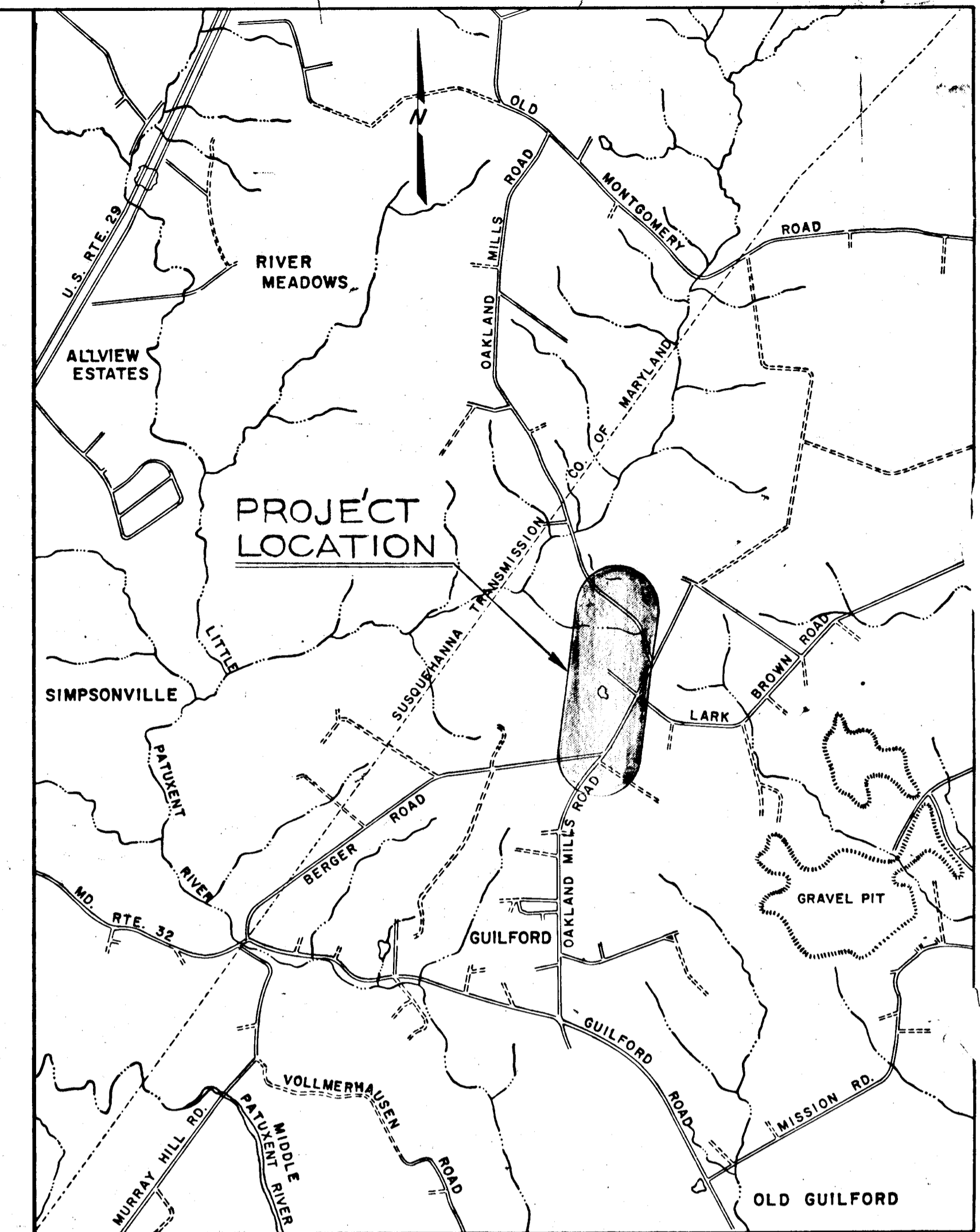
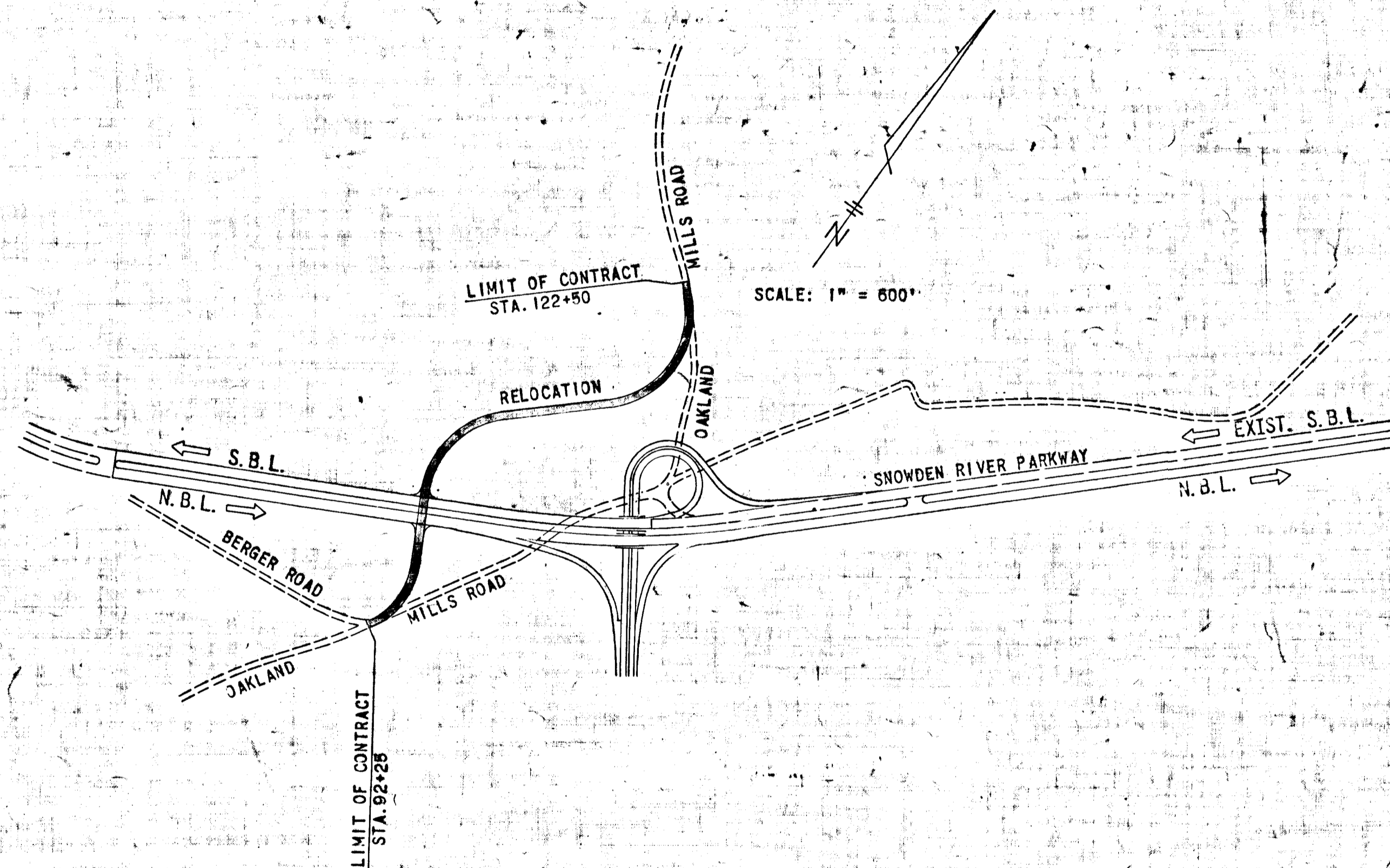


# COLUMBIA

ELECTION DISTRICT 6

## OAKLAND MILLS ROAD

HOWARD RESEARCH & DEVELOPMENT CORP.  
HOWARD COUNTY, MARYLAND



VICINITY MAP

SCALE: 1" = 2000'

