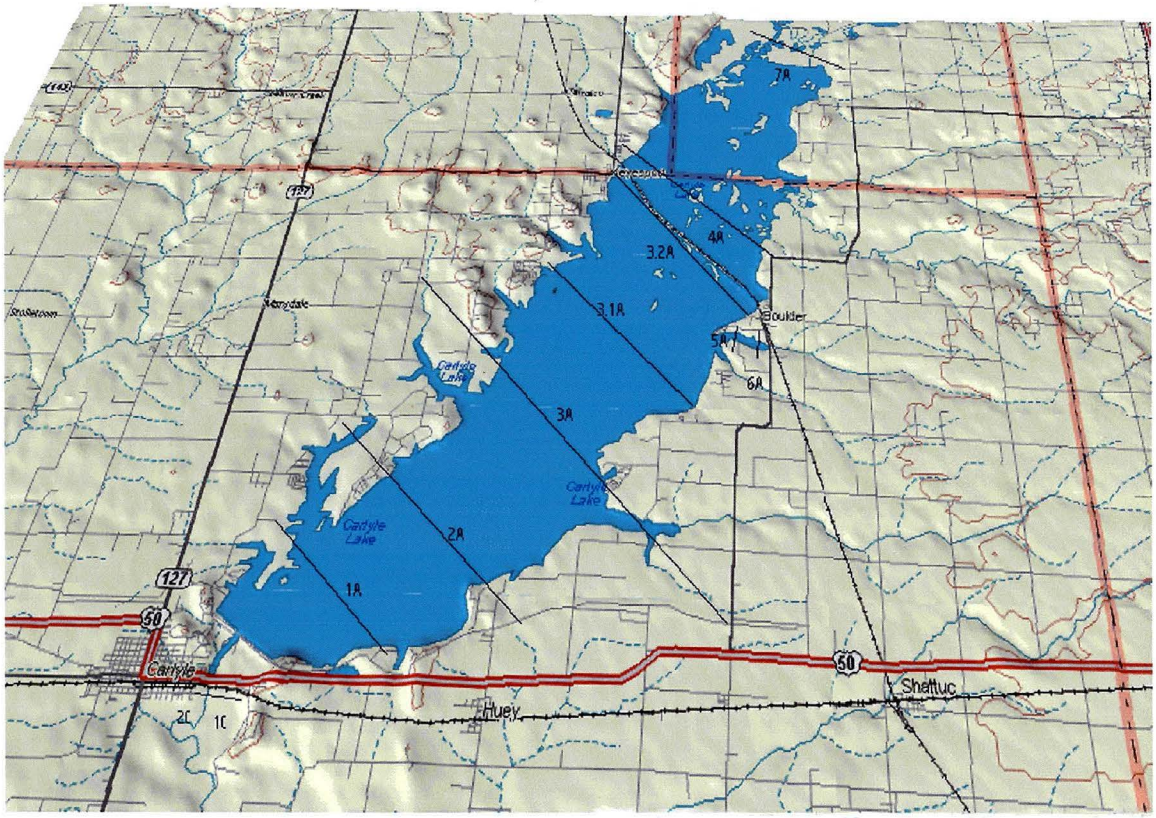
CARLYLE LAKE

CARLYLE, ILLINOIS

SEDIMENTATION & RETROGRESSION SURVEYS



SEPTEMBER, 1999

PREPARED BY J.T. BLANKINSHIP & ASSOC.

CARLYLE LAKE

Carlyle, Illinois

SEDIMENTATION & RETROGRESSION SURVEYS

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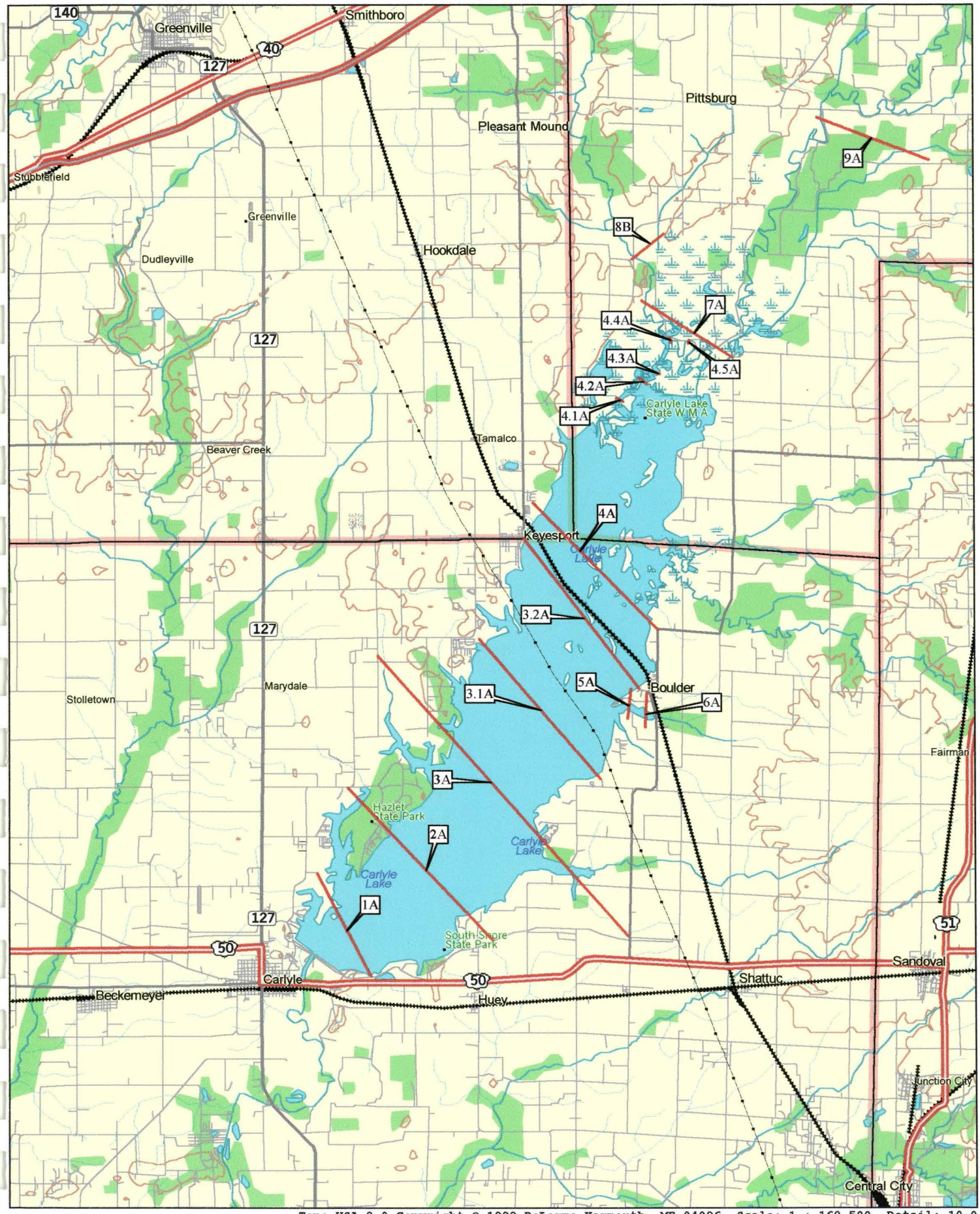
SURVEY REPORT

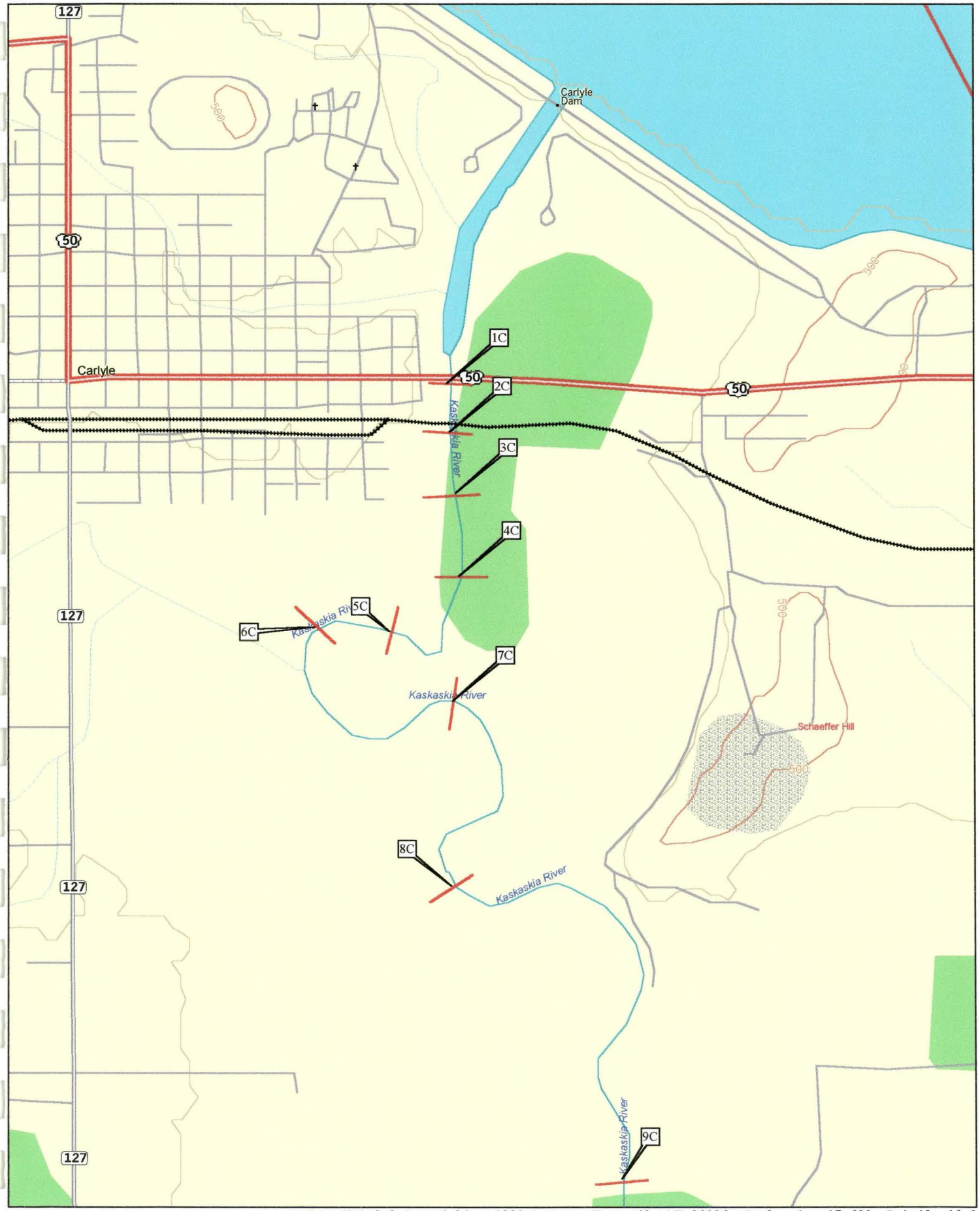
Surveys of the Carlyle Lake Sedimentation/Retrogression Ranges were completed in September, 1999. The range lines were first re-established by Survey Crews locating the existing monumentation along each range line. The monuments were either found in place, restored, or established at new locations when necessary, as shown on the attached plan sheets. The monument positions at high bank were then acquired using Trimble DGPS on board our Hydrographic Survey boat. Soundings were taken across the river channel or lake at each range line using DGPS and Innerspace Fathometer and processed through Trimble's Hydro Software. Finally, the land profiles were taken using Lietz Total Station Survey equipment for the extents of each range line. Some areas were not surveyed due to crops or excessive foliage along the range line. The Vertical Datum used was NGVD 29 and the Horizontal Datum used was NAD 27, IL West Zone. All data was imported to Microstation SE and profile plots were generated and merged with profile plots from 1971, 1982, and 1984 for analysis. The layout and profile sheets for each range line are included in this report.

SEDIMENTATION PLAN VIEW



Topo USA 2.0 Copyright © 1999 DeLorme Yarmouth, ME 04096 Scale: 1 : 162,500 Detail: 10-0

RETROGRESSION PLAN VIEW



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RETROGRESSION RANGES SURVEY REPORT

LINE 1-C

Located existing monuments on Range 1-C. Profile 0+00 to water's edge, set rebar-on line at Sta. 10+57, and from opposite water's edge profile to end of line at concrete monument at 17+52. Launched boat and established DGPS position on 0+00 and 17+52. Ran soundings from water's edge to water's edge. Bench mark used was old boat spike on power pole elevation as shown.

LINE 2-C

Located existing monuments on Range 2-C. Profile 0+00 to water's edge and from opposite water's edge to 6+52 at end. Set monument at 2+30. Establish DGPS position at 2+30 and 0+00. Ran soundings from water's edge to water's edge. Bench mark used was existing monument elevation.

LINE 3-C

Had to re-establish Line 3-C using monument at 4+46 and record angle. Profile from 0+10 to water's edge, set monument at 2+00, continue profile from opposite water's edge to 4+46 end of line. Established DGPS position at 0+10 and 2+00. Ran soundings from water's edge to water's edge. Bench mark used was water surface to establish MSL elevation.

LINE 4-C

Found monument at 0+00, re-established Line 4-C using original bearing. Profile from 0+00 to water's edge and from opposite water's edge to 6+18 at end. DGPS position established on monument at 3+75 and 6+18. Ran soundings water's edge to water's edge. Bench mark used was existing monument elevation.

LINE 5-C

Located 0+00 monument, established line using original bearing and set monument at 2+70. Ran profile from 0+00 to water's edge and from opposite water's edge to 2+70 at end. Established DGPS position at 0+00 and 2.70. Ran soundings from water's edge to water's edge. Bench mark used was existing monument MSL elevation.

LINE 6-C

Located monument at 0+00 and established line, using original bearing, set monument at 2+25.11. Ran profile from 0+00 to water's edge and opposite water's edge to 2+25 at end. Established DGPS position at 0+00 and 2+25. Ran soundings from water's edge to water's edge. Bench mark used was existing monument MSL elevation.

LINE 7-C

Located existing monuments and used monument elevation at 0+00. Profile from 0+00 to water's edge then from opposite water's edge to 1+61 at end. Established DGPS position on monuments at 0+00 and 1+61. Ran soundings from water's edge to water's edge.

LINE 8-C

Found existing monument at 3+45 used elevation. Re-established line using record angle. Ran profile from 0+00 to water's edge and from opposite water's edge to 1+30 at end. DGPS position established at monument 0+00 and 1+30. Ran soundings from water's edge to water's edge.

LINE 9-C

Located existing monument at 0+00. Used record angle to establish line. Set monument at 2+25. Used elevation on existing monument. Ran profile from 0+00 to water's edge and from opposite water's edge to 2+25. Established DGPS position at 0+00 and 2.25. Ran soundings from water's edge to water's edge.

SEDIMENTATION RANGES SURVEY REPORT

LINE 1-A

Found monument at 0+40, used existing monument for elevation and to re-establish lines used record angles and bearing off of Saddle Dam, set monument at 3+14.9. Ran profile from 0+00 to water's edge. Traveled to opposite side of lake, located all existing monuments and profiled from water's edge to end of line at 36+20. Established DGPS position at 3+14.9 and 120+69 and ran soundings from water's edge to water's edge.

LINE 2-A

Re-established line using existing monuments. Profile from 0+00 to water's edge. Traveled to opposite bank, profiled from water's edge to 164+25 at end. Sounded lake from water's edge to water's edge, and established DGPS position on monuments at 38+60 and 163+26.85.

LINE 3-A

Re-established line using existing monuments with elevation. Profiled from 0+00 to water's edge. Traveled to opposite bank and profiled from water's edge to end. Established DGPS position on monument 8+18 and monument 253+89. Ran soundings from water's edge to water's edge.

LINE 3-1A

Located existing monument Sta. 0+00 and used record bearing and elevation. Profiled from 0+00 to water's edge. Traveled to opposite side of lake, found existing monument. New monument set at 190+07. Profiled from water's edge to 200+00 and end. At later date established DGPS position on Sta. 190+07, ran soundings from water's edge to water's edge.

LINE 3-2A

Re-established line using record angle and bearing, set new monument at 0+00. Used water surface for elevation. Profile from -1+92 to water's edge. Traveled to opposite bank, profiled from water's edge to 201+00. At later date established DGPS position on 0+00 and 201+00, ran soundings from water's edge to water's edge.

LINE 4-A

Located existing monuments Sta. 0+00 and 9+55 to establish line and used existing monument elevation, ran profile from 1+38.5 to water's edge. Traveled to opposite side of lake and profiled from water's edge to 193+90 at end. Established DGPS position on monuments at 9+55 and 179+53.

LINE 4-1A

Found monument at 0+00, re-established BM using monument elevation. Profile from 0+00 to water's edge and from opposite water's edge to 6+31 at end. Set pins at water's edge. DGPS position established on pins at water's edge. Ran soundings from water's edge to water's edge.

LINE 4-2A

Had to re-establish Line 4-2A using record angle, set rebar 0+00. Profile from 0+00 to water's edge and from opposite water's edge to 2.31 at end.. Ran soundings from water's edge to water's edge, and established DGPS position on monuments at 0+00 and 2+31. Bench mark used was existing elevation on pad.

LINE 4-3A

Found monument using record angle line. Profile from 0+00 to water's edge and from opposite water's edge to 2+19 at end. Ran soundings from water's edge to water's edge, and established DGPS position on monuments at 0+00 and 2+19. Bench mark used was flood gate. Old monument found with elevation discrepancy. New elevation 447.68

LINE 4.4A

Re-established line from monument at 0+00 using record angle. Profile from 0+00 to water's edge and from opposite water's edge to 2+51 at end. Traveled to opposite bank and profiled from water's edge to 4+5. Established DGPS position on traverse in from 4+5. Ran soundings from water's edge to water's edge. Bench mark used was existing on flood gate.

LINE 4.5A

Re-established line from monument 0+00 using record angle. Profile from 0+00 to water's edge and from opposite water's edge to 2+22. Established DGPS position on monument 0+00 backsight alternate point. Bench mark used was existing on flood gate. Ran soundings from water's edge to water's edge.

LINE 5-B

Found monuments at 38+10 and 37+07, ran line reverse direction. Profile from 3+00 to water's edge and from opposite water's edge to 37+07 at end. Established DGPS position on traverse in from alternate points. Ran soundings from water's edge to water's edge. Bench mark used was found monument 37+07.

LINE 6-B

Found monuments to re-establish line, set points on line. Ran Profile from 0+00 to water's edge and from opposite water's edge to 31+70 at end. Established DGPS position on traverse from alternate points. Ran soundings from water's edge to water's edge. Bench mark used was on found monument.

LINE 7-A

Found monument to re-establish line. Ran profile from 0+00 to water's edge and from opposite water's edge to 61+33 at end. Stopped due to extreme vegetation/marsh. Established DGPS position on monument on line. Ran soundings from water's edge to water's edge. Bench mark used was on found monument.

LINE 8-B

Found monuments to re-establish line. Ran profile from 41+85 to water's edge and from opposite water's edge to 1+17 at end. Established DGPS position set on monument by traverse. Ran soundings from water's edge to water's edge. Bench mark used was existing on bridge.

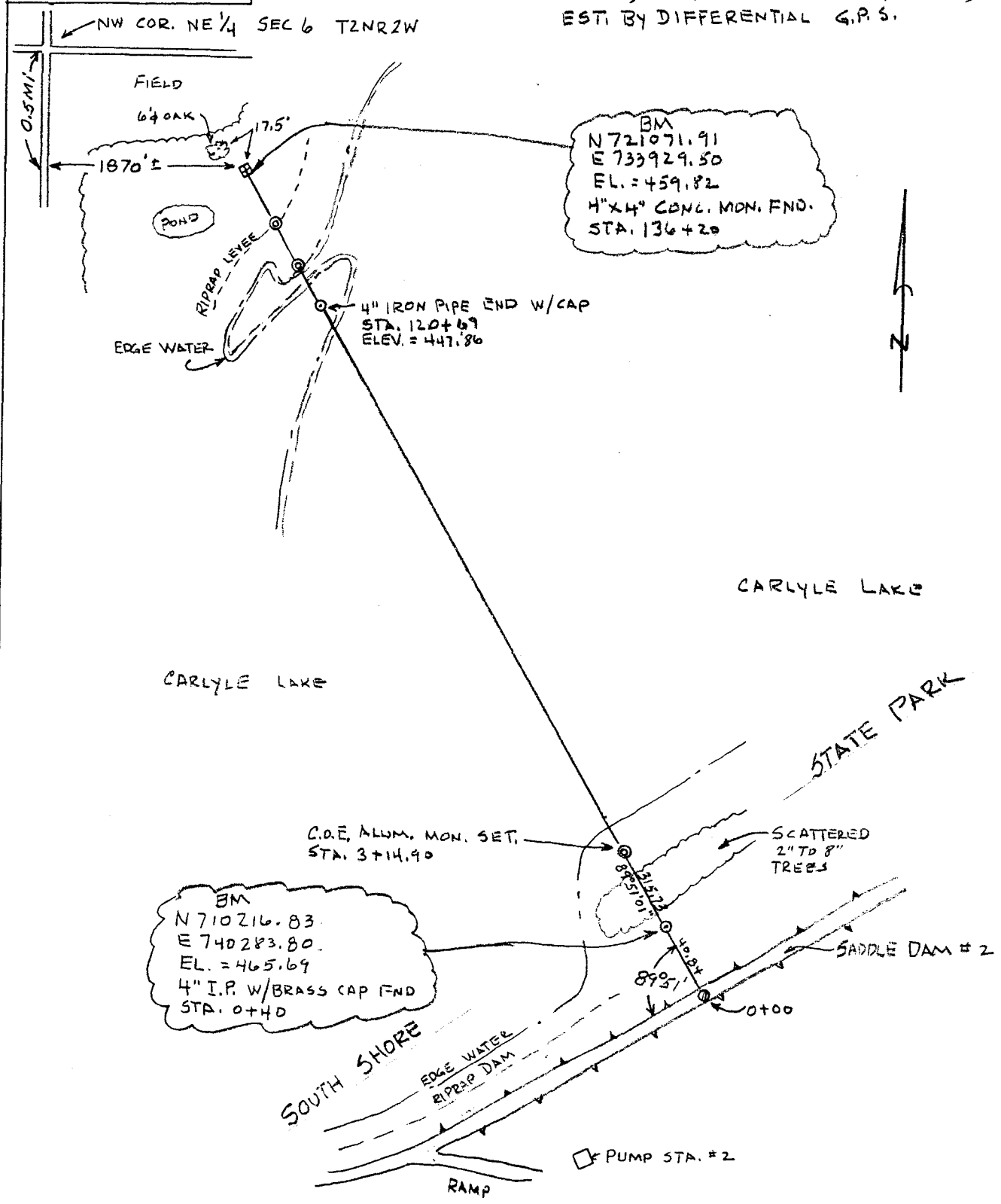
LINE 9-A

Found monuments to re-establish line. Ran profile from 127+9 to water's edge and from opposite water's edge to 38+00. Stopped at 38+00 due to crops in field. Established DGPS position on traverse in to points. Ran soundings from water's edge to water's edge. Bench mark used was on existing monument.

PROJECT CARLYLE LAKE	PAGE OF	COMPUTED BY	DATE
SEDIMENTATION RANGE CONTROL		CHECKED BY	DATE

RANGE 1-A

NOTE:
HORIZ. CO-ORD POSITIONS BASED ON NAD 27, IL. WEST ARE SITE SPECIFIC, EST. BY DIFFERENTIAL G.P.S.



LAYOUT — PG. 26+41 BK. _____

COMPUTATION SHEET

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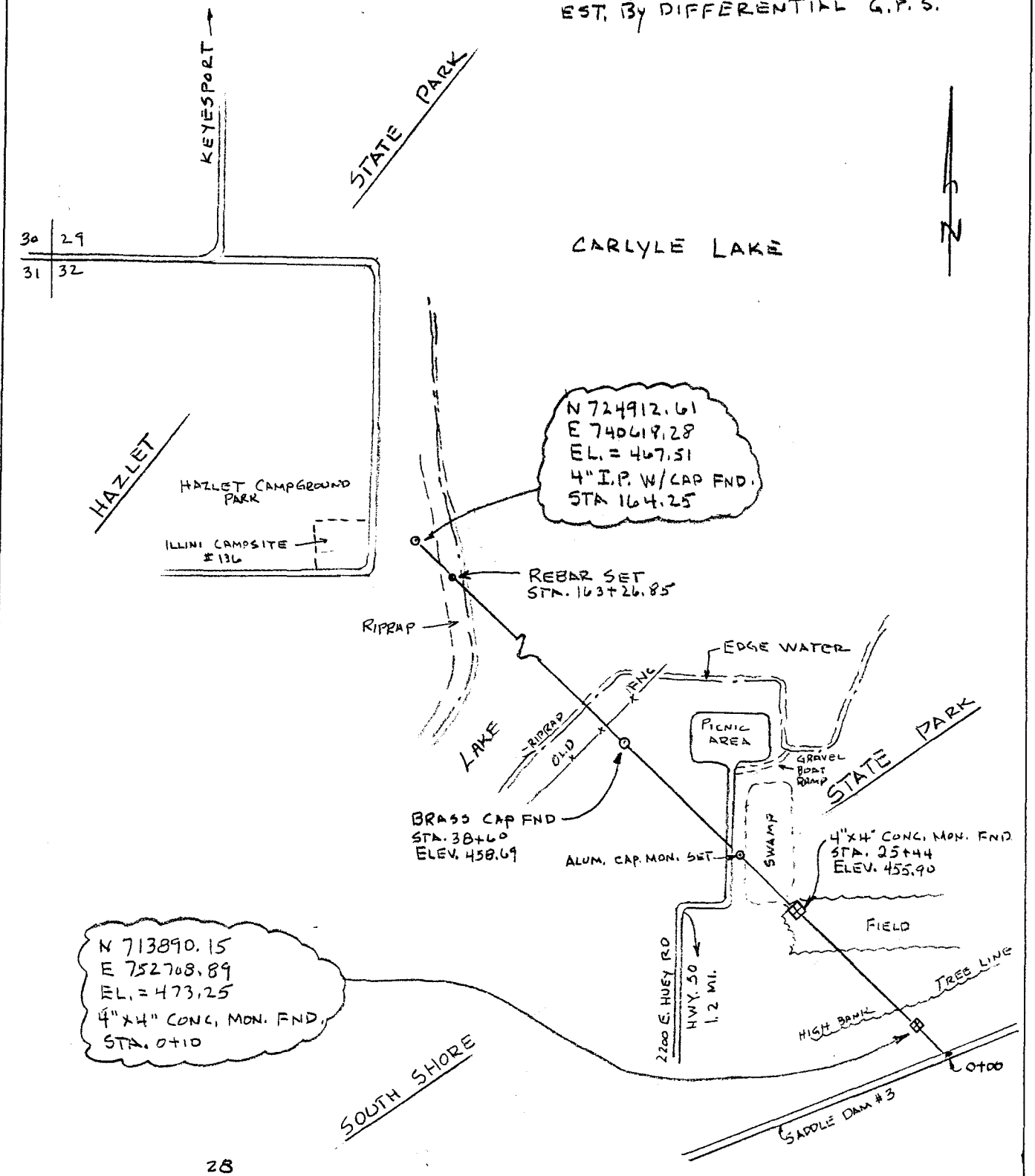
SEDIMENTATION RANGE CONTROL		CHECKED BY	DATE

RANGE 2-A

NOTE:
HORIZ. CO-ORD. POSITIONS BASED ON NAD 27, IL. WEST ARE SITE SPECIFIC, EST. BY DIFFERENTIAL G.P.S.



