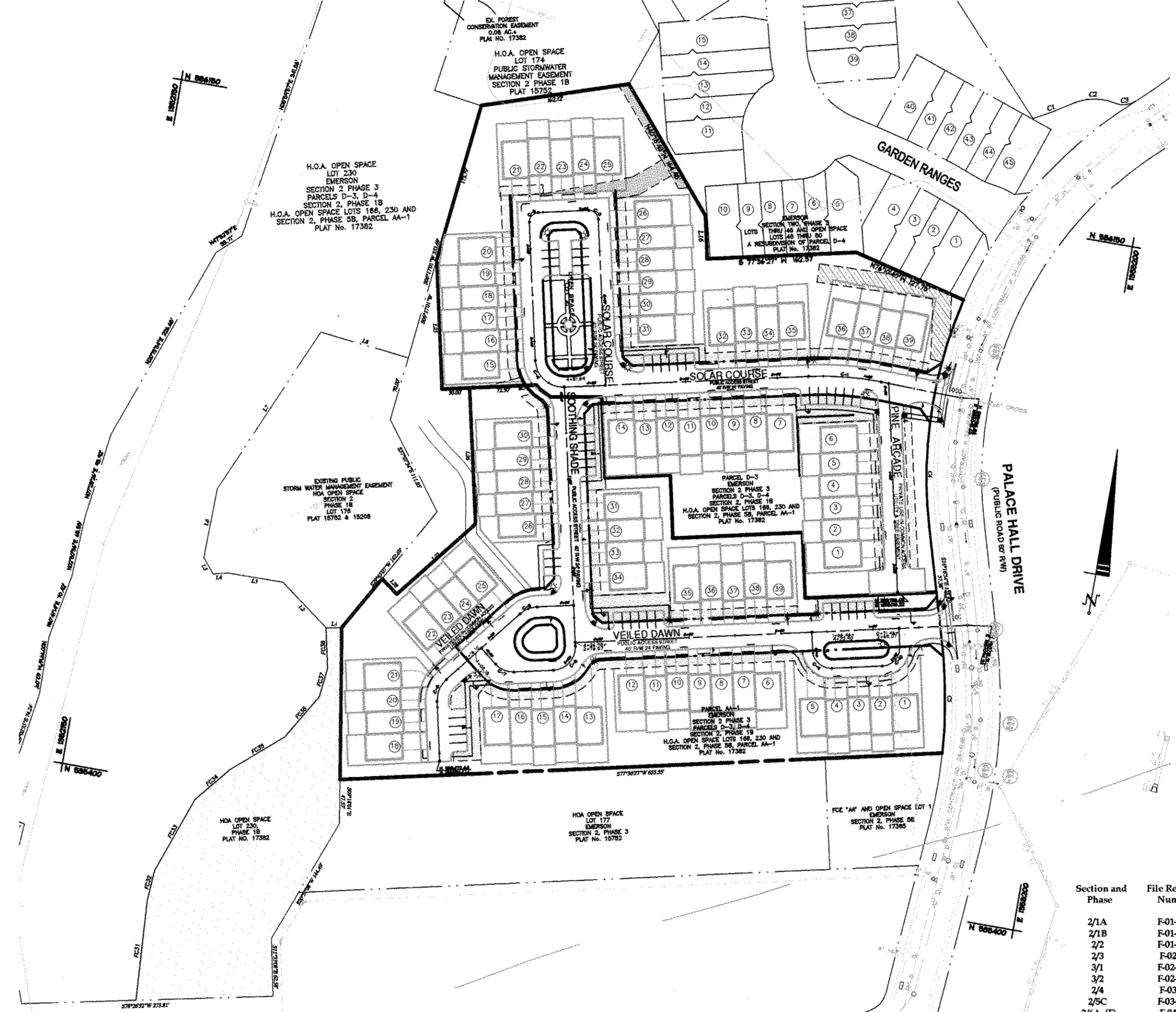


GENERAL NOTES

- 1. Existing Zoning: PEC-MXD-3 per April 2004 Comprehensive Zoning Plan and ZB Case No. 97-111.
2. Deed Reference: M.D.R. 5289, FOLIO 330; M.D.R. 8548, FOLIO 334.
3. Plat Reference: 17382.
4. Gross Area of Tract: 8.1295 ac.
5. Area of 100 Year Floodplain: N/A.
6. Area of Steep Slopes: 0.00 ac.
7. Net Area of Tract: 8.1295 ac.
8. Number of Proposed Lots/Parcels: 85.
9. Area of Proposed Lots/Parcels: 6.5350 ac.
10. Land for a Public Road will be dedicated under this final plan.
11. This project is in conformance with the latest Howard County Standards unless waived have been approved.
12. The existing topography shown hereon is based on a field survey prepared by DeMario Design Consultants, Inc. dated March, 2006.
13. Landscaping for this development and landscaping surety is provided as part of the Developers Agreement, at final plan stage, in accordance with the latest edition of the Howard County Landscape Manual and the approved Emerson Landscape and Street Tree Design criteria. 15 shade trees, 50 evergreen trees are required and \$4,000 surety to be paid with a DPW/Developer's Agreement.
14. The Forest Conservation Easement has been established to fulfill the requirements of section 16.1202 of the Howard County Code and Forest Conservation Act. No clearing, grading or construction is permitted within the Forest Conservation Easement; however, Forest Management Practices as defined in the deed of Forest Conservation Easement are allowed. This project complies with the requirements of Section 16.1202 of the Howard County Code for Forest Conservation. Forest Conservation act compliance for Emerson Section 2 Phases 1, 2 and 3, was previously addressed under F-01-137, F-01-145, and F-02-95 and for Phase 5B under F-03-44. Plat 17381 established Forest Conservation area 111 (7.581 acres) and area 1-1 (2.529 acres). The total Forest Conservation surety amount is \$50,533.36 paid under F-05-049.
15. The coordinates shown hereon are based upon the Howard County Geodetic Control, which is based upon the Maryland State Coordinate System, Howard County Monument No's 47DC & 47EB used for this project.
16. This property is within the Metropolitan District.
17. Stormwater management for this development is provided under F-02-55 & F-01-145. Quality & quantity stormwater management for section 2, phase 2 is provided by one wet pond facility. The wet pond facility will be privately owned and maintained by said HOA. Access to the storm facility is via Palace Hall Drive. The subdivision in the Patuxent River sub-basin and is a class one watershed.
18. Existing utilities shown hereon are based on field surveys and record drawings.
19. There is no floodplain onsite, there are no steep slopes, streams or buffer areas onsite.
20. There are no wetlands onsite based on Plat 17382, recorded July 28, 2005.
21. Traffic study prepared by Hillis & Associates, Inc., dated February, 2006.
22. The geotechnical study for this project was prepared by Hillis Carnes Engineering Associates, Inc. in February, 2006.
23. Project Background Information:
a) Subdivision Name: Emerson Parcels D3/AA-1.
b) Tax Map/Block/Parcel: 47/8/3 & 837.
c) Zoning: PEC-MXD-3.
d) Election District: 6th.
e) Total (Gross) Tract Area: 8.1295 ac.
f) Number of Proposed Lots/Parcels: 85.
g) Applicable Development & Zoning File No.'s: S-99-12 (Key Property), F-03-13, F-02-15, WP-05-14, WP-09-46, PB-339, PB559, ZB-974M, SP-06-05, F-05-49, F-07-169.
24. There are no existing dwellings on the site.
25. The proposed access streets shall be public.
26. BRL denotes the Building Restriction Line.
27. Sediment and erosion control measures are provided on the final plan in accordance with the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control.
28. Street trees are provided on the access street in accordance with Section 16.124 of the Howard County Subdivision Regulations.
29. Sidewalks are provided in accordance with Section 16.134 of the Howard County Subdivision Regulations.
30. A Community Input Meeting is not required in the MXD zone.
31. The minimum building setback restrictions from property lines and public road right-of-way lines for the SFA residential lots shall be in accordance with the comprehensive Sketch Plan Development Criteria approved under S-99-12, PB-339 and PB-359.
32. Paving for this project is in accordance with the Decision and Order for Zoning Board Case No. 97-111 and the Decision and Order approved for PB-339 (Comprehensive Sketch Plan, S-99-12).
33. There are no historic structures or cemeteries located on the subject property.
34. No grading, removal of vegetative cover or trees, paving and new structures shall be permitted within the wetlands, stream or their required buffers, flood plain and forest conservation easement.
35. All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications if applicable.
36. The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection Division at (410)-313-1880 at least (5) working days prior to the start of work.
37. The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work being done.
38. Traffic control devices, markings and signage shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to placement of any asphalt.
39. All sign posts used for traffic control signs installed in the County Right-of-way shall be mounted on a 2" galvanized steel, perforated, square tube post (1/4 gauge) inserted into a 2-1/2" galvanized steel, perforated, square tube sleeve (1/2 gauge)-3' long. A galvanized steel pole cap shall be mounted on top of each post.
40. Street light placement and the type of fixture and pole shall be in accordance with the Howard County Design Manual, Volume III (1998) and as modified by "Guidelines for Street Lights in Residential Developments June (1998)". A minimum spacing of 100' shall be maintained between any streetlight and any tree.
41. Water is public. Contract # 24-449B-D.
42. Sewer is public. Contract # 24-449B-D.
43. Parcel D-3 & AA-1 were each allocated 39 units with the recordation of F-05-49, Plat No. 17381 through 17383.
44. Provide sidewalk ramps at all intersections with truncated dome pad per current ADA standards.
45. WP-05-14, Emerson 2-3, Bulk Parcel D-1 approved on September 10, 2003 Section 16.105 h, (2) establishes the milestones date by which a sketch plan/preliminary equivalent sketch plan (for fee-simple lots) or a site plan (for condominium development or non-residential development) must be submitted when a bulk parcel is recorded on a record plat; and Section 16.144 (c) which provides that when a milestone date is not complied with, the plan shall be voided and all previous approvals and having unit allocations rescinded.

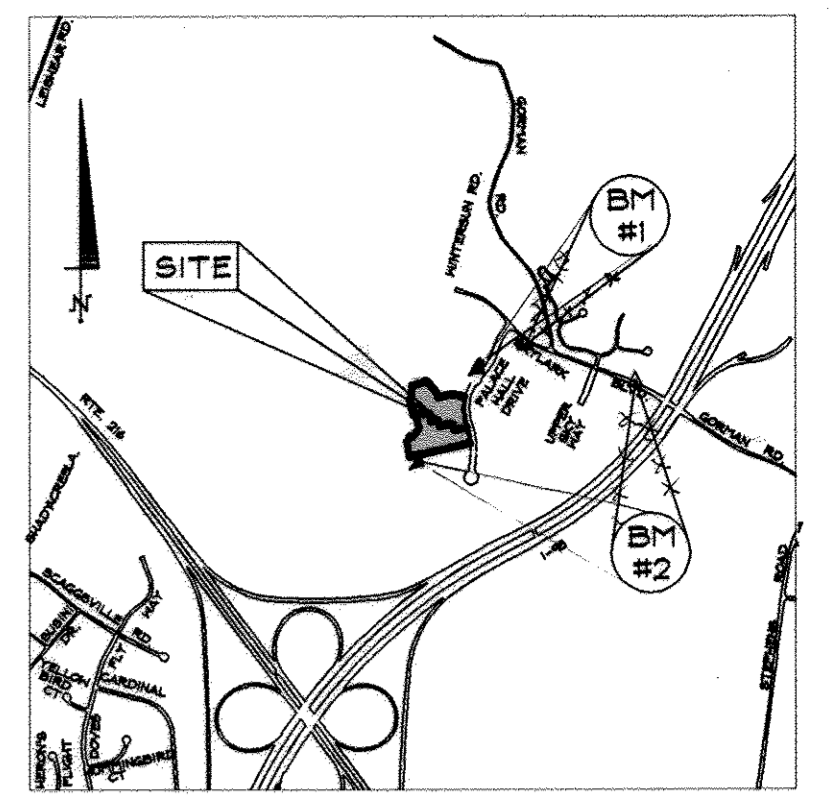
FINAL ROAD CONSTRUCTION PLANS for EMERSON SECTION D3 & AA-1

EMERSON, SECTION 2, PHASE 3, LOTS 1 thru 39 and OPEN SPACE LOTS 40 thru 42, A RESUBDIVISION OF PARCEL "D-3" and EMERSON, SECTION 2, PHASE 5B, LOTS 1 thru 39 and OPEN SPACE LOTS 40 thru 43, A RESUBDIVISION OF PARCEL AA-1 TAX MAP 47, GRID 8, PARCELS 3 & 837 6TH ELECTION DISTRICT HOWARD COUNTY, MD



BENCHMARK

Table with columns: BENCHMARK #1, BENCHMARK #2, DESCRIPTION, and coordinates/elevations.



Site Analysis Data Chart

- 1. General Site Data
a. Present Zoning: PEC MXD-3
b. Applicable DPA File References: S-99-12, PB-339, ZB-974-M, F-03-16, F-04-176, F-03-113, F-01-137, F-02-95, PB-359, F-04-127, F-01-17, WP-01-22, F-05-49, WP-01-14, WP-03-154, F-03-16, WP-04-14, SP-06-05, F-07-169.
c. Proposed Use of Site or Structure(s): SFA RESIDENTIAL... Proposed Water and Sewer Systems: Public - Private
Any Other Information Which May Be Relevant: N/A
2. Area Tabulation
a. Total Area of Site 8.1295 Ac.
b. Approximate Area of 100 Year Floodplain: 0 Acres
c. Approximate Area of Steep Slopes (25% or Greater): 0 Acres
d. Net Area of Site 8.1295 Ac +/-
e. Area of Proposed Building Lots: 3.9550 Acres
f. Area of Proposed Open Space Lots: 2.5480 Acres
g. Area of Bulk Parcels: 0 Acres
h. Area of Proposed Public Roads: 1.5965 Ac +/-
i. Area of Proposed Private Roads: 0.273 Ac (included in proposed open space).
3. Unit/Lot Tabulation
a. Total Number of Residential Units/Lots Allowed for Project by Right: 20 units per gross acre allowed for individual parcels per Emerson Development criteria in the OR zone with the overall density not to exceed 12.1 units per gross acre for entire OR zone.
1. Parcel D-3/AA-1 = 78 units
b. Total Number of Residential Units/Lots Proposed on this Submission
1. Parcel D-3 = 39
2. Parcel AA-1 = 39
c. Density of Project Per Gross Acre: 9.5 units
d. Total number of Open Space lots proposed: 7
e. Total Number of Non-Buildable Bulk Parcels Proposed: 0
f. Total Number of Lots/Parcels Proposed: 85
4. Open Space Tabulation
a. Open Space Required: 35%
b. Open Space Provided:
F-02-55, Parcel D A=6.5 acres (35.1%)
F-04-127, Parcel AA A=6.9 acres (26.3%)
This Plan A=2.54 acres (31.4%)
5. Parking Tabulation
a. Parking Required: 156 spaces (78 Units x 2.0 spaces/unit = 156 spaces)
b. Parking Provided: 203 spaces (47 overflow spaces)

DRAWING INDEX

Table with columns: SHEET, COVER SHEET, and DESCRIPTION.

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET. G. SCOTT SHANBERGER, SHANBERGER & LANE

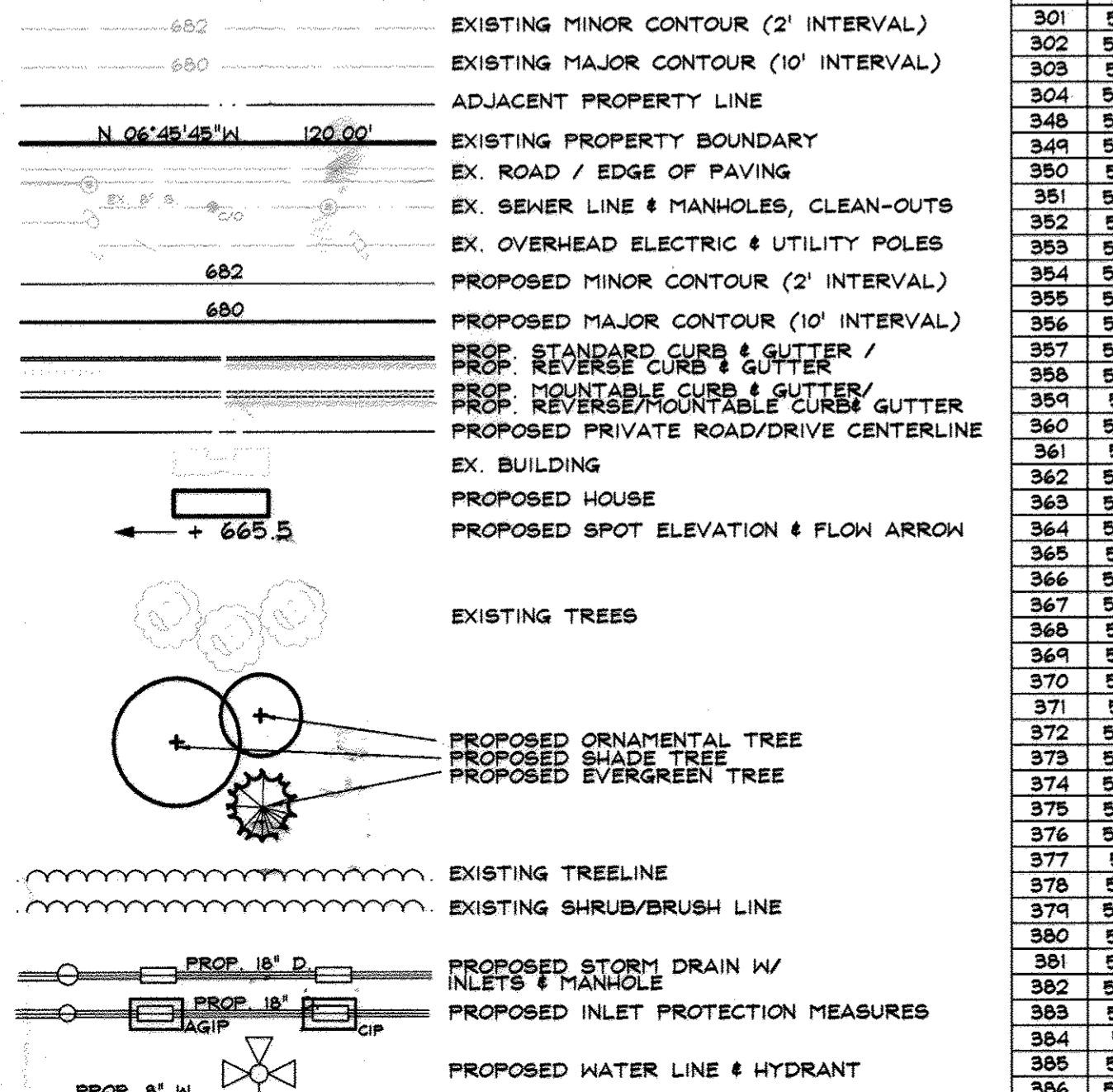
DATA SOURCES: LOCATIONS OF TREELINES, STREAMS, TOPOGRAPHY, WETLANDS, AND FOREST CONSERVATION AREA DERIVED FROM F-01-137, F-02-55 and F-04-127. BOUNDARY SHOWN PER BOUNDARY SURVEY DATED JUNE, 1999, PREPARED BY DAFF-MAGUIRE-HALKER, INC. SOILS (IF SHOWN) TAKEN FROM HOWARD COUNTY SOIL SURVEY, 1968. ADDITIONAL TOPO PROVIDED BY SHANBERGER & LANE, DATED JANUARY, 2007.

EMERSON, SECTION 2 & OVERALL DEVELOPMENT TRACKING CHART

Table with columns: Section and Phase, File Reference Number, Gross Acreage, SFD Ac (%), Other Res. Ac (%), Employment Ac. (%), Open Space Ac. (%), SFD Units Density (A), Other Res. Units Density (B), Other Res. Units Density (C), Other Res. Units Density (D).

(A) SFD acreage includes Common Open Areas (COA Lots). (B) Overall allowed based on maximum number of units allowed per ZB 979 M and reconciled against the maximum density tabulations with the last plat or phase. (C) Max. density for any individual SFD area is 5.0 units/acre. (D) Max. density for an individual OR area is 20.0 units/acre.

DRAWING LEGEND



COORDINATE TABLE

Table with columns: POINT, NORTH, EAST, listing coordinate values for various points.

LOCATION MAP



CURVE TABLE

Table with columns: CURVE RADIUS, LENGTH, DELTA, CHD. BRG., CHD. DIST., TANGENT, listing curve data for various road segments.

