## ROADWAYS, STORM DRAINS AND STORMWATER MANAGEMENT

# VILLAGE OF RIVER HILL

# SHEET INDEX NO DESCRIPTION 1 TITLE SHEET 2 PLAN AND PROFILE GREAT STAR DRIVE FROM STA 29+98.78 TO 36+50.00 3 PLAN AND PROFILE GREAT STAR DRIVE FROM STA 36+50.00 TO 40+47.00 4 PLAN AND PROFILE LILAC BUSH LANE 5 PLAN AND PROFILE WAVING WILLOW PATH 6 DETAIL SHEET 7 DRAINAGE AREA MAP 8 DRAINAGE AREA MAP 9 GRADING, LANDSCAPE AND SEDIMENT CONTROL PLAN 10 GRADING AND SEDIMENT CONTROL PLAN 11 STORM WATER MANAGEMENT PLAN 12 STORM DRAIN PROFILES 13 STORM DRAIN PROFILES 13 STORM DRAIN PROFILES AND STRUCTURE SCHEDULE STRIPING PLAN FOR GREAT STAR DRIVE

### GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE
- APPLICABLE.

  2. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.

  3. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- 4. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- 5. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.

  BELL TELEPHONE SYSTEM
  LONG DISTANCE CABLE DIVISION
  393-3553 OR 3554
- LONG DISTANCE CABLE DIVISION 393—3553 OR 3554
  BALTIMORE GAS AND ELECTRIC CO. 539—8000
  HOWARD COUNTY BUREAU OF UTILITIES 313—4900
  COLONIAL PIPELINE 795—1390
- 6. TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
   ALL STREET CURB RETURNS SHALL HAVE 25' RADII UNLESS OTHERWISE NOTED.
   STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME IV, ie., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST
- AMENDMENTS.

  10. PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- 11. DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH HOWARD CO. DESIGN CRITERIA,
  TABLE 2.01 FOR ROADWAYS LESS THAN 600' IN LENGTH.
  ALL 50' RIGHT OF WAYS

  25 MPH
- ALL 60' RIGHT OF WAYS

  40 MPH

  12. ALL ELEVATIONS SHOWN ARE BASED ON THE USC AND BS MEAN SEA LEVEL DATUM.1929.

  13. ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A
- MINIMUM OF 95% COMPACTION AS DETERMINED BE AASHTO T-180.

  14. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.

  15. PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN
- DIMENSIONS.

  16. SUBJECT PROPERTY ZONED NEW TOWN PER 10-18-93 COMPREHENSIVE ZONING PLAN.

  17. NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN
- 6" OF FINISHED GRADE.

  18. ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS 'C' AS SHOWN IN FIG.11.4,

  VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
- VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.

  19. SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S. S-91-03, P-94-05, FDP PHASE 209 PART 5, WP-95-34 WHICH ALLOWS CONSTRUCTION OF WATER QUALITY FACILITY WITHIN 50' OF STREAM BUFFER & GRADING WITHIN STOCKPILE AREA.

LIGHT POLES, ARMS, AND FIXTURES FOR STREET LIGHTS SHALL BE IN ACCORDANCE

- WITH HOWARD COUNTY DESIGN MANUAL, VOLUME III AND GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS, JUNE 1993.

  21. THE STORMWATER MANAGEMENT FACILITY PROPOSED FOR THIS SITE IS CLASS 'A' HAZARD FACILITY. IN THE EVENT OF A FAILURE OF THE EMBANKMENT, DAMAGE WILL BE LIMITED TO FLOODER AIN AND OPEN SPACE, WATER OLDER IN SPROVIDED BY
- BE LIMITED TO FLOODPLAIN AND OPEN SPACE. WATER QUALITY IS PROVIDED BY SHALLOW MARSH POND SIZED TO STORE 0.5" OF RUNOFF FROM THE ROADWAYS. OVERLAND GRASS & WOODED FILTER STRIPS PROVIDE WATER QUALITY FOR THE ROOFTOP AREAS THAT DON'T DRAIN INTO WATER QUALITY FACILITY. WATER QUANTITY IS PROVIDED BY S.W.M. PONDS LOCATED IN VILLAGE OF RIVER HILL, SECTION 2, AREA 1 AND SECTION 2, AREAS 3 & 4.

  22. STREET TREES (102 TOTAL) THE LOCATION, TYPE AND NUMBER OF TREES SHOWN ON
- THIS PLAN ARE TENTATIVE AND ARE USED FOR BOND PUPOSES ONLY. THE FINAL LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMODATE FIELD CONDITIONS AND BUILDERS LANDSCAPE PROGRAM. BOND RELEASE IS CONTINGENT UPON SECTION 15.131 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS, AS APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING. TREE LOCATIONS MUST PROVIDE 20' CLEARANCE OF ANY STREET LIGHT AND 5' CLEARANCE OF ALL STORM DRAINS.
- 23. TOPOGRAPHY SHOWN HERON IS FROM AERIAL MAPS FLOWN IN 1989 BY MAPPING ASSOCIATES, INC.
  24. PUBLIC WATER AND SEWER SYSTEMS AS PER CONTRACT NO.34-3336-D AND
- ARE TO BE UTILIZED FOR THIS SITE. SEWER SERVICE DRAINAGE AREA:
  MIDDLE PATUXENT.

  25. THE 100 YEAR FLOODPLAIN STUDY WAS PREPARED BY WHITMAN REQUARDT AND
- 25. THE 100 YEAR FLOODPLAIN STUDY WAS PREPARED BY WHITMAN REQUARDT AND ASSOCIATES AND WAS APPROVED UNDER S-91-03 ON 12-17-91; IT WAS REVISED BY GEORGE W. STEPHENS JR. & ASSOCIATES, INC. ON 9-15-94.

  26. WETLANDS DELINEATION IS PROVIDED BY GEO-TECHNOLOGY ASSOC., INC. AND WAS
- APPROVED BY ARMY CORPS OF ENGINEERS ON 9-20-93.

  27. TRAFFIC STUDY WAS PREPARED BY GOROVE/SLADE ASSOCIATES AND WAS APPROVED UNDER S-91-03 ON 12-17-91.
- 28. NOISE STUDY WAS PREPARED BY STAIANO ENGINEERING, INC. AND APPROVED UNDER P-92-13 AND P-92-15 ON 6-26-92 AND 1-6-93, RESPECTIVELY.

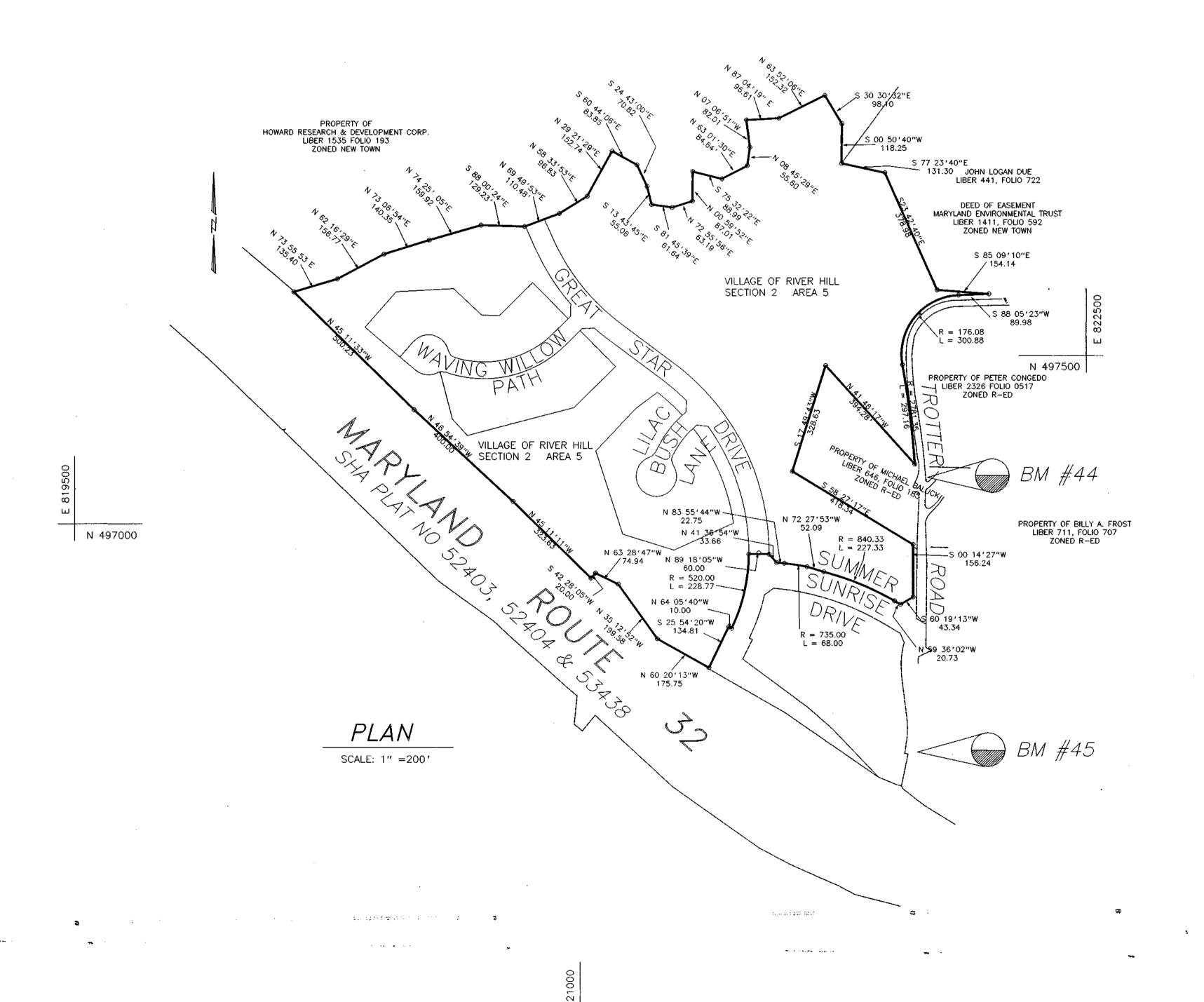
  29. GEOTECNICAL STUDY FOR STORMWATER MANAGEMENT FOR THIS PROJECT WAS PROVIDED
- BY THE ROBERT BALTER COMPANY.

