

PINE ORCHARD

SUCTION AND DISCHARGE MAINS

CAPITAL PROJECT W-8132

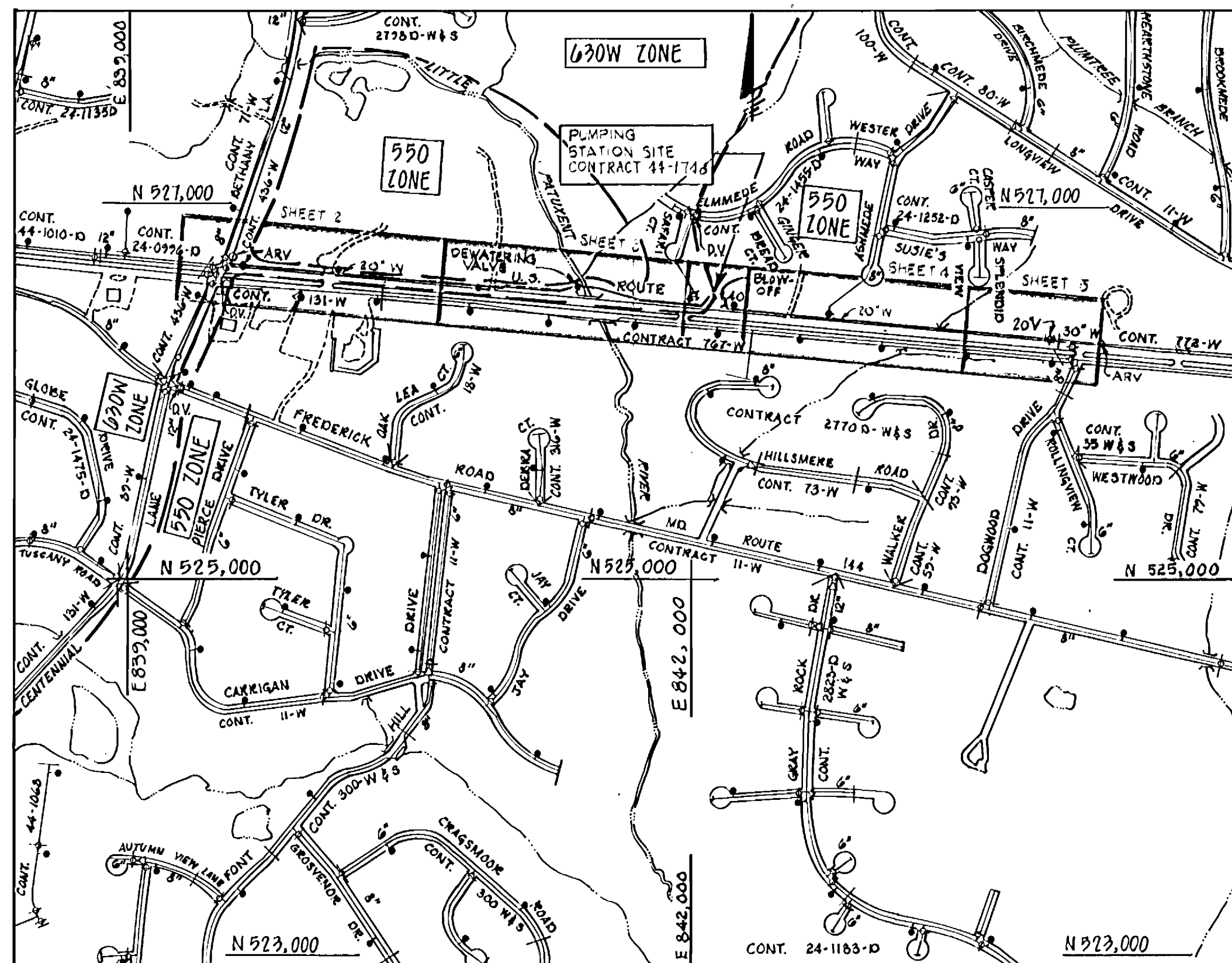
CONTRACT NO. 44-1747

NOTE:
 "SEDIMENT CONTROL TO BE IMPLEMENTED IN ACCORDANCE WITH VOL. 4, ARTICLE 19 OF THE HOWARD COUNTY DESIGN MANUAL AND THESE PLANS."

* Reviewed for Howard County S.C.D. and meets technical requirements.
 Date: 11-27-88
 U.S. SOIL CONSERVATION SERVICE
 This development plan is approved for soil erosion and sediment control by The Howard County Soil Conservation District.
 Approved: [Signature] Date: 11/29/88
 HOWARD COUNTY S.C.D.
 *AREAS BEYOND SHA R.O.W ONLY

ENGINEER'S CERTIFICATION
 I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard County Soil Conservation District.
 Date: 3/30/89
 WHITNEY, BAILEY, COX & MAGNANI
 CONSULTING ENGINEERS
 1850 YORK ROAD
 TIMONIUM, MD. 21093

ITEM	QUANTITIES		MATERIAL TYPE	SUPPLIER
	ESTIMATE	AS BUILT		
20" D.I.P. & FITTINGS	4,421 LF	4435 L.F.	CL 52 DIP	U.S. PIPE TRFLEX
2" AIR RELEASE VALVE & MANHOLE	1 EA	1 EA.		
12"x12" TAPPING SLEEVE, VALVE & ROADWAY BOX	1 EA	1 EA.	MUELLER CO.	G.A. CALDWELL CO.
8" GATE VALVE	1 EA	2 EA.		
8" D.I.P. & FITTINGS	10 LF	40 L.F.	CL 52 DIP	U.S. PIPE
6" GATE VALVE	2 EA	3 EA.	MUELLER CO.	
6" D.I.P. & FITTINGS	20 LF	20 L.F.	CL 52 DIP	
6" FIRE HYDRANT	3 EA	3 EA.		
20" HORIZ. GATE VALVE AND VAULT	1 EA	1 EA.	METROPOLITAN D.M.J.	
4" DEWATERING VALVE AND MANHOLE	1 EA	1 EA.		



WATER CODE FOR COUNTY USE ONLY
 WATER NUMBER : F-14
 NUMBER OF WATER HOUSE CONNECTIONS : 0

VICINITY MAP
 SCALE: 1" = 600'

INDEX

SHEET NO	DESCRIPTION
1	TITLE SHEET
2	PLAN AND PROFILE
3	PLAN AND PROFILE
4	PLAN AND PROFILE
5	PLAN AND PROFILE
6	SEDIMENT AND EROSION CONTROL

GENERAL NOTES

- APPROXIMATE LOCATIONS OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
- ALL VERTICAL CONTROLS ARE BASED ON U.S. G.S. DATA.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 4".
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, 1989 EDITION. THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL [Symbol] AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - STATE HIGHWAY ADMINISTRATION - 891-8533
 - BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES 850-4020
 - BALTIMORE GAS & ELECTRIC CO. UNDER GROUND DAMAGE CONTROL - 857-9004
 - BALTIMORE GAS & ELECTRIC CO. TROUBLE SHOOTING - 298-9001
 - MISG UTILITY - 1-800-291-7777
 - COLONIAL PIPELINE CO. 799-1970
 - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 792-2700
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3 1/2' COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE STRAPPED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS. SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000.03.19 THE STANDARD SPECIFICATION.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- RESTORATION SCHEDULES HAVE BEEN PROVIDED ON THE PLANS AS A GENERAL DESCRIPTION OF THE SURFACES TO BE RESTORED. THE SCHEDULE IS NOT INTENDED TO ADDRESS SPECIFIC ITEMS TO BE REPLACED OR RESTORED. IN GENERAL, SURFACE FEATURES SHALL BE REPLACED OR RESTORED AS SPECIFIED IN THE STATE HIGHWAY ADMINISTRATION PERMIT, "IN KIND", OR AS DIRECTED BY THE ENGINEER.
- ALL WATER MAINS SHALL BE DUCTILE IRON PIPE.
- SEE APPENDIX F TO THE SPECIFICATIONS FOR SPECIAL CONDITIONS REGARDING PERMITS AND LICENSES WHERE NEW PIPELINE IS CROSSING PRIVATE PROPERTY.

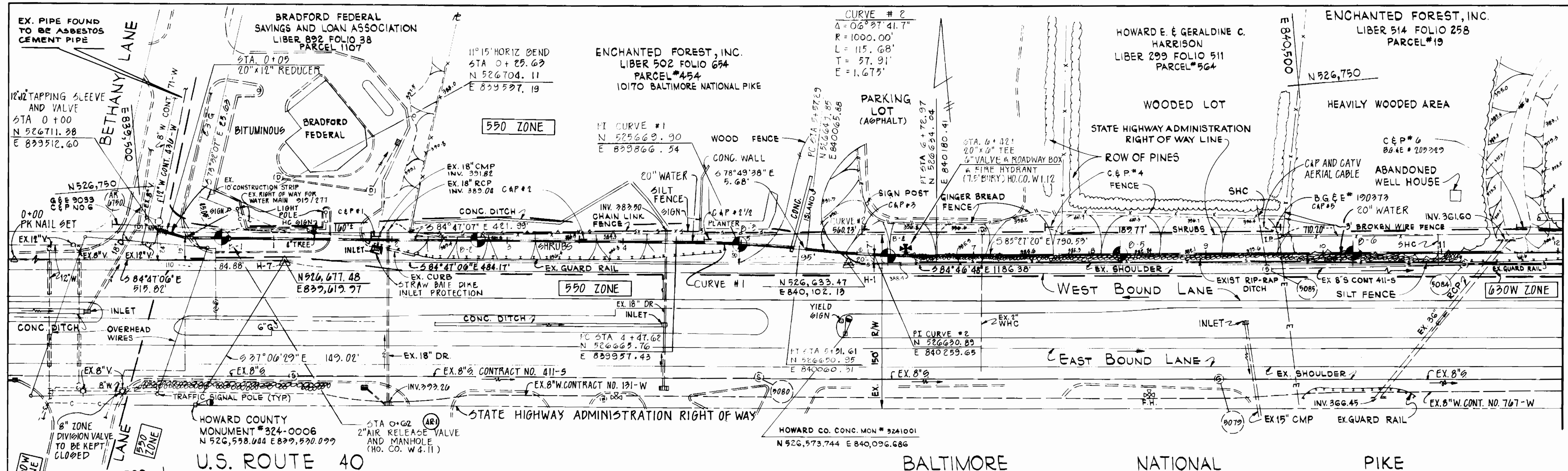
I. DEVELOPER'S CERTIFICATION

I, (WE) CERTIFY THAT:

- ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE IN ACCORDANCE WITH THIS SEDIMENT AND EROSION CONTROL PLAN, AND FURTHER, AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY THE STATE OF MARYLAND DEPARTMENT OF THE ENVIRONMENT SEDIMENT AND STORMWATER PROGRAM INSPECTORS.
- ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

