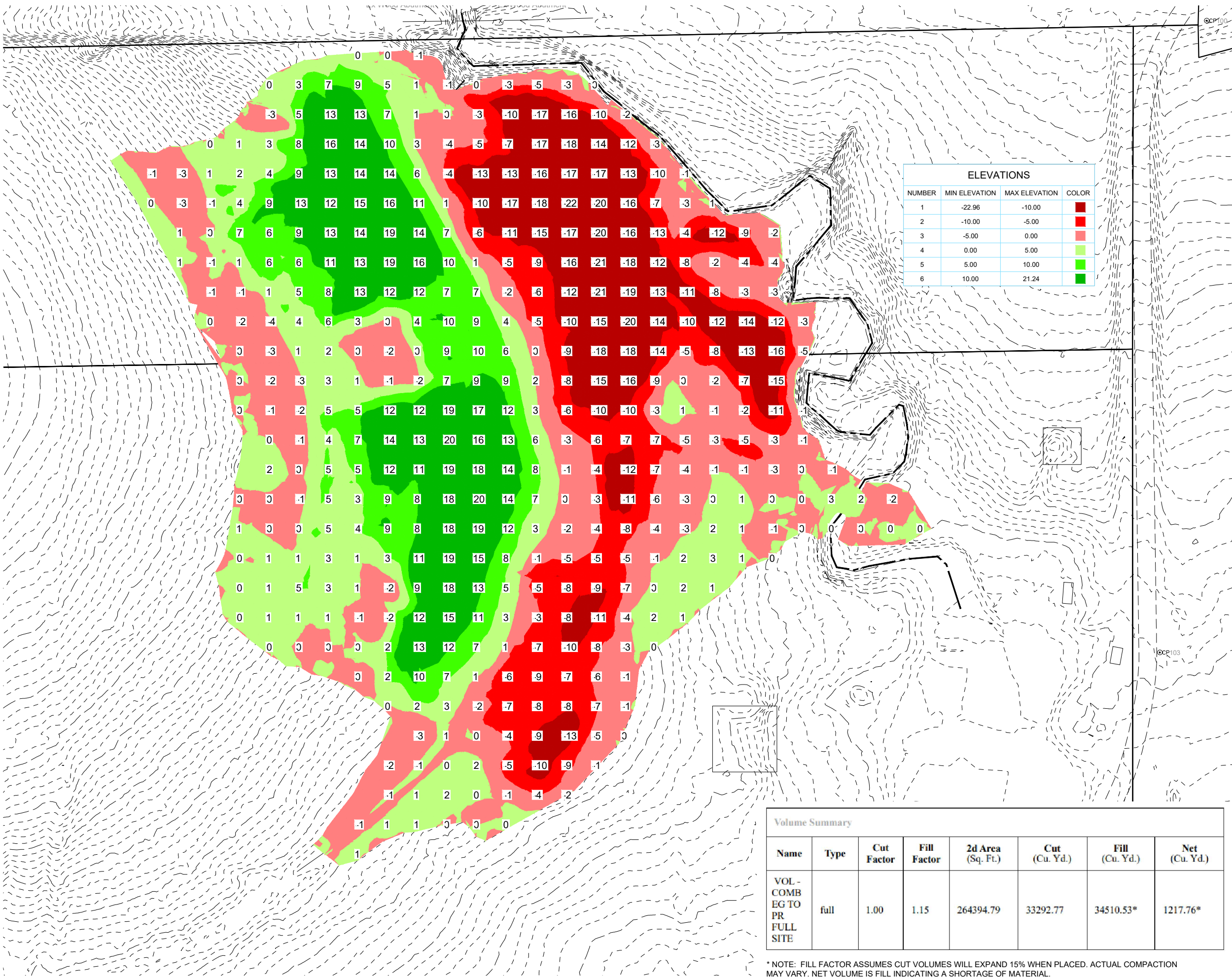


USER: JLM DATE: 07-18-2025 SHEET: 6 OF 20



ELEVATIONS			
NUMBER	MIN ELEVATION	MAX ELEVATION	COLOR
1	-22.96	-10.00	Red
2	-10.00	-5.00	Red
3	-5.00	0.00	Red
4	0.00	5.00	Green
5	5.00	10.00	Green
6	10.00	21.24	Green

Volume Summary							
Name	Type	Cut Factor	Fill Factor	2d Area (Sq. Ft.)	Cut (Cu. Yd.)	Fill (Cu. Yd.)	Net (Cu. Yd.)
VOL - COMB EG TO PR FULL SITE	full	1.00	1.15	264394.79	33292.77	34510.53*	1217.76*

* NOTE: FILL FACTOR ASSUMES CUT VOLUMES WILL EXPAND 15% WHEN PLACED. ACTUAL COMPACTION MAY VARY. NET VOLUME IS FILL INDICATING A SHORTAGE OF MATERIAL.

DESIGN BY: LAG

DRAWN BY: LGM

ISSUED: 07-18-2025

CHKD. BY:

FILE:

FEAGINS
AML RECLAMATION PROJECT

CUT
AND FILL

REVISION: 1

REVISION: 2

REVISION: 3

REVISION: 4

DATE:

DATE:

DATE:

DATE:

S & A PROJECT No. 123-1031

DESCRIPTION:

IOWA DEPARTMENT OF AGRICULTURE
AND LAND STEWARDSHIP
DIVISION OF SOIL CONSERVATION
AND WATER QUALITY
HOOVER STATE OFFICE BUILDING
1305 E. WALNUT ST., FIFTH FLOOR, DES MOINES, IA
(515) 281-4246

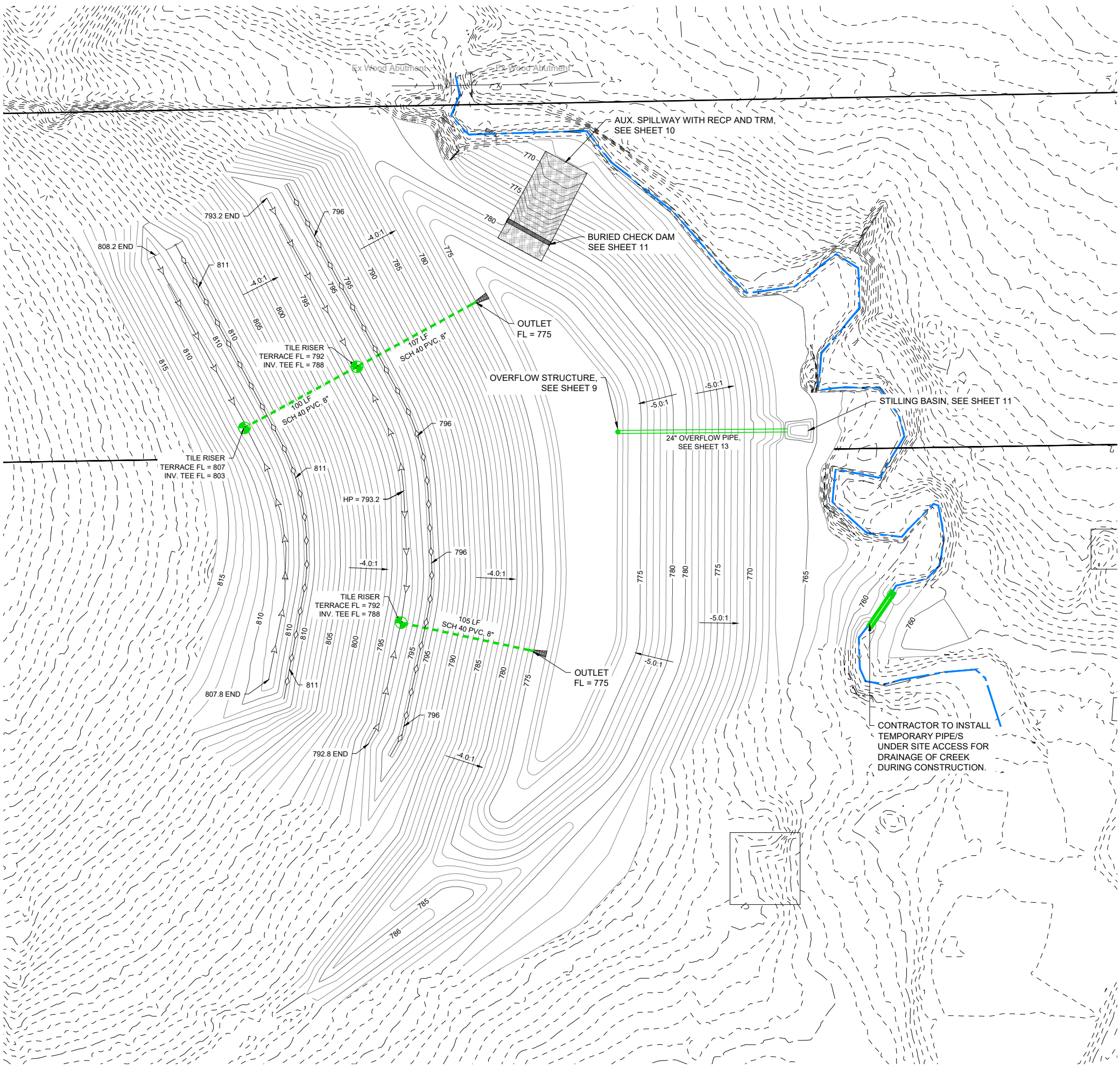
SHEET 6 OF 20

USER'S FILE

SHEET NAME: SCALES: 1"=40'

DATE: 07-18-2025

SHEET NO. 7 OF 20

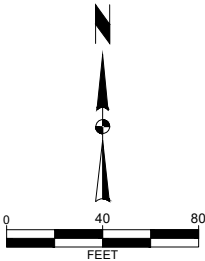



SITE PLAN NOTES:

