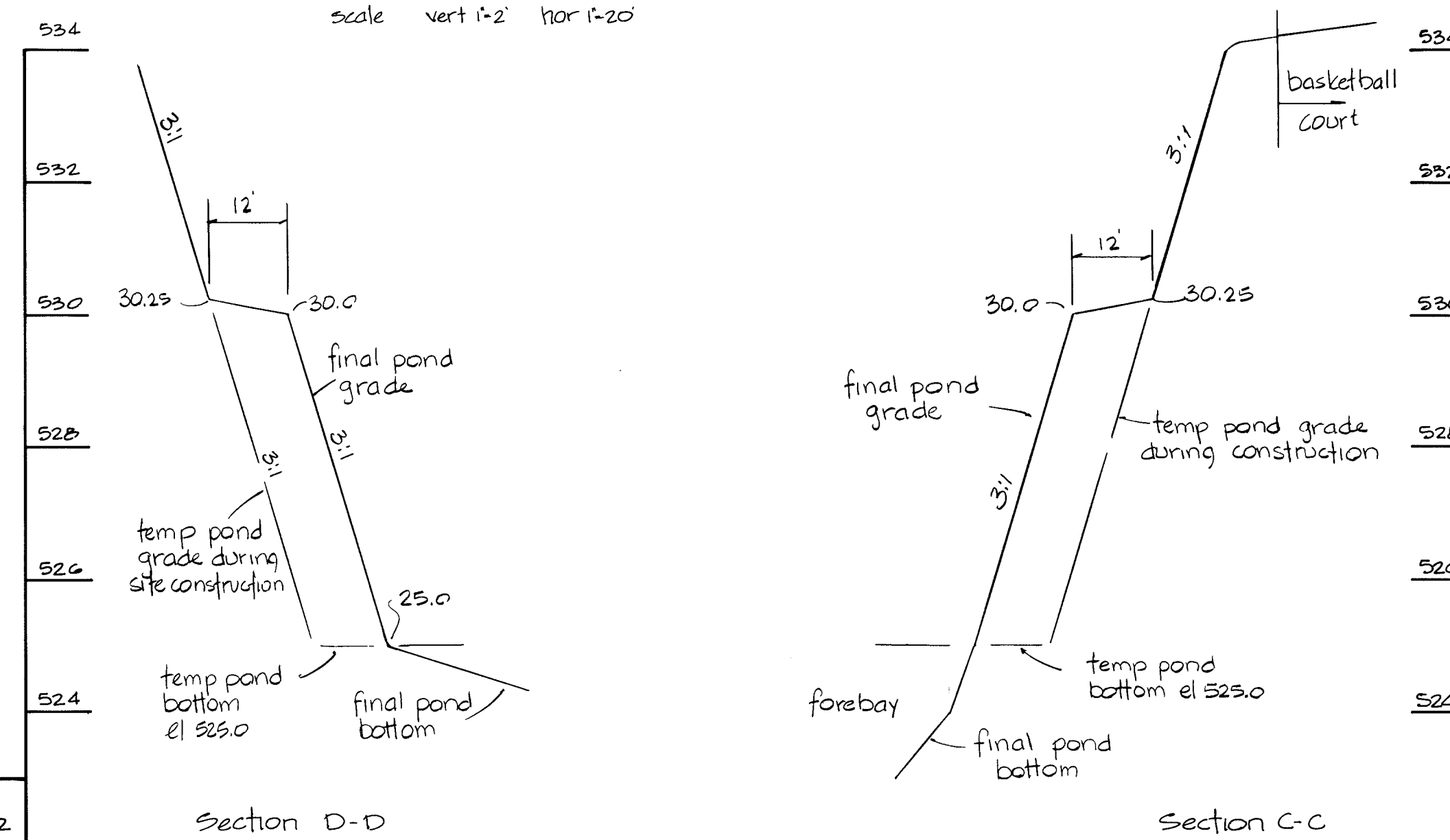
Sections - Infiltration Trench
scale vert 1:2' hor 1:20'



Riser Detail
1:2'



Sections - Pond Sides
scale vert 1:2' hor 1:20'



**Stormwater Management
Pond #1
Profiles**



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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DIRECTOR
James Batten 1/27/92
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
Anna Holmquist 1/29/92
DATE

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

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

APPROVAL STAMP

FINAL DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
APPROVED: *[Signature]* 1/27/92
DATE
HOWARD S.C.D.

Approved for **HOWARD** S.C.D.
Name: *[Signature]* Date: 1/27/92
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

SHEET
S-14
of 20

SDP #90-18

880

REVIEWED NO FACILITIES REQUIRED

HOWARD COUNTY HEALTH DEPARTMENT
Signature: *James M. Engle* Date: 1/24/92
COUNTY HEALTH OFFICER

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Signature: *James Smith* Date: 1/27/92
DIRECTOR
Signature: *Anna H. Howard* Date: 1/29/92
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
Signature: *James G. Shaw* Date: 1/24/92
DIRECTOR
Signature: *James G. Shaw* Date: 1-24-92
CHIEF, BUREAU OF ENGINEERING

APPROVAL STAMP

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

Approved: *J. H. Holt* Date: 1/27/92
HOWARD S.C.D.

Reviewed for: *Howard S.C.D.*
Name: *Howard S.C.D.*
Signature: *Howard S.C.D.* 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

SHEET

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

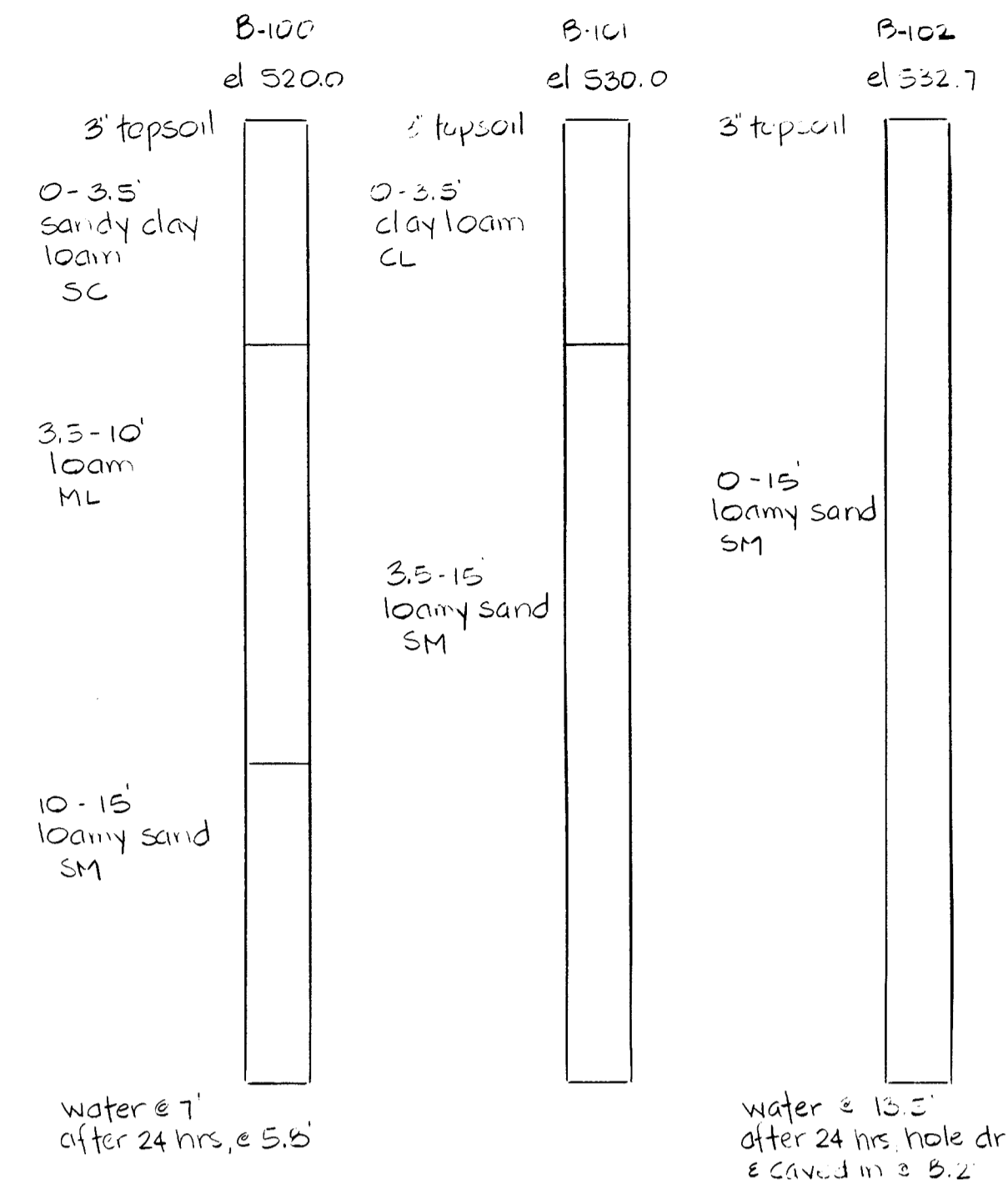
S-15

of 20

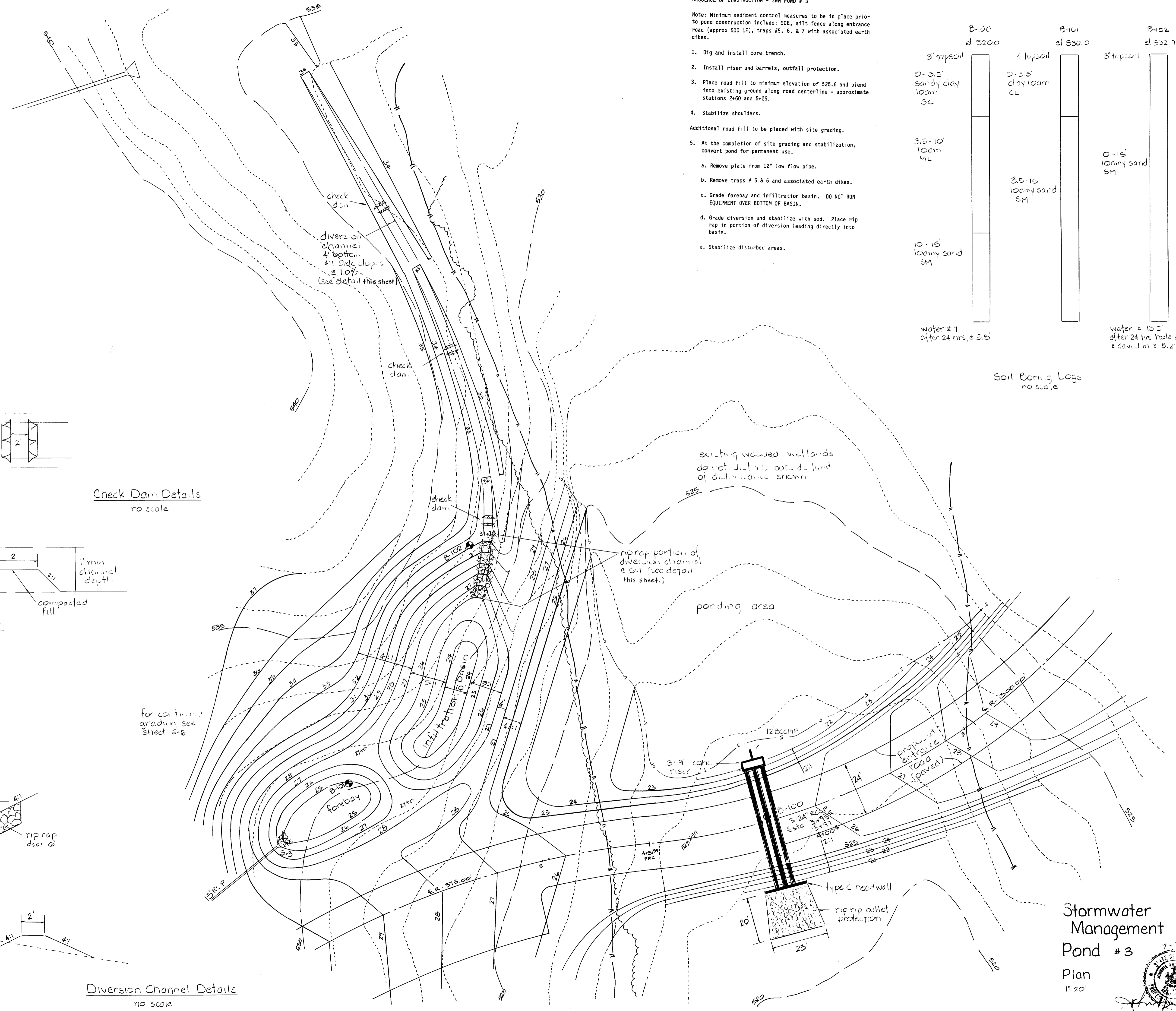
SEQUENCE OF CONSTRUCTION - SWM POND # 3

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.

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



Soil Boring Logs no scale

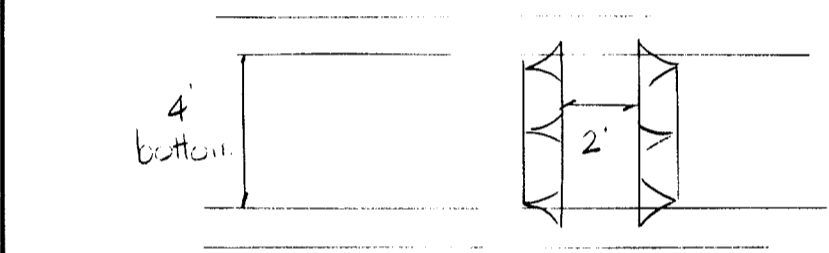


existing wooded wetlands do not disturb outside limit of disturbance shown.

rip rap portion of diversion channel (see detail this sheet.)

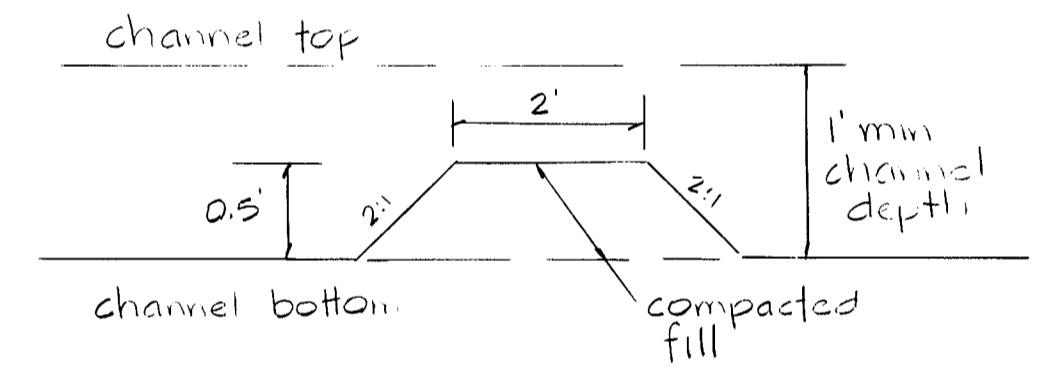
ponding area

for continuous grading see sheet S-6



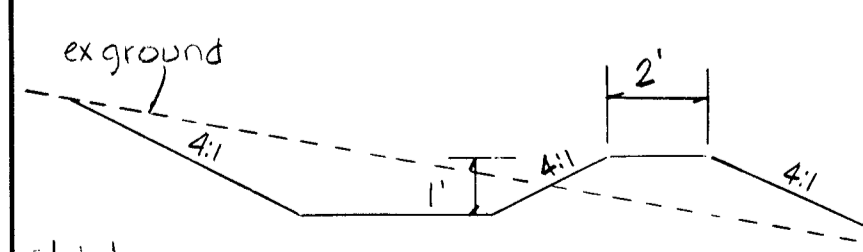
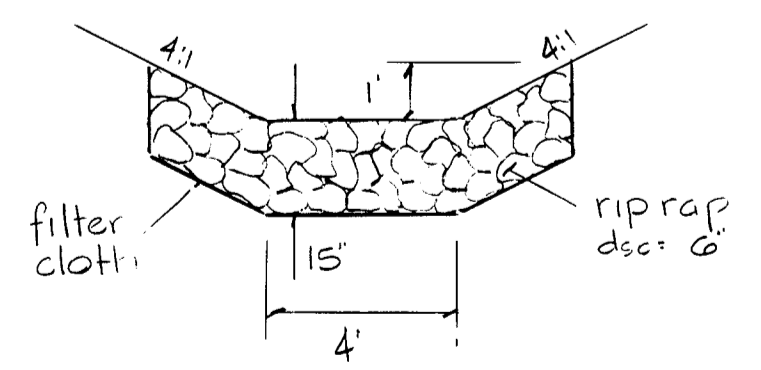
Plan check dams @ 75' intervals along diversion channel - see plan view for locations

Check Dam Details no scale



section

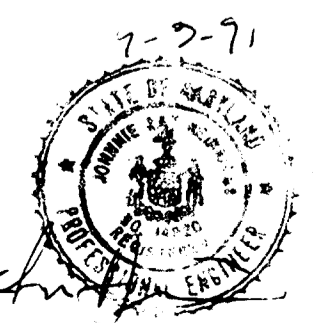
for portion of channel & silt into basin use rip rap as shown



stabilize disturbed area with sod

Diversion Channel Details no scale

Stormwater Management Pond # 3 Plan 1-20'



