

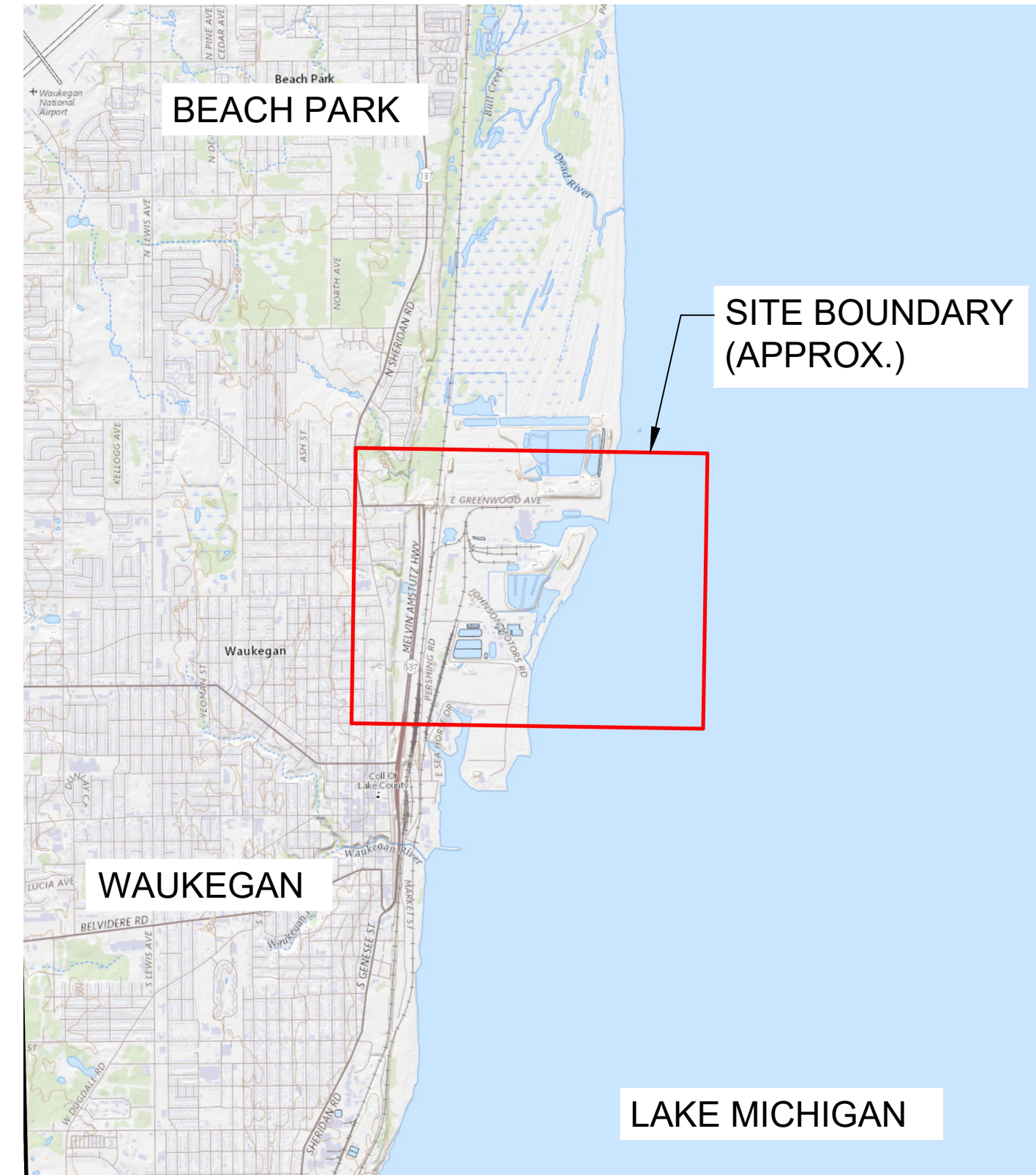
MIDWEST GENERATION, LLC WAUKEGAN GENERATING STATION

CLOSURE ALTERNATIVES ANALYSIS DRAWINGS

WAUKEGAN, ILLINOIS

ISSUED FOR REVIEW

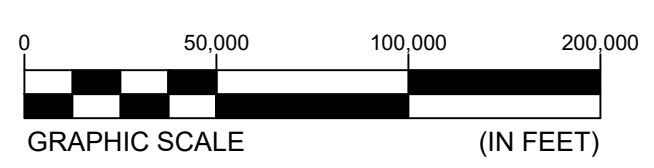
NOVEMBER 15, 2021



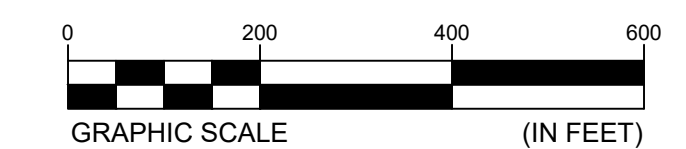
DRAWING LIST	
DRAWING NO.	DRAWING TITLE
01	TITLE SHEET
02	ESTIMATED BOTTOM OF ASH GRADES
03	EXISTING CONDITIONS PLAN
04	WEST ASH BASIN - CLOSURE BY REMOVAL
05	WEST ASH BASIN - CLOSURE IN PLACE
06	EAST ASH BASIN - CLOSURE BY REMOVAL
07	EAST ASH BASIN - CLOSURE IN PLACE (OPTION 1)
08	EAST ASH BASIN - CLOSURE IN PLACE (OPTION 2)
09	CROSS SECTIONS - WEST ASH BASIN - CLOSURE BY REMOVAL
10	CROSS SECTIONS - WEST ASH BASIN - CLOSURE IN PLACE
11	CROSS SECTIONS - EAST ASH BASIN - CLOSURE BY REMOVAL
12	CROSS SECTIONS - EAST ASH BASIN - CLOSURE IN PLACE (OPTION 1)
13	CROSS SECTIONS - EAST ASH BASIN - CLOSURE IN PLACE (OPTION 2)
14	DETAILS

FOR EAST ASH BASIN - CLOSURE IN PLACE (OPTION #3) REFER TO SARGENT AND LUNDY DRAWINGS WKG-AP-CSK-008 AND WKG-AP-CSK-009

SITE LOCATION MAP



SITE OVERVIEW MAP



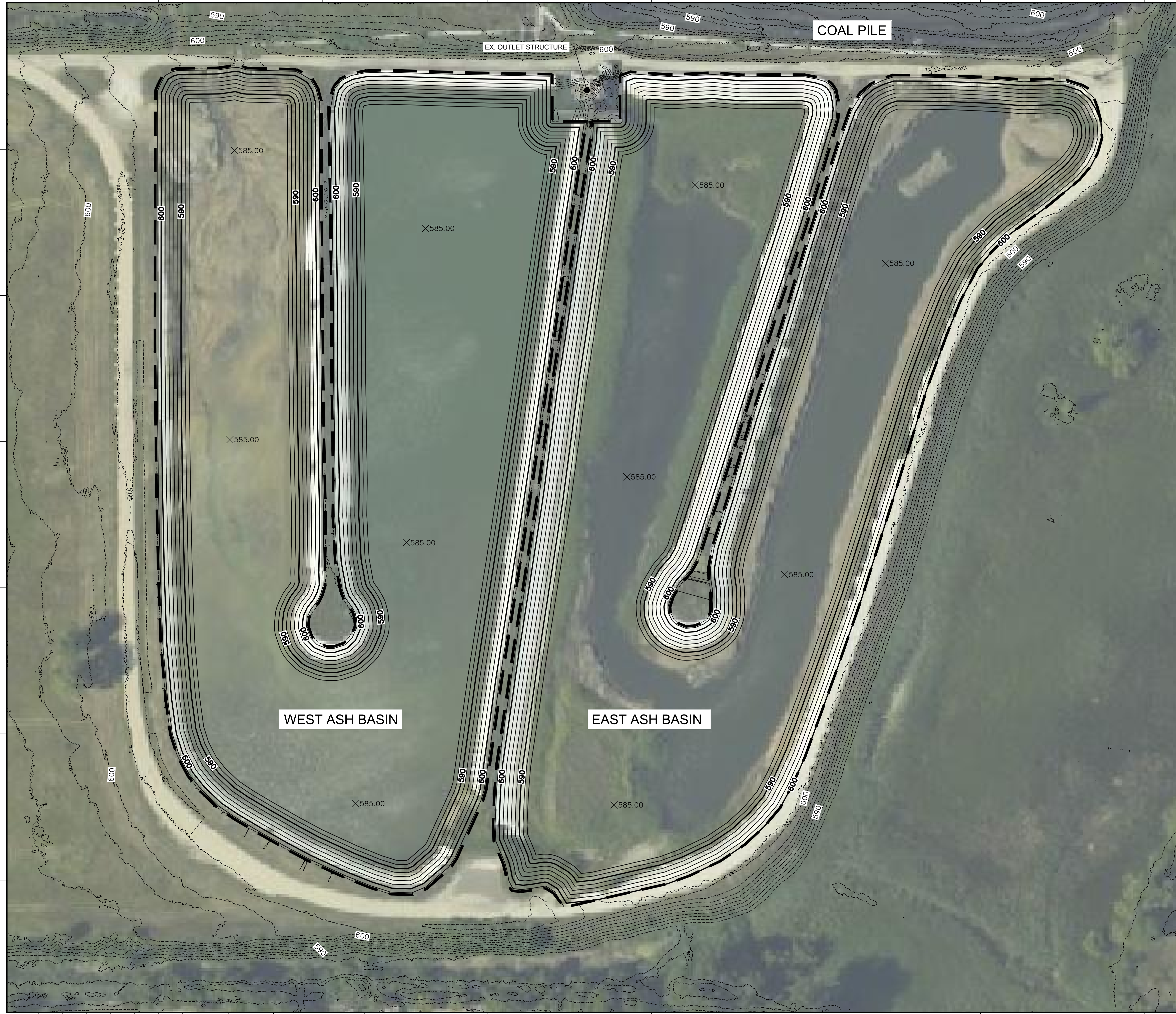
NOT FOR CONSTRUCTION

PREPARED FOR:
MIDWEST GENERATION, LLC

PREPARED BY:
AECOM

AECOM	TITLE SHEET		
	WAUKEGAN GENERATING STATION CLOSURE ALTERNATIVES ANALYSIS WAUKEGAN, ILLINOIS		
FOR	ISSUED FOR REVIEW		
SEAL	SCALE: AS SHOWN	DES: MR	DFTR: PK
DRAFT	JOB NO: 60669161	CHKD: RB	ENGR: JT
	DATE: 11/02/2021	APPD: JT	
	FILENAME: COVER SHEET.DWG	DWG SIZE: 22.0"x34.0"	DRAWING NO. 01

REV	DATE	JOB NO.	PROJECT TYPE	DES	DFTR	CHKD	ENG	DESCRIPTION



LEGEND

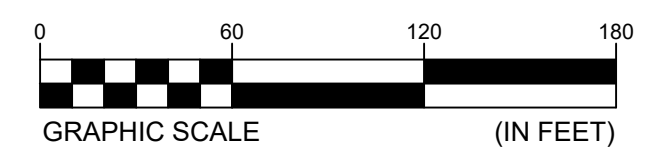
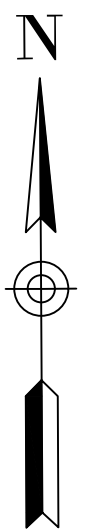
- 600 ----- EXISTING MAJOR TOPOGRAPHIC CONTOUR
- EXISTING MINOR TOPOGRAPHIC CONTOUR
- ASH BASIN WASTE BOUNDARY (APPROX.)
- 600 ----- ESTIMATED BOTTOM OF ASH MAJOR TOPOGRAPHIC CONTOUR
- ESTIMATED BOTTOM OF ASH MINOR TOPOGRAPHIC CONTOUR

NOTES

1. BASIS OF BEARINGS: NAD83 ILLINOIS STATE PLANES, EAST ZONE. ELEVATIONS ARE BASED ON NAVD88.

REFERENCES

1. ESTIMATED BOTTOM OF ASH GRADES ARE BASED ON INFORMATION FOUND IN THE HISTORY OF CONSTRUCTION REPORT, PREPARED BY GEOSYNTEC CONSULTANTS AND DATED OCTOBER 2016.
2. SEE SHEET 03 FOR ADDITIONAL DRAWING REFERENCES.