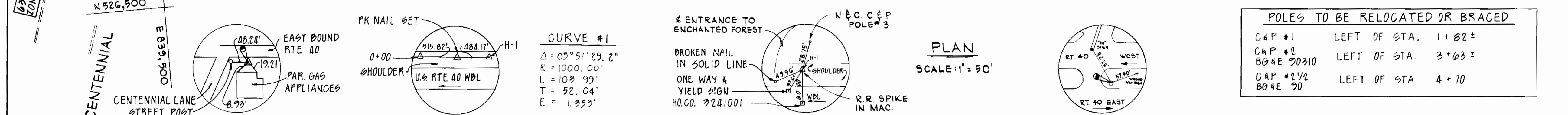
[Signature] DATE: 3-31-89

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND [Signatures and Dates]	WHITNEY BAILEY COX & MAGNANI CONSULTING ENGINEERS 1850 YORK ROAD TIMONIUM, MD. 21093 301-252-8080	STATE OF MARYLAND PROFESSIONAL ENGINEER [Seal]	DES: R.J.H. DRN: S.R.B. CHK: J.P. DATE: 11/1/88	TITLE SHEET INDEX OF DRAWINGS GENERAL NOTES	PINE ORCHARD SUCTION AND DISCHARGE MAINS CAPITAL PROJECT W-8132 CONTRACT NO. 44-1747 ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 1 OF 6
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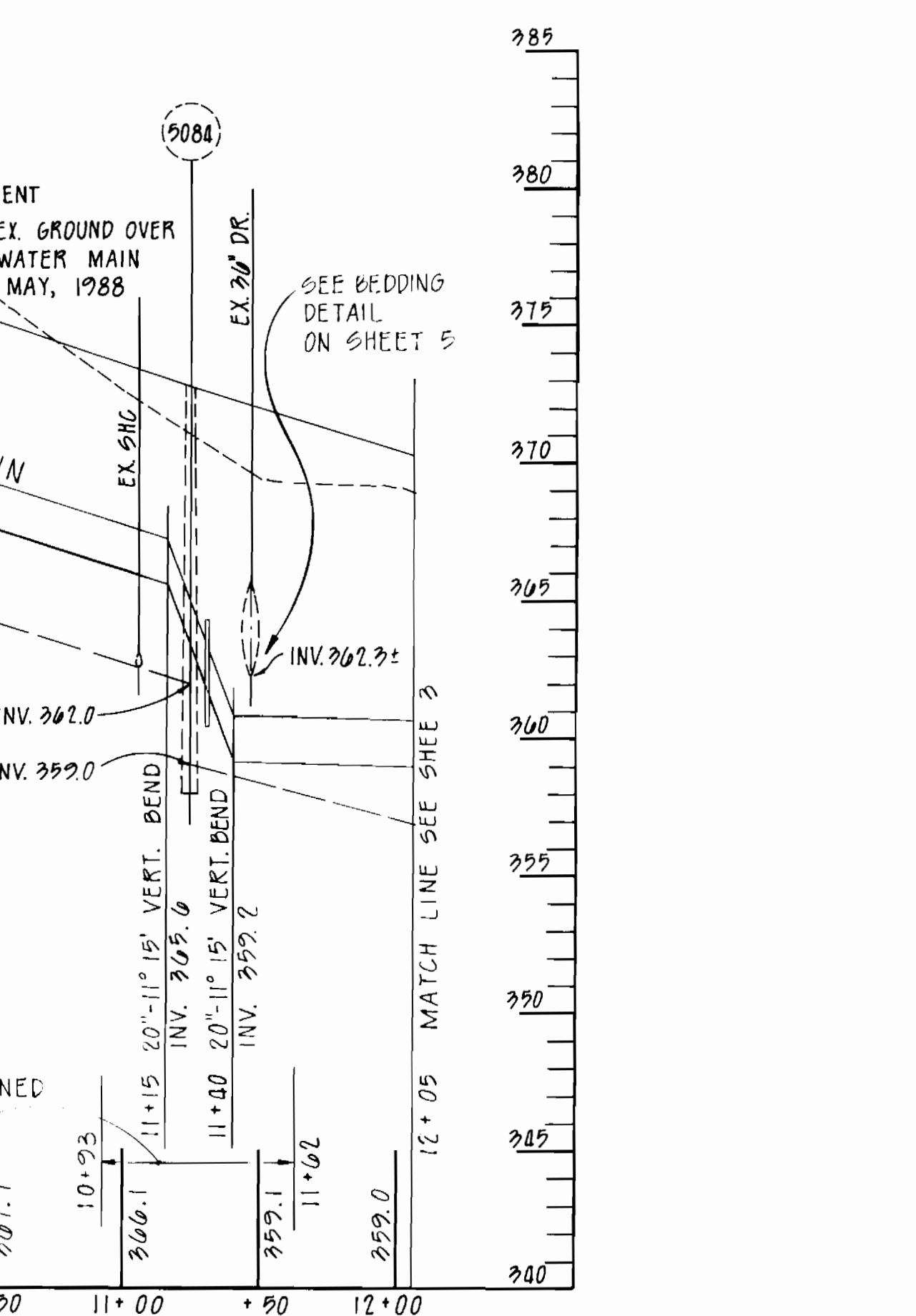
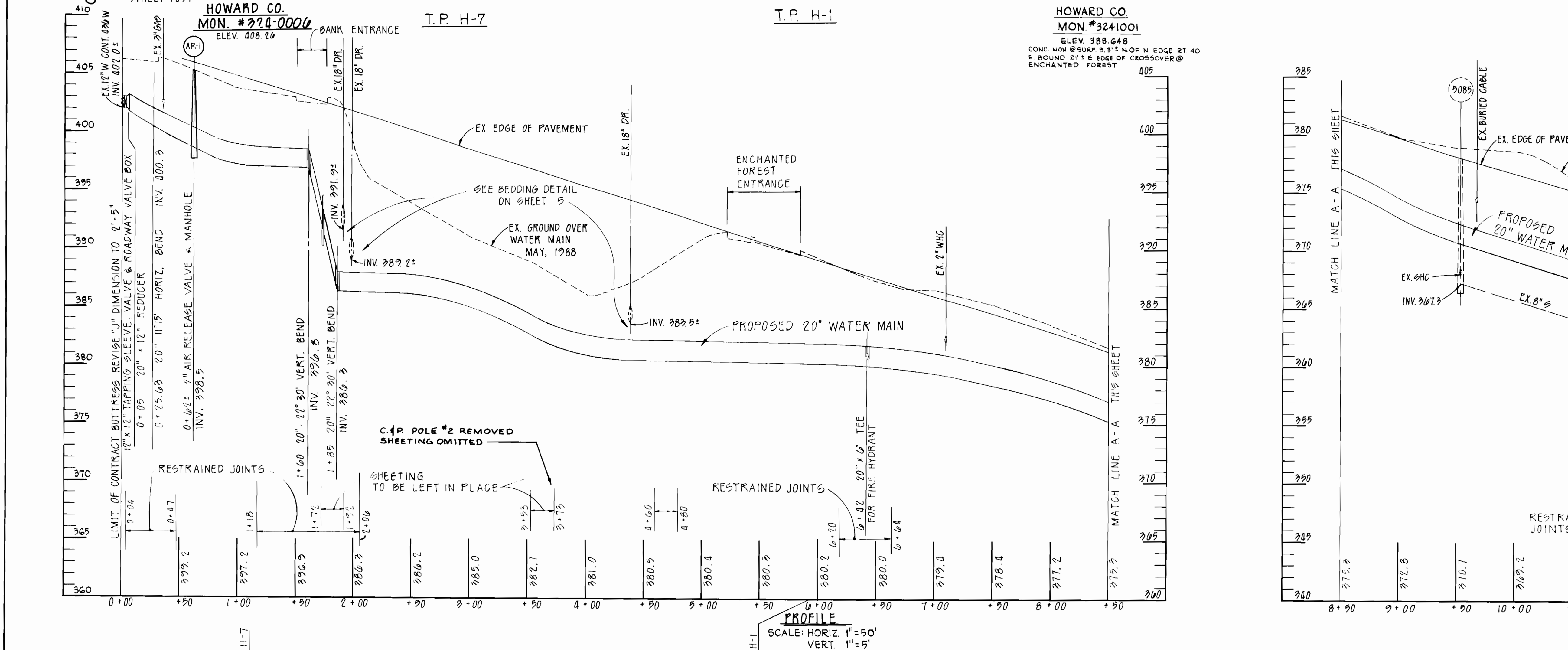
NOTE:
BORING Labeled B-1 THRU B-18 WERE TAKEN FROM "REPORT OF GEOTECHNICAL EXPLORATION, CAPITAL PROJECT W-8132" DATED JULY 14, 1988, PREPARED BY LAW ENGINEERING.
BORINGS Labeled EX. B-SERIES AND EX. P-SERIES WERE TAKEN FROM "REPORT OF PINE ORCHARD WATER PUMPING STATION", CAPITAL PROJECT W-8132 DATED JANUARY 21, 1987, PREPARED BY WHITMAN, REQUART AND ASSOCIATES.
SEE APPENDIX D TO THE SPECIFICATIONS FOR BORING LOGS.

RESTORATION SCHEDULE			
STATION TO STATION	DISTANCE	TYPE	
-0+05 TO 0+27	82'	PAVING	
0+28		CURB & GUTTER	
0+28 TO 1+47	119'	SEED	
1+47 TO 1+77	30'	CURB & PAVING	
1+77 TO 4+70	293'	SOD	
4+70 TO 5+25	55'	SEED	
5+25 TO 5+85	60'	PAVING	
5+85 TO 6+45	60'	SEED	
6+45 TO 11+20	475'	RIP RAP DITCH	
11+20 TO 12+05	85'	SEED	



POLES TO BE RELOCATED OR BRACED	
CAP #1	LEFT OF STA. 1+82 ±
CAP #2	LEFT OF STA. 3+63 ±
BG&E 20310	LEFT OF STA. 4+70

STAKEOUT SCHEDULE		
STATION	DISTANCE	OFFSET
0+00	110' FROM H-7 TOWARDS 0+00	24' RT.
0+25.63	84.88' FROM H-7 TOWARDS 0+00	10' RT.
PI CURVE #1	95' FROM H-1 TOWARDS H-7	18' RT.
PI CURVE #2	20' FROM H-1 TOWARDS H-2	7' LT.



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. ... 11-23-88
DIRECTOR OF PUBLIC WORKS DATE

... 11-21-88
CHIEF, BUREAU OF ENGINEERING DATE

... 11-22-88
CHIEF, BUREAU OF UTILITIES DATE

... 11-18-88
CHIEF, UTILITY DESIGN DIVISION DATE

WHITNEY BAILEY COX MAGNANI
CONSULTING ENGINEERS
1850 YORK ROAD
TIMONIUM, MD. 21093
301-252-6060

DES: R.J.H.	
DRN: R.D.H.	
CHK: J.P.	
DATE: 11/14/88	
BY: NO.	REVISION

DISCHARGE MAIN
PLAN AND PROFILE

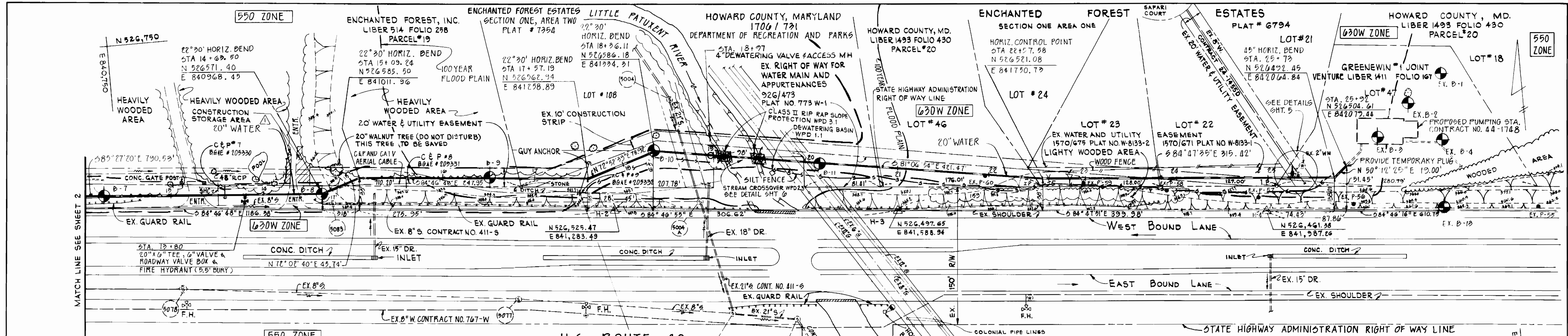
600' SCALE MAP NO. 24 BLOCK NO. 2 B 3

PINE ORCHARD
SUCTION AND DISCHARGE MAINS
CAPITAL PROJECT W-8132
CONTRACT NO 44-1747
ELECTION DISTRICT NO. 2
HOWARD COUNTY MARYLAND