XXAL-92-S015

880

REVIEWED NO FACILITIES REQUIRED

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

James R. Katter... 1/27/92
Annunzio Belmont... 1/27/92

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

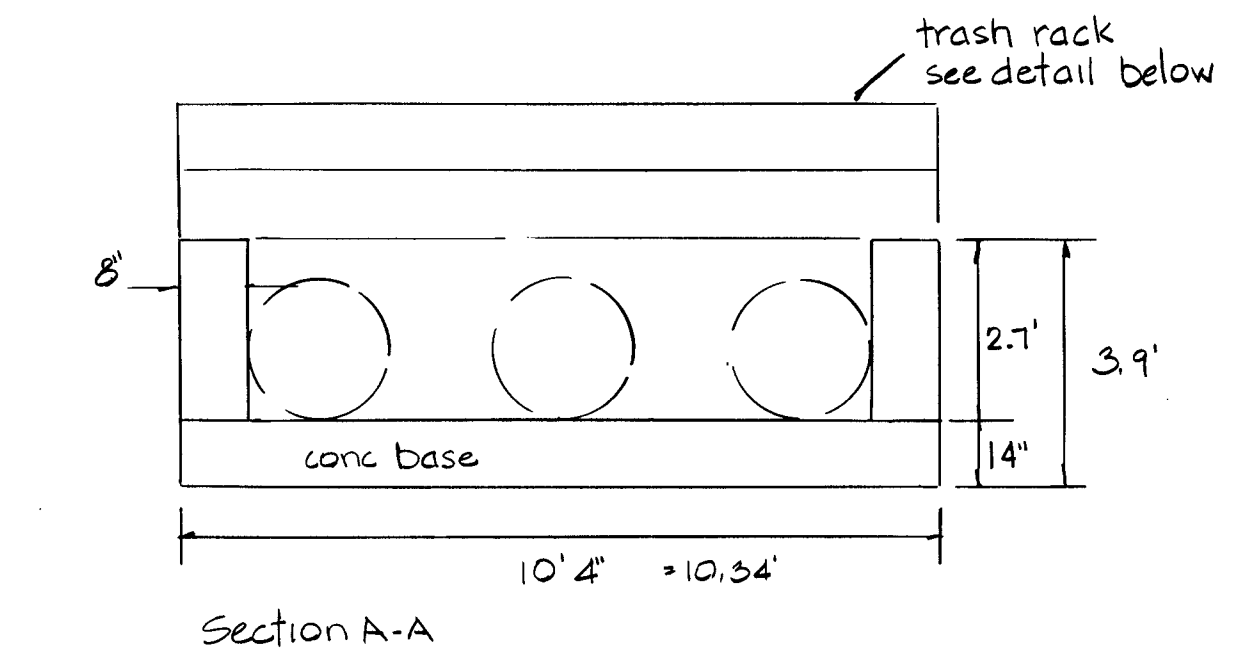
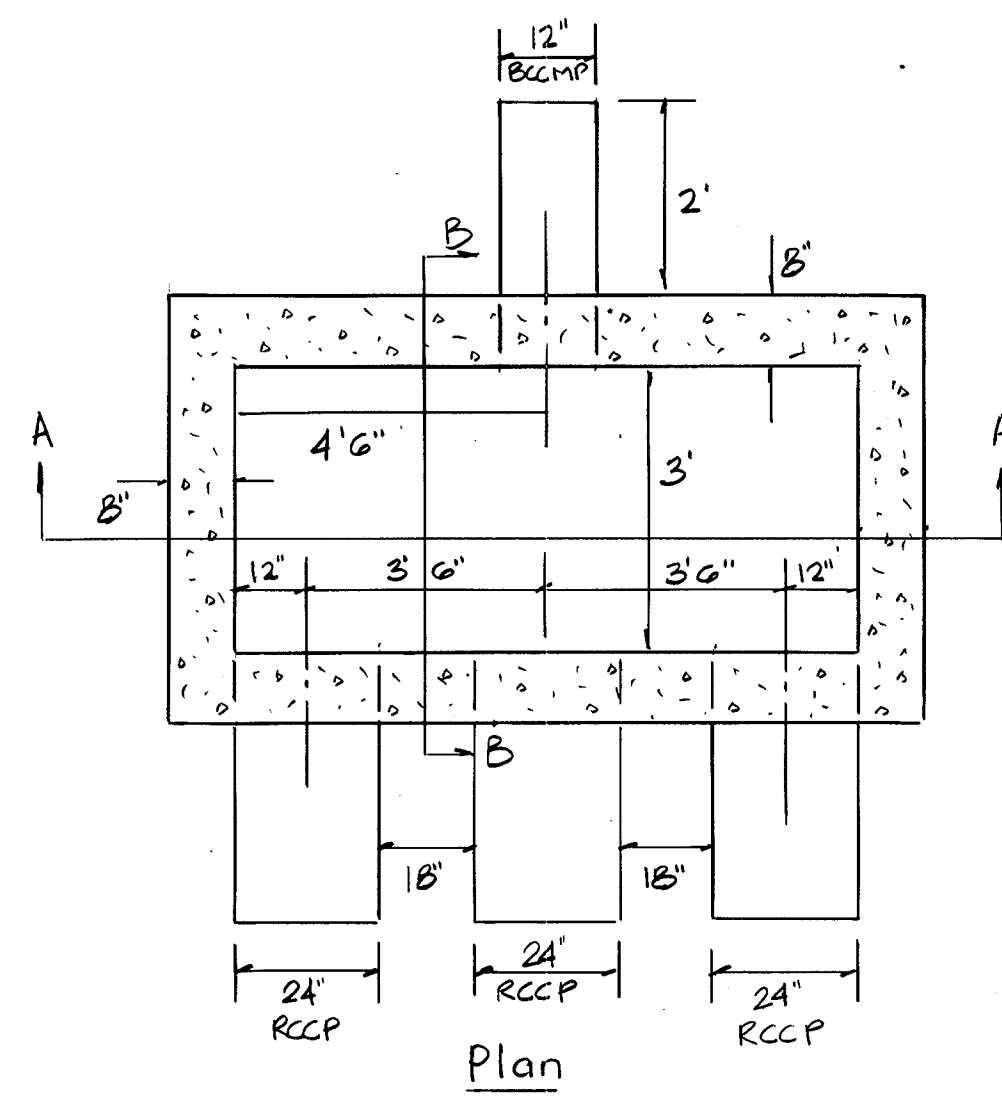
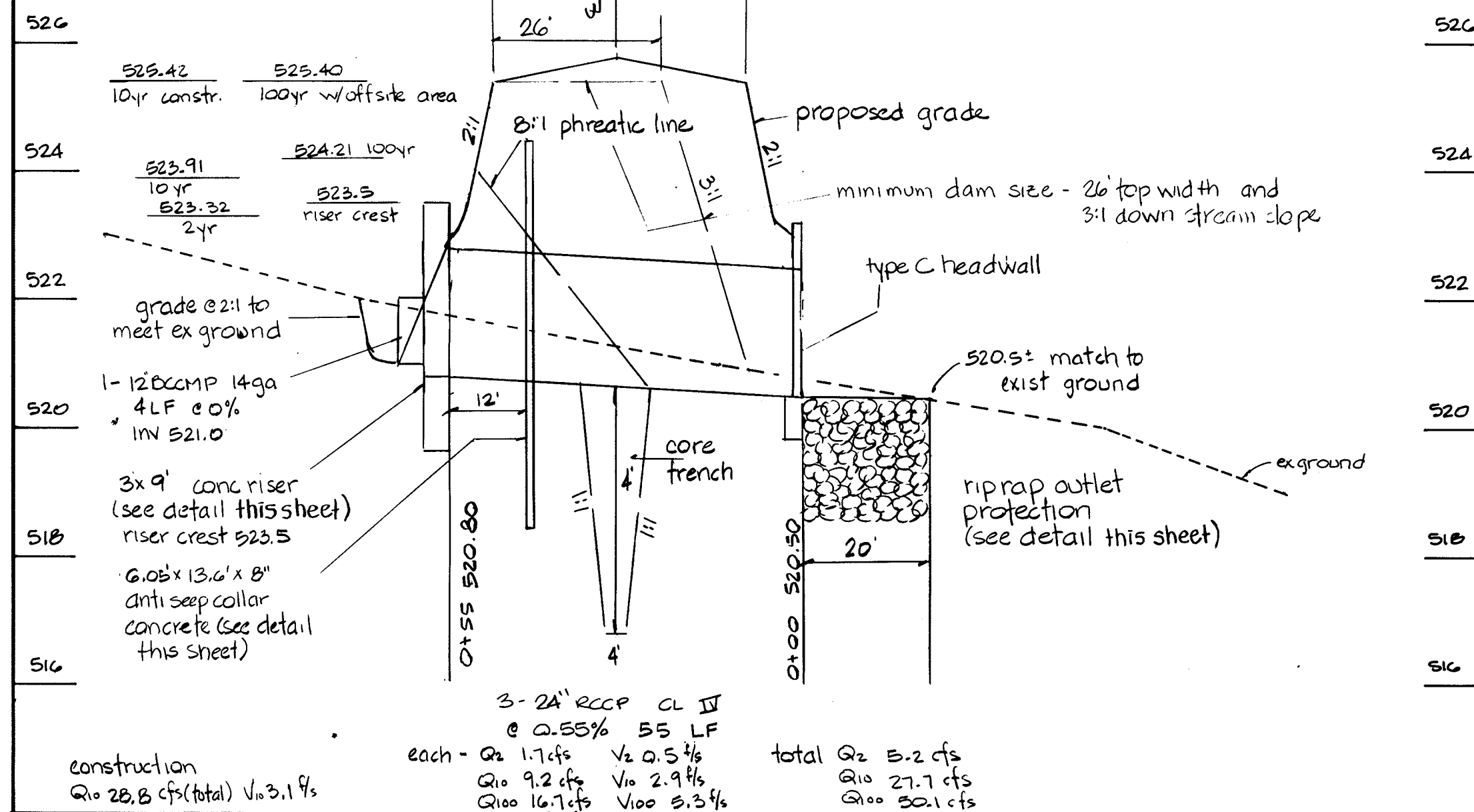
APPROVED: FOR PRIVATE WATER AND NO REVENUE, FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
James P. Law... 1/24/92

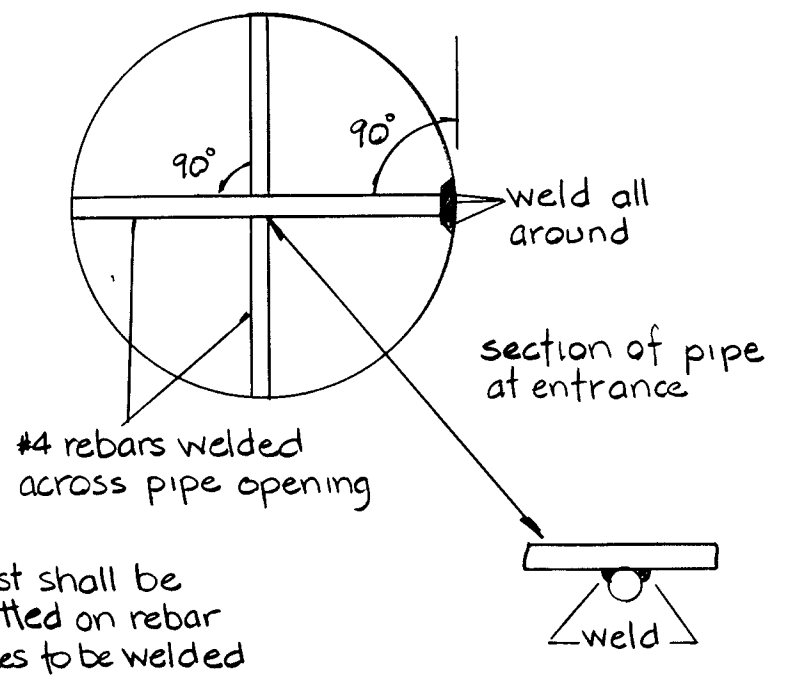
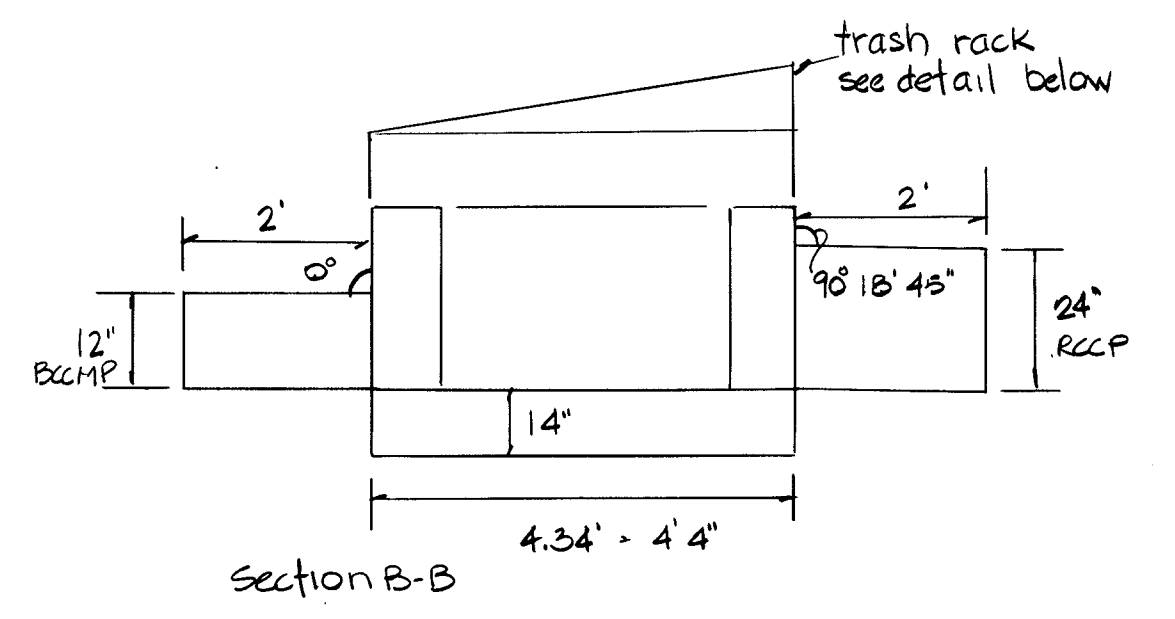
Director... 1-24-92
CHIEF, BUREAU OF ENGINEERING

Profile-Principal Spillway and Cross Section of Dam

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

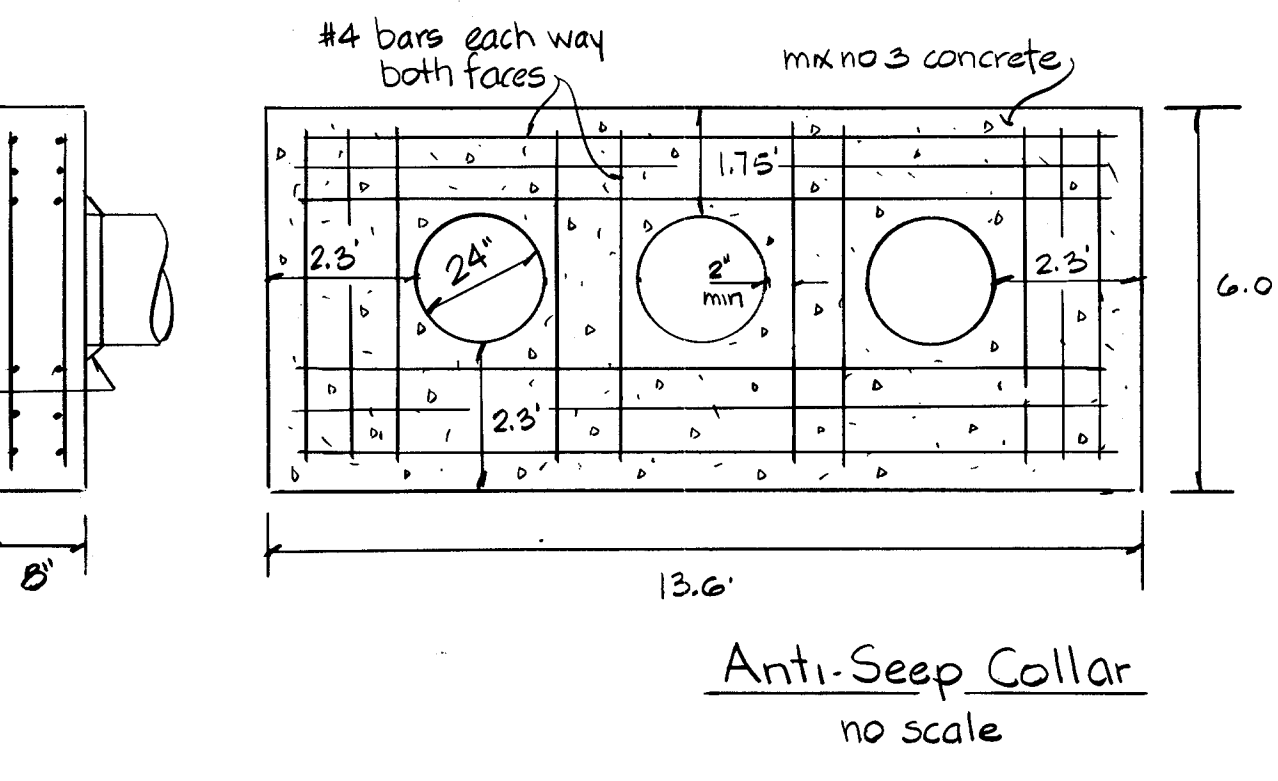
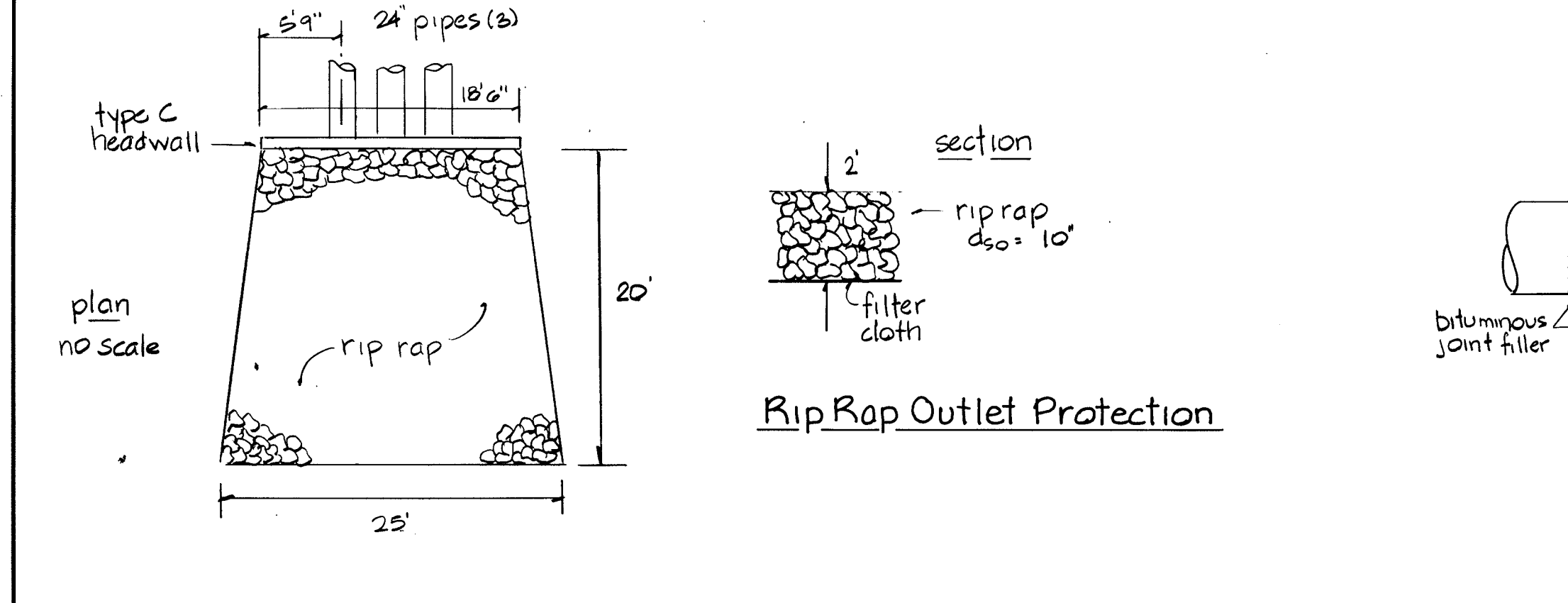


- Notes: 1. Slab concrete base shall be mix no 3 concrete. 2. Walls shall be reinforced mix no 3 concrete. 3. Reinforcing shall be #4 @ 10' o.c. each way in E of walls. Reinforcing continuous at corners. All lops 1'4".



