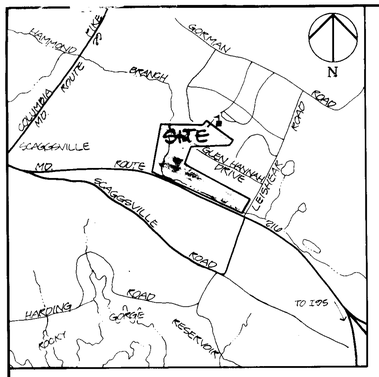
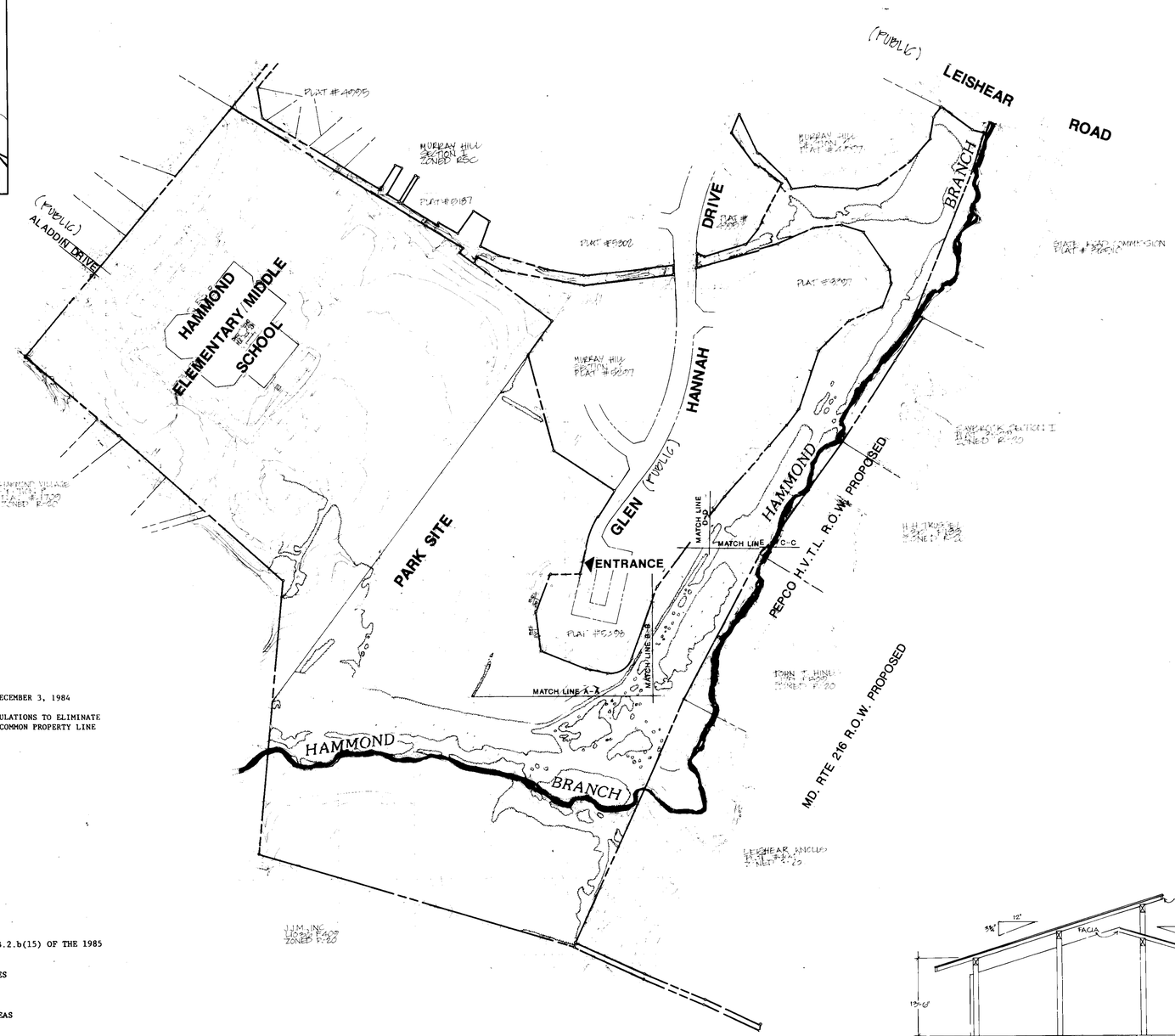


VICINITY MAP

SCALE: 1" = 2000'



RESOLUTION NO. 180 ADOPTED DECEMBER 3, 1984

VARIANCE FROM THE STRICT APPLICATION OF THE ZONING REGULATIONS TO ELIMINATE REAR LOT SETBACK AND LANDSCAPE REQUIREMENTS ALONG THE COMMON PROPERTY LINE OF SCHOOL AND PARK PROPERTY.

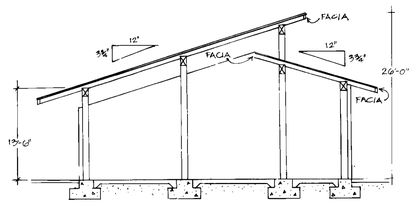
SITE ANALYSIS

1. EXISTING ZONING: RSC
2. AREA OF PARCEL:
   - SCHOOL PROP 35.15 AC.
   - PARK PROP 50.0 AC.
   - TOTAL - 85.15 AC.
3. FLOODPLAIN 37.4 AC.
4. TOTAL DISTURBED AREA 11.8 AC ±
5. PARKING DATA:
   AS REQUIRED BY SECTION 127.B.2.b(15) OF THE 1985 HO. CO. ZONING REG.
   PROVIDED 28 STANDARD SPACES
   PROVIDED 2 HANDICAPPED SPACES
7. BUILDING COVERAGE INCLUDING ALL IMPERVIOUS AREAS
8. FLOODPLAIN LIMITS AS PER HAMMOND BRANCH. DRAINAGE STUDY CAPITAL PROJECT D-1026.
9. WETLAND DELINATION AS FLAGGED BY MCCARTHY & ASSOC. SEPT. 1989.
10. EXISTING UTILITIES ARE OBTAINED BY HOWARD COUNTY DEPT. OF PUBLIC WORKS ANNEX.

THE OPEN SPACE (GREEN AREA) TO REMAIN 82.0 AC AND 96%
THE BUILDING COVERAGE IS 2.20 AC AND 2%

LIST OF DRAWINGS

DRAWING NUMBER THIS SHEET	TITLE
	COVER SHEET
1	SITE DEVELOPMENT PLAN
2	SITE DEVELOPMENT PLAN –
3	DETAILED SITE PLAN
4	PLAZA & PLAYGROUND WALLS
5	PLAZA & PLAYGROUND DETAILS
6	CHILDRENS PLAYGROUND
7	PLAY STRUCTURES
8	OVERALL PLANTING PLAN
9	DETAILED PLANTING PLAN
10	PLANTING DETAILS
11	PICNIC SHELTER
12	PICNIC SHELTER DETAILS
13	COURT GAMES
14	SOFTBALL FIELD & MISC. DETAILS
15	MISCELLANEOUS DETAILS
16	CONSTRUCTION LAYOUT PLAN
17	SEDIMENT & EROSION CONTROL PLAN
18	SEDIMENT & EROSION CONTROL NOTES, DETAILS, AND CERTIFICATIONS
19	WATER SERVICE / EXTENSION PLAN
20	WATER EXTENSION PROFILES, NOTES, AND CERTIFICATIONS
21	WATER CONNECTION PLAN
22	STORM DRAIN, STORM WATER MANAGEMENT PLAN
23	STORM DRAIN/SWM NOTES, DETAILS AND PROFILES
24	DRAINAGE AREA MAP



BUILDING PROFILE

SUBDIVISION NAME		SECT./AREA	LOT/PARCEL #
HAMMOND COMMUNITY PARK	MURRAY HILL	1	39,169-170
PLAT #(OR L/F)	BLOCK #	ZONE	TAX/ZONE MAP	ELEC. DIST.	CENSUS TR.
5229-5234	6	RSC	46	6TH	6062
WATER CODE		SEWER CODE	
E-17		NO PLANNED SERVICE CONNECTIONS	

ADDRESS CHART	
LOT NUMBER	STREET ADDRESS
39,169-170	10700 GLEN HANNAH DRIVE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2-23-90
Chief, Bureau of Engineering — Date 2-7-90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2/16/90

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.27.90
Chief, Division of Community Planning and Land Development — Date 2/28/90

REVISIONS		
DATE	BY	DESCRIPTION

2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
2594 Riva Road, Annapolis, MD 21401
☎ (301) 841-6811

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043 Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

Hammond Park
Murray Hill Plat Nos. 4991-4995, 4997, 5187, 5233-5233, 5301, 5302, and 5397
Hammond Middle/Elementary School
Liber 443, Folio 97
TAX MAP 46 PARCEL 3
6th Election District

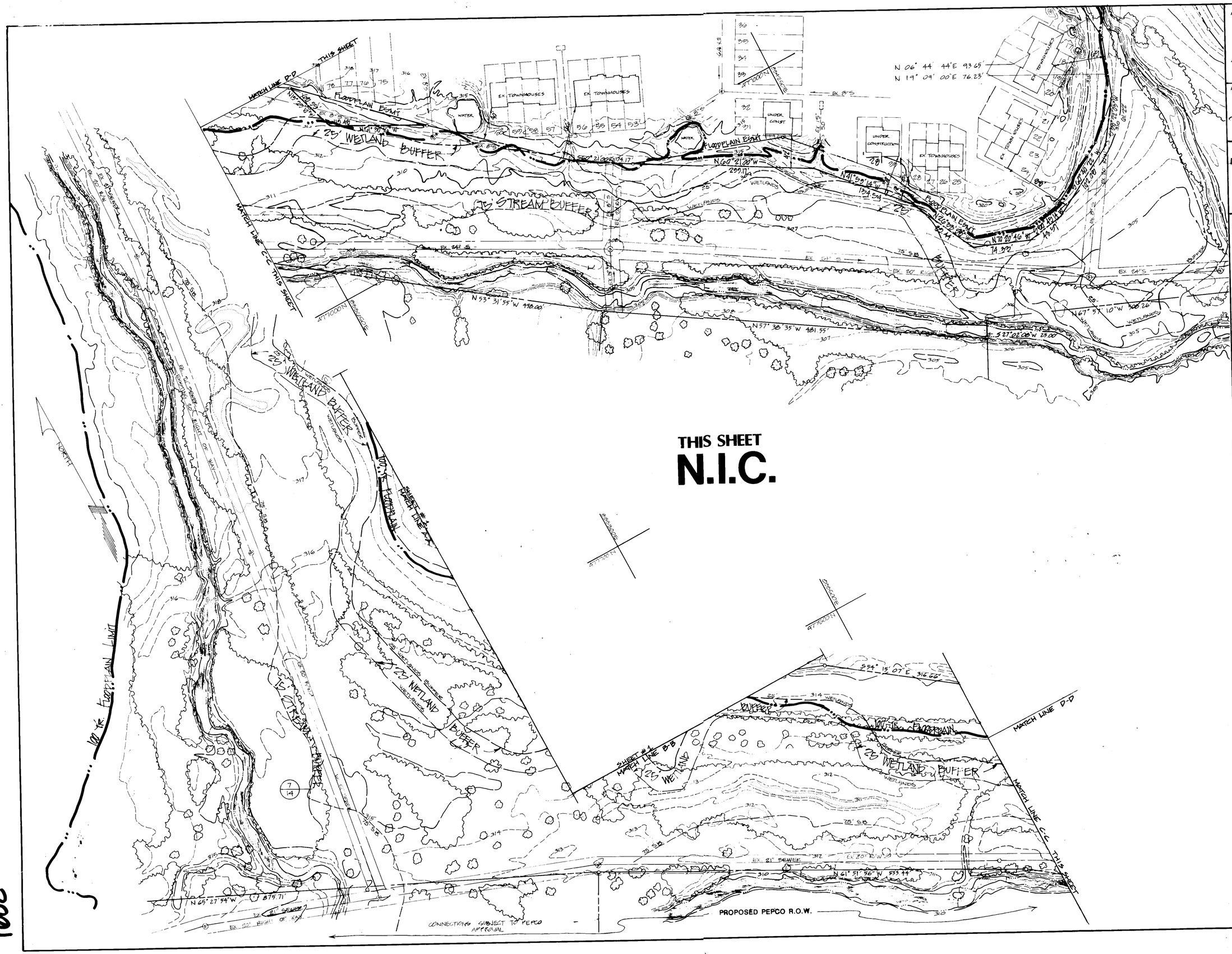
Title
COVER SHEET

HAMMOND COMMUNITY PARK

Date	Drawing Number
DECEMBER 20, 1989	
Designer	Drafter: K. MENEFEE
Scale: 1" = 200'	Checked by

SDP-90-50

2091



APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2.28.90

Chief, Bureau of Engineering — Date 2-7-90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2/26/90

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.27.90

Chief, Division of Community Planning and Land Development — Date 4/27/90

REVISIONS

DATE	BY	DESCRIPTION
4/90	GME	REMOVE THIS SHEET FROM CONTRACT

STATE OF MARYLAND — CHARLES ROY HALL — No. 10978 — REGISTERED PROFESSIONAL ENGINEER

2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
2594 Riva Road, Annapolis, MD 21401
☎ (301) 841-6811

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043 Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

Hammond Park
Murray Hill Plat Nos. 4991-4995,4997,5187, 5231-5233,5301,5302, and5397
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

Title
SITE DEVELOPMENT PLAN

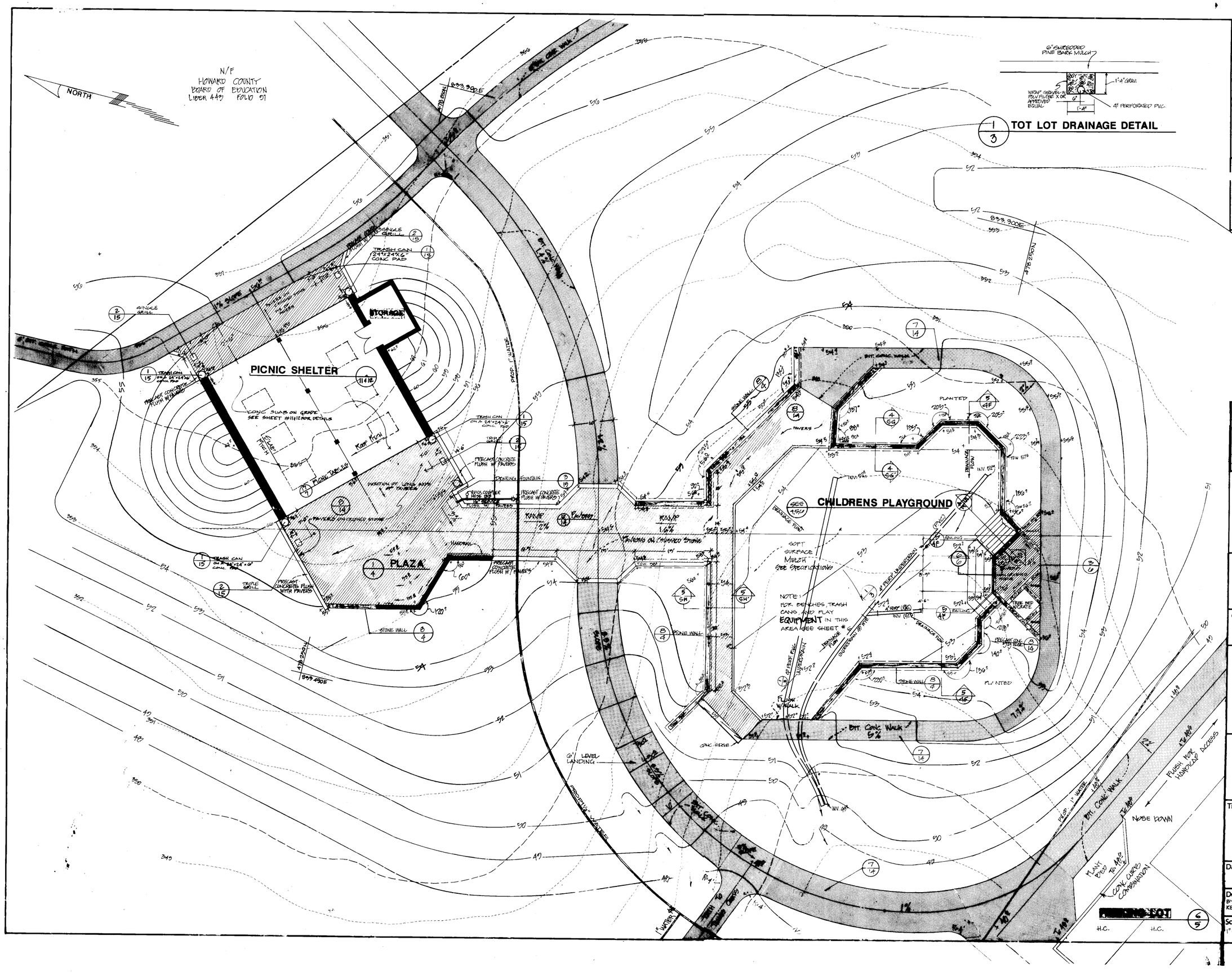
Date	Drawing Number
DECEMBER 20,1989	2

Designer	Drafter
B. KELLY R. ALTER	B. KELLY R. MENEPEE
Scale 1" = 50'	Checked by CEO VCL

of ___

SDP-90-50

1602



APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2/20/90

Chief, Bureau of Engineering — Date 2-7-90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2/26/90

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.27.90

Chief, Division of Community Planning and Land Development — Date 2/27/90

SEE SHEETS 6,7&15 FOR EQUIPMENT DETAIL AND SCHEDULE

REVISIONS		
DATE	BY	DESCRIPTION
4/90	GME	REV. STONE WALLS, GRADING, UNDERDRAIN.

2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
2594 Riva Road, Annapolis, MD 21401
(301) 841-6811

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043 Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

Hammond Park
Murray Hill Plat Nos. 4991-4995,4997,5187, 5231-5233,5301,5302, and5397
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

Title
DETAILED SITE PLAN

Date: DECEMBER 20,1989

Drawing Number: 3

Designer: BYRNE KELLY

Drafter: A. SIMMONS

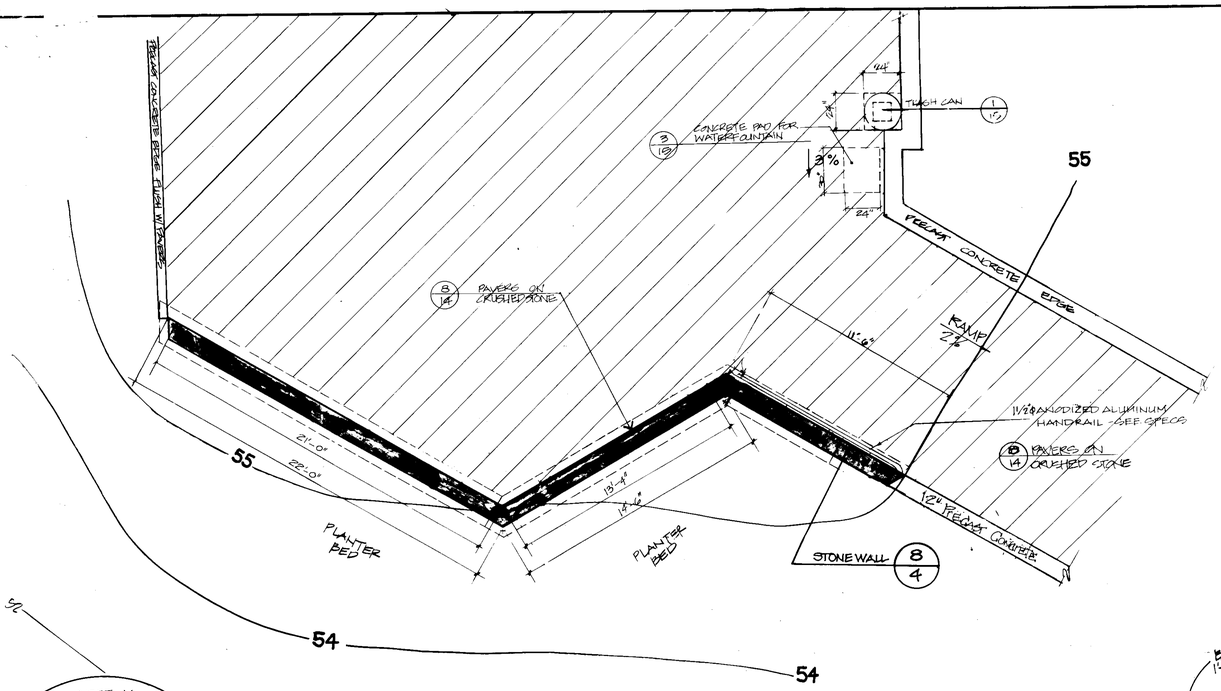
Scale: 1" = 10'

Checked by: JER VCL

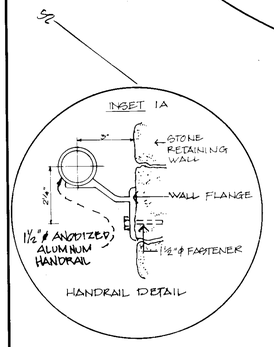
of ____

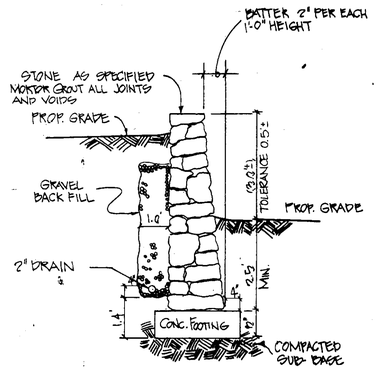
SDP-90-50

1602

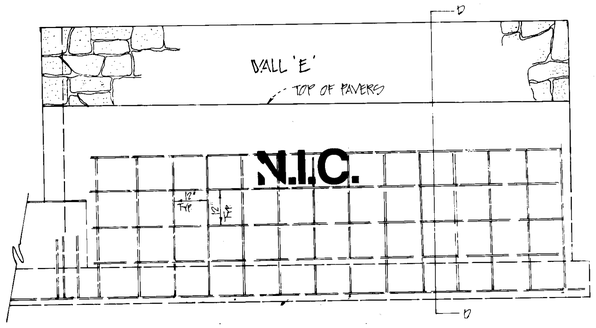


1/4 PICNIC PLAZA
PLAN
SCALE: 1/4"=1'-0"

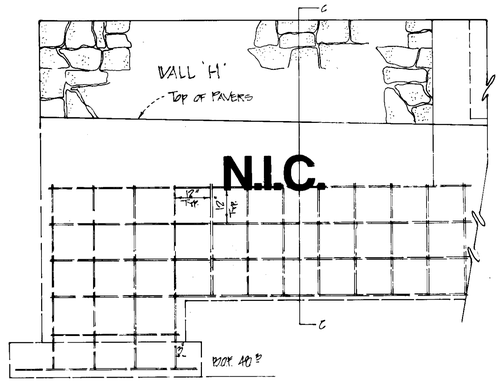




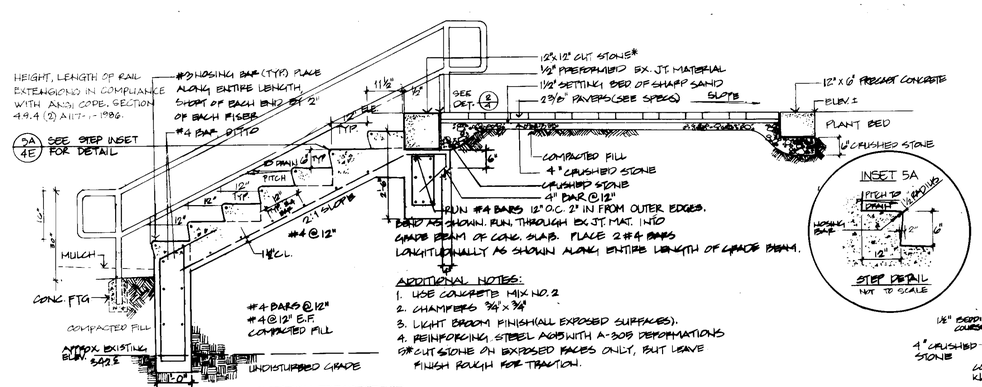
8/4 STONE WALL
SCALE: 1/2"=1'-0"



4/4 WALL 'E' ELEVATION - PICNIC PLAZA
SCALE: 1/2"=1'-0"

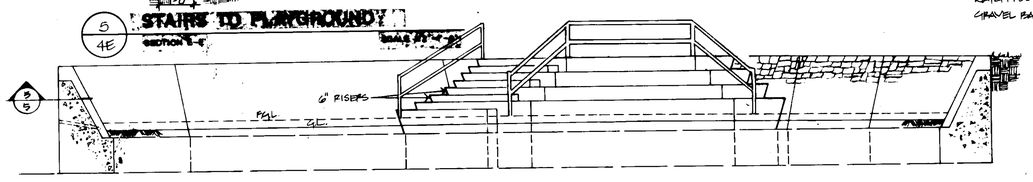


3/4 WALL 'H' ELEVATION - PICNIC PLAZA
SCALE: 1/2"=1'-0"

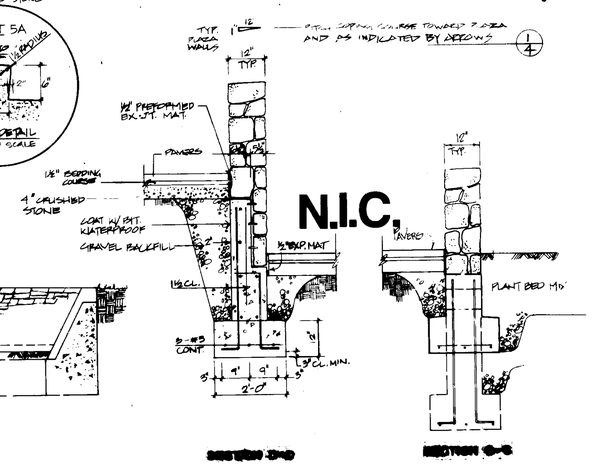


ADDITIONAL NOTES:
1. USE CONCRETE MIX NO. 2
2. CHAMFERS 3/4" x 3/4"
3. LIGHT BROOM FINISH (ALL EXPOSED SURFACES).
4. REINFORCING STEEL BARS WITH A-305 DEFORMATIONS
5. CUT STONE ON EXPOSED FACES ONLY, BUT LEAVE FINISH ROUGH FOR TRACTION.

5/4E STAIRS TO PLAYGROUND
SECTION

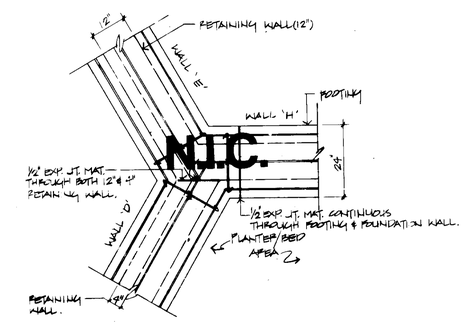


5/4F [redacted]



SECTION D-D
SECTION C-C

6/4 WALL 'E' WALL 'H' - PICNIC PLAZA



7/4 CONCRETE FOOTING & FOUNDATION WALL - PICNIC PLAZA

GENERAL NOTES

ALL REINFORCING BARS IN RETAINING WALLS SHALL BE #4 ASTM STANDARD REINFORCING BAR, UNLESS OTHERWISE NOTED.
ALL BAR SHALL BE SET AT LEAST 1 1/2" FROM ANY EXPOSED SURFACE.
ALL REINFORCING BARS SHALL BE PLACED AS SHOWN.

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2-22-90
Chief, Bureau of Engineering — Date 2-7-90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2/26/90

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.27.90
Chief, Division of Community Planning and Land Development — Date 2/27/90

REVISIONS		
DATE	BY	DESCRIPTION
4-1-90	GME	REMOVE REINFORCED WALLS, & PROVIDE NEW WALL SECTION.

STATE OF MARYLAND — GARY M. EVANS — No. 19078 — REGISTERED PROFESSIONAL ENGINEER
2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
8201 Corporate Drive, Suite 020, Landover, MD 20785
☎ (301) 731-0373

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043 Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

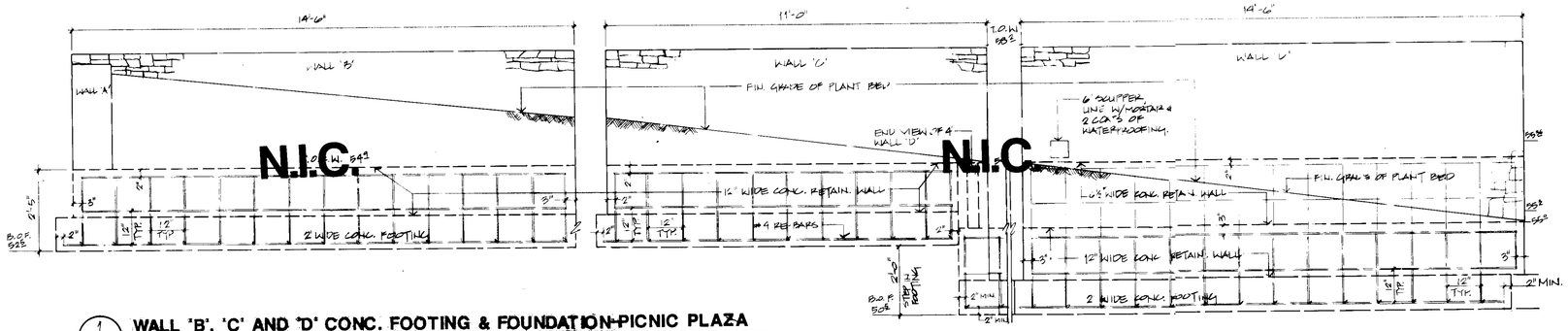
Hammond Park
Murray Hill Plat Nos. 4991-4995, 4997, 5187, 5231-5233, 5301, 5302, and 5397
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

Title
PLAZA & PLAYGROUND DETAILS

Date	Drawing Number
DECEMBER 20, 1989	4
Designer: B. KELLY	Drafter: N. HILL
Scale: AS NOTED	Checked by: EEB, WCL
	of ___

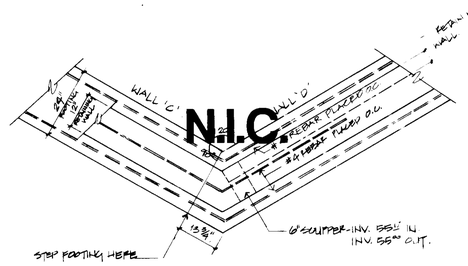
SDP-90-50

1602

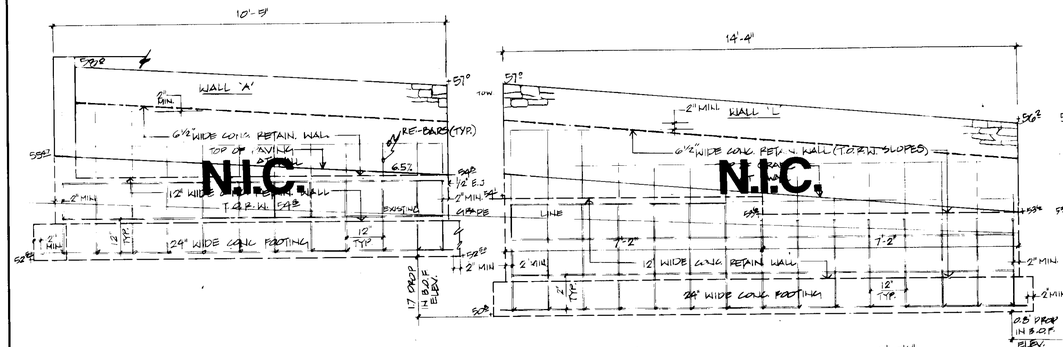


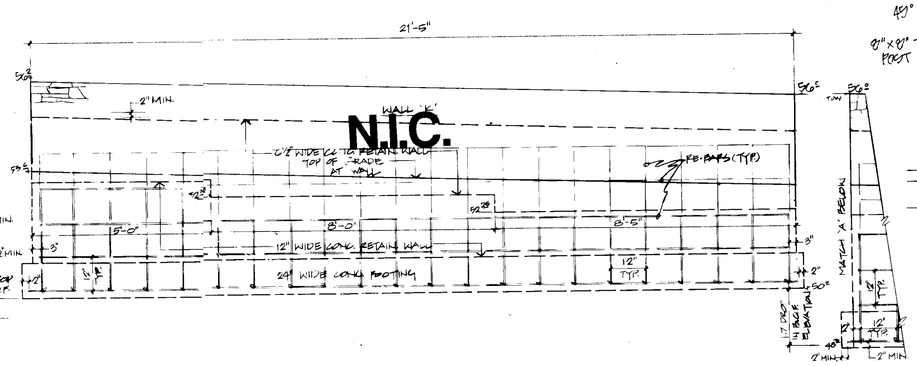
1/5 WALL 'B', 'C' AND 'D' CONC. FOOTING & FOUNDATION-PICNIC PLAZA
ELEVATION SCALE: 1/2" = 1'-0"

