

8" & 12" Water and Sewer Main Extension Emerson Section 2 – Phase 5A

Howard County, Maryland Department of Public Works

Contract No. 24-4120-D

GENERAL NOTES

PART I - GENERAL

- Approximate locations of existing mains are shown. The contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted service. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the contractor's expense.
- All horizontal controls are based on Maryland State Coordinates, NAD 83/91.
- All vertical controls are based on NAVD83.
- All pipe elevations shown are invert elevations unless otherwise noted on the plans.
- Clear all utilities by a minimum of 6 inches. Clear all poles by 2'-0" minimum or tunnels as required unless otherwise noted. The owner has contracted the utility companies and has made arrangements for bracing of poles as shown on the drawings. In the event the contractor's work requires the bracing of additional poles, any cost incurred by the owner for the bracing of additional poles or damages shall be deducted from monies owed the contractor. The contractor shall coordinate with the utility companies to schedule the bracing of the poles.
- For details not shown on the drawing and for materials and construction methods, use Howard County Design Manual, Volumes IV, Standard Specifications and Details for Construction (Latest Edition). The contractor shall have a copy of Volume IV on the job.
- Where test pits have been made on existing utilities, they are noted by the symbol at the locations of the test pits. A note or notes containing the results of the test pit or pits is included on the drawings. Existing utilities in the vicinity of the proposed work for which test pits have not been dug shall be located by the contractor two weeks in advance of construction operations at his own expense.
- The contractor shall notify the following utility companies or agencies at least five working days before starting work shown on these plans:

| | |
|----------------------------------|-------------------------------|
| AT&T | 1-800-252-1133 |
| BGE (Contractor Services) | 410-850-4620 |
| BGE (Underground Damage Control) | 410-291-4607 |
| Bureau of Utilities | 410-313-4900 |
| Colonial Pipeline Co. | 410-549-4120 |
| Mesa Utility | 1-800-257-7777 |
| State Highway Administration | 410-531-9533 |
| Verizon | 1-800-743-0033 / 410-224-9210 |

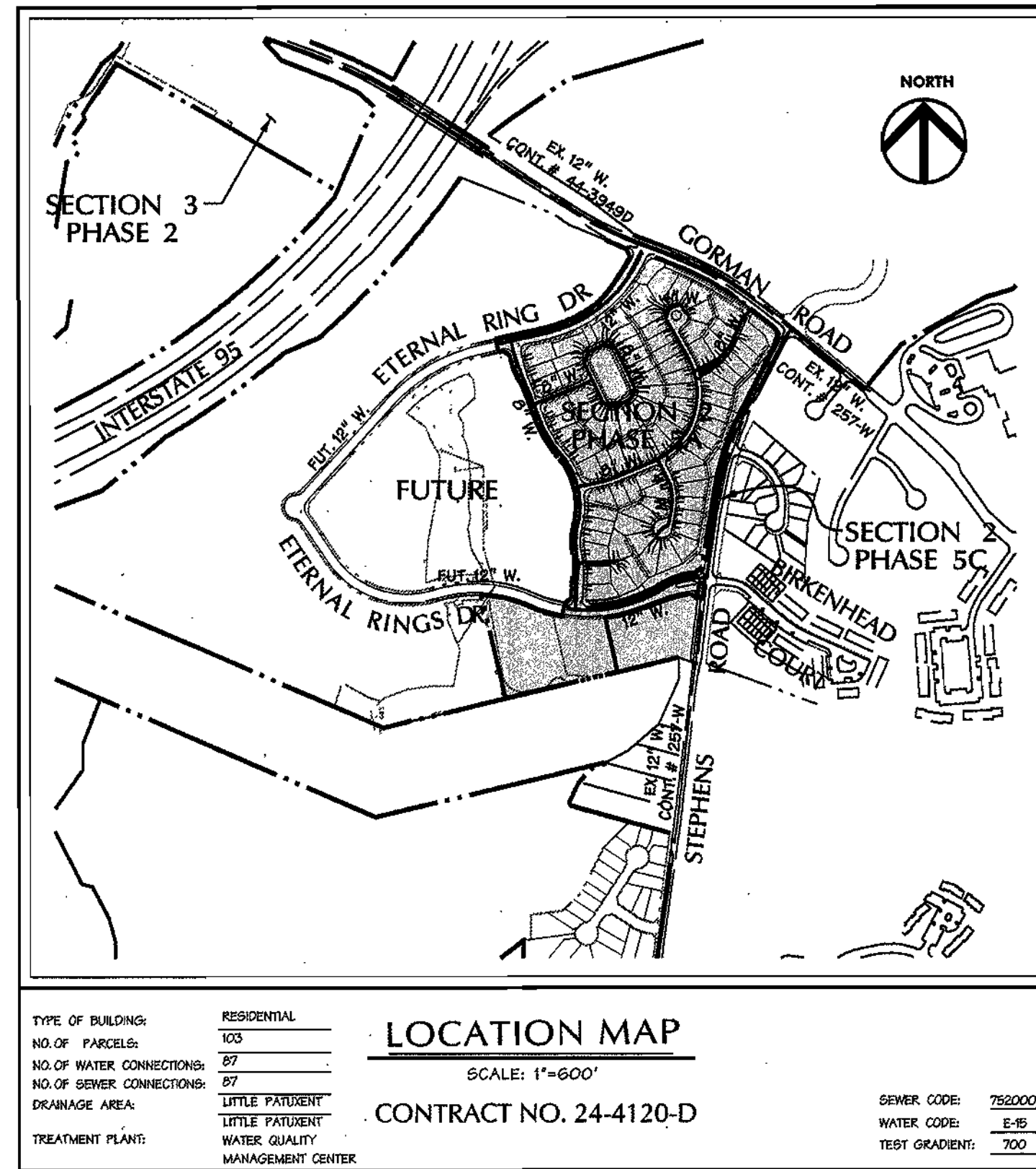
- Trees and shrubs are to be protected from damage to the maximum extent. Trees and shrubs located within the construction strip are not to be removed or damaged by the contractor.
- The contractor shall remove trees, stumps and roots along the line of excavation. Payment for such removal shall be included in the unit price bid for construction of the main.
- The contractor shall notify the Bureau of Highways, Howard County, at (410)-313-7450 at least five working days before open cutting or boring/jacking of any County road for laying water/sewer mains or house connections. The approval of these drawings will constitute compliance with DPW requirements per Section 18.14(a) of the Howard County Code.

PART II WATER

- All water mains shall be D.I.P. Class 52 unless otherwise noted.
- Tops of all water mains shall have a minimum of 3'-6" of cover unless otherwise noted.
- Valves adjacent to tees shall be strapped to tees.
- All fittings shall be buttressed or anchored with concrete in accordance with Standard Details unless otherwise provided for on the drawings.
- Fire hydrants shall be set to the bury line elevations shown on the drawings. All fire hydrants shall be installed in accordance with Standard Details. The soil around the fire hydrant shall be compacted in accordance with Section 1000 and Section 1005 of the Standard Specifications.
- The contractor shall not operate any water main valves on the existing water system.
- All water house connections shall be for inside meter setting unless otherwise noted on plans or in specifications.
- Fire sprinkler system for all town homes or multi-family dwelling units should have a minimum of 1" connection with a 3/4" meter.

PART III SEWER

- All sewer mains shall be D.I.P. or P.V.C. unless otherwise noted.
- All manholes shall be 4'-0" inside diameter unless otherwise noted.
- Force mains shall be D.I.P. only.
- Manholes shown with 12" and 16" walls are for brick manholes only.
- Manholes designated W.T. in plan and profile shall have watertight frame and cover, Standard Detail GS.52. Where watertight manhole frames and cover are used, set top of frame 1'-6" above finished grade unless otherwise noted on the drawings.
- House(s) with the symbol "C.N." indicates that the cellar cannot be served.

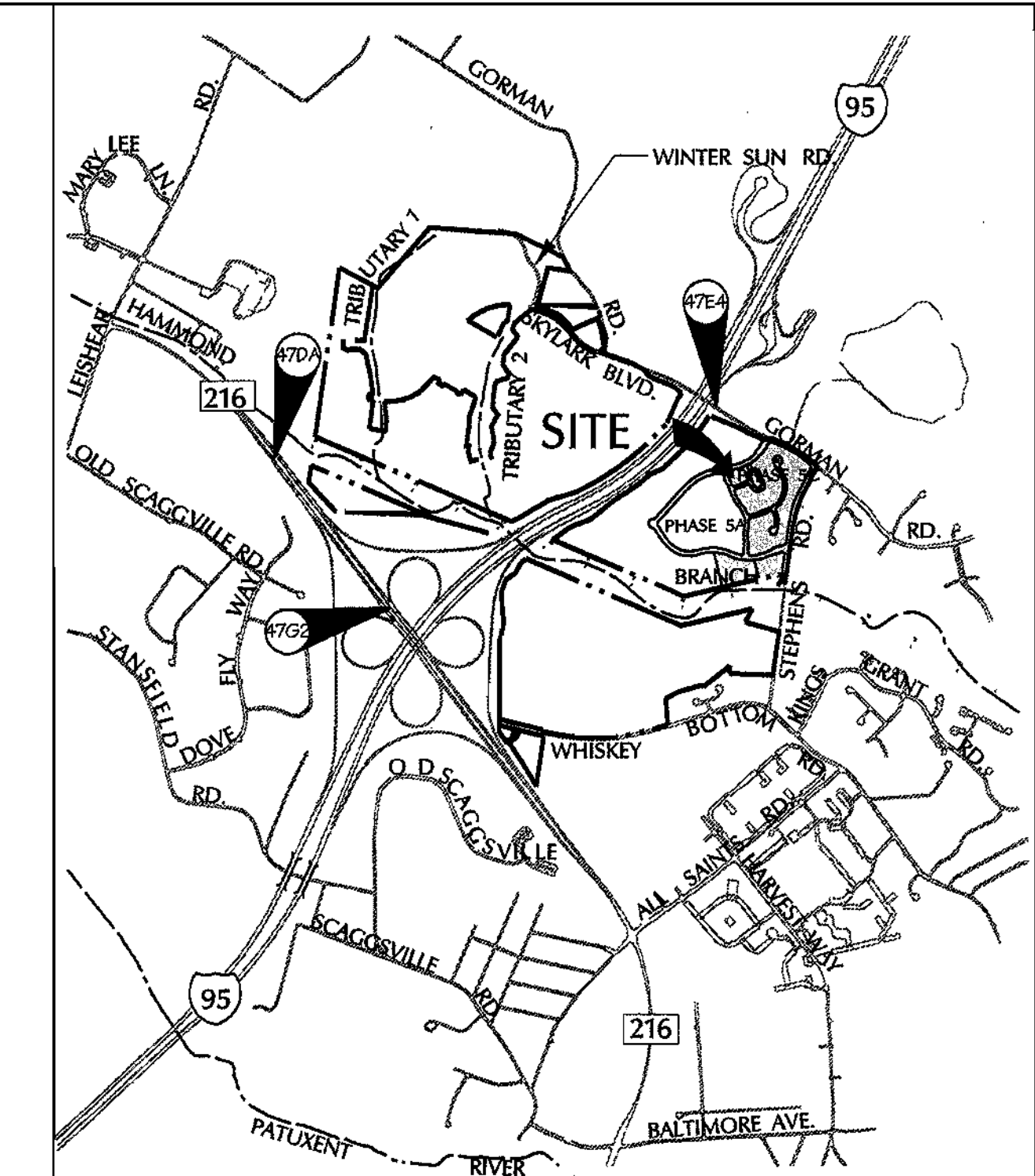
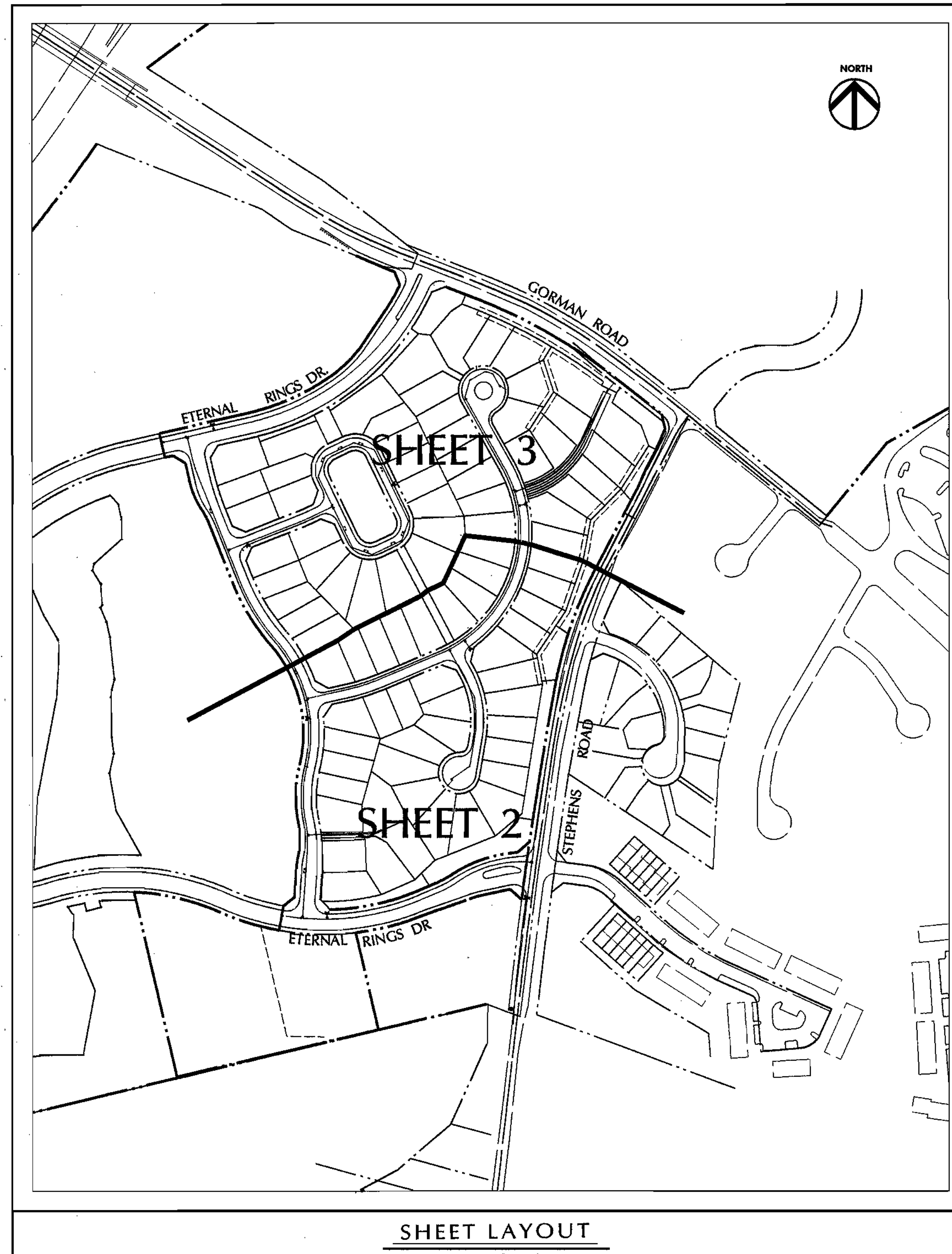


SHEET INDEX

| SHEET | DESCRIPTION |
|-------|--|
| 1 | COVER SHEET |
| 2 | PLAN - ETERNAL RINGS, IRONLEAF TRAIL, VINTAGE EARTH PATH, DAPPER TOWN ROW |
| 3 | PLAN - ETERNAL RINGS DRIVE, IRONLEAF TRAIL, VINTAGE EARTH PATH, DISTANT LOCHS SQUARE, FAR FIELDS WAY |
| 4 | WATER MAIN PROFILES - ETERNAL RINGS DRIVE, DAPPER TOWN ROW |
| 5 | WATER MAIN PROFILES - IRONLEAF TRAIL, VINTAGE EARTH PATH |
| 6 | WATER MAIN PROFILES - AUTUMN GRAIN GATE, DISTANT LOCHS SQUARE, FAR FIELDS WAY |
| 7 | SANITARY SEWER PROFILES - ETERNAL RINGS DRIVE, IRONLEAF TRAIL, FAR FIELDS WAY |
| 8 | SANITARY SEWER PROFILES - VINTAGE EARTH PATH, AUTUMN GRAIN GATE |

LEGEND

| | | |
|------------------------|------------------------|-------|
| EX CURB & GUTTER | PROP. SEWER | 6" S. |
| EX MAJOR CONTOURS | PROP. WATER | 4" W. |
| EX MINOR CONTOURS | PROPERTY LINE | |
| EX STORM DRAIN | ROADWAY RIGHT-OF-WAY | |
| EX SEWER | PROPOSED LOT LINE | |
| EX WATER | PROPOSED EASEMENT | |
| EXISTING TREE LINE | PROPOSED CURB & GUTTER | |
| EXISTING WETLAND LIMIT | PROPOSED SIDEWALK | |
| PROP. STORM DRAIN | PROPOSED GUARD RAIL | |
| | PROPOSED RIP-RAP | |



BENCHMARK DESCRIPTION

COORDINATES IN MARYLAND NAD83(91) (HORIZONTAL) AND NGVD29 (VERTICAL) DATUMS.

47DA NORTHING: 163191.9104
EASTING: 4112865759
ELEVATION: 315.905 ft.

47E4 NORTHING: 163326.2295
EASTING: 411316.2550
ELEVATION: 336.909 ft.

47G2 NORTHING: 162440.1212
EASTING: 4118539279
ELEVATION: 364.210 ft.

QUANTITIES

| ITEMS | QUANTITIES ESTIMATED | AS-BUILT | | |
|---------------------------------|----------------------|------------|------|-------------------------|
| | | QUANTITIES | TYPE | MANUFACTURER / SUPPLIER |
| 12" D.I.P. | 1400' | | | |
| 8" D.I.P. | 3716' | | | |
| 6" D.I.P. | 132' | | | |
| 4" D.I.P. | 676' | | | |
| 12" x 12" TAPPING BLEED & VALVE | 1 | | | |
| 12" VALVE | 2 | | | |
| 8" VALVE | 8 | | | |
| 6" VALVE | 7 | | | |
| 4" VALVE | 2 | | | |
| 12" x 12" TEE | 2 | | | |
| 12" x 6" TEE | 2 | | | |
| 8" x 8" TEE | 3 | | | |
| 8" x 6" TEE | 7 | | | |
| 8" x 4" TEE | 2 | | | |
| 6" FIRE HYDRANT | 7 | | | |
| 11/6" BEND (12") | 1 | | | |
| 11/6" BEND (8") | 8 | | | |
| 11/6" BEND (4") | 1 | | | |
| 11/8" BEND (4") | 4 | | | |
| 11/4" BEND (4") | 1 | | | |
| 8" x 4" REDUCER | 1 | | | |
| 12" CAP | 2 | | | |
| 4" CAP | 3 | | | |
| 3/4" WHC | 2270' | | | |
| 8" D.I.P. SEWER | 398' | | | |
| 8" PVC SEWER | 4588' | | | |
| 4" PVC SEWER | 1828' | | | |
| STD. MANHOLES | 38 | | | |
| MANHOLES - VERT. FT. | 455 | | | |
| 8" TYPE 'A' DROP | 1 | | | |
| 8" TYPE 'B' DROP | 2 | | | |
| 1 1/2" DRAIN W/ 1.5" VAULT | 3 | | | |

NAME OF UTILITY CONTRACTOR:
SURVEY AND DRAFTING DIVISION AS-BUILT DATE:

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

Jim Meyer 6/30/04
SIGNATURE DATE

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

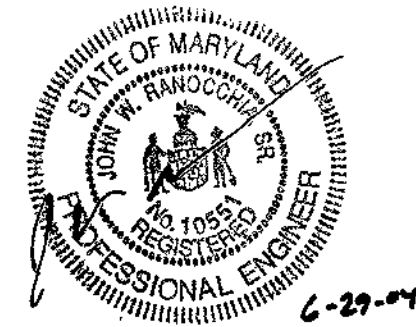
John K. Robertson 6/30/04
APPROVED SIGNATURE DATE

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

DMW
Daft-McCune-Walker, Inc.
A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-8388
Fax 296-4705

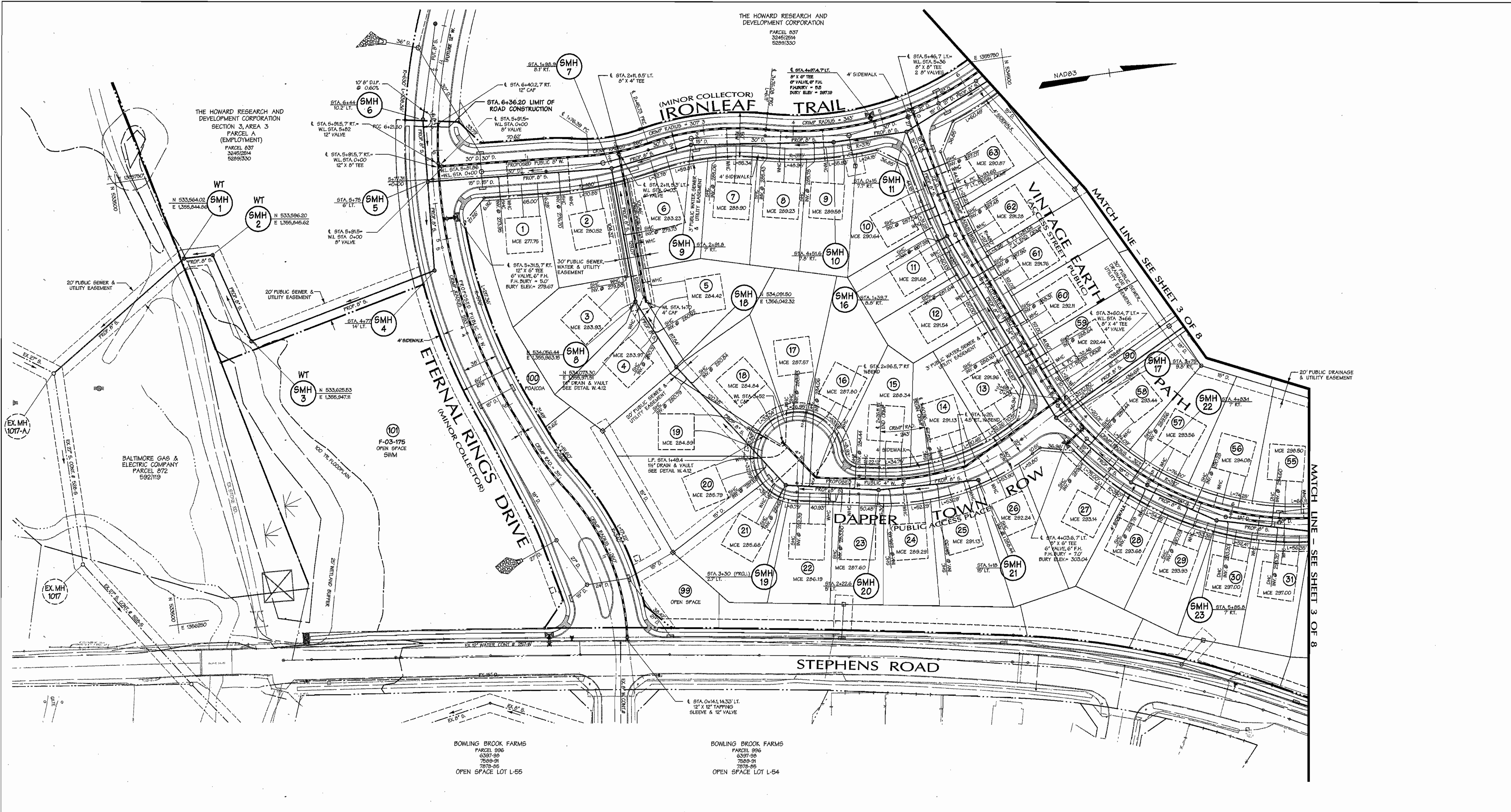


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| DESIGN BY: | DFM |
| DRAWN BY: | WDE |
| CHECKED BY: | |
| DATE: | 6/11/04 |
| BY NO. | |
| REVISION | |
| DATE | 6/11/04 |

| | |
|-----------------------|----------------------|
| TITLE SHEET | 600 SCALE MAP NO. 47 |
| WATER AND SEWER | BLOCK NO. 7, 8, 13 |
| 6th ELECTION DISTRICT | |

EMERSON
Section 2, Phase 5A
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
CONTRACT NO. 24-4120-D

SCALE: 1"=600'
SHEET 1 of 8



REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

Jim Meyer 6/3/04
 SIGNATURE DATE

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

John K. Roberts 6/3/04
 APPROVED DATE

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Rbtm Bauman 7-1-04
 CHIEF - BUREAU OF UTILITIES - DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

W. Deamun 7/6/04
 CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
 Daft-McCune-Walker, Inc.

A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals

200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 286-3333
 Fax 286-4706



| | |
|-------------|---------|
| DESIGN BY: | DFM |
| DRAWN BY: | WDE |
| CHECKED BY: | |
| DATE: | 6/28/04 |
| BY NO. | |
| REVISION | |
| DATE | |

PROPOSED 8" WATER MAIN
 ETHERAL RINGS DRIVE, IRONLEAF TRAIL,
 VINTAGE EARTH PATH, DAPPER TOWN ROW

6th ELECTION DISTRICT

600 SCALE MAP NO. 47 BLOCK NO. 7, 8, 9, 13

Legend

| | | | |
|------------------------|-----|------------------------|-----|
| EX CURB & GUTTER | --- | PROF. SEWER | --- |
| EX MAJOR CONTOURS | --- | PROF. WATER | --- |
| EX MINOR CONTOURS | --- | PROPERTY LINE | --- |
| EX STORM DRAIN | --- | ROADWAY RIGHT-OF-WAY | --- |
| EX SEWER | --- | PROPOSED LOT LINE | --- |
| EX WATER | --- | PROPOSED EASEMENT | --- |
| EXISTING TREE LINE | --- | PROPOSED CURB & GUTTER | --- |
| EXISTING WETLAND LIMIT | --- | PROPOSED SIDEWALK | --- |
| PROF. STORM DRAIN | --- | PROPOSED GUARD RAIL | --- |
| WATER LINE STATIONING | --- | PROPOSED RIP-RAP | --- |

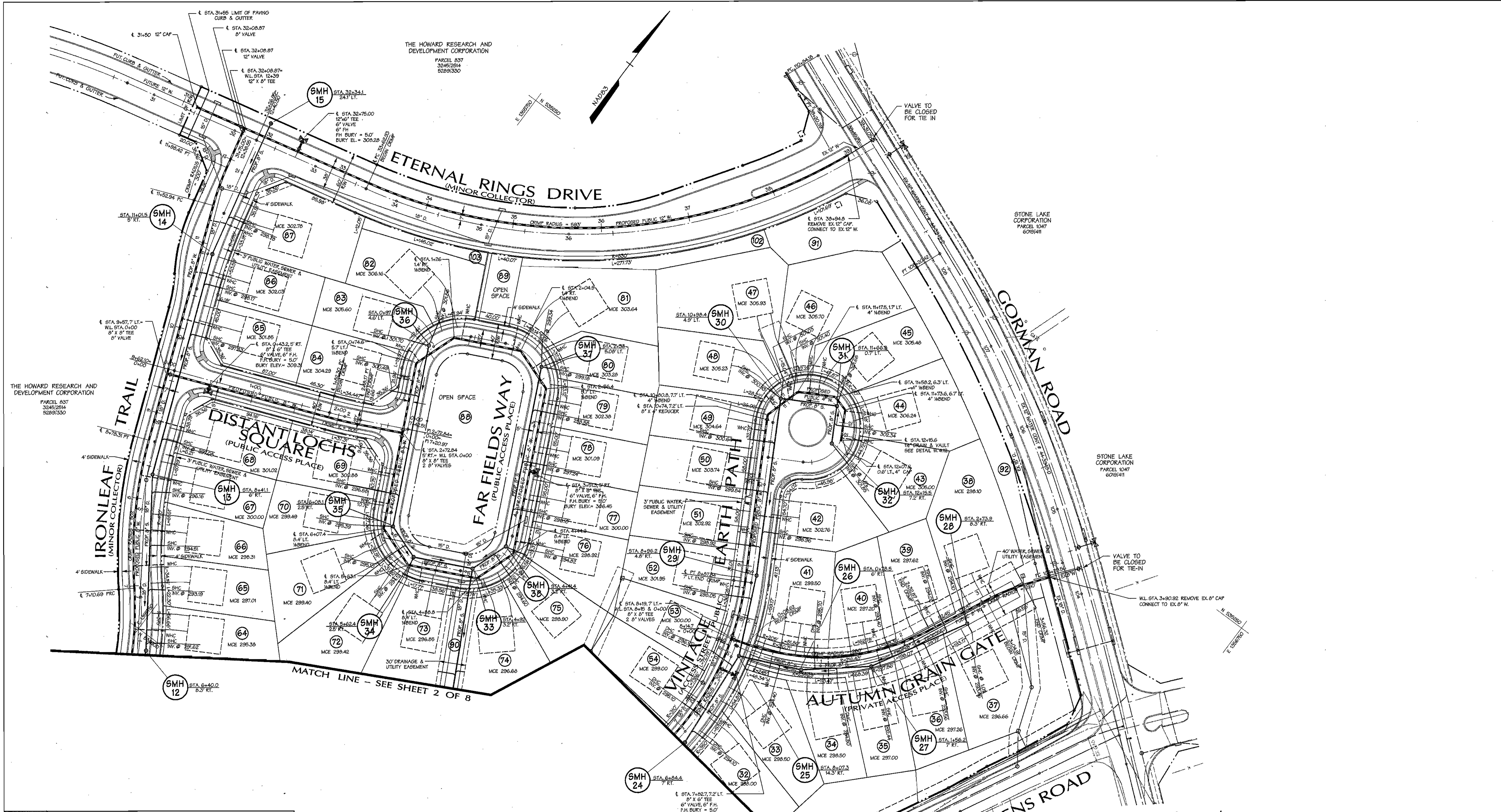
**EMERSON SECTION 2
 PHASE 5A**

THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

CONTRACT NO. 24-4120-D

SCALE: 1"=50'
 SHEET 2 of 8

Mon Jun 28 10:41:40 AM '04



REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MDC'S TECHNICAL REQUIREMENT

SIGNATURE: *[Signature]* DATE: _____

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

APPROVED

HOWARD S.C.D. DATE: _____

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

Legend

| | | | |
|------------------------|-----|------------------------|-----|
| EX CURB & GUTTER | --- | PROP. SEWER | --- |
| EX MAJOR CONTOURS | --- | EX WATER | --- |
| EX MINOR CONTOURS | --- | EX STORM DRAIN | --- |
| EX STORM DRAIN | --- | EX 24" RCP | --- |
| EX SEWER | --- | EX 24" S | --- |
| EX WATER | --- | EX 8" W | --- |
| EXISTING TREE LINE | --- | PROPOSED EASEMENT | --- |
| EXISTING WETLAND LIMIT | --- | PROPOSED CURB & GUTTER | --- |
| PROP. STORM DRAIN | --- | PROPOSED SIDEWALK | --- |
| | | PROPOSED GUARD RAIL | --- |
| | | PROPOSED RIP-RAP | --- |

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 7-1-04
CHIEF - BUREAU OF UTILITIES - DATE

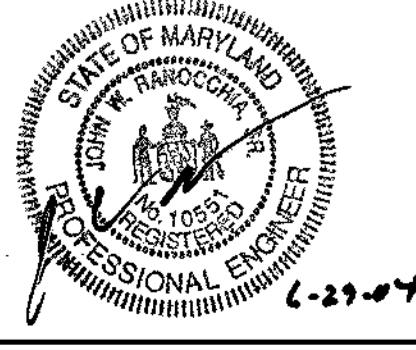
DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature] 7/1/04
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
Daft-McCune-Walker, Inc.

A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals

200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax: 296-4708



DESIGN BY: DFM
DRAWN BY: WDE
CHECKED BY: _____
DATE: 6/28/04

| BY | NO. | REVISION | DATE |
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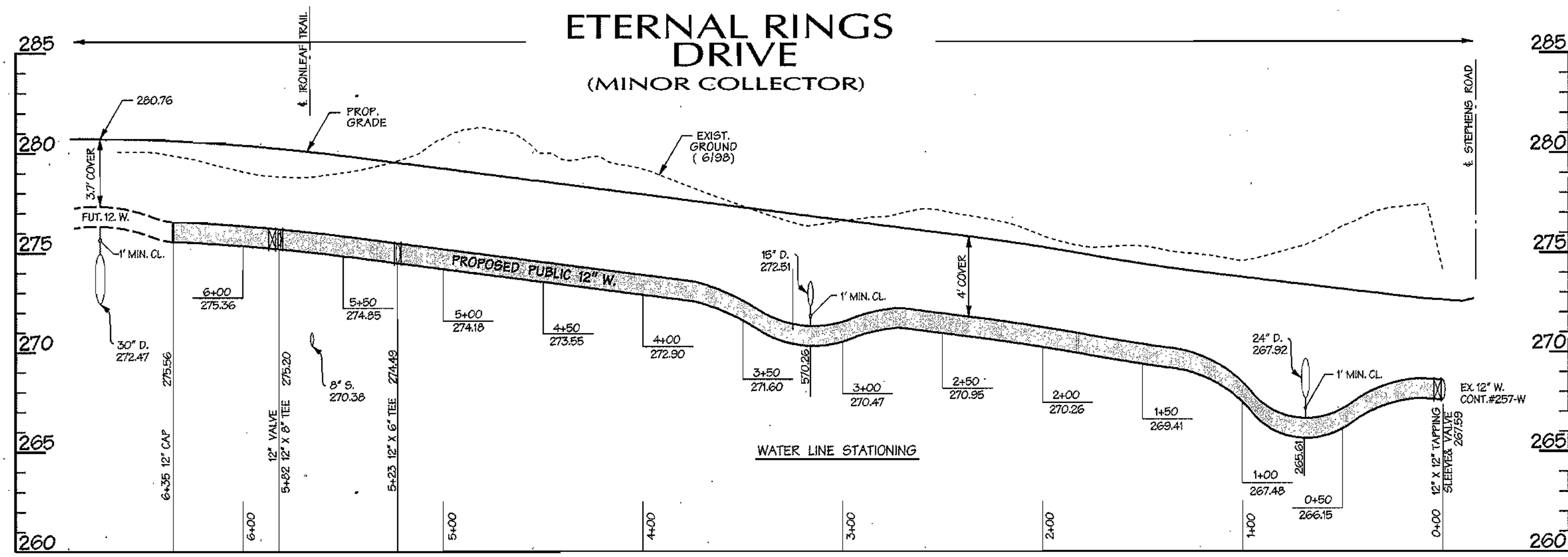
PROPOSED 8" WATER MAIN
ETERNAL RINGS DRIVE, IRONLEAF TRAIL,
VINTAGE SQUARE, FAR FIELDS WAY
6th ELECTION DISTRICT