  30. BOUNDARY SURVEY WAS PREPARED BY KCI, INC., AUGUST 28, 1991.

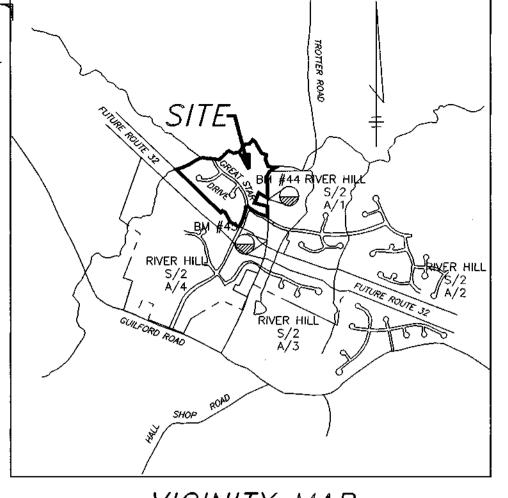
  31. ALL STREET LIGHTS SHALL BE LOCATED BETWEEN 2'-0" AND 4'-0" BEHIND FACE
- OF CURB.

  32. THE COORDINATES SHOWN HEREON ARE BASED ON NAD 27, MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY MONUMENT NO. 2337001, 2337002 AND 2437003.
- 33. ALL PROPOSED EASEMENTS SHOWN ON SECTION 2 AREA 5 WILL BE RECORDED AS PART OF THE RECORD PLATS FOR THAT SUBDIVISION.
  34. WETLANDS DISTURBANCE AS SHOWN ON THESE PLANS TO BE PERFORMED IN ACCORDANCE WITH MARYLAND DEPARTMENT OF NATURAL RESOURCES PERMIT NO. 94-NT-1021/
- 199560262 AND MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER QUALITY CERTIFICATION NO. 94-0453
  35. SIDEWALKS AND SIDEWALK RAMPS SHALL MEET CURRENT ADA REQUIREMENTS

SECTION 2 AREA 5
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND



N 495500



VICINITY MAP

SCALE: 1" = 2000'

BENCHMARKS: PIN & CAP SET EAST TROTTER ROAD
#44 N 497138.9755 ELEV. = 366.949
E 822029.4968
PIN & CAP SET EAST TROTTER ROAD

E 822000.9112

AS BUILT CERTIFICATE

N 496320.2206 ELEV. = 421.479

CHIEF, DIVISION OF DATE LAND DEVELOPMENT AND RESEARCH SP

AND ZONING

 $\alpha$ 

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: HOWARD COUNTY DEPARMENT OF PLANNING

CHIEF, LAND DEVELOPMENT DIVISION TO DATE

CHIEF, BUREAU OF HIGHWAYS

CHIEF, BUREAU OF ENGINEERING

CHIEF, BUREAU OF ENGINEERING

7/20/9

OWNER/DEVELOPER

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY

REVISION

JECT VILLAGE OF RIVER HILL

COLUMBIA, MARYLAND 21044

SECTION 2 AREA 5 LOTS 1 - 31

TAX MAP NO. 35 ZONED NEW TOWN
PART OF PARCELS 59 & 22

5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE SHEET



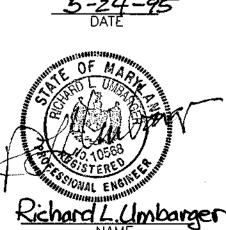
GEORGE WILLIAM STEPHENS, JR.

AND ASSOCIATES, INC.

CIVIL ENGINEERS & LAND SURVEYORS

658 KENILWORTH DRIVE, SUITE 100 TOWSON, MARYLAND 21204 (410) 825-8120

DRAWN BY: M.B.B.



-91-03 WP-95-34 -94-05 SIGNED BY: I.Z./M.B.B.