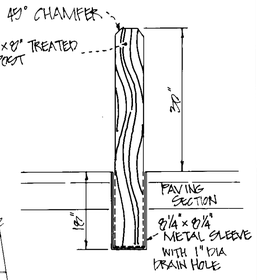
NOTE: FOR LOCATIONS OF THESE WALLS SEE PICNIC PLAZA PLANS 1/4



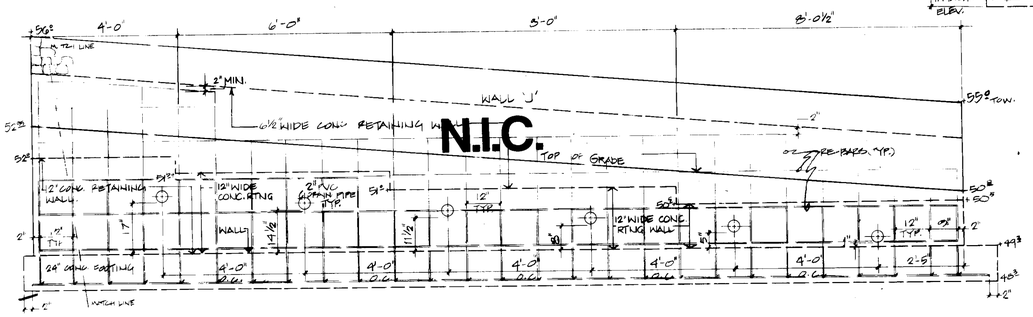
2/5 CONCRETE FOOTING & FOUNDATION WALL - PICNIC PLAZA
PLAN SCALE: 1/2" = 1'-0"



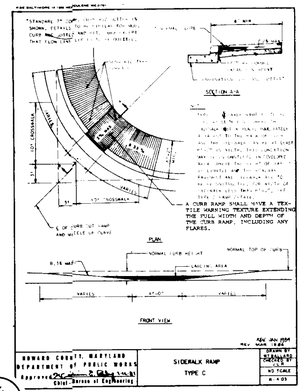




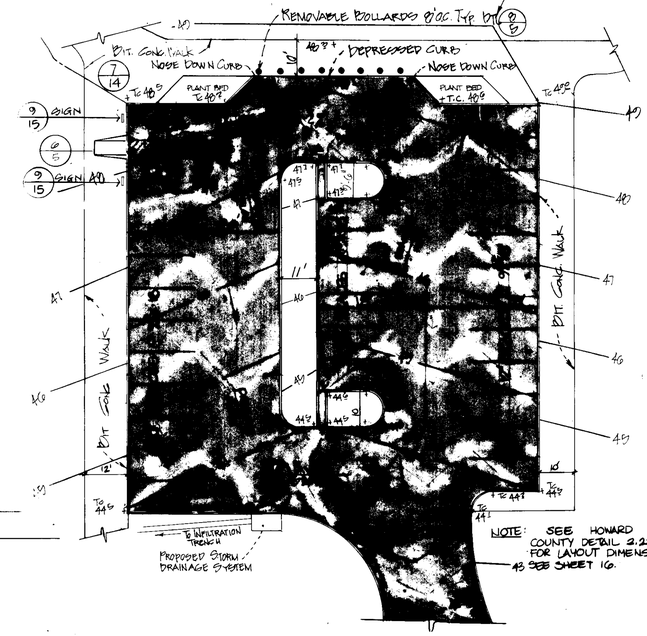
10/5 BOLLARD DETAIL



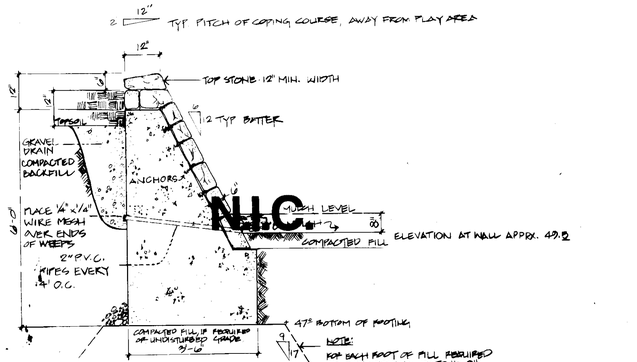
3/5 WALL 'A', 'L', 'K' AND 'J' CONC. FOOTING & FOUNDATION-PICNIC PLAZA
ELEVATION SCALE: 1/2" = 1'-0"



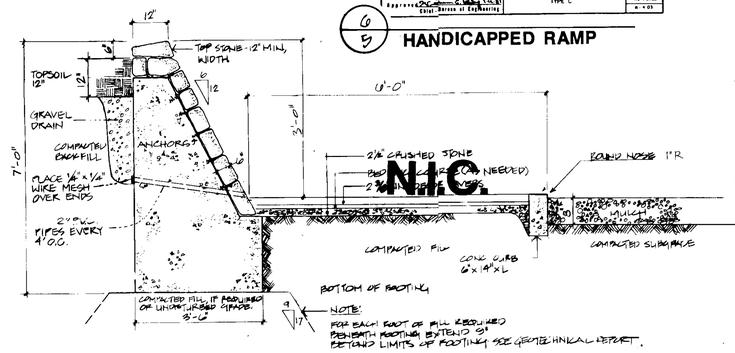
6/5 HANDICAPPED RAMP



7/5 PARKING LOT
8 REGULAR & 2 HANDICAP SPACES SCALE: 1"=20'-0"



4/5 PLAYGROUND WALL
SECTION G-G', SHEET 4 NOT TO SCALE



5/5 PLAYGROUND WALL
SECTION H-H', SHEET 3 NOT TO SCALE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2-23-90
Chief, Bureau of Engineering — Date 2-7-90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2/26/90

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.27.90
Chief, Division of Community Planning and Land Development — Date 2/27/90

GENERAL NOTES

ALL REINFORCING BARS IN RETAINING WALLS SHALL BE #4 ASTM STANDARD REINFORCING BAR, UNLESS OTHERWISE NOTED.
ALL BAR SHALL BE SET AT LEAST 1½" FROM ANY EXPOSED SURFACE.
ALL REINFORCING BARS SHALL BE PLACED AS SHOWN.
B.O.F.: BOTTOM OF FOOTING
T.O.W.: TOP OF WALL

REVISIONS

DATE	BY	DESCRIPTION

2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
8401 Corporate Drive, Suite 020, Landover, MD 20785
(301) 731-0373

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043 Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

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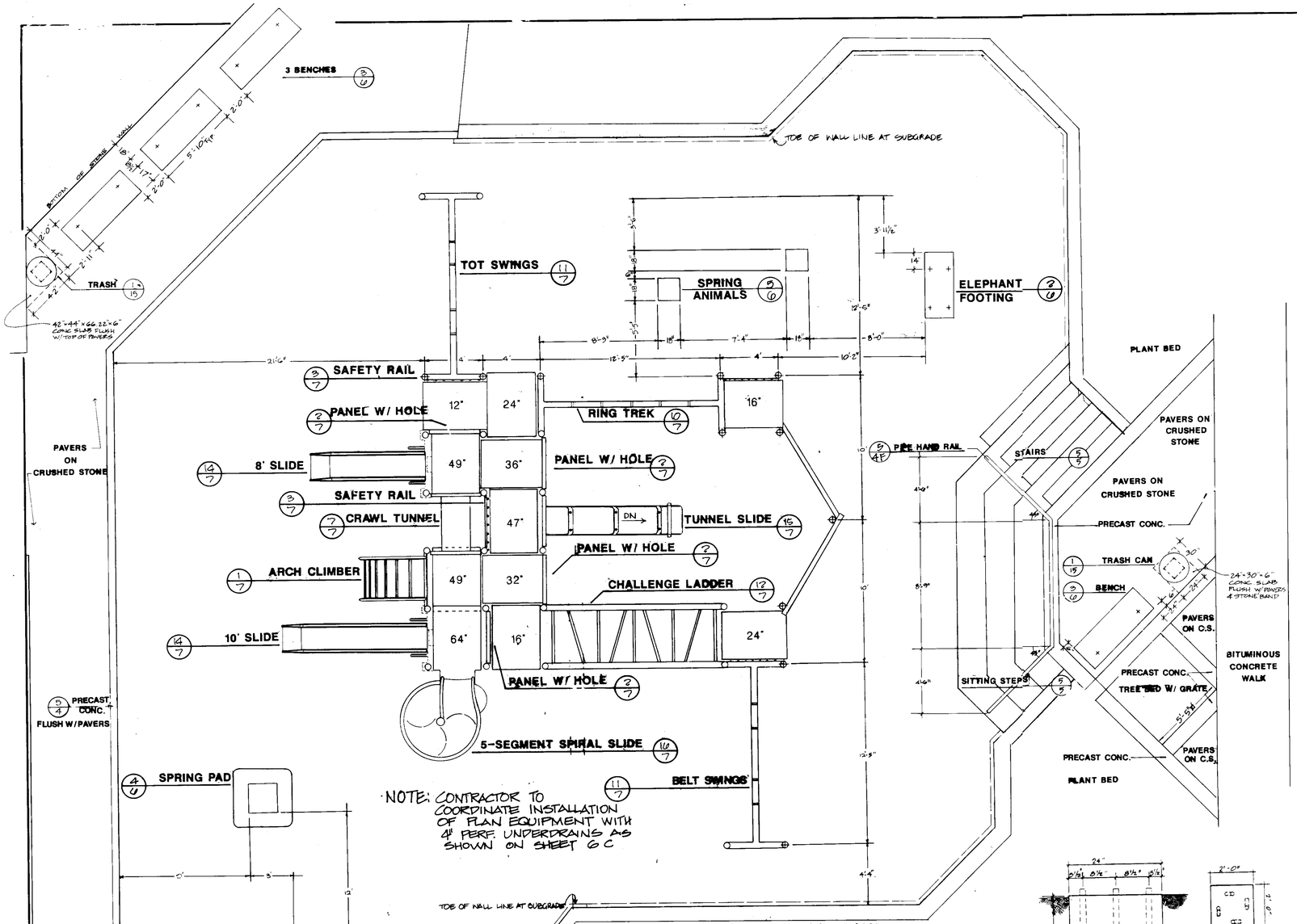
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

Title
PLAZA & PLAYGROUND WALLS

Date	Drawing Number
DECEMBER 20, 1989	5
Designer: B. KELLY / Drafter: N. HILL	
Scale: AS NOTED / Checked by: TEP, WCL	of

SDP-90-50

1602

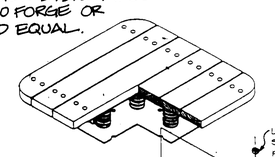


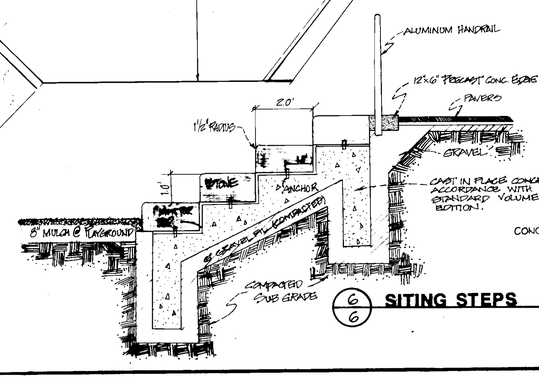
NOTE: CONTRACTOR TO COORDINATE INSTALLATION OF PLAN EQUIPMENT WITH 4" PERF. UNDERDRAINS AS SHOWN ON SHEET 6 C

1/6 PLAY STRUCTURES & BENCH PLAN

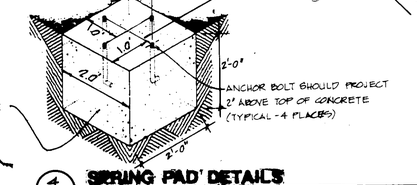
1/4"=1'-0"

PLAY STRUCTURES TO BE PLAYBOOSTER SYSTEM #8901 BY MEXICO FORGE OR APPROVED EQUAL.





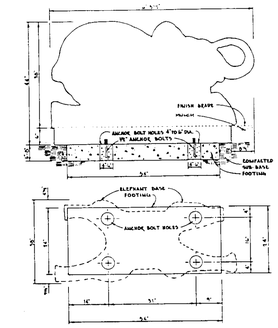
6/6 SITING STEPS

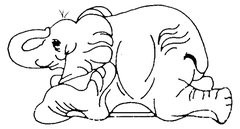


4/6 SPRING PAD DETAILS

2/6 FORM ELEPHANT

NOT TO SCALE





SPECIFICATIONS

I. GENERAL

A. MANUFACTURER'S QUALIFICATIONS AND EXPERIENCE: Manufacturers of this product to be prequalified by the specifying architect, and be defined as those businesses manufacturing and installing reinforced precast concrete elephant or approved equal. Product from said manufacturer to have five (5) years of proven field application - working and in good appearance.

B. ILLUSTRATIVE AND TECHNICAL DATA: Bidder to submit complete illustrative and technical data on product dimension, materials, concrete strength reports, installation procedures and delivery methods. Failure to furnish such data prior to accepted proposal will void the bid.

II. SPECIFICATION FOR PRECAST CONCRETE ELEPHANT

A. SCOPE: Furnish all labor, equipment and material and perform all operations in connection with the manufacture and/or installation of elephant all in strict compliance with these specifications.

B. MATERIALS AND FABRICATION

1. Quality of Concrete:

a. Air entrainment of concrete to be 4-6%. Cured concrete shall attain minimum compressive strength of 4,000 p.s.i. at 28 days, when tested on a 6" x 12" cylinder according to ASTM - Designation 39-49.

2. Reinforcing and Anchoring:

a. Reinforcing to be designed and engineered for maximum structural support and connected to all anchoring devices.

C. PRODUCT APPEARANCE AND WEIGHT

1. Sculptured configuration to meet tolerances within 1/4" of all specified dimensions as per sec. I-B.

2. Surface finish of formed surface to be smooth and free of all abrasions and sealed as per manufacturer's field proven recommendations and installation.

3. Weight of the Form Elephant shall be approx. 2500 lbs.

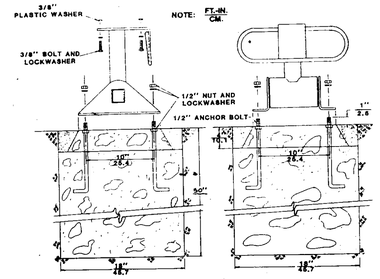
D. INSTALLATION

1. Footings (By Others.)

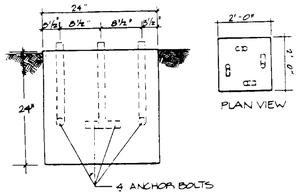
To be installed at location of anchoring recesses as per requirements of sec. I-B.

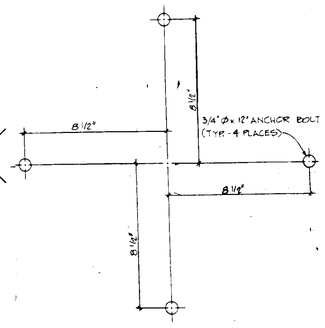
2. Delivery.

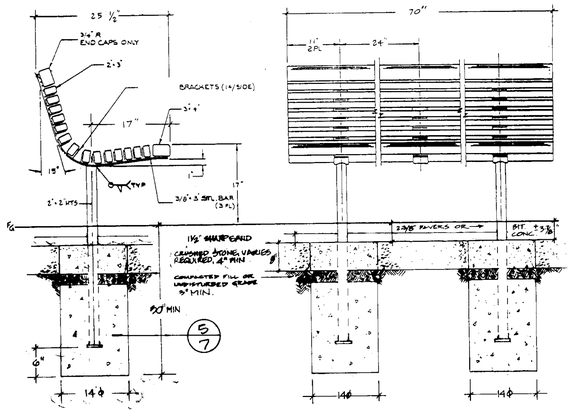
Manufacturer shall provide equipment for delivery and unloading at the jobsite location.



5/6 SPRING ANIMAL DETAIL







3/6 BENCH DETAILS

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2-23-90

Chief, Bureau of Engineering — Date 2-7-90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2/26/90

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 6.27.90

Chief, Division of Community Planning and Land Development — Date 6/25/90

REVISIONS		
DATE	BY	DESCRIPTION
4/90	GMB	REVISE BOOSTER WALLS & STAIRS ADD.

2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
2904 Riva Road, Annapolis, MD 21401
☎ (301) 841-6811

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
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Hammond Community Park

Capital Project N-3024

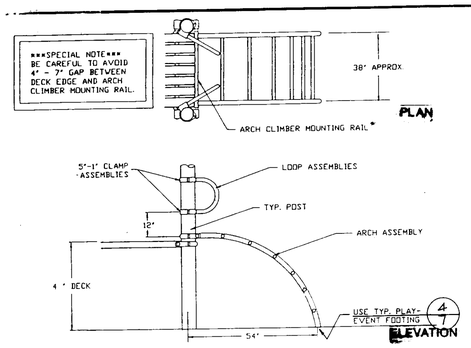
Hammond Park
Murray Hill Plat Nos. 4991-4995, 4997, 5187, 5231-5233, 5301, 5302, and 5397
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

Title
CHILDREN'S PLAYGROUND

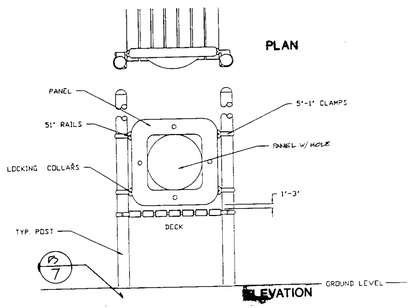
Date	Drawing Number
DECEMBER 20, 1989	6
Designer: B. KELLY & OTHERS	Drafter: B. KELLY, A. SIMMONS, C. BITZ, K. MENEFEE
Scale: AS NOTED	Checked by: JEB, VGL

of ____

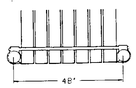
SDP-90-50

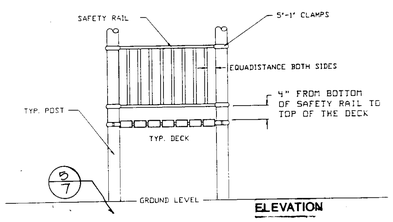


1/7 ARCH CLIMBER

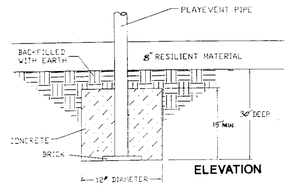


2/7 PANEL WITH HOLE

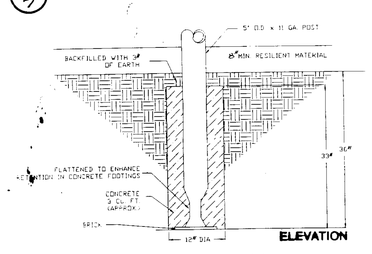




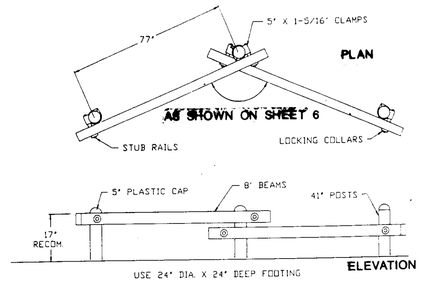
3/7 SAFETY RAIL



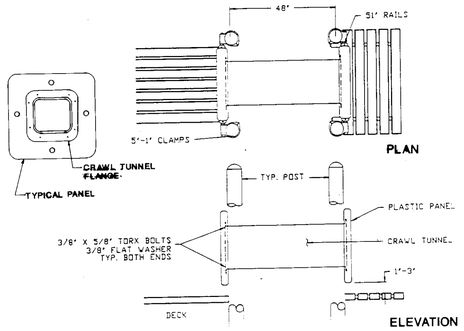
4/7 TYPICAL PLAY EVENT FOOTING



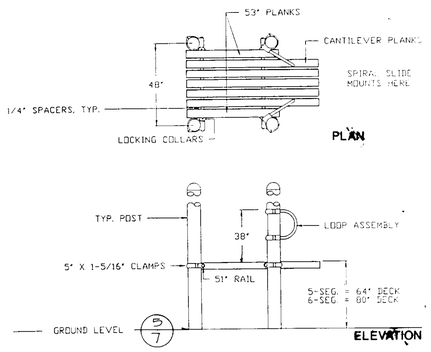
5/7 TYPICAL POST FOOTING



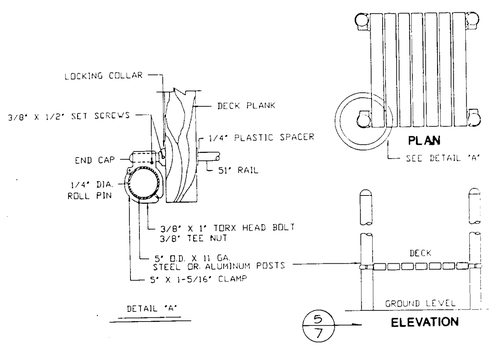
6/7 2 SECTION REDWOOD BALANCE BEAM



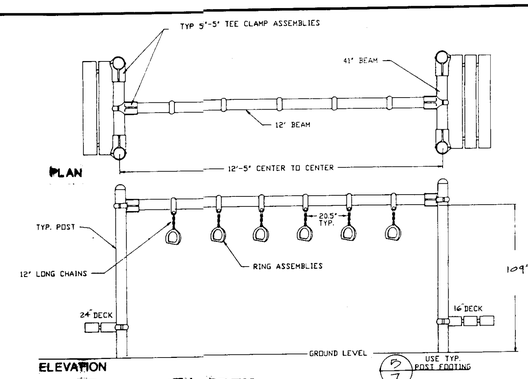
7/7 CRAWL TUNNEL WITH 2 PANELS



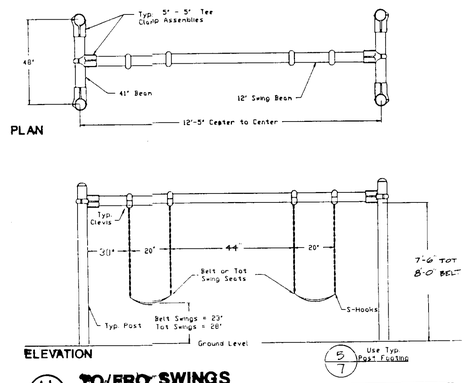
8/7 CANTILEVERED REDWOOD DECK



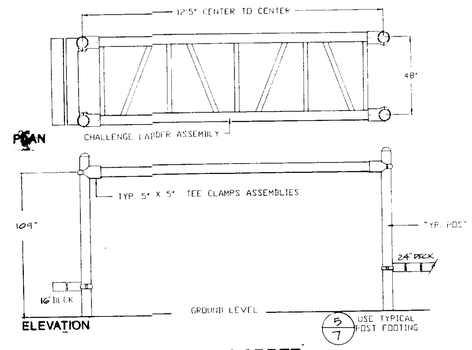
9/7 TYPICAL DECK PLANK ASSEMBLY WITH CLAMP



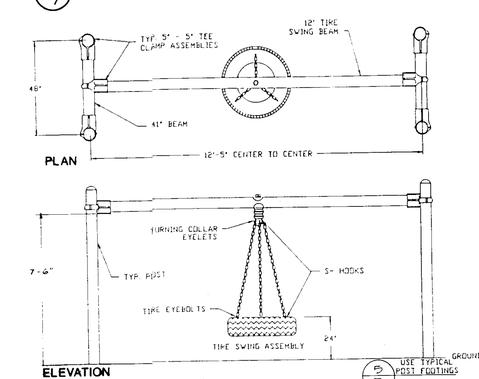
10/7 12' RING TREK



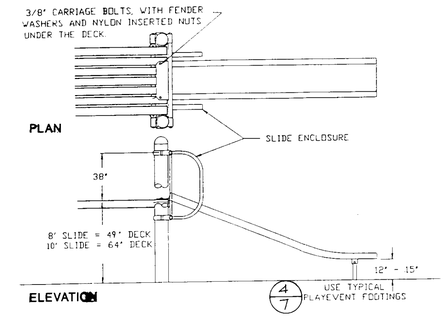
11/7 TOT/FRO SWINGS



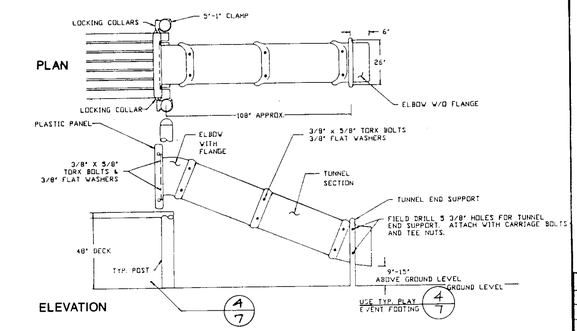
12/7 12' CHALLENGE LADDER



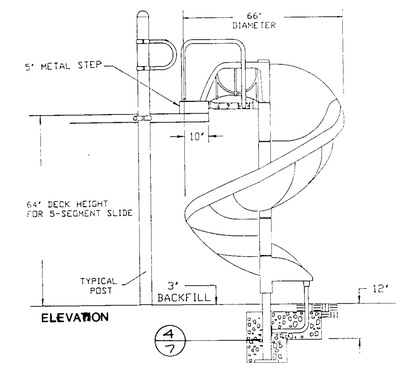
13/7 12' TIRE T SWING



14/7 STAINLESS STEEL SINGLE SLIDES



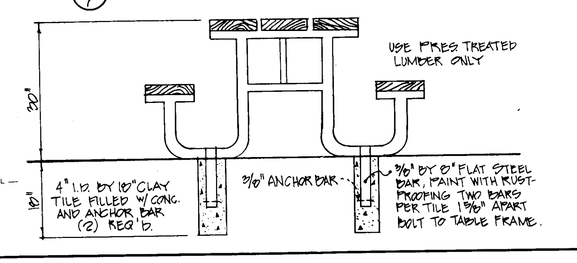
15/7 TUNNEL SLIDE



16/7 SPIRAL SLIDE

PICNIC TABLE: 2" BY 10" BOARDS MOUNTED ON 1 5/8" DIA. GALV. FRAME (MANUFACTURED BY: GAME TIME, MODEL NO. 591 OR APPROVED EQUAL.

17/7



APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2-23-90
Chief, Bureau of Engineering — Date 2-7-90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2/26/90

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.27.90
Chief, Division of Community Planning and Land Development — Date 2/27/90

REVISIONS		
DATE	BY	DESCRIPTION

2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
2594 Riva Road, Annapolis, MD 21401
☎ (301) 841-6811

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043 Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

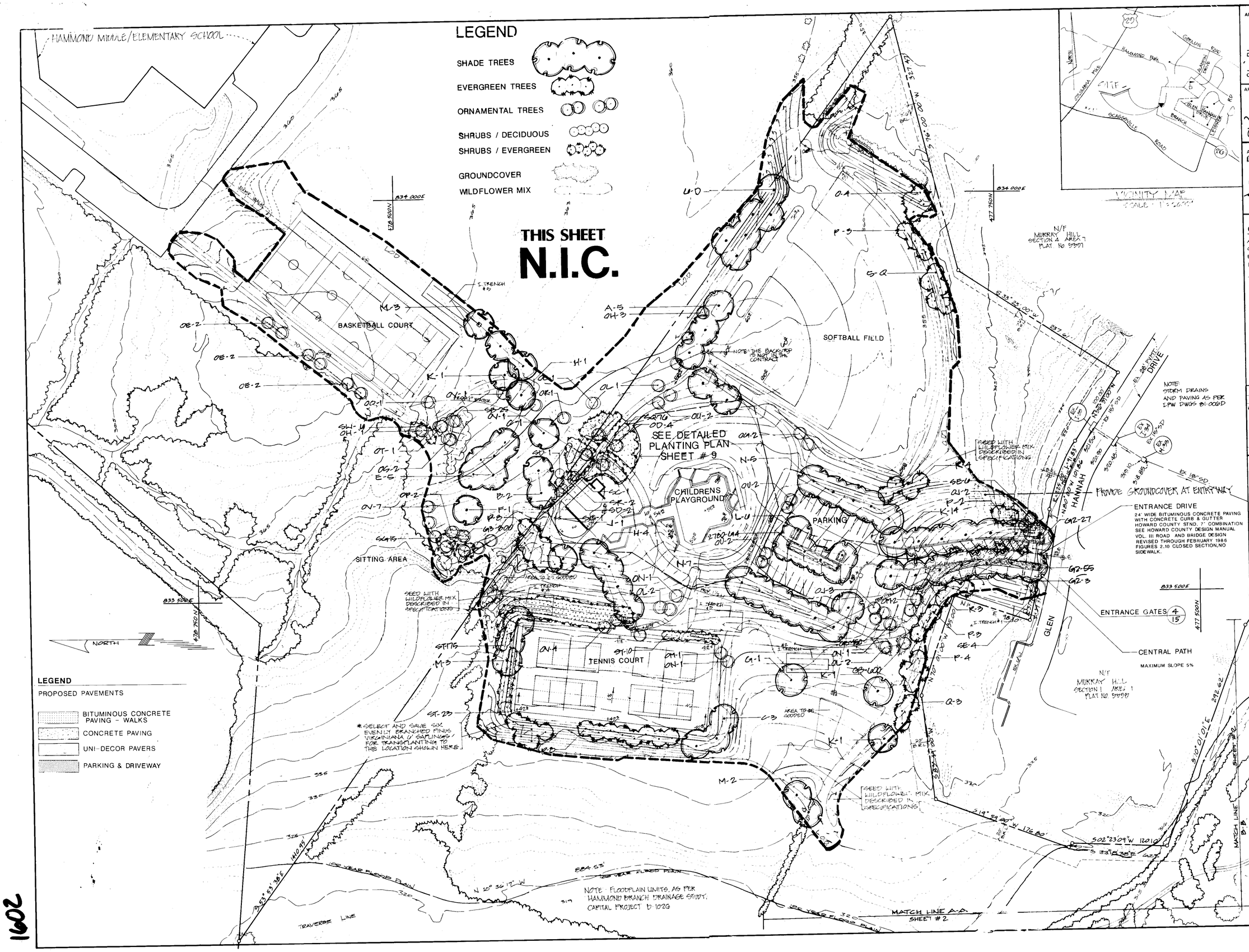
Hammond Park
Murray Hill Plat Nos. 4991-4995,4997,5187, 5231-5233,5301,5302, and 5397
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

Title
PLAY STRUCTURES

Date	Drawing Number
DECEMBER 20, 1989	7
Designer: IRON MOUNTAIN FORGE	Drafter: K. MENEFEE & BY OTHERS
Scale: NOT TO SCALE	Checked by:
	of. ____

SDP-90-60

2091



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DEPARTMENT OF PLANNING & ZONING

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Chief, Division of Community Planning and Land Development — Date 2/27/90

GENERAL NOTES

ALL AREAS NOT DESIGNATED AS SODDED OR SEEDED WITH WILDFLOWER MIX SHALL BE SEEDED WITH GRASSES AS DESCRIBED IN THE SPECIFICATIONS.

SODDING IS TO BE PLACED IN AREAS OF CONCENTRATED RUN-OFF OR STEEP SLOPES WHERE SEEDING IS NOT EFFECTIVE TO CREATE IMMEDIATE SOIL STABILIZATION.

THE CONTRACTOR HAS THE OPTION TO SOD AREAS NOT DESIGNATED ON THE PLANTING PLAN BY APPROVAL OF COUNTY, SEE SPECIFICATIONS FOR SODDING.