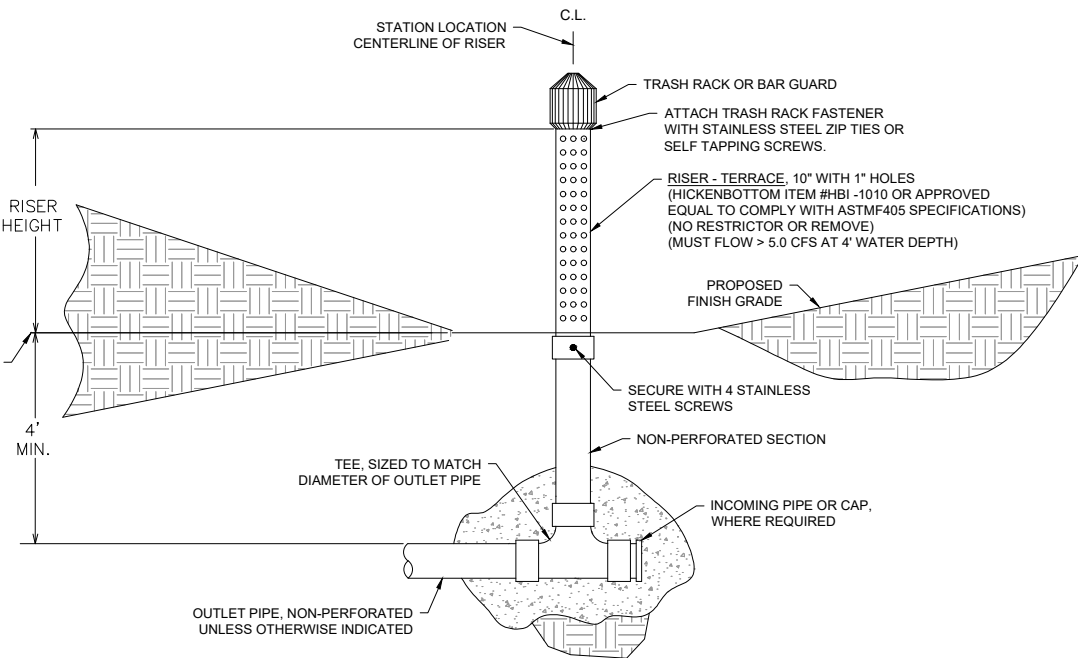
1. STATION LOCATIONS FOR TERRACE RIDGE LINES ARE SHOWN ON THE UPSTREAM FACE OF THE TERRACE.
2. TILE OUTLETS MUST BE LOCATED 1 FOOT ABOVE FLOW LINE OF CHANNEL AND PROTRUDE 1 FOOT ONTO THE RIP RAP.
3. TILE OUTLETS INCLUDE THE LAST 20 FEET OF PIPE AND ARE A SEPARATE BID ITEM.
4. INSTALL RODENT GUARD ON ALL TILE OUTLETS, INCIDENTAL TO OUTLET.
5. SEE DETAILS AND SCHEDULES ON SHEETS 9-13 FOR ADDITIONAL INFORMATION ON TILE, TILE RISERS, AND TERRACES.
6. UNDERLAY ALL RIP RAP WITH MACADAM STONE.

LEGEND

- TERRACE FLOW DIRECTION
- TOP OF TERRACE
- TILE RISER LOCATION



DESIGN BY: LAG				DRAWN BY: LGM	<div><p>IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP DIVISION OF SOIL CONSERVATION AND WATER QUALITY HOOVER STATE OFFICE BUILDING 1305 E. WALNUT ST., FIFTH FLOOR, DES MOINES, IA (515) 281-4246</p></div>	ISSUED: 07-18-2025	REVISED:	FILE:	S & A PROJECT No. 123-1031	
<div><p>FEAGINS</p><p>AML RECLAMATION PROJECT</p></div> <div><p>SITE AND DRAINAGE PLAN</p></div>						REVISION:	DATE:	DESCRIPTION:		
						1				
						2				
						3				
					4					
7 OF 20 SHEET										

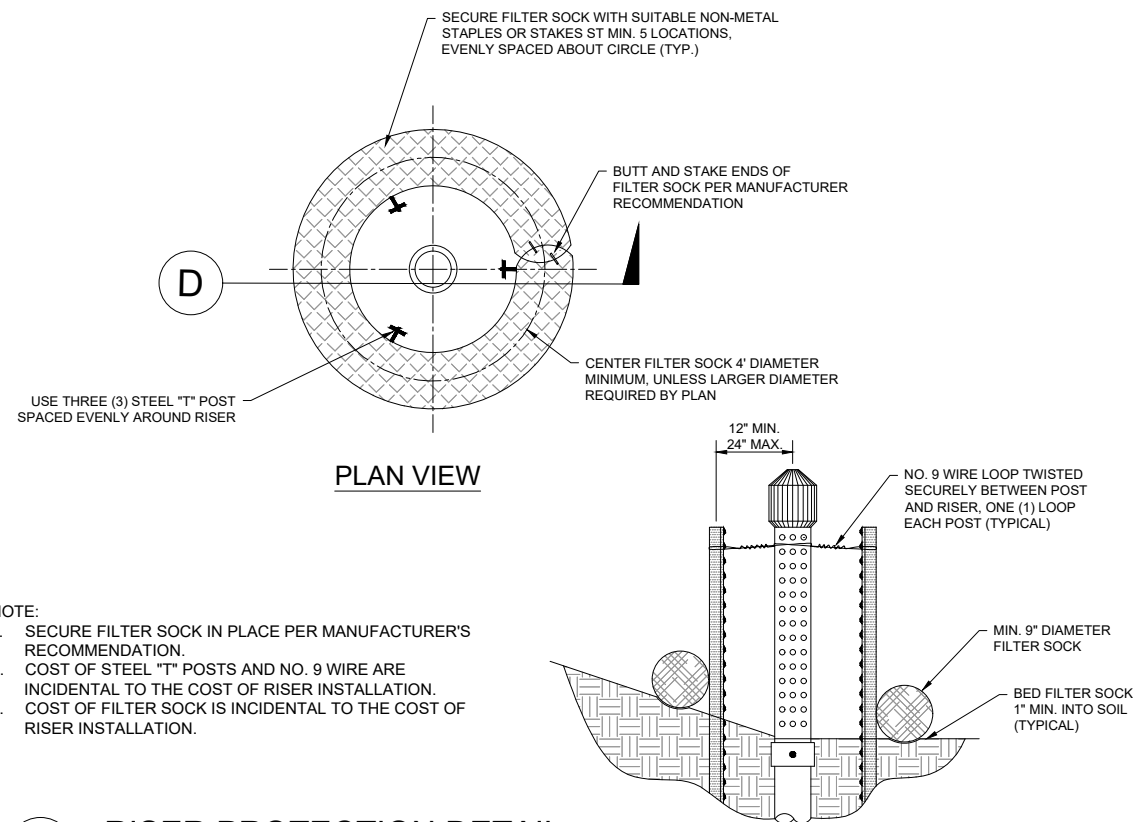


NOTE:
THREE (3) POSTS REQUIRED FOR 10" AND LARGER
RISERS, FENCE POSTS NOT SHOWN FOR CLARITY.

1
8

TILE RISER DETAIL

NO SCALE

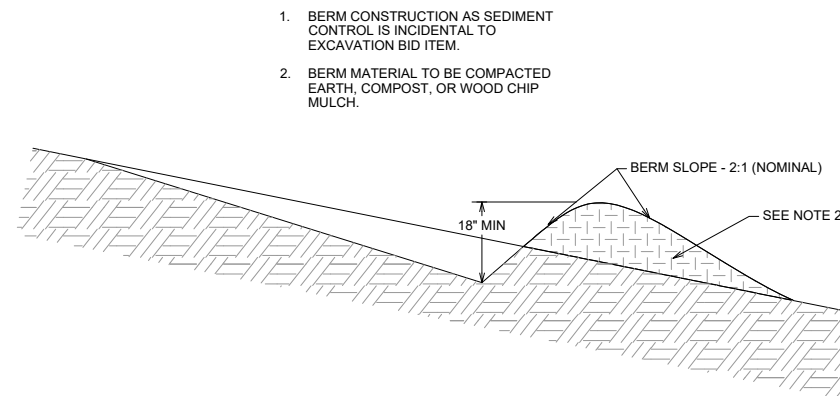


NOTE:

1. SECURE FILTER SOCK IN PLACE PER MANUFACTURER'S RECOMMENDATION.
2. COST OF STEEL "T" POSTS AND NO. 9 WIRE ARE INCIDENTAL TO THE COST OF RISER INSTALLATION.
3. COST OF FILTER SOCK IS INCIDENTAL TO THE COST OF RISER INSTALLATION.

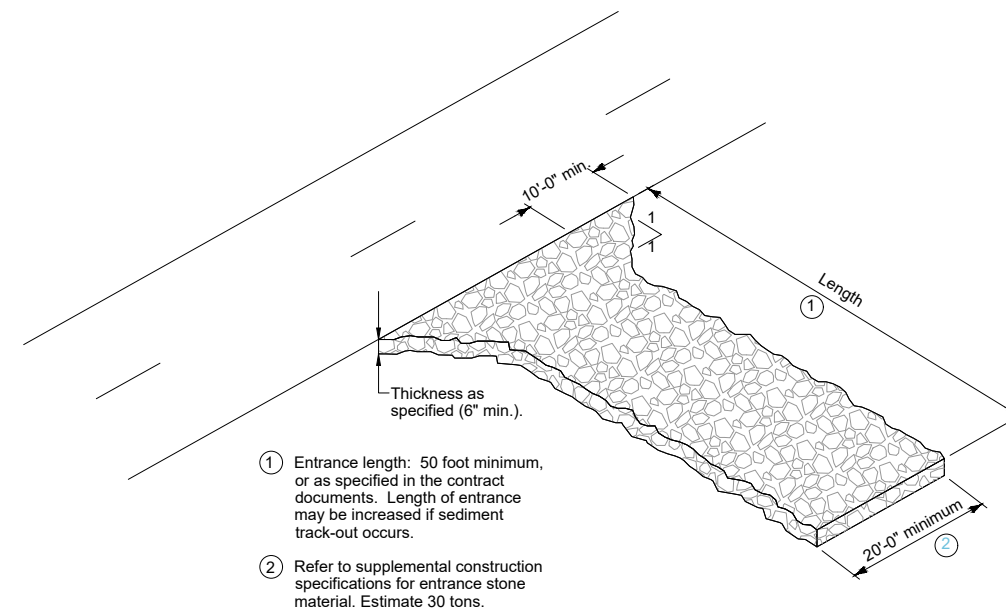
2
8

RISER PROTECTION DETAIL
NO SCALE



1. BERM CONSTRUCTION AS SEDIMENT CONTROL IS INCIDENTAL TO EXCAVATION BID ITEM.
2. BERM MATERIAL TO BE COMPACTED EARTH, COMPOST, OR WOOD CHIP MULCH.

TYPE 3 DITCH/BERM DIVERSION



- ① Entrance length: 50 foot minimum, or as specified in the contract documents. Length of entrance may be increased if sediment track-out occurs.
- ② Refer to supplemental construction specifications for entrance stone material. Estimate 30 tons.

