

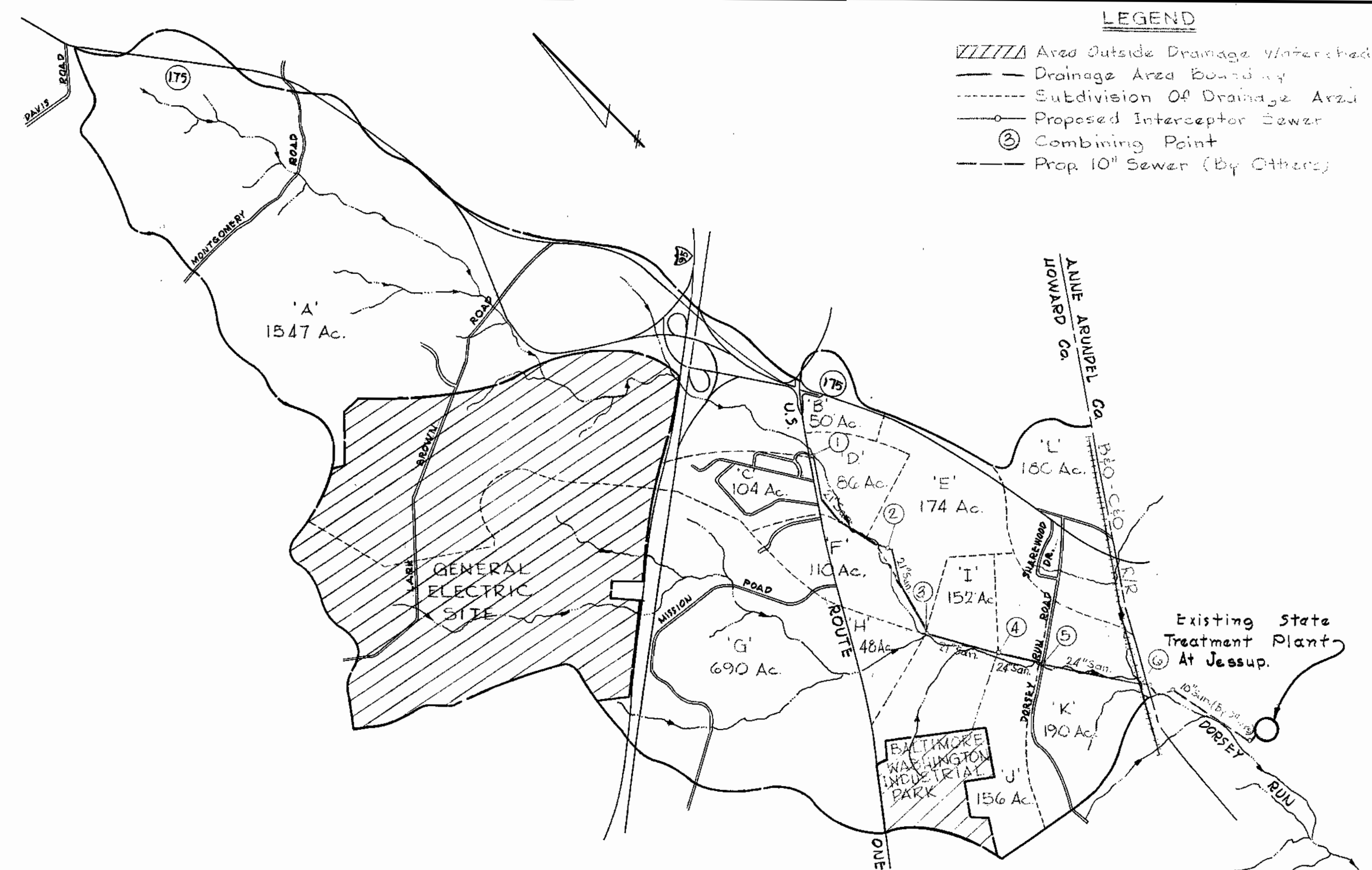
Area Synt.	Total Area (Acres)	UH (Residential)	UH (Industrial)	UH (Commercial)	UH (Public)	UH (Agriculture)	UH (Forest)	UH (Water)	UH (Other)	UH (Total)	UH (Peak Flow (M.G.D.))	UH (Infiltration (M.G.D.))	UH (Infiltration (100 gal/100 sq ft))	UH (Design Flow (M.G.D.))	UH (Approx. Grade %)	UH (Structural Size (Inches))	UH (%)	UH (Velocity (F.P.S.))	UH (Velocity (F.P.S.))	Remarks
A	1,547	5,736	1,092	49	588	0.017	1.109	3.43	0.049	0.155	2.681									
B	50			50	600	0.018	0.018	0.072	0.080	0.008	0.127									
C	04	1,560	0.195				0.195	0.79		0.010	0.80									
D	86			86	1,082	0.031	0.031	0.18	0.086	0.009	0.225									
A-D	1,737	10,296	1,287	155	2,240	0.067	1.354	4.08	0.185	0.179	4.444	0.30	21	67	4.0	2.8				
E	174			174	2,088	0.063	0.063	0.252	0.174	0.017	0.443									
F	110	824	0.066	70	840	0.025	0.091	0.364	0.070	0.011	0.445									
A-F	2,071	10,820	1,353	427	3,148	0.124	1.507	4.50	0.424	0.207	5.136	0.30	21	74	4.10	3.25				
G	690	590	0.074	50	600	0.018	0.092	0.368	0.050	0.069	0.487									
H	48	45	0.006	5	60	0.002	0.008	0.032	0.005	0.005	0.042									
I	152			152	1,824	0.055	0.055	0.220	0.152	0.015	0.387									
A-I	2,961	11,455	1,432	636	7,624	0.229	1.661	4.81	0.636	0.292	5.792	0.35	21	77	4.45	3.70				
J	136	145	0.018	140	1,680	0.050	0.050	0.272	0.140	0.016	0.428									
A-J	3,117	11,600	1,450	776	4,312	0.279	1.729	5.06	0.776	0.312	6.148	0.25	24	70	4.10	3.0				
K	190			190	2,280	0.068	0.068	0.272	0.19	0.019	0.481									
A-K	3,307	11,600	1,450	966	11,592	0.347	1.797	5.20	0.966	0.331	6.497	0.25	24	73	4.10	3.15				
L	130	140	0.015	140	1,420	0.050	0.050	0.272	0.140	0.018	0.430									
A-L	3,437	11,740	1,465	1,106	13,272	0.397	1.845	5.40	1.106	0.349	6.855	0.25	24	76	4.10	3.30				

DESIGN DATA

DRAINAGE AREA MAP  
Scale: 1"=2000'

**LEGEND**

- Area Outside Drainage Watershed
- Drainage Area Boundary
- Subdivision of Drainage Area
- Proposed Interceptor Sewer
- Combining Point
- Prop. 10" Sewer (By Others)



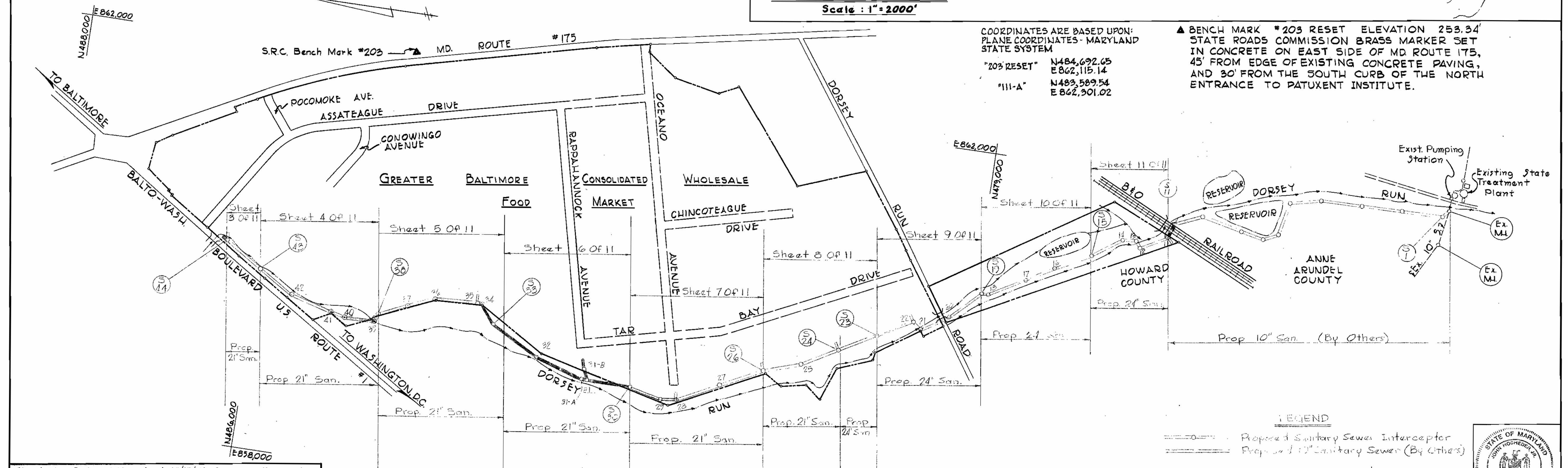
COORDINATES ARE BASED UPON:  
PLANE COORDINATES - MARYLAND  
STATE SYSTEM

"203 RESET" N484,692.65  
E862,115.14

"111-A" N483,589.54  
E862,301.02

▲ BENCH MARK #203 RESET ELEVATION 253.34'  
STATE ROADS COMMISSION BRASS MARKER SET  
IN CONCRETE ON EAST SIDE OF MD ROUTE 175,  
45' FROM EDGE OF EXISTING CONCRETE PAVING,  
AND 30' FROM THE SOUTH CURB OF THE NORTH  
ENTRANCE TO PATUXENT INSTITUTE.

LOCATION MAP  
SCALE: 1"=500'



**LEGEND**

- Proposed Sanitary Sewer Interceptor
- Proposed 10" Sanitary Sewer (By Others)

Sheet Nos. 5, 6 and 11 revised 10/15/72 for new alignment and elimination of tunnel line plate pipe.

Approved \_\_\_\_\_ Chief, Bureau of Engineering Date \_\_\_\_\_

GEORGE W. STEPHENS JR. & ASSOC. CONSULTING ENGINEERS 303 ALLEGHENY AVE. TOWSON, MD. 21204	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 8-16-72 DATE	CONTRACT NO. 487-S	LOCATION MAP SEWER INTERCEPTOR	SANITARY SEWER DORSEY RUN INTERCEPTOR FROM B.O. RAILROAD NORTHWESTERLY TO U.S. ROUTE 1 JUNE 28, 1972 ELECTION DISTRICT 6	DRAWING NO. 1 OF 11 SCALE AS SHOWN	DES. TO CHK. TC
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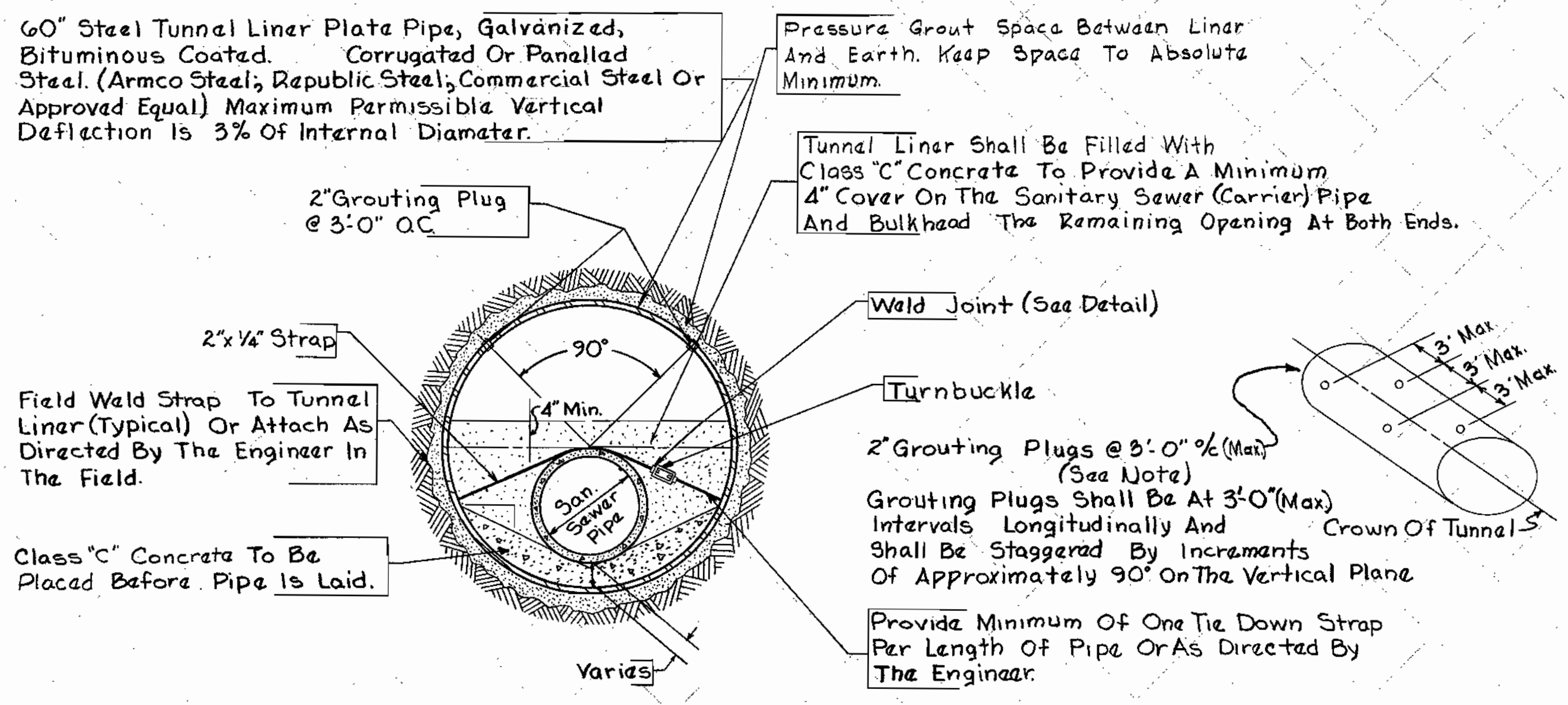