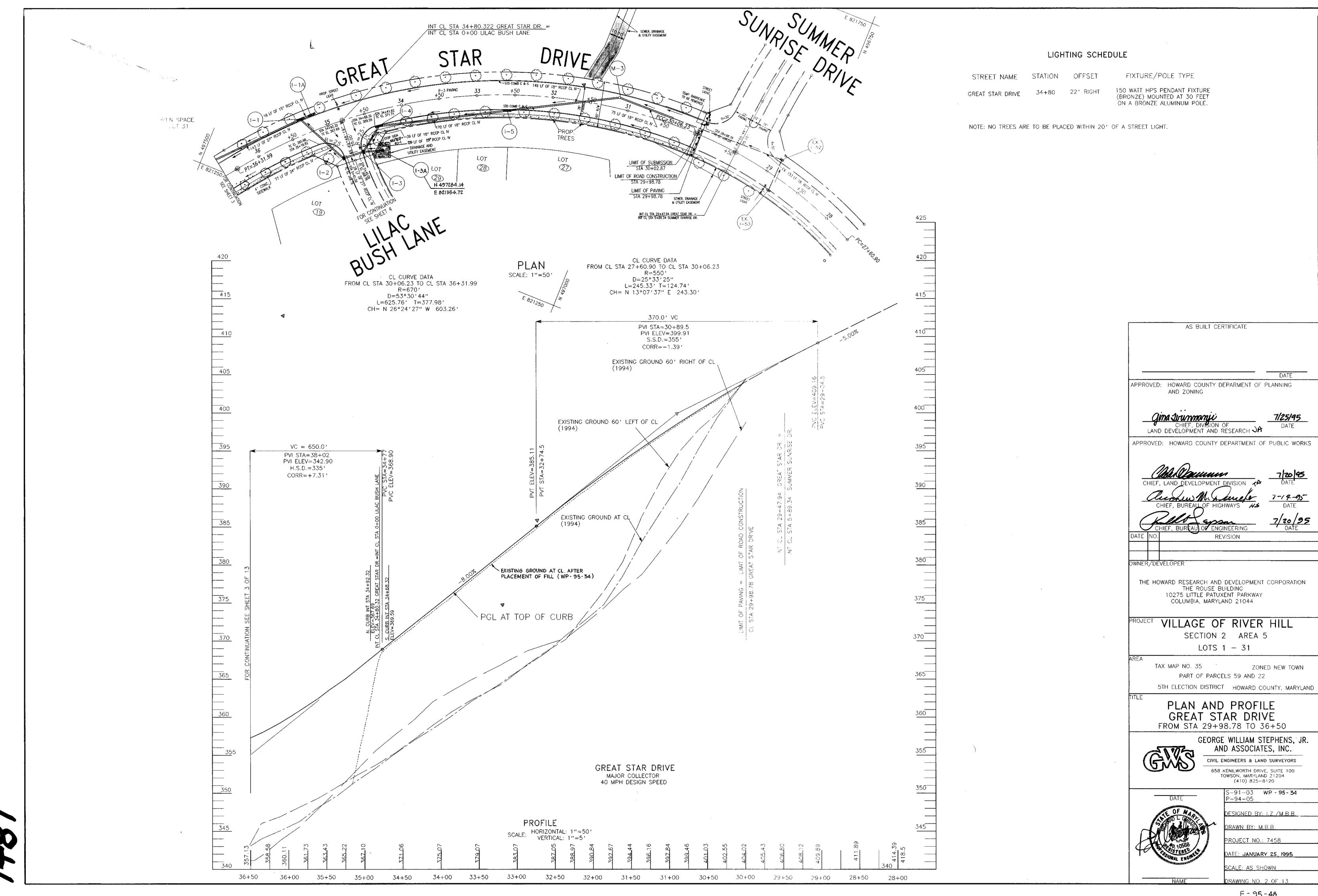
PROJECT NO.: 7458

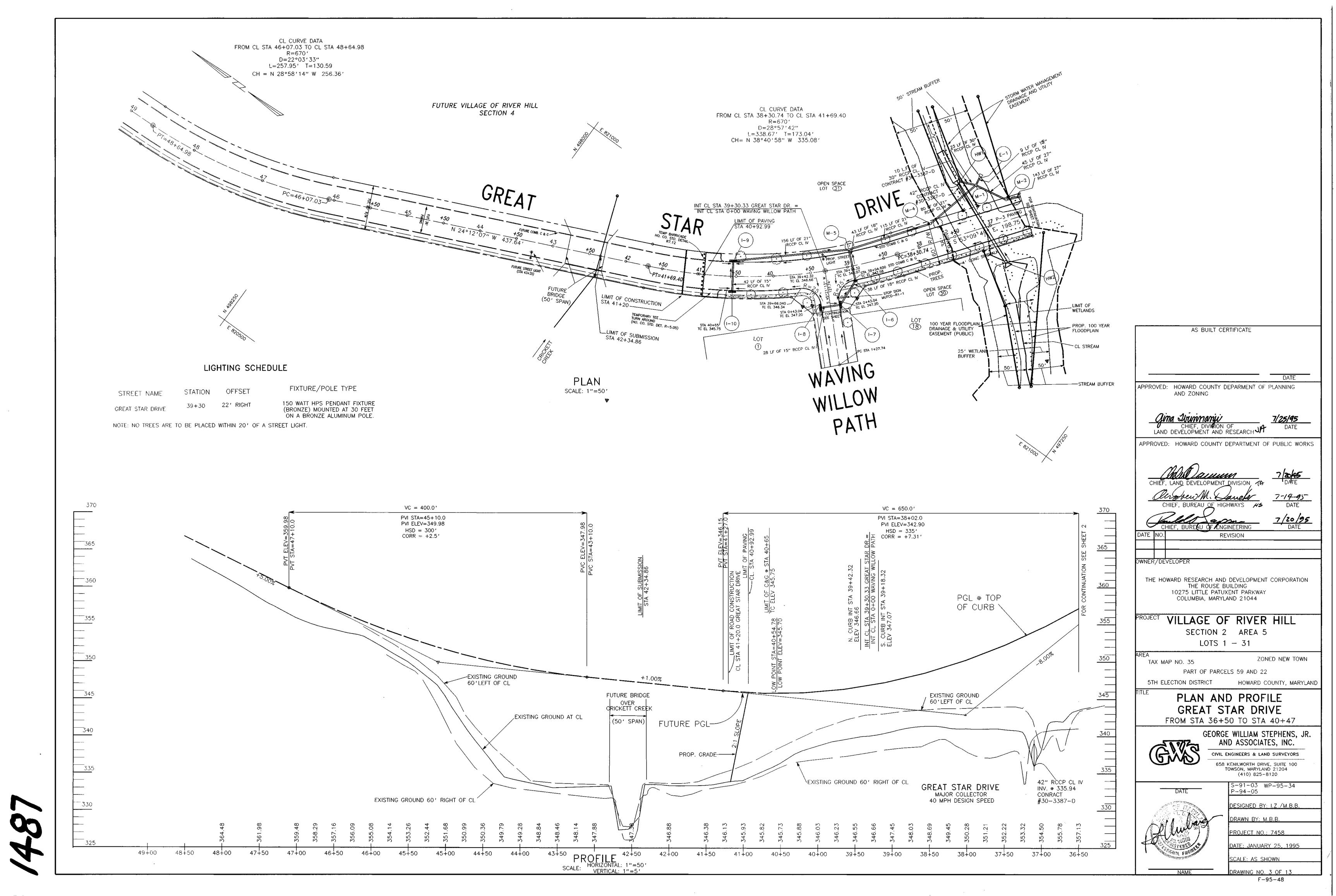
DATE: JANUARY 25, 1995

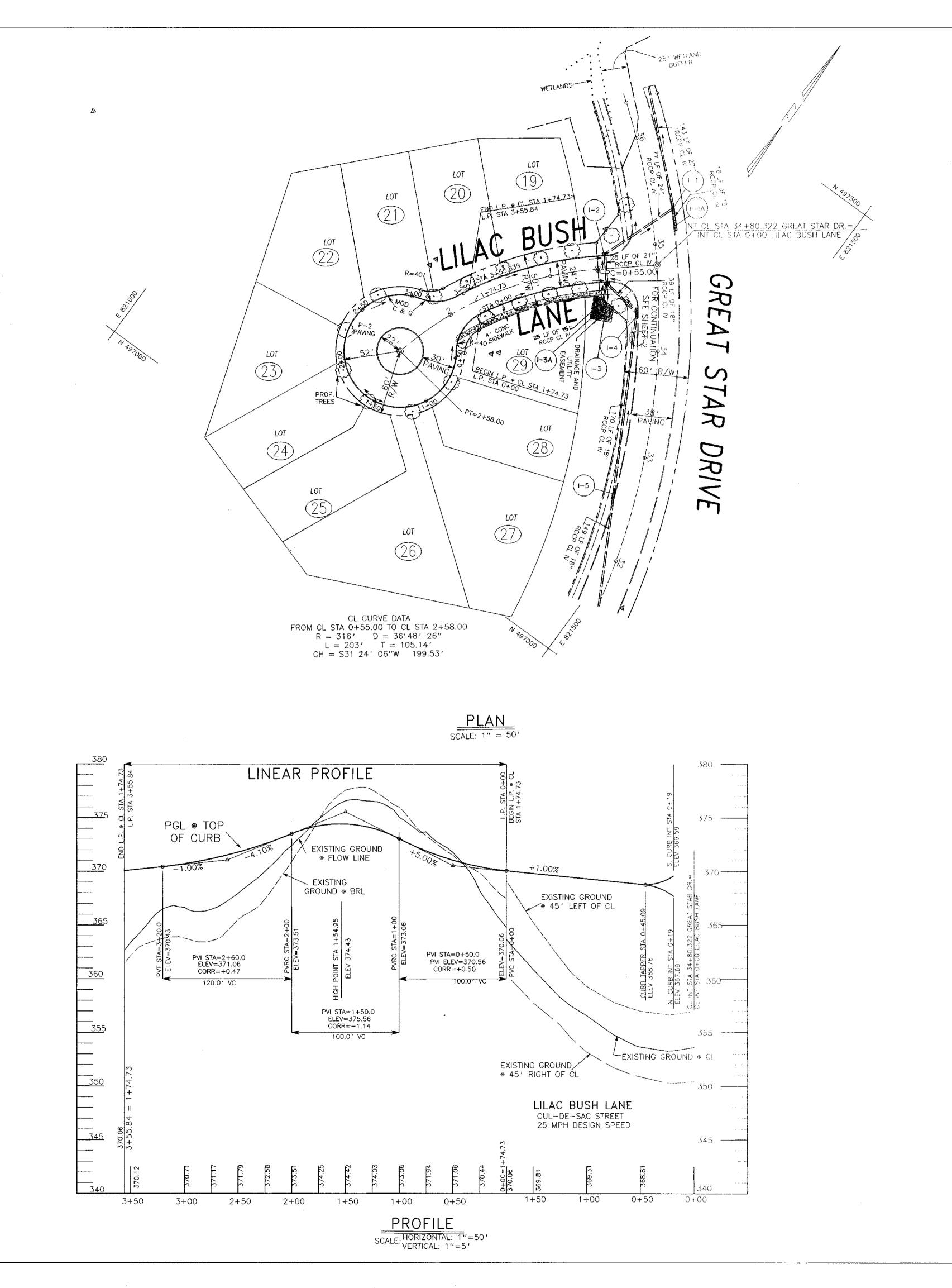
SCALE: AS SHOWN

DRAWING NO. 1 OF 13 F-95-48 F-95-48









AS BUILT CERTIFICATE

DATE

APPROVED: HOWARD COUNTY DEPARMENT OF PLANNING AND ZONING

CHIEF, DIVESION OF LAND DEVELOPMENT AND RESEARCH AND DEVELOPMENT OF PUBLIC WORKS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION
CHIEF, BUREAU OF HIGHWAYS #3 DATE

CHIEF, BUREAU OF FIGURERING
DATE

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING
10275 LITTLE PATULAENT PARKWAY
COLUMBIA, MARYLAND 21044

PROJECT VILLAGE OF RIVER HILL

TAX MAP NO. 35

SECTION 2 AREA 5

LOTS 1 - 31

PART OF PARCELS 59 AND 22

PLAN AND PROFILE

LILAC BUSH LANE

5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

GEORGE WILLIAM STEPHENS, JR.

AND ASSOCIATES, INC.

CIVIL ENGINEERS & LAND SURVEYORS

658 KENILWORTH DRIVE, SUITE 100 TOWSON, MARYLAND 21204 (410) 825-8120

> S-91-03 **WP-95-34** P-94-05

DESIGNED BY: 1.Z./M.B.B.

DRAWN BY: M.B.B.