THIS PLAN IS FOR LANDSCAPE PURPOSES ONLY

REVISIONS

DATE	BY	DESCRIPTION
5-7-89	KDM	LOD, SYMBOLS
4/90	GME	THIS SHEET OUT OF CONTRACT

2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
2594 Riva Road, Annapolis, MD 21401
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HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043
Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

Hammond Park
Murray Hill Plat Nos. 4991-4995, 4997, 5187, 5231-5233, 5301, 5302, and 5397
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

Title
OVERALL PLANTING PLAN

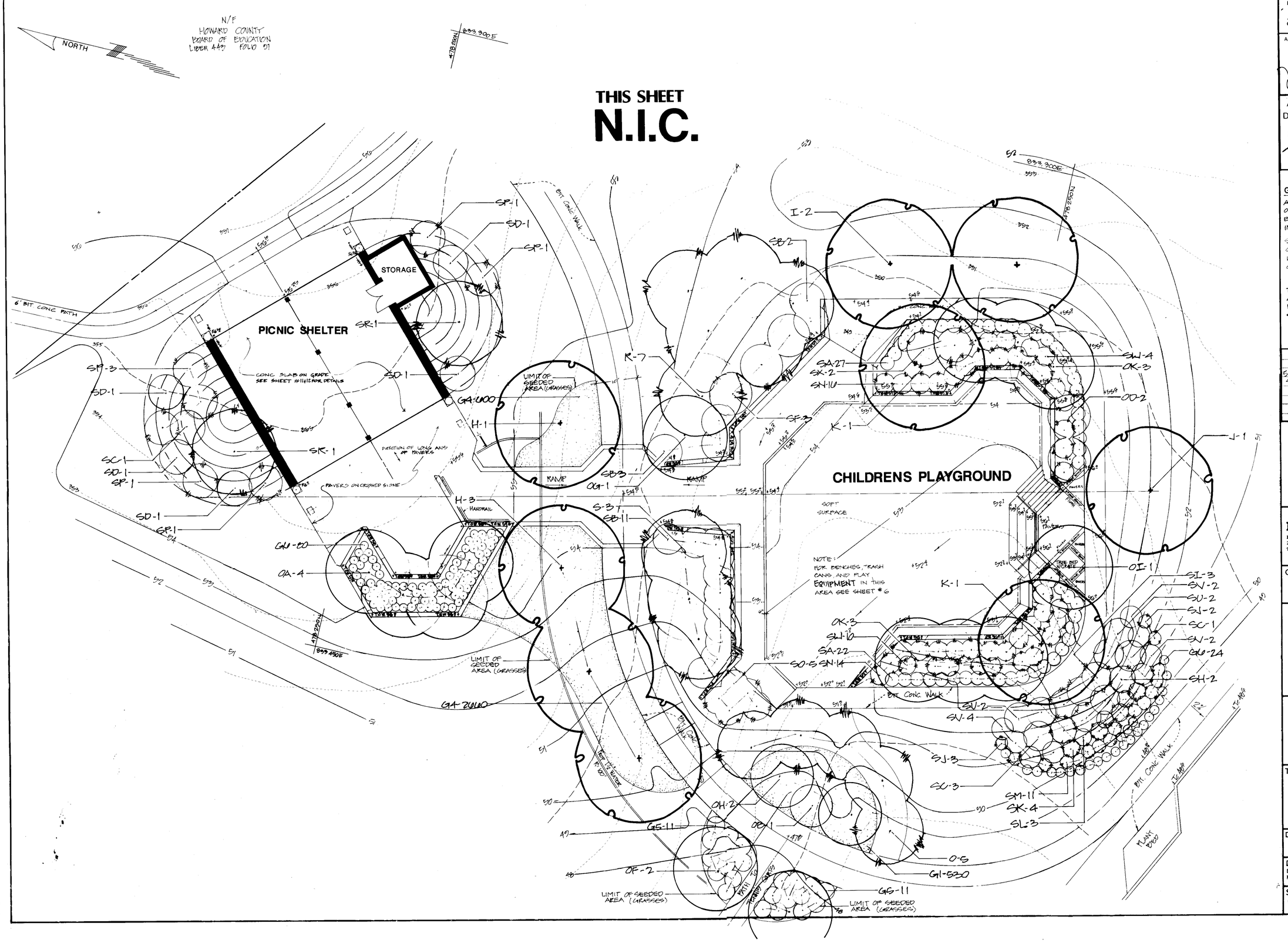
Date	Drawing Number
DECEMBER 20, 1989	8

Designer	Drafter
B. KELLY, K. ALTER	B. KELLY, R. MENEFEE
Scale	Checked by
1" = 50'	

of ____

SDP-90-50

1602



APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2.23.90

Chief, Bureau of Engineering — Date 2-7-90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2/26/90

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.27.90

Chief, Division of Community Planning and Land Development — Date 2/27/90

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REVISIONS

DATE	BY	DESCRIPTION
5/12/89	RDM	PLANT QUANTITIES
4/90	GME	THIS SHEET OUT OF CONTRACT

STATE OF MARYLAND — GEORGE MICHAEL EVANS — No. 11 — REGISTERED PROFESSIONAL ENGINEER
2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
2594 Riva Road, Annapolis, MD 21401
☎ (301) 841-6811

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043 Phone (301) 992-2040

Hammond Community Park

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Hammond Park
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Hammond Middle/Elementary School
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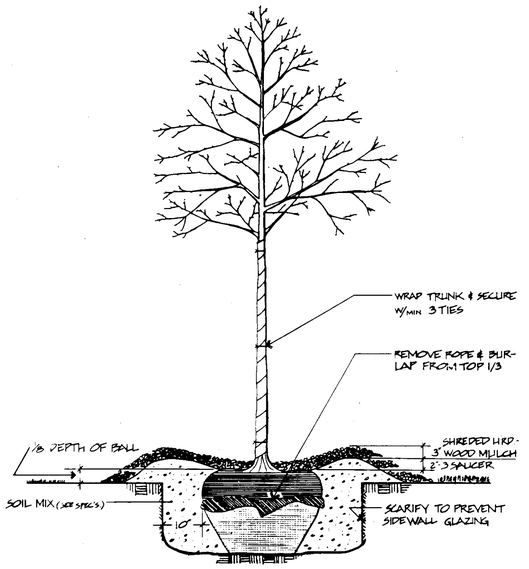
6th Election District

Title
DETAILED PLANTING PLAN

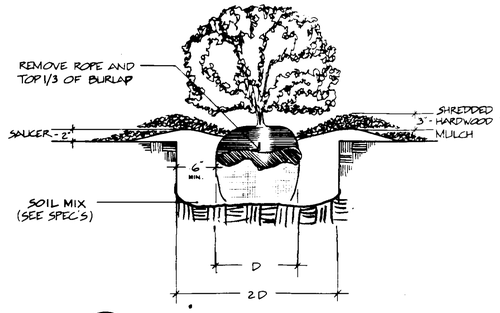
Date	Drawing Number
DECEMBER 20, 1989	9
Designer: BYRNE KELLY / Drafter: A. SIMMONS	of ____
Scale: 1" = 10' / Checked by	

SDP-90-50

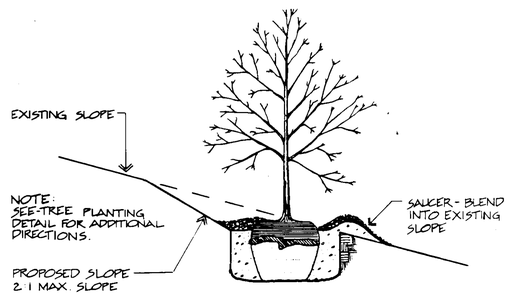
1602



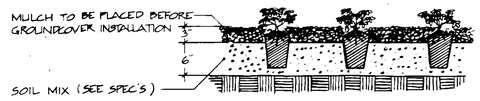
1/10 **TREE PLANTING**
NOT TO SCALE



5/10 **SHRUB PLANTING**
NOT TO SCALE

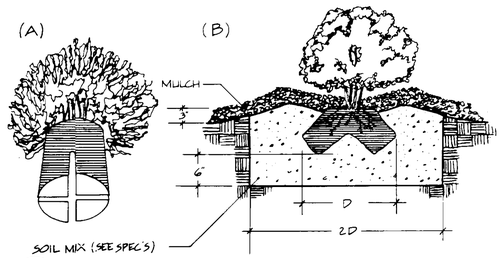


4/10 **SLOPE PLANTING**
NOT TO SCALE

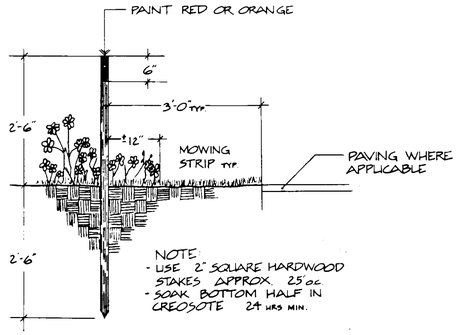


6/10 **GROUND COVER PLANTING**
NOT TO SCALE

1) CAREFULLY REMOVE PLANT BY EITHER CUTTING OR INVERTING THE CONTAINER.
2) USE A KNIFE OR A SHARP BLADE TO CUT THROUGH BOTTOM HALF OF ROOT BALL. (SEE-A)
3) CAREFULLY BUTTERFLY THE ROOT BALL TO BRING THE ROOT SYSTEM CLOSER TO THE SURFACE. (SEE B)



7/10 **CONTAINER GROWN PLANTING**
NOT TO SCALE

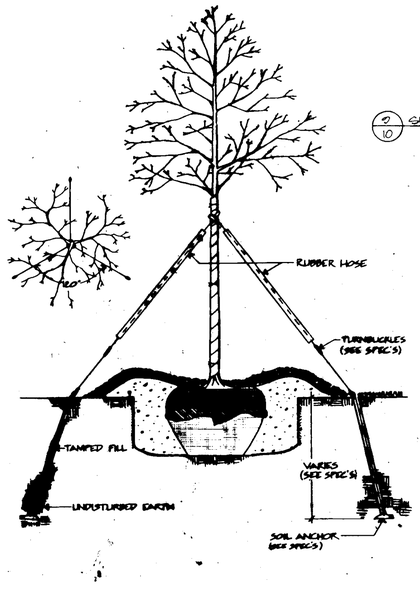


8/10 **WILD FLOWER BED STAKING**
NOT TO SCALE

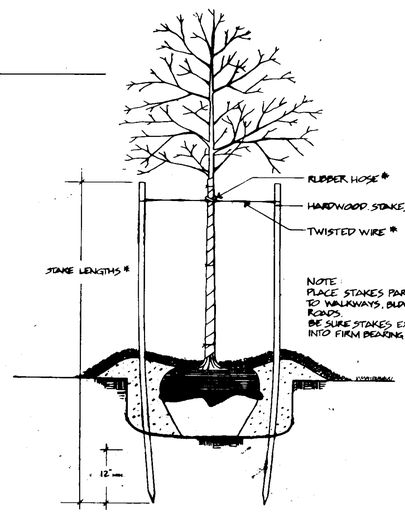
Tree Size Height	Tree Size Caliber	Stake	#	Wire or Cable	Turnbuckle	Hose
6-8'	1-1 1/2"	5' Upright	2	14 gauge wire	—	1/2"
8-10'	1 1/2-2"	5 or 6' Upright	2	14 gauge wire	—	1/2"
10-12'	2-2 1/2"	7 or 8' Upright	2	14 gauge wire	—	1/2"
12-14'	2 1/2-3"	Guy Soil Anchor	3	12 gauge wire	—	1/2"
14-16'	3-4"	Guy Soil Anchor	3	12 gauge wire	—	3/4"
16-20'	4-6"	Guy Soil Anchor	3	12 gauge wire	—	3/4"
20' and over	6" and over	Guy Soil Anchor	3	3/16" Cable	3/8 x 6"	3/4"

9/10 **TREE SUPPORT SCHEDULE**
NOT TO SCALE

THIS SHEET N.I.C.



2/10 **TREE GUYING**
NOT TO SCALE



3/10 **TREE STAKING**
NOT TO SCALE

QNTY.	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING & NOTES
		SHADE TREES				
5	A	ACER PLATANOIDES "SUMMERSHADE"	SUMMERSHADE NORWAY MAPLE	2½"-3" cal.	B&B	5' SETBACK FROM PAVING 15' o.c.
2	B	ACER RUBRUM "HEDSUNSET"	RED MAPLE	2½"-3" cal.	B&B	AS SHOWN
4	C	ACER SACCHARUM "GREEN MOUNTAIN"	GREEN MOUNTAIN SUGAR MAPLE	2"-2½" cal.	B&B	AS SHOWN
6	D	AESCULUS HIPPOCASTANUM "BAUMANNII"	DOUBLE FLOWERING HORSECHESTNUT	2½"-3" cal.	B&B	AS SHOWN STERILE ONLY
5	E	FAGUS SYLVATICA	EUROPEAN BEECH	2"-2½" cal.	B&B	AS SHOWN
1	F	FAGUS SYLVATICA "ARTOPUNICEA PURPUREA"	COPPER BEECH	2"-2½" cal.	B&B	AS SHOWN
1	G	FAGUS SYLVATICA "PENDULA"	WEEPING EUROPEAN BEECH	1"-1½" cal	B&B	AS SHOWN
9	H	FRAXINUS PENNSYLVANICA LANCEOLATA "PATMORE"	PATMORE SEEDLESS ASH	2"-2½" cal.	B&B	AS SHOWN
2	L	LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	2"-2½" cal.	B&B	AS SHOWN
2	J	QUERCUS ACUTISSIMA	SAWTOOTH OAK	2"-2½" cal.	B&B	AS SHOWN
19	K	QUERCUS BOREALIS RUBRA	NORTHERN RED OAK	2"-2½" cal.	B&B	30' o.c. ALONG DRIVE ELSEWHERE AS SHOWN
6	L	QUERCUS PALUSTRIS	PIN OAK	2"-2½" cal.	B&B	CENTER IN ISLAND SPAN DRIVE AS SHOWN
8	M	Nyssa sylvatica	Black Gum	2"-2½" cal.	B&B	AS SHOWN PLACE IN LOWEST DEPRESSION OF SWALE
12	N	TILIA CORDATA "GREENSPIRE"	GREENSPIRE LITTLE LEAF LINDEN	2"-2½" cal.	B&B	6' SETBACK FROM PAVEMENT 25' o.c. OR AS SHOWN
		EVERGREEN TREES				
9	O	PICEA OMORIKA	SERBIAN SPRUCE	6'-7' Hgt.	B&B	AS SHOWN
28	P	PINUS STROBUS	WHITE PINE	6'-8' Hgt.	B&B	AS SHOWN
8	Q	PINUS SYLVESTRUS	SCOTCH PINE	7'-8' Hgt.	B&B	AS SHOWN
14	R	PINUS THUNBERGIANA	JAPANESE BLACK PINE	6'-7' Hgt.	B&B	AS SHOWN
3	S	Picea abies	Norway Spruce	6'-7' Hgt.	B&B	10' o.c. MIDWAY UPSLOPE AS SHOWN
		ORNAMENTAL TREES				
4	O/A	CERCIDIPHYLLUM JAPONICUM	KATSURA TREE	10"-21" min. 2½"-3" cal.	B&B	10' o.c. CENTER IN PLANTER PRUNE BRANCHES BELOW 5'
1	O/B	Picea pungens 'glauca'	Colorado Blue Spruce	4'-5'	B&B	CENTER ON AXIS OF WALK SETBACK 5'
1	O/C	CLADRASTIS LUTEA	YELLOWOOD	2½"-3" cal.	B&B	AS SHOWN, 10' - 12' MIN. HGT
6	O/D	CORNUS ALPA "SIBIRICA"	TATARIAN DOGWOOD	3'-4'	B&B	10' o.c. CENTERED IN PLANT BED PRUNE 1/3 OF OLD WOOD EVERY YEAR
6	O/E	Amelanchier 'Robin Hill Pink'	Pink Shadblow	(6)6'-8' (2)5'-6'	B&B	AS SHOWN, SEE LARGER TREES BY BASKETBALL COURTS
2	O/F	~~Amelanchier~~ canadensis	Serviceberry	5'-6'	B&B	AS SHOWN
3	O/G	Amelanchier canadensis	Serviceberry	5'-6'	B&B	AS SHOWN
6	O/H	CORNUS KOUSA	KOUSA JAPANESE DOGWOOD	5'-6'	B&B	AS SHOWN
1	O/I	CORNUS MAS	CORNELIAN CHERRY DOGWOOD	6'-7'	B&B	AS SHOWN, MULTI-STEM REMOVE LOWER BRANCHES
5	O/J	CRATAEGUS PHAENOPYRUM	WASHINGTON HAWTHORN	5'-6'	B&B	AS SHOWN
6	O/K	MAGNOLIA SOULANGIANA "ALEXANDRINA"	ALEXANDRINA SAUCER MAGNOLIA	6'-7'	B&B	AS SHOWN, MULTI STEMS NOTE PLACEMENT
5	O/L	MALUS "CENTURION"	CENTURION CRABAPPLE	2"-2½" cal.	B&B	AS SHOWN
3	O/M	MALUS "KATHERINE"	KATHERINE CRABAPPLE	1½"-1¾" cal.	B&B	AS SHOWN
3	O/N	MALUS "RED JADE"	RED JADE CRABAPPLE	6'-8'	B&B	AS SHOWN
2	O/P	MALUS "SARGENTII"	SARGENT CRABAPPLE	6'-7'	B&B	AS SHOWN, MULTI-STEM
1	O/Q	PHELLODENDRON AMURENSE	AMUR CORKTREE	2"-2½" cal.	B&B	AS SHOWN
1	O/R	PRUNUS SERRULATA "KWANZAN"	KWANZAN CHERRY	2"-2½" cal.	B&B	AS SHOWN, OWN ROOT, REGULAR FORM
2	O/S	PRUNUS SUBHIRTELLA "AUTUMNALIS"	AUTUMN FLOWERING CHERRY	2"-2½" cal.	B&B	AS SHOWN
1	O/T	PRUNUS SUBHIRTELLA "PENDULA"	WEEPING JAPNESE CHERRY	2" cal.	B&B	AS SHOWN, OWN ROOT
6	O/U	PYRUS CALLERYANA "BRADFORD"	BRADFORD CALLERY PEAR	2"-2½" cal.	B&B	AS SHOWN
13	O/V	PYRUS CALLERYANA "REDSPIRE"	REDSPIRE PEAR	2"-2½" cal	B&B	AS SHOWN

QNTY.	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING & NOTES
		SHRUBS-DECIDUOUS				
49	G/A	BERBERIS THUNBERGII "ATROPURPUREA"	CRIMSON PYGMY BARBERRY	12"-15"	CONT.	3' o.c. AS SHOWN, 2' SETBACK FROM WALK
41	G/B	EUONYMUS ALATUS COMPACTUS	COMPACT WINGED EUONYMOUS	2½"-2½"	CONT.	5' o.c. AS SHOWN, 3' SETBACK FROM WALLS OF BUILDING
7	G/C	FOTHERGILLA MAJOR	LARGE FOTHERGILLA	2½"-3'	CONT.	AS SHOWN, MUST HAVE ACID SOIL
8	G/D	HYDRANGEA QUERCIFOLIA "SNOWQUEEN"	SNOWQUEEN OAKLEAF HYDRANGEA	2'-2½'	CONT.	AS SHOWN, MOIST, WELL DRAINED SOIL
10	G/E	VIBURNUM CARLESI	KOREAN SPICE VIBURNUM	2'-2½'	CONT.	6' o.c. min., AS SHOWN
3	G/F	VIBURNUM RHYTIDOPHYLLOIDES	WILLOWOOD VIBURNUM	2'-3'	CONT.	5' SETBACK FROM WALL 10 o.c. SEMI-EVERGR
		SHRUBS-EVERGREEN				
15	G/G	AZALEA GABLE "ROSEBUD"	GABLE HYBRID-ROSEBUD AZALEA	2'-2½'	B&B	2' SETBACK FROM WALKS 4' o.c.
2	G/H	AZALEA GABLE "STEWARTSTONIAN"	GABLE HYBRID-STEWARTSTONIAN AZELEA	2½'-3'	B&B	AS SHOWN
3	G/I	AZALEA GLENDALE "GLACIER"	GLENDALE HYBRID-GLACIER WHITE AZ.	18"-24"	CONT.	3' SETBACK FROM WALK 5' o.c.
5	G/J	AZALEA KUROME "DELAWARE VALLEY WHITE"	KUROME HYBRID-DELAWARE VALLEY WHITE	15"-18"	CONT.	AS SHOWN
4	G/K	AZALEA KUROME "HERSHEYS RED"	KUROME HYBRID-HERSHEYS RED AZALEA	18"-24"	CONT.	AS SHOWN
3	G/L	AZALEA KUROME "MITHERS DAY"	KUROME HYBRID-MITHERS DAY AZALEA	18"-24"	CONT.	AS SHOWN
11	G/M	AZALEA SATSUKI "MACKANZIE"	SATSUKI HYBRID-MACKANZIE AZALEA	15"-18"	CONT.	AS SHOWN
30	G/N	BERBERIS JULIANAE	WINTERGREEN BARBERRY	2'-2½'	CONT.	2' min. SETBACK FROM WALKS 4' o.c.
5	G/O	ILEX CRENATA "COMPACTA"	COMPACT JAPANESE HOLLY	3'-4'	B&B	3' SETBACK FROM WALK 4' o.c. IN 2 ROWS 5' APART
7	G/P	ILEX CRENATA "HETZII"	HETZI JAPANESE HOLLY	2½'-3'	B&B	AS SHOWN
76	G/Q	ILEX GLABRA "COMPACTA"	COMPACT INKBERRY	18"-24"	B&B	3' SETBACK FROM WALKS 4' o.c. AS SHOWN
1(M) 3(F) 198	G/R	ILEX OPACA (MALE & FEMALE)	AMERICAN HOLLY	5'-6'	B&B	AS SHOWN, MALE IS NOTED ON PLAN W/ASTERI
4	G/T	JUNIPERUS HORIZONTALIS "PLUMOSA"	ANDORRA CREEPING JUNIPER	15"-18"	B&B	5' o.c. IN ROWS AS SHOWN
4	G/U	RHODODENDRON CATAWBIENSE "NOVA ZEMBLA"	NOVA ZEMBLA RHODODENDRON	2'-2½'	B&B	5' SETBACK FROM WALK AS SHOWN
8	G/V	RHODODENDRON "PJM"	PJM RHODODENDRON	18"-24"	B&B	AS SHOWN
20	G/W	TAXUS CUSPIDATA "DENSIFORMIS"	DENSE JAPANESE YEW	15"-18"	B&B	3' o.c. OR AS SHOWN
2	G/X	TAXUS MEDIA "HATFIELDII"	HATFIELD ANGLOJAP YEW	2'-2½'	B&B	8' APART AS SHOWN
10	G/Y	THUJA ACCIDENTALIS "NIGRA"	DARK AMERICAN ARBORVITAE	5'-6'	B&B	5' o.c. AS SHOWN
		GROUNDCOVERS				
530	G/1	Hedera helix "Wilsonii"	Wilsons Ivy	3" to 9"	pots	12" o.c. PERRENIAL
1350	G/3	EUONYMUS FORTUNEI "COLORATUS"	PURPLELEAVED WINTERCREEPER	9" to 12"	2½" pot	12" o.c.
6040	G/4	HEDERA HELIX "BALTICA"	HARDY ENGLISH IVY	12" to 15"	2½" pot	8" o.c.
22	G/5	JUNIPERUS HORIZONTALIS PLUMOSA COMPACTA	COMPACT ANDORRA JUNIPER	12" to 24"	B&B	
104	G/6	PACHISTIMA CANBYI	CANBY PACHISTIMA	9" to 12"	CONT.	2' ON CENTER IN ROWS OR AS SHOWN
85	G/7	Juniperus conferta "Blue Pacific"	Blue Pacific Juniper	15" to 18"	CONT.	3' o.c. AS SHOWN

10/10 **PLANT LIST**

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2-23-90
Chief, Bureau of Engineering — Date 2-7-90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2/26/90

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.27.90
Chief, Division of Community Planning and Land Development — Date 2/23/90

GENERAL NOTES

1. BACKFILL TREES AND SHRUBS WITH TOPSOIL AND PEATMOSS (OR DECOMPOSED LEAF MULCH) 3:1 RATIO BY VOLUME.
2. ALL PLANT MATERIALS ARE TO BE NURSERY GROWN AND MUST COMPLY WITH THE CURRENT ANSI "AMERICAN STANDARD FOR NURSERY STOCK".
3. SPRAY TREES AND SHRUBS WITH ANTI-DESICCANT IF FOLIAGE IS PRESENT.
4. EVERGREEN TREES AND SHRUBS SHALL BE PLANTED IN THE SAME MANNER AS DECIDUOUS MATERIALS. PRUNE EVERGREENS TO GIVE COMPACT UNIFORM APPEARANCE.
5. PLANT MATERIAL TYPES AND SIZES MAY VARY DUE TO MARKET AVAILABILITY AT TIME OF CONSTRUCTION. ANY SUBSTITUTION TO BE OF EQUIVALENT TYPE AND SIZE AND SHALL BE SUBJECT TO THE APPROVAL OF HOWARD COUNTY D.P.W. AND D.R.P.
6. SEE CONTRACT SPECIFICATIONS FOR ADDITIONAL INFORMATION PRIOR TO PLANTING.

REVISIONS

DATE	BY	DESCRIPTION
5-10-89	EDM	PLANT LIST
10-30-89	PA	Plant List
4/90	EME	THIS SHEET OUT OF CONTRACT.

STATE OF MARYLAND — CHARLES ROY MILLER — No. 10976 — REGISTERED PROFESSIONAL ENGINEER
2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
8401 Corporate Drive, Suite 020, Landover, MD 20785
☎ (301) 731-0373

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043 Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

Hammond Park
Murray Hill Plat Nos. 4991-4995, 4997, 5187, 5231-5233, 5301, 5302, and 5397
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

Title
PLANTING DETAILS

Date	Drawing Number
DECEMBER 20, 1989	10
Designer: B. KELLY & BY OTHERS	Drafter: B. KELLY, K. MENEFEE
Scale: AS SHOWN	Checked by

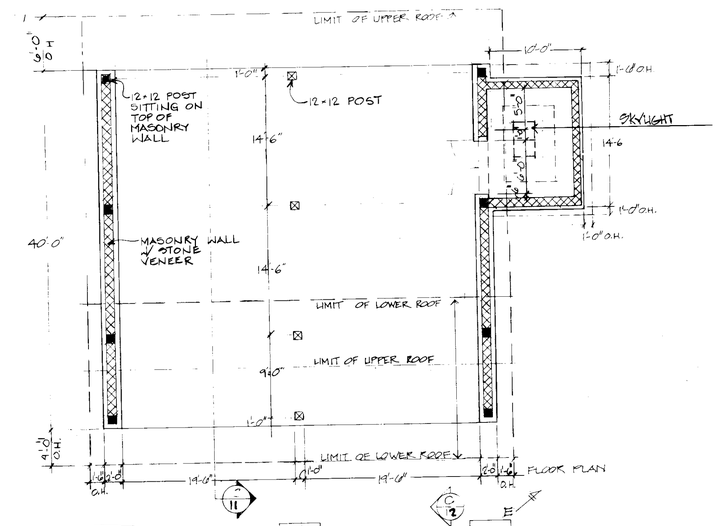
of ____

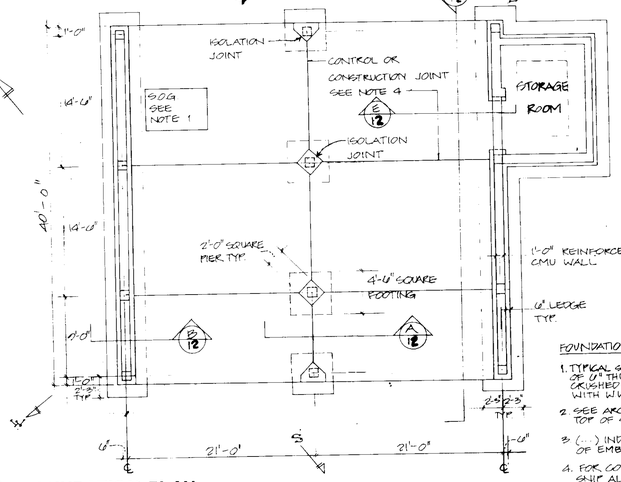
SDP-90-60

1602

1/11 FLOOR PLAN

SCALE: 1/8" = 1'-0"



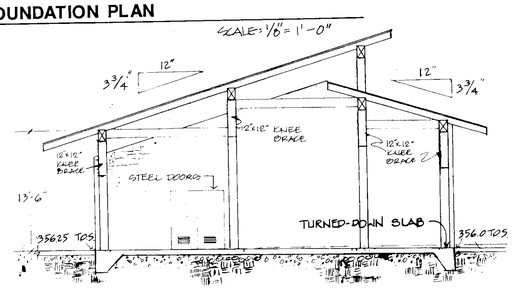


FOUNDATION PLAN NOTES

1. TYPICAL S.O.G. CONSTRUCTION CONSISTS OF 6" THICK CONCRETE SLAB ON 4" CRUSHED STONE DRAINAGE REINFORCE WITH W.W.F. 6×6, W2.9×W2.9
2. SEE ARCHITECTUAL DRAWINGS FOR TOP OF SLAB ELEVATIONS
3. (...) INDICATES ELEVATION @ TOP OF EMBEDDED ℄.
4. FOR CONTROL/CONSTRUCTION JT. SKIP ALTERNATE STRANDS OF W.W.F. & SAW CUT 2" DEEP.

2/11 FOUNDATION PLAN

SCALE: 1/8" = 1'-0"



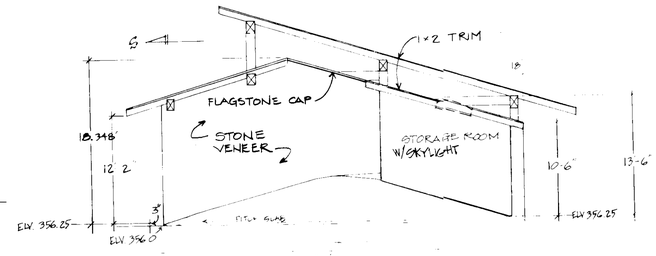
*ALL FOOTINGS TO BE MINIMUM DEPTH OF 2'-6" BELOW GRADE

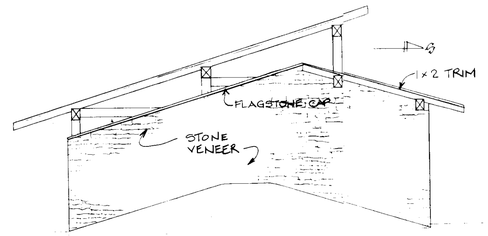
3/11 SECTION AA'

NOT TO SCALE

4/11 WEST ELEVATION

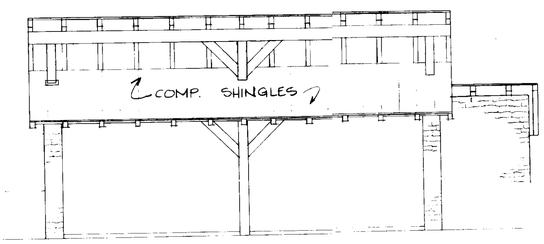
SCALE: 1/8" = 1'-0"





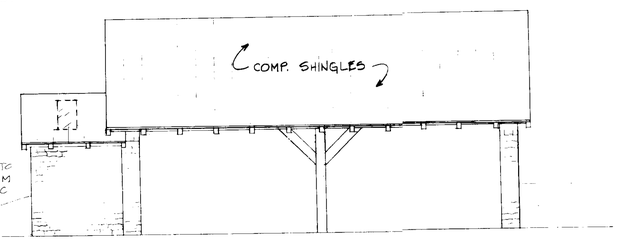
5/11 EAST ELEVATION

NOT TO SCALE



6/11 SOUTH ELEVATION

NOT TO SCALE

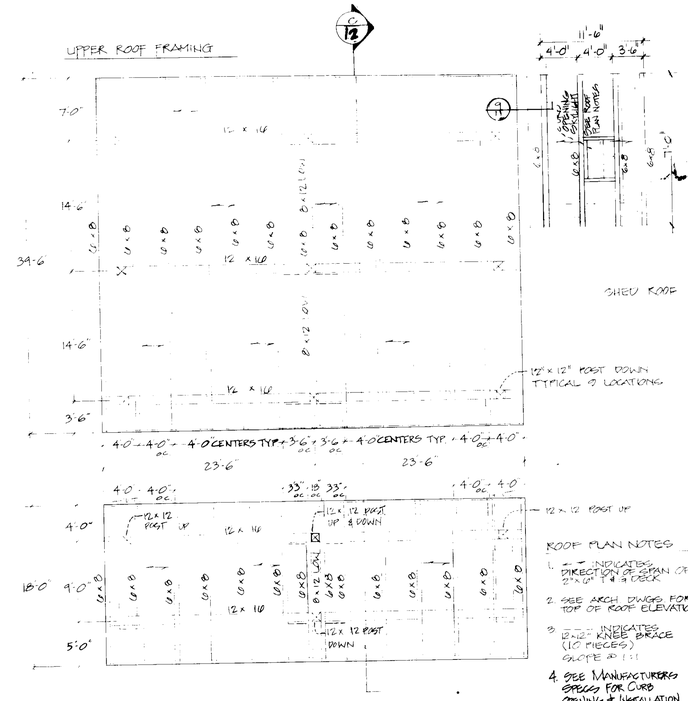


NOTE: STORAGE ROOM DOORS TO BE OF 1 3/4" STEEL 3'×6'8"-DM SERIES FLUSH DOOR BY REPUBLIC BUILDERS PRODUCTS. SEE SPECS.

ELV 356.25

7/11 NORTH ELEVATION

NOT TO SCALE

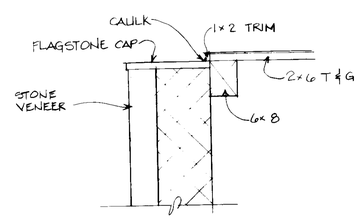


ROOF PLAN NOTES

1. INDICATES DIRECTION OF SPAN OF 2"×6" @ 16" O.C. DECK
2. SEE ARCH. DWGS. FOR TOP OF ROOF ELEVATIONS
3. 12×12" INDICATES KNEE BRACE (10 PIECES) SLOPE @ 1:1
4. SEE MANUFACTURERS SPECS FOR CURB OPENING & INSTALLATION OF SKYLIGHT

8/11 ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"



9/11 DETAIL

SCALE 3/4" = 1'-0"

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2.23.90

Chief, Bureau of Engineering — Date 2-7-90

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.27.90

Chief, Division of Community Planning and Land Development — Date 2/23/90

SKYLIGHT: TO BE CATALOG # 28572 22 1/4" × 46 1/4" CLEAR VSF FIXED VINYL MODEL BOHEM SKYLIGHTS, INC. OR APPROVED EQUAL.

