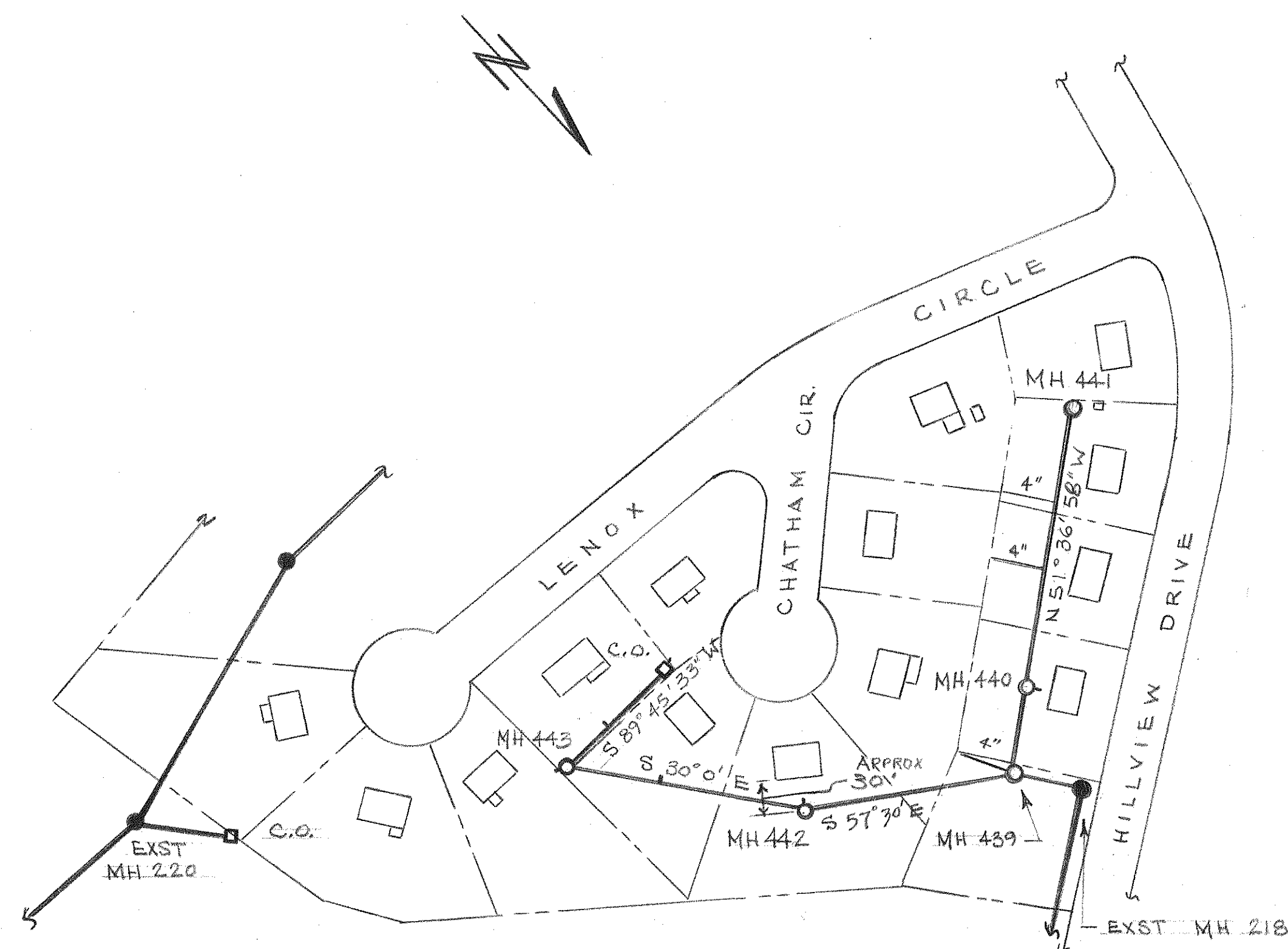
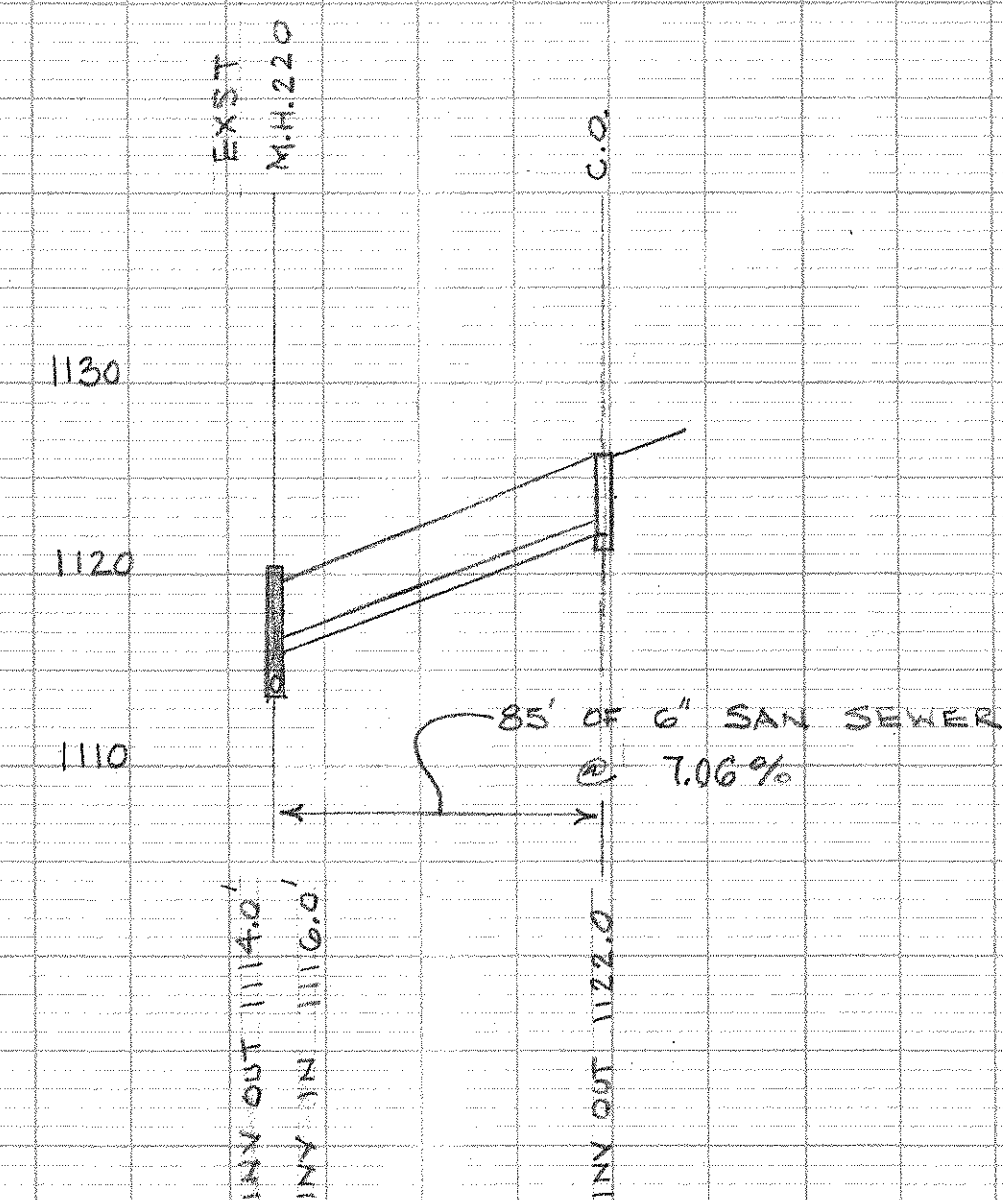
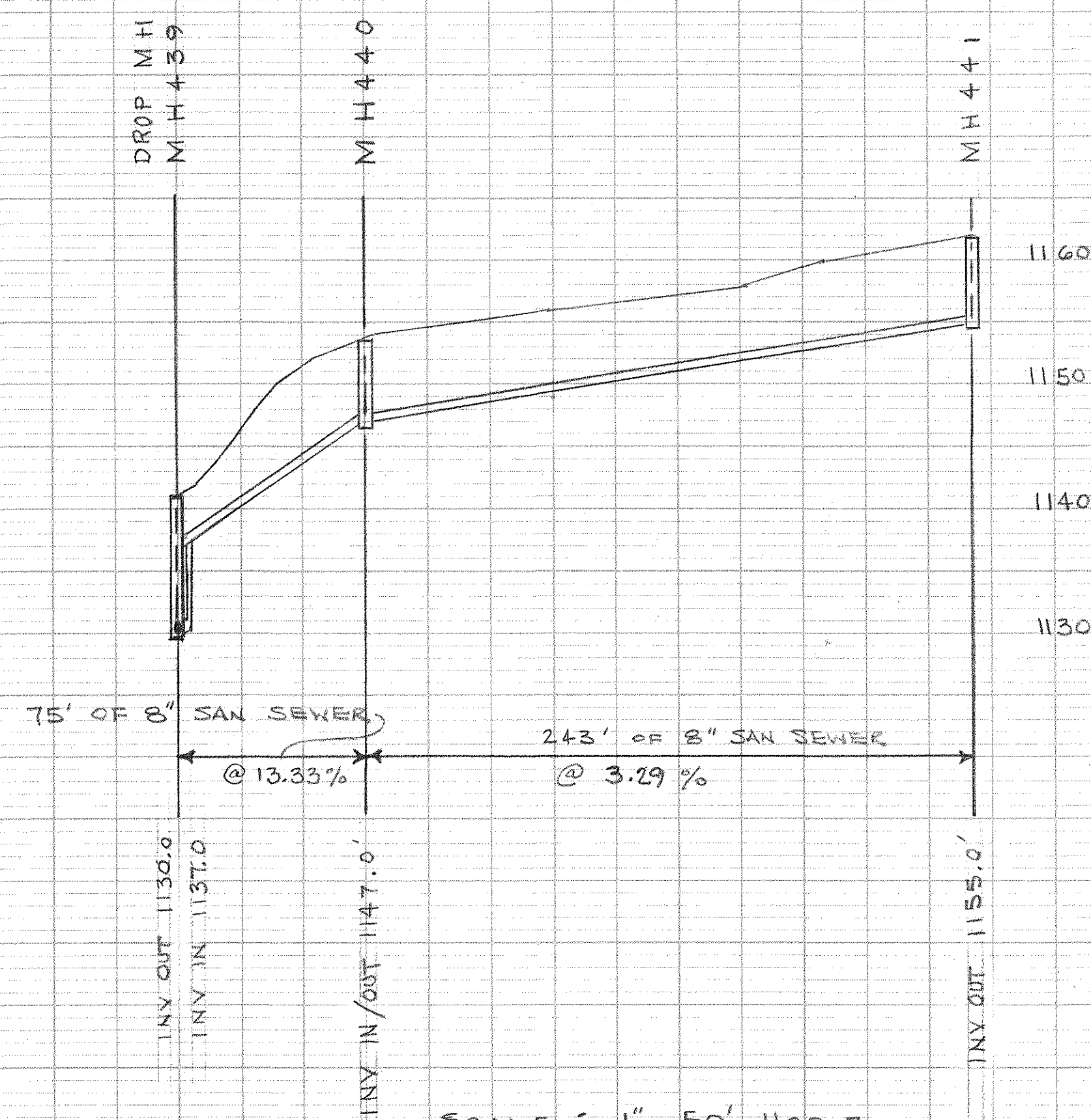
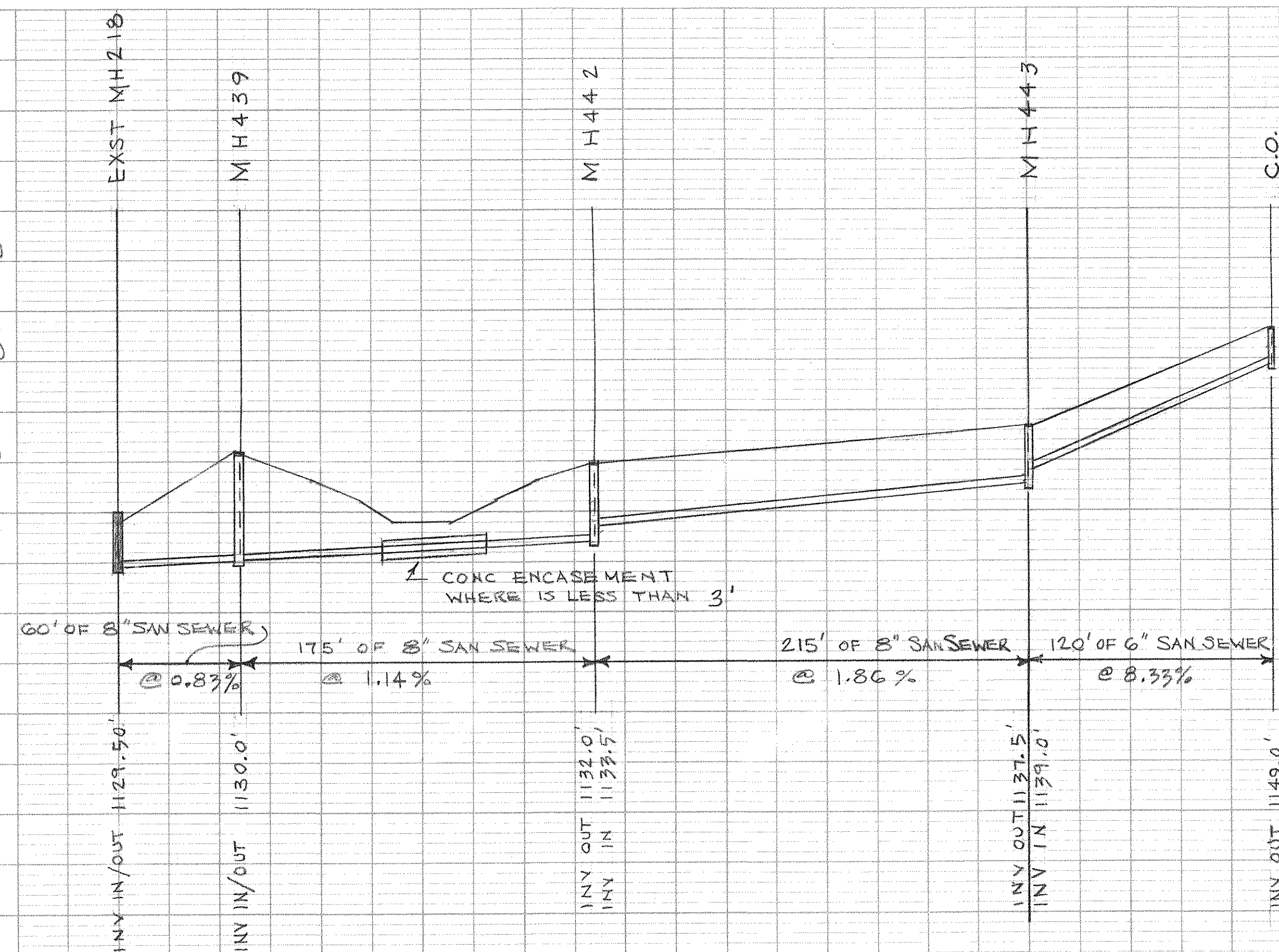


