

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

GENERAL NOTES

1. 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.
2. ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
3. ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
5. CLEAR ALL UTILITIES BY A MINIMUM OF 6".
6. FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION. THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
7. 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 DUG SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING UTILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
8. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THE PLANS:
 - STATE HIGHWAY ADMINISTRATION - 531-5533
 - BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES 561-2585
 - BALTIMORE GAS & ELECTRIC CO. - UNDER GROUND DAMAGE CONTROL - 234-5621
 - BALTIMORE GAS & ELECTRIC CO. - TROUBLE SHOOTING - 298-9013
 - MISS UTILITY - 1-559-0100
 - COLONIAL PIPELINE CO. - 795-1300
 - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 992-2366
9. 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.
10. 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.
11. ALL WATER MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
12. TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3-1/2' COVER UNLESS OTHERWISE NOTED.
13. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
14. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
15. 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.
16. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
17. ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON PLANS OR IN THE SPECIFICATIONS.
18. ALL SEWER MAINS SHALL BE C.S.P.X., R.C.S.P., V.C.P.X., A.C.P. CLASS 2400 OR P.V.C. UNLESS OTHERWISE NOTED.
19. THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALL.
20. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
21. MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
22. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G5.55 WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
23. HOUSE(S) WITH THE SYMBOL "C.N.S. INDICATES THAT CELLAR CANNOT BE SERVED.

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

[Signature] Date: 9-14-84
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: 9-14-84
HOWARD COUNTY S.C.D.

ENGINEER'S CERTIFICATION

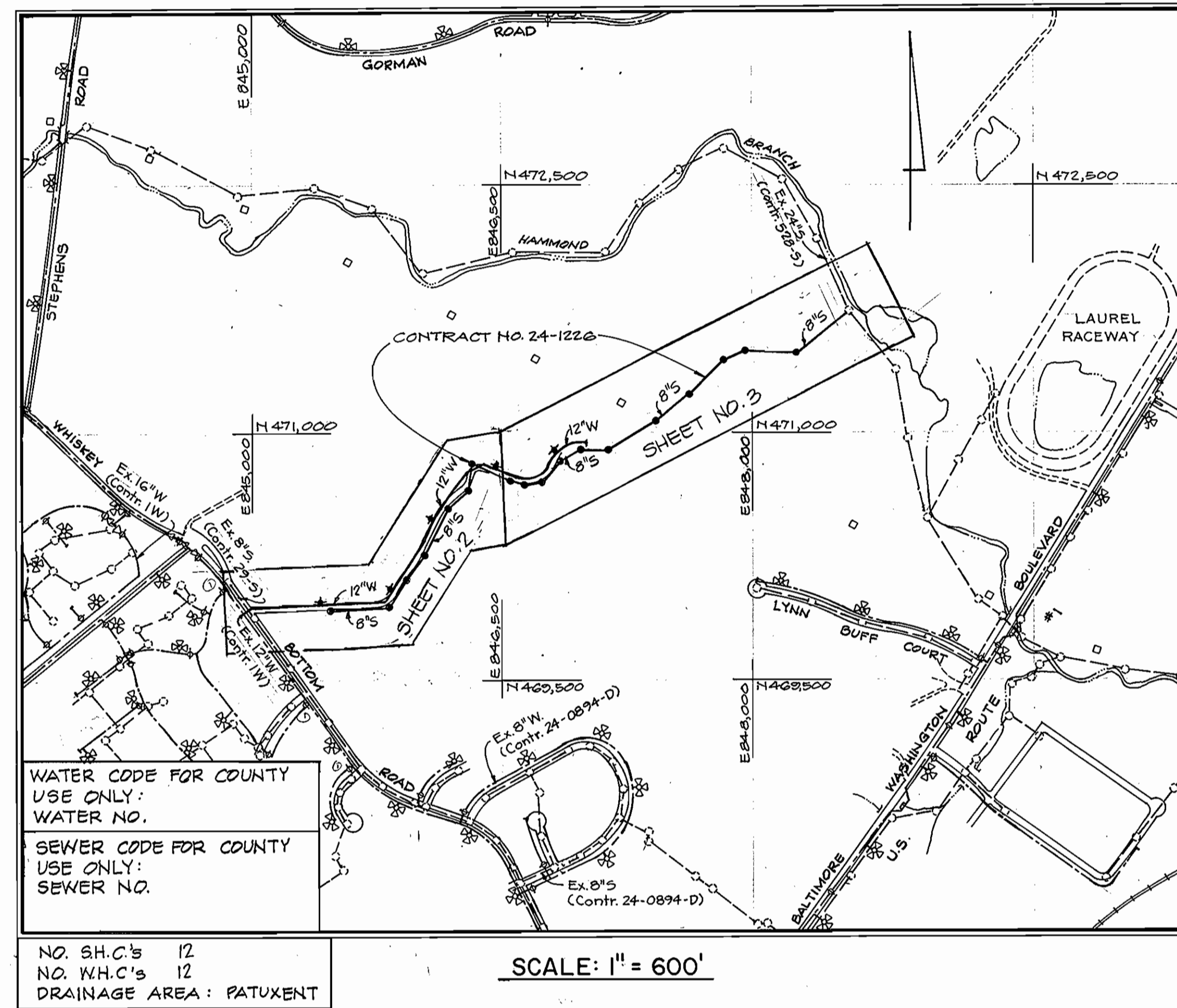
I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard County Soil Conservation District.

[Signature] Date: 8/24/84
KIDDE CONSULTANTS, INC.
1020 CROMWELL BRIDGE ROAD
TOWSON, MD. 21204

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."

[Signature] 11-9-84
BUREAU OF ENGINEERING
DEPARTMENT OF PUBLIC WORKS



WATER CODE FOR COUNTY
USE ONLY:
WATER NO.

SEWER CODE FOR COUNTY
USE ONLY:
SEWER NO.

