

ROADWAYS, STORM DRAINS AND STORMWATER MANAGEMENT

GOLDEN BELL 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHEET INDEX	
NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN AND PROFILE OF MARYLAND ROUTE 108 FROM STA. 46+00 TO STA. 50+50
3	PLAN AND PROFILE OF MARYLAND ROUTE 108 FROM STA. 41+50 TO STA. 46+00 AND OLD MONTGOMERY ROAD
4	PLAN AND PROFILE OF GOLDEN BELL WAY
5	PLAN AND PROFILE OF MORNING CALM WAY
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7	DRAINAGE AREA MAP
8	STORM DRAIN PROFILES AND SWM DETAILS
9	GRADING AND SEDIMENT CONTROL PLAN
10	SWM & SEDIMENT CONTROL NOTES AND DETAILS
11	SWM PROFILES AND DETAILS

BENCH MARKS

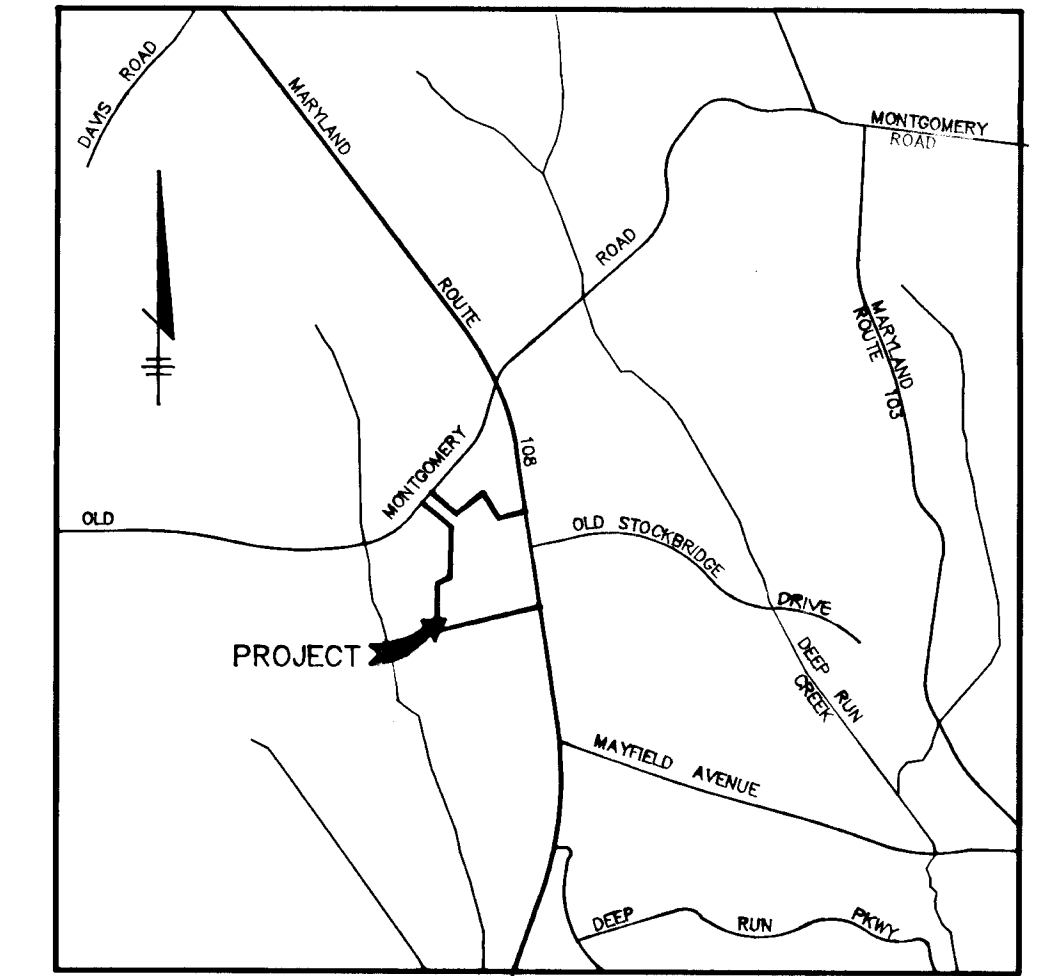
- BM#1 ELEV. 903.15
 604 SET IN 12" TREE, 215'
 SOUTHWEST OF OLD MONTGOMERY
 ROAD ALONG EASTERNMOST
 PROPERTY LINE
- BM#2 ELEV. 870.75
 604 NAIL SET IN 18" TREE, 880'
 EAST OF MARYLAND ROUTE 108
 AND 870' SOUTHWEST OF OLD
 MONTGOMERY ROAD
- BM#3 ELEV. 864.01
 HOWARD COUNTY MONUMENT
 2" DIA. CONCRETE MONUMENT
 SET ON BELOW SURFACE, 44'
 NORTH OF C&E 234201

GENERAL NOTES

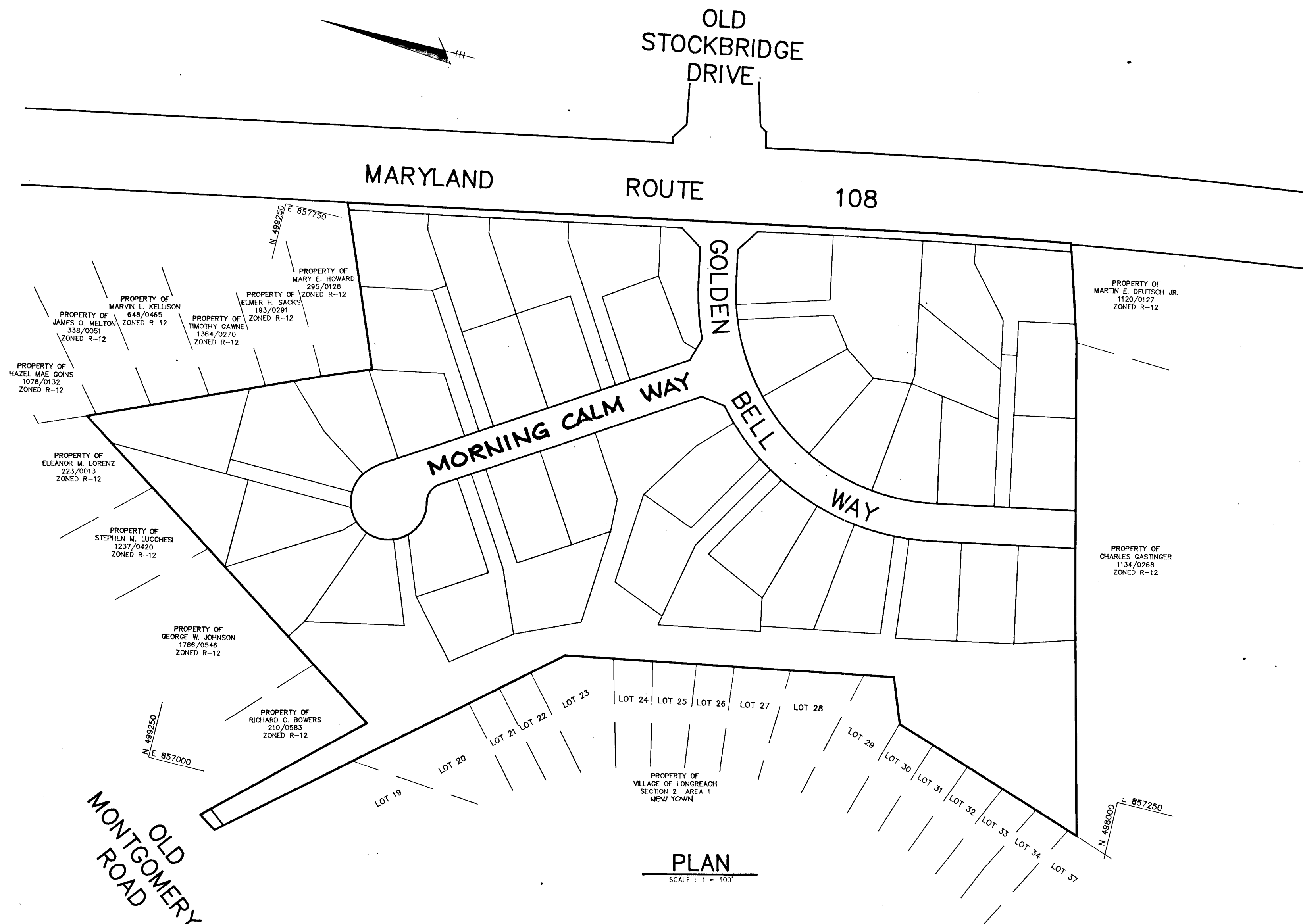
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, 1990 AMENDMENTS.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES 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.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK ON THESE DRAWINGS:

MISS UTILITY	1-800-251-7777
BELL TELEPHONE SYSTEM	393-3649
LONG DISTANCE CABLE DIVISION	393-3553 or 3554
BALTIMORE GAS AND ELECTRIC CO.	539-8000, ext. 691
HOWARD COUNTY BUREAU OF UTILITIES	992-2366
HOWARD COUNTY CONSTRUCTION	792-7272
INSPECTION SURVEY DIVISION (24 HOURS NOTICE PRIOR TO COMMENCEMENT OF WORK)	
COLONIAL PIPELINE	795-1390
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL STREET CURB RETURNS SHALL HAVE 35.0' RADI UNLESS OTHERWISE NOTED.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT-OF-WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, 1990 AMENDMENTS.
- INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING, AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 1988 EDITION.
- 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.
- DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS:

ALL 120' RIGHT-OF-WAYS	50 M.P.H.
ALL 60' RIGHT-OF-WAYS	35 M.P.H.
ALL 50' RIGHT-OF-WAYS	30 M.P.H.
- ALL ELEVATIONS SHOWN ARE BASED ON U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- SUBJECT PROPERTY ZONED R-12 PER 6-2-88 COMPREHENSIVE ZONING PLAN.
- TOPO TAKEN FROM FIELD RUN SURVEY DATED FEBRUARY 1989 BY RIEBER MUEGGE & ASSOCIATES.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL STORM DRAIN PIPE BEYOND SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
- SEE OFFICE OF PLANNING AND ZONING FILE NOS. P-89-80, S-89-32
- LIGHT POLES AND FIXTURES FOR STREET LIGHTS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME III - ROAD AND BRIDGES, PAGE 4A-82.
- NOISE STUDY WAS APPROVED UNDER THE PRELIMINARY PLAN SUBMISSION.
- THE PROPOSED NOISE MITIGATION BARRIER WILL BE CONSTRUCTED BY THE BUILDER ON THE SITE DEVELOPMENT PLAN AS REQUIRED WITH DETAILS AND ELEVATIONS OF THE NOISE BARRIER.
- THE STORMWATER MANAGEMENT FACILITIES PROPOSED FOR THIS SITE ARE CLASS 'A' FACILITIES. IN THE EVENT OF A FAILURE OF THE EMBANKMENT DAMAGE WILL BE LIMITED TO FLOODPLAIN AND COUNTY ROADS.
- THIS DEVELOPMENT DOES NOT DISTURB ANY NON-TIDAL WETLANDS. THEREFORE SECTION 404 AND 401 PERMITS FROM THE CORPS OF ENGINEERS AND STATE OF MARYLAND DEPT. OF ENVIRONMENT ARE NOT REQUIRED.



VICINITY MAP
SCALE: 1" = 200'



AS BUILT CERTIFICATE	
ARTHUR E. MUEGGE #8707	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
<i>David J. Dwyer</i> 6/28/90	DATE
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>John M. Thompson</i> 6/7/90	DATE
CHIEF, LAND DEVELOPMENT DIVISION	
<i>Arncliffe W. Weiland</i> 6/4/90	DATE
CHIEF, BUREAU OF HIGHWAYS	
<i>John E. Sullivan</i>	DATE
CHIEF, BUREAU OF ENGINEERING	
DATE	REVISION
OWNER/DEVELOPER	
JUNOONG CHOE 11650 PARSIDE ROAD ELLICOTT CITY, MARYLAND 21043	
PROJECT: SINGLE FAMILY DETACHED LOTS GOLDEN BELL LOTS 1-47	
AREA TAX MAP No 37 ZONED R-12 PARCELS 241, 242, 244, 258, 260 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE: TITLE SHEET	
RIEMER MUEGGE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm 3105 North Ridge Road Ellicott City, Maryland 21043 301-461-2690 FAX: 301-750-3176	
DATE: 6/28/90	P. 05-80 S. 89-32
DESIGNED BY: D.A.M.	
DRAWN BY: D.B.S.	
PROJECT NO: 54603	
DATE:	
SCALE: AS SHOWN	
DRAWING NO. 1 OF 11	

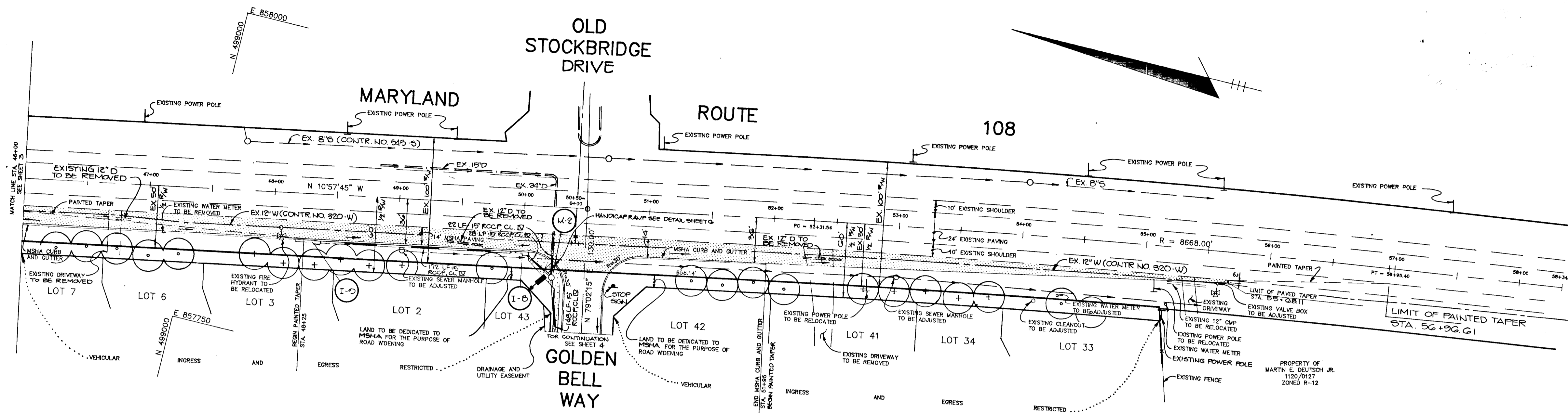
1578

MARYLAND BLUEPRINT CO. INC. 12770

PLANT LIST

QUANTITY	NAME	SIZE	REMARKS
34	QUERCUS RUBRA Red Oak	2 1/2-3" Cal. 12-14' Ht.	B & B Full Crown
50	ACER RUBRUM 'Red Sunset' 'Red Maple'	2 1/2-3" Cal. 12-14' Ht.	B & B Full Crown

NOTE: 1. LANDSCAPING ALONG MARYLAND ROUTE 108 WILL BE INSTALLED AFTER CONSTRUCTION OF NOISE BERM.
2. SEE SHEET G FOR TREE PLANTING DETAIL.



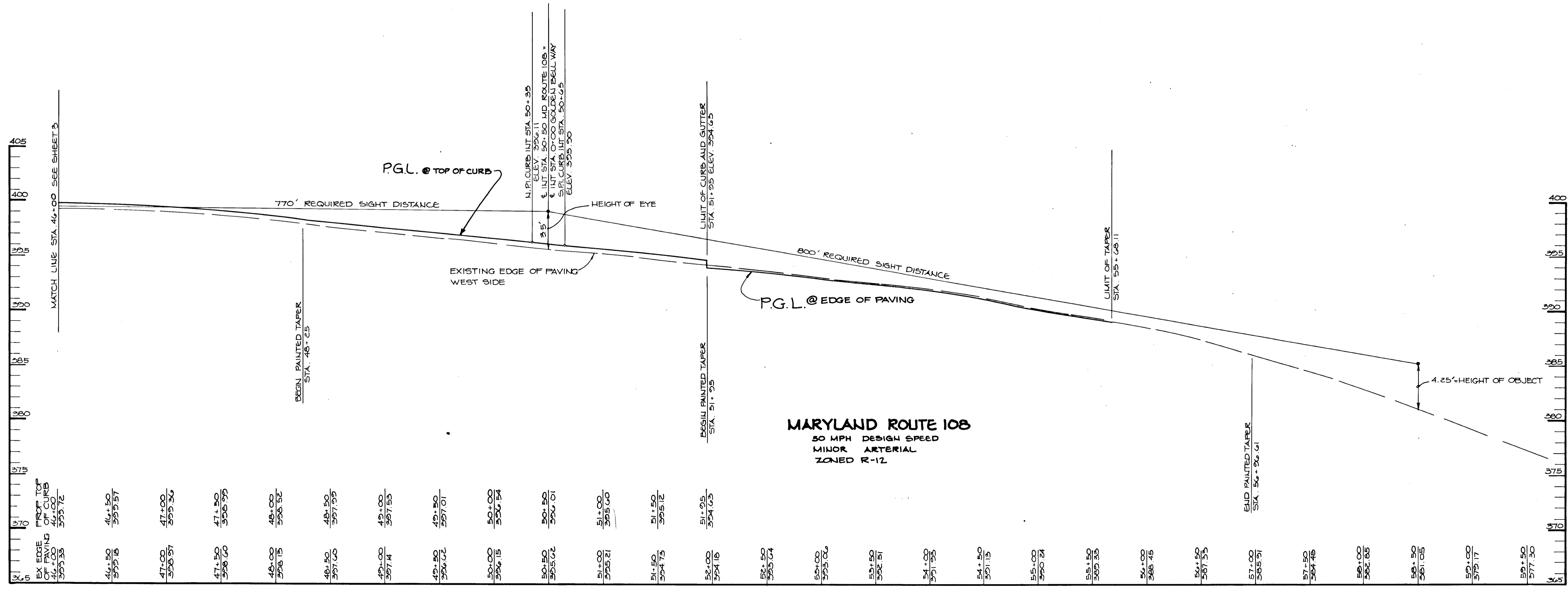
LEGEND

- P-2 PAVING
- M.S.H.A. PAVING
- LIGHT POLE - 250 WATT, HIGH PRESSURE SODIUM VAPOR PENDANT MOUNTED AT 30' HEIGHT ON 30' TALL POLE

PLAN

SCALE: 1" = 50'

NOTED: 1. FOR ALL WATER AND SEWER TO BE ADJUSTED OR RELOCATED SEE CONTRACT NO. 24-1008-D.
2. SEE SHEET G FOR ROAD WIDENING DETAIL FOR MD. ROUTE 108.



PROFILE

HOR. 1" = 50'
VERT. 1" = 5'

AS BUILT CERTIFICATE

ARTHUR E. MUEGGE #8707 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Paul J. Temple 6/17/90
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Oliver M. Tamm 6/17/90
CHIEF, LAND DEVELOPMENT DIVISION
Bruce W. Weiland 6/4/90
CHIEF, BUREAU OF HIGHWAYS

William S. Kelly 6-8-90
CHIEF, BUREAU OF ENGINEERING

DATE NO. REVISION

OWNER/DEVELOPER
INJONG CHOE
11650 FARMSIDE ROAD
ELlicOTT CITY, MARYLAND
21043

PROJECT: SINGLE FAMILY DETACHED LOTS
GOLDEN BELL
LOTS 1-47

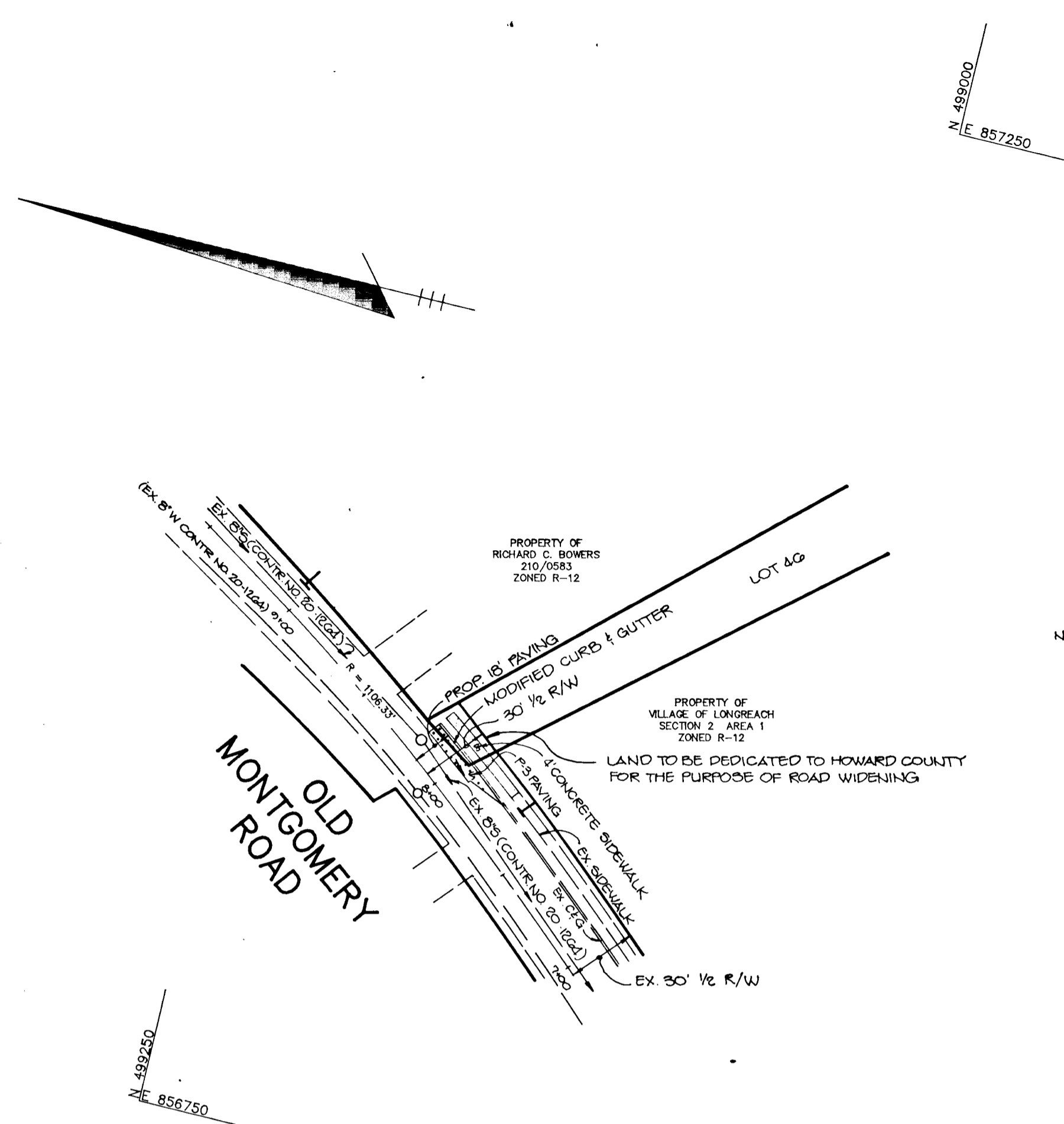
AREA TAX MAP No. 37 ZONED R-12
PARCELS 241, 242, 244, 338, 380
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: PLAN AND PROFILE OF MARYLAND ROUTE 108 FROM STA. 46+00 TO STA. 59+50

RIEMER MUEGGE & ASSOCIATES, INC.
A Land Planning, Engineering and Consulting Firm
3105 North Ridge Road Ellicott City, Maryland 21043
301-461-2690 FAX: 301-750-3176

DATE: 4-13-90
DESIGNED BY: D.A.M.
DRAWN BY: D.D.S.
PROJECT NO: 54603
DATE:
SCALE: AS SHOWN
DRAWING NO. 2 OF 11

1576

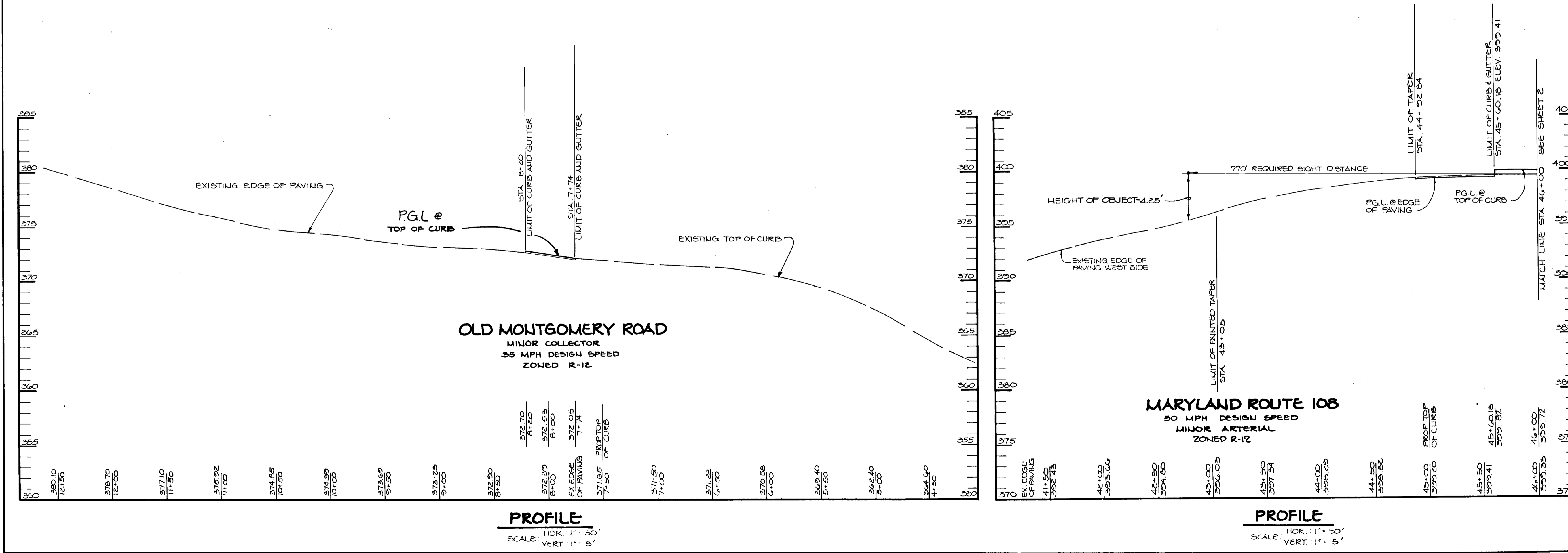
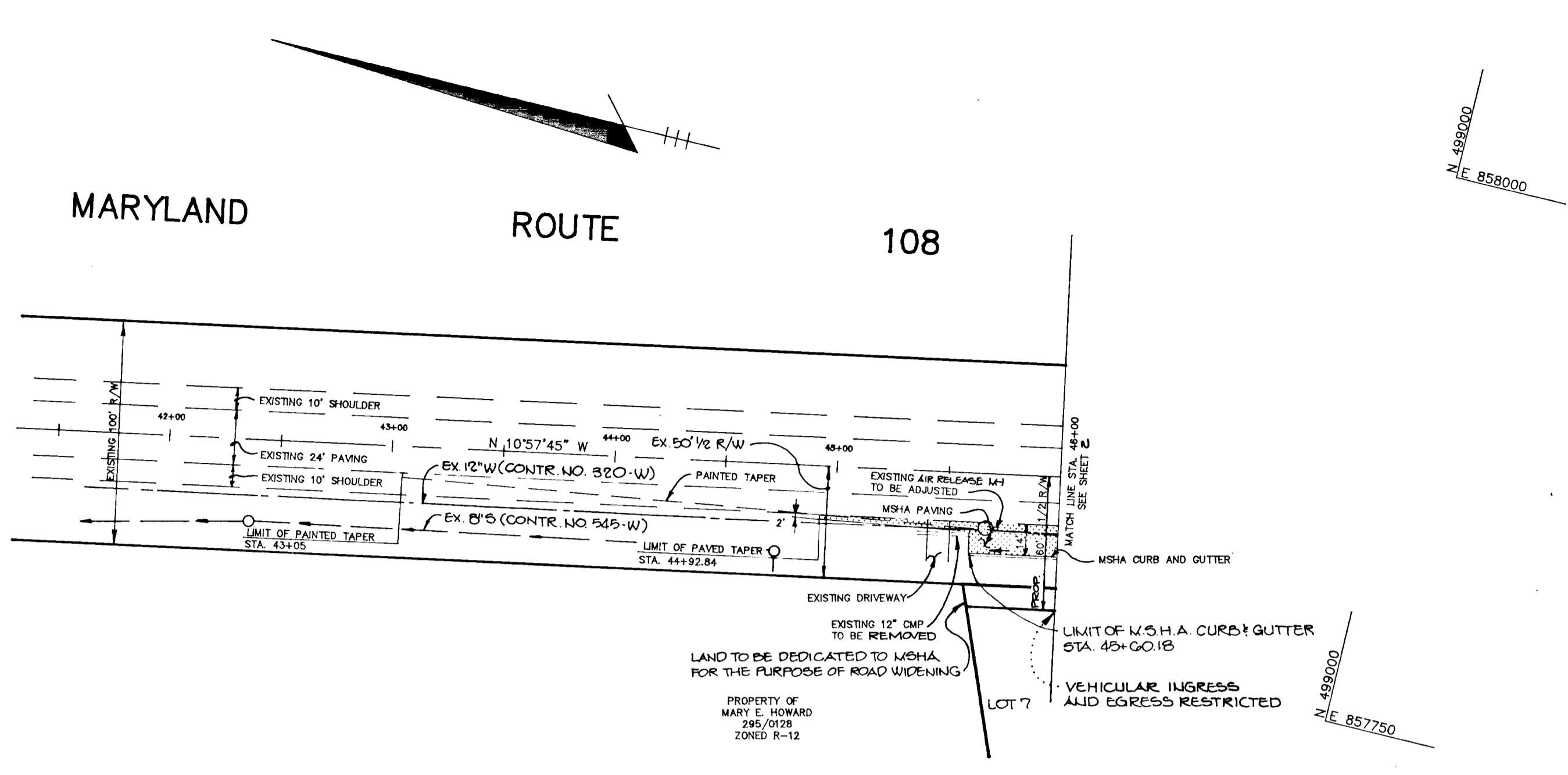


NOTES:

1. FOR PLANT LIST SEE SHEET C.
2. FOR ALL WATER AND SEWER TO BE ADJUSTED OR RELOCATED SEE CONTRACT NO. 24-1005-D.
3. SEE SHEET G FOR ROAD WIDENING DETAILS FOR MD ROUTE 108 & OLD MONTGOMERY ROAD.

