SHEET INDEX

FINAL ROAD CONSTRUCTION, GRADING AND STORMWATER MANAGEMENT PLAN

PINDELL CHASE

BUILDABLE LOTS 1 - 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO

TAX MAP NO. 41 GRID Nos. 7, 8, 13 & 14 PARCEL No. 59

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/02/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/14/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS "FOR PUBLIC INFRASTRUCTURES ONLY"

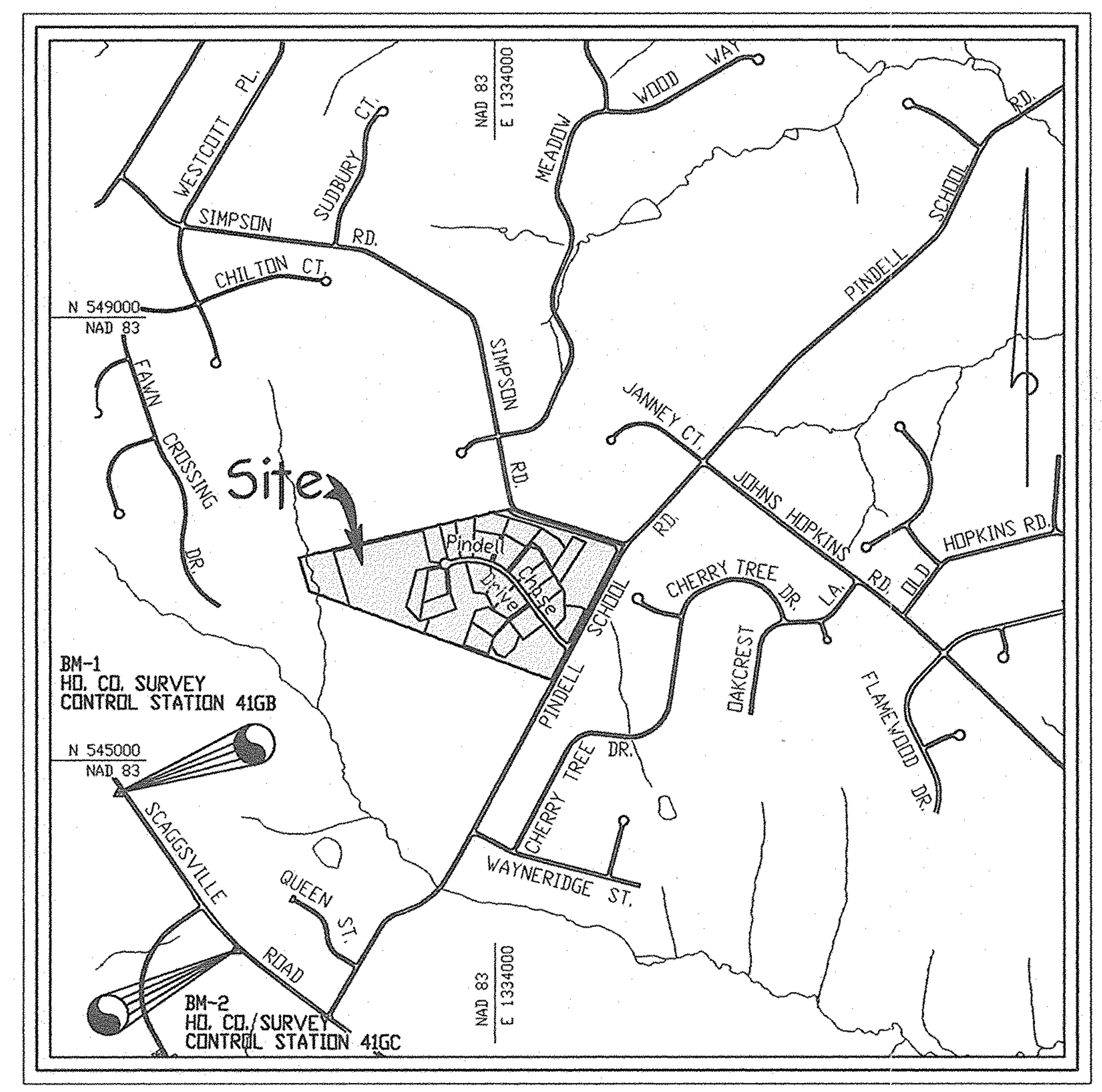
CHIEF, BUREAU OF HIGHWAYS — DATE 3-12-03

STREET SIGN CHART

STREET NAME	STATION	OFFSET	POSTED SIGN	SIGN CODE
PINDELL CHASE DRIVE	C.L. STA. 0+39	13'L	STOP	R1-1
PINDELL CHASE DRIVE	C.L. STA. 2+00	13'R	SPEED LIMIT 25	R2-1
PINDELL CHASE DRIVE	C.L. STA. 1+50	-	KEEP RIGHT	R4-7
PINDELL CHASE DRIVE	C.L. STA. 3+25	-	KEEP RIGHT	R4-7
PINDELL CHASE DRIVE	C.L. STA. 3+00	13'L	STOP AHEAD	W3-1a

ROADWAY DATA

ROAD NAME	CLASSIFICATION	R/W
PINDELL CHASE DRIVE	PUBLIC ACCESS STREET/ PUBLIC ACCESS PLACE	40'



VICINITY MAP
SCALE: 1" = 1200'

FIFTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/ BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
4. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
5. COORDINATES BASED ON NAD'83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 41 GB AND NO. 41 GC
   41 GB N 544,580.380 E 1,330,741.359 ELEV. = 475.998
   41 GC N 543,290.643 E 1,331,697.835 ELEV. = 469.139
6. THE TRAFFIC STUDY WAS PREPARED BY THE STREET TRAFFIC STUDIES, LTD., DATED JULY 21, 2000, REVISED ON MARCH 8, 2001, AND APPROVED UNDER S-01-15.
7. BACKGROUND INFORMATION:
   A. SUBDIVISION NAME: PINDELL CHASE
   B. TAX MAP NO.: 41
   C. PARCEL NO.: 59
   D. ZONING: RR-DEO
   E. ELECTION DISTRICT: FIFTH
   F. TOTAL TRACT AREA: 59.120 AC.±
   G. NO. OF BUILDABLE LOTS: 24
   H. NO. OF OPEN SPACE LOTS: 1
   I. NO. OF NON-BUILDABLE PARCELS: 3
   J. AREA OF BUILDABLE LOTS: 27.299 AC.±
   K. AREA OF OPEN SPACE LOTS: 3.349 AC.±
   L. AREA OF NON-BUILDABLE PARCELS: 25.098 AC.±
   M. PREVIOUS FILE NOS.: S-01-15 APPROVAL DATE: 6-1-01, P-02-06 APPROVAL DATE: 7-23-02
   N. TOTAL AREA OF OPEN SPACE REQUIRED: 2.96 AC. (5% OF GROSS AREA)
   O. TOTAL AREA OF CREDITED OPEN SPACE PROVIDED: 2.97 AC.±
   P. TOTAL AREA OF ROADWAY TO BE DEDICATED: 3.374 AC.±
8. NO CEMETERIES EXIST ON THE PROPERTY.
9. ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION PER AASHTO T-180.
10. THE FOREST CONSERVATION EASEMENT(S) HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, EXCEPT AS SHOWN ON AN APPROVED ROAD CONSTRUCTION DRAWING OR SITE DEVELOPMENT PLAN. HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
11. STORMWATER MANAGEMENT FACILITY:
    TYPE - MICRO-POOL EXTENDED DETENTION PONDS AND A DRY SWALE
    OWNER - PINDELL CHASE HOMEOWNERS' ASSOCIATION, INC.
    MAINTENANCE - PRIVATELY MAINTAINED
12. THE PROPOSED WATER AND SEWER SYSTEMS SHALL BE PRIVATE.
13. THE SUBJECT PROPERTY IS LOCATED OUTSIDE OF THE METROPOLITAN DISTRICT.
14. TOPOGRAPHIC INFORMATION ESTABLISHED AT TWO FOOT INTERVALS BASED ON AERIAL TOPOGRAPHY PREPARED BY HARFORD AERIAL SURVEYS DATED FEBRUARY, 2001.
15. FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE IS TO BE PROVIDED AT THE JUNCTION OF THE FLAG OR PIPESTEM AND THE ROAD RIGHT-OF-WAY AND NOT ONTO THE FLAG OR PIPESTEM DRIVEWAY.
16. WETLAND AND FOREST STAND DELINEATION INFORMATION SHOWN WAS TAKEN FROM REPORTS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED DECEMBER, 2000, AND APPROVED UNDER S-01-15.
17. SOILS INFORMATION TAKEN FROM SOIL MAP NO. 28, SOIL SURVEY, HOWARD COUNTY, MARYLAND, JULY 1968 ISSUE.
18. AS A CONSEQUENCE OF SKETCH PLAN (S-01-15) APPROVAL PRIOR TO THE EFFECTIVE DATE OF THE FIFTH EDITION OF THE REGULATIONS OF 11/15/01, THIS SUBDIVISION IS GRANDFATHERED TO THE FOURTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
19. SUBJECT PROPERTY ZONED RR-DEO PER 10/18/93 COMPREHENSIVE ZONING PLAN.
20. THERE ARE NO AREAS OF STEEP SLOPES LOCATED ON THIS PROPERTY AS DEFINED BY THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, SECTION 16.116.b.
21. AS PER SECTION 105.F.4.b OF THE ZONING REGULATIONS, ONLY ONE EASEMENT HOLDER IS REQUIRED FOR PRESERVATION PARCELS DESIGNED SOLELY FOR STORMWATER MANAGEMENT FACILITIES OR COMMUNITY SEWERAGE DISPOSAL SYSTEMS. NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C' SHALL BE OWNED AND MAINTAINED BY THE PINDELL CHASE HOMEOWNERS' ASSOCIATION, INC., AND THE EASEMENT HOLDER SHALL BE HOWARD COUNTY, NON-BUILDABLE PRESERVATION PARCEL 'B' SHALL BE PRIVATELY OWNED. MARYLAND. THIS AGREEMENT PROHIBITS FURTHER SUBDIVISION OF THE PARCELS, OUTLINES THE MAINTENANCE RESPONSIBILITIES OF THEIR OWNERS AND ENUMERATESTHE USES PERMITTED ON THE PARCELS.
22. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLANDS, STREAM OR THEIR REQUIRED BUFFERS.
23. THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING AND THE DEPARTMENT OF RECREATION AND PARKS HAVE AUTHORIZED THE REDUCTION OF THE REQUIRED ROAD FRONTAGE FOR OPEN SPACE LOT 25 TO ZERO FEET IN ACCORDANCE WITH DPZ's "OPEN SPACE FRONTAGE POLICY DATED 12/8/99" SINCE OPEN SPACE LOT 25 WILL HAVE SUFFICIENT ROAD FRONTAGE THROUGH THE OPEN SPACE LOT RECORDED FOR PINDELL CROSSING (F01-63).
24. THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION WILL BE FULFILLED BY: 11.22 ACRES OF RETENTION + 0.6 ACRES OF REFORESTATION + 1.98 ACRES OF NON-CREDITED FLOODPLAIN AREA. TOTAL FOREST CONSERVATION EASEMENT AREA = 13.80 ACRES. TOTAL FOREST CONSERVATION OBLIGATION = 11.82 ACRES.
25. NO SEPTIC AREAS ARE ELIGIBLE FOR ADJUSTMENT WITH THE EXCEPTION OF LOTS 10 THROUGH 13.
26. THE LANDSCAPE SURETY IN THE AMOUNT OF $56,400.00 FOR PERIMETER LANDSCAPE REQUIREMENTS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL IS POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS SUBDIVISION.
27. THE 100 YEAR FLOODPLAIN ON-SITE IS BASED ON FLOODPLAIN STUDY PREPARED BY FISHER, COLLINS & CARTER, INC., AND APPROVED ON 7/23/02.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

No.	Revision	Date
1	Revise General Note #21	10-22-03

OWNER
MAPLE LAWN FARMS, INC.
11920 ROUTE 216
FULTON, MD 20759-2215

DEVELOPER
TOLL BROTHERS, INC.
ATTN: MR. SCOTT HARE
7164 COLUMBIA GATEWAY DR., SUITE 230
COLUMBIA, MARYLAND 21046

STATE OF MARYLAND — CHARLES J. CROVO — PROFESSIONAL ENGINEER

AS BUILT 2/11/05

CHARLES J. CROVO, SR., P.E., L.S. — DATE 2/14/03

PINDELL CHASE

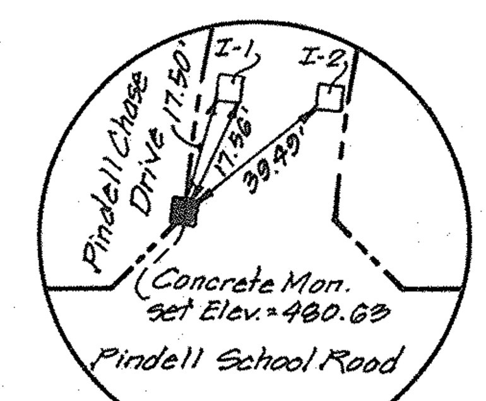
BUILDABLE LOTS 1 - 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO
TAX MAP NO. 41 GRID Nos. 7, 8, 13 & 14 PARCEL No. 59
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 14, 2003
SHEET 1 OF 25

F 03-28

AS BUILT

PLAN
SCALE: 1" = 50'



REVISIONS		
NO.	DESCRIPTION	DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[signature] 3/08/03
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

[signature] 3/14/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
"FOR PUBLIC INFRASTRUCTURES ONLY"

[signature] 3-12-03
CHIEF, BUREAU OF HIGHWAYS — DATE

PINDELL CHASE

Lots 1 Thru 25 And
Non-Buildable Preservation Parcels A Thru C
Zoned: RR-DEO
Tax Map: 41 Parcel: 59 Grid: 4
Fifth Election District Howard County, Maryland

PINDELL SCHOOL ROAD WIDENING

PLAN AND PROFILE

OWNER	DEVELOPER
MAPLE LAWN FARMS, INC. 11920 ROUTE 216 FULTON, MD 20759-2215	TOLL BROTHERS, INC. ATTN: MR. SCOTT HARE 7164 COLUMBIA GATEWAY DR., SUITE 230 COLUMBIA, MARYLAND 21046

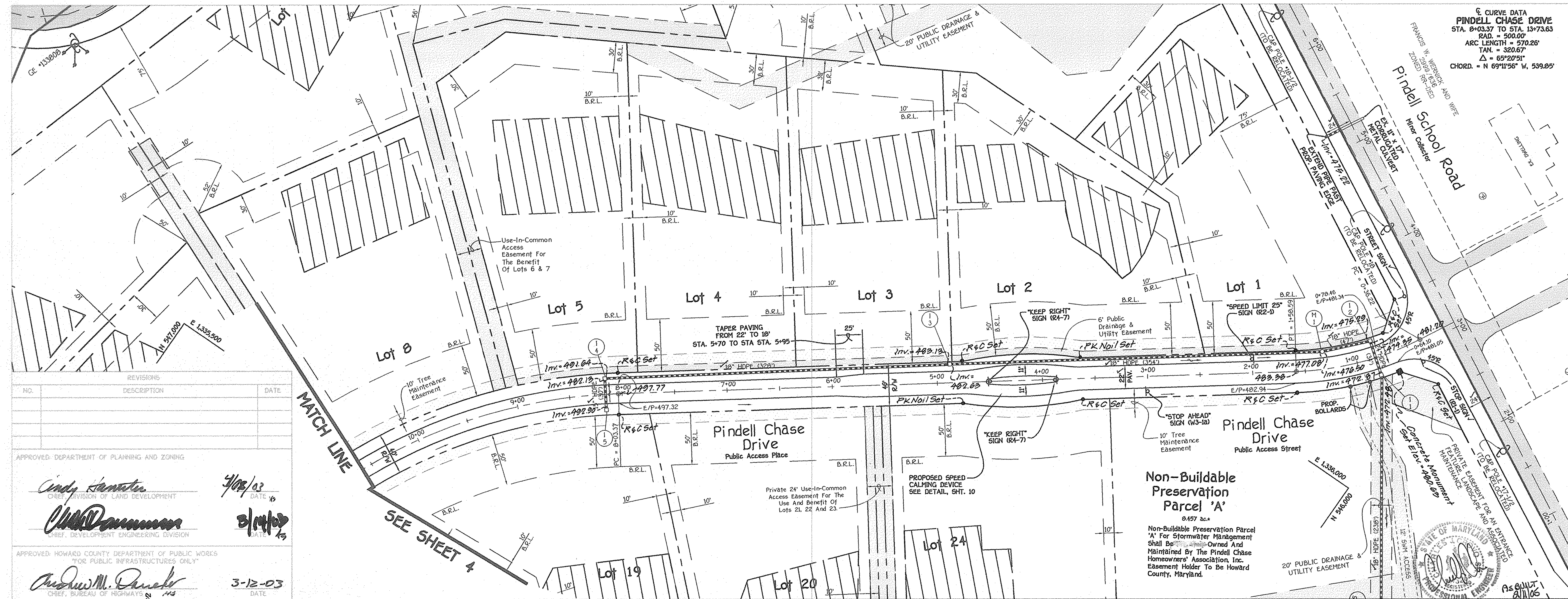
SCALE: AS SHOWN	DATE: FEB. 14, 2003	DWG. NO. 2 OF 25
DES. J.M.Z.	DRN. J.C.L.	CHK. F.C.C.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

PROFILE
SCALE: HOR. : 1" = 50'
VER. : 1" = 5'

F 03-28

AS BUILT



℄ CURVE DATA
PINDELL CHASE DRIVE
STA. 0+36.22 TO STA. 1+58.59
RAD. = 275.00'
ARC LENGTH = 122.38'
TAN. = 62.22'
Δ = 25°29'51"
CHORD. = N 49°16'26" W, 121.37'

NOTE:
CONTRACTOR SHALL INSTALL EROSION CONTROL MATTING IN ALL ROADWAY DITCHES FOR THE ENTIRE LENGTH OF ROAD. (SEE SHEET 15 FOR EROSION CONTROL MATTING DETAIL)

NO.	DESCRIPTION	DATE
	REVISIONS	

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hamilton — CHIEF, DIVISION OF LAND DEVELOPMENT — 4/08/03 DATE
[signature] — CHIEF, DEVELOPMENT ENGINEERING DIVISION — 3/14/03 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS "FOR PUBLIC INFRASTRUCTURES ONLY"
Andrew M. Daneker — CHIEF, BUREAU OF HIGHWAYS — 3-12-03 DATE

PINDELL CHASE
Lots 1 Thru 25 And
Non-Buildable Preservation Parcels A Thru C
Zoned: RR-DEO
Tax Map: 41 Parcel: 59 Grid: 4
Fifth Election District Howard County, Maryland

PINDELL CHASE DRIVE
PLAN AND PROFILE

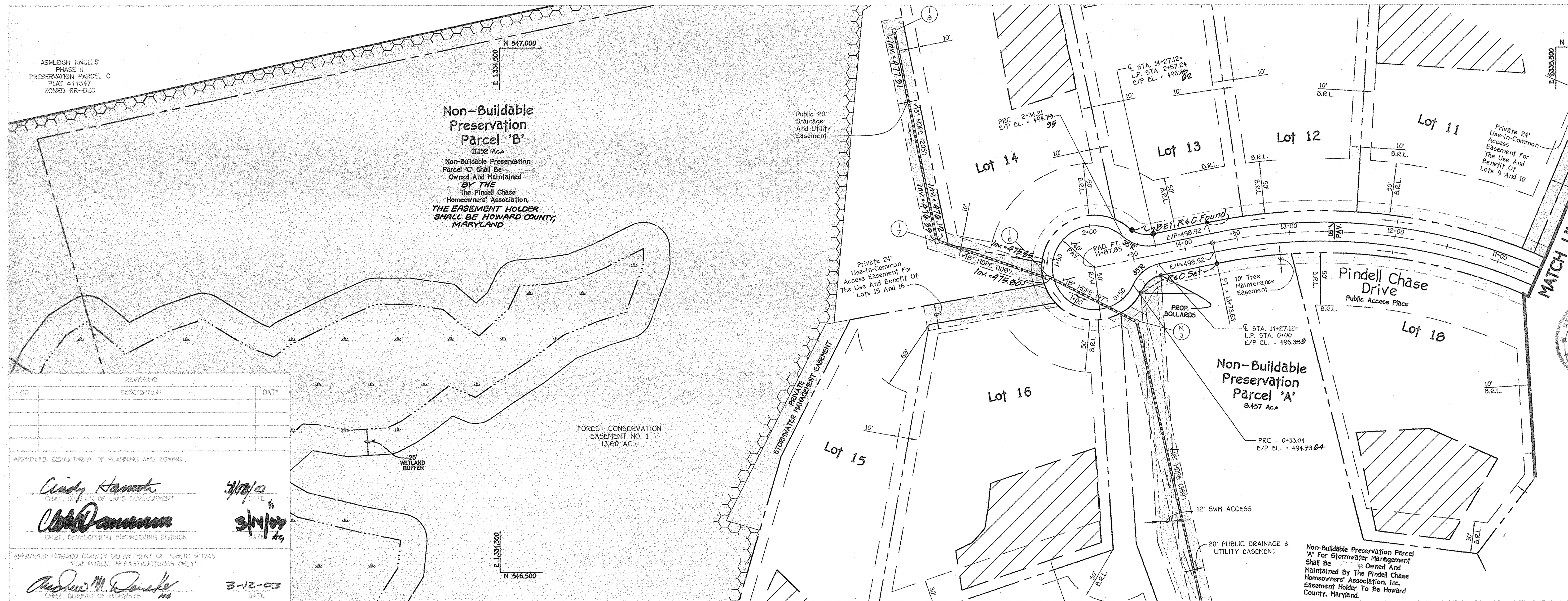
OWNER	DEVELOPER
MAPLE LAWN FARMS, INC. 11920 ROUTE 216 FULTON, MD 20759-2215	TOLL BROTHERS, INC. ATTN: MR. SCOTT HARE 7164 COLUMBIA GATEWAY DR., SUITE 230 COLUMBIA, MARYLAND 21046

SCALE: 1" = 50'	DATE: FEB. 14, 2003	DWG. NO. 3 OF 25
DES. J.M.Z.	DRN. J.C.L.	CHK. F.C.C.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

F 03-28

AS BUILT


ASHLEIGH KNOLLS
PHASE II
PRESERVATION PARCEL C
PLAT #11547
ZONED RR-DEO
N 547,000
E 1,334,500
Non-Buildable
Preservation
Parcel 'B'
11.152 Ac.±
Non-Buildable Preservation
Parcel 'C' Shall Be
Owned And Maintained
BY THE
The Pindell Chase
Homeowners' Association.
THE EASEMENT HOLDER
SHALL BE HOWARD COUNTY,
MARYLAND
FOREST CONSERVATION
EASEMENT NO. 1
13.80 AC.±
25' WETLAND BUFFER
N 546,500
Public 20' Drainage And Utility Easement
PRIVATE STORMWATER MANAGEMENT EASEMENT
Private 24' Use-In-Common Access Easement For The Use And Benefit Of Lots 15 And 16
Lot 14
Lot 13
Lot 12
Lot 11
Lot 15
Lot 16
Lot 18
Private 24' Use-In-Common Access Easement For The Use And Benefit Of Lots 9 And 10
MATCH LINE SEE SHEET 3
N 547,000
B.R.L.
PRC = 2+34.21
℄ STA. 14+27.12=
L.P. STA. 2+67.24
E/P EL. = 496.36
RAD. PT. STA. 14+87.85
E/P=498.92
14+00
13+00
12+00
11+00
Pindell Chase
Drive
Public Access Place
10' Tree Maintenance Easement
PROP. BOLLARDS
℄ STA. 14+27.12=
L.P. STA. 0+00
E/P EL. = 496.38
Non-Buildable
Preservation
Parcel 'A'
8.457 Ac.±
PRC = 0+33.04
E/P EL. = 494.79
12" SWM ACCESS
20' PUBLIC DRAINAGE & UTILITY EASEMENT
Non-Buildable Preservation Parcel 'A' For Stormwater Management Shall Be Owned And Maintained By The Pindell Chase Homeowners' Association, Inc. Easement Holder To Be Howard County, Maryland.
As Built 2/11/05

REVISIONS		
NO.	DESCRIPTION	DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[signature] 3/12/03
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

[signature] 3/11/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
"FOR PUBLIC INFRASTRUCTURES ONLY"

[signature] 3-12-03
CHIEF, BUREAU OF HIGHWAYS — DATE

PINDELL CHASE

Lots 1 Thru 25 And
Non-Buildable Preservation Parcels A Thru C
Zoned: RR-DEO
Tax Map: 41 Parcel: 59 Grid: 4
Fifth Election District Howard County, Maryland

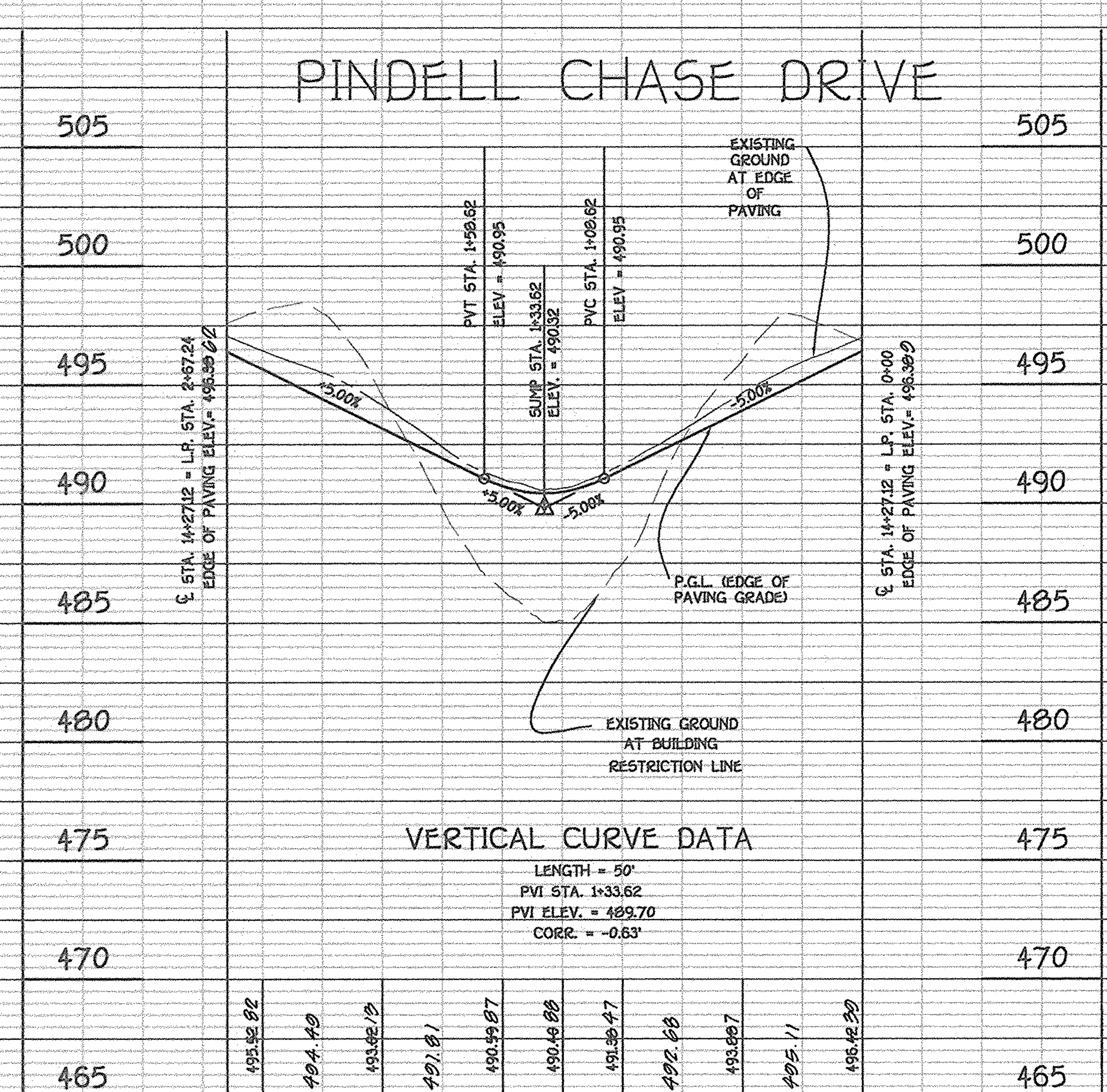
PINDELL CHASE DRIVE

PLAN AND PROFILE

OWNER	DEVELOPER
MAPLE LAWN FARMS, INC. 11920 ROUTE 216 FULTON, MD 20759-2215	TOLL BROTHERS, INC. ATTN: MR. SCOTT HARE 7164 COLUMBIA GATEWAY DR., SUITE 230 COLUMBIA, MARYLAND 21046

SCALE: 1" = 50'	DATE: FEB. 14, 2003	DWG. NO. 4 OF 25
DES. J.M.Z.	DRN. J.C.L.	CHK. F.C.C.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS


PINDELL CHASE DRIVE
505
500
495
490
485
480
475
470
465
EXISTING GROUND AT EDGE OF PAVING
PVT STA. 1+58.62
ELEV. = 490.95
SUMP STA. 1+33.62
ELEV. = 490.32
PVC STA. 1+08.62
ELEV. = 490.95
℄ STA. 14+27.12 = L.P. STA. 2+67.24 EDGE OF PAVING ELEV. = 496.36
℄ STA. 14+27.12 = L.P. STA. 0+00 EDGE OF PAVING ELEV. = 496.38
-5.00%
+5.00%
P.G.L. (EDGE OF PAVING GRADE)
EXISTING GROUND AT BUILDING RESTRICTION LINE
VERTICAL CURVE DATA
LENGTH = 50'
PVI STA. 1+33.62
PVI ELEV. = 489.70
CORR. = -0.63'
2+00
1+00
0+00

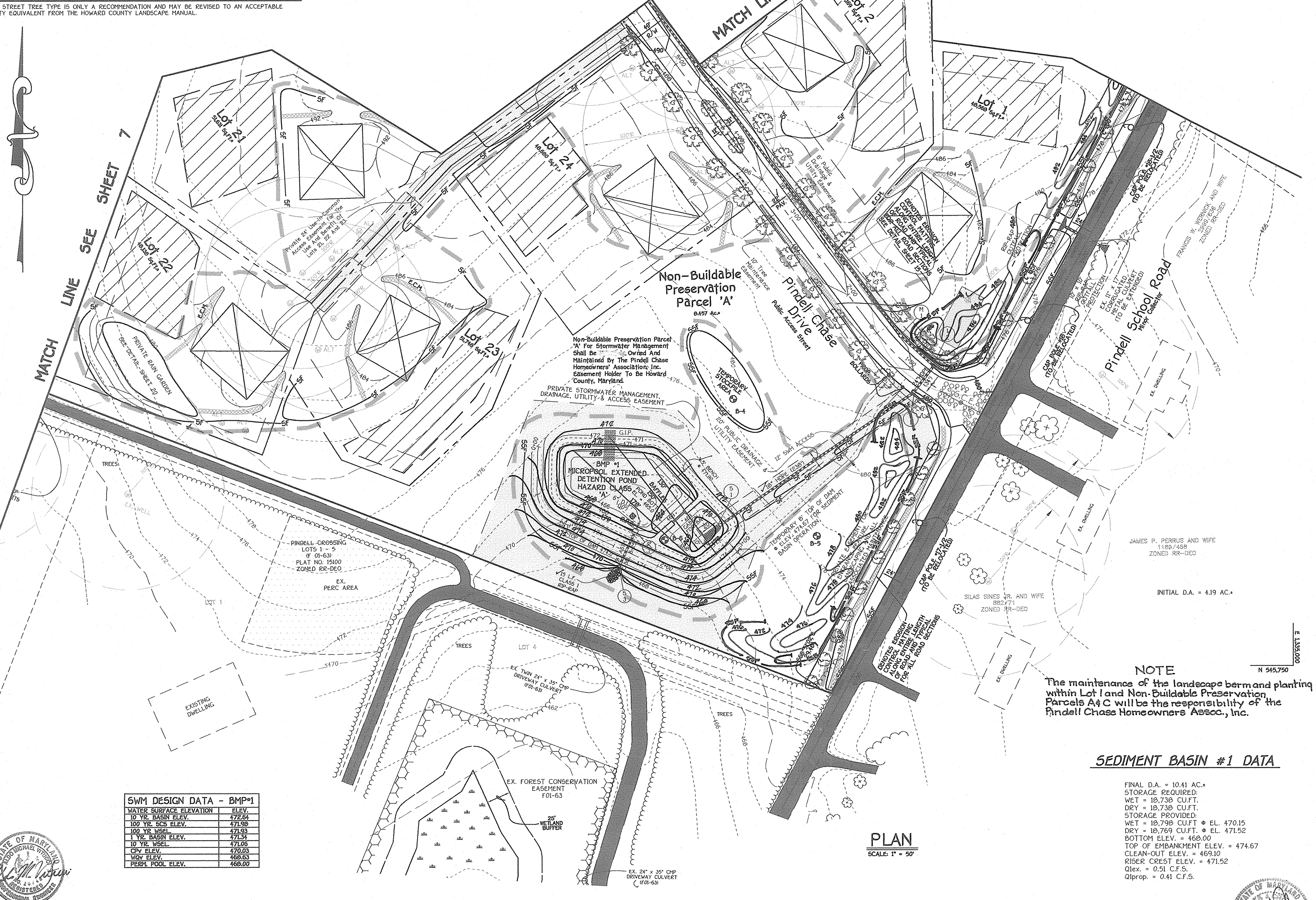
LINEAR PROFILE
SCALE: HOR. : 1" = 50'
VER. : 1" = 5'

AS BUILT

STREET TREE SCHEDULE

SYMBOL	QTY.	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	3096 L.F./40= 77 TREES	PLATANUS X ACERIFOLIA 'BLOODGOOD' BLOODGOOD LONDON PLANE	2 1/2-3" CAL.	40' APART ON PUBLIC R/W ALONG PINDELL CHASE DRIVE
	1379 L.F./40= 34 TREES	FRAXINUS AMERICANA 'GREEN MOUNTAIN' GREEN MOUNTAIN SUGAR MAPLE	2 1/2-3" CAL.	40' APART ON PUBLIC R/W ALONG PINDELL SCHOOL ROAD
	1080 L.F./40= 27 TREES	ACER RUBRUM 'OCTOBER GLORY' OCTOBER GLORY RED MAPLE	2 1/2-3" CAL.	40' APART ON PUBLIC R/W ALONG SIMPSON ROAD

NOTE: STREET TREE TYPE IS ONLY A RECOMMENDATION AND MAY BE REVISED TO AN ACCEPTABLE COUNTY EQUIVALENT FROM THE HOWARD COUNTY LANDSCAPE MANUAL.



PLAN

SCALE: 1" = 50'

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 The Environment Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District."

[signature] 2/14/03

Signature Of Developer — Date

BRUCE R. OXLEY

Printed Name Of Developer

By The Engineer:

"I Certify That This Plan For Pond Construction, Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Conditions. This Plan Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District. I Have Notified The Developer That He/She Must Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion."

[signature] 2-24-03

Signature Of Engineer — Date

ALDO M. VITUCCI

Printed Name Of Engineer

These Plans Have Been Reviewed For The Howard Soil Conservation District And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.

[signature] 3/5/03

USDA-Natural Resources Conservation Service — Date

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

[signature] 3/5/03

Howard Soil Conservation District — Date

Approved: Department Of Public Works "For Public Infrastructures Only"

[signature] 3-12-03

Chief Bureau Of Highways — Date

Approved: Department Of Planning And Zoning

[signature] 4/08/03

Chief, Division Of Land Development — Date

[signature] 3/14/03

Chief, Development Engineering Division — Date

REVISIONS

NO.	DESCRIPTION	DATE

LEGEND

—SSF—SSF—SSF—	SUPER-SILT FENCE
—SF—SF—SF—	SILT FENCE
—TP—TP—TP—	TREE PROTECTION FENCE
S.C.E.	STABILIZED CONSTRUCTION ENTRANCE
→→	EARTH DIKE
— —	DENOTES L.O.D. LIMITS OF DISTURBANCE
E.C.M.	EROSION CONTROL MATTING (INSTALL MATTING IN ALL ROADWAY DITCHES AND SWALES BETWEEN HOUSE SITES)
G.I.P.	GABION INFLOW PROTECTION

NOTE

The maintenance of the landscape berm and planting within Lot 1 and Non-Buildable Preservation Parcels A & C will be the responsibility of the Pindell Chase Homeowners Assoc., Inc.

NOTE:
ALL DRIVEWAY CULVERTS ARE TO BE 12" CMP UNLESS OTHERWISE NOTED ON PLAN VIEW.

SEDIMENT BASIN #1 DATA

FINAL D.A. = 10.41 AC.±
STORAGE REQUIRED:
WET = 18,738 CU.FT.
DRY = 18,738 CU.FT.
STORAGE PROVIDED:
WET = 18,798 CU.FT @ EL. 470.15
DRY = 18,769 CU.FT. @ EL. 471.52
BOTTOM ELEV. = 468.00
TOP OF EMBANKMENT ELEV. = 474.67
CLEAN-OUT ELEV. = 469.10
RISER CREST ELEV. = 471.52
Q1ex. = 0.51 C.F.S.
Q1prop. = 0.41 C.F.S.

SWM DESIGN DATA - BMP#1	
WATER SURFACE ELEVATION	ELEV.
10 YR. BASIN ELEV.	472.64
100 YR. SCS ELEV.	471.98
100 YR WSEL.	471.93
1 YR. BASIN ELEV.	471.34
10 YR. WSEL.	471.06
CPV ELEV.	470.03
WQV ELEV.	468.63
PERM. POOL ELEV.	468.00

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — NO. 20746 — REGISTERED PROFESSIONAL ENGINEER — 2-24-03

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

Nº	REVISION	DATE
1	Add earth berm along Pindell School Rd & add Note	10/22/03

OWNER
MAPLE LAWN FARMS, INC.
11920 ROUTE 216
FULTON, MD 20759-2215

DEVELOPER
TOLL BROTHERS, INC.
ATTN: MR. SCOTT HARE
7164 COLUMBIA GATEWAY DR., SUITE 230
COLUMBIA, MARYLAND 21046

STATE OF MARYLAND — PROFESSIONAL ENGINEER — AS BUILT 2/11/05

STREET TREE, GRADING AND SEDIMENT CONTROL PLAN

PINDELL CHASE

BUILDABLE LOTS 1 – 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO

TAX MAP NO. 41 GRID Nos. 7, 8, 13 & 14 PARCEL No. 59

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: FEBRUARY 14, 2003

F 03-28

AS BUILT

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 The Environment Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District."

Signature Of Developer — Date: 2/14/03

BRUCE R. OXLEY

Printed Name Of Developer

By The Engineer:

"I Certify That This Plan For Pond Construction, Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Conditions. This Plan Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District. I Have Notified The Developer That He/She Must Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion."

Signature Of Engineer — Date: 2-24-03

Printed Name Of Engineer

These Plans Have Been Reviewed For The Howard Soil Conservation District And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.

USDA-Natural Resources Conservation Service — Date: 3/5/03

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Howard Soil Conservation District — Date: 3/5/03

Approved: Department Of Public Works
"For Public Infrastructures Only"

Chief Bureau Of Highways — Date: 3-12-03

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date: 4/2/03

Chief, Development Engineering Division — Date: 3/14/03

REVISIONS

NO.	DESCRIPTION	DATE

LEGEND

Symbol	Description
—SSF—SSF—SSF—	SUPER-SILT FENCE
—SF—SF—SF—	SILT FENCE
—TP—TP—TP—	TREE PROTECTION FENCE
S.C.E.	STABILIZED CONSTRUCTION ENTRANCE
→ →	EARTH DIKE
— — —	DENOTES L.O.D. LIMITS OF DISTURBANCE
E.C.M.	EROSION CONTROL MATTING (INSTALL MATTING IN ALL ROADWAY DITCHES AND SWALES BETWEEN HOUSE SITES)
G.I.P.	GABION INFLOW PROTECTION

NOTE

The maintenance of the berm and planting within Lot 1 and Non-Buildable Preservation Parcels A & C will be the responsibility of the Pindell Chase Homeowners Assoc., Inc.