GENERAL NOTES

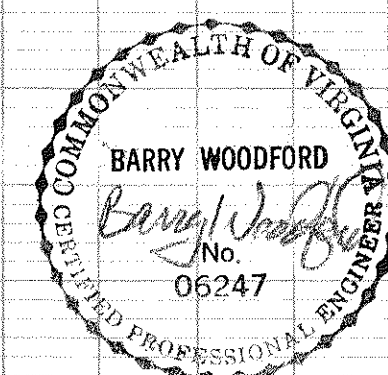
1. VERTICAL CONTROL: NATIONAL GEODETIC VERTICAL DATUM MEAN SEA LEVEL 1929 HORIZONTAL CONTROL: ASSUMED
2. ROCK QUANTITIES ARE THE CONTRACTOR'S RESPONSIBILITIES AND CONTRACTOR IS RESPONSIBLE FOR SATISFYING HIMSELF AS TO ALL CONDITIONS OF WORK BEFORE BIDDING.
3. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY "UNDERGROUND CABLE LOCATION", 1-703-982-2400, AT LEAST 48 HOURS IN ADVANCE OF EXCAVATION IN ORDER TO VERIFY LOCATION OF UNDERGROUND UTILITIES.
4. EXISTING SURFACES DISTURBED BY CONTRACTOR'S WORK SHALL BE RESTORED TO THEIR CONDITION BEFORE CONSTRUCTION.
5. STREET TRAFFIC SHALL BE PROTECTED AT ALL TIMES BY ADEQUATE LIGHTS, BARRICADES, AND CONSTRUCTION SIGNS. SIGNS SHALL BE IN ACCORDANCE WITH "VIRGINIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND ARE TO BE LOCATED AS DIRECTED BY THE RESIDENT ENGINEER OF THE DEPARTMENT OF HIGHWAYS. CONTRACTOR SHALL PROVIDE FLAGPERSONS AS REQUIRED.
6. CONTRACTOR SHALL PERFORM WORK IN SUCH A MANNER AS TO MINIMIZE EROSION OF SOILS.
7. THERE SHALL BE A 10' MINIMUM HORIZONTAL SEPARATION BETWEEN WATER AND SEWER LINES AND AN 18" MINIMUM VERTICAL SEPARATION.
8. ALL CONSTRUCTION MATERIAL AND EQUIPMENT SHALL BE KEPT WITHIN EASEMENTS OR WITHIN STATE RIGHTS-OF-WAY AND NOT ON ADJACENT PROPERTIES (WHERE APPLICABLE).
9. UNLESS OTHERWISE NOTED, ALL SANITARY SEWER LINES SHALL BE 8" IN DIAMETER AND ALL SERVICE LATERALS SHALL BE 4" IN DIAMETER.
10. CONTRACTOR SHALL VERIFY THE INVERT ELEVATIONS OF EXISTING MANHOLES AT TIE-IN POINTS.



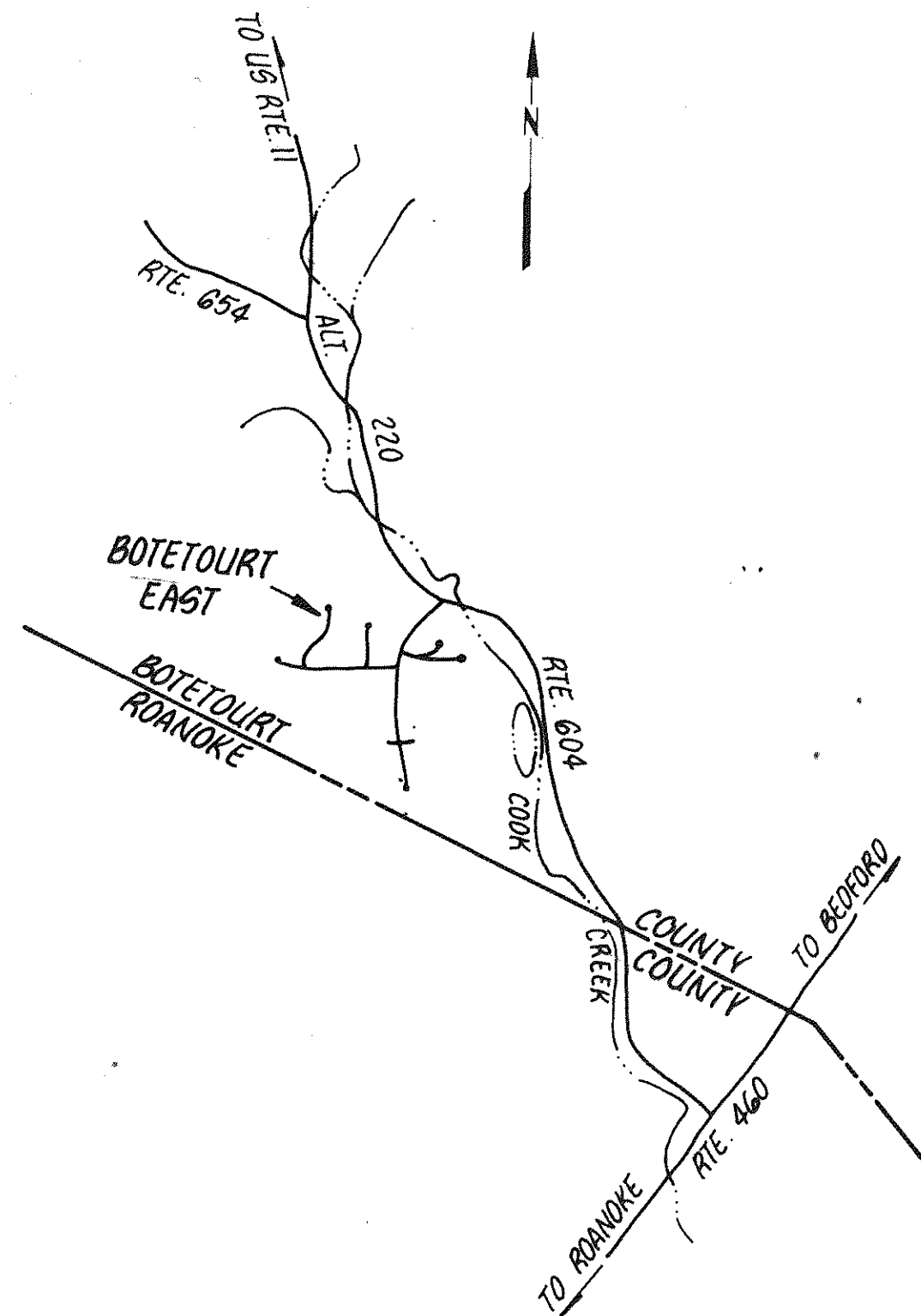
SCALE: 1" = 100'



SCALE : $1'' = 50'$ HORIZ
 $1'' = 10'$ VERT



BOTETOURT COUNTY	
DEPARTMENT OF PUBLIC WORKS	
PHASE I-B	
GLADE CREEK COLLECTORS	
ADDENDUM NUMBER 1	
DATE: 20 OCTOBER 1987	SKETCH NUMBER 1



VICINITY MAP
SCALE: 1"=2000'

NOTE:

FOR CONTINUATION OF EXISTING SEWER LINE REFERENCE IS MADE TO PLANS PREPARED BY CLEAN WATER ENGINEERS, INC. JOB NO. 8681 TITLED, GLADE CREEK COLLECTORS PHASE I - REVISED AND DATED SEPT. 1986.