PROJECT NO.: 7458

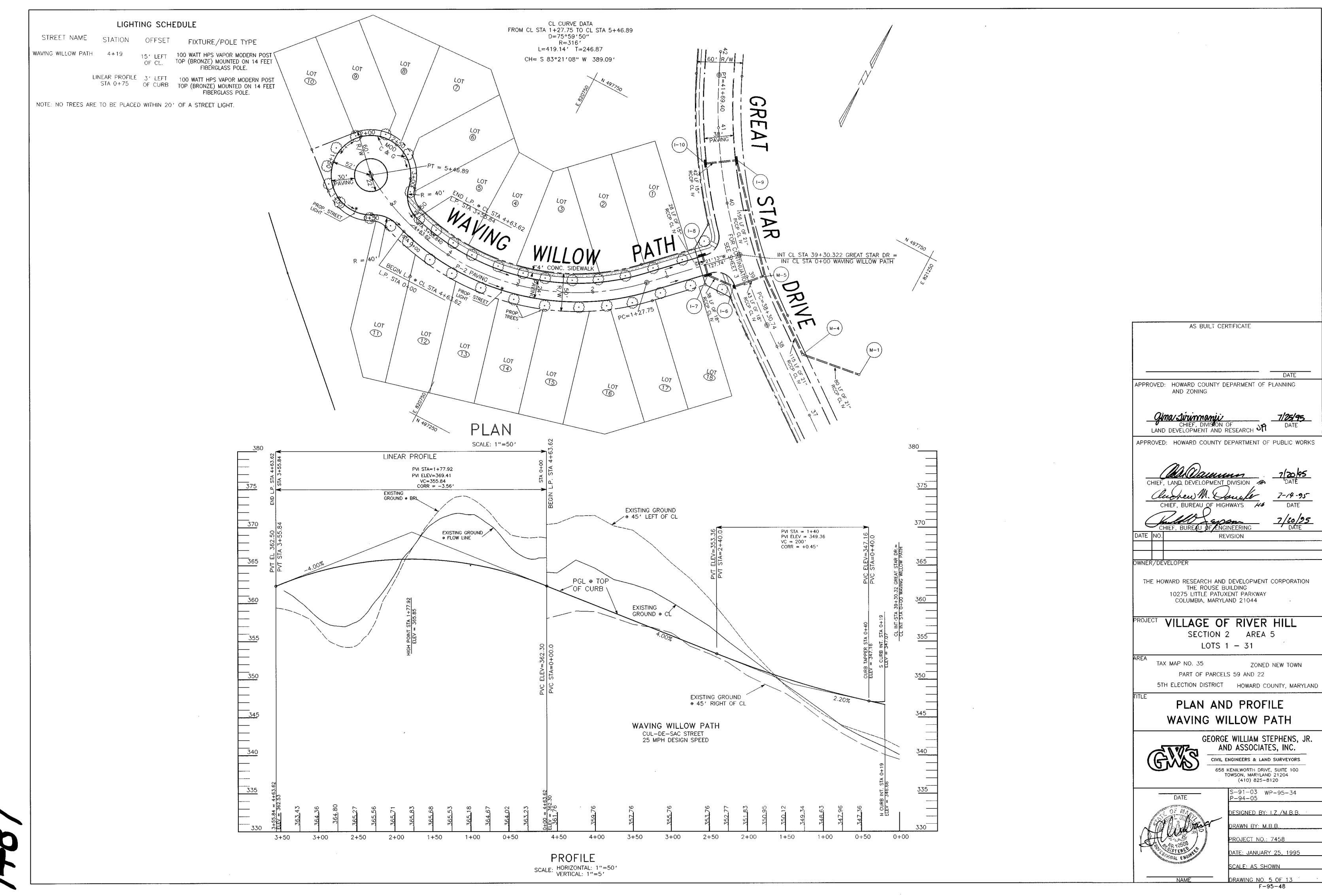
DATE: JANUARY 25,1995

SCALE: AS SHOWN

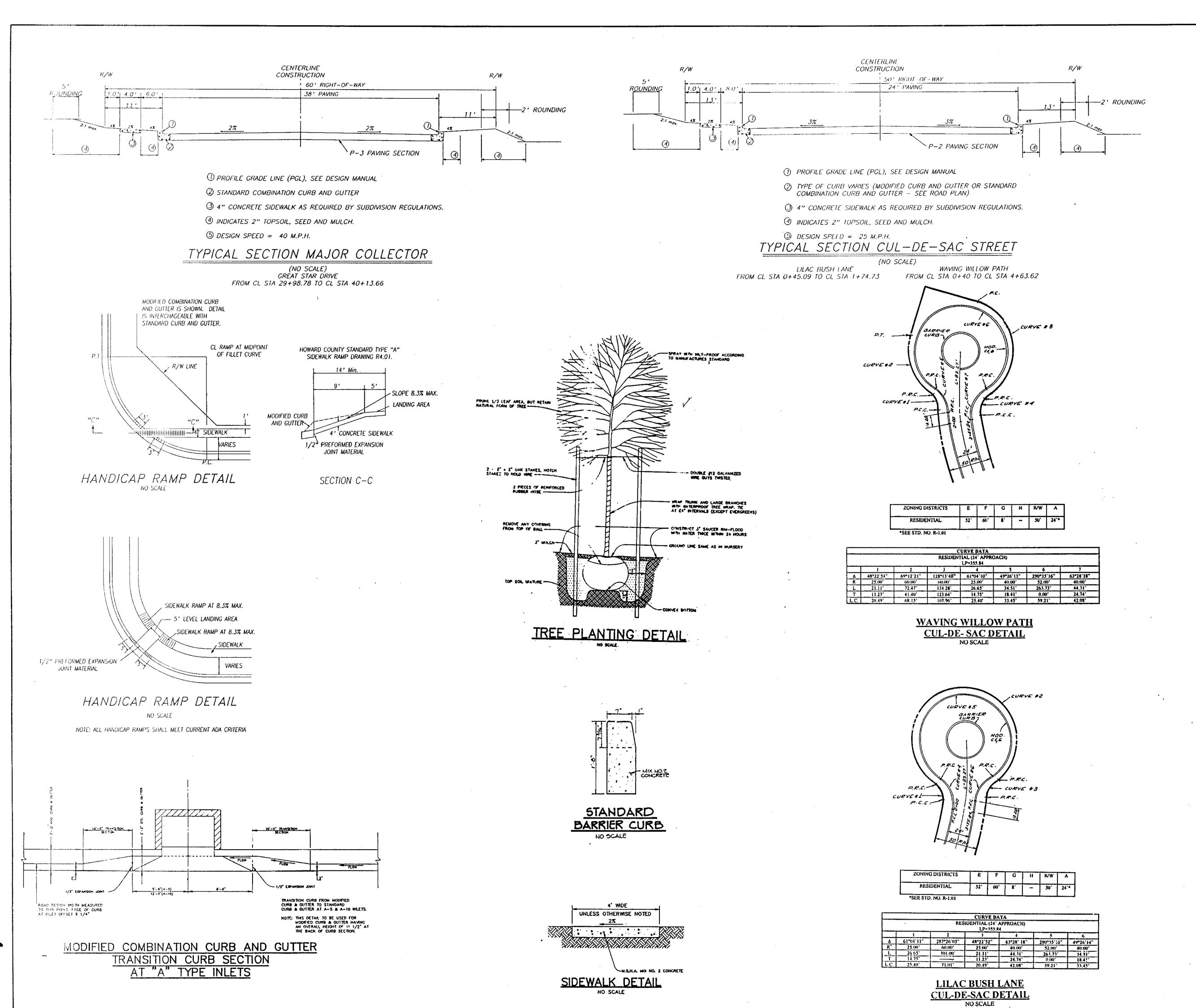
ZONED NEW TOWN

1487

DRAWING NO. 4 OF 13
F-95-48



14.67



AS BUILT CERTIFICATE APPROVED: HOWARD COUNTY DEPARMENT OF THANNING AND ZONING 7/25/95 LAND DEVELOPMENT AND RESEARCH JA APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 7/20/95 DATE 7-18-95 DATE 7/20/95 DATE DWNER/DEVELOPER THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 VILLAGE OF RIVER HILL SECTION 2 AREA 5 LOTS 1 - 31 TAX MAP NO. 35 ZONEO NEW TOWN PART OF PARCELS 59 AND 22 5TH ELECTION DISTRICT HOWARD CARLEY, MARCHAIL

**DETAIL SHEET** 

DATE

GEORGE WILLIAM STEPHENS, JR. AND ASSOCIATES, INC.

CIVIL ENGINEERS & LAND SURVEYORS

9-94-05

658 KENILWORTH DRIVE, SOUTE 100 TOWSON, MARCHARD 21204 (410) 825-8120

S-91-03 WP-95-34

DESIGNED BY: 1.7./M.B.B.

DRAWN BY: M.B.B./M.M.