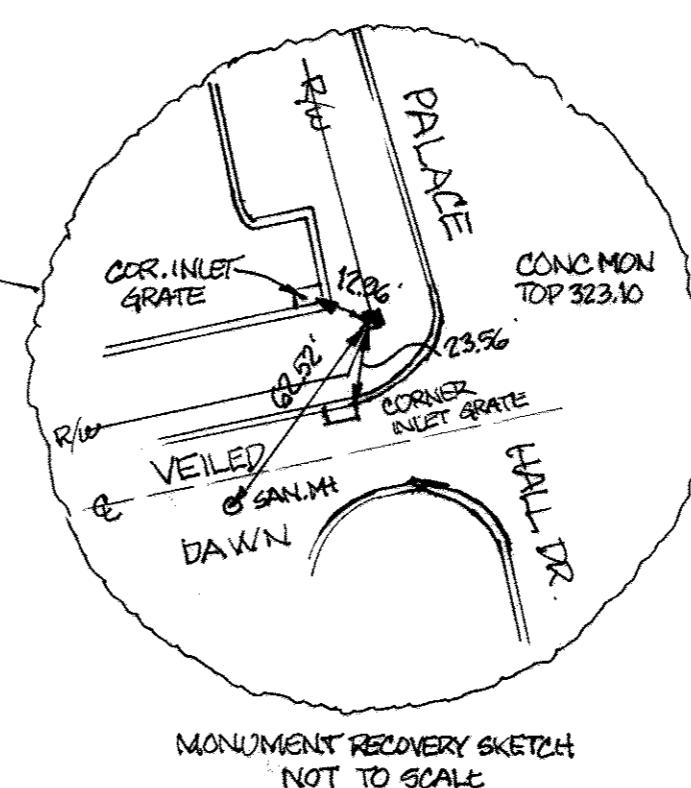
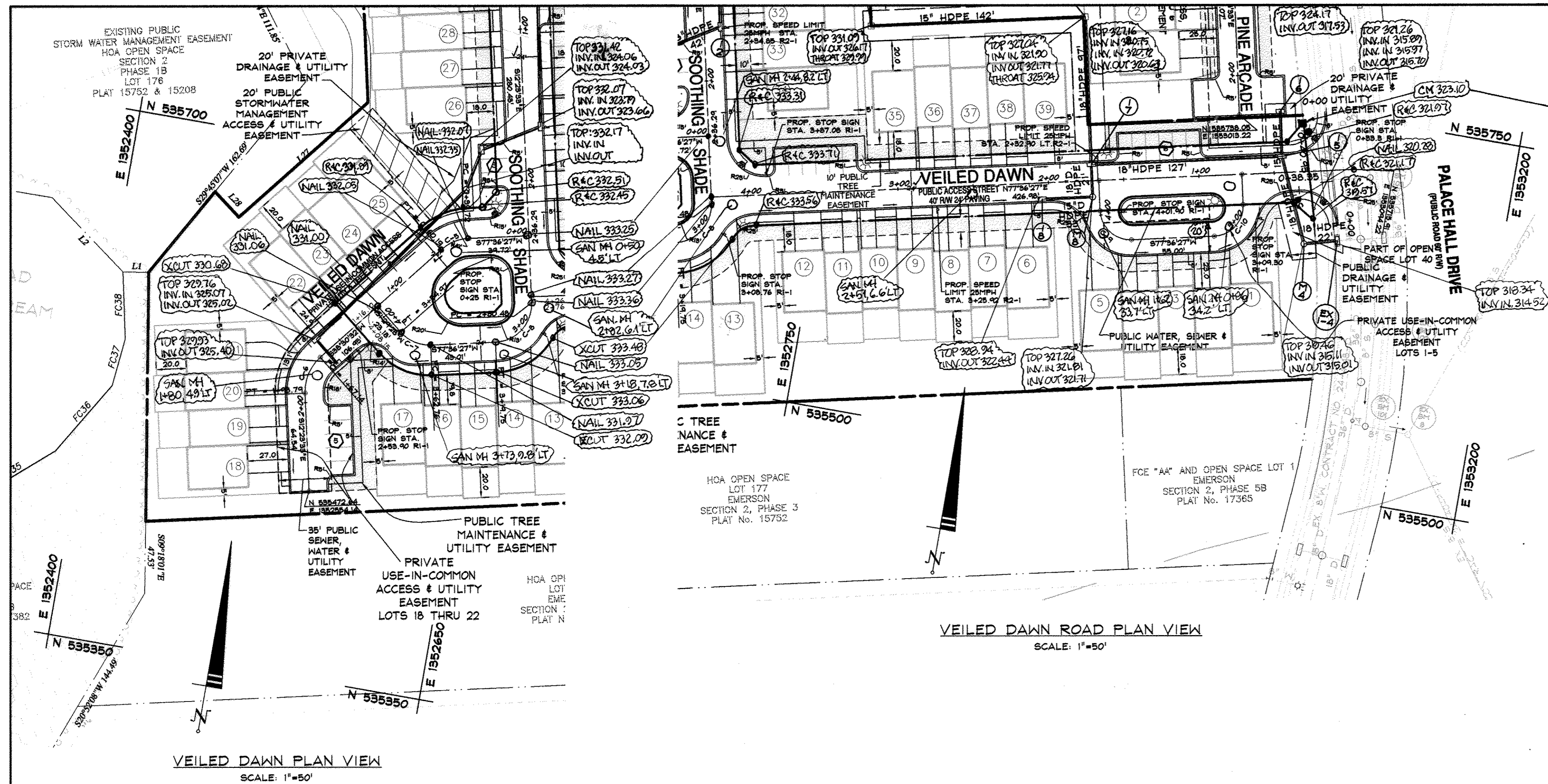
C OF ROAD CURVE TABLE

Table with columns: CURVE RADIUS, LENGTH, DELTA, CHORD BRG., CHORD DIST., TANGENT, listing curve data for road curves.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. DATE: 5-13-08. CHIEF BUREAU OF HIGHWAYS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. DATE: 5/20/08. CHIEF DIVISION OF LAND DEVELOPMENT.

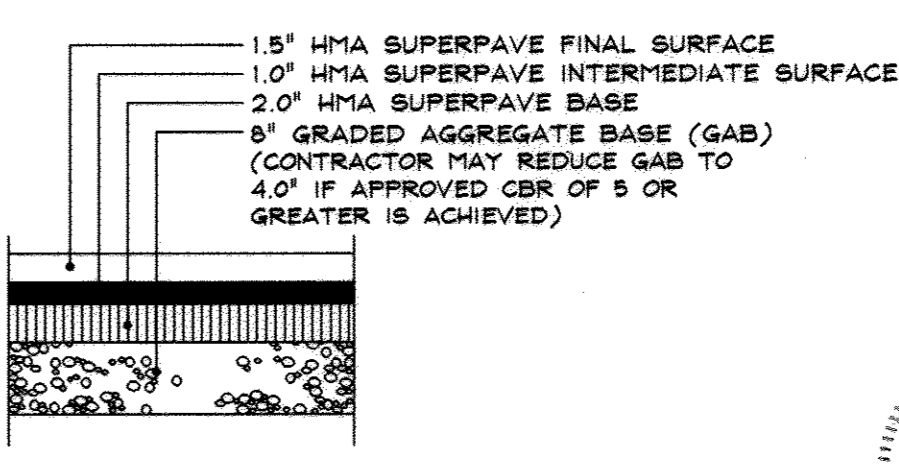
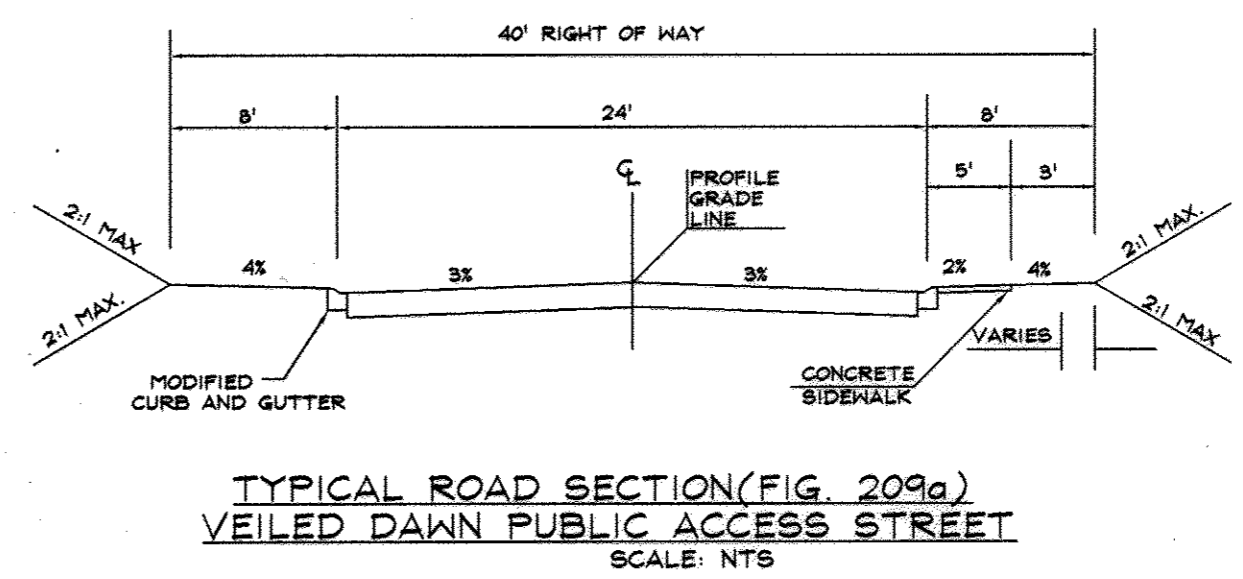
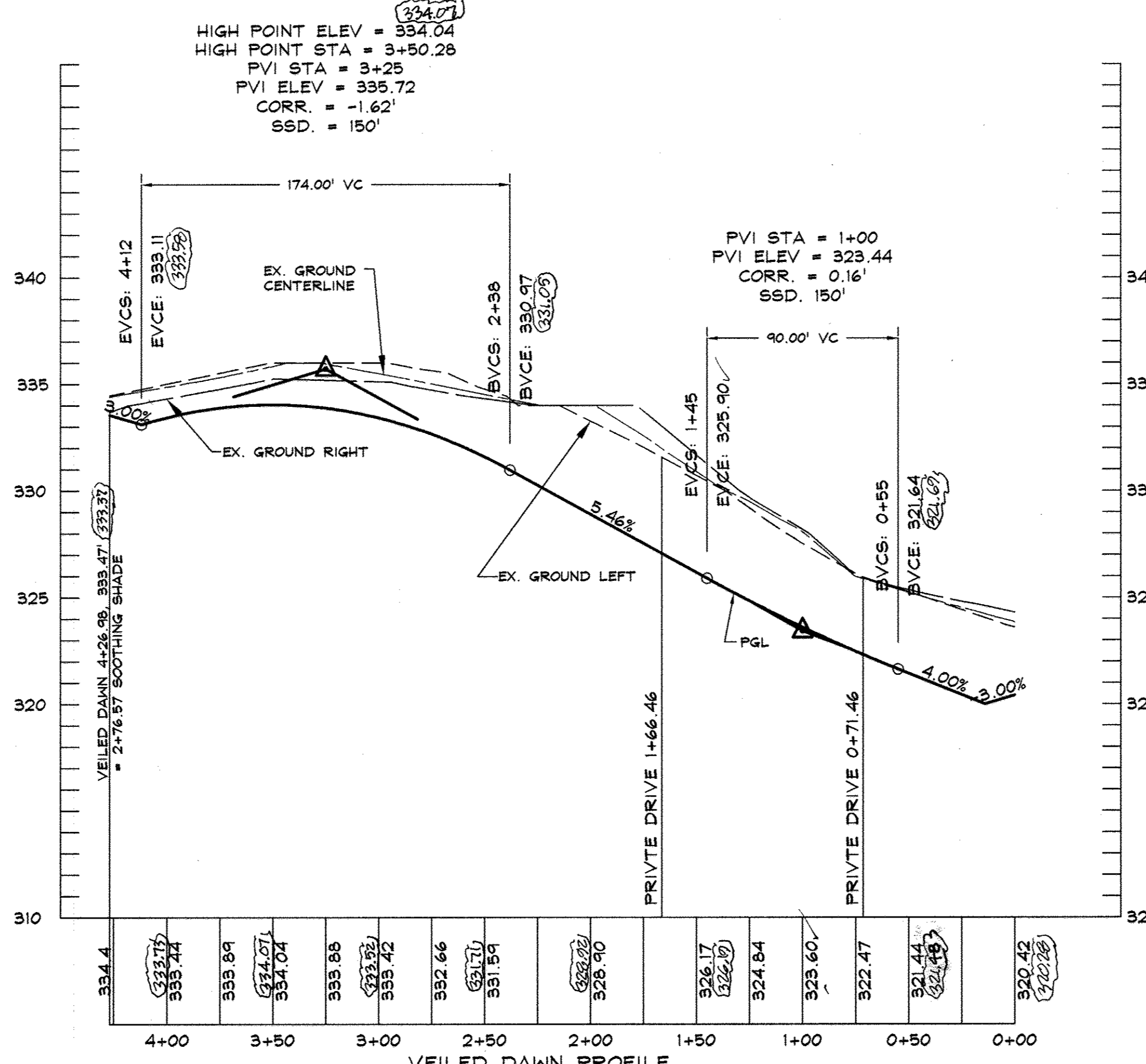
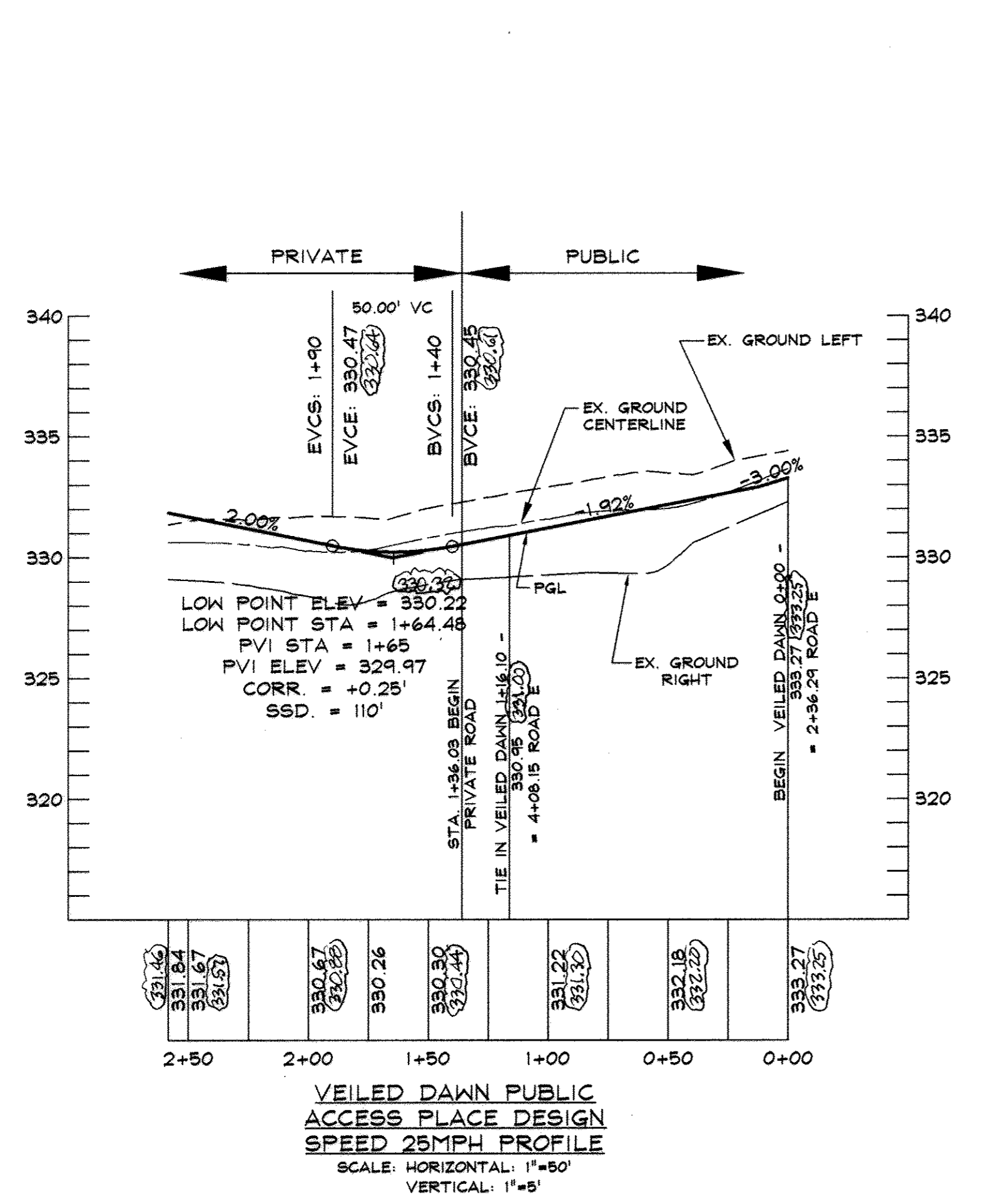
Cover sheet information including drawing title, sheet number (1 of 10), date (5/30/08), and approval signatures.



STREET LIGHT CHART		
SYMBOL	TYPE	LOCATION
*	150 WATT PREMIER	VEILED DAWN C. STA. 0+29, 26' RT.
*	100 WATT PREMIER	VEILED DAWN C. STA. 0+93, 16' LT.
*	100 WATT PREMIER	VEILED DAWN C. STA. 1+63, 19' RT.
*	100 WATT PREMIER	VEILED DAWN C. STA. 3+23, 19' RT.
*	100 WATT PREMIER	VEILED DAWN C. STA. 4+06, 20' LT.
*	150 WATT PREMIER	SOLAR COURSE C. STA. 0+20, 28' RT.
*	100 WATT PREMIER	SOLAR COURSE C. STA. 0+97, 16' RT.
*	100 WATT PREMIER	SOLAR COURSE C. STA. 1+63, 18' RT.
*	100 WATT PREMIER	SOLAR COURSE C. STA. 3+65, 18' RT.
*	100 WATT PREMIER	SOLAR COURSE C. STA. 6+20, 19' RT.
*	100 WATT PREMIER	SOLAR COURSE C. STA. 7+35, 17' RT.
*	100 WATT PREMIER	SOOTHING SHADE C. STA. 0+20, 20' RT.
*	100 WATT PREMIER	SOOTHING SHADE C. STA. 2+16, 22' RT.
*	100 WATT PREMIER	SOOTHING SHADE C. STA. 3+90, 21' LT.

AS-BUILT CERTIFICATION
 I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS AS-BUILT PLAN MEETING CURRENT APPROVED PLANS AND SPECIFICATIONS.
 Scott Shanaberger
 PROFESSIONAL L.S. OFFICER
 SHANABERGER & LANE
 LICENSE EXPIRATION DATE 4/1/2014

PROVIDE TYPICAL SIDEWALK RAMPS AT ALL INTERSECTIONS WITH TRUNCATED DOME PAD PER CURRENT ADA STANDARDS



DATA SOURCES:
 LOCATIONS OF TREELINES, STREAMS, TOPOGRAPHY, WETLANDS, AND FOREST CONSERVATION AREA DERIVED FROM F-01-137, F-02-55 AND F-04-127. BOUNDARY SHOWN PER BOUNDARY SURVEY DATED JUNE, 1999, PREPARED BY DAFT-MAGNIE-HALLER, INC. SOILS (IF SHOWN) TAKEN FROM HOWARD COUNTY SOIL SURVEY, 1968. ADDITIONAL TOPO PROVIDED BY SHANABERGER & LANE, DATED JANUARY, 2007.

DeMario Design Consultants, Inc.
 192 East Main Street
 Westminster, MD 21157
 Phone: (410) 386-0590
 Fax: (410) 386-0594
 http://www.demariodesign.com
 eMail: ddd@demariodesign.com

OWNER: EMERSON LAND BUSINESS TRUST
DEVELOPER: GENERAL GROWTH PROPERTIES
 10275 LITTLE PATUXENT PKWY
 COLUMBIA, MD 21044
 410-992-6000

SITE ADDRESS: PALACE HALL DRIVE
 LAUREL, MD 20723

FINAL ROAD CONSTRUCTION PLAN AND PROFILE FOR VEILED DAWN
 6TH ELECTION DISTRICT HOWARD COUNTY, MD

NO.	DESCRIPTION OF CHANGES	DRN.	REV.	DATE
1	(AS-BUILT)			6/11/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 [Signature] 5-13-08
 CHIEF, BUREAU OF HIGHWAYS