GENERAL NOTES

- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTION TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES, WHERE DIRECTED BY THE ENGINEER, A MINIMUM OF TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS.
- FOR ALL DETAILS NOT SHOWN ON DRAWINGS, SEE HOWARD COUNTY ROAD CONSTR. CODE AND STD. SPECS. AS REVISED AUGUST 6, 1968.
- TREES ARE TO BE PROTECTED AGAINST DAMAGE TO THE MAXIMUM EXTENT REASONABLE. TREES WHICH ARE TO REMAIN IN STREETS AND OTHER RIGHTS OF WAY WILL BE MARKED BY THE ENGINEER PRIOR TO COMMENCING OF CONSTRUCTION OPERATIONS.
- DEVELOPER WILL PLACE ROADS TO SUBGRADE FOR THE FULL WIDTH OF THE RIGHT OF WAY BEFORE INSTALLATIONS OF UTILITIES.
- THE DEVELOPER SHALL ACCOMPLISH ALL GRADING WITHIN EASEMENT AREAS WHERE UTILITIES ARE TO BE INSTALLED BEFORE NOTICE WILL BE ISSUED.
- CONTRACTOR TO NOTIFY THE FOLLOWING UTILITIES AT LEAST THREE DAYS BEFORE STARTING WORK SHOWN ON THIS/THESE DRAWINGS:
  - BELL TELEPHONE SYSTEM 393-3649
  - LONG DISTANCE CABLE DIVISION 393-3553 OR 3554
  - BALTIMORE GAS & ELECTRIC CO. 539-8000 EXT. 691
- ALL DETAILS ARE FROM THE "ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS" ISSUED OR APPROVED BY THE COUNTY COMMISSIONERS AND THE HOWARD COUNTY ROAD DEPARTMENT.
- ALL LOCAL ROADS ARE DESIGNED FOR 30 M.P.H. TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS.
- ALL ELEVATIONS SHOWN ARE BASED ON U.S.C. AND G.S. MEAN SEA LEVEL DATUM 1929.
- ALL INLET BOXES AND MANHOLES TO HAVE A MINIMUM OF 8" CONCRETE FOOTER.
- TEMPORARY, COMPACTED, 18 INCH HIGH, EARTH FILLED DIVERSION BERMS SHOULD BE CONSTRUCTED ABOVE THE LIPS OF FILL SLOPES CONCURRENTLY WITH THE INITIAL GRADING AND DIRECTED TO UNDISTURBED SOD AREAS AT THE END OF EACH DAY.
- ALL SHALES SHALL BE SODDED AND TAMPED, AND ALL SLOPES SHALL BE SEEDED OR SODDED IN CONJUNCTION WITH THE HOWARD COUNTY SOIL CONSERVATION DISTRICT AND THE HOWARD COUNTY PLANNING BOARD STANDARDS ENTITLED "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN URBANIZING AREAS".
- CONTRACTOR TO NOTIFY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT 465-3180 AT LEAST THREE DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- ALL DISTURBED SLOPE AREAS TO BE STABILIZED AS SOON AS GRADING IS COMPLETED.
- ON ALL FILLS IN SUMP AREAS RELIANCE PLASTIC & CHEMICAL COMPANY "FLEXIBLE TUBE DOWN DRAINS AND PANS". OR APPROVED EQUAL, SHALL BE USED.

7,250 Bond Amount

SHEET INDEX	
SHEET	DESCRIPTION
1	TITLE SHEET & VICINITY MAP
2	TYPICAL SECTIONS & DETAILS
3	DRAINAGE AREA MAP
4	PLAN & PROFILE STA. 92+25 TO STA. 97+25.77
5	PLAN & PROFILE STA. 97+25.77 TO STA. 106+00
6	PLAN & PROFILE STA. 106+00 TO STA. 118+00
7	PLAN & PROFILE STA. 118+00 TO STA. 122+50

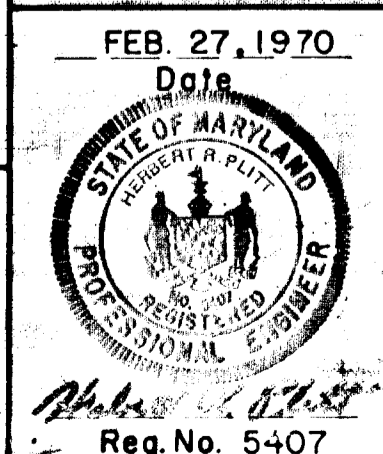
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

REVISED: E. J. Jones DATE: 11/1/70  
 DIS. Conservationist  
 APPROVED: R. Campbell DATE: 11/1/70  
 HOWARD S.C.D.