As-Built

WS 487-S/1

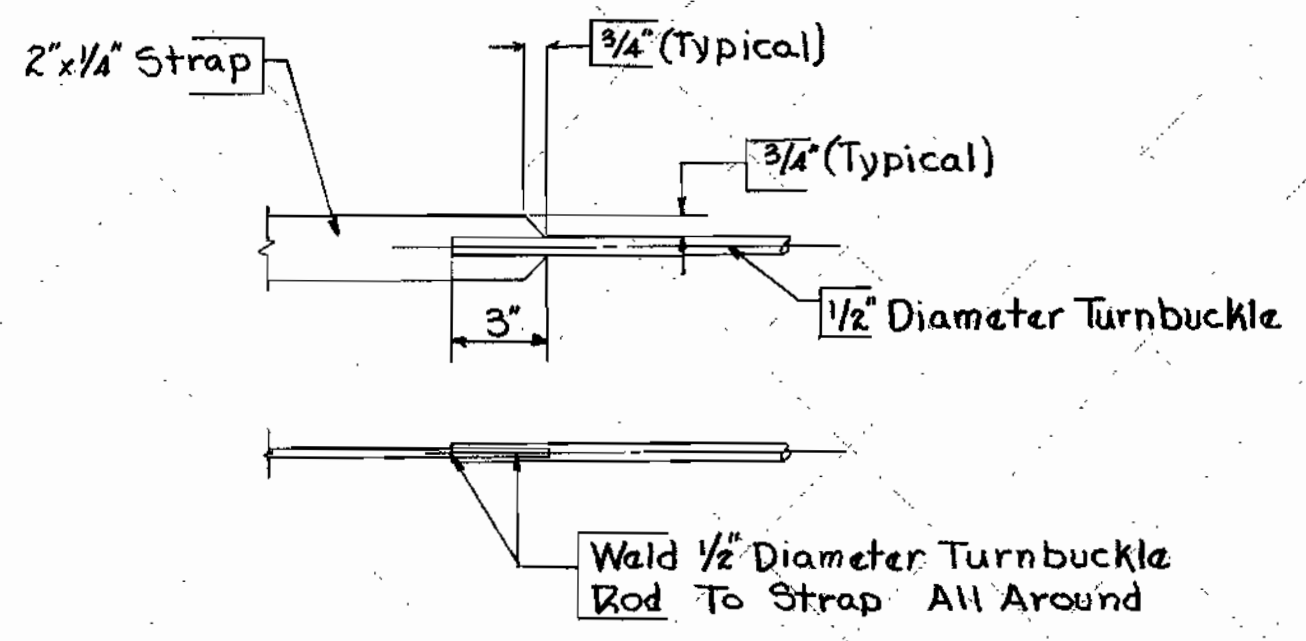
GENERAL NOTES

- The Specifications for this contract will be those of Howard County Department of Public Works titled "Standard Specifications And Details For Water Mains And Sanitary Sewers" dated March 1970 and revisions thereof or additions thereto included in the Proposal and Special Provisions.
- All Structures shall be constructed in accordance with the Howard County Standard Details unless otherwise indicated on the plans.
- Existing utilities are shown on the drawings according to the best available information. However, the correctness or completeness is not guaranteed. The Contractor shall take the necessary precautions to maintain existing utilities service and shall repair damage to them due to his own negligence immediately and at no expense to the Howard County Department of Public Works.
- The existing fence along the easement line may be removed as required to perform the work. All fencing removed shall be replaced prior to completion of the project.
- The elevations shown on the drawings are relative to the Maryland State Roads Commission Bench Mark "203" set in concrete on the east side of Maryland Rte. 175, 45' from edge of existing concrete paving, and 30' from the south curb of the north entrance to Patuxent Institute. Elevation 25334.
- Pipe elevations shown refer to inverts unless otherwise noted.
- Any easements, working strips or property lines shown on these plans are strictly for the purpose of assisting in the interpretation of the plans, for exact easement information see the right of way plats.
- Where private property is crossed, right of way and working strips have been acquired. The Contractor shall confine his operations to these areas, as specified, unless he makes other arrangements, in writing with the property owners.
- The contractor shall contact Howard County Department of Public Works prior to any excavation in Dorsey Run Road.
- The contractor shall maintain at least one lane of traffic on Dorsey Run Road at all times.
- Re-paving of Dorsey Run Road is to be done by the Contractor in accordance with Howard County Department of Public Works Standard Specifications And Details For Water Mains And Sanitary Sewers Plate "R-40R".
- Connection of any sewers to this system shall not be made until final inspection and testing has been successfully completed and proper permits obtained from Howard County.
- Bid Line For Excavation Is The Existing Ground Line.
- All Manholes Shall be 4'-0" Inside diameter Unless Otherwise Noted With Watertight Frame & Cover. Top Of Frame Shall be 1.0' Above Finished Grade.
- The Contractor Shall Provide A Pipe Joint In Each Sewer Main Within 2'-0" Of The Exterior Of Manhole Walls.
- For Details Not Shown On The Contract Drawings See Standard Details Bound In The Specifications.
- Trees Are To Be Protected From Damage To The Maximum Extent Possible.



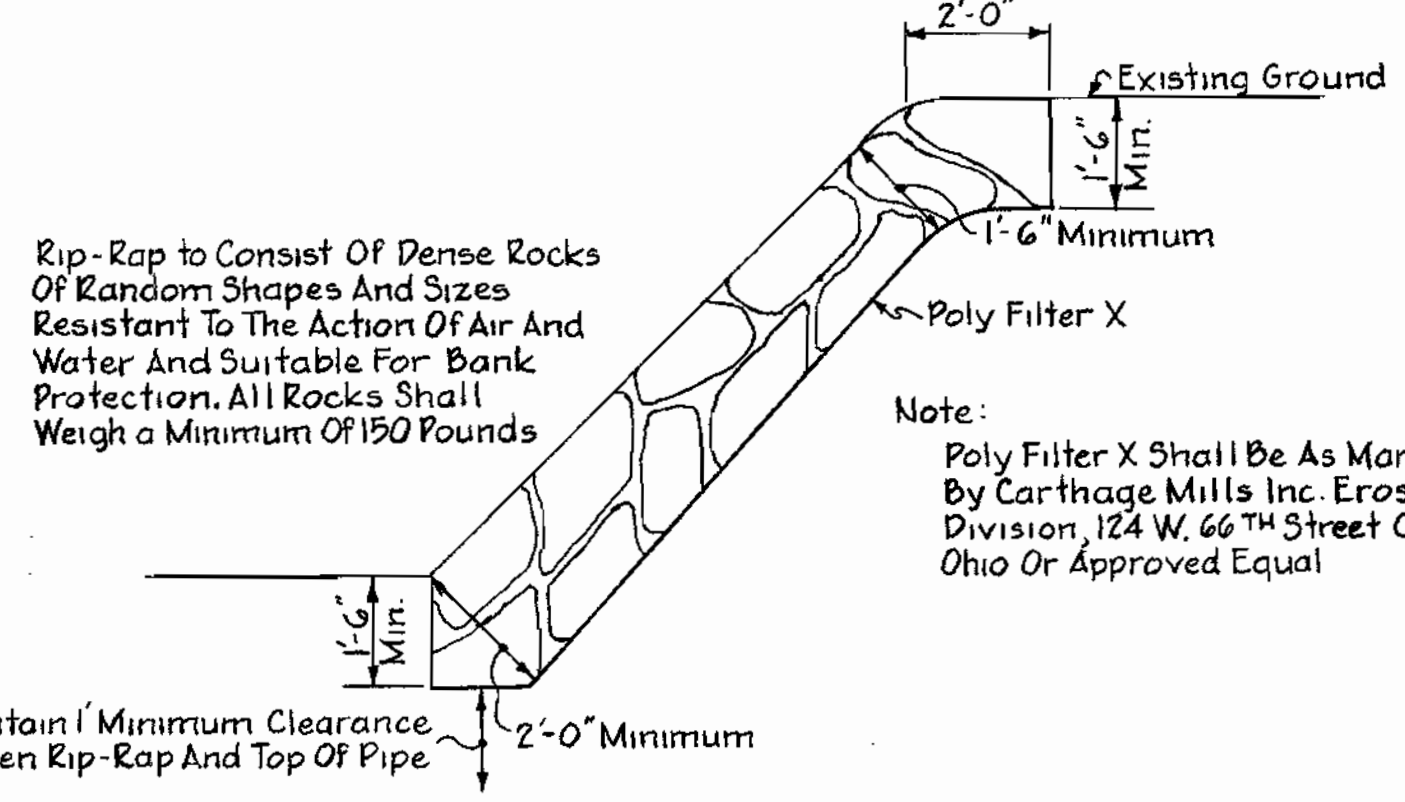
TYPICAL SECTION - TUNNEL LINER  
NO SCALE

NOTE:  
 a. Grouting Plugs Shall Be 2" Standard Half Coupling With 2" C.I. Plug. Method Of Installation In Liner Plate Shall Be In Accordance With The Manufacturers' Recommendations.  
 b. Encasement Concrete Is To Be Mechanically Vibrated.



WELD JOINT DETAIL  
NO SCALE

Note:  
 If Field Conditions Require That Encasement Be Poured In Sections A 3'x3' Key Will Be Required As Shown.

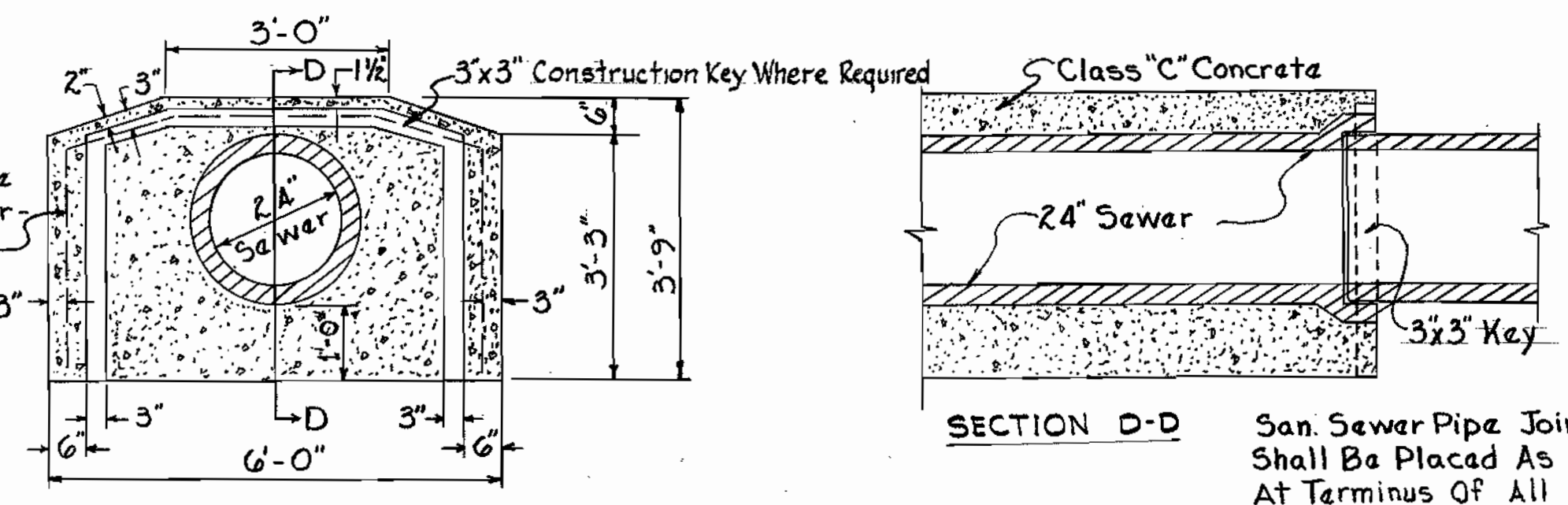


RIP-RAP DETAIL  
Scale: 3/8" = 1'-0"

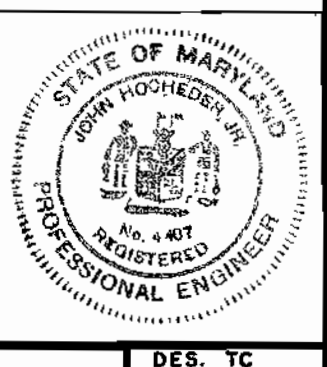
TUNNEL LINER		
TYPE OF LINER PLATE	LOCATION	
	@ RAILROAD	
	GAGE	SECTION MODULUS
ARMCO STEEL (CORRUGATED)	12	0.0478 in. <sup>3</sup>
REPUBLIC STEEL (PANELLED)	12	0.0232 in. <sup>3</sup>
COMMERCIAL LINER	1/4" (3)	0.0564

\* Section Modulus Based Upon Per Inch Of Width

RAILROAD CROSSING		
DESCRIPTION	CARRIER PIPE	CASING PIPE
Contents To Be Handled	Sewage	Carrier Pipe
Diameter Inside & Outside	24" ID Varies O.D.	60" Nominal Diameter
Material & Type Of Pipe	Vitrified Clay Sewer Pipe R.C.S.P. Or A.C.S.P.	See Tunnel Liner Above
Specification & Grade	Varies	ASTM A-245 Comm. Grade
Weight Per Linear Foot	Varies	Varies
Actual Working Pressure	0	0
Test Pressure	0	0
Type Of Joint	Bell & Spigot	Bolted
Method Of Installation	Jacked	Tunnel