LAYOUT – PG. 28 29 35 BK. _____

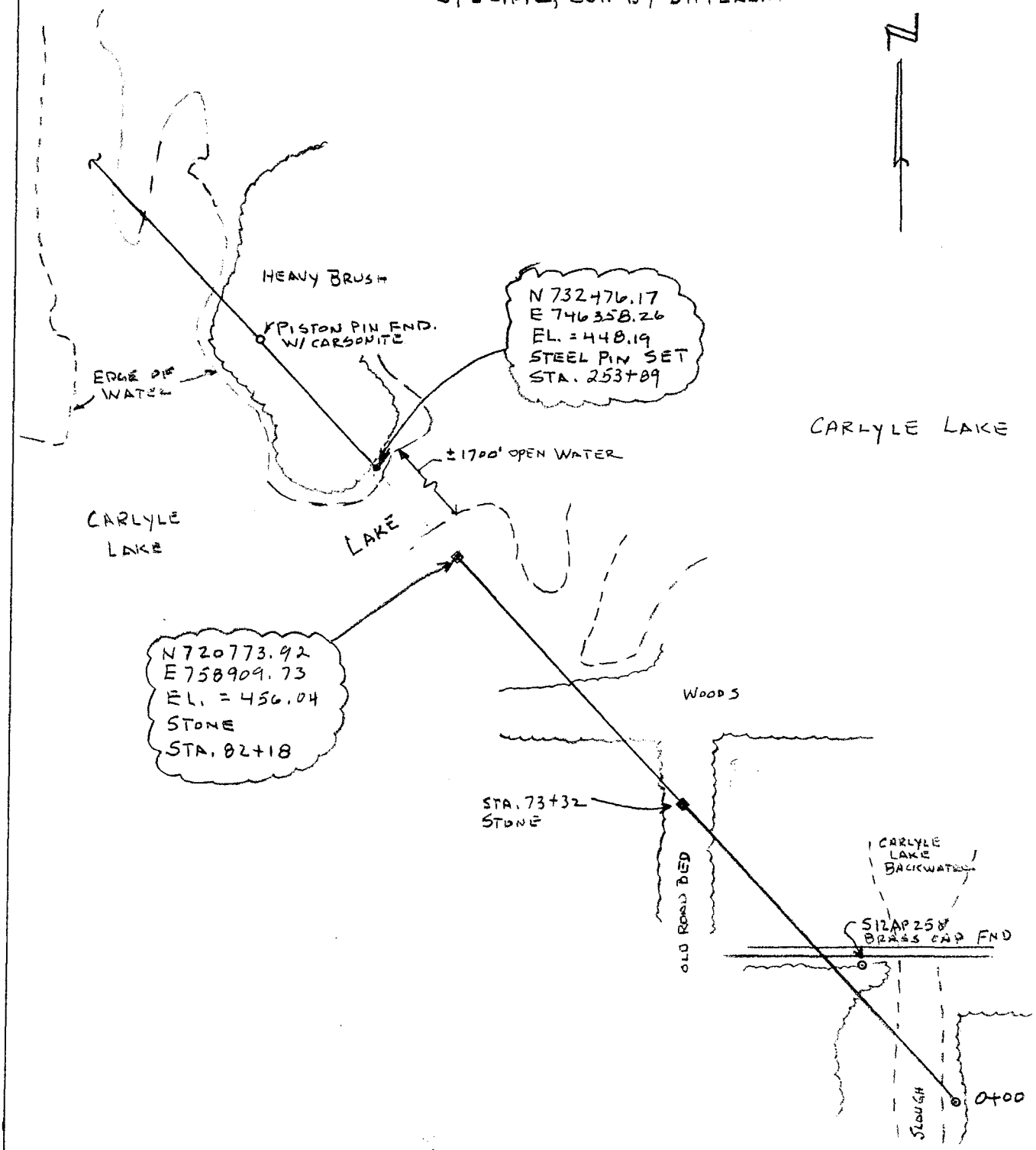
COMPUTATION SHEET

PROJECT CARLYLE LAKE	PAGE OF	COMPUTED BY	DATE
SEDIMENTATION RANGE CONTROL		CHECKED BY	DATE

RANGE 3-A

TOPO P. 32, 45

NOTE:
HORIZ. CO-ORD POSITIONS BASED ON NAD 27, IL. WEST ARE SITE SPECIFIC, EST. BY DIFFERENTIAL G.P.S.



LAYOUT – PG._____ BK._____

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RANGE 3-A

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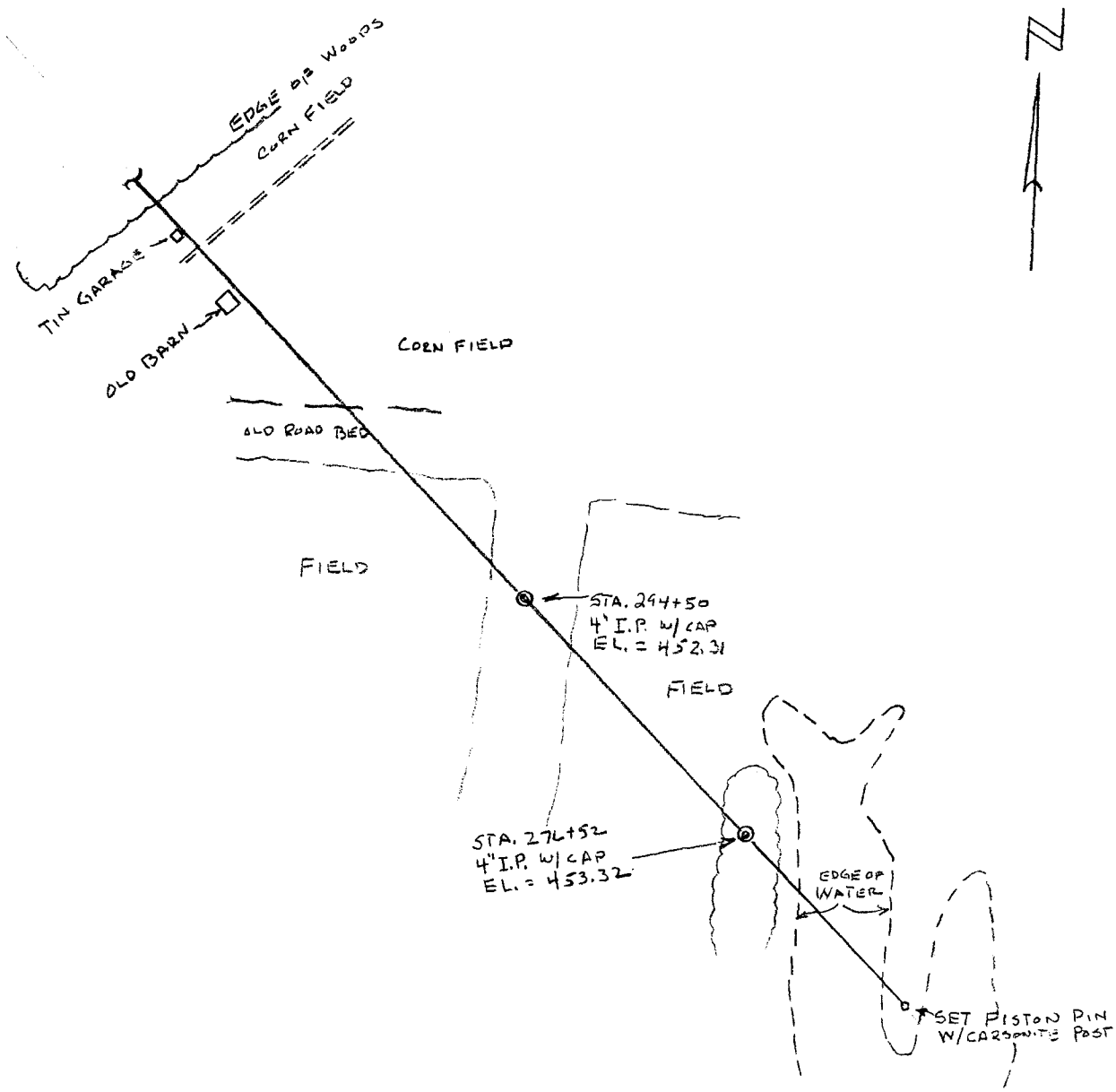

LAYOUT – PG. ____ BK. ____

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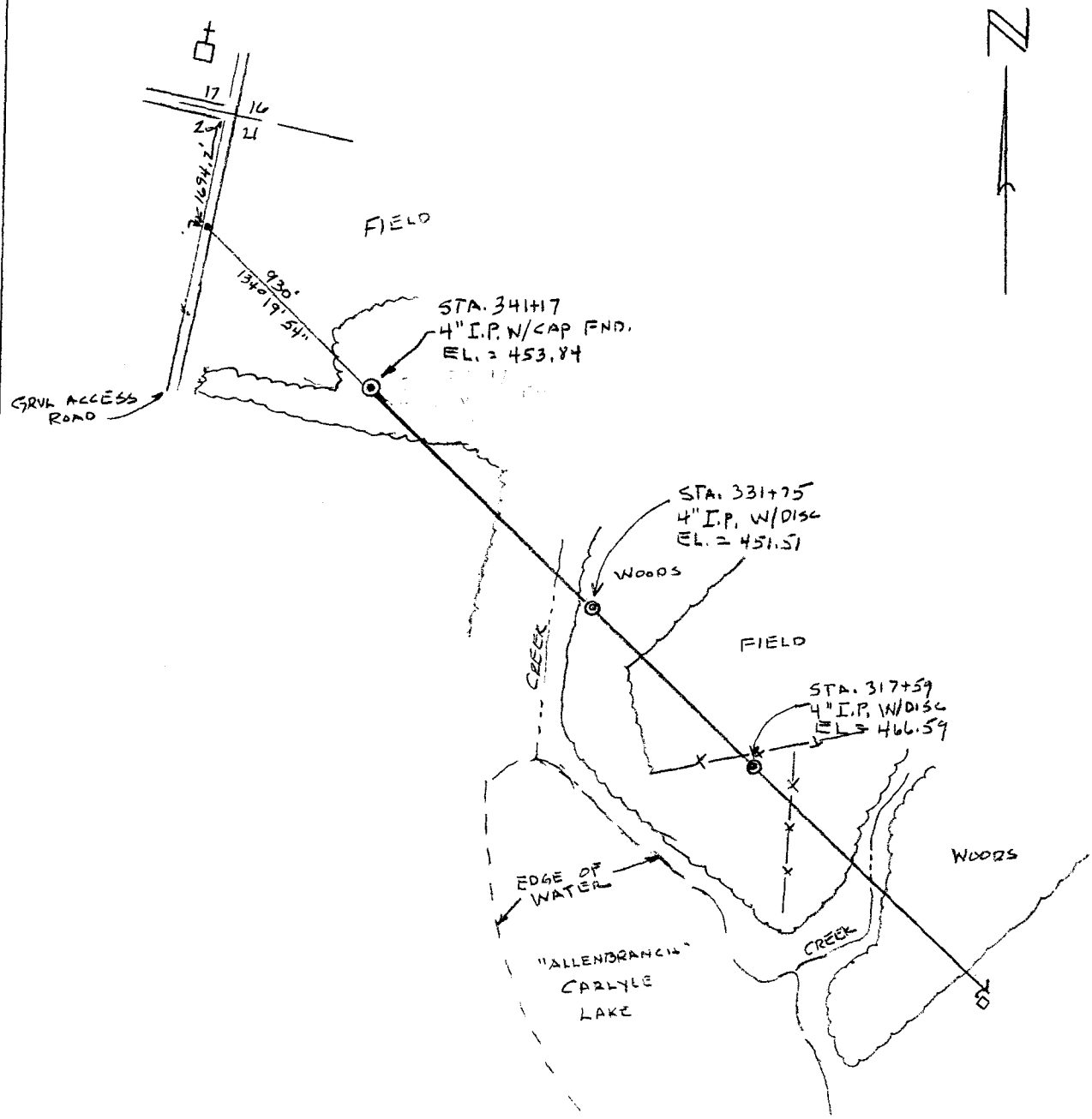
RANGE 3A

TOPO P. 42, 43



LAYOUT – PG. _____ BK. _____

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RANGE 3-1A

NOTE:
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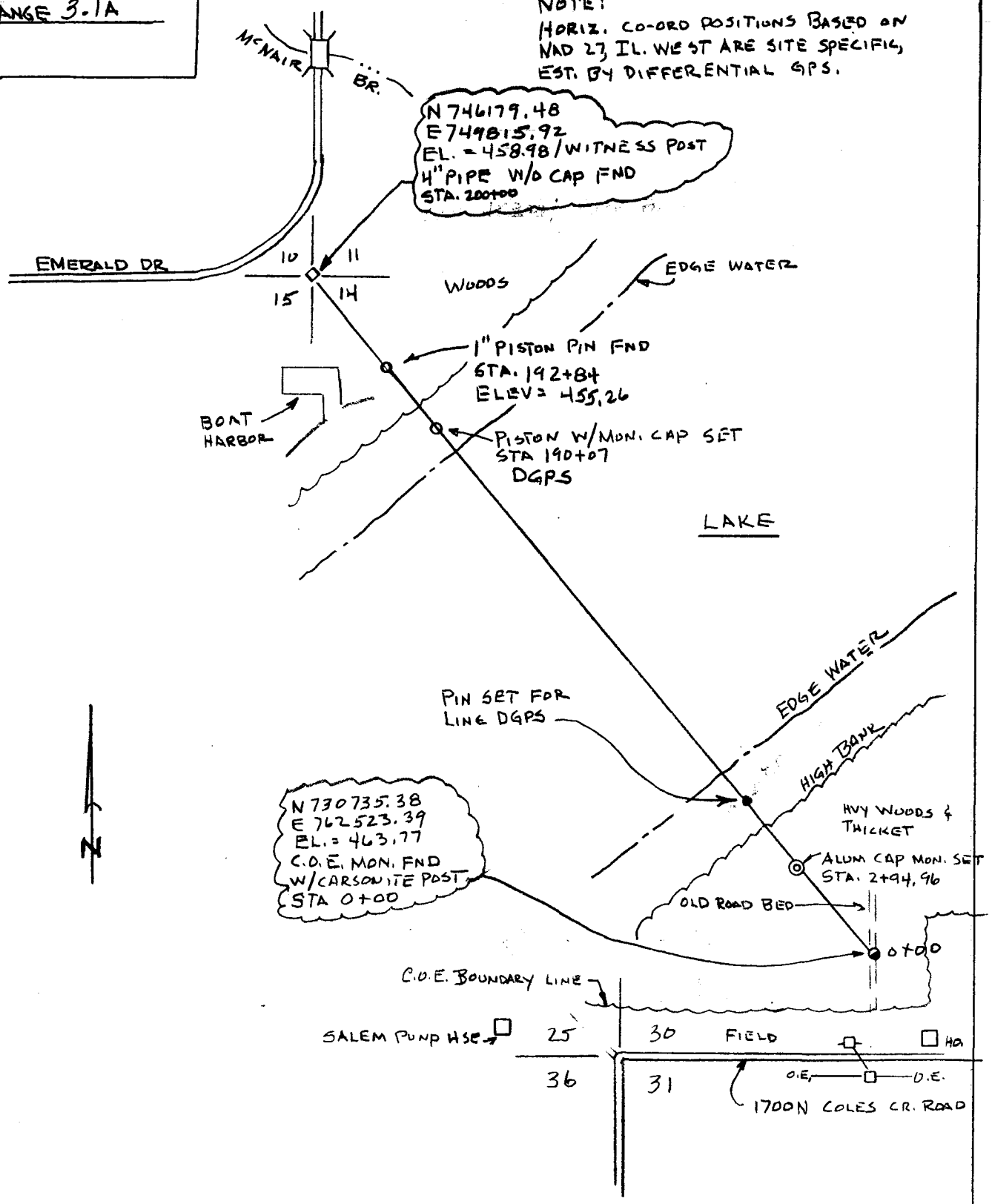

LAYOUT — PG. 30/36 BK. _____

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RANGE 3.2A

NOTE:
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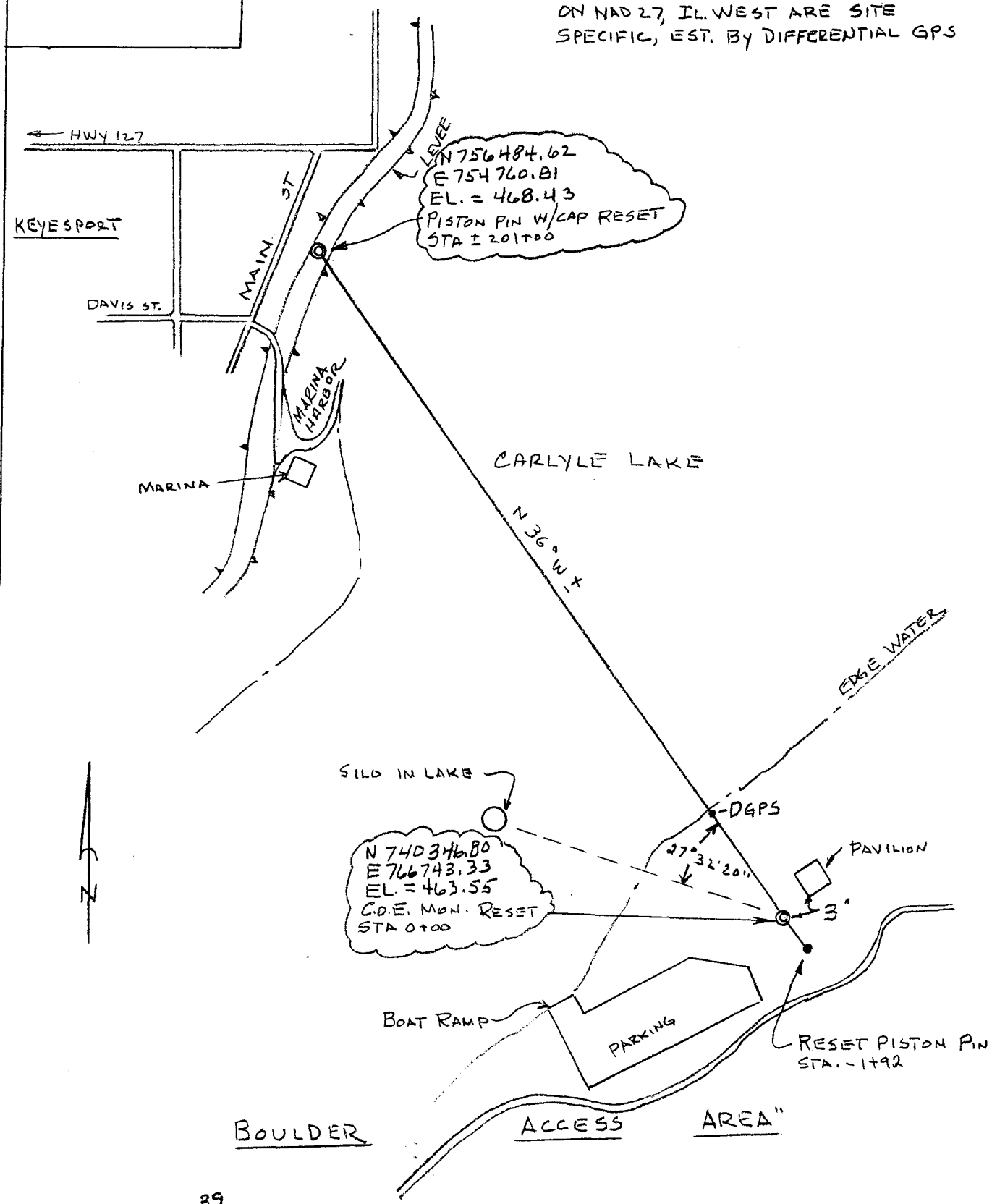

LAYOUT – PG. 39 BK. _____

PROJECT CARLYLE LAKE	PAGE OF	COMPUTED BY	DATE
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RANGE 4-A

NOTE:
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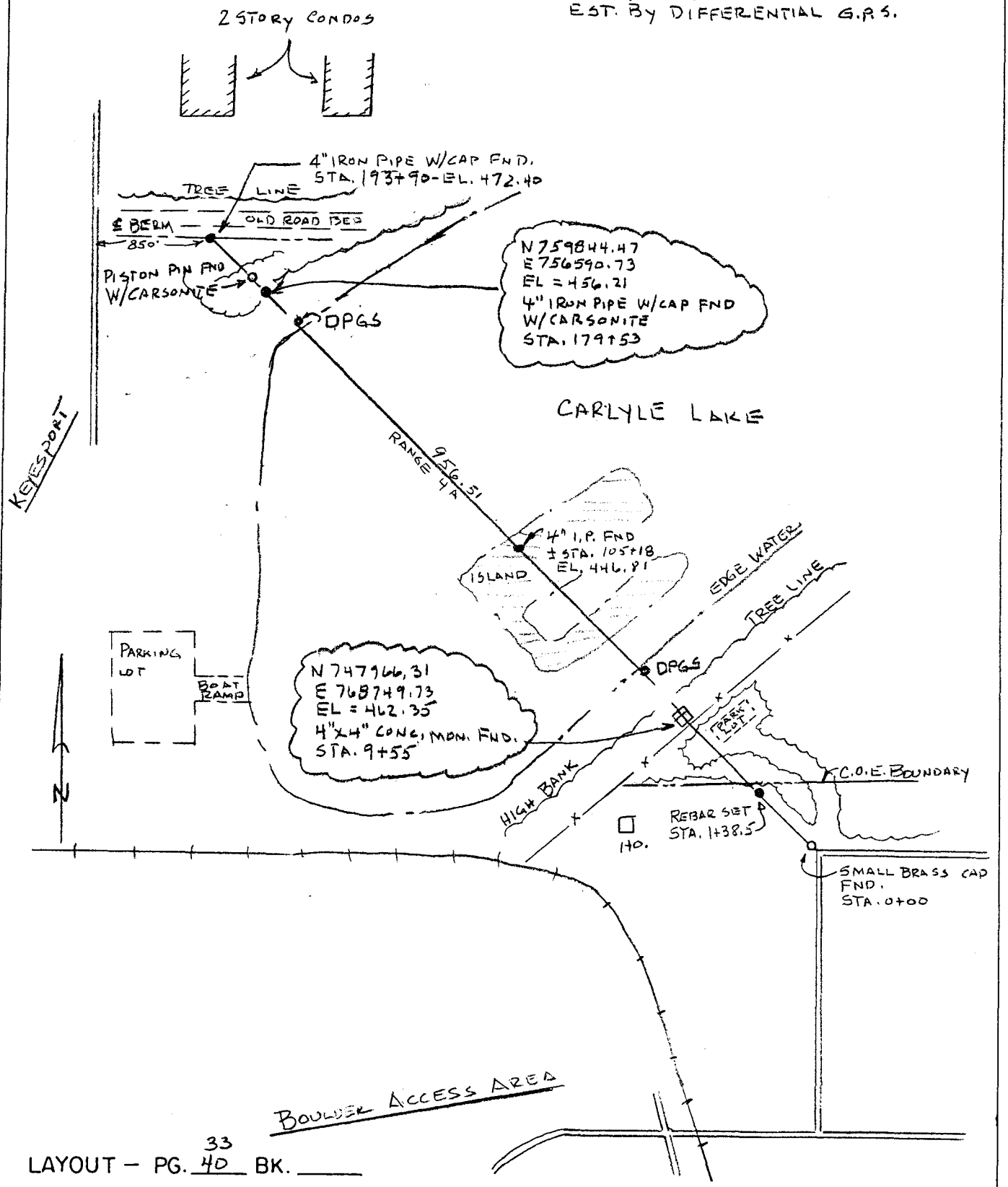

LAYOUT – PG. 33 40 BK. _____

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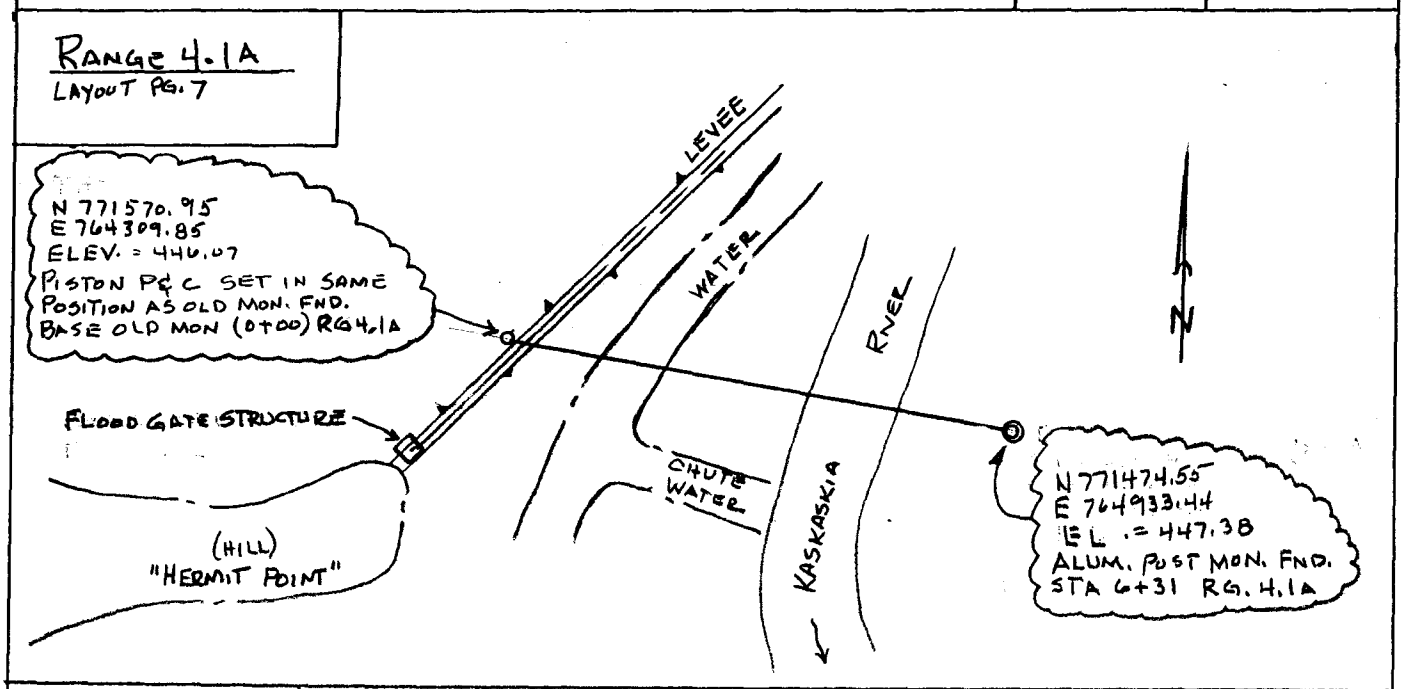