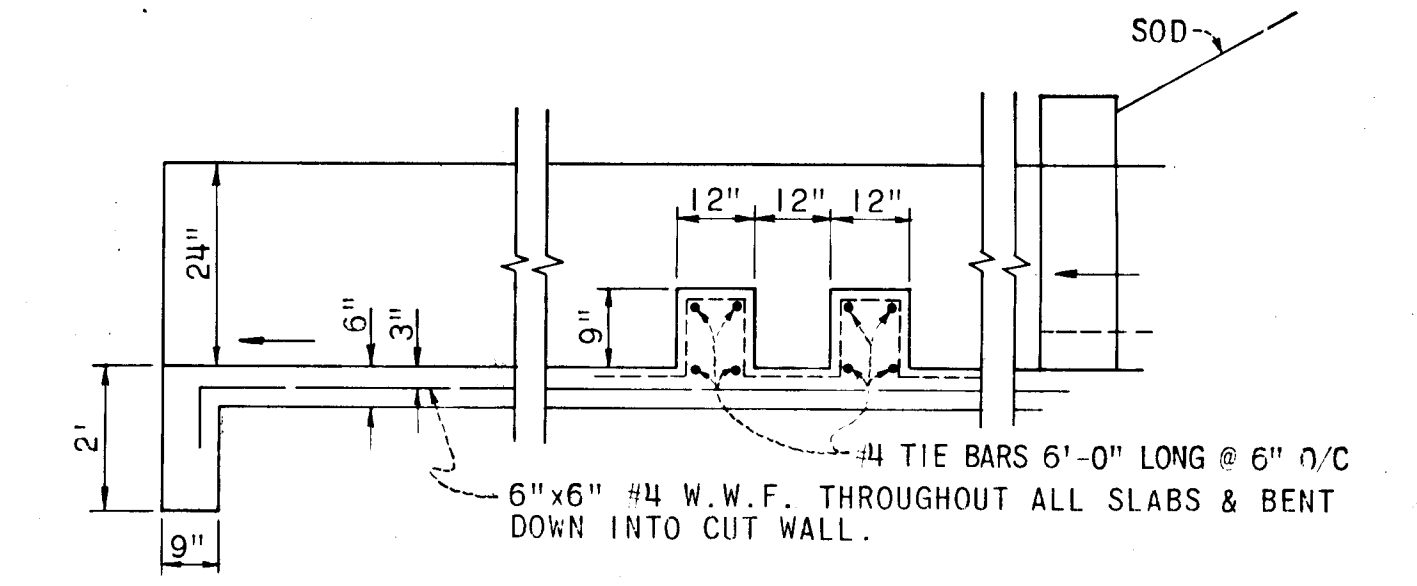
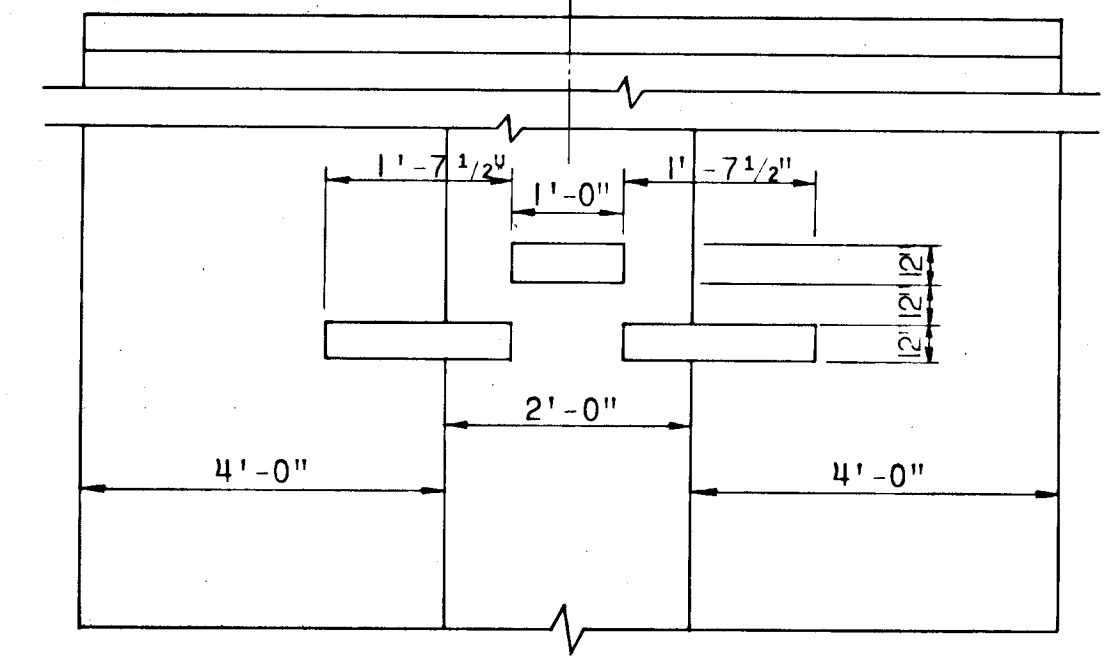
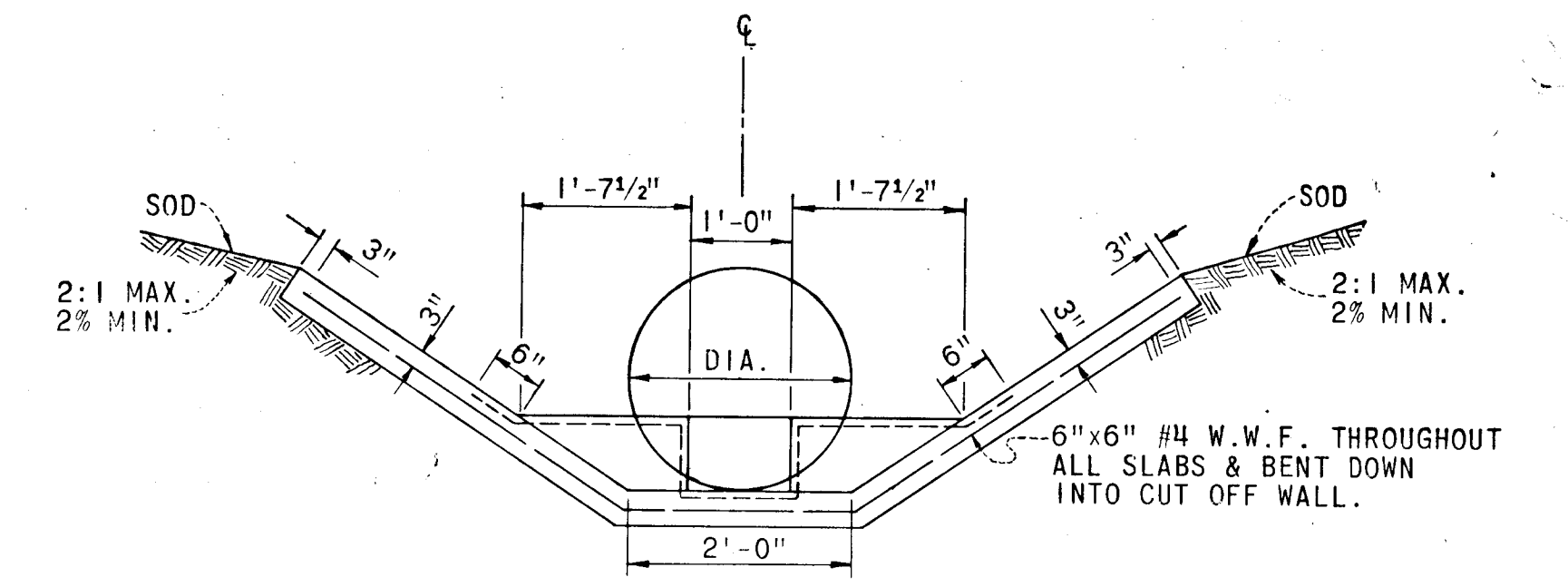
DEPARTMENT OF PUBLIC WORKS  
B. W. McKeon 12/19/70  
 CHIEF, BUREAU OF HIGHWAYS DATE

OFFICE OF PLANNING AND ZONING  
J. H. Clewson 12/23/70  
 CHIEF ENGINEER, DIVISION OF LAND DEVELOPMENT DATE

GREEN ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 1130 N. CHARLES ST.  
 BALTIMORE, MARYLAND





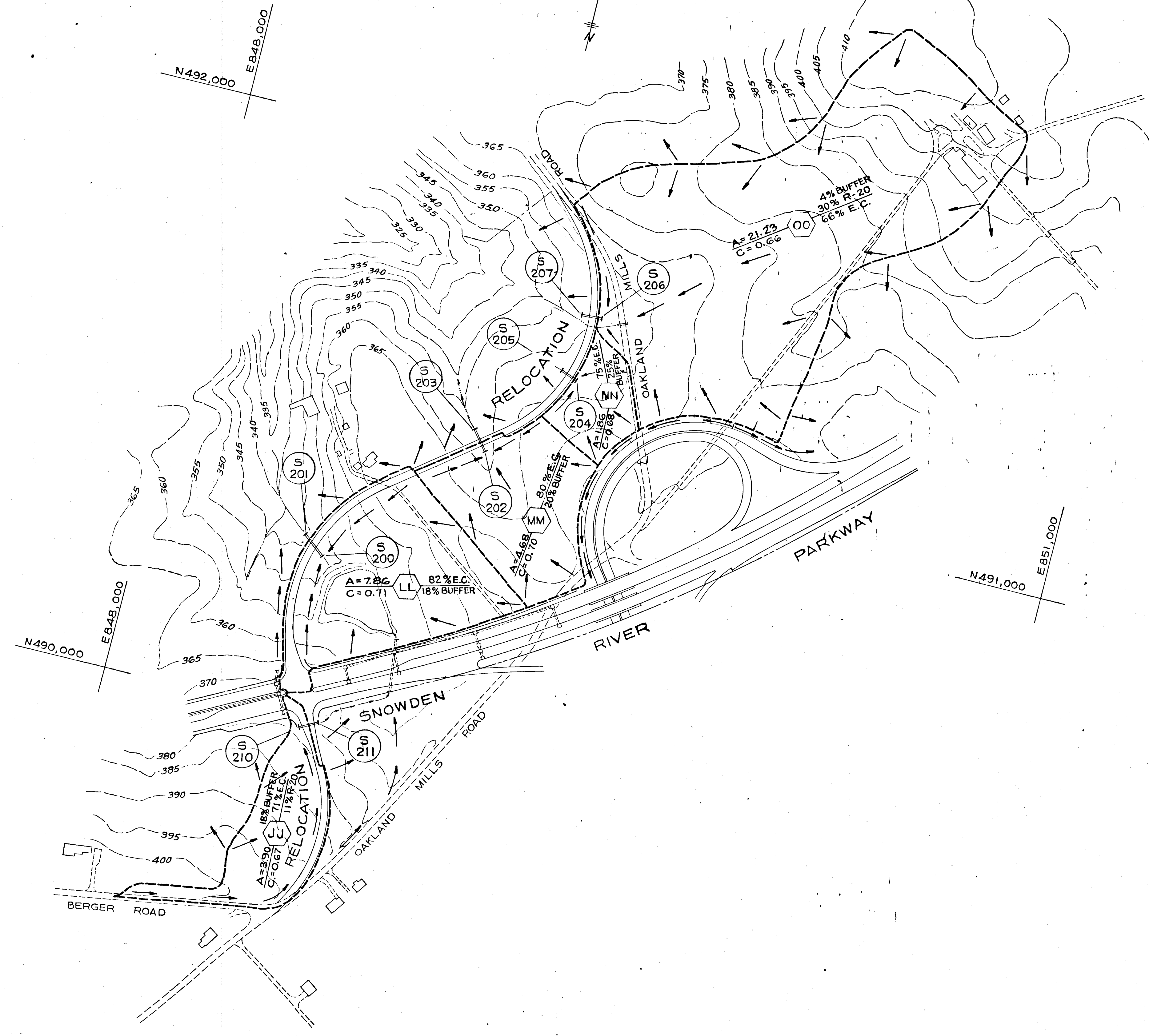


**VELOCITY CHECK DETAIL**

NO SCALE

VELOCITY CHECKS TO BE USED AT THE FOLLOWING LOCATIONS:

- S201 - STA. 105+35 LT.
- S203 - STA. 111+74 LT.
- S207 - STA. 117+66 LT.
- STA. 104+00 AT END OF C&C. DITCH LT.