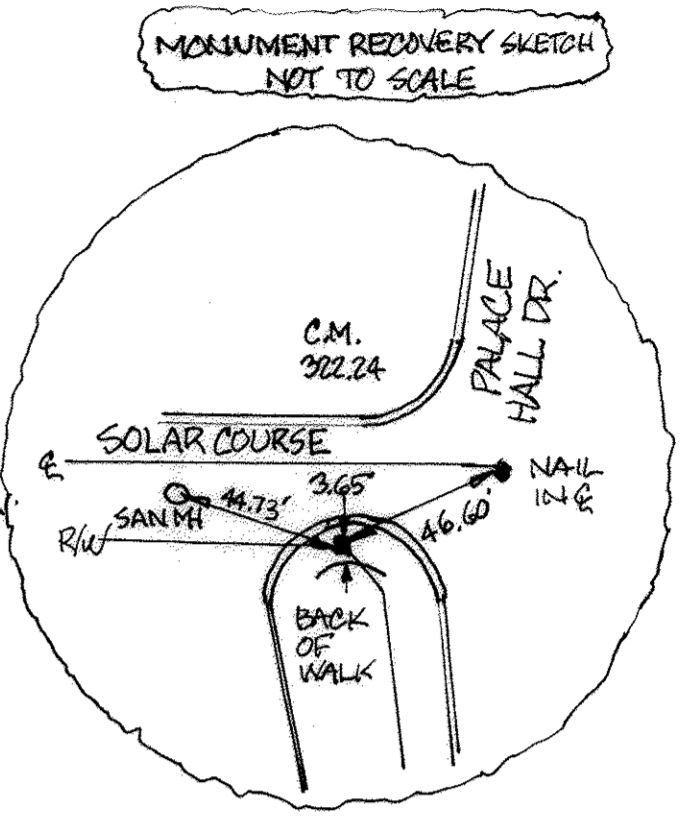
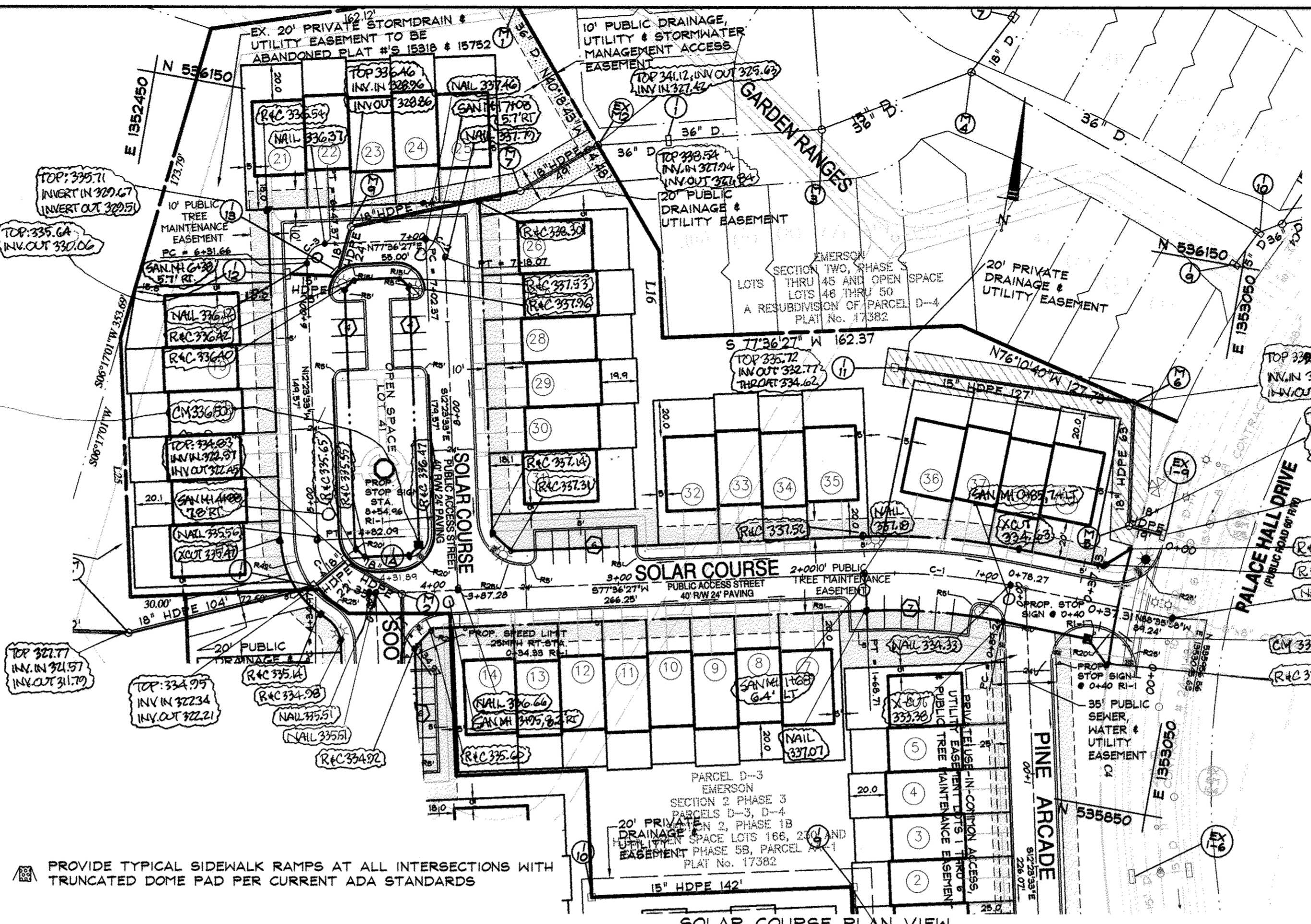
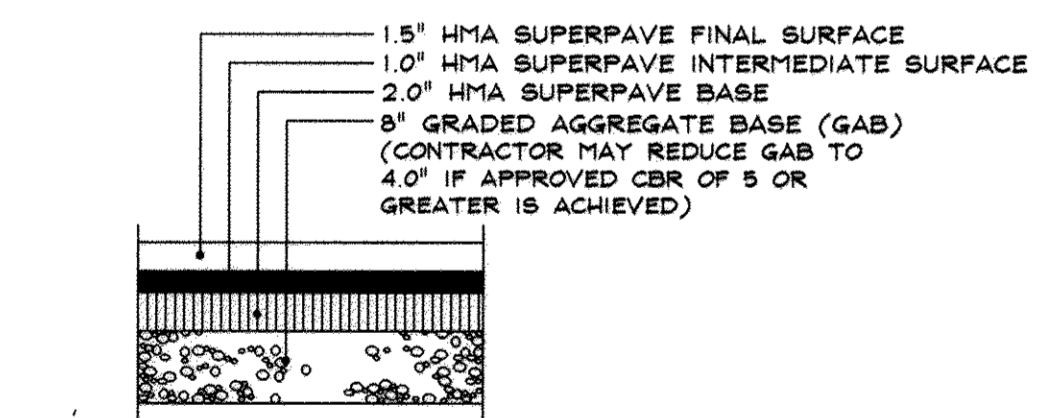
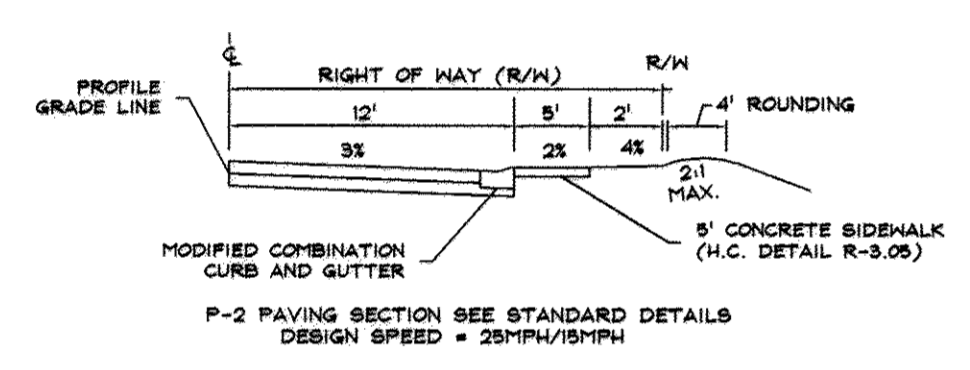
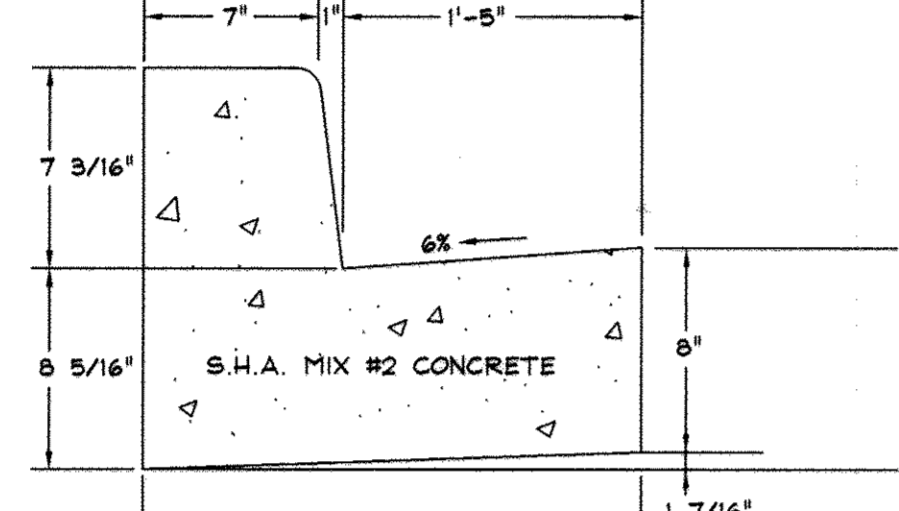
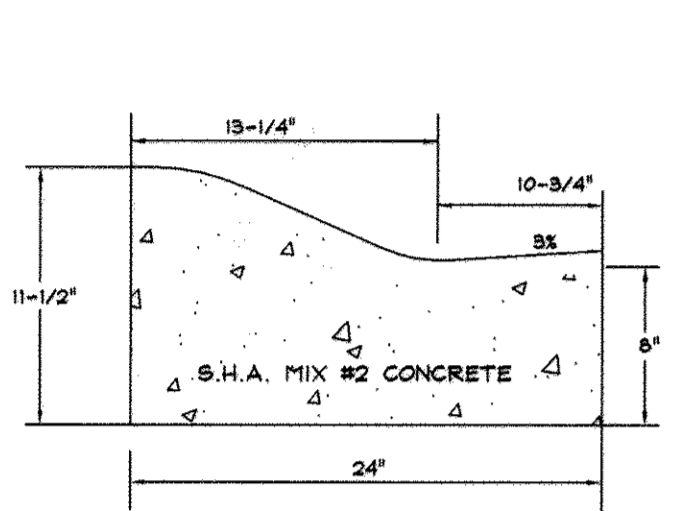
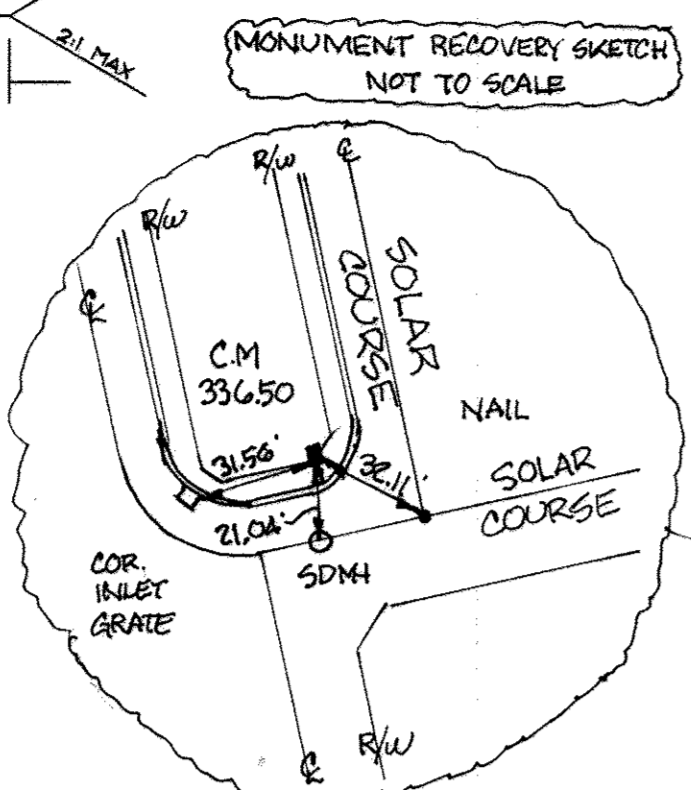
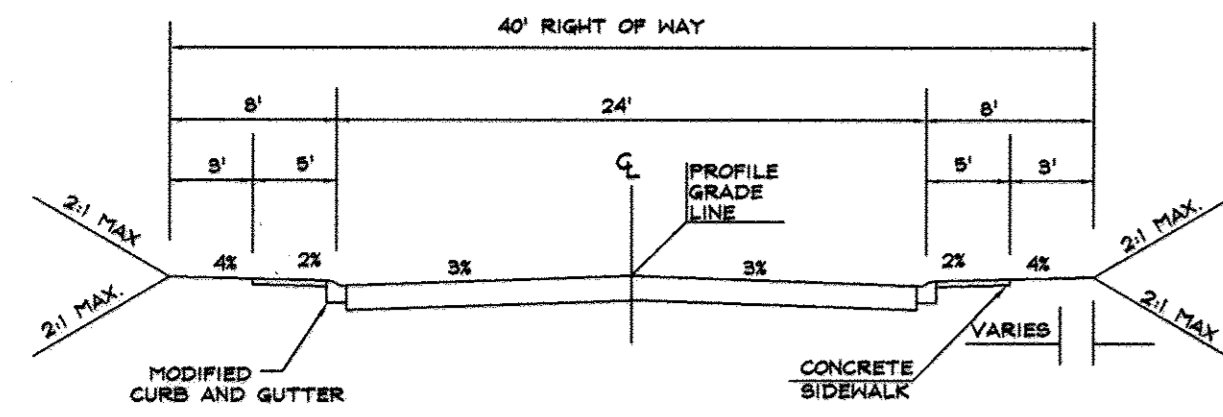
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 [Signature] 5/16/08
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: [Signature] 5/16/08
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE: 5/16/08
 Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 25420, Expiration Date: 7-22-09.



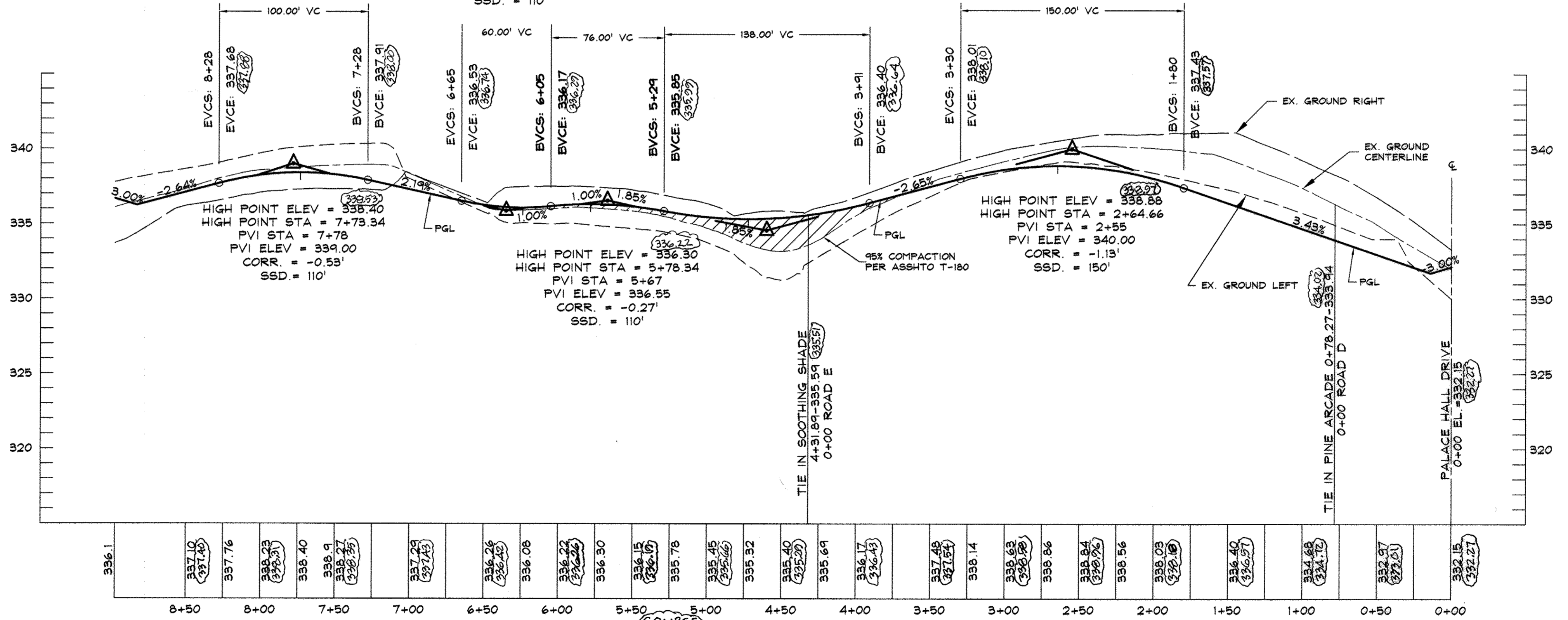
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TAX ACC. #		DRN. BY:	TPM/SDS
TAX MAP: 47		CHK. BY:	WRD
BLOCK / GRID: 8		DATE:	5-2-2008
PARCEL #:	3 & 837	DDC JOB#:	06128.1
ZONE / USE:	PEC-MXD-3	SHEET NUMBER:	
DWG. SCALE:	1"=50'		2 of 10



PROVIDE TYPICAL SIDEWALK RAMPS AT ALL INTERSECTIONS WITH TRUNCATED DOME PAD PER CURRENT ADA STANDARDS

LOW POINT ELEV = 336.08
LOW POINT STA = 6+23.82
PVI STA = 6+35
PVI ELEV = 335.87
CORR. = +0.24'
SSD = 110'

LOW POINT ELEV = 335.82
LOW POINT STA = 4+72.24
PVI STA = 4+60
PVI ELEV = 335.57
CORR. = -0.76'
SSD = 150'



AS-BUILT CERTIFICATION
I HEREBY CERTIFY, BY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS AS-BUILT PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS.

Scott Shanaberger
G. SCOTT SHANABERGER
PROFESSIONAL L.S. #10240
SHANABERGER & LAKE
LICENSE EXPIRATION DATE 4/2/2014

DATA SOURCES:
LOCATIONS OF TIE LINES, STREAMS, TOPOGRAPHY, WETLANDS, AND FOREST CONSERVATION AREA DERIVED FROM F-01-87, F-02-88 AND F-04-87.
BOUNDARY SHOWN PER BOUNDARY SURVEY DATED JUNE, 1998, PREPARED BY DAPT-MACINE-WALKER, INC. SOILS (IF SHOWN) TAKEN FROM HOWARD COUNTY SOIL SURVEY, 1968. ADDITIONAL TOPO PROVIDED BY SHANABERGER & LAKE, DATED JANUARY, 2007.

DeMario Design Consultants, Inc.
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Westminster, MD 21157
Phone: (410) 386-0560
Fax: (410) 386-0584
http://www.demariodesign.us
eMail: ddd@demariodesign.us

OWNER: EMERSON LAND BUSINESS TRUST
10275 LITTLE PATUXENT PKWY
COLUMBIA, MD 21044
410-992-6000

DEVELOPER: GENERAL GROWTH PROPERTIES
10275 LITTLE PATUXENT PKWY
COLUMBIA, MD 21044
410-992-6000

SITE ADDRESS:
PALACE HALL DRIVE
LAUREL, MD 20723

EMERSON, SECTION 2 PHASE 3, LOTS 1 thru 38 AND OPEN SPACE LOTS 40 thru 42; A RESUBDIVISION OF PARCEL D-3 AND EMERSON, SECTION 2, PHASE 5B, LOTS 1 thru 38 AND OPEN SPACE LOTS 40 thru 42, A RESUBDIVISION OF PARCEL A-1

FINAL ROAD CONSTRUCTION PLAN AND PROFILE
SOLAR COURSE
6TH ELECTION DISTRICT HOWARD COUNTY, MD

APPROVED, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
William J. Orndorff
CHIEF, BUREAU OF HIGHWAYS
DATE: 5-13-08

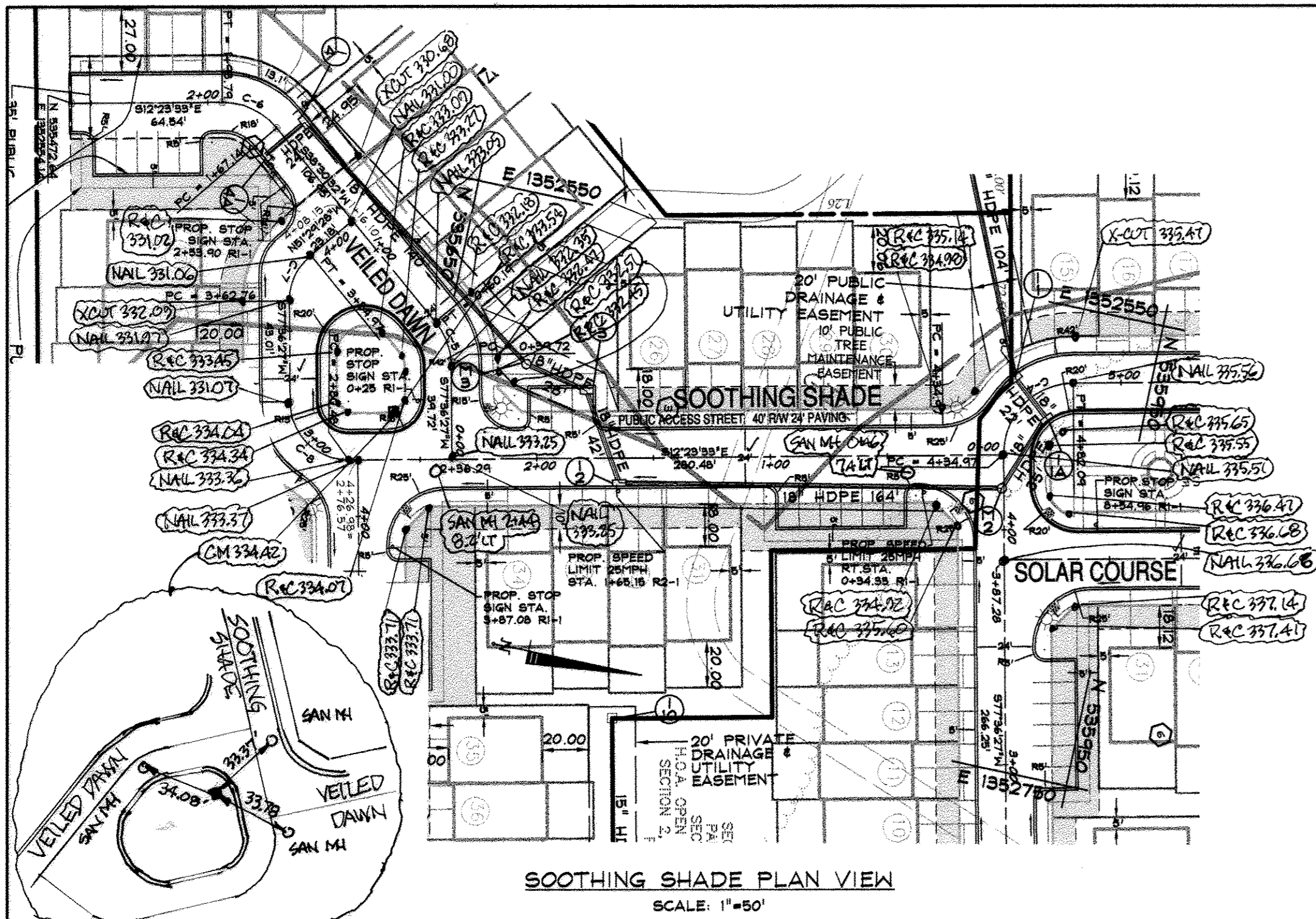
APPROVED, HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Cynthia W. ...
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 5/16/08

DATE: 5/16/08
Professional Certification:
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 25420, Expiration Date: 7/30/08.