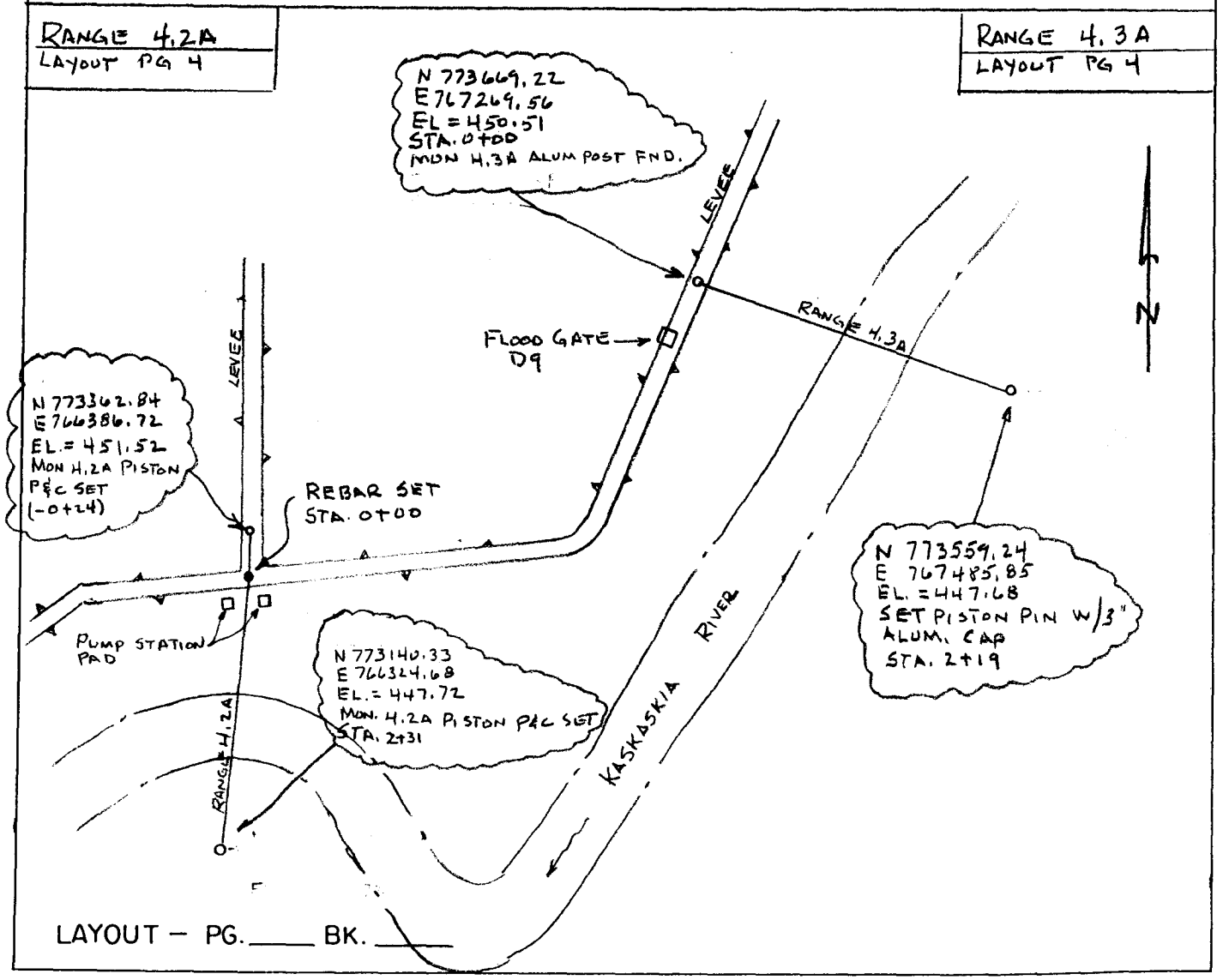

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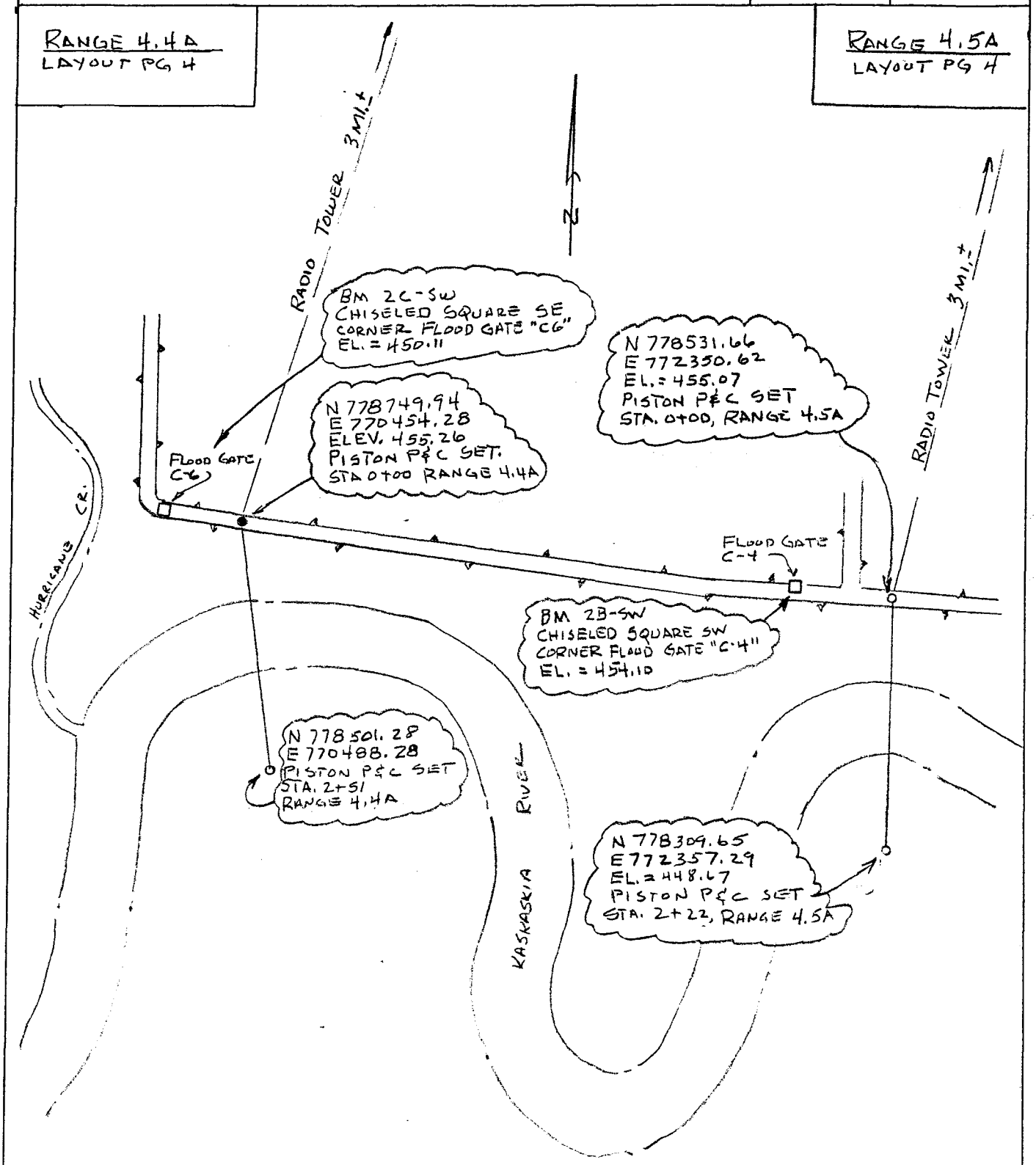

LAYOUT – PG. 4 BK. _____

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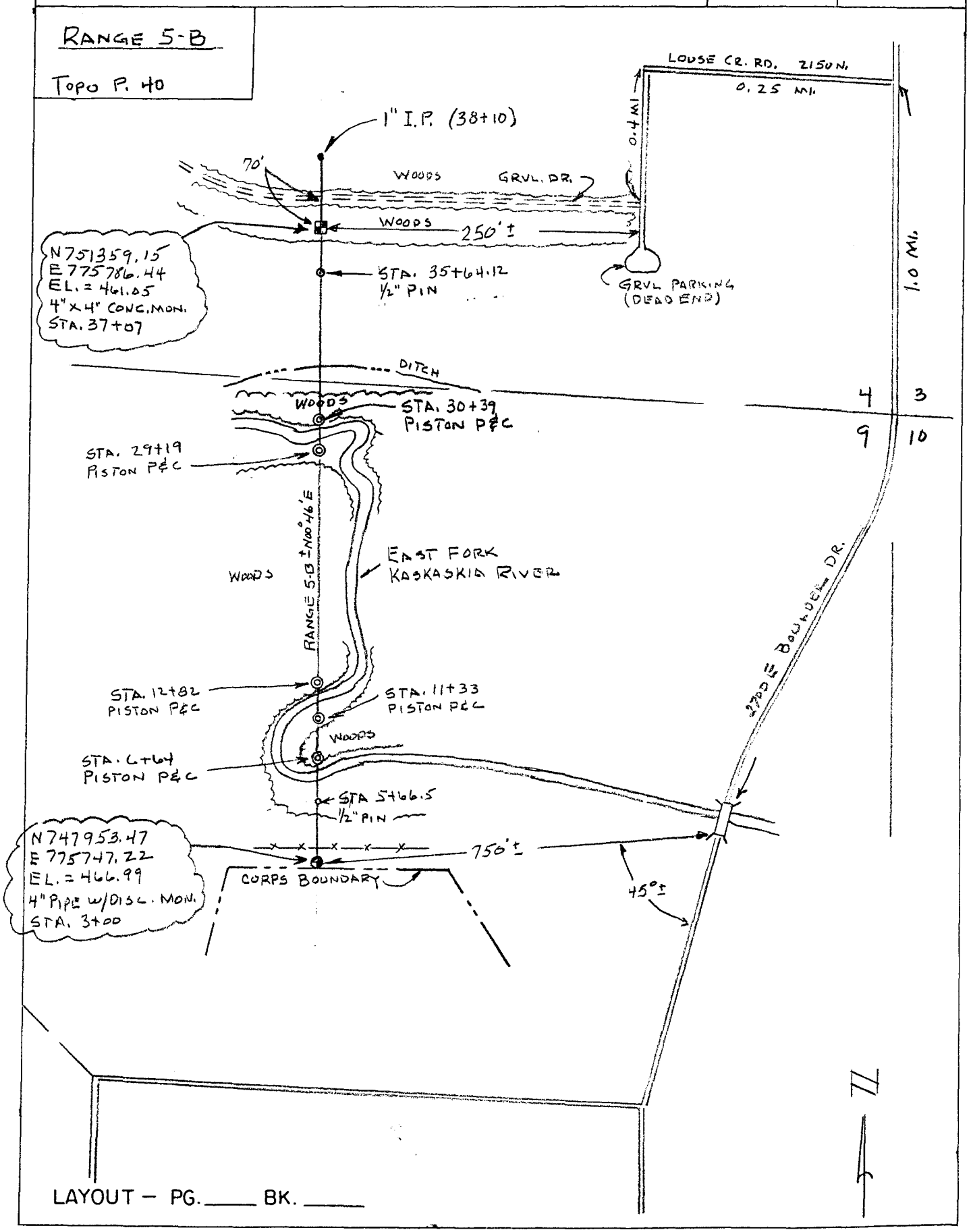

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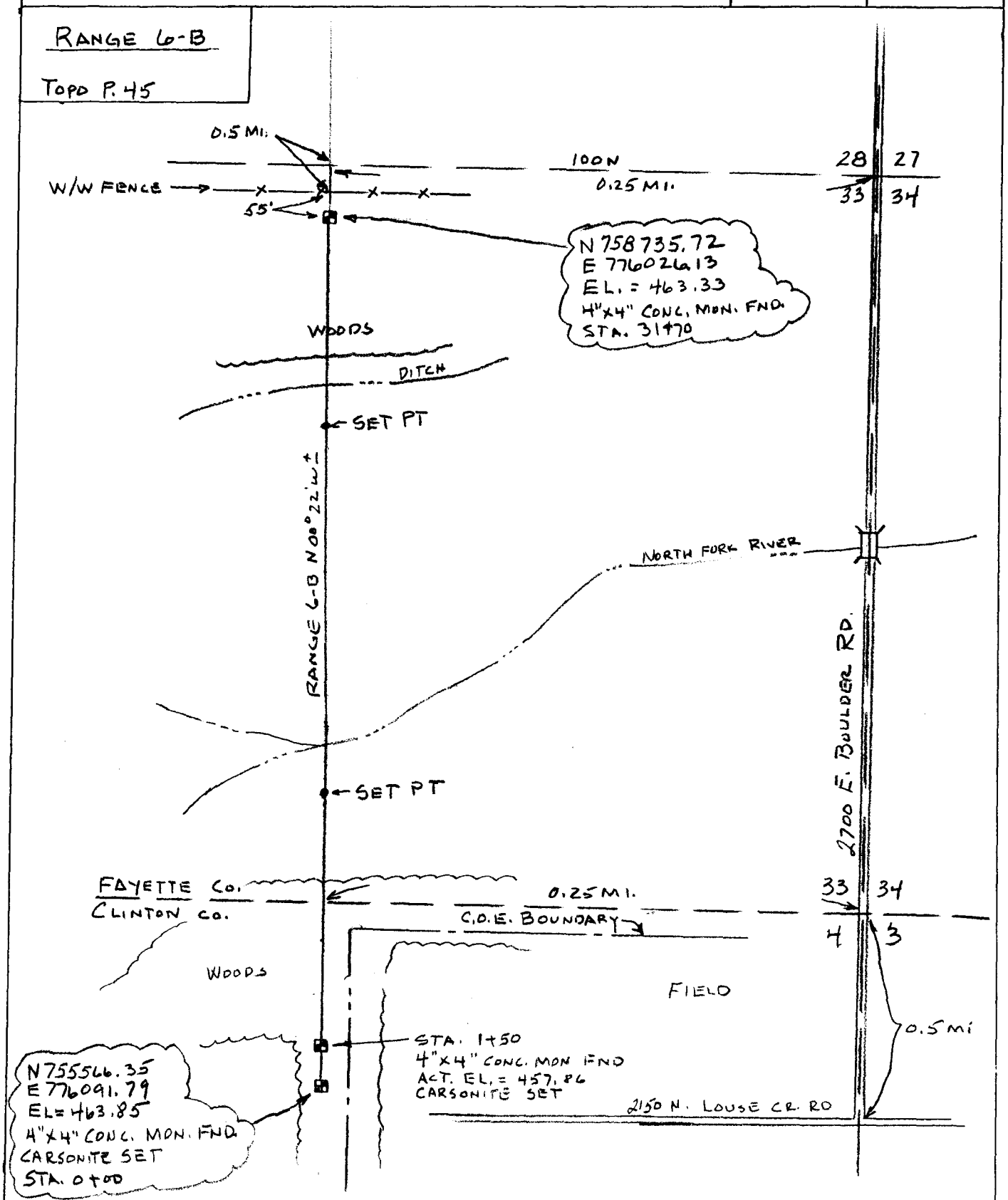
RANGE 6-B

TOPO P. 45



LAYOUT – PG. _____ BK. _____

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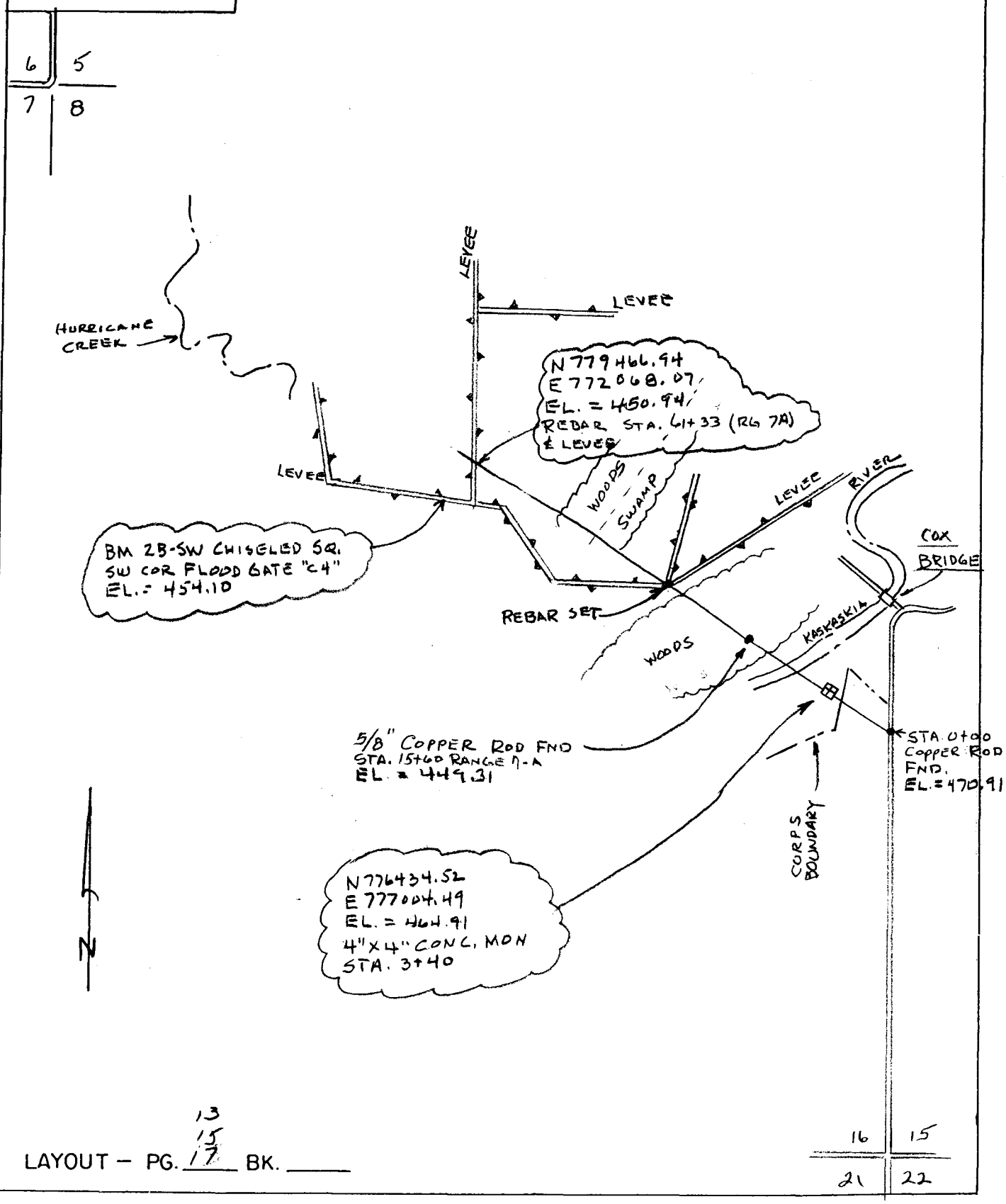
RANGE 7-A



LAYOUT – PG. 13 15 17 BK. _____

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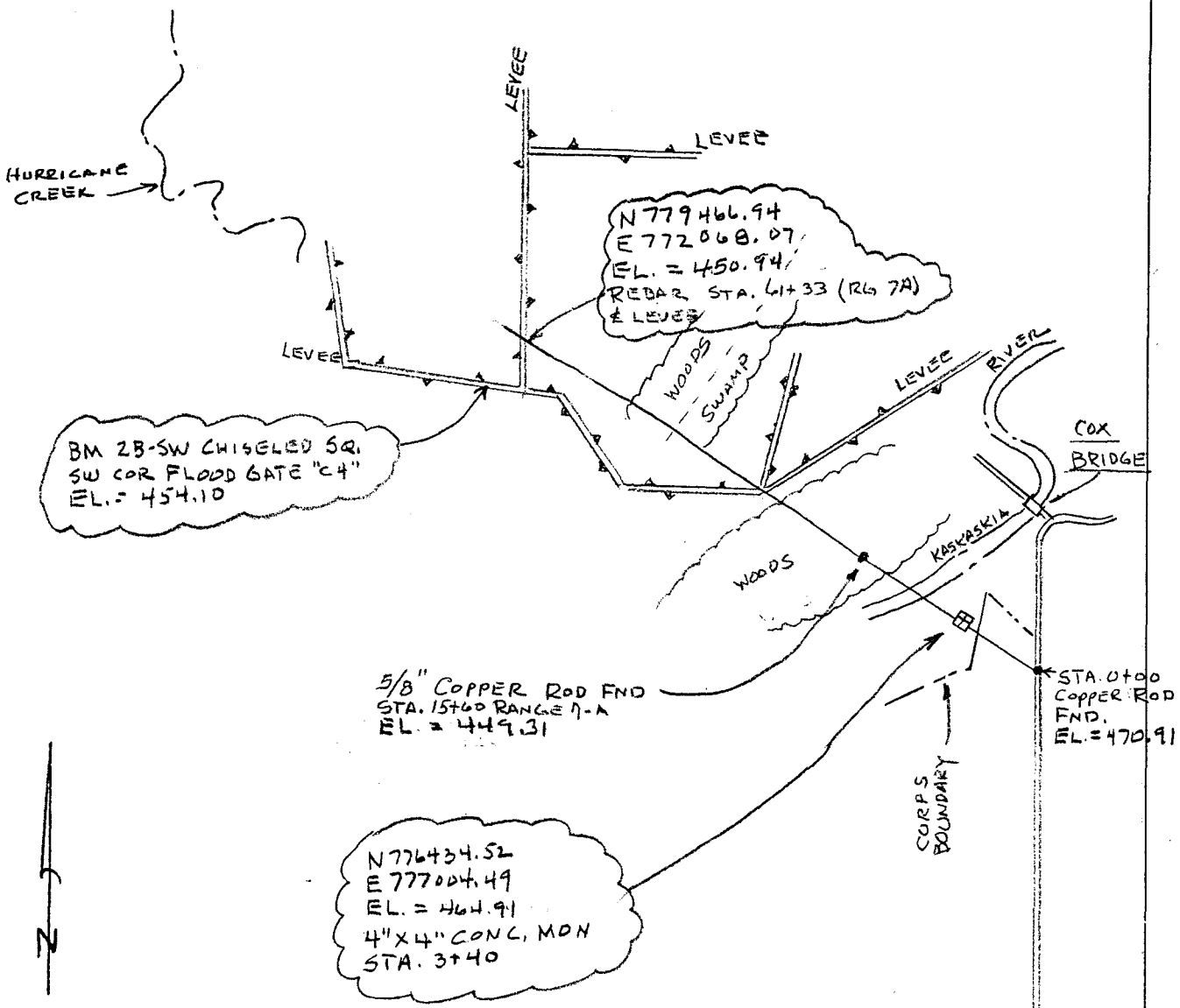
RANGE 7-A



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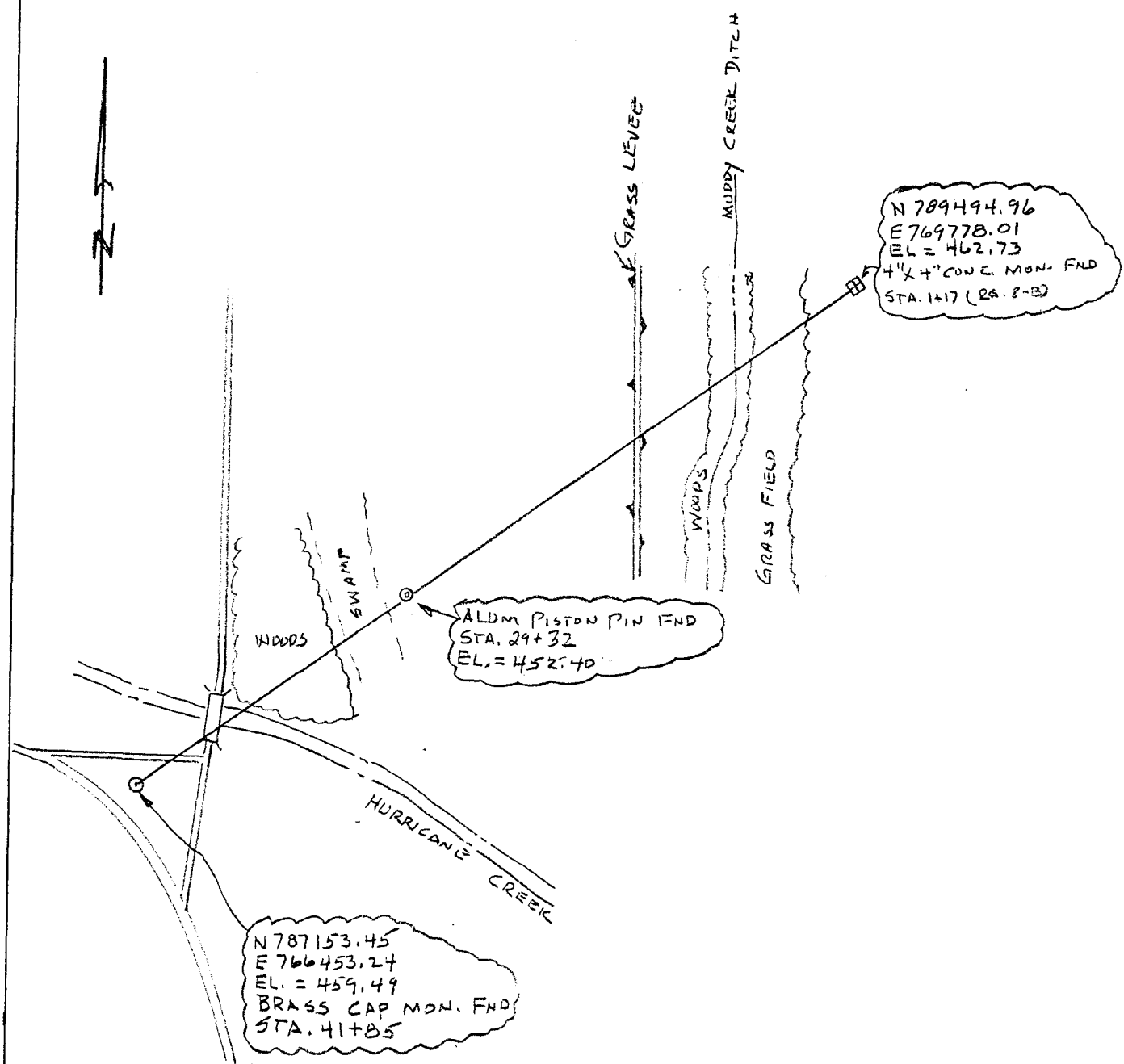
RANGE 8-B