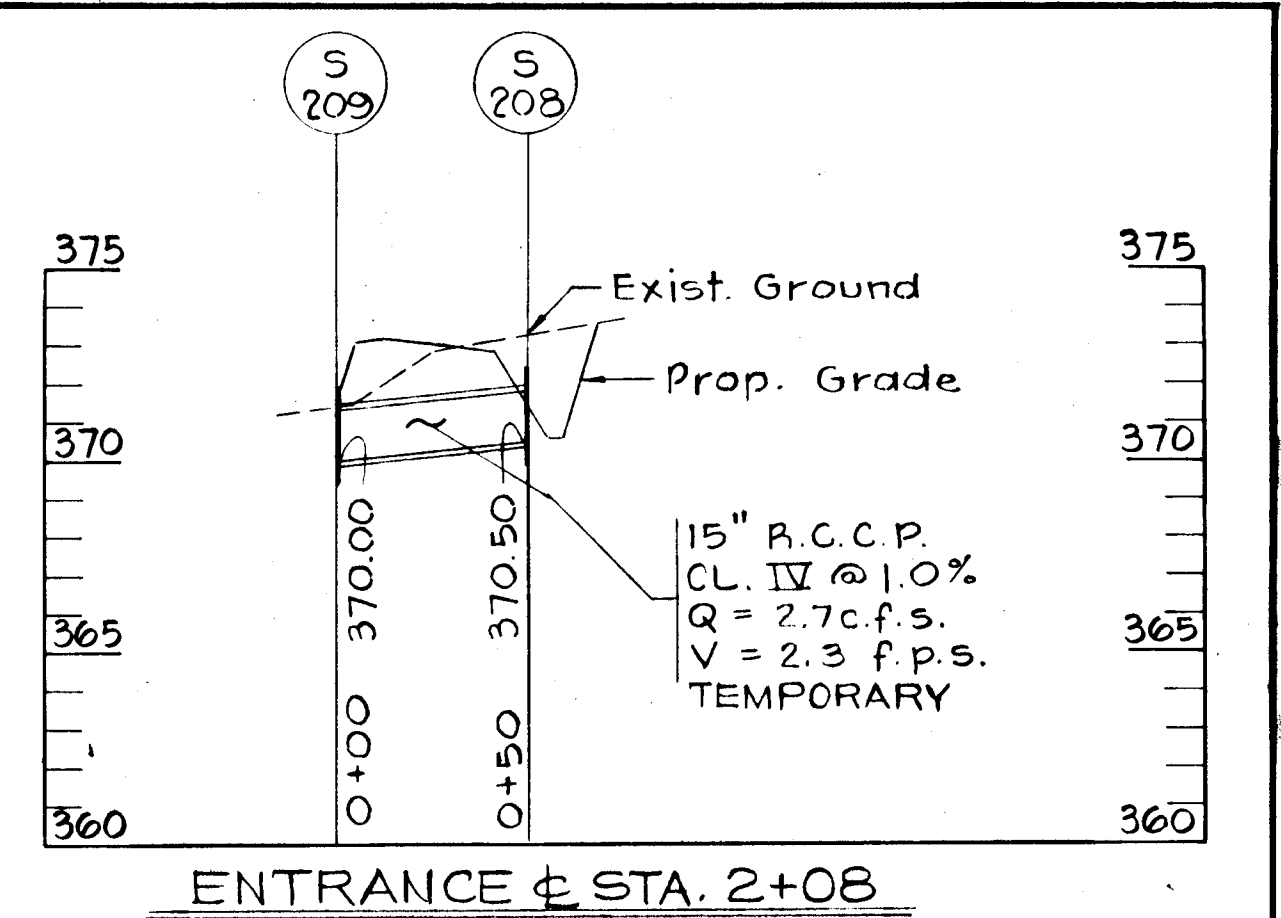
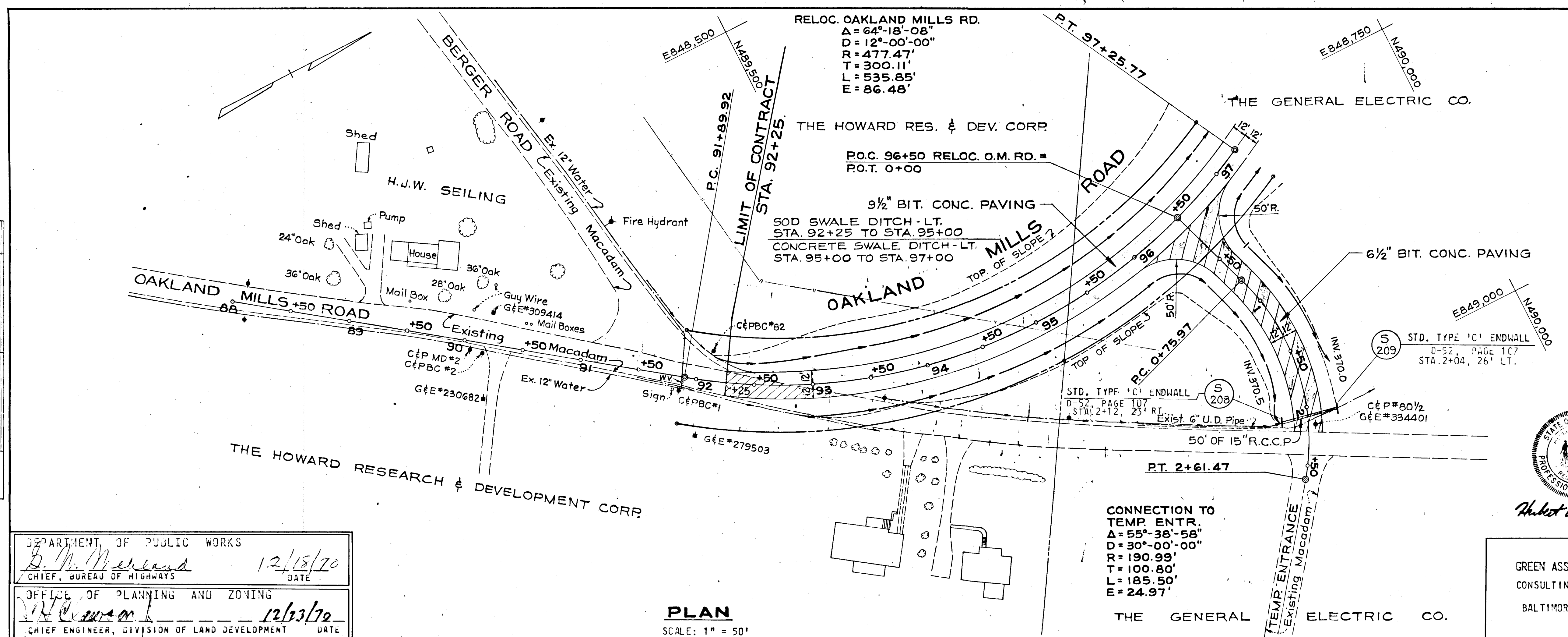
**DRAINAGE AREA MAP**  
SCALE: 1" = 200'