NO. S.H.C.'s 12
NO. W.H.C.'s 12
DRAINAGE AREA: PATUXENT

HARMONY LANE WATER AND SEWER EXTENSIONS

CAPITAL PROJECTS W-8131 AND S-6125 CONTRACT NO. 24-1226 ELECTION DISTRICT NO. 6

| ITEM | QUANTITIES | | TYPE MATERIAL | SUPPLIERS |
|-------------|------------|----------|---------------|-----------|
| | ESTIMATE | AS BUILT | | |
| 12" Water | 2,605 L.F. | | | |
| 8" Water | 5 L.F. | | | |
| 6" Water | 64 L.F. | | | |
| 12" Valves | 1 | | | |
| 8" Valves | 1 | | | |
| 6" Valves | 5 | | | |
| 3/4" W.H.C. | 102 L.F. | | | |
| 8" Water | 6 L.F. | | | |

| ITEM | QUANTITIES | | TYPE MATERIAL | SUPPLIERS |
|------------------------|------------|----------|---------------|-----------|
| | ESTIMATE | AS BUILT | | |
| 8" Sewer | 4,041 L.F. | | | |
| Manholes | 18 | | | |
| Manhole Depth | 84 V.F. | | | |
| 8" Type 'A' Drop Conn. | 1 | | | |
| 8" Type 'B' Drop Conn. | 1 | | | |
| 6" Sewer House Conn. | 236 L.F. | | | |
| 8" Wye's, Tees, etc. | 12 | | | |

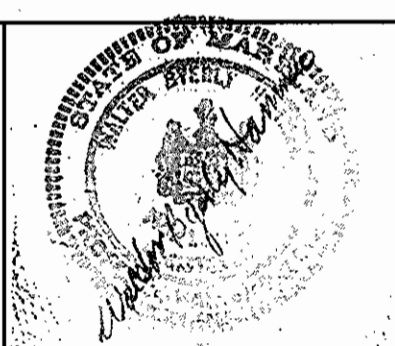
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 11/9/84
DIRECTOR OF PUBLIC WORKS

[Signature] 11/9/84
CHIEF, BUREAU OF ENGINEERING

[Signature] 11/9/84
CHIEF, UTILITY DIVISION

KIDDE CONSULTANTS, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND



DES: T.E.S.
DRN: T.E.S.
CHK: W.B.H.
DATE: 10/26/84

K.C.I. Revised General Notes 5/17/83
K.C.I. Standard Detail Number Revised 12/14/84

BY NO. REVISION DATE

LOCATION MAP OF
WATER AND SEWER EXTENSIONS

600 SCALE MAP NO. 47 BLOCK NO. 16, 17, 22

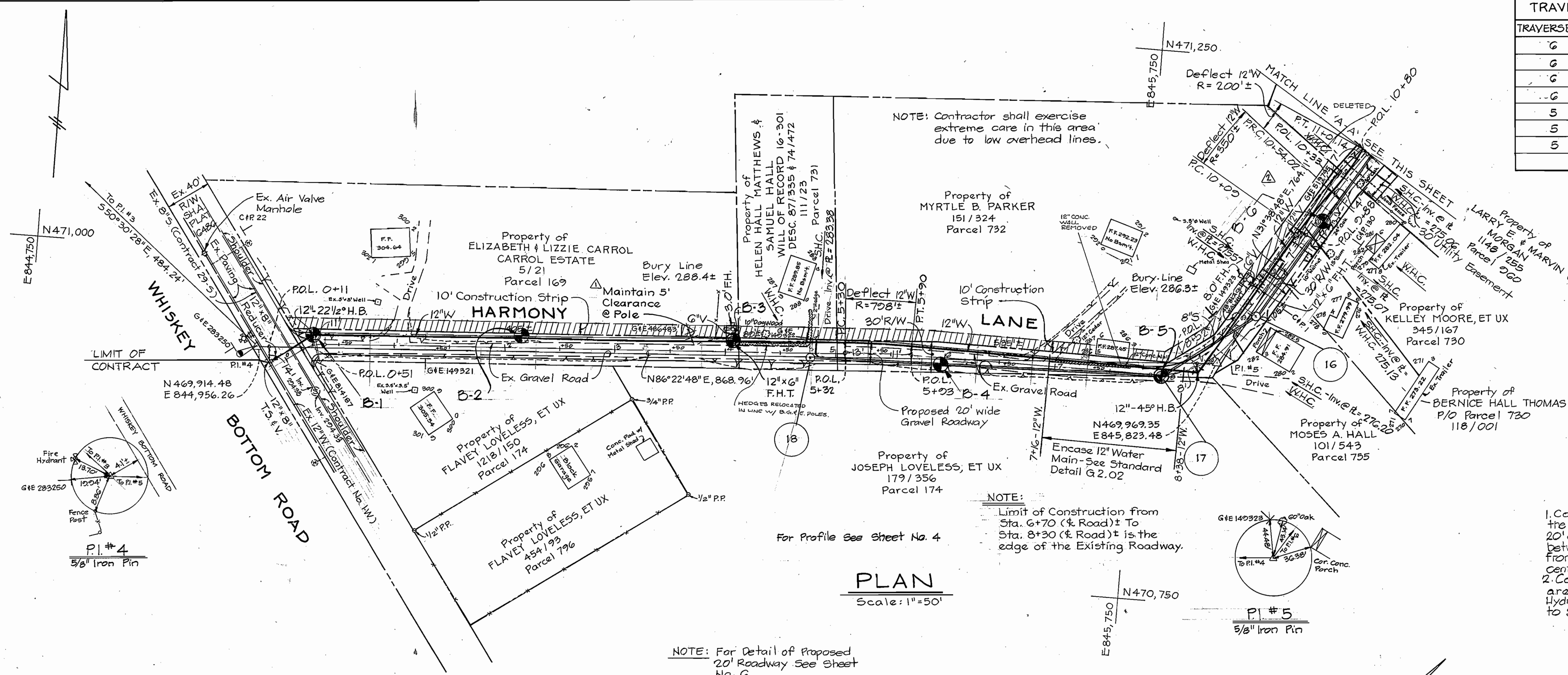
HARMONY LANE WATER & SEWER EXTENSIONS
CAPITAL PROJECTS W-8131 & S-6125
CONTRACT NO. 24-1226
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 6