LEGEND

- P-3 PAVING
- M.S.H.A. PAVING



AS BUILT CERTIFICATE

ARTHUR E. MUEGGE #8707 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
David J. Vance 6/2/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Oliver M. Bergman 6/4/90
 CHIEF, LAND DEVELOPMENT DIVISION

Grainger W. Williams 6/4/90
 CHIEF, BUREAU OF HIGHWAYS

Grainger W. Williams 6/2/90
 CHIEF, BUREAU OF ENGINEERING

DATE	NO.	REVISION

OWNER/DEVELOPER
 INJUNG CHOE
 11650 FARSIDE ROAD
 ELLICOTT CITY, MARYLAND
 21043

PROJECT: SINGLE FAMILY DETACHED LOTS
GOLDEN BELL
 LOTS 1-47

AREA TAX MAP No. 37 ZONED R-12
 PARCELS 241, 242, 244, 338, 380
 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: PLAN AND PROFILE OF MARYLAND ROUTE 108 FROM STA. 41+50 TO STA. 46+00 AND OLD MONTGOMERY ROAD

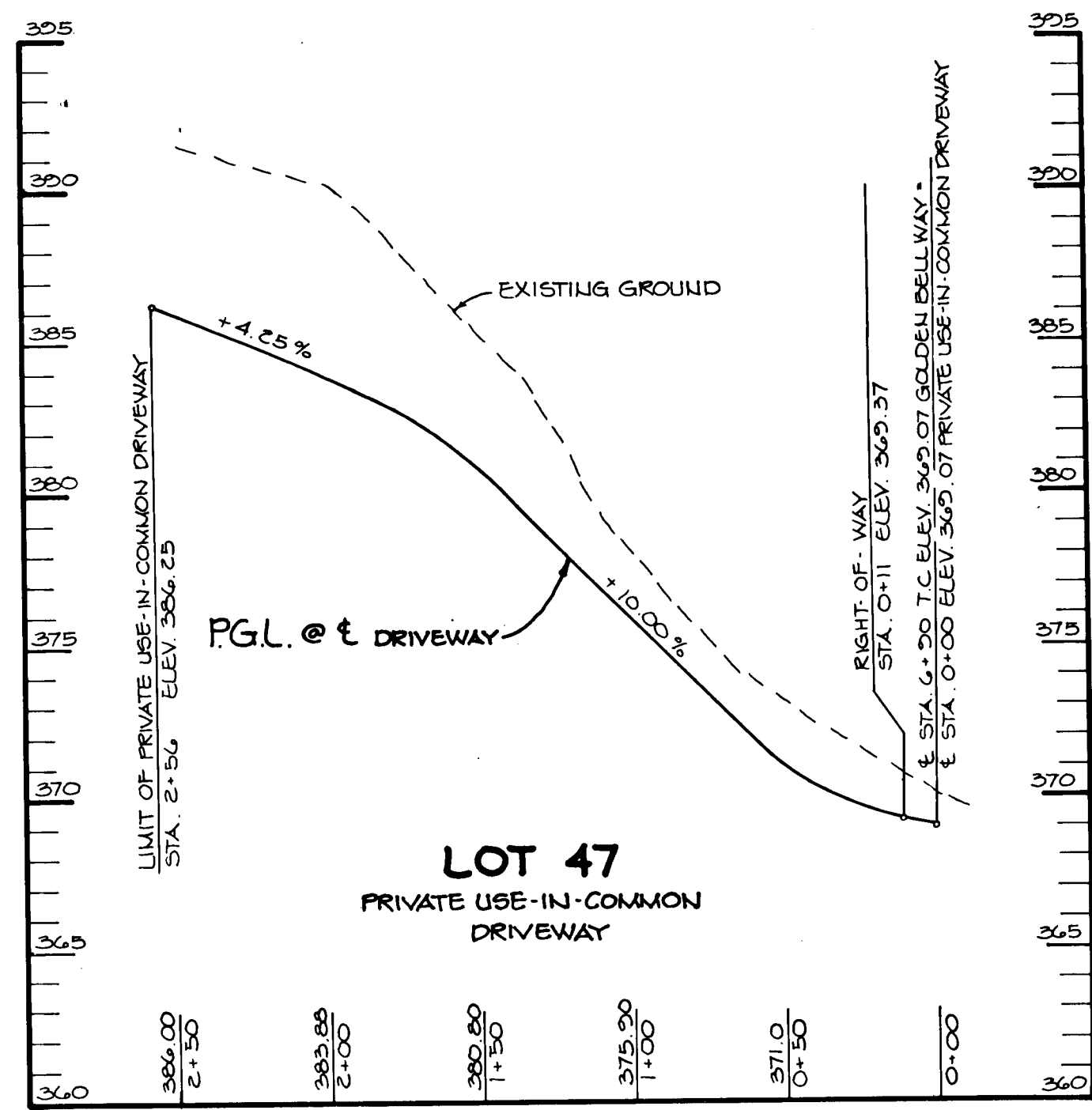
RIEMER MUEGGE & ASSOCIATES, INC.
 A Land Planning, Engineering and Consulting Firm
 3105 North Ridge Road Ellicott City, Maryland 21043
 301-461-2690 FAX: 301-750-3176

DATE: 4-13-90
 DESIGNED BY: D.A.M.
 DRAWN BY: D.B.S.
 PROJECT NO: 54603
 DATE:
 SCALE: AS SHOWN
 DRAWING NO. 3 OF 11

1578

MARYLAND BELLUMPT CO. INC. 10000

F-20-124



LOT 47
PRIVATE USE-IN-COMMON
DRIVEWAY

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

MARYLAND ROUTE 108

OLD STOCKBRIDGE DRIVE

MORNING CALM WAY

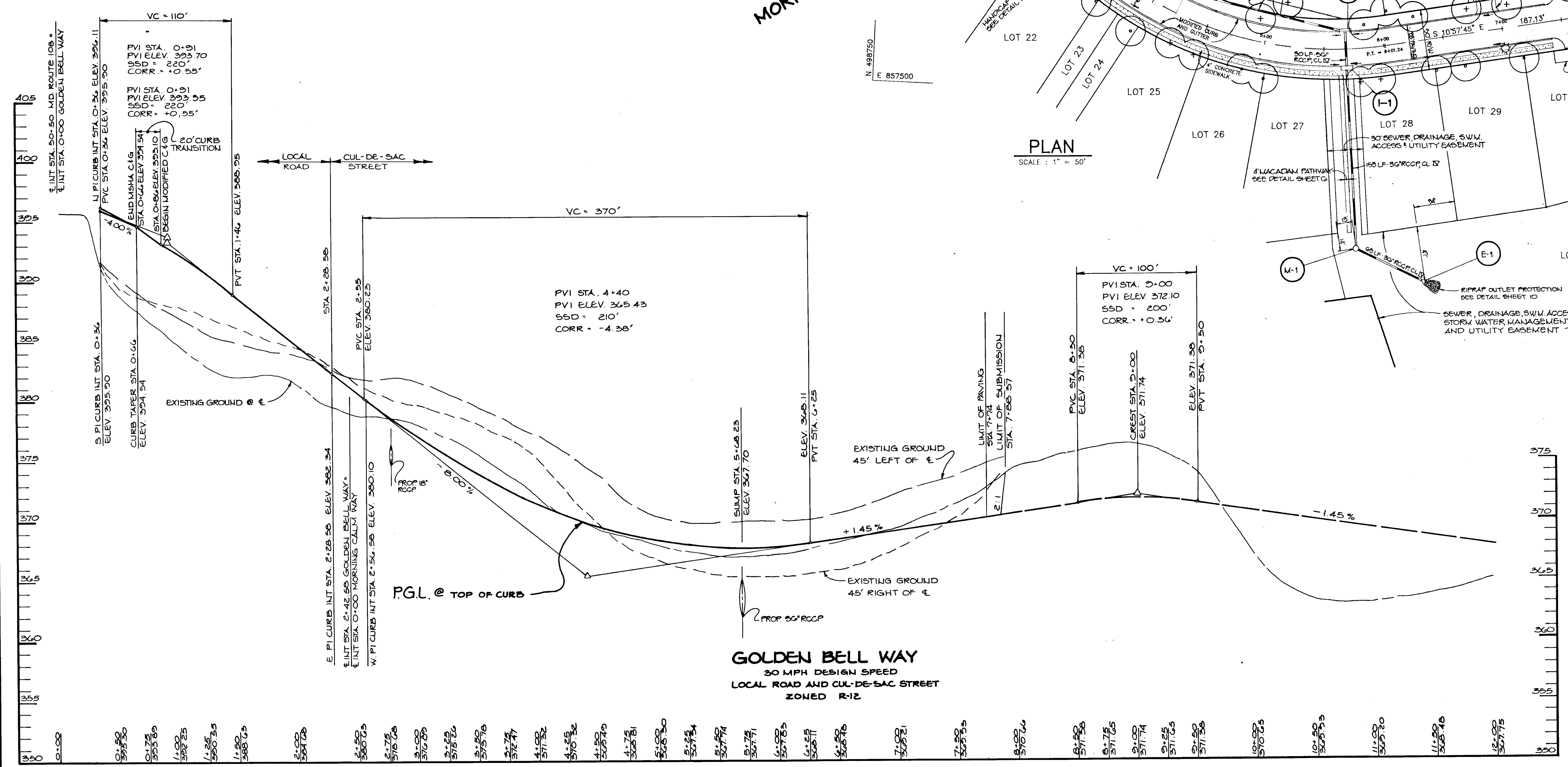
GOLDEN BELL WAY

LEGEND

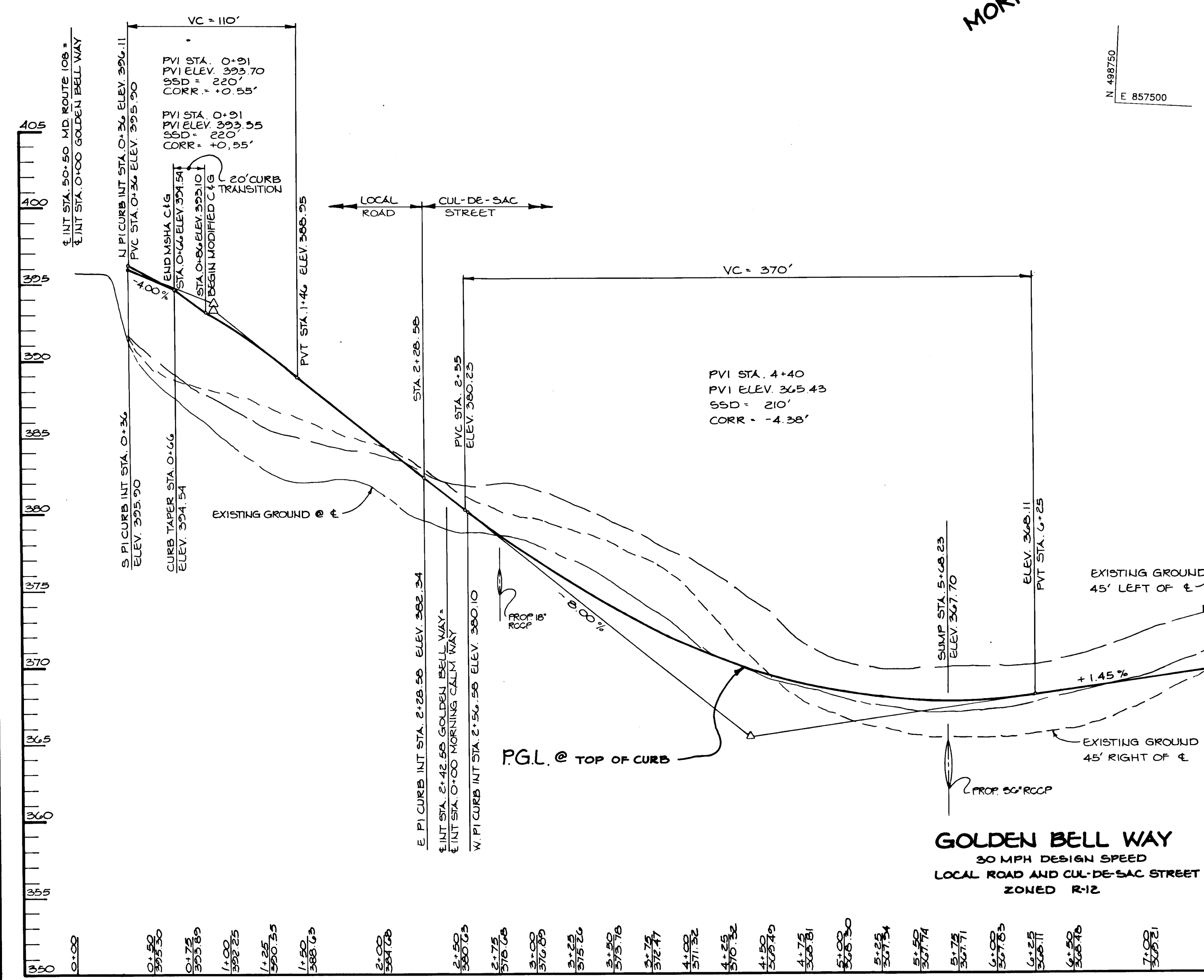
- M.S.H.A. PAVING
- P-2 PAVING
- P-1 PAVING
- LIGHT POLE - 250 WATT HIGH PRESSURE SODIUM VAPOR LIGHT MOUNTED AT 30' HEIGHT ON STILL POLE
- LIGHT POLE - 150 WATT HIGH PRESSURE SODIUM FLUORESCENCE

NOTES:
1. FOR PLANT LIST SEE SHEET C.
2. SEE SHEET G FOR TYPICAL SECTION OF 50' R/W.

CL CURVE DATA
FROM CL STA. 1+30.00 TO CL STA. 6+01.24
R = 300.00'
L = 471.24'
T = 300.00'
= 90° 00' 00"
CHD = S 34° 02' 15" W 424.26'



PLAN
SCALE: 1" = 50'



GOLDEN BELL WAY
30 MPH DESIGN SPEED
LOCAL ROAD AND CUL-DE-SAC STREET
ZONED R-12

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

AS BUILT CERTIFICATE
ARTHUR E. MUEGGE #8707 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
James A. ... 6/2/90 DATE
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
J.B.
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Oliver H. ... 6/7/90 DATE
CHIEF, LAND DEVELOPMENT DIVISION
Francis W. ... 6/4/90 DATE
CHIEF, BUREAU OF HIGHWAYS
... 6-9-90 DATE
CHIEF, BUREAU OF ENGINEERING

OWNER/DEVELOPER
INJONG CHOE
11650 FARMSIDE ROAD
ELICOTT CITY, MARYLAND
21043

PROJECT: SINGLE FAMILY DETACHED LOTS
GOLDEN BELL
LOTS 1-47
AREA TAX MAP No. 37 PARCELS 241, 242, 244, 338, 380 ZONED R-12
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND.

TITLE: **PLAN AND PROFILE OF GOLDEN BELL WAY**

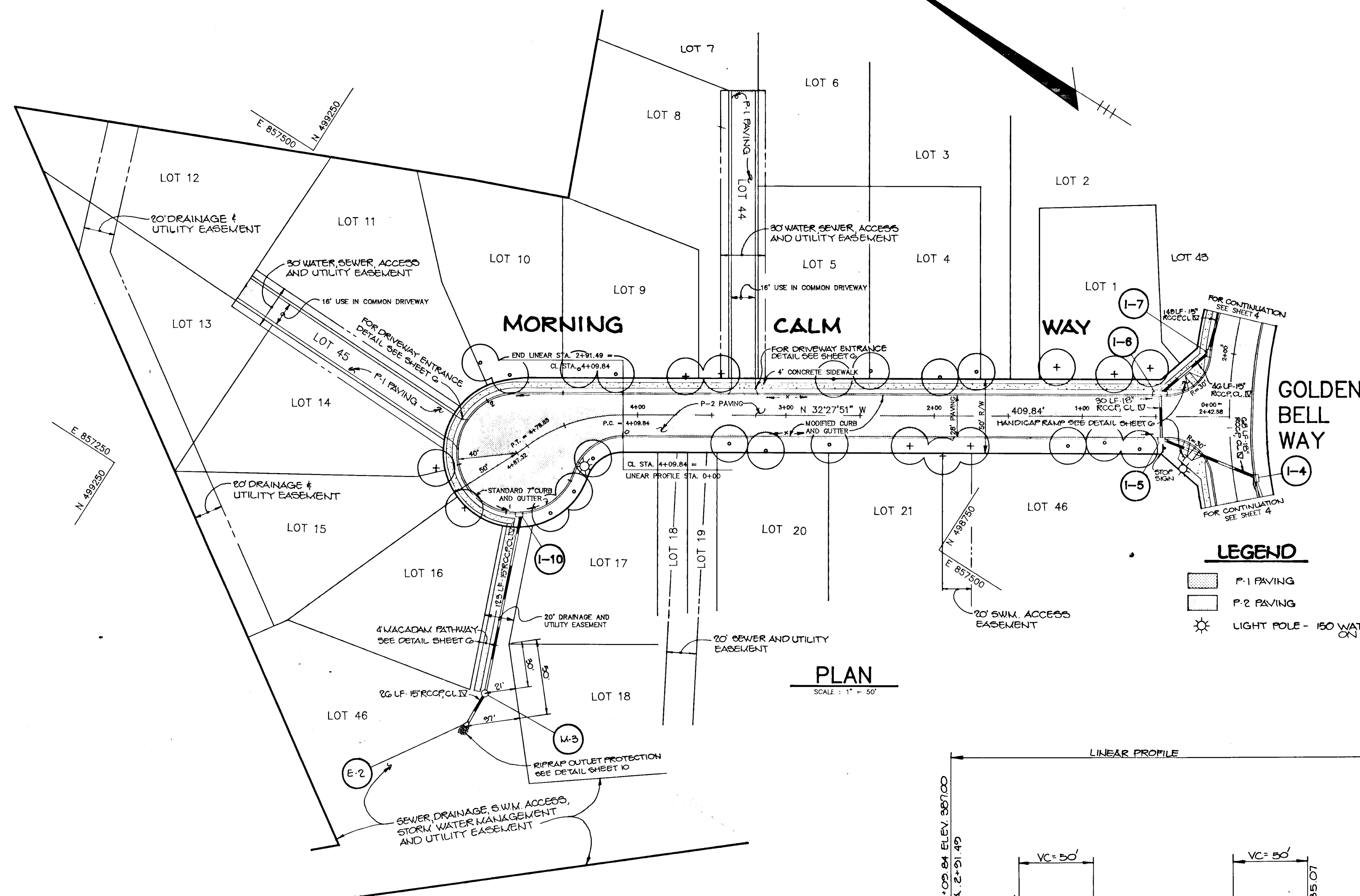
RIEMER MUEGGE & ASSOCIATES, INC.
A Land Planning, Engineering and Consulting Firm
3105 North Ridge Road Ellicott City, Maryland 21043
301-461-2690 FAX: 301-750-3176

DATE: 4-12-90
DESIGNED BY: D.A.M.
DRAWN BY: D.B.S.
PROJECT NO: 54603
SCALE: AS SHOWN
DRAWING NO. 4 OF 11



F-90-124

1578

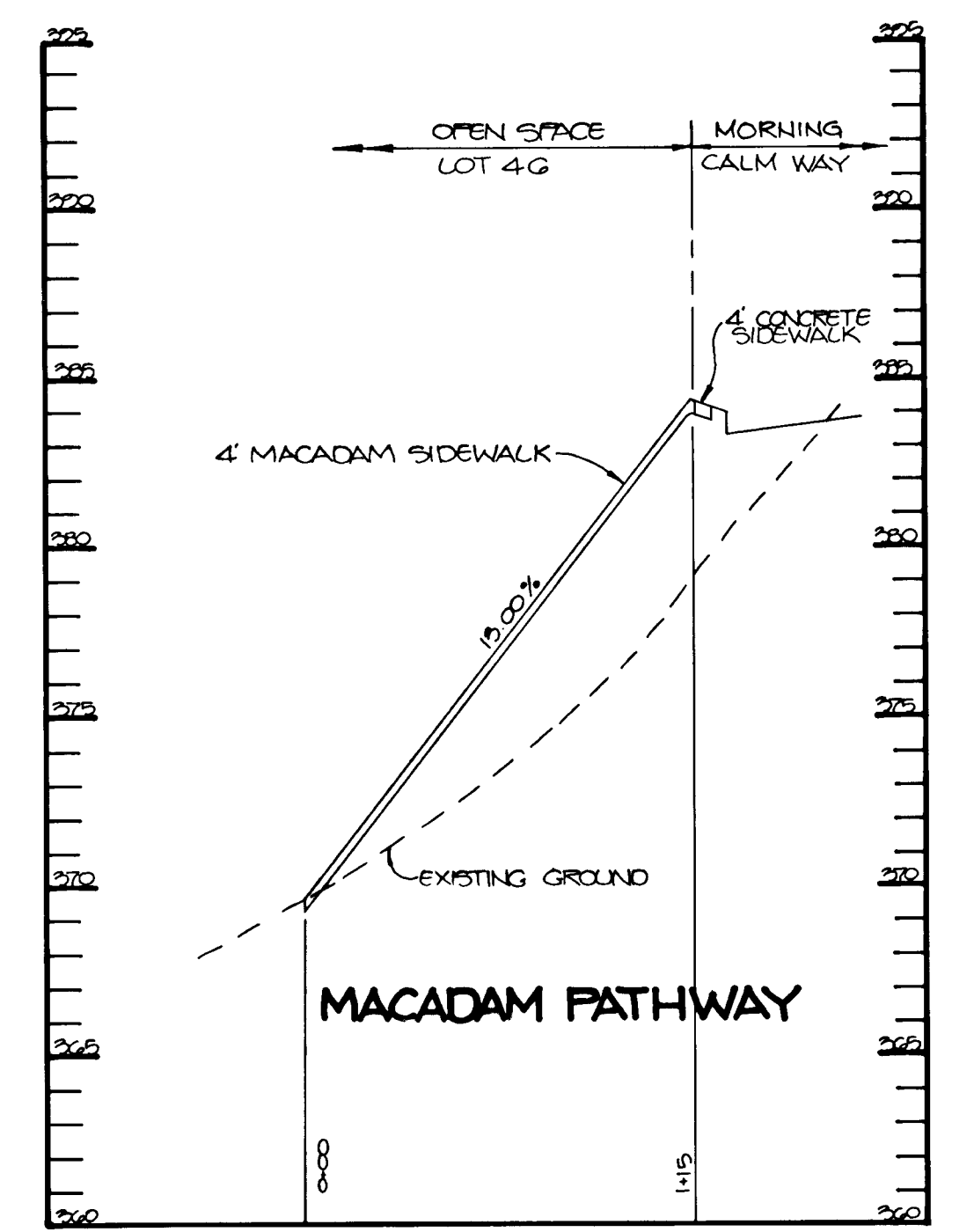


PLAN
SCALE: 1" = 50'

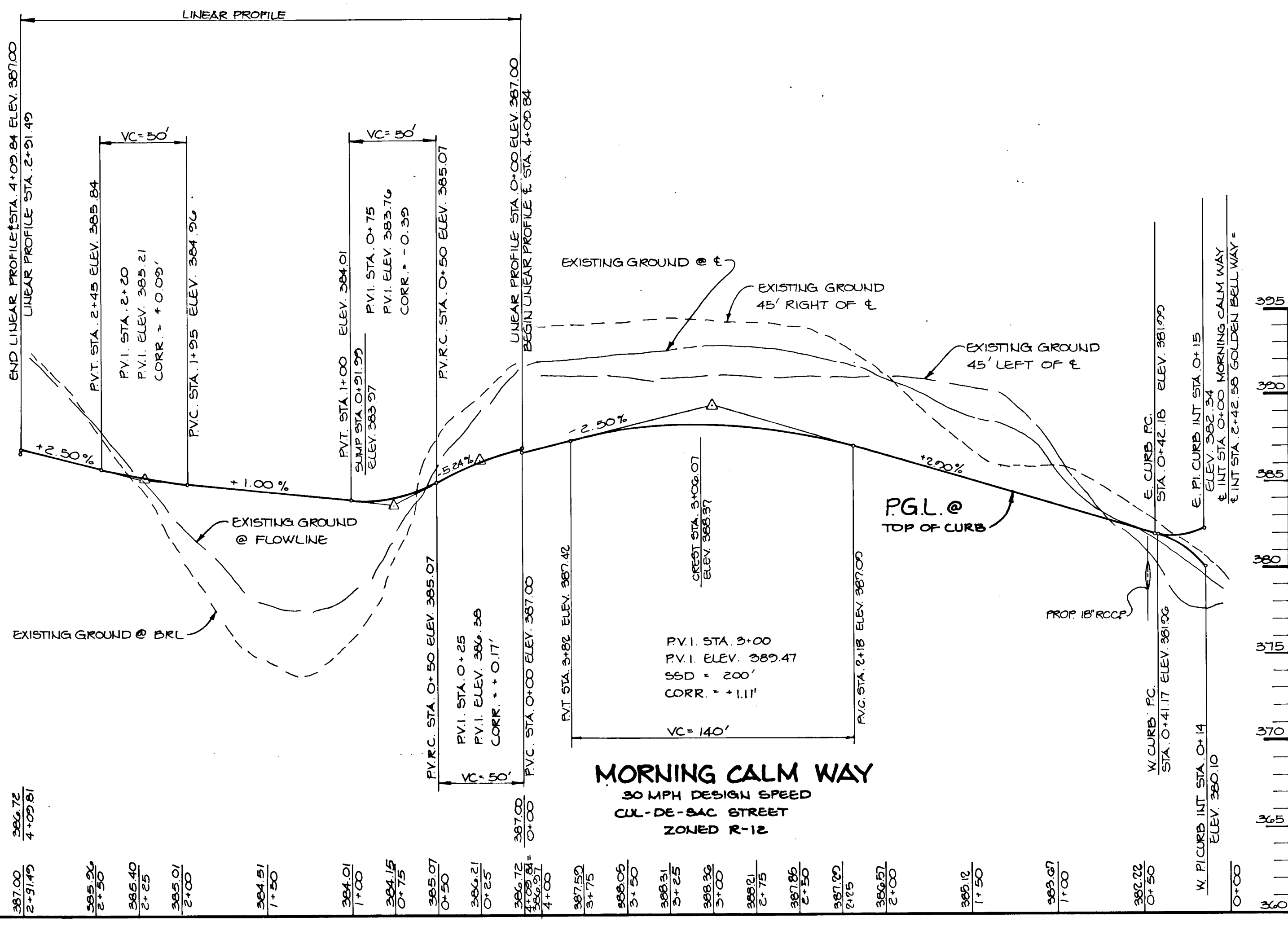
LEGEND

- P-1 PAVING
- P-2 PAVING
- LIGHT POLE - 150 WATT HIGH PRESSURE SODIUM VAPOR POST TOPS OF 14" FIBERGLASS POLES

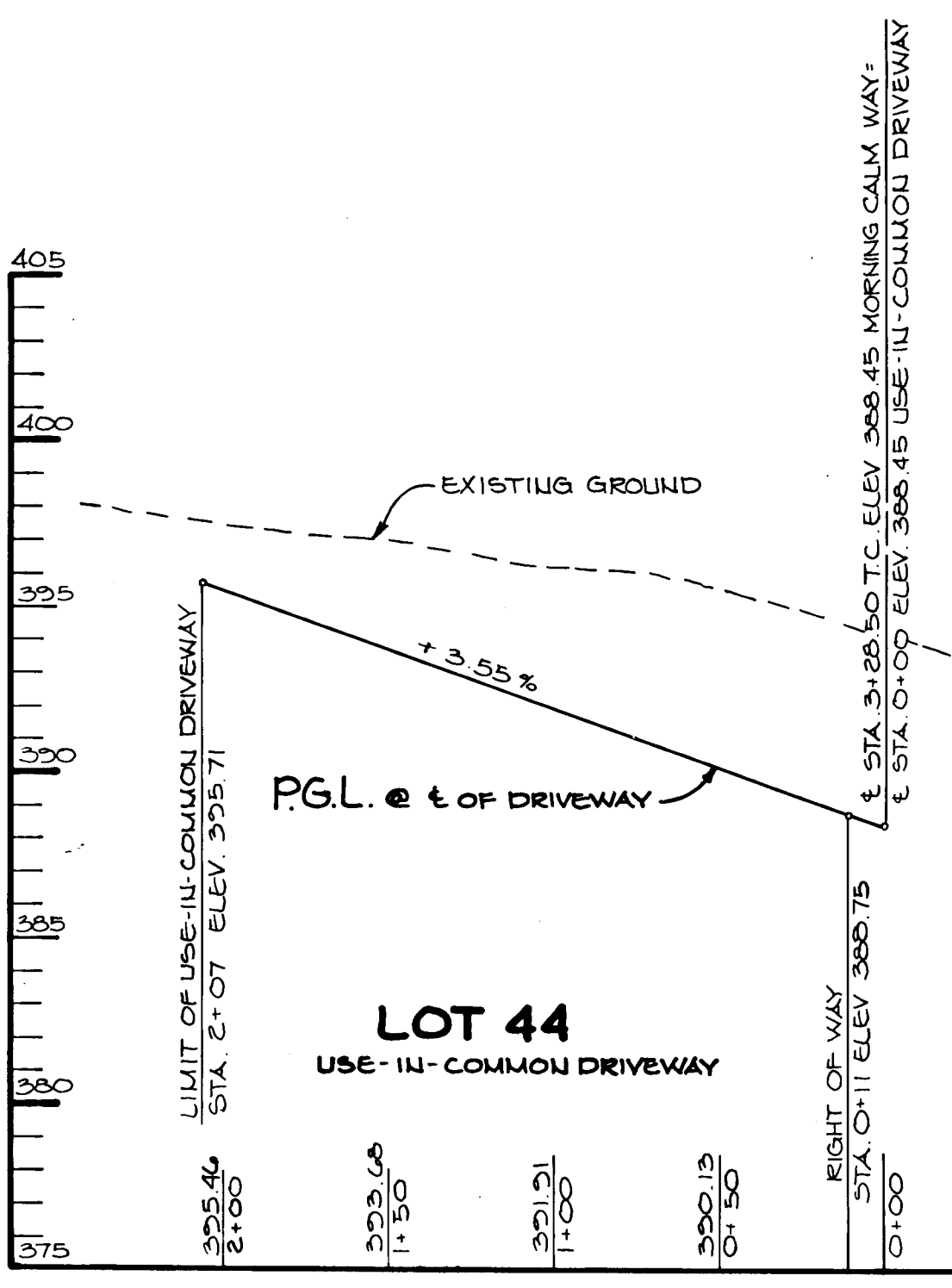
- NOTES:**
1. FOR PLANT LIST SEE SHEET 2
 2. SEE SHEET G FOR OFFSET CUL-DE-SAC DETAIL
 3. SEE SHEET G FOR TYPICAL SECTION OF 50' R/W