PROJECT NO.: 7458

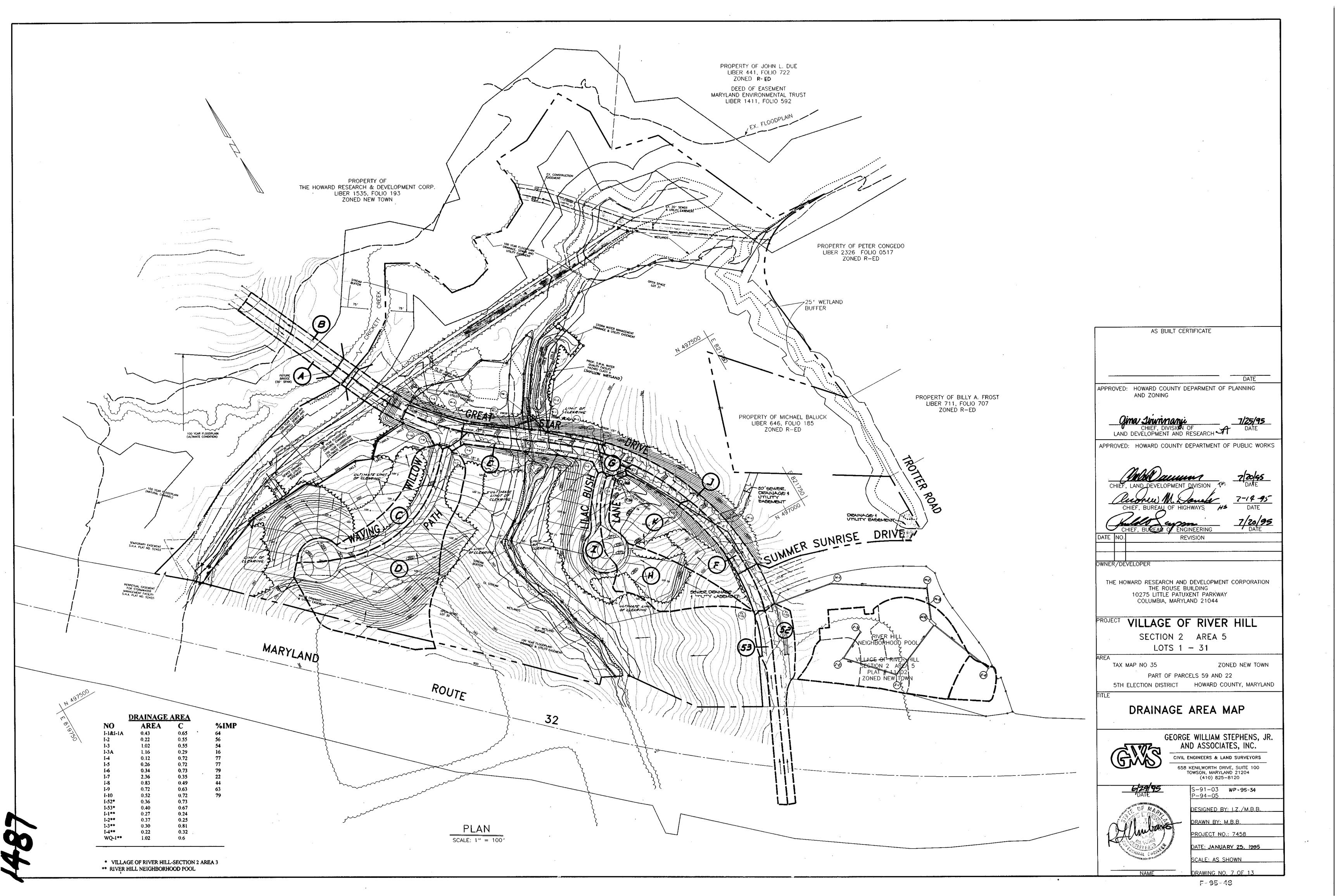
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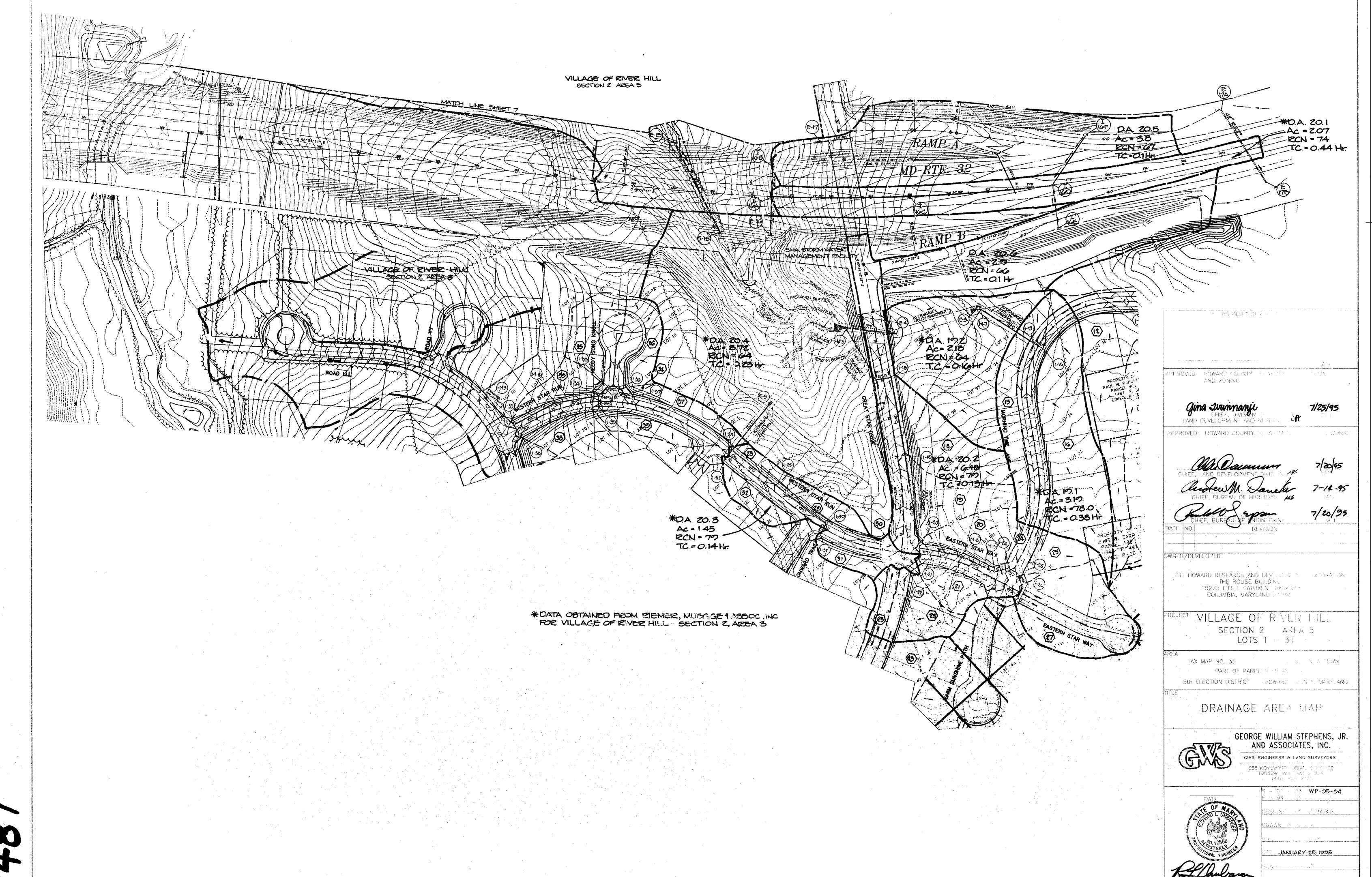
F-95-48

DATE: JANUARY 25, 1995

DRAWING NO. 6 OF 13

160/





1487

F-95-48

#### PERMANENT SEEDING NOTES

LOOSENED.

- A. APPLIES TO GRADED OR CLEARED AREA NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT, LONG LIVED VEGATATIVE COVER IS NEEDED. B. SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING. DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY
- C. SOIL AMENDMENTS PREFERRED: APPLY TWO TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./ 1000 SQ, FT.) AND 600 LBS, PER ACRE 10-10-10 FERTILIZER (14 LBS./ 1000 SQ. FT.). BEFORE SEEDING, HARROW OR DISC INTO UPPER THREE INCHES OF SOIL, AT THE TIME OF SEEDING, APPLY 400 LBS. PER ACRE
- 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ. FT.). . ACCEPTABLE:APPLY TWO TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./ 1000 SQ. FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./ 1000 SQ. FT.). BEFORE SEEDING, HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.
- C. SEEDING: FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS./1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE, FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 60 LBS. OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (0.05 LBS/1000 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY:OPTION (1):2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN SPRING.OPTION (2):USE SOD.OPTION (3):SEED WITH 60 LBS./ACRE KENTUCKY 31
- TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW. D. MULCHING:APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES EIGHT FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1000 SQ.
- FT.) FOR ANCHORING. E. MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

#### TEMPORARY SEEDING NOTES

- A. APPLIES TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.
- B. SEEDBED PREPARATION:LOOSEN UPPER THREE INCHES OF SOIL BY DISCING. RAKING, OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY 1.00SENED.
- C. SOIL AMENDMENTS:APPLY 600 LBS. PER ACRE (14 LBS,/1000 SQ. FT.) OF 10-10-10 FERTILIZER AND 1 TON PER ACRE OR 46 LBS/1000 SQ. FT. OF
- D. SEEDING:FOR PERIODS MARCH 1 THROUGH APRIL 30, AND FROM AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 2-1/2 BU./ACRE OF ANNUAL RYE (3.2 LBS./ 1000 SQ. FT.). FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (0.07 LBS/1000 SQ. FT.). FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE
- E. MULCHING:APPLY 1- 1/2 TO 2 TONS PER ACRE (70-90 LBS./1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING, ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES EIGHT FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1000 SQ.
- F. REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TEMPORARY SEEDING SPECIFICATIONS NOT COVERED.

PROVIDE STABILIZED CONSTRUCTION ENTRANCE AT ALL ACCESS POINTS TO PAVED RDS. SEE PERMITS BOUND IN SPECIFICATIONS AS FOLLOWS: CDE: N/A

#### SEDIMENT CONTROL NOTES

A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION. (992-2437)

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

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES GREATER THAN 3:1. b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONG CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.

ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

SITE ANALYSIS:

TOTAL AREA OF SITE: 37.96 AC \$

9.74 AC \$

AREA TO BE ROOFED OR PAVED: 1.7 AC 1 AREA TO BE VEGETATIVELY STABILIZED: 8.04 Ac 1 TOTAL CUT 25,600 C.Y. | POND NOT INCLUDED TOTAL FILL: 70,270 C.Y.

OFFSITE WASTE/BORROW AREA LOCATION: MO-ROUTE 32 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 HOWARD COUNTY DPW SEDIMENT CONTROL INSPECTOR.

ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMENTER 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

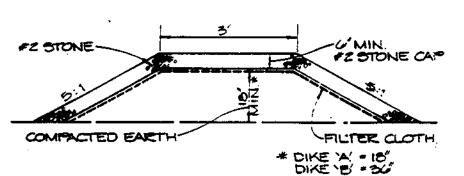
SITE GRADING WILL BEGIN ONLY AFTER PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.

CUT AND FILL QUANTITIES PROVIDED IN SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY EFFECT THE WORK.