SPECIAL CONCRETE ENCASEMENT  
NO SCALE



8/7/72  
 DATE

WS 487-S/2

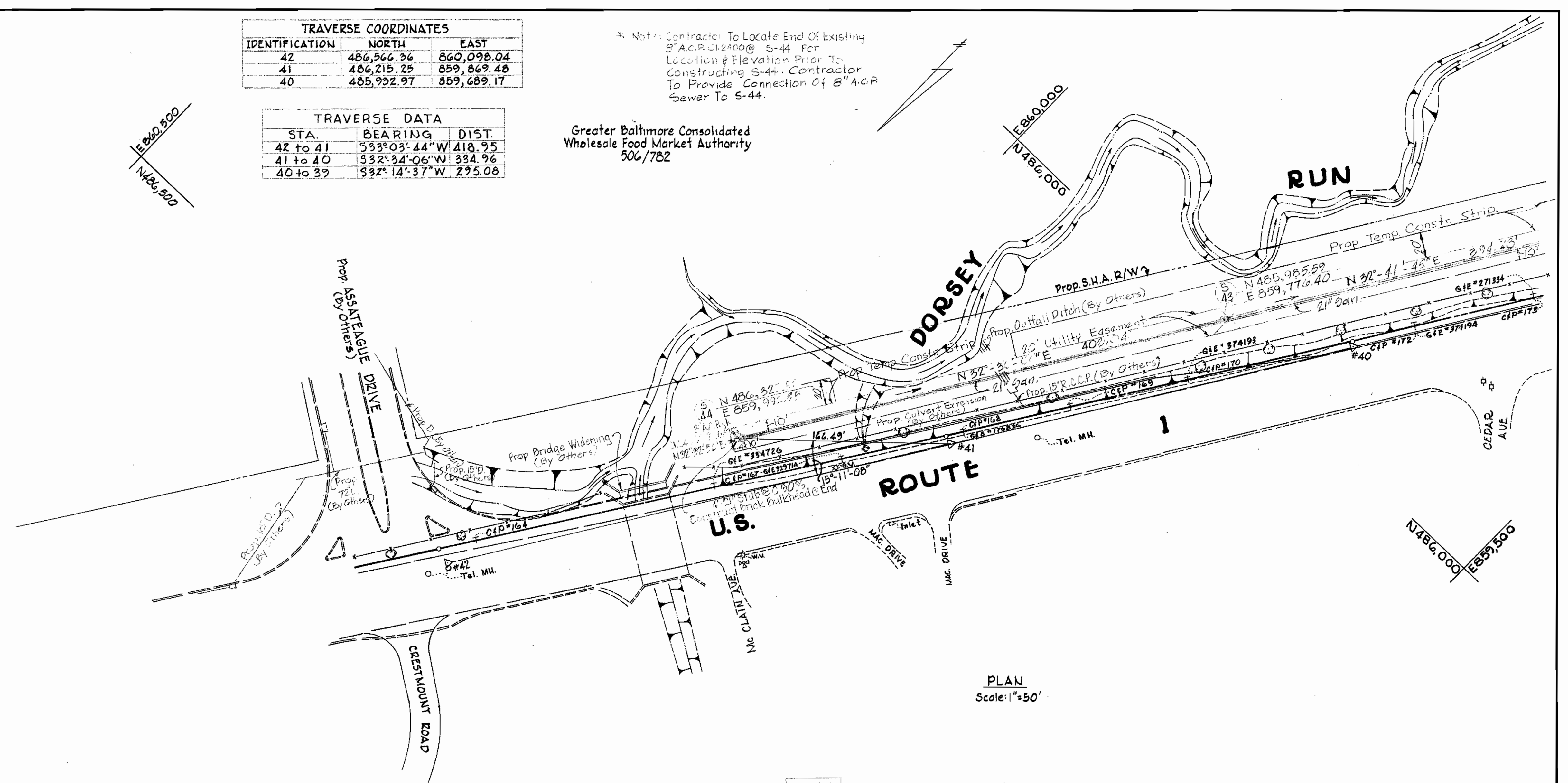
GEORGE W. STEPHENS JR. & ASSOC CONSULTING ENGINEERS 303 ALLEGHENY AVE. TOWSON, MD. 21204	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 8-16-72 DATE	CONTRACT NO. 487-S CHIEF BUREAU OF WATER AND SEWER	TYPICAL DETAILS SEWER INTERCEPTOR	SANITARY SEWER DORSEY RUN INTERCEPTOR FROM B.O.G. RAILROAD NORTHWESTERLY TO U.S. ROUTE 1 JUNE 28, 1972 ELECTION DISTRICT 6	DRAWING NO. 2 OF 11 SCALE AS SHOWN	DES. TC DRW. DL CHK. TC
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TRAVERSE COORDINATES		
IDENTIFICATION	NORTH	EAST
42	486,566.36	860,098.04
41	486,215.25	859,869.48
40	485,992.97	859,689.17

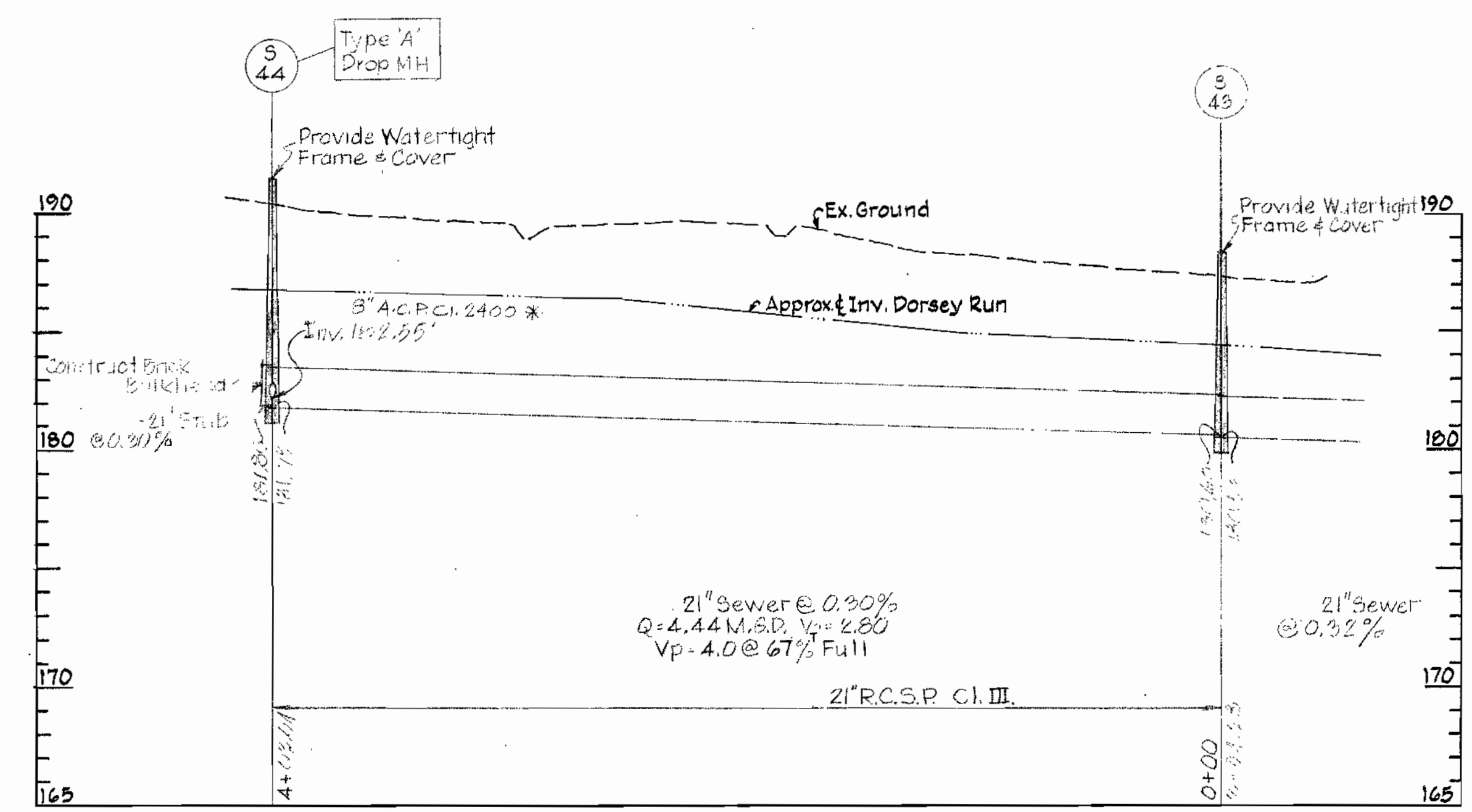
TRAVERSE DATA		
STA.	BEARING	DIST.
42 to 41	S 93° 03' 44" W	418.95
41 to 40	S 32° 34' 06" W	334.96
40 to 39	S 32° 14' 37" W	295.08

\* Note: Contractor To Locate End Of Existing 8" A.C.P. @ 2400 @ S-44 For Location & Elevation Prior To Constructing S-44. Contractor To Provide Connection Of 8" A.C.P. Sewer To S-44.

Greater Baltimore Consolidated Wholesale Food Market Authority  
506/782

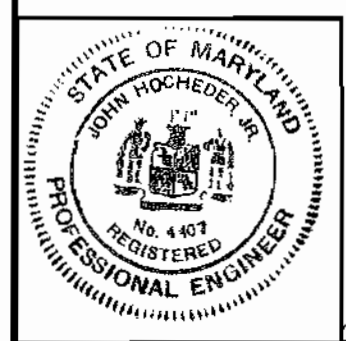


PLAN  
Scale: 1"=50'



PROFILE  
Scale: Hor: 1"=50'  
Vert: 1"=5'

AS BUILT



*George W. Stephens Jr.*  
REG. NO. 4497  
DATE 8/7/72

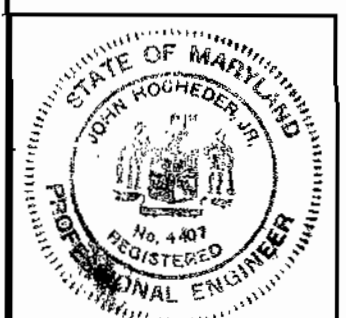
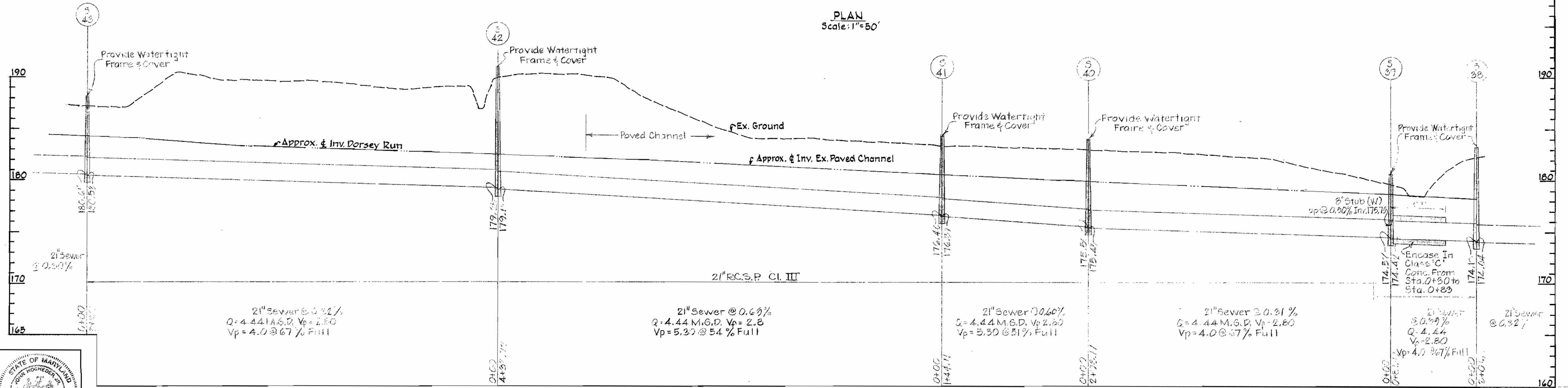
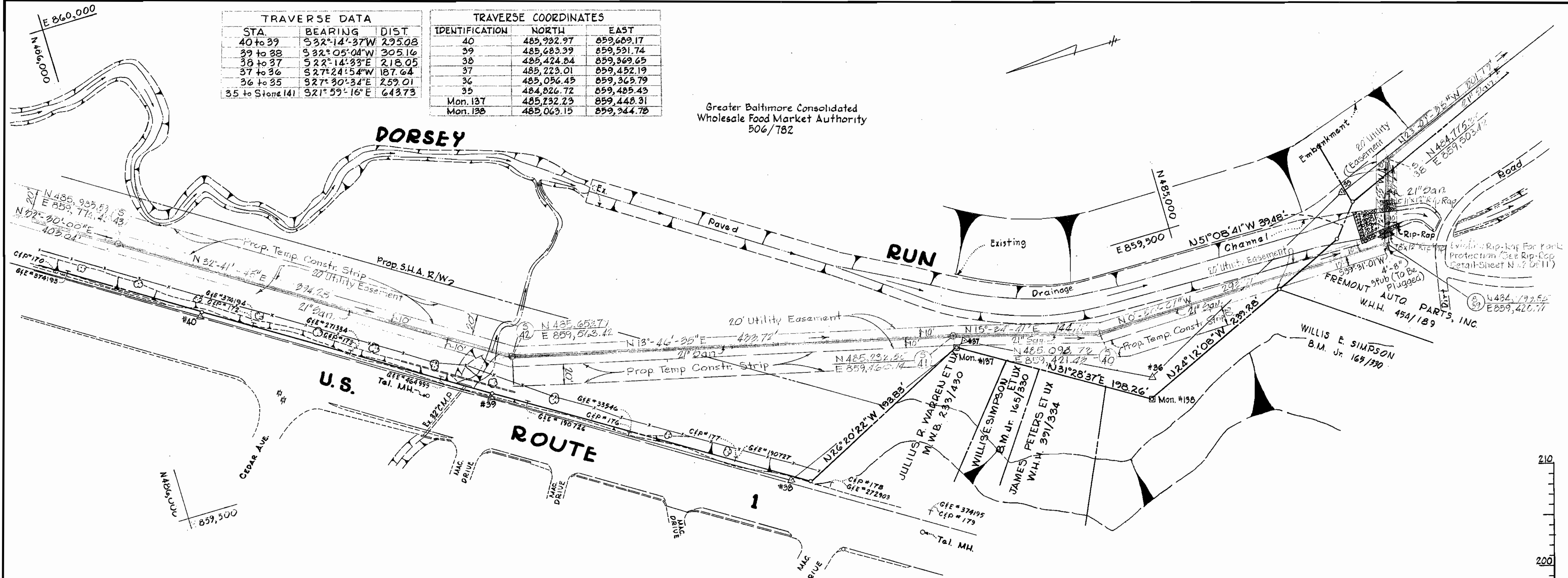
GEORGE W. STEPHENS JR. & ASSOC. CONSULTING ENGINEERS 303 ALLEGHENY AVE. TOWSON, MD 21204	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 8-16-72 DATE <i>W. O. Lambert</i> CHIEF-BUREAU OF WATER AND SEWER	CONTRACT NO. 487-S	PLAN & PROFILE SEWER INTERCEPTOR	SANITARY SEWER DORSEY RUN INTERCEPTOR FROM B.O. RAILROAD NORTHWESTERLY TO U.S. ROUTE 1 JUNE 28, 1972 ELECTION DISTRICT 6	DRAWING NO. 3	SCALE AS SHOWN	DES. TC DRW. DL CHK. TC
					OF 11		