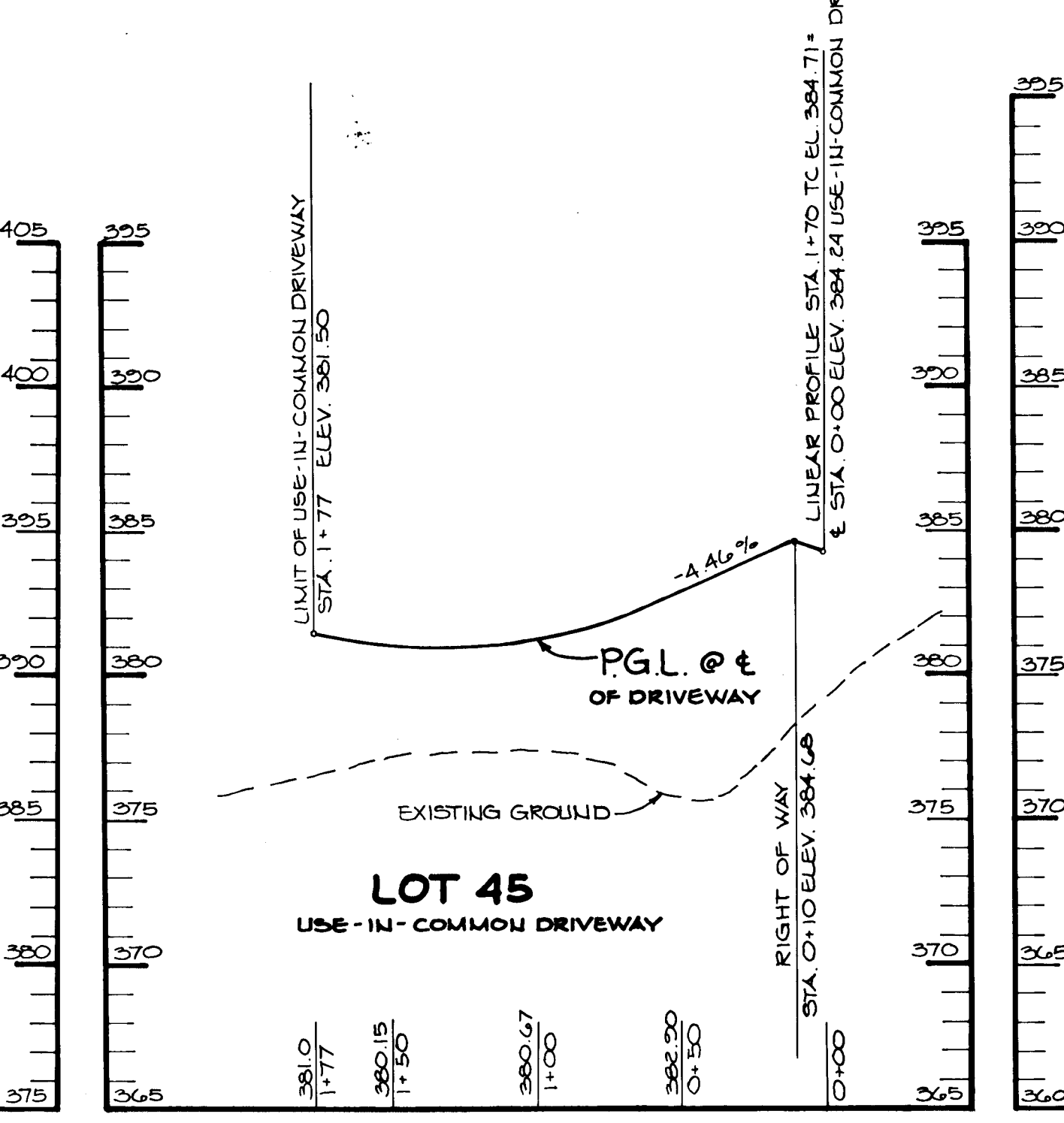
PROFILE
SCALE: HOR: 1" = 50'
VERT: 1" = 5'



PROFILE
SCALE: HOR: 1" = 50'
VERT: 1" = 5'



PROFILE
SCALE: HOR: 1" = 50'
VERT: 1" = 5'



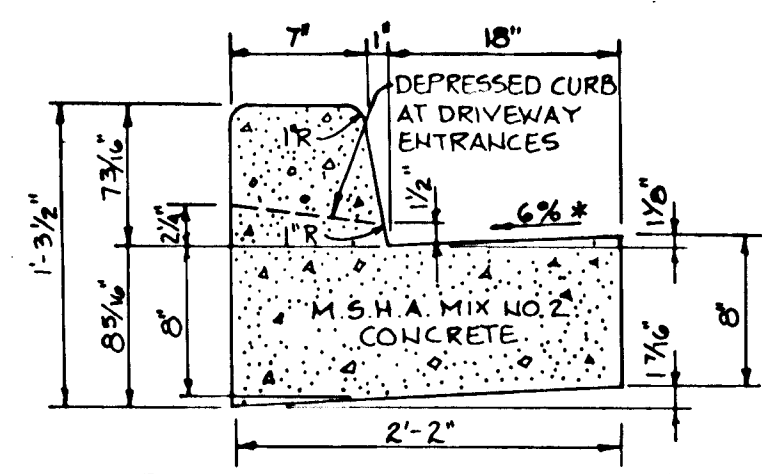
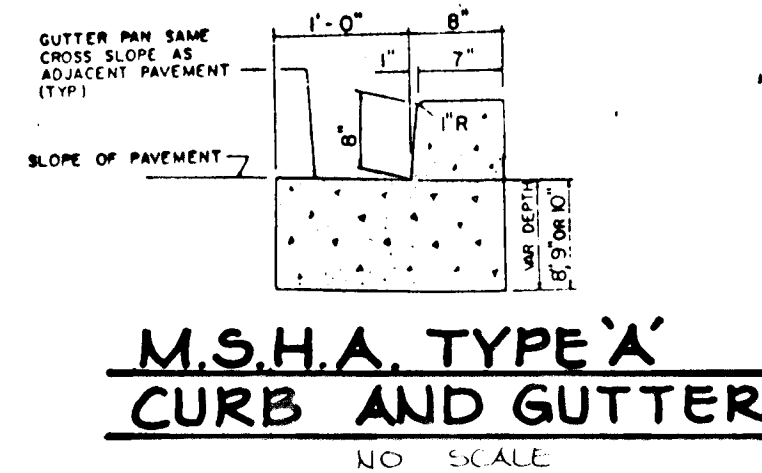
PROFILE
SCALE: HOR: 1" = 50'
VERT: 1" = 5'

AS BUILT CERTIFICATE

ARTHUR E. MUEGGE #8707	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
<i>Frank J. ...</i>	6/28/90
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>Alan M. ...</i>	6/4/90
CHIEF, LAND DEVELOPMENT DIVISION	DATE
<i>Spannie W. ...</i>	6/4/90
CHIEF, BUREAU OF HIGHWAYS	DATE
DATE NO REVISION	
OWNER/DEVELOPER	
ILUONG CHOE 11650 PARADE ROAD ELLICOTT CITY, MARYLAND 21043	
PROJECT: SINGLE FAMILY DETACHED LOTS GOLDEN BELL LOTS 1-47	
AREA TAX MAP No 57 PARCELS 241, 242, 244, 338, 380 ZONED R-12 4 TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND.	
TITLE: PLAN AND PROFILE OF MORNING CALM WAY	
RIEMER MUEGGE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm 3105 North Ridge Road Ellicott City, Maryland 21043 301-461-2690 FAX: 301-750-3176	
4/2/90 DATE	P89-80 5-89-82
<i>Arthur E. Muegge</i> ARTHUR E. MUEGGE #8707	DESIGNED BY: D.A.M. DRAWN BY: D.B.S. PROJECT NO: 54603 DATE: SCALE: AS SHOWN DRAWING NO: 5 OF 11

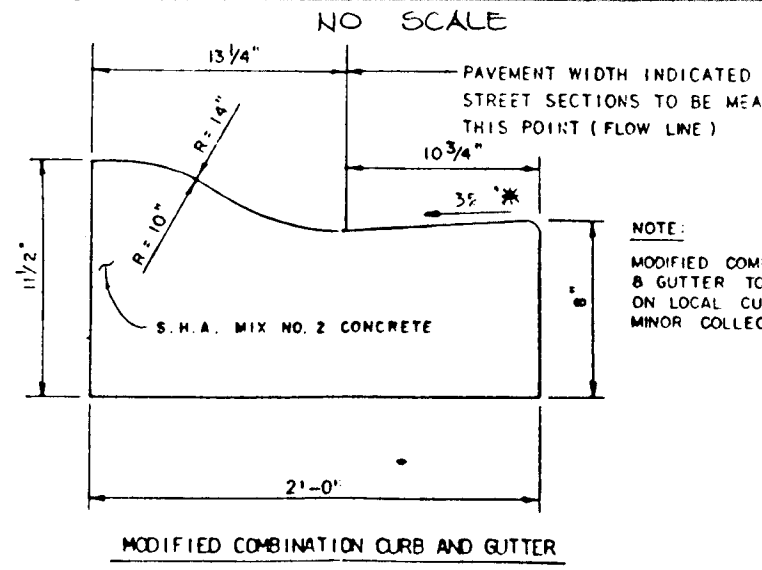
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MARYLAND BLUEPRINT CO., INC. 102027



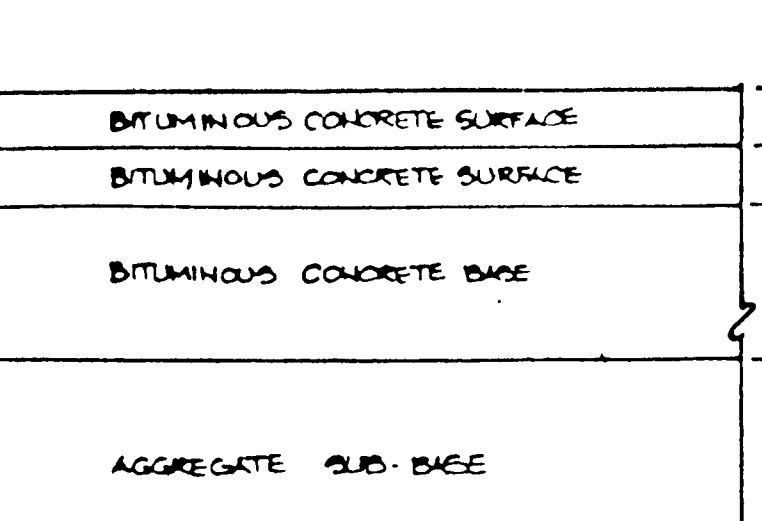
HOWARD COUNTY DESIGN MANUAL VOLUME III
STANDARD SPECIFICATIONS AND DETAILS FOR
CONSTRUCTION (DRAWING R-3.01)

**STANDARD 7" COMBINATION
CURB AND GUTTER**

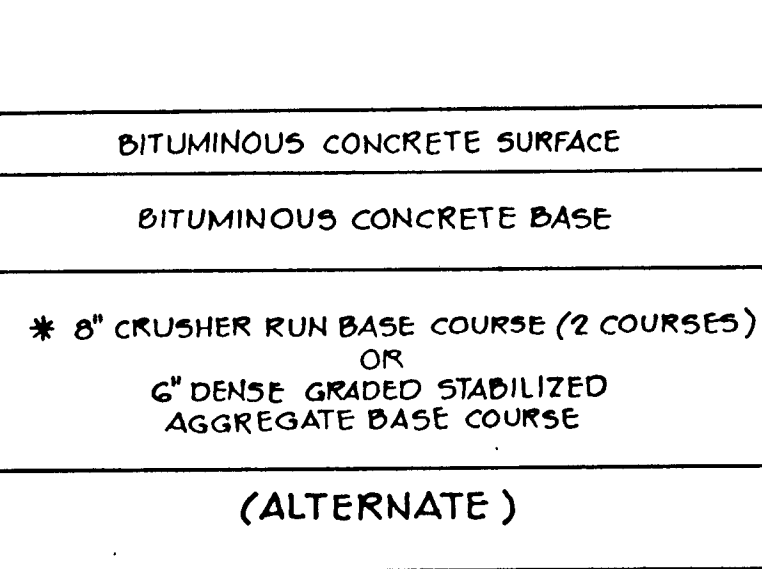


GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE
ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED
SECTIONS SHALL BE SLOPED AT THE SAME RATE
AS THE PAVEMENT.

**MODIFIED COMBINATION
CURB AND GUTTER**

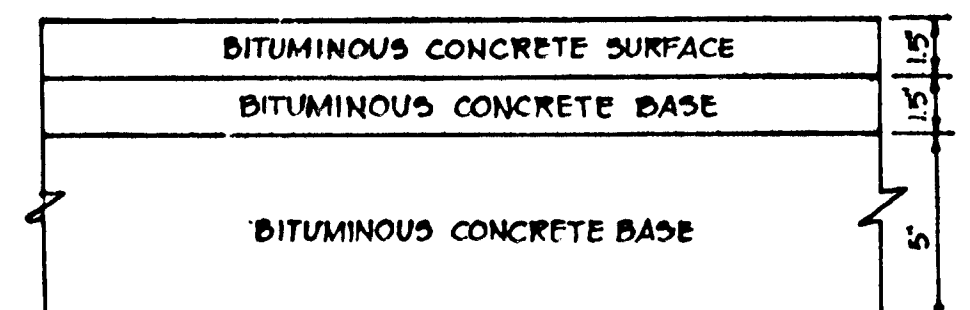
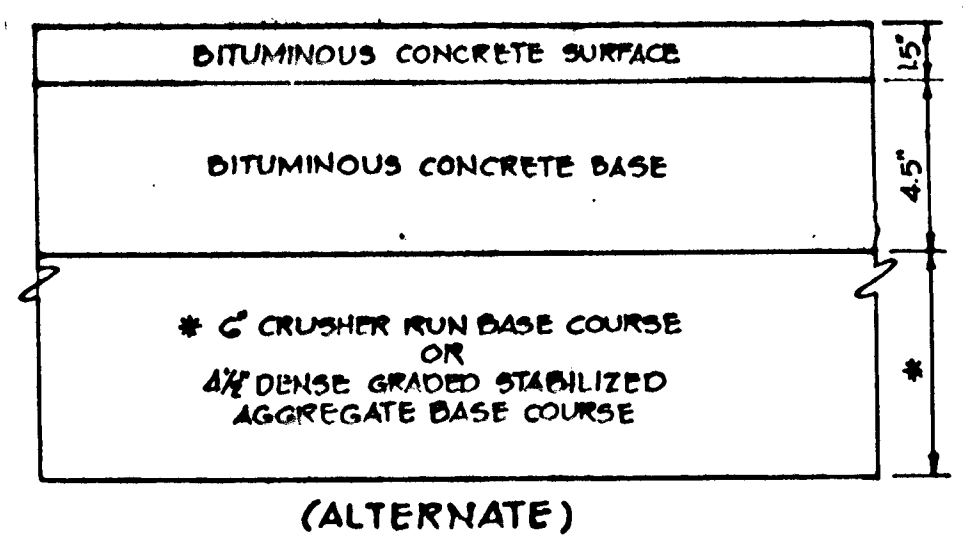


M.S.H.A. PAVING SECTION



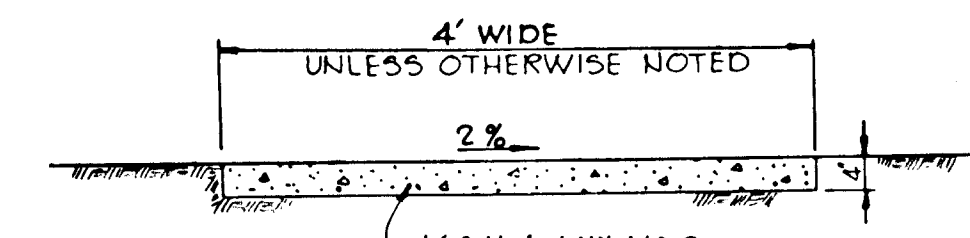
HOWARD COUNTY DESIGN MANUAL VOLUME III
STANDARD SPECIFICATIONS AND DETAILS FOR
CONSTRUCTION (DRAWING R-2.01)

P-2 PAVING DETAIL

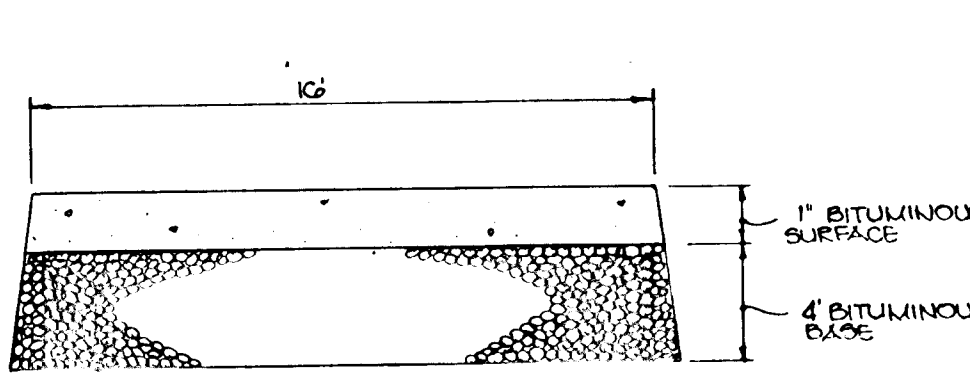


HOWARD COUNTY DESIGN MANUAL VOLUME III
STANDARD SPECIFICATIONS AND DETAILS FOR
CONSTRUCTION (DRAWING R-2.01)

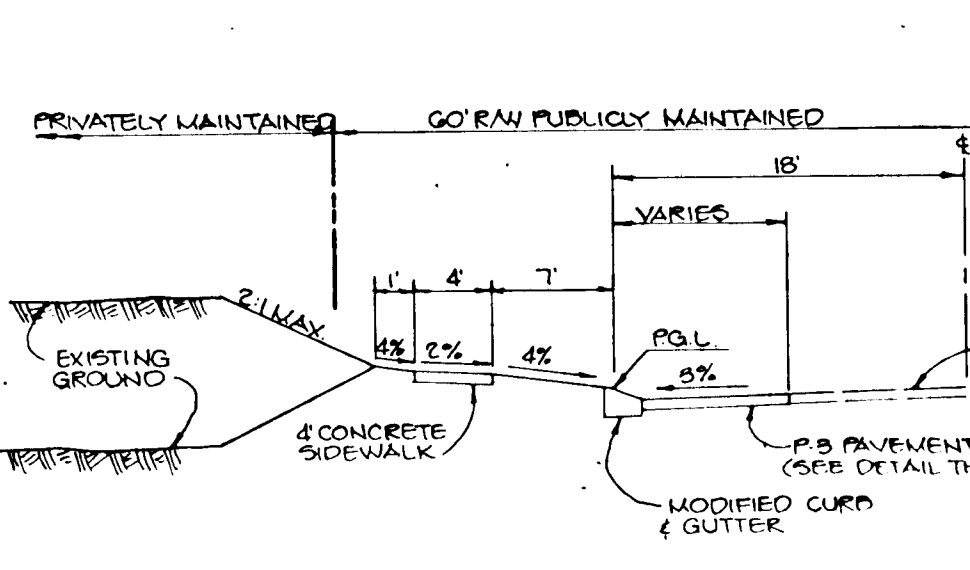
P-3 PAVING DETAIL



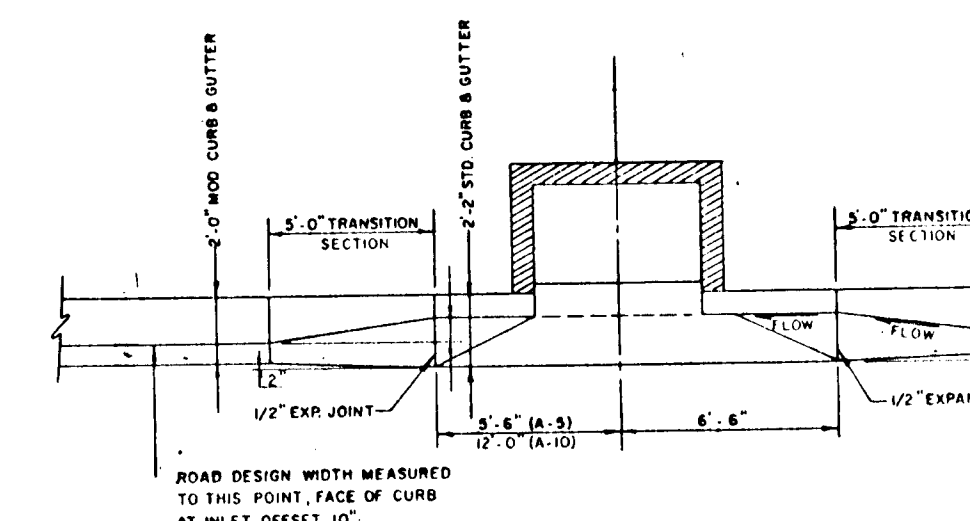
SIDEWALK DETAIL



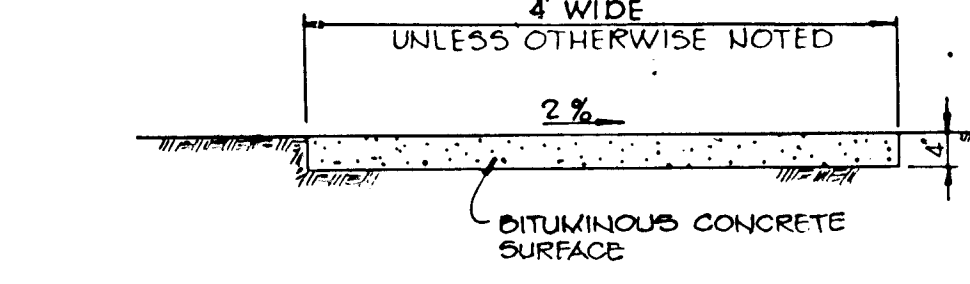
**USE-IN-COMMON DRIVEWAY
P-1 PAVING**



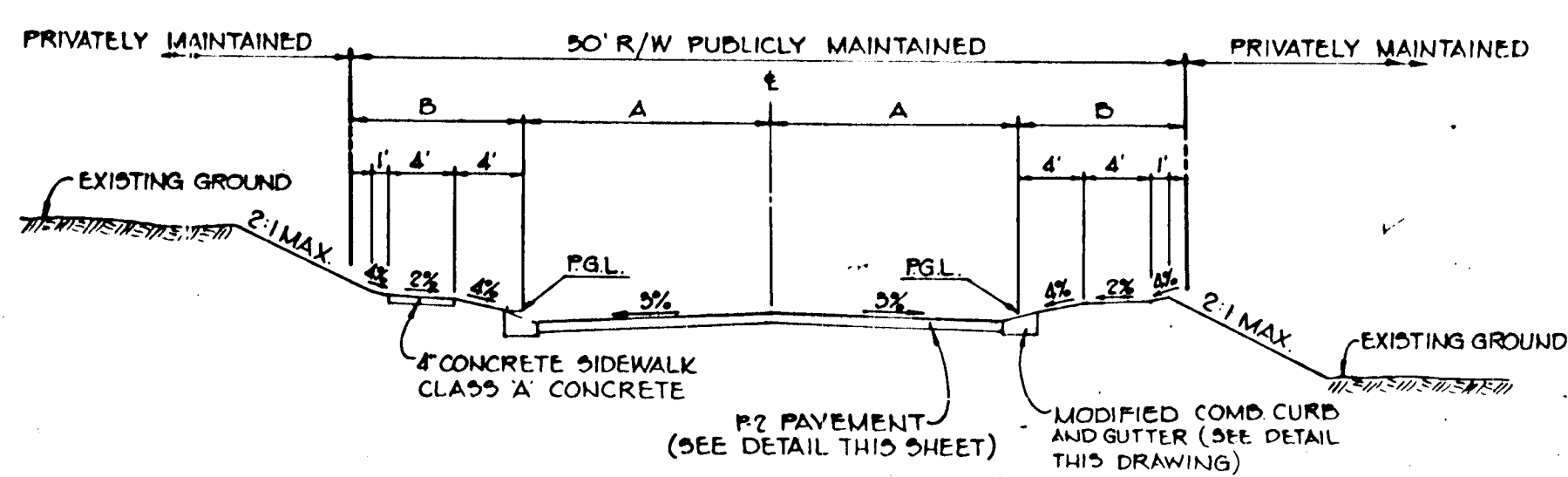
**ROAD WIDENING FOR
OLD MONTGOMERY ROAD**