SEDIMENT BASIN #3 DATA

FINAL D.A. = 8.81 AC.±
STORAGE REQUIRED:
WET = 15,858 CU.FT.
DRY = 15,858 CU.FT.
STORAGE PROVIDED:
WET = 16,238 CU.FT @ EL. 476.10
DRY = 20,262 CU.FT. @ EL. 477.50
BOTTOM ELEV. = 474.50
TOP OF EMBANKMENT ELEV. = 482.00
CLEAN-OUT ELEV. = 475.50
RISER CREST ELEV. = 477.50
Q1ex. = 1.25 C.F.S.
Q1prop. = 0.71 C.F.S.

PLAN

SCALE: 1" = 50'

SWM DESIGN DATA - BMP#3	
WATER SURFACE ELEVATION	ELEV.
100 YR. SCS ELEV.	478.95
100 YR. WSEL.	478.66
10 YR BASIN ELEV.	478.19
10 YR. WSEL.	477.92
1 YR. BASIN ELEV.	476.69
CPv ELEV.	476.48
WQv ELEV.	476.04
PERM. POOL ELEV.	475.75

E 1,334,250 N 546,250

2-24-03

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

Nº	REVISION	DATE
1	Add earth berm along Pindell School & Simpson Rd & add Note	10-22-03

OWNER
MAPLE LAWN FARMS, INC.
11920 ROUTE 216
FULTON, MD 20759-2215

DEVELOPER
TOLL BROTHERS, INC.
ATTN: MR. SCOTT HARE
7164 COLUMBIA GATEWAY DR., SUITE 230
COLUMBIA, MARYLAND 21046

E 1,335,250 N 546,250

AS BUILT 2/11/05

STREET TREE, GRADING AND SEDIMENT CONTROL PLAN

PINDELL CHASE

BUILDABLE LOTS 1 - 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO

TAX MAP NO. 41 GRID Nos. 7, 8, 13 & 14 PARCEL No. 59

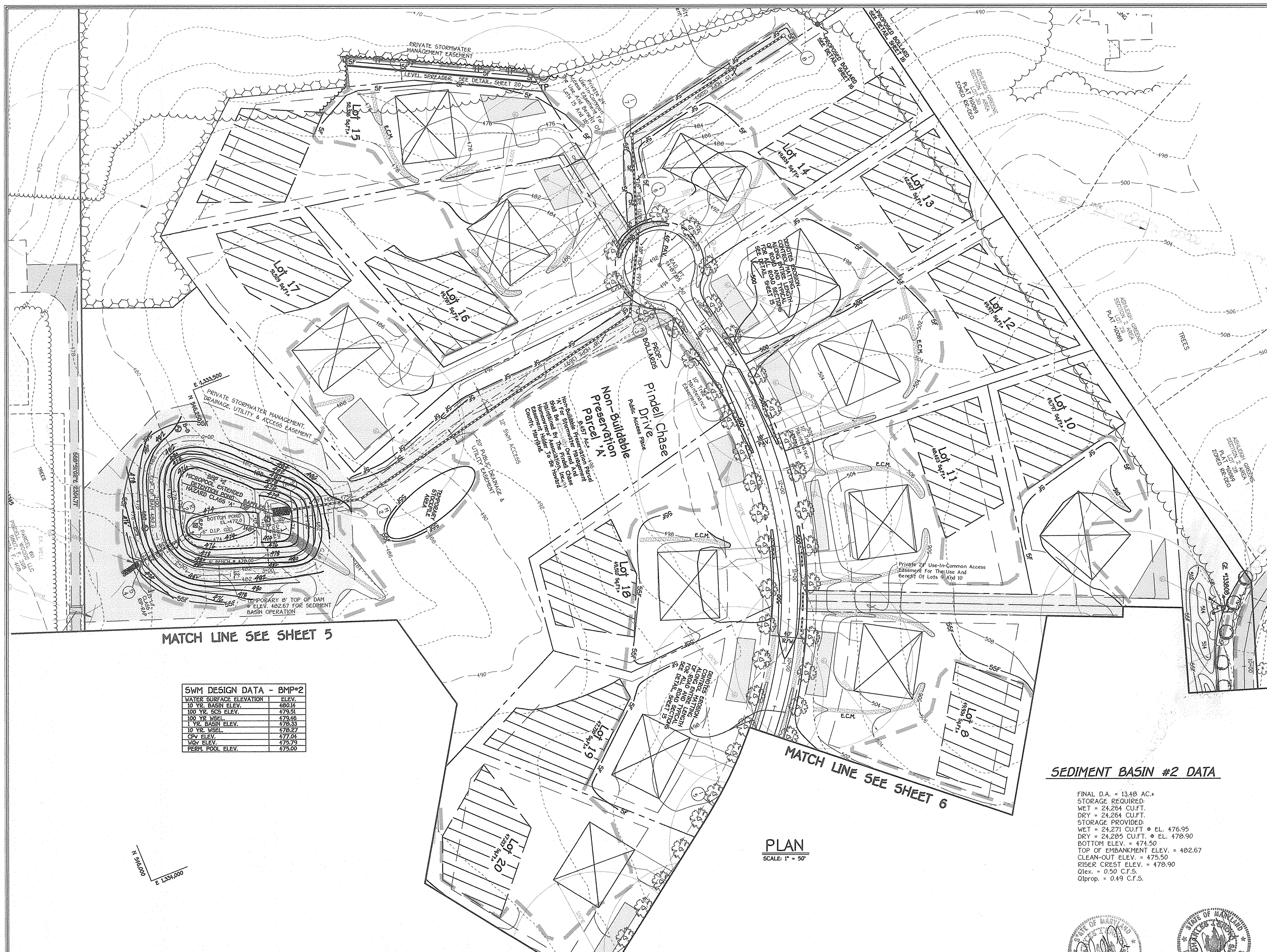
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: FEBRUARY 14, 2003

SHEET 6 OF 25

F 03-28

AS BUILT



SWM DESIGN DATA - BMP#2	
WATER SURFACE ELEVATION	ELEV.
10 YR. BASIN ELEV.	480.14
100 YR. SCS ELEV.	479.51
100 YR WSEL.	479.46
1 YR. BASIN ELEV.	478.33
10 YR. WSEL.	478.27
CPV ELEV.	477.04
WQV ELEV.	475.79
PERM. POOL ELEV.	475.00

SEDIMENT BASIN #2 DATA

FINAL D.A. = 13.48 AC.±
STORAGE REQUIRED:
WET = 24,264 CU.FT.
DRY = 24,264 CU.FT.
STORAGE PROVIDED:
WET = 24,271 CU.FT @ EL. 476.95
DRY = 24,285 CU.FT. @ EL. 478.90
BOTTOM ELEV. = 474.50
TOP OF EMBANKMENT ELEV. = 482.67
CLEAN-OUT ELEV. = 475.50
RISER CREST ELEV. = 478.90
Q1ex. = 0.50 C.F.S.
Q1prop. = 0.49 C.F.S.

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 The Environment Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District."

Signature Of Developer — 2/14/03 Date
BRUCE R. OXLEY
Printed Name Of Developer

By The Engineer:

"I Certify That This Plan For Pond Construction, Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Conditions. This Plan Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District. I Have Notified The Developer That He/She Must Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion."

Signature Of Engineer — 2/14/03 Date
CHARLES J. CROVO, SR., P.E., L.S.
Printed Name Of Engineer

These Plans Have Been Reviewed For The Howard Soil Conservation District And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.

USDA-Natural Resources Conservation Service — 3/5/03 Date

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Howard Soil Conservation District — 3/5/03 Date

Approved: Department Of Public Works
"For Public Infrastructures Only"
Chief Bureau Of Highways — 3-12-03 Date

Approved: Department Of Planning And Zoning
Chief, Division Of Land Development — 4/2/03 Date
Chief, Development Engineering Division — 3/14/03 Date

REVISIONS

NO.	DESCRIPTION	DATE

LEGEND

- SSF—SSF—SSF — SUPER-SILT FENCE
- SF—SF—SF — SILT FENCE
- TP—TP—TP — TREE PROTECTION FENCE
- S.C.E. — STABILIZED CONSTRUCTION ENTRANCE
- EARTH DIKE
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- G.I.P. — GABION INFLOW PROTECTION

1	Add earth berm along Simpson Rd	10-22-03
No.	Revision	Date

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

OWNER
MAPLE LAWN FARMS, INC.
11920 ROUTE 216
FULTON, MD 20759-2215

DEVELOPER
TOLL BROTHERS, INC.
ATTN: MR. SCOTT HARE
7164 COLUMBIA GATEWAY DR., SUITE 230
COLUMBIA, MARYLAND 21046

STATE OF MARYLAND — CHARLES J. CROVO — REGISTERED PROFESSIONAL ENGINEER
AS BUILT 2/11/05

STREET TREE, GRADING AND SEDIMENT CONTROL PLAN

PINDELL CHASE

BUILDABLE LOTS 1 - 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO
TAX MAP NO. 41 GRID Nos. 7, 8, 13 & 14 PARCEL No. 59
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 14, 2003

F 03-28

AS BUILT

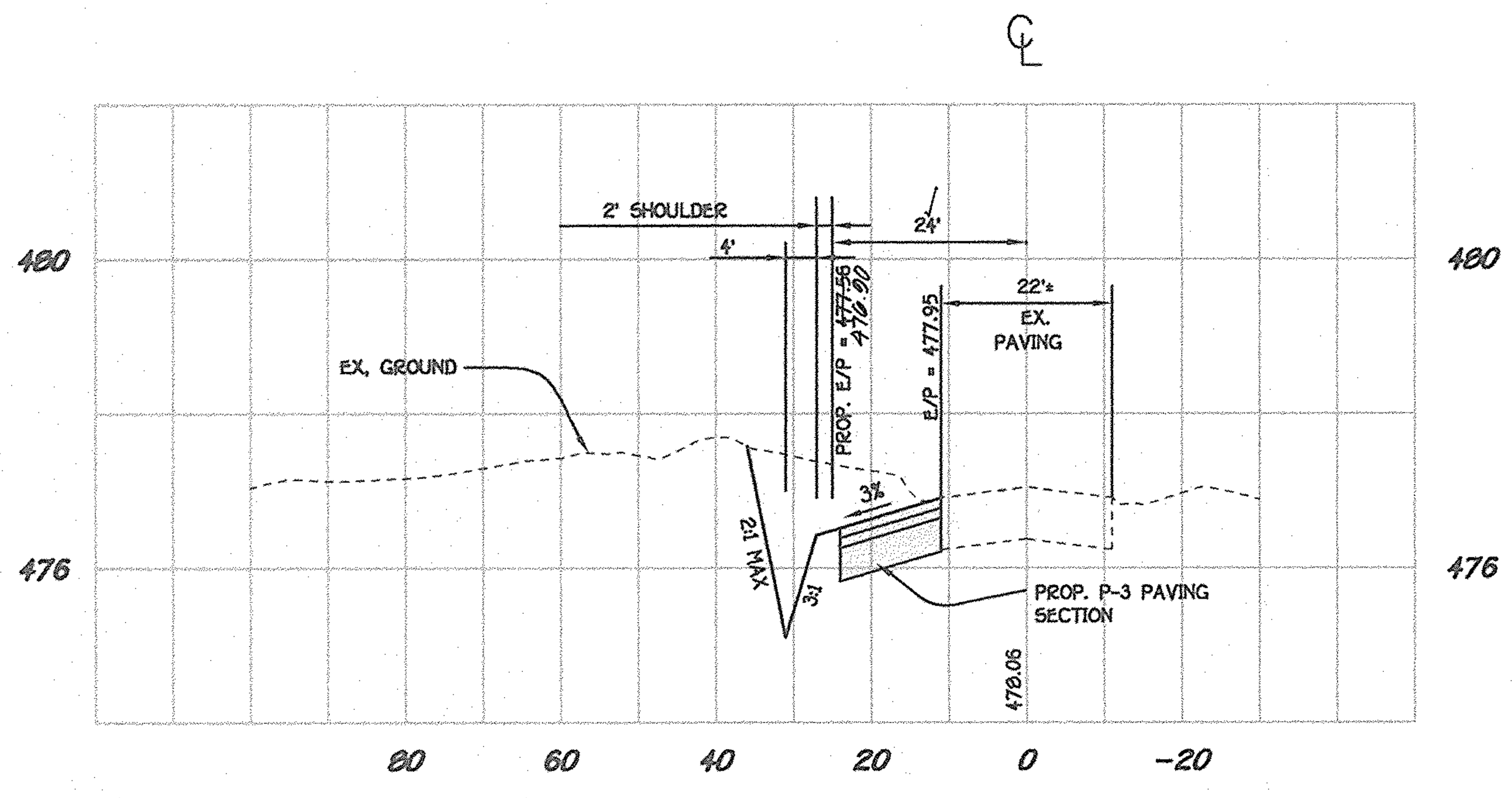
APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/2/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/14/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
"FOR PUBLIC INFRASTRUCTURES ONLY"

CHIEF, BUREAU OF HIGHWAYS — DATE 3-12-03



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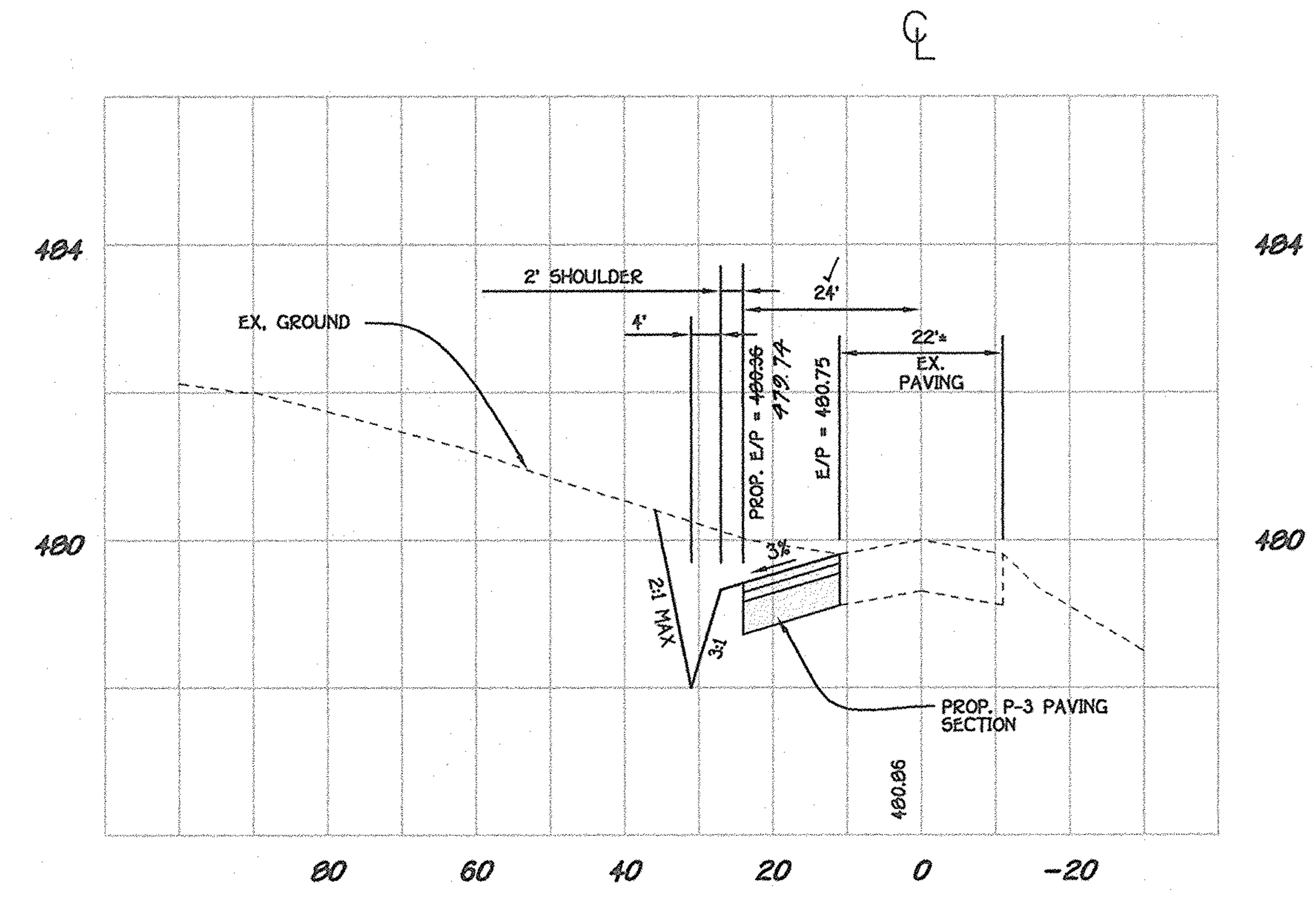

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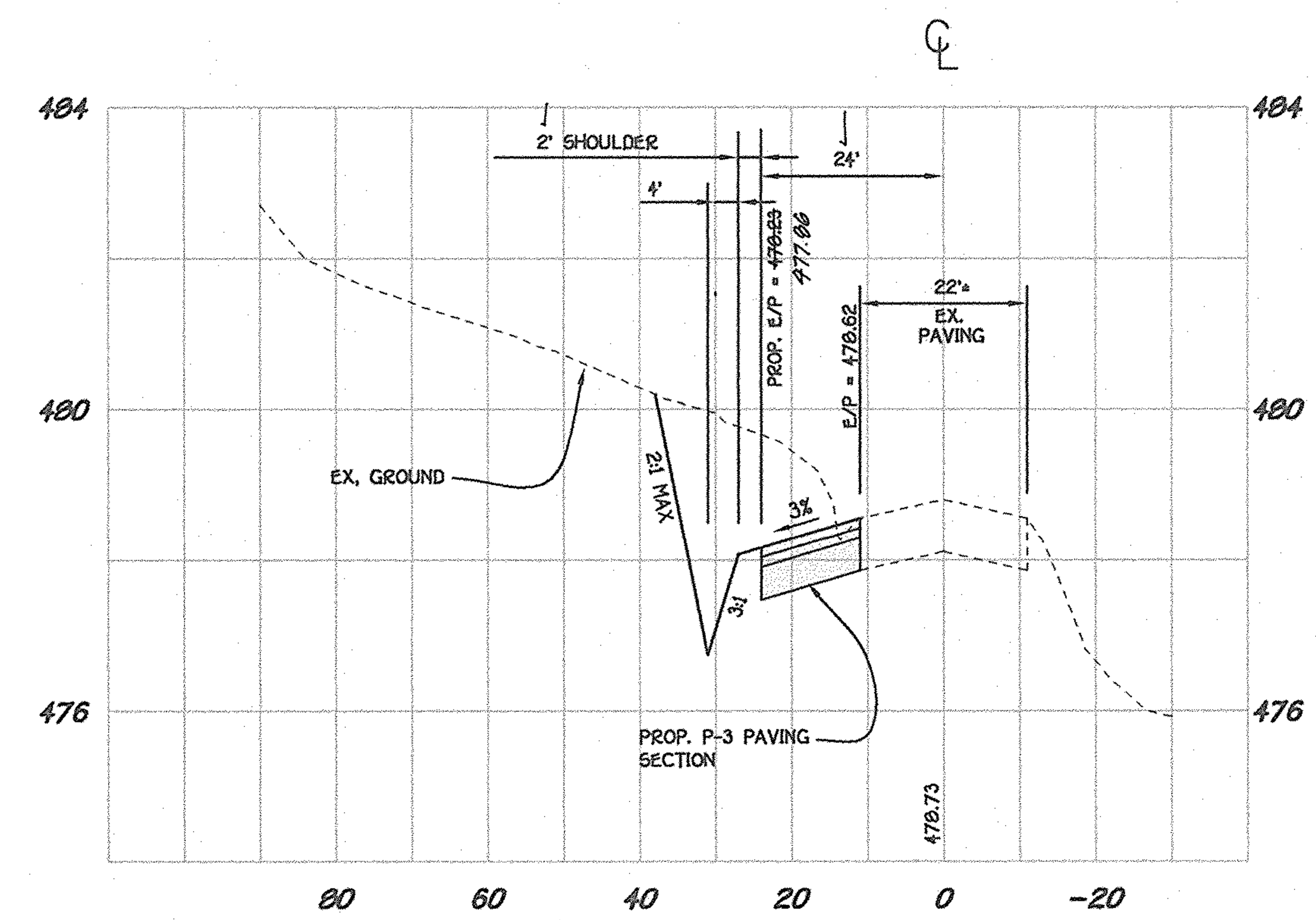

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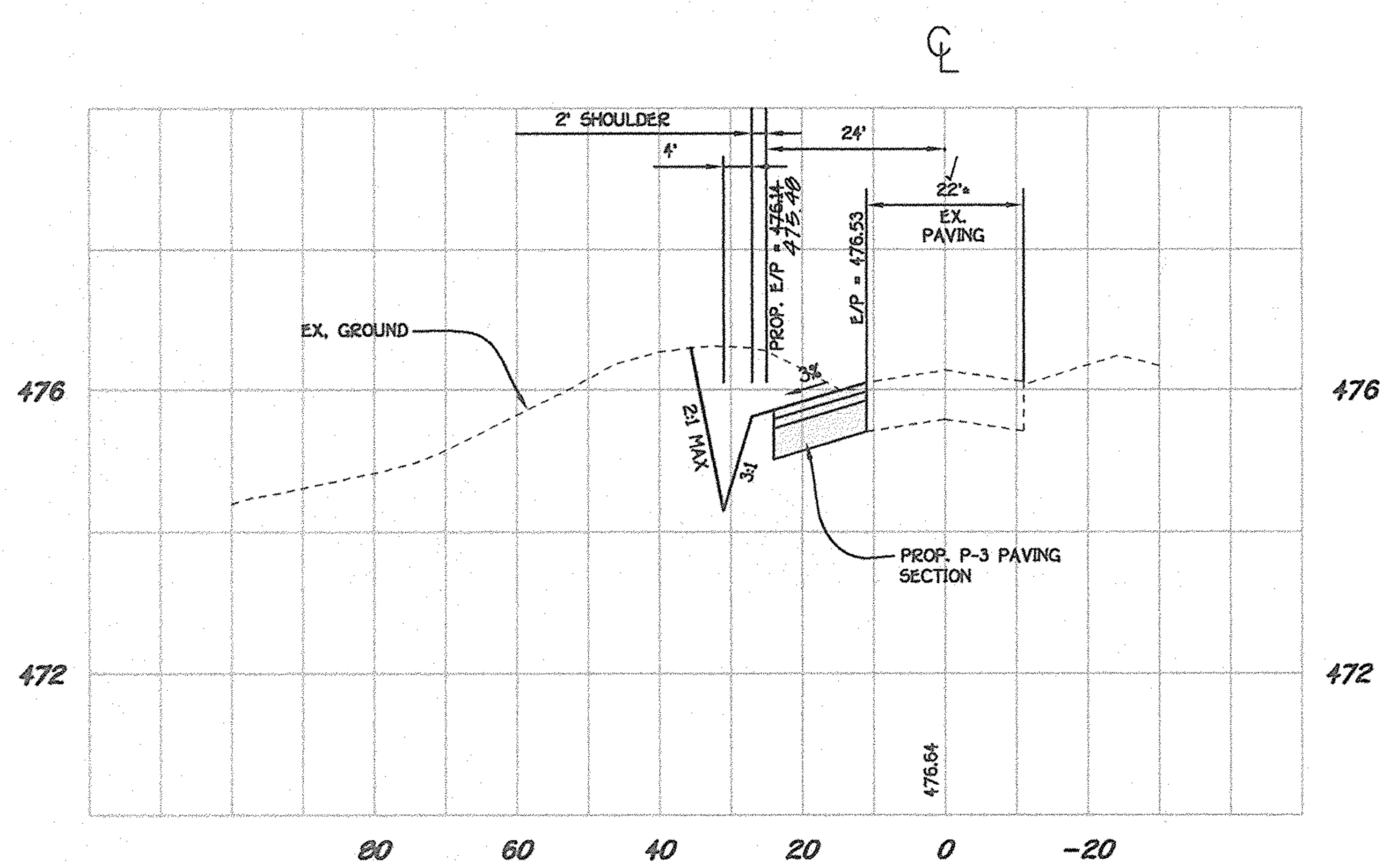

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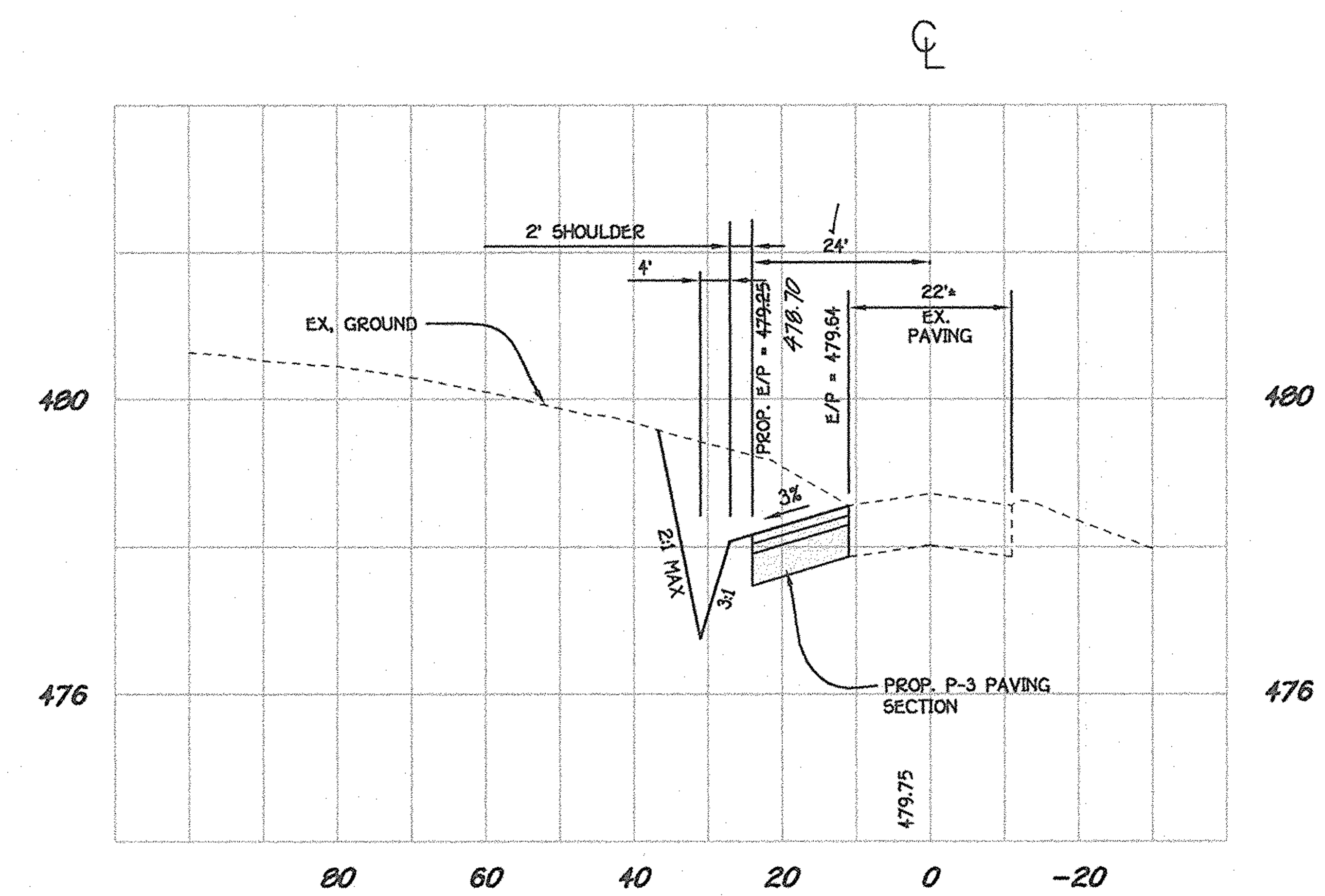

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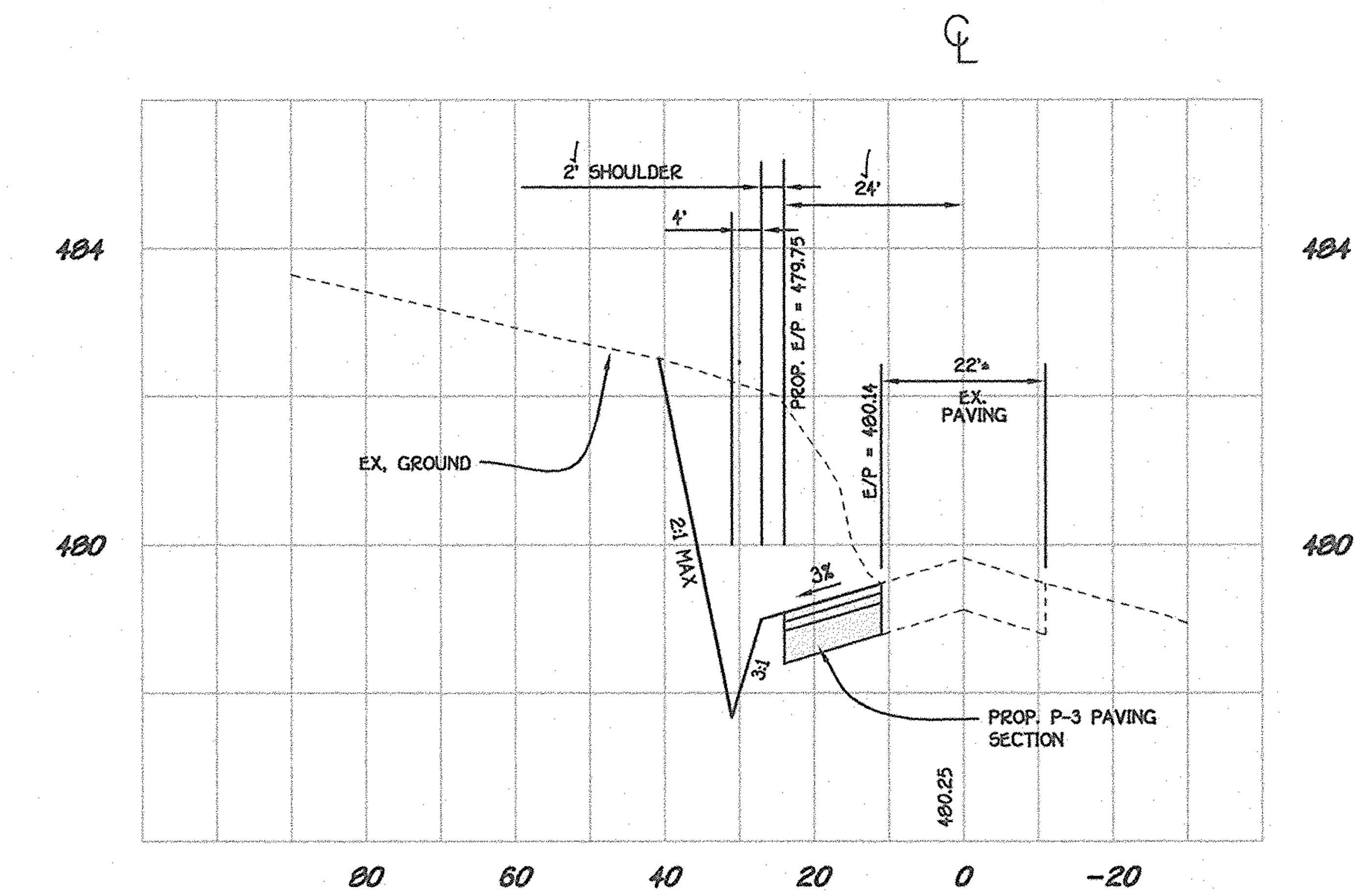

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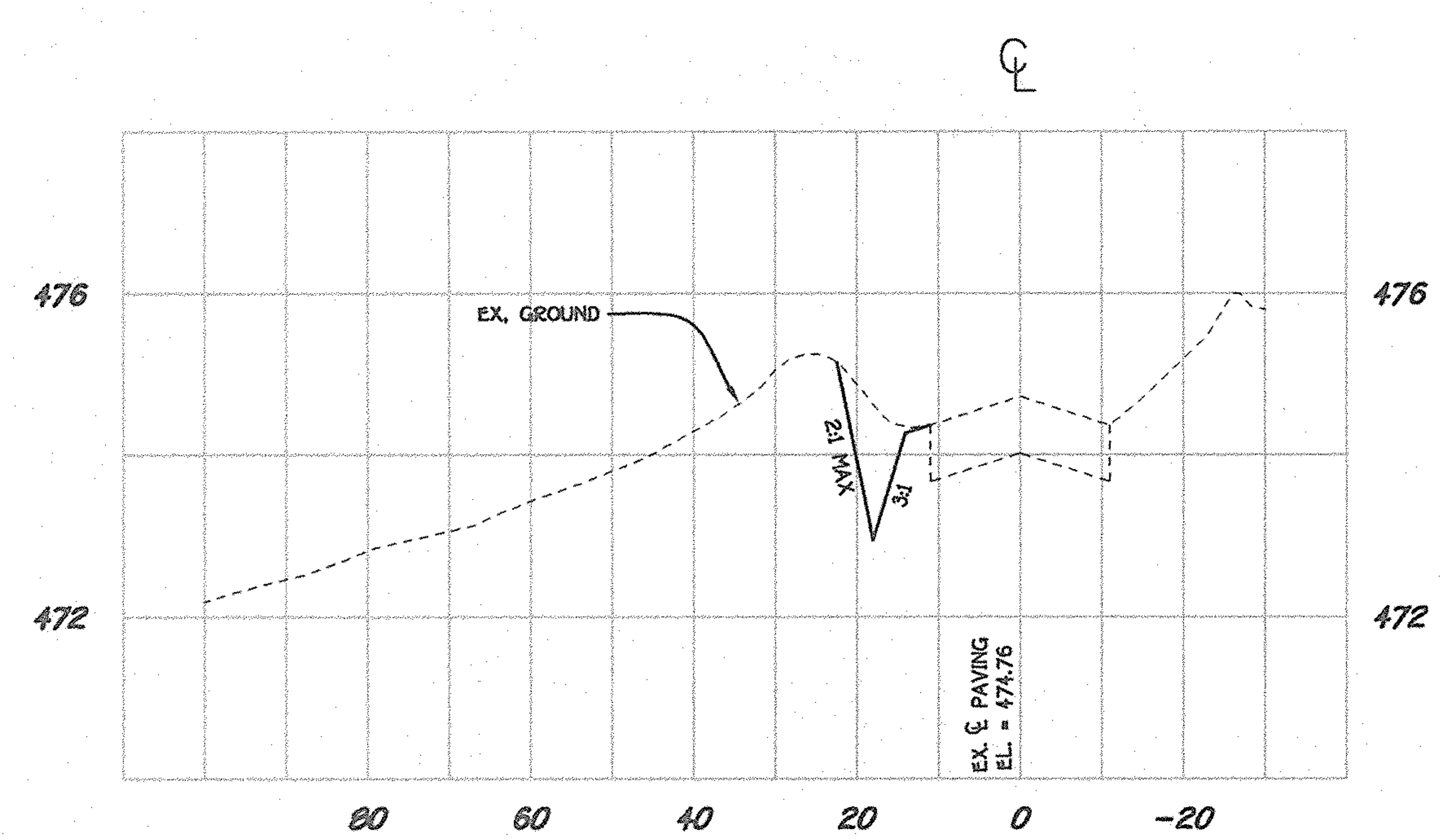

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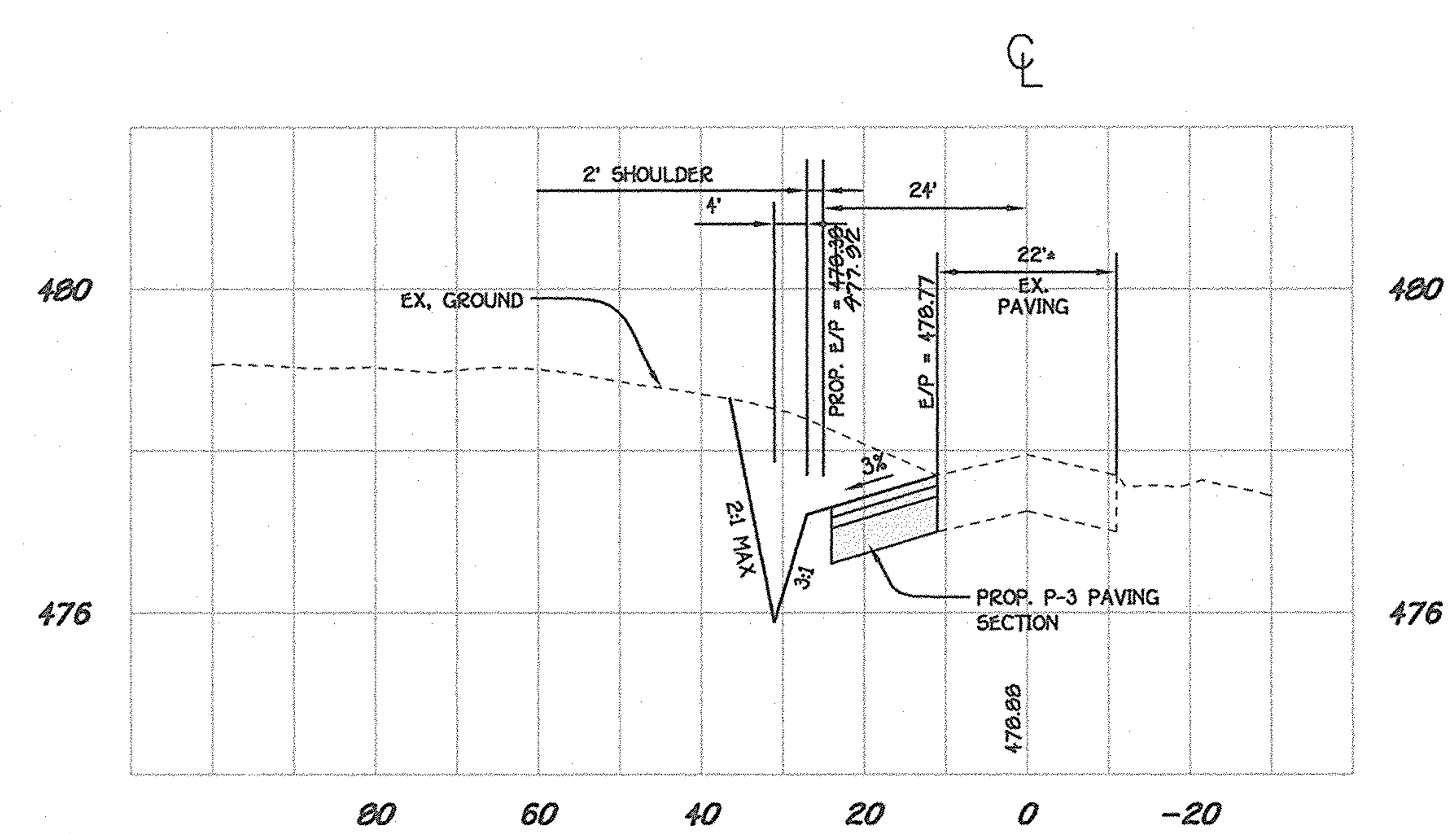