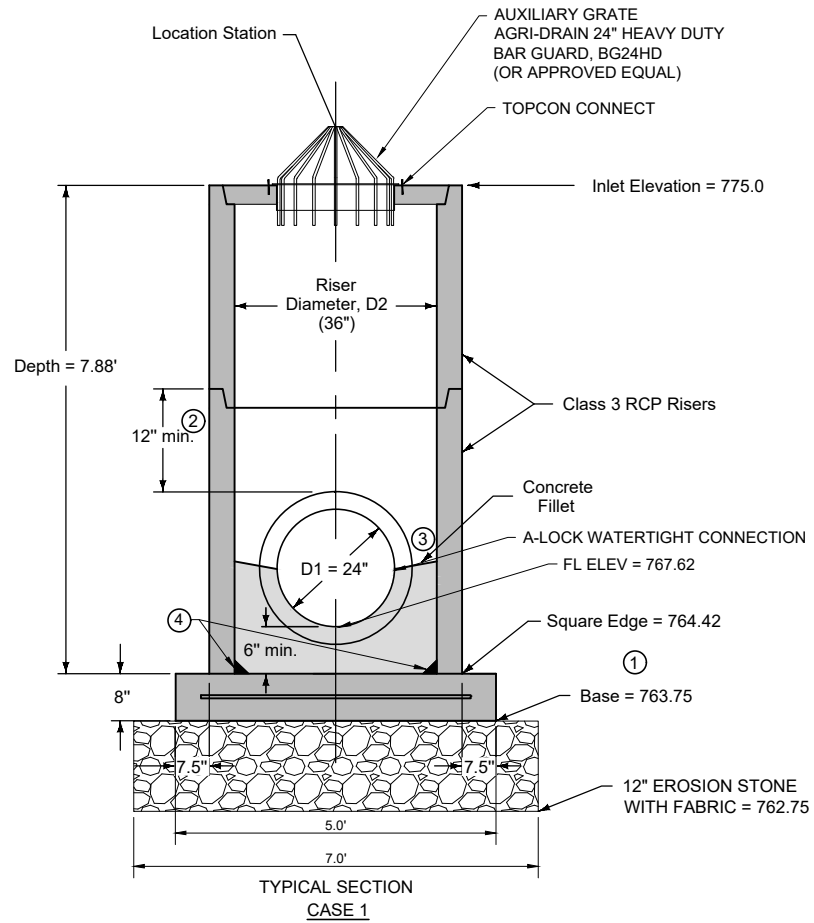
4
8

STABILIZED CONSTRUCTION ENTRANCE

NO SCALE

DATE: 07-18-2025
SHEET NAME: SW-512
SCALE: 1/8" = 1'-0"

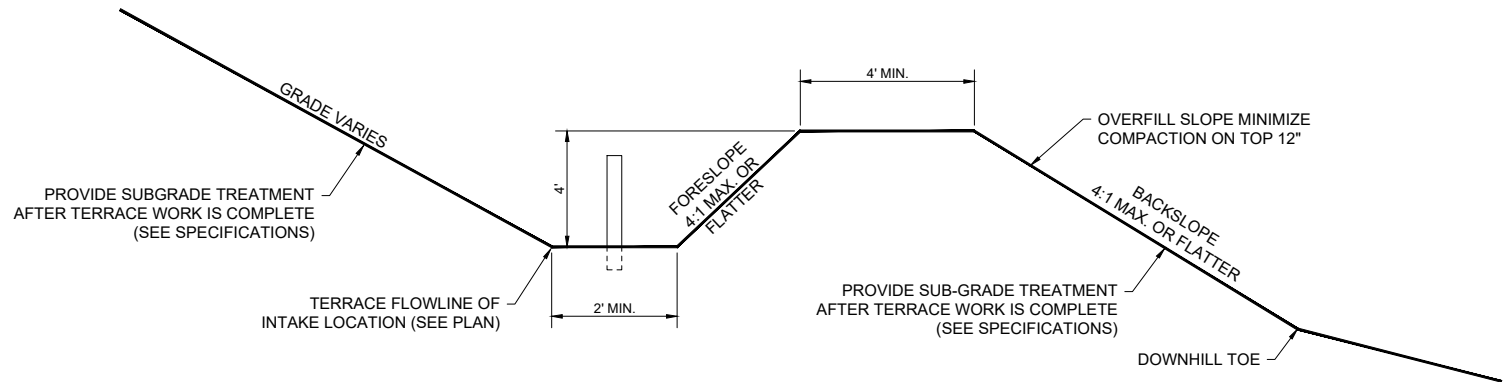
- ① Precast (shown) or cast-in-place base:
- Precast: 6 inch thick concrete with #6 welded wire mesh on 4 inch centers (WWF 4" x 4"). Center mesh vertically within base.
 - Cast-in-place: 8 inch thick non-reinforced concrete.
- ② 12 inch minimum riser height above all pipes.
- ③ "Watertight connection" by A-Lok, Quick-Lok boot connector or approved equal.
- ④ Calk or seal joint between base and walls if not precast.