NOTES:

VERTICAL CONTROL: NATIONAL GEODETIC VERTICAL DATUM
MEAN SEA LEVEL 1929

HORIZONTAL CONTROL: STATE PLANE COORDINATE SYSTEM
(SOUTH ZONE)

FOR CONTINUATION OF EXISTING SEWER LINE SEE CLEAN WATER ENGINEERS, INC. JOB NO. 8681

PROJECT #86136

CONTRACTOR: J.P. TURNER & SONS, INC., SALEM, VA
SPRING, 1987
CONSTRUCTION: MH 220 - 402-409
MH 404 - C0
MH 405 - 418
MH 406 - 416

NOTE:

PLANS WERE PREPARED BASED ON:

AERIAL TOPOGRAPHY MAPS PREPARED BY UNIVERSAL ENGINEERING, ROCKVILLE, MARYLAND, 1979, AS CONTRACTED BY THE BOTETOURT COUNTY SERVICE AUTHORITY AND SUPPLIED TO CLEAN WATER ENGINEERS, INC.

HORIZONTAL AND VERTICAL GROUND CONTROL BY CHARLES R. MCMURRAY, C.L.S., 1979, AS CONTRACTED BY THE BOTETOURT COUNTY SERVICE AUTHORITY AND SUPPLIED TO CLEAN WATER ENGINEERS, INC.

"AS-BUILT" INFORMATION WAS BASED ON EXISTING GROUND CONDITIONS AT COMPLETION OF CONSTRUCTION

PLAN VIEWS, SEWERLINE GRADES, MANHOLE INVERTS ARE ALL CORRECT BASED ON APPROVED "CUT-SHEET" DATA AS SUPPLIED TO CLEAN WATER ENGINEERS, INC., BY THE CONTRACTOR. THE GROUND PROFILE WAS NOT ADJUSTED TO REFLECT AS-BUILT CONDITIONS, THEREFORE THE PROFILES MAY NOT BE TO SCALE HORIZONTALLY OR VERTICALLY. REFER TO THE NUMERICAL NOTES FOR HORIZONTAL DISTANCE AND SEWERLINE GRADES, DO NOT SCALE.

NOTES:

1. UTILITIES SHOWN ON DRAWINGS ARE APPROXIMATE LOCATIONS AND DRAWINGS MAY NOT SHOW ALL UTILITIES LOCATED IN PROJECT AREA. CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS OF UTILITIES IN THE CONSTRUCTION AREA AND SHALL PROTECT UTILITIES DURING CONSTRUCTION. CONTRACTOR SHALL REPAIR ANY DAMAGE TO UTILITIES CAUSED BY CONSTRUCTION.

2. CONTRACTOR SHALL PROVIDE SURVEY FOR HORIZONTAL AND VERTICAL LOCATION OF SEWER SYSTEM.

NOTE:

SEWERLINE SECTIONS FOR PHASE I-B

MH 419 - 432
MH 424A - 437
MH 425 - 435
MH 409 - 413
MH 218 - 442A

THESE SEWERLINES WERE NOT CONSTRUCTED AS PART OF PROJECT #86136

LEGEND

- DENOTES EXISTING SEWER LINE PHASE I-B
- - - - - DENOTES EXISTING SEWER LINE PHASE I-A
- - - - - DENOTES BURIED ELECTRIC CABLES
- - - - - DENOTES EXISTING WATER LINE
- - - - - DENOTES BURIED TELEPHONE CABLE
- PHASE I-B PROJECT AREAS 'A', 'B', 'C' & 'D'
- 1200.00 ACTUAL BASEMENT FL. ELEVATION

WATERTIGHT MANHOLES THIS SHEET:
405, 406, 410, 421

REVISED MAR., 1988

REV 4 287
REV 11 26 90

Sheet: 1

Scale: 1" = 100'

Date: NOV., 1986

Project:

Designed: DJR

Drafted: CFA

Checked: JMD

Approved: DJR

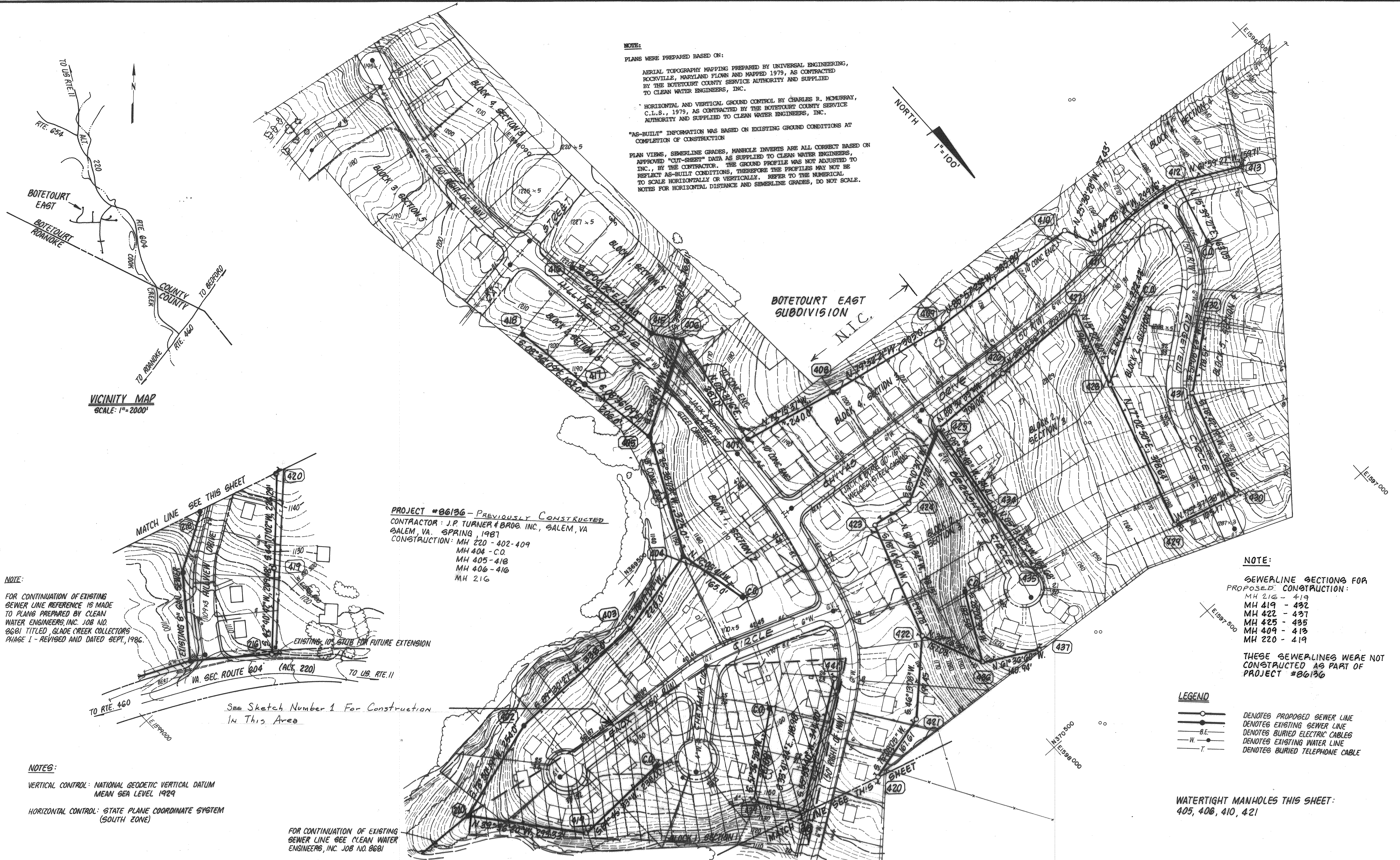
Clean Water Engineers, Inc.

Fincastle, Virginia

BOTETOURT EAST SUBDIVISION
SEWER EXTENSION

BOTETOURT COUNTY, VIRGINIA

APPENDIX C



ALL COVERS TO BE BOLTED TO MANHOLES

MASTIC SEALER

LEAD ANCHOR

0-RING GASKET

BRASS HEX HEAD BOLT

BOLT HOLES SHALL BE PACKED W/ GREASE

WATERTIGHT MANHOLE FRAME AND COVER

3/4" X 6" ANCHOR BOLTS (4 REQ.)

1" FLYGT BRONZE HDL BALL CHECK VALVE
NO 2002 OR EQUAL WITH FLOATING
POLYSTYRENE BALL. PLACEMENT SHALL BE
45° OFF DOWNSTREAM SEWER CENTERLINE A
90° OFF STEPS AND ON SIDE AWAY FROM
FLOWING STREAM.

1" BRASS 90° BEND

1" BRASS PIPE GROUTED INTO PLACE

WELD SPOTS TO PREVENT ROTATION

20 MESH BRASS SCREEN

9" MAXIMUM

3" MIN.

5 3/8"

1"

3/8" MIN.

PIPE TO BE PLACED AS CLOSE AS POSSIBLE TO M.H. WALL AND TO BE SECURED TO THE WALL WITH 1/2" X 12 GA STAINLESS STEEL CLAMPS, 6" O.C. MAX. ANCHOR TO M.H. WALL WITH 2 1/2" CADMIUM PLATED BOLTS.

2'-0" MAX.
2" MAX.

CUT END OF TEE AS SHOWN

2"

12" MAX.

C CLAMP

12" PIPE OR SMALLER
INFLUENT SEWER

COMPRESSION COUPLING
DROP FITTINGS AND PIPE TO BE SAME SIZE AS INFLUENT SEWER.

PVC PIPE
ELBOW EMBEDDED IN CONC. AT 45° WITH SEWER FLOW.

0.20 ABOVE EXIST PIPE CROWN, MAX.
0.10 ABOVE EXIST PIPE INVERT, MIN.

PRECAST M.H.

PLUG SET 1/2 DIA. OF PIPE SEALED WITH MORTAR.

DROP MANHOLE WYE

DROP FITTINGS AND PIPE TO BE SAME SIZE AS INFLUENT SEWER.

6" MINIMUM CONC. CLASS B-2200 P.S.I. SURROUNDING DROP CONNECTION.

DROP CONSTRUCTION IS TO BE AT EVERY LOCATION WHERE INFLUENT INVERT IS GREATER THAN 2'-0" ABOVE THE EFFLUENT SEWER INVERT.

90° BEND

CONC. GROUT

INSIDE DROP CONNECTION

OUTSIDE DROP CONNECTION

THE CONTRACTOR SHALL CHOOSE ONE OF THESE METHODS OF PIPE BEDDING UNLESS OTHERWISE DIRECTED BY THE ENGINEER

CONTRACTOR TO MATCH MATERIAL IN CREEK BED AS CLOSE AS POSSIBLE

EXIST. GRAVEL AND SILT (VARIES)

24" BELOW ACTUAL STREAM BED

24"

NAT'L GRND

3'-0"

18"

2'-0"

2'-0"

EXIST. GRND

RIP-RAP

TRENCH

CONC. TRENCH (SEE DETAIL VARIES)

DUCTILE IRON SEWER PIPE

BRICK SUPPORT

SECTION A

LENGTH SPECIFIED ON PLANS

NOTE: AFTER CONSTR OF EACH CREEK CROSSING THE LINES SHALL BE TESTED FOR INFILTRATION IN ACCORDANCE WITH THE SPECIFICATIONS. WITH ZERO INFILTRATION SHOULD INFILTRATION BE PRESENT, THE CONTRACTOR SHALL RECONSTRUCT THE CROSSING UNTIL ZERO INFILTRATION IS OBTAINED.