NOT FOR CONSTRUCTION

AECOM	ESTIMATED BOTTOM OF ASH GRADES		
	WAUKEGAN GENERATING STATION CLOSURE ALTERNATIVES ANALYSIS WAUKEGAN, ILLINOIS		
FOR	ISSUED FOR REVIEW		
DRAFT	SCALE: AS SHOWN	DES: MR	
	DWG TYPE: .DWG	DFTR: PK	
	JOB NO: 60669161	CHKD: RB	
	DATE: 11/15/2021	ENGR: JT	
FILENAME: ESTIMATED BOTTOM OF ASH GRADES.DWG	APPD: JT		
DWG SIZE	DRAWING NO.	REVISION	
ANSI D 22.0"x34.0"	02	A	





LEGEND

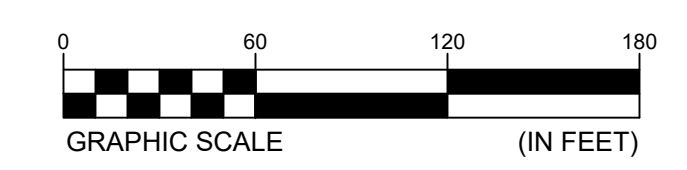
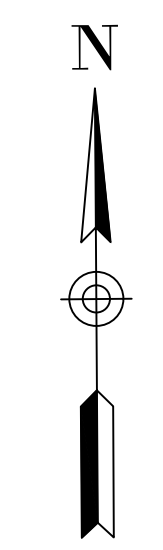
- 600 ----- EXISTING MAJOR TOPOGRAPHIC CONTOUR
- EXISTING MINOR TOPOGRAPHIC CONTOUR
- ASH BASIN WASTE BOUNDARY (APPROX.)

NOTES

1. BASIS OF BEARINGS: NAD83 ILLINOIS STATE PLANES, EAST ZONE. ELEVATIONS ARE BASED ON NAVD88.

REFERENCES

1. AERIAL IMAGE WAS OBTAINED FROM MICROSOFT BING (2021).
2. ASH BASIN WASTE BOUNDARY IS BASED ON AERIAL IMAGERY AND IS APPROXIMATE.
3. EXISTING TOPOGRAPHY IS BASED ON 2017 LIDAR DATA OBTAINED FROM THE STATE OF ILLINOIS GEOSPATIAL DATA CLEARINGHOUSE.



NOT FOR CONSTRUCTION



EXISTING CONDITIONS PLAN

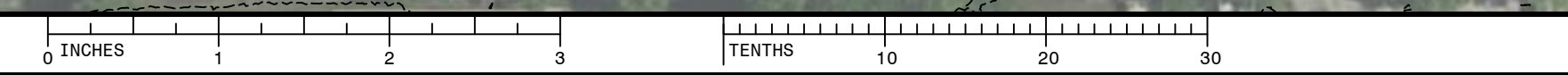
WAUKEGAN GENERATING STATION
CLOSURE ALTERNATIVES ANALYSIS
WAUKEGAN, ILLINOIS

FOR ISSUED FOR REVIEW

DRAFT

SCALE: AS SHOWN	DES: MR
DWG TYPE: .DWG	DFTR: PK
JOB NO: 60669161	CHKD: RB
DATE: 11/15/2021	ENGR: JT
FILENAME: EXISTING CONDITIONS PLAN.DWG	APPD: JT

DWG SIZE ANSI D 22.0"x34.0"	DRAWING NO. 03	REVISION A
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LEGEND

- 600 ----- EXISTING MAJOR TOPOGRAPHIC CONTOUR
- EXISTING MINOR TOPOGRAPHIC CONTOUR
- ASH BASIN WASTE BOUNDARY (APPROX.)
- 600 ----- PROPOSED MAJOR TOPOGRAPHIC CONTOUR
- PROPOSED MINOR TOPOGRAPHIC CONTOUR
- >----- DRAINAGE ARROWS

NOTES

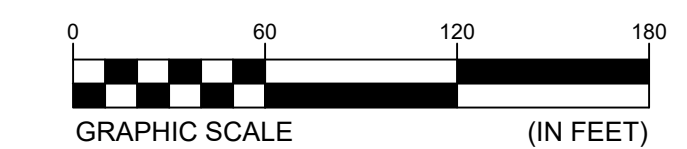
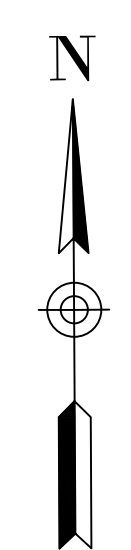
1. BASIS OF BEARINGS: NAD83 ILLINOIS STATE PLANES, EAST ZONE. ELEVATIONS ARE BASED ON NAVD88.
2. PROPOSED GRADING REPRESENTS CLOSURE BY REMOVAL GRADES (I.E., ESTIMATED BOTTOM OF ASH GRADES) IN THE WEST ASH BASIN.
3. CUT SLOPES SHOWN ARE 2.5H:1V.
4. SEE SHEET 10 FOR CROSS SECTIONS.
5. QUANTITIES WERE ESTIMATED BY COMPARING EXISTING GRADES TO PROPOSED GRADES UTILIZING AUTOCAD CIVIL 3D (VERSION 2018).

REFERENCES

1. SEE SHEET 03 FOR DRAWING REFERENCES.

ESTIMATED QUANTITIES

CCR MATERIAL TO BE REMOVED	93,000 CY
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NOT FOR CONSTRUCTION



WEST ASH BASIN - CLOSURE BY REMOVAL
 WAUKEGAN GENERATING STATION
 CLOSURE ALTERNATIVES ANALYSIS
 WAUKEGAN, ILLINOIS

ISSUED FOR REVIEW

DRAFT

SCALE: AS SHOWN	DES: MR
DWG TYPE: .DWG	DFTR: PK
JOB NO: 60669161	CHKD: RB
DATE: 11/15/2021	ENGR: JT
APPD: JT	

FILENAME: WEST BASIN CBR.DWG	DRAWING NO. 04	REVISION A
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LEGEND

- 600 ----- EXISTING MAJOR TOPOGRAPHIC CONTOUR
- EXISTING MINOR TOPOGRAPHIC CONTOUR
- ASH BASIN WASTE BOUNDARY (APPROX.)
- 600 ----- PROPOSED MAJOR TOPOGRAPHIC CONTOUR
- PROPOSED MINOR TOPOGRAPHIC CONTOUR
- > DRAINAGE ARROWS

NOTES

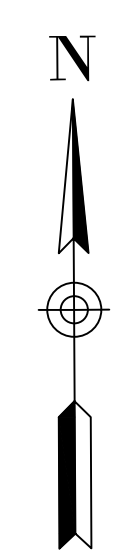
1. BASIS OF BEARINGS: NAD83 ILLINOIS STATE PLANES, EAST ZONE. ELEVATIONS ARE BASED ON NAVD88.
2. PROPOSED GRADING REPRESENTS TOP OF CLOSURE IN PLACE GRADES FOR THE WEST ASH BASIN.
3. CUT AND FILL SLOPES ARE 6H:1V UNLESS OTHERWISE NOTED.
4. SEE SHEET 11 FOR CROSS SECTIONS.
5. QUANTITIES WERE ESTIMATED BY COMPARING EXISTING GRADES TO PROPOSED GRADES UTILIZING AUTOCAD CIVIL 3D (VERSION 2018) AND ASSUMING A 3-FOOT THICK FINAL COVER SYSTEM.

REFERENCES

1. SEE SHEET 03 FOR DRAWING REFERENCES.

ESTIMATED QUANTITIES

ASH TO BE REGRADED	5,000 CY
ADDITIONAL FILL NEEDED TO ACHIEVE SUBGRADE GRADES	68,000 CY
FILL NEEDED FOR FINAL COVER SYSTEM	50,000 CY
FINAL COVER SYSTEM GEOSYNTHETICS	50,000 SY



NOT FOR CONSTRUCTION



WEST ASH BASIN - CLOSURE IN PLACE

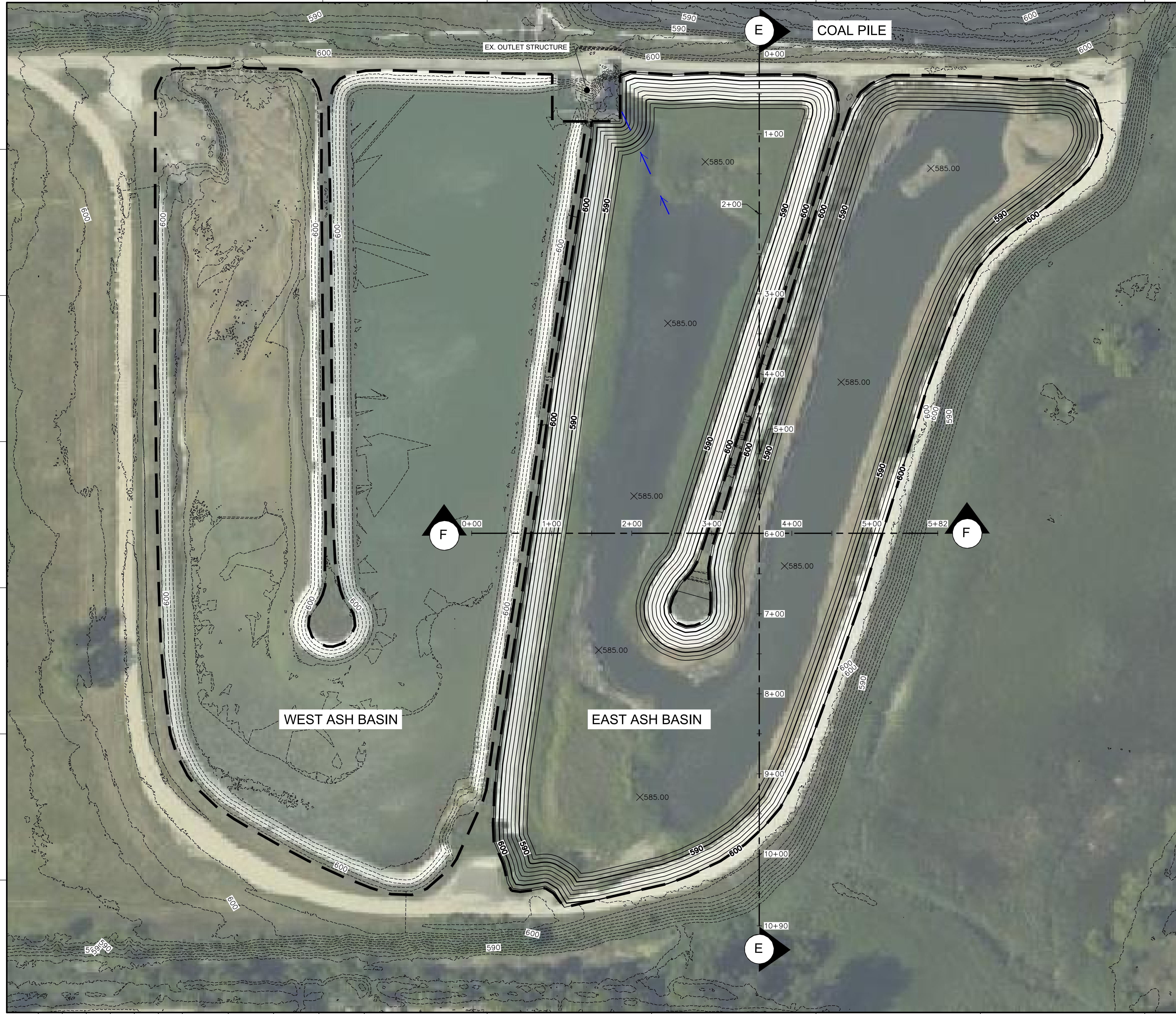
WAUKEGAN GENERATING STATION CLOSURE ALTERNATIVES ANALYSIS WAUKEGAN, ILLINOIS

ISSUED FOR REVIEW

DRAFT

SCALE: AS SHOWN	DES: MR
DWG TYPE: .DWG	DFTR: PK
JOB NO: 60669161	CHKD: RB
DATE: 11/15/2021	ENGR: JT
APPD: JT	

FILENAME: WEST BASIN CIP.DWG	DRAWING NO. 05	REVISION A
DWG SIZE: ANSI D 22.0"x34.0"		