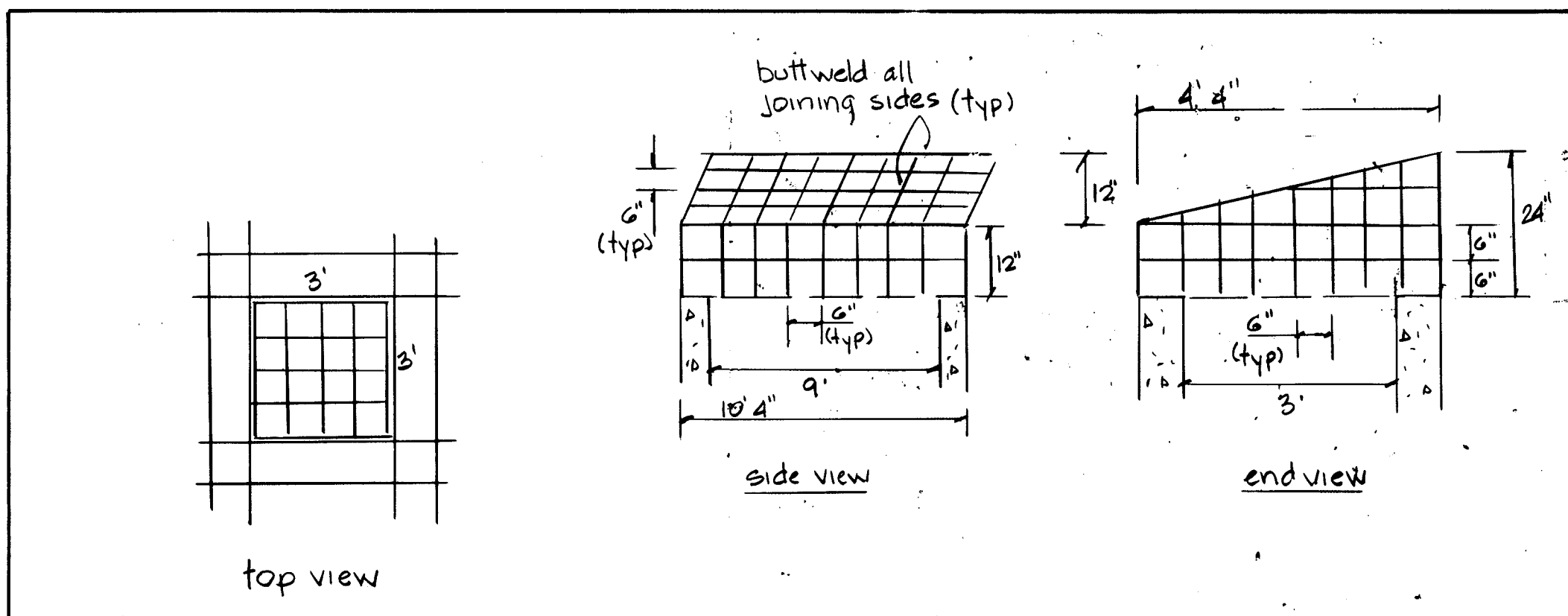
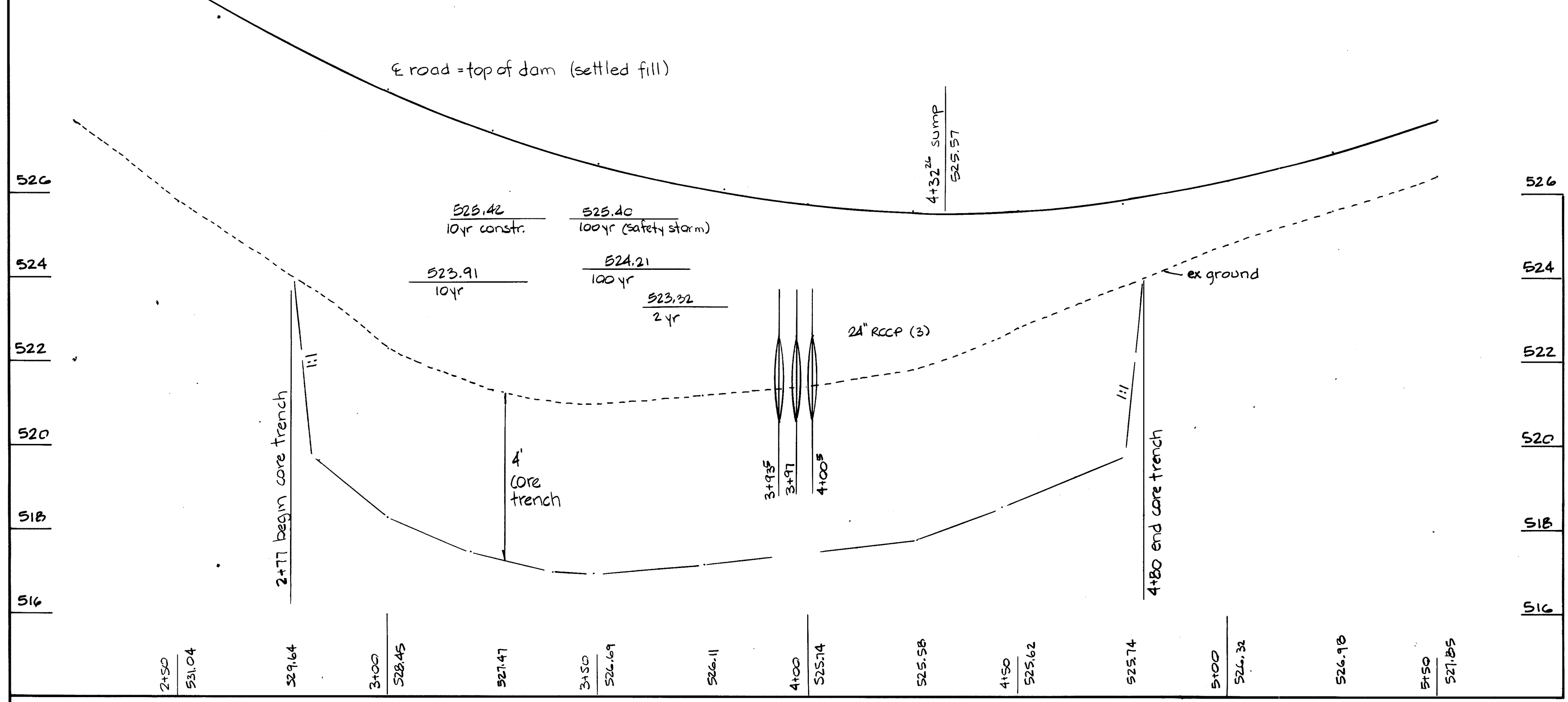
Riser Details

Trash Rack for LowFlow Pipe



Profile - Centerline of Dam

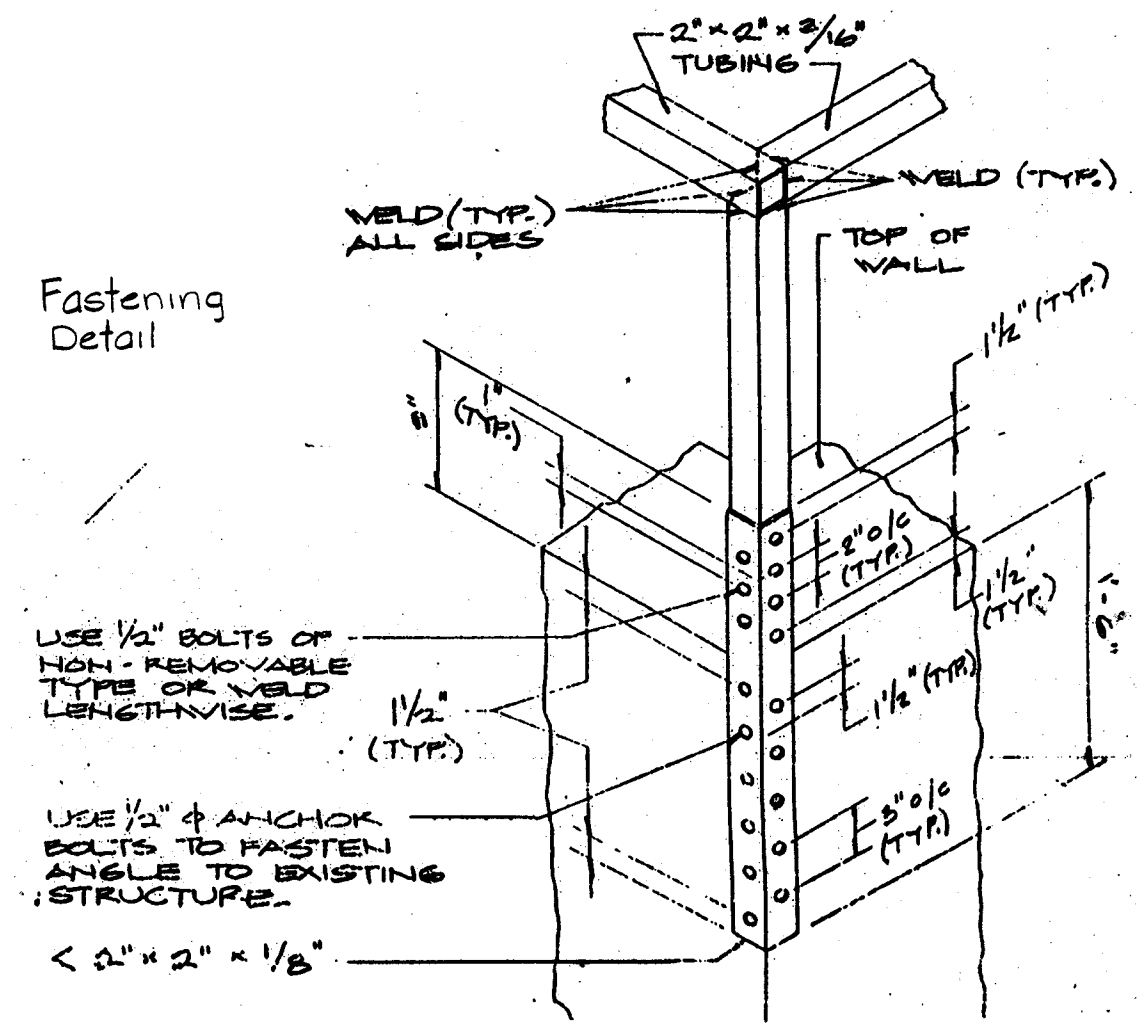
scale vert 1"=2' hor 1"=20'



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

Riser Trash Rack Details



Stormwater Management Pond #3 Profiles and Details

APPROVAL STAMP

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

Reviewed for EDWARD S. Giza Name [Signature] Date 1/27/92 Signature [Signature] U.S. Soil Conservation Service

SITE DATA

OWNER: HOWARD COUNTY DEPT. OF PUBLIC WORKS
PROPOSED IMPROVEMENT: PARK
DEED REF. LIBER 847, FOLIO 006
TAX MAP #10, PARCEL #23
ELECTION DISTRICT #3
CENSUS TRACT 0030
WATER: J
SEWER: NONE

JANUARY 24, 1992

J. CHRISTOPHER BATTEN, INC. Land Planning & Design Consultant
SHEET S-16 of 20
SDP 17 of 21
SDP 90-18

880



XXAL-92-016

STORMWATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS

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.

2. SITE PREPARATION

Areas designated for borrow areas, embankment and structural works shall be cleared, grubbed, and stripped of topsoil. All trees, vegetation, rocks, and other objectionable material shall be removed.

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.

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.

3. EARTHWORK AND EARTH FILL

3.1 Material

The earth fill material shall be taken from approved designated borrow area(s). It shall be free of roots, stumps, wood, rubbish, stone greater than 6", frozen or other objectionable material.

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.

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.

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.

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.

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.

4. PIPE CONDUITS

All pipes shall be circular in cross section.

4.1 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.

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.

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.

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."

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-361. An approved equivalent is ANMA 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.

4.3 Polyvinyl Chloride (PVC) Pipe

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

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."

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 Fabric)

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.

6.1 Sod

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

6.2 Permanent Seeding

Seeding Preparation - Loosen the 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.

Seeding - For the periods:

- 1) March 1 thru April 30 and August 1 thru October 15.....60 lbs. per acre (2 lbs./1000 sq.ft.) Kentucky 31 Tall Fescue.
2) May 1 thru July 31.....60 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 a total of 24".

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 untreated 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

Seeding Preparation - Loosen upper 3 inches of soil by 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.....2.5 BU (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 Mirafil 140H, Dupont Typar 3341 or 3401, or approved equal.

9. GABIONS

All Gabions 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 subangular 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.

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" x 8" line 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 M181-74.

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.

An infiltration trench shall not be constructed or placed in service until all of the contributing drainage area has been established 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.

FABRIC LAYDOWN

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 material to the trench and unroll a sufficient length to allow placement of the fabric down into the trench.

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.

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.

VOIDS BEHIND FABRIC

VOIDS BEHIND FABRIC Voids can be created between the fabric and excavation sides and shall be avoided. (Removing fabric or other obstacles from the trench walls is the source of such voids.)

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

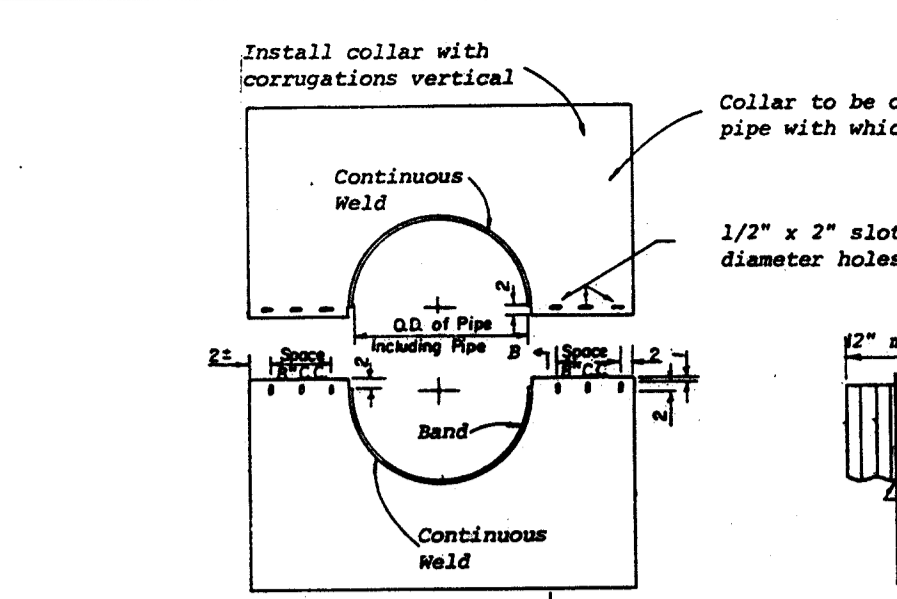
An observation well, as described in subsection 3.3.4.8 and Figure 3.5 of Maryland State Standards and Specifications for Infiltration Practices shall be provided. The depth of the well at the time of installation will be clearly marked on the well cap.

MAINTENANCE

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

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.

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 surface. Sediment deposited 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.

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.

Signed: [Signature] 14920 1/24/92 PE # Date

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.

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

SITE DATA

OWNER: HOWARD COUNTY DEPT. OF PUBLIC WORKS
PROPOSED IMPROVEMENT: PARK
DEED REF. LIBER 847, FOLIO 688
TAX MAP #18, PARCEL #28
ELECTION DISTRICT #8
GENBUS TRACT 688D
WATER:
SEWER: NONE

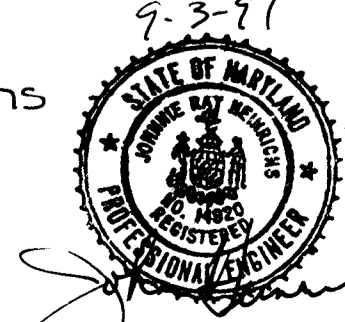
JANUARY 24, 1992

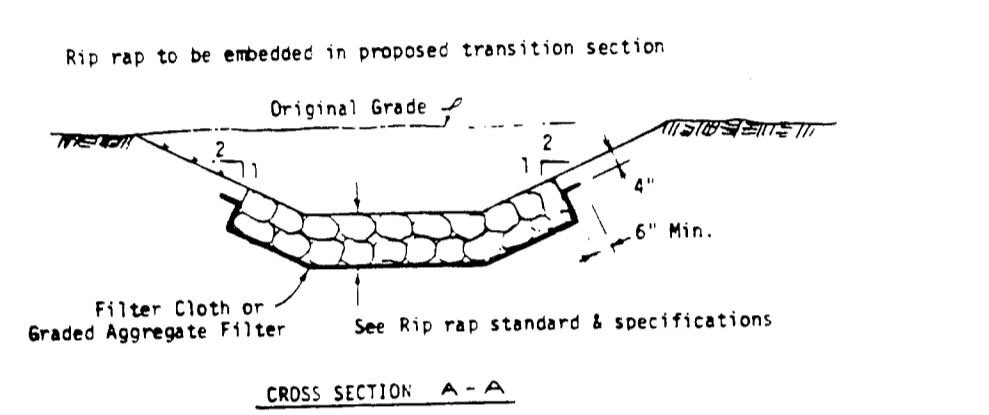
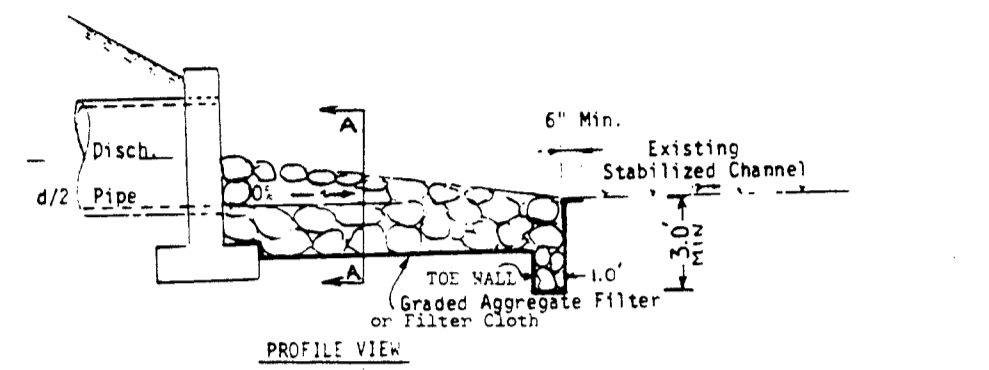
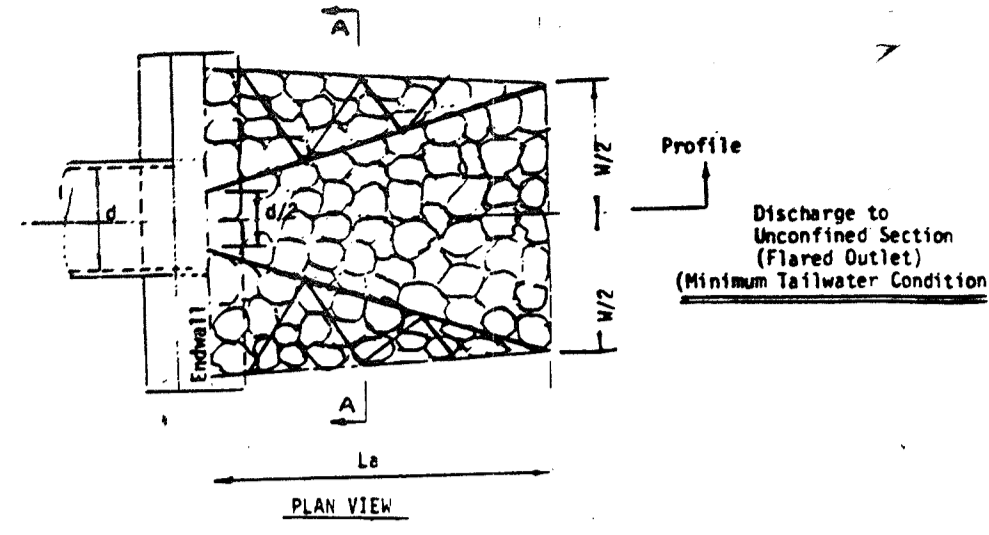
STORMWATER MANAGEMENT PONDS 1 & 3 CONSTRUCTION SPECIFICATIONS DETAILS