SCALE AS SHOWN

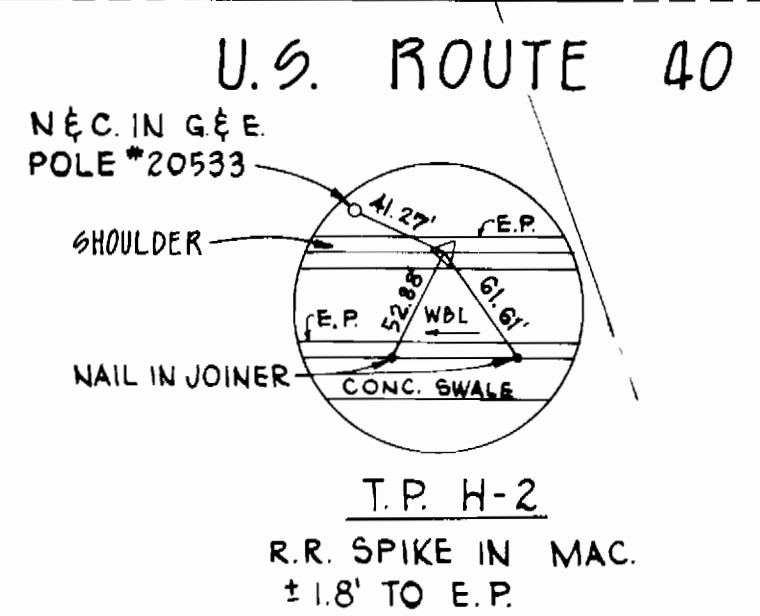
SHEET 2 OF 6

BRUNING 89150

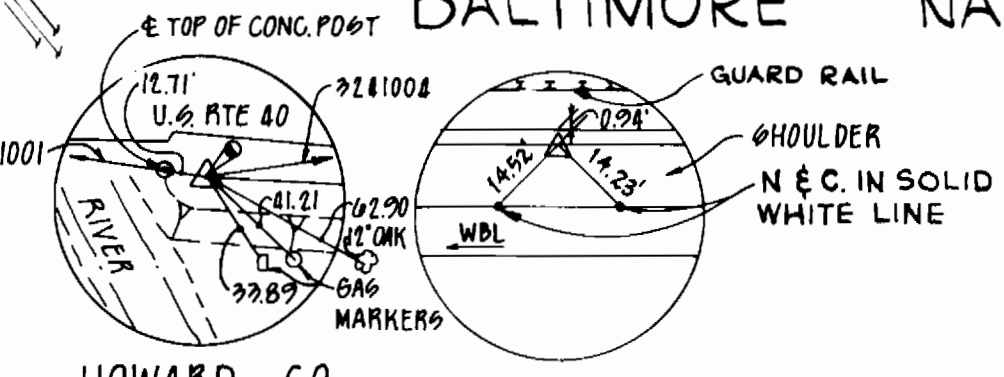


POLES TO BE RELOCATED OR BRACED

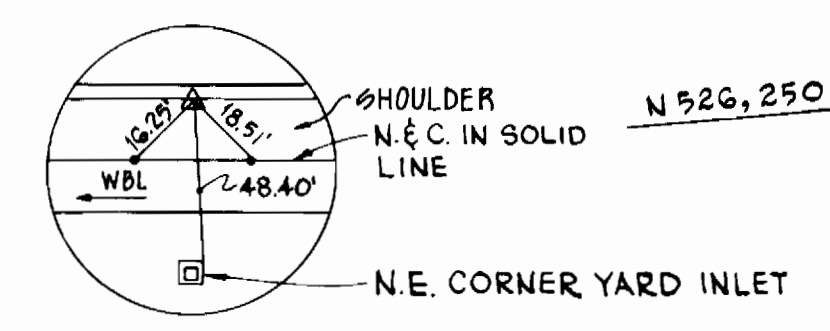
C&P #7	LEFT OF STA. 13+60 ±
B&AE #205330	
C&P #8	RIGHT OF STA. 15+60 ±
B&AE #205331	



PLAN
SCALE: 1"=50'



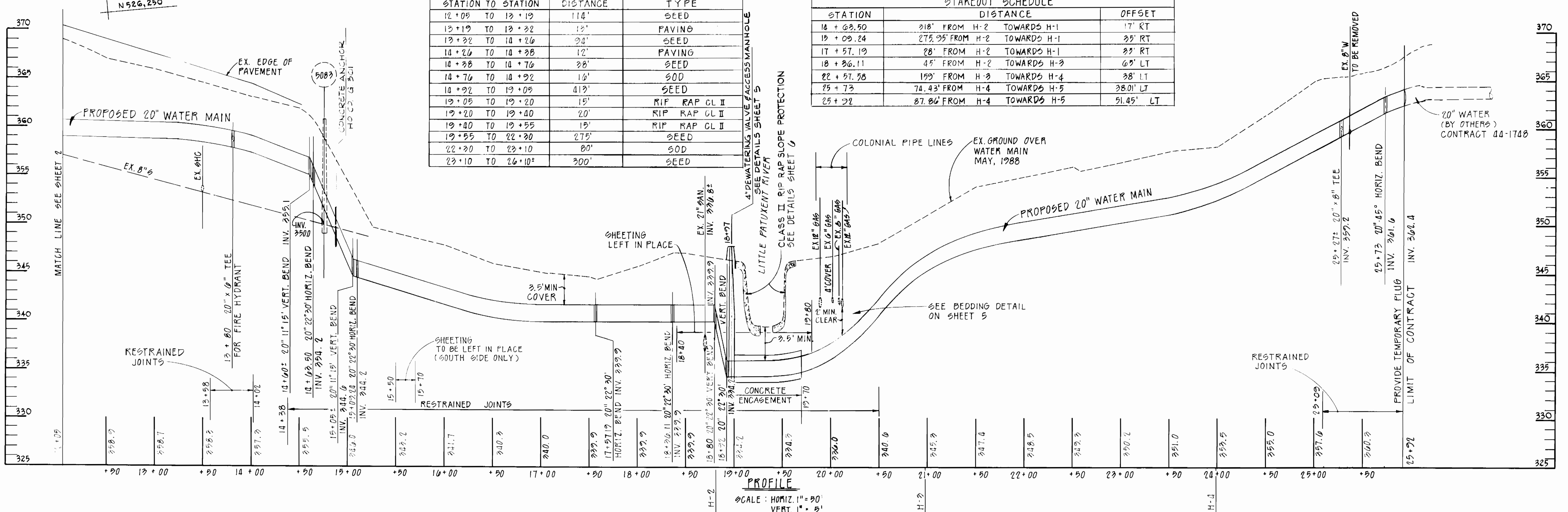
HOWARD CO. T.P. H-3
MON. #220-1002 R.R. SPIKE IN MAC.
ELEV. 294.60
CONG. MON. @ SURF. 29' ± OF 0.94' TO E.P. ± 120'
EDGE OF RT. 40 EAST 11.3' E OF EAST END OF CONC. BRIDGE



T.P. H-4
P.K. NAIL IN MAC.

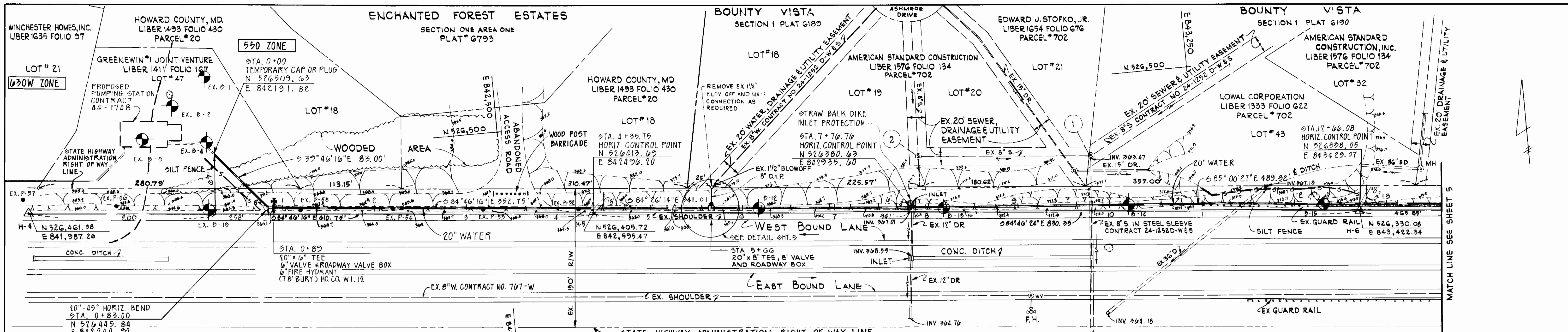
STATION TO STATION	DISTANCE	TYPE
12+09 TO 13+19	114'	SEED
13+19 TO 13+22	13'	PAVING
13+22 TO 14+26	204'	SEED
14+26 TO 14+38	12'	PAVING
14+38 TO 14+76	38'	SEED
14+76 TO 14+92	16'	SOD
14+92 TO 19+09	417'	SEED
19+09 TO 19+20	15'	RIP RAP CL II
19+20 TO 19+40	20'	RIP RAP CL II
19+40 TO 19+55	15'	RIP RAP CL II
19+55 TO 22+20	275'	SEED
22+20 TO 23+10	90'	SOD
23+10 TO 26+10	300'	SEED

STATION	DISTANCE	OFFSET
18+69.50	218' FROM H-2	TOWARDS H-1 17' RT
19+09.24	275.25' FROM H-2	TOWARDS H-1 35' RT
17+57.19	28' FROM H-2	TOWARDS H-1 35' RT
18+36.11	45' FROM H-2	TOWARDS H-3 65' LT
22+57.38	199' FROM H-3	TOWARDS H-4 38' LT
25+73	74.43' FROM H-4	TOWARDS H-5 38.01' LT
25+22	87.86' FROM H-4	TOWARDS H-5 51.45' LT



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

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND James M. ... 11-22-88 Robert ... 11-22-88	WHITNEY BAILEY COX MAGNANI CONSULTING ENGINEERS 1850 YORK ROAD TIMONUM, MD. 21093 301-252-6060	DES: R.J.H. DRN: R.D.H. CHK: J.P. DATE: 11/1/88	DISCHARGE MAIN PLAN AND PROFILE	PINE ORCHARD SUCTION AND DISCHARGE MAINS CAPITAL PROJECT W-8132 CONTRACT NO. 44-1747 ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 3 OF 6
		DATE: 11/1/88 BY: RDH NO. GENERAL REVISION: 6-28-89	DATE: 600 SCALE MAP NO. 24 BLOCK NO. 283	AS-BUILT G. WALLACE 1-28-91	3/7/93

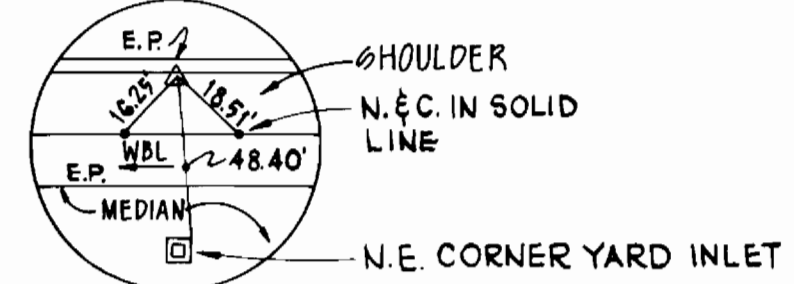


U.S. ROUTE 40

BALTIMORE

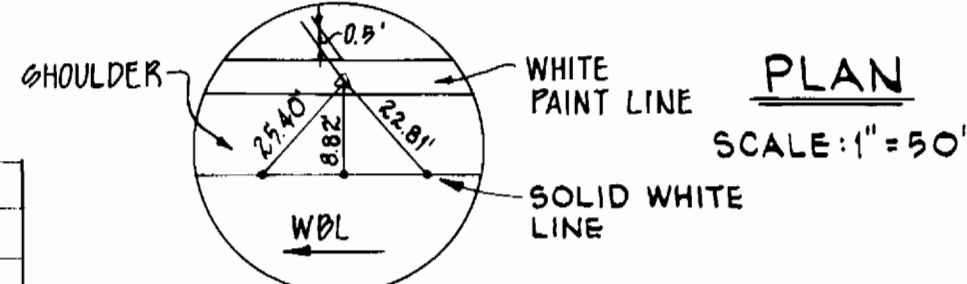
NATIONAL

PIKE



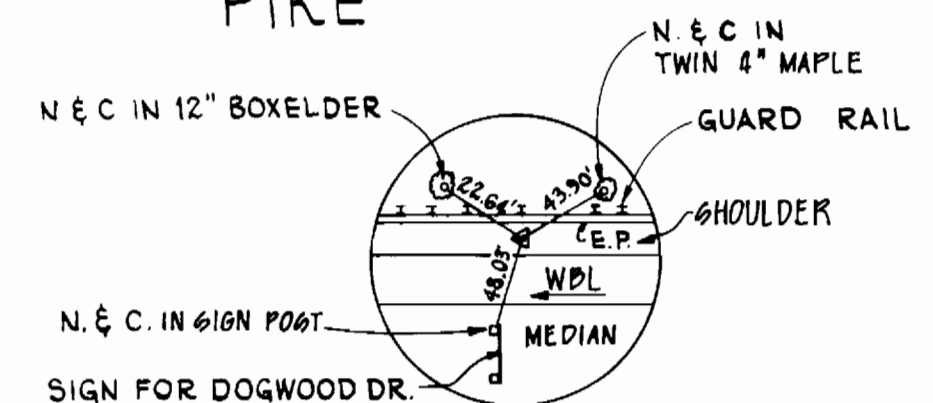
T.P. H-4
P.K. NAIL IN MAC.