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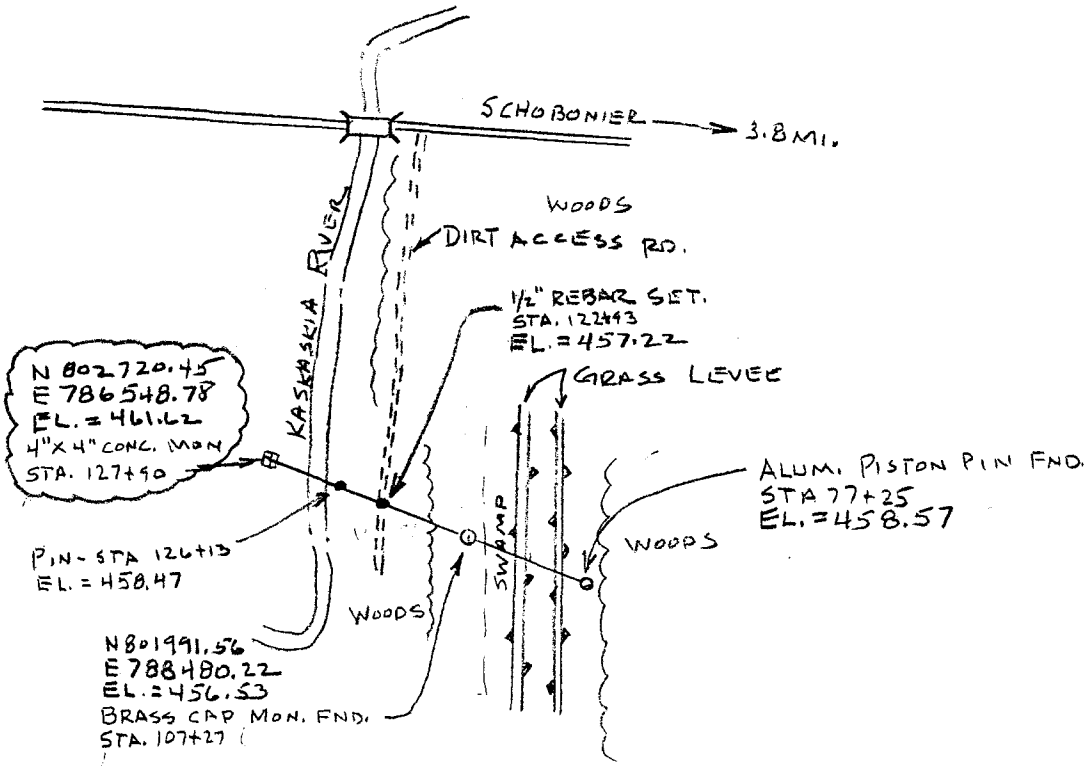
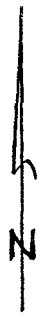
RANGE 9-A





LAYOUT – PG. 28 29 BK. _____

COMPUTATION SHEET

PROJECT CARLYLE LAKE	PAGE OF	COMPUTED BY	DATE
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RANGE 1-C

NOTE:
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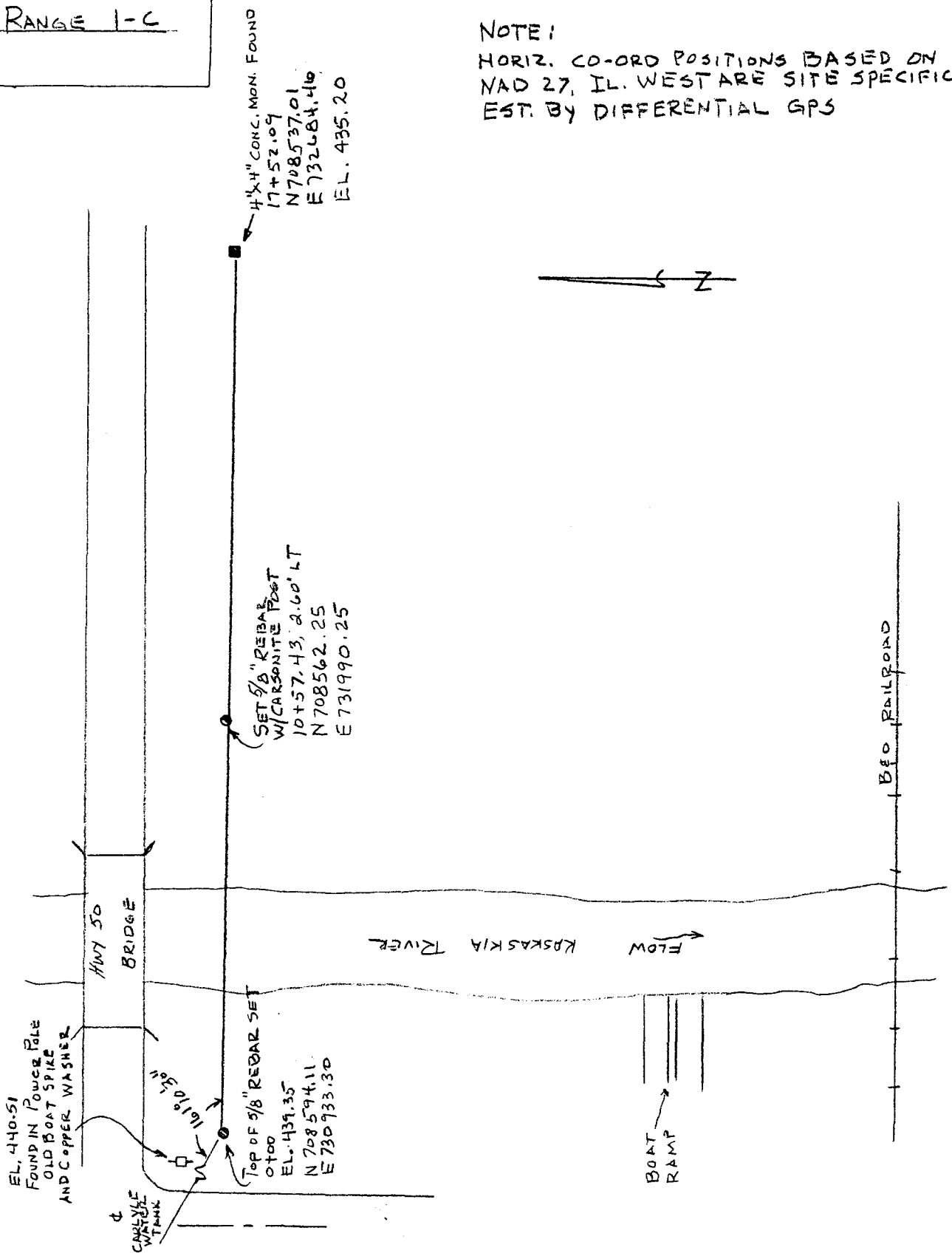

LAYOUT – PG. 24 BK. _____

COMPUTATION SHEET

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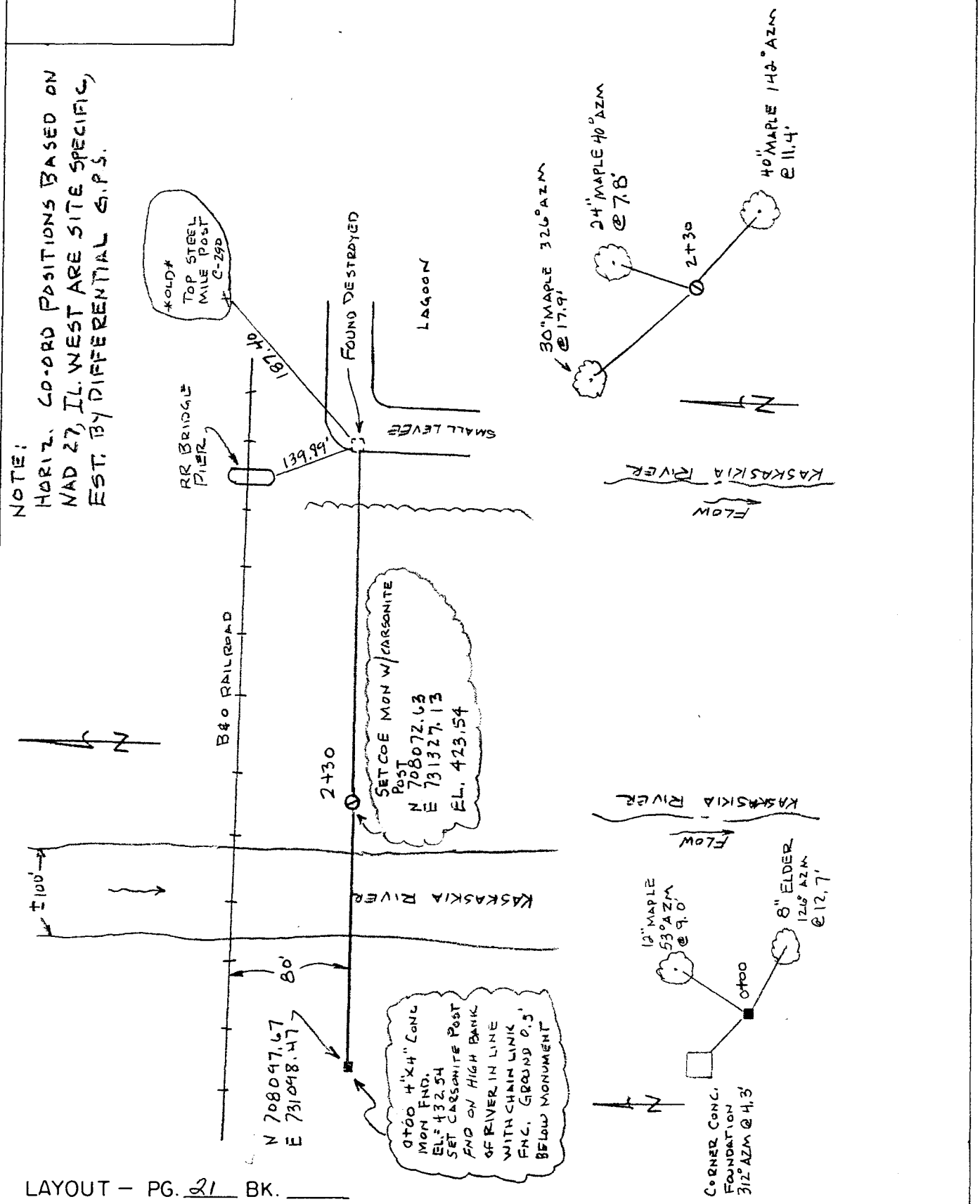
RANGE 2-C



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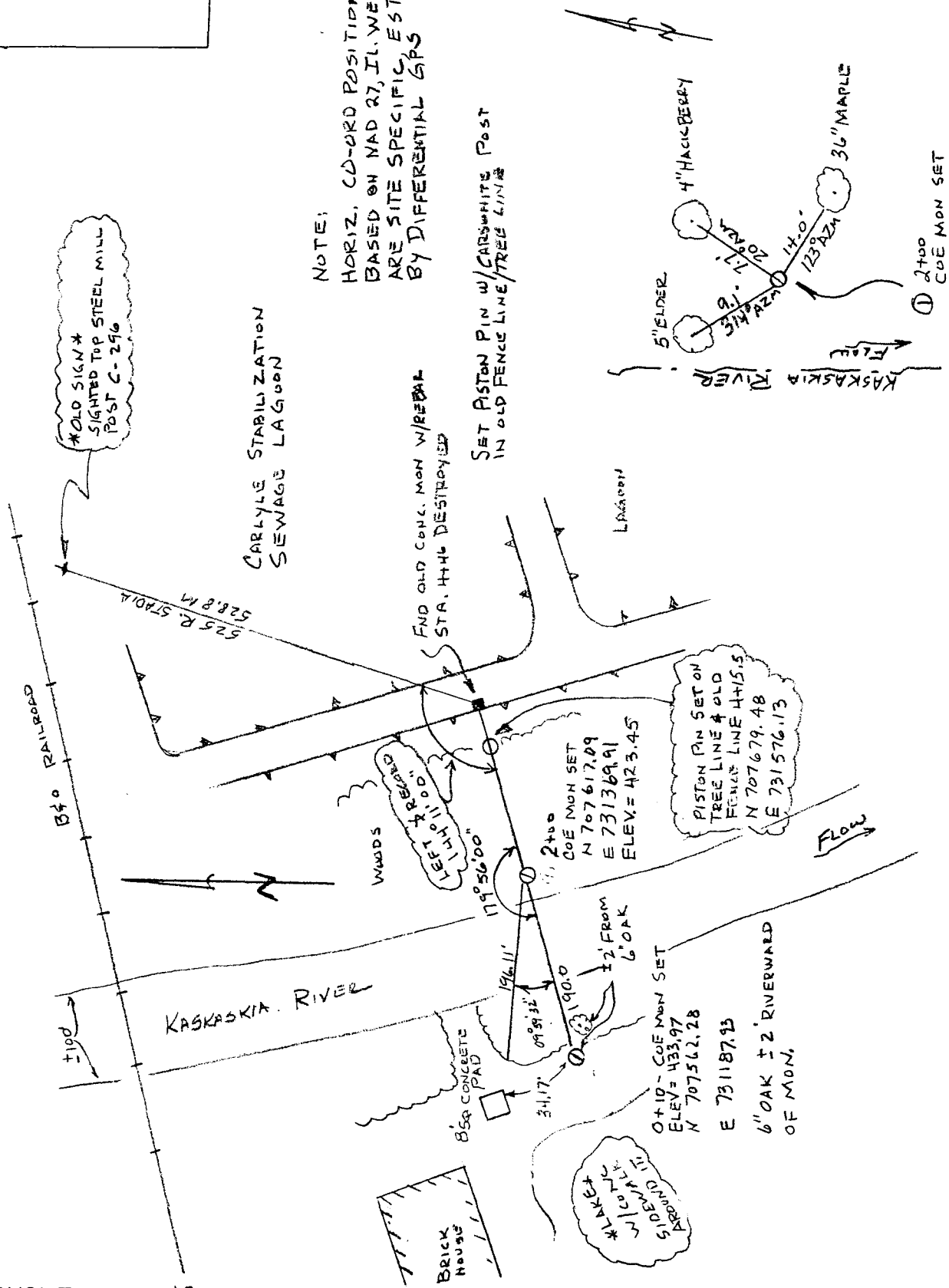
RANGE 3-C



LAYOUT – PG. 18 BK. _____

COMPUTATION SHEET

PROJECT CARLYLE LAKE

RETROGRESSION RANGE CONTROL

RANGE 4-C

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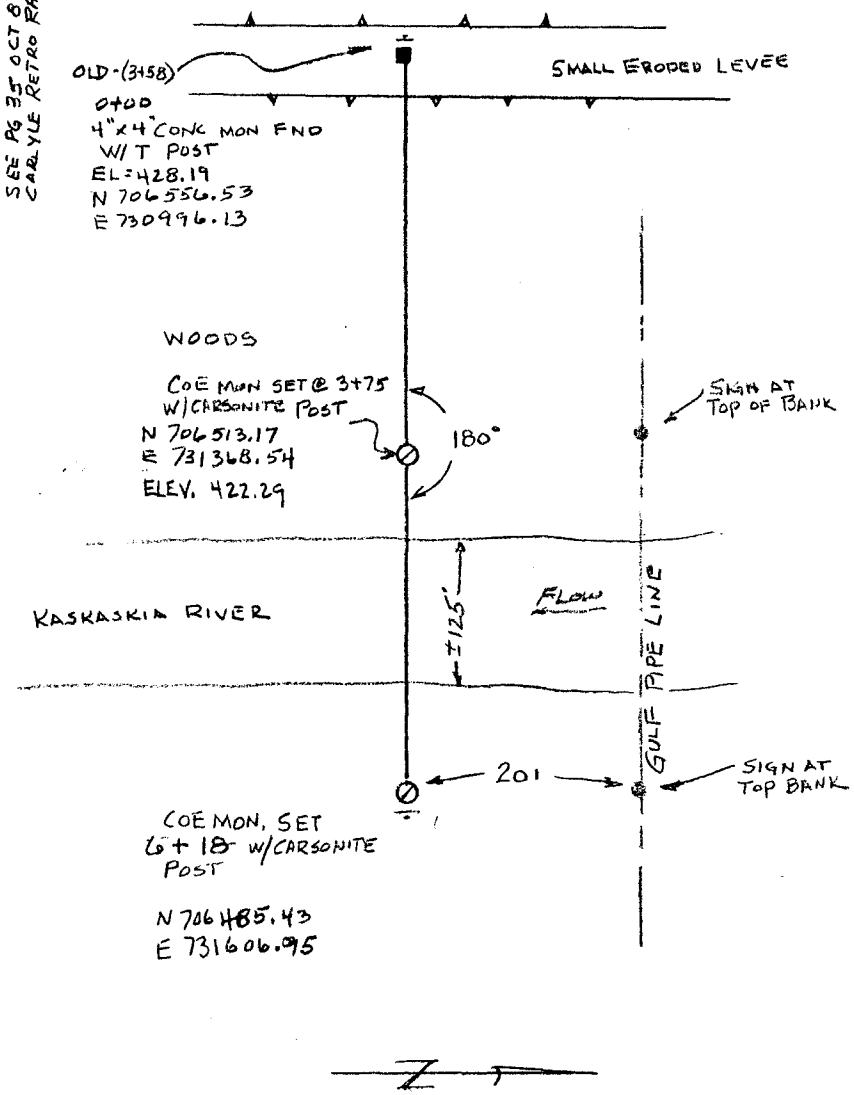

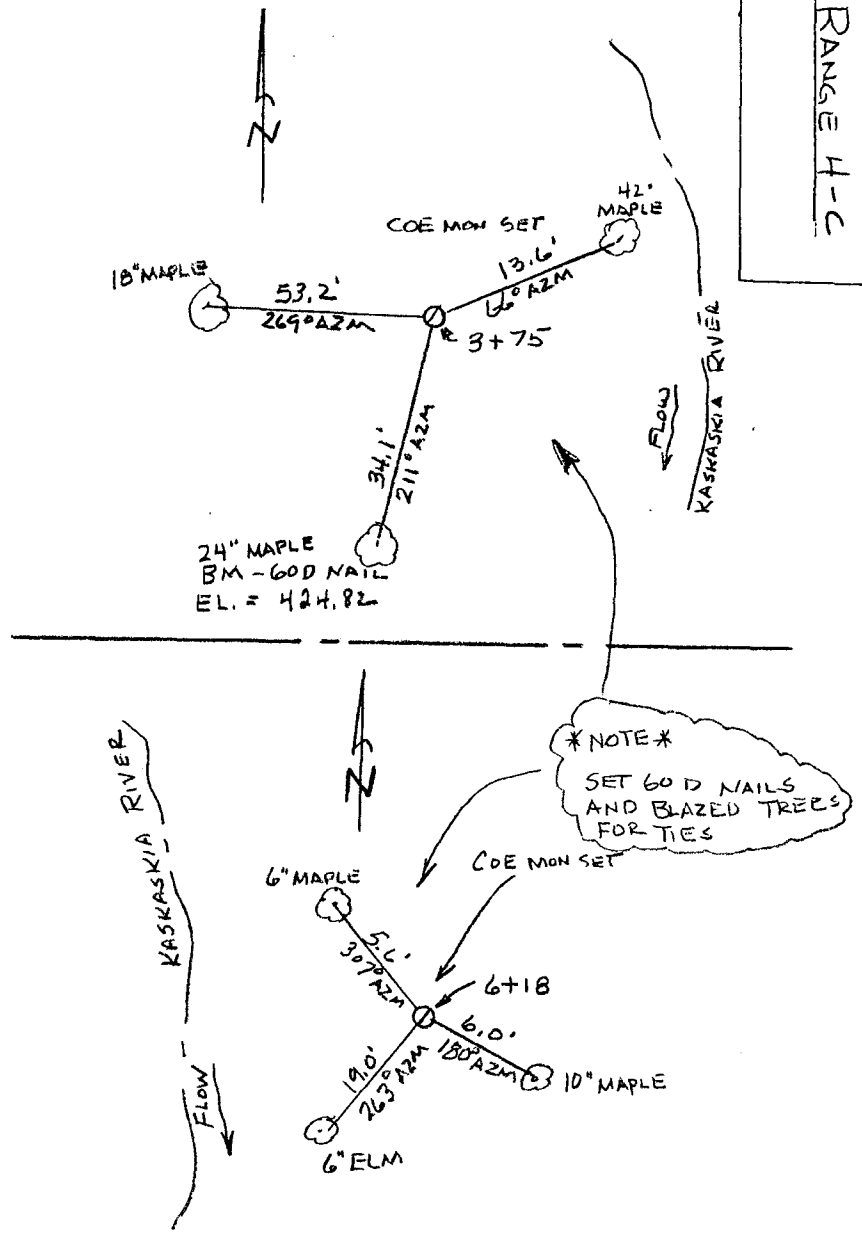

LAYOUT – PG. 15 BK. ____

NOTE:
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COMPUTATION SHEET

PROJECT CARLYLE LAKE	PAGE OF	COMPUTED BY	DATE
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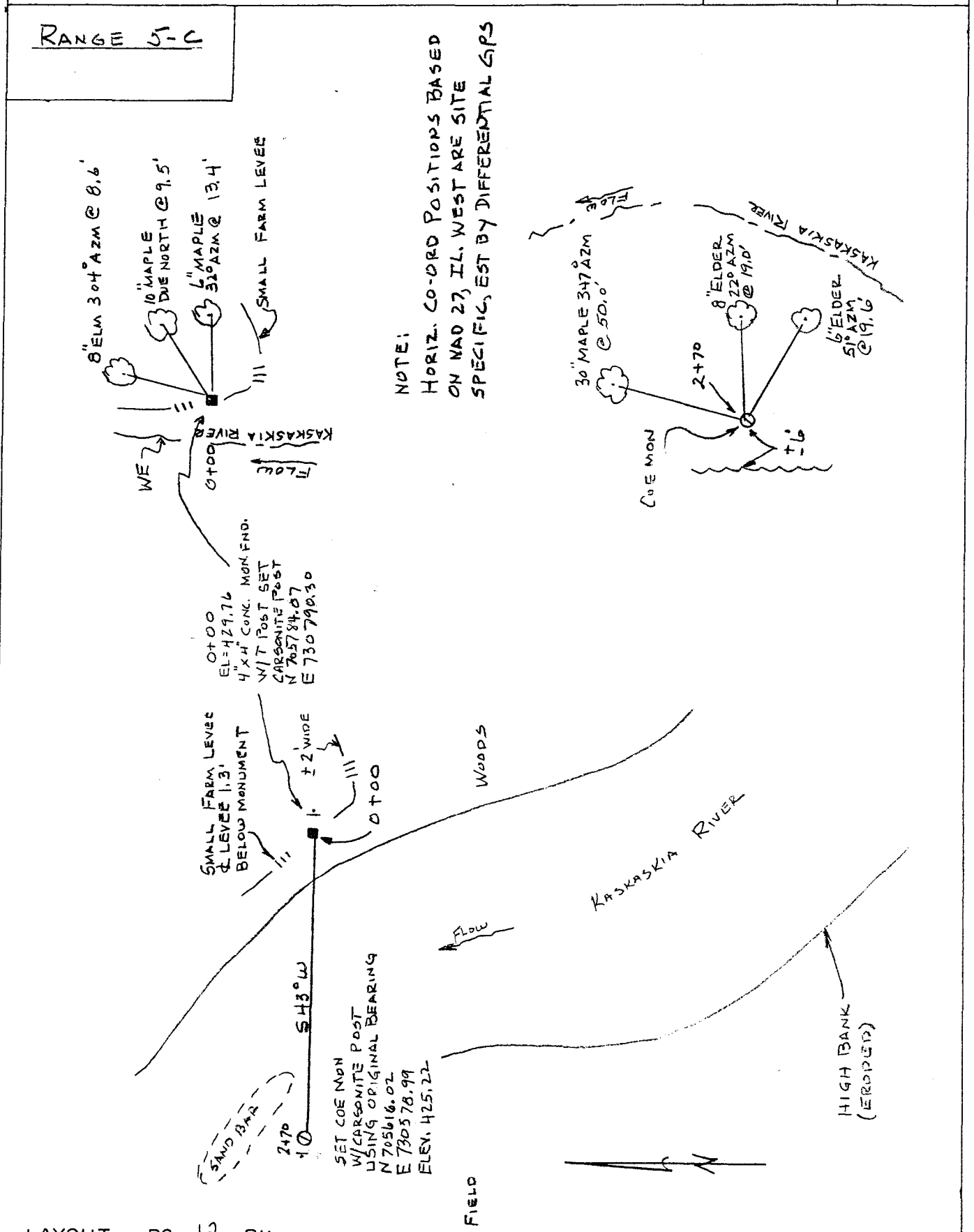
RANGE 5-C



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COMPUTATION SHEET

PROJECT CARLYLE LAKE	PAGE OF	COMPUTED BY	DATE
RETROGRESSION RANGE CONTROL		CHECKED BY	DATE

RANGE 6-C

NOTE:
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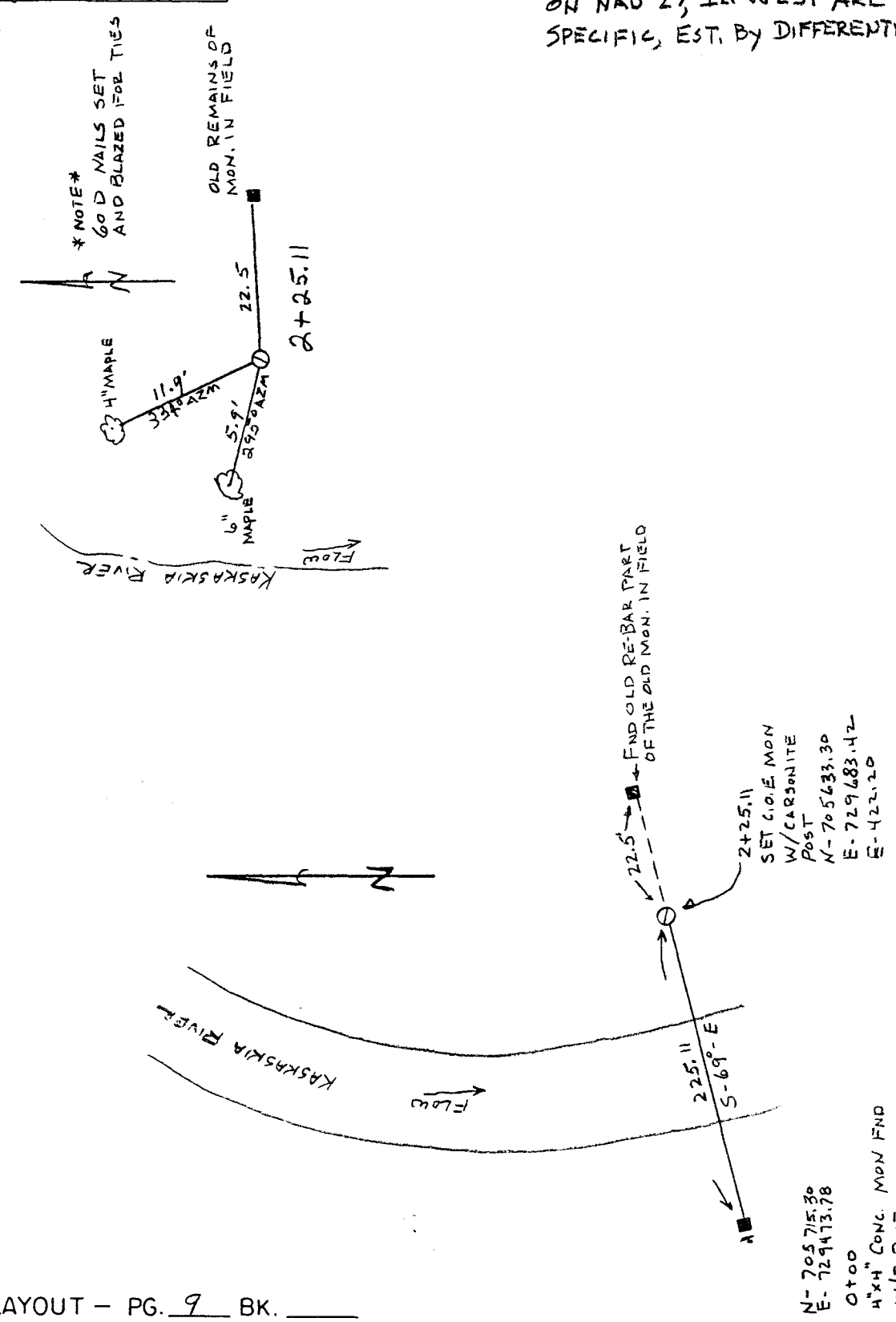