600 SCALE MAP NO. 47 BLOCK NO. 7, 8, 9, 13

EMERSON SECTION 2
PHASE 5A
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

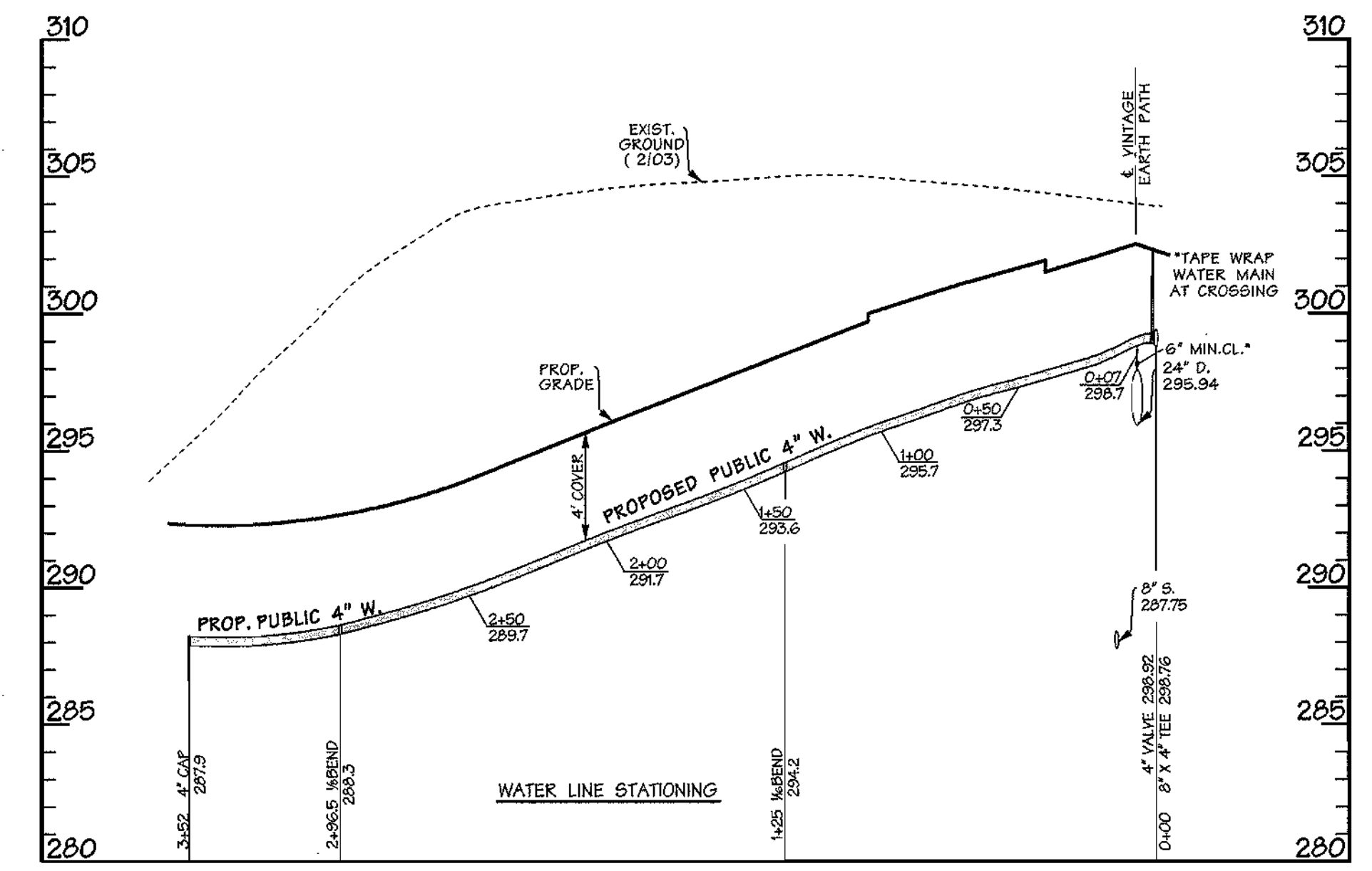
CONTRACT NO. 24-4120-D

SCALE: 1"=50'
SHEET 3 of 8



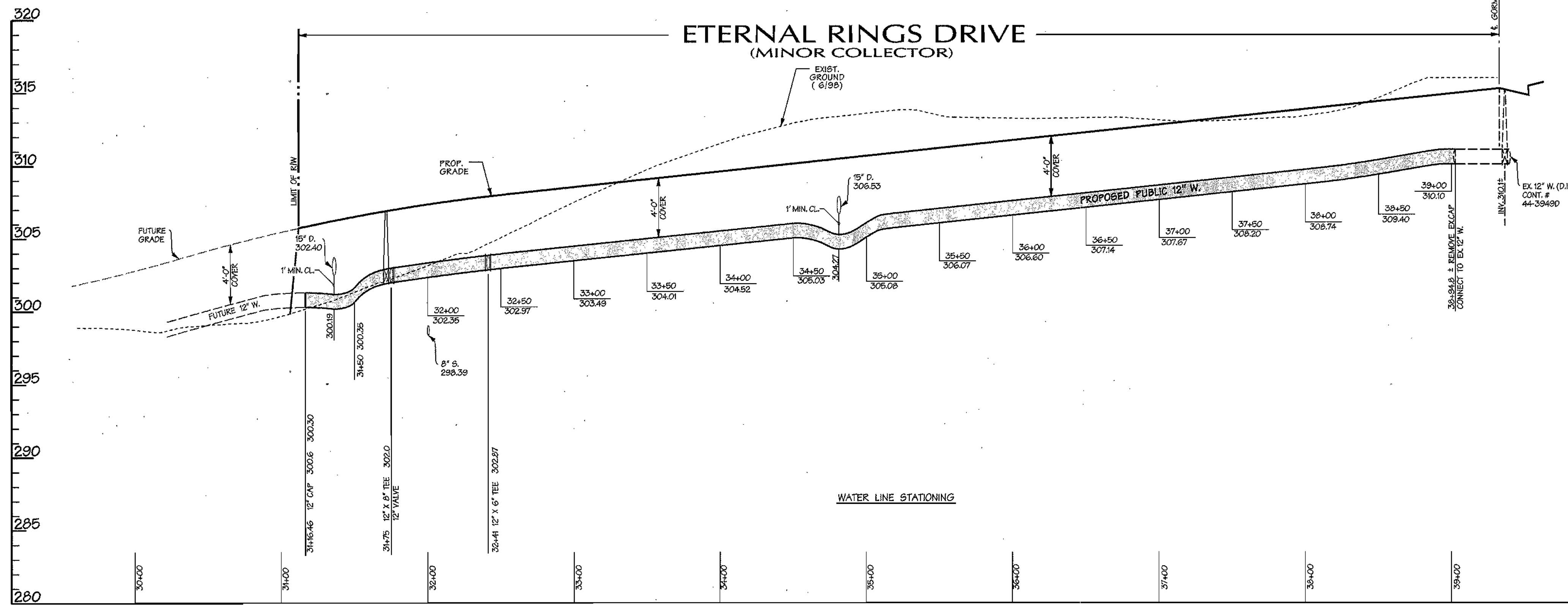
WATER PROFILE - ETERNAL RINGS DRIVE

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



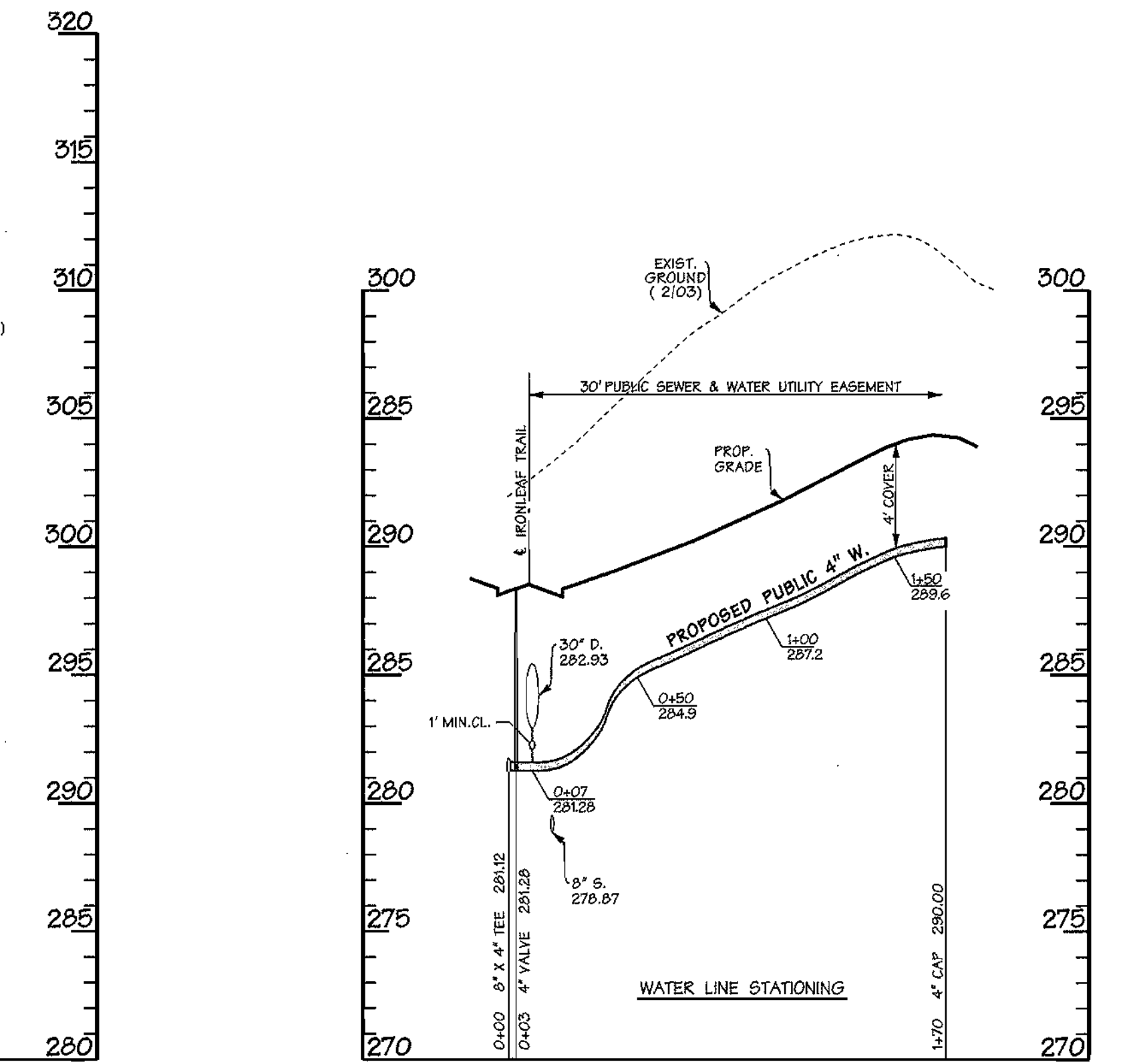
WATER PROFILE - DAPPER TOWN ROW

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



WATER PROFILE - ETERNAL RINGS DRIVE

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



WATER PROFILE - LOTS 3, 4, 5, 6,

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

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

SIGNATURE: *[Signature]* DATE: _____

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

APPROVED: _____ DATE: _____

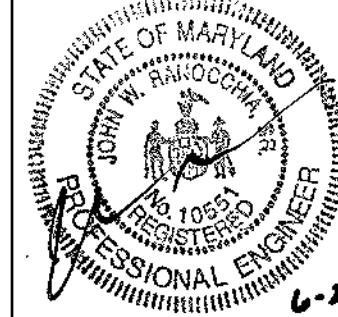
SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND



A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals



| | |
|-------------|---------|
| DESIGN BY: | DFM |
| DRAWN BY: | WDE |
| CHECKED BY: | |
| DATE: | 6/28/04 |
| BY NO. | |
| REVISION | |
| DATE | |

PROPOSED 12" WATER MAIN
ETERNAL RINGS DRIVE
PROPOSED 4" WATER MAIN
DAPPER TOWN ROW
PROPOSED 4" WATER MAIN - LOTS 3, 4, 5, 6
6th ELECTION DISTRICT

**EMERSON SECTION 2
PHASE 5A**
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

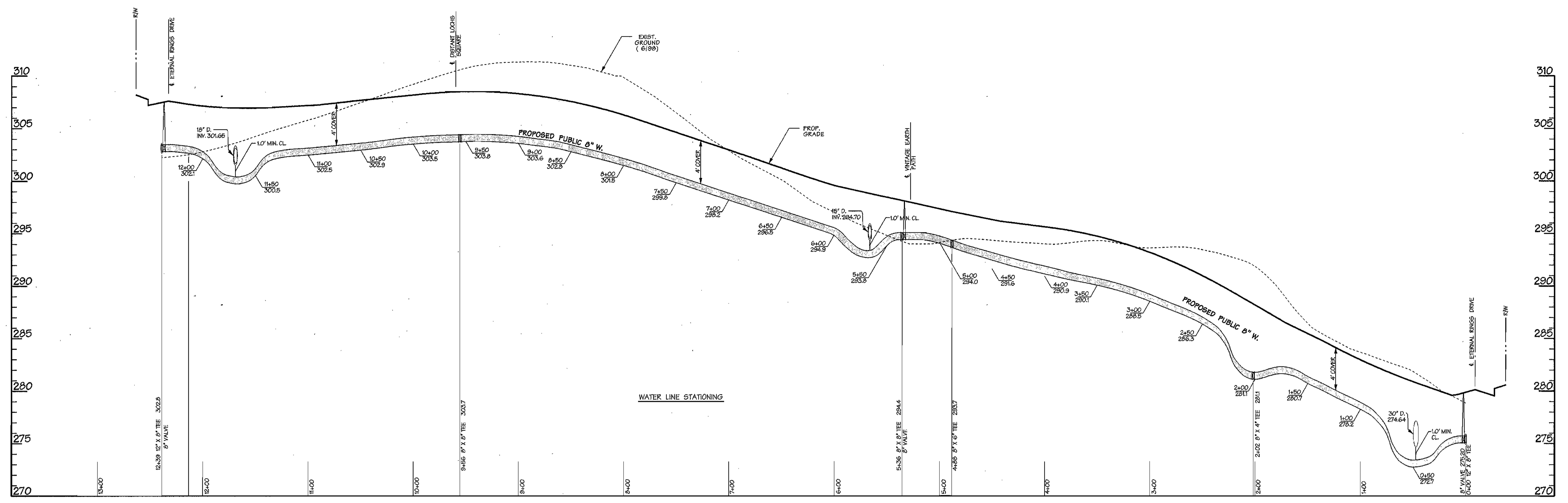
SCALE:
1"=50'
SHEET
4 of 8

[Signature] 7-1-04
CHIEF - BUREAU OF UTILITIES - DATE

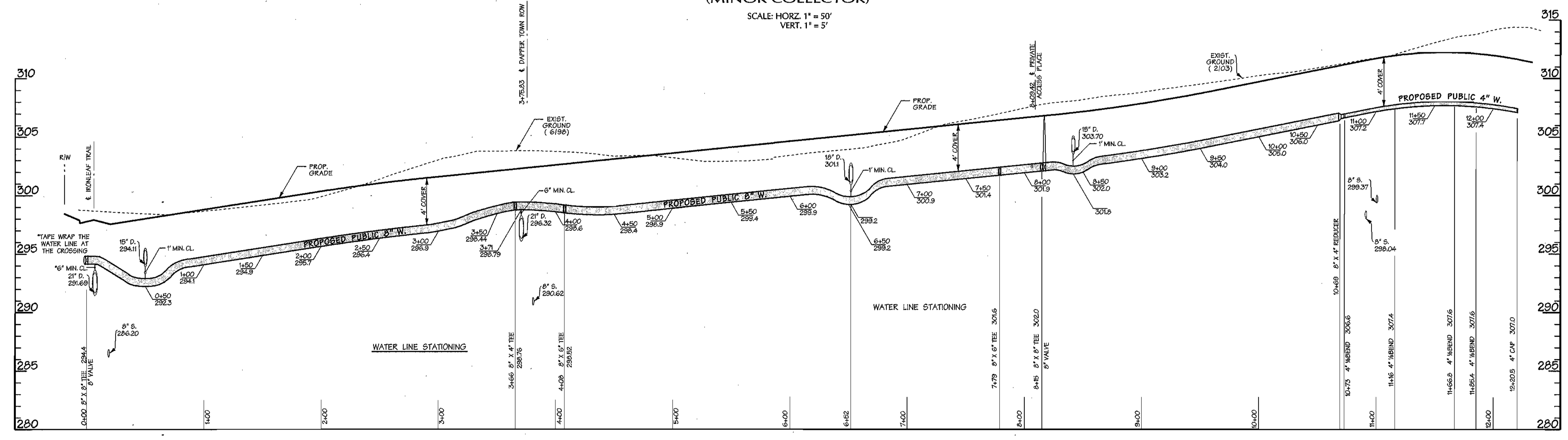
[Signature] 7/6/04
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

600 SCALE MAP NO. 47 BLOCK NO. 7, 8, 9, 13

CONTRACT NO. 24-4120-D



WATER PROFILE- IRON LEAF TRAIL
(MINOR COLLECTOR)
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



WATER PROFILE-VINTAGE EARTH PATH
(ACCESS STREET PUBLIC)
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

SIGNATURE _____ DATE _____

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APPROVED _____ DATE _____

HOWARD S.C.D.

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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Ruth Benning 7-1-04
CHIEF - BUREAU OF UTILITIES - DATE

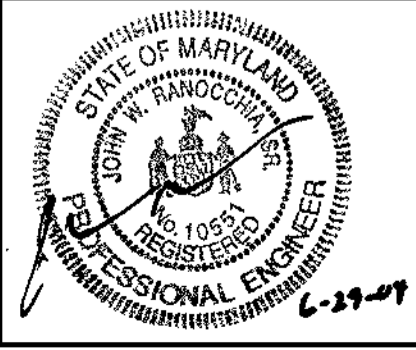
DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature] 7/6/04
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
Daft-McCune-Walker, Inc.

A Team of Land Planners,
Landscape Architects,
Township, Maryland 21286
(410) 296-8333
Fax 296-4705

Environmental Professionals



| | |
|-------------|---------|
| DESIGN BY: | DFM |
| DRAWN BY: | WDE |
| CHECKED BY: | |
| DATE: | 6/28/04 |
| BY NO. | |
| REVISION | |
| DATE | |

PROPOSED 8" WATER MAIN
IRONLEAF TRAIL
PROPOSED 4" & 8" WATER MAIN
VINTAGE EARTH PATH
6th ELECTION DISTRICT

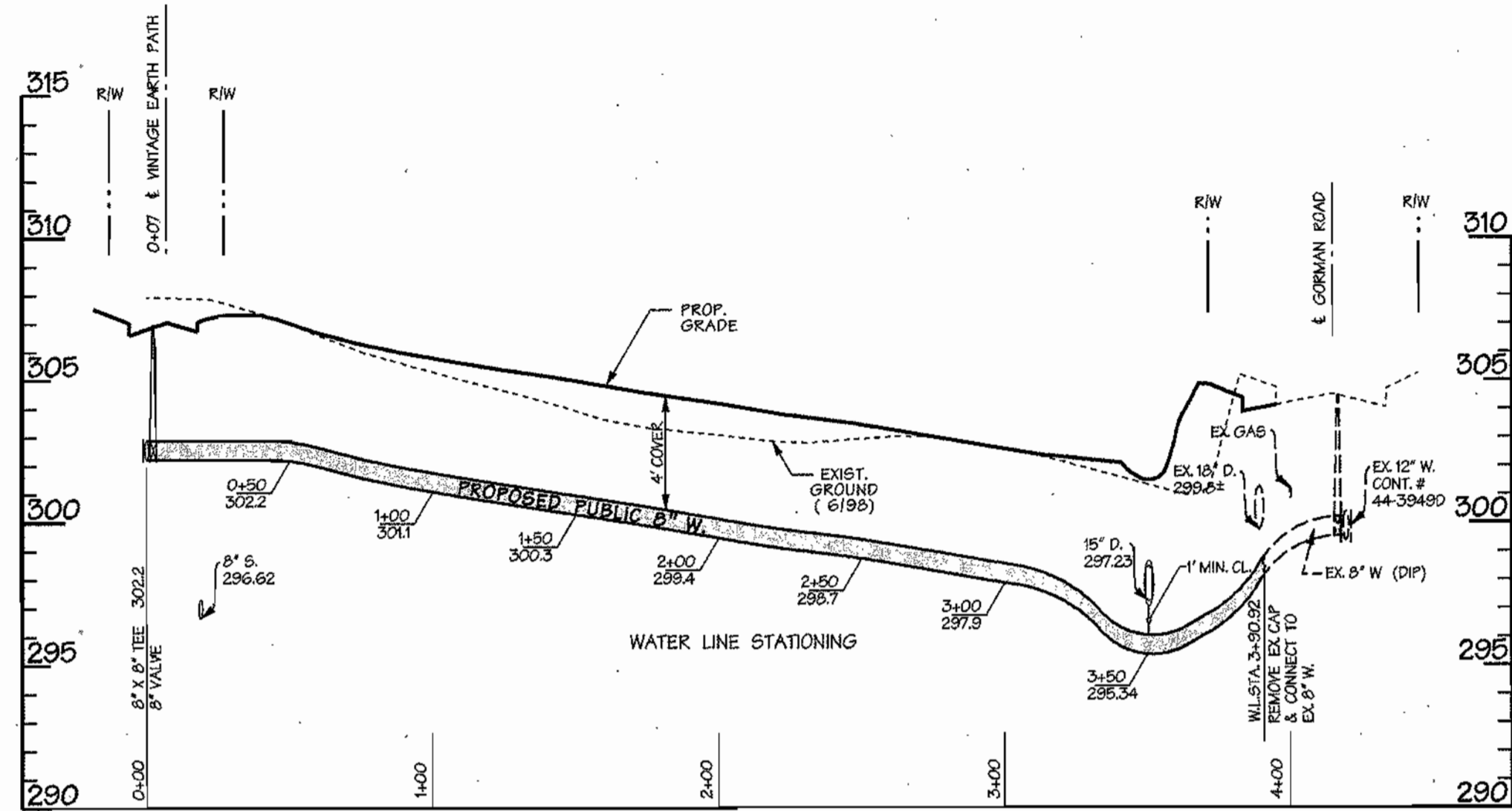
600 SCALE MAP NO. 47 BLOCK NO. 7, 8, 9, 13

EMERSON SECTION 2
PHASE 5A
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

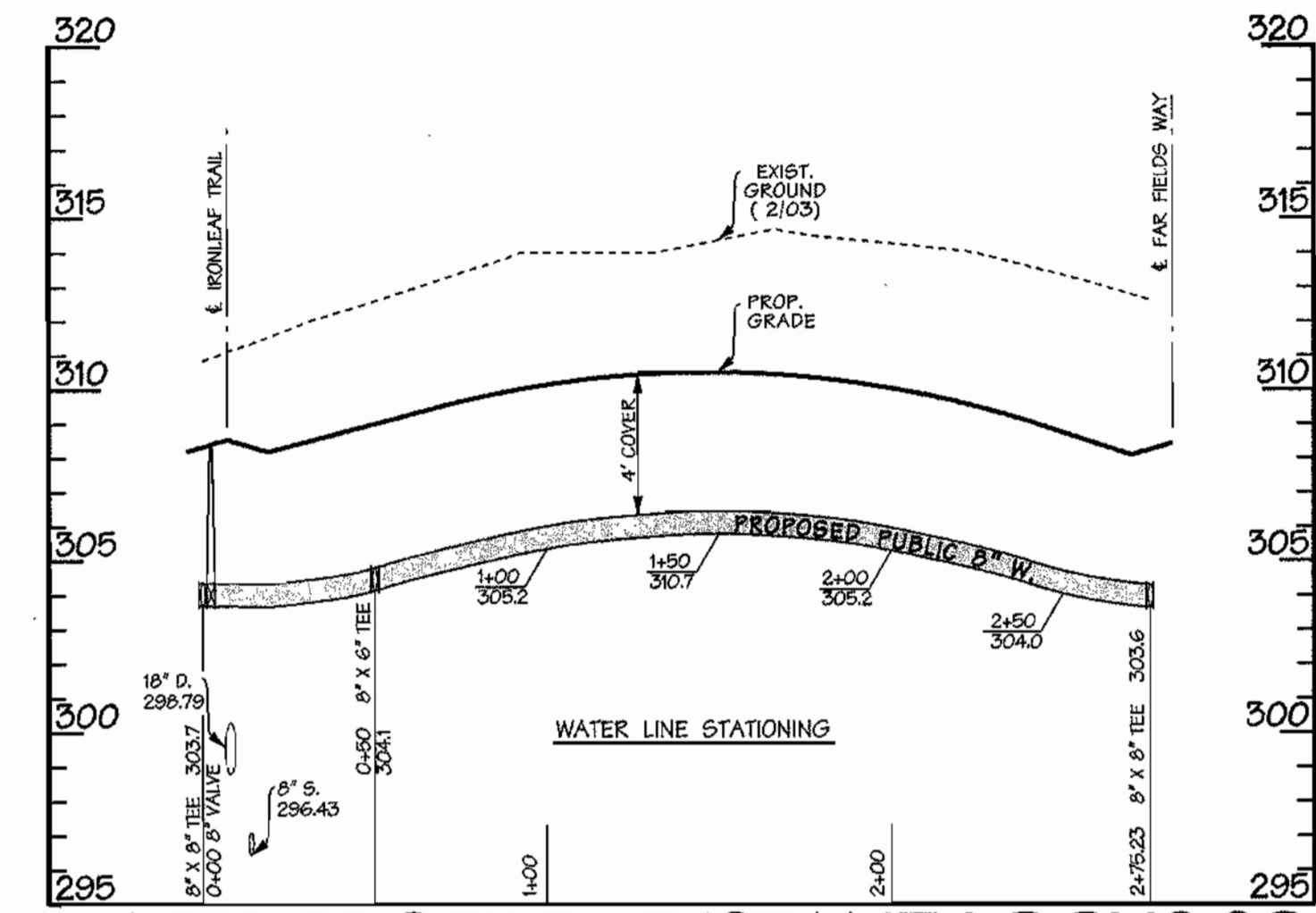
CONTRACT NO. 24-4120-D

SCALE:
1"=50'

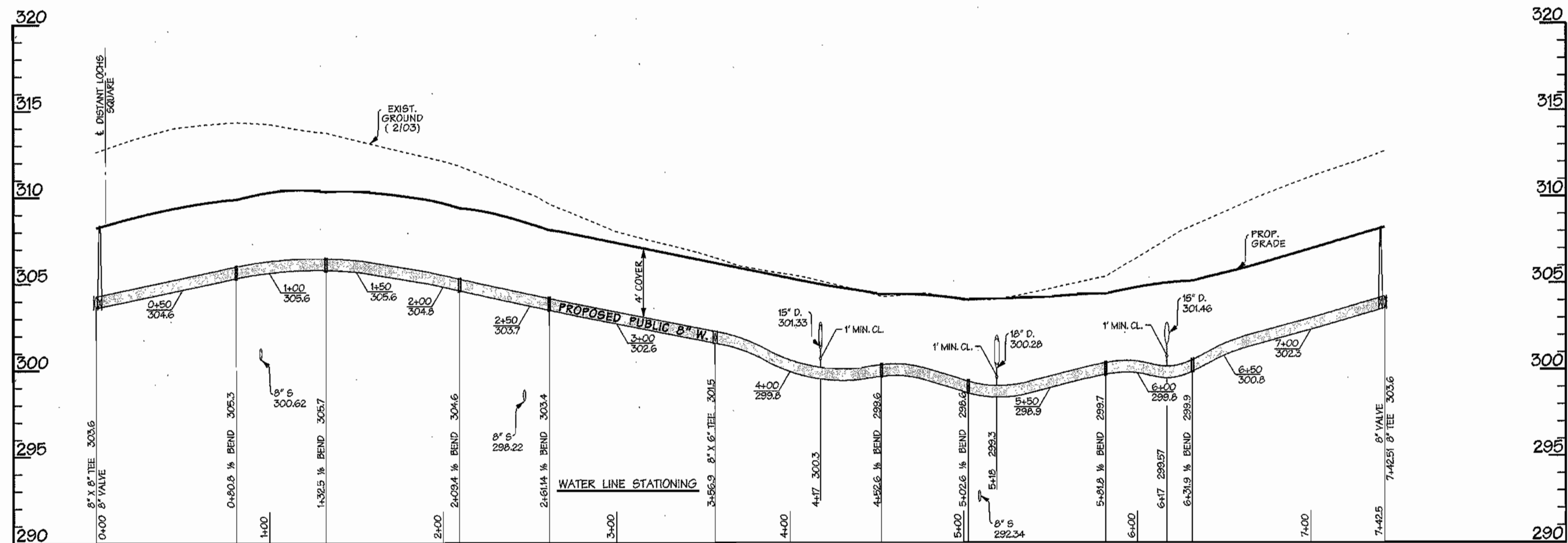
SHEET
5 of 8



**WATER PROFILE
AUTUMN GRAIN GATE**
(PRIVATE)
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



WATER PROFILE - DISTANT LOCHS SQ.
(PUBLIC ACCESS PLACE)
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



WATER PROFILE - FAR FIELDS WAY
(PUBLIC ACCESS PLACE)
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE
AND MEETS TECHNICAL REQUIREMENT

SIGNATURE _____ DATE _____

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

HOWARD S.C.D. _____ DATE _____

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

DMW
Daft-McCune-Walker, Inc.

A Team of Land Planners,
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Township, Maryland 21286
(410) 296-3833
Fax 296-4705
Environmental Professionals



| | |
|-------------|---------|
| DESIGN BY: | DFM |
| DRAWN BY: | WDE |
| CHECKED BY: | |
| DATE: | 6/28/04 |
| BY NO. | |
| REVISION | |
| DATE | |

PROPOSED 8" WATER MAIN
AUTUMN GRAIN GATE
PROPOSED 8" WATER MAIN
DISTANT LOCHS SQUARE, FAR FIELDS WAY
6th ELECTION DISTRICT

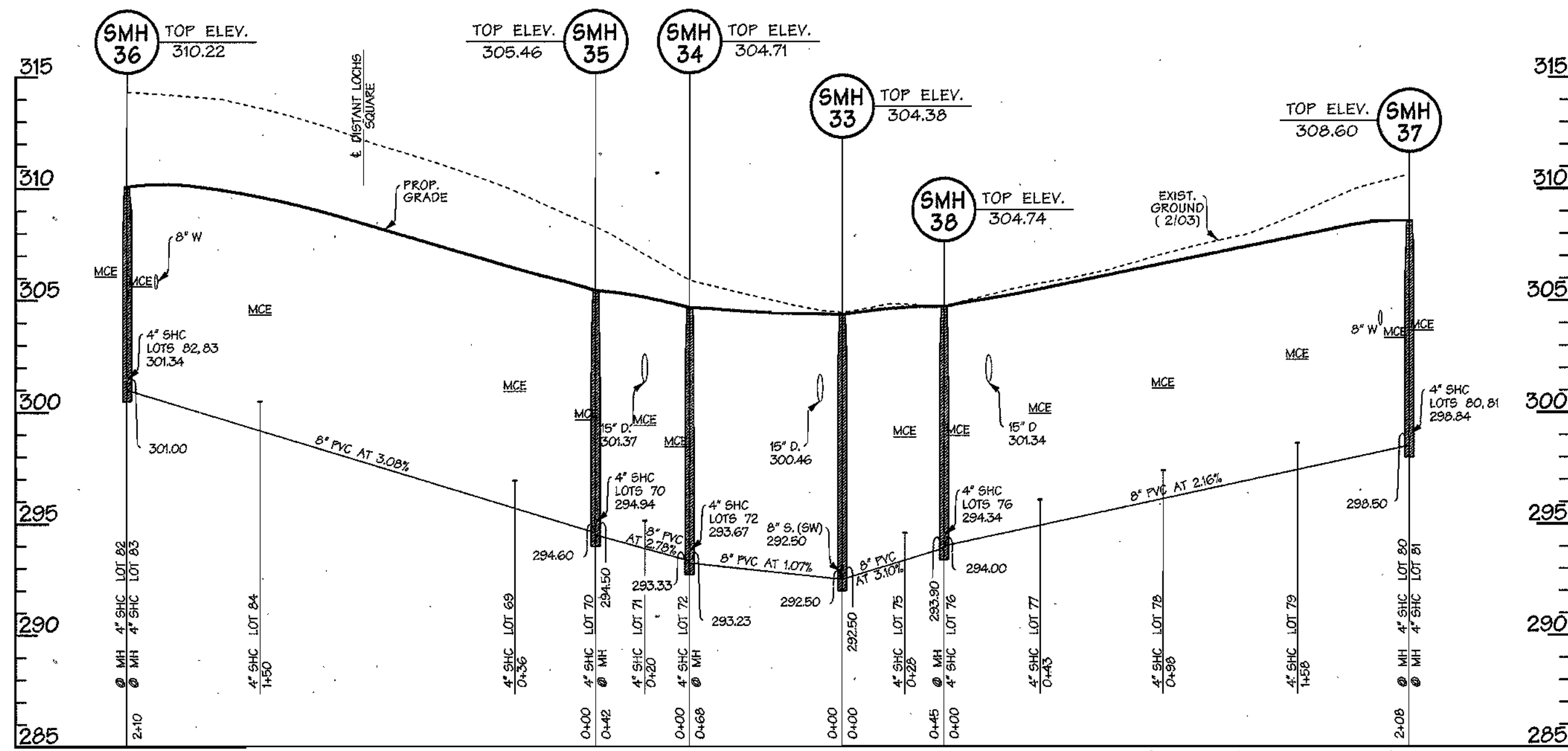
**EMERSON SECTION 2
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SCALE:
1"=50'

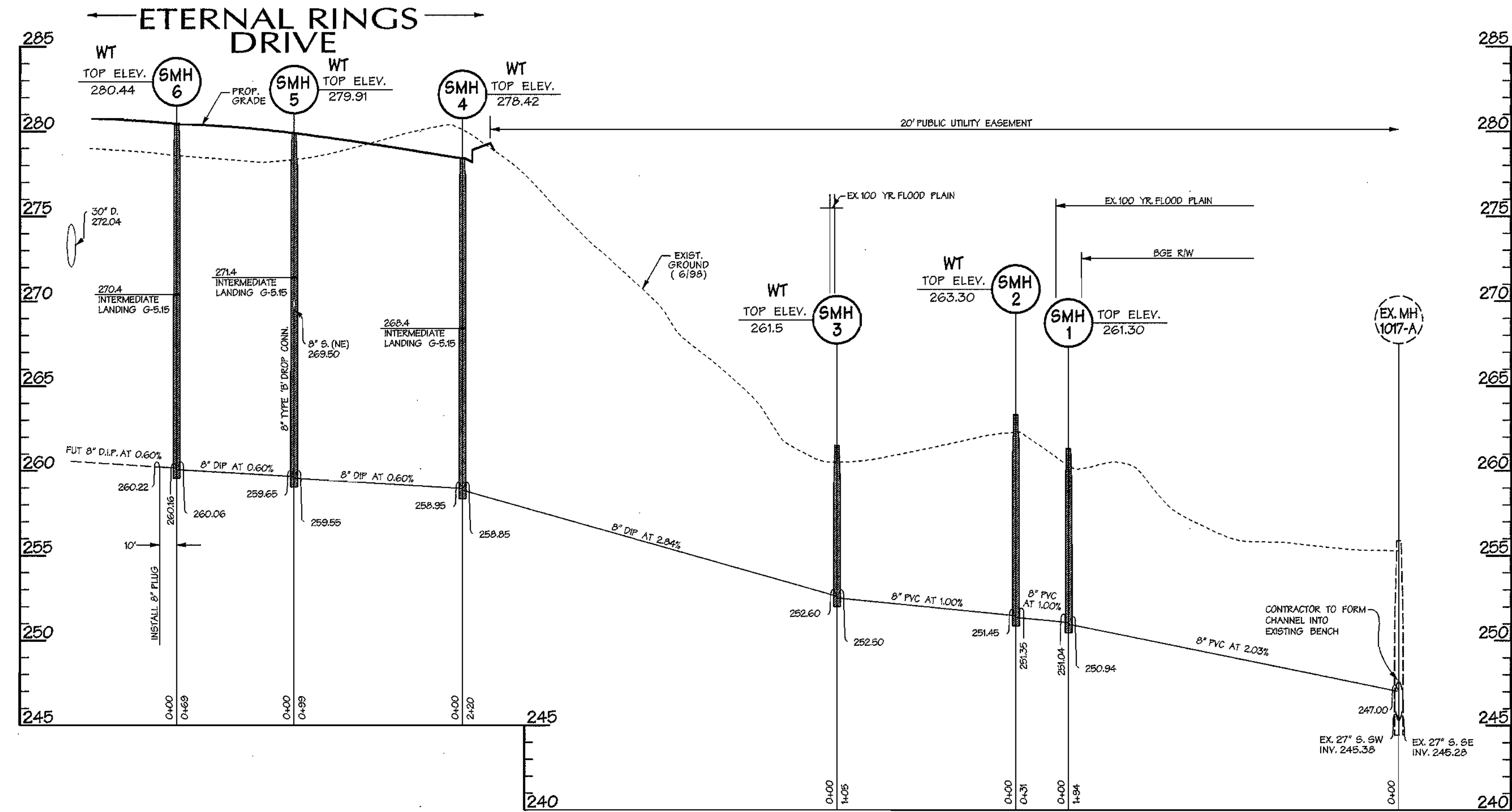
SHEET
6 of 8

CONTRACT NO. 24-4120-D

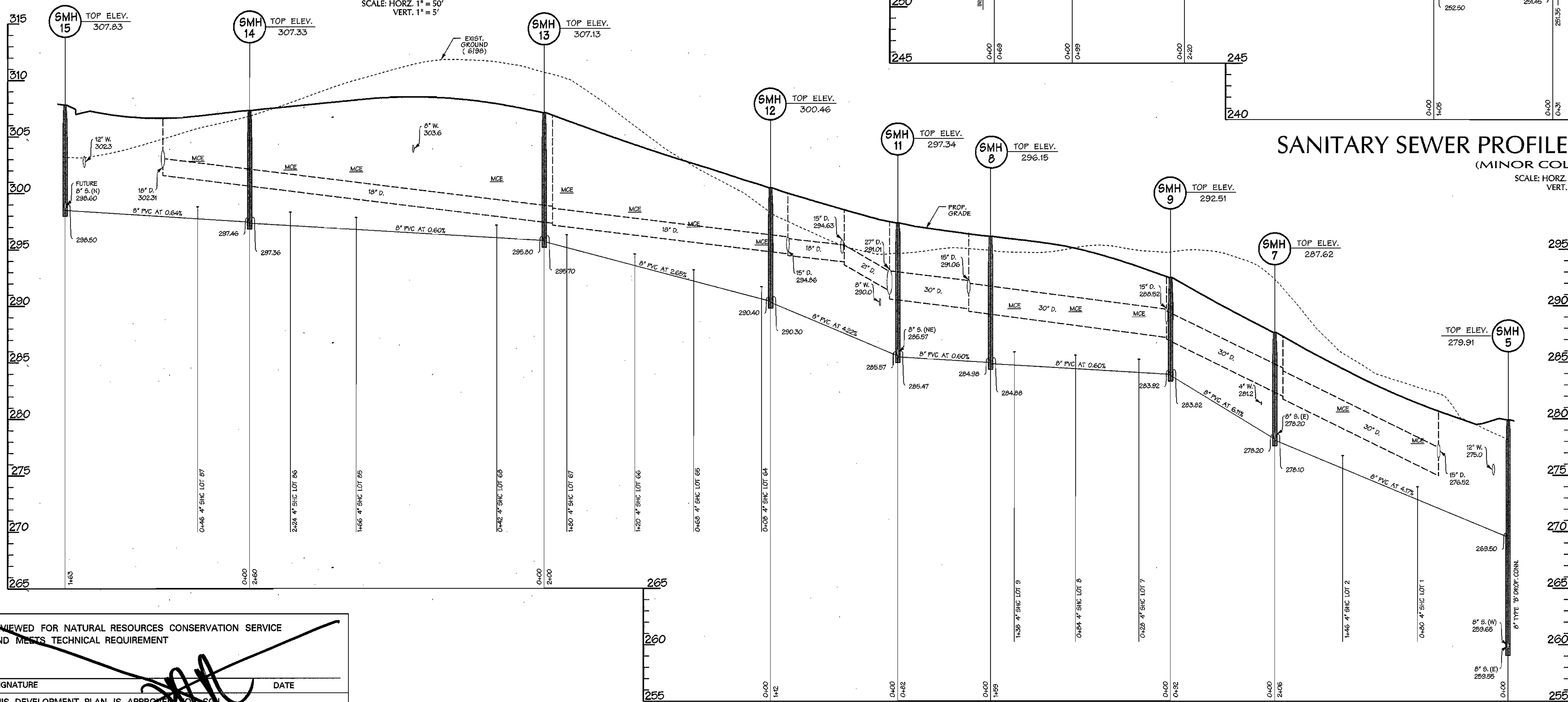
600 SCALE MAP NO. 47 BLOCK NO. 7, 8, 9, 13