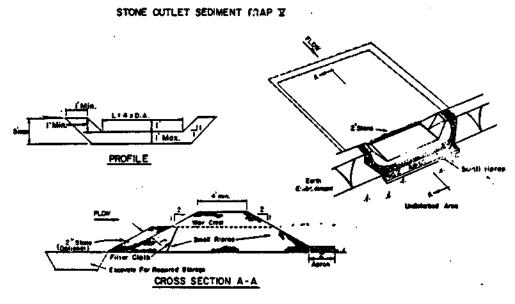
TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY

\*\* SITE ANALYSIS IS FOR DISTURBED AREAS BEYOND THESE PROTECTED BY THE ROAD CONSTRUCTION.

ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.



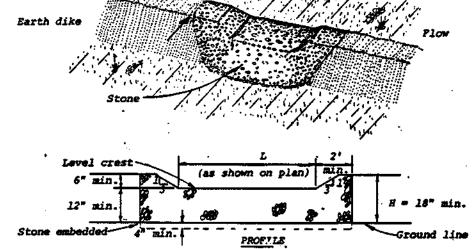
STONE MOUNTABLE BERM DETAIL NO SCALE



PTION: A one foot layer of 2" stone may be placed on the upstream side of the riprap in

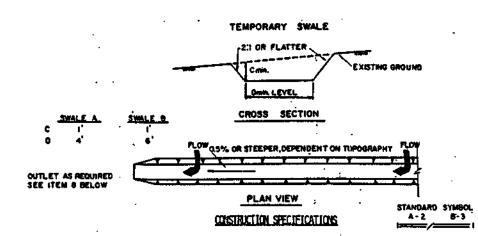
- The fill material for the embankment shall be free of roots and other woody vegetation a well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
- 4. The stone used in the outlet shall be small riprep  $4^{n}-8^{n}$  along with a  $1^{n}$  thickness of  $2^{n}$
- Sediment shall be removed and trap restored to its original dimensions when the sediment
- 3. The structure shall be removed and the area stabilized when the drainage area has bee

Maximum Droinage Area: 5 Acres U.S. DEPARTMENT OF AGRICULTURE STONE OUTLET SEDIMENT TRAF SOIL CONSERVATION SERVICE \_\_\_\_\_\_ COLLEGE PARK, MARYLAND



- 1. The stone shall be crushed stone. Gravel may be used if crushed stone is not available. The stone shall meet MSHA Size No. 2 or AASHTO designation M43 Size No. 2 or 24.
- 2. The crest of the stone dike shall be at least six inches lower than the lowest elevations of the top of the earth dike and shall be level. 3. The stone outlet structure shall be embedded into the soil a minimum
- of four inches. 4. The minimum length, in feet, of the crest of the stone outlet structure shall be equal to six times the number of scres of contributing drainage
- 5. The stone outlet structure shall be inspected after each rain, and the stone shall be replaced when the structure ceases to function as intended due to silt accumulation among the stone, washout, construction

\* Drainage area less than 5 acres
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE STONE OUTLET STRUCTURE College Park, Md.

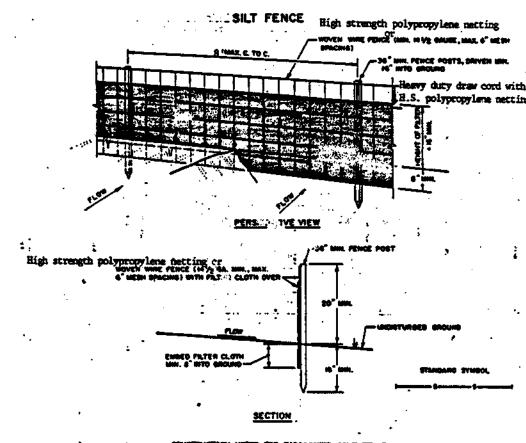


- 1. ALL TEMPORARY SHALES SHALL HAVE UNLATERAUPTED POSITIVE GRADE TO AN OUTLET. 2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING

- 5. The smale shall be excavated on smaped to line, grade, and cross section as required to meet the criteria specified herein and be free of bank projection or other irregularities which will impete normal flow.
- 6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT. 7. ALL EARTH REMOVED AND NOT NEEDED ON CONSTRUCTION SHALL BE PLACED SO THAT IT HILL, NOT INTERFERE WITH THE FUNCTIONING OF THE SHALE,

#### 8. STABILIZATION SHALL BE AS FER THE CHART BELOW: FLOW CHANNEL STABILIZATION

TYPE OF THE ALTERIA	CHANEL	À (5 AC OR LESS)	<u>R (5 ac - 10 ac)</u>
1	0.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAN MUCH
2	3.1-5.0%	SEED AND STRAN PLUCH .	SEED USING JUTE OR EXCELSION
.3 ·	5.1-8.0%	SEED WITH JUTE OR EXCELSION; SOD	LINED RIP-RAP 4-8" RECYCLED CONCRETE EQUIVALENT
`4	8.1-20%	LINED 4-8" REP-RAP	ENGINEERED DESIGN
9. Periopic	INSPECTION AND REQUIRES	HAINTENANCE MUST BE PROVID	DED AFTER EACH RAIN EVENT.



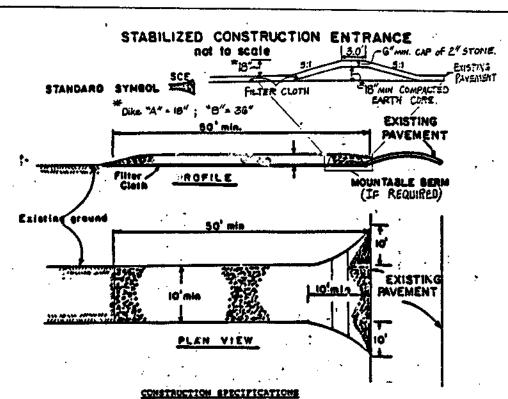
#### CINSTRUCTION NOTES FOR FARRICATED SILT FENCE

- high strength polypropylene netting FILTER CLOTH: FILTER X.
  MIRAFI LOXX, STABILINKA TIMEN OR APPROVE.

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

U.S. DEPARTMENT OF ABRICULTURE SCIL CONSERVATION SERVICE COLLEGE MARK, MARTLAND

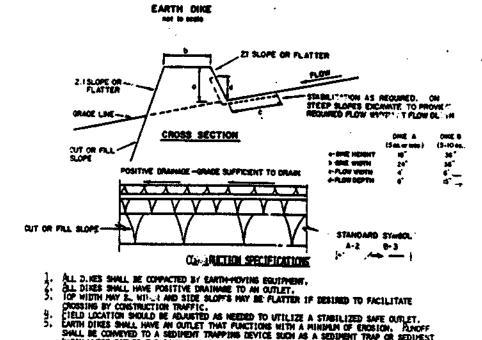
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- 1. Stone Size Use 2º stone, or reciaised or recycled concrete equivalent. Length - As required, but not less than 50 ft. (except on a single residence lot water a 30 ft minimum length would apply).
- 3. Thickness Not less than six (6) inches. 4. Width - Ten (10) ft. minimum, but not less than the full width at points where ingress or
- egress occurs.

  5. Filter Cloth Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot. 6. Surface Water - All surface water flowing or diverted toward construction extraces shall
- be piped across the entrance. If piping is impractical, a mountable been with 5:1 slopes . Maintenance - The entrance shall be emintained in a condition which will prevent tracking or flowing of sediment cuto public rights of way. This way require periodic top exessing with additional stone as conditions demand and repair and/or c.e.most of any assumes used to
- crap sediment. All sediment apilled, dropped, weahed or tracked onto public rights of way met be removed immediately. S. Westing - Wheels shall be cleaned to resolve sediment prior to entrance onto public rights-of way. When washing is required, it shall be done on an area stabilized with stone out which trains into an approved sediant trapping device.

9. Periodic inspection and needed maintenance shell be provided after each rain-U. S. DEPARTMENT OF AGRICULTURE STABILIZED CONSTRUCTION OIL CONSERVATION SERVICE



CROSSING BY CONSTRUCTION TRAFFIC.

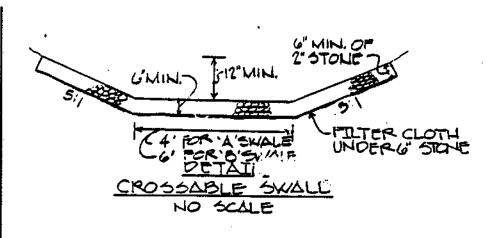
CIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.

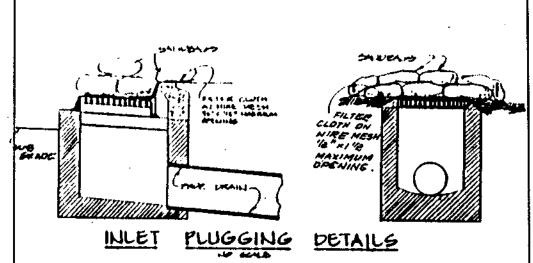
EARTH DIRES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF ENGLION. PLANCE
SHALL BE CONSEVED TO A SEDIMENT TRAFFING DEVICE SUCH AS A SEDIMENT TRAF OR SEDIME
BASIN HOME EITHER THE DIRE CHANNEL OR THE DRAINAGE AMEA ABOVE THE DIRE AME NOT

.5-3.0**X** SEED AND STRAN MALCH SEED AND STRAN MULCH 3.1-5.00 SEED USING JUTE, OR EXCELSION; SOD; 2" STONE

INDES IN THICHES AP ME PRESEND INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
RIPHAP TO SE 4-5 INDES IN A LAYER AT LEAST 8 INDES THICHESS AND PRESEND INTO POVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.