1
9

OVERFLOW STRUCTURE DETAIL, SW-512

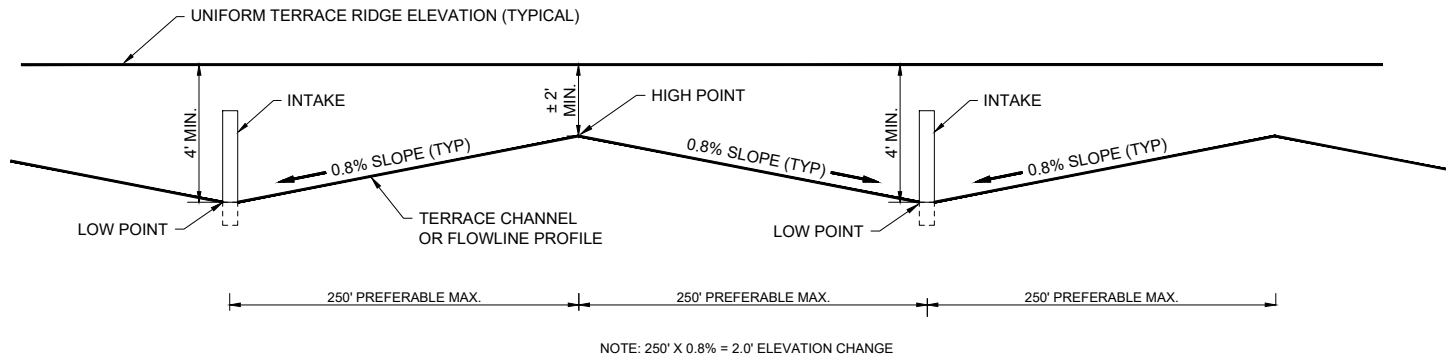
NO SCALE



2
9

GRADED TERRACE DETAIL - SIDE VIEW

NO SCALE



3
9

GRADED TERRACE DETAIL - FRONT VIEW

NO SCALE

DESIGN BY: LAG	DRAWN BY: LGM	CHKD. BY:	ISSUED: 07-18-2025	REVISED:	FILE:	S & A PROJECT No. 123-1031
					REVISION:	DESCRIPTION:
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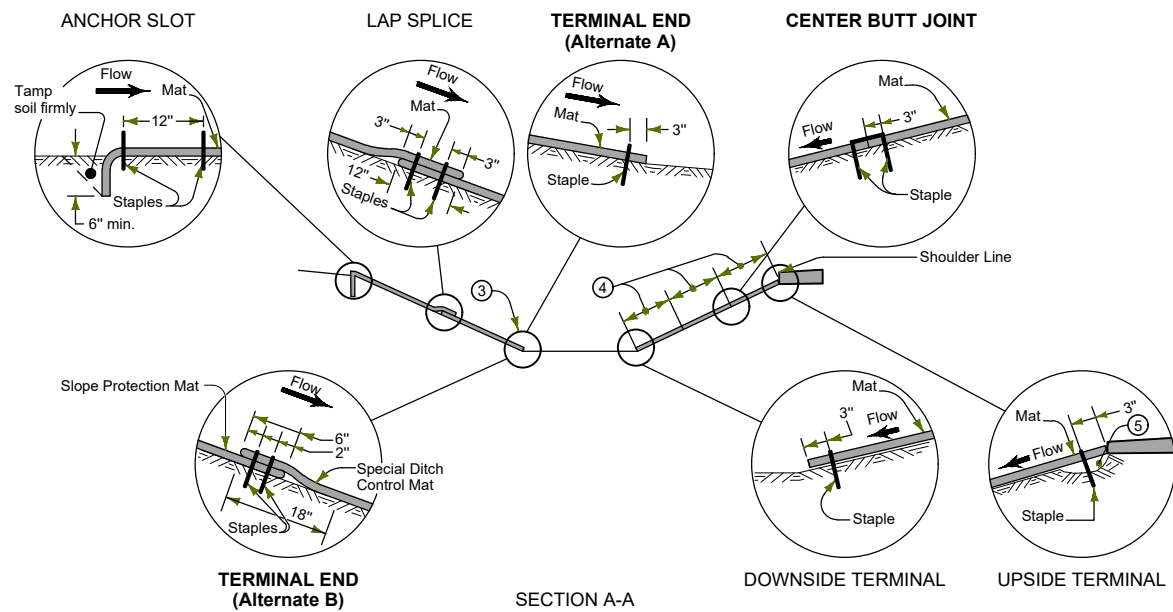
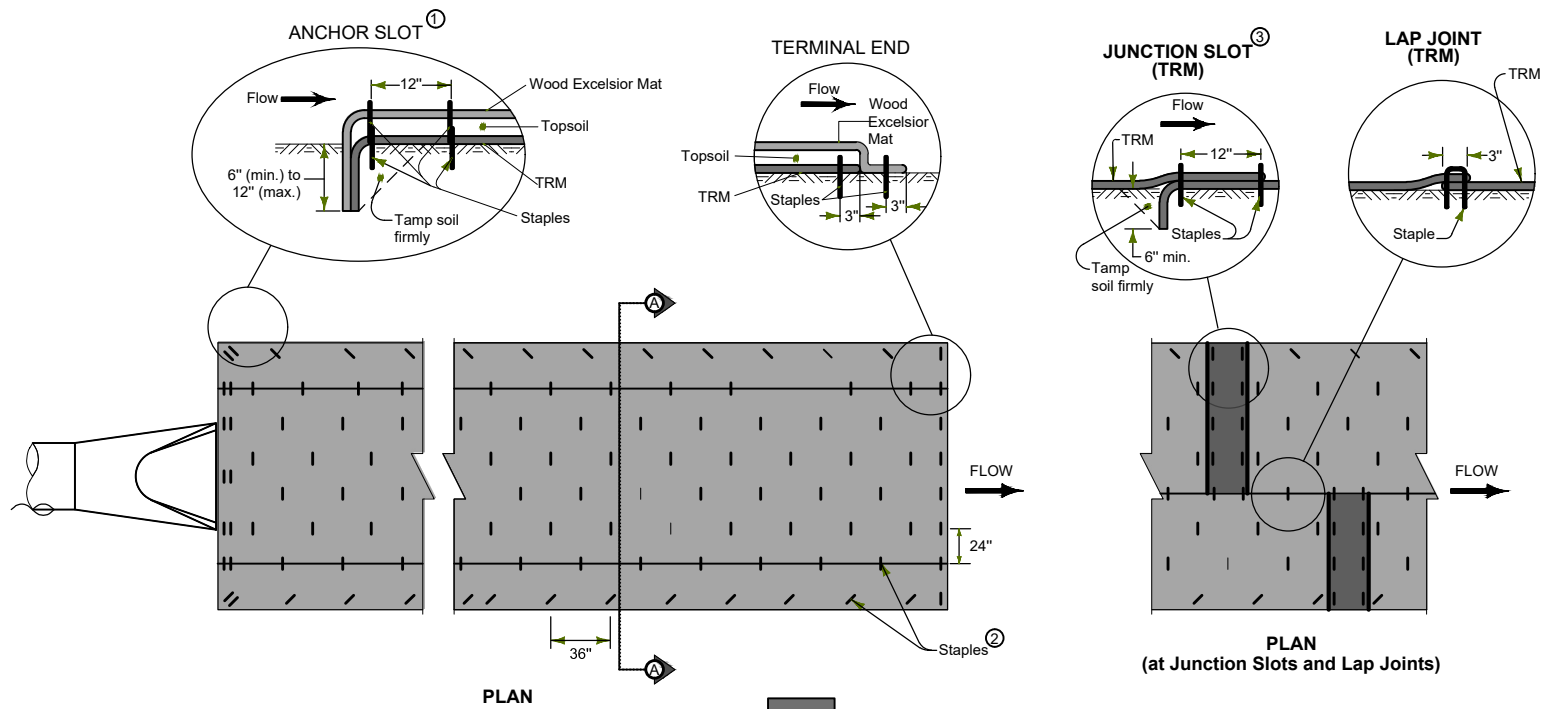
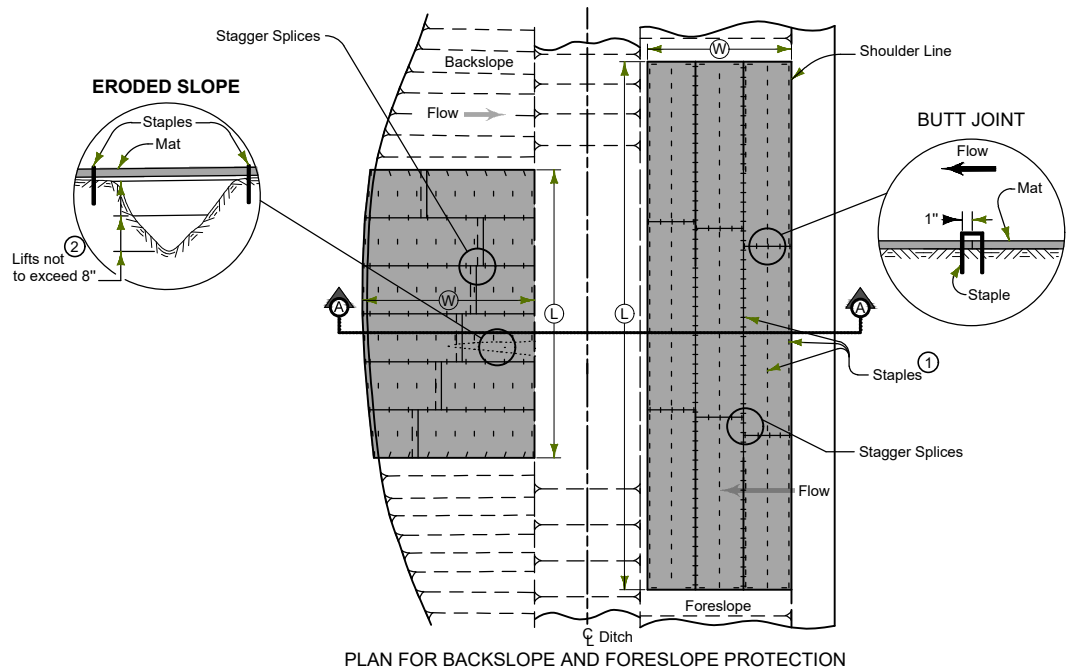
IOWA DEPARTMENT OF AGRICULTURE
AND LAND STEWARDSHIP
DIVISION OF SOIL CONSERVATION
AND WATER QUALITY
HOOVER STATE OFFICE BUILDING
1305 E. WALNUT ST., FIFTH FLOOR, DES MOINES, IA
(515) 281-4246

FEAGINS
AML RECLAMATION PROJECT

DESIGN
DETAILS

SHEET
9 OF 20

\$SHEET NAME\$
 \$SHEET NO\$
 \$DATE\$
 \$SCALE\$
 \$USER\$
 \$FILE\$



The work of providing suitable earth surface for placement of slope protection is incidental to preparation of seedbed.

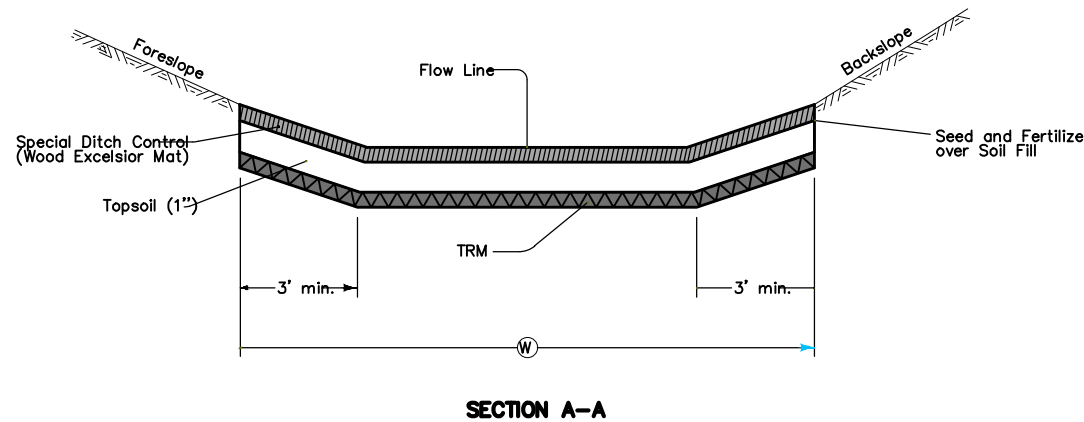
Ensure that ground surfaces adjacent to any channels are shaped to facilitate natural drainage into the protected area.

Excelsior mat for backslope protection is installed with strips placed approximately perpendicular to roadway. Locations for slope protection are shown on detail plans.

Excelsior mat for foreslope protection is installed with strips placed approximately parallel to roadway. The location, width, and number of strips are specified on project plans.

- Space top row of staples at 18 inch centers, bottom row at 36 inch centers, and all others at 24 inch centers. Approximately 30 staples required per square (100 sq. ft) of wood excelsior mat.
- Where erosive gullies have developed in backslope, fill with soil and compact prior to placement of mat.
- Where excelsior mat is to be placed as Special Ditch Control, install slope protection to facilitate placement of the ditch control as indicated (Alternate B). Where there is no Special Ditch Control, install slope protection as shown (Alternate A).
- 4 feet unless specified otherwise for foreslope protection.
- If erosive rill has developed adjacent to shoulder material, fill with suitable soil and compact prior to placement of mat.

1
10
RECP DETAILS
NO SCALE

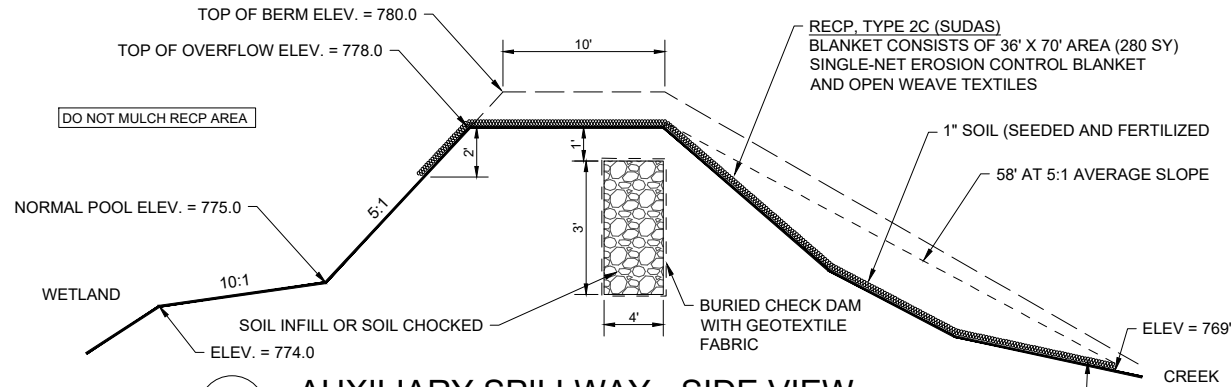


- Install anchor slot at the beginning (upstream end) of all mat installations.
- Place staples alternately in rows approximately 24 inches apart. Approximately 30 staples required per square (100 sq. ft.) of each type of mat.
- Stagger Junction Slots.