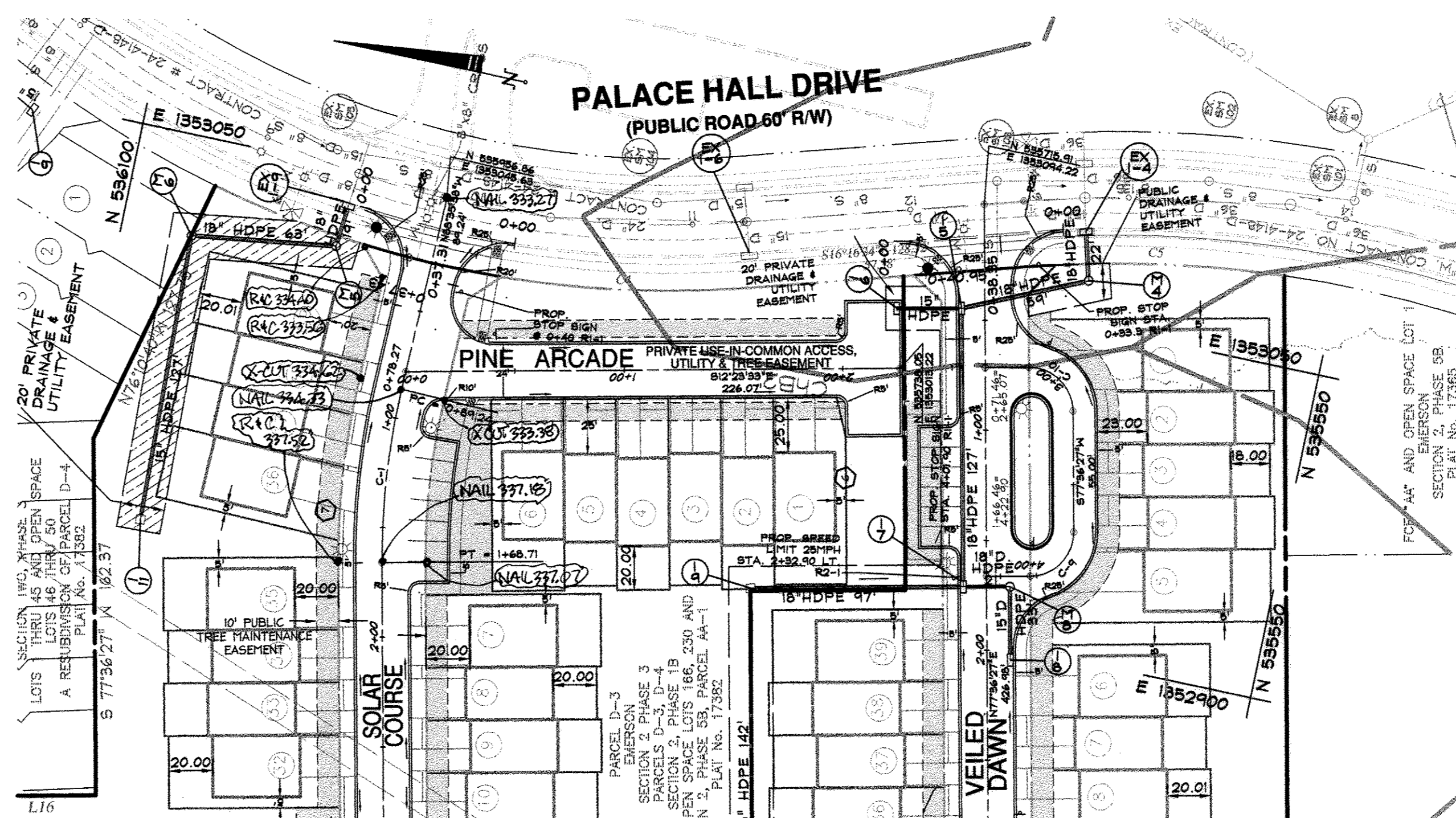
Mark ...
MARK ...
DATE: 5/16/08

NO.	DESCRIPTION OF CHANGES	DRN.	REV.	DATE
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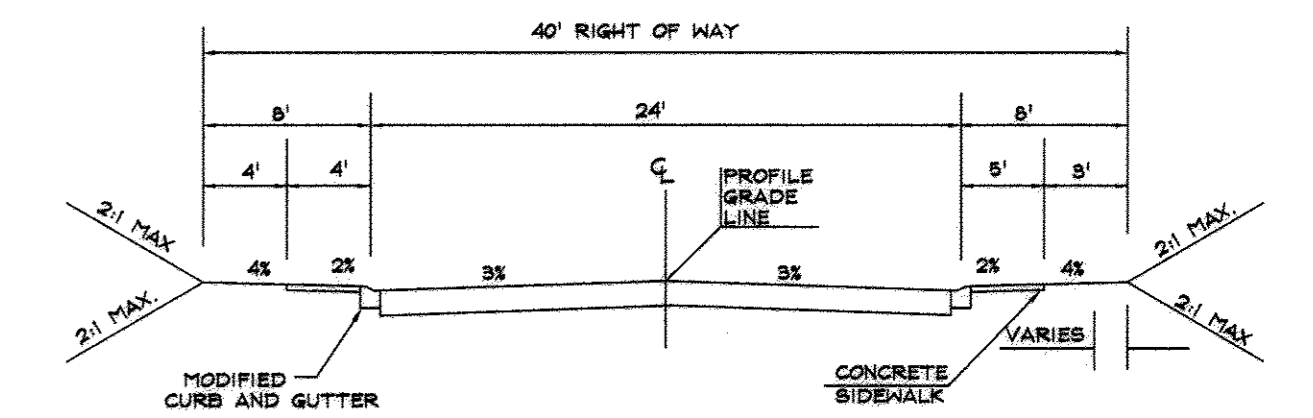
CO. FILE #	F-07-182	DES. BY:	JCO
TAX ACC. #		DRN. BY:	SDS
TAX MAP:	47	CHK. BY:	WRD
BLOCK / GRID:	8	DATE:	5-2-2008
PARCEL #:	3 & 837	DDC JOB#:	06128.1
ZONE / USE:	PEC-MXD-3	SHEET NUMBER:	
DWG. SCALE:	1"=50'		3 of 10



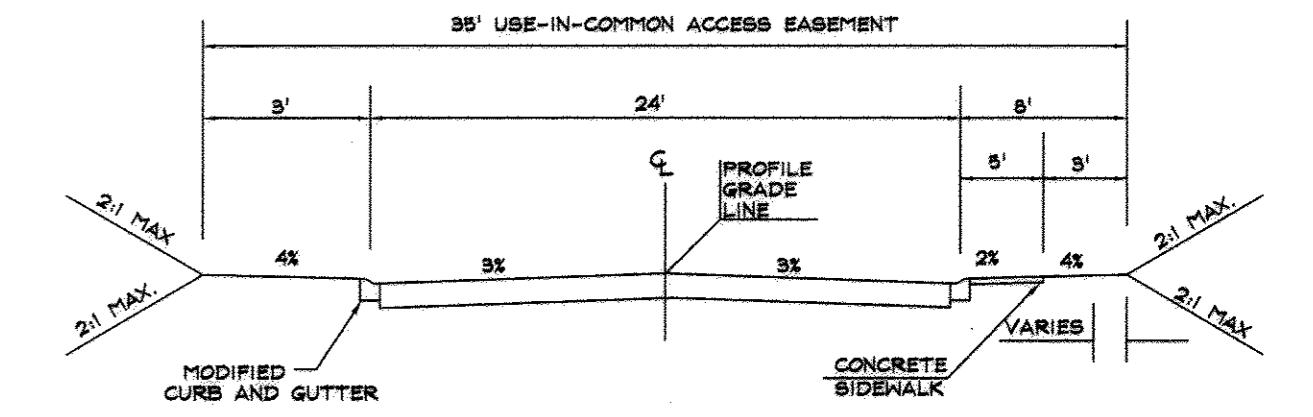
SOOTHING SHADE PLAN VIEW
SCALE: 1"=50'



PINE ARCADE PLAN VIEW
SCALE: 1"=50'



TYPICAL ROAD SECTION (FIG. 209a)
SOOTHING SHADE PUBLIC ACCESS STREET
SCALE: NTS

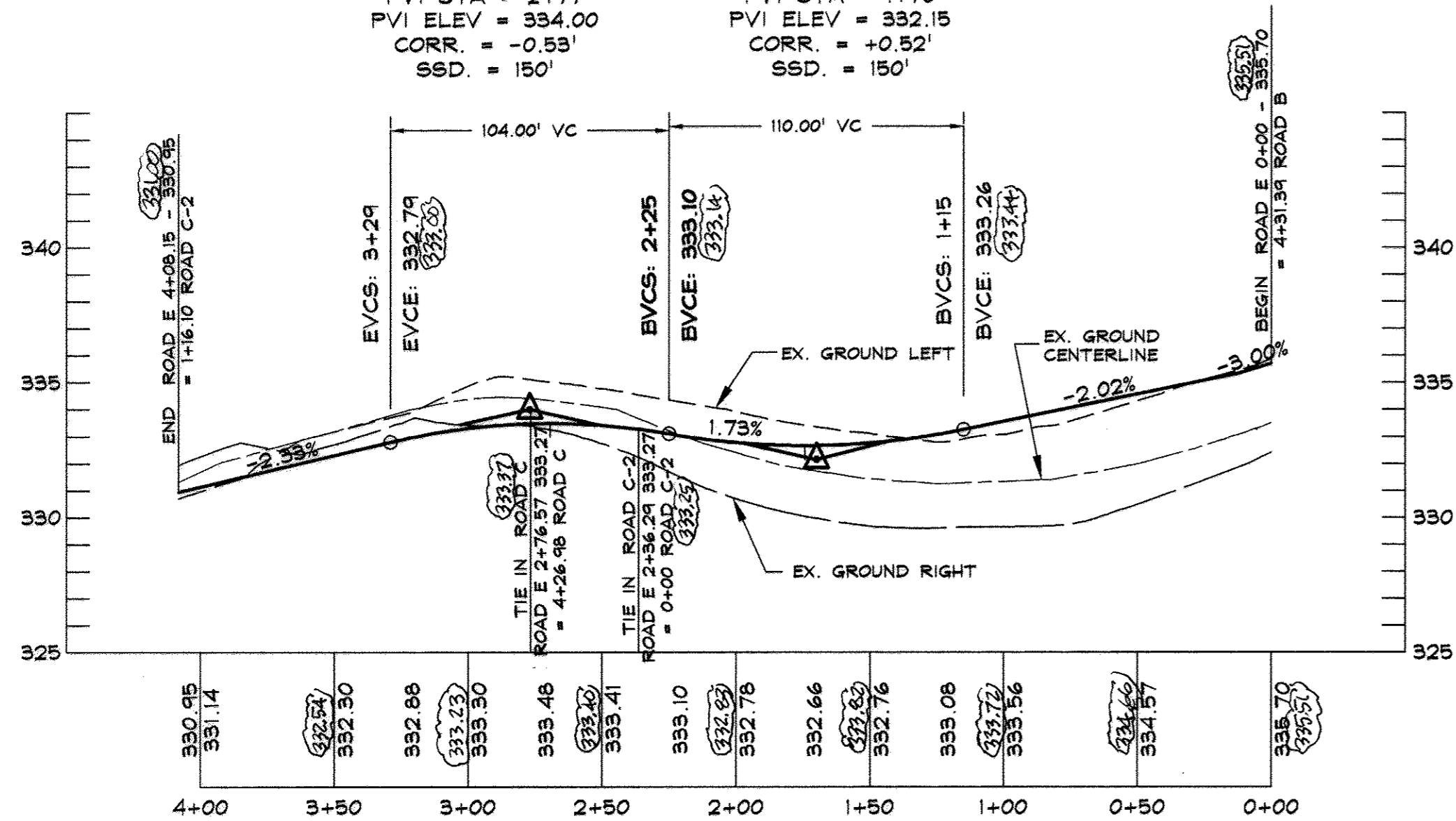


TYPICAL ROAD SECTION (FIG. 209d)
PINE ARCADE PRIVATE ACCESS STREET
SCALE: NTS

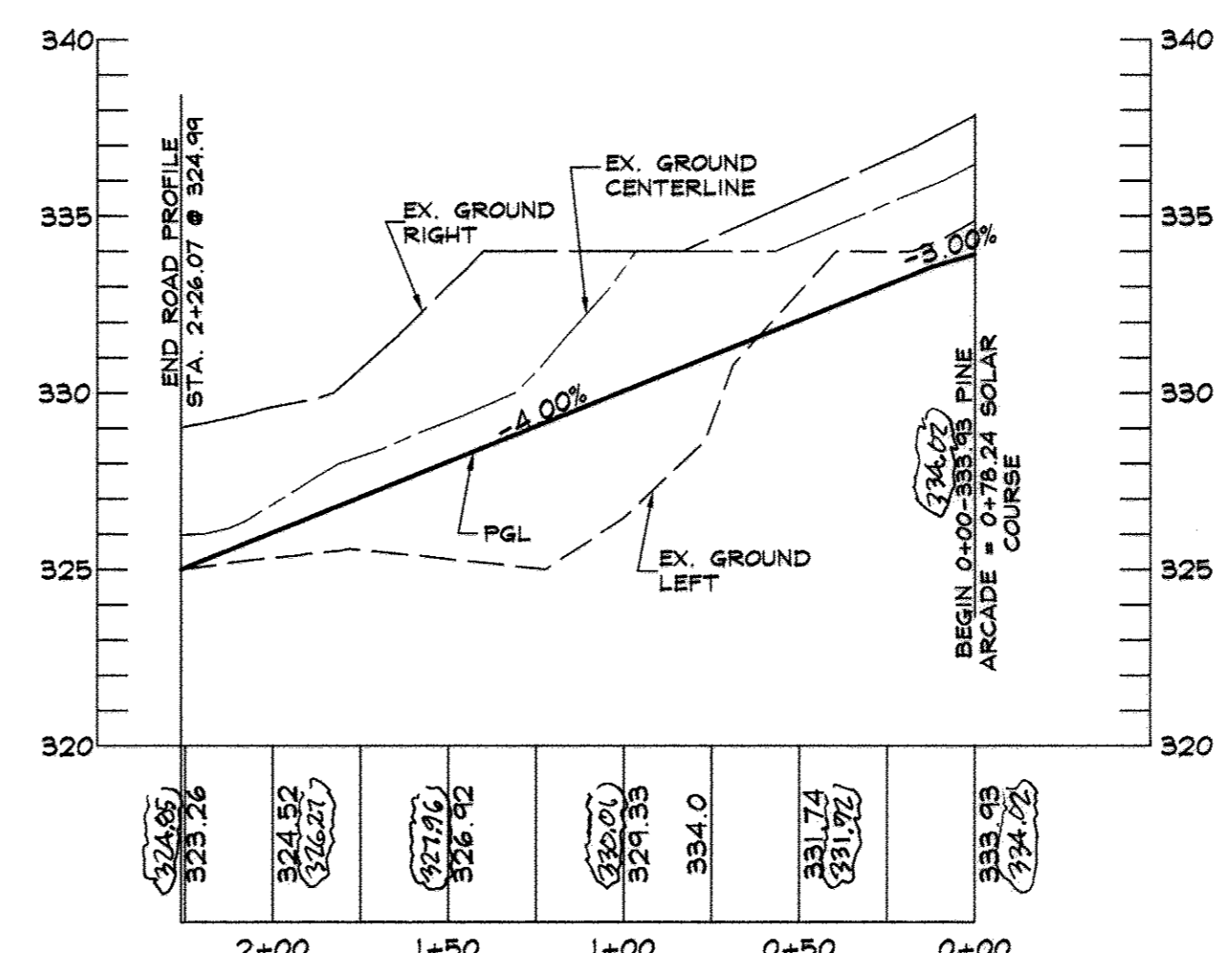
PROVIDE TYPICAL SIDEWALK RAMPS AT ALL INTERSECTIONS WITH TRUNCATED DOME PAD PER CURRENT ADA STANDARDS

MONUMENT RECOVERY SKETCH NOT TO SCALE

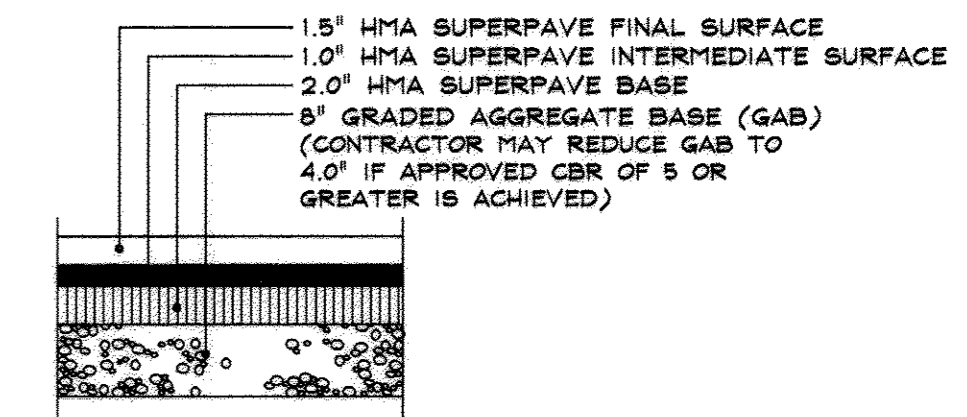
HIGH POINT ELEV = 335.48 LOW POINT ELEV = 332.66
HIGH POINT STA = 2+69.35 LOW POINT STA = 1+74.26
PVI STA = 2+77 PVI STA = 1+70
PVI ELEV = 334.00 PVI ELEV = 332.15
CORR. = -0.53' CORR. = +0.52'
SSD = 150' SSD = 150'



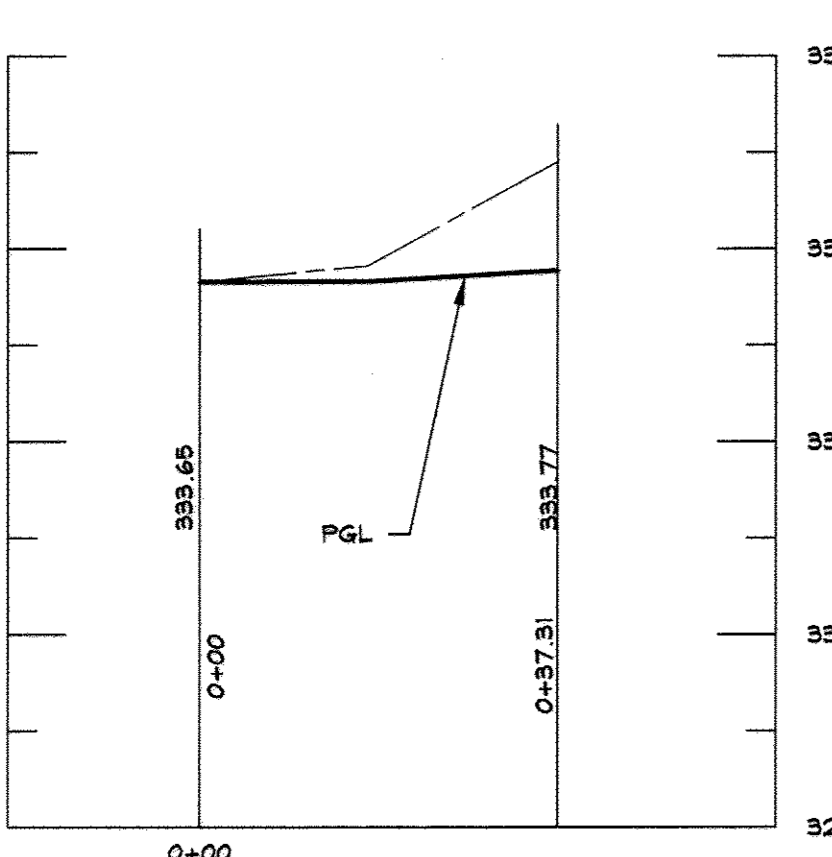
SOOTHING SHADE PUBLIC ACCESS DESIGN SPEED 25 MPH
SCALE: HORIZONTAL: 1"=50'
VERTICAL: 1"=5'



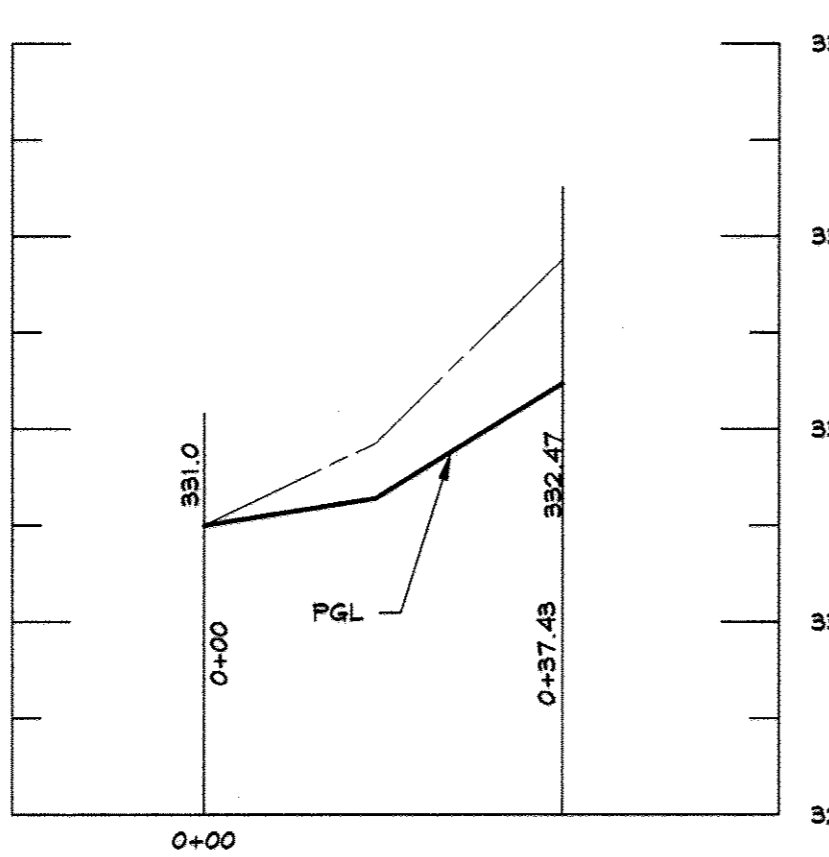
PINE ARCADE PRIVATE ACCESS & UTILITY EASEMENT PROFILE
SCALE: HORIZONTAL: 1"=50'
VERTICAL: 1"=5'