SHEET S-17

SDP 18 of 21 SDP-90-18

880

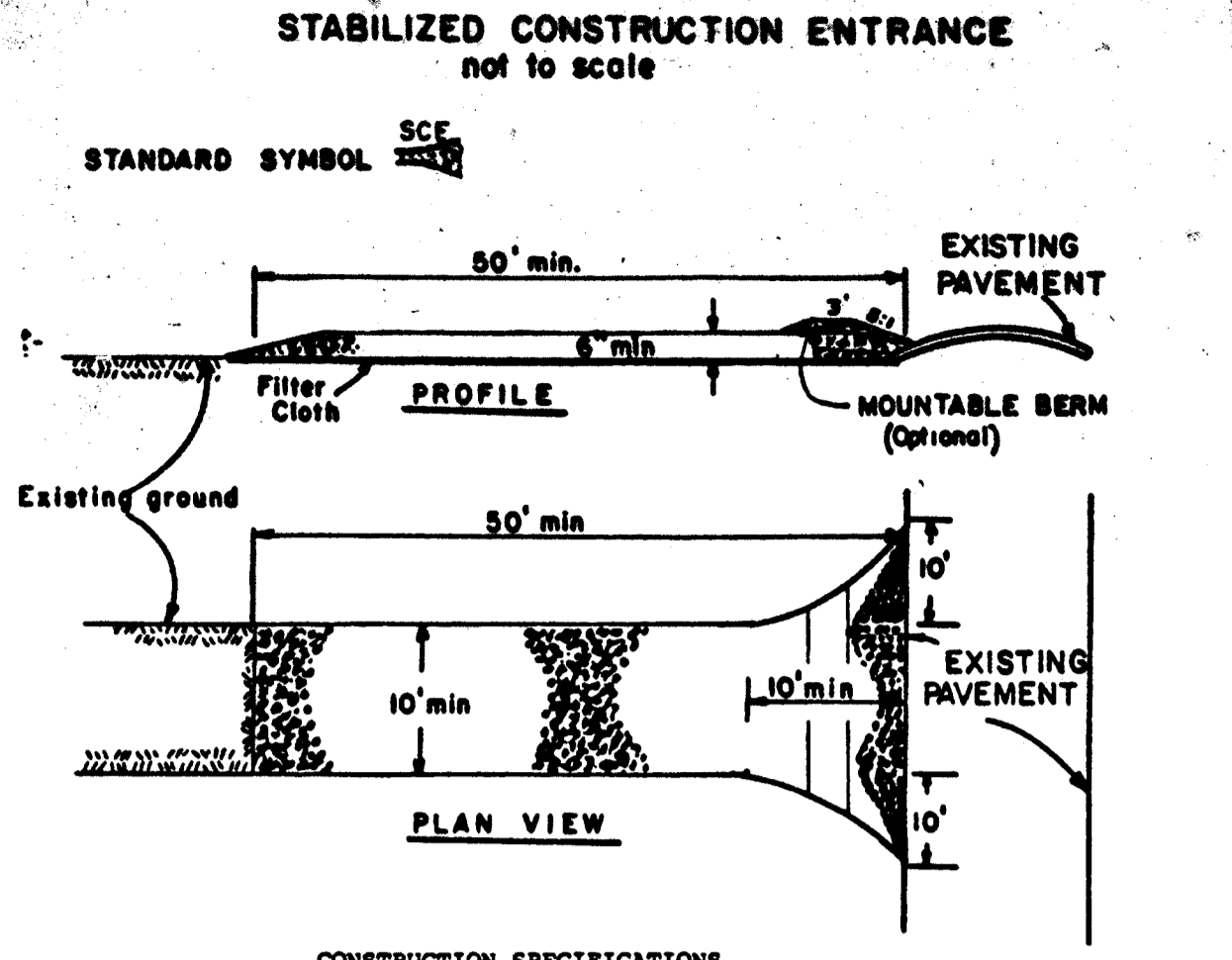




U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

RIPRAP OUTLET
PROTECTION-1

STANDARD DRAWING
ROP-1

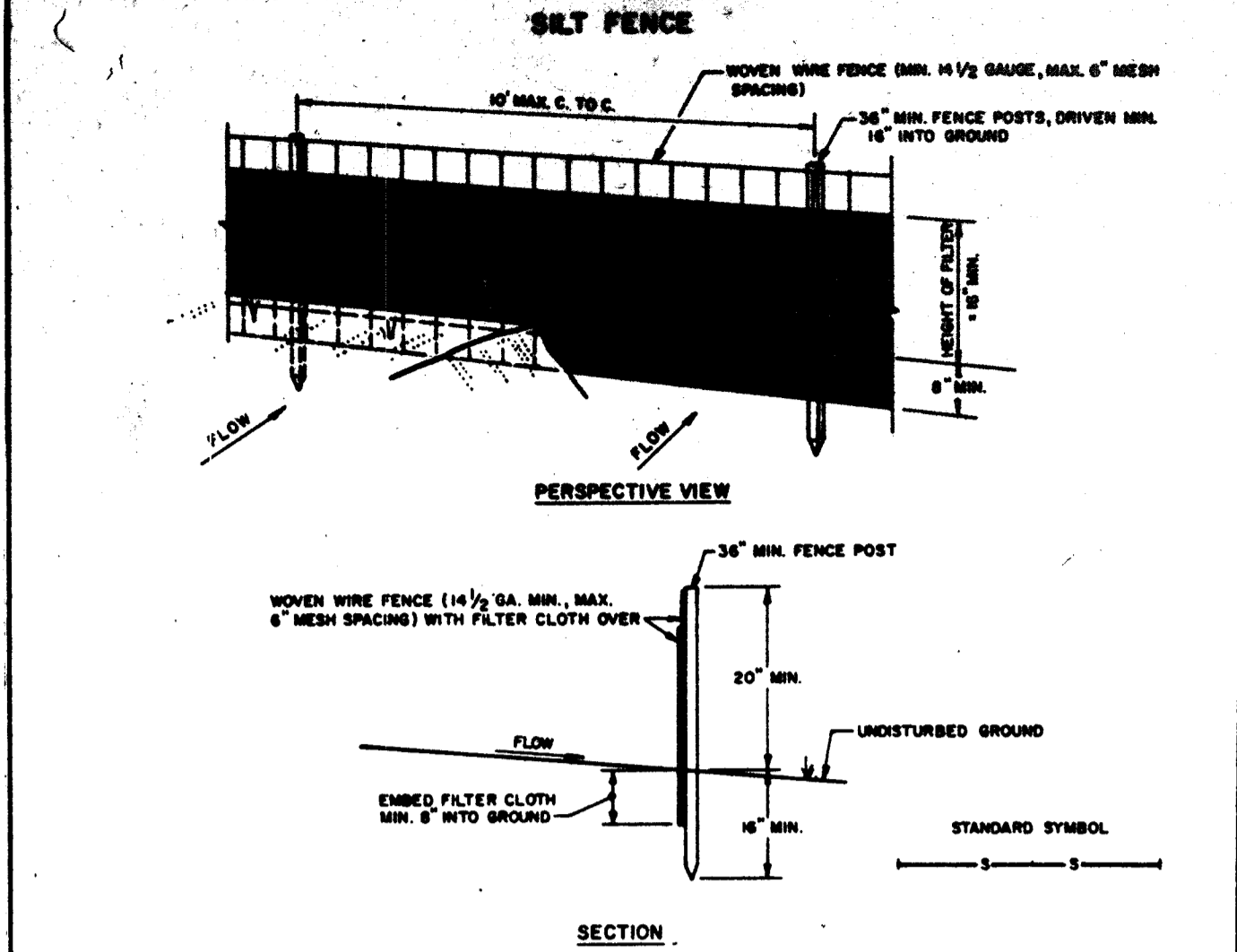


- CONSTRUCTION SPECIFICATIONS**
1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
 2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
 3. Thickness - Not less than six (6) inches.
 4. Width - Ten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

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
College Park, Md.

STABILIZED CONSTRUCTION
ENTRANCE

Standard
Drawing
SCE-1

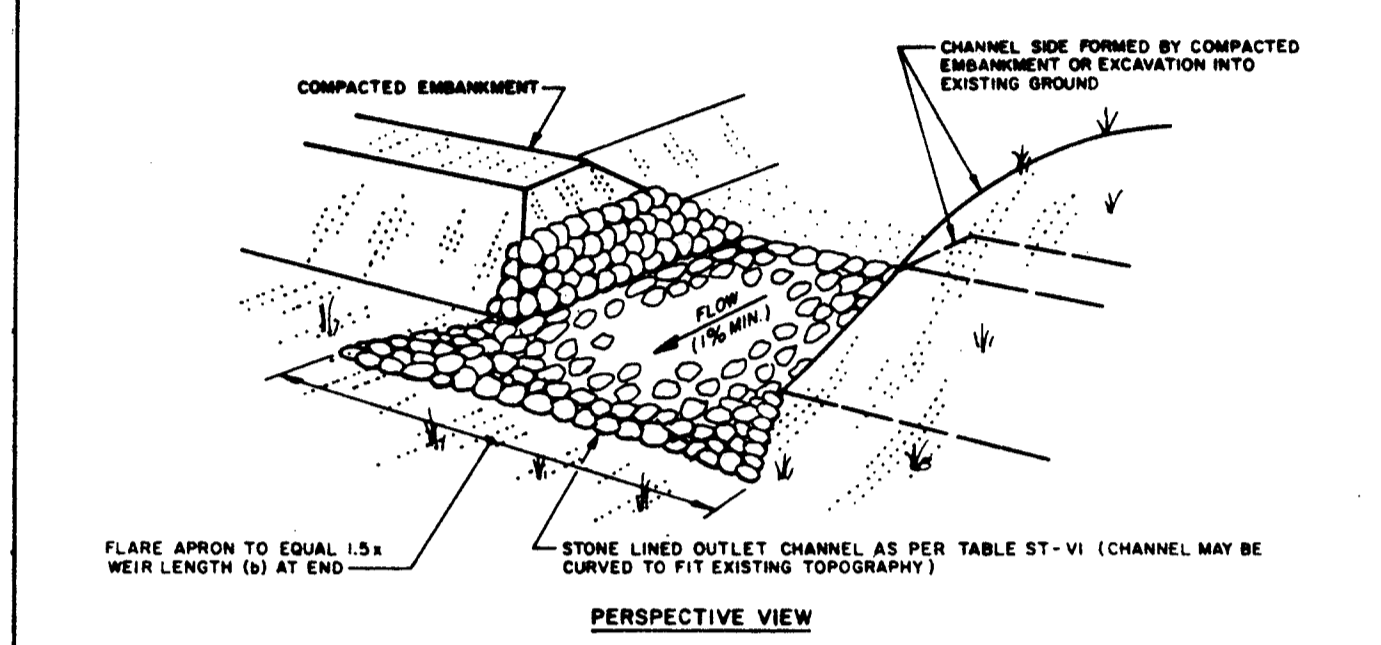
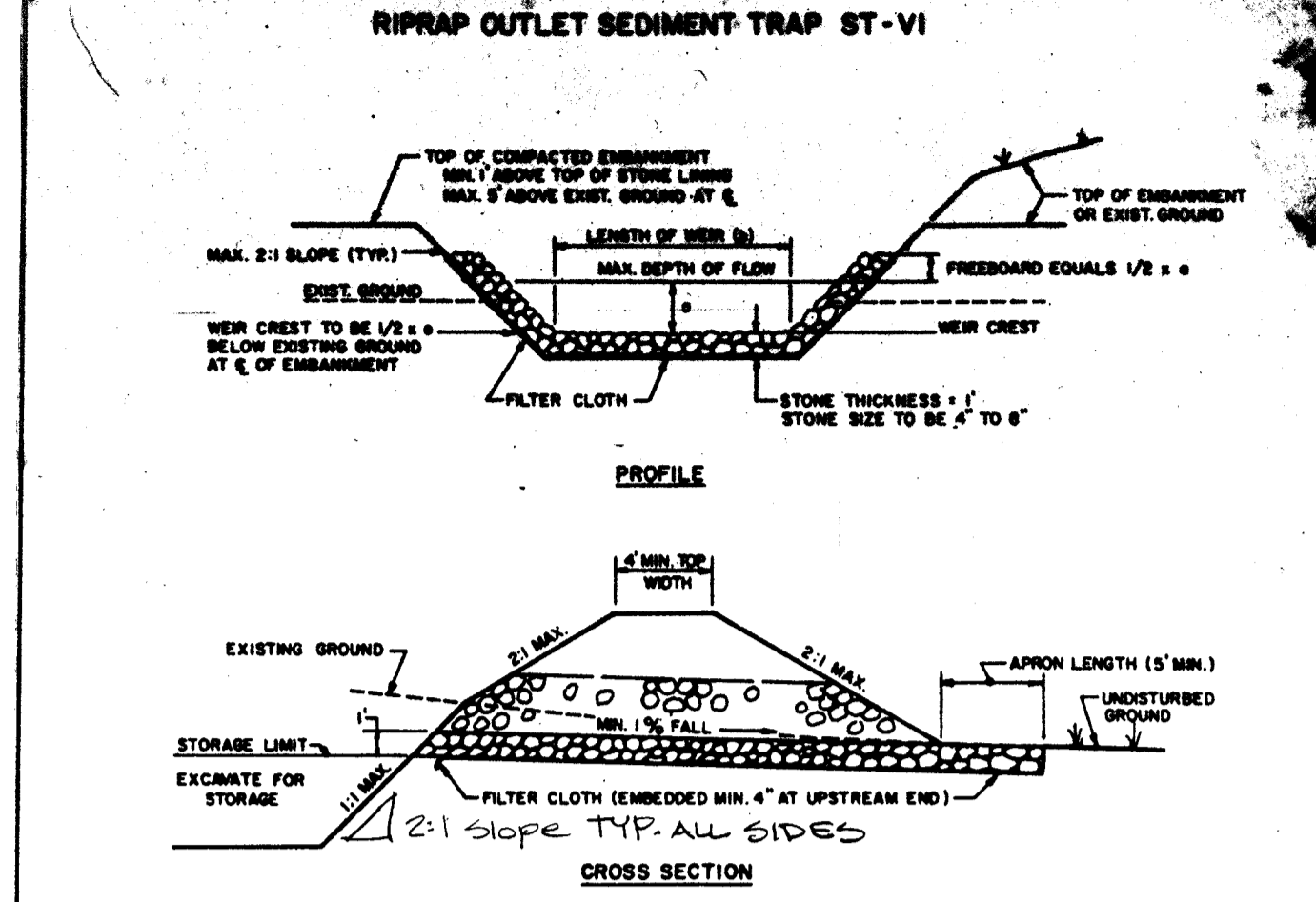


- CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
 2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
 3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
 4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
- POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD
FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING
FILTER CLOTH: FILTER X, TRIRAFT 1000, STABILINKA L1000 OR APPROVED EQUAL
PREFABRICATED UNIT: GEOTAB, DYNIFENCE, OR APPROVED EQUAL.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