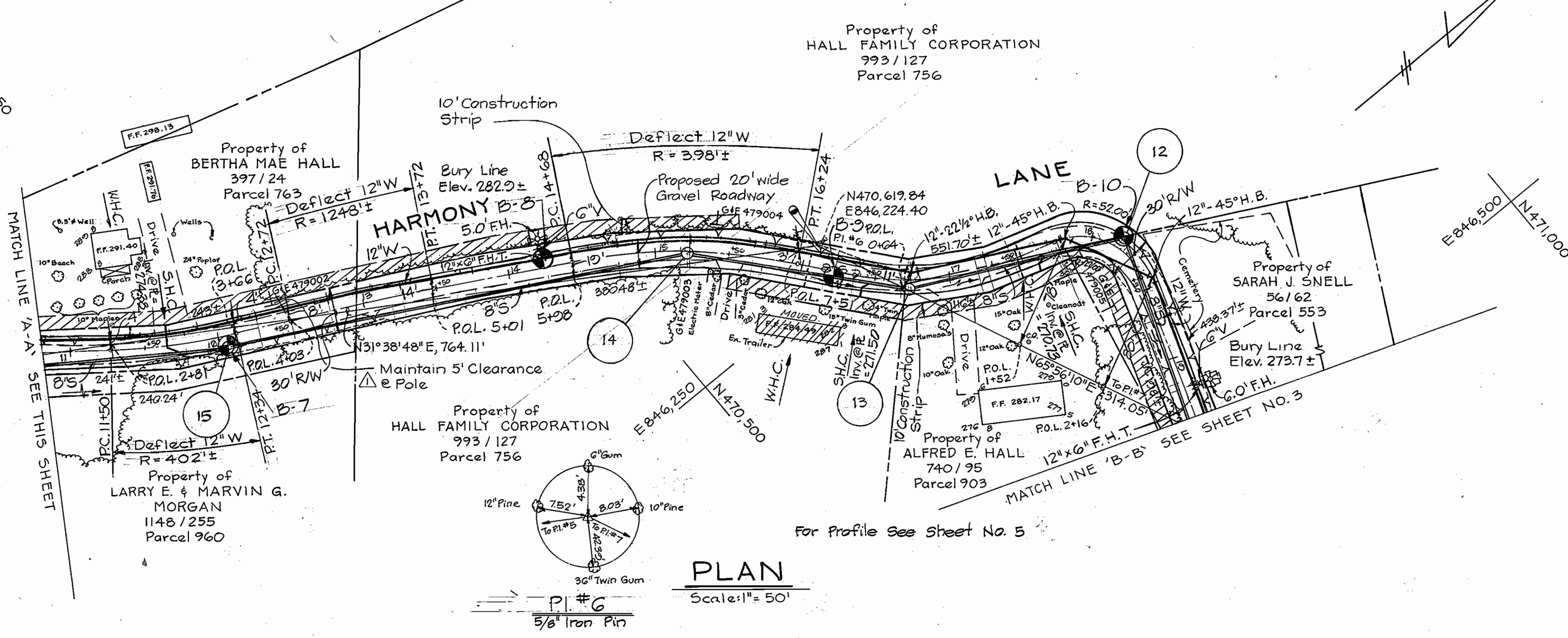
| TRAVERSE TIES TO MANHOLES | | | |
|---------------------------|-------------|---------|-------------|
| TRAVERSE NO. | BEARING | DIST. | MANHOLE NO. |
| G | N38°00'44"E | 207.12' | 12 |
| G | N65°05'37"E | 68.01' | 13 |
| G | S36°11'4"W | 88.28' | 14 |
| G | S29°48'29"W | 405.21' | 15 |
| 5 | N33°46'08"E | 55.08' | 16 |
| 5 | S73°08'22"W | 52.39' | 17 |
| 5 | S86°22'48"W | 369.00' | 18 |

- BENCH MARKS**
- PI.#4 Elev. 205.35
5/8" Iron Pin Set in edge of shoulder 4.1'± from W. edge of Whiskey Bottom Road.
 - PI.#6 Elev. 285.22
5/8" Iron Pin Set in ground 6.5'± from N. edge of Harmony Lane.

- NOTES**
- Contractor shall place sod the full width of the Right-of-Way between edge of proposed 20' gravel road and the Right-of-Way Line between Station 0+20 to Station 10+41, except from Station 6+20 to Station 8+65± right of centerline where no sod shall be placed.
 - Contractor shall sod the disturbed area of the Construction Strip and Fire Hydrant Right-of-Ways from Station 0+20 to Station 10+41.



PLAN
Scale: 1"=50'



PLAN
Scale: 1"=50'

NOTE:
Contractor shall construct 20' wide-6" depth Gravel Road at the location shown on the drawings, and as directed by the Engineer, and in accordance with the Typical Section shown on Sheet No. 6, except at the following locations where the width shall be variable: ± Road Station 5+52 to 9+02

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

11-16-84
11-9-84

KIDDE CONSULTANTS, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

| | | | |
|----------------|---------|-----------------------------|---------|
| DES: T.E.S. | | | |
| DRN: J.M.G. | | | |
| CHK: W.B.H. | K.C.I. | Soil Boring Locations Added | 7/24/83 |
| | K.C.I. | Revised 12" Water | 3/18/85 |
| | K.C.I. | Note Added | 2/18/85 |
| DATE: 10/26/84 | BY: NO. | REVISION | DATE |

PLAN OF WATER AND SEWER EXTENSIONS

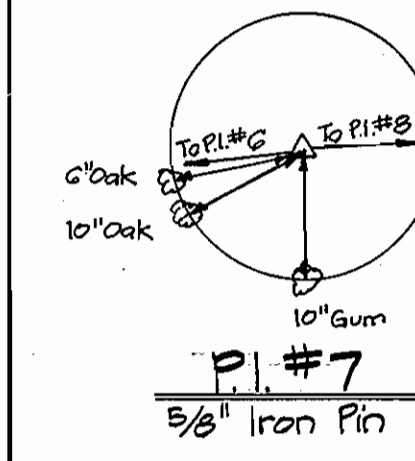
HARMONY LANE WATER & SEWER EXTENSIONS
CAPITAL PROJECTS W-8131 & S-6125
CONTRACT NO. 24-1226
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 6

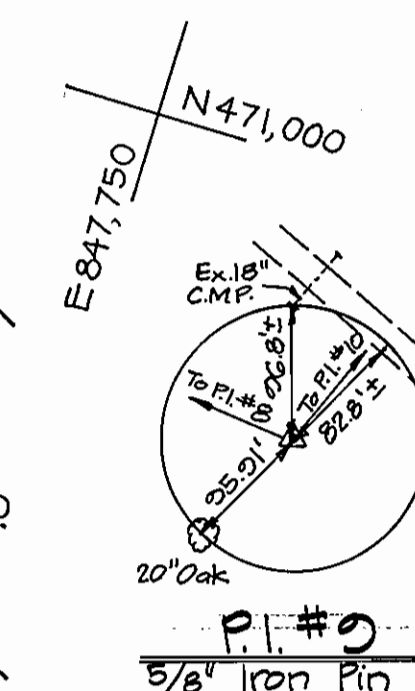
NOTE: For Detail of Proposed 20' Gravel Road See Sheet No. 6

BENCH MARKS

- PI # 8 Elev. 244.92
5/8" Iron Pin Set in ground
8'± from N. edge of
Harmony Lane
- PI # 12 Elev. 102.95
5/8" Iron Pin Set in ground
7'± from E. Stream



PI # 7
5/8" Iron Pin



PI # 9
5/8" Iron Pin

NOTE:
Contractor shall construct 20' x 6" depth Gravel Road at the location shown on the drawings, and as directed by the Engineer, and in accordance with the Typical Section shown on Sheet No. 6.

- NOTE:
- Contractor shall seed & mulch the full width of the Right-of-Way and Construction Strip from existing MH #1003 to a point 142 feet Northwest of MH #6, except between Ex. MH #1003 and MH #1 Sod shall be placed from Station 1+33 to 2+14.
 - Contractor shall place sod the full width of the width of the Right-of-Way between edge of 20' Gravel Road and the Right-of-Way Line from Station 19+41 to Station 25+00.
 - Contractor shall sod the disturbed area of the Construction Strips and Fire Hydrant Right-of-Way from Station 19+41 to Station 25+00.

