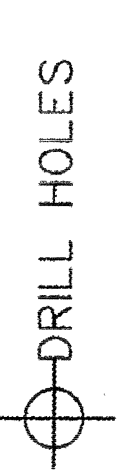
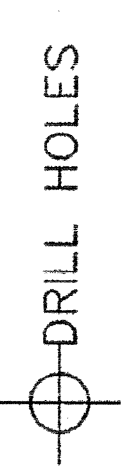


Binding Area



SHA V8 CAD Standards Version: 01.04 Title Rev. Date: October 31, 2006

BRAMPTON HILLS STREAM STABILIZATION PROJECT

S.H.A. CONTRACT NO. HO4085174

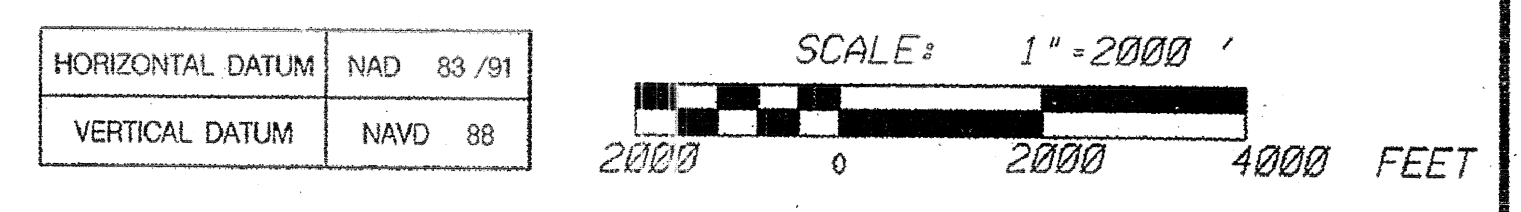
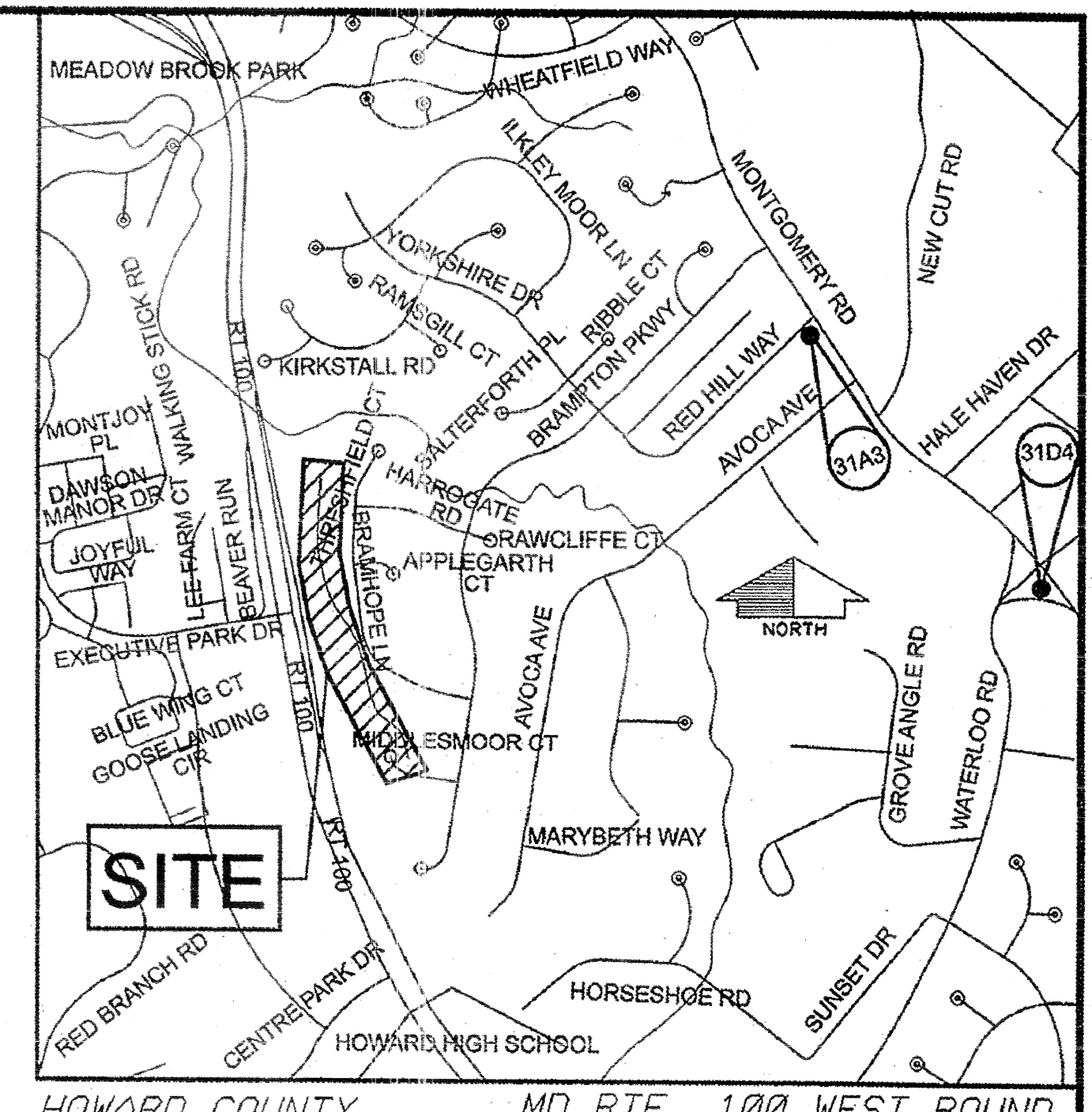
FEDERAL AID PROJECT NO. STP-3(185)E

CAPITAL PROJECT NO. D-1158

AS-BUILT PLANS

THE CONTRACT DRAWINGS FOR THE BRAMPTON HILLS STREAM STABILIZATION PROJECT SHALL INCLUDE:

- A. THE APPROVED SITE DEVELOPMENT PLAN FOR THE BRAMPTON HILLS STREAM STABILIZATION PROJECT (SHEETS 1-35) - HERE AFTER REFERRED TO AS THE STREAM PLANS,
- B. THE CROSS-SECTIONS FOR THE APPROVED SITE DEVELOPMENT PLAN FOR THE BRAMPTON HILLS STREAM STABILIZATION PROJECT (SHEETS 1-30) - HERE AFTER REFERRED TO AS THE STREAM CROSS-SECTIONS,
- C. STATE HIGHWAY ADMINISTRATION PLANS OF EXISTING DITCH REPAIR (SHEETS 1-9) - HERE AFTER REFERRED TO AS THE SHA DITCH PLANS, AND
- D. THE CROSS-SECTIONS FOR THE STATE HIGHWAY ADMINISTRATION PLANS OF EXISTING DITCH REPAIR - HERE AFTER REFERRED TO AS THE SHA DITCH CROSS-SECTIONS (SHEETS 1-4).



STREAM PLANS

A	SITE DEVELOPMENT PLAN FOR BRAMPTON HILLS
SHEET NUMBER	DESCRIPTION
1	TITLE SHEET
2	GEOMETRY SHEET
3	GEOMETRY SHEET
4	GEOMETRY SHEET
5	GEOMETRY SHEET
6	PROFILE SHEET
7	PROFILE SHEET
8	PROFILE SHEET
9	GRADING PLAN
10	GRADING PLAN
11	GRADING PLAN
12	GRADING PLAN
13	STREAM DETAILS AND TYPICAL SECTIONS
14	STREAM DETAILS AND TYPICAL SECTIONS
15	STREAM DETAILS AND TYPICAL SECTIONS
16	STREAM DETAILS AND TYPICAL SECTIONS
17	STEEP SLOPES
18	STEEP SLOPES
19	EROSION & SEDIMENT CONTROL PLAN
20	EROSION & SEDIMENT CONTROL PLAN
21	EROSION & SEDIMENT CONTROL PLAN
22	EROSION & SEDIMENT CONTROL PLAN
23	EROSION & SEDIMENT CONTROL NOTES
24	EROSION & SEDIMENT CONTROL DETAILS
25	EROSION & SEDIMENT CONTROL DETAILS
26	EROSION & SEDIMENT CONTROL ACCESS/STOCKPILE PLAN
27	LANDSCAPE PLAN
28	LANDSCAPE PLAN
29	LANDSCAPE PLAN
30	LANDSCAPE PLAN
31	LANDSCAPE NOTES AND DETAILS
32	FOREST CONSERVATION PLAN
33	FOREST CONSERVATION PLAN
34	FOREST CONSERVATION PLAN
35	FOREST CONSERVATION NOTES & DETAILS

DITCH PLANS

C	STATE HIGHWAY ADMINISTRATION PLANS OF EXISTING DITCH REPAIR
SHEET NUMBER	DESCRIPTION
1	TITLE SHEET
2	SITE PLAN
3	SITE PLAN
4	GEOMETRY SHEET
5	GEOMETRY SHEET
6	STORM DRAIN PROFILE AND SCHEDULE
7	EROSION & SEDIMENT CONTROL - GENERAL NOTES
8	EROSION AND SEDIMENT CONTROL PLAN
9	EROSION AND SEDIMENT CONTROL PLAN

D	CROSS SECTIONS* STATE HIGHWAY ADMINISTRATION PLANS OF EXISTING DITCH REPAIR
SHEET NUMBER	DESCRIPTION
1-4	SHA DITCH CROSS SECTIONS

*CROSS SECTIONS WERE DEVELOPED FROM THE APPROVED PLANS TO AID IN CONSTRUCTION. CROSS SECTIONS ARE ANNOTATED WITH THE PERTINENT INFORMATION FOR CONSTRUCTING PER THE DESIGN.

- AS-BUILT NOTES:
- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
 - 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
 - 3) FIELD WORK PERFORMED ON AND BETWEEN OCTOBER 24, 2011 AND APRIL 24, 2012.
 - 4) STONE SHOWN IS VISIBLE STONE NOT FOUNDATION STONE.
 - 5) ALL CROSS SECTIONS EXCEPT FOR STEP POOL CREST LOCATIONS REPRESENT AS-BUILT CONDITIONS AT THE ORIGINALLY PROPOSED STATIONING. STEP-POOL CREST STATIONING HAS BEEN REVISED IN AREAS WHERE THE CENTER OF STRUCTURE LOCATION MAY EXIST BEYOND THE TOLERANCE. IN THIS CASE THE AS-BUILT LINE OF THE STRUCTURE HAS BEEN OVERLAID WITH THE ORIGINALLY PROPOSED SECTION.

STREAM RESTORATION AS-BUILT PLANS PREPARED BY:
A BETTER SURVEY, L.L.C.
 9998 LODGE ROAD BALTIMORE, MARYLAND 21234
 PHONE: (410) 652-2715 info@abettersurvey.com www.abettersurvey.com



KCI TECHNOLOGIES
 ENGINEERS
 PLANNERS
 SCIENTISTS
 CONSTRUCTION MANAGERS
 936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818

James A. Tomlinson
 PROFESSIONAL ENGINEER
 No. 31201

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31201 EXPIRATION DATE 01/24/2013

B	CROSS SECTIONS* SITE DEVELOPMENT PLAN FOR BRAMPTON HILLS
SHEET NUMBER	DESCRIPTION
1-27	MAINSTEM CROSS SECTIONS
28	MAINSTEM CROSS SECTIONS AND OUTFALL A CROSS SECTIONS
29	SHA DITCH AND OUTFALL B CROSS SECTIONS
30	OUTFALL C CROSS SECTIONS

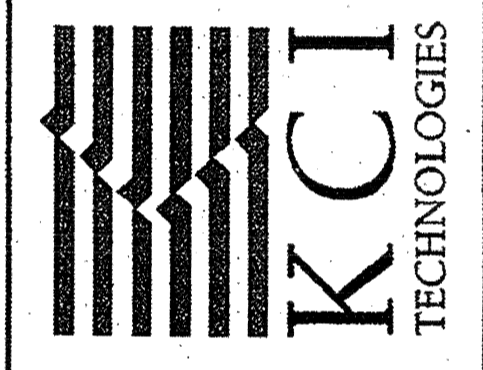
*CROSS SECTIONS WERE DEVELOPED FROM THE APPROVED PLANS TO AID IN CONSTRUCTION. CROSS SECTIONS ARE ANNOTATED WITH THE PERTINENT INFORMATION FOR CONSTRUCTING PER THE DESIGN.



I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF APRIL 24, 2012.
 James P. O'Connor, Prof. L. S.
 Reg. No. 200006 Ex. 09/2013
 FOR AS-BUILT INFORMATION ONLY
 Date: 29 Aug 2012

NO.	REVISIONS DESCRIPTION	DATE
1	Add existing and proposed 100-year weir surface dimensions to layout.	4-20-10

10 NORTH PARK DRIVE
HUNT VALLEY, MD 21030
PHONE: (410) 316-7800
FAX: (410) 316-7817
WWW.KCI.COM

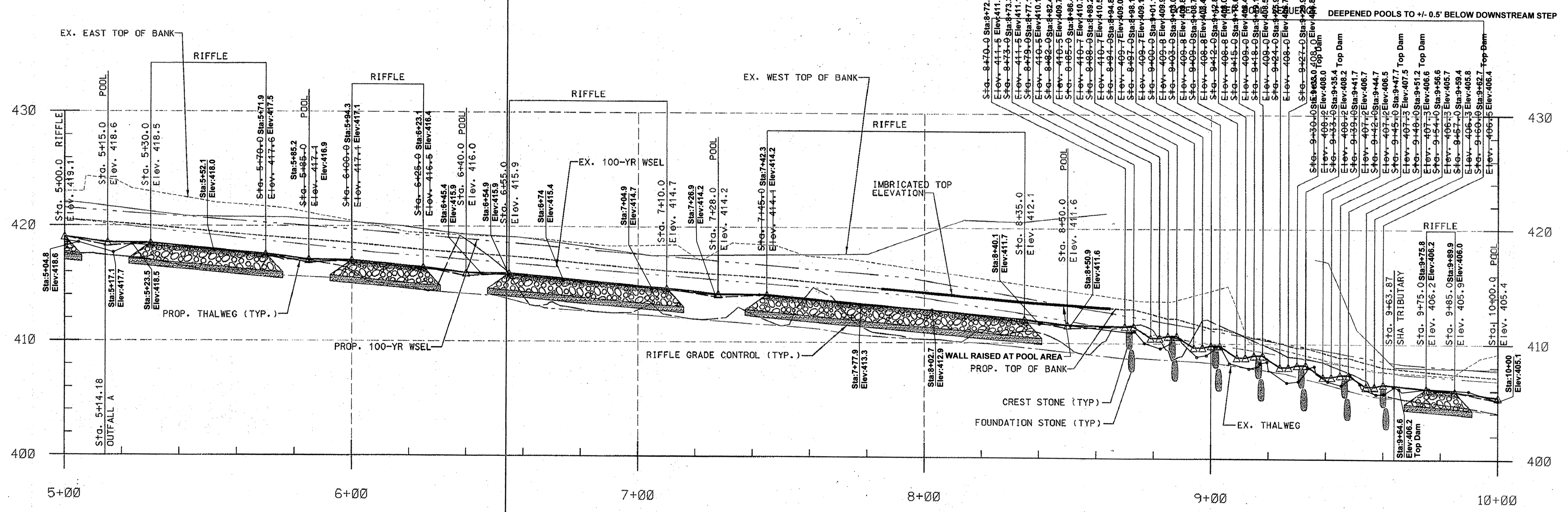
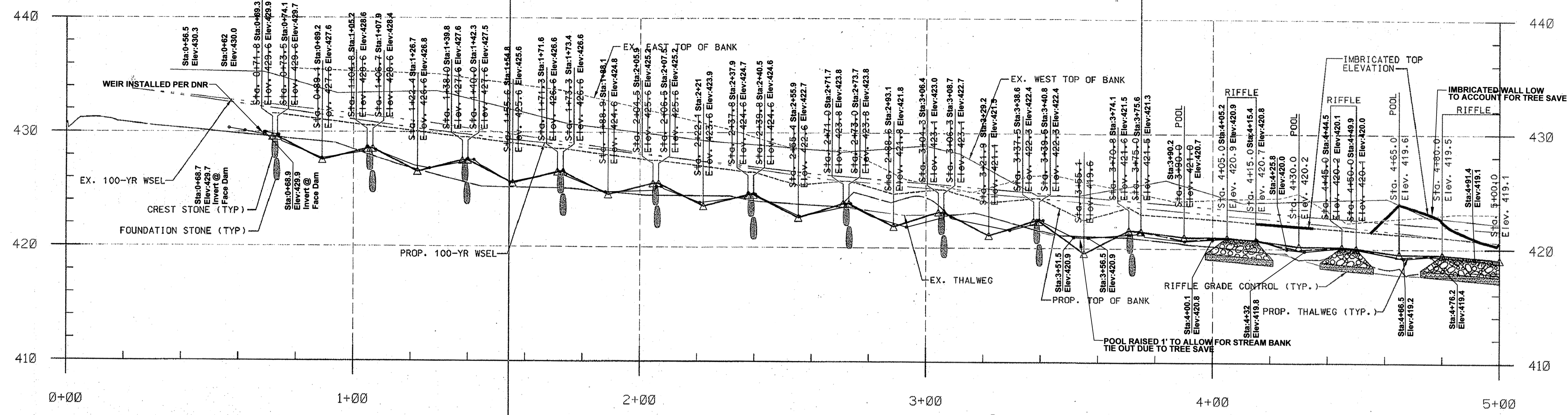


BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3
CAPITAL PROJECT D-1158
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
10000 BRAMPTON HILLS ROAD
COLUMBIA, MD 21046

PROFILE SHEET

SCALE:	HOR. 1"=20'
	VERT. 1"=5'
DATE:	OCTOBER, 2008
KCI JOB NO.:	01-043223.25
CAPITAL PROJECT NO.:	D1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

TYPE I STEP POOL SEQUENCE



- AS-BUILT NOTES:
- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
 - 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
 - 3) FIELD WORK PERFORMED ON AND BETWEEN OCTOBER 24, 2011 AND APRIL 24, 2012.
 - 4) STONE SHOWN IS VISIBLE STONE NOT FOUNDATION STONE.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Chief Development Engineering Division 7/22/09
DATE

Chief, Division of Land Development 8/19/09
DATE

Director 8/21/09
DATE

ASBUILT GRADES

LEGEND	
EXISTING 100-YR WSEL	---
PROPOSED 100-YR WSEL	---
LEGEND	
EXISTING GROUND	---
PROPOSED GRADE	---



I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF APRIL 24, 2012.

J.P. O'Connor
James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY

29 Aug 2012
Date

PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715

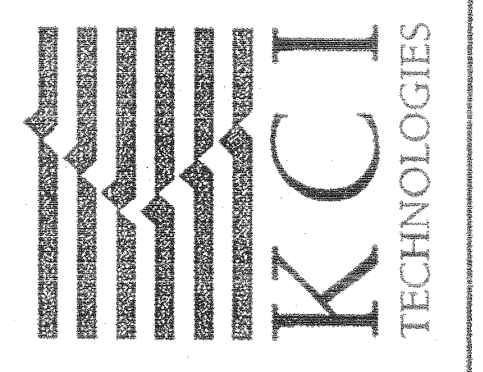
Plot Date: 12:08 PM on Thursday, July 09, 2009
File: M:\2008\01043223\25\Profile.dwg

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31201. EXPIRATION DATE: JANUARY 24, 2011.

7/10/09

NO.	REVISIONS DESCRIPTION	DATE
1	Add existing and proposed 100-year water surface elevations to legend	4/20/12

10 NORTH PARK DRIVE
HUNT VALLEY, MD 21030
PHONE: (410) 316-7800
FAX: (410) 316-7817
www.kci.com

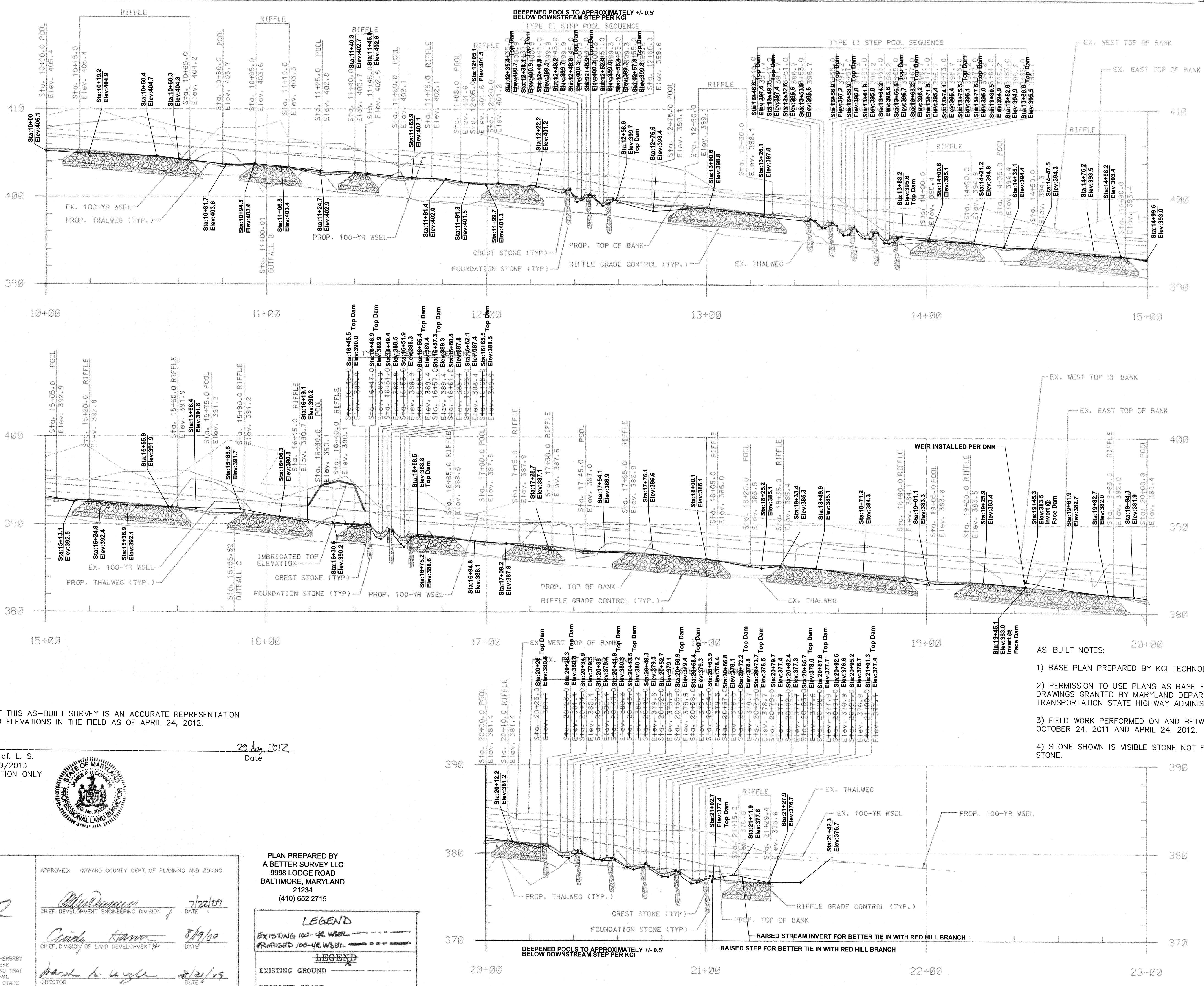


BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3
CAPITAL PROJECT D-158
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
1100 EAST COLUMBIA CANTON DRIVE
COLUMBIA, MARYLAND 21046
HOWARD COUNTY DEPARTMENT OF PERMITS AND REGISTRATION
1100 EAST COLUMBIA CANTON DRIVE
COLUMBIA, MARYLAND 21046
PARCEL 201 732 MAP 45 ZONING POLY-ELECTION DISTRICT 01

PROFILE SHEET

SCALE:	HOR. 1"=20' VERT. 1"=5'
DATE:	OCTOBER, 2008
KCI JOB NO.:	01-043223.25
CAPITAL PROJECT NO.:	D1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

AS-BUILT DRAWING
SHEET 3 OF 38
SHEET NO.: 7 OF 35
STATE CONTRACT NO. HO4085174 SDP-09-009
F.A. PROJECT NO. STP-361851E



- AS-BUILT NOTES:
- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
 - 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
 - 3) FIELD WORK PERFORMED ON AND BETWEEN OCTOBER 24, 2011 AND APRIL 24, 2012.
 - 4) STONE SHOWN IS VISIBLE STONE NOT FOUNDATION STONE.

PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715

LEGEND	
	EXISTING 100-YR WSEL
	PROPOSED 100-YR WSEL
LEGEND	
	EXISTING GROUND
	PROPOSED GRADE

I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF APRIL 24, 2012.

James P. O'Connor
James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY
Date: 29 Aug. 2012

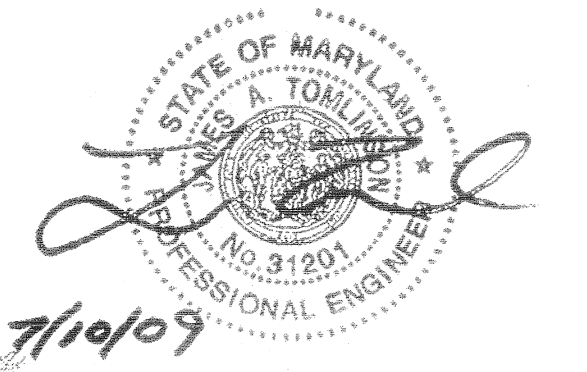


APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Chris Hanna 7/22/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Chris Hanna 8/19/09
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mark L. Lytle 8/21/09
DIRECTOR DATE



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31201, EXPIRATION DATE: JANUARY 24, 2011

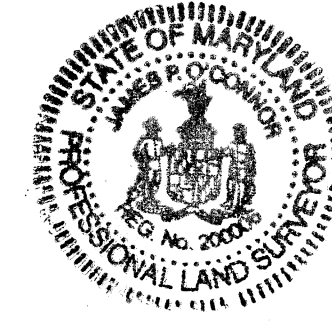
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By: Memory Miller, Division 009, Natural Resources Management
FILE: M:\2008\01043223.25\Drawings\pr02brm.dgn

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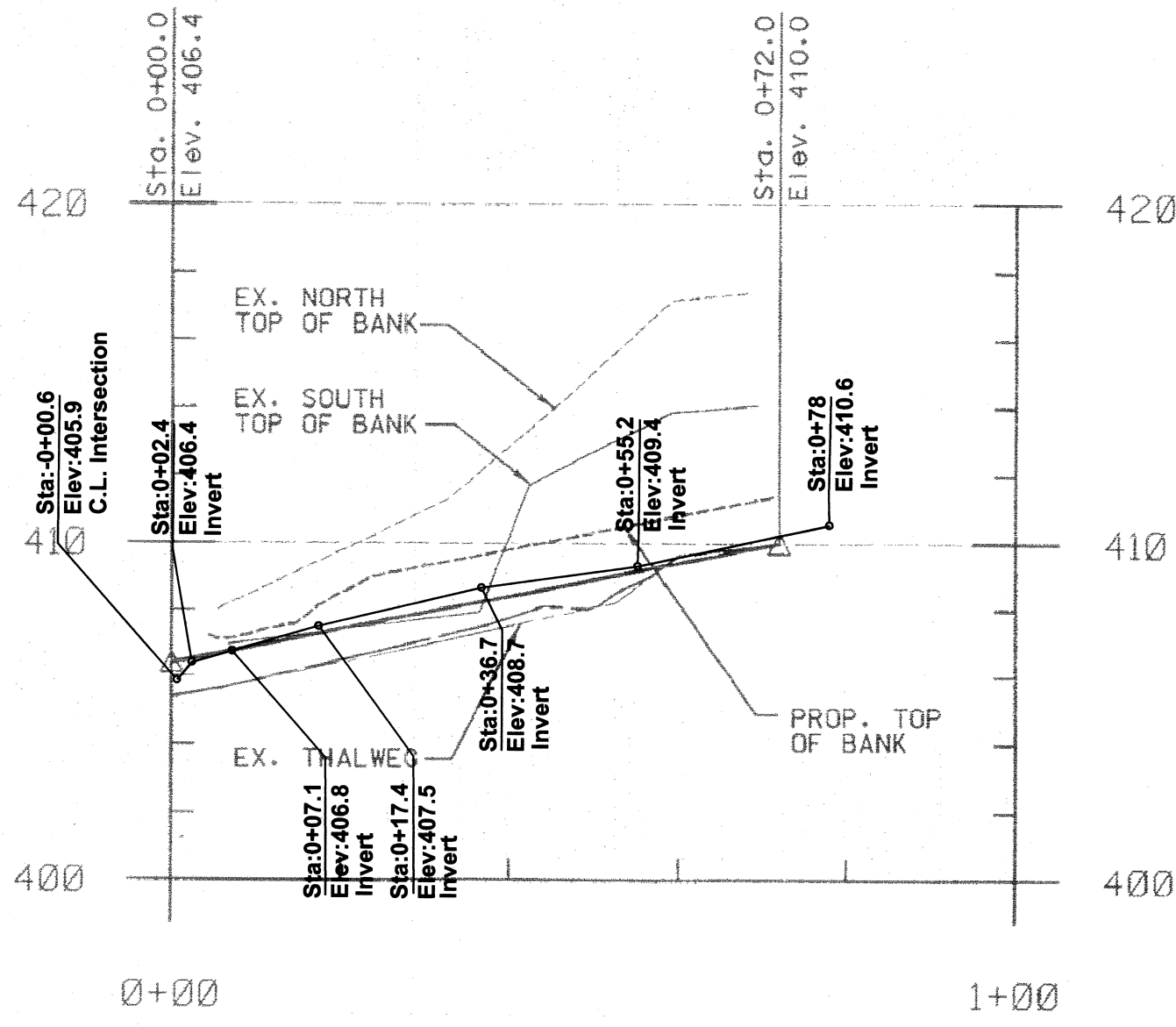
- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
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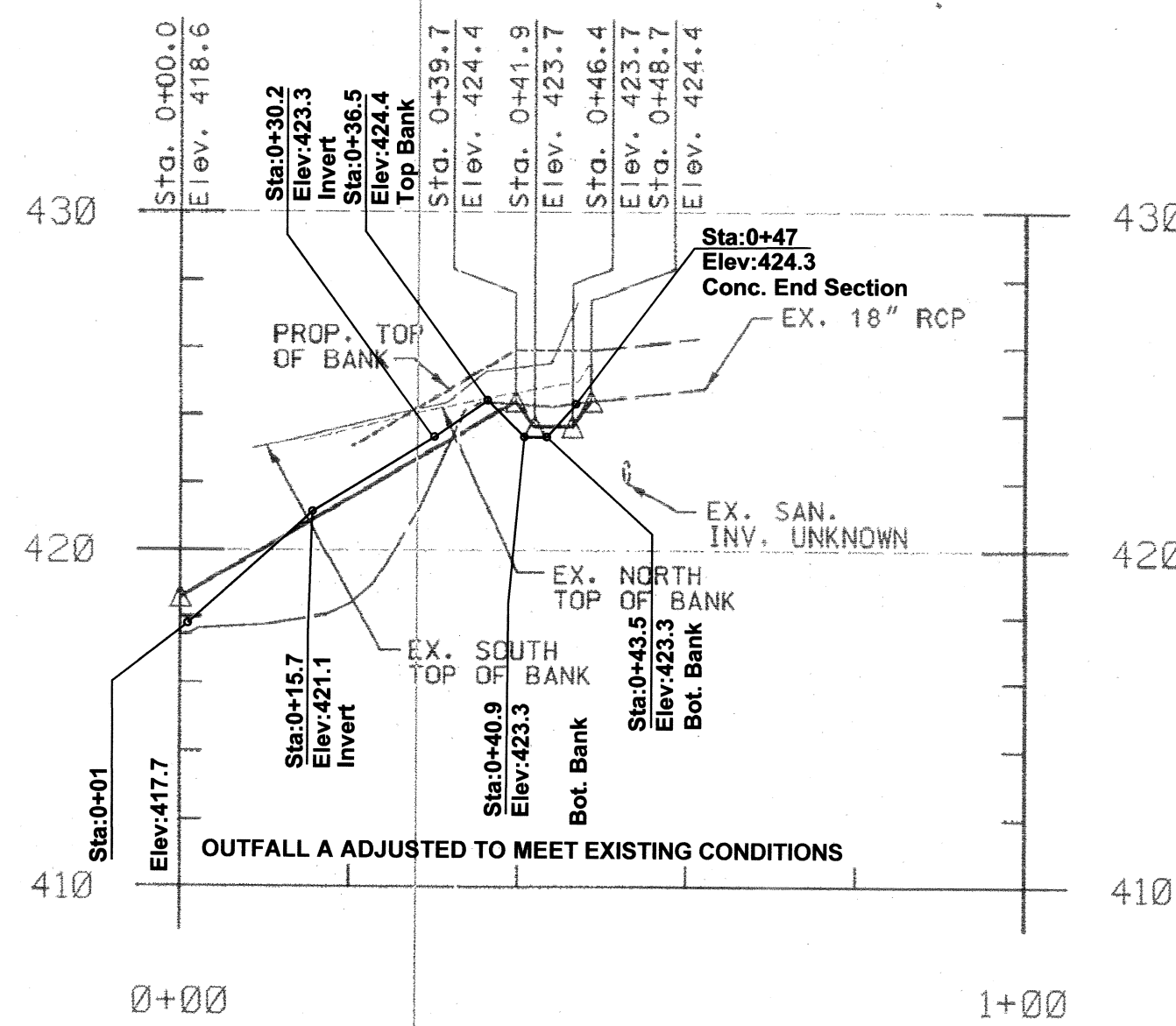
James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY



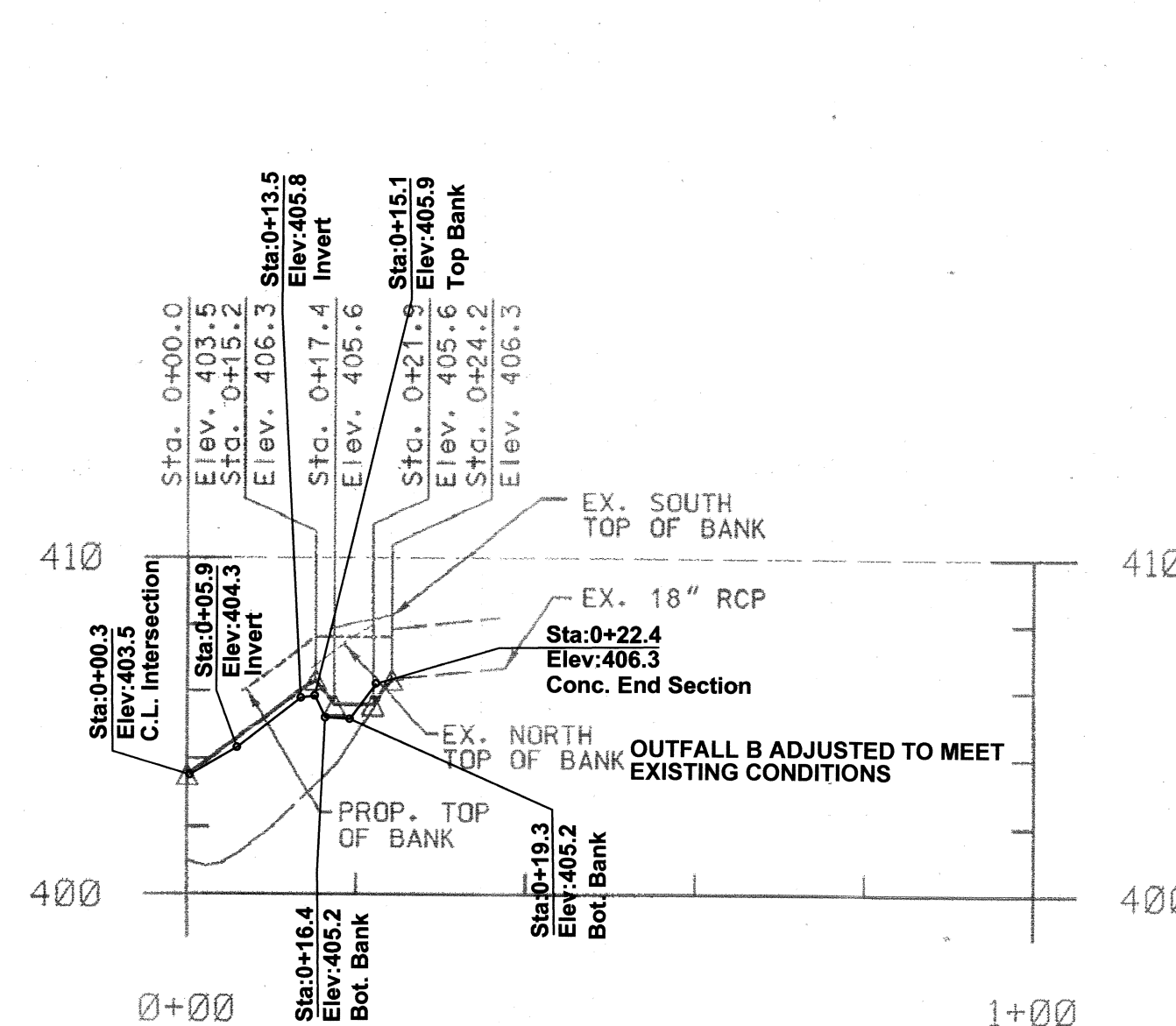
29 Aug 2012
Date



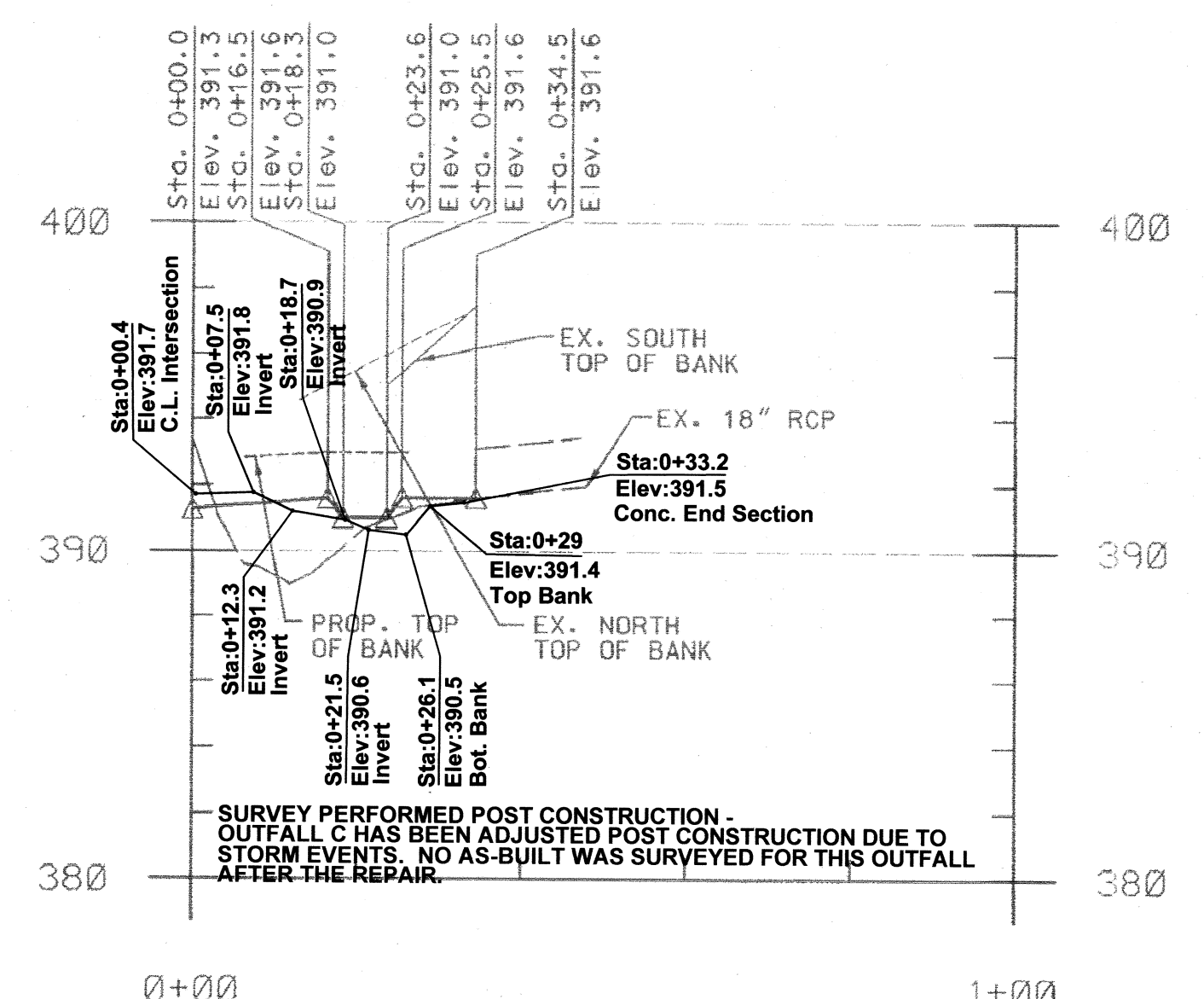
TRIBUTARY 1



OUTFALL A



OUTFALL B

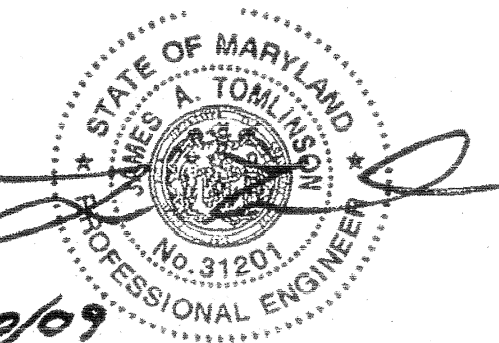


OUTFALL C

PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

[Signature]
CHIEF, DEVELOPMENT ENGINEERING DIVISION 7/21/09
[Signature]
CHIEF, DIVISION OF LAND DEVELOPMENT 8/19/09
[Signature]
DIRECTOR 2/23/09



— ASBUILT GRADES

LEGEND

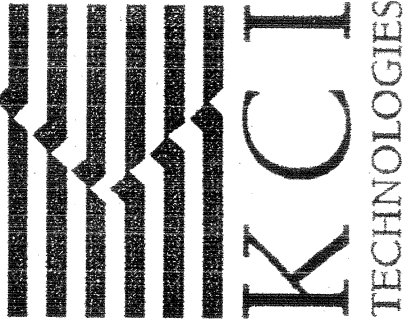
EXISTING GROUND ————

PROPOSED GRADE ————

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31281, EXPIRATION DATE: JANUARY 24, 2011

NO.	REVISIONS DESCRIPTION	DATE

10 NORTH PARK DRIVE
HUNT VALLEY, MD 21030
PHONE: (410) 316-7800
FAX: (410) 316-7817
www.kci.com



BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3
CAPITAL PROJECT D-1158
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
2700 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046
410-321-2700
HOWARD COUNTY DEPARTMENT OF PAVES AND RECREATION
700 W. BALTIMORE AVENUE
COLUMBIA, MD 21040
410-321-1700
PARCEL: 85.1A MAP 82.220106 P-6 SECTION DISTRICT 61

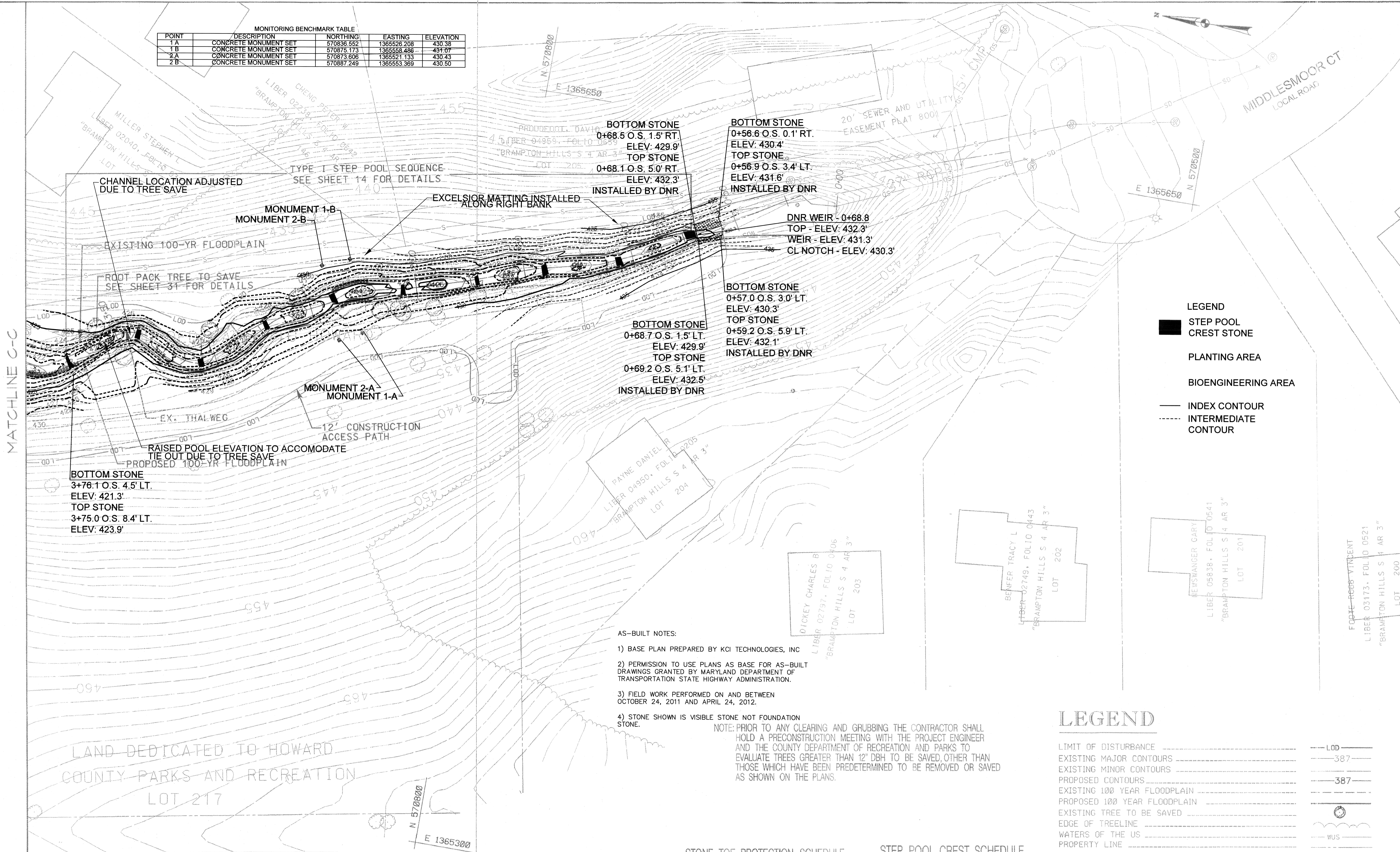
PROFILE SHEET

SCALE:	HOR. 1"=20' VERT. 1"=5'
DATE:	OCTOBER, 2008
KCI JOB NO.:	01-043223.25
CAPITAL PROJECT NO.:	D1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

AS-BUILT DRAWING
SHEET 4 OF 38

SHEET NO.: 8 OF 35

POINT	DESCRIPTION	NORTHING	EASTING	ELEVATION
1 A	CONCRETE MONUMENT SET	570836.552	1365526.208	430.38
1 B	CONCRETE MONUMENT SET	570875.173	1365558.486	431.07
2 A	CONCRETE MONUMENT SET	570873.606	1365521.133	430.43
2 B	CONCRETE MONUMENT SET	570887.249	1365553.369	430.50



BOTTOM STONE
0+68.5 O.S. 1.5' RT.
ELEV: 429.9'
TOP STONE
0+68.1 O.S. 5.0' RT.
ELEV: 432.3'
INSTALLED BY DNR

BOTTOM STONE
0+56.6 O.S. 0.1' RT.
ELEV: 430.4'
TOP STONE
0+56.9 O.S. 3.4' LT.
ELEV: 431.6'
INSTALLED BY DNR

DNR WEIR - 0+68.8
TOP - ELEV: 432.3'
WEIR - ELEV: 431.3'
CL NOTCH - ELEV: 430.3'

BOTTOM STONE
0+57.0 O.S. 3.0' LT.
ELEV: 430.3'
TOP STONE
0+59.2 O.S. 5.9' LT.
ELEV: 432.1'
INSTALLED BY DNR

BOTTOM STONE
0+68.7 O.S. 1.5' LT.
ELEV: 429.9'
TOP STONE
0+69.2 O.S. 5.1' LT.
ELEV: 432.5'
INSTALLED BY DNR

BOTTOM STONE
3+76.1 O.S. 4.5' LT.
ELEV: 421.3'
TOP STONE
3+75.0 O.S. 8.4' LT.
ELEV: 423.9'

AS-BUILT NOTES:

- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
- 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
- 3) FIELD WORK PERFORMED ON AND BETWEEN OCTOBER 24, 2011 AND APRIL 24, 2012.
- 4) STONE SHOWN IS VISIBLE STONE NOT FOUNDATION

NOTE: PRIOR TO ANY CLEARING AND GRUBBING THE CONTRACTOR SHALL HOLD A PRECONSTRUCTION MEETING WITH THE PROJECT ENGINEER AND THE COUNTY DEPARTMENT OF RECREATION AND PARKS TO EVALUATE TREES GREATER THAN 12" DBH TO BE SAVED OTHER THAN THOSE WHICH HAVE BEEN PREDETERMINED TO BE REMOVED OR SAVED AS SHOWN ON THE PLANS.

LEGEND

- LIMIT OF DISTURBANCE
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPOSED CONTOURS
- EXISTING 100 YEAR FLOODPLAIN
- PROPOSED 100 YEAR FLOODPLAIN
- EXISTING TREE TO BE SAVED
- EDGE OF TREELINE
- WATERS OF THE US
- PROPERTY LINE
- EXISTING ROAD EDGE
- EXISTING SEWER LINE
- EXISTING SEWER MANHOLE
- EXISTING STORM DRAIN
- EXISTING STORM DRAIN MANHOLE
- EXISTING FENCE
- IMBRICATED BANK PROTECTION
- SINGLE STONE TOE PROTECTION
- DOUBLE STONE TOE PROTECTION
- RIFLE GRADE CONTROL
- EXISTING EASEMENT LINE

STONE TOE PROTECTION SCHEDULE

DOUBLE		
FROM STATION	TO STATION	OFFSET*
2+22 **	2+37.8 **	R
2+22 **	2+37.8 **	L
3+70.8	3+76	4+08 4+00 L

* FACING DOWNSTREAM, MEASURED FROM BASELINE OF CONSTRUCTION
** STONE TOE ALONG RIGHT AND LEFT BANKS THROUGHOUT TYPE 1 STEP POOL SEQUENCE

STEP POOL CREST SCHEDULE

STATION **			
0+72.3	0+72.6	2+39	2+38.7
1+05.3	1+05.9	2+72	2+72.1
1+38	1+40.5	3+08	3+07.3
1+72	1+72.2	3+38.5	3+39.5
2+05.3	2+05.6	3+71	3+74.5

** INDICATES CENTER OF CREST WIDTH SEE PROFILE FOR EXTENT

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

James P. O'Connor 9/22/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION 4 DATE

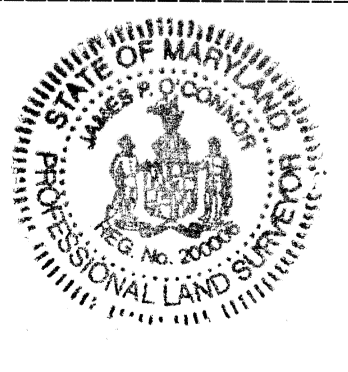
Condy Hantz 8/19/09
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Frank M. Cagle 8/21/09
DIRECTOR DATE

I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF APRIL 24, 2012.

James P. O'Connor 29 Aug 2012
James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY
Date

PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715



NO.	REVISIONS DESCRIPTION	DATE

10 NORTH PARK DRIVE
HUNT VALLEY, MD 21030
PHONE: (410) 316-7800
FAX: (410) 316-7817
WWW.KCI.COM

KCI TECHNOLOGIES

BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4 AREAS 123
CAPITAL PROJECT D-1158
HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS
STORMWATER MANAGEMENT DIVISION
875 COLUMBIA AVENUE
COLUMBIA, MD 21046
HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS
100 CHANTRELLE WOODS ROAD
COLUMBIA, MD 21046
PARCEL 388 TAX MAP 30, ZONING R-PA, ELECTION DISTRICT 01

GRADING PLAN

SCALE: 1" = 20'
DATE: OCTOBER, 2008
KCI JOB NO.: 01-04-3223.25
CAPITAL PROJECT NO.: D1158
PERMIT ISSUE:
CONSTRUCTION ISSUE:

SHEET NO.: 9 OF 35
STATE CONTRACT No. H04085174 SDP-09-001
P.A. PROJECT No. STP-2/10510

I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF APRIL 24, 2012.

James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY



29 Aug 2012
Date

POINT	DESCRIPTION	NORTHING	EASTING	ELEVATION
3 A	CONCRETE MONUMENT SET	571348.295	1365338.166	418.57
3 B	CONCRETE MONUMENT SET	571377.242	1365369.925	418.36

AS-BUILT NOTES:

- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
- 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
- 3) FIELD WORK PERFORMED ON AND BETWEEN OCTOBER 24, 2011 AND APRIL 24, 2012.
- 4) STONE SHOWN IS VISIBLE STONE NOT FOUNDATION STONE.

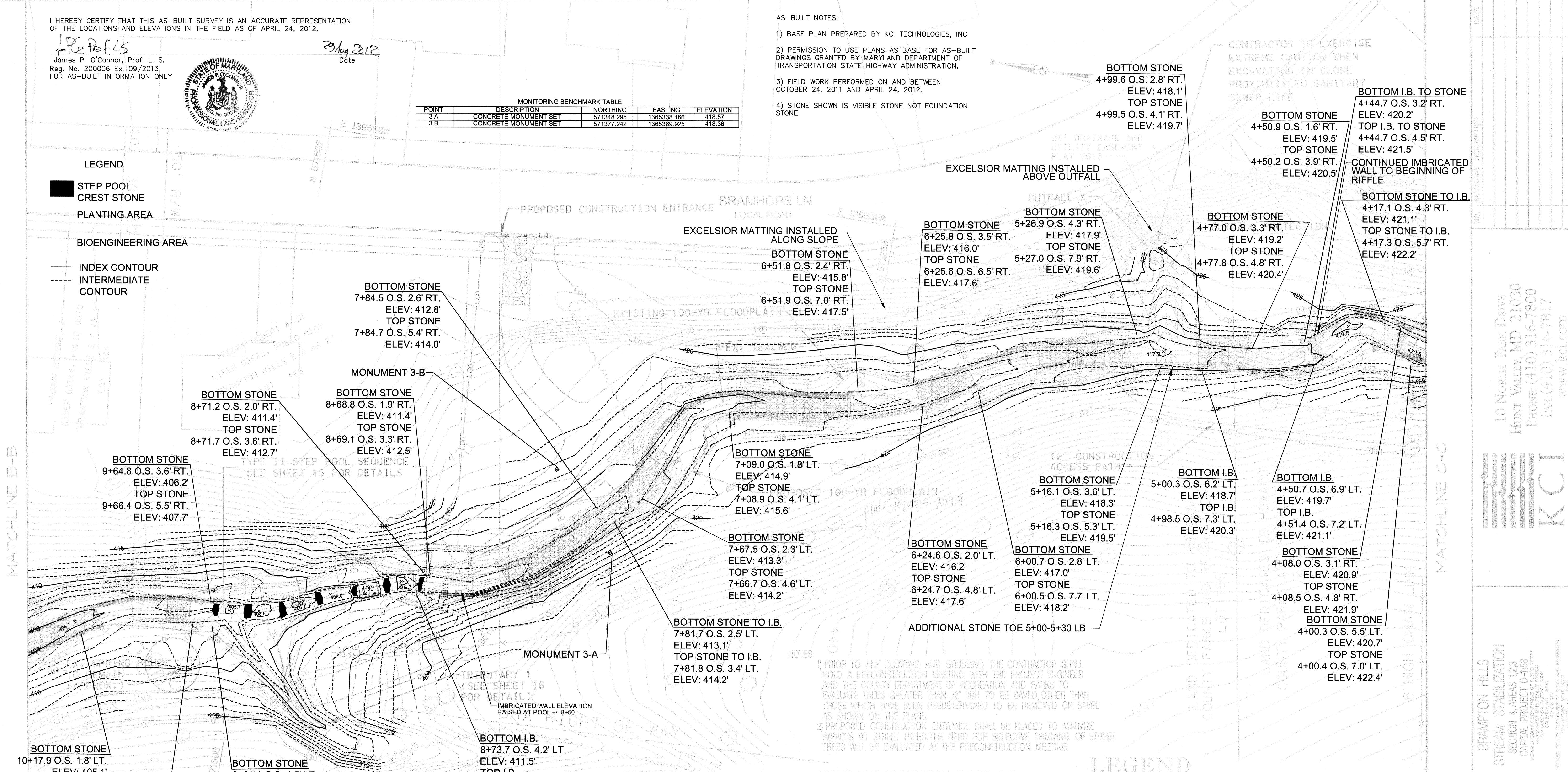
CONTRACTOR TO EXERCISE EXTREME CAUTION WHEN EXCAVATING IN CLOSE PROXIMITY TO SANITARY SEWER LINE

LEGEND

- STEP POOL
- CREST STONE
- PLANTING AREA
- BIOENGINEERING AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR

MATCHLINE B-B

MATCHLINE C-C



BOTTOM STONE
7+84.5 O.S. 2.6' RT.
ELEV: 412.8'
TOP STONE
7+84.7 O.S. 5.4' RT.
ELEV: 414.0'

BOTTOM STONE
8+71.2 O.S. 2.0' RT.
ELEV: 411.4'
TOP STONE
8+71.7 O.S. 3.6' RT.
ELEV: 412.7'

BOTTOM STONE
8+68.8 O.S. 1.9' RT.
ELEV: 411.4'
TOP STONE
8+69.1 O.S. 3.3' RT.
ELEV: 412.5'

BOTTOM STONE
9+64.8 O.S. 3.6' RT.
ELEV: 406.2'
TOP STONE
9+66.4 O.S. 5.5' RT.
ELEV: 407.7'

BOTTOM STONE
10+17.9 O.S. 1.8' LT.
ELEV: 405.1'
TOP STONE
10+25.3 O.S. 5.1' LT.
ELEV: 406.3'

BOTTOM STONE
9+75.8 O.S. 2.1' LT.
ELEV: 405.8'
TOP STONE
9+73.3 O.S. 5.7' LT.
ELEV: 407.1'

BOTTOM STONE
9+64.1 O.S. 1.5' LT.
ELEV: 406.4'
TOP STONE
9+64.7 O.S. 6.0' LT.
ELEV: 407.8'

BOTTOM I.B.
8+73.7 O.S. 4.2' LT.
ELEV: 411.5'
TOP I.B.
8+74.5 O.S. 5.7' LT.
ELEV: 412.7'

BOTTOM STONE
7+09.0 O.S. 1.8' LT.
ELEV: 414.9'
TOP STONE
7+08.9 O.S. 4.1' LT.
ELEV: 415.6'

BOTTOM STONE
7+67.5 O.S. 2.3' LT.
ELEV: 413.3'
TOP STONE
7+66.7 O.S. 4.6' LT.
ELEV: 414.2'

BOTTOM STONE TO I.B.
7+81.7 O.S. 2.5' LT.
ELEV: 413.1'
TOP STONE TO I.B.
7+81.8 O.S. 3.4' LT.
ELEV: 414.2'

BOTTOM STONE
6+25.8 O.S. 3.5' RT.
ELEV: 416.0'
TOP STONE
6+25.6 O.S. 6.5' RT.
ELEV: 417.6'

BOTTOM STONE
5+26.9 O.S. 4.3' RT.
ELEV: 417.9'
TOP STONE
5+27.0 O.S. 7.9' RT.
ELEV: 419.6'

BOTTOM STONE
4+77.0 O.S. 3.3' RT.
ELEV: 419.2'
TOP STONE
4+77.8 O.S. 4.8' RT.
ELEV: 420.4'

BOTTOM I.B. TO STONE
4+44.7 O.S. 3.2' RT.
ELEV: 420.2'
TOP I.B. TO STONE
4+44.7 O.S. 4.5' RT.
ELEV: 421.5'

BOTTOM STONE TO I.B.
4+17.1 O.S. 4.3' RT.
ELEV: 421.1'
TOP STONE TO I.B.
4+17.3 O.S. 5.7' RT.
ELEV: 422.2'

BOTTOM STONE
4+50.9 O.S. 1.8' RT.
ELEV: 419.5'
TOP STONE
4+50.2 O.S. 3.9' RT.
ELEV: 420.5'

BOTTOM STONE
5+16.1 O.S. 3.6' LT.
ELEV: 418.3'
TOP STONE
5+16.3 O.S. 5.3' LT.
ELEV: 419.5'

BOTTOM I.B.
5+00.3 O.S. 6.2' LT.
ELEV: 418.7'
TOP I.B.
4+98.5 O.S. 7.3' LT.
ELEV: 420.3'

BOTTOM I.B.
4+50.7 O.S. 6.9' LT.
ELEV: 419.7'
TOP I.B.
4+51.4 O.S. 7.2' LT.
ELEV: 421.1'

BOTTOM STONE
4+08.0 O.S. 3.1' RT.
ELEV: 420.9'
TOP STONE
4+08.5 O.S. 4.8' RT.
ELEV: 421.9'

BOTTOM STONE
4+00.3 O.S. 5.5' LT.
ELEV: 420.7'
TOP STONE
4+00.4 O.S. 7.0' LT.
ELEV: 422.4'

ADDITIONAL STONE TOE 5+00-5+30 LB

RIFFLE GRADE CONTROL SCHEDULE

FROM STATION	TO STATION	STATION **
4+05	4+15	8+72.5
4+45	4+50	8+86.8
4+76	5+05	9+01.5
5+24	5+72	9+18.0
5+94	6+23	9+34.2
6+55	7+04	9+49.7
7+42	8+40	9+63.4
9+78	9+90	
10+13	10+60	

STEP POOL CREST SCHEDULE

STATION **
8+72.5
8+86.8
9+01.5
9+18.0
9+34.2
9+49.7
9+63.4

STONE TOE PROTECTION SCHEDULES

DOUBLE			SINGLE		
FROM STATION	TO STATION	OFFSET*	FROM STATION	TO STATION	OFFSET*
3+76	4+00	L	4+08	4+17	R
5+70	6+00	R	4+45	4+51	L
6+25	6+55	L	4+77	4+98	R
6+52	7+85	R	5+26	5+70	R
9+65	10+15	R	5+00	6+01	L
			6+00	6+25	R
			6+55	7+09	L
			7+67	7+82	L
			8+69	8+71	R
			9+64	9+76	L
			10+15	10+66	R
			10+13	10+18	L

* FACING DOWNSTREAM MEASURED FROM THE BASELINE OF CONSTRUCTION

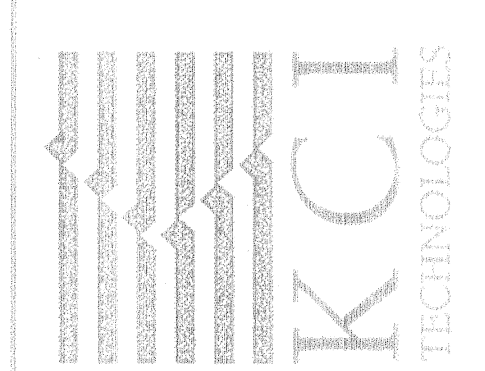
LEGEND

- LIMIT OF DISTURBANCE
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPOSED CONTOURS
- EXISTING 100 YEAR FLOODPLAIN
- PROPOSED 100 YEAR FLOODPLAIN
- EXISTING TREE TO BE SAVED
- EDGE OF TREELINE
- WATERS OF THE US
- PROPERTY LINE
- EXISTING ROAD EDGE
- EXISTING SEWER LINE
- EXISTING SEWER MANHOLE
- EXISTING STORM DRAIN
- EXISTING STORM DRAIN MANHOLE
- EXISTING FENCE
- IMBRICATED BANK PROTECTION
- SINGLE STONE TOE PROTECTION
- DOUBLE STONE TOE PROTECTION
- RIFFLE GRADE CONTROL
- EXISTING EASEMENT LINE

AS-BUILT DRAWING
SHEET 6 OF 38

NO.	REVISIONS DESCRIPTION	DATE

10 NORTH PARK DRIVE
HUNT VALLEY, MD 21030
PHONE: (410) 316-7800
FAX: (410) 316-7877
WWW.KCI.COM



BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4 AREAS 1,2,3
CAPITAL PROJECT D-168

GRADING PLAN

SCALE:	1" = 20'
DATE:	OCTOBER, 2008
PROJECT NO.:	01-043223.25
CAPITAL PROJECT NO.:	D168
PERMIT ISSUE:	CONSTRUCTION ISSUE

SHEET NO. 10 OF 35

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21291, EXPIRATION DATE: JANUARY 24, 2011

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Chief, Development Engineering Division
Date: 7/19/09

Chief, Division of Land Development
Date: 8/19/09

Director
Date: 8/2/09

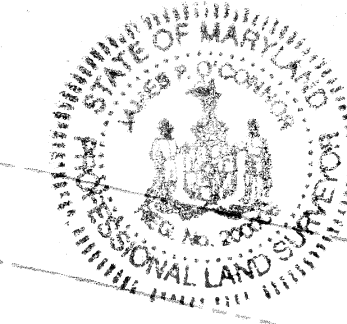
PLAN PREPARED BY
A BETTER SURVEY LLC
9908 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715

LEGEND

- STEP POOL CREST STONE
- PLANTING AREA
- BIOENGINEERING AREA
- INDEX CONTOUR
- INTERMEDIATE CONTOUR

I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF APRIL 24, 2012.

James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY

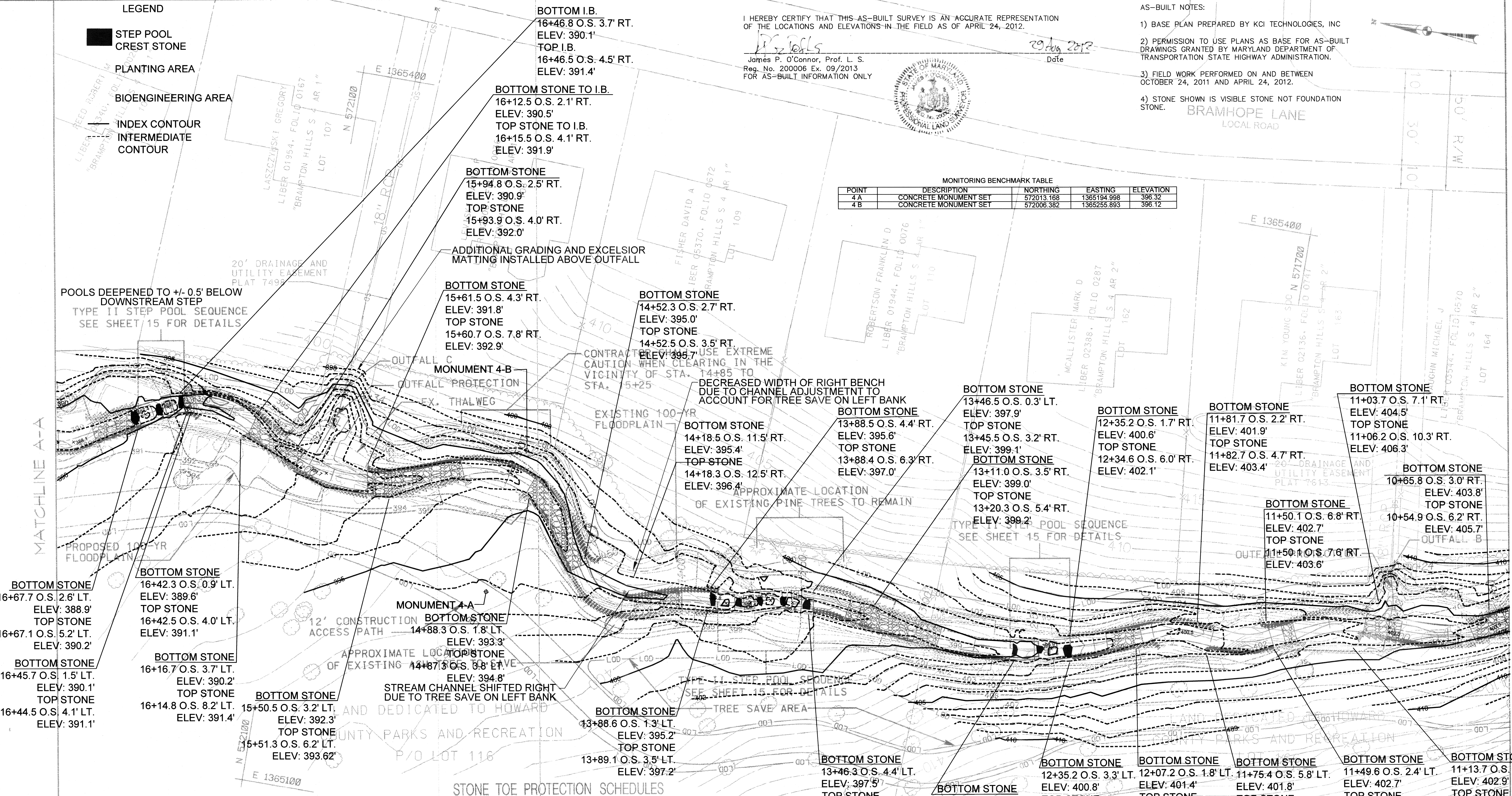


AS-BUILT NOTES:

- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
- 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
- 3) FIELD WORK PERFORMED ON AND BETWEEN OCTOBER 24, 2011 AND APRIL 24, 2012.
- 4) STONE SHOWN IS VISIBLE STONE NOT FOUNDATION STONE.

MONITORING BENCHMARK TABLE

POINT	DESCRIPTION	NORTHING	EASTING	ELEVATION
4 A	CONCRETE MONUMENT SET	572013.168	1365194.998	396.32
4 B	CONCRETE MONUMENT SET	572006.382	1365255.893	386.12



- BOTTOM STONE
16+67.7 O.S. 2.6' LT.
ELEV: 388.9'
TOP STONE
16+67.1 O.S. 5.2' LT.
ELEV: 390.2'
- BOTTOM STONE
16+45.7 O.S. 1.5' LT.
ELEV: 390.1'
TOP STONE
16+44.5 O.S. 4.1' LT.
ELEV: 391.1'
- BOTTOM STONE
16+42.3 O.S. 0.9' LT.
ELEV: 389.6'
TOP STONE
16+42.5 O.S. 4.0' LT.
ELEV: 391.1'
- BOTTOM STONE
16+16.7 O.S. 3.7' LT.
ELEV: 390.2'
TOP STONE
16+14.8 O.S. 8.2' LT.
ELEV: 391.4'
- BOTTOM STONE
15+50.5 O.S. 3.2' LT.
ELEV: 392.3'
TOP STONE
15+51.3 O.S. 6.2' LT.
ELEV: 393.62'
- BOTTOM STONE
15+94.8 O.S. 2.5' RT.
ELEV: 390.9'
TOP STONE
15+93.9 O.S. 4.0' RT.
ELEV: 392.0'
- BOTTOM STONE
15+61.5 O.S. 4.3' RT.
ELEV: 391.8'
TOP STONE
15+60.7 O.S. 7.8' RT.
ELEV: 392.9'
- BOTTOM STONE
14+88.3 O.S. 1.8' LT.
ELEV: 393.3'
TOP STONE
14+87.3 O.S. 5.8' LT.
ELEV: 394.8'
- BOTTOM STONE
13+88.6 O.S. 1.3' LT.
ELEV: 395.2'
TOP STONE
13+89.1 O.S. 3.5' LT.
ELEV: 397.2'
- BOTTOM STONE
13+46.3 O.S. 4.4' LT.
ELEV: 397.5'
TOP STONE
13+46.5 O.S. 6.4' LT.
ELEV: 398.9'
- BOTTOM STONE
13+88.5 O.S. 4.4' RT.
ELEV: 395.6'
TOP STONE
13+88.4 O.S. 6.3' RT.
ELEV: 397.0'
- BOTTOM STONE
14+52.3 O.S. 2.7' RT.
ELEV: 395.0'
TOP STONE
14+52.5 O.S. 3.5' RT.
ELEV: 395.7'
- BOTTOM STONE
14+18.5 O.S. 11.5' RT.
ELEV: 395.4'
TOP STONE
14+18.3 O.S. 12.5' RT.
ELEV: 396.4'
- BOTTOM STONE
13+85.5 O.S. 4.4' RT.
ELEV: 395.6'
TOP STONE
13+88.4 O.S. 6.3' RT.
ELEV: 397.0'
- BOTTOM STONE
13+46.5 O.S. 0.3' LT.
ELEV: 397.9'
TOP STONE
13+45.5 O.S. 3.2' RT.
ELEV: 399.1'
- BOTTOM STONE
12+35.2 O.S. 1.7' RT.
ELEV: 400.6'
TOP STONE
12+34.6 O.S. 6.0' RT.
ELEV: 402.1'
- BOTTOM STONE
11+81.7 O.S. 2.2' RT.
ELEV: 401.9'
TOP STONE
11+82.7 O.S. 4.7' RT.
ELEV: 403.4'
- BOTTOM STONE
11+03.7 O.S. 7.1' RT.
ELEV: 404.5'
TOP STONE
11+06.2 O.S. 10.3' RT.
ELEV: 406.3'
- BOTTOM STONE
10+65.8 O.S. 3.0' RT.
ELEV: 403.8'
TOP STONE
10+54.9 O.S. 6.2' RT.
ELEV: 405.7'
- BOTTOM STONE
11+50.1 O.S. 6.8' RT.
ELEV: 402.7'
TOP STONE
11+50.1 O.S. 7.6' RT.
ELEV: 403.6'
- BOTTOM STONE
11+13.7 O.S. 6.9' LT.
ELEV: 402.9'
TOP STONE
11+13.7 O.S. 10.6' LT.
ELEV: 404.6'
- BOTTOM STONE
11+75.4 O.S. 5.8' LT.
ELEV: 401.8'
- BOTTOM STONE
11+75.6 O.S. 7.8' LT.
ELEV: 403.0'
- BOTTOM STONE
11+49.9 O.S. 2.4' LT.
ELEV: 402.7'
- BOTTOM STONE
11+49.9 O.S. 4.7' LT.
ELEV: 403.8'
- BOTTOM STONE
12+07.2 O.S. 1.8' LT.
ELEV: 401.4'
- BOTTOM STONE
12+07.2 O.S. 4.8' LT.
ELEV: 402.8'
- BOTTOM STONE
12+35.2 O.S. 3.3' LT.
ELEV: 400.8'
- BOTTOM STONE
12+35.9 O.S. 5.7' LT.
ELEV: 402.3'
- BOTTOM STONE
12+07.2 O.S. 1.8' LT.
ELEV: 401.4'
- BOTTOM STONE
11+75.4 O.S. 5.8' LT.
ELEV: 401.8'
- BOTTOM STONE
11+49.9 O.S. 2.4' LT.
ELEV: 402.7'
- BOTTOM STONE
11+49.9 O.S. 4.7' LT.
ELEV: 403.8'
- BOTTOM STONE
11+13.7 O.S. 6.9' LT.
ELEV: 402.9'
- BOTTOM STONE
11+13.7 O.S. 10.6' LT.
ELEV: 404.6'

PLAN PREPARED BY
A BETTER SURVEY LLC
8998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652-2715

NOTE: PRIOR TO ANY CLEARING AND GRUBBING THE CONTRACTOR SHALL HOLD A PRECONSTRUCTION MEETING WITH THE PROJECT ENGINEER AND THE COUNTY DEPARTMENT OF RECREATION AND PARKS TO EVALUATE TREES GREATER THAN 12" DBH TO BE SAVED, OTHER THAN THOSE WHICH HAVE BEEN PREDETERMINED TO BE REMOVED OR SAVED AS SHOWN ON THE PLANS.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31281, EXPIRATION DATE: JANUARY 24, 2011.

7/10/09

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Chief, Development Engineering Division
Date: 7/20/09

Chief, Division of Land Development
Date: 8/19/09

Director
Date: 8/21/09

STONE TOE PROTECTION SCHEDULES

DOUBLE			SINGLE		
FROM STATION	TO STATION	OFFSET*	FROM STATION	TO STATION	OFFSET*
10+65	10+95	L	10+15	10+18	10+65
11+08	11+04	11+52	10+15	10+85	10+66R
11+50	11+75		10+95	11+10	11+13L
11+75	11+82	12+35	11+40	11+50	L
12+00	12+07	12+35	12+90	13+11	13+30
12+60	12+58	12+90	12+90	13+30	L
13+30	13+45	13+46	13+90	14+20	L
13+30	13+45	13+47	14+50	14+90	14+88L
13+85	13+89	13+90	15+20	15+50	15+60
13+85	13+88	14+25	15+90	16+15	16+17L
14+20	14+50		16+65	16+85	R
14+50	14+52	15+60	16+85	16+67	16+85
15+60	15+90	L			
16+00	15+94	16+19			
16+40	16+42	16+45			
16+85	17+15	17+18			

RIFFLE GRADE CONTROL SCHEDULE

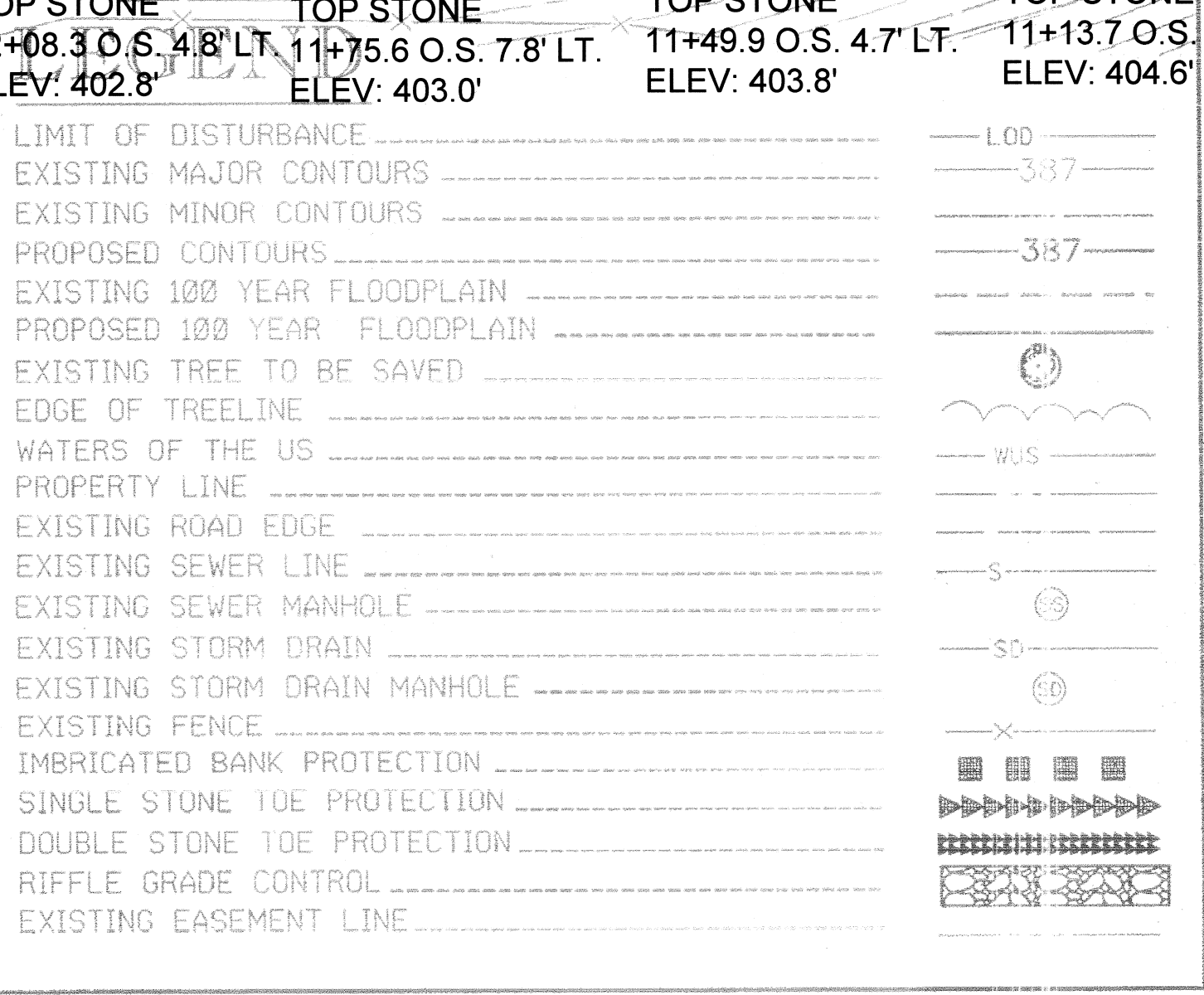
FROM STATION	TO STATION	FROM STATION	TO STATION
10+15	10+19	10+85	10+60
10+05	10+94	11+10	11+07
11+40		11+45	11+46
12+05		12+20	12+22
12+90	12+75	13+30	13+25
14+00		14+20	14+22
14+50	14+51	14+90	14+88
15+20	15+24	15+60	15+61
15+90	15+94	16+15	16+16
16+40	16+42	16+45	16+16
16+85	16+68	16+85	16+91

STEP POOL CREST SCHEDULE

STATION **	STATION **
12+36	13+76
12+45	12+48.1
12+55	12+58.0
13+45	13+47.9
13+55	13+57.9
13+65	13+67.3
13+85	13+87.1
16+46	
16+56	
16+66	

IMBRICATED WALL SCHEDULE

FROM STATION	TO STATION	OFFSET*
16+19	16+12	16+45
16+12	16+45	16+47
		R



DATE: _____

NO. REVISIONS DESCRIPTION: _____

10 NORTH PARK DRIVE
HUNT VALLEY, MD 21030
PHONE: (410) 316-7800
FAX: (410) 316-7817
www.kci.com

KCI
TECHNOLOGIES

BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4 AREAS 1,2,3
CAPITAL PROJECT D-1158
HOWARD COUNTY DEPARTMENT OF PARKS AND RECREATION
1700 CALHOUN HILLS ROAD
COLUMBIA, MD 21046
(410) 323-2700

GRADING PLAN

SCALE: 1" = 20'

DATE: OCTOBER, 2008

KCI JOB NO.: 01-043223.25

CAPITAL PROJECT NO.: D1158

PERMIT ISSUE:

CONSTRUCTION ISSUE:

AS-BUILT DRAWING
SHEET 7 OF 38

SHEET NO.: 11 OF 35

STATE CONTRACT NO. H04085174
FA. 2008-01-01 (CP-21-15) 2

AS-BUILT NOTES:

- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
- 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
- 3) FIELD WORK PERFORMED ON AND BETWEEN OCTOBER 24, 2011 AND APRIL 24, 2012.
- 4) STONE SHOWN IS VISIBLE STONE NOT FOUNDATION STONE.

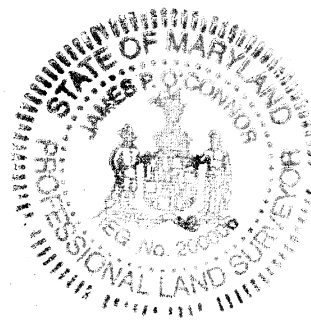
POINT	DESCRIPTION	NORTHING	EASTING	ELEVATION
5 A	CONCRETE MONUMENT SET	572453.589	1365150.628	385.72
5 B	CONCRETE MONUMENT SET	572458.359	1365188.804	385.54



N 572750
E 1365200

I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF APRIL 24, 2012.

James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY



29 Aug 2012
Date

LEGEND

- STEP POOL
- CREST STONE
- PLANTING AREA
- BIOENGINEERING AREA
- INDEX CONTOUR
- - - INTERMEDIATE CONTOUR

TYPE II STEP POOL SEQUENCE
SEE SHEET 15 FOR DETAILS
POOLS DEEPENED TO +/- 0.5' BELOW
DOWNSTREAM STEP

GRADES TIE OUT TO EXISTING GRADES FROM
PREVIOUS STABILIZATION ON RED HILL BRANCH

GRADES TIE OUT TO EXISTING
BENCH ELEVATION

N 572750
E 1365000

NOTE: PRIOR TO ANY CLEARING AND GRUBBING THE CONTRACTOR SHALL HOLD A PRECONSTRUCTION MEETING WITH THE PROJECT ENGINEER AND THE COUNTY DEPARTMENT OF RECREATION AND PARKS TO EVALUATE TREES GREATER THAN 12" DBH TO BE SAVED, OTHER THAN THOSE WHICH HAVE BEEN PREDETERMINED TO BE REMOVED OR SAVED AS SHOWN ON THE PLANS.

