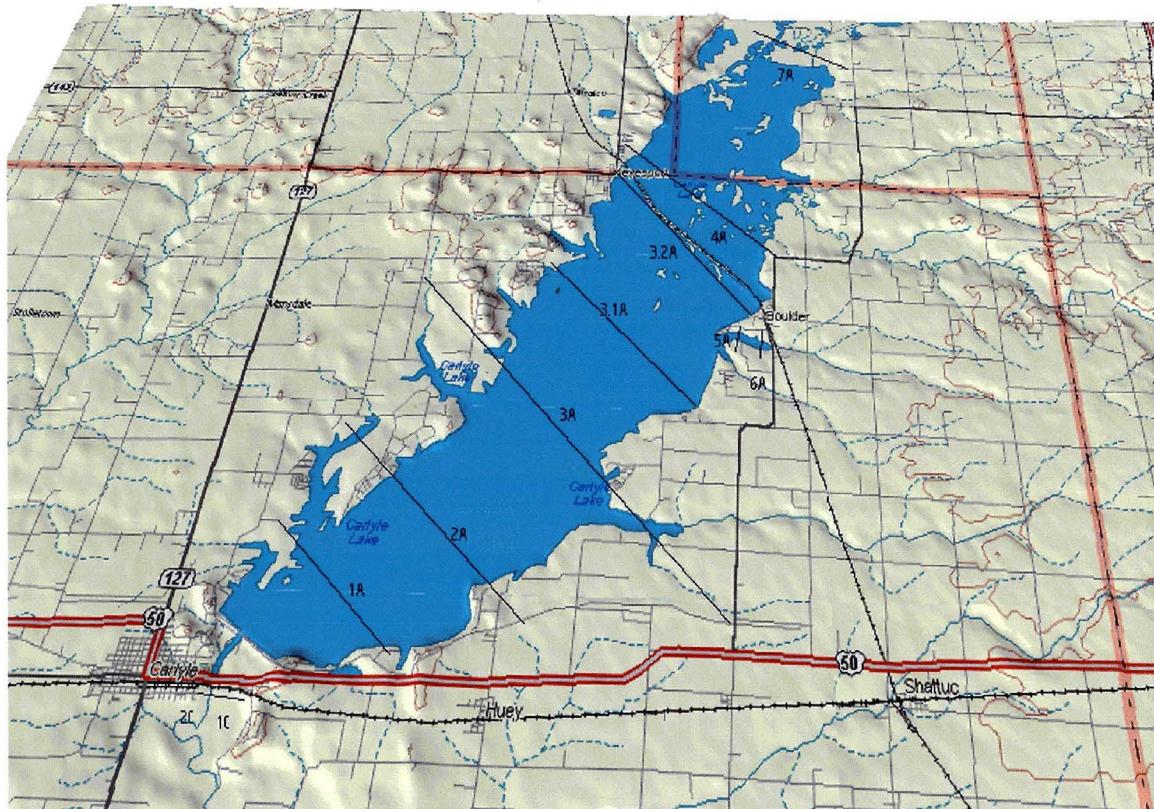


CARLYLE LAKE

CARLYLE, ILLINOIS

SEDIMENTATION & RETROGRESSION SURVEYS



SEPTEMBER, 1999

PREPARED BY J.T. BLANKINSHIP & ASSOC.

CARLYLE LAKE

Carlyle, Illinois

**SEDIMENTATION & RETROGRESSION
SURVEYS**

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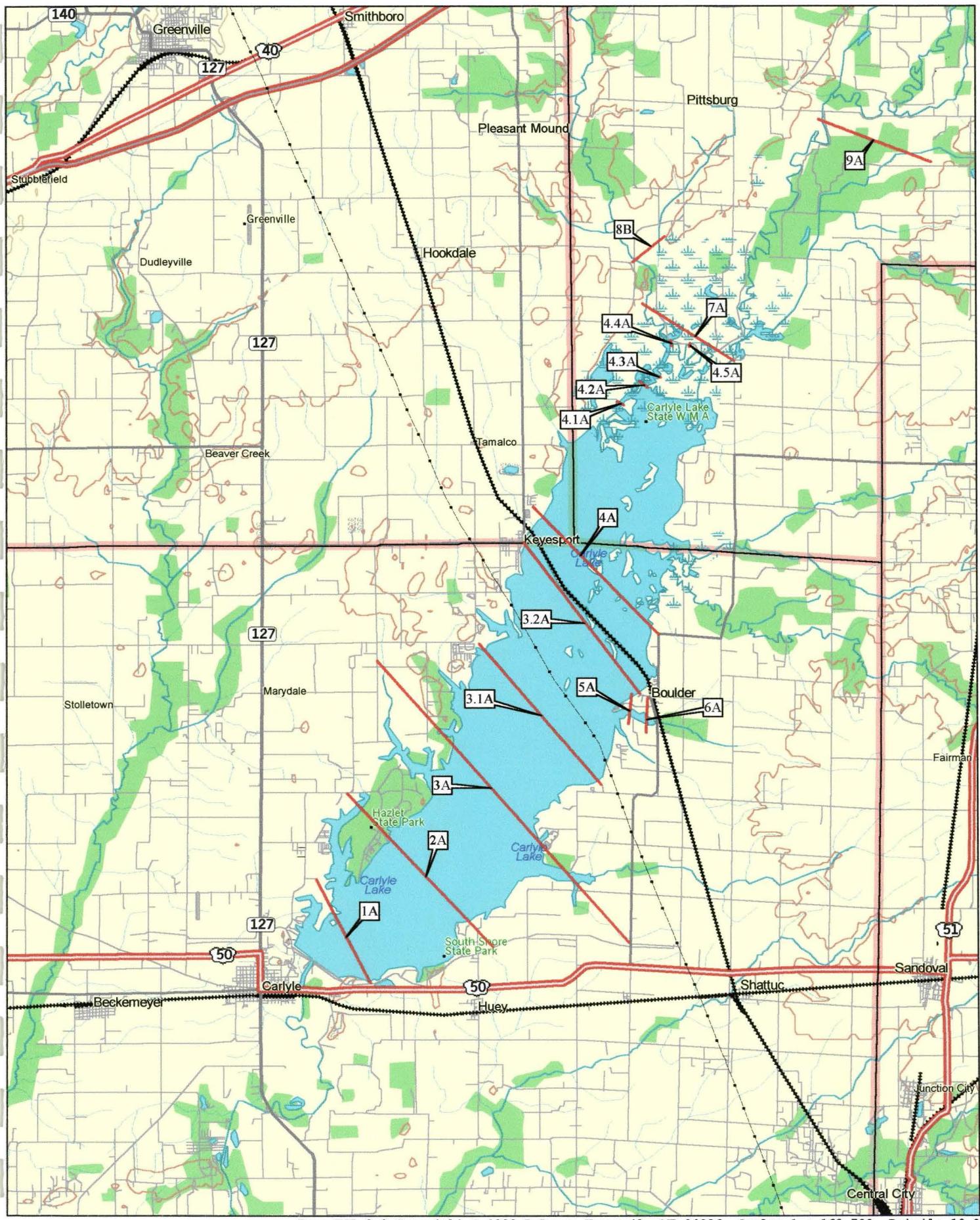
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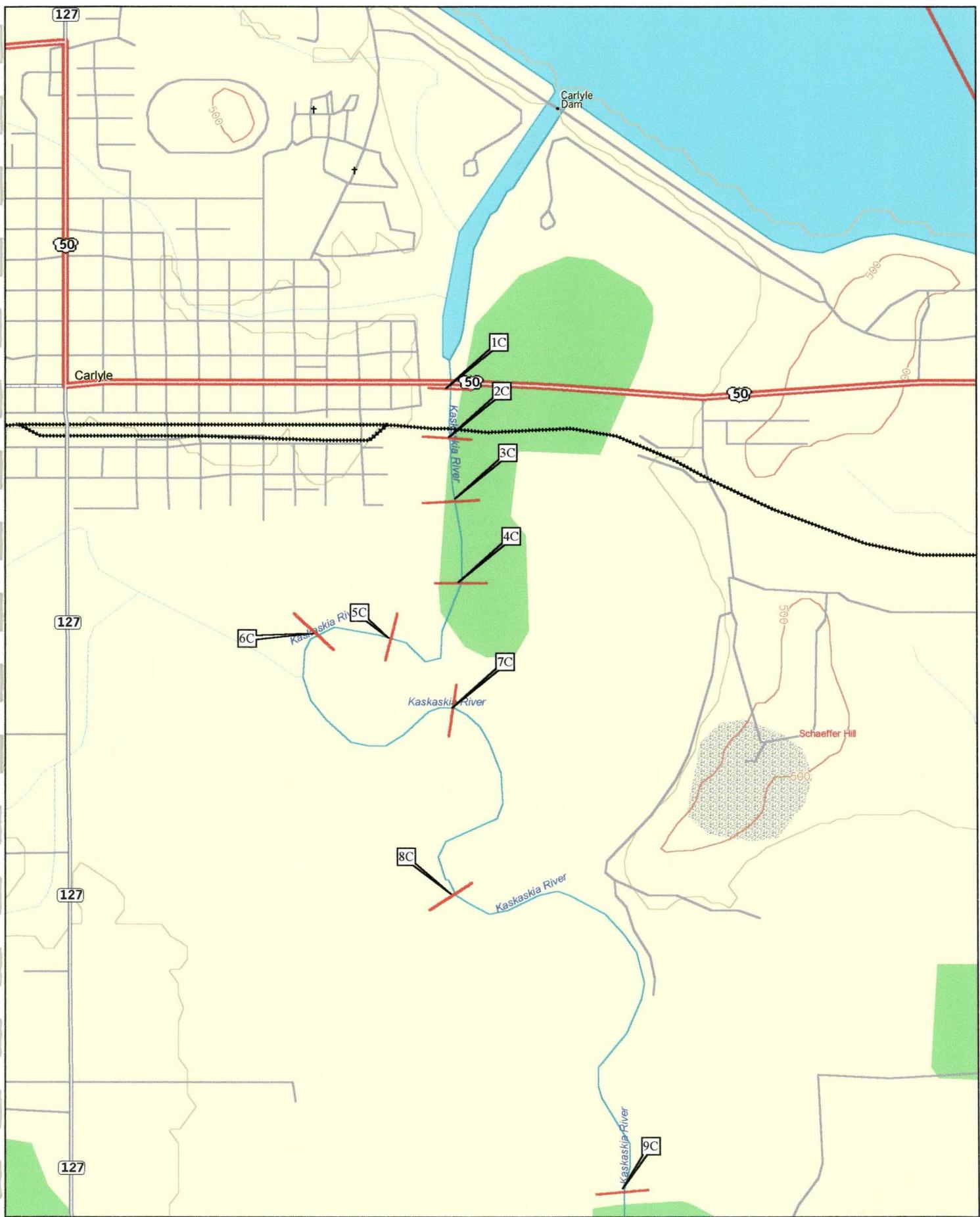
SURVEY REPORT

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



RETROGRESSION PLAN VIEW



Topo USA 2.0 Copyright © 1999 DeLorme Yarmouth, ME 04096 Scale: 1 : 17,600 Detail: 13-3

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

SEDIMENTATION RANGES SURVEY REPORT

(Continued)

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.

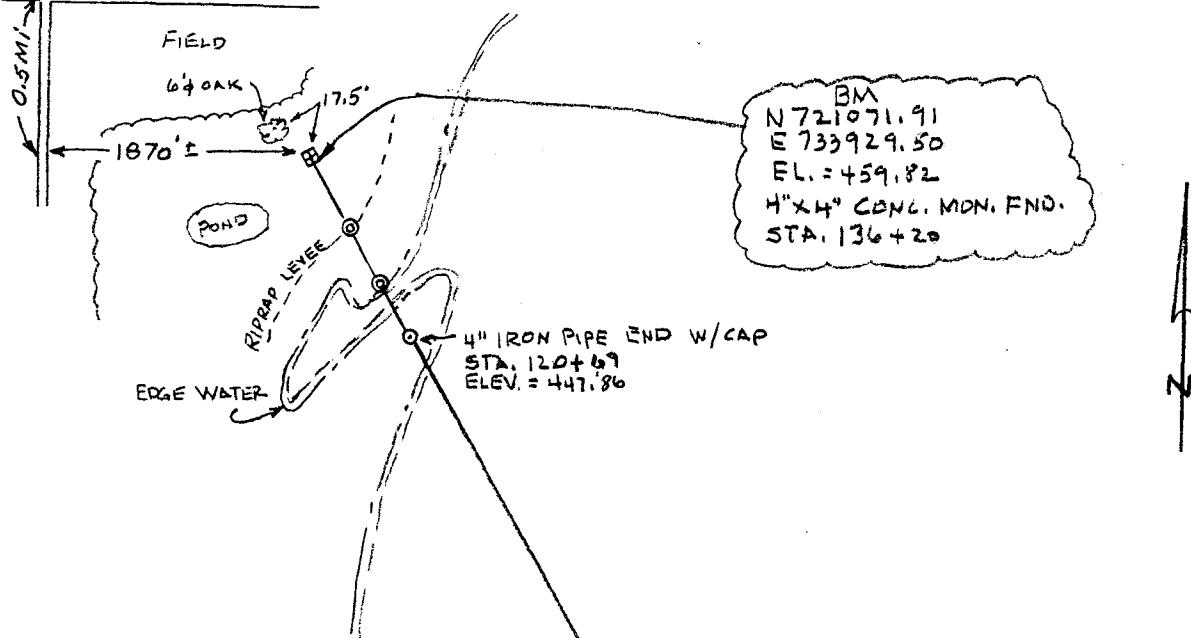
LINE 9-A

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

NW COR. NE $\frac{1}{4}$ SEC 6 T2NR2W



N

CARLYLE LAKE

CARLYLE LAKE

STATE PARK

C.D.E. ALUM. MON. SET.
STA. 3+14.90

SCATTERED
2" TO 8"
TREES

BM
N 710216.83
E 740283.80
EL. = 465.69
4" I.P. W/BRASS CAP FND
STA. 0+40

SOUTH SHORE

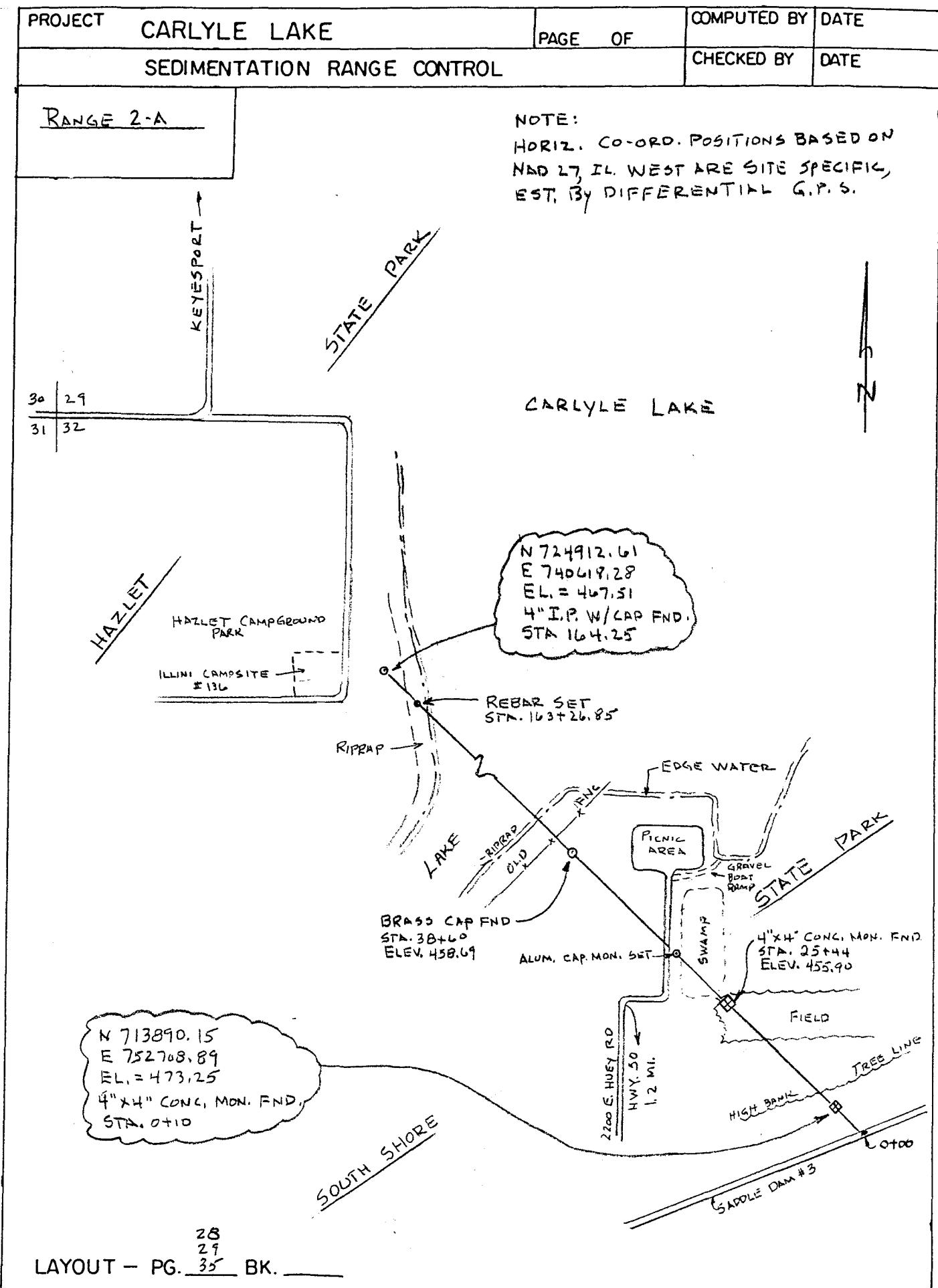
EDGE WATER
RIPRAP DAM

SADDLE DAM # 2

RAMP

PUMP STA. # 2

LAYOUT - PG. 26+41 BK. _____

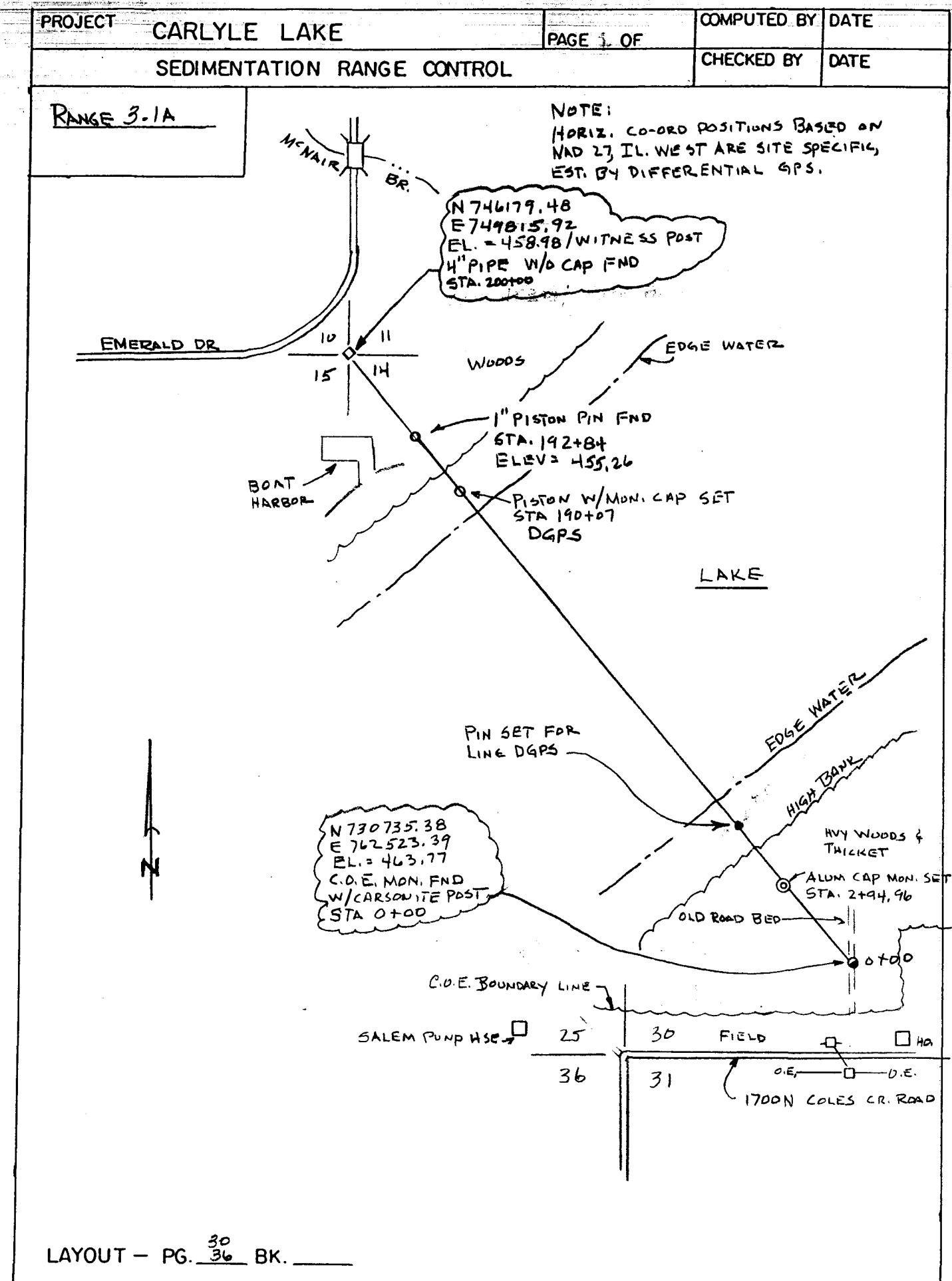


PROJECT	CARLYLE LAKE	PAGE	OF	COMPUTED BY	DATE
SEDIMENTATION RANGE CONTROL				CHECKED BY	DATE
<u>RANGE 3-A</u> TOPO P. 32, 45		NOTE: HORIZ. CO-ORD POSITIONS BASED ON NAD 27, IL. WEST ARE SITE SPECIFIC, EST. BY DIFFERENTIAL G.P.S.			
<p>The map shows Carlyle Lake with various survey points marked by dots and labeled with coordinates and station numbers. A north arrow is present in the top right corner.</p> <ul style="list-style-type: none"> Point 1: HEAVY BRUSH, PISTON PIN END. W/ CARBONATE, STA. 253+89, coordinates N 732 476.17, E 746 358.26, EL. = 448.19, STEEL PIN SET. Point 2: STA. 73+32, STONE, OLD ROAD BED, coordinates N 720 773.92, E 758 909.73, EL. = 456.04. Point 3: SIZAP 258 BRASS CAP FND, STA. 0+00, coordinates N 720 773.92, E 758 909.73, EL. = 456.04. Point 4: ± 1700' OPEN WATER, located near the lake edge. Point 5: LAKE, located in the center of the lake. Point 6: WOODS, located to the east of the lake. Point 7: CARLYLE LAKE BACKWATER, located to the east of the lake. 					
LAYOUT - PG. ____ BK. ____ COMPUTATION SHEET					