REVISIONS

DATE	BY	DESCRIPTION

STATE OF MARYLAND — E. TOM SEGREST — REGISTERED PROFESSIONAL ENGINEER — 2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
2594 Riva Road, Annapolis, MD 21401
☎ (301) 841-6811

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043 Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

Hammond Park
Murray Hill Plat Nos. 4991-4995, 4997, 5187, 5233-5233, 5301, 5302, and 5397
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

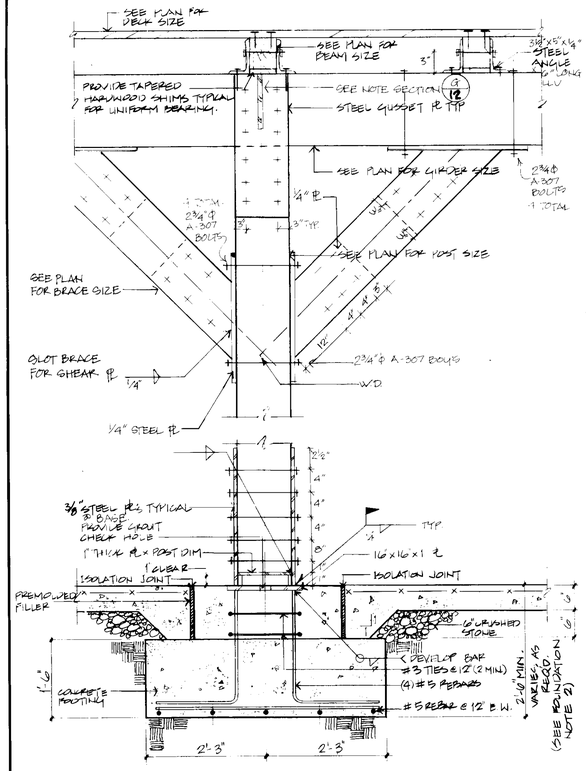
Title
PICNIC SHELTER

Date: DECEMBER 20, 1989

Designer: B. KELLY, E. NACHTMAN
Drafter: B. KELLY, R. MENEFEE
Scale: AS NOTED
Checked by: JBE, WGL

Drawing Number: 11 of ____

SDP-90-50



A/12 **SECTION**

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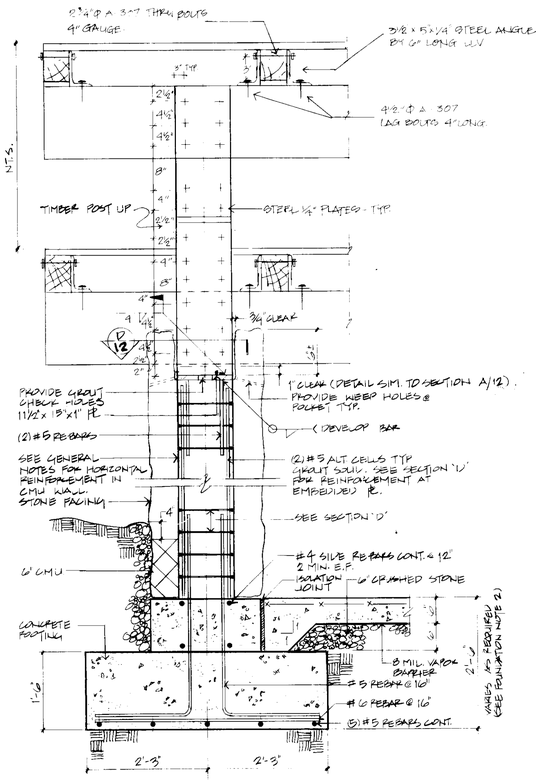
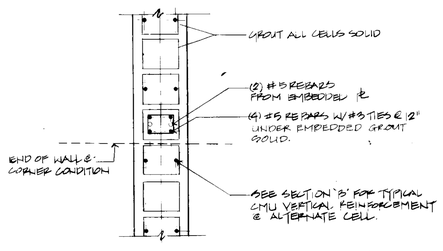


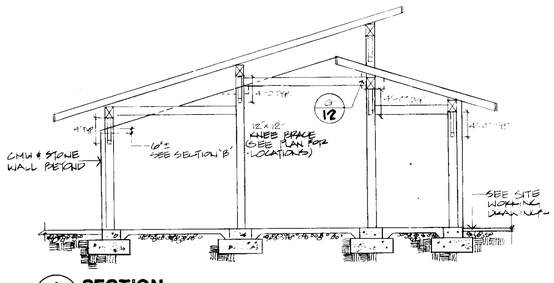
B/12 **SECTION**

SCALE: 3/4" = 1'-0"



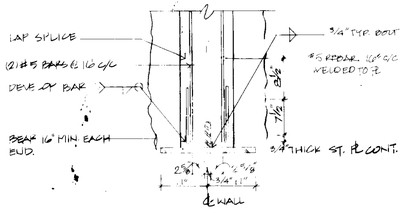
D/12 **SECTION**

SCALE: 3/4" = 1'-0"



C/12 **SECTION**

SCALE: 1/8" = 1'-0"



E/12 **LINTEL DETAIL**

SCALE: 3/4" = 1'-0"

GENERAL NOTES

A. CODES AND STANDARDS
1. THE BOCA BASIC NATIONAL BUILDING CODE/1987.
2. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES - ANSI A58.1-1982.
3. BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE - ACI 318-83 - AMERICAN CONCRETE INSTITUTE.
4. SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS - ACI 301-84, AMERICAN CONCRETE INSTITUTE.
5. NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION - 1986 EDITION - NATIONAL FOREST PRODUCTS ASSOCIATION.
6. TIMBER CONSTRUCTION MANUAL - 3RD EDITION - AMERICAN INSTITUTE OF TIMBER CONSTRUCTION.

B. LOAD ASSUMPTIONS
1. DEAD LOADS - ACTUAL WEIGHTS OF THE MATERIALS SHOWN ON DRAWINGS.
2. WIND LOAD
BUILDING WINDWARD PRESSURE . . . . . 18 PSF
BUILDING LEEWARD SUCTION . . . . . 12 PSF
ROOF MEMBERS SUCTION . . . . . 57 PSF
3. SOIL LOADS - AS PRESCRIBED BY GEOTECHNICAL REPORT LISTED IN SECTION C-
4. SNOW LOAD
HIGH ROOF . . . . . 30 PSF
LOW ROOF . . . . . 61 PSF

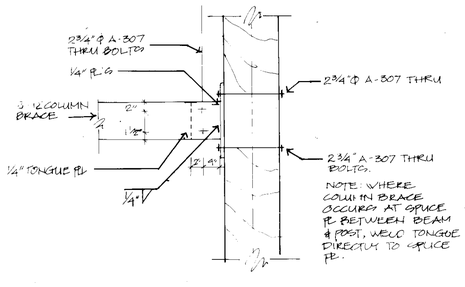
C. FOUNDATIONS AND EARTHWORK
1. SUBSURFACE INVESTIGATION AND REPORT BY: ATEC ASSOC., INC., MARYLAND, 1987.
2. FOOTINGS
A. ALL FOOTINGS SHALL BE PLACED ON VIRGIN SOIL WITH PRESUMPTIVE BEARING CAPACITY OF 2000 PSF.
B. FOOTINGS SHALL BE PLACED AT ELEVATIONS SHOWN UNLESS EXCAVATION DISCLOSES AN UNSATISFACTORY BED. IN WHICH CASE, FOOTINGS SHALL BE LOWERED TO A MORE SUITABLE BED. CHANGE IN ELEVATION MUST BE APPROVED BY THE ARCHITECT/ENGINEER.
C. BOTTOM OF ALL FOOTINGS SHALL BE 2'-6" MINIMUM BELOW FINISHED GRADE.
3. SLAB ON GRADE
A. SUBGRADE CRUSHED STONE DRAINAGE UNDER SLAB ON GRADE SHALL BE PLACED ON FILL COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D698) AS PER SOIL REPORT.

D. CONCRETE
1. MATERIALS
A. FOOTINGS, PEDESTALS, SLAB ON GRADE . . . . . F'c' 3500 PSI, DRY WT = 150 PCF
2. CONCRETE REINFORCEMENT
A. REINFORCING BARS . . . . . ASTM A615-GRADE 60
B. WELDED WIRE FABRIC . . . . . ASTM A185
C. DETAILING . . . . . ACI 315 (LATEST ED.)
3. REINFORCEMENT PROTECTION
A. CONCRETE PLACED AGAINST EARTH . . . . . 3"
B. CONCRETE PLACED AGAINST FORMS BUT EXPOSED TO EARTH OR WEATHER . . . . 2"
4. SUBMIT REINFORCING STEEL SHOP DRAWINGS FOR ARCHITECT/ENGINEER REVIEW INDICATING ALL BAR SIZES, LENGTHS, AND BENDS AS INDICATED ON STRUCTURAL DRAWINGS.
5. SUBMIT DRAWING SHOWING LOCATION OF ALL REQUIRED AND PROPOSED CONSTRUCTION JOINTS WITH REINFORCING STEEL SHOP DRAWINGS FOR ENGINEER'S APPROVAL.
6. SPLICES OF REINFORCEMENT SHALL NOT BE MADE EXCEPT AS DETAILED OR AUTHORIZED BY THE STRUCTURAL ENGINEER. MAKE ALL BARS CONTINUOUS AROUND CORNERS. WHERE PERMITTED, SPLICES SHALL BE MADE BY CONTACT LAPS A MINIMUM OF 30 BAR DIAMETERS, UNLESS NOTED OTHERWISE.
7. ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL NOT BE PERMITTED.
8. PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCING AT POSITIONS SHOWN ON THE PLANS.
9. SLABS AND BEAMS SHALL NOT HAVE JOINTS IN A HORIZONTAL PLANE. ANY STOP IN CONCRETE WORK MUST BE MADE AT CENTER OF SPAN OR AT CENTER OF SUPPORT WITH VERTICAL BULKHEADS AND HORIZONTAL KEYS, UNLESS OTHERWISE SHOWN. ALL CONSTRUCTION JOINTS SHALL BE AS DETAILED OR AS APPROVED BY THE ARCHITECT.
10. ALL STIRRUPS SHALL HAVE 2-#4 SPACERS FOR LENGTH OF STIRRUP SPACING.
11. WIRE MESH REINFORCEMENT MUST LAP ONE FULL MESH AT SIDE AND END LAPS, AND SHALL BE WIRED TOGETHER.
12. NO WELDING OF REINFORCING SHALL BE PERMITTED UNLESS SPECIFICALLY CALLED FOR OR APPROVED BY THE STRUCTURAL ENGINEER.
13. ALL CONCRETE SHALL BE AIR ENTRAINED.

E. TIMBER
1. MATERIALS
A. SPECIES . . . . . DOUGLAS FIR-LARCH
B. COMMERCIAL GRADE . . . . . SELECT STRUCTURAL
C. MOISTURE CONTENT . . . . . 19% MAX.
D. MINIMUM STRENGTH
1. BENDING . . . . . F_B = 1500 PSI
2. TENSION . . . . . F_T = 1000 PSI
3. SHEAR . . . . . F_V = 85 PSI
4. COMPRESSION I GRAIN . . . . . F_C = 625 PSI
5. COMPRESSION II GRAIN . . . . . F_C = 1150 PSI
6. MODULUS OF ELASTICITY . . . . . E = 1600,000 PSI
E. FABRICATE TIMBER SUCH THAT MEMBERS AT CANTILEVER SUPPPORTS ARE CONTINUOUS, E.G. ROOF OVERHANGS.
F. UNLESS DETAILED ON DRAWINGS, PROVIDE CONNECTIONS FOR FORCES INDICATED IN SECTION 4 OF TIMBER NOTES AS PER STANDARD TIMBER CONSTRUCTION PRACTICE.
2. HARDWARE
A. BOLTS W/HEXAGONAL HEADS . . . . . ASTM A-307
B. NUTS, HEXAGONAL . . . . . ASTM A-307
C. O.G. WASHERS, 3" OUTER DIAMETER 3/4" THICKNESS . . . . . ASTM A-47 CLASS 32A FOR CAST IRON
D. SPIKES AND NAILS, COMMON WIRE TYPE . . . . . AISI SPECIFICATION 1010 OR 1020
E. STEEL PLATE . . . . . ASTM A36
F. ALL OF THE ABOVE HARDWARE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A-153 THE ZINC COATING SHALL BE CLASS A, 2.0 OUNCES OF ZINC PER SQUARE FOOT OF HARDWARE SURFACE.
G. THREADS ON ALL THREADED FASTENERS SHALL BE OF THE CUT TYPE WITH THE SHANK AND OUTSIDE THREAD DIAMETERS BEING EQUAL TO THE NOMINAL DIAMETER OF THE FASTENER. ALL THREADS SHALL BE CUT PRIOR TO BEING GALVANIZED.
H. DAMAGE TO GALVANIZED SURFACES SHALL BE FIELD TOUCHED UP WITH ZINC RICH PAINT AS PER MANUFACTURER'S RECOMMENDATIONS TO ACHIEVE ADEQUATE COVER.
3. PRESERVATIVE TREATMENT
A. TREAT ALL TIMBER WITH CHROMATED COPPER ARSENATE (C.C.A.), TYPE C, CONFORMING TO THE REQUIREMENTS OF AWPA STANDARD P5. MINIMUM WET RETENTION SHALL BE 0.6 POUNDS PER CUBIC FOOT DETERMINED BY CHEMICAL ASSAY AS PER AWPA STANDARD A2.
B. RESTORE INTEGRITY OF C.C.A. TREATMENT AS PER MANUFACTURER'S RECOMMENDATIONS AT ALL FIELD CUTS AND DRILLED HOLES IN TIMBER.
4. CONNECTION DETAILS
A. UNLESS SPECIFICALLY DETAILED ON THE DRAWINGS, CONNECTIONS SHOWN ARE SCHEMATIC ONLY. DETAIL CONNECTIONS FOR MEMBER FORCES INDICATED BELOW.
B. MINIMUM TIMBER CONNECTION PERFORMANCE CRITERIA.
1. ROOF DECK, NAIL TO BEAMS FOR 55 PSF SUCTION.
2. ROOF BEAMS, A-307 THRU BOLT W/STEEL ANGLES TO ROOF GIRDER FOR 3.0 KIPS SUCTION.
3. ROOF GIRDER, A-307 THRU BOLT W/STEEL PLATES TO TIMBER POST OR MASONRY WALL FOR 15.0 KIPS SUCTION AND 40.0 KIPS GRAVITY.
4. TIMBER POST, A-307 THRU BOLT W/STEEL PLATES TO CONCRETE PEDESTAL OR MASONRY WALL FOR 15.0 KIPS SUCTION AND 40.0 KIPS GRAVITY.
5. KNEE BRACE, BOLT THROUGH GUSSET PLATES TO TIMBER BEAMS AND POSTS FOR 15 KIPS TENSION OR COMPRESSION.
C. SUBMIT SHOP DRAWINGS TO ARCHITECT/ENGINEER FOR REVIEW OF PROPOSED CONNECTIONS DETAILED AS ABOVE.

F. MASONRY
1. MATERIALS
A. MINIMUM F'_m = 1350 PSI - SPECIAL INSPECTION IS REQ. AS NOTED ON PLANS AND DETAILS
B. HOLLOW CMU . . . . . ASTM C90, GR.N, TYPE I
C. MORTAR . . . . . ASTM C270, TYPE S
D. GROUT . . . . . ASTM C476
E. REINFORCING . . . . . ASTM A82, TRUSS-TYPE
F. REINFORCING BARS . . . . . ASTM A615, GRADE 60
G. BOND BREAKER STRIPS . . . . . ASTM D226, 15# ASPHALT ROOFING FELT
H. GALVANIZED MASONRY TIES . . . SEE NOTE 10
2. REINFORCE MASONRY WALLS WITH STANDARD TRUSS-TYPE REINFORCING AT 16" O.C. VERTICAL. INSTALL MASONRY REINFORCING IN TWO CONSECUTIVE COURSES ABOVE AND BELOW OPENINGS IN WALLS, EXTENDING NOT LESS THAN 3'-0" BEYOND EDGE OF OPENING. PROVIDE PREFABRICTED TEE AND CORNERS AT WALL INTERSECTIONS.
3. ALL VERTICAL REINFORCING IN MASONRY WALLS SHALL BE FULL GROUTED IN PLACE USING HIGH LIFT GROUTING TECHNIQUES. SEE DRAWING FOR SIZE AND SPACING.
4. FILL ALL VOIDS AND BLOCK CELLS SOLIDLY WITH GROUT.
5. NO SPLICES IN REINFORCING BARS SHALL BE MADE EXCEPT AS DETAILED OR AUTHORIZED BY THE STRUCTURAL ENGINEER.
6. ALL SPLICES IN REINFORCING SHALL BE LAPPED 40 BAR DIAMETERS.
7. WALLS SHALL BE CONSTRUCTED WILL FULL HEAD AND BED JOINTS.
8. WALLS SHALL BE TEMPORARILY SHORED AND SECURELY BRACED UNTIL FLOOR OR ROOF SYSTEM HAS BEEN ANCHORED THERETO.
9. PROVIDE STEEL BEARING PLATES AS INDICATED AT ELEVATIONS SHOWN. UTILIZE GROUT CHECK HOLES TO ELIMINATE ANY VOIDS BELOW PLATES. PROVIDE UNIFORM BEARING BETWEEN PLATES AND GROUT.
10. PROVIDE GALVANIZED MASONRY TIES BETWEEN CMU AND FACE STONE. GAGE AND SPACING OF TIES SHALL BE ADEQUATE FOR 55 PSF SUCTION. MAXIMUM SPACING SHALL BE 16" VERTICAL AND 24" HORIZONTAL (STAGGERED).
11. PROVIDE LOOSE LINTEL OVER DOOR AS INDICATED ON THE DRAWINGS.

G. GENERAL
1. ELEVATIONS INDICATED ON THE DRAWINGS ARE TO TOPS OF ELEMENTS.
2. THIS PROJECT HAS BEEN DESIGNED FOR THE WEIGHTS OF THE MATERIALS INDICATED ON THE DRAWINGS AND FOR THE LIVE LOADS INDICATED IN THE DESIGN DATA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALLOWABLE CONSTRUCTION LOADS AND TO PROVIDE PROPER DESIGN AND CONSTRUCTION OF FALSEWORK, FORMWORK, STAGING, BRACING, SHEETING, SHORING, ETC.
3. PRIOR TO CONSTRUCTION, VERIFY ALL STRUCTURAL ELEVATIONS AND DIMENSIONS WITH EXISTING CONDITIONS AND WITH OTHER PROJECT DRAWINGS; COORDINATE LOCATION OF SLEEVES AND OPENINGS THROUGH THE STRUCTURE, INSERTS, AND OTHER RELATED ITEMS.
4. CONTRACTOR SHALL REFER TO ARCHITECTURAL, SITE, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATIONS OF OPENINGS, SLEEVES, INSERTS, ETC.
5. ALL DIMENSIONS AND ELEVATIONS OF EXISTING STRUCTURES SHOWN ON THE DRAWINGS ARE OBTAINED FROM AVAILABLE SOURCES, AND ARE NOT GUARANTEED TO BE TRUE AND EXACT. THE GENERAL CONTRACTOR SHALL VERIFY THESE DIMENSIONS AND ELEVATIONS BY ACTUAL FIELD MEASUREMENTS PRIOR TO FABRICATION OF ANY MATERIALS AND START OF CONSTRUCTION WORK, AND REPORT ANY DISCREPANCIES TO ARCHITECT/ENGINEER FOR CORRECTIVE MEASURES.



G/12 **TIMBER POST SECTION**

NOT TO SCALE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2-23-90

Chief, Bureau of Engineering — Date 2-7-90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2/26/90

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2-23-90

Chief, Division of Community Planning and Land Development — Date 2/23/90

REVISIONS		
DATE	BY	DESCRIPTION

2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
2594 Riva Road, Annapolis, MD 21401
☎ (301) 841-6811

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043 Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

Hammond Park
Murray Hill Plat Nos. 4991-4995,4997,5187, 5231-5233,5301,5302, and5397
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

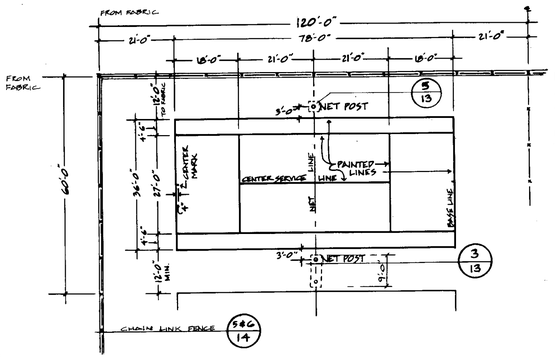
Title
PICNIC SHELTER DETAILS

Date	Drawing Number
DECEMBER 20,1989	12
Designer: E NACHTMAN & BY OTHERS	Drafter: N HILL
Scale: AS SHOWN	Checked by: TES

of ____

SDP-90-50

1602

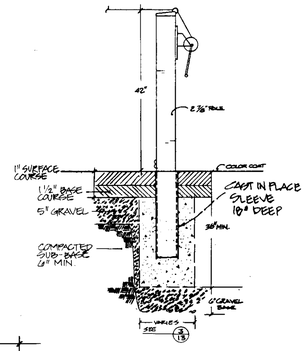


NOTES:
All MEASUREMENTS FOR COURT MARKINGS ARE TO THE OUTSIDE OF LINES EXCEPT FOR THOSE INVOLVING THE CENTER SERVICE LINE WHICH IS EQUALLY DIVIDED BETWEEN THE RIGHT AND LEFT SERVICE COURTS.

All COURT MARKINGS ARE TO BE 2" WIDE.

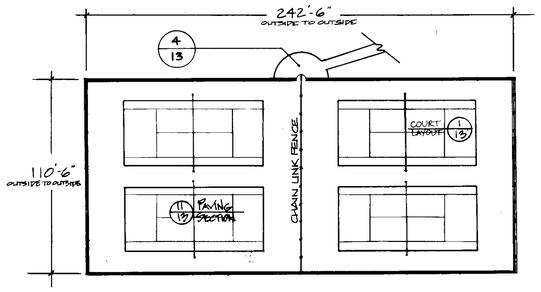
1/13 TENNIS COURT LAYOUT

SCALE: 1" = 20'



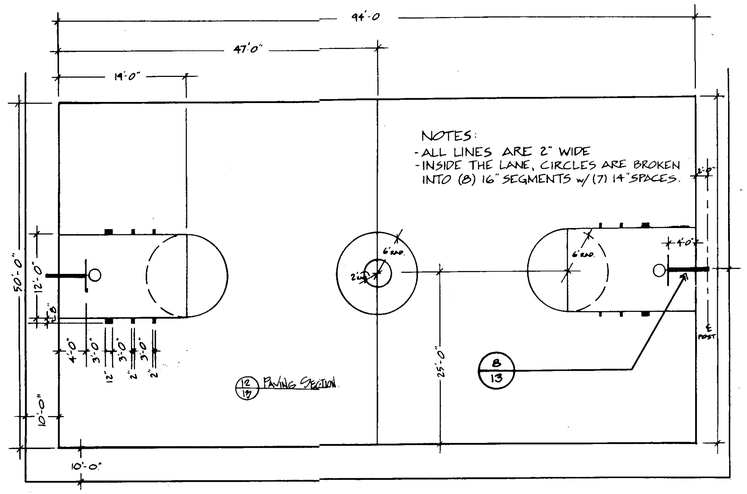
5/13 TENNIS POST DETAIL

NOT TO SCALE



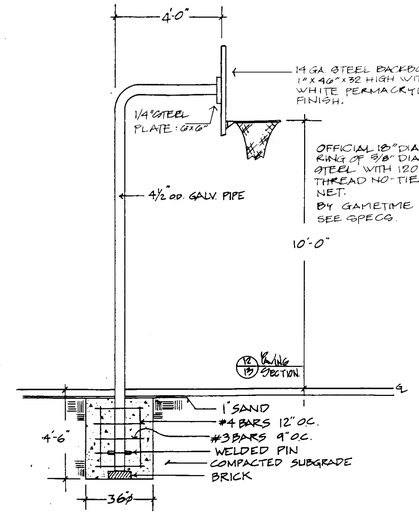
2/13 LAYOUT PLAN – TENNIS COURTS

SCALE: 1" = 40'



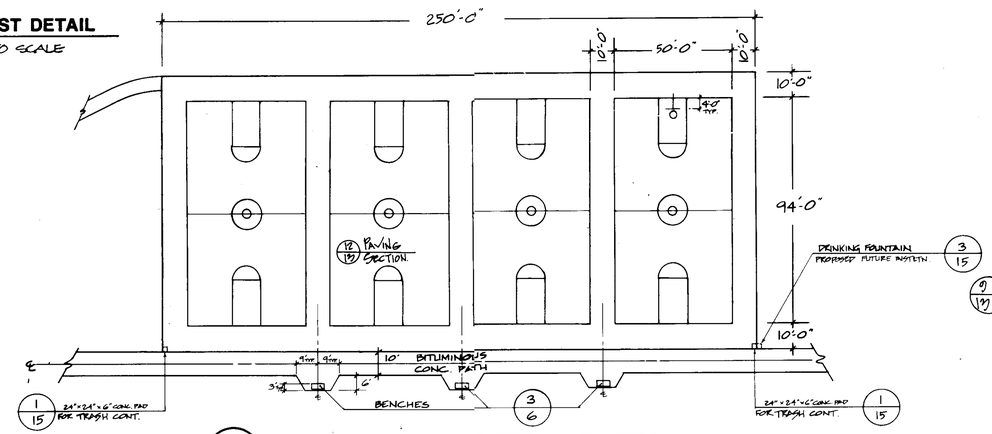
7/13 BASKETBALL COURT LAYOUT

NOT-TO-SCALE



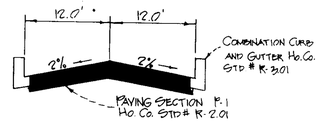
8/13 BASKETBALL GOAL

NOT TO SCALE

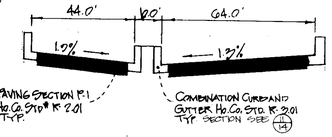


6/13 LAYOUT PLAN – BASKETBALL COURTS

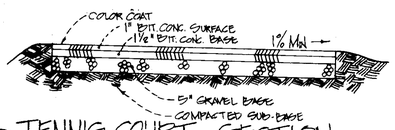
SCALE: 1" = 30'



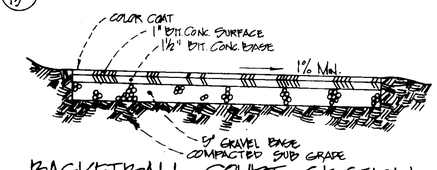
9/13 ENTRANCE ROAD SECTION



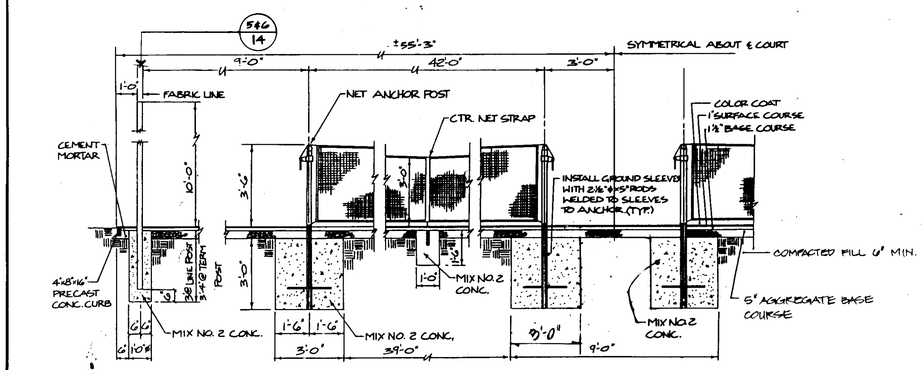
10/13 PARKING LOT SECTION



11/13 TENNIS COURT SECTION



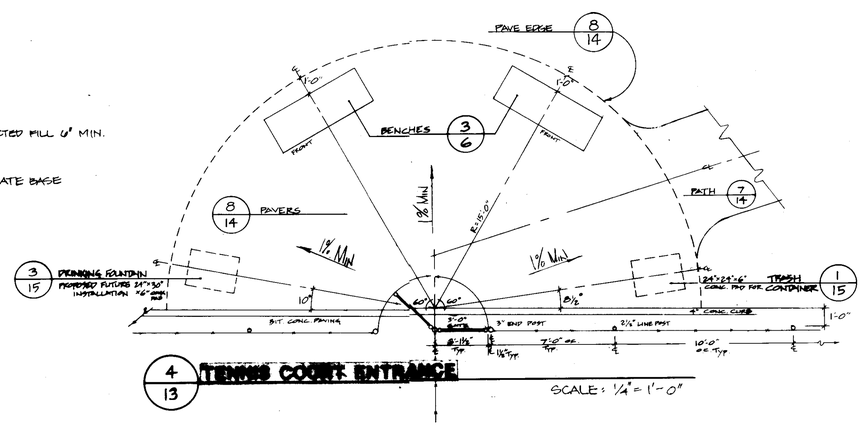
12/13 BASKETBALL COURT SECTION



NOTE:
SLEEVE SHALL BE SIZED TO FIT SNUG AROUND NET POST AND SHALL HAVE THREADED CAPS WHICH FIT FLUSH WITH FINISHED GRADE.

3/13 SECTION/DETAIL AT NET LINE

NOT TO SCALE



4/13 TENNIS COURT ENTRANCE

SCALE: 1/4" = 1'-0"

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 3.23.90
Chief, Bureau of Engineering — Date 2-1-90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 3/26/90

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.27.90
Chief, Division of Community Planning and Land Development — Date 4/18/91

REVISIONS

DATE	BY	DESCRIPTION
4/90	GAE	LABEL FENCE DETAIL 3/3.

REGISTERED PROFESSIONAL ENGINEER — 2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
2594 Riva Road, Annapolis, MD 21401
☎ (301) 841-6811

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043 Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

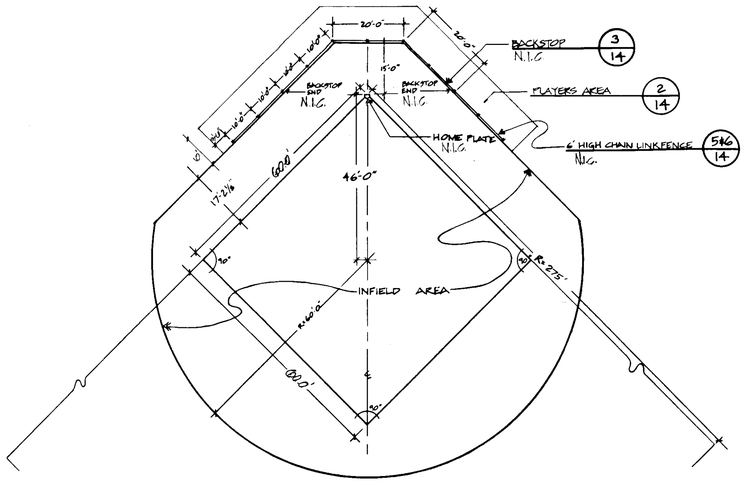
Hammond Park
Murray Hill Plat Nos. 4991-4995, 4997, 5187, 5233-5233, 5301, 5302, and 5397
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

Title
COURT GAMES

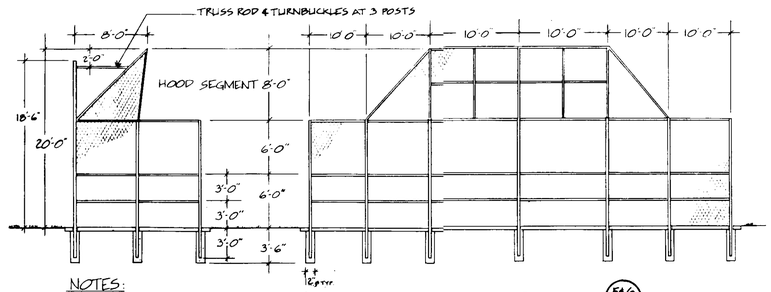
Date	Drawing Number
DECEMBER 20, 1989	13 of ___
Designer: B.KELLY & BY OTHERS	Drafter: B.KELLY & BY OTHERS
Scale: AS NOTED	Checked by: FBB WGL

SDP-90-50

2091

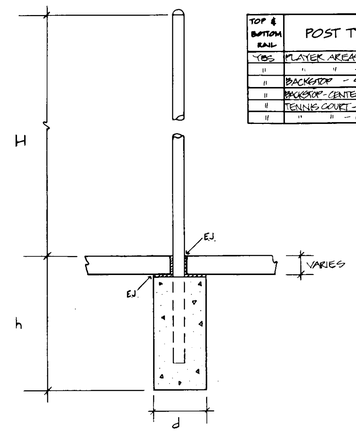


1/14 SOFTBALL FIELD LAYOUT
NOT TO SCALE



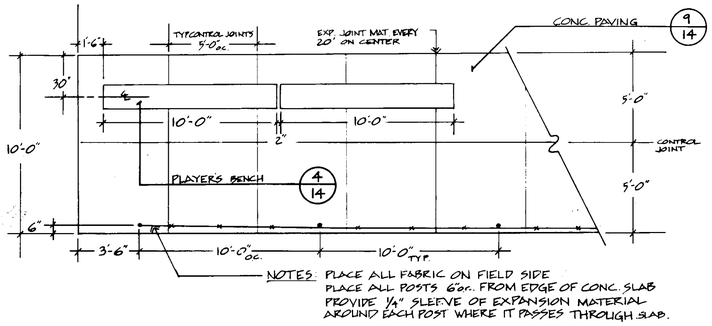
NOTES:
- PIPE DIMENSIONS VARY - HOOD SEGMENT 2" OD, ALL. BACKSTOP 4" OD. VERTICAL POSTS, 2" OD. HORIZONTAL RAILS.
- SECURE HOOD TO VERTICAL POSTS W/ TRUSS RODS & TURNBUCKLES.
- PROVIDE ¼" SLEEVE OF EXP. MAT'L AROUND EACH POST AS IT PASSES THROUGH SLAB.
- SEE "CHAIN LINK FENCE" DETAIL 5&6/14
- PLACE FABRIC ON FIELD SIDE

3/14 SOFTBALL BACKSTOP
NOT TO SCALE — NOT IN CONTRACT



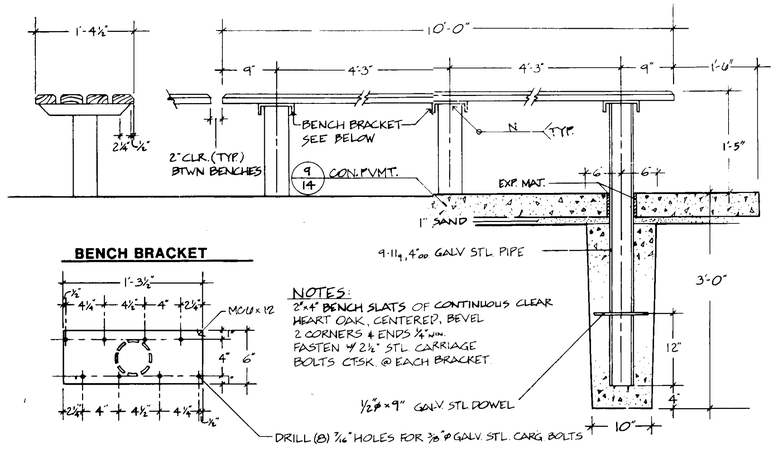
TOP & BOTTOM RAIL	POST TYPE	MINIMUM: H	h	d	MID RAIL
YES	PLAYER AREAS - END	10'-0"	8'-0"	12"	YES
"	" " - LINE	10'-0"	8'-0"	12"	"
"	BACKSTOP - SIDES	10'-0"	8'-0"	12"	"
"	BACKSTOP - CENTER SEC.	12'-0"	8'-0"	12"	"
"	TENNIS COURT - END	12'-0"	8'-0"	12"	"
"	" " - LINE	12'-0"	8'-0"	12"	"

5/14 CHAIN LINK FENCE POST
NOT TO SCALE



NOTES: PLACE ALL FABRIC ON FIELD SIDE
PLACE ALL POSTS 6" o.c. FROM EDGE OF CONC. SLAB
PROVIDE ¼" SLEEVE OF EXPANSION MATERIAL AROUND EACH POST WHERE IT PASSES THROUGH SLAB.