RIFFLE GRADE CONTROL SCHEDULE

FROM STATION	TO STATION	FROM STATION	TO STATION
17+15	17+17	17+30	17+29
17+05	17+75	18+05	18+07
18+35	18+32	18+00	19+01
19+20	19+25	19+05	19+83
20+10	20+12	20+25	20+26
21+15	21+12	21+20	21+28

STONE TOE PROTECTION SCHEDULES

DOUBLE			SINGLE		
FROM STATION	TO STATION	OFFSET*	FROM STATION	TO STATION	OFFSET*
16+85	17+15	L	17+15	17+30	17+18 L
17+15	17+16	18+35 R	17+05	17+76	18+05 18+07 L
18+90	19+33	19+25 L	18+35	18+90	19+13 R
19+70	20+25	20+26 R	18+35	18+69	18+90 L
20+10	20+25	20+26 L	19+33	19+46	19+05 20+10 L
			19+18	19+33	19+70 R
			21+05	21+25	R
			21+05	21+03	21+20 21+27 L

*FACING DOWNSTREAM, MEASURED FROM BASELINE OF CONSTRUCTION

*FACING DOWNSTREAM, MEASURED FROM BASELINE OF CONSTRUCTION

STEP POOL CREST SCHEDULE

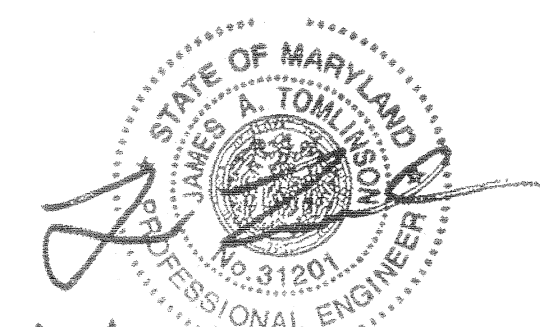
STATION **
20+26.5
20+41.5
20+50.5
20+71.5
20+86.5
21+01.5
21+02.0

** INDICATES CENTER OF CREST WIDTH
SEE PROFILE FOR EXTENT

LEGEND

- LIMIT OF DISTURBANCE
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPOSED CONTOURS
- EXISTING 100 YEAR FLOODPLAIN
- PROPOSED 100 YEAR FLOODPLAIN
- EXISTING TREE TO BE SAVED
- EDGE OF TREELINE
- EDGE OF WETLAND
- WATERS OF THE US
- PROPERTY LINE
- EXISTING ROAD EDGE
- EXISTING SEWER LINE
- EXISTING SEWER MANHOLE
- EXISTING STORM DRAIN
- EXISTING STORM DRAIN MANHOLE
- EXISTING FENCE
- IMBRICATED BANK PROTECTION
- SINGLE STONE TOE PROTECTION
- DOUBLE STONE TOE PROTECTION
- RIFFLE GRADE CONTROL
- EXISTING EASEMENT LINE

PART 102 OF 103, Thursday, July 05, 2013 10:58:25 AM
BY: J. O'Connor (0109) Job: Red Hill Branch Stream Stabilization
FILE: M:\2010\10243223.25\8-24-12\enr\31201.dwg



APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

John O'Connor
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 7/22/09

Cindy Hanes
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 8/19/09

Frank P. Loyd
DIRECTOR
DATE: 8/21/09

PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715

NO.	REVISIONS DESCRIPTION	DATE

10 NORTH PARK DRIVE
HUNT VALLEY, MD 21030
PHONE: (410) 316-7800
FAX: (410) 316-7817
www.kci.com

TECHNOLOGIES

BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3
CAPITAL PROJECT D-1158
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
870 COLUMBIA AVENUE
COLUMBIA, MD 21046
HOWARD COUNTY DEPARTMENT OF PARKS AND RECREATION
7700 WOODBURN ROAD
COLUMBIA, MD 21046
410-324-4100
PROJECT 881 TRK MAP 30.000000 R/W ELECTION DISTRICT 9

GRADING PLAN

SCALE: 1" = 20'
DATE: OCTOBER, 2008
KCI JOB NO.: 01-043223.25
CAPITAL PROJECT NO.: D1158
PERMIT ISSUE:
CONSTRUCTION ISSUE:

AS-BUILT DRAWING
SHEET 8 OF 38

SHEET NO.: 12 OF 35

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 www.kci.com



BRAMPTON HILLS
 STREAM STABILIZATION
 SECTION 4, AREAS 1,2,3
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 STORMWATER MANAGEMENT DIVISION
 6751 COLUMBIA GATEWAY DRIVE
 COLUMBIA, MARYLAND 21046

CROSS SECTIONS

SCALE: HOR. 1"=10'
 VERT. 1"=5'

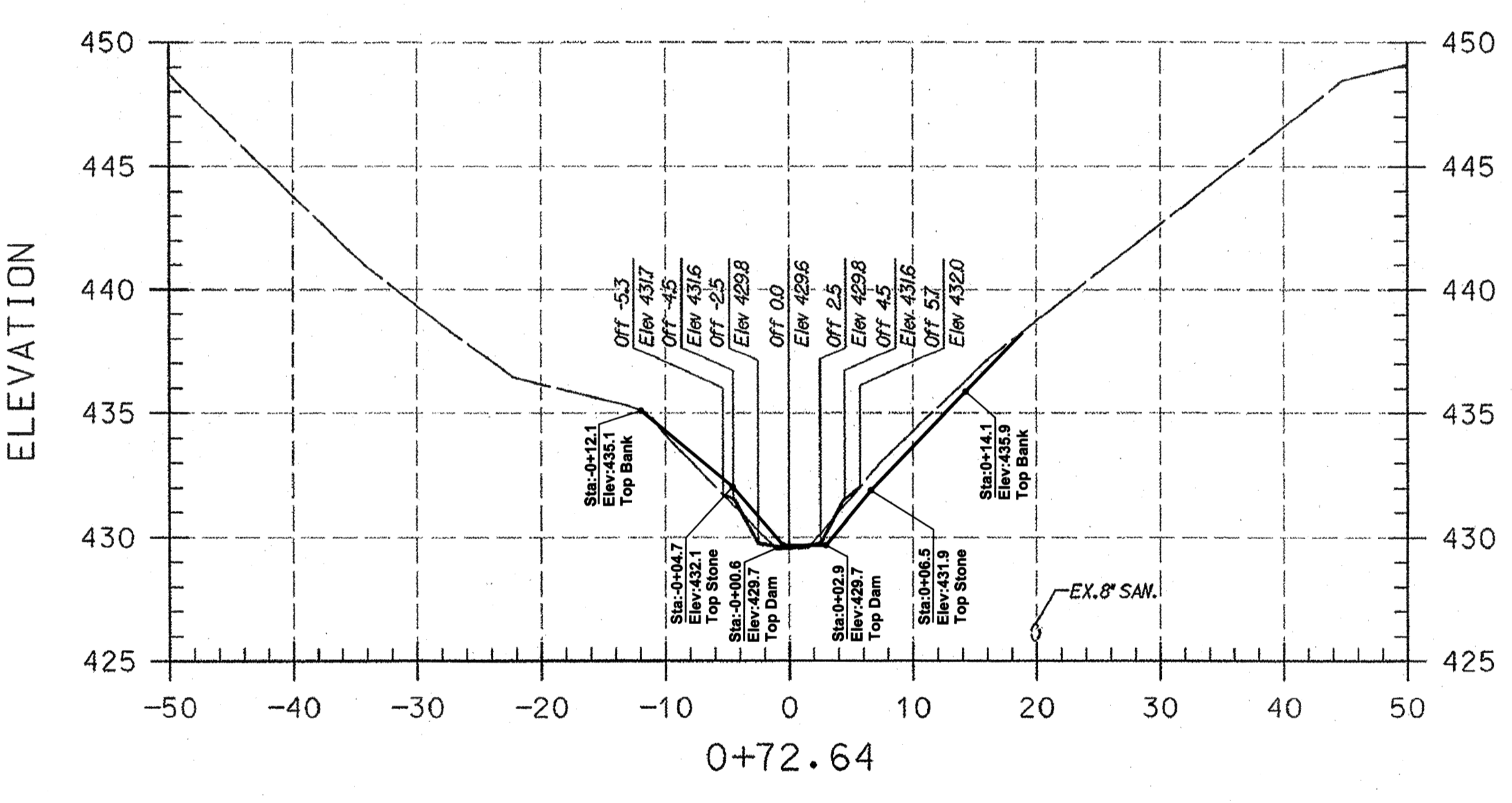
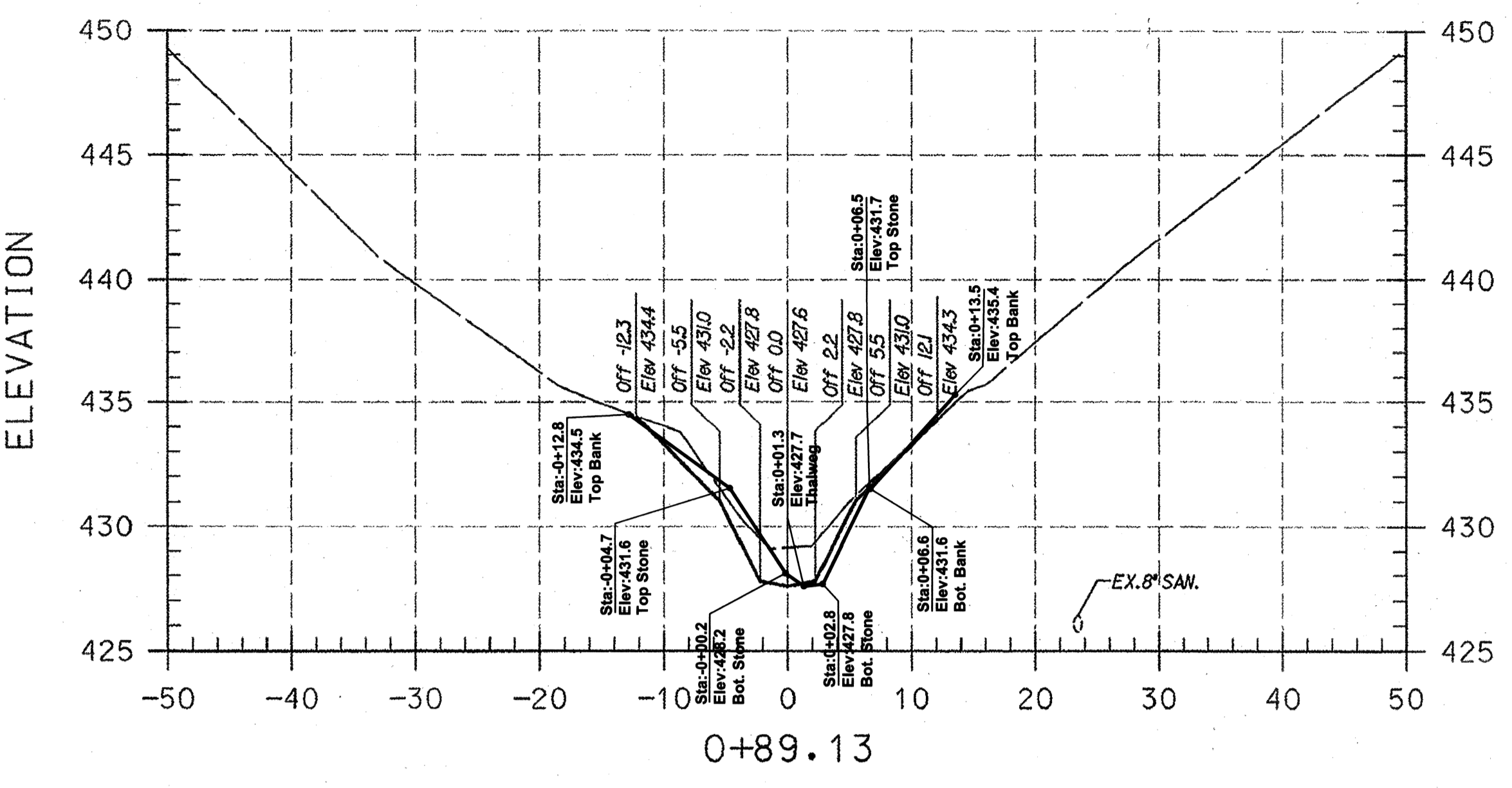
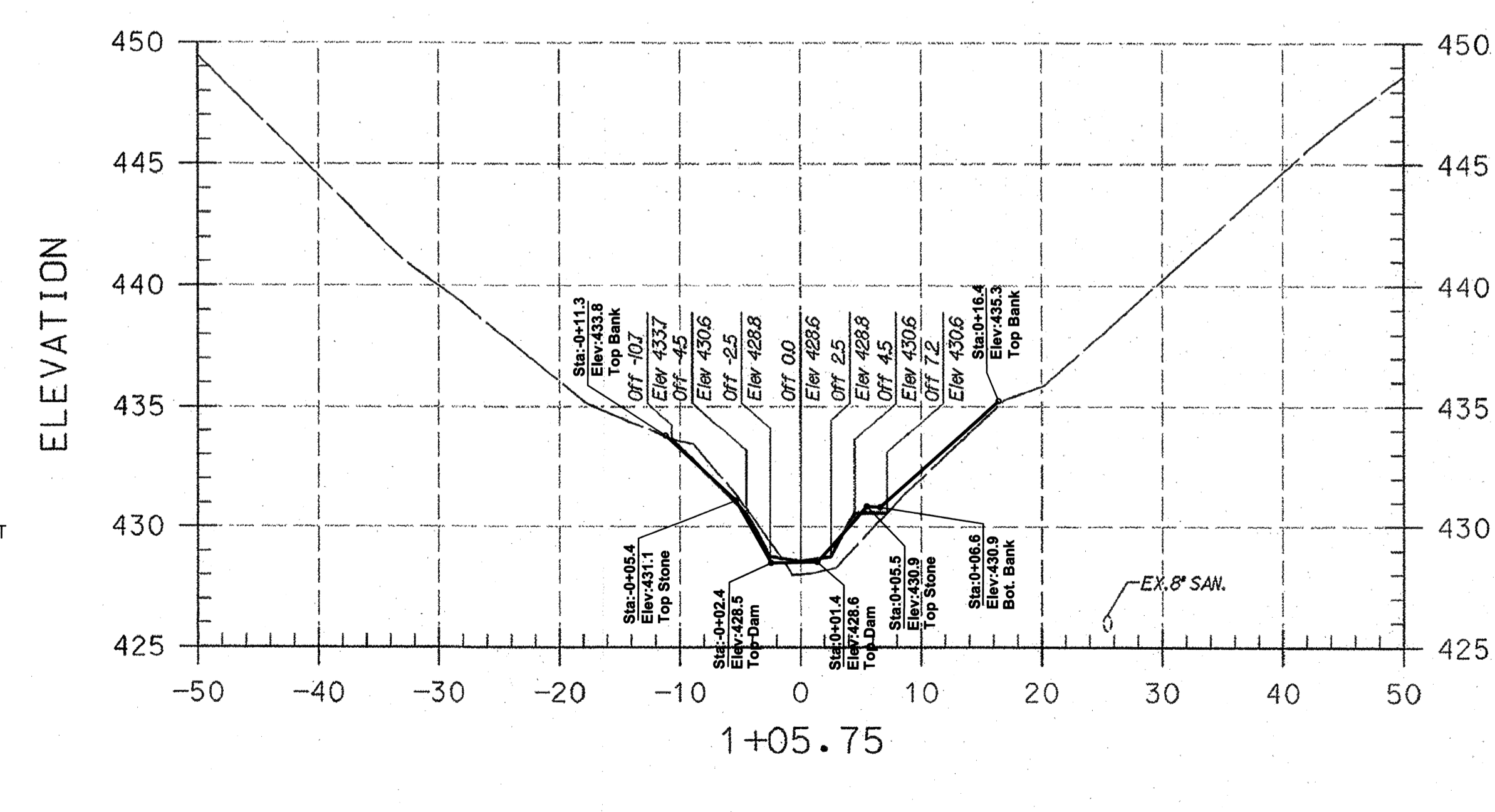
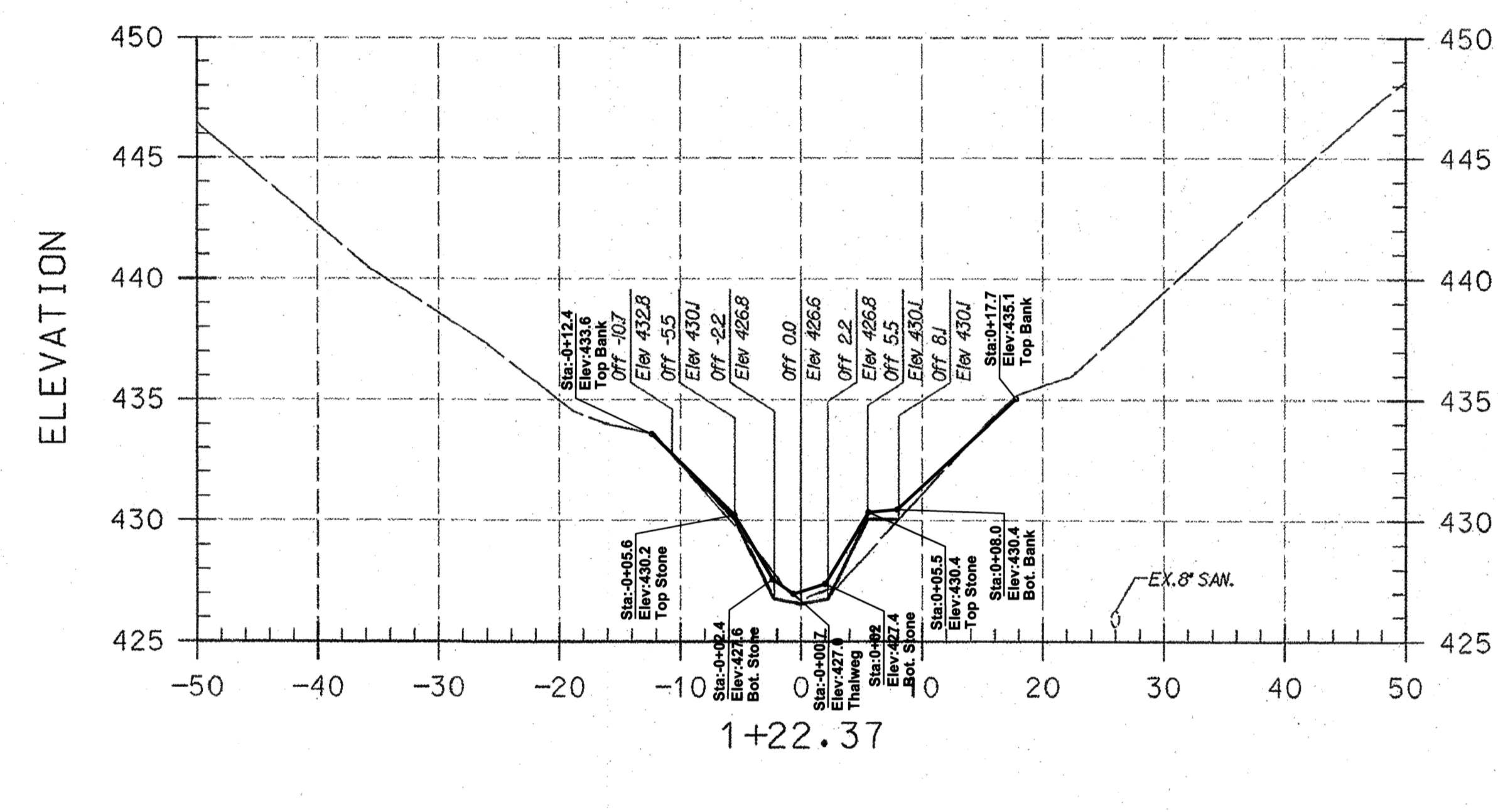
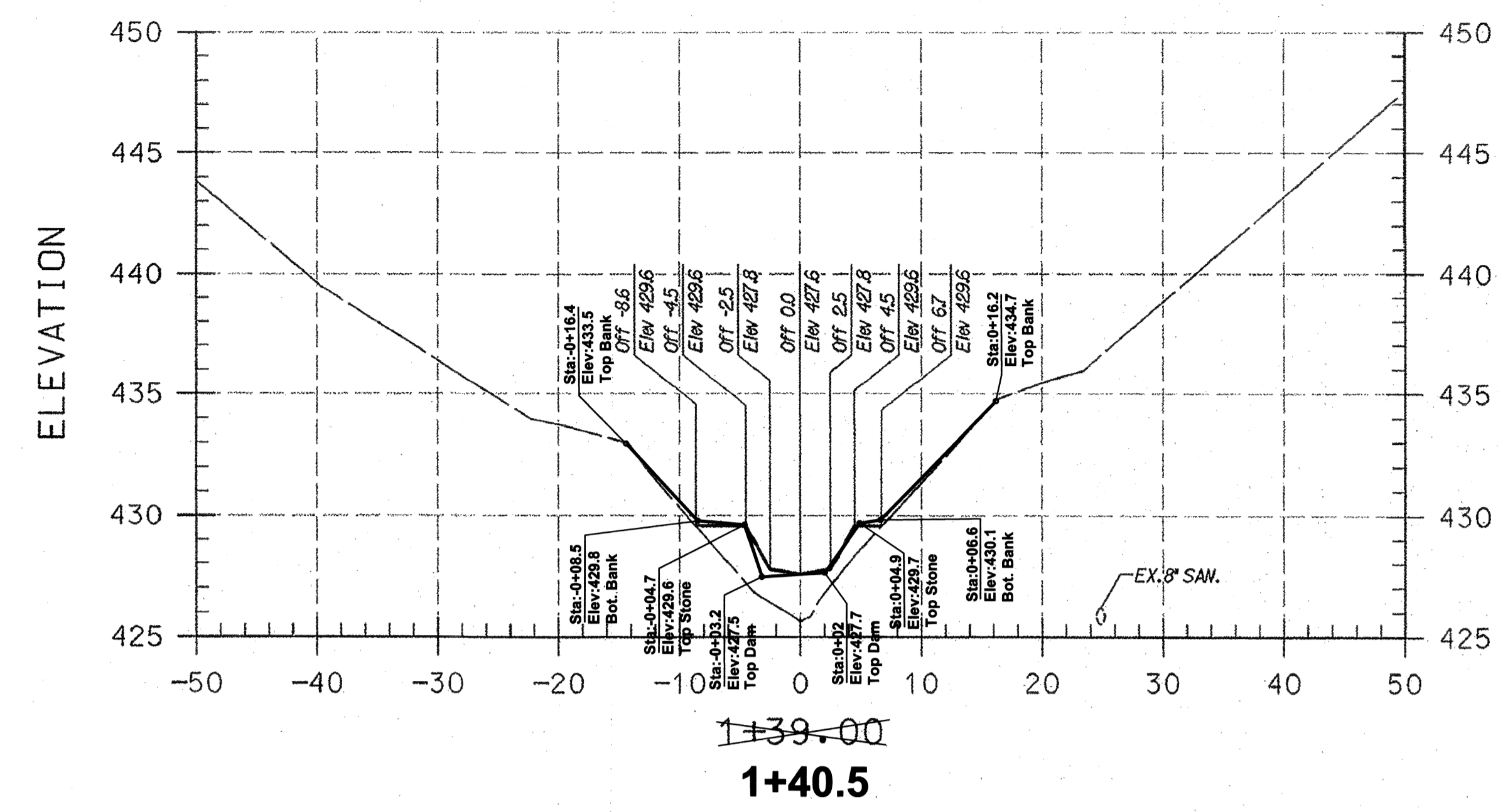
DATE: AUGUST 2009

KCI JOB NO.: 01081795.12

CAPITAL PROJECT NO.: D1158

PERMIT ISSUE:

CONSTRUCTION ISSUE:



- AS-BUILT NOTES:
- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
 - 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
 - 3) FIELD WORK PERFORMED ON AND BETWEEN OCTOBER 24, 2011 AND APRIL 24, 2012.
 - 4) STONE SHOWN IS VISIBLE STONE NOT FOUNDATION STONE.



I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF MARCH 02, 2012.

J.P. O'Connor
 James P. O'Connor, Prof. L. S.
 Reg. No. 200006 Ex. 09/2013
 FOR AS-BUILT INFORMATION ONLY

29 Aug 2012
 Date

PLAN PREPARED BY
 A BETTER SURVEY LLC
 9998 LODGE ROAD
 BALTIMORE, MARYLAND
 21234
 (410) 652 2715

LEGEND

EXISTING GRADE	---
PROPOSED GRADE	———

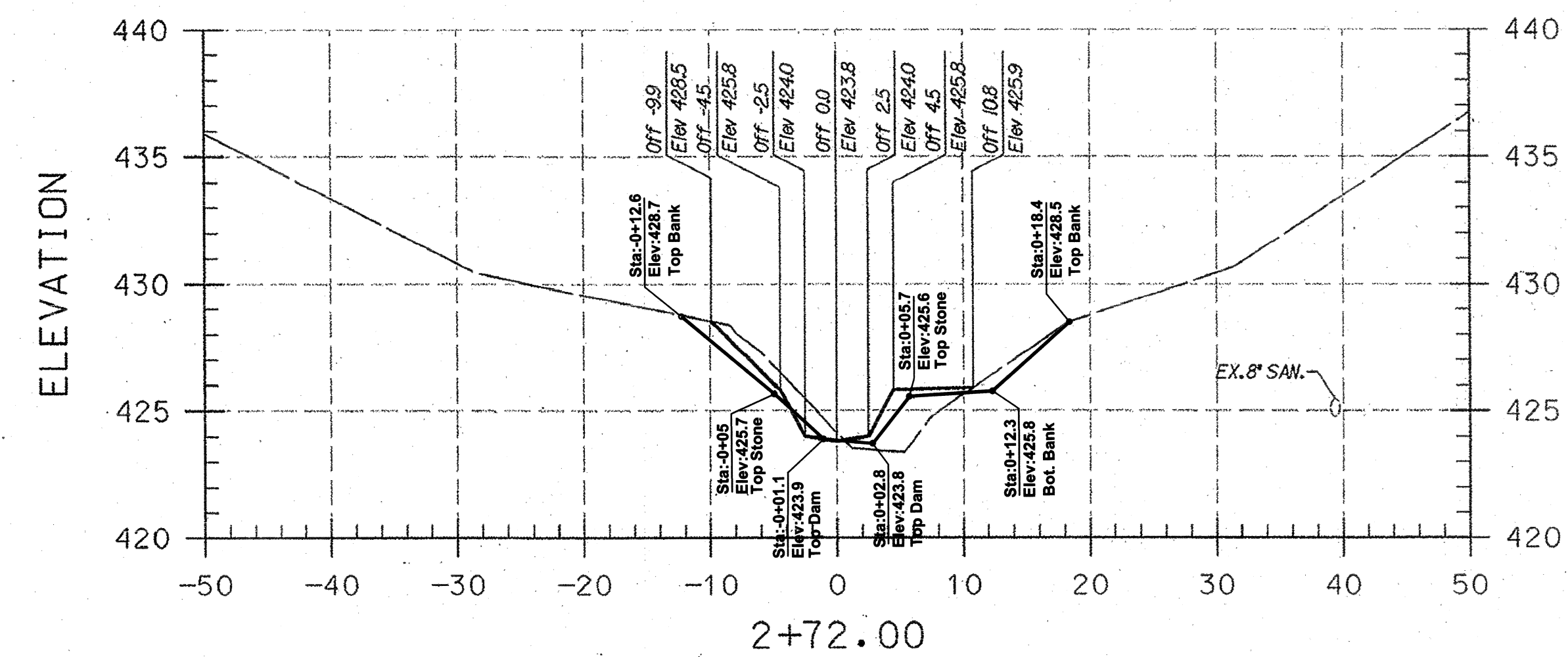
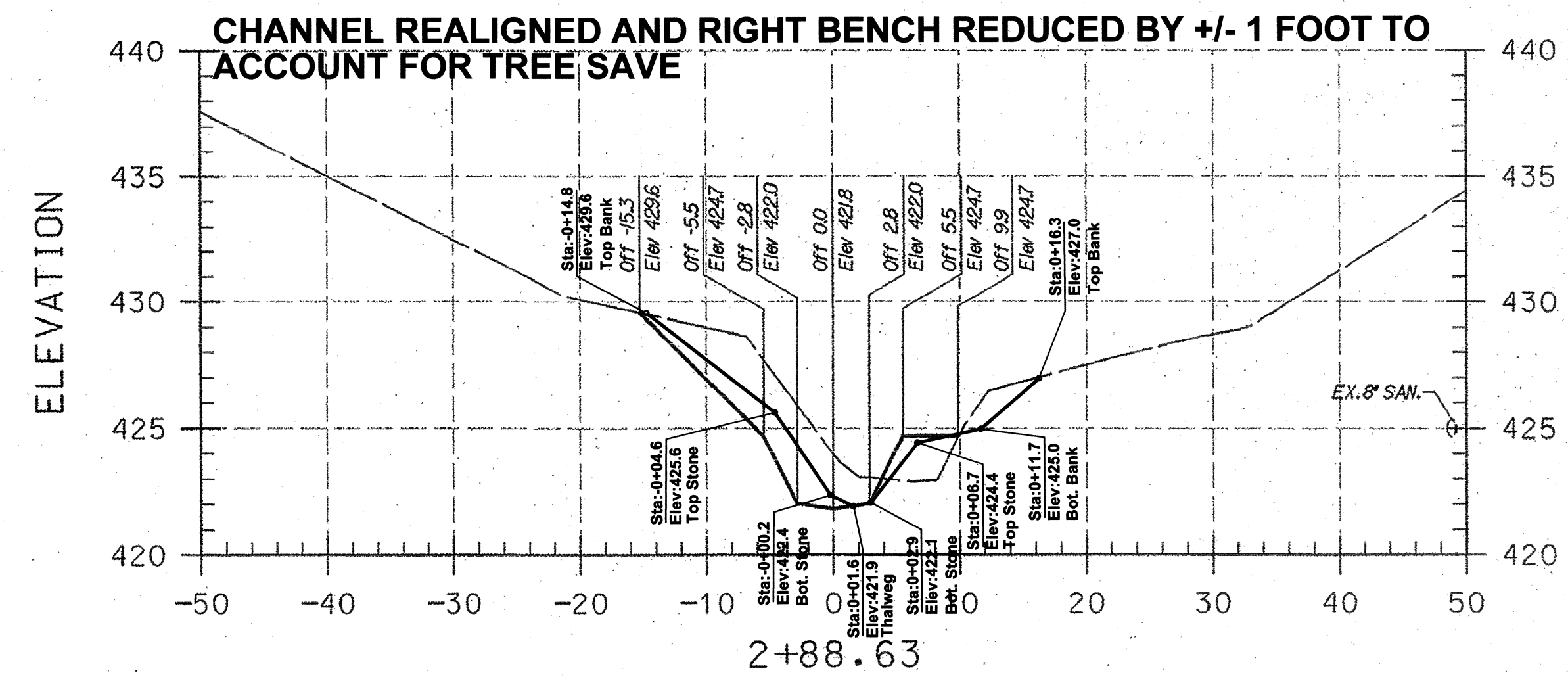
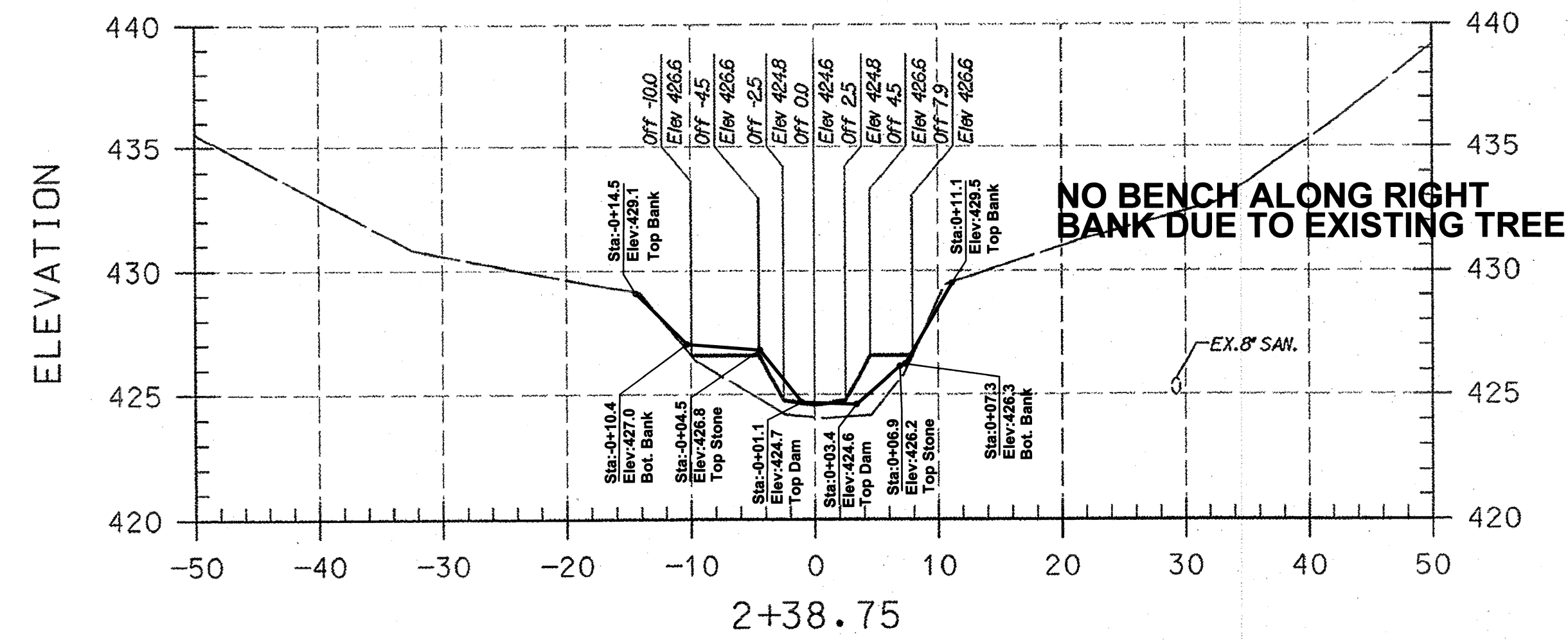
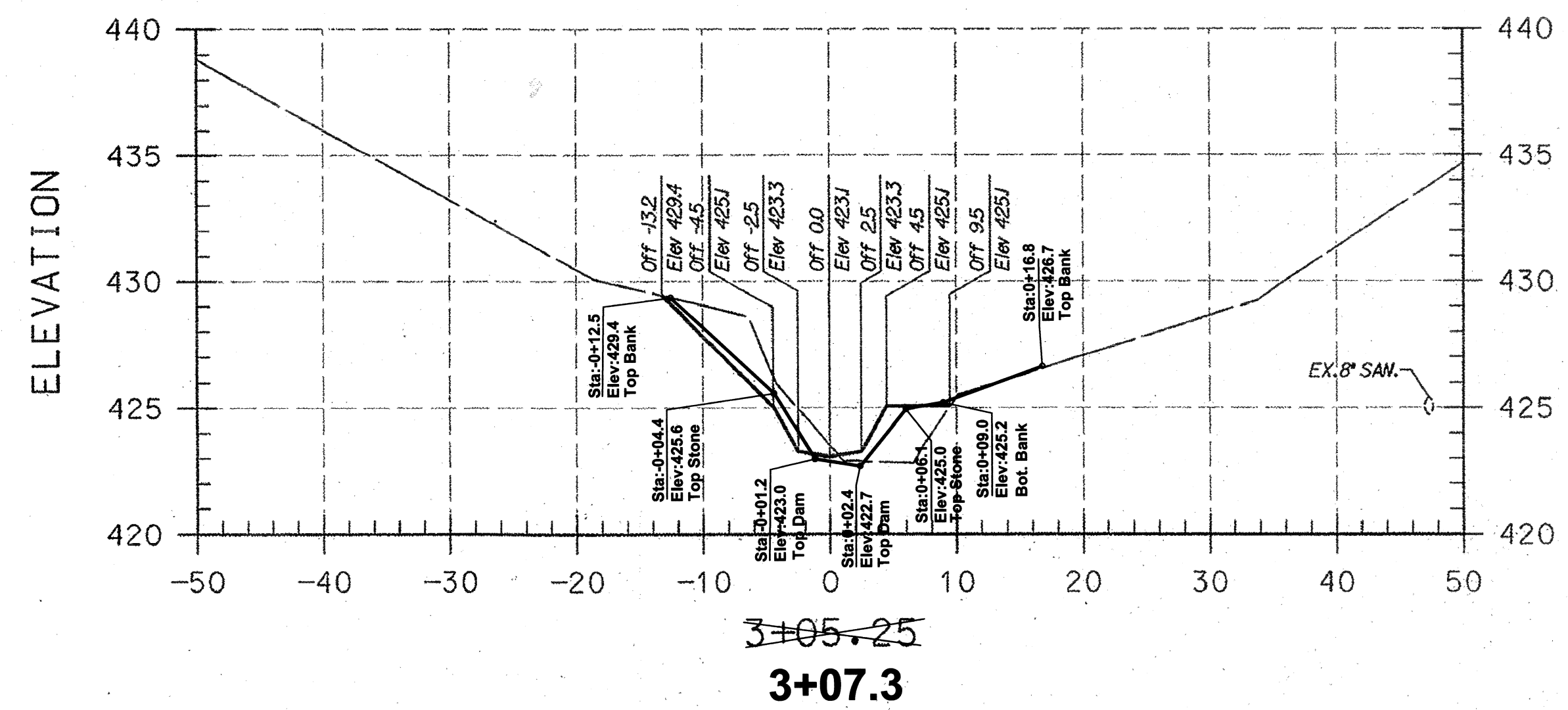
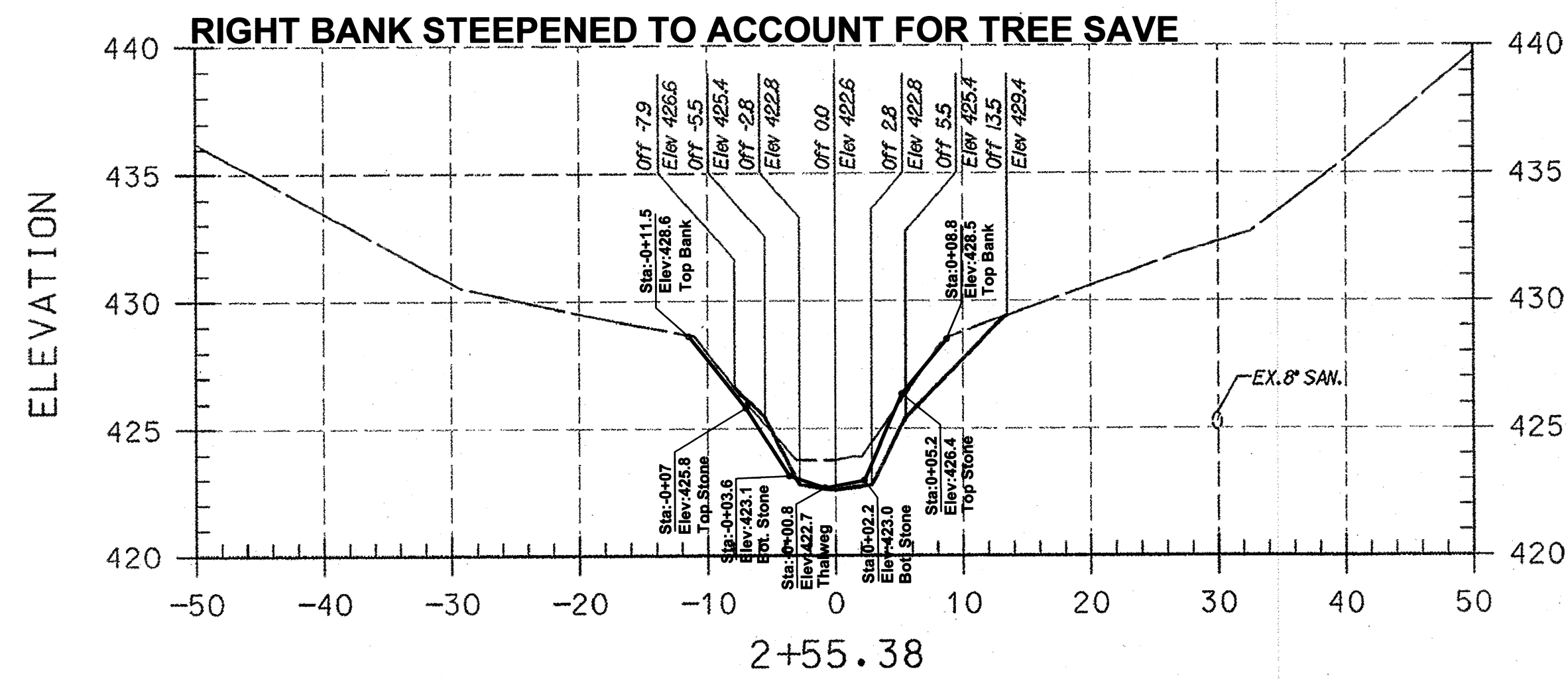
NOTE:
 UTILITIES SHOWN ON THESE PLANS HAVE BEEN LOCATED USING THE BEST AVAILABLE INFORMATION. HOWEVER THE CONTRACTOR IS TO EXERCISE EXTREME CAUTION WHEN EXCAVATING NEAR ANY UTILITIES. TEST PIT IF REQUIRED.

ASBUILT GRADES

PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 31201 EXPIRATION DATE: JANUARY 24, 2011

08/14/09

PLOTTED: 09:30 PM on Wednesday, August 05, 2009
 BY: jhermy, Alar, Division 0099 Natural Resources Management
 FILE: R:\2004\0104\0222\25\Drawings\asbldrwdmg



I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF APRIL 24, 2012.

PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715

James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY



AS-BUILT NOTES:

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- 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
- 3) FIELD WORK PERFORMED ON AND BETWEEN OCTOBER 24, 2011 AND APRIL 24, 2012.
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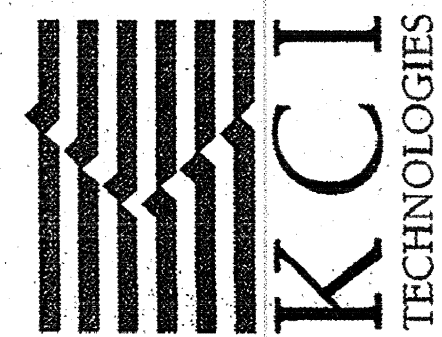
LEGEND

EXISTING GRADE ————
PROPOSED GRADE ————

ASBUILT GRADES

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
www.kci.com



**BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3**
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
5700 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

CROSS SECTIONS

SCALE: HOR. 1"=10'
VERT. 1"=5'
DATE: AUGUST 2009
KCI JOB NO.: 01081795.12
CAPITAL PROJECT NO.: D1158
PERMIT ISSUE:
CONSTRUCTION ISSUE:

AS-BUILT DRAWING
SHEET 11 OF 38

SHEET NO.: 3 OF 30

State Contract No. H04085174

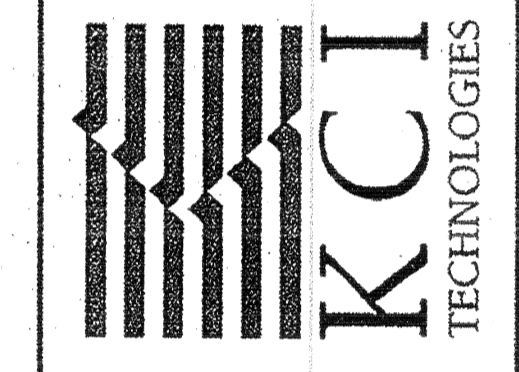
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HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
5700 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

SHEET NO.: 3 OF 30

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 www.kci.com

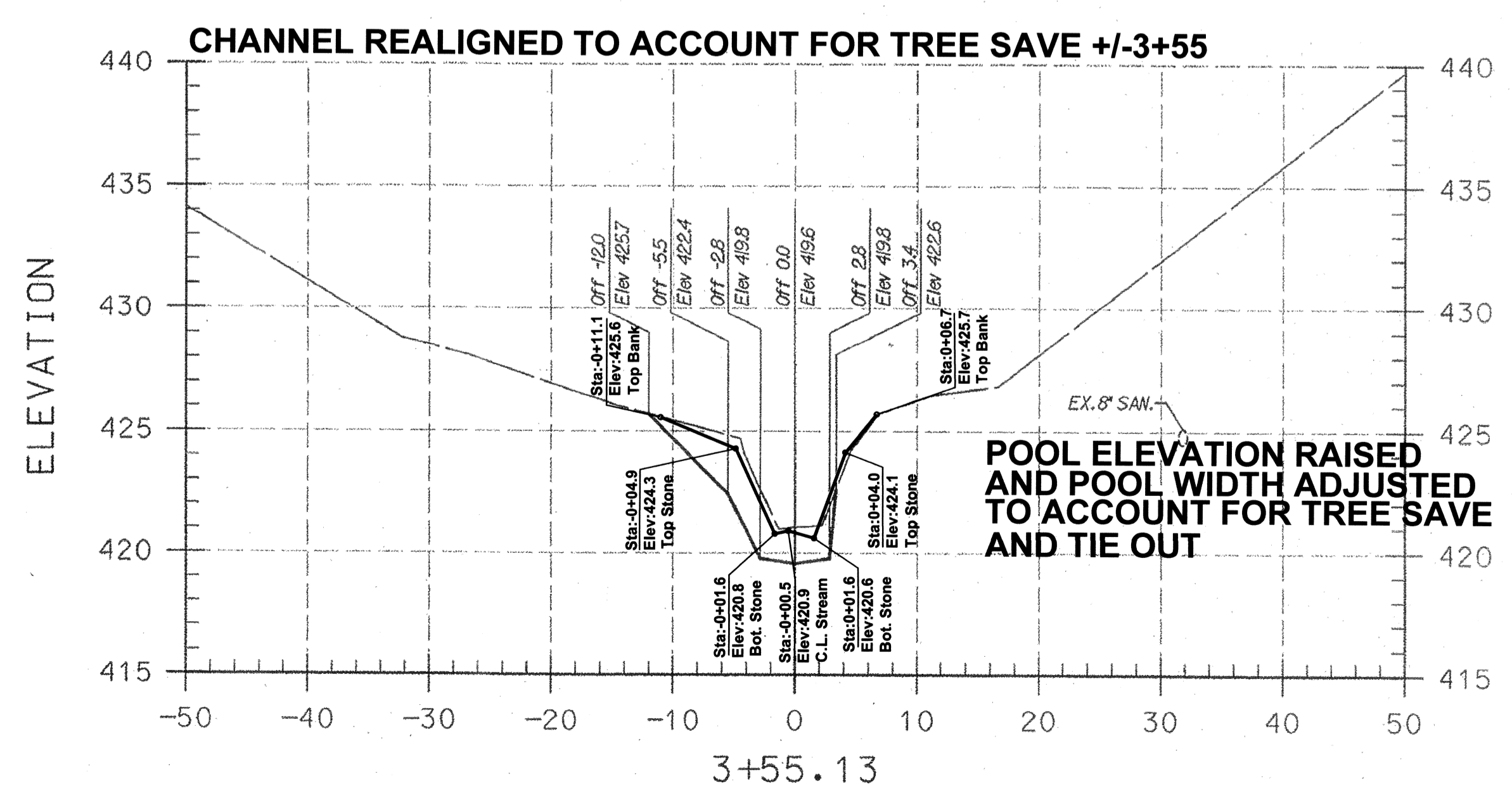
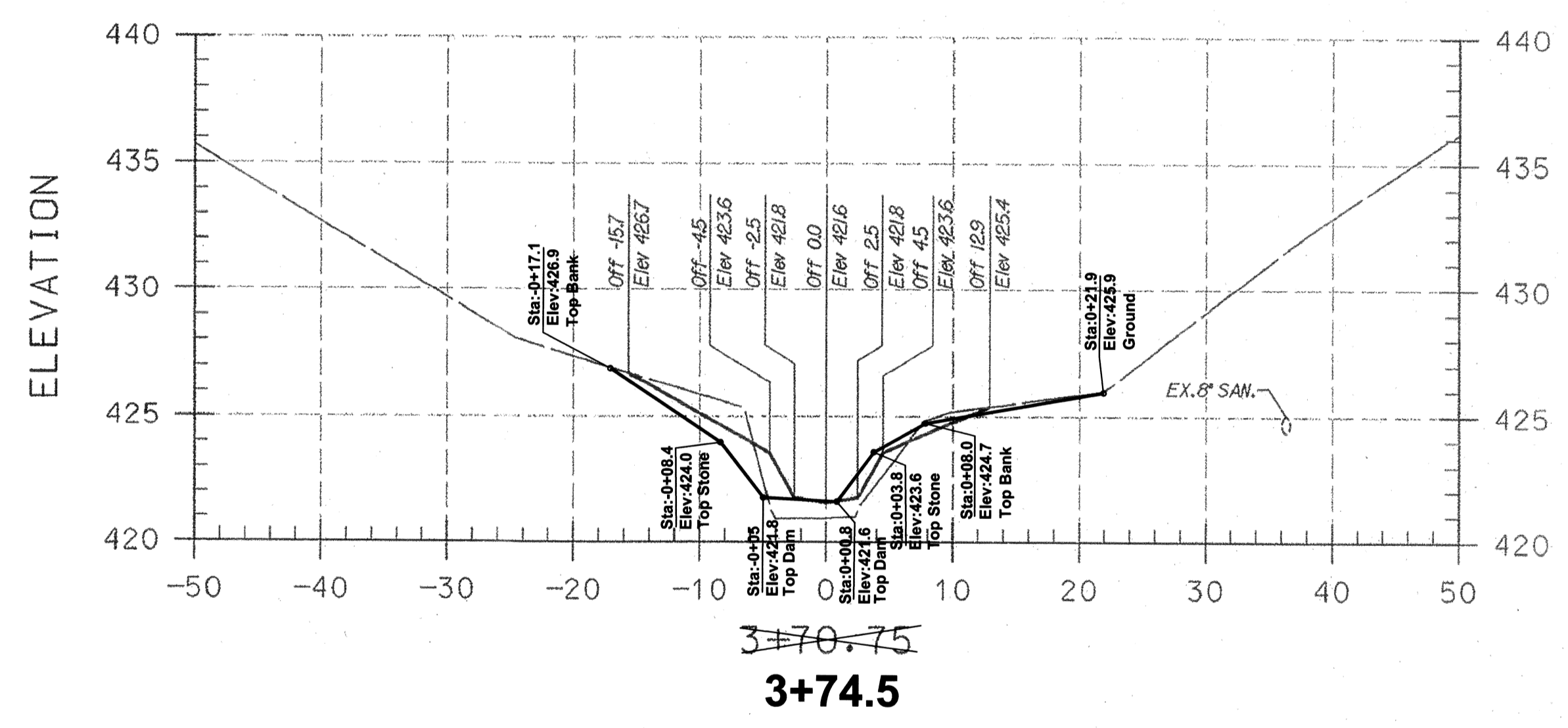
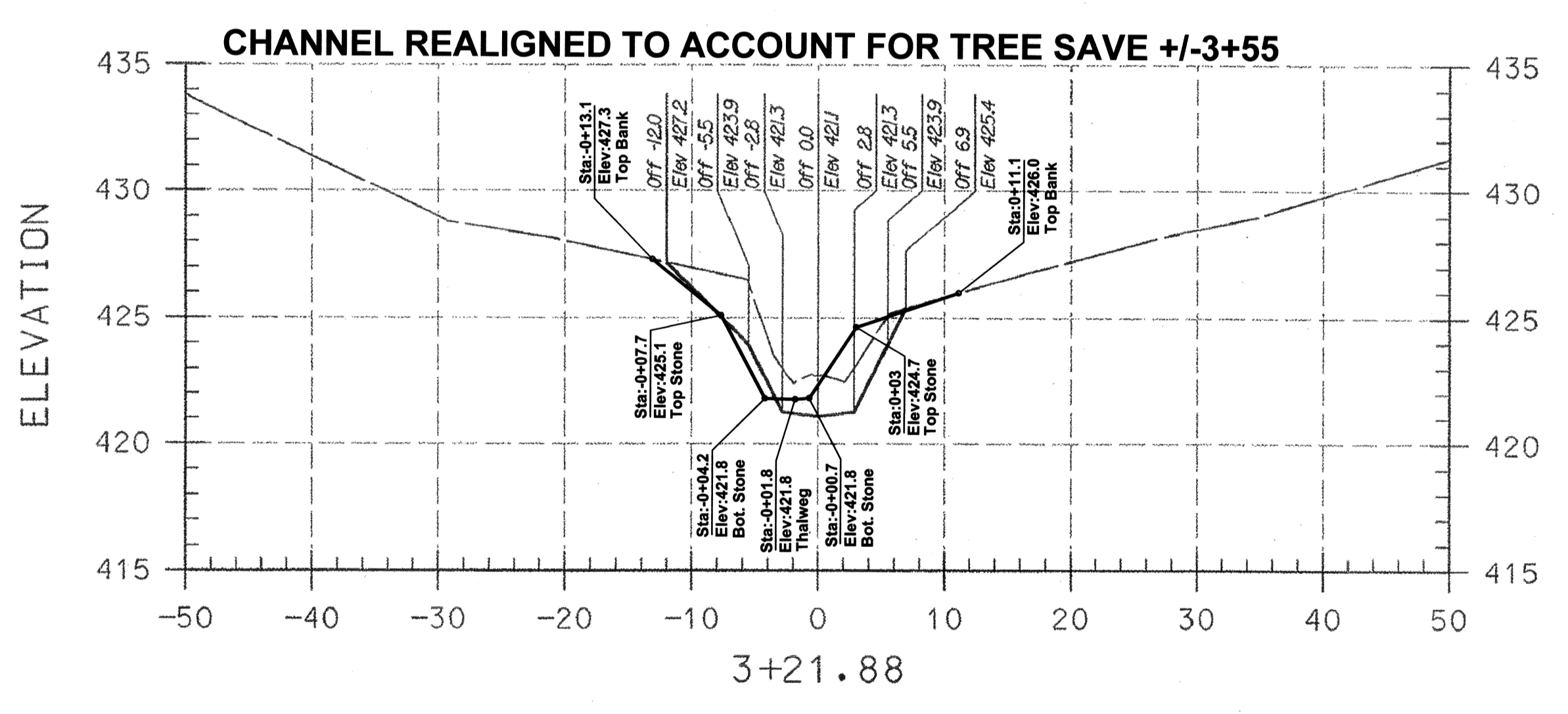
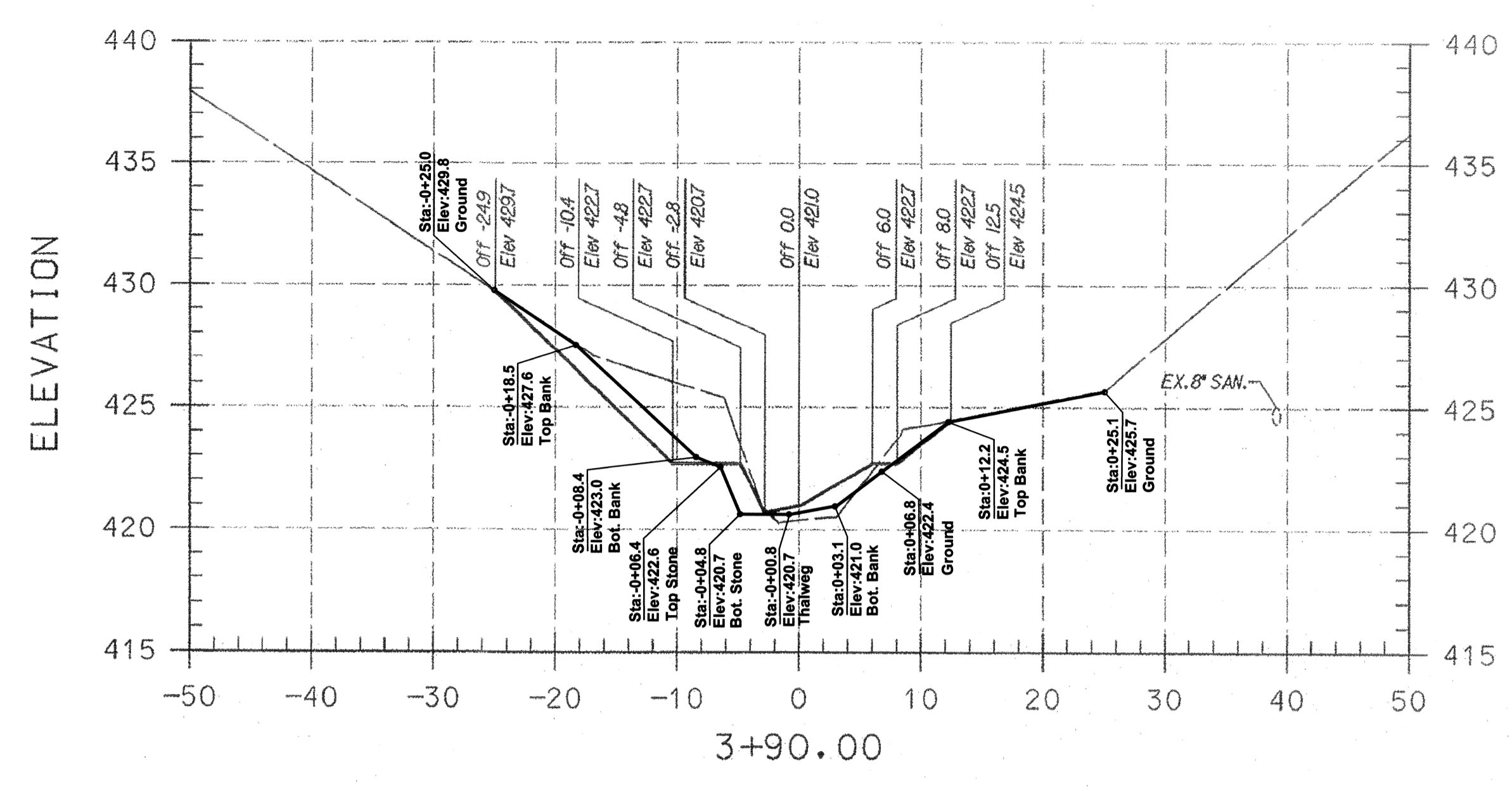
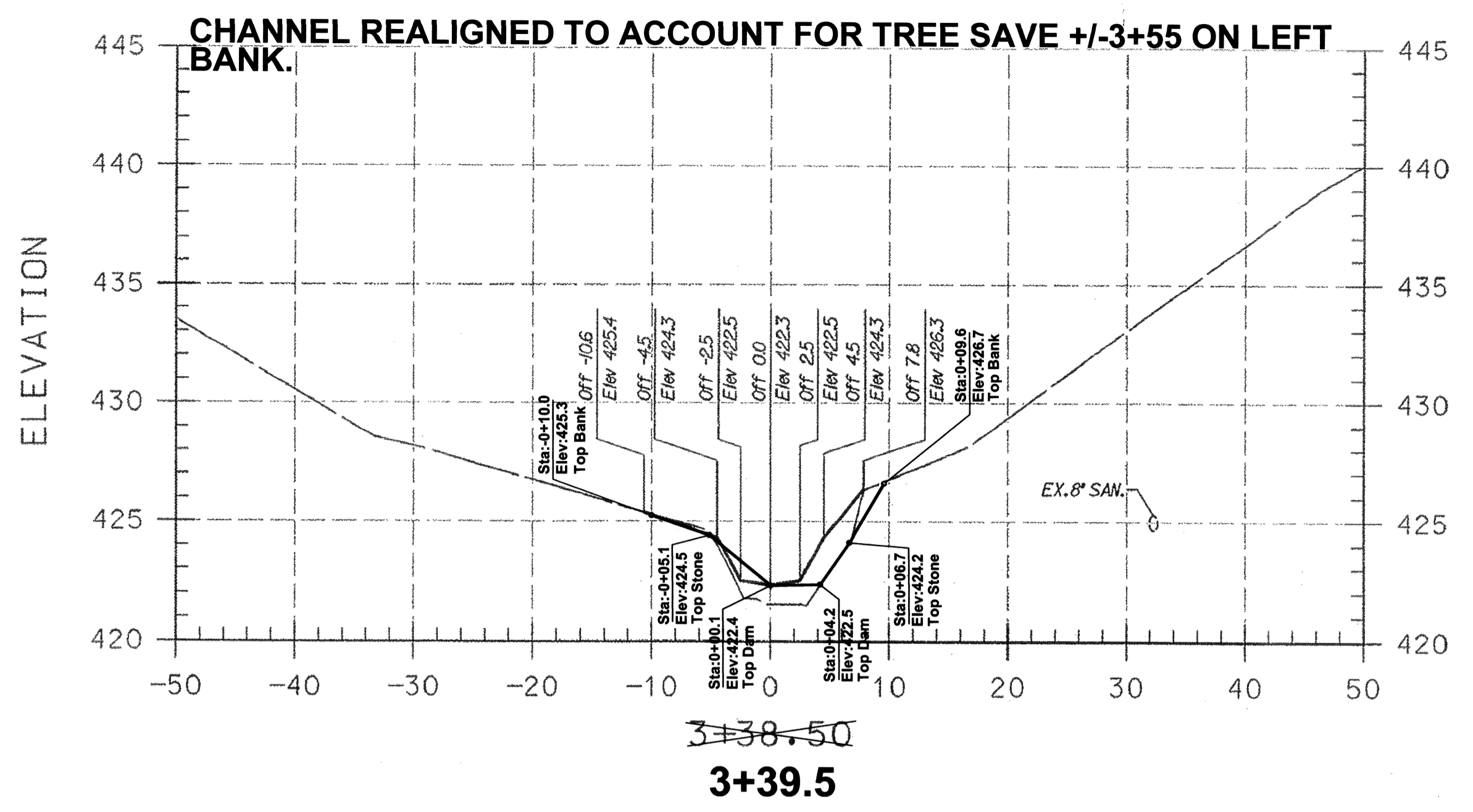


**BRAMPTON HILLS
 STREAM STABILIZATION
 SECTION 4, AREAS 1,2,3**

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 1075 COLUMBIA GATEWAY DRIVE
 COLUMBIA, MARYLAND 21046

CROSS SECTIONS

SCALE: HOR. 1"=10'
 VERT. 1"=5'
 DATE: AUGUST 2009
 KCI JOB NO.: 01081795.12
 CAPITAL PROJECT NO.: D1158
 PERMIT ISSUE:
 CONSTRUCTION ISSUE:



PLAN PREPARED BY
 A BETTER SURVEY LLC
 9998 LODGE ROAD
 BALTIMORE, MARYLAND
 21234
 (410) 652 2715

I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF APRIL 24, 2012.

James P. O'Connor
 James P. O'Connor, Prof. L. S.
 Reg. No. 200006 Ex. 09/2013
 FOR AS-BUILT INFORMATION ONLY
 Date: 23 Aug 2012



- AS-BUILT NOTES:
- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
 - 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
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LEGEND

EXISTING GRADE _____

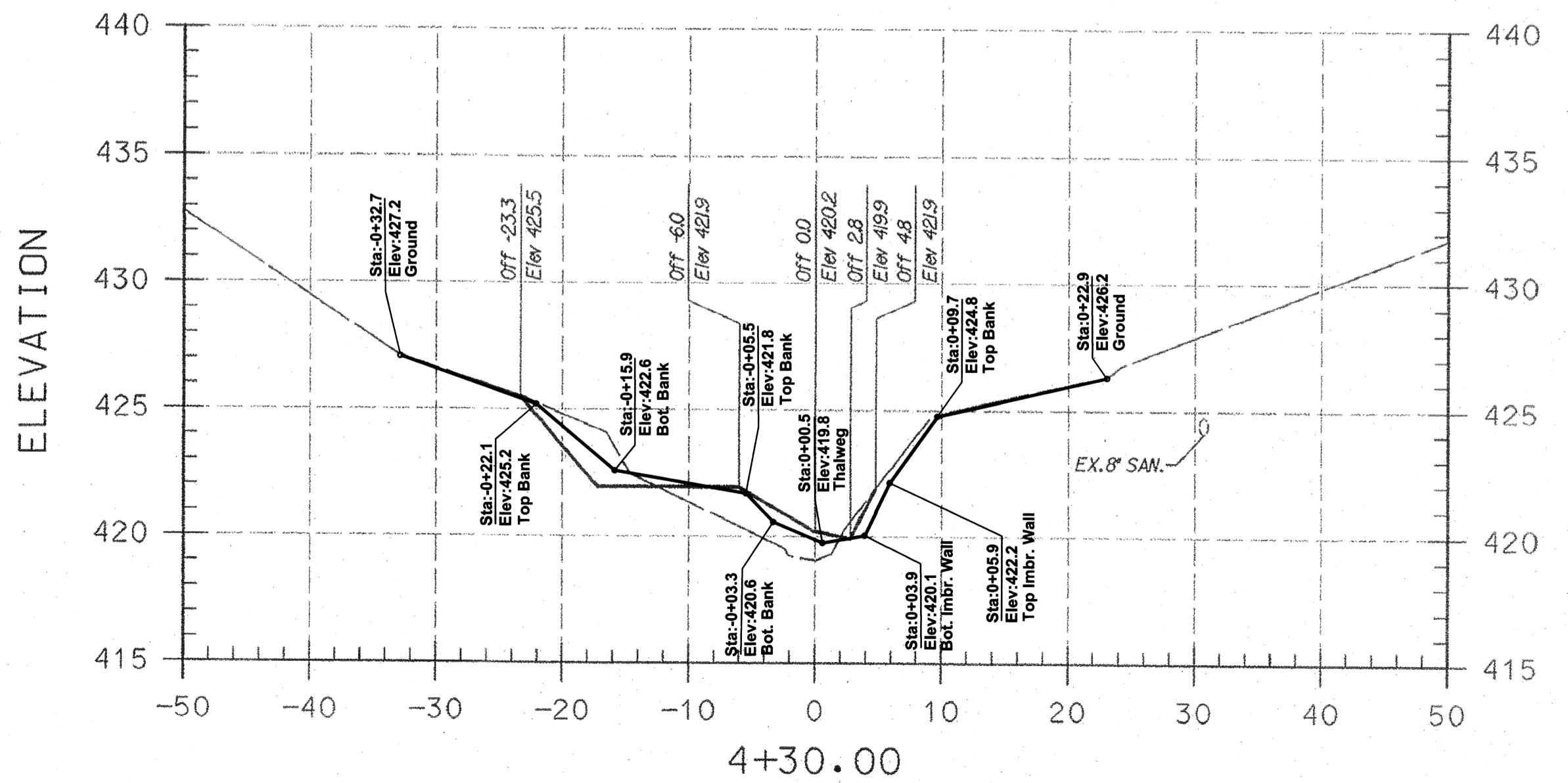
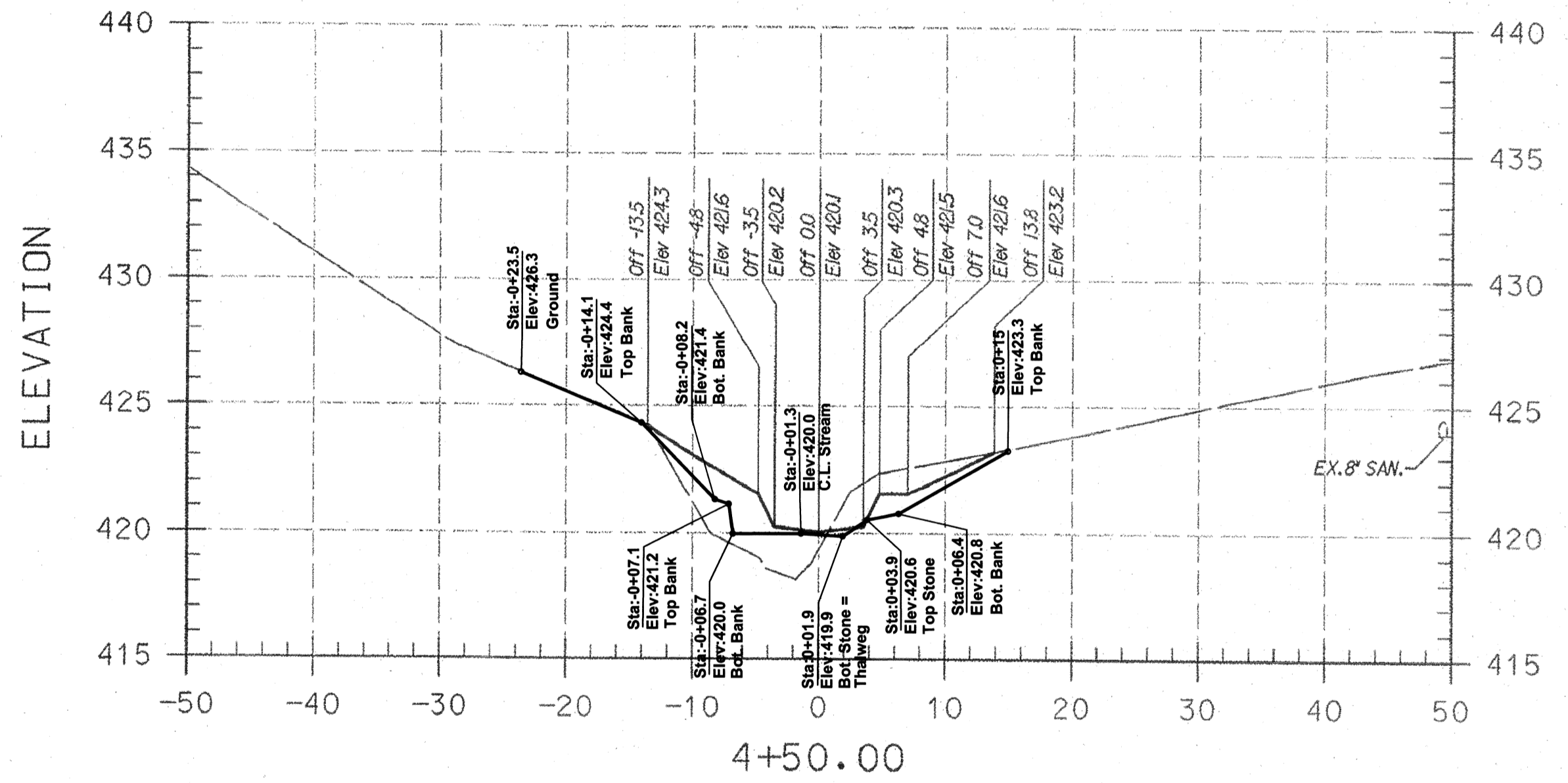
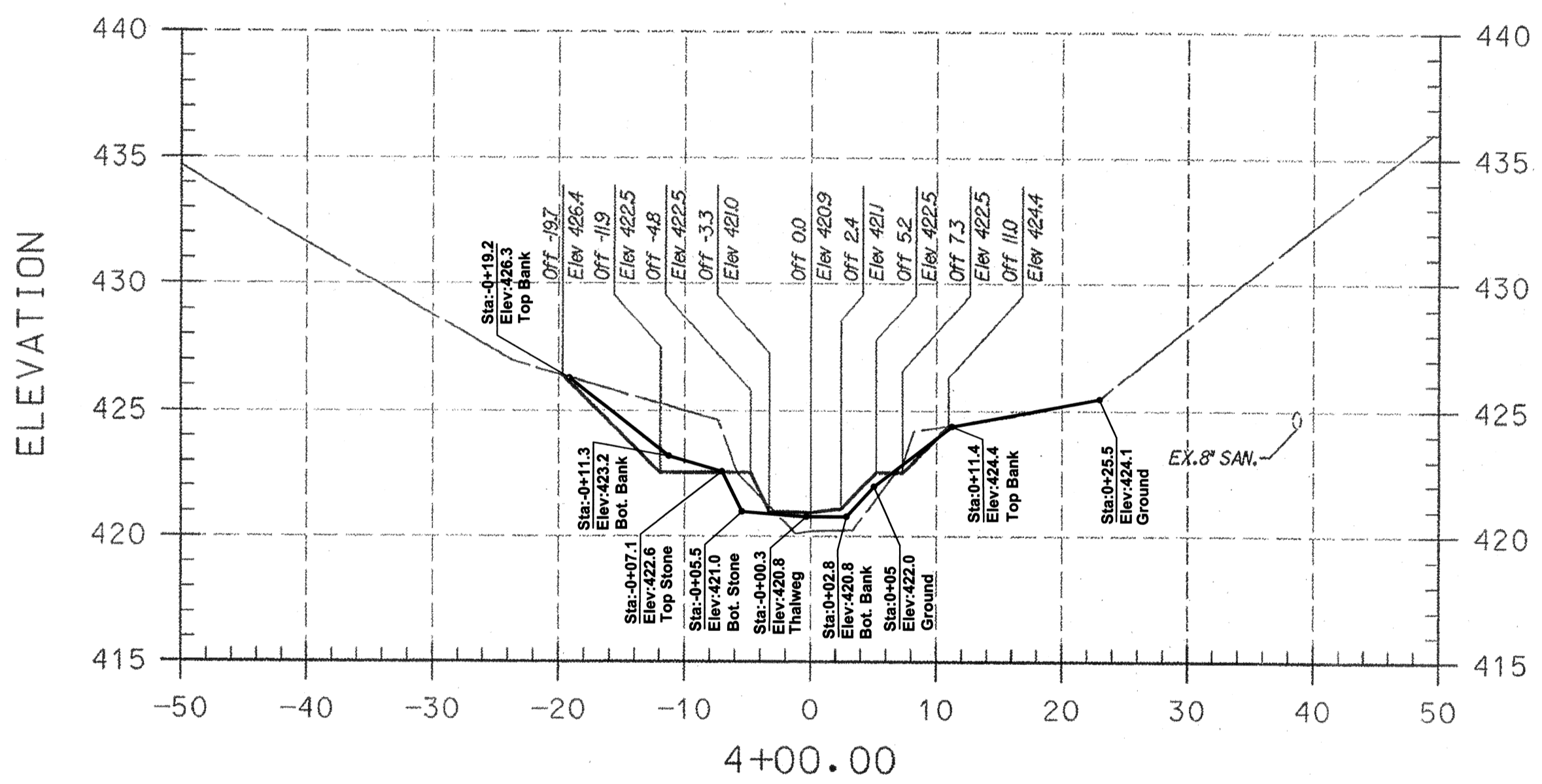
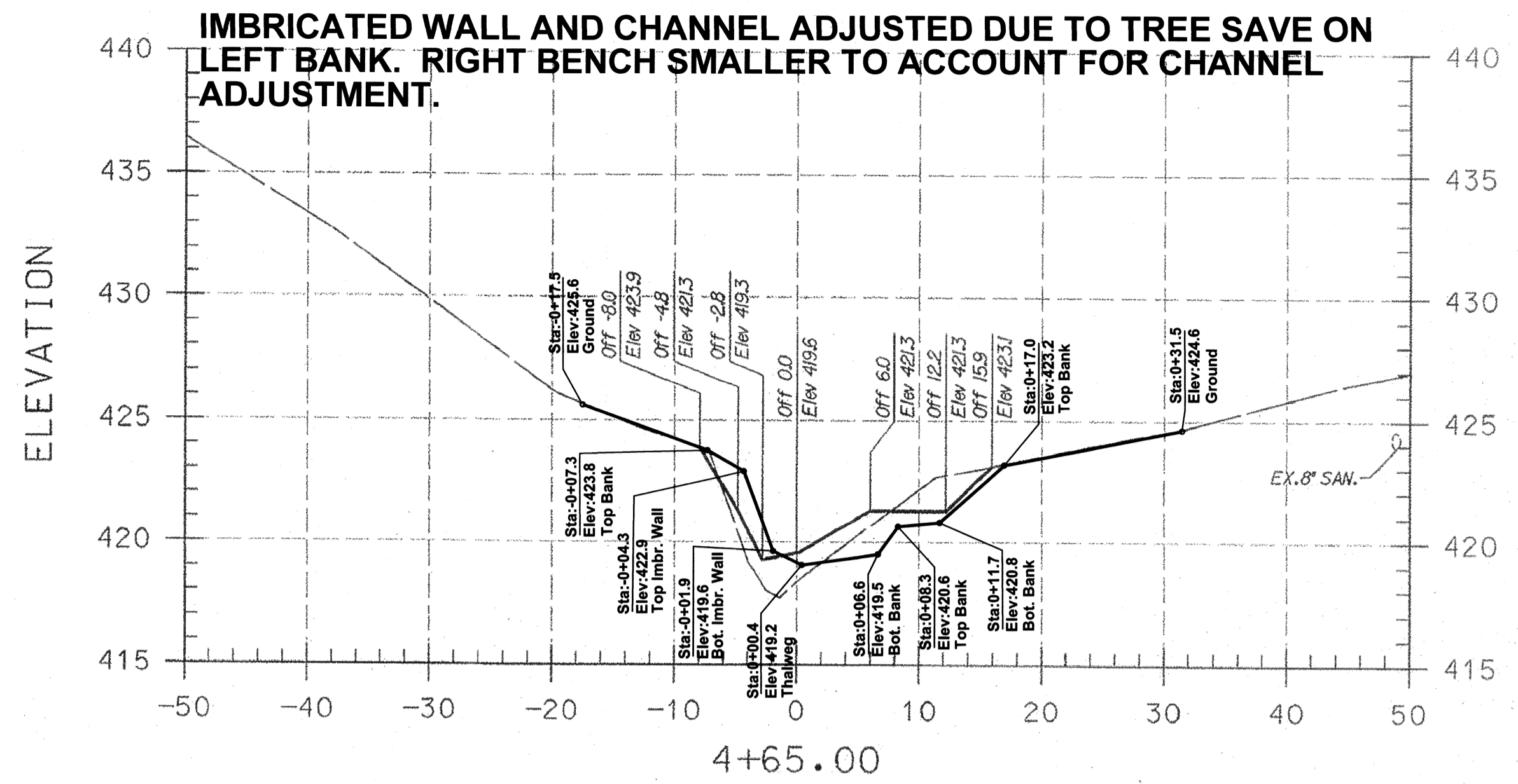
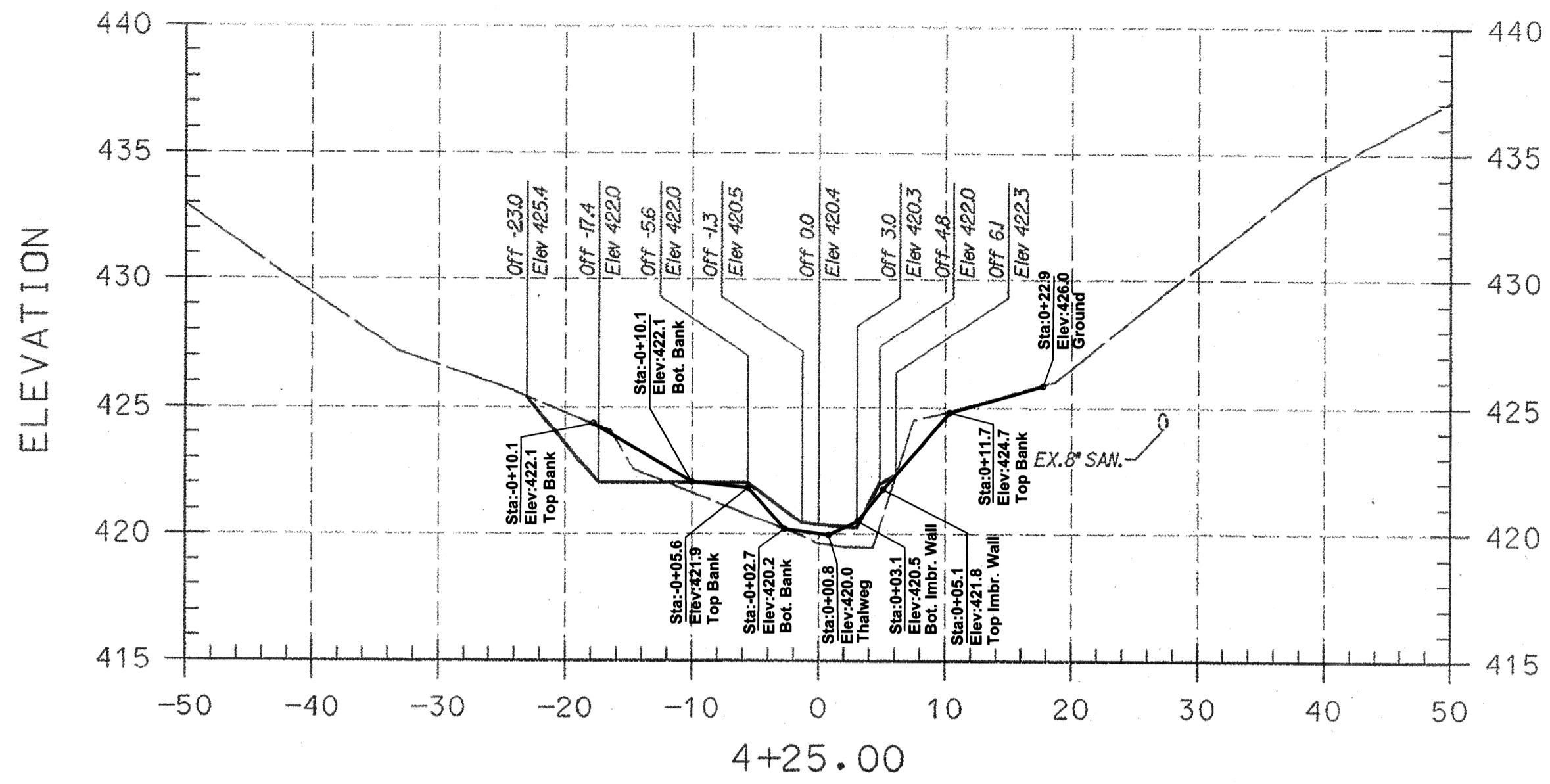
PROPOSED GRADE _____

NOTE:
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PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 31201 EXPIRATION DATE: JANUARY 24, 2011

PLOTTED: 08/14/12 File: W:\090507\August 05, 2009\Brampton Hills\AS-Built\AS-Built.dwg
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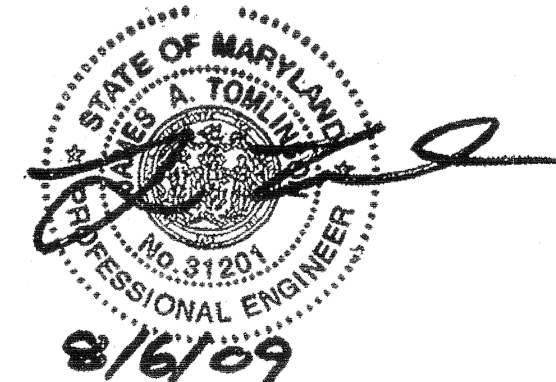


PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715

I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF APRIL 24, 2012.

James P. O'Connor
James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY

7/9 Aug 2012
Date



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 31201. EXPIRATION DATE: JANUARY 24, 2011



LEGEND
EXISTING GRADE _____
PROPOSED GRADE _____

- AS-BUILT NOTES:
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ASBUILT GRADES

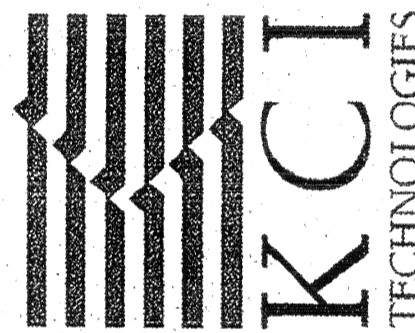
AS-BUILT DRAWING
SHEET 13 OF 38

SCALE: HOR. 1"=10'
VERT. 1"=5'
DATE: AUGUST 2009
KCI JOB NO.: 01081795.12
CAPITAL PROJECT NO.: D1158
PERMIT ISSUE:
CONSTRUCTION ISSUE:

CROSS SECTIONS

BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
COLUMBIA, MARYLAND 21046

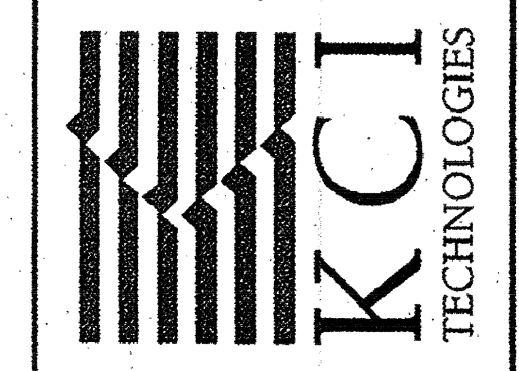
936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
WWW.KCI.COM



NO.	REVISIONS DESCRIPTION	DATE

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
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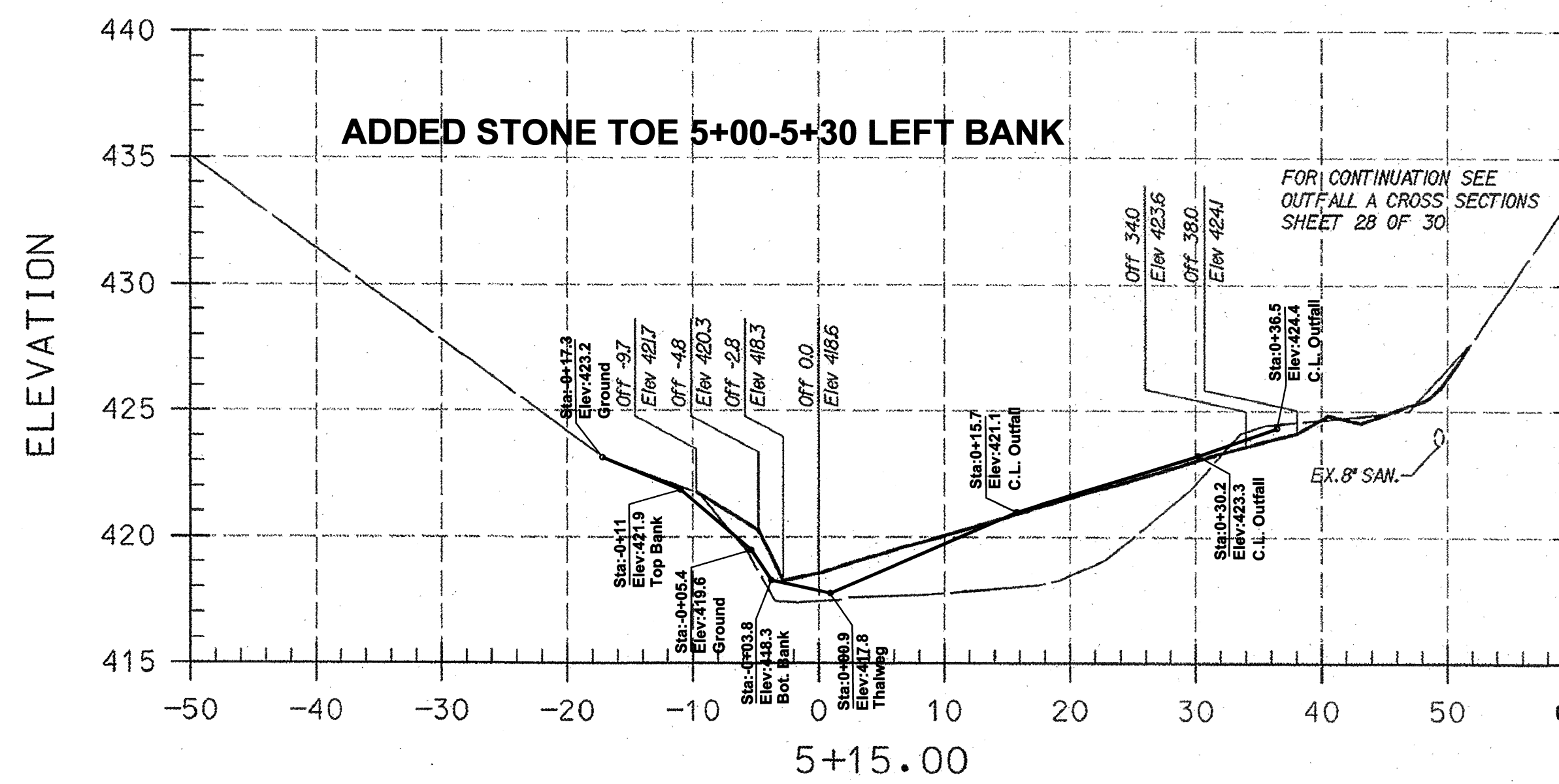
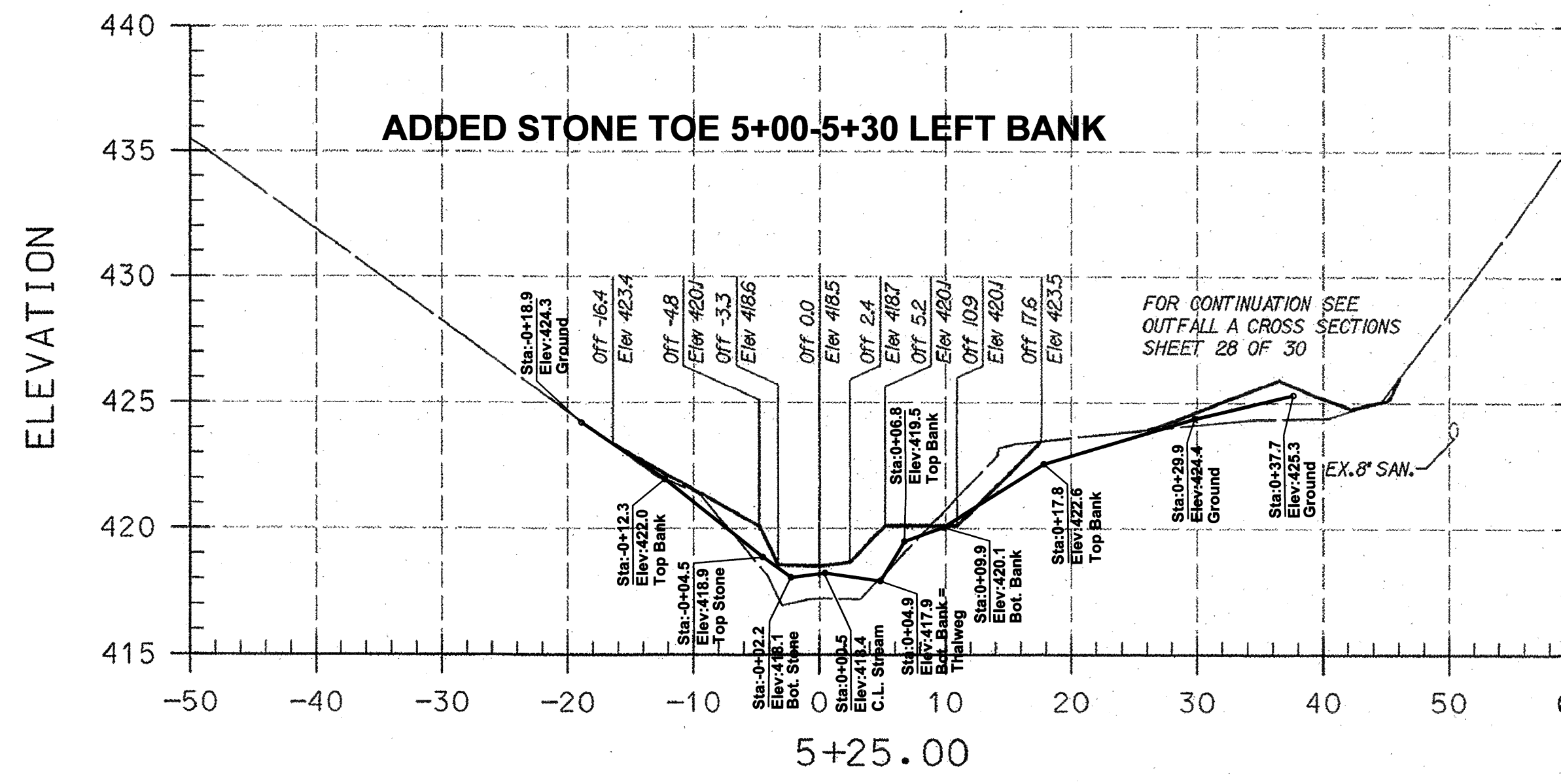
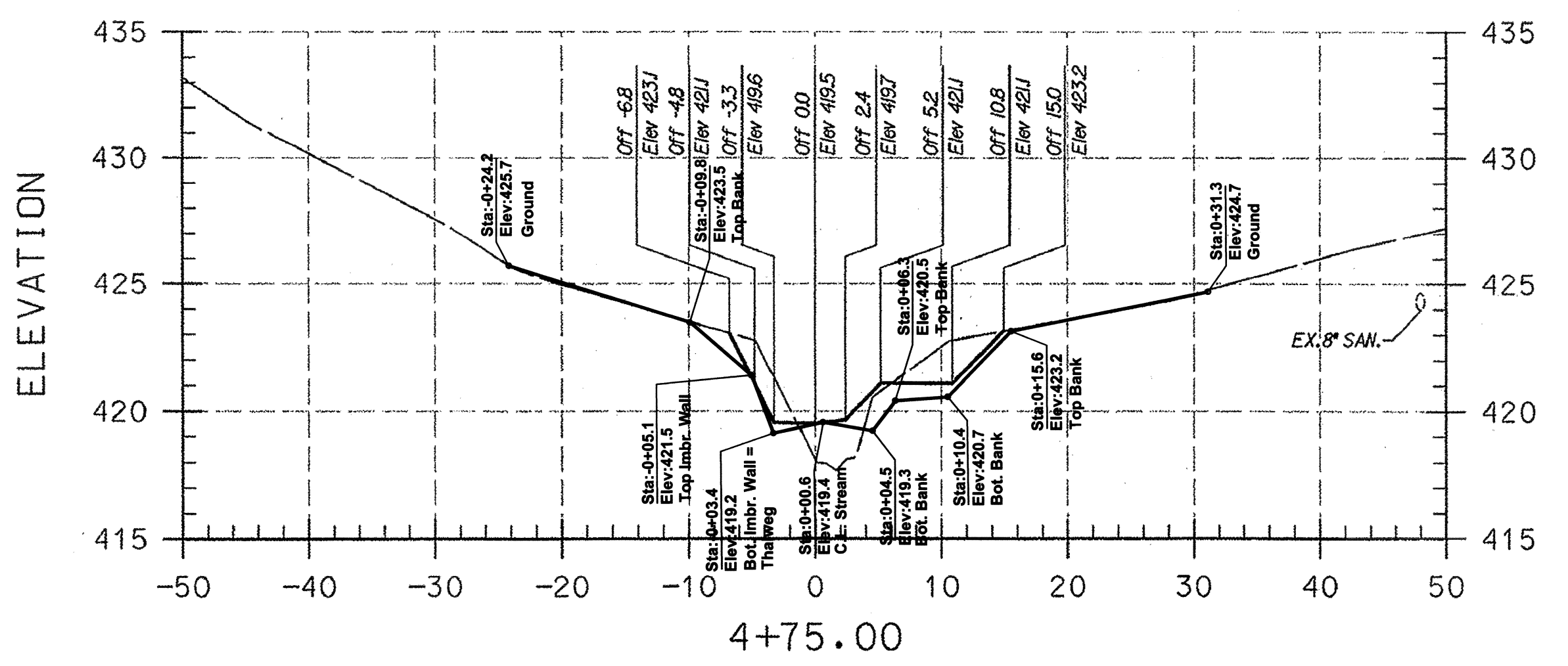
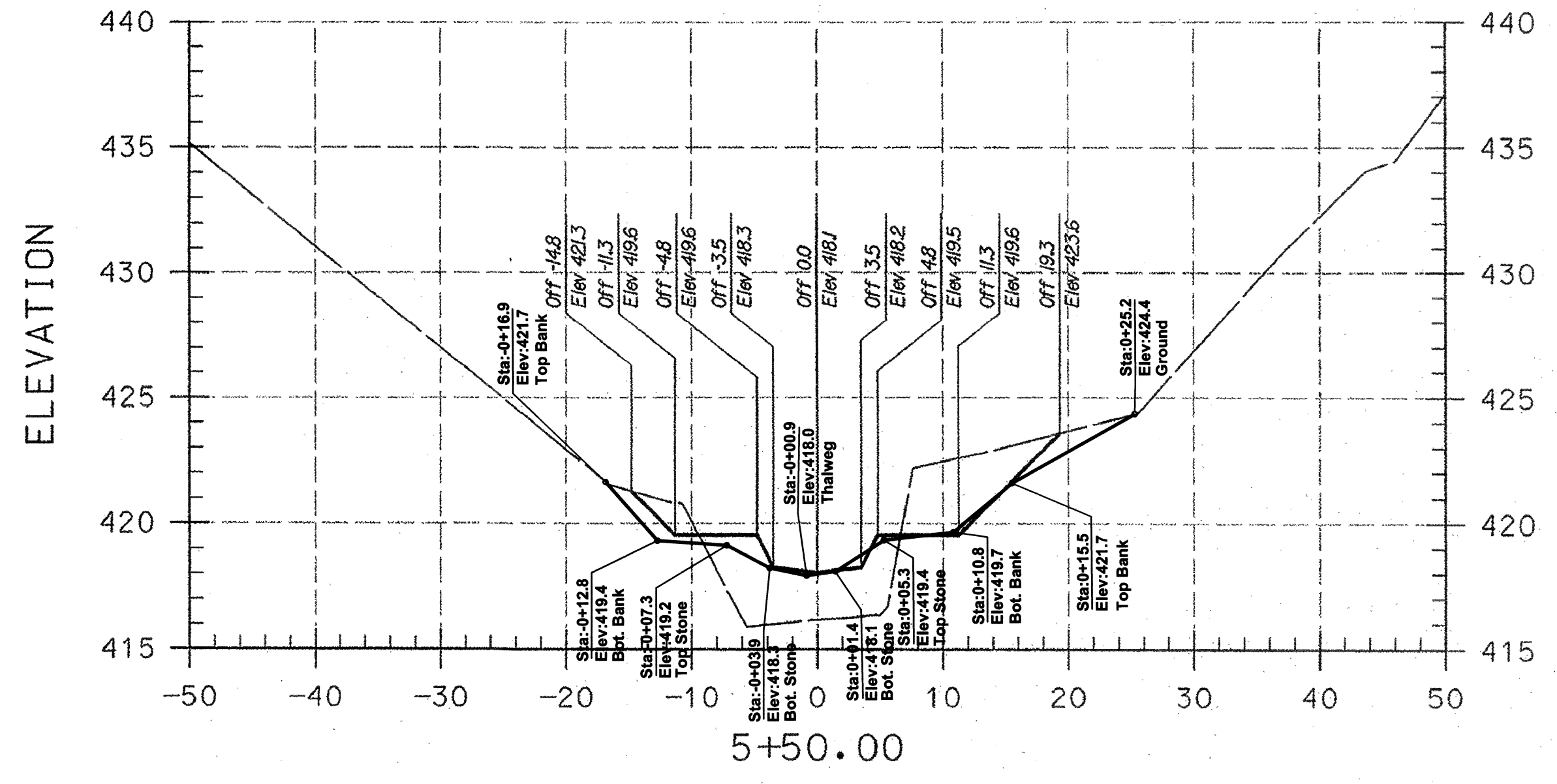
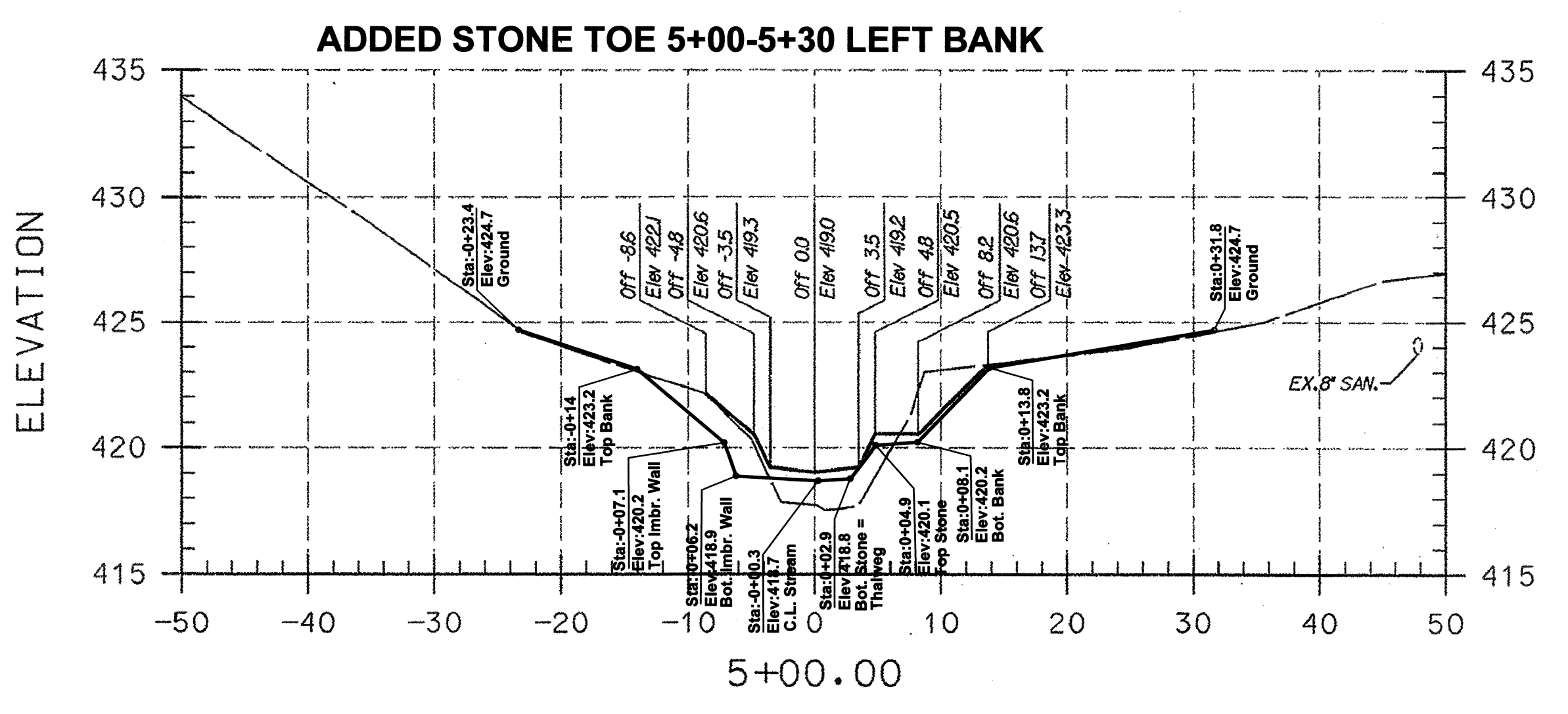


BRAMPTON HILLS
 STREAM STABILIZATION
 SECTION 4, AREAS 1,2,3

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 6751 COLUMBIA GATEWAY DRIVE
 COLUMBIA, MARYLAND 21046

CROSS SECTIONS

SCALE:	HOR. 1"=10'
	VERT. 1"=5'
DATE:	AUGUST 2009
KCI JOB NO.:	01081795.12
CAPITAL PROJECT NO.:	D1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

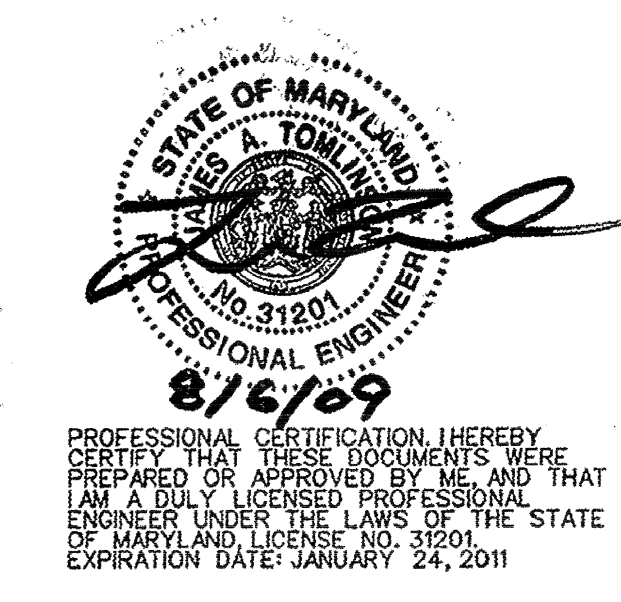


I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF APRIL 24, 2012.

James P. O'Connor
 James P. O'Connor, Prof. L. S.
 Reg. No. 200006 Ex. 09/2013
 FOR AS-BUILT INFORMATION ONLY

29 Aug 2012
 Date

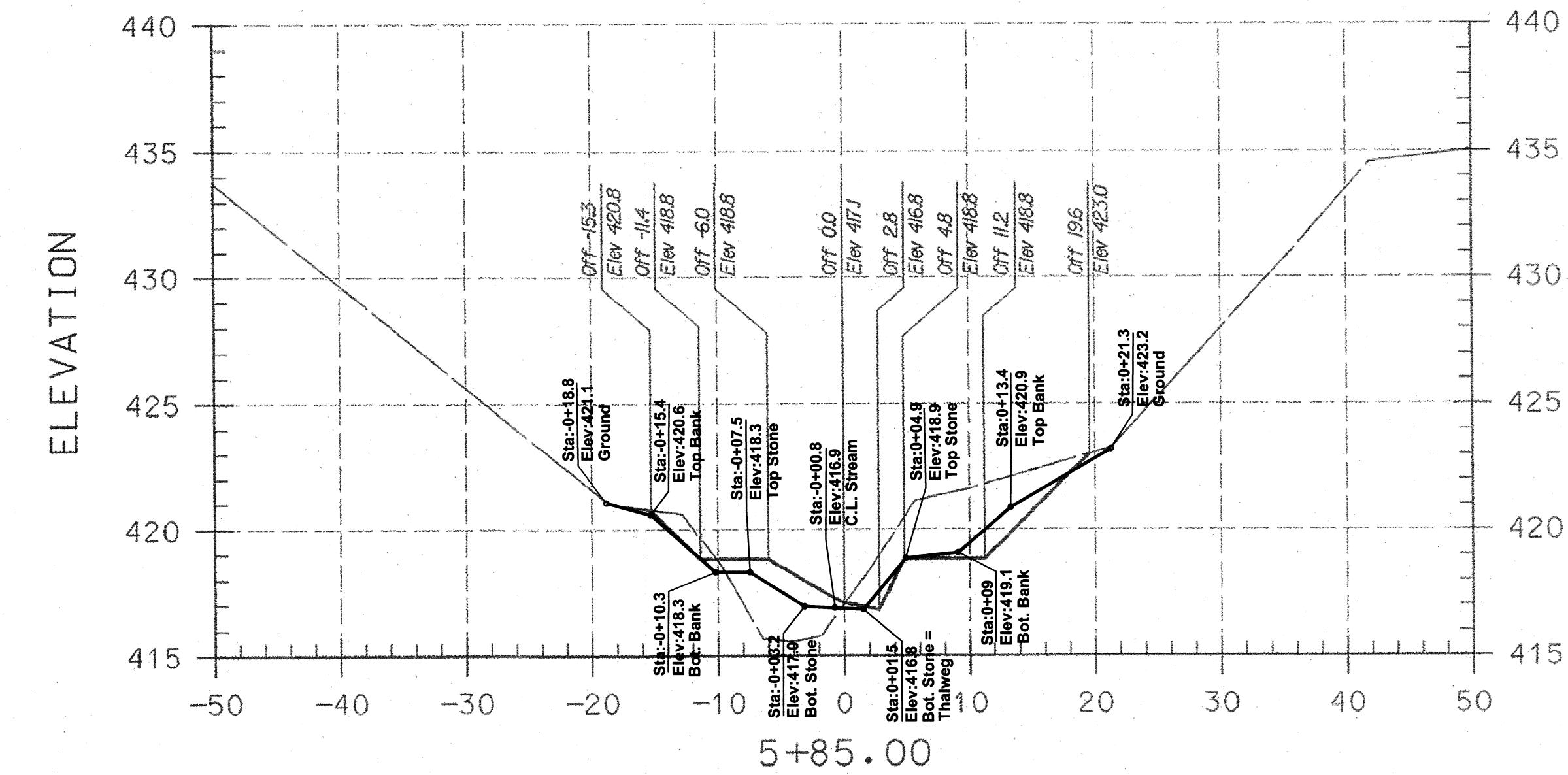
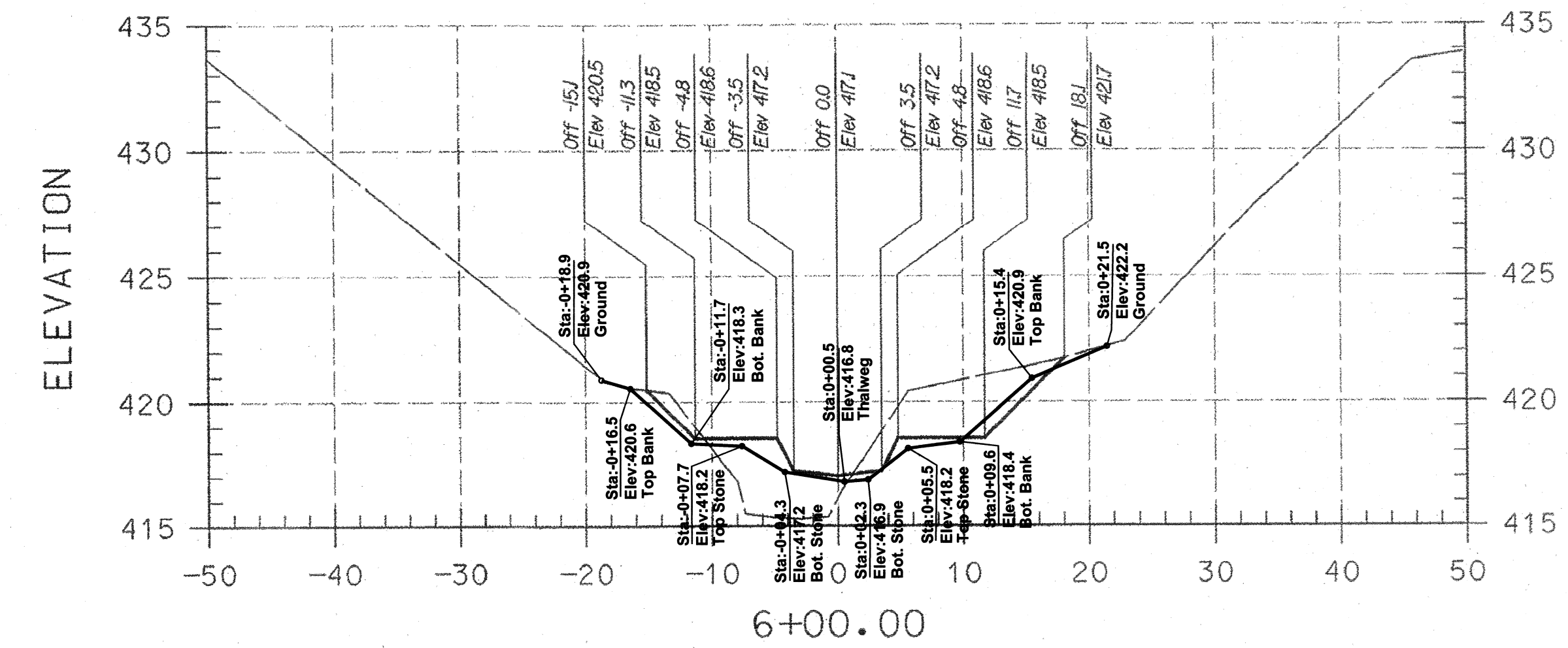
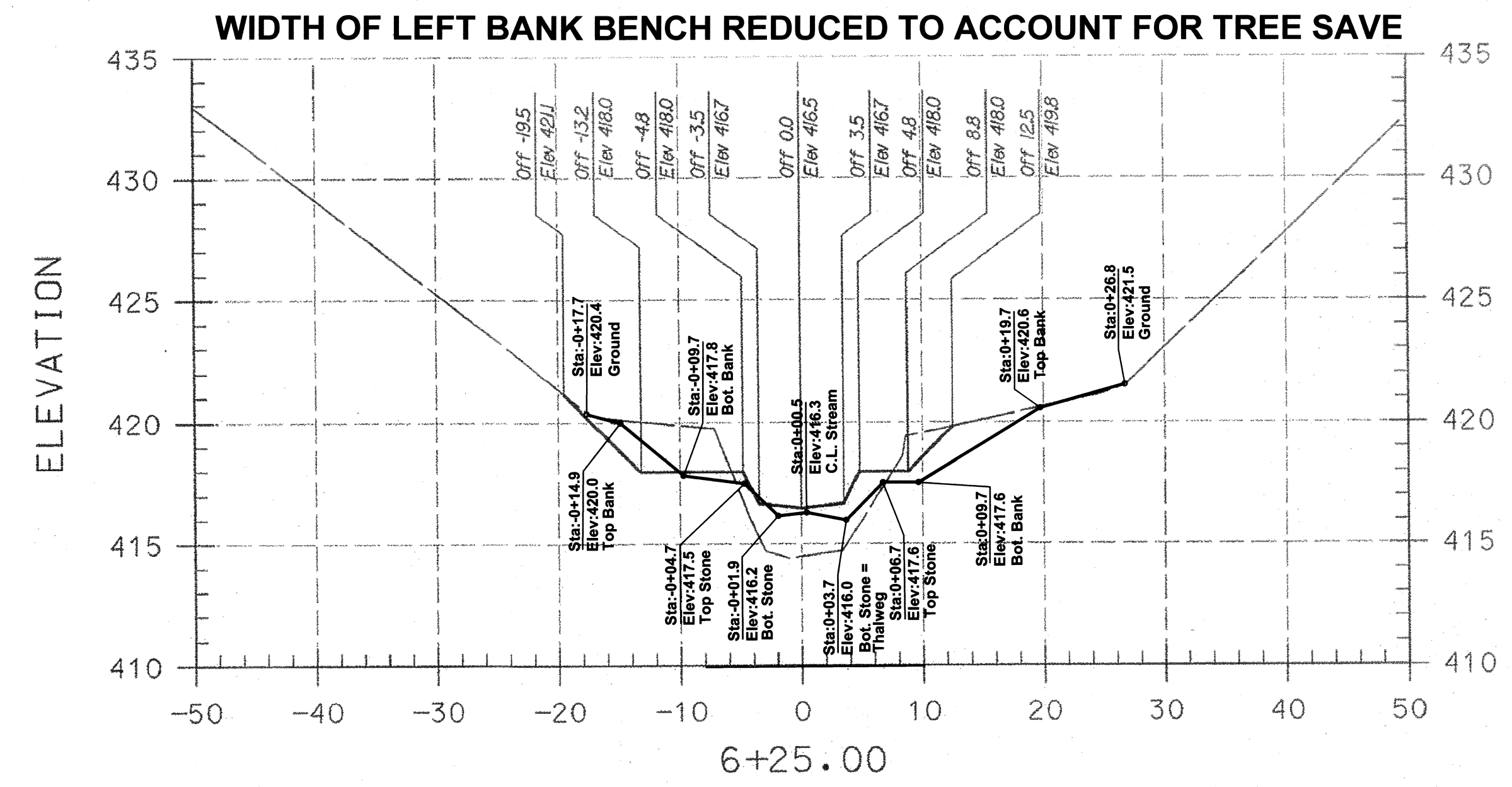
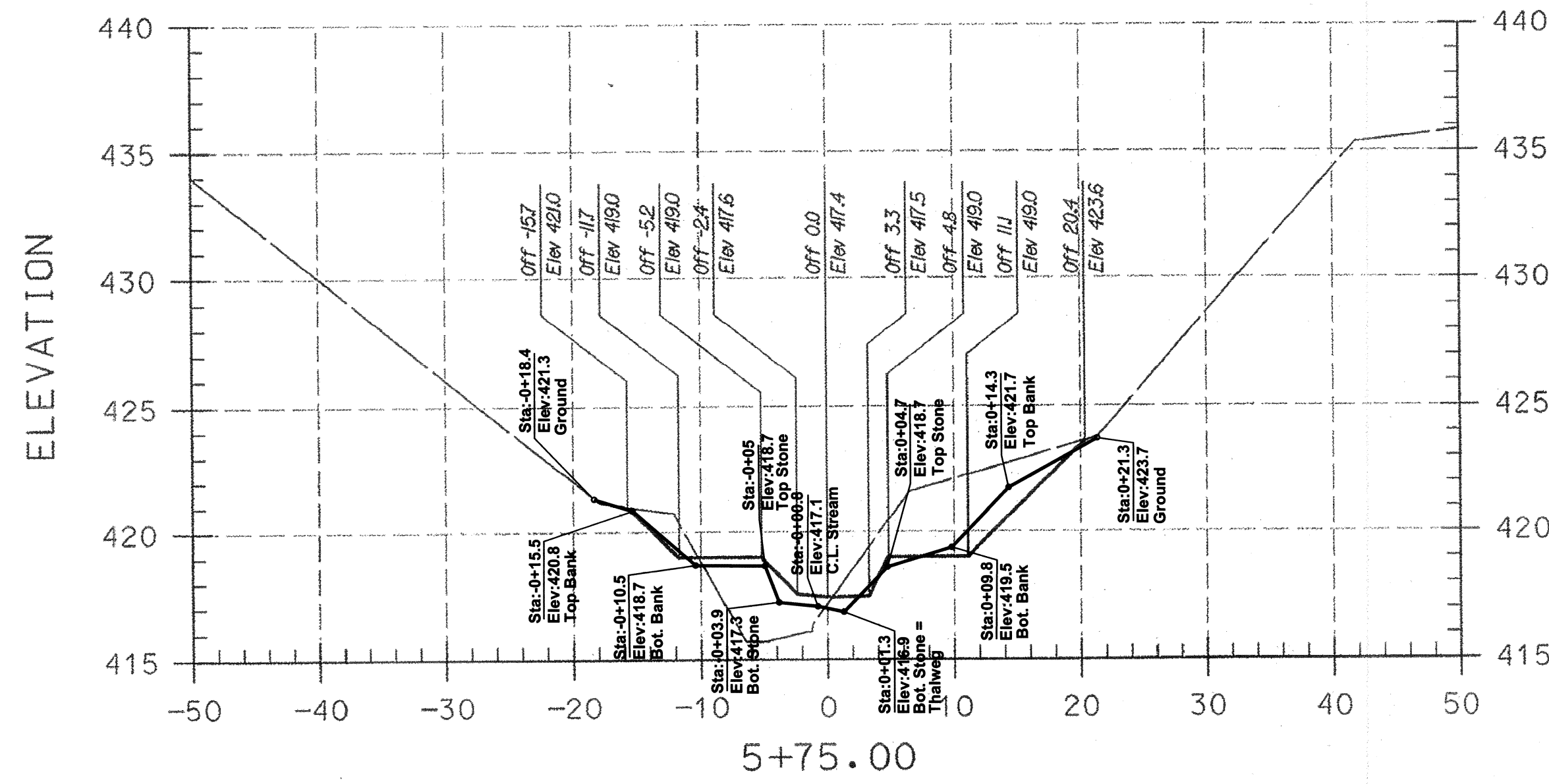
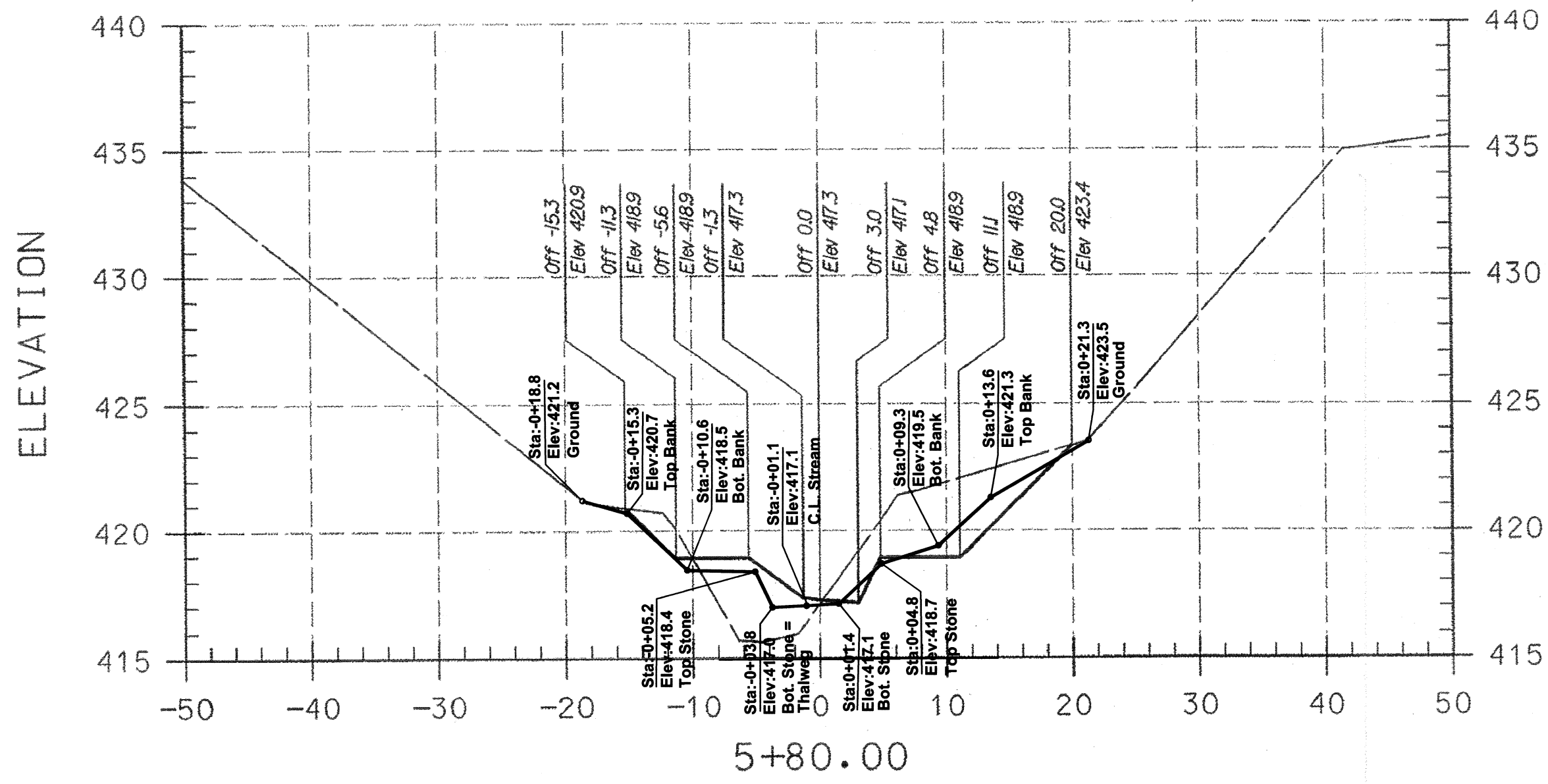
PLAN PREPARED BY
 A BETTER SURVEY LLC
 9998 LODGE ROAD
 BALTIMORE, MARYLAND
 21234
 (410) 652 2715



LEGEND

EXISTING GRADE	— · — · —
PROPOSED GRADE	——

- AS-BUILT NOTES:
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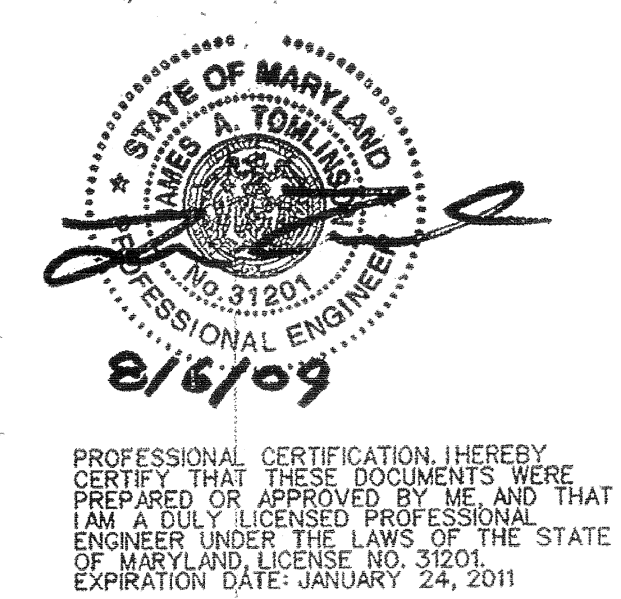


PLAN PREPARED BY
A BETTER SURVEY LLC
 9998 LODGE ROAD
 BALTIMORE, MARYLAND
 21234
 (410) 652 2715

I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF APRIL 24, 2012.

J.P.C.
 James P. O'Connor, Prof. L. S.
 Reg. No. 200006 Ex. 09/2013
 FOR AS-BUILT INFORMATION ONLY

25 Aug 2012
 Date



LEGEND	
EXISTING GRADE	---
PROPOSED GRADE	— — — — —

AS-BUILT NOTES:

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NO.	REVISIONS	DESCRIPTION	DATE

936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 www.kci.com

KCI TECHNOLOGIES

**BRAMPTON HILLS
 STREAM STABILIZATION
 SECTION 4, AREAS 1,2,3**

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 STATE HIGHWAY ADMINISTRATION
 6301 COLUMBIA GATEWAY DRIVE
 COLUMBIA, MARYLAND 21046

CROSS SECTIONS

SCALE: HOR. 1"=10'
 VERT. 1"=5'

DATE: AUGUST 2009

KCI JOB NO.: 01081795.12

CAPITAL PROJECT NO.: D1158

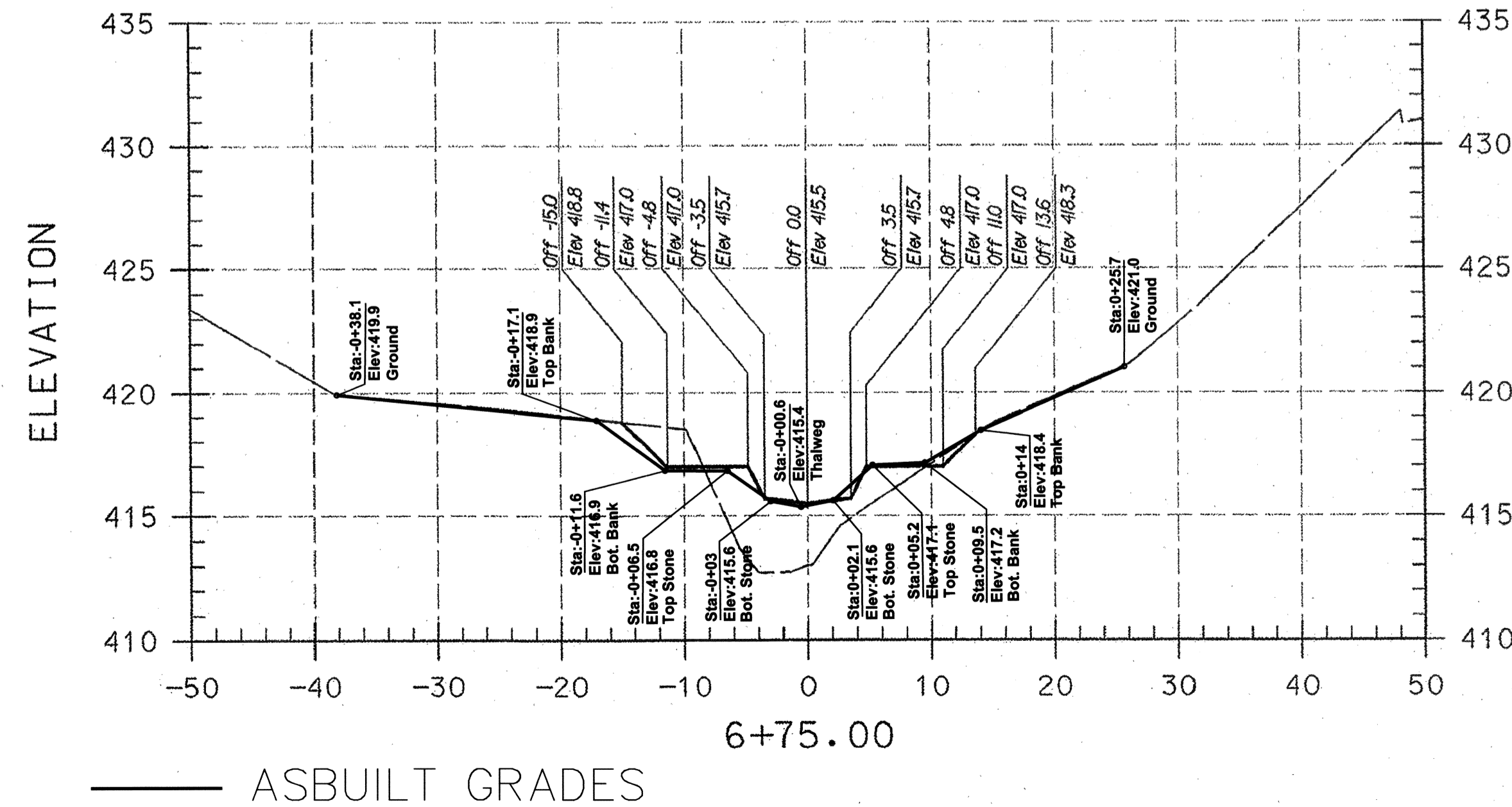
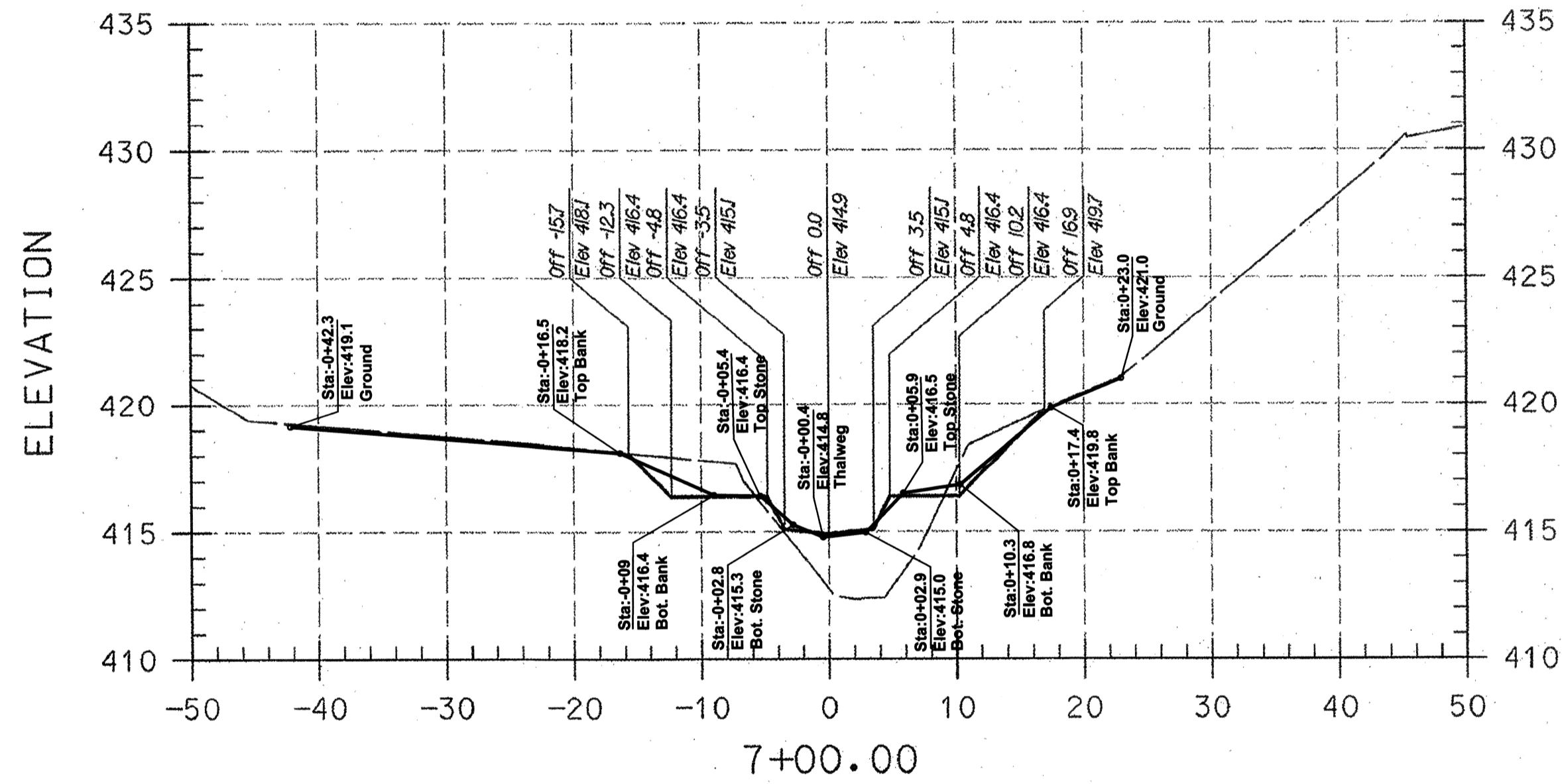
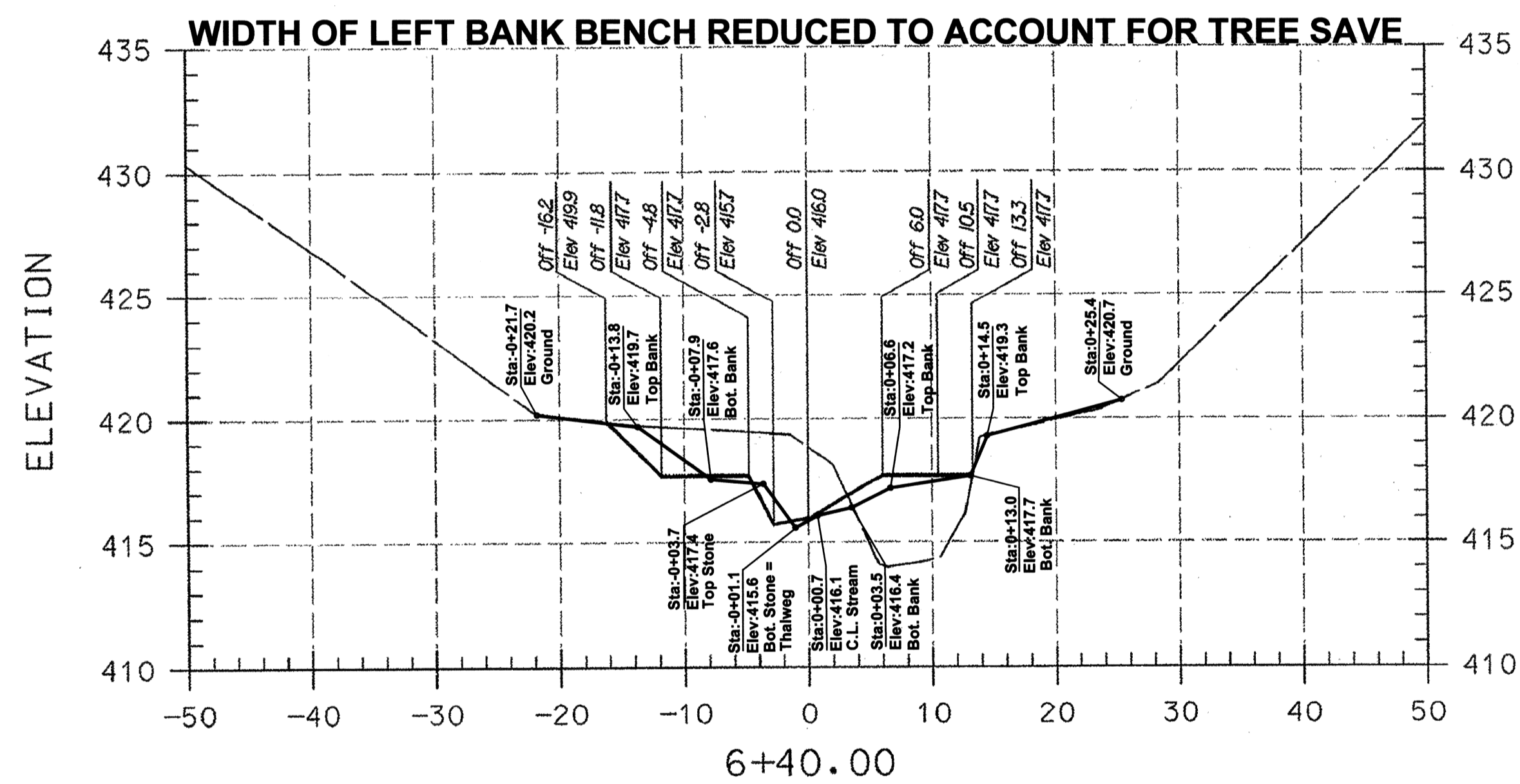
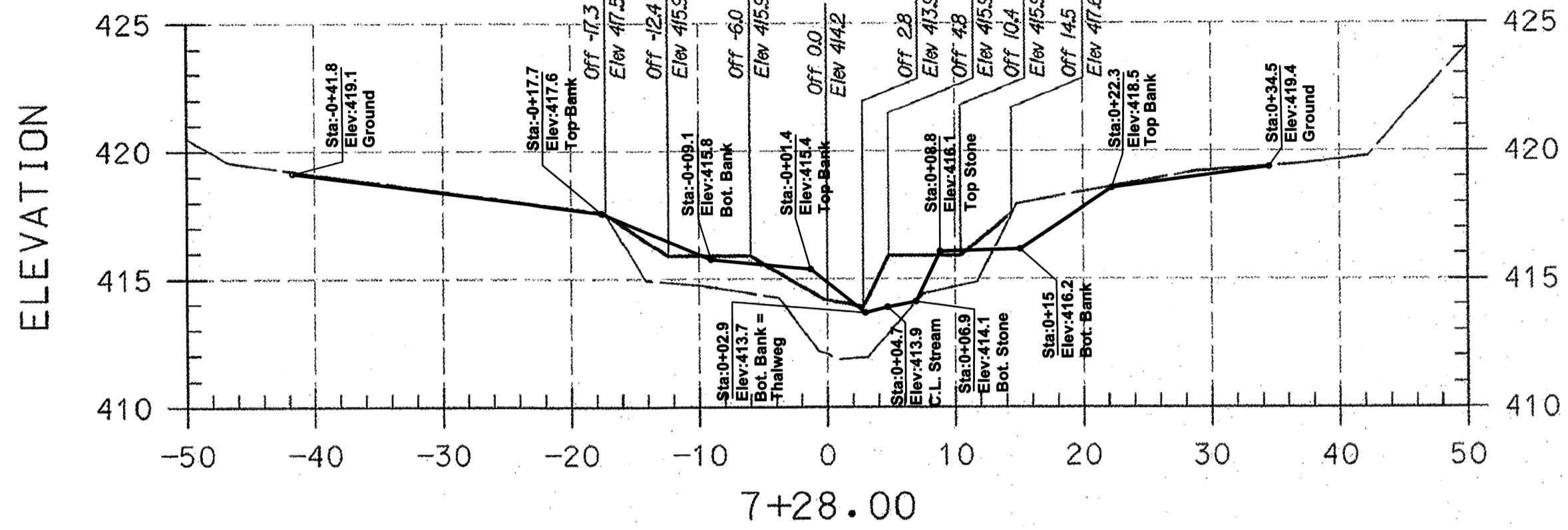
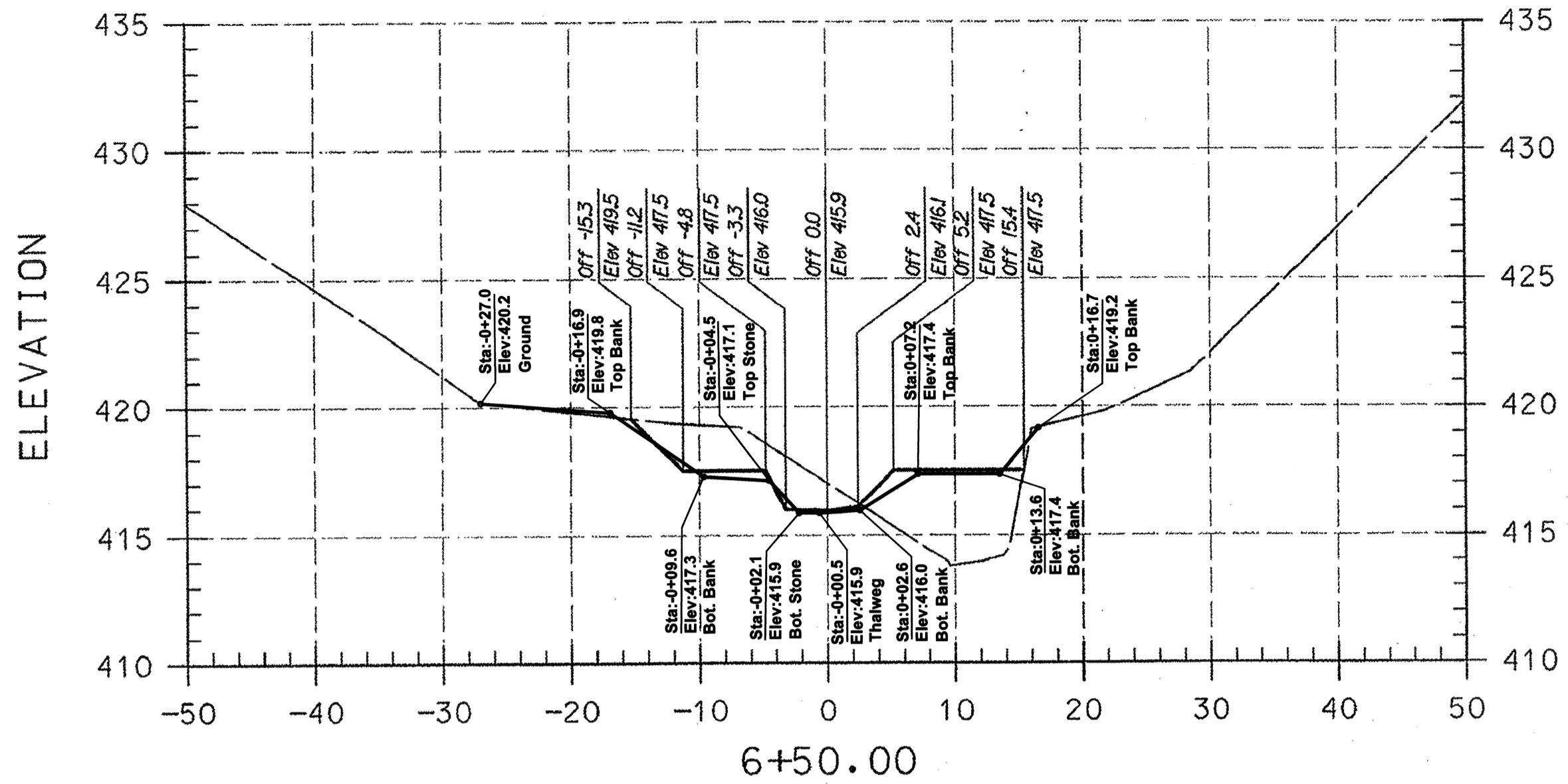
PERMIT ISSUE:

CONSTRUCTION ISSUE:

**AS-BUILT DRAWING
 SHEET 15 OF 38**

SHEET NO.: 7 OF 30

State Contract No. H04085174
 F.O.D. 111-111-20-21115174



I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF APRIL 24, 2012.

J.P. O'Connor
 James P. O'Connor, Prof. L. S.
 Reg. No. 200006 Ex. 09/2013
 FOR AS-BUILT INFORMATION ONLY
 Date: 29 Aug 2012

PLAN PREPARED BY
 A BETTER SURVEY LLC
 9998 LODGE ROAD
 BALTIMORE, MARYLAND
 21234
 (410) 652 2715



STATE OF MARYLAND
JAMES P. O'CONNOR
PROFESSIONAL ENGINEER
 No. 200006
 EXPIRES 12/31/2013
 3/14/09

LEGEND

EXISTING GRADE	-----
PROPOSED GRADE	————

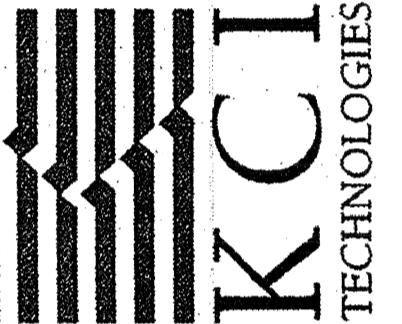
AS-BUILT NOTES:

- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
- 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
- 3) FIELD WORK PERFORMED ON AND BETWEEN OCTOBER 24, 2011 AND APRIL 24, 2012.
- 4) STONE SHOWN IS VISIBLE STONE NOT FOUNDATION STONE.

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ASBUILT GRADES

BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 STORMWATER DIVISION
 9700 COLUMBIA GATEWAY DRIVE
 COLUMBIA, MARYLAND 21046



936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 www.kci.com

NO.	REVISIONS DESCRIPTION	DATE

NO.	REVISIONS DESCRIPTION	DATE

KCI
TECHNOLOGIES

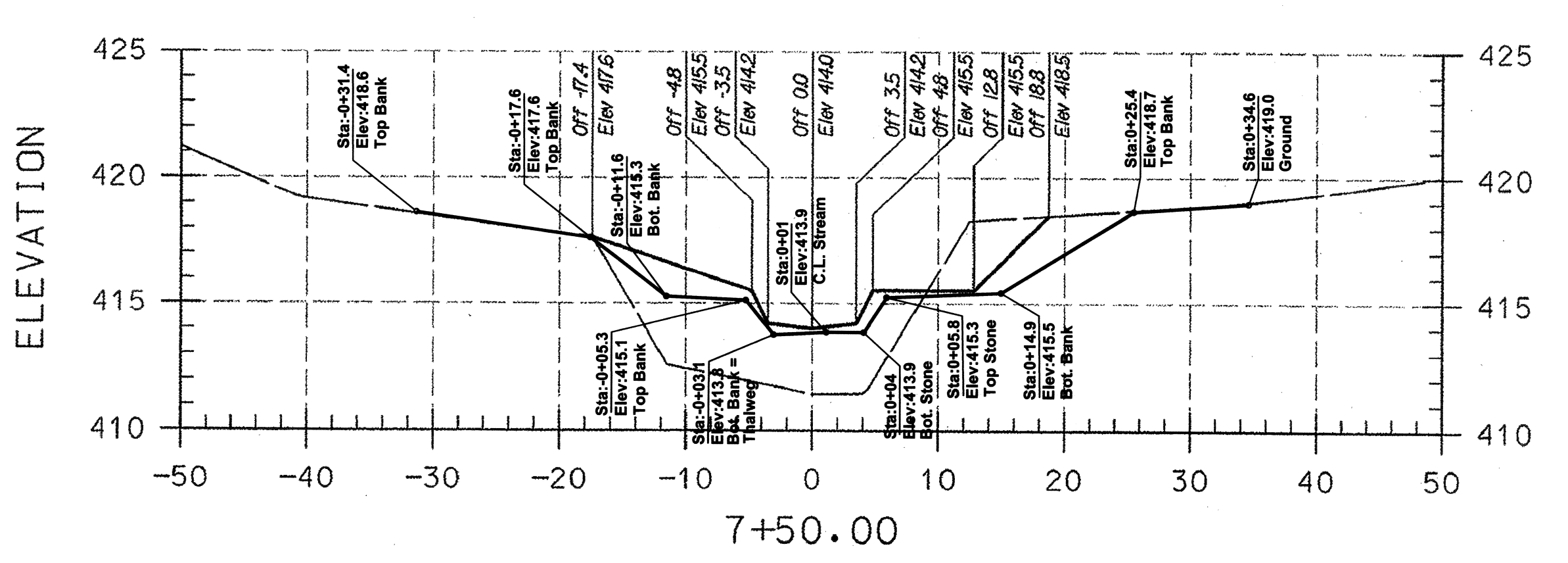
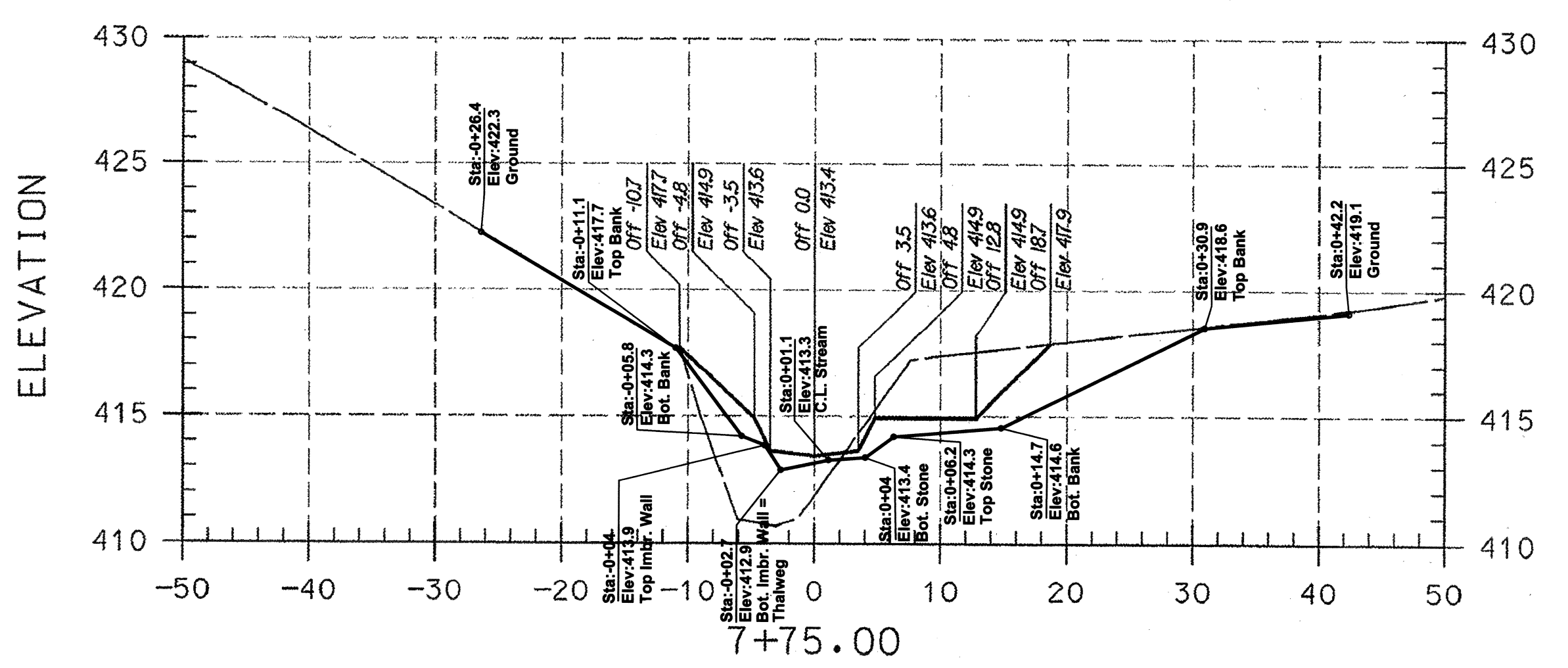
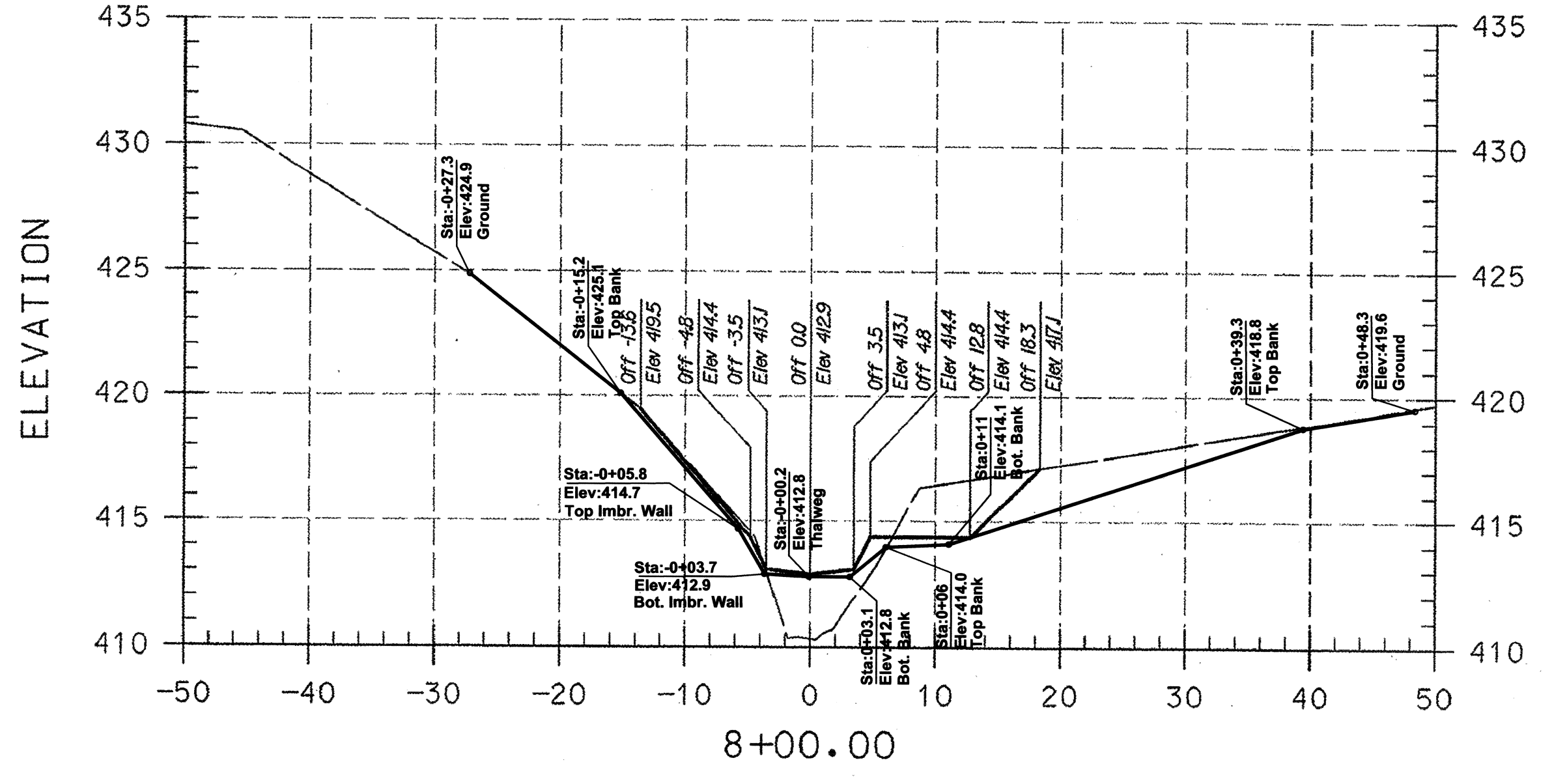
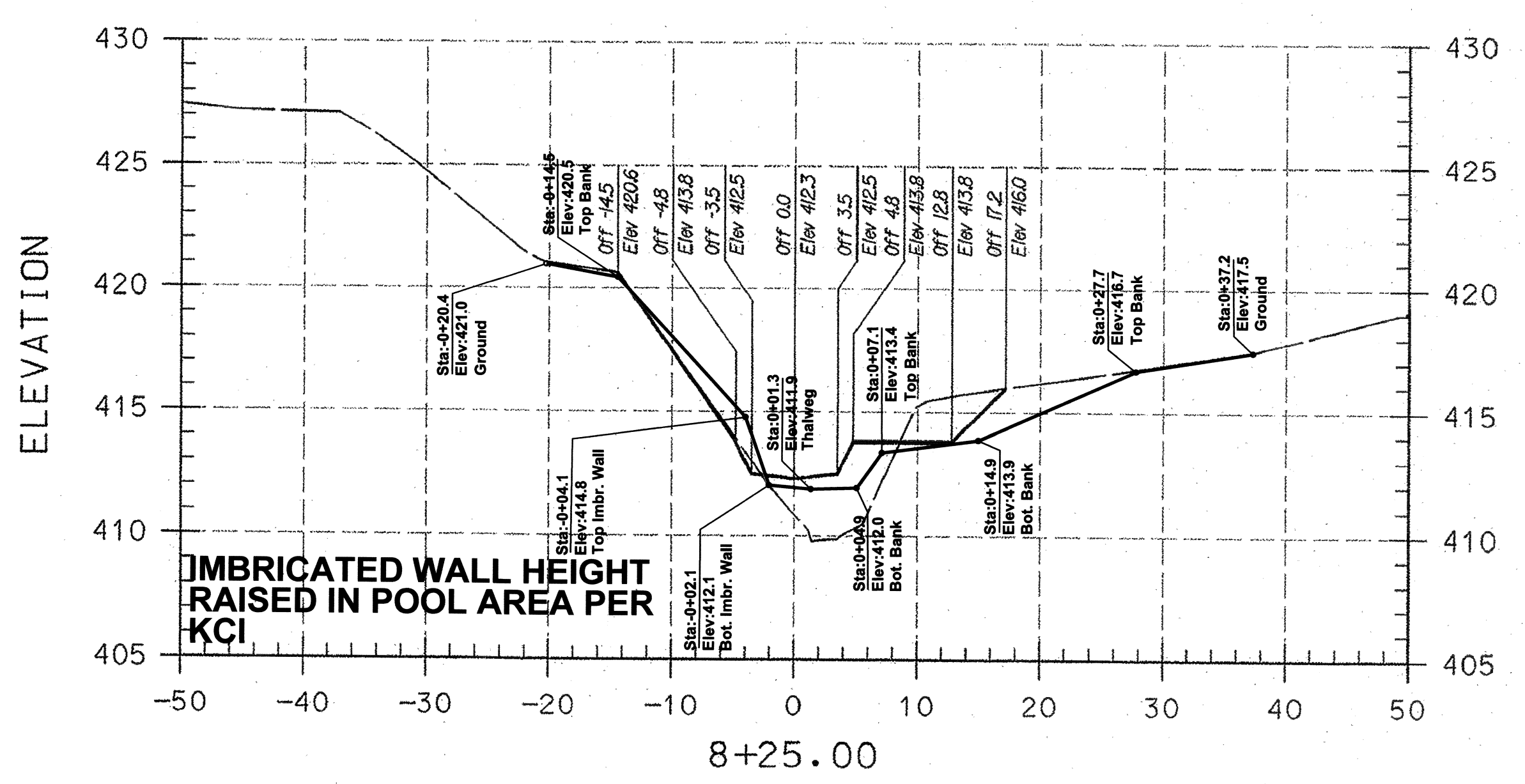
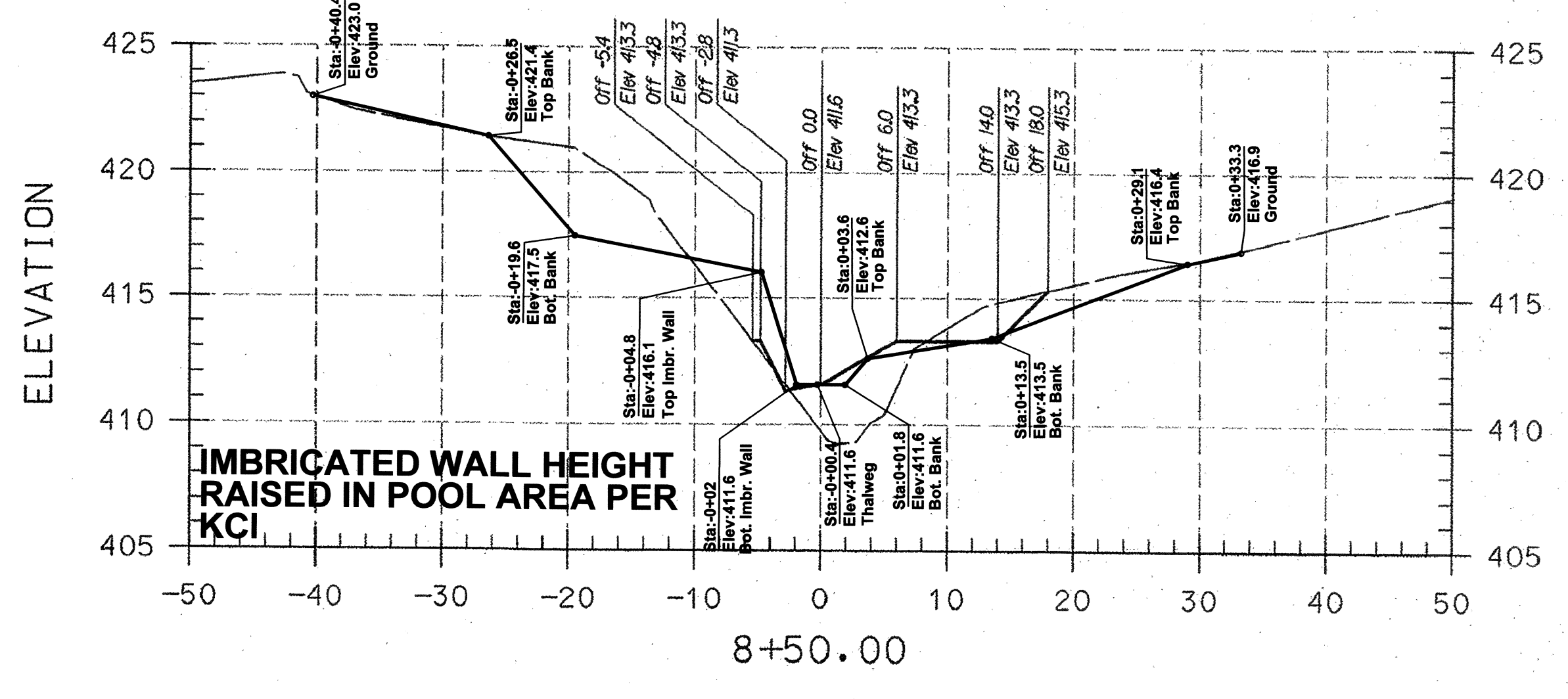
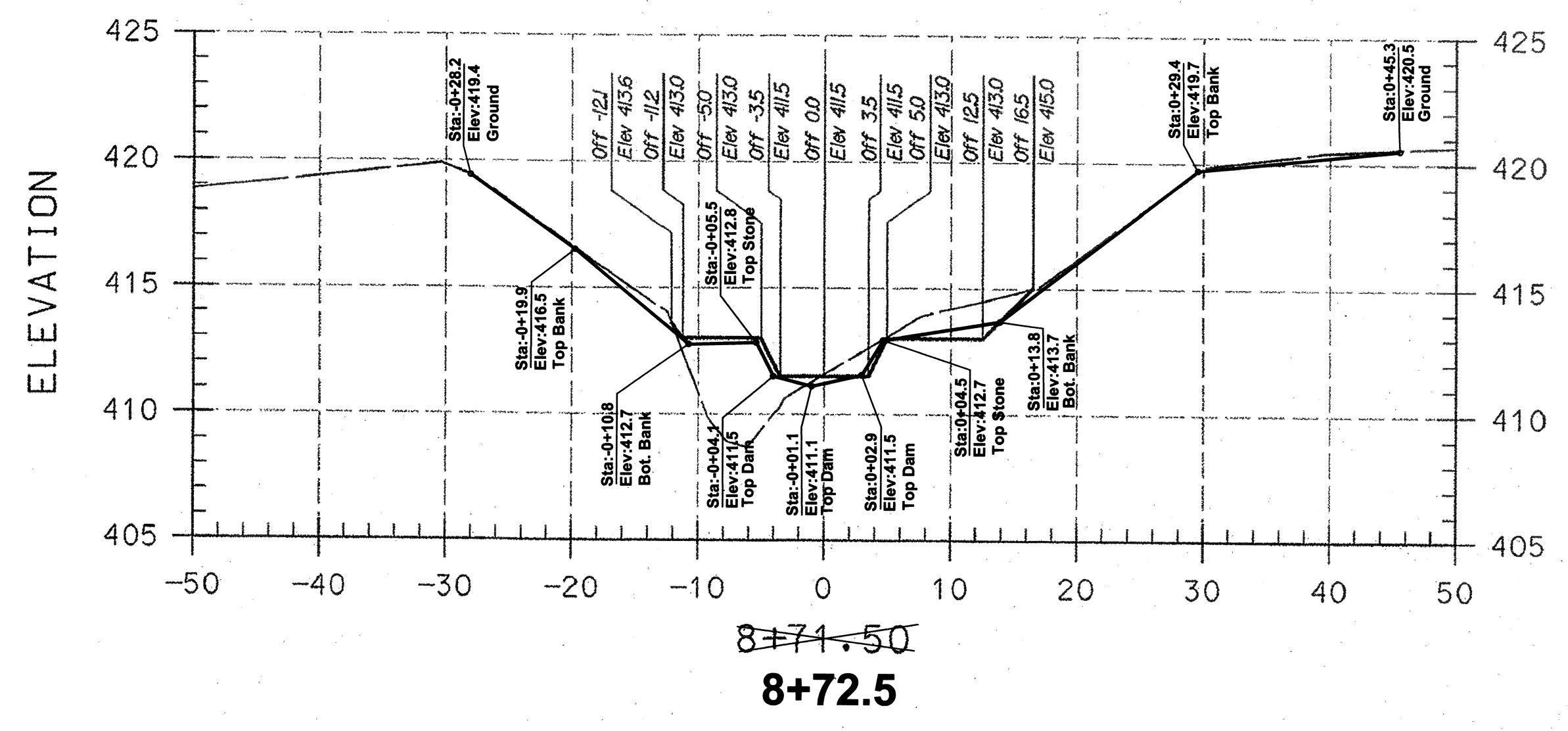
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**BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3**

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
6751 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21048

CROSS SECTIONS

SCALE:	HOR. 1"=10'
	VERT. 1"=5'
DATE:	AUGUST 2009
KCI JOB NO.:	01081795.12
CAPITAL PROJECT NO.:	D1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	



PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 31201. EXPIRATION DATE: JANUARY 24, 2011

- AS-BUILT NOTES:
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LEGEND

EXISTING GRADE	_____
PROPOSED GRADE	_____

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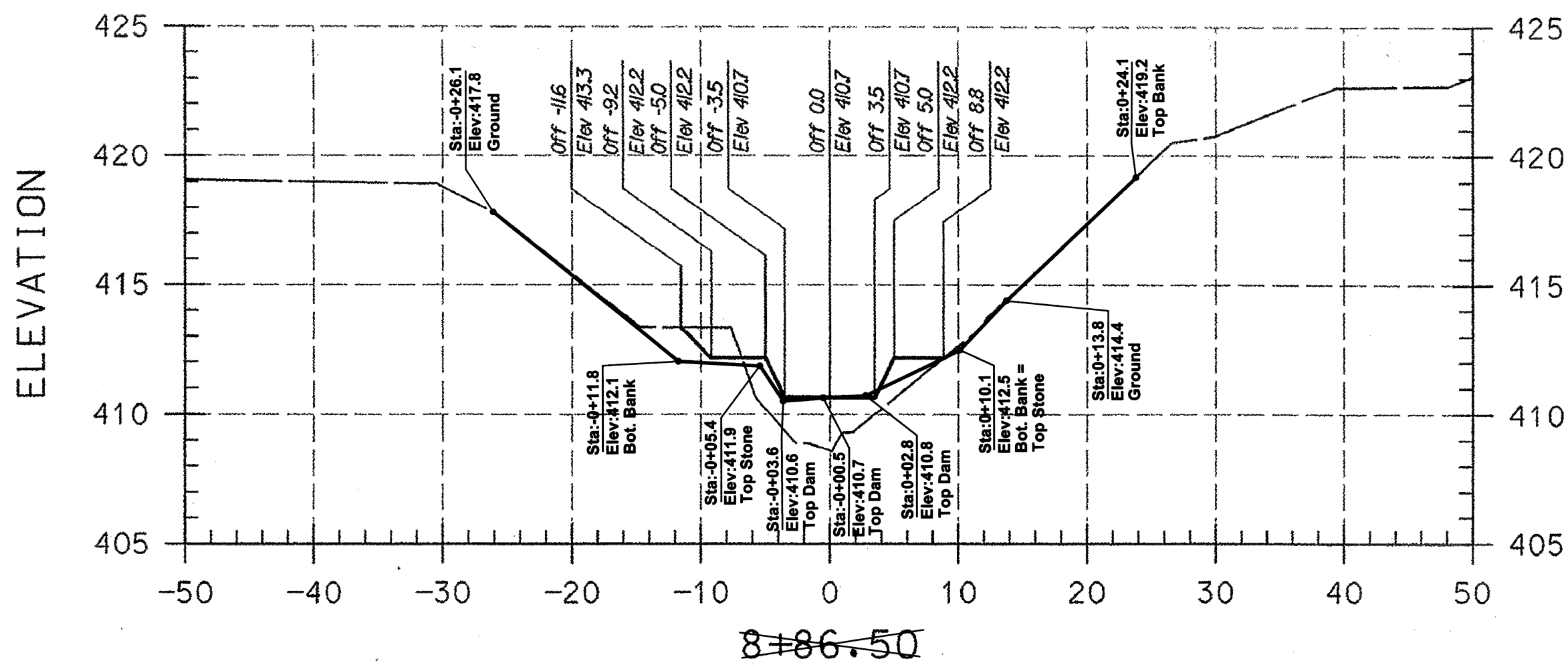
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James P. O'Connor
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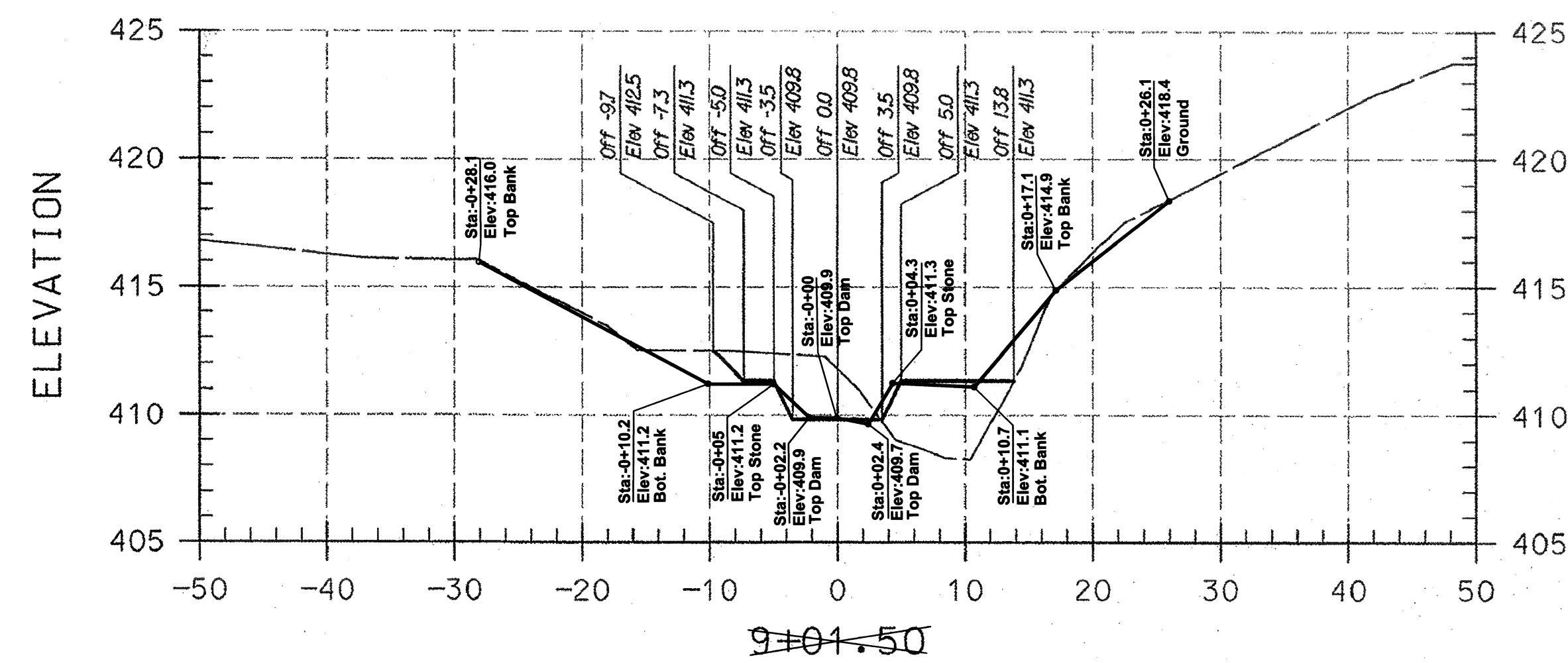
29 Aug 2012
Date



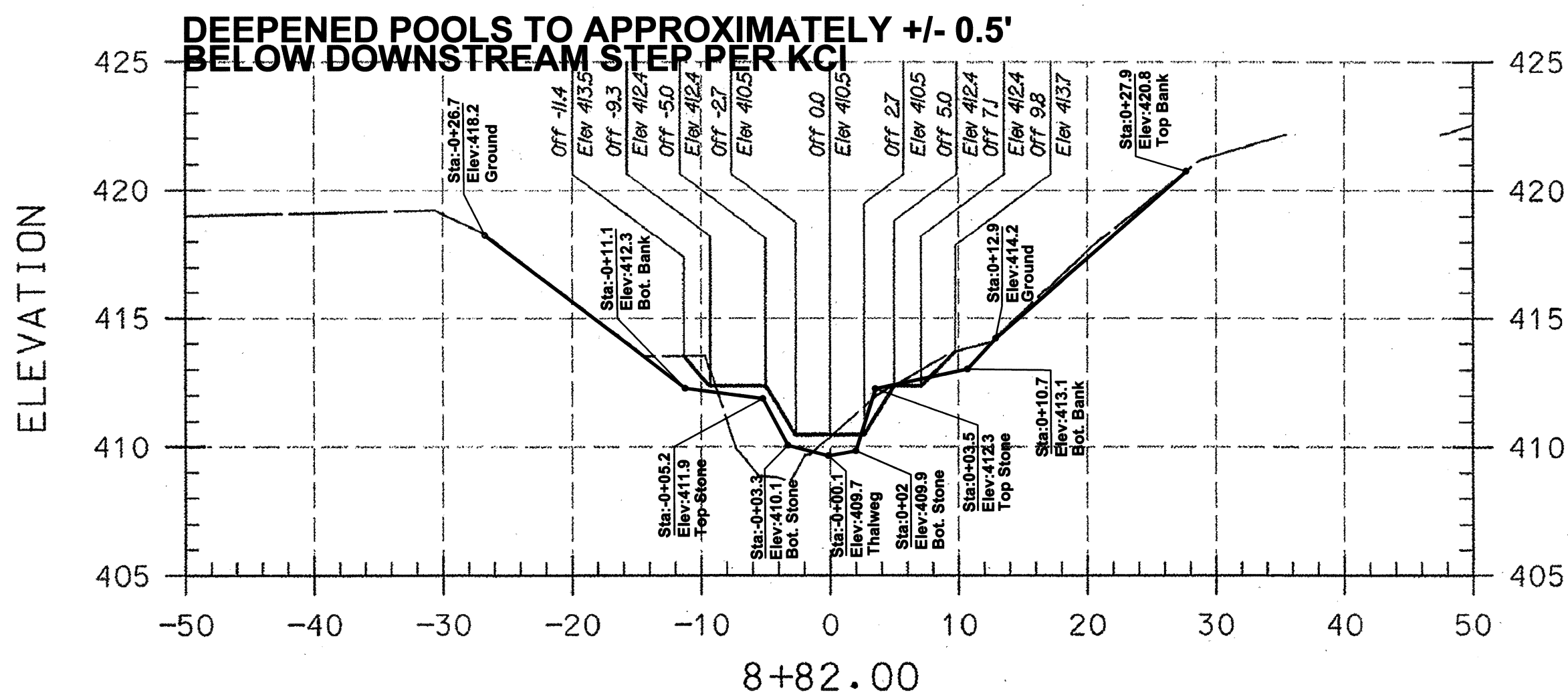
ASBUILT GRADES



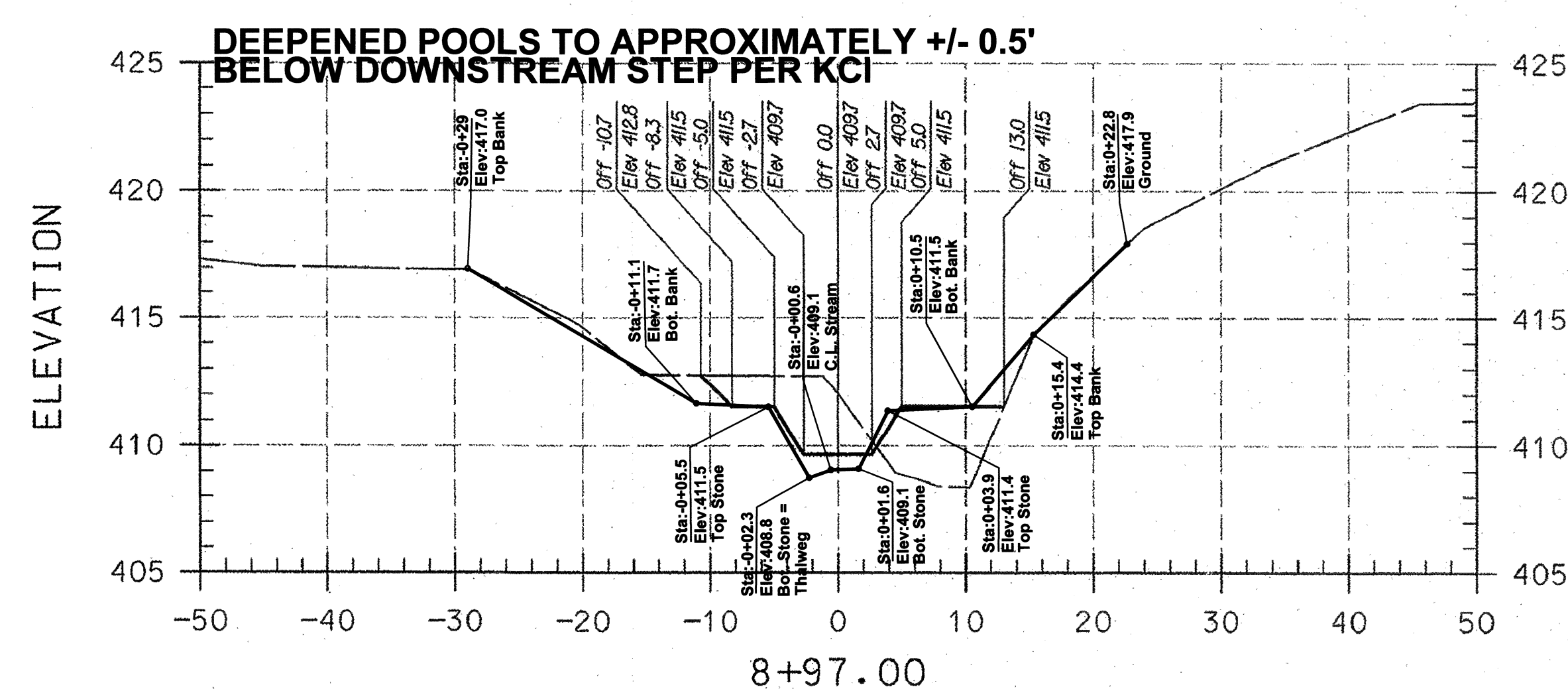
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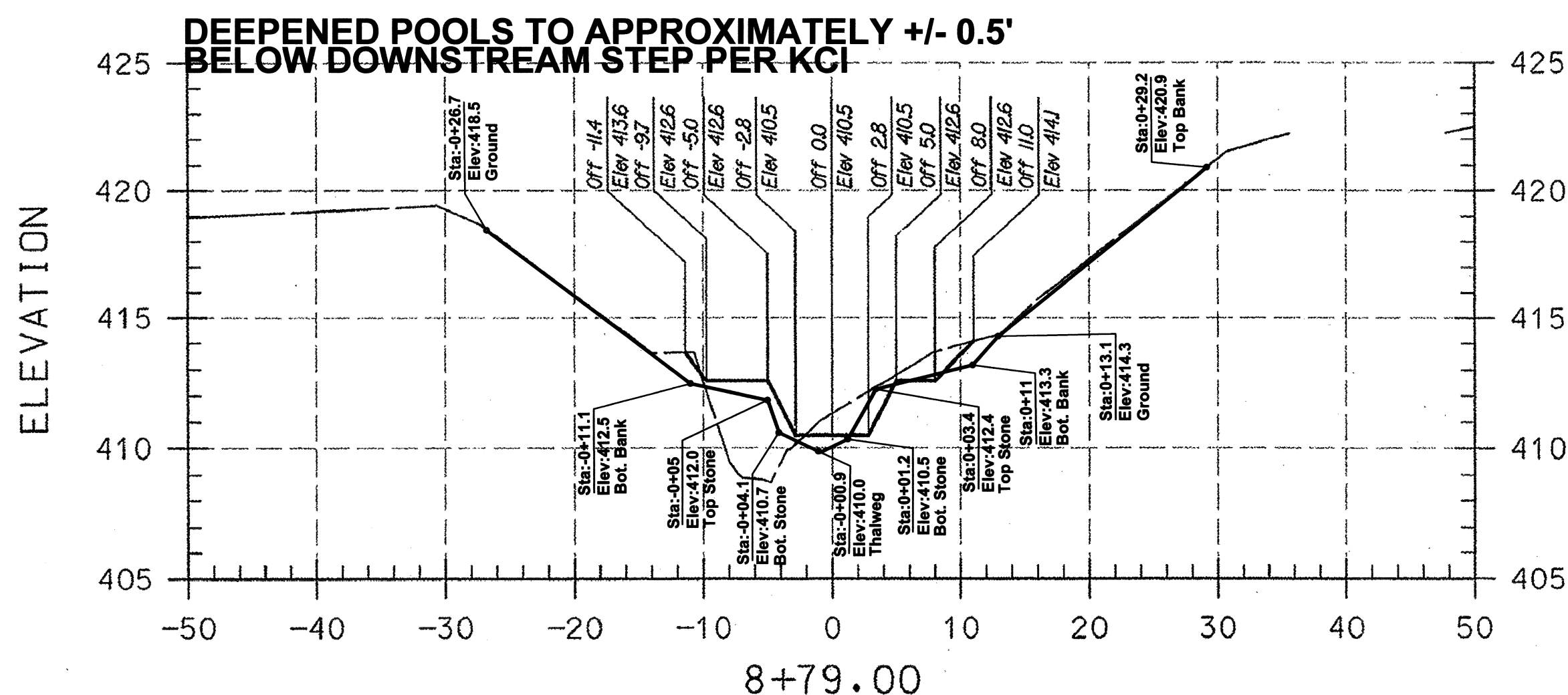
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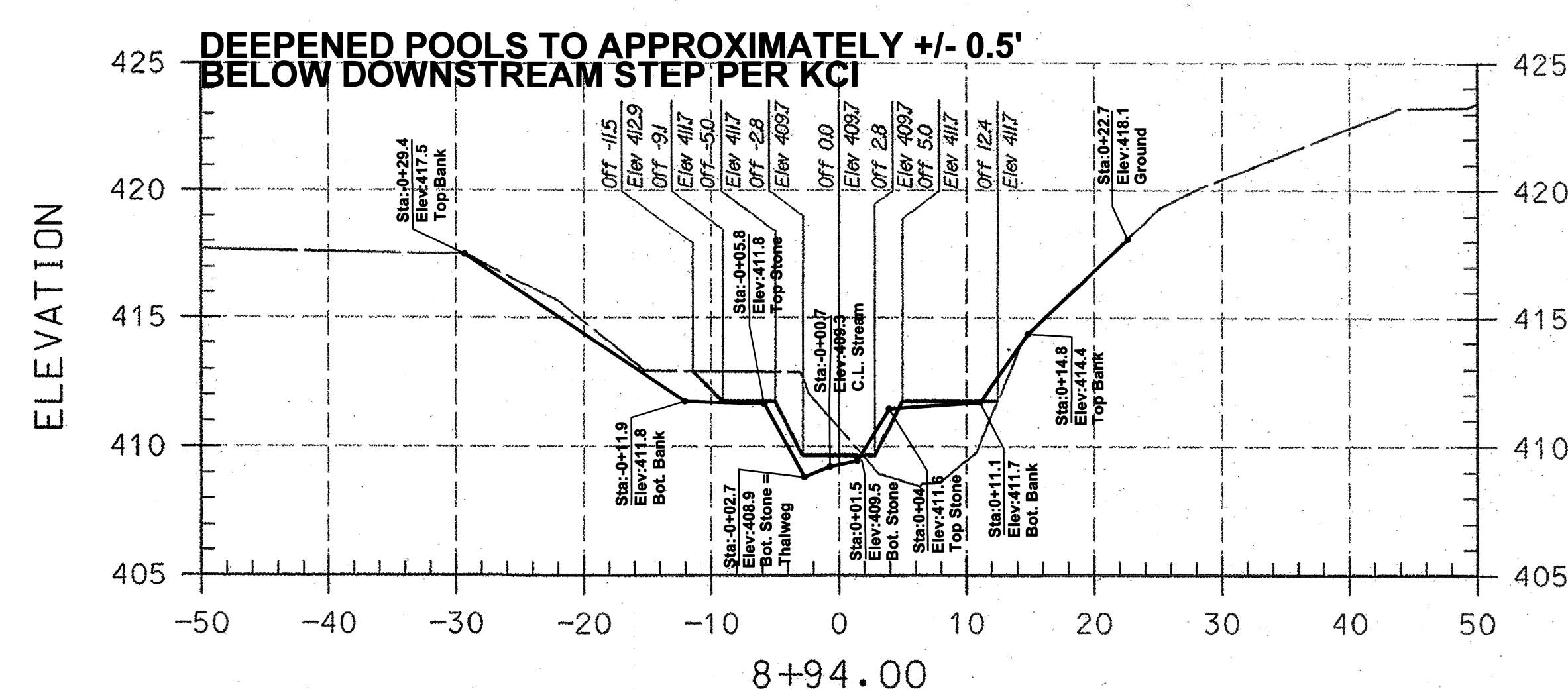
8+82.00



8+97.00



8+79.00



8+94.00

PLAN PREPARED BY
A BETTER SURVEY LLC
9988 LODGE ROAD
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21234
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LEGEND

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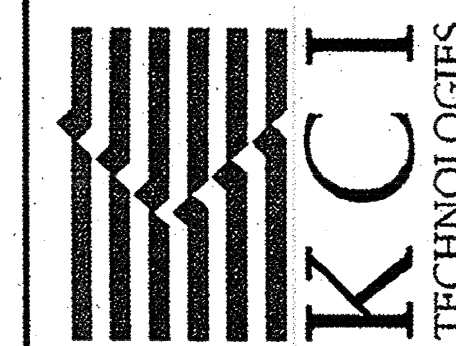
James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY



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NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
www.kci.com



BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
6751 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

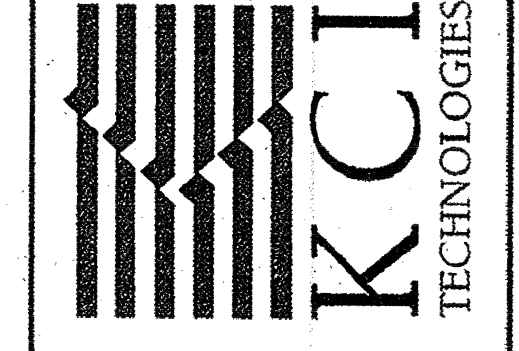
CROSS SECTIONS

SCALE:	HOR. 1"=10'
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DATE:	AUGUST 2009
KCI JOB NO.:	01081795.12
CAPITAL PROJECT NO.:	D1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

AS-BUILT DRAWING
SHEET 18 OF 38

NO.	REVISIONS DESCRIPTION	DATE

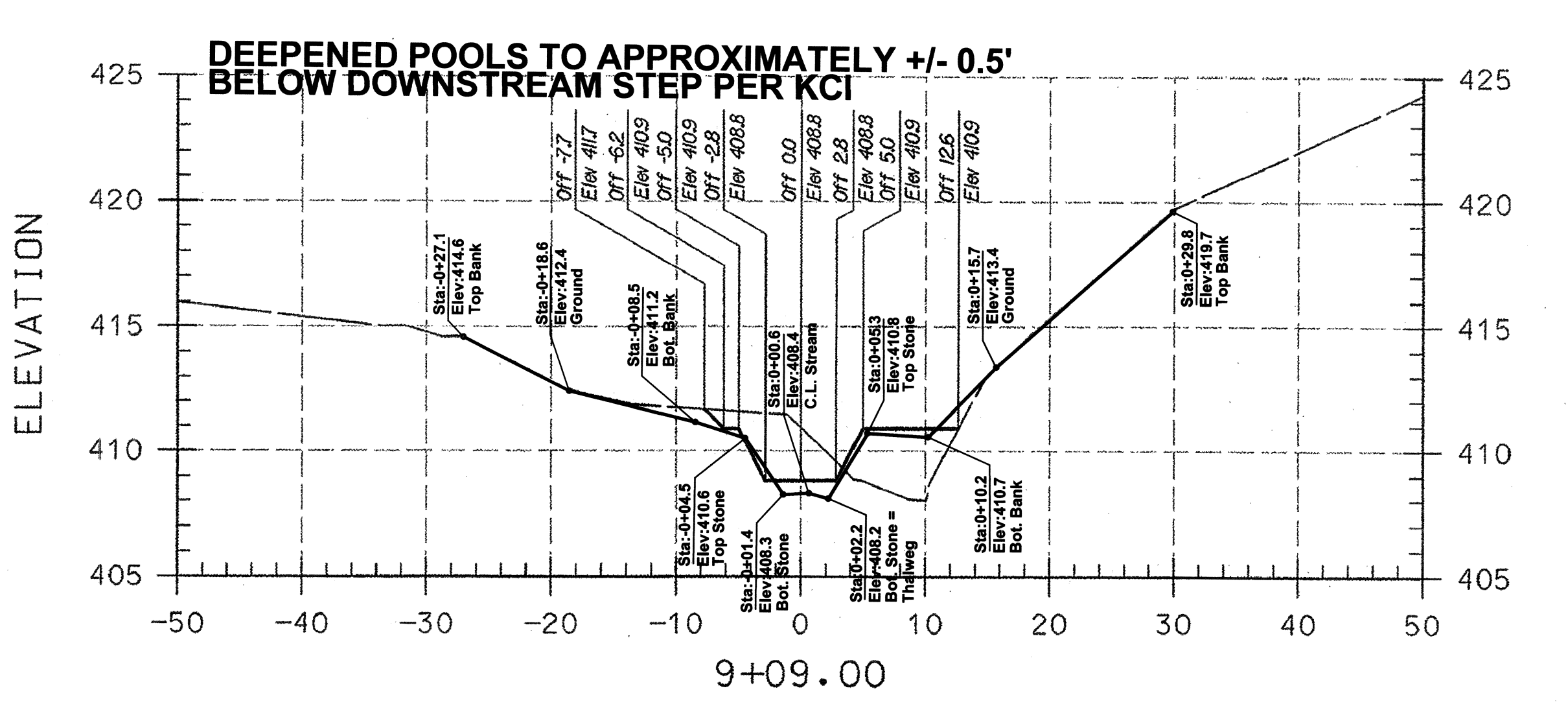
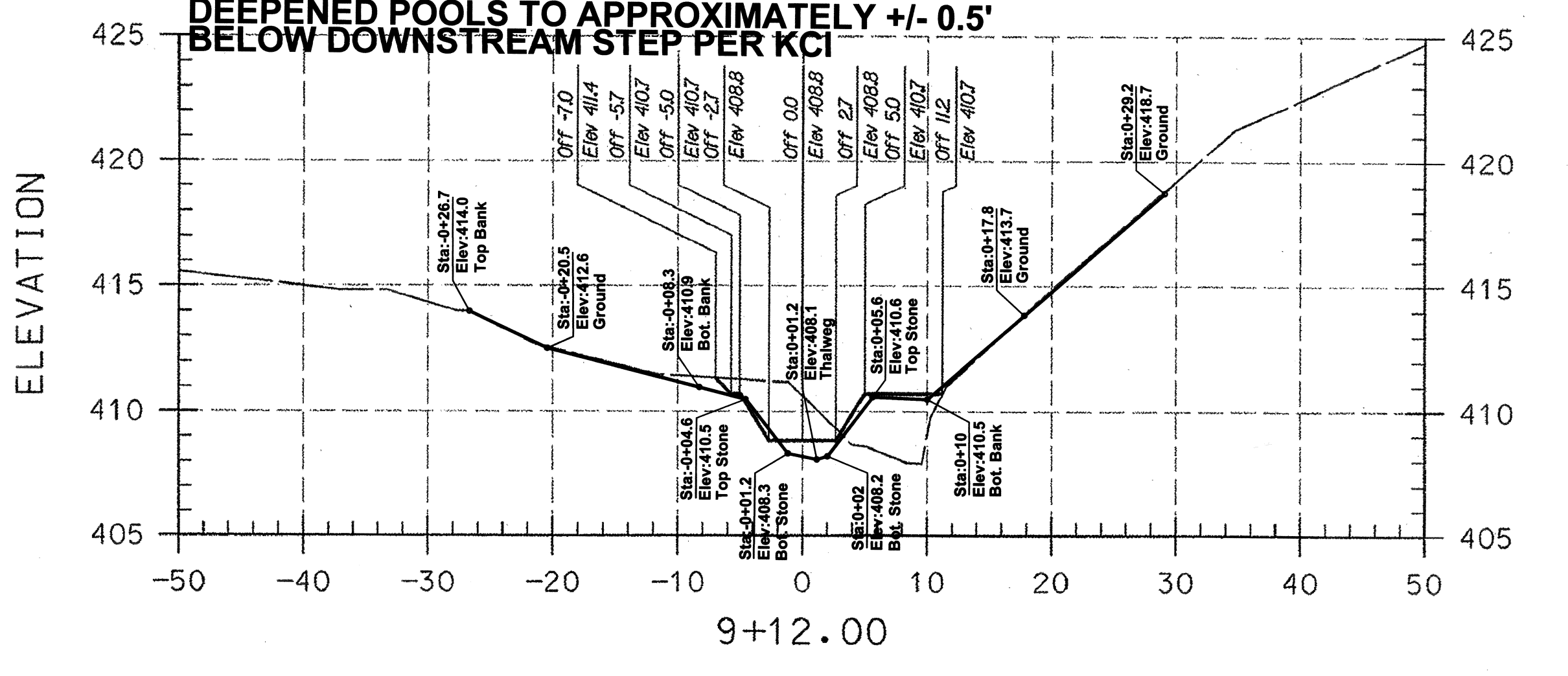
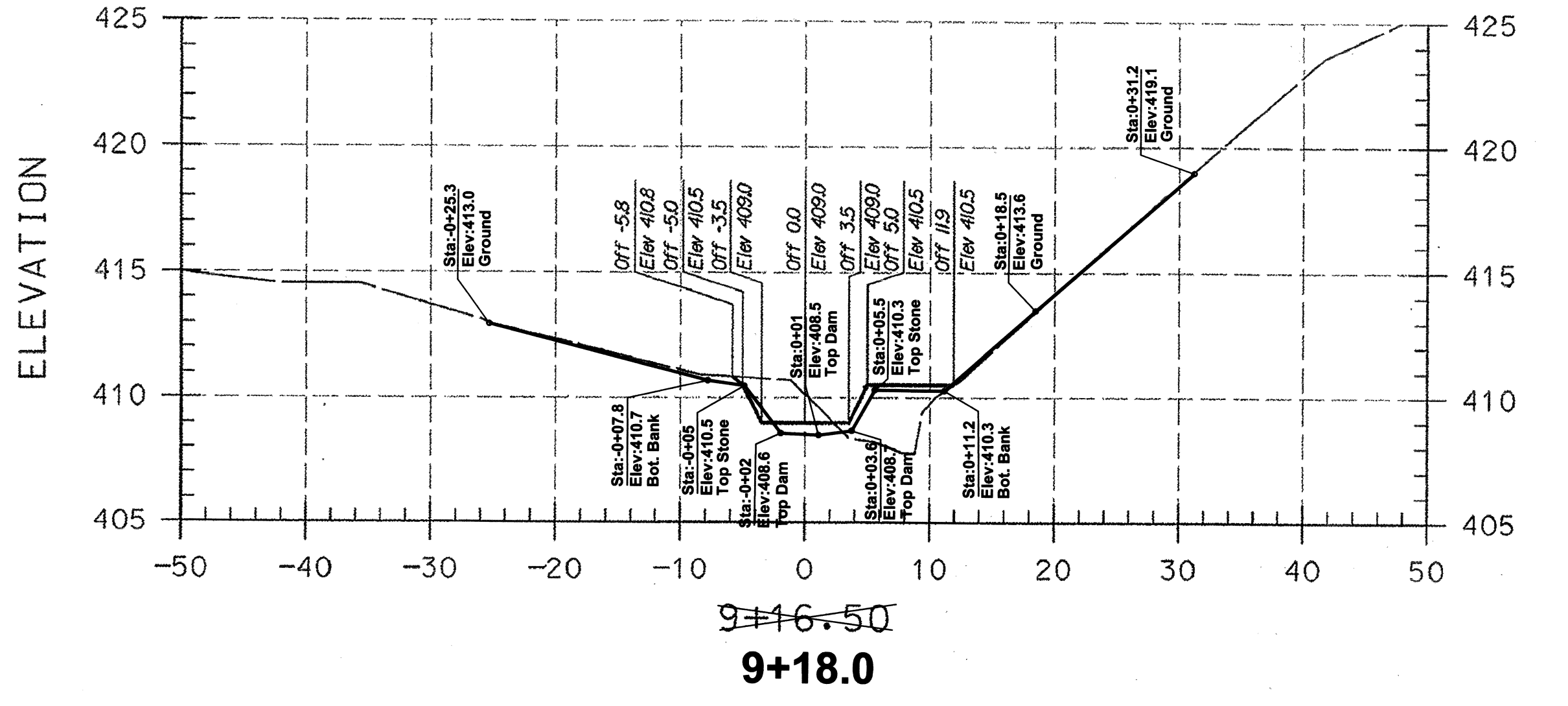
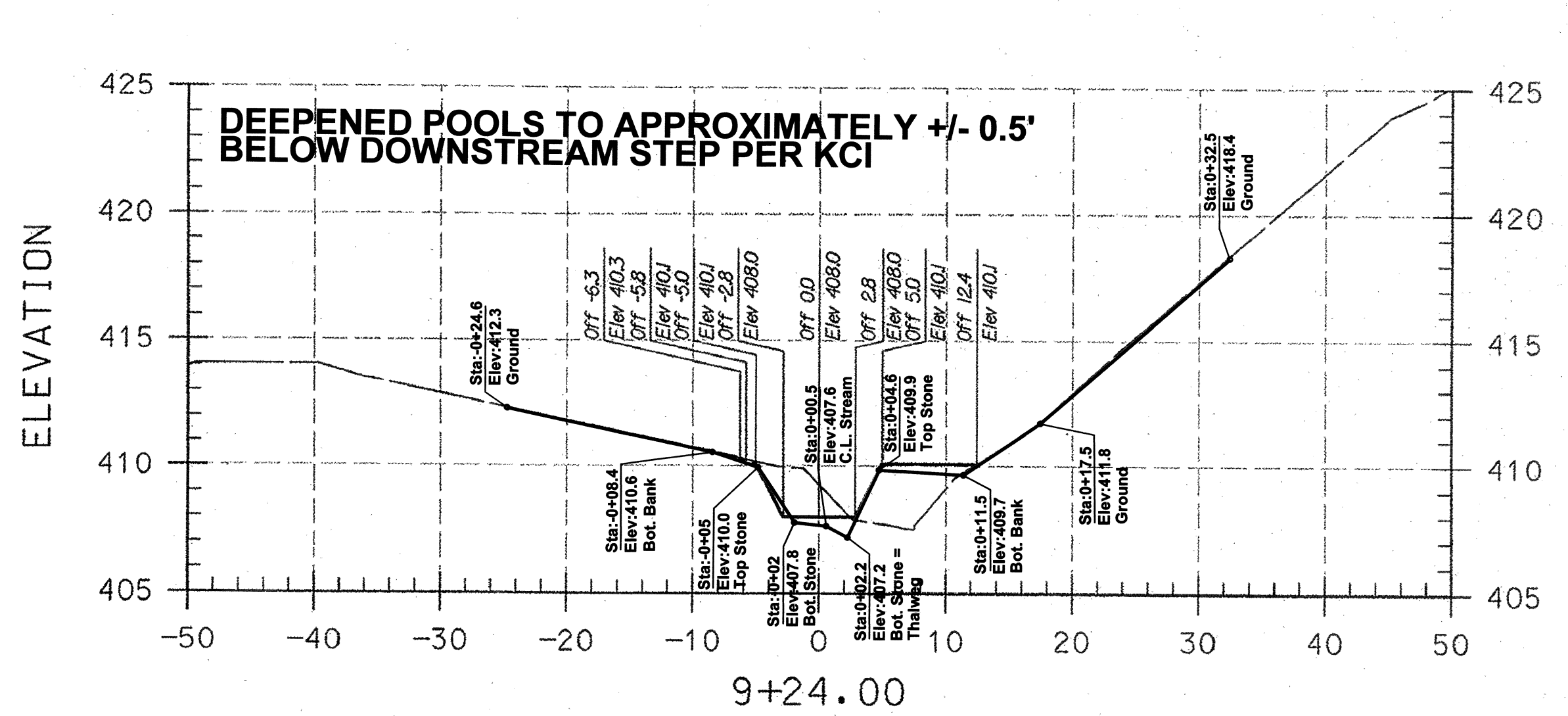
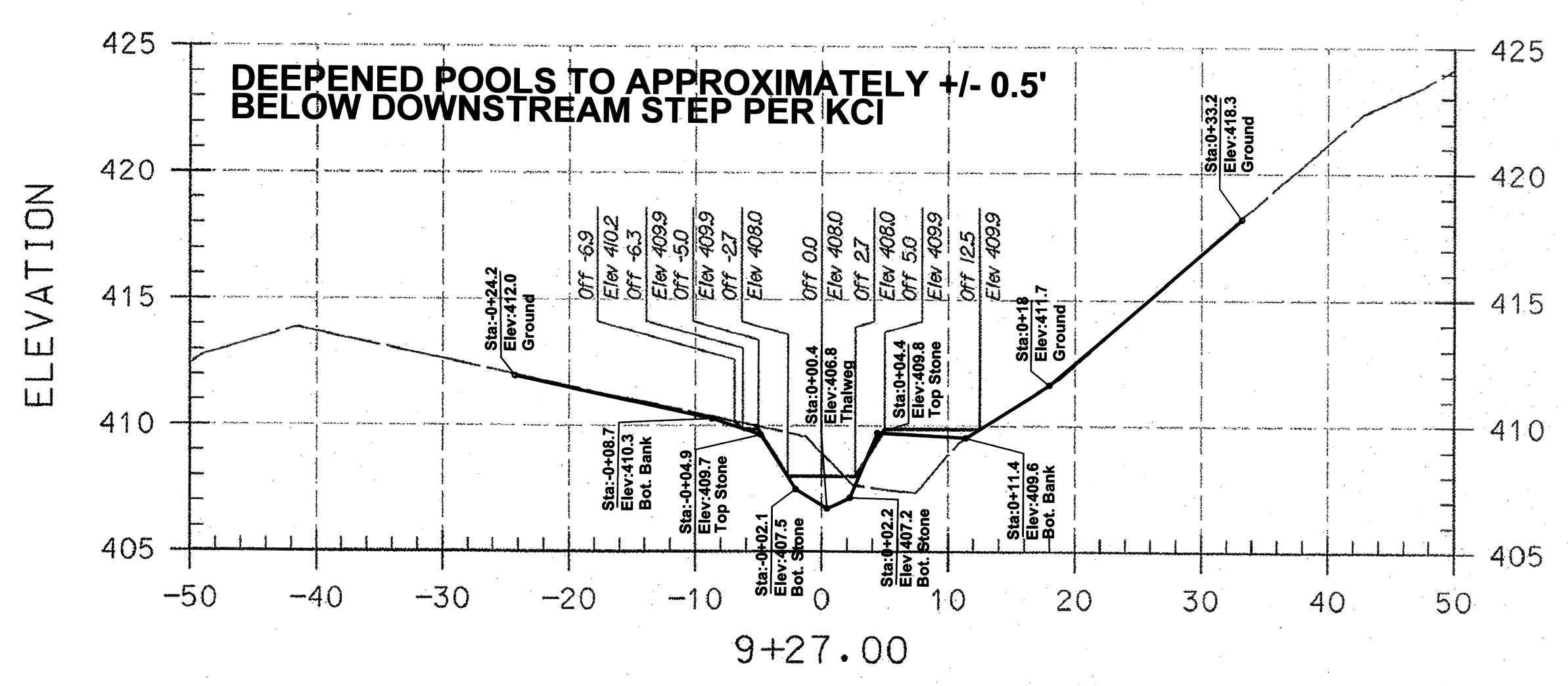
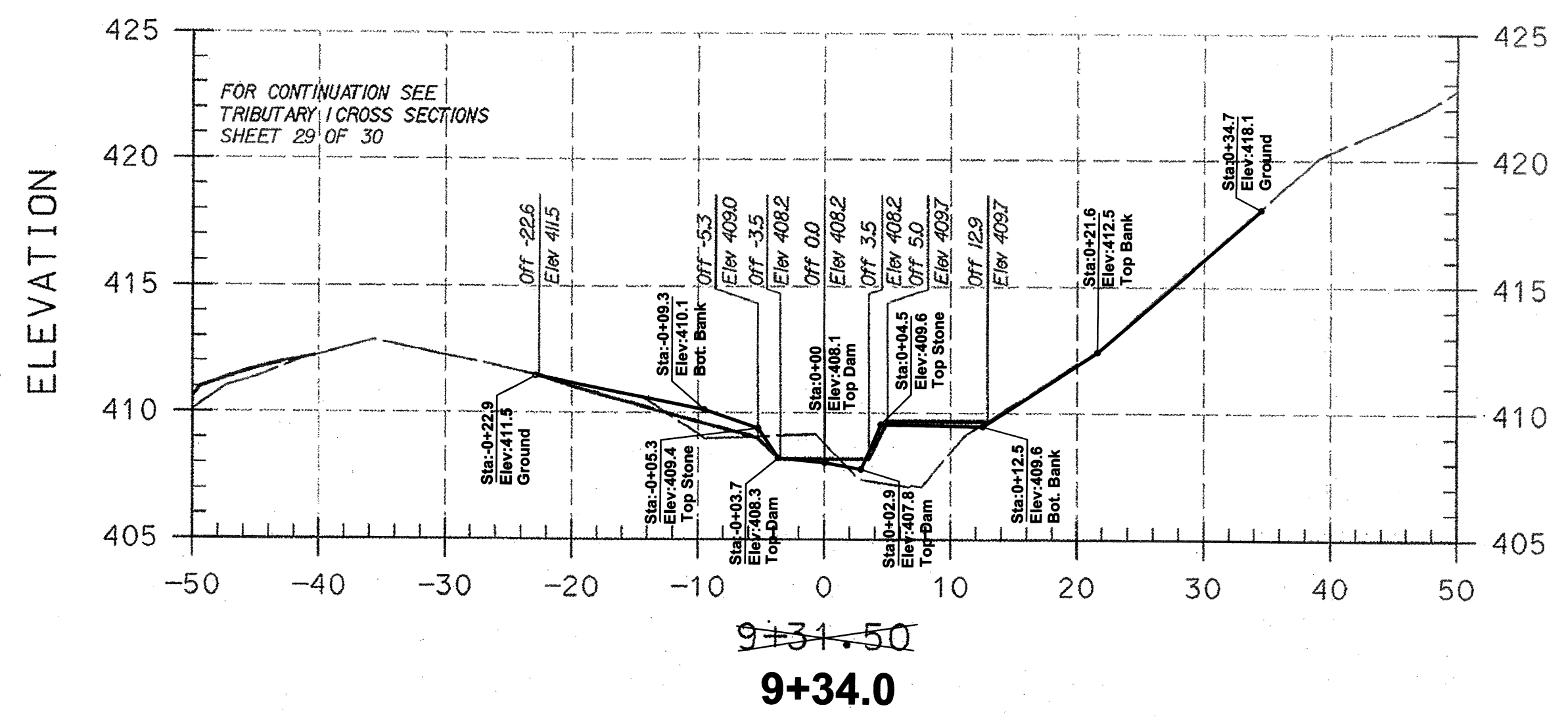
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 STORMWATER MANAGEMENT DIVISION
 675 COLUMBIA GATEWAY DRIVE
 COLUMBIA, MARYLAND 21046

CROSS SECTIONS

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DATE:	AUGUST 2009
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CONSTRUCTION ISSUE:	



PLAN PREPARED BY
 A BETTER SURVEY LLC
 9998 LODGE ROAD
 BALTIMORE, MARYLAND
 21234
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 EXPIRATION DATE: JANUARY 24, 2011

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LEGEND

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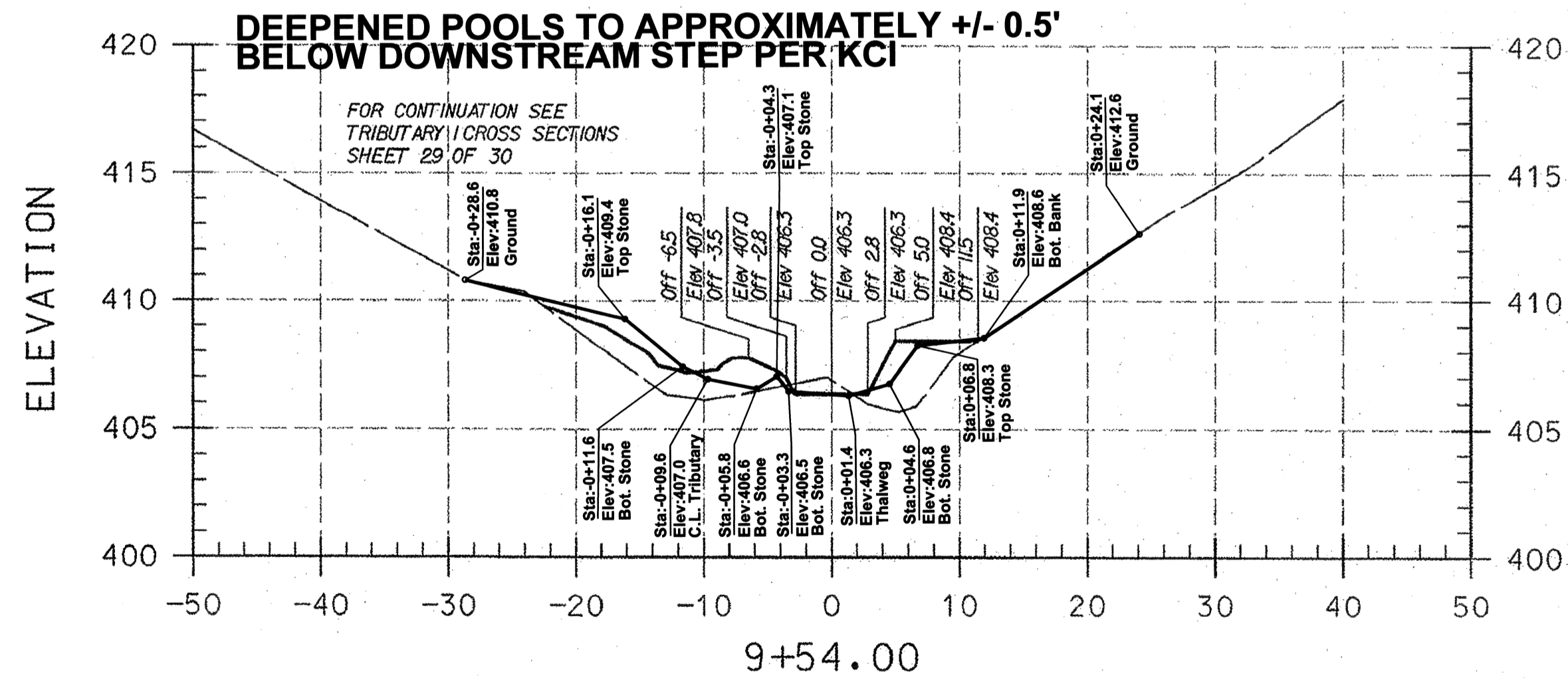
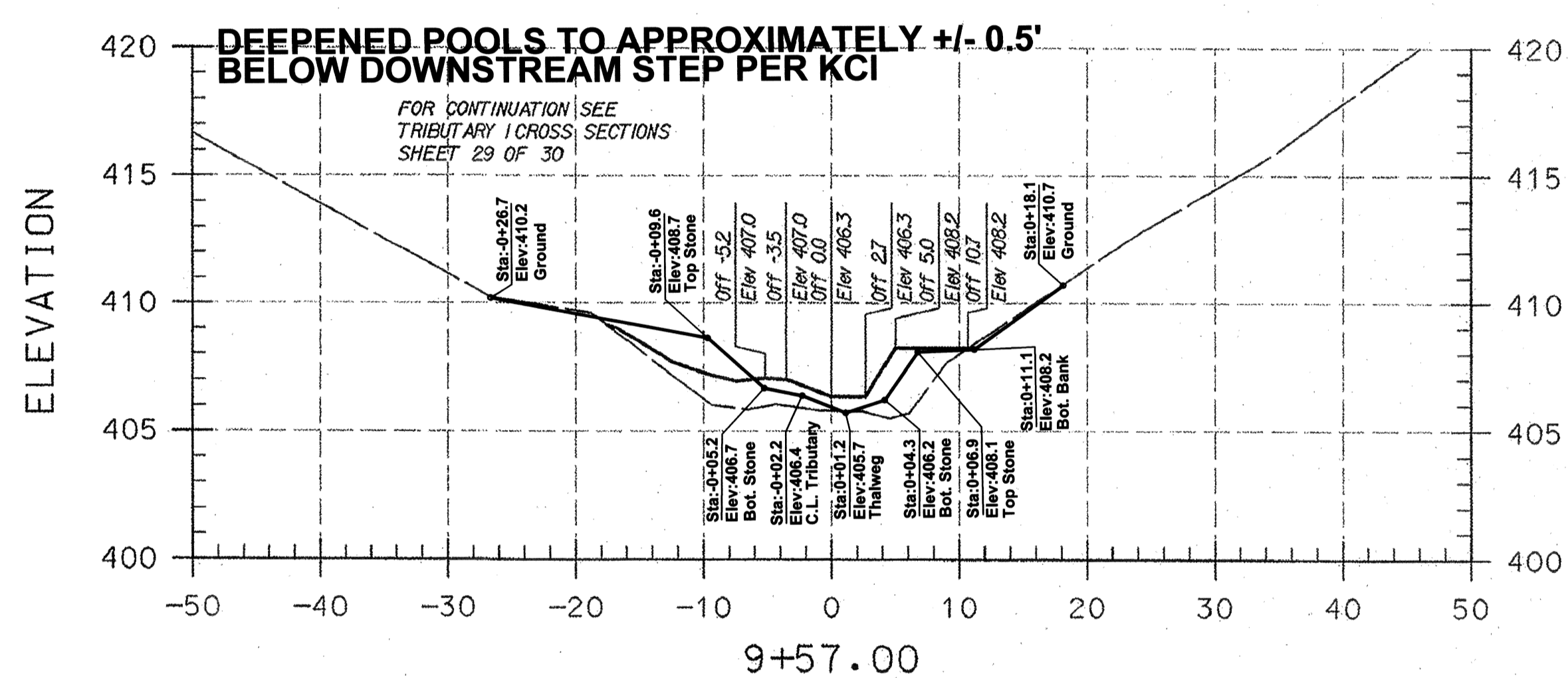
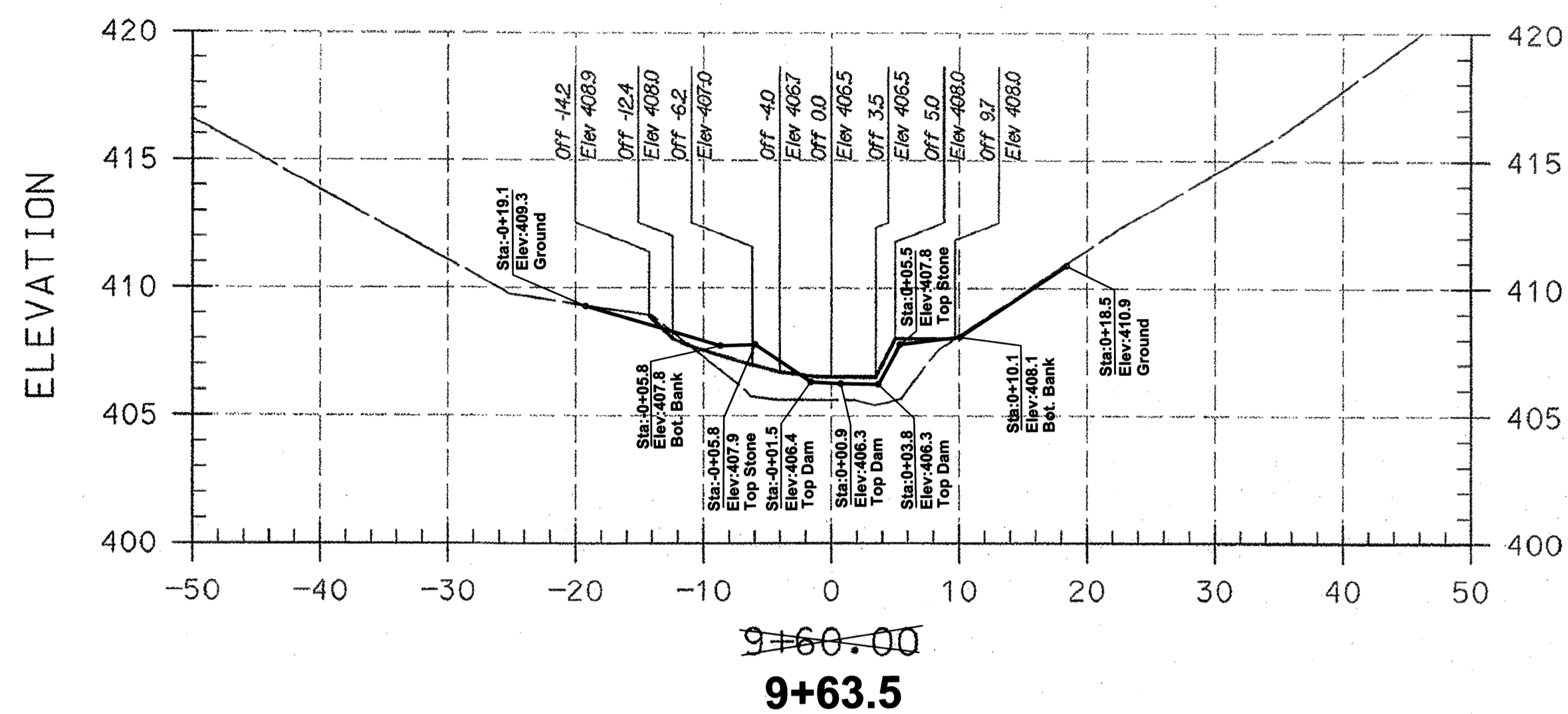
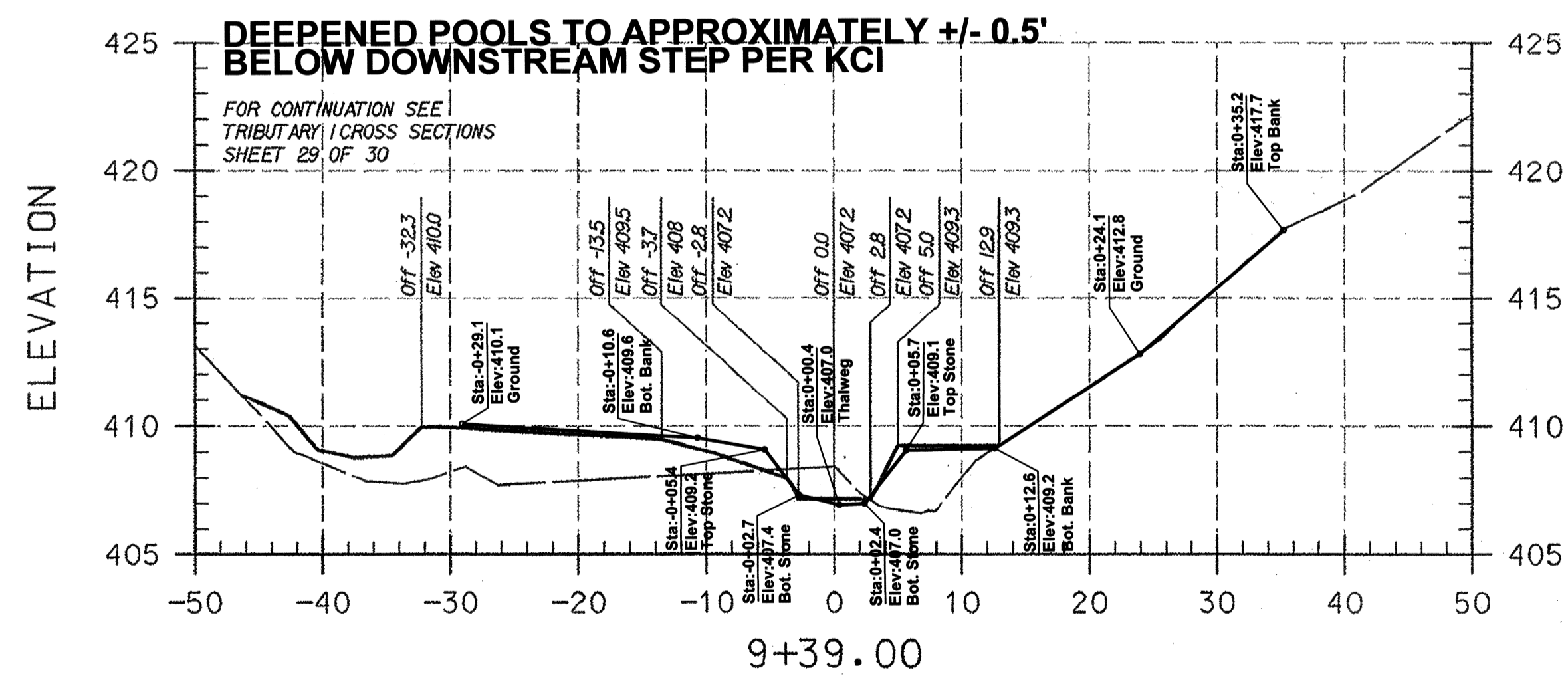
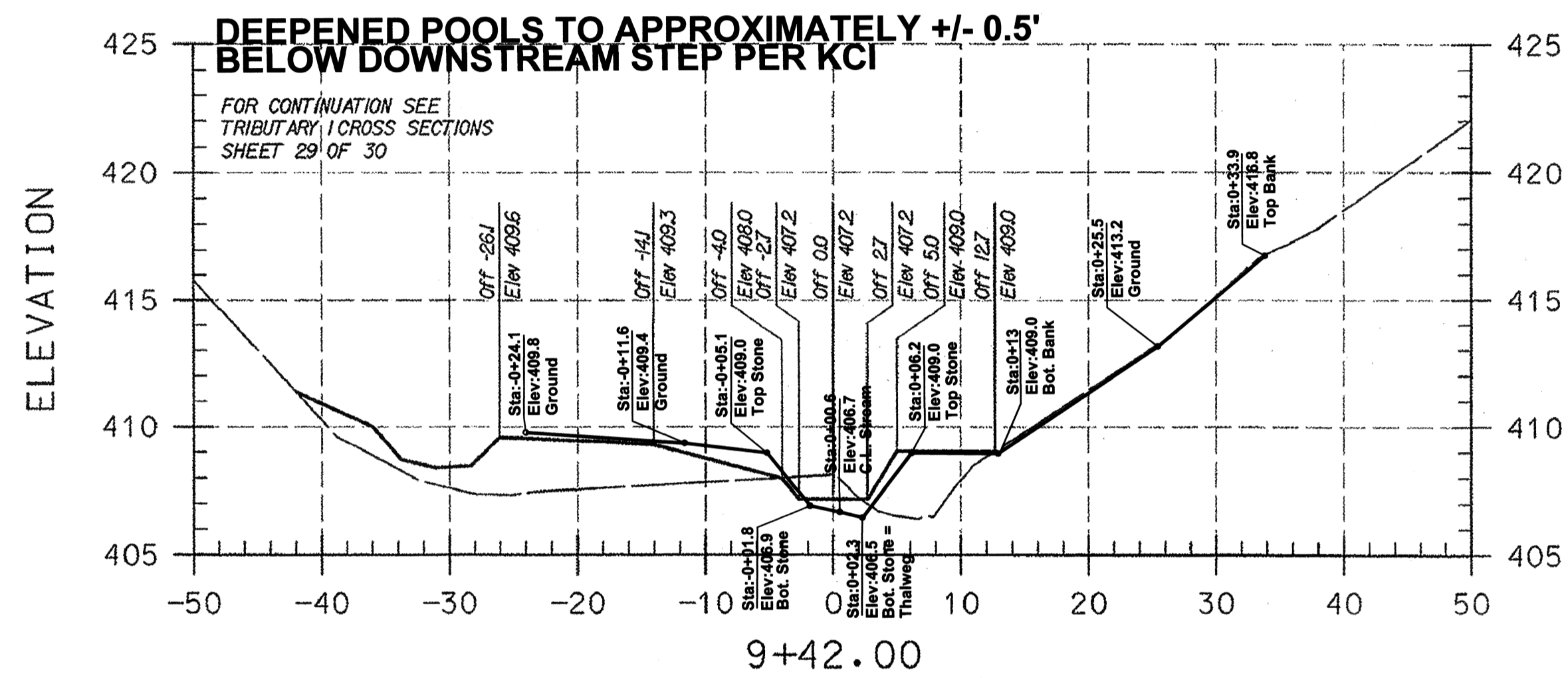
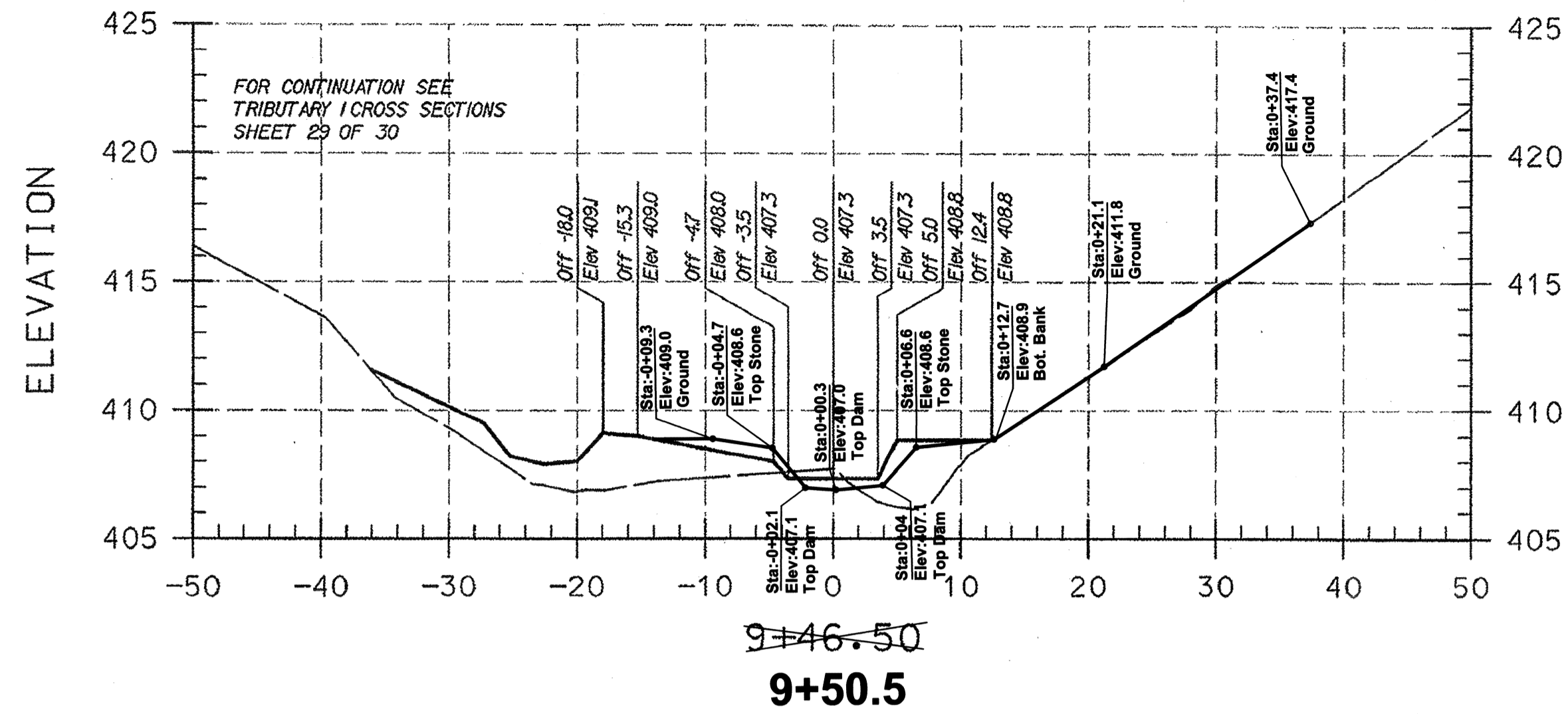
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 Reg. No. 200006 Ex. 09/2013
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29 Aug 2012
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ASBUILT GRADES



PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715

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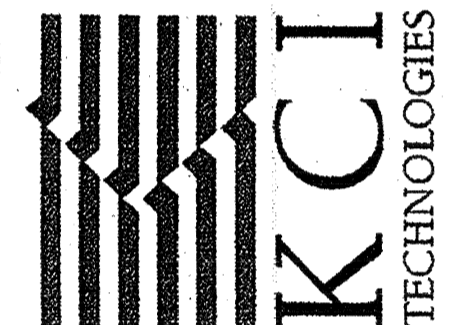
LEGEND	
EXISTING GRADE	—————
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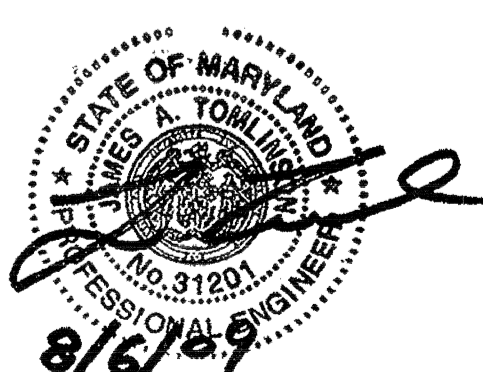


BRAMPTON HILLS
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STORMWATER MANAGEMENT DIVISION
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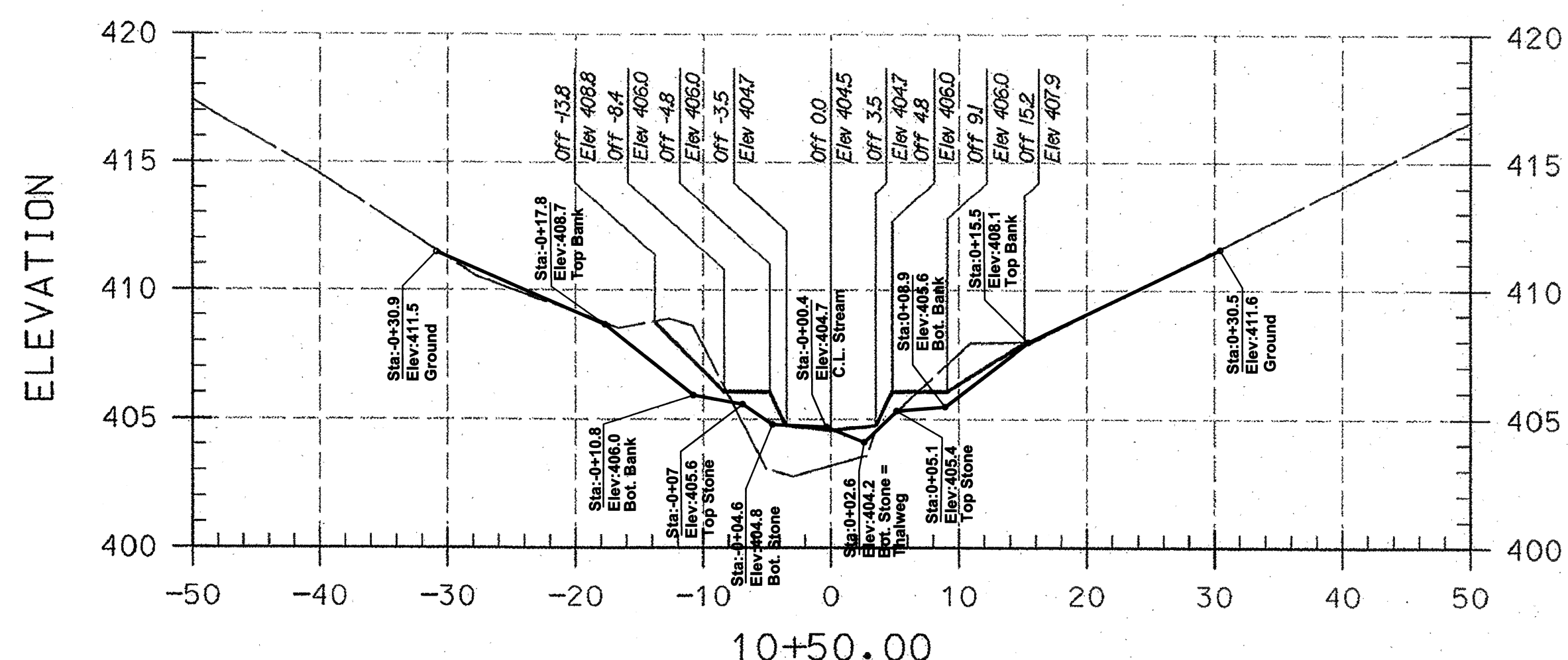
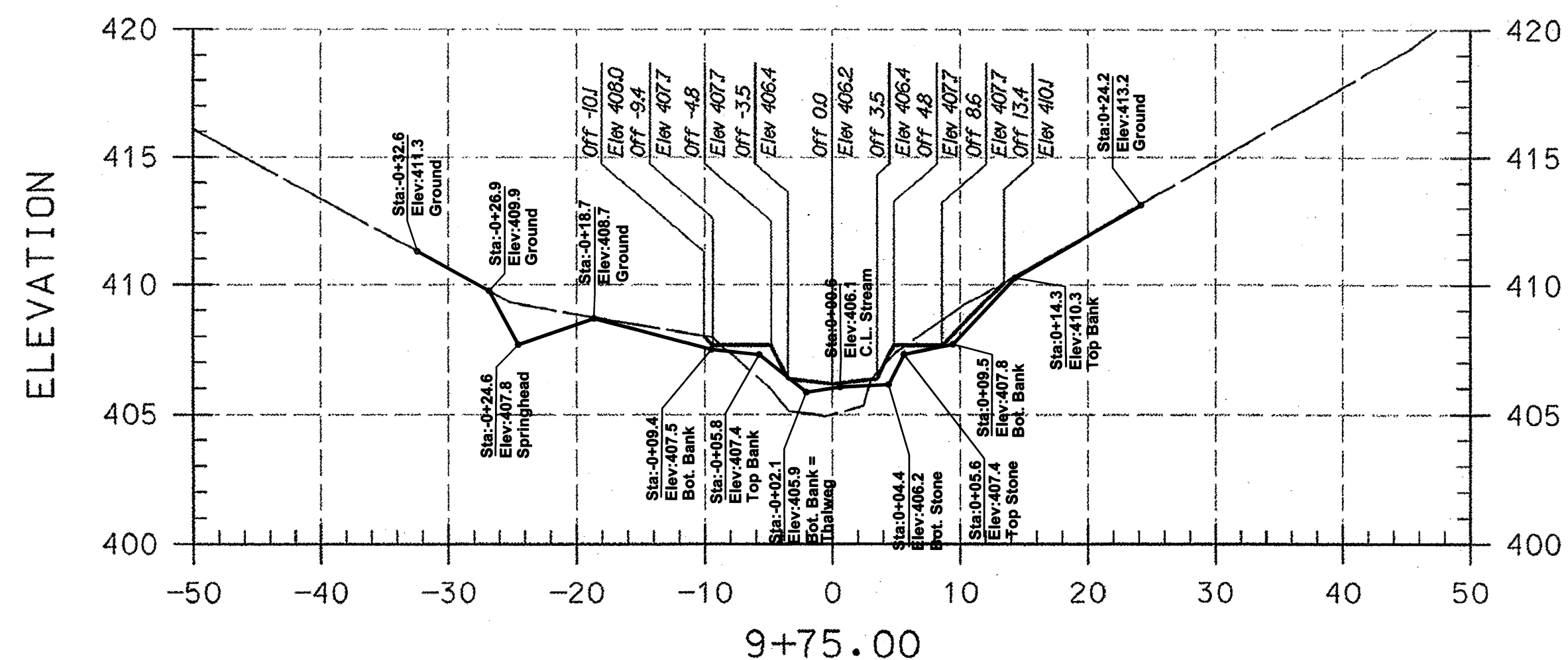
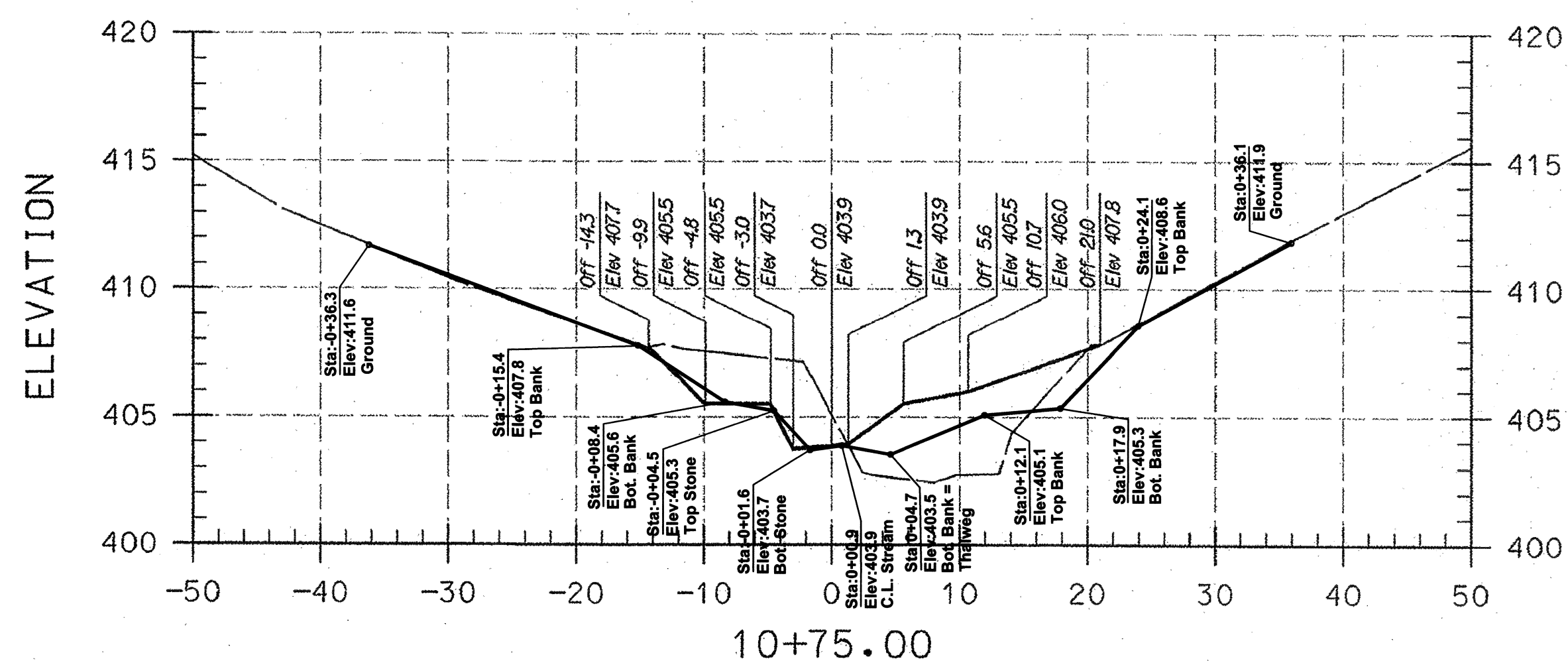
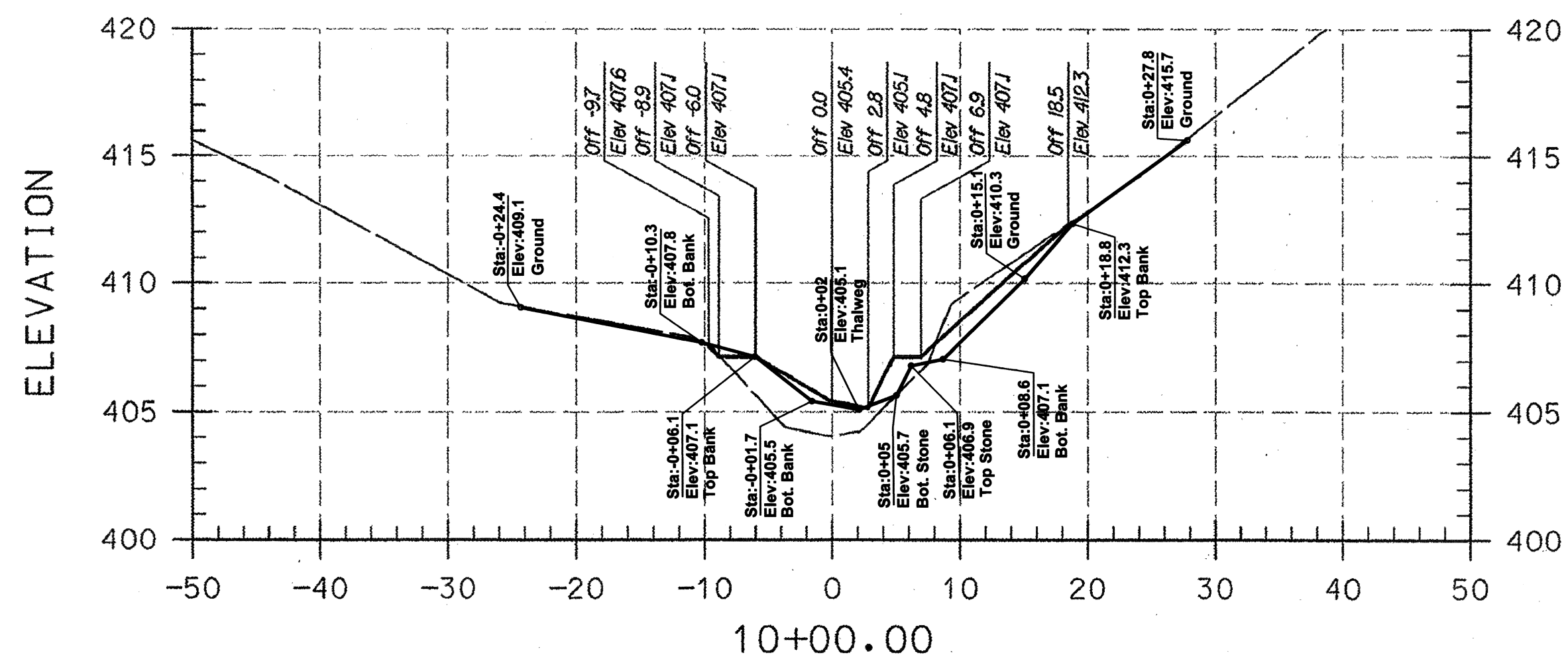
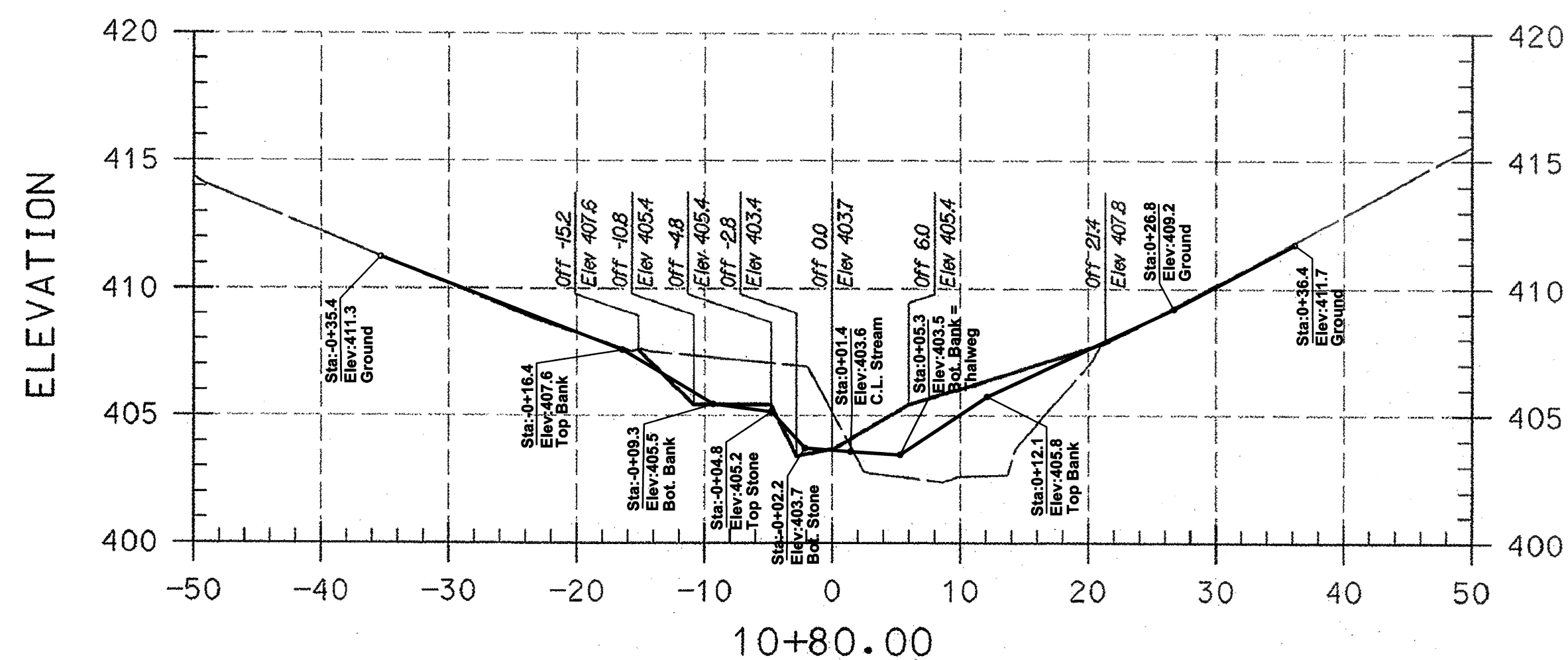
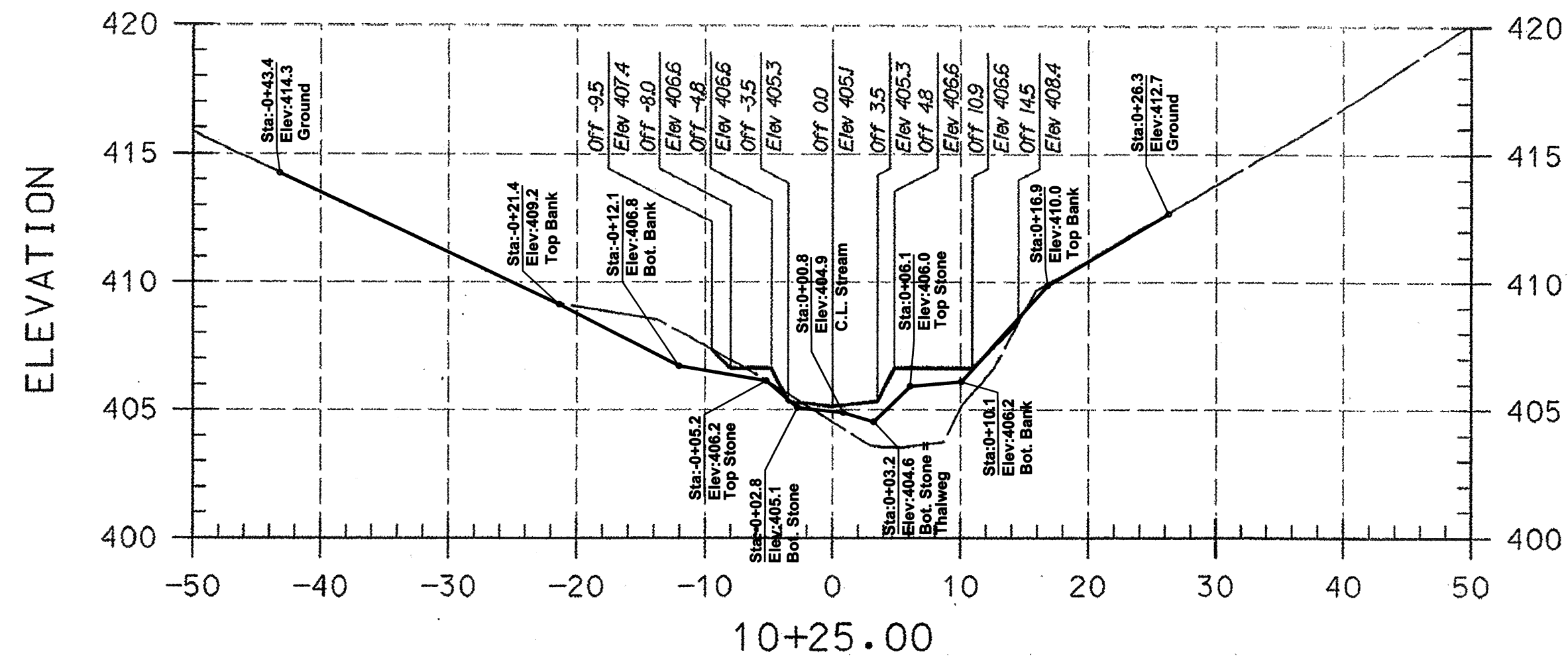
CROSS SECTIONS

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CONSTRUCTION ISSUE:	

PLOTTED: 04/26/12 10:48 AM by: jpoconnor Job: August 05, 2009
 FILE: M:\2009\41003223\25\Drawings\as-b\20Bram.dgn



PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 200006. EXPIRATION DATE: JANUARY 24, 2011



PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715

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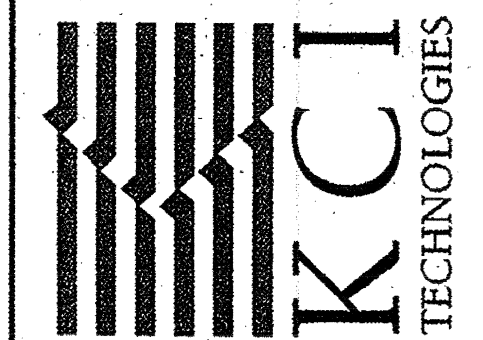


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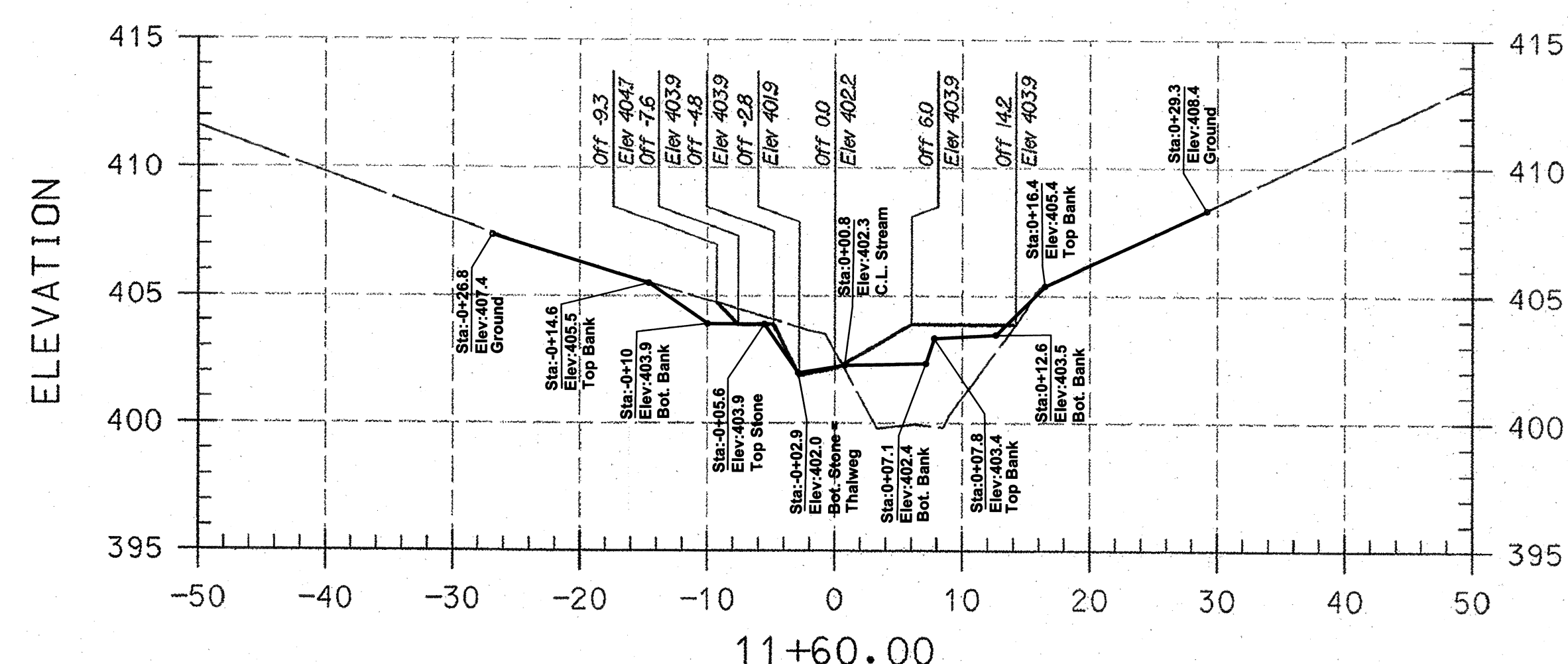
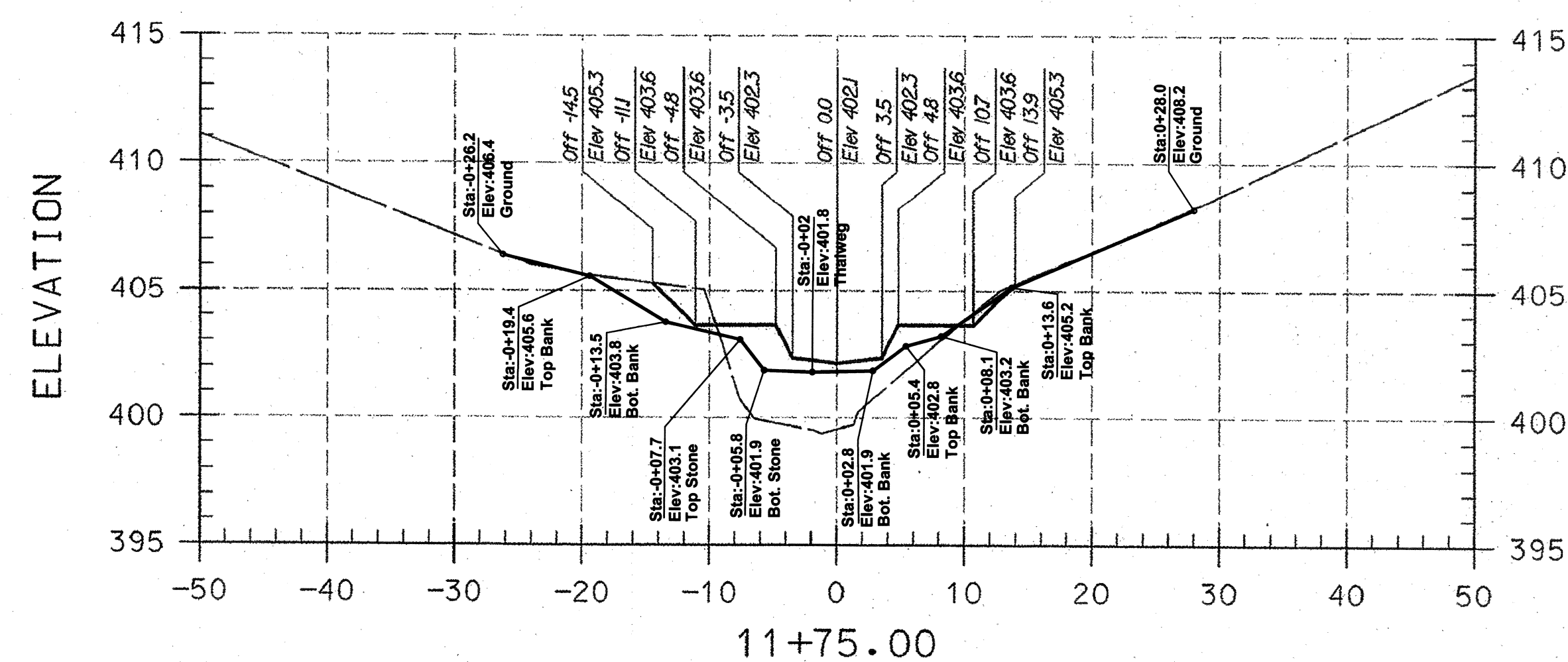
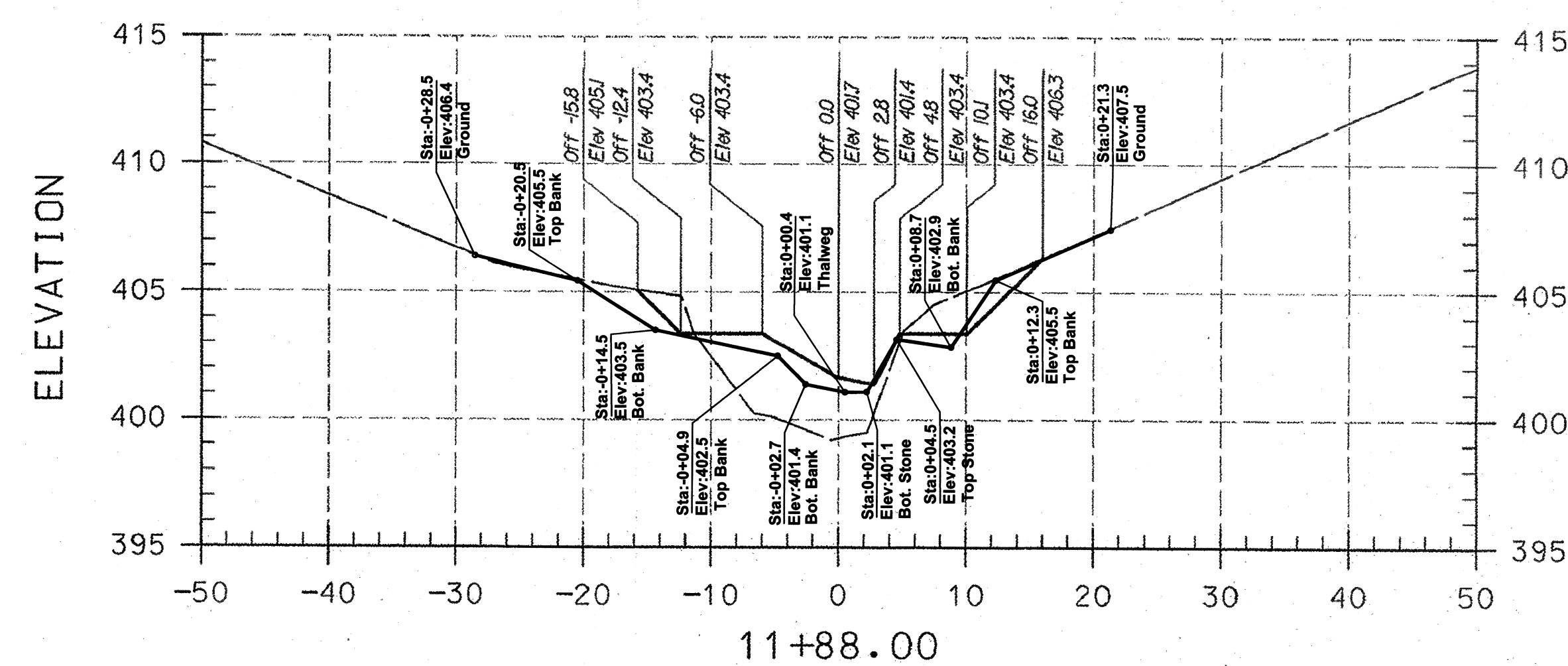
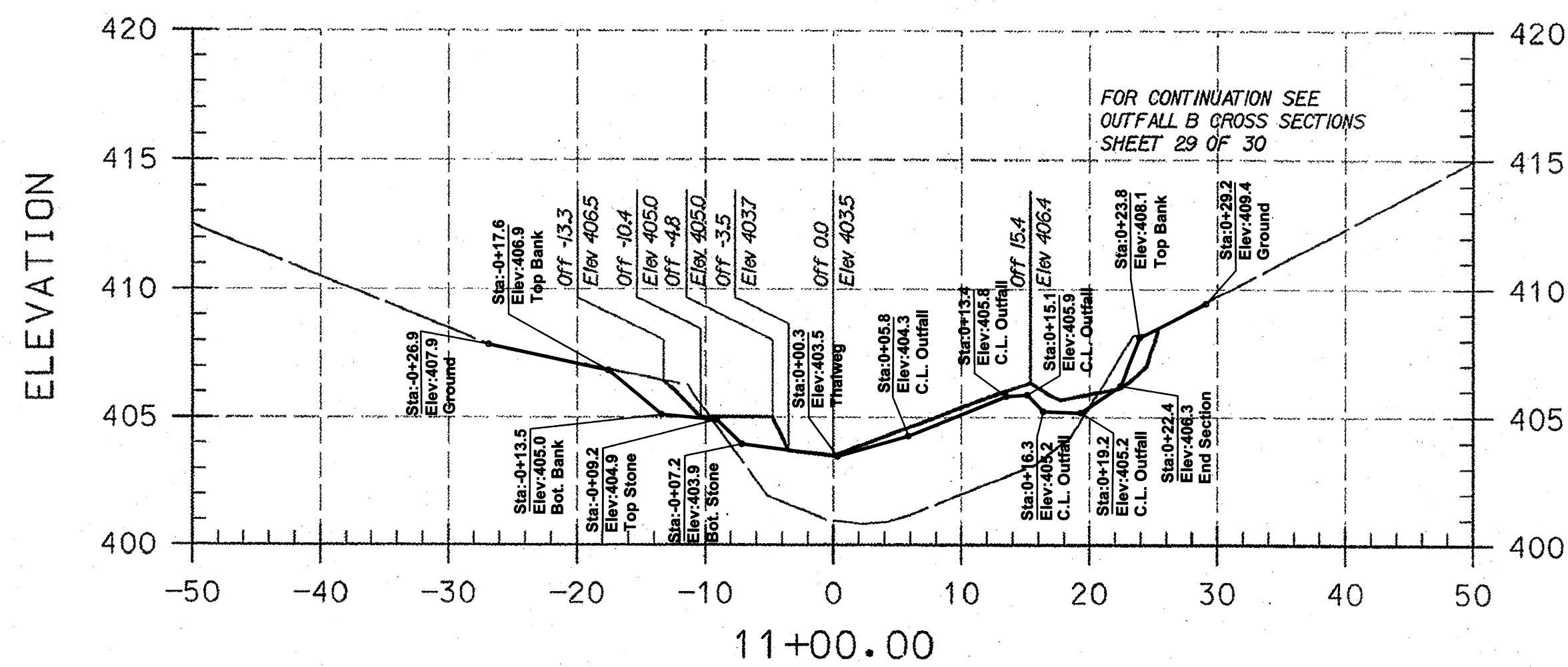
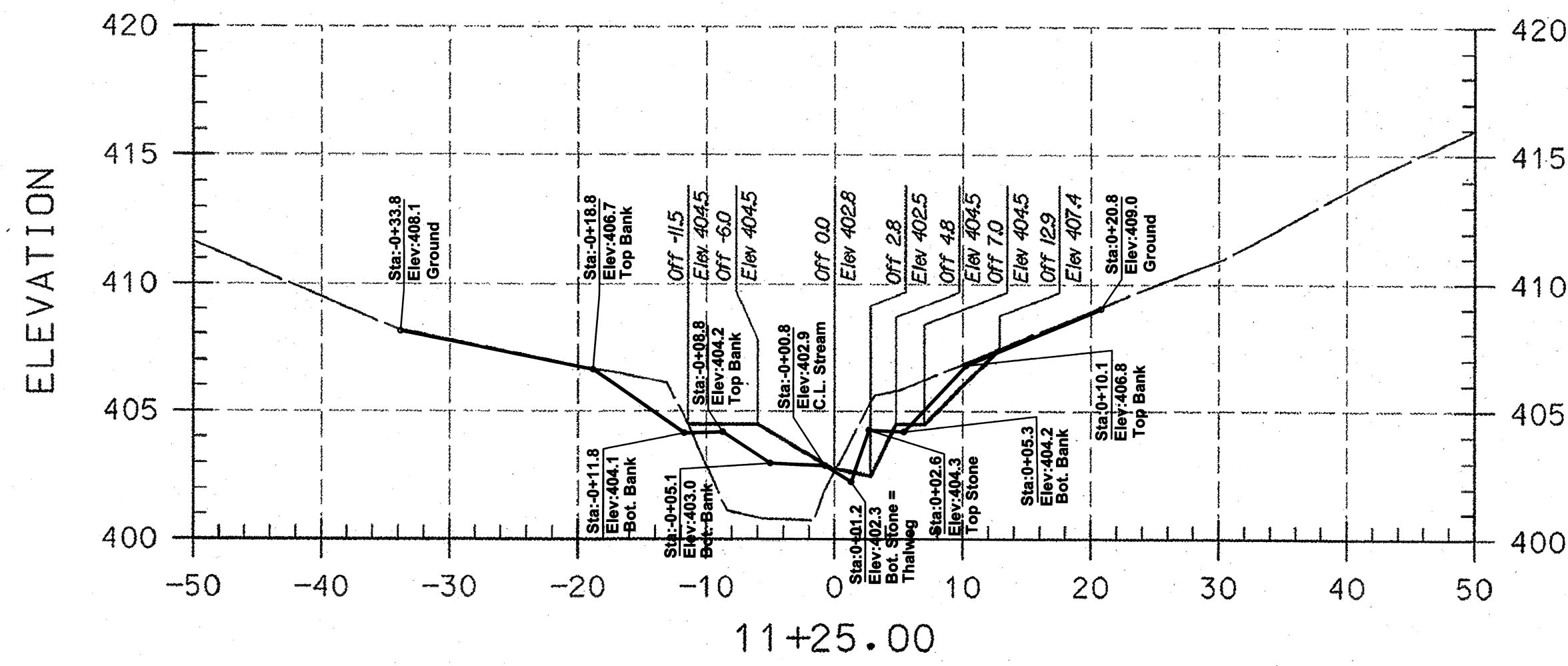
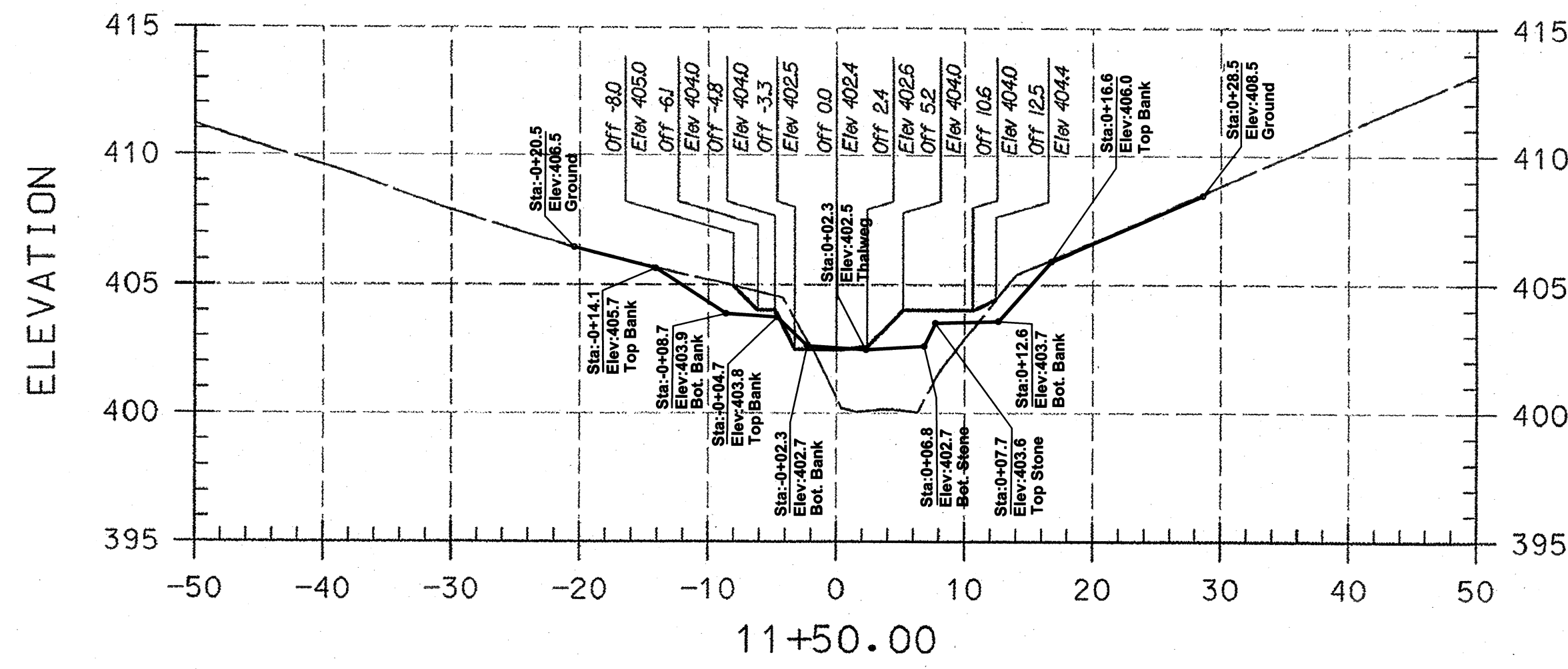
936 RIDGEBROOK ROAD
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WWW.KCI.COM



BRAMPTON HILLS
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STORMWATER MANAGEMENT DIVISION
6761 COLUMBIAN DRIVE
COLUMBIA, MARYLAND 21046

CROSS SECTIONS

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PROPOSED GRADE	——

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J.P. O'CONNOR
James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY



ASBUILT GRADES

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
www.kci.com

**BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3**

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
6751 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

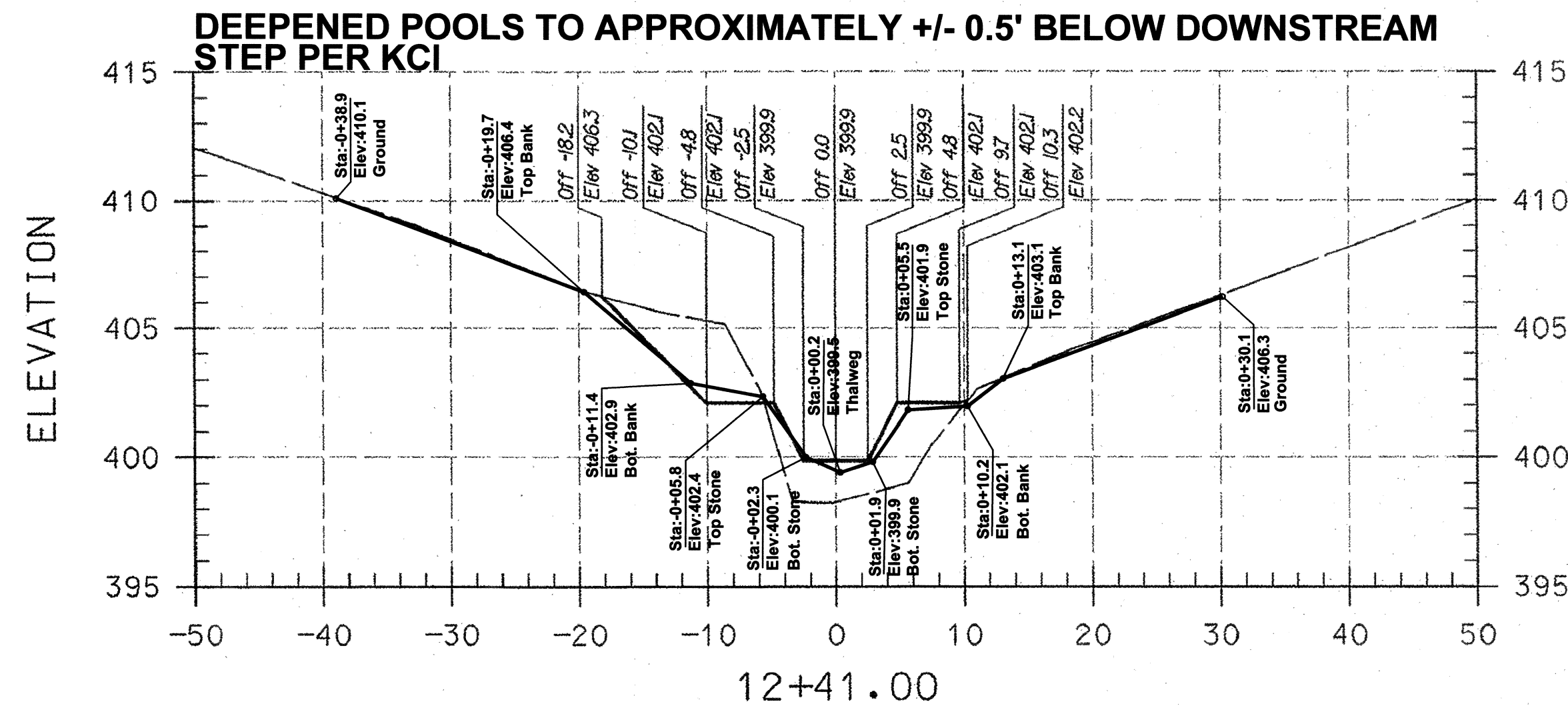
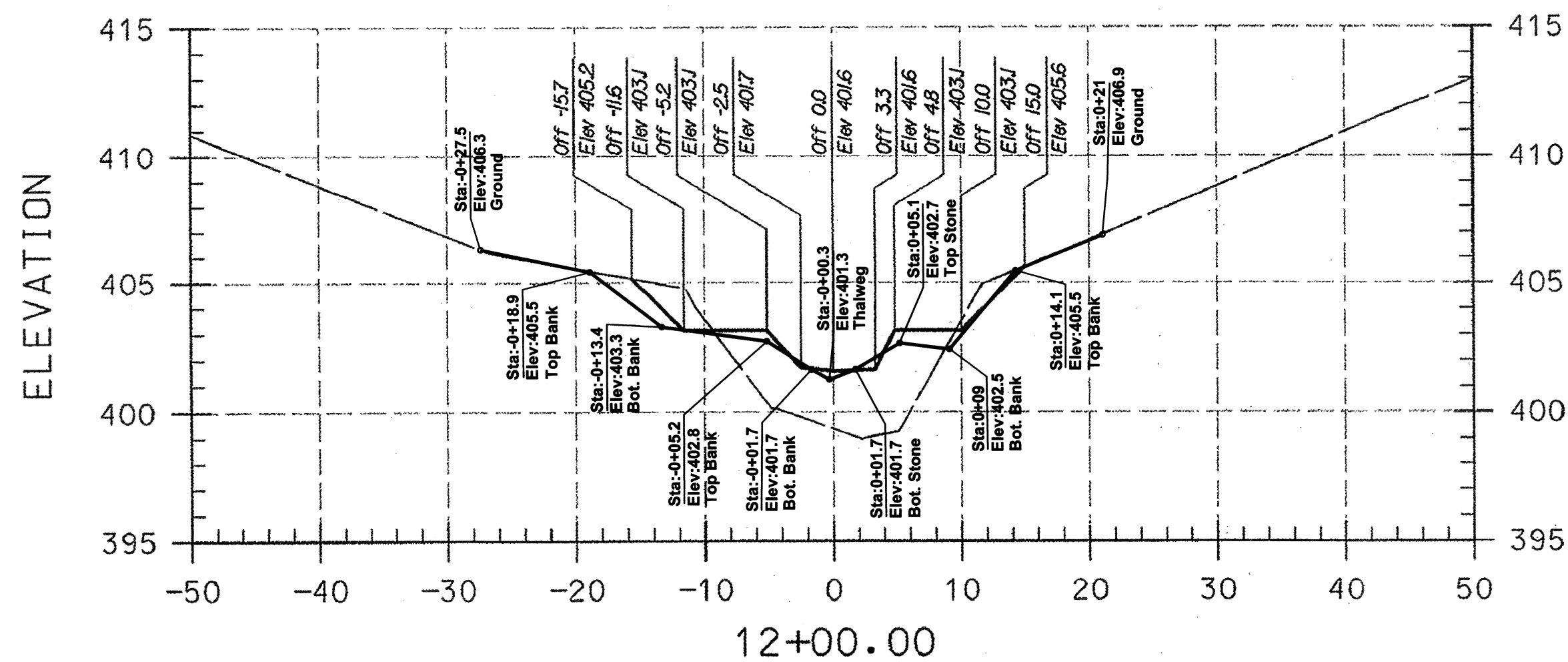
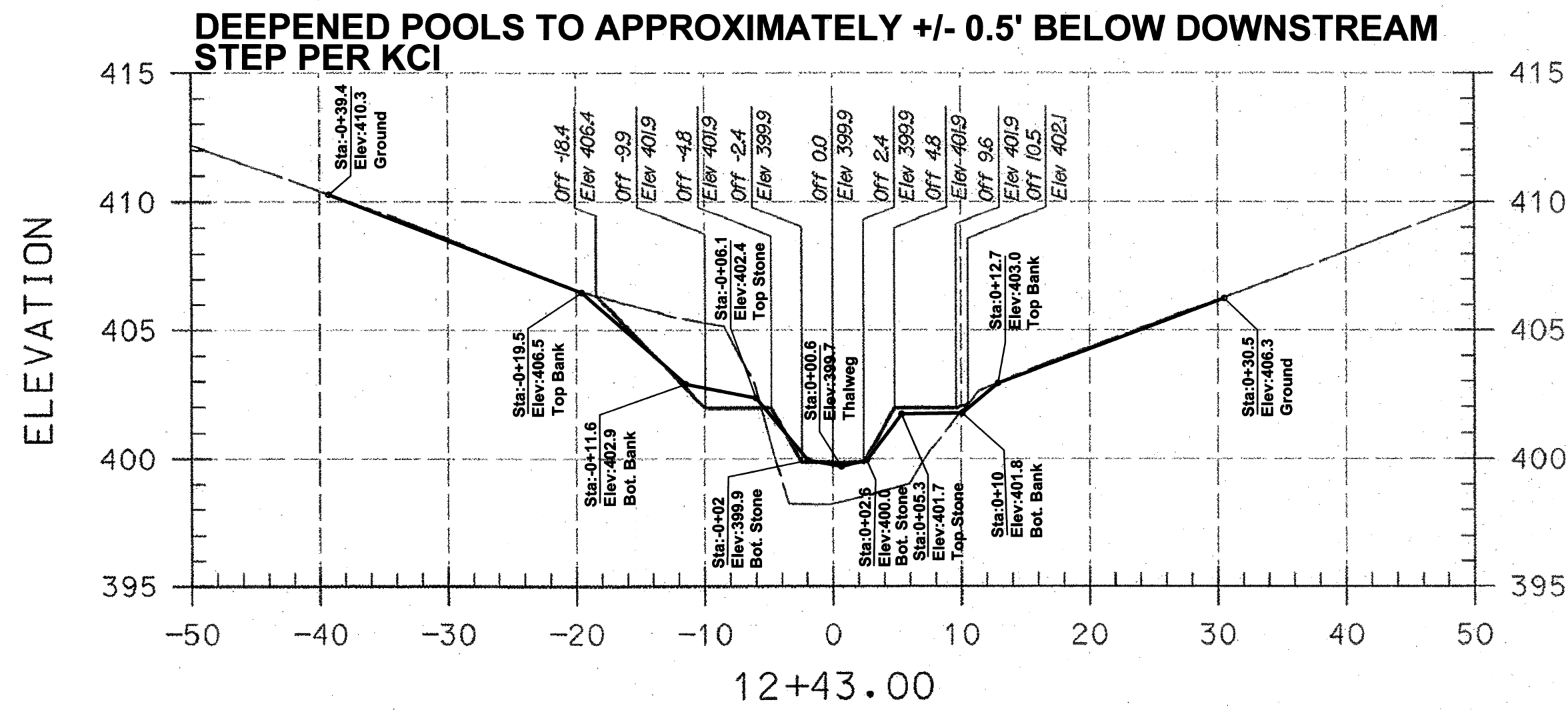
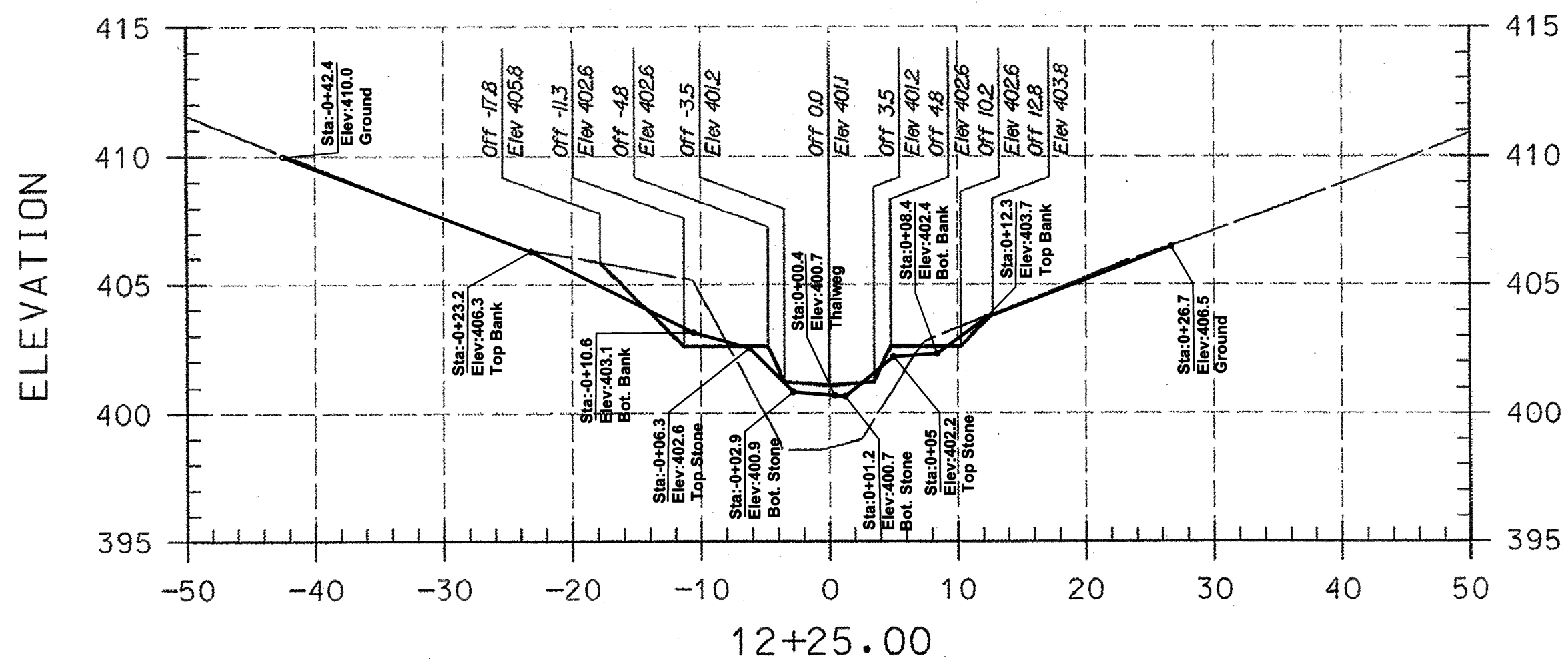
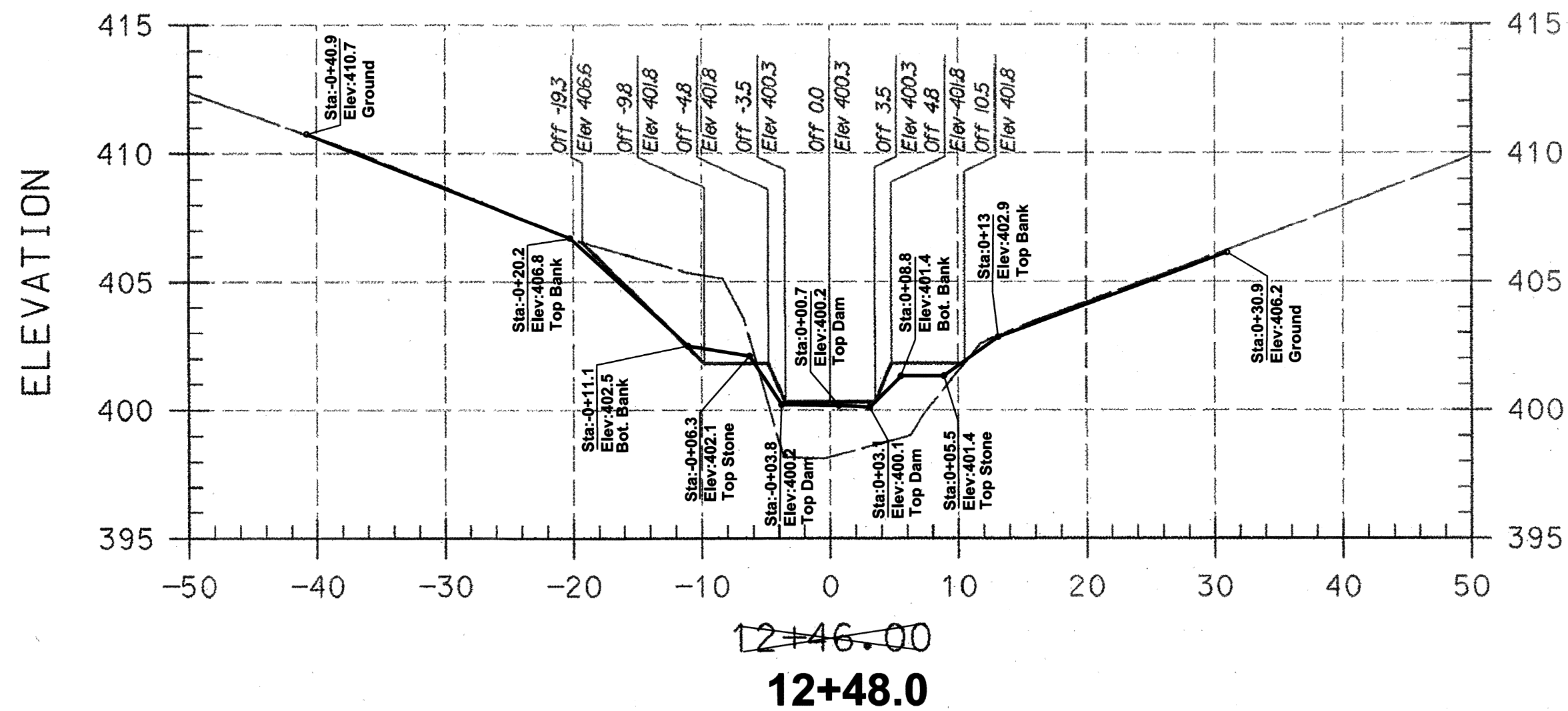
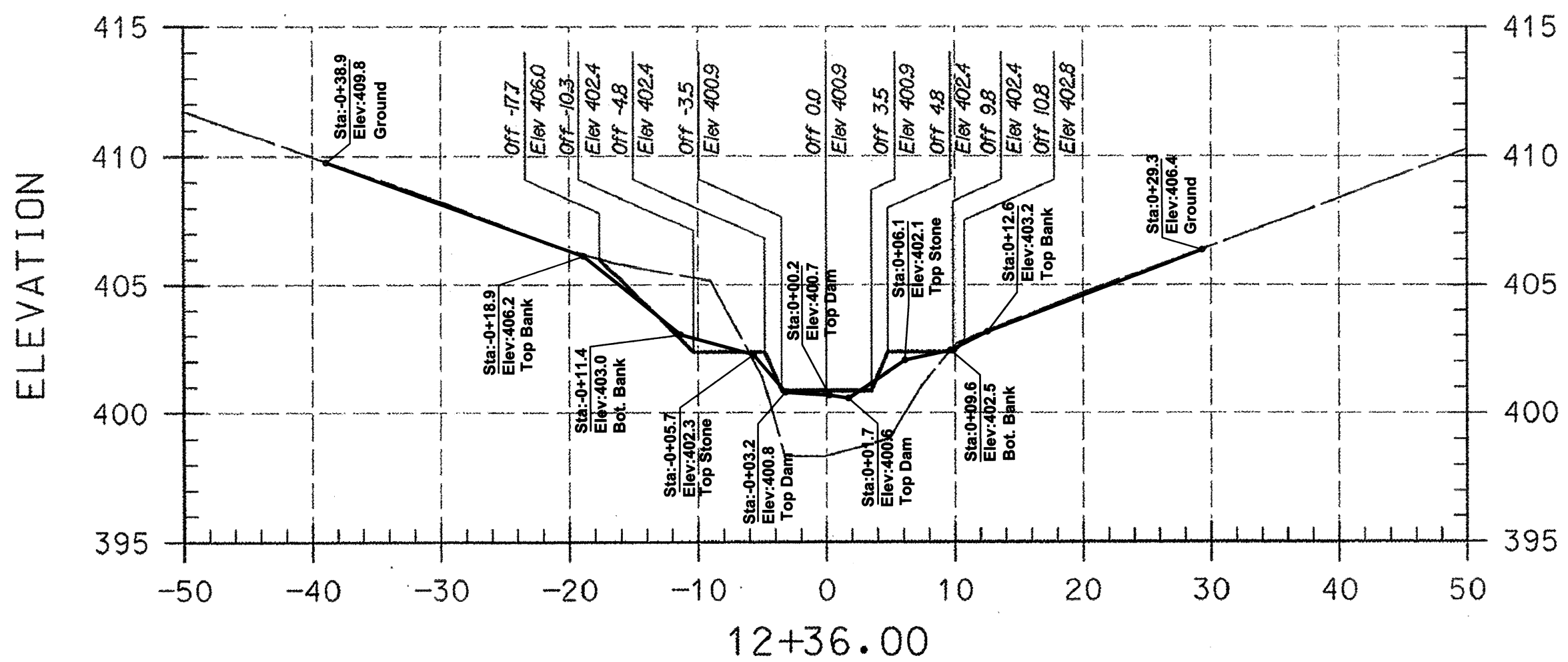
CROSS SECTIONS

SCALE:	HOR. 1"=10'
	VERT. 1"=5'
DATE:	AUGUST 2009
KCI JOB NO.:	01081795.12
CAPITAL PROJECT NO.:	D1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

AS-BUILT DRAWING
SHEET 22 OF 38

SHEET NO. 14 OF 30

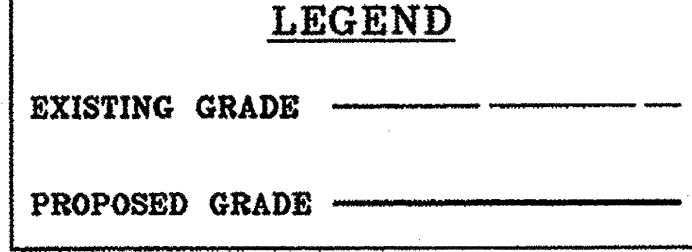
State Contract No. H04085134



PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715

AS-BUILT NOTES:

- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
- 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
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- 4) STONE SHOWN IS VISIBLE STONE NOT FOUNDATION STONE.



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James P. O'Connor
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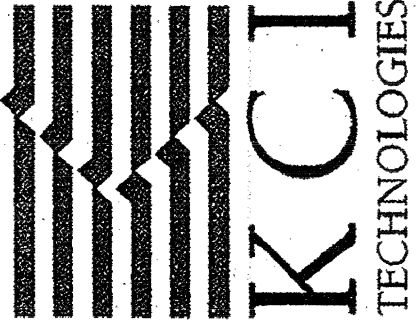


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ASBUILT GRADES

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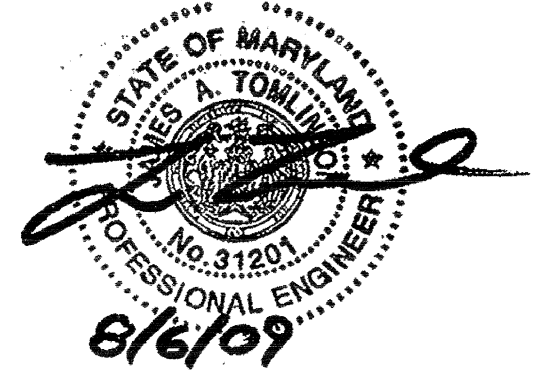


BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
675 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND, 21046

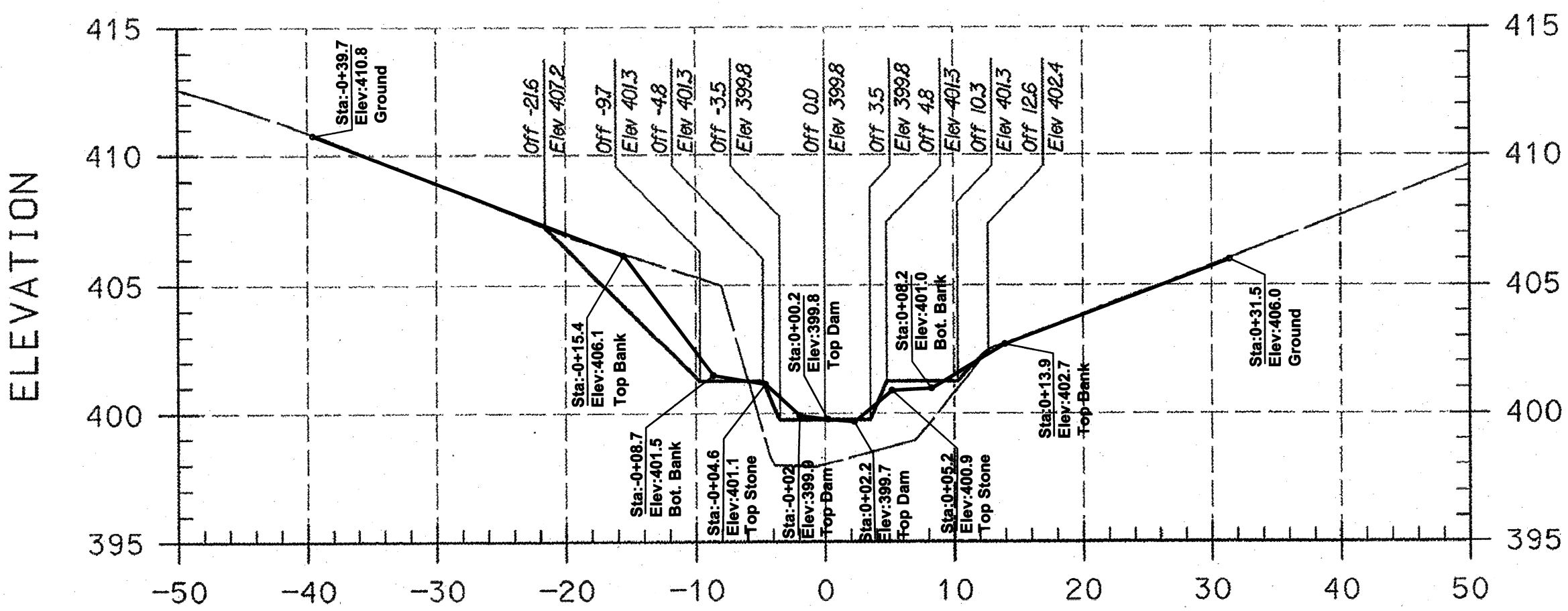
CROSS SECTIONS

SCALE:	HOR. 1"=10' VERT. 1"=5'
DATE:	AUGUST 2009
KCI JOB NO.:	01081795.12
CAPITAL PROJECT NO.:	D1158
CONSTRUCTION ISSUE:	

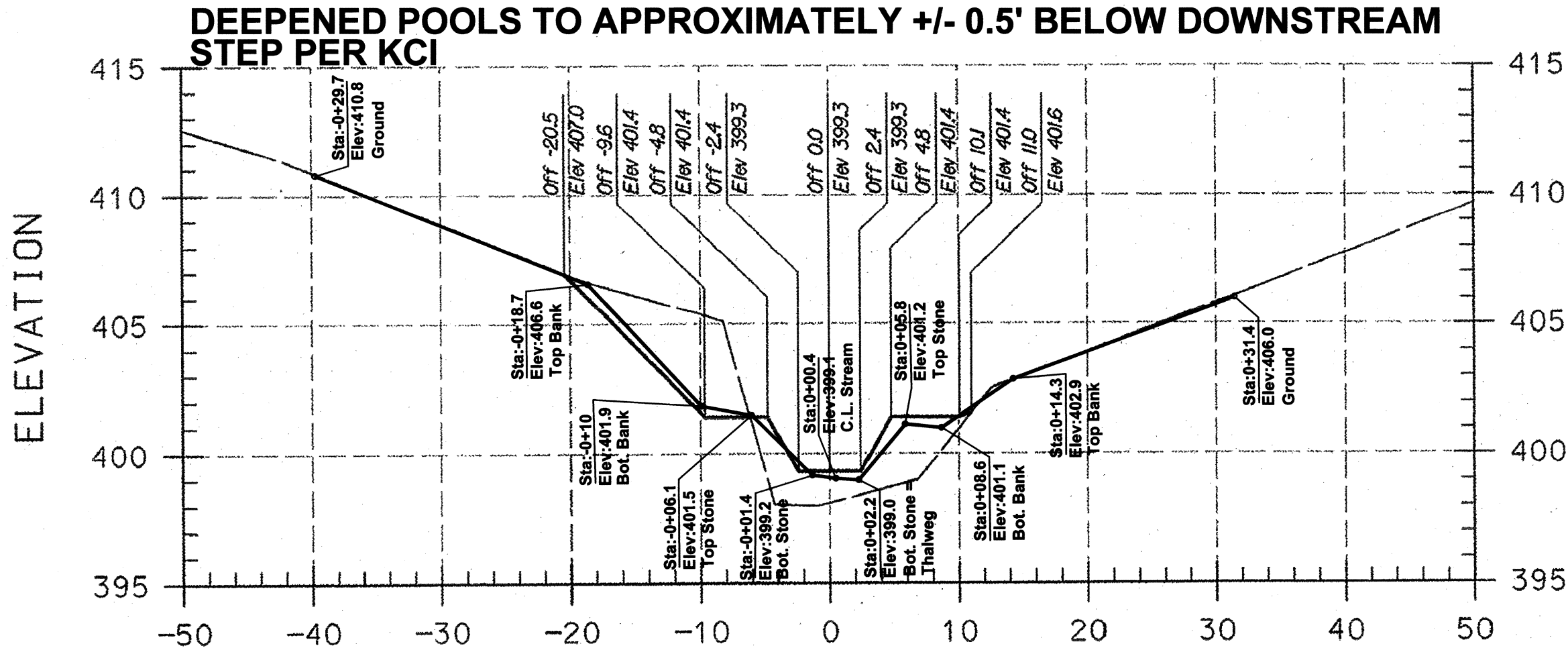
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BY: Whitney Miller - Division 0109 Natural Resources Management
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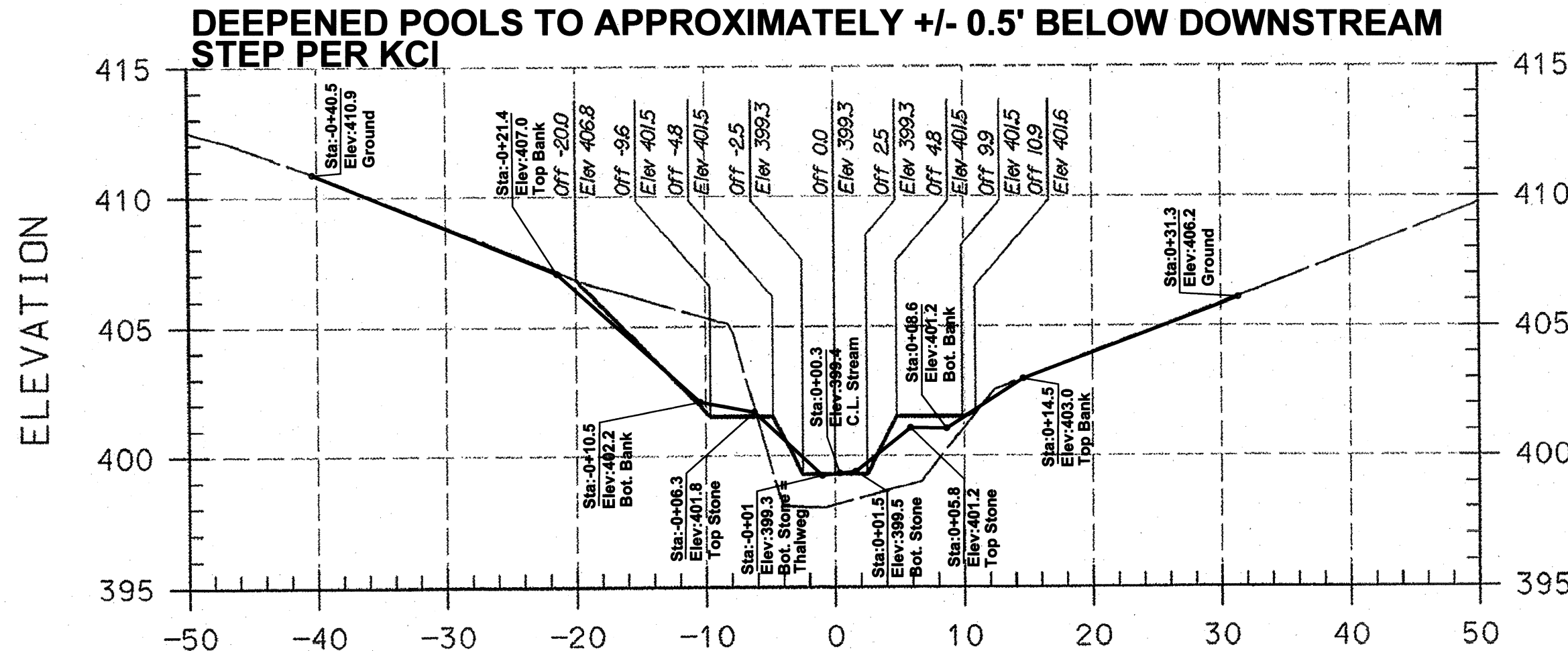
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 200006. EXPIRATION DATE: JANUARY 24, 2011



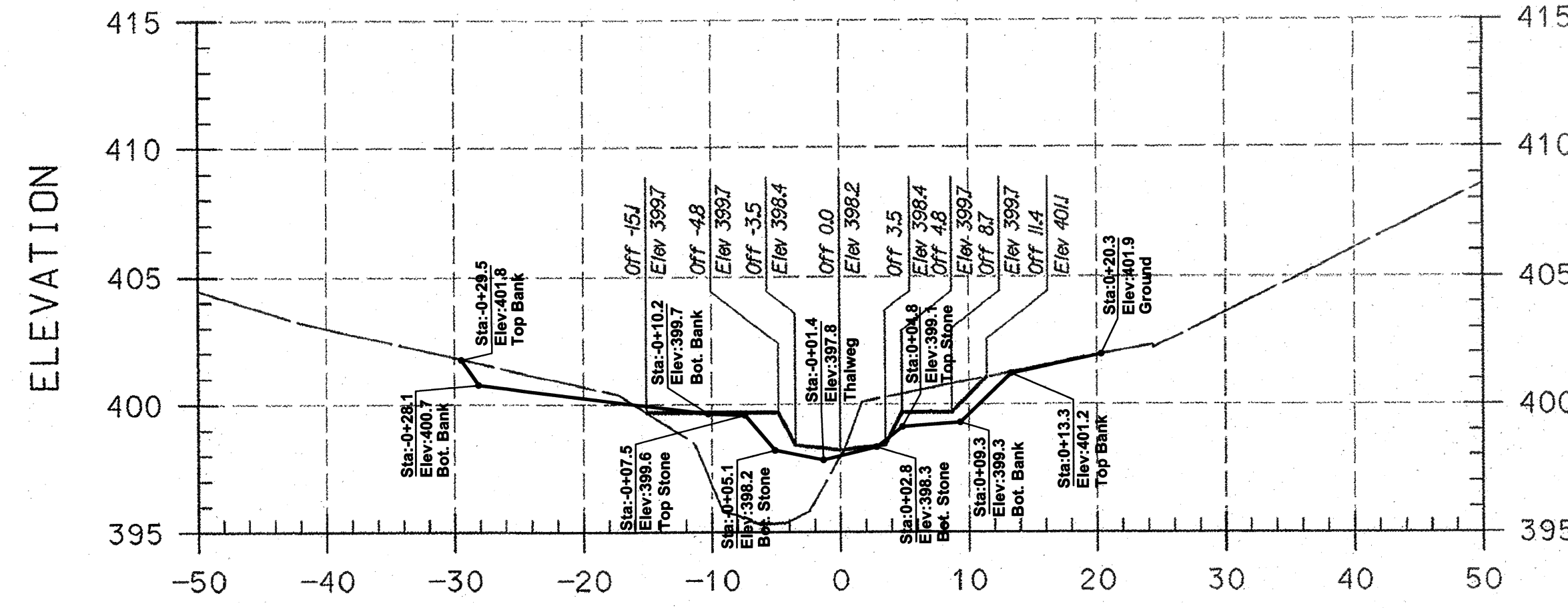
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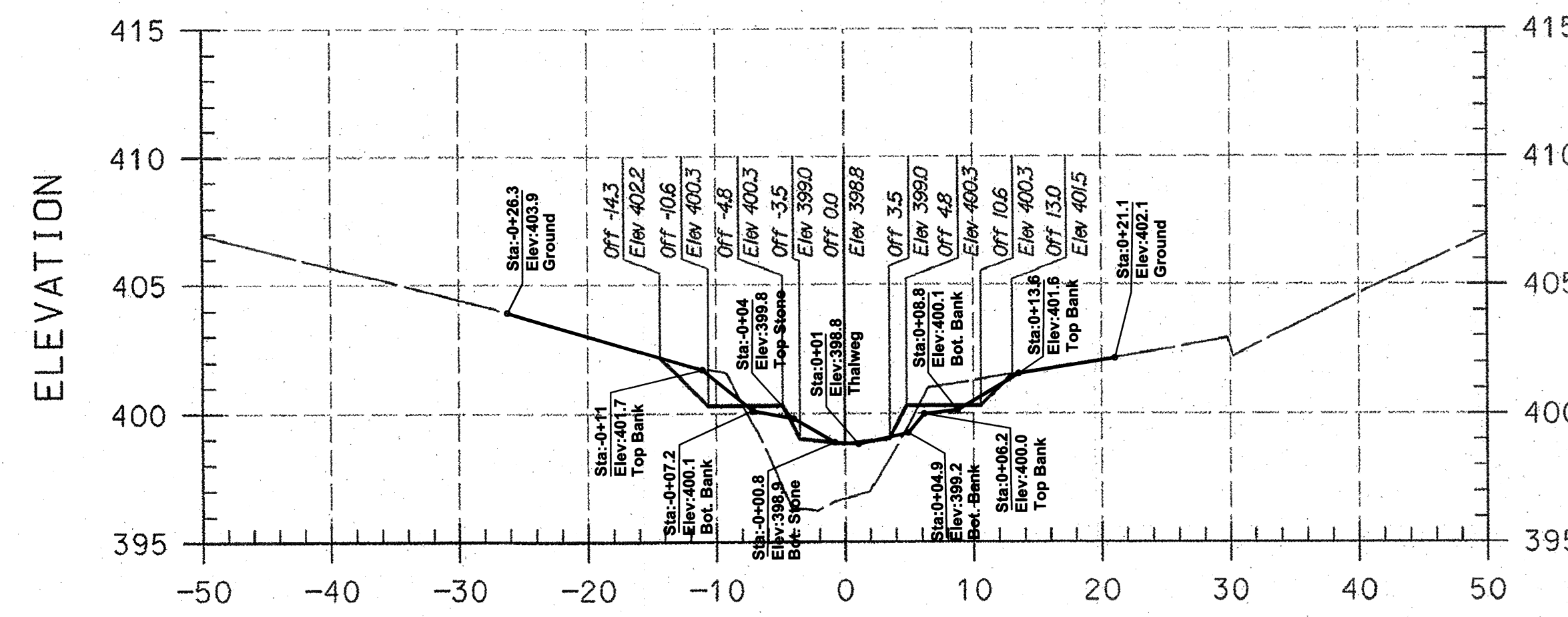
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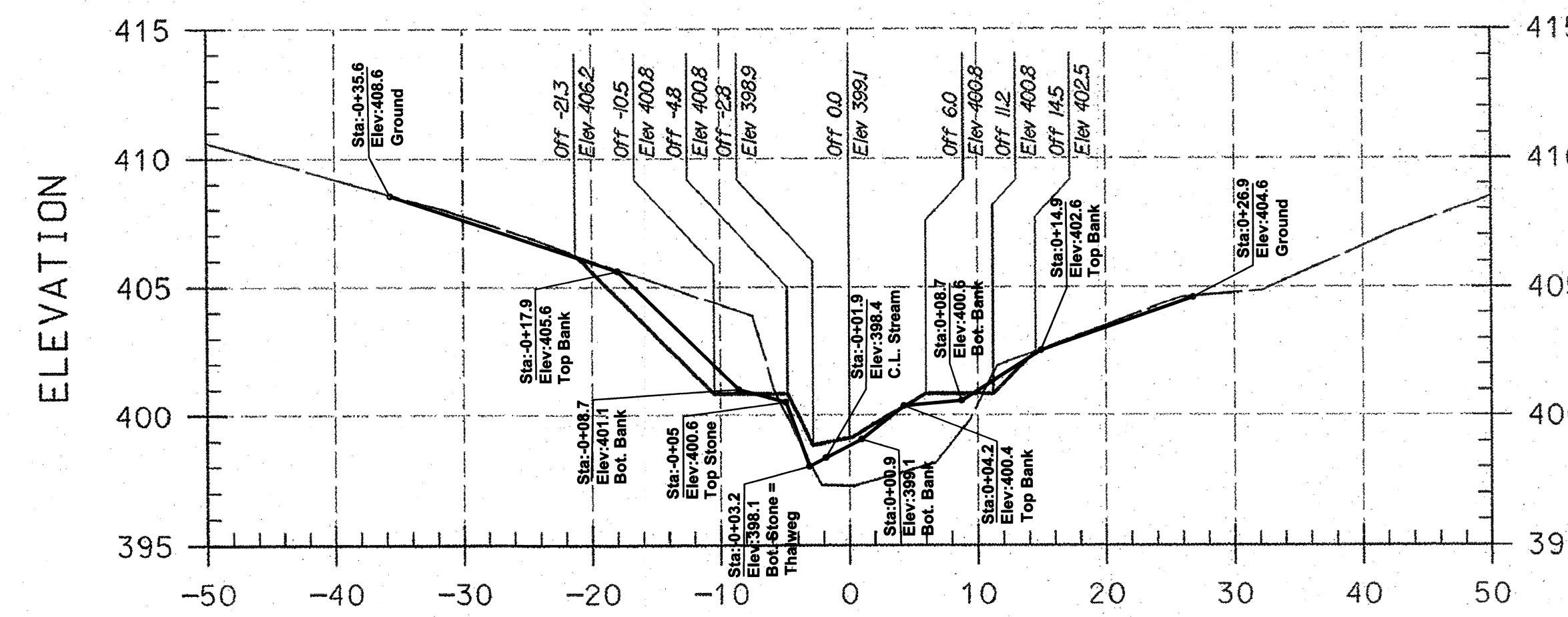
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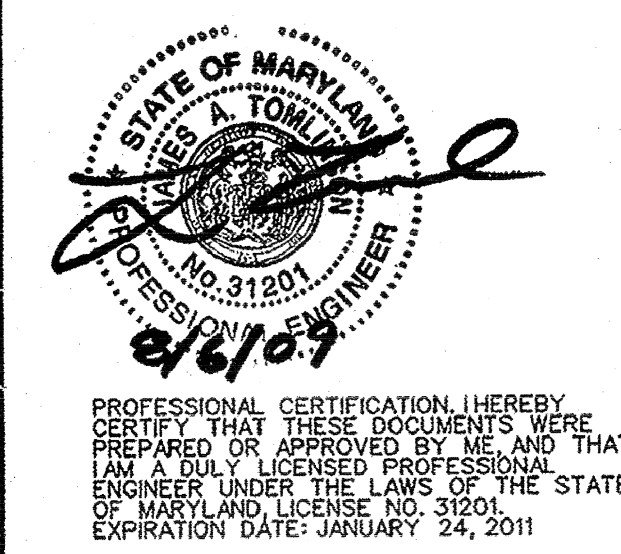


13+00.00



12+75.00
12+76.0

PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715



PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 31201 EXPIRATION DATE: JANUARY 24, 2011

- AS-BUILT NOTES:
- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
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LEGEND

EXISTING GRADE

PROPOSED GRADE

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James P. O'Connor
James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY

29 Aug 2012
Date



ASBUILT GRADES

NO.	REVISIONS DESCRIPTION	DATE

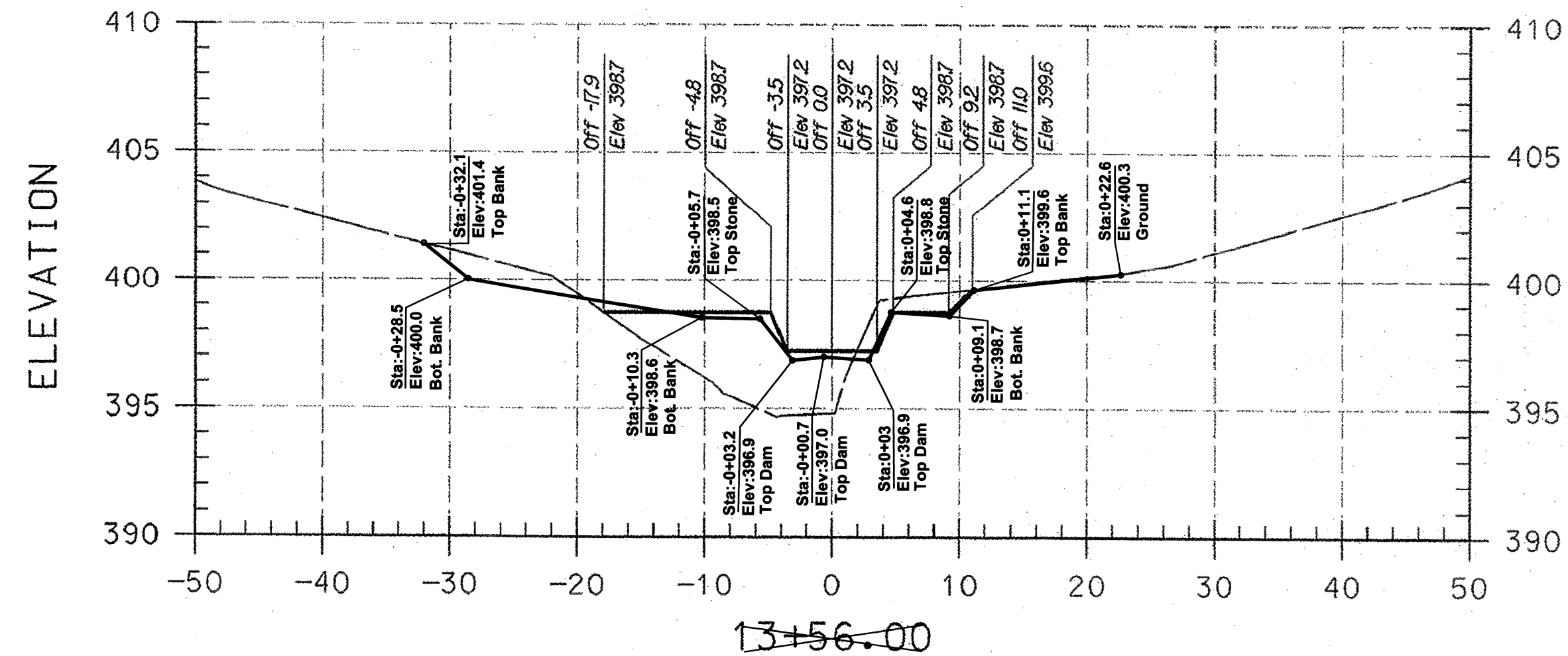
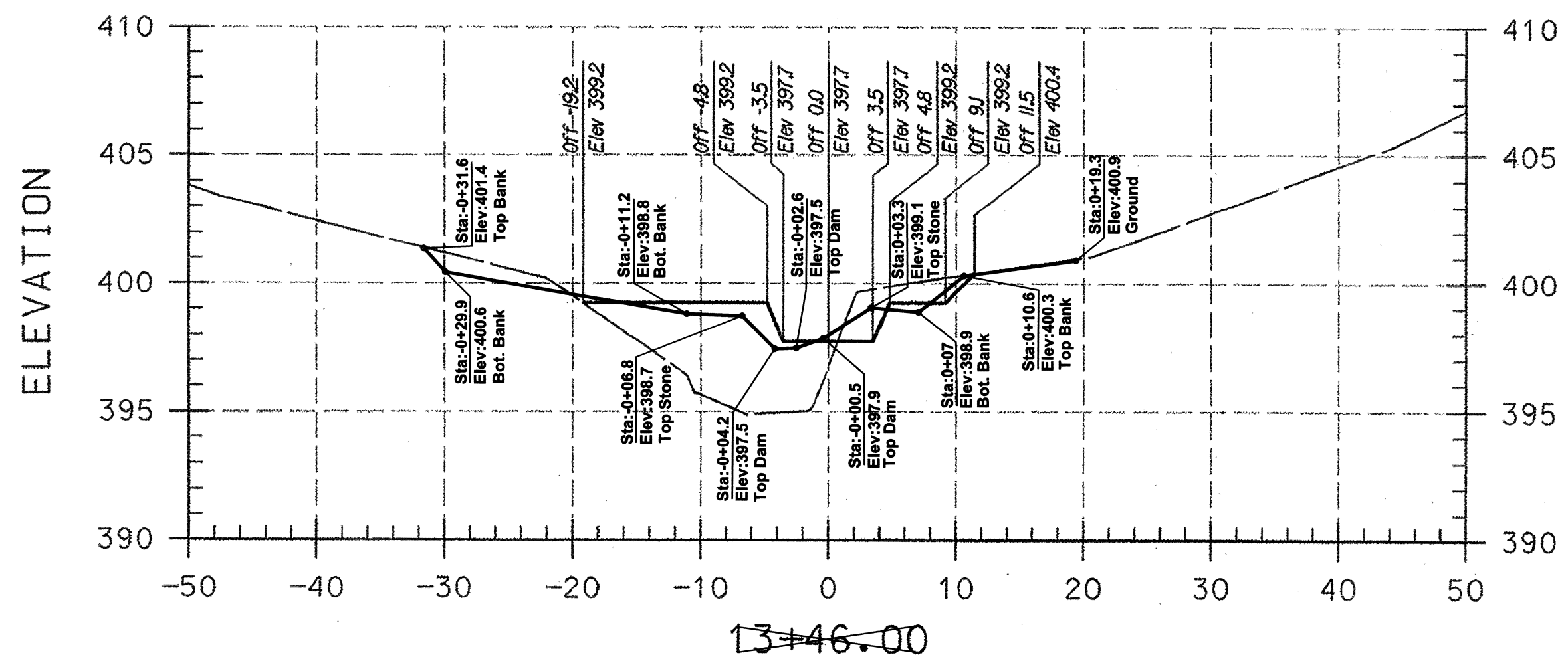
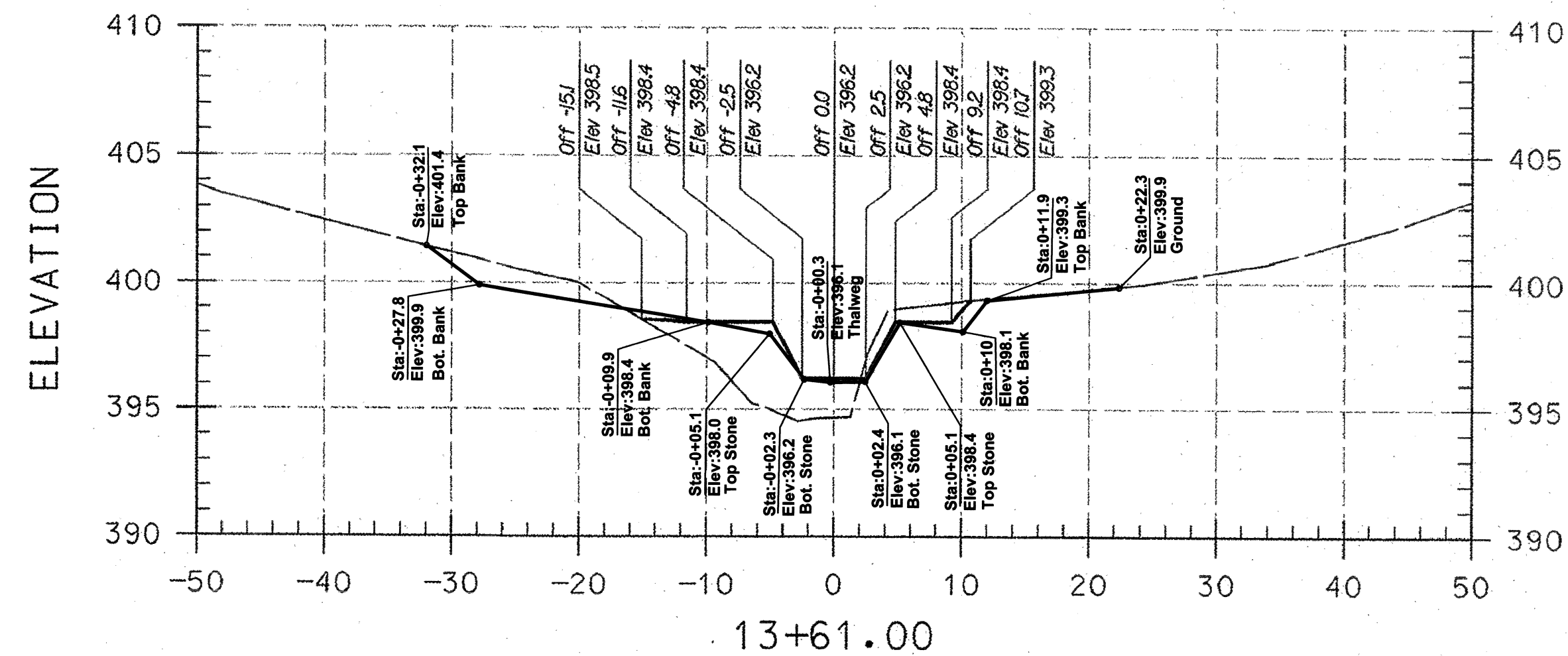
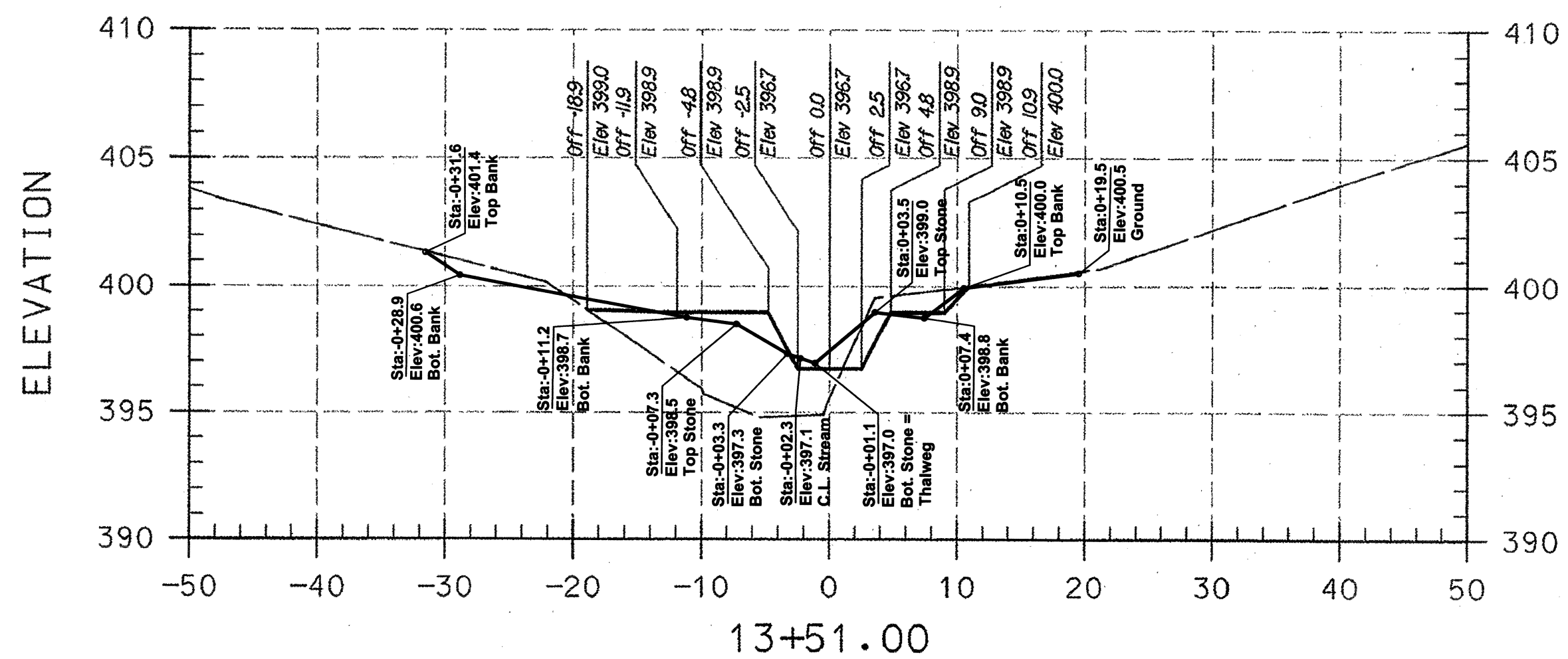
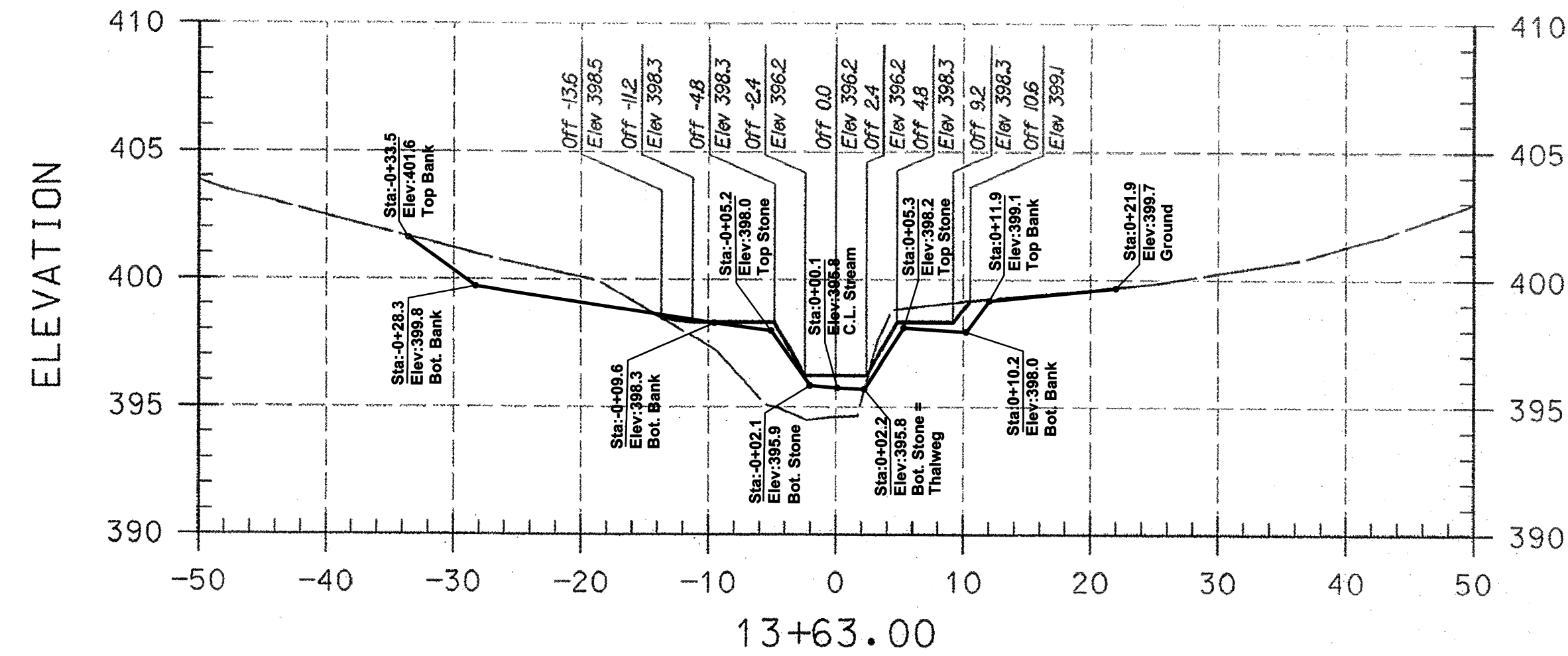
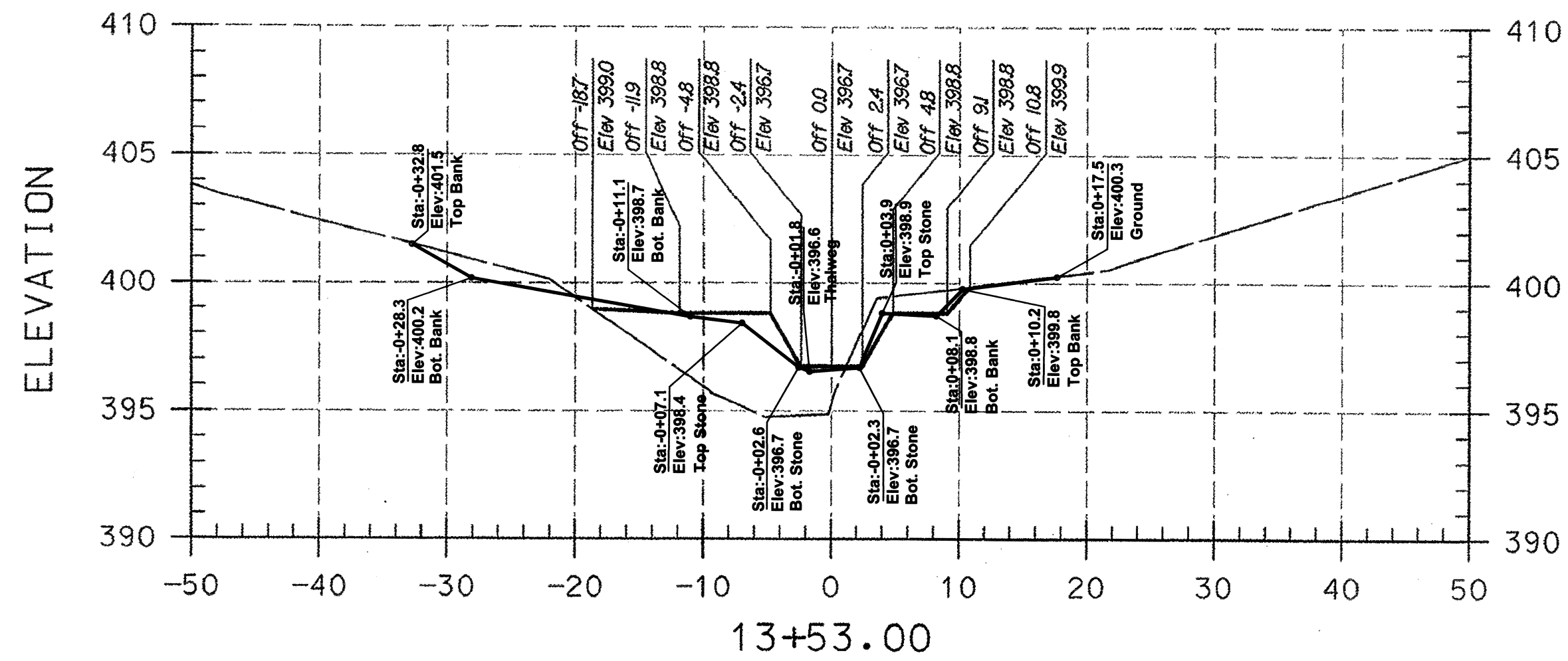
936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
www.kci.com

**BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3**

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
6957 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

**CROSS
SECTIONS**

SCALE:	HOR. 1"=10'
	VERT. 1"=5'
DATE:	AUGUST 2009
KCIJOB NO.:	01081795.12
CAPITAL PROJECT NO.:	D1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	



13+46.00
13+48.0

13+56.00
13+58.0

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LEGEND	
EXISTING GRADE	---
PROPOSED GRADE	—

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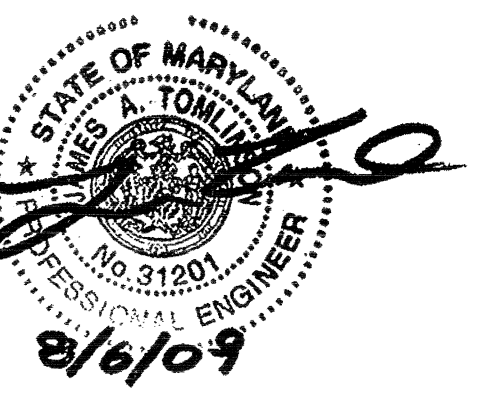
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James P. O'Connor
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Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY



— ASBUILT GRADES

PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715



PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 200006 EXPIRES JANUARY 24, 2011

NO.	REVISIONS DESCRIPTION	DATE

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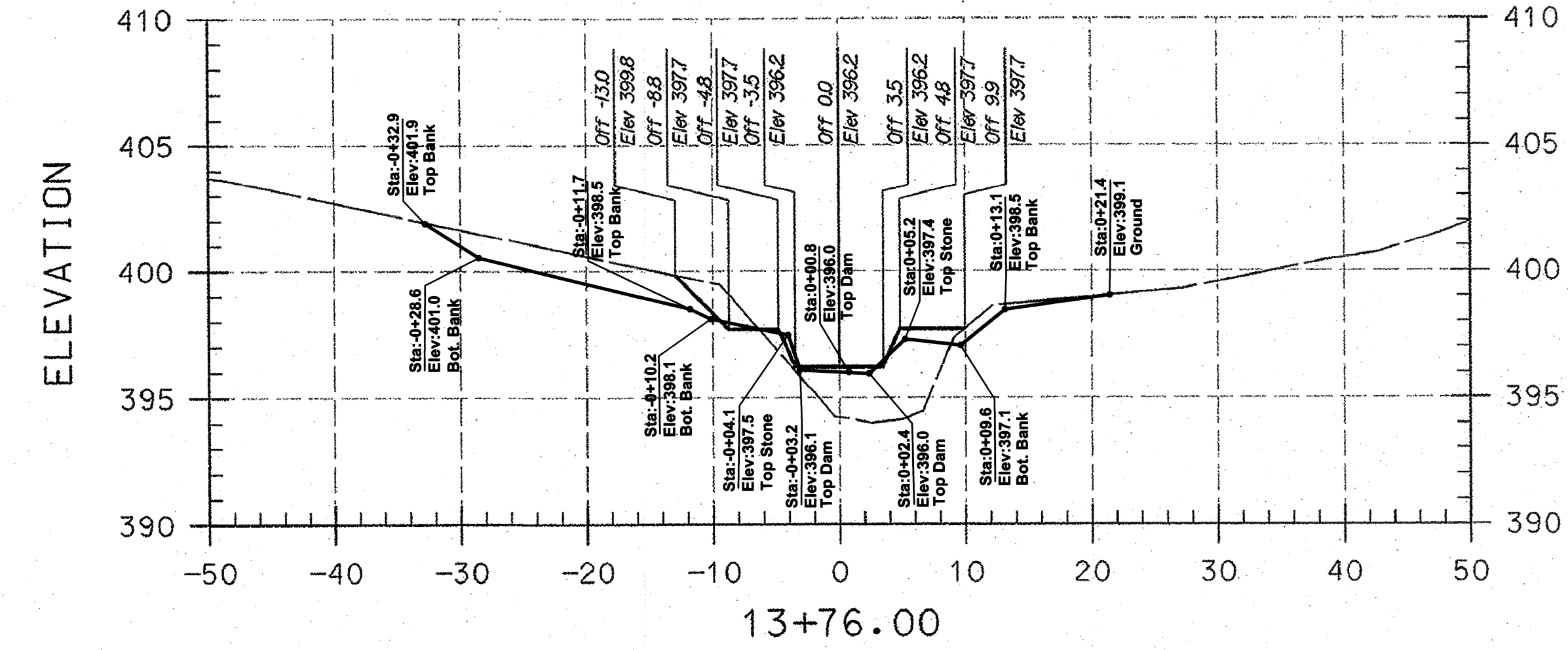
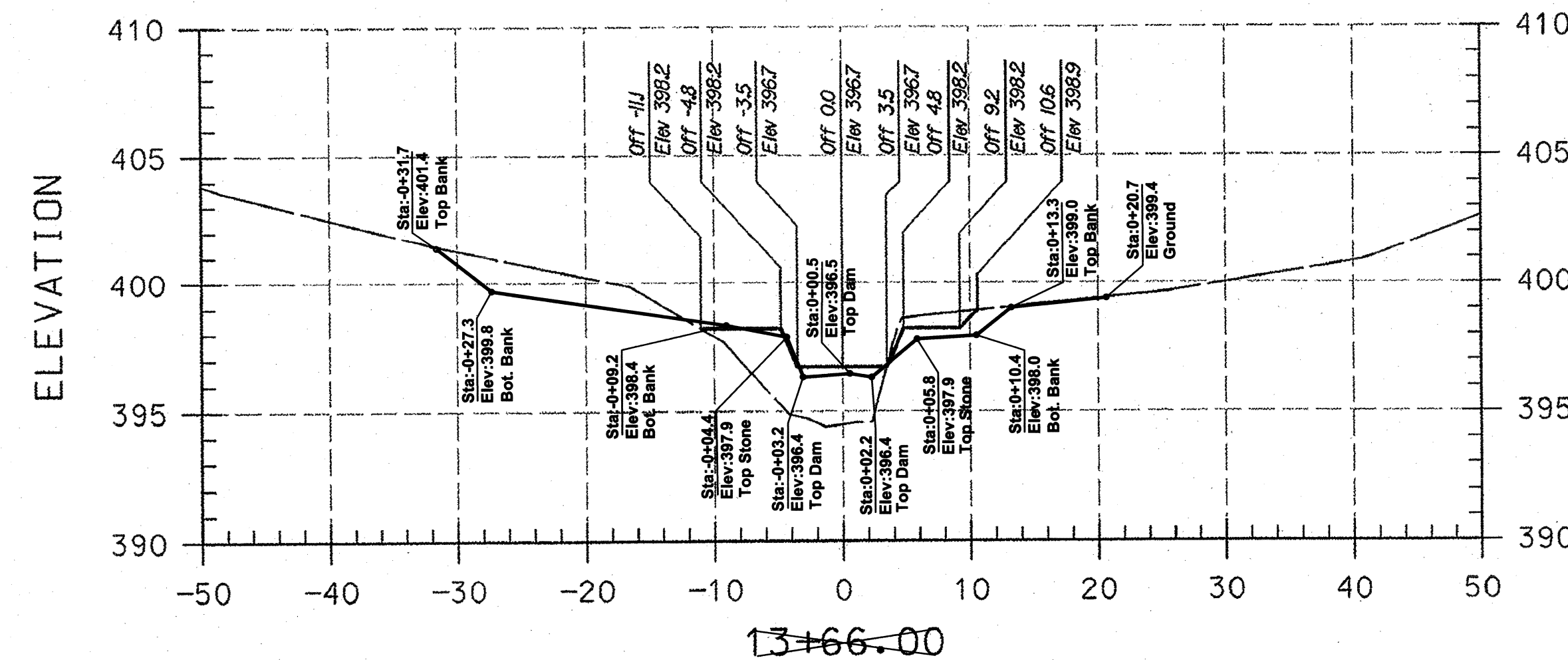
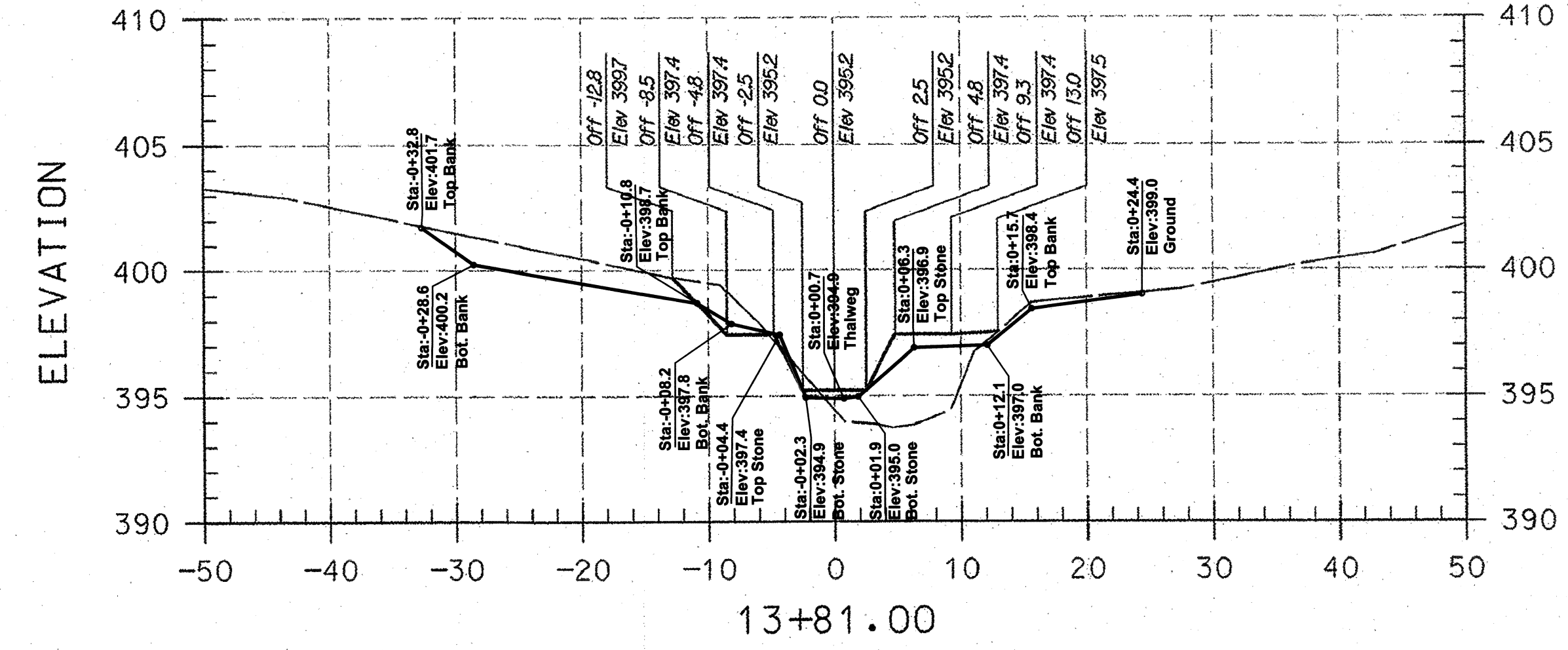
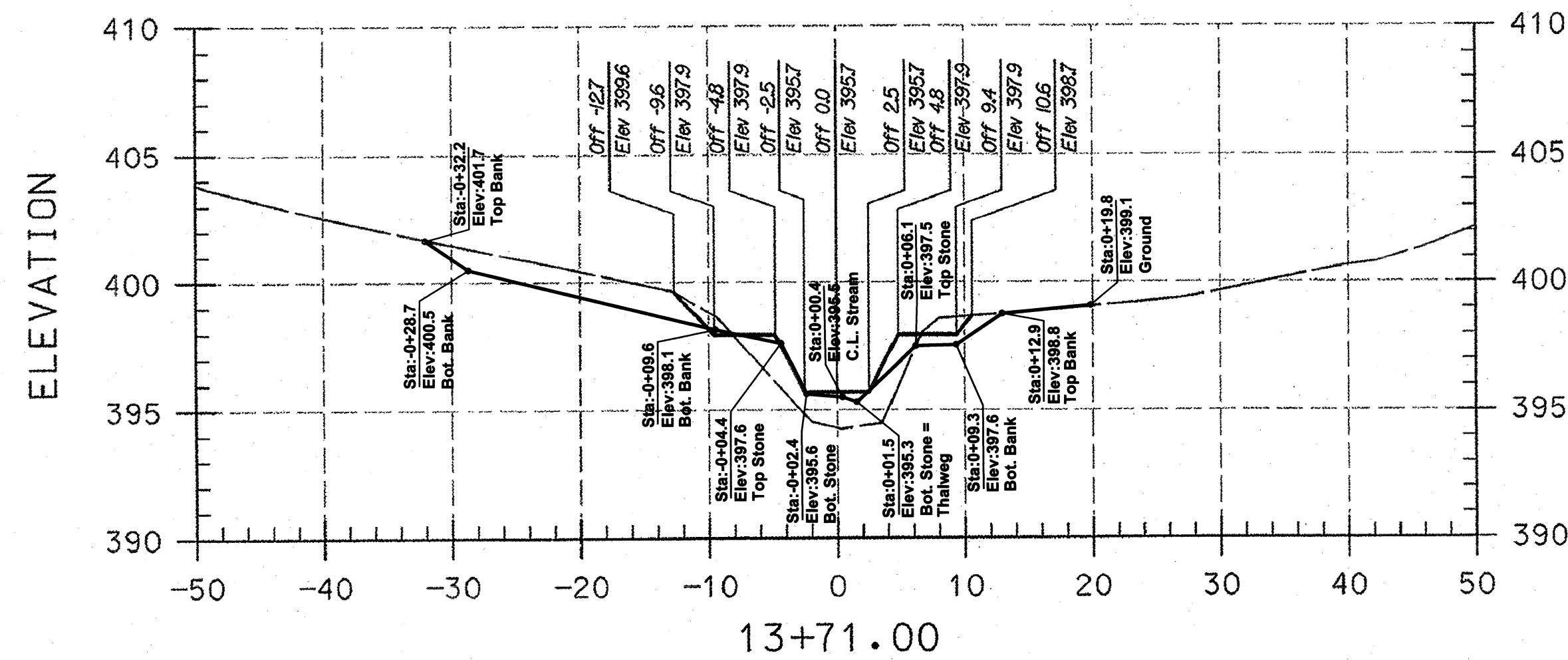
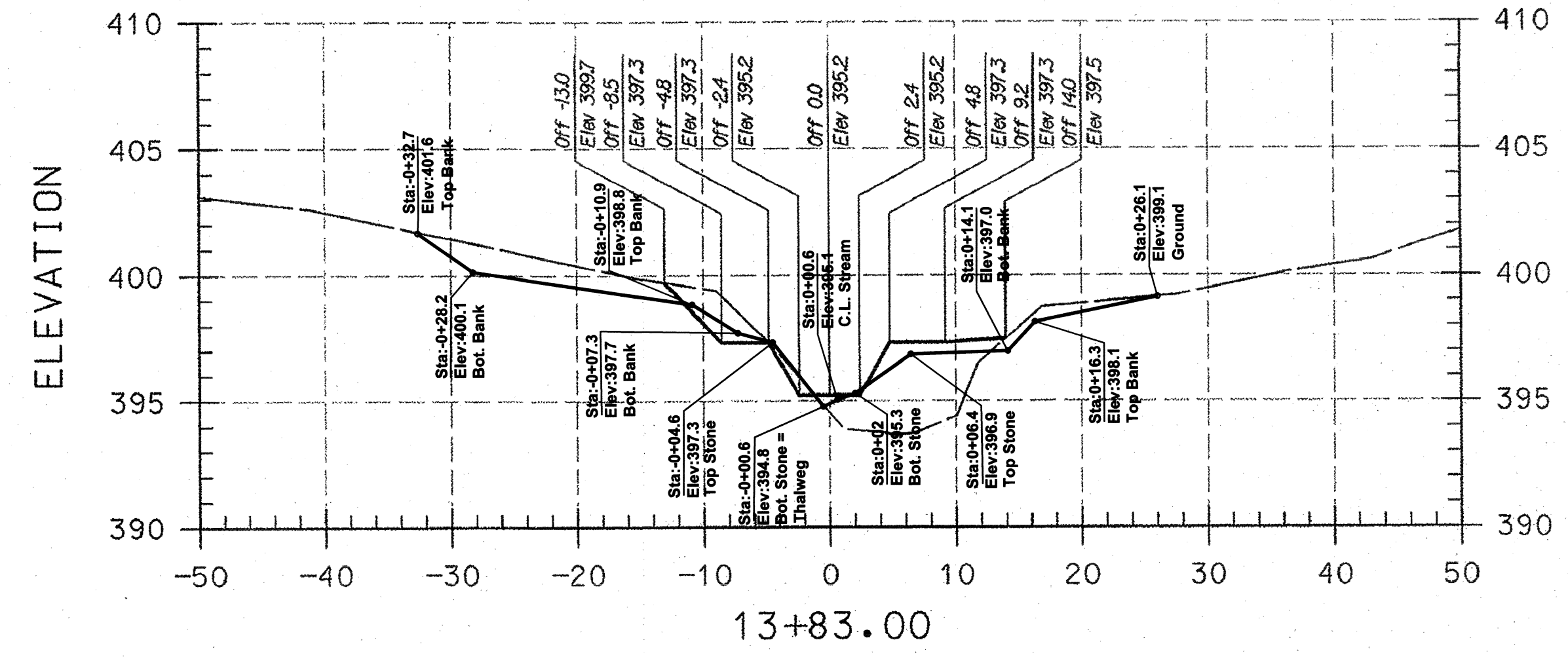
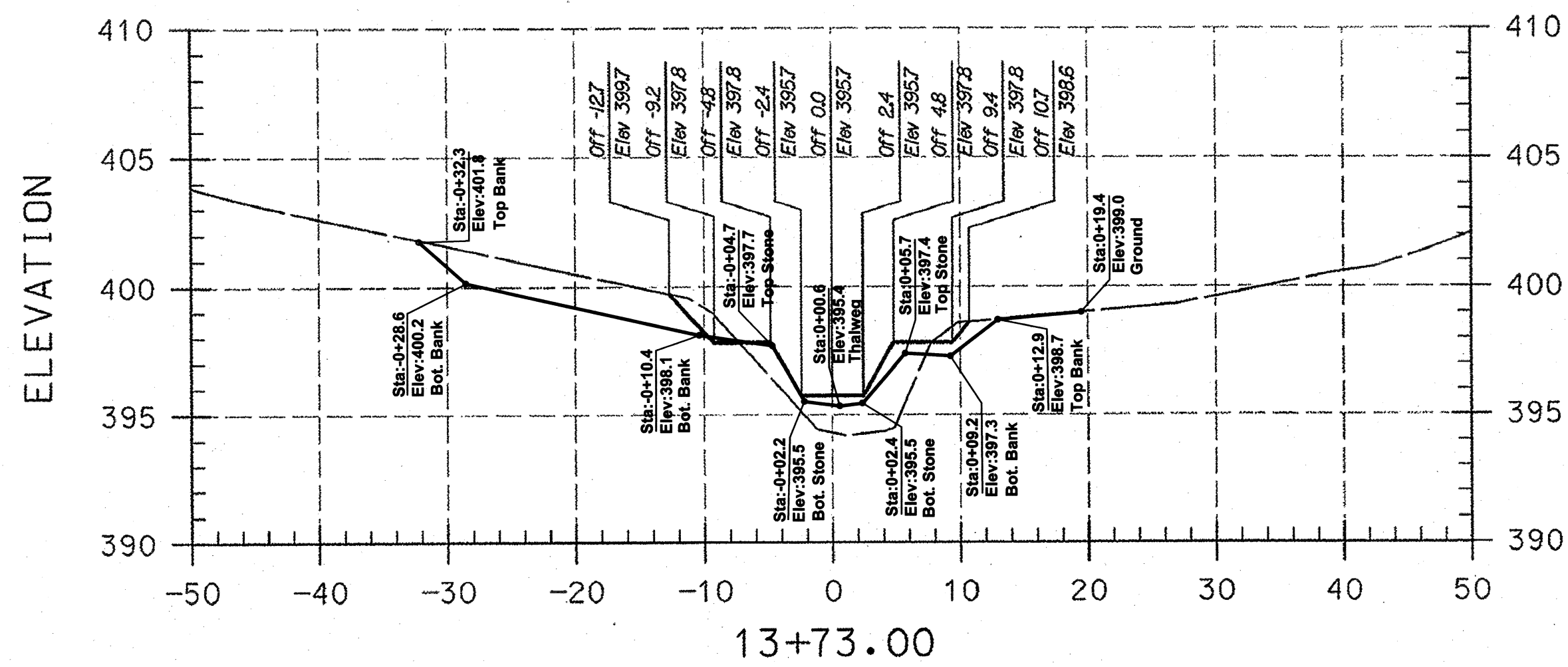


**BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3**

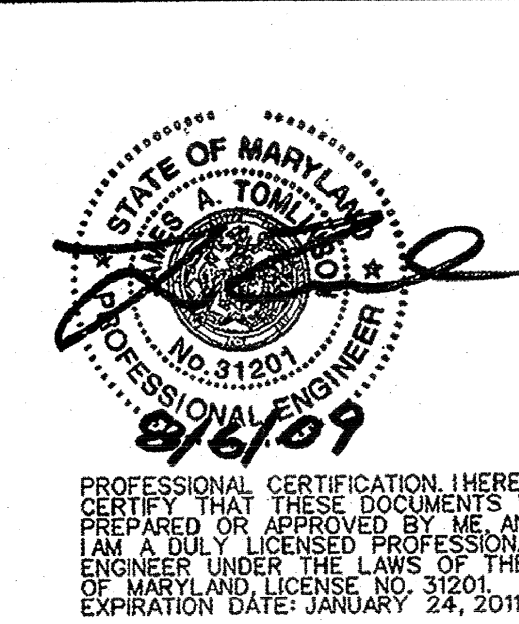
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
6957 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

CROSS SECTIONS

SCALE:	HOR. 1"=10'
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DATE:	AUGUST 2009
KCI JOB NO.:	01081795.12
CAPITAL PROJECT NO.:	D1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	



PLAN PREPARED BY
A BETTER SURVEY LLC
9988 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715



PLOTTED: 10:48 PM on Wednesday, August 05, 2009
 FILE: \\KCI\001\01043223.25\Drawings\AS-Built\AS-Built.dwg

- AS-BUILT NOTES:**
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LEGEND

EXISTING GRADE	———
PROPOSED GRADE	———

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L.P.S. Prof. L.S.
James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY

29 Aug 2012
Date



——— ASBUILT GRADES

NO.	REVISIONS DESCRIPTION	DATE

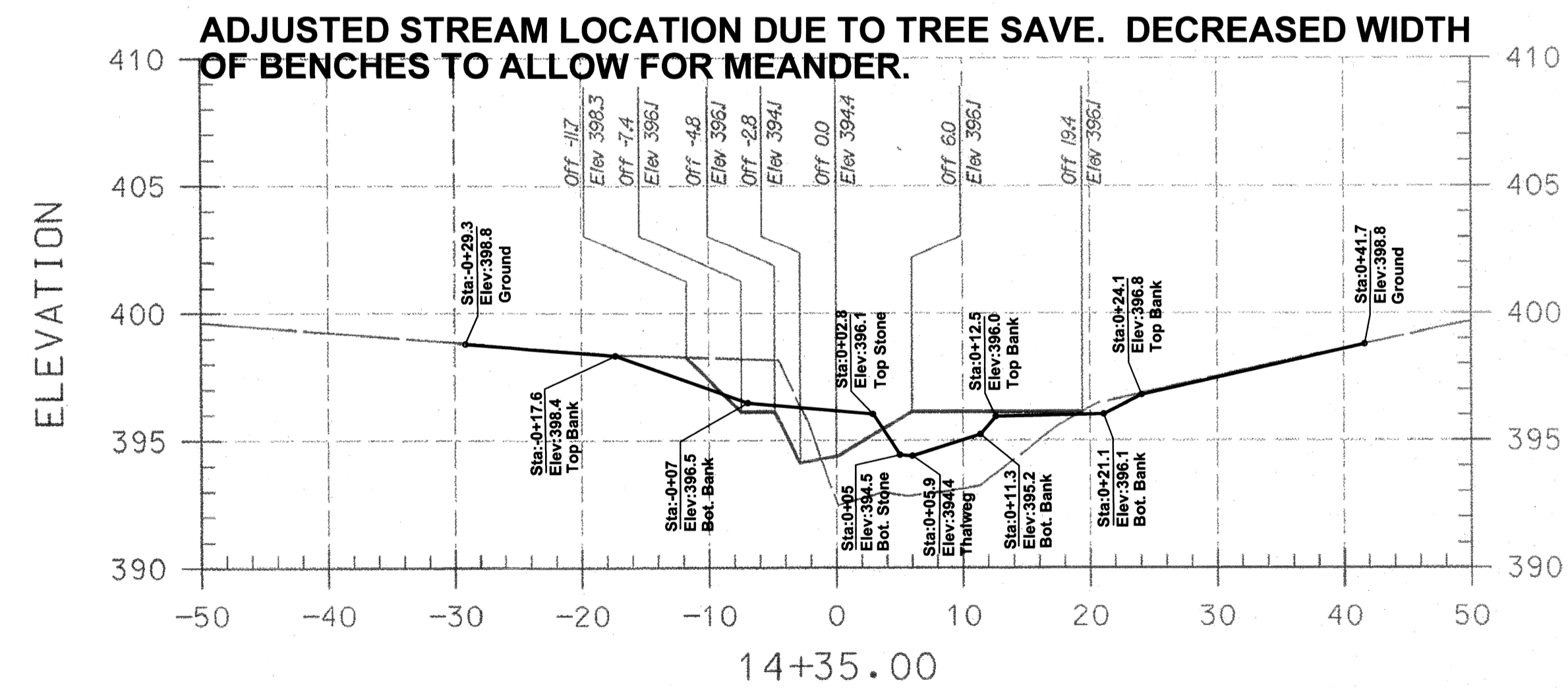
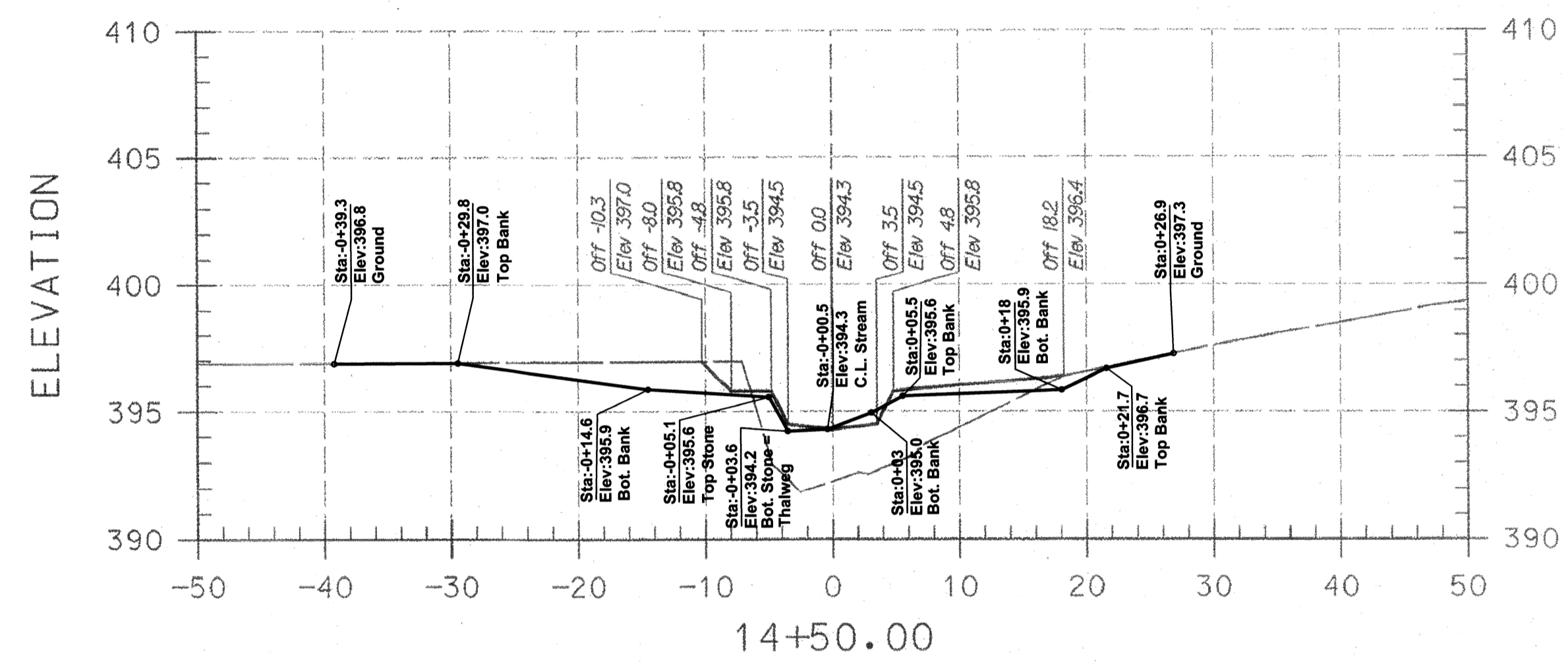
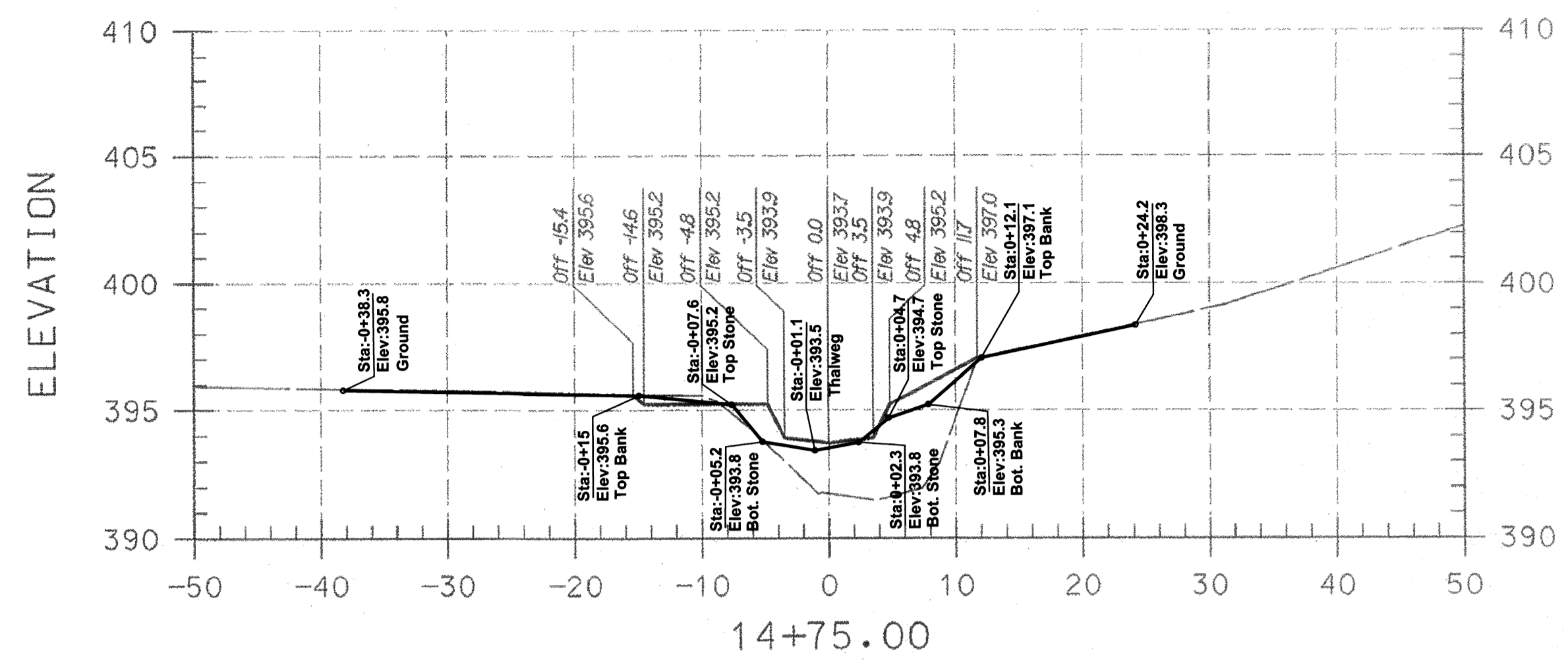
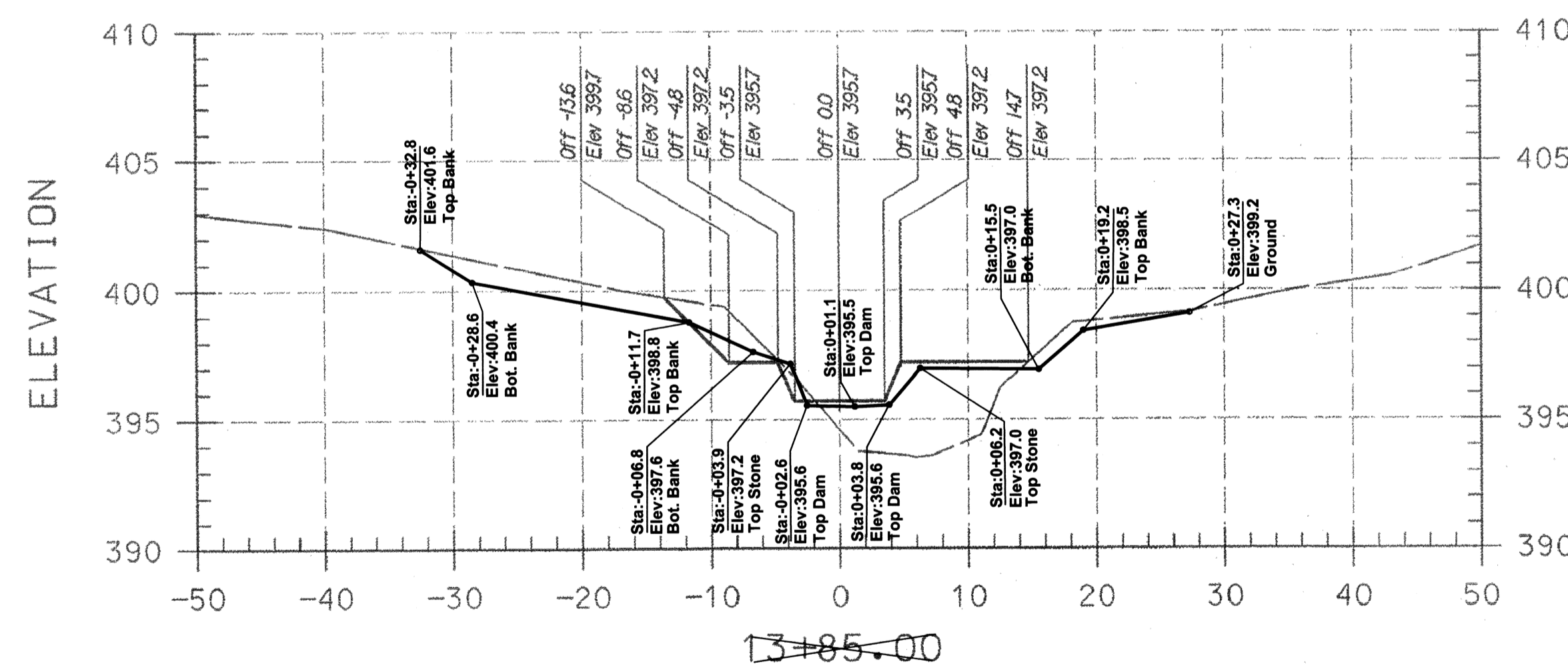
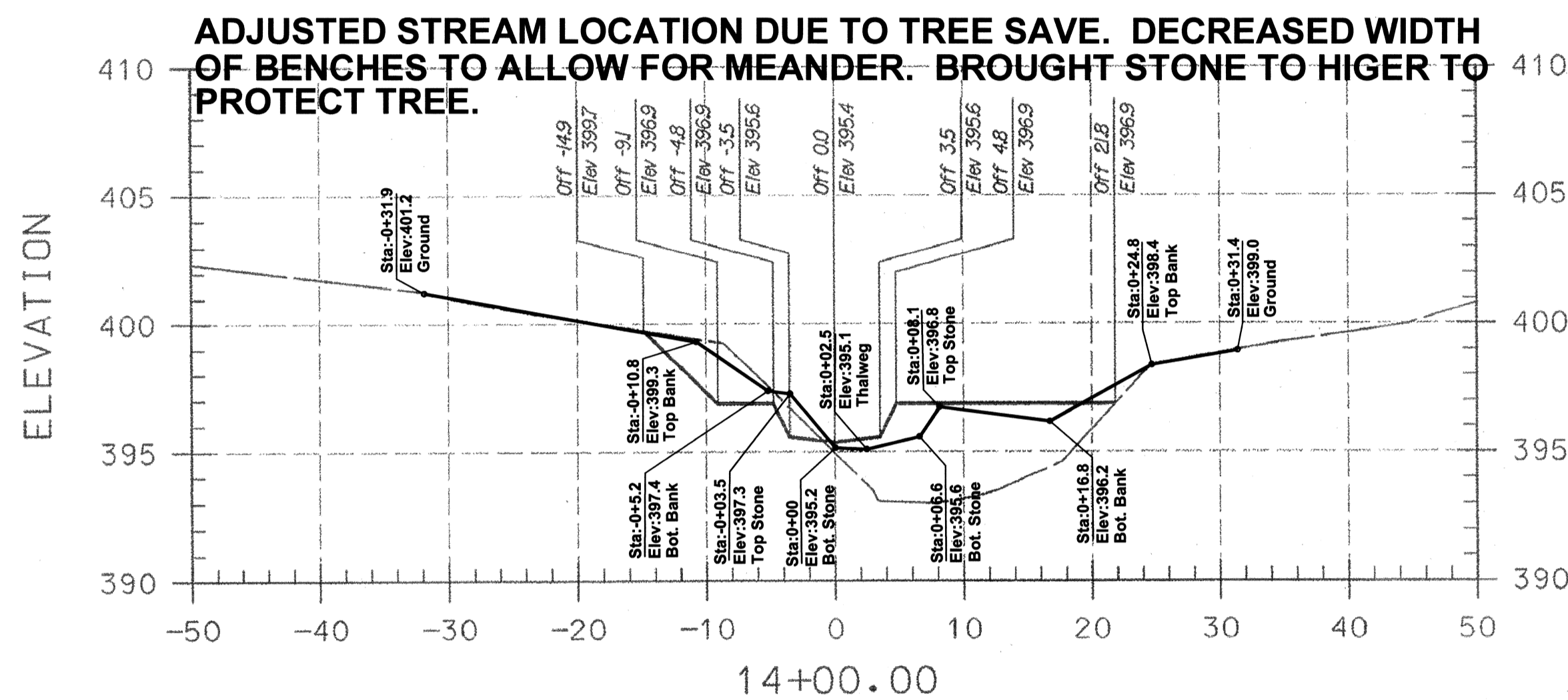
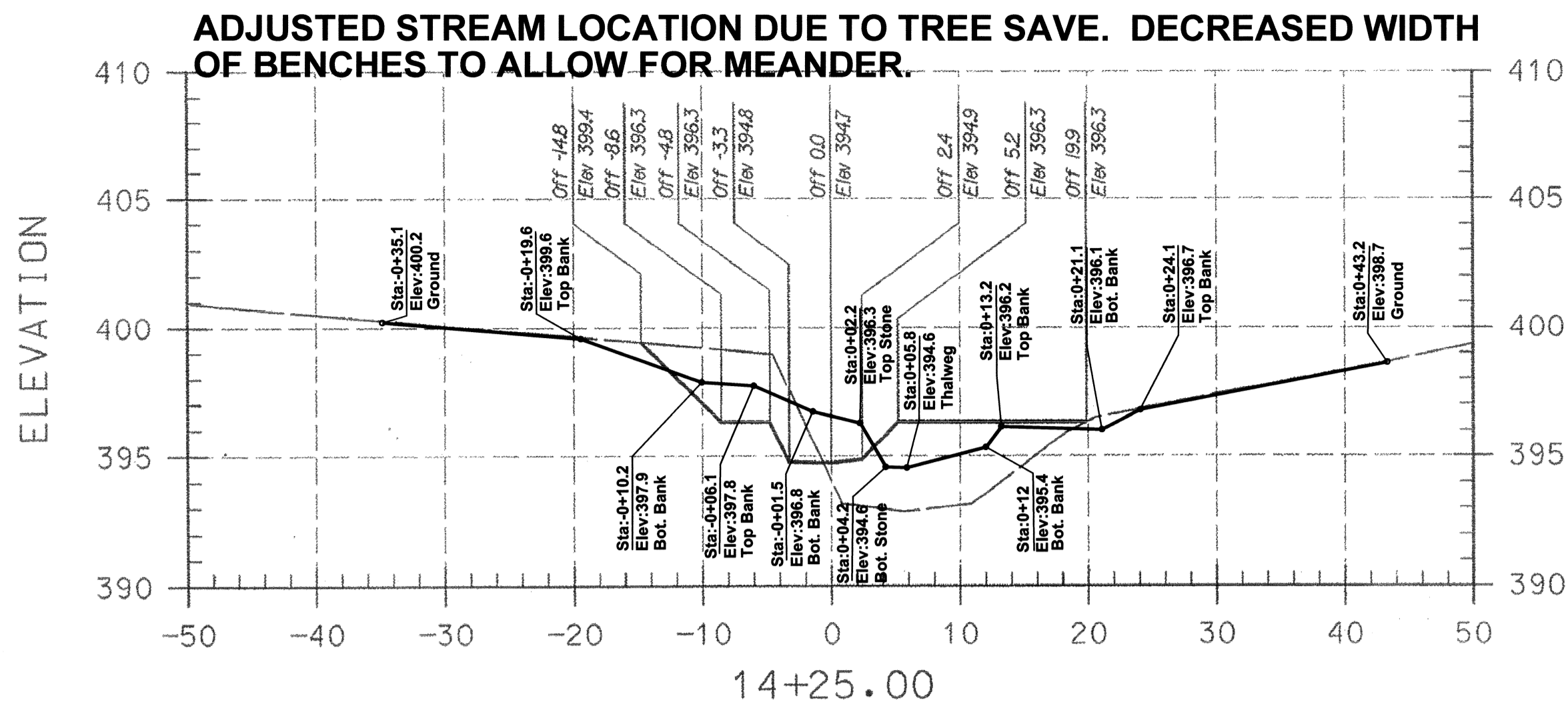
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**BRAMPTON HILLS
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SECTION 4, AREAS 1,2,3**

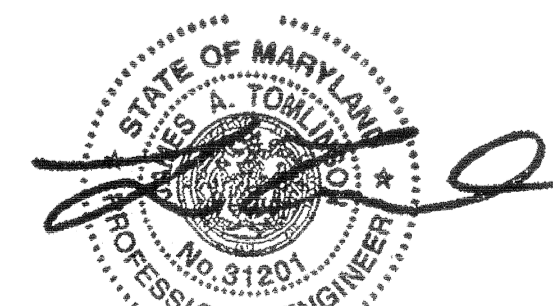
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
COLUMBIA, MARYLAND 21046

CROSS SECTIONS

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PLAN PREPARED BY
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9998 LODGE ROAD
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21234
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PROFESSIONAL CERTIFICATION I HEREBY
CERTIFY THAT THESE DOCUMENTS WERE
PREPARED OR APPROVED BY ME AND THAT
I AM A DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE
OF MARYLAND LICENSE NO. 31201
EXPIRATION DATE: JANUARY 24, 2011

13+85.00
13+87.0

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LEGEND

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29 JUN 2012
Date

———— ASBUILT GRADES

NO.	REVISIONS DESCRIPTION	DATE

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HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
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6755 COLUMBIA GATEWAY DRIVE
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**CROSS
SECTIONS**

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**AS-BUILT DRAWING
SHEET 27 OF 38**

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 WWW.KCI.COM

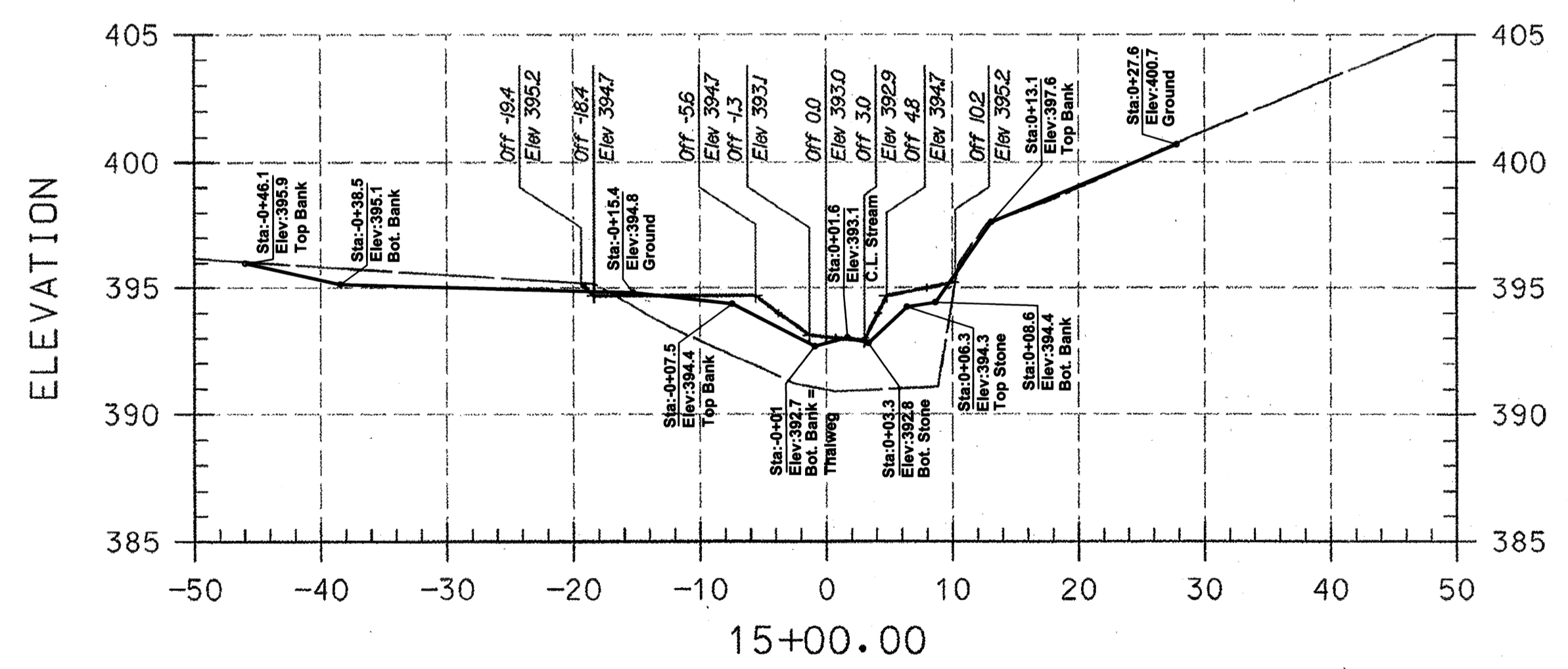
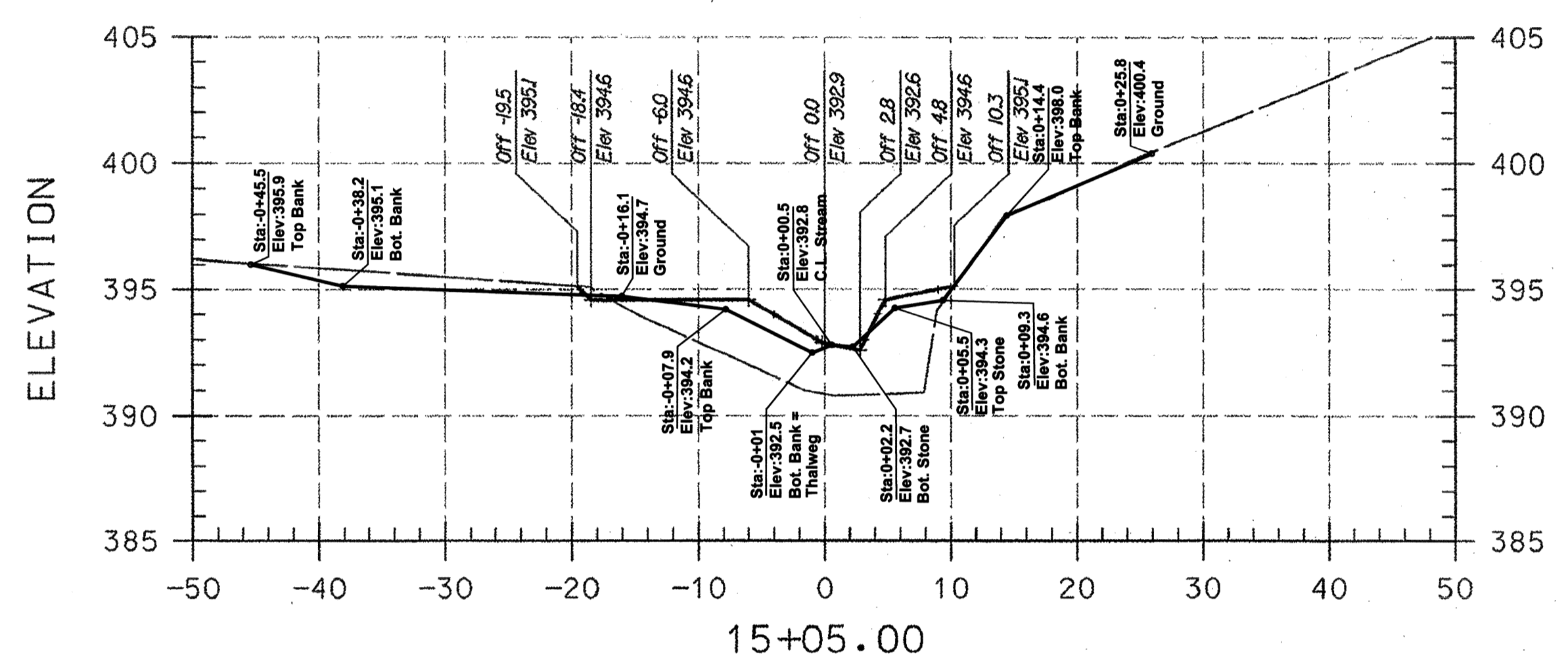
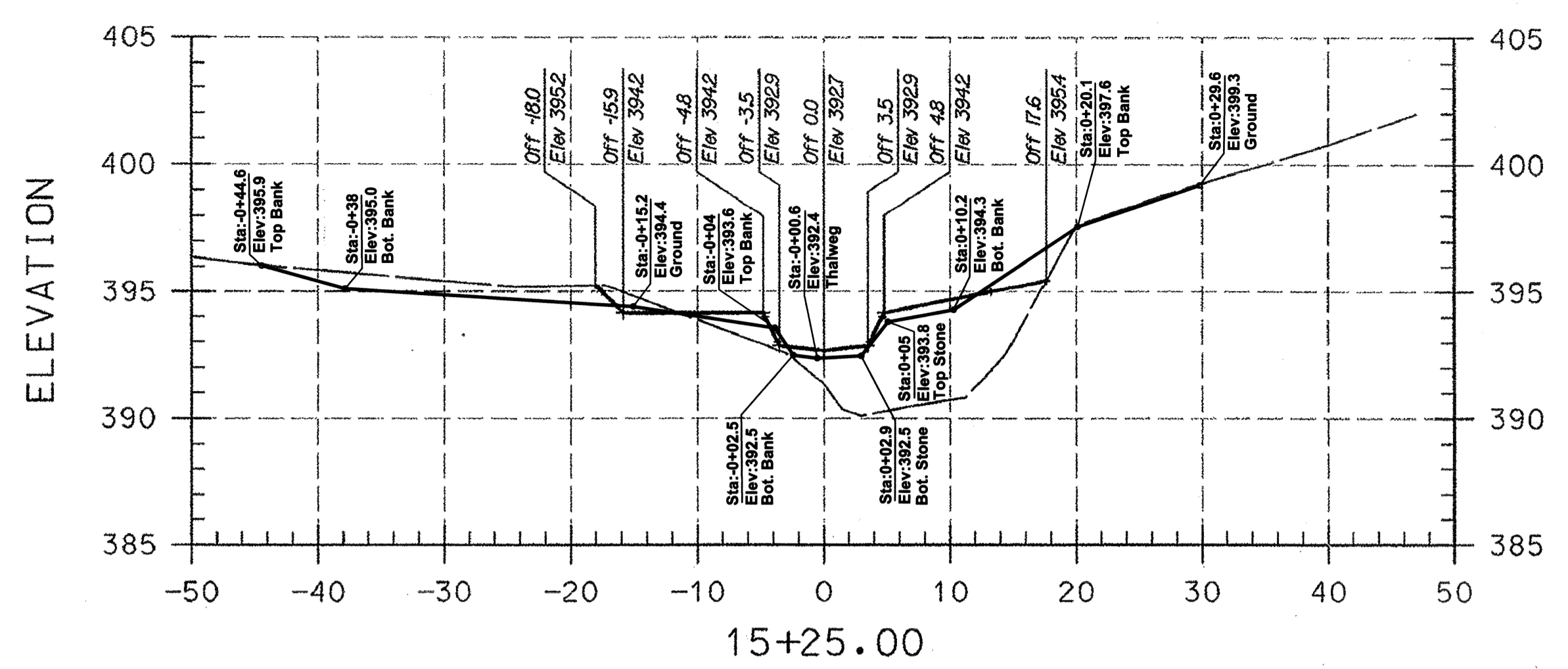
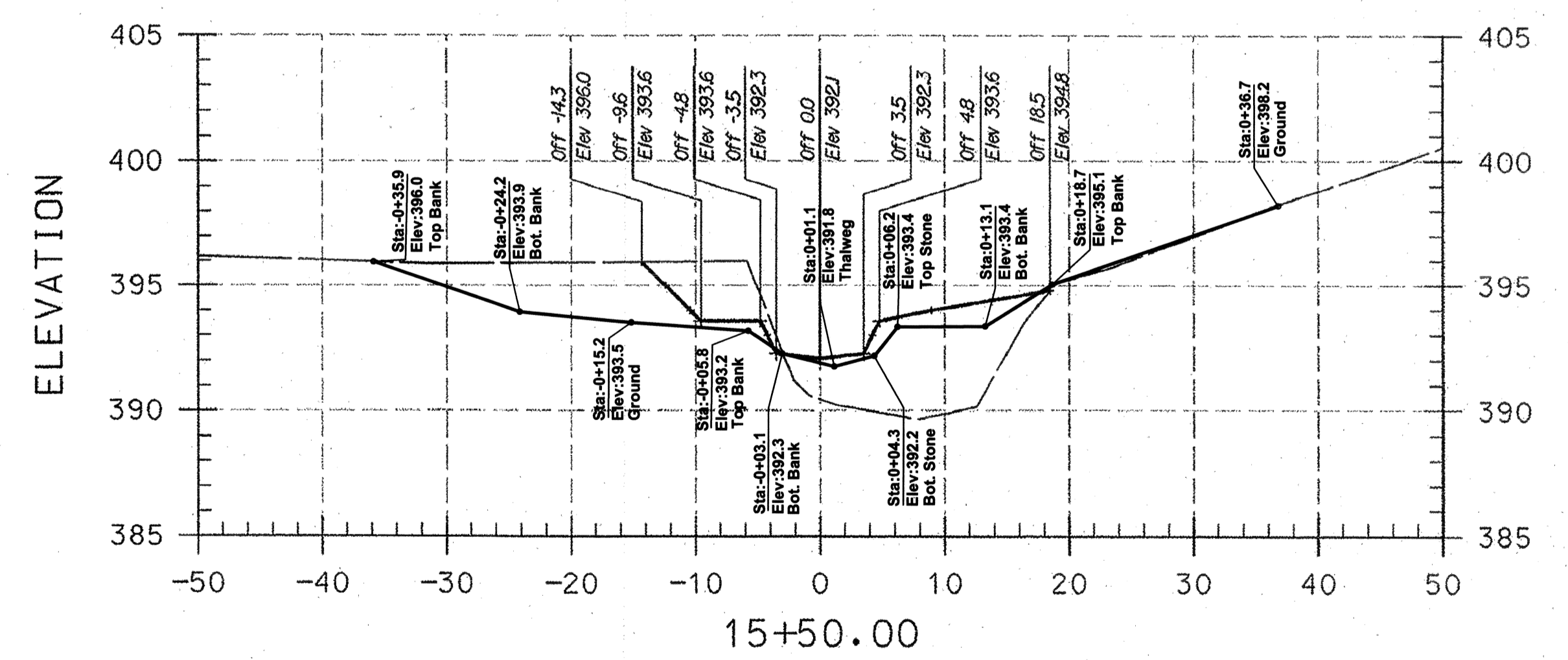
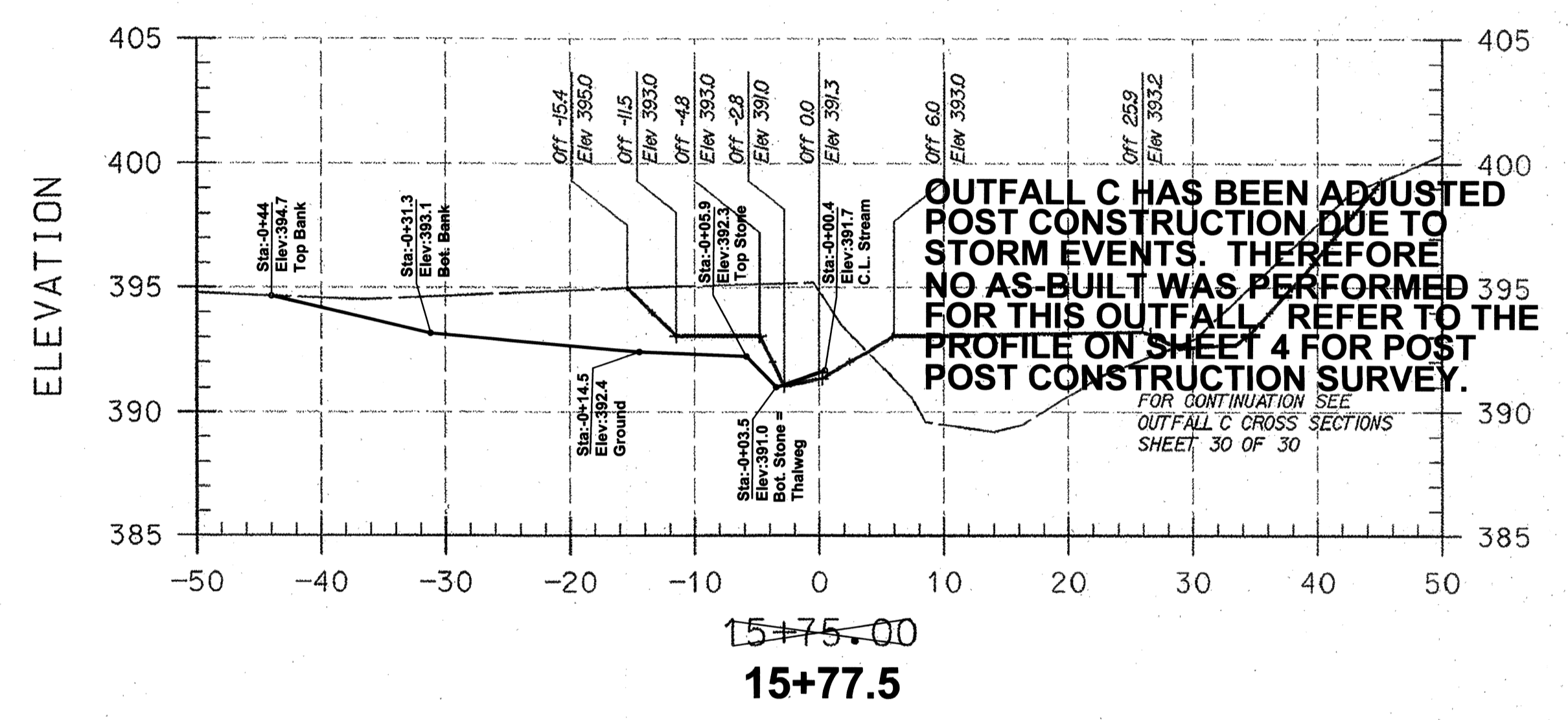
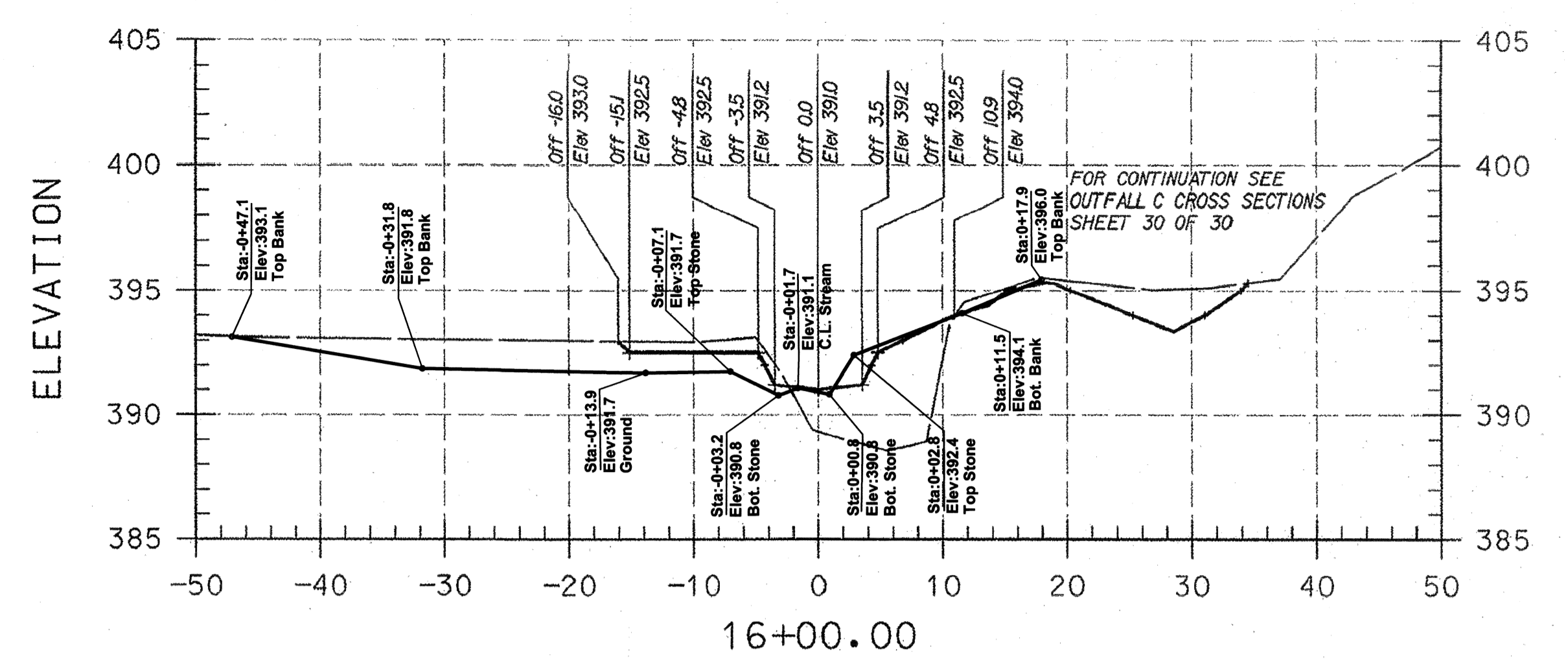
KCI
 TECHNOLOGIES

**BRAMPTON HILLS
 STREAM STABILIZATION
 SECTION 4, AREAS 1,2,3**

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PROPOSED GRADE _____

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James P. O'Connor
 James P. O'Connor, Prof. L. S.
 Reg. No. 200006 Ex. 09/2013
 FOR AS-BUILT INFORMATION ONLY



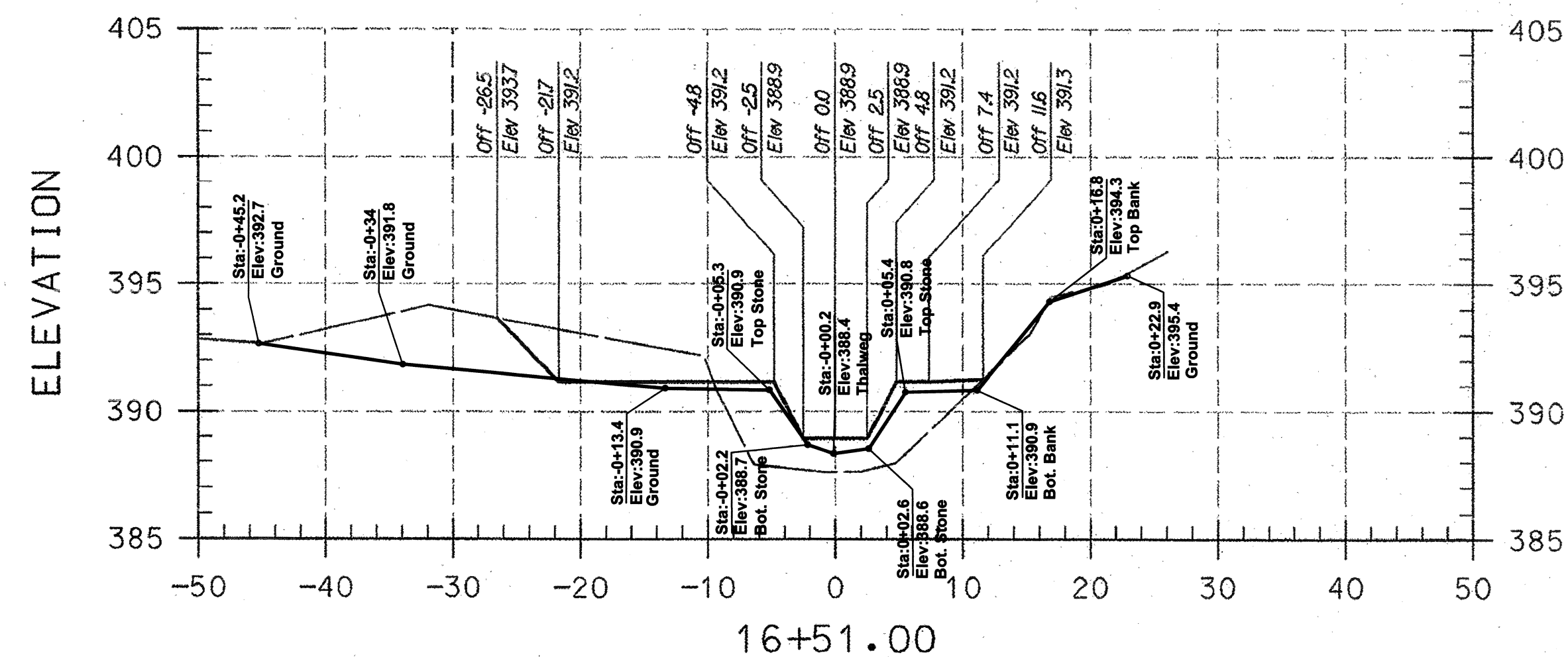
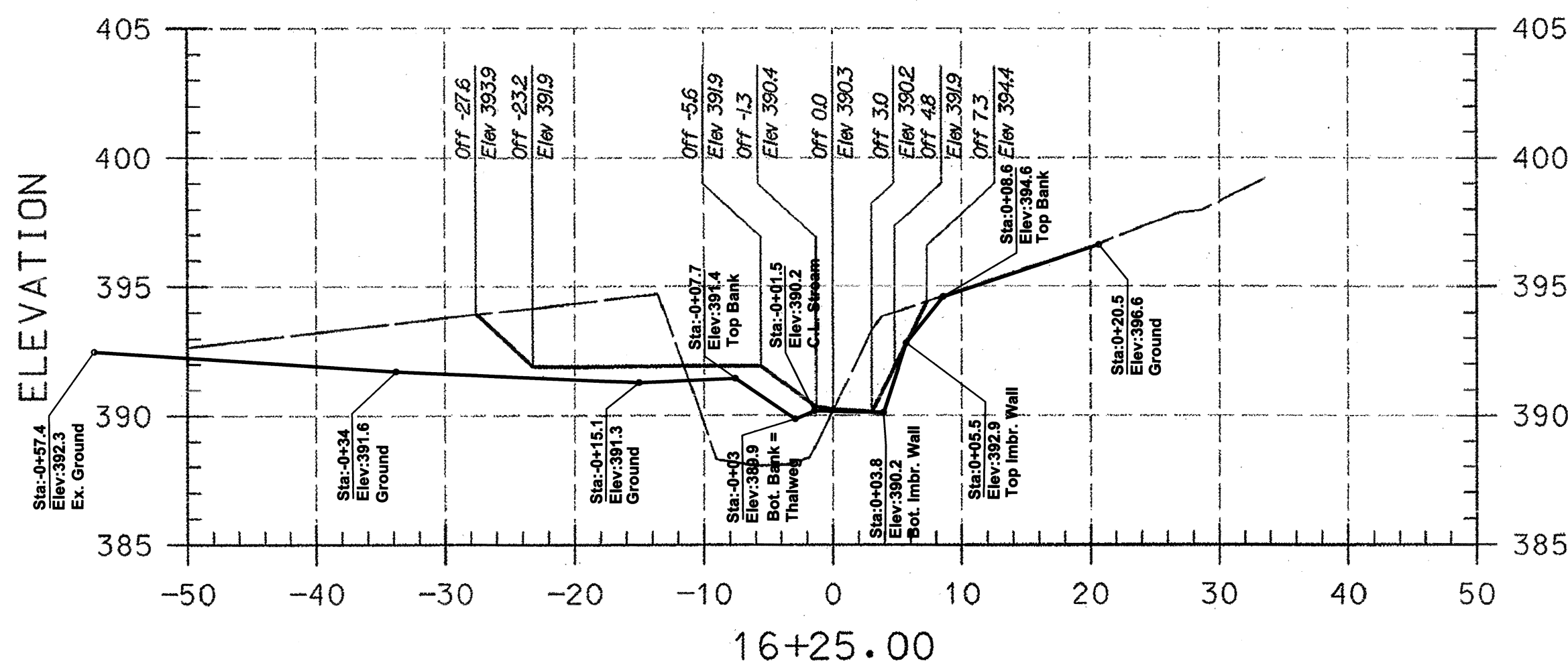
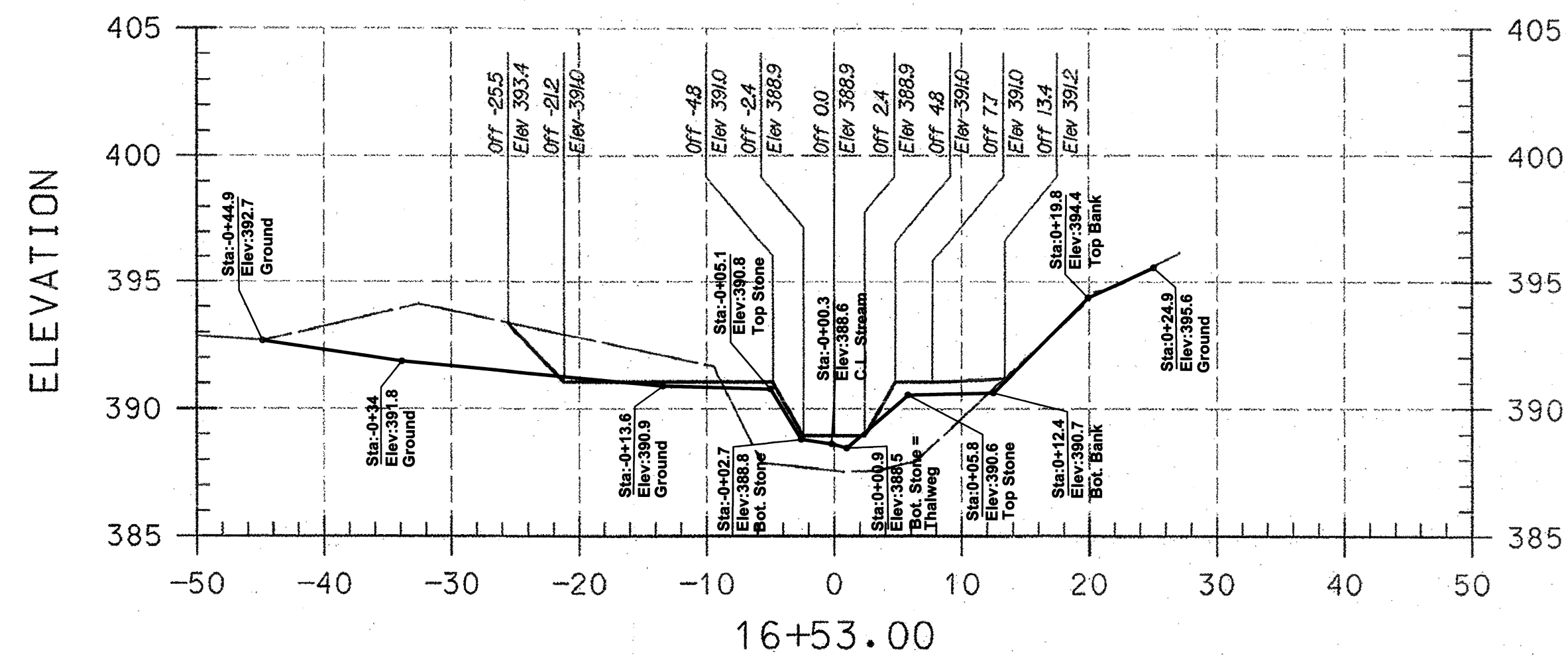
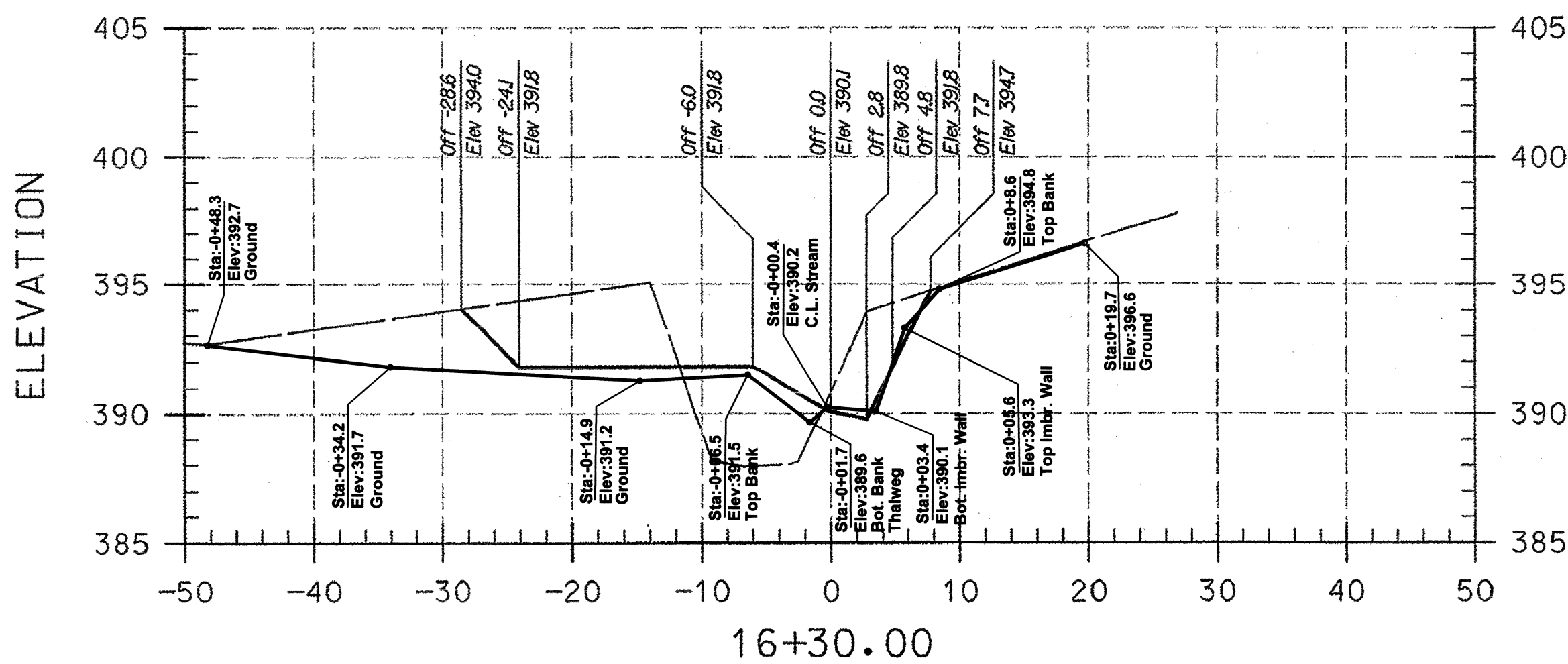
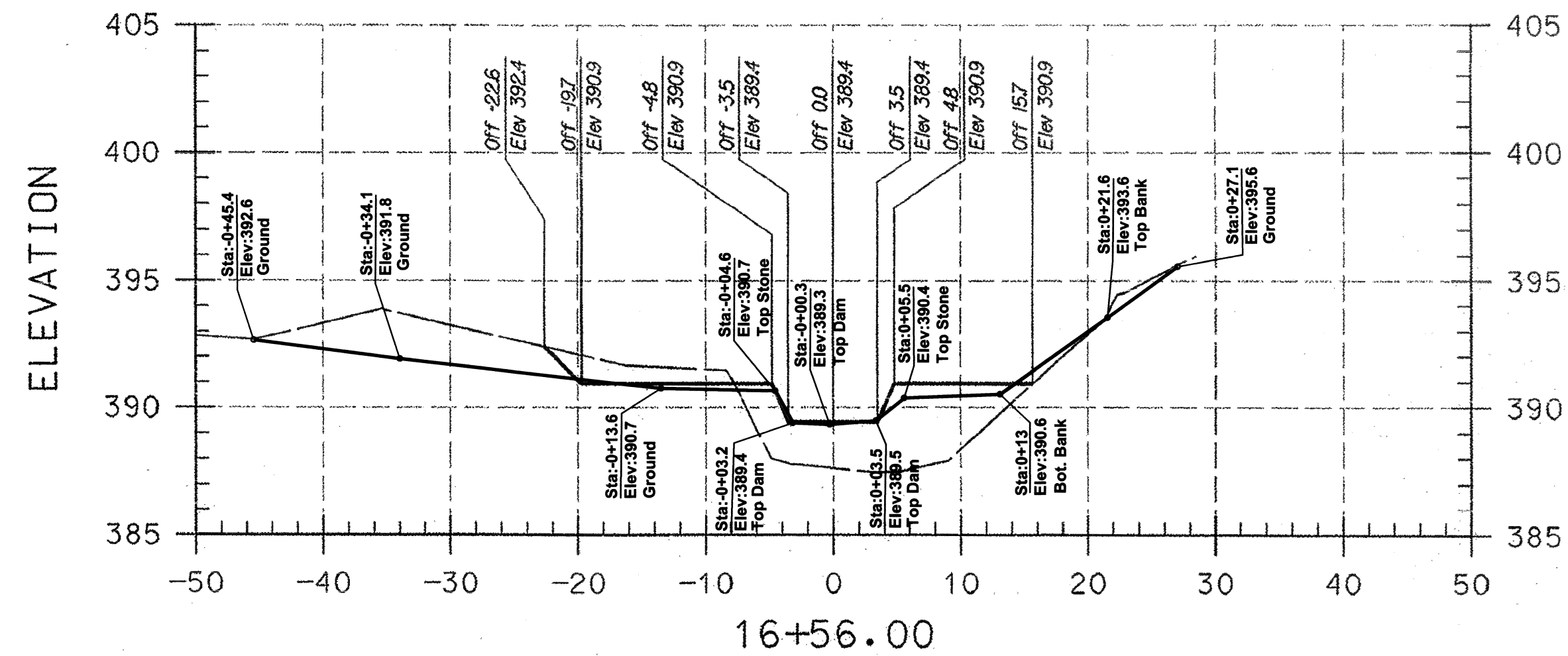
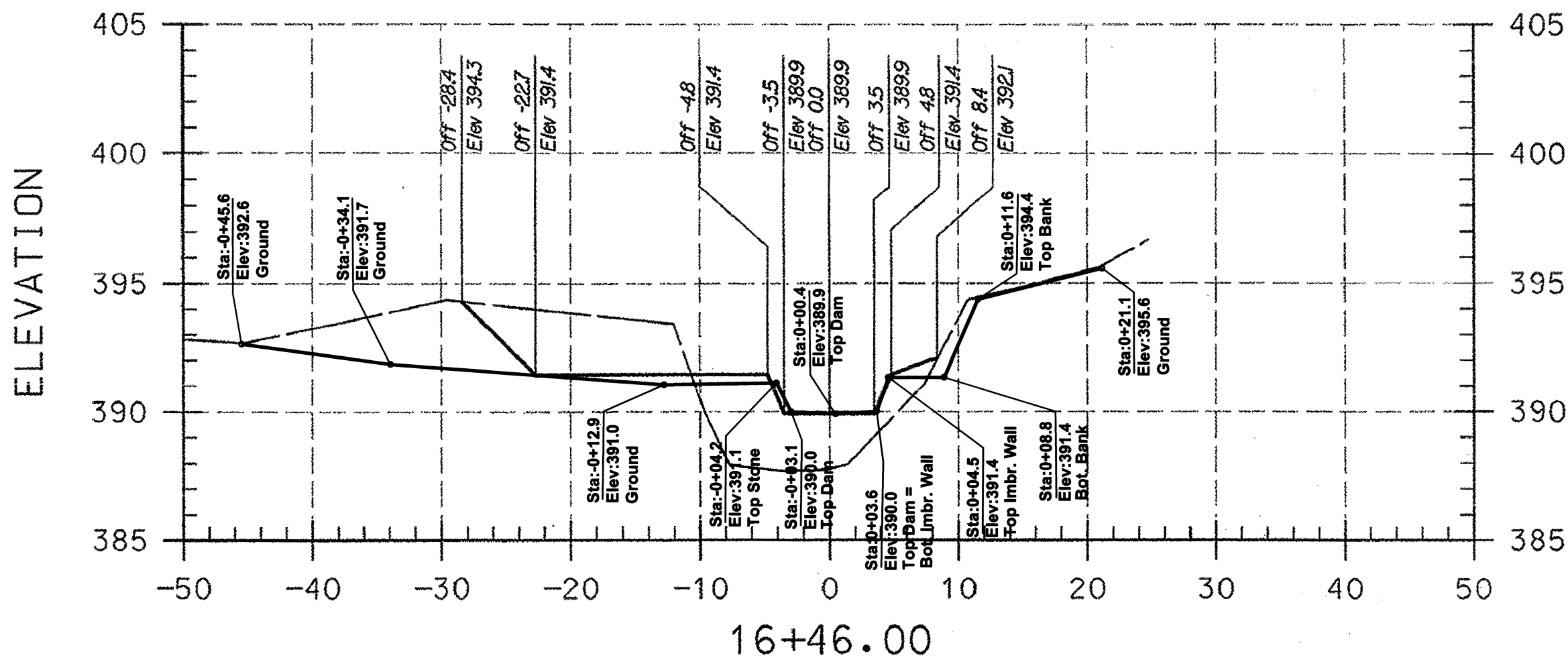
ASBUILT GRADES

PLAN PREPARED BY
 A BETTER SURVEY LLC
 9988 LODGE ROAD
 BALTIMORE, MARYLAND
 21234
 (410) 652.2715

STATE OF MARYLAND
PROFESSIONAL ENGINEER
 No. 3120
 8/15/09

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 3120. EXPIRATION DATE: JANUARY 24, 2011.

PLOTTED: 10:46 PM on Wednesday, August 05, 2009
 BY: Henry M. Miller, Division 0103, Network Resources Management
 C:\E:\3120\3120-3122\3122.dwg on image\kschubert.dwg



PLAN PREPARED BY
A BETTER SURVEY LLC
9988 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715

- AS-BUILT NOTES:
- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
 - 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
 - 3) FIELD WORK PERFORMED ON AND BETWEEN OCTOBER 24, 2011 AND APRIL 24, 2012.
 - 4) STONE SHOWN IS VISIBLE STONE NOT FOUNDATION STONE.

LEGEND

EXISTING GRADE -----

PROPOSED GRADE _____

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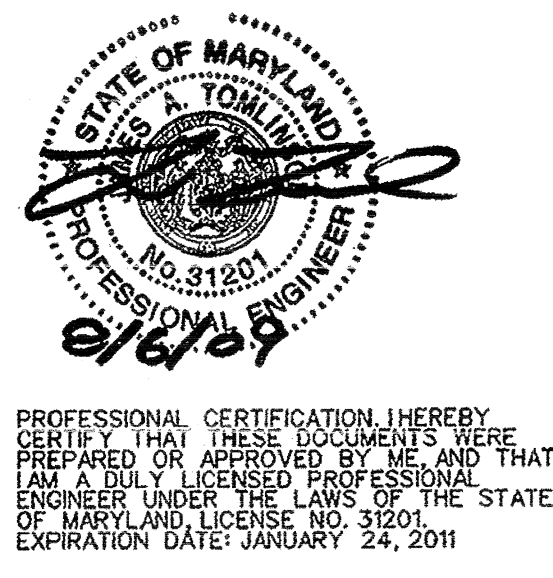
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J.P. O'Connor
James P. O'Connor, Prof. L.S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY

29 Aug 2012
Date



--- ASBUILT GRADES



PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31201, EXPIRATION DATE: JANUARY 24, 2011

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
WWW.KCI.COM

KCI TECHNOLOGIES

**BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3**

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
10000 COLUMBIAN AVENUE DRIVE
COLUMBIA, MARYLAND 21046

CROSS SECTIONS

SCALE: HOR. 1"=10'
VERT. 1"=5'

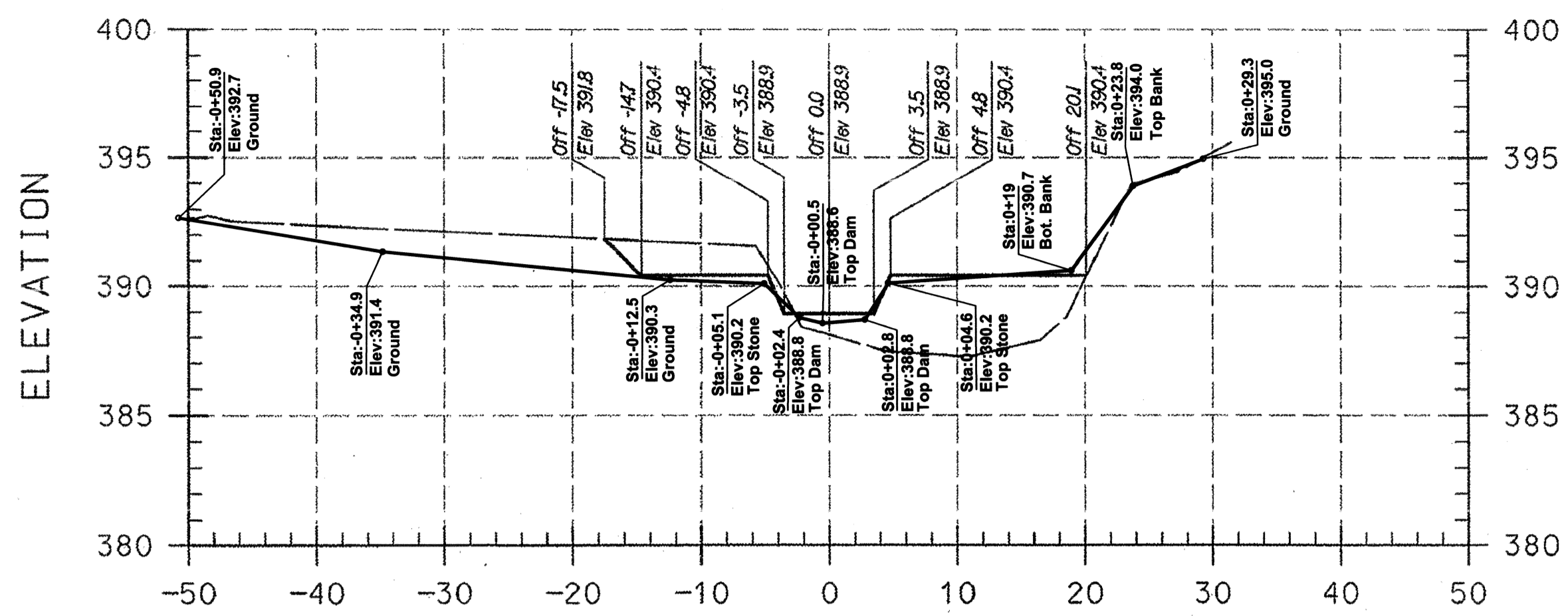
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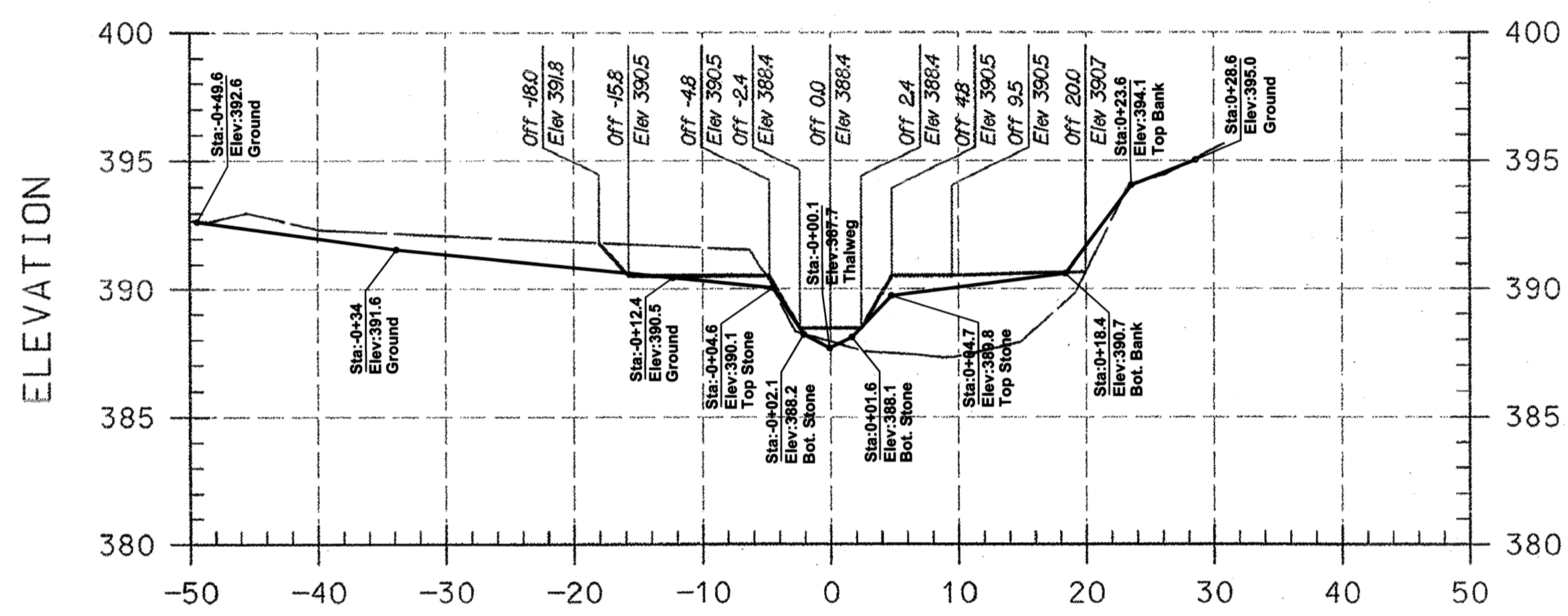
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PERMIT ISSUE:

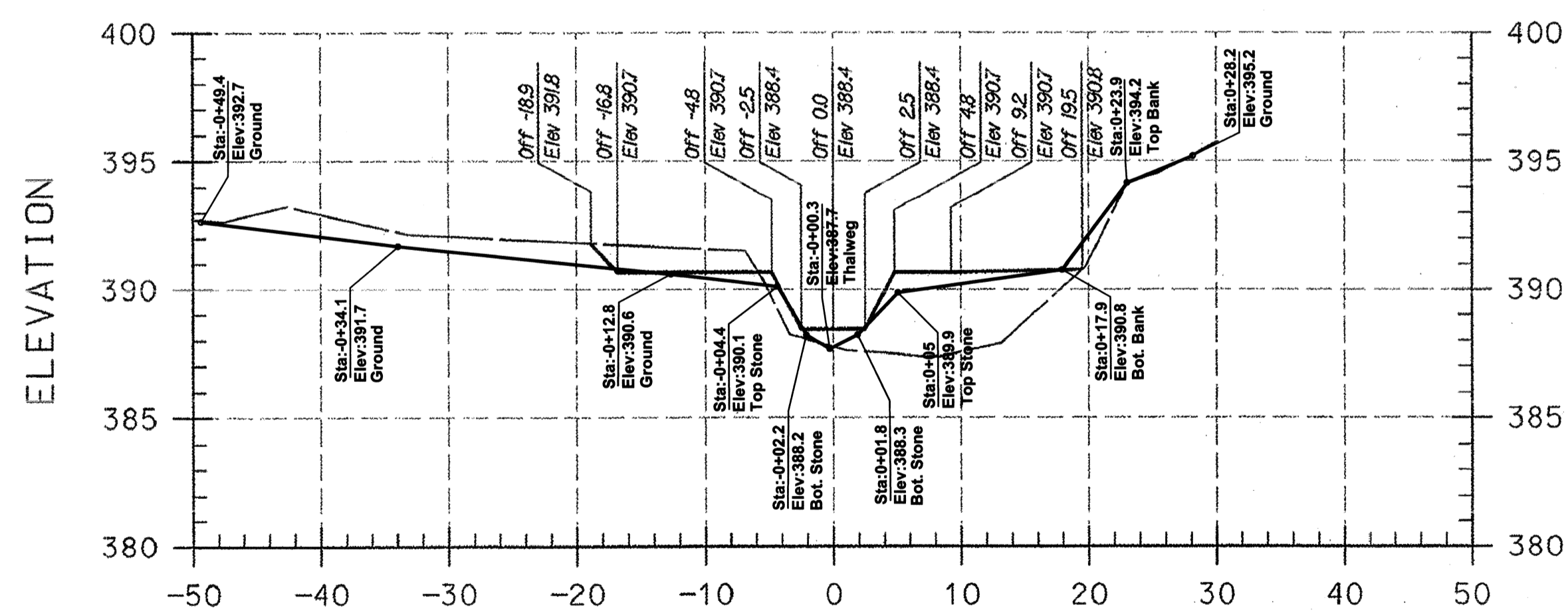
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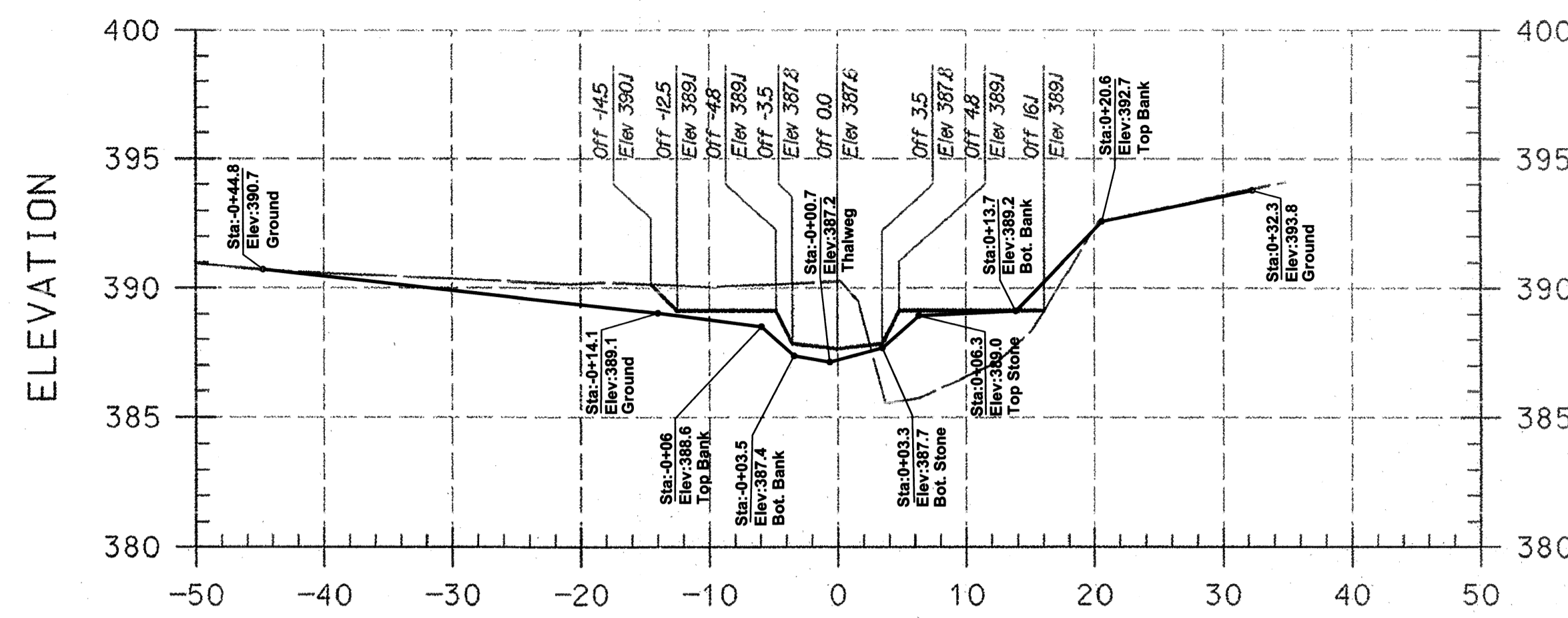
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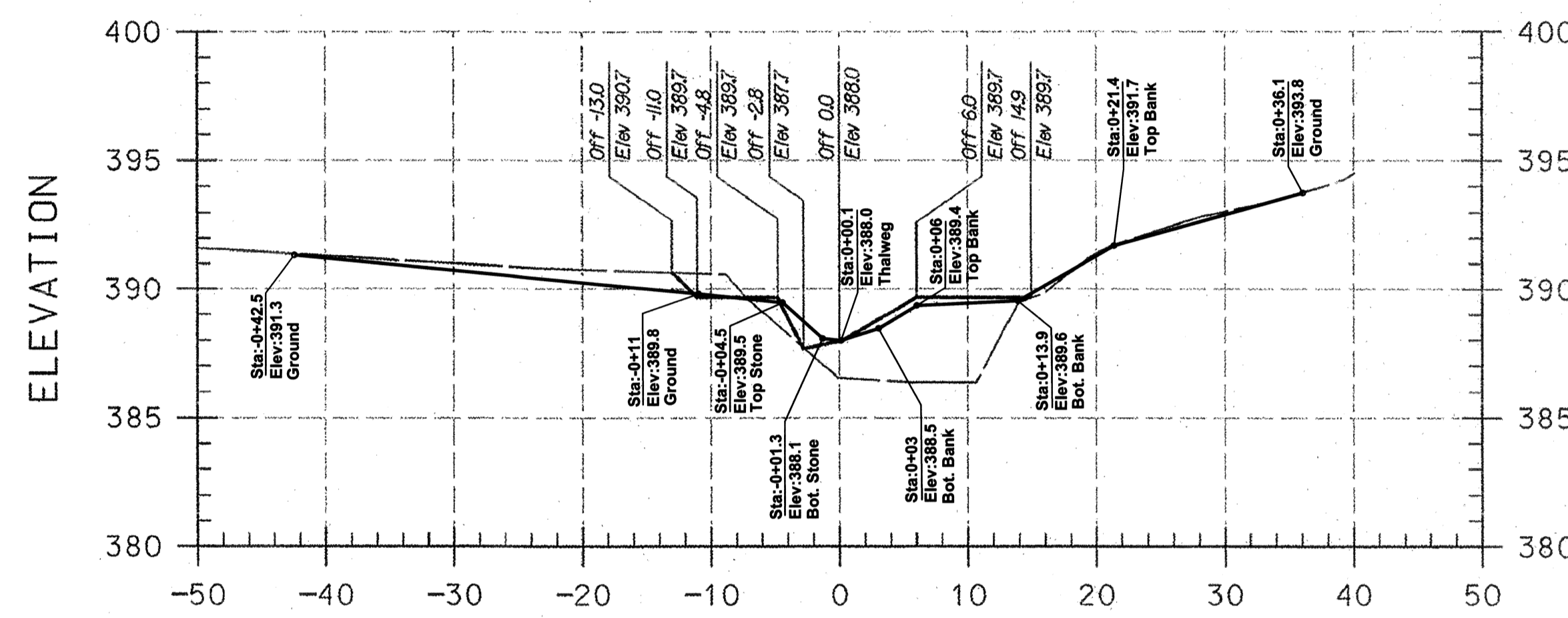
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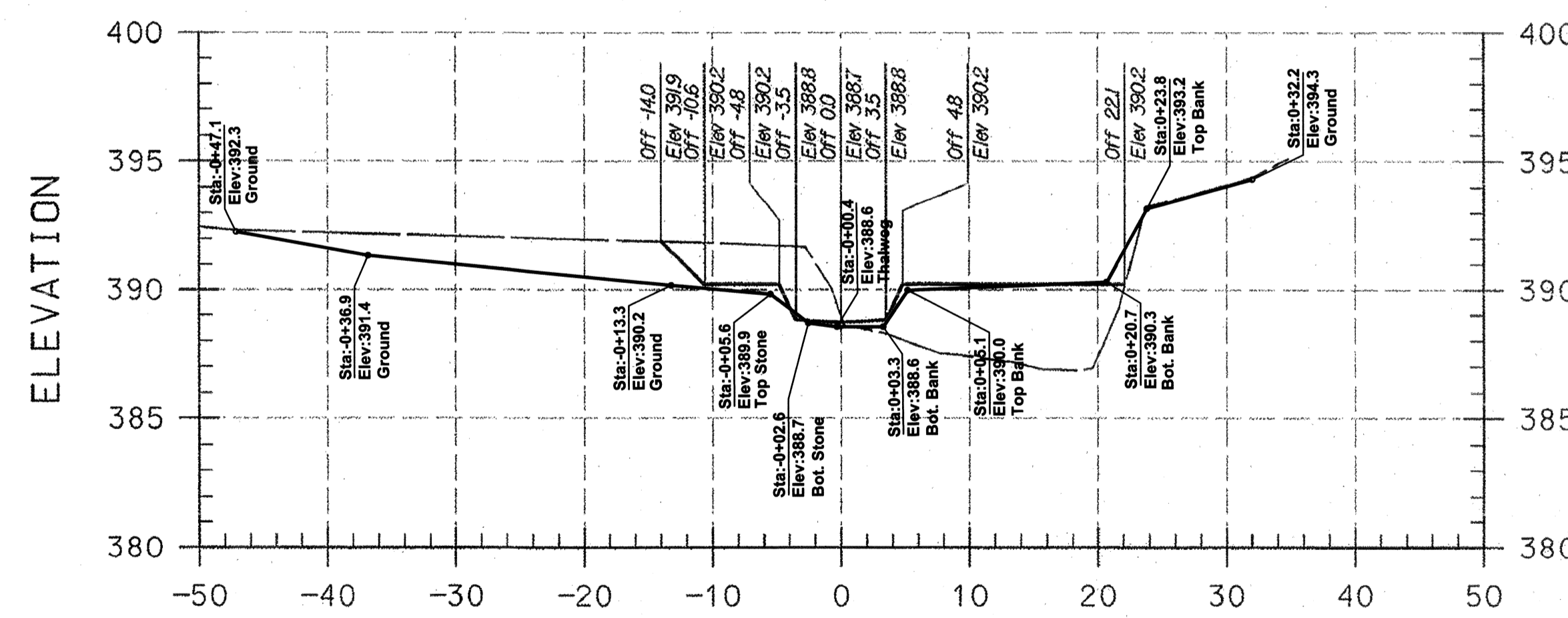
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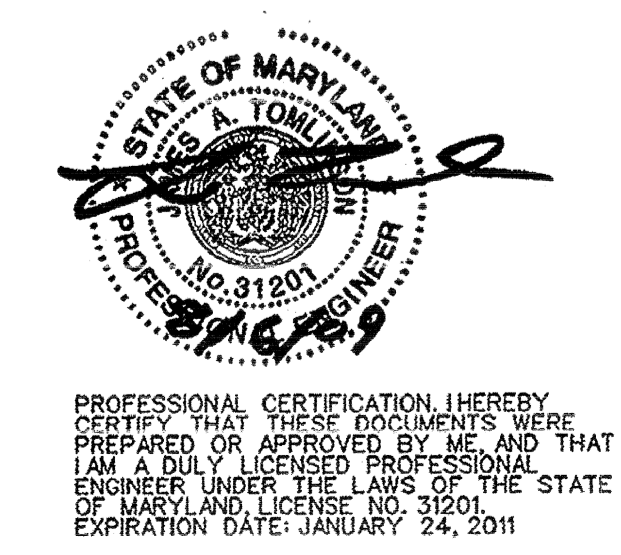


17+00.00



16+75.00

PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715



AS-BUILT NOTES:

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- 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
- 3) FIELD WORK PERFORMED ON AND BETWEEN OCTOBER 24, 2011 AND MARCH 02, 2012.
- 4) STONE SHOWN IS VISIBLE STONE NOT FOUNDATION STONE.

LEGEND	
EXISTING GRADE	---
PROPOSED GRADE	—

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James P. O'Connor
James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY

29 Aug 2012
Date



ASBUILT GRADES

NO.	REVISIONS DESCRIPTION	DATE

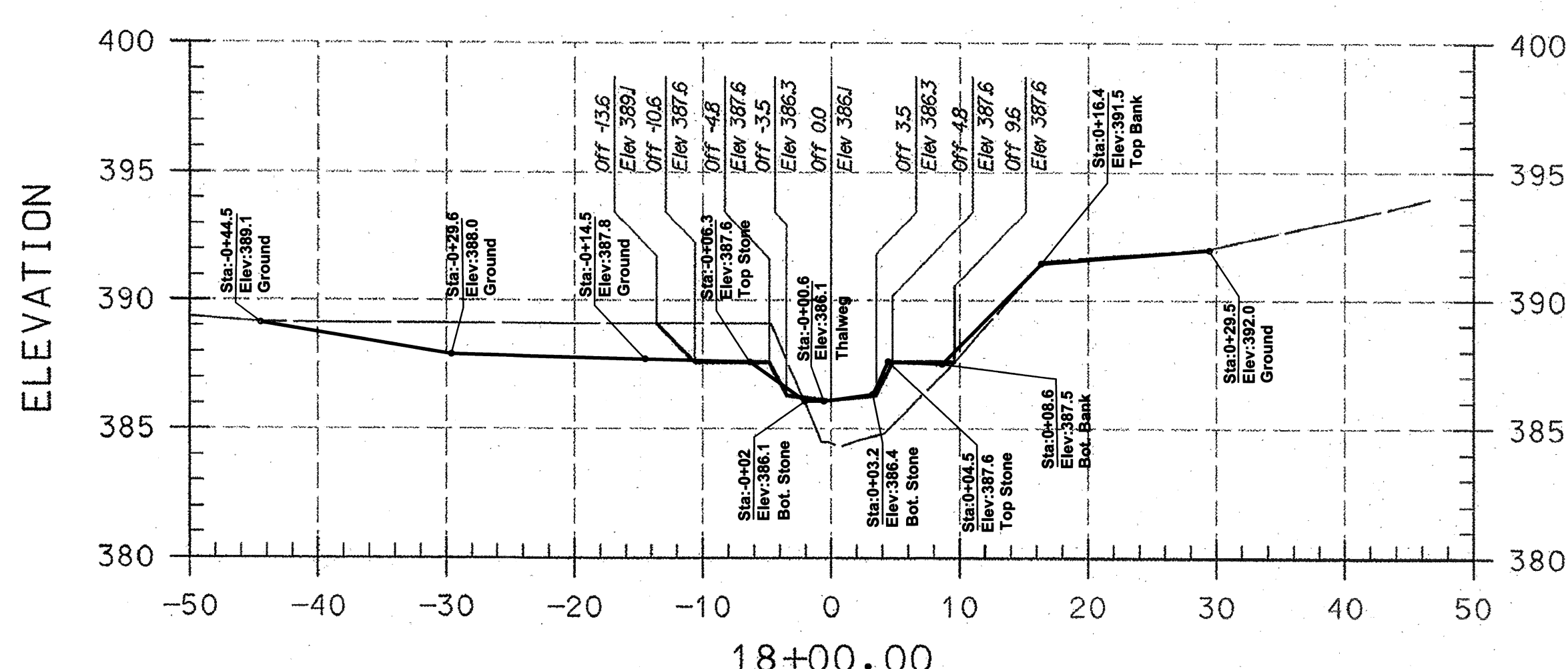
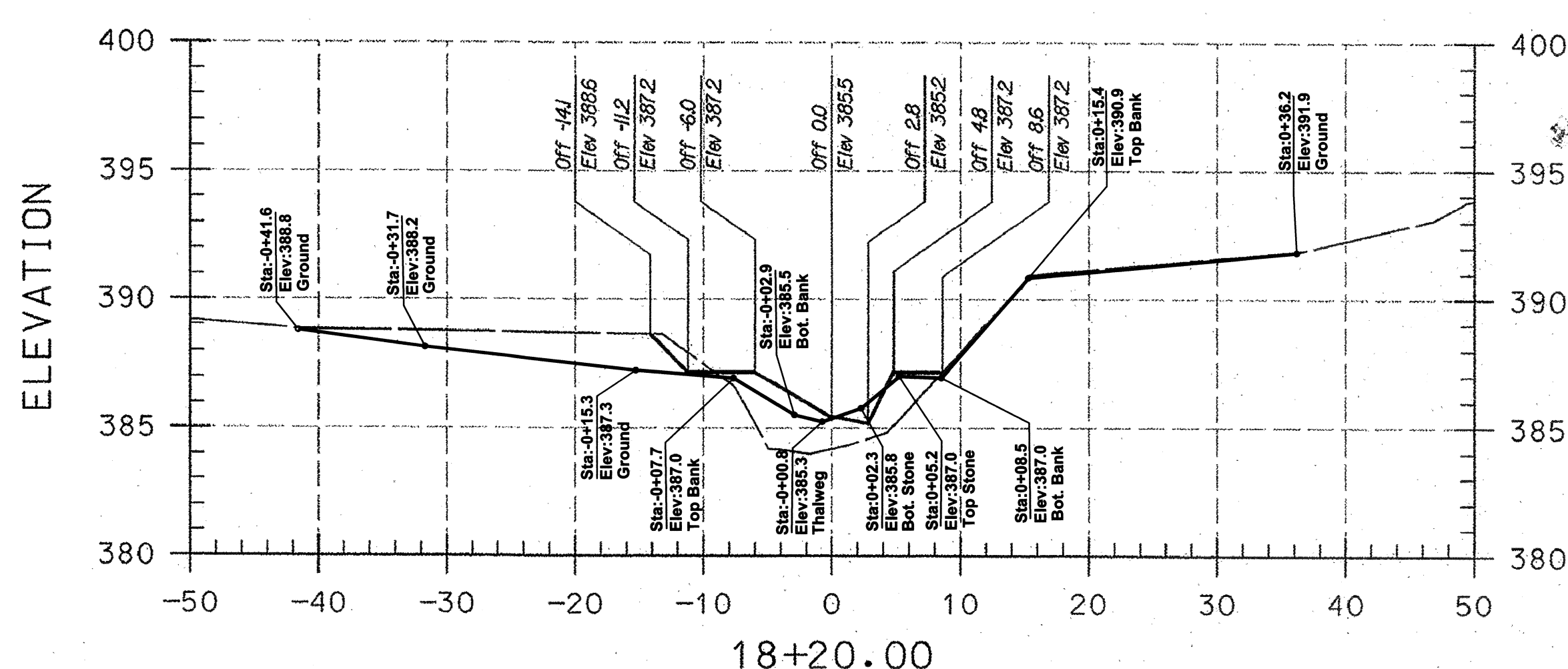
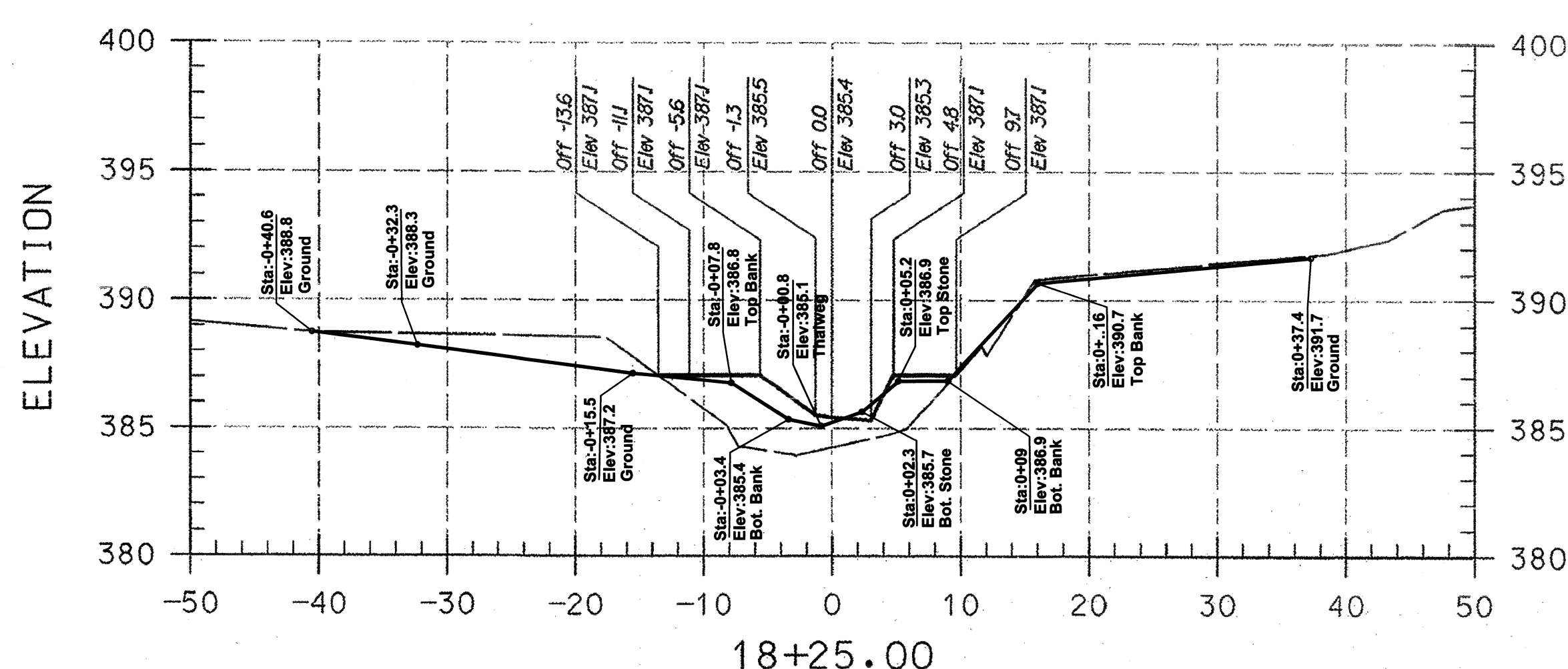
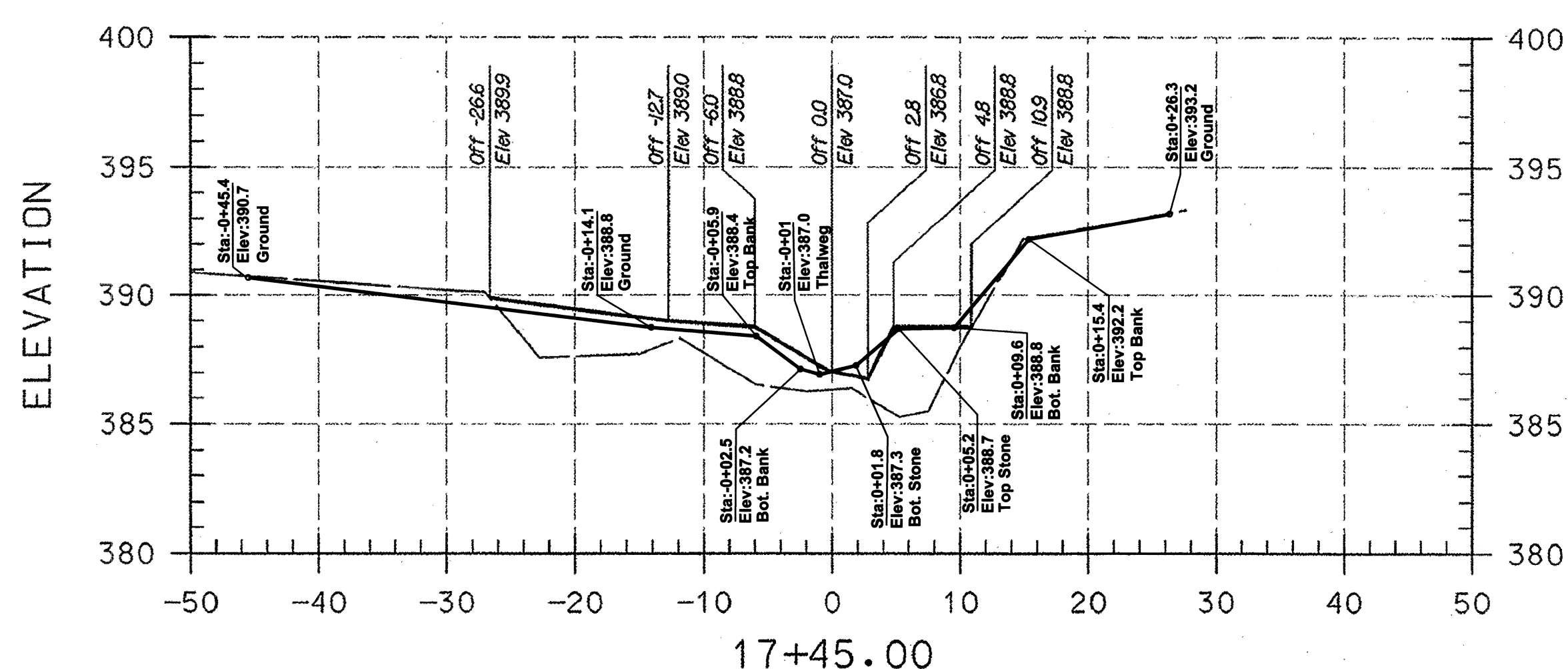
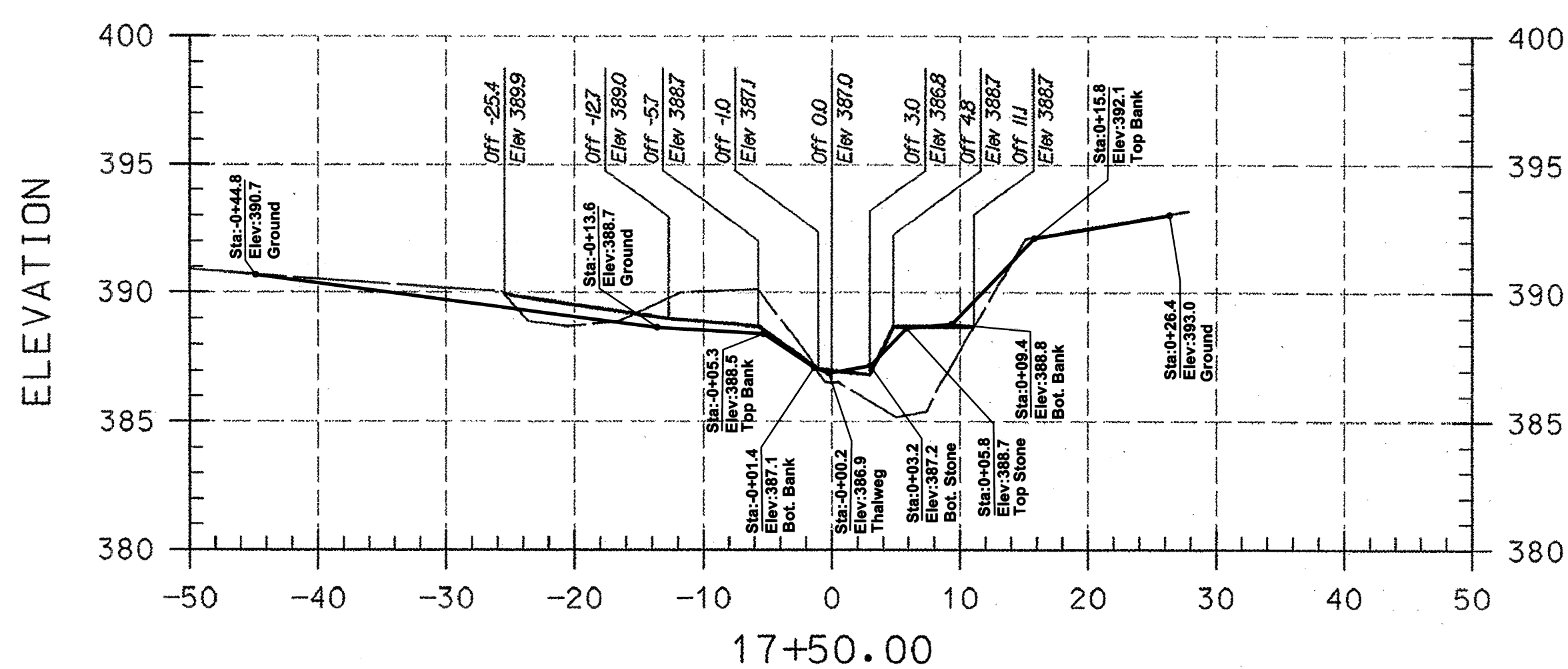
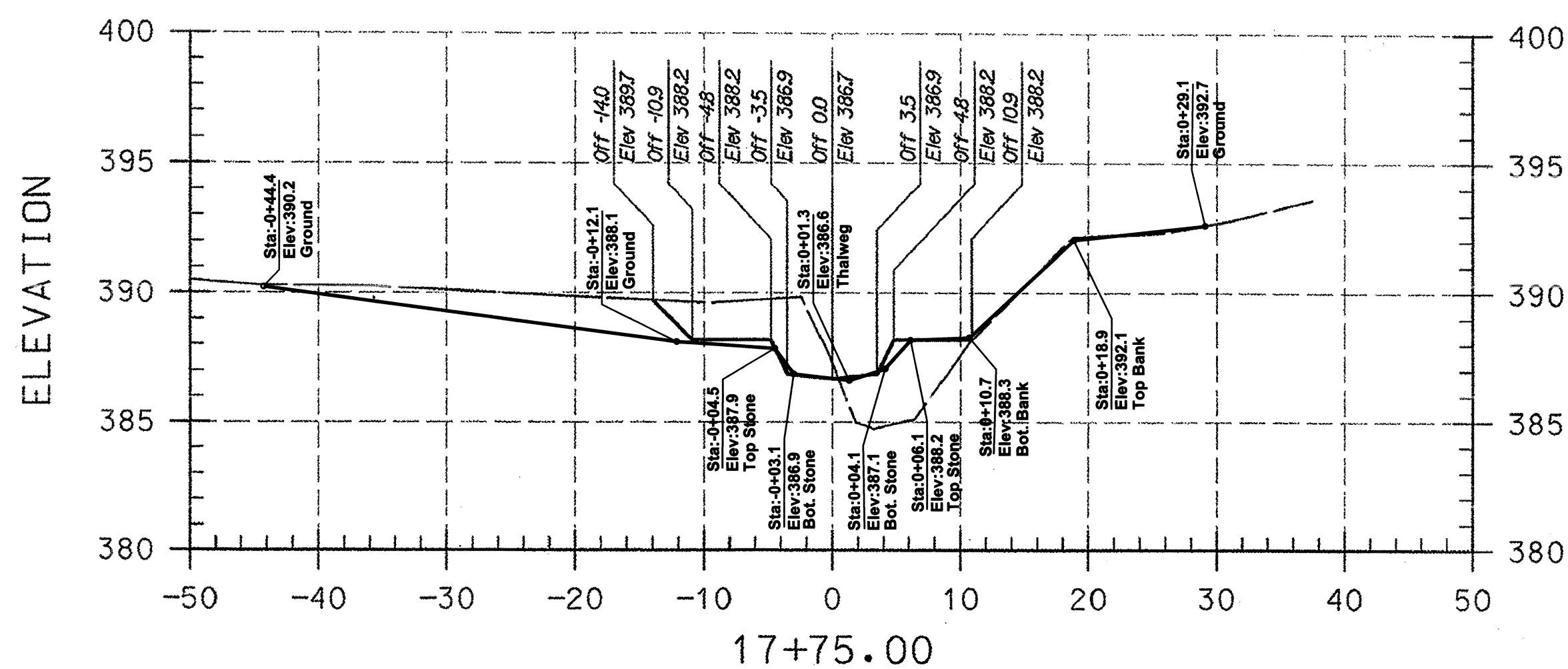
936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
WWW.KCI.COM

**BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3**

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
107 COLUMBIA, MARYLAND 2068

CROSS SECTIONS

SCALE:	HOR. 1"=10'
	VERT. 1"=5'
DATE:	AUGUST 2009
KCI JOB NO.:	01081795.12
CAPITAL PROJECT NO.:	D1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	



PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31201, EXPIRATION DATE: JANUARY 24, 2011

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LEGEND	
EXISTING GRADE	-----
PROPOSED GRADE	—————

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Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY

29 Aug 2012
Date



ASBUILT GRADES

NO.	REVISIONS DESCRIPTION	DATE

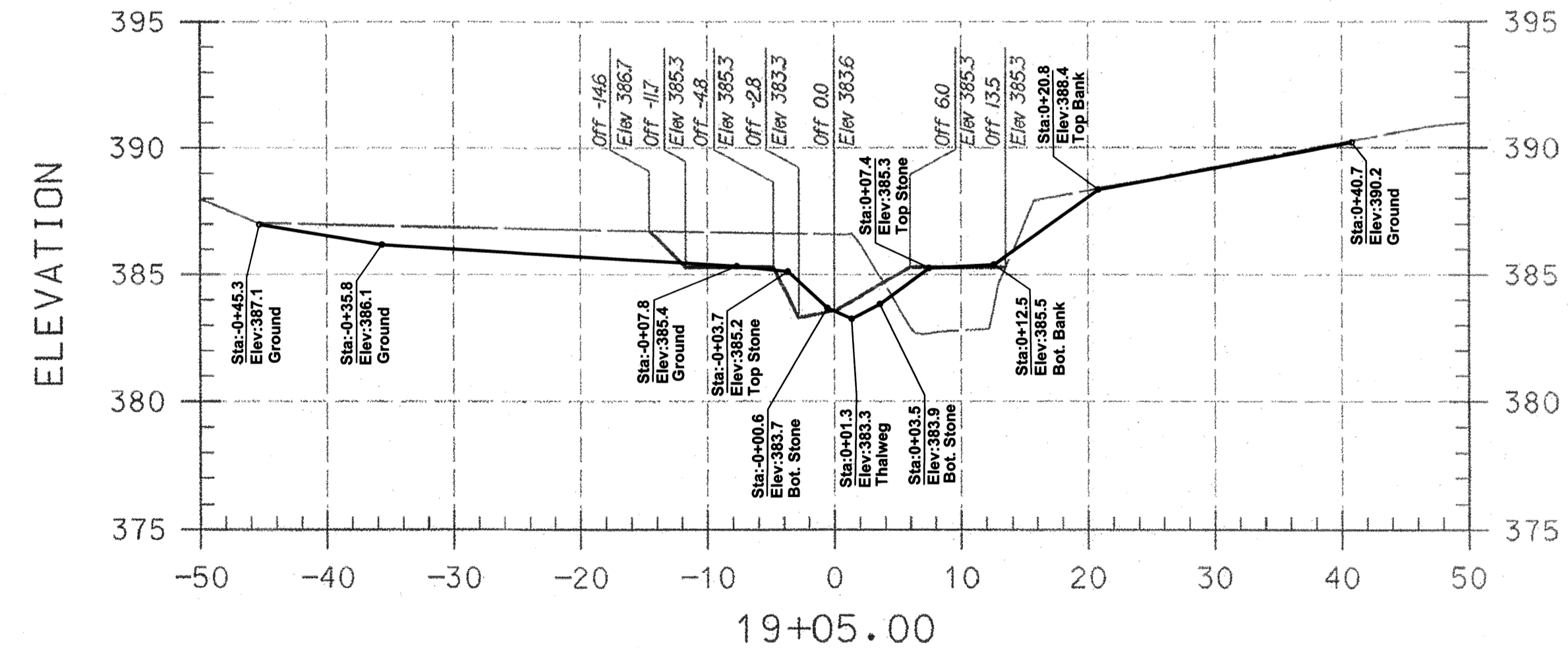
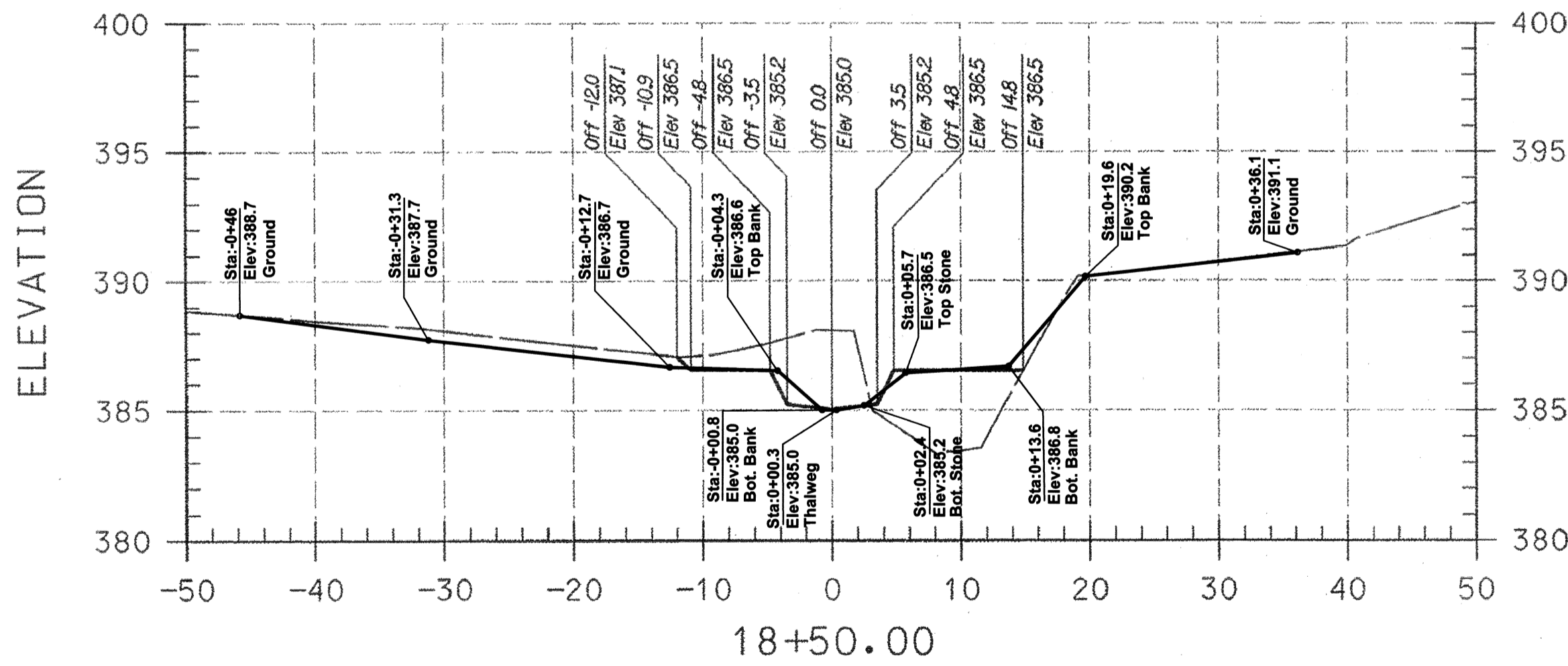
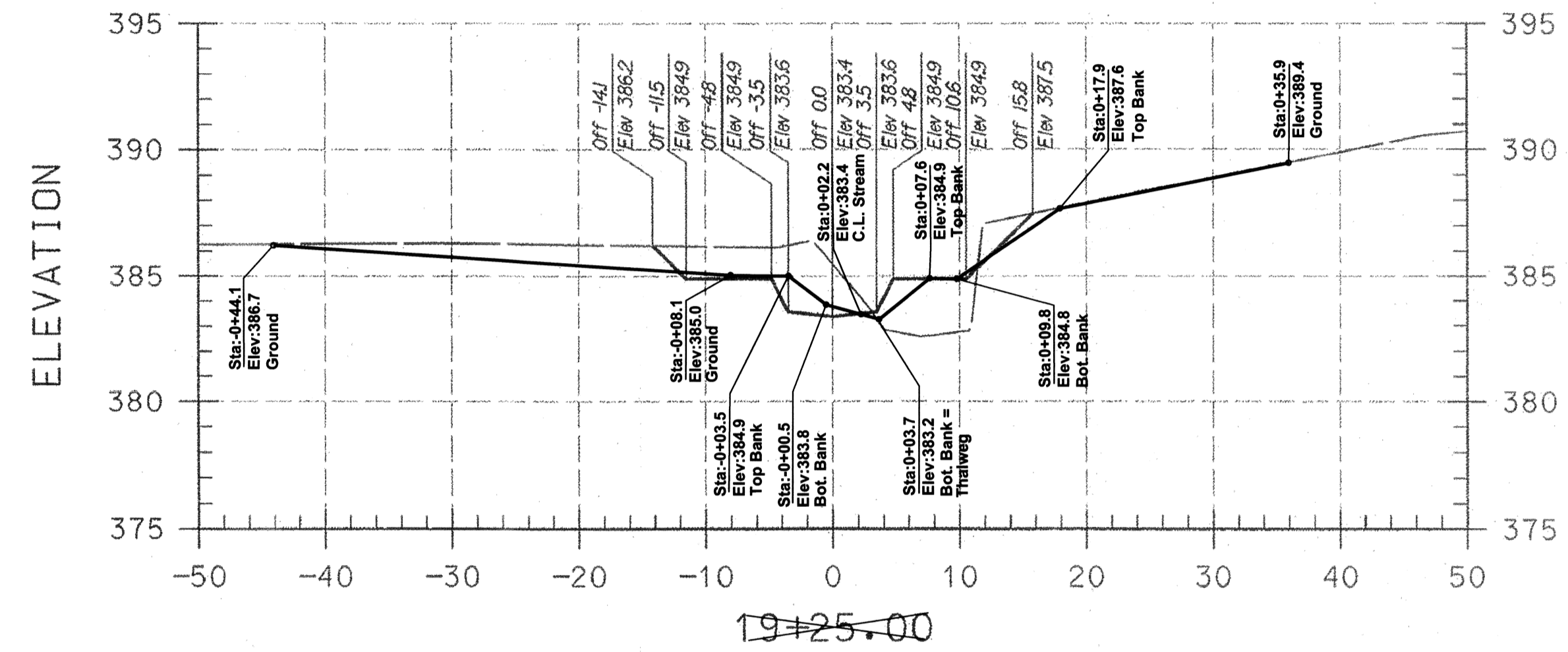
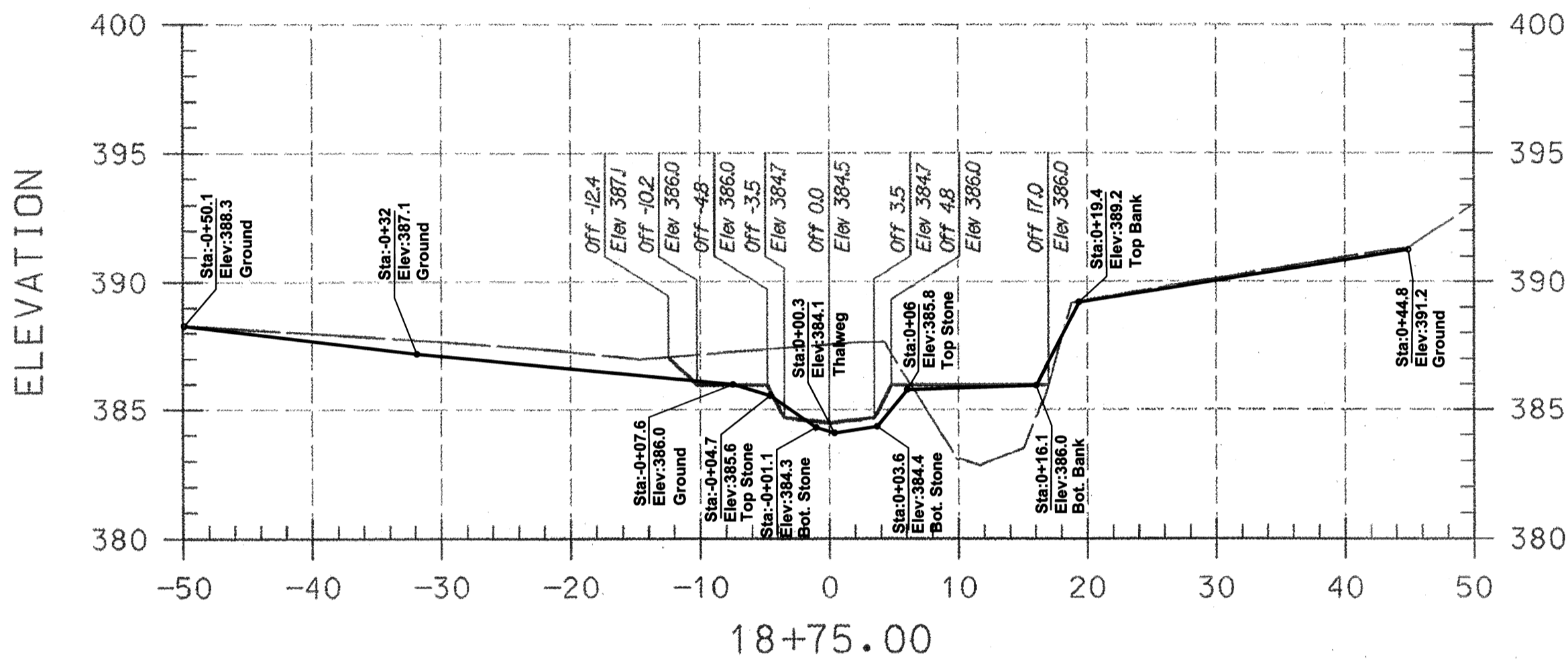
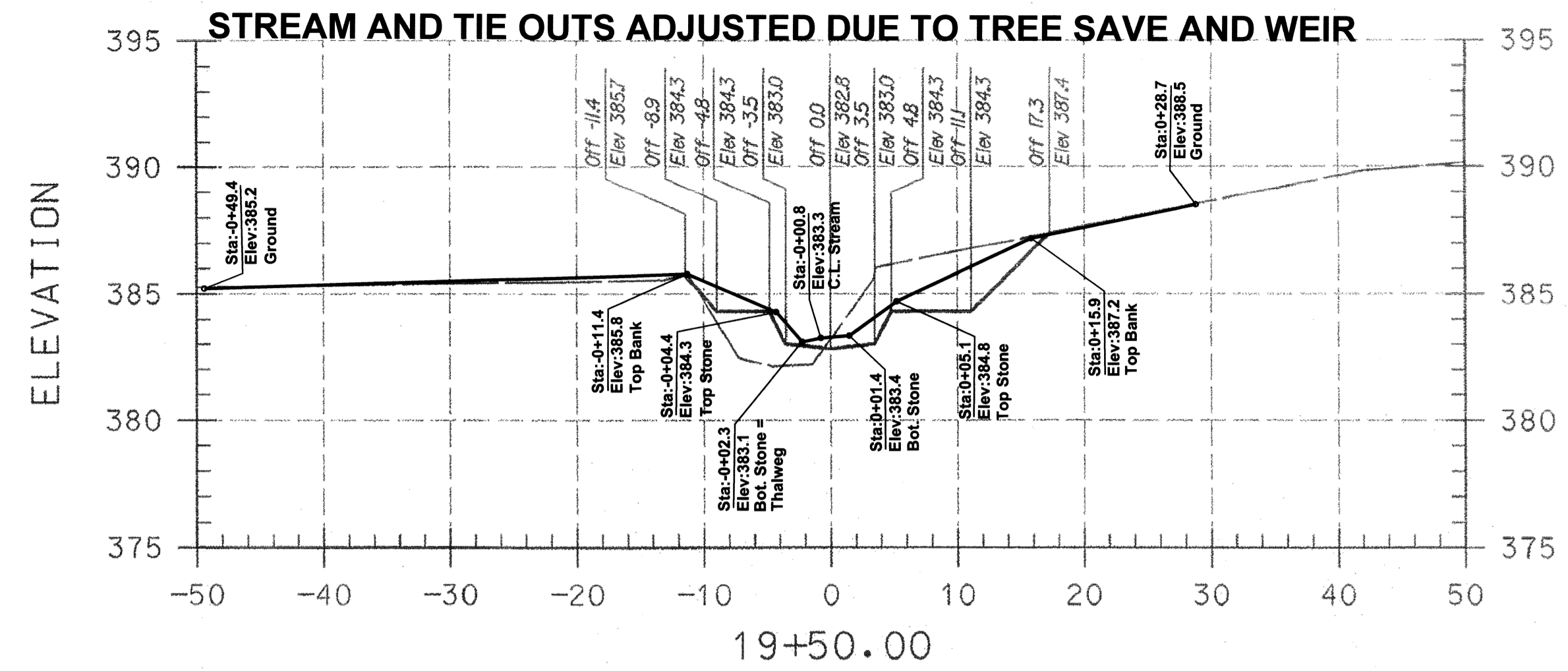
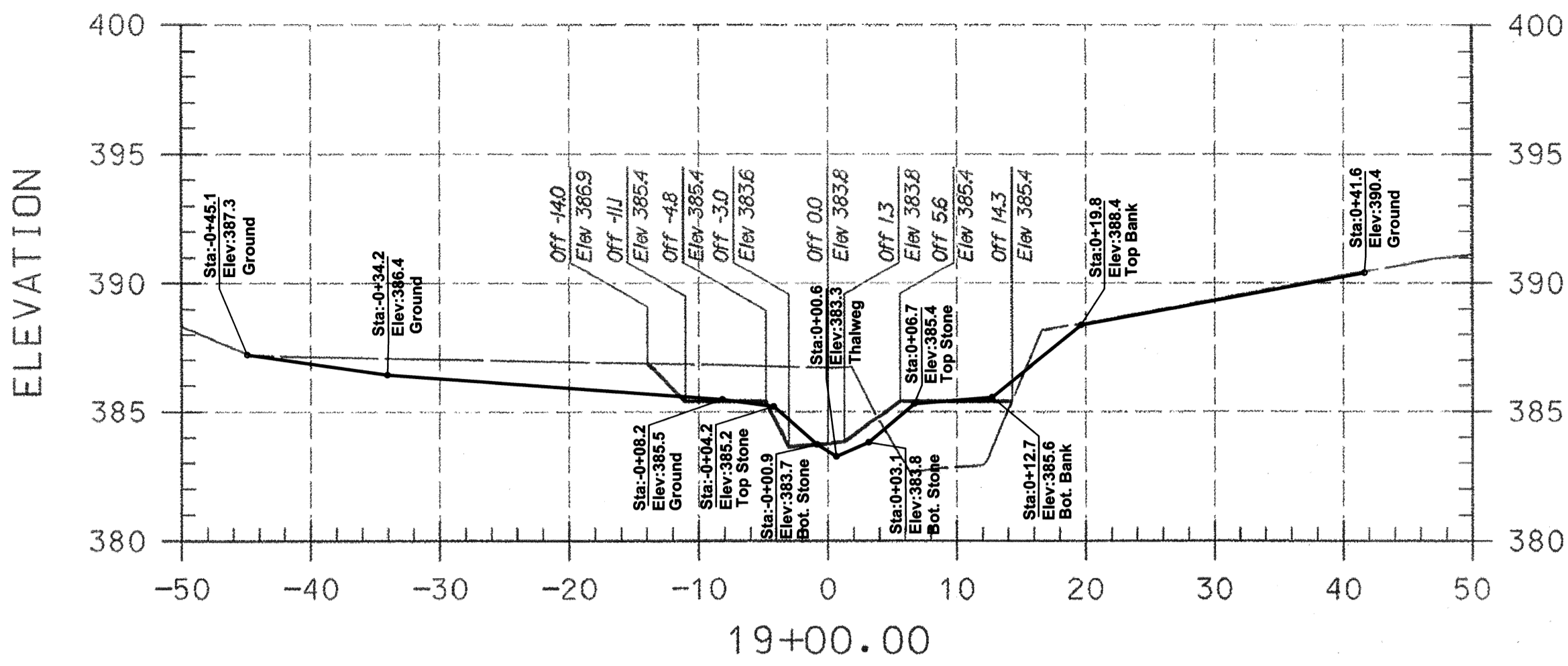
936 RIDGEBROOK ROAD
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TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
www.kci.com

BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
6751 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

CROSS SECTIONS

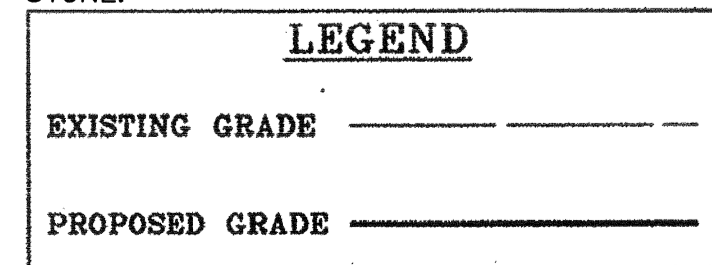
SCALE:	HOR. 1"=10'
	VERT. 1"=5'
DATE:	AUGUST 2009
KCI JOB NO.:	01081795.12
CAPITAL PROJECT NO.:	D1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

AS-BUILT DRAWING
SHEET 31 OF 38



PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715

- AS-BUILT NOTES:
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J.P. O'Connor
James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY



NO.	REVISIONS DESCRIPTION	DATE

KCI TECHNOLOGIES
936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
www.kci.com

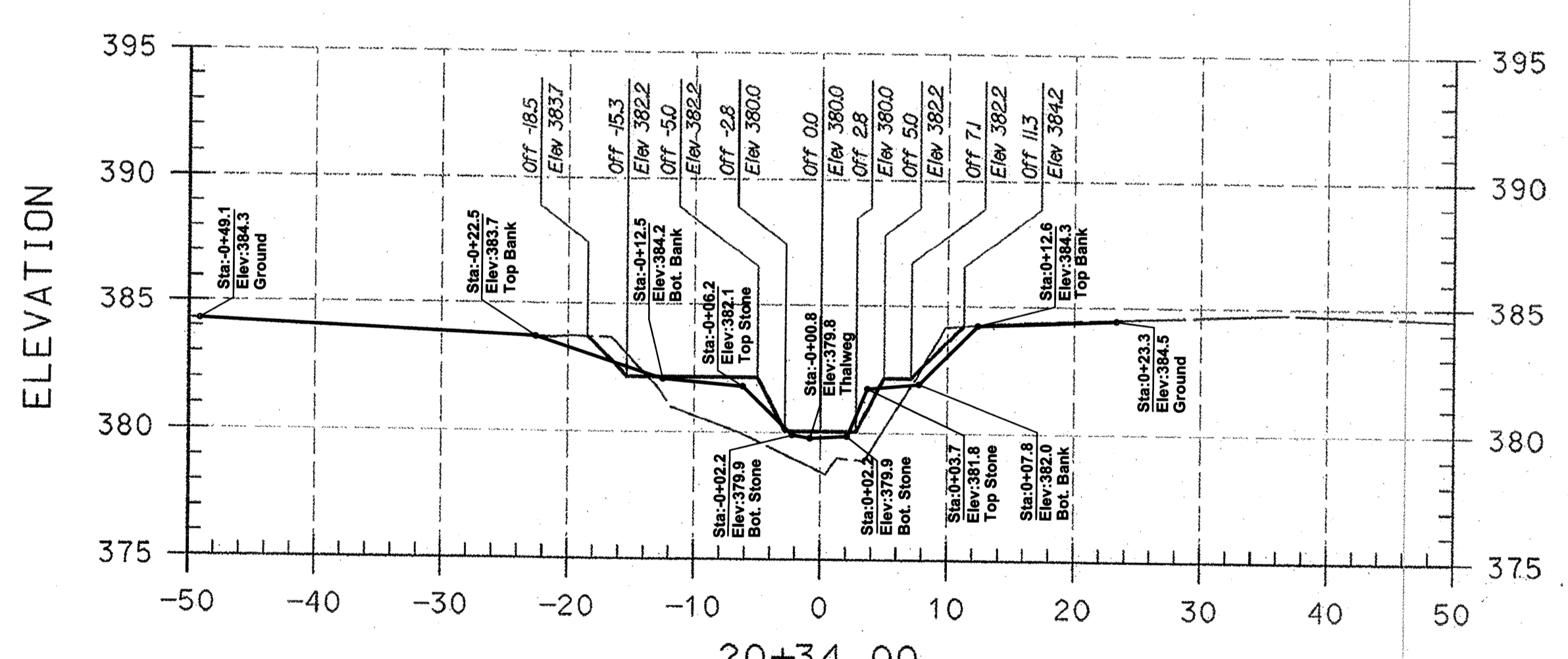
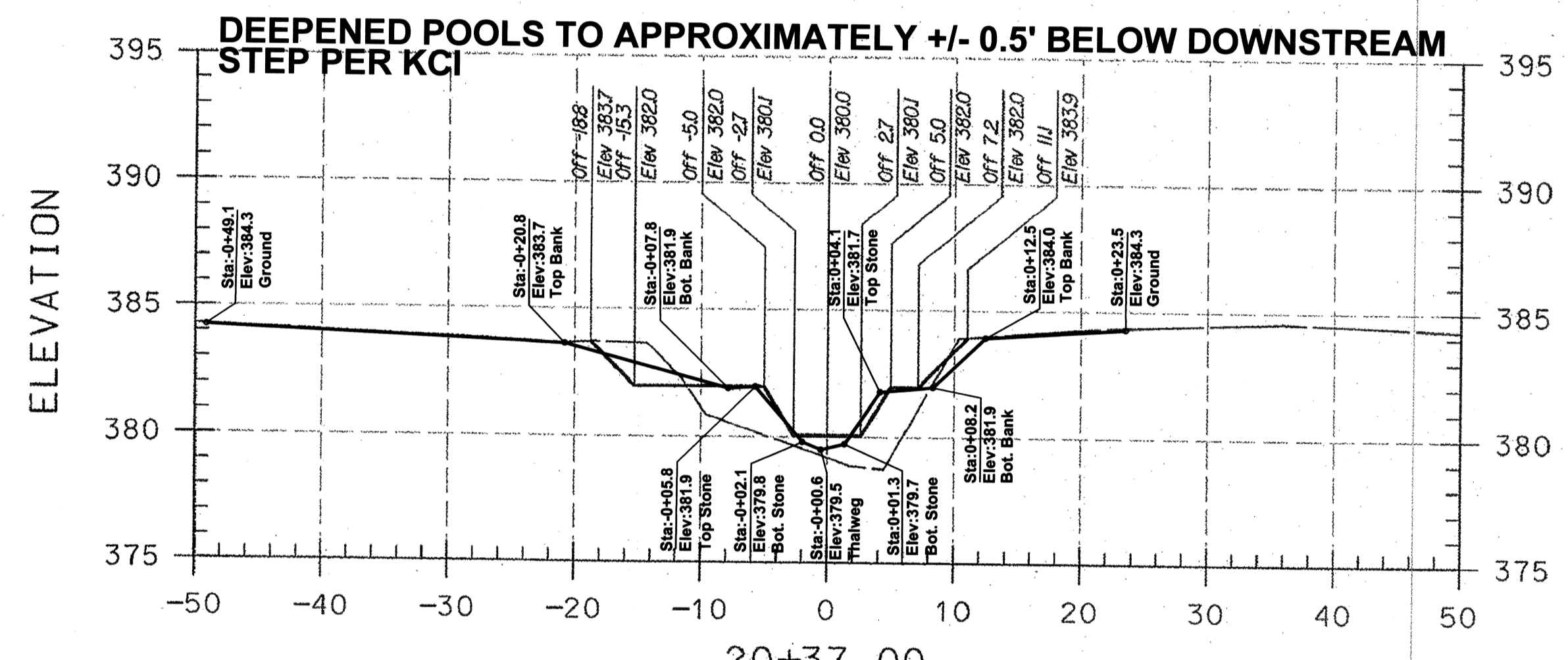
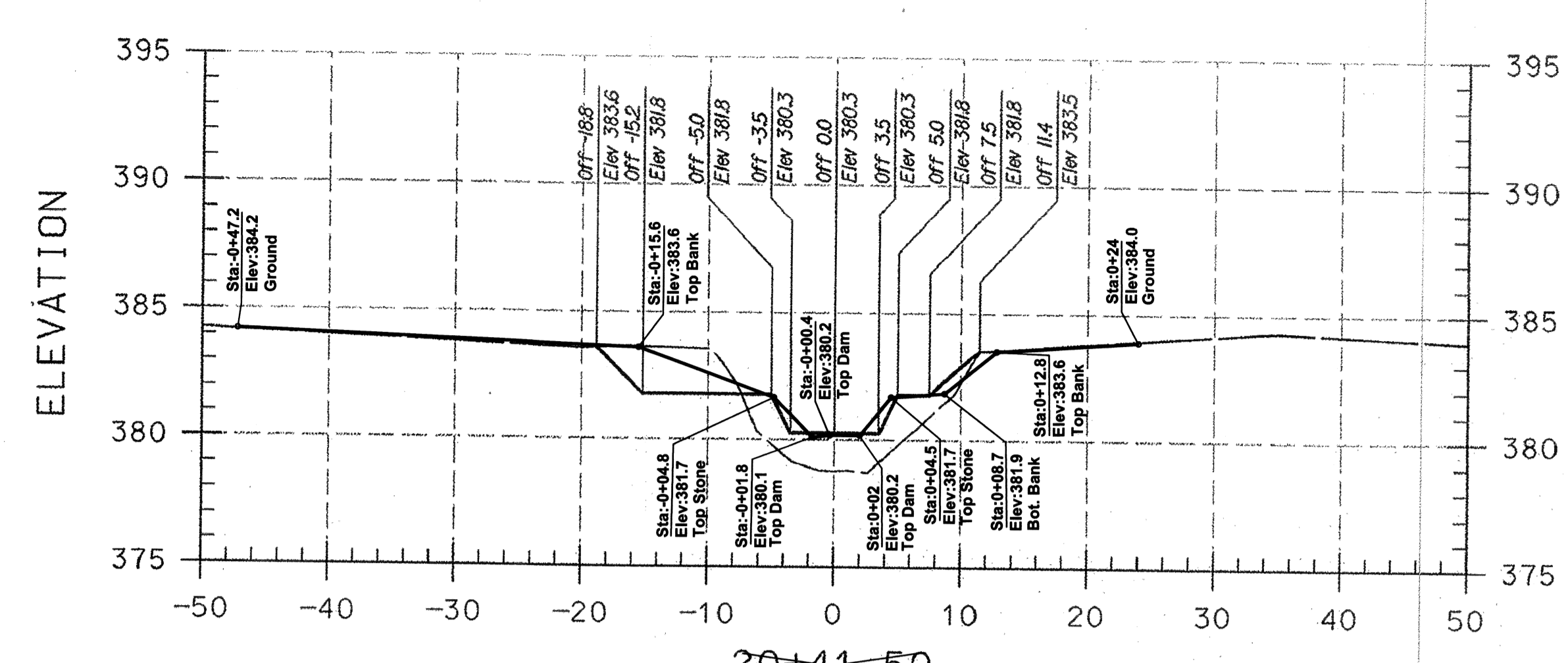
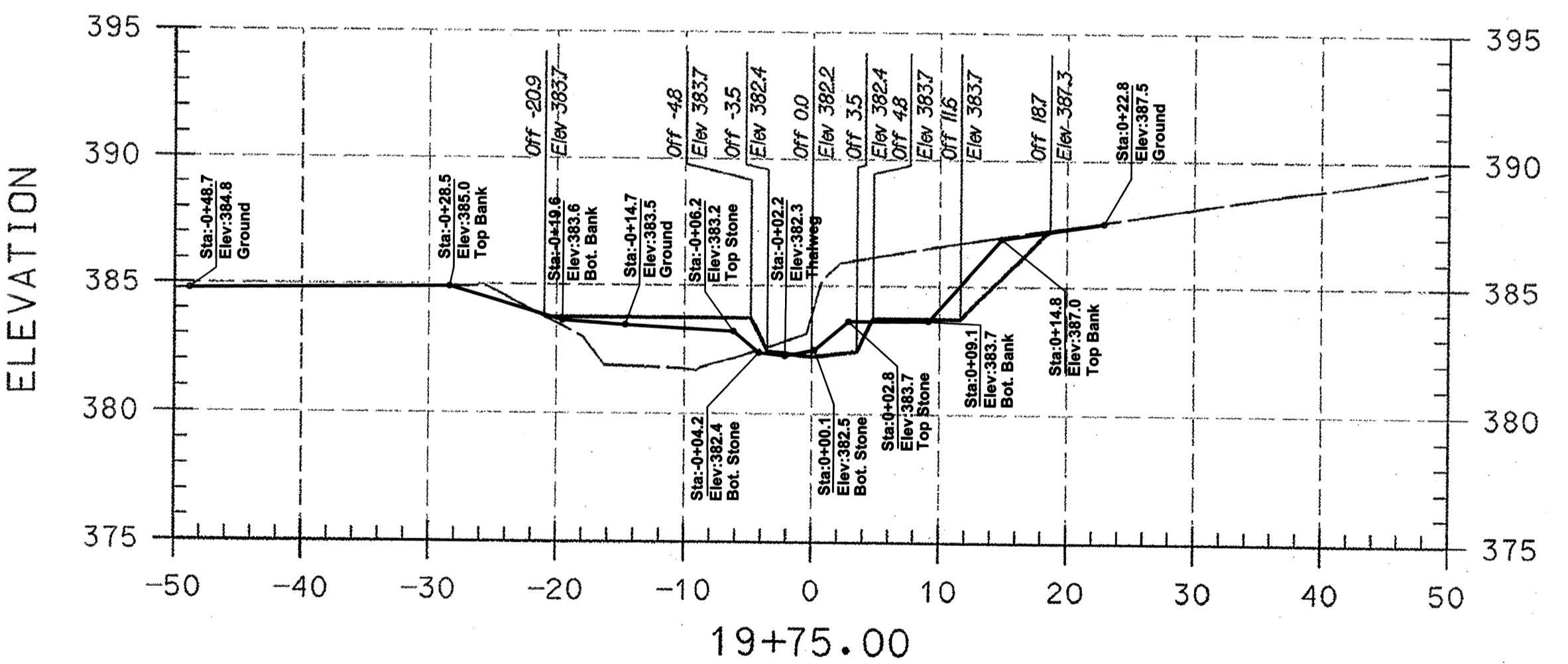
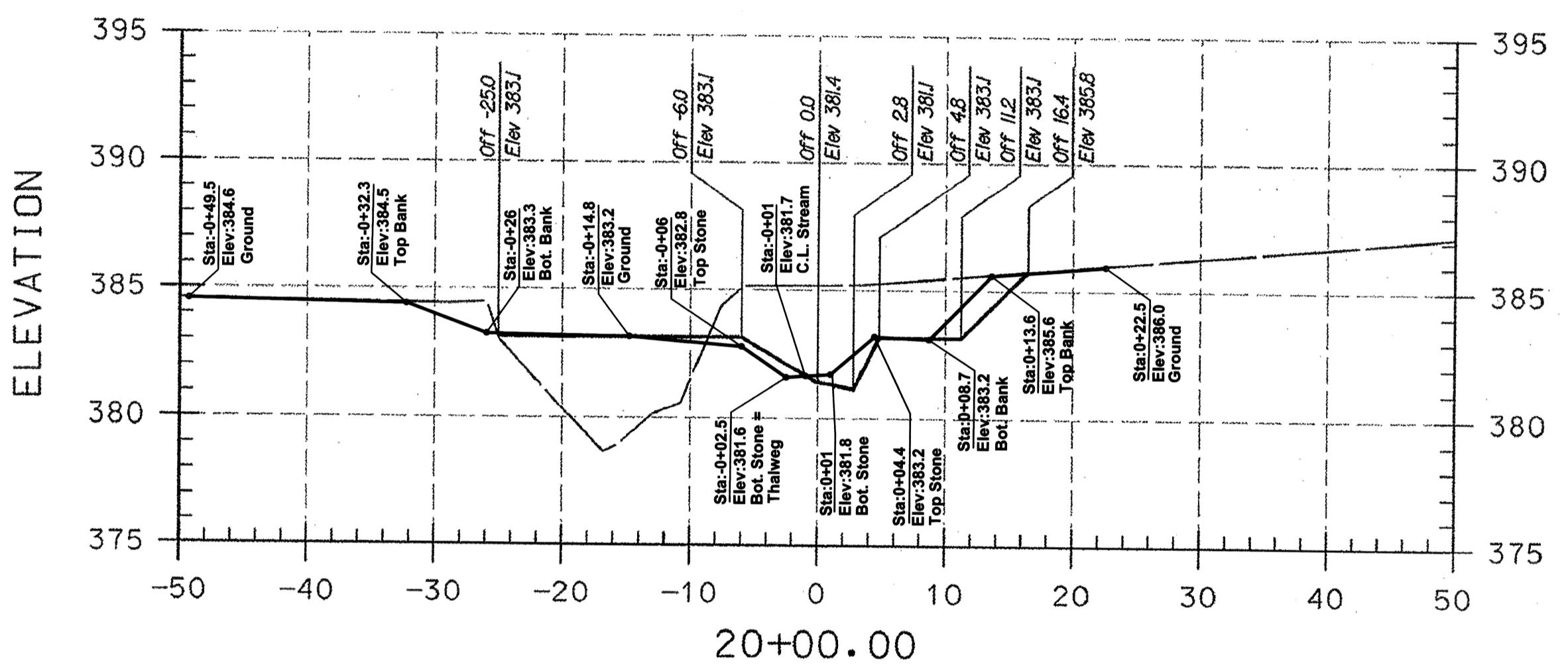
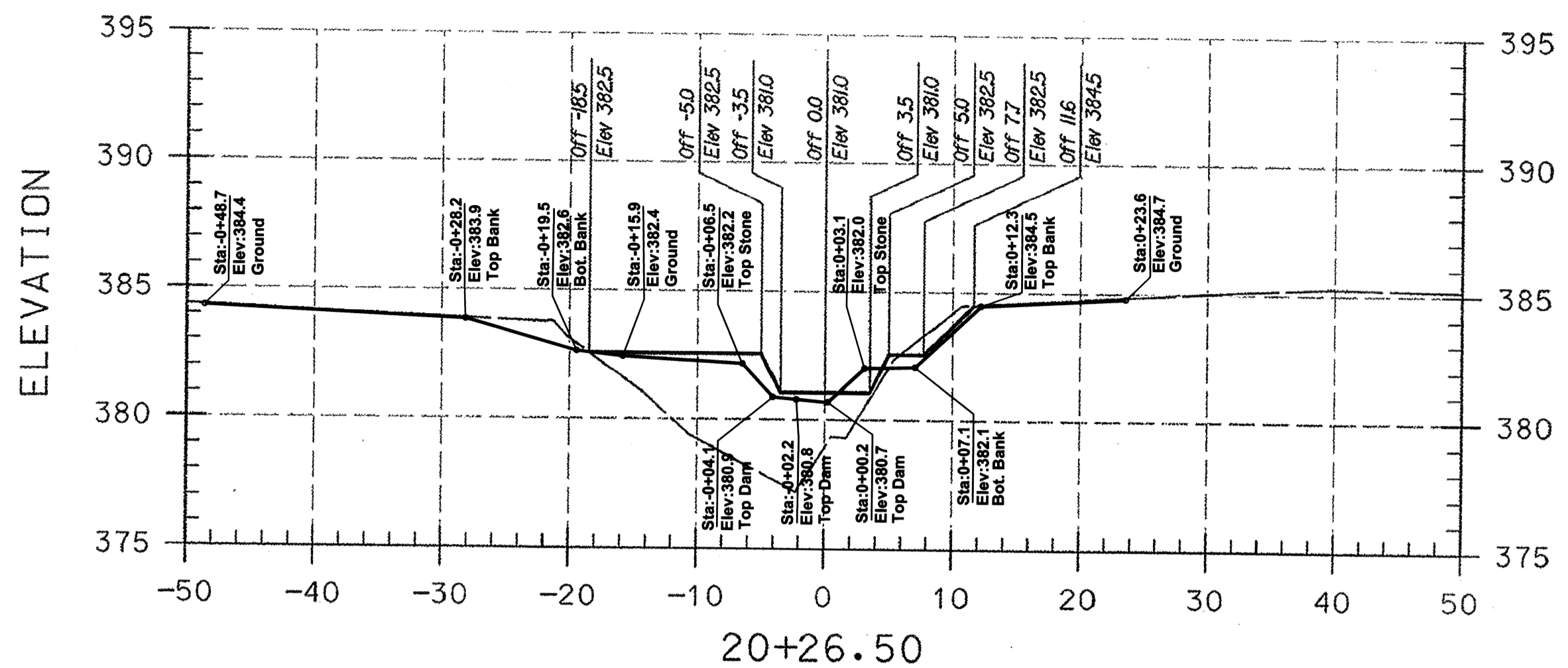
**BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3**
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
9000 WOODBURN DRIVE
COLUMBIA, MARYLAND 21046

CROSS SECTIONS

SCALE:	HOR. 1"=10'
	VERT. 1"=5'
DATE:	AUGUST 2009
KCI JOB NO.:	01081795.12
CAPITAL PROJECT NO.:	D1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

**AS-BUILT DRAWING
SHEET 32 OF 38**

State Contract No. H04085174
F.A. Project No. STP-31851F



PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715



PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 21201 EXPIRATION DATE: JANUARY 24, 2011

AS-BUILT NOTES:

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LEGEND

EXISTING GRADE

PROPOSED GRADE

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James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY



29 Aug 2012
Date

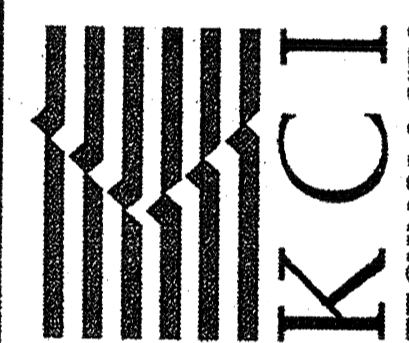
ASBUILT GRADES

AS-BUILT DRAWING
SHEET 33 OF 38

State Contract No. H04085174
F.A. District No. CPD-2/1851E

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
www.kci.com

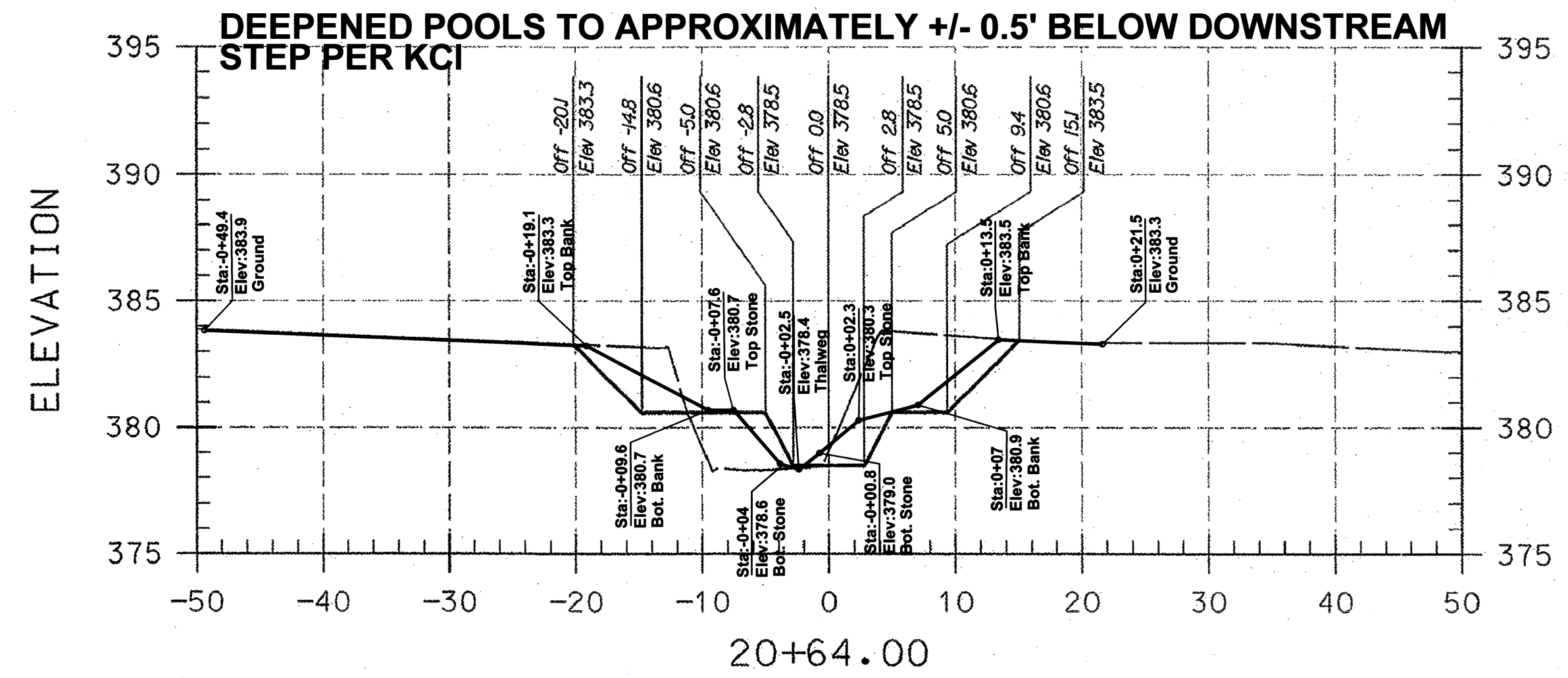
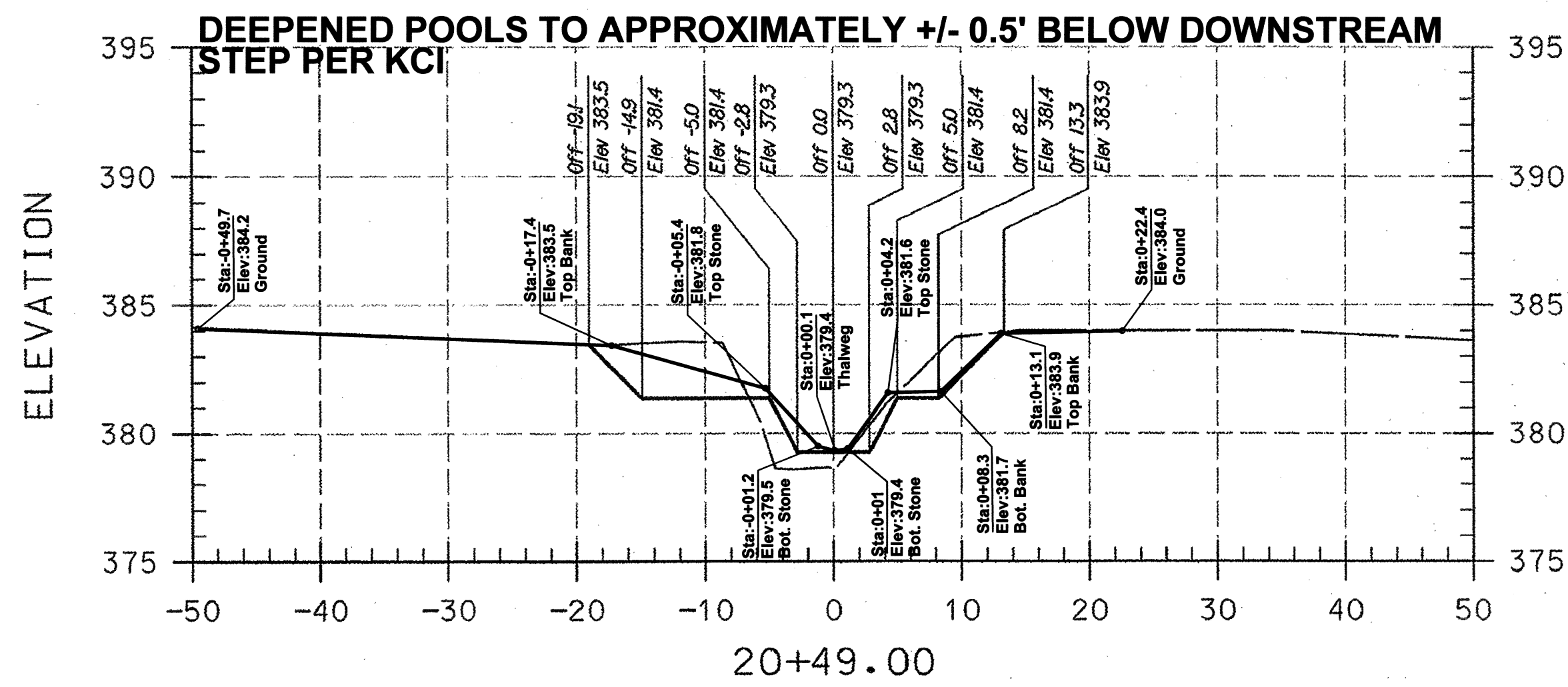
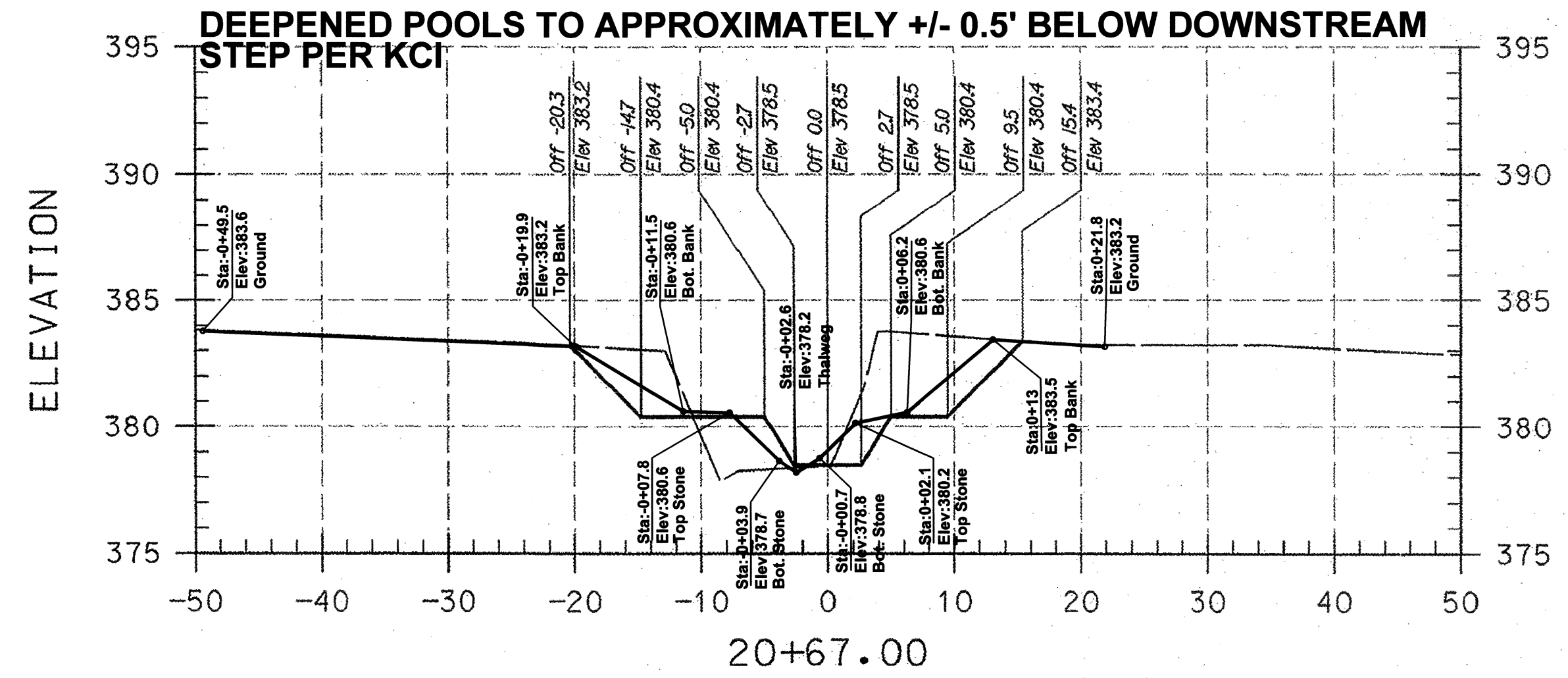
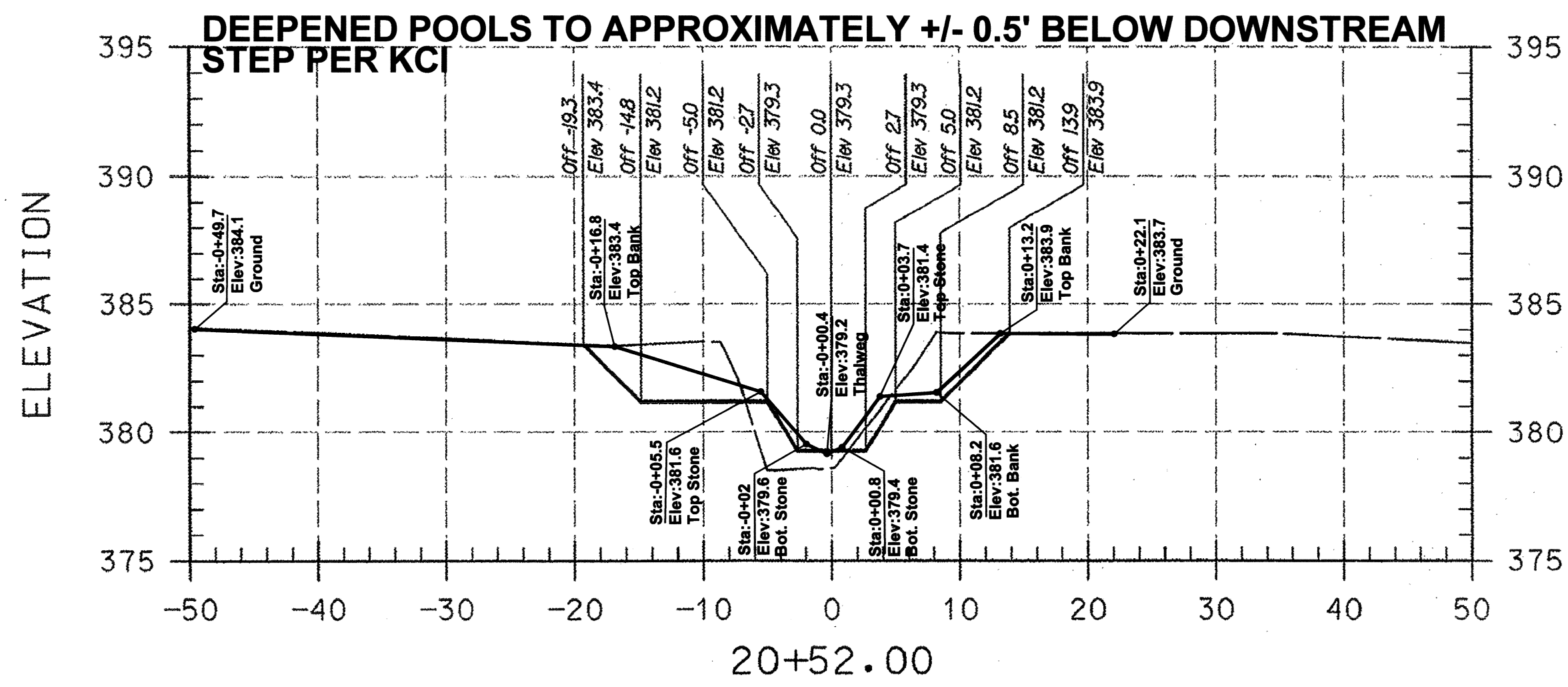
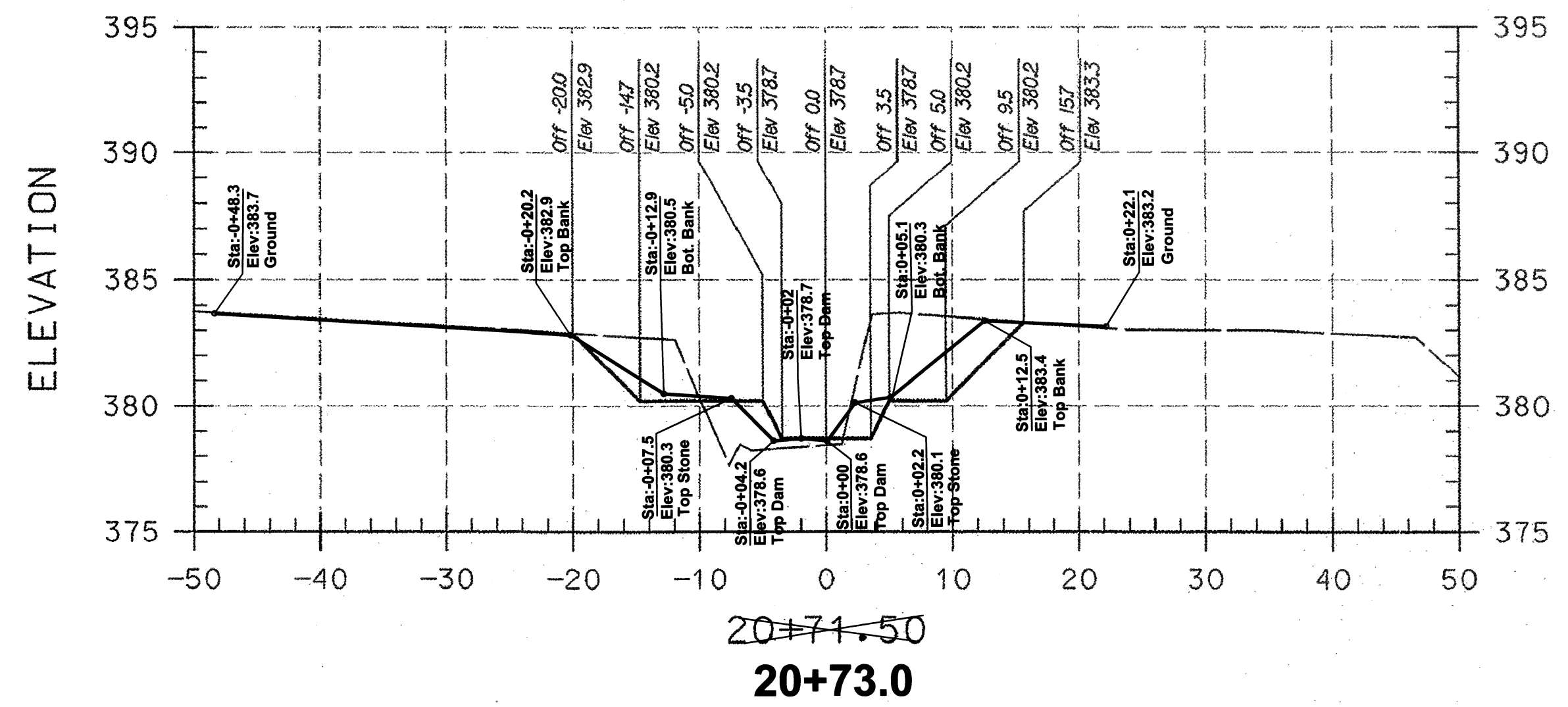
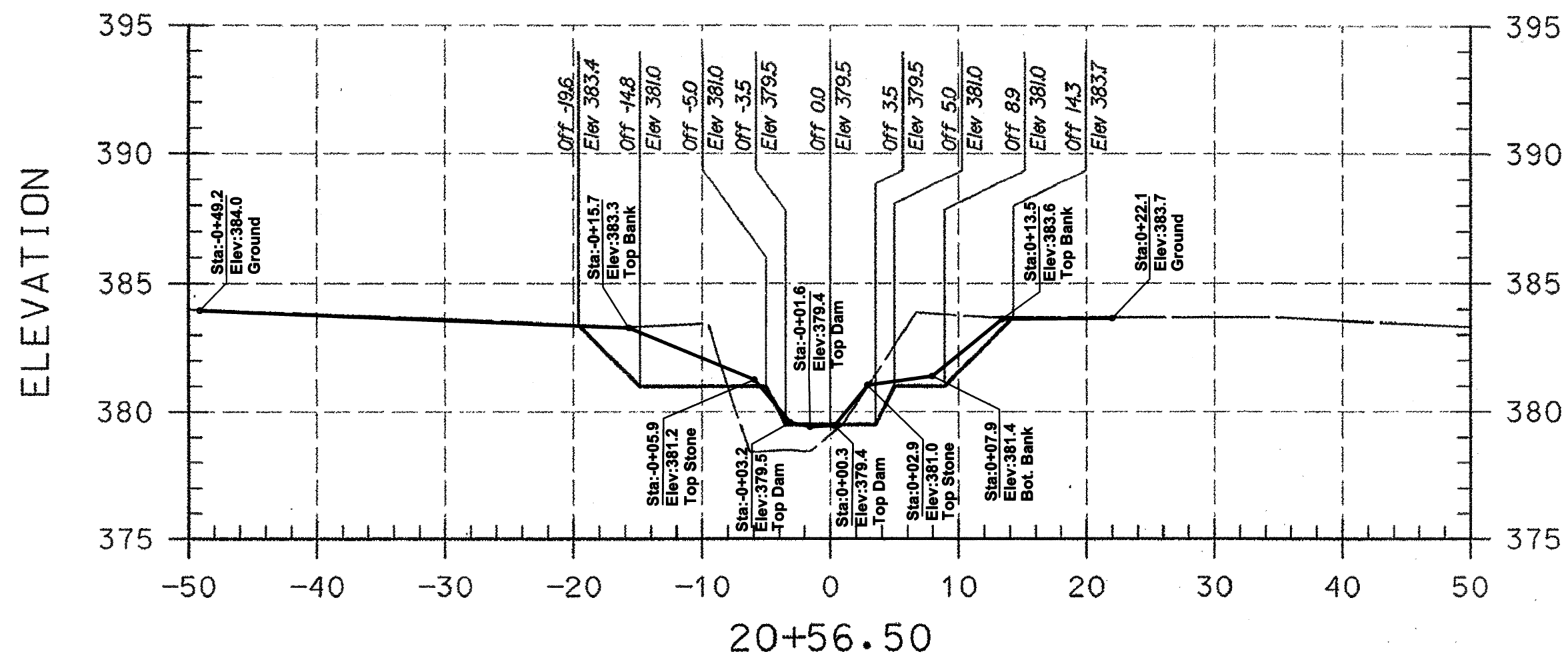


**BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3**

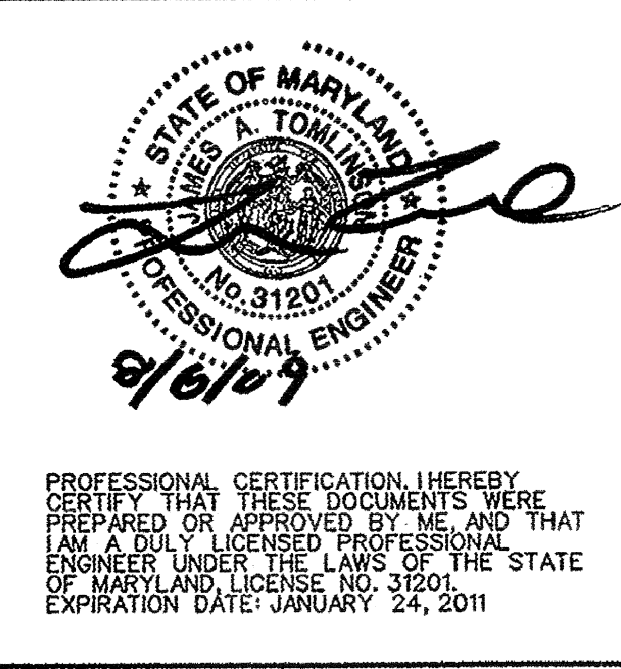
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STRUCTURES MANAGEMENT DIVISION
675 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

CROSS SECTIONS

SCALE:	HOR. 1"=10'
	VERT. 1"=5'
DATE:	AUGUST 2009
KCI JOB NO.:	01081795.12
CAPITAL PROJECT NO.:	D1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	



PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715



- AS-BUILT NOTES:
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LEGEND

EXISTING GRADE	---
PROPOSED GRADE	—

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James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY
Date: 29 Aug 2012



— ASBUILT GRADES

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
WWW.KCI.COM

**BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3**

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
67 COLUMBIA, WASHINGTON 20846

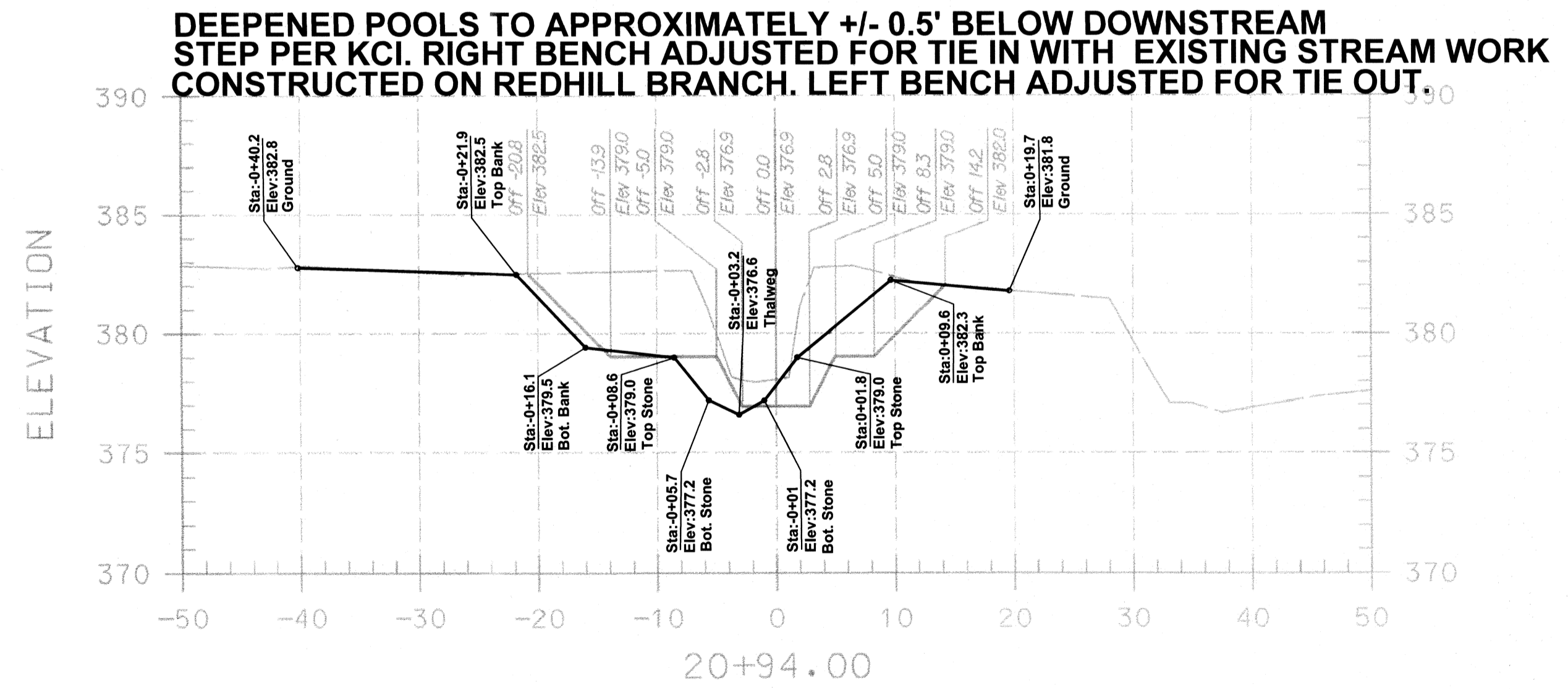
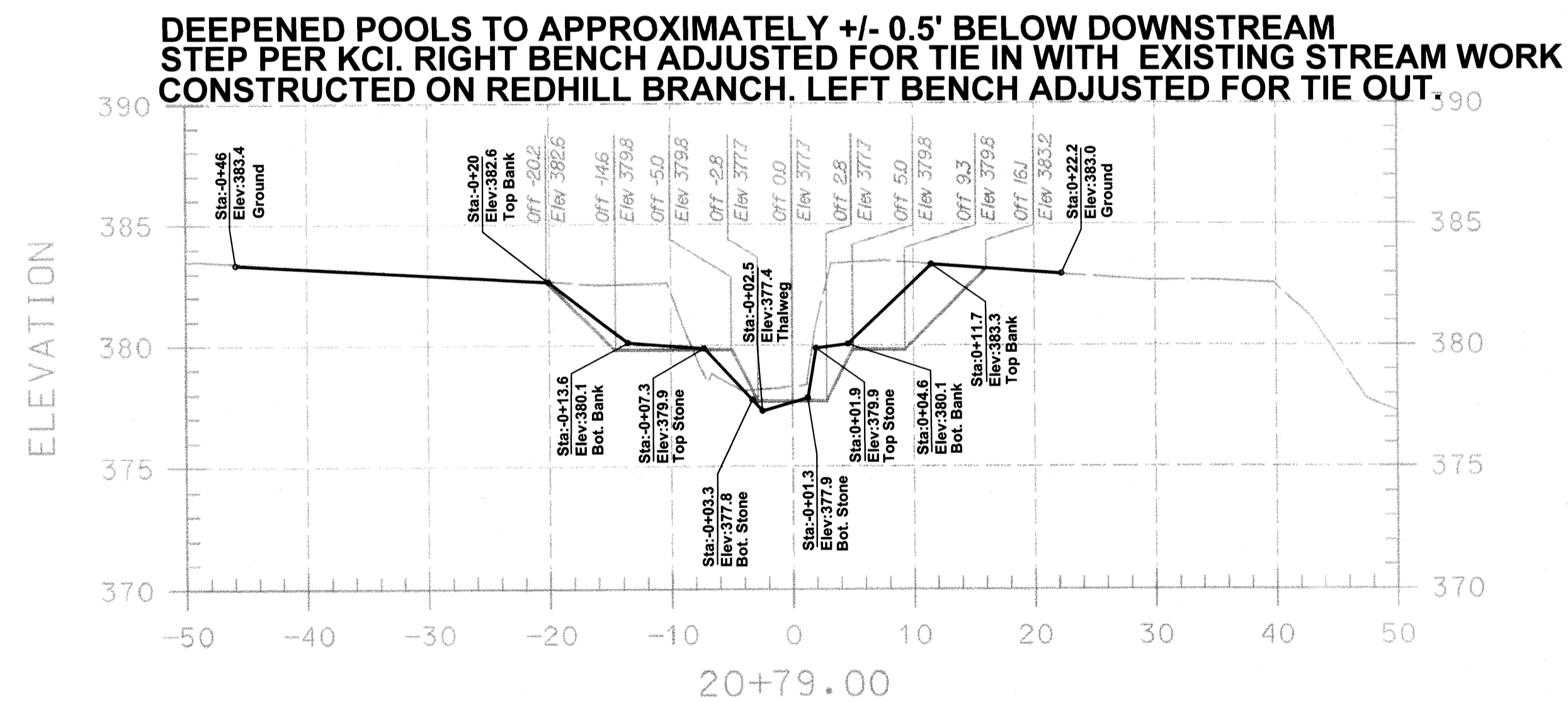
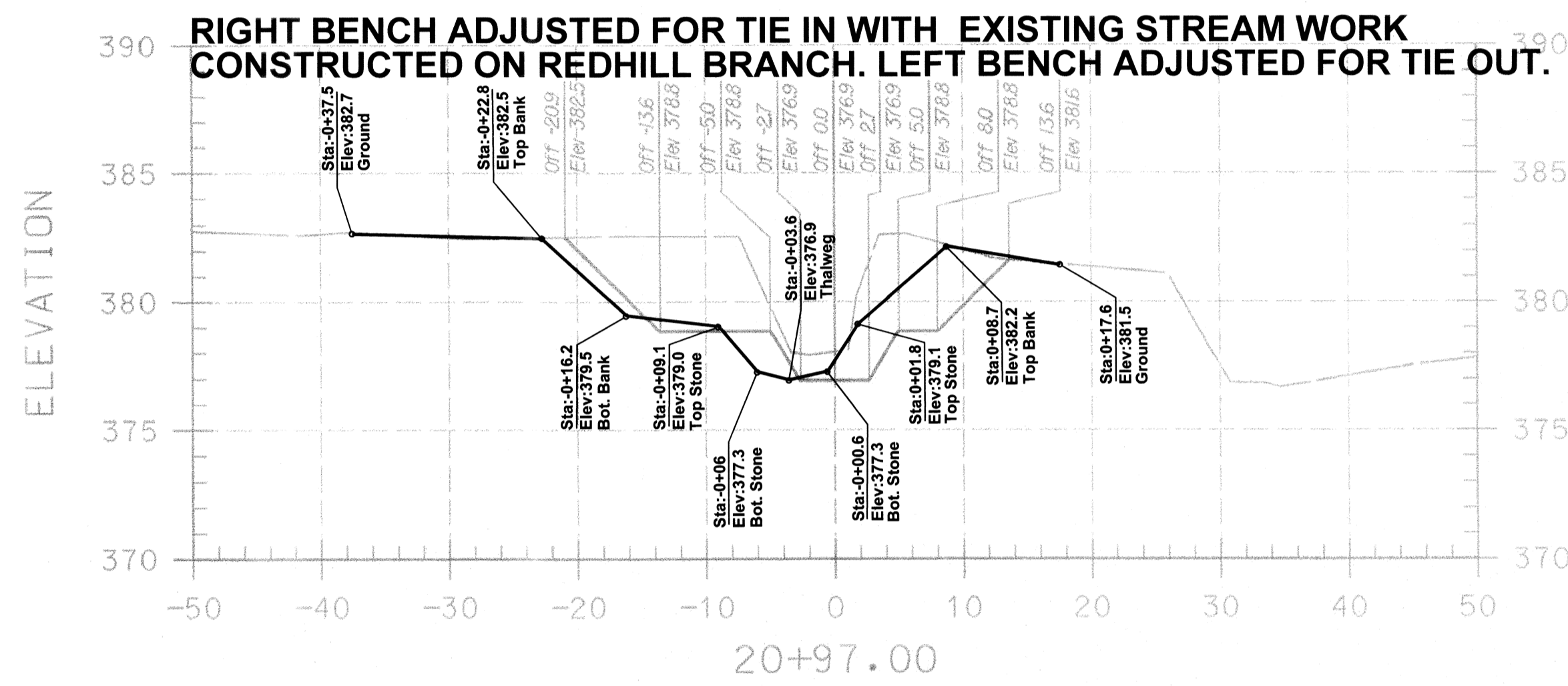
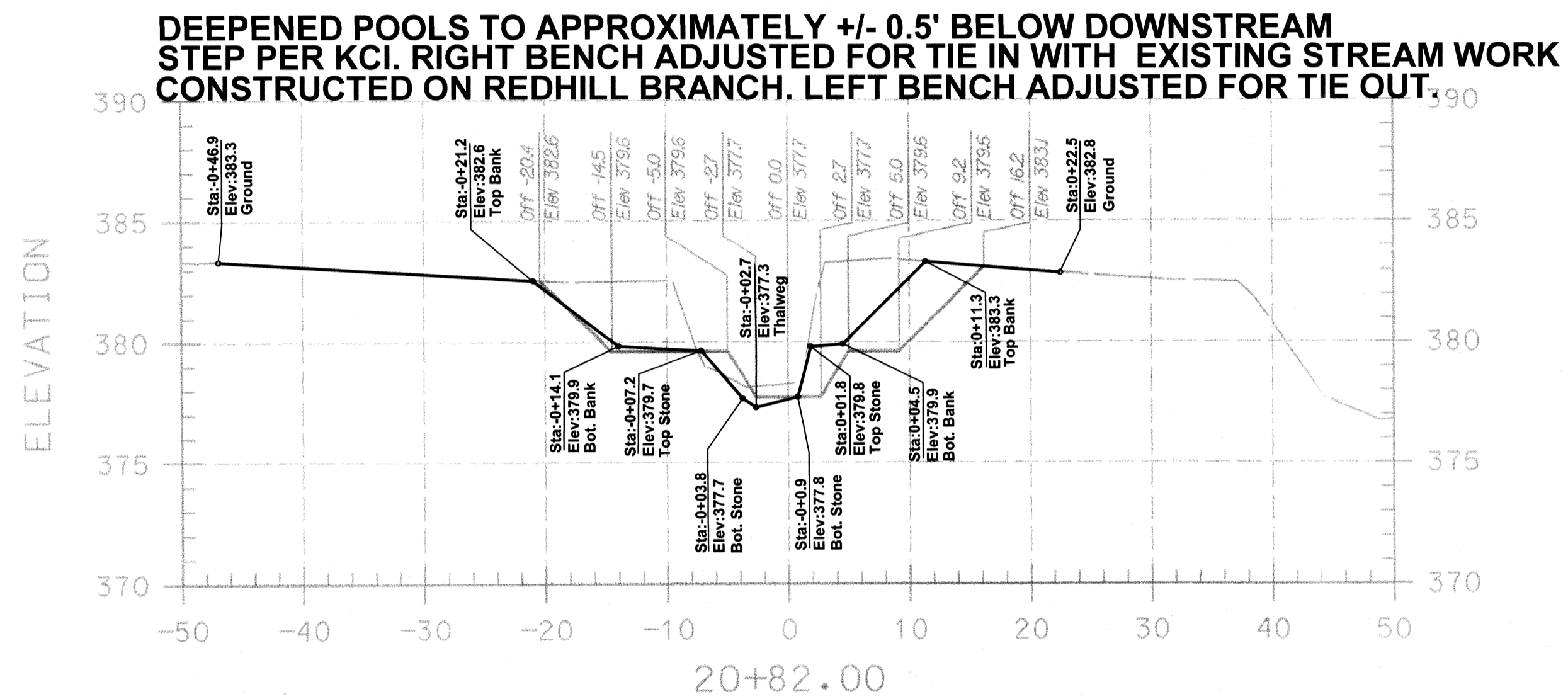
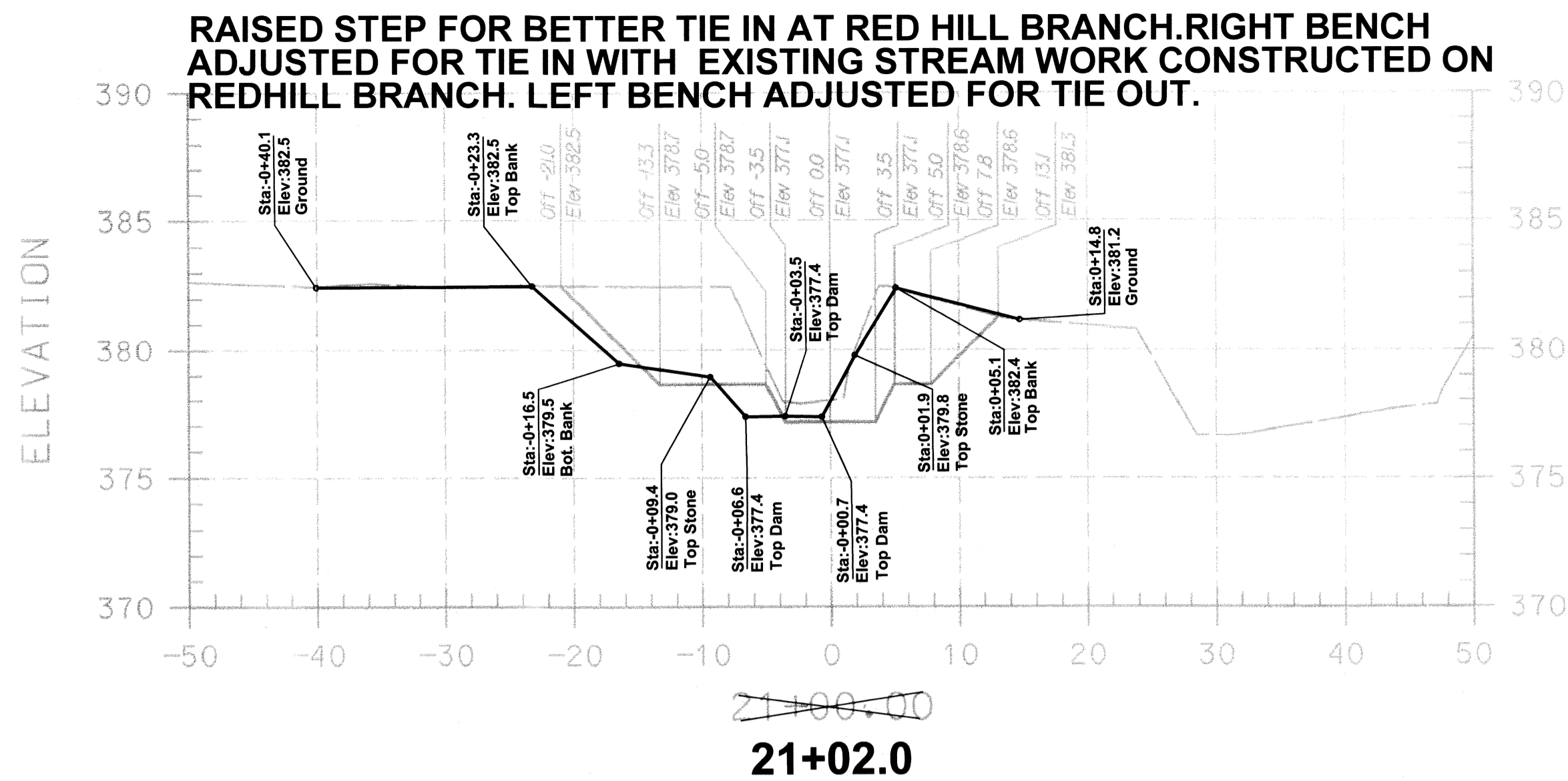
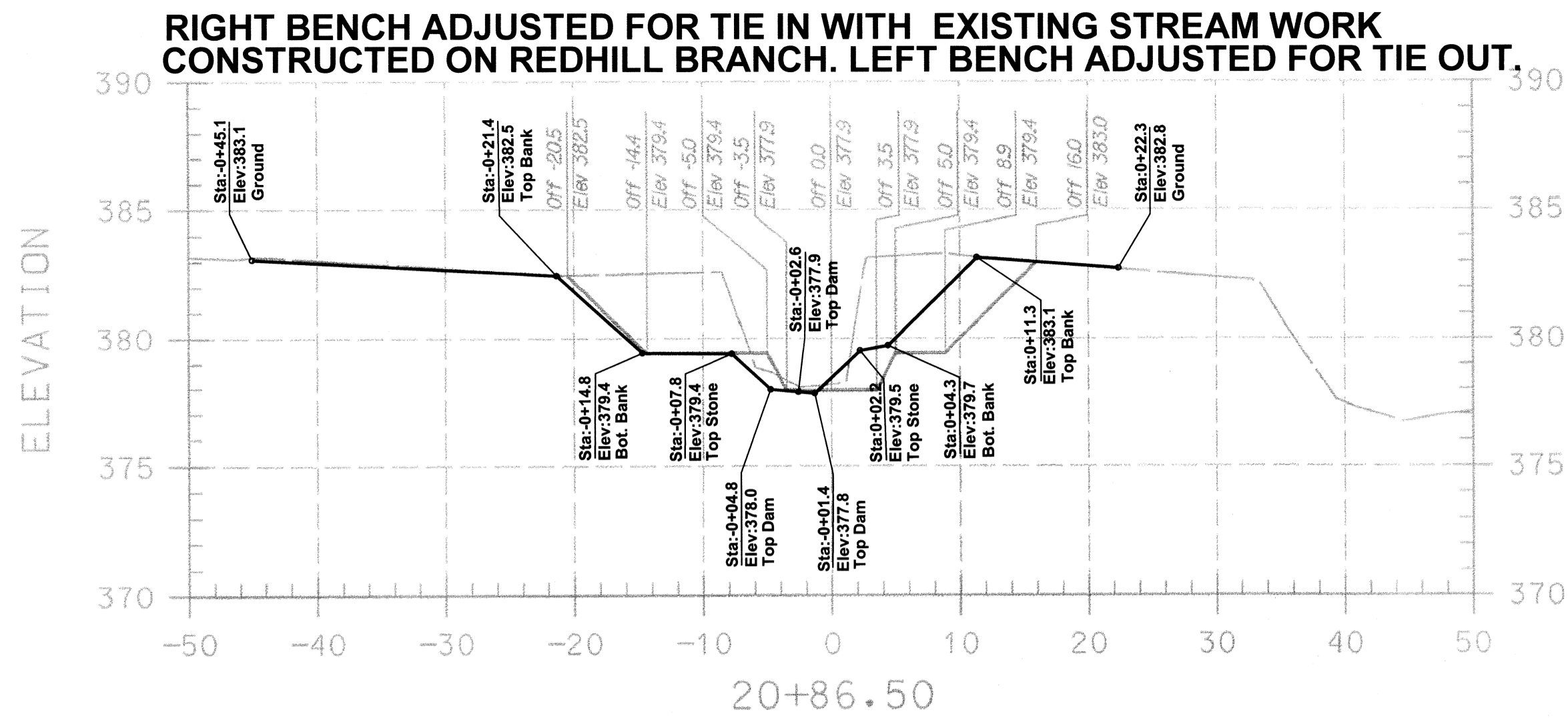
CROSS SECTIONS

SCALE:	HOR. 1"=10'
	VERT. 1"=5'
DATE:	AUGUST 2009
KCI JOB NO.:	01081795.12
CAPITAL PROJECT NO.:	D1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

**AS-BUILT DRAWING
SHEET 34 OF 38**

SHEET NO.: 26 OF 30

State Contract No. H04085174
C.A. Davis & Co. 2/10/12



PLAN PREPARED BY
A BETTER SURVEY LLC
9988 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715

AS-BUILT NOTES:

- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
- 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
- 3) FIELD WORK PERFORMED ON AND BETWEEN OCTOBER 24, 2011 AND APRIL 24, 2012.
- 4) STONE SHOWN IS VISIBLE STONE NOT FOUNDATION STONE.

LEGEND	
EXISTING GRADE	---
PROPOSED GRADE	—

NOTE:
UTILITIES SHOWN ON THESE PLANS HAVE BEEN LOCATED USING THE BEST AVAILABLE INFORMATION. HOWEVER, THE CONTRACTOR IS TO EXERCISE EXTREME CAUTION WHEN EXCAVATING NEAR ANY UTILITIES. TEST PIT IF REQUIRED.

I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF MARCH 02, 2012.

James P. O'Connor
James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY

3/29/2012
Date



PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 31291 EXPIRATION DATE: JANUARY 24, 2011

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
WWW.KCI.COM

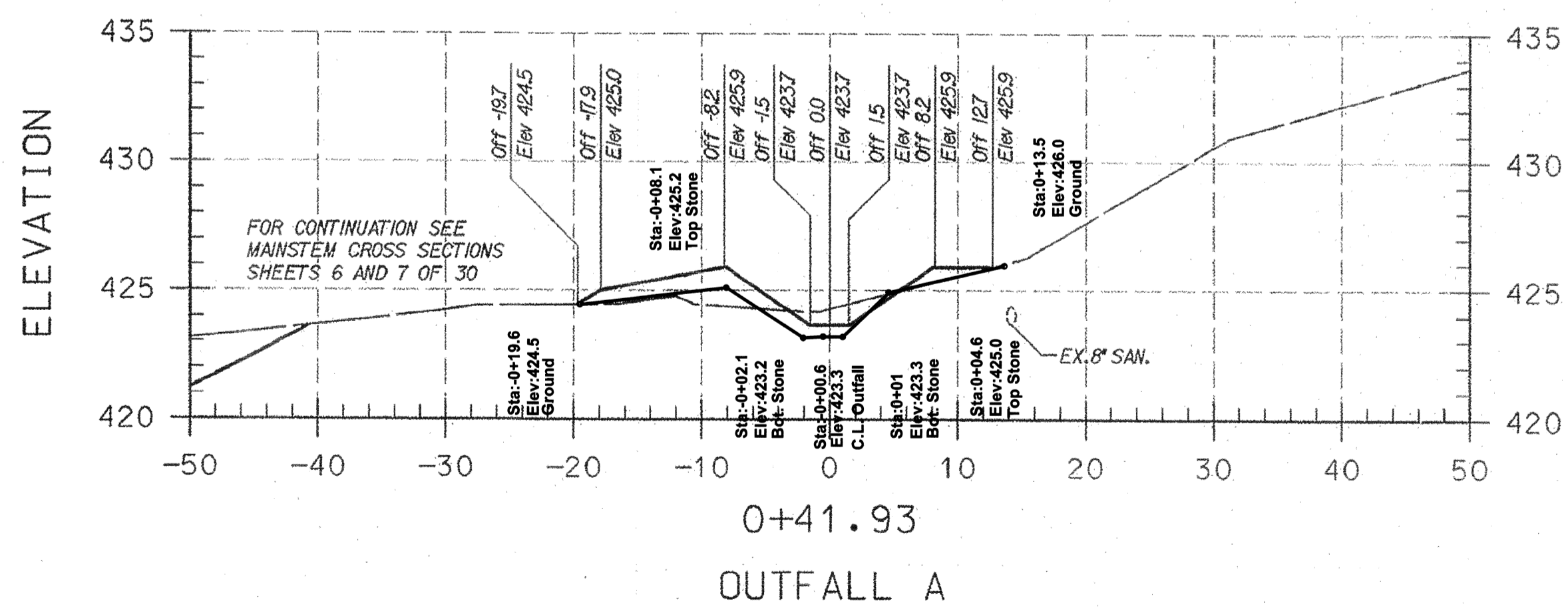
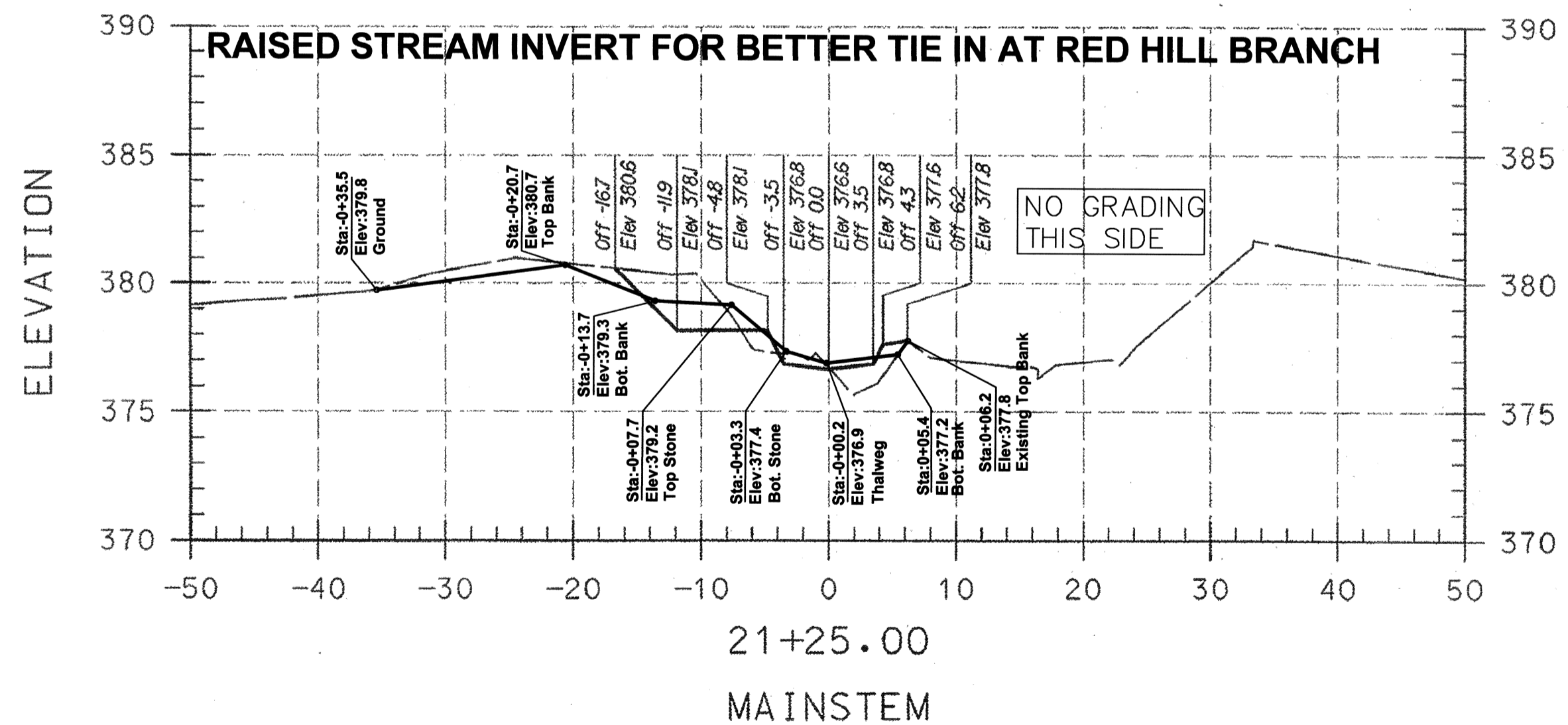
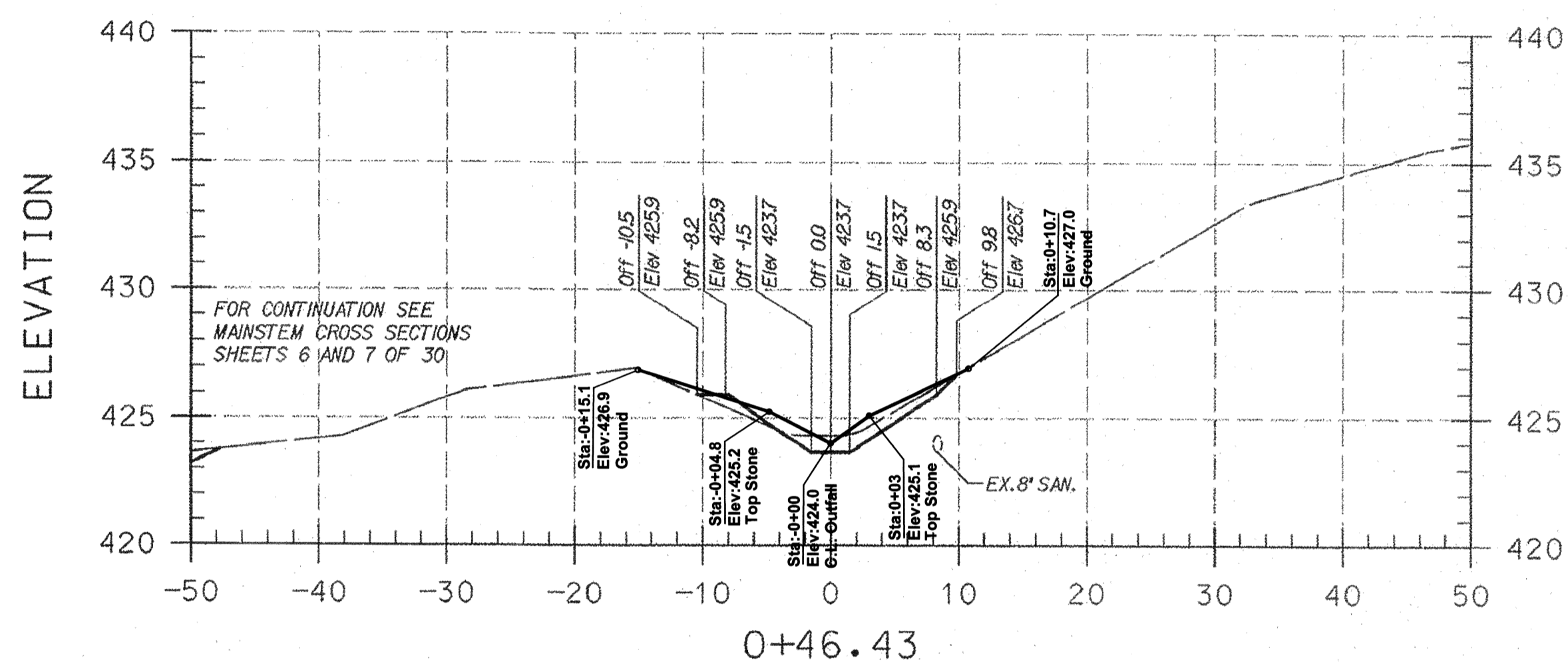
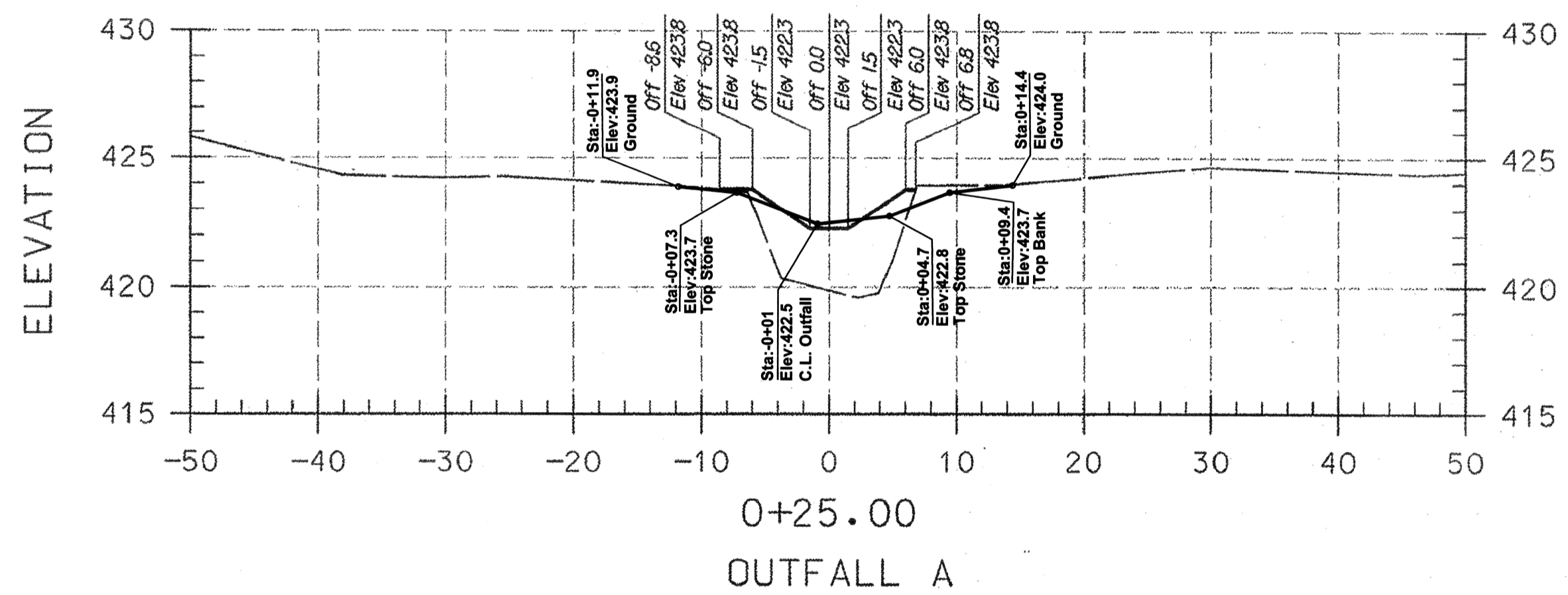
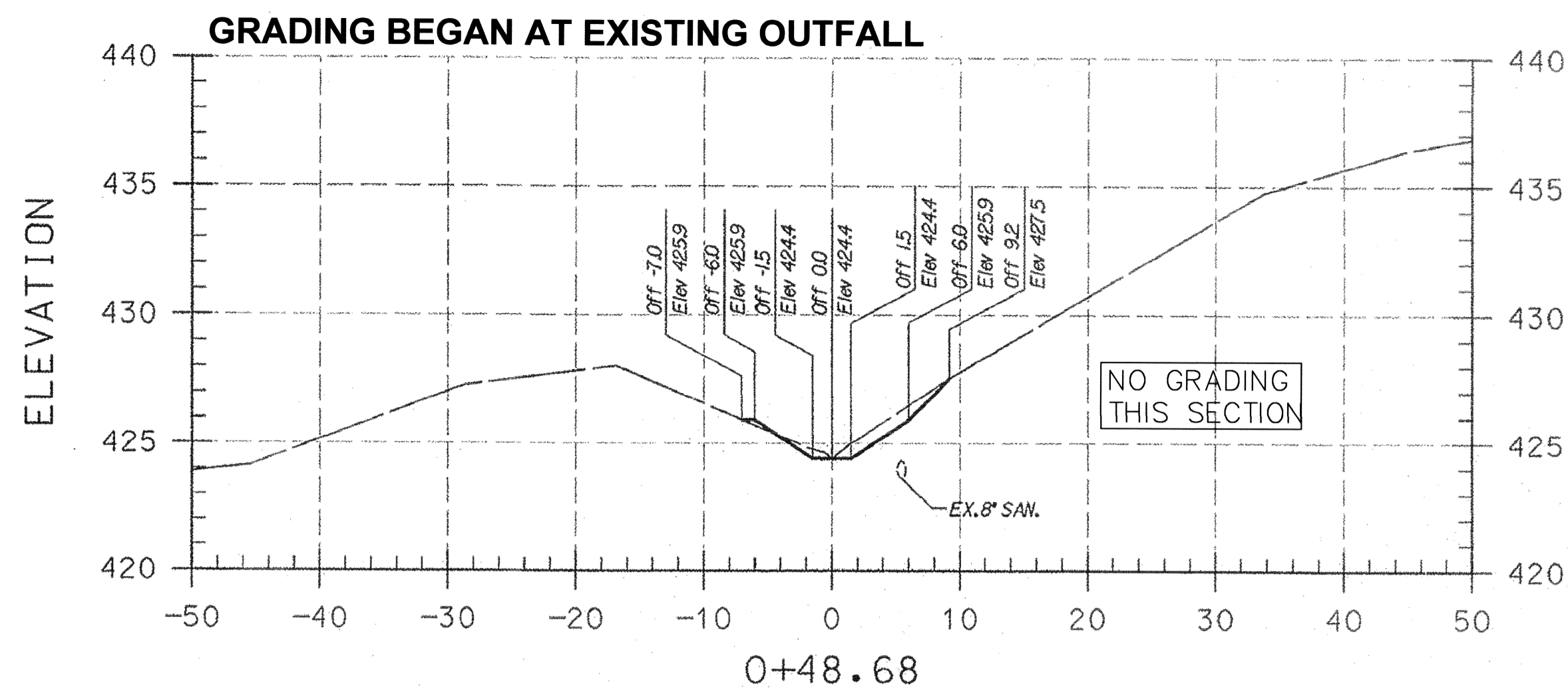
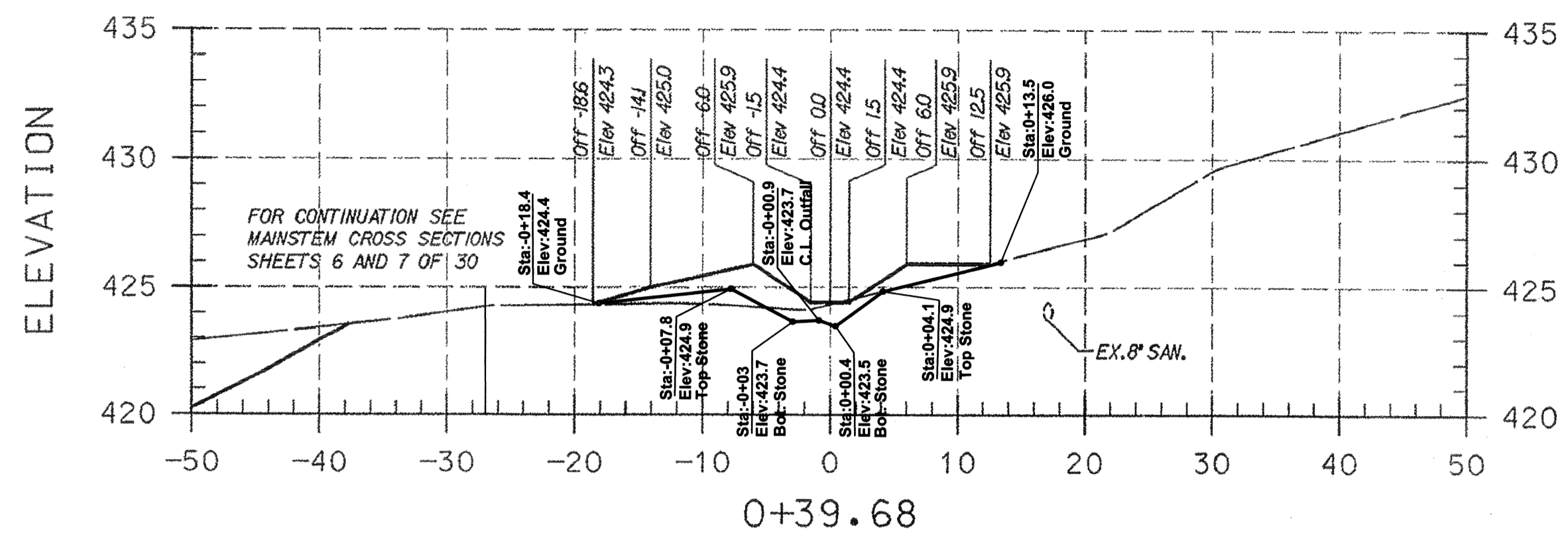
BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER DIVISION
6 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21045

CROSS SECTIONS

SCALE:	HOR. 1"=10'
	VERT. 1"=5'
DATE:	AUGUST 2009
KCI JOB NO.:	01081795.12
CAPITAL PROJECT NO.:	D1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

AS-BUILT DRAWING
SHEET 35 OF 38



PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715

AS-BUILT NOTES:

- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
- 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
- 3) FIELD WORK PERFORMED ON AND BETWEEN OCTOBER 24, 2011 AND APRIL 24, 2012.
- 4) STONE SHOWN IS VISIBLE STONE NOT FOUNDATION STONE.

LEGEND	
EXISTING GRADE	—————
PROPOSED GRADE	—————

NOTE:
UTILITIES SHOWN ON THESE PLANS HAVE BEEN LOCATED USING THE BEST AVAILABLE INFORMATION. HOWEVER, THE CONTRACTOR IS TO EXERCISE EXTREME CAUTION WHEN EXCAVATING NEAR ANY UTILITIES. TEST PIT IF REQUIRED.

I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF MARCH 02, 2012.

J.P. O'Connor
James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY



29 July 2012
Date

ASBUILT GRADES



PROFESSIONAL CERTIFICATION HEREBY CERTIFIES THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 91810, EXPIRATION DATE: JANUARY 24, 2011

AS-BUILT DRAWING
SHEET 36 OF 38

State Contract No. H4085174
F.A. Project No. STP-2/1851F

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
www.kci.com

BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
675 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

CROSS
SECTIONS

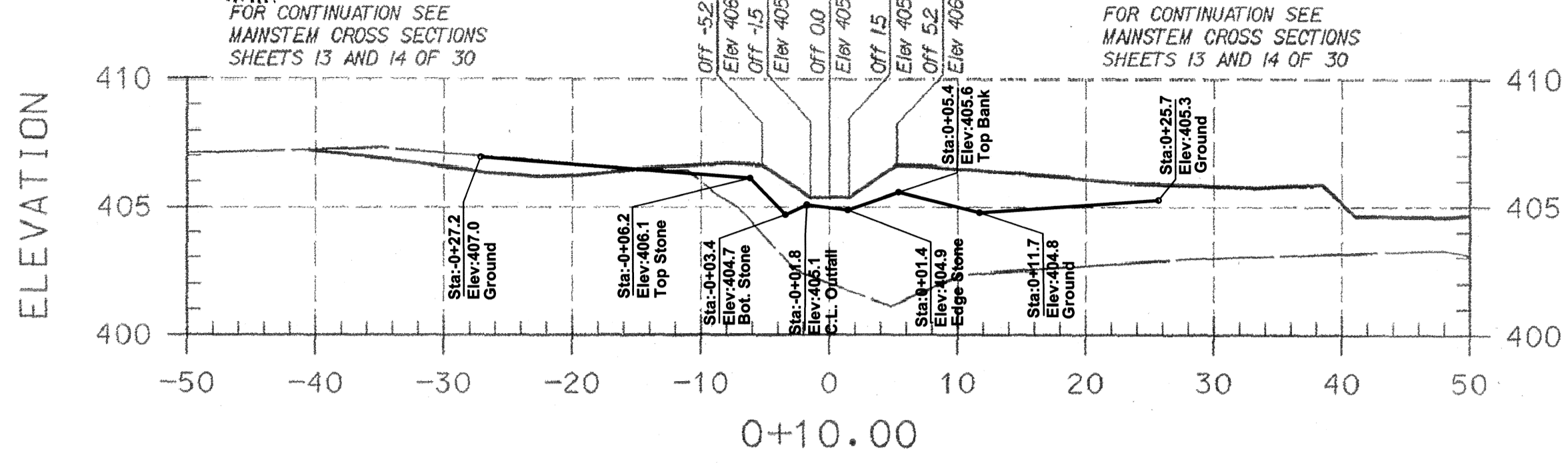
SCALE:	HOR. 1"=10'
	VERT. 1"=5'
DATE:	AUGUST 2009
KCI JOB NO.:	01081795.12
CAPITAL PROJECT NO.:	D1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF MARCH 02, 2012.

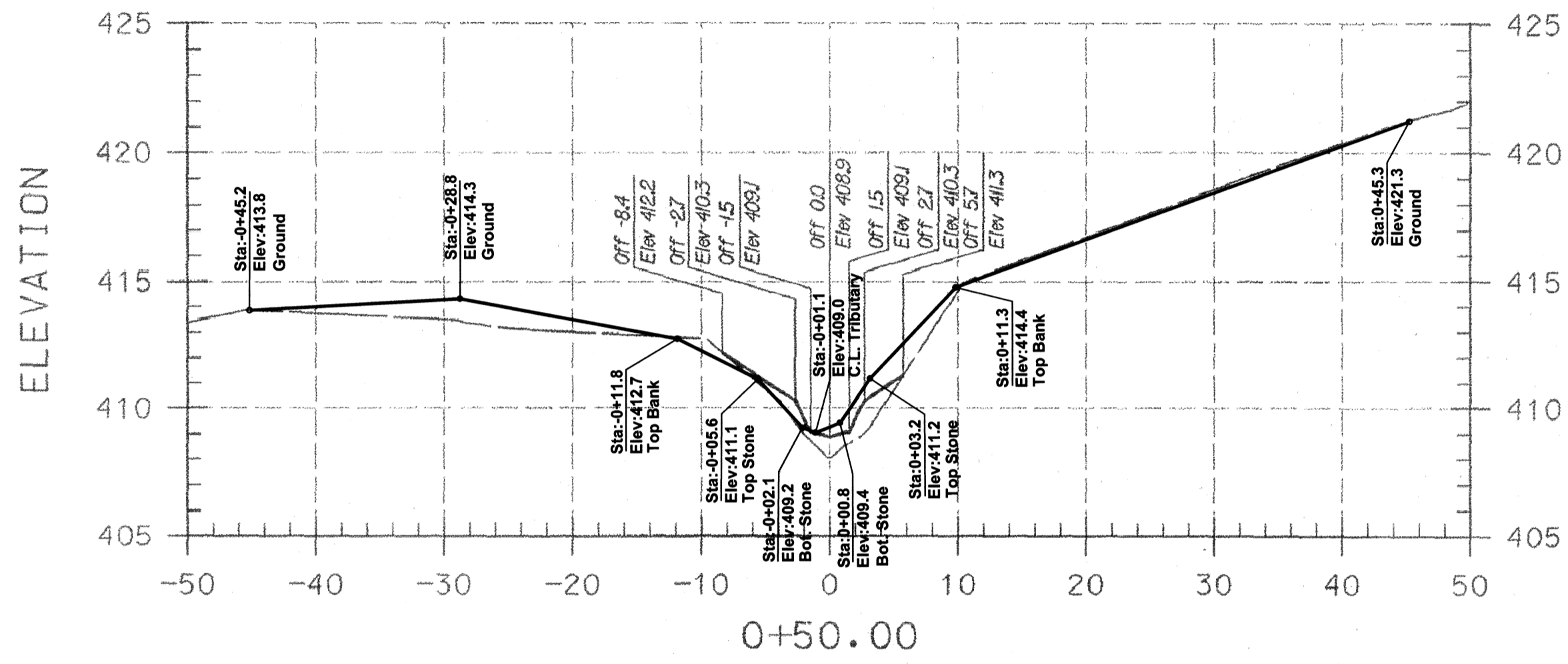
James P. O'Connor, Prof. L. S.
 Reg. No. 200006 Ex. 09/2013
 FOR AS-BUILT INFORMATION ONLY



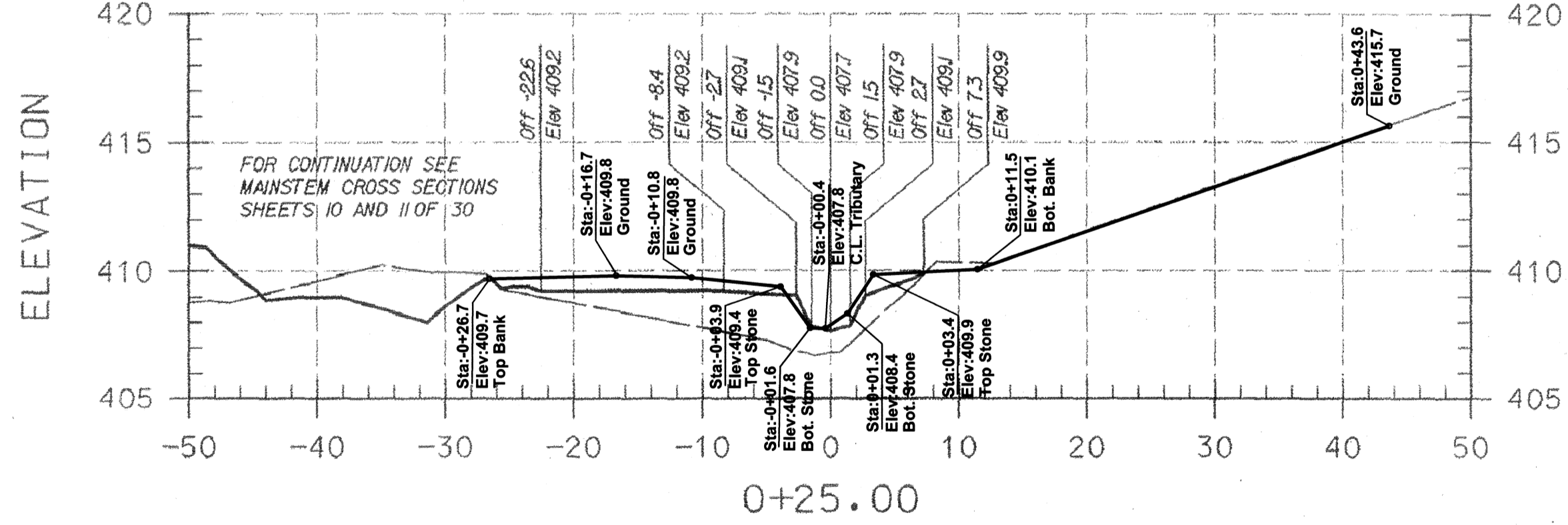
29 Aug 2012
 Date



OUTFALL B



TRIBUTARY 1



TRIBUTARY 1

AS-BUILT NOTES:

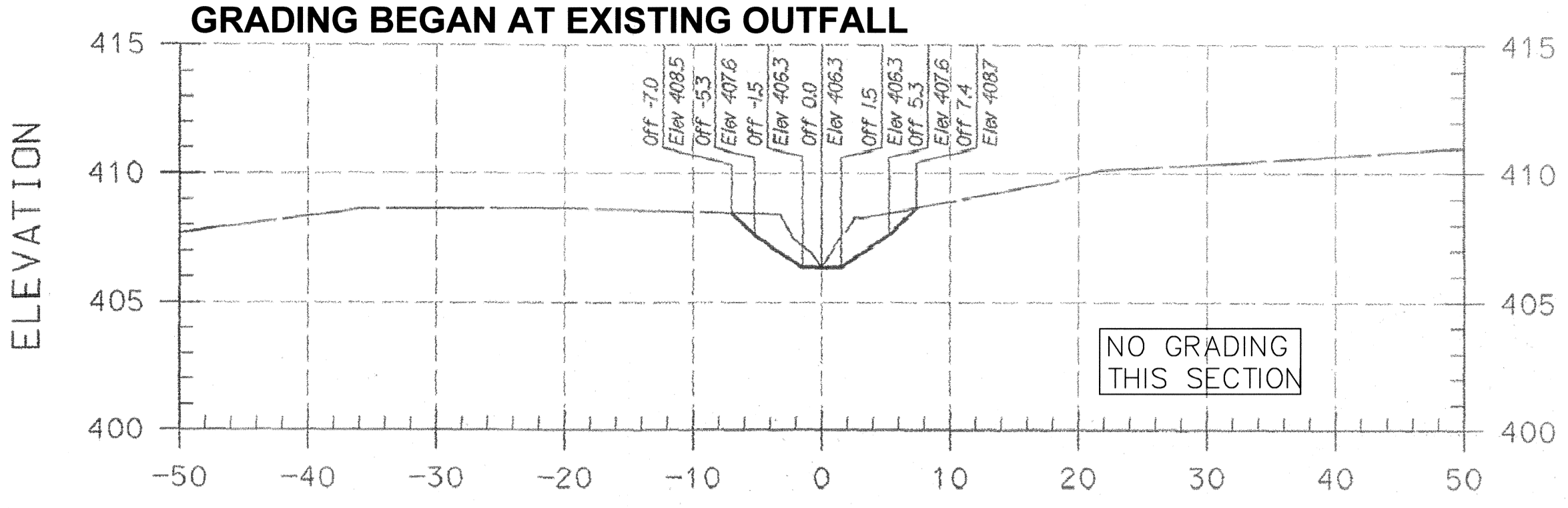
- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
- 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
- 3) FIELD WORK PERFORMED ON AND BETWEEN OCTOBER 24, 2011 AND APRIL 24, 2012.
- 4) STONE SHOWN IS VISIBLE STONE NOT FOUNDATION STONE.

LEGEND

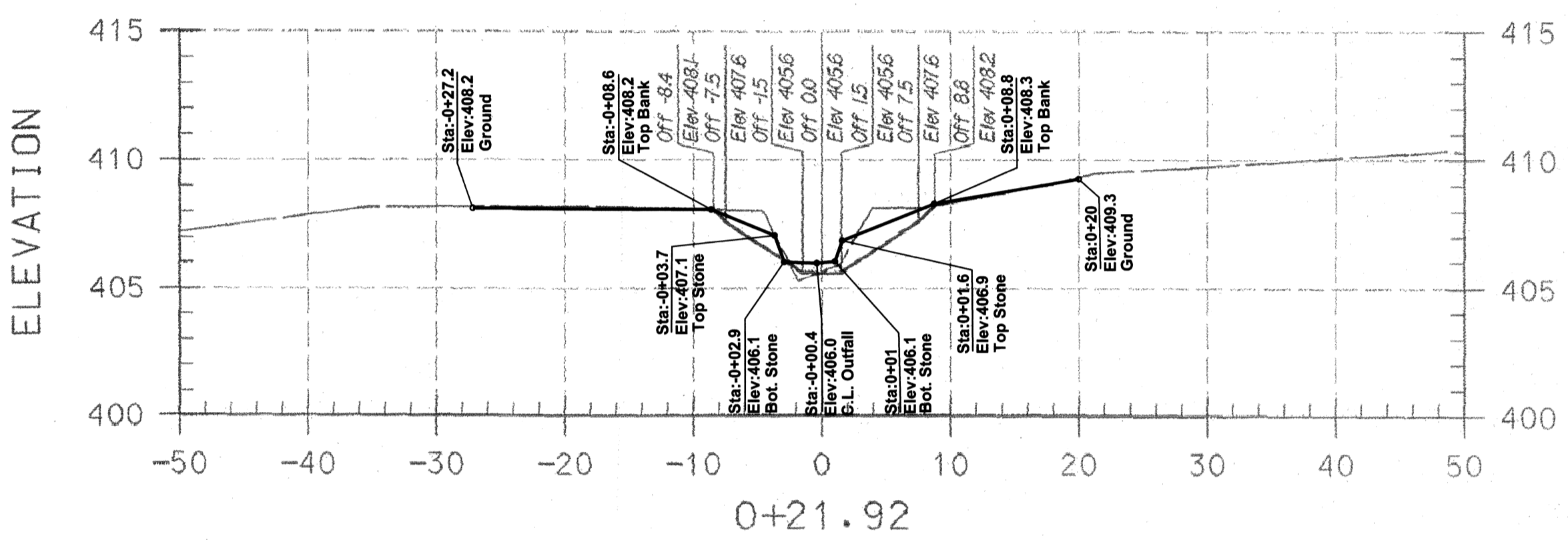
EXISTING GRADE
 PROPOSED GRADE

ASBUILT GRADES

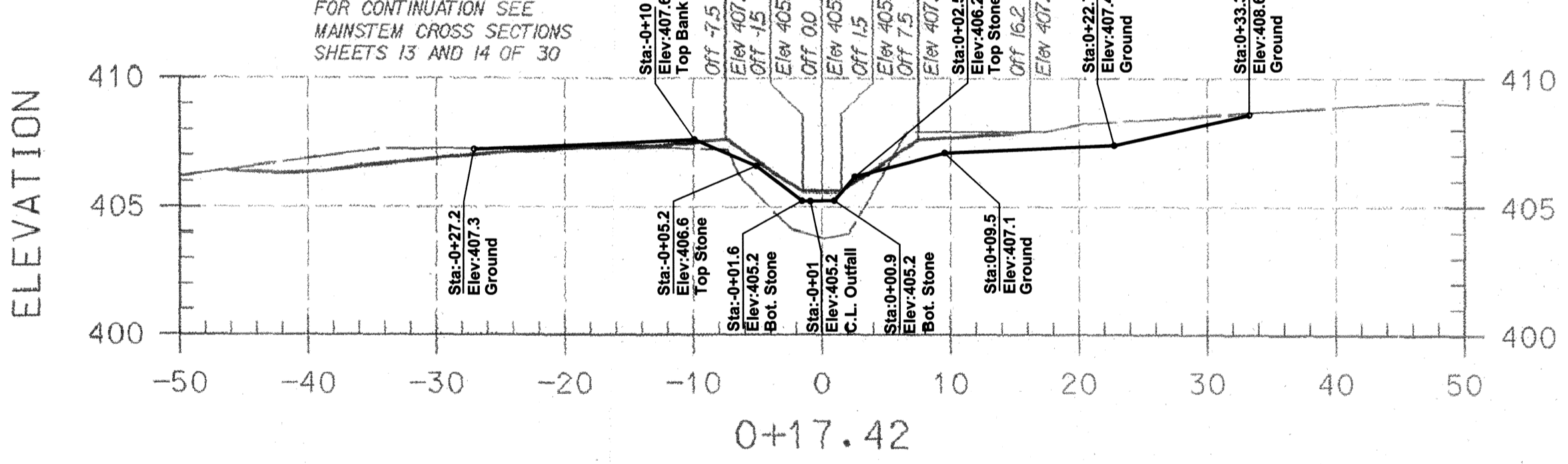
NOTE: UTILITIES SHOWN ON THESE PLANS HAVE BEEN LOCATED USING THE BEST AVAILABLE INFORMATION. HOWEVER, THE CONTRACTOR IS TO EXERCISE EXTREME CAUTION WHEN EXCAVATING NEAR ANY UTILITIES. TEST PIT IF REQUIRED.



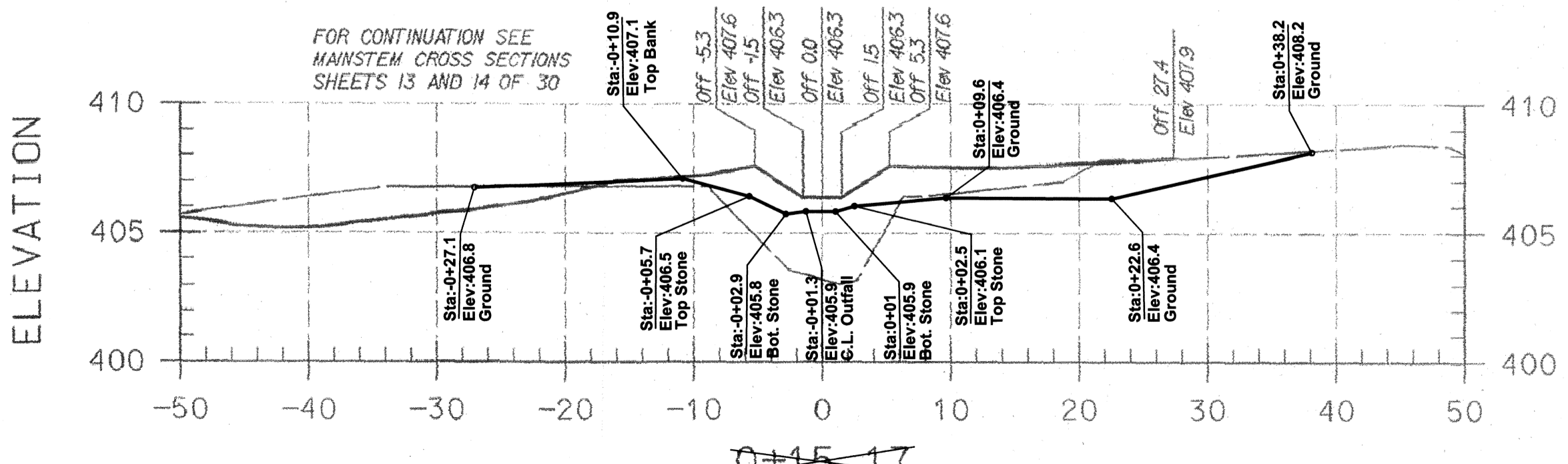
OUTFALL B



OUTFALL B

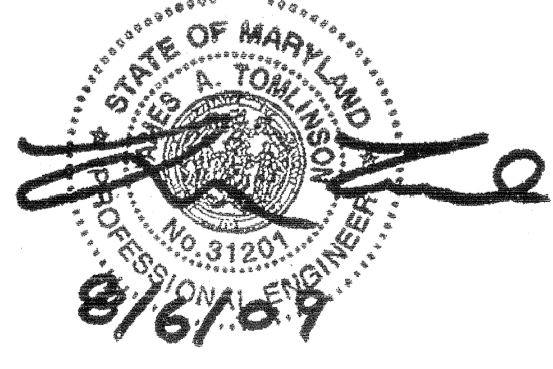


OUTFALL B



OUTFALL B

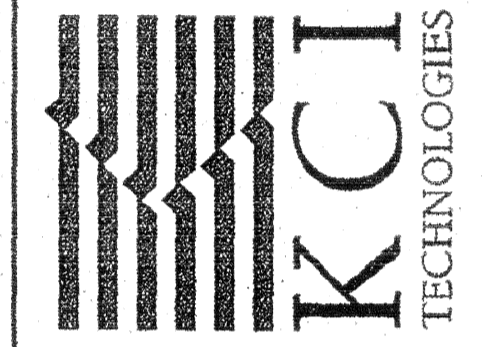
PLAN PREPARED BY
 A BETTER SURVEY LLC
 9998 LODGE ROAD
 BALTIMORE, MARYLAND
 21234
 (410) 652 2715



PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 91201 EXPIRATION DATE: JANUARY 24, 2011

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 WWW.KCI.COM



BRAMPTON HILLS
 STREAM STABILIZATION
 SECTION 4, AREAS 1,2,3

CROSS SECTIONS

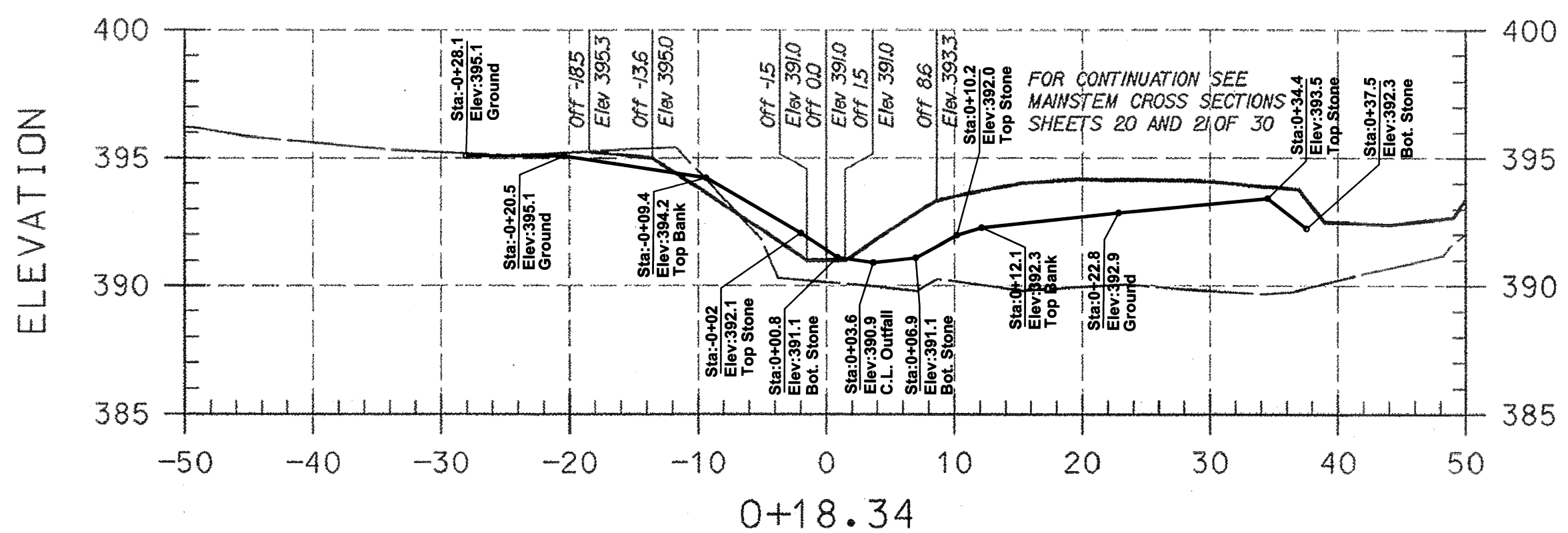
SCALE:	HOR. 1"=10'
	VERT. 1"=5'
DATE:	AUGUST 2009
PROJECT NO.:	01081795.12
CAPITAL PROJECT NO.:	D1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF APRIL 24, 2012.

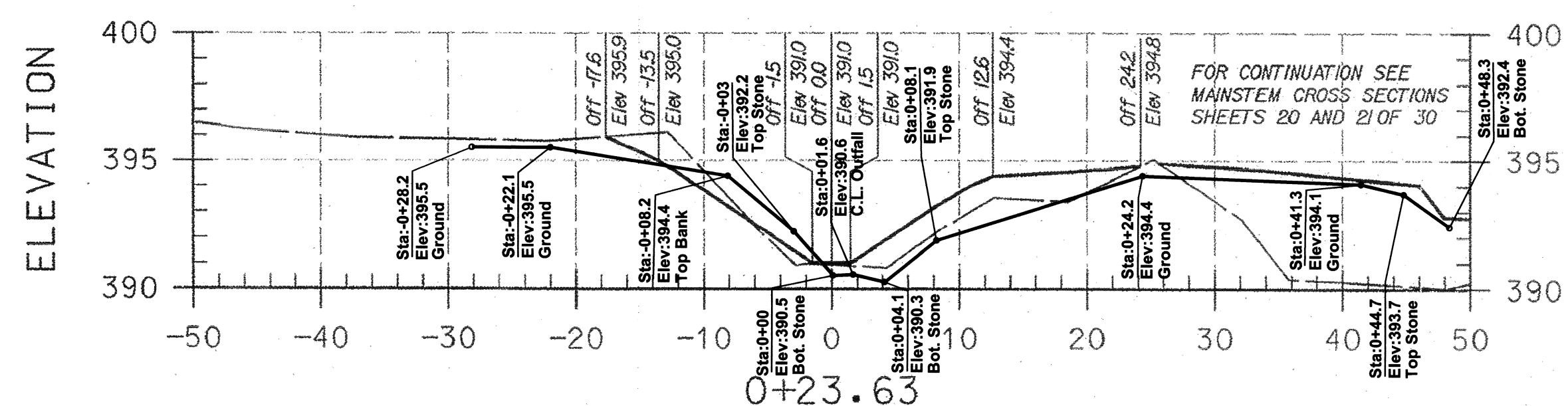
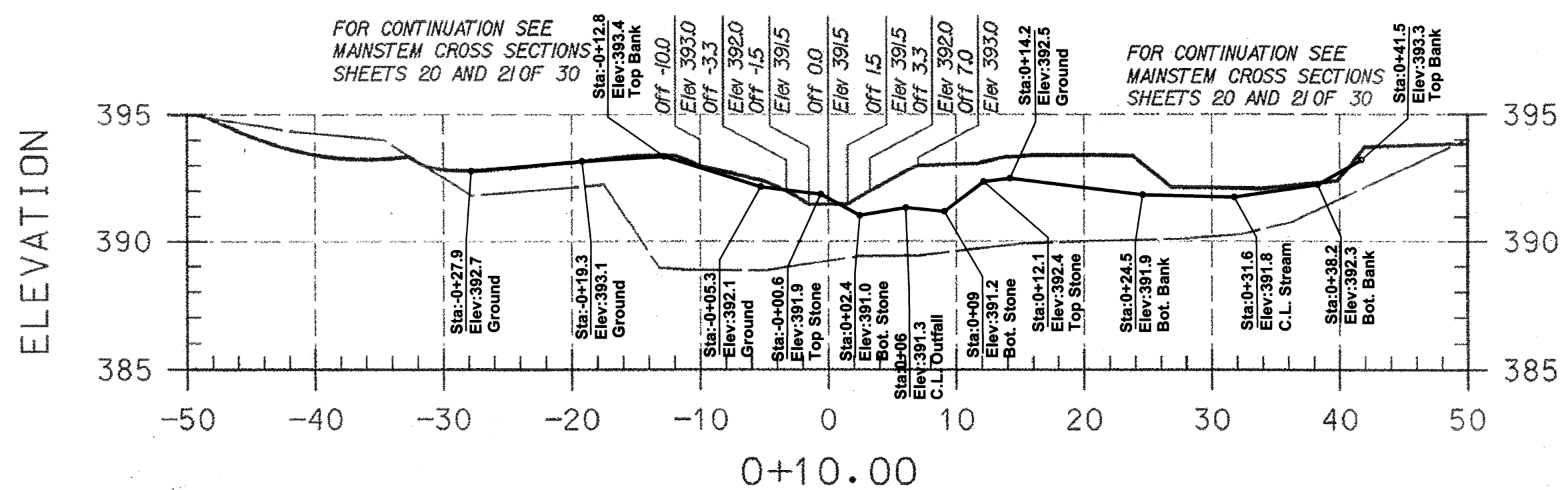
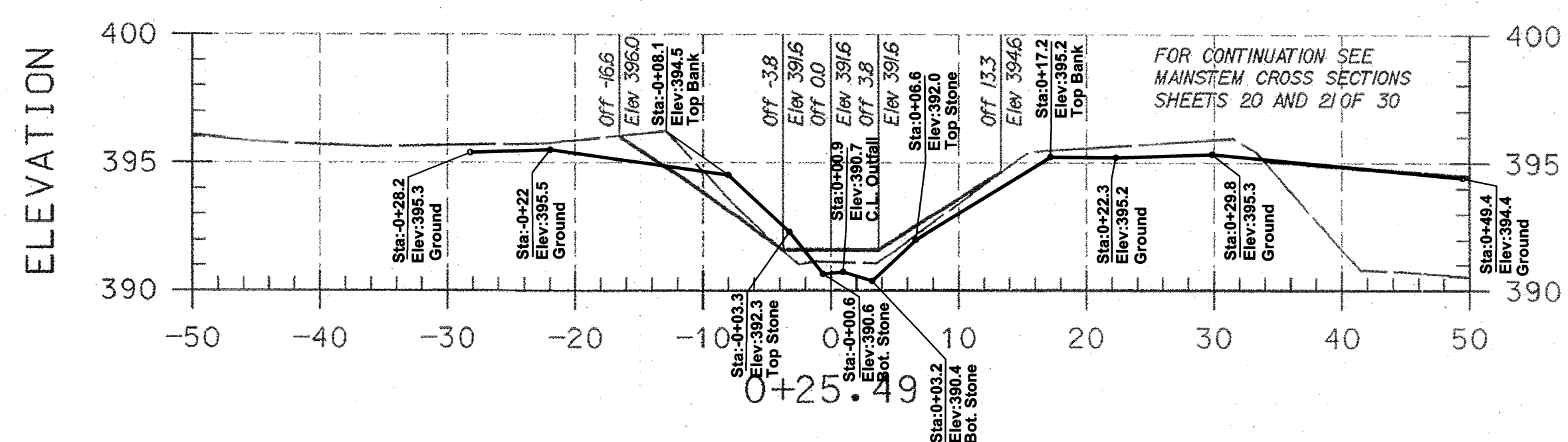
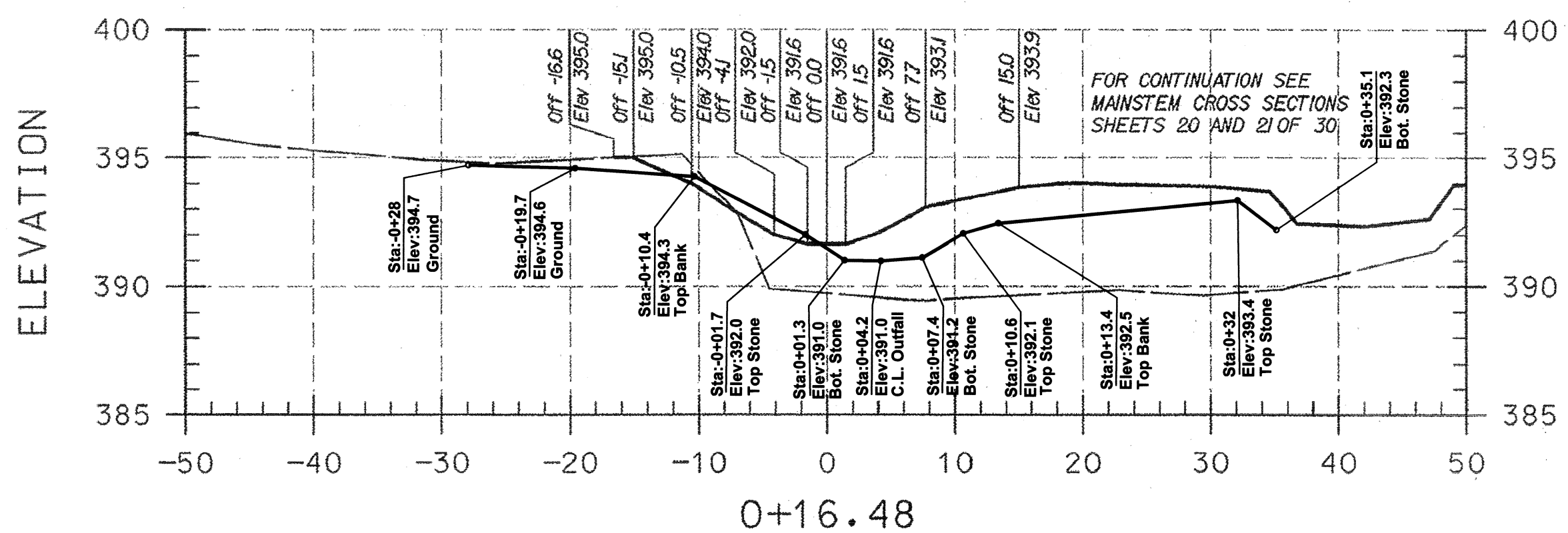
J.P. Potl...

29 April 2012
Date

James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY



**SURVEY PERFORMED POST CONSTRUCTION -
OUTFALL C HAS BEEN ADJUSTED POST CONSTRUCTION DUE TO
STORM EVENTS. NO AS-BUILT WAS SURVEYED FOR THIS OUTFALL
AFTER THE REPAIR.**



OUTFALL C

PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715

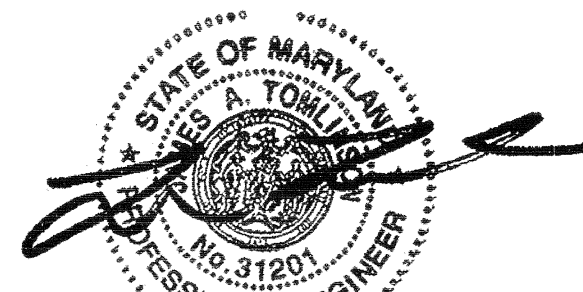
AS-BUILT NOTES:

- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
- 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
- 3) FIELD WORK PERFORMED ON AND BETWEEN OCTOBER 24, 2011 AND APRIL 24, 2012.
- 4) STONE SHOWN IS VISIBLE STONE NOT FOUNDATION STONE.

LEGEND	
EXISTING GRADE	—
PROPOSED GRADE	—

ASBUILT GRADES

NOTE:
UTILITIES SHOWN ON THESE PLANS HAVE BEEN LOCATED USING THE BEST AVAILABLE INFORMATION HOWEVER, THE CONTRACTOR IS TO EXERCISE EXTREME CAUTION WHEN EXCAVATING NEAR ANY UTILITIES. TEST PIT IF REQUIRED.



PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 200006 EXPIRATION DATE JANUARY 24, 2011

**AS-BUILT DRAWING
SHEET 38 OF 38**

State Contract No. 104085134
F.A. Project No. STP-3(185)E

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
WWW.KCI.COM

KCI
TECHNOLOGIES

**BRAMPTON HILLS
STREAM STABILIZATION
SECTION 4, AREAS 1,2,3**

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STATION 4, BRAMPTON HILLS DIVISION
6751 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

**CROSS
SECTIONS**

SCALE:	HOR. 1"=10'
	VERT. 1"=5'
DATE:	AUGUST 2009
KCI JOB NO.:	01081795.12
CAPITAL PROJECT NO.:	D1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

SHEET NO. 30 OF 30

BRAMHOPE LN

PROPOSED DITCH ELEVATIONS

Station	Ditch @ Elevation
0+75	410.3
1+00	413.0
1+25	416.3
1+50	421.0
1+75	423.3
2+00	425.2
2+25	426.3
2+50	428.4
3+00	431.9
3+25	435.4
3+50	438.9
3+75	442.4
4+00	446.0
4+25	449.0
4+50	452.4
4+75	454.7
5+00	457.2
5+25	460.0
5+50	460.8

I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF FEBRUARY 23, 2011.

James P. O'Connor, Prof. L. S.
Reg. No. 2200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY

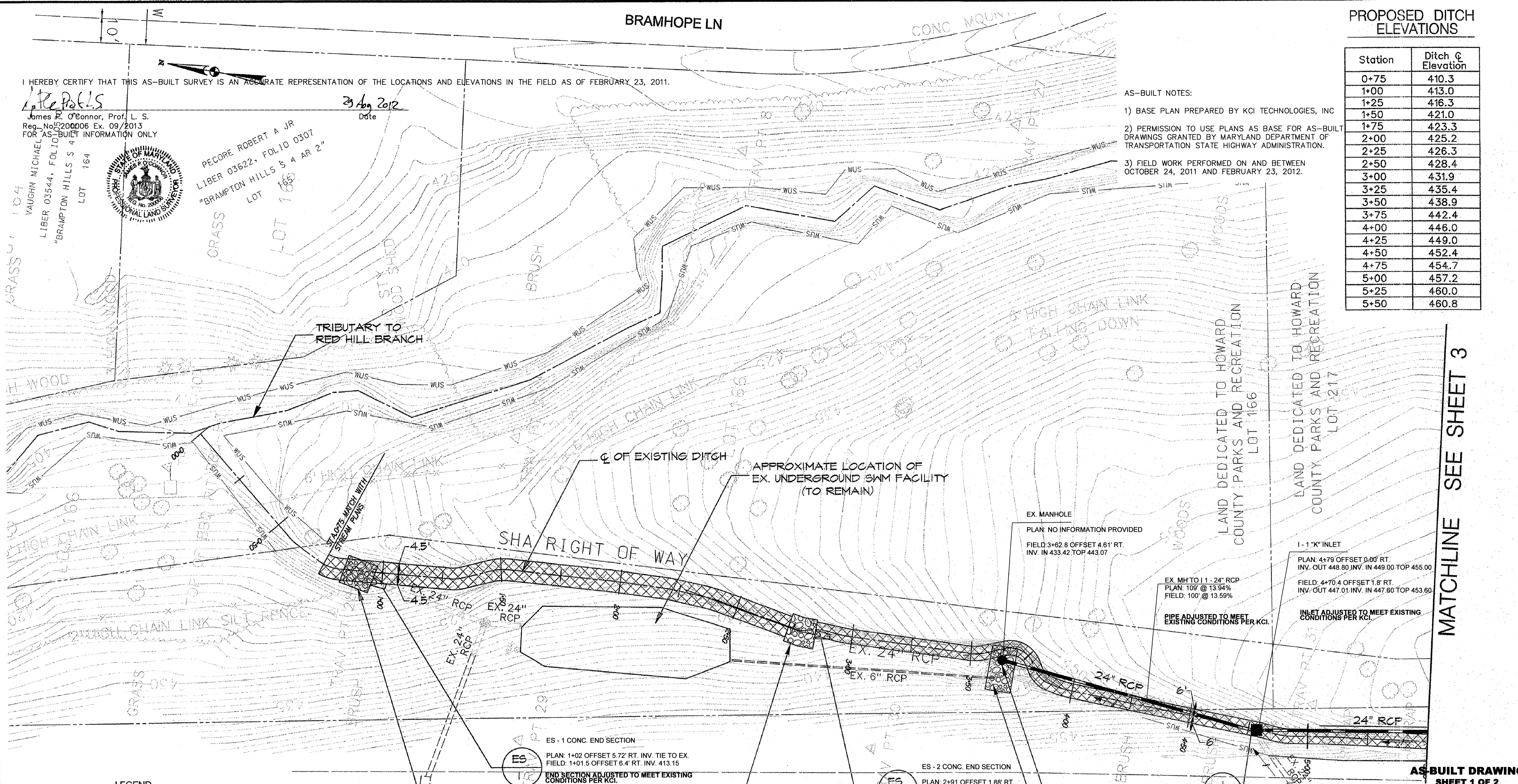


PECORE ROBERT A JR
LIBER 03622, FOLIO 0307
"BRAMPTON HILLS S 4 AR 2"
LOT 165

VAUGHN MICHAEL
LIBER 03644, FOLIO 0308
"BRAMPTON HILLS S 4 AR 2"
LOT 164

23 Aug 2012
Date

- AS-BUILT NOTES:
- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
 - 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
 - 3) FIELD WORK PERFORMED ON AND BETWEEN OCTOBER 24, 2011 AND FEBRUARY 23, 2012.



LEGEND

- RECONSTRUCT EX. DITCH
- DITCH C
- WUS WATERS OF US

PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715

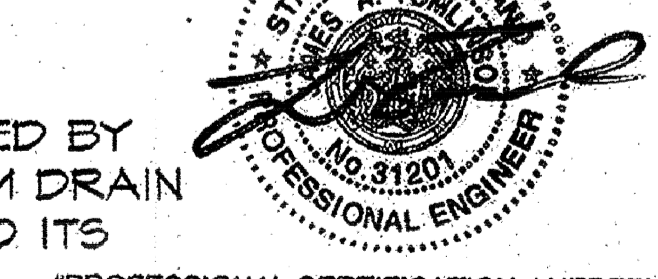
RECONSTRUCT EX. DITCH (SEE DETAIL ON SHEET 6)
STA 0+75 TO STA 2+73 - 198 SY
STA 2+85 TO STA 5+50 - 177 SY

INSTALL OUTFALL PROTECTION
STA 0+90, 1.43' RT. - 19 SY
STA 2+78, 0.03' RT - 25 SY

NOTE:
CONTRACTOR SHALL USE EXTREME CAUTION WHILE PERFORMING ANY WORK WITHIN THE EXISTING SWM FACILITY AREA. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE SWM FACILITY DURING THE CONSTRUCTION.

NOTE:
EXISTING DITCH IMPACTED BY INSTALLATION OF STORM DRAIN PIPE WILL BE REBUILT TO ITS EXISTING CONDITION

MD 100 WBR



"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 2200006 EXPIRATION DATE: 1/24/2015"

EX. MANHOLE
PLAN: NO INFORMATION PROVIDED
FIELD: 3+62.8 OFFSET 4.61' RT.
INV. IN 433.42, TOP 443.07

1-1" INLET
PLAN: 4+79 OFFSET 0.00' RT.
INV. OUT 448.80 INV. IN 449.00 TOP 455.00
FIELD: 4+70.4 OFFSET 1.8' RT.
INV. OUT 447.01 INV. IN 447.60 TOP 453.80

EX. MH TO 1-1/2" RCP
PLAN: 109' @ 13.34%
FIELD: 100' @ 13.59%

PIPE ADJUSTED TO MEET EXISTING CONDITIONS PER KCI.

INLET ADJUSTED TO MEET EXISTING CONDITIONS PER KCI.

SHA
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF HIGHWAY DEVELOPMENT
HIGHWAY HYDRAULICS DIVISION

SHA DITCH IMPROVEMENTS
MD 100 WESTBOUND

REVISIONS		SITE PLAN	
		SCALE 1" = 20'	DATE _____ CONTRACT NO. HC408514
		DESIGNED BY AMH	COUNTY HOWARD
		DRAWN BY _____	LOGMILE _____
		CHECKED BY JFL	TMS NO. _____
		FAP NO. SEE TITLE SHEET	TOD NO. _____
		DRAWING NO. _____	OF _____ SHEET NO. 4 OF 9

PLOTTED: 1:28:13 PM on Wednesday, August 06, 2008
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MATCHLINE SEE SHEET 3

AS-BUILT DRAWING
SHEET 1 OF 2

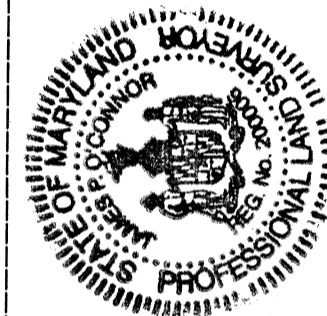
BY: Ashley Trump Division: 0109 Natural Resources Management

KCI
TECHNOLOGIES www.kci.com

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

I HEREBY CERTIFY THAT THIS AS-BUILT SURVEY IS AN ACCURATE REPRESENTATION OF THE LOCATIONS AND ELEVATIONS IN THE FIELD AS OF FEBRUARY 23, 2011.

J.P. Poff
Date



James P. O'Connor, Prof. L. S.
Reg. No. 200006 Ex. 09/2013
FOR AS-BUILT INFORMATION ONLY

BY: Ashley Trump Division: 0109 Natural Resources Management

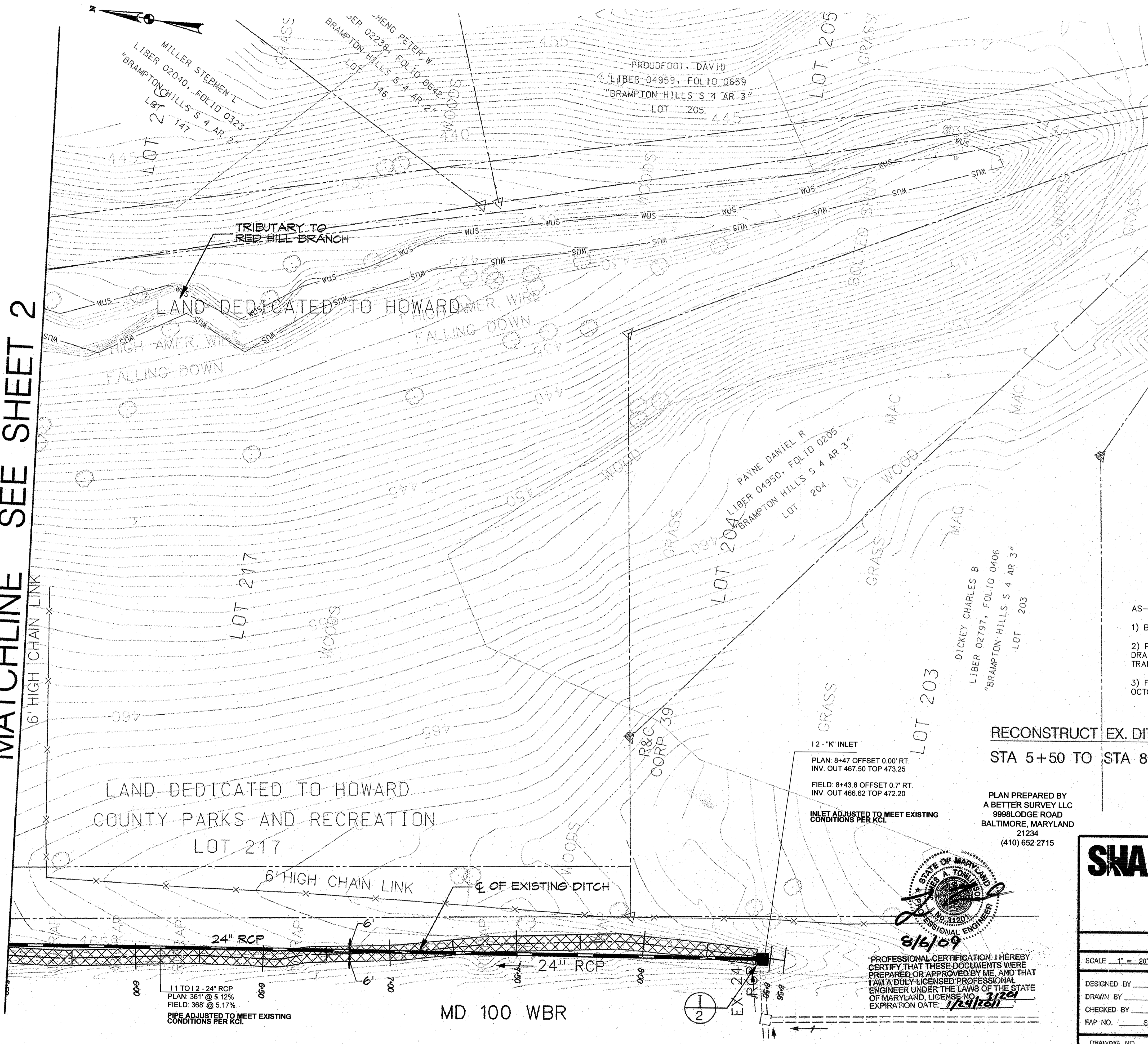
LEGEND

- RECONSTRUCT EX. DITCH
- DITCH ϕ
- WATERS OF US

KCI TECHNOLOGIES www.kci.com

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

MATCHLINE SEE SHEET 2



PROPOSED DITCH ELEVATIONS

Station	Ditch ϕ Elevation
5+75	463.3
6+00	464.8
6+25	466.4
6+50	467.3
6+75	467.7
7+00	468.3
7+25	468.5
7+50	469.3
7+75	469.6
8+00	470.2
8+25	470.8

AS-BUILT NOTES:

- 1) BASE PLAN PREPARED BY KCI TECHNOLOGIES, INC
- 2) PERMISSION TO USE PLANS AS BASE FOR AS-BUILT DRAWINGS GRANTED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
- 3) FIELD WORK PERFORMED ON AND BETWEEN OCTOBER 24, 2011 AND FEBRUARY 23, 2012.

RECONSTRUCT EX. DITCH (SEE DETAIL ON SHEET 6)
STA 5+50 TO STA 8+48 - 197 SY

PLAN PREPARED BY
A BETTER SURVEY LLC
9998 LODGE ROAD
BALTIMORE, MARYLAND
21234
(410) 652 2715

AS-BUILT DRAWING SHEET 2 OF 2

SHA STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF HIGHWAY DEVELOPMENT
HIGHWAY HYDRAULICS DIVISION

SHA DITCH IMPROVEMENTS
MD 100 WESTBOUND

SITE PLAN

SCALE 1" = 20' DATE _____ CONTRACT NO. H04085174

DESIGNED BY AMH COUNTY HOWARD
DRAWN BY _____ LOGMILE _____
CHECKED BY JFL TMS NO. _____
FAP NO. SEE TITLE SHEET TOD NO. _____

DRAWING NO. _____ OF _____ SHEET NO. 5 OF 9

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 3122 EXPIRATION DATE: 1/23/2011

J.P. Poff
8/6/09

PLOTTED: 10:18 PM on Wednesday, August 05, 2009
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