<p>Albert R. Plett</p>	<p>DEPARTMENT OF PUBLIC WORKS</p> <p><i>B. W. DeLeon</i> CHIEF, BUREAU OF HIGHWAYS</p> <p>12/17/70 DATE</p>																																	
	<p>OFFICE OF PLANNING AND ZONING</p> <p><i>J. A. S.</i> CHIEF ENGINEER, DIVISION OF LAND DEVELOPMENT</p> <p>12/23/70 DATE</p>																																	
<p>GREEN ASSOCIATES, INC.</p> <p>CONSULTING ENGINEERS</p> <p>BALTIMORE, MARYLAND</p>	<table border="1"> <tr> <th>Rev Date</th> <th>Rev No</th> <th>Revision Description</th> </tr> <tr> <td colspan="3" style="text-align: center;"> <p><b>COLUMBIA</b></p> <p>MARYLAND</p> <p>5TH ELECTION DISTRICT HOWARD COUNTY</p> <p>OWNER AND DEVELOPER</p> <p>HOWARD RESEARCH AND DEVELOPMENT CORP.</p> <p>THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 212 0</p> </td> </tr> <tr> <td colspan="3">PROJECT AREA</td> </tr> <tr> <td colspan="3">E. G. U. SUBDIVISION</td> </tr> <tr> <td colspan="3">SECTION 1 AREA 4</td> </tr> <tr> <td colspan="3">PROJECT TITLE</td> </tr> <tr> <td colspan="3">OAKLAND MILLS ROAD</td> </tr> <tr> <td colspan="3">DRAINAGE AREA MAP</td> </tr> <tr> <td>Des By J.F.</td> <td>Scale 1" = 200'</td> <td>Dwg. No 3 of 7</td> </tr> <tr> <td>Drn By J.A.S.</td> <td>Date FEB. 25, 1970</td> <td>C.C.F. No</td> </tr> <tr> <td>Chk By</td> <td>Approved</td> <td></td> </tr> </table>	Rev Date	Rev No	Revision Description	<p><b>COLUMBIA</b></p> <p>MARYLAND</p> <p>5TH ELECTION DISTRICT HOWARD COUNTY</p> <p>OWNER AND DEVELOPER</p> <p>HOWARD RESEARCH AND DEVELOPMENT CORP.</p> <p>THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 212 0</p>			PROJECT AREA			E. G. U. SUBDIVISION			SECTION 1 AREA 4			PROJECT TITLE			OAKLAND MILLS ROAD			DRAINAGE AREA MAP			Des By J.F.	Scale 1" = 200'	Dwg. No 3 of 7	Drn By J.A.S.	Date FEB. 25, 1970	C.C.F. No	Chk By	Approved	
Rev Date	Rev No	Revision Description																																
<p><b>COLUMBIA</b></p> <p>MARYLAND</p> <p>5TH ELECTION DISTRICT HOWARD COUNTY</p> <p>OWNER AND DEVELOPER</p> <p>HOWARD RESEARCH AND DEVELOPMENT CORP.</p> <p>THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 212 0</p>																																		
PROJECT AREA																																		
E. G. U. SUBDIVISION																																		
SECTION 1 AREA 4																																		
PROJECT TITLE																																		
OAKLAND MILLS ROAD																																		
DRAINAGE AREA MAP																																		
Des By J.F.	Scale 1" = 200'	Dwg. No 3 of 7																																
Drn By J.A.S.	Date FEB. 25, 1970	C.C.F. No																																
Chk By	Approved																																	

REV. OCT. 1970

F. 70-51C

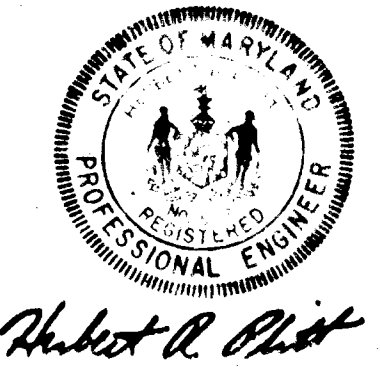
DATE  
BY  
SURVEYED  
PLOTTED  
CHECKED  
NOTE BOOK  
RT OF WAY CHECKED  
NO.



DEPARTMENT OF PUBLIC WORKS  
*B. N. Meland* 12/15/70  
CHIEF, BUREAU OF HIGHWAYS DATE

OFFICE OF PLANNING AND ZONING  
*J. A. S.* 12/23/70  
CHIEF ENGINEER, DIVISION OF LAND DEVELOPMENT DATE

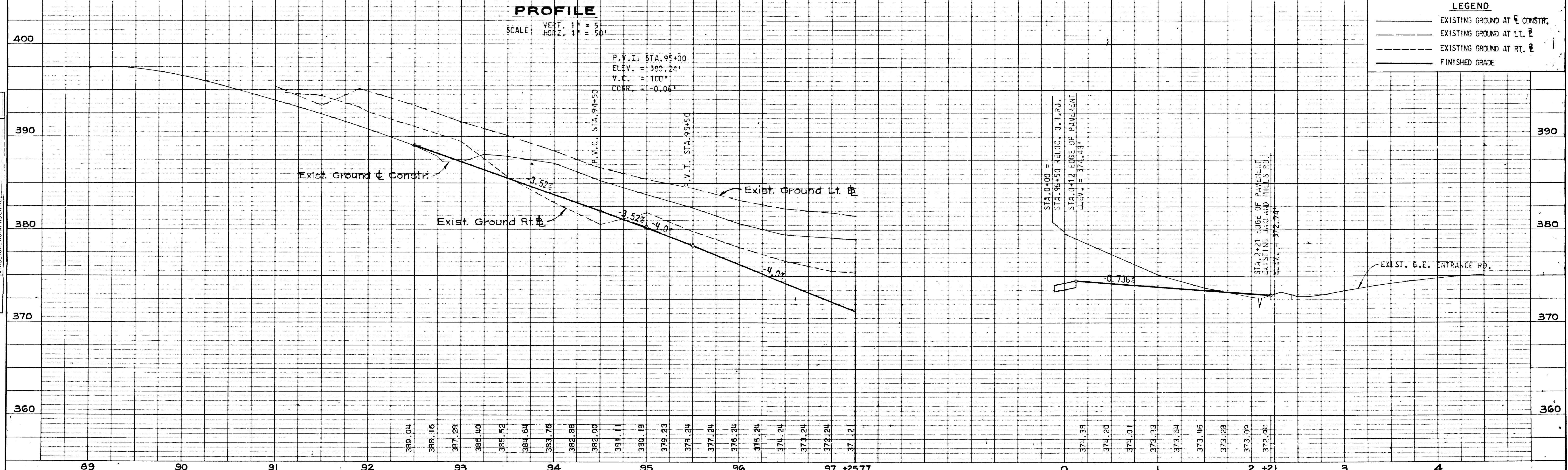
**PLAN**  
SCALE: 1" = 50'



GREEN ASSOCIATES, INC.  
CONSULTING ENGINEERS  
BALTIMORE, MARYLAND

Rev Date	Rev No	Revision Description
<b>COLUMBIA</b>		
M A R Y L A N D 6TH ELECTION DISTRICT HOWARD COUNTY OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORP. THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210		
PROJECT AREA E.G.U. SUBDIVISION SECTION 1 AREA 4		
PROJECT TITLE OAKLAND MILLS ROAD PLAN & PROFILE		
Des By J.H.F. & G.C.	Scale AS SHOWN	Dwg. No 4 of 7
Dim By J.A.S.	Date FEB. 25, 1970	C.C.F. No
Chk By	Approved	

DATE  
BY  
SURVEYED  
PLOTTED  
CHECKED  
NOTE BOOK  
STRUCTURE NOT IN CHECKED  
NO.