2/14 PLAYER'S AREA LAYOUT
NOT TO SCALE — NOT IN CONTRACT

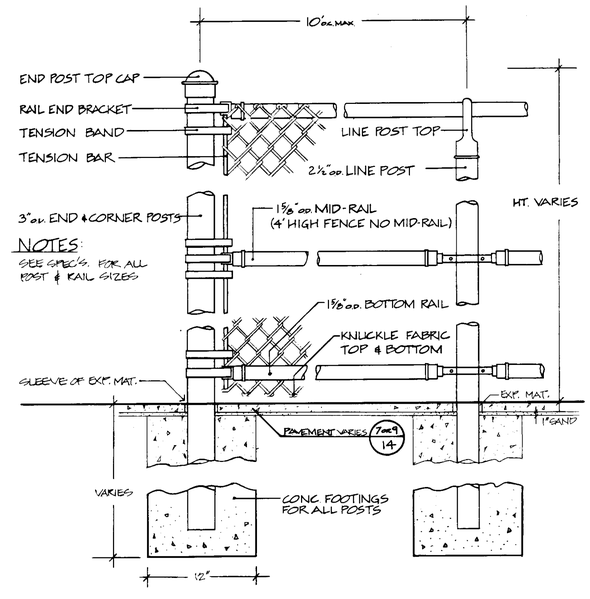


NOTES:
2"x4" BENCH SLATS OF CONTINUOUS CLEAR HEART OAK, CENTERED, BEVEL 2 CORNERS & ENDS ¼" MIN. FASTEN W/ 2½" STL. CARRIAGE BOLTS CTSK. @ EACH BRACKET.

½"ø x 9" GALV. STL. DOWEL

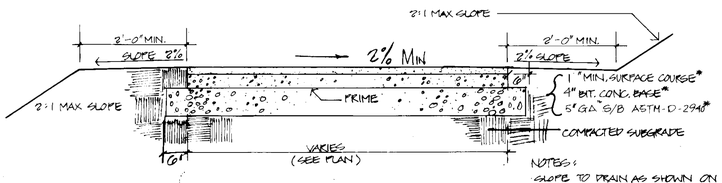
DRILL (8) 7/16" HOLES FOR ⅜"ø GALV. STL. CARG. BOLTS

4/14 PLAYER'S BENCH
NOT TO SCALE — NOT IN CONTRACT



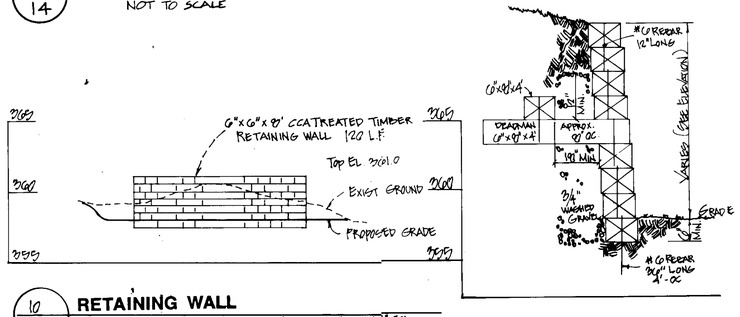
NOTES:
SEE SPEC'S. FOR ALL POST & RAIL SIZES

6/14 CHAIN LINK FENCE
NOT TO SCALE

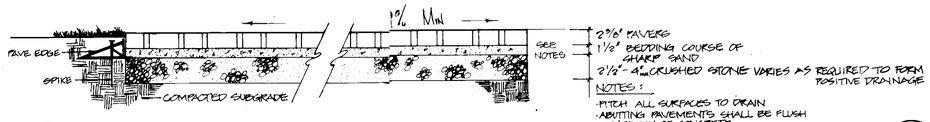


NOTES:
SLOPE TO DRAIN AS SHOWN ON SHEET 1, WHERE CROSS SLOPES ARE SHOWN USE 1½% MIN. PITCH.

7/14 BITUMINOUS CONCRETE PAVING
NOT TO SCALE

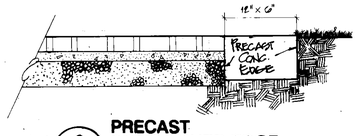


10/14 RETAINING WALL
SCALE: H: 1"=50' V: 1"=5'

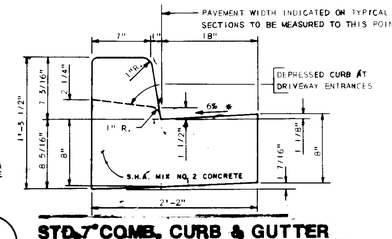


NOTES:
- PITCH ALL SURFACES TO DRAIN
- ABUTTING PAVEMENTS SHALL BE FLUSH W/ FINISH OF CONCRETE
- ABUTTING PLANTED AREAS SHALL BE ½" BELOW FINISH OF CONCRETE
- ALIGN PAVERS ALONG THEIR LONG AXIS

8/14 MIN-DACOR
SEE SPECIFICATIONS
SCALE: 1" = 1'-0"



9/14 PRECAST CONC. PAVER EDGE



9/14 STD. 7" COMB. CURB & GUTTER
NOT TO SCALE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2.23.90
Chief, Bureau of Engineering — Date 2-7-90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2/26/90

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.27.90
Chief, Division of Community Planning and Land Development — Date 2/27/90

REVISIONS		
DATE	BY	DESCRIPTION
4/90	GAME	REV. DTL. 8/14

STATE OF MARYLAND — GARRETT RUPP MILLER — No. 19918 — REGISTERED PROFESSIONAL ENGINEER
2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
2594 Riva Road, Annapolis, MD 21401
☎ (301) 841-6811

Owner
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Hammond Community Park

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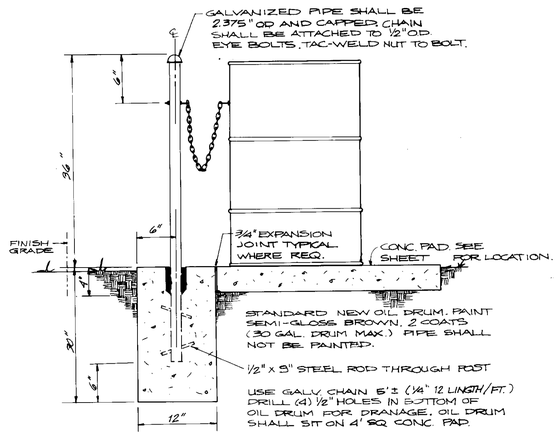
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

Title **SOFTBALL FIELD & MISC. DETAILS**

Date	Drawing Number
DECEMBER 20, 1989	14
Designer: B. KELLY & BY OTHERS	Drafter: B. KELLY
Scale: AS NOTED	Checked by: W.C.L.

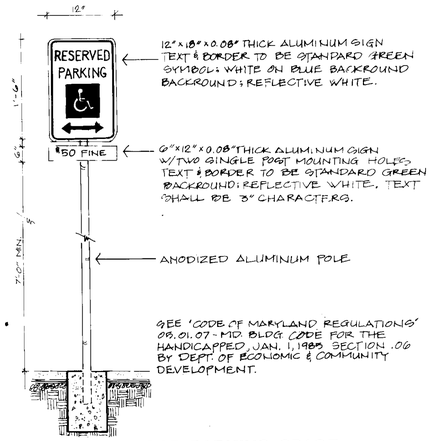
of ____

SDP-90-50



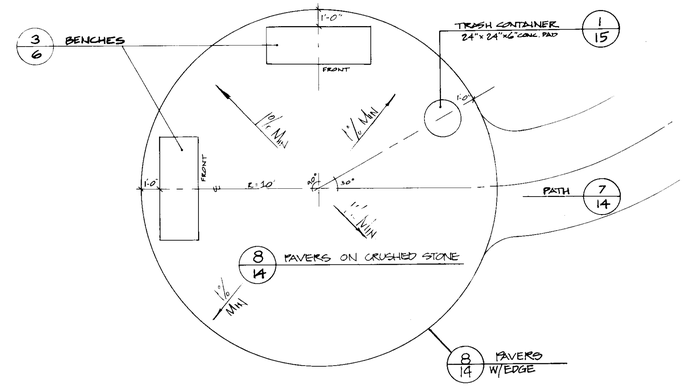
1/15 **TRASH CONTAINER**

NOT TO SCALE



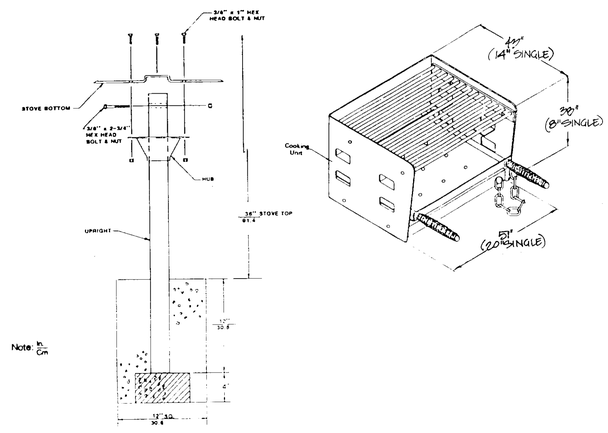
9/15 **SIGN AT HANDICAP PARKING SPACE**

NOT TO SCALE



8/15 **SITTING AREA**

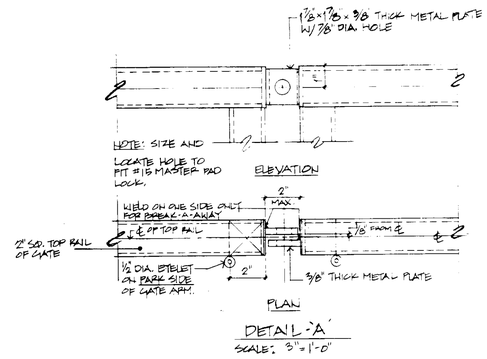
SCALE: 1/4" = 1'-0"



2/15 **CHARCOAL GRILL TRIPLE (SINGLE)**

IRON MOUNTAIN FORGE MODEL 220 TRIPLE (MODEL 198 SINGLE)

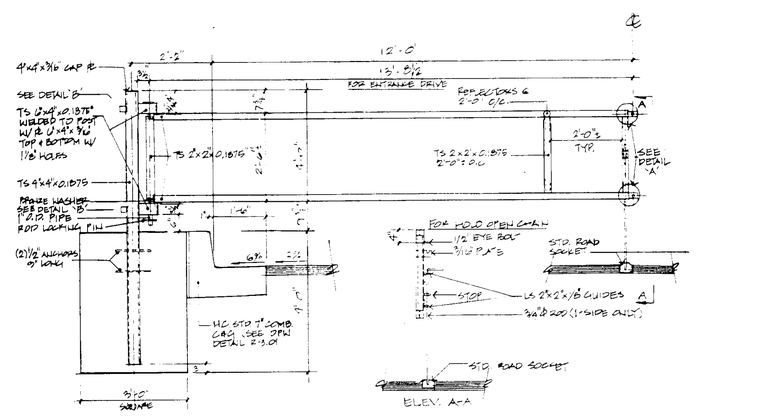
NOT TO SCALE



4/15 **ENTRANCE GATE**

DETAILS 'A' AND 'B'

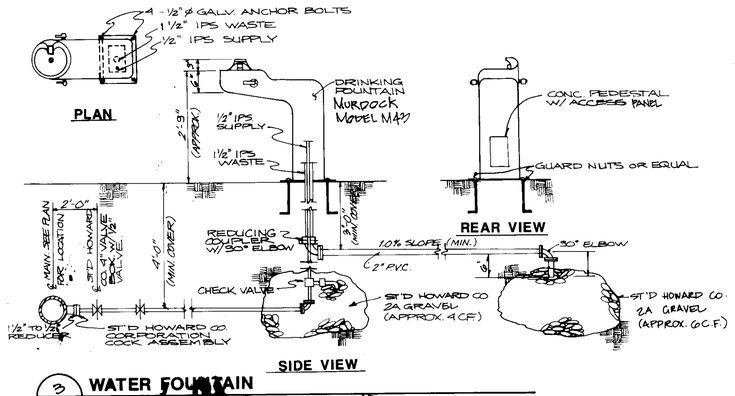
NOT TO SCALE



5/15 **ENTRANCE GATES**

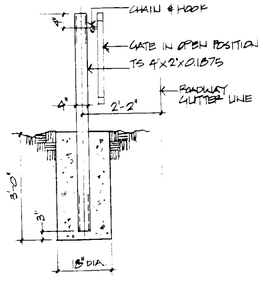
ELEVATION C-C'

NOT TO SCALE



3/15 **WATER FOUNTAIN**

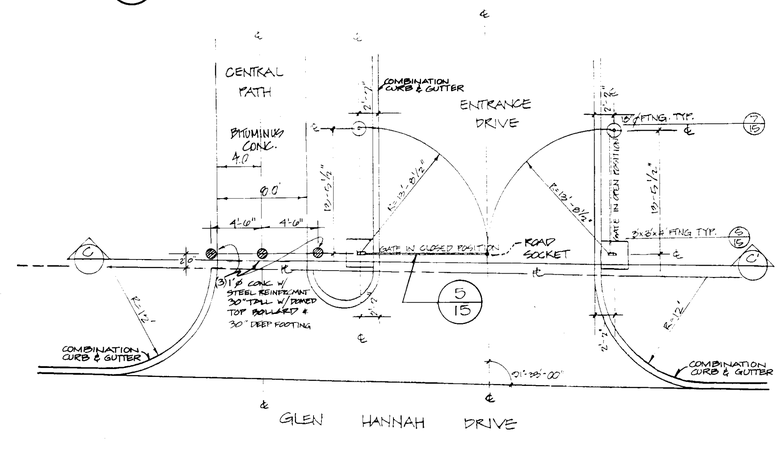
NOT TO SCALE



7/15 **HOLD OPEN POST**

DETAIL

NOT TO SCALE



4/15 **ENTRANCE**

DETAILED SITE PLAN

NOT TO SCALE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2.23.90

Chief, Bureau of Engineering — Date 2-7-90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2/26/90

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.27.90

Chief, Division of Community Planning and Land Development — Date 2/6/90

REVISIONS		
DATE	BY	DESCRIPTION
4/90	GME	REV PER 4/90

MARYLAND REGISTERED PROFESSIONAL ENGINEER No. 10878
2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
2594 Riva Road, Annapolis, MD 21401
☎ (301) 841-6811

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043 Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

Hammond Park
Murray Hill Plat Nos. 4991-4995, 4997, 5187, 5231-5233, 5301, 5302, and 5397
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

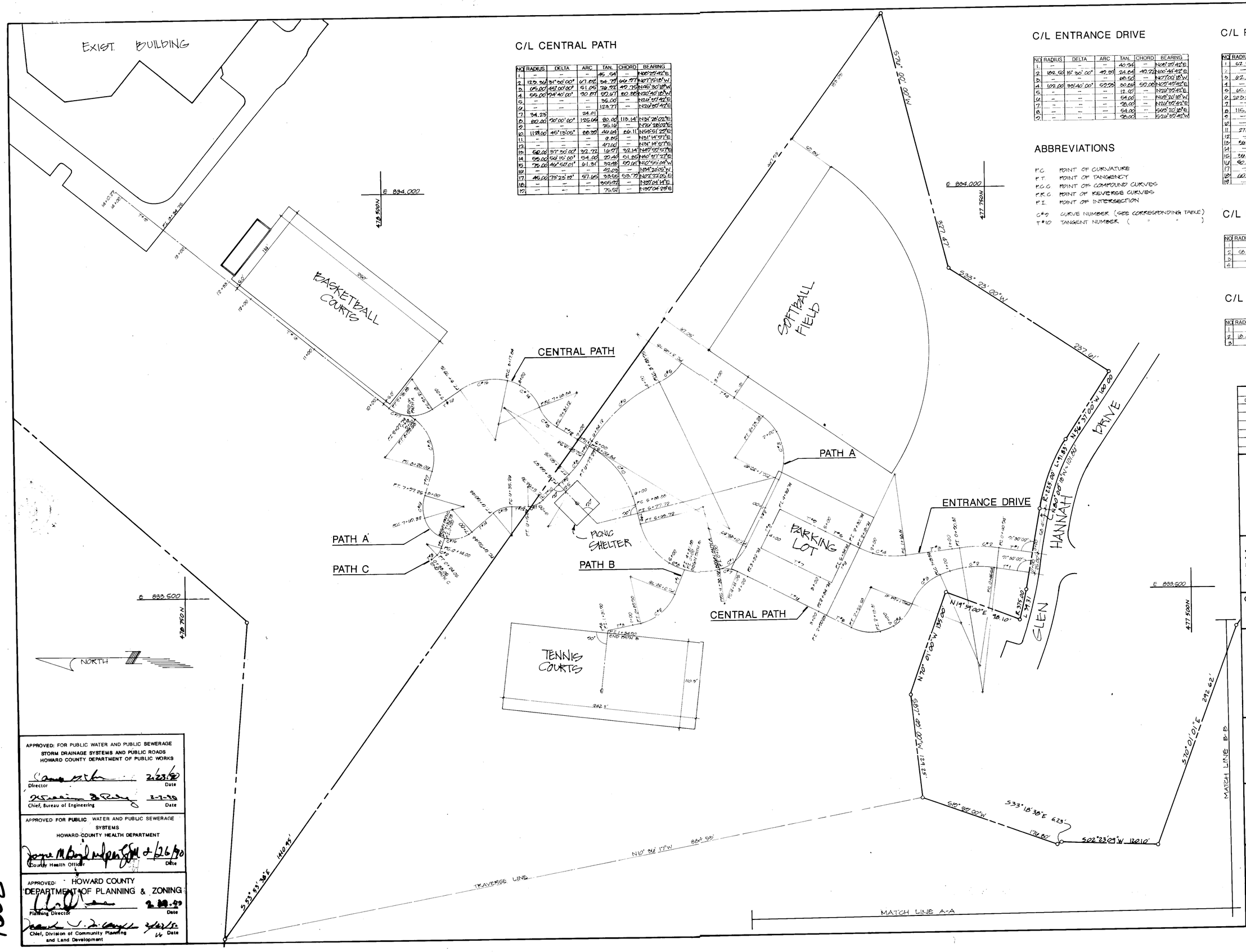
Title
MISCELLANEOUS DETAILS

Date	Drawing Number
DECEMBER 20, 1989	15
Designer: B. KELLY & BY OTHERS	Drafter: B. KELLY, N. HILL, R. MENEFEE
Scale: AS NOTED	Checked by: TEB, W-L

of ___

SDP-90-50

2091



C/L CENTRAL PATH

NO	RADIUS	DELTA	ARC	TAN.	CHORD	BEARING
1			–	46.54	–	N68°20'42"E
2	123.36	31°30'00"	67.82	34.79	66.97	N47°15'18"W
3	105.00	45°00'00"	61.06	32.32	40.79	N45°30'18"W
4	55.00	94°40'00"	90.87	60.47	80.88	N20°40'18"W
5	–	–	–	36.00	–	N26°20'42"E
6	–	–	–	123.77	–	N26°20'42"E
7	34.23		24.01			
8	80.00	80°00'00"	125.66	80.00	113.14	N23°20'02"E
9	–	–	–	25.16	–	N26°20'02"E
10	112.00	45°13'06"	88.39	46.64	86.11	N53°51'27"E
11	–	–	–	8.85	–	N31°14'57"E
12	–	–	–	47.00	–	N31°14'57"E
13	60.00	37°30'00"	39.27	20.47	38.57	N37°37'57"E
14	55.00	56°15'00"	54.00	29.40	51.85	N40°27'27"E
15	75.00	46°50'01"	61.31	32.48	59.61	N10°55'04"W
16	–	–	–	42.03		N34°20'05"W
17	45.00	73°25'19"	57.65	33.56	53.77	N27°22'05"E
18	–	–	–	35.57	–	N27°04'14"E
19	–	–	–	75.58	–	N27°04'28"E

C/L ENTRANCE DRIVE

NO	RADIUS	DELTA	ARC	TAN.	CHORD	BEARING
1	–	–	–	40.34	–	N26°20'42"E
2	109.50	15°30'00"	29.89	24.64	29.79	N20°45'42"E
3	–	–	–	88.50	–	N7°10'18"W
4	109.00	33°40'00"	63.79	32.88	62.88	N20°40'42"E
5	–	–	–	12.00	–	N26°20'42"E
6	–	–	–	54.00	–	N26°20'42"E
7	–	–	–	36.00	–	N26°20'42"E
8	–	–	–	54.00	–	S26°20'18"E
9	–	–	–	36.00	–	S26°20'42"W

ABBREVIATIONS

P.C. POINT OF CURVATURE
P.T. POINT OF TANGENCY
P.C.C. POINT OF COMPOUND CURVES
P.R.C. POINT OF REVERSE CURVES
P.I. POINT OF INTERSECTION

C#9 CURVE NUMBER (SEE CORRESPONDING TABLE)
T#10 TANGENT NUMBER (" ")

C/L PATH A

NO	RADIUS	DELTA	ARC	TAN.	CHORD	BEARING
1	52.77	47°48'20"	43.87	23.52	44.44	N26°21'08"W
2	—	—	—	22.02	—	S66°20'18"E
3	62.00	82°03'20"	88.79	52.95	81.40	S15°32'02"W
4	—	—	—	120.53	—	S58°30'28"W
5	65.00	31°00'00"	35.17	18.00	34.74	S22°50'28"E
6	202.27	34°38'10"	122.29	63.59	120.45	S41°42'40"E
7	—	—	—	—	12.10	N68°01'57"W
8	115.00	15°30'00"	31.11	15.63	31.02	N57°16'18"W
9	—	—	—	10.62	—	N65°21'18"W
10	—	—	—	20.12	—	N49°04'18"W
11	27.00	49°24'10"	22.80	12.05	19.82	N27°09'53"W
12	—	—	—	22.20	—	N27°17'48"W
13	56.00	40°04'50"	39.18	20.52	38.40	N20°30'08"W
14	—	—	—	36.00	—	N43°27'33"E
15	39.00	118°00'00"	72.00	67.01	61.00	N17°27'33"E
16	60.00	22°00'00"	23.04	11.74	22.90	N77°27'33"E
17	—	—	—	5.00	—	S78°32'27"E
18	100.00	68°22'10"	119.02	67.77	112.07	N78°18'32"E
19	—	—	—	8.00	—	N38°04'14"E

C/L PATH B

NO	RADIUS	DELTA	ARC	TAN.	CHORD	BEARING
1				32.78		N47°50'18"W
2	50.50	50°00'00"	57.18	21.11	54.35	N22°50'18"W
3				42.00		N11°50'18"W
4				3.00		N23°50'18"W

C/L PATH C

NO	RADIUS	DELTA	ARC	TAN.	CHORD	BEARING
1				14.00		N72°47'28"W
2	10.00	22°00'00"	10.05	5.10	9.98	N52°47'28"W
3				9.00		N32°47'28"W

REVISIONS		
DATE	BY	DESCRIPTION

2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
2594 Riva Road, Annapolis, MD 21401
☎ (301) 841-6811

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043
Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

Hammond Park
Murray Hill Plat Nos. 4991-4995, 4997, 5187, 5231-5233, 5301, 5302, and 5397
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

Title
CONSTRUCTION LAYOUT PLAN

Date	Drawing Number
DECEMBER 20, 1989	16
Designer: B.KELLY, K.ALTER	Drafter: P.D.D., K.MENEFEE
Scale: 1" = 50'	Checked by: CEE, W.E.L.

of ____

SDP-90-50

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2/23/90
Chief, Bureau of Engineering — Date 2-7-90

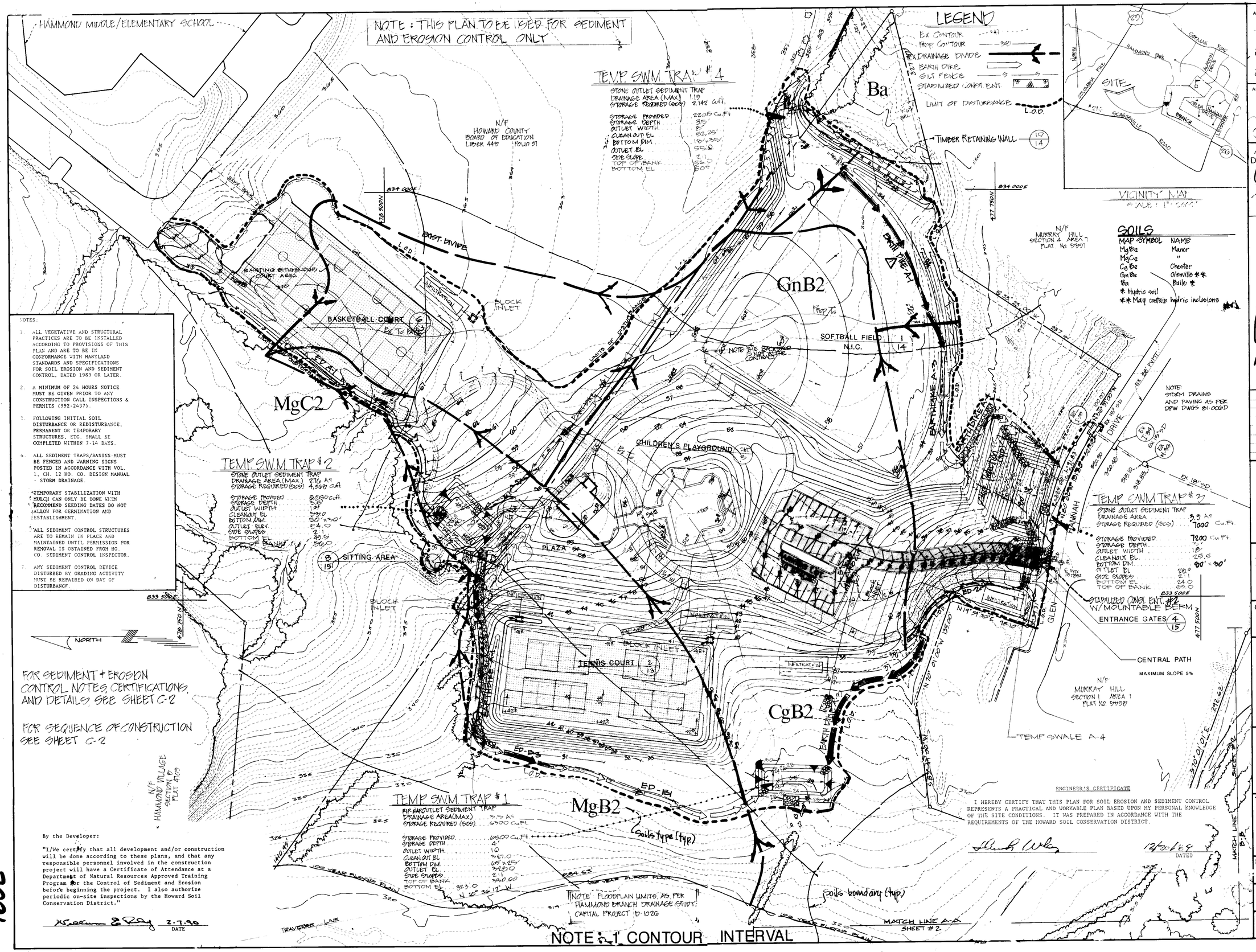
APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2/26/90

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.28.90
Chief, Division of Community Planning and Land Development — Date 2/22/90

2091



NOTES

1. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, DATED 1983 OR LATER.

2. A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN PRIOR TO ANY CONSTRUCTION CALL INSPECTIONS & PERMITS (992-2437).

3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STRUCTURES, ETC. SHALL BE COMPLETED WITHIN 7-14 DAYS.

4. ALL SEDIMENT TRAPS/BASINS MUST BE FENCED AND WARNING SIGNS POSTED IN ACCORDANCE WITH VOL. 1, CH. 12 HO. CO. DESIGN MANUAL - STORM DRAINAGE.

5. *TEMPORARY STABILIZATION WITH MULCH CAN ONLY BE DONE WHEN RECOMMEND SEEDING DATES DO NOT ALLOW FOR GERMINATION AND ESTABLISHMENT.

6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND MAINTAINED UNTIL PERMISSION FOR REMOVAL IS OBTAINED FROM HO. CO. SEDIMENT CONTROL INSPECTOR.

7. ANY SEDIMENT CONTROL DEVICE DISTURBED BY GRADING ACTIVITY MUST BE REPAIRED ON DAY OF DISTURBANCE.

FOR SEDIMENT + EROSION CONTROL NOTES, CERTIFICATIONS, AND DETAILS, SEE SHEET C-2

FOR SEQUENCE OF CONSTRUCTION SEE SHEET C-2

By the Developer:

"I/We certify that all development and/or construction will be done according to these plans, 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 inspections by the Howard Soil Conservation District."

2-7-90
DATE

SOILS

MAP SYMBOL	NAME
MgB2	Manor
MgC2	"
CgB2	Chester
GnB2	Glenville **
Ba	Bailo *

* Hydric soil
** May contain hydric inclusions

ENGINEER'S CERTIFICATE

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

12/20/89
DATED

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2.22.90

Chief, Bureau of Engineering — Date 2-7-90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2-26-90

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.27.90

Chief, Division of Community Planning and Land Development — Date 2-5

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

U.S. Soil Conservation Service — Date 2-26-90

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

Howard S.C.D. — Date 2-26-90

REVISIONS

DATE	BY	DESCRIPTION

2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
2594 Riva Road, Annapolis, MD 21401
☎ (301) 841-6811

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043 Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

Hammond Park
Murray Hill Plat Nos. 4991-4995, 4997, 5187, 5231-5233, 5301, 5302, and 5397
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

Title
SEDIMENT CONTROL PLAN

Date	Drawing Number
DECEMBER 20, 1989	17
Designer: B. KELLY, R. ALTER	Drafter: B. KELLY, R. MENEFEE
Scale: 1" = 50'	Checked by
	of ____

SDP 90-50

2091

STANDARD AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION TEMPORARY SEEDING

Definition

Planting short-term vegetation on critical areas.

Purpose

To temporarily stabilize the soil; to reduce damages from sediment and runoff to downstream areas; improve wildlife habitat; enhance natural beauty.

Conditions Where Practice Applies

Graded or cleared areas which are subject to erosion for a period of 30 days or more.

SPECIFICATIONS

I. Site Preparation

A. Prior to seeding, install needed erosion and sediment control practices such as diversions, grade stabilization structures, berms, dikes, grassed waterways, and sediment basins.

B. Final grading and shaping has usually not been completed for temporary seedings.

II. Soil Amendments

For temporary seedings, fertilizer shall be applied at the rate of 600 lbs/ac. or 15 lbs/1,000 sq. ft., using 10-10-10 or equivalent. Soils which are highly acid should be limed.

III. Seedbed Preparation

When the area to be seeded has been recently loosened to the extent that an adequate seedbed exists, no additional treatment is required.

However, when the area to be seeded is packed, crusted, and hard, the top layer of soil shall be loosened by discing, raking or other acceptable means before seeding.

IV. Seeding

A. Select a mixture from Table 50-1.

B. Apply seed uniformly with a cyclone seeder, drill, cultipacker seeder or hydroseeder (slurry includes seed and fertilizer).

V. Mulching

When seedings are made on critical sites or adverse soil conditions, mulch material will be applied immediately after seeding. Seedings made during optimum seeding dates and with favorable soils on very flat areas may not need to be mulched. Mulch materials are listed in order of their effectiveness.

A. Materials and Amounts

1. Mulch mattings - such as jute or excelsior blanket shall be stapled to the surface in waterways and on steep slopes. Lighter materials of paper, plastic and cotton mulch mattings may be used where erosion hazard is not severe. If the area is to be mowed, do not use metal staples.

2. Straw - Material shall be unrotted small grain straw applied at the rate of 1½ to 2 tons per acre, or 70 to 90 (two bales) pounds per 1,000 sq. ft. Mulch materials shall be relatively free of all kinds of weeds and shall be free of prohibited noxious weeds such as: thistles, Johnsongrass and quackgrass.

Spread uniformly by hand or mechanically. For uniform distribution of hand spread mulch, divide area into approximately 1,000 sq. ft. section and place 70-90 lbs. of mulch in each section.

3. Wood chips - at the rate of approximately 6 tons per acre or 275 lbs. per 1,000 sq. ft. may be used when available and when feasible to use.

4. Wood cellulose fiber - mulch at the rate of 1,500 pounds per acre or 35 pounds per 1,000 sq. ft. may be applied by hydroseeding.

B. Mulch anchoring shall be accomplished immediately after mulch placement to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area, erosion hazard, and cost. On sloping land, practice No. 1 below, should be done on the contour wherever possible, except "tracking" should be done up and down the slope with 1½ inch cleat marks running across the slope.

1. Mulch Anchoring Tool and Tracking. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the surface 2 inches of soil. This practice affords maximum erosion control but is limited to flatter slopes where equipment can operate safely. Tracking is primarily used on steeper than 3:1 cut and fill slopes to cut the mulch into the soil with cleated bulldozer tracks.

2. Mulch Nettings - Staple lightweight biodegradable paper, plastic or cotton nettings over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4-feet wide and up to 300-feet long.