WS 487-S/3

STA.	BEARING	DIST.
40 to 39	S 32° 14' 37" W	295.08
39 to 38	S 32° 05' 04" W	305.16
38 to 37	S 22° 14' 33" E	218.05
37 to 36	S 27° 24' 54" W	187.64
36 to 35	S 27° 30' 34" E	259.01
35 to Stone 141	S 21° 59' 16" E	643.73

IDENTIFICATION	TRaverse Coordinates	
	NORTH	EAST
40	485,932.97	859,689.17
39	485,683.39	859,531.74
38	485,424.84	859,369.65
37	485,223.01	859,452.19
36	485,096.45	859,365.79
35	484,826.72	859,485.43
Mon. 137	485,732.23	859,448.31
Mon. 138	485,063.15	859,344.78

Greater Baltimore Consolidated  
Wholesale Food Market Authority  
506/782



*George W. Stephens Jr.*  
REG. NO. 4407  
DATE 8/1/72

PROFILE  
Hor. 1"=50'  
Vert. 1"=5'

Revised to provide 6" Stub for Fremont  
Auto Parts Inc. Oct. 15, 1972

AS BUILT

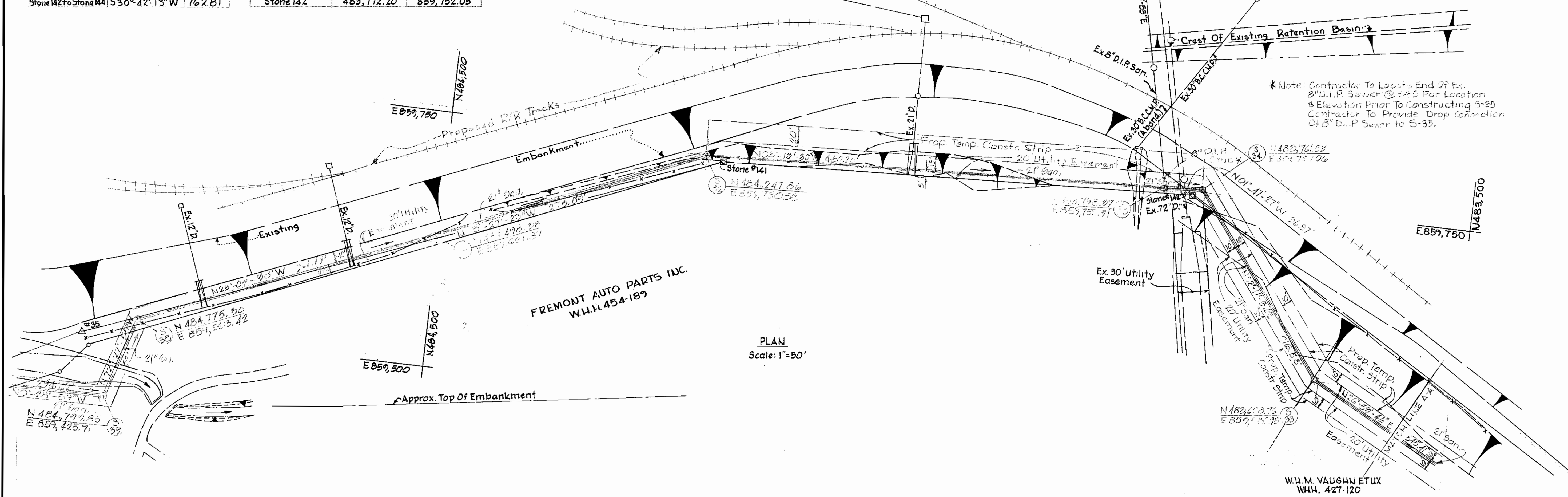
GEORGE W. STEPHENS JR. & ASSOC. CONSULTING ENGINEERS 303 ALLEGHENY AVE. TOWSON, MD. 21204	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 8-16-72 DATE	CONTRACT NO. 487-S	PLAN & PROFILE SEWER INTERCEPTOR	SANITARY SEWER DORSEY RUN INTERCEPTOR FROM B.O. RAILROAD NORTHWESTERLY TO U.S. ROUTE 1 ELECTION DISTRICT 6 JUNE 28, 1972	DRAWING NO. 4 OF 11	SCALE AS SHOWN	DES. TC DRW. DL CHK. TC
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WS 487-S/4

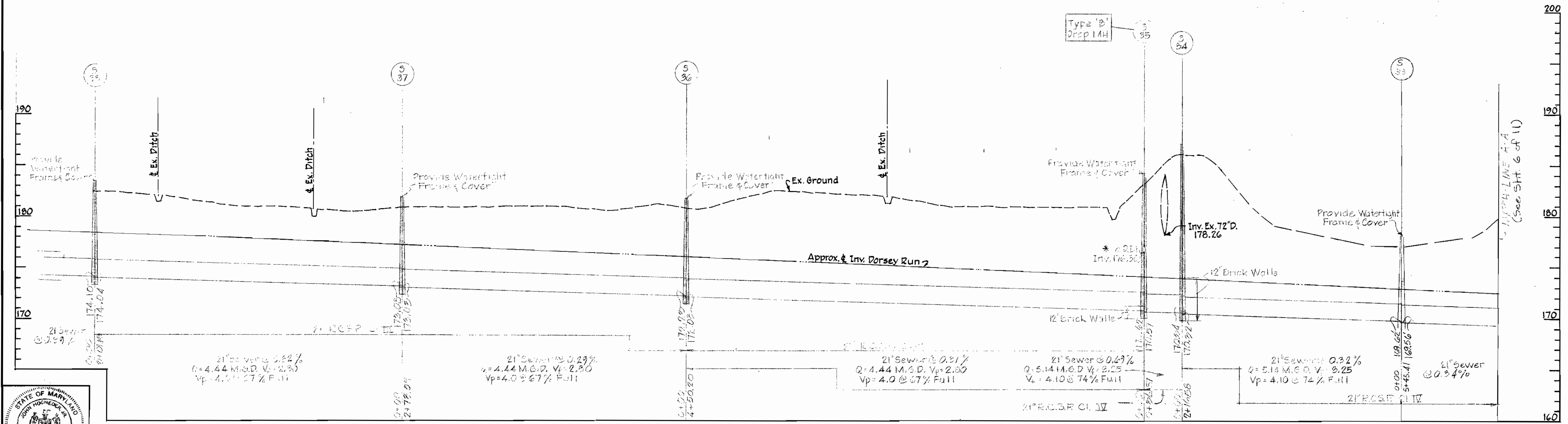
STA.	BEARING	DIST.
35 to Stone 141	S 21° 59' 16" E	643.73
Stone 141 to Stone 142	S 03° 12' 07" E	458.33
Stone 142 to Stone 144	S 30° 42' 13" W	762.81

TRAVERSE COORDINATES		
IDENTIFICATION	NORTH	EAST
35	484,826.72	859,485.43
Stone 141	484,229.81	859,726.45
Stone 142	483,772.20	859,752.05

Greater Baltimore Consolidated  
Wholesale Food Market Authority  
506/782



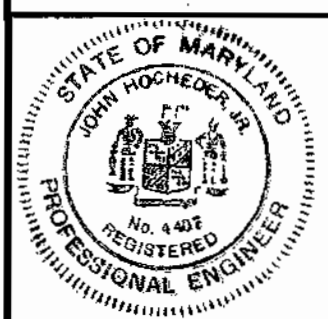
PLAN  
Scale: 1"=50'



PROFILE  
Scale: Hor: 1"=50'  
Vert: 1"=5'

Revised Sewer alignment from MH 5-30 to MH 5-34  
Oct. 15, 1972

AS BUILT



*George W. Stephens Jr.*  
REG. NO. 407 DATE 8/7/72

GEORGE W. STEPHENS JR. & ASSOC.  
CONSULTING ENGINEERS  
303 ALLEGHENY AVE. TOWSON, MD. 21204

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
8-16-72 DATE  
*W. O. Fellert*  
CHIEF BUREAU OF WATER AND SEWER

CONTRACT NO. 487-S

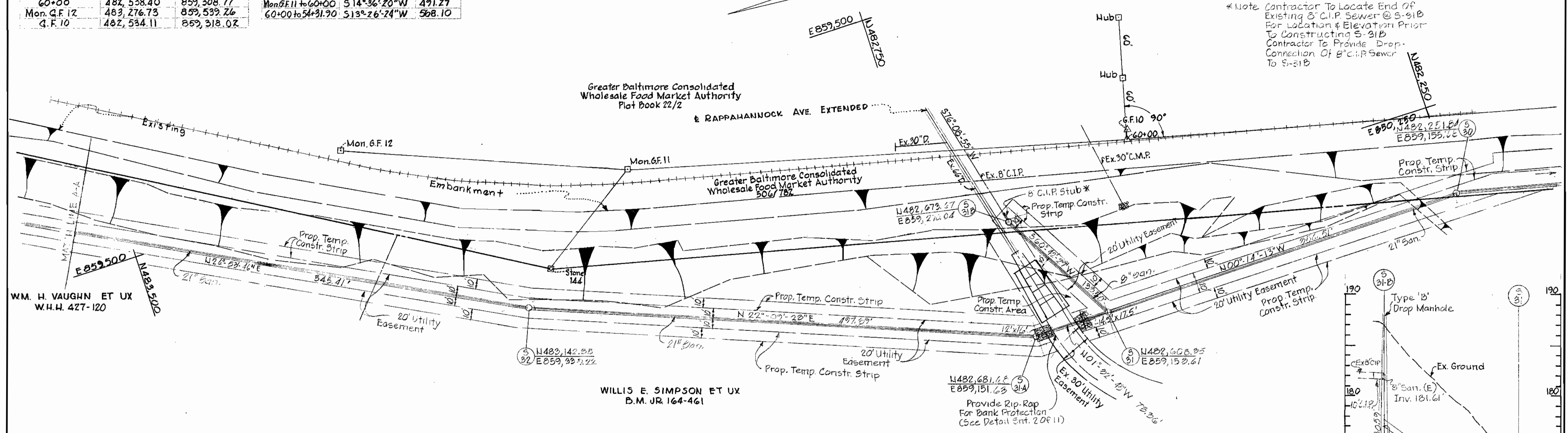
PLAN & PROFILE  
SEWER INTERCEPTOR

SANITARY SEWER  
DORSEY RUN INTERCEPTOR  
FROM B. & O. RAILROAD NORTHWESTERLY TO U.S. ROUTE 1  
ELECTION DISTRICT 6  
JUNE 28, 1972