LEGEND

- 600 ----- EXISTING MAJOR TOPOGRAPHIC CONTOUR
- EXISTING MINOR TOPOGRAPHIC CONTOUR
- ASH BASIN WASTE BOUNDARY (APPROX.)
- 600 ----- PROPOSED MAJOR TOPOGRAPHIC CONTOUR
- PROPOSED MINOR TOPOGRAPHIC CONTOUR
- > DRAINAGE ARROWS

NOTES

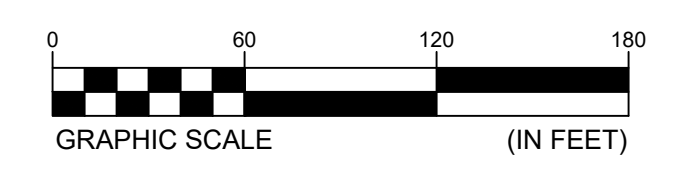
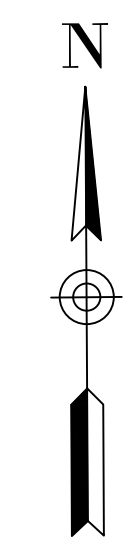
1. BASIS OF BEARINGS: NAD83 ILLINOIS STATE PLANES, EAST ZONE. ELEVATIONS ARE BASED ON NAVD88.
2. PROPOSED GRADING REPRESENTS CLOSURE BY REMOVAL GRADES (I.E., ESTIMATED BOTTOM OF ASH GRADES) IN THE EAST ASH BASIN.
3. CUT SLOPES SHOWN ARE 2.5H:1V.
4. SEE SHEET 12 FOR CROSS SECTIONS.
5. QUANTITIES WERE ESTIMATED BY COMPARING EXISTING GRADES TO PROPOSED GRADES UTILIZING AUTOCAD CIVIL 3D (VERSION 2018).

REFERENCES

1. SEE SHEET 03 FOR DRAWING REFERENCES.

ESTIMATED QUANTITIES

CCR MATERIAL TO BE REMOVED	70,000 CY
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NOT FOR CONSTRUCTION

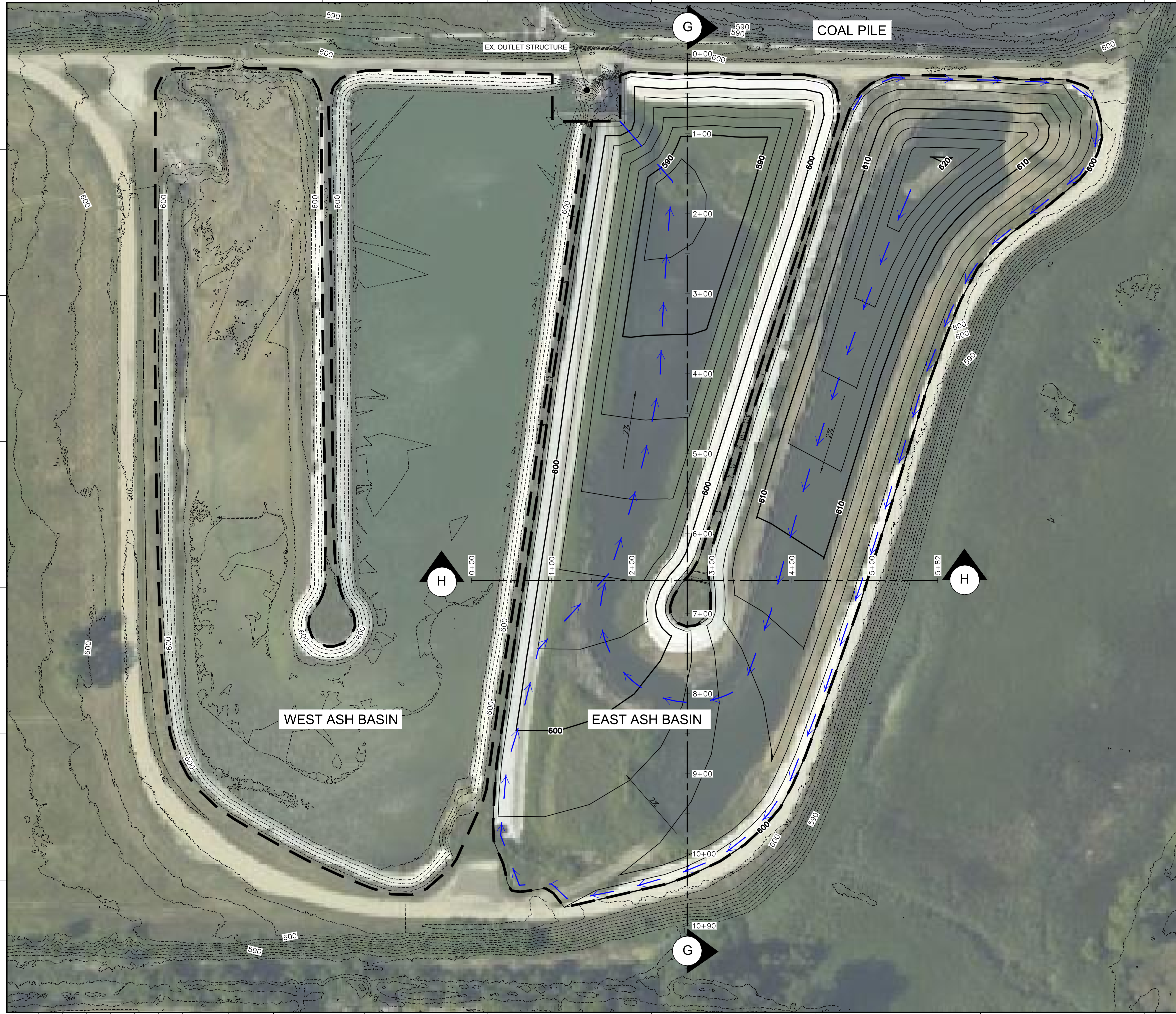


EAST ASH BASIN - CLOSURE BY REMOVAL
 WAUKEGAN GENERATING STATION
 CLOSURE ALTERNATIVES ANALYSIS
 WAUKEGAN, ILLINOIS

ISSUED FOR REVIEW

DRAFT

SCALE: AS SHOWN	DES: MR	
DWG TYPE: .DWG	DFTR: PK	
JOB NO: 60669161	CHKD: RB	
DATE: 11/15/2021	ENGR: JT	
APPD: JT		
FILENAME: EAST BASIN CBR.DWG		
DWG SIZE	DRAWING NO.	REVISION
ANSI D 22.0"x34.0"	06	A



LEGEND

- 600 ----- EXISTING MAJOR TOPOGRAPHIC CONTOUR
- EXISTING MINOR TOPOGRAPHIC CONTOUR
- ASH BASIN WASTE BOUNDARY (APPROX.)
- 600 ----- PROPOSED MAJOR TOPOGRAPHIC CONTOUR
- PROPOSED MINOR TOPOGRAPHIC CONTOUR
- > DRAINAGE ARROWS

NOTES

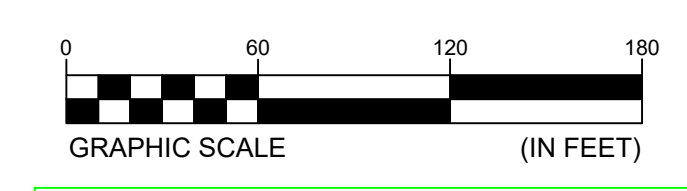
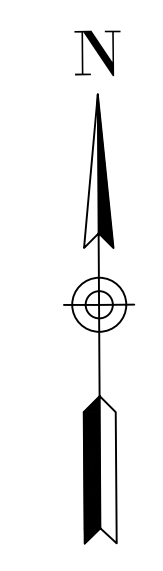
1. BASIS OF BEARINGS: NAD83 ILLINOIS STATE PLANES, EAST ZONE. ELEVATIONS ARE BASED ON NAVD88.
2. PROPOSED GRADING REPRESENTS TOP OF CLOSURE IN PLACE GRADES FOR THE EAST ASH BASIN.
3. CUT AND FILL SLOPES ARE 6H:1V UNLESS OTHERWISE NOTED.
4. SEE SHEET 13 FOR CROSS SECTIONS.
5. QUANTITIES WERE ESTIMATED BY COMPARING EXISTING GRADES TO PROPOSED GRADES UTILIZING AUTOCAD CIVIL 3D (VERSION 2018) AND ASSUMING A 3-FOOT THICK FINAL COVER SYSTEM.