3. Liquid Mulch Binders - Application of liquid binders should be heavier at edges where wind catches mulch, in valleys, and at crests of banks. Remainder of area should be uniform in appearance. Caution should be used with asphalt in residential and similar areas.

a. Cutback asphalt - rapid curing (RC-70, RC-250, and RC-800) or medium curing (MC-250 or MC-800). Apply 5 gallons per 1,000 square feet or 218 gallons per acre on flat areas, and on slopes less than 8-feet high. On slopes 8-feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

b. Emulsified asphalt - (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1, and CRS-2). Apply 5 gallons per 1,000 square feet or 218 gallons per acre on flat areas and on slopes less than 8-feet high. On slopes 8-feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

All asphalt designations are from the Asphalt Institute Specifications.

c. Synthetic binders - Synthetic binders such as Acrylic DLR (Agri-Tac), DCA-70, Petroset or Terra Tack may be used at rates recommended by the manufacturer to anchor mulch material.

4. Wood cellulose fiber - Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood fiber per 100 gallons.

5. Peg and Twine - Drive 8-to 10-inch wooden pegs to within 2 or 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss-cross within a square pattern. Secure twine around each peg with two or more round turns.

Note: All names given above are registered trade names. This does not constitute a recommendation of these products to the exclusion of other products.

STANDARD AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION WITH SOD

Definition

Stabilizing sediment producing areas by establishing long-term stands of grass with sod.

Purpose

To stabilize the soil; reduce damage from sediment and runoff to downstream areas; enhance natural beauty.

Conditions Where Practice Applies

On exposed soils where a quick vegetative cover is desired; on sites which can be maintained with ground equipment (3:1 or flatter slopes).

SPECIFICATIONS

1. Class of turfgrass sod shall be Maryland or Virginia State Certified, or Maryland or Virginia State approved sod.

2. Sod shall be machine cut at a uniform soil thickness of 3/4 inch, plus or minus 1/4 inch, at the time of cutting. Measurement for thickness shall exclude top growth and thatch.

3. Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.

4. Individual pieces of sod shall be cut to the suppliers width and length. Maximum allowable deviation from standard widths and lengths shall be 5 percent. Broken pads and torn or uneven ends will not be acceptable.

5. Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.

6. Sod shall be harvested, delivered and installed within a period of 36 hours. Sod not transplanted within this period shall be inspected and approved prior to its installation.

I. Site Preparation

Fertilizer and lime application rates shall be determined by soil tests. Under unusual circumstances where there is insufficient time for a complete soil test, fertilizer and lime materials may be applied in amounts shown under B, below.

A. Prior to sodding, the surface shall be cleared of all trash, debris, and of all roots, brush, wire, grade stakes and other objects that would interfere with planting, fertilizing or maintenance operations.

B. Where the soil is acid or composed of heavy clays, ground limestone shall be spread at the rate of 2 tons/acre or 100 pounds per 1,000 square feet. In all soils 1,000 pounds per acre or 25 pounds per 1,000 square feet of 10-10-10 fertilizer or equivalent shall be uniformly applied and mixed into the top 3 inches of soil with the required lime.

C. All areas receiving sod shall be uniformly fine graded. Hard-packed earth shall be scarified prior to placement of sod.

II. Sod Installation

A. During periods of excessively high temperature the soil shall be lightly irrigated immediately prior to laying the sod.

B. The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and tightly wedged against each other. Lateral joints shall be staggered to promote more uniform growth and strength. Insure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.

C. On sloping areas where erosion may be a problem, sod shall be laid with the long edges parallel to the contour and with staggered joints. Secure the sod by tamping and pegging or other approved methods.

D. As sodding is completed in any one section, the entire area shall be rolled or tamped to insure solid contact of roots with the soil surface. Sod shall be watered immediately after rolling or tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. The operations of laying, tamping and irrigating for any piece of sod shall be completed within eight hours.

III. Sod Maintenance

A. In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week and in sufficient quantities to maintain moist soil to a depth of 4 inches. Watering should be done during the heat of the day to prevent wilting.

B. After the first week, sod shall be watered as necessary to maintain adequate moisture and insure establishment.

C. First mowing should not be attempted until sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be maintained between 2 and 3 inches unless otherwise specified.

D. Maintenance of established sod should follow specifications outlined in table 54-1.

References

1. Guideline Specifications, Soil Preparation and Sodding, MD-VA Pub. #1. Cooperative Extension Service, University of Maryland-Virginia Polytechnic Institute. Revised 1973.
2. Guideline Specifications for Sodding. American Sod Producers Association, Inc., New Brunswick, N.J.
3. USDA, Soil Conservation Service Field Office Technical Guides.

Note: Maryland Water Resources Administration has developed an Audiovisual Training Program, "Vegetative Soil Stabilization," which relates to this subject.

References

1. USDA, Soil Conservation Service Field Office Technical Guides.
2. Maryland State Highway Administration Specifications.

Note: Maryland Water Resources Administration has developed an Audiovisual Training Program, "Temporary Soil Stabilization," which relates to this subject.

STANDARD AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION WITH MULCHING ONLY

Definition

Apply plant residues or other suitable materials not produced on the site to the soil surface.

Purpose

To conserve moisture; prevent surface compaction or crusting; reduce runoff and erosion; control weeds, and help establish plant cover.

Conditions Where Practice Applies

Where protection of the soil surface is desired and temporary and permanent seeding is not feasible, then mulching only should be used.

SPECIFICATIONS

I. Site Preparation

A. Prior to mulching, install any needed erosion and sediment control practices such as diversions, grade stabilization structures, berms, dikes, grassed waterways and sediment basins.

B. Final grading is not required prior to mulching. However, mulching may be applied after final grade is reached.

II. Mulching

A. Materials and Amounts

1. Straw - Straw shall be unrotted small grain applied at the rate of 1½ to 2 tons per acre, or 70 to 90 pounds per 1,000 square feet. Mulch materials shall be relatively free of all kinds of weeds and shall be free of prohibited noxious weeds such as: thistles, Johnsongrass and quackgrass.

Spread uniformly by hand or mechanically. For uniform distribution of hand spread mulch, divide area into approximately 1,000 square foot section and place 70-90 pounds of mulch (two bales) in each section.

2. Asphalt emulsion or cutback asphalt at 600 to 1,200 gallons per acre. This is suitable for a limited period of time where travel by people, animals or machines is not a problem.

3. Synthetic soil stabilizers may be used according to manufacturer's recommendations — under suitable conditions.

4. Mulch mattings such as jute or excelsior blanket shall be stapled to the surface in waterways and on steep slopes. Lighter materials of paper, plastic and cotton mulch mattings may be used where erosion hazard is not severe. If area is to be mowed, do not use metal staples.

5. Wood chips at the rate of approximately 6 tons per acre or 275 pounds per 1,000 square foot may be used when available and when feasible to use.

6. Crushed rock, stones, gravel or shale blankets. Apply at rate of 20 to 100 tons per acre or 900 to 4,500 lbs. per 1,000 sq. ft. with coursest material applied at the highest rate.

B. Mulch anchoring shall be accomplished immediately after mulch placement to minimize loss by wind or water. This may be done by one of the following methods, (listed by preference) depending upon size of area, erosion hazard, and cost. On sloping land, practice No. 1 below, should be done on the contour wherever possible, except "tracking" should be done up and down the slope with 1½ inch cleat marks running across the slope.

1. Mulch Anchoring Tool and Tracking. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the surface two (2) inches of soil. This practice affords maximum erosion control but is limited to flatter slopes where equipment can operate safely - primarily used on flatter than 3:1 cut and fill slopes to cut the mulch into the soil. "Tracking" is used primarily on slopes steeper than 3:1 cut and fill slopes to cut the mulch into the soil with cleated tracks.

2. Mulch Nettings - Staple lightweight biodegradable paper, plastic or cotton netting over the mulch according to manufacturer's recommendations. Netting is usually available in rolls four (4) feet wide and up to 300 feet long.

3. Liquid Mulch Binders - Applications of liquid binder should be heavier at edges where wind catches mulch, in valleys and at crests of banks. The remainder of the area should be uniform in appearance. Caution should be used with asphalt in residential and similar areas.

a. Cutback asphalt - rapid curing (RC-70, RC-250 and RC-800) or medium curing (MC-250 or MC-800). Apply 5 gallons per 1,000 square foot or 200 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

b. Emulsified asphalt - (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1, and CRS-2). Apply 5 gallons per 1,000 square feet or 200 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

All asphalt designations are from the Asphalt Institute Specifications.

c. Synthetic binders such as Acrylic DLR (Agri-Tac), DCA-70, Petroset or Terra Tac may be used at rates recommended by the manufacturer to anchor mulch material.

Note: All names, given above are registered trade names. This does not constitute a recommendation of these products to the exclusion of other products.

4. Wood cellulose fiber binder - The fiber binder shall be applied at a net dry weight of 750 lbs/ac. The wood cellulose fibre shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fibre per 100 gallons.

5. Peg and Twine - Drive 8-to 10-inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss-cross within a square pattern. Secure twine around each peg with two or more round turns.

References

1. USDA-Soil Conservation Service Field Office Technical Guides.
2. Mulches for Wind and Water Erosion Control, USDA, ARS 41-84, July 1963.
3. Applied Mulches and Mulching, USDA, ARS Special Report, ARS 22-71, August 1961.

Note: Maryland Water Resources Administration has developed an audiovisual program, "Temporary Soil Stabilization," which relates to this subject.

STANDARD AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION PERMANENT SEEDINGS

Definition

Planting vegetation such as grasses and legumes on critical areas.

Purpose

To stabilize the soil; to reduce damages from sediment and runoff to downstream areas; improve wildlife habitat; enhance natural beauty.

Conditions Where Practices Apply

Graded or cleared areas subject to erosion and where a permanent, long-lived vegetative cover is needed.

SPECIFICATIONS

Vegetation cannot be expected to provide an erosion control cover and prevent soil slippage on a soil that is not stable due to its texture, structure, water movement or excessively steep slope.

Minimum soil conditions needed for the establishment and maintenance of a long-lived vegetative cover:

A. Enough fine-grained materials (over 30 percent silt plus clay) to provide the capacity to hold at least a moderate amount of available moisture. Noticeable exception would be planting lovegrass and sericia lespedeza which can be planted on a sandy soil.

B. Sufficient pore space to permit adequate root penetration.

C. The soil shall be free from any material harmful to plant growth.

D. If these conditions cannot be met, see specification, Topsoiling (57.01).

I. Site Preparation

A. Install needed erosion and sediment control practices such as dikes, contour rippings, erosion stops, channel liners, sediment basins, or other practices.

B. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, anchoring and maintenance.

II. Soil Preparation

Flat areas and slopes up to 3 to 1 grade shall be loose and friable to a depth of at least 3 inches. The top layer of soil shall be loosened by raking, discing or other acceptable means before seeding.

Slopes steeper than 3 to 1 shall have the top 1-3 inches of soil loose and friable before seeding.

III. Soil Amendments

Lime and fertilize according to soil tests. Lime and fertilizer needs can be determined by a soil testing laboratory, such as the University of Maryland's Soil Testing Laboratory.

In lieu of soil test results, apply two tons dolomitic limestone per acre and one of the following rates of fertilizer: 1,000 pounds 10-10-10 or equivalent per acre. For a longer lasting fertilizer treatment apply 600 pounds 10-10-10 or equivalent per acre and disk in and at time of seeding apply an additional 400 pounds of a ureaform fertilizer of a grade of at least 30-0-0 per acre. Apply the lime and fertilizer before seeding and harrow or disk uniformly into the soil to a minimum depth of 3 inches on slopes flatter than 3:1. On slopes steeper than 3:1 grade, the lime and fertilizer shall be worked the best way possible. On sloping land, the final harrowing or discing operation should be on the contour wherever feasible. No attempt should be made to drag any disked area to make the soil surface smooth after disking.

Note. The slow release ureaform fertilizer will supply nitrogen over a longer period of time.

IV. Seeding

A. Select a mixture from table 51-1.

B. Apply seed uniformly with a cyclone seeder, drill, cultipacker seeder or hydroseeder (slurry includes seed and fertilizer) on a firm, moist seedbed. Maximum seeding depth should be 1/4 inch on clayey soils and 1/2 inch on sandy soils, when using other than hydroseeder method of application. Note: If hydroseeding is used and the seed and fertilizer is mixed, they will be mixed on site and the seeding shall be immediate without interruption.

V. Mulching

Mulch materials are listed in order of their effectiveness. Mulch mattings are normally only used on critical areas such as waterways or steep slopes.

A. Materials and Amounts

1. Mulch mattings - such as jute or excelsior blanket shall be stapled to the surface in waterways and on steep slopes. Lighter materials of paper, plastic and cotton mulch mattings may be used where erosion hazard is not severe. If the area is to be mowed, do not use metal staples.

2. Straw - Straw shall be unrotted small grain applied at the rate of 1½ to 2 tons per acre, or 70 to 90 (two bales) pounds per 1,000 square foot. Mulch materials shall be relatively free of all kinds of weeds and shall be free of prohibited noxious weeds such as: thistles, Johnsongrass and quackgrass.

Spread uniformly by hand or mechanically. For uniform distribution of hand spread mulch, divide area into approximately 1,000 square foot section and place 70-90 pounds of mulch in each section.

3. Wood chips - at the rate of approximately 6 tons per acre or 275 pounds per 1,000 square foot may be used when available and when feasible. These are particularly well-suited for utility and road rights-of-way. If wood chips are used, increase the application rate of nitrogen fertilizer by 20 pounds (200 pounds 10-10-10 or 66 pounds 30-0-0).

4. Wood cellulose fiber - mulch at the rate of 1,500 pounds per acre or 35 pounds per 1,000 square foot may be applied by hydroseeding.

B. Mulch anchoring shall be accomplished immediately after mulch placement to minimize loss by wind or water. This may be done by one of the following methods, (listed by preference) depending upon size of area, erosion hazard, and cost. On sloping land, practice No. 1 below, should be done on the contour whenever possible. Contouring of all operations applies to all straw and wood chip practices on more critical sites, except "tracking" should be done up and down the slope with 1½ inch cleat marks running across the slope.

1. Mulch Anchoring Tool and Tracking. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the surface 2 inches of soil. This practice affords maximum erosion control but is limited to flatter slopes where equipment can operate safely. "Tracking" is primarily used on 3:1 or steeper cut and fill slopes to cut the mulch into the soil by 1½" track cleats of a bulldozer making groves across the slope.

2. Mulch Nettings - Staple lightweight biodegradable paper, plastic or cotton nettings over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4 feet wide and up to 300 feet long.

3. Liquid Mulch Binders - Applications of liquid binders should be heavier at edges where wind catches mulch, in valleys, and at crests of banks. Remainder of area should be uniform in appearance. Caution should be used with asphalt in residential and similar areas.

a. Cutback asphalt - rapid curing (RC-70, RC-250, and RC-800) or medium curing (MC-250 or MC-800). Apply 5 gallons per 1,000 square feet or 200 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

b. Emulsified asphalt - (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1, and CRS-2). Apply 5 gallons per 1,000 square feet or 200 gallons per acre on flat areas and on slopes less than 8 feet high. On slopes 8 feet or more high, use 8 gallons per 1,000 square feet or 348 gallons per acre.

All asphalt designations are from the asphalt Institute Specifications.

c. Synthetic binders - Synthetic binders such as Acrylic DLR (Agri-Tac), DCA-70, Petroset or Terra Tac II or Terra Tack AR may be used at rates recommended by the manufacturer to anchor mulch material.

4. Wood cellulose fiber - Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons.

5. Peg and Twine - Drive 8-to 10-inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss-cross within a square pattern. Secure twine around each peg with two or more complete turns.

Note: All names given above are registered trade names. This does not constitute a recommendation of these products to the exclusion of other products.

VI. Irrigation

If soil moisture is deficient, supply new seedings with adequate water for plant growth until they are firmly established, if feasible. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

VII. Maintenance

Maintenance is a vital factor in maintaining an adequate vegetative erosion control cover.

A. Irrigation - If soil moisture becomes deficient, irrigate to prevent loss of stand of protective vegetation, if feasible.

B. Repairs - Inspect all seeded areas for failures and make necessary repairs, replacements, and reseedings within the planting season, if possible.

1. If stand is inadequate for erosion control, overseed and fertilize using half of the rates originally applied.

2. If stand is over 60% damaged, reestablish following original lime, fertilizer, seedbed preparation and seeding recommendations.

References

1. Lawn Care in Maryland, Bulletin 171; Cooperative Extension Service, University of Maryland, College Park, Maryland.
2. Maryland Agronomy Memo #72.
3. Maryland Highway Administration Specifications for Materials.
4. USDA-Soil Conservation Service Field Office Technical Guides.

Notes: Maryland Department of Water Resources has developed an audiovisual training program, "Plant Materials and Vegetative Soil Stabilization," which relates to this practice.

(a) Use Weeping lovegrass to provide a stand of grass for erosion control during summer.
(b) Use hulless seed.
(c) Preferable to seed in fall with seed from current year's crop.
(d) Mixtures 1,3,4,5,6,7,8,10,11,12,13 and 14 may be seeded during winter months in an emergency if 2 tons per acre of a well-anchored mulch is used.
(e) Approved State Highway Administration Mixtures.
(f) Can be seeded during this period if irrigation water is used. Use 2 tons per acre of well-anchored straw mulch.
(g) Can use 10 percent Kentucky bluegrass. (MD AGRON MEMO #72).
(h) Leguminous Seeds. All leguminous seeds shall be inoculated or treated with unexpired approved culture for the specific legume in the proper proportions as specified on the package label. The inoculant shall be stored at room temperatures, out of direct sunlight and away from heating units. When seeding dry with mechanical seeders, the following method of mixing the inoculant with the seed shall be followed. The culture in powder form is preferred and shall be thoroughly mixed with the seed by using a very small quantity of water; just enough to dampen the seeds before the culture is powdered on. The leguminous seed is then mixed with the other seeds of the formula. Seeds inoculated with the powder shall be sown within 48 hours after treatment. Seeds inoculated with the liquid culture shall be sown within 24 hours after treatment. Inoculated seed not used within these time periods shall be reinoculated. Inoculant and seed treated with inoculant shall not be exposed to sunlight for more than one hour prior to seeding. When seed is applied by hydraulic seeders, 10 times the quantity of inoculant recommended for dry leguminous seed application shall be used. Inoculated seed shall not be held in a slurry with fertilizer for more than one hour, otherwise reinoculation will be required before applying the seed.

Notes: (1) Scientific names of these plants are in Appendix E-1.02.

SEDIMENT CONTROL NOTES

1. 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 (992-2437).
2. ALL VEGATIVE 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.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
   A.) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKE, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
   B.) 14 DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOLUME 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFICATIONS 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.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITIONS UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:
   TOTAL AREA OF SITE = 85.15 Ac ±
   AREA DISTURBED = 11.8 Ac ±
   AREA TO BE ROOF OR PAVED = 2.25 Ac ±
   AREA TO BE VEGETATIVELY STABILIZED = 9.55 Ac ±
   TOTAL CUT = 18,498 CY
   TOTAL FILL = 17,845 CY   EXPORT 653 CY
   OFF SITE BORROW AREA LOCATION TO BE DETERMINED.
8. ANY SEDIMENT CONTROL PRACTICES WHICH IS DISTURBED BY GRADING ACTIVITY FOR REPLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY D.P.W. SEDIMENT CONTROL INSPECTOR.

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

[signature] 2/26/90
U.S. Soil Conservation Service — Date

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

[signature] 2-26-90
Howard S.C.D. — Date

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[signature] 2/23/90
Director — Date

[signature] 2-7-90
Chief, Bureau of Engineering — Date

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

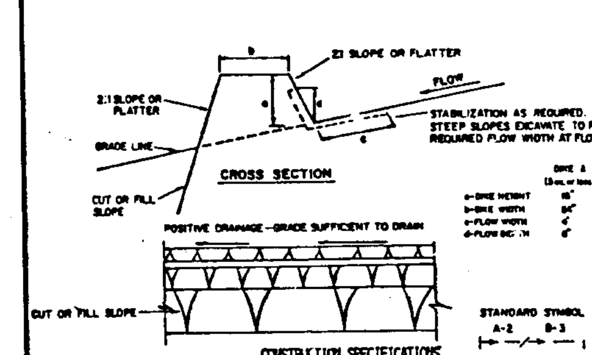
[signature] 2/26/90
County Health Officer — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[signature] 2.27.90
Planning Director — Date

[signature] 4/27/90
Chief, Division of Community Planning and Land Development — Date

[Seal: State of Maryland Registered Professional Engineer] 2/1/90



	DIKE A (5ac or less)	DIKE B (5-10 ac)
a-DIKE HEIGHT	18"	30"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	8"	8"

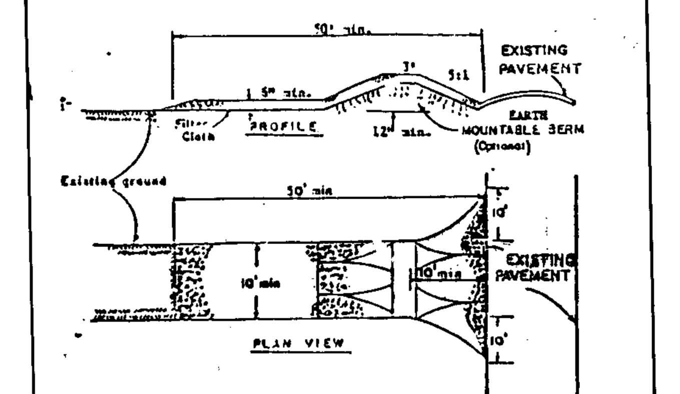
CONSTRUCTION SPECIFICATIONS

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. RUNOFF 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 ADEQUATELY 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.

FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	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 EXCELSIOR; SOD; 2" STONE
3	5.1-8.0%	SEED WITH JUTE, OR SOD; 2" STONE	LINED RIP-RAP 4-8"
4	8.1-20%	LINED RIP-RAP 4-8"	ENGINEERING DESIGN

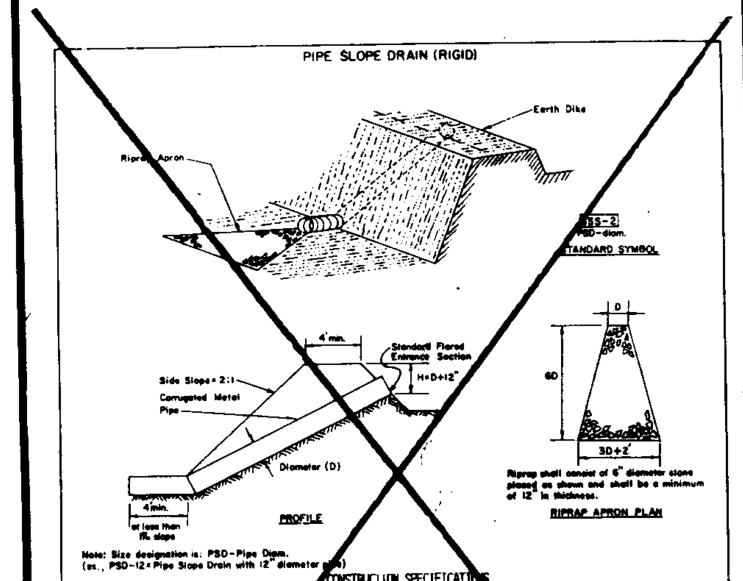
A. STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 4 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
B. RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR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



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.

PIPE SLOPE DRAIN (RIGID)



Note: Size designation is: PSD-Pipe Diam. (ex., PSD-12 = Pipe Slope Drain with 12" diameter pipe)

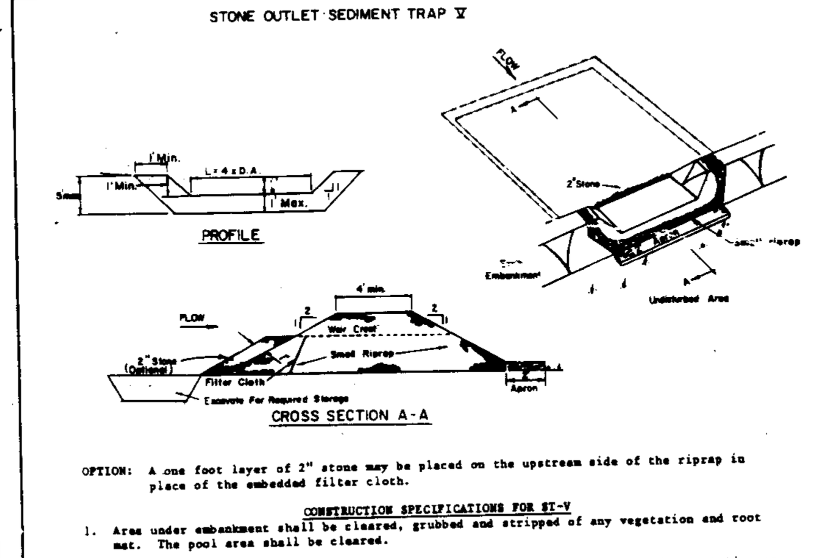
CONSTRUCTION SPECIFICATIONS

1. THE PIPE SLOPE DRAIN SHALL HAVE A SLOPE OF 3% OR STEEPER.
2. TOP OF THE EARTH DIKE OVER THE INLET PIPE AND ALL DIKES CARRYING WATER TO THE PIPE SHALL BE AT LEAST ONE FOOT HIGHER THAN THE TOP OF THE PIPE.
3. ADD 0.3 FOOT TO DIKE HEIGHT FOR SETTLEMENT.
4. SOIL AROUND AND UNDER THE SLOPE PIPE SHALL BE HAND TAMPED IN 4 INCH LIFTS.
5. THE PIPE SHALL BE CORRUGATED METAL PIPE WITH WATERTIGHT 12 INCH CONNECTING BANDS OR FLANGE CONNECTIONS.
6. RIPRAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

Maximum Drainage Area: 5 Acres

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	GRADE STABILIZATION STRUCTURE	STANDARD DRAWING GSS-2

STONE OUTLET SEDIMENT TRAP V



OPTION: A one foot layer of 2" stone may be placed on the upstream side of the riprap in place of the embedded filter cloth.

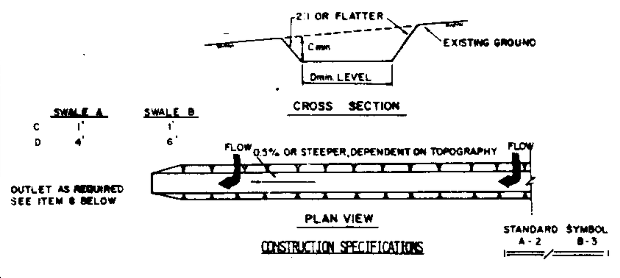
CONSTRUCTION SPECIFICATIONS FOR ST-V

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 over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
3. All cut 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 or embedded filter cloth in the riprap.
5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to ½ 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 than 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

TEMPORARY SWALE



	SWALE A	SWALE B
C	1'	1'
D	4'	6'

OUTLET AS REQUIRED SEE ITEM 6 BELOW

STANDARD SYMBOL A-2 B-3

CONSTRUCTION SPECIFICATIONS

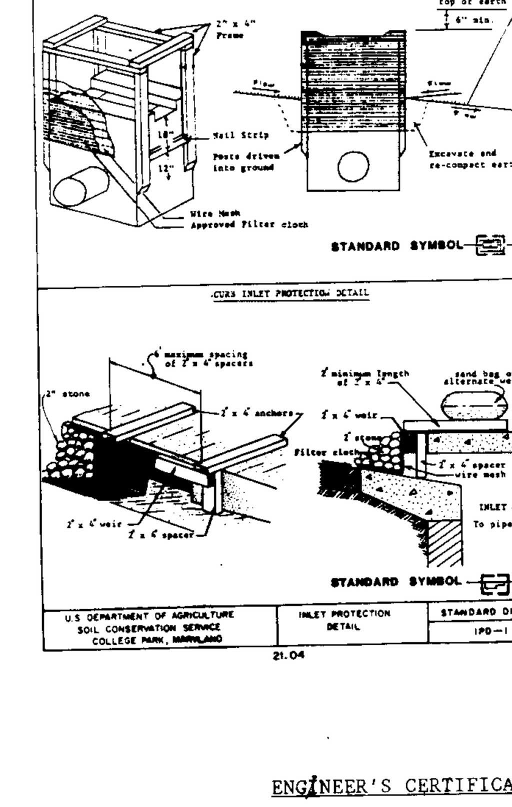
1. ALL TEMPORARY SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED ON CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. STABILIZATION SHALL BE AS PER THE CHART BELOW:

FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	A (5 ac or less)	B (5 ac - 10 ac)
1	0.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELSIOR
3	5.1-8.0%	SEED WITH JUTE OR EXCELSIOR; SOD	LINED RIP-RAP 4-8", RECYCLED CONCRETE EQUIVALENT
4	8.1-20%	LINED 4-8" RIP-RAP	ENGINEERED DESIGN

9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	TEMPORARY SWALE	STANDARD DRAWING TS-1



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	INLET PROTECTION DETAIL	STANDARD DRAWING IPD-1

21.04

SEQUENCE OF CONSTRUCTION

1.	OBTAIN GRADING PERMIT.	
2.	INSTALL ALL SEDIMENT CONTROL DEVICES EXCEPT EARTH DIKE - △	2 WEEKS
3.	CLEAR, GRUB AND ROUGH GRADE SITE.	6 WEEKS
4.	TEMPORARILY STABILIZE DISTURBED AREAS, BEGIN CONSTRUCTION OF PLAY AREAS AND SHELTER. CONSTRUCT EARTH DIKE - △	15 WEEKS
5.	INSTALL WATER CONNECTION.	1 1/2 WEEKS
6.	INSTALL STORM DRAINS, SEAL INLETS LEADING TO INFILTRATION TRENCHES.	4 WEEKS
7.	FINE GRADE ALL AREAS, BASE PAVE PARKING LOT, CONSTRUCT COURTS, WALKS, PATHS. PERMANENTLY STABILIZE ALL DISTURBED AREAS.	6 WEEKS
8.	UNSEAL INLETS, FINAL PAVE PARKING LOT.	2 WEEKS
8A.	REMOVE SEDIMENT CONTROL DEVICES WITH INSPECTORS APPROVAL.	
9.	RESTABILIZE DISTURBED AREAS.	1 WEEK
10.	MAINTENANCE.	

ENGINEER'S CERTIFICATE

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

[signature] 12/20/89
DATED

By the Developer:

"I/We certify that all development and/or construction will be done according to these plans, 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 inspections by the Howard Soil Conservation District."

[signature] 2-7-90
DATE

Dewberry & Davis
Engineers Architects Planners Surveyors
2594 Riva Road, Annapolis, MD 21401
(301) 841-6811

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043
Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

Hammond Park
Murray Hill Plat Nos. 4991-4995,4997,5187, 5231-5233,5301,5302, and5397
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

SEDIMENT & EROSION CONTROL NOTES, DETAILS & CERTIFICATIONS

Date	Drawing Number
DECEMBER 20,1989	18
Designer: G.EVANS / Drafter: D.MADDOX	
Scale: N/A / Checked by: CEBALL II WCL	

SDP-90-50

1602

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2/23/90

Chief, Bureau of Engineering — Date 2-7-90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2/26/90

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.27.90

Chief, Division of Community Planning and Land Development — Date 2/27/90

APPROVED: DEPARTMENT OF PUBLIC WORKS FOR PUBLIC WATER AND SEWER AND STORM DRAINAGE SYSTEMS AND ROADS.