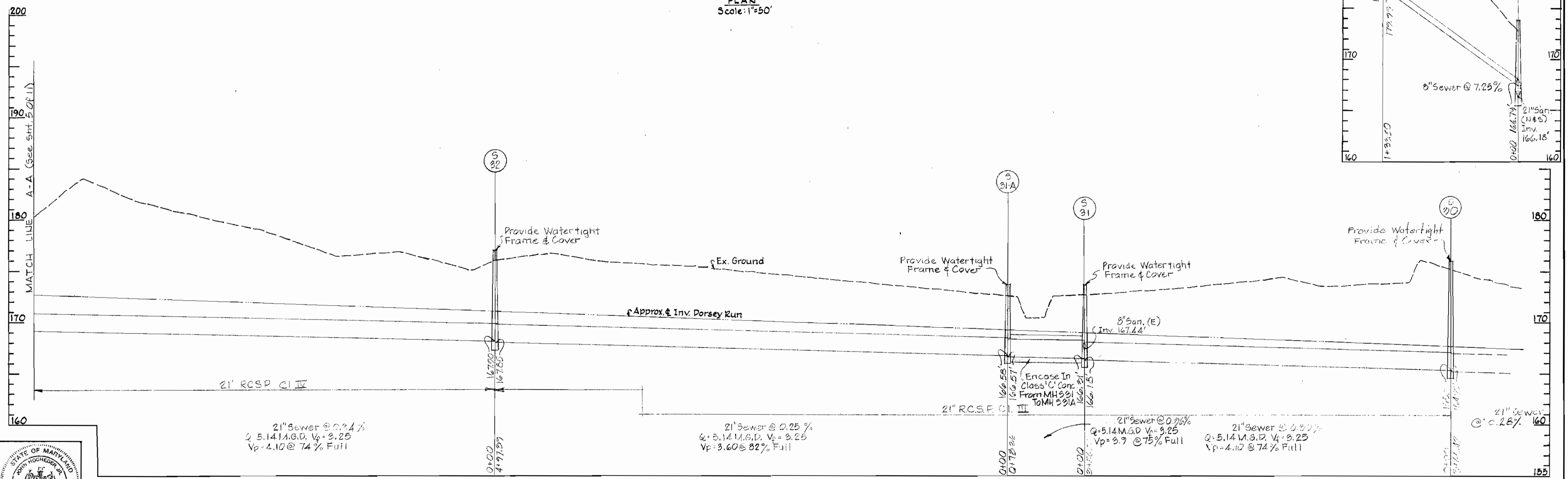
DRAWING NO. 5 OF 11  
SCALE AS SHOWN  
DES. TC  
CHK. TC

WS 487-S/5

TRAVERSE COORDINATES			TRAVERSE DATA		
IDENTIFICATION	NORTH	EAST	STA.	BEARING	DIST.
Stone 144	483, 116.32	859, 362.56	Stone 142 to Stone 144	S 90° 42' 13" W	762.81
Mon. G.F. 11	483, 013.79	859, 432.65	Stone 144 to Mon. G.F. 11	S 94° 21' 24" E	124.20
60+00	482, 538.40	859, 308.77	Mon. G.F. 11 to 60+00	S 14° 36' 20" W	491.27
Mon. G.F. 12	483, 276.73	859, 539.26	60+00 to 54+31.90	S 13° 26' 24" W	568.10
G.F. 10	482, 534.11	859, 318.02			



\*Note Contractor To Locate End Of Existing 8" C.I.P. Sewer @ S-91B For Location & Elevation Prior To Constructing S-91B Contractor To Provide Drop-Connection Of 8" C.I.P. Sewer To S-91B



*George W. Stephens Jr.*  
REG. NO. 4407  
DATE 8/17/72

GEORGE W. STEPHENS JR. & ASSOC.  
CONSULTING ENGINEERS  
303 ALLEGHENY AVE. TOWSON, MD. 21204

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
8-16-72  
W. O. Roberts  
CHIEF-BUREAU OF WATER AND SEWER

CONTRACT NO. 487-S

PLAN & PROFILE  
SEWER INTERCEPTOR

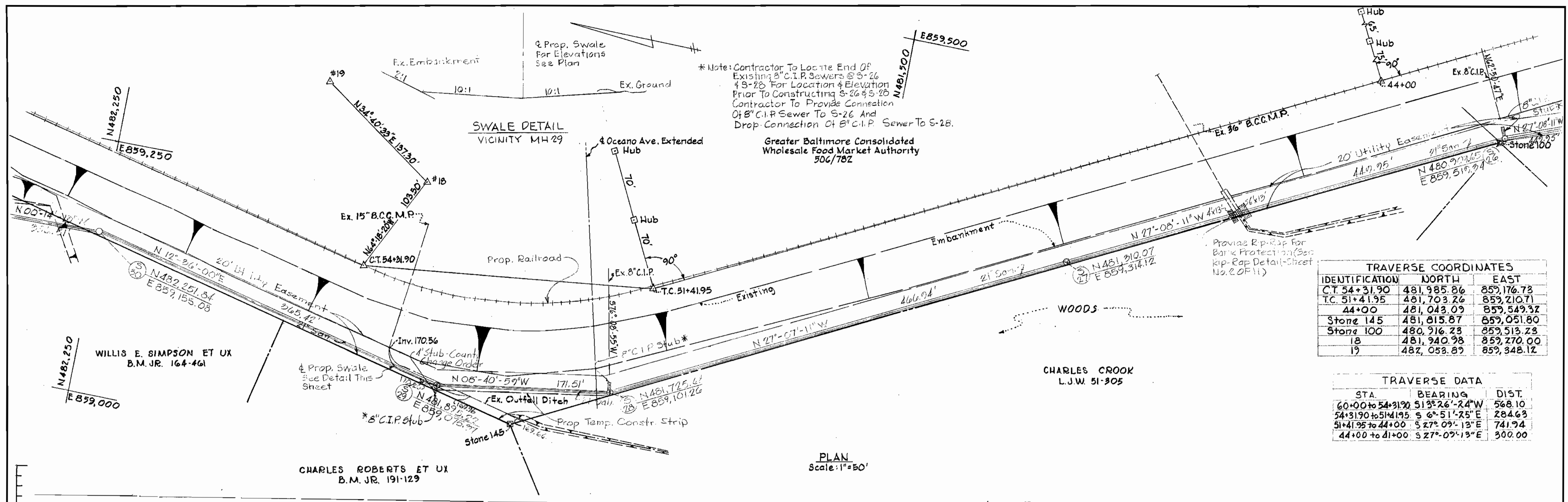
Revised Sewer Alignment From MH 530 to MH 534  
Oct. 15, 1972

SANITARY SEWER  
DORSEY RUN INTERCEPTOR  
FROM B.&O. RAILROAD NORTHWESTERLY TO US ROUTE 1  
ELECTION DISTRICT 6  
JUNE 28, 1972

DRAWING NO. 6 OF 11  
SCALE AS SHOWN  
DES. TO DRW. BY CHK. TC

AS BUILT

WS 487-S/6

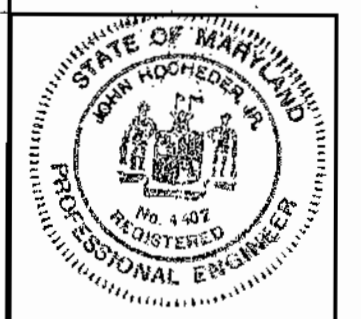
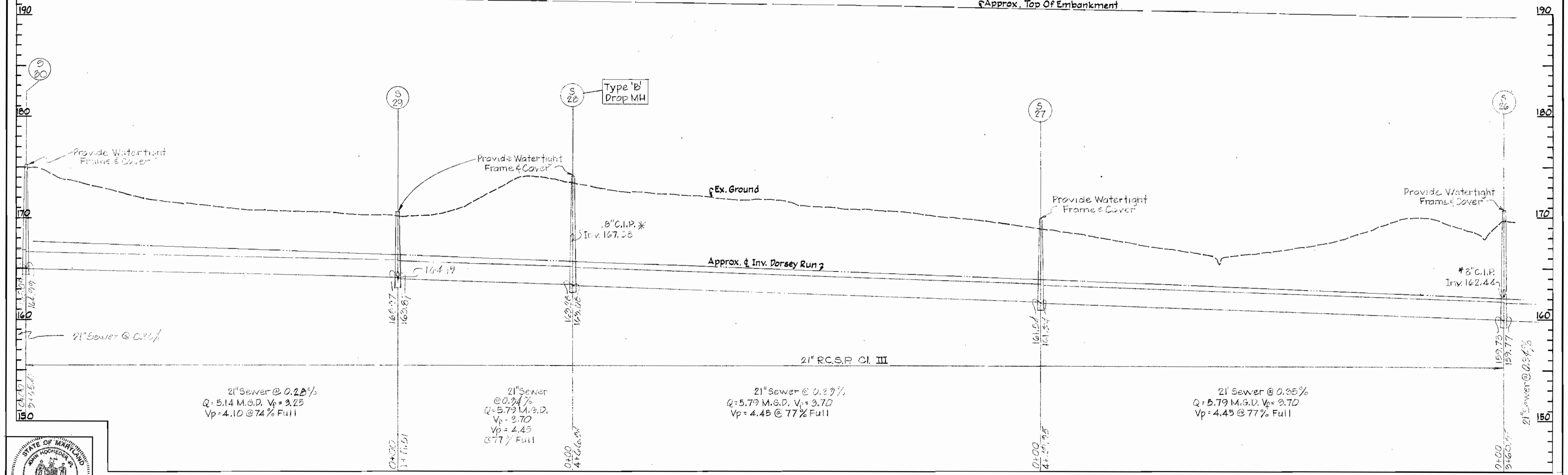


**TRAVERSE COORDINATES**

IDENTIFICATION	NORTH	EAST
C.T. 54+31.90	481,985.86	859,176.73
T.C. 51+41.95	481,703.26	859,210.71
44+00	481,043.09	859,549.32
Stone 145	481,015.87	859,051.80
Stone 100	480,916.23	859,513.23
18	481,240.98	859,270.00
19	482,053.89	859,348.12

**TRAVERSE DATA**

STA.	BEARING	DIST.
60+00 to 54+31.90	S 13° 26' 24" W	568.10
54+31.90 to 51+41.95	S 6° 51' 25" E	284.63
51+41.95 to 44+00	S 27° 09' 13" E	741.94
44+00 to 41+00	S 27° 09' 13" E	300.00



George W. Stephens Jr.  
REG. NO. 4407  
DATE 3/2/12

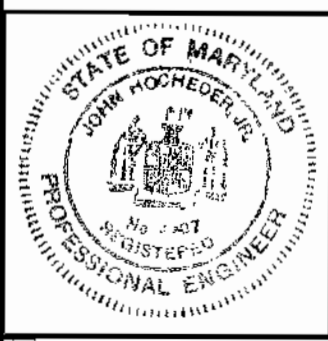
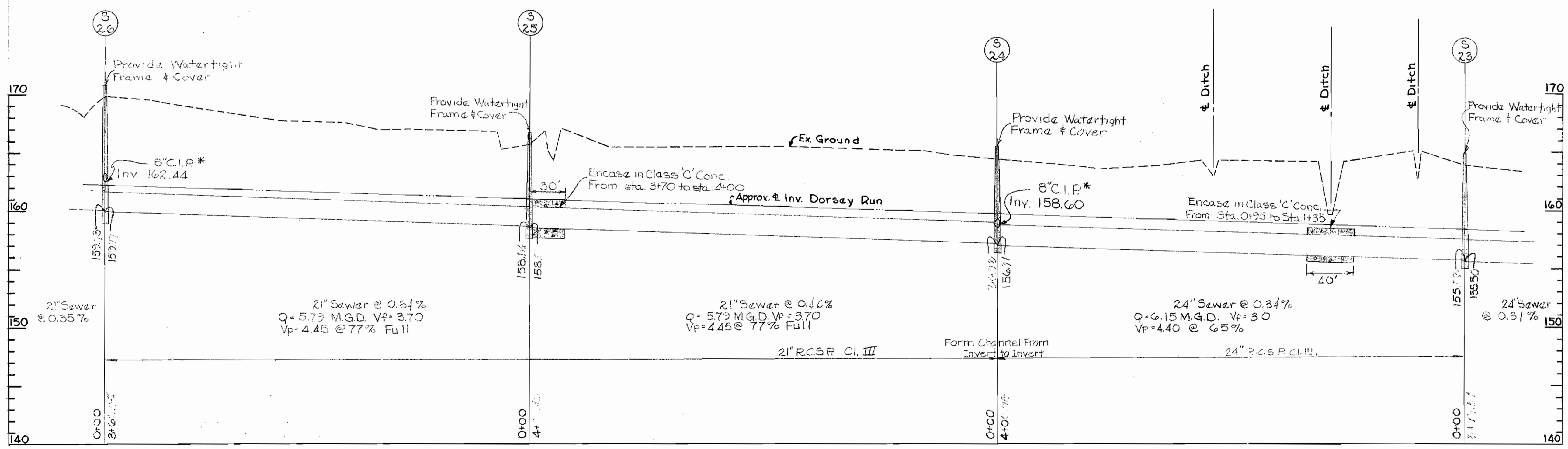
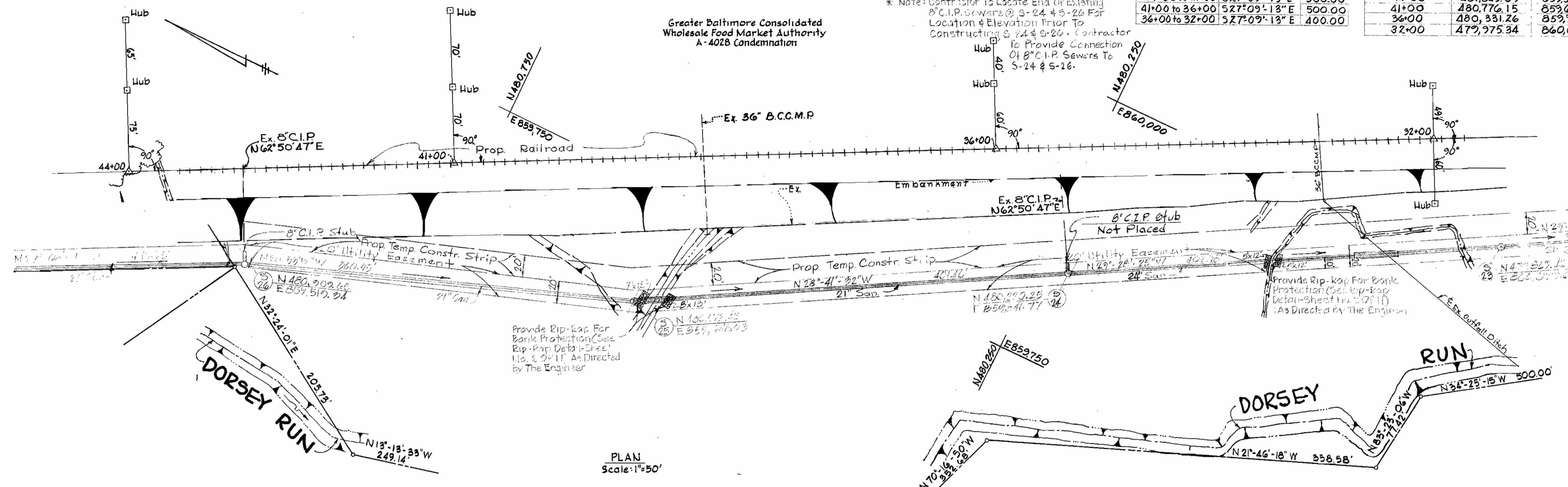
GEORGE W STEPHENS JR. & ASSOC. CONSULTING ENGINEERS 303 ALLEGHENY AVE. TOWSON, MD. 21204	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 8-16-72 DATE W O Gilbert CHIEF BUREAU OF WATER AND SEWER	CONTRACT NO. 487-S	PLAN & PROFILE SEWER INTERCEPTOR	SANITARY SEWER DORSEY RUN INTERCEPTOR FROM B.&O. RAILROAD NORTHWESTERLY TO U.S. ROUTE 1 JUNE 28, 1972 ELECTION DISTRICT 6	DRAWING NO. 7 OF 11 SCALE AS SHOWN	DES. TC CHK. DL TC
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WS 487-S/7