Technical drawing of a standard manhole cover. The top view shows a circular cover with a central ring and a cover. The side view shows the cover and ring with dimensions. The top view dimensions are: 2' - 1 1/4" (overall diameter), 1' - 11 3/4" (inner diameter), 1' - 11 1/2" (ring diameter), 3/4" (cover thickness), and 1 1/2" (ring thickness). The side view dimensions are: 4 3/8" (cover height), 2' - 1 1/2" (overall diameter), 2' - 9 1/4" (inner diameter), 1' - 10 1/4" (ring diameter), 3/4" (cover thickness), 1 1/2" (ring thickness), 3/8" (cover height), 2 3/4" (ring height), 3/4" (cover height), 4 3/8" (cover height), 1 1/2" (ring thickness), 7 1/2" (overall height), and 4 3/8" (cover height).

MINIMUM AVER WEIGHTS
 RING ——— 190 LBS
 COVER ——— 120 LBS

STANDARD MANHOLE COVER

CONCRETE CLASS B-2
2200 PSI

6"

BELL DIAMETER

6"

6" BELL DIAMETER 6"

BRICK SUPPORT, 2 PER
PIPE LENGTH

CONCRETE ENCASED PIPE

PRESSURE TREATED
WOOD BLOCKS

CASING PIPE

SEWER PIPE

STEEL BAND

NOTE

SKIDS REQ'D AT BOTH
ENDS AND CENTER OF
EACH JOINT OF PIPE

STEEL BAND

PRESSURE TREATED
WOOD BLOCKS
(3 REQ'D PER
SKID.)

CASING PIPE

SEWER PIPE

The diagram illustrates the connection of a service lateral to a sewer main. It consists of two parts: a plan view and a profile view.

PLAN View: Shows the horizontal layout. A "SEWER MAIN" runs vertically on the right, with an arrow indicating "FLOW" downwards. A "SERVICE LATERAL" runs horizontally to the left from the main. A "PROPERTY LINE OR EASEMENT LINE" is marked at the top. The lateral connects to the main via a "45° BEND". A "PLUG" is shown at the end of the lateral on the left. An "EXIST GRADE" line is indicated near the connection point.

PROFILE View: Shows the vertical alignment. The "SERVICE LATERAL" is shown in cross-section, sloping downwards. It connects to the "SEWER MAIN" via a "45° BEND". A "WYE" connection is shown where the lateral joins the main. A "PLUG" is shown at the end of the lateral on the left. The "EXIST GRADE" is indicated at the top left.

LEGEND: A dashed line represents the "PROPERTY LINE OR EASEMENT LINE".

NOTES: FOR RESIDENTIAL CONNECTIONS LATERAL PIPES SHALL BE 4" DIA. FOR COMMERCIAL CONNECTIONS THE LATERAL SIZE SHALL BE SPECIFIED ON THE PLANS BY THE ENGINEER.

Technical drawings of the test specimen showing front, side, and cross-sectional views with dimensions and material labels.

Front View: Shows a U-shaped specimen with a total width of 12 inches and a base width of 10 3/4 inches. The height of the vertical legs is 9 1/8 inches. The thickness of the base is 1 1/8 inches. The label "COPOLYMER POLYPROPYLENE PLASTIC" points to the base material.

Side View: Shows the profile of the specimen with a height of 9 1/8 inches and a base thickness of 1 1/8 inches.

Cross-Section A-A: Shows a circular cross-section with a diameter of 5 3/4 inches. It features a central hole with a diameter of 1 1/4 inches. The label "1/2" GRADE 60 STEEL REINFORCEMENT" points to the central hole, and "SECTION A-A" is labeled below the view.

NOTE:

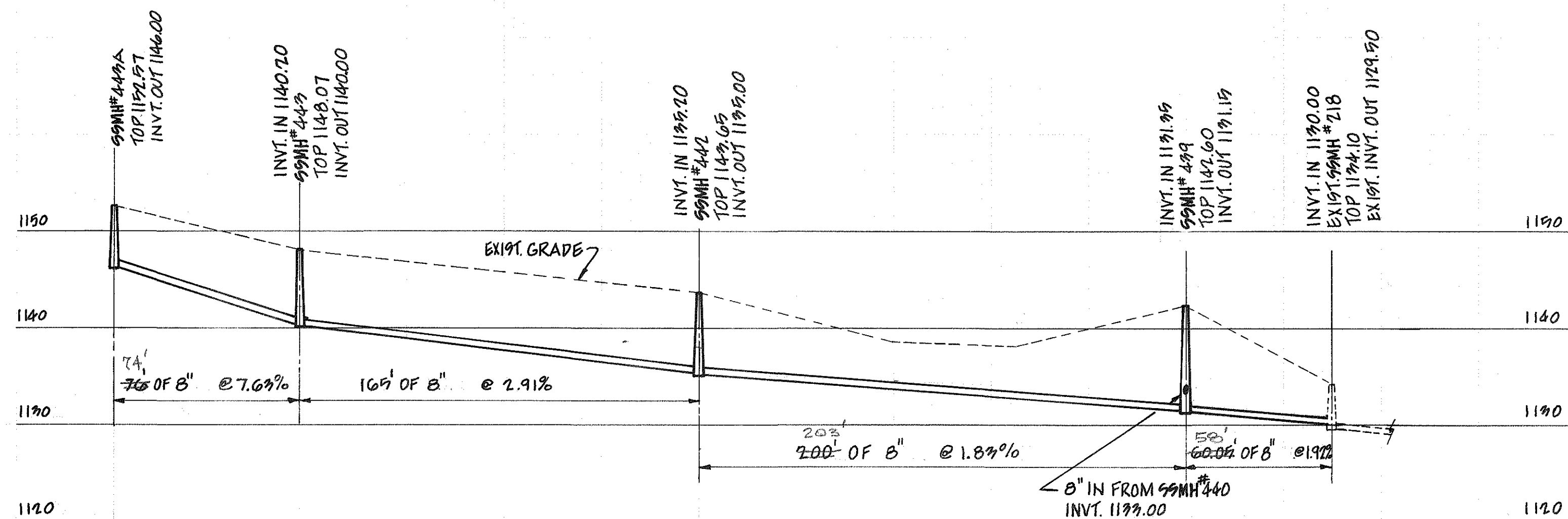
PLANS WERE PREPARED BASED ON:

AERIAL TOPOGRAPHY MAPPING PREPARED BY UNIVERSAL ENGINEERING, ROCKVILLE, MARYLAND FLOWN AND MAPPED 1979, AS CONTRACTED BY THE BOTETOURT COUNTY SERVICE AUTHORITY AND SUPPLIED TO CLEAN WATER ENGINEERS, INC.

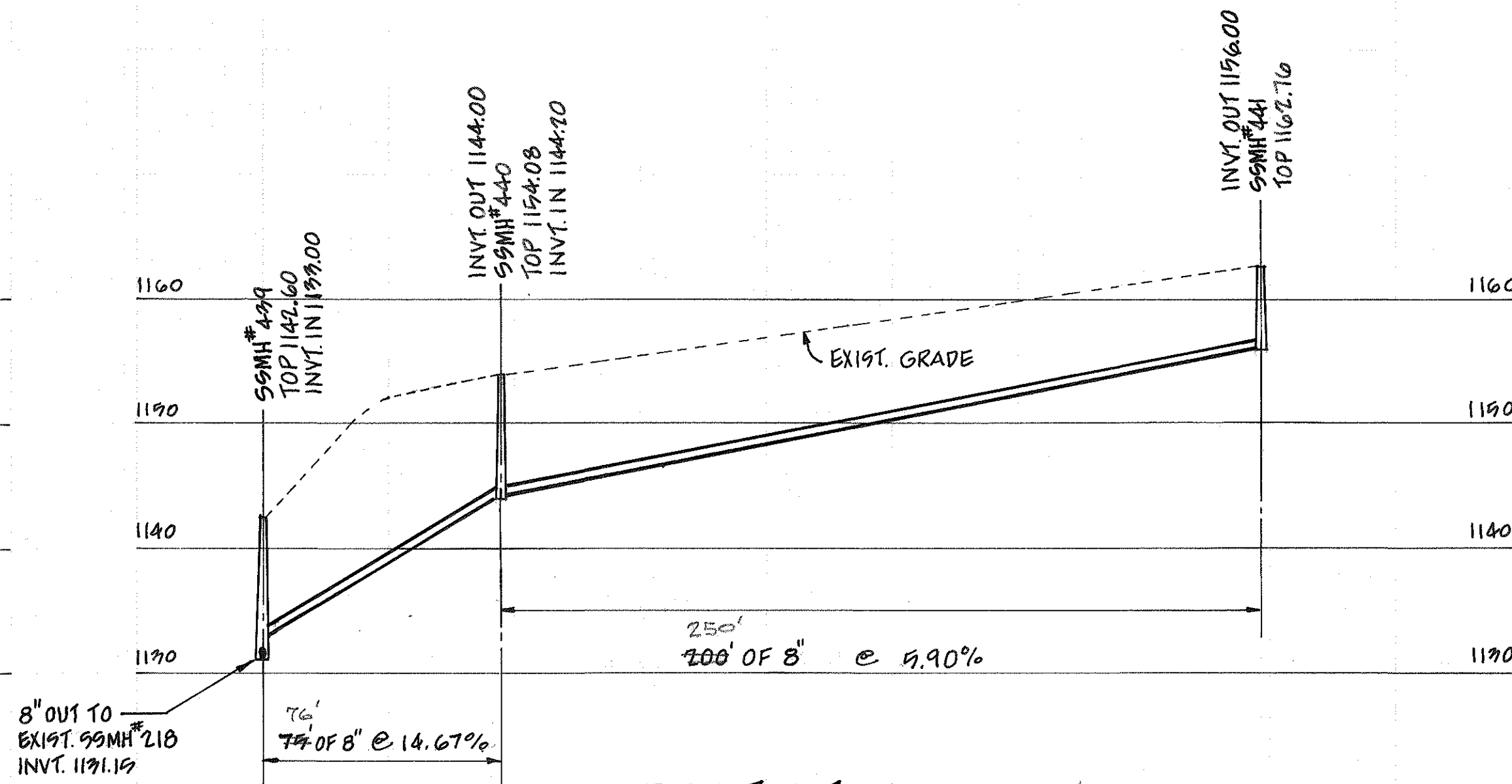
HORIZONTAL AND VERTICAL GROUND CONTROL BY CHARLES R. MCMURRAY, C.I.S., 1979, AS CONTRACTED BY THE BOTETOURT COUNTY SERVICE AUTHORITY AND SUPPLIED TO CLEAN WATER ENGINEERS, INC.