DIRECTOR, PUBLIC WORKS — DATE 2.23.90

CHIEF, BUREAU OF ENGINEERING — DATE 2-7-90

REVISIONS

DATE	BY	DESCRIPTION

2/1/90

Dewberry & Davis

Engineers Architects Planners Surveyors
2504 Riva Road, Annapolis, MD 21401
☎ (301) 841-6811

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043 Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

Hammond Park
Murray Hill Plat Nos. 4991-4995, 4997, 5187, 5233-5233, 5301, 5302, and 5397

Hammond Middle/Elementary School
Liber 443, Folio 97

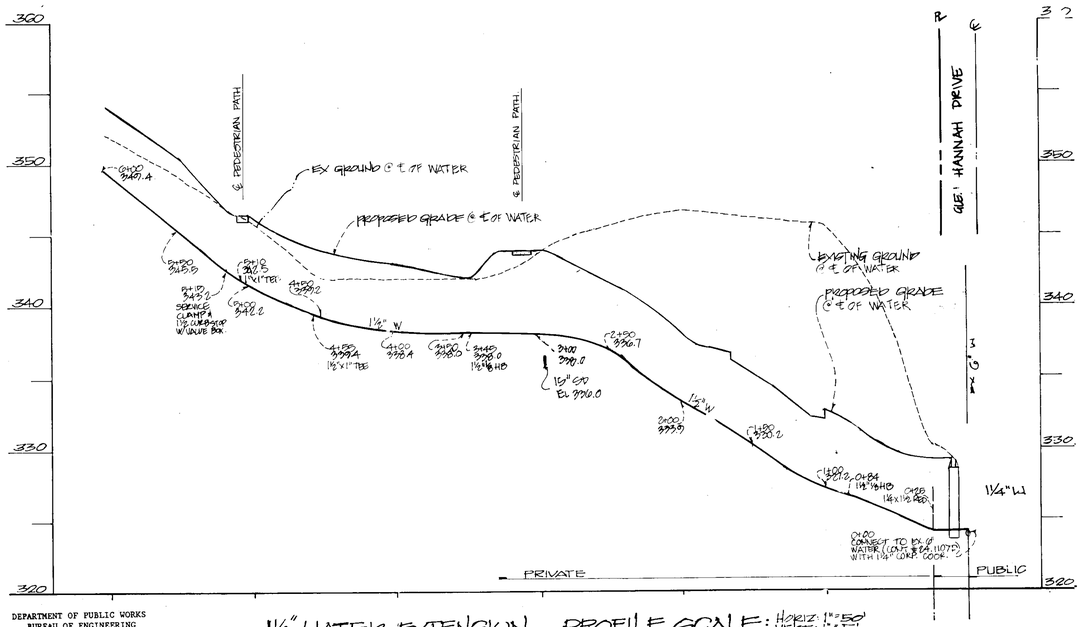
6th Election District

Title
WATER SERVICE/EXTENTION PLAN

Date	Drawing Number
DECEMBER 20, 1989	19
Designer: B. KELLY, R. NITER	Drafter: B. KELLY, R. MENEFEE
Scale: 1" = 50'	Checked by:
	of ___

SDP-90-50

2091

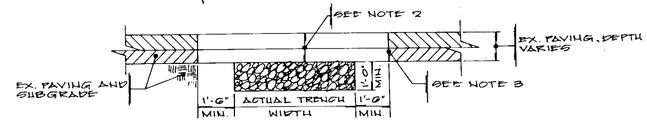


DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

1½" WATER EXTENSION PROFILE SCALE: HORIZ: 1"=50' VERT: 1"=5'

PAVEMENT PATCHING DETAIL

NOT TO SCALE
(AS REQUIRED)



1. CLEAN AND WET EDGES OF CUT BEFORE PLACING CONCRETE.
2. PAVEMENT PATCH MATERIALS AND COURSE THICKNESS SHALL BE EQUAL TO EX. PAVING SECTION OR AS APPROVED BY D.P.W. THE MINIMUM PAVING PATCH SHALL CONSIST OF 3" BITUMINOUS CONC. SURFACE MATERIAL PLACED IN TWO 1½" COURSES. BITUMINOUS CONC. BASE MATERIAL, WHEN PLACED SHALL NOT EXCEED 5" THICKNESS PER COURSE STONE BASE MATERIAL SHALL NOT EXCEED 5" THICKNESS PER COURSE.
3. PLACE HOT LIQUID ASPHALT (MB "K" OR AS APPROVED BY D.P.W.) ALONG VERTICAL FACE OF EX. PAVING PRIOR TO PLACING NEW MATERIAL TO INSURE CONTINUOUS BOND UPON COMPLETION OF PAVING PATCH. THE HOT LIQUID ASPHALT SHALL BE BRUSHED INTO THE JOINT BETWEEN OLD AND NEW PAVING SURFACES TO PREVENT EXCESS LIQUID ASPHALT FROM BEING TRACKED BY TRAFFIC.

GENERAL NOTES

PART I

1. Approximate location of existing mains are shown. The contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted supply. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the Contractor's expense.
2. All horizontal controls are based on Maryland State Coordinates.
3. All vertical controls are based on U.S.G.S. data.
4. All pipe elevations shown are invert elevations.
5. Clear all utilities by a minimum of 6". Clear all poles by 2'-0' minimum or tunnel as required. The owner has contacted the utility companies and has made arrangements for bracing of poles as shown on the drawings. In the event the contractor's work required the bracing of additional poles, any cost incurred by the owner for the bracing of additional poles or damages shall be deducted from money owed the contractor. The contractor shall coordinate with the utility companies to schedule the bracing of poles.
6. For details not shown on the drawings, and for materials and construction methods, use Howard County Design Manual, Volume IV, Standard Specifications and Details for Construction. The contractor shall have a copy of Volume IV on the job.
7. Where test pits have been made on existing utilities, they are noted by the symbol at the location of the test pits. A note or notes containing the results of the test pit or pits is included on the drawings. Existing utilities in the vicinity of the proposed work for which test pits have not been dug shall be located by the contractor two weeks in advance of construction operations at his own expense.
8. Contractor shall notify the following utility companies or agencies at least five working days before starting work shown on these plans:

   State Highway Administration - 531-5533
   Baltimore Gas & Electric Co., Contractor Services - 850-4620
   Baltimore Gas & Electric Co. Under Ground Damage Control - 859-9004
   Baltimore Gas & Electric Co. Trouble Shooting - 298-9001
   Miss Utility - 1-599-0100
   Colonial Pipeline Co. - 795-1390
   Bureau of Utilities, Howard County Dept. of Public Works - 992-2366

9. Trees and shrubs are to be protected from damage to maximum extent. Trees and shrubs located within the construction strip are not to be removed or damaged by the contractor.
10. Contractor shall remove trees, STUMPS and roots along line of excavation. Payment for the removal shall be included in the unit price bid for construction of the main.

PART II - WATER

1. All water mains to be COPPER TYPE "K" unless otherwise noted.
2. Tops of all water mains to have a minimum of 4.0' cover unless otherwise noted.
3. Valves adjacent to tees shall be strapped to tees.
4. All fittings shall be buttressed or anchored with concrete in accordance with the Standard Details unless otherwise provided for on the drawings.
5. Fire hydrants shall be set to the bury line elevations shown on the drawings. All fire hydrants shall be strapped and buttressed with concrete in accordance with Standard Details. Soil around the fire hydrant shall be compacted in accordance with Section 1003 of the Standard Specifications.
6. The contractor shall not operate any water main VALVES on the existing water system.

DATE	DESCRIPTION	BY
12.20.88	REVISED PLAN FOR DEWBERRY AND DAVIS	W.A.J.
3.8.89	REVISED LOCATION OF 4" WATER AS PER LANDSCAPE ARCHITECT	W.A.J.

REVISIONS

THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON INFORMATION AVAILABLE FROM SURVEYS AND RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATION, THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN ON THE PLANS, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE ALL NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUANCE OF SERVICE.

GENERAL NOTES

1. APPROXIMATE LOCATION OF EXISTING MAIN ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EX. MAINS AND SERVICES, AND MAINTAIN UNINTERRUPTED SUPPLY AND DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY.
2. ALL PIPE ELEVATIONS SHOWN ARE INVERT (I)-ELEVATIONS.
3. THE CONTRACTOR SHALL LOCATE EX. UTILITIES A MINIMUM OF TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS IN VICINITY OF UTILITIES.
4. ALL WATER MAINS SHALL HAVE A MINIMUM OF 4'0" COVER.
5. BLOCK ALL FITTINGS WITH CONCRETE, SEE STANDARDS BOUND IN SPECIFICATIONS.
6. CLEAR ALL UTILITIES BY A MINIMUM OF 6", CLEAR ALL POLES BY A MINIMUM OF 2'0" OR TUNNEL AS REQUIRED
7. ALL HORIZONTAL AND VERTICAL ARE IN HOWARD COUNTY DATUM, AS EXTENDED FROM MARYLAND PLANE SYSTEM
8. TIME OF CONNECTION TO EXISTING 6" WATER TO BE AS DIRECTED BY HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
9. SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE STANDARD SPECIFICATIONS AND SDP 57-151.
10. SERVICE CLAMPS ARE TO HAVE STAINLESS STEEL STRAPS.
11. ALL PLUMBING FIXTURES AND SANITARY SEWER/STORM INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY PLUMBING CODE.

CALL MISS UTILITY AT 1-800-257-7777 FOR UTILITY LOCATIONS AT LEAST 48 HOURS BEFORE BEGINNING CONSTRUCTION.

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2.23.90
Chief, Bureau of Engineering — Date 2-7-90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2/26/90

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.27.90
Chief, Division of Community Planning and Land Development — Date 4/25/90

APPROVED: DEPARTMENT OF PUBLIC WORKS
FOR PUBLIC WATER AND SEWER AND STORM DRAINAGE SYSTEMS AND ROADS.

DIRECTOR, PUBLIC WORKS — DATE 2.23.90
CHIEF, BUREAU OF ENGINEERING — DATE 2-7-90

2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
2594 Riva Road, Annapolis, MD 21401
☎ (301) 841-6811

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043 Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

Hammond Park
Murray Hill Plat Nos. 4991-4995, 4997, 5187, 5233-5233, 5301, 5302, and 5397
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

WATER EXTENSION PROFILES, NOTES & CERTIFICATIONS

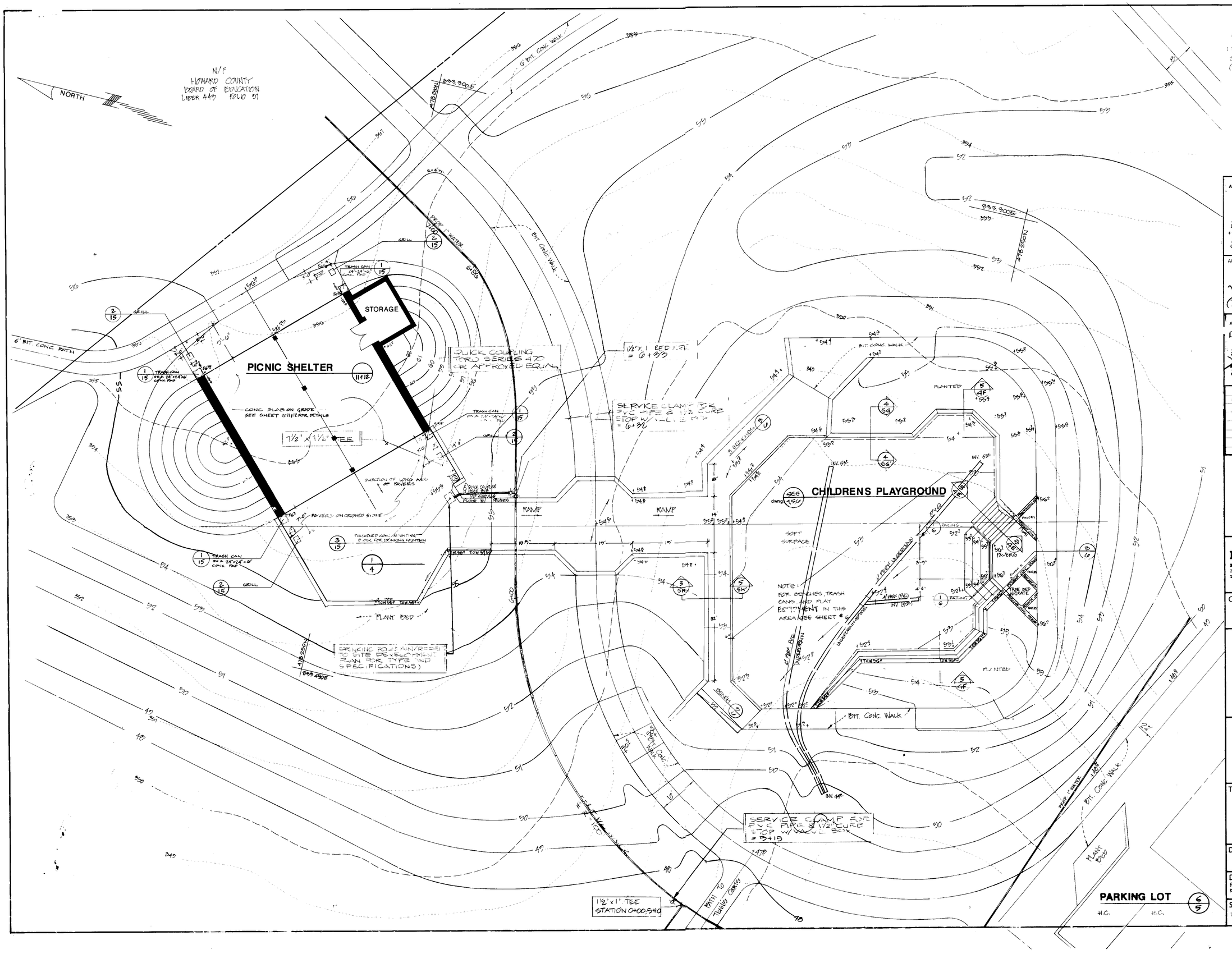
Date	Drawing Number
DECEMBER 20, 1989	20
Designer / Drafter	
Scale / Checked by	

SDP-90-50

1602

GENERAL NOTES

1. FOR LOCATION OF DRINKING FOUNTAIN SEE WATER/EXTENSION PLAN SHEET C-3 (FOR SOFTBALL FIELD)



APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2/23/90

Chief, Bureau of Engineering — Date 2-7-90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2/26/90

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.27.90

Chief, Division of Community Planning and Land Development — Date 2/27/90

REVISIONS

DATE	BY	DESCRIPTION

STATE OF MARYLAND — No. 19894 — REGISTERED PROFESSIONAL ENGINEER — 2/1/90

Dewberry & Davis
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2594 Riva Road, Annapolis, MD 21401
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3430 Court House Drive
Ellicott City, MD 21043 Phone (301) 992-2040

Hammond Community Park

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Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

Title
WATER CONNECTION PLAN

Date: DECEMBER 20, 1989

Drawing Number: 21 of ____

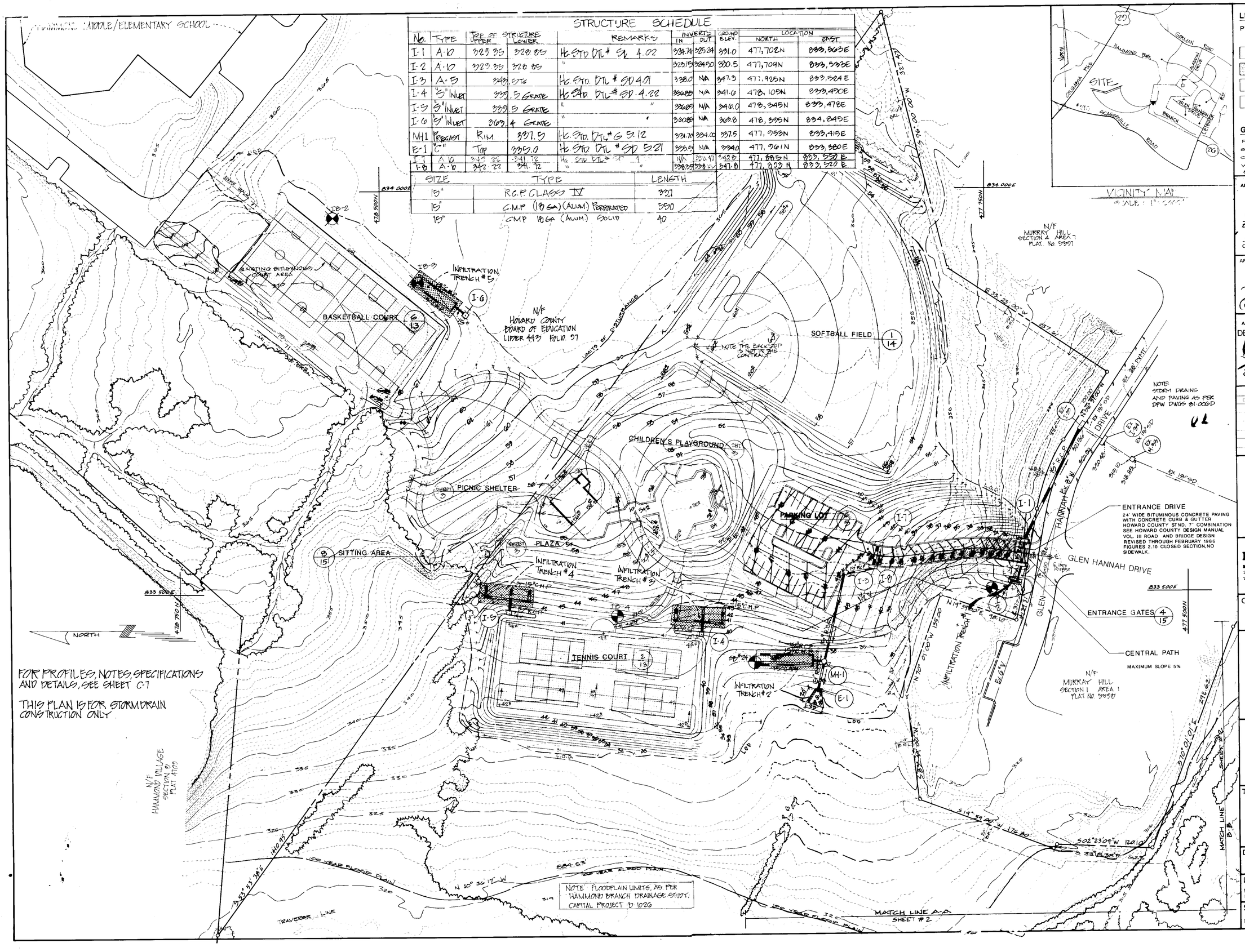
Designer: BYRNE KELLY
Drafter: A. SIMMONS
Scale: 1" = 10'
Checked by: CEB, W.C.L.

SDP-90-50

STRUCTURE SCHEDULE

No.	Type	Top of Structure Upper	Top of Structure Lower	Remarks	Inverts In	Inverts Out	Ground Elev.	Location North	Location East
I-1	A-10	329.85	328.85	HC STD DTL # SD 4.02	324.74	325.24	331.0	477,702N	833,363E
I-2	A-10	329.85	328.85	"	325.15	324.50	330.5	477,709N	833,533E
I-3	A-5	343.5	TG	HC STD. DTL # SD 4.01	338.0	N/A	347.3	477,925N	833,524E
I-4	"S" INLET	339.5	GRATE	HC STD DTL # SD 4.22	336.08	N/A	341.6	478,105N	833,490E
I-5	"S" INLET	339.5	GRATE	" "	336.08	N/A	340.0	478,345N	833,478E
I-6	"S" INLET	369.4	GRATE	" "	360.88	N/A	368.8	478,395N	834,345E
MH1	PRECAST	RIM	337.5	HC STD. DTL # G 5.12	334.70	334.00	337.5	477,953N	833,415E
E-1	"C"	TOP	335.0	HC STD DTL # SD 5.21	333.5	N/A	334.0	477,961N	833,380E
I-7	A-10	342.22	341.72	HC STD DTL # SD 4.01	N/A	339.47	342.8	477,883N	833,550E
I-8	A-10	342.22	341.72	" "	338.39	338.00	341.0	477,892N	833,520E

Size	Type	Length
15"	R.C.P. CLASS IV	327
15"	C.M.P (18 GA) (ALUM) PERFORATED	550
15"	CMP 18 GA (ALUM) SOLID	40



LEGEND

PROPOSED PAVEMENTS

- BITUMINOUS CONCRETE PAVING - WALKS
- CONCRETE PAVING
- UNI-DECOR PAVERS
- PARKING & DRIVEWAY

GENERAL NOTES

FOR PARKING LOT DRIVEWAY PAVING SECTIONS REFER TO HOWARD COUNTY D.P.W. PAVING SECTION P-1 WITH STANDARD 7" COMBINATION CURB & GUTTER.

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2.23.90

Chief, Bureau of Engineering — Date 2.1.90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2/26/90

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.27.90

Chief, Division of Community Planning and Land Development — Date 2/27/90

REVISIONS		
DATE	BY	DESCRIPTION

STATE OF MARYLAND — STEVEN ROY DAVIS — No. 19078 — REGISTERED PROFESSIONAL ENGINEER — 2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors
2594 Riva Road, Annapolis, MD 21401
☎ (301) 841-6811

Owner
HOWARD COUNTY D.P.W.
3430 Court House Drive
Ellicott City, MD 21043 Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

Hammond Park
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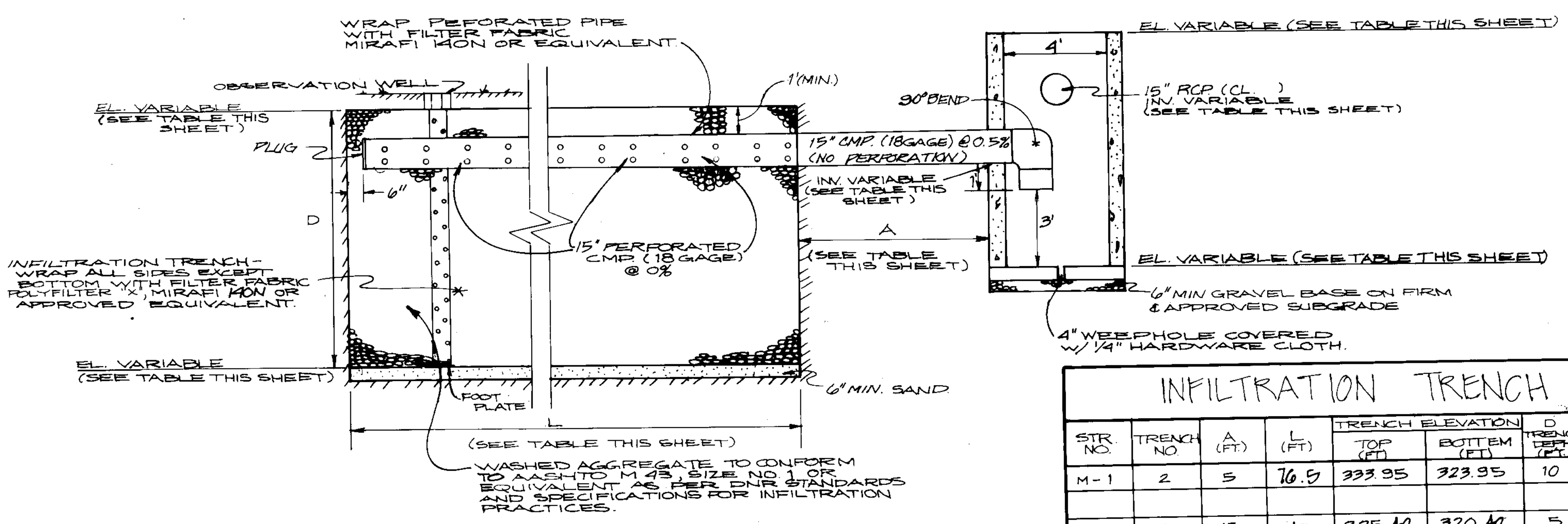
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

Title
STORM DRAIN STORM WATER MANAGEMENT PLAN

Date	Drawing Number
DECEMBER 20, 1989	22
Designer: B. KELLY, R. ALTER	Drafter: B. KELLY, R. MENEFEE
Scale: 1" = 50'	Checked by: TEK, VSL
	of ____

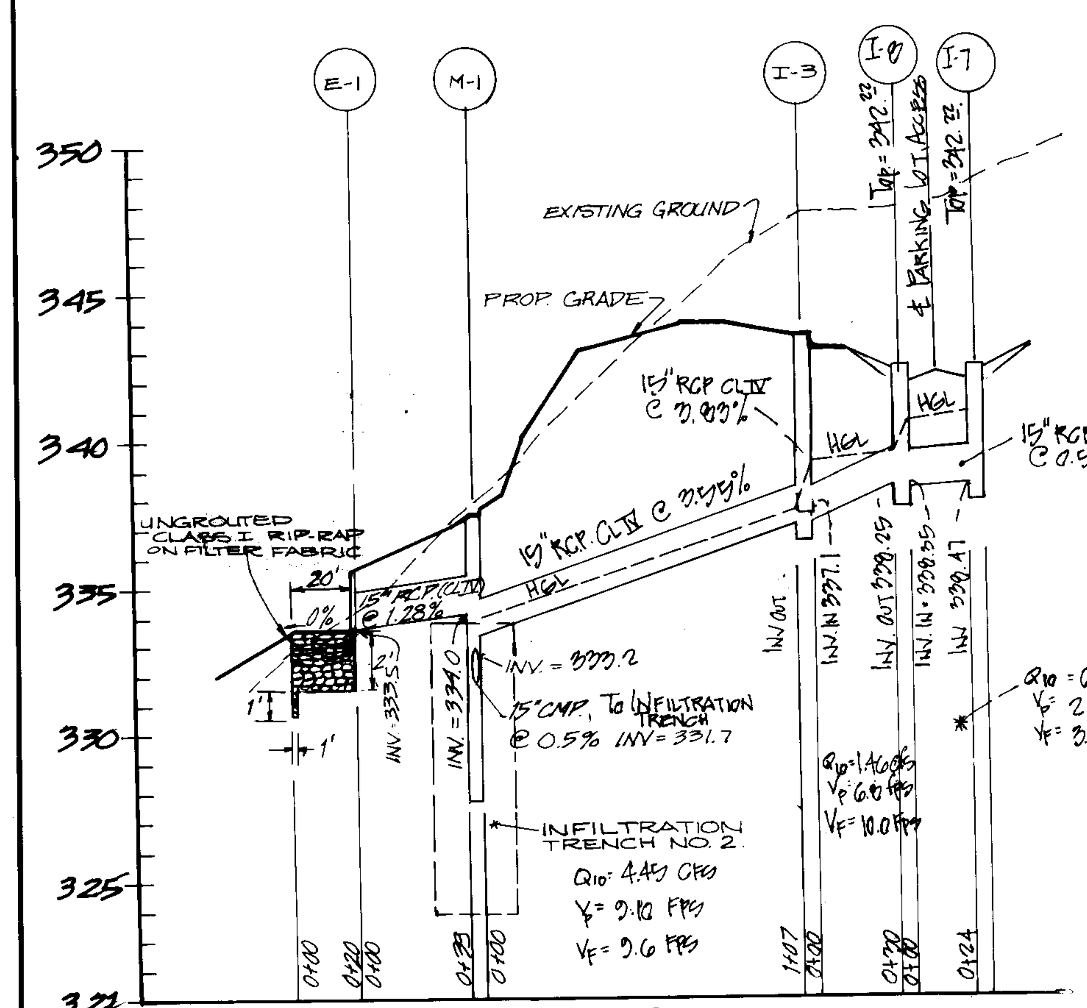
SDP-90-50



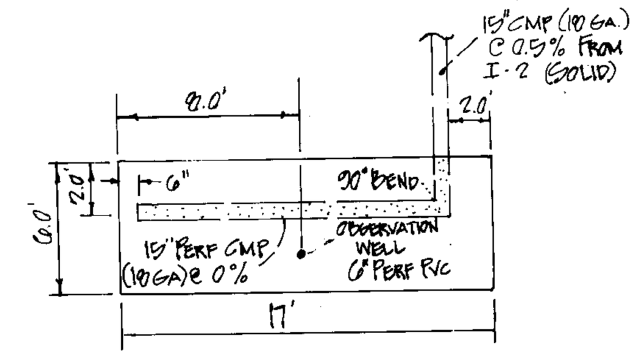
TYPICAL INFILTRATION TRENCH
(NOT TO SCALE)

INFILTRATION TRENCH DATA

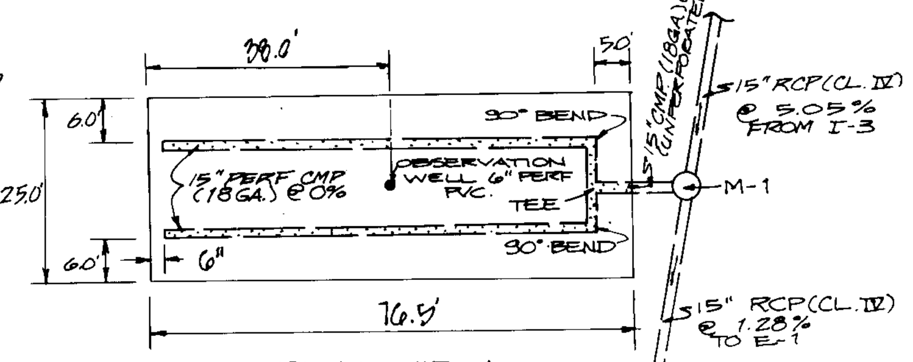
STR. NO.	TRENCH NO.	A (FT)	L (FT)	TRENCH ELEVATION TOP (FT)	TRENCH ELEVATION BOTTEM (FT)	D TRENCH DEPTH (FT)	INFILTRATION PIPE INVERT ELE (FT)	OUTFALL PIPE INVERT ELE (FT)	STRUCTURE BOTTOM ELEV.	WIDTH (FT)	EX GROUND (EL)
M-1	2	5	76.5	333.95	323.95	10	331.70	334.00	325.70	25	37.7
I-2	1	15	17	325.40	320.40	5	323.15	324.50	319.15	6	28.7
I-4	3	5	73	339.10	329.10	10	336.85	N/A	332.85	25	41.0
I-5	4	5	58	339.10	329.10	10	336.85	N/A	332.85	25	46.0
I-6	5	5	63	362.60	352.60	10	360.35	N/A	356.35	25	64.0



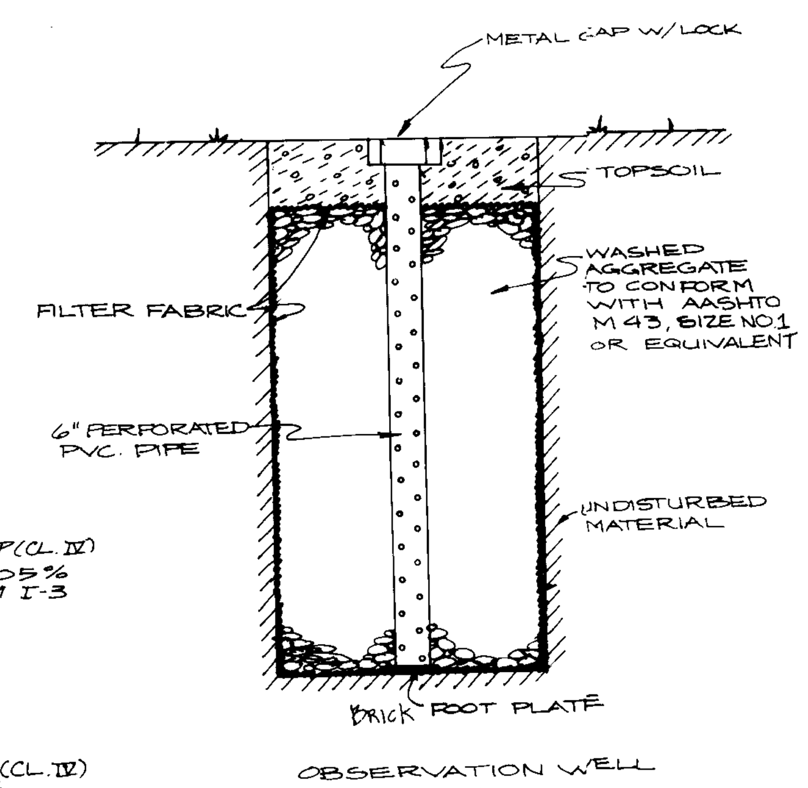
PARKING LOT



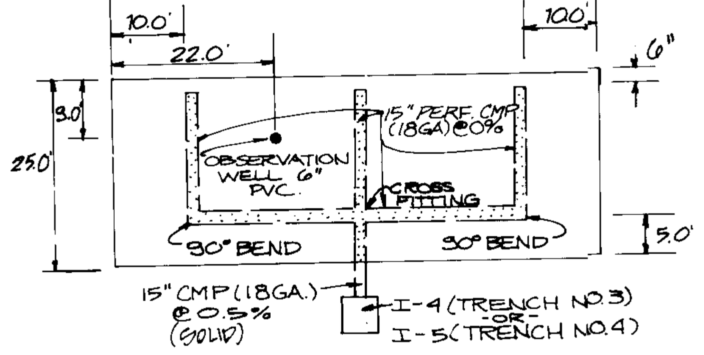
PLAN VIEW
INFILTRATION TRENCH NO. 1



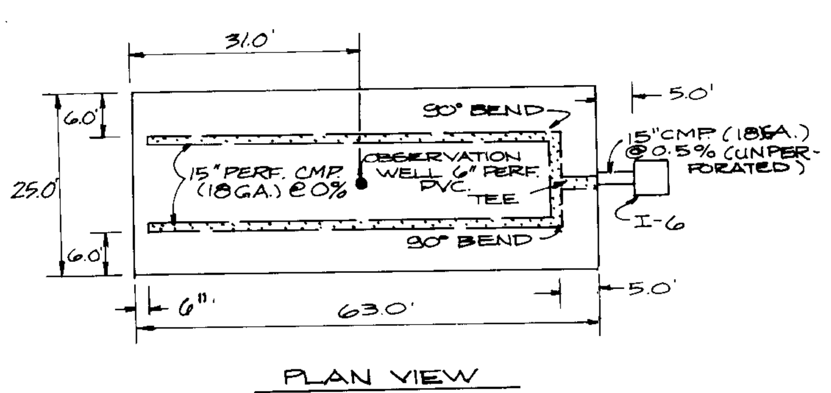
PLAN VIEW
INFILTRATION TRENCH NO. 2



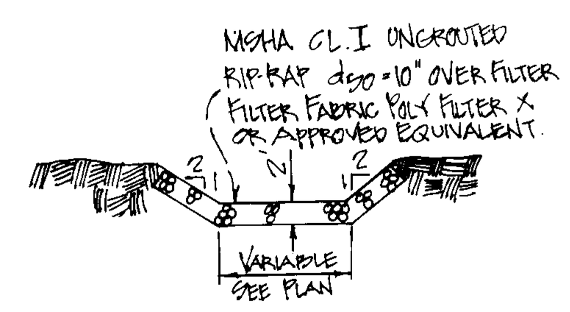
OBSERVATION WELL DETAIL
(NOT TO SCALE)



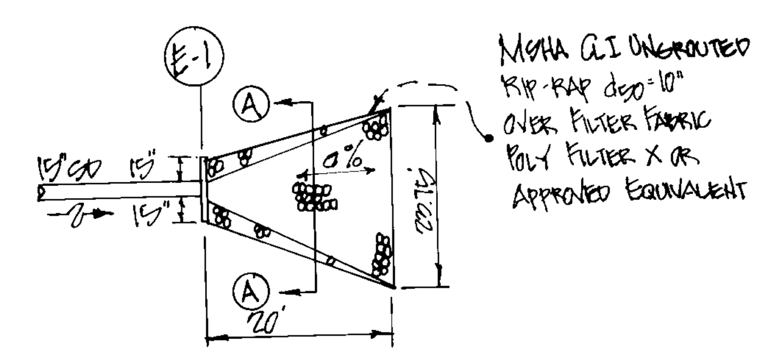
PLAN VIEW
INFILTRATION TRENCH NO. 3 & 4.