STATION	DISTANCE	OFFSET
0+00	200' FROM H-4 TOWARDS H-5	6' LT
0+89.00	258' FROM H-4 TOWARDS H-5	8' LT
4+35.75	H-5	8' LT
7+76.76	241' FROM H-5 TOWARDS H-6	6' LT
12+66.05	H-6	8' LT

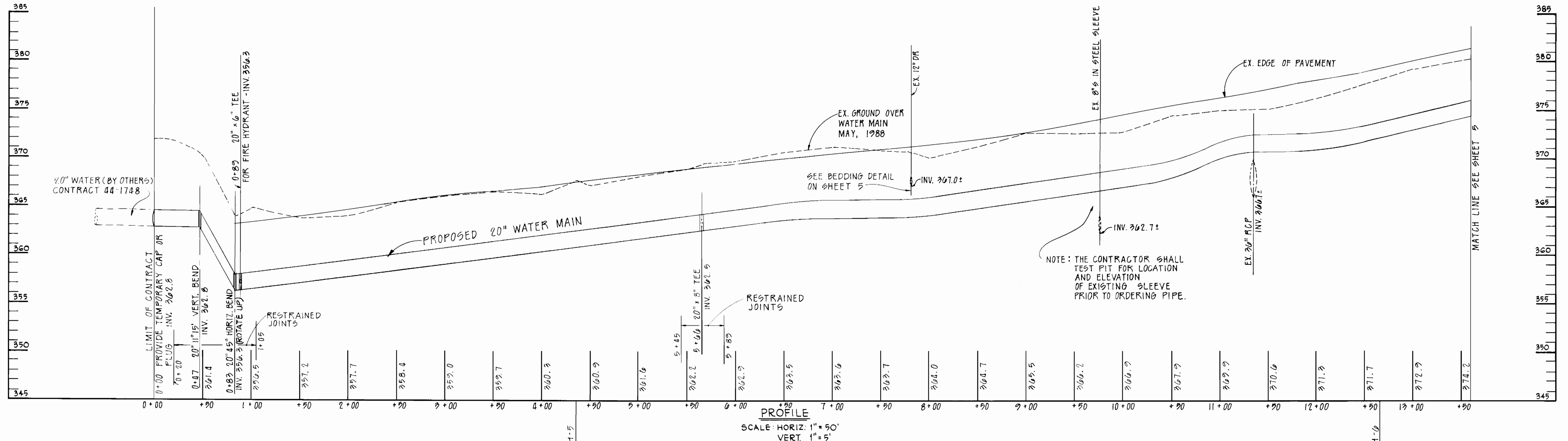


T.P. H-5
P.K. NAIL IN MAC.

STATION TO STATION	DISTANCE	TYPE
0+00 TO 0+50	50'	SEED
0+50 TO 12+55	1205'	SOD



T.P. H-6
P.K. IN MAC. ±5 TO E.P.



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

11/23/88
DIRECTOR OF PUBLIC WORKS

11-22-88
CHIEF, BUREAU OF UTILITIES

11-18-88
CHIEF, UTILITY DESIGN DIVISION

WHITNEY BAILEY COX MAGNANI
CONSULTING ENGINEERS
1850 YORK ROAD
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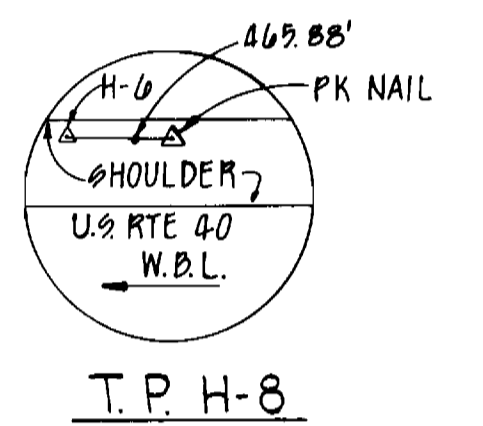
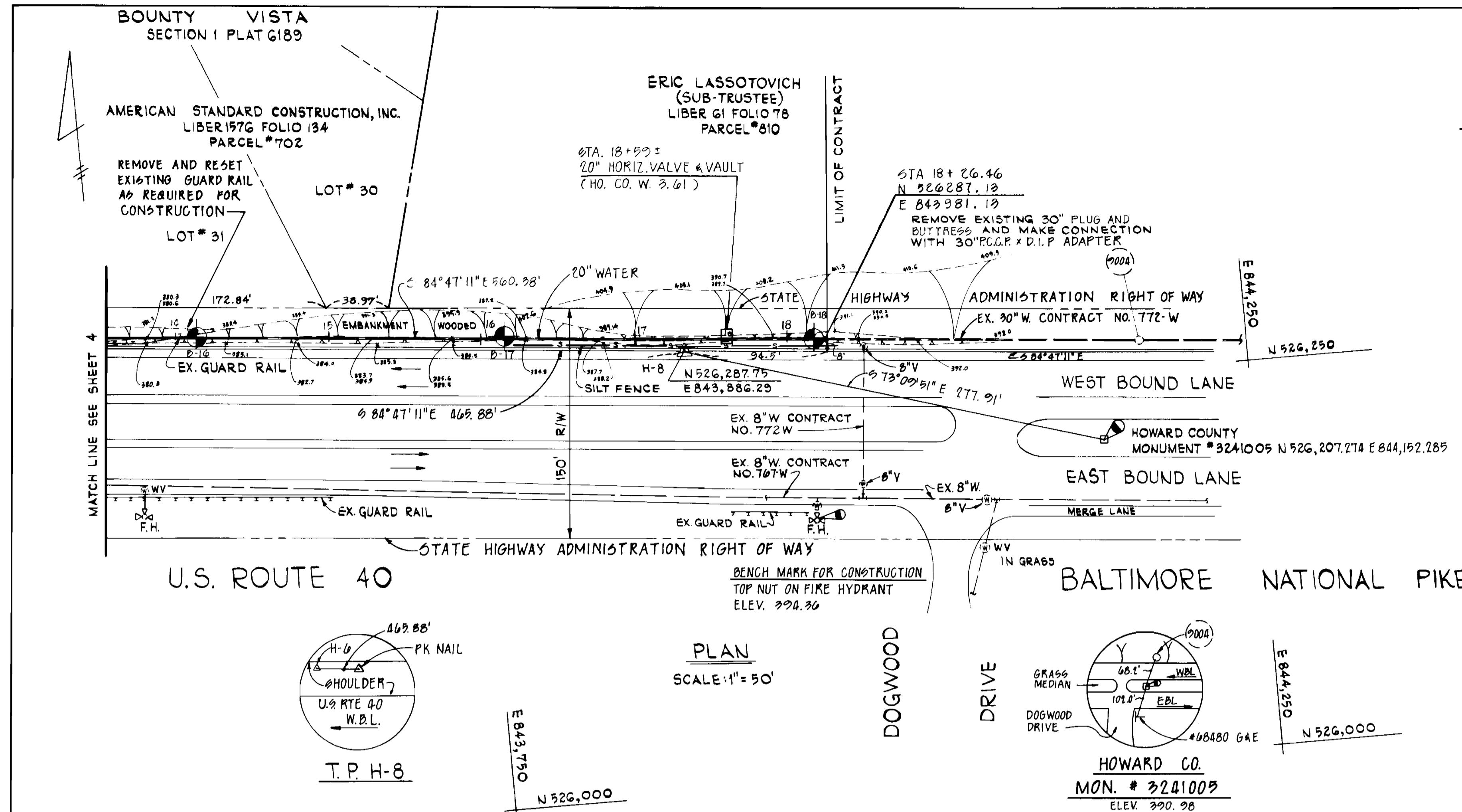
DES: R.J.H.			
DRN: R.D.H.			
CHK: J.P.			
DATE: 11/18/88	BY	NO.	REVISION

SUCTION MAIN
PLAN AND PROFILE

600' SCALE MAP NO. 24 BLOCK NO. 3

PINE ORCHARD
SUCTION AND DISCHARGE MAINS
CAPITAL PROJECT W-8132
CONTRACT NO. 44-1747
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