"AS-BUILT" INFORMATION WAS BASED ON EXISTING GROUND CONDITIONS AT COMPLETION OF CONSTRUCTION

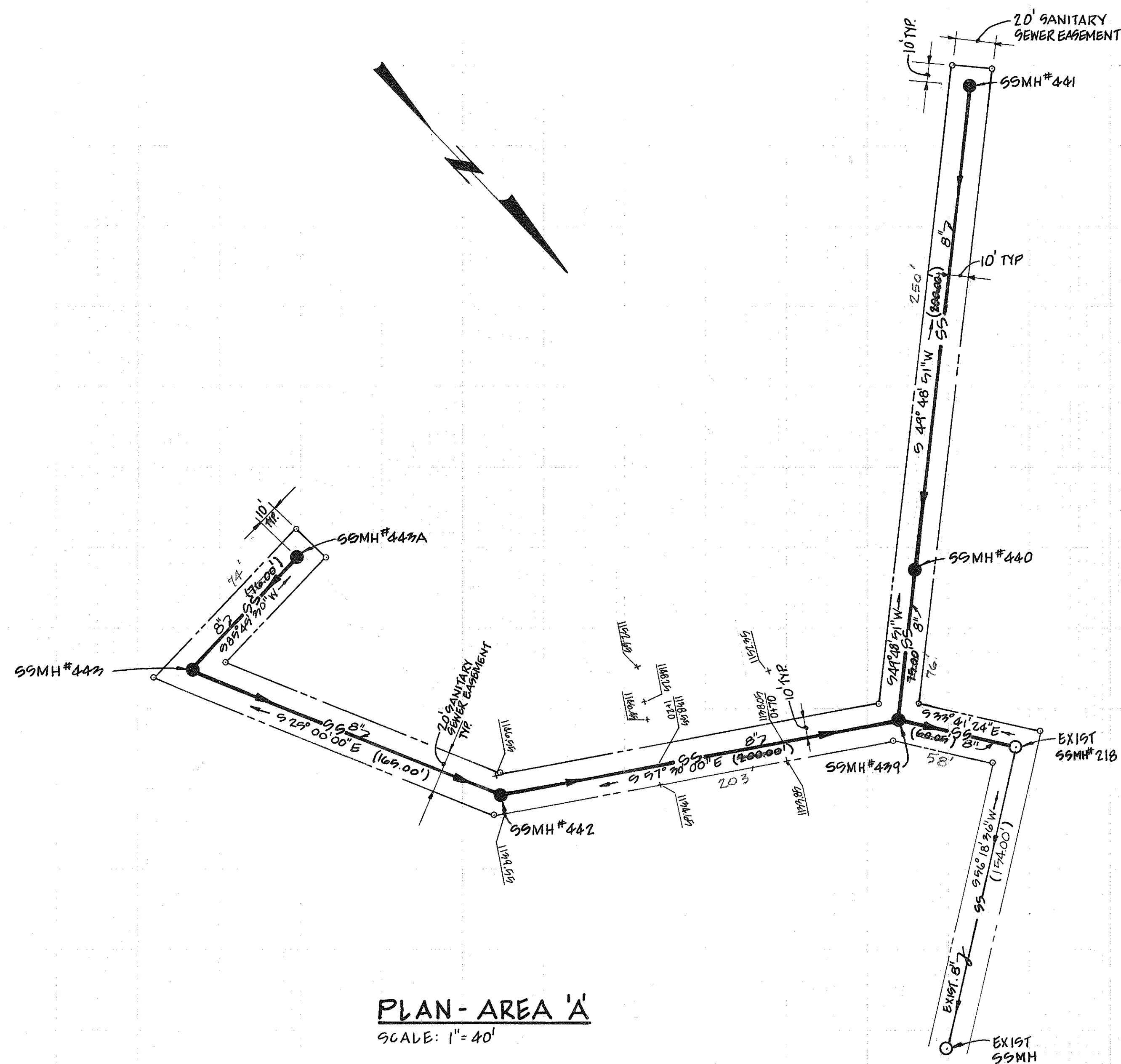
PLAN VIEWS, SEWERLINE GRADES, MANHOLE INVERTS ARE ALL CORRECT BASED ON APPROVED "CUJ-SHEET" DATA AS SUPPLIED TO CLEAN WATER ENGINEERS, INC., BY THE CONTRACTOR. THE GROUND PROFILE WAS NOT ADJUSTED TO REFLECT AS-BUILT CONDITIONS, THEREFORE THE PROFILES MAY NOT BE TO SCALE HORIZONTALLY OR VERTICALLY. REFER TO THE NUMERICAL NOTES FOR HORIZONTAL DISTANCE AND SEWERLINE GRADES, DO NOT SCALE.



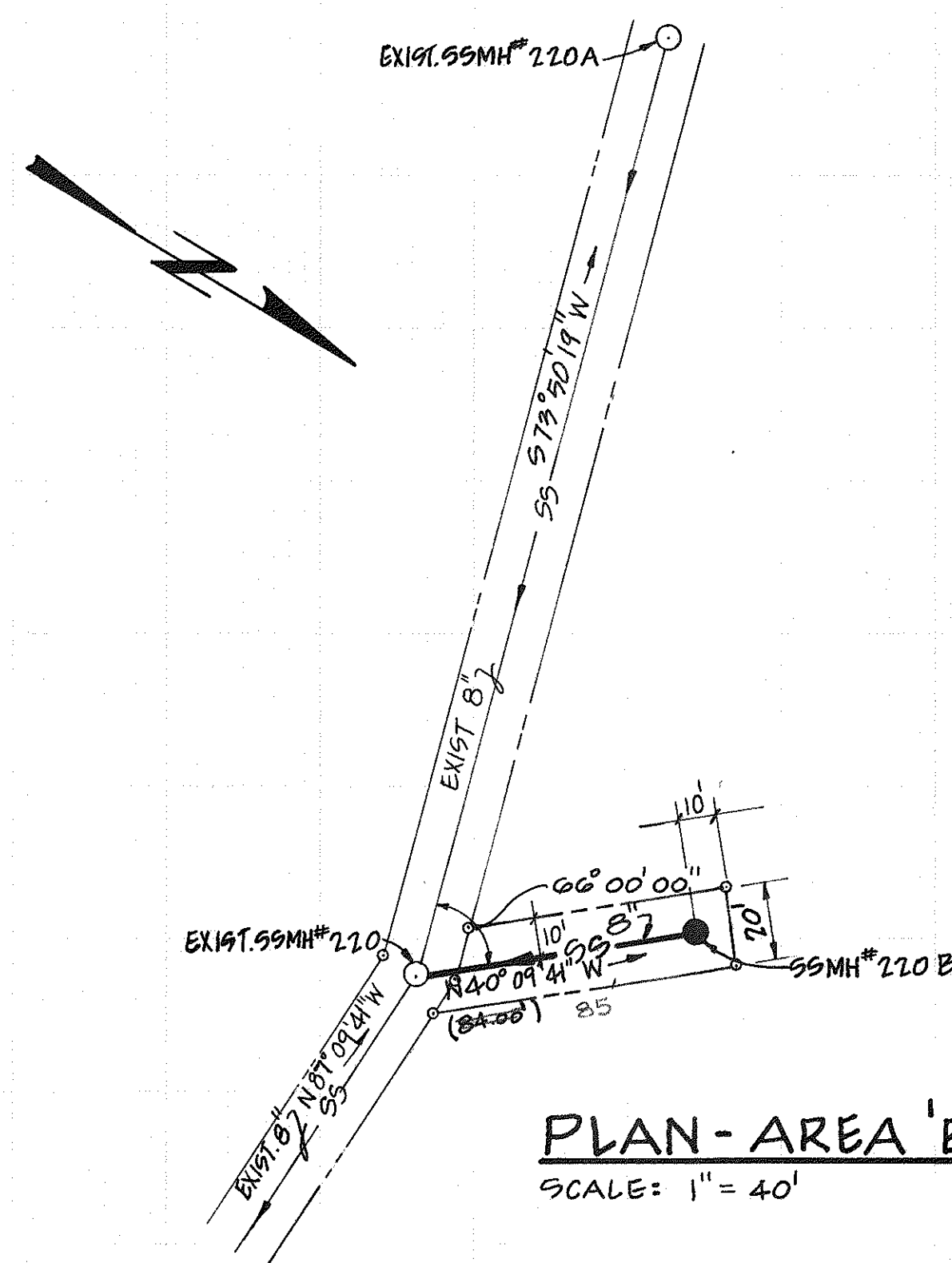
PROFILE
SSMH#443A TO EXIST. SSMH#218
SCALE: 1" = 10' VERT.
1" = 40' HORIZ.