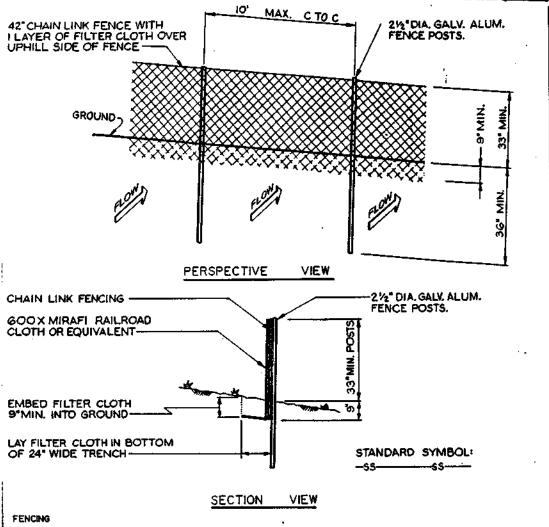
DIC INSPECTION AND REQUIRED MAINTENANCE MUST BE MOVIDED AFTER EACH RAIN EVENT





canstruction specifications I PLACE WHE LIGHT JIER HILET GRATE AND THROAT PREJING, MERILAP

- E FEET AT ALL ENDS ERACE A MELE OF ATROJED FRIER CLOTH (40:85 SIEVE) WOF THE
- SAME DIMENSIONS OF THE NIKE HESH) MER THE NIKE HESH I MALE SHEEPAGE OVER PILTER GLOTH AND MISS HEAR SALIDERGE SHOULD DIEIRLAP AND LOVER COUPLETS SURPACE OF THE
- I HAVE OF PREDIENTLY TO NEW MEMBERS AND SECURE AND PLITER CLOTH IS FREE OF RECILIENT, REMACE PILTER CLOTH IT CLASSED.



FENCING SHALL BE 42" HIGH CHAIN LINK FENCE CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD DETAILS 690.01 AND 680.02. THE SPECIFICATIONS FOR A 6"-0" FENCE SHALL BE USED. SUBSTITUTE 42" FABRIC & 70" POSTS. POSTS SHALL BE PLACED WITHOUT CONCRETE EMBEDMENT.

I.CHAIN LINK FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH THES OR STAPLES.
2.FILTER CLOTH TO BE FASTENED SECURELY TO CHAIN LINK FENCE WITH THES SPACED EVERY 24" AT TOP AND MOSECTION

3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.

4. MAINTENANCE SHALL BE PERFORMED AS NECESSARY AND MATERIAL REMOVED WHEN BULGES DEVELOP IN THE SILT FENCE.

STANDARD DRAWING SUPER SILT FENCE

BY THE DEVELOPER:

CONDITIONS & MANAGEMENT PRACTICES FOR WORK IN NONTIDAL WETLANDS.

- Remove excess fill or construction material or debris to an upland disposal area outside of any floodplain,
- If backfill is obtained, use clean material free of waste metal products, unsightly debris, toxic material
- Place materials in a location and manner which does not adversely impact surface or subsurface water flow into
- Maintain the hydrologic regime of nontidel wetlands outside the limits of disturbance.
- Rectify any nontidal wetlands and buffers temporarily impacted by the permitted activity. All stabilization in the wetland and buffer shall be of the following in the wetland and Duffer shall be of the following recommended species: Annual Ryegrass (Lolium multiflorum), Millet (Setaria italica), Oats (Uniola sp.), and/or Rye (Secala cereala). Other non-persistent vegetation may be acceptable, but must be approved by the Nontidal Wetlands Division. Kentucky 31 fescue shall not be utilized in the wetland or buffer. All temporary fills shall be removed in their entirety on or before the completion of construction;
- f) To protect important aquatic species, in-stream work is prohibited as determined by the classification of the Class I Waters. In-stream work may not be conducted during the period March 1 through June 15, inclusive
- Place heavy equipment on mats or suitably operate the equipment to prevent damage to the nontidal wetlands;
- No removal of vegetation, grading, filling, draining or other alteration of the nontidal wetlands or buffer outside the limits of disturbance shall occur without written authorization from the Water Resources Administration.

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION.

WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT

10-26-94

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

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL

CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DATE

1. OBTAIN A GRADING PERMIT. 2 DAYS 2. NOTIFY THE HOWARD COUNTY DEPARTMENT OF PERMITS AND LICENSES INSPECTOR 48 HOURS BEFORE BEGINNING WORK. 1 DAY

SEQUENCE OF CONSTRUCTION

- 3. INSTALL TREE PROTECTION FENCE. 2 DAYS 4. CLEAR AND GRUB FOR AND INSTALL SEDIMENT CONTROL MEASURES AND DEVICES (EXCEPT INLET PLUGGING AND TEMPORARY SWALES). 5 DAYS 5. AFTER NOTIFYING AND OBTAINING PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR BEGIN ROUGH GRADING, MAINTAIN POSITIVE
- DRAINAGE TO SEDIMENT CONTROL MEASURES AND DEVICES. AS WORK PROGRESSES, INSTALL SWALES ON ROADS DIRECTING THE FLOW TO THE SEDIMENT TRAPS. ALSO, REMOVE EARTH DIKE WITHIN GREAT STAR DRIVE
- 15 DAYS 6. AS SUBGRADE ELEVATIONS ARE ESTABLISHED, INSTALL STORM DRAIN SYSTEM. PROVIDE INLET PLUGGING AS SHOWN ON THE PLAN. PLUG 12" DRAIN @ M - 1.
- 7. FINE GRADE THE SITE. INSTALL STONE SUBBASE AND CURB AND GUTTER. 15 DAYS 8. STABILIZE ALL REMAINING AREAS. 8 DAYS 9. AFTER NOTIFYING AND OBTAINING PERMISSION FROM THE SEDIMENT CONTROL
- INSPECTOR, REMOVE ALL SEDIMENT CONTROL MEASURES AND DEVICES. CONVERT STONE OUTLET SEDIMENT TRAP ST-III #4 INTO WATER QUALITY 8 DAYS
- 10. FINE GRADE THOSE AREAS AND PROCEED WITH THE PAVING OPERATIONS. REMOVE THE PLUG FROM 15" DRAIN @ M - 1. 18 DAYS

AS BUILT CERTIFICATE

AND ZONING

APPROVED: HOWARD COUNTY DEPARMENT OF PLANNING

LAND DEVELOPMENT AND RESEARCH APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

DATE

7-14-95 CHIEF, BUREAU OF HIGHWAYS

REVISION

WNER/DEVELOPE

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY

COLUMBIA, MARYLAND 21044

VILLAGE OF RIVER HILL

SECTION 2 AREA 5 LOTS 1 - 31

TAX MAP NO. 35 ZONED NEW TOWN PART OF PARCELS 59 AND 22

GRADING AND SEDIMENT

CONTROL PLAN GEORGE WILLIAM STEPHENS, JR.

5TH ELECTION DISTRICT

AND ASSOCIATES, INC. CIVIL ENGINEERS & LAND SURVEYORS

S-91-03 WP-05-34 -94-05 ESIGNED BY: I.Z./M.B.B.

RAWN BY: M.B.B.