SANITARY SEWER PROFILE - FAR FIELDS WAY
(PUBLIC ACCESS PLACE)
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



SANITARY SEWER PROFILE - ETERNAL RINGS DRIVE
(MINOR COLLECTOR)
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



SANITARY SEWER PROFILE - IRONLEAF TRAIL
(MINOR COLLECTOR)
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

SIGNATURE _____ DATE _____

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

APPROVED _____ DATE _____

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND



A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals



DESIGN BY: DFM
DRAWN BY: WDE
CHECKED BY: _____
DATE: 6/28/04

PROPOSED 8" SANITARY SEWER
ETERNAL RINGS DRIVE,
IRONLEAF TRAIL, FAR FIELDS WAY
6th ELECTION DISTRICT

**EMERSON SECTION 2
PHASE 5A**
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

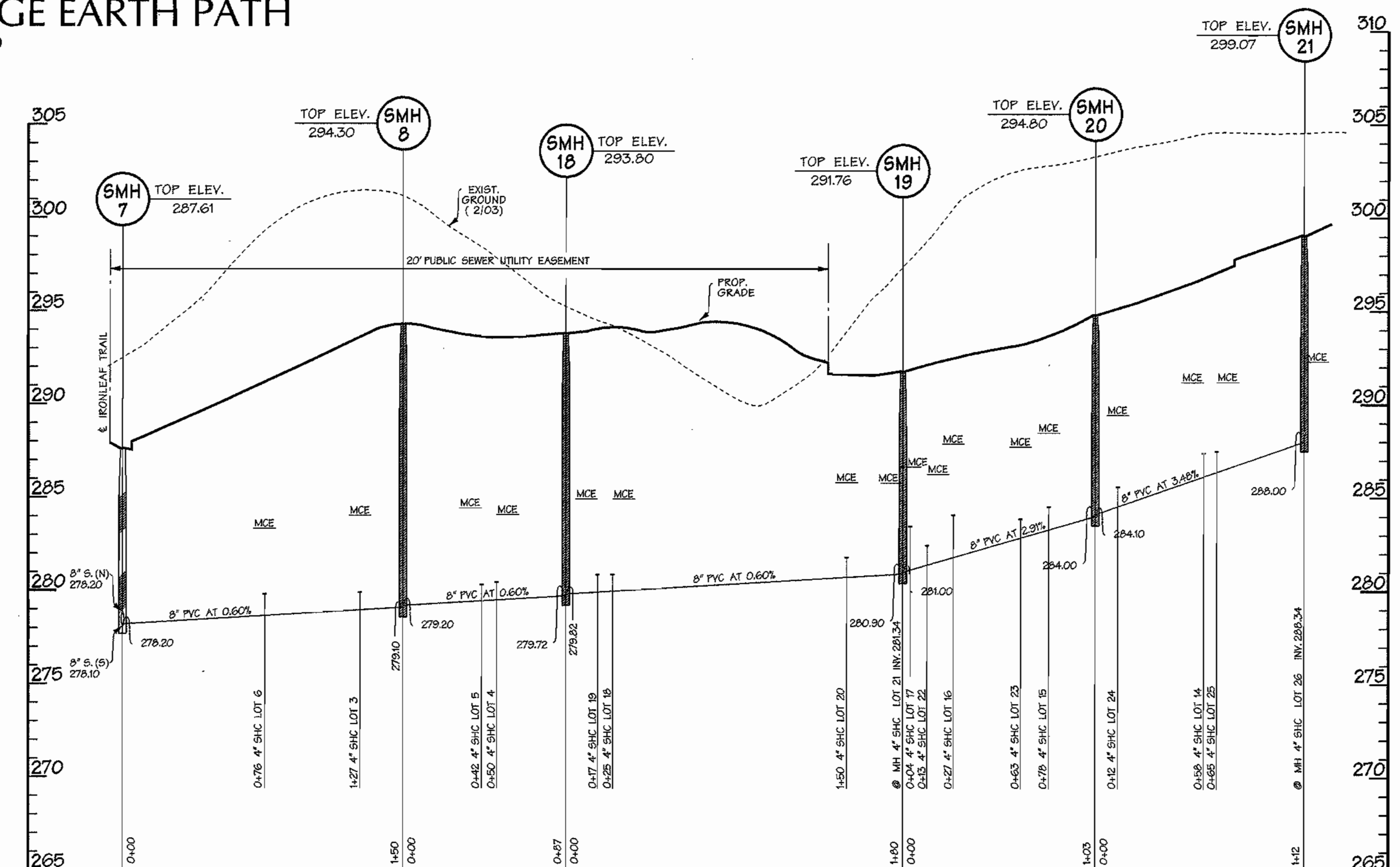
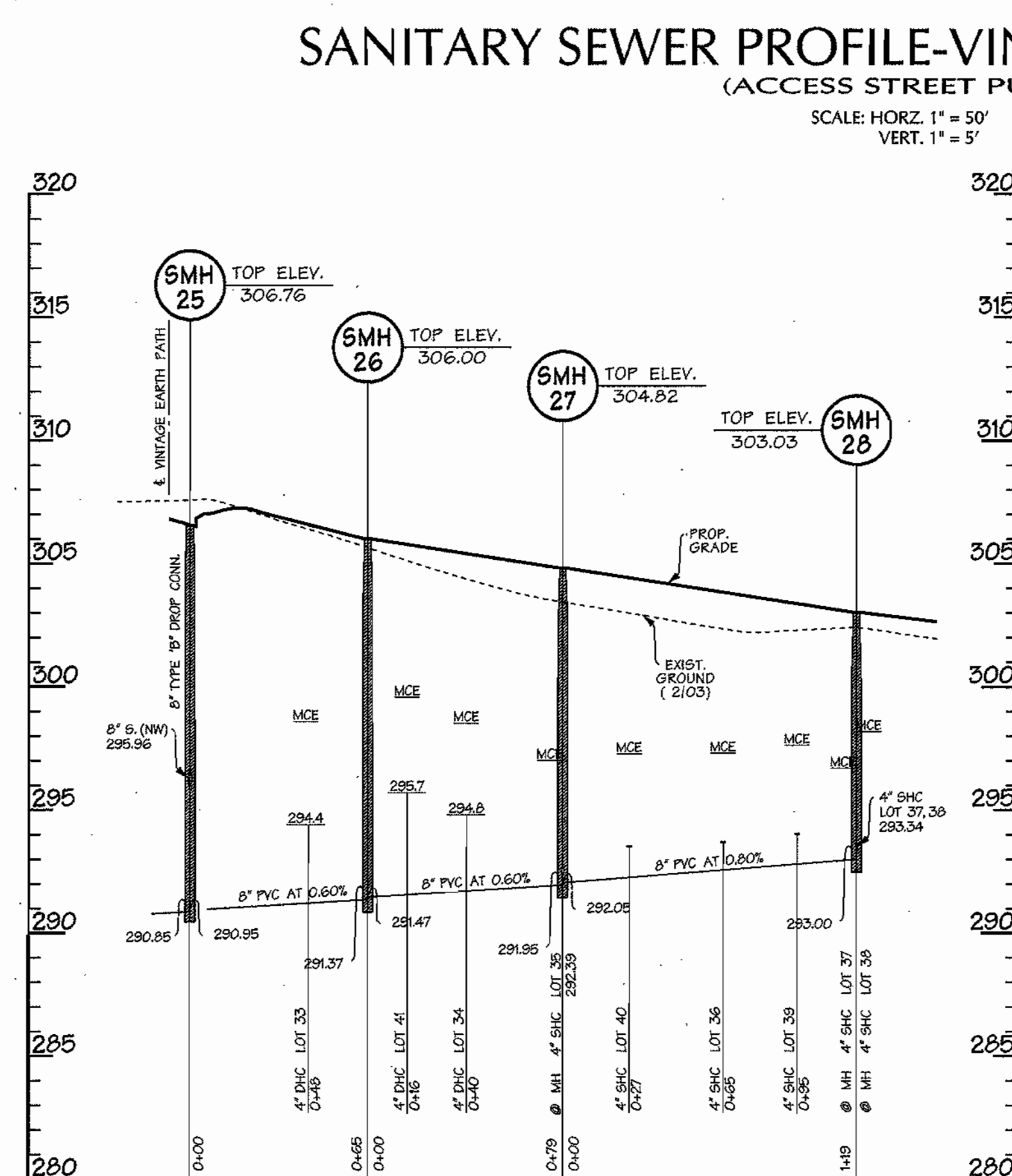
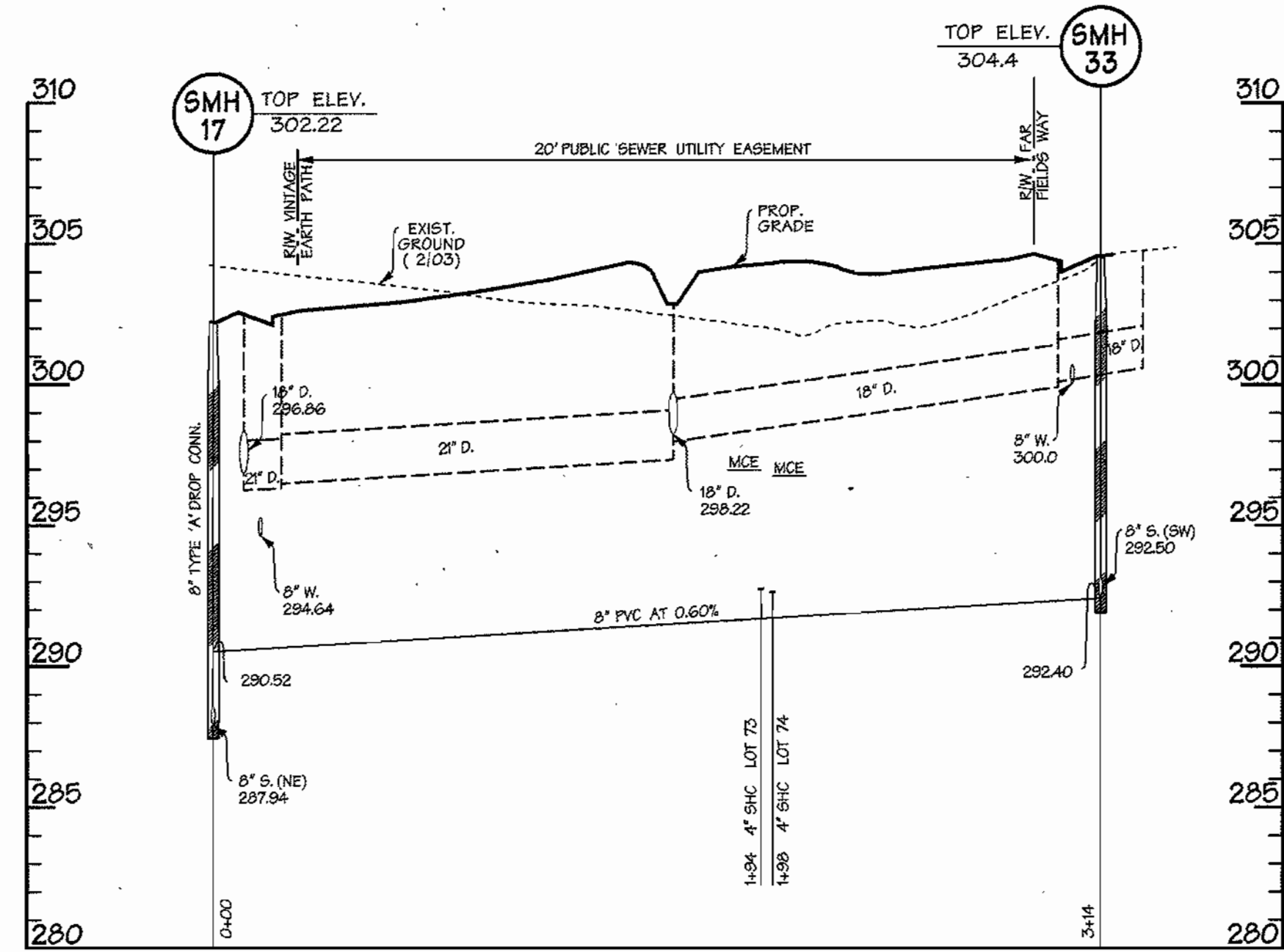
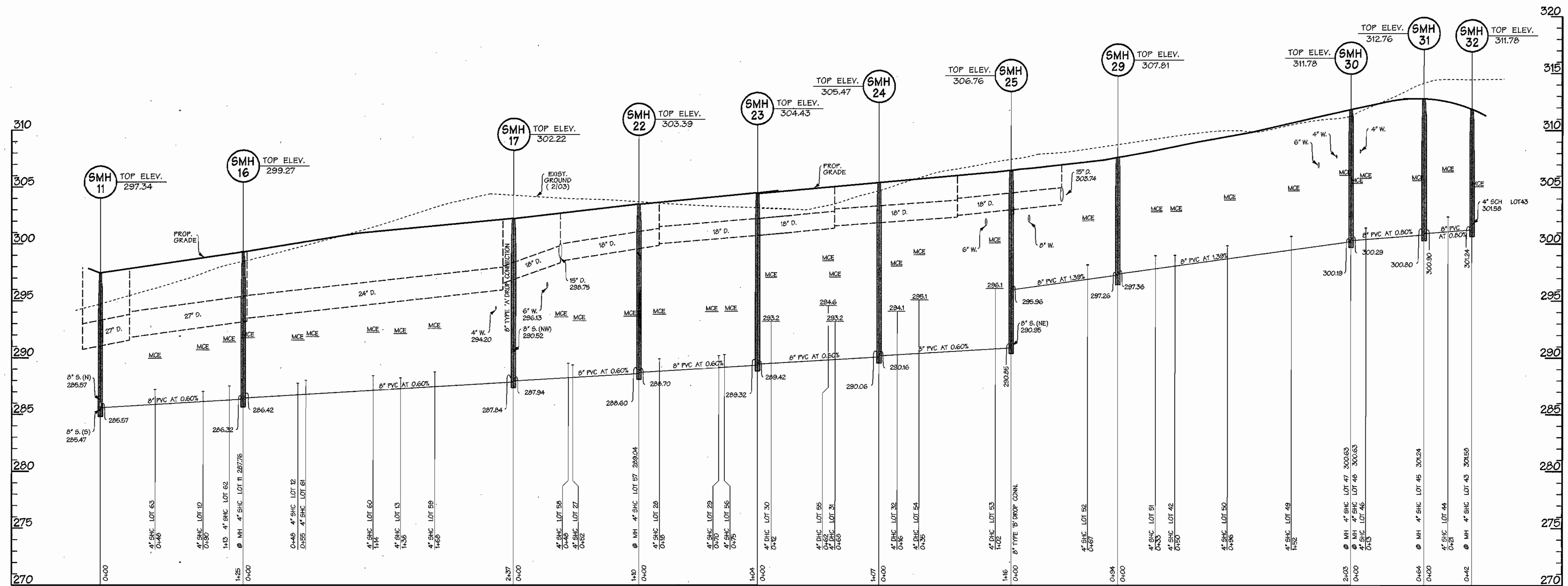
SCALE: 1"=50'
SHEET 7 of 8

Robert M. Bunnig 7-1-04
CHIEF - BUREAU OF UTILITIES - DATE

[Signature] 7/6/04
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

BY NO. REVISION DATE 600 SCALE MAP NO. 47 BLOCK NO. 7, 8, 9, 13

CONTRACT NO. 24-4120-D



REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

SIGNATURE: *[Signature]* DATE: _____

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

APPROVED: _____ DATE: _____

HOWARD S.C.D. DATE: _____

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

SANITARY SEWER PROFILE
AUTUMN GRAIN GATE
(PRIVATE ACCESS PLACE)

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

SANITARY SEWER PROFILE
DAPPER TOWN ROW
(PUBLIC ACCESS PLACE)

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 7-1-04
CHIEF - BUREAU OF UTILITIES - DATE

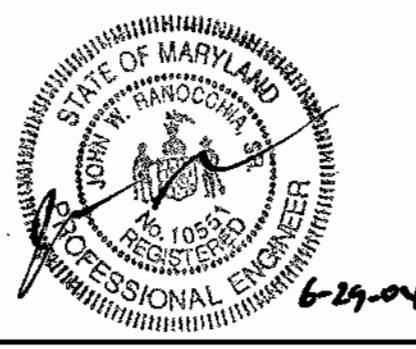
DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature] 7/6/04
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
Daft-McCune-Walker, Inc.

A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals

200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3353
Fax: 596-4706



| | |
|-------------|---------|
| DESIGN BY: | DFM |
| DRAWN BY: | WDE |
| CHECKED BY: | |
| DATE: | 6/28/04 |
| BY NO. | |
| REVISION | |
| DATE | |

PROPOSED 8" SANITARY SEWER
VINTAGE EARTH PATH
PROPOSED 8" SANITARY SEWER
AUTUMN GRAIN GATE
6th ELECTION DISTRICT

600 SCALE MAP NO. 47 BLOCK NO. 7, 8, 9, 13

EMERSON SECTION 2
PHASE 5A
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

CONTRACT NO. 24-4120-D

SCALE:
1"=50'

SHEET
8 of 8

8" & 12" Water and Sewer Main Extension Emerson Section 2 – Phase 5A

Howard County, Maryland Department of Public Works

Contract No. 24-4120-D

GENERAL NOTES

PART I - GENERAL

- Approximate locations of existing mains are shown. The contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted service. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the contractor's expense.
- All horizontal controls are based on Maryland State Coordinates, NAD 83/91.
- All vertical controls are based on NAVD83.
- All pipe elevations shown are invert elevations unless otherwise noted on the plans.
- Clear all utilities by a minimum of 6 inches. Clear all poles by 2'-0" minimum or tunnel as required unless otherwise noted. The owner has contracted the utility companies and has made arrangements for bracing of poles as shown on the drawings. In the event the contractor's work requires the bracing of additional poles, any cost incurred by the owner for the bracing of additional poles or damages shall be deducted from monies owed the contractor. The contractor shall coordinate with the utility companies to schedule the bracing of the poles.
- For details not shown on the drawing and for materials and construction methods, use Howard County Design Manual, Volume IV, Standard Specifications and Details for Construction (Latest Edition). The contractor shall have a copy of Volume IV on the job.
- Where test pits have been made on existing utilities, they are noted by the symbol at the locations of the test pits. A note or notes containing the results of the test pit or pits is included on the drawings. Existing utilities in the vicinity of the proposed work for which test pits have not been dug shall be located by the contractor two weeks in advance of construction operations at his own expense.
- The contractor shall notify the following utility companies or agencies at least five working days before starting work shown on these plans:

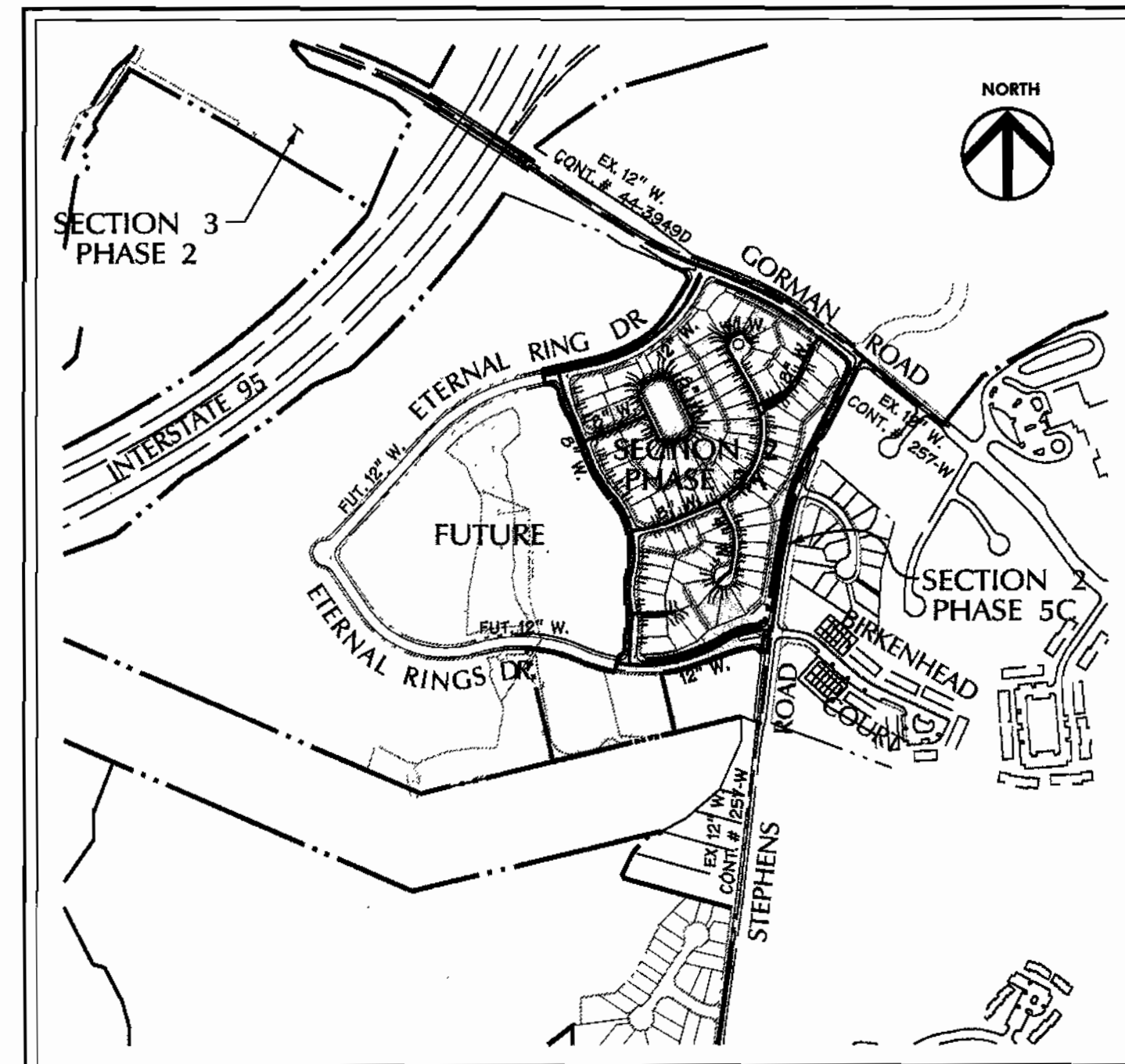
| | |
|----------------------------------|-------------------------------|
| AT&T | 1-800-252-1133 |
| BGE (Contractor Service) | 410-850-4620 |
| BGE (Underground Damage Control) | 410-291-4607 |
| Bureau of Utilities | 410-313-4900 |
| Colonial Pipeline Co. | 410-549-4122 |
| Miss Utility | 1-800-257-7777 |
| State Highway Administration | 410-531-5533 |
| Verizon | 1-800-743-0033 / 410-224-9210 |
- Trees and shrubs are to be protected from damage to the maximum extent. Trees and shrubs located within the construction strip are not to be removed or damaged by the contractor.
- The contractor shall remove trees, stumps and roots along the line of excavation. Payment for such removal shall be included in the unit price bid for construction of the main.
- The contractor shall notify the Bureau of Highways, Howard County, at (410)-313-7450 at least five working days before open cutting or boring/lacking of any County road for laying water/sewer mains or house connections. The approval of these drawings will constitute compliance with DPW requirements per Section 18.14(a) of the Howard County Code.

PART II WATER

- All water mains shall be D.I.P. Class 52 unless otherwise noted.
- Top of all water mains shall have a minimum of 3'-6" of cover unless otherwise noted.
- Valves adjacent to tees shall be strapped to tees.
- All fittings shall be buttressed or anchored with concrete in accordance with Standard Details unless otherwise provided for on the drawings.
- Fire hydrants shall be set to the bury line elevations shown on the drawings. All fire hydrants shall be installed in accordance with Standard Details. The soil around the fire hydrant shall be compacted in accordance with Section 1000 and Section 1005 of the Standard Specifications.
- The contractor shall not operate any water main valves on the existing water system.
- All water house connections shall be for inside meter setting unless otherwise noted on plans or in specifications.
- Fire sprinkler system for all town homes or multi-family dwelling units should have a minimum of 1" connection with a 3/4" meter.

PART III SEWER

- All sewer mains shall be D.I.P. or P.V.C. unless otherwise noted.
- All manholes shall be 4'-0" inside diameter unless otherwise noted.
- Force mains shall be D.I.P. only.
- Manholes shown with 12" and 16" walls are for brick manholes only.
- Manholes designated W.T. in plan and profile shall have watertight frame and cover, Standard Detail G5.52. Where watertight manhole frames and cover are used, set top of frame 1'-6" above finished grade unless otherwise noted on the drawings.
- House(s) with the symbol "C.N." indicates that the cellar cannot be served.

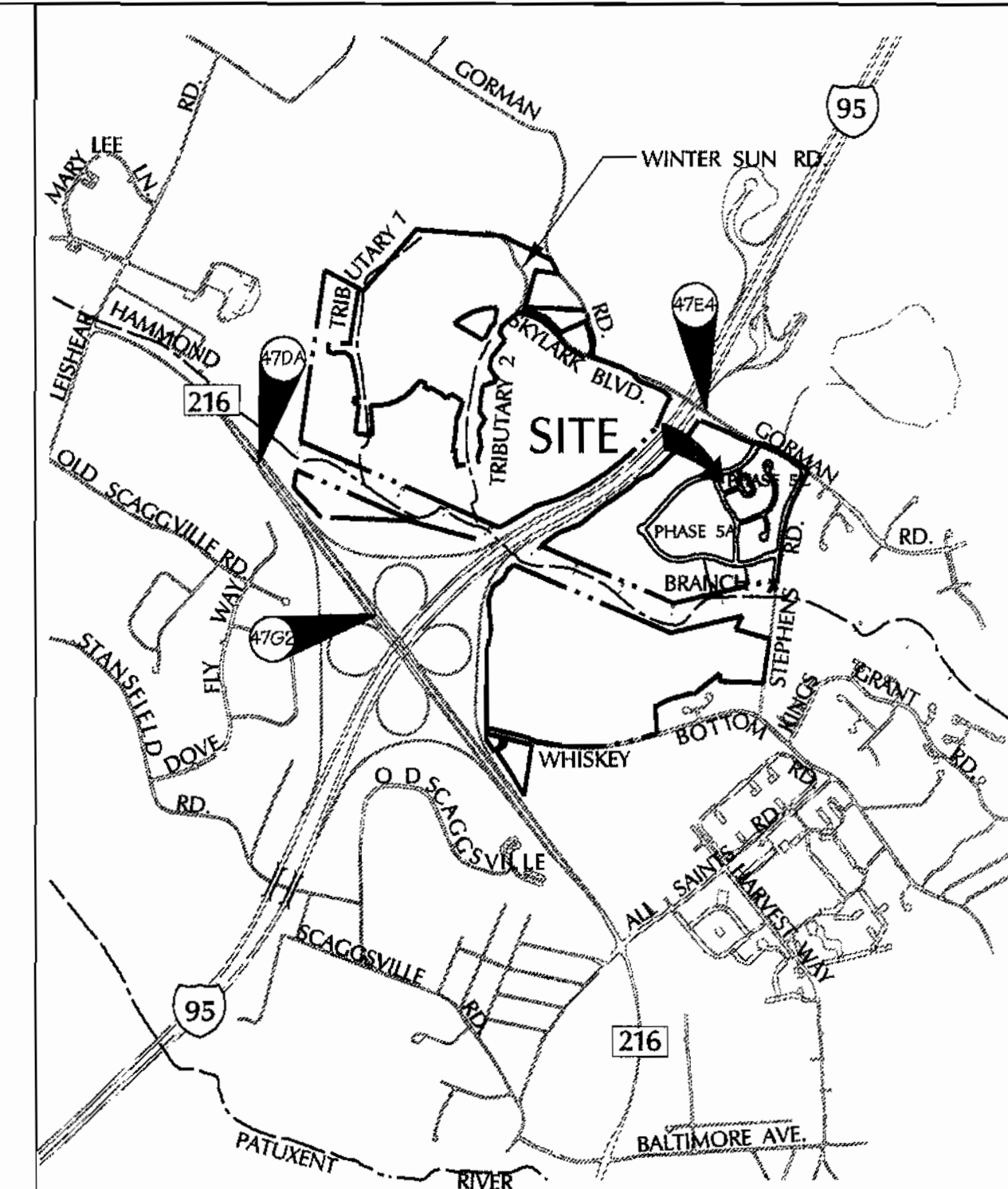
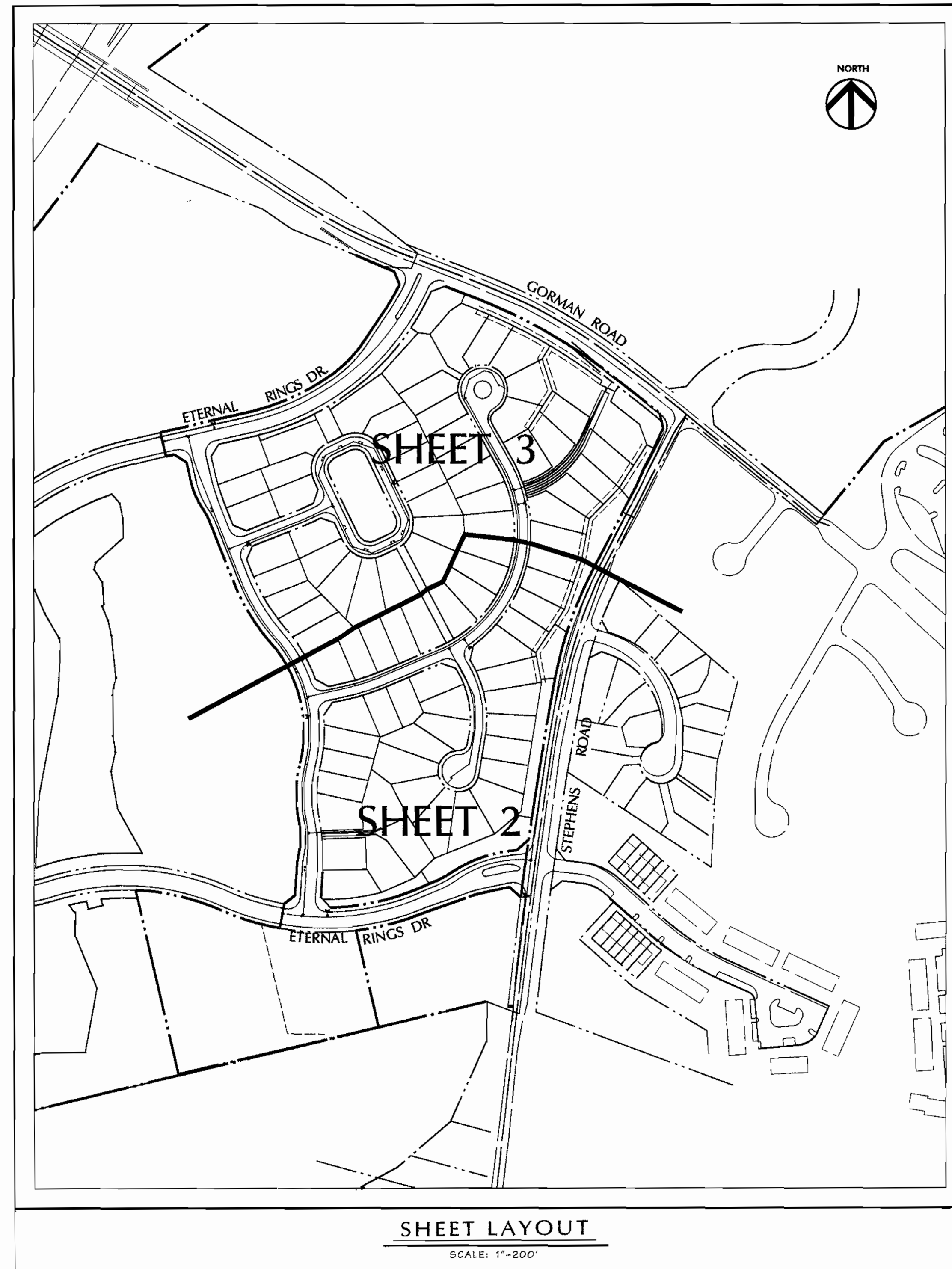


| | | | | | |
|---------------------------|-------------------|-----------------|-----------|----------------|---------|
| TYPE OF BUILDING: | RESIDENTIAL | NO. OF PARCELS: | 103 | SCALE: | 1"=600' |
| NO. OF WATER CONNECTIONS: | 87 | CONTRACT NO.: | 24-4120-D | SEWER CODE: | 7520000 |
| NO. OF SEWER CONNECTIONS: | 87 | WATER CODE: | E-8 | TEST GRADIENT: | 700 |
| DRAINAGE AREA: | TITLE PATENT | | | | |
| TREATMENT PLANT: | TITLE PATENT | | | | |
| | WATER QUALITY | | | | |
| | MANAGEMENT CENTER | | | | |

| SHEET | DESCRIPTION |
|-------|--|
| 1 | COVER SHEET |
| 2 | PLAN - ETERNAL RINGS, IRONLEAF TRAIL, VINTAGE EARTH PATH, DAPPER TOWN ROW |
| 3 | PLAN - ETERNAL RINGS DRIVE, IRONLEAF TRAIL, VINTAGE EARTH PATH, DISTANT LOCHS SQUARE, FAR FIELDS WAY |
| 4 | WATER MAIN PROFILES - ETERNAL RINGS DRIVE, DAPPER TOWN ROW |
| 5 | WATER MAIN PROFILES - IRONLEAF TRAIL, VINTAGE EARTH PATH |
| 6 | WATER MAIN PROFILES - AUTUMN GRAIN GATE, DISTANT LOCHS SQUARE, FAR FIELDS WAY |
| 7 | SANITARY SEWER PROFILES - ETERNAL RINGS DRIVE, IRONLEAF TRAIL, FAR FIELDS WAY |
| 8 | SANITARY SEWER PROFILES - VINTAGE EARTH PATH, AUTUMN GRAIN GATE |

LEGEND

| | | | | |
|------------------------|-------|------------------------|-------|-------|
| EX. CURB & GUTTER | ----- | PROP. SEWER | ----- | 6" S. |
| EX. MAJOR CONTOURS | ----- | PROP. WATER | ----- | 4" W. |
| EX. MINOR CONTOURS | ----- | PROPERTY LINE | ----- | |
| EX. STORM DRAIN | ----- | ROADWAY RIGHT-OF-WAY | ----- | |
| EX. SEWER | ----- | PROPOSED LOT LINE | ----- | |
| EX. WATER | ----- | PROPOSED EASEMENT | ----- | |
| EXISTING TREE LINE | ----- | PROPOSED CURB & GUTTER | ----- | |
| EXISTING WETLAND LIMIT | ----- | PROPOSED SIDEWALK | ----- | |
| PROP. STORM DRAIN | ----- | PROPOSED GUARD RAIL | ----- | |
| PROP. STORM DRAIN | ----- | PROPOSED RIP-RAP | ----- | |
| WATER LINE STATIONING | ----- | | | |



VICINITY MAP
SCALE: 1" = 2000'

BENCHMARK DESCRIPTION

| |
|--|
| COORDINATES IN MARYLAND NAD83(91) (HORIZONTAL) AND NGVD29 (VERTICAL) DATUMS. |
| 470A NORTHING: 163191.9104 EASTING: 412665759 ELEVATION: 315905 ft. |
| 4764 NORTHING: 163306.2295 EASTING: 413136.2550 ELEVATION: 338.909ft. |
| 4792 NORTHING: 162440.1212 EASTING: 418833.2739 ELEVATION: 364.210ft. |

QUANTITIES

| ITEMS | QUANTITIES ESTIMATED | AS-BUILT | |
|----------------------------|----------------------|------------|------------------------------|
| | | QUANTITIES | TYPE MANUFACTURER / SUPPLIER |
| 12" D.I.P. | 1400' | | |
| 8" D.I.P. | 9716' | | |
| 6" D.I.P. | 132' | | |
| 4" D.I.P. | 676' | | |
| 18" x 18" TAPPING | 1 | | |
| 12" VALVE | 2 | | |
| 8" VALVE | 8 | | |
| 6" VALVE | 7 | | |
| 4" VALVE | 2 | | |
| 12" x 12" TEE | 2 | | |
| 12" x 6" TEE | 2 | | |
| 8" x 8" TEE | 3 | | |
| 8" x 6" TEE | 7 | | |
| 8" x 4" TEE | 2 | | |
| 6" FIRE HYDRANT | 7 | | |
| 1/16" BEND (12") | 1 | | |
| 1/8" BEND (8") | 8 | | |
| 1/16" BEND (4") | 1 | | |
| 1/8" BEND (4") | 4 | | |
| 1/4" BEND (4") | 1 | | |
| 8" x 4" REDUCER | 1 | | |
| 12" CAP | 2 | | |
| 4" CAP | 3 | | |
| 3/4" WHC | 2270' | | |
| 8" D.I.P. SEWER | 398' | | |
| 8" PVC SEWER | 4888' | | |
| 4" PVC SEWER | 1826' | | |
| BTD. MANHOLES | 99' | | |
| MANHOLES- VERT. FT. | 655' | | |
| 8" TYPE 'A' DROP | 1 | | |
| 8" TYPE 'B' DROP | 2 | | |
| 1 1/2" DRAIN W/ 1.5" VAULT | 3 | | |

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

Jim Meyer 6/30/04
SIGNATURE DATE

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

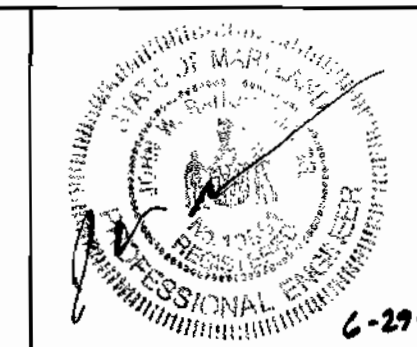
APPROVED
John R. Robertson 6/30/04
HOWARD S.C.D. DATE

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
R. M. Benjamin 7-1-04
CHIEF - BUREAU OF UTILITIES - DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
John P. ... 7/6/04
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
Daft-McCune-Walker, Inc.
A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax 296-4706