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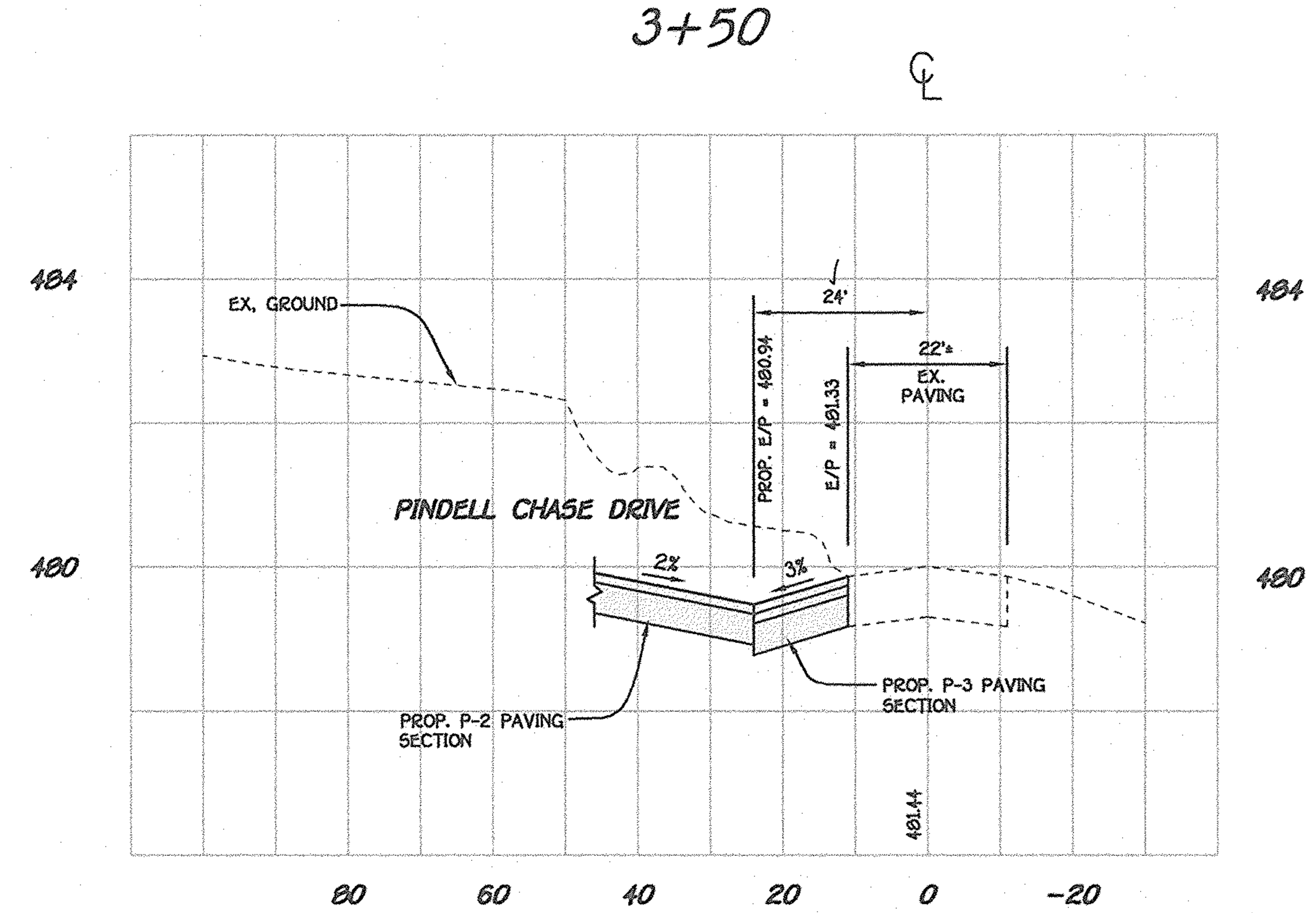


3+00

AS BUILT 2/1/05

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

CROSS-SECTIONS

SCALE: HOR. : 1" = 20'
VER. : 1" = 2'

OWNER
MAPLE LAWN FARMS, INC.
11920 ROUTE 216
FULTON, MD 20759-2215

DEVELOPER
TOLL BROTHERS, INC.
ATTN: MR. SCOTT HARE
7164 COLUMBIA GATEWAY DR., SUITE 230
COLUMBIA, MARYLAND 21046

PINDELL SCHOOL ROAD ACCEL/DECEL LANE CROSS-SECTIONS

PINDELL CHASE

BUILDABLE LOTS 1 - 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO
TAX MAP NO. 41 GRID No. 7, 8, 13 & 14 PARCEL No. 59
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 14, 2003
SHEET 8 OF 25

F 03-28

AS BUILT

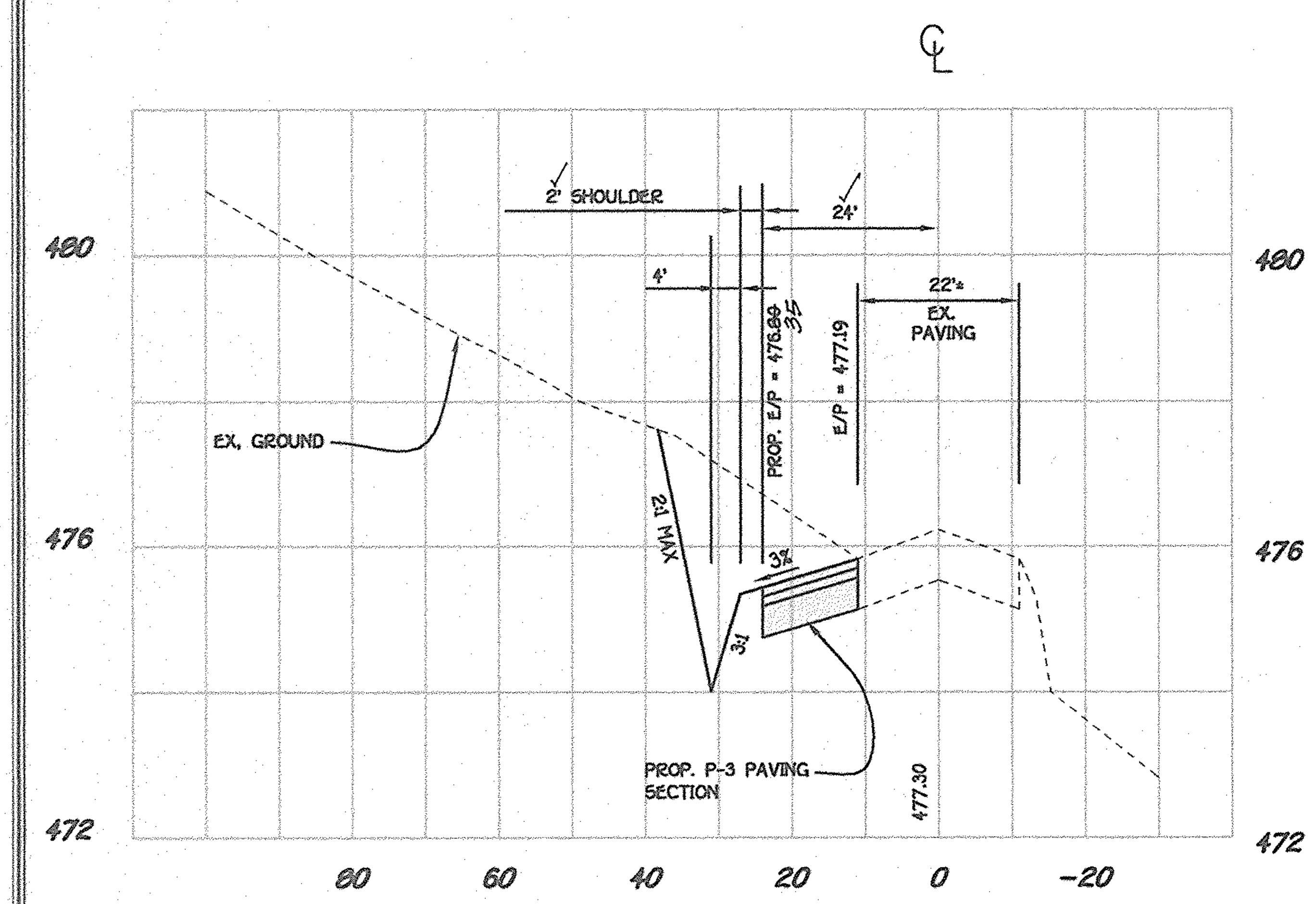
APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/2/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/14/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
"FOR PUBLIC INFRASTRUCTURES ONLY"

CHIEF, BUREAU OF HIGHWAYS — DATE 3-12-03



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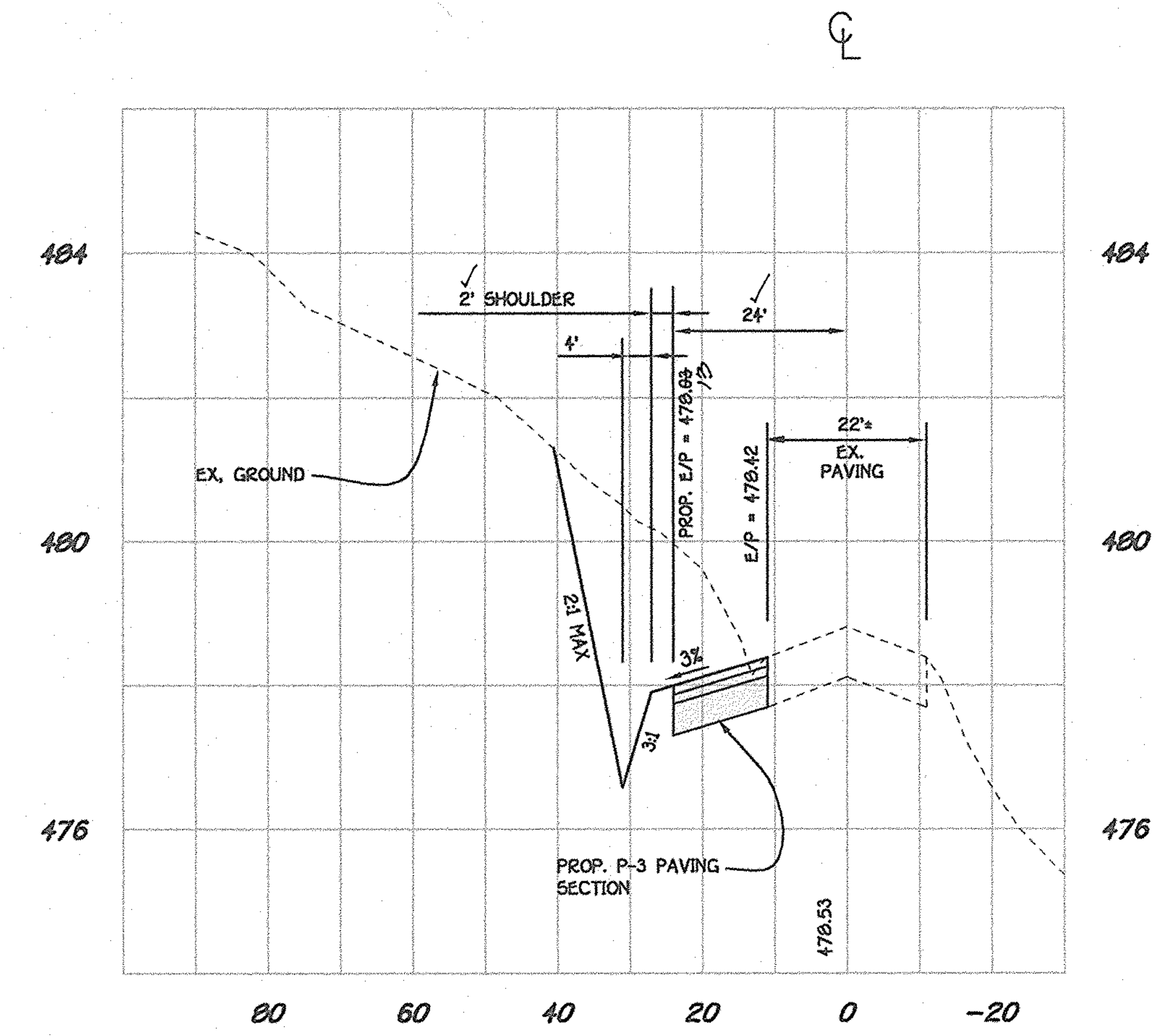

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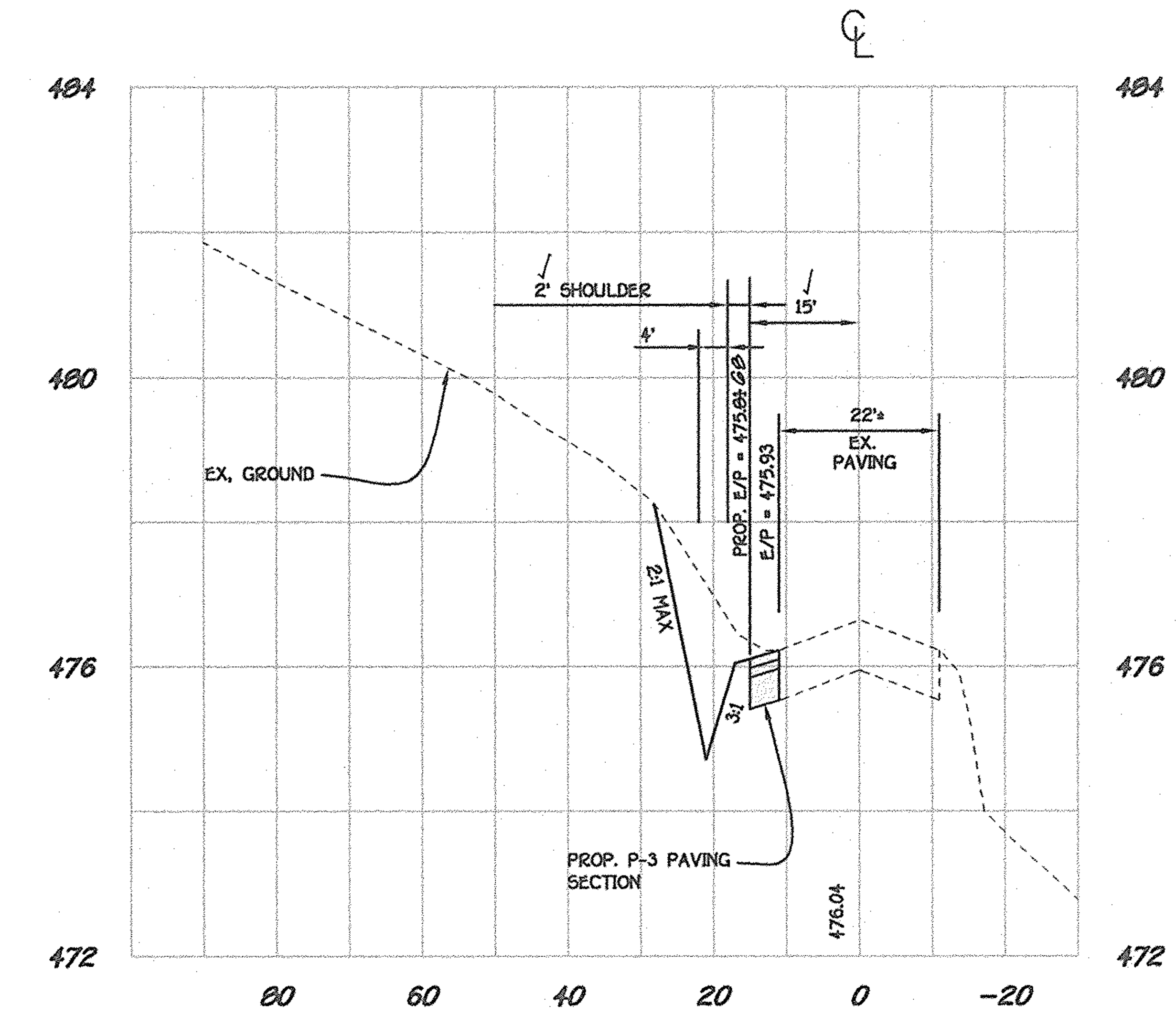

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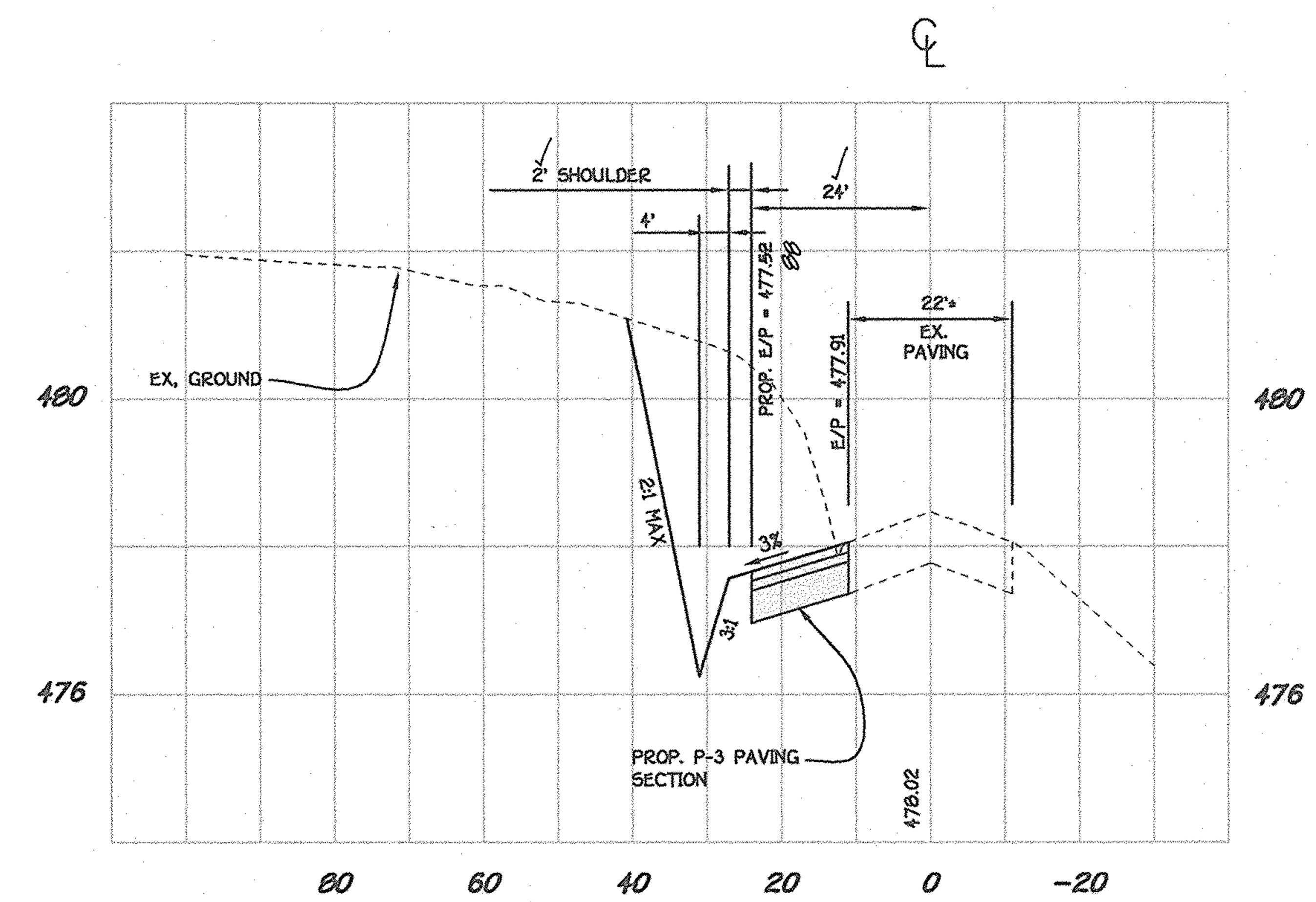

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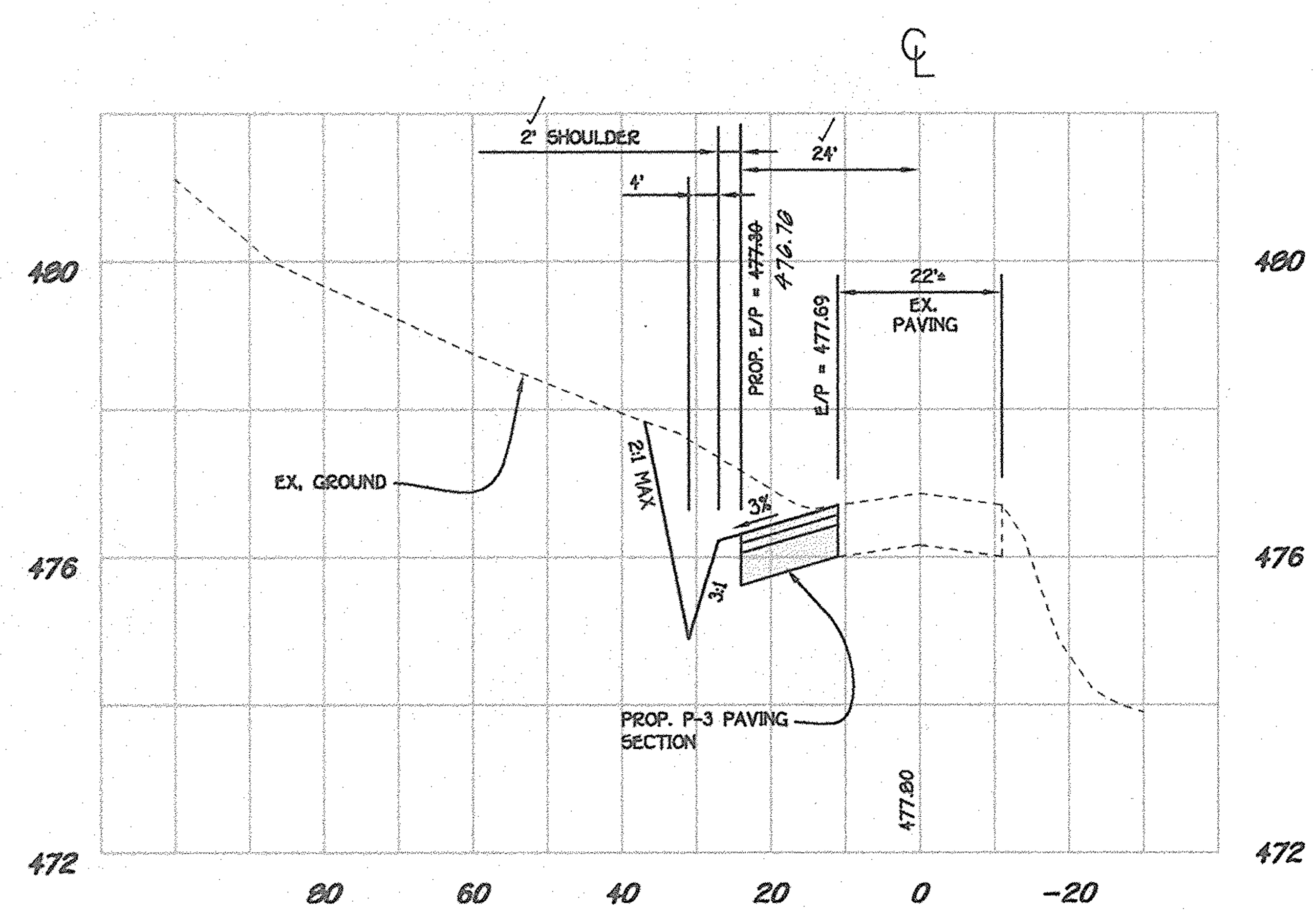

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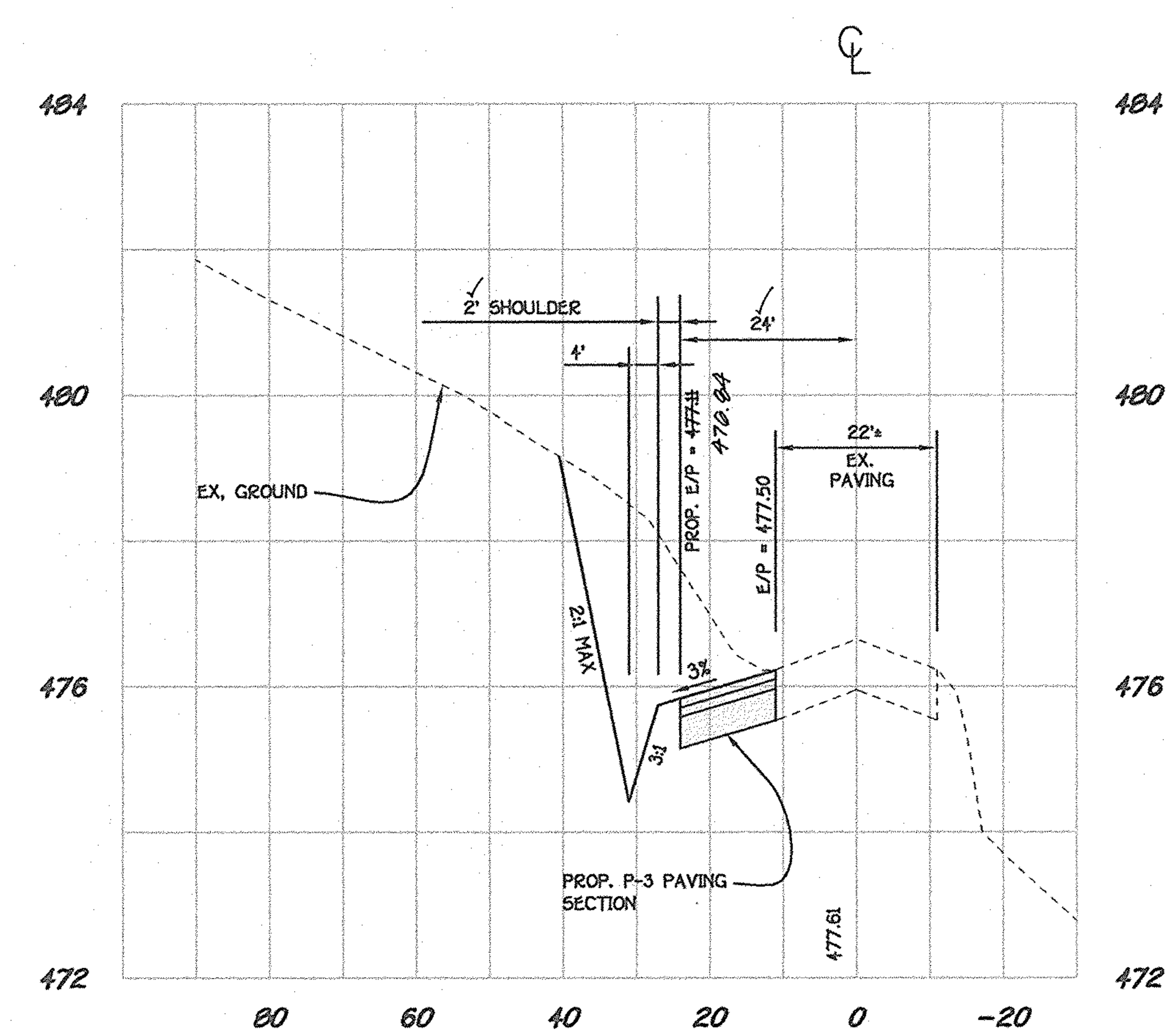

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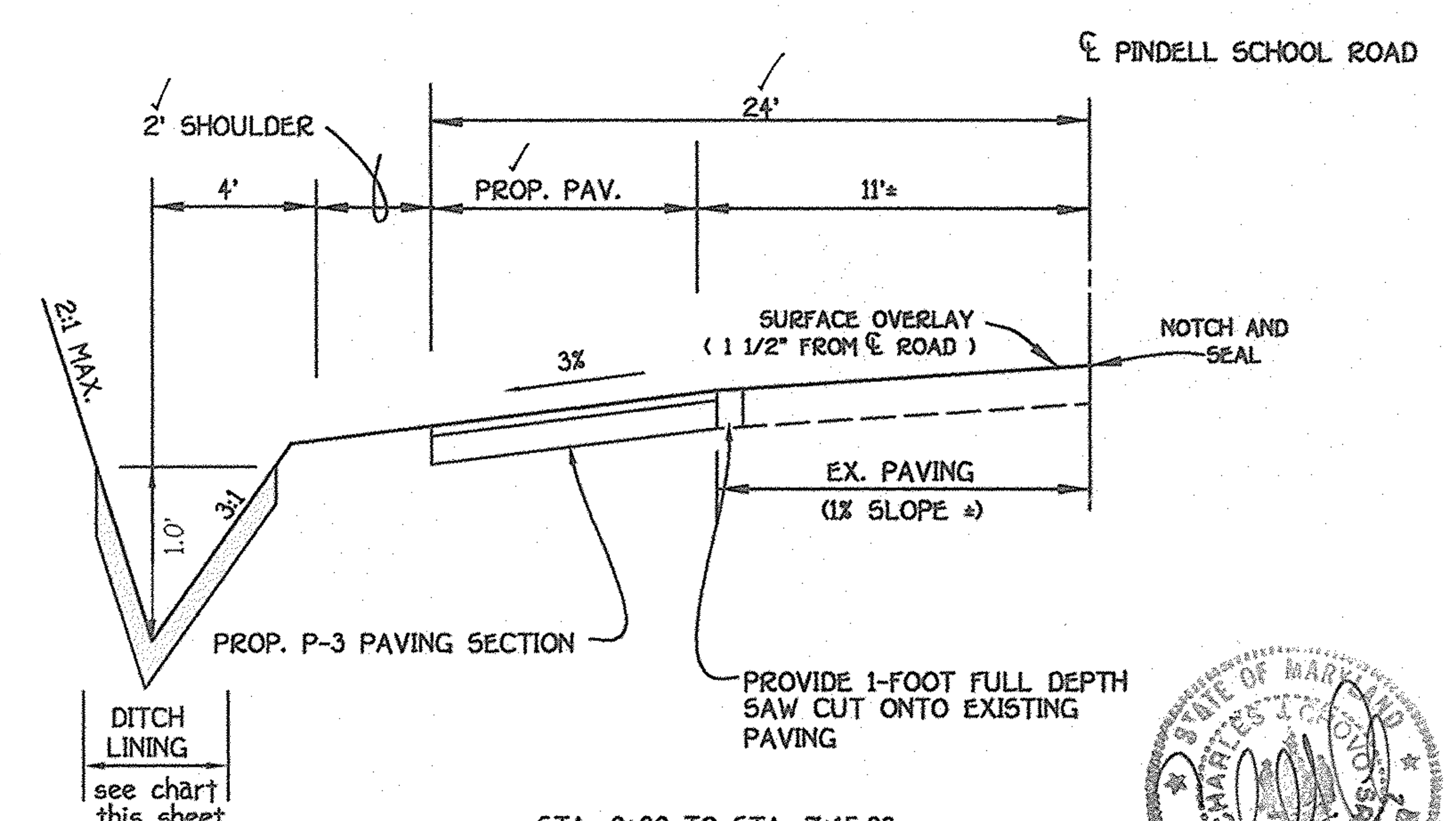

STA. 0+00 TO STA. 7+15.03

TYPICAL ROADWAY SECTION

NO SCALE

CROSS-SECTIONS

SCALE: HOR. : 1" = 20'
VER. : 1" = 2'

PINDELL SCHOOL ROAD - ROADSIDE DITCH DATA					
BEGIN STATION	END STATION	Q10 (CFS)	V10 (FPS)	SLOPE	ROADSIDE DITCH LINING*
0+00	3+00	1.0	1.6	2.0%	SEED AND MULCH
3+00	5+00	1.5	1.9	2.0%	SEED AND MULCH
5+00	6+50	1.5	1.9	2.0%	SEED AND MULCH
6+50	7+50	1.5	2.4	4.0%	SEED AND MULCH

* SOIL STABILIZATION MATTING TO BE PLACED OVER SEED AND MULCH

As Built 2/11/05

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

OWNER
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DEVELOPER
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ATTN: MR. SCOTT HARE
7164 COLUMBIA GATEWAY DR., SUITE 230
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PINDELL SCHOOL ROAD ACCEL/DECEL LANE CROSS-SECTIONS

PINDELL CHASE

BUILDABLE LOTS 1 - 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO
TAX MAP NO. 41 GRID No. 7, 8, 13 & 14 PARCEL No. 59
FIFTH ELECTION DISTRICTHOWARD COUNTY, MARYLAND
DATE: FEBRUARY 14, 2003
SHEET 9 OF 25

F 03-28

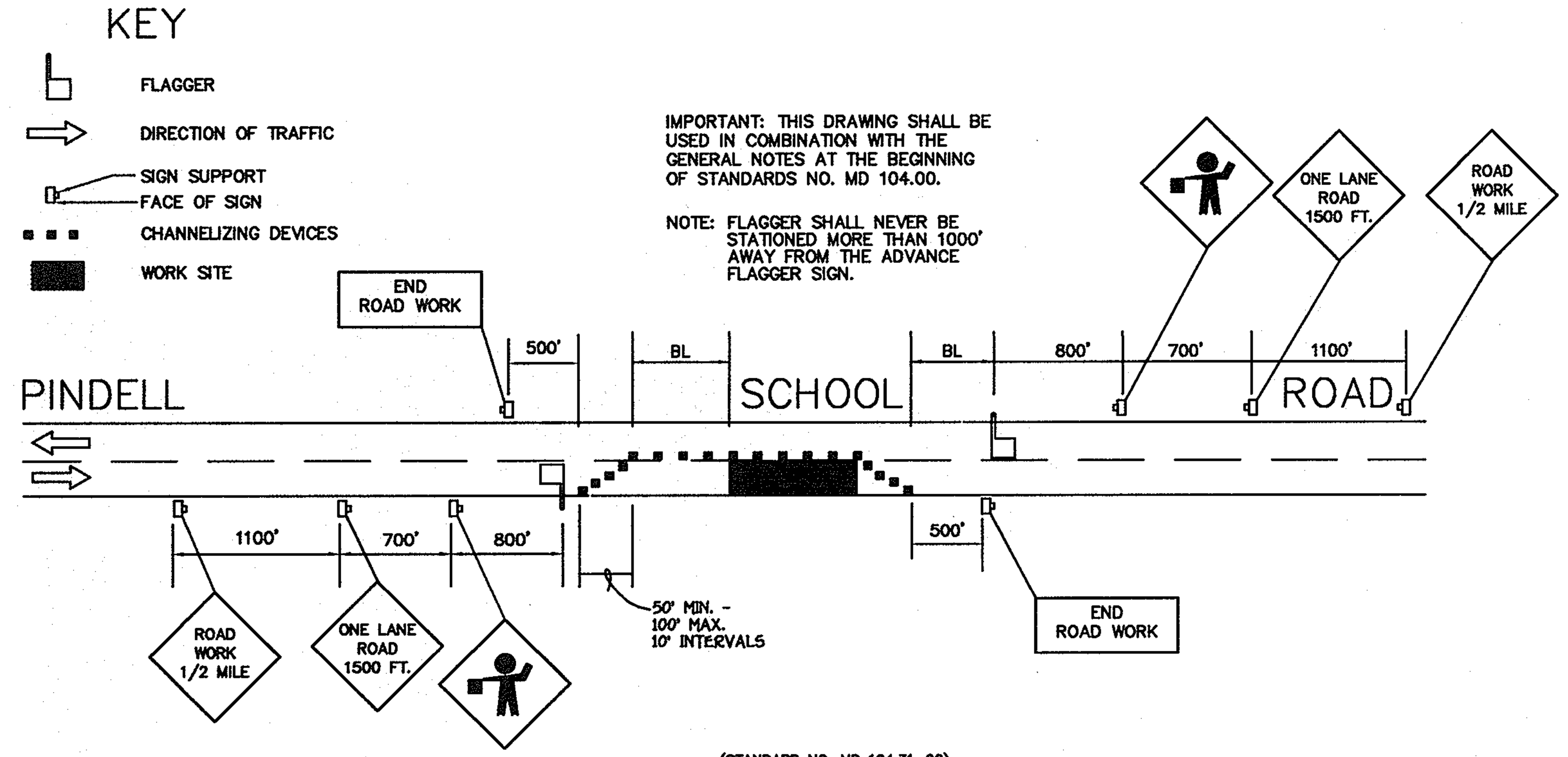
AS BUILT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT	4/2/03 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	3/14/03 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS "FOR PUBLIC INFRASTRUCTURES ONLY"

CHIEF, BUREAU OF HIGHWAYS	3-12-03 DATE



(STANDARD NO. MD 104.31-02)

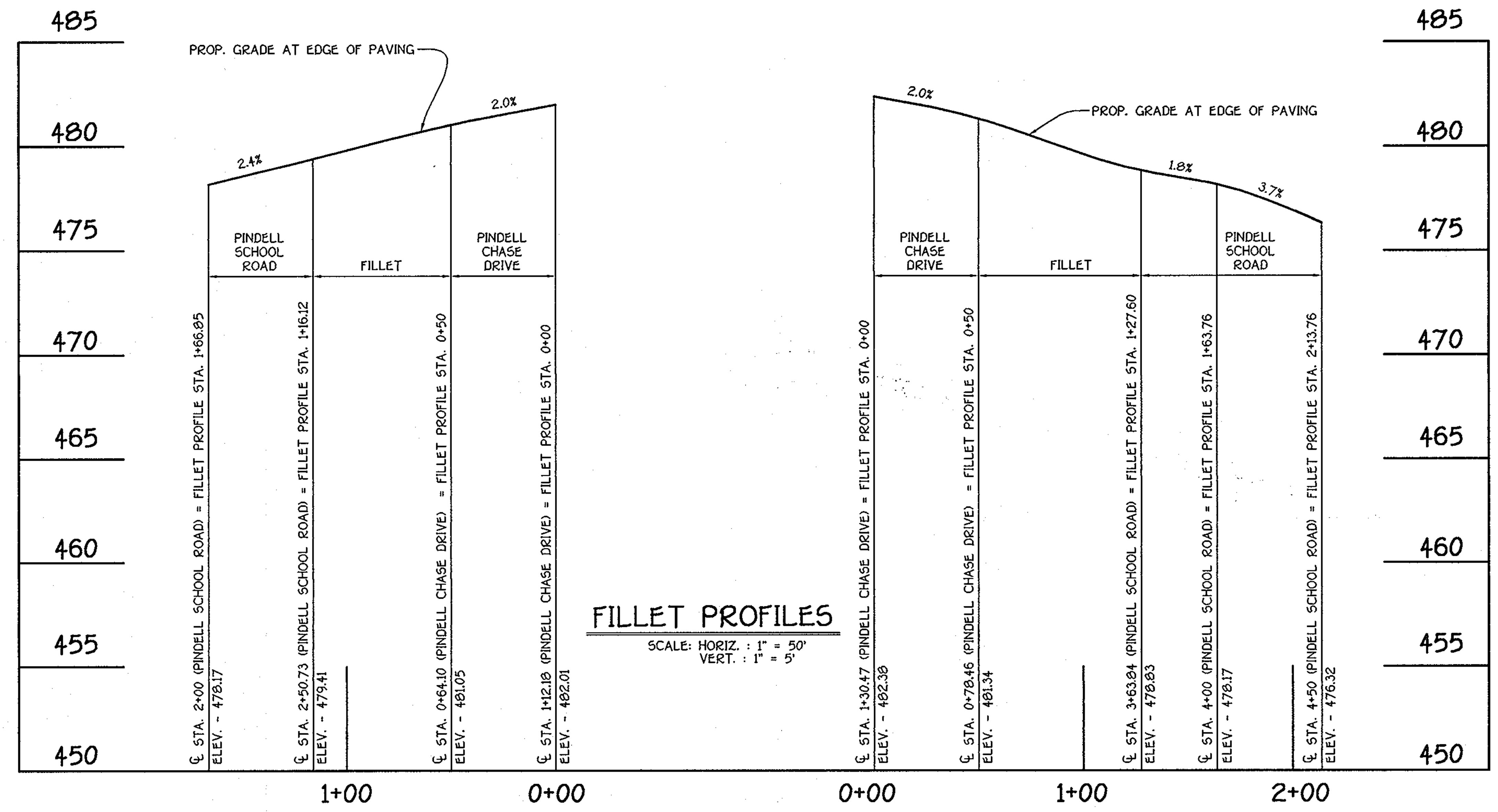
TEMPORARY TRAFFIC CONTROL PLAN

NO SCALE

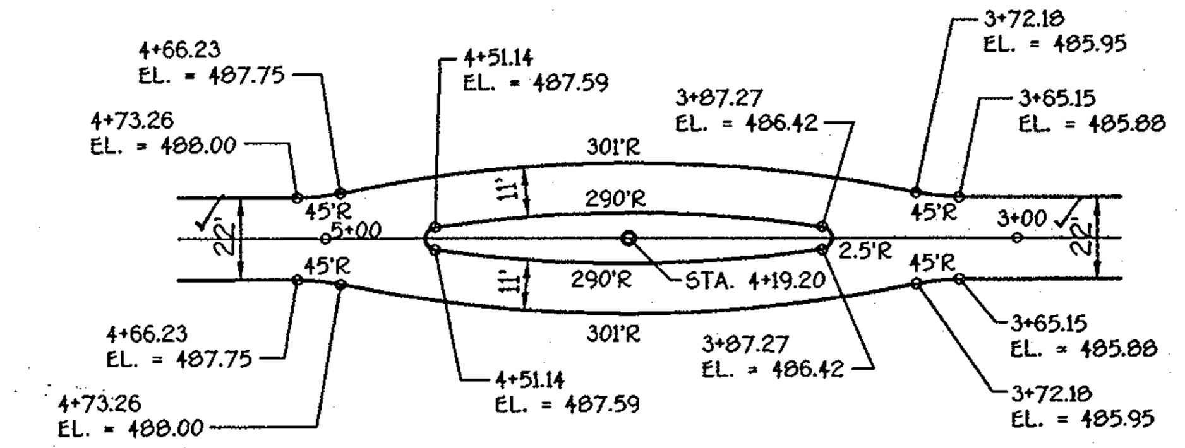
MAINTENANCE OF TRAFFIC SPECIAL PROVISIONS