SILT FENCE

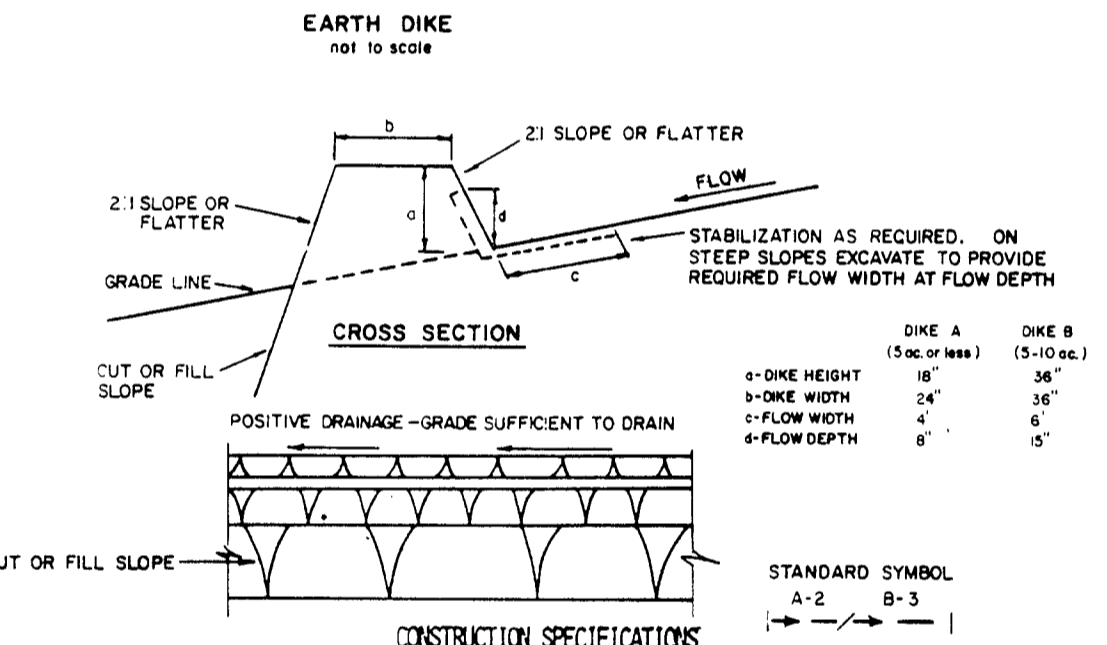
STANDARD DRAWING
SF-1



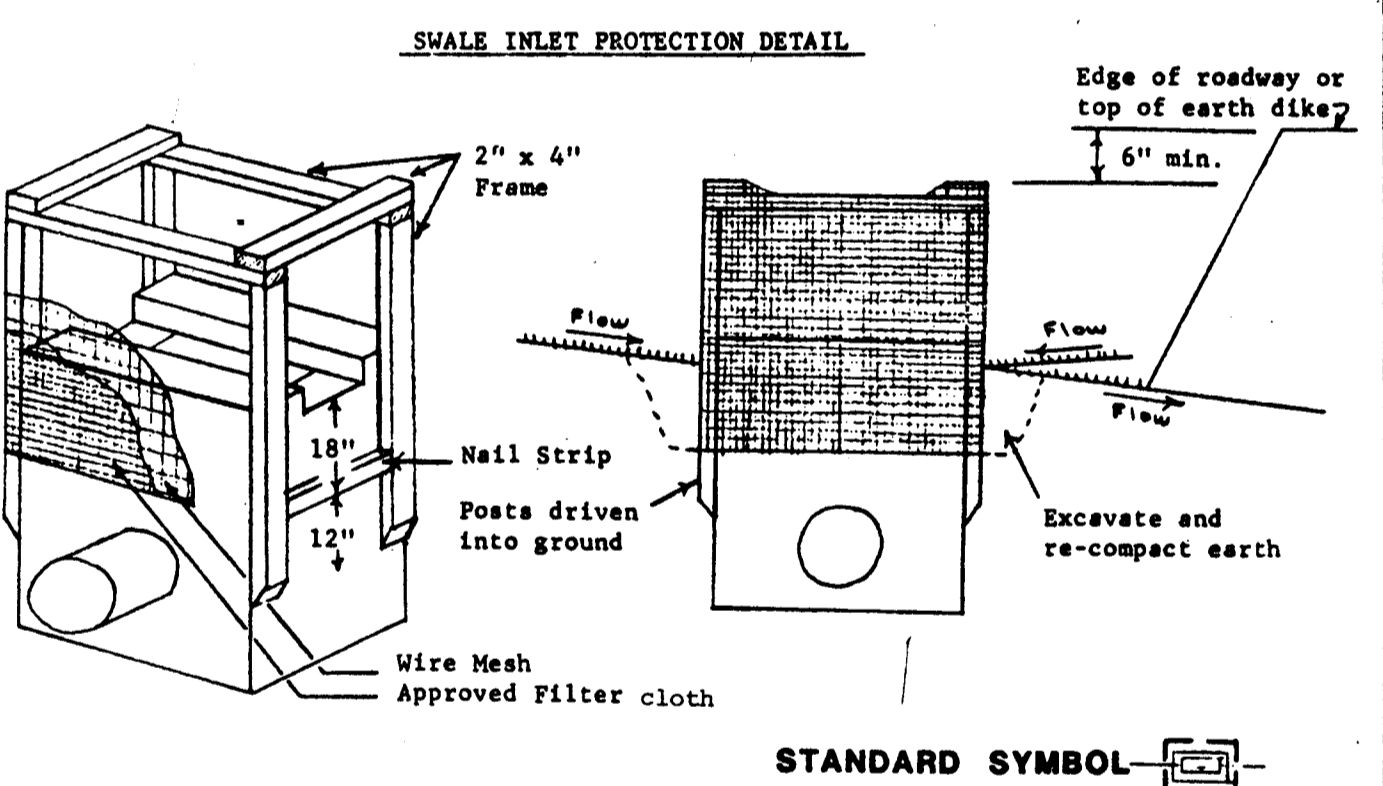
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

RIPRAP OUTLET SEDIMENT TRAP

STANDARD DRAWING
ST-VI



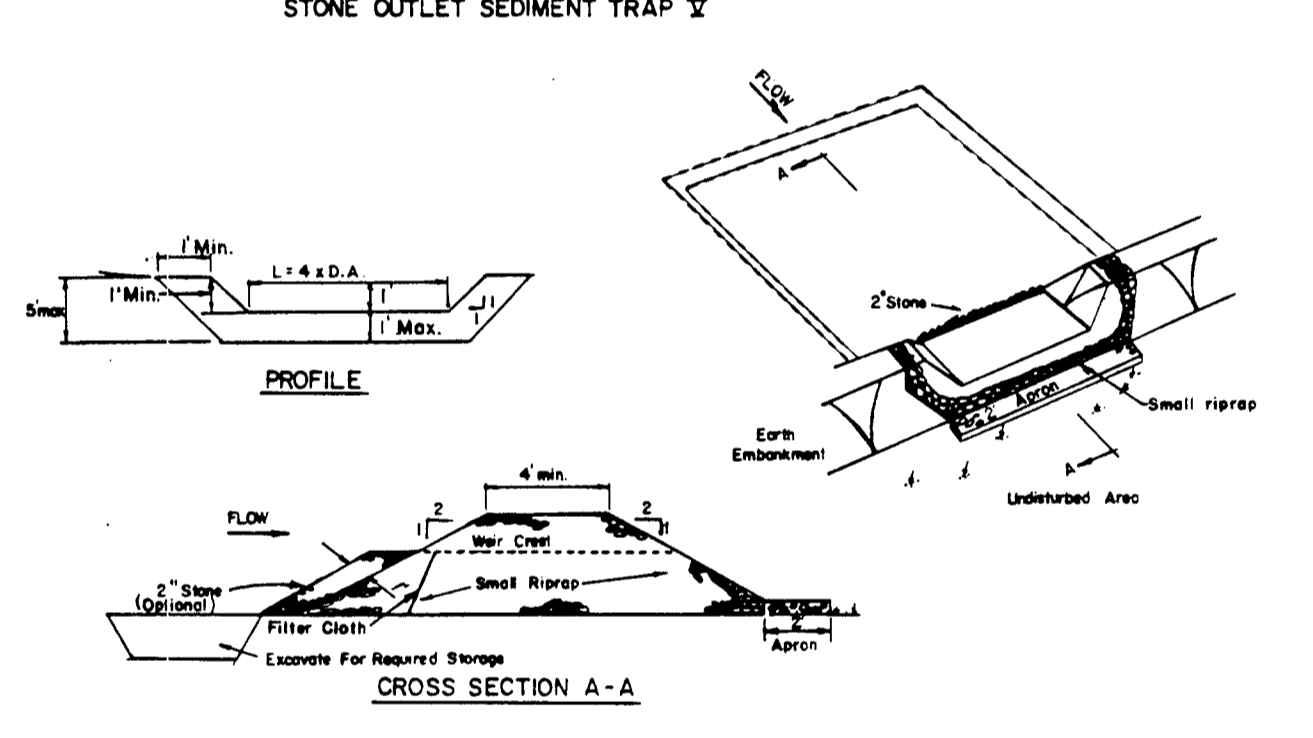
- CONSTRUCTION SPECIFICATIONS**
1. ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
 2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
 3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
 4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
 5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. FLOWOFF SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ASSOCIATEDLY STABILIZED.
 6. STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.
- | TYPE OF TREATMENT | CHANNEL SLOPE | FLOW CHANNEL STABILIZATION | |
|-------------------|---------------|----------------------------------|--|
| | | DIKE A | DIKE B |
| 1 | 5-3.0% | SEED AND STRAW MULCH | SEED AND STRAW MULCH |
| 2 | 3.1-5.0% | SEED AND STRAW MULCH | SEED USING JUTE, OR EXCELSTON; SOG; 2" STONE |
| 3 | 5.1-8.0% | SEED WITH JUTE, OR SOG; 2" STONE | LINED RIP-RAP 4-8" |
| 4 | 8.1-20% | LINED RIP-RAP 4-8" | ENGINEERING DESIGN |
- A. Stone to be 2 inch stone, or recycled concrete equivalent, in a layer at least 3 inches in thickness and be pressed into the soil with construction equipment.
B. Rip-rap to be 4-8 inches in a layer at least 8 inches thickness and pressed into the soil.
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.
7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.



U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, Md.

SWALE INLET PROTECTION DETAIL

STANDARD SYMBOL



- CONSTRUCTION SPECIFICATIONS FOR ST-V**
1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
 2. The fill material for the embankment shall be free of roots and other woody vegetation as well as oversized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
 3. All out and fill slopes shall be 2:1 or flatter.
 4. The stone used in the outlet shall be small riprap 4"-8" along with a 1" thickness of 2" aggregate placed on the up-grade side on the small riprap and embedded filter cloth in the riprap.
 5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap.
 6. The structure shall be inspected after each rain and repairs made as needed.
 7. Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
 8. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

Maximum Drainage Area: 5 Acres

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
COLLEGE PARK, MARYLAND

STONE OUTLET SEDIMENT TRAP

STANDARD DRAWING
ST-V

REVIEWED NO FACILITIES REQUIRED
HOWARD COUNTY HEALTH DEPARTMENT
Jesse M. Boyd per SR 1/24/92
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
James R. Smith 1/27/92
DIRECTOR DATE
Annual Admonal 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 WORKS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
James R. Smith 1/27/92
DIRECTOR DATE
CHIEF, BUREAU OF ENGINEERING DATE

APPROVAL STAMP

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Approved: J. R. Smith Date 1/27/92
Howard S.C.D.

Reviewed for: HOWARD S.C.D.
Name: J. R. Smith Date: 1/27/92
Signature: J. R. Smith
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

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 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 meet 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 of S.C.D.: _____ Date: _____

SEDIMENT CONTROL DETAILS

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

SHEET

S-18

of 20
SDP 17 of 21

880

REVIEWED NO FACILITIES REQUIRED

HOWARD COUNTY HEALTH DEPARTMENT
Joseph M. [Signature] 1/24/92
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Director [Signature] 1/27/92
DATE

Chief, Division of Community Planning and Land Development [Signature] 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 [Signature] 1/24/92
DATE

Chief, Bureau of Engineering [Signature] 1/24/92
DATE

APPROVAL STAMP

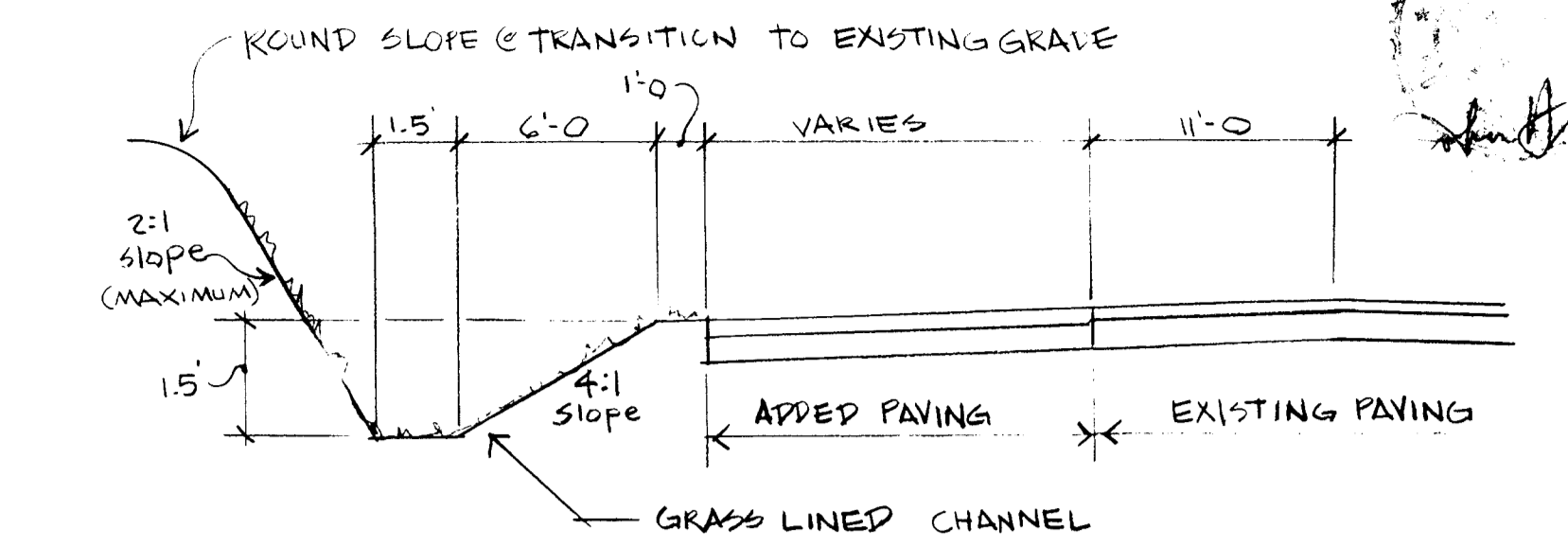
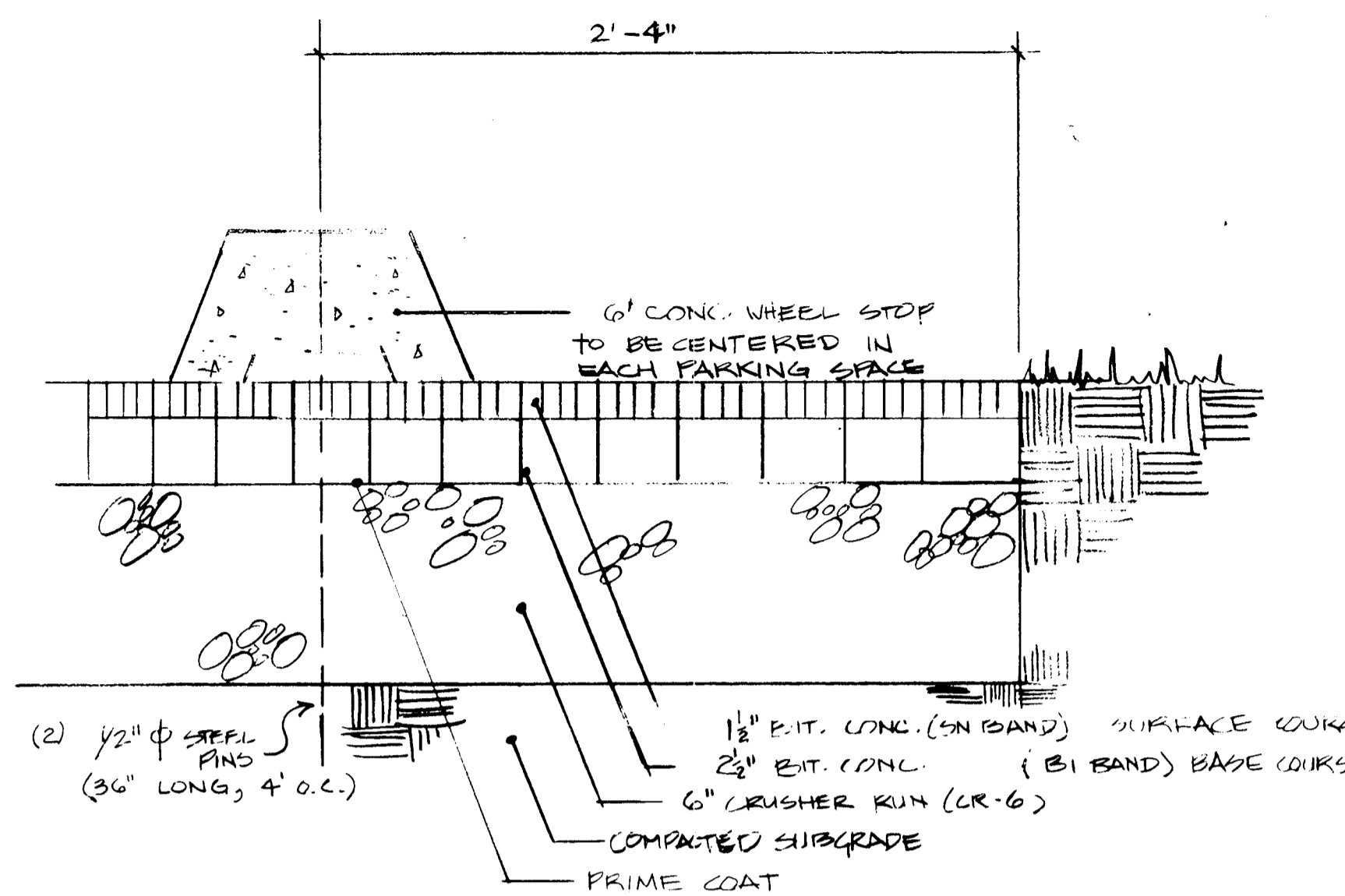
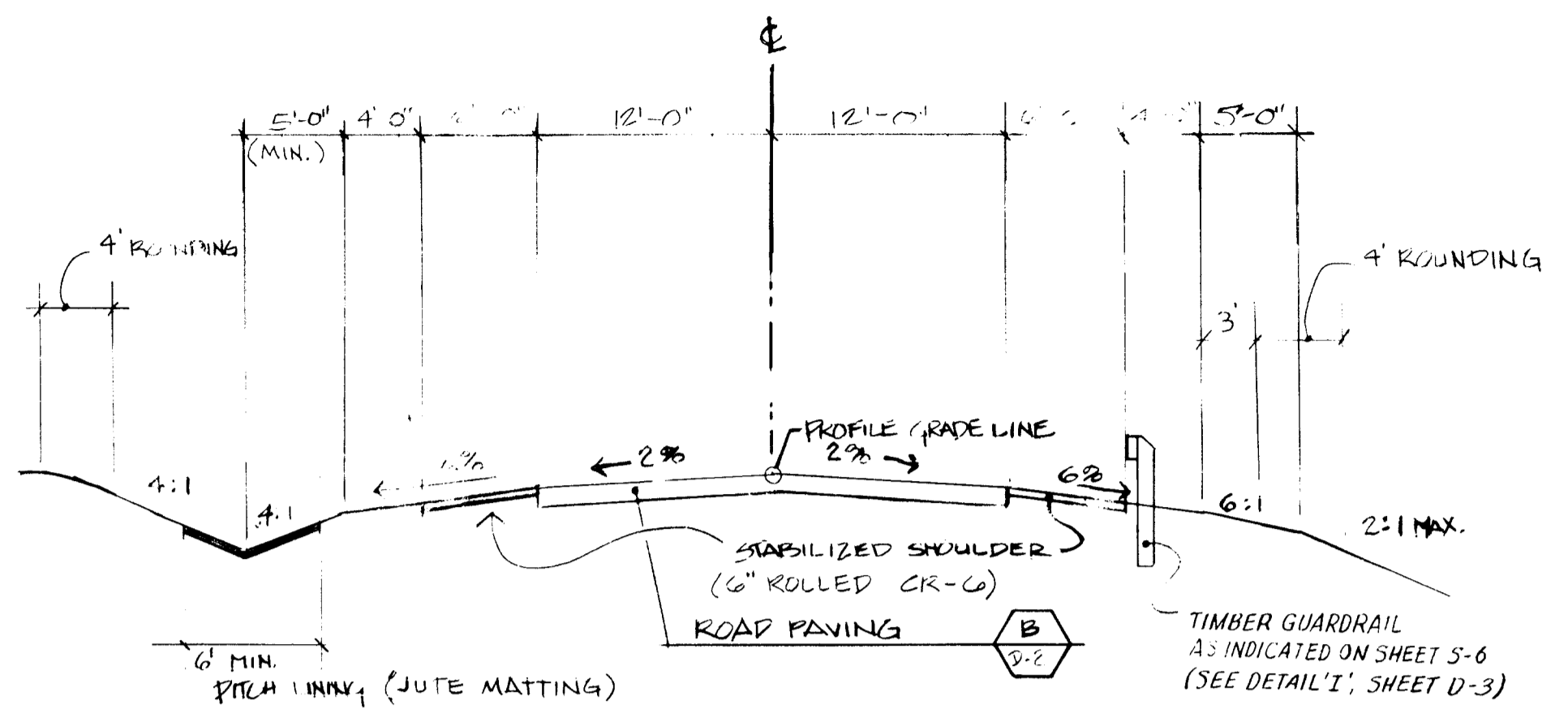
SITE DATA