STA.	BEARING	DIST.
44+00 to 41+00	S27°09'13"E	300.00
41+00 to 36+00	S27°09'13"E	500.00
36+00 to 32+00	S27°09'13"E	400.00

IDENTIFICATION	NORTH	EAST
44+00	481,043.09	859,549.32
41+00	480,776.15	859,686.73
36+00	480,331.26	859,914.42
32+00	479,975.34	860,096.97

\* Note: Contractor To Locate End Of Existing 8" C.I.P. Sewers @ S-24 & S-26 For Location & Elevation Prior To Constructing @ S-24 & S-26. Contractor To Provide Connection Of 8" C.I.P. Sewers To S-24 & S-26.



REG. NO. 4407 DATE 3/7/72

PROFILE Scale: Hor: 1"=50' Vert: 1"=5'

AS BUILT

GEORGE W. STEPHENS JR. & ASSOC. CONSULTING ENGINEERS 303 ALLEGHENY AVE. TOWSON, MD. 21204	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 8-16-72 W. D. Falbot CHIEF BUREAU OF WATER AND SEWER	CONTRACT NO. 487-S	PLAN & PROFILE SEWER INTERCEPTOR	SANITARY SEWER DORSEY RUN INTERCEPTOR FROM B.O. RAILROAD NORTHWESTERLY TO U.S. ROUTE 1 ELECTION DISTRICT 6	DRAWING NO. 8 OF 11	SCALE AS SHOWN	DES. TC DRW. DL CHK. TC
							JUNE 28, 1972

WS 487-S/B

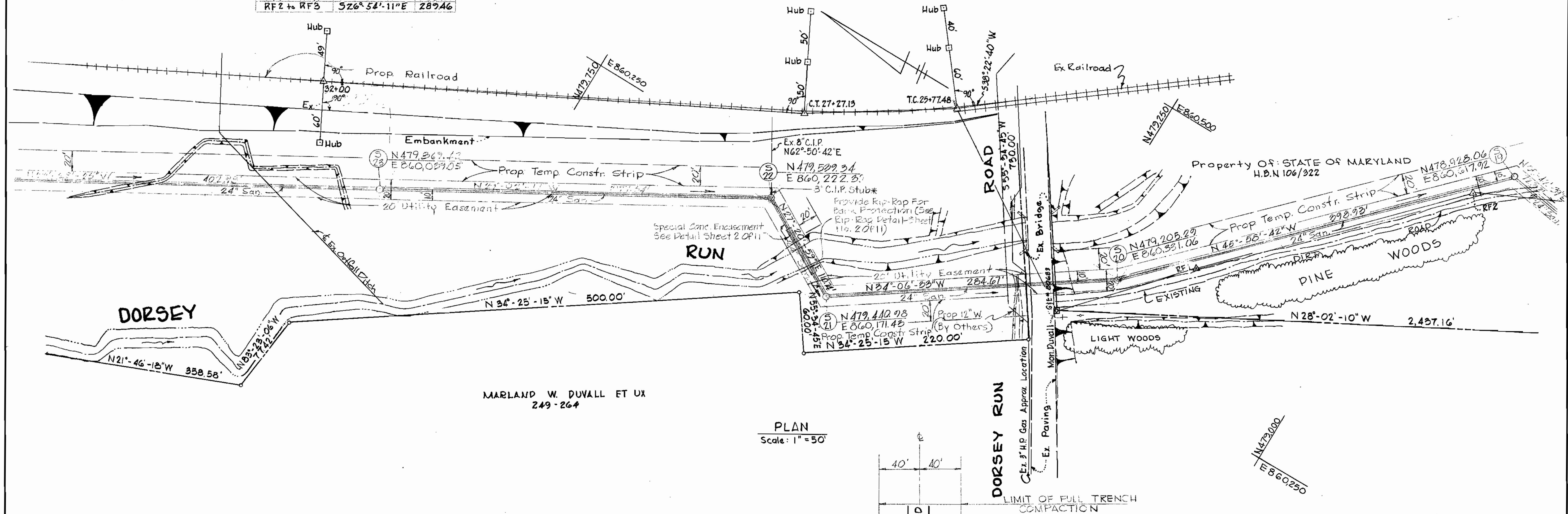


TRAVERSE COORDINATES		
IDENTIFICATION	NORTH	EAST
32+00	479,375.34	860,096.97
CT.27+27.13	479,554.52	860,312.78
T.C.25+77.48	479,428.86	860,393.70
Mon. Duvall	479,245.49	860,273.77
RF1	479,148.30	860,378.76
RF2	478,953.26	860,579.98

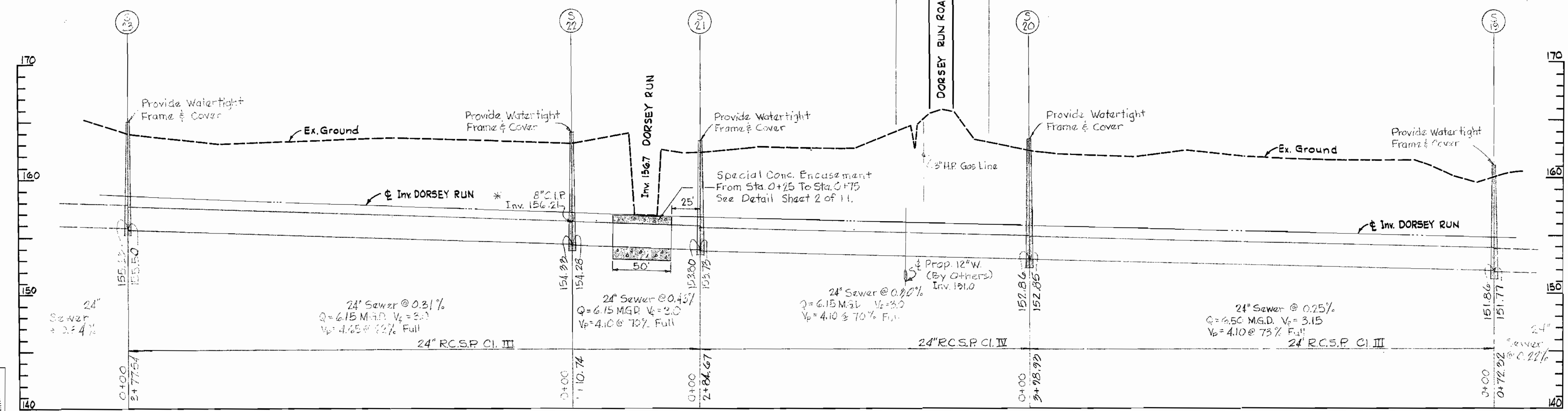
TRAVERSE DATA		
STA.	BEARING	DIST.
36+00 to 32+00	S 27° 09' 13" E	400.00
32+00 to CT.27+27.13	S 27° 09' 13" E	472.87
CT.27+27.13 to T.C.25+77.48	S 32° 45' 57" E	149.52
T.C.25+77.48 to Mon. Duvall	S 33° 11' 10" W	219.11
Mon. Duvall to RF1	S 47° 12' 34" E	143.07
RF1 to RF2	S 45° 59' 41" E	280.24
RF2 to RF3	S 26° 54' 11" E	289.46

Greater Baltimore Consolidated Wholesale Food Market Authority A-4028 Condemnation

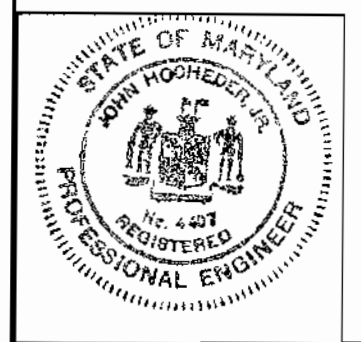
Note: Contractor To Locate End Of Existing 8" C.I.P. Sewer @ MH S-22 For Location & Elevation Prior To Constructing S-22. Contractor To Provide Connection Of 8" C.I.P. To S-22.



PLAN Scale: 1" = 50'



PROFILE Scale: Hor: 1" = 50' Ver: 1" = 5'



Blair H. ...  
REG. NO. 2407 DATE 8/1/72

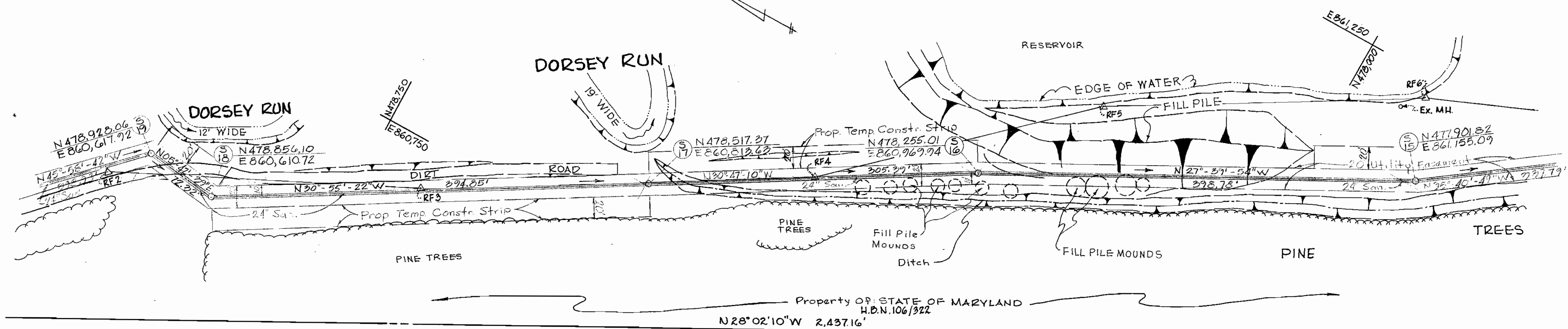
GEORGE W. STEPHENS JR. & ASSOC. CONSULTING ENGINEERS 303 ALLEGHENY AVE. TOWSON, MD. 21204	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 8-16-72 DATE W.O. Pellert CHIEF-BUREAU OF WATER AND SEWER	CONTRACT NO. 487-S	PLAN & PROFILE SEWER INTERCEPTOR	SANITARY SEWER DORSEY RUN INTERCEPTOR FROM B.&O. RAILROAD NORTHWESTERLY TO U.S. ROUTE 1 ELECTION DISTRICT 6 JUNE 28, 1972	DRAWING NO. 9 OF 11	SCALE AS SHOWN	DES. TO DRW. BY CHK. BY
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WS 487-S/9

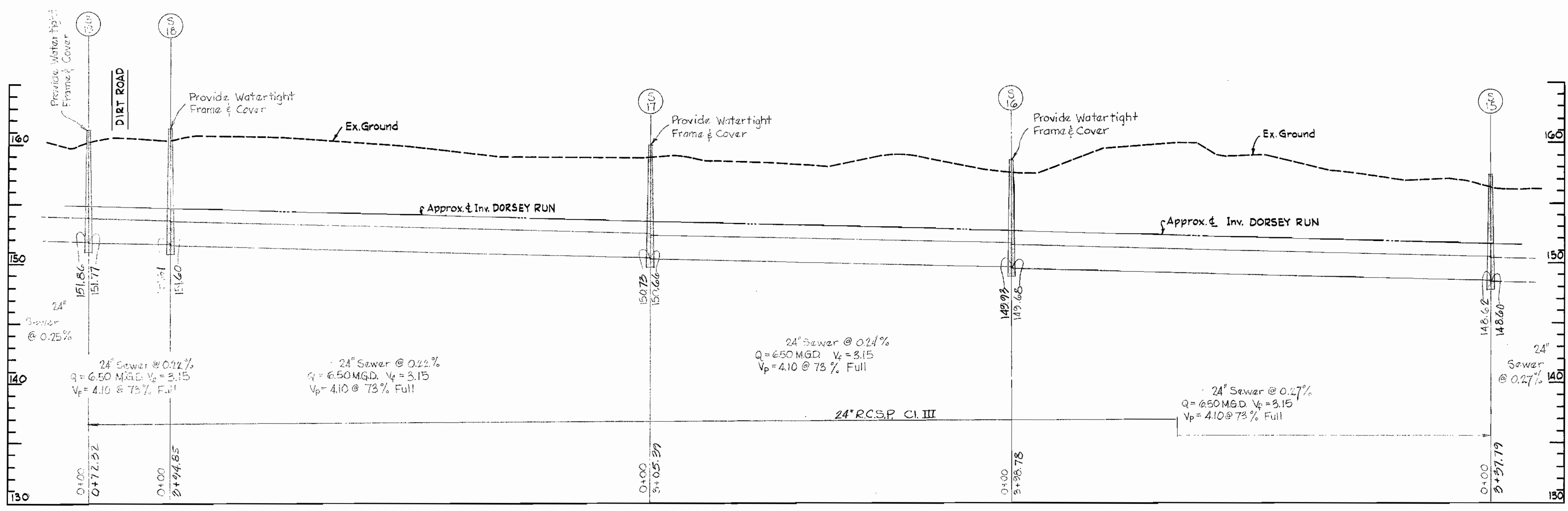
AS BUILT

TRAVERSE COORDINATES		
IDENTIFICATION	NORTH	EAST
RF 2	478,953.26	860,579.98
RF 3	478,695.13	860,710.96
RF 4	478,386.32	860,893.75
RF 5	478,185.20	861,077.55
RF 6	477,932.41	861,229.25