REFERENCES

1. SEE SHEET 03 FOR DRAWING REFERENCES.

ESTIMATED QUANTITIES

FILL NEEDED TO ACHIEVE SUBGRADE GRADES	108,000 CY
FILL NEEDED FOR FINAL COVER SYSTEM	51,000 CY
FINAL COVER SYSTEM GEOSYNTHETICS	51,000 SY



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EAST ASH BASIN - CLOSURE IN PLACE (OPTION 1)
 WAUKEGAN GENERATING STATION
 CLOSURE ALTERNATIVES ANALYSIS
 WAUKEGAN, ILLINOIS

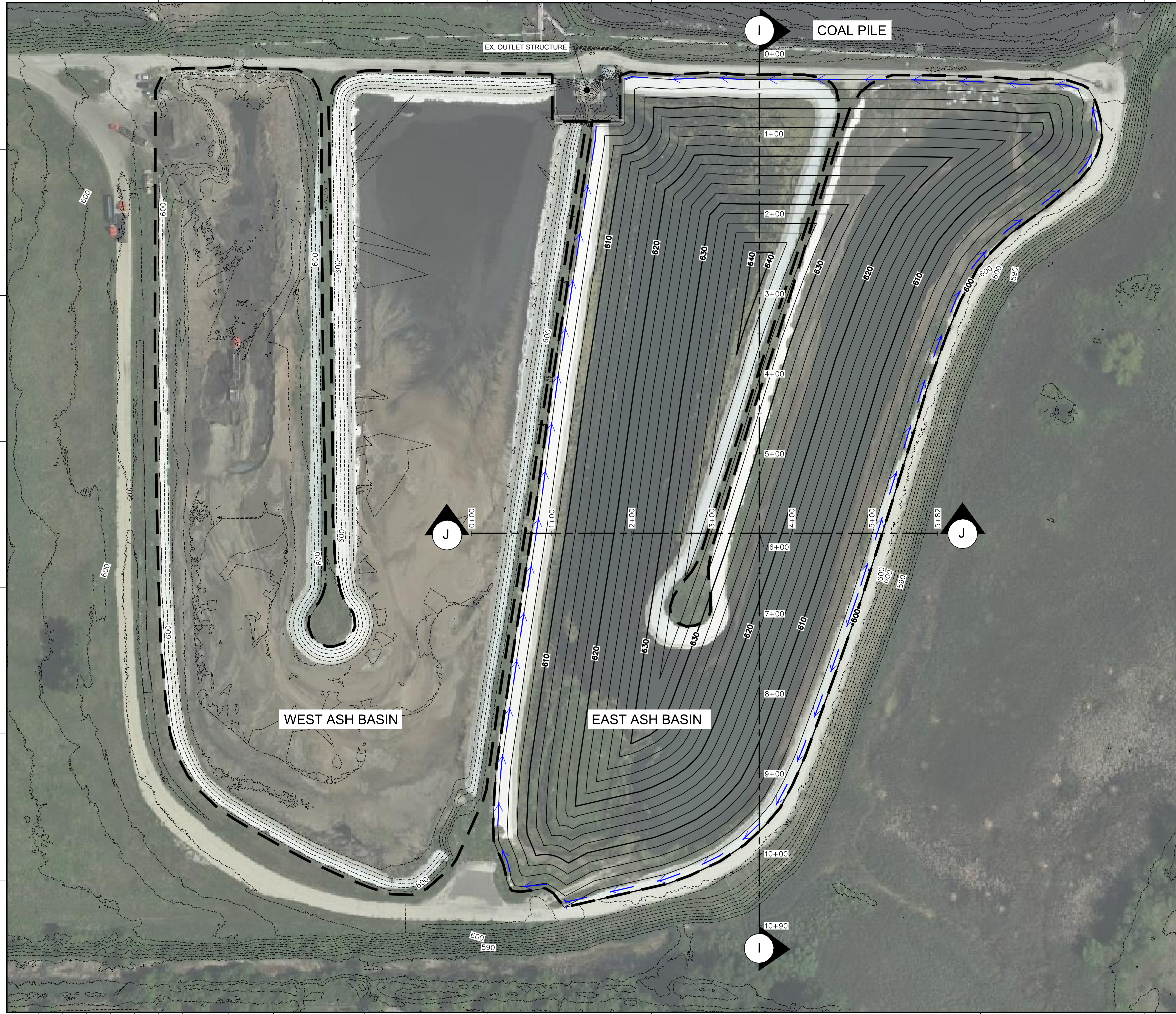
ISSUED FOR REVIEW

DRAFT

SCALE: AS SHOWN	DES: MR
DWG TYPE: .DWG	DFTR: PK
JOB NO: 60669161	CHKD: RB
DATE: 11/15/2021	ENGR: JT
APPD: JT	

FILENAME: EAST BASIN CIP MINIMUM.DWG	
DWG SIZE: ANSI D 22.0"x34.0"	DRAWING NO. 07
	REVISION A





LEGEND

- 600 ----- EXISTING MAJOR TOPOGRAPHIC CONTOUR
- EXISTING MINOR TOPOGRAPHIC CONTOUR
- ASH BASIN WASTE BOUNDARY (APPROX.)
- 600 ----- PROPOSED MAJOR TOPOGRAPHIC CONTOUR
- PROPOSED MINOR TOPOGRAPHIC CONTOUR
- > DRAINAGE ARROWS

NOTES

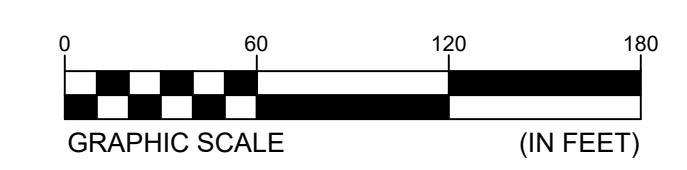
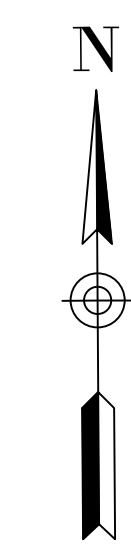
1. BASIS OF BEARINGS: NAD83 ILLINOIS STATE PLANES, EAST ZONE. ELEVATIONS ARE BASED ON NAVD88.
2. PROPOSED GRADING REPRESENTS TOP OF CLOSURE IN PLACE GRADES FOR THE EAST ASH BASIN.
3. CUT AND FILL SLOPES ARE 6H:1V UNLESS OTHERWISE NOTED.
4. SEE SHEET 14 FOR CROSS SECTIONS.
5. QUANTITIES WERE ESTIMATED BY COMPARING EXISTING GRADES TO PROPOSED GRADES UTILIZING AUTOCAD CIVIL 3D (VERSION 2018) AND ASSUMING A 3-FOOT THICK FINAL COVER SYSTEM.

REFERENCES

1. SEE SHEET 03 FOR DRAWING REFERENCES.

ESTIMATED QUANTITIES

FILL NEEDED TO ACHIEVE SUBGRADE GRADES	368,000 CY
FILL NEEDED FOR FINAL COVER SYSTEM	53,000 CY
FINAL COVER SYSTEM GEOSYNTHETICS	53,000 SY



NOT FOR CONSTRUCTION



EAST ASH BASIN - CLOSURE IN PLACE (OPTION 2)
 WAUKEGAN GENERATING STATION
 CLOSURE ALTERNATIVES ANALYSIS
 WAUKEGAN, ILLINOIS

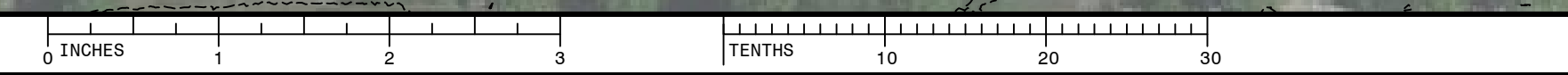
ISSUED FOR REVIEW

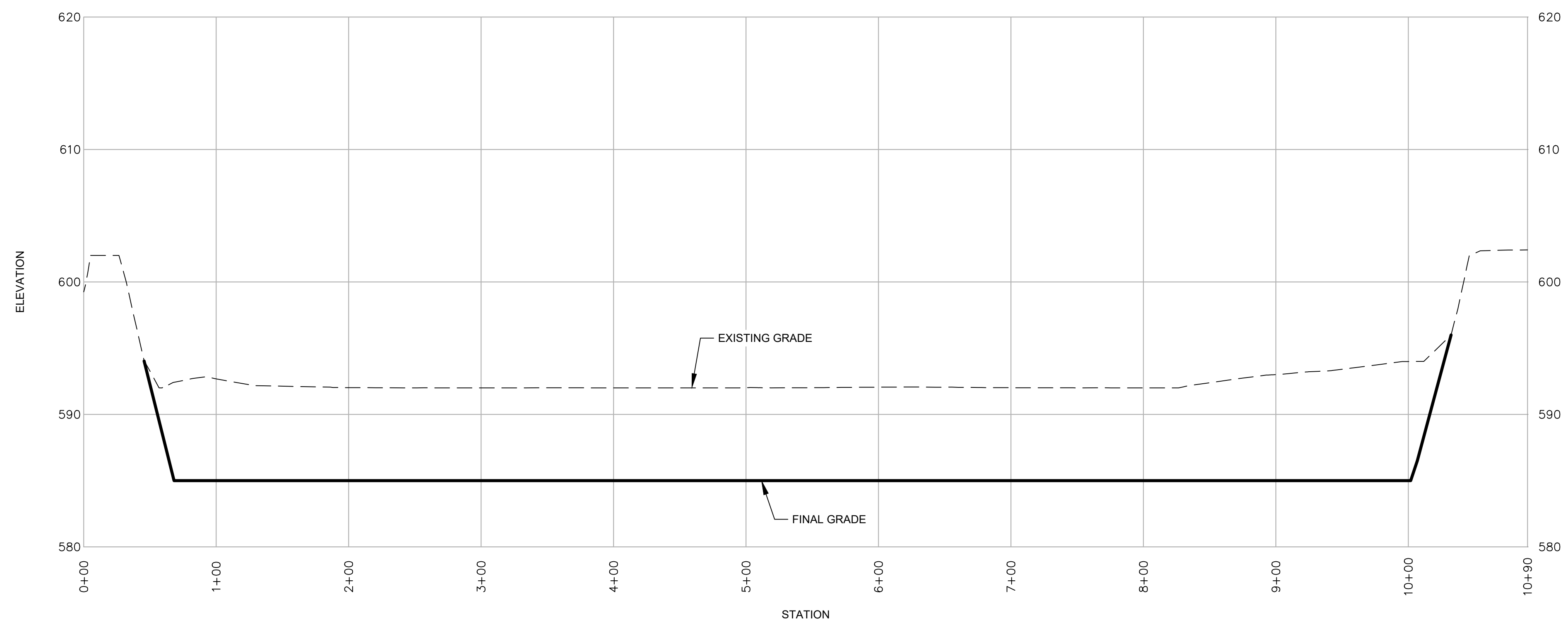
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DRAFT

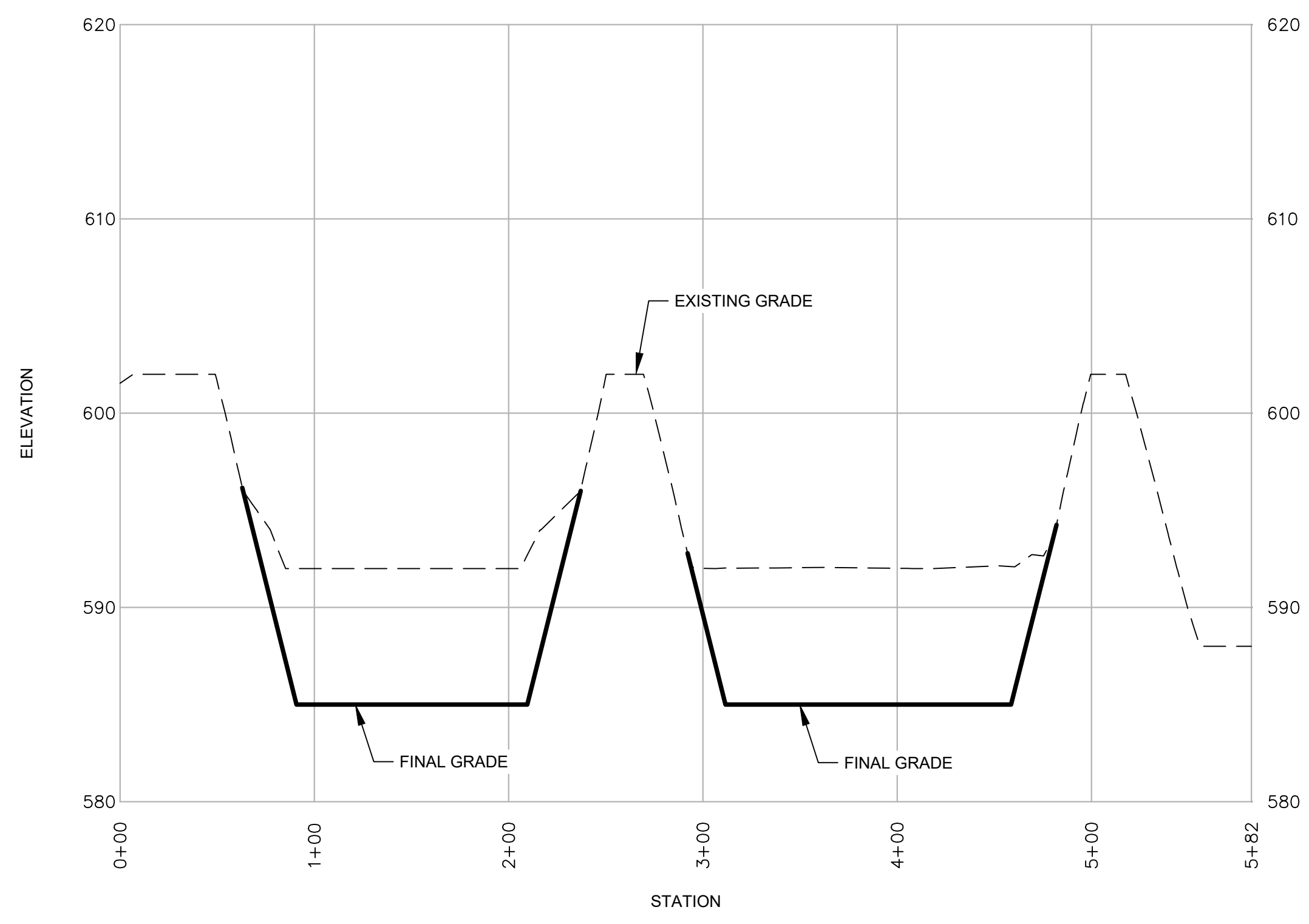
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DWG TYPE: DWG	DFTR: PK
JOB NO: 60669161	CHKD: RB
DATE: 11/15/2021	ENGR: JT
FILENAME: EAST BASIN CIP MAXIMUM.DWG	APPD: JT