GENERAL

1. THE PURPOSE OF THIS PORTION OF THE SPECIAL PROVISION IS TO SET FOR THE TRAFFIC CONTROL REQUIREMENTS NECESSARY FOR THE SAFE AND EFFICIENT MAINTENANCE TO TRAFFIC WITHIN WORK AREAS, AND TO MINIMIZE ANY INCONVENIENCES TO THE TRAVELING PUBLIC AND THE CONTRACTOR AND/OR PERMITTEE.
2. PROPERTY TRAFFIC CONTROL THROUGH WORK AREAS IS ESSENTIAL FOR INSURING THE SAFETY AND THAT OF HIGHWAY WORKERS HAS THE HIGHEST PRIORITY OF ALL TASKS WITHIN THIS PROJECT. THE PROPERTY APPLICATION OF THE APPROVED TRAFFIC CONTROL PLAN (TCP) WILL PROVIDE THE DESIRED LEVEL OF SAFETY.
3. THROUGHOUT THESE SPECIAL PROVISIONS, ANY MENTION OF THE TCP SHALL BE IMPLIED TO INCLUDE ANY COMBINATION OF TYPICAL TRAFFIC CONTROL STANDARDS WHICH FORM THE OVERALL TCP FOR THIS PROJECT WHICH HAS BEEN APPROVED BY THE APPROPRIATE SHA TRAFFIC ENGINEER.
4. THE CONTRACTOR AND/OR PERMITTEE SHALL BE REQUIRED TO ADHERE TO THE PROVISIONS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 1988 EDITION, ESPECIALLY PART VI, AND TO SECTION 814 OF THE MARYLAND DOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (JANUARY, 1982; INCLUDING ALL REVISIONS AND SUPPLEMENTS TO EACH.
5. THE CONTRACTOR AND/OR PERMITTEE SHALL BE REQUIRED TO ADHERE TO THE REQUIREMENTS SET FOR IN THE TCP AND THESE SPECIAL PROVISIONS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ANY REQUESTS TO MAKE MINOR CHANGES TO THE TCP OR THE SPECIAL PROVISIONS WITH REGARD TO THE TRAFFIC CONTROL ITEMS SHALL BE MADE IN WRITING TO THE ENGINEER A MINIMUM OF THREE(3) WORKING DAYS PRIOR TO THE PROPOSED SCHEDULING CHANGE. THE CONTRACTOR AND/OR PERMITTEE SHALL HAVE WRITTEN APPROVAL OF THE ENGINEER PRIOR TO THE IMPLEMENTATION OF ANY CHANGE.
6. NO WORK SHALL BEGIN ON ANY WORK ACTIVITY OR WORK PHASE UNTIL ALL REQUIRED TRAFFIC CONTROL PATTERNS AND DEVICES INDICATED ON THE TCP FOR THAT ACTIVITY OR PHASE ARE COMPLETELY AND CORRECTLY IN PLACE TO HAVE BEEN CHECKED FOR APPROVED USAGE.
7. GENERAL AND SPECIFIC WARNING SIGNS SHALL ONLY BE IN PLACE WHEN SPECIFIC WORK TASKS AND ACTIVITIES ARE ACTUALLY UNDERWAY OR CONDITIONS EXIST THAT POSE A POTENTIAL HAZARD TO THE PUBLIC, AND ANY ADDITIONAL SIGNING HAS BEEN APPROVED BY THE APPROPRIATE SHA TRAFFIC ENGINEER. NOTE: THE PRACTICE OF PLACING SIGNING AND OTHER TRAFFIC CONTROL DEVICES IN ADDITION TO THOSE INDICATED ON THE APPROVED TCP IS NOT PERMITTED.
8. THE CONTRACTOR AND/OR PERMITTEE SHALL PROVIDE, MAINTAIN IN NEW CONDITION, AND MOVE WHEN NECESSARY, OR AS DIRECTED BY THE ENGINEER, ALL TRAFFIC CONTROL DEVICES USED FOR THE GUIDANCE AND PROTECTION OF MOTORISTS, PEDESTRIANS, AND WORKERS.
9. ALL TRAFFIC CONTROL DEVICES REQUIRED BY THE TCP SHALL BE KEPT IN GOOD CONDITION, FULLY PERFORMING AS SET FORTH IN THE TCP, THE MUTCD, AND/OR SECTION 814 OF THE SPECIFICATIONS. FOR REFLECTIVE DEVICES, A PARTICULAR DEVICE IS ASSUMED TO HAVE FAILED TO MEET MINIMUM OPERATIONAL STANDARDS WHEN THE DEVICE NO LONGER HAS RETRO-REFLECTANCE CAPABILITY OF AT LEAST 60% OF THE SPECIFIED MINIMUM VALUE OVER AT LEAST 90% OF THE VISIBLE REFLECTIVE SURFACE.
10. ALL TRAFFIC CONTROL DEVICES NOT REQUIRED FOR THE SAFE CONDUCT OF TRAFFIC SHALL BE PROMPTLY REMOVED, COMPLETELY COVERED, TURNED AWAY FROM TRAFFIC, OR OTHERWISE TAKEN OUT OF SERVICE. IT IS INTENDED THAT NO TRAFFIC CONTROL DEVICE IS TO BE IN SERVICE WHEN THERE IS NO CLEAR CUT REASON FOR THE DEVICE.
11. THROUGHOUT THE PERIOD(S) OF WORK ACTIVITIES, TRAFFIC SHALL BE MAINTAINED BY IMPLEMENTING THE APPROVED TCP. IN LIEU OF THE TCP PREPARED FOR THIS PROJECT, AND/OR INDIVIDUAL TYPICAL TRAFFIC CONTROL STANDARDS, THE CONTRACTOR AND/OR PERMITTEE HAS THE OPTION OR PREPARING AND SUBMITTING A TCP, WHOLLY OR IN PART, OF HIS OWN DESIGN, FOLLOWING GUIDELINES SET FORTH IN THE MUTCD AND PRESCRIBED BY THE ADMINISTRATION. A TCP DEVELOPED BY THE CONTRACTOR AND/OR PERMITTEE SHALL NOT BE IMPLEMENTED UNTIL ADVANCE WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. TCP'S MAY BE IMPLEMENTED WITHIN A SINGLE PROJECT OR JOINTLY BETWEEN TWO OR MORE PROJECTS. IN SITUATIONS WHERE TCP'S JOINTLY IMPLEMENTED, CARE SHALL BE EXERCISED TO PRESENT CORRECT AND NON-CONFLICTING GUIDANCE TO THE TRAVELING PUBLIC.
12. THROUGHOUT THESE SPECIAL PROVISIONS, WHERE SPEED OF TRAFFIC IS NOTED, THIS MEANS THE POSTED SPEED OR PREVAILING TRAVEL SPEED, WHICHEVER IS HIGHER, UNLESS OTHERWISE NOTED.
13. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT, UNLESS OTHERWISE NOTED. NO TRAVEL LANE(S) OTHER THAN THOSE DESIGNATED FOR POSSIBLE CLOSURE IN THE TCP SHALL BE CLOSED WITHOUT OBTAINING PRIOR APPROVAL FORM THE ENGINEER. ALL INGRESS AND EGRESS TO THE WORK AREA BY THE CONTRACTOR AND/OR PERMITTEE SHALL BE PERFORMED WITH THE FLOW OF TRAFFIC.

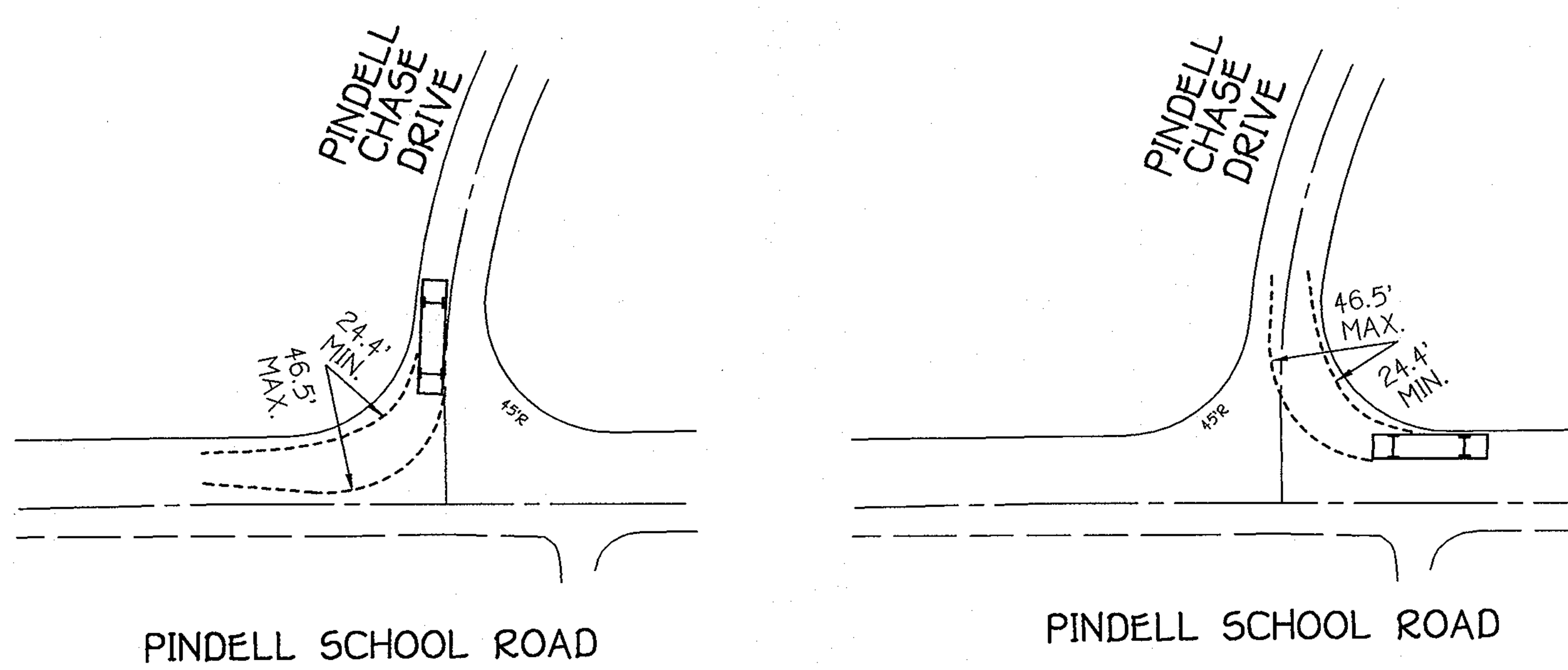


FILLET PROFILES



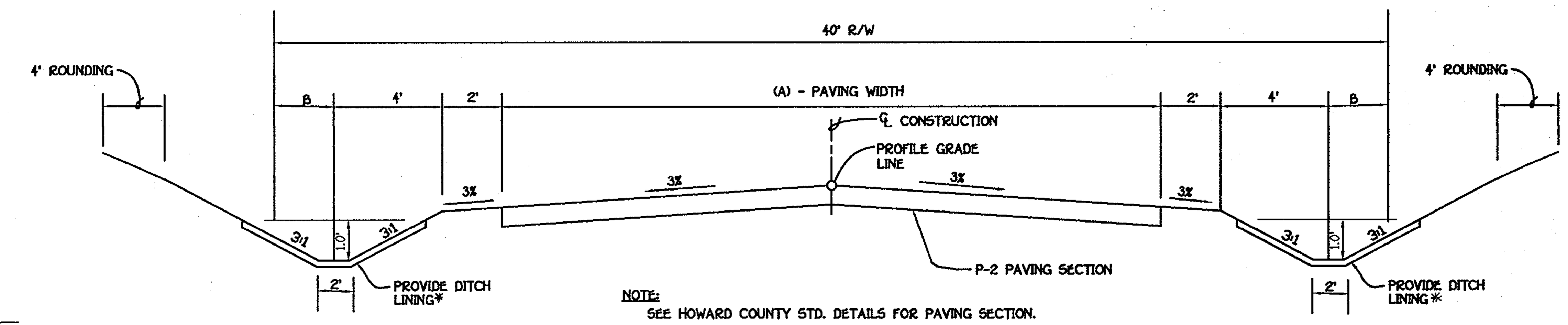
SPEED CONTROL DEVICE

N.T.S.



TURNING MOVEMENT ANALYSIS FOR SU-30 VEHICLE

SCALE: 1" = 50'



NOTE:
SEE HOWARD COUNTY STD. DETAILS FOR PAVING SECTION.

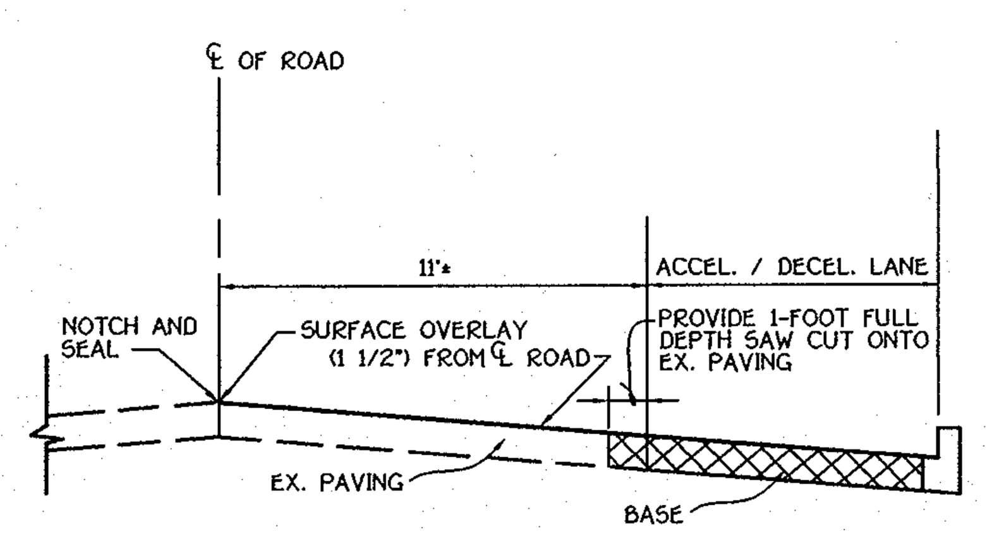
TYPICAL ROADWAY SECTION

NO SCALE

ROADWAY INFORMATION CHART							
ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	℄ STATION LIMITS	A	B	PAVING SECTION
PINDELL CHASE DRIVE	PUBLIC ACCESS STREET	25 M.P.H.	RR-DEO	0+00 TO 5+70 ✓	22' ✓	3'	P-2
PINDELL CHASE DRIVE	PUBLIC ACCESS PLACE	25 M.P.H.	RR-DEO	5+70 TO 14+87.85 ✓	18' ✓	5'	P-2

PINDELL CHASE DRIVE – ROADSIDE DITCH DATA					
BEGIN STATION	END STATION	Q10 (CFS)	V10 (FPS)	SLOPE	ROADSIDE DITCH LINING*
0+00 L	8+00 L	2.3	2.1	2.0%	SEED AND MULCH
0+00 R	5+00 R	2.0	2.0	2.0%	SEED AND MULCH
5+00 R	8+00 R	1.7	2.4	4.0%	SEED AND MULCH
8+00 L	12+00 L	2.1	1.7	1.2%	SEED AND MULCH
8+00 R	12+00 R	3.4	1.9	1.2%	SEED AND MULCH
12+00 L	CUL-DE-SAC	1.2	2.4	5.0%	SEED AND MULCH
12+00 R	CUL-DE-SAC	1.2	2.4	5.0%	SEED AND MULCH

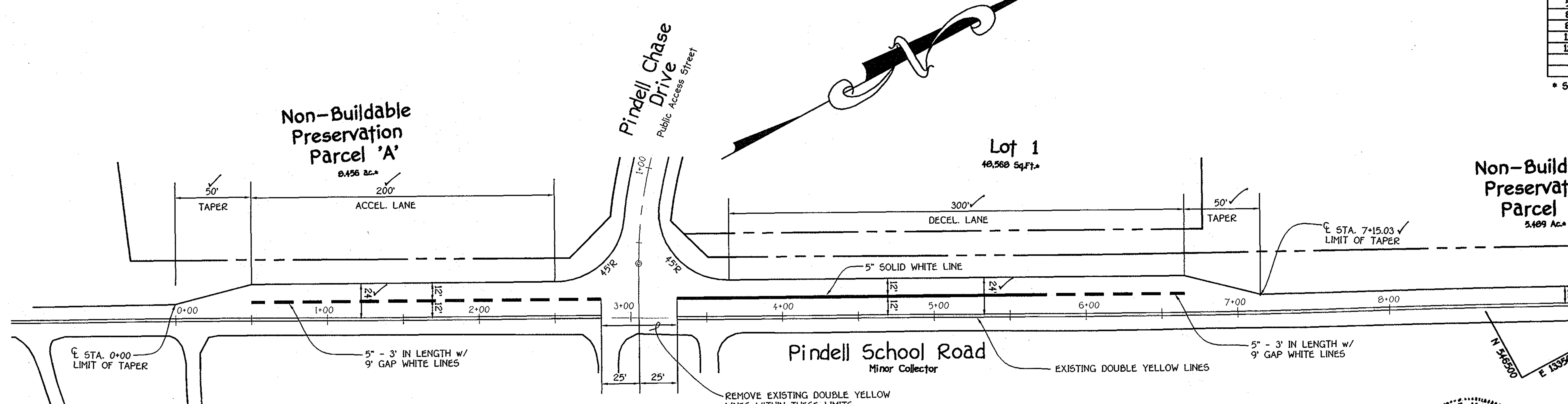
* SOIL STABILIZATION MATTING TO BE PLACED OVER SEED AND MULCH



PINDELL SCHOOL ROAD OVERLAY SECTION

NO SCALE

THE IMPROVEMENTS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STD. DETAIL R-10.01



STRIPING PLAN

SCALE: 1" = 50'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

OWNER

MAPLE LAWN FARMS, INC.
11920 ROUTE 216
FULTON, MD 20759-2215

DEVELOPER

TOLL BROTHERS, INC.
ATTN: MR. SCOTT HARE
7164 COLUMBIA GATEWAY DR., SUITE 230
COLUMBIA, MARYLAND 21046

AS BUILT 2/11/05

ROADWAY DETAIL SHEET

PINDELL CHASE

BUILDABLE LOTS 1 – 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO

TAX MAP NO. 41 GRID Nos. 7, 8, 13 & 14 PARCEL No. 59

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: FEBRUARY 14, 2003

F 03-28

AS BUILT

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING

LINEAR FEET OF PERIMETER	D1: 913'	D2: 955'	D3: 930'
NUMBER OF TREES REQUIRED: SHADE TREES EVERGREEN TREES	18 23	19 24	19 23
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	NO	NO	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO	NO	NO
NUMBER OF TREES PROVIDED: SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION)	18 23 --	19 24 --	19 23 --

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[signature] 4/2/03
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

[signature] 3/14/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
"FOR PUBLIC INFRASTRUCTURES ONLY"

[signature] 3-12-03
CHIEF, BUREAU OF HIGHWAYS — DATE

DEVELOPER'S / BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF NOTICE OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

[signature] 2/14/03
NAME — DATE
BRUCE R. OXLEY

SCHEDULE A PERIMETER LANDSCAPE EDGE

PERIMETER	CATEGORY (PROPERTIES/ ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NUMBER OF PLANTS REQUIRED and PROVIDED: SHADE TREES	EVERGREEN TREES	SHRUBS
P-1	ADJACENT TO ROADWAY	B	341.75'	NO	NO	7	9	-
P-2	ADJACENT TO PERIMETER	A	836.03'	NO	NO	14	-	-
P-3	ADJACENT TO ROADWAY	B	996.78'	YES (66')	NO	19	23	-
P-4	ADJACENT TO PERIMETER	A	637.47'	YES (637.47')	NO	0	-	-
P-5	ADJACENT TO PERIMETER	A	1142.46'	YES (1142.46') F.C.E.	NO	0	-	-
P-6	ADJACENT TO PERIMETER	A	718.60'	YES (95') F.C.E.	NO	10	-	-
P-7	ADJACENT TO PERIMETER	A	1863.04'	NO	NO	31	-	-

PLAN
SCALE: 1" = 100'

LANDSCAPING PLANT LIST

QTY.	KEY	NAME	SIZE
81	[symbol]	ACER RUBRUM 'OCTOBER GLORY' (OCTOBER RED MAPLE)	2 1/2" - 3" CALIPER FULL CROWN, B&B
56	[symbol]	FRAXINUS AMERICANA 'AUTUMN PURPLE' (AUTUMN PURPLE WHITE ASH)	2 1/2" - 3" CALIPER FULL CROWN, B&B
102	[symbol]	PINUS STROBUS EASTERN WHITE PINE	6' - 8' HT.

"THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL". FINANCIAL SURETY FOR THE 239 REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $56,400.00.

STATE OF MARYLAND — PROFESSIONAL ENGINEER (seal) 2-24-03

STATE OF MARYLAND — PROFESSIONAL ENGINEER (seal)
AS BUILT 2/11/05

NOTE:
SEE SHEET 15 FOR PLANTING DETAILS AND SPECIFICATION NOTES

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

No.	Revision	Date
1	Add earth berm along Pindell School & Simpson Rd. revise Perimeter Landscape P-1, P-2, P-3 & P-7 to top of berm	10-22-03

OWNER
MAPLE LAWN FARMS, INC
11920 ROUTE 216
FULTON, MD 20759-2215

DEVELOPER
TOLL BROTHERS, INC.
ATTN: MR. SCOTT HARE
7164 COLUMBIA GATEWAY DR., SUITE 230
COLUMBIA, MARYLAND 21046

LANDSCAPE PLAN

PINDELL CHASE

BUILDABLE LOTS 1 - 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO
TAX MAP NO. 41 GRID Nos. 7, 8, 13 & 14 PARCEL No. 59
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: JANUARY 8, 2003
SHEET 11 OF 25

F 03-28

AS BUILT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Cindy Hamilton — CHIEF, DIVISION OF LAND DEVELOPMENT — 4/2/15 DATE

[signature] — CHIEF, DEVELOPMENT ENGINEERING DIVISION — 3/14/03 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
"FOR PUBLIC INFRASTRUCTURES ONLY"

[signature] — CHIEF, BUREAU OF HIGHWAYS — 3-12-03 DATE

PLAN

SCALE: 1" = 100'

DRAINAGE AREA DATA

STRUCTURE NO.	DRAINAGE AREA	AREA	'C'	ZONED	% IMP.
I-1	A	0.75 AC.	0.50	RR-DEO	49%
I-2	B	1.00 AC.	0.37	RR-DEO	30%
I-3	C	0.83 AC.	0.34	RR-DEO	25%
I-4	D	1.98 AC.	0.34	RR-DEO	25%
I-5	E	0.56 AC.	0.57	RR-DEO	59%
I-6	F	1.44 AC.	0.33	RR-DEO	24%
I-7	G	0.58 AC.	0.37	RR-DEO	30%
I-8	H	3.02 AC.	0.18	RR-DEO	4%

STATE OF MARYLAND — REGISTERED PROFESSIONAL ENGINEER — [signature] 2.24.03

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

No.	Revision	Date
1	Add earth berm along Pindell School & Simpson Rd.	10-22-03

OWNER
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FULTON, MD 20759-2215

DEVELOPER
TOLL BROTHERS, INC.
ATTN: MR. SCOTT HARE
7164 COLUMBIA GATEWAY DR., SUITE 230
COLUMBIA, MARYLAND 21046

STATE OF MARYLAND — PROFESSIONAL ENGINEER — [signature] AS BUILT 2/11/05

STORMDRAIN DRAINAGE AREA MAP

PINDELL CHASE

BUILDABLE LOTS 1 - 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO

TAX MAP NO. 41 GRID Nos. 7, 8, 13 & 14 PARCEL No. 59

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: FEBRUARY 14, 2003

SHEET 12 OF 25

F 03-28

AS BUILT

STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	ROAD NAME	℄ ROAD STA.	OFFSET	TYPE	REMARKS
I-1	✱ ~~480.35~~ 481.11	~~473.26~~ 472.87	472.~~76~~ 48	PINDELL CHASE DRIVE	C.L. STA. 0+~~82~~ 83.50	17' L ✓	'D' INLET ✓	S.D. - 4.11
I-2	✱ ~~480.35~~ 480.39	475.~~50~~ 29	~~475.08~~ 474.35	PINDELL CHASE DRIVE	C.L. STA. 0+82 3.50	17' R ✓	'D' INLET ✓	S.D. - 4.11
I-3	✱ ~~486.64~~ 488.09	~~482.60~~ 483.13	482.~~10~~ 63	PINDELL CHASE DRIVE	C.L. STA. 4+87 8	16' ~~17'~~ R	'D' INLET ✓	S.D. - 4.11
I-4	✱ ~~496.42~~ 497.08	492.~~45~~ 13	491.~~95~~ 64	PINDELL CHASE DRIVE	C.L. STA. 8+~~16~~ 15.50	16' ~~15'~~ R	'D' INLET ✓	S.D. - 4.11
I-5	✱ ~~496.42~~ 497.19	-----	492.~~75~~ 90	PINDELL CHASE DRIVE	C.L. STA. 8+~~16~~ 15.50	15' L ✓	'D' INLET ✓	S.D. - 4.11
I-6	✱ ~~489.26~~ 490.31	475.~~69~~ 85	475.~~59~~ 80	PINDELL CHASE DRIVE	L.P. STA. 1+33.62 ✓	6' R ✓	'D' INLET ✓	S.D. - 4.11
I-7	✱ ~~479.50~~ 480.32	476.~~48~~ 35	476.~~23~~ 12	------	N 546,815.~~1~~ 64 E 1,333,~~414.2~~ 11.27	---	'D' INLET ✓	S.D. - 4.11
I-8	✱ ~~480.50~~ 481.31	-----	477.~~50~~ 31	------	N 547,~~016.0~~ 13.79 E 1,333,37~~3.5~~ 2.94	---	'D' INLET ✓	S.D. - 4.11
M-1	481.~~35~~ 81	~~476.79~~ 477.08	476.~~29~~ 56	PINDELL CHASE DRIVE	C.L. STA. 1+32 3	14.5' ~~17'~~ R	STD. MANHOLE ✓	G - 5.11
M-2	~~486.75~~ 487.10	472.~~97~~ 93	472.87 ✓		N 546,378.~~9~~ 9.13 E 1,333,68~~4.8~~ 6.05	---	STD. MANHOLE ✓	G - 5.11
M-3	~~495.00~~ 494.86	475.10	475.00	------	N 546,738.~~6~~ 52 E 1,333,603.~~4~~ 62	---	STD. MANHOLE ✓	G - 5.11
R-1	473.~~25~~ 47	~~468.00~~ 467.89	467.~~80~~ 3	------	N 545,~~881.8~~ 93.26 E 1,334,31~~3.3~~ 8.20	-------	CONCRETE RISER ✓	-------
R-2	481.~~25~~ 44	~~475.00~~ 474.58	474.~~10~~ 53	------	N 546,16~~5.5~~ 7.86 E 1,333,65~~3.3~~ 2.08	-------	CONCRETE RISER ✓	-------
R-3	481.~~25~~ 39	~~475.75~~ 474.26	~~473.96~~ 474.07	------	N 546,54~~0.7~~ 4.39 E 1,334,8~~32.6~~ 25.85	-------	CONCRETE RISER ✓	-------
S-1	469.~~50~~ 67	468.~~00~~ 17	468.~~00~~ 17	------	N 545,896.~~5~~ 93 E 1,334,405.~~2~~ 56	-------	HDPE END SECTION ✓	A.D.S. FLARED END SECTION
S-2	474.~~00~~ 3	472.~~50~~ 3	472.~~50~~ 3	------	N 546,30~~2.5~~ 4.03 E 1,333,667.~~6~~ 53	-------	HDPE END SECTION ✓	A.D.S. FLARED END SECTION
S-3	~~469.00~~ 468.69	~~467.00~~ 466.69	~~467.00~~ 466.69	------	N 545,85~~3.4~~ 0.36 E 1,334,~~300.5~~ 299.08	-------	CONC. END SECTION ✓	S.D. - 5.51
S-4	475.~~00~~ 13	473.~~00~~ 13	473.~~00~~ 13	------	N 546,119.~~3~~ 5.79 E 1,333,66~~0.3~~ 1.69	-------	CONC. END SECTION ✓	S.D. - 5.51
S-5	474.~~98~~ 4	473.~~00~~ 4	473.~~00~~ 4	------	N 546,52~~1.1~~ 0.14 E 1,334,87~~0.9~~ 5.08	-------	CONC. END SECTION ✓	S.D. - 5.51

A.D.S. - ADVANCED DRAINAGE SYSTEMS
LONDON, OHIO
1-800-733-9554

✱ DENOTES THROAT ELEVATION

PIPE SCHEDULE

SIZE	CLASS	LENGTH
15"	HDPE	235'
18"	HDPE	1650'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

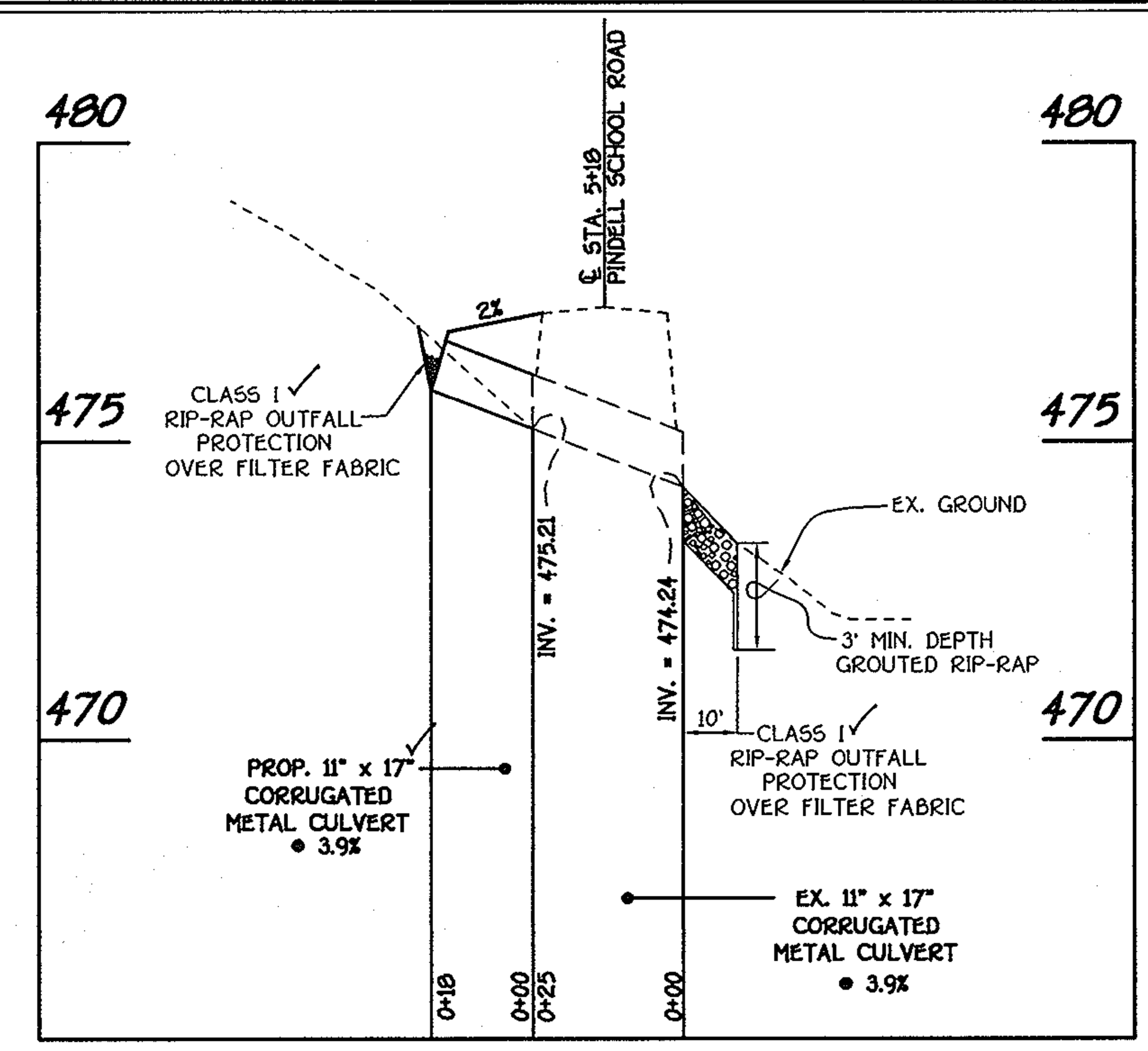
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/2/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/14/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS "FOR PUBLIC INFRASTRUCTURES ONLY"

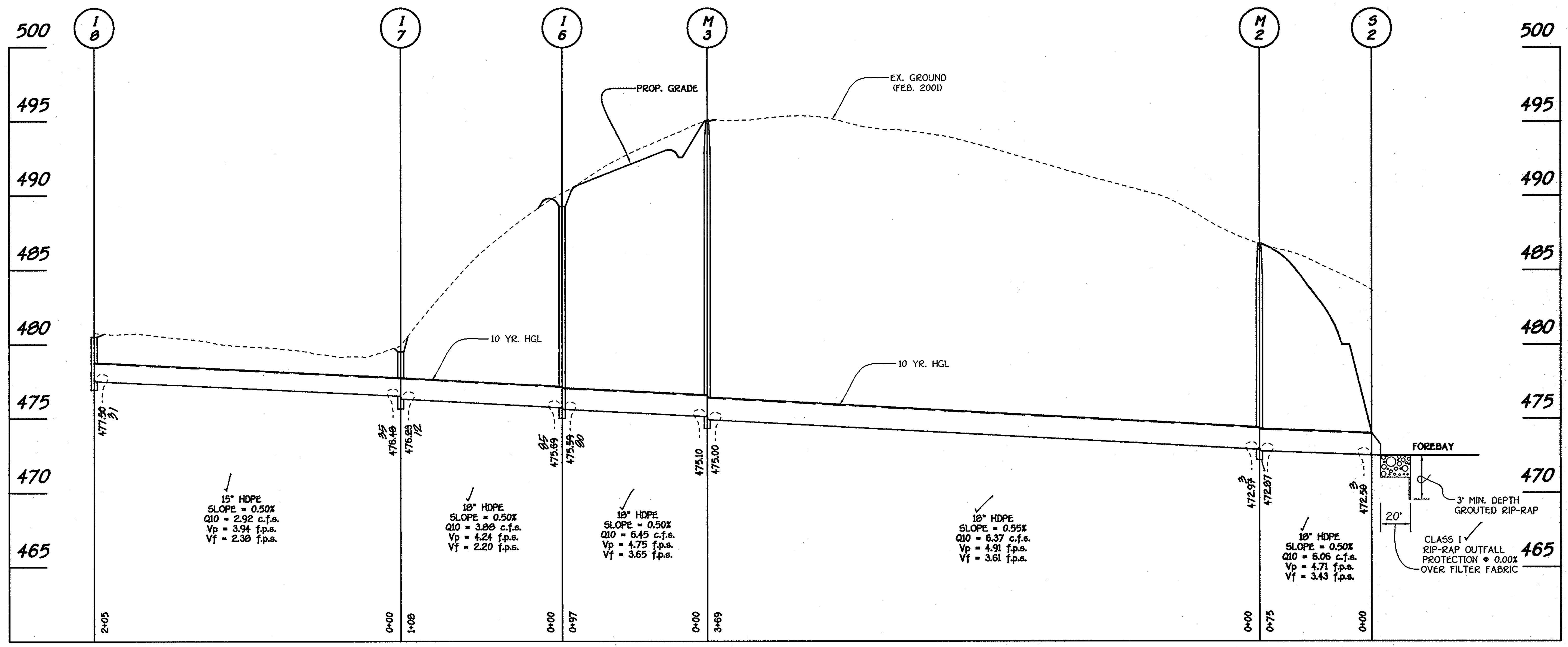
CHIEF, BUREAU OF HIGHWAYS — DATE 3-12-03

REVISIONS		
NO.	DESCRIPTION	DATE



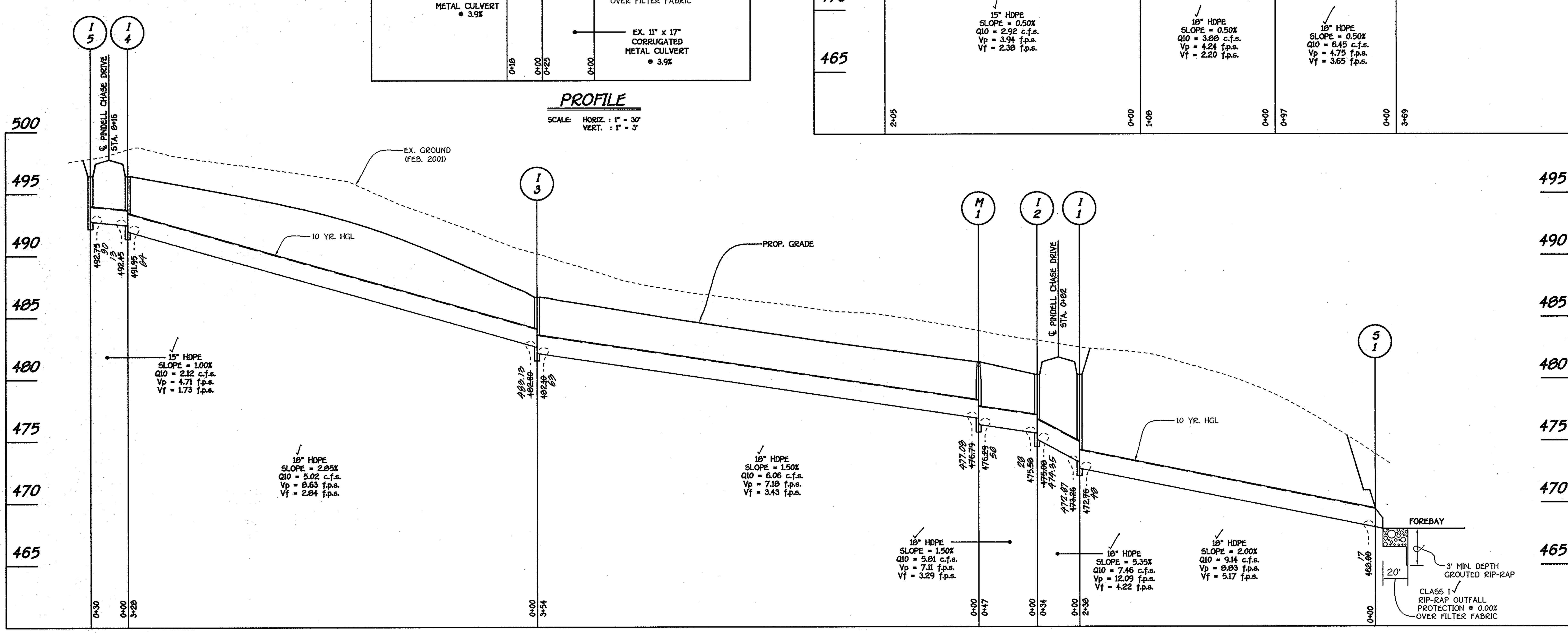
PROFILE

SCALE: HORIZ. : 1" = 30' VERT. : 1" = 3'