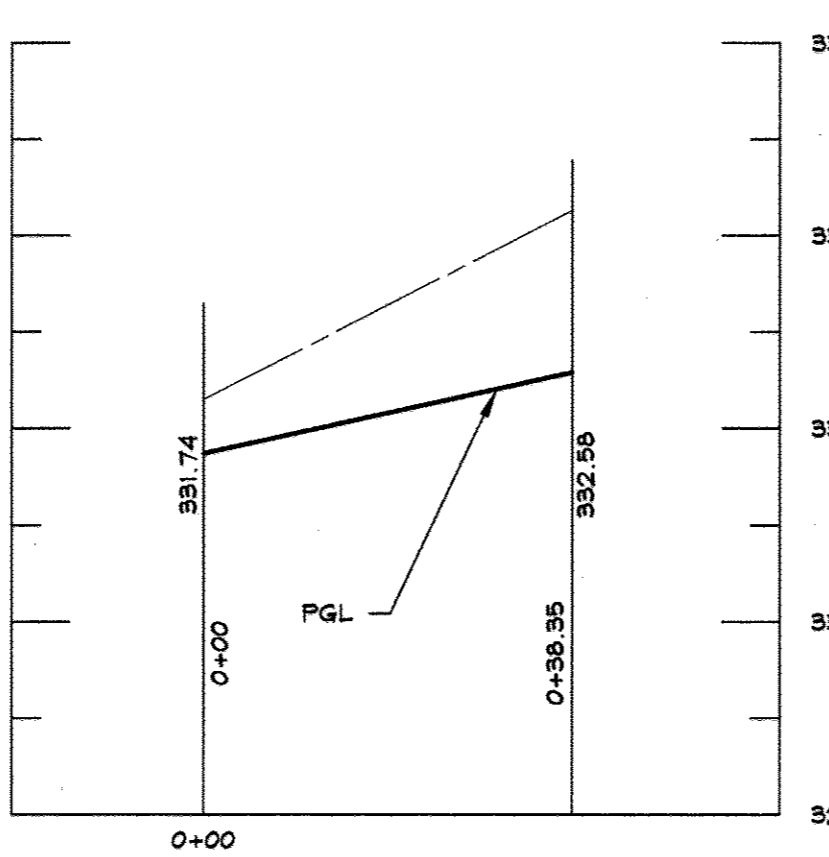
P-2 PAVING SECTION (R-2.01)
SCALE: NTS



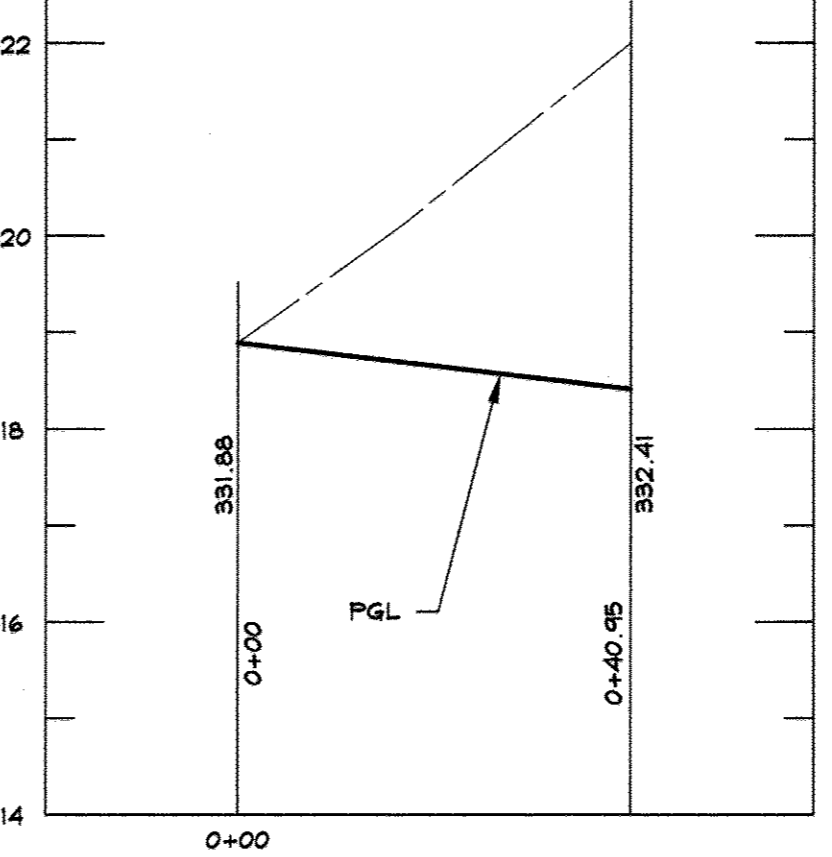
SOUTH SOLAR COURSE CURB FILLET PROFILE
SCALE: HORIZONTAL: 1"=20'
VERTICAL: 1"=2'



NORTH SOLAR COURSE CURB FILLET PROFILE
SCALE: HORIZONTAL: 1"=20'
VERTICAL: 1"=2'



SOUTH VEILED DAWN CURB FILLET PROFILE
SCALE: HORIZONTAL: 1"=20'
VERTICAL: 1"=2'



NORTH VEILED DAWN CURB FILLET PROFILE
SCALE: HORIZONTAL: 1"=20'
VERTICAL: 1"=2'

AS-BUILT CERTIFICATION
I HEREBY CERTIFY, BY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS AS-BUILT PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS.
G. SCOTT SHANABERGER
PROFESSIONAL L.S. # 100049
SHANABERGER & LANE
LICENSE EXPIRATION DATE 4/2/2014

DATA SOURCES:
LOCATIONS OF TREELINES, STREAMS, TOPOGRAPHY, WETLANDS, AND FOREST CONSERVATION AREA DERIVED FROM F-01-87, F-02-88 AND F-04-127. BOUNDARY SHOWN PER BOUNDARY SURVEY DATED JUNE, 1999, PREPARED BY DAFT-HAGGON-HALKER, INC. SOILS (IF SHOWN) TAKEN FROM HOWARD COUNTY SOIL SURVEY, 1968. ADDITIONAL TOPO PROVIDED BY SHANABERGER & LANE, DATED JANUARY, 2007.

DeMario Design Consultants, Inc.
192 East Main Street
Westminster, MD 21157
Phone: (410) 366-0560
Fax: (410) 366-0564
http://www.demariodesign.com
eMail: ddc@demariodesign.com

OWNER: EMERSON LAND BUSINESS TRUST
10275 LITTLE PATUXENT PKWY
COLUMBIA, MD 21044
410-992-6000
DEVELOPER: GENERAL GROWTH PROPERTIES
10275 LITTLE PATUXENT PKWY
COLUMBIA, MD 21044
410-992-6000

SITE ADDRESS: PALACE HALL DRIVE
LAUREL, MD 20723

EMERSON SECTION 2 PHASE 3, LOTS 1 thru 38 and OPEN SPACE LOTS 40 thru 42. A REBUDIVISION OF PARCEL D-3 and EMERSON SECTION 2, PHASE 2B, LOTS 1 thru 38 and OPEN SPACE LOTS 40 thru 42. A REBUDIVISION OF PARCEL 2A-1.
FINAL ROAD CONSTRUCTION PLAN & PROFILE SOOTHING SHADE & PINE ARCADE
6TH ELECTION DISTRICT HOWARD COUNTY, MD

NO.	DESCRIPTION OF CHANGES	DRN.	REV.	DATE
1	AS-BUILT			6/26/13
CO. FILE #	F-07-182	DES. BY:	JCO	
TAX ACC. #		DRN. BY:	SDS	
BLOCK / GRID:	47	CHK. BY:	WRD	
PARCEL #	3 & 837	DATE:	5-2-2008	
ZONE / USE:	PEC-MXD-3	DDC JOB#:	06128.1	
DWG. SCALE:	1"=50'	SHEET NUMBER:	4 of 10	

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
William J. Adams
CHIEF, BUREAU OF HIGHWAYS
DATE: 5-13-08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Carolee Ham
CHIEF DIVISION OF LAND DEVELOPMENT
DATE: 5/16/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
William J. Adams
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 5/16/08

5/16/08
DATE

Professional Certification:
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 25420, Expiration Date: 7/20/08.

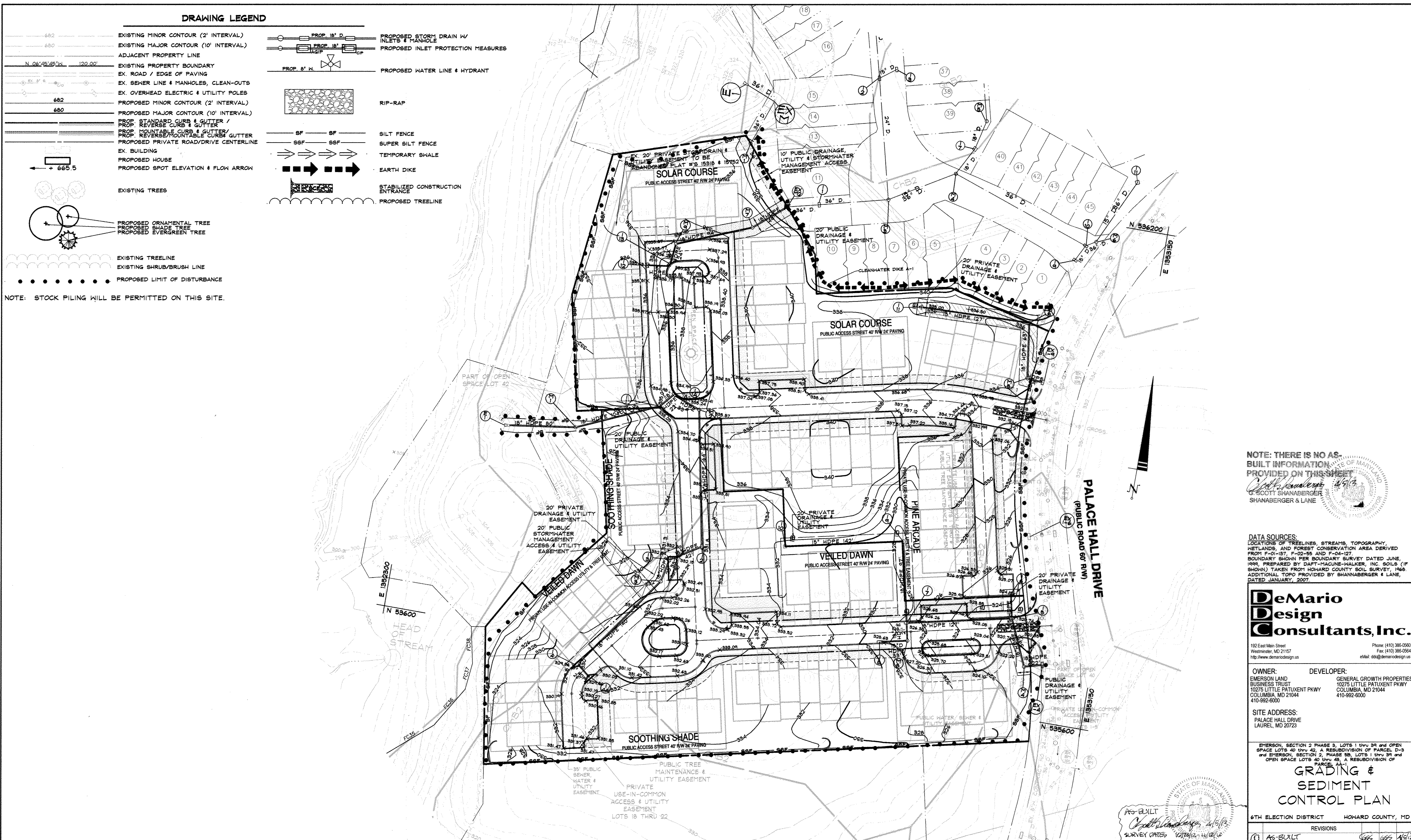
G. SCOTT SHANABERGER
PROFESSIONAL ENGINEER
MARK

DRAWING LEGEND

- 682 EXISTING MINOR CONTOUR (2' INTERVAL)
- 680 EXISTING MAJOR CONTOUR (10' INTERVAL)
- ADJACENT PROPERTY LINE
- N 06°45'45" W 120.00' EXISTING PROPERTY BOUNDARY
- EX. ROAD / EDGE OF PAVING
- EX. SEWER LINE & MANHOLES, CLEAN-OUTS
- EX. OVERHEAD ELECTRIC & UTILITY POLES
- 682 PROPOSED MINOR CONTOUR (2' INTERVAL)
- 680 PROPOSED MAJOR CONTOUR (10' INTERVAL)
- PROP. STANDARD CURB & GUTTER
- PROP. REVERSE CURB & GUTTER
- PROP. MOUNTABLE CURB & GUTTER
- PROP. REVERSE MOUNTABLE CURB & GUTTER
- PROP. PROPOSED PRIVATE ROAD/DRIVE CENTERLINE
- EX. BUILDING
- PROPOSED HOUSE
- PROPOSED SPOT ELEVATION & FLOW ARROW
- EXISTING TREES
- PROPOSED ORNAMENTAL TREE
- PROPOSED SHADE TREE
- PROPOSED EVERGREEN TREE
- EXISTING TREELINE
- EXISTING SHRUB/BUSH LINE
- PROPOSED LIMIT OF DISTURBANCE

- PROP. 18" D. PROPOSED STORM DRAIN W/ INLETS & MANHOLE
- PROP. 18" D. PROPOSED INLET PROTECTION MEASURES
- PROP. 8" W. PROPOSED WATER LINE & HYDRANT
- RIP-RAP
- SILT FENCE
- SUPER SILT FENCE
- TEMPORARY SWALE
- EARTH DIKE
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED TREELINE

NOTE: STOCK PILING WILL BE PERMITTED ON THIS SITE.



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

Scott Shanaberger 4/9/13
G. SCOTT SHANABERGER
SHANABERGER & LANE

DATA SOURCES:
LOCATIONS OF TREELINES, STREAMS, TOPOGRAPHY, WETLANDS, AND FOREST CONSERVATION AREA DERIVED FROM F-01-137, F-02-55 AND F-04-127. BOUNDARY SHOWN PER BOUNDARY SURVEY DATED JUNE, 1989, PREPARED BY DAFT-MACINE-WALKER, INC. SOILS (IF SHOWN) TAKEN FROM HOWARD COUNTY SOIL SURVEY, 1966. ADDITIONAL TOPO PROVIDED BY SHANABERGER & LANE, DATED JANUARY, 2007.

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COLUMBIA, MD 21044
410-992-6000

DEVELOPER: GENERAL GROWTH PROPERTIES
10275 LITTLE PATUXENT PKWY
COLUMBIA, MD 21044
410-992-6000

SITE ADDRESS:
PALACE HALL DRIVE
LAUREL, MD 20723

GRADING & SEDIMENT CONTROL PLAN

6TH ELECTION DISTRICT HOWARD COUNTY, MD

REVISIONS

1	As-BUILT	4/9/13
---	----------	--------

NO.	DESCRIPTION OF CHANGES	DRN.	REV.	DATE
CO. FILE #	F-07-182	DES. BY:	JCO	
TAX ACC. #		DRN. BY:	SDS	
TAX MAP: 47		CHK. BY:	JCO	
BLOCK / GRID: 8		DATE:	5-2-2008	
PARCEL # : 3 & 837		DDC JOB#:	06128.1	
ZONE / USE: PEC-MXD-3		SHEET NUMBER:		
DWG. SCALE: 1"=50'			5 of 10	

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Hunter 5/18/08
HOWARD SOIL CONSERVATION DISTRICT

Michael J. [Signature] 5/18/08
SUPERVISOR

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

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

Paul G. [Signature] 5/15/08
DEVELOPER

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Willa Z. [Signature] 5-13-08
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

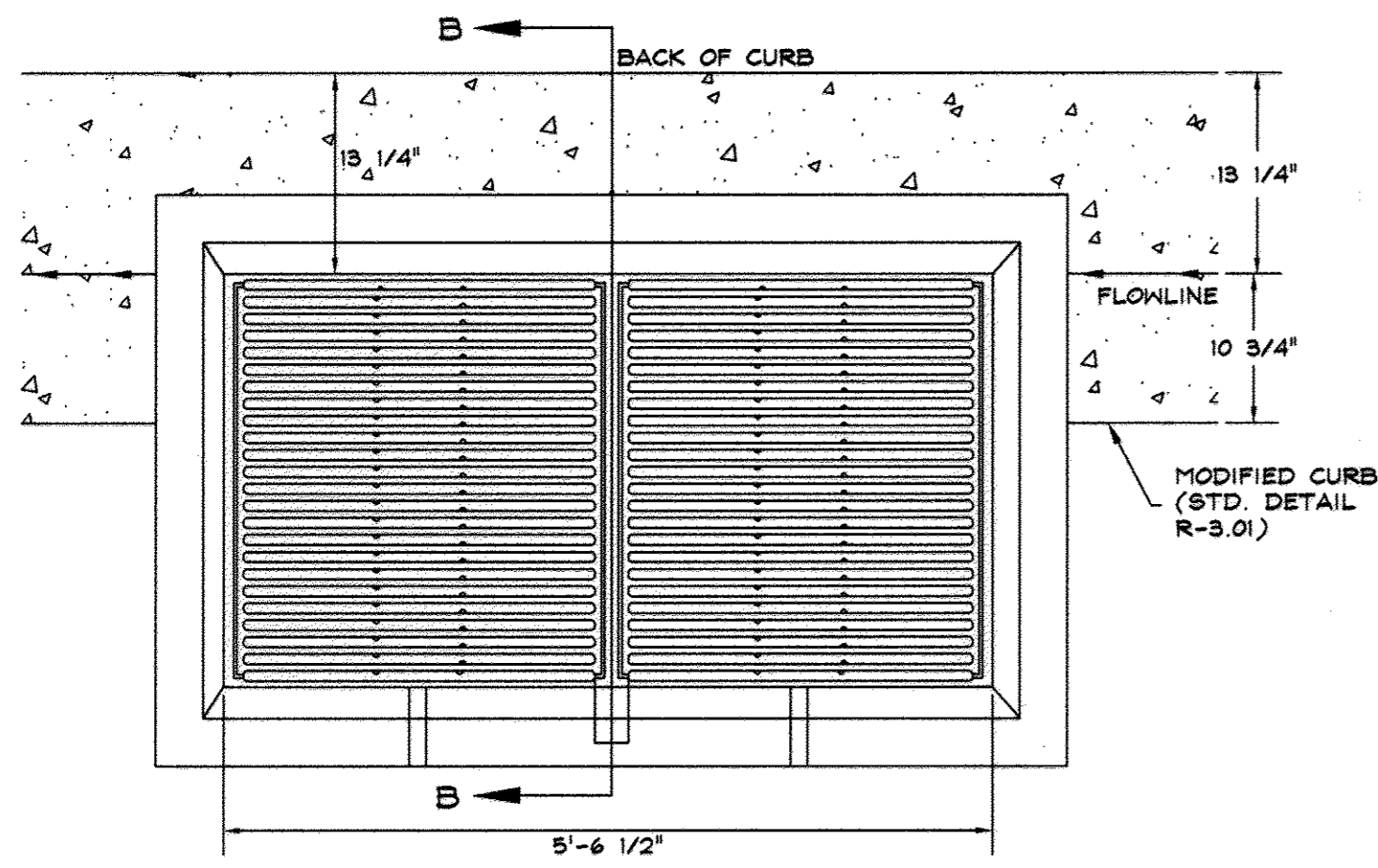
Julia [Signature] 5/16/08
CHIEF DIVISION OF DEVELOPMENT

Michael [Signature] 5/16/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: STATE OF MARYLAND

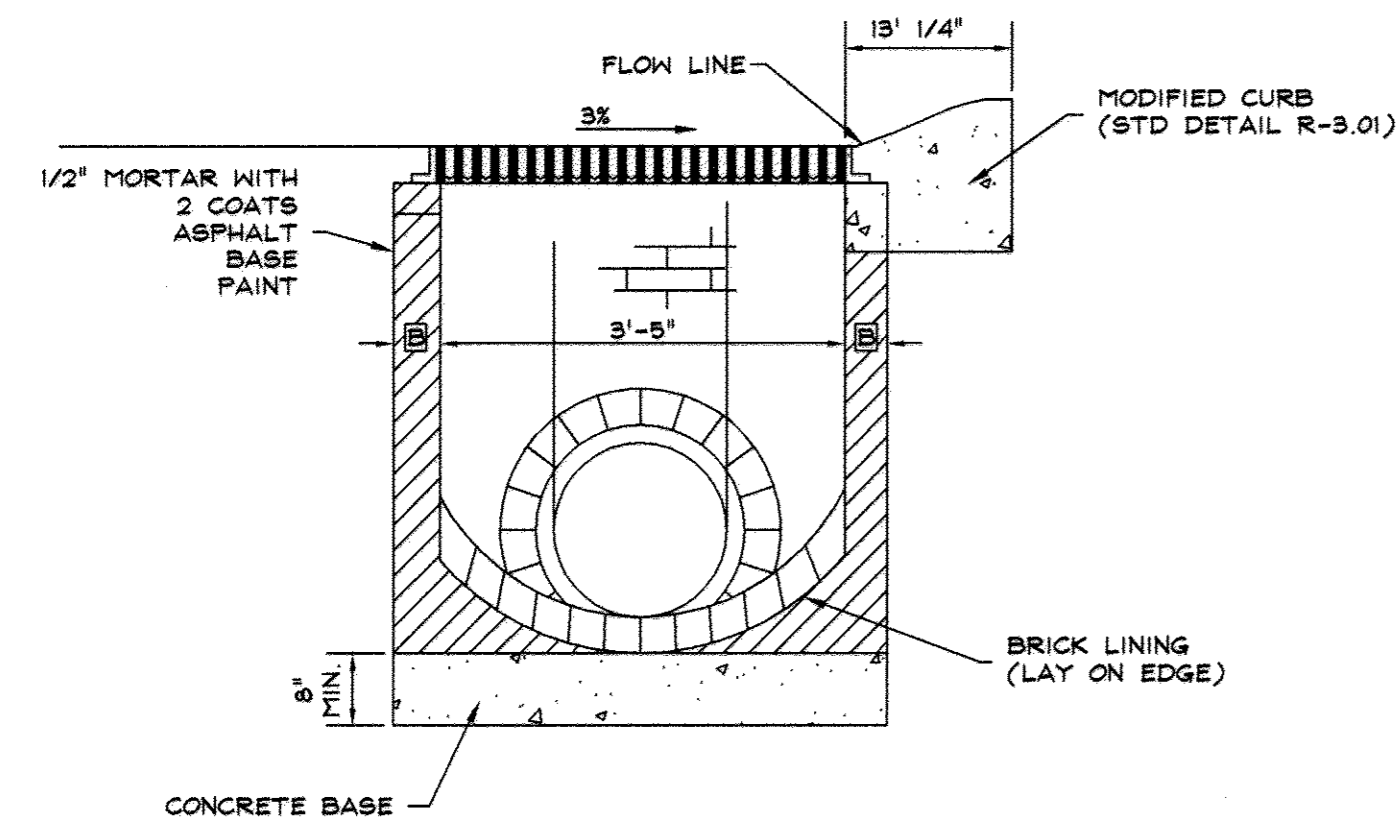
Scott Shanaberger 4/9/13
AG-BUILT

Professional Certification:
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 25400, Expiration Date: 7-30-08.



TYPE 'S' INLET (STD DETAIL SD-4.23)
SCALE: NTS

- NOTES:**
- SLAB SHALL BE MIX NO. 3 CONCRETE
 - INVERTS SHALL BE BRICK, GRADE SM (ASTM C32)
 - WALLS SHALL BE BRICK (BR.) PLAIN MIX NO. 3 CONCRETE (P.C.) OR REINFORCED CONCRETE (R.C.) SEE TABLE FOR DIMENSIONS.
 - REINFORCING # 4 @ 10" E.W. IN C OF WALLS. REINFORCING CONTINUOUS AT CORNERS. ALL LAPS 1'-4".
 - TOP 4" OF WALLS SHALL BE BRICK MASONRY. ADDITIONAL BRICK SHALL BE USED TO BRING THE GRADE TO EXISTING GRADE IF REQUIRED.