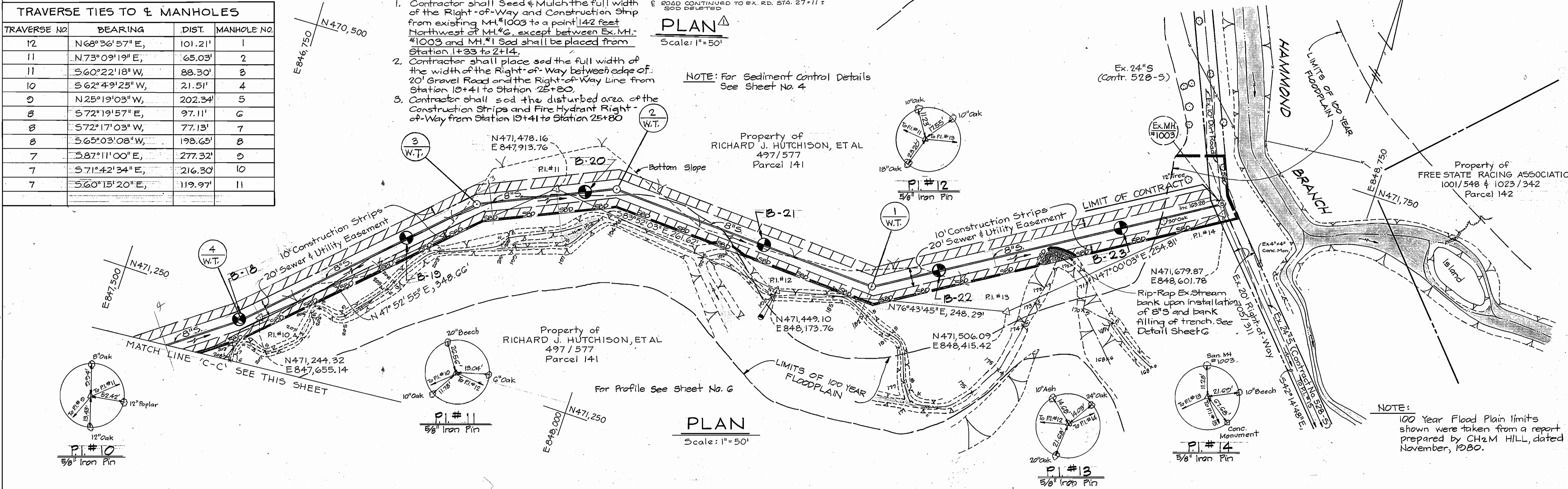
For Profile See Sheet No. 5
E ROAD CONTINUED TO EX. RD. STA. 27+11 ±

PLAN
Scale: 1" = 50'

NOTE: For Sediment Control Details See Sheet No. 4

TRAVERSE TIES TO 4 MANHOLES

| TRAVERSE NO. | BEARING | DIST. | MANHOLE NO. |
|--------------|-------------|---------|-------------|
| 12 | N68°36'57"E | 101.21' | 1 |
| 11 | N73°09'19"E | 65.03' | 2 |
| 11 | S60°22'18"W | 88.30' | 3 |
| 10 | S62°49'25"W | 21.51' | 4 |
| 9 | N25°19'03"W | 202.34' | 5 |
| 8 | S72°19'57"E | 97.11' | 6 |
| 8 | S72°17'03"W | 77.13' | 7 |
| 8 | S65°03'08"W | 198.65' | 8 |
| 7 | S87°11'00"E | 277.32' | 9 |
| 7 | S71°42'34"E | 216.30' | 10 |
| 7 | S60°15'20"E | 119.97' | 11 |



PLAN
Scale: 1" = 50'

NOTE:
100 Year Flood Plain limits shown were taken from a report prepared by CH2M HILL, dated November, 1980.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert E. ... 11-16-84
Robert J. ... 11-16-84

CHIEF, BUREAU OF ENGINEERING
CHIEF, UTILITY DIVISION

KIDDE CONSULTANTS, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

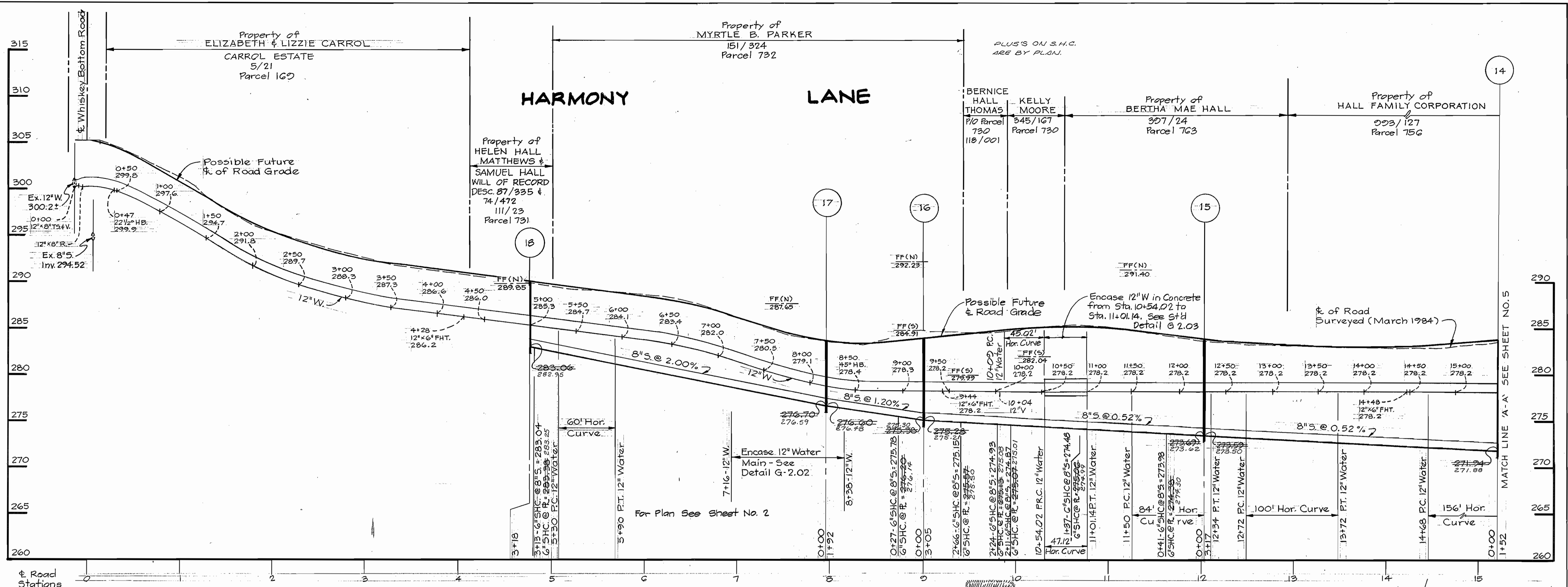
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|----------------|--------|-----------------------------|----------|
| DES: T.E.S. | | | |
| DRN: J.M.G. | | | |
| CHK: W.B.H. | K.C.I. | Soil Boring Locations Added | 7/24/83 |
| | K.C.I. | Property Owners Revised | 12/14/83 |
| DATE: 10/26/84 | BY NO. | REVISION | DATE |