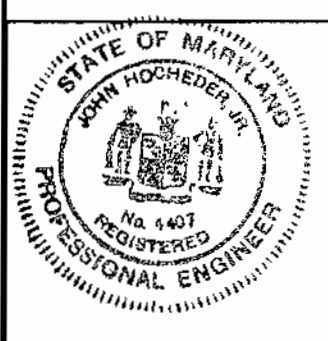
TRAVERSE DATA		
STA.	BEARING	DIST.
RF2 to RF3	S26°54'11"E	289.46
RF3 to RF4	S30°37'21"E	358.86
RF4 to RF5	S42°25'25"E	272.46
RF5 to RF6	S30°58'04"E	294.81



PLAN  
Scale: 1" = 50'



PROFILE  
Hor: 1" = 50'  
Vert: 1" = 5'



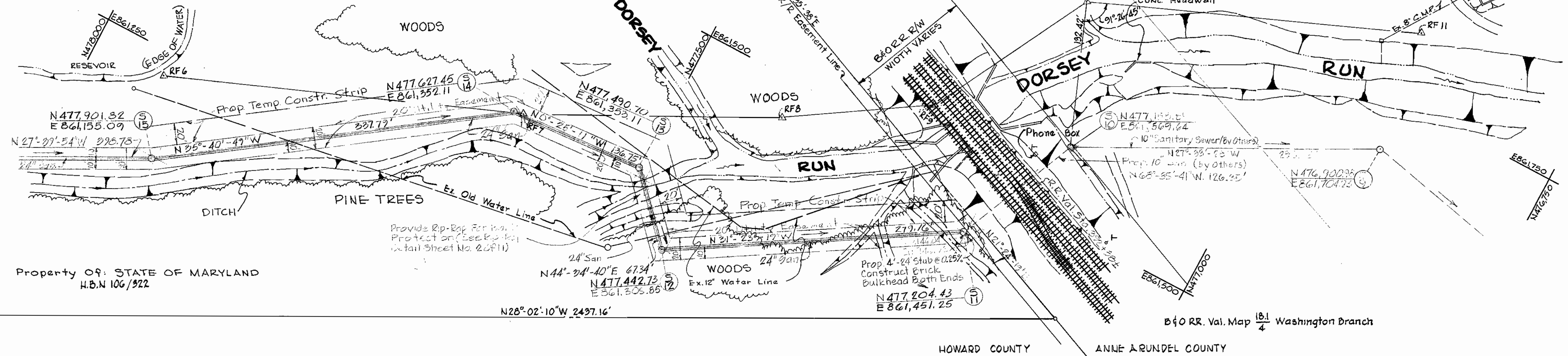
REG. NO. 4407  
DATE 6/1/72

AS BUILT

GEORGE W. STEPHENS JR. & ASSOC. CONSULTING ENGINEERS 303 ALLEGHENY AVE. TOWSON, MD. 21204	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 8-16-72 DATE W. O. Falbert CHIEF-BUREAU OF WATER AND SEWER	CONTRACT NO. 487-S	PLAN & PROFILE SEWER INTERCEPTOR	SANITARY SEWER DORSEY RUN INTERCEPTOR FROM B.O. RAILROAD NORTHWESTERLY TO U.S. ROUTE 1 ELECTION DISTRICT 6 JUNE 28, 1972	DRAWING NO. 10 OF 11	SCALE AS SHOWN	DES. TC DRW. DL CHK. TC
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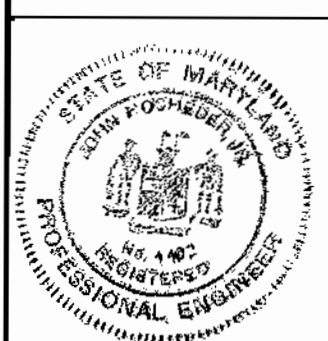
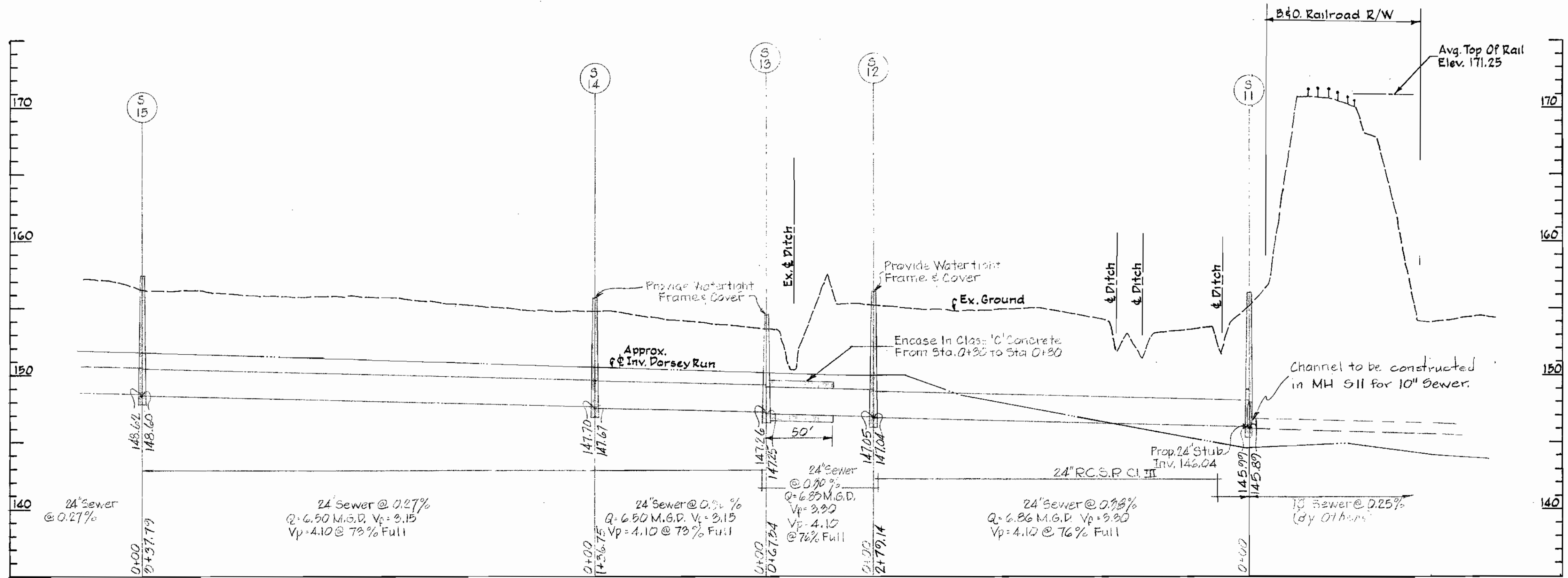
WS 487-S/10

TRAVERSE COORDINATES			TRAVERSE DATA		
IDENTIFICATION	NORTH	EAST	STA.	BEARING	DIST.
RF 6	477,932.41	861,229.25	RF 6 to RF 7	S 21° 41' 34" E	356.35
RF 7	477,619.89	861,353.57	RF 7 to RF 8	S 27° 26' 17" E	240.69
RF 8	477,406.28	861,464.48	RF 8 to RF 9	S 32° 41' 19" E	142.64
RF 9	477,286.23	861,541.51	RF 9 to RF 10	S 62° 25' 51" E	170.83
RF 10	477,207.17	861,622.95	RF 10 to RF 11	S 22° 49' 40" E	313.07
RF 11	476,918.61	861,814.41			



Property of: STATE OF MARYLAND  
H.B.N. 106/322

B&O RR. Val. Map  $\frac{18.1}{4}$  Washington Branch



*John H. Stephens*  
REG. NO. 4407 DATE 8/1/72

PROFILE  
Scale: Hor. 1"=50'  
Vert. 1"=5'

Revised to eliminate tunnel liner plate pipe under B&O Railroad Oct. 15, 1972

AS BUILT

GEORGE W. STEPHENS JR & ASSOC. CONSULTING ENGINEERS 303 ALLEGHENY AVE. TOWSON, MD. 21204	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 8-16-72 DATE <i>W. O. P. West</i> CHIEF BUREAU OF WATER AND SEWER	CONTRACT NO. 487-S	PLAN & PROFILE SEWER INTERCEPTOR	SANITARY SEWER DORSEY RUN INTERCEPTOR FROM B.&O. RAILROAD NORTHWESTERLY TO U.S. ROUTE 1 ELECTION DISTRICT 6 JUNE 28, 1972	DRAWING NO. II	SCALE AS SHOWN	DES. TC DRW. DL CHK. TC
					OF II		

WS 487-S/11

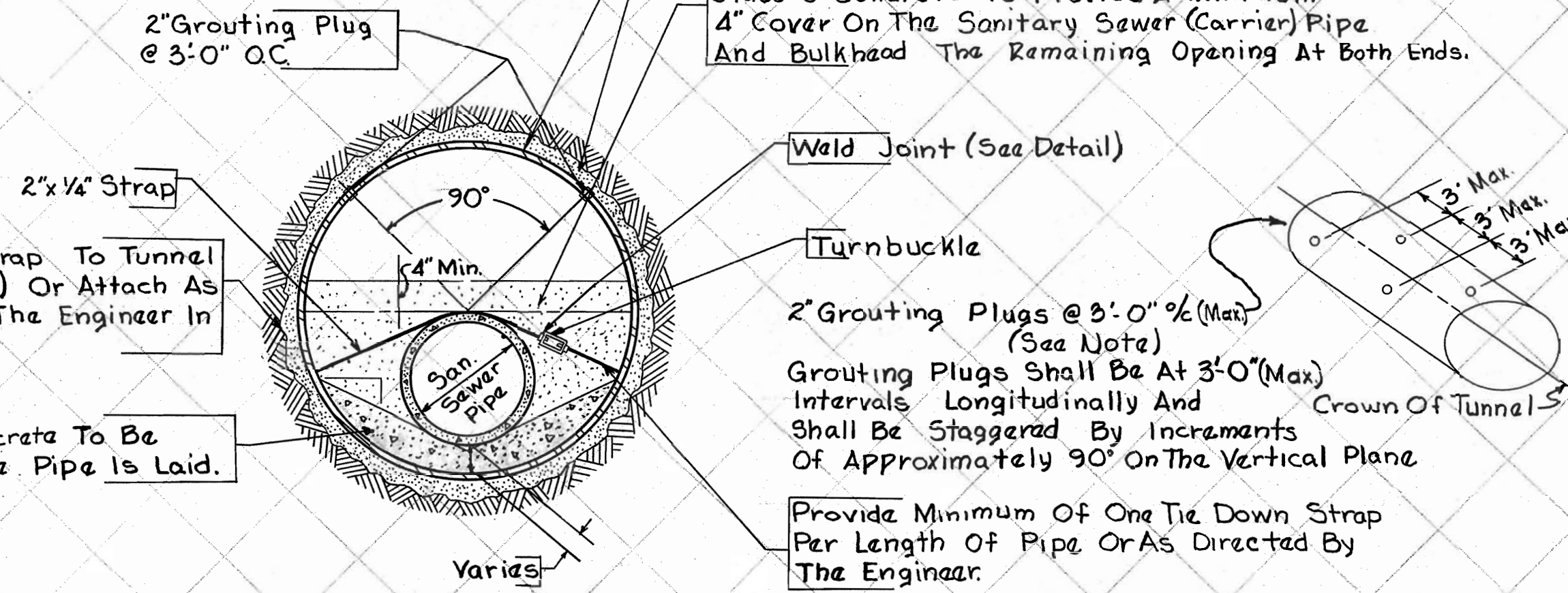
GENERAL NOTES

- The Specifications for this contract will be those of Howard County Department of Public Works titled "Standard Specifications And Details For Water Mains And Sanitary Sewers" dated March 1970 and revisions thereof or additions thereto included in the Proposal and Special Provisions.
- All Structures shall be constructed in accordance with the Howard County Standard Details unless otherwise indicated on the plans.
- Existing utilities are shown on the drawings according to the best available information. However, the correctness or completeness is not guaranteed. The Contractor shall take the necessary precautions to maintain existing utilities and shall repair damage to them due to his own negligence immediately and at no expense to the Howard County Department of Public Works.
- The existing fence along the easement line may be removed as required to perform the work. All fencing removed shall be replaced prior to completion of the project.
- The elevations shown on the drawings are relative to the Maryland State Roads Commission Bench Mark "203 set in concrete on the east side of Maryland Rte. 175. 45' from edge of existing concrete paving, and 30' from the south curb of the north entrance to Patuxent Institute. Elevation 25334.
- Pipe elevations shown refer to inverts unless otherwise noted.
- Any easements, working strips or property lines shown on these plans are strictly for the purpose of assisting in the interpretation of the plans, for exact easement information see the right of way plats.
- Where private property is crossed, right of way and working strips have been acquired. The Contractor shall confine his operations to these areas, as specified, unless he makes other arrangements, in writing with the property owners.
- The contractor shall contact Howard County Department of Public Works prior to any excavation in Dorsey Run Road.
- The contractor shall maintain at least one lane of traffic on Dorsey Run Road at all times.
- Repairing of Dorsey Run Road is to be done by the Contractor in accordance with Howard County Department of Public Works Standard Specifications And Details For Water Mains And Sanitary Sewers Plate "R-40R".
- Connection of any sewers to this system shall not be made until final inspection and testing has been successfully completed and proper permits obtained from Howard County.
- Bid Line For Excavation Is The Existing Ground Line.
- All Manholes Shall be 4'-0" Inside diameter Unless Otherwise Noted With Watertight Frame & Cover. Top Of Frame Shall be 1.0' Above Finished Grade.
- The Contractor Shall Provide A Pipe Joint In Each Sewer Main Within 2'-0" Of The Exterior Of Manhole Walls.
- For Details Not Shown On The Contract Drawings See Standard Details Bound In The Specifications.
- Trees Are To Be Protected From Damage To The Maximum Extent Possible.