2
10
TRM DETAILS
NO SCALE

FILE:	S & A PROJECT No. 123.1031
REVISION:	DATE:
1	
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ISSUED: 07-18-2025	REVISED:
CHKD. BY:	
DRAWN BY: LGM	
DESIGN BY: LAG	
FEAGINS AML RECLAMATION PROJECT	DESIGN DETAILS
SHEET 10 OF 20	

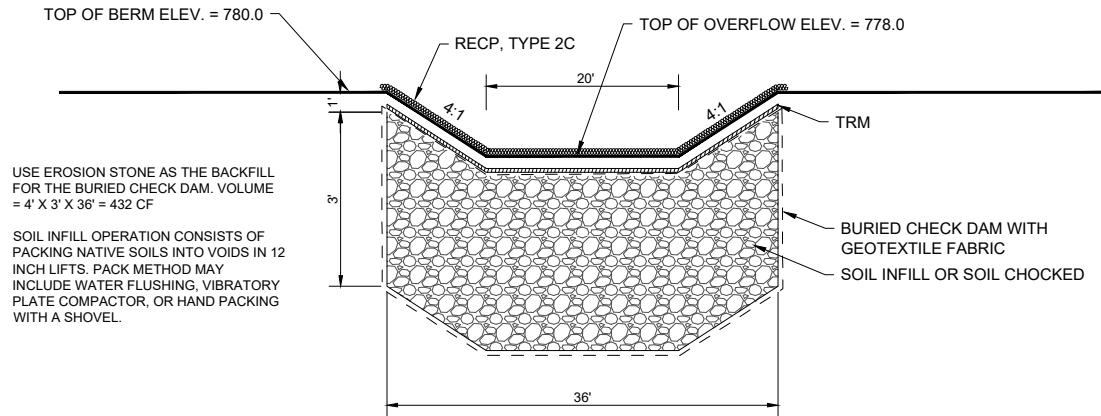
USE SHEET 11 OF 20
SHEET NAME: S & A PROJECT No. 123.1031
DATE: 07-18-2025
ISSUED: 07-18-2025
CHKD. BY: LGM
DRAWN BY: LGM
DESIGN BY: LAG



AUXILIARY SPILLWAY - SIDE VIEW

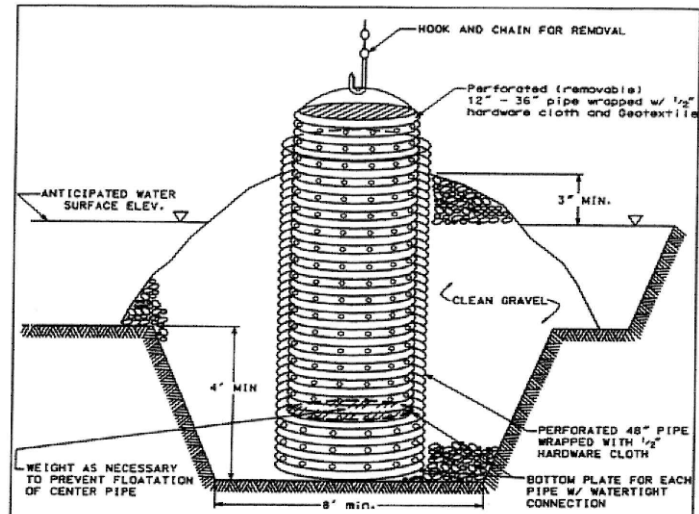
NO SCALE

TRM, TYPE 2
MATting CONSISTS OF MECHANICALLY OR MELT-BONDED PLYMENT NETTING, OR MONOFILAMENTS, OR FIBERS THAT ARE ENTANGLED TO FORM A STRONG AND DIMENSIONALLY STABLE MAT. COMPONENTS ARE TO BE 100% SYNTHETIC AND RESISTANT TO BIOLOGICAL, CHEMICAL, AND ULTRAVIOLET DEGRADATION. COMPLY WITH IOWA DOT TABLE 4169.10-1, TYPE 2.



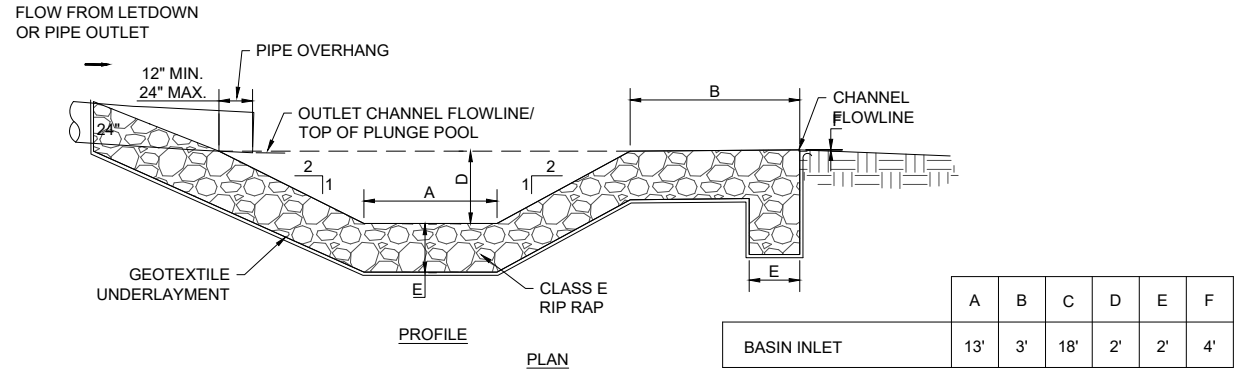
AUXILIARY SPILLWAY - FRONT VIEW

NO SCALE



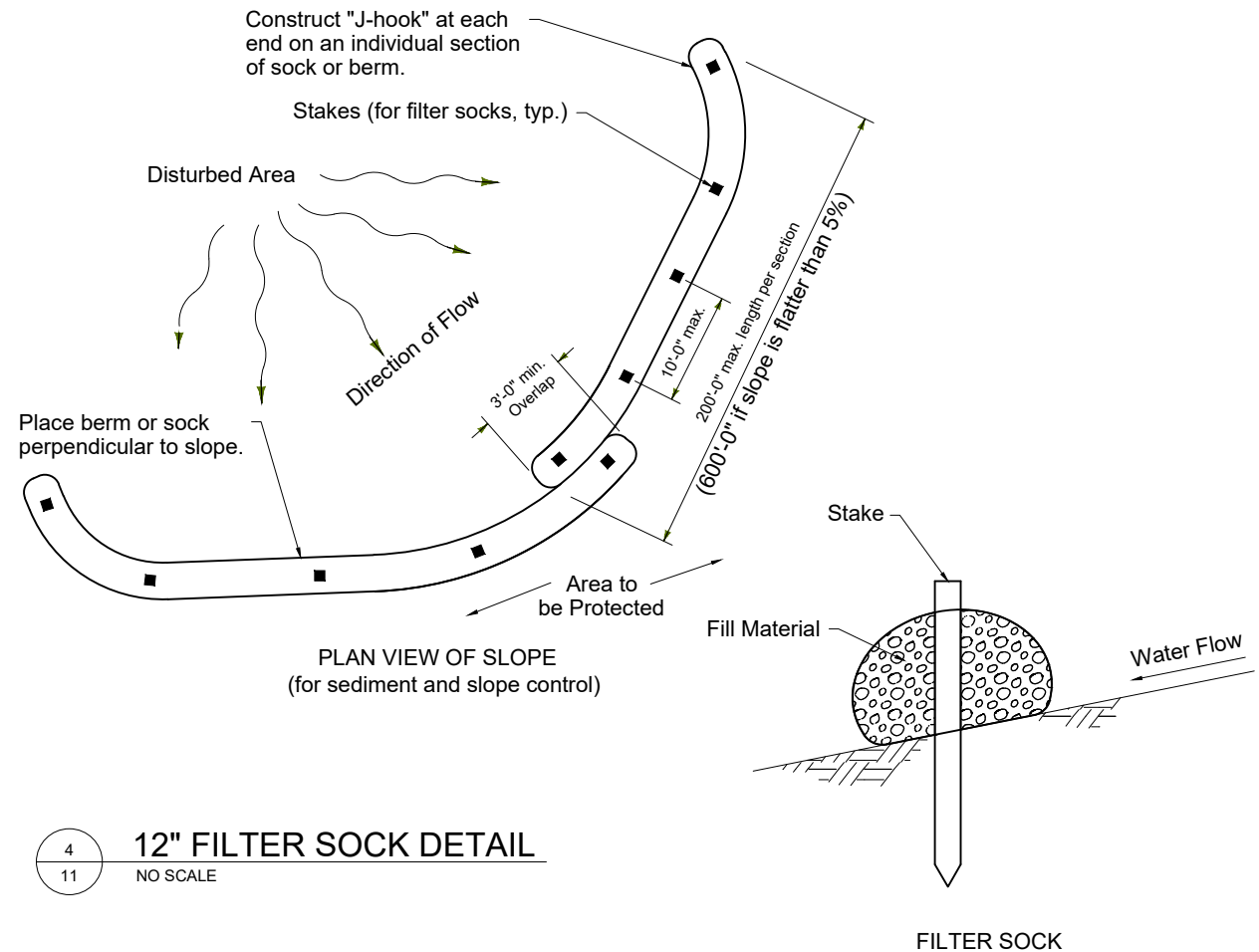
EXAMPLE TEMPORARY DEWATERING STATION (FOR REFERENCE ONLY)

NO SCALE



STILLING BASIN

NO SCALE



12" FILTER SOCK DETAIL

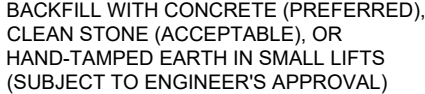
NO SCALE

FILE: S & A PROJECT No. 123.1031
REVISION: 1
DATE: 07-18-2025

IOWA DEPARTMENT OF AGRICULTURE
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DIVISION OF SOIL CONSERVATION
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FEAGINS
AML RECLAMATION PROJECT
DESIGN
DETAILS