DWG SIZE	DRAWING NO.	REVISION
ANSI D 22.0"x34.0"	08	A





West Ash Basin A-A



West Ash Basin B-B

LEGEND

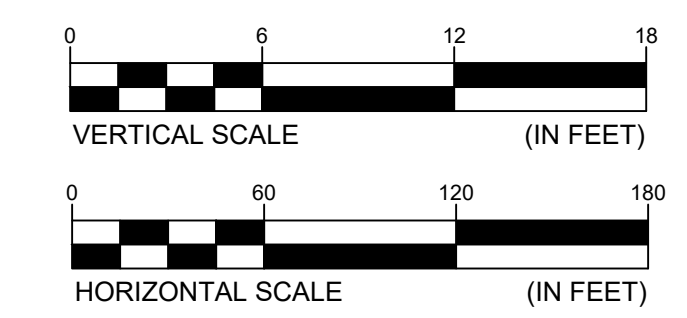
- EXISTING GRADE
- FINAL GRADE
- · - · ESTIMATED BOTTOM OF ASH GRADE

NOTES

1. BASIS OF BEARINGS: NAD83 ILLINOIS STATE PLANES, EAST ZONE. ELEVATIONS ARE BASED ON NAVD88.

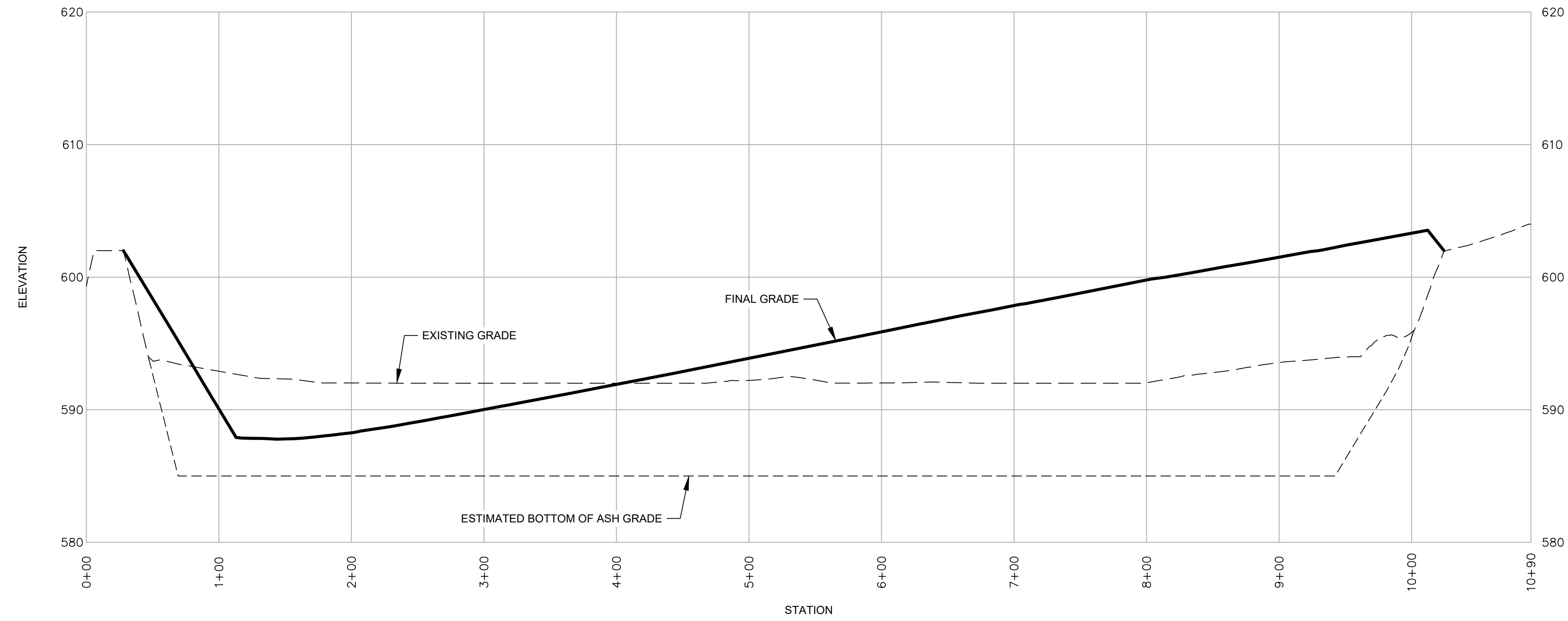
REFERENCES

1. SEE SHEETS 02 AND 03 FOR DRAWING REFERENCES.



NOT FOR CONSTRUCTION

AECOM	CROSS SECTIONS - WEST ASH BASIN - CLOSURE BY REMOVAL		
	WAUKEGAN GENERATING STATION CLOSURE ALTERNATIVES ANALYSIS WAUKEGAN, ILLINOIS		
SEAL	FOR ISSUED FOR REVIEW		
DRAFT	SCALE: AS SHOWN	DES: MR	
	DWG TYPE: .DWG	DFTR: PK	
	JOB NO: 60669161	CHKD: RB	
	DATE: 11/15/2021	ENGR: JT	
FILENAME: CROSS SECTIONS.DWG	APPD: JT		
DWG SIZE: ANSI D 22.0"x34.0"	DRAWING NO. 09	REVISION A	



West Ash Basin C-C

LEGEND

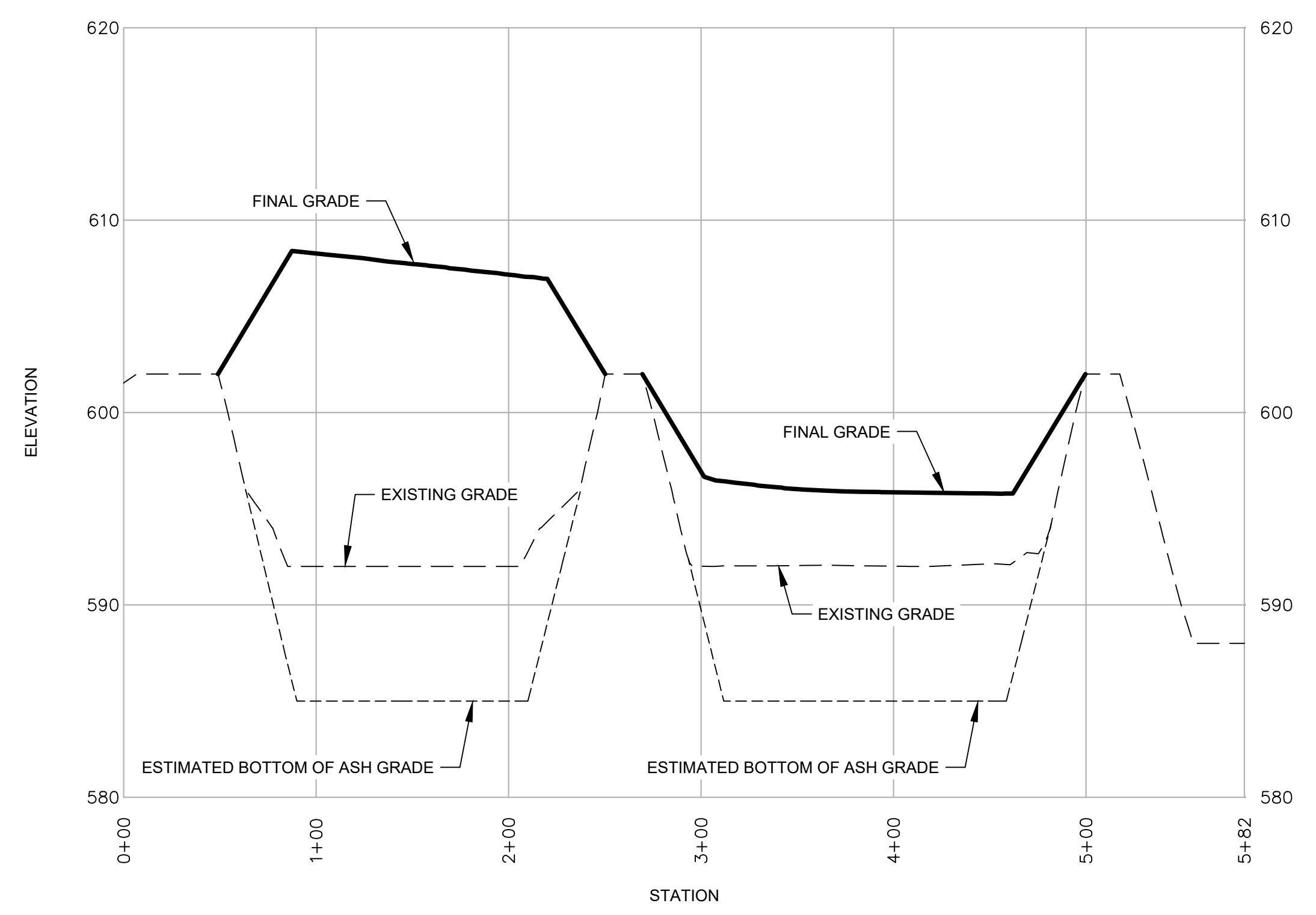
- EXISTING GRADE
- FINAL GRADE
- ... ESTIMATED BOTTOM OF ASH GRADE

NOTES

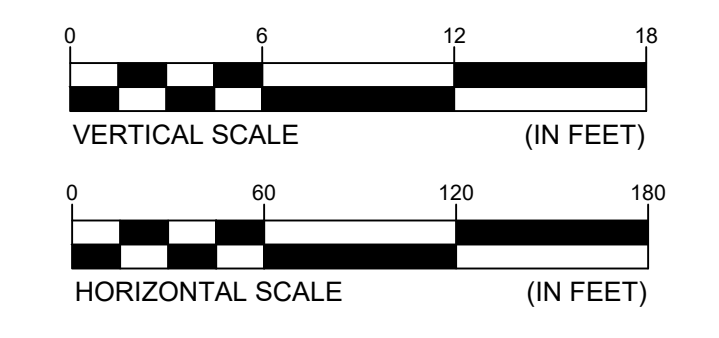
1. BASIS OF BEARINGS: NAD83 ILLINOIS STATE PLANES, EAST ZONE. ELEVATIONS ARE BASED ON NAVD88.