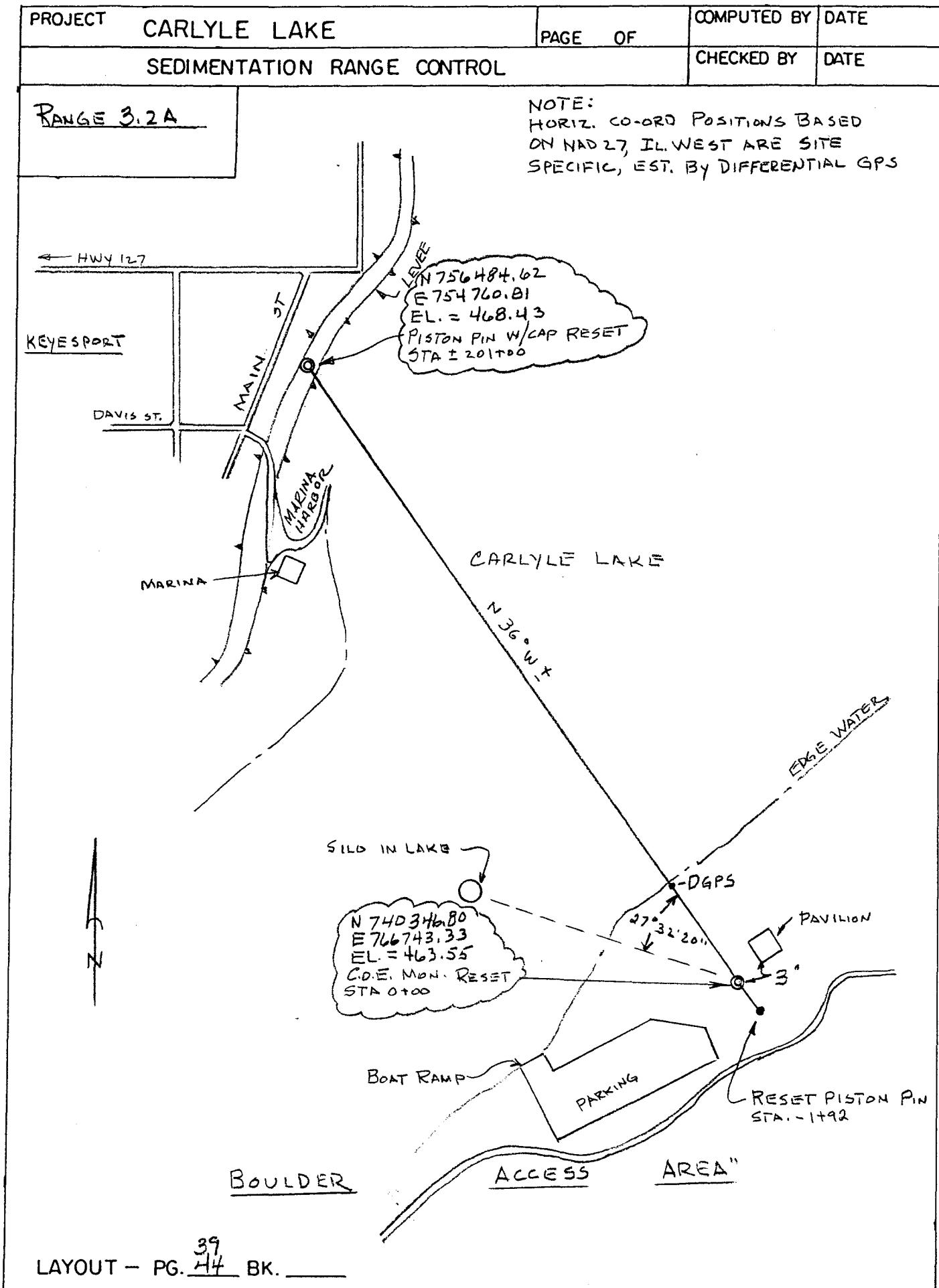
PROJECT	CARLYLE LAKE	PAGE	OF	COMPUTED BY	DATE
SEDIMENTATION RANGE CONTROL				CHECKED BY DATE	
RANGE 3-A					
Topo P. 45, 46, 47					
<p>The diagram illustrates a survey line (solid line) running diagonally across the page. Key features labeled include:</p> <ul style="list-style-type: none"> EDGE OF WOODS: A dashed line representing a forest edge. CORN FIELD: A field area to the right of the road. TIN GARAGE: A small building located near the road. OLD BARNS: Two barn structures located near the road. OLD ROAD BED: A line indicating the path of an old road. FIELD: A field area to the left of the road. STA. 244+50: Survey station mark with dimensions: 4" I.P. w/ CAP, EL. = 452.31. STA. 276+52: Survey station mark with dimensions: 4" I.P. w/ CAP, EL. = 453.32. EDGE OF WATER: A dashed line representing a water body's edge. SET PISTON PIN W/CARBONITE POST: A survey marker located at the end of the road line. <p>A north arrow is located in the upper right corner of the drawing area.</p>					
LAYOUT - PG. ____ BK. ____					

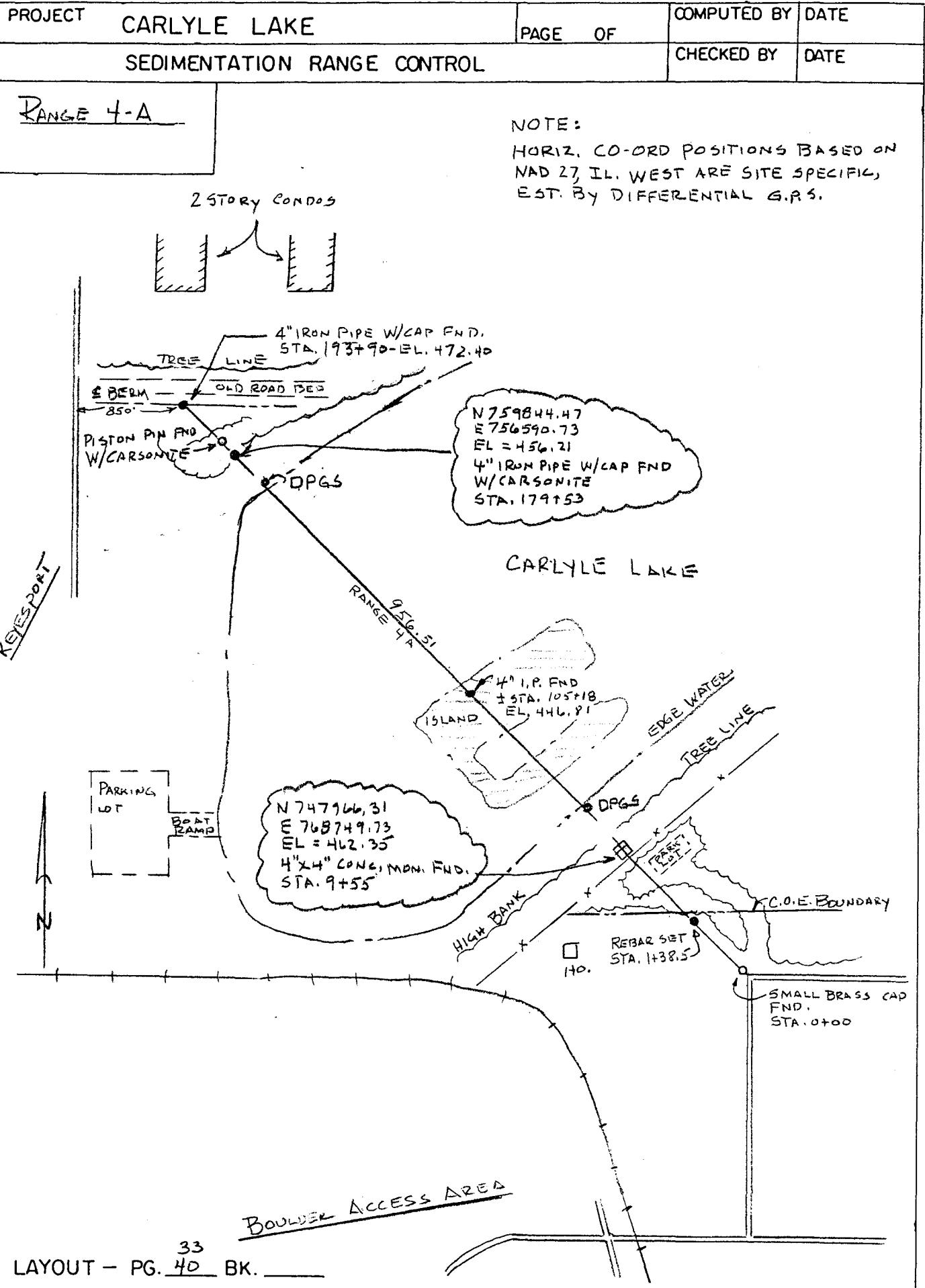
COMPUTATION SHEET

PROJECT	CARLYLE LAKE	PAGE	OF	COMPUTED BY	DATE
	SEDIMENTATION RANGE CONTROL			CHECKED BY	DATE
<u>RANGE 3A</u>					
TOPO P. 42, 43					
<p>A hand-drawn map showing survey points and lake boundaries. The map includes a north arrow pointing upwards. Key features labeled include:</p> <ul style="list-style-type: none"> GRVL ACCESS ROAD: A line running vertically on the left. FIELD: Labeled areas of land. WOODS: Labeled areas of forest. CREEK: Labeled streams or watercourses. EDGE OF WATER: A dashed line indicating the boundary of Carlyle Lake. "ALLENBRANCH": A label near the lake boundary. CARLYLE LAKE: The body of water shown. STA. 341+17, 4" I.P. N/CAP FND., EL. = 453.84: Survey point at the top of the map. STA. 331+75, 4" I.P. W/DISC, EL. = 451.51: Survey point in the middle-left. STA. 317+59, 4" I.P. W/DISC, EL. = 466.59: Survey point in the middle-right. 17, 16, 20, 21: Other survey points marked along the top road line. 134019 59: A label near the bottom center. 					
LAYOUT - PG. ____ BK. ____					



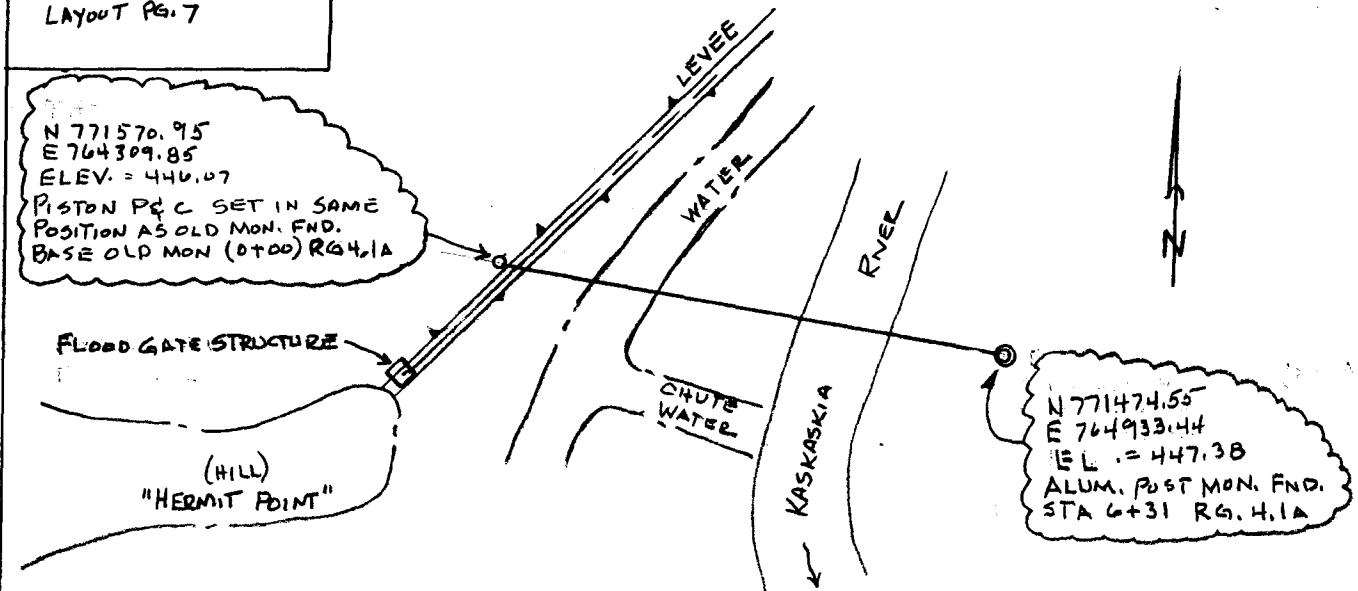
LAYOUT - PG. 30 BK. 36





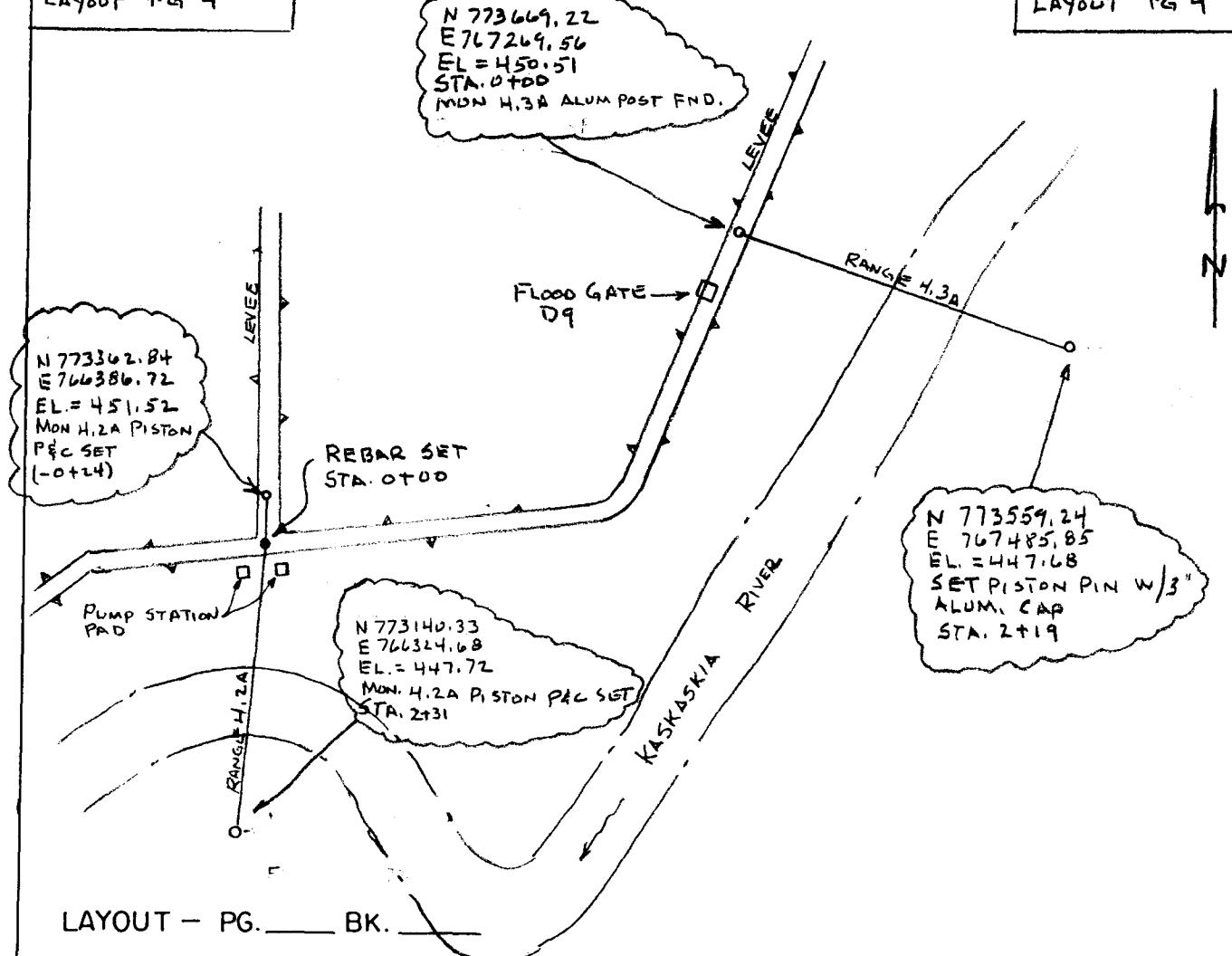
PROJECT	CARLYLE LAKE	PAGE	OF	COMPUTED BY	DATE
	SEDIMENTATION RANGE CONTROL			CHECKED BY	DATE

RANGE 4.1A
LAYOUT PG. 7



RANGE 4.2A
LAYOUT PG 4

RANGE 4.3A
LAYOUT PG 4



LAYOUT - PG. ____ BK. ____

PROJECT	CARLYLE LAKE	PAGE	OF	COMPUTED BY	DATE
	SEDIMENTATION RANGE CONTROL			CHECKED BY	DATE
	RANGE 4.4A LAYOUT PG 4				

RANGE 4.4A LAYOUT PG 4

RANGE 4.5A LAYOUT PG 4

BM 2C-SW CHISELED SQUARE SE CORNER FLOOD GATE "CG" EL. = 450.11

N 778749.94 E 770454.28 ELEV. 455.26 PISTON P&C SET STA. 0+00 RANGE 4.4A

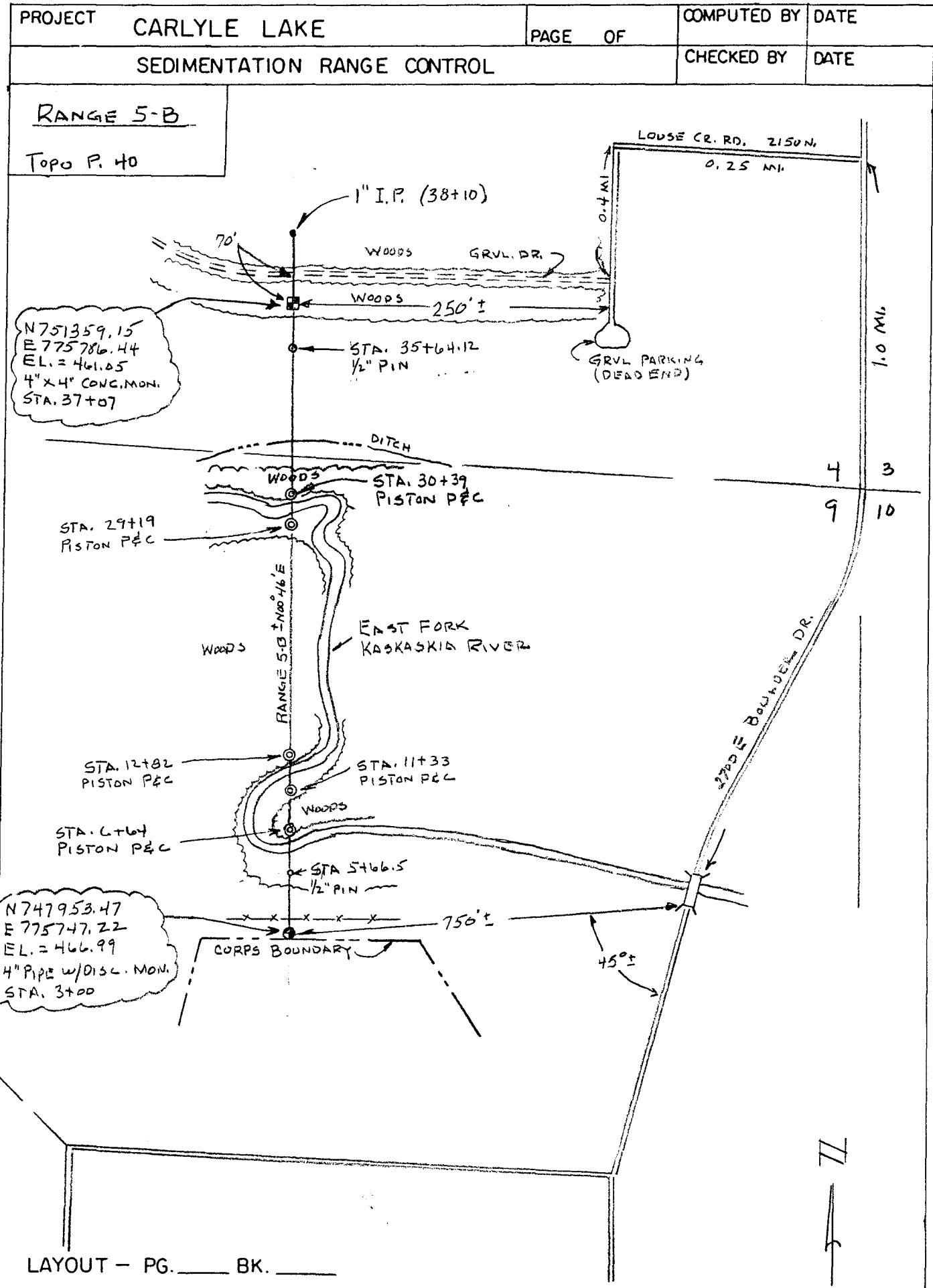
N 778531.66 E 772350.62 EL. = 455.07 PISTON P&C SET STA. 0+00, RANGE 4.5A

BM 2B-SW CHISELED SQUARE SW CORNER FLOOD GATE "C-4" EL. = 454.10

N 778501.28 E 770488.28 PISTON P&C SET STA. 2+51 RANGE 4.4A

N 778309.65 E 772357.29 EL. = 448.67 PISTON P&C SET STA. 2+22, RANGE 4.5A

LAYOUT - PG. 4 BK. _____



PROJECT

CARLYLE LAKE

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DATE

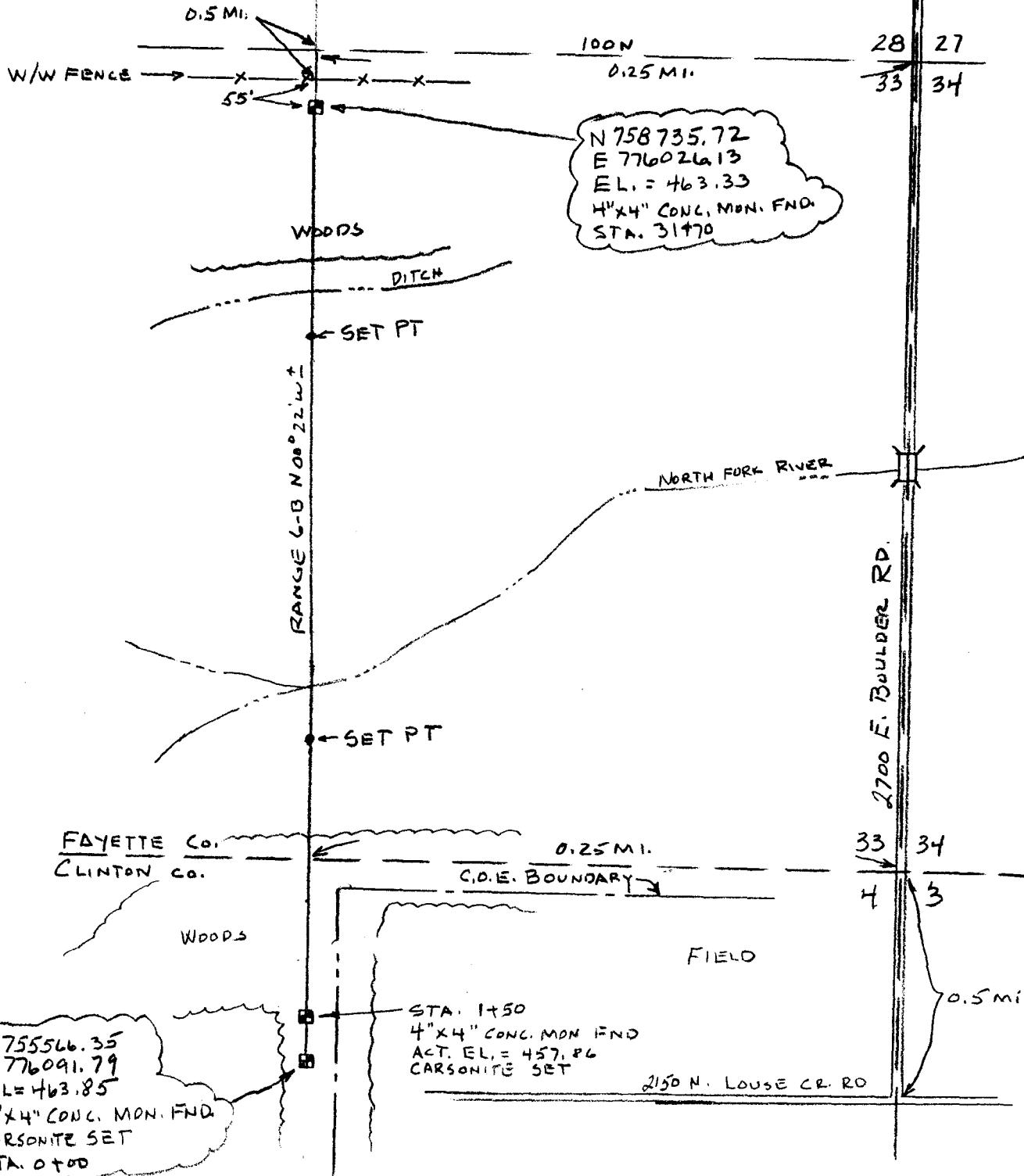
SEDIMENTATION RANGE CONTROL

CHECKED BY

DATE

RANGE 6-B

TOPD P. 45



LAYOUT - PG. ____ BK. ____

PROJECT	CARLYLE LAKE	PAGE	OF	COMPUTED BY	DATE
SEDIMENTATION RANGE CONTROL				CHECKED BY DATE	
<u>RANGE 7-A</u>					
6	5				
7	8				

The map illustrates a section of the Carlyle Lake sedimentation range control. It features a main river flowing from the bottom right towards the top left, with several levees constructed along its banks. A 'HURRICANE CREEK' is shown originating from the river and flowing into a swampy area. A 'COX BRIDGE' spans the river. A north arrow is located in the lower-left corner.

Survey Points and Data:

- Point 1:** N 779466.94, E 772068.07, EL. = 450.94, REBAR STA. 6+33 (R6 7A) & LEVEE
- Point 2:** BM 2B-SW CHISELED SQ, SW COR FLOOD GATE "C4" EL. = 454.10
- Point 3:** 5/8" COPPER ROD FND STA. 15+60 RANGE 7-A EL. = 449.31
- Point 4:** N 776434.52, E 777004.49, EL. = 464.91, 4" X 4" CONC. MON STA. 3+40
- Point 5:** STA. 0+00 COPPER ROD FND, EL. = 470.91

Boundaries:

- A 'CORPS BOUNDARY' is indicated by a line running diagonally across the map.
- A 'REBAR SET' is marked near the center of the map.

Layout Information:

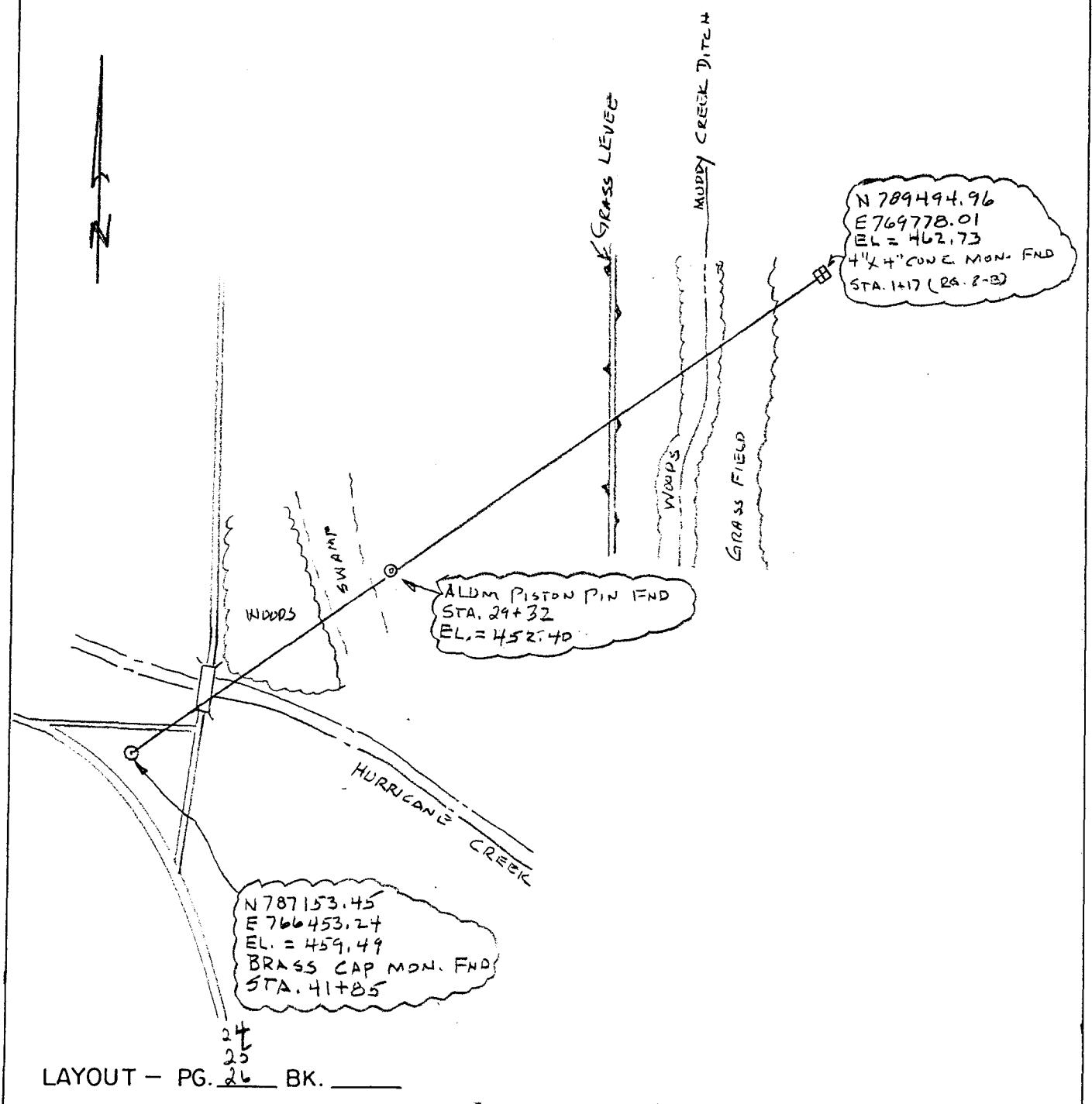
LAYOUT - PG. 17 BK.

13
15

16 15
21 22

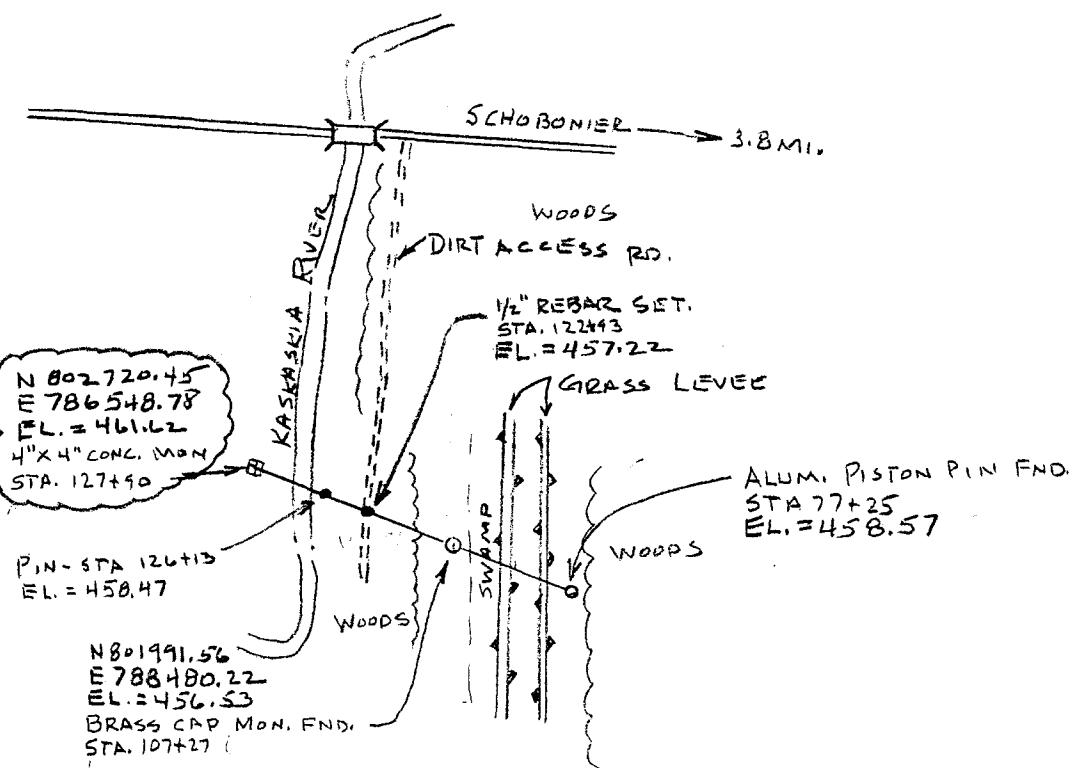
PROJECT	CARLYLE LAKE	PAGE	OF	COMPUTED BY	DATE
SEDIMENTATION RANGE CONTROL				CHECKED BY	DATE
<u>RANGE 7-A</u>					
<p>HURRICANE CREEK</p> <p>LEVEE</p> <p>LEVEE</p> <p>N 77°46'46.94 E 77°20'08.07 EL. = 450.94 REBAR STA. 61+33 (RL 7A) LEVEE</p> <p>WOODS SWAMP</p> <p>LEVEE RIVER</p> <p>BM 2B-SW CHISELED SQ. SW COR FLOOD GATE "C4" EL. = 454.10</p> <p>5/8" COPPER ROD FND STA. 15+60 RANGE 7-A EL. = 449.31</p> <p>KASKASKIA</p> <p>STA. 0+00 COPPER ROD FND. EL. = 470.91</p> <p>WOODS</p> <p>CORPS BOUNDARY</p>					
LAYOUT - PG. <u>17</u> BK. <u> </u>		<u>13</u> <u>15</u> <u>16</u> <u>15</u> <u> </u> <u> </u> <u>21</u> <u>22</u>			

PROJECT	CARLYLE LAKE	PAGE	OF	COMPUTED BY	DATE
	SEDIMENTATION RANGE CONTROL			CHECKED BY	DATE
<u>RANGE 8-B</u>					



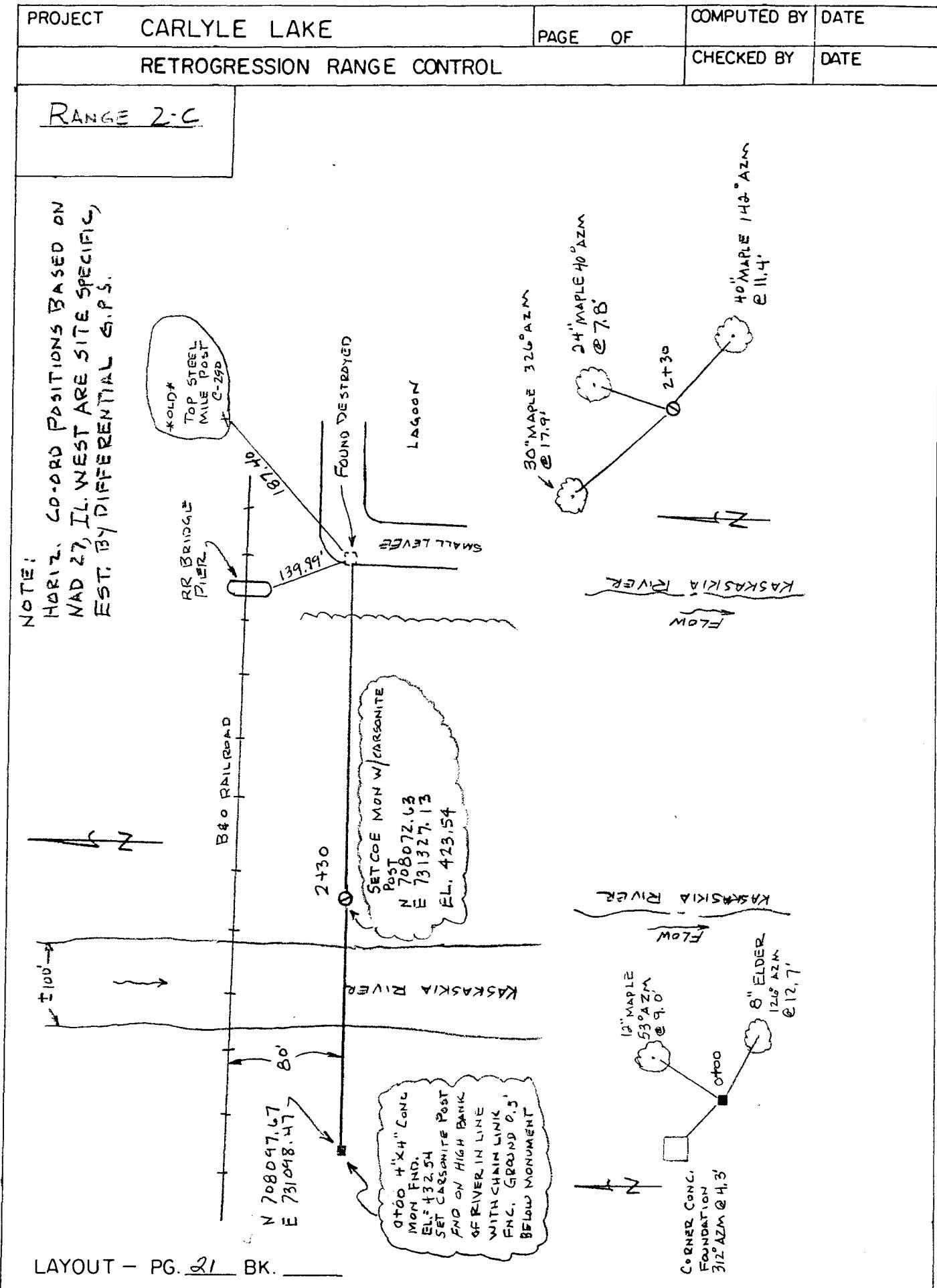
PROJECT	CARLYLE LAKE	PAGE	OF	COMPUTED BY	DATE
	SEDIMENTATION RANGE CONTROL			CHECKED BY	DATE

RANGE 9-A



LAYOUT - PG. 28 29 BK. _____

PROJECT	CARLYLE LAKE	PAGE	OF	COMPUTED BY	DATE			
	RETROGRESSION RANGE CONTROL			CHECKED BY	DATE			
<u>RANGE I-C</u>								
<p>NOTE:</p> <p>HORIZ. CO-ORD POSITIONS BASED ON NAD 27, IL. WEST ARE SITE SPECIFIC, EST. BY DIFFERENTIAL GPS</p>								
EL. 440.51 FOUND IN POWER POLE OLD BOAT SPIKE AND COPPER WASHER								
LAYOUT - PG. <u>24</u> BK. _____								



PROJECT

CARLYLE LAKE

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REGRESSION RANGE CONTROL

CHECKED BY DATE

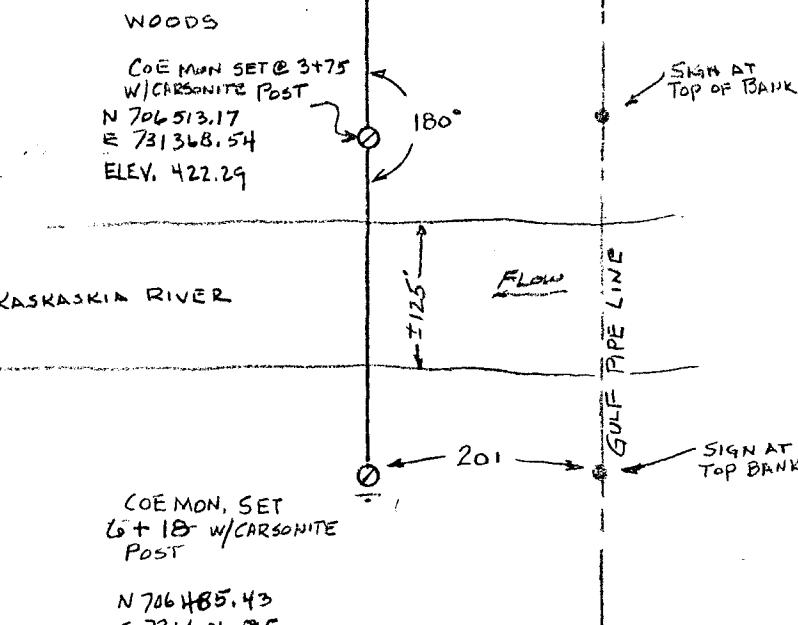
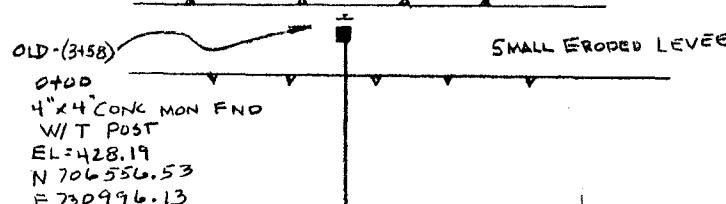
RANGE 4-C

LAYOUT - PG. 15 BK.

SEE PG 35 OCT 82
CARLYLE RETRO RANGE BK.

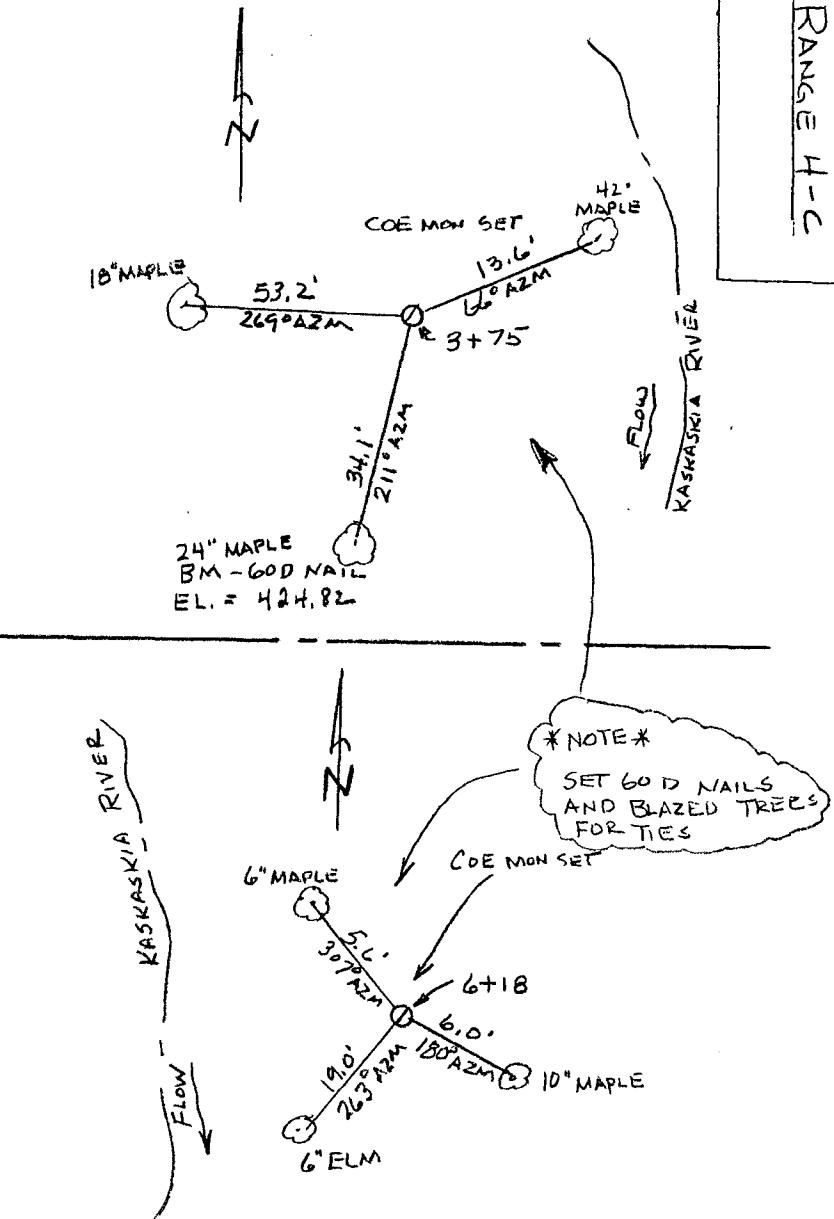
COMPUTATION SHEET

17



NOTE:

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



PROJECT

CARLYLE LAKE

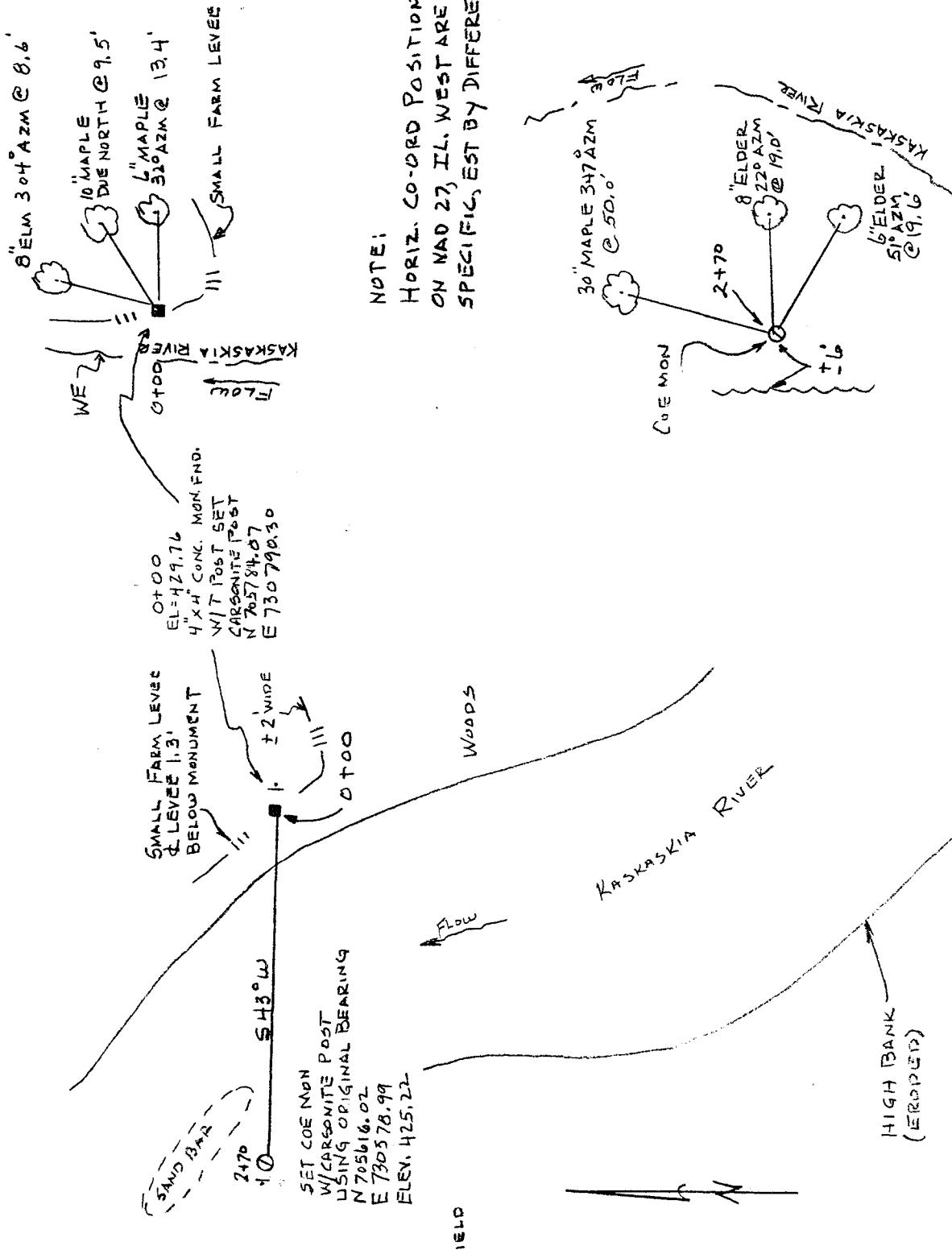
RETROGRESSION RANGE CONTROL

PAGE OF

COMPUTED BY

DATE

RANGE 5-C



LAYOUT - PG. 12 BK.

COMPUTATION SHEET

PROJECT	CARLYLE LAKE	PAGE	OF	COMPUTED BY	DATE
RETROGRESSION RANGE CONTROL					
<u>RANGE 6-C</u>					
<p>NOTE: * GOOD NAILS SET AND GLAZED FOR TIES</p>					
<p>NOTE: HORIZ. CO-ORD POSITIONS BASED ON NAD 27, IL. WEST ARE SITE SPECIFIC, EST. BY DIFFERENTIAL GPS</p>					
<img alt="Hand-drawn map of Range 6-C showing survey points and distances. A main horizontal line has a point at 22.5 labeled 'OLD REMAINS OF MON. IN FIELD'. A vertical line extends downwards from this point, ending at 2+25.11. From this point, two diagonal lines branch out: one to the left labeled '4" MAPLE' with distance 11.9', and one to the right labeled '6" MAPLE' with distance 5.9'. Both of these lines end at points labeled '					

PROJECT CARLYLE LAKE	PAGE OF	COMPUTED BY	DATE
RETROGRESSION RANGE CONTROL		CHECKED BY	DATE
<u>RANGE 7-C</u>			
<p>4" X 4" CINI MON FND W/T POST SET CARSONITE POST COORDINATES 24 SOUTH OF MON, N - 705026.23 E - 731095.94 ELEV. 424.09</p> <p>48" DOUBLE TRUNK WALNUT 6" BOXELDER</p>			
<p>10" ASH 5.0' NAD 27 IL West</p> <p>12" ELM</p> <p>*NOTE* SET 600 FEET AND BLAZED TREES FOR TIES</p>			
<p>NOTE: HORIZ. CO-ORD POSITIONS BASED ON NAD 27 IL WEST ARE SITE SPECIFIC, EST. BY DIFFERENTIAL GPS</p> <p>LAYOUT - PG. <u>3</u> BK.</p>			

PROJECT	CARLYLE LAKE	PAGE	OF	COMPUTED BY	DATE
	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.

PROJECT

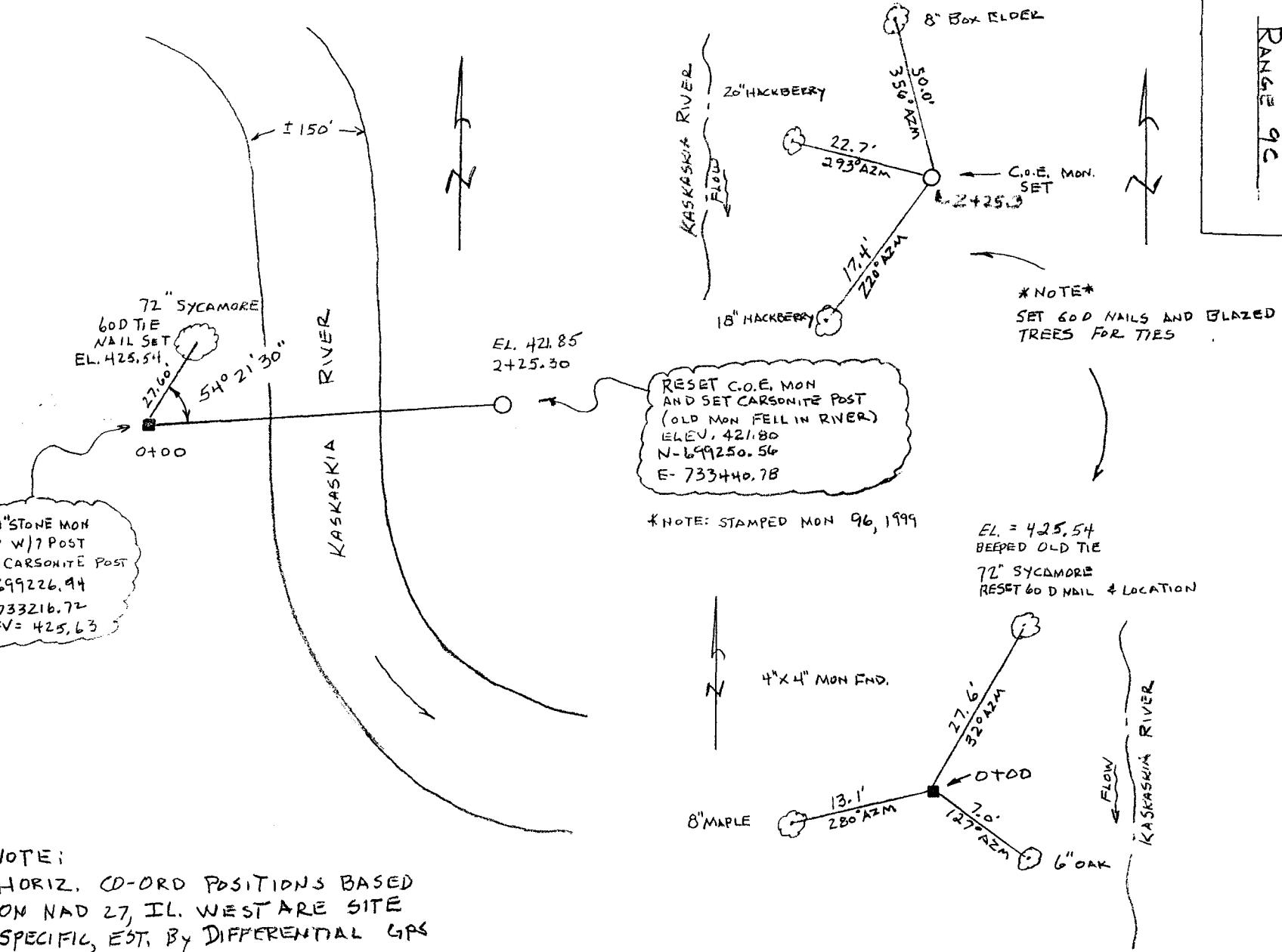
CARLYLE LAKE

PAGE OF

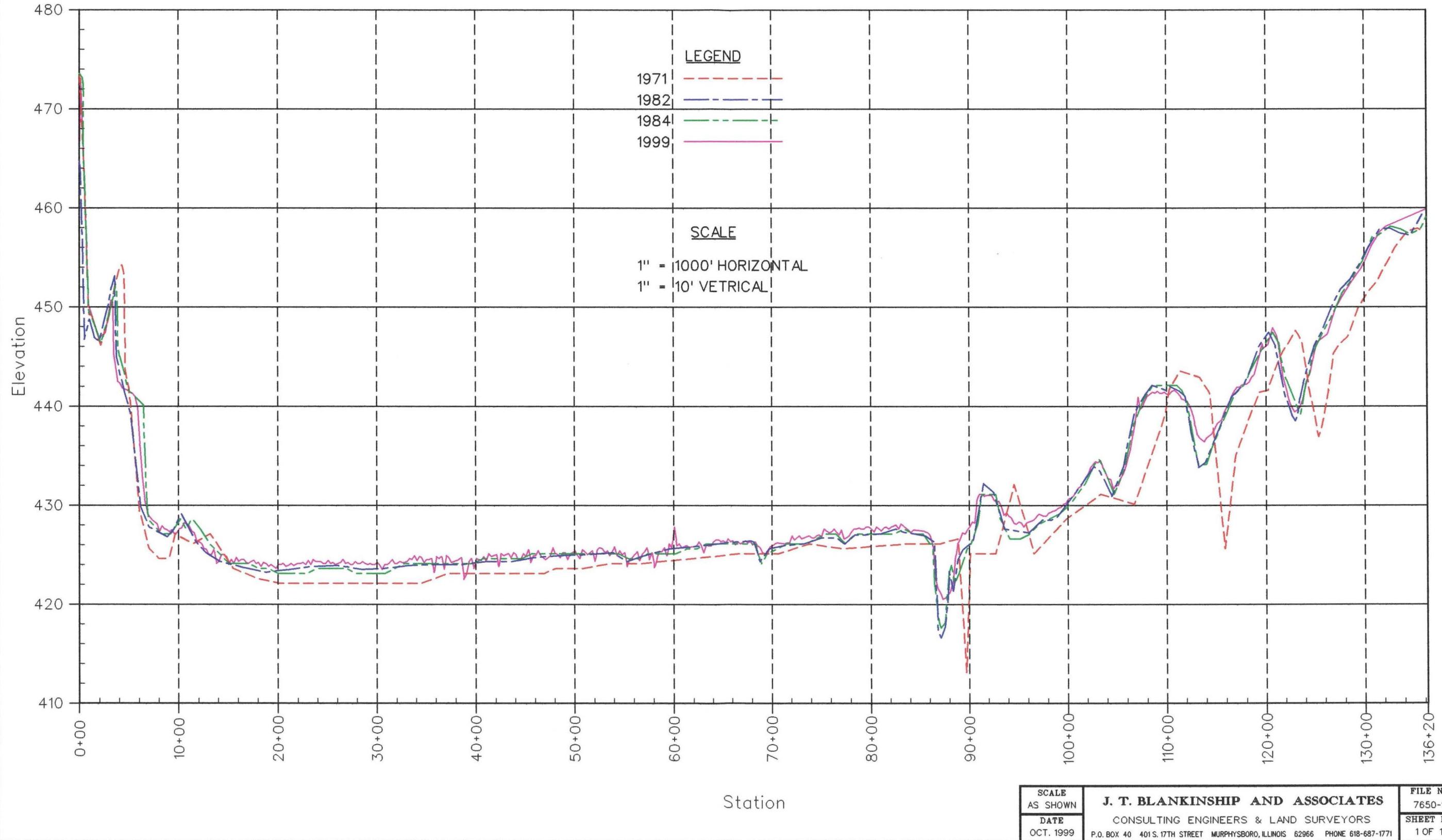
COMPUTED BY DATE

REGRESSION RANGE CONTROL

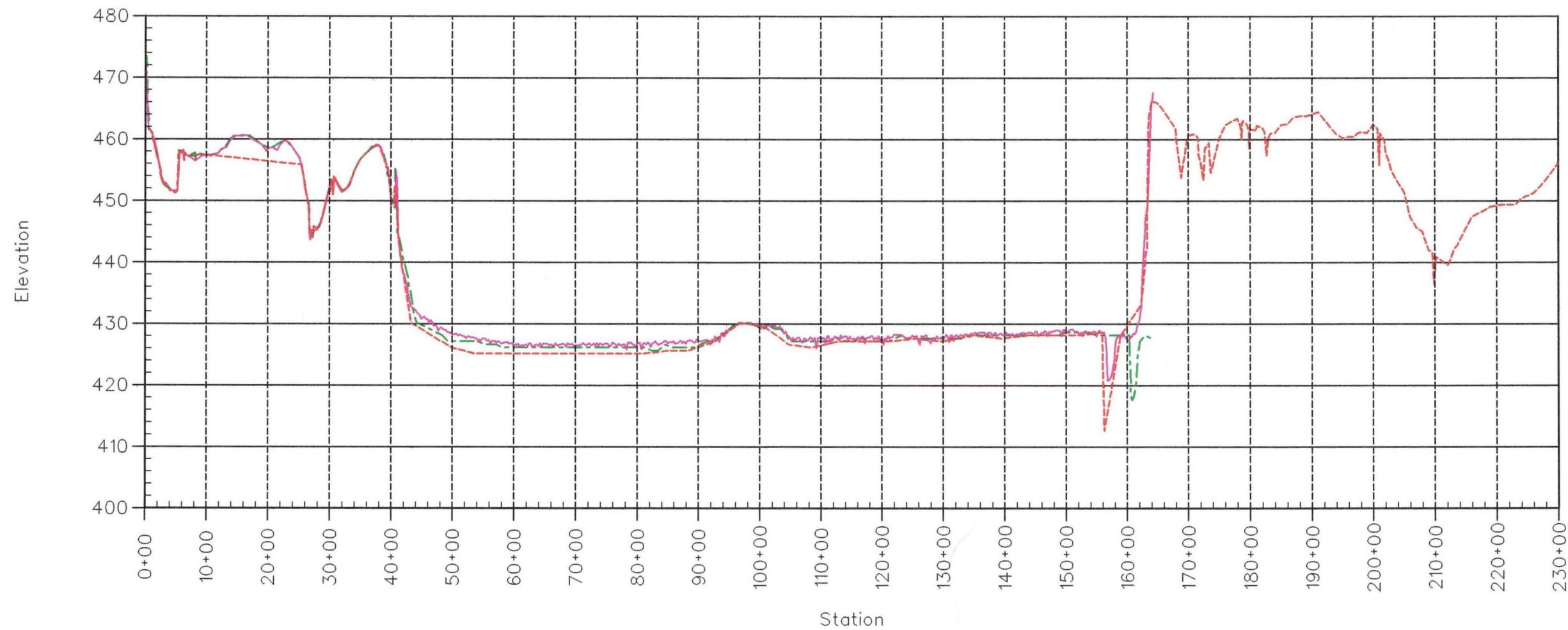
RANGE 96



SEDIMENTATION RANGE 1A



SEDIMENTATION RANGE 2A



LEGEND

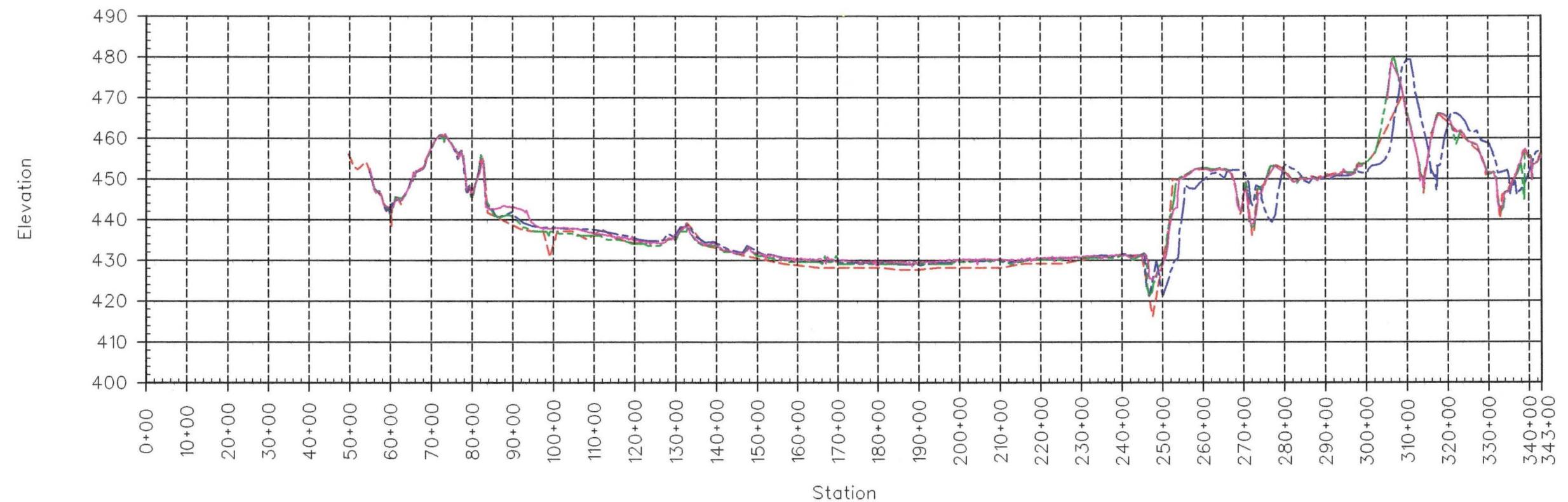
- 1971 -----
- 1984 - - - -
- 1999 ——————

SCALE

1" = 2000' HORIZONTAL
1" = 20' VERTICAL

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

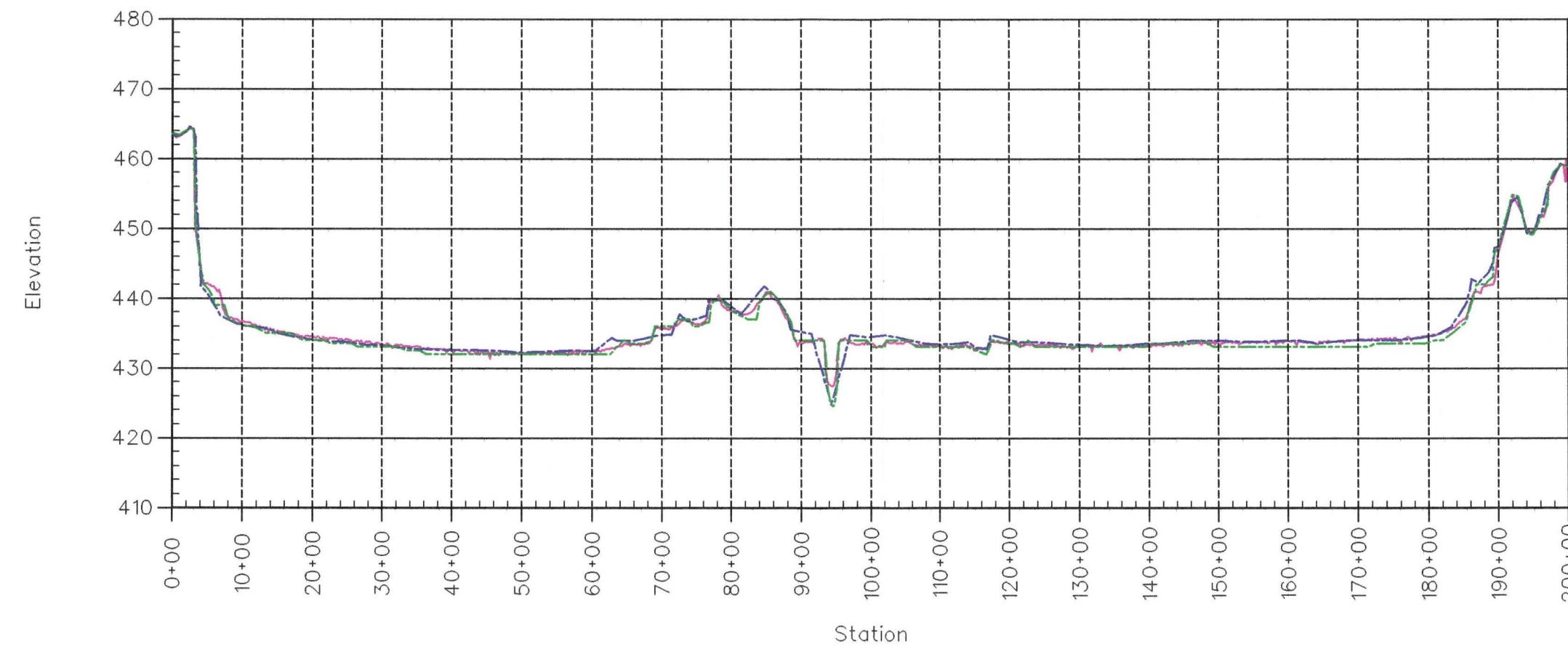
NOTE: UNABLE TO OBTAIN PROFILE DATA
STATION 299+16 TO STATION 305+22 DUE
TO STANDING CORN CROP IN THIS AREA AT
DATE OF SURVEY.

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

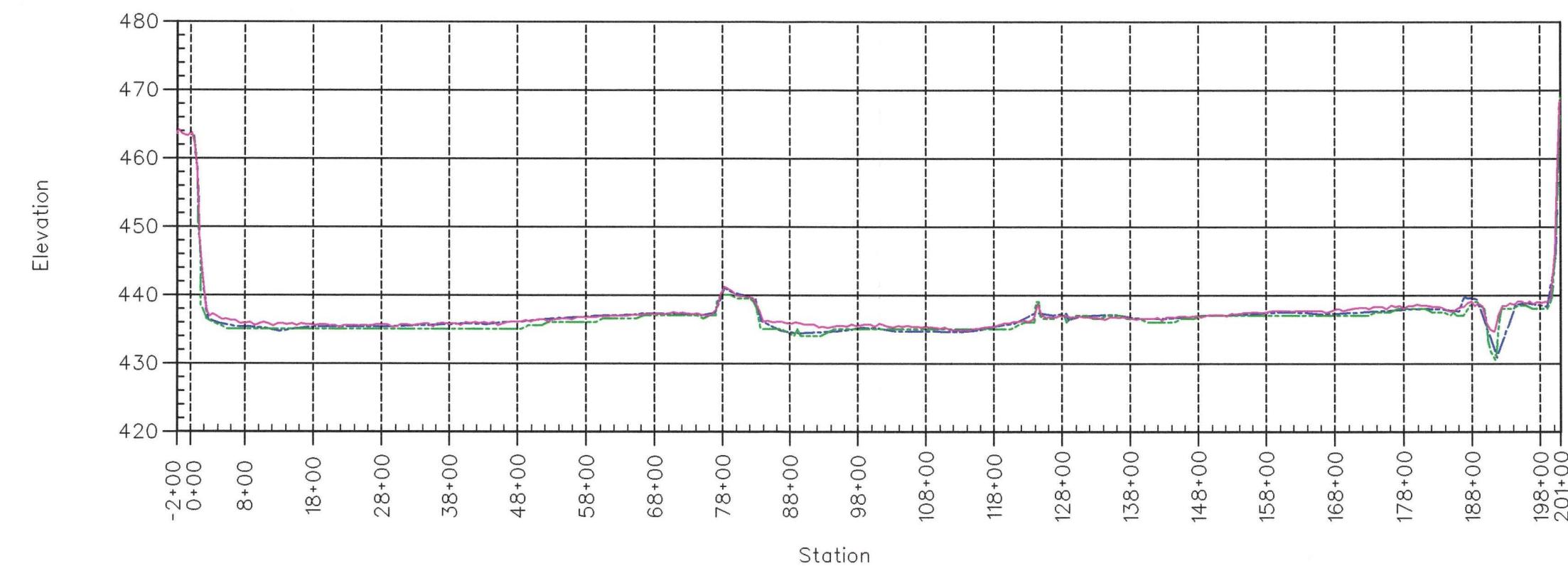
1" = 2000' HORIZONTAL
1" = 20' VERTICAL

SCALE AS SHOWN
DATE OCT. 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.
4 OF 16

SEDIMENTATION RANGE 3-2A



LEGEND

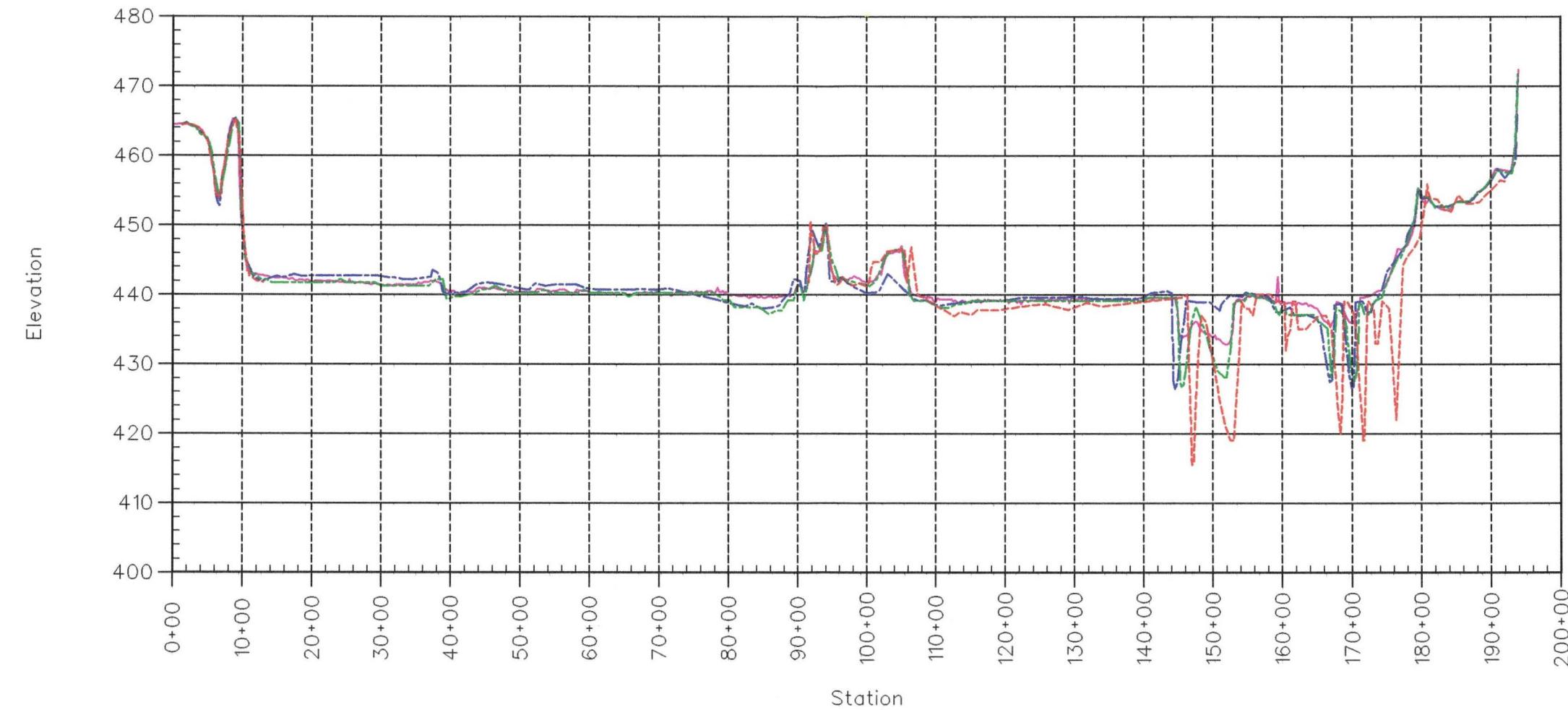
1982 -----
1984 - - - - -
1999 —————

SCALE

1" = 2000' HORIZONTAL
1" = 20' VERTICAL

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

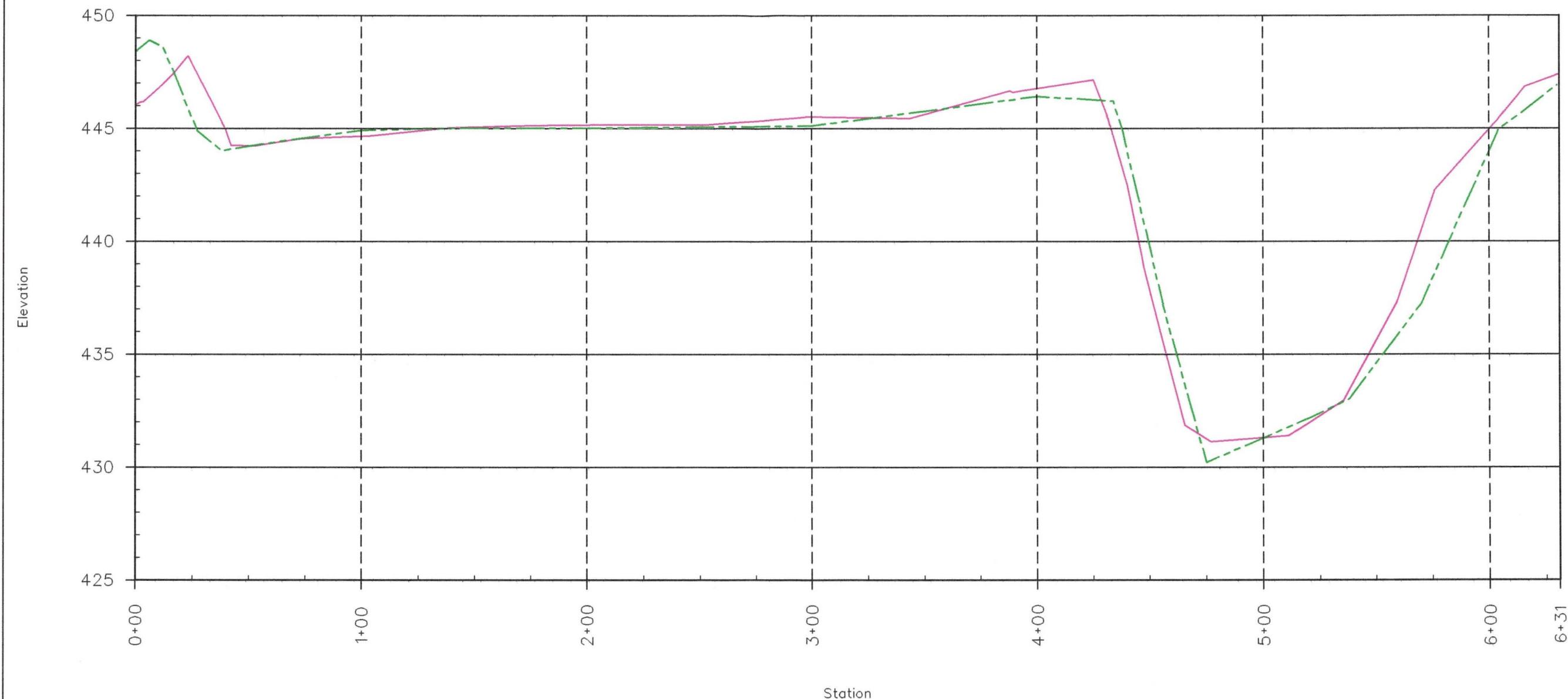
NOTE: NO PROFILE DATA WAS RECORDED
FROM STATION 13+00 TO STATION 91+61
FOR 1971 SURVEY.

SCALE AS SHOWN
DATE OCT. 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. 6 OF 16

SEDIMENTATION RANGE 4-1A



LEGEND

1984
1999

SCALE

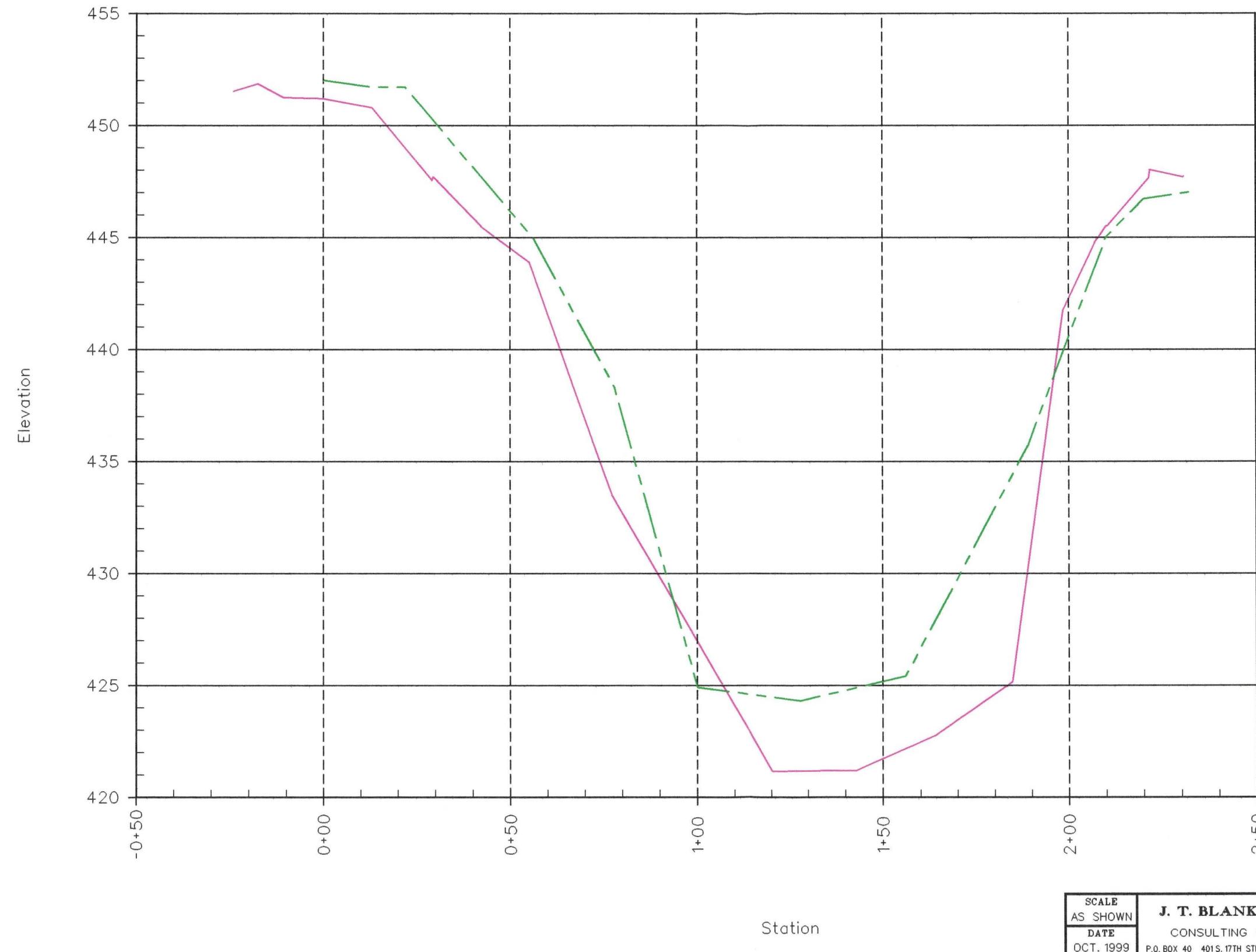
1" = 50' HORIZONTAL
1" = 5' VERTICAL

SCALE AS SHOWN
DATE OCT. 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.
7 OF 16

SEDIMENTATION RANGE 4-2A

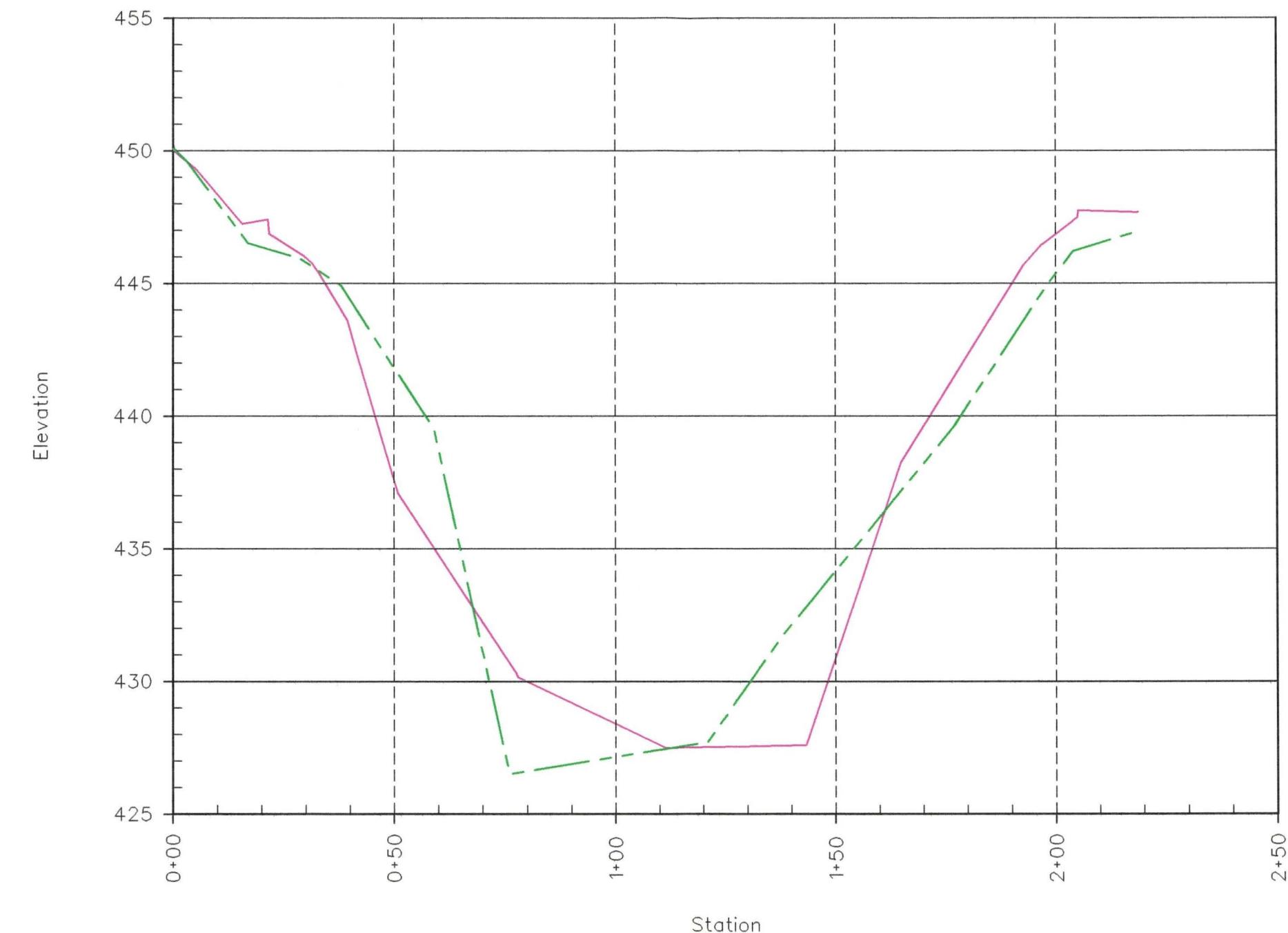


SCALE
AS SHOWN
DATE
OCT. 1999

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.
8 OF 16

SEDIMENTATION RANGE 4-3A



LEGEND

1984 1999

SCALE

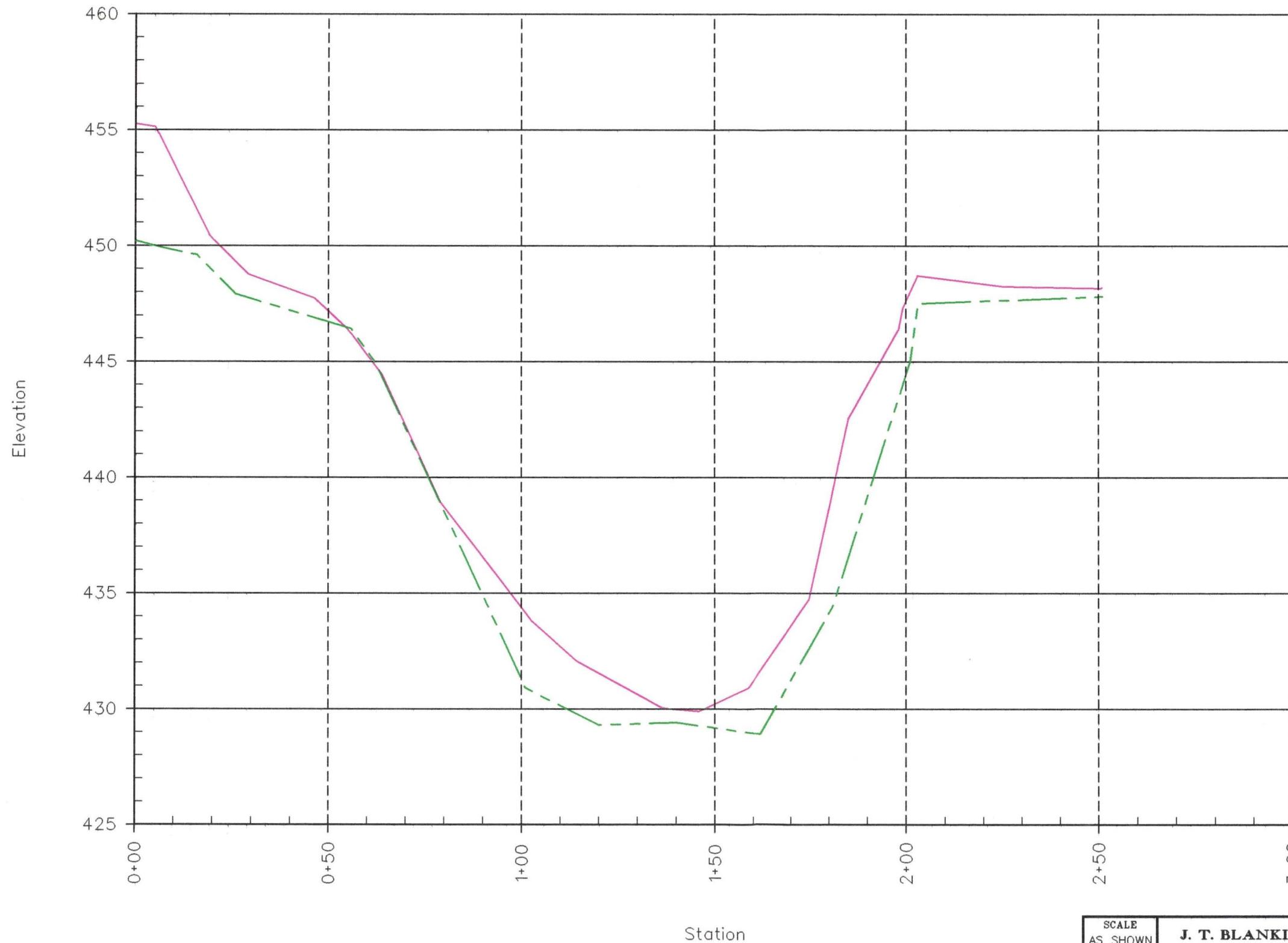
1" = 30' HORIZONTAL
1" = 5' VERTICAL

SCALE AS SHOWN
DATE OCT. 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.
9 OF 16

SEDIMENTATION RANGE 4-4A

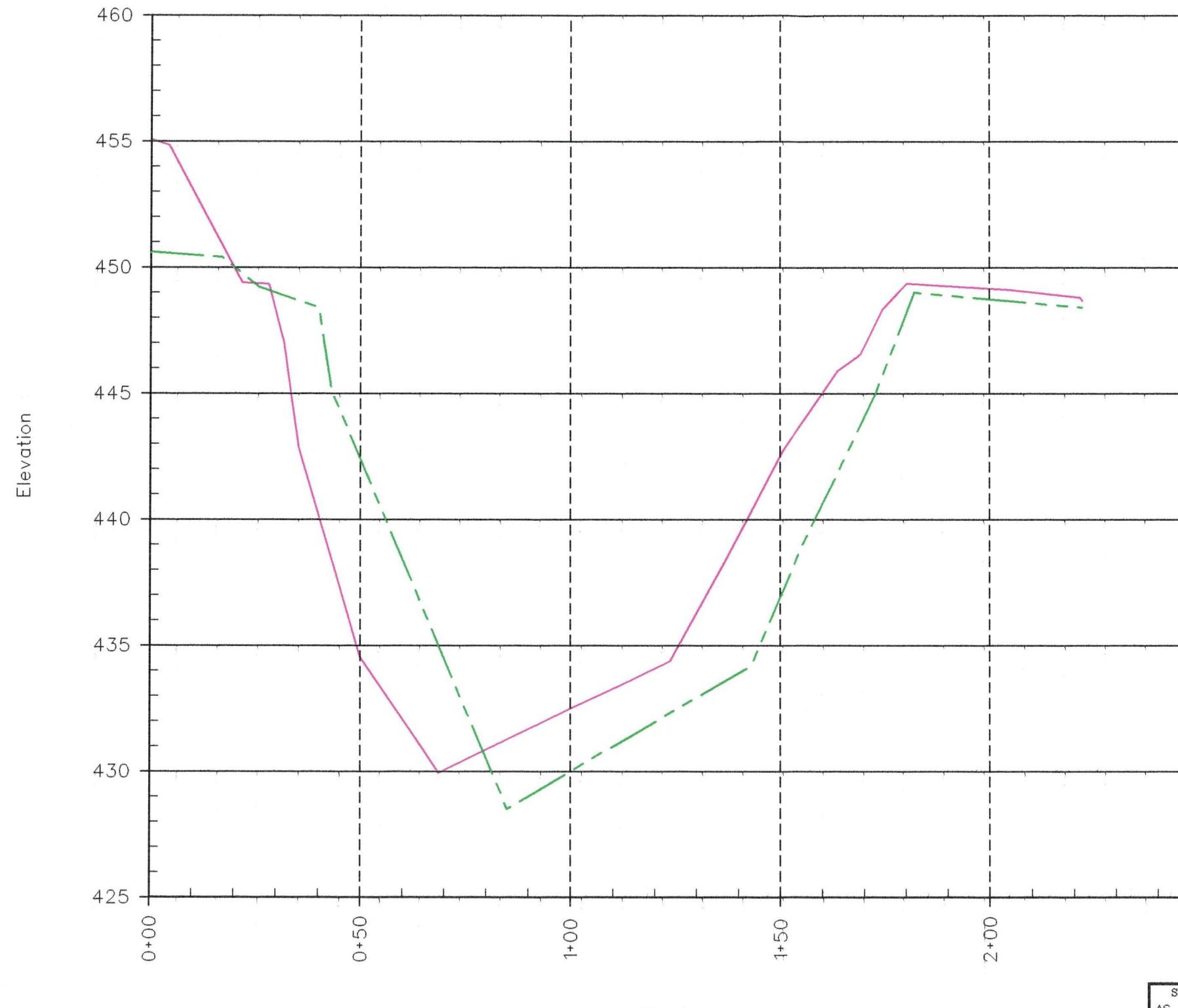


SCALE
AS SHOWN
DATE
OCT. 1999

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.
10 OF 16

SEDIMENTATION RANGE 4-5A



SCALE

1" = 30' HORIZONTAL
1" = 5' VERTICAL

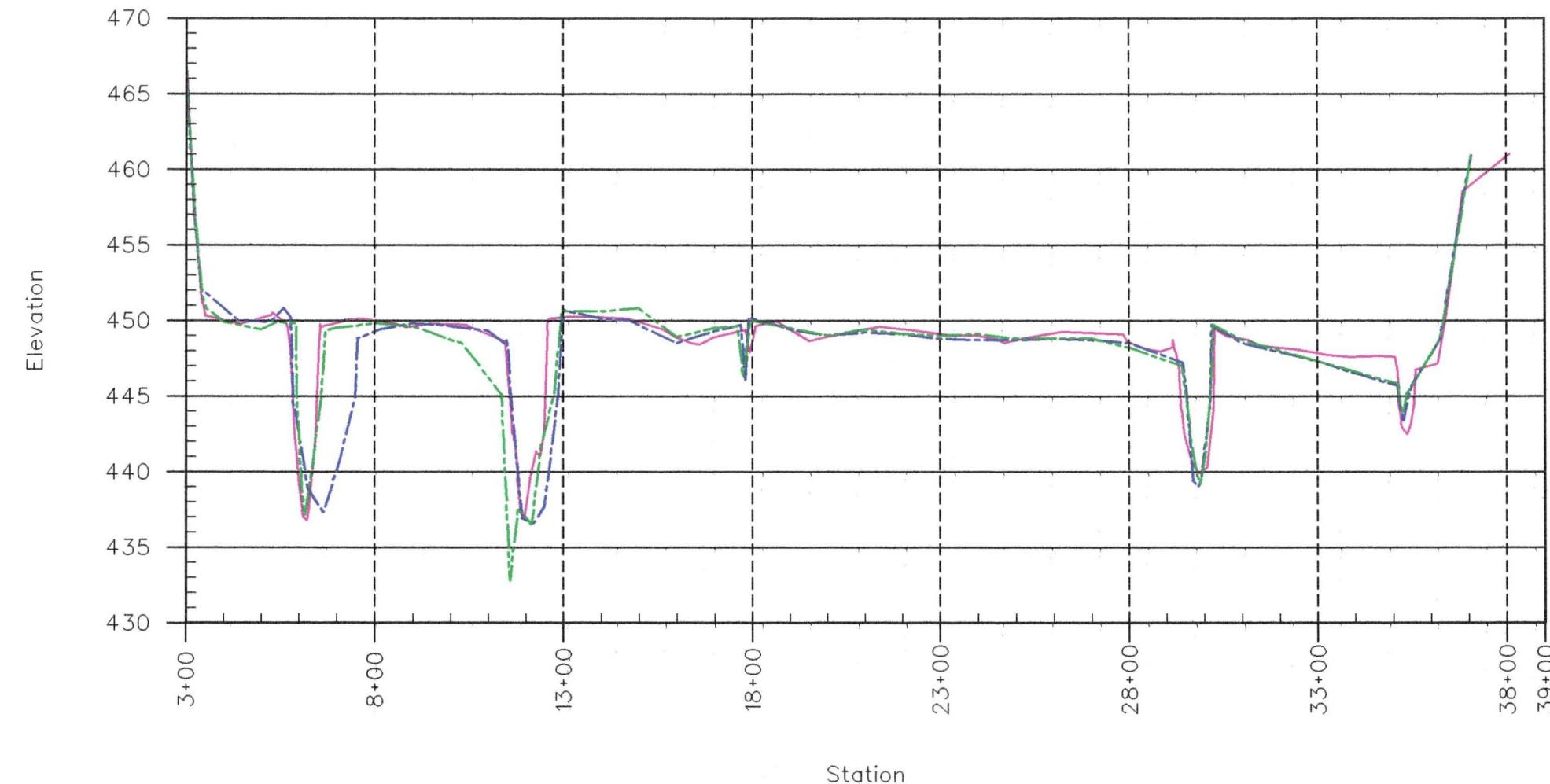
LEGEND

1984 ——
1999 - - -

Station

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

SEDIMENTATION RANGE 5B



LEGEND

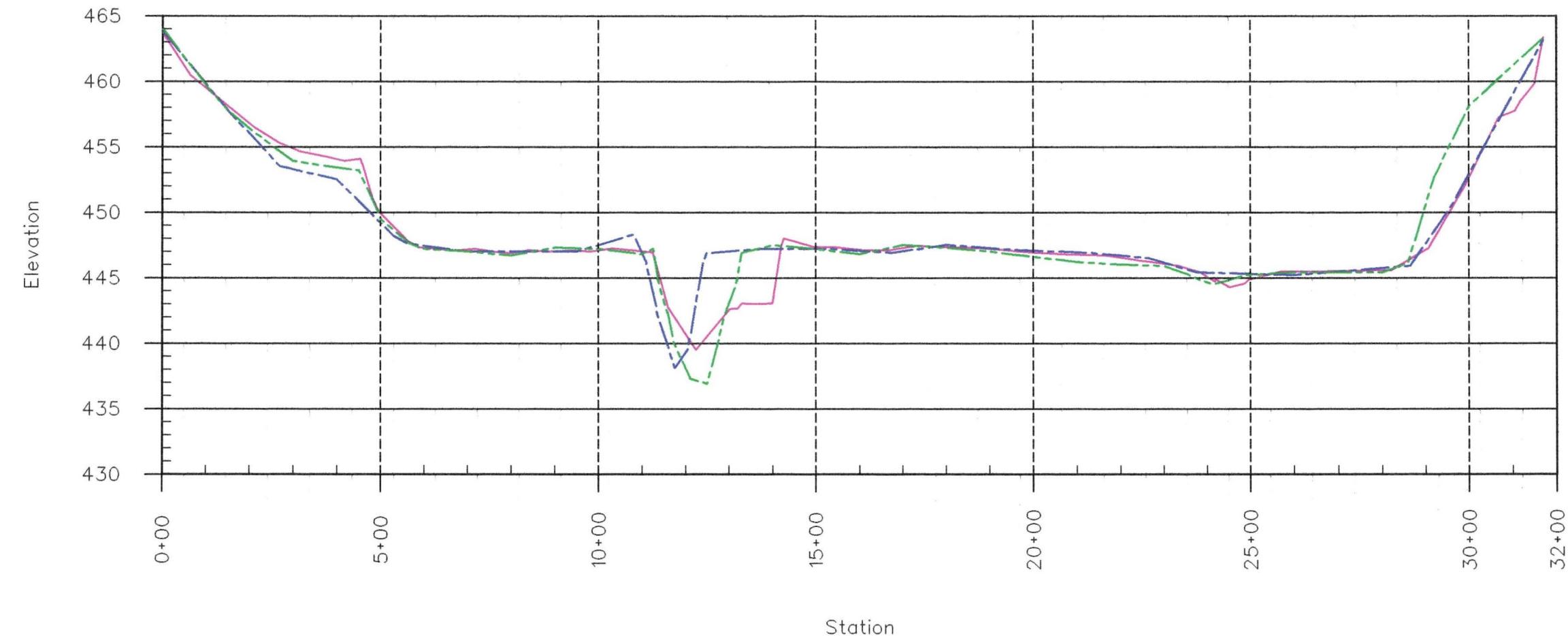
1982	—
1984	- - -
1999	—

SCALE

1" = 400' HORIZONTAL
1" = 10' VERTICAL

SCALE AS SHOWN	J. T. BLANKINSHIP AND ASSOCIATES	FILE NO.
DATE	CONSULTING ENGINEERS & LAND SURVEYORS	7650-19
OCT, 1999	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

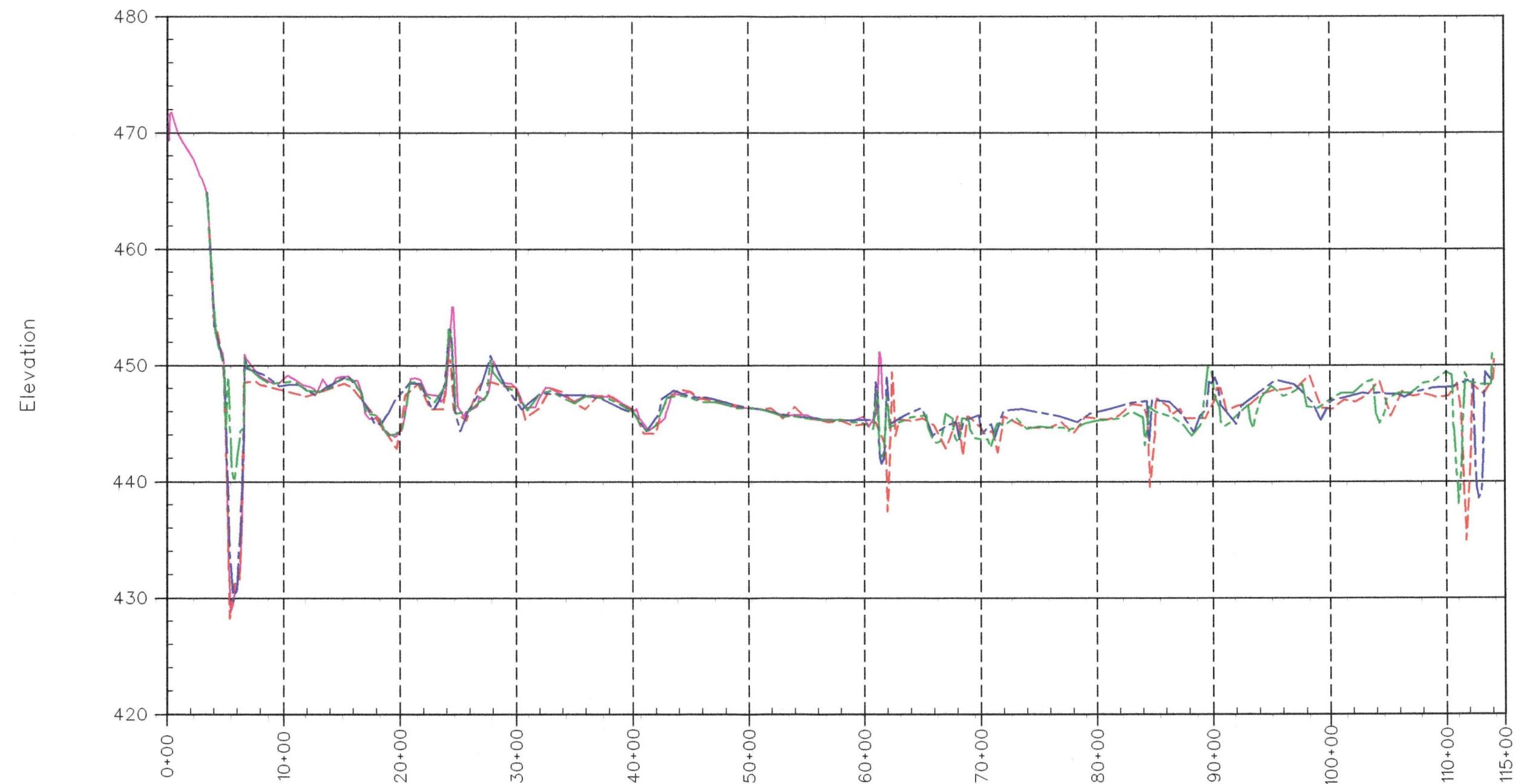
1" = 300' HORIZONTAL
1" = 10' VERTICAL

SCALE AS SHOWN
DATE OCT. 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.
13 OF 16

SEDIMENTATION RANGE 7A



LEGEND

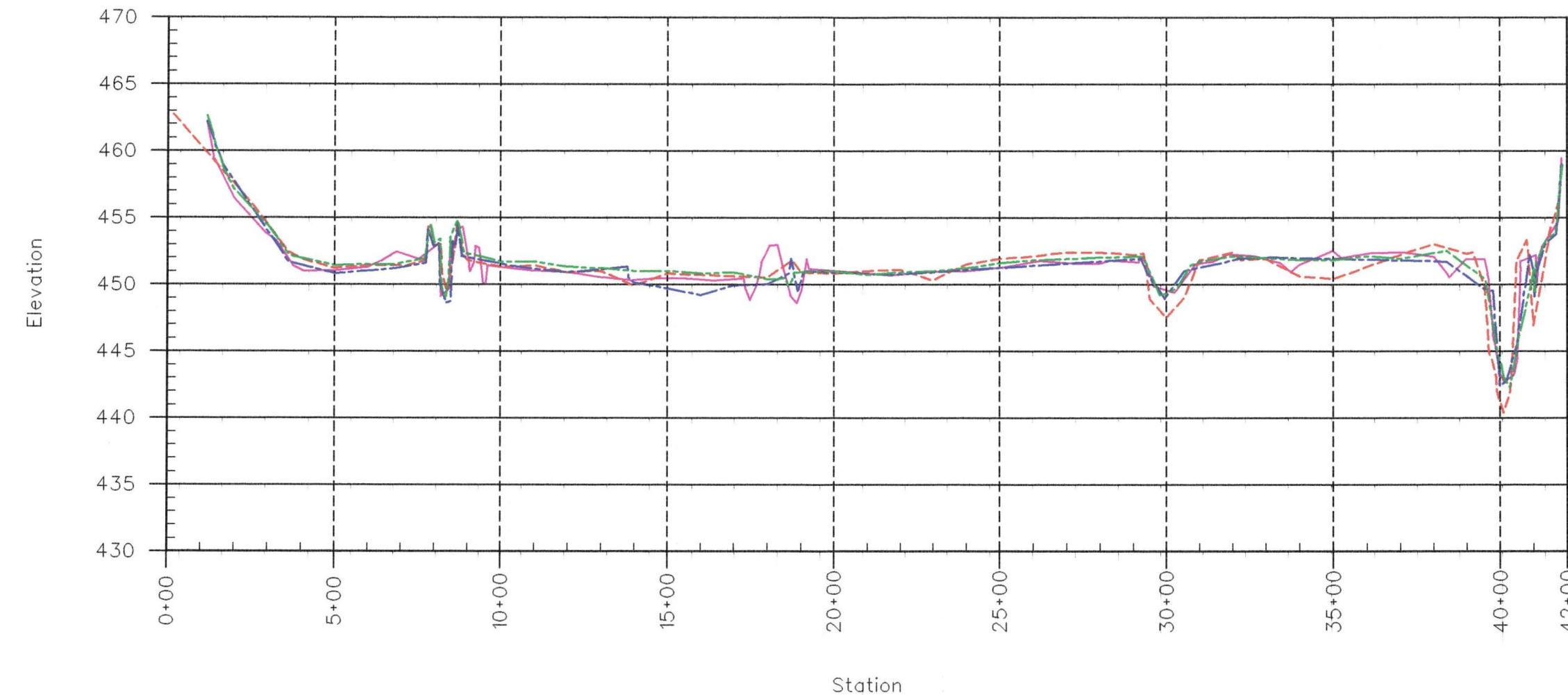
1971	— - -
1982	- - - - -
1984	- - - - -
1999	— — —

SCALE

1" = 1000' HORIZONTAL
1" = 10' VERTICAL

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

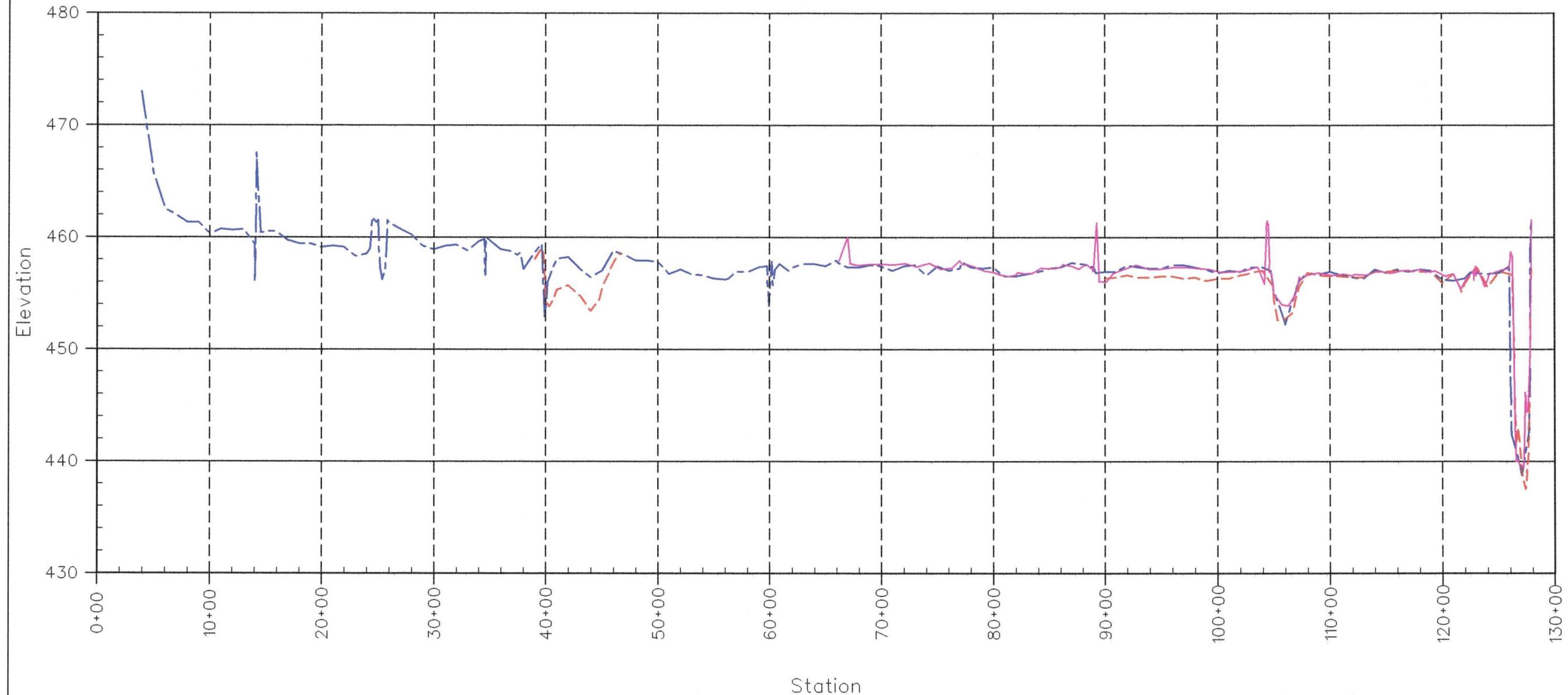
- 1971 - - - - -
- 1982 - - - - -
- 1984 - - - - -
- 1999 - - - - -

SCALE

1" = 400' HORIZONTAL
1" = 10' VERTICAL

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

SEDIMENTATION RANGE 9A



LEGEND

1971	- - - - -
1982	- - - - -
1999	—

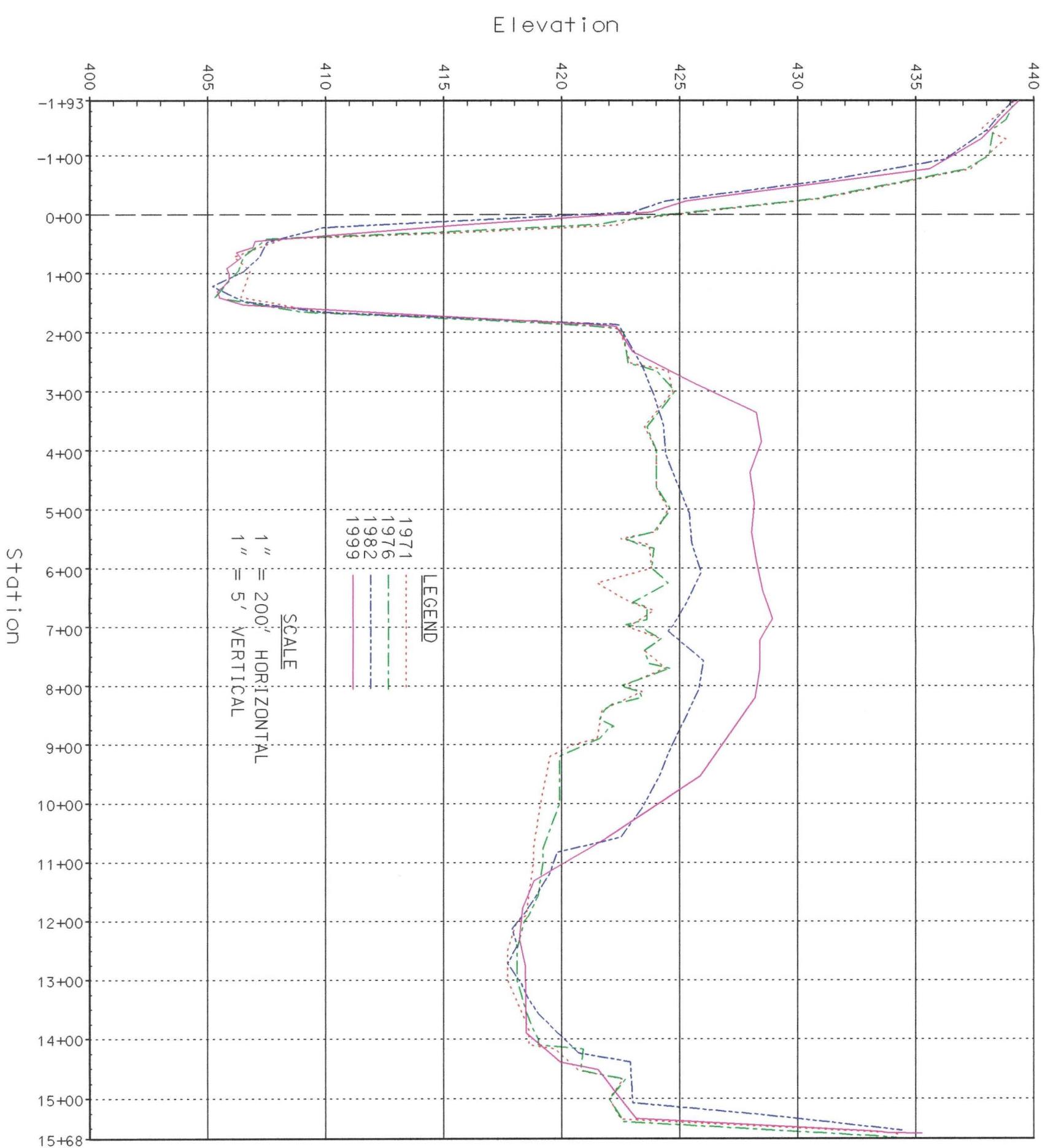
SCALE

1" = 1000' HORIZONTAL
1" = 10' VERTICAL

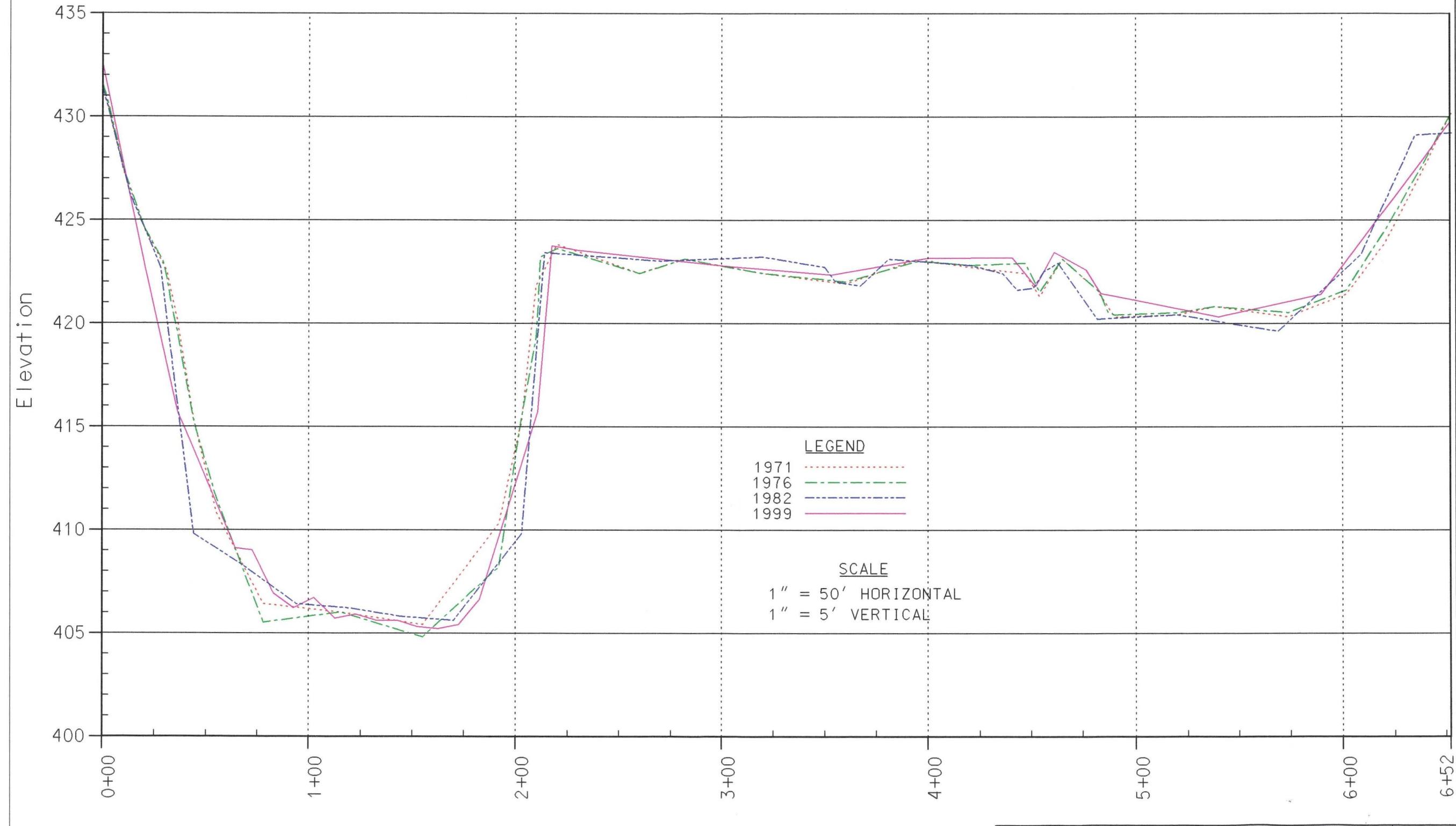
NOTE: NO PROFILE DATA WAS RECORDED
FROM STATION 46+46 TO STATION 90+00
FOR 1971 SURVEY.

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

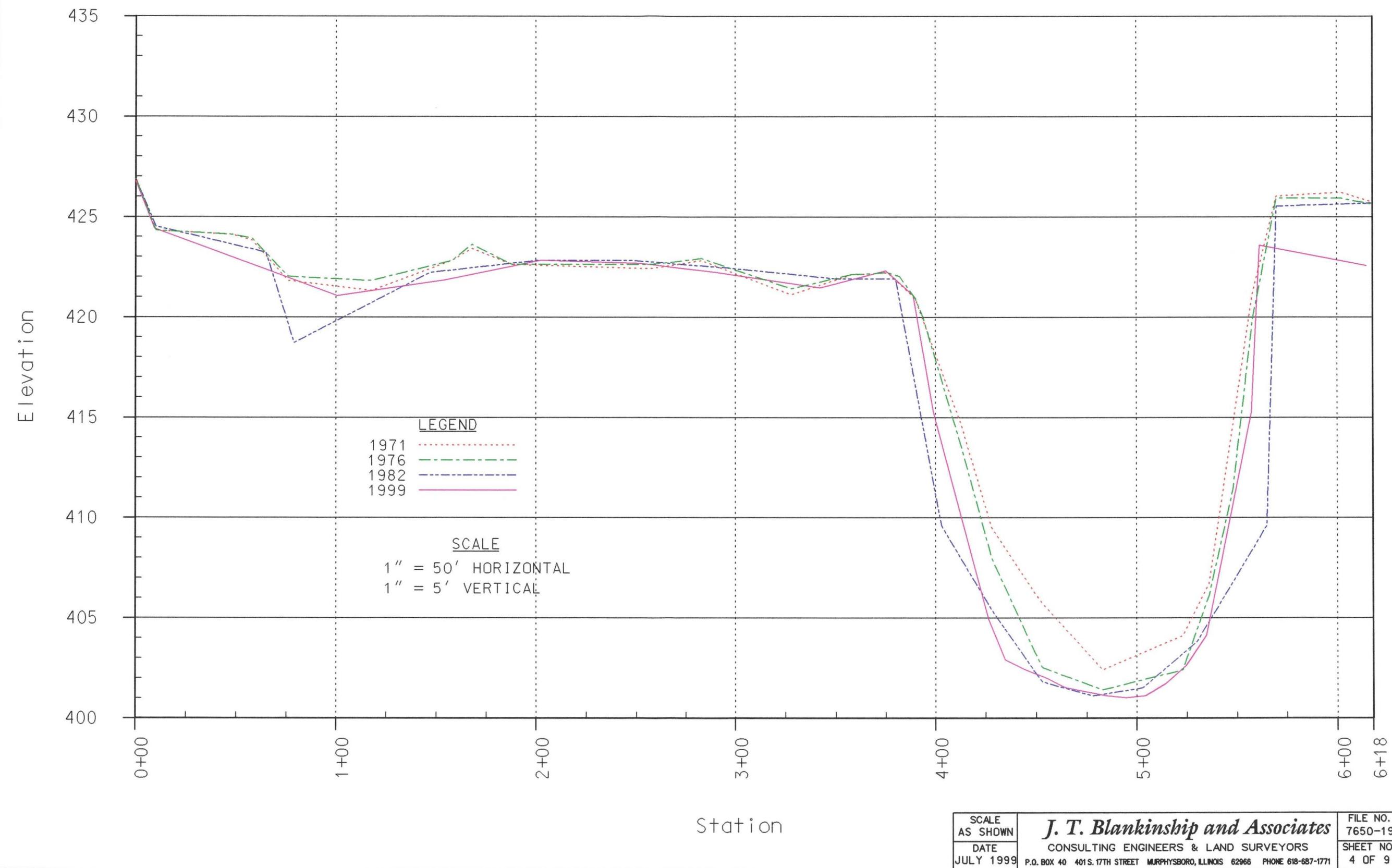
RETROGRESSION RANGE 1C



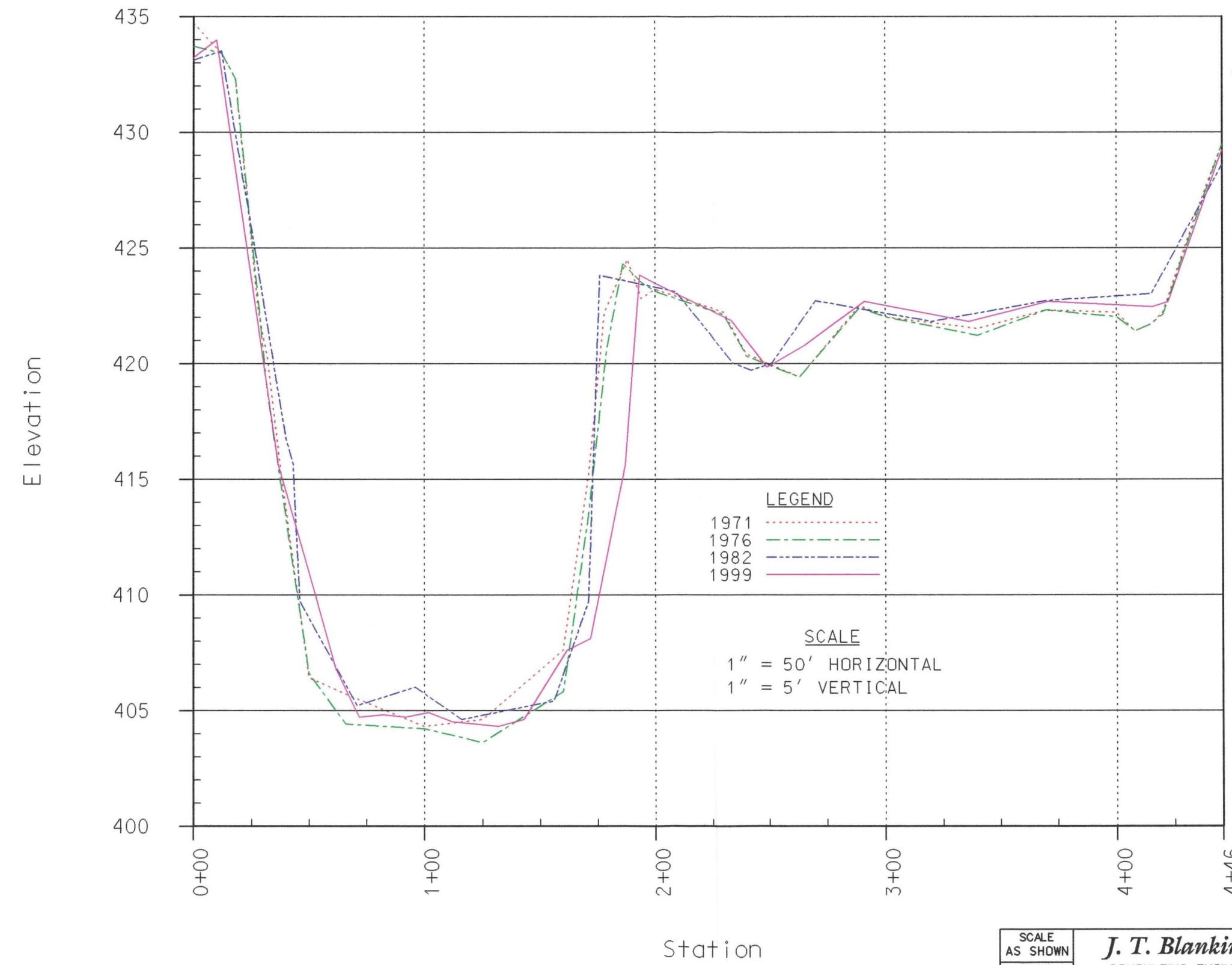
RETROGRESSION RANGE 2C



RETROGRESSION RANGE 4C



RETROGRESSION RANGE 3C

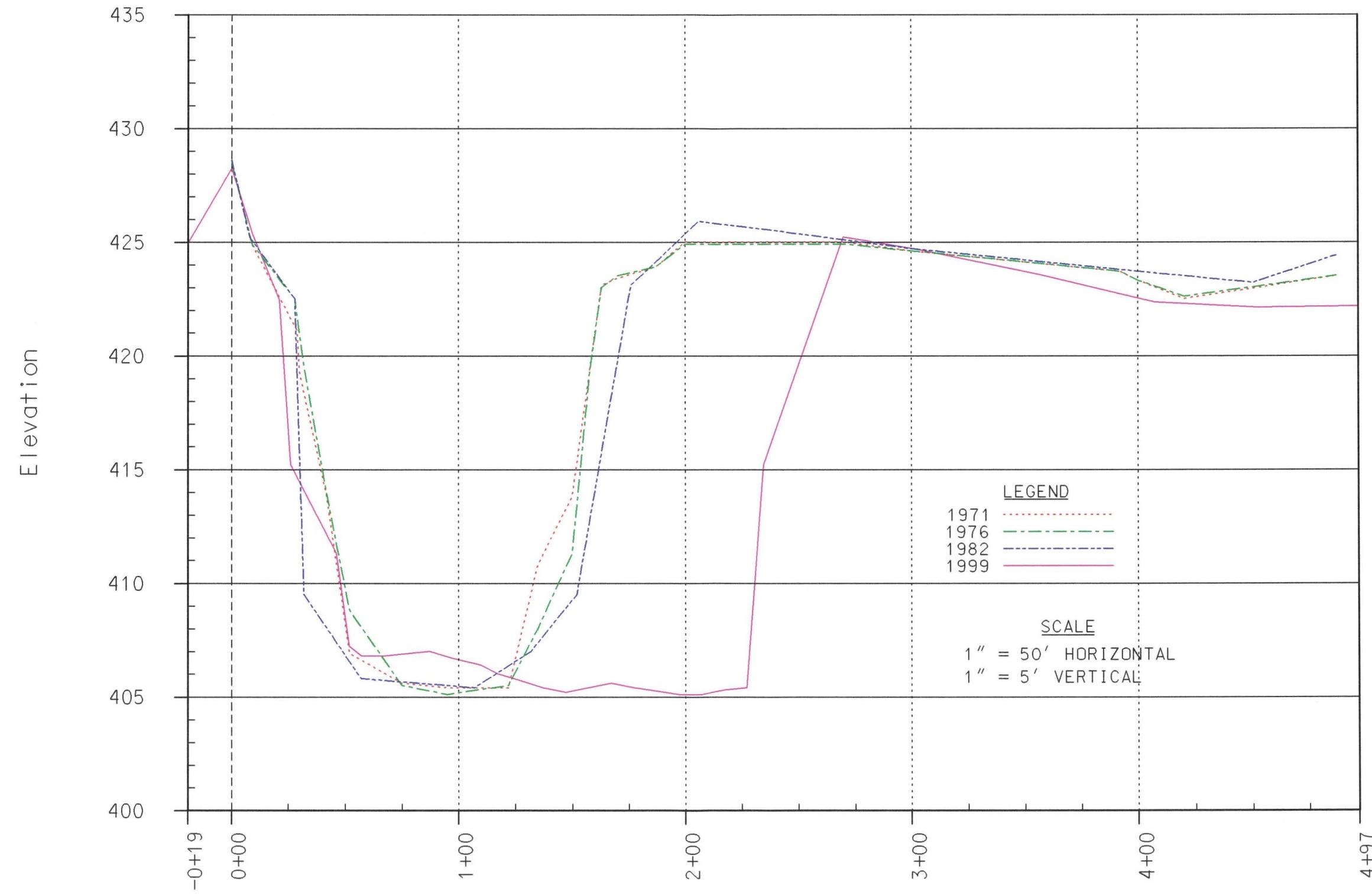


SCALE
AS SHOWN
DATE
JULY 1999

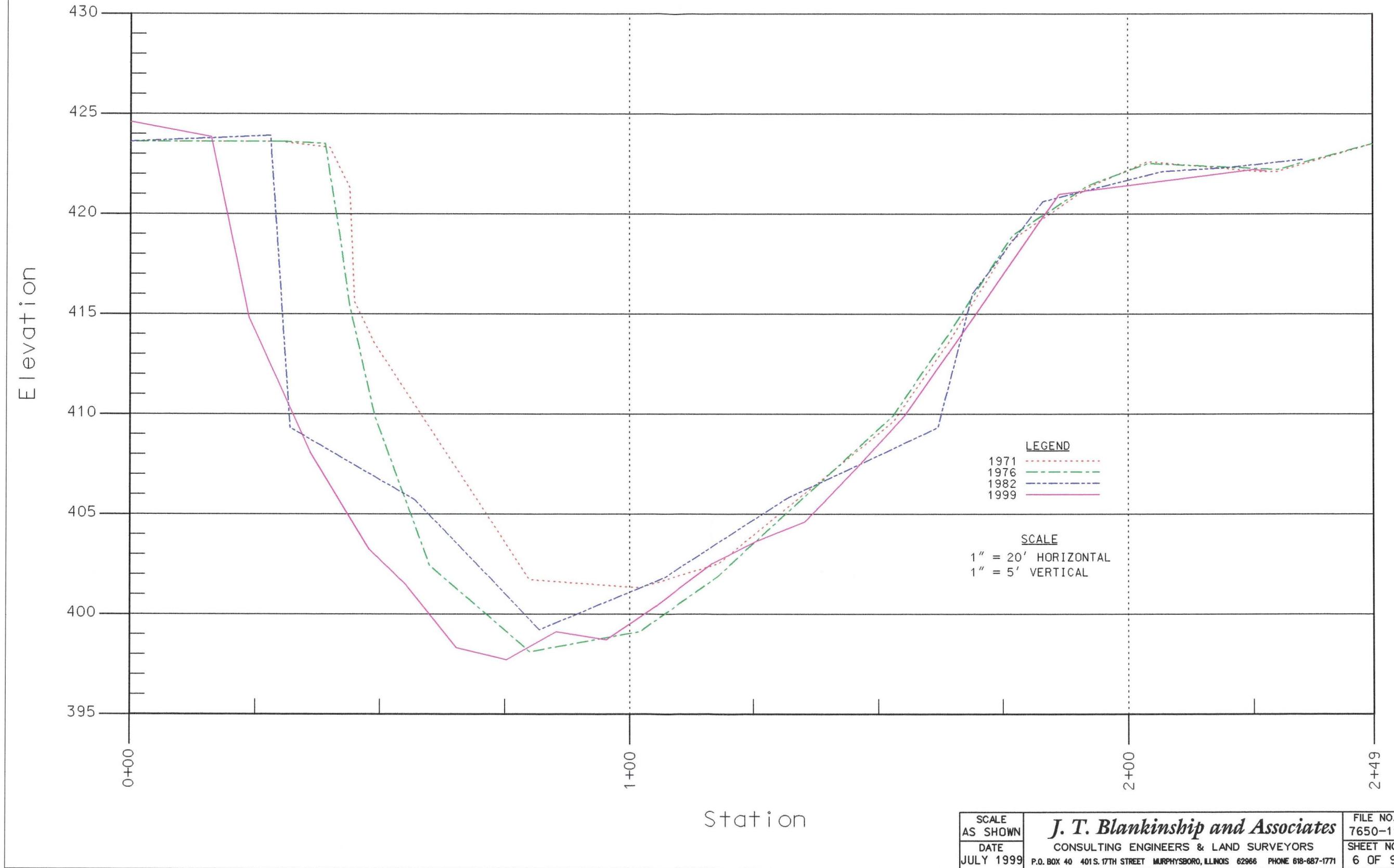
J. T. Blankinship and Associates
CONSULTING ENGINEERS & LAND SURVEYORS
P.O. BOX 40 401 S. 17TH STREET MURPHYSBORO, ILLINOIS 62966 PHONE 618-687-1771

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

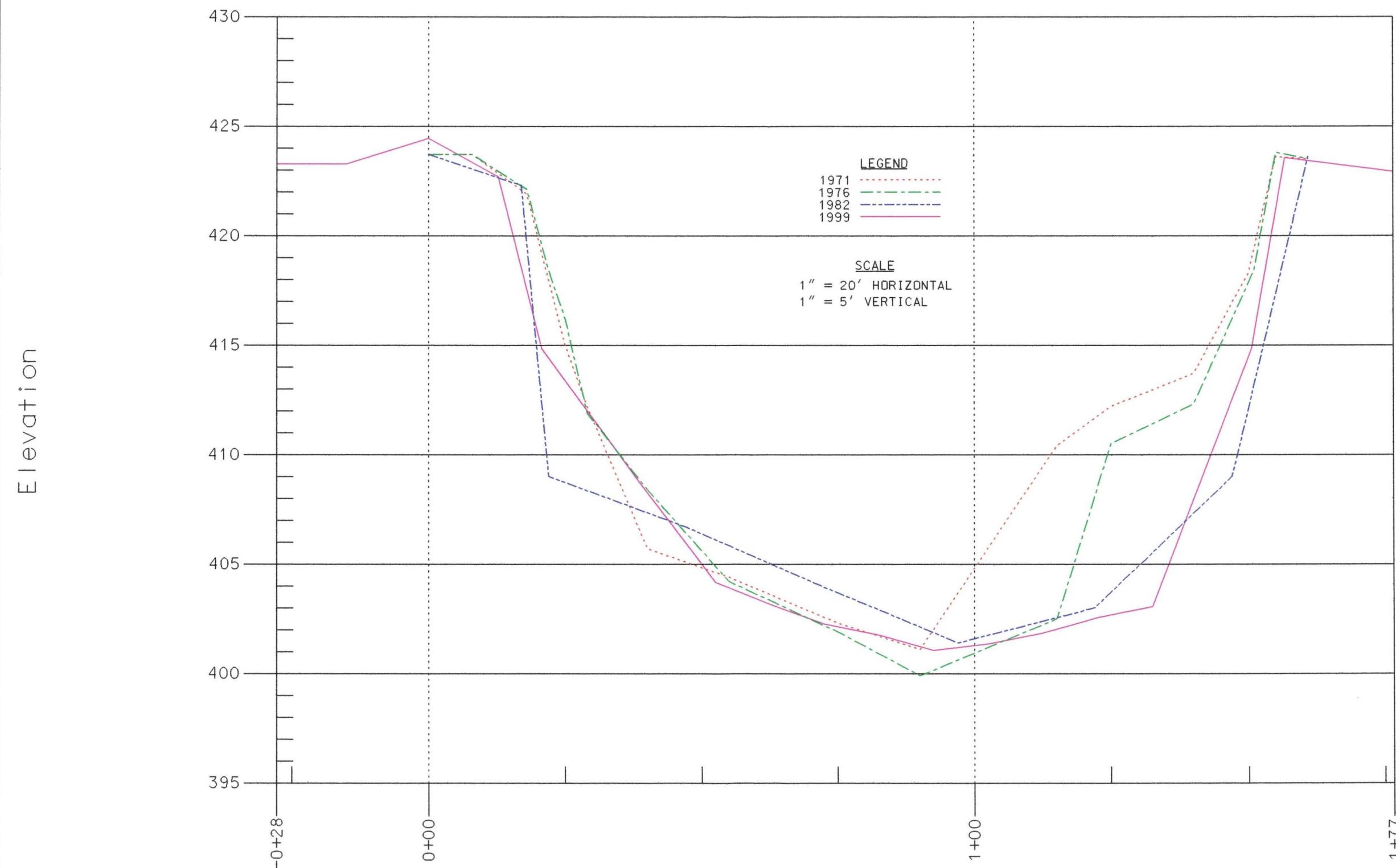
RETROGRESSION RANGE 5C



RETROGRESSION RANGE 6C



RETROGRESSION RANGE 7C

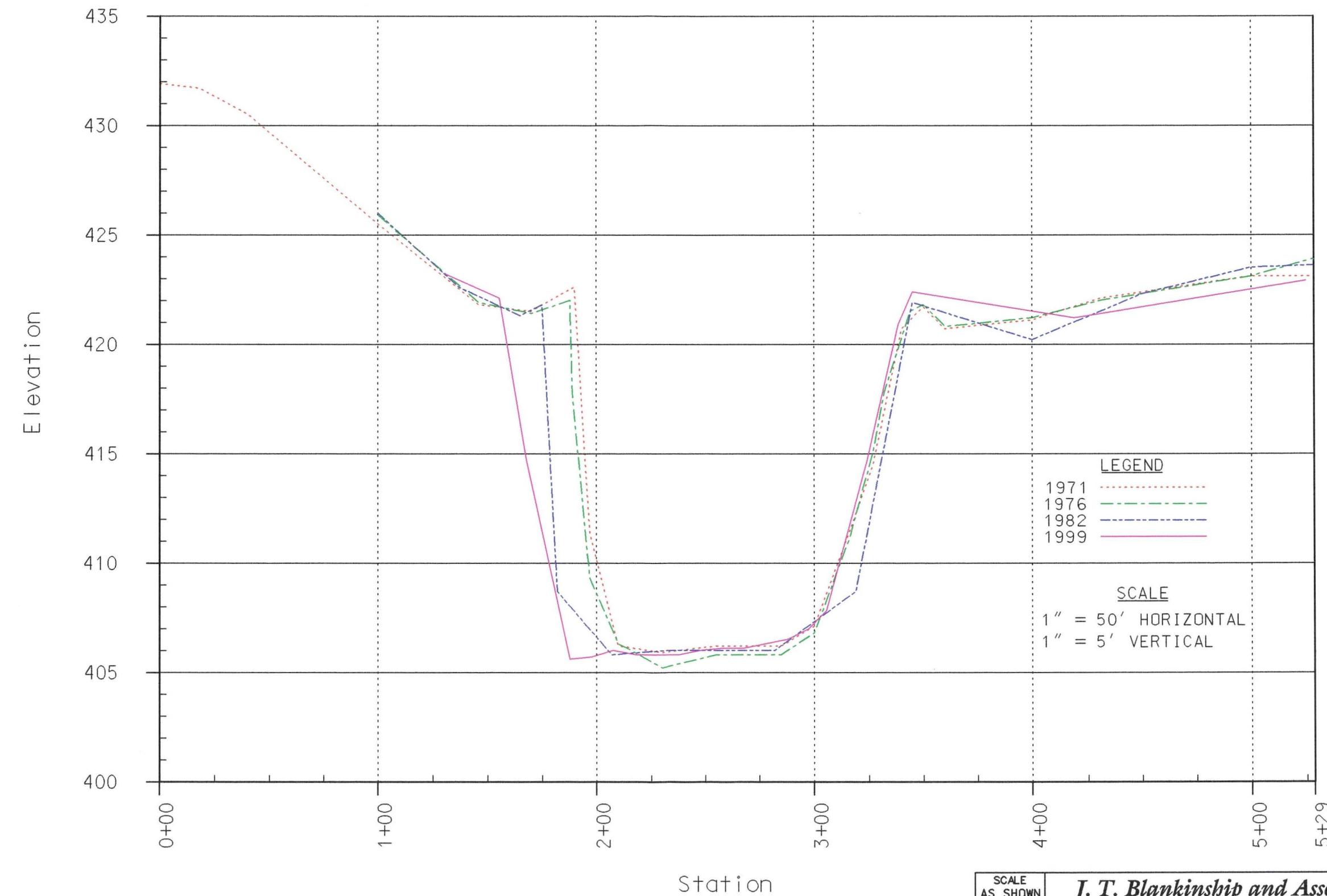


SCALE AS SHOWN
DATE JULY 1999

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. 7 OF 9

RETROGRESSION RANGE 8C



RETROGRESSION RANGE 9C