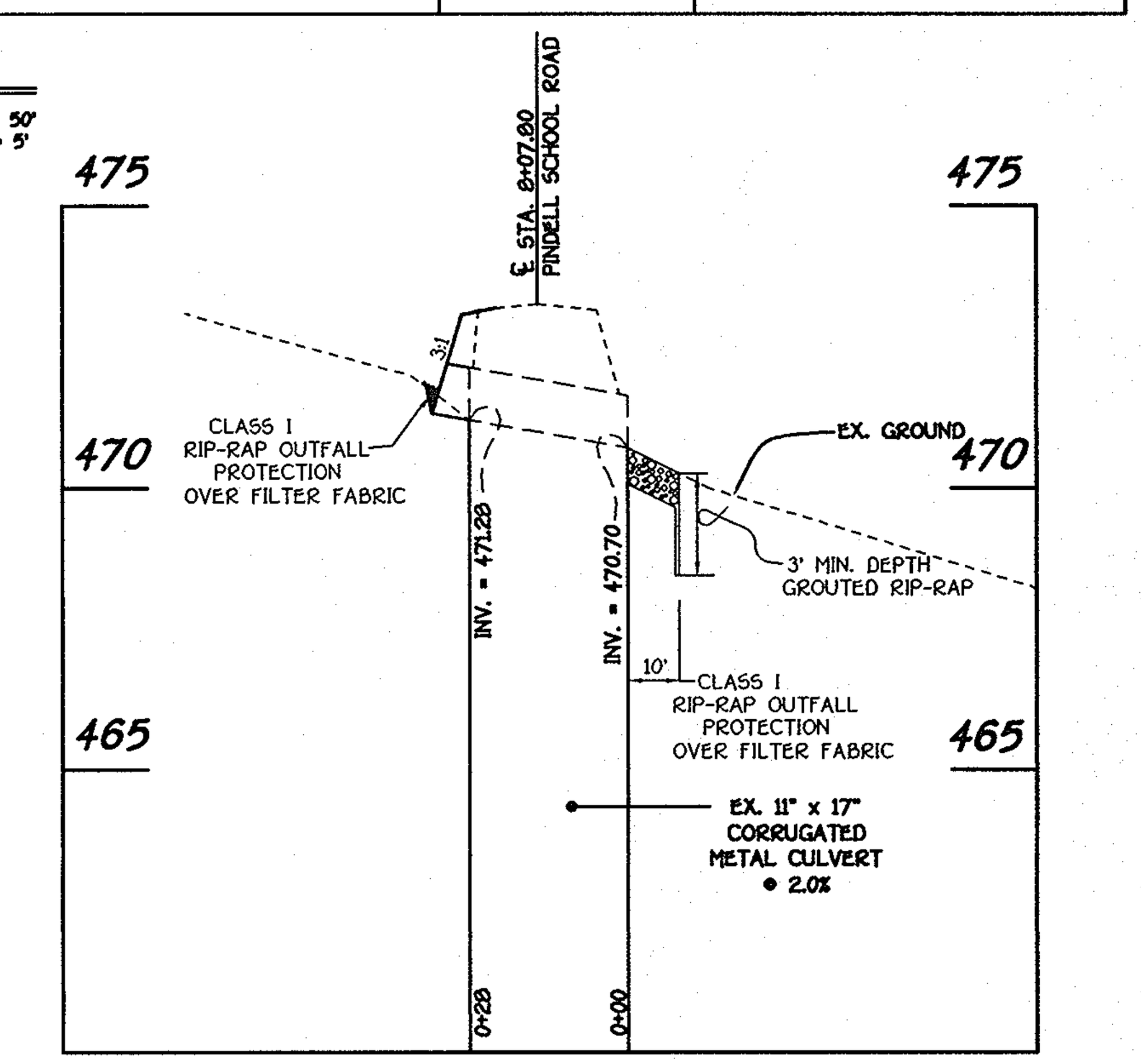
PROFILE

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



PROFILE

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



PROFILE

SCALE: HORIZ. : 1" = 30' VERT. : 1" = 3'

As Built 2/11/05

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
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ATTN: MR. SCOTT HARE
7164 COLUMBIA GATEWAY DR., SUITE 230
COLUMBIA, MARYLAND 21046

STORM DRAIN PROFILES & STRUCTURE SCHEDULE

PINDELL CHASE

BUILDABLE LOTS 1 – 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO

TAX MAP NO. 41 GRID Nos. 7, 8, 13 & 14 PARCEL No. 59

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: FEBRUARY 14, 2003

F 03-28

AS BUILT

STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

I. This practice is limited to areas having 2:1 or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½" in diameter.

ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnson grass, nutsedge, poison ivy, thistle, or others as specified.

iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

II. For sites having, disturbed areas under 5 acres:

i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

III For sites having disturbed areas over 5 acres:

i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.

b. Organic content of topsoil shall be not less than 1.5 percent by weight.

c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.

d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (4 days min.) to permit dissipation of phyto-toxic materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

V. Topsoil Application

i. When top soiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

ii. Grades on the areas to be top soiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from top soiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:

a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.

c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.

iv. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding. MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

SEDIMENT CONTROL NOTES

1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO 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 VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 50), 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 CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7) SITE ANALYSIS:

TOTAL AREA OF SITE	59.117	ACRES
AREA DISTURBED	22.25	ACRES
AREA TO BE ROOFED OR PAVED	3.37	ACRES
AREA TO BE VEGETATIVELY STABILIZED	18.88	ACRES
TOTAL CUT	12,000	CU. YDS.
TOTAL FILL	12,000	CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION	N/A	

8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT 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 SEDIMENT CONTROL INSPECTOR.
10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

FISHER, COLLINS & CARTER, INC.
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20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.
Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.
Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. Site Preparation
i. Install erosion and sediment control structures (either temporary of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.

B. Soil Amendments (Fertilizer and Lime Specifications)
i. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.
iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.
iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

C. Seedbed Preparation
i. Temporary Seeding
a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
b. Apply fertilizer and lime as prescribed on the plans.
c. In corporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
ii. Permanent Seeding
a. Minimum soil conditions required for permanent vegetative establishment:
1. Soil pH shall be between 6.0 and 7.0.
2. Soluble salts shall be less than 500 parts per million (ppm).
3. The soil shall contain less than 40% clay, but enough fine grained material (30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or sericeh lespedeza is to be planted, then a sandy soil (30% silt plus clay) would be acceptable.
4. Soil shall contain 1.5% minimum organic matter by weight.
5. Soil must contain sufficient pore space to permit adequate root penetration.
6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
c. Apply soil amendments as per soil test or as included on the plans.
d. Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

D. Seed Specifications
i. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.
Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
ii. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75°-80° F. can weaken bacteria and make the inoculant less effective.

E. Methods of Seeding
i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or by a cultipacker seeder.
a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen maximum of 100 lbs. per acre total of soluble nitrogen P205 (phosphorous) 200 lbs/ac; K20 (potassium) 200 lbs/ac.
b. Lime - use only ground agricultural limestone, (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 26b or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
b. Where mechanical seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

F. Mulch Specifications (in order of preference)
i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, packed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
ii. Wood Cellulose Fiber Mulch (WCFM)
a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
e. WCFM material shall contain no elements or compounds at concentration levels that will be phytol-toxic.
f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.
Note: Only sterile straw mulch should be used in areas where one species of grass is desired.

G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.
i. If grading is completed outside of the seeding season, mulch along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.

H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application 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 and erosion hazard:
i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
ii. 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 of water.
iii. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

I. Incremental Stabilization - Cut Slopes
i. All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
ii. Construction sequence (Refer to Figure 3 below):
a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
b. Perform Phase 1 excavation, dress, and stabilize.
c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.
d. Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.
Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation of completing the operation out of the seeding season will necessitate the application of temporary stabilization.

J. Incremental Stabilization of Embankments - Fill Slopes
i. Embankments shall be constructed in lifts as prescribed on the plans.
ii. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15', or when the grading operation ceases as prescribed in the plans.
iii. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.
iv. Construction sequence (Refer to Figure 4 below):
a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope silt fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.
b. Place Phase 1 embankment, dress and stabilize.
c. Place Phase 2 embankment, dress and stabilize.
d. Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.
Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

SECTION 2 - TEMPORARY SEEDING

Vegetation - Annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed mixtures - Temporary Seeding

i. Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Temporary seeding summary below, along with application rates, seeding dates and seeding depths. If this summary is not put on the plans and completed, then Table 26 must be put on the plans.

ii. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

Seed Mixture (Hardiness Zone 6b from Table 26)					Fertilizer Rate (10-10-10)	Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
1	BARLEY	122	3/1 - 5/15, 8/15 - 10/15	1" - 2"	600 lb/ac (15 lb/1000sf)	2 tons/ac (100 lb/1000sf)
	OATS	96		1" - 2"		
	RYE	140		1" - 2"		

SECTION 3 - PERMANENT SEEDING

Seeding grass and legumes to establish growing cover for a minimum of one year on disturbed areas generally receiving low maintenance.

A. Seed mixtures - Permanent Seeding

i. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office Guide, Section 342 - Critical Area Planting. For special lawn maintenance areas, see Sections IV Sod and V Turfgrass.

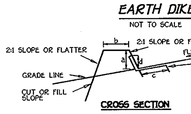
ii. For sites having disturbed area over 5 areas, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.

iii. For areas receiving low maintenance, apply ureaform fertilizer (46-0-0) at 3 1/2 lbs/1000 sq. ft. (150 lbs/ac), in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

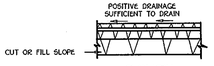
Seed Mixture (Hardiness Zone 6b from Table 25)					Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	
3	TALL FESCUE (85%) PERENNIAL RYE GRASS (10%) KENTUCKY BLUEGRASS (5%)	125 15 10	3/1 - 5/15, 8/15 - 10/15	1" - 2"	90 lb/ac (2.0 lb/ 1000sf)	175 lb/ac (4 lb/ 1000sf)	175 lb/ac (4 lb/ 1000sf)	2 tons/ac (100 lb/ 1000sf)
10	TALL FESCUE (60%) HARD FESCUE (20%)	120 30	3/1 - 5/15, 8/15 - 10/15	1" - 2"				

EARTH DIKE

NOT TO SCALE



CROSS SECTION



PLAN VIEW

	DIKE A	DIKE B
a-DIKE HEIGHT	18"	30"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	12"	24"

STANDARD SYMBOL
A-2 B-3

FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a 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 dike.
5. The dike 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. Fill shall be compacted by earth moving equipment.
7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
8. Inspection and maintenance must be provided periodically and after each rain event.

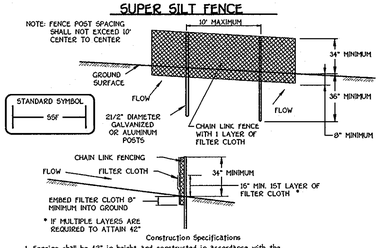
OWNER

MAPLE LAWN FARMS, INC.
11920 ROUTE 216
FULTON, MD 20759-2215

DEVELOPER

TOLL BROTHERS, INC.
ATTN: MR. SCOTT HARE
7164 COLUMBIA GATEWAY DR., SUITE 230
COLUMBIA, MARYLAND 21046

SUPER SILT FENCE

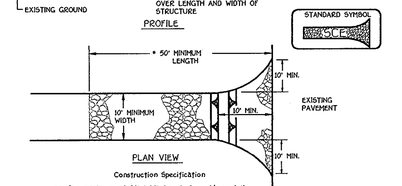


Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid sections.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min)	Test: MSMT 509
Flow Rate	0.3 gal/ft / minute (max)	Test: MSMT 322
Filtering Efficiency	75% (min)	Test: MSMT 322

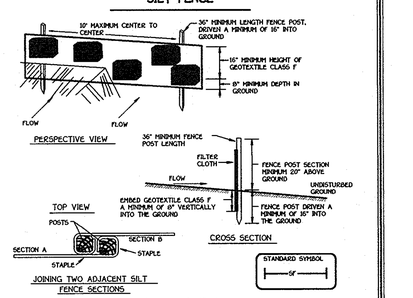
STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).
2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

SILT FENCE



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1½" x 1½" square (minimum) cut, or 1¾" diameter (minimum) rough dressed quality hardwood. Steel posts shall be standard T or U section weighting not less than 1.00 pond per linear foot.
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min)	Test: MSMT 509
Flow Rate	0.3 gal ft / minute (max)	Test: MSMT 322
Filtering Efficiency	75% (min)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

ENGINEER'S CERTIFICATE

I Hereby Certify That This Plan For Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Condition And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

Signature Of Engineer — Date 2/14/03

DEVELOPER'S CERTIFICATE

"I/We Certify That All Development And Construction Will Be Done According To This Plan Of Development And Plan For Erosion And Sediment Control And That All Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Attendance At A Department Of Natural Resources Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Also Authorize Periodic On-Site Inspection By The Howard Soil Conservation District Or Their Authorized Agents, As Are Deemed Necessary."

Signature Of Developer — Date 2/14/03

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.

U.S.D.A. - Natural Resources Conservation Service — Date 3/5/03

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.

District Howard Soil Conservation Dist. — Date 3/5/03

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date 3/4/03

Chief, Development Engineering Division — Date 3/14/03

Approved: Department Of Public Works "For Public Infrastructures Only"

Chief Bureau Of Highways — Date 3-12-03

SEDIMENT AND EROSION CONTROL NOTES & DETAILS

PINDELL CHASE

BUILDABLE LOTS 1 - 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO

TAX MAP NO. 41 GRID Nos. 7, 8, 13 & 14 PARCEL No. 59

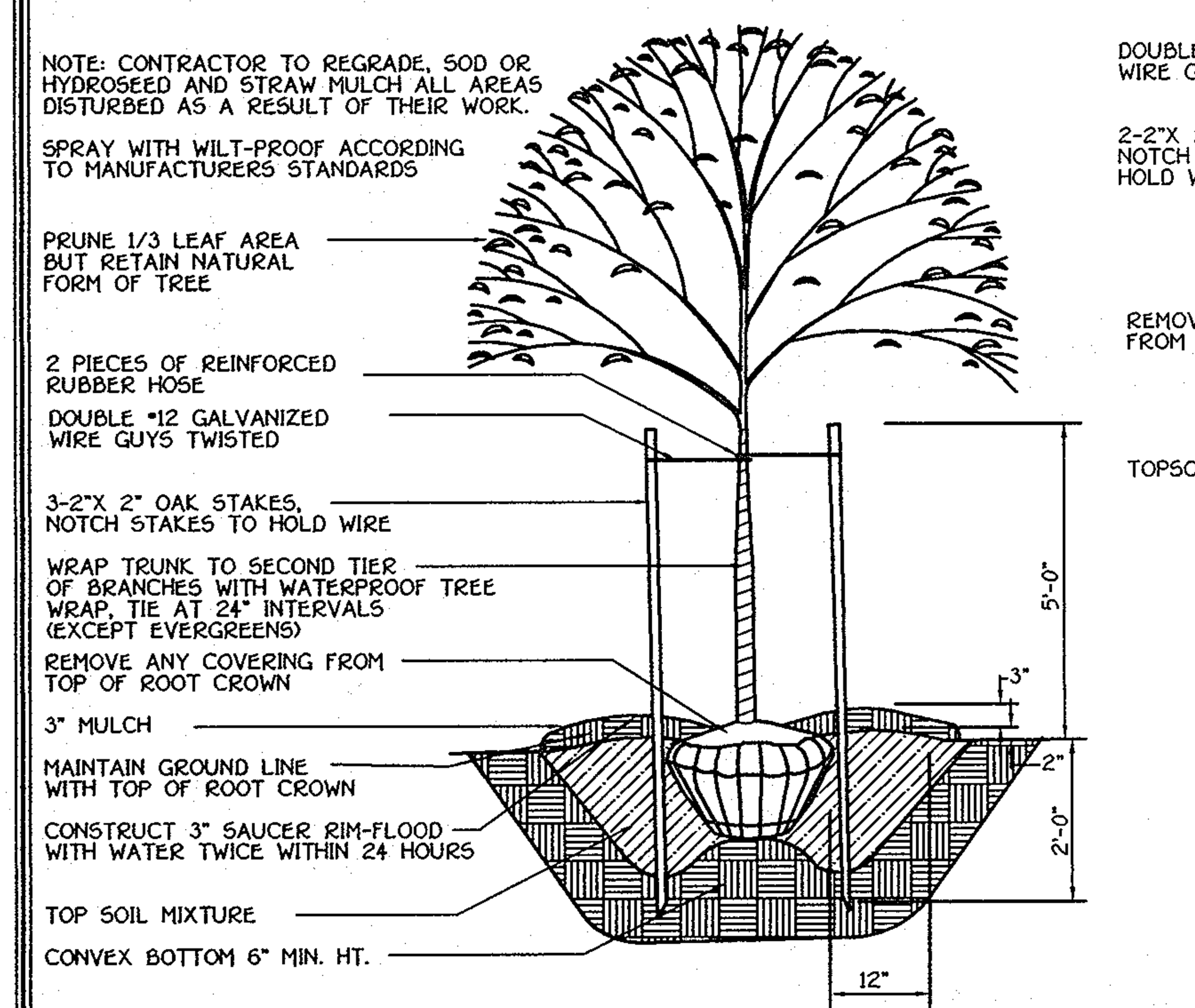
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: FEBRUARY 14, 2003

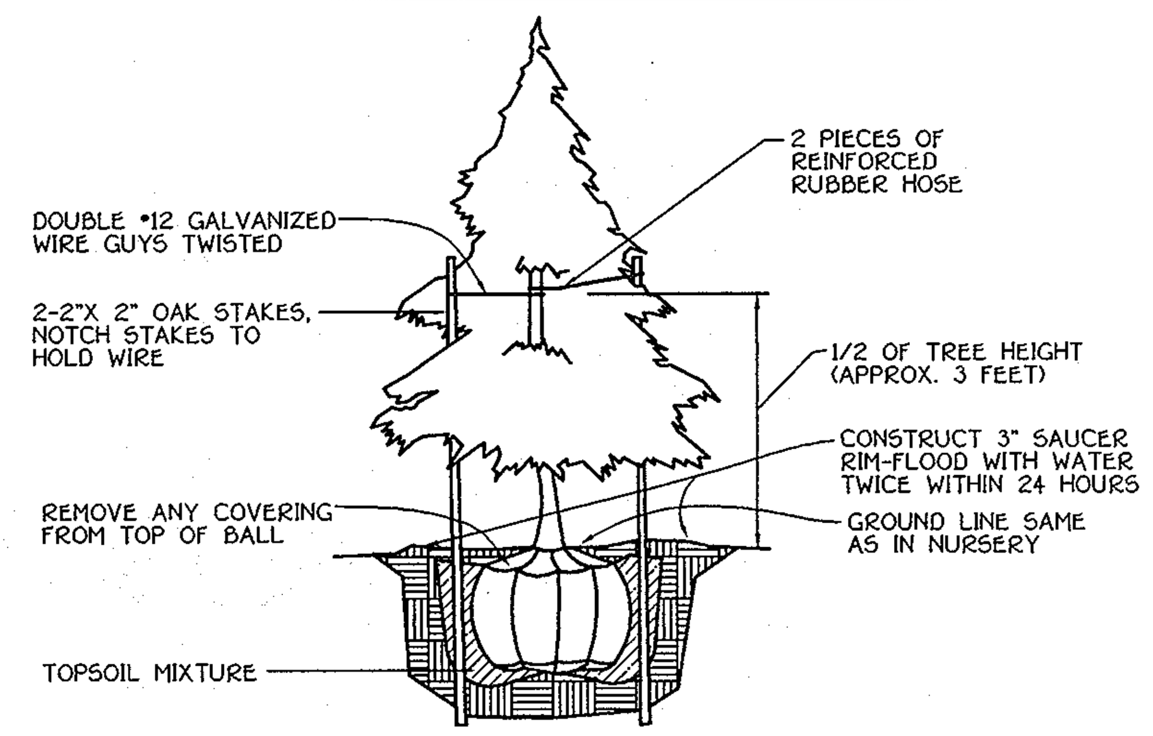
SHEET 14 OF 25

F 03-28

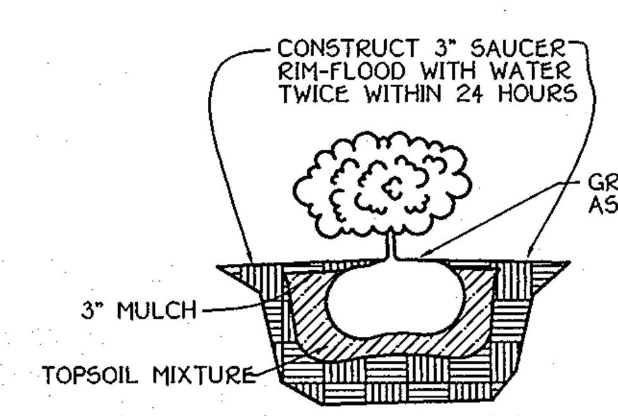
AS BUILT



TREE PLANTING DETAIL



EVERGREEN PLANTING DETAIL



SHRUB PLANTING DETAIL

PLANTING SPECIFICATIONS

Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.

All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to the species, size, root and shape shown on the plant list and the American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sun scald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug; no healed-in plants from cold storage will be accepted.

Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Areas", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architect, latest edition, including all agenda.

Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.

Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.

Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence or blaze orange safety fence at the drip line.

Contractor id responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within the growing season of completion of site construction.

Bid shall be base on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications

Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence

All shrubs shall be planted in continuous trenches or prepared planting beds and mulched with composted hardwood mulch as details and specified except where noted on plans.

Positive drainage shall be maintained in planting beds 2 percent slope).

Planting mix shall be as follows: Deciduous Plants - Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs. of standard fertilizer per cubic yard of planting mix. Evergreen Plants - two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.

Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific ground cover to be treated.

All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded.

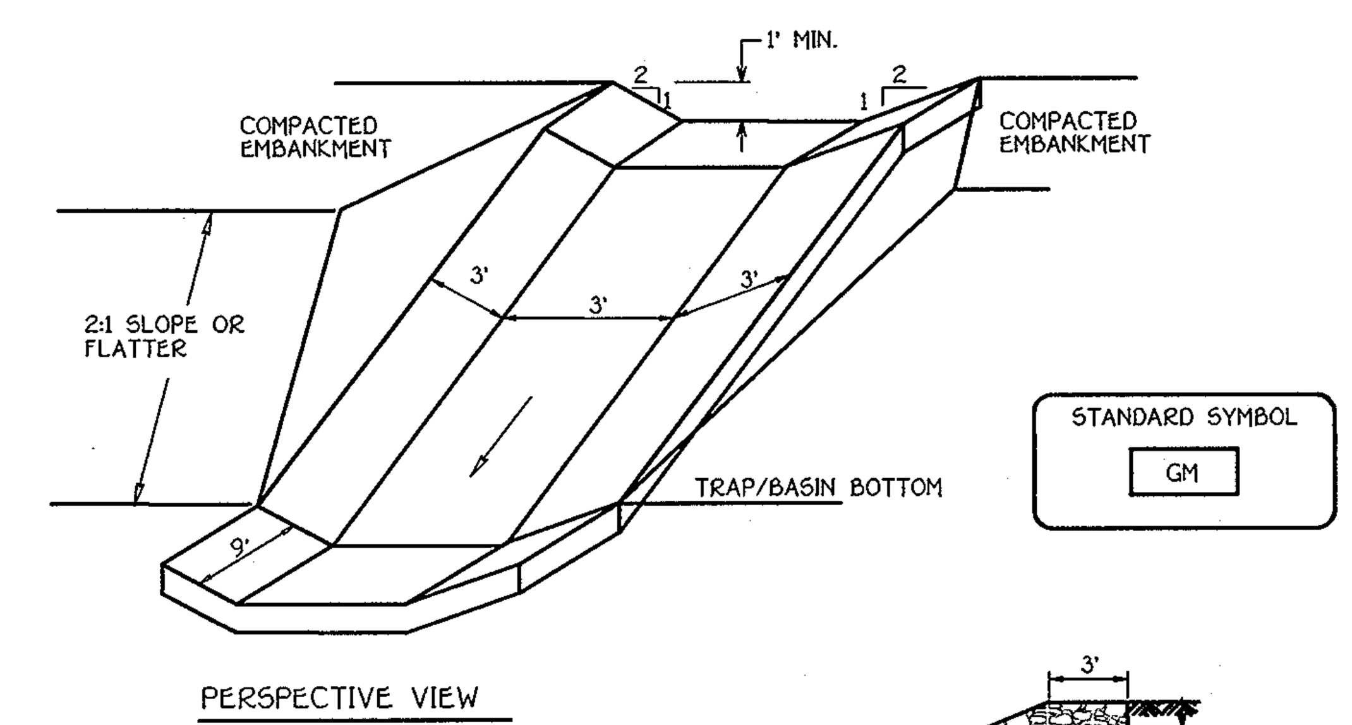
This plan is intended for landscape use only. see other plan sheets for more information on grading, sediment control, layout, etc.

TREE PLANTING DETAIL

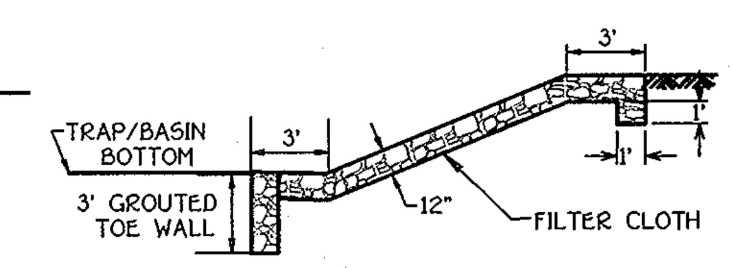
NOT TO SCALE

GABION INFLOW PROTECTION

NOT TO SCALE



PERSPECTIVE VIEW

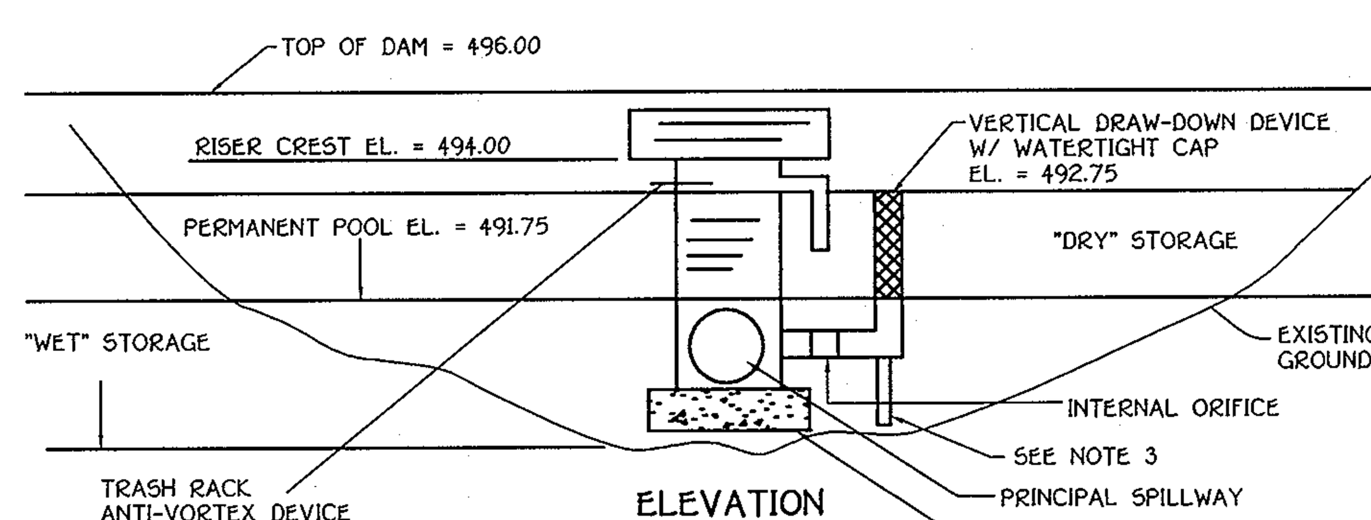


PROFILE ALONG CENTERLINE

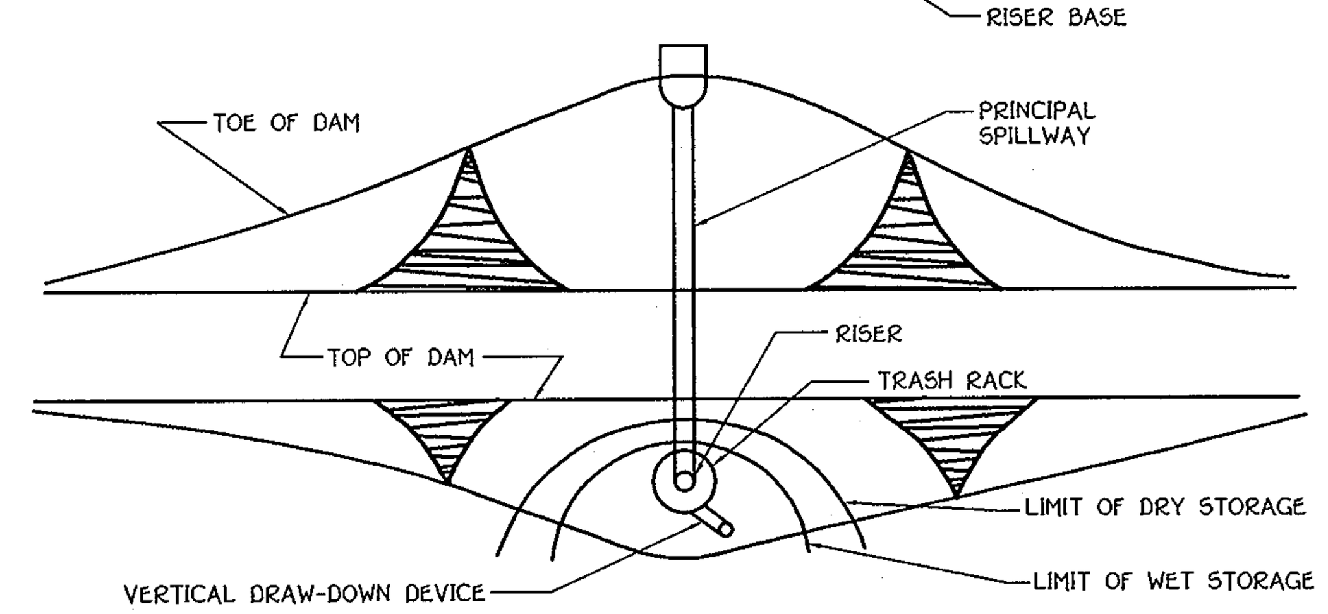
Construction Specifications

1. Gabion inflow protection shall be constructed of 9' x 3' x 9" gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.
2. Geotextile Class C shall be installed under all gabion baskets.
3. The stone used to fill the gabion baskets shall be 4" - 7".
4. Gabions shall be installed in accordance with manufacturers recommendations.
5. Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.
6. Gabion Inflow Protection shall have a 3' grouted toe wall.

VERTICAL DRAW-DOWN DEVICE



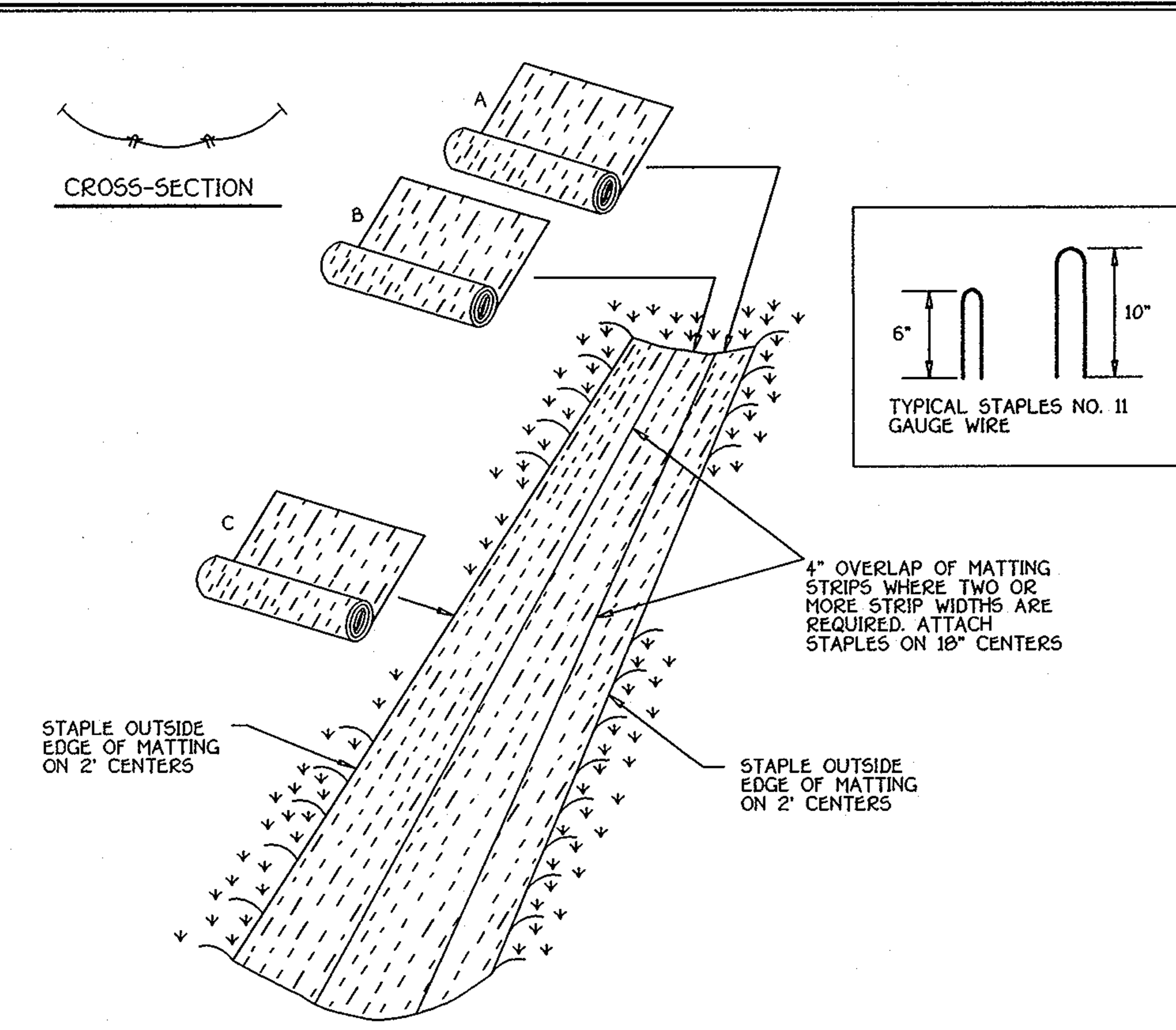
ELEVATION



PLAN VIEW

CONSTRUCTION SPECIFICATIONS

1. PERFORATIONS IN THE DRAW-DOWN DEVICE MAY NOT EXTEND INTO THE WET STORAGE.
2. THE TOTAL AREA OF THE PERFORATIONS MUST BE GREATER THAN 2 TIMES THE AREA OF THE INTERNAL ORIFICE.
3. THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE FABRIC. THE GEOTEXTILE FABRIC SHALL MEET THE SPECIFICATIONS FOR GEOTEXTILE CLASS E.
4. PROVIDE SUPPORT OF DRAW-DOWN DEVICE TO PREVENT SAGGING AND FLOATATION. AN ACCEPTABLE PREVENTATIVE MEASURE IS TO STAKE BOTH SIDES OF DRAW-DOWN DEVICE WITH 1" STEEL ANGLE, OR 1' BY 4" SQUARE OR 2" ROUND WOODEN POSTS SET 3' MINIMUM INTO THE GROUND THEN JOINING THEM TO THE DEVICE BY WRAPPING WITH 12 GAUGE MINIMUM WIRE.



Construction Specifications

1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
2. Staple the 4" overlap in the channel center using an 18" spacing between staples.
3. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
4. Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.
5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

EROSION CONTROL MATTING

NOT TO SCALE

SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT.
2. NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION AT 410-313-1330 24 HOURS BEFORE STARTING WORK.
3. INSTALL ALL TREE PROTECTION FENCE FOR TREES TO BE UNDISTURBED AS INDICATED ON THE PLANS (2 DAYS). CLEAR AND GRUB FOR SEDIMENT BASIN/SWM PONDS ONLY. INSTALL STABILIZED CONSTRUCTION ENTRANCE. (3 DAYS)
4. INSTALL SEDIMENT BASIN/SWM POND AND ASSOCIATED SILT FENCE AS INDICATED ON THE PLANS. NO BLASTING WILL BE PERMITTED FOR THE EXCAVATION OF SEDIMENT BASIN/SWM POND EMBANKMENT. WHERE NECESSARY, RIPPING AND JACK HAMMERING SHOULD BE UTILIZED IN THE EXCAVATION OF THE FACILITY. (2 WEEKS)
5. RECEIVE PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING. CLEAR AND GRUB FOR REMAINING SEDIMENT CONTROL MEASURES. INSTALL REMAINING SEDIMENT CONTROL MEASURES, EARTH DIKES, AND SILT FENCE AS INDICATED ON THE PLANS. (1 WEEK)
6. RECEIVE PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING. CONSTRUCT STORM DRAIN SYSTEMS. (1 WEEK)
7. RECEIVE PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING. CLEAR AND GRUB THE REMAINDER OF THE SITE. (3 DAYS)
8. GRADE SITE TO THE PROPOSED SUB-GRADE AND INSTALL THE STORM DRAIN SYSTEMS. STABILIZE ALL SLOPES IMMEDIATELY UPON COMPLETION OF GRADING. (2 WEEKS)
9. GRADE ALONG PINDELL SCHOOL ROAD AND SIMPSON ROAD FOR APPROPRIATE ROAD IMPROVEMENTS. RELOCATE ANY UTILITY POLES IF NECESSARY. EXTEND EXISTING CULVERTS UNDER PINDELL SCHOLL ROAD TO MEET WITH THE NEWLY GRADED ROADSIDE DITCHES. STABILIZE ALL SLOPES IMMEDIATELY UPON COMPLETION OF GRADING. (2 WEEKS)
10. CONSTRUCT ROAD BASE COURSE FOR INTERNAL SUBDIVISION ROAD. SAW CUT PINDELL SCHOOL ROAD AND INSTALL PAVING SECTION PER APPROPRIATE IMPROVEMENTS. (10 DAYS)
11. WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES AND THE POND HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE DEVICES MAY BE REMOVED AND/OR BACKFILLED AND THE REMAINING AREAS BROUGHT TO FINAL DESIGN GRADE. STABILIZE ALL REMAINING AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (2 WEEKS)
12. THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON, AFTER EACH RAINFALL AND ON A DAILY BASIS. REMOVE SEDIMENT FROM THE POND WHEN THE CLEANOUT ELEVATION HAS BEEN REACHED. ALL SEDIMENT MUST BE PLACED UPSTREAM OF THE APPROVED TRAPPING DEVICE.
13. NOTIFY HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS FOR FINAL INSPECTION OF THE COMPLETED PROJECT.