LAYOUT – PG. 9 BK. _____

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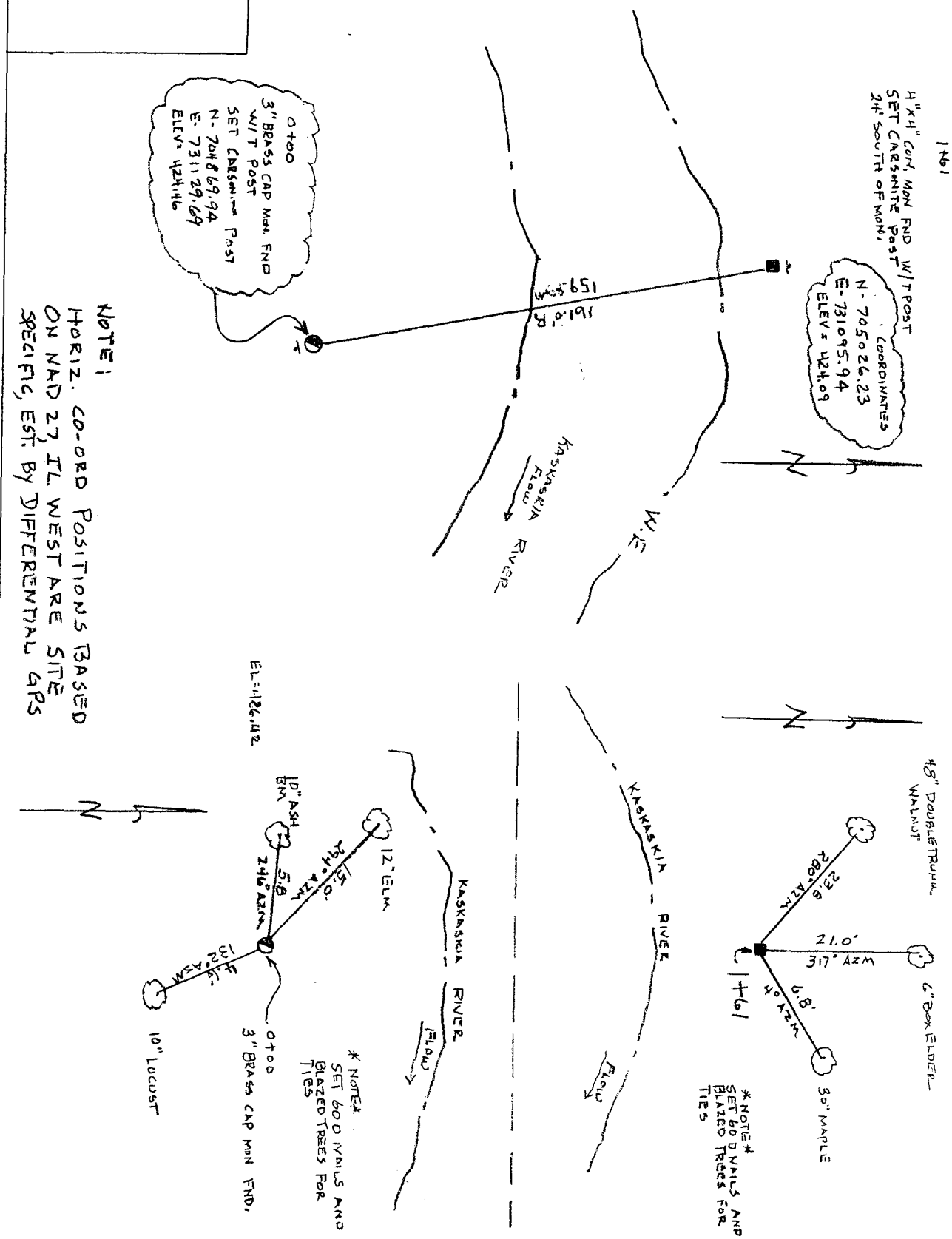
RETROGRESSION RANGE CONTROL		CHECKED BY	DATE

RANGE 7-C



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COMPUTATION SHEET

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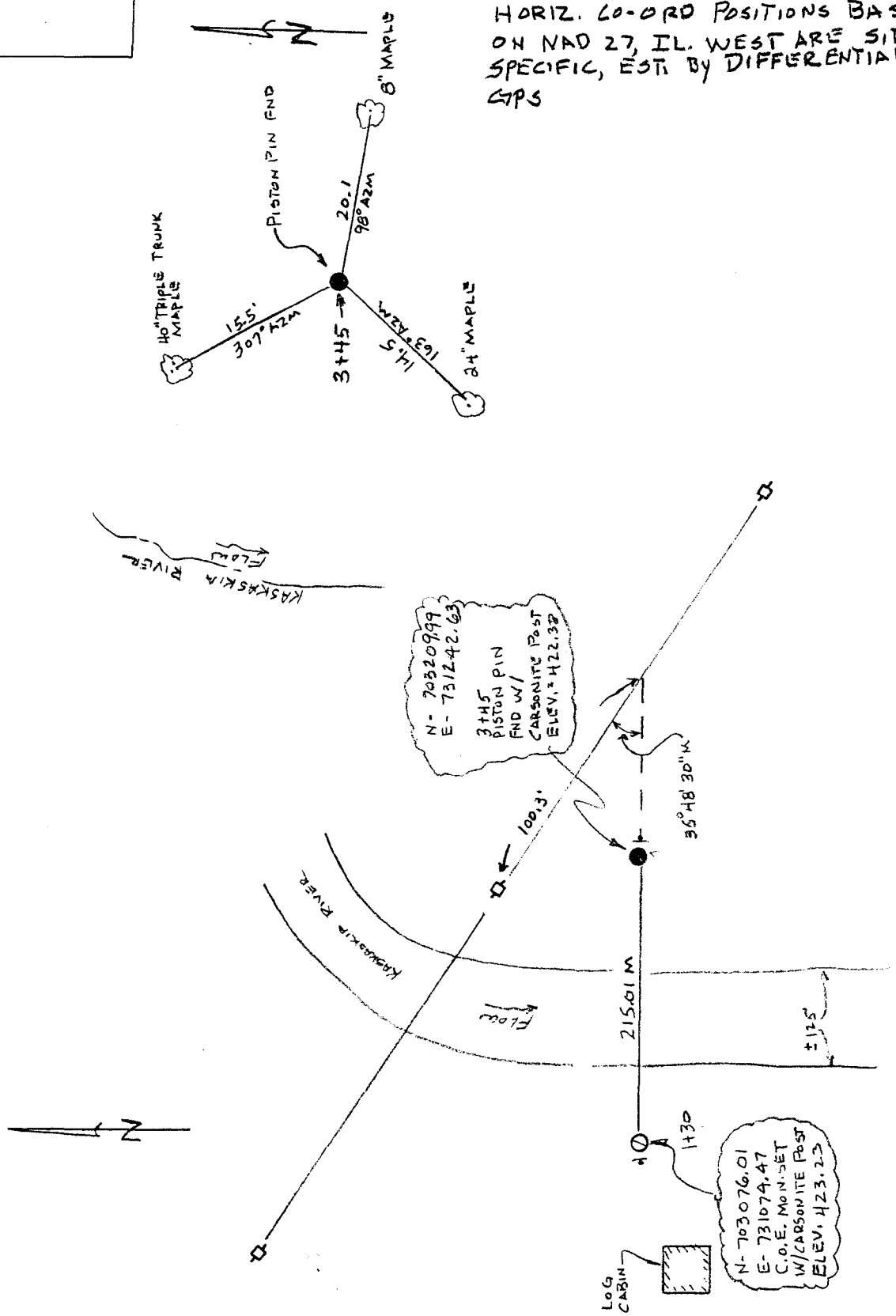
RETROGRESSION RANGE CONTROL		CHECKED BY	DATE

RANGE 8-C

NOTE:
HORIZ. CO-ORD POSITIONS BASED ON NAD 27, IL. WEST ARE SITE SPECIFIC, EST. BY DIFFERENTIAL GPS



LAYOUT – PG. 6 BK. _____

COMPUTATION SHEET

PROJECT CARLYLE LAKE

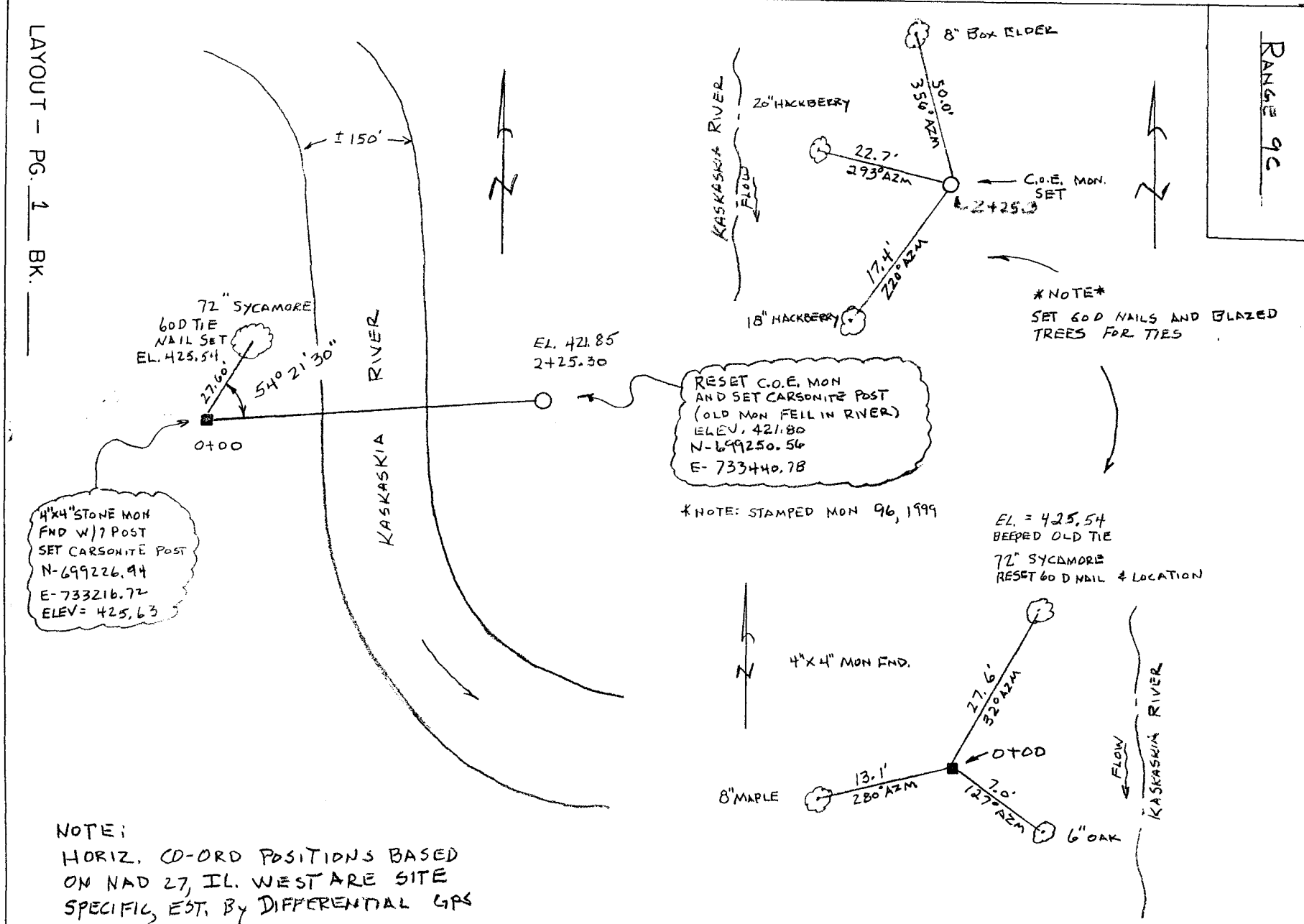
RETROGRESSION RANGE CONTROL

PAGE OF

COMPUTED BY DATE

CHECKED BY DATE

RANGE 9C

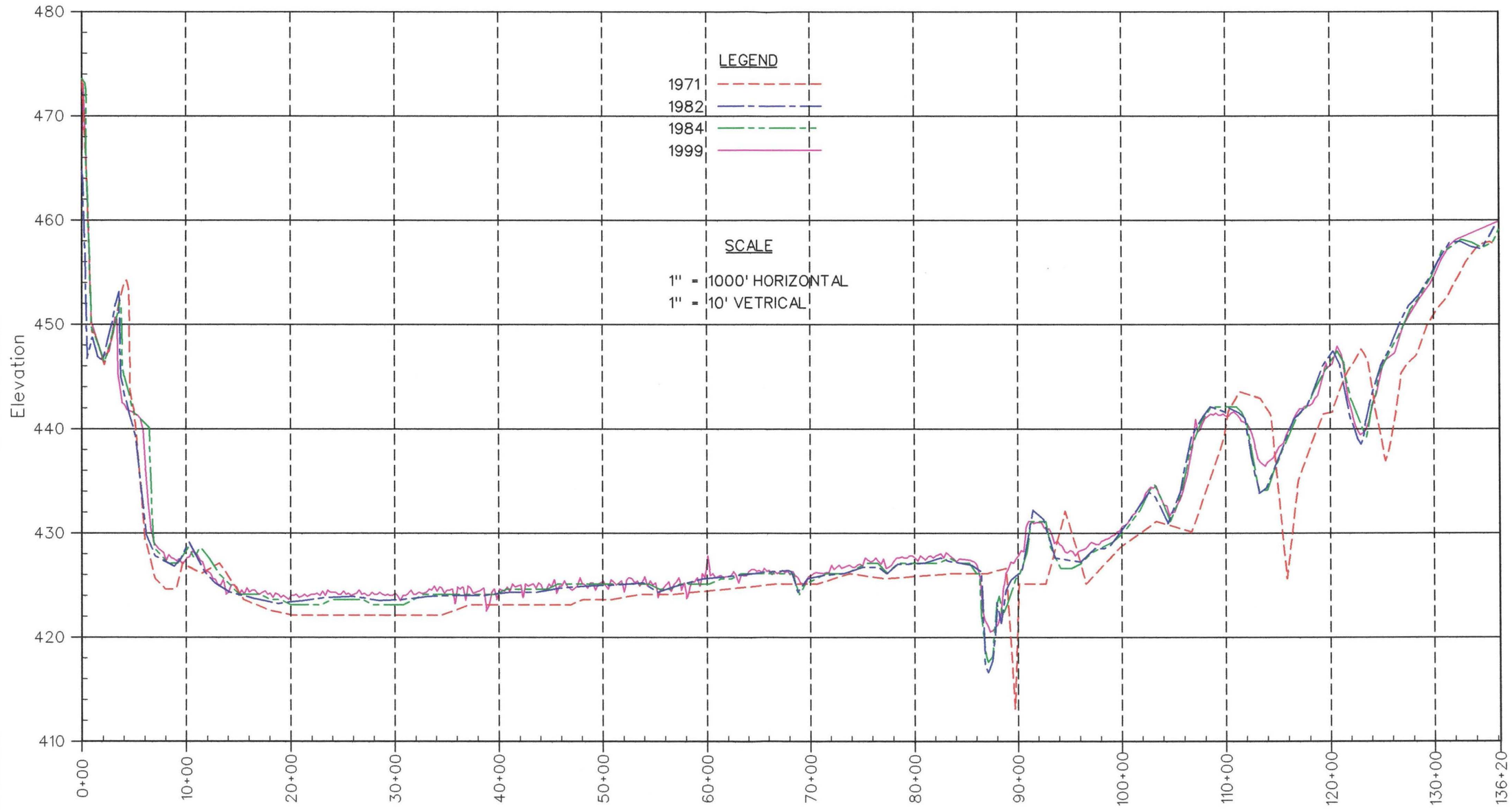


NOTE:
HORIZ. CO-ORD POSITIONS BASED ON NAD 27, IL. WEST ARE SITE SPECIFIC, EST. BY DIFFERENTIAL GPS

LAYOUT – PG. 1 BK. ____

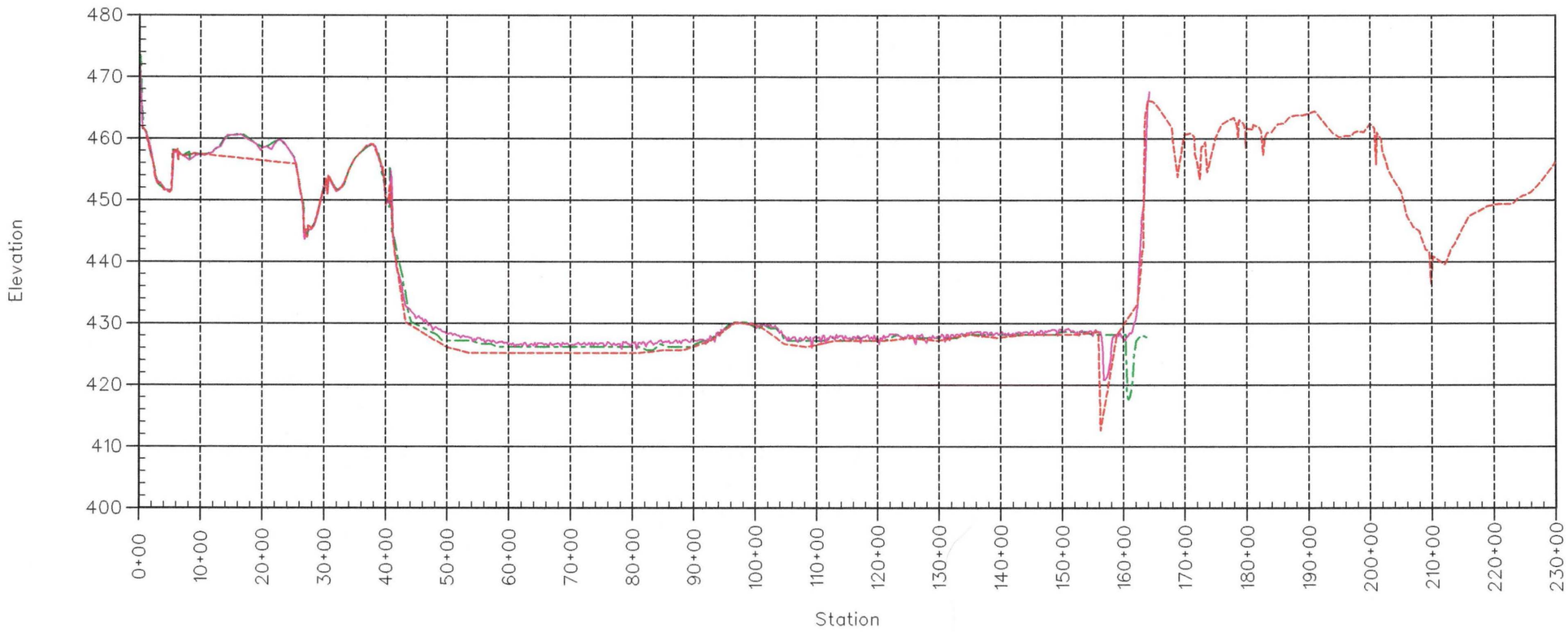
COMPUTATION SHEET

SEDIMENTATION RANGE 1A



SCALE AS SHOWN	J. T. BLANKINSHIP AND ASSOCIATES	FILE NO. 7650-19
DATE OCT. 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 1 OF 16

SEDIMENTATION RANGE 2A



LEGEND

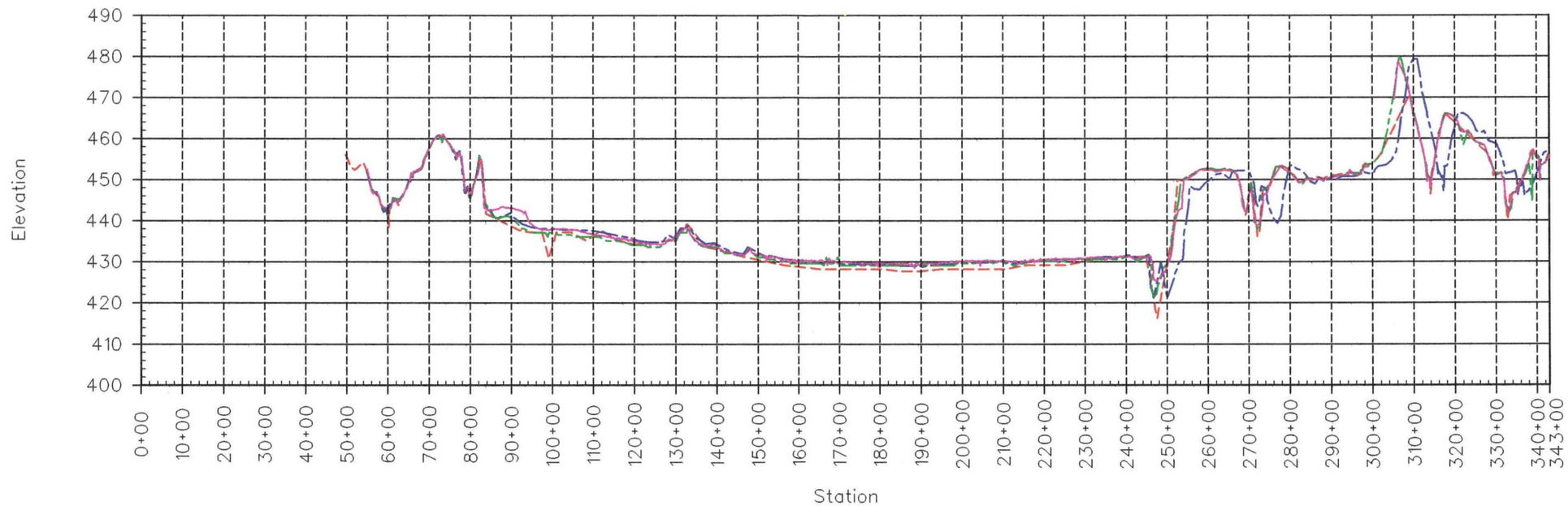
1971
1984
1999

SCALE

1" = 2000' HORIZONTAL
1" = 20' VETRICAL

SCALE AS SHOWN	J. T. BLANKINSHIP AND ASSOCIATES	FILE NO. 7650-19
DATE OCT. 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 2 OF 16

SEDIMENTATION RANGE 3A



SCALE

1" = 3000' HORIZONTAL
1" = 30' VETRICAL

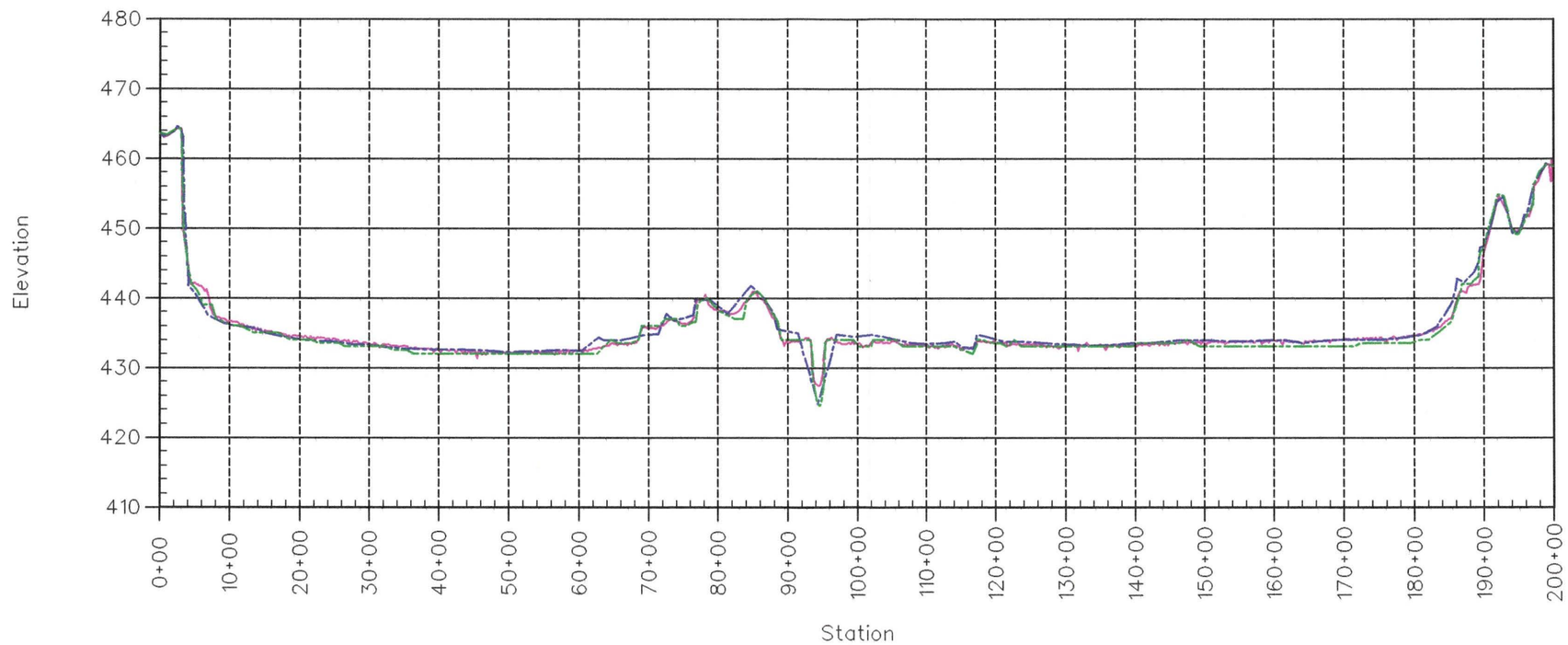
NOTE: UNABLE TO OBTAIN PROFILE DATA STATION 299+16 TO STATION 305+22 DUE TO STANDING CORN CROP IN THIS AREA AT DATE OF SURVEY.