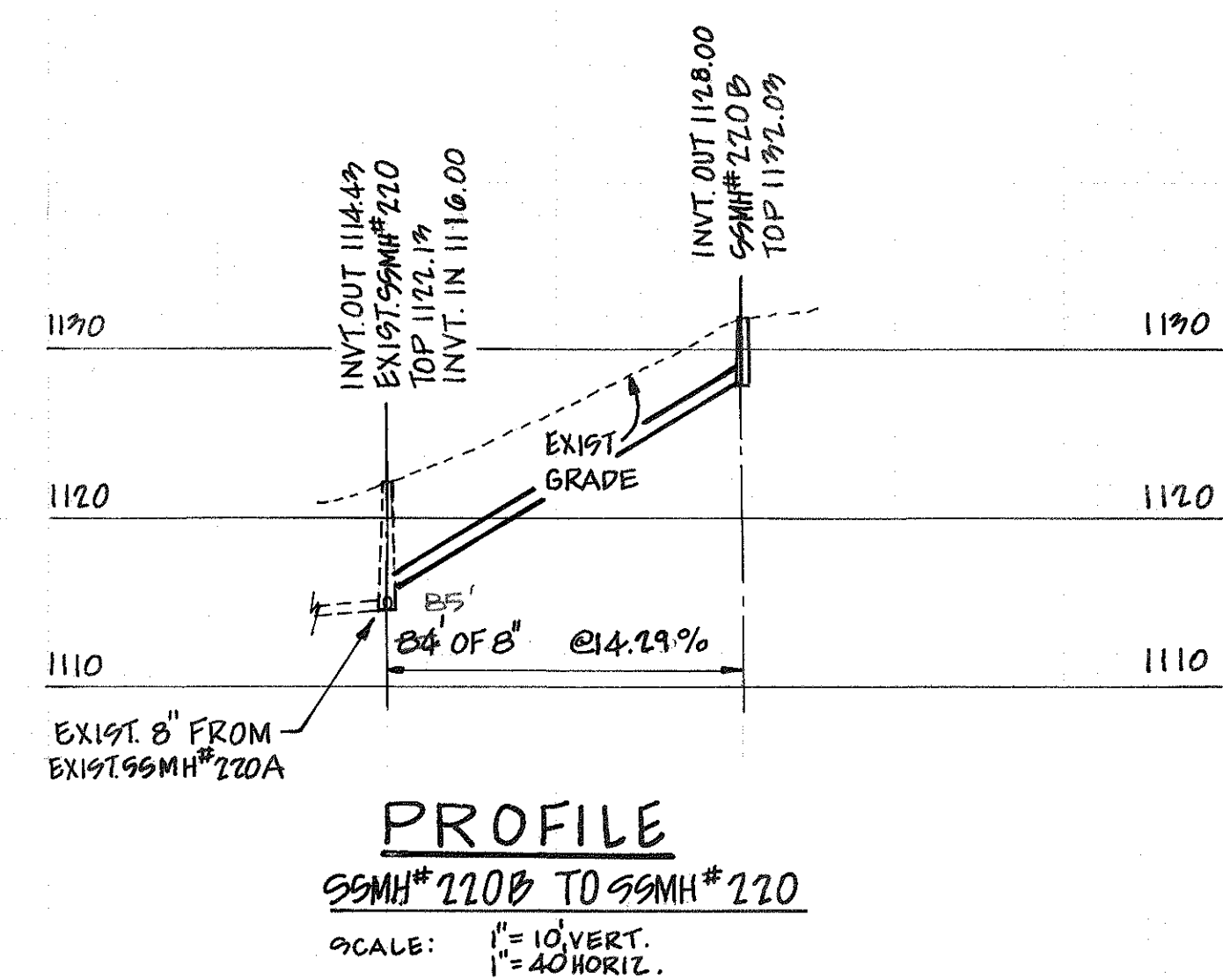
PROFILE
SSMH#441 TO SSMH#439



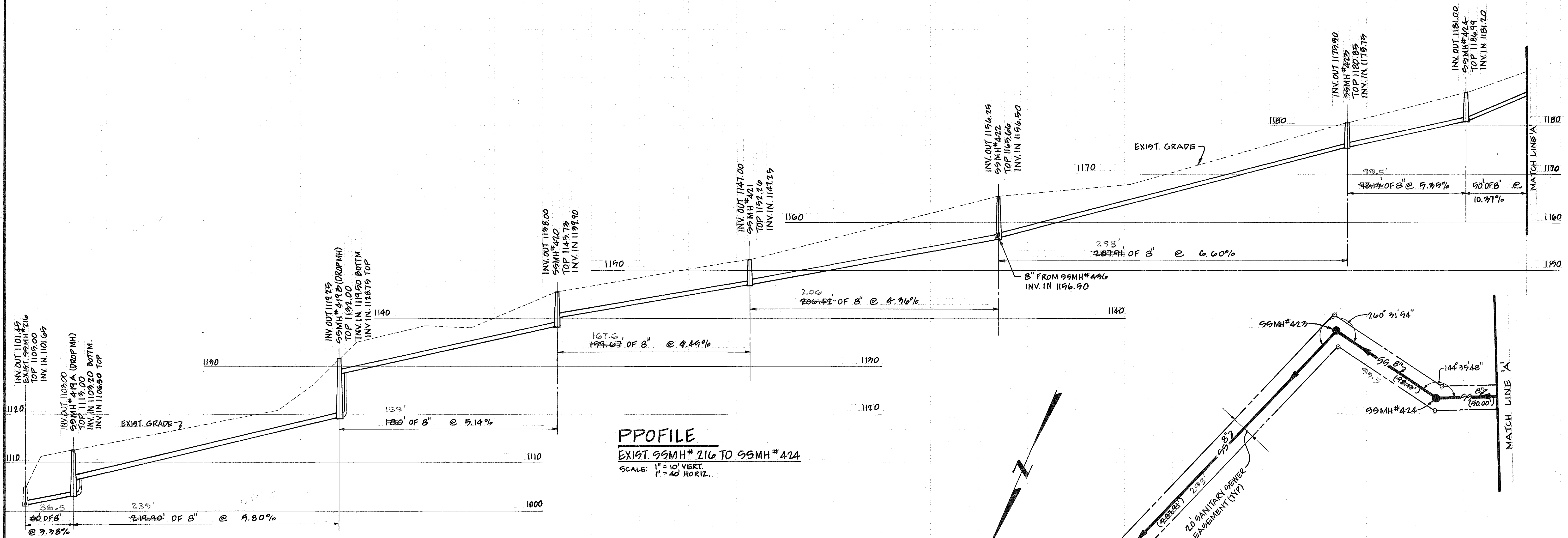
PLAN - AREA 'A'
SCALE: 1" = 40'



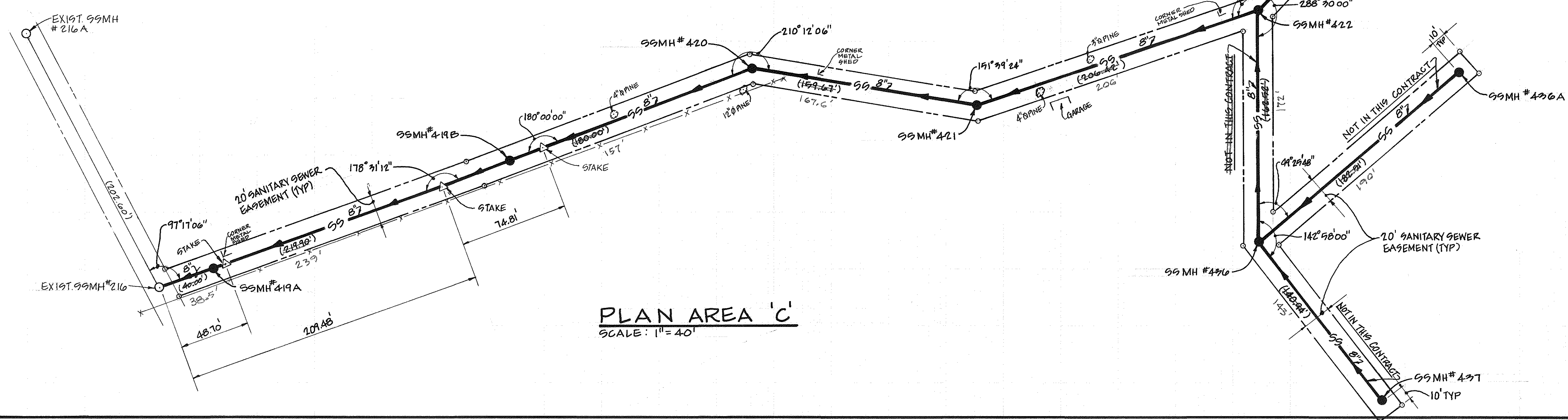
PLAN - AREA 'B'
SCALE: 1" = 40'



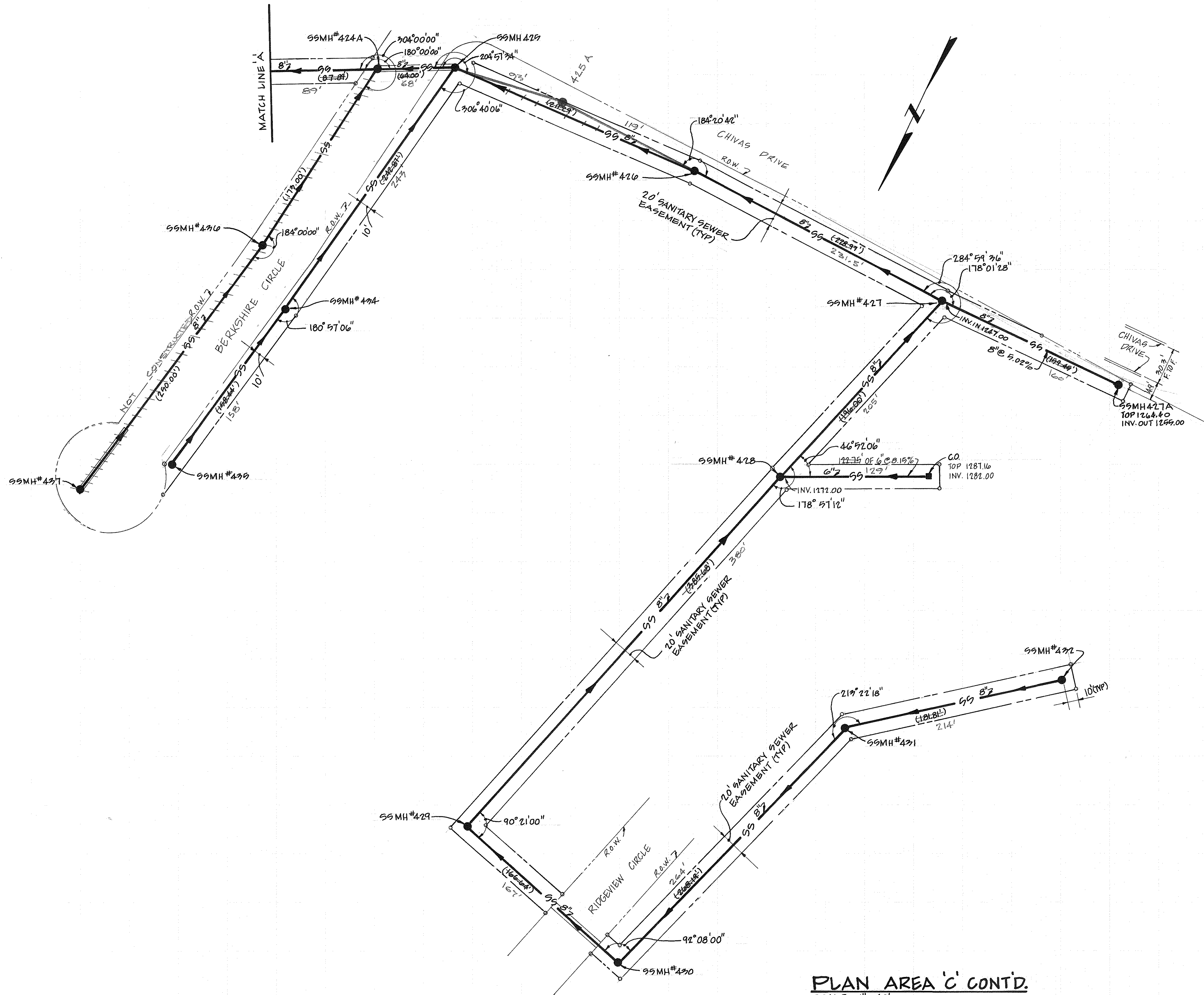
PROFILE
SSMH#220B TO SSMH#220
SCALE: 1" = 10' VERT.
1" = 40' HORIZ.



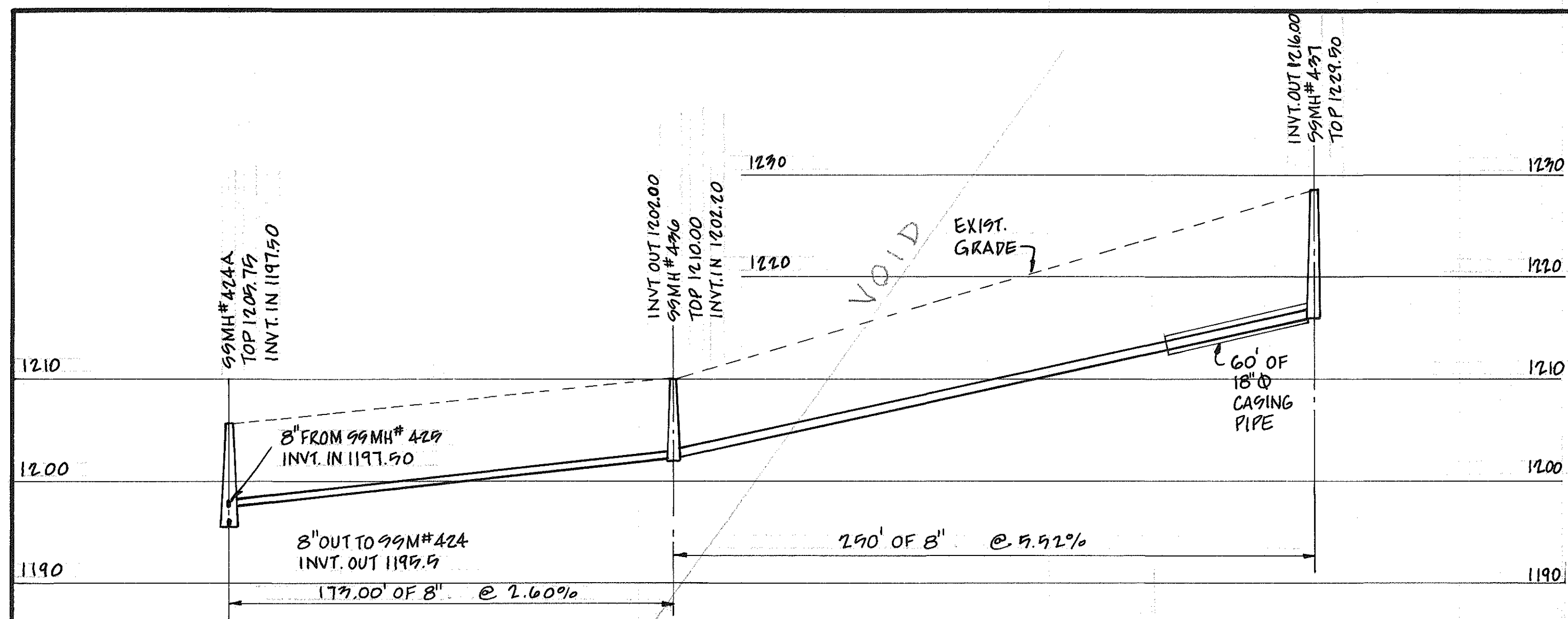
PROFILE
 EXIST. 99MH# 216 TO 99MH# 424
 SCALE: 1" = 10' VERT.
 1" = 40' HORIZ.