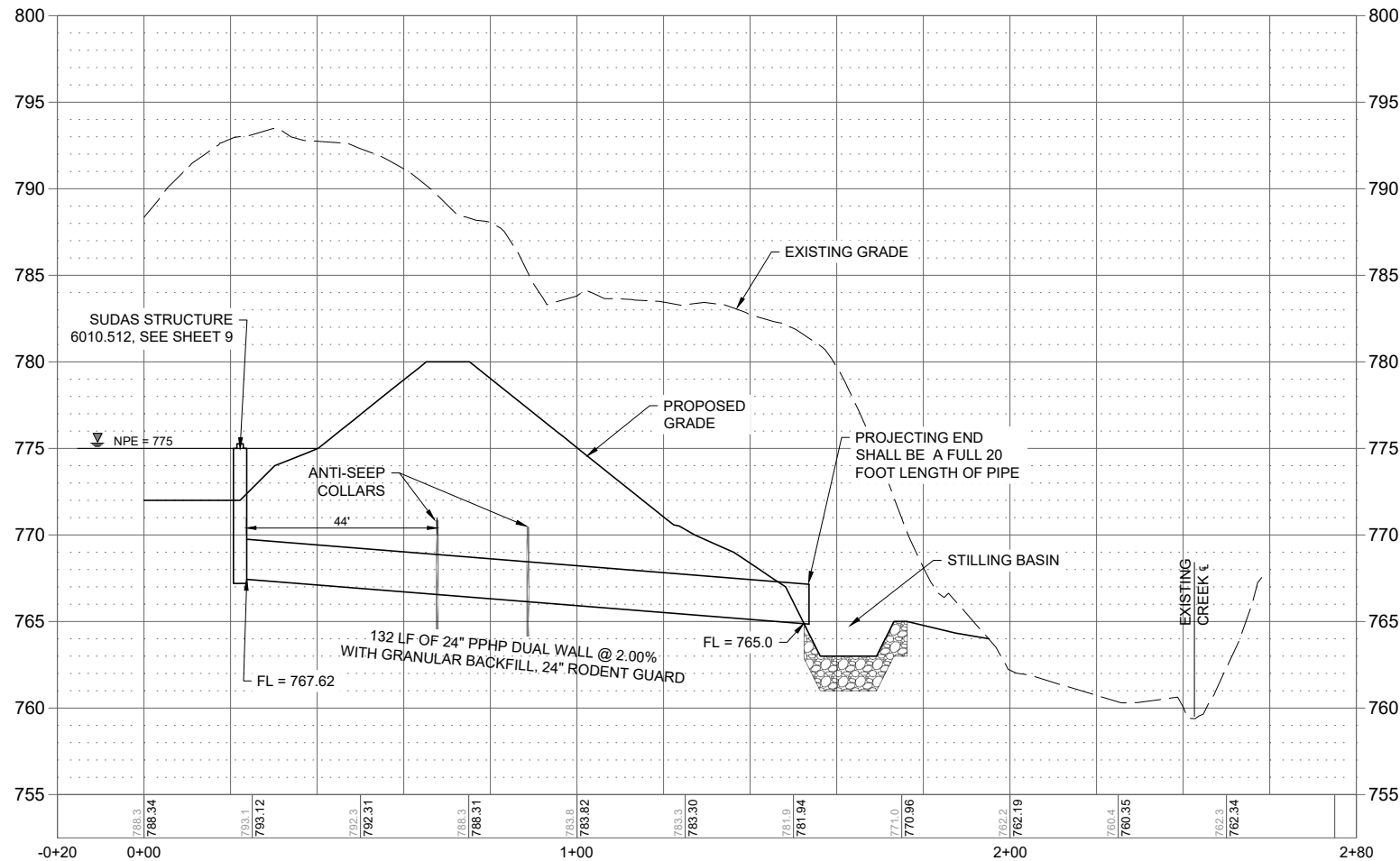
9. ONE (1) PROJECT SIGN IS REQUIRED, LOCATED AS SHOWN ON PLANS.



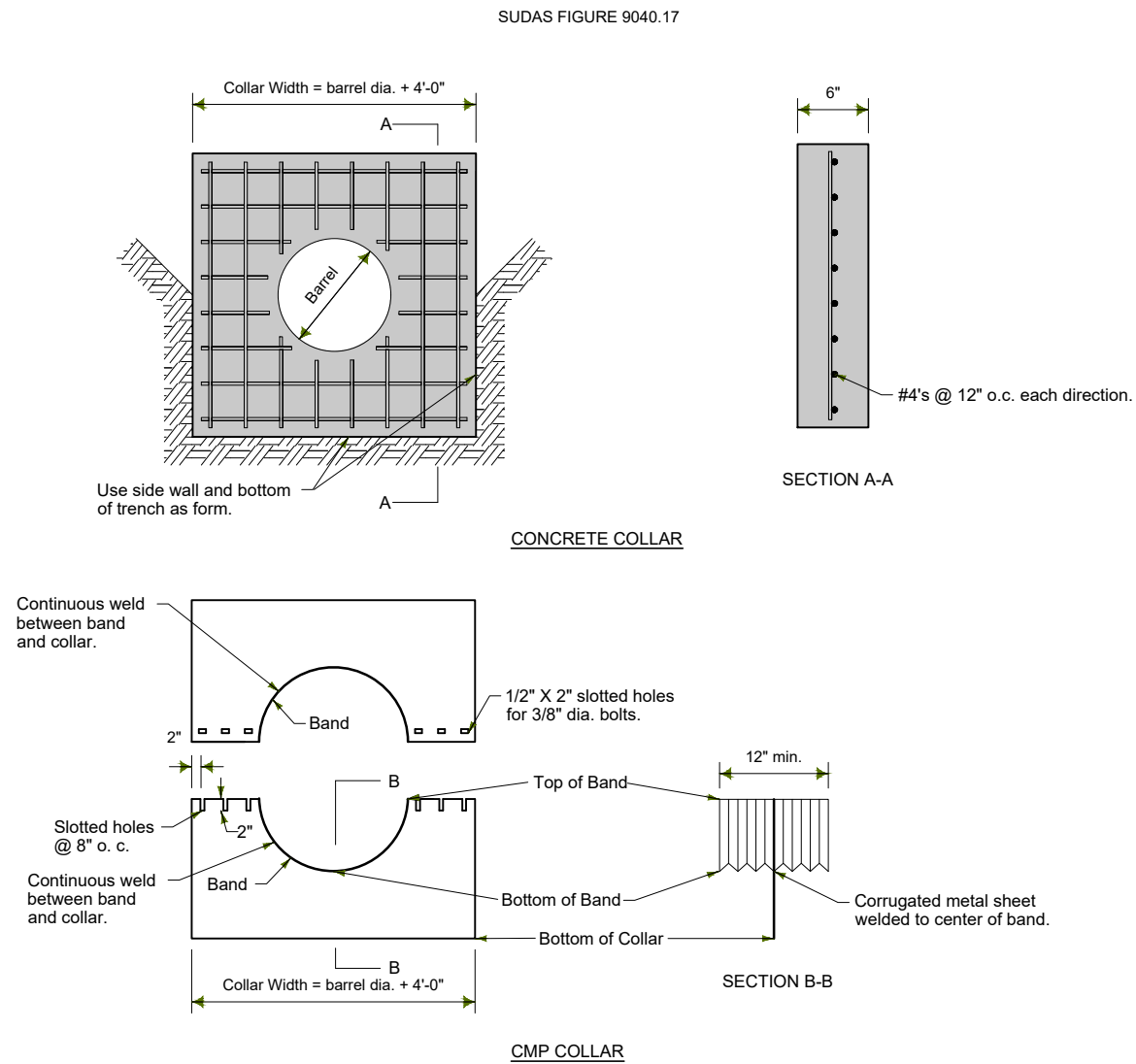
**BOLT, WASHER, & NUT
FASTENER DETAIL**
NOT TO SCALE

- VERSION DATE: 03-27-2025

USER SHEET NO. 13 OF 20 SHEET NAME: OVERFLOW STRUCTURE/PIPE PROFILE SCALE: 1" = 10' DATE: 07-18-2025




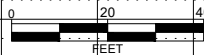
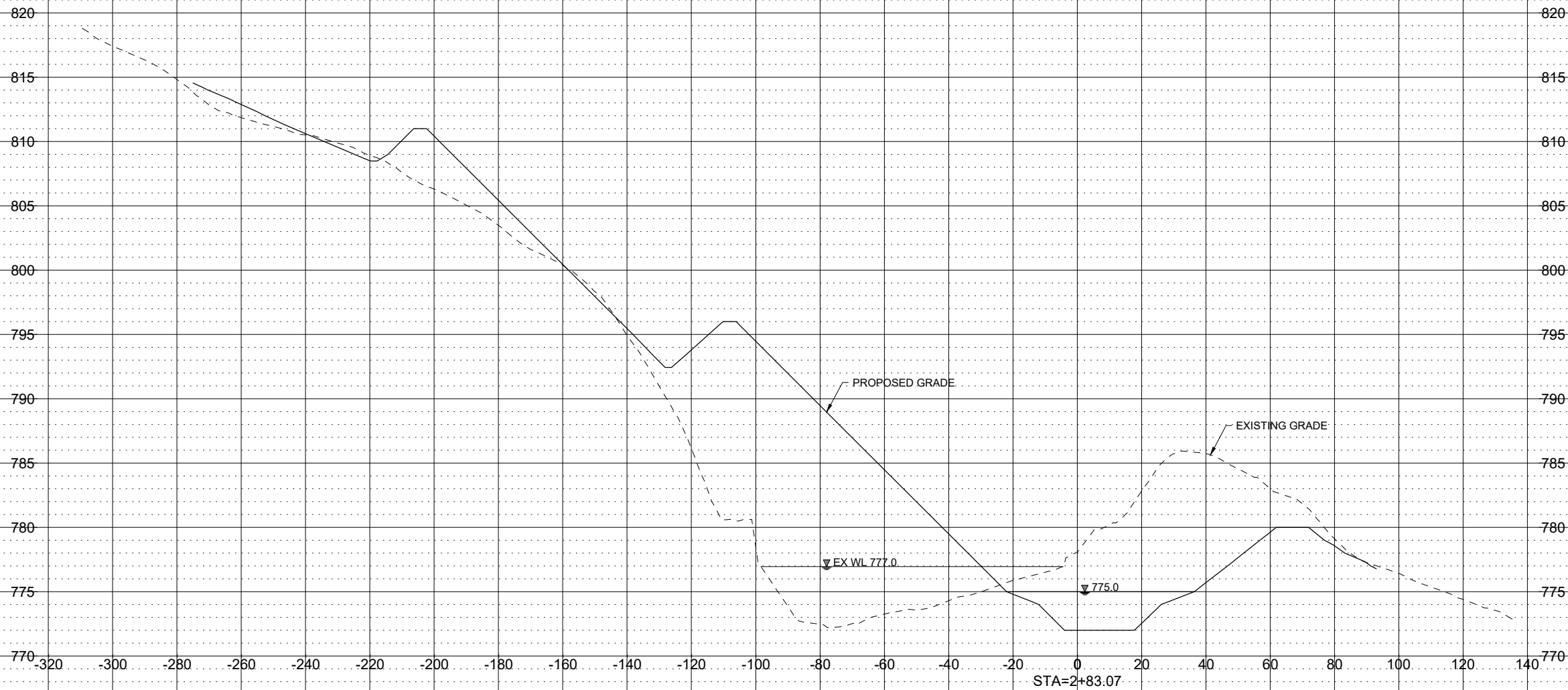
1 OVERFLOW STRUCTURE/PIPE PROFILE
13 NO SCALE




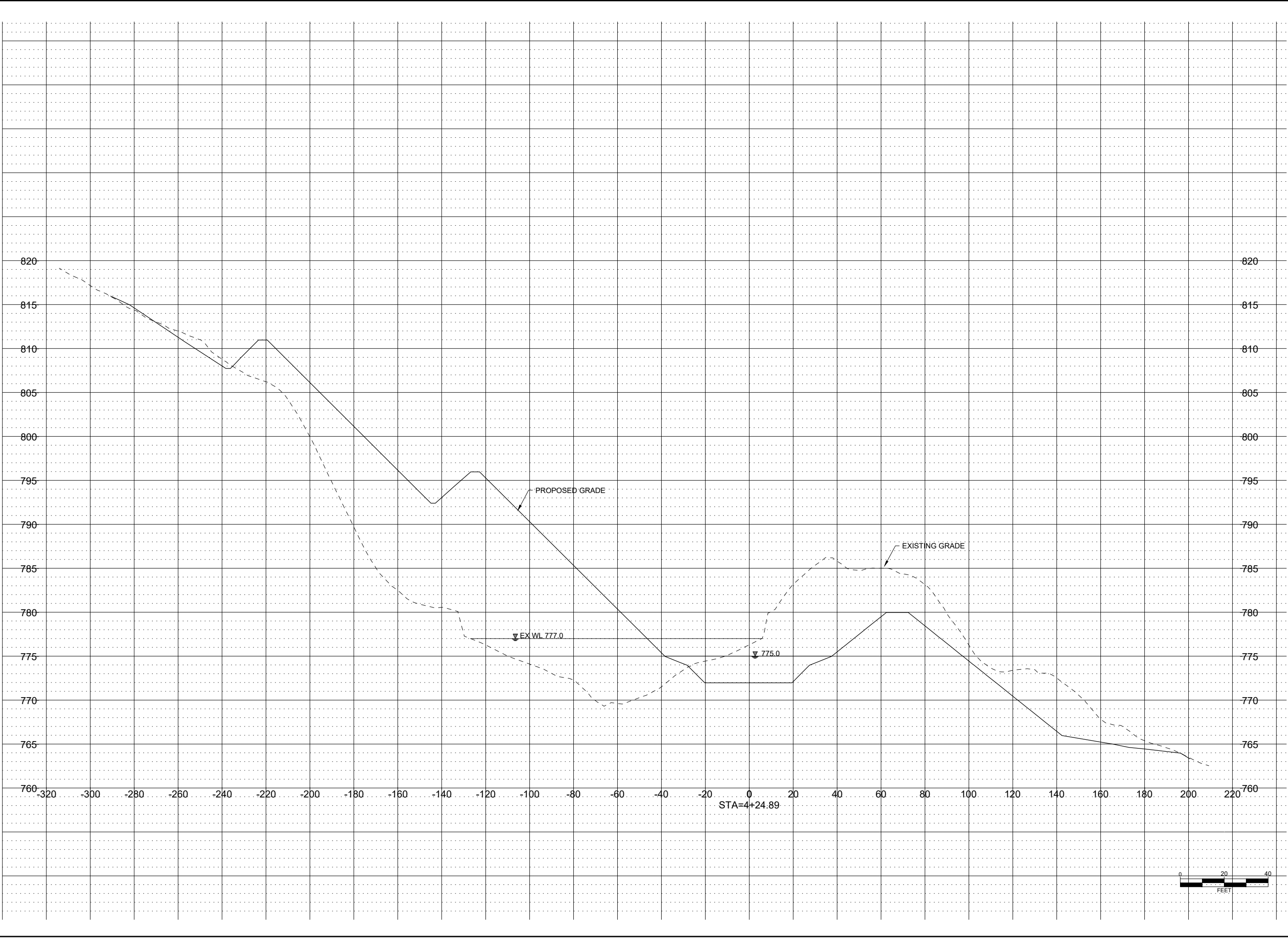
2 ANTI-SEEP COLLAR
13 NO SCALE

NOTE:
PRE-MADE ANTI-SEEP COLLARS FOR PLASTIC PIPE EXIST, SUCH AS BY SCHEIB AND OTHERS, IN STANDARD SIZE OF 6' X 6' FOR 24\"/>

DESIGN BY: LAG			DRAWN BY: LGM	CHKD. BY:	ISSUED: 07-18-2025	REVISED:	FILE:			S & A PROJECT No. 123.1031			
<div>FEAGINS</div> <div>AML RECLAMATION PROJECT</div>					<div>IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP DIVISION OF SOIL CONSERVATION AND WATER QUALITY HOOVER STATE OFFICE BUILDING 1305 E. WALNUT ST., FIFTH FLOOR, DES MOINES, IA (515) 281-4246</div>	REVISION:	DATE:	DESCRIPTION:					
						1							
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						4							
DESIGN DETAILS													
SHEET													
13											OF	20	



DESIGN BY: LAG		DRAWN BY: LGM	CHKD. BY:	ISSUED: 07-18-2025	REVISED:	FILE:	S & A PROJECT No. 123.1031	
<div> <div>FEAGINS</div> <div>AML RECLAMATION PROJECT</div> </div> <div> <div>CROSS</div> <div>SECTIONS</div> </div>			 <div> IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP DIVISION OF SOIL CONSERVATION AND WATER QUALITY HOOVER STATE OFFICE BUILDING 1305 E. WALNUT ST., FIFTH FLOOR, DES MOINES, IA (515) 281-4246 </div>	REVISION:	DATE:	DESCRIPTION:		
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DESIGN BY: LAG

DRAWN BY: LGM

ISSUED: 07-18-2025

CHKD. BY:

FILE:

FEAGINS
AML RECLAMATION PROJECT

CROSS
SECTIONS

IOWA DEPARTMENT OF AGRICULTURE
AND LAND STEWARDSHIP
DIVISION OF SOIL CONSERVATION
AND WATER QUALITY
HOOVER STATE OFFICE BUILDING
1305 E. WALNUT ST., FIFTH FLOOR, DES MOINES, IA
(515) 281-4246

S & A PROJECT No. 123-1031

REVISION: 1

REVISION: 2

REVISION: 3

REVISION: 4

DATE:

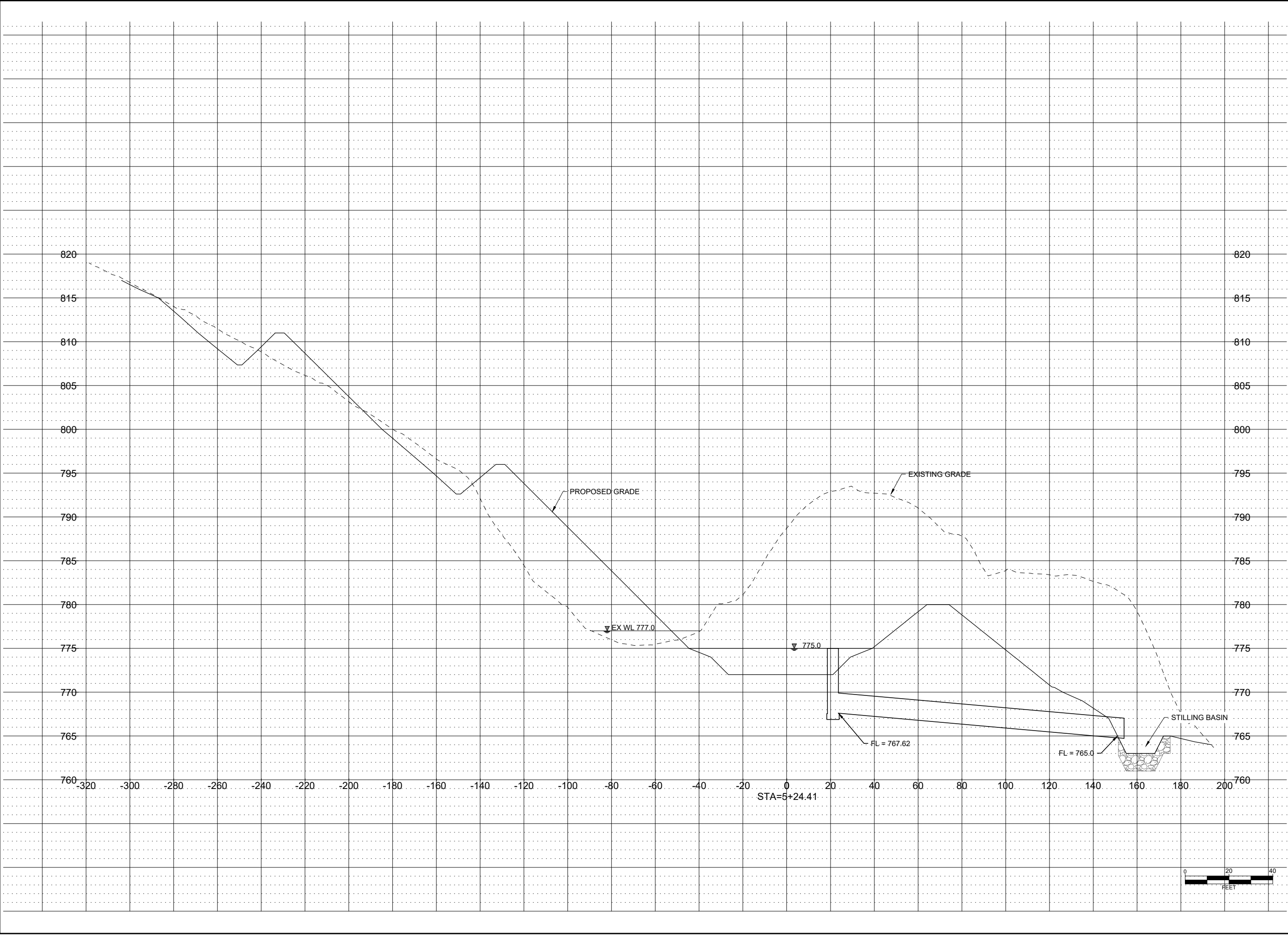
DESCRIPTION:

SHEET
15 OF 20

\\s01\cadd\123\1031\10\CADD\123\1031_SHT 14-18_X_SECTB.dwg LORIAN MILLER, X SECT, 2025/07/14, 10:24 AM, ANSI FULL BLEED B (11.0" X 17.0" INCHES)

\\s01\cadd\123\1031\10\CADD\123\1031_SHT 14-18_X_SECTB.dwg LORIAN MILLER, X SECT, 2025/07/14, 10:24 AM, ANSI FULL BLEED B (11.0" X 17.0" INCHES)

\\s01\cadd\123\1031\10\CADD\123\1031_SHT 14-18_X_SECTB.dwg LORIAN MILLER, X SECT, 2025/07/14, 10:24 AM, ANSI FULL BLEED B (11.0" X 17.0" INCHES)



DESIGN BY: LAG

DRAWN BY: LGM

CHKD. BY:

ISSUED: 07-18-2025

REVISED:

FILE:

FEAGINS
AML RECLAMATION PROJECT

CROSS
SECTIONS

16 OF 20

SHEET

1305 E. WALNUT ST., FIFTH FLOOR, DES MOINES, IA
(515) 281-4246

HOOVER STATE OFFICE BUILDING
DIVISION OF SOIL CONSERVATION
AND WATER QUALITY

AND LAND STEWARDSHIP
IOWA DEPARTMENT OF AGRICULTURE

DESCRIPTION:

1

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DATE:

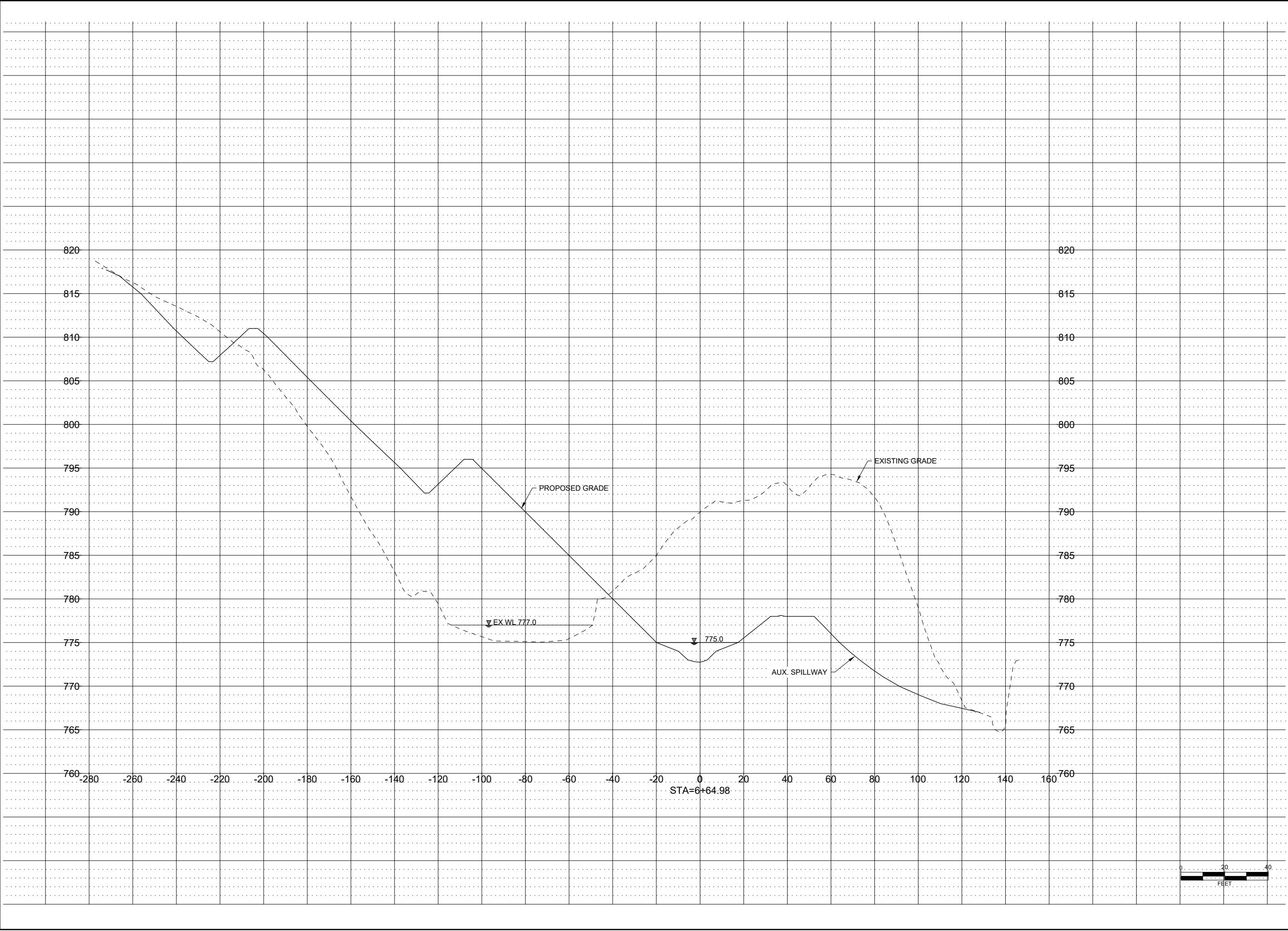
REVISION:

S & A PROJECT No. 123-1031

USE: 10/20/2013 10:10 CAD/12/10/1_SHT 14-18_X_SECTS.dwg LORIAN MILLER, X SECT, 2025/07/14, 10:24 AM, ANSI FULL BLEED B (7.00 INCHES)

SHEET NAME: S & A PROJECT No. 123-1031

SHEET NO. 17 OF 20



DESIGN BY: LAG

DRAWN BY: LGM

CHKD. BY:

ISSUED: 07-18-2025

REVISED:


FILE:

FEAGINS
AML RECLAMATION PROJECT

CROSS
SECTIONS

17 OF 20

SHEET



IOWA DEPARTMENT OF AGRICULTURE
AND LAND STEWARDSHIP
DIVISION OF SOIL CONSERVATION
AND WATER QUALITY
HOOVER STATE OFFICE BUILDING
1305 E. WALNUT ST., FIFTH FLOOR, DES MOINES, IA
(515) 281-4246

DESCRIPTION:

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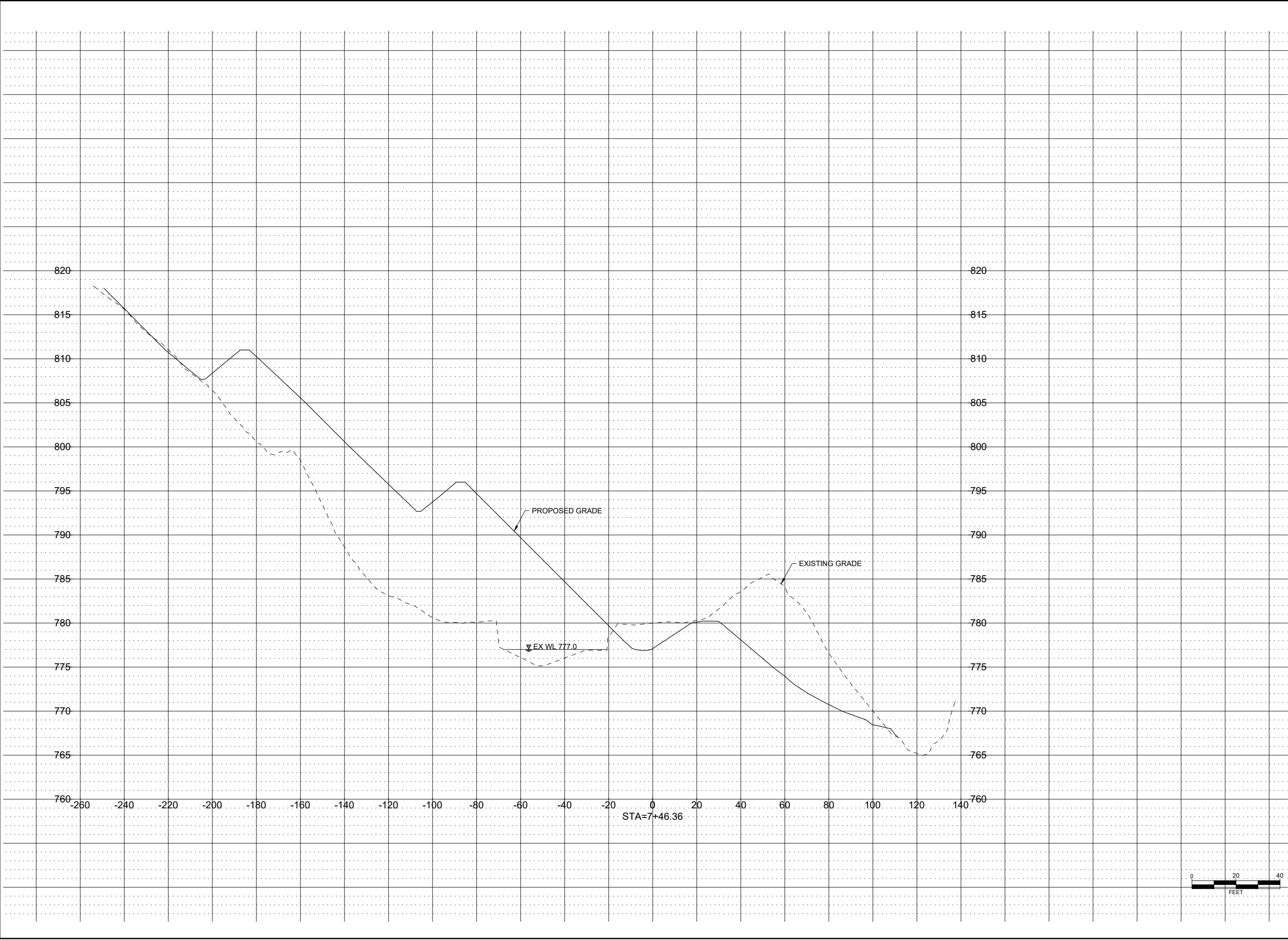
DATE:

S & A PROJECT No. 123-1031

\\sfs\apps\1231031\10\CADD\1231031_SHT 44-18_X_SECTS.dwg LORIAN MILLER, X SECT, 2025/07/14, 10:24 AM, ANSI FULL BLEED B (11.0" X 17.0" INCHES)

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\\sfs\apps\1231031\10\CADD\1231031_SHT 44-18_X_SECTS.dwg LORIAN MILLER, X SECT, 2025/07/14, 10:24 AM, ANSI FULL BLEED B (11.0" X 17.0" INCHES)



DESIGN BY: LAG

DRAWN BY: LGM

FILE:

REVISION:

DATE:

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S & A PROJECT No. 123.1031

DESCRIPTION:

ISSUED: 07-18-2025

REVISED:

CHKD. BY:

IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP
DIVISION OF SOIL CONSERVATION
AND WATER QUALITY
HOOVER STATE OFFICE BUILDING
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FEAGINS
AML RECLAMATION PROJECT

CROSS
SECTIONS

SHEET
18 OF 20