LEGEND

1971
1982
1984
1999

SCALE AS SHOWN	J. T. BLANKINSHIP AND ASSOCIATES	FILE NO. 7650-19
DATE OCT. 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 3 OF 16

SEDIMENTATION RANGE 3-1A



LEGEND

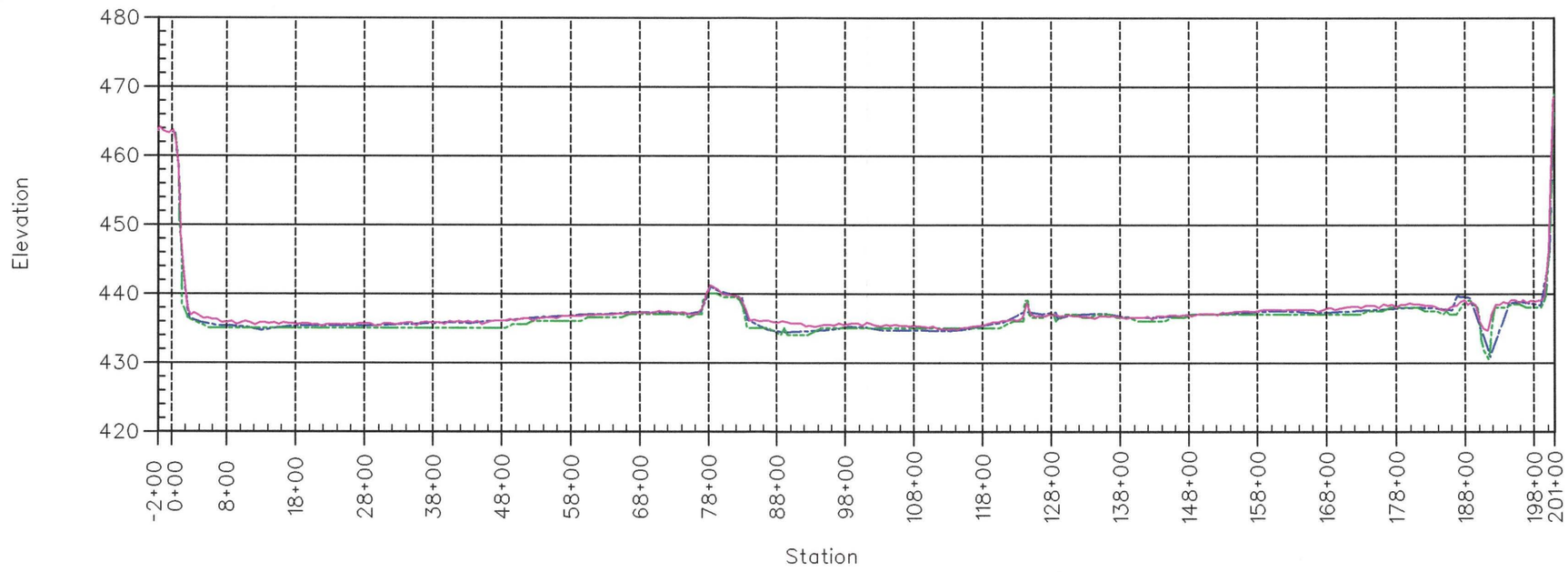
1982
1984
1999

SCALE

1" = 2000' HORIZONTAL
1" = 20' VETRICAL

SCALE AS SHOWN	J. T. BLANKINSHIP AND ASSOCIATES	FILE NO. 7650-19
DATE OCT. 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 4 OF 16

SEDIMENTATION RANGE 3-2A



LEGEND

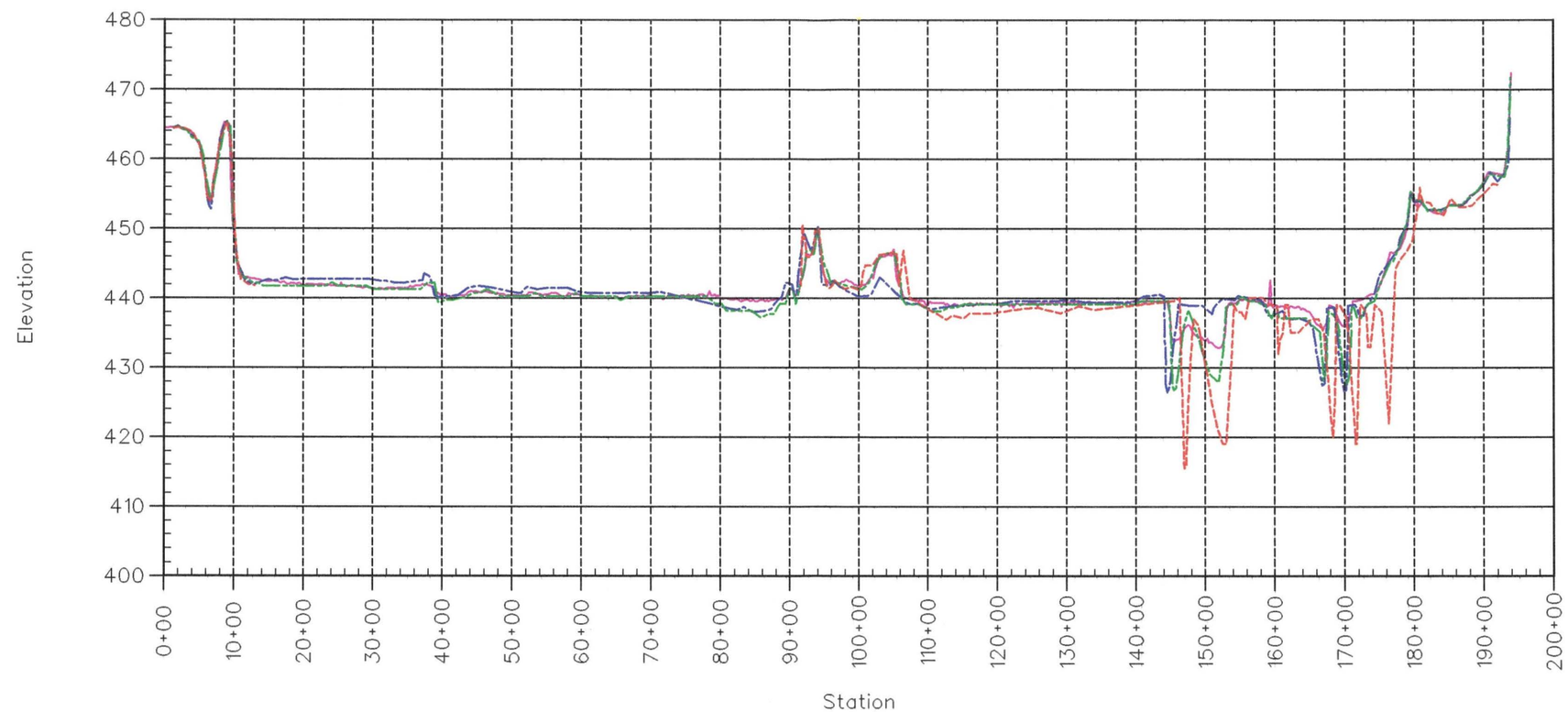
1982
1984
1999

SCALE

1" = 2000' HORIZONTAL
1" = 20' VETRICAL

SCALE AS SHOWN	J. T. BLANKINSHIP AND ASSOCIATES	FILE NO. 7650-19
DATE OCT. 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 5 OF 16

SEDIMENTATION RANGE 4A



LEGEND

1971
1982
1984
1999

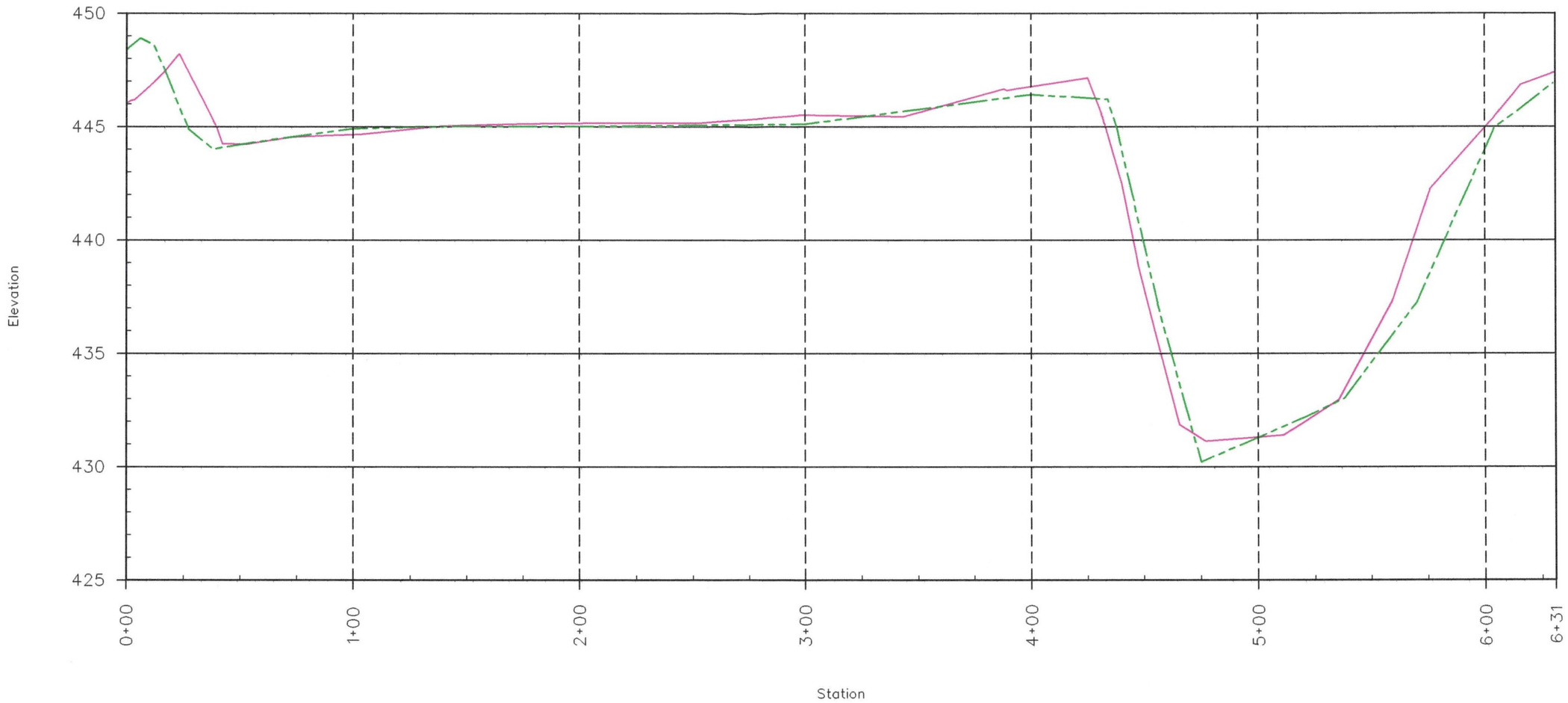
SCALE

1" = 2000' HORIZONTAL
1" = 20' VETRICAL

NOTE: NO PROFILE DATA WAS RECORDED FROM STATION 13+00 TO STATION 91+61 FOR 1971 SURVEY.

SCALE AS SHOWN	J. T. BLANKINSHIP AND ASSOCIATES	FILE NO. 7650-19
DATE OCT. 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 6 OF 16

SEDIMENTATION RANGE 4-1A



LEGEND

1984

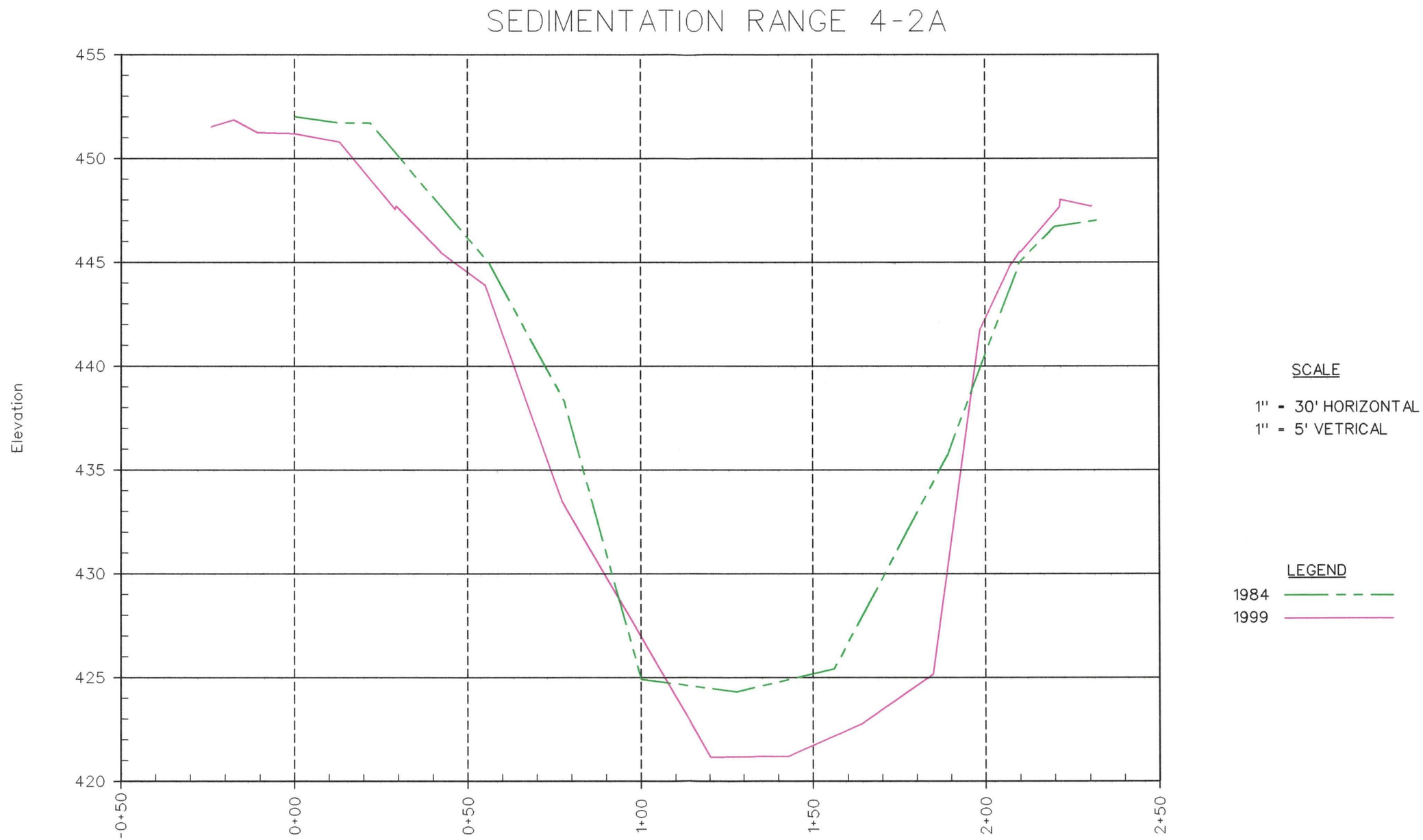
1999

SCALE

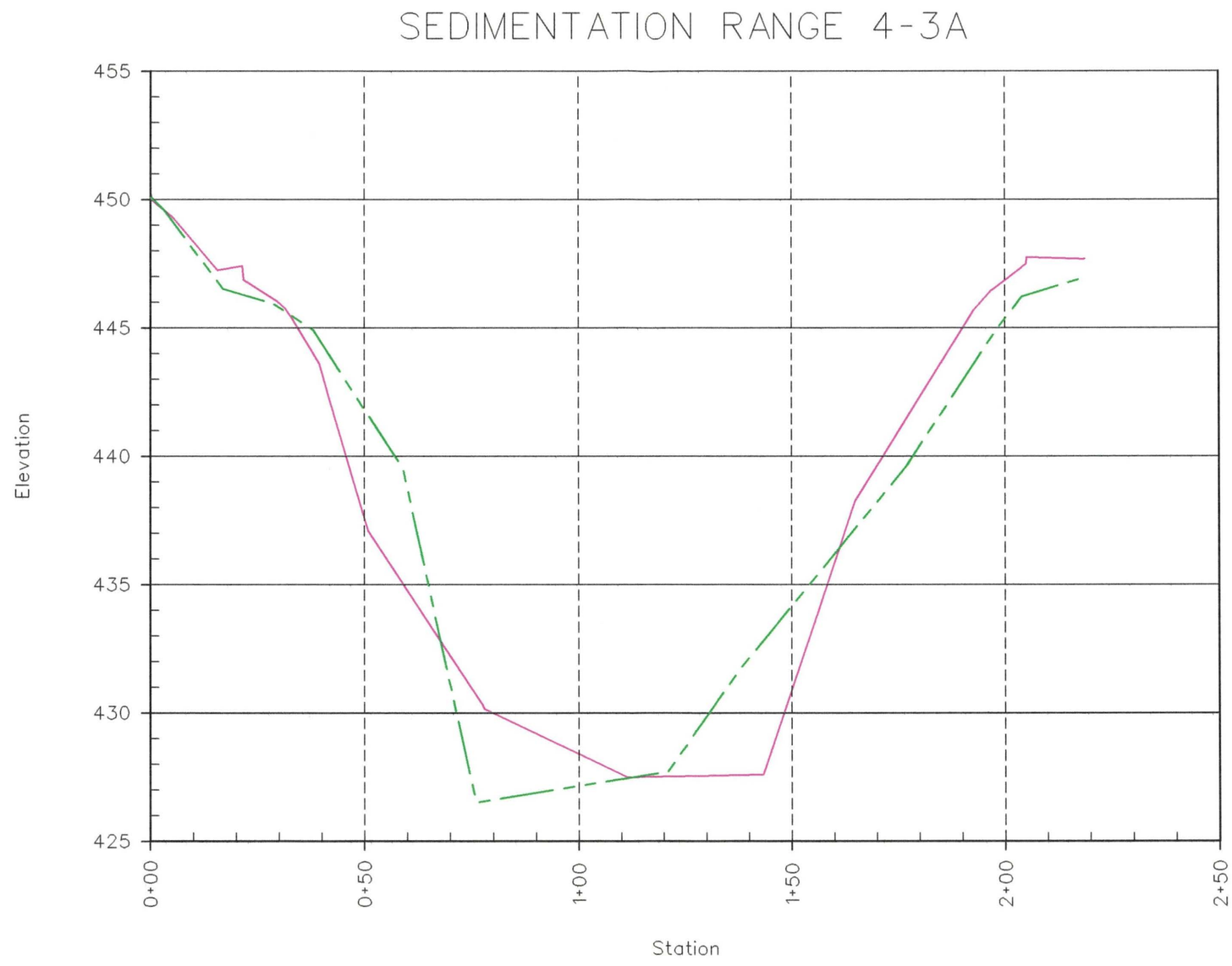
1" = 50' HORIZONTAL

1" = 5' VETRICAL

SCALE AS SHOWN	J. T. BLANKINSHIP AND ASSOCIATES	FILE NO. 7650-19
DATE OCT. 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 7 OF 16



SCALE	J. T. BLANKINSHIP AND ASSOCIATES	FILE NO.
AS SHOWN	CONSULTING ENGINEERS & LAND SURVEYORS	7650-19
DATE	P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO.
OCT. 1999		8 OF 16



LEGEND

1984

1999

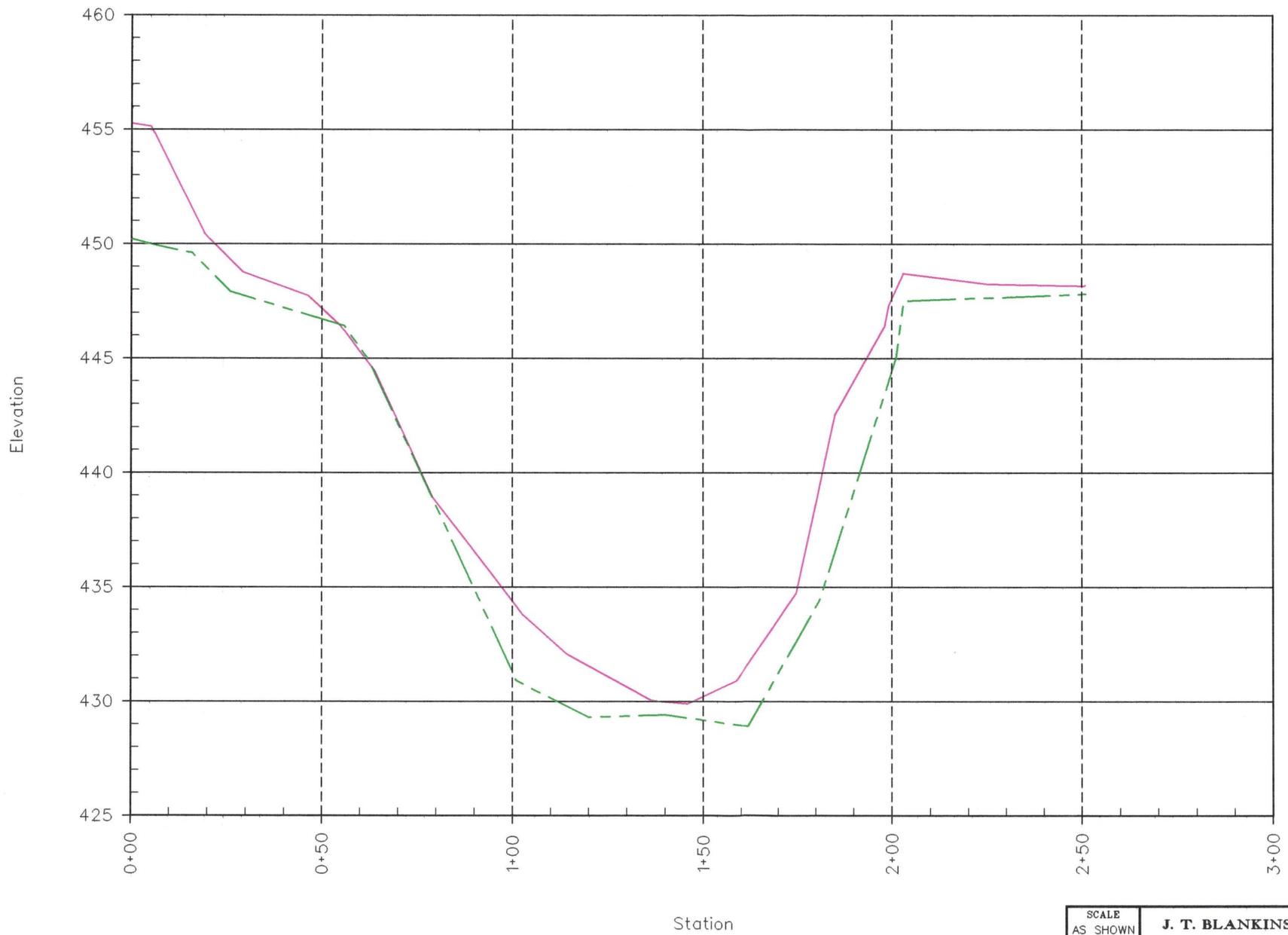
SCALE

1" = 30' HORIZONTAL

1" = 5' VETRICAL

SCALE AS SHOWN	J. T. BLANKINSHIP AND ASSOCIATES	FILE NO. 7650-19
DATE OCT. 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 9 OF 16

SEDIMENTATION RANGE 4-4A



SCALE

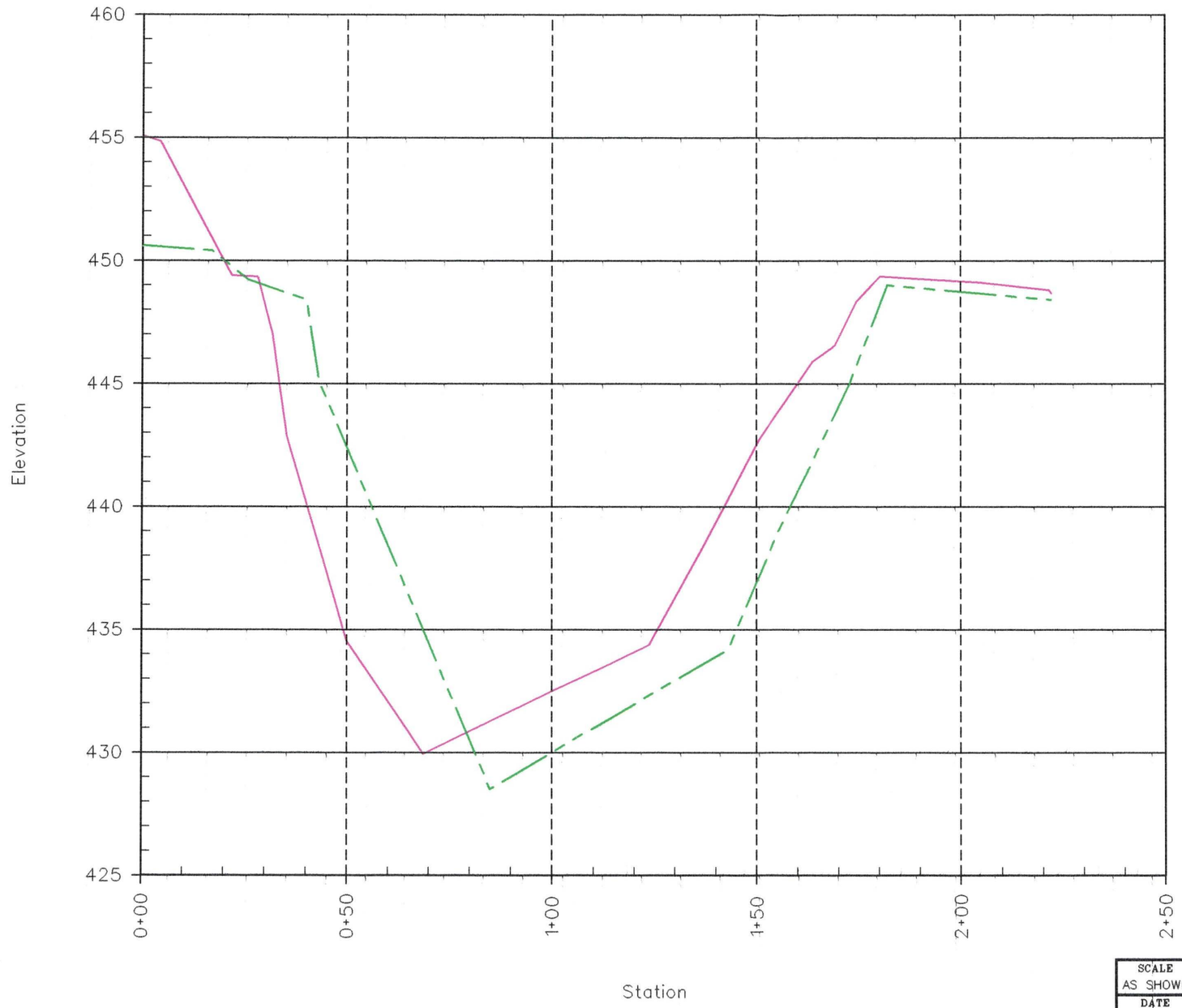
1" = 30' HORIZONTAL
1" = 5' VETRICAL

LEGEND

1984
1999

SCALE AS SHOWN	J. T. BLANKINSHIP AND ASSOCIATES	FILE NO. 7650-19
DATE OCT. 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 10 OF 16