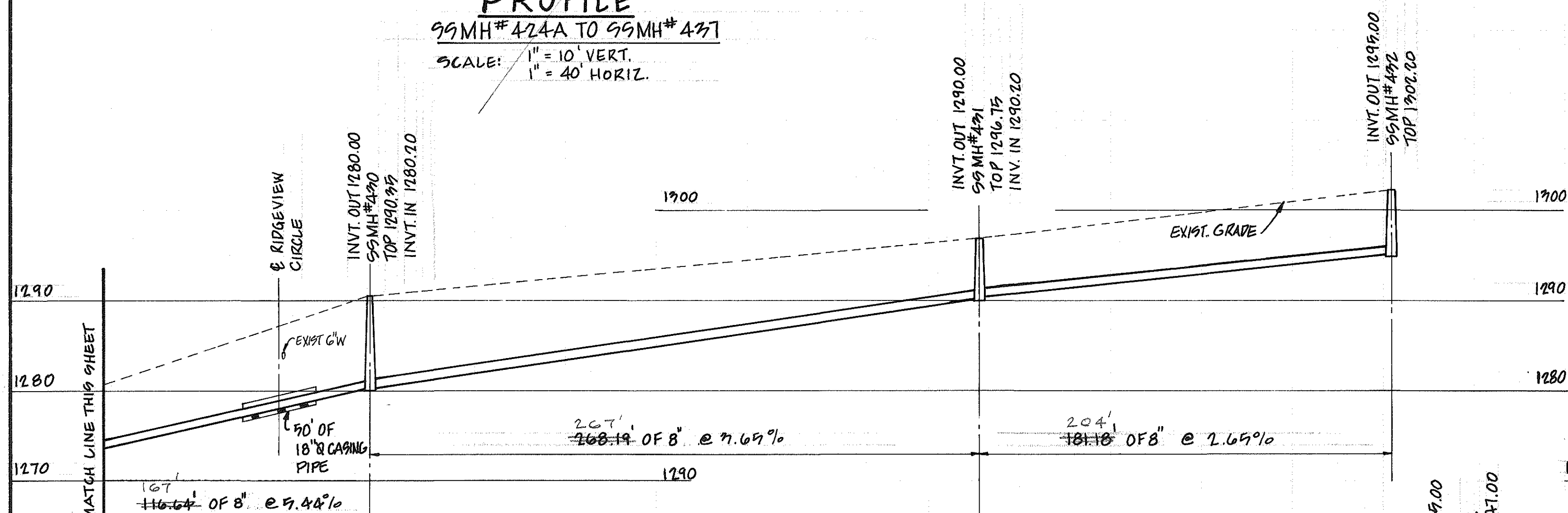
PLAN AREA 'C'
 SCALE: 1" = 40'



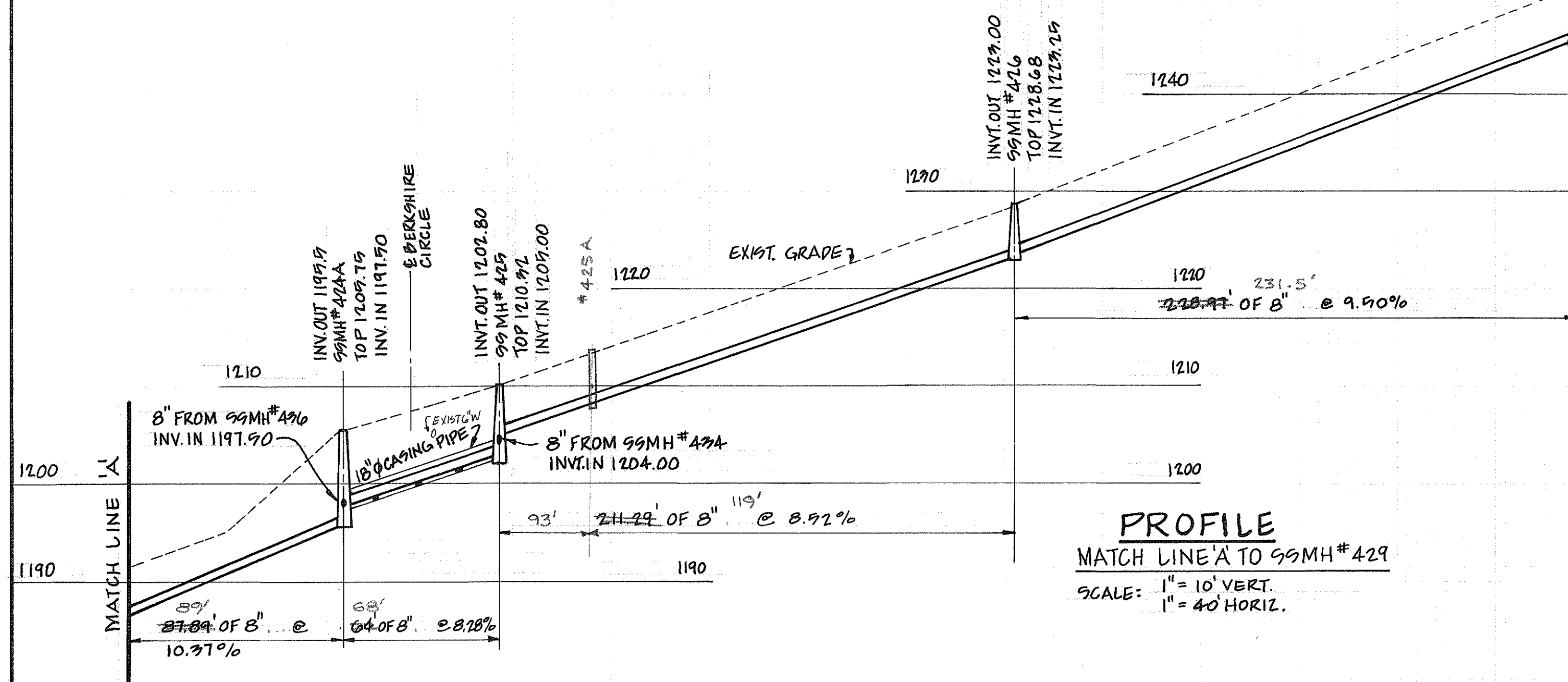
PLAN AREA 'C' CONT'D.
 SCALE: 1" = 40'



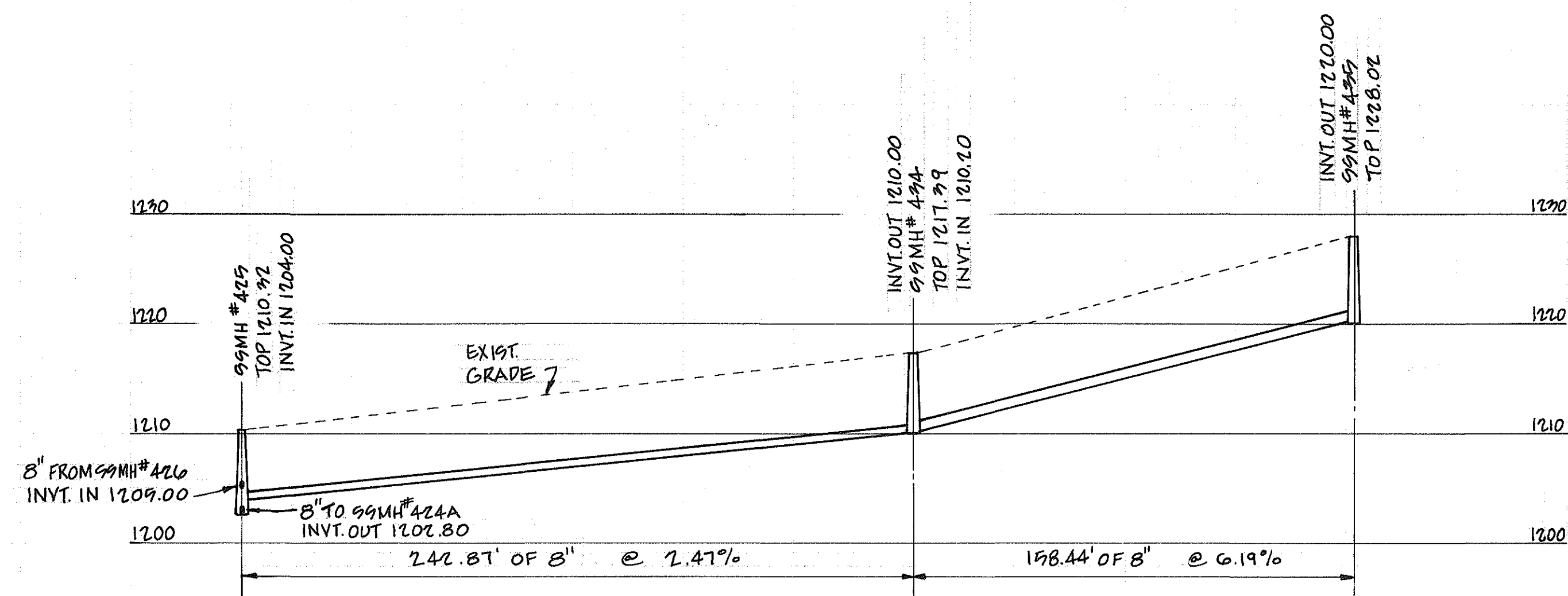
PROFILE
99MH#424A TO 99MH#437
SCALE: 1" = 10' VERT.
1" = 40' HORIZ.



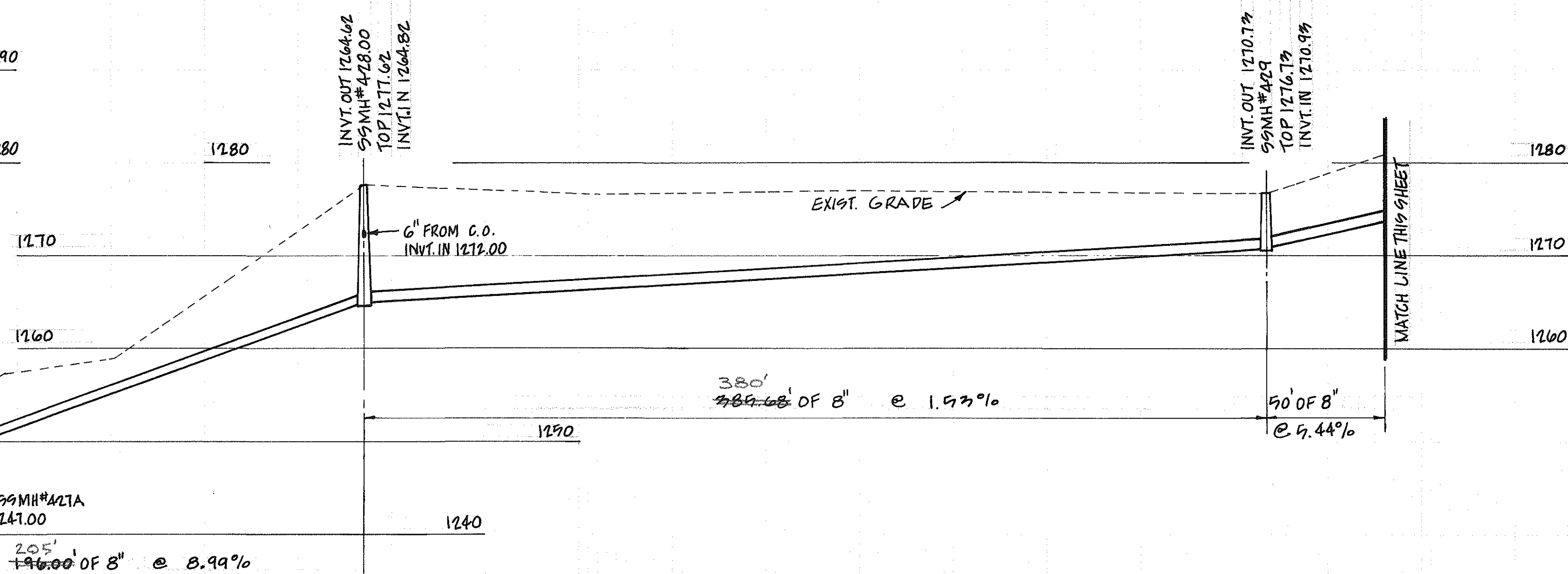
PROFILE
MATCH LINE TO 99MH#437
SCALE: 1" = 10' VERT.
1" = 40' HORIZ.