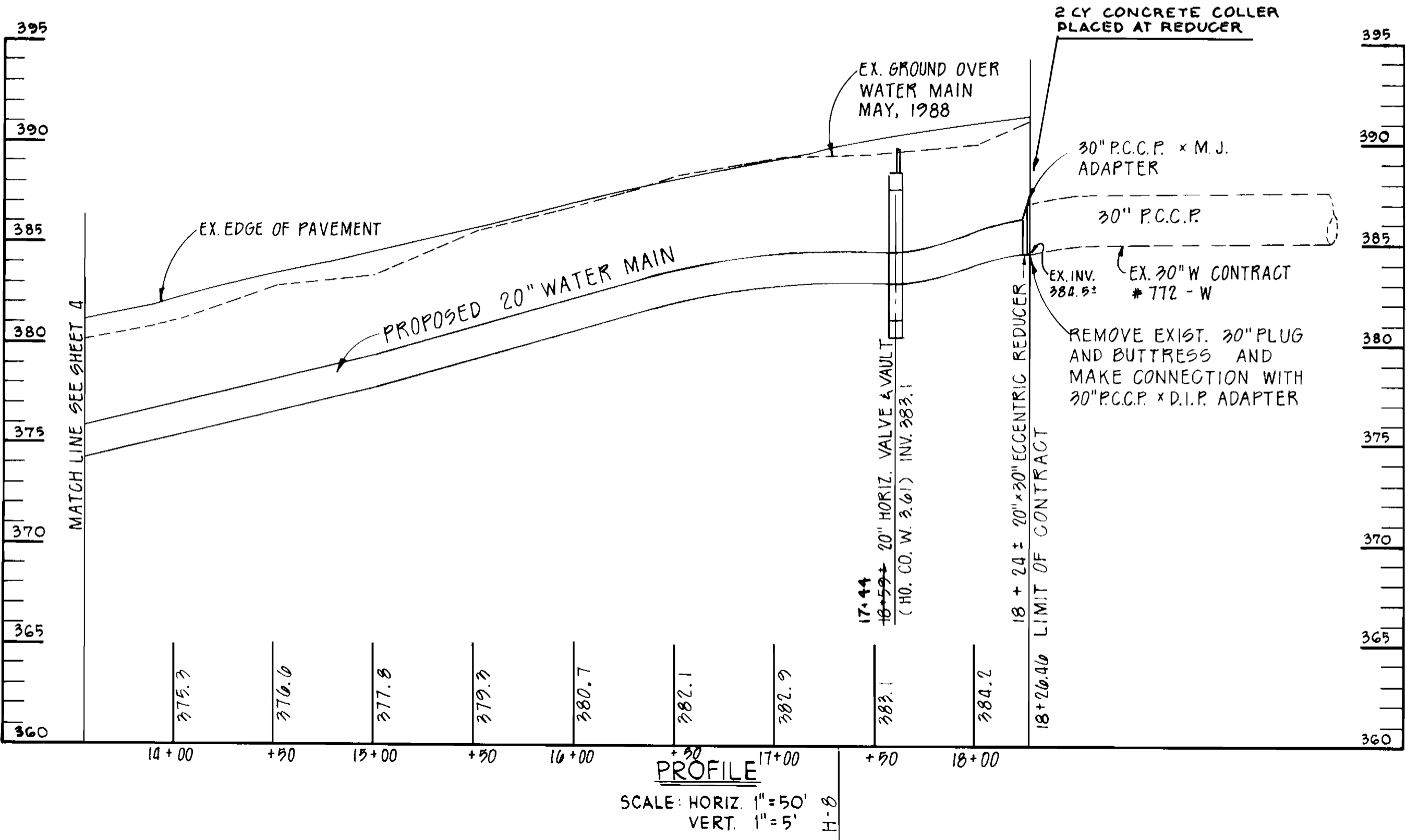
SCALE AS SHOWN
SHEET 4 OF 6



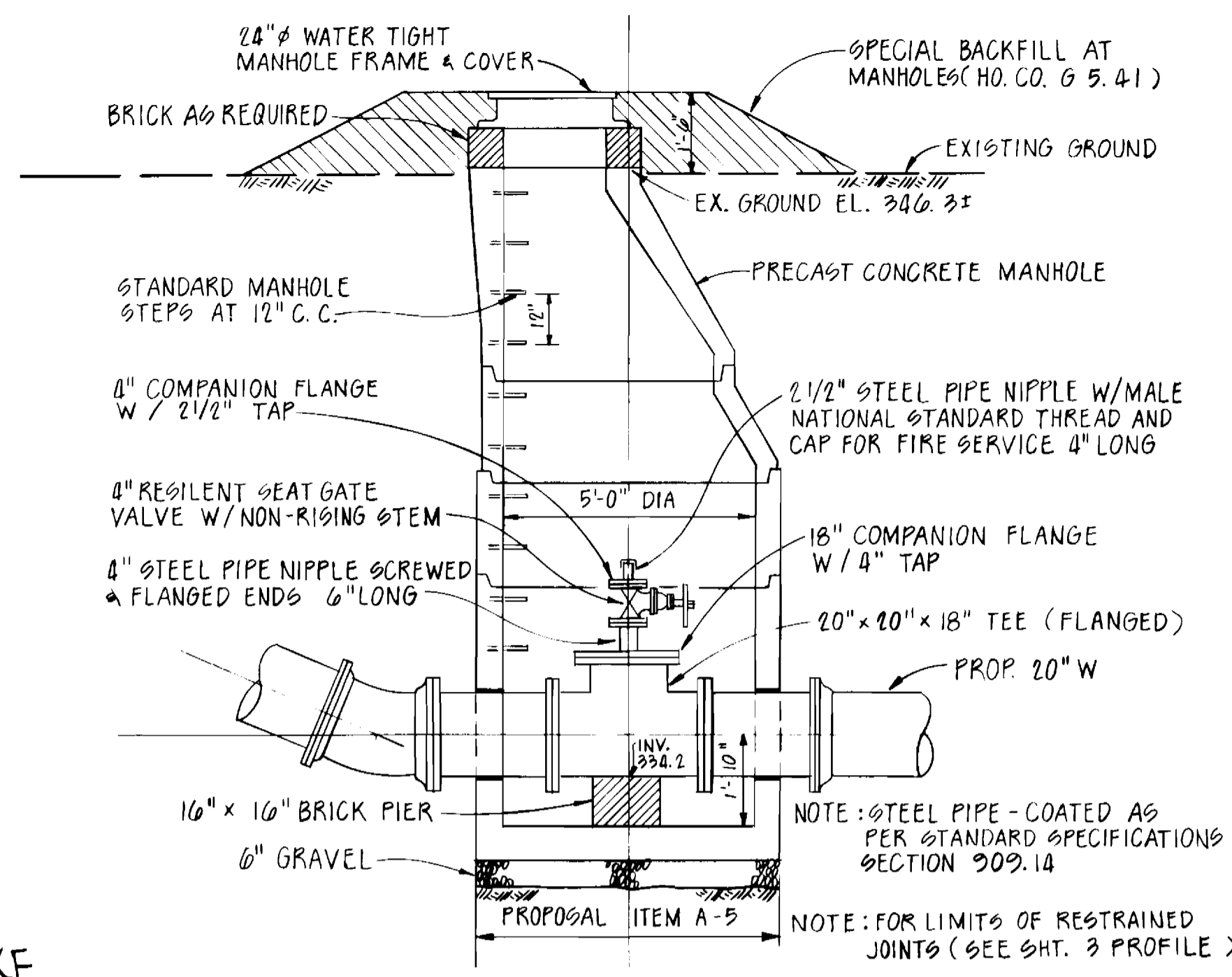
PLAN
SCALE: 1" = 50'

STATION	DISTANCE	OFFSET
18+26.10	24.5' BEYOND H-8 FROM H-6	8' LT.

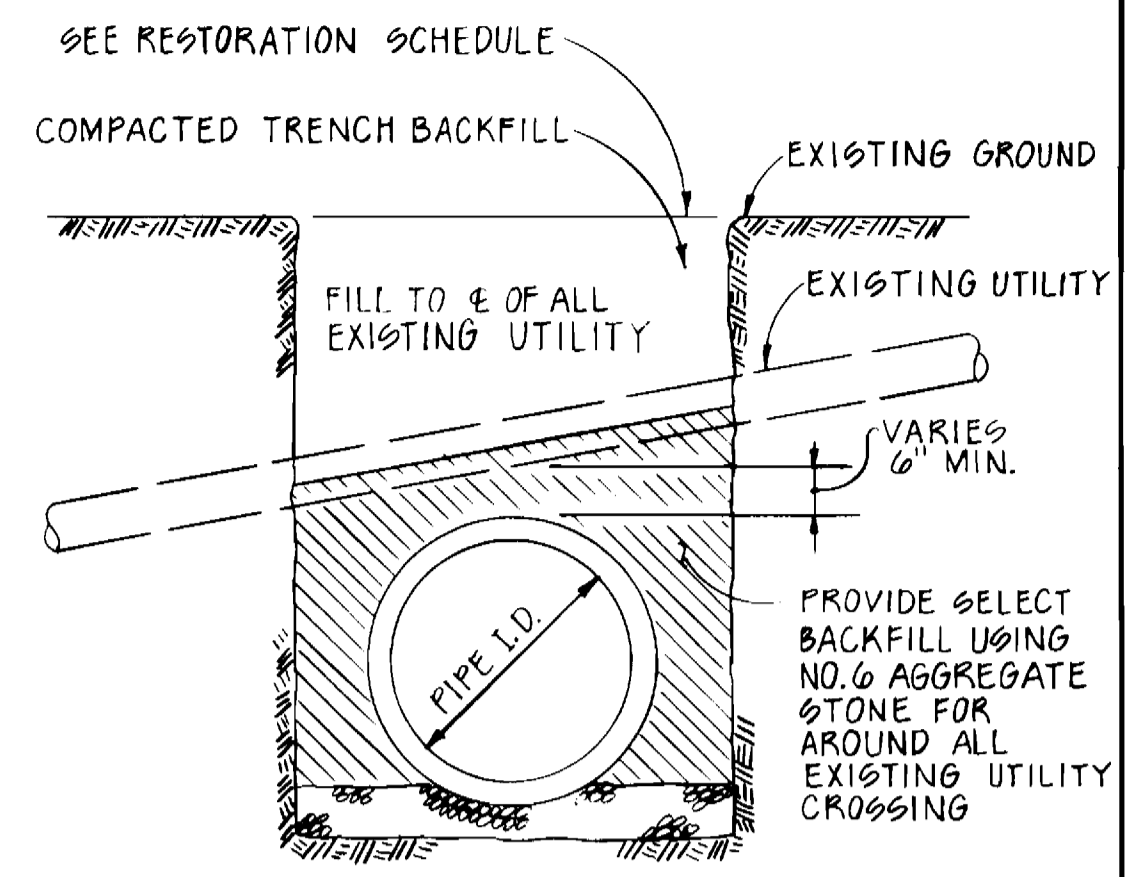
STATION TO STATION	DISTANCE	TYPE
13+88 TO 18+25	480'	90D



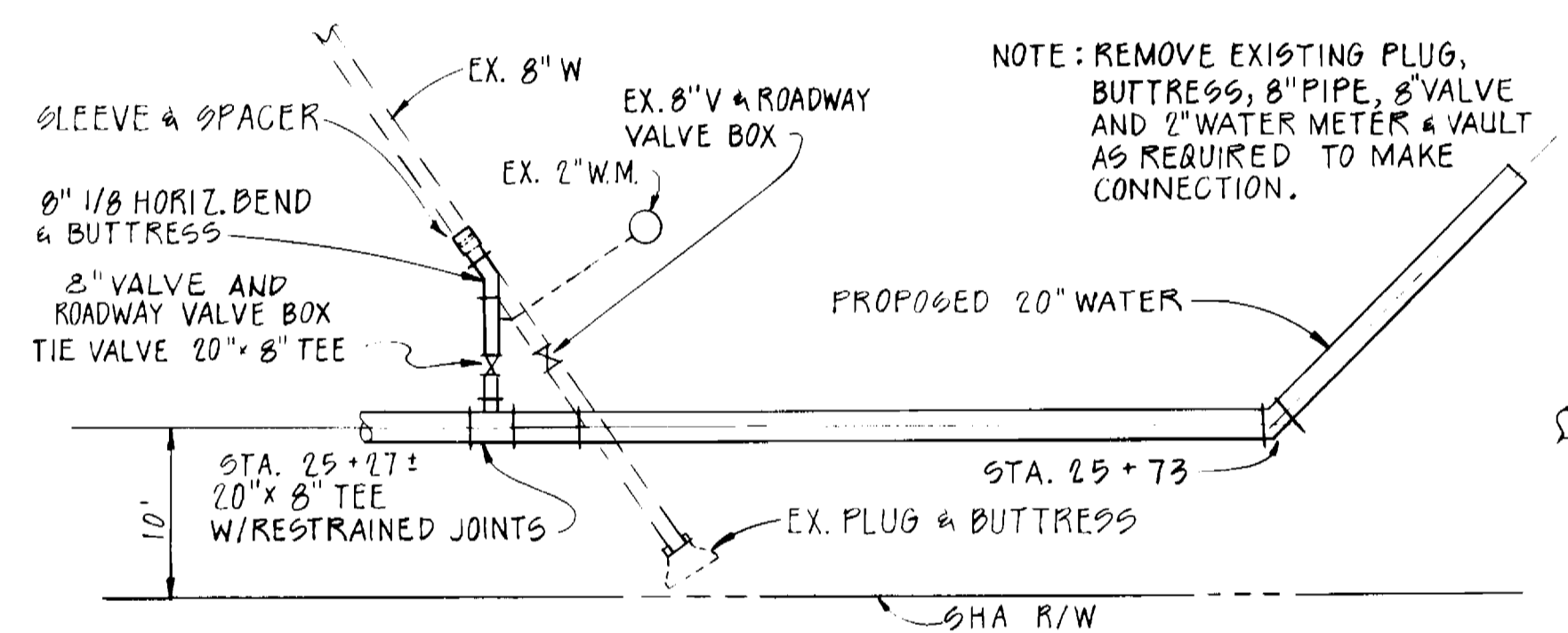
PROFILE
SCALE: HORIZ 1" = 50'
VERT. 1" = 5'



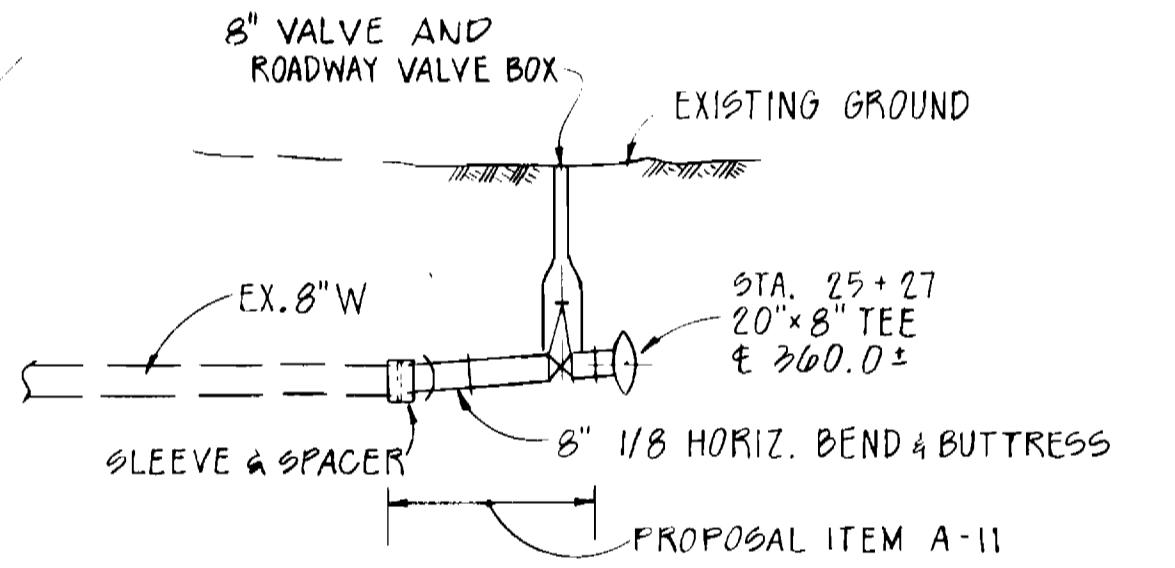
COMBINATION ACCESS MANHOLE AND
4" DEWATERING VALVE
SCALE: 3/8" = 1'-0"