PLAN OF WATER AND SEWER EXTENSIONS

600' SCALE MAP NO. 47 BLOCK NO. 16, 17, 22

HARMONY LANE WATER & SEWER EXTENSIONS
CAPITAL PROJECTS W-8131 & S-6125
CONTRACT NO. 24-1226
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 3 OF 6

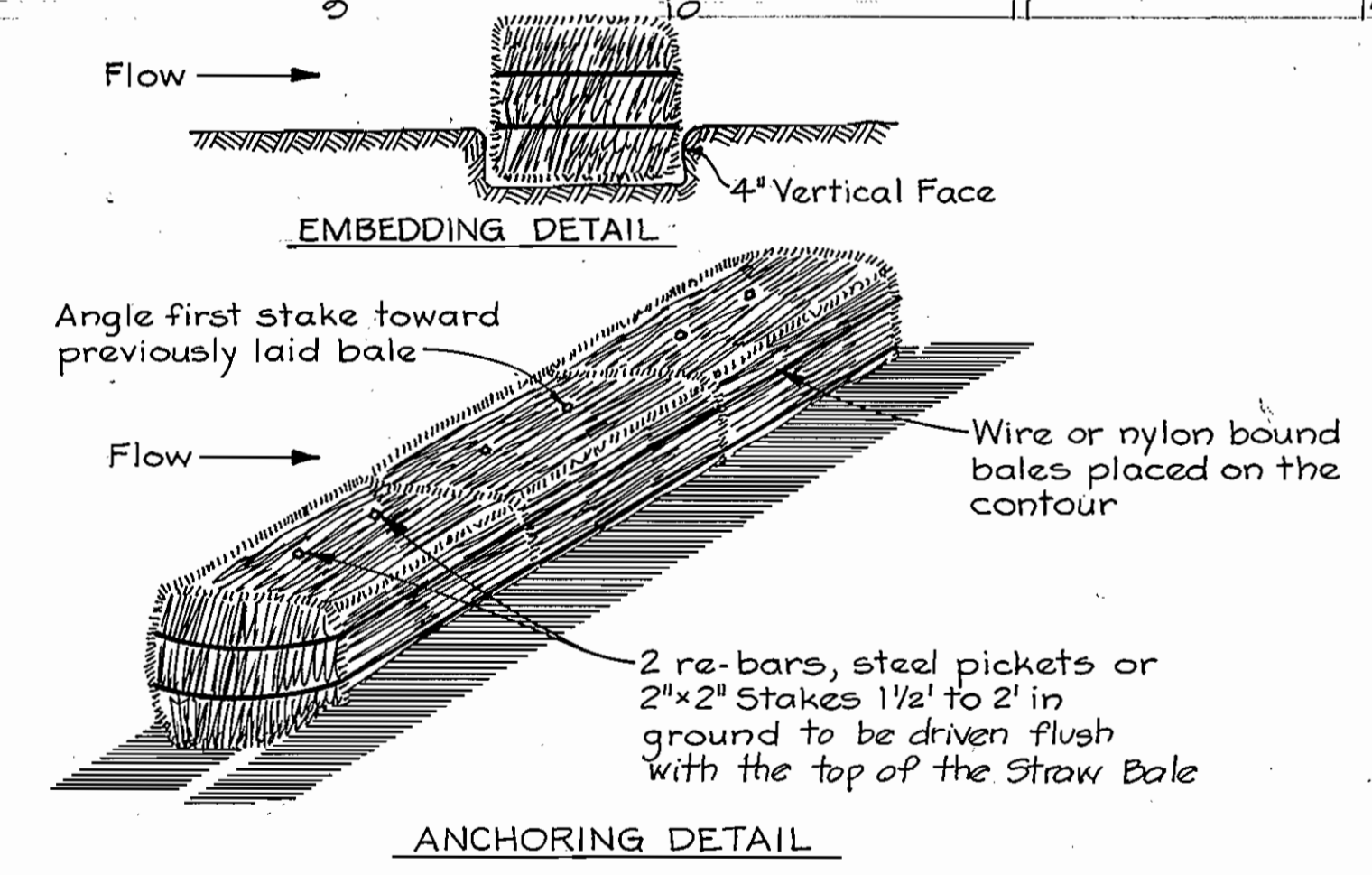


SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR WILL COMPLY WITH ALL REQUIREMENTS OF SEDIMENT AND EROSION CONTROL SET FORTH IN THE CONTRACT DRAWINGS, THE USDA SOIL CONSERVATION SERVICE MANUAL, "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS", AND VOLUME IV - SECTION 15 OF THE HOWARD COUNTY DESIGN MANUAL.
2. 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.
3. 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.
4. 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.
5. THE CONTRACTOR SHALL PROVIDE STRAW BALE DIKES NORMAL TO SURFACE WATER FLOW AROUND ALL VEHICLE AND EQUIPMENT STAGING AREAS AS SHOWN IN "DETAILS OF A STRAW BALE DIKE" ENCLOSED IN SPECIFICATIONS.
6. ROADSIDE DITCHES AND DRAINAGE PIPES SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THE ORIGINAL CONDITION FOLLOWING COMPLETION OF CONSTRUCTION.
7. 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.
8. 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.
9. CONTINUOUS INSPECTION AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL DEVICES WILL BE REQUIRED.
10. THE CONTRACTOR SHALL PROVIDE ADDITIONAL SOIL EROSION AND SEDIMENT CONTROL AS REQUIRED BY THE SEDIMENT CONTROL INSPECTOR, AS THE WORK PROGRESSES OR REQUIRES.
11. 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.
12. SEDIMENT REMOVAL - ALL TRAPPED SEDIMENT IS TO BE REMOVED AND DISPOSED OF AT THE AUTHORIZED LANDFILLS PRIOR TO REMOVAL OF SEDIMENT CONTROL STRUCTURES.
13. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
 - A) SEVEN CALENDAR DAYS 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).
 - B) FOURTEEN CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