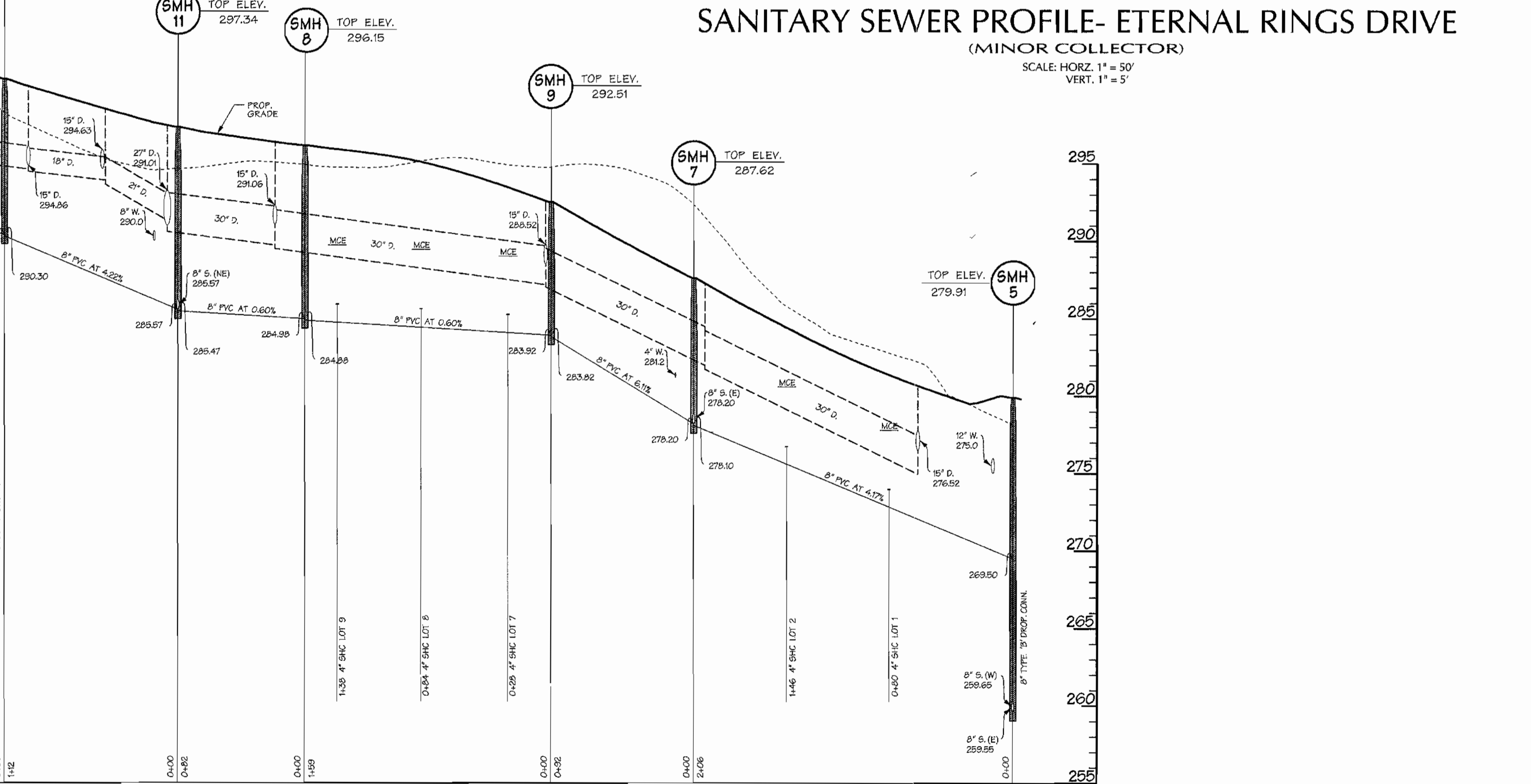
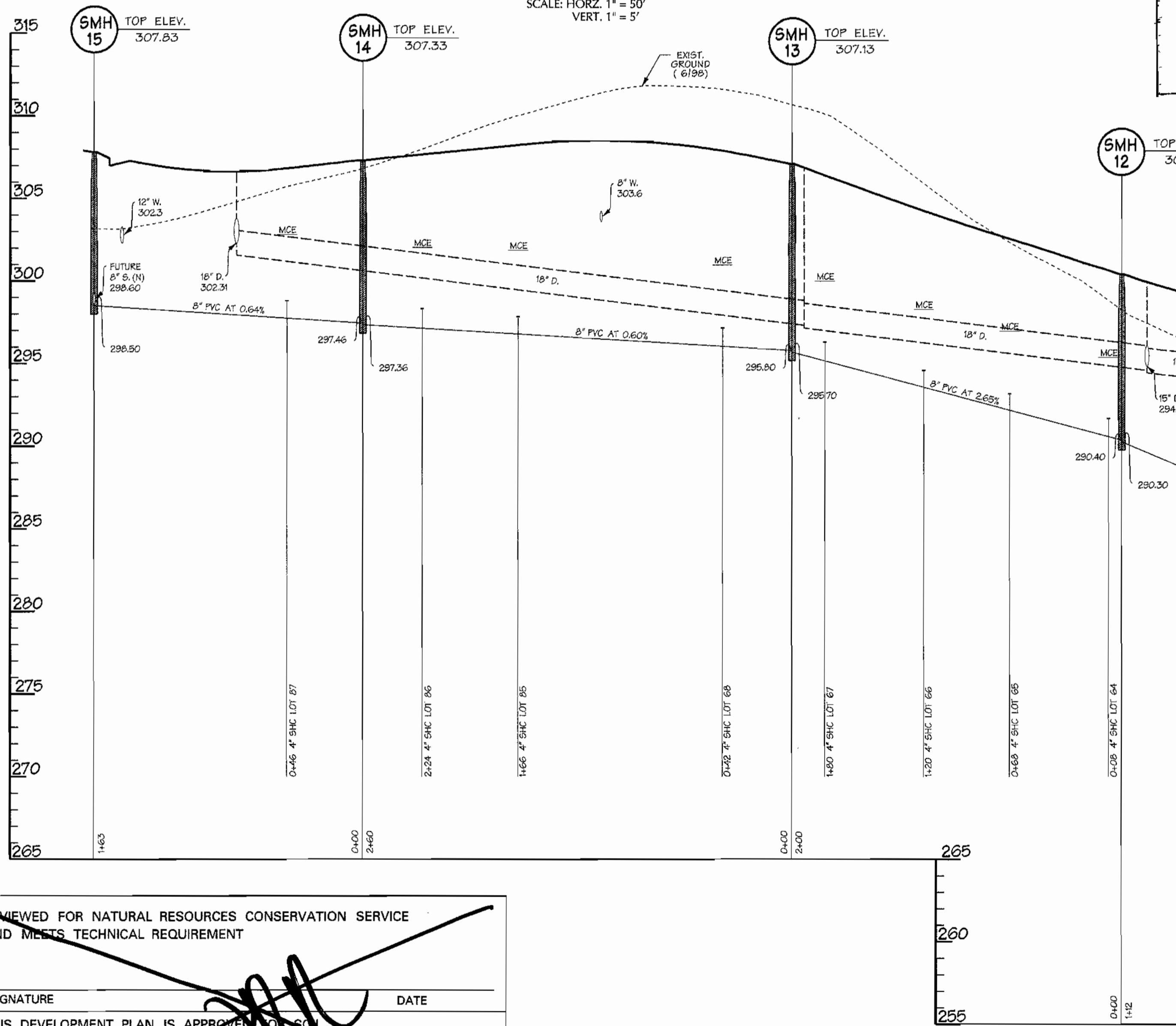
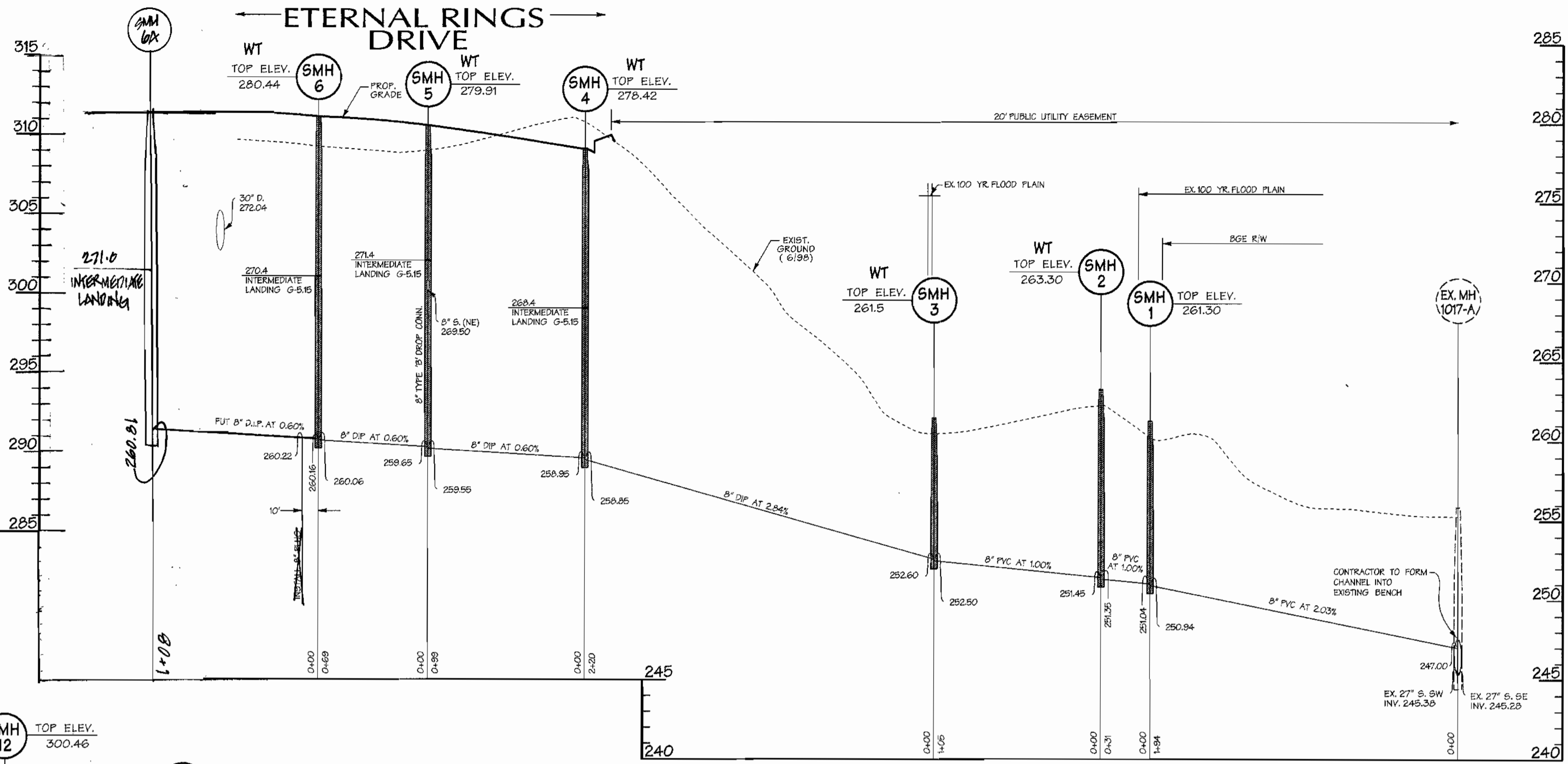
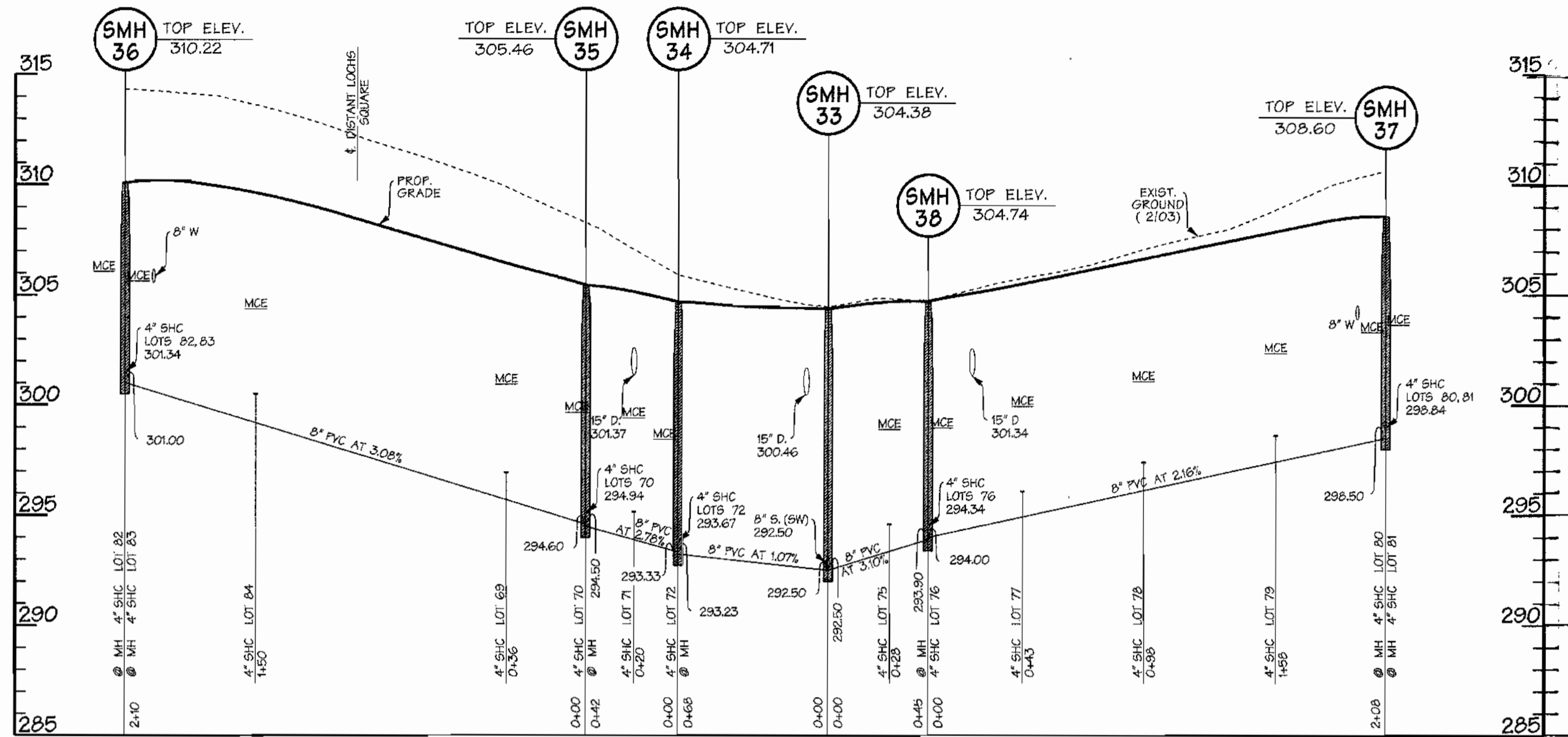


| | |
|-------------|-------------------|
| DESIGN BY: | DFM |
| DRAWN BY: | WDE |
| CHECKED BY: | |
| DATE: | 6/11/04 |
| BY: | NO. |
| REVISION: | REVISE QUANTITIES |
| DATE: | 10/27/04 |

TITLE SHEET
WATER AND SEWER
6th ELECTION DISTRICT
600 SCALE MAP NO. 47 BLOCK NO. 7, 8, 9, 13

EMERSON
Section 2, Phase 5A
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
CONTRACT NO. 24-4120-D

SCALE: 1"=600'
SHEET 1 of 8



REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

SIGNATURE: *[Signature]* DATE: _____

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

HOWARD S.C.D. DATE: _____

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert Berman 7-1-04
CHIEF - BUREAU OF UTILITIES - DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature] 7/6/04
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
Daft-McCune-Walker, Inc.

A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals

200 East Pennsylvania Avenue
Towson, Maryland 31286
(410) 286-3333
Fax 286-4705

DESIGN BY: DFM
DRAWN BY: WDE
CHECKED BY: _____
DATE: 6/28/04

PROPOSED 8" SANITARY SEWER
ETERNAL RINGS DRIVE,
IRONLEAF TRAIL, FAR FIELDS WAY
6th ELECTION DISTRICT

REVISION: CHANGE SEWER PROFILE TO ADD MANHOLE

DATE: 10/20/04

600 SCALE MAP NO. 47 BLOCK NO. 7, 8, 9, 13

EMERSON SECTION 2
PHASE 5A
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

CONTRACT NO. 24-4120-D

SCALE: 1"=50'
SHEET 7 of 8

Mon Jun 28 16:56:56 2004

8" & 12" Water and Sewer Main Extension Emerson Section 2 – Phase 5A

Howard County, Maryland Department of Public Works

Contract No. 24-4120-D

GENERAL NOTES

PART I - GENERAL

- Approximate locations of existing mains are shown. The contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted service. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the contractor's expense.
- All horizontal controls are based on Maryland State Coordinates, NAD 83/91.
- All vertical controls are based on NAVD83.
- All pipe elevations shown are invert elevations unless otherwise noted on the plans.
- Clear all utilities by a minimum of 6 inches. Clear all poles by 2'-0" minimum or tunnels as required unless otherwise noted. The owner has contracted the utility companies and has made arrangements for bracing of poles as shown on the drawings. In the event the contractor's work requires the bracing of additional poles, any cost incurred by the owner for the bracing of additional poles or damages shall be deducted from monies owed the contractor. The contractor shall coordinate with the utility companies to schedule the bracing of the poles.
- For details not shown on the drawing, and for materials and construction methods, use Howard County Design Manual, Volume IV, Standard Specifications and Details for Construction (Latest Edition). The contractor shall have a copy of Volume IV on the job.
- Where test pits have been made on existing utilities, they are noted by the symbol at the locations of the test pits. A note or notes containing the results of the test pit or pits is included on the drawings. Existing utilities in the vicinity of the proposed work for which test pits have not been dug shall be located by the contractor two weeks in advance of construction operations at his own expense.
- The contractor shall notify the following utility companies or agencies at least five working days before starting work shown on these plans:

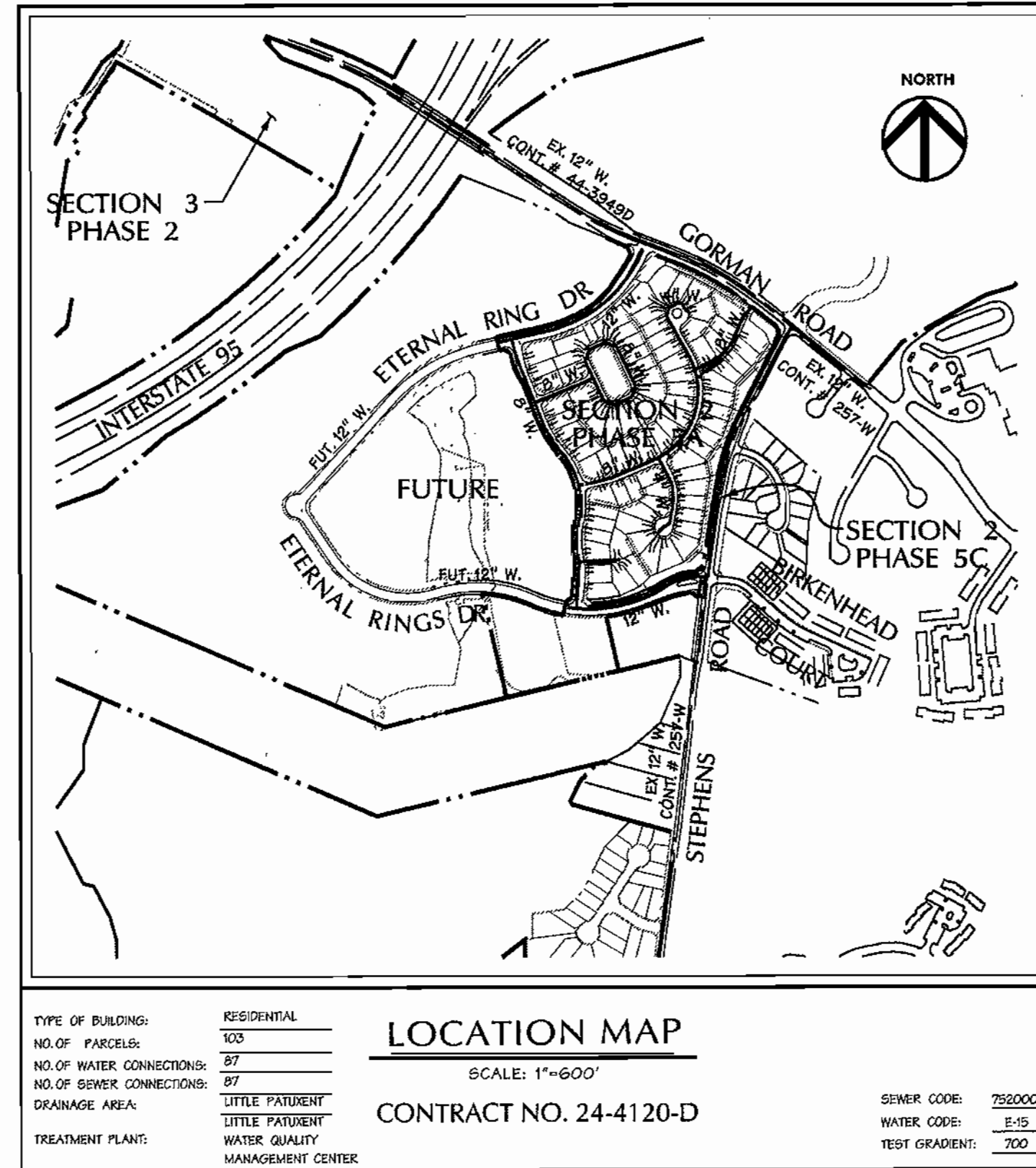
| | |
|----------------------------------|-------------------------------|
| AT&T | 1-800-252-1133 |
| BGE (Contractor Services) | 410-850-4620 |
| BGE (Underground Damage Control) | 410-291-4507 |
| Bureau of Utilities | 410-313-4900 |
| Colonial Pipeline Co. | 410-549-4120 |
| Mesa Utility | 1-800-257-7777 |
| State Highway Administration | 410-531-5533 |
| Verizon | 1-800-743-0033 / 410-224-9210 |
- Trees and shrubs are to be protected from damage to the maximum extent. Trees and shrubs located within the construction strip are not to be removed or damaged by the contractor.
- The contractor shall remove trees, stumps and roots along the line of excavation. Payment for such removal shall be included in the unit price bid for construction of the main.
- The contractor shall notify the Bureau of Highways, Howard County, at (410)-313-7450 at least five working days before open cutting or boring/jacking of any County road for laying water/sewer mains or house connections. The approval of these drawings will constitute compliance with DPW requirements per Section 18.114(a) of the Howard County Code.

PART II WATER

- All water mains shall be D.I.P. Class 52 unless otherwise noted.
- Tops of all water mains shall have a minimum of 3'-6" of cover unless otherwise noted.
- Valves adjacent to tees shall be strapped to tees.
- All fittings shall be buttressed or anchored with concrete in accordance with Standard Details unless otherwise provided for on the drawings.
- Fire hydrants shall be set to the bury line elevations shown on the drawings. All fire hydrants shall be installed in accordance with Standard Details. The soil around the fire hydrant shall be compacted in accordance with Section 1000 and Section 1005 of the Standard Specifications.
- The contractor shall not operate any water main valves on the existing water system.
- All water house connections shall be for inside meter setting unless otherwise noted on plans or in specifications.
- Fire sprinkler system for all town homes or multi-family dwelling units should have a minimum of 1" connection with a 3/4" meter.

PART III SEWER

- All sewer mains shall be D.I.P. or P.V.C. unless otherwise noted.
- All manholes shall be 4'-0" inside diameter unless otherwise noted.
- Force mains shall be D.I.P. only.
- Manholes shown with 12" and 16" walls are for brick manholes only.
- Manholes designated W.T. in plan and profile shall have watertight frame and cover, Standard Detail G5.52. Where watertight manhole frames and cover are used, set top of frame 1'-6" above finished grade unless otherwise noted on the drawings.
- House(s) with the symbol "C.N." indicates that the cellar cannot be served.

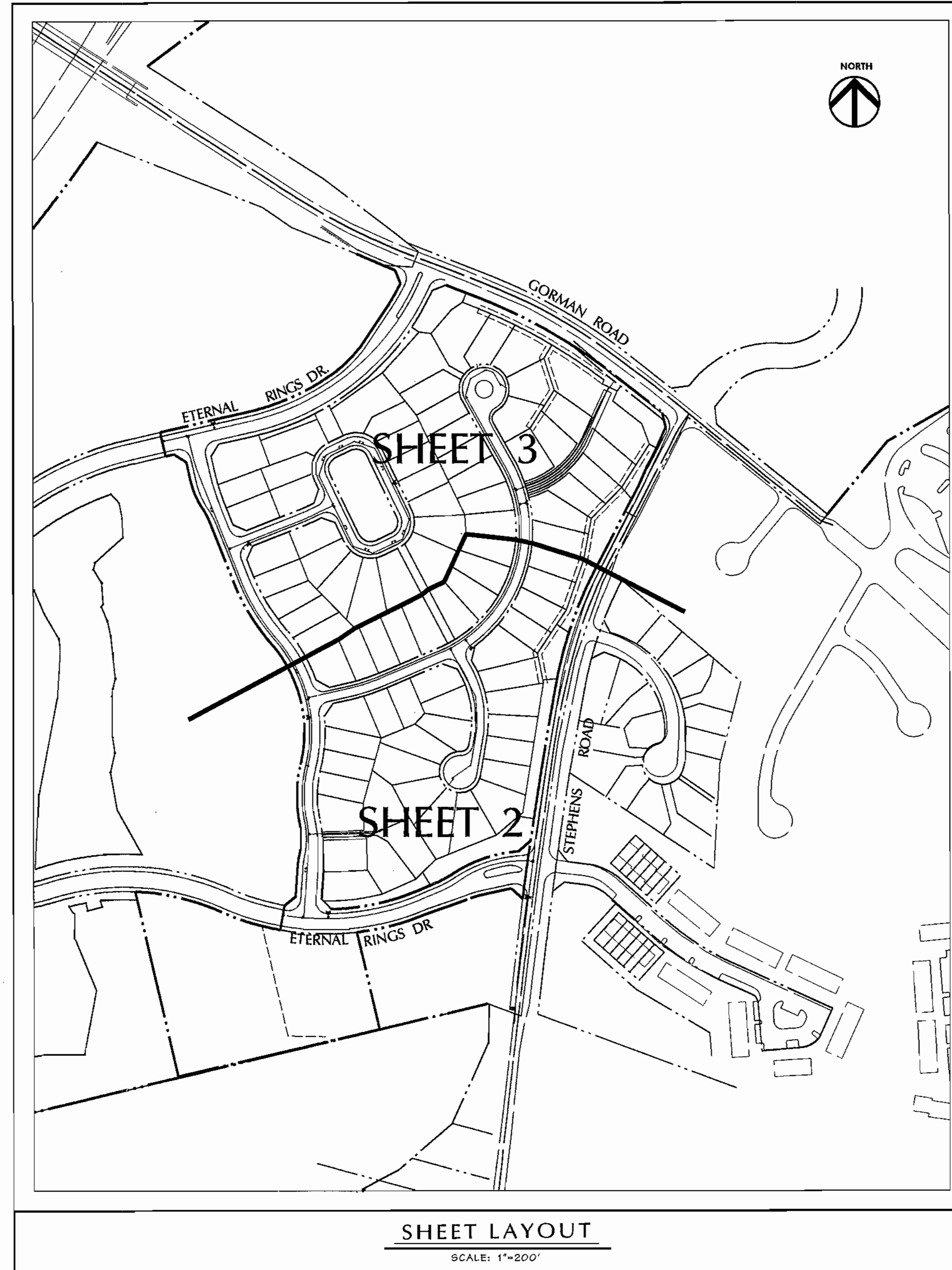


SHEET INDEX

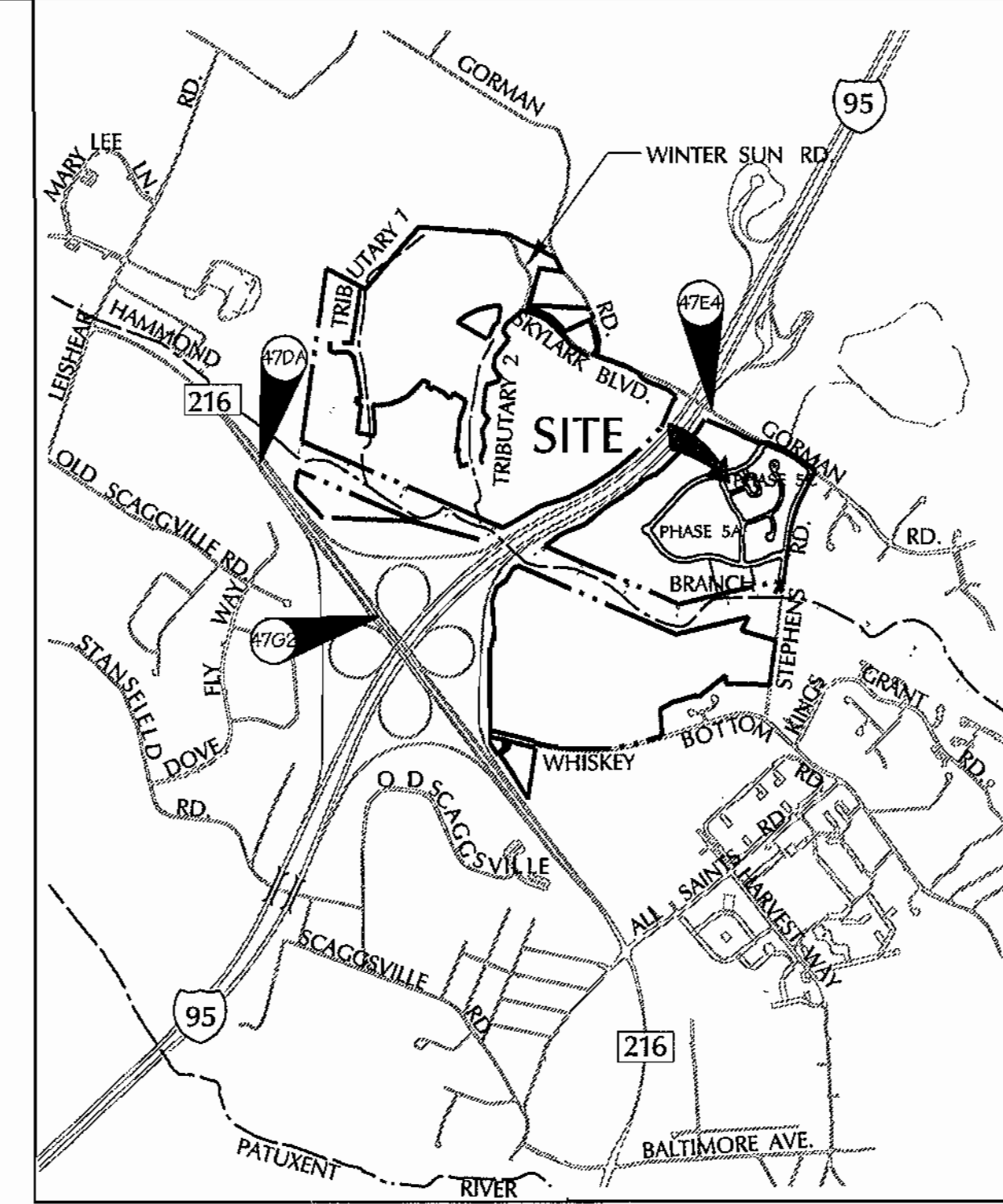
| SHEET | DESCRIPTION |
|-------|--|
| 1 | COVER SHEET |
| 2 | PLAN - ETERNAL RINGS, IRONLEAF TRAIL, VINTAGE EARTH PATH, DAPPER TOWN ROW |
| 3 | PLAN - ETERNAL RINGS DRIVE, IRONLEAF TRAIL, VINTAGE EARTH PATH, DISTANT LOCHS SQUARE, FAR FIELDS WAY |
| 4 | WATER MAIN PROFILES - ETERNAL RINGS DRIVE, DAPPER TOWN ROW |
| 5 | WATER MAIN PROFILES - IRONLEAF TRAIL, VINTAGE EARTH PATH |
| 6 | WATER MAIN PROFILES - AUTUMN GRAIN GATE, DISTANT LOCHS SQUARE, FAR FIELDS WAY |
| 7 | SANITARY SEWER PROFILES - ETERNAL RINGS DRIVE, IRONLEAF TRAIL, FAR FIELDS WAY |
| 8 | SANITARY SEWER PROFILES - VINTAGE EARTH PATH, AUTUMN GRAIN GATE |

LEGEND

| | | | |
|------------------------|---------------------|------------------------|-------------|
| EX CURB & GUTTER | ----- 400 | PROP. SEWER | ----- 6" S. |
| EX MAJOR CONTOURS | ----- 402 | PROP. WATER | ----- 4" W. |
| EX MINOR CONTOURS | ----- EX 21" RCP | PROPERTY LINE | ----- |
| EX STORM DRAIN | ----- EX 6" S. | ROADWAY RIGHT-OF-WAY | ----- |
| EX SEWER | ----- EX 6" S. | PROPOSED LOT LINE | ----- |
| EX WATER | ----- EX 6" S. | PROPOSED EASEMENT | ----- |
| EXISTING TREE LINE | ----- | PROPOSED CURB & GUTTER | ----- |
| EXISTING WETLAND LIMIT | ----- | PROPOSED SIDEWALK | ----- |
| PROP. STORM DRAIN | ----- 15" RCP CL IV | PROPOSED GUARD RAIL | ----- |
| | 2 | PROPOSED RIP-RAP | ----- |
| WATER LINE STATIONING | ----- | | |



AS BUILT
DATE: JANUARY 2005



BENCHMARK DESCRIPTION

COORDINATES IN MARYLAND NAD83(91) (HORIZONTAL) AND NGVD29 (VERTICAL) DATUMS.

| | |
|------|------------------------|
| 47DA | NORTHING: 163191.9104 |
| | EASTING: 4112665759 |
| | ELEVATION: 315905 ft. |
| 47E4 | NORTHING: 163326.2295 |
| | EASTING: 411306.2550 |
| | ELEVATION: 333.9309ft. |
| 47G2 | NORTHING: 162440.1212 |
| | EASTING: 411539279 |
| | ELEVATION: 364.210ft. |

QUANTITIES

| ITEMS | QUANTITIES ESTIMATED | AS-BUILT | | |
|-----------------------------------|----------------------|------------|---------|--------------------------|
| | | QUANTITIES | TYPE | MANUFACTURER / SUPPLIER |
| 12" D.I.P. | 1400' | 1400' | CL 52 | GRIFFIN/GRIFFIN |
| 8" D.I.P. | 3710' | 3710' | CL 52 | GRIFFIN/GRIFFIN |
| 6" D.I.P. | 132' | 132' | CL 52 | GRIFFIN/GRIFFIN |
| 4" D.I.P. | 676' | 676' | CL 52 | GRIFFIN/GRIFFIN |
| 1/2" x 1/2" TAPPING ELBOW & VALVE | 1 | 1 | RSOR | JCM & MUELLER / BRS |
| 12" VALVE | 2 | 2 | RSOR | MUELLER / BRS |
| 8" VALVE | 0 | 9 | RSOR | MUELLER / BRS |
| 6" VALVE | 7 | 7 | RSOR | MUELLER / BRS |
| 4" VALVE | 2 | 2 | RSOR | MUELLER / BRS |
| 12" x 6" TEE | 2 | 2 | MJ | U.S. PIPE / BRS |
| 12" x 6" TEE | 2 | 2 | MJ | U.S. PIPE / BRS |
| 8" x 6" TEE | 3 | 3 | MJ | U.S. PIPE / BRS |
| 8" x 6" TEE | 7 | 7 | MJ | U.S. PIPE / BRS |
| 8" x 4" TEE | 2 | 2 | MJ | U.S. PIPE / BRS |
| 6" FIRE HYDRANT | 7 | 7 | CENT200 | MUELLER / BRS |
| 1 1/2" BEND (12") | 1 | 1 | MJ | U.S. PIPE / BRS |
| 1 1/2" BEND (8") | 0 | 8 | MJ | U.S. PIPE / BRS |
| 1 1/2" BEND (4") | 1 | 1 | MJ | U.S. PIPE / BRS |
| 1 1/2" BEND (4") | 4 | 4 | MJ | U.S. PIPE / BRS |
| 1 1/4" BEND (4") | 1 | 1 | MJ | U.S. PIPE / BRS |
| 8" x 4" REDUCER | 1 | 1 | MJ | U.S. PIPE / BRS |
| 12" CAP | 2 | 2 | MJ | U.S. PIPE / BRS |
| 4" CAP | 3 | 3 | MJ | U.S. PIPE / BRS |
| 3/4" WHC 1 1/2" x 1" | 2270' | 2270' | K | CAMBRIDGE LEE / BRS |
| 8" D.I.P. SEWER | 390' | 502' | CL 52 | GRIFFIN |
| 8" PVC SEWER | 4580' | 4580' | SDR35 | J.M. MANUFACTURING / BRS |
| 4" PVC SEWER | 1826' | 1826' | SDR35 | J.M. MANUFACTURING / BRS |
| STD. MANHOLES | 39' | 39' | PC | ATLANTIC / ATLANTIC |
| MANHOLES - VERT. FT. | 655' | 655' | | |
| 8" TYPE 'A' DROP | 1 | 1 | PC | ATLANTIC / ATLANTIC |
| 8" TYPE 'B' DROP | 2 | 2 | PC | ATLANTIC / ATLANTIC |
| 1 1/2" DRAIN W/ 1.5' VAULT | 3 | 3 | COVER | MUELLER & MERIT / BRS |
| | | | VAULT | BINGHAM |

AS BUILT DOES NOT INCLUDE ANY APPROVED REVISIONS
EXCEPT QTY'S AS SHOWN
NAME OF UTILITY CONTRACTOR: CCS
SURVEY AND DRAFTING DIVISION AS-BUILT DATE: JANUARY 2005

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

Jim Meyer 6/30/04
SIGNATURE DATE

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

APPROVED
John K. Robertson 6/30/04
HOWARD S.C.D. DATE

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

R. L. W. Bennett 7-1-04
CHIEF - BUREAU OF UTILITIES - DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

John P. Bennett 7/6/04
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
Daft-McCune-Walker, Inc.
A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals

200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3383
Fax: 296-4706

STATE OF MARYLAND
PROFESSIONAL ENGINEER
6-29-04

DESIGN BY: DFM
DRAWN BY: WDE
CHECKED BY:
DATE: 6/11/04
BY: NO. REVISION REVISION DATE

TITLE SHEET
WATER AND SEWER
6th ELECTION DISTRICT

600 SCALE MAP NO. 47 BLOCK NO. 7.B.9.13

EMERSON
Section 2, Phase 5A
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

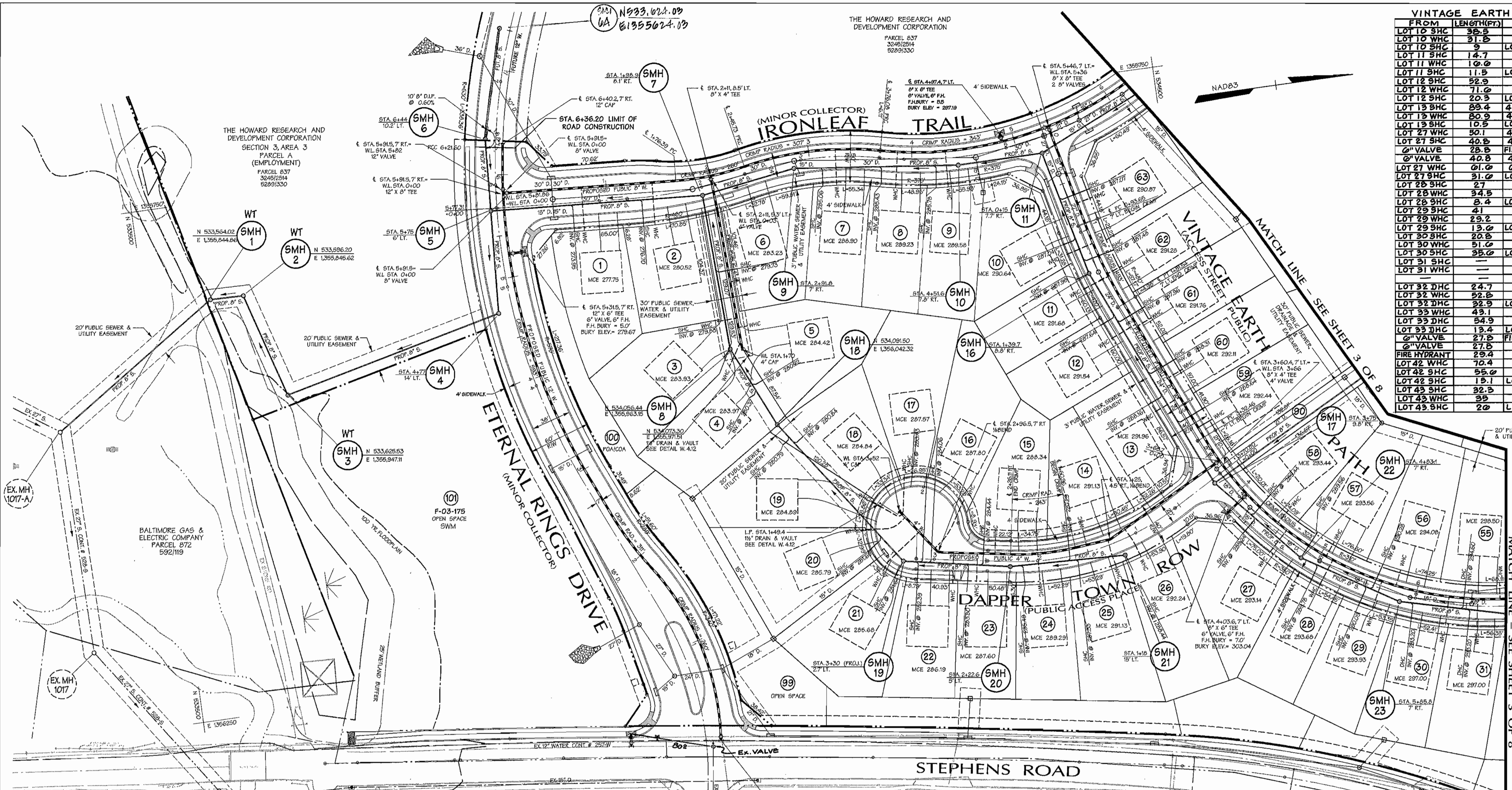
CONTRACT NO. 24-4120-D

SCALE: 1"=600'
SHEET 1 of 8

Mon Jun 28 16:03:36 2004 n:\9505\4950549\5A\950545A.dwg

Mon Jun 28 16:03:36 2004 n:\9505\4950549\5A\950545A.dwg

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 PARCEL 837
 30461254
 6289330



| VINTAGE EARTH PATH | | | VINTAGE EARTH PATH | | |
|--------------------|------------|--------------|--------------------|------------|---------------|
| FROM | LENGTH(FT) | TO | FROM | LENGTH(FT) | TO |
| LOT 10 SHC | 35.5 | SMH 10 | LOT 44 WHC | 49.0 | SMH 32 |
| LOT 10 WHC | 31.5 | SMH 10 | LOT 44 SHC | 29.2 | SMH 32 |
| LOT 10 SHC | 9 | LOT 10 WHC | LOT 45 WHC | 14.7 | LOT 44 WHC |
| LOT 11 SHC | 14.7 | SMH 10 | LOT 45 SHC | 41.5 | SMH 31 |
| LOT 11 WHC | 10.0 | SMH 10 | LOT 45 SHC | 22.9 | LOT 45 WHC |
| LOT 11 SHC | 11.5 | LOT 11 WHC | LOT 46 WHC | 49.5 | SMH 31 |
| LOT 12 SHC | 52.9 | SMH 10 | LOT 46 SHC | 58.0 | SMH 31 |
| LOT 12 WHC | 71.0 | SMH 10 | LOT 46 WHC | 12.5 | LOT 46 WHC |
| LOT 12 SHC | 20.3 | LOT 12 WHC | LOT 47 SHC | 23.9 | SMH 30 |
| LOT 13 SHC | 83.4 | 4" W/VALVE | LOT 47 WHC | 29 | SMH 30 |
| LOT 13 WHC | 80.9 | 4" W/VALVE | LOT 47 SHC | 7.5 | LOT 47 WHC |
| LOT 13 SHC | 10.5 | LOT 13 WHC | LOT 48 WHC | 20.2 | SMH 30 |
| LOT 14 SHC | 10.0 | 4" W/VALVE | LOT 48 SHC | 18 | SMH 30 |
| LOT 14 WHC | 40.5 | 4" W/VALVE | LOT 48 WHC | 9.3 | LOT 48 WHC |
| LOT 14 SHC | 28.5 | FIRE HYDRANT | LOT 49 WHC | 49.3 | SMH 30 |
| LOT 15 WHC | 40.8 | 4" W/VALVE | LOT 49 SHC | 50.0 | SMH 30 |
| LOT 15 SHC | 31.0 | LOT 15 WHC | LOT 49 WHC | 6.7 | LOT 49 WHC |
| LOT 16 SHC | 27 | SMH 22 | LOT 50 SHC | 100.2 | SMH 29 |
| LOT 16 WHC | 34.5 | SMH 22 | LOT 50 WHC | 109 | SMH 29 |
| LOT 16 SHC | 2.4 | LOT 16 WHC | LOT 50 SHC | 9.1 | LOT 50 WHC |
| LOT 17 SHC | 50.1 | 4" W/VALVE | LOT 51 WHC | 22.5 | SMH 29 |
| LOT 17 WHC | 29.2 | SMH 23 | LOT 51 SHC | 40.5 | SMH 29 |
| LOT 17 SHC | 13.0 | LOT 17 WHC | LOT 51 WHC | 12.3 | LOT 51 WHC |
| LOT 18 SHC | 20.5 | SMH 23 | LOT 52 SHC | 35.0 | SMH 29 |
| LOT 18 WHC | 51.0 | SMH 23 | LOT 52 WHC | 31.2 | SMH 29 |
| LOT 18 SHC | 35.0 | LOT 18 WHC | LOT 52 SHC | 4.5 | LOT 52 WHC |
| LOT 19 SHC | 22.7 | SMH 24 | LOT 53 WHC | 23.3 | 4" VALVE (FH) |
| LOT 19 WHC | 52.5 | SMH 24 | LOT 53 SHC | 17.3 | 4" VALVE (FH) |
| LOT 19 SHC | 22.9 | LOT 19 WHC | LOT 53 WHC | 12.4 | LOT 53 WHC |
| LOT 20 SHC | 43.1 | SMH 25 | LOT 54 WHC | 43 | SMH 24 |
| LOT 20 WHC | 54.9 | SMH 25 | LOT 54 SHC | 19.4 | LOT 54 WHC |
| LOT 20 SHC | 13.4 | LOT 20 WHC | LOT 55 WHC | 102.5 | SMH 23 |
| LOT 21 SHC | 27.5 | FIRE HYDRANT | LOT 55 SHC | 28.7 | SMH 23 |
| LOT 21 WHC | 27.5 | SMH 25 | LOT 55 WHC | 24.5 | LOT 55 WHC |
| LOT 21 SHC | 20.4 | SMH 25 | LOT 56 SHC | 40.5 | SMH 23 |
| LOT 22 WHC | 70.4 | SMH 25 | LOT 56 WHC | 29.5 | SMH 23 |
| LOT 22 SHC | 55.0 | SMH 25 | LOT 56 SHC | 17.0 | LOT 56 WHC |
| LOT 22 WHC | 15.1 | LOT 22 SHC | LOT 57 SHC | 30.2 | SMH 22 |
| LOT 23 SHC | 32.3 | SMH 32 | LOT 57 WHC | 35.4 | SMH 22 |
| LOT 23 WHC | 35 | SMH 32 | LOT 57 SHC | 17.8 | LOT 57 WHC |
| LOT 23 SHC | 20 | LOT 23 WHC | LOT 58 WHC | 23.9 | 4" VALVE (FH) |
| LOT 24 SHC | 20 | LOT 24 WHC | LOT 58 SHC | 25 | LOT 58 WHC |
| LOT 24 WHC | 20 | LOT 24 SHC | LOT 59 SHC | 32.2 | 4" VALVE (FH) |
| LOT 25 SHC | 20 | LOT 25 WHC | LOT 59 WHC | 43.8 | 4" VALVE (FH) |
| LOT 25 WHC | 118.4 | SMH 10 | LOT 60 SHC | 118.4 | SMH 10 |
| LOT 26 SHC | 131.0 | SMH 10 | LOT 60 WHC | 12.4 | LOT 60 WHC |
| LOT 26 WHC | 60.5 | SMH 10 | LOT 61 SHC | 60.5 | SMH 10 |
| LOT 26 SHC | 72.3 | SMH 10 | LOT 61 WHC | 12.4 | LOT 61 WHC |
| LOT 27 SHC | 29.1 | SMH 10 | LOT 62 WHC | 29.1 | SMH 10 |
| LOT 27 WHC | 28.5 | SMH 10 | LOT 62 SHC | 7.3 | LOT 62 WHC |
| LOT 27 SHC | 64.9 | SMH 11 | LOT 63 WHC | 64.9 | SMH 11 |
| LOT 28 SHC | 7.2 | LOT 28 WHC | LOT 63 SHC | 7.2 | LOT 63 WHC |