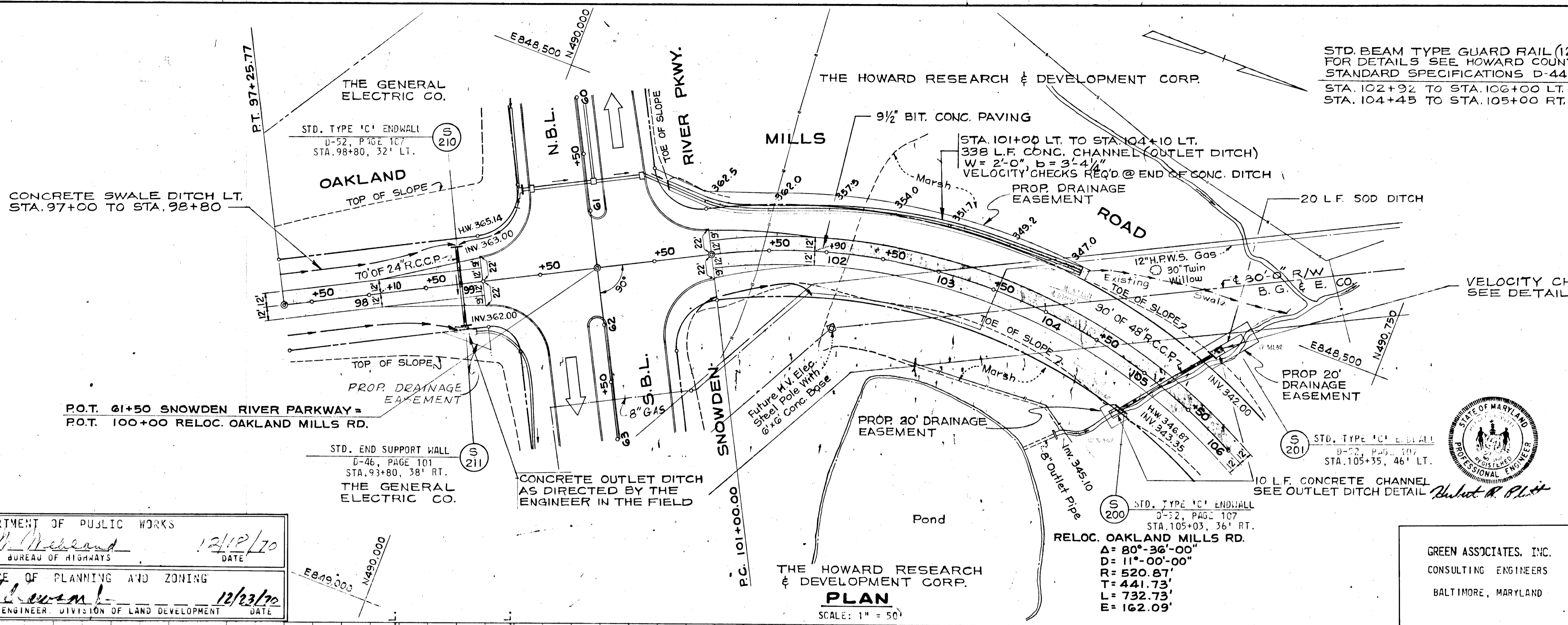


**PROFILE**  
VERT. 1" = 5'  
SCALE: HORIZ. 1" = 50'

**LEGEND**

- EXISTING GROUND AT C CONSTR.
- EXISTING GROUND AT LT. E
- EXISTING GROUND AT RT. E
- FINISHED GRADE

DATE	
BY	
CHECKED	
PLANNED	
NOTED	
NO.	



STD. BEAM TYPE GUARD RAIL (12 GA) (422 L.F.)  
 FOR DETAILS SEE HOWARD COUNTY  
 STANDARD SPECIFICATIONS D-44, Pg. 99  
 STA. 102+92 TO STA. 106+00 LT.  
 STA. 104+45 TO STA. 105+00 RT.



GREEN ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 BALTIMORE, MARYLAND

Rev Date	Rev No	Revision Description

**COLUMBIA**  
 MARYLAND  
 6TH ELECTION DISTRICT - HOWARD COUNTY  
 OWNER AND DEVELOPER  
 HOWARD RESEARCH AND DEVELOPMENT CORP.  
 THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

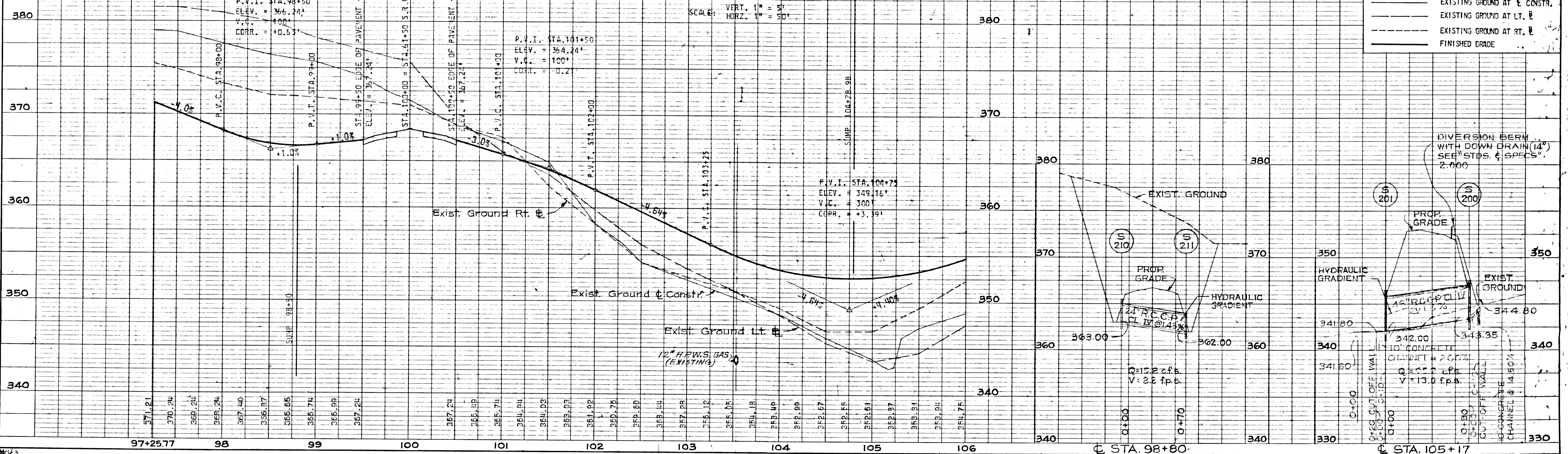
PROJECT AREA: E.G.U. SUBDIVISION SECTION 1 AREA 4  
 PROJECT TITLE: OAKLAND MILLS ROAD PLAN & PROFILE

Des By: J.H.F. & G.C. Scale: AS SHOWN Dwg No: 5 of 7  
 Dwn By: J.A.S. Date: FEB. 25, 1970 C.C.F. No:  
 Chk By: Approved

DEPARTMENT OF PUBLIC WORKS  
*J. D. McKeand* 12/12/70  
 CHIEF, BUREAU OF HIGHWAYS DATE

OFFICE OF PLANNING AND ZONING  
*J. A. S.* 12/23/70  
 CHIEF ENGINEER, DIVISION OF LAND DEVELOPMENT DATE

**PROFILE**



**LEGEND**

- EXISTING GROUND AT E CONSTR.
- EXISTING GROUND AT LT. E
- EXISTING GROUND AT RT. E
- FINISHED GRADE

DATE	
BY	
CHECKED	
PLANNED	
NOTED	
NO.	

PLATE 1, PLAN-PROFILE  
 REUFEL & ESSER CO.  
 48 7020 PHOENIX TRACING CLOTH  
 MADE IN U.S.A.