PROFILE

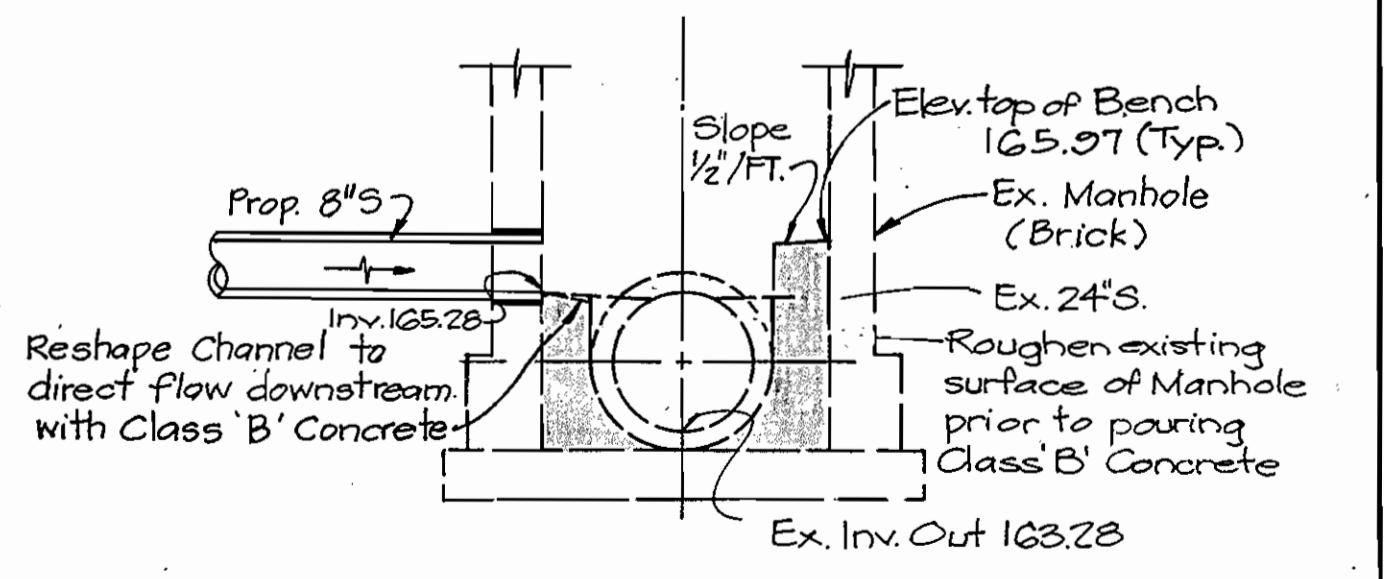
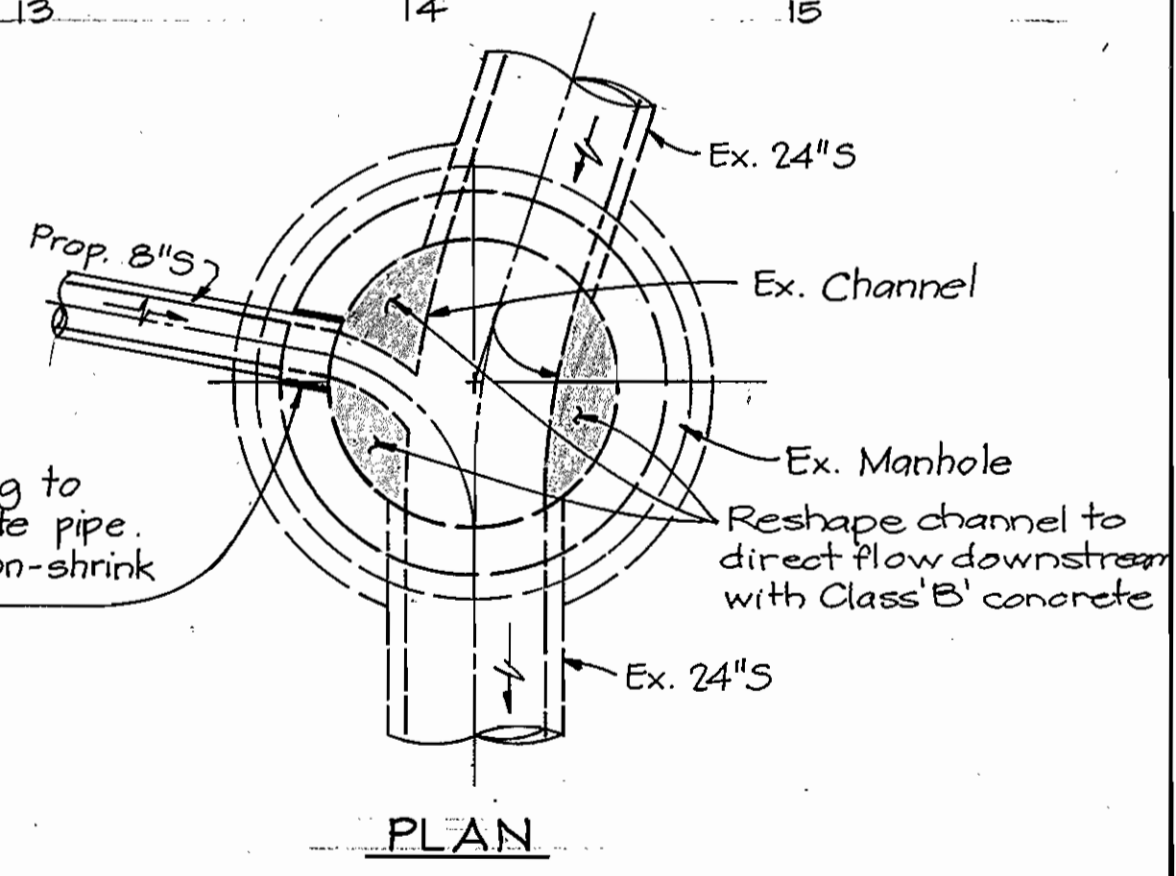
Scale: Hor. 1"=50'
Vert. 1"=5'



CONSTRUCTION SPECIFICATIONS

1. Bales shall be placed in a row with ends tightly abutting adjacent bales.
2. Each bale shall be embedded in the soil a minimum of 4".
3. Bales shall be securely anchored in place by stakes or re-bars driven through the bales. The first stake in each bale shall be angled toward previously laid bale to force bales together.
4. Inspection shall be frequent and repair or replacement shall be made promptly as needed.
5. Bales shall be removed when they have served their usefulness so as not to block or impede storm flow or drainage.