MODIFIED DOUBLE TYPE 'S' INLET (SD DETAIL SD-4.34)
SCALE: NTS

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

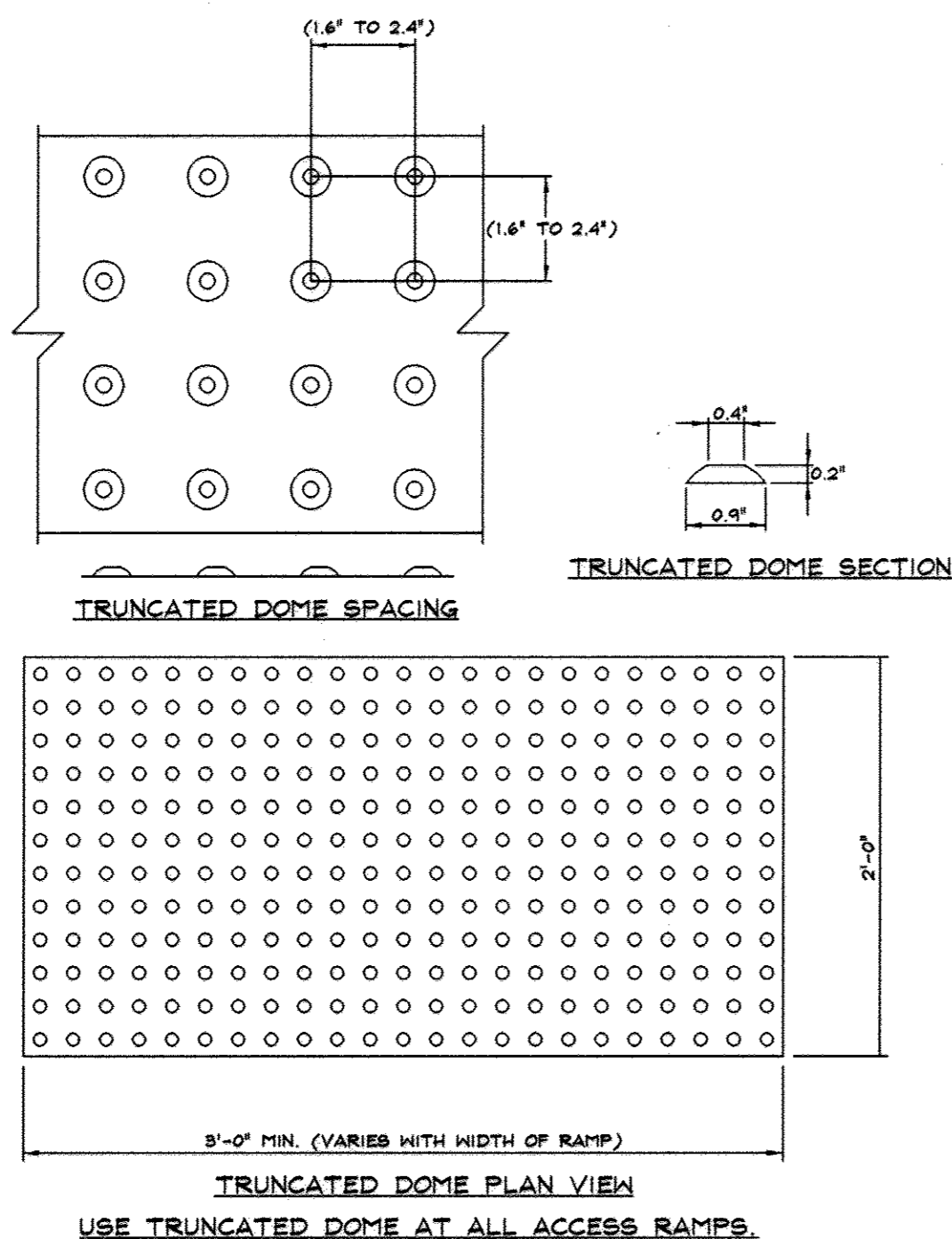
DEVELOPER:
[Signature] 5/5/08

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

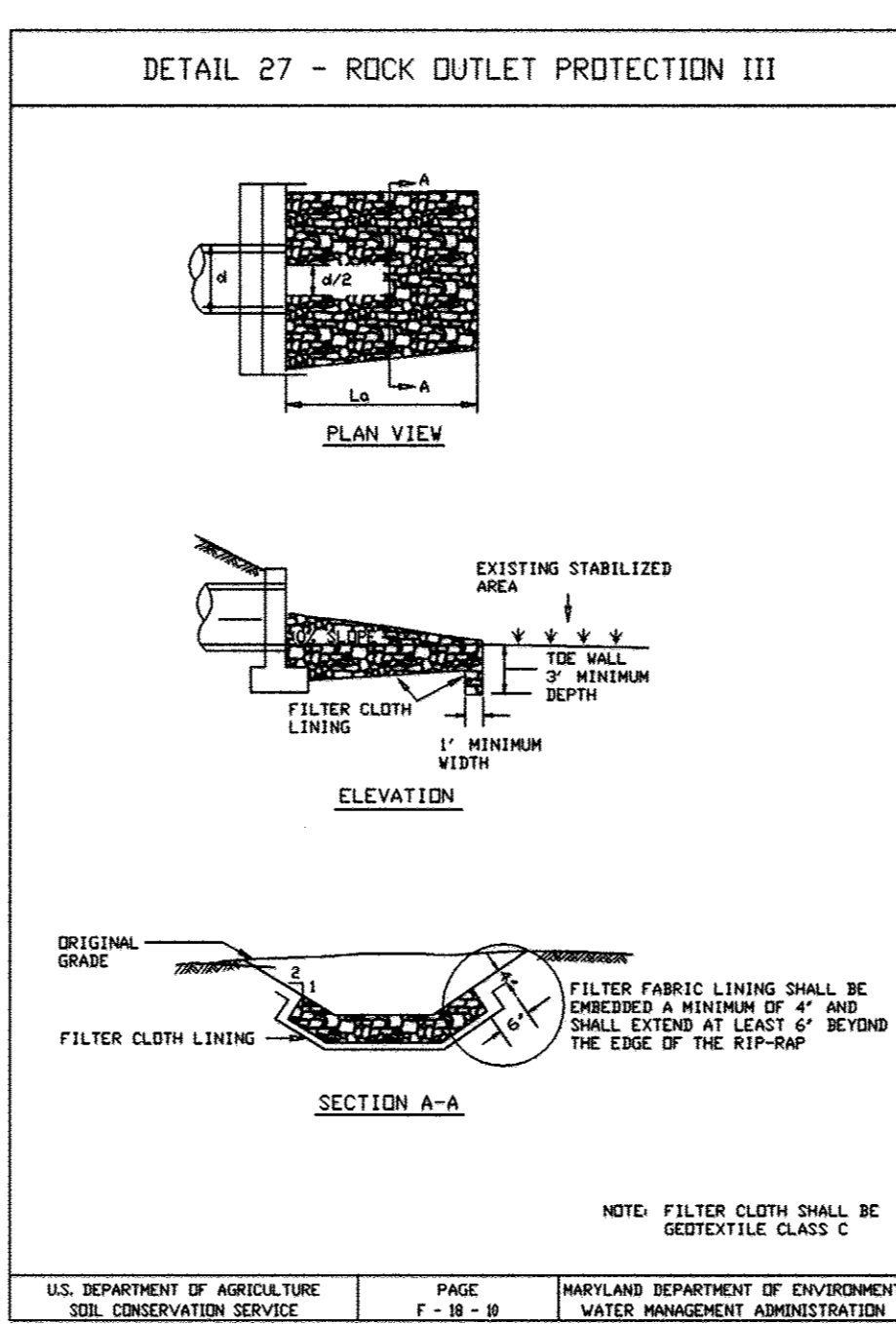
ENGINEER:
[Signature] 5/10/08

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT:
[Signature] 5/18/08



TRUNCATED DOME PLAN VIEW
USE TRUNCATED DOME AT ALL ACCESS RAMPS.



ROCK OUTLET PROTECTION III

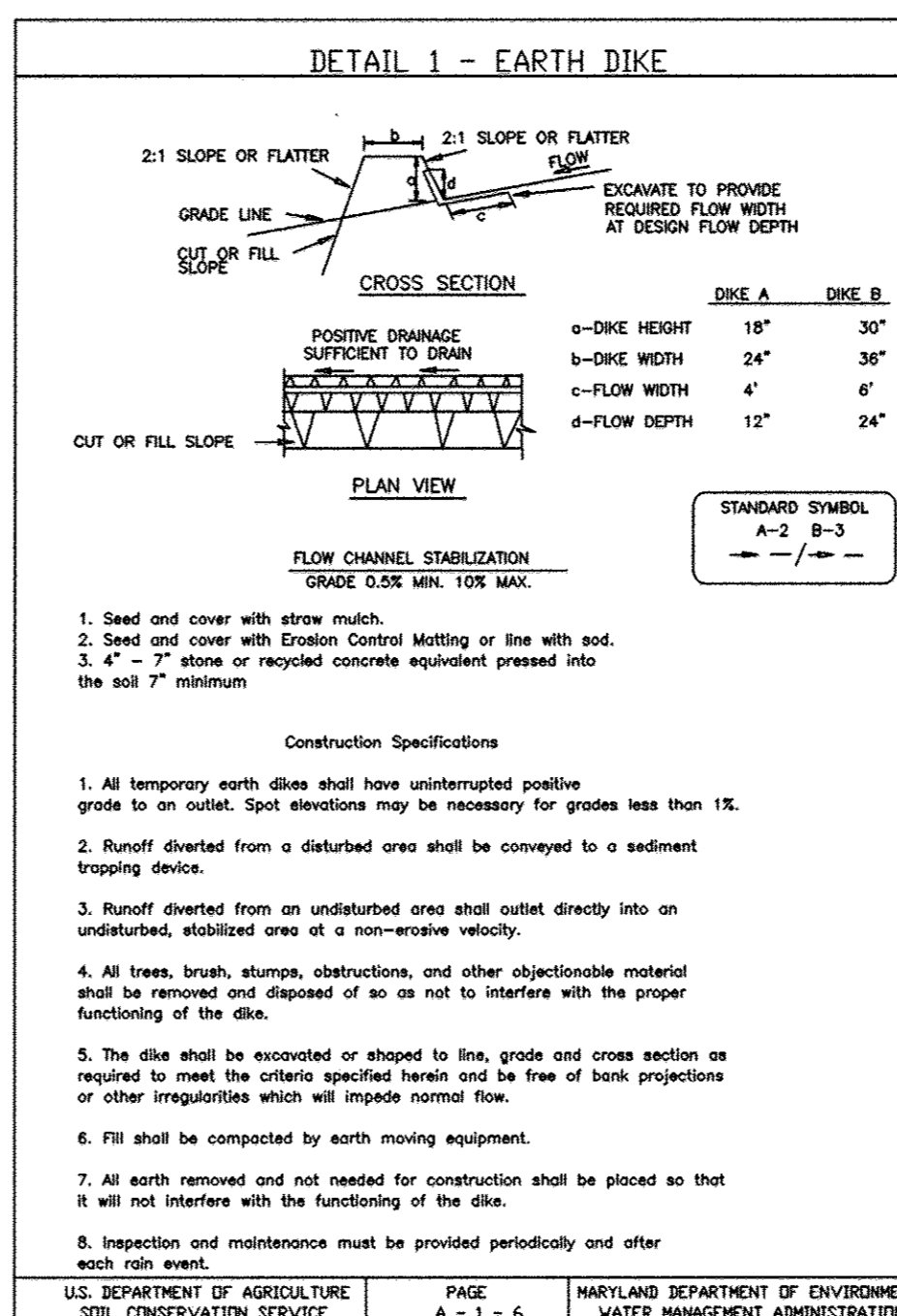
- Construction Specifications**
- The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
 - The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
 - Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.
 - Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the void between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.
 - The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SEDIMENT CONTROL GENERAL NOTES

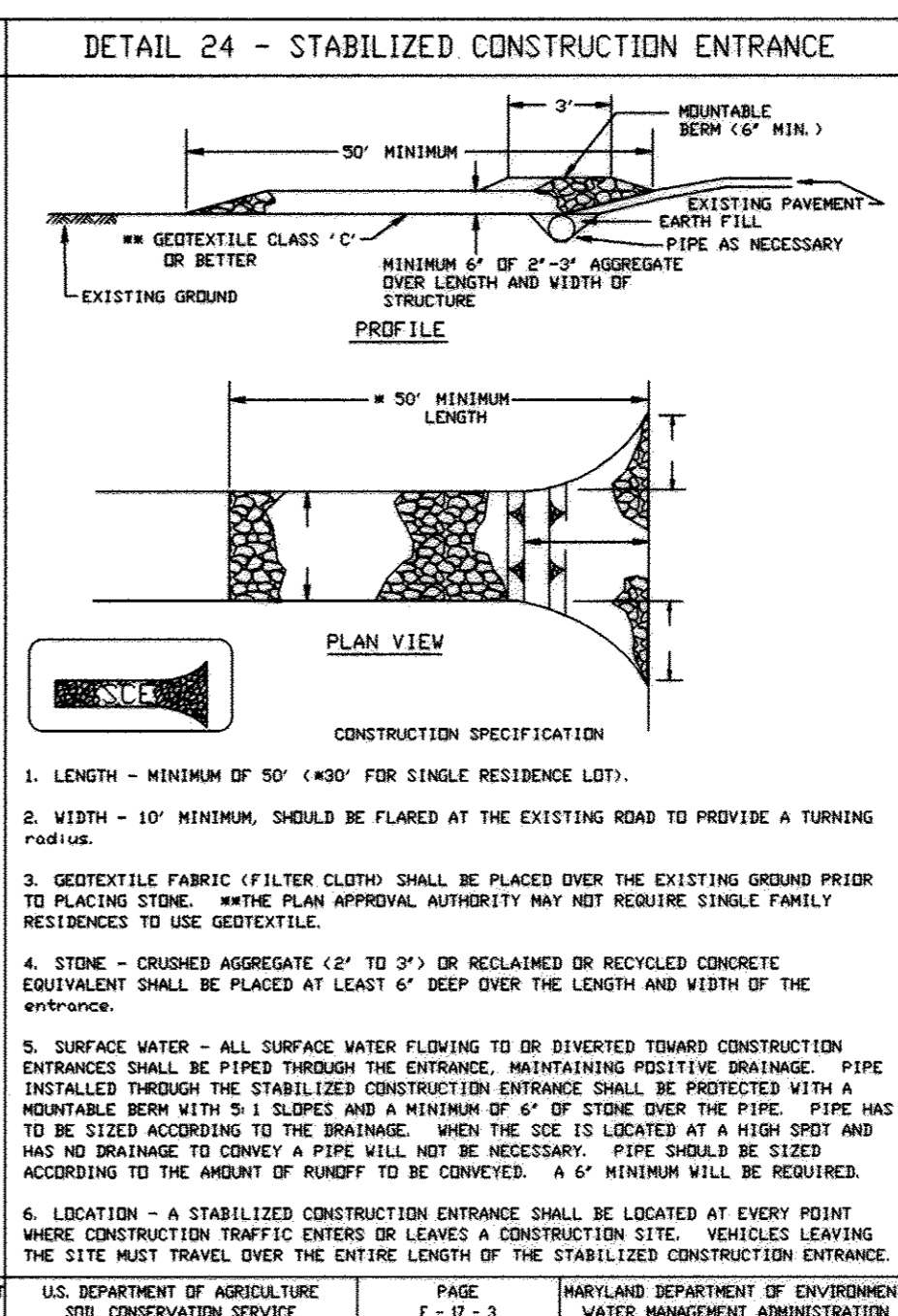
- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (410-315-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
 - SEVEN CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPE AND ALL SLOPES STEEPER THAN 3:1.
 - FOURTEEN DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAP/BASIN SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE "HOWARD COUNTY DESIGN MANUAL", STORM DRAINAGE.
- ALL DISTURBED AREA MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51), SOILS (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS**

TOTAL AREA OF SITE	= 8.15 acres
AREA TO BE ROOFED OR PAVED	= 4.65 acres
AREA TO BE VEGETATIVELY STABILIZED	= 3.45 acres
TOTAL CUT	= 12,000 cu yd
TOTAL FILL	= 000 cu yd
WASTE/BORROW AREA	= 000
(LOCATION TO BE DETERMINED BY CONTRACTOR. LOCATION POINT MUST HAVE OPEN GRADING PERMIT.)	
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.



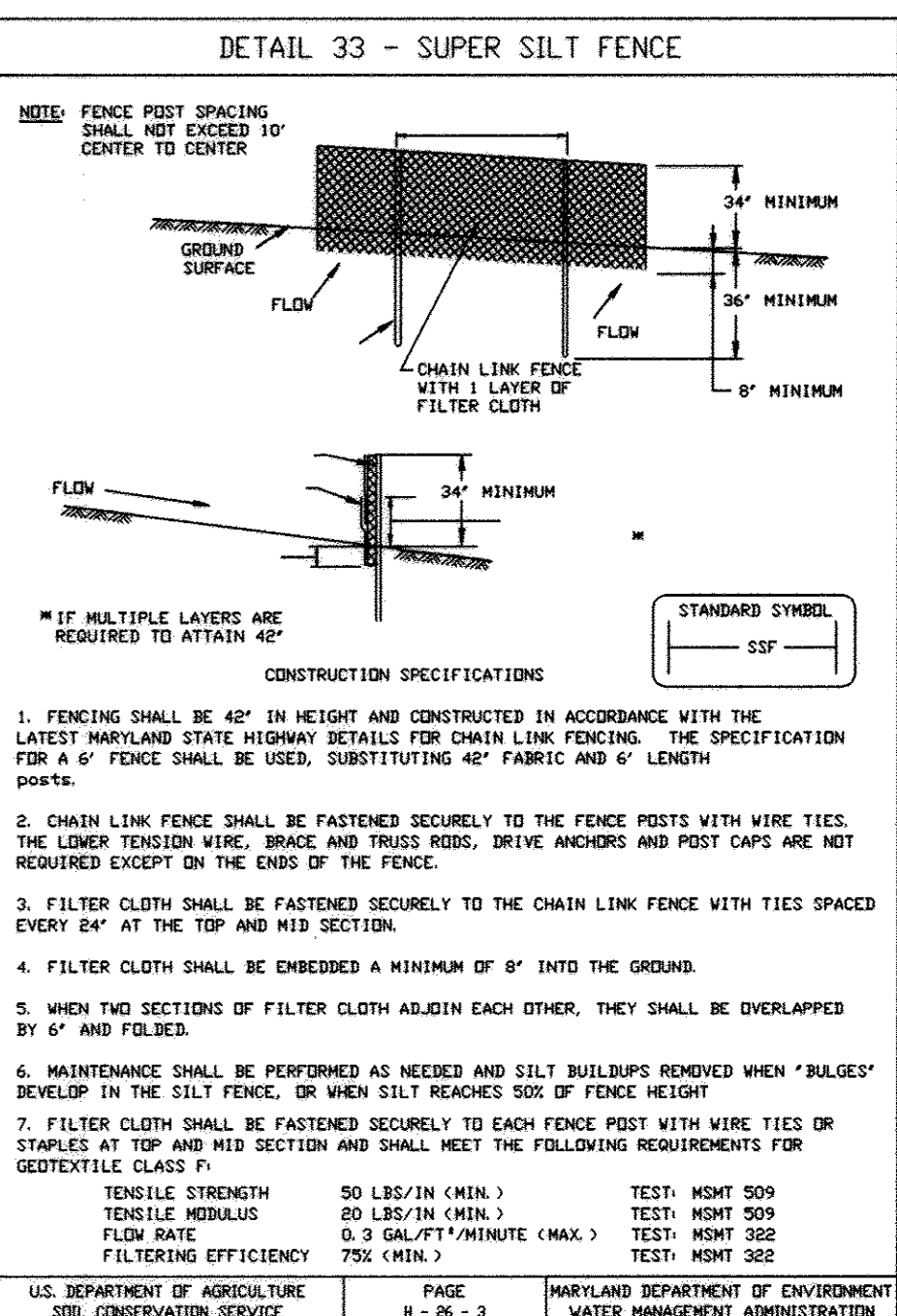
- Construction Specifications**
- All temporary earth dikes shall have unimproved positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
 - Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
 - Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area of a non-erosive velocity.
 - All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
 - The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of base projections or other irregularities which will impede normal flow.
 - Fill shall be compacted by earth moving equipment.
 - All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
 - Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE



- Construction Specifications**
- LENGTH - MINIMUM OF 50' (+30' FOR SINGLE RESIDENCE LOT).
 - WIDTH - 10' MINIMUM, SHOULD BE PLACED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
 - GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE. THE PLAN APPROVAL AUTHORITY MAY NOT REQUIRE SINGLE FAMILY RESIDENCES TO USE GEOTEXTILE.
 - STONE - CRUSHED AGGREGATE (2" TO 3") OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 6" DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
 - SURFACE WATER - ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED THROUGH THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A REMOVABLE BERM WITH 2:1 SLOPES AND A MINIMUM OF 6" OF STONE OVER THE PIPE. PIPE HAS TO BE SIZED ACCORDING TO THE DRAINAGE. WHEN THE S.C.E. IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY A PIPE WILL NOT BE NECESSARY. PIPE SHOULD BE SIZED ACCORDING TO THE AMOUNT OF RUNOFF TO BE CONVEYED. A 6" MINIMUM WILL BE REQUIRED.
 - LOCATION - A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST TRAVEL OVER THE STABILIZED CONSTRUCTION ENTRANCE.