SEDIMENTATION RANGE 4-5A



SCALE

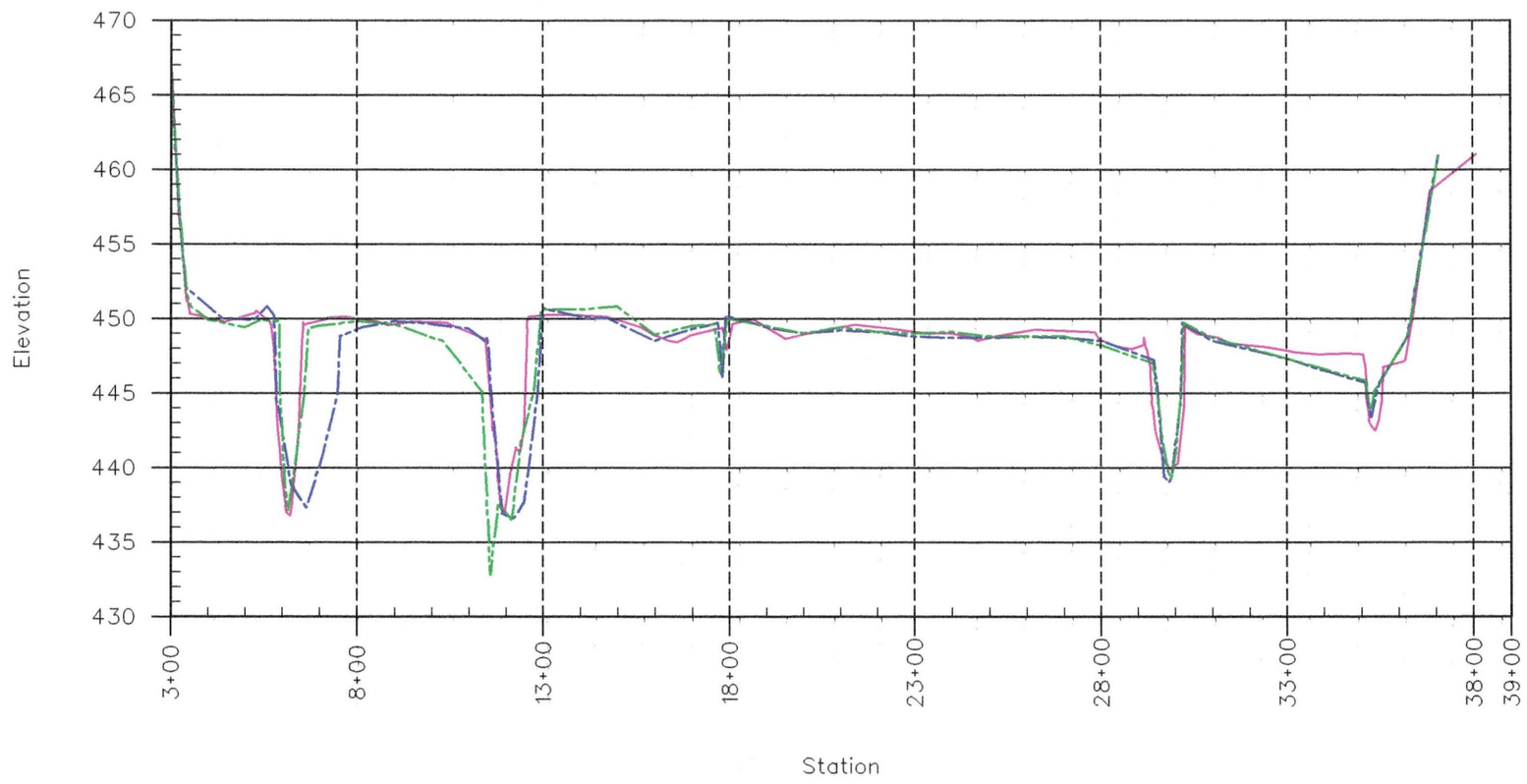
1" = 30' HORIZONTAL
1" = 5' VETRICAL

LEGEND

1984
1999

SCALE AS SHOWN	J. T. BLANKINSHIP AND ASSOCIATES	FILE NO. 7650-19
DATE OCT. 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 11 OF 16

SEDIMENTATION RANGE 5B



LEGEND

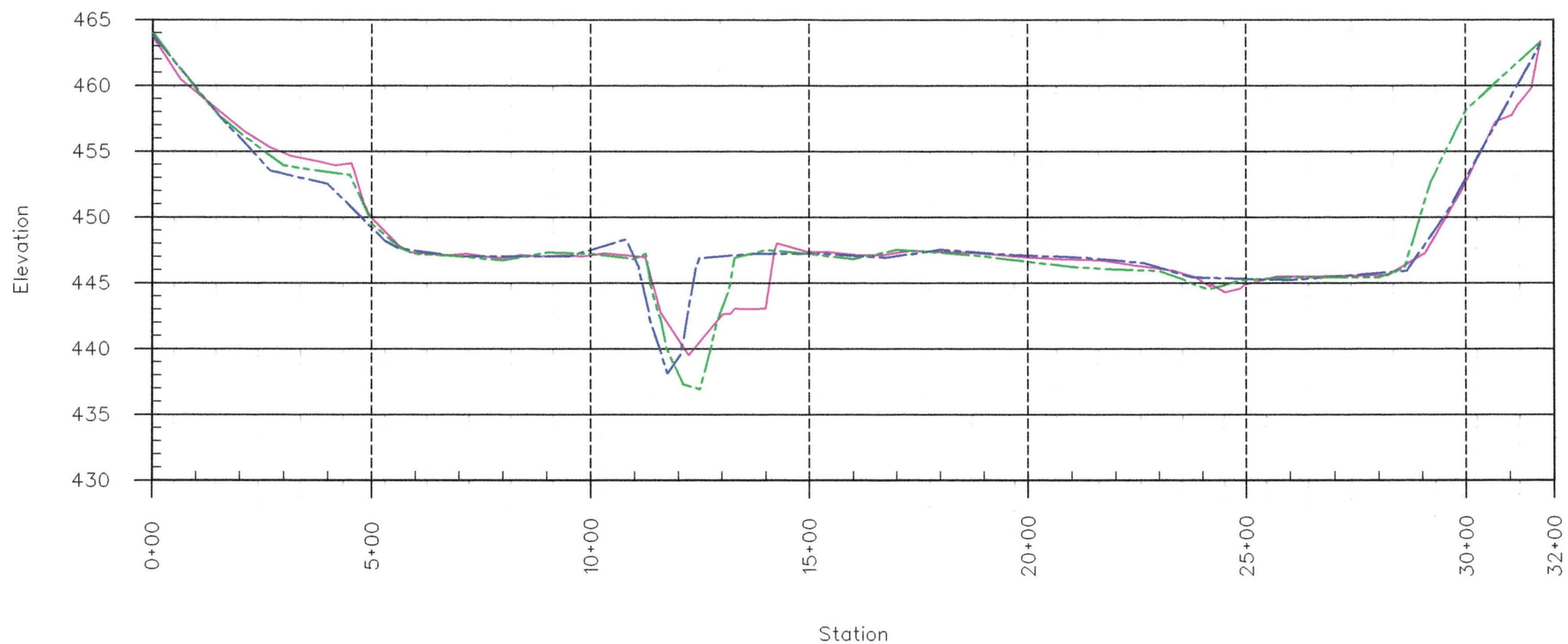
1982
1984
1999

SCALE

1" = 400' HORIZONTAL
1" = 10' VETRICAL

SCALE AS SHOWN	J. T. BLANKINSHIP AND ASSOCIATES	FILE NO. 7650-19
DATE OCT, 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 12 OF 16

SEDIMENTATION RANGE 6B



LEGEND

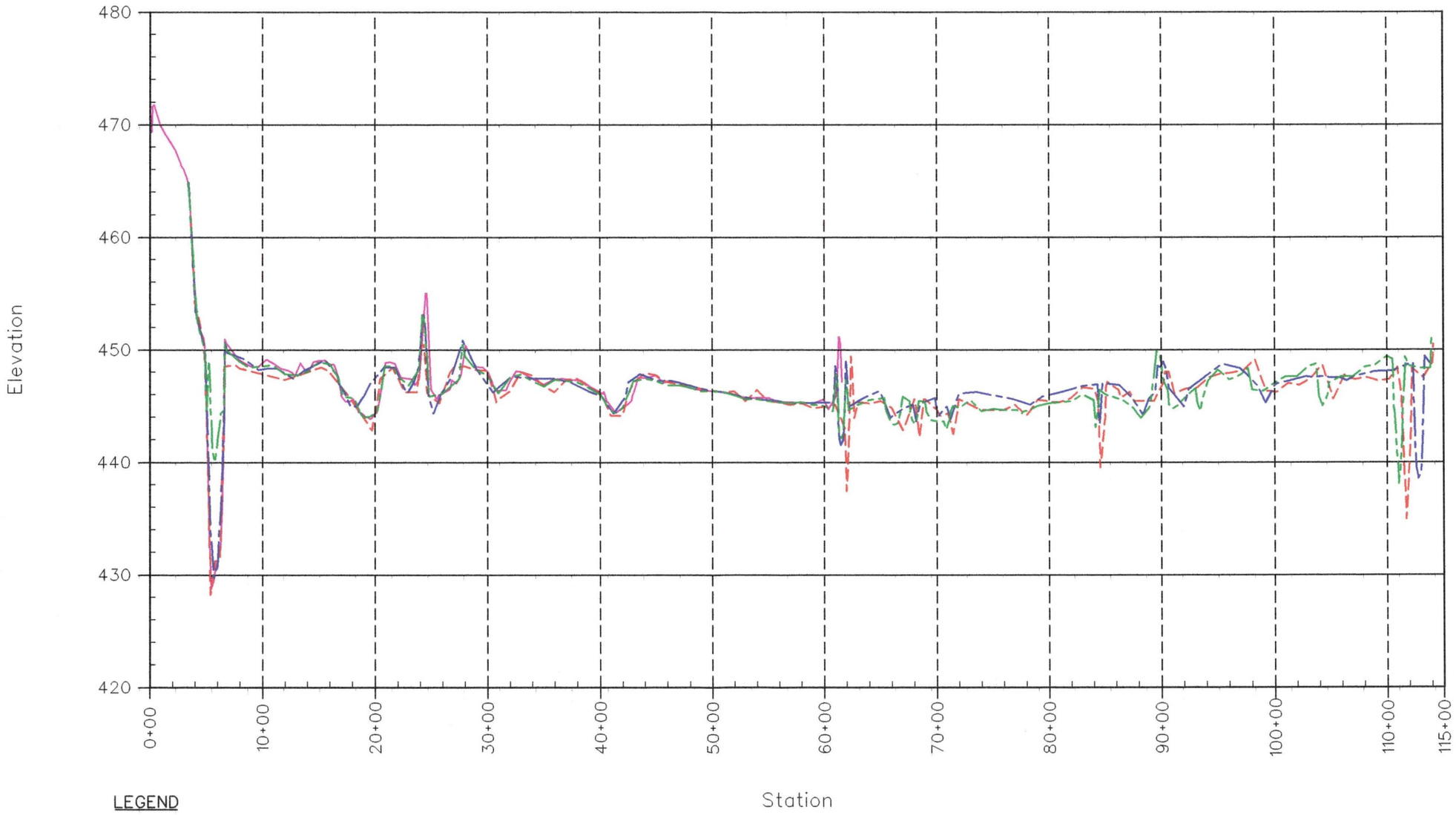
1982
1984
1999

SCALE

1" = 300' HORIZONTAL
1" = 10' VETRICAL

SCALE AS SHOWN	J. T. BLANKINSHIP AND ASSOCIATES	FILE NO. 7650-19
DATE OCT. 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 13 OF 16

SEDIMENTATION RANGE 7A



LEGEND

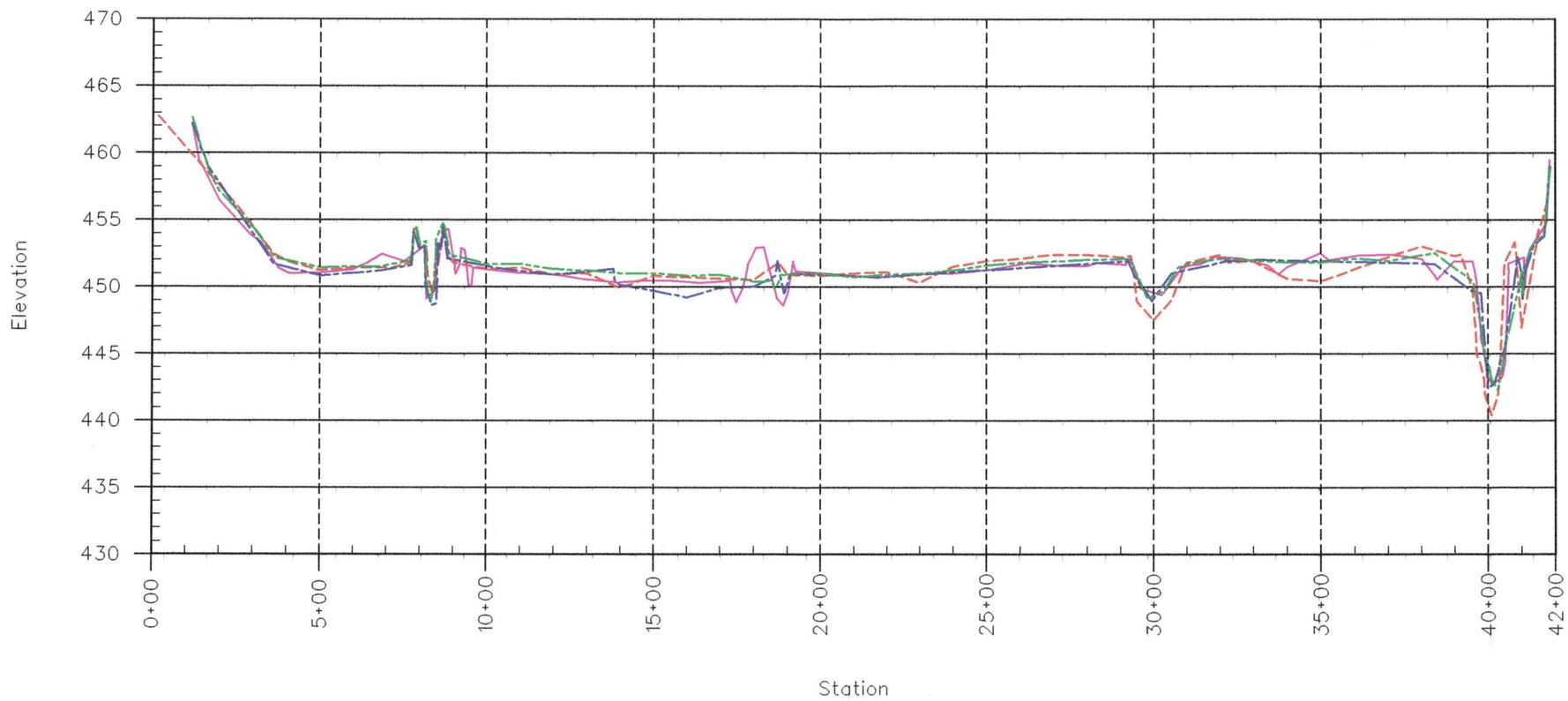
1971
1982
1984
1999

SCALE

1" = 1000' HORIZONTAL
1" = 10' VETRICAL

SCALE AS SHOWN	J. T. BLANKINSHIP AND ASSOCIATES	FILE NO. 7650-19
DATE OCT. 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 14 OF 16

SEDIMENTATION RANGE 8B



LEGEND

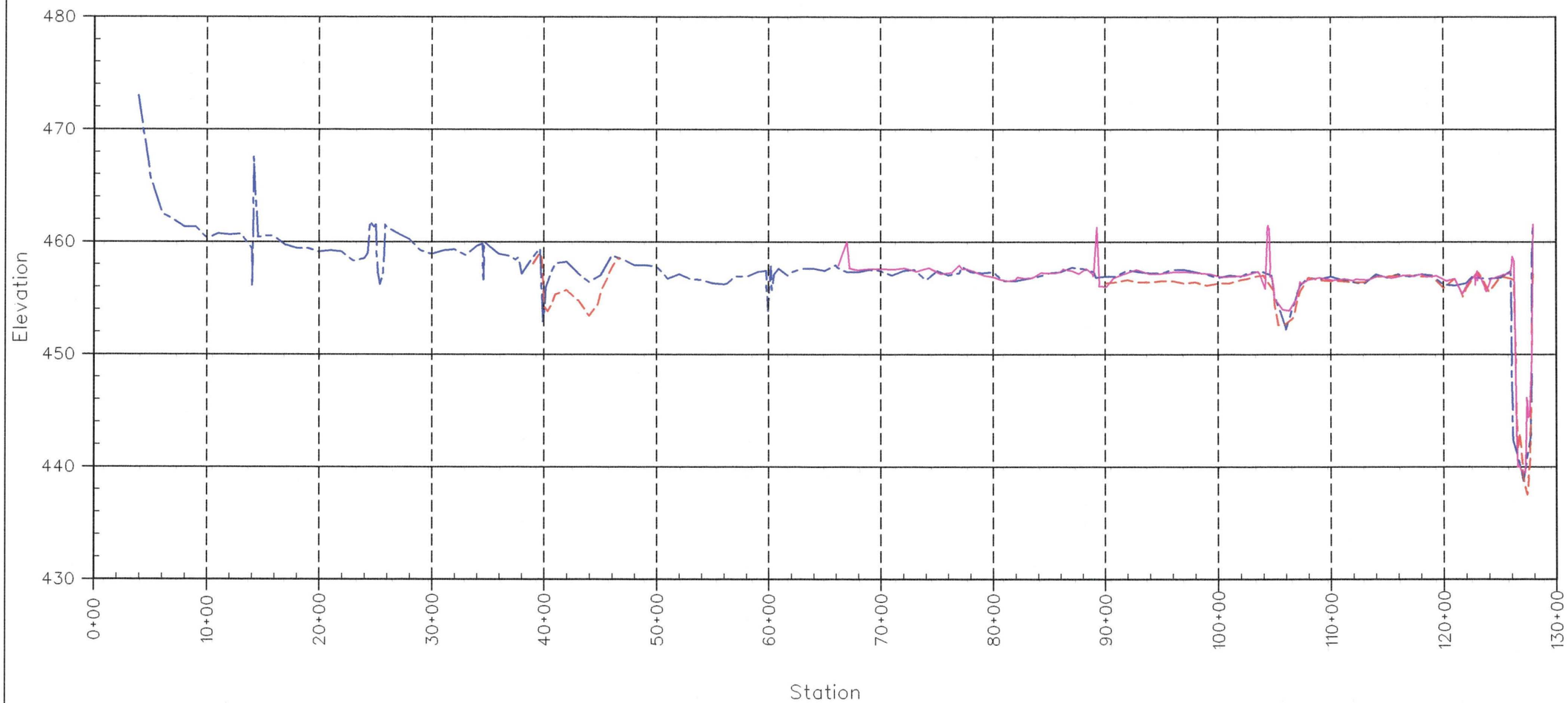
1971
1982
1984
1999

SCALE

1" = 400' HORIZONTAL
1" = 10' VETRICAL

SCALE	J. T. BLANKINSHIP AND ASSOCIATES	FILE NO.
AS SHOWN	CONSULTING ENGINEERS & LAND SURVEYORS	7650-19
DATE	P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO.
OCT. 1999		15 OF 16

SEDIMENTATION RANGE 9A



NOTE: NO PROFILE DATA WAS RECORDED FROM STATION 46+46 TO STATION 90+00 FOR 1971 SURVEY.

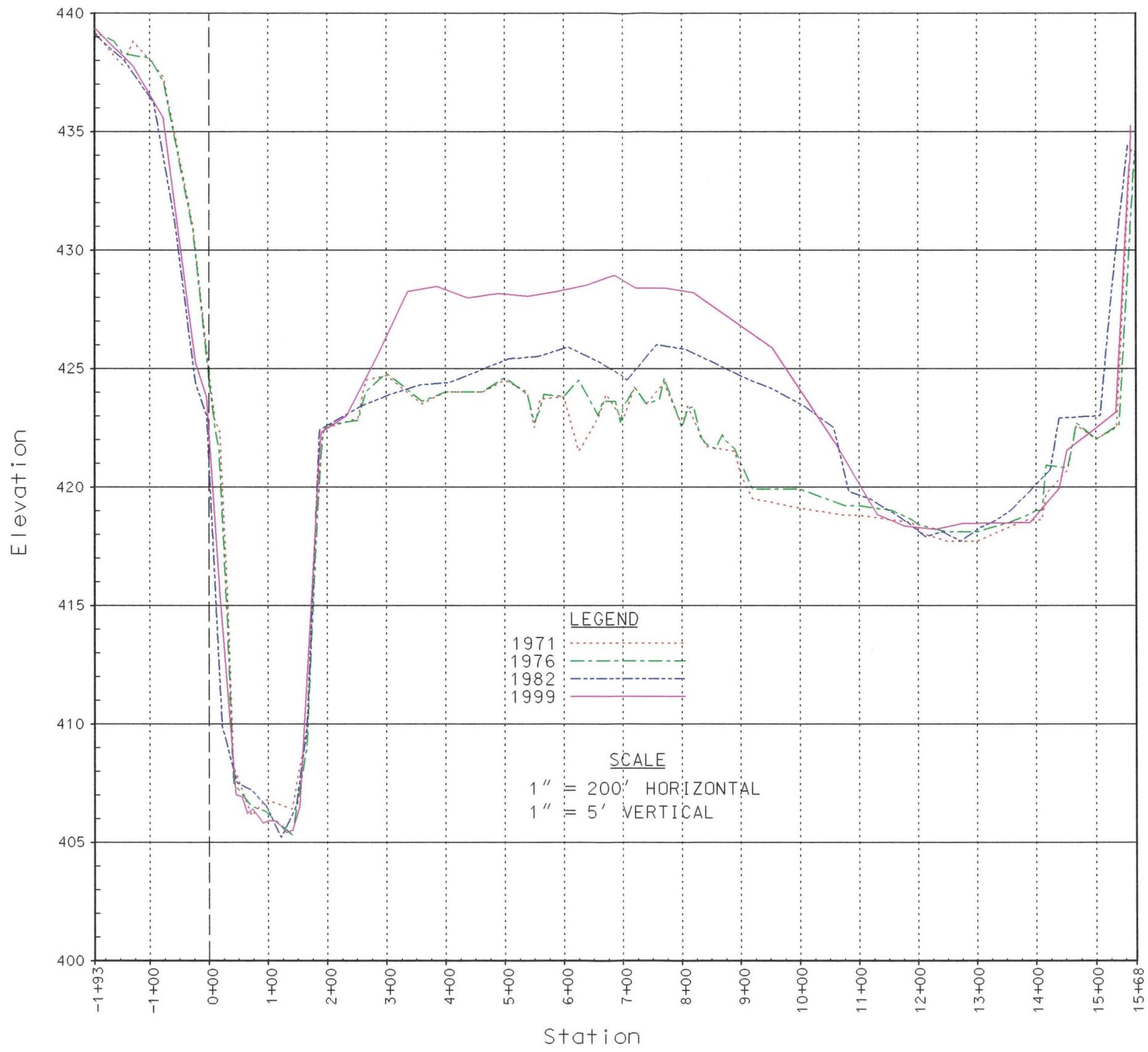
LEGEND

1971
1982
1999

SCALE

1" = 1000' HORIZONTAL
1" = 10' VETRICAL

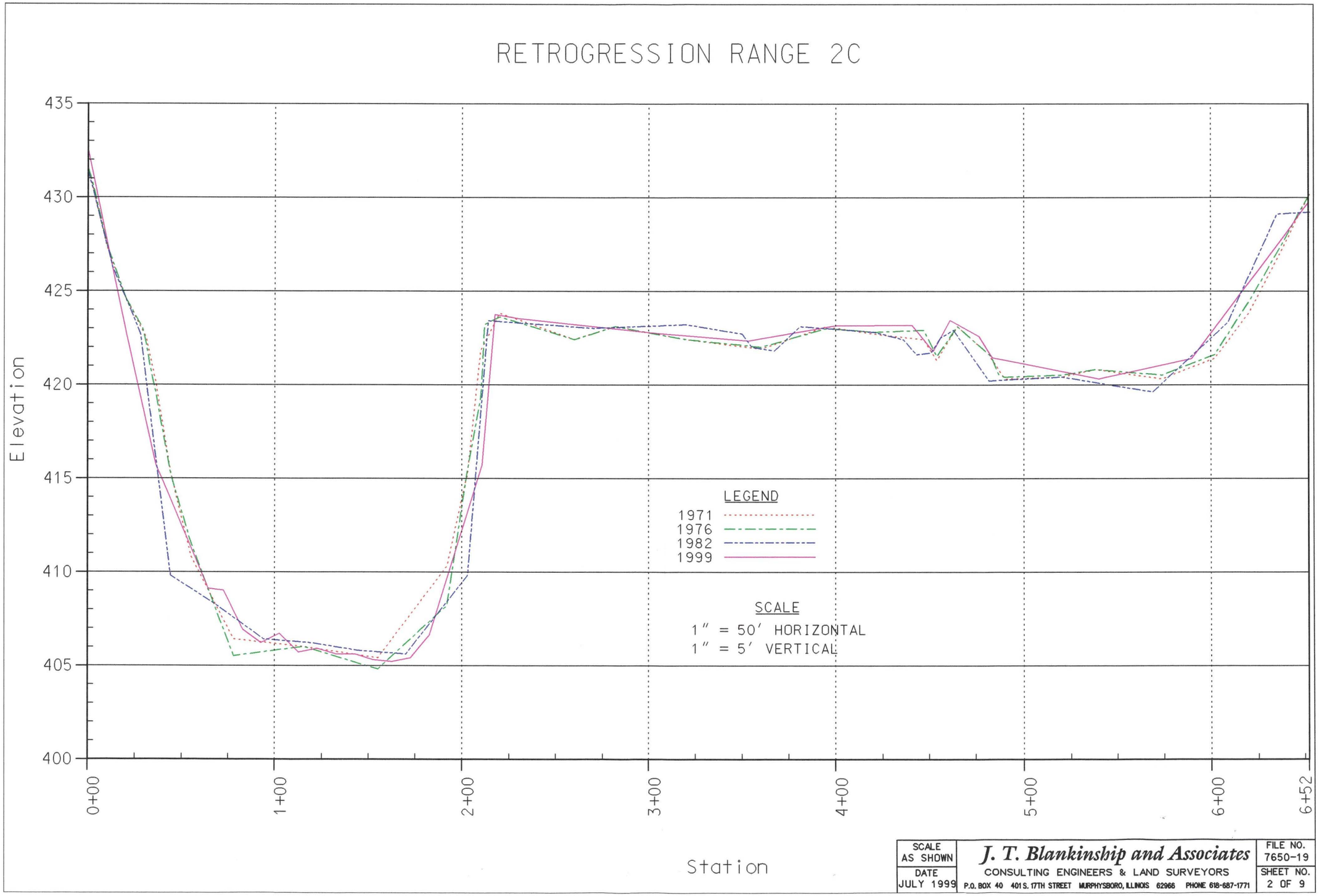
SCALE AS SHOWN	J. T. BLANKINSHIP AND ASSOCIATES	FILE NO. 7650-19
DATE OCT. 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 16 OF 16