658 KENILWORTH DRIVE, SUITE 100

TOWSON, MARYLAND 21204

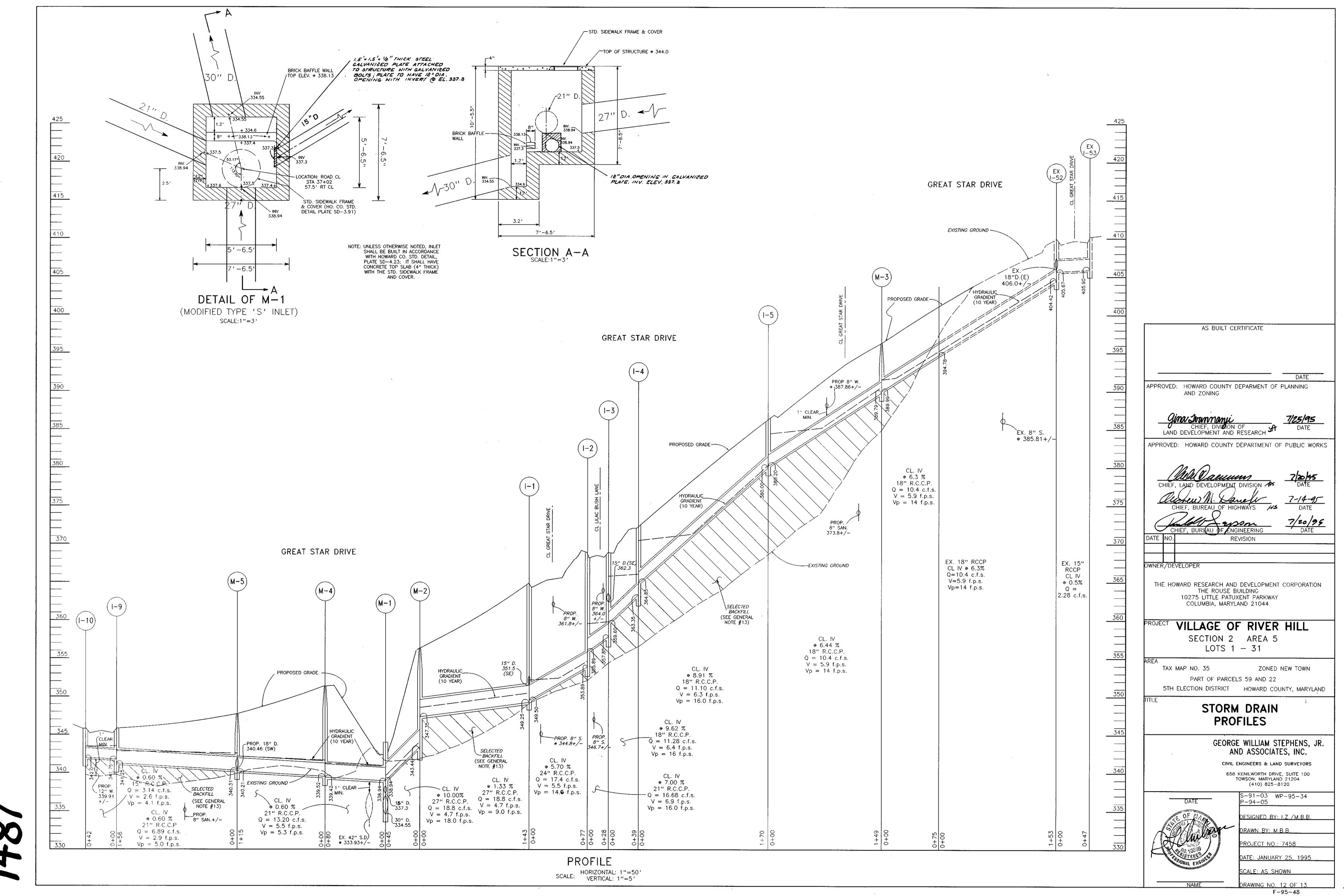
(410) 825-8120

ROJECT NO.: 7458 ATE: JANUARY 25, 1995 CALE: AS SHOWN

HOWARD COUNTY, MARYLAND

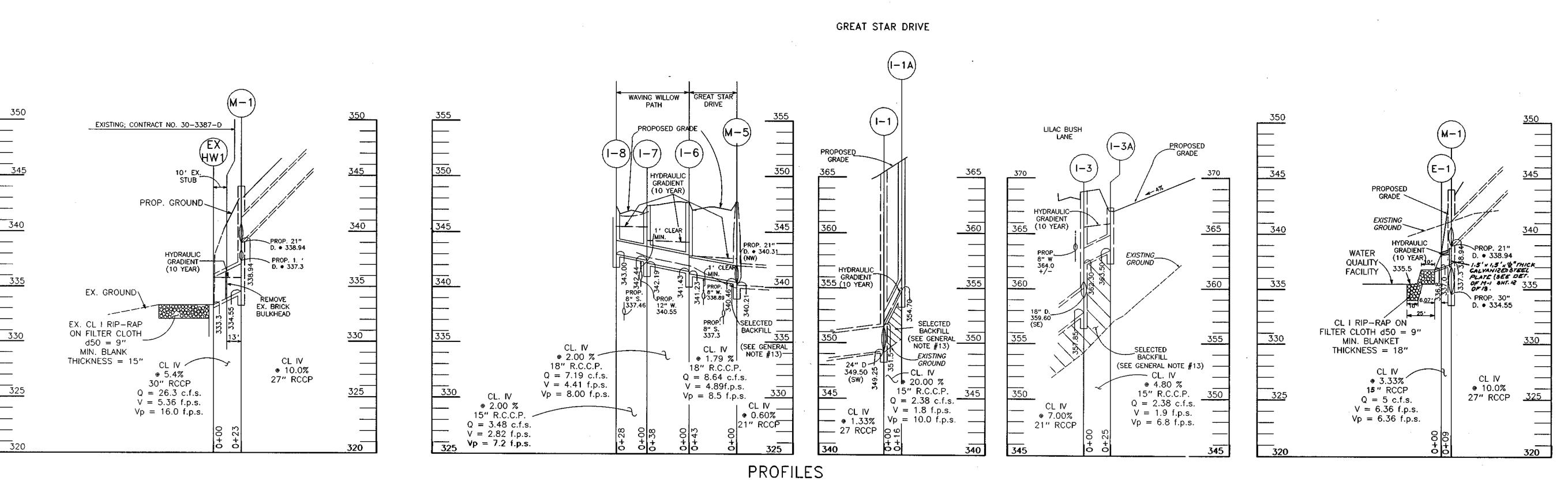
DRAWING NO. 10 OF 13 F-95-48

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#### STRUCTURE SCHEDULE

NO	TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEV	REMARKS
1-1	A-10	20.9 RT. C STA. 35+30.52 GREAT STAR DRIVE	24"- 349.50 & 15" - 351.50	349.25	365.40	SEE HO CO STD DETAILS SD 4.02
I-1A	A-10	20.9' RT. C STA. 35+15.00 GREAT STAR DRIVE		354.70	366.30	SEE HO CO STD DETAILS SD 4.02
1-2	A-5	13.9' RT. C STA. 0+47.63 LILAC BUSH LANE	355.89	353.89	368.79	SEE HO CO STD DETAILS SD 4.01
1-3	A-5	13.9' LT. C STA. 0+47.63 LILAC BUSH LANE	15" - 362,30 & 16" - 359,60	357.85	368.79	SEE HO CO STD DETAILS SD 4.01
I-3A	PRECAST OPEN END GRATE INLET			363,50	367.00	SEE HO CO STD DETAILS SD 4.36
I-4	A-10	20.9' LT. C STA. 34+35.55 GREAT STAR DRIVE	364.85	363.35	372.10	SEE HO CO STD DETAILS SD 4.02
I-5	A-10	20.9 LT. C STA. 32+60.00 GREAT STAR DRIVE	380.20	380.00	385.80	SEE HO CO STD DETAILS SD 4.02
1-6	A-5	20.9' LT. C STA. 38+93.15 GREAT STAR DRIVE	341,43	341.23	346.10	SEE HO CO STD DETAILS SD 4.01
1-7	A-10	13.9 LT. C STA. 0+48.04 WAVING WILLOW PATH	342.44	342.19	347.30	SEE HO CO STD DETAILS SD 4.02
1-8	A-10	13.9' RT. C STA. 0+48.04 WAVING WILLOW PATH		343.00	347.30	SEE HO CO STD DETAILS SD 4.02
1-9	A-10	20.9' RT. C STA. 40+55 GREAT STAR DRIVE	341.75	341.25	345.70	SEE HO CO STD DETAILS SD 4.02
I-10	A-10	20.9' LT. C STA. 40+55 GREAT STAR DRIVE		342.00	345.70	SEE HO CO STD DETAILS SD 4.02
M-1		57.0' RT. C STA. 37+02 GREAT STAR DRIVE	27" - 338.94 & 21" - 338.94	30"- 334.55 & 12" - 337.30	344.00	SEE DETAIL
M-2		27 RT. C STA. 36+69.6 GREAT STAR DRIVE	347.35	343.44	355.9	SEE HO CO STD DETAIL G5.11
M-3	4'-0" DIAMETER PRECAST MANHOLE	14.00' RT. C STA. 31+14.53 GREAT STAR DRIVE	369.99	389.79	395.76	SEE HO CO STD DETAIL G5.12
		26' RT. C STA. 37+77 GREAT STAR DRIVE	339.52	339.42	351.30	SEE HO CO STD DETAIL G5.12
		22.50' RT. C STA. 38+93.15 GREAT STAR DRIVE	21" - 340.31 & 18" -340.46	340.21	346.20	SEE HO CO STD DETAIL G5.12
E-1	CONC. END SECTION	68.00' RT. C STA. 37+00 GREAT STAR DRIVE		337.00		SEE HO CO STD DETAIL SD-5.52
* HW-1	Α	65.00' RT. C STA. 37+25.00 GREAT STAR DRIVE	333.30			SEE HO CO STD DETAIL SD-5.11
*HW-2	A	55.00' LT. C STA, 36+94.00 GREAT STAR DRIVE		337.80		SEE HO CO STD DETAIL SD-5.11
	* BUILT UNDER CONTRACT #	30-3387-D				
	** ***					
	* * TOP OF STRUCTURE					
						······································



SCALE: HORIZONTAL: 1"=50' VERTICAL: 1"=5'

AS BUILT CERTIFICATE APPROVED: HOWARD COUNTY DEPARMENT OF PLANNING APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS CHIEF, BUREAU OF HIGHWAYS CHIEF, BUREAU OF ENGINEERING REVISION OWNER/DEVELOPER THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING

10275 LITTLE PATUXENT PARKWAY

COLUMBIA, MARYLAND 21044

VILLAGE OF RIVER HILL

SECTION 2 AREA 5 LOTS 1 - 31

TAX MAP NO. 35 ZONED NEW TOWN

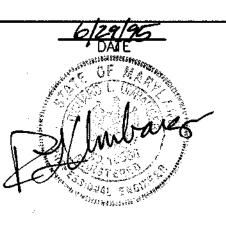
PART OF PARCELS 59 AND 22 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

STORM DRAIN PROFILES, STRUCTURE SCHEDULE, STRIPING PLAN FOR GREAT STAR DRIVE



GEORGE WILLIAM STEPHENS, JR. AND ASSOCIATES, INC.

CIVIL ENGINEERS & LAND SURVEYORS 658 KENILWORTH DRIVE, SUITE 100 TOWSON, MARYLAND 21204 (410) 825-8120



S-91-03 WP-95-34 P-94-05

DESIGNED BY: I.Z./M.B.B. DRAWN BY: M.B.B.

PROJECT NO.: 7458 DATE: JANUARY 25, 1995 SCALE: AS SHOWN

DRAWING NO. 13 OF 13

F-95-48