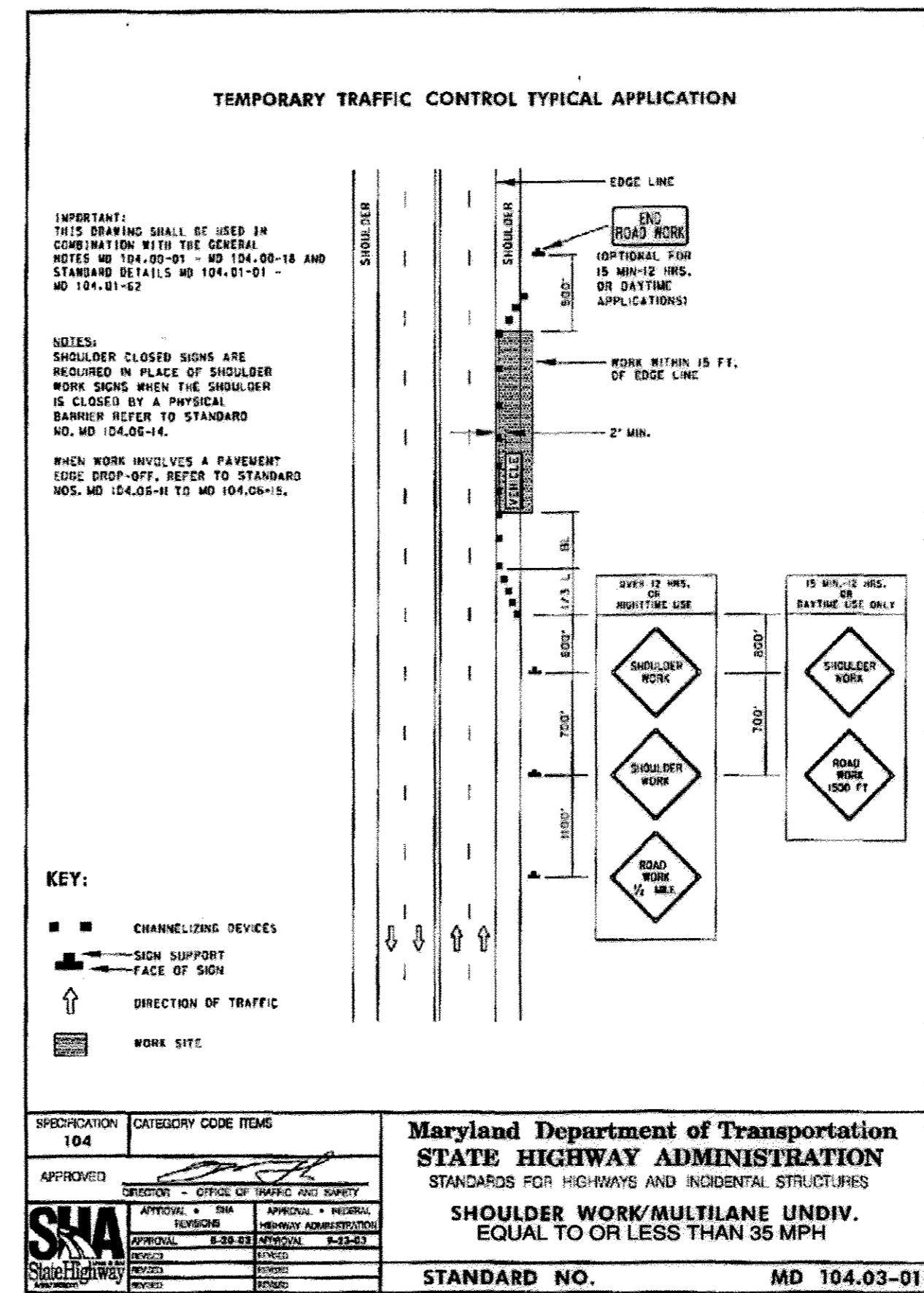
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE



- Construction Specifications**
- FENCING SHALL BE 42" IN HEIGHT AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY DETAILS FOR CHAIN LINK FENCING. THE SPECIFICATION FOR A 6' FENCE SHALL BE USED, SUBSTITUTING 42" FABRIC AND 6' LENGTH POSTS.
 - CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES. THE LOWER TENSION WIRE, BRACE AND TRUSS RODS, DRIVE ANCHORS AND POST CAPS ARE NOT REQUIRED EXCEPT ON THE ENDS OF THE FENCE.
 - FILTER CLOTH SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT THE TOP AND MID SECTION.
 - FILTER CLOTH SHALL BE EMBEDDED A MINIMUM OF 8" INTO THE GROUND.
 - WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
 - MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT BUILDUPS REMOVED WHEN 'BULGES' DEVELOP IN THE SILT FENCE, OR WHEN SILT REACHES SOFT OF FENCE HEIGHT.
 - FILTER CLOTH SHALL BE FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:

TENSILE STRENGTH	50 LBS/IN (MIN.)	TEST: MMT 509
TENSILE MODULUS	80 LBS/IN (MIN.)	TEST: MMT 509
FLOW RATE	0.3 GAL/FT ² /MINUTE (MAX.)	TEST: MMT 382
FILTERING EFFICIENCY	75% (MIN.)	TEST: MMT 382

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE



Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
SHOULDER WORK/MULTILANE UNDIV.
EQUAL TO OR LESS THAN 35 MPH
STANDARD NO. MD 104.03-01

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET
[Signature] 4/5/13
G. SCOTT SHANABERGER
SHANABERGER & LANE

DATA SOURCES:
LOCATIONS OF TREELINES, STREAMS, TOPOGRAPHY, WETLANDS, AND FOREST CONSERVATION AREA DERIVED FROM F-01-01, F-02-05 AND F-04-07. BOUNDARY SHOWN PER BOUNDARY SURVEY DATED JUNE, 1998, PREPARED BY DAFT-MAGNUS-WALKER, INC. SOILS (IF SHOWN) TAKEN FROM HOWARD COUNTY SOIL SURVEY, 1960. ADDITIONAL TOPO PROVIDED BY SHANABERGER & LANE, DATED JANUARY, 2007.

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410-992-6000

DEVELOPER: GENERAL GROWTH PROPERTIES
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COLUMBIA, MD 21044
410-992-6000

SITE ADDRESS:
PALACE HALL DRIVE
LAUREL, MD 20723

EMERSON, SECTION 2, PHASE B, LOTS 1 thru 38 and OPEN SPACE LOTS 40 thru 42. A RESUBDIVISION OF PARCELS D-3 and EMERSON, SECTION 2, PHASE B, LOTS 1 thru 38 and OPEN SPACE LOTS 40 thru 42. A RESUBDIVISION OF PARCEL AA-1.

SEDIMENT & EROSION CONTROL DETAILS AND SITE DETAILS

6TH ELECTION DISTRICT HOWARD COUNTY, MD

REVISIONS
① AS-BUILT (GSS) GSS 4/5/13

NO. DESCRIPTION OF CHANGES DRN. REV. DATE

CO. FILE # F-07-182 DES. BY: JCO

TAX ACC. # DRN. BY: SDS

BLOCK / GRID: 8 CHK. BY: JCO

PARCEL # 3 & 837 DDC JOB#: 06128.1

ZONE / USE: PEC-MXD-3 SHEET NUMBER: 6 of 10

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
[Signature] 5-13-08
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
[Signature] 5/10/08
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
[Signature] 5/10/08
DATE

AS-BUILT
[Signature] 4/5/13
DATE

Professional Certification
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 25420, Expiration Date: 7-20-08.

STATE OF MARYLAND
MARK SHANABERGER
REGISTERED PROFESSIONAL ENGINEER
No. 25420

SOILS CHART			
CODE(CLASS)	NAME	HYDRIC (Y/N/INCL.)	K VALUE
ChB2(B)	CHESTER SILT LOAM, 3%-8% SLOPES, MODERATELY ERODED	N	0.32
GIB2(B)	GLENELG LOAM, 3%-8% SLOPES, MODERATELY ERODED	N	0.32
GID2(B)	GLENELG LOAM 15%-25% SLOPES, SEVERELY ERODED	N	0.32
GnB2(C)	GLENVILLE SILT LOAM, 3%-8% SLOPES, MODERATELY ERODED	INCLUSIONS	0.32
ChB2()	CHILLUM SILT LOAM 1%-5% SLOPES, MODERATELY ERODED	N	0.24
ChC2()	CHILLUM SILT LOAM 5%-10% SLOPES, MODERATELY ERODED	N	0.24

DRAINAGE AREA COMPS			
D.A.	'C' FACTOR	% IMPERVIOUS	ACRES
INLET 1	0.48	73	0.15
INLET 1A	0.54	66	0.46
INLET 2	0.48	73	0.50
INLET 3	0.52	75	0.19
INLET 4	0.46	71	0.75
INLET 5	0.44	71	0.22
INLET 6	0.42	72	0.52
INLET 7	0.49	73	0.22
INLET 8	0.44	71	0.26
INLET 9	0.30	65	0.53
INLET 10	0.30	65	0.36
INLET 11	0.30	65	0.65
INLET 12	0.49	46	.18
INLET 13	0.45	29	0.37
EX. 1-4	0.47	71	0.52
EX. 1-6	0.49	71	0.70

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

Scott Shanaberger
S. SCOTT SHANABERGER
SHANABERGER & LANE

DATA SOURCES:
LOCATIONS OF TREELINES, STREAMS, TOPOGRAPHY, WETLANDS, AND FOREST CONSERVATION AREA DERIVED FROM F-01-137, F-02-35 AND F-04-127. BOUNDARY SHOWN PER BOUNDARY SURVEY DATED JUNE, 1991, PREPARED BY DAFT-MACUNE-WALKER, INC. SOILS (IF SHOWN) TAKEN FROM HOWARD COUNTY SOIL SURVEY, 1968. ADDITIONAL TOPO PROVIDED BY SHANABERGER & LANE, DATED JANUARY, 2007.

DeMario Design Consultants, Inc.

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Westminster, MD 21157
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Fax: (410) 386-0554
http://www.demariodesign.us
eMail: ddc@demariodesign.us

OWNER: EMERSON LAND BUSINESS TRUST
10275 LITTLE PATUXENT PKWY
COLUMBIA, MD 21044
410-992-6000

DEVELOPER: GENERAL GROWTH PROPERTIES
10275 LITTLE PATUXENT PKWY
COLUMBIA, MD 21044
410-992-6000

SITE ADDRESS:
PALACE HALL DRIVE
LAUREL, MD 20723

EMERSON, SECTION 2 PHASE B, LOTS 1 thru 39 and OPEN SPACE LOTS 40 thru 42. A REBUDIVISION OF PARCEL D-3 and EMERSON, SECTION 2, PHASE 5B, LOTS 1 thru 39 and OPEN SPACE LOTS 40 thru 42, A REBUDIVISION OF PARCEL A4-1.

STORMDRAIN DRAINAGE AREA MAP

6TH ELECTION DISTRICT HOWARD COUNTY, MD

REVISIONS

1	AS-BUILT	10/28/08	10/28/08	10/28/08
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NO.	DESCRIPTION OF CHANGES	DRN.	REV.	DATE
CO. FILE #	F-07-182	DES. BY:	JCO	
TAX ACC. #		DRN. BY:	SDS	
TAX MAP:	47	CHK. BY:	JCO	
BLOCK / GRID:	8	DATE:	5-2-2008	
PARCEL #:	3 & 837	DDC JOB#:	06128.1	
ZONE / USE:	PEC-MXD-3	SHEET NUMBER:		
DWG. SCALE:	1"=50'		8 of 10	

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William R. Mulla
CHIEF, BUREAU OF HIGHWAYS
DATE: 5-13-08

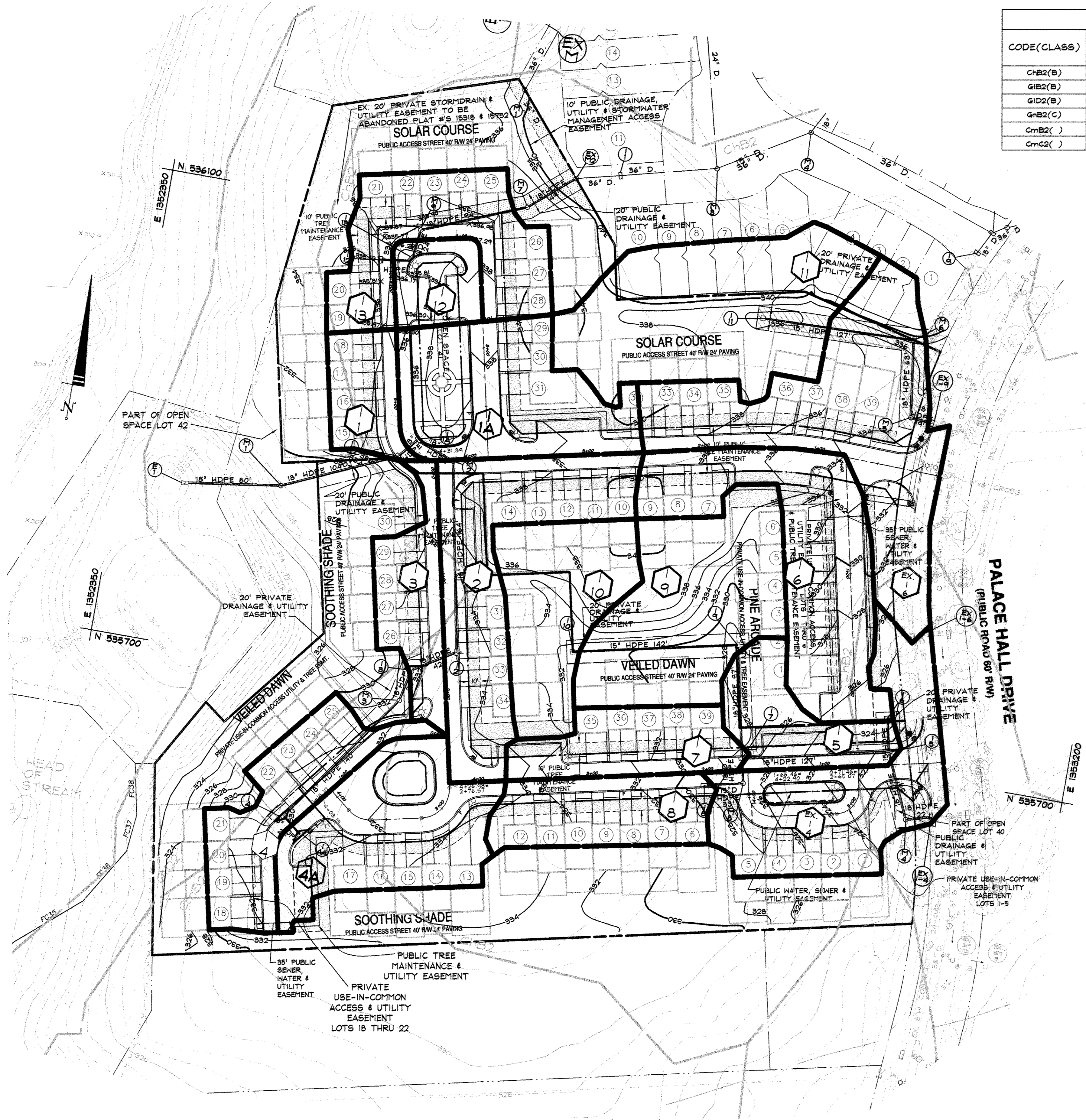
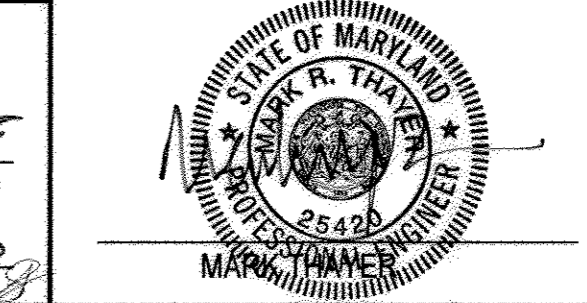
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Andy Hunt
CHIEF DIVISION OF LAND DEVELOPMENT
DATE: 5/20/08

William R. Mulla
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 5/16/08

AS-BUILT DATE

Professional Certification:
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 26420, Expiration Date: 7-20-08.