DETAIL STRAW BALE DIKE
No Scale



SECTION CONNECTION TO EXISTING MH #1003
No Scale

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

11-16-84
11-16-84

KIDDE CONSULTANTS, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

DES: T.E.S.
DRN: J.M.G.
CHK: W.B.H.
DATE: 10/26/84

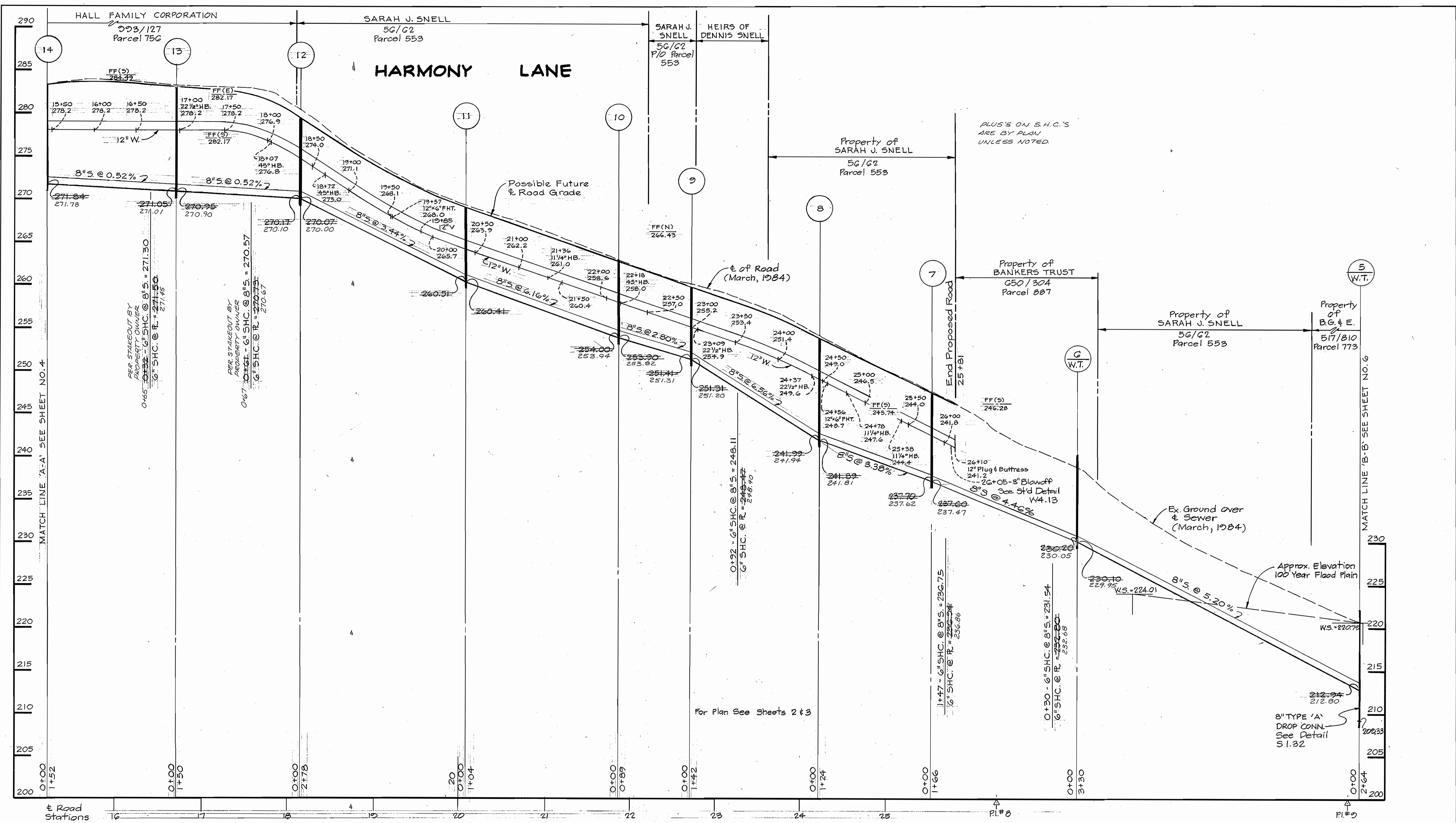
| BY | NO. | REVISION | DATE |
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PROFILE OF
WATER AND SEWER EXTENSIONS

600' SCALE MAP NO. 47 BLOCK NO. 16,17,22

HARMONY LANE WATER & SEWER EXTENSIONS
CAPITAL PROJECTS W-8131 & S-6125
CONTRACT NO. 24-1226
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 4 OF 6



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

W.S. = 184.01
 Indicates approximate water surface elevation of 100 Year Flood Plain taken from a report prepared by CH2M HILL, dated November, 1980.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

John F. Norman 11-16-84
 DIRECTOR OF PUBLIC WORKS DATE

Richard B. ... 11-16-84
 CHIEF, BUREAU OF UTILITIES DATE

KIDDE CONSULTANTS, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND

William B. Kelly 11/16/84
 CHIEF, BUREAU OF ENGINEERING DATE

Mark ... 11-9-84
 CHIEF, UTILITY DIVISION DATE



| | | | |
|----------------|----|-----|----------|
| DES: T.E.S. | | | |
| DRN: J.M.G. | | | |
| CHK: W.B.H. | | | |
| DATE: 10/26/84 | BY | NO. | REVISION |

**PROFILE OF
 WATER AND SEWER EXTENSIONS**

600' SCALE MAP NO. 47 BLOCK NO. 16.17.22

HARMONY LANE WATER & SEWER EXTENSIONS
 CAPITAL PROJECTS W-8131 & S-6125
 CONTRACT NO. 24-1226
 ELECTION DISTRICT NO. 6
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 5 OF 6

NOTES:

Erosion Control Fabric shall be Poly Filter X as manufactured by Carthage Mills Inc., Erosion Control Division, 124 West 66th Street, Cincinnati, Ohio; Laurel Erosion Cloth as manufactured by Laurel Plastics, Inc. Madison, Maine or equal.

Rock excavated from trench may be used for Rip-Rap provided the rocks used conform to the following:

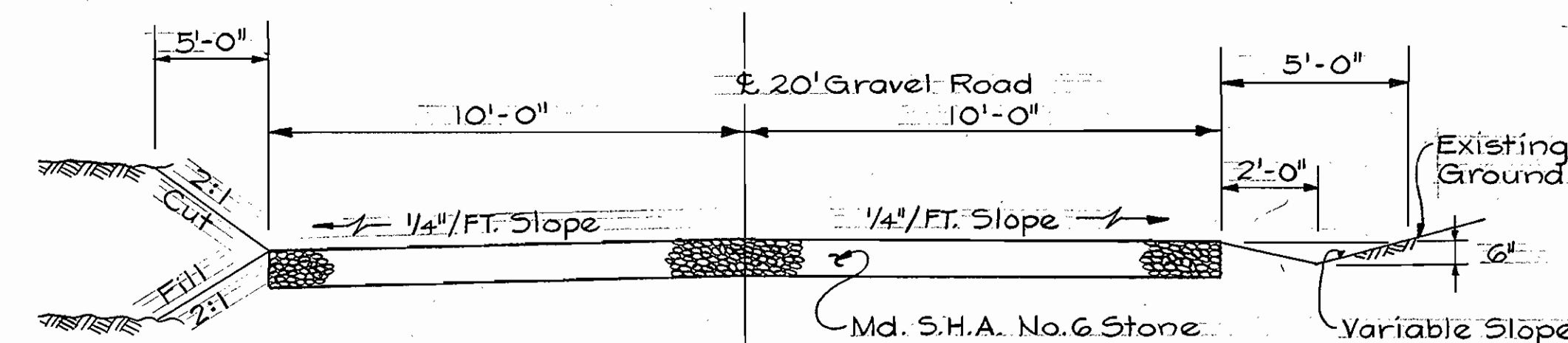
Rip-Rap shall consist of dense rocks of random shapes and sizes resistant to the action of air and water suitable for bank protection. All rocks shall weigh a minimum of 150 pounds.