DAPPER TOWN ROW

| FROM | LENGTH(FT) | TO |
|------------|------------|------------|
| LOT 14 SHC | 56.5 | SMH 21 |
| LOT 14 WHC | 48.5 | SMH 21 |
| LOT 14 SHC | 10.8 | LOT 14 WHC |
| LOT 15 SHC | 40.8 | SMH 20 |
| LOT 15 WHC | 33.9 | SMH 20 |
| LOT 15 SHC | 11.9 | LOT 15 WHC |
| LOT 16 SHC | 8.9 | SMH 19 |
| LOT 16 WHC | 79.2 | SMH 19 |
| LOT 16 SHC | 35.4 | LOT 16 WHC |
| LOT 17 WHC | 80.5 | SMH 19 |
| LOT 17 SHC | 81 | SMH 19 |
| LOT 17 WHC | 7 | LOT 17 WHC |
| LOT 18 WHC | 80 | SMH 19 |
| LOT 18 SHC | 31.1 | SMH 15 |
| LOT 18 SHC | 24.4 | LOT 18 SHC |
| LOT 18 WHC | 7.2 | LOT 17 WHC |

DAPPER TOWN ROW

| FROM | LENGTH(FT) | TO |
|------------|------------|-----------------|
| LOT 19 WHC | 90.5 | LOT 20 WHC |
| LOT 19 WHC | 10.4 | 1/2" DR & VAULT |
| LOT 20 WHC | 30.2 | 1/2" DR & VAULT |
| LOT 20 WHC | 27.2 | LOT 19 WHC |
| LOT 20 SHC | 30.3 | SMH 19 |
| LOT 20 SHC | 23.0 | LOT 20 WHC |
| LOT 21 WHC | 24.3 | SMH 19 |
| LOT 21 SHC | 21.5 | SMH 19 |
| LOT 21 SHC | 11.4 | LOT 21 WHC |
| LOT 22 WHC | 52.0 | SMH 19 |
| LOT 22 SHC | 25.5 | SMH 19 |
| LOT 22 SHC | 35.9 | LOT 22 WHC |
| LOT 23 SHC | 48.2 | SMH 20 |
| LOT 23 WHC | 38.4 | SMH 20 |
| LOT 23 SHC | 10.2 | LOT 23 WHC |
| LOT 24 SHC | 29.2 | SMH 20 |
| LOT 24 SHC | 23.3 | SMH 20 |
| LOT 24 SHC | 12 | LOT 24 WHC |
| LOT 25 SHC | 47.5 | SMH 21 |
| LOT 25 WHC | 13.9 | SMH 21 |
| LOT 25 SHC | 33.2 | LOT 25 WHC |
| LOT 26 SHC | 8 | SMH 21 |
| LOT 26 WHC | 14 | SMH 21 |
| LOT 26 SHC | 12.9 | LOT 26 WHC |

ETERNAL RINGS DRIVE

| FROM | LENGTH(FT) | TO |
|--------------|------------|--------------|
| SMH 4 | 0.2 | 4" VALVE |
| SMH 4 | 0.7 | FIRE HYDRANT |
| SMH 5 | 44.5 | 4" VALVE |
| SMH 5 | 50.4 | FIRE HYDRANT |
| SMH 5 | 27.5 | 4" VALVE |
| SMH 5 | 27.5 | 12" VALVE |
| SMH 6 | 74.2 | SMH 5 |
| SMH 6 | 71.0 | SD INLET |
| 12" VALVE | 74.2 | FIRE HYDRANT |
| 12" VALVE | 80 | FIRE HYDRANT |
| 12" VALVE | 7 | 4" VALVE |
| 12" VALVE | 32.0 | SMH 15 |
| 12" VALVE | 3.0 | 4" VALVE |
| 4" VALVE | 44 | SMH 15 |
| FIRE HYDRANT | 41.1 | SMH 15 |
| 4" VALVE | 14 | FIRE HYDRANT |

IRONLEAF TRAIL

| FROM | LENGTH(FT) | TO |
|-----------|------------|-----------------|
| LOT 1 SHC | 21.5 | SD INLET |
| LOT 1 WHC | 20.5 | SD INLET |
| LOT 1 WHC | 10 | LOT 1 SHC |
| LOT 2 SHC | 0.7 | SMH 7 |
| LOT 2 WHC | 50.9 | SMH 7 |
| LOT 2 WHC | 11.2 | LOT 2 SHC |
| SMH 7 | 10.3 | SD INLET |
| SD INLET | 21.4 | 4" VALVE |
| SMH 7 | 17.4 | 4" VALVE |
| LOT 3 WHC | 20.7 | SMH 5 |
| LOT 3 WHC | 31.3 | LOT 3 WHC |
| SMH 5 | 27.9 | LOT 3 WHC |
| LOT 4 SHC | 22 | LOT 4 SHC |
| LOT 4 SHC | 3.0 | SMH 15 |
| SMH 15 | 44.7 | LOT 5 SHC |
| LOT 5 WHC | 18.9 | SMH 5 |
| LOT 5 WHC | 27 | 1/2" DR & VAULT |
| LOT 4 WHC | 24.2 | 1/2" DR & VAULT |
| LOT 4 WHC | 18.9 | SMH 5 |

IRONLEAF TRAIL

| FROM | LENGTH(FT) | TO |
|--------------|------------|--------------|
| LOT 6 SHC | 50.5 | LOT 3 WHC |
| LOT 6 WHC | 10.5 | LOT 6 SHC |
| LOT 6 WHC | 60.7 | LOT 3 SHC |
| LOT 6 SHC | 50.5 | LOT 3 WHC |
| LOT 6 SHC | 10.5 | LOT 6 WHC |
| LOT 7 SHC | 35.0 | SMH 9 |
| LOT 7 WHC | 40.7 | SMH 9 |
| LOT 7 SHC | 12.4 | LOT 7 WHC |
| LOT 8 SHC | 77.4 | SMH 10 |
| LOT 8 WHC | 00.5 | SMH 10 |
| LOT 9 SHC | 27.0 | SMH 10 |
| LOT 9 WHC | 23.1 | SMH 10 |
| LOT 9 SHC | 11.4 | LOT 9 WHC |
| SMH 10 | 52.2 | FIRE HYDRANT |
| SMH 10 | 50 | 4" VALVE |
| FIRE HYDRANT | 0.1 | 4" VALVE |
| 4" VALVE | 27 | SMH 11 |
| 4" VALVE | 25 | SMH 11 |
| 4" VALVE | 3.0 | 4" VALVE |
| LOT 10 WHC | 31.0 | SMH 12 |
| LOT 10 SHC | 21.4 | SMH 12 |
| LOT 10 SHC | 14.7 | LOT 10 WHC |
| LOT 10 SHC | 99.1 | SMH 12 |
| LOT 10 SHC | 71.3 | SMH 12 |
| LOT 10 SHC | 23.4 | LOT 10 WHC |
| LOT 10 SHC | 00.5 | SMH 13 |
| LOT 10 SHC | 81.5 | SMH 13 |
| LOT 10 SHC | 10.4 | LOT 10 WHC |

IRONLEAF TRAIL

| FROM | LENGTH(FT) | TO |
|------------|------------|---------------|
| LOT 17 WHC | 23.7 | SMH 13 |
| LOT 17 SHC | 30.1 | SMH 13 |
| LOT 17 SHC | 14.8 | LOT 17 WHC |
| LOT 18 WHC | 04.9 | SMH 13 |
| LOT 18 SHC | 40.5 | SMH 13 |
| LOT 18 SHC | 18.5 | LOT 18 WHC |
| 4" VALVE | 45.5 | FIRE HYDRANT |
| 4" VALVE | 48.0 | 4" VALVE (FH) |
| 4" VALVE | 8 | FIRE HYDRANT |
| LOT 19 WHC | 71.7 | 4" VALVE |
| LOT 19 SHC | 59.4 | 4" VALVE |
| LOT 19 SHC | 13.1 | LOT 19 WHC |
| LOT 19 SHC | 29.2 | SMH 14 |
| LOT 19 WHC | 3.5 | SMH 14 |
| LOT 19 WHC | 8.9 | LOT 19 WHC |
| LOT 19 WHC | 4.3 | SMH 14 |
| LOT 19 SHC | 51.4 | SMH 14 |
| LOT 19 SHC | 10 | LOT 19 WHC |

AS BUILT
 DATE: JANUARY 2005

Legend

| | | |
|------------------------|------------------------|-------|
| EX CURB & GUTTER | PROF. SEWER | 6" S. |
| EX MAJOR CONTOURS | PROF. WATER | 4" W. |
| EX MINOR CONTOURS | PROPERTY LINE | |
| EX STORM DRAIN | ROADWAY RIGHT-OF-WAY | |
| EX SEWER | PROPOSED LOT LINE | |
| EX WATER | PROPOSED EASEMENT | |
| EXISTING TREE LINE | PROPOSED CURB & GUTTER | |
| EXISTING WETLAND LIMIT | PROPOSED SIDEWALK | |
| PROF. STORM DRAIN | PROPOSED GROUND RAIL | |
| | PROPOSED RIP RAP | |
| WATER LINE STATIONING | | |

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT
 Signature: *Jim Meyer* DATE: 6/3/04
 Signature: *John K. Roberts* DATE: 6/3/04

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

Signature: *John K. Roberts* DATE: 7/6/04
 Signature: *John K. Roberts* DATE: 7/6/04

DMW
 DaR-McCune-Walker, Inc.
 A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 286-3533
 Fax 286-4705

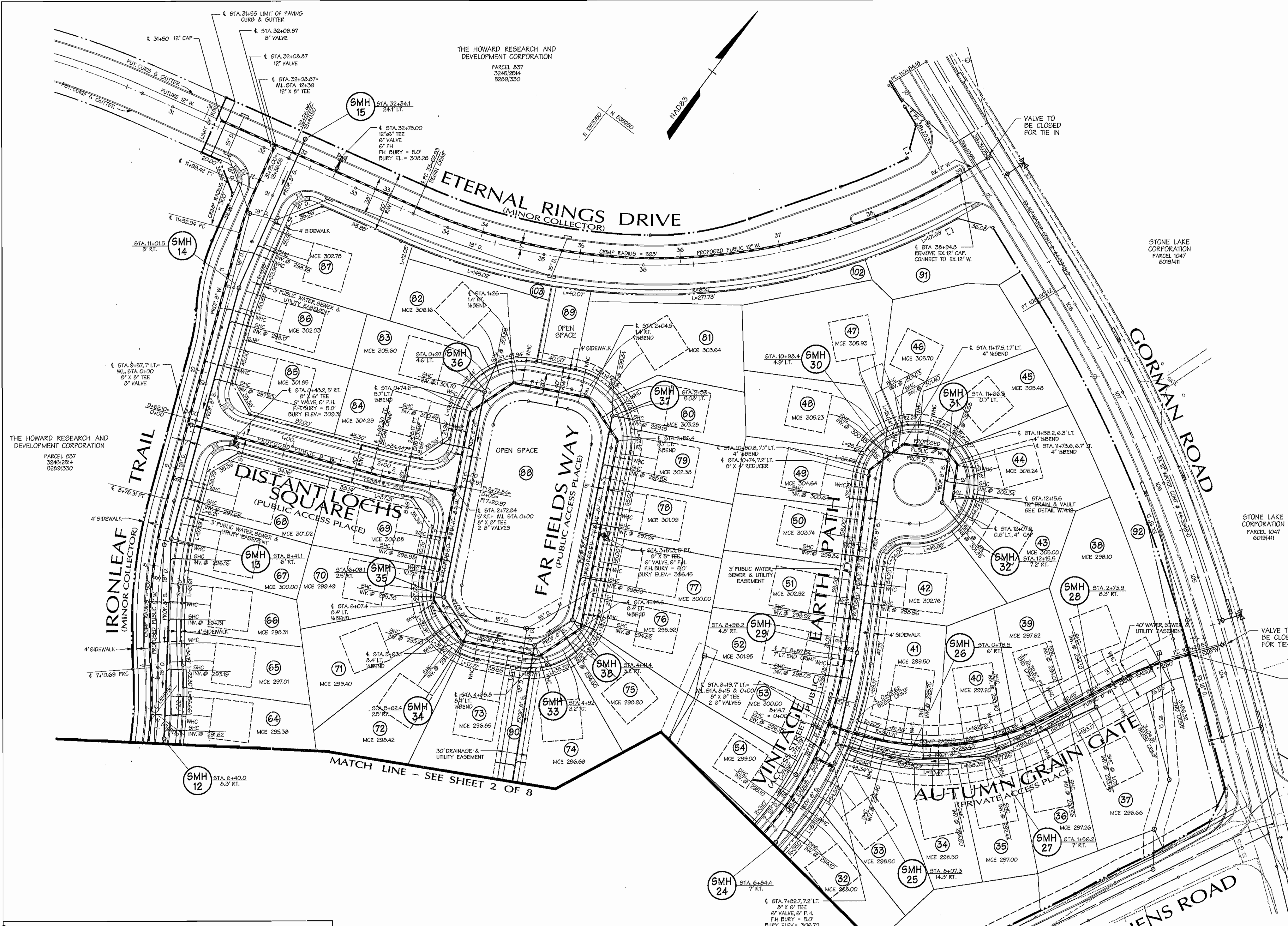
DESIGN BY: DFM
 DRAWN BY: WDE
 CHECKED BY:
 DATE: 6/28/04
 BY: NO. REVISION: REVISE SEWER TO ADD SMH 6A
 DATE: 10/29/04

PROPOSED 8" WATER MAIN
 ETERNAL RINGS DRIVE, IRONLEAF TRAIL,
 VINTAGE EARTH PATH, DAPPER TOWN ROW
 6th ELECTION DISTRICT
 600 SCALE MAP NO. 47 BLOCK NO. 7, 8, 9, 13

EMERSON SECTION 2
PHASE 5A
 THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 CONTRACT NO. 24-4120-D
 SCALE: 1"=50'
 SHEET 2 of 8

Mon Jun 28 08:37:40 2005 4:50:55 PM 5A9505459a2

| AUTUMN GRAIN GATE | | | FAR FIELDS WAY | | | |
|-------------------|------------|------------|----------------|------------|-----------------|------------|
| FROM | LENGTH(FT) | TO | FROM | LENGTH(FT) | TO | |
| LOT 29 WHC | 35.9 | 9" W VALVE | LOT 29 WHC | 50.4 | 8" W VALVE | |
| LOT 34 WHC | 23.6 | 8" W VALVE | LOT 29 WHC | 60.9 | 8" W VALVE | |
| LOT 34 WHC | 5.4 | LOT 34 WHC | LOT 29 WHC | 19.9 | LOT 29 WHC | |
| LOT 35 WHC | 10.2 | 9" W VALVE | LOT 70 WHC | 39 | 9" W VALVE | |
| LOT 35 WHC | 18.5 | 9" W VALVE | LOT 70 WHC | 27.1 | 9" W VALVE | |
| LOT 35 WHC | 12.4 | LOT 35 WHC | LOT 70 WHC | 20.7 | LOT 70 WHC | |
| LOT 36 WHC | 59.9 | 9" W VALVE | LOT 71 WHC | 27.4 | 9" W VALVE | |
| LOT 36 WHC | 25.9 | 9" W VALVE | LOT 71 WHC | 37.2 | 9" W VALVE | |
| LOT 36 WHC | 25.9 | 9" W VALVE | LOT 70 WHC | 10.0 | LOT 71 WHC | |
| LOT 37 WHC | 24 | 9" W VALVE | LOT 72 WHC | 44.7 | 9" W VALVE | |
| LOT 37 WHC | 12.4 | 9" W VALVE | LOT 72 WHC | 25 | 9" W VALVE | |
| LOT 37 WHC | 25.9 | LOT 37 WHC | LOT 71 WHC | 13.5 | LOT 72 WHC | |
| LOT 38 WHC | 40.2 | 9" W VALVE | 9" W VALVE | 44.3 | 9" W VALVE | |
| LOT 38 WHC | 25 | 9" W VALVE | LOT 72 WHC | 29.9 | 9" W VALVE | |
| LOT 38 WHC | 39.5 | LOT 38 WHC | LOT 73 WHC | 31.2 | 9" W VALVE | |
| LOT 39 WHC | 35.1 | 9" W VALVE | LOT 73 WHC | 10.0 | 9" W VALVE | |
| LOT 39 WHC | 22.4 | 9" W VALVE | LOT 73 WHC | 2.0 | LOT 74 WHC | |
| LOT 39 WHC | 10.9 | LOT 39 WHC | LOT 74 WHC | 98.9 | 9" W VALVE | |
| LOT 40 WHC | 28.9 | 9" W VALVE | LOT 74 WHC | 24 | 9" W VALVE | |
| LOT 40 WHC | 35.1 | 9" W VALVE | LOT 74 WHC | 31.9 | 9" W VALVE | |
| LOT 40 WHC | 11.5 | LOT 40 WHC | LOT 75 WHC | 28.8 | 9" W VALVE | |
| LOT 41 WHC | 20.9 | 9" W VALVE | LOT 75 WHC | 29.9 | 9" W VALVE | |
| LOT 41 WHC | 29.0 | 9" W VALVE | LOT 75 WHC | 23.8 | LOT 76 WHC | |
| LOT 41 WHC | 10.4 | LOT 41 WHC | LOT 76 WHC | 28.4 | 9" W VALVE | |
| | | | LOT 76 WHC | 25.9 | 9" W VALVE | |
| | | | LOT 76 WHC | 10.9 | LOT 76 WHC | |
| | | | LOT 77 WHC | 37.9 | FIRE HYDRANT | |
| | | | LOT 77 WHC | 51.2 | FIRE HYDRANT | |
| | | | LOT 77 WHC | 13.4 | FIRE HYDRANT | |
| | | | LOT 77 WHC | 1.3 | FIRE HYDRANT | |
| | | | LOT 78 WHC | 2.0 | 8" W VALVE (FH) | |
| | | | LOT 78 WHC | 20.2 | 8" W VALVE (FH) | |
| | | | LOT 78 WHC | 10.2 | LOT 78 WHC | |
| | | | LOT 78 WHC | 13.2 | FIRE HYDRANT | |
| | | | LOT 79 WHC | 48.7 | 9" W VALVE | |
| | | | LOT 79 WHC | 50.5 | 9" W VALVE | |
| | | | LOT 79 WHC | 9.6 | LOT 79 WHC | |
| | | | LOT 80 WHC | 20.4 | 9" W VALVE | |
| | | | LOT 80 WHC | 22.5 | 9" W VALVE | |
| | | | LOT 80 WHC | 20.9 | LOT 80 WHC | |
| | | | LOT 81 WHC | 52.5 | 9" W VALVE | |
| | | | LOT 81 WHC | 30.2 | 9" W VALVE | |
| | | | LOT 81 WHC | 29.9 | LOT 81 WHC | |
| | | | LOT 82 WHC | 31.0 | 9" W VALVE | |
| | | | LOT 82 WHC | 50.2 | 9" W VALVE | |
| | | | LOT 82 WHC | 31.5 | LOT 82 WHC | |
| | | | LOT 83 WHC | 22.5 | 9" W VALVE | |
| | | | LOT 83 WHC | 24.5 | 9" W VALVE | |
| | | | LOT 83 WHC | 0.5 | LOT 83 WHC | |
| | | | LOT 84 WHC | 0.2 | 8" W VALVE | |
| | | | LOT 84 WHC | 47.8 | 8" W VALVE | |
| | | | LOT 84 WHC | 19.4 | LOT 84 WHC | |
| | | | | 8" W VALVE | 4.9 | 8" W VALVE |



Legend

| | | | |
|------------------------|-------|------------------------|-------|
| EX CURB & GUTTER | ----- | PROP. SEWER | ----- |
| EX MAJOR CONTOURS | ----- | PROP. WATER | ----- |
| EX MINOR CONTOURS | ----- | PROPERTY LINE | ----- |
| EX STORM DRAIN | ----- | PROPOSED LOT LINE | ----- |
| EX SEWER | ----- | ROADWAY RIGHT-OF-WAY | ----- |
| EX WATER | ----- | PROPOSED LOT LINE | ----- |
| EXISTING TREE LINE | ----- | PROPOSED EASEMENT | ----- |
| EXISTING WETLAND LIMIT | ----- | PROPOSED CURB & GUTTER | ----- |
| PROP. STORM DRAIN | ----- | PROPOSED SIDEWALK | ----- |
| | | PROPOSED GUARD RAIL | ----- |
| | | PROPOSED RIP-RAP | ----- |

AS BUILT
DATE: JANUARY 2005

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

SIGNATURE: *[Signature]* DATE: _____

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

APPROVED: _____ DATE: _____

HOWARD S.C.D.

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 7-1-04
CHIEF - BUREAU OF UTILITIES - DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature] 7/6/04
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
Daft-McCune-Walker, Inc.
A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals

200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 298-3333
Fax 298-4706

STATE OF MARYLAND
PROFESSIONAL ENGINEER
6-23-04

| | |
|-------------|---------|
| DESIGN BY: | DFM |
| DRAWN BY: | WDE |
| CHECKED BY: | |
| DATE: | 6/28/04 |
| BY NO. | |
| REVISION | |
| DATE | |

PROPOSED 8" WATER MAIN
ETERNAL RINGS DRIVE, IRONLEAF TRAIL,
VINTAGE EARTH PATH,
DISTANT LOCHS SQUARE, FAR FIELDS WAY
6th ELECTION DISTRICT

600 SCALE MAP NO. 47 BLOCK NO. 7, 8, 9, 13

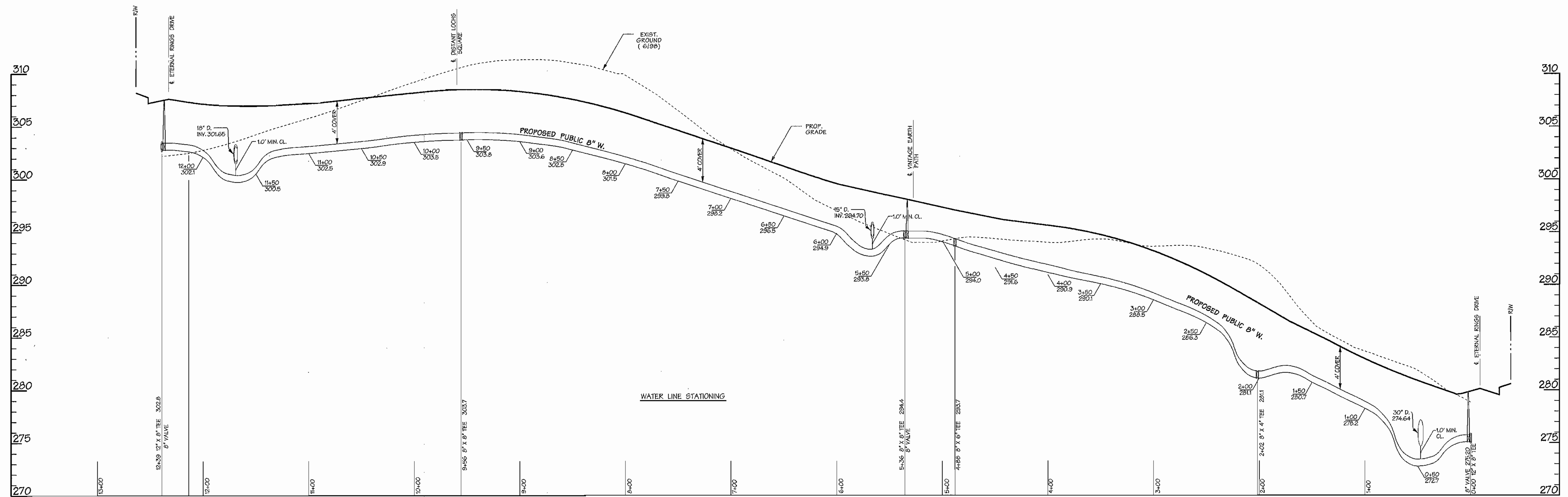
EMERSON SECTION 2
PHASE 5A
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

CONTRACT NO. 24-4120-D

SCALE:
1"=50'

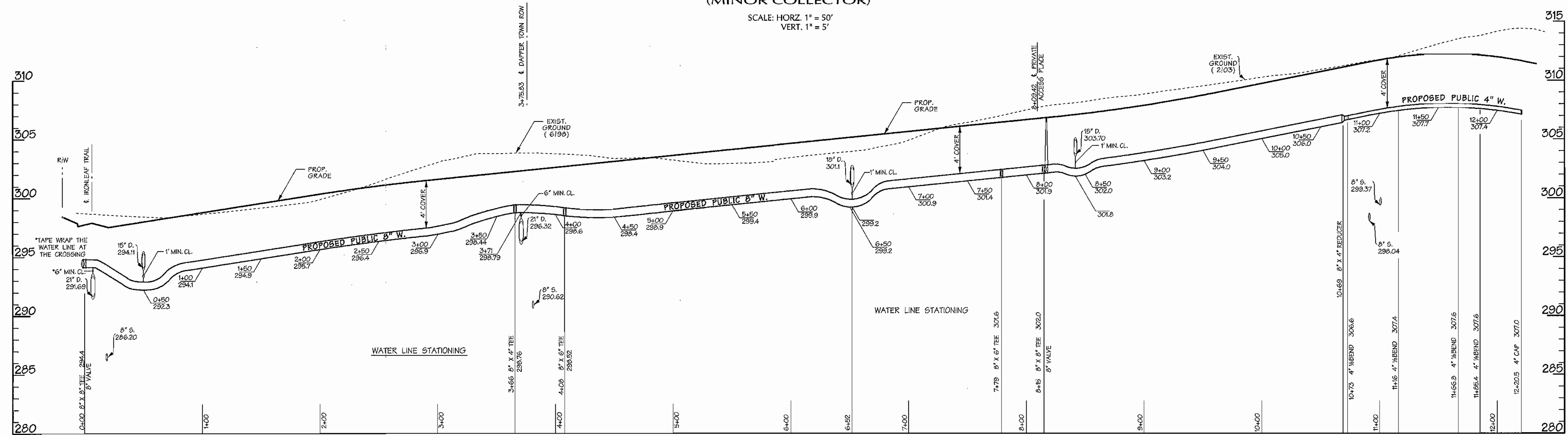
SHEET
3 of 8

Map Jun 28 16:44:33 2004 19505-A9505-49-A9505-49.dwg



WATER PROFILE- IRON LEAF TRAIL
(MINOR COLLECTOR)

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



WATER PROFILE-VINTAGE EARTH PATH
(ACCESS STREET PUBLIC)

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

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

SIGNATURE: *[Signature]* DATE: _____
 THIS DEVELOPMENT PLAN IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY CONSERVATION DISTRICT.
 APPROVED: _____ DATE: _____

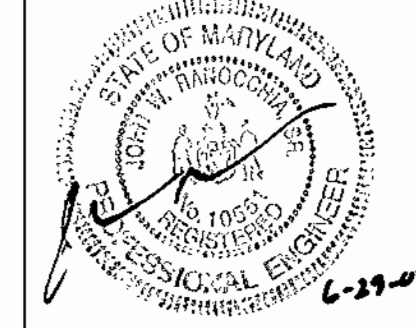
SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

AS BUILT
DATE: JANUARY 2005

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert B. ... 7-1-04
CHIEF - BUREAU OF UTILITIES - DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
[Signature] 7/6/04
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

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A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax: 296-4705



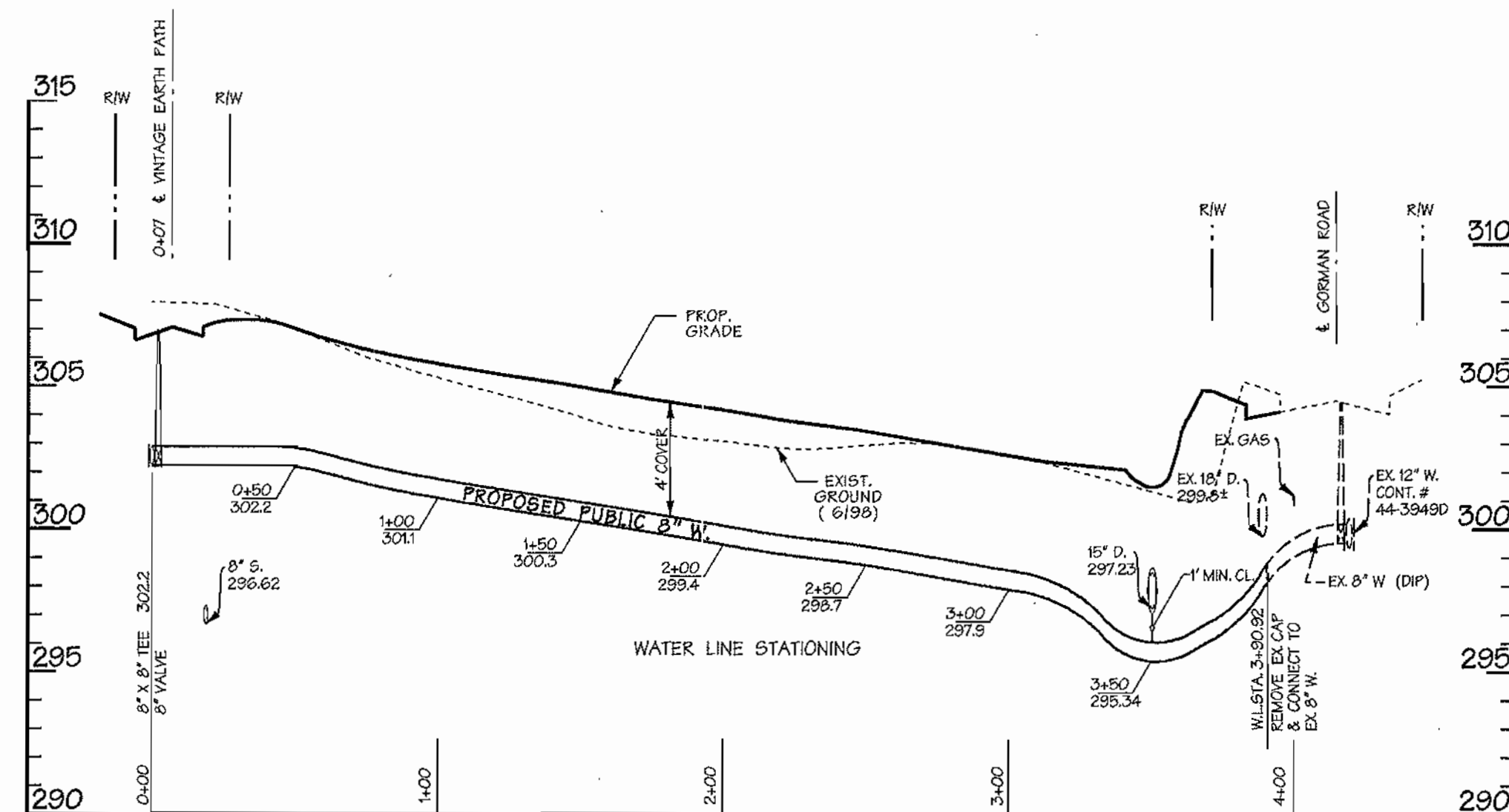
| | |
|-------------|---------|
| DESIGN BY: | DFM |
| DRAWN BY: | WDE |
| CHECKED BY: | |
| DATE: | 6/28/04 |
| BY NO. | |
| REVISION | |
| DATE | |

PROPOSED 8" WATER MAIN
IRONLEAF TRAIL
PROPOSED 4" & 8" WATER MAIN
VINTAGE EARTH PATH
6th ELECTION DISTRICT
600 SCALE MAP NO. 47 BLOCK NO. 7, 8, 9, 13

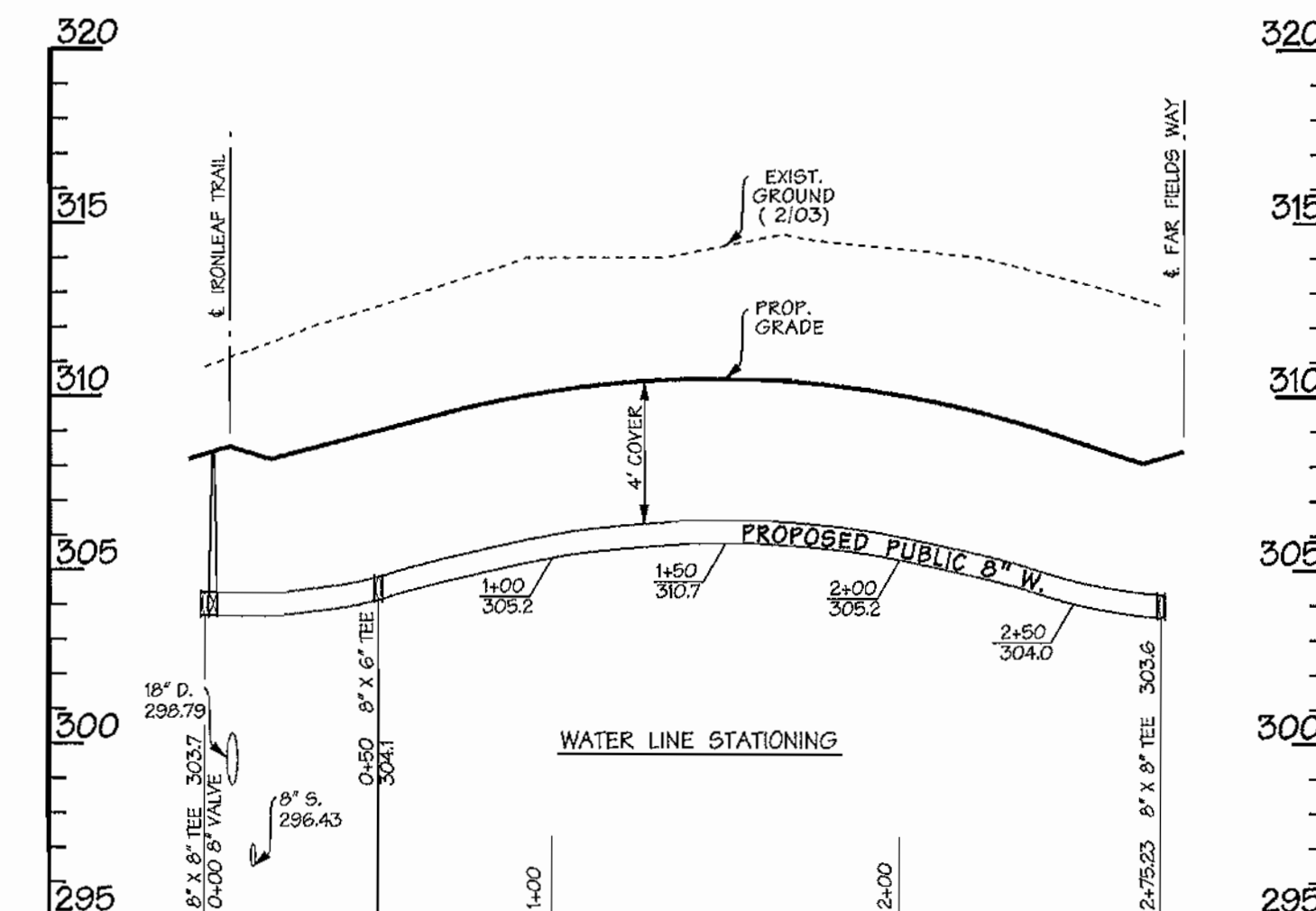
**EMERSON SECTION 2
PHASE 5A**
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
CONTRACT NO. 24-4120-D

SCALE: 1"=50'
SHEET 5 of 8

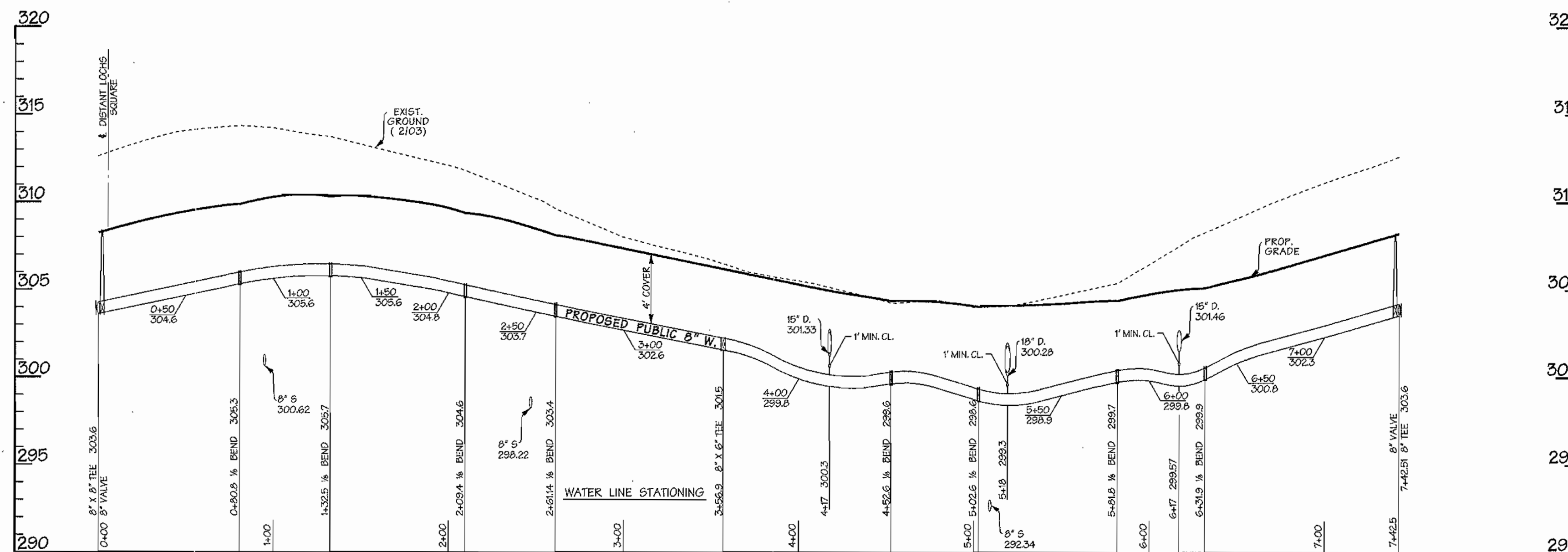
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 Max Jun 28 16:52:22 889985-9505-45A/9505-45a.dwg



**WATER PROFILE
AUTUMN GRAIN GATE**
(PRIVATE)
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



WATER PROFILE - DISTANT LOCHS SQ.
(PUBLIC ACCESS PLACE)
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



WATER PROFILE - FAR FIELDS WAY
(PUBLIC ACCESS PLACE)
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE
AND MEETS TECHNICAL REQUIREMENT

SIGNATURE _____ DATE _____

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

APPROVED _____ DATE _____

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

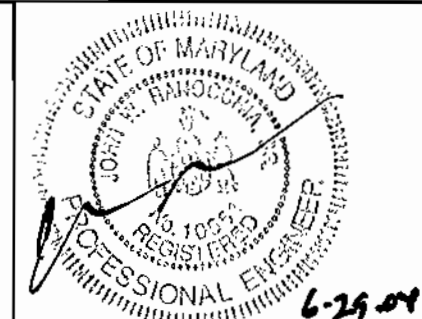
AS BUILT
DATE: JANUARY 2005

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

DMW
Daft-McCune-Walker, Inc.