DRAWING LEGEND

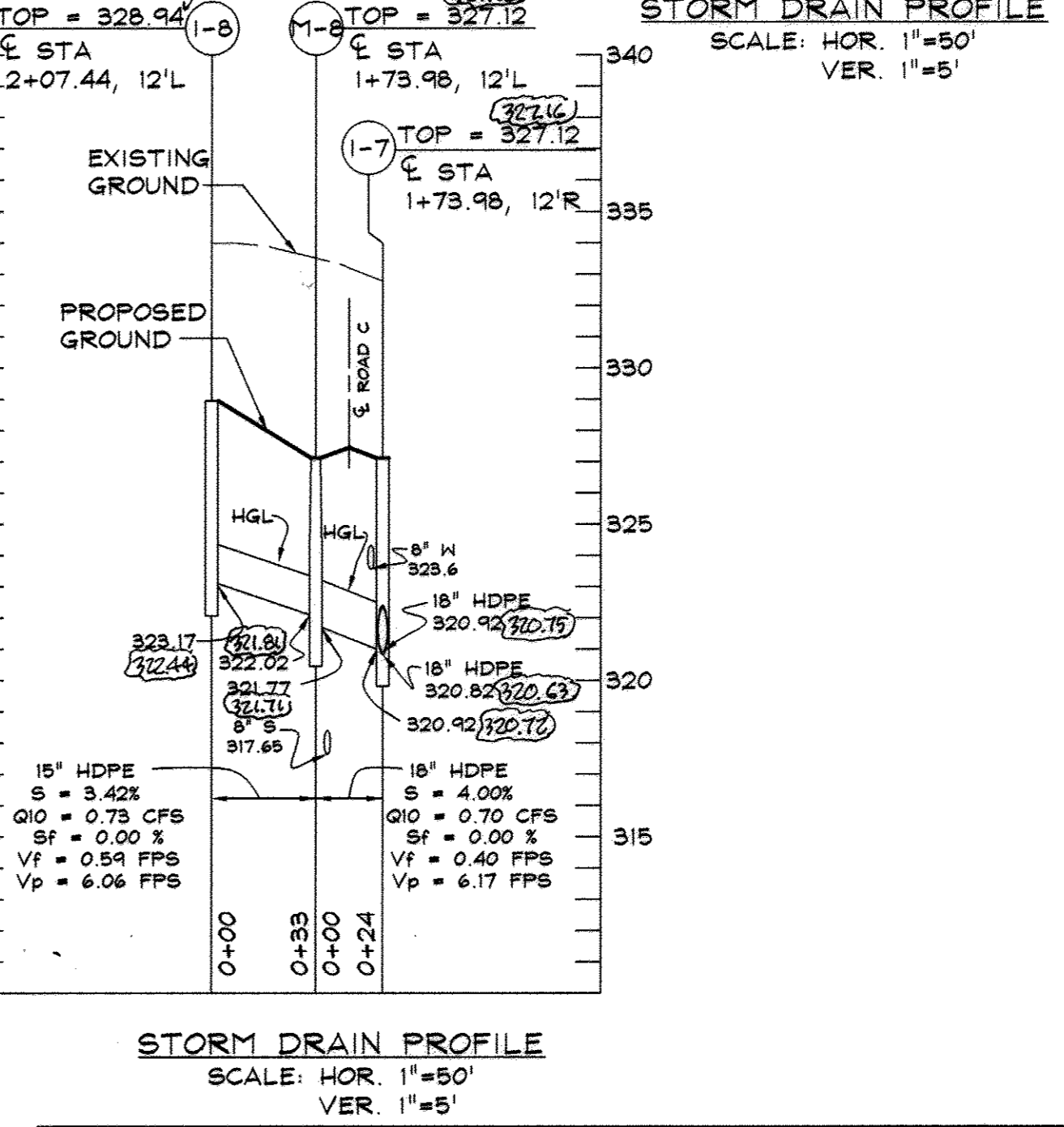
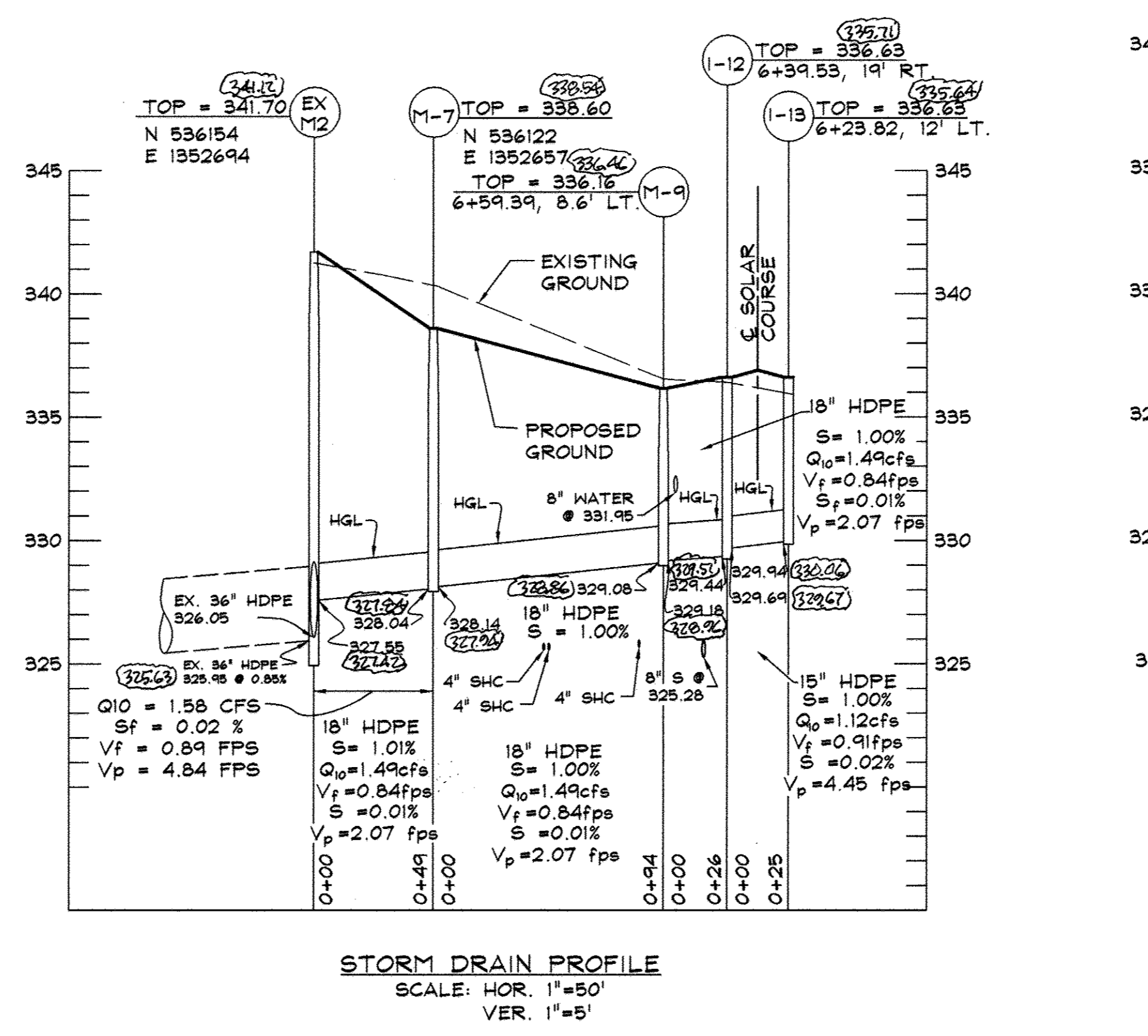
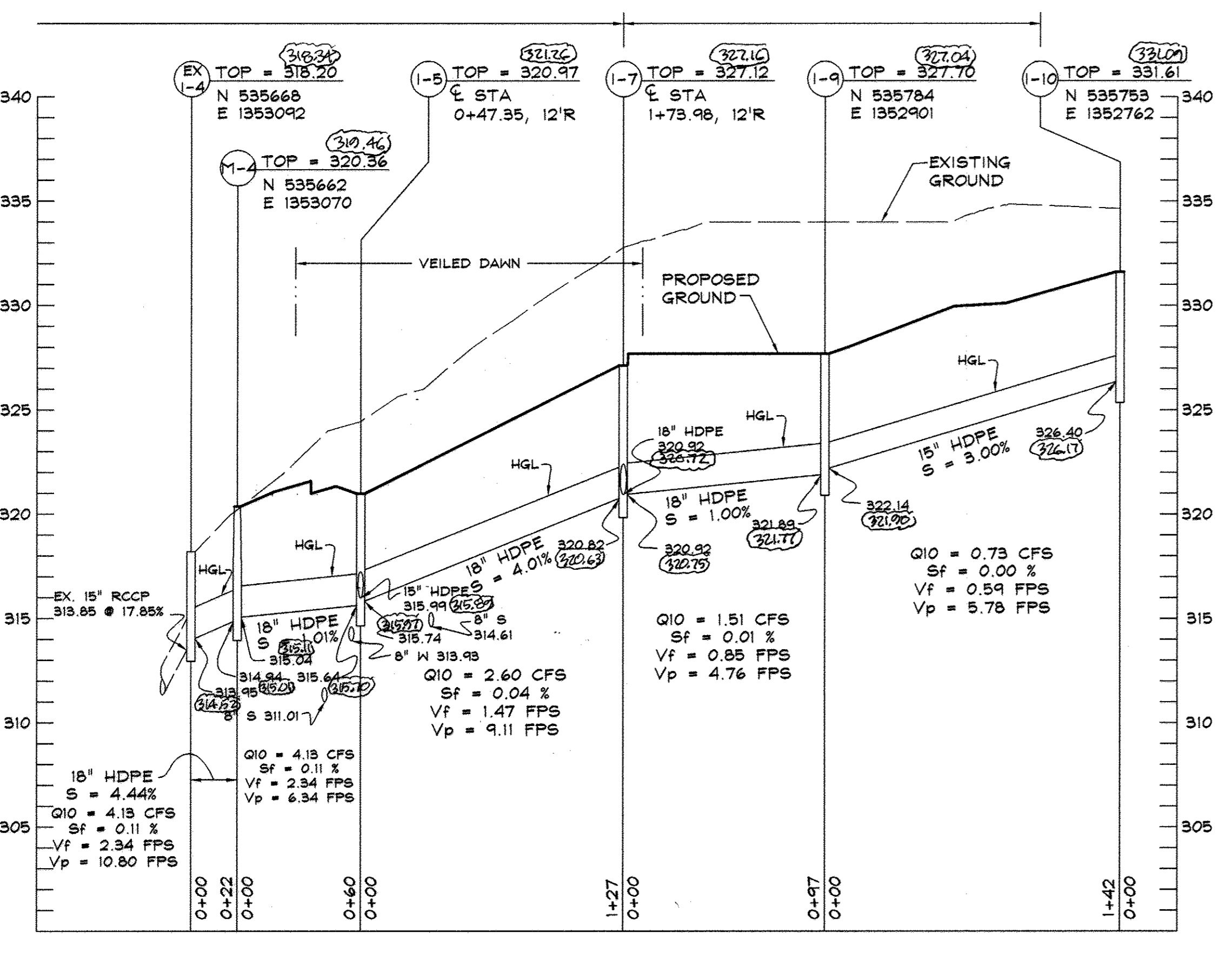
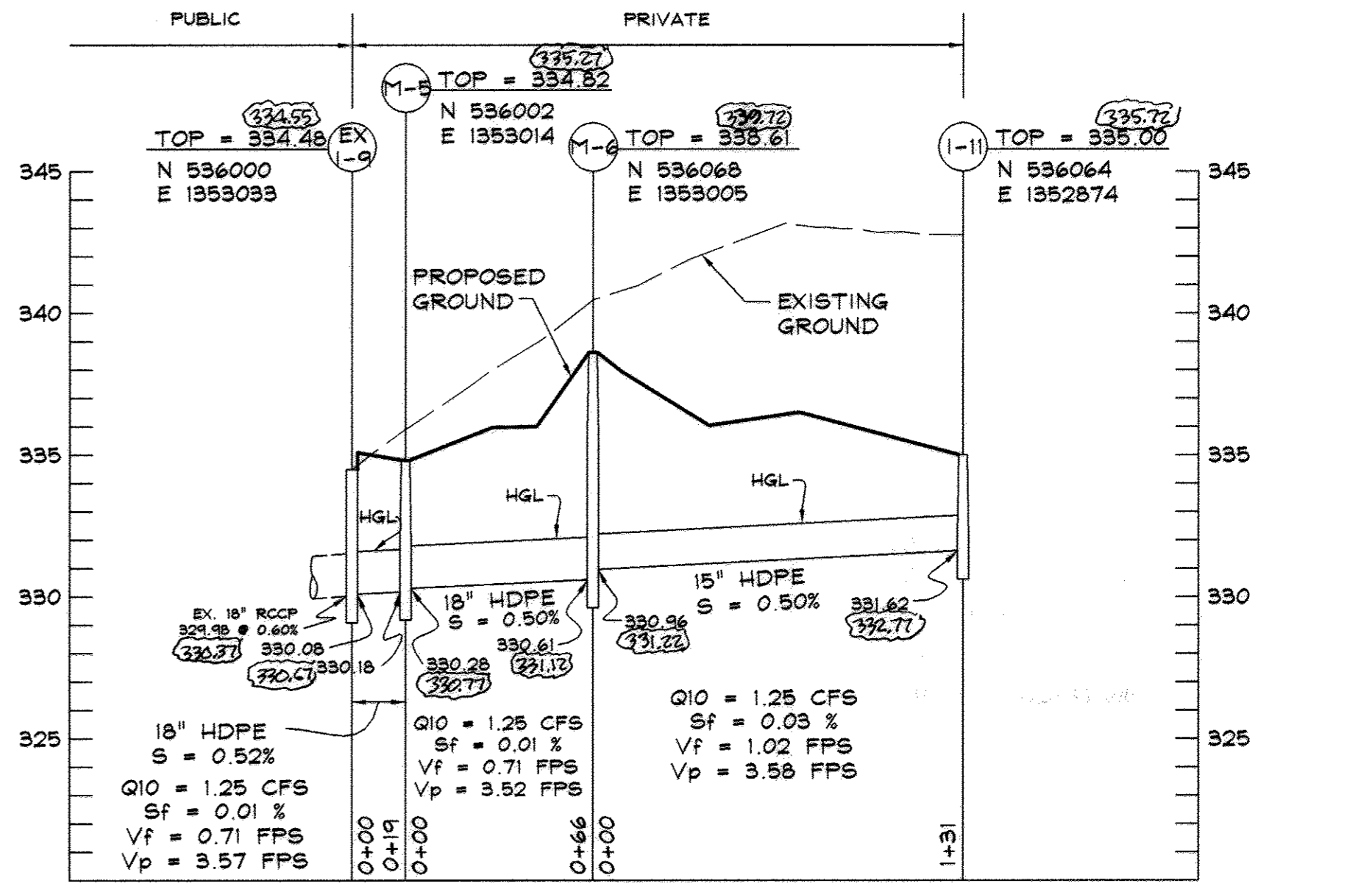
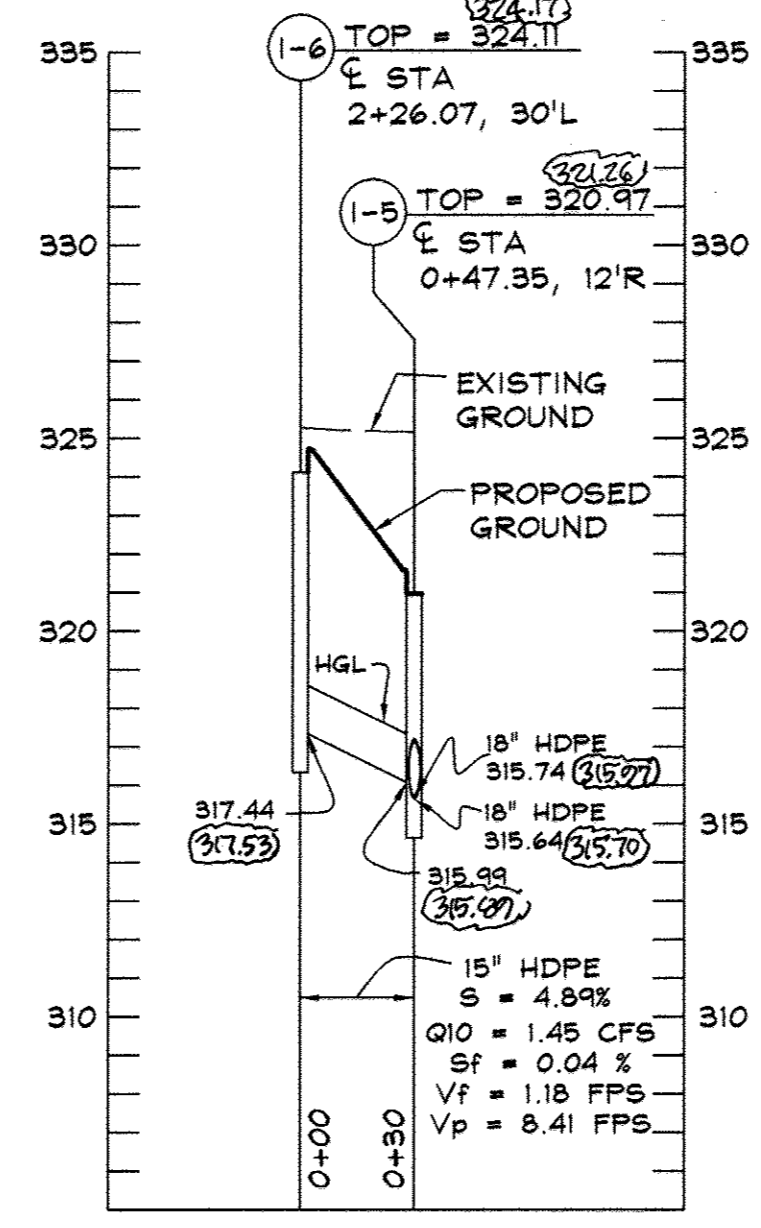
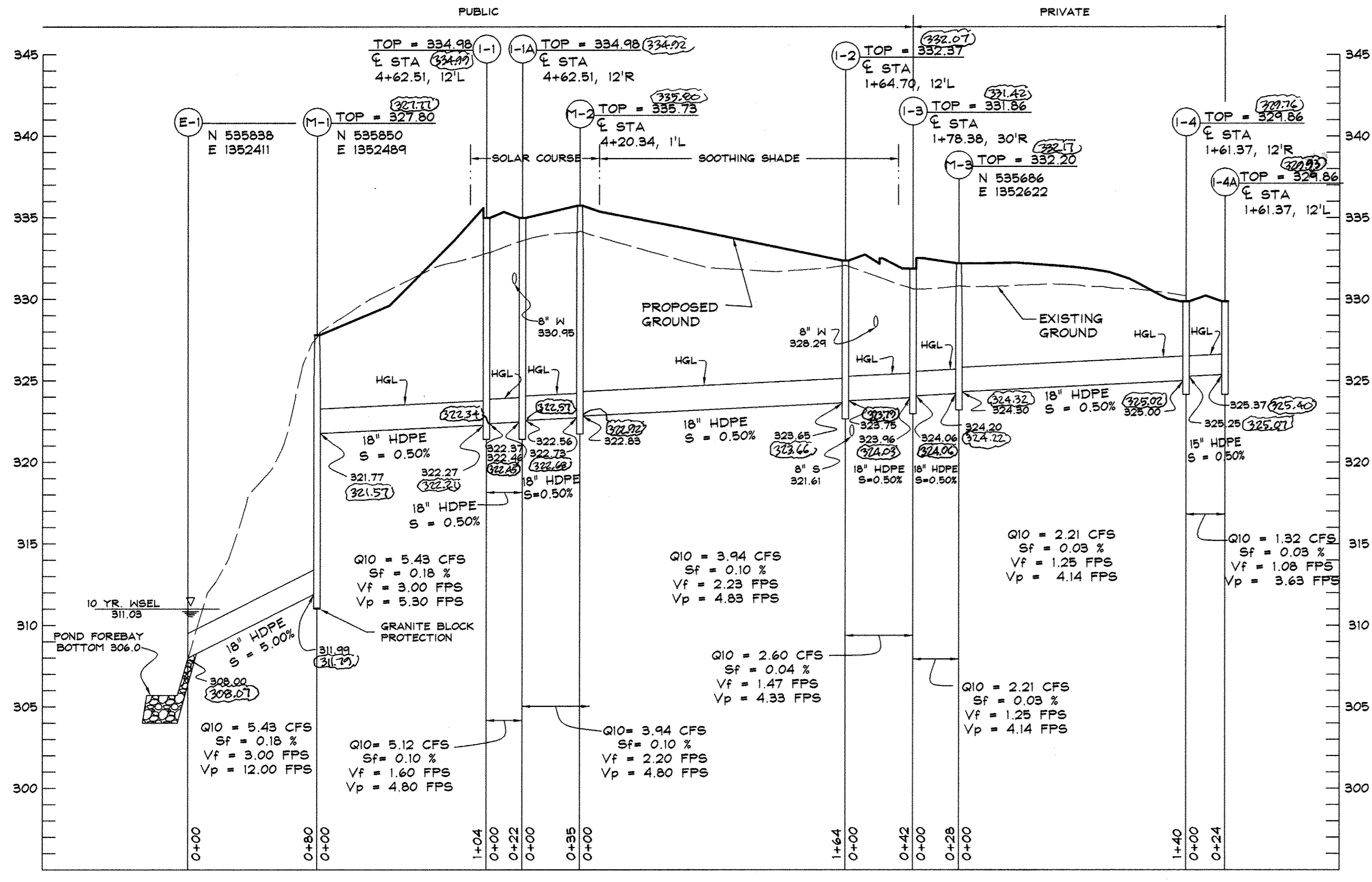
682	EXISTING MINOR CONTOUR (2' INTERVAL)
680	EXISTING MAJOR CONTOUR (10' INTERVAL)
---	ADJACENT PROPERTY LINE
---	EXISTING PROPERTY BOUNDARY
---	EX. ROAD / EDGE OF PAVING
---	EX. SEWER LINE & MANHOLES, CLEAN-OUTS
---	EX. OVERHEAD ELECTRIC & UTILITY POLES
682	PROPOSED MINOR CONTOUR (2' INTERVAL)
680	PROPOSED MAJOR CONTOUR (10' INTERVAL)
---	PROP. STANDARD CURB & GUTTER / PROP. REVERSE CURB & GUTTER
---	PROP. INVERTIBLE CURB & GUTTER
---	PROPOSED PRIVATE ROAD/DRIVE CENTERLINE
---	EX. BUILDING
---	PROPOSED BUILDING EXPANSION
---	PROPOSED SPOT ELEVATION & FLOW ARROW
---	EXISTING TREES
---	PROPOSED ORNAMENTAL TREE
---	PROPOSED SHADE TREE
---	PROPOSED EVERGREEN TREE
---	EXISTING TREELINE
---	EXISTING SHRUB/BURSH LINE
---	PROP. 18" D. REVERSE STORM DRAIN W/ INLETS & MANHOLES
---	PROPOSED INLET PROTECTION MEASURES
---	PROPOSED WATER LINE & HYDRANT
---	PROPOSED SEWER AND MANHOLES
---	PROPOSED ELECTRIC TRANSFORMER
---	PROPOSED ELECTRIC METER
---	EXISTING FOREST CONSERVATION EASEMENT
---	PROPOSED FOREST CONSERVATION EASEMENT

PIPE SCHEDULE		
SIZE (in.)	CATEGORY	LINEAR (ft.)
15	HDPE	489
18	HDPE	1079

STORM DRAIN STRUCTURE SCHEDULE						
NO.	TYPE	DETAIL	INV. IN	INV. OUT	RIM	LOCATION
I-1	DOUBLE 'S'	MODIFIED SD 4.84	322.37(34)	322.37(2)	334.98(1)	SOLAR COURSE 4+62.81, 12.00'R
I-1A	DOUBLE 'S'	MODIFIED SD 4.34	322.36(35)	322.36(43)	334.98(1)	SOLAR COURSE 4+62.81, 12.00'R
I-2	DOUBLE 'S'	MODIFIED SD 4.34	328.78(7)	328.78(2)	332.34(1)	SOOTHING SHADE 1+64.70, 12.00'R
I-3	DOUBLE 'S'	MODIFIED SD 4.34	324.06(7)	324.06(2)	331.84(1)	SOOTHING SHADE 1+78.38, 30'R
I-4	DOUBLE 'S'	MODIFIED SD 4.34	328.28(7)	328.28(2)	329.84(1)	VEILED DAWN 1+61.37, 12.00'R
I-4A	DOUBLE 'S'	MODIFIED SD 4.34	328.37(40)	328.37(40)	329.84(1)	VEILED DAWN 1+61.37, 12.00'R
I-5	DOUBLE 'S'	MODIFIED SD 4.34	315.74(15)	315.74(15)	329.47(1)	VEILED DAWN 0+47.35, 12.00'R
I-6	DOUBLE 'S'	MODIFIED SD 4.34	324.06(7)	324.06(2)	324.06(1)	PINE ARCADE 2+26.07, 30.00'R
I-7	DOUBLE 'S'	MODIFIED SD 4.34	320.92(320)	320.92(320)	327.78(1)	VEILED DAWN 1+73.98, 12.00'R
I-8	DOUBLE 'S'	MODIFIED SD 4.34	-	-	328.94(1)	VEILED DAWN 2+07.44, 12.00'R
I-9	'K'	SD 4.12	322.41(10)	321.94(77)	327.78(1)	N 535784 E 1952901
I-10	'K'	SD 4.12	-	326.30(17)	331.14(1)	N 535784 E 1952762
I-11	'K'	SD 4.12	-	337.44(27)	335.00(1)	N 536064 E 1952874
I-12	DOUBLE 'S'	MODIFIED SD 4.34	329.84(67)	329.84(67)	338.46(1)	SOLAR COURSE 6+59.39, 19'R
I-12A	DOUBLE 'S'	MODIFIED SD 4.34	-	329.84(67)	338.46(1)	SOLAR COURSE 6+59.39, 19'R
M-1	4" MANHOLE	G 5.12	321.75(37)	321.75(37)	327.86(1)	N 535600 E 1952489
M-2	4" MANHOLE	G 5.12	322.88(38)	322.78(39)	335.78(1)	SOLAR COURSE 4+20.34, 0.92'L
M-3	4" MANHOLE	G 5.12	324.30(39)	324.30(39)	332.34(1)	N 535668 E 1952622
M-4	4" MANHOLE	G 5.12	315.04(11)	315.04(11)	329.84(1)	N 535662 E 1953078
M-5	4" MANHOLE	G 5.12	330.34(17)	330.34(17)	338.46(1)	N 536002 E 1953014
M-6	4" MANHOLE	G 5.12	330.44(17)	330.44(17)	335.46(1)	N 536068 E 1953006
M-7	4" MANHOLE	G 5.12	328.24(12)	328.24(12)	338.36(1)	N 536125 E 1952657
M-8	4" MANHOLE	G 5.12	328.62(13)	321.75(71)	327.78(1)	VEILED DAWN 1+73.98, 12.00'L
M-9	4" MANHOLE	G 5.12	329.84(67)	329.84(67)	336.74(1)	SOLAR COURSE 6+59.39, 6.6'L
EX I-4	-	-	318.48(52)	318.55	318.34(4)	N 535668 E 1953082
EX I-8	-	-	320.92(320)	329.98	334.34(1)	N 536002 E 1953028
EX M-2	-	-	326.08(327)	328.63(33)	341.76(2)	N 536156 E 1952694

* ALL INLETS LOCATED WITHIN PUBLIC ROADS SHALL HAVE GRATES WHICH ARE TRAVEL SAFE FOR BICYCLES. TOP ELEVATIONS FOR 'K' INLET ARE AT THE THROAT OPENING.

AS-BUILT CERTIFICATION
 I HEREBY CERTIFY, BY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THE AS-BUILT PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS.
 [Signature]
 G. SCOTT SHANNABERGER
 PROFESSIONAL L.S. #10049
 SHANNABERGER & LANE
 LICENSE EXPIRATION DATE 4/1/2014



DATA SOURCES:
 LOCATIONS OF TIE LINES, STREAMS, TOPOGRAPHY, WETLANDS, AND FOREST CONSERVATION AREA DERIVED FROM F-01-87, F-02-88 AND F-04-127. BOUNDARY SHOWN PER BOUNDARY SURVEY DATED JUNE, 1988, PREPARED BY DAFT-MAGNIE-HALKER, INC. SOILS (IF SHOWN) TAKEN FROM HOWARD COUNTY SOIL SURVEY, ADDITIONAL TOPO PROVIDED BY SHANNABERGER & LANE, DATED JANUARY, 2007.

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OWNER: EMERSON LAND BUSINESS TRUST
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DEVELOPER: GENERAL GROWTH PROPERTIES
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SITE ADDRESS: PALACE HALL DRIVE
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EMERSON, SECTION 2 PHASE 3B, LOTS 1 thru 38 and OPEN SPACE LOTS 40 thru 42, A RESUBDIVISION OF PARCELS D-3 and EMERSON, SECTION 2, PHASE 3B, LOTS 1 thru 38 and OPEN SPACE LOTS 40 thru 42, A RESUBDIVISION OF PARCELS AA-1

6TH ELECTION DISTRICT HOWARD COUNTY, MD

REVISIONS	
NO.	DESCRIPTION OF CHANGES
1	AS-BUILT

NO.	DESCRIPTION OF CHANGES	DRN.	REV.	DATE
CO. FILE #	F-07-182	DES. BY:	JCO	
TAX ACC. #		DRN. BY:	SDS	
TAX MAP:	47	CHK. BY:	JCO	
BLOCK / GRID:	8	DATE:	5-2-2008	
PARCEL #:	3 & 837	DDC JOB#:	06128.1	
ZONE / USE:	PEC-MXD-3	SHEET NUMBER:		
DWG. SCALE:	1"=50'		9 of 10	

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 [Signature] 5-13-08
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 [Signature] 5/13/08
 CHIEF, DIVISION OF LAND DEVELOPMENT

Professional Certification
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 25420, Expiration Date: 7-20-08.

[Signature]
 DATE 5/13/08