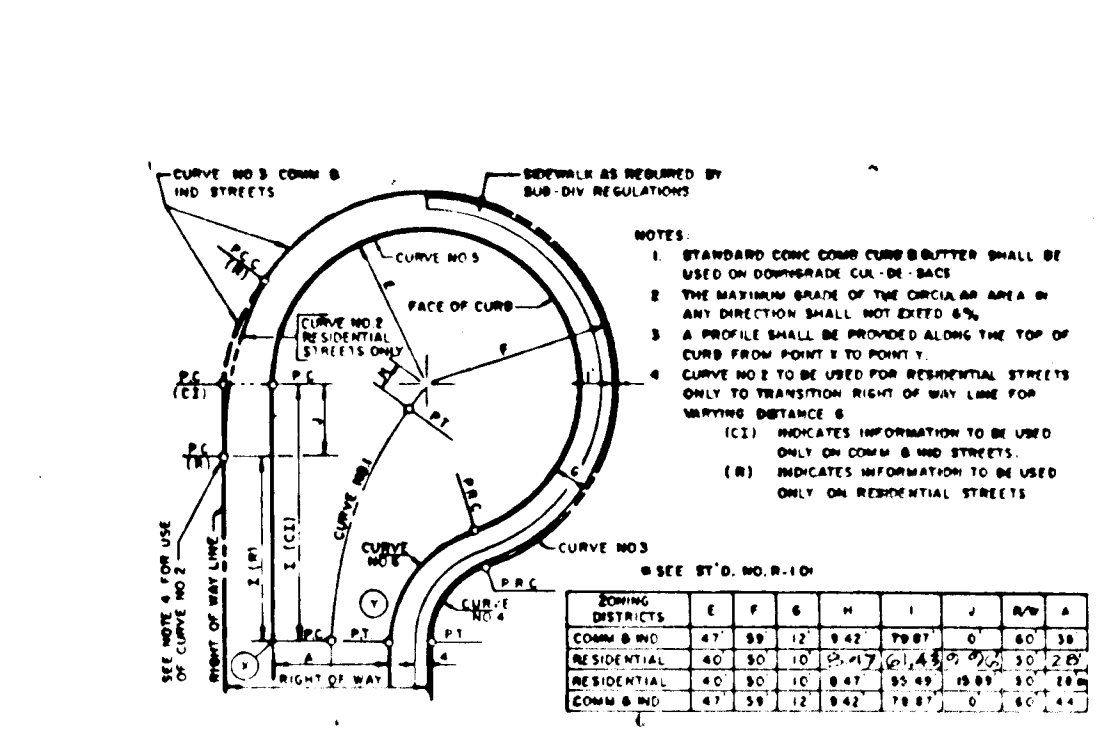
CURB AND INLET TRANSITION



**MACADAM PATHWAY
DETAIL**

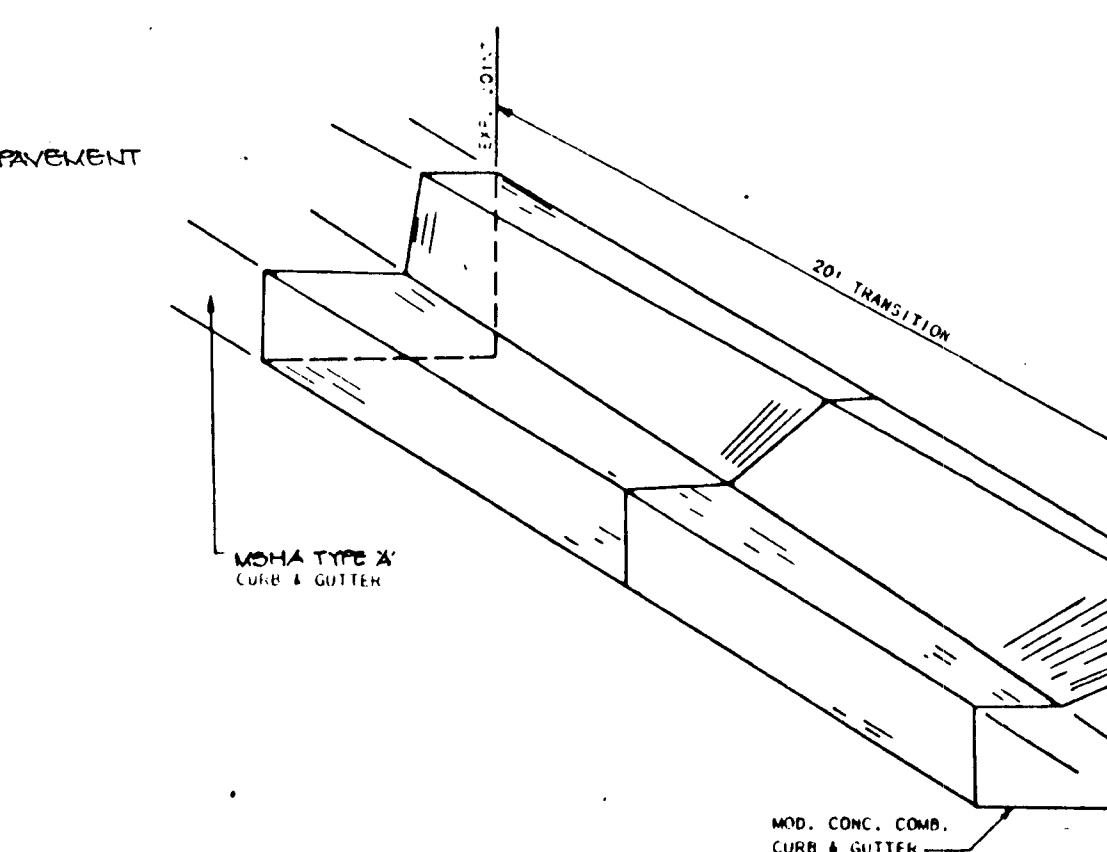


TYPICAL SECTION - 50' R/W
NO SCALE
LOCAL ROAD
30 MPH DESIGN SPEED A=15'
ZONED R-12 B=10'
FROM E. STA. 0+00 TO E. STA. 2+08.56 GOLDEN BELL WAY
CUL-DE-SAC STREET
30 MPH DESIGN SPEED A=14'
ZONED R-12 B=11'
FROM E. STA. 2+08.56 TO E. STA. 7+74 GOLDEN BELL WAY
FROM E. STA. 0+14 TO E. STA. 4+00 B4 MORNING CALM WAY

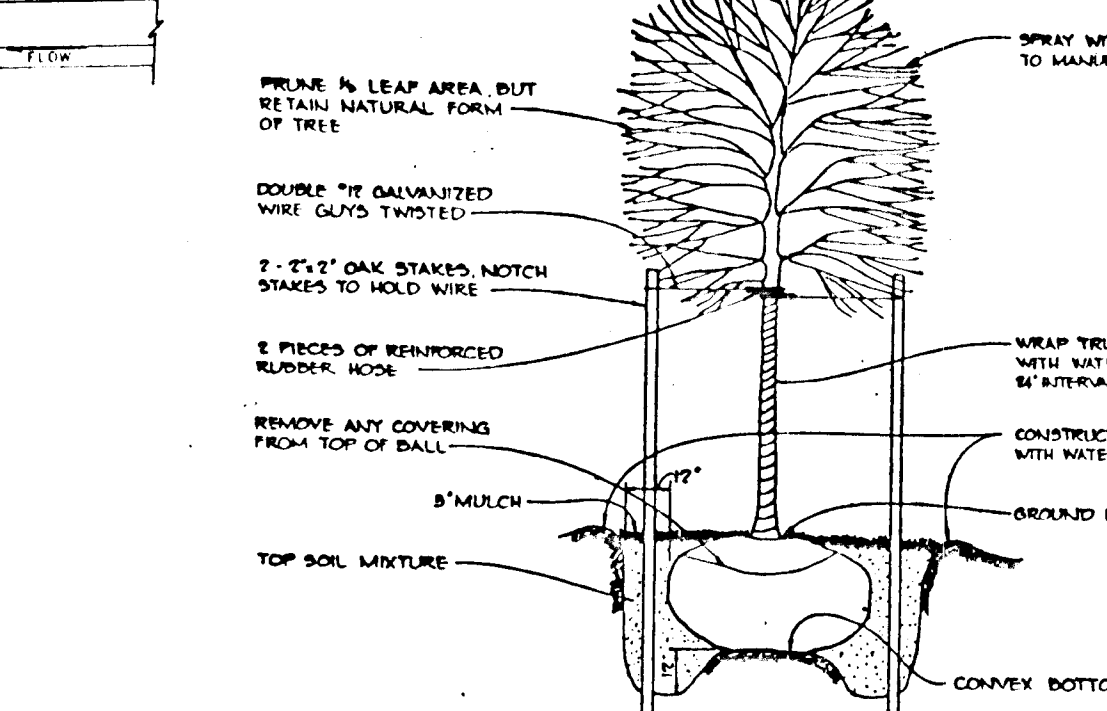


Curve No.	Stationing	Radius	Length	Chord	Offset	Area
1	0+00 to 0+30	1000	30	29.7	0.3	450
2	0+30 to 0+60	1000	30	29.7	0.3	450
3	0+60 to 0+90	1000	30	29.7	0.3	450
4	0+90 to 1+20	1000	30	29.7	0.3	450
5	1+20 to 1+50	1000	30	29.7	0.3	450
6	1+50 to 1+80	1000	30	29.7	0.3	450
7	1+80 to 2+10	1000	30	29.7	0.3	450
8	2+10 to 2+40	1000	30	29.7	0.3	450
9	2+40 to 2+70	1000	30	29.7	0.3	450
10	2+70 to 3+00	1000	30	29.7	0.3	450

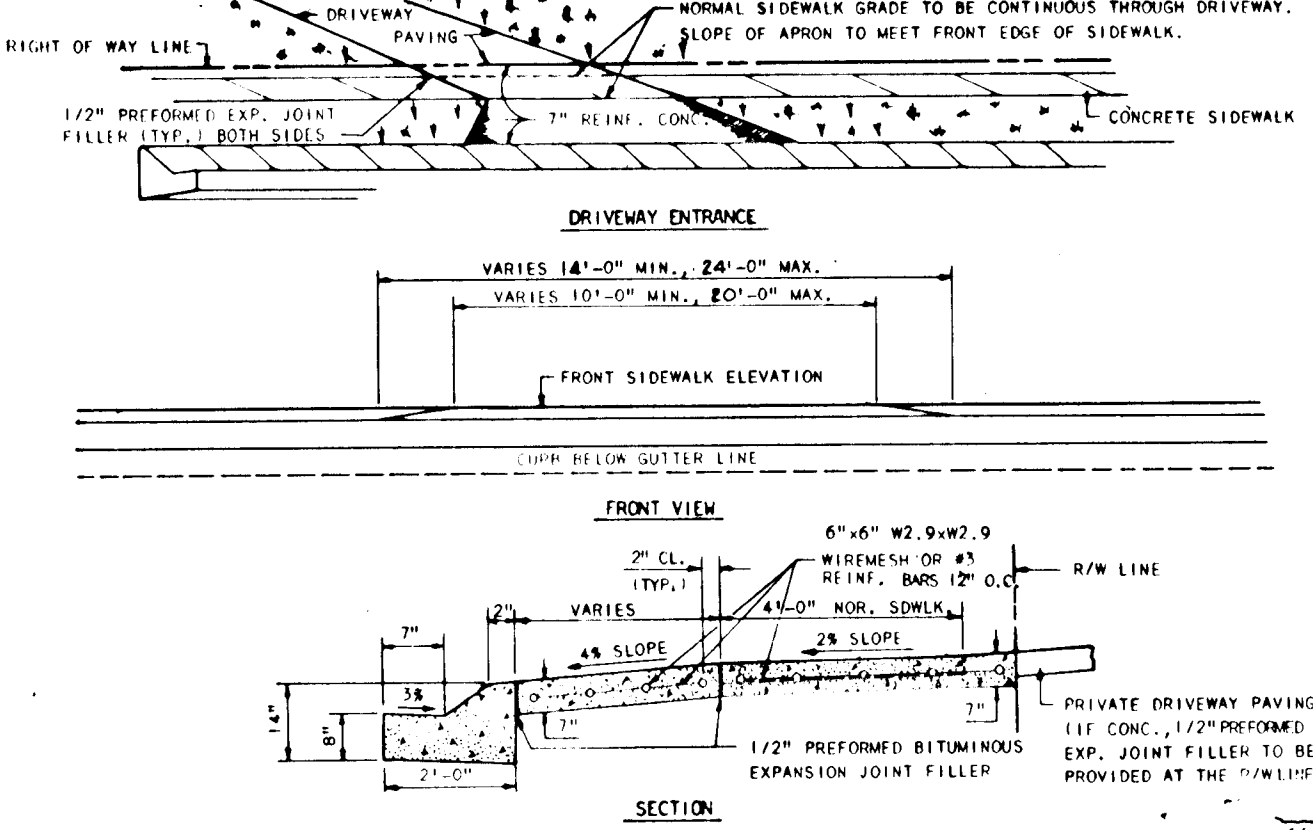
OFF SET CUL-DE-SAC DETAIL



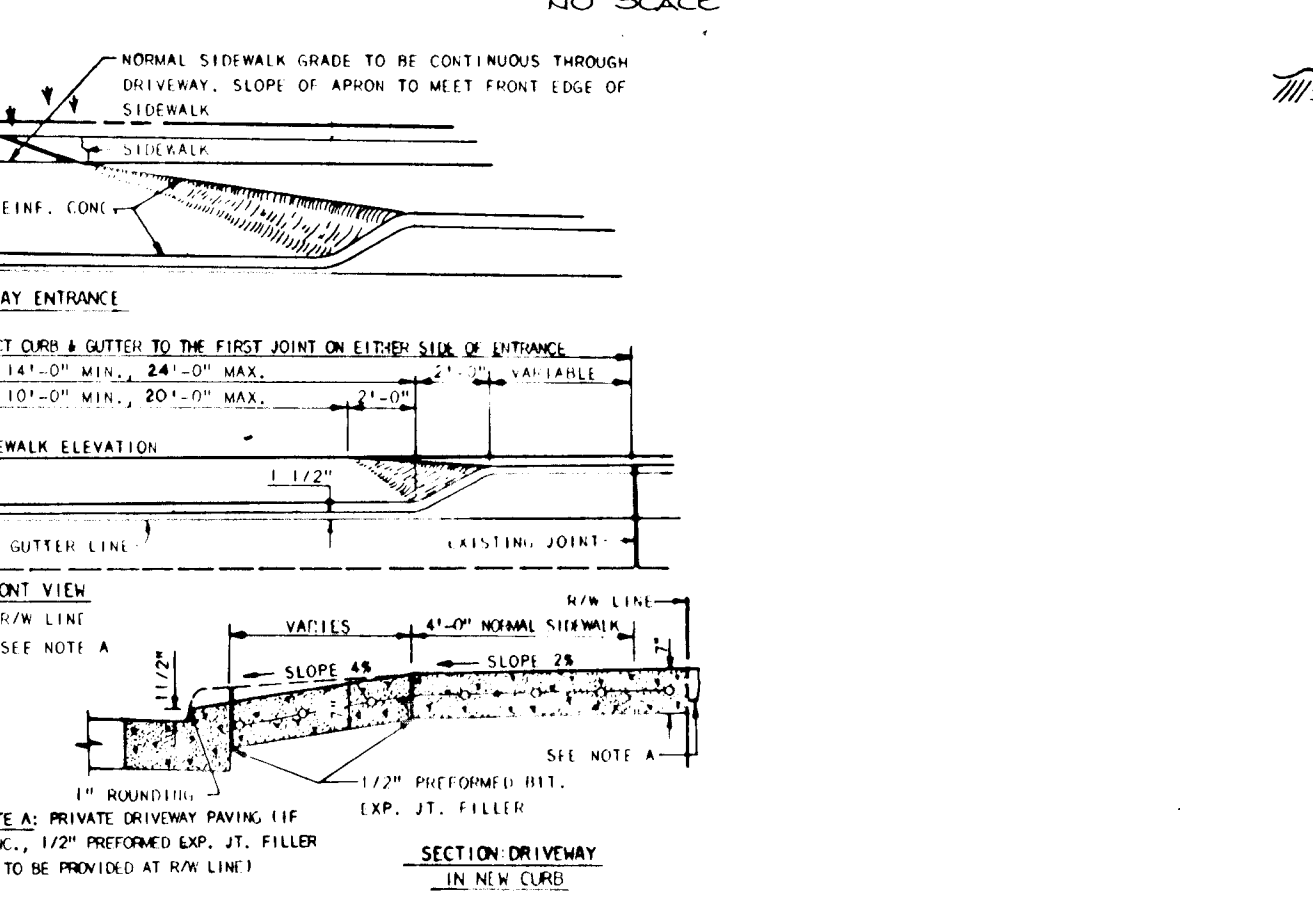
CONCRETE CURB AND GUTTER TRANSITION



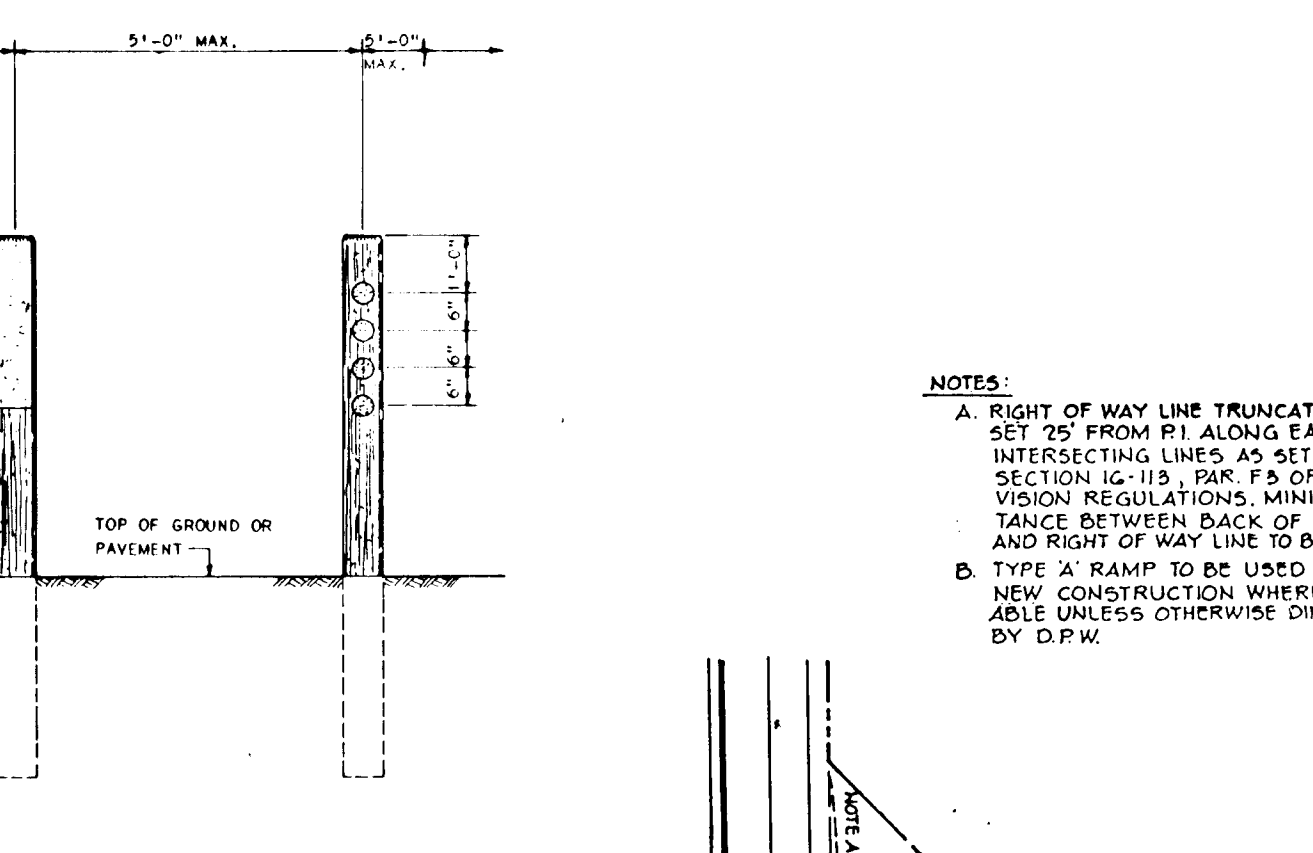
TREE PLANTING DETAIL



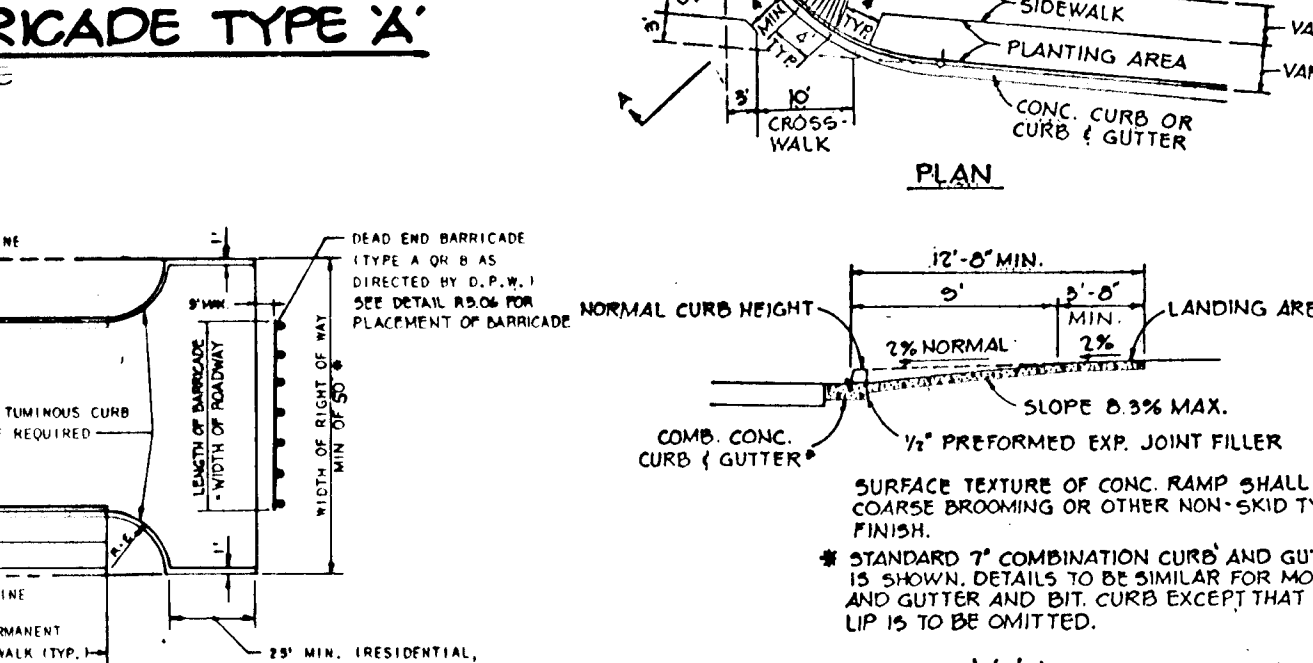
**DRIVEWAY ENTRANCE WITH MODIFIED
COMBINATION CURB AND GUTTER**



**DRIVEWAY ENTRANCE WITH STANDARD 7"
CURB AND GUTTER**

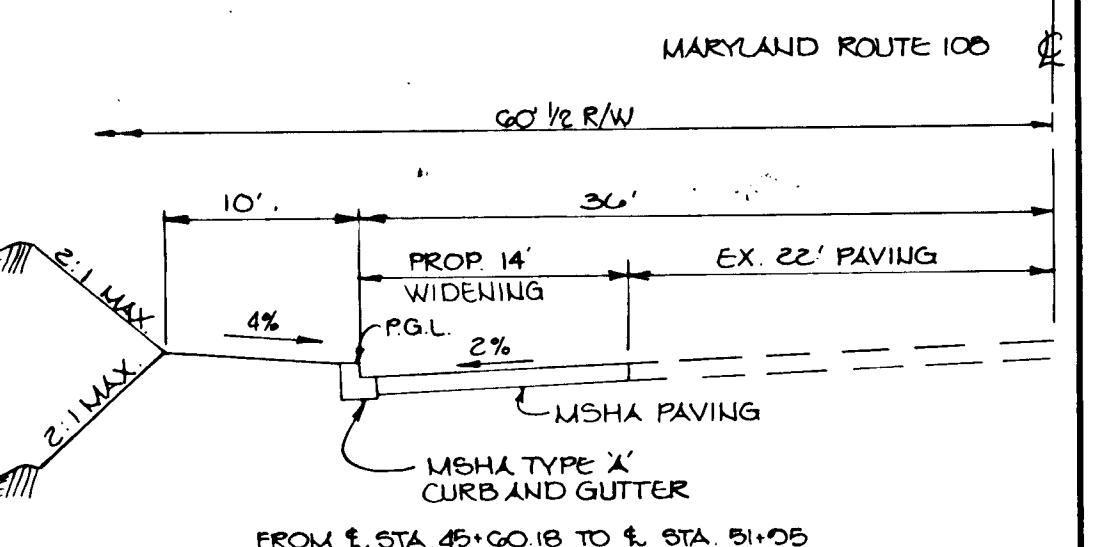


DEAD END BARRICADE TYPE 'A'



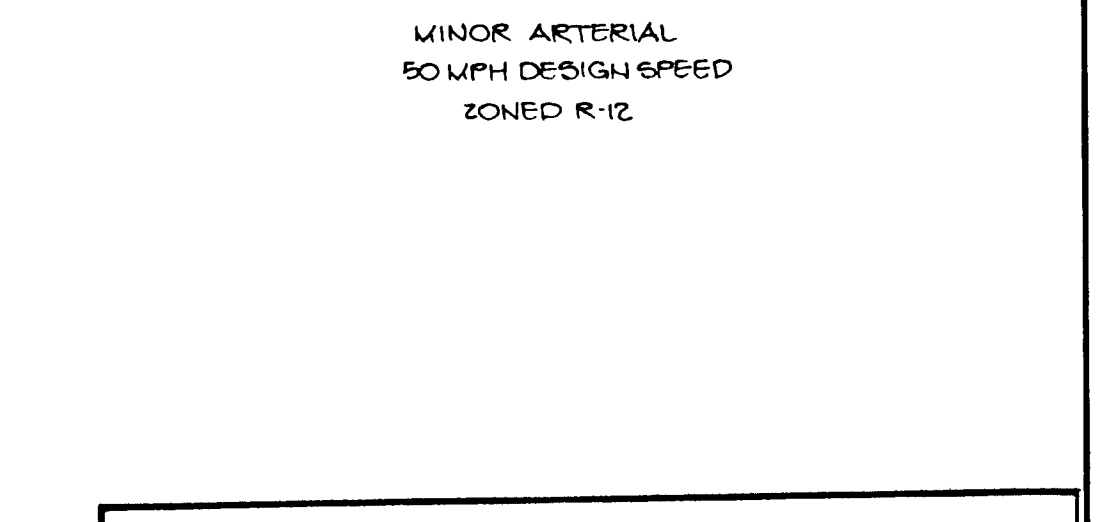
TYPICAL HANDICAP RAMP

AS BUILT CERTIFICATE
ARTHUR E. MUEGGE #8707



**ROAD WIDENING FOR
MARYLAND ROUTE 10B**
NO SCALE
MINOR ARTERIAL
30 MPH DESIGN SPEED
ZONED R-12

**ROAD WIDENING FOR
MARYLAND ROUTE 10B**



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DATE: 6/25/90
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DATE: 6/19/90
CHIEF, LAND DEVELOPMENT DIVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DATE: 6/14/90
CHIEF, BUREAU OF HIGHWAYS

OWNER/DEVELOPER
INJONG CHOE
11650 FARSIDE ROAD
ELLICOTT CITY, MARYLAND
21043

PROJECT: SINGLE FAMILY DETACHED LOTS
GOLDEN BELL
LOTS 1-47
AREA TAX MAP NO. 37
PARCELS 241, 242, 244, 338, 380
GEO. ELECTION DISTRICT HOWARD COUNTY, MARYLAND.

TITLE: **DETAIL SHEET**
RIEMER MUEGGE & ASSOCIATES, INC.
A Land Planning, Engineering and Consulting Firm
3105 North Ridge Road Ellcott City, Maryland 21043
301-461-2690 FAX: 301-750-3176
DATE: 6-19-90
DESIGNED BY: D.A.M.
DRAWN BY: D.B.S.
PROJECT NO: 54603
DATE: 6-19-90
SCALE: AS SHOWN
DRAWING NO: G OF 11

15.78



ARTHUR E. MUEGGE #8707

AS BUILT CERTIFICATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE J.B.