A Team of Land Planners,
Landscape Architects,
Golf Course Architects,
Engineers, Surveyors &
Environmental Professionals



DESIGN BY: DFM
DRAWN BY: WDE
CHECKED BY:
DATE: 6/28/04

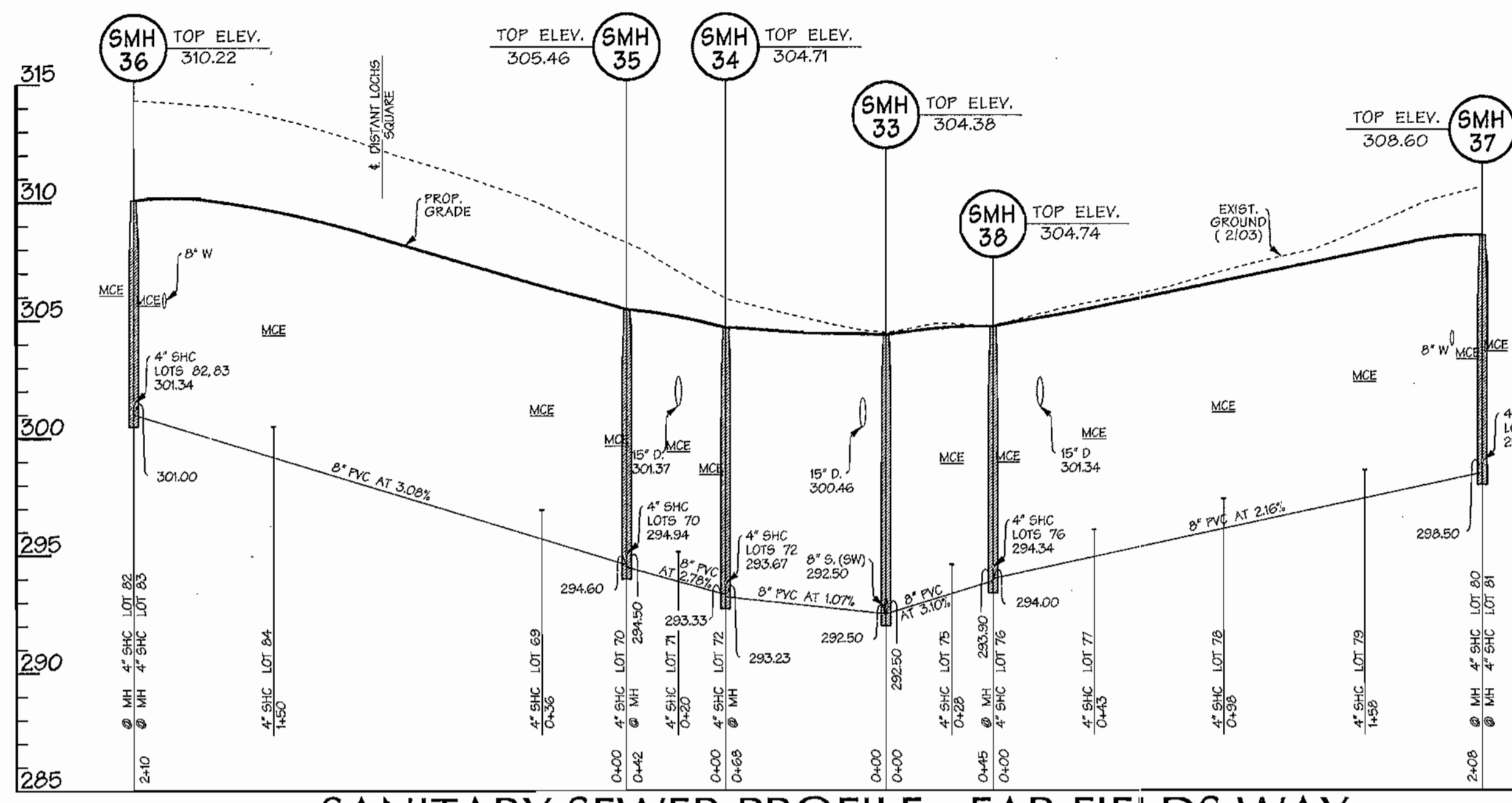
BY NO. REVISION DATE

PROPOSED 8" WATER MAIN
AUTUMN GRAIN GATE
PROPOSED 8" WATER MAIN
DISTANT LOCHS SQUARE, FAR FIELDS WAY
6th ELECTION DISTRICT

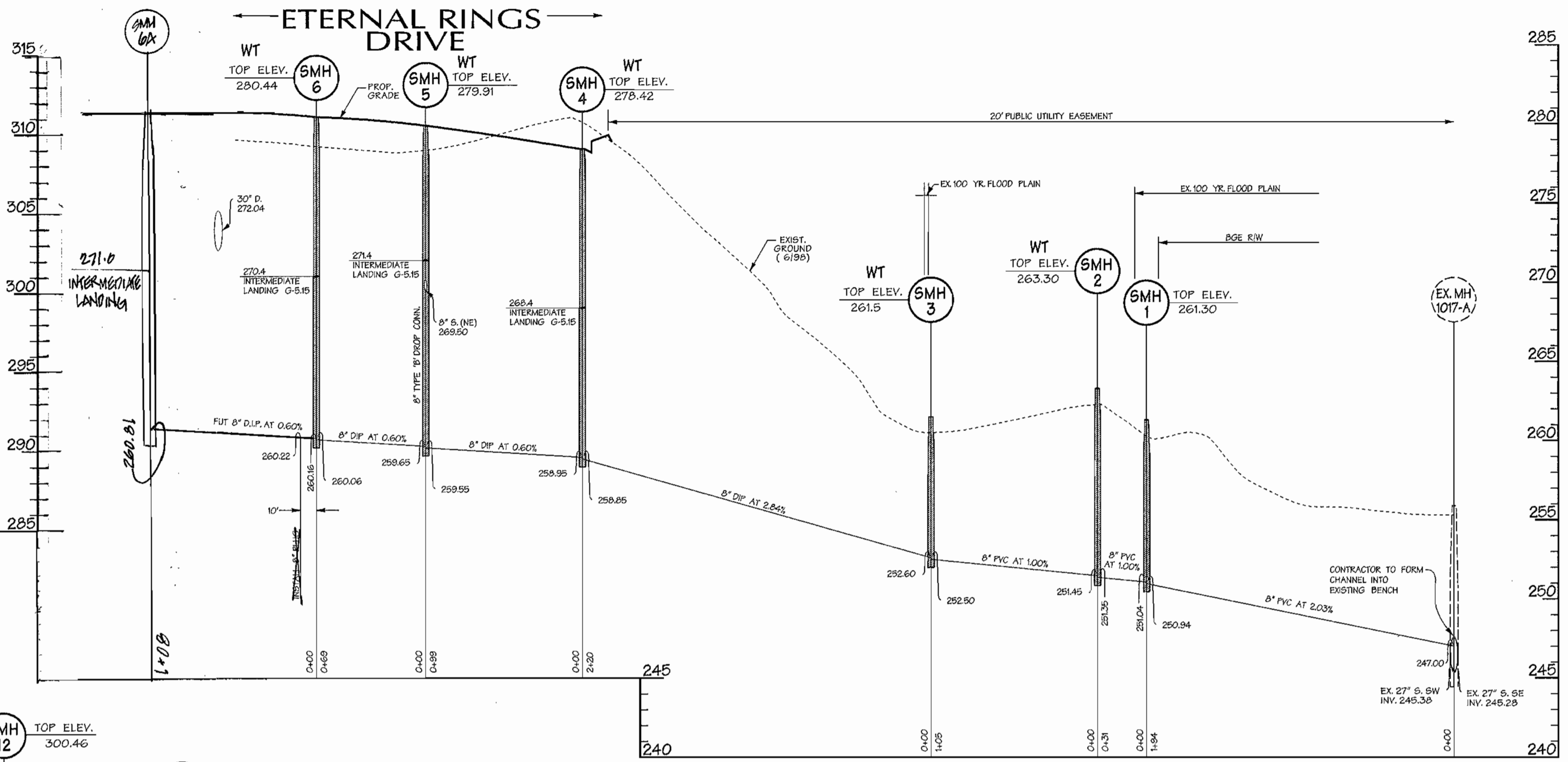
600 SCALE MAP NO. 47 BLOCK NO. 7, 8, 9, 13

EMERSON SECTION 2
PHASE 5A
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
CONTRACT NO. 24-4120-D

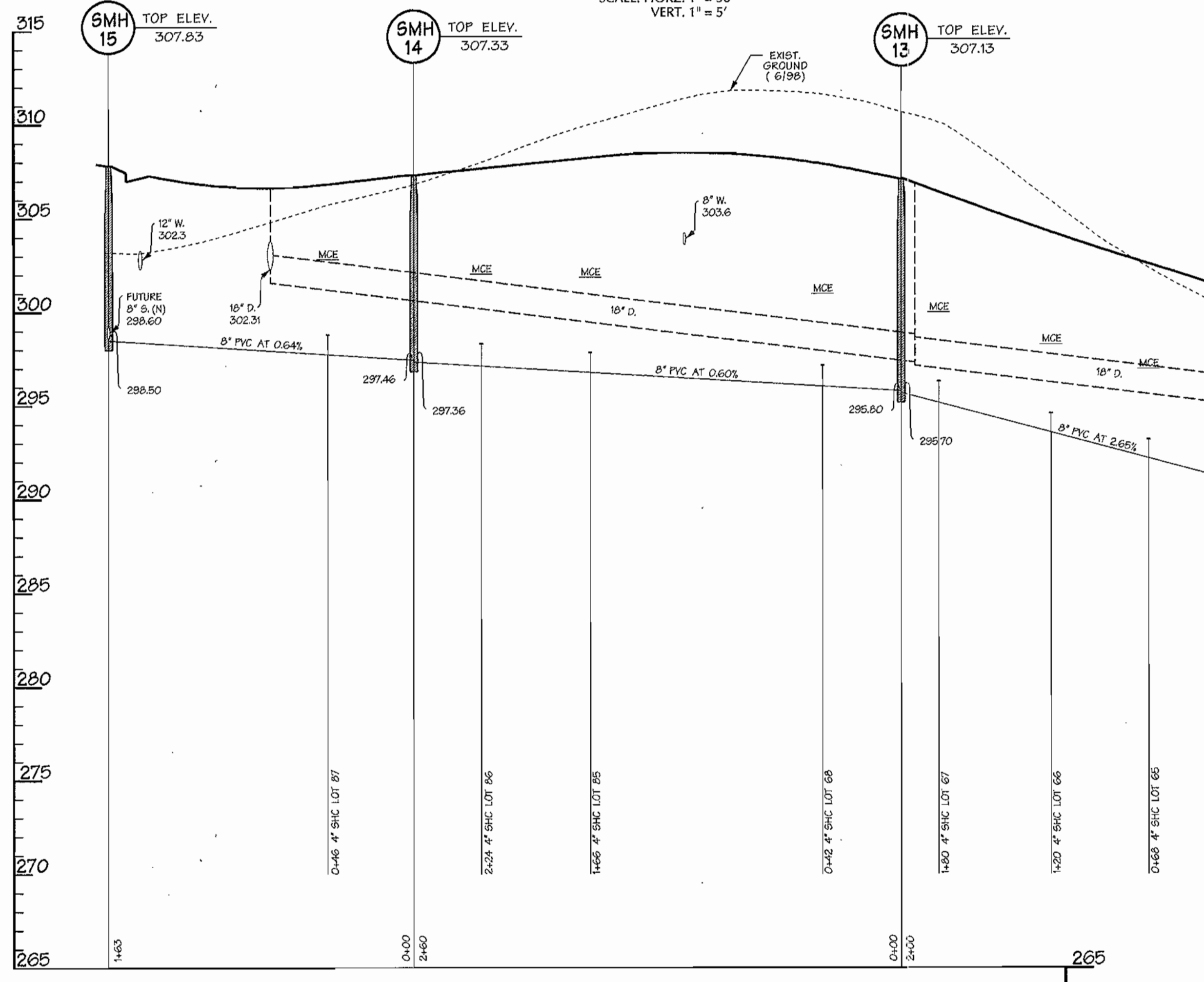
SCALE:
1"=50'
SHEET
6 of 8



SANITARY SEWER PROFILE - FAR FIELDS WAY
(PUBLIC ACCESS PLACE)
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



SANITARY SEWER PROFILE - ETERNAL RINGS DRIVE
(MINOR COLLECTOR)
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



SANITARY SEWER PROFILE - IRONLEAF TRAIL
(MINOR COLLECTOR)
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MDC'S TECHNICAL REQUIREMENT

SIGNATURE: *[Signature]* DATE: _____

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

APPROVED: _____ DATE: _____

HOWARD S.C.D.

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

AS BUILT
DATE: JANUARY 2005

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert B. Bunn 7/6/04
CHIEF - BUREAU OF UTILITIES - DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

Chad D. ... 7/6/04
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
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A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals

200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax: 296-4705



| | |
|-------------|---------|
| DESIGN BY: | DFM |
| DRAWN BY: | WDE |
| CHECKED BY: | |
| DATE: | 6/28/04 |
| BY NO. | |
| REVISION | |

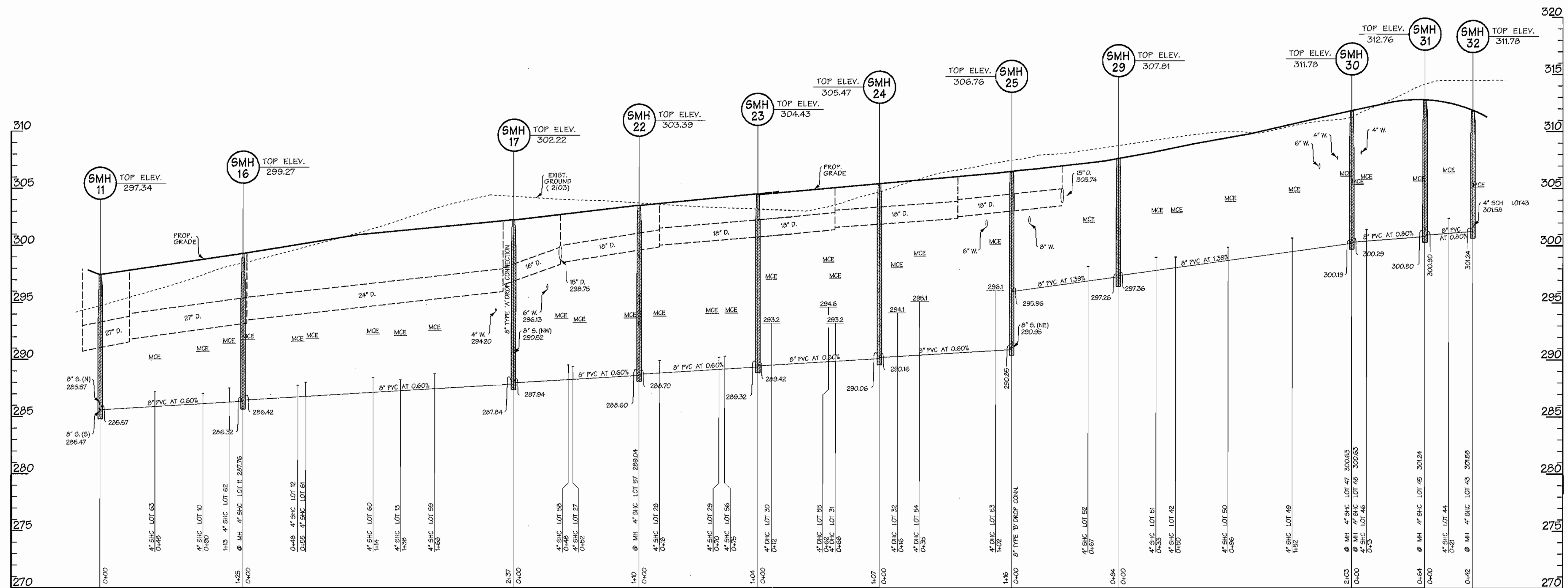
PROPOSED 8" SANITARY SEWER
ETERNAL RINGS DRIVE,
IRONLEAF TRAIL, FAR FIELDS WAY
6th ELECTION DISTRICT

600 SCALE MAP NO. 47 BLOCK NO. 7, 8, 9, 13

**EMERSON SECTION 2
PHASE 5A**
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

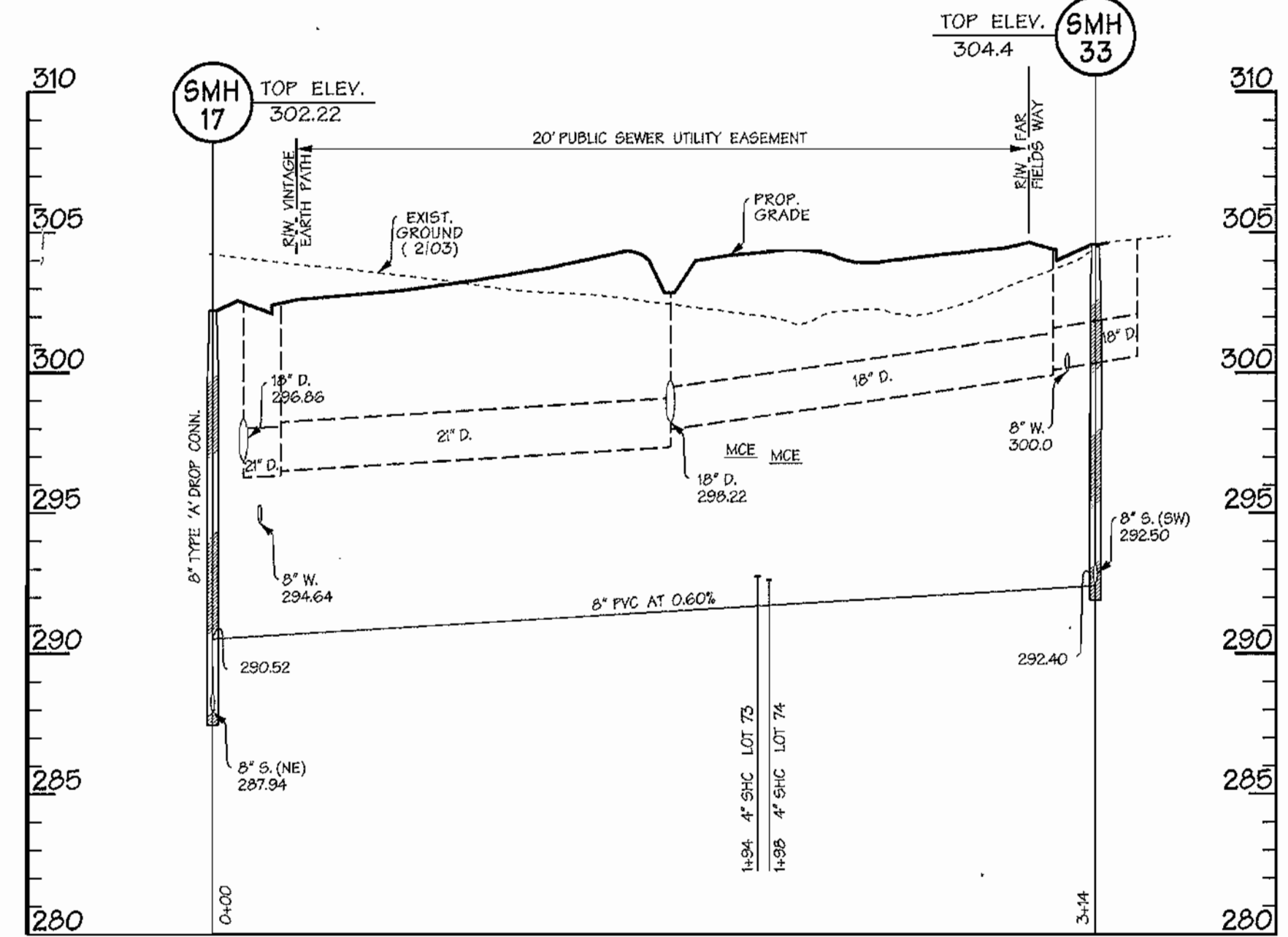
CONTRACT NO. 24-4120-D

SCALE: 1"=50'
SHEET 7 of 8



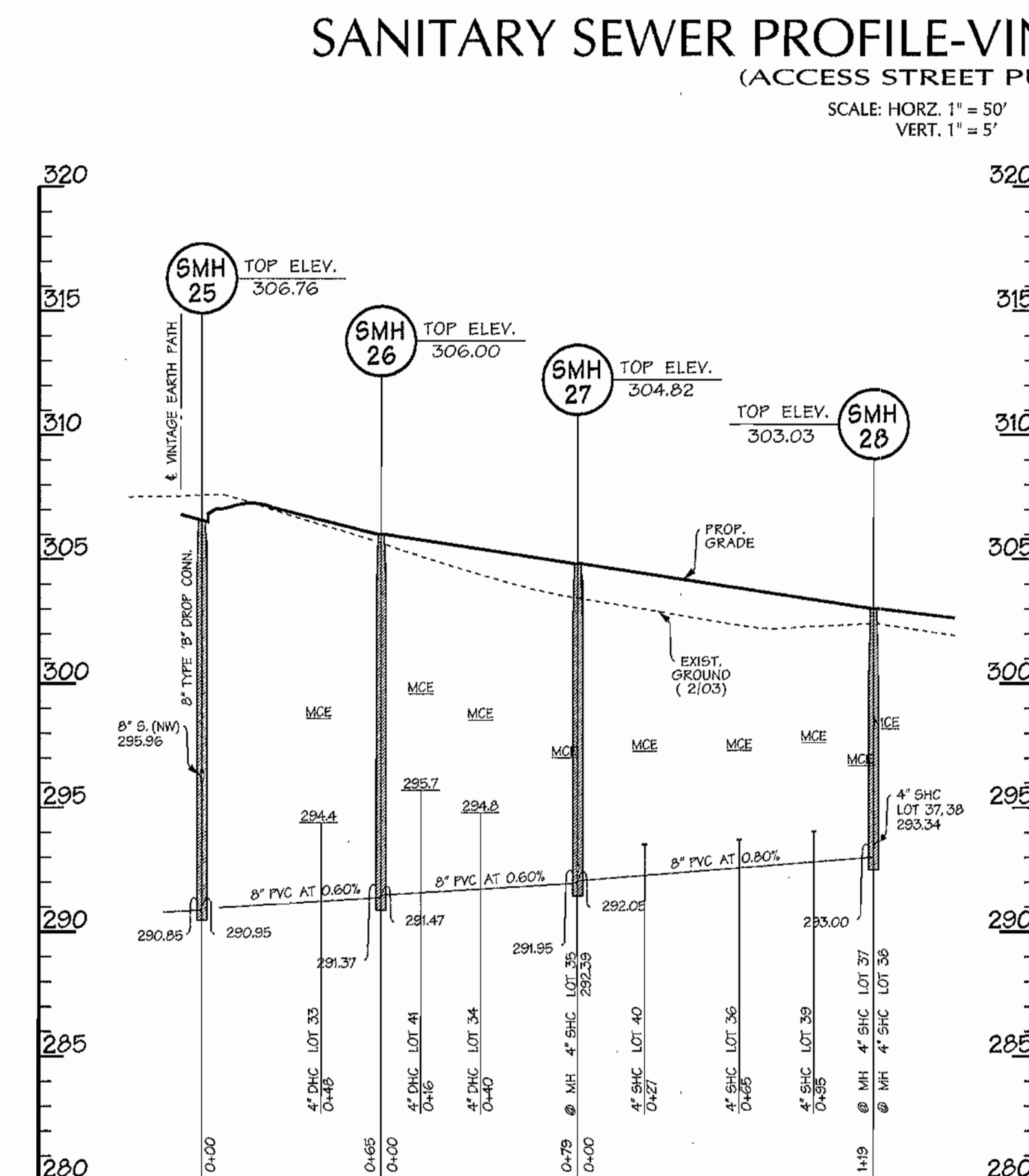
SANITARY SEWER PROFILE-VINTAGE EARTH PATH
(ACCESS STREET PUBLIC)

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



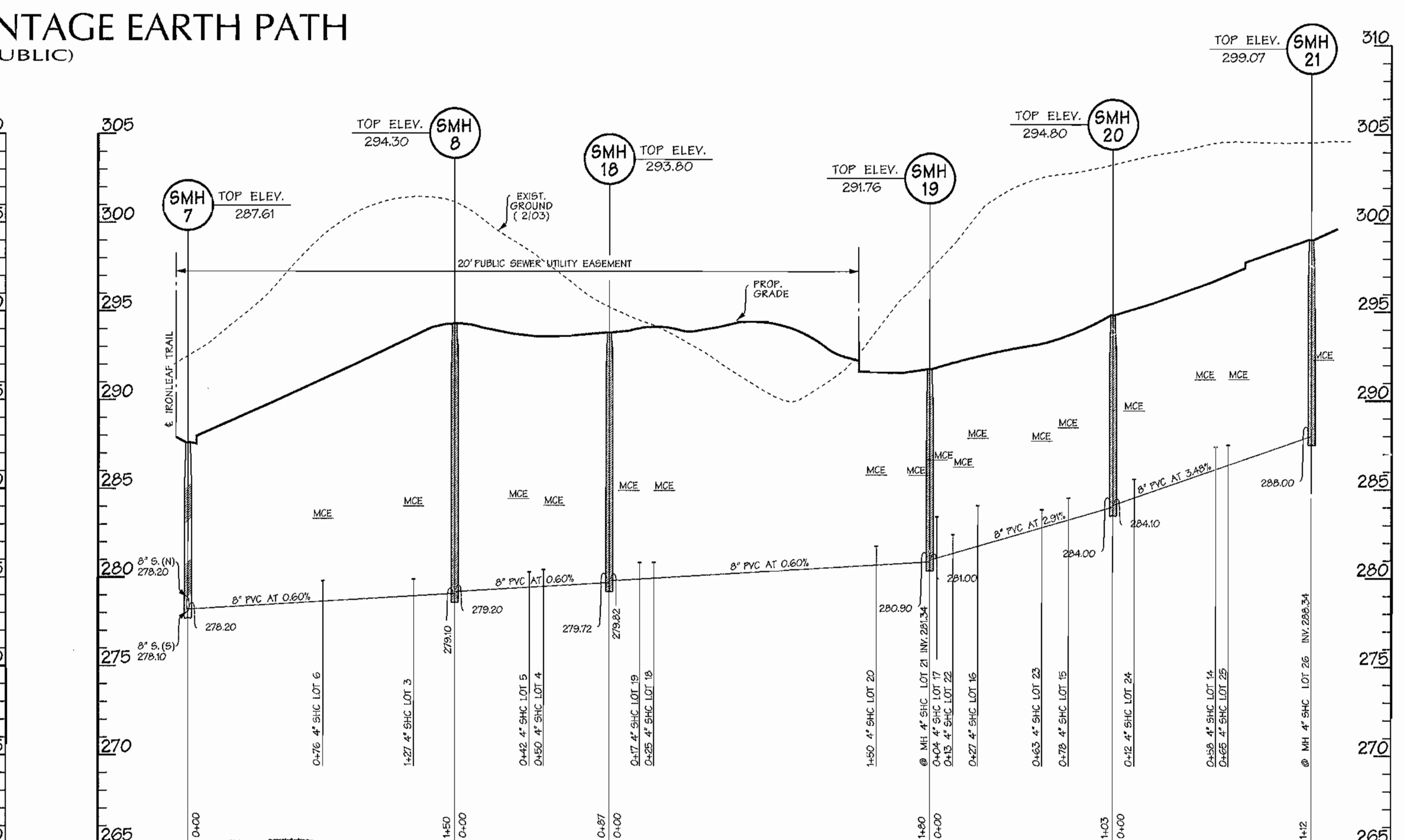
SANITARY SEWER PROFILE

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



SANITARY SEWER PROFILE
AUTUMN GRAIN GATE
(PRIVATE ACCESS PLACE)

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



AS BUILT

SANITARY SEWER PROFILE DAPPER TOWN ROW
(PUBLIC ACCESS PLACE)

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

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

SIGNATURE: *[Signature]* DATE: _____

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

APPROVED: _____ DATE: _____

HOWARD S.C.D.

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 7-1-04
CHIEF - BUREAU OF UTILITIES - DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature] 7/6/04
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
Daft-McCune-Walker, Inc.

A Team of Land Planners,
Landscape Architects,
Township, Maryland 21286
(410) 296-3333
Fax: 296-4705

Environmental Professionals

DESIGN BY: DFM
DRAWN BY: WDE
CHECKED BY: _____
DATE: 6/28/04

| REVISION | DATE |
|----------|------|
| | |
| | |
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| | |

PROPOSED 8" SANITARY SEWER
VINTAGE EARTH PATH
PROPOSED 8" SANITARY SEWER
AUTUMN GRAIN GATE
6th ELECTION DISTRICT

600 SCALE MAP NO. 47 BLOCK NO. 7, 8, 9, 13

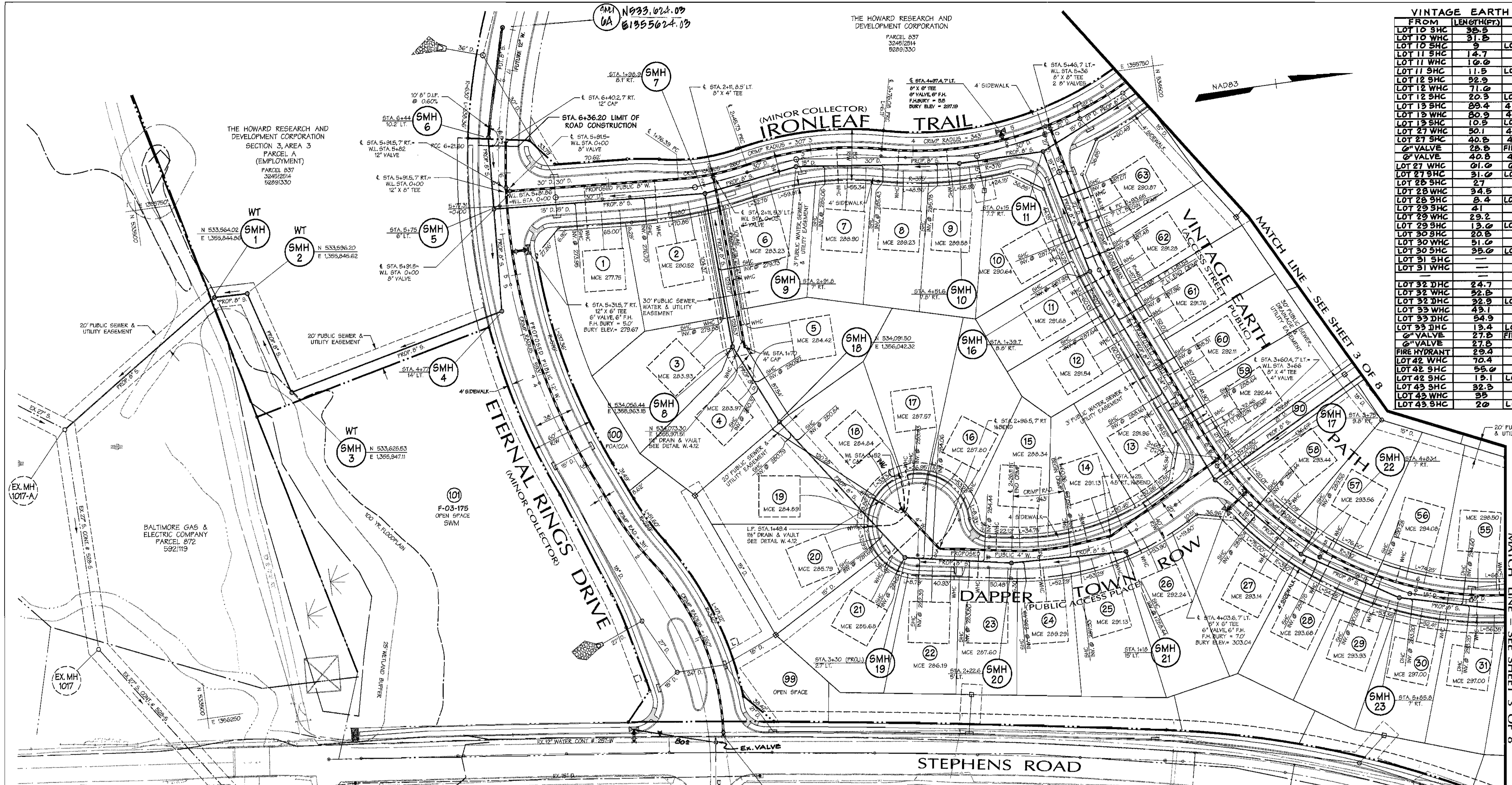
EMERSON SECTION 2
PHASE 5A
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

CONTRACT NO. 24-4120-D

SCALE: 1" = 50'
SHEET 8 of 8

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
PARCEL 837
32492514
52291330

| VINTAGE EARTH PATH | | | VINTAGE EARTH PATH | | |
|--------------------|------------|--------------|--------------------|------------|--------------|
| FROM | LENGTH(FT) | TO | FROM | LENGTH(FT) | TO |
| LOT 10 SHC | 38.5 | SMH 10 | LOT 44 WHC | 49.0 | SMH 32 |
| LOT 10 WHC | 31.5 | SMH 10 | LOT 44 SHC | 39.2 | SMH 32 |
| LOT 10 SHC | 9 | LOT 10 WHC | LOT 45 WHC | 14.7 | LOT 44 WHC |
| LOT 11 SHC | 14.7 | SMH 9 | LOT 45 SHC | 20.4 | SMH 31 |
| LOT 11 WHC | 10.0 | SMH 9 | LOT 45 SHC | 22.9 | LOT 45 WHC |
| LOT 11 SHC | 11.5 | LOT 11 WHC | LOT 46 WHC | 49.5 | SMH 31 |
| LOT 12 SHC | 92.9 | SMH 10 | LOT 46 SHC | 58.0 | SMH 31 |
| LOT 12 WHC | 71.0 | SMH 10 | LOT 46 SHC | 12.0 | LOT 46 WHC |
| LOT 12 SHC | 20.3 | LOT 12 WHC | LOT 47 SHC | 23.9 | SMH 30 |
| LOT 13 SHC | 28.4 | 4" W/VALVE | LOT 47 WHC | 2.9 | SMH 30 |
| LOT 13 WHC | 80.9 | 4" W/VALVE | LOT 47 SHC | 7.5 | LOT 47 WHC |
| LOT 13 SHC | 10.9 | LOT 13 WHC | LOT 48 WHC | 20.2 | SMH 29 |
| LOT 14 SHC | 50.1 | 4" W/VALVE | LOT 48 SHC | 1.5 | SMH 30 |
| LOT 14 WHC | 40.8 | 4" W/VALVE | LOT 48 SHC | 9.3 | LOT 48 WHC |
| LOT 14 SHC | 28.8 | FIRE HYDRANT | LOT 49 WHC | 49.3 | SMH 30 |
| LOT 15 SHC | 40.8 | 4" W/VALVE | LOT 49 SHC | 50.0 | SMH 30 |
| LOT 15 WHC | 01.0 | LOT 15 SHC | LOT 49 SHC | 8.7 | LOT 49 WHC |
| LOT 15 SHC | 27 | SMH 22 | LOT 50 SHC | 100.2 | SMH 29 |
| LOT 16 SHC | 34.5 | SMH 22 | LOT 50 WHC | 10.9 | SMH 29 |
| LOT 16 WHC | 3.4 | LOT 16 SHC | LOT 50 SHC | 9.1 | LOT 50 WHC |
| LOT 16 SHC | 4.1 | SMH 23 | LOT 51 WHC | 52.5 | SMH 29 |
| LOT 17 SHC | 29.2 | SMH 23 | LOT 51 SHC | 40.9 | SMH 29 |
| LOT 17 WHC | 13.0 | LOT 17 SHC | LOT 51 SHC | 12.9 | LOT 51 WHC |
| LOT 18 SHC | 20.5 | SMH 23 | LOT 52 SHC | 35.0 | SMH 29 |
| LOT 18 WHC | 51.0 | SMH 23 | LOT 52 WHC | 31.2 | SMH 29 |
| LOT 18 SHC | 35.0 | LOT 18 WHC | LOT 52 SHC | 4.5 | LOT 52 WHC |
| LOT 19 SHC | — | — | LOT 52 SHC | 25.3 | 4" VALVE(FH) |
| LOT 19 WHC | — | — | LOT 53 SHC | 17.3 | 4" VALVE(FH) |
| LOT 19 SHC | — | — | LOT 53 WHC | 12.4 | LOT 53 SHC |
| LOT 20 SHC | 24.7 | SMH 24 | LOT 54 WHC | 57.5 | SMH 24 |
| LOT 20 WHC | 52.8 | SMH 24 | LOT 54 SHC | 4.3 | SMH 24 |
| LOT 20 SHC | 32.9 | LOT 20 WHC | LOT 54 SHC | 19.4 | LOT 54 WHC |
| LOT 21 SHC | 43.1 | SMH 25 | LOT 55 WHC | 102.5 | SMH 23 |
| LOT 21 WHC | 54.9 | SMH 25 | LOT 55 SHC | 08.7 | SMH 23 |
| LOT 21 SHC | 13.4 | LOT 21 WHC | LOT 55 WHC | 24.5 | LOT 55 SHC |
| LOT 22 SHC | 27.5 | FIRE HYDRANT | LOT 56 SHC | 40.5 | SMH 23 |
| LOT 22 WHC | 27.5 | SMH 25 | LOT 56 WHC | 29.5 | SMH 23 |
| LOT 22 SHC | 20.4 | SMH 25 | LOT 56 SHC | 17.0 | LOT 56 WHC |
| LOT 22 WHC | 70.4 | SMH 25 | LOT 57 SHC | 30.2 | SMH 22 |
| LOT 22 SHC | 55.0 | LOT 22 WHC | LOT 57 WHC | 35.4 | SMH 22 |
| LOT 23 SHC | 19.1 | LOT 23 WHC | LOT 57 SHC | 17.8 | LOT 57 WHC |
| LOT 23 WHC | 32.3 | SMH 32 | LOT 58 SHC | 23.5 | SMH 23 |
| LOT 23 SHC | 35 | SMH 32 | LOT 58 WHC | 4.9 | 4" VALVE(FH) |
| LOT 23 SHC | 20 | LOT 23 WHC | LOT 58 SHC | 25.2 | 4" VALVE(FH) |
| LOT 24 SHC | — | — | LOT 59 SHC | 43.8 | 4" VALVE(FH) |
| LOT 24 WHC | — | — | LOT 59 SHC | 12.0 | LOT 59 WHC |
| LOT 24 SHC | 118.4 | SMH 10 | LOT 60 WHC | 131.0 | SMH 10 |
| LOT 25 WHC | 12.4 | LOT 25 SHC | LOT 60 SHC | 12.4 | LOT 60 WHC |
| LOT 25 SHC | 72.3 | SMH 10 | LOT 61 SHC | 08.5 | SMH 10 |
| LOT 25 WHC | 12.4 | LOT 25 SHC | LOT 61 WHC | 29.1 | SMH 10 |
| LOT 26 SHC | 28.5 | SMH 10 | LOT 62 SHC | 17.3 | LOT 62 WHC |
| LOT 26 WHC | 59.2 | SMH 11 | LOT 62 WHC | 59.2 | SMH 11 |
| LOT 26 SHC | 04.9 | SMH 11 | LOT 63 WHC | 04.9 | SMH 11 |
| LOT 26 SHC | 7.2 | LOT 26 WHC | LOT 63 SHC | 7.2 | LOT 63 WHC |