ENGINEER'S CERTIFICATE

I Hereby Certify That This Plan For Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Condition And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

Signature Of Engineer — 2/14/03 Date

DEVELOPER'S CERTIFICATE

"I/We Certify That All Development And Construction Will Be Done According To This Plan Of Development And Plan For Erosion And Sediment Control And That All Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Attendance At A Department Of Natural Resources Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Also Authorize Periodic On-Site Inspection By The Howard Soil Conservation District Or Their Authorized Agents, As Are Deemed Necessary."

Signature Of Developer — 2/14/03 Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.

U.S.D.A. - Natural Resources Conservation Service — 3/5/03 Date

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.

District Howard Soil Conservation Dist. — 3/5/03 Date

Approved: Department Of Planning And Zoning

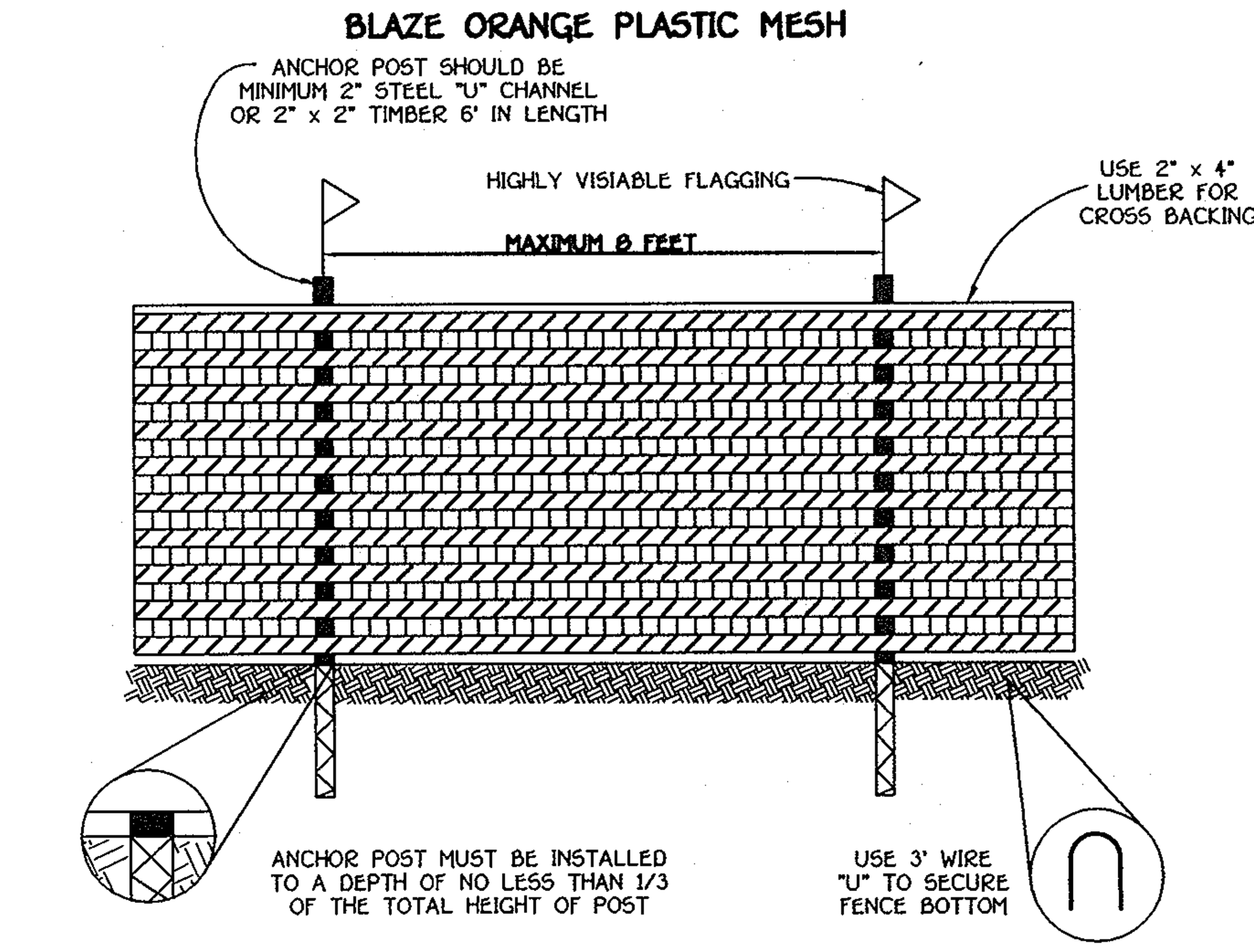
Chief, Division Of Land Development — 4/2/03 Date

Chief, Development Engineering Division — 3/14/03 Date

Approved: Department Of Public Works "For Public Infrastructures Only"

Chief Bureau Of Highways — 3-12-03 Date

BLAZE ORANGE PLASTIC MESH



NOTES:

1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL

NOT TO SCALE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

OWNER	DEVELOPER
MAPLE LAWN FARMS, INC. 11920 ROUTE 216 FULTON, MD 20759-2215	TOLL BROTHERS, INC. ATTN: MR. SCOTT HARE 7164 COLUMBIA GATEWAY DR., SUITE 230 COLUMBIA, MARYLAND 21046

SEDIMENT AND EROSION CONTROL NOTES & DETAILS

PINDELL CHASE

BUILDABLE LOTS 1 – 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO

TAX MAP NO. 41 GRID Nos. 7, 8, 13 & 14 PARCEL No. 59

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: FEBRUARY 14, 2003

F 03-28

AS BUILT

STORM WATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

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

EARTH FILL

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer. Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

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

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within +2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

Structure Backfill

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

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to the specified for the core of the embankment or other embankment materials.

Pipe Conduits

All pipes shall be circular in cross section.

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

1. Materials - (Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Stel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling banks or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

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

3. 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. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the bandwidth. The following type connections are acceptable for pipes less than 24-inches in diameter: flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, prepunched to the flange bolt circle, sandwiched between adjacent flanges; a 12-inch wide standard lap type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2-inch greater than the corrugation depth. Pipes 24-inches in diameter and larger shall be connected by a 24-inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12-inches on the end of each pipe. Flanged joints with 3/8-inch closed cell gaskets the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

4. 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.

5. Backfilling shall conform to "Structure Backfill".

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

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.

2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Stucture Backfill" section of this standard. Gravel bedding is not permitted.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

4. Backfilling shall conform to "Structure Backfill".

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

Plastic Pipe

The following criteria shall apply for plastic pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirement of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirement of AASHTO M294 Type S.

2. Joints and connections to anti-seep collars shall be completely 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. Backfilling shall conform to "Structure Backfill".

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

Drainage Diaphragms - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

Care of Water during Construction

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

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

OPERATION AND MAINTENANCE

An operation and maintenance plan in accordance with Local or State Regulations will be prepared for all ponds. As a minimum, the dam inspection checklist located in Appendix A shall be included as part of the operation and maintenance plan and performed at least annually. Written records of maintenance and major repairs needs to be retained in a file. The issuance of a Maintenance and Repair Permit for any repairs or maintenance that involves the modification of the dam or spillway from its original design and specifications is required. A permit is also required for any repairs or reconstruction that involve a substantial portion of the structure. All indicated repairs are to be made as soon as practical.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

STORMWATER MANAGEMENT POND MAINTENANCE SCHEDULE

A. ROUTINE MAINTENANCE

Facility Shall Be Inspected Annually And After Major Storms. Inspections Should Be Performed During Wet Weather To Determine If The Pond Is Functioning Properly.

Top And Side Slopes Of The Embankment Shall Be Mowed A Minimum Of Two (2) Times A Year, Once In June And Once In September. Other side Slopes, The Bottom Of The Pond, And Maintenance Access Should Be Mowed As Needed.

Debris And Litter Next To The Outlet Structure Shall Be Removed During Regular Mowing Operations And As needed.

Visible Signs Of Erosion In The Pond As Well As Rip-Rap Outlet Area Shall Be Repaired As Soon As It Is Noticed.

Sediment Should Be Removed When Its Accumulation Reaches 6".

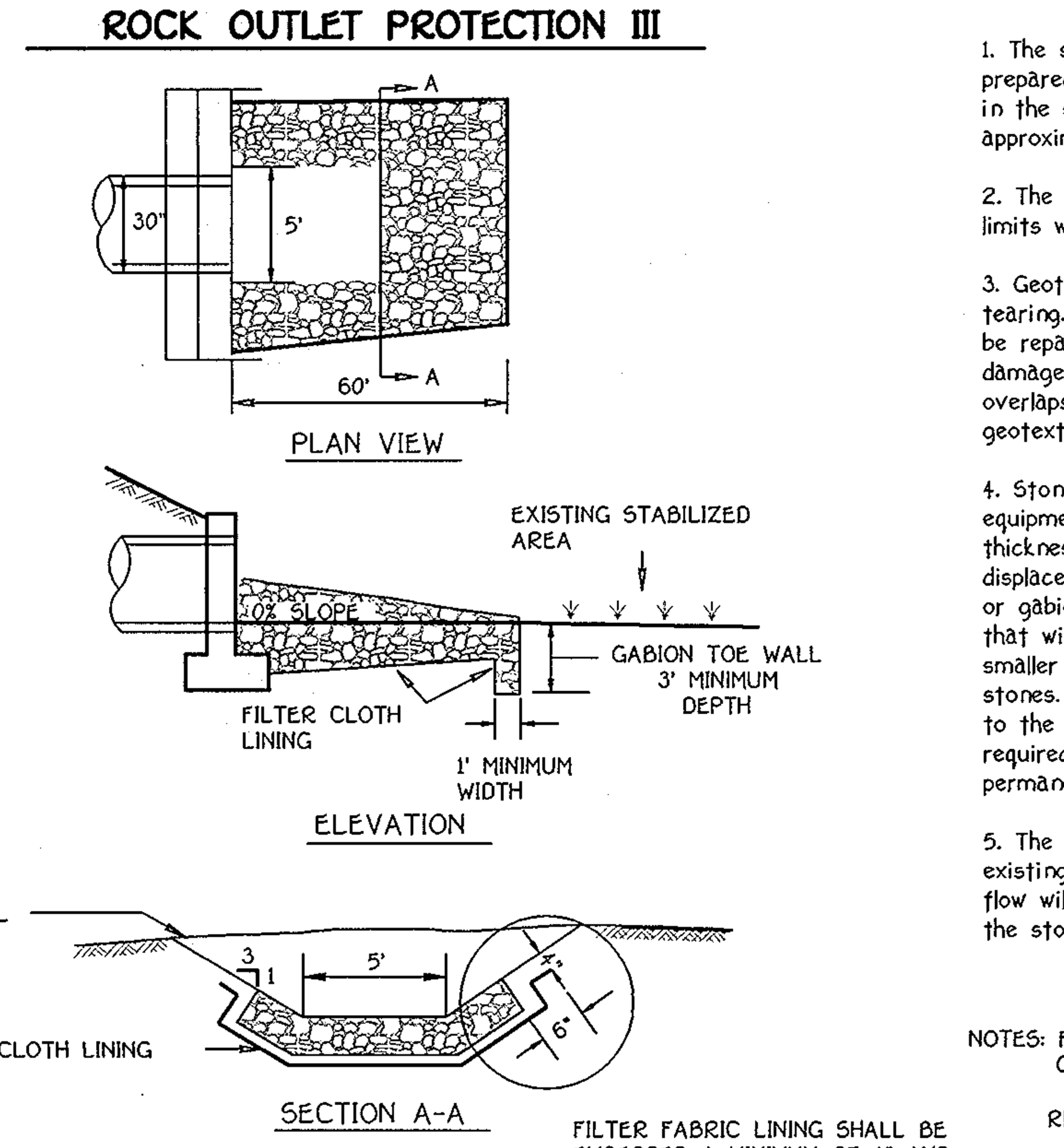
The Low Flow PVC Pipes Shall Be Visually Inspected For Clogging A Minimum Of Two (2) Times A Year, Once In June And Once In September. This Should Be Accomplished At The Same Time As The Mowing Of The Embankment.

B. NON-ROUTINE MAINTENANCE

Structural Components Of The pond Such as The Dam, Riser Structure And The Pipes Shall Be Repaired Upon The Detection Of Any Damage. The Components Should Be Inspected During Routine Maintenance Operations.

Sediment Should Be Removed When Its Accumulation Significantly Reduces The Design Storage, Interfere With The Function Of The Riser, When Deemed Necessary For Aesthetic Reasons, Or When Deemed Necessary By The Howard County Department Of Public Works.

ROCK OUTLET PROTECTION III



FILTER FABRIC LINING SHALL BE EMBEDDED A MINIMUM OF 4" AND SHALL EXTEND AT LEAST 6" BEYOND THE EDGE OF THE RIP-RAP

NOTES: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

RIP-RAP TO BE CLASS I
d50 = 9.5"
dmax = 15"
Thickness = 19"

Construction Specifications

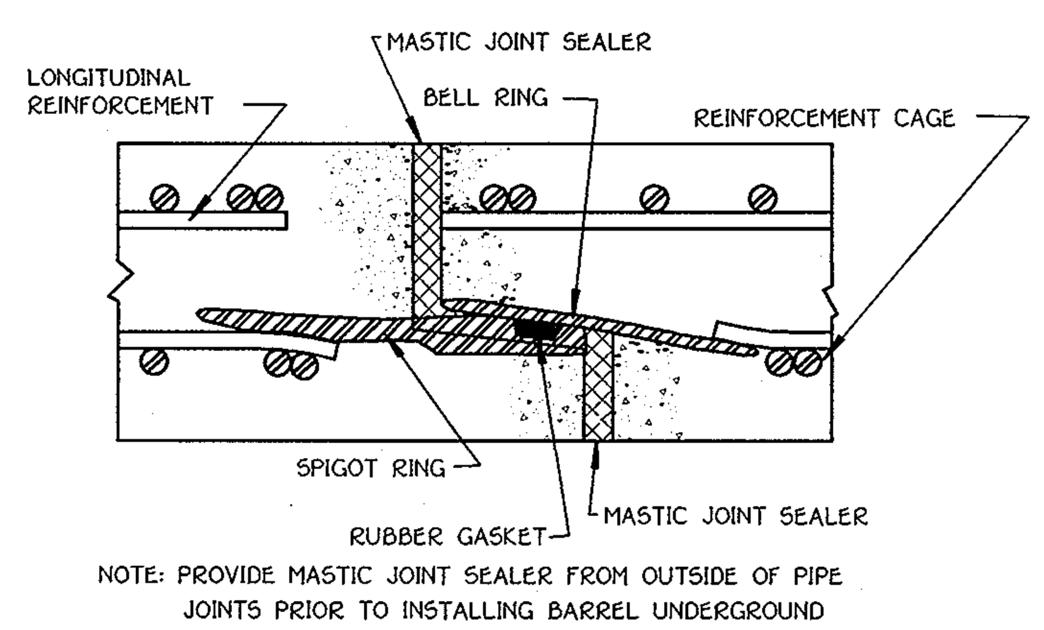
1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.

2. The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.

3. Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.

4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

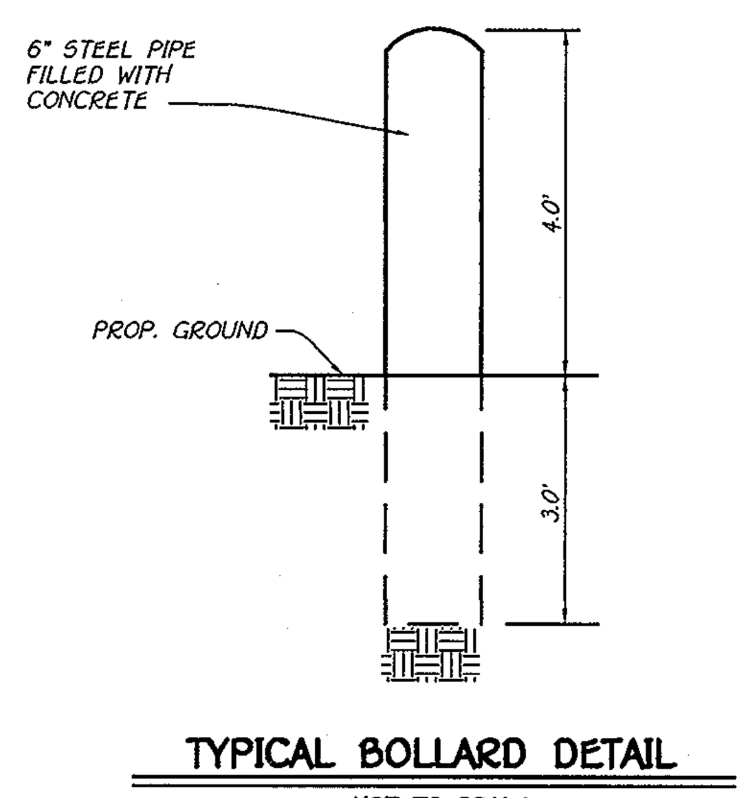


NOTE: PROVIDE MASTIC JOINT SEALER FROM OUTSIDE OF PIPE JOINTS PRIOR TO INSTALLING BARREL UNDERGROUND

ASTM DESIGNATION C361
DIAMETERS 12 THRU 168 INCH
PRESSURES TO 125 FEET OF HEAD

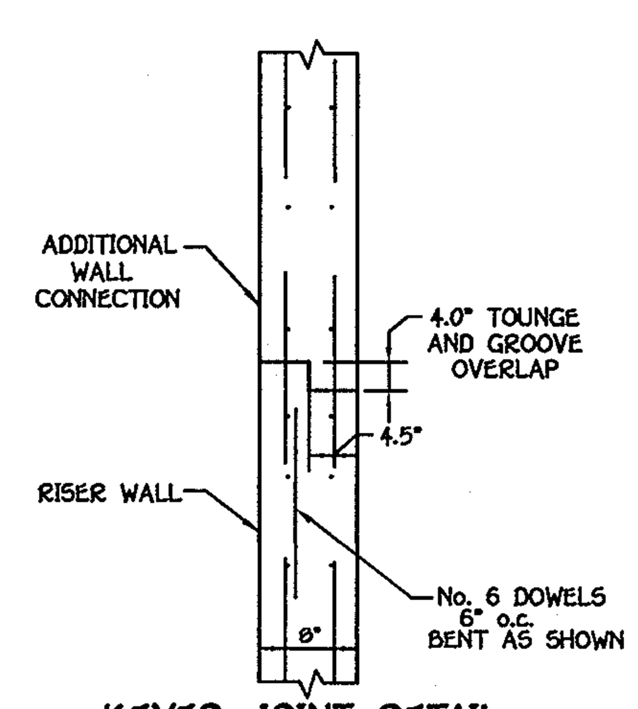
CONCRETE PIPE JOINT DETAIL

(NO SCALE)



TYPICAL BOLLARD DETAIL

NOT TO SCALE



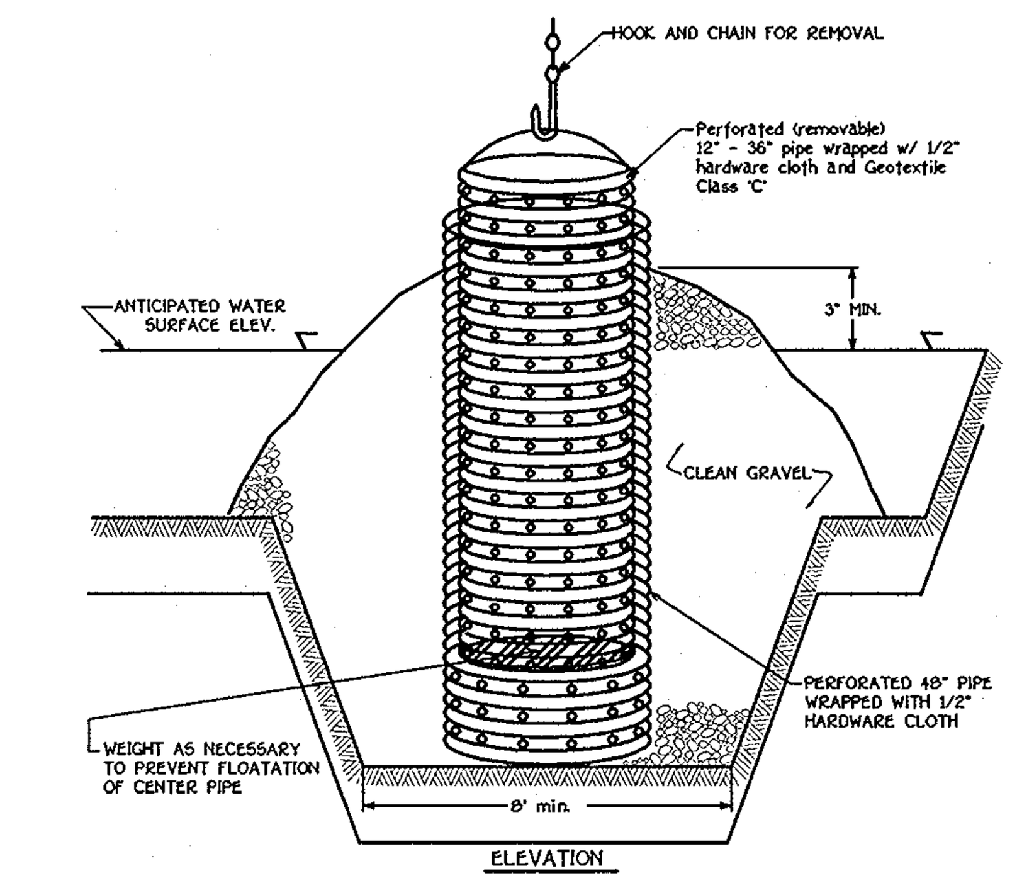
KEYED JOINT DETAIL WALL SECTION TO WALL SECTION

(NO SCALE)

Embankment and Cut-off Trench Construction

THE AREA OF THE PROPOSED SWM POND SHOULD BE STRIPPED OF TOPSOIL AND ANY OTHER UNSUITABLE MATERIALS FROM THE EMBANKMENT OR STRUCTURE AREA IN ACCORDANCE WITH SOIL CONSERVATION GUIDELINES. AFTER STRIPPING OPERATIONS HAVE BEEN COMPLETED, THE EXPOSED SUBGRADE MATERIALS SHOULD BE PROOFROLLED WITH A LOADED DUMP TRUCK OR SIMILAR EQUIPMENT IN THE PRESENCE OF A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE UTILIZING A DYNAMIC CONE PENETROMETER. ANY EXCESSIVELY SOFT OR LOOSE MATERIALS IDENTIFIED BY PROOFOLLING OR PENETROMETER TESTING SHOULD BE EXCAVATED TO SUITABLE FIRM SOIL, AND THEN GRADES RE-ESTABLISHED BY BACKFILLING WITH SUITABLE SOIL.
A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER SHOULD BE PRESENT TO MONITOR PLACEMENT AND COMPACTION OF FILL FOR THE EMBANKMENT AND CUT-OFF TRENCH. IN ACCORDANCE WITH MARYLAND SOIL CONSERVATION SPECIFICATION 378 SOILS CONSIDERED SUITABLE FOR THE CENTER OF EMBANKMENT AND CUT-OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL.
IT IS OUR PROFESSIONAL OPINION THAT IN ADDITION TO THE SOIL MATERIALS DESCRIBED ABOVE A FINE GRAINED SOIL, INCLUDING SILT (ML) WITH A PLASTICITY INDEX OF 10 OR MORE CAN BE UTILIZED FOR THE CENTER OF THE EMBANKMENT AND CORE TRENCH. BASED ON OUR VISUAL CLASSIFICATIONS IT APPEARS THAT SOME OF THE ON-SITE SOILS, ESPECIALLY THE NEAR SURFACE SOILS, WILL BE SUITABLE FOR USE AS CORE TRENCH MATERIAL. IT IS RECOMMENDED THAT ADDITIONAL EXPLORATION AND LABORATORY TESTING BE PERFORMED PRIOR TO POND CONSTRUCTION TO IDENTIFY AND QUANTIFY POTENTIAL BORROW AREAS FOR CORE TRENCH MATERIAL ALL FILL MATERIALS MUST BE PLACED AND COMPACTED WITH MD SCS 378 SPECIFICATIONS.

REMOVABLE PUMPING STATION



Construction Specifications

1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.

2. After installing the outer pipe, backfill around outer. pipe with 2" aggregate or clean gravel.

3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.

4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

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 The Environment Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District."

[signature] 2/14/03
Signature Of Developer — Date

BRUCE R. OXLEY
Printed Name Of Developer

By The Engineer:

"I Certify That This Plan For Pond Construction, Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Conditions. This Plan Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District. I Have Notified The Developer That He/She Must Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion."

[signature] 2/14/03
Signature Of Engineer — Date

CHARLES J. CROVO, SR., P.E., L.S.
Printed Name Of Engineer

These Plans Have Been Reviewed For The Howard Soil Conservation District And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.

[signature] 3/5/03
USDA-Natural Resources Conservation Service — Date

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

[signature] 3/5/03
Howard Soil Conservation District — Date

Approved: Department Of Public Works
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[signature] 3-12-03
Chief Bureau Of Highways — Date

Approved: Department Of Planning And Zoning

[signature] 4/2/03
Chief, Division Of Land Development — Date

[signature] 3/14/03
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AS-BUILT CERTIFICATION

I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The " As-Built" Plans And Meets The Approved Plans And Specifications.

Signature — P.E. No.

Date:

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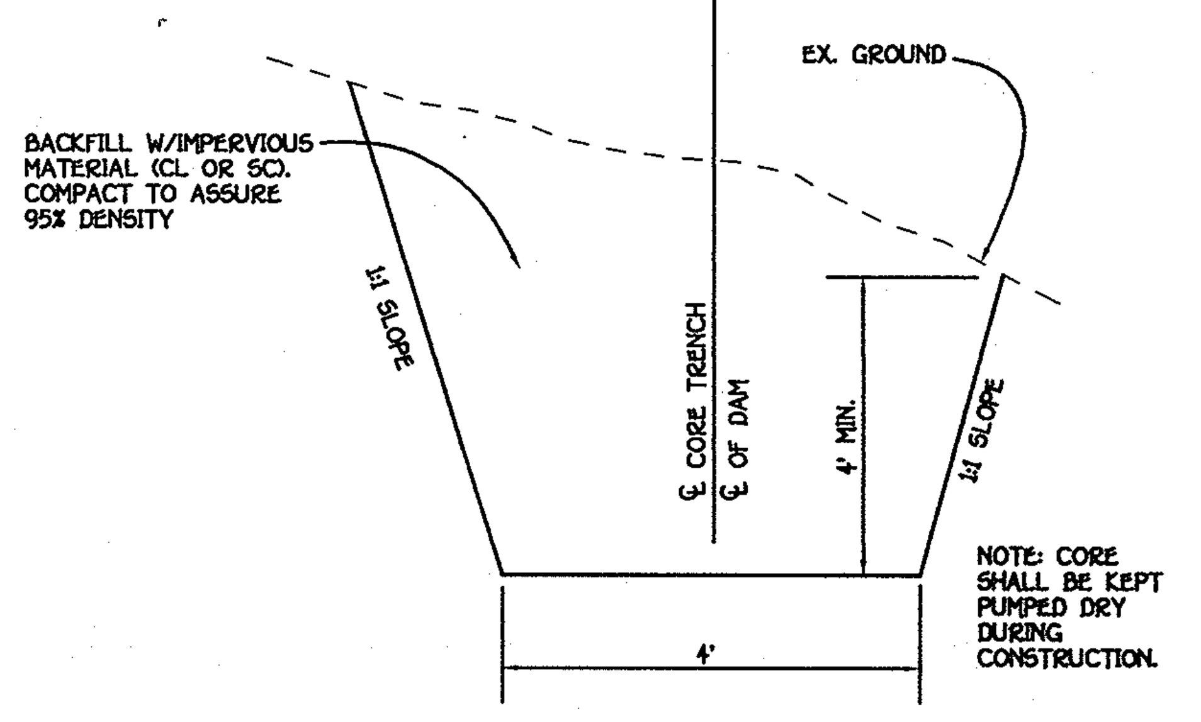


TYPICAL CORE TRENCH DETAIL

NOT TO SCALE

OWNER
MAPLE LAWN FARMS, INC.
11920 ROUTE 216
FULTON, MD 20759-2215

DEVELOPER
TOLL BROTHERS, INC.
ATTN: MR. SCOTT HARE
7164 COLUMBIA GATEWAY DR., SUITE 230
COLUMBIA, MARYLAND 21046

STORMWATER MANAGEMENT NOTES AND DETAILS

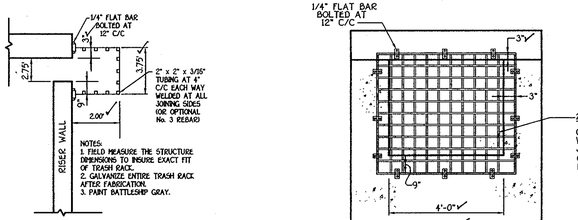
PINDELL CHASE

BUILDABLE LOTS 1 - 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO
TAX MAP NO. 41 GRID Nos. 7, 8, 13 & 14 PARCEL No. 59
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 14, 2003
SHEET 16 OF 25

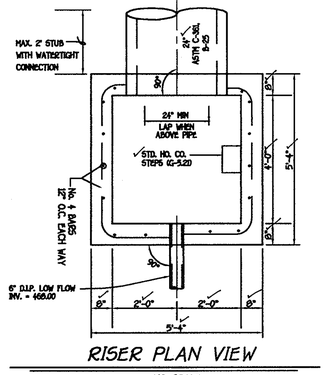
F 03-28

AS BUILT



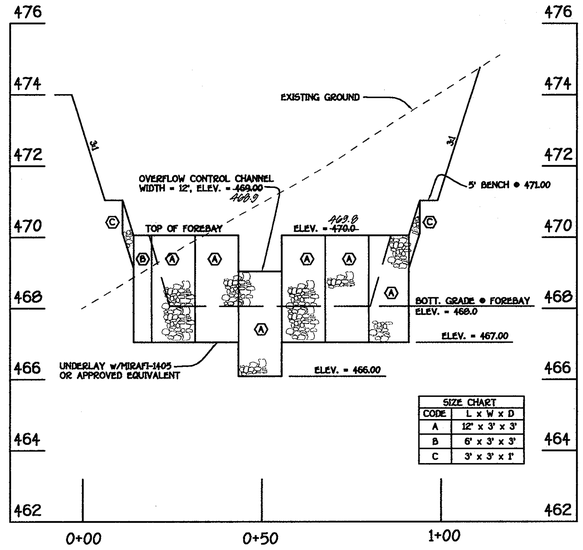
TRASH RACK 'A' DETAIL

NO SCALE



RISER PLAN VIEW

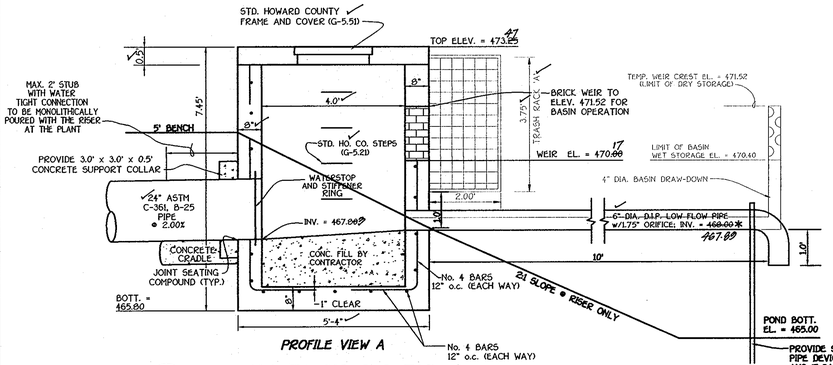
NO SCALE



SIZE CHART	
CODE	L x W x D
A	12' x 3' x 3'
B	6' x 3' x 3'
C	3' x 3' x 1'

BMP FACILITY NO. 1 - GABION FOREBAY PROFILE

SCALE: HORIZ. 1" = 20'
VERT. 1" = 2'



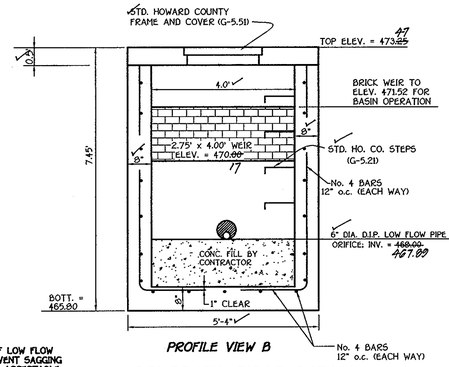
PROFILE VIEW A

CONCRETE RISER DETAIL

R-1

SCALE: 1" = 2'

*NOTE:
USE THE 6" DIA. LOW FLOW PIPE LOCATION FOR TEMP. 4" BASIN DRAW-DOWN DEVICE (WITHOUT 1.75" ORIFICE)

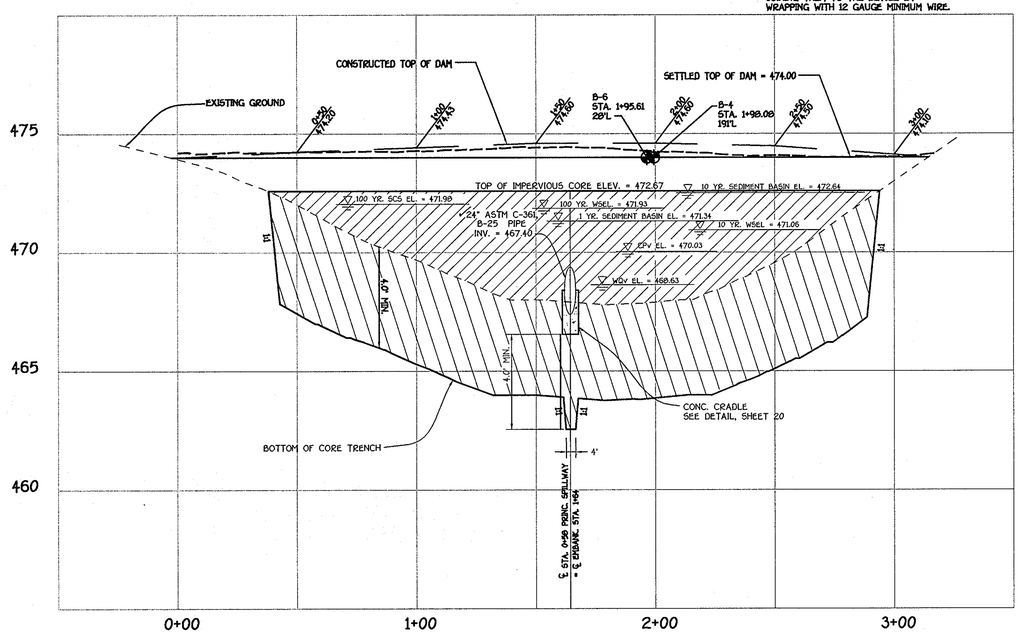


PROFILE VIEW B

CONCRETE RISER DETAIL

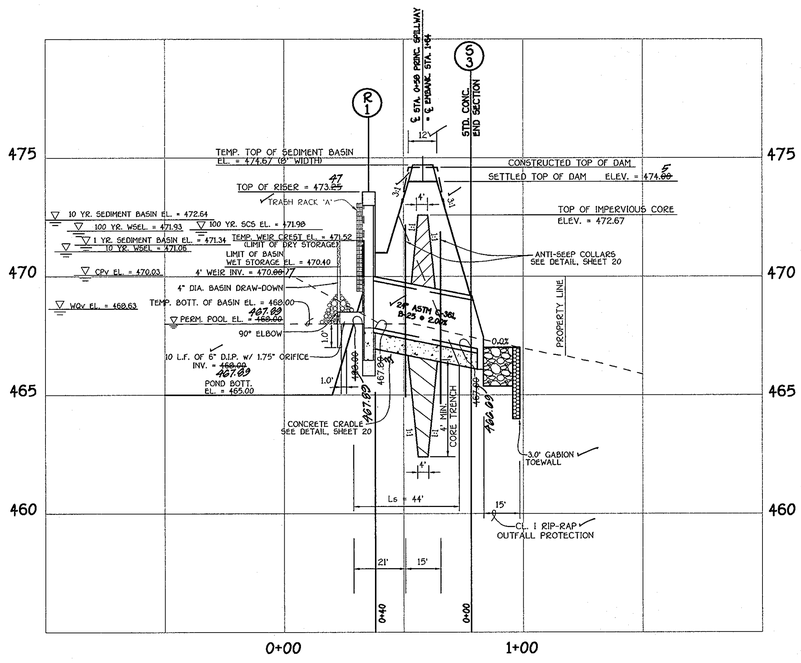
R-1

SCALE: 1" = 2'



S.W.M. FACILITY PROFILE ALONG ℄ EMBANKMENT

SCALE: HORIZ. 1" = 30'
VERT. 1" = 3'



S.W.M. FACILITY PRINCIPAL SPILLWAY PROFILE

SCALE: HOR. : 1" = 30'
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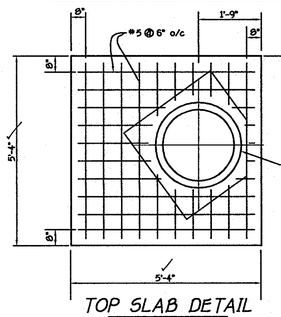

TOP SLAB DETAIL

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 The Environment Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District."

Signature Of Developer — Date: 2/14/03

BRUCE R. OXLEY
Printed Name Of Developer

By The Engineer:

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Signature Of Engineer — Date: 2/18/03

CHARLES J. CROVO, SR., P.E., L.S.
Printed Name Of Engineer

These Plans Have Been Reviewed For The Howard Soil Conservation District And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.

USDA-Natural Resources Conservation Service — Date: 3/5/03

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Howard Soil Conservation District — Date: 3/5/03

Approved: Department Of Public Works
For Public Infrastructures Only

Chief Bureau Of Highways — Date: 3-12-03

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date: 4/2/03

Chief, Development Engineering Division — Date: 2/14/03

AS-BUILT CERTIFICATION

I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The "As-Built" Plans And Meets The Approved Plans And Specifications.