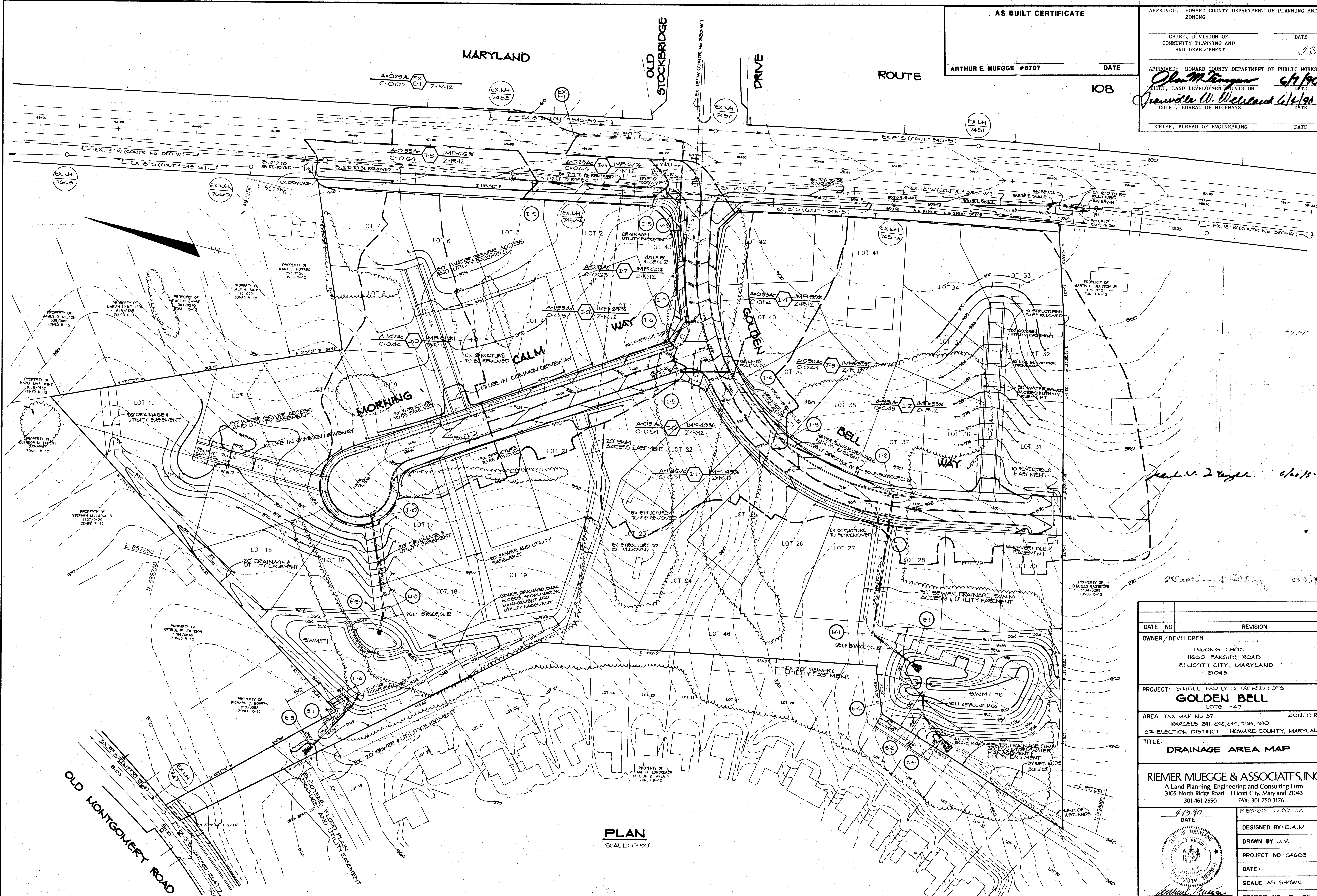
ARTHUR E. MUEGGE #8707

DATE 108

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Alan M. Ferguson 6/7/90
CHIEF, LAND DEVELOPMENT DIVISION DATE
Lawrence W. Weiland 6/4/90
CHIEF, BUREAU OF HIGHWAYS DATE

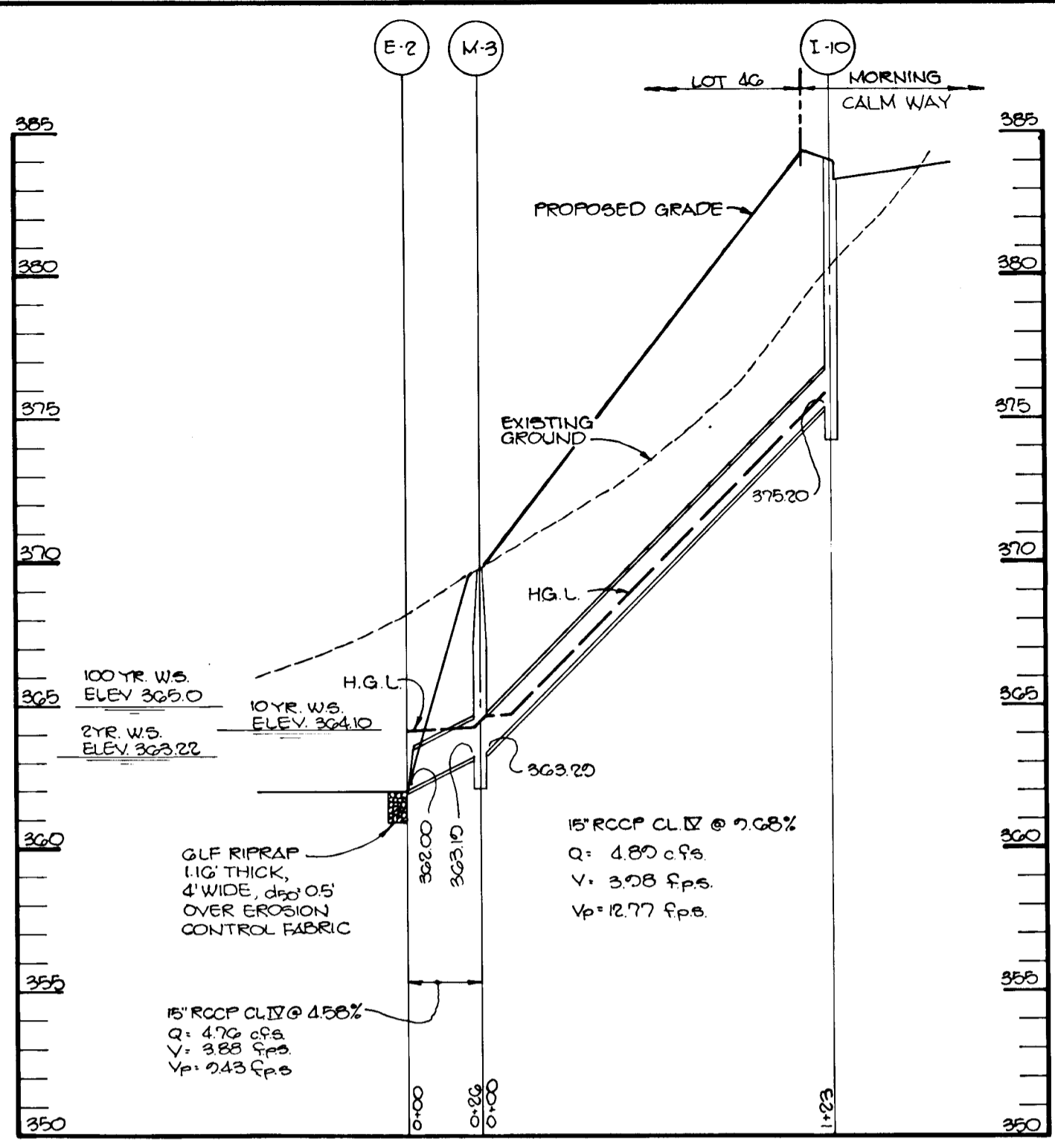
CHIEF, BUREAU OF ENGINEERING DATE



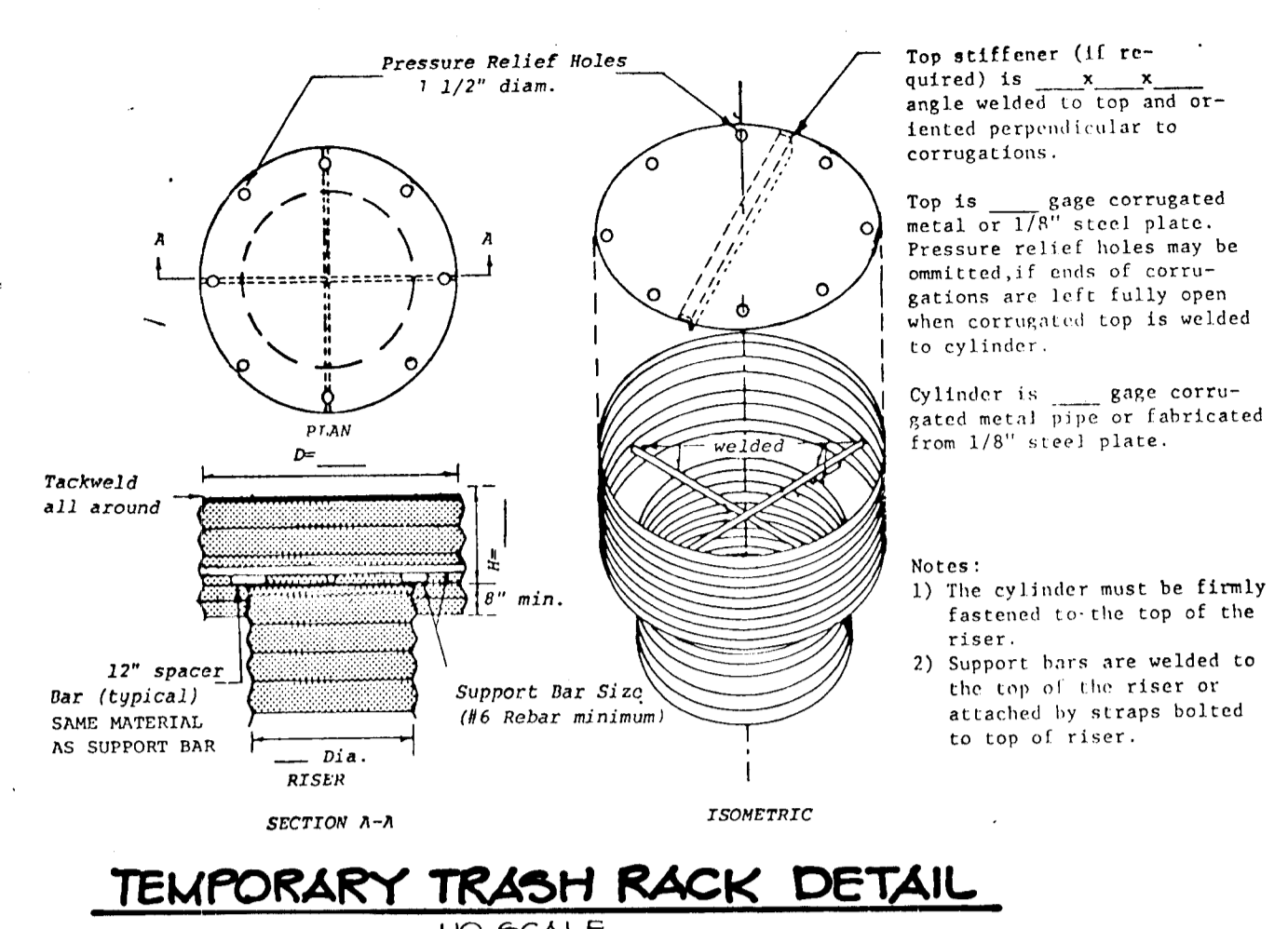
PLAN SCALE: 1" = 50'

DATE	NO.	REVISION
OWNER/DEVELOPER		
INJONG CHOE 11650 FARNSIDE ROAD ELLICOTT CITY, MARYLAND 21043		
PROJECT: SINGLE FAMILY DETACHED LOTS		
GOLDEN BELL LOTS 1-47		
AREA TAX MAP No 37		ZONED R-12
PARCELS 241, 242, 244, 236, 380		
6th ELECTION DISTRICT		HOWARD COUNTY, MARYLAND
TITLE: DRAINAGE AREA MAP		
RIEMER MUEGGE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm 3105 North Ridge Road Ellicott City, Maryland 21043 301-461-2690 FAX: 301-750-3176		
DATE: 6/7/90	P-85-80	5-85-32
DESIGNED BY: D.A.M.		
DRAWN BY: J.V.		
PROJECT NO: 54603		
DATE:		
SCALE: AS SHOWN		
DRAWING NO. 7 OF 11		

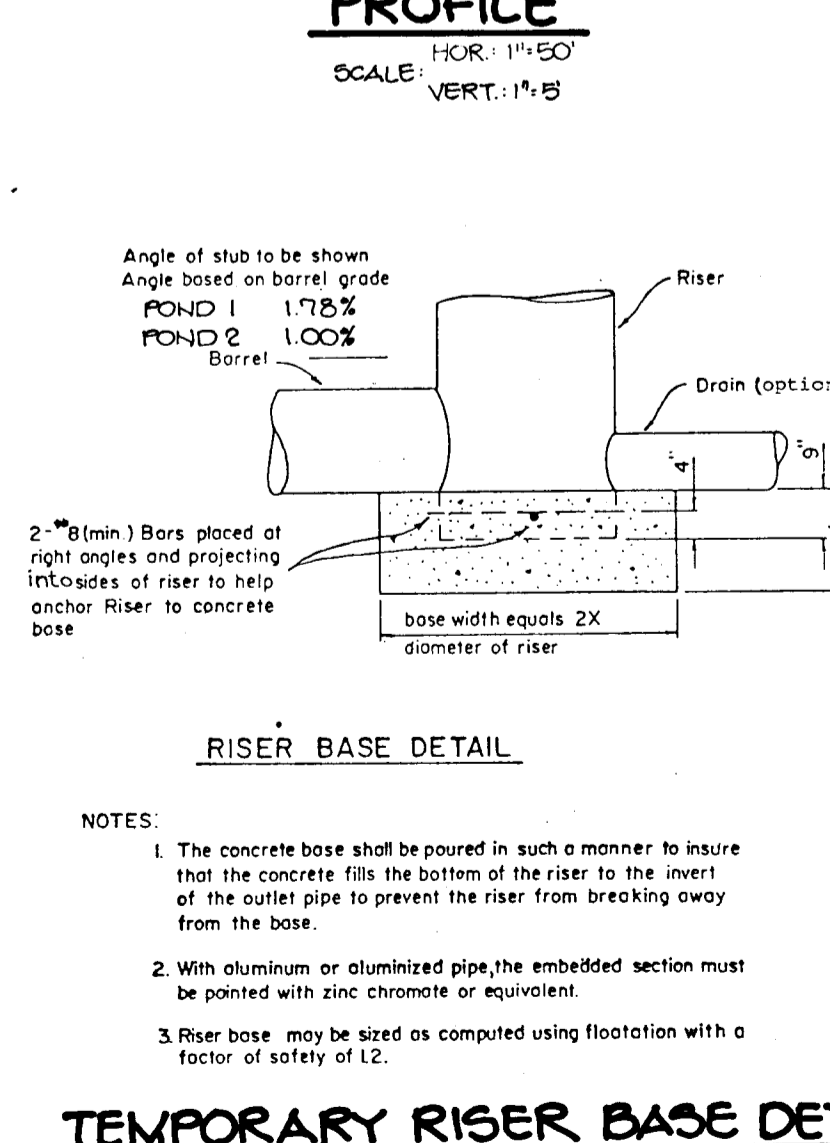
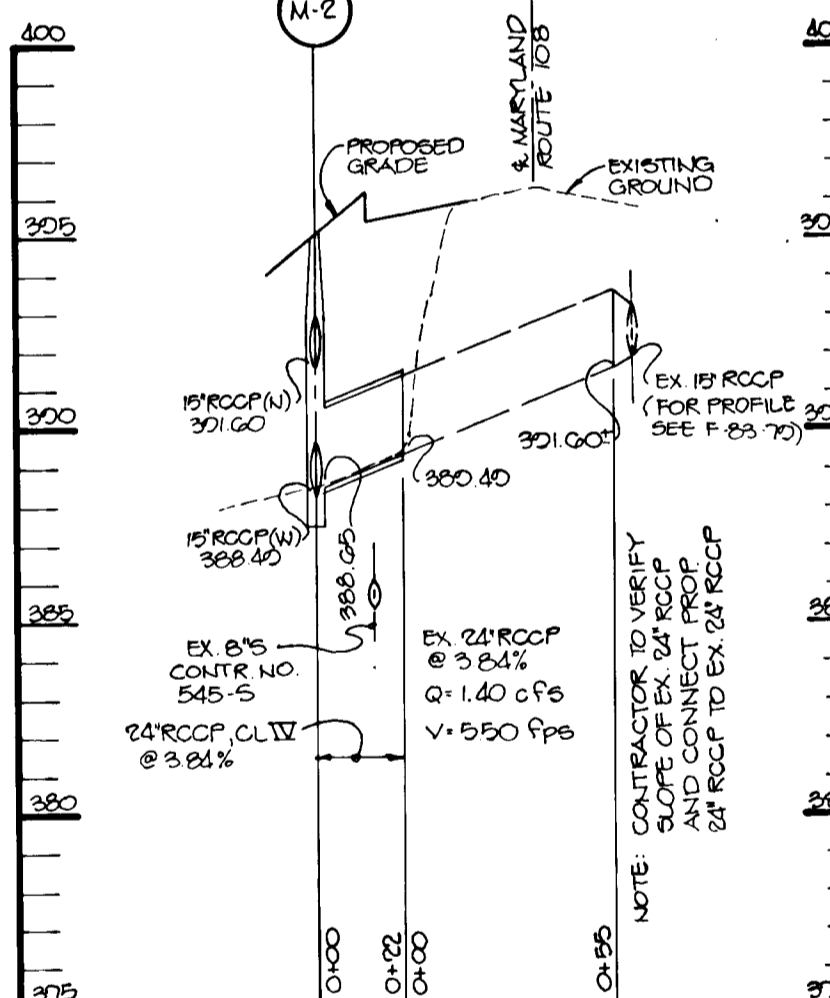
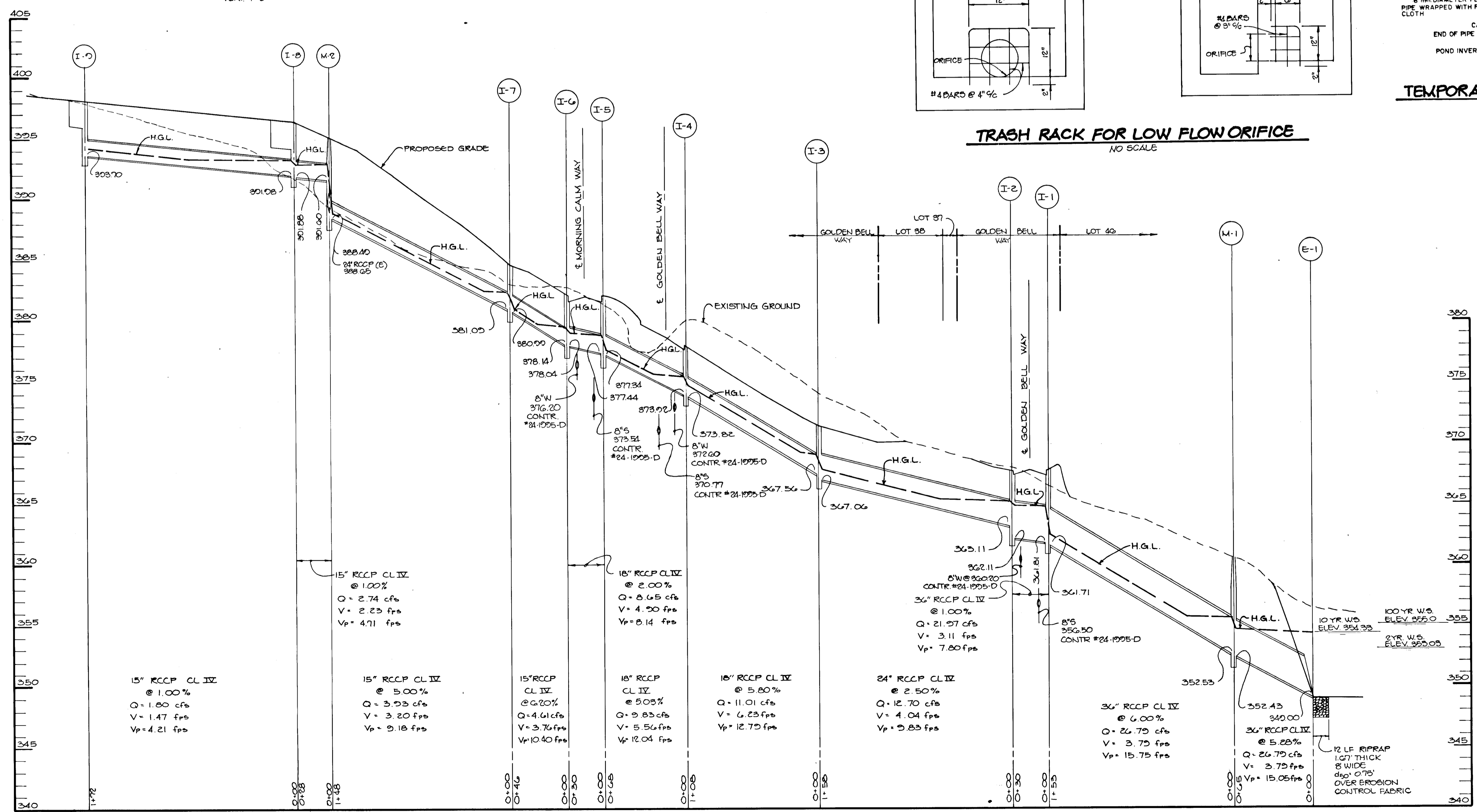
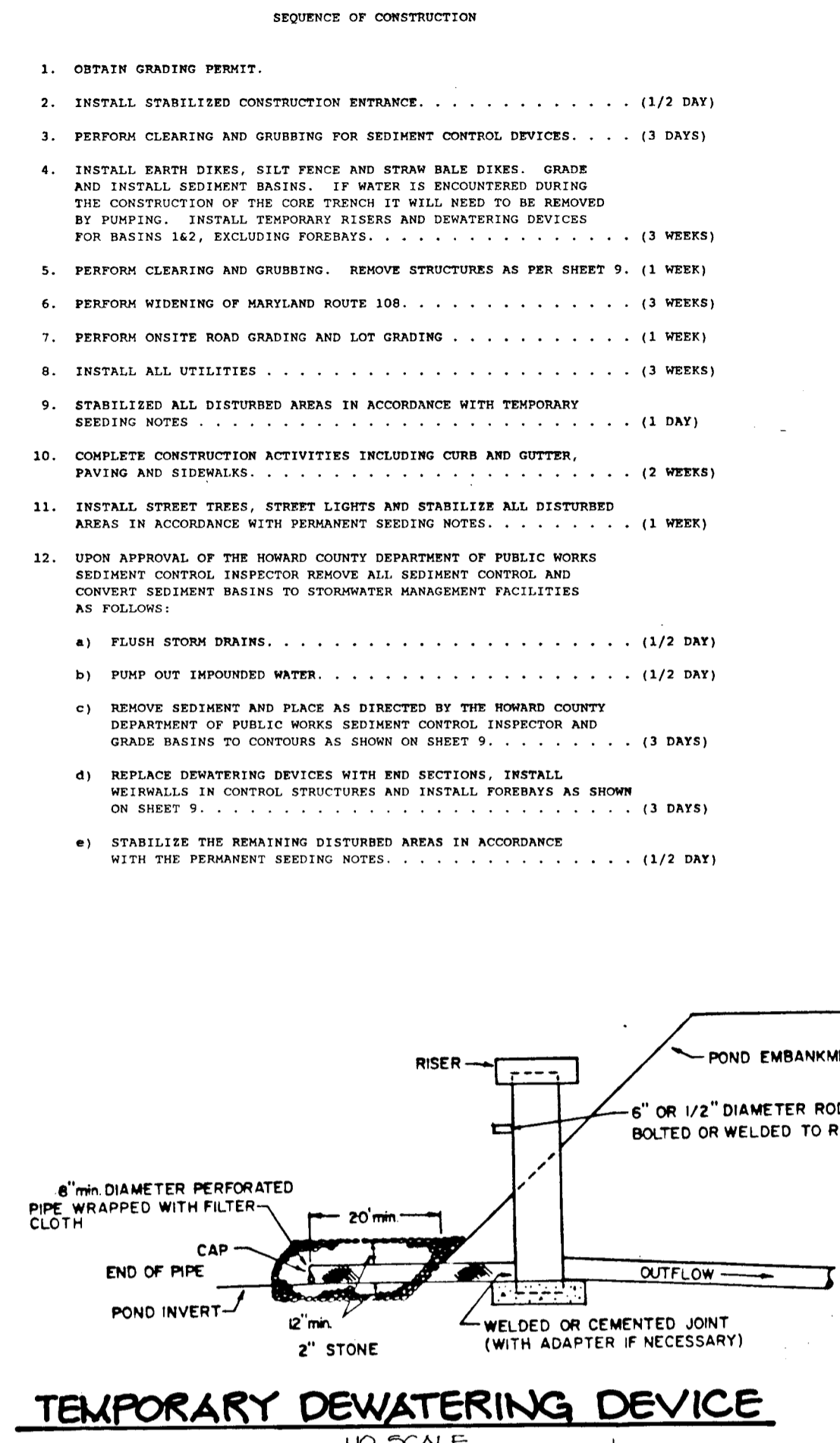
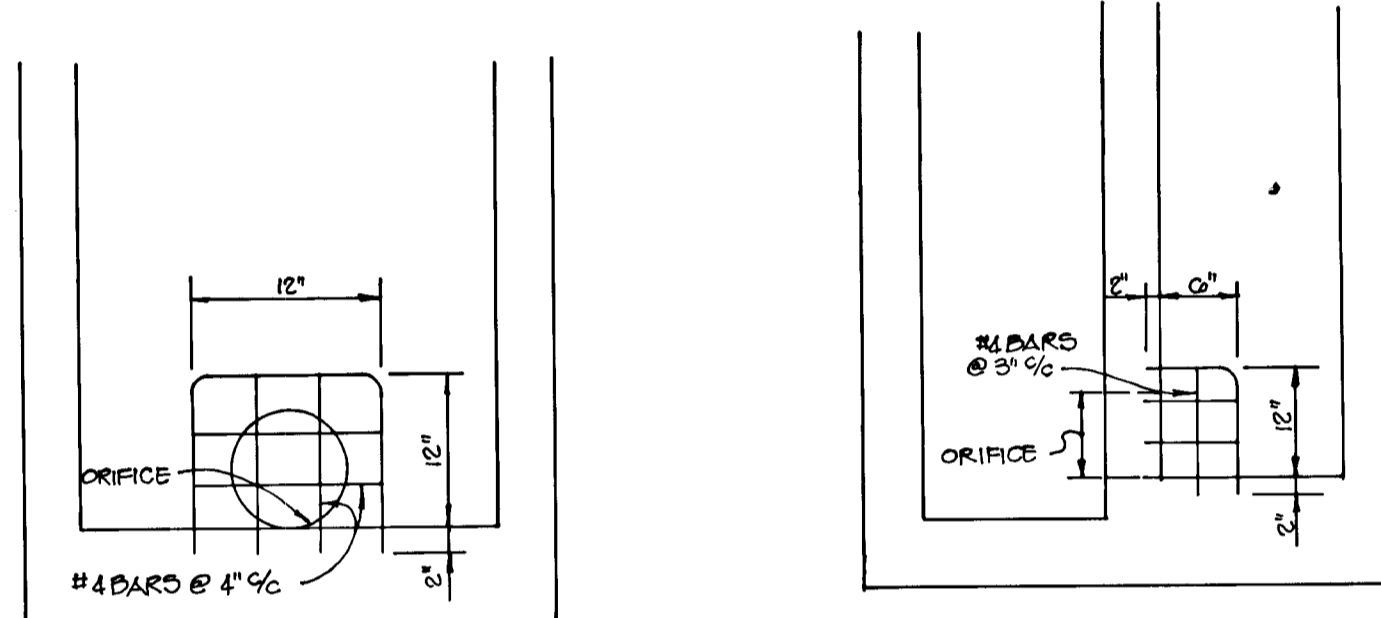
1578



NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEV.	REMARKS
1-1	A-10 Depressed	14' Right of C/L Sta. 5+68.23 Golden Bell Way	361.81	361.71	367.98	See Ho. Co. Std. Detail SD 4.02 & SD 4.8
1-2	A-10 Depressed	14' Left of C/L Sta. 5+68.23 Golden Bell Way	363.11	362.11	367.98	See Ho. Co. Std. Detail SD 4.02 & SD 4.8
1-3	A-5 W/Reflectors	14' Left of C/L Sta. 4+00 Golden Bell Way	367.35	367.06	371.60	See Ho. Co. Std. Detail SD 4.01 & SD 4.8
1-4	A-5 W/Reflectors	14' Left of C/L Sta. 2+66.36 Golden Bell Way	373.02	373.82	377.85	See Ho. Co. Std. Detail SD 4.01 & SD 4.8
1-5	A-5 W/Reflectors	14' Left of C/L Sta. 0+47.18 MORNING CALM WAY	377.44	377.54	382.14	See Ho. Co. Std. Detail SD 4.01 & SD 4.8
1-6	A-10 W/Reflectors	14' Right of C/L Sta. 0+47.18 MORNING CALM WAY	378.14	378.04	382.14	See Ho. Co. Std. Detail SD 4.02 & SD 4.8
1-7	A-5 W/Reflectors	15' Right of C/L Sta. 2+01.86 Golden Bell Way	381.09	380.99	384.76	See Ho. Co. Std. Detail SD 4.01 & SD 4.8
1-8	30" x 15"	36' Right of C/L Sta. 49+07.30 MI. Route 108	391.98	391.88	395.55	See MPA Std. Detail MD 374-31
1-9	30" x 20"	36' Right of C/L Sta. 49+08.28 MI. Route 108	—	393.70	398.22	See MPA Std. Detail MD 374-31
1-10	A-5 Depressed	14' Sta. 0+91.09 MORNING CALM WAY	—	375.20	383.97	See Ho. Co. Std. Detail SD 4.01 & SD 4.8
E-1	36" Concrete Riser Section	See Sheet 4	—	369.00	—	See Ho. Co. Std. Detail SD 5.1
E-2	15" Concrete Riser Section	See Sheet 5	—	362.00	—	See Ho. Co. Std. Detail SD 5.1
E-3	36" RCP Riser Section	See Sheet B	—	359.00	—	See Ho. Co. Std. Detail SD 5.1
E-4	36" RCP Riser Section	See Sheet B	361.00	—	—	See Ho. Co. Std. Detail SD 5.1
E-5	48" RCP Riser Section	See Sheet B	—	362.40	—	See Ho. Co. Std. Detail SD 5.1
E-6	48" RCP Riser Section	See Sheet B	368.00	—	—	See Ho. Co. Std. Detail SD 5.1
M-1	4'-0" Diameter Precast Manhole	See Sheet 4	352.53	352.43	361.00	See Ho. Co. Std. Detail C 5.11
M-2	4'-0" Diameter Precast Manhole	32' Right of C/L Sta. 0+57 Golden Bell Way	351.00(A)	350.40	355.10	See Ho. Co. Std. Detail C 5.11
M-3	4'-0" Diameter Precast Manhole	See Sheet 4	363.20	363.19	369.50	See Ho. Co. Std. Detail C 5.11
S-1	5'-0" Diameter Precast Manhole	See Sheet B	364.00	363.50	366.00	See Ho. Co. Std. Detail C 5.02 f Sheet 11
S-2	5'-0" Diameter Precast Manhole	See Sheet B	368.00	367.50	369.00	See Ho. Co. Std. Detail C 5.03 f Sheet 11



Basin No	Riser Dia	Riser Gage	Cylinder Dia	Cylinder Gage	H	Top Gage	Top Stiffener
1	48"	14	72"	12	21"	10	1 1/2" PIPE
2	48"	14	72"	12	21"	10	1 1/2" PIPE



TEMPORARY TRASH RACK DETAIL
NO SCALE

TRASH RACK FOR LOW FLOW ORIFICE
NO SCALE

TEMPORARY DEWATERING DEVICE
NO SCALE

PROFILE
SCALE: HOR: 1"=50'
VERT: 1"=5'

TEMPORARY RISER BASE DETAIL
NO SCALE

- SEQUENCE OF CONSTRUCTION**
- OBTAIN GRADING PERMIT.
 - INSTALL STABILIZED CONSTRUCTION ENTRANCE. (1/2 DAY)
 - PERFORM CLEARING AND GRUBBING FOR SEDIMENT CONTROL DEVICES. (3 DAYS)
 - INSTALL EARTH DIKES, SILT FENCE AND STRAW BALE DIKES. GRADE AND INSTALL SEDIMENT BASINS. IF WATER IS ENCOUNTERED DURING THE CONSTRUCTION OF THE CORE TRENCH IT WILL NEED TO BE REMOVED BY PUMPING. INSTALL TEMPORARY RISERS AND DEWATERING DEVICES FOR BASINS 1&2, EXCLUDING FOREBASINS. (3 WEEKS)
 - PERFORM CLEARING AND GRUBBING. REMOVE STRUCTURES AS PER SHEET 9. (1 WEEK)
 - PERFORM WIDENING OF MARLBOROUGH ROUTE 108. (3 WEEKS)
 - PERFORM ONSITE ROAD GRADING AND LOT GRADING. (1 WEEK)
 - INSTALL ALL UTILITIES. (3 WEEKS)
 - STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH TEMPORARY SEEDING NOTES. (1 DAY)
 - COMPLETE CONSTRUCTION ACTIVITIES INCLUDING CURB AND GUTTER, PAVING AND SIDEWALKS. (2 WEEKS)
 - INSTALL STREET TREES, STREET LIGHTS AND STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (1 WEEK)
 - UPON APPROVAL OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS SEDIMENT CONTROL INSPECTOR REMOVE ALL SEDIMENT CONTROL AND CONVERT SEDIMENT BASINS TO STORMWATER MANAGEMENT FACILITIES AS FOLLOWS:
 - FLUSH STORM DRAINS. (1/2 DAY)
 - PUMP OUT IMPOUNDED WATER. (1/2 DAY)
 - REMOVE SEDIMENT AND PLACE AS DIRECTED BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS SEDIMENT CONTROL INSPECTOR AND GRADE BASINS TO CONTOURS AS SHOWN ON SHEET 9. (3 DAYS)
 - REPLACE DEWATERING DEVICES WITH END SECTIONS, INSTALL WEIRBARS IN CONTROL STRUCTURES AND INSTALL FOREBASINS AS SHOWN ON SHEET 9. (3 DAYS)
 - STABILIZE THE REMAINING DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. (1/2 DAY)

AS BUILT CERTIFICATE

ARTHUR E. MUEGGE #8707 DATE

BY THE DEVELOPER: *Arthur E. Muegge* 4/12/90
DEVELOPER DATE

BY THE ENGINEER: *Arthur E. Muegge* 4/13/90
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
James M. Hahn 4-19-90
U.S. SOIL CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
Robert W. Ziehm 4/19/90
HOWARD S.D. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
David J. ... 6/19/90
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Alan M. ... 6/19/90
CHIEF, LAND DEVELOPMENT DIVISION DATE

William W. ... 6/19/90
CHIEF, BUREAU OF HIGHWAYS DATE

... 6/19/90
CHIEF, BUREAU OF ENGINEERING DATE

DATE	NO.	REVISION

OWNER/DEVELOPER
INJONG CHOE
11650 FARSIDE ROAD
ELLCOTT CITY, MARYLAND
21045

PROJECT: SINGLE FAMILY DETACHED LOTS
GOLDEN BELL
LOTS 1-47

AREA TAX MAP No 87 ZONED R-12
PARCELS 241, 242, 244, 358, 360
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

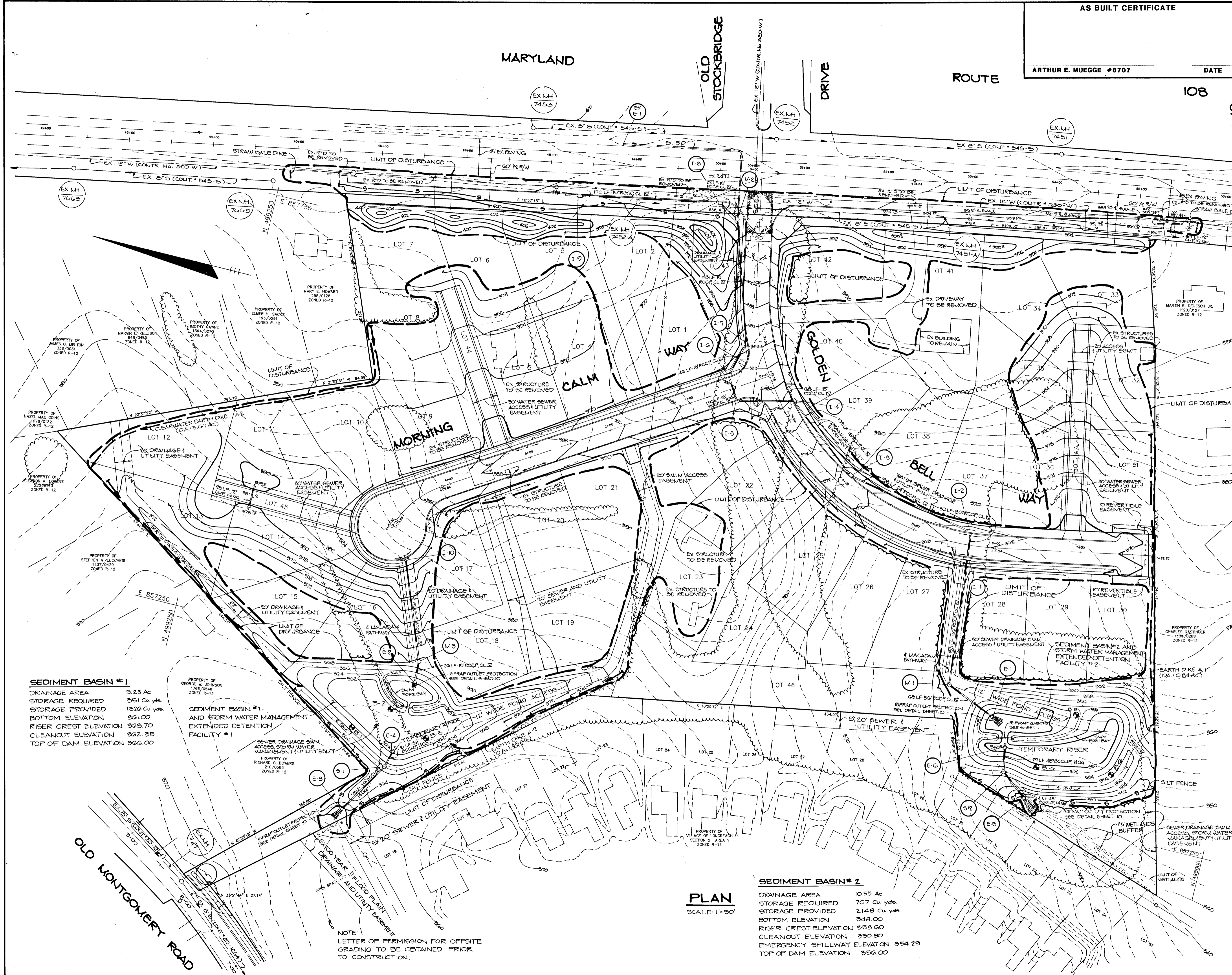
TITLE: **STORM DRAIN PROFILES AND SWM DETAILS**

RIEMER MUEGGE & ASSOCIATES, INC.
A Land Planning, Engineering, and Consulting Firm
3105 North Ridge Road Ellicott City, Maryland 21043
301-461-2690 FAX: 301-750-3176

DATE: 4/12/90
DESIGNED BY: D.A.M.
DRAWN BY: D.B.S.
PROJECT NO: 54603
DATE: 4/12/90
SCALE: AS SHOWN
DRAWING NO: 8 OF 11

F-90-124

1578



BY THE DEVELOPER:
 "I 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 NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE FORD WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."
 Wm. J. Choe 4/12/90
 DEVELOPER DATE

BY THE ENGINEER:
 "I CERTIFY THAT THIS PLAN FOR FORD CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE FORD WITHIN 30 DAYS OF COMPLETION."
 William E. Muegge 4-13-90
 ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL FORD CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
 J. B. 4-19-90
 SOIL CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL FORD CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 Robert J. Zilka 4/19/90
 ENGINEER DATE

NO. G-92	1	ADDED NOISE BERM GRADING ALONG RTE 108
DATE	NO.	REVISION
OWNER/DEVELOPER		
INJUNG CHOE 11650 FARSIDE ROAD ELLCOTT CITY, MARYLAND 21043		
PROJECT SINGLE FAMILY DETACHED LOTS GOLDEN BELL LOTS 1-47		
AREA TAX MAP No 37 ZONED R-12 PARCELS 241, 242, 244, 538, 380 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND.		
TITLE GRADING AND SEDIMENT CONTROL PLAN		
RIEMER MUEGGE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm 3105 North Ridge Road Elicott City, Maryland 21043 301-461-2690 FAX: 301-750-3176		
4-13-90 DATE		P. 80 80 5-80-32
DESIGNED BY: D.A.M.		
DRAWN BY: M.A.D.		
PROJECT NO: 54603		
DATE:		
SCALE: AS SHOWN		
DRAWING NO. 2 OF 11		

SEDIMENT BASIN #1
 DRAINAGE AREA 5.23 Ac
 STORAGE REQUIRED 551 Cu yds.
 STORAGE PROVIDED 1326 Cu yds.
 BOTTOM ELEVATION 861.00
 RISER CREST ELEVATION 863.70
 CLEANOUT ELEVATION 862.35
 TOP OF DAM ELEVATION 866.00

SEDIMENT BASIN #1 AND STORM WATER MANAGEMENT EXTENDED DETENTION FACILITY #1

SEDIMENT BASIN #2
 DRAINAGE AREA 10.55 Ac
 STORAGE REQUIRED 707 Cu yds.
 STORAGE PROVIDED 2148 Cu yds.
 BOTTOM ELEVATION 848.00
 RISER CREST ELEVATION 853.60
 CLEANOUT ELEVATION 850.80
 EMERGENCY SPILLWAY ELEVATION 854.29
 TOP OF DAM ELEVATION 856.00

PLAN
 SCALE 1"=50'

NOTE: 1
 LETTER OF PERMISSION FOR OFFSITE GRADING TO BE OBTAINED PRIOR TO CONSTRUCTION.

1578

These specifications are appropriate to ponds within the scope of the Standard for practice 37B.

I. SITE PREPARATION

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

Areas to be covered by the pond or reservoir will be cleared of all trees, brush, logs, fence, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface.

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

II. EARTH FILL

Material

The fill material shall be taken from approved designated borrow area or areas. It shall be free of roots, stumps, wood, rubbish, oversize stones, frozen or other objectionable materials. The embankment shall be constructed to an elevation which provides for anticipated settlement to the design elevation. The fill height all along the length of the embankment shall be increased above the design elevation (including freeboard) as shown on the plans.

Placement

Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 8-inch maximum thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most porous borrow material shall be placed in the downstream portions of the embankment.

Compaction

The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by no less than one track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction can be obtained with the equipment used.

Where a minimum required density is specified, each layer of fill shall be compacted as necessary to obtain that density and is to be certified by the Engineer.

Cutoff Trench

Where specified, a cutoff trench shall be excavated along or parallel to the centerline of the embankment as shown on the drawings. The bottom width of the trench shall be as shown on the drawings, with the minimum width being four feet. The depth shall be at least four feet or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill material for the cutoff trench shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability. THE TRENCH WILL CONFORM TO M.C. 26A, C.L. TYPE MATERIAL ONLY.

III. STRUCTURAL BACKFILL

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

IV. PIPE CONDUITS

All pipes shall be circular in cross section.

A. Corrugated Metal Pipe

1. Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of ASTM Specification W-190 Type A with water-tight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

2. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Water-tight coupling bands or flanges shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to the completely watertight. Dipble bands are not considered to be watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

- 1) Preferred - Apply 2 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 time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs./1000 sq. ft.).

- 2) Acceptable - Apply 2 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.

Seeding: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs. per acre (14 lbs./1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. (0.05 lbs./1000 sq. ft.) of weeping lovegrass. During the period of October 16 thru February 28, protect site by Option (1) 2 tons per acre of well-anchored straw mulch and seed as soon as possible in the spring. Option (2) Use soil. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well-anchored straw.

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 gal. per acre (5 gal./1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gal. per acre (8 gal./1000 sq. ft.) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR rate and methods not covered.

Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseedings.

4. Laying pipe - The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the side.

5. Backfilling shall conform to structural backfill as shown above.

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

B. Reinforced Concrete Pipe

1. Materials - Reinforced concrete pipe shall have a rubber gasket joint and shall equal or exceed ASTM Specification C-361. An approved equivalent is AASHTO Specification C-301.

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3", or as shown on the drawings.

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

4. Backfilling shall conform to structural backfill as shown above.

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

6. For pipes of other materials, specific specifications shall be shown on the drawings.

V. CONCRETE

1. Materials

a. Cement - Normal Portland cement shall conform to the latest ASTM Specification C-150.

b. Water - The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.

c. Sand - The sand used in concrete shall be clean, hard, strong and durable, and shall be well graded with 100 percent passing a one-quarter inch sieve. Limestone sand shall not be used.

d. Coarse Aggregate - The coarse aggregate shall be clean, hard, strong and durable, and free from clay or dirt. It shall be well graded with a maximum size of one and one-half (1 1/2) inches.

e. Reinforcing Steel - The reinforcing steel shall be deformed bars of intermediate grade billet steel or rail steel conforming to ASTM Specification A-615.

2. Design Mix - The concrete shall be mixed in the following proportions, measured by weight. The water-cement ratio shall be 5-1/2 to 6 U.S. Gallons of water per 94 pound bag of cement. The proportion of materials for the trial mix shall be 1:2:1-1/2. The combination of aggregates may be adjusted to produce a plastic and workable mix that will not produce harshness in placing or honeycombing in the structure.

3. Mixing - The concrete ingredients shall be mixed in batch mixers until the mixture is homogeneous and of uniform consistency. The mixing of each batch shall continue for not less than one and one-half minutes after all the ingredients, except the full amount of water, are in the mixer. The minimum mixing time is predicted on proper control of the speed of rotation of the mixer and of the introduction of the materials, including water, into the mixer. Water shall be added prior to, during, and following the mixer-charging operations. Excessive overmixing requiring the addition of water to preserve the required concrete consistency shall not be permitted. Truck mixing will be allowed provided that the use of this method shall cause no violation of any applicable provisions of the specifications given here.

4. Forms - The forms shall have sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure, tamping, and vibration without deflection from the prescribed lines. They shall be mortar-tight and constructed so that they can be removed without hammering or prying against the concrete.

The inside of forms shall be oiled with a non-staining mineral oil or thoroughly wetted before concrete is placed.

Forms may be removed 30 hours after the placement of concrete. All wire ties and other devices used shall be recessed from the surface of the concrete.

5. Reinforcing Steel - All reinforcing material shall be free of dirt, rust, scale, oil, paint or any other coatings. The steel shall be accurately placed and securely tied and blocked into position so that no movement of the steel will occur during placement of concrete.

6. Consolidating - Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be supplemented by spading and hand tamping as necessary to insure smooth and dense concrete along form surfaces, in corners, and around embedded items.

7. Finishing - Defective concrete, honeycombed areas, voids left by the removal of tie rods, ridges on all concrete surfaces permanently exposed to view or exposed to water on the finished structure, shall be repaired immediately after the removal of forms. All voids shall be reamed and completely filled with dry-patching mortar.

8. Protection and Curing - Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least the first three (3) days. All concrete shall be kept continuously moist for at least ten (10) days after being placed. Moisture may be applied by spraying or sprinkling as necessary to prevent the concrete from drying. Curing compounds may also be used.

VI. STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching (if required) in accordance with the vegetative treatment specifications or as shown on the accompanying drawings.

VII. EROSION AND SEDIMENT CONTROL

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

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ELEV.	SOIL DESCRIPTION	DEPTH	BLOWS/6'	No.	TYPE	REMARKS
TOP SOIL	Tan clayey sandy silt	0-2'	4-5-3	1	OS	1.5
	Brown silty clayey sand, trace gravel	2-5'	38-19-23	2	OS	1.5
	Tan silty clay	5-10'	7-8-10	3	OS	1.5
B.O.H. - 10.0'						

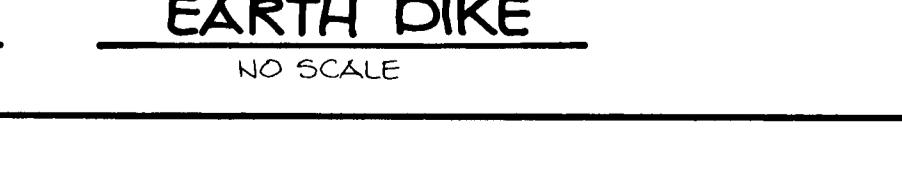
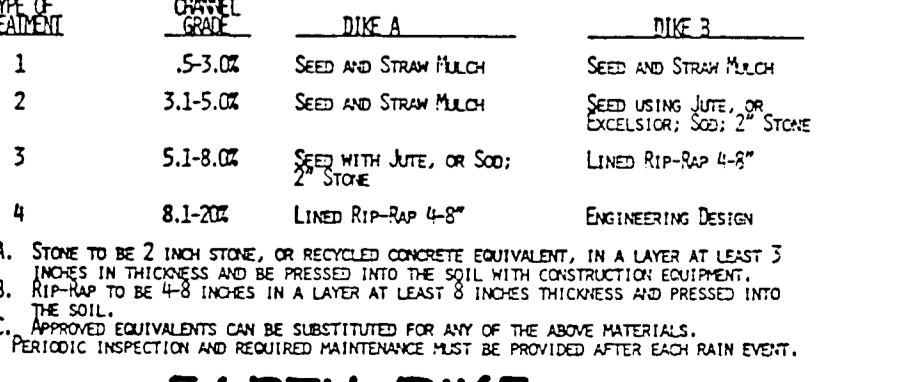
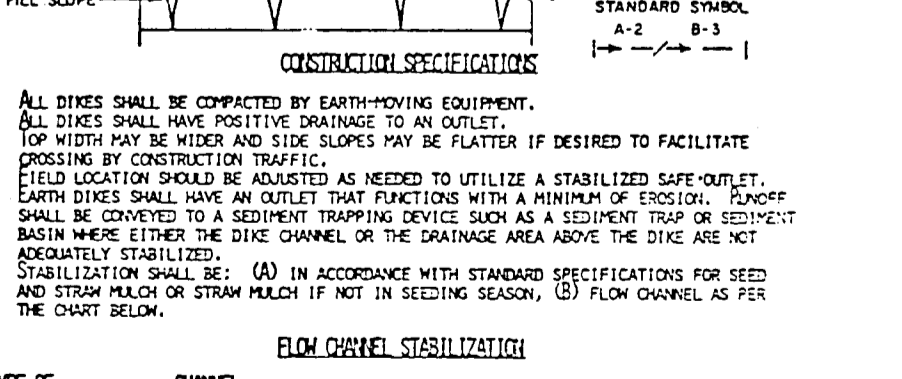
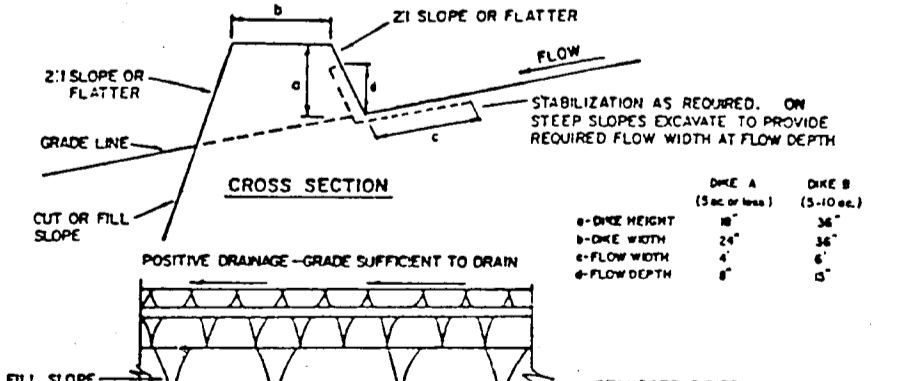
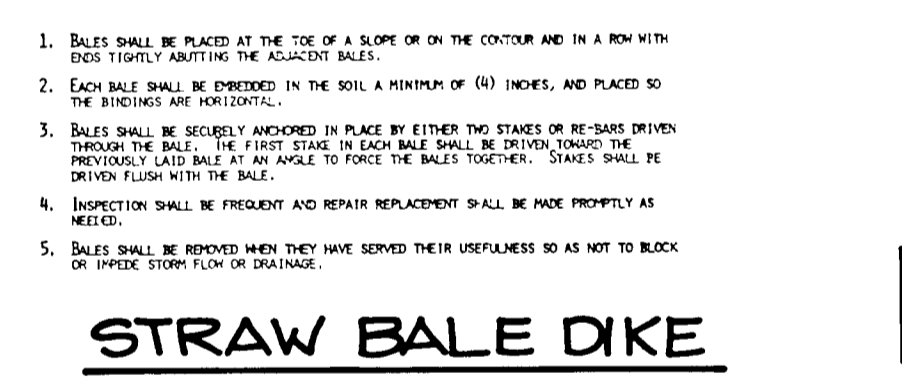
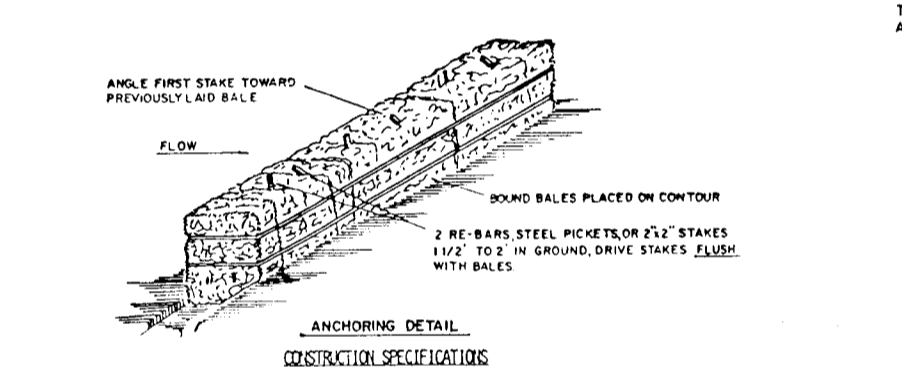
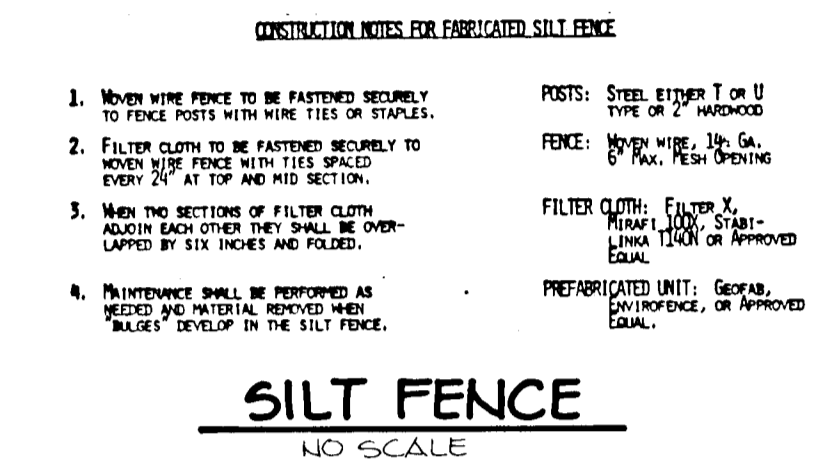
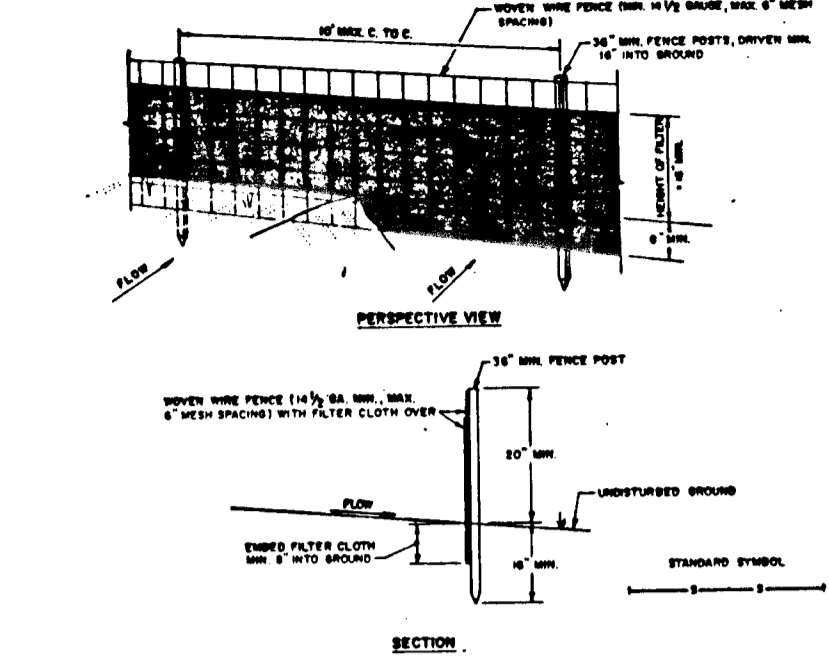
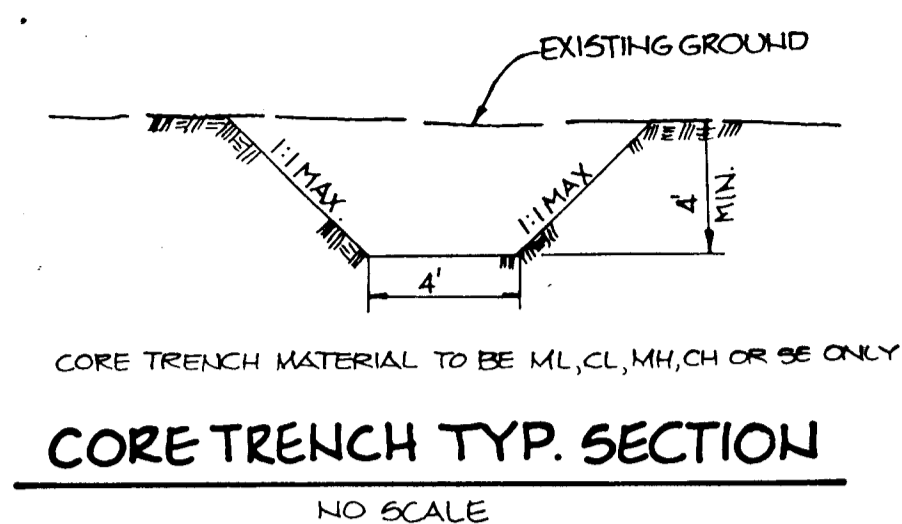
ELEV.	SOIL DESCRIPTION	DEPTH	BLOWS/6'	No.	TYPE	REMARKS
TOP SOIL	Tan sandy clay	0-2'	3-2-2	1	OS	1.5
	Brown clayey sandy silt	2-5'	39-47-100	2	OS	1.0
	Tan silty clay	5-10'	7-8-10	3	OS	1.5
B.O.H. - 4.7'						