REFERENCES

1. SEE SHEETS 02 AND 03 FOR DRAWING REFERENCES.

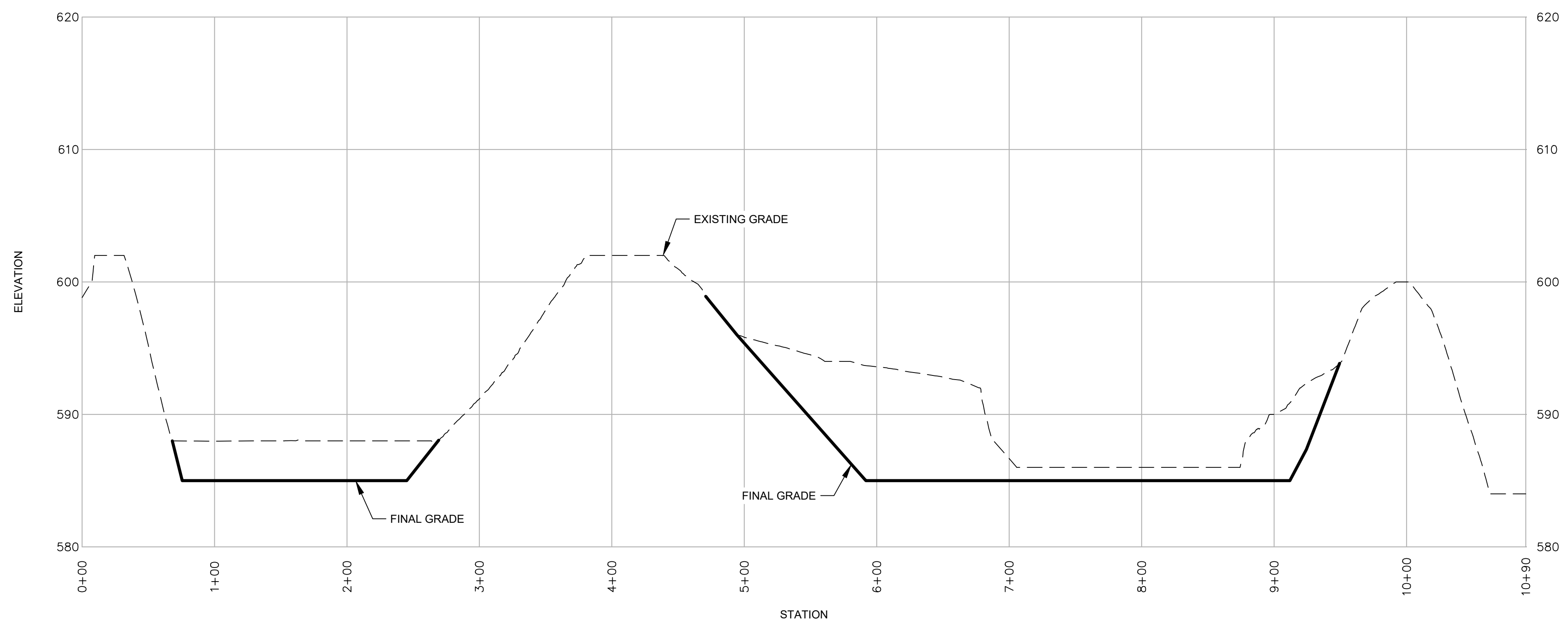


West Ash Basin D-D

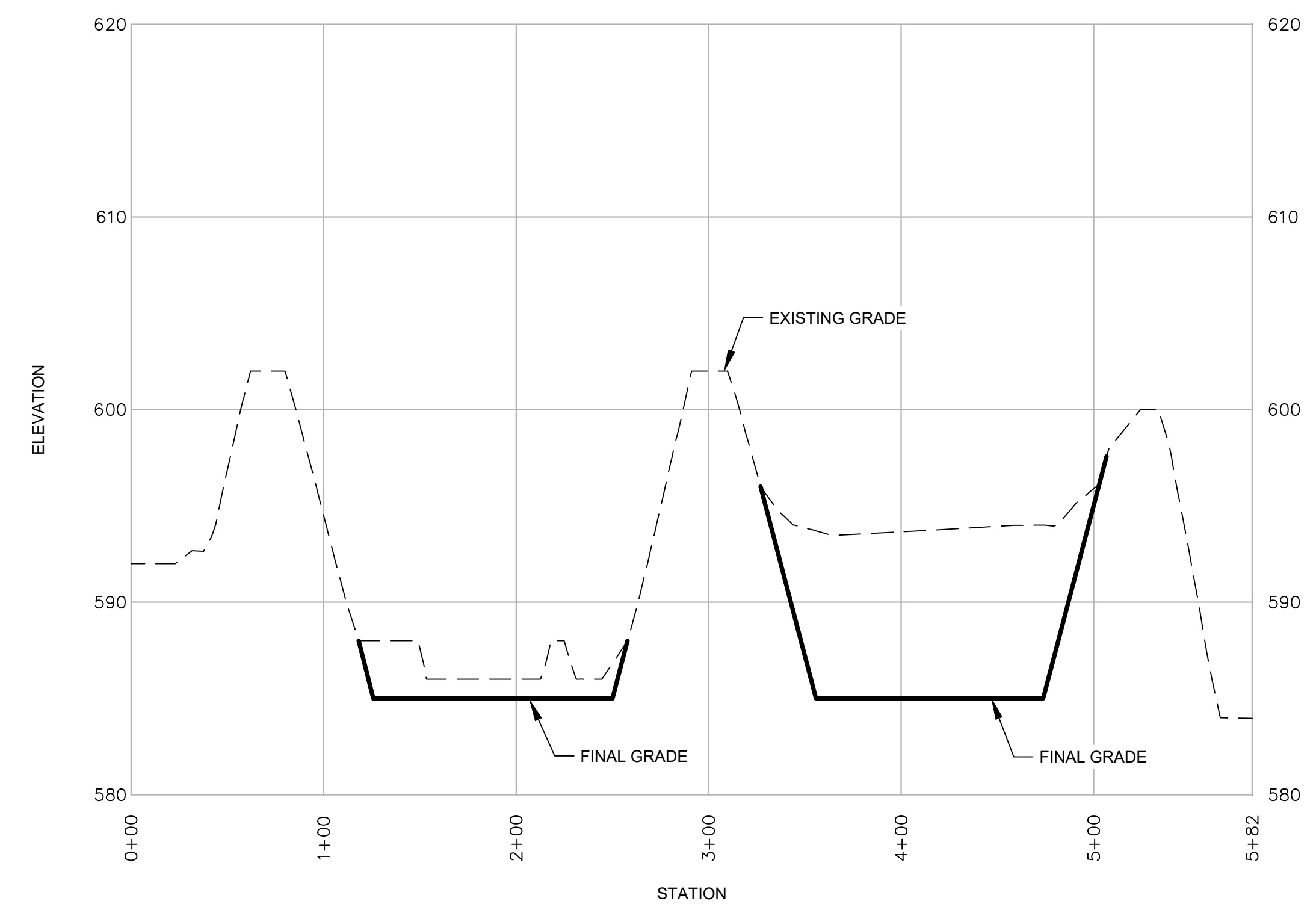


NOT FOR CONSTRUCTION

AECOM	CROSS SECTIONS - WEST ASH BASIN - CLOSURE IN PLACE		
	WAUKEGAN GENERATING STATION CLOSURE ALTERNATIVES ANALYSIS WAUKEGAN, ILLINOIS		
SEAL	ISSUED FOR REVIEW		
DRAFT	SCALE: AS SHOWN	DES: MR	
	DWG TYPE: DWG	DFTR: PK	
	JOB NO: 60669161	CHKD: RB	
	DATE: 11/15/2021	ENGR: JT	
FILENAME: CROSS SECTIONS.DWG	APPD: JT		
DWG SIZE: ANSI D 22.0"x34.0"	DRAWING NO. 10	REVISION A	



East Ash Basin E-E



East Ash Basin F-F

LEGEND

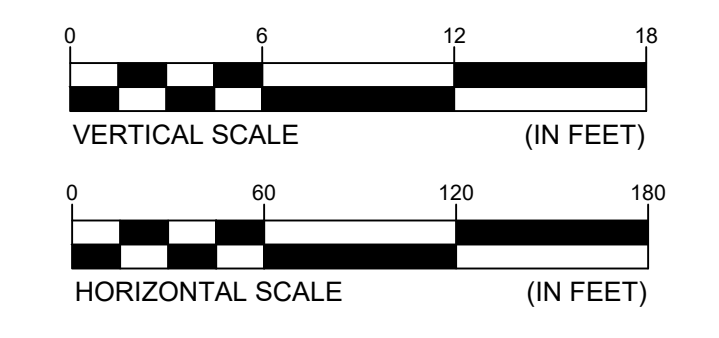
- EXISTING GRADE
- FINAL GRADE
- ESTIMATED BOTTOM OF ASH GRADE

NOTES

1. BASIS OF BEARINGS: NAD83 ILLINOIS STATE PLANES, EAST ZONE. ELEVATIONS ARE BASED ON NAVD88.

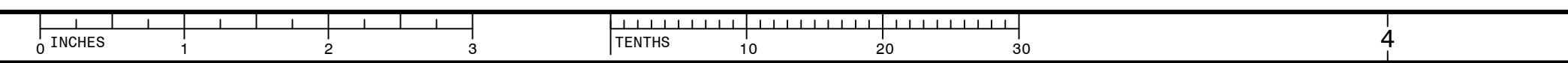
REFERENCES

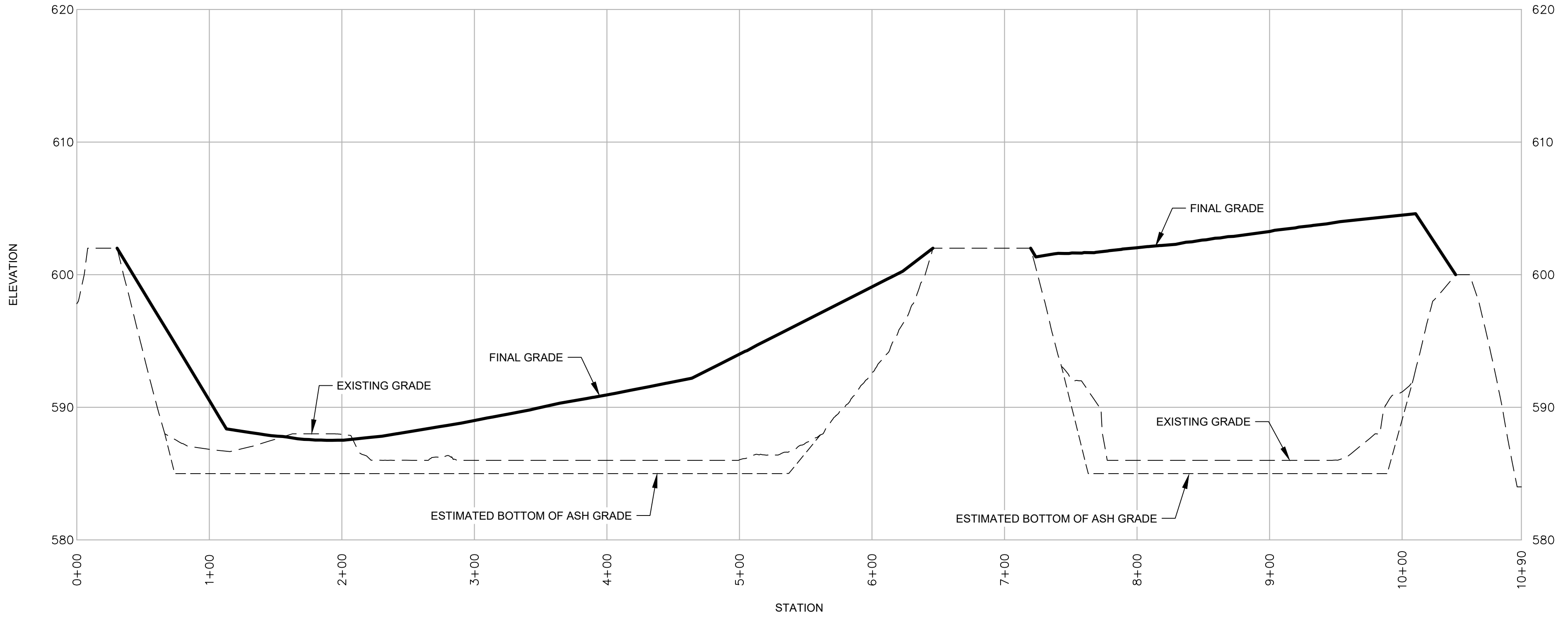
1. SEE SHEETS 02 AND 03 FOR DRAWING REFERENCES.