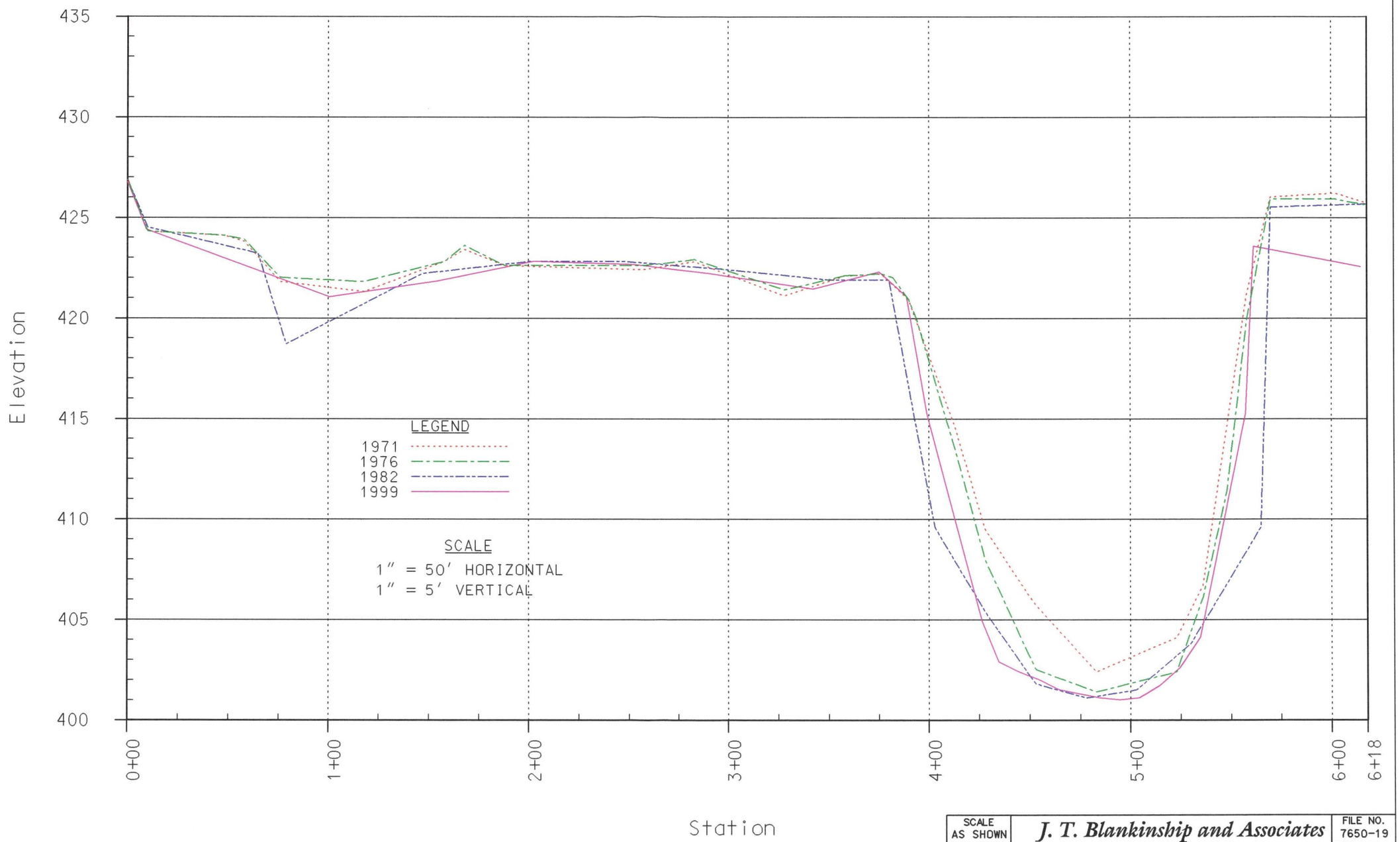
FILE NO. 7650-19
SHEET NO. 1 OF 9

J. T. Blankinship and Associates
CONSULTING ENGINEERS & LAND SURVEYORS
P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771

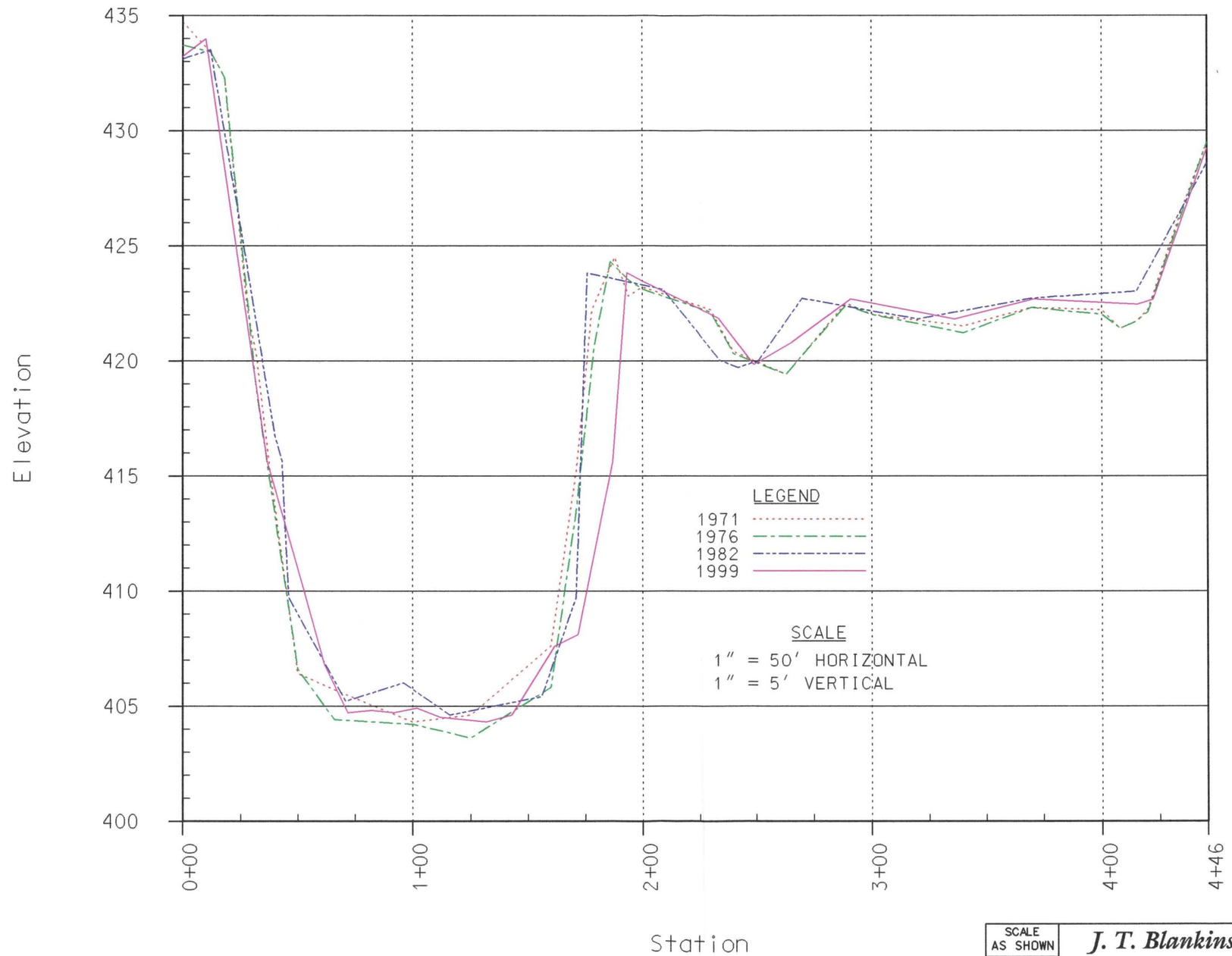
SCALE AS SHOWN
DATE JULY 1999


RETROGRESSION RANGE 2C
Elevation
435
430
425
420
415
410
405
400
0+00
1+00
2+00
3+00
4+00
5+00
6+00
6+52
Station
LEGEND
1971
1976
1982
1999
SCALE
1" = 50' HORIZONTAL
1" = 5' VERTICAL
SCALE AS SHOWN
DATE JULY 1999
J. T. Blankinship and Associates
CONSULTING ENGINEERS & LAND SURVEYORS
P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771
FILE NO. 7650-19
SHEET NO. 2 OF 9

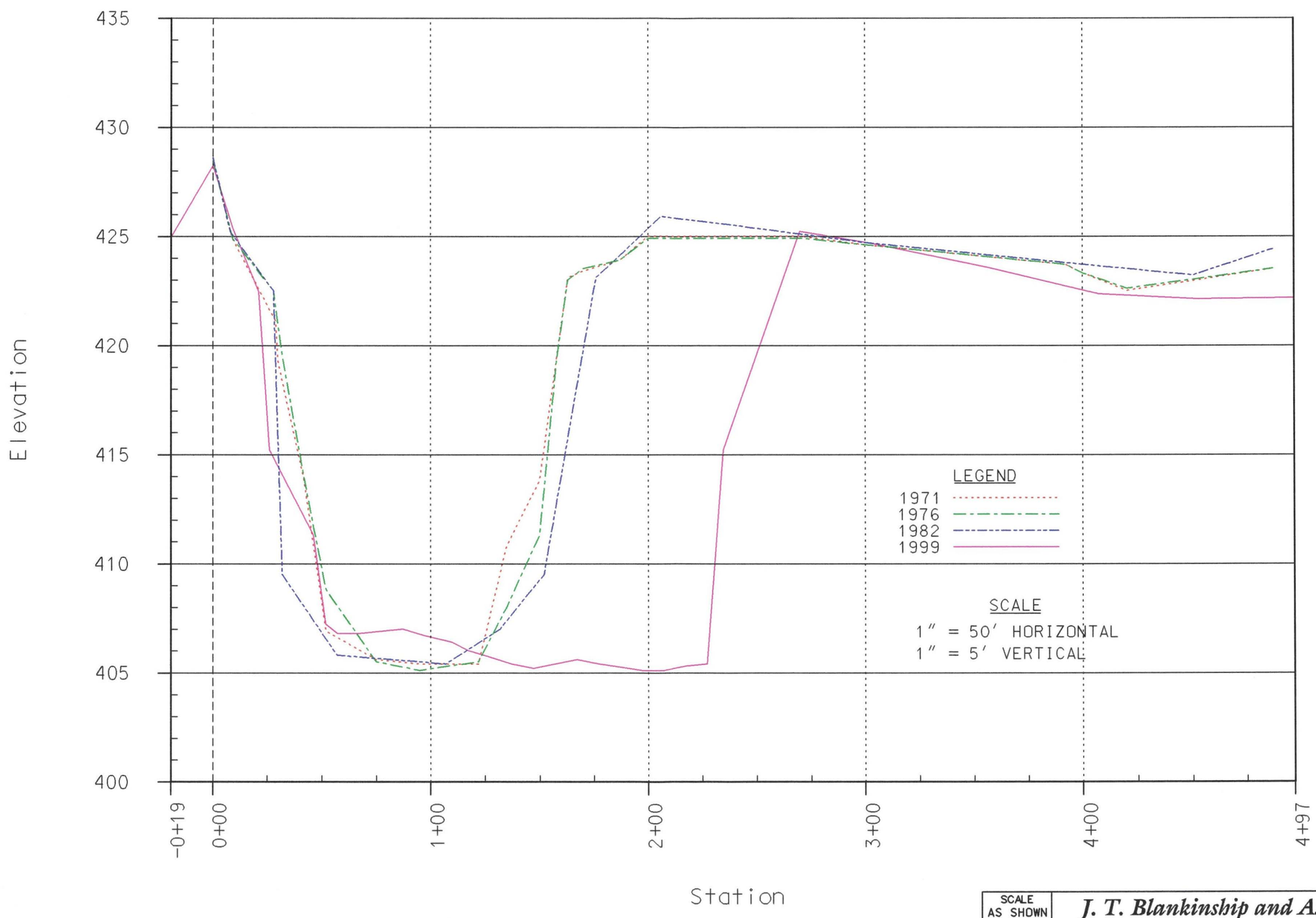
RETROGRESSION RANGE 4C



SCALE AS SHOWN	*J. T. Blankinship and Associates*	FILE NO. 7650-19
DATE JULY 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 4 OF 9

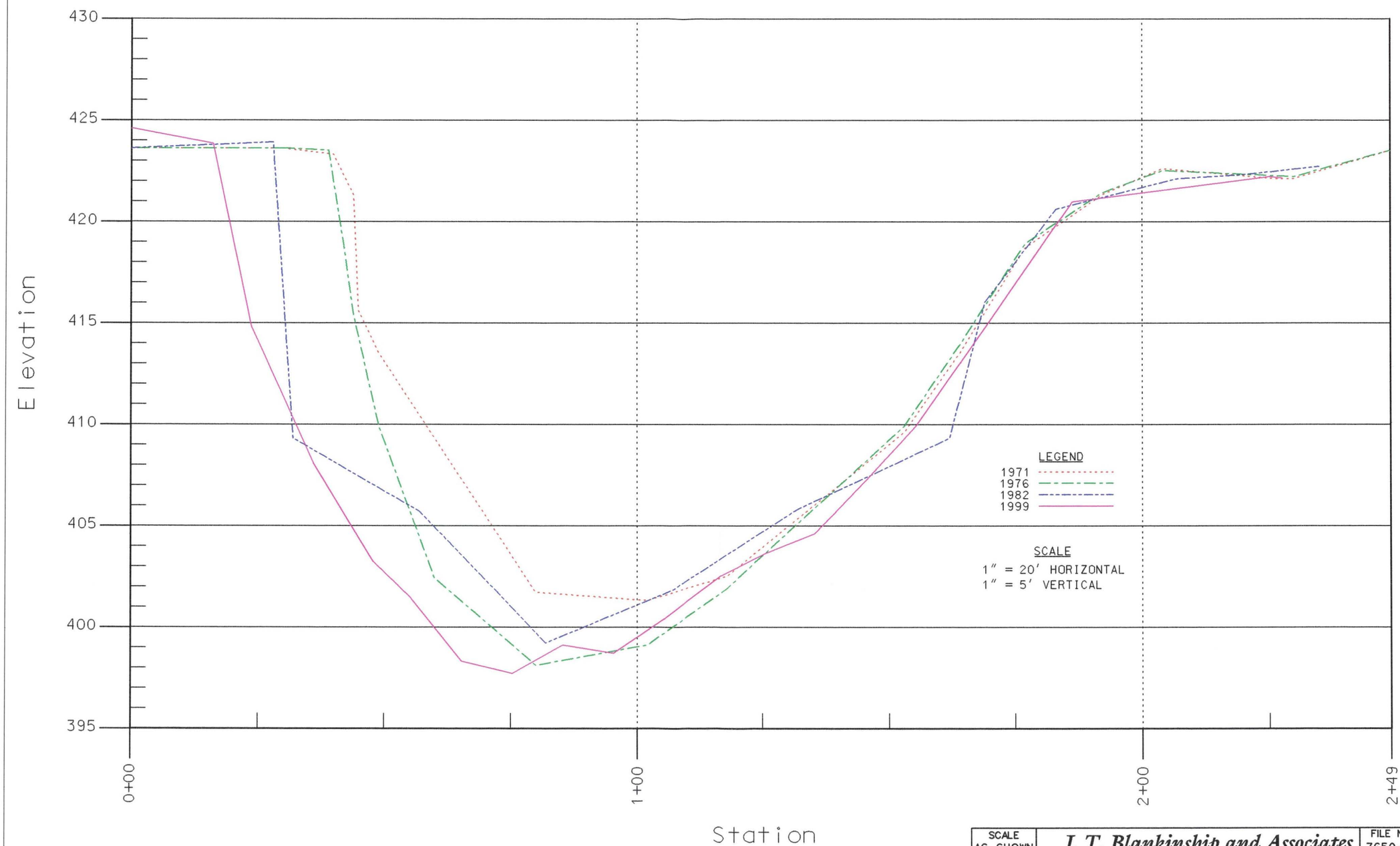


SCALE AS SHOWN	*J. T. Blankinship and Associates*	FILE NO. 7650-19
DATE JULY 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 3 OF 9



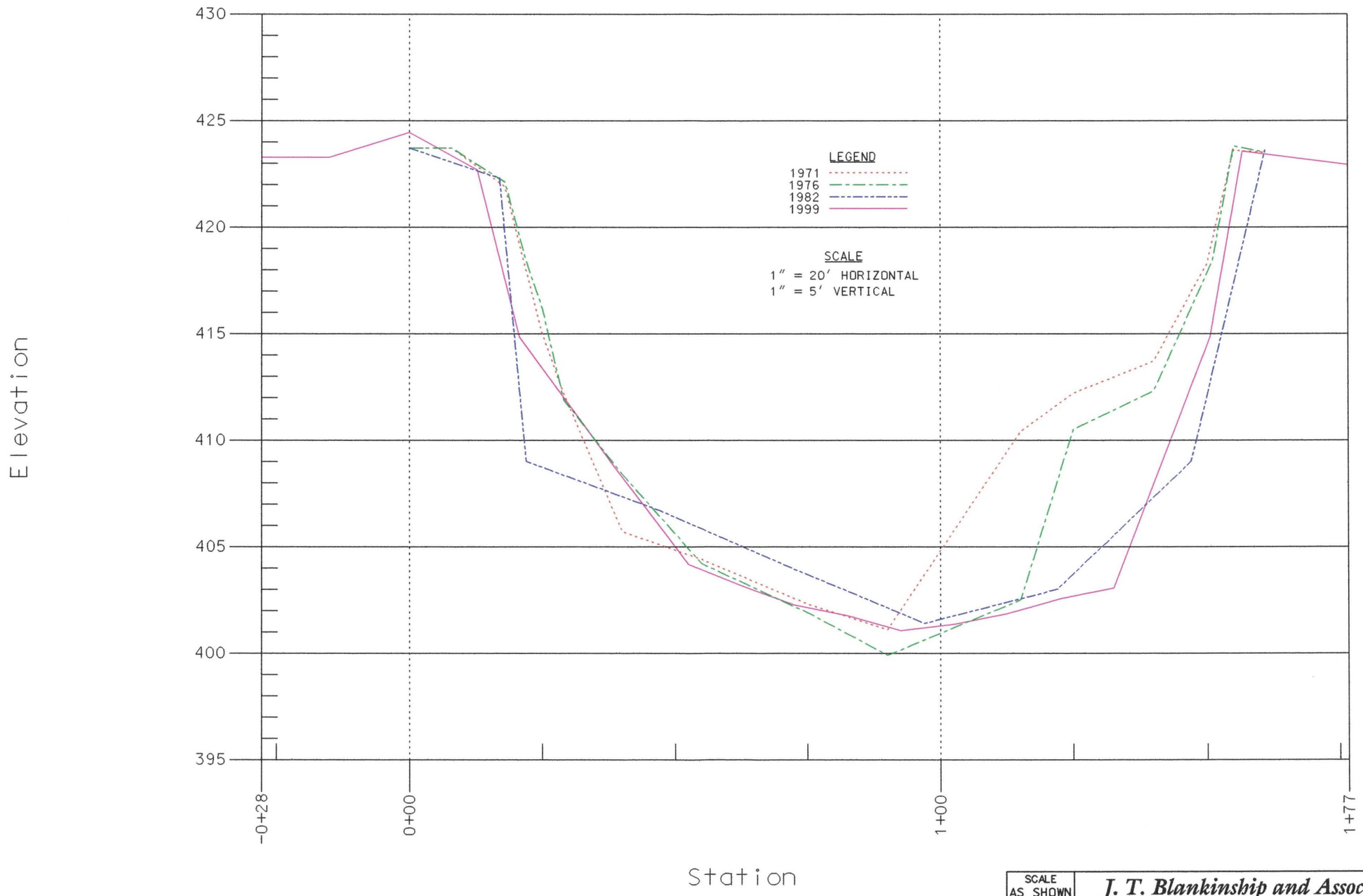
SCALE AS SHOWN	*J. T. Blankinship and Associates*	FILE NO. 7650-19
DATE JULY 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 5 OF 9

RETROGRESSION RANGE 6C



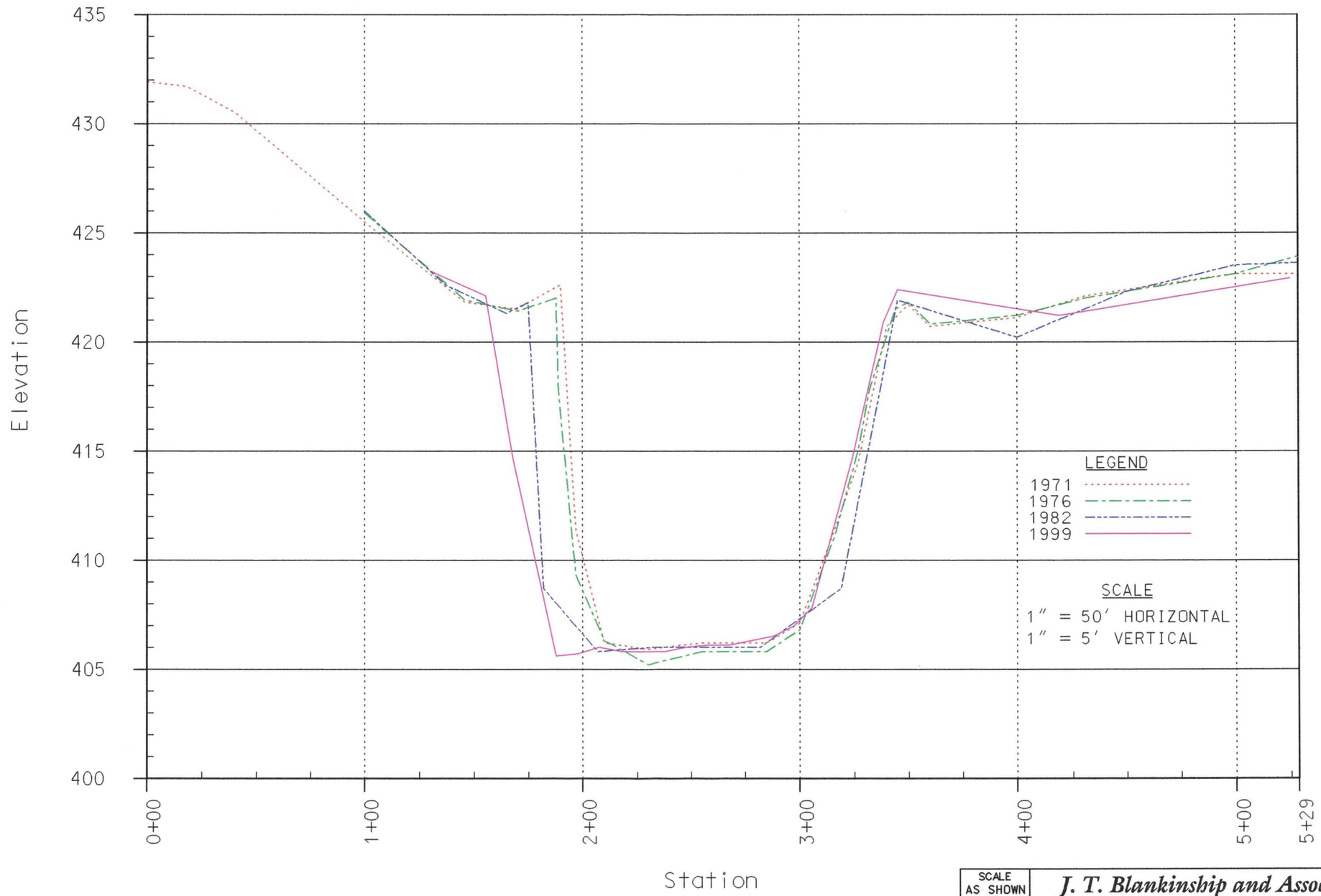
SCALE AS SHOWN	J. T. Blankinship and Associates	FILE NO. 7650-19
DATE JULY 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 6 OF 9

RETROGRESSION RANGE 7C



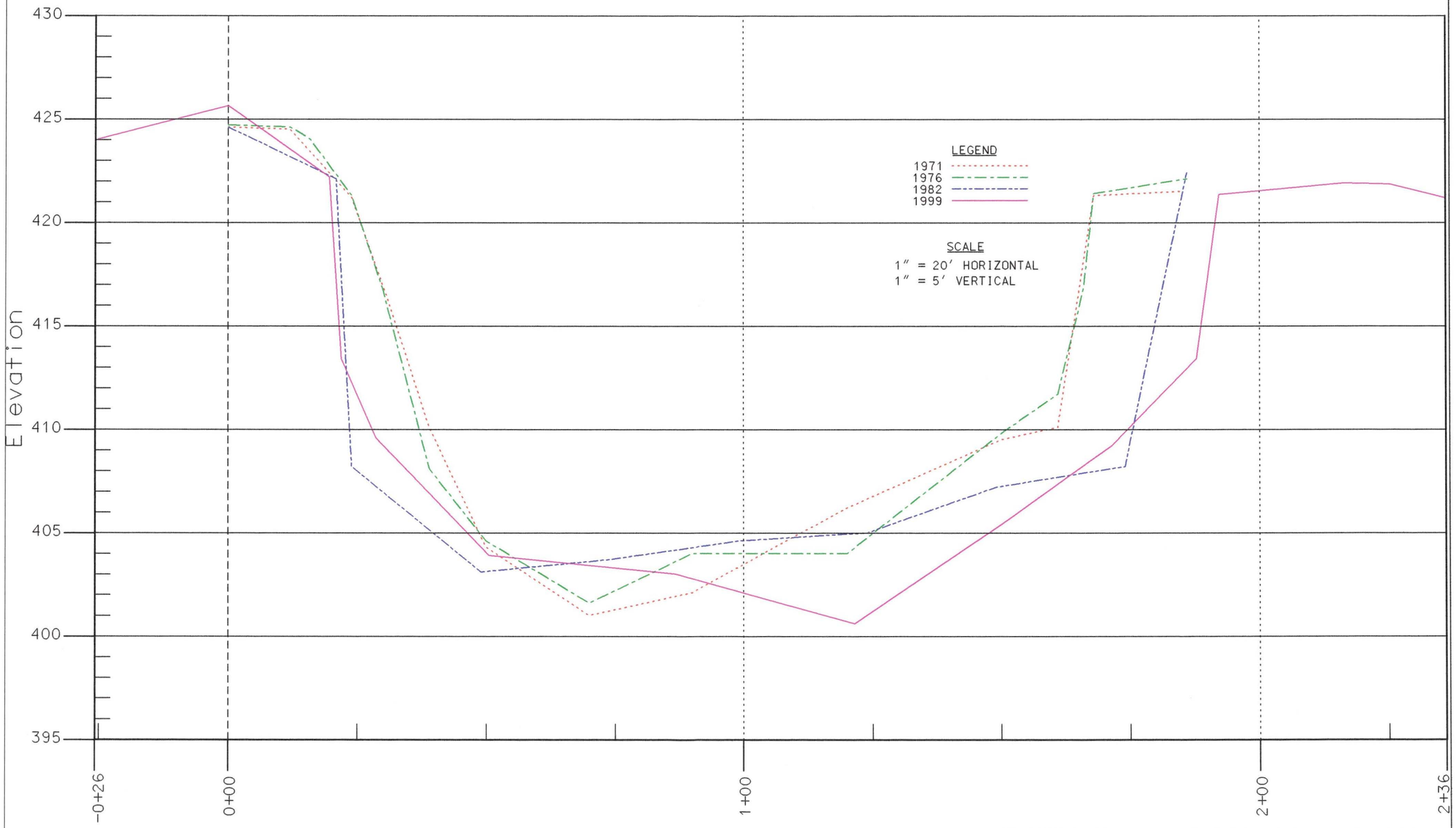
SCALE AS SHOWN	J. T. Blankinship and Associates	FILE NO. 7650-19
DATE JULY 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 7 OF 9

RETROGRESSION RANGE 8C



SCALE AS SHOWN	J. T. Blankinship and Associates	FILE NO. 7650-19
DATE JULY 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 8 OF 9

RETROGRESSION RANGE 9C



SCALE AS SHOWN	J. T. Blankinship and Associates	FILE NO. 7650-19
DATE JULY 1999	CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771	SHEET NO. 9 OF 9