| DAPPER TOWN ROW | | |
|-----------------|------------|------------|
| FROM | LENGTH(FT) | TO |
| LOT 14 SHC | 59.5 | SMH 21 |
| LOT 14 WHC | 45.5 | SMH 21 |
| LOT 14 SHC | 10.5 | LOT 14 WHC |
| LOT 15 SHC | 40.5 | SMH 20 |
| LOT 15 WHC | 33.9 | SMH 20 |
| LOT 15 SHC | 11.9 | LOT 15 WHC |
| LOT 16 SHC | 8.2 | SMH 19 |
| LOT 16 WHC | 75.2 | SMH 19 |
| LOT 16 SHC | 35.4 | LOT 16 WHC |
| LOT 17 WHC | 80.5 | SMH 19 |
| LOT 17 SHC | 81 | SMH 19 |
| LOT 17 WHC | 7 | LOT 17 SHC |
| LOT 18 WHC | 80 | SMH 19 |
| LOT 18 SHC | 31.1 | SMH 18 |
| LOT 18 SHC | 24.4 | LOT 18 SHC |
| LOT 18 WHC | 7.2 | LOT 17 WHC |

| DAPPER TOWN ROW | | |
|-----------------|------------|----------------|
| FROM | LENGTH(FT) | TO |
| LOT 19 WHC | 50.5 | LOT 20 WHC |
| LOT 19 WHC | 10.4 | 1/2" DR. VALVE |
| LOT 20 WHC | 30.5 | 1/2" DR. VALVE |
| LOT 20 WHC | 27.2 | LOT 20 WHC |
| LOT 20 SHC | 30.3 | SMH 19 |
| LOT 20 SHC | 23.0 | LOT 20 WHC |
| LOT 21 WHC | 24.5 | SMH 19 |
| LOT 21 SHC | 21.5 | SMH 19 |
| LOT 21 SHC | 11.4 | LOT 21 WHC |
| LOT 22 WHC | 52.0 | SMH 19 |
| LOT 22 SHC | 25.5 | SMH 19 |
| LOT 22 SHC | 35.9 | LOT 22 WHC |
| LOT 23 SHC | 48.2 | SMH 20 |
| LOT 23 WHC | 38.4 | SMH 20 |
| LOT 23 SHC | 10.2 | LOT 23 WHC |
| LOT 24 WHC | 29.2 | SMH 20 |
| LOT 24 SHC | 23.5 | SMH 20 |
| LOT 24 SHC | 12 | LOT 24 WHC |
| LOT 25 SHC | 47.5 | SMH 21 |
| LOT 25 WHC | 13.9 | SMH 21 |
| LOT 25 SHC | 33.2 | LOT 25 WHC |
| LOT 26 SHC | 8 | SMH 21 |
| LOT 26 WHC | 14 | SMH 21 |
| LOT 26 SHC | 12.9 | LOT 26 WHC |

| ETERNAL RINGS DRIVE | | |
|---------------------|------------|--------------|
| FROM | LENGTH(FT) | TO |
| SMH 4 | 02 | 4" VALVE |
| SMH 4 | 07.7 | FIRE HYDRANT |
| SMH 5 | 44.5 | 4" VALVE |
| SMH 5 | 50.4 | FIRE HYDRANT |
| SMH 5 | 27.5 | 3" VALVE |
| SMH 5 | 11.2 | 12" VALVE |
| SMH 6 | 74.2 | SMH 5 |
| SMH 6 | 71.0 | 3" INLET |
| 12" VALVE | 74.2 | FIRE HYDRANT |
| 8" VALVE | 80 | FIRE HYDRANT |
| 12" VALVE | 7 | 8" VALVE |
| 8" VALVE | 32.0 | SMH 5 |
| 12" VALVE | 33.3 | SMH 15 |
| 12" VALVE | 3.0 | 8" VALVE |
| 8" VALVE | 44 | SMH 15 |
| FIRE HYDRANT | 41.1 | SMH 15 |
| 8" VALVE | 14 | FIRE HYDRANT |

| IRONLEAF TRAIL | | |
|----------------|------------|----------------|
| FROM | LENGTH(FT) | TO |
| LOT 1 SHC | 21.5 | 3" INLET |
| LOT 1 WHC | 29.5 | 3" INLET |
| LOT 1 WHC | 10 | LOT 1 SHC |
| LOT 2 SHC | 07.7 | SMH 7 |
| LOT 2 WHC | 50.9 | SMH 7 |
| LOT 2 WHC | 11.2 | LOT 2 SHC |
| SMH 7 | 10.3 | 3" INLET |
| SMH 7 | 21.4 | 4" VALVE |
| SMH 7 | 17.4 | 4" VALVE |
| LOT 3 WHC | 20.7 | SMH 8 |
| LOT 3 WHC | 31.3 | LOT 3 WHC |
| SMH 8 | 27.9 | LOT 3 WHC |
| LOT 4 SHC | 22 | LOT 4 SHC |
| LOT 4 SHC | 3.0 | SMH 15 |
| SMH 15 | 44.7 | LOT 4 SHC |
| LOT 5 WHC | 18.9 | SMH 8 |
| LOT 5 WHC | 27 | 1/2" DR. VALVE |
| LOT 4 WHC | 24.2 | 1/2" DR. VALVE |
| LOT 4 WHC | 18.9 | SMH 8 |

| IRONLEAF TRAIL | | |
|----------------|------------|--------------|
| FROM | LENGTH(FT) | TO |
| LOT 6 SHC | 50.5 | LOT 6 WHC |
| LOT 6 WHC | 10.5 | LOT 6 SHC |
| LOT 6 WHC | 00.7 | LOT 6 SHC |
| LOT 6 SHC | 50.5 | LOT 6 WHC |
| LOT 7 SHC | 10.8 | LOT 6 WHC |
| LOT 7 WHC | 35.0 | SMH 9 |
| LOT 7 WHC | 40.7 | SMH 9 |
| LOT 7 SHC | 12.4 | LOT 7 WHC |
| LOT 8 SHC | 77.4 | SMH 10 |
| LOT 8 WHC | 06.8 | SMH 10 |
| LOT 9 SHC | 27.0 | SMH 10 |
| LOT 9 WHC | 23.1 | SMH 10 |
| LOT 9 SHC | 11.4 | LOT 9 WHC |
| LOT 9 WHC | 10.8 | LOT 9 SHC |
| LOT 9 SHC | 52.2 | FIRE HYDRANT |
| LOT 9 SHC | 50.0 | SMH 9 |
| FIRE HYDRANT | 0.1 | 4" VALVE |
| 8" VALVE | 27 | SMH 11 |
| 8" VALVE | 25 | SMH 11 |
| 8" VALVE | 3.0 | 8" VALVE |
| LOT 10 WHC | 31.0 | SMH 12 |
| LOT 10 SHC | 21.4 | SMH 12 |
| LOT 10 SHC | 12.7 | LOT 10 WHC |
| LOT 10 WHC | 99.1 | SMH 12 |
| LOT 10 SHC | 71.3 | SMH 12 |
| LOT 10 SHC | 23.4 | LOT 10 WHC |
| LOT 10 WHC | 00.5 | SMH 13 |
| LOT 10 SHC | 31.5 | SMH 13 |
| LOT 10 SHC | 10.4 | LOT 10 WHC |

| IRONLEAF TRAIL | | |
|----------------|------------|--------------|
| FROM | LENGTH(FT) | TO |
| LOT 17 WHC | 23.7 | SMH 13 |
| LOT 17 SHC | 30.1 | SMH 13 |
| LOT 17 SHC | 14.8 | LOT 17 WHC |
| LOT 18 WHC | 04.9 | SMH 13 |
| LOT 18 SHC | 40.8 | SMH 13 |
| LOT 18 SHC | 18.5 | LOT 18 WHC |
| 8" VALVE | 49.5 | FIRE HYDRANT |
| 8" VALVE | 48.0 | 4" VALVE(FH) |
| 8" VALVE | 5 | FIRE HYDRANT |
| LOT 19 WHC | 71.7 | 8" VALVE |
| LOT 19 SHC | 59.4 | 8" VALVE |
| LOT 19 SHC | 13.1 | LOT 19 WHC |
| LOT 20 SHC | 30.2 | SMH 14 |
| LOT 20 WHC | 39.2 | SMH 14 |
| LOT 20 SHC | 8.9 | LOT 20 WHC |
| LOT 21 WHC | 43 | SMH 14 |
| LOT 21 SHC | 51.4 | SMH 14 |
| LOT 21 SHC | 10 | LOT 21 WHC |

AS BUILT
DATE: JANUARY 2005

Legend

| | | |
|------------------------|------------------------|-------|
| EX. CURB & GUTTER | PROF. SEWER | 8" S. |
| EX. MAJOR CONTOURS | PROF. WATER | 4" W. |
| EX. MINOR CONTOURS | PROPERTY LINE | |
| EX. STORM DRAIN | ROADWAY RIGHT-OF-WAY | |
| EX. SEWER | PROPOSED LOT LINE | |
| EX. WATER | PROPOSED EASEMENT | |
| EXISTING TREE LINE | PROPOSED CURB & GUTTER | |
| EXISTING WETLAND LIMIT | PROPOSED SIDEWALK | |
| PROF. STORM DRAIN | PROPOSED GUARD RAIL | |
| | PROPOSED RIP RAP | |
| WATER LINE STATIONING | | |

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

Jim Meyer 6/3/04
SIGNATURE DATE

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

John K. Robertson 6/3/04
APPROVED DATE

HOWARD COUNTY

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

R. B. ...
CHIEF - BUREAU OF UTILITIES - DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

... 7/6/04
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
Daft-McCune-Walker, Inc.

200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax 296-4705

A Team of Land Planners,
Landscape Architects,
Golf Course Architects,
Engineers, Surveyors &
Environmental Professionals

DESIGN BY: DFM
DRAWN BY: WDE
CHECKED BY: DMW
DATE: 6/28/04

PROPOSED 8" WATER MAIN
ETERNAL RINGS DRIVE, IRONLEAF TRAIL,
VINTAGE EARTH PATH, DAPPER TOWN ROW

6th ELECTION DISTRICT

CONTRACT NO. 24-4120-D

SCALE: 1"=50'
SHEET 2 of 8

DESIGN BY: DFM
DRAWN BY: WDE
CHECKED BY: DMW
DATE: 6/28/04

ADD WMC FOR LOT 18, REMOVE WMC LOT 17
REVISE SEWER TO ADD SMH 0A

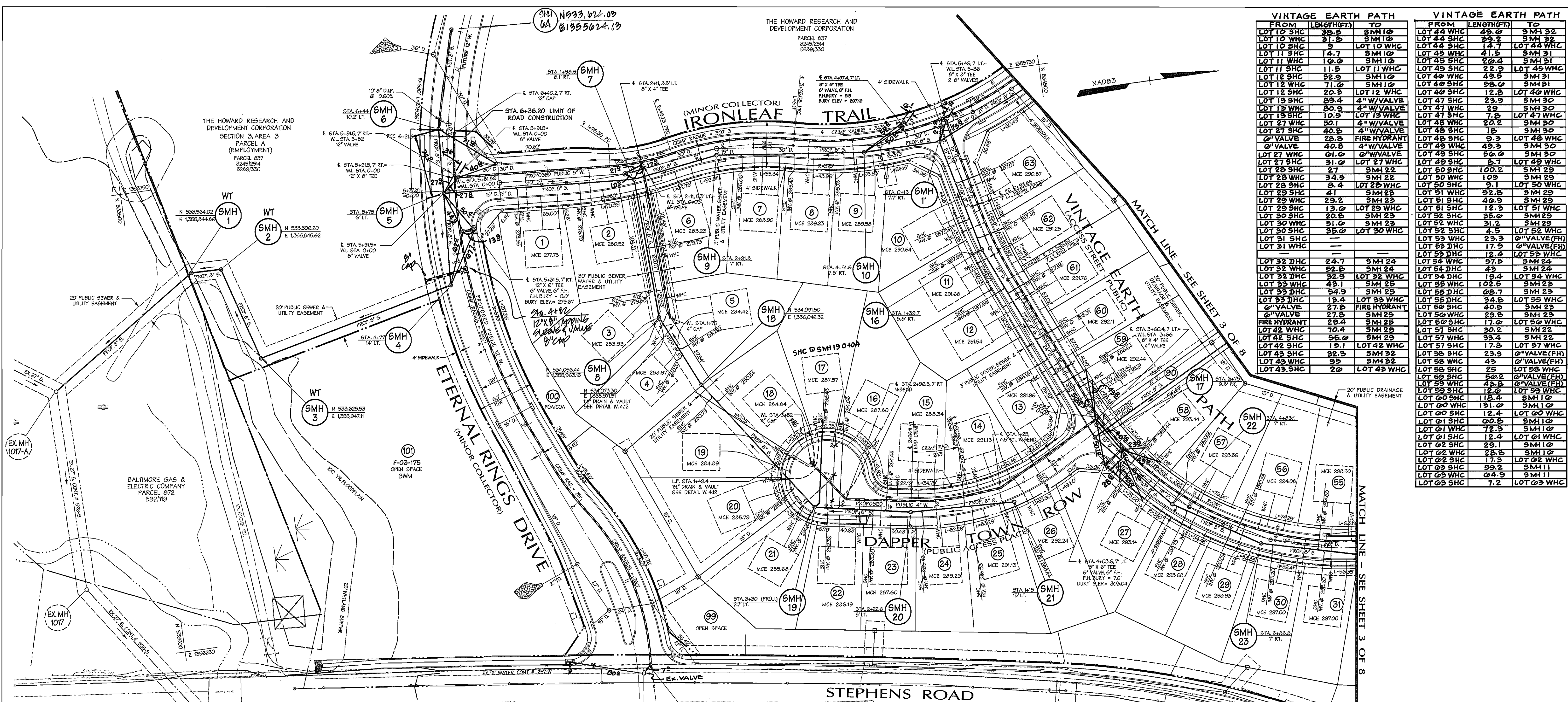
3-8-05
10/29/04

600 SCALE MAP NO. 47 BLOCK NO. 7, 8, 9, 13

EMERSON SECTION 2
PHASE 5A
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

CONTRACT NO. 24-4120-D

SCALE: 1"=50'
SHEET 2 of 8



| VINTAGE EARTH PATH | | | VINTAGE EARTH PATH | | |
|--------------------|------------|--------------|--------------------|------------|---------------|
| FROM | LENGTH(FT) | TO | FROM | LENGTH(FT) | TO |
| LOT 10 SHC | 35.5 | 5MH 10 | LOT 44 SHC | 49.0 | 5MH 32 |
| LOT 10 WHC | 31.5 | 5MH 10 | LOT 44 SHC | 39.2 | 5MH 32 |
| LOT 11 SHC | 5 | LOT 10 WHC | LOT 45 SHC | 14.7 | LOT 44 WHC |
| LOT 11 WHC | 10.0 | 5MH 10 | LOT 45 SHC | 22.4 | 5MH 31 |
| LOT 11 SHC | 11.5 | LOT 11 WHC | LOT 45 SHC | 22.9 | LOT 45 WHC |
| LOT 12 SHC | 52.9 | 5MH 10 | LOT 46 WHC | 49.5 | 5MH 31 |
| LOT 12 WHC | 71.0 | 5MH 10 | LOT 46 SHC | 56.0 | 5MH 31 |
| LOT 13 SHC | 20.3 | LOT 12 WHC | LOT 46 SHC | 12.5 | LOT 46 WHC |
| LOT 13 WHC | 29.4 | 4" W/VALVE | LOT 47 WHC | 23.9 | 5MH 30 |
| LOT 13 SHC | 30.9 | 4" W/VALVE | LOT 47 WHC | 23.9 | 5MH 30 |
| LOT 13 WHC | 10.5 | LOT 13 SHC | LOT 47 WHC | 14.3 | LOT 47 WHC |
| LOT 14 WHC | 50.1 | 4" W/VALVE | LOT 48 WHC | 20.2 | 5MH 30 |
| LOT 14 SHC | 40.5 | 4" W/VALVE | LOT 48 SHC | 18 | 5MH 30 |
| LOT 14 WHC | 28.5 | FIRE HYDRANT | LOT 48 SHC | 9.3 | LOT 48 WHC |
| LOT 15 SHC | 40.8 | 4" W/VALVE | LOT 49 WHC | 49.3 | 5MH 30 |
| LOT 15 WHC | 61.0 | 4" W/VALVE | LOT 49 SHC | 50.0 | 5MH 30 |
| LOT 15 SHC | 31.0 | LOT 15 WHC | LOT 49 SHC | 6.7 | LOT 49 WHC |
| LOT 16 SHC | 2.7 | 5MH 22 | LOT 50 SHC | 100.2 | 5MH 29 |
| LOT 16 WHC | 34.5 | 5MH 22 | LOT 50 SHC | 1.9 | 5MH 29 |
| LOT 16 SHC | 5.4 | LOT 16 WHC | LOT 50 SHC | 9.1 | LOT 50 WHC |
| LOT 17 SHC | 4.1 | 5MH 23 | LOT 51 WHC | 52.8 | 5MH 29 |
| LOT 17 WHC | 29.2 | 5MH 23 | LOT 51 SHC | 40.9 | 5MH 29 |
| LOT 17 SHC | 13.0 | LOT 17 WHC | LOT 51 SHC | 12.3 | LOT 51 WHC |
| LOT 18 SHC | 20.5 | 5MH 23 | LOT 52 SHC | 35.0 | 5MH 29 |
| LOT 18 WHC | 51.0 | 5MH 23 | LOT 52 WHC | 31.2 | 5MH 29 |
| LOT 18 SHC | 35.0 | LOT 18 WHC | LOT 52 SHC | 4.5 | LOT 52 WHC |
| LOT 19 SHC | 24.7 | 5MH 24 | LOT 53 WHC | 23.3 | 4" VALVE (FH) |
| LOT 19 WHC | 52.0 | 5MH 24 | LOT 53 WHC | 17.9 | 4" VALVE (FH) |
| LOT 19 SHC | 22.9 | LOT 19 WHC | LOT 53 WHC | 12.4 | LOT 53 WHC |
| LOT 20 WHC | 43.1 | 5MH 25 | LOT 54 WHC | 57.5 | 5MH 24 |
| LOT 20 SHC | 54.9 | 5MH 25 | LOT 54 WHC | 4.3 | 5MH 24 |
| LOT 20 SHC | 5.4 | LOT 20 WHC | LOT 54 WHC | 19.4 | LOT 54 WHC |
| LOT 21 SHC | 27.5 | FIRE HYDRANT | LOT 55 WHC | 102.5 | 5MH 23 |
| LOT 21 WHC | 27.5 | FIRE HYDRANT | LOT 55 WHC | 68.7 | 5MH 23 |
| LOT 21 SHC | 27.5 | FIRE HYDRANT | LOT 55 WHC | 34.8 | LOT 55 WHC |
| LOT 21 WHC | 27.5 | FIRE HYDRANT | LOT 56 SHC | 40.5 | 5MH 23 |
| LOT 22 SHC | 29.4 | 5MH 25 | LOT 56 WHC | 29.5 | 5MH 23 |
| LOT 22 WHC | 29.4 | 5MH 25 | LOT 56 WHC | 17.0 | LOT 56 WHC |
| LOT 22 SHC | 70.4 | 5MH 25 | LOT 57 SHC | 30.2 | 5MH 22 |
| LOT 22 WHC | 55.0 | 5MH 25 | LOT 57 WHC | 33.4 | 5MH 22 |
| LOT 22 SHC | 15.1 | LOT 22 WHC | LOT 57 SHC | 17.5 | LOT 57 WHC |
| LOT 23 SHC | 32.3 | 5MH 32 | LOT 58 SHC | 23.9 | 4" VALVE (FH) |
| LOT 23 WHC | 35 | 5MH 32 | LOT 58 WHC | 43 | 4" VALVE (FH) |
| LOT 23 SHC | 20 | LOT 23 WHC | LOT 58 WHC | 50.2 | 4" VALVE (FH) |
| LOT 24 SHC | 24.7 | 5MH 24 | LOT 59 SHC | 43.5 | 4" VALVE (FH) |
| LOT 24 WHC | 52.0 | 5MH 24 | LOT 59 SHC | 12.0 | LOT 59 WHC |
| LOT 24 SHC | 118.4 | 5MH 10 | LOT 59 WHC | 151.0 | 5MH 10 |
| LOT 24 WHC | 151.0 | 5MH 10 | LOT 60 SHC | 12.4 | LOT 60 WHC |
| LOT 25 SHC | 72.3 | 5MH 10 | LOT 61 SHC | 60.5 | 5MH 10 |
| LOT 25 WHC | 29.1 | 5MH 10 | LOT 61 SHC | 72.3 | 5MH 10 |
| LOT 25 SHC | 29.2 | 5MH 11 | LOT 62 SHC | 29.1 | 5MH 10 |
| LOT 25 WHC | 24.9 | 5MH 11 | LOT 62 SHC | 28.5 | 5MH 10 |
| LOT 25 SHC | 7.2 | LOT 25 WHC | LOT 62 SHC | 17.3 | LOT 62 WHC |
| | | | LOT 63 WHC | 59.2 | 5MH 11 |
| | | | LOT 63 WHC | 24.9 | 5MH 11 |
| | | | LOT 63 SHC | 7.2 | LOT 63 WHC |

DAPPER TOWN ROW

| FROM | LENGTH(FT) | TO |
|------------|------------|------------|
| LOT 14 SHC | 50.5 | 5MH 21 |
| LOT 14 WHC | 48.5 | 5MH 21 |
| LOT 14 SHC | 10.2 | LOT 14 WHC |
| LOT 15 SHC | 40.5 | 5MH 20 |
| LOT 15 WHC | 33.9 | 5MH 20 |
| LOT 15 SHC | 11.9 | LOT 15 WHC |
| LOT 16 SHC | 85 | 5MH 19 |
| LOT 16 WHC | 79.2 | 5MH 19 |
| LOT 16 SHC | 35.4 | LOT 16 WHC |
| LOT 17 WHC | 80.5 | 5MH 19 |
| LOT 17 SHC | 81 | 5MH 19 |
| LOT 17 SHC | 7 | LOT 17 WHC |
| LOT 18 WHC | 30 | 5MH 19 |
| LOT 18 SHC | 31.1 | 5MH 19 |
| LOT 18 SHC | 24.4 | LOT 18 WHC |
| LOT 18 WHC | 7.2 | LOT 17 WHC |

DAPPER TOWN ROW

| FROM | LENGTH(FT) | TO |
|------------|------------|----------------|
| LOT 19 WHC | 50.5 | LOT 20 WHC |
| LOT 19 WHC | 10.4 | 1/2" DR. VAULT |
| LOT 20 WHC | 30.5 | 1/2" DR. VAULT |
| LOT 20 WHC | 27.2 | LOT 19 WHC |
| LOT 20 SHC | 30.3 | 5MH 19 |
| LOT 20 SHC | 23.0 | LOT 20 WHC |
| LOT 21 WHC | 24.5 | 5MH 19 |
| LOT 21 SHC | 21.5 | 5MH 19 |
| LOT 21 SHC | 11.4 | LOT 21 WHC |
| LOT 22 WHC | 52.0 | 5MH 19 |
| LOT 22 SHC | 25.5 | 5MH 19 |
| LOT 22 SHC | 35.9 | LOT 22 WHC |
| LOT 23 WHC | 48.2 | 5MH 20 |
| LOT 23 WHC | 38.4 | 5MH 20 |
| LOT 23 SHC | 10.2 | LOT 23 WHC |
| LOT 24 WHC | 29.2 | 5MH 20 |
| LOT 24 SHC | 23.3 | 5MH 20 |
| LOT 24 SHC | 12 | LOT 24 WHC |
| LOT 25 SHC | 47.5 | 5MH 21 |
| LOT 25 WHC | 13.9 | 5MH 21 |
| LOT 25 SHC | 33.2 | LOT 25 WHC |
| LOT 26 SHC | 5 | 5MH 21 |
| LOT 26 WHC | 14 | 5MH 21 |
| LOT 26 SHC | 12.9 | LOT 26 WHC |

ETERNAL RINGS DRIVE

| FROM | LENGTH(FT) | TO |
|--------------|------------|--------------|
| 5MH 4 | 0.2 | 0" VALVE |
| 5MH 4 | 07.7 | FIRE HYDRANT |
| 5MH 5 | 44.5 | 0" VALVE |
| 5MH 5 | 50.4 | FIRE HYDRANT |
| 5MH 5 | 27.5 | 8" VALVE |
| 5MH 5 | 27.9 | 12" VALVE |
| 5MH 6 | 74.2 | 5MH 5 |
| 5MH 6 | 71.0 | SD INLET |
| 12" VALVE | 74.2 | FIRE HYDRANT |
| 12" VALVE | 80 | FIRE HYDRANT |
| 12" VALVE | 7 | 8" VALVE |
| 12" VALVE | 32.0 | 5MH 15 |
| 12" VALVE | 33.3 | 5MH 15 |
| 12" VALVE | 3.0 | 8" VALVE |
| 0" VALVE | 4.4 | 5MH 15 |
| FIRE HYDRANT | 41.1 | 5MH 15 |
| 0" VALVE | 14 | FIRE HYDRANT |

IRONLEAF TRAIL

| FROM | LENGTH(FT) | TO |
|-----------|------------|----------------|
| LOT 1 SHC | 21.5 | 3D INLET |
| LOT 1 WHC | 20.5 | 3D INLET |
| LOT 1 WHC | 10 | LOT 1 SHC |
| LOT 2 SHC | 07.7 | 5MH 7 |
| LOT 2 WHC | 50.9 | 5MH 7 |
| LOT 2 WHC | 11.2 | LOT 2 SHC |
| 5MH 7 | 10.3 | 5MH 8 |
| 5MH 7 | 21.4 | 4" VALVE |
| 5MH 7 | 17.4 | 4" VALVE |
| LOT 3 WHC | 20.7 | 5MH 8 |
| LOT 3 WHC | 31.3 | LOT 5 WHC |
| 5MH 8 | 27.9 | LOT 5 WHC |
| LOT 4 SHC | 22 | LOT 5 SHC |
| LOT 4 SHC | 30 | 5MH 15 |
| 5MH 15 | 44.7 | LOT 5 SHC |
| LOT 5 WHC | 18.9 | 5MH 8 |
| LOT 5 WHC | 27 | 1/2" DR. VAULT |
| LOT 4 WHC | 24.2 | 1/2" DR. VAULT |
| LOT 4 WHC | 18.9 | 5MH 8 |

IRONLEAF TRAIL

| FROM | LENGTH(FT) | TO |
|--------------|------------|--------------|
| LOT 6 SHC | 50.5 | LOT 7 WHC |
| LOT 6 WHC | 10.5 | LOT 6 SHC |
| LOT 6 WHC | 00.7 | LOT 7 SHC |
| LOT 6 SHC | 50.5 | LOT 7 WHC |
| LOT 6 SHC | 10.5 | LOT 6 WHC |
| LOT 7 SHC | 35.0 | 5MH 9 |
| LOT 7 WHC | 40.7 | 5MH 9 |
| LOT 7 SHC | 12.4 | LOT 7 WHC |
| LOT 8 SHC | 77.4 | 5MH 10 |
| LOT 8 WHC | 00.5 | 5MH 10 |
| LOT 9 SHC | 27.0 | 5MH 10 |
| LOT 9 WHC | 23.1 | 5MH 10 |
| LOT 9 SHC | 11.6 | LOT 9 WHC |
| 5MH 10 | 52.2 | FIRE HYDRANT |
| 5MH 10 | 50 | 0" VALVE |
| FIRE HYDRANT | 0.1 | 0" VALVE |
| 5" VALVE | 27 | 5MH 11 |
| 5" VALVE | 25.5 | 5MH 11 |
| 8" VALVE | 3.0 | 8" VALVE |
| LOT 10 WHC | 31.0 | 5MH 12 |
| LOT 10 SHC | 21.4 | 5MH 12 |
| LOT 10 SHC | 14.7 | LOT 10 WHC |
| LOT 10 SHC | 99.1 | 5MH 12 |
| LOT 10 SHC | 71.3 | 5MH 12 |
| LOT 10 SHC | 20.4 | LOT 10 WHC |
| LOT 10 WHC | 00.5 | 5MH 13 |
| LOT 10 SHC | 81.5 | 5MH 13 |
| LOT 10 SHC | 10.4 | LOT 10 WHC |

IRONLEAF TRAIL

| FROM | LENGTH(FT) | TO |
|------------|------------|---------------|
| LOT 17 WHC | 23.7 | 5MH 13 |
| LOT 17 SHC | 30.1 | 5MH 13 |
| LOT 17 SHC | 14.8 | LOT 17 WHC |
| LOT 18 WHC | 64.5 | 5MH 13 |
| LOT 18 SHC | 40.5 | 5MH 13 |
| LOT 18 SHC | 18.5 | LOT 18 WHC |
| 5" VALVE | 49.5 | FIRE HYDRANT |
| 5" VALVE | 48.0 | 0" VALVE (FH) |
| 0" VALVE | 8 | FIRE HYDRANT |
| LOT 19 WHC | 71.7 | 8" VALVE |
| LOT 19 SHC | 59.4 | 8" VALVE |
| LOT 19 SHC | 13.1 | LOT 19 WHC |
| LOT 19 SHC | 32.2 | 5MH 14 |
| LOT 19 WHC | 35 | 5MH 14 |
| LOT 19 WHC | 8.9 | LOT 19 WHC |
| LOT 19 WHC | 45 | 5MH 14 |
| LOT 19 WHC | 51.4 | 5MH 14 |
| LOT 19 WHC | 10 | LOT 19 WHC |

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

Jim Meyer 6/3/04
SIGNATURE DATE

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

John K. Roberts 6/3/04
APPROVED DATE

HOWARD COUNTY

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

WATER AND SEWER AS-BUILTS

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

R. J. ...
CHIEF - BUREAU OF UTILITIES - DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

M. ... 7/6/04
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
Daft-McCune-Walker, Inc.
A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals

DESIGN BY: DFM
DRAWN BY: WDE
CHECKED BY: DMW
DATE: 6/28/04

PROPOSED 8" WATER MAIN
ETERNAL RINGS DRIVE, IRONLEAF TRAIL, VINTAGE EARTH PATH, DAPPER TOWN ROW

6th ELECTION DISTRICT

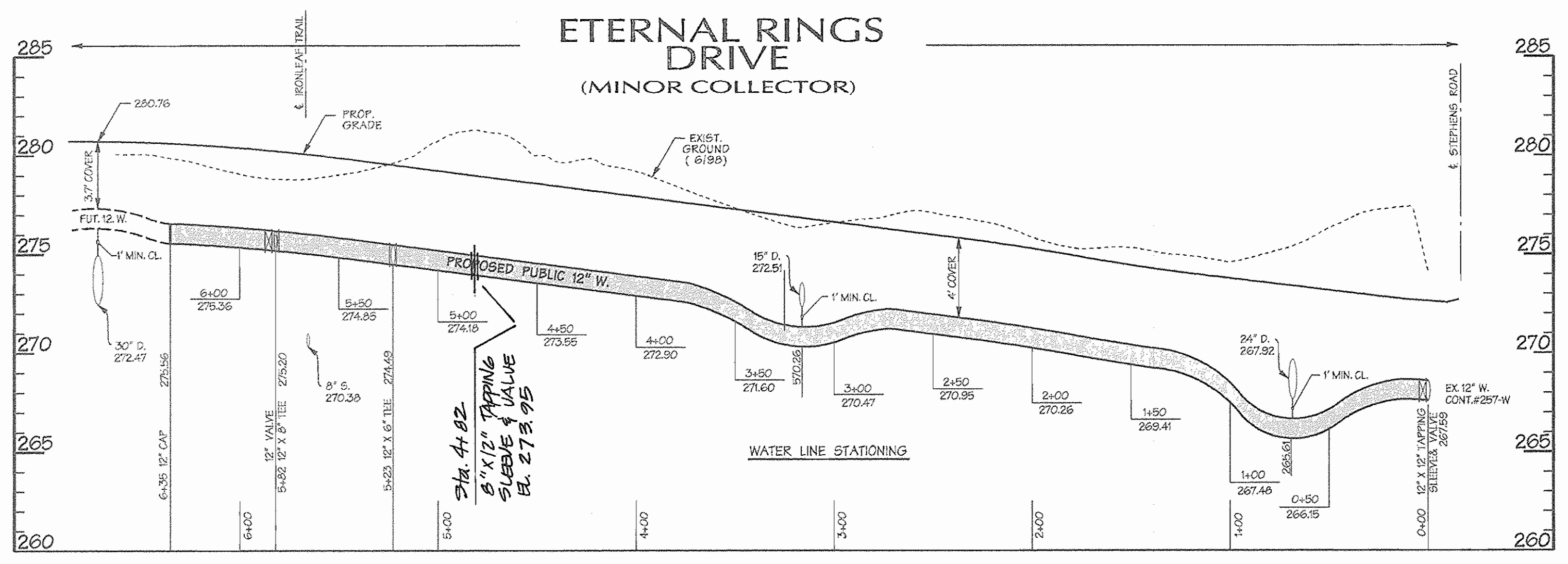
600 SCALE MAP NO. 47 BLOCK NO. 7, 8, 9, 13

EMERSON SECTION 2
PHASE 5A
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

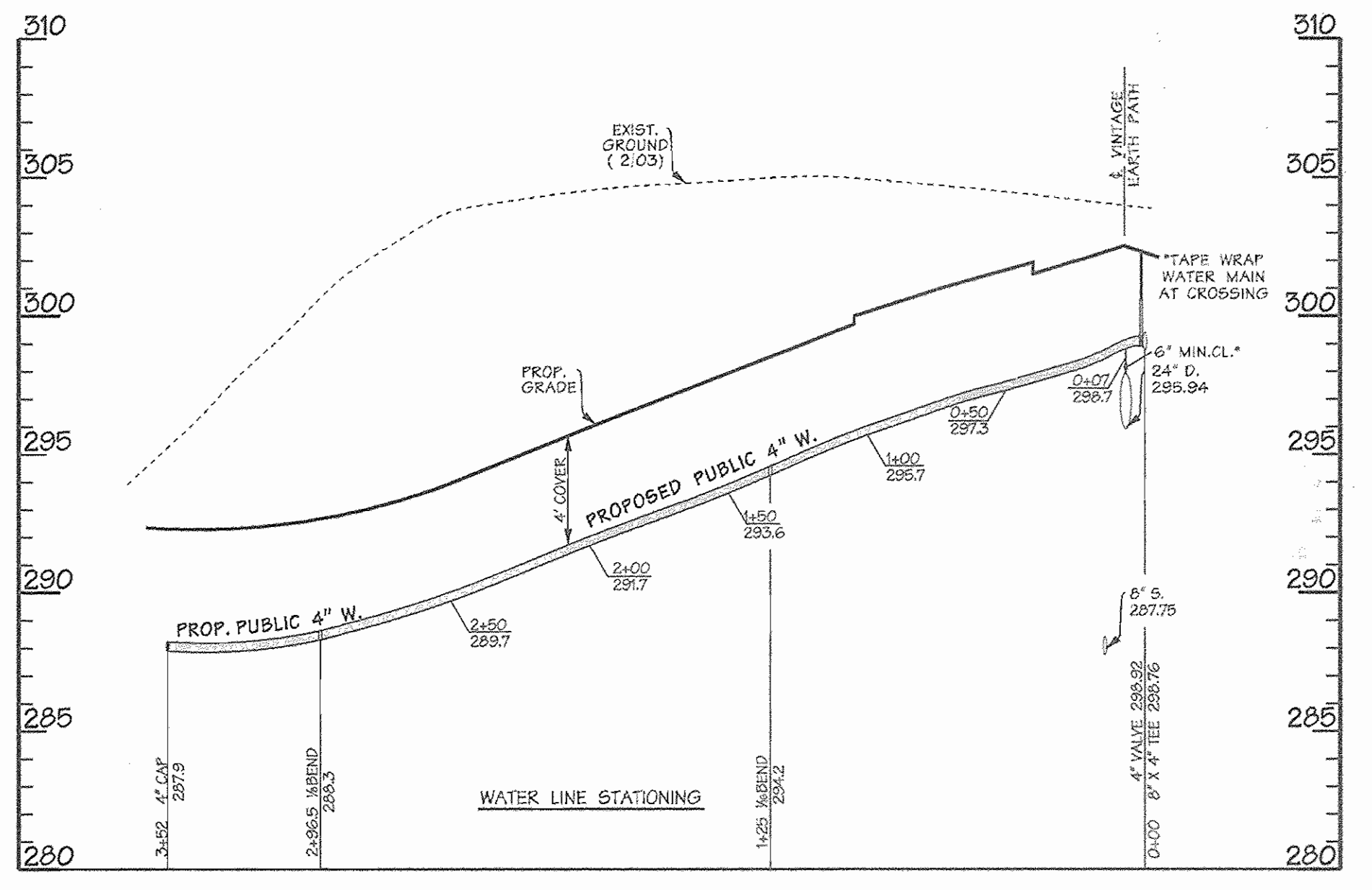
CONTRACT NO. 24-4120-D

Legend

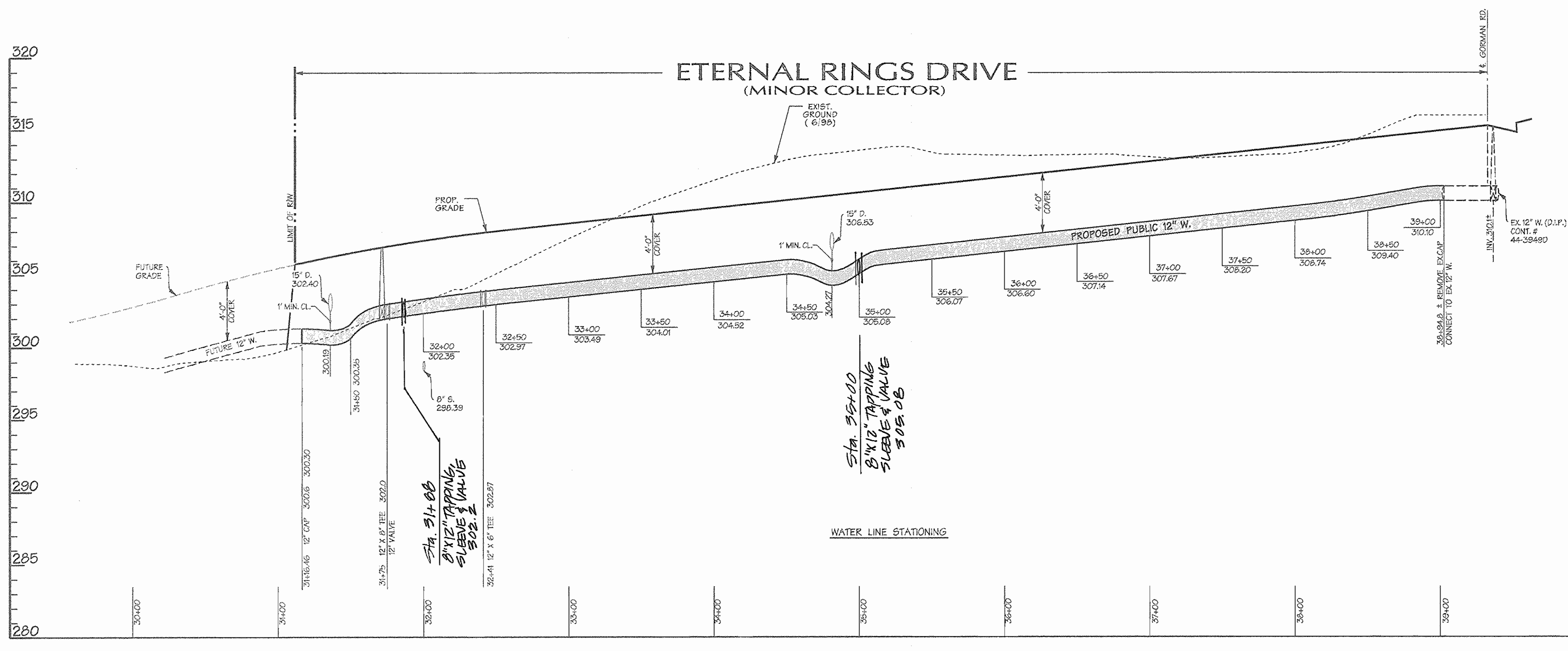
| | | | |
|------------------------|-----|------------------------|-----|
| EX CURB & GUTTER | --- | PROP. SEWER | --- |
| EX MAJOR CONTOURS | --- | PROP. WATER | --- |
| EX MINOR CONTOURS | --- | PROPERTY LINE | --- |
| EX STORM DRAIN | --- | ROADWAY RIGHT-OF-WAY | --- |
| EX SEWER | --- | PROPOSED LOT LINE | --- |
| EX WATER | --- | PROPOSED EASEMENT | --- |
| EXISTING TREE LINE | --- | PROPOSED CURB & GUTTER | --- |
| EXISTING WETLAND LIMIT | --- | PROPOSED SIDEWALK | --- |
| PROP. STORM DRAIN | --- | PROPOSED GUARD RAIL | --- |
| | | PROPOSED RIP-RAP | --- |



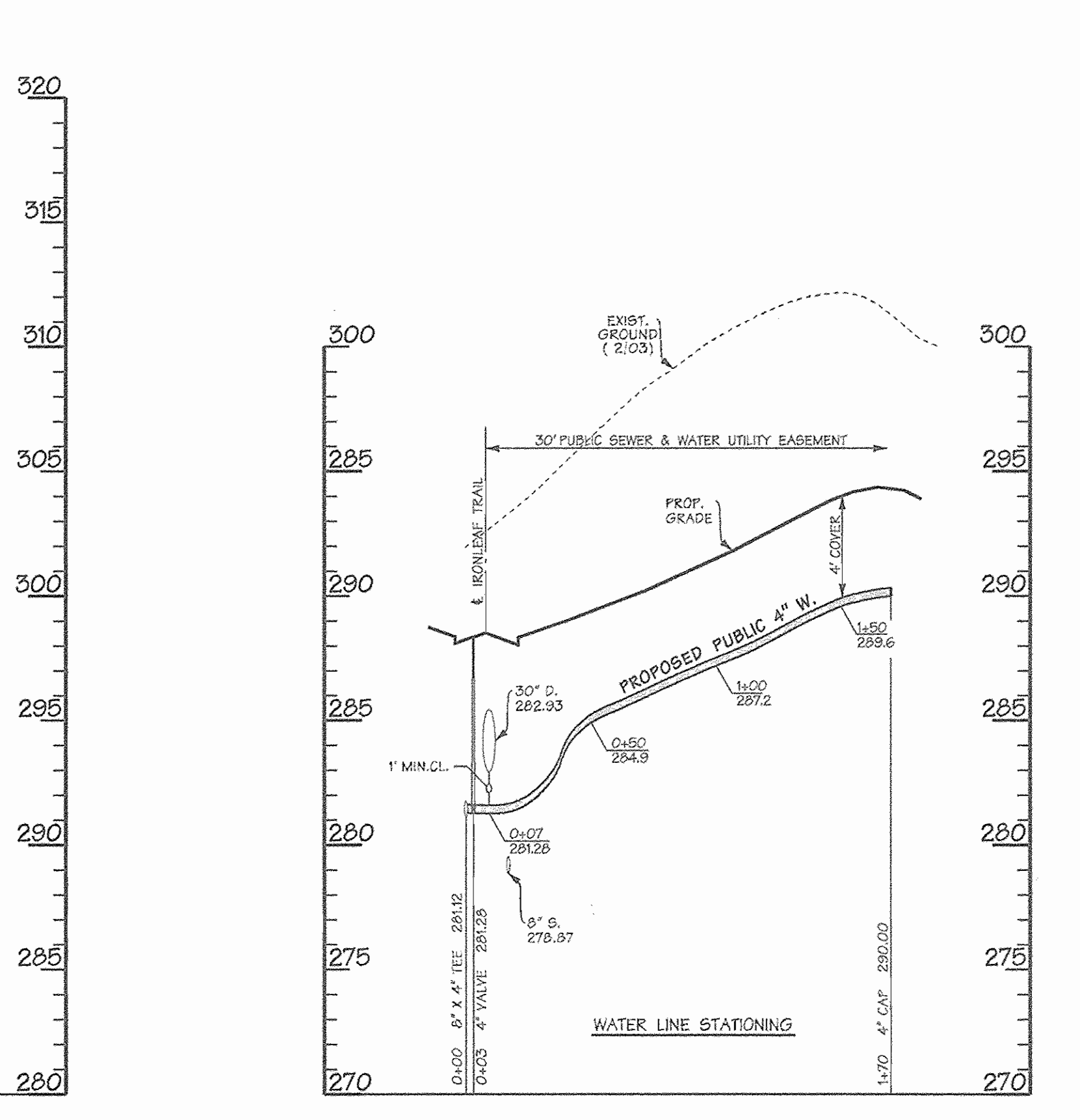
WATER PROFILE - ETERNAL RINGS DRIVE



WATER PROFILE - DAPPER TOWN ROW



WATER PROFILE - ETERNAL RINGS DRIVE



WATER PROFILE - LOTS 3, 4, 5, 6,

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

SIGNATURE _____ DATE _____

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

APPROVED _____ DATE _____

HOWARD S.C.D.