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

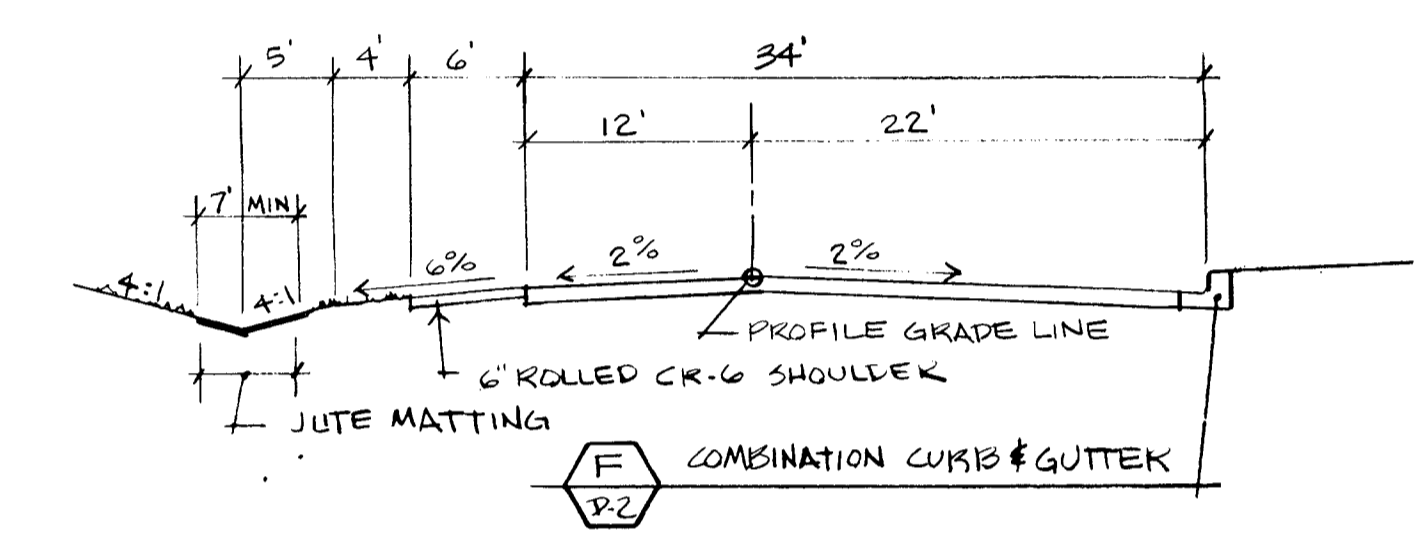
JANUARY 24, 1992

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

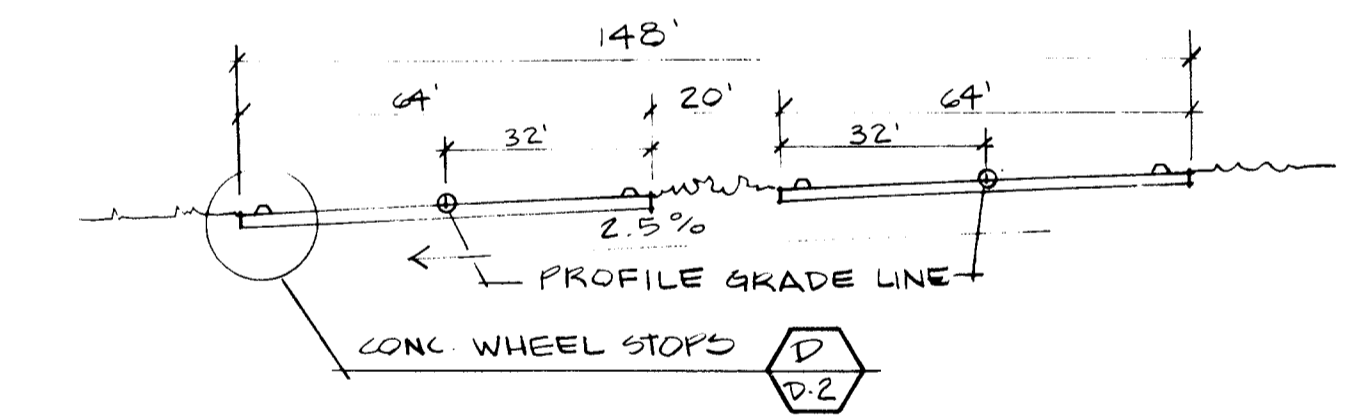
SHEET
S-19
of 20



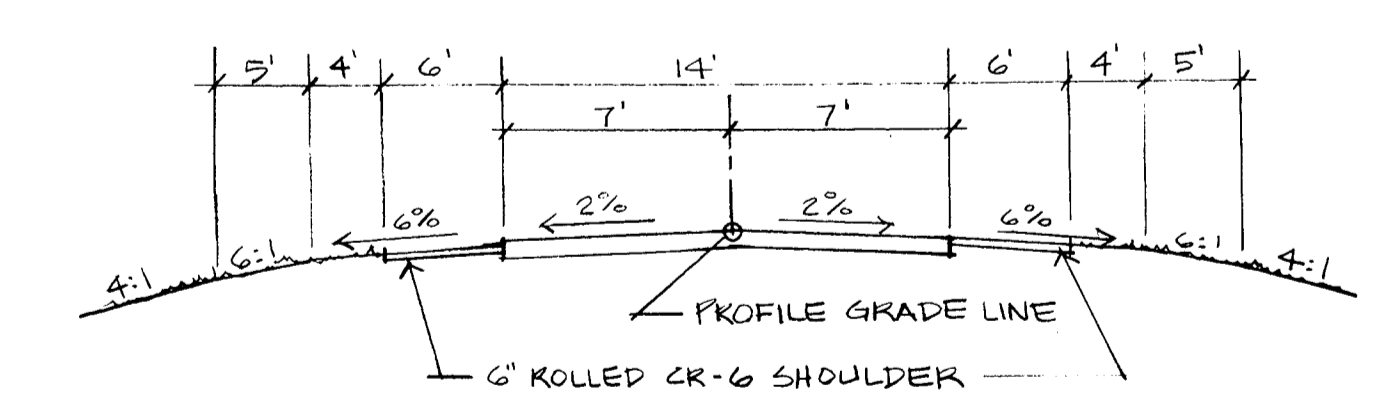
ROUTE 99 - CHANGE OF SPEED LANE (WEST) NTS



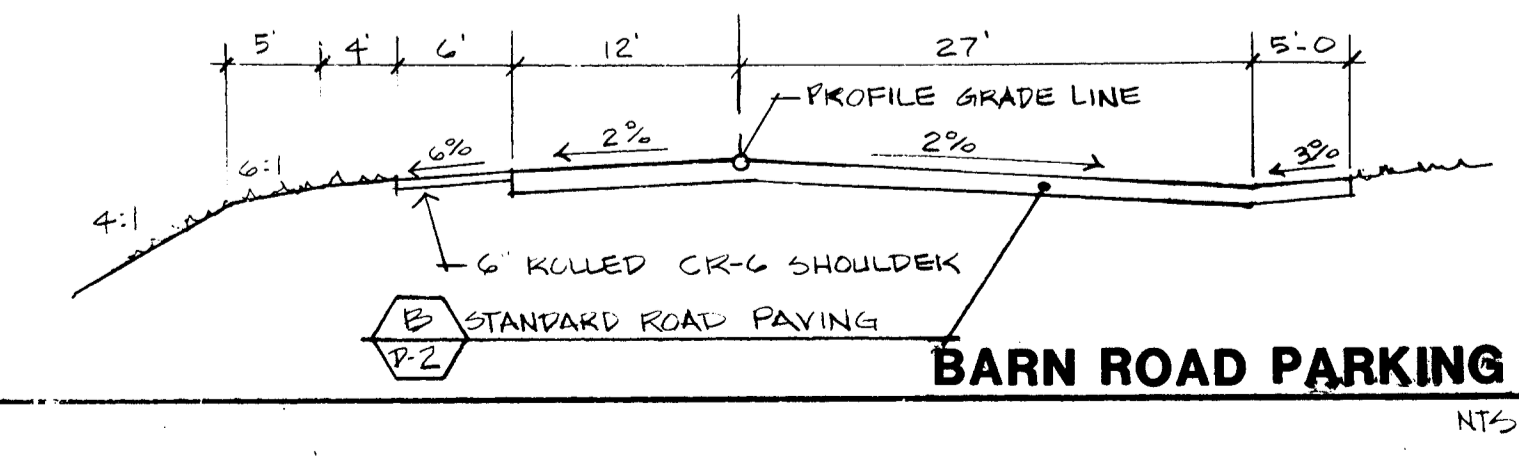
ROAD at DROP OFF/PICK UP. NTS



MAIN PARKING LOT NTS



BARN/SERVICE ROAD NTS



BARN ROAD PARKING NTS

TYPICAL ROAD SECTION NTS

PARKING LOT PAVING & WHEEL STOPS NTS

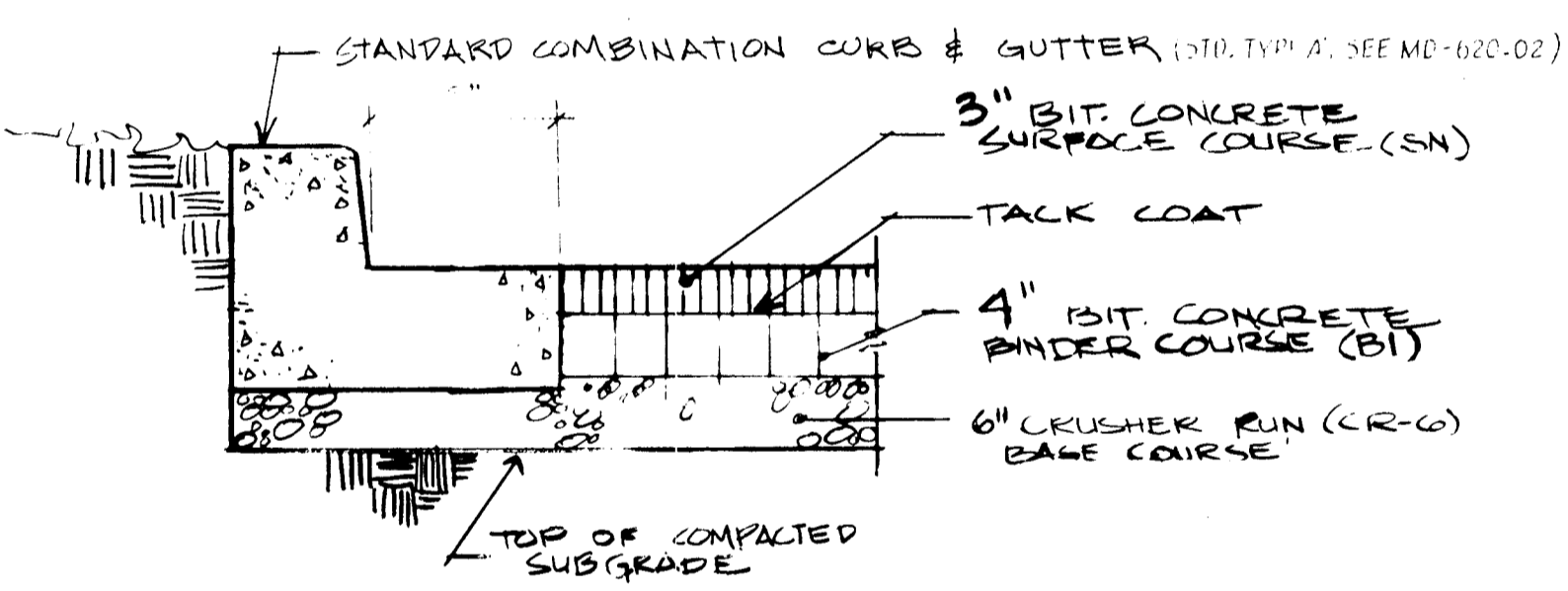
ROUTE 99 - CHANGE OF SPEED LANE (WEST) NTS