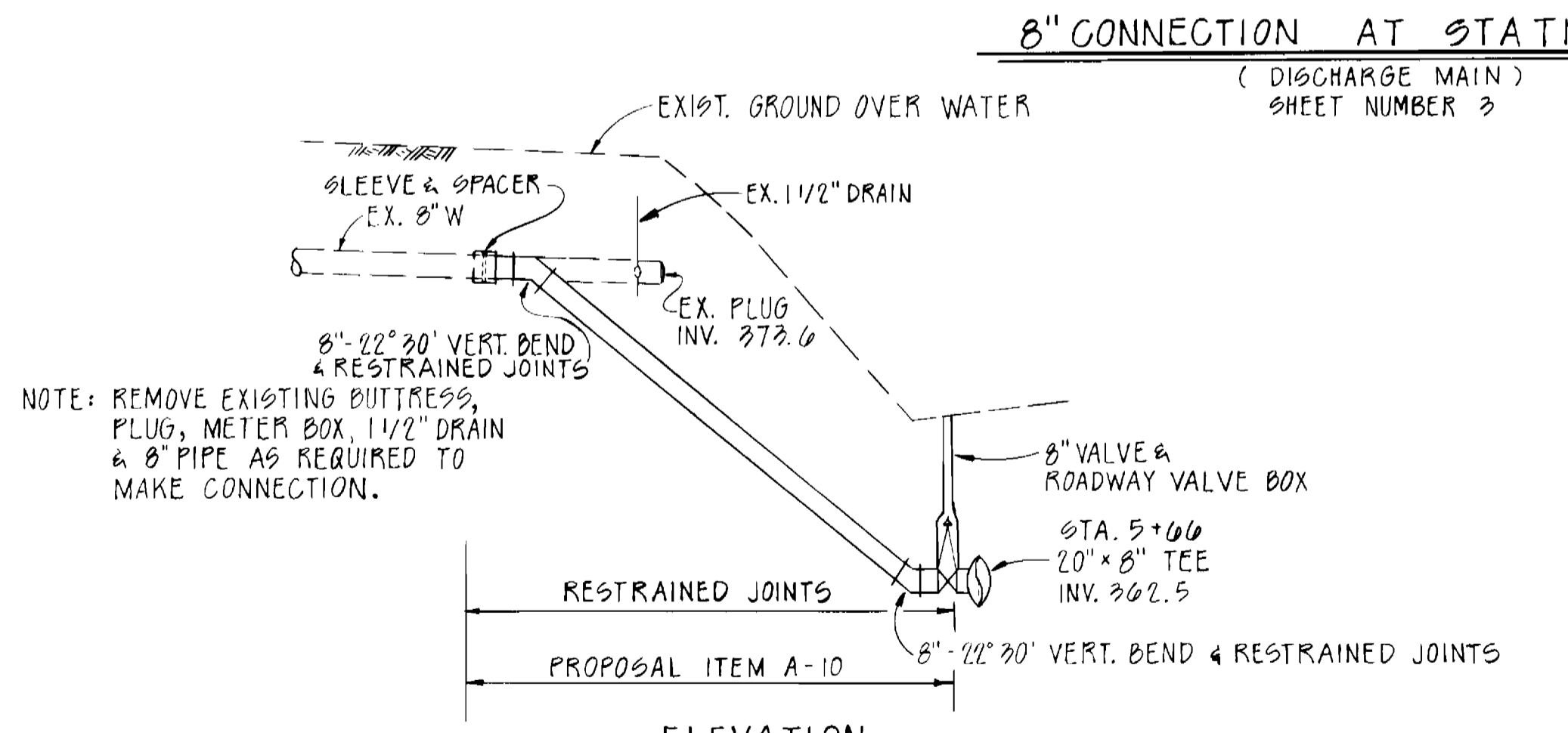
BEDDING FOR EXISTING
UTILITY CROSSING
NOT TO SCALE



PART PLAN
SCALE: 1" = 10'



ELEVATION
HORIZ. 1" = 10'
VERT. 1" = 5'



ELEVATION
HORIZ. 1" = 10'
VERT. 1" = 5'

8" CONNECTION AT STATION 5+00
(SUCTION MAIN)
SHEET NUMBER 4

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James M. ... 11-23-88
DIRECTOR OF PUBLIC WORKS DATE

William S. Ray 11-23-88
CHIEF, BUREAU OF ENGINEERING DATE

John ... 11-22-88
CHIEF, BUREAU OF UTILITIES DATE

... 11-18-88
CHIEF, UTILITY DESIGN DIVISION DATE

WHITNEY
BAILEY
COX
MAGNANI

CONSULTING
ENGINEERS
1850 YORK ROAD
TIMONIUM, MD. 21093
301-252-6060

DES: R.J.H.			
DRN: R.D.H.			
CHK: J.P.			
DATE: 11/14/88	BY NO.	REVISION	DATE

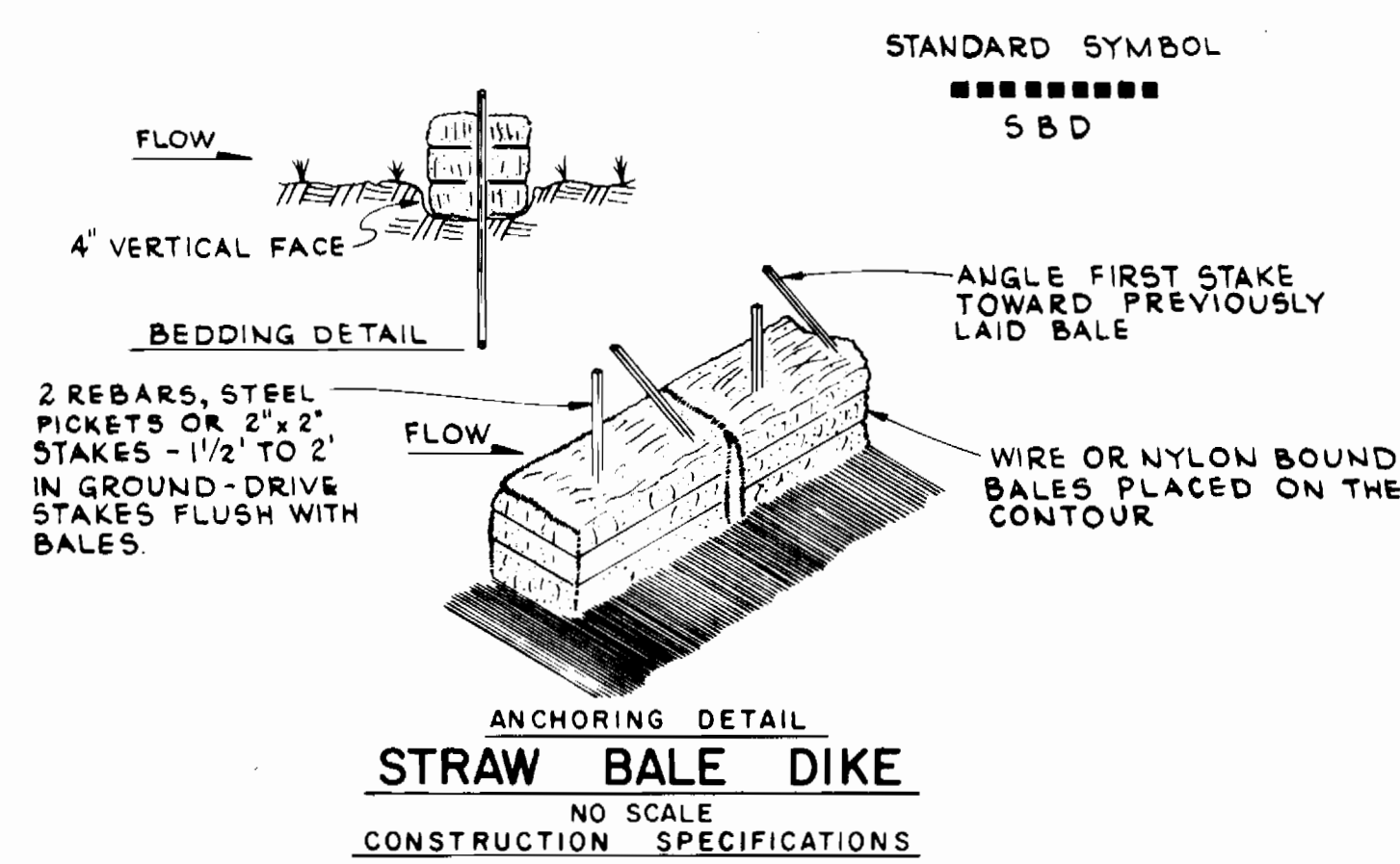
SUCTION MAIN
PLAN AND PROFILE

600' SCALE MAP NO. 24 BLOCK NO. 3

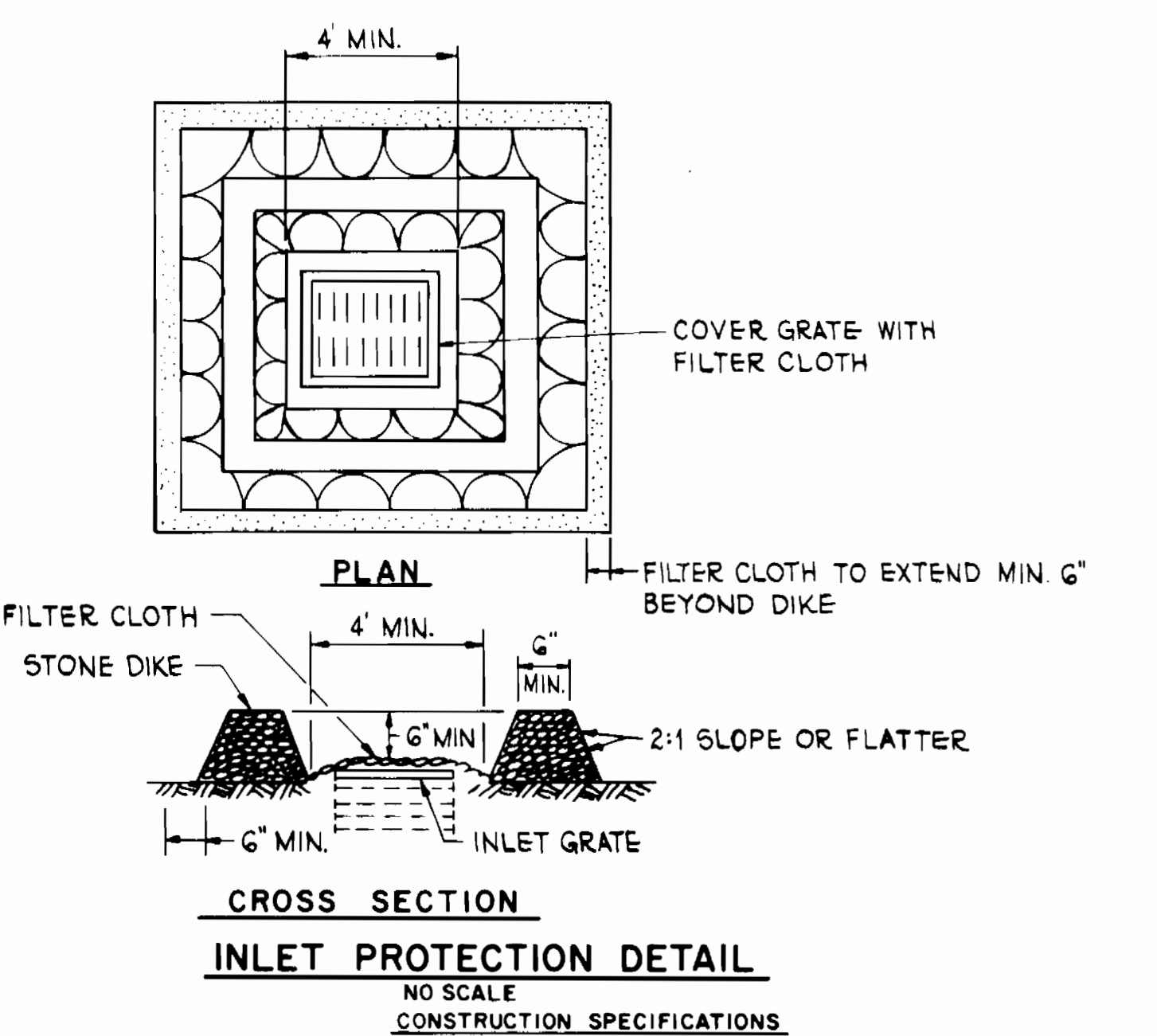
PINE ORCHARD
SUCTION AND DISCHARGE MAINS
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HOWARD COUNTY, MARYLAND