PLAN VIEW
INFILTRATION TRENCH NO. 5

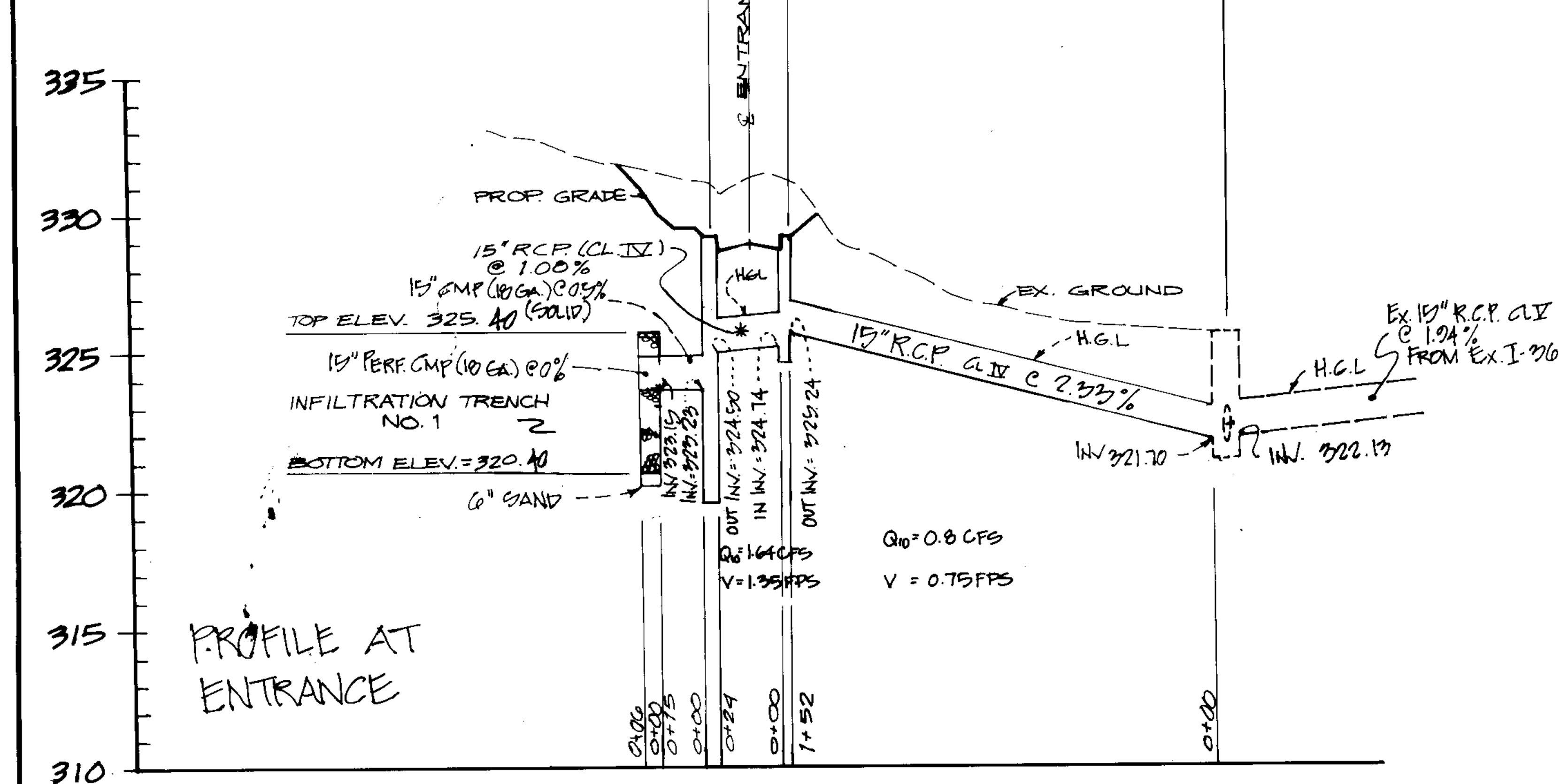


SECTION "A-A"



PLAN VIEW
N.T.S.

RIP-RAP SECTION
NTS.



PROFILE AT ENTRANCE

PROFILE SCALE: HORIZ. = 1" = 50' VERT. = 1" = 5'

1002

GENERAL STORM DRAIN NOTES

1. ALL STORM DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE GENERAL SPECIFICATIONS OF THE MARYLAND STATE HIGHWAY ADMINISTRATION AND THE HOWARD COUNTY "STORM DRAINAGE DESIGN MANUAL" AND "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION" UNLESS OTHERWISE NOTED.
2. TYPES OF STRUCTURES REFER TO THE STANDARD STORM DRAINAGE DETAILS OF HOWARD COUNTY.
3. INFORMATION CONCERNING UNDERGROUND UTILITIES WERE OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATIONS OF ALL THE MAINS BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF TRENCHING. IF CLEARANCES ARE LESS THAN SHOWN ON THIS PLAN OR TWELVE (12) INCHES, WHICHEVER IS LESS, CONTACT THE ENGINEER OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BEFORE PROCEEDING WITH CONSTRUCTION.
4. ALL EXCAVATED MATERIAL NOT USED FOR CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AT HIS EXPENSE. THIS ITEM WILL NOT BE MEASURED OR BID, BUT CONSIDERED INCIDENTAL TO THE CONSTRUCTION.
5. GRADE ALL DISTURBED AREAS TO PROVIDE POSITIVE DRAINAGE.
6. ALL CONSTRUCTION OF INGRESS/EGRESS SHALL BE APPROVED BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS AND UNDER A CURRENT HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS PERMIT, IF REQUIRED.
7. THE CONTRACTOR/DEVELOPER SHALL CONTACT THE CONSTRUCTION INSPECTOR/SURVEY DIVISION; 24 HOURS IN ADVANCE OF WORK 301-792-7272.
8. ALL STORM DRAIN YARD INLETS TO BE PUMPED

Construction Specifications for Infiltration Trenches

3.3.6.1. Timing

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.

3.3.6.2. 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 walls of the trench shall be roughened where sheared and sealed by heavy equipment.

3.3.6.3. 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 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 lined trench open 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 or to ensure that the fabric conforms to the excavation surface during aggregate placement and compaction.

3.3.6.4. 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.

3.3.6.5. Overlapping and Covering

Following the stone aggregate placement, the filter fabric shall be folded over the stone aggregate to form a 6" 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.

3.3.6.6. Contamination

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

3.3.6.7. Voids Behind Fabric

Voids can be created between the fabric and excavation sides and shall be avoided. Removing boulders or other obstacles from the trench walls is one source of such voids. 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, fabric clogging, and possible surface subsidence will be avoided by this remedial process.

3.3.6.8. Unstable Excavation Sides

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

3.3.6.9. Vegetative Buffer

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

3.3.6.10. Traffic Control

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

3.3.6.11. Observation Well

An observation well, as described in subsection 3.3.4.8 and Figure 3-5 shall be provided. The depth of the well at the time of installation will be clearly marked on the well cap.

3.3.7. 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, grit 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 dewaters 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 indicate that a more frequent schedule is required.

Sediment build-up in the top foot of stone aggregates 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.

Corrugated Metal Pipe

1. **Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to 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 are commercially available: Nexon, Plasti-Cote, Blac-Klad, and Beth-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

   Materials - (Aluminized Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274-79I with watertight coupling bands or flanges.

   Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. 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. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be less than 9 and greater than 4.
2. **Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Watertight coupling bands or flanges shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to the completely watertight. Dimple bands are not considered to be watertight.**
3. **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.**
4. **Laying pipe - The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.**
5. **Backfilling shall conform to structural backfill as shown above.**
6. **Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.**

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[signature] 2.23.90
Director Date

[signature] 2-7-90
Chief, Bureau of Engineering Date

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

[signature] 2/26/90
County Health Officer Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[signature] 2.27.90
Planning Director Date

[signature] 2/21/90
Chief, Division of Community Planning and Land Development Date

[seal and signature] 2/1/90

Dewberry & Davis
Engineers Architects Planners Surveyors

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Ellicott City, MD 21043
Phone (301) 992-2040

Hammond Community Park

Capital Project N-3024

Hammond Park
Murray Hill Plat Nos. 4991-4995,4997,5187, 5231-5233,5301,5302, and5397
Hammond Middle/Elementary School
Liber 443, Folio 97
6th Election District

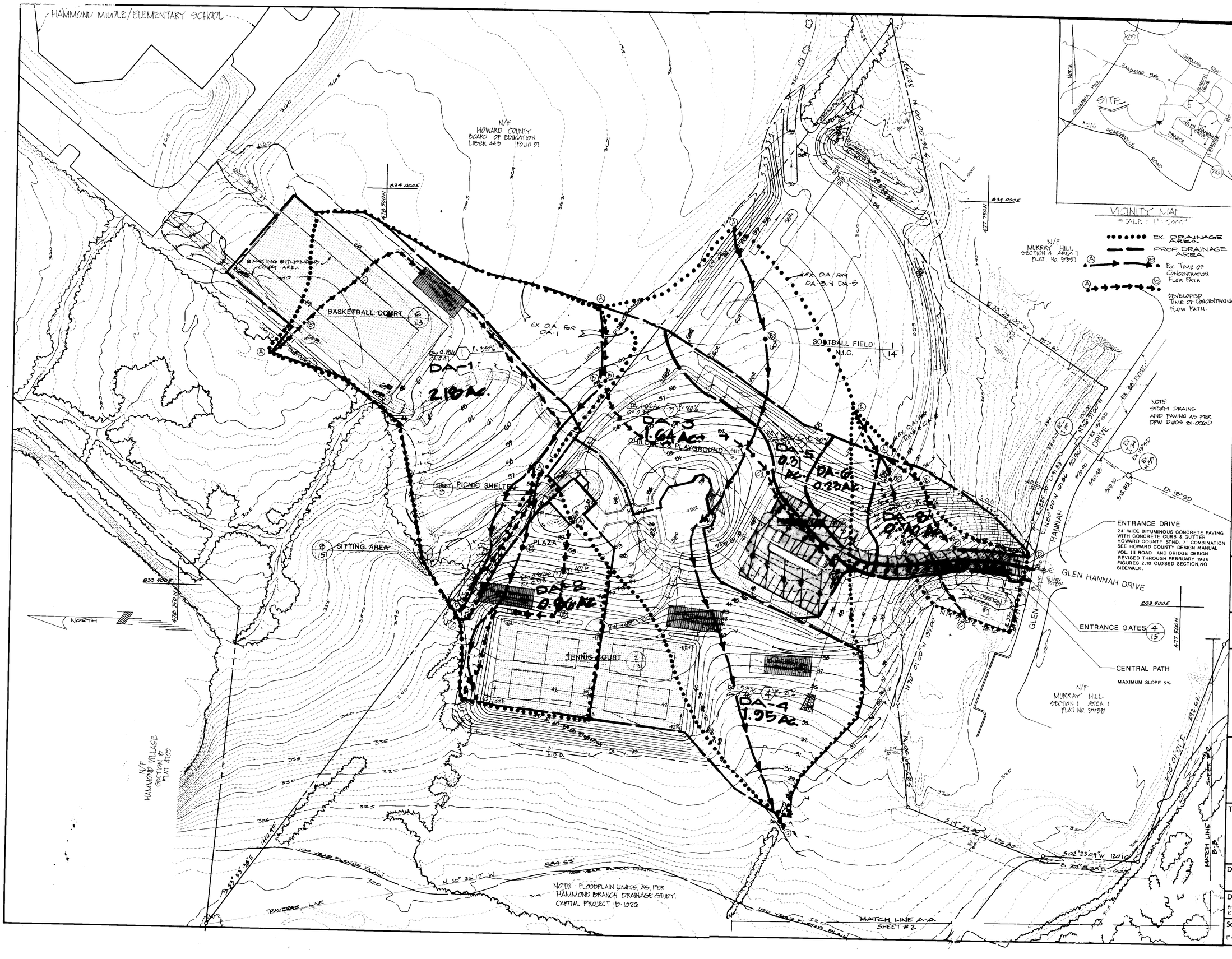
Title
STORM DRAIN/SWM NOTES, DETAILS & PROFILES

Date	Drawing Number
DECEMBER 20,1989	23

Designer	Drafter	Scale	Checked by
T. Nowak / G. Evans	G. Evans	AS NOTED	CEB (JR)

of ______

SDP-90-50



LEGEND

PROPOSED PAVEMENTS

- BITUMINOUS CONCRETE PAVING - WALKS
- CONCRETE PAVING
- UNI-DECOR PAVERS
- PARKING & DRIVEWAY

GENERAL NOTES

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Director — Date 2.28.90

Chief, Bureau of Engineering — Date 2-7-90

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

County Health Officer — Date 2/26/90

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Planning Director — Date 2.27.90

Chief, Division of Community Planning and Land Development — Date 2/27/90

REVISIONS

DATE	BY	DESCRIPTION

2/1/90

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2594 Riva Road, Annapolis, MD 21401
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6th Election District

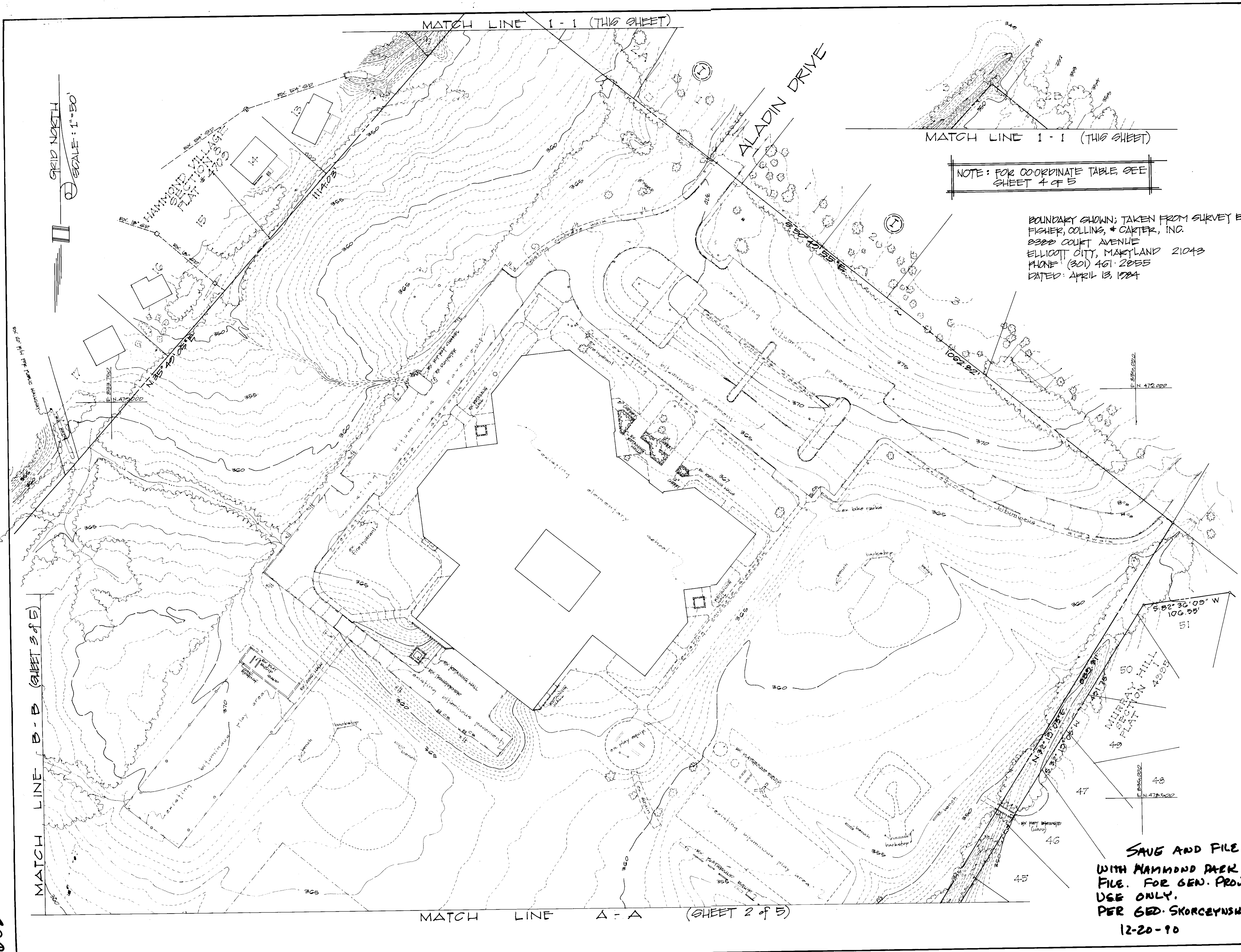
Title
DRAINAGE AREA MAP

Date	Drawing Number
DECEMBER 20,1989	24

Designer	Drafter
B. KELLY R. ALTER	B. KELLY R. MENEPEE
Scale	Checked by
1" = 50'	

DP-90-50

2091



SAVE AND FILE WITH HAMMOND PARK FILE. FOR GEN. PROJ. USE ONLY. PER GEO. SKORCZYNSKI 12-20-90

1602

Approved: HOWARD COUNTY
DEPARTMENT OF RECREATION & PARKS

Director Date

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DEPARTMENT OF PUBLIC WORKS
for storm drainage systems and roads

Director Date

Chief, Bureau of Engineering Date

Approved: HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
for public water and public sewerage systems

Chief, Bureau of Utilities Date

Approved: HOWARD COUNTY
HEALTH DEPARTMENT
for private water and private sewerage systems

County Health Officer Date

Approved: HOWARD COUNTY
OFFICE OF PLANNING & ZONING

Planning Director Date

Chief, Division of Land Development and Zonning Administration Date

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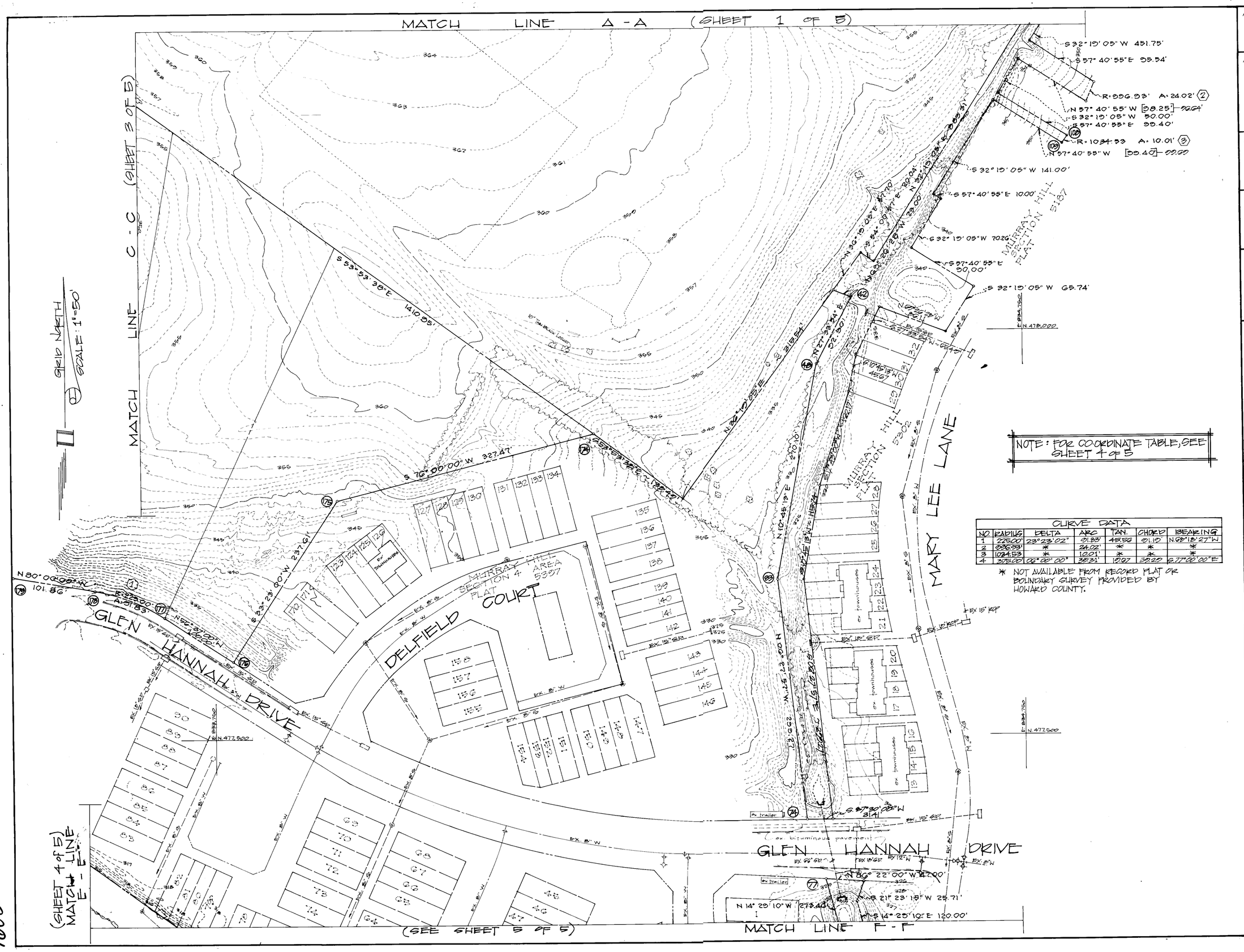
Title: TOPOGRAPHY

Date	Drawing Number
Designer / Drafter	1
Scale 1"=50' / Checked by	of 5



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2	996.93'	*	24.02'	*	*	*
3	1034.53	*	10.01'	*	*	*
4	375.00'	06°00'00"	39.31'	19.67	39.29	S.77°00'00"E

* NOT AVAILABLE FROM RECORD PLAT OR BOUNDARY SURVEY PROVIDED BY HOWARD COUNTY.

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Chief, Bureau of Utilities — Date

Approved: HOWARD COUNTY
HEALTH DEPARTMENT
for private water and private sewerage systems
County Health Officer — Date

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OFFICE OF PLANNING & ZONING
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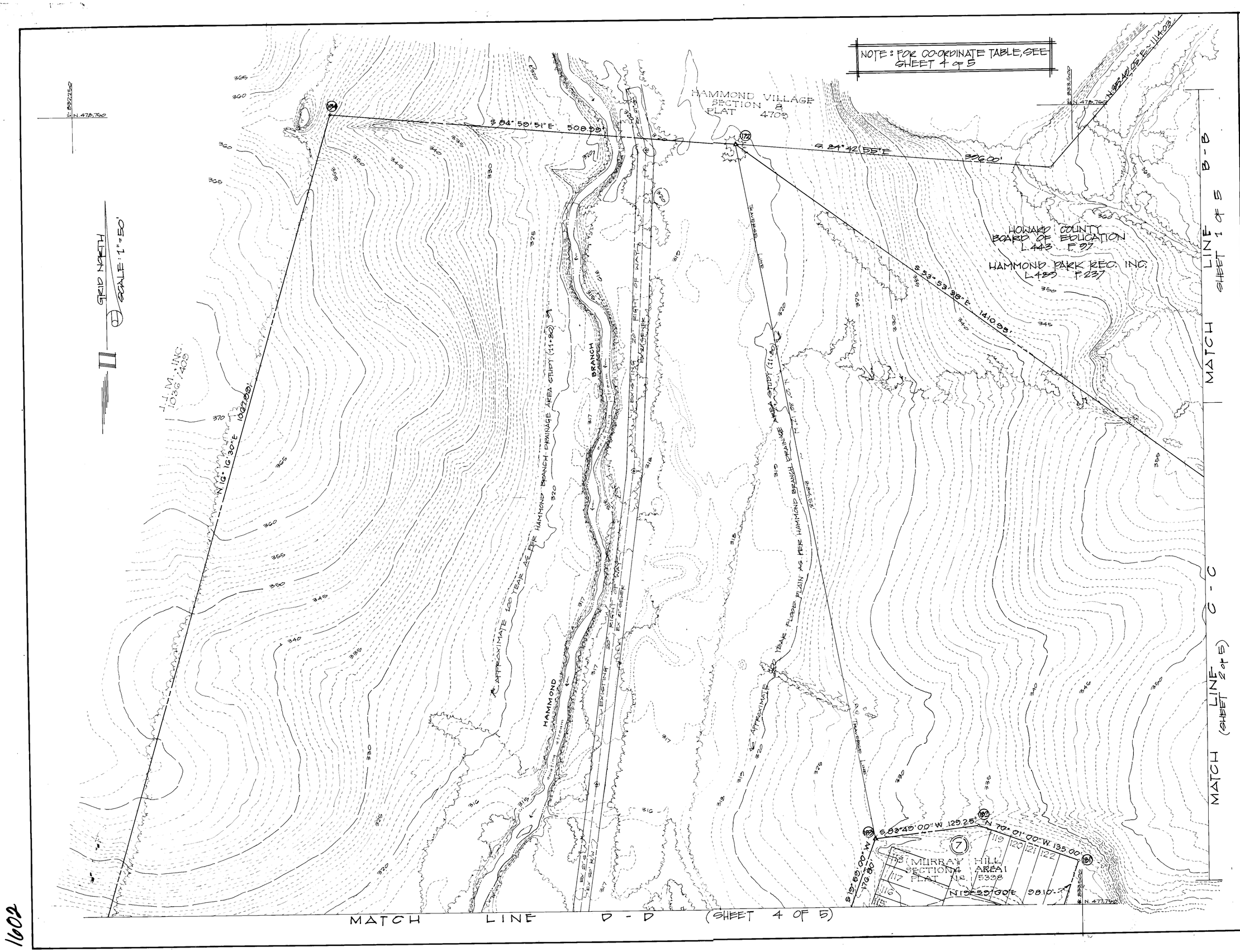
Title
TOPOGRAPHY

Date		Drawing Number
Designer	Drafter	2
Scale 1"=50'	Checked by	of 5

1602



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County Health Officer — Date

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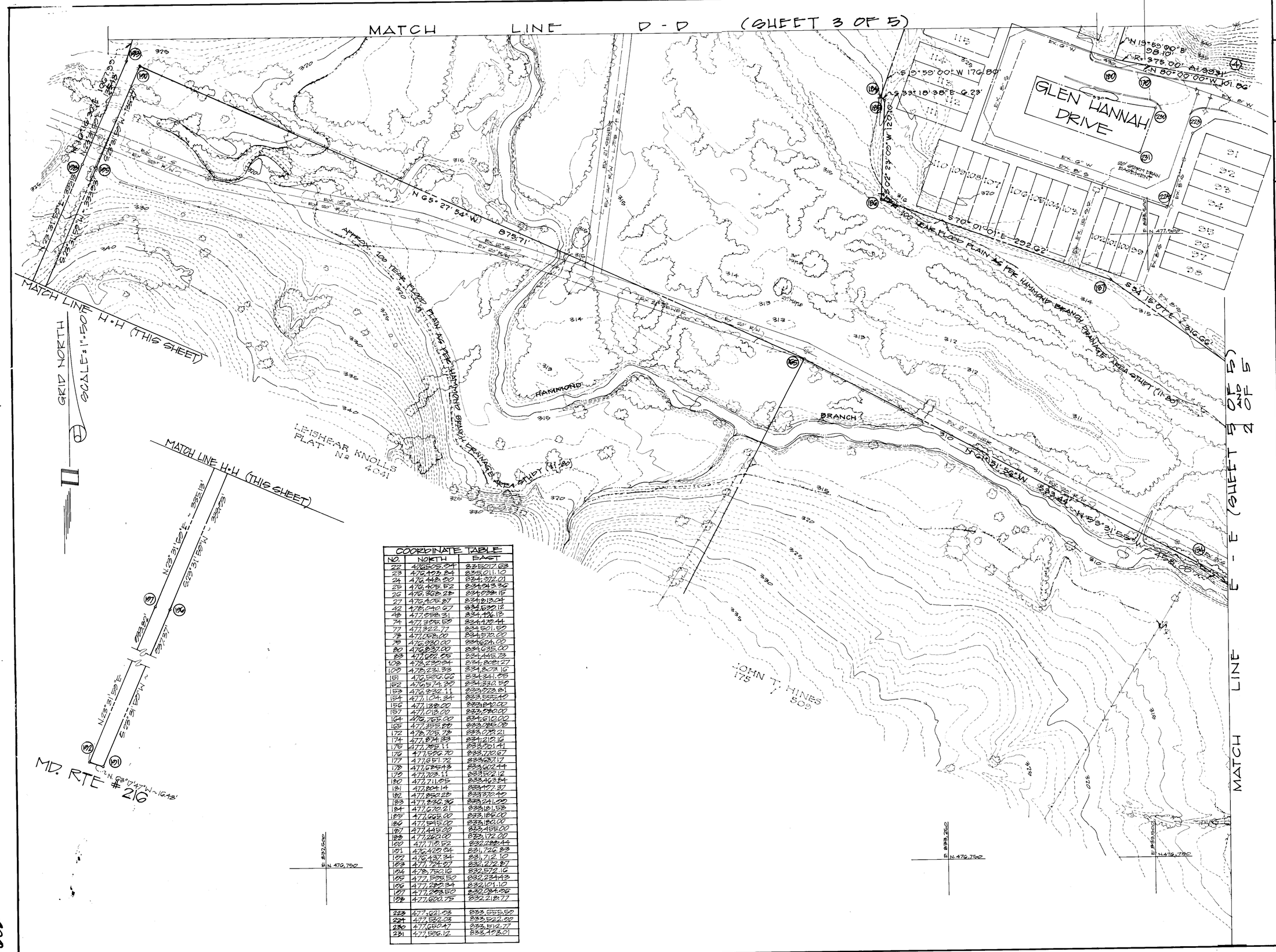
Date		Drawing Number
Designer	Drafter	3
Scale 1"=50'	Checked by	of 5

1602



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223	477,621.93	833,555.59
224	477,532.03	833,522.90
230	477,650.47	833,512.77
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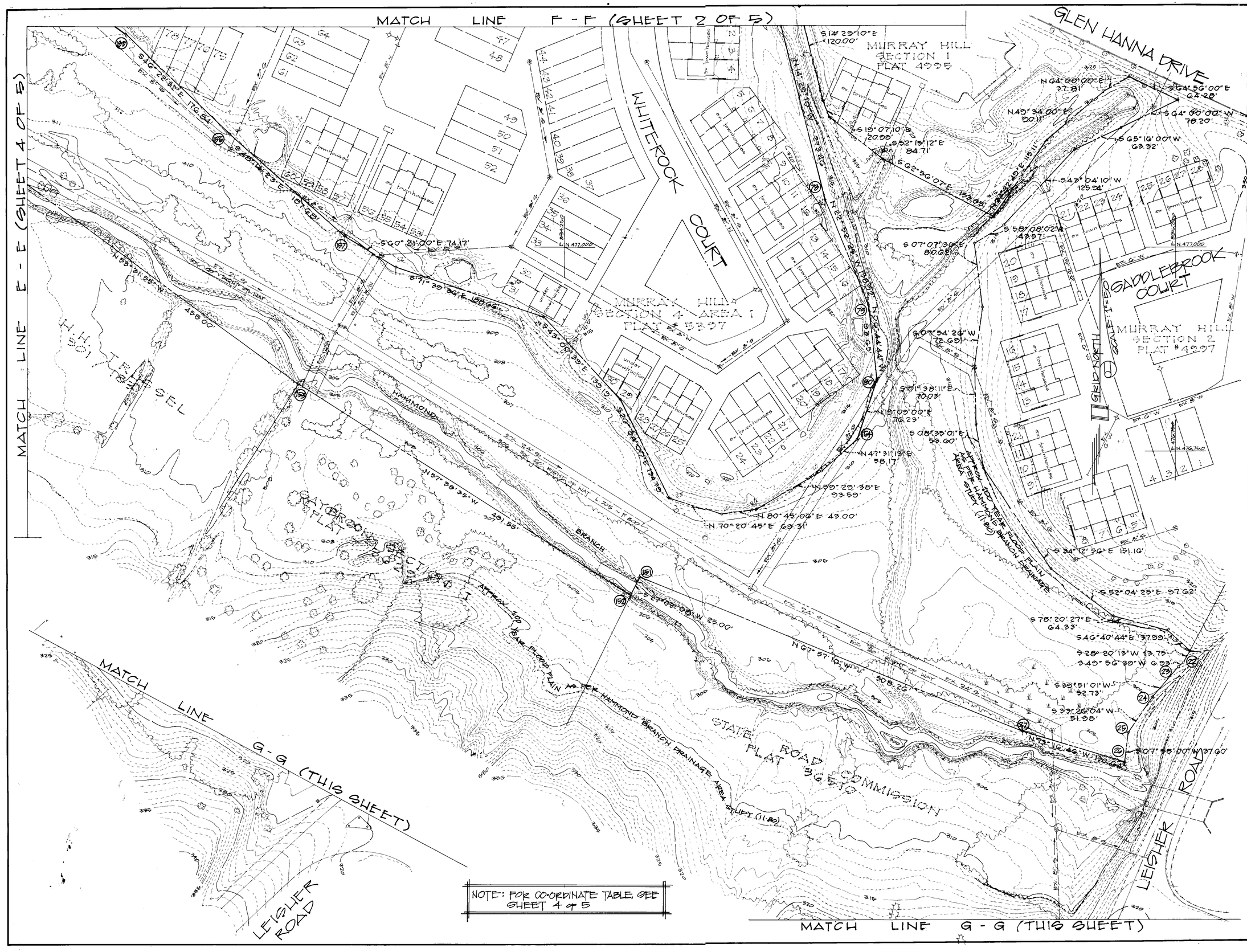
Title
TOPOGRAPHY

Date		Drawing Number
Designer	Drafter	4
Scale 1"=50'	Checked by	of 5

1608



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Date		Drawing Number
Designer	Drafter	5
Scale 1"=50'	Checked by	of 5

1602