ROAD at DROP OFF/PICK UP. NTS

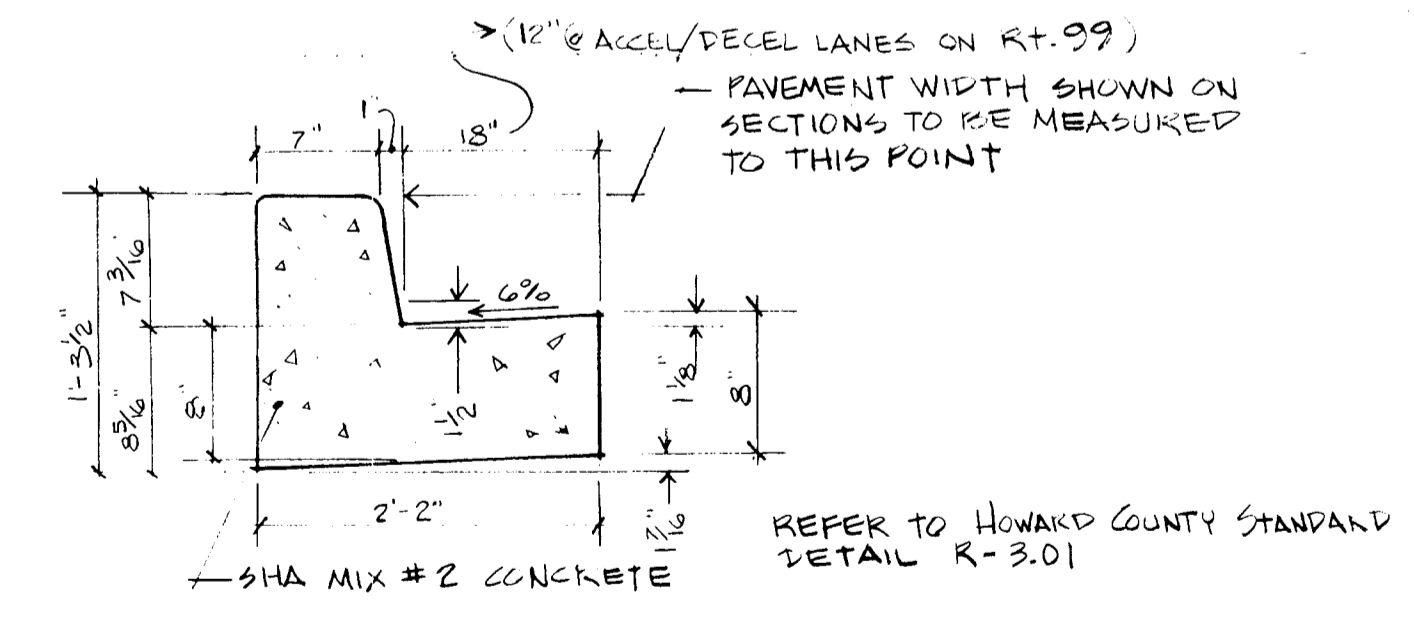
MAIN PARKING LOT NTS

BARN/SERVICE ROAD NTS

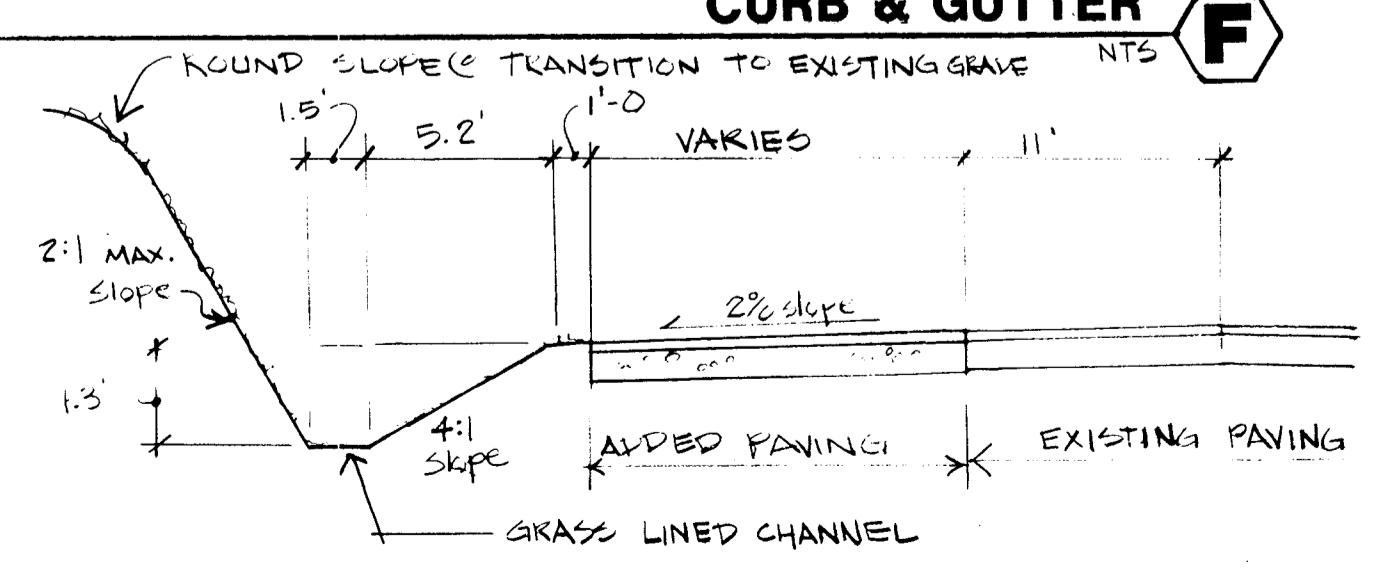
BARN ROAD PARKING NTS



ROAD PAVING #2 (For State Highway) WITH MD. STATE HIGHWAY ADMIN. STD. TYPE "A" COMBINATION CURB & GUTTER (MD-620.02) NTS

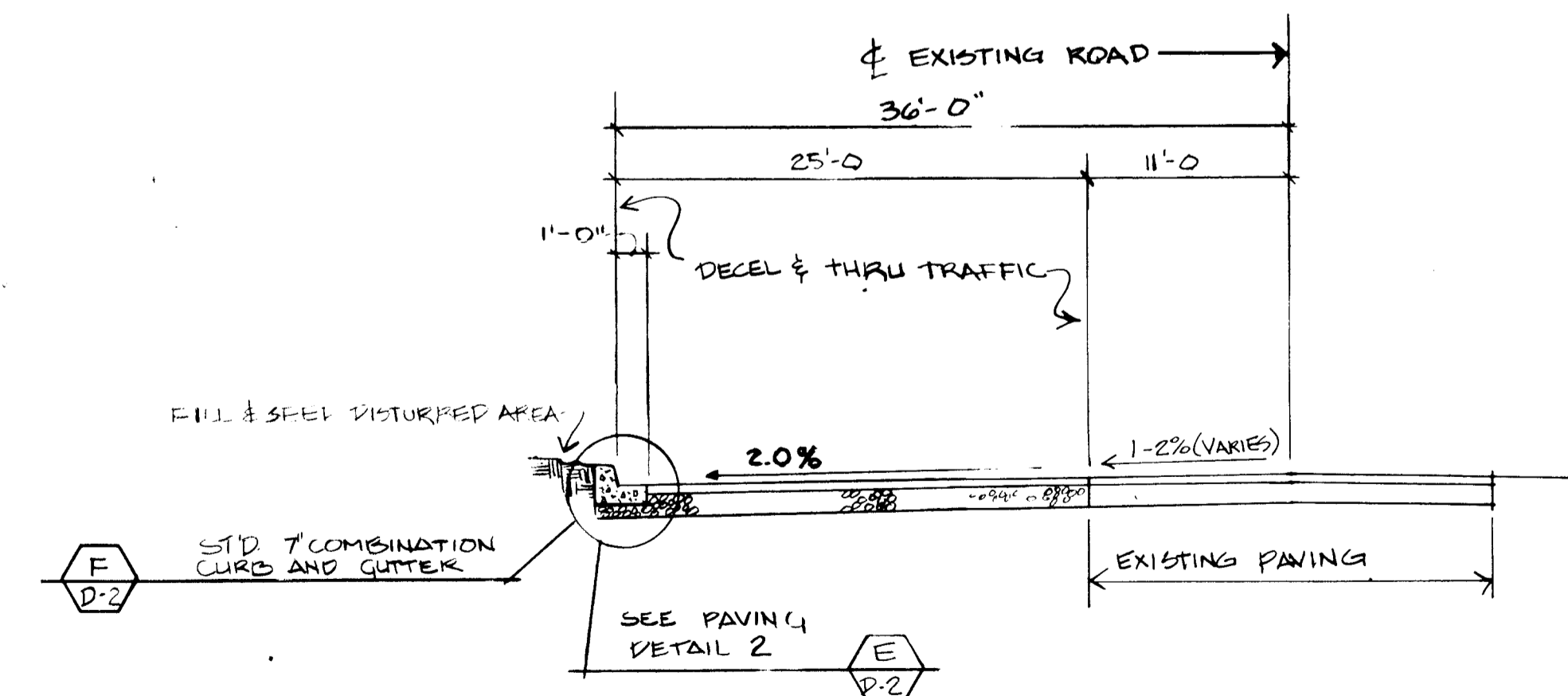


CURB & GUTTER NTS



ROUTE 99 - CHANGE OF SPEED LANE (EAST) NTS

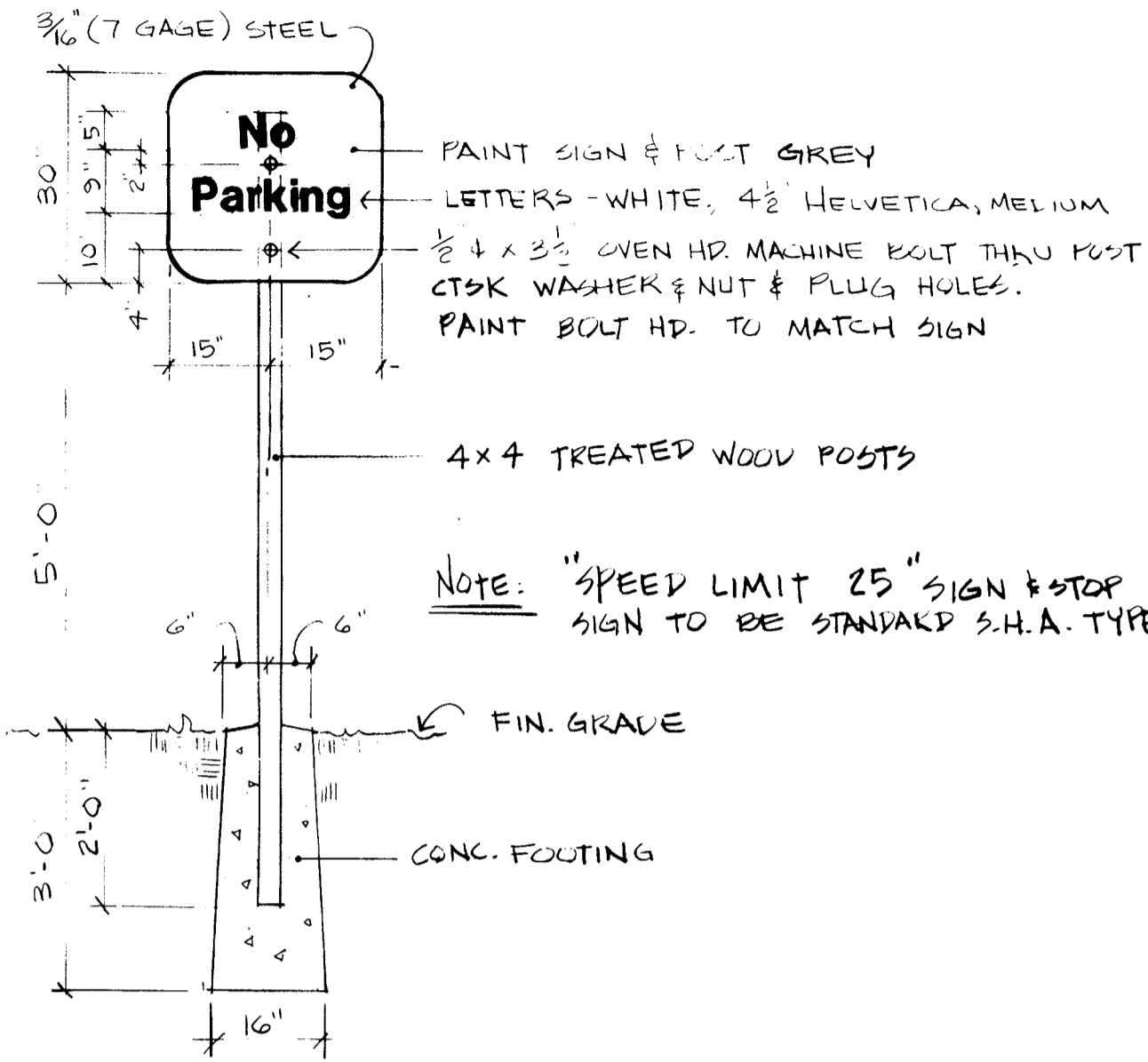
ROAD PAVING #1 (FOR PARK ROADS & PARKING) AS PER HOWARD COUNTY STD. DETAIL R-2.01, BAND P-2 NTS



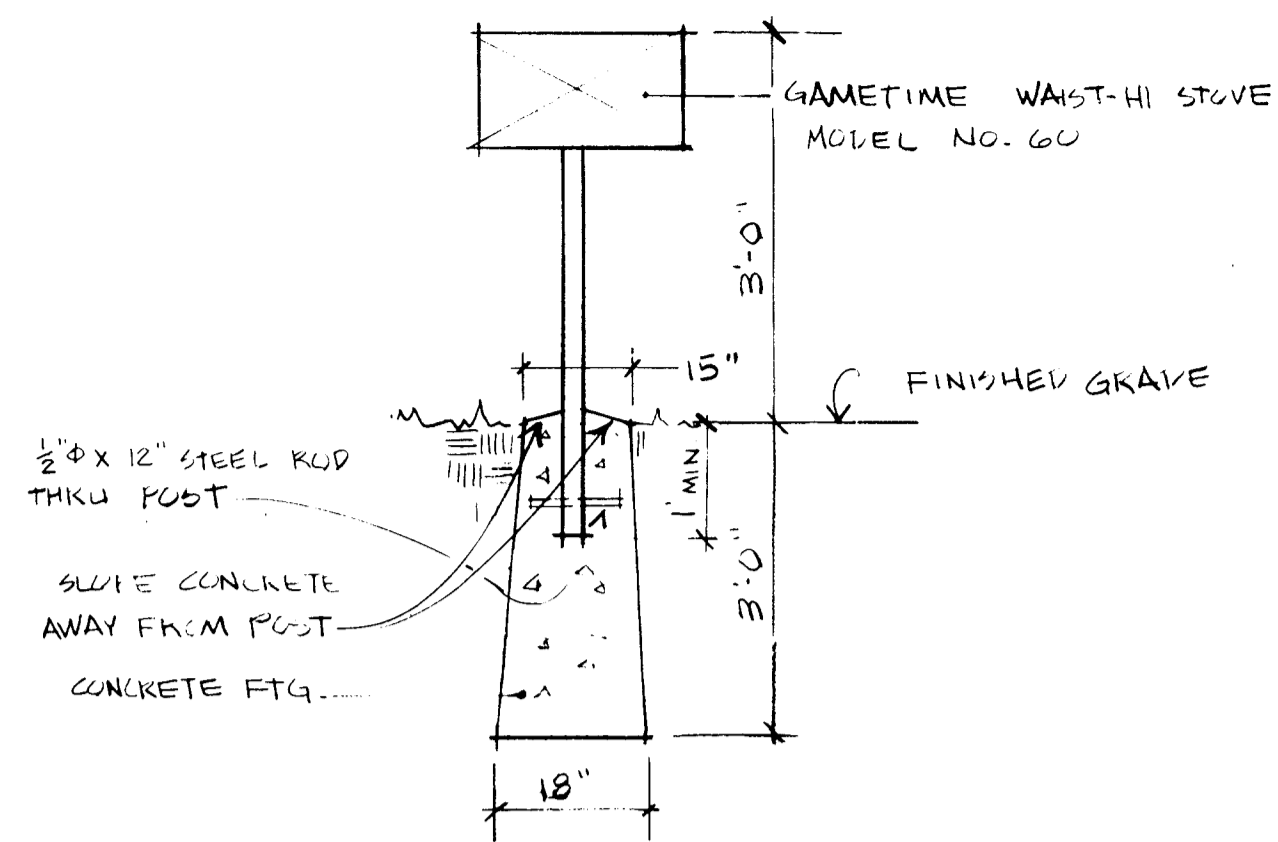
TYPICAL SECTION CHANGE OF SPEED LANE w/ CURBING NTS

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

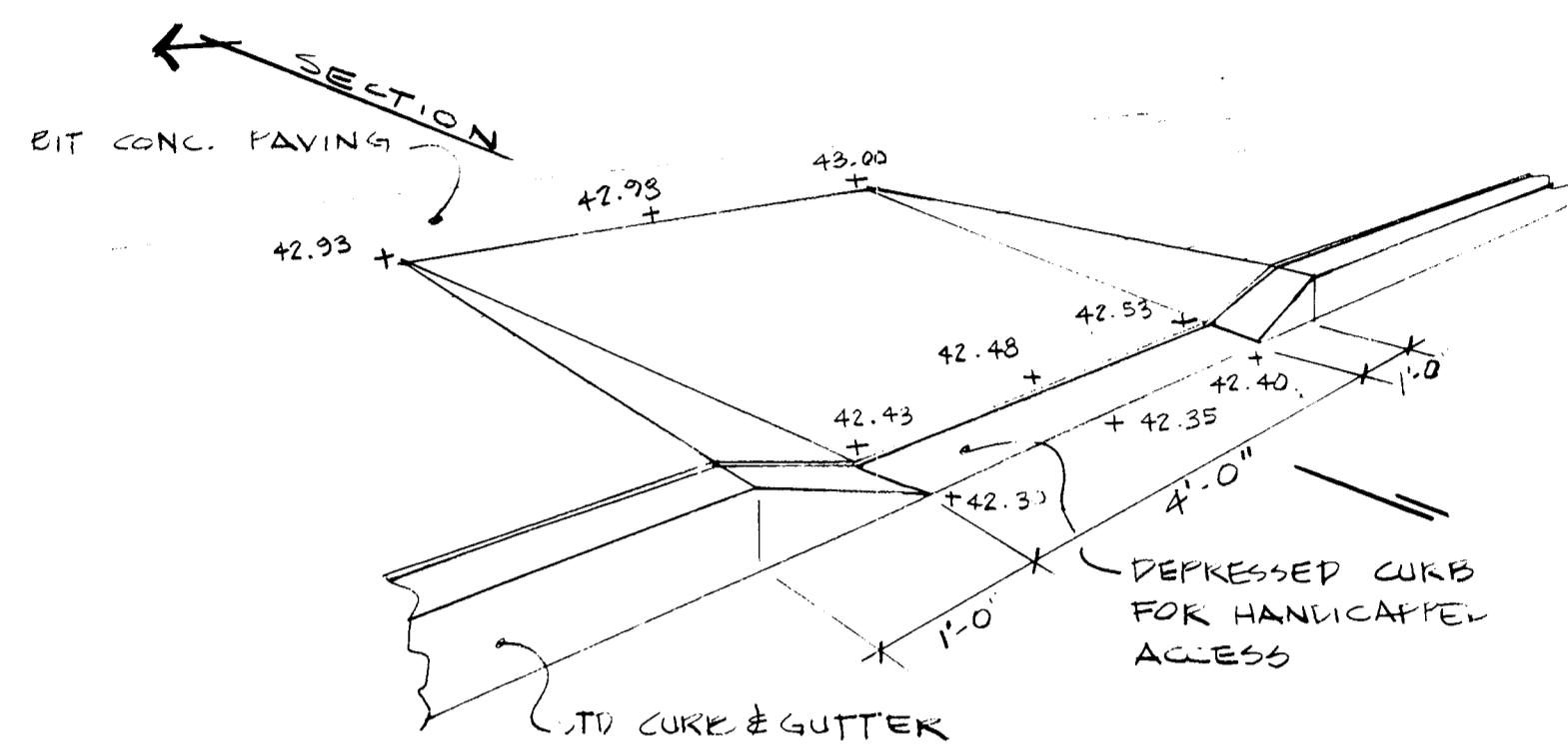
ROAD SECTIONS & DETAILS



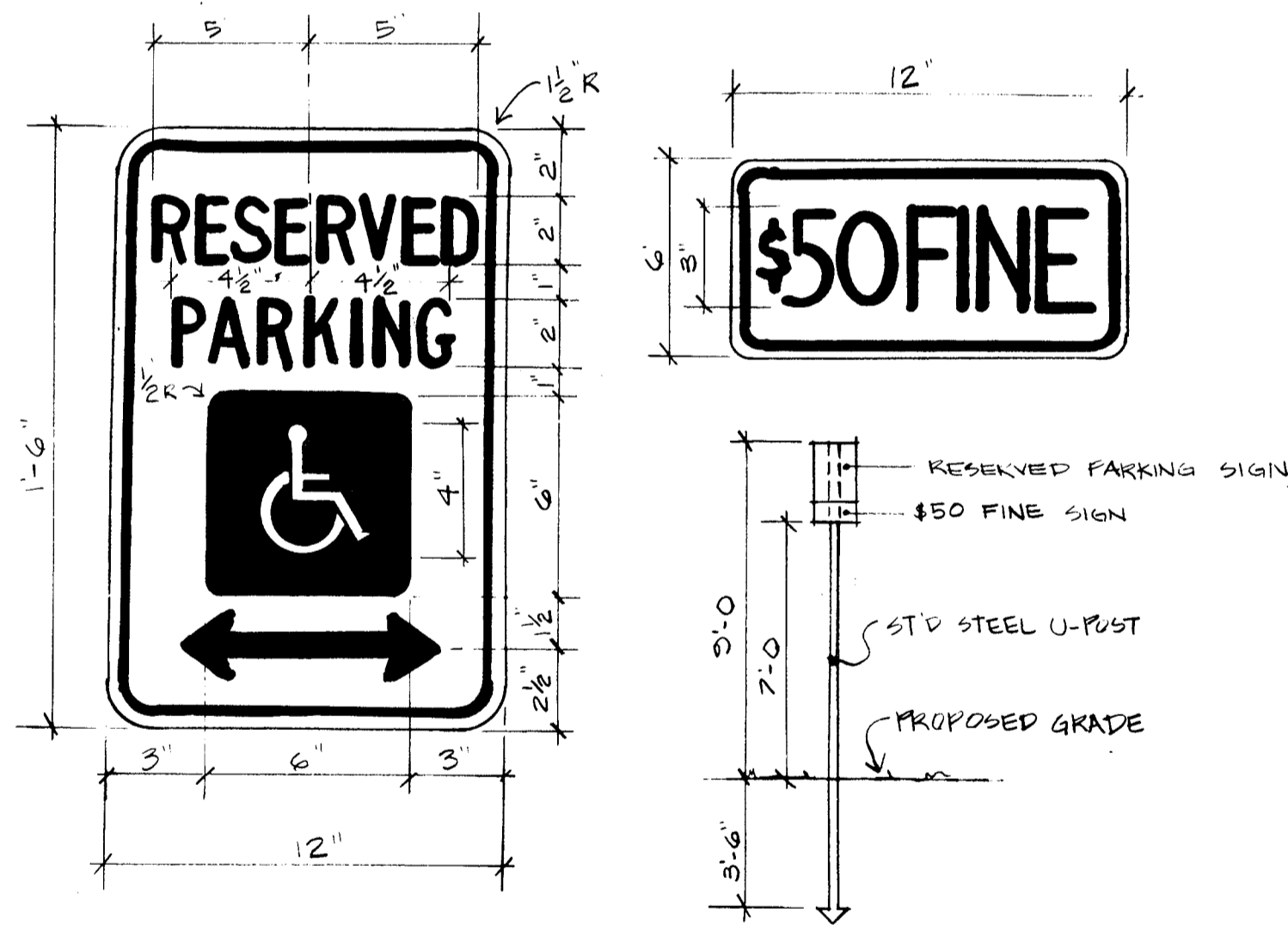
TRAFFIC SIGNS A
1/2" - 1"