NOT FOR CONSTRUCTION

AECOM	CROSS SECTIONS - EAST ASH BASIN - CLOSURE BY REMOVAL		
	WAUKEGAN GENERATING STATION CLOSURE ALTERNATIVES ANALYSIS WAUKEGAN, ILLINOIS		
SEAL	ISSUED FOR REVIEW		
DRAFT	SCALE: AS SHOWN	DES: MR	
	DWG TYPE: DWG	DFTR: PK	
	JOB NO: 60669161	CHKD: RB	
	DATE: 11/15/2021	ENGR: JT	
FILENAME: CROSS SECTIONS.DWG	APPD: JT		
DWG SIZE: ANSI D 22.0"x34.0"	DRAWING NO. 11	REVISION A	





East Ash Basin G-G

LEGEND

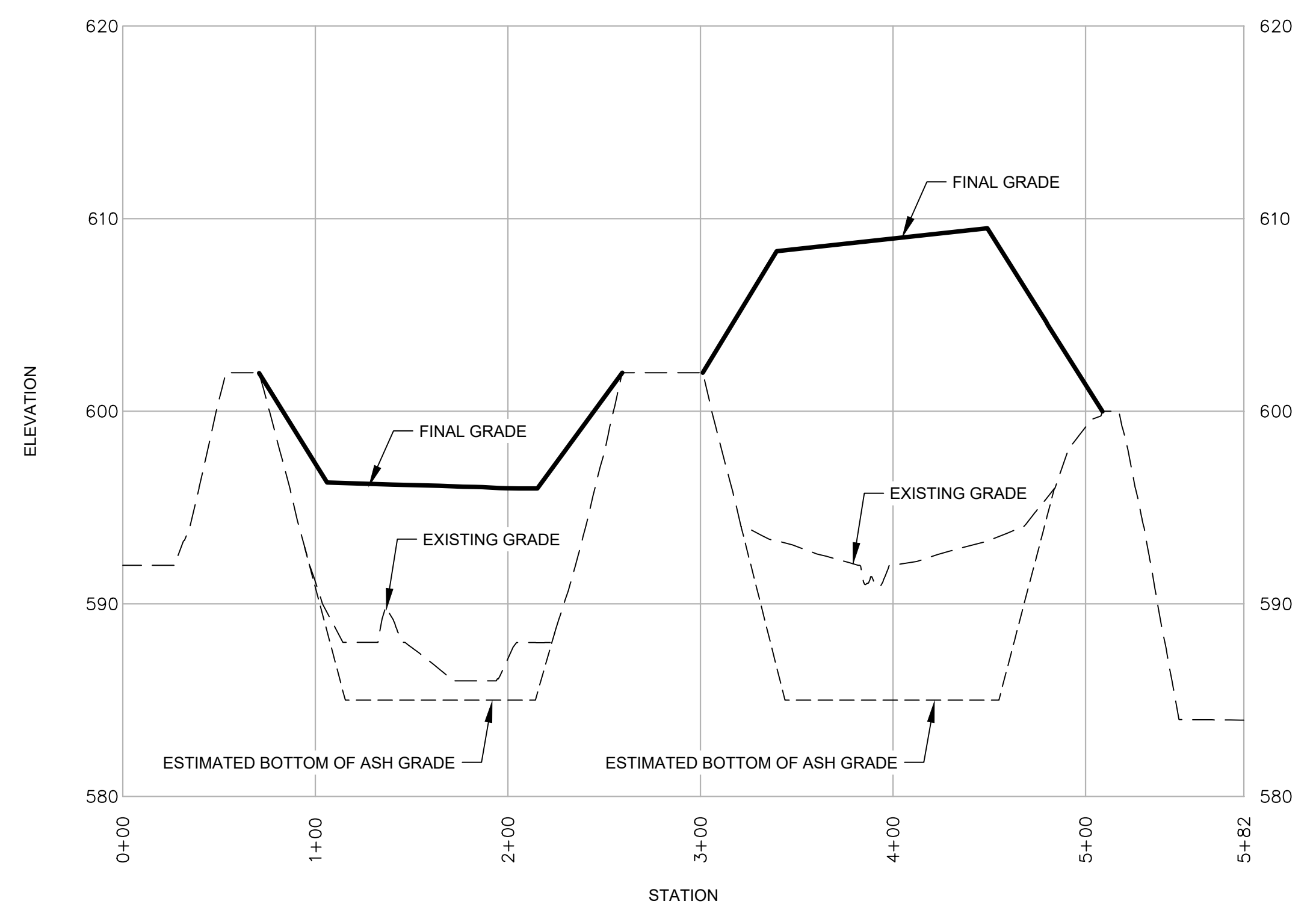
- EXISTING GRADE
- FINAL GRADE
- .-.- ESTIMATED BOTTOM OF ASH GRADE

NOTES

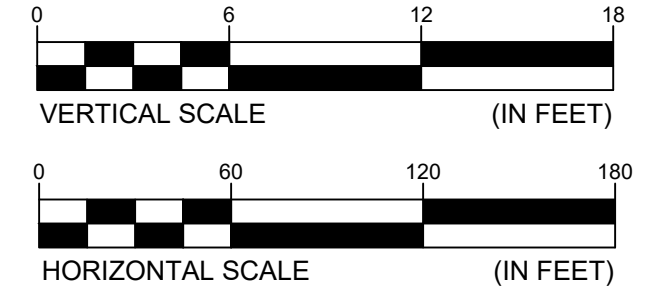
1. BASIS OF BEARINGS: NAD83 ILLINOIS STATE PLANES, EAST ZONE. ELEVATIONS ARE BASED ON NAVD88.