REV. OCT. 1970

F70-61C

CONSTRUCT ENTRANCE AS DIRECTED BY THE ENGINEER SEE DETAIL SHEET NO. 2

Transformer Pole  
G & E #306173

30" Dead Tree

TOE OF SLOPE  
INV. 359.50

TOE OF SLOPE  
INV. 361.00

TOE OF SLOPE  
INV. 362.50

TOE OF SLOPE  
INV. 364.00

TOE OF SLOPE  
INV. 365.50

TOE OF SLOPE  
INV. 367.00

TOE OF SLOPE  
INV. 368.50

TOE OF SLOPE  
INV. 370.00

TOE OF SLOPE  
INV. 371.50

TOE OF SLOPE  
INV. 373.00

TOE OF SLOPE  
INV. 374.50

TOE OF SLOPE  
INV. 376.00

TOE OF SLOPE  
INV. 377.50

TOE OF SLOPE  
INV. 379.00

TOE OF SLOPE  
INV. 380.50

TOE OF SLOPE  
INV. 382.00

TOE OF SLOPE  
INV. 383.50

TOE OF SLOPE  
INV. 385.00

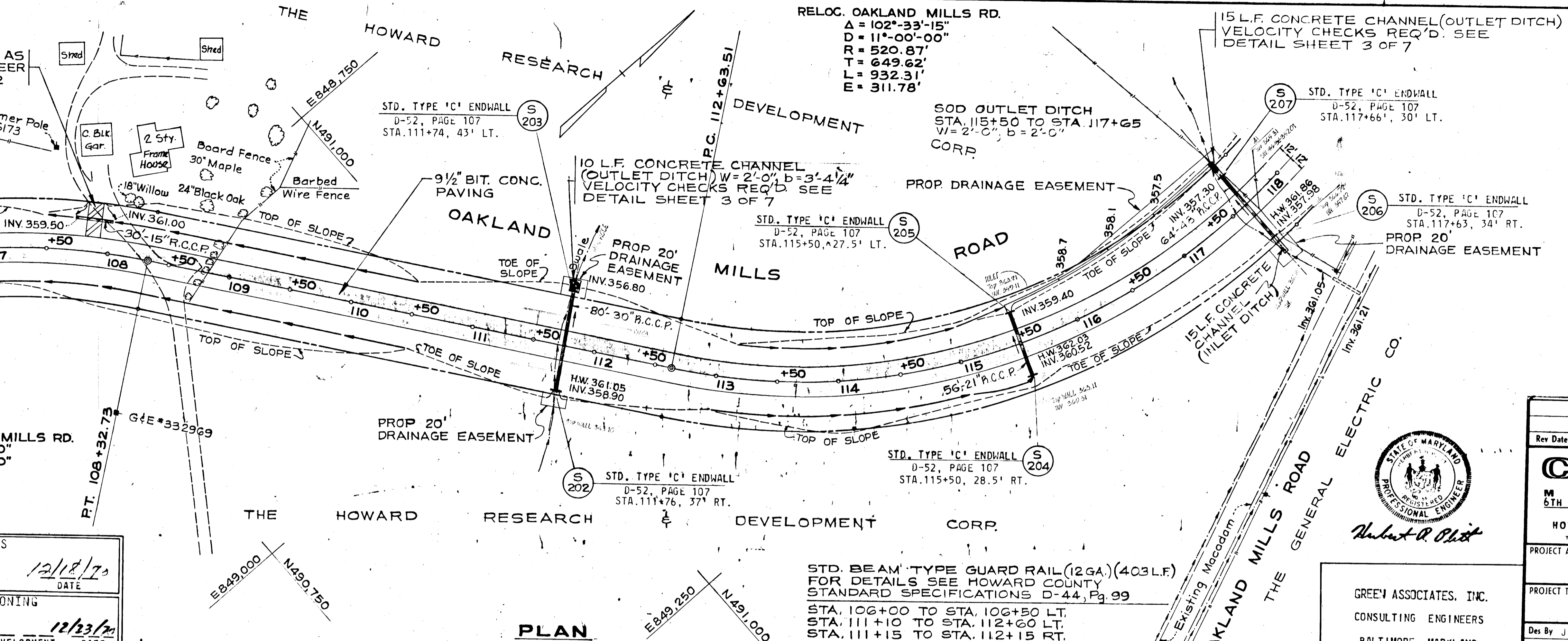
TOE OF SLOPE  
INV. 386.50

TOE OF SLOPE  
INV. 388.00

TOE OF SLOPE  
INV. 389.50

TOE OF SLOPE  
INV. 391.00

TOE OF SLOPE  
INV. 392.50



RELOC. OAKLAND MILLS RD.  
 $\Delta = 80^{\circ}-36'-00''$   
 $D = 11'-00'-00''$   
 $R = 520.87'$   
 $T = 441.73'$   
 $L = 732.73'$   
 $E = 162.09'$

RELOC. OAKLAND MILLS RD.  
 $\Delta = 102^{\circ}-33'-15''$   
 $D = 11'-00'-00''$   
 $R = 520.87'$   
 $T = 649.62'$   
 $L = 932.31'$   
 $E = 311.78'$

15 L.F. CONCRETE CHANNEL (OUTLET DITCH)  
 VELOCITY CHECKS REQ'D. SEE  
 DETAIL SHEET 3 OF 7

SOD OUTLET DITCH  
 STA. 115+50 TO STA. 117+65  
 $W = 2'-0''$ ,  $b = 2'-0''$   
 CORP.

STD. TYPE 'C' ENDWALL  
 D-52, PAGE 107  
 STA. 111+74, 43' LT.

STD. TYPE 'C' ENDWALL  
 D-52, PAGE 107  
 STA. 117+66', 30' LT.

STD. TYPE 'C' ENDWALL  
 D-52, PAGE 107  
 STA. 115+50, 27.5' LT.

STD. TYPE 'C' ENDWALL  
 D-52, PAGE 107  
 STA. 117+63, 34' RT.

STD. TYPE 'C' ENDWALL  
 D-52, PAGE 107  
 STA. 111+76, 37' RT.

STD. TYPE 'C' ENDWALL  
 D-52, PAGE 107  
 STA. 115+50, 28.5' RT.

STD. BEAM TYPE GUARD RAIL (12 GA.) (403 L.F.)  
 FOR DETAILS SEE HOWARD COUNTY  
 STANDARD SPECIFICATIONS D-44, Pg. 99  
 STA. 106+00 TO STA. 106+50 LT.  
 STA. 111+10 TO STA. 112+60 LT.  
 STA. 111+15 TO STA. 112+15 RT.

DEPARTMENT OF PUBLIC WORKS  
*B. Ch. McKeand* 12/12/70  
 CHIEF, BUREAU OF HIGHWAYS  
 OFFICE OF PLANNING AND ZONING  
*J. H. Clouston* 12/13/70  
 CHIEF ENGINEER, DIVISION OF LAND DEVELOPMENT



GREEN ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 BALTIMORE, MARYLAND

Rev Date	Rev No	Revision Description

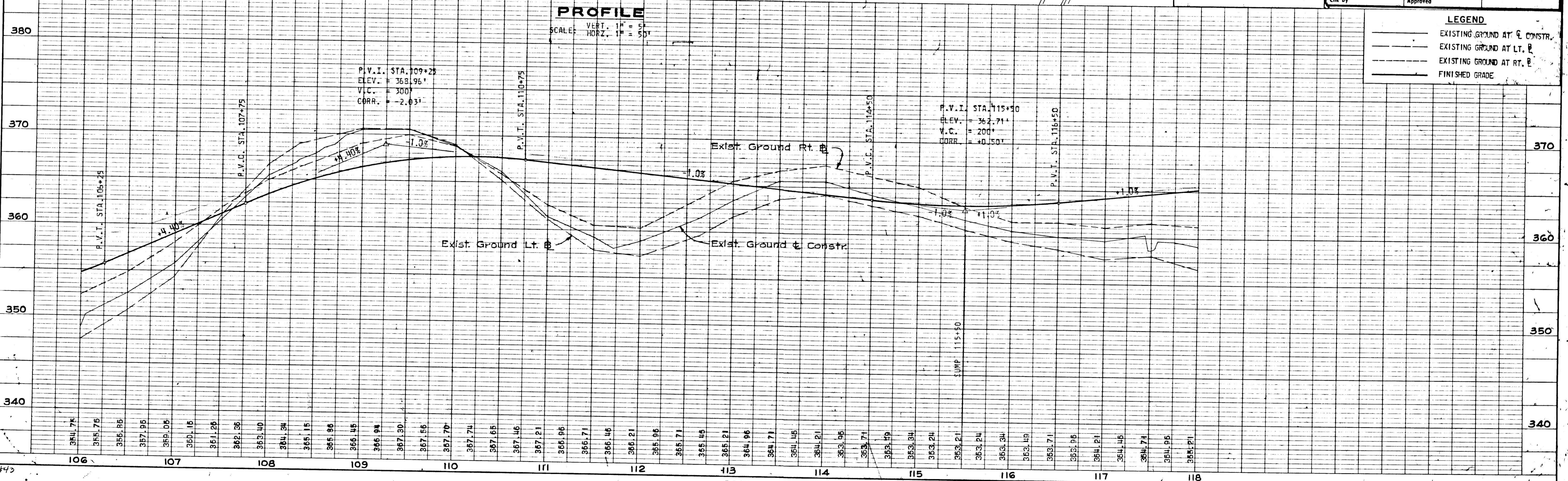
**COLUMBIA**  
 MARYLAND  
 6TH ELECTION DISTRICT - HOWARD COUNTY  
 OWNER AND DEVELOPER  
 HOWARD RESEARCH AND DEVELOPMENT CORP.  
 THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

PROJECT AREA: E.G.U. SUBDIVISION SECTION 1 AREA 4  
 PROJECT TITLE: OAKLAND MILLS ROAD PLAN & PROFILE

Des By: J.P.F. & G.C. Scale: AS SHOWN Dwg. No: 6 of 7  
 Dwn By: J.A.S. Date: FEB. 25, 1970 C.C.F. No:  
 Chk By: Approved

**PROFILE**

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



**LEGEND**

- EXISTING GROUND AT CONSTR.
- EXISTING GROUND AT LT. B
- EXISTING GROUND AT RT. B
- FINISHED GRADE

PLATE 1, PLAN-PROFILE  
 KEUFFEL & ESSER CO.