SCALE
AS
SHOWN

SHEET
5 OF 6



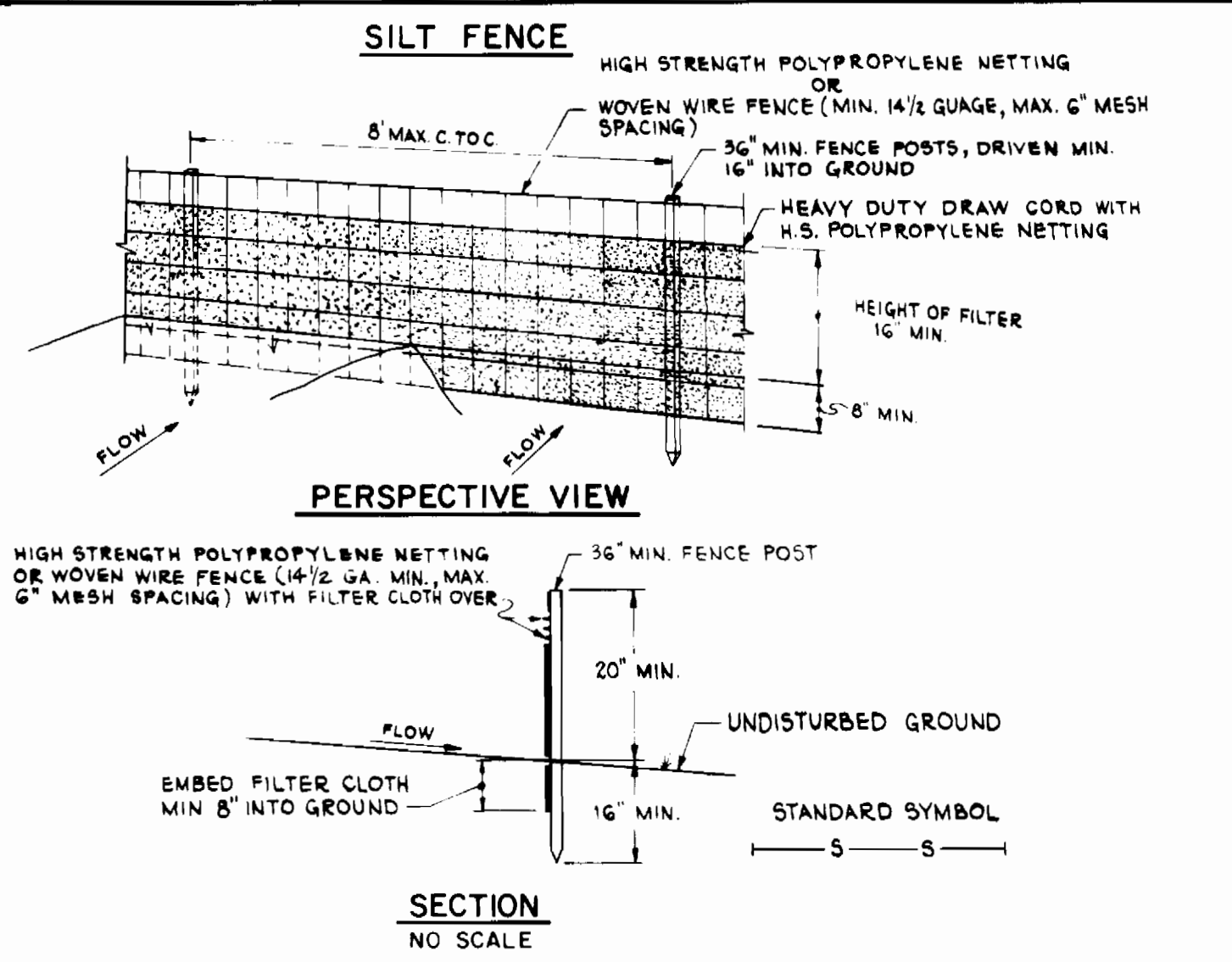
- BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
- EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4) INCHES AND PLACED SO THE BINDINGS ARE HORIZONTAL.
- BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR REBARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
- INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.



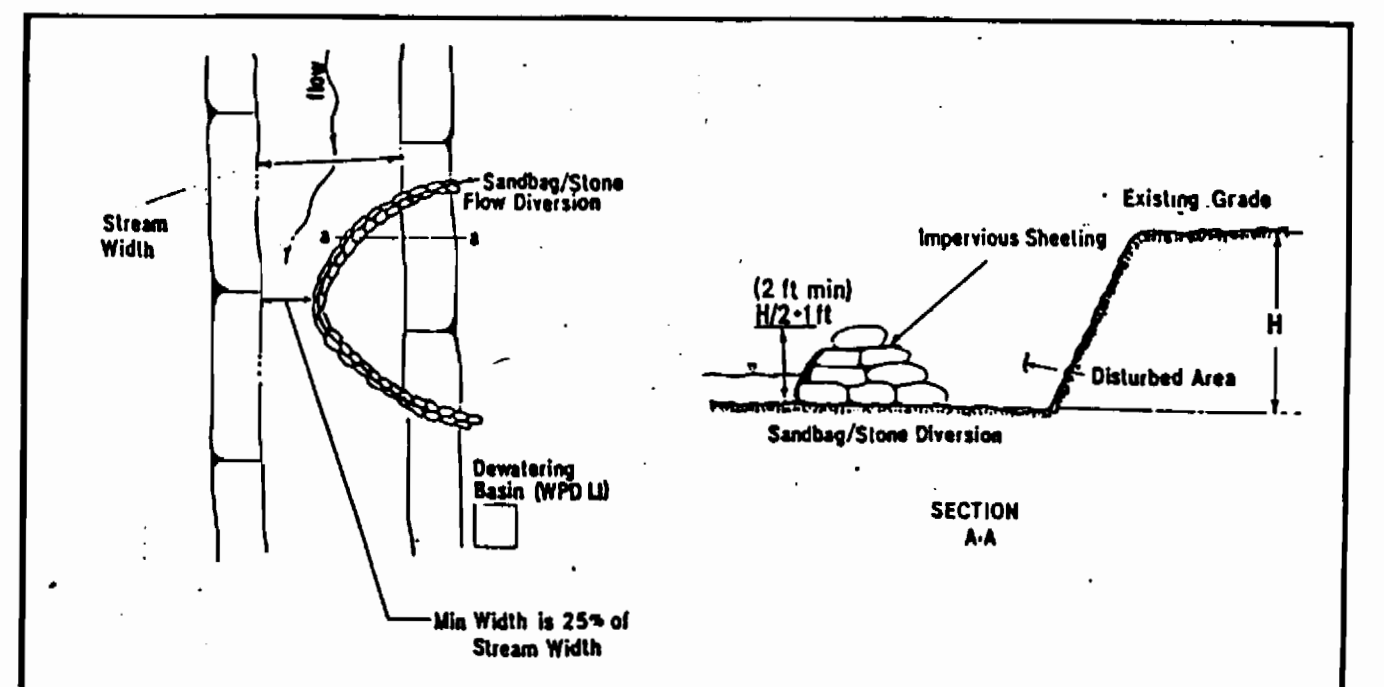
- STONE FOR THE DIKE SHALL BE CRUSHED STONE. GRAVEL MAY BE USED IF CRUSHED STONE IS NOT AVAILABLE. THE STONE SHALL MEET MSHA SIZE NO. 2 OF AASHTO DESIGNATION M49 SIZE NO. 2 OR 24. CRUSHER RUN IS NOT ACCEPTABLE.
- FILTER CLOTH SHALL BE POLY-FILTER X OR APPROVED EQUAL.
- THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.

STREAM CROSSING SEQUENCE OF CONSTRUCTION

- INSTALL SEDIMENT CONTROL DEVICE (SILT FENCE) AS SHOWN ON THE PLANS.
- BUILD A DEWATERING BASIN AS SHOWN IN WPD 1.1.
- CONSTRUCT A TEMPORARY SANDBAG COFFERDAM UPSTREAM TO DIVERT WATER AROUND THE WORKING AREA.
- CONSTRUCT A TEMPORARY SANDBAG COFFERDAM DOWNSTREAM TO PREVENT BACKWASHING INTO THE CONSTRUCTION AREA.
- DEWATER THE WORK AREA.
- INSTALL SEDIMENT CONTROL DEVICES FOR PROPOSED EXCAVATED MATERIAL STORAGE PILES.
- EXCAVATE DITCH.
- INSTALL PIPELINE 3.5 FEET BELOW STREAM BED AND ENCASE IN CONCRETE AS SHOWN ON THE PLANS.
- BACKFILL AND COMPACT THE DITCH TO THE ORIGINAL ELEVATION.
- STABILIZE THE STREAM BANKS WITH RIPRAP.
- DEWATER THE AREA, REMOVE DOWNSTREAM COFFERDAM, REMOVE THE UPSTREAM COFFERDAM.
- RESTORE THE DEWATERING BASIN TO THE ORIGINAL GRADE.
- REPEAT STEPS 2 THROUGH 12 FOR THE OPPOSITE SIDE OF THE STREAM.
- CLEAN UP THE ENTIRE CONSTRUCTION SITE.
- REMOVE ALL SEDIMENT CONTROL DEVICES.
- SEED AND MULCH ALL DISTURBED AREAS.

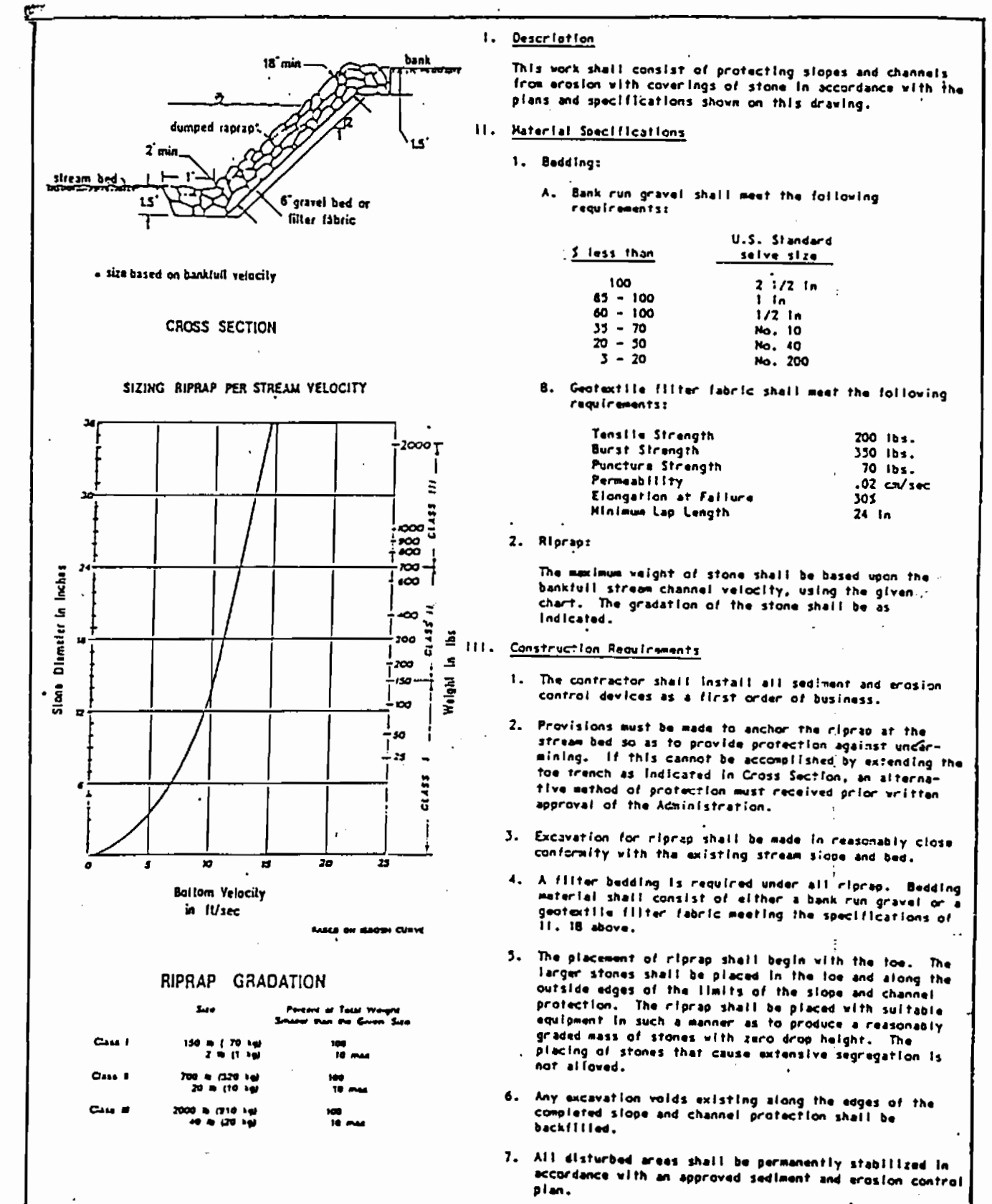


- CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**
- HIGH STRENGTH POLYPROPYLENE NETTING OR WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
 - FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
 - WHEN TWO SECTION OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
 - MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
- POSTS: STEEL EITHER T OR U TYPE OR 1/4" x 1/4" MIN. (ACTUAL) HARDWOOD
FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING OR HIGH STRENGTH POLYPROPYLENE NETTING
FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL
PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