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

AS BUILT
DATE: JANUARY 2005

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

R. H. B... 7-1-04
CHIEF - BUREAU OF UTILITIES - DATE

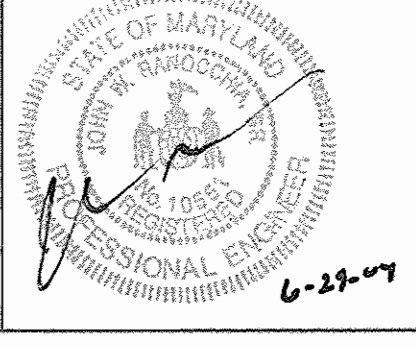
DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature] 7/6/04
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
Daft-McCune-Walker, Inc.

A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals

200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-5533
Fax 296-4705



| | |
|-------------|----------|
| DESIGN BY: | DFM |
| DRAWN BY: | WDE |
| CHECKED BY: | DMW |
| DATE: | 6/28/04 |
| BY NO. | NO. |
| REVISION | REVISION |
| DATE | DATE |

| | |
|--|---|
| PROPOSED 12" WATER MAIN ETERNAL RINGS DRIVE PROPOSED 4" WATER MAIN DAPPER TOWN ROW PROPOSED 4" WATER MAIN - LOTS 3, 4, 5, 6 6th ELECTION DISTRICT | STA. 4+82, STA. 31+00 & STA. 35+00, APP 5-7-06 8" X 12" TAPPING SLEEVE & VALVES 5-7-06 |
| 600 SCALE MAP NO. 47 | BLOCK NO. 7, 8, 9, 13 |

**EMERSON SECTION 2
PHASE 5A**
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

CONTRACT NO. 24-4120-D

SCALE: 1"=50'
SHEET 4 of 8

8" & 12" Water and Sewer Main Extension Emerson Section 2 – Phase 5A

Howard County, Maryland Department of Public Works

Contract No. 24-4120-D

GENERAL NOTES

PART I - GENERAL

- Approximate locations of existing mains are shown. The contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted service. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the contractor's expense.
- All horizontal controls are based on Maryland State Coordinates, NAD 83/91.
- All vertical controls are based on NAVD83.
- All pipe elevations shown are invert elevations unless otherwise noted on the plans.
- Clear all utilities by a minimum of 6 inches. Clear all poles by 2'-0" minimum or tunnels as required unless otherwise noted. The owner has contracted the utility companies and has made arrangements for bracing of poles as shown on the drawings. In the event the contractor's work requires the bracing of additional poles, any cost incurred by the owner for the bracing of additional poles or damages shall be deducted from monies owed the contractor. The contractor shall coordinate with the utility companies to schedule the bracing of the poles.
- For details not shown on the drawing, and for materials and construction methods, use Howard County Design Manual, Volume IV, Standard Specifications and Details for Construction (Latest Edition). The contractor shall have a copy of Volume IV on the job.
- Where test pits have been made on existing utilities, they are noted by the symbol at the locations of the test pits. A note or notes containing the results of the test pits or pits to be included on the drawings. Existing utilities in the vicinity of the proposed work for which test pits have not been dug shall be located by the contractor two weeks in advance of construction operations at his own expense.
- The contractor shall notify the following utility companies or agencies at least five working days before starting work shown on these plans:

| | |
|----------------------------------|-------------------------------|
| AT&T | 1-800-252-1133 |
| BGE (Contractor Services) | 410-850-4620 |
| BGE (Underground Damage Control) | 410-291-4607 |
| Bureau of Utilities | 410-313-4900 |
| Colonial Pipelines Co. | 410-549-4120 |
| Miss Utility | 1-800-257-7777 |
| State Highway Administration | 410-531-9533 |
| Verizon | 1-800-743-0033 / 410-224-9210 |
- Trees and shrubs are to be protected from damage to the maximum extent. Trees and shrubs located within the construction strip are not to be removed or damaged by the contractor.
- The contractor shall remove trees, stumps and roots along the line of excavation. Payment for such removal shall be included in the unit price bid for construction of the main.
- The contractor shall notify the Bureau of Highways, Howard County, at (410)-313-7450 at least five working days before open cutting or boring/jacking of any County road for laying water/sewer mains or house connections. The approval of these drawings will constitute compliance with DFW requirements per Section 18.114(a) of the Howard County Code.

PART II WATER

- All water mains shall be D.I.P. Class 52 unless otherwise noted.
- Tops of all water mains shall have a minimum of 3'-6" of cover unless otherwise noted.
- Valves adjacent to tees shall be strapped to tees.
- All fittings shall be buttressed or anchored with concrete in accordance with Standard Details unless otherwise provided for on the drawings.
- Fire hydrants shall be set to the bury line elevations shown on the drawings. All fire hydrants shall be installed in accordance with Standard Details. The soil around the fire hydrant shall be compacted in accordance with Section 1000 and Section 1005 of the Standard Specifications.
- The contractor shall not operate any water main valves on the existing water system.
- All water house connections shall be for inside meter setting unless otherwise noted on plans or in specifications.
- Fire sprinkler system for all town homes or multi-family dwelling units should have a minimum of 1" connection with a 3/4" meter.

PART III SEWER

- All sewer mains shall be D.I.P. or P.V.C. unless otherwise noted.
- All manholes shall be 4'-0" inside diameter unless otherwise noted.
- Force mains shall be D.I.P. only.
- Manholes shown with 12" and 16" walls are for brick manholes only.
- Manholes designated W.T. in plan and profile shall have watertight frame and cover, Standard Detail G5.52. Where watertight manhole frames and cover are used, set top of frame 1'-6" above finished grade unless otherwise noted on the drawings.
- House(s) with the symbol "C.N." indicates that the cellar cannot be served.

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

Jim Meyer 6/30/04
SIGNATURE DATE

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

APPROVED
John P. Roberts 6/30/04
HOWARD S.C.D. DATE

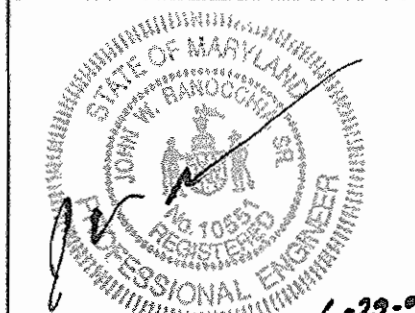
SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

DMW
Dart-McCune-Walker, Inc.

A Team of Land Planners,
Landscape Architects,
Civil Engineers, Surveyors &
Environmental Professionals



DESIGN BY: DFM
DRAWN BY: WDE
CHECKED BY: DMW
DATE: 6/11/04

| BY | NO. | REVISION | DATE |
|-----|-----|-----------------------|----------|
| DMW | 1 | ADDITIONAL QUANTITIES | 6-29-04 |
| DMW | 2 | REMOVE QUANTITIES | 10/29/04 |

AS BUILT

DATE: JANUARY 2005

TITLE SHEET

WATER AND SEWER

6th ELECTION DISTRICT

600 SCALE MAP NO. 47 BLOCK NO. 7.8.9.13

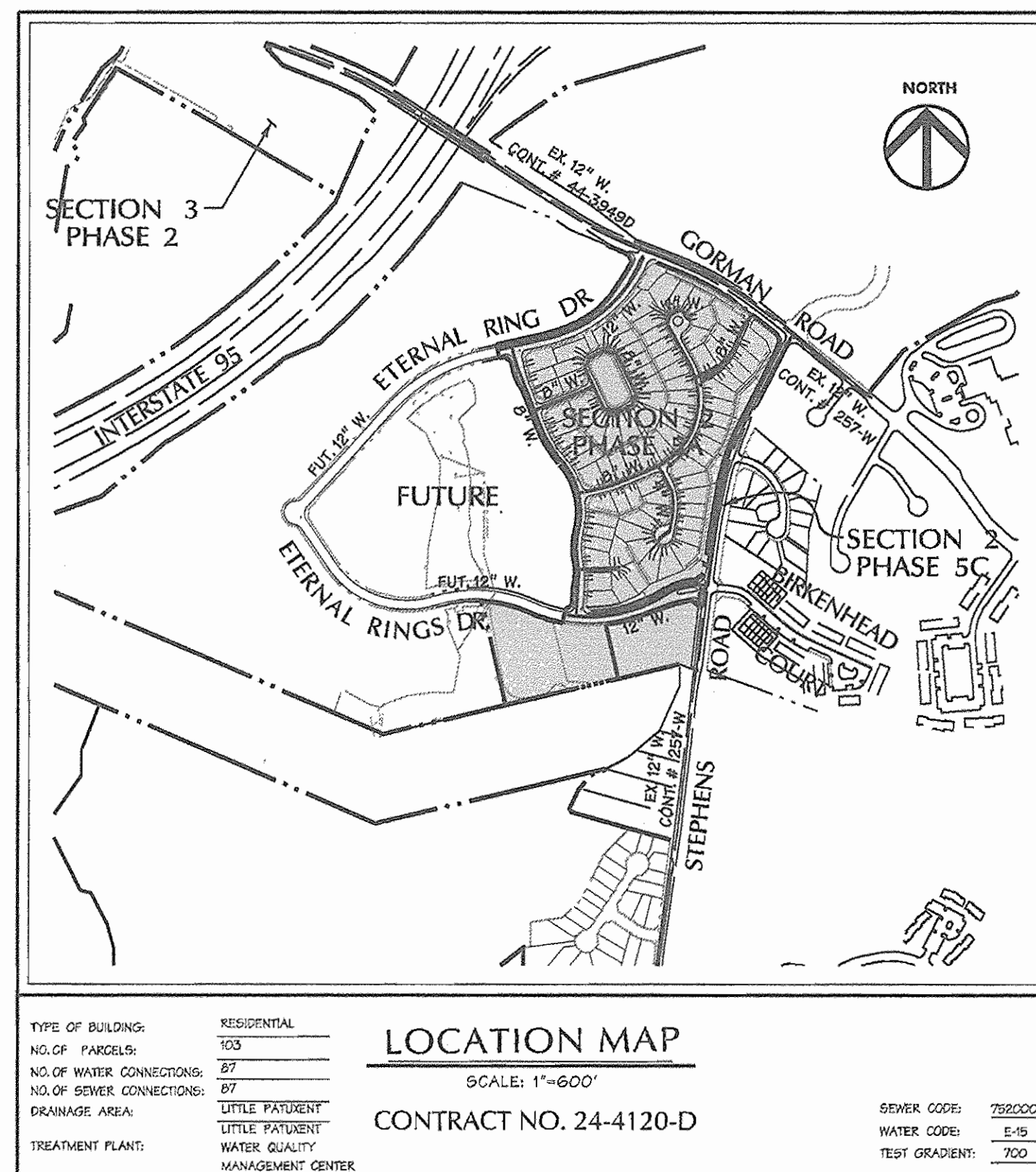
EMERSON
Section 2, Phase 5A

THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

CONTRACT NO. 24-4120-D

SCALE:
1"=60'

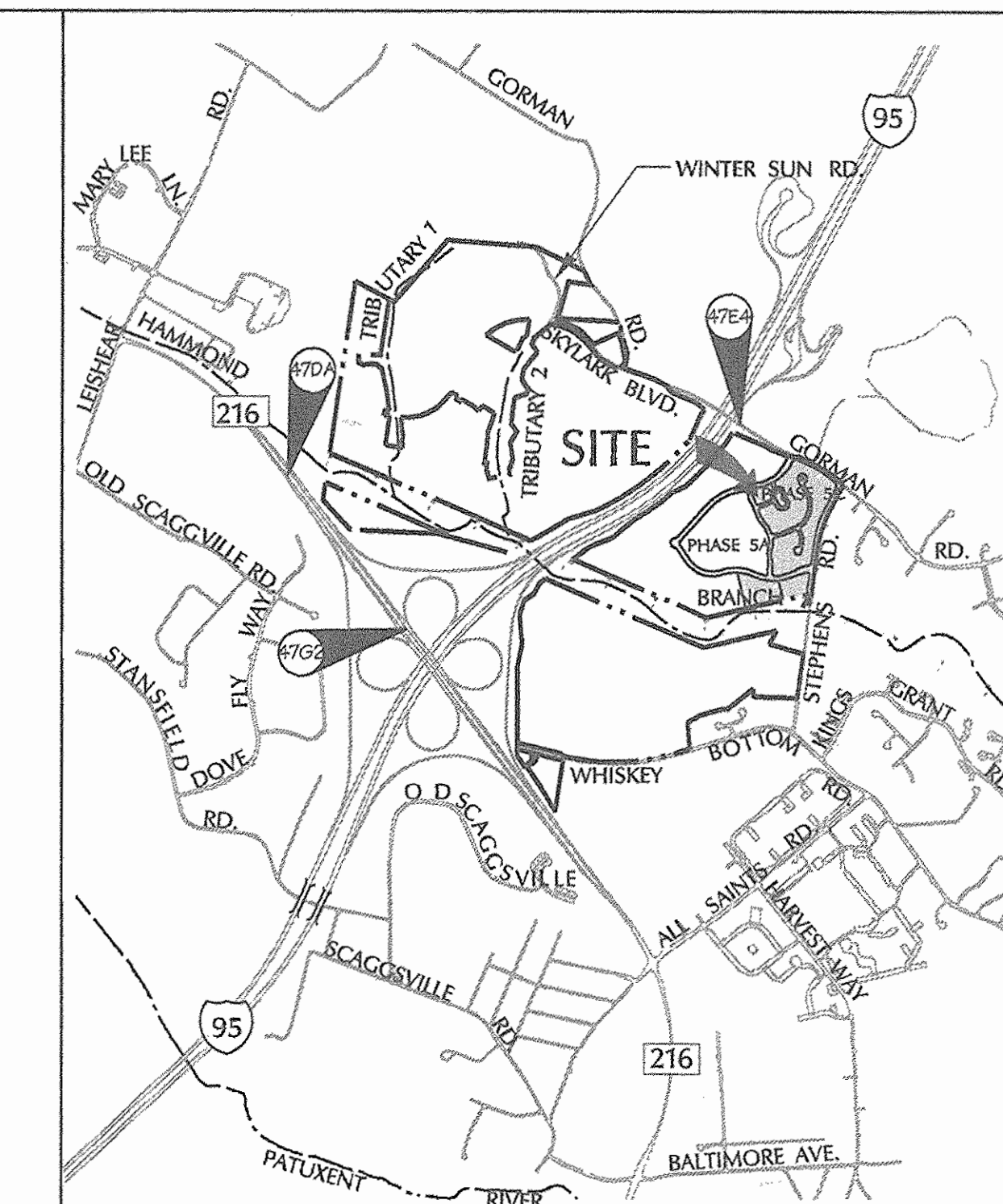
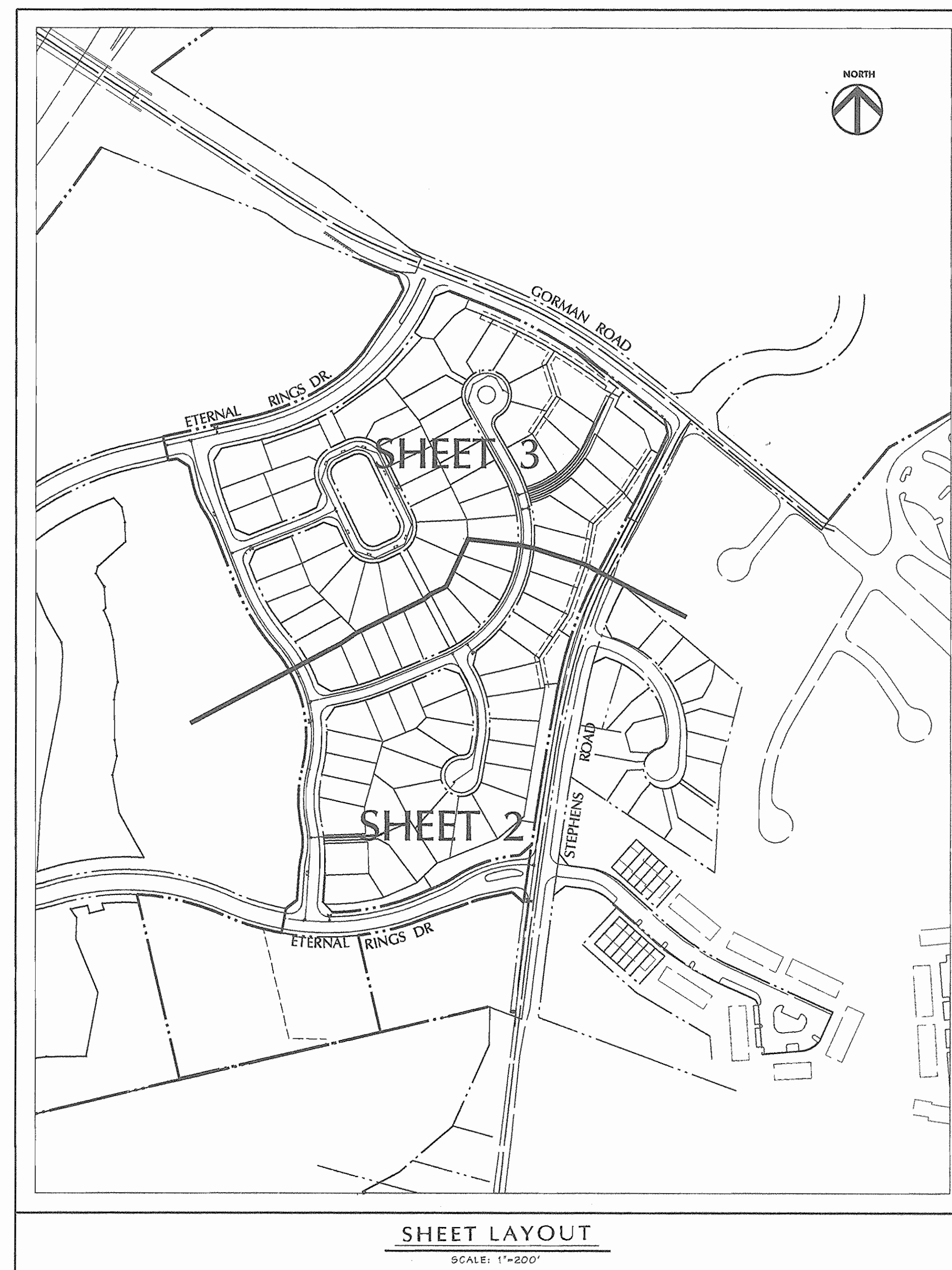
SHEET
1 of 8



| SHEET | DESCRIPTION |
|-------|--|
| 1 | COVER SHEET |
| 2 | PLAN - ETERNAL RINGS, IRONLEAF TRAIL, VINTAGE EARTH PATH, DAPPER TOWN ROW |
| 3 | PLAN - ETERNAL RINGS DRIVE, IRONLEAF TRAIL, VINTAGE EARTH PATH, DISTANT LOCHS SQUARE, FAR FIELDS WAY |
| 4 | WATER MAIN PROFILES - ETERNAL RINGS DRIVE, DAPPER TOWN ROW |
| 5 | WATER MAIN PROFILES - IRONLEAF TRAIL, VINTAGE EARTH PATH |
| 6 | WATER MAIN PROFILES - AUTUMN GRAIN GATE, DISTANT LOCHS SQUARE, FAR FIELDS WAY |
| 7 | SANITARY SEWER PROFILES - ETERNAL RINGS DRIVE, IRONLEAF TRAIL, FAR FIELDS WAY |
| 8 | SANITARY SEWER PROFILES - VINTAGE EARTH PATH, AUTUMN GRAIN GATE |

LEGEND

| | | | | |
|------------------------|--|------------------------|--|-------|
| EX CURB & GUTTER | | PROP. SEWER | | 6" S. |
| EX MAJOR CONTOURS | | PROP. WATER | | 4" W. |
| EX MINOR CONTOURS | | PROPERTY LINE | | |
| EX STORM DRAIN | | ROADWAY RIGHT-OF-WAY | | |
| EX SEWER | | PROPOSED LOT LINE | | |
| EX WATER | | PROPOSED EASEMENT | | |
| EXISTING TREE LINE | | PROPOSED CURB & GUTTER | | |
| EXISTING WETLAND LIMIT | | PROPOSED SIDEWALK | | |
| PROP. STORM DRAIN | | PROPOSED GUARD RAIL | | |
| | | PROPOSED RIP-RAP | | |
| WATER LINE STATIONING | | | | |



VICINITY MAP
SCALE: 1"=2000'

BENCHMARK DESCRIPTION

COORDINATES IN MARYLAND NAD83(91) (HORIZONTAL) AND NGVD29 (VERTICAL) DATUMS.

47DA NORTHING: 163191.9104
EASTING: 4112865759
ELEVATION: 315905 ft.

47E4 NORTHING: 163326.2295
EASTING: 413126.2550
ELEVATION: 336.909ft.

47G2 NORTHING: 162440.1212
EASTING: 411539279
ELEVATION: 364.210ft.

| ITEMS | QUANTITIES ESTIMATED | AS-BUILT | | |
|----------------------------------|----------------------|------------|-------------|---------------------------|
| | | QUANTITIES | TYPE | MANUFACTURER / SUPPLIER |
| 12" D.I.P. | 1400' | 1400' | CL 52 | GRIFFIN / GRIFFIN |
| 8" D.I.P. | 3212' | 3710' | CL 52 | GRIFFIN / GRIFFIN |
| 6" D.I.P. | 132' | 132' | CL 52 | GRIFFIN / GRIFFIN |
| 4" D.I.P. | 676' | 676' | CL 52 | GRIFFIN / GRIFFIN |
| 12" x 12" TAPPING BREEZE & VALVE | 1 | 1 | RSOR | JCM & MUELLER / BRS |
| 12" VALVE | 2 | 2 | RSOR | MUELLER / BRS |
| 8" VALVE | 3 | 3 | RSOR | MUELLER / BRS |
| 6" VALVE | 7 | 7 | RSOR | MUELLER / BRS |
| 4" VALVE | 2 | 2 | RSOR | MUELLER / BRS |
| 12" x 6" TEE | 2 | 2 | MJ | U.S. PIPE / BRS |
| 12" x 6" TEE | 2 | 2 | MJ | U.S. PIPE / BRS |
| 8" x 6" TEE | 3 | 3 | MJ | U.S. PIPE / BRS |
| 8" x 6" TEE | 7 | 7 | MJ | U.S. PIPE / BRS |
| 8" x 4" TEE | 2 | 2 | MJ | U.S. PIPE / BRS |
| 6" FIRE HYDRANT | 7 | 7 | CENT.250 | MUELLER / BRS |
| 1 1/2" BEND (12") | 1 | 1 | MJ | U.S. PIPE / BRS |
| 1 1/2" BEND (8") | 3 | 3 | MJ | U.S. PIPE / BRS |
| 1 1/2" BEND (4") | 1 | 1 | MJ | U.S. PIPE / BRS |
| 1 1/2" BEND (4") | 4 | 4 | MJ | U.S. PIPE / BRS |
| 1 1/4" BEND (4") | 1 | 1 | MJ | U.S. PIPE / BRS |
| 8" x 4" REDUCER | 1 | 1 | MJ | U.S. PIPE / BRS |
| 12" CAP | 2 | 2 | MJ | U.S. PIPE / BRS |
| 4" CAP | 3 | 3 | MJ | U.S. PIPE / BRS |
| 3/4" WHC 1 1/2" x 1" | 2270' | 2270' | K | CAMBRIDGE LEE / BRS |
| 8" D.I.P. SEWER | 398' | 502' | CL 52 | GRIFFIN |
| 8" PVC SEWER | 4588' | 4588' | SDR35 | J.M. MANUFACTURING / BRS |
| 4" PVC SEWER | 1826' | 1826' | SDR35 | J.M. MANUFACTURING / BRS |
| STD. MANHOLES | 30' | 30' | PC | ATLANTIC / ATLANTIC |
| MANHOLES - VERT. FT. | 656' | 656' | | |
| 8" TYPE 'A' DROP | 1 | 1 | PC | ATLANTIC / ATLANTIC |
| 8" TYPE 'B' DROP | 2 | 2 | PC | ATLANTIC / ATLANTIC |
| 1 1/2" DRAIN W/ 1.5' VAULT | 3 | 3 | COVER VAULT | MUELLER & MERIT / BINGHAM |

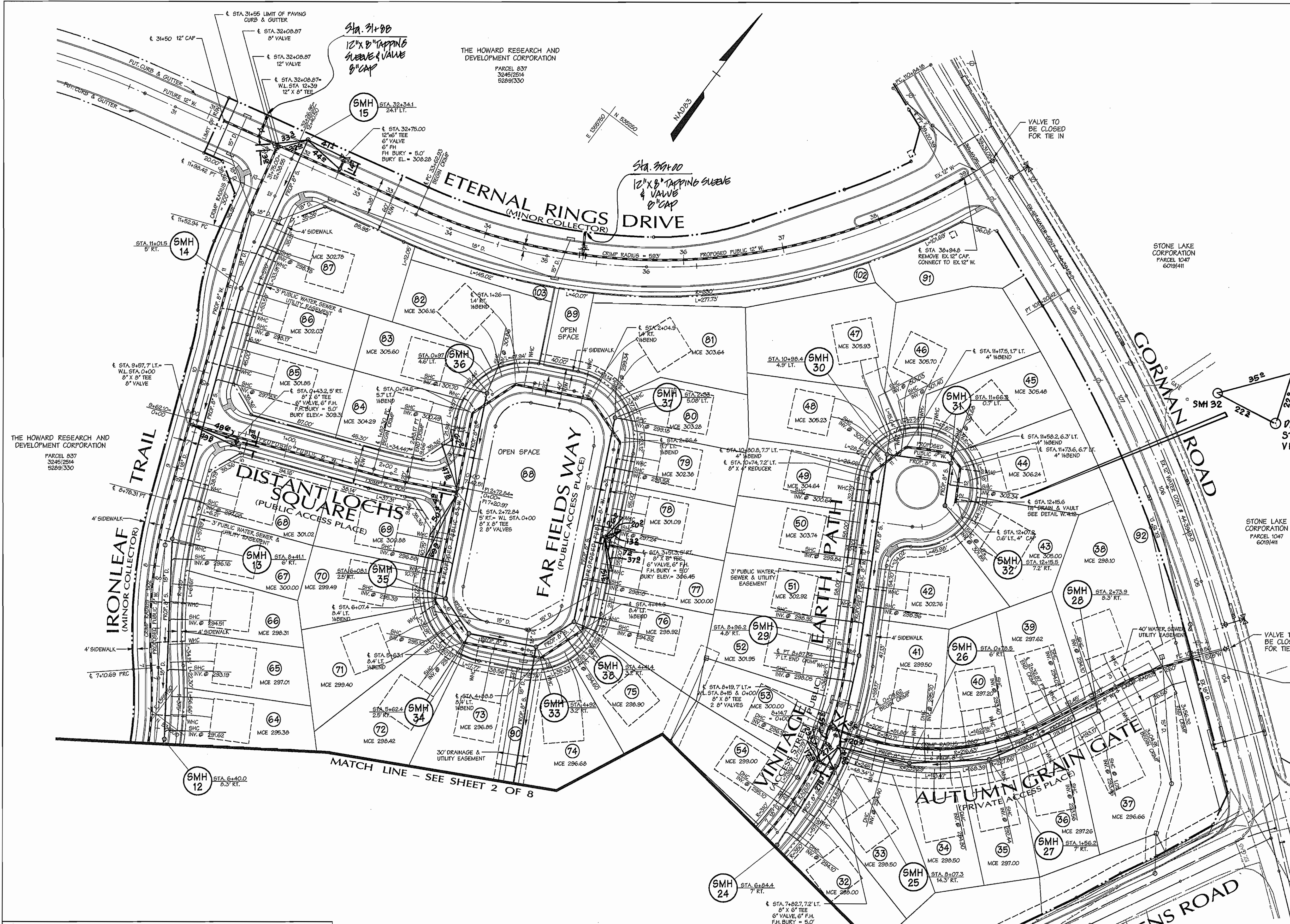
AS BUILT DOES NOT INCLUDE ANY APPROVED REVISIONS EXCEPT QTY'S AS SHOWN

NAME OF UTILITY CONTRACTOR: CCS

SURVEY AND DRAFTING DIVISION AS-BUILT DATE: JANUARY 2005

| DATE | BY | NO. | REVISION |
|----------|-----|-----|-----------------------|
| 6/11/04 | DMW | 1 | ADDITIONAL QUANTITIES |
| 10/29/04 | DMW | 2 | REMOVE QUANTITIES |

| AUTUMN GRAIN GATE | | | | FAR FIELDS WAY | | | | |
|-------------------|------------|------------|------------|----------------|------------|------------|------------|------------|
| FROM | LENGTH(FT) | TO | FROM | LENGTH(FT) | TO | FROM | LENGTH(FT) | |
| LOT 34 WHC | 35.9 | SMH 20 | LOT 69 WHC | 50.4 | 8" VALVE | LOT 69 WHC | 50.4 | 8" VALVE |
| LOT 34 SHC | 43.5 | SMH 20 | LOT 69 SHC | 69.9 | 8" VALVE | LOT 69 SHC | 69.9 | 8" VALVE |
| LOT 35 SHC | 10.2 | SMH 27 | LOT 70 WHC | 19.9 | LOT 69 WHC | LOT 70 WHC | 19.9 | SMH 35 |
| LOT 35 WHC | 18.9 | SMH 27 | LOT 70 SHC | 38.1 | SMH 35 | LOT 70 SHC | 38.1 | SMH 35 |
| LOT 36 SHC | 12.4 | LOT 35 WHC | LOT 71 WHC | 26.7 | LOT 70 WHC | LOT 71 WHC | 26.7 | LOT 70 WHC |
| LOT 36 WHC | 59.9 | SMH 27 | LOT 71 SHC | 27.4 | SMH 35 | LOT 71 SHC | 27.4 | SMH 35 |
| LOT 37 SHC | 08.5 | SMH 27 | LOT 72 WHC | 10.0 | LOT 71 WHC | LOT 72 WHC | 10.0 | LOT 71 WHC |
| LOT 37 WHC | 24 | SMH 28 | LOT 72 SHC | 44.7 | SMH 35 | LOT 72 SHC | 44.7 | SMH 35 |
| LOT 38 SHC | 12.4 | SMH 28 | LOT 73 WHC | 25 | SMH 34 | LOT 73 WHC | 25 | SMH 34 |
| LOT 38 WHC | 23.9 | LOT 37 WHC | LOT 73 SHC | 13.9 | LOT 72 WHC | LOT 73 SHC | 13.9 | LOT 72 WHC |
| LOT 39 SHC | 44.2 | SMH 28 | SMH 35 | 44.3 | SMH 34 | SMH 35 | 44.3 | SMH 34 |
| LOT 39 WHC | 28.5 | SMH 28 | LOT 74 WHC | 29.9 | SMH 34 | LOT 74 WHC | 29.9 | SMH 34 |
| LOT 40 SHC | 33.5 | LOT 39 WHC | LOT 74 SHC | 31.2 | SMH 34 | LOT 74 SHC | 31.2 | SMH 34 |
| LOT 40 WHC | 35.1 | SMH 28 | LOT 75 WHC | 100 | SMH 33 | LOT 75 WHC | 100 | SMH 33 |
| LOT 41 SHC | 42.4 | SMH 28 | LOT 75 SHC | 20 | LOT 74 SHC | LOT 75 SHC | 20 | LOT 74 SHC |
| LOT 41 WHC | 10.5 | LOT 39 WHC | LOT 76 WHC | 98.9 | SMH 33 | LOT 76 WHC | 98.9 | SMH 33 |
| LOT 42 SHC | 28.9 | SMH 27 | LOT 76 SHC | 24 | SMH 33 | LOT 76 SHC | 24 | SMH 33 |
| LOT 42 WHC | 35.1 | SMH 27 | LOT 77 WHC | 31.9 | LOT 75 SHC | LOT 77 WHC | 31.9 | LOT 75 SHC |
| LOT 43 SHC | 11.9 | LOT 40 WHC | LOT 77 SHC | 59.9 | SMH 33 | LOT 77 SHC | 59.9 | SMH 33 |
| LOT 43 WHC | 20.9 | SMH 20 | LOT 78 WHC | 29.9 | SMH 33 | LOT 78 WHC | 29.9 | SMH 33 |
| LOT 44 SHC | 29.0 | SMH 20 | LOT 78 SHC | 23.5 | SMH 30 | LOT 78 SHC | 23.5 | SMH 30 |
| LOT 44 WHC | 29.0 | SMH 20 | LOT 79 WHC | 24.5 | SMH 30 | LOT 79 WHC | 24.5 | SMH 30 |
| LOT 45 SHC | 10.4 | LOT 41 WHC | LOT 80 WHC | 0.5 | LOT 79 WHC | LOT 80 WHC | 0.5 | LOT 79 WHC |
| | | | LOT 80 SHC | 22.5 | SMH 37 | LOT 80 SHC | 22.5 | SMH 37 |
| | | | LOT 81 WHC | 30.2 | SMH 37 | LOT 81 WHC | 30.2 | SMH 37 |
| | | | LOT 81 SHC | 29.9 | LOT 81 WHC | LOT 81 SHC | 29.9 | LOT 81 WHC |
| | | | LOT 82 WHC | 31.0 | SMH 30 | LOT 82 WHC | 31.0 | SMH 30 |
| | | | LOT 82 SHC | 21.5 | LOT 82 WHC | LOT 82 SHC | 21.5 | LOT 82 WHC |
| | | | LOT 83 WHC | 22.5 | SMH 30 | LOT 83 WHC | 22.5 | SMH 30 |
| | | | LOT 83 SHC | 0.5 | LOT 83 WHC | LOT 83 SHC | 0.5 | LOT 83 WHC |
| | | | LOT 84 WHC | 0.2 | 8" VALVE | LOT 84 WHC | 0.2 | 8" VALVE |
| | | | LOT 84 SHC | 47.8 | 8" VALVE | LOT 84 SHC | 47.8 | 8" VALVE |
| | | | LOT 84 WHC | 19.4 | LOT 84 WHC | LOT 84 WHC | 19.4 | LOT 84 WHC |
| | | | LOT 84 SHC | 4.9 | 8" VALVE | LOT 84 SHC | 4.9 | 8" VALVE |



REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

SIGNATURE: *[Signature]* DATE: _____

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

APPROVED: _____ DATE: _____

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-04-53.

AS BUILT
DATE: JANUARY 2005

Legend

| | | |
|------------------------|------------------------|-------|
| EX CURB & GUTTER | PROF. SEWER | 6" S. |
| EX MAJOR CONTOURS | PROF. WATER | 4" W. |
| EX MINOR CONTOURS | PROPERTY LINE | --- |
| EX STORM DRAIN | ROADWAY RIGHT-OF-WAY | --- |
| EX SEWER | PROPOSED LOT LINE | --- |
| EX WATER | PROPOSED EASEMENT | --- |
| EXISTING TREE LINE | PROPOSED CURB & GUTTER | --- |
| EXISTING WETLAND LIMIT | PROPOSED SIDEWALK | --- |
| PROP. STORM DRAIN | PROPOSED GUARD RAIL | --- |
| | PROPOSED RIP-RAP | --- |

WATER LINE STATIONING

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

7-1-04
CHIEF - BUREAU OF UTILITIES - DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

7/1/04
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
Daft-McCune-Walker, Inc.

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 286-3333
Fax: 296-4708

DESIGN BY: DFM
DRAWN BY: WDE
CHECKED BY: _____
DATE: 6/28/04

PROPOSED 8" WATER MAIN
ETERNAL RINGS DRIVE, IRONLEAF TRAIL,
DISTANT LOCHS SQUARE, FAR FIELDS WAY
6th ELECTION DISTRICT

ADD 8"x12" TAPPING SLEEVE & VALVE AT STA. 31+00 AND STA. 39+00

REVISION

600 SCALE MAP NO. 47 BLOCK NO. 7, 8, 9, 13

EMERSON SECTION 2
PHASE 5A
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

CONTRACT NO. 24-4120-D

SCALE: 1"=50'
SHEET 3 of 8