Signature — P.E. No. 13204 — Date: 2/11/05

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

STATE OF MARYLAND — CHARLES J. CROVO — REG. NO. 13204 — PROFESSIONAL ENGINEER — AS BUILT 2/14/05

STATE OF MARYLAND — CHARLES J. CROVO — REG. NO. 13204 — PROFESSIONAL ENGINEER

OWNER
MAPLE LAWN FARMS, INC.
11920 ROUTE 216
FULTON, MD 20759-2215

DEVELOPER
TOLL BROTHERS, INC.
ATTN: MR. SCOTT HARE
7164 COLUMBIA GATEWAY DR., SUITE 230
COLUMBIA, MARYLAND 21046

FISHER, COLLINS & CARTER, INC.
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CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

BMP NO. 1
STORMWATER MANAGEMENT NOTES AND DETAILS

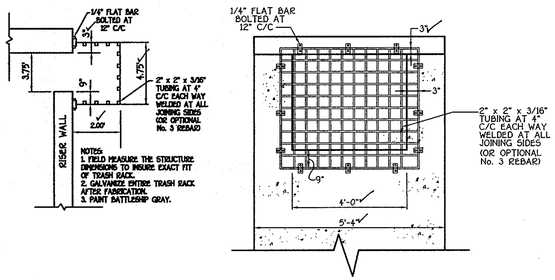
PINDELL CHASE

BUILDABLE LOTS 1 - 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO
TAX MAP NO. 41 GRID Nos. 7, 8, 13 & 14 PARCEL No. 59
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 14, 2003
SHEET 17 OF 25

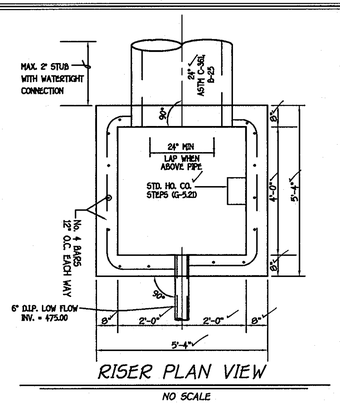
F 03-28

AS BUILT



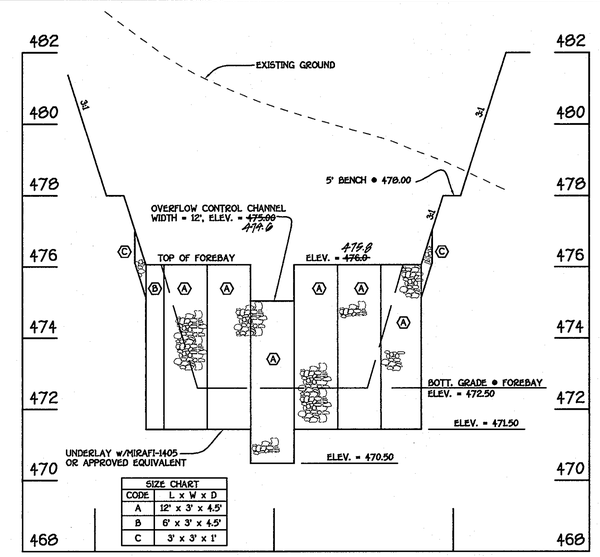
TRASH RACK 'A' DETAIL

NO SCALE



RISER PLAN VIEW

NO SCALE



BMP FACILITY NO. 1 - GABION FOREBAY PROFILE

SCALE: HORIZ. 1" = 20'
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Bruce R. Oxley — 2/14/03
Signature Of Developer — Date

BRUCE R. OXLEY
Printed Name Of Developer

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Printed Name Of Engineer

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USDA-Natural Resources Conservation Service — 3/5/03 Date

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Howard Soil Conservation District — 3/5/03 Date

Approved: Department Of Public Works For Public Infrastructures Only

Chief, Bureau Of Highways — 3-12-03 Date

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — 7/2/03 Date

Chief, Development Engineering Division — 3/14/03 Date

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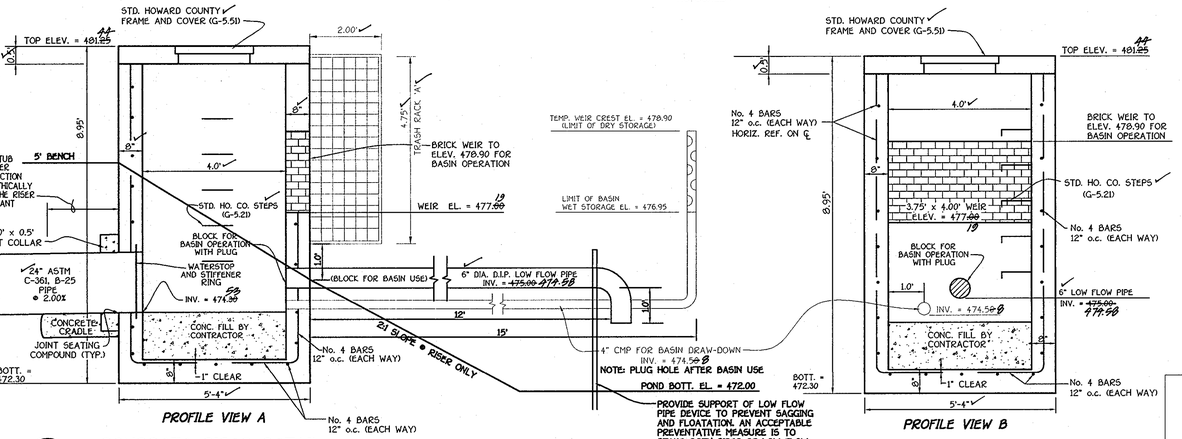

CONCRETE RISER DETAIL

SCALE: 1" = 2'

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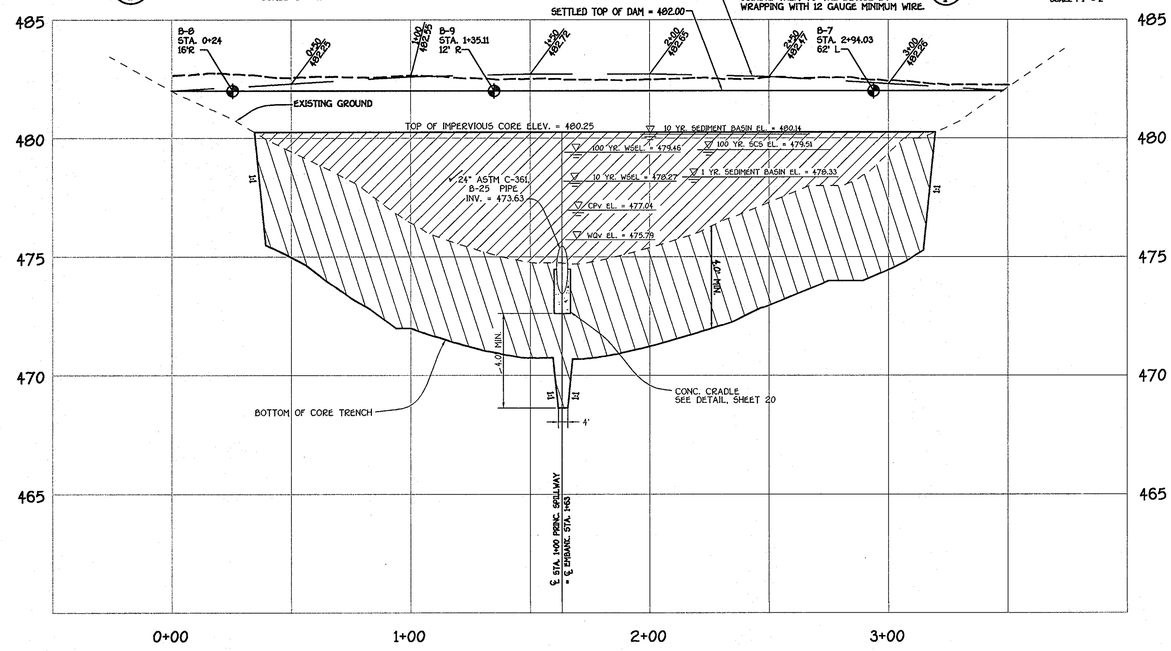

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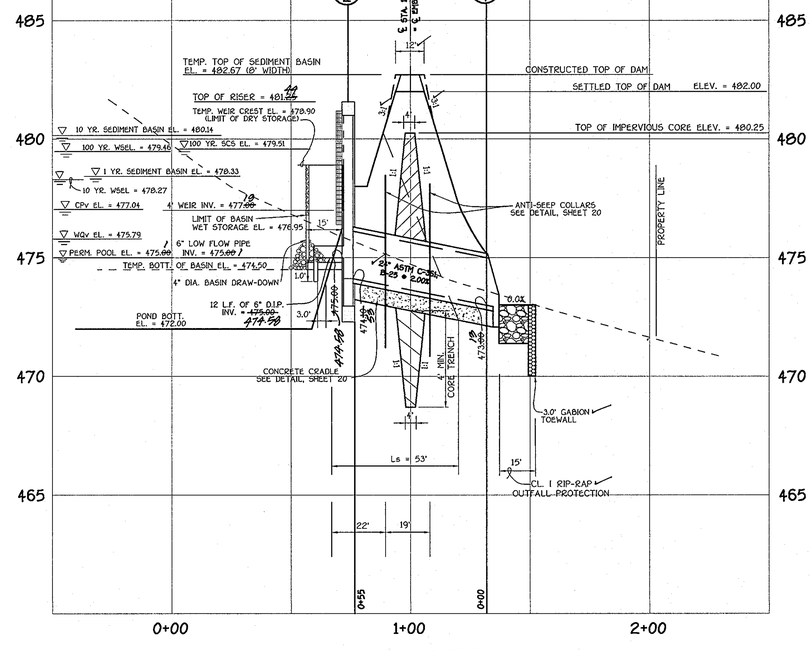

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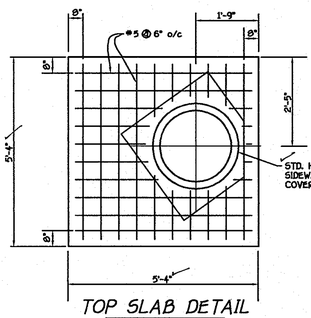

TOP SLAB DETAIL

OWNER
MAPLE LAWN FARMS, INC.
11920 ROUTE 216
FULTON, MD 20759-2215

DEVELOPER
TOLL BROTHERS, INC.
ATTN: MR. SCOTT HARE
7164 COLUMBIA GATEWAY DR., SUITE 230
COLUMBIA, MARYLAND 21046

FISHER, COLLINS & CARTER, INC.
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CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

BMP NO. 2
STORMWATER MANAGEMENT NOTES AND DETAILS

PINDELL CHASE

BUILDABLE LOTS 1 - 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

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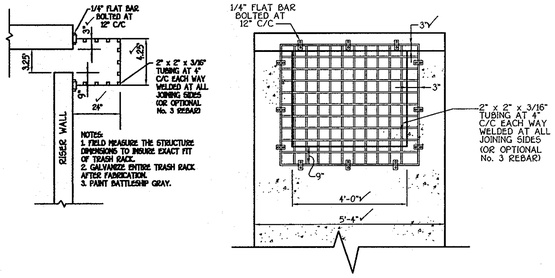
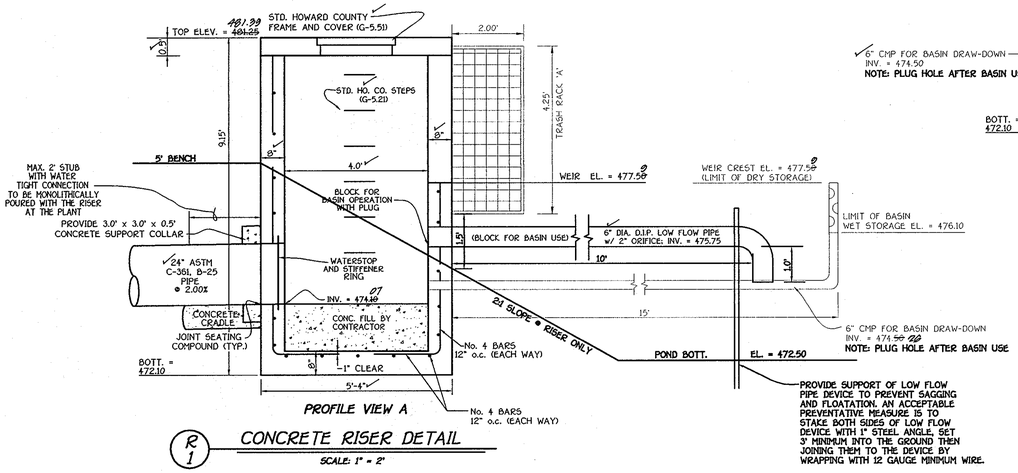
AS BUILT



TRASH RACK 'A' DETAIL

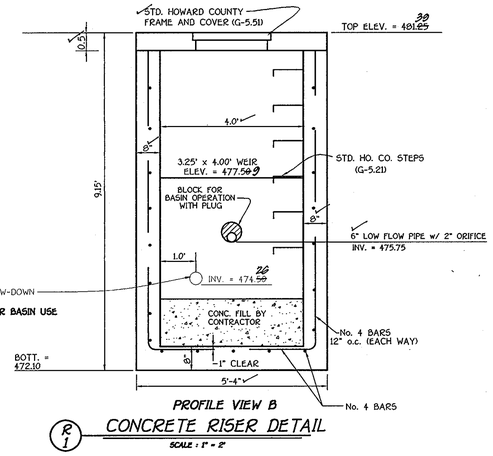
NO SCALE



PROFILE VIEW A

R1 CONCRETE RISER DETAIL

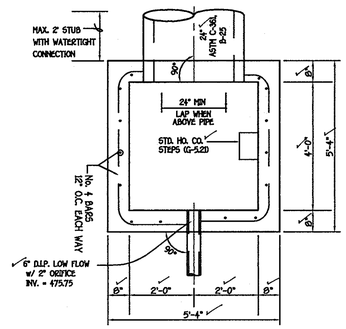
SCALE: 1" = 2'



PROFILE VIEW B

R1 CONCRETE RISER DETAIL

SCALE: 1" = 2'



RISER PLAN VIEW

NO SCALE

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Signature Of Developer — Date: 2/14/03

BRUCE R. OKLEY
Printed Name Of Developer

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USDA-Natural Resources Conservation Service — Date: 3/5/03

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Howard Soil Conservation District — Date: 3/5/03

Approved: Department Of Public Works
For Public Infrastructures Only

Chief Bureau Of Highways — Date: 3-12-03

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date: 4/4/03

Chief, Development Engineering Division — Date: 3/14/03

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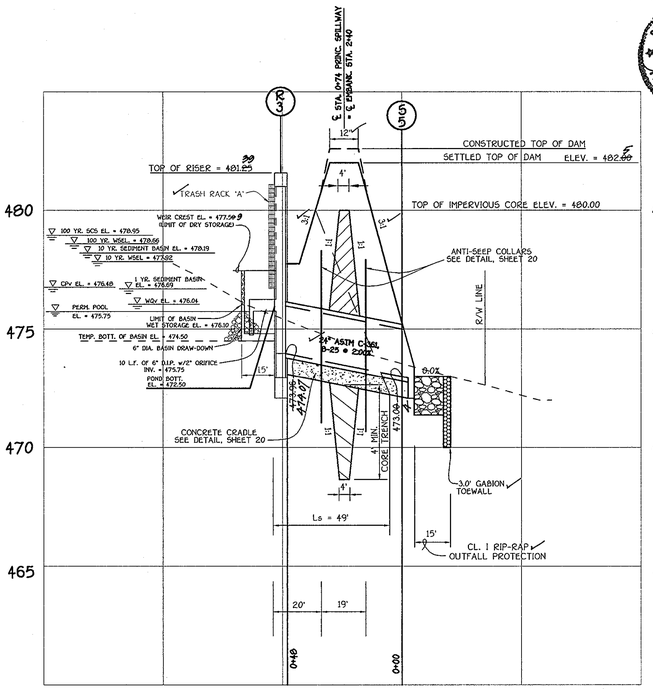
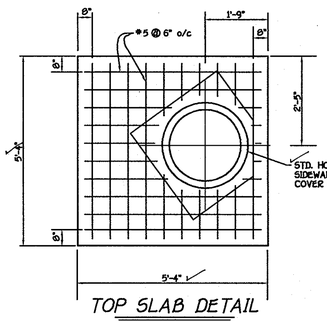
STATE OF MARYLAND — CHARLES J. CROVO — No. 13204 — REGISTERED PROFESSIONAL ENGINEER — AS BUILT 2/11/05

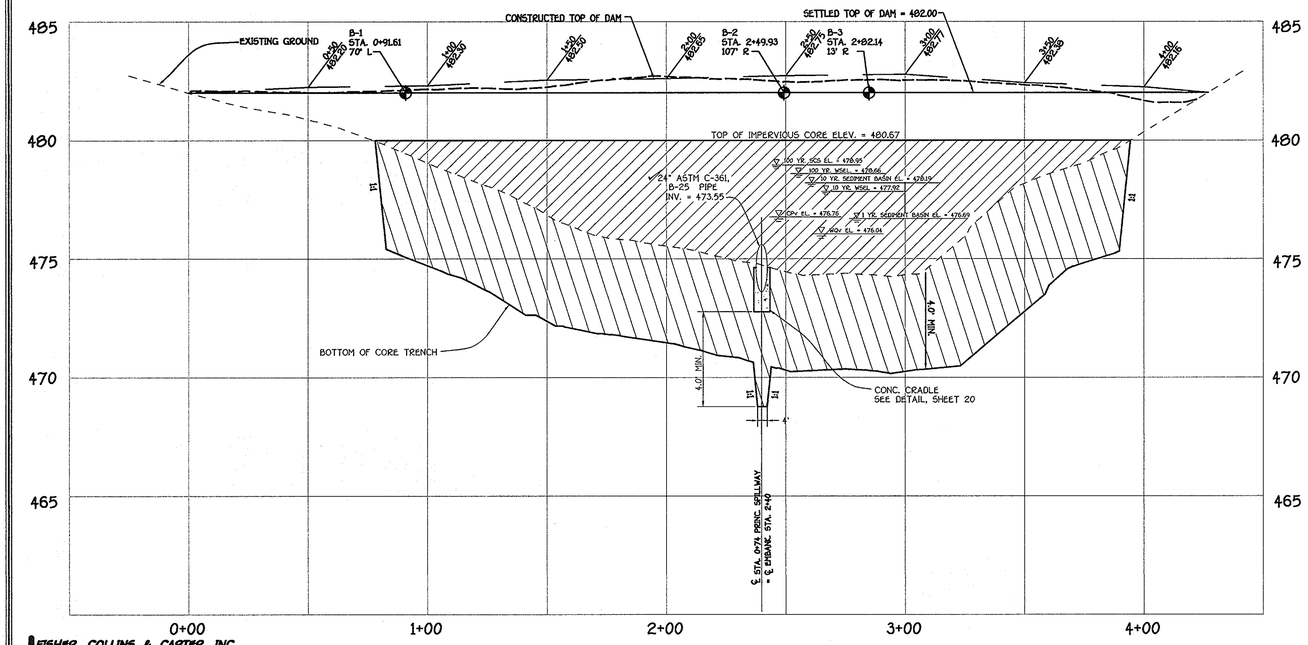


S.W.M. FACILITY
PRINCIPAL SPILLWAY PROFILE

SCALE: HOR. : 1" = 30'
VER. : 1" = 3'



TOP SLAB DETAIL



S.W.M. FACILITY PROFILE ALONG ℄ EMBANKMENT

SCALE: HORIZ. 1" = 30'
VERT. 1" = 3'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

OWNER
MAPLE LAWN FARMS, INC.
11920 ROUTE 216
FULTON, MD 20759-2215

DEVELOPER
TOLL BROTHERS, INC.
ATTN: MR. SCOTT HARE
7164 COLUMBIA GATEWAY DR., SUITE 230
COLUMBIA, MARYLAND 21046

STATE OF MARYLAND — CHARLES J. CROVO — No. 13204 — REGISTERED PROFESSIONAL ENGINEER

BMP NO. 3
STORMWATER MANAGEMENT NOTES AND DETAILS

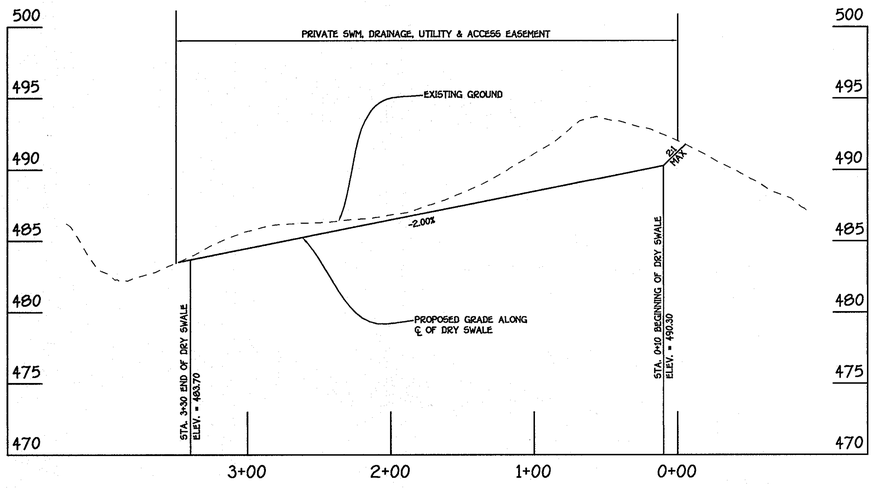
PINDELL CHASE

BUILDABLE LOTS 1 - 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO
TAX MAP NO. 41 GRID Nos. 7, 8, 13 & 14 PARCEL No. 59
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 14, 2003
SHEET 19 OF 25

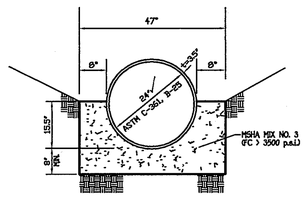
F 03-28

AS BUILT



BMP FACILITY NO. 4 – DRY SWALE PROFILE

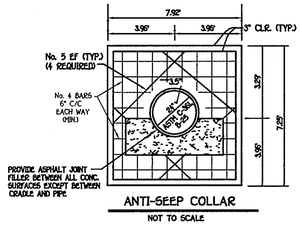
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5



NOTE:
CONC. CRADLE TO BE POURED DIRECTLY AGAINST EARTH BANKS. IF BOTTOM OF TRENCH IS WIDER THAN THE CRADLE, SLOPING SIDES (FRAMED) SHALL BE USED.

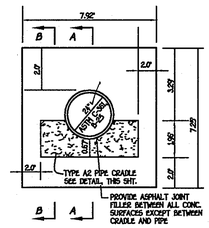
A2 CRADLE FOR BMP Nos. 1, 2 & 3

NOT TO SCALE

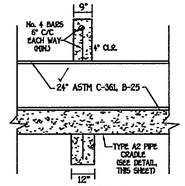


ANTI-SEEP COLLAR

NOT TO SCALE

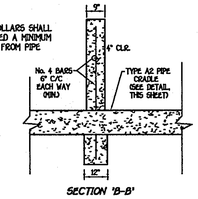


NOTES:
1. CONCRETE SHALL BE MSHA MIX No. 3 (f'c > 3,500 PSI)
2. REINFORCING STEEL: GRADE 60
3. FOR WALLS OF STRUCTURE SHALL UTILIZE L.H. SCOFIELD CO. T-9995 FORM LINERS (RANDOM SPLIT-FACE ROCK) OPTIONAL.
4. PROVIDE BROOM FINISH.
5. ANCHOR BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 507.03.59 OF THE MSHA STANDARDS AND SPECS.
6. ALL REINFORCING SPLICES SHALL BE LAP SPLICES OF 30 BAR DIA. UNLESS OTHERWISE SHOWN.



SECTION 'A-A'

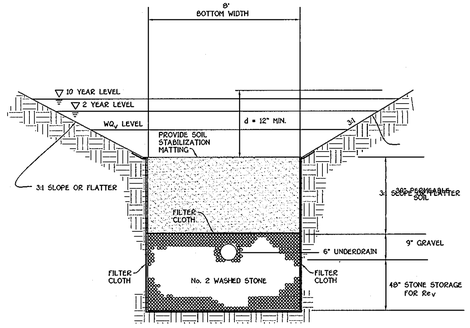
NOTE: COLLARS SHALL BE PLACED A MINIMUM OF 2'-0" FROM PIPE JOINTS.



SECTION 'B-B'

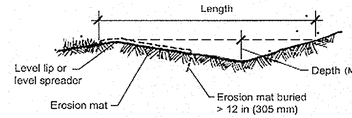
TYPICAL SECTION THROUGH BARREL, CRADLE AND ANTI-SEEP COLLAR FOR BMP Nos. 1, 2 & 3

NO SCALE



DRY SWALE CROSS SECTION

NO SCALE



Level Spreader
Section View

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 The Environment Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Authorize Periodic On-Site Inspections By The Howard Soil Conservation District."

Signature Of Developer — 2/14/03 Date

BRUCE R. OXLEY
Printed Name Of Developer

By The Engineer:

"I Certify That This Plan For Pond Construction, Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Conditions. This Plan Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District. I Have Notified The Developer That He/She Must Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion."

Signature Of Engineer — 2/14/03 Date

CHARLES J. CROVO, SR., P.E., L.S.
Printed Name Of Engineer

These Plans Have Been Reviewed For The Howard Soil Conservation District And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control

USDA-Natural Resources Conservation Service — 3/5/03 Date

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Howard Soil Conservation District — 3/5/03 Date

Approved: Department Of Public Works "For Public Infrastructures Only"

Chief Bureau Of Highways — 3-12-03 Date

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — 4/2/03 Date

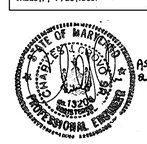
Chief, Development Engineering Division — 3/14/03 Date

AS-BUILT CERTIFICATION

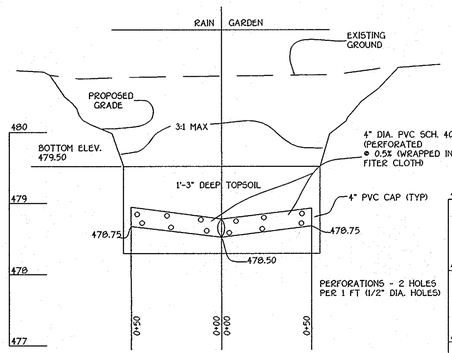
I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The "As-Built" Plans And Meets The Approved Plans And Specifications.

Signature — 13204 P.E. No. — 2/14/05 Date:

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

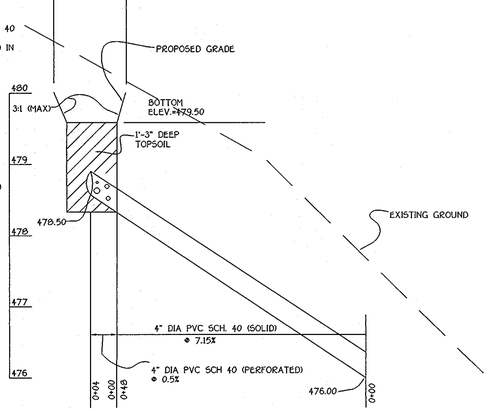


AS BUILT 2/14/05



PROFILE ALONG 4" PVC UNDERDRAIN

SCALES: HOR. 1"=20
VERT: 1"=0.5'

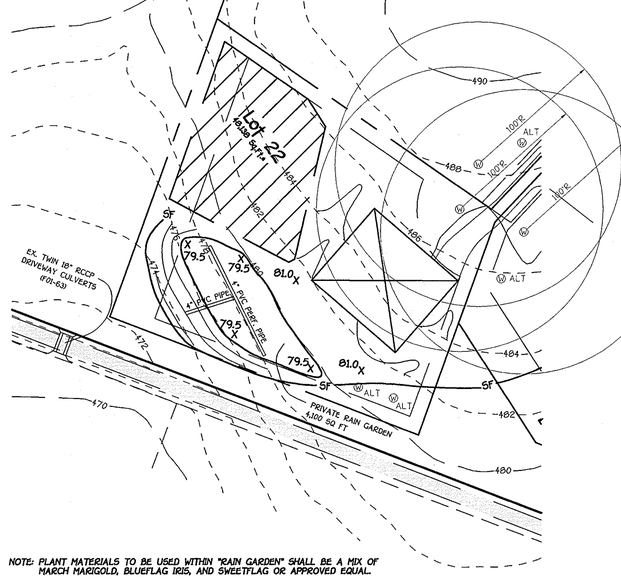


PROFILE ALONG 4" PVC OUTLET

SCALES: HOR. 1"=5'
VERT: 1"=0.5'

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATE RAIN GARDEN

1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.
5. FLUSH OUT UNDER DRAIN AND OUTFALL PIPE AT LEAST ONCE PER YEAR TO INSURE PROPER FLOW.



NOTE: PLANT MATERIALS TO BE USED WITHIN "RAIN GARDEN" SHALL BE A MIX OF MARCH MARIGOLD, BLUEFLAG IRIS, AND SWEETFLAG OR APPROVED EQUAL.

DETAIL OF LOT 22

SCALE: 1" = 50'

CRITERIA

For impervious surface runoff applications:
The capacity for the level spreader is determined in the design of the filter strip to which it discharges.

The spreader shall run linearly along the entire width of the filter strip to which it discharges. In most cases, the spreader will be the same width as the contributing impervious surface. The ends of the spreader shall be tied into higher ground to prevent flow around the spreader.

The minimum depth shall be 6 inches and the minimum width shall be 6 feet for the lower side slope. Side slopes shall be 2:1 (horizontal to vertical) or flatter.

The grade of the spreader shall be 0 %.

The outlet discharge area must be generally smooth and well vegetated with a maximum slope of 10 %.

For all applications:
The spreader lip shall be constructed to a uniform height and zero grade over the length of the spreader. For design flows of 4 cfs or greater, a rigid lip of non-erodible material, such as pressure-treated timbers or concrete curbing, shall be used. For flows less than 4 cfs, a vegetated lip may be used. The spreader lip shall be constructed on undisturbed soil.

When using a vegetated lip it shall be protected with an erosion control blanket to prevent erosion and allow the vegetation to become established. The blanket shall be a minimum of 4 feet wide extending a minimum of 1 foot downstream over the level lip. The blanket shall be secured with heavy-duty staples and the downstream and upstream edges shall be buried at least 6 inches deep in a vertical trench.

When using a rigid lip it shall be entrenched at least 4 inches below existing ground and securely anchored to prevent displacement. An apron of Class I rip-rap shall be placed to the top of the rigid lip and extend downslope at least 3 feet. A filter fabric shall be placed under the coarse aggregate.

Immediately after level spreader construction, seed and mulch the entire disturbed area of the spreader in accordance with the Standards and Specifications for Vegetative Stabilization.

CONSIDERATIONS

The level spreader is a relatively low-cost structure to:

1. Disperse impervious surface runoff uniformly to a filter strip or

2. Release small volumes of concentrated flow from diversions when conditions are suitable.

To accomplish these purposes, particular care must be taken to construct the spreader lip completely level. Any depressions in the lip will concentrate the flow, resulting in a loss of pollutant filtering effectiveness and/or erosion. Evaluate the outlet system to be sure that flow does not concentrate below the outlet.

For filter strip applications, the determination of whether a level spreader is needed should be based on how the runoff is entering the filter strip. If the runoff is concentrated by curb cuts, and particularly if a large area of impervious surface drains to one point, a level spreader is essential to achieve effective pollutant removal in the filter strip. A level spreader also is important if the filter strip is relatively steep in order to avoid erosion from concentrated runoff discharge. If the runoff is evenly distributed over the width of the impervious surface (e.g., a curbless, even-sloped road or parking lot), a level spreader may not be necessary.

When the level spreader is used as an outlet for temporary or permanent diversions and diversion dikes, runoff containing high sediment loads must be treated in an approved sediment trapping device.

OPERATION AND MAINTENANCE

Inspect level spreaders after every rainfall until vegetation is established, and promptly make needed repairs. After the area has been stabilized, make periodic inspections and maintain vegetation in a healthy, vigorous condition.

Verify that the level spreader is distributing flow evenly. If problems are noted, make appropriate modifications to ensure even flow distribution.

STORMWATER MANAGEMENT DETAILS
PINDELL CHASE

BUILDABLE LOTS 1 – 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO
TAX MAP NO. 41 GRID Nos. 7, 8, 13 & 14 PARCEL No. 59
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 14, 2003
SHEET 20 OF 25

F 03-28

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

OWNER
MAPLE LAWN FARMS, INC.
11920 ROUTE 216
FULTON, MD 20759-2215

DEVELOPER
TOLL BROTHERS, INC.
ATTN: MR. SCOTT HARE
7164 COLUMBIA GATEWAY DR., SUITE 230
COLUMBIA, MARYLAND 21046

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/2/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS *FOR PUBLIC INFRASTRUCTURES ONLY*

CHIEF, BUREAU OF HIGHWAYS — DATE 3-12-03

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION — Boring B-1

Page 1 of 1

Project Name: Pindell Chase SWM — Location: Howard County, Maryland — Boring Number: B-1 — Job #: 01435A

Datum: — Surf. Elev.: 477.8 — Date Started: 09-11-01

SAMPLER: Hammer Wt. 140 Lbs. — Hammer Drop 30 Inches — Pipe Size 2.0 Inches OD

Hole Diameter 4" — Rock Core Dia. - — Boring Method HSA

Foreman: Steve McManus — Inspector: — Completed: 09-11-01

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Brown, moist, very loose, silty fine SAND, trace roots (SM)	2.0		D	3-2-3	1	8"	
	Reddish brown to brown, moist, loose to medium dense, silty fine SAND, trace mica (SM)			D	3-5-8	2	10"	Caved in at 8.5' at Completion
			5.0	D	3-5-5	3	7"	Caved in at 5.7' after 7 days
				D	3-2-5	4	13"	
		12.0	10.0	D	3-6-9-9	5	18"	
	Bottom of Test Hole at 12.0'		15.0					
			20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE

SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST

GROUND WATER DEPTH: AT COMPLETION 5.5 FT.; AFTER 7 days 5.0 FT.; AFTER ___ FT.

BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30":COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION — Boring B-2

Page 1 of 1

Project Name: Pindell Chase SWM — Location: Howard County, Maryland — Boring Number: B-2 — Job #: 01435A

Datum: 478.5 — Surf. Elev.: — Date Started: 09-11-01

SAMPLER: Hammer Wt. 140 Lbs. — Hammer Drop 30 Inches — Pipe Size 2.0 Inches OD

Hole Diameter 4" — Rock Core Dia. - — Boring Method HSA

Foreman: Steve McManus — Inspector: — Completed: 09-11-01

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Brown, moist, soft to stiff, SILT, trace clay, fine sand and mica (ML)			D	2-2-3	1	4"	
				D	3-2-3	2	9"	Caved in at 6.0' at Completion
		7.0	5.0	D	5-7-4	3	1"	Caved in at 5.4' after 7 days
	Brown, moist, medium stiff, micaceous SILT, trace fine sand (ML)			D	4-4-5	4	17"	
		12.0	10.0	D	4-4-4-6	5	3"	
	Bottom of Test Hole at 12.0'		15.0					
			20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE

SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST

GROUND WATER DEPTH: AT COMPLETION 5.5 FT.; AFTER 7 days 4.0 FT.; AFTER ___ FT.

BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30":COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION — Boring B-3

Page 1 of 1

Project Name: Pindell Chase SWM — Location: Howard County, Maryland — Boring Number: B-3 — Job #: 01435A

Datum: — Surf. Elev.: 473.7 — Date Started: 09-12-01

SAMPLER: Hammer Wt. 140 Lbs. — Hammer Drop 30 Inches — Pipe Size 2.0 Inches OD

Hole Diameter 4" — Rock Core Dia. - — Boring Method HSA

Foreman: Steve McManus — Inspector: — Completed: 09-12-01

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Brown, moist, soft, SILT, trace clay, fine sand, roots and mica (ML)	2.0		I	2-2-2	1	12"	
	Orange brown to brown, moist, very loose to dense, SILT, trace clay and fine sand (ML)			I	4-2-3	2	16"	Caved in at 6.5' at Completion
		7.0	5.0	D	8-16-15	3	3"	Caved in at 3.5' after 7 days
	Dark brown, moist, medium dense fine SAND, trace to some silt, trace mica and rock fragments (SP-SM)			D	8-11-11	4	8"	
		12.0	10.0	D	16-15-9-16	5	7"	
	Bottom of Test Hole at 12.0'		15.0					
			20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE

SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST

GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 7 days Dry FT.; AFTER ___ FT.

BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30":COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION — Boring B-4

Page 1 of 1

Project Name: Pindell Chase SWM — Location: Howard County, Maryland — Boring Number: B-4 — Job #: 01435A

Datum: — Surf. Elev.: 479.0 — Date Started: 09-12-01

SAMPLER: Hammer Wt. 140 Lbs. — Hammer Drop 30 Inches — Pipe Size 2.0 Inches OD

Hole Diameter 4" — Rock Core Dia. - — Boring Method HSA

Foreman: Steve McManus — Inspector: — Completed: 09-12-01

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Brown to reddish brown, moist, stiff to hard SILT, trace to little fine sand, trace rock fragments (ML)			D	4-4-8	1	7"	
		5.0		D	16-19-22	2	16"	Caved in at 6.5' at Completion
	Reddish brown, moist, medium dense, micacious silty fine SAND (SM)		5.0	D	8-8-10	3	12"	Caved in at 2.5' after 7 days
				D	8-10-9	4	14"	
		12.0	10.0	D	10-10-10-12	5	20"	
	Bottom of Test Hole at 12.0'		15.0					
			20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE

SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST

GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 7 days Dry FT.; AFTER ___ FT.

BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30":COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION — Boring B-5

Page 1 of 1

Project Name: Pindell Chase SWM — Location: Howard County, Maryland — Boring Number: B-5 — Job #: 01435A

Datum: — Surf. Elev.: 477.0 — Date Started: 09-12-01

SAMPLER: Hammer Wt. 140 Lbs. — Hammer Drop 30 Inches — Pipe Size 2.0 Inches OD

Hole Diameter 4" — Rock Core Dia. - — Boring Method HSA

Foreman: Steve McManus — Inspector: — Completed: 09-12-01

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Brown to reddish brown, moist, medium stiff to soft, SILT, trace to little fine sand, trace mica (ML)			D	2-3-4	1	10"	
				D	7-7-9	2	12"	Caved in at 6.5' at Completion
		7.0	5.0	D	2-4-6	3	9"	Caved in at 5.7' after 7 days
	Reddish brown, moist, medium dense, micaceous silty fine SAND (SM)			D	5-5-7	4	8"	
		12.0	10.0	D	6-10-10-10	5	16"	
	Bottom of Test Hole at 12.0'		15.0					
			20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE

SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST

GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 7 days Dry FT.; AFTER ___ FT.

BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30":COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION — Boring B-6

Page 1 of 1

Project Name: Pindell Chase SWM — Location: Howard County, Maryland — Boring Number: B-6 — Job #: 01435A

Datum: — Surf. Elev.: 469.5 — Date Started: 09-12-01

SAMPLER: Hammer Wt. 140 Lbs. — Hammer Drop 30 Inches — Pipe Size 2.0 Inches OD

Hole Diameter 4" — Rock Core Dia. - — Boring Method HSA

Foreman: Steve McManus — Inspector: — Completed: 09-12-01

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Brown, moist, very soft SILT, trace fine sand and roots (ML)	2.0		D	2-1-3	1	5"	
	Orangish brown, moist, medium dense, micaceous silty fine SAND (SM)			D	4-7-7	2	15"	Caved in at 7.0' at Completion
			5.0	D	4-7-7	3	17"	Caved in at 1.5' after 7 days
				D	5-4-5	4	10"	
		12.0	10.0	D	5-5-6-8	5	18"	
	Bottom of Test Hole at 12.0'		15.0					
			20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE

SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST

GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 7 days Dry FT.; AFTER ___ FT.

BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30":COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION — Boring B-7

Page 1 of 1

Project Name: Pindell Chase SWM — Location: Howard County, Maryland — Boring Number: B-7 — Job #: 01435A

Datum: — Surf. Elev.: 481.4 — Date Started: 09-12-01

SAMPLER: Hammer Wt. 140 Lbs. — Hammer Drop 30 Inches — Pipe Size 2.0 Inches OD

Hole Diameter 4" — Rock Core Dia. - — Boring Method HSA

Foreman: Steve McManus — Inspector: — Completed: 09-12-01

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Brown, moist, medium stiff SILT, trace fine sand and roots (ML)	2.0		D	4-4-5	1	7"	
	Brown, moist, very stiff SILT, little clay and fine sand, trace mica (ML)	5.0		D	10-15-15	2	16"	Caved in at 6.0' at Completion
	Reddish brown, to tan and white, moist dense, micaceous silty fine SAND, trace rock fragments (SM)		5.0	D	7-7-12	3	11"	Caved in at surface after 7 days
				D	7-8-11	4	16"	
		12.0	10.0	D	18-20-22-22	5	18"	
	Bottom of Test Hole at 12.0'		15.0					
			20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE

SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST

GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 7 days N/A FT.; AFTER ___ FT.

BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30":COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION — Boring B-8

Page 1 of 1

Project Name: Pindell Chase SWM — Location: Howard County, Maryland — Boring Number: B-8 — Job #: 01435A

Datum: — Surf. Elev.: 481.6 — Date Started: 09-12-01

SAMPLER: Hammer Wt. 140 Lbs. — Hammer Drop 30 Inches — Pipe Size ___ Inches OD

Hole Diameter 4" — Rock Core Dia. - — Boring Method HSA

Foreman: Steve McManus — Inspector: — Completed: 09-12-01

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Brown, moist, medium stiff to hard, SILT, trace fine sand and mica (ML)			D	2-3-6	1	7"	
				D	8-16-22	2	15"	Caved in at 5.5' at Completion
		7.0	5.0	D	4-6-8	3	13"	Caved in at 2.0' after 7 days
	Reddish brown, moist, medium dense micaceous silty fine SAND (SM)			D	7-7-9	4	15"	
		12.0	10.0	D	4-6-7-6	5	11"	
	Bottom of Test Hole at 12.0'		15.0					
			20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE

SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST

GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 7 days Dry FT.; AFTER ___ FT.

BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30":COUNT MADE AT 6" INTERVALS

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION — Boring B-9

Page 1 of 1

Project Name: Pindell Chase SWM — Location: Howard County, Maryland — Boring Number: B-9 — Job #: 01435A

Datum: — Surf. Elev.: 474.5 — Date Started: 09-12-01

SAMPLER: Hammer Wt. 140 Lbs. — Hammer Drop 30 Inches — Pipe Size ___ Inches OD

Hole Diameter 4" — Rock Core Dia. - — Boring Method HSA

Foreman: Steve McManus — Inspector: — Completed: 09-12-01

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Brown, moist, medium stiff SILT, trace fine sand and roots (ML)	2.0			4-4-4	1	5"	
	Reddish brown, moist, SILT, trace to little fine sand, trace mica (ML)				7-7-10	2	14"	Caved in at 6.5' at Completion
		7.0	5.0		8-8-9	3	16"	Caved in at 4.5' after 7 days
	Reddish brown, moist medium dense, micaceous silty fine SAND, trace rock fragments (SM)				6-7-8	4	14"	
		12.0	10.0		16-10-17-16	5	18"	
	Bottom of Test Hole at 12.0'		15.0					
			20.0					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE

SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST

GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER ___ FT.; AFTER ___ FT.

BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30":COUNT MADE AT 6" INTERVALS

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

OWNER
MAPLE LAWN FARMS, INC.
11920 ROUTE 216
FULTON, MD 20759-2215

DEVELOPER
TOLL BROTHERS, INC.
ATTN: MR. SCOTT HARE
7164 COLUMBIA GATEWAY DR., SUITE 230
COLUMBIA, MARYLAND 21046

SOIL BORING LOGS

PINDELL CHASE

BUILDABLE LOTS 1 - 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO

TAX MAP NO. 41 GRID Nos. 7, 8, 13 & 14 PARCEL No. 59

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: FEBRUARY 14, 2003

SHEET 21 OF 25

F 03-28

AS BUILT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT	4/2/03 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	3/14/03 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
"FOR PUBLIC INFRASTRUCTURES ONLY"

CHIEF, BUREAU OF HIGHWAYS	3-12-03 DATE

No.	Revision	Date
1	Add earth berm along Pindell School & Simpson Rd.	10-22-03

PLAN

SCALE: 1" = 100'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
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(410) 461 - 2855

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS

MD DNR Qualified Professional
USACOE Wetland Delineator
Certification # WDCP93MD0610044B
JOHN P. CANOLES 2/14/03

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DEVELOPER
TOLL BROTHERS, INC.
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COLUMBIA, MARYLAND 21046

FOREST CONSERVATION PLAN

PINDELL CHASE

BUILDABLE LOTS 1 - 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO

TAX MAP NO. 41 GRID Nos. 7, 8, 13 & 14 PARCEL No. 59

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: FEBRUARY 14, 2003

SHEET 22 OF 25

F 03-28

AS BUILT

FCP NOTES

1. Any Forest Conservation Easement (FCE) area shown hereon is subject to protective covenants which may be found in the Land Records of Howard County which restrict the disturbance and use of these areas.

2. The forest Conservation Easements have been established to fulfill the requirements of Section 16.1200 of the Howard County Code, Forest Conservation Act. No clearing, grading, or construction is permitted within the Forest Conservation Easements; however, forest management practices as defines in the Deed of Forest Conservation Easement are allowed.

3. There shall be no clearing, grading, construction or disturbance of vegetation in the Forest Conservation Easement, except as permitted by Howard County DPZ.

4. No stockpiles, parking areas, equipment cleaning areas, etc. shall occur within areas designated as Forest Conservation Easements.

5. Permanent signage shall be placed 50–100' apart along the boundaries of all areas included in Forest Conservation Easements

6. Temporary fencing shall be used to protect forest resources during construction. The fencing shall be placed along all FCE boundaries which occur within 15 feet of the proposed limits of disturbance.

7. The forest conservation surety in the amount of $110,816.64 ($97,748.64 for retention and $13,068.00 for reforestation) is posted with the Developer's Agreement for this subdivision.

Planting Schedule

Forest Conservation Easement #1 – 0.6 acres

Qty.	Species	Size	Spacing
4	Acer rubrum – Red maple	2-1/2" – 3" CAL.	##
30	Acer rubrum – Red maple	2-3' WHIP	**
25	Cornus florida – Flowering dogwood	2-3' WHIP	**
35	Fraxinus pennsylvanica – Green ash	2-3' WHIP	**
20	Juniperus virginiana – Red cedar	2-3' WHIP	**
30	Liriodendron tulipifera – Poplar	2-3' WHIP	**
25	Prunus serotina – Black cherry	2-3' WHIP	**
20	Quercus rubra – Red Oak	2-3' WHIP	**
13	Sassafras albidum – Sassafras	2-3' WHIP	**
23	Viburnum prunifolium – Blackhaw	18-24" B.T.	**

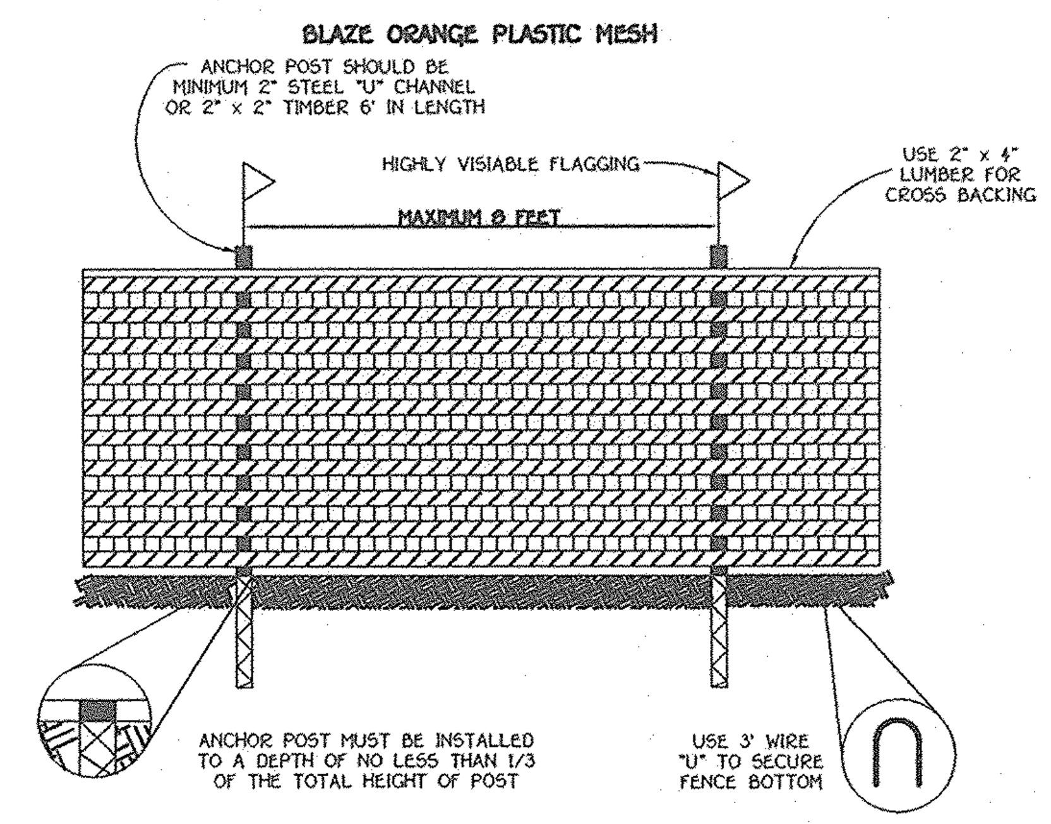
KEY:
cal. – caliper whip – may be container grown or bareroot
b.t. branched transplant

– 2-1/2 to 3 inch caliper trees shall be planted within FCE in locations shown by

Species may be randomly mixed in planting locations shown

** – whips and shrubs shall be planted, on average, at a spacing of 11 feet on center. Grid pattern or row planting may be used to facilitate maintenance. Limited clumping of shrubs is permitted.

FCE in locations shown by



NOTES:
1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL
NOT TO SCALE

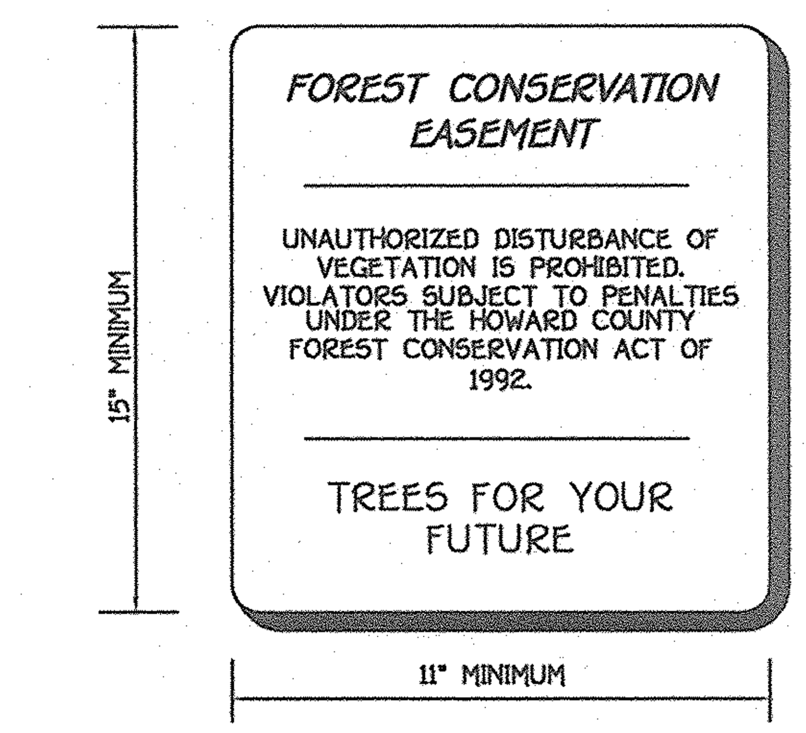
APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/2/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/14/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS "FOR PUBLIC INFRASTRUCTURES ONLY"

CHIEF, BUREAU OF HIGHWAYS — DATE 3-12-03



FOREST CONSERVATION WORKSHEET VERSION 1.0

NET TRACT AREA:

A. TOTAL TRACT AREA =	59.12
B. AREA WITHIN 100 YEAR FLOODPLAIN =	1.98
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION =	0.0
D. NET TRACT AREA =	57.14

LAND USE CATEGORY: (from table 3.2.1., page 40, manual)

INPUT THE NUMBER "1" UNDER THE APPROPRIATE LAND USE ZONING, AND LIMIT TO ONLY ONE ENTRY.

ARA	MDR	IDA	ARA	MPD	CIA
0	1	0	0	0	0

E. AFFORESTATION THRESHOLD	20% x D =	11.43
F. CONSERVATION THRESHOLD	25% x D =	14.29

EXISTING FOREST COVER:

G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN) =	11.52
H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD =	0.09
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD =	0.00

BREAK EVEN POINT:

J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION =	0.00
K. CLEARING PERMITTED WITHOUT MITIGATION =	0.00

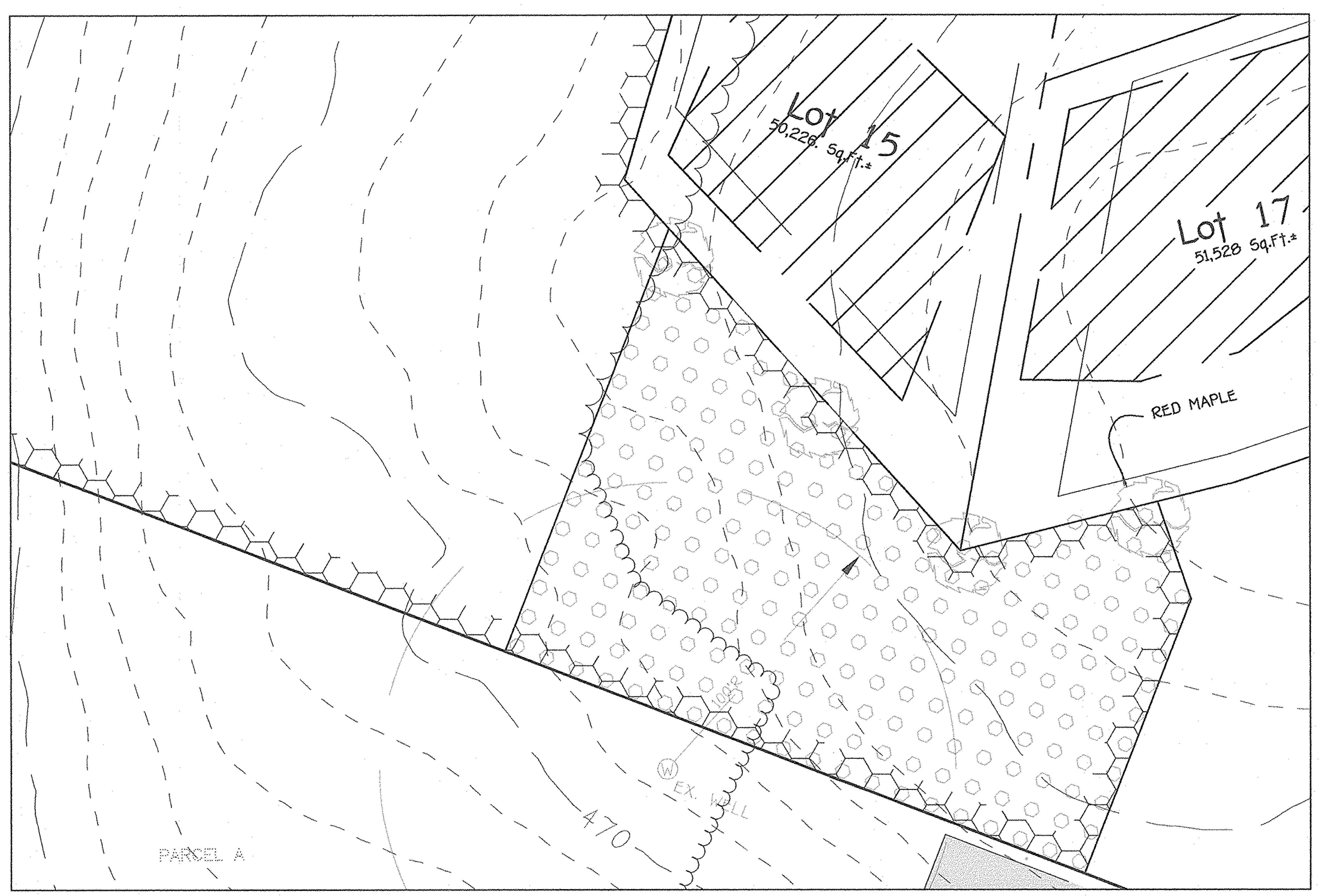
PROPOSED FOREST CLEARING:

L. TOTAL AREA OF FOREST TO BE CLEARED =	0.30
M. TOTAL AREA OF FOREST TO BE RETAINED =	11.22

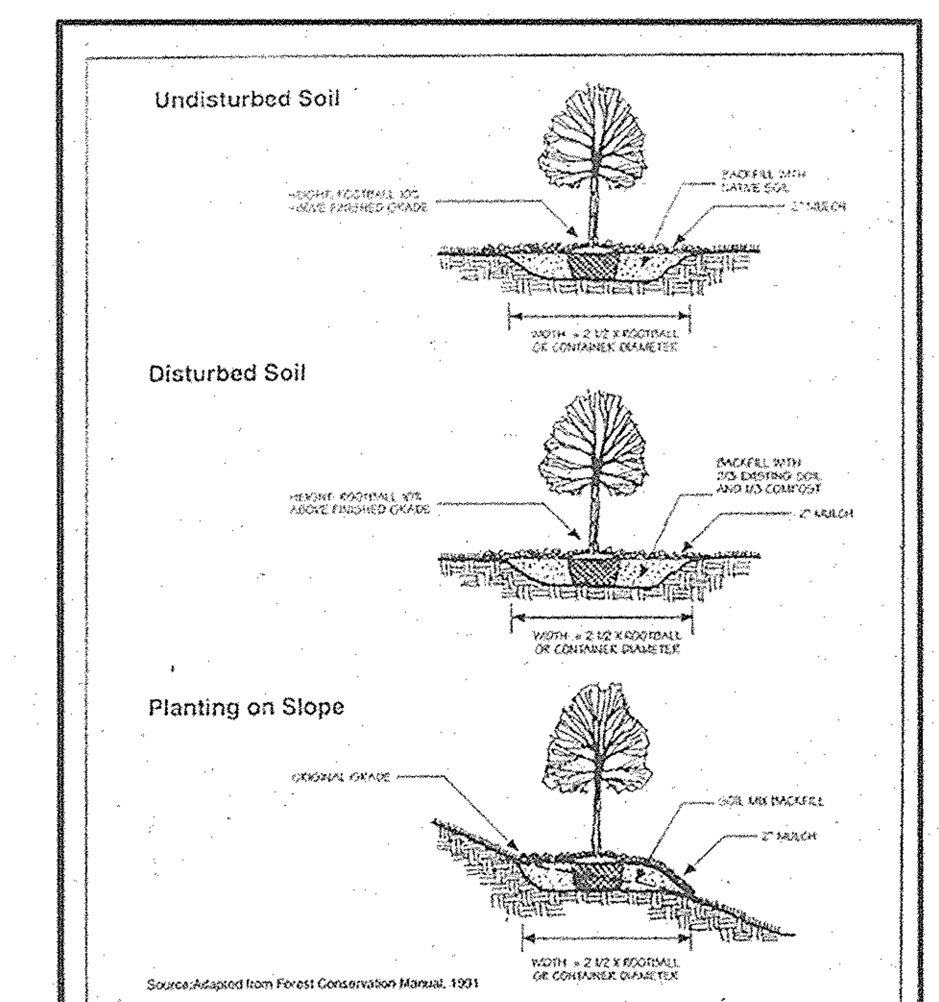
PLANTING REQUIRMENTS:

N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD =	0.00
P. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD =	0.60
Q. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD =	0.00
R. TOTAL REFORESTATION REQUIRED =	0.60
S. TOTAL AFFORESTATION REQUIRED =	0.00
T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED =	0.60

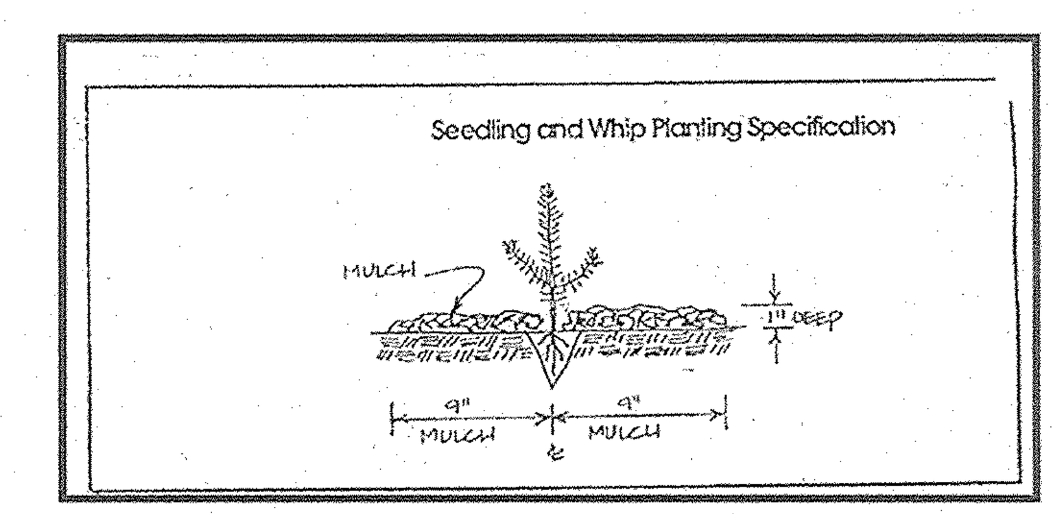
NOTE: THIS SUBDIVISION PLAN IS USING 'RURAL CLUSTER OPTION B' PER APPENDIX 'L' OF THE FOREST CONSERVATION MANUAL FOR ITS FOREST CONSERVATION CALCULATION REQUIREMENTS.



F.C.E. PLANTING PLAN
SCALE: 1" = 30'



Container Grown and B&B Planting Techniques — Figure C-16



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FOREST CONSERVATION NOTES AND DETAILS

PINDELL CHASE

BUILDABLE LOTS 1 – 24, OPEN SPACE LOT 25 AND NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO
TAX MAP NO. 41 GRID Nos. 7, 8, 13 & 14 PARCEL No. 59
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 14, 2003

F 03-28

AS BUILT

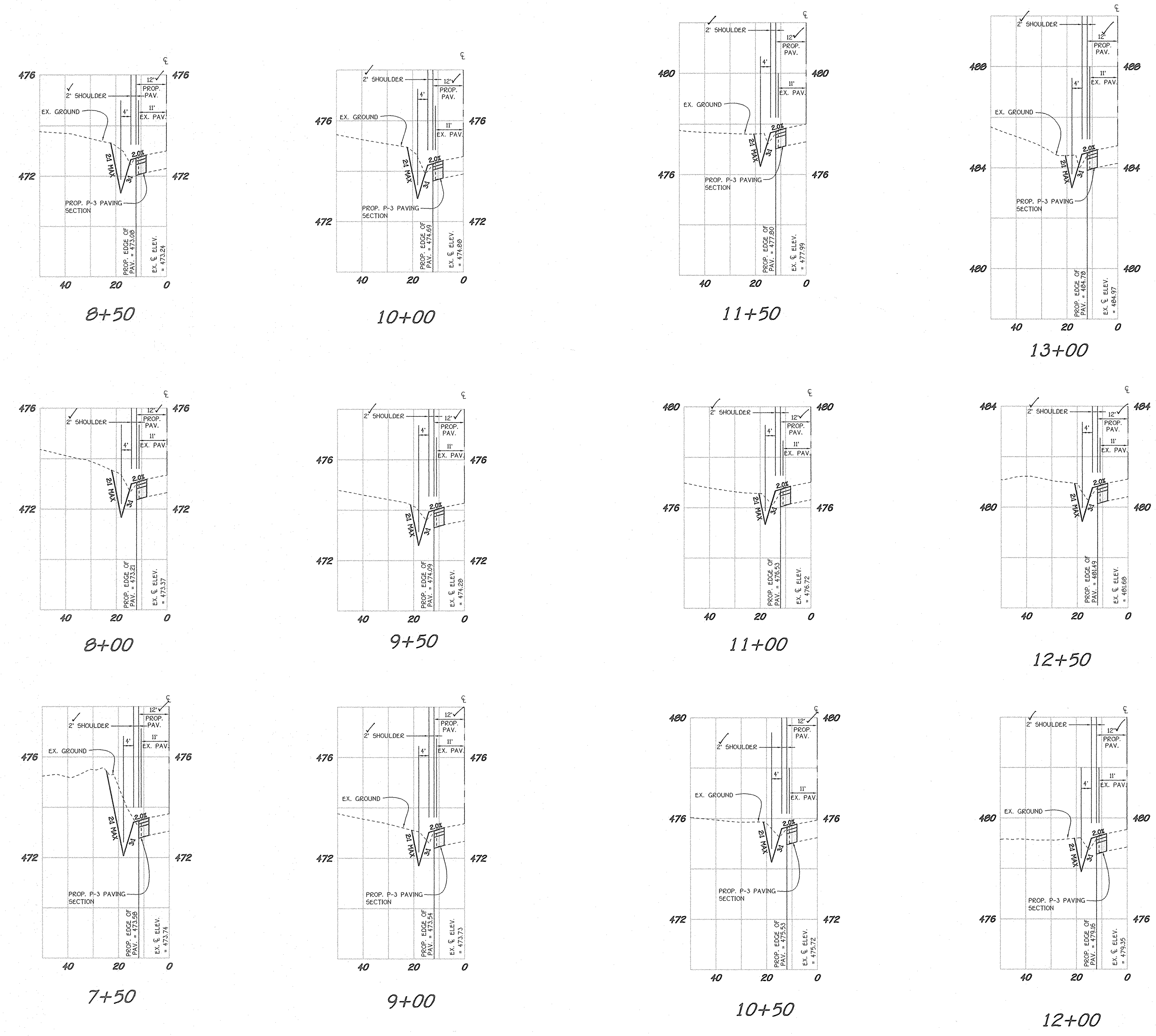
APPROVED: DEPARTMENT OF PLANNING AND ZONING

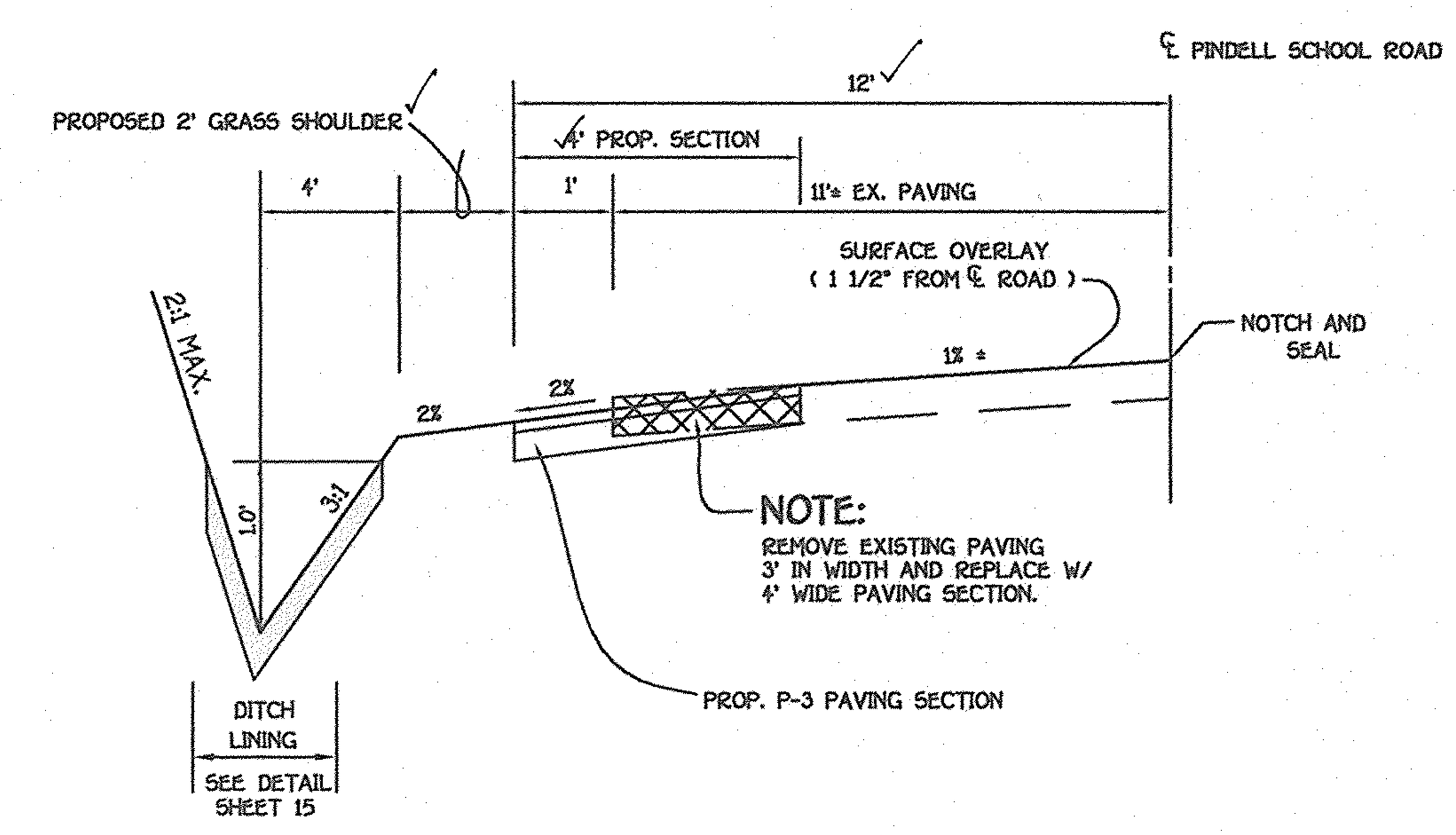
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/2/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/14/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
"FOR PUBLIC INFRASTRUCTURES ONLY"

CHIEF, BUREAU OF HIGHWAYS — DATE 3-12-03





STA. 7+15.03 TO STA. 13+00 (PINDELL SCHOOL ROAD)

TYPICAL ROADWAY SECTION

NO SCALE

PINDELL SCHOOL ROAD – ROADSIDE DITCH DATA

BEGIN STATION	END STATION	Q10 (CFS)	V10 (FPS)	SLOPE	ROADSIDE DITCH LINING*
7+50	8+10	1.0	1.6	1.5%	SEED AND MULCH
8+10	11+50	8.0	3.0	2.0%	SOLID SODDING
11+50	13+50	1.0	2.4	5.0%	SEED AND MULCH

* SOIL STABILIZATION MATTING TO BE PLACED OVER SEED AND MULCH

CROSS-SECTIONS

SCALE: HOR. : 1" = 20'
VER. : 1" = 2'

FISHER, COLLINS & CARTER, INC.
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7164 COLUMBIA GATEWAY DR., SUITE 230
COLUMBIA, MARYLAND 21046

AS BUILT 2/11/05

PINDELL SCHOOL ROAD CROSS-SECTIONS

PINDELL CHASE

BUILDABLE LOTS 1 – 24, OPEN SPACE LOT 25 AND
NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO

TAX MAP NO. 41 GRID No. 7, 8, 13 & 14 PARCEL No. 59

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: FEBRUARY 14, 2003

SHEET 24 OF 25

F 03-28

AS BUILT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/2/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/14/03

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
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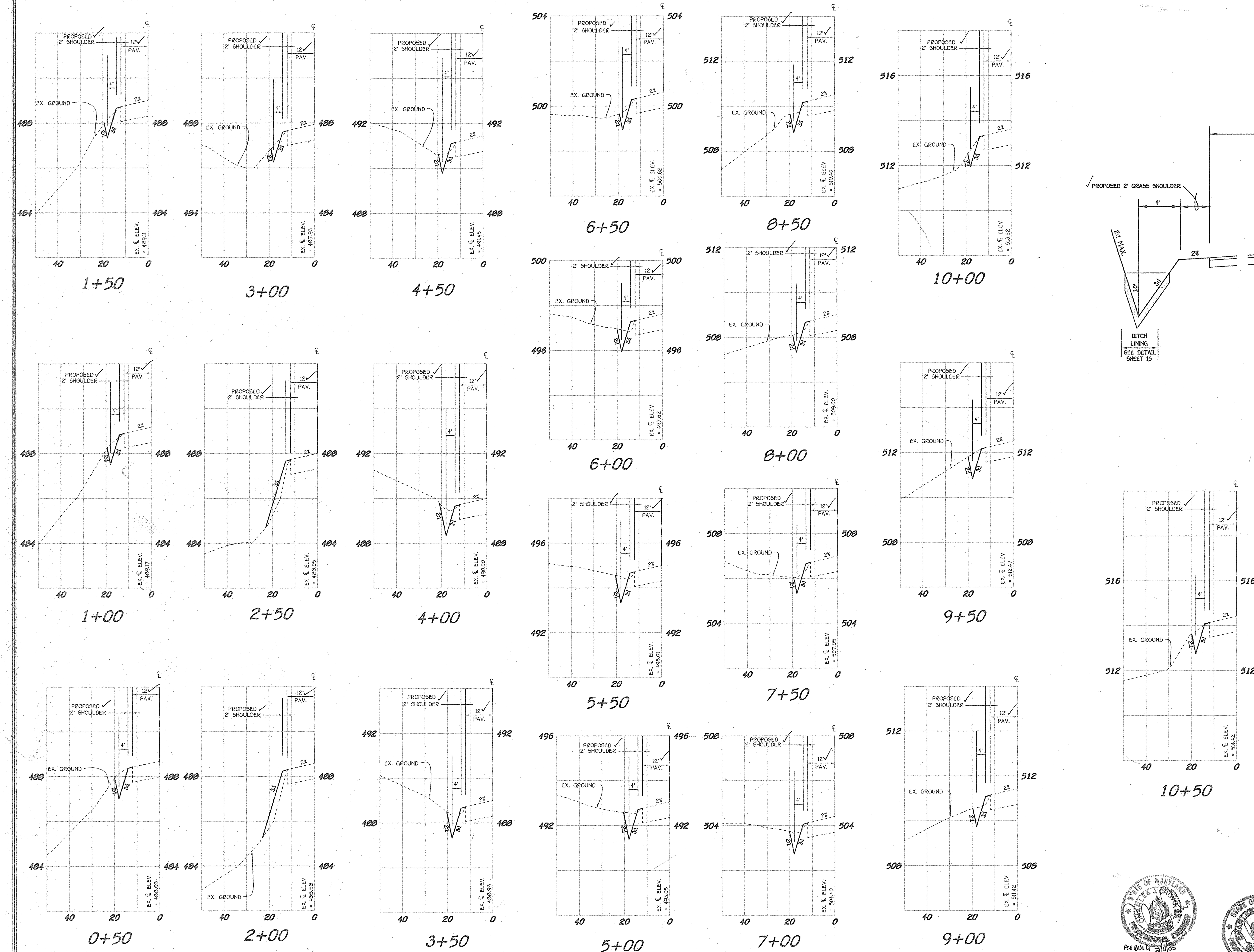
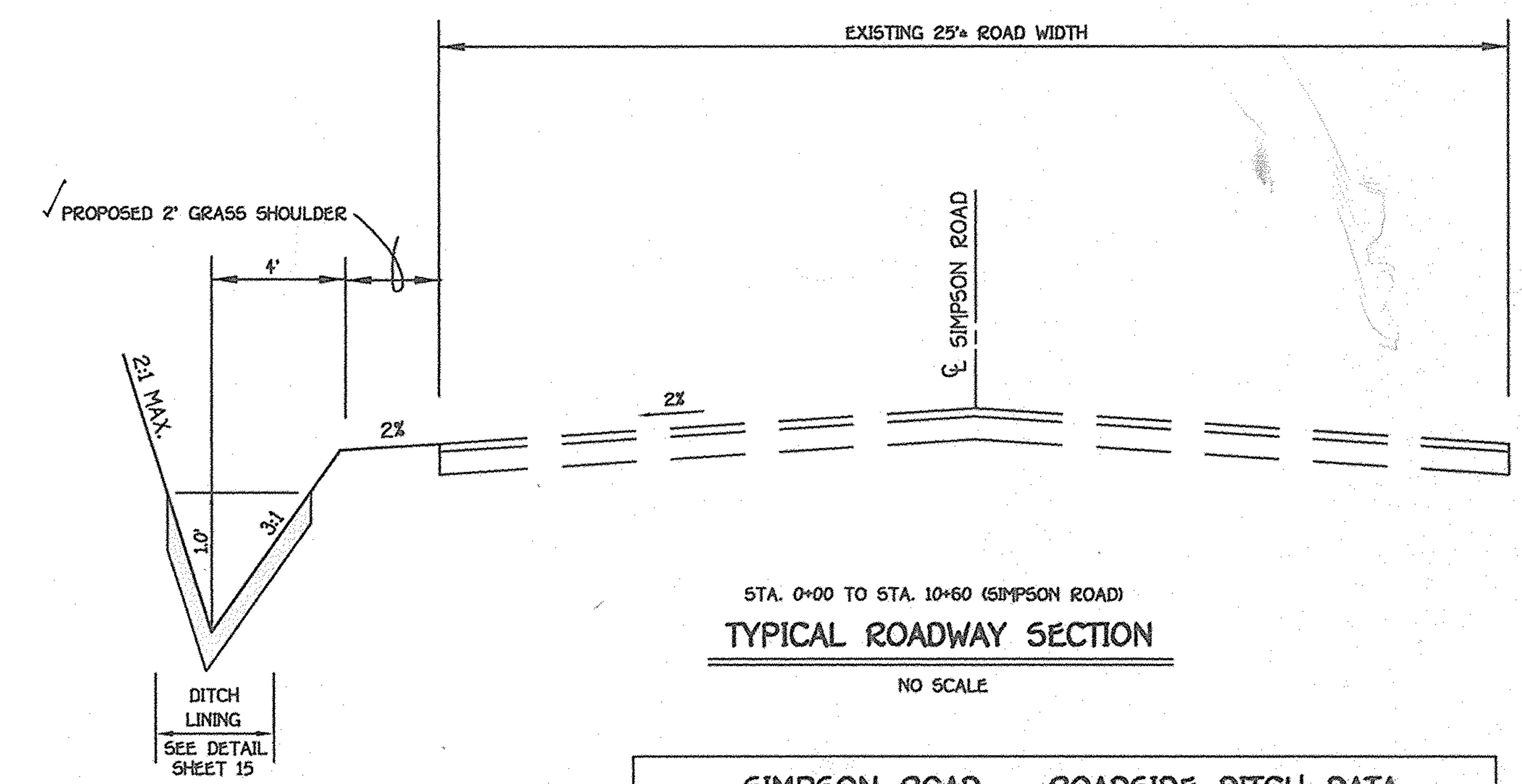
CHIEF, BUREAU OF HIGHWAYS — DATE 3-12-03





STA. 0+00 TO STA. 10+60 (SIMPSON ROAD)

TYPICAL ROADWAY SECTION

NO SCALE

SIMPSON ROAD - ROADSIDE DITCH DATA					
BEGIN STATION	END STATION	Q10 (CFS)	V10 (FPS)	SLOPE	ROADSIDE DITCH LINING*
0+00	3+00	NO ROADSIDE DITCH - SHEET FLOW OFF ROAD			
3+00	5+00	1.8	2.3	2.5%	SEED AND MULCH
5+00	10+75	1.3	2.4	5.0%	SEED AND MULCH

* SOIL STABILIZATION MATTING TO BE PLACED OVER SEED AND MULCH

CROSS-SECTIONS

SCALE: HOR. : 1" = 20'
VER. : 1" = 2'

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AS BUILT 2/11/05

SIMPSON ROAD CROSS-SECTIONS

PINDELL CHASE

BUILDABLE LOTS 1 - 24, OPEN SPACE LOT 25 AND
NON-BUILDABLE PRESERVATION PARCELS 'A' THRU 'C'

ZONING: RR-DEO
TAX MAP NO. 41 GRID No. 7, 8, 13 & 14 PARCEL No. 59
FIFTH ELECTION DISTRICTHOWARD COUNTY, MARYLAND
DATE: FEBRUARY 14, 2003
SHEET 25 OF 25

F 03-28

AS BUILT