ELEV.	SOIL DESCRIPTION	DEPTH	BLOWS/6'	No.	TYPE	REMARKS
TOP SOIL	Dark brown sandy clay	0-2'	3-3-3	1	OS	1.5
	Brown clayey sandy silt	2-5'	25-32-21	2	OS	1.5
	Brown silty sand, trace gravel	5-10'	47-32-36	3	OS	1.5
B.O.H. - 10.0'						

ELEV.	SOIL DESCRIPTION	DEPTH	BLOWS/6'	No.	TYPE	REMARKS
TOP SOIL	Brown sandy silt to silty sand	0-2'	4-5-3	1	OS	1.5
	Brown sandy silt to silty sand	2-5'	5-5-5	2	OS	0.3
	Tan clayey silt	5-10'	7-10-16	3	OS	1.5
B.O.H. - 10.0'						

ELEV.	SOIL DESCRIPTION	DEPTH	BLOWS/6'	No.	TYPE	REMARKS
TOP SOIL	Brown & gray sandy clay (LARGE GRAIN)	0-2'	2-2-3	1	OS	1.5
	Brown clayey sand	2-5'	17-22-74	2	OS	1.0
	Tan clayey silt	5-10'	14-19-21	3	OS	1.5
B.O.H. - 10.0'						

ELEV.	SOIL DESCRIPTION	DEPTH	BLOWS/6'	No.	TYPE	REMARKS
TOP SOIL	Tan silty sand	0-2'	2-2-2	1	OS	0.8
	Tan silty sand	2-5'	17-27-33	2	OS	1.0
	Tan silty sand	5-10'	21-27-30	3	OS	1.5
B.O.H. - 10.0'						



AS BUILT CERTIFICATE

ARTHUR E. MUEGGE #8707 DATE

BY THE DEVELOPER: *Arthur E. Muegge* 4/12/90

BY THE ENGINEER: *Arthur E. Muegge* 4/13/90

BY THE ENGINEER: *Arthur E. Muegge* 4-19-90

APPROVED: *Arthur E. Muegge* 4/19/90

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

APPROVED: *Arthur E. Muegge* 6/2/90

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

DATE NO REVISION

OWNER/DEVELOPER: INJONG CHOE, 11630 FARSIDE ROAD, ELICOTT CITY, MARYLAND, 21043

PROJECT: SINGLE FAMILY DETACHED LOTS, GOLDEN BELL LOTS 1-47

AREA TAX MAP No 37 ZONED R-12, PARCELS 241, 242, 244, 250, 300, G-4 ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: SWM & SEDIMENT CONTROL NOTES AND DETAILS

RIEMER MUEGGE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm, 3105 North Ridge Road, Ellicott City, Maryland 21043, 301-461-2690, FAX: 301-750-3176

DATE: 4/19/90

DESIGNED BY: D.A.M.

DRAWN BY: D.B.S.

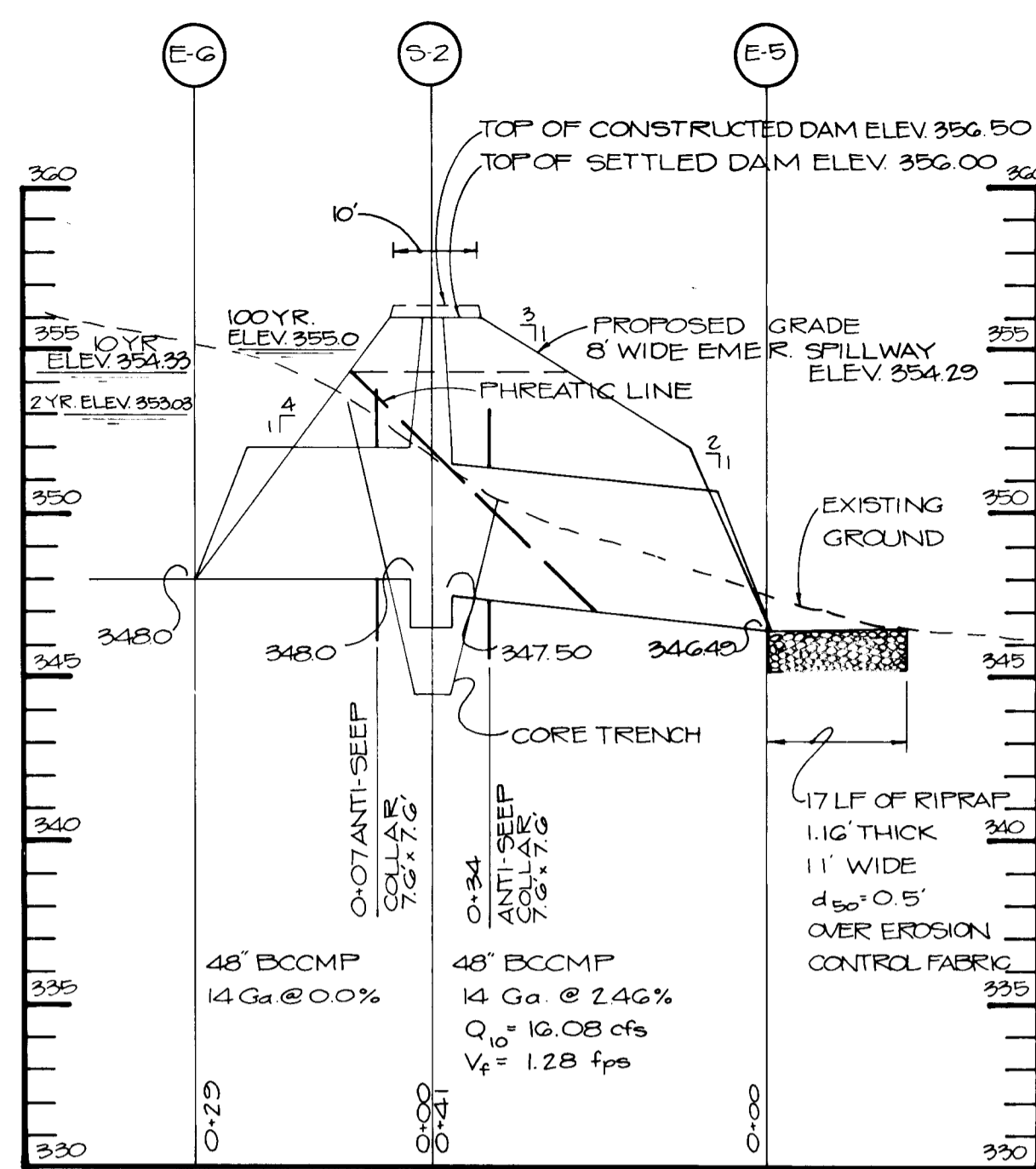
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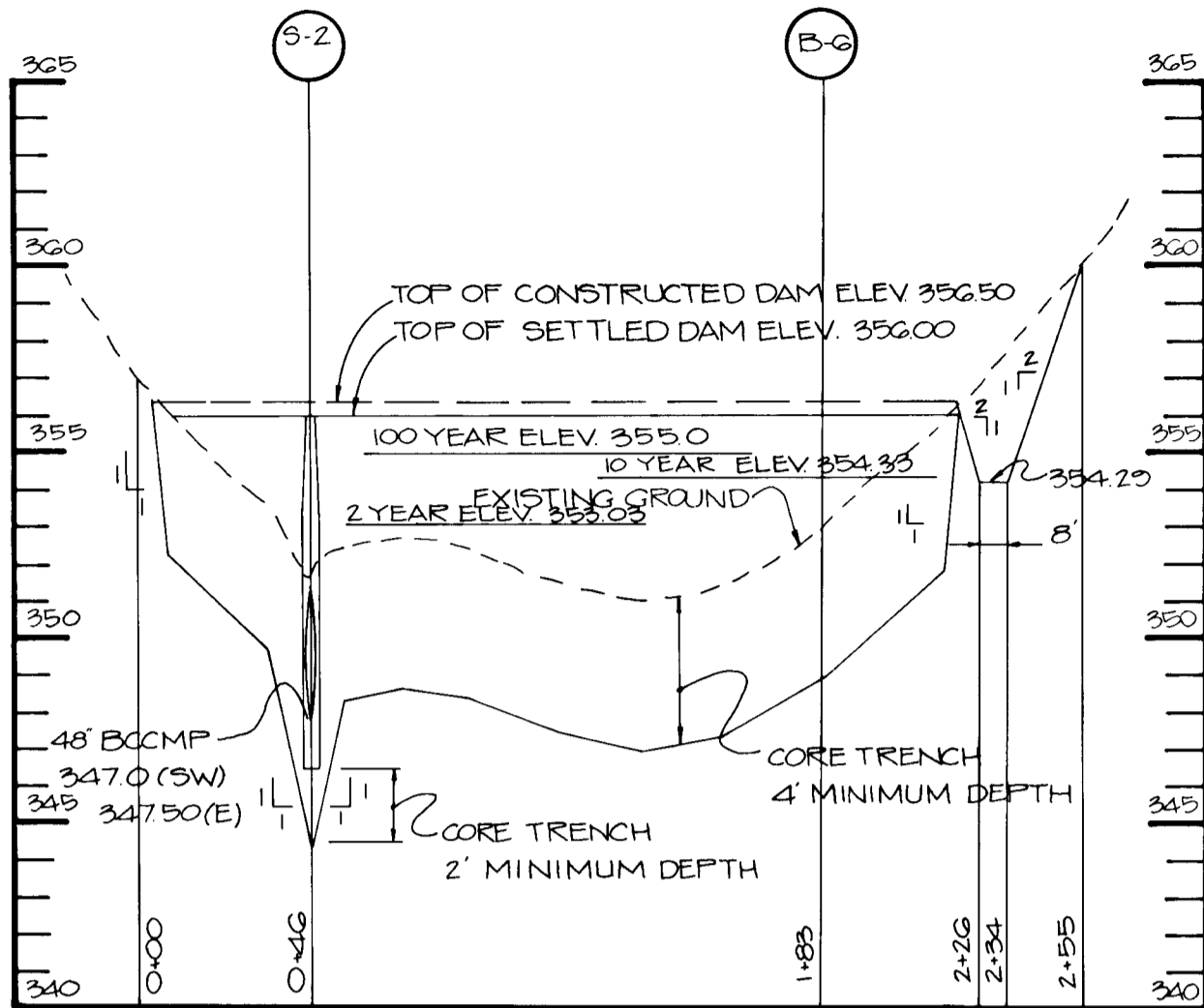
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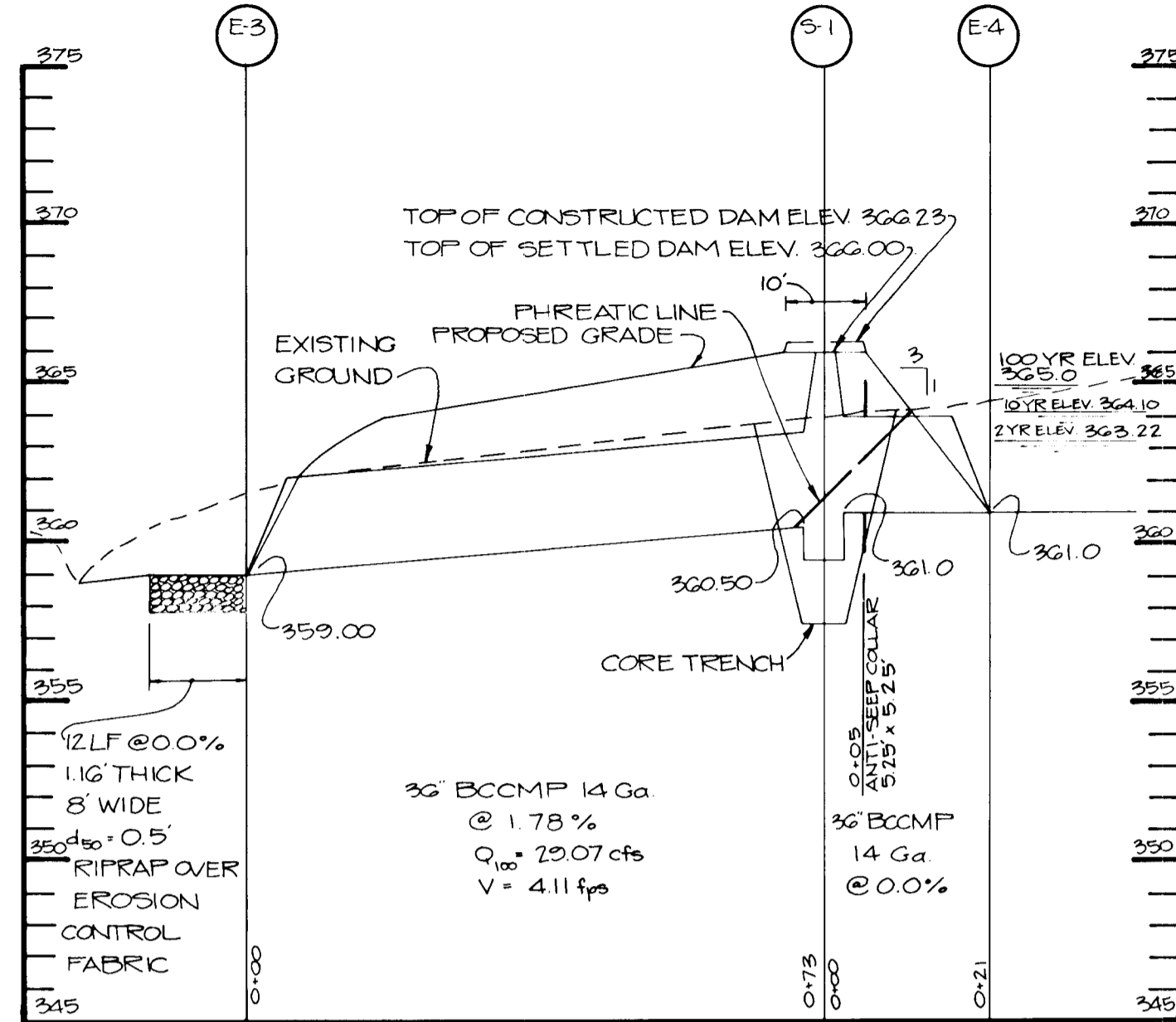
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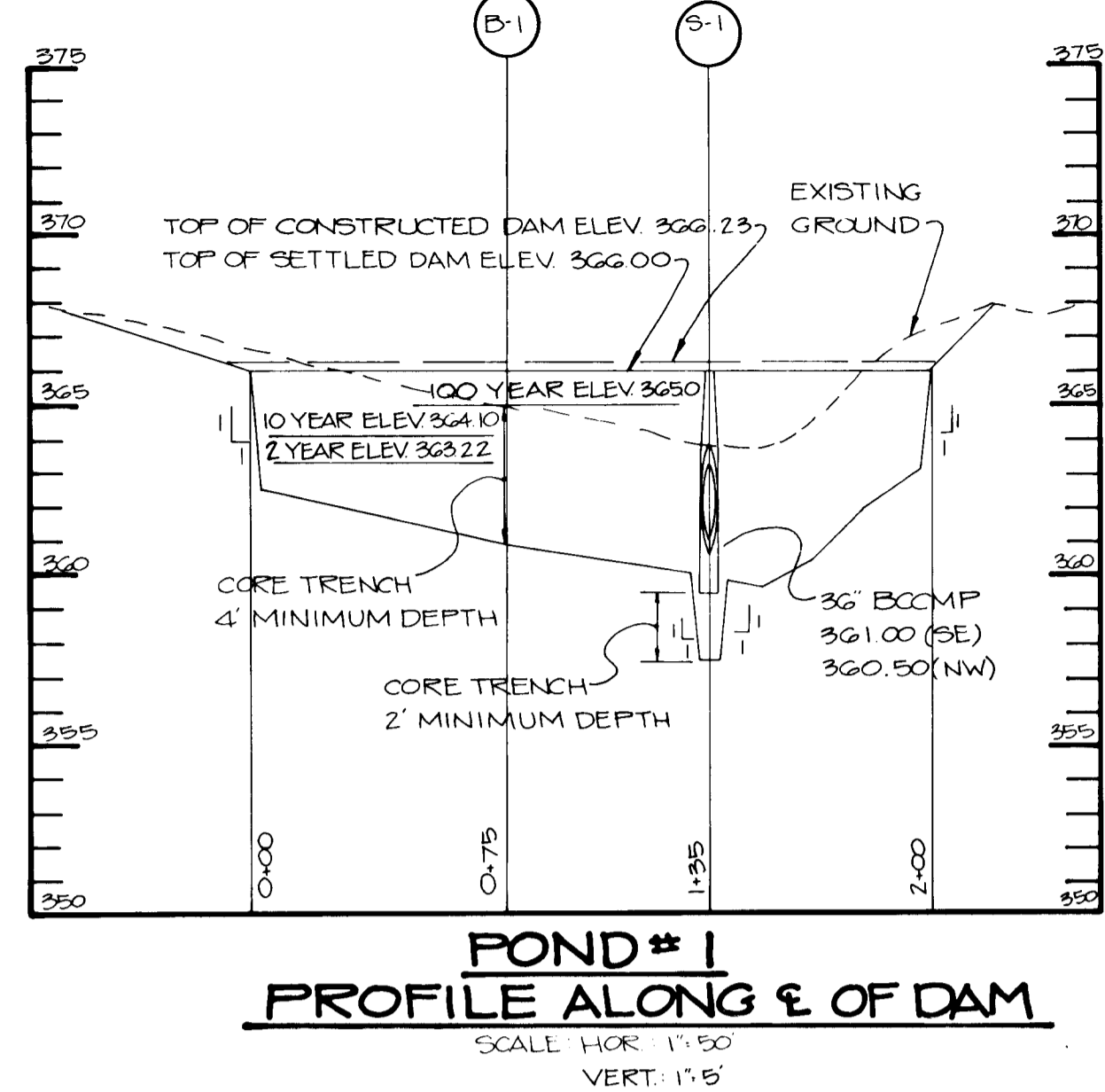
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SCALE: HOR. 1"=20' VERT. 1"=5'



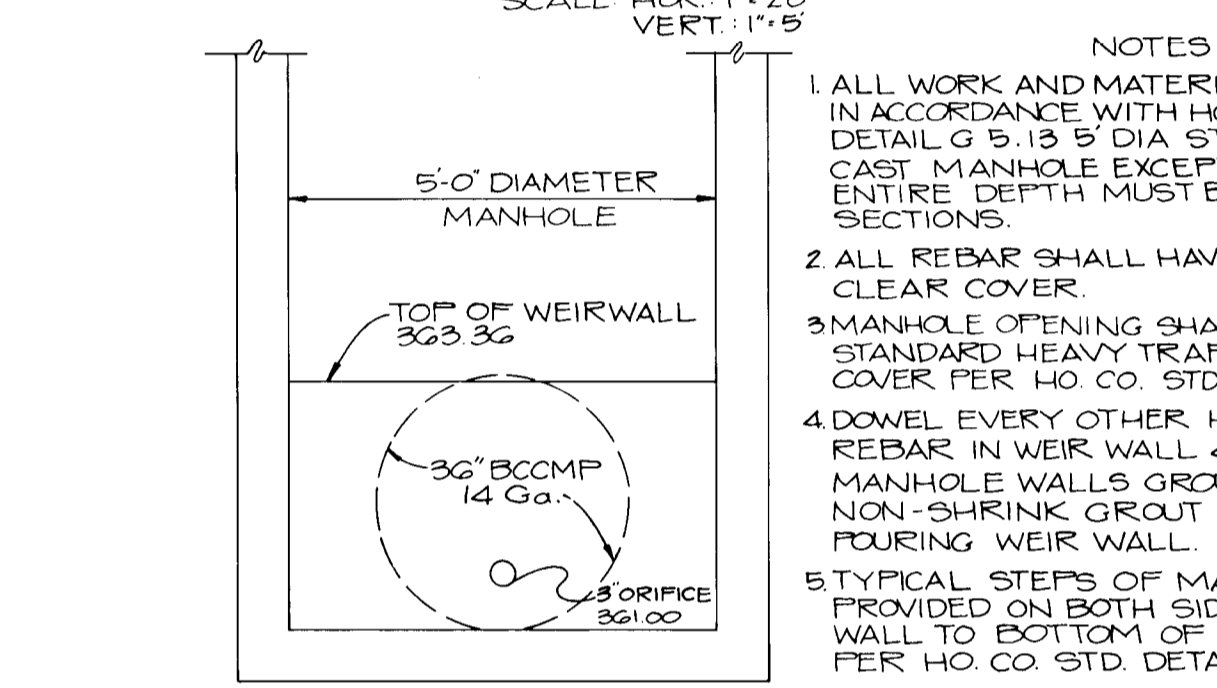
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PROFILE ALONG E OF DAM**
SCALE: HOR. 1"=20' VERT. 1"=5'



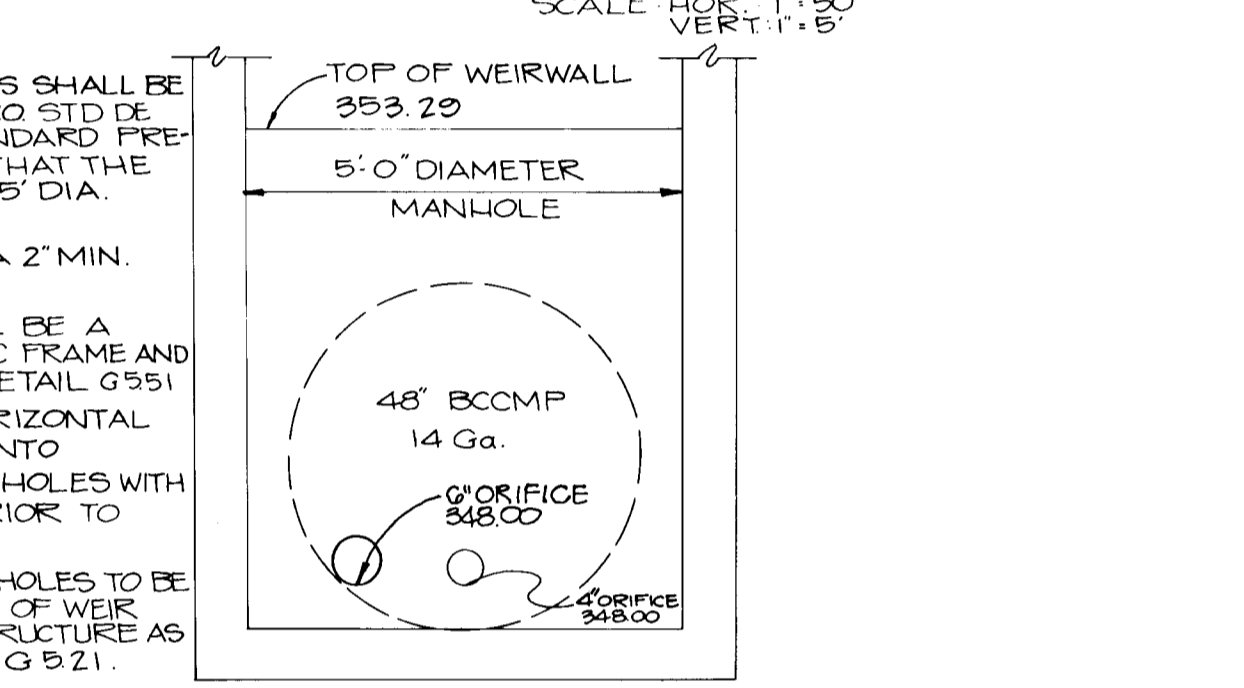
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PROFILE THRU PRINCIPAL SPILLWAY**
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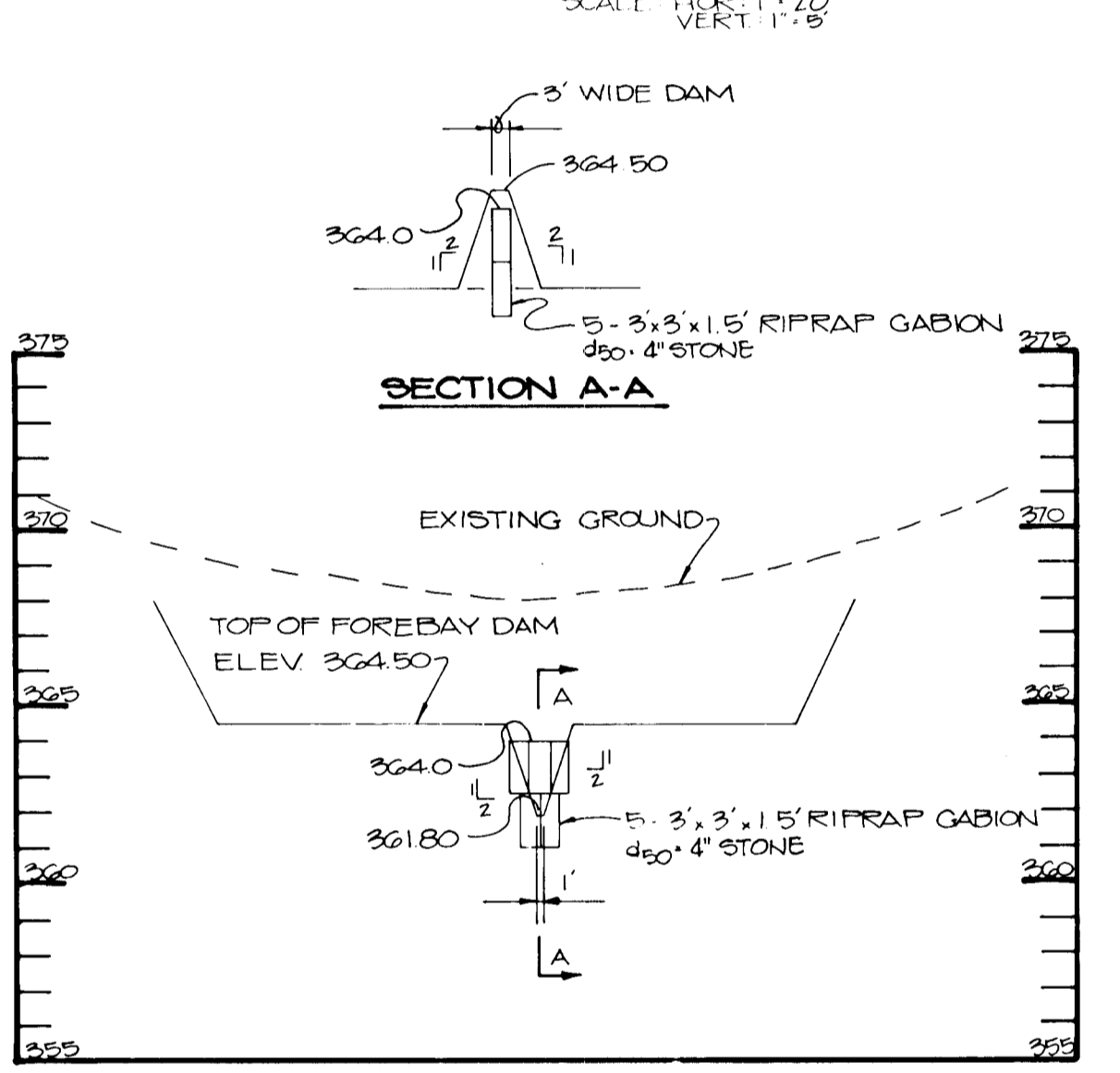
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PROFILE ALONG E OF DAM**
SCALE: HOR. 1"=50' VERT. 1"=5'