BARBEQUE GRILL D
not to scale



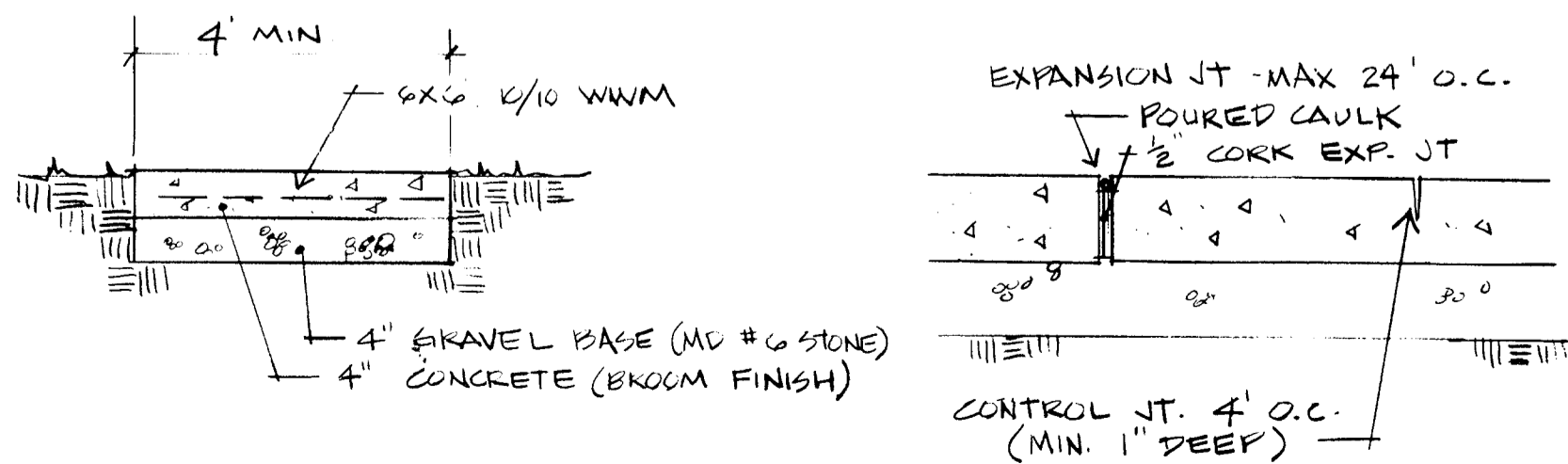
HANDICAPPED RAMP E
not to scale



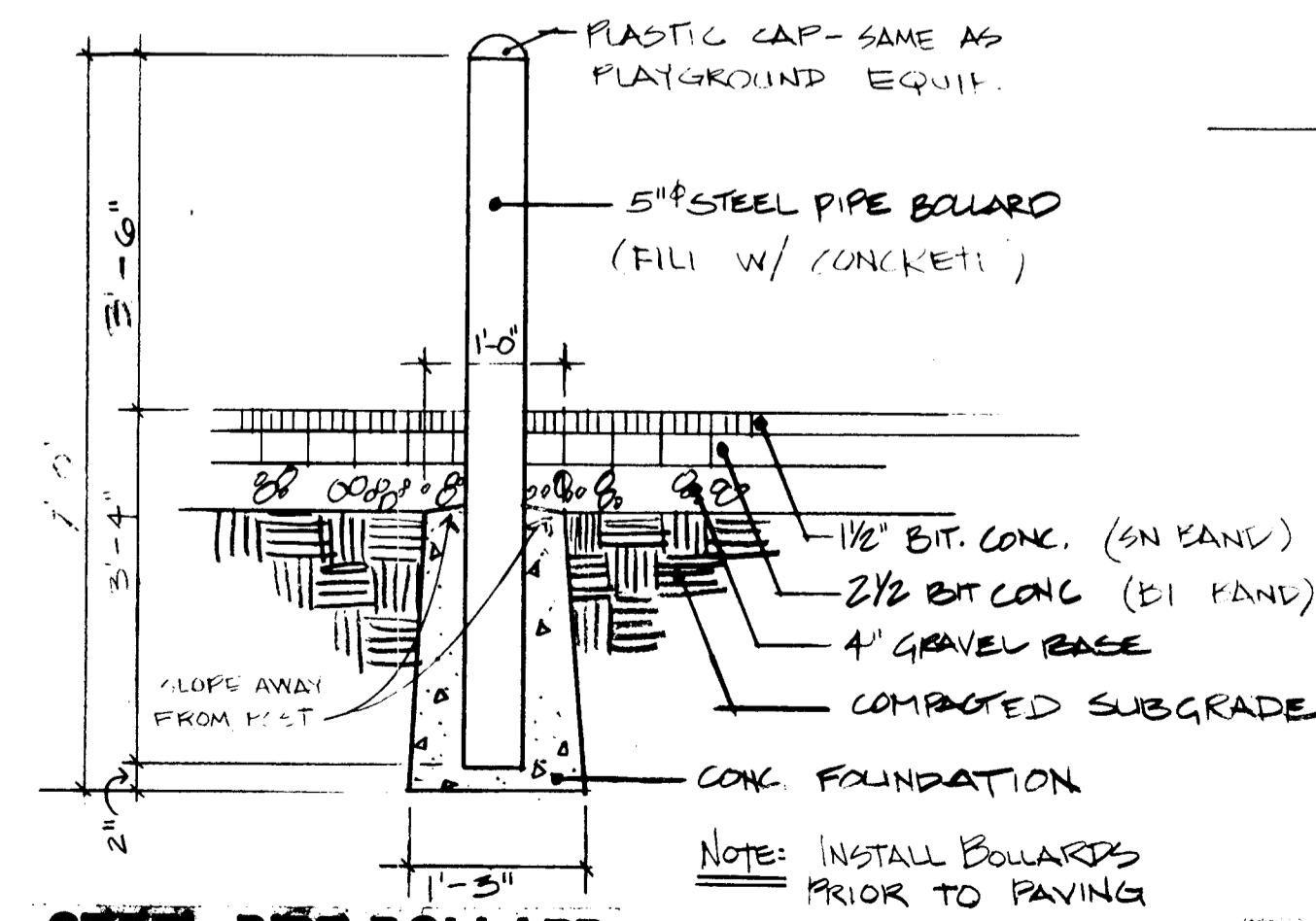
COLORS: LETTERS & BORDER & ARROW - GREEN
WHITE SYMBOL ON BLUE BACKGROUND
WHITE BACKGROUND

NOTE: LOCATE SIGN IN FRONT OF EACH H/C PARKING SPACE - 4" FROM EDGE OF PAVING

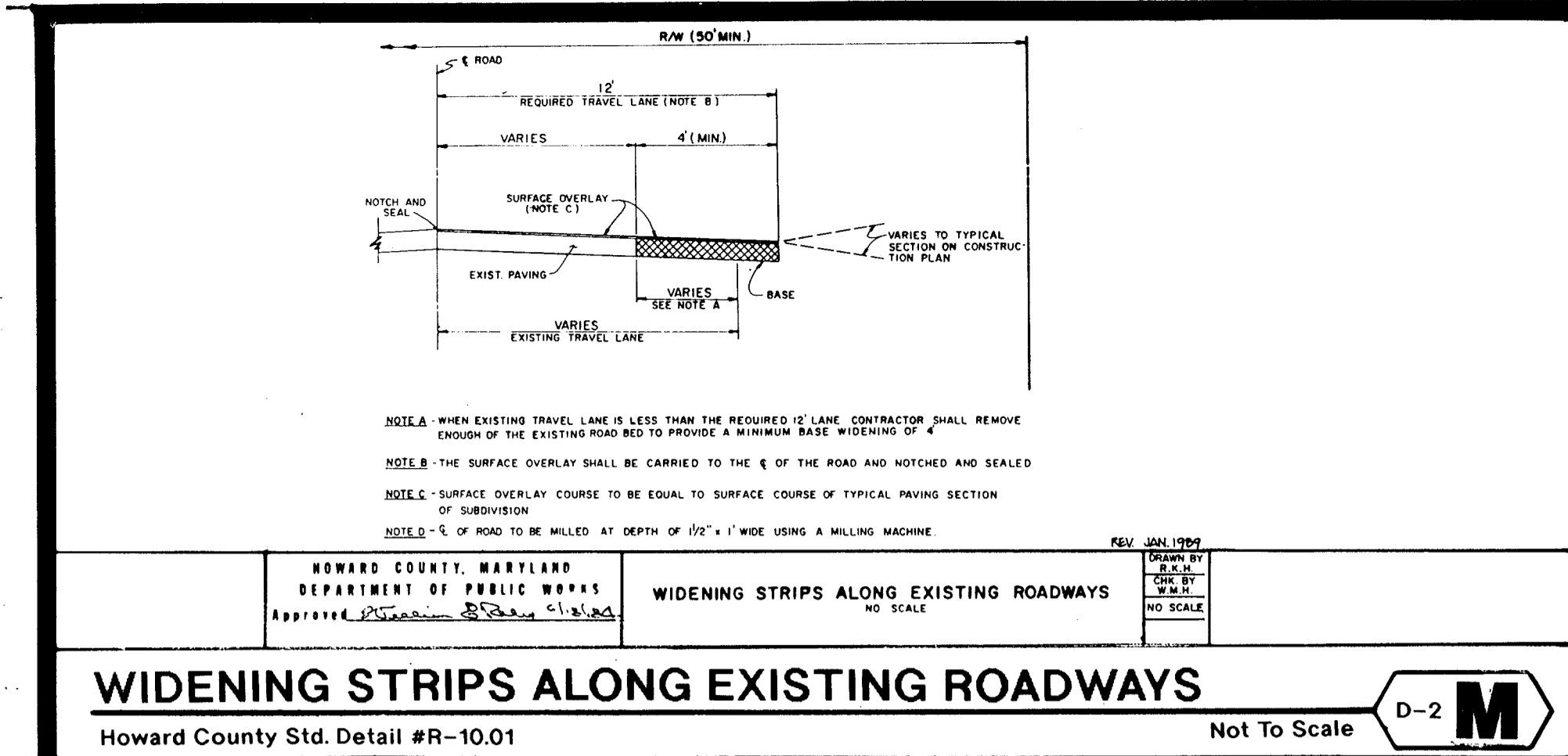
HANDICAPPED PARKING SIGN B
NTS



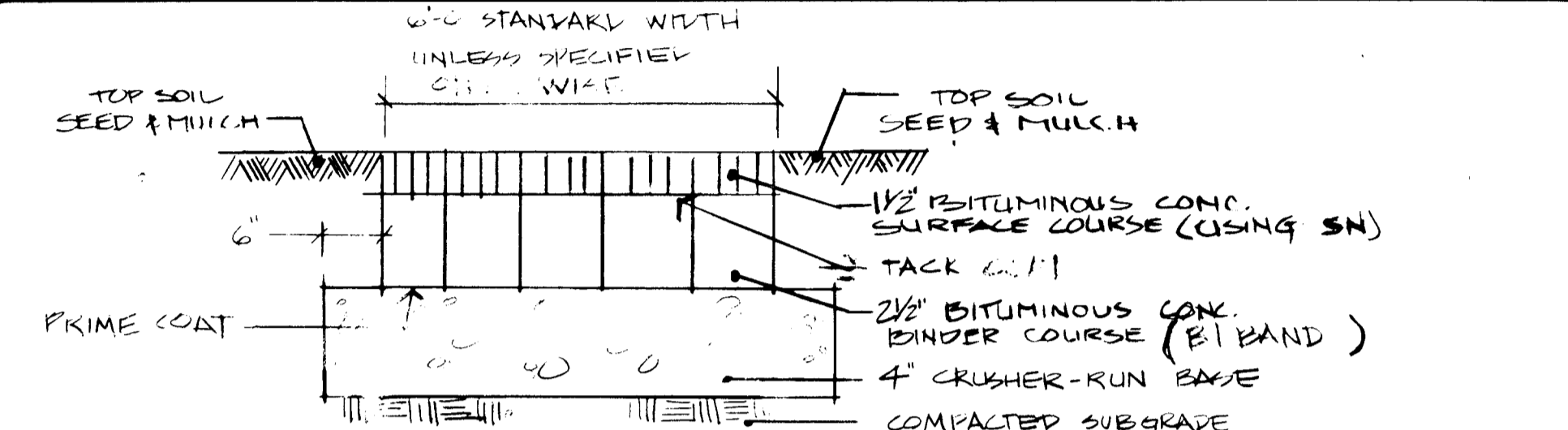
CONCRETE SIDEWALK C
NTS



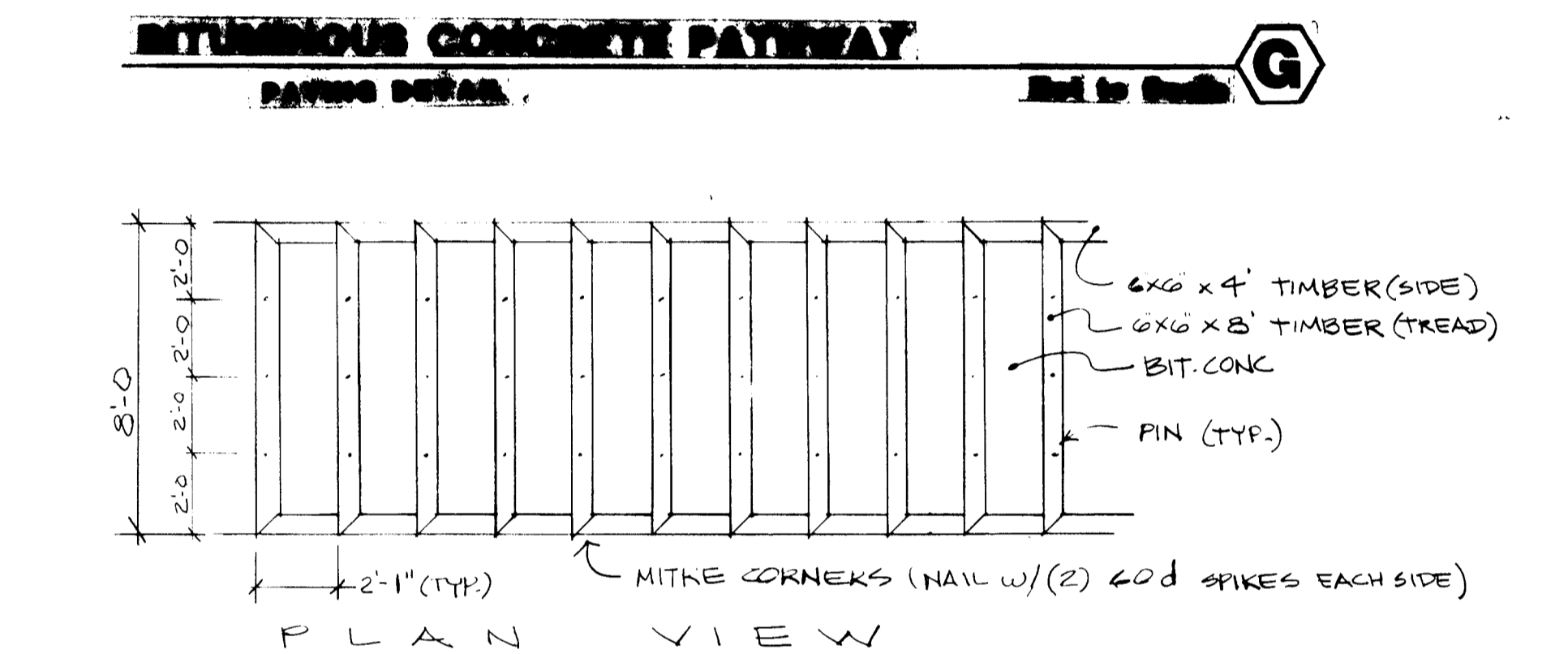
STEEL PIPE BOLLARD F
nts



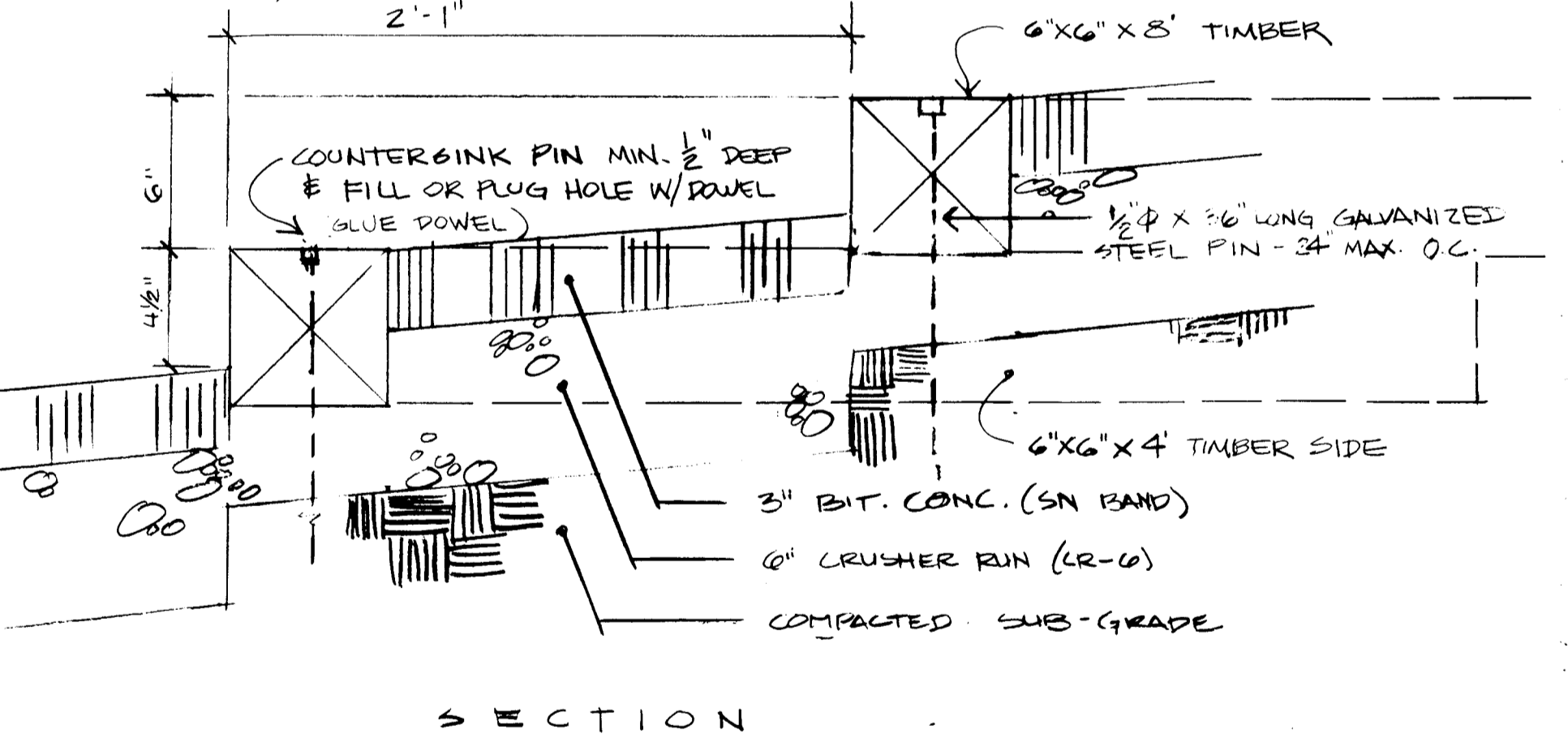
WIDENING STRIPS ALONG EXISTING ROADWAYS D-2 M
Howard County Std. Detail #R-10.01 Not To Scale



BITUMINOUS CONCRETE PATHWAY G
PAVING DETAIL Not to Scale



TIMBER STRIP H
Not to Scale



TIMBER GUARD RAIL I
nts

SDP #90-18
ALPHA RIDGE PARK
REVIEWED NO FACILITIES REQUIRED
HOWARD COUNTY HEALTH DEPARTMENT
James M. Boyd, Director
DATE: 1/24/92
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Director: James M. Boyd
DATE: 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
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Director: James M. Boyd
DATE: 1/24/92
Chief: 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, P. 010 606
TAX MAP #10, PARCEL #23
ELECTION DISTRICT #3
CEBUSUS TRACT 6030
WATER: NONE
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-20
of 20
SDP 21 of 21
SDP-90-18

SITE DETAILS