REFERENCES

1. SEE SHEETS 02 AND 03 FOR DRAWING REFERENCES.

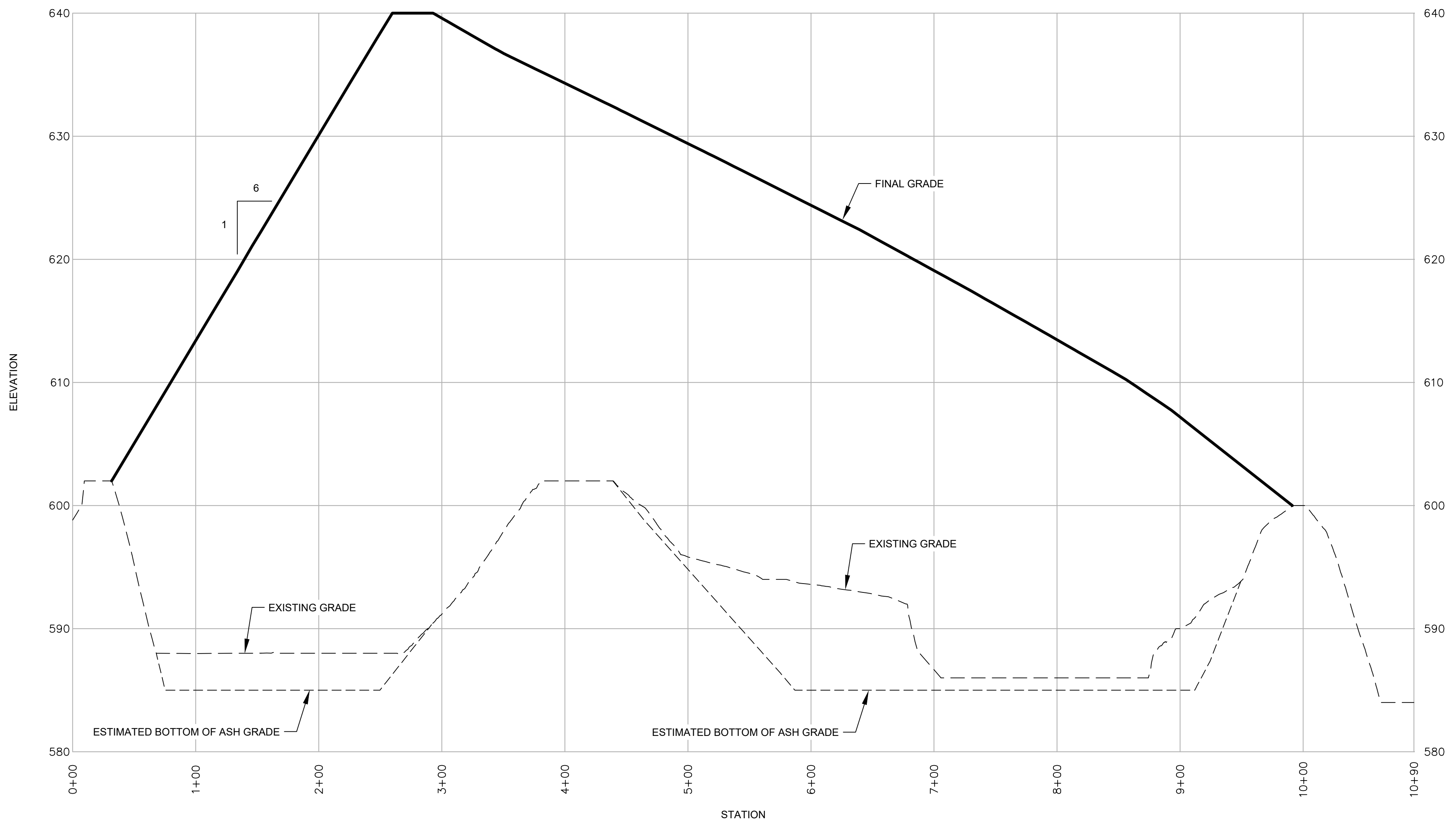


East Ash Basin H-H

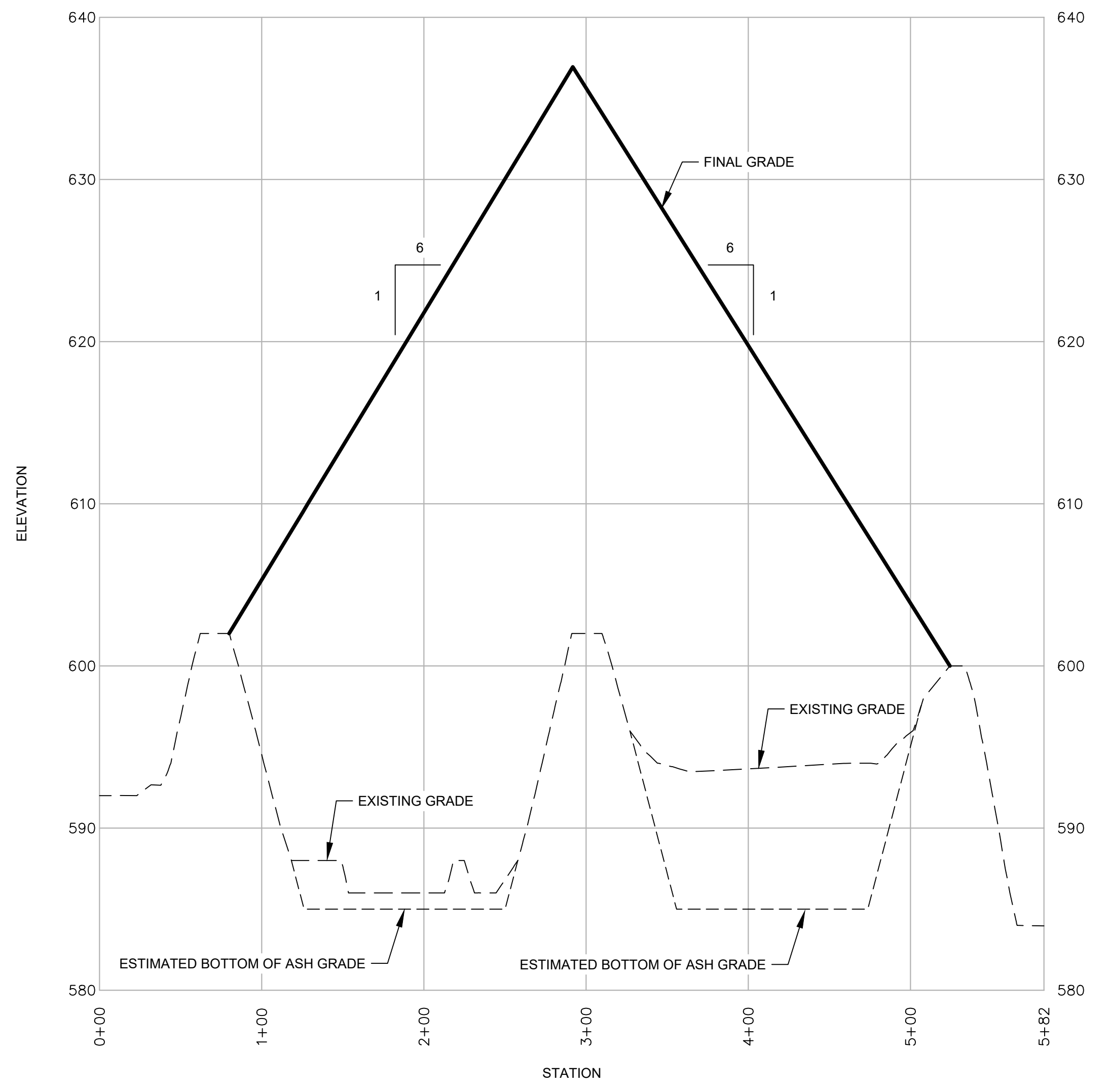


NOT FOR CONSTRUCTION

AECOM	CROSS SECTIONS - EAST ASH BASIN - CLOSURE IN PLACE (OPTION 1)		
	WAUKEGAN GENERATING STATION CLOSURE ALTERNATIVES ANALYSIS WAUKEGAN, ILLINOIS		
	FOR ISSUED FOR REVIEW		
	SCALE: AS SHOWN	DES: MR	DFTR: PK
DRAFT	JOB NO: 60669161		CHKD: RB
	DATE: 11/15/2021		ENGR: JT
	FILENAME: CROSS SECTIONS.DWG		APPD: JT
DWG SIZE ANSI D 22.0"x34.0"	DRAWING NO. 12	REVISION A	



East Ash Basin I-I



East Ash Basin J-J

LEGEND

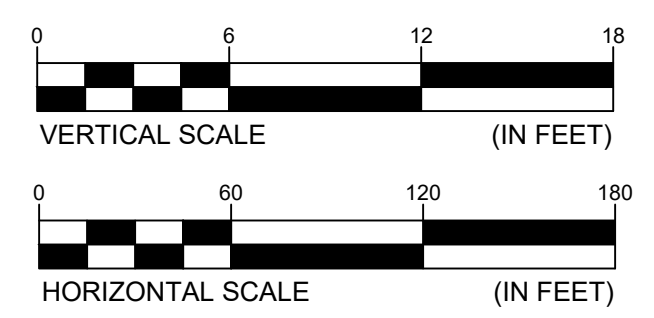
- EXISTING GRADE
- FINAL GRADE
- ... ESTIMATED BOTTOM OF ASH GRADE

NOTES

1. BASIS OF BEARINGS: NAD83 ILLINOIS STATE PLANES, EAST ZONE. ELEVATIONS ARE BASED ON NAVD88.

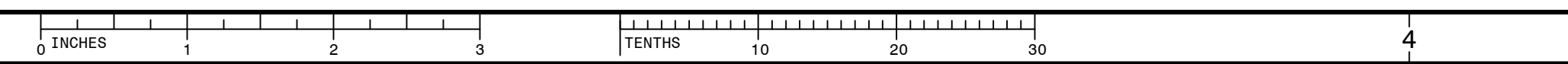
REFERENCES

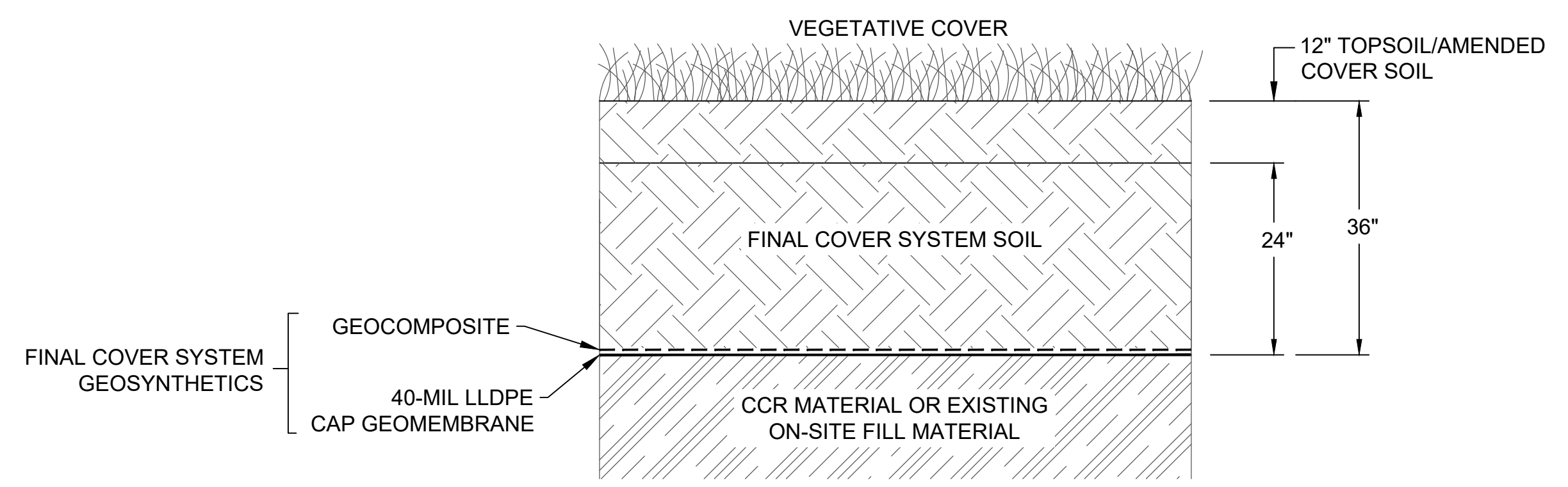
1. SEE SHEETS 02 AND 03 FOR DRAWING REFERENCES.



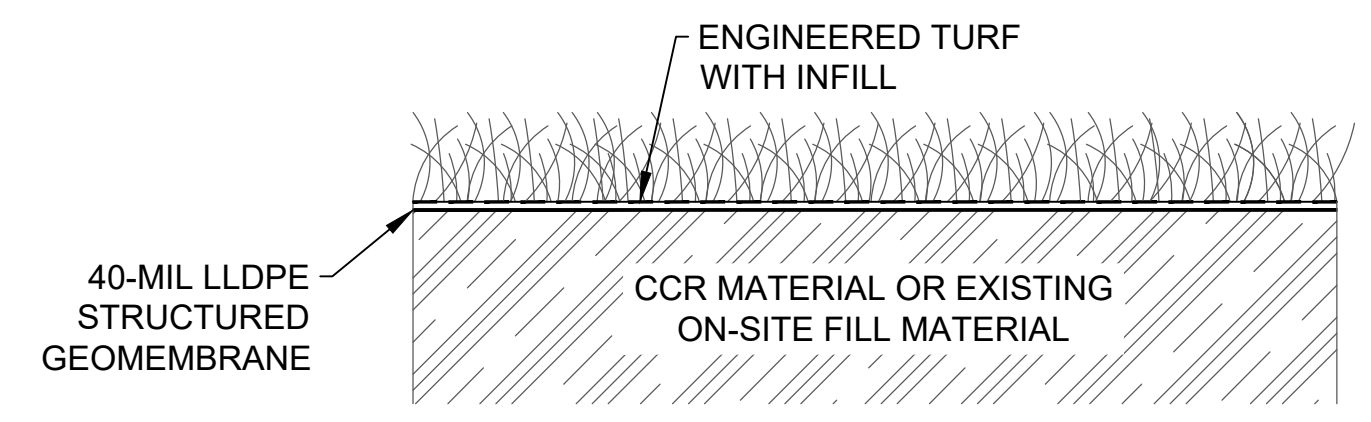
NOT FOR CONSTRUCTION

AECOM	CROSS SECTIONS - EAST ASH BASIN - CLOSURE IN PLACE (OPTION 2)		
	WAUKEGAN GENERATING STATION CLOSURE ALTERNATIVES ANALYSIS WAUKEGAN, ILLINOIS		
FOR	ISSUED FOR REVIEW		
SEAL	SCALE: AS SHOWN	DES: MR	DFTR: PK
DRAFT	JOB NO: 60669161	CHKD: RB	ENGR: JT
	DATE: 11/15/2021	ENGR: JT	APPD: JT
	FILENAME: CROSS SECTIONS.DWG		
DWG SIZE ANSI D 22.0"x34.0"	DRAWING NO. 13	REVISION A	





1 TYPICAL FINAL COVER SYSTEM
16 NOT TO SCALE



2 TYPICAL FINAL COVER SYSTEM - ENGINEERED TURF
16 NOT TO SCALE

NOT FOR CONSTRUCTION

AECOM	DETAILS		
	WAUKEGAN GENERATING STATION CLOSURE ALTERNATIVES ANALYSIS WAUKEGAN, ILLINOIS		
	FOR ISSUED FOR REVIEW		
SEAL	SCALE: AS SHOWN	DES: MR	
DRAFT	DWG TYPE: DWG	DFTR: PK	
	JOB NO: 60669161	CHKD: RB	
	DATE: 11/15/2021	ENGR: JT	
FILENAME: DETAILS.DWG	APPD: JT		
DWG SIZE	DRAWING NO.	REVISION	
ANSI D 22.0"x34.0"	14	A	