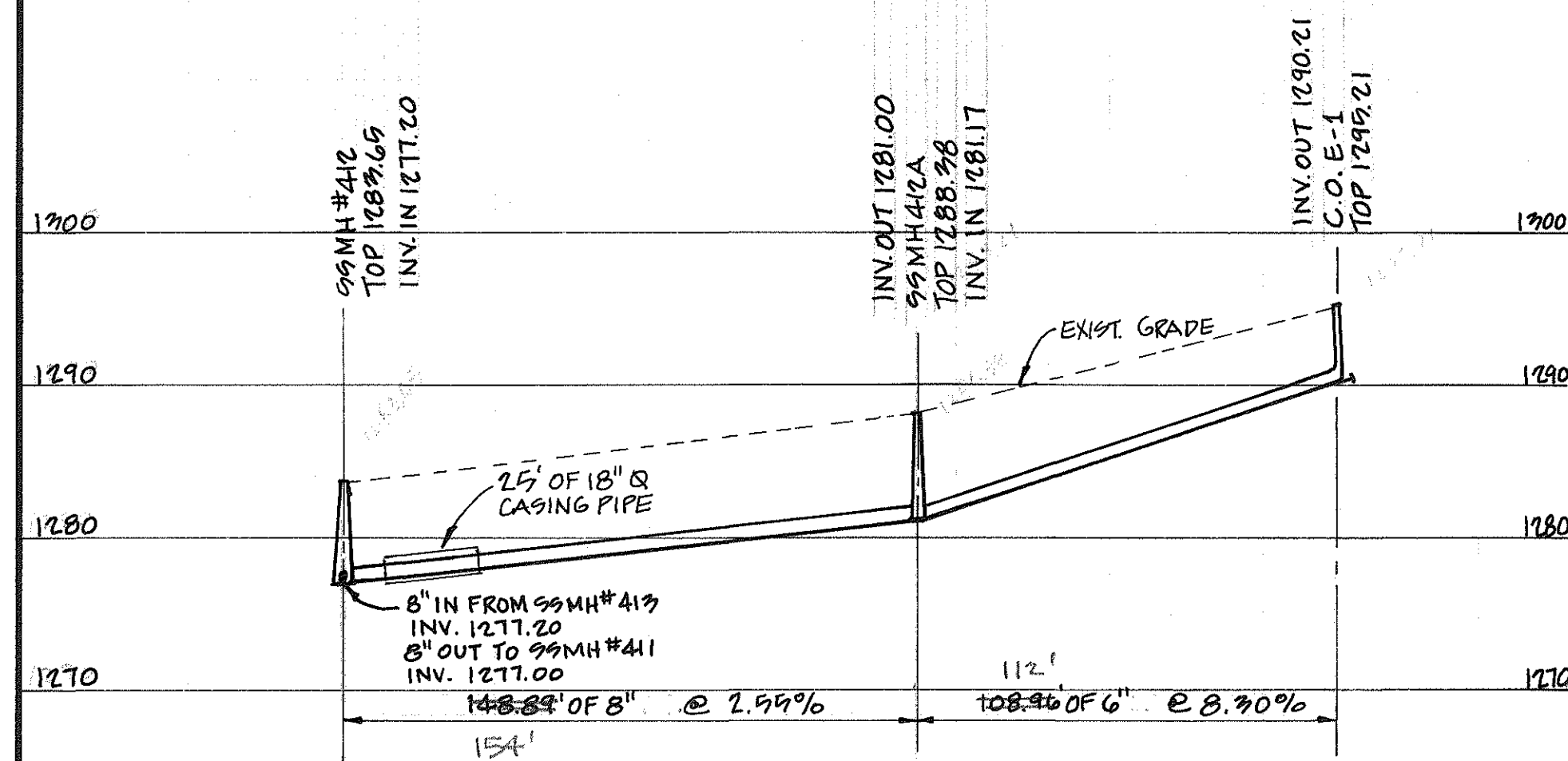


PROFILE
MATCH LINE A TO 99MH#429
SCALE: 1" = 10' VERT.
1" = 40' HORIZ.

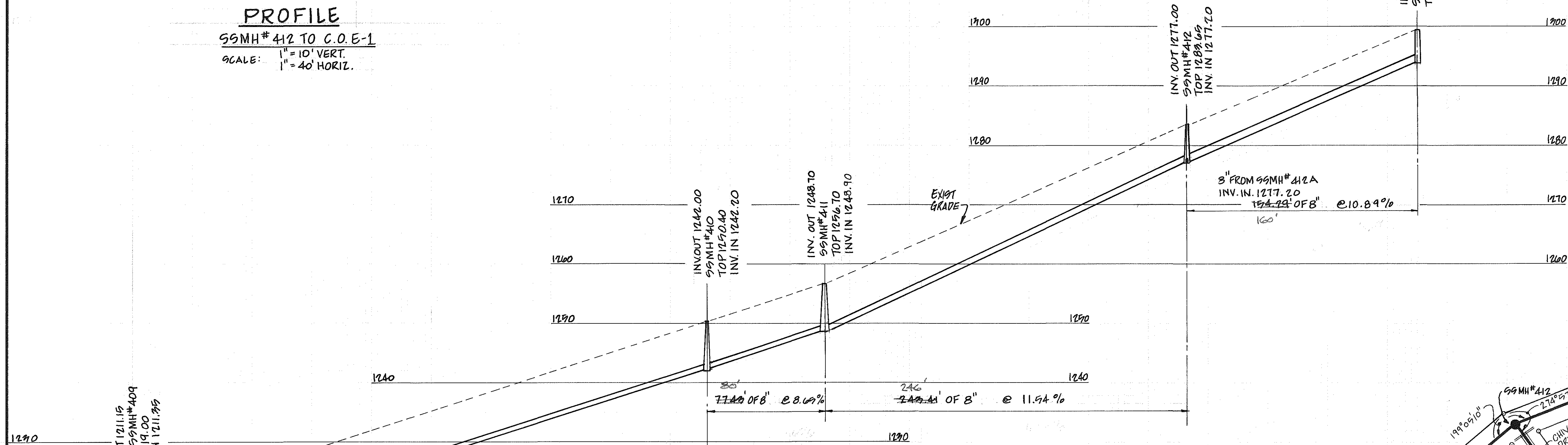


PROFILE
99MH#429 TO 99MH#435
SCALE: 1" = 10' VERT.
1" = 40' HORIZ.

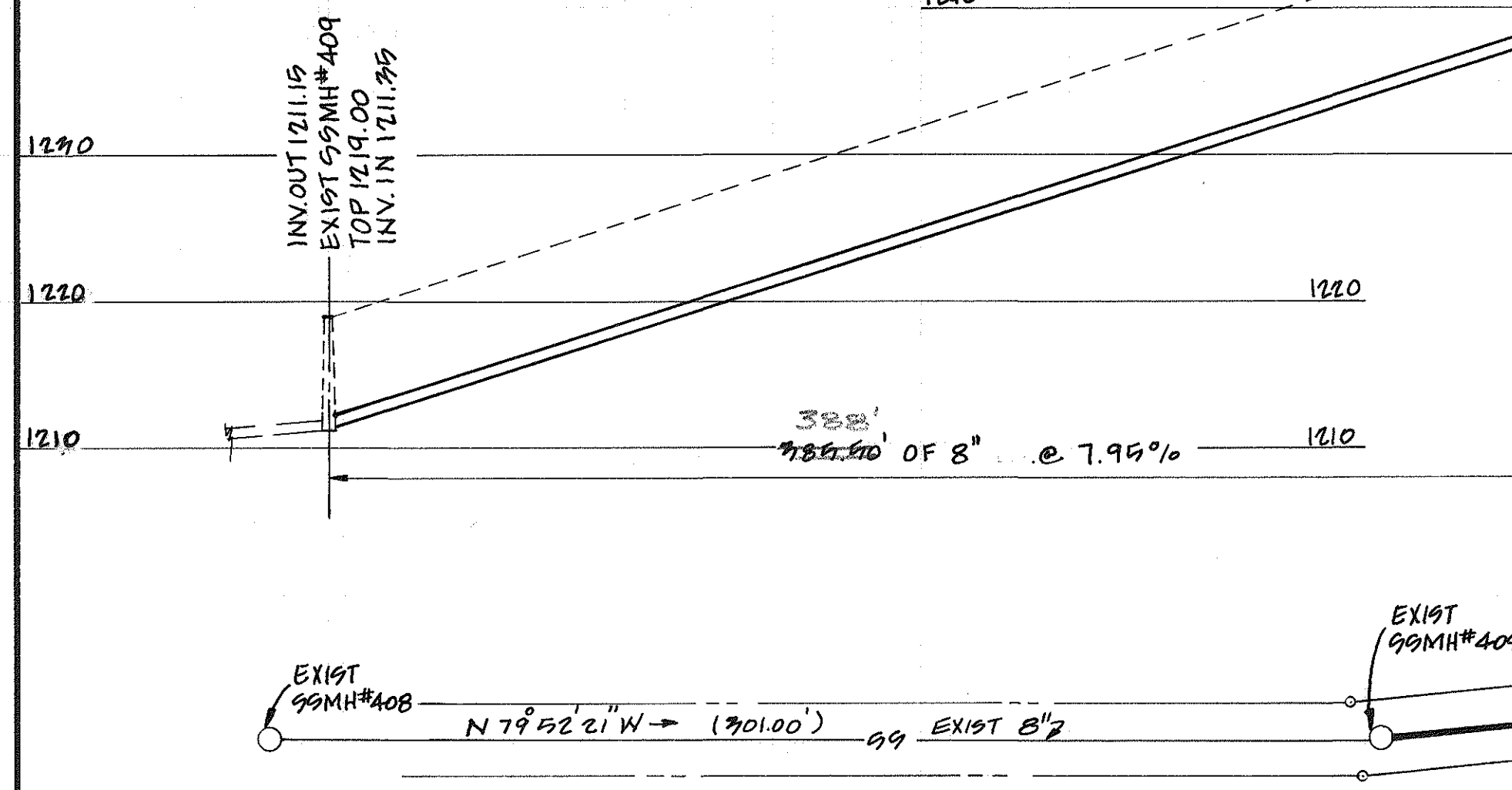




PROFILE
99MH#412 TO C.O.E-1
SCALE: 1" = 10' VERT.
1" = 40' HORIZ.



PROFILE
EXIST. 99MH#409 TO 99MH#412
SCALE: 1" = 10' VERT.
1" = 40' HORIZ.



PLAN AREA 'D'
SCALE: 1" = 40'