60" Steel Tunnel Liner Plate Pipe, Galvanized, Bituminous Coated. Corrugated Or Panelled Steel. (Armco Steel, Republic Steel, Commercial Steel Or Approved Equal). Maximum Permissible Vertical Deflection Is 3% Of Internal Diameter.

Pressure Grout Space Between Liner And Earth. Keep Space To Absolute Minimum.

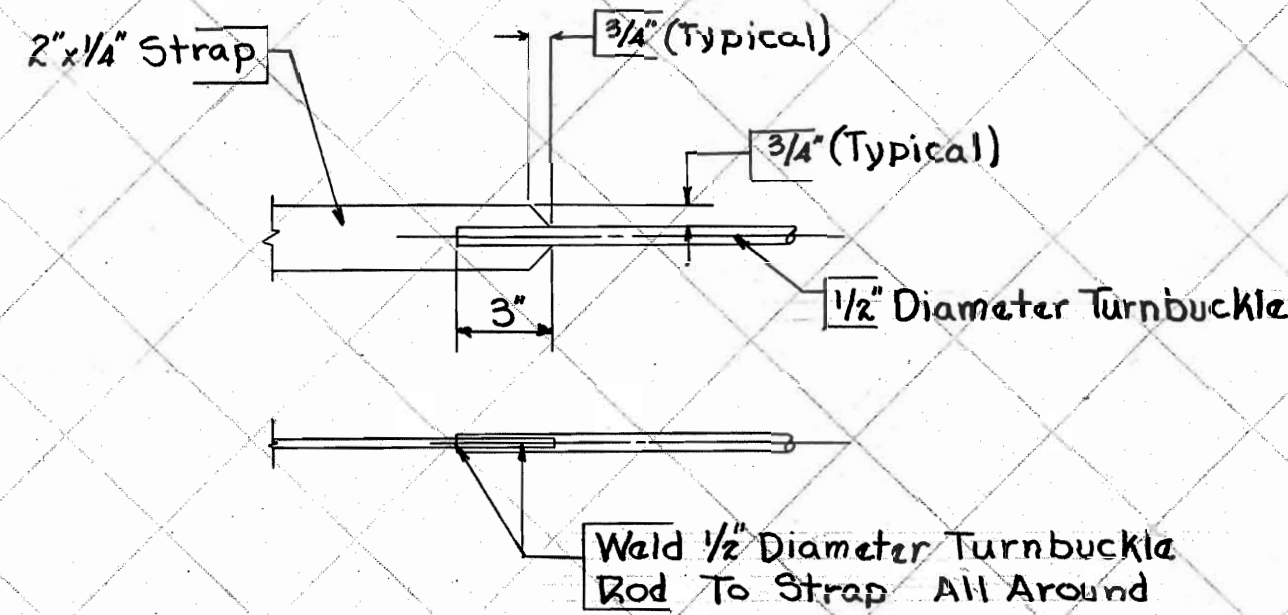
Tunnel Liner Shall Be Filled With Class "C" Concrete To Provide A Minimum 4" Cover On The Sanitary Sewer (Carrier) Pipe And Bulkhead The Remaining Opening At Both Ends.



TYPICAL SECTION - TUNNEL LINER  
NO SCALE

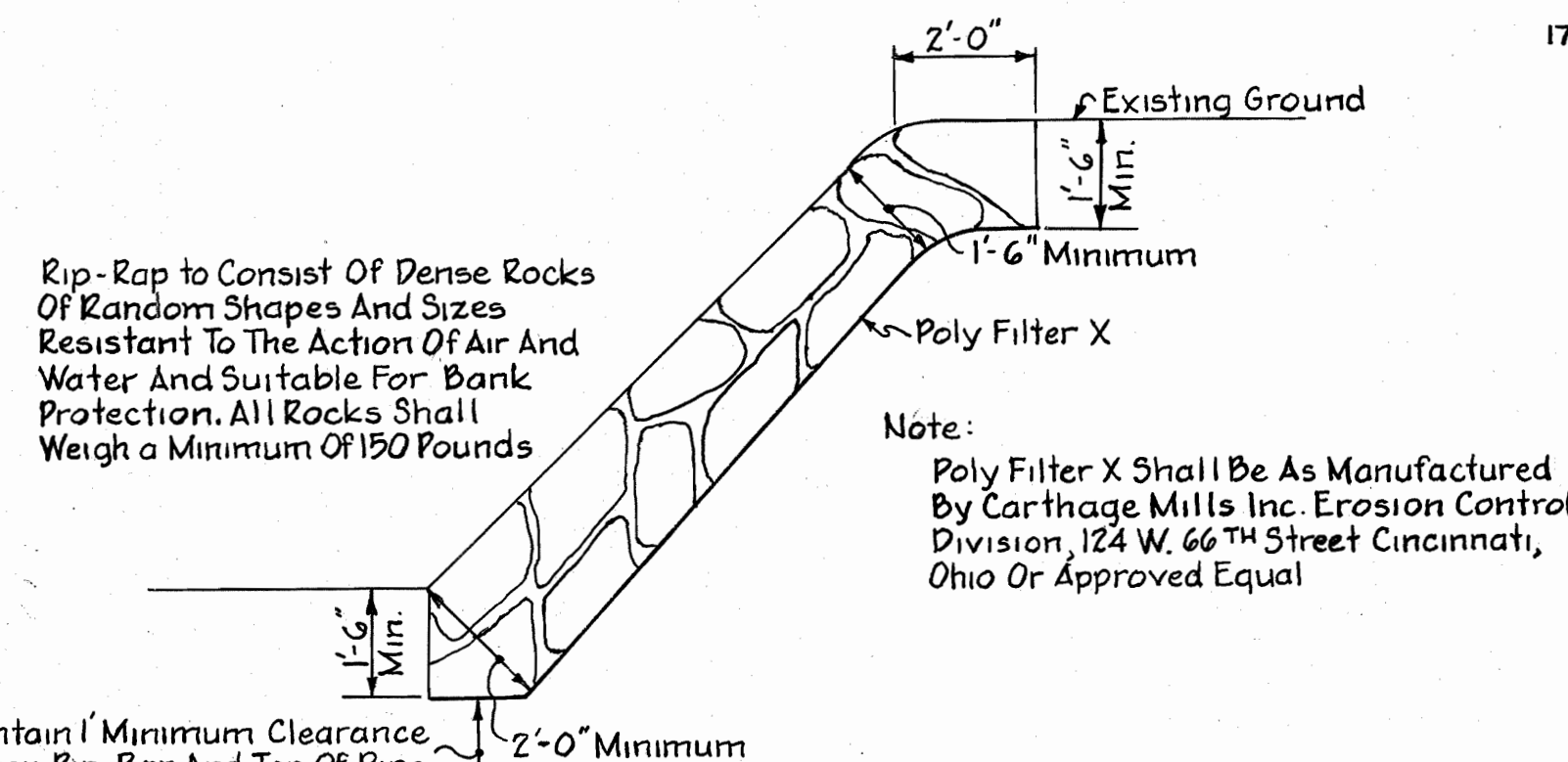
NOTE:

- Grouting Plugs Shall Be 2" Standard Half Coupling With 2" C.I. Plug. Method Of Installation In Liner Plate Shall Be In Accordance With The Manufacturers' Recommendations.
- Encasement Concrete Is To Be Mechanically Vibrated.



WELD JOINT DETAIL  
NO SCALE

Note: IF Field Conditions Require That Encasement Be Poured In Sections A 3x3 Key Will Be Required As Shown.

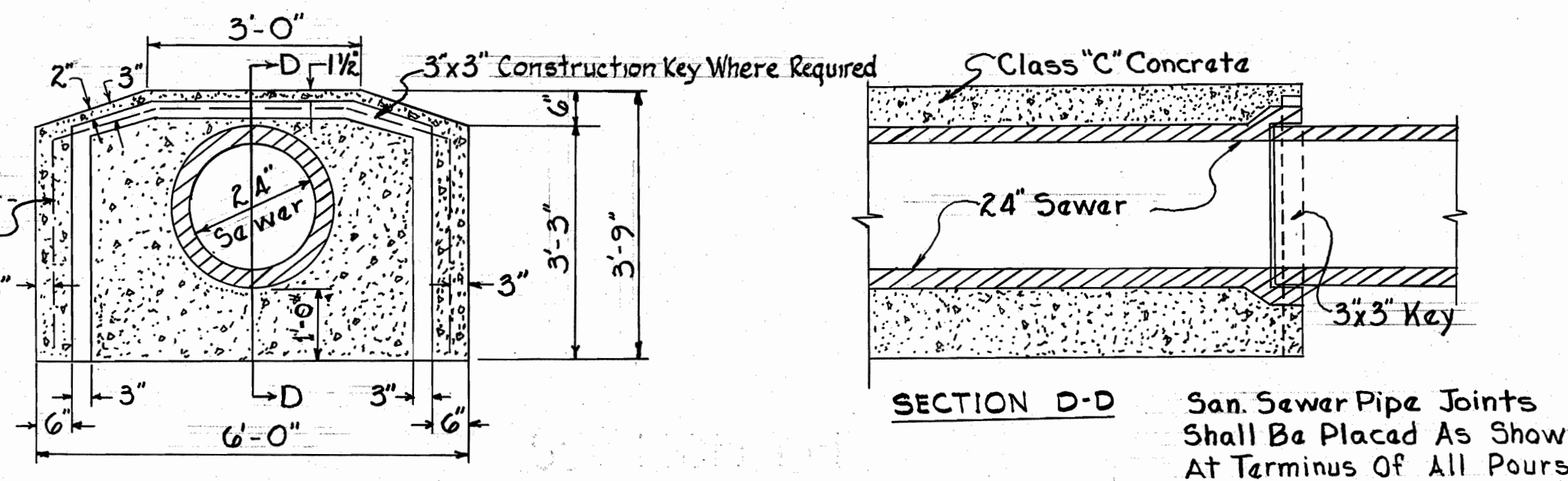


RIP-RAP DETAIL  
Scale: 3/8" = 1'-0"

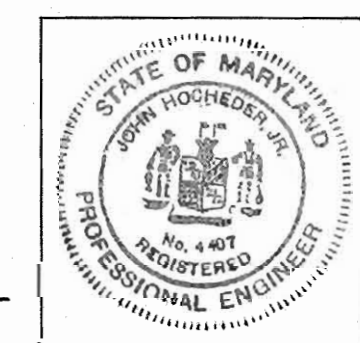
TUNNEL LINER	
TYPE OF LINER PLATE	LOCATION
	@ RAILROAD GAGE
	SECTION MODULUS
ARMCO STEEL (CORRUGATED)	12 0.0478 in. <sup>3</sup>
REPUBLIC STEEL (PANELLED)	12 0.0232 in. <sup>3</sup>
COMMERCIAL LINER	1/4" (3) 0.0564

\* Section Modulus Based Upon Per Inch Of Width

RAILROAD CROSSING		
DESCRIPTION	CARRIER PIPE	CASING PIPE
Contents To Be Handled	Sewage	Carrier Pipe
Diameter Inside & Outside	24" ID. Varies O.D.	60" Nominal Diameter
Material & Type Of Pipe	Vitrified Clay Sewer Pipe R.C.S.P. Or A.C.S.P.	See Tunnel Liner Above
Specification & Grade	Varies	ASTM A-245 Comm. Grade
Weight Per Linear Foot	Varies	Varies
Actual Working Pressure	0	0
Test Pressure	0	0
Type Of Joint	Bell & Spigot	Bolted
Method Of Installation	Jacked	Tunnel



SPECIAL CONCRETE ENCASEMENT  
NO SCALE



WS 487-S/2

GEORGE W. STEPHENS JR. & ASSOC. CONSULTING ENGINEERS 303 ALLEGHENY AVE. TOWSON, MD. 21204	DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 8-16-72 DATE W. O. Feltner CHIEF BUREAU OF WATER AND SEWER	CONTRACT NO. 487-S	TYPICAL DETAILS SEWER INTERCEPTOR	SANITARY SEWER DORSEY RUN INTERCEPTOR FROM B.&O. RAILROAD NORTHWESTERLY TO U.S. ROUTE 1 JUNE 28, 1972 ELECTION DISTRICT 6	DRAWING NO. 2 OF 11 SCALE AS SHOWN	SEC. TO DRW. OR CHK. TC
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