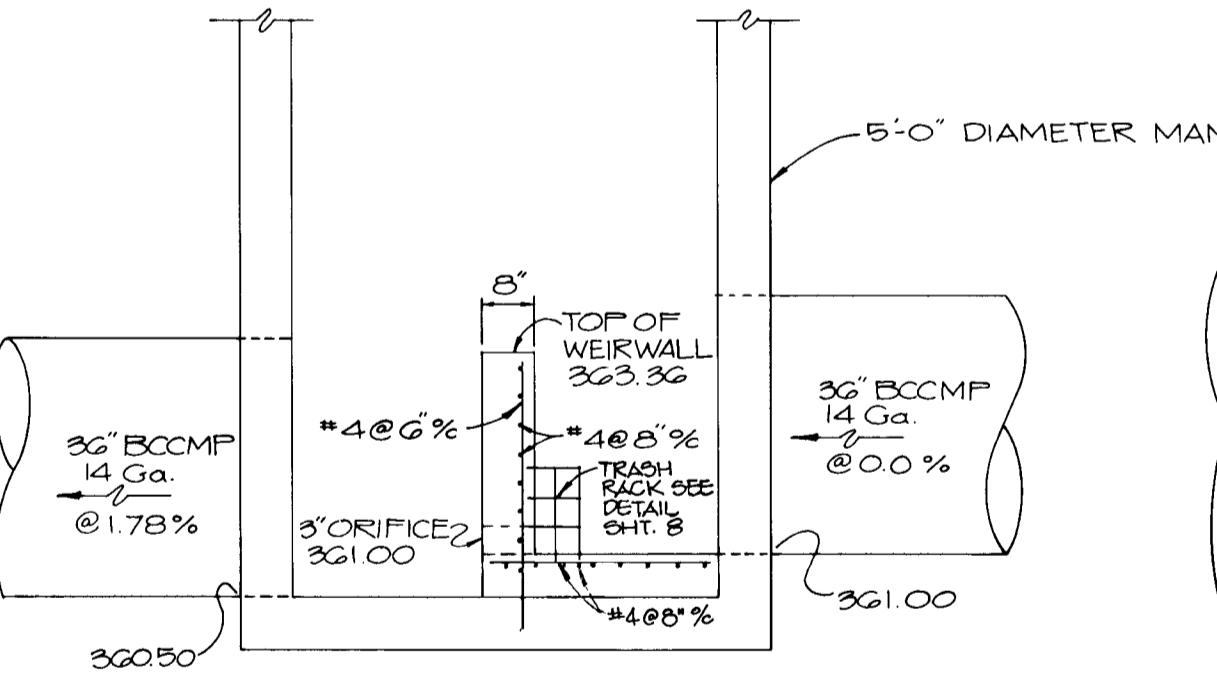
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SECTION A-A**
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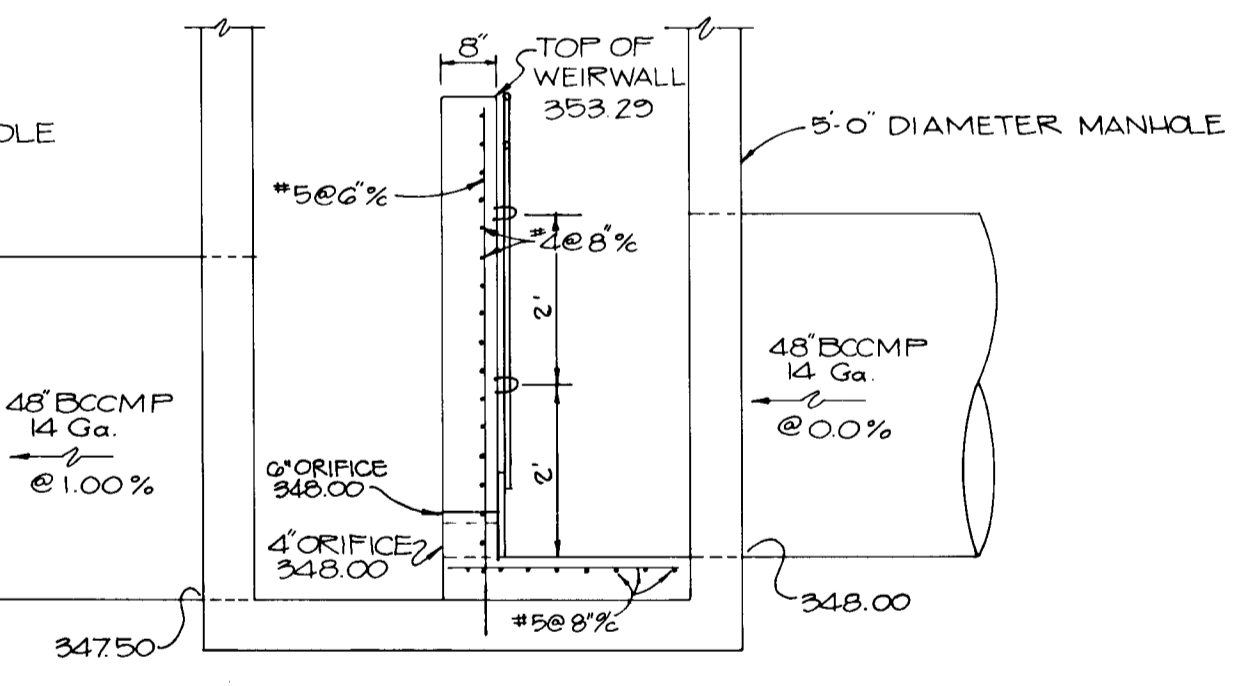
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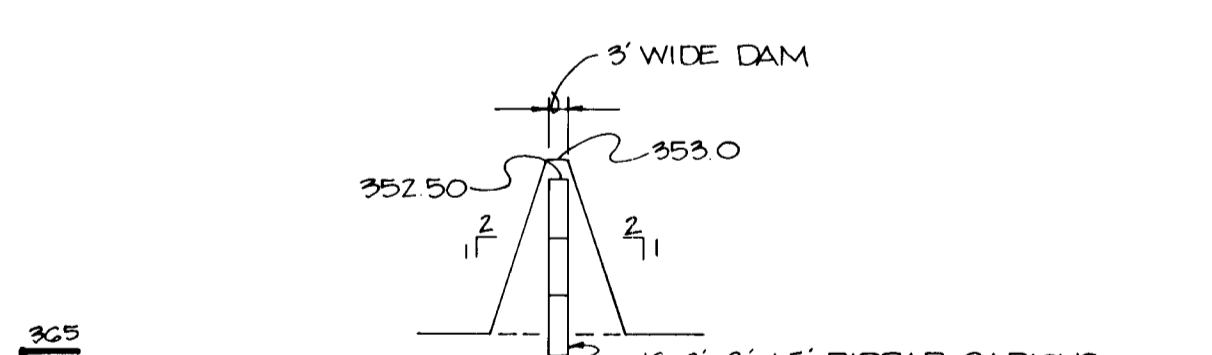
PROFILE ALONG FOREBAY DAM-POND #1
SCALE: HOR. 1"=20' VERT. 1"=5'



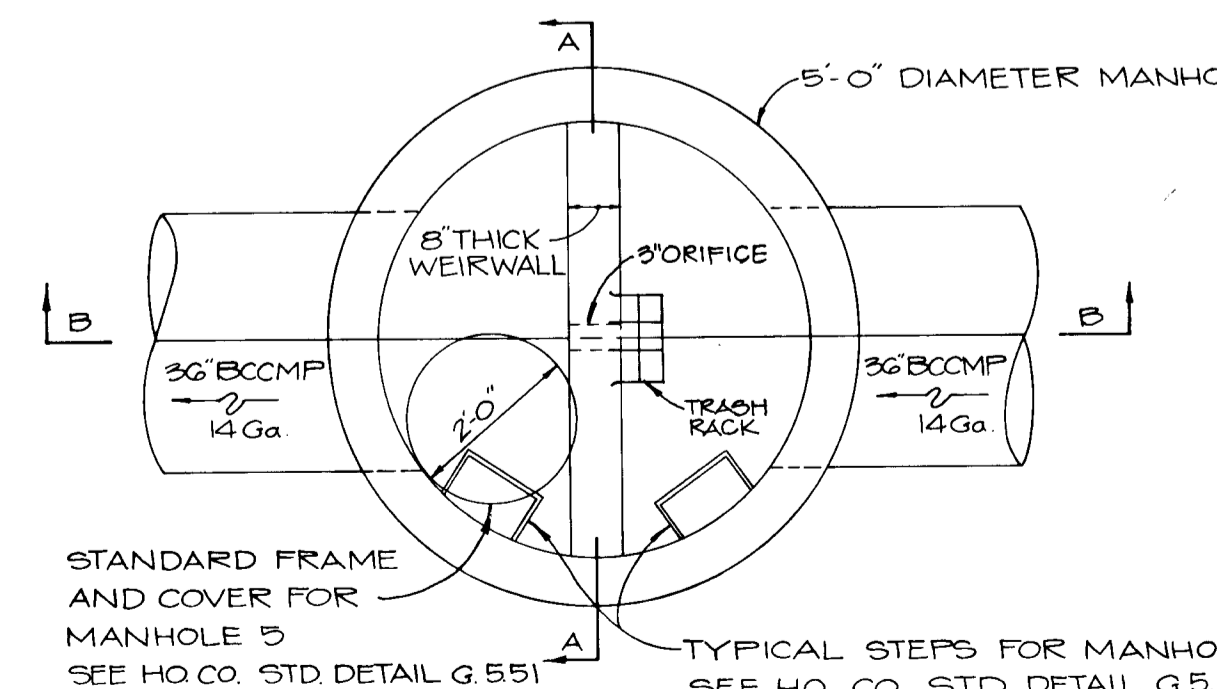
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SECTION B-B**
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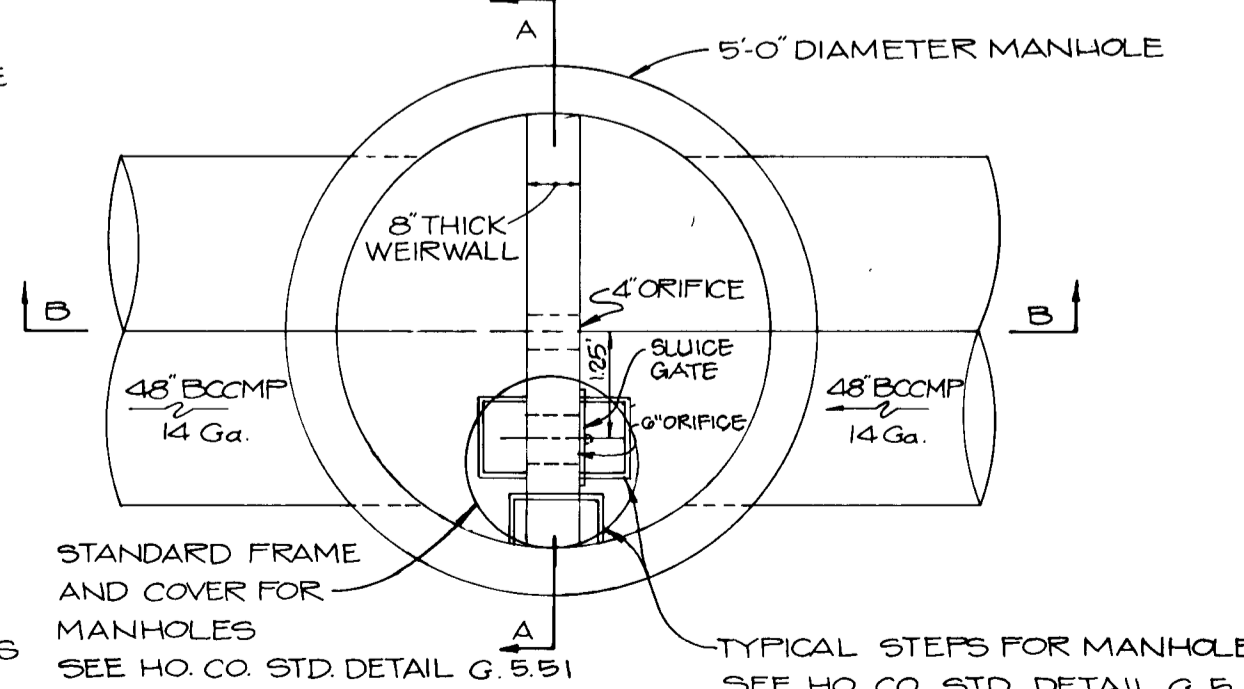
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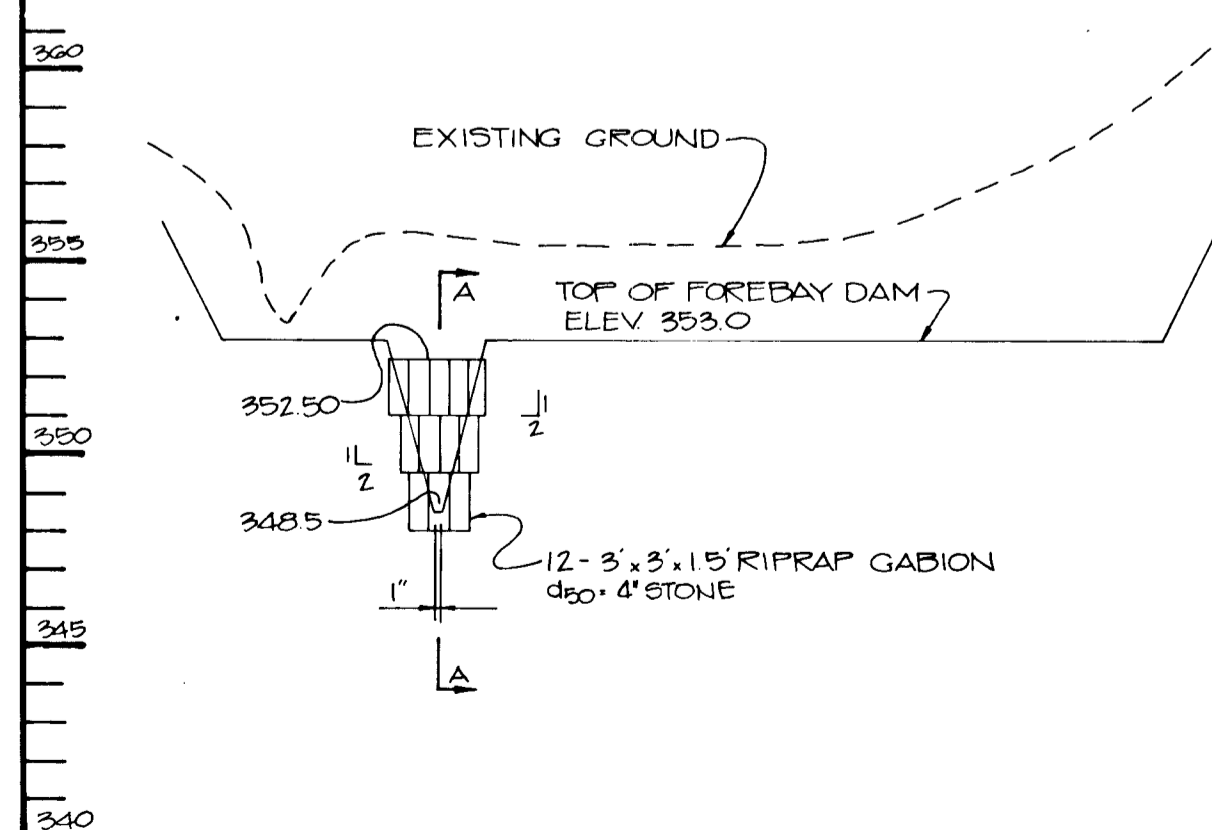
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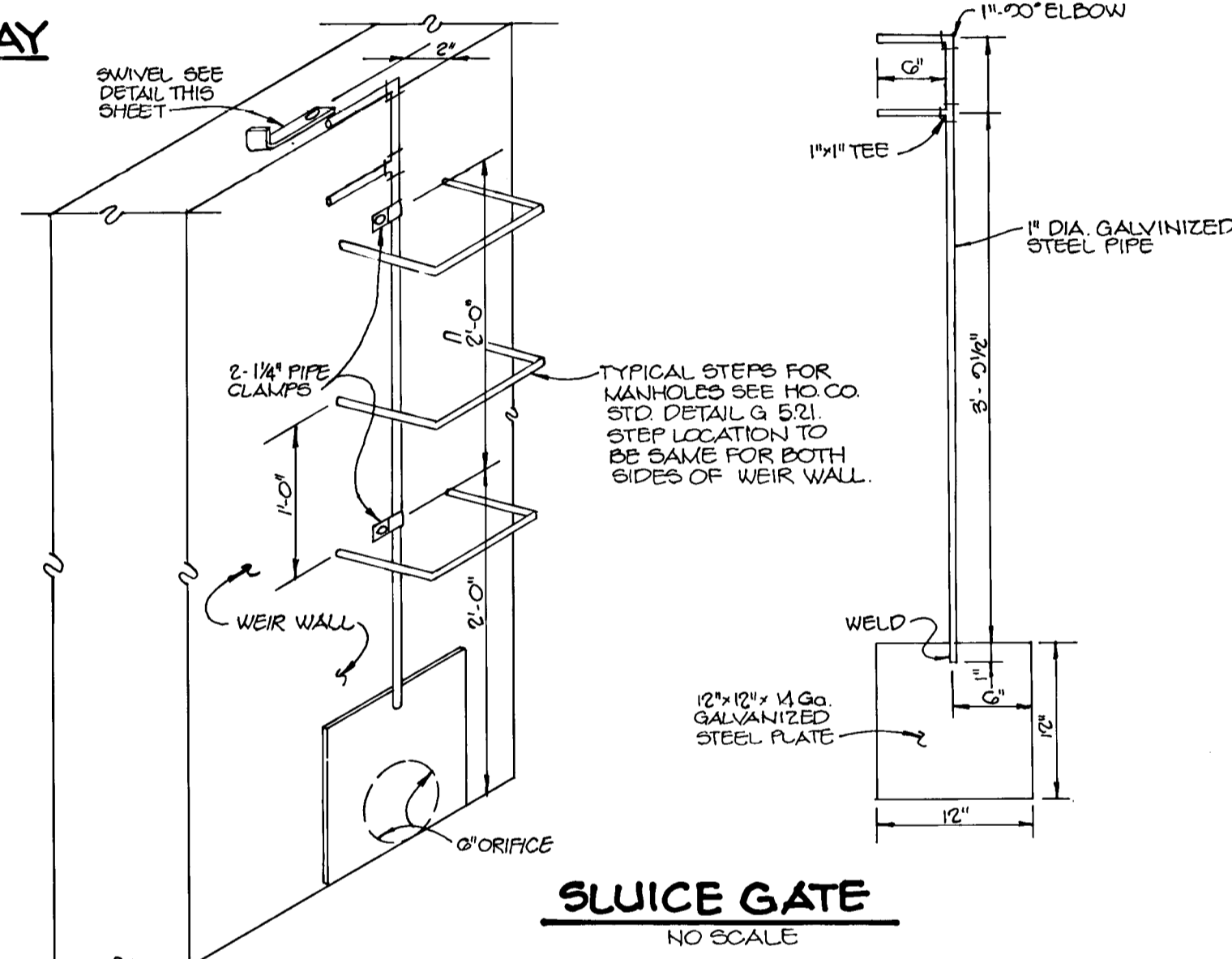
**S-1
PLAN VIEW**
NO SCALE



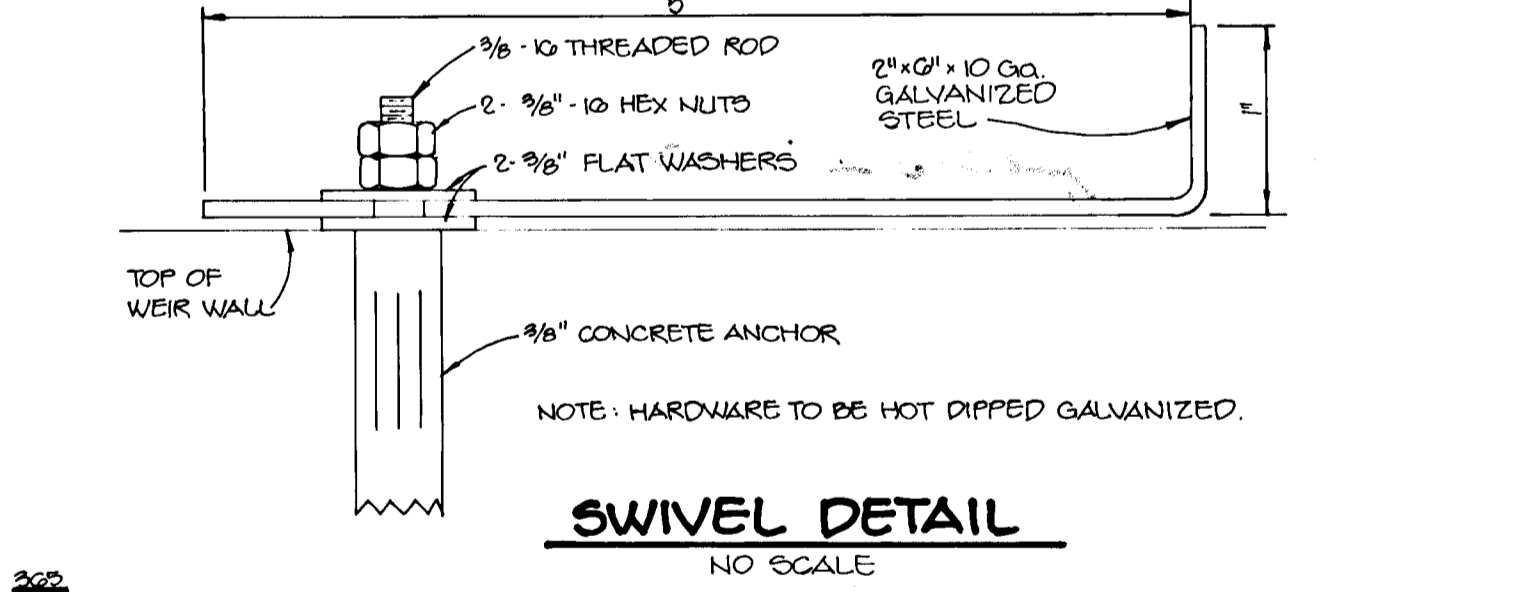
**S-2
PLAN VIEW**
NO SCALE



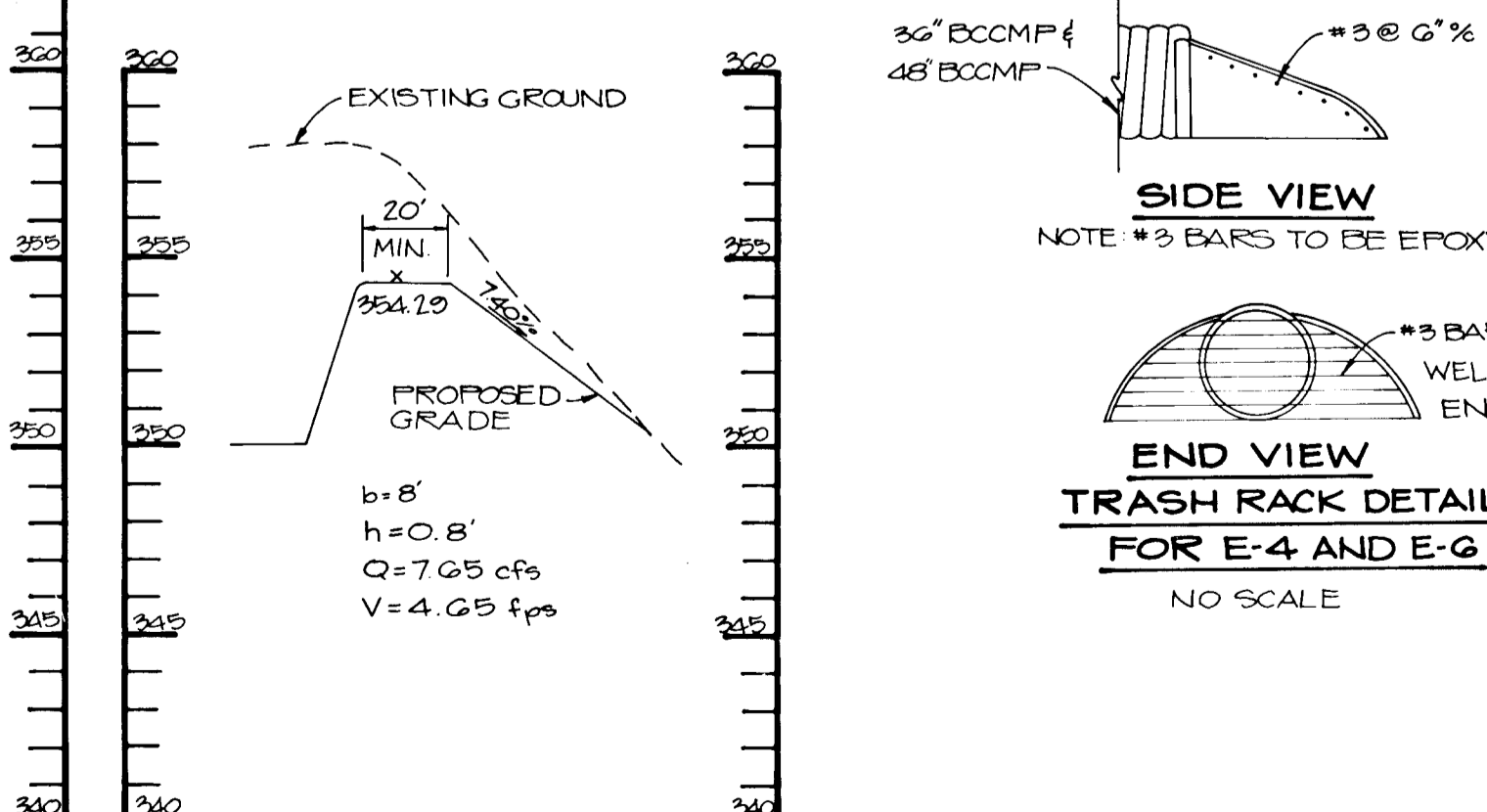
PROFILE ALONG FOREBAY DAM-POND #2
SCALE: HOR. 1"=20' VERT. 1"=5'



SLUICE GATE
NO SCALE



SWIVEL DETAIL
NO SCALE



**POND #2
PROFILE THRU EMERGENCY SPILLWAY**
SCALE: HOR. 1"=50' VERT. 1"=5'

AS BUILT CERTIFICATE		
ARTHUR E. MUEGGE #8707	DATE	
BY THE DEVELOPER:		
"I 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 NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."		
<i>Arthur E. Muegge</i>	4/12/90	
DEVELOPER	DATE	
BY THE ENGINEER:		
"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."		
<i>Arthur E. Muegge</i>	4-13-90	
ENGINEER	DATE	
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.		
<i>John H. H.</i>	4-19-90	
SOIL CONSERVATION SERVICE	DATE	
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.		
<i>Robert J. Zickler</i>	4/19/90	
APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	DATE	
<i>Frank S. D. Langley</i>	4/19/90	
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	DATE	
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS		
<i>David P. ...</i>	6/17/90	
CHIEF, LAND DEVELOPMENT DIVISION	DATE	
<i>Francis W. Welton</i>	6/14/90	
CHIEF, BUREAU OF HIGHWAYS	DATE	
<i>Arthur E. Muegge</i>	DATE	
CHIEF, BUREAU OF ENGINEERING	DATE	
DATE	NO	REVISION
OWNER/DEVELOPER		
INJONG CHOE 11650 FARSDALE ROAD ELLCOTT CITY, MARYLAND 21043		
PROJECT: SINGLE FAMILY DETACHED LOTS GOLDEN BELL LOTS 1-47		
AREA TAX MAP No 37 ZONED R-12 PARCELS 241, 242, 244, 338, 380		
G th ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE: SWM PROFILES AND DETAILS		
RIEMER MUEGGE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm 3105 North Ridge Road Ellicott City, Maryland 21043 301-461-2690 FAX: 301-750-3176		
4/2/90	F-80-80	S-80-32
DATE	DESIGNED BY: D.A.M.	
<i>Arthur E. Muegge</i>	DRAWN BY: J.V.	
ARTHUR E. MUEGGE #8707	PROJECT NO: 54G03	
	DATE:	
	SCALE: AS SHOWN	
	DRAWING NO. 11 OF 11	

1578