TENNESSEE DEPARTMENT OF ENVIRONMENT & CONSERVATION

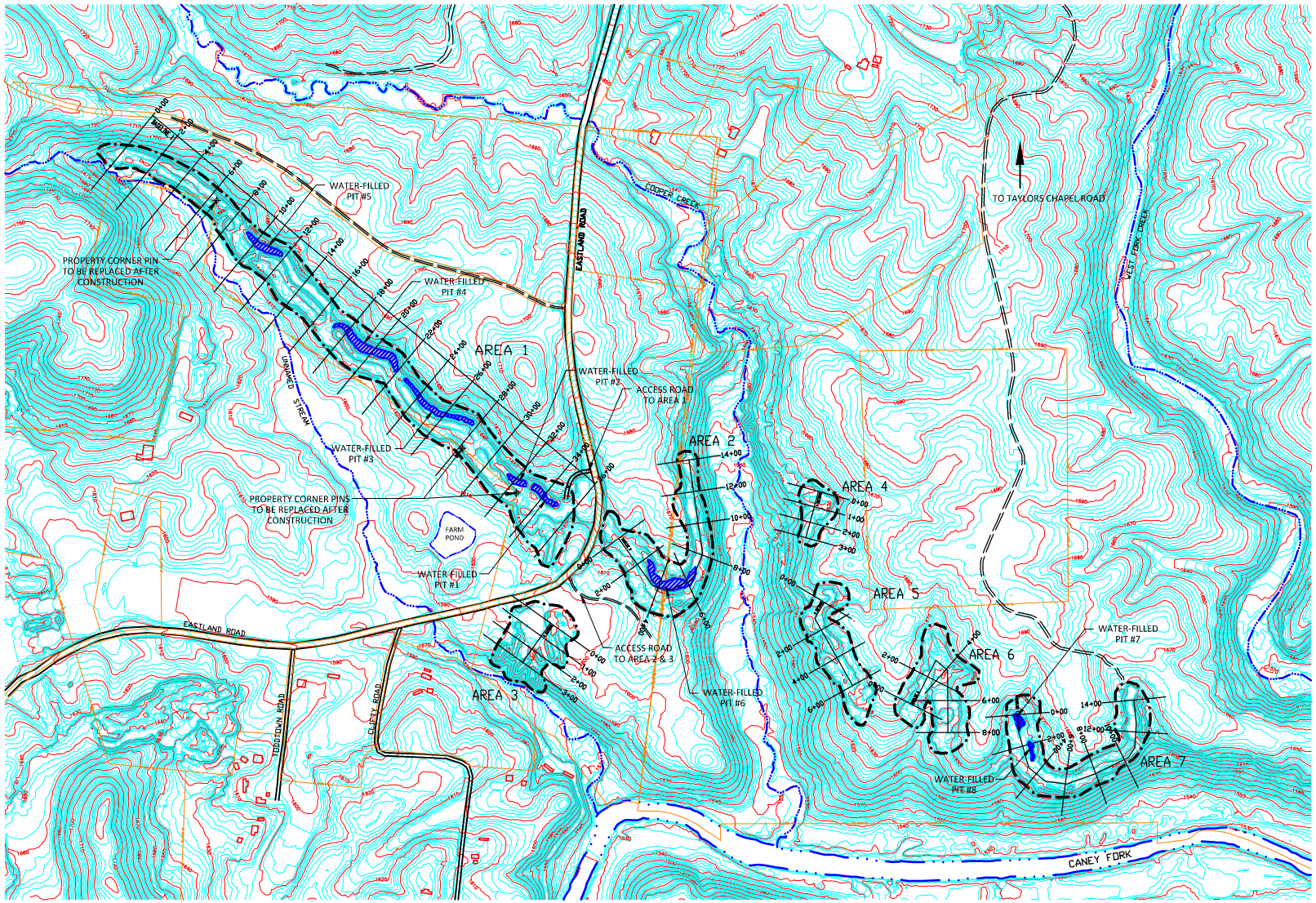
LAND RECLAMATION SECTION

CONSTRUCTION PLANS

CLIFTY -HALE

RECLAMATION PROJECT

CUMBERLAND & WHITE COUNTIES, TENNESSEE



NOTES:

1. ALL CLEARING DEBRIS SHALL BE DISPOSED OF BY BURYING, WINDROWING, AND/OR PILING AND BURNING
2. WATER IN PITS SHALL BE TESTED AND TREATED, IF REQUIRED, TO ENSURE COMPLIANCE AND THEN BE DEWATERED BY PUMPING OR DRAINING IN ACCORDANCE WITH SECTION 214.03
3. HIGHWALLS SHALL BE BACKFILLED TO THE SLOPES AS SHOWN ON SHEETS 3-8 OF THE DRAWINGS
4. GRADING SHALL PROVIDE POSITIVE DRAINAGE AND ELIMINATE ALL DEPRESSIONS THAT WILL HOLD WATER
5. HIGHWALLS SHALL NOT BE BROKEN DOWN DURING GRADING
6. 20 FEET MAY BE CLEARED ON TOP OF HIGHWALL TO BETTER BLEND THE BACKFILLED SLOPE INTO THE NATURAL GROUND
7. STRAW WATTLES SHALL BE INSTALLED AT THE LOCATIONS SHOWN AND ANY OTHER PLACES AS NEEDED FOR SEDIMENT CONTROL
8. RIP-RAP CHANNELS SHALL BE CONSTRUCTED AT THE LOCATIONS SHOWN, ADDITIONAL RIP-RAP DITCHES MAY BE REQUIRED
9. ROCK IN RIP-RAP CHANNELS SHALL BE A MIXTURE OF CLEAN CLASS-A AND CLASS-B LIMESTONE
10. TERRACES SHALL BE CONSTRUCTED TO CONTROL SURFACE DRAINAGE AS DETERMINED BY THE PROJECT OFFICER
11. ANOXIC LIMESTONE DRAINS SHALL BE CONSTRUCTED BEFORE BACKFILLING OPERATIONS
12. ALL LIMESTONE SHALL BE HIGH CALCIUM LIMESTONE
13. ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE TO THE SPECIFICATIONS IN SECTION 801.0
14. FENCE ON SPOIL AT AREA 1 WILL BE REESTABLISHED AFTER CONSTRUCTION
15. PROPERTY CORNERS AT AREA 1 WILL REESTABLISHED BY A LICENSED SURVEYOR AFTER CONSTRUCTION

ESTIMATED QUANTITIES	SIZE	CUT	FILL
AREA 1	21.0 ACRES	128,000 YD³	123,000 YD³
AREA 2	7.4 ACRES	34,000 YD³	36,000 YD³
AREA 3	4.4 ACRES	18,000 YD³	16,000 YD³
AREA 4	1.6 ACRES	3,000 YD³	3,000 YD³
AREA 5	4.3 ACRES	14,000 YD³	13,000 YD³
AREA 6	5.4 ACRES	17,000 YD³	18,000 YD³
AREA 7	6.7 ACRES	28,000 YD³	22,000 YD³
TOTAL	50.8 ACRES	242,000 YD³	231,000 YD³

ESTIMATED VOLUME	
PIT #1	220,000 gal
PIT #2	60,000 gal
PIT #3	480,000 gal
PIT #4	770,000 gal
PIT #5	330,000 gal
PIT #6	700,000 gal
PIT #7	85,000 gal
PIT #8	50,000 gal

RIP-RAP CHANNEL	LENGTH	LIMESTONE
RIP-RAP CHANNEL #1	240'	210 TONS
RIP-RAP CHANNEL #2	230'	200 TONS
RIP-RAP CHANNEL #3	230'	200 TONS
RIP-RAP CHANNEL #4	220'	190 TONS
RIP-RAP CHANNEL #5	230'	200 TONS
RIP-RAP CHANNEL #6	470'	400 TONS
RIP-RAP CHANNEL #7	380'	320 TONS
RIP-RAP CHANNEL #8	310'	260 TONS

ANOXIC LIMESTONE DRAIN	LENGTH	LIMESTONE
ALD #1	130'	70 TONS
ALD #2	280'	150 TONS
ALD #3	670'	350 TONS
ALD #4	590'	310 TONS
ALD #5	260'	140 TONS
ALD #6	280'	150 TONS
ALD #7	340'	180 TONS

LEGEND

- WORK LIMITS
- ROAD
- TRAIL
- WATER-FILLED PIT
- STREAM LINE
- STRAW WATTLES
- PROPERTY LINE

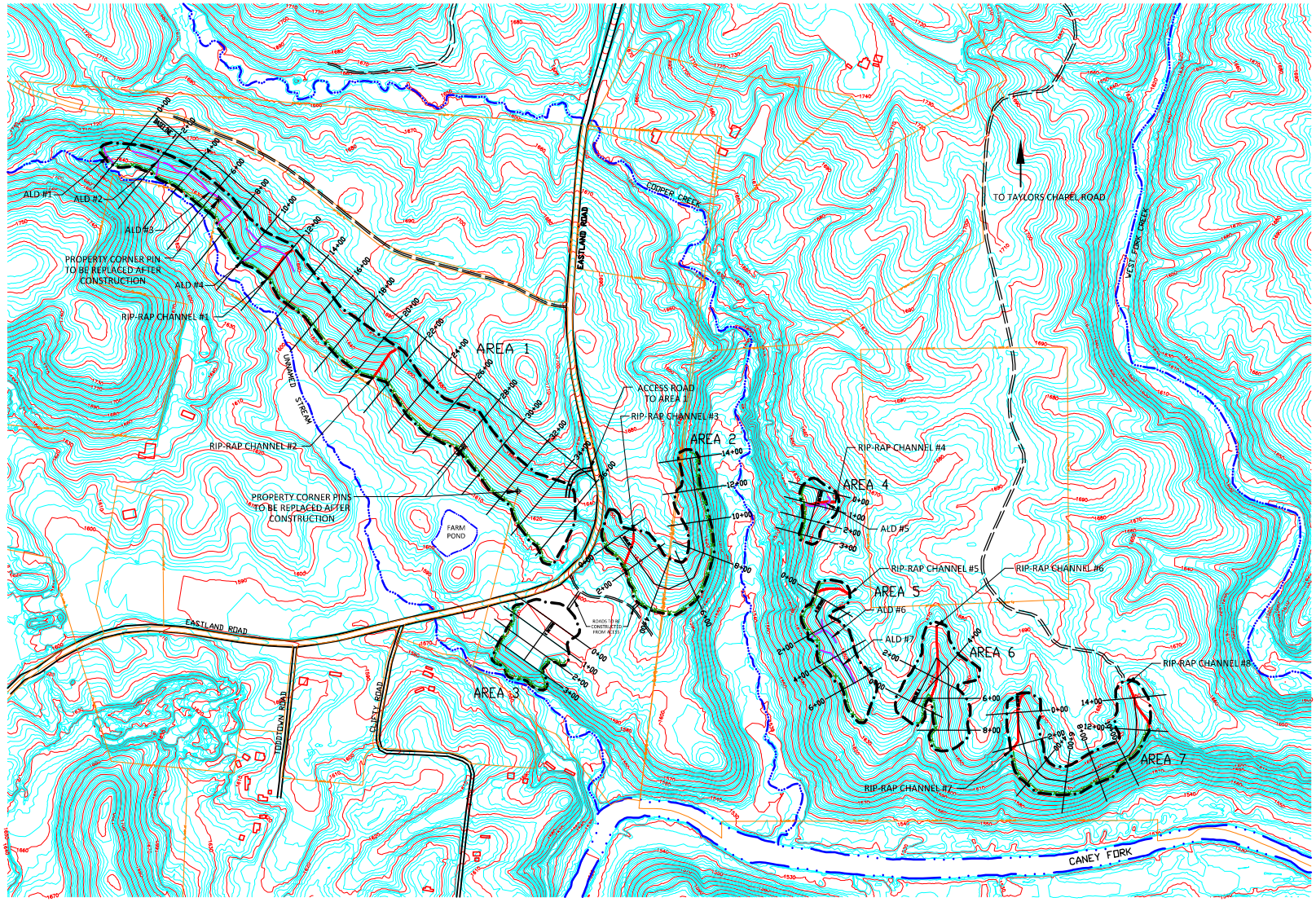
CLIFTY-HALE RECLAMATION PROJECT

CLIFTY SITE - PLAN VIEW

SCALE 1"=300'
0 300 600 900

MAJOR CONTOURS - 10 FEET
MINOR COUNTOURS - 2 FEET

ENTITY	TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION LAND RECLAMATION SECTION		
PROJECT	CLIFTY-HALE RECLAMATION PROJECT		
	CLIFTY SITE - PLAN VIEW		
BY	DRAWN BY: MPP DATE: 12/18/2020	SURVEYED BY: DATE:	DESIGNED BY: MPP DATE: 12/15/2020
DWG	CHECKED BY: BEE DATE: 1/11/2021	SCALE 1" = 300'	SHEET 1 OF 13



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ALD #6	280'	150 TONS
ALD #7	340'	180 TONS

LEGEND

- WORK LIMITS
- ROAD
- TRAIL
- WATER-FILLED PIT
- STREAM LINE
- STRAW WATTLES
- PROPERTY LINE

CLIFTY RECLAMATION PROJECT

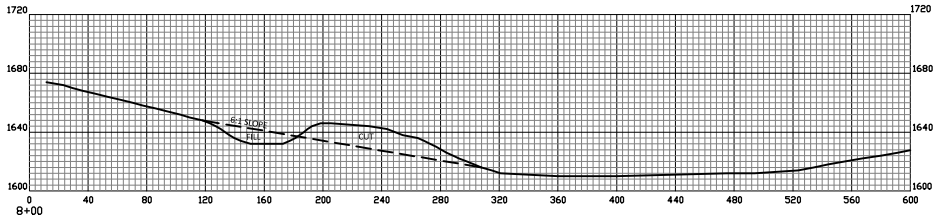
CLIFTY SITE - FINAL VIEW

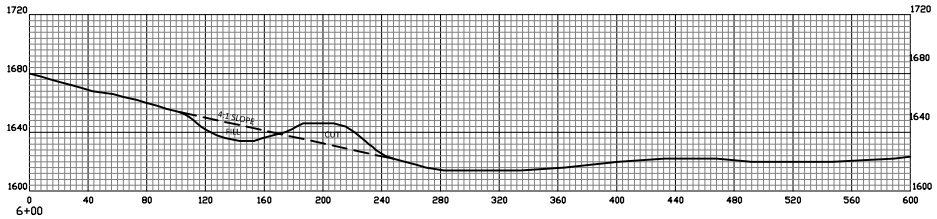
SCALE 1"=300'

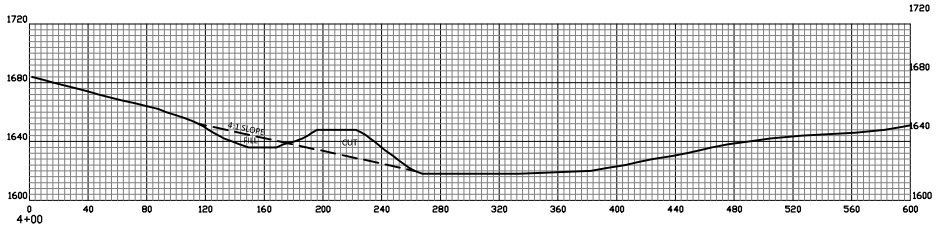
0 300 600 900

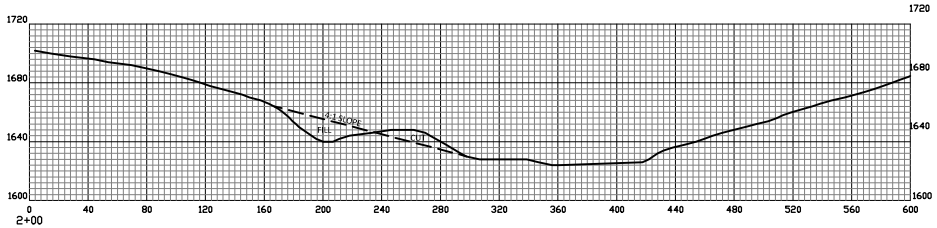
MAJOR CONTOURS - 10 FEET
MINOR COUNTOURS - 2 FEET

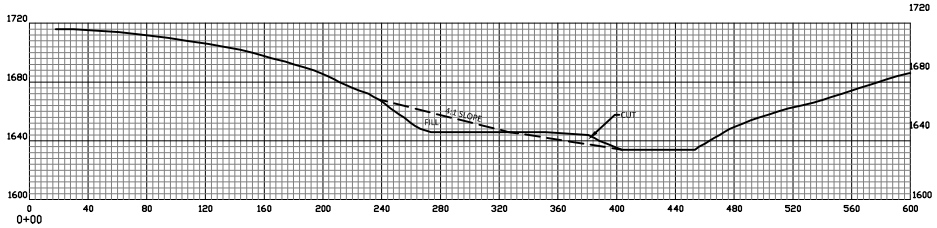
ENTITY	TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION LAND RECLAMATION SECTION		
PROJECT	CLIFTY-HALE RECLAMATION PROJECT		
	CLIFTY SITE - FINAL VIEW		
BY	DRAWN BY: MPP DATE: 12/18/2020	SURVEYED BY: DATE:	DESIGNED BY: MPP DATE: 12/15/2020
DWG	CHECKED BY: BEE DATE: 1/11/2021	SCALE 1" = 300'	SHEET 2 OF 13

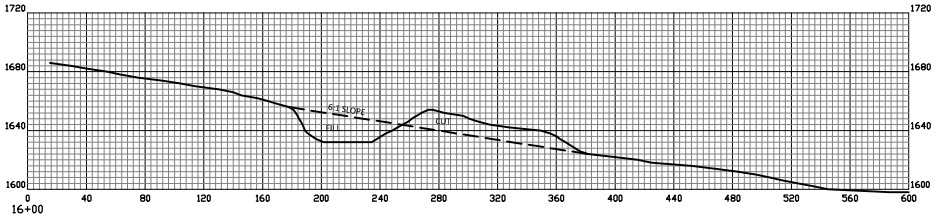


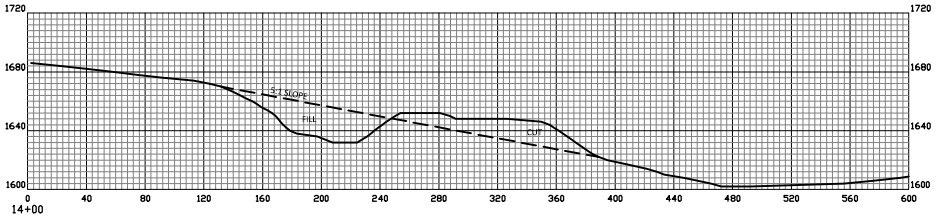


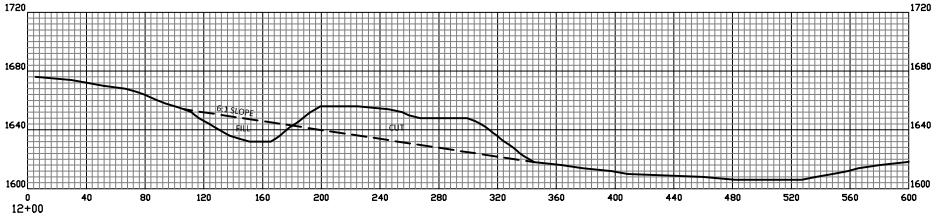


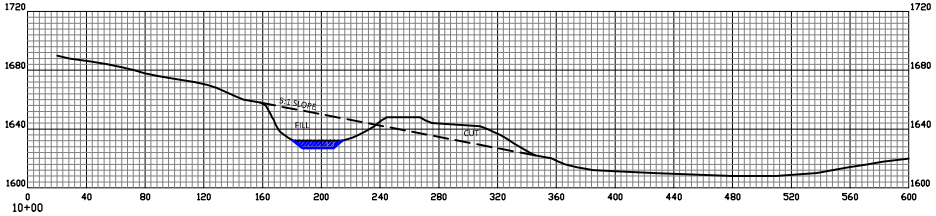












LEGEND

- ORIGINAL GROUND
- PROPOSED GRADE
- GRASSED WATERWAY
- WATER

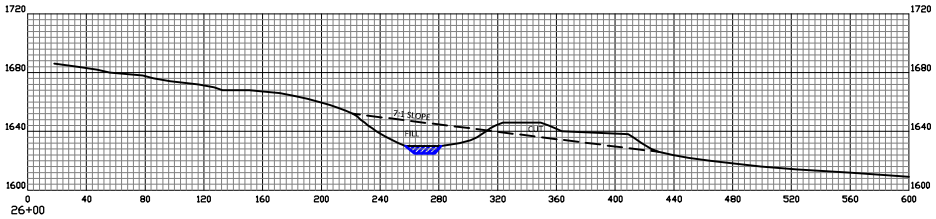
CLIFTY SITE

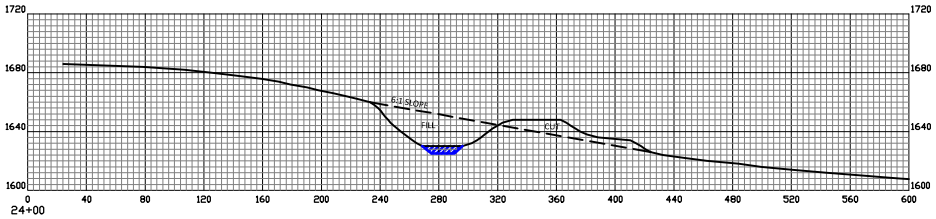
CROSS SECTIONS

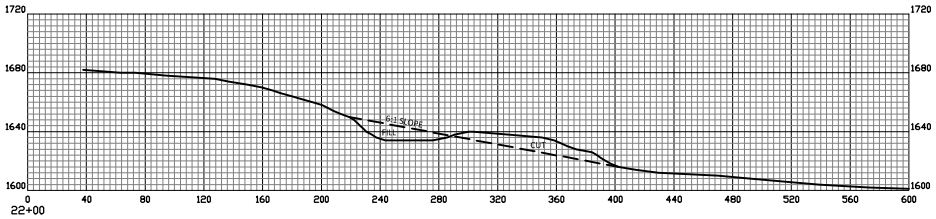
SCALE 1"=40'

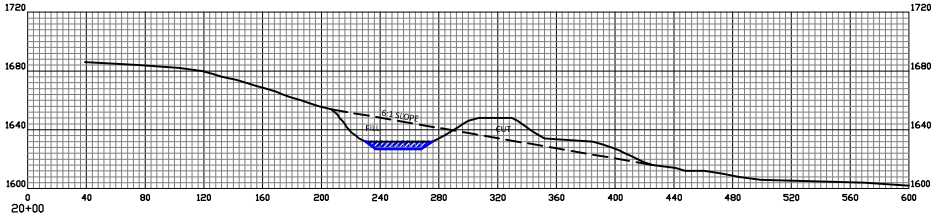
0 40 80 120

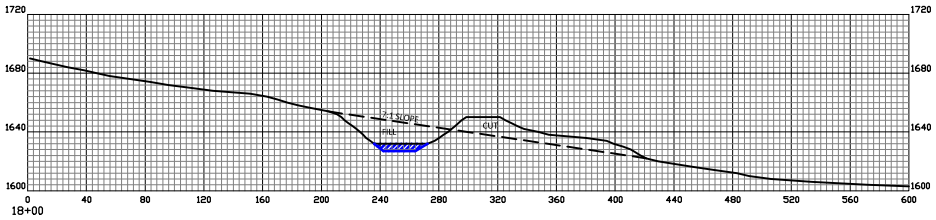
ENTITY	TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION LAND RECLAMATION SECTION		
PROJECT	CLIFTY-HALE RECLAMATION PROJECT		
	CLIFTY SITE - BASELINE 1 - CROSS SECTIONS		
BY	DRAWN BY: MPP DATE: 12/18/2020	SURVEYED BY: DATE:	DESIGNED BY: MPP DATE: 12/15/2020
DWG	CHECKED BY: BEE DATE: 1/11/2021	SCALE 1" = 40'	SHEET 3 OF 13

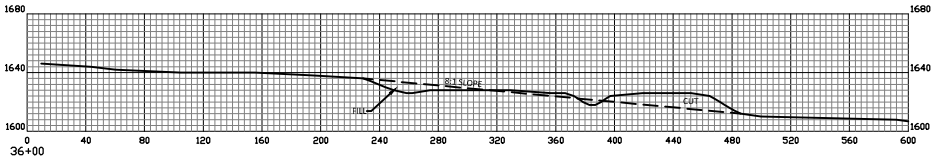


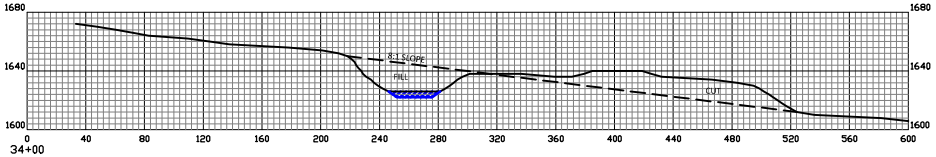


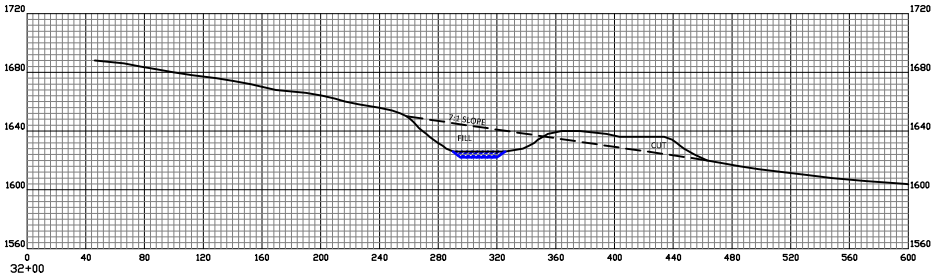


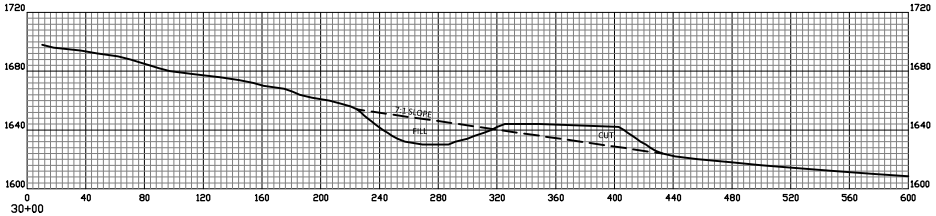


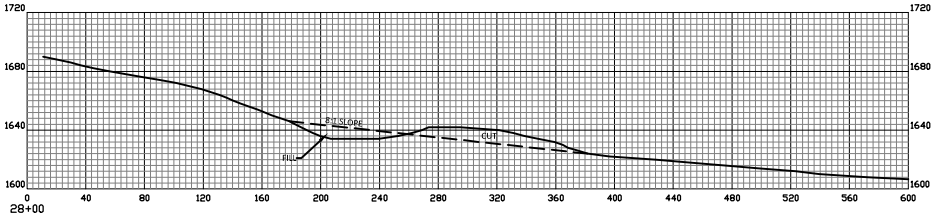












LEGEND

- ORIGINAL GROUND
- PROPOSED GRADE
- GRASSED WATERWAY
- WATER

CLIFTY SITE

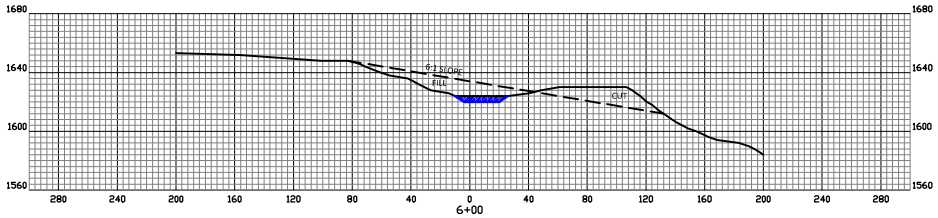
BASELINE 1

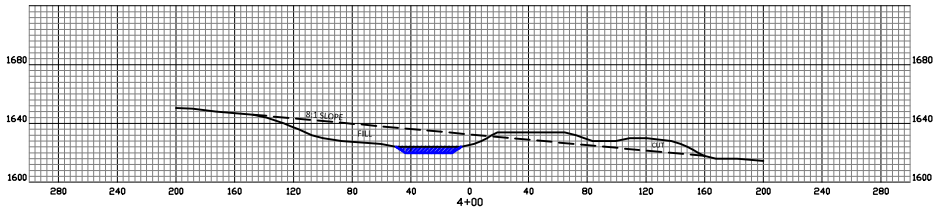
CROSS SECTIONS