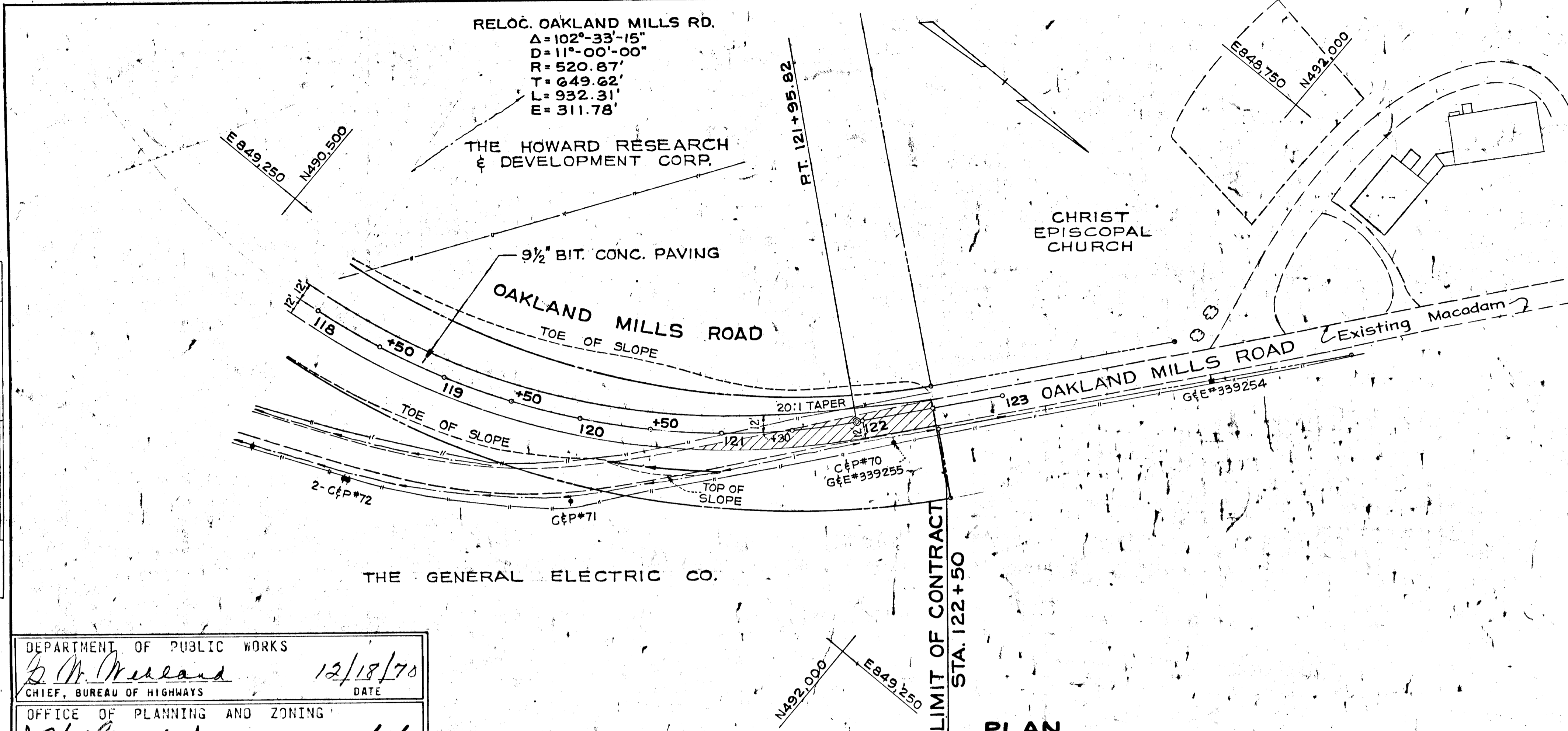
48 7020 PHOENIX TRACING CLOTH 28529

REV. OCT. 1970

F70-61C

PLAN	SURVEYED	DATE
	PLOTTED	
	GRADES CHECKED	
	RT. OF WAY CHECKED	
	NO.	

PROFILE	SURVEYED	DATE
	PLOTTED	
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	NO.	



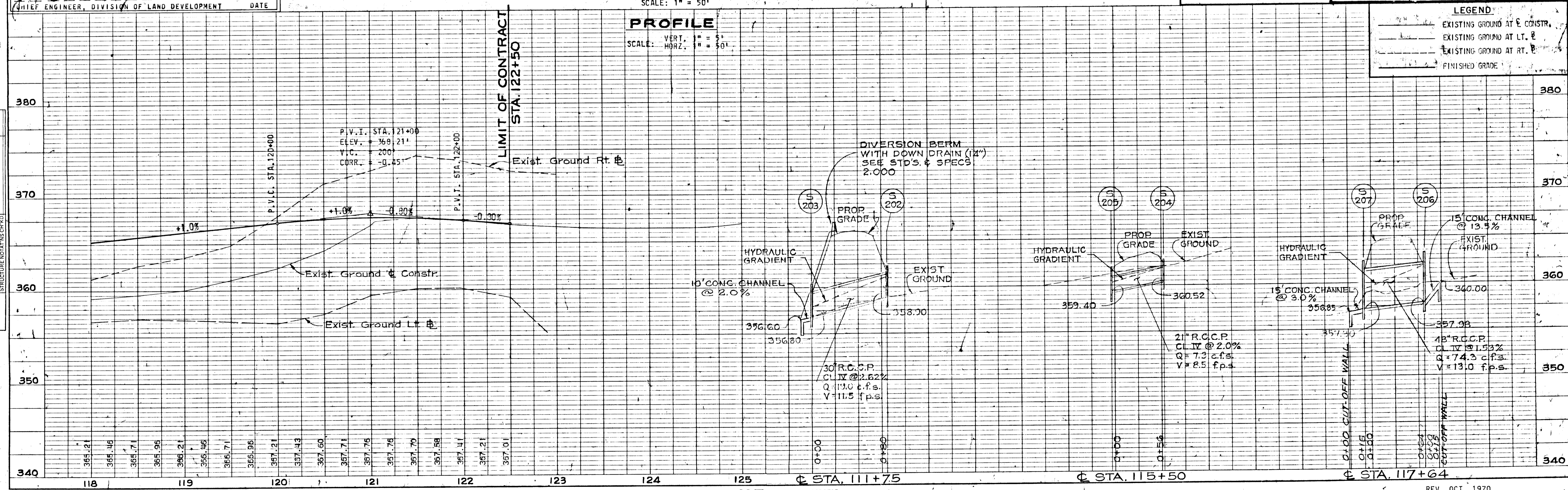
DEPARTMENT OF PUBLIC WORKS  
*S. W. McLeod* 12/18/70  
 CHIEF, BUREAU OF HIGHWAYS DATE

OFFICE OF PLANNING AND ZONING  
*J. H. Clowin* 12/23/70  
 CHIEF ENGINEER, DIVISION OF LAND DEVELOPMENT DATE



GREEN ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 BALTIMORE, MARYLAND

Rev Date	Rev No	Revision Description
<b>COLUMBIA</b>		
M A R Y L A N D 6TH ELECTION DISTRICT HOWARD COUNTY OWNER AND DEVELOPER		
HOWARD RESEARCH AND DEVELOPMENT CORP. THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210		
PROJECT AREA E.G.U. SUBDIVISION SECTION 1 AREA 4		
PROJECT TITLE OAKLAND MILLS ROAD PLAN & PROFILE		
Des By	J.H.F. & G.C.	Scale AS SHOWN Dwg. No 7 of 7
Drn By	J.A.S.	Date FEB. 25, 1970 C.C.F. No
Chk By	Approved	



LEGEND:

	EXISTING GROUND AT E. CONSTR.
	EXISTING GROUND AT LT. E
	EXISTING GROUND AT RT. E
	FINISHED GRADE