NOTE: Rip-Rap shall be placed as shown on the plan.

Maintain 1" Minimum clearance between Rip-Rap and Top of pipe.

RIP-RAP DETAIL

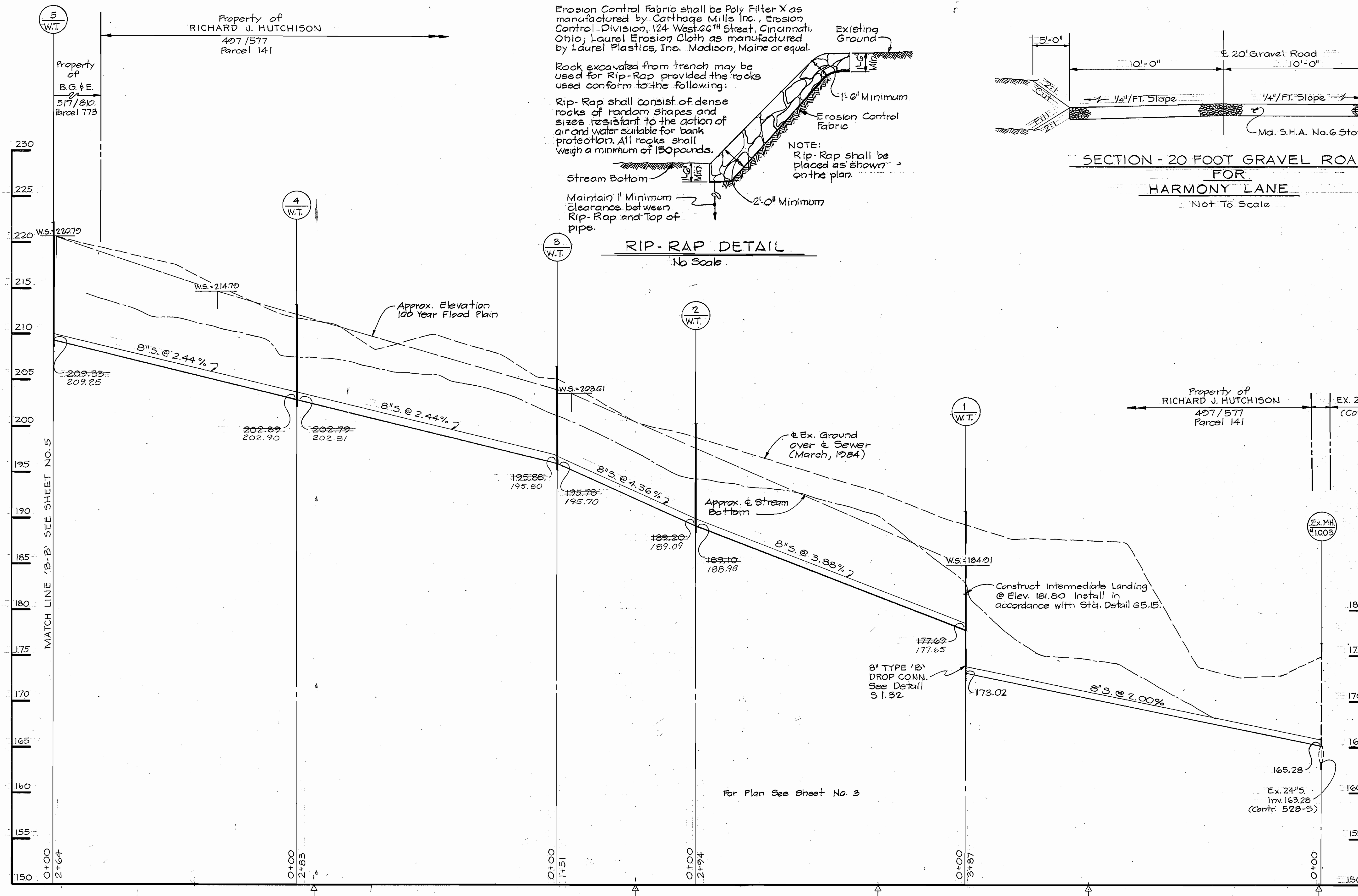
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SECTION - 20 FOOT GRAVEL ROAD

FOR HARMONY LANE

Not To Scale



PROFILE

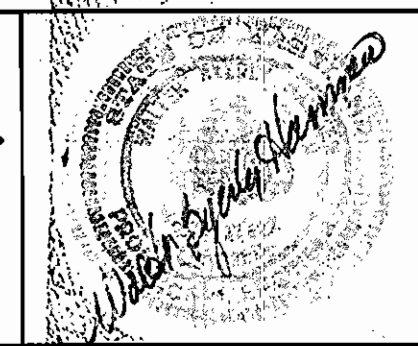
Scale: Hor. 1" = 50'
Vert. 1" = 5'

Indicates approximate water surface elevation of 100 Year Flood Plain taken from a report prepared by CH2M HILL, dated November, 1982.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *John F. Nunn* 11-16-84
Chief, Bureau of Engineering: *Richard D. Rely* 11-16-84
Chief, Bureau of Utilities: *Robert M. Bennett* 11-16-84
Chief, Utility Division: *Donald W. Sporn* 11-9-84

KIDDE CONSULTANTS, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND



| | | | |
|----------------|-----|------|-----------|
| DES: T.E.S. | | | |
| DRN: J.M.G. | | | |
| CHK: W.B.H. | | | |
| DATE: 10/26/84 | BY: | NO.: | REVISION: |

PROFILE OF SEWER MAIN EXTENSIONS

600' SCALE MAP NO. 47 BLOCK NO. 16,17,22

HARMONY LANE WATER & SEWER EXTENSIONS
CAPITAL PROJECTS W-8131 & S-6125
CONTRACT NO. 24-1226
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 6 OF 6