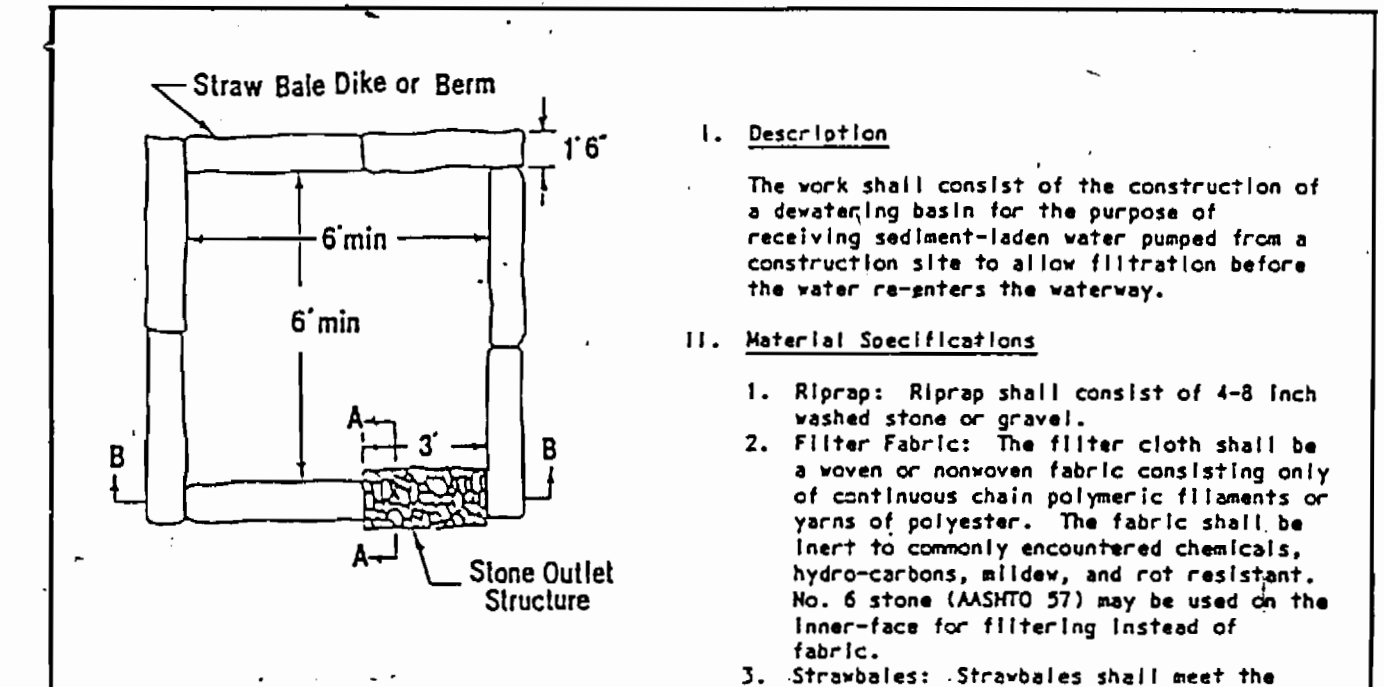


- Description**
The work shall consist of installing flow diversions for the purpose of erosion control when construction activities take place within the stream channel such as bank stabilization or bridge abutment construction.
- Material Specifications**
1. Sandbags: Sandbags shall consist of materials which are resistant to ultra-violet radiation, tearing and puncture and woven tightly enough to prevent leakage of fill material (i.e., sand, fine gravel, etc.).
2. Stone: Stone shall be washed and have a minimum diameter of 6 inches.
3. Sheetting: Sheetting shall consist of polyethylene or other material which is impervious and resistant to puncture and tearing.
- Construction Requirements**
1. All erosion and sediment control devices shall be installed as the first order of work.
2. The diversion structure shall be installed from upstream to downstream.
3. The height of the diversion structure shall be one half the distance from stream bed to stream bank plus one foot, as indicated on the cross-section view.
4. All excavated materials shall be disposed of in a SCD approved disposal area outside the 100-year floodplain unless otherwise approved on the plans by the MRA.
5. All dewatering of the construction area shall be pumped to a dewatering basin prior to re-entering the stream.
6. Sheetting shall be overlapped such that the upstream portion covers the downstream portion with at least an 18-inch overlap.
7. Sediment control devices are to remain in place until all disturbed areas are stabilized in accordance with an approved sediment and erosion control plan and the inspecting authority approves their removal.

WATER RESOURCES ADMINISTRATION Sandbag/Stone Diversion Approved On 1/24/80 Chief Waterway Permits WPD 2.3



WATER RESOURCES ADMINISTRATION Riprap Approved On 1/24/80 Chief Waterway Permits WPD 3.1



- Description**
The work shall consist of the construction of a dewatering basin for the purpose of receiving sediment-laden water pumped from a construction site to allow filtration before the water re-enters the waterway.
- Material Specifications**
1. Riprap: Riprap shall consist of 4-8 inch washed stone or gravel.
2. Filter Fabric: The filter cloth shall be a woven or nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The fabric shall be inert to commonly encountered chemicals, hydrocarbons, mildew, and rot resistant. No. 6 stone (ASTM 27) may be used on the inner-face for filtering instead of fabric.
3. Strawbales: Strawbales shall meet the criteria as specified in the Maryland Standards and Specifications for Soil Erosion and Sediment Control.
- Construction Requirements**
1. The contractor shall install all sediment and erosion control devices as the first order of business.
2. Excavated materials shall be stored such that sediments are prevented from entering the waterway; i.e., sediment perimeter controls may be necessary.
3. Excavated subsoil and topsoil shall be kept separate and replaced in their natural order.
4. Any dewatering of the construction area shall be filtered through a dewatering basin prior to entering the waterway.
5. The dewatering basin shall be excavated to a minimum depth of 3 feet.
6. Once the dewatering basin becomes filled to 1/2 of the excavated depth, accumulated sediment shall be removed and disposed of in a SCD approved disposal area outside the 100-year floodplain unless otherwise approved on the plans by the MRA.
7. Sediment control devices are to remain in place until all disturbed areas are stabilized and the inspecting authority approves their removal. All ground contours shall be returned to their original condition unless specifically approved otherwise by the Administration.

WATER RESOURCES ADMINISTRATION Dewatering Basins Approved On 1/24/80 Chief Waterway Permits WPD 1.1

SEDIMENT CONTROL SEQUENCE OF CONSTRUCTION

- ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED IN THE AREA OF THE PROPOSED WORK PRIOR TO ANY CONSTRUCTION.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

SEDIMENT CONTROL GENERAL NOTES

- NOTIFICATION OF WRA ENFORCEMENT DIVISION (301) 269-3551, AT LEAST 5 DAYS PRIOR TO THE START OF WORK.
- PRIOR TO THE START OF WORK, THE CONTRACTOR IS TO OBTAIN WRA APPROVAL OF ANY PROPOSED PLAN CHANGES AND SEQUENCE OF CONSTRUCTION, SPECIFICALLY RELATING TO INSTALLATION, INSPECTION, MAINTENANCE AND REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES.
- SEDIMENT CONTROL MEASURES ARE NOT TO BE REMOVED UNTIL THE AREAS SERVED HAVE ESTABLISHED VEGETATIVE COVER, WITH THE PERMISSION OF THE WRA ENFORCEMENT INSPECTOR.
- WHEN PUMPING SEDIMENT-LADEN WATER, THE DISCHARGE MUST BE DIRECTED TO APPROVED SEDIMENT TRAPPING MEASURE PRIOR TO RELEASE FROM THE SITE.
- ALL TEMPORARY STOCKPILES ARE TO BE LOCATED WITHIN AREAS PROTECTED BY SEDIMENT CONTROL MEASURES, AND ARE TO BE TEMPORARILY STABILIZED.
- ALL SEDIMENT CONTROL DIKES, SWALES, BASINS AND FLOW LINES TO BASINS WILL BE TEMPORARILY SEEDED IMMEDIATELY UPON INSTALLATION TO REDUCE THE CONTRIBUTION TO SEDIMENT LOADING.
- DISPOSAL OF EXCESS EARTH MATERIALS ON STATE OR FEDERAL PROPERTY REQUIRES WRA APPROVAL, OTHERWISE MATERIALS ARE TO BE DISPOSED OF AT A LOCATION APPROVED BY THE LOCAL AUTHORITY.
- TEMPORARY SOIL EROSION CONTROL AND SEDIMENT CONTROL MEASURES ARE TO BE PROVIDED AS PER THE APPROVED PLAN PRIOR TO GRADING OPERATIONS. LOCATION ADJUSTMENTS ARE TO BE MADE IN THE FIELD AS NECESSARY. THE MINIMUM AREA PRACTICAL SHALL BE DISTURBED FOR THE MINIMUM POSSIBLE TIME.
- IF GRADING IS COMPLETED OUT OF A SEEDING SEASON, GRADED AREAS ARE TO BE TEMPORARILY STABILIZED BY MULCH AND MULCH ANCHORING MULCH MATERIAL SHALL BE UNWEATHERED, UNCHOPPED SMALL GRAIN STRAW SPREAD AT THE RATE OF 1/2 TO 2 TONS PER ACRES MULCH ANCHORING TO BE ACCOMPLISHED BY AN APPROVED METHOD, USE OF A MULCH ANCHORING TOOL IS RECOMMENDED WHERE POSSIBLE.
- PERMANENT SEEDING SPECIFICATIONS: (a) SEED BED PREPARATION (b) LIME, FERTILIZER AND SEED (c) MULCH AND ANCHORING METHOD (d) TIME FRAME TO ACCOMPLISH
- TEMPORARY SEEDING SPECIFICATIONS: (a) SURFACE PREPARATION (b) LIME, FERTILIZER AND SEED (c) MULCH AND ANCHORING METHOD (d) TIME FRAME TO ACCOMPLISH
- PERMANENT SODDING SPECIFICATIONS: (a) SOD TYPE (b) SURFACE PREPARATION (c) LIME AND FERTILIZER AS NECESSARY (d) WATERING AND ROLLING (e) TIME FRAME TO ACCOMPLISH
- IMPLEMENTATION OF THE SEDIMENT CONTROL PLAN SHALL BE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, OF THE DEPARTMENT OF NATURAL RESOURCES.
- THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTATION AND MAINTENANCE OF THE APPROVAL PLAN, AND ALL OTHER MEASURES NECESSARY TO CONTROL, FILTER, OR PREVENT SEDIMENT FROM LEAVING THE SITE.
- SEDIMENT CONTROL MEASURES FOR THE CONTRACTOR'S OFFICES, STAGING AND STOCKPILE AREAS, IF LOCATED OUTSIDE OF THE DESIGNED SEDIMENT CONTROL MEASURES MUST BE SUBMITTED TO WRA FOR APPROVAL.
- ROADBEDS ARE TO BE STABILIZED BY INSTALLATION OF AGGREGATE SUB-BASE WITHIN 5 DAYS OF REACHING GRADE, OR WATER BREAKS SHALL BE CUT INTO THE ROADBED TO DIRECT DRAINAGE ONTO STABLE AREAS OR INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
- SEDIMENT CONTROL FOR UTILITY CONSTRUCTION IN AREAS OUTSIDE OF DESIGNED CONTROLS: (a) EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH. (b) IMMEDIATELY FOLLOWING PIPE INSTALLATION THE TRENCH SHALL BE BACKFILLED, COMPACTED AND STABILIZED AT THE END OF EACH WORKING DAY. (c) TEMPORARY SILT FENCE OF STRAW BALE DIKES SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF ANY DISTURBED AREA INTENDED TO REMAIN DISTURBED LONGER THAN ONE WORKING DAY.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

WHITNEY CONSULTING ENGINEERS 1850 YORK ROAD TIMONIUM, MD 21093 301-252-6060

DES: R.J.H.
DRN: R.D.H.
CHK: J.P.
DATE: BY NO. REVISION DATE

SEDIMENT AND EROSION CONTROL

PINE ORCHARD SUCTION AND DISCHARGE MAINS CAPITAL PROJECT W-8132 CONTRACT NO. 44-1747 ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN SHEET 6 OF 6

AS-BUILT G. WALLACE 1-28-91