

Reviewed for Howard County S.C.D. and meets technical requirements.

*John M. Nelson* Date: 10-15-86  
U.S. SOIL CONSERVATION SERVICE

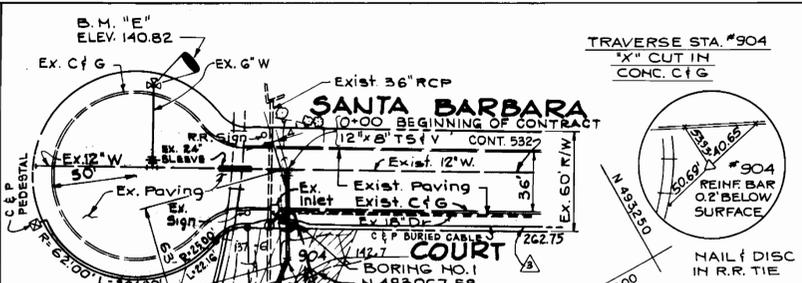
This development plan is approved for soil erosion and sediment control by The Howard County Soil Conservation District.

Approved: *Stephen J. Kelly* Date: 10/15/86  
HOWARD COUNTY S.C.D.

**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: Aug. 25, 1986  
WHITNEY, BAILEY, COX & MAGNANI  
CONSULTING ENGINEERS  
1850 YORK ROAD  
TIMONIUM, MD. 21093



**DEVELOPER'S CERTIFICATION**

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project."

*Kristen E. Ray* Date: 10-15-86  
BUREAU OF ENGINEERING  
DEPARTMENT OF PUBLIC WORKS

**BENCH MARKS FOR CONSTRUCTION**

B.M. "D" ELEV. 121.94  
1" X 1" CUT IN RIM SANITARY MH WEST SIDE B TO WEST BOUND MAIN TRACK.

B.M. "H" ELEV. 140.82  
1" X 1" CUT IN BOTTOM BOLT OF FIRE HYDRANT, SANTA BARBARA COURT.

HOWARD COUNTY TRAVERSE STATION # 2446002 = SURVEY STATION # 902 ELEV. 107.59.

CONCRETE MONUMENT FLUSH WITH SURFACE BETWEEN RAILROAD & # 6795 ATHOL AVE.

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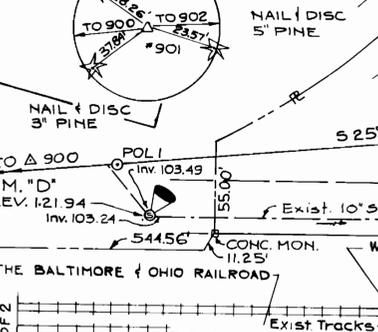
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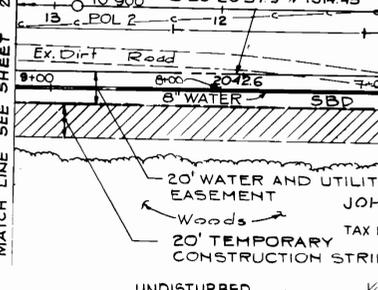
**DISTURBED SITE RESTORATION SCHEDULE**

WATER STATIONING LIMITS	SURFACE RESTORATION METHOD	LENGTH (FT.)
0+13 TO 0+23	BIT. PAVING	29
0+23 TO 0+25	CURB & GUTTER	2
0+25 TO 1+52	50D	127
1+52 TO 3+19	SEED & MULCH	167
3+19 TO 4+18	50D	99
4+18 TO 5+20	50D	32
5+20 TO 11+87	SEED & MULCH	667
11+87 TO 18+21	SEED & MULCH	634
18+21 TO 20+48	PERMEATION MAC.	227



**GENERAL NOTES - CONTINUATION**

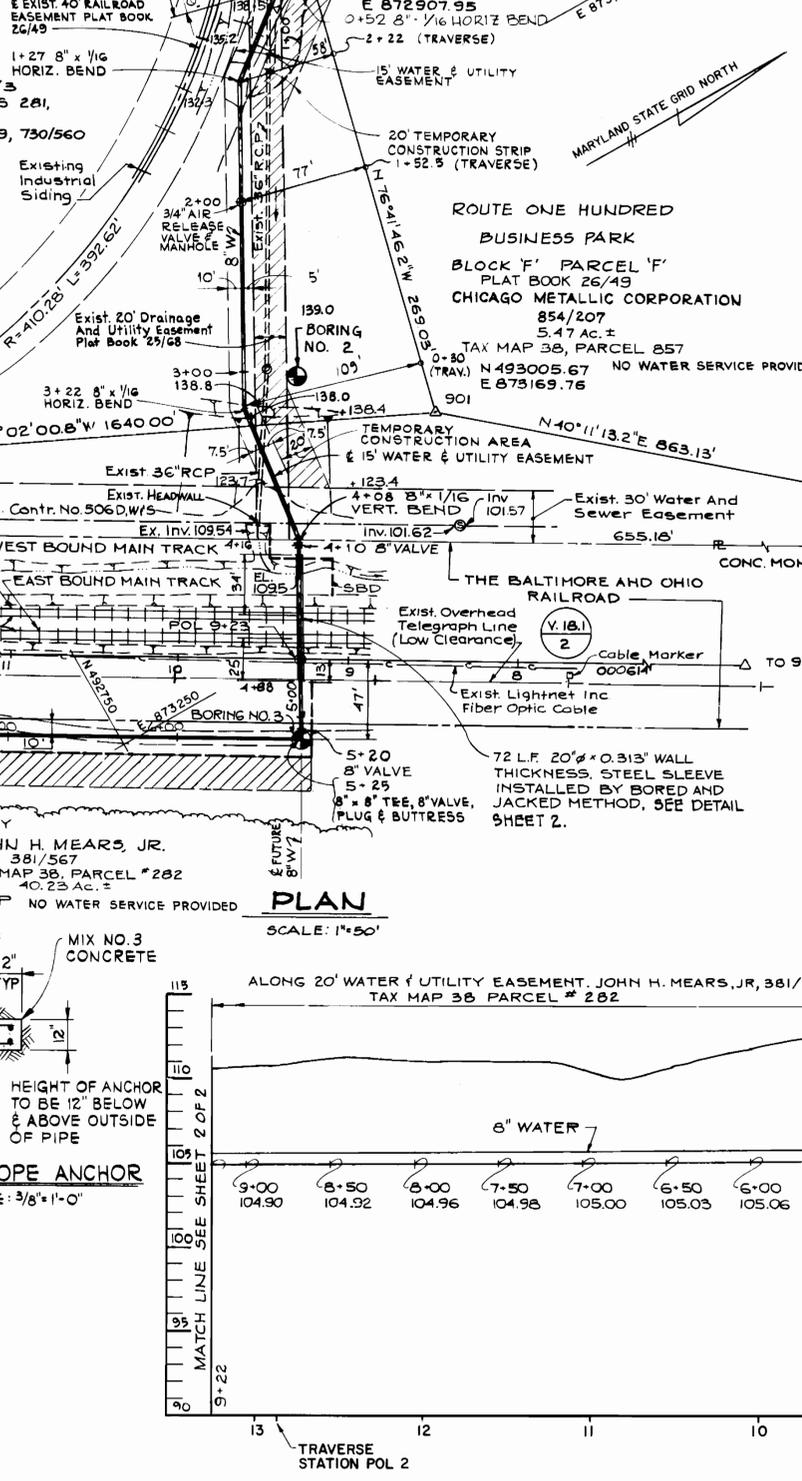
- ALL WATER MAINS TO BE D.I.P CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3' 1/2" COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE 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 1003 THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON PLANS OR IN THE SPECIFICATIONS.
- PAVING REPAIRS TO DISTURBED AREAS SHALL BE AS FOLLOWS:  
C. SANTA BARBARA CT. - STD DETAIL R-2.02 SECTION # P-5 (FULL DEPTH ALT.)  
D. O'CONNOR RD - STD DETAIL R-2.02 SECTION # P-7 (GRANULAR BASE ALT.)
- CONTRACTOR SHALL NOTIFY LIGHTNET INC. (PHONE (AC 800) 327-9686 48 HOURS BEFORE DIGGING IN VICINITY OF MAIN LINE, INDUSTRIAL SIDING TRACKS AND O'CONNOR ROAD.



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

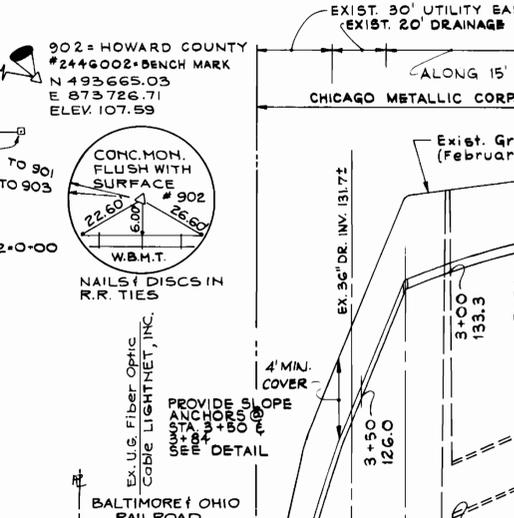
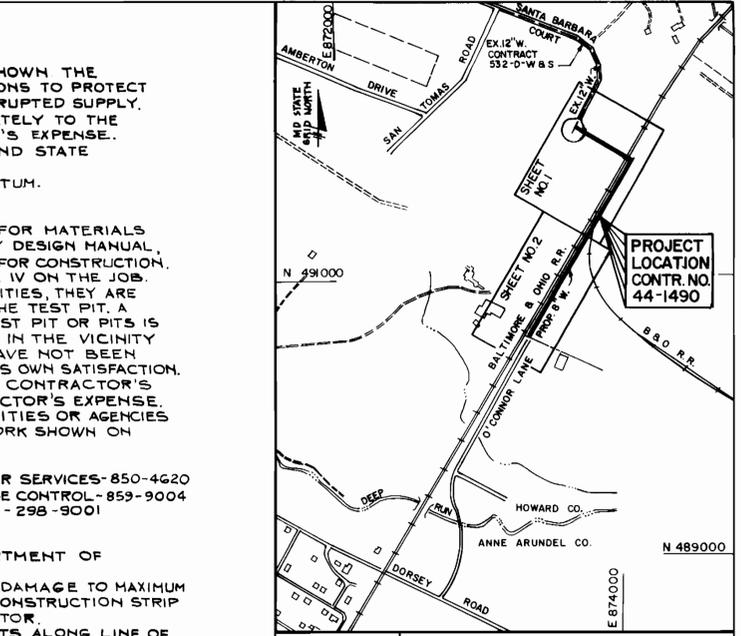
DIRECTOR OF PUBLIC WORKS DATE: 10-20-86  
CHIEF, BUREAU OF UTILITIES

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



**GENERAL NOTES**

- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS 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. DATUM.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6'.
- 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. 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 [ ] 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 DONE 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 - 531-5533  
BALTIMORE GAS AND ELECTRIC CO. - CONTRACTOR SERVICES - 850-4620  
BALTIMORE GAS & ELECTRIC CO. UNDER GROUND DAMAGE CONTROL - 859-9004  
BALTIMORE GAS & ELECTRIC CO. TROUBLE SHOOTING - 298-9001  
MISS UTILITY - 1-800-257-7777  
COLONIAL PIPELINE CO. - 795-1390  
BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 992-2366
- 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.  
(FOR CONTINUATION SEE BELOW)



**WATER**

ITEM	ESTIMATE	QUANTITIES	AS BUILT	TYPE	SUPPLIERS
8" WATER		2048 L.F.			
6" WATER		22 L.F.			
12" x 8" TAPPING SLEEVE & VALVE		1 EACH			
8" VALVES		4 EACH			
6" VALVES		2 EACH			
FIRE HYDRANTS		2 EACH			
3/4" W.H.C.		35 L.F.			
20" SLEEVE		147 L.F.			
3/4" AIR RELEASE VALVE MANHOLE		1 EACH			

**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS DATE: 10-20-86  
CHIEF, BUREAU OF UTILITIES

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

VICINITY MAP  
PLAN AND PROFILE OF  
WATER MAIN EXTENSION

DATE: 8/19/86

O'CONNOR ROAD WATER MAIN  
CAPITAL PROJECT W-8153  
CONTRACT NO. 44-1490  
ELECTION DISTRICT NO. 1  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 1 OF 2

**BENCH MARKS FOR CONSTRUCTION**

B.M. "A" ELEV. 114.04  
R.R. SPIKE IN B70 TELEGRAPH POLE  
350' SOUTH OF HOWARD COUNTY  
STA. #2446001 (STA 903) ± 15'± EAST  
OF R.R. TRACKS.

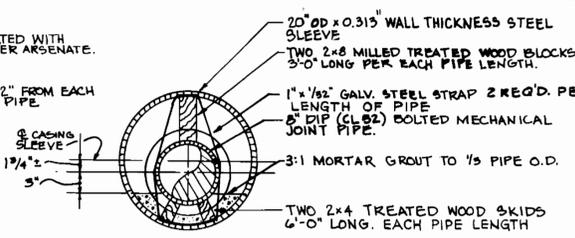
B.M. "B" ELEV. 114.10  
R.R. SPIKE IN B70 TELEGRAPH POLE  
115' NORTH OF TRAVERSE STATION #900  
± 15'± EAST OF R.R. TRACKS.

B.M. "BALTIMORE 13" ELEV. 114.86  
TOP CONCRETE MONUMENT (B70) R.R.  
MILE MARKER 175' SOUTH OF TRAVERSE  
STATION #900

**NOTE:** THE ANTICIPATED STATIC PRESSURE FOR  
3 WATER HOUSE CONNECTIONS IS 129 PSI.  
PRESSURE REDUCING VALVES ARE REQUIRED.  
(TO BE PROVIDED BY OTHERS)

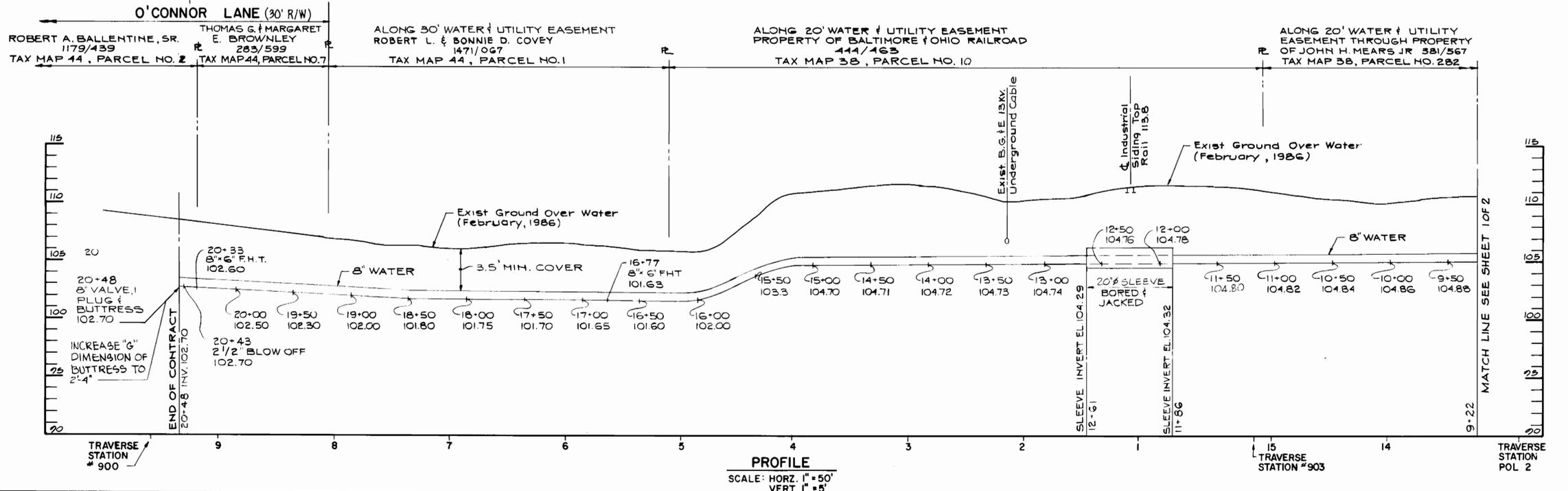
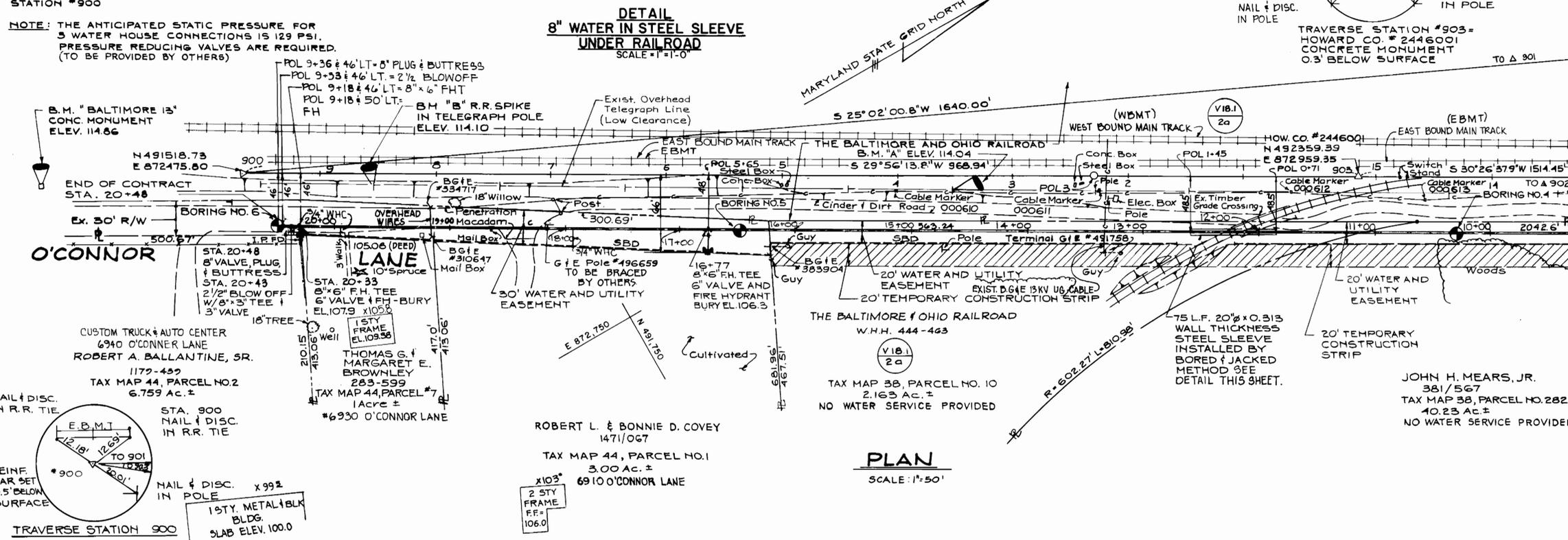
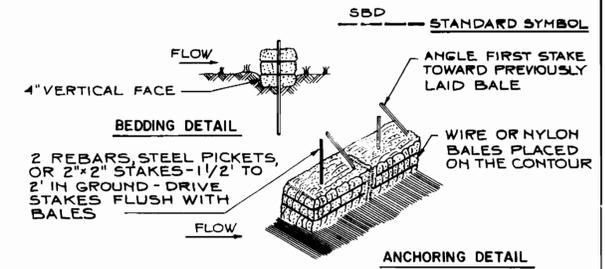
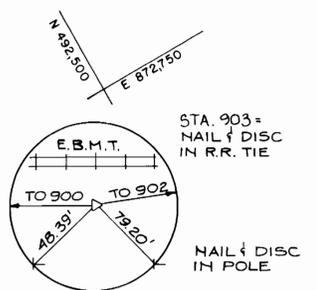
**NOTES:**

- WOOD TO BE TREATED WITH CHROMATED COPPER ARSENATE.
- PROVIDE JOINT 12" FROM EACH END OF CASING PIPE.



**SOIL EROSION AND SEDIMENT CONTROL NOTES - CONTINUATION**

- SEDIMENT REMOVAL- ALL TRAPPED SEDIMENT IS TO BE REMOVED AND DISPOSED OF AT THE AUTHORIZED LANDFILLS PRIOR TO REMOVAL OF SEDIMENT CONTROL STRUCTURES.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
  - SEVEN CALENDAR DAY AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1)
  - FOURTEEN CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.



- STRAW BALE DIKE NO SCALE**
- CONSTRUCTION SPECIFICATIONS**
- 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 RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE 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.

- SOIL EROSION AND SEDIMENT CONTROL NOTES**
- THE CONTRACTOR WILL COMPLY WITH ALL REQUIREMENTS OF SEDIMENT AND EROSION CONTROL SET FORTH IN THE CONTRACT DRAWINGS, "1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AND VOLUME IV - SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL.
  - THE CONTRACTOR SHALL NOT PUMP FROM EXCAVATED AREAS DIRECTLY INTO THE HOWARD COUNTY STORM DRAINAGE SYSTEM OR ANY NATURAL WATER COURSE. WHERE GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE PORTABLE OR EXCAVATED SEDIMENT TRAPS TO PREVENT SILTED TRENCH WATER FROM ENTERING STORM DRAINAGE SYSTEMS OR NATURAL WATERWAYS.
  - ALL EXCAVATED MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH WHENEVER POSSIBLE, AND CONFINED TO AN AREA WHERE IT WILL NOT OBSTRUCT THE NORMAL FLOW OF DRAINAGE COURSES.
  - ALL SWALES SHALL BE EQUIPPED WITH A SEDIMENT RETENTION DEVICE TO TRAP SEDIMENT AND FILTER WATER LEAVING THE RIGHT-OF-WAY PRIOR TO ENTERING ANY RUNNING STREAMS.
  - THE CONTRACTOR SHALL PROVIDE STRAW BALE DIKES NORMAL TO SURFACE WATER FLOW AROUND VEHICLE AND EQUIPMENT STAGING AREAS AS SHOWN IN "DETAILS OF A STRAW BALE DIKE" ENCLOSED IN SPECIFICATIONS.
  - ROADSIDE DITCHES AND DRAINAGE PIPES SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THE ORIGINAL CONDITION FOLLOWING COMPLETION OF CONSTRUCTION.
  - THE CONTRACTOR SHALL DISPOSE OF SPOILS IN ACCORDANCE WITH GOOD SOIL CONSERVATION PRACTICE AND IN SUCH A MANNER THAT NONE CAN BE CARRIED INTO ANY DRAINAGE FACILITY OR WATER COURSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSING OF ALL SPOIL OR EXCESS EXCAVATED MATERIAL ON A SITE APPROVED BY THE SOIL CONSERVATION DISTRICT. DOCUMENTATION OF APPROVAL AND SITE SHALL BE PROVIDED TO THE ENGINEER PRIOR TO BEGINNING WORK.
  - THE HOWARD COUNTY SOIL CONSERVATION DISTRICT MUST BE NOTIFIED IN WRITING BY THE CONTRACTOR AS TO WHERE EXCESS MATERIAL WILL BE DISPOSED OR BORROW MATERIAL WILL BE OBTAINED. PRIOR TO BEGINNING ANY WORK ON THIS PROJECT, COPIES SHALL BE PROVIDED TO THE ENGINEER.
  - CONTINUOUS INSPECTION AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL DEVICES WILL BE REQUIRED.
  - THE CONTRACTOR SHALL PROVIDE ADDITIONAL SOIL EROSION AND SEDIMENT CONTROL AS REQUIRED BY THE SEDIMENT CONTROL INSPECTOR, AS THE WORK PROGRESSES OR REQUIRES.
  - THE CONTRACTOR SHALL NOTIFY IN WRITING, A HOWARD COUNTY SEDIMENT CONTROL DIVISION REPRESENTATIVE AT LEAST THREE (3) DAYS PRIOR TO STARTING WORK. PLEASE CONTACT: HOWARD COUNTY - 992-2436. COPIES SHALL BE PROVIDED TO THE ENGINEER.  
(FOR CONTINUATION SEE ABOVE)

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* DATE: 10-20-86  
Chief, Bureau of Engineering: *[Signature]* DATE: 10-15-86  
Chief, Utility Division: *[Signature]* DATE: 10-20-86

HITNEY AILEY OX MAGNANI CONSULTING ENGINEERS  
1850 York Road  
Timonium Md. 21093  
301-252-6060

DES: J.P.H.	
DRN: G.G.	
CHK: J.P.	
DATE: 8/19/86	
JPH	1
BY	NO.
REVISION	
REVISE STATION LOCATIONS & TOTAL LENGTH	
DATE: 5/4/87	

VICINITY MAP  
PLAN AND PROFILE OF  
WATER MAIN EXTENSION

600' SCALE MAP NO. 38 & 44 BLOCK NO. 21 & 1

O'CONNOR ROAD WATER MAIN  
CAPITAL PROJECT W-8153  
CONTRACT NO. 44-1490  
ELECTION DISTRICT NO. 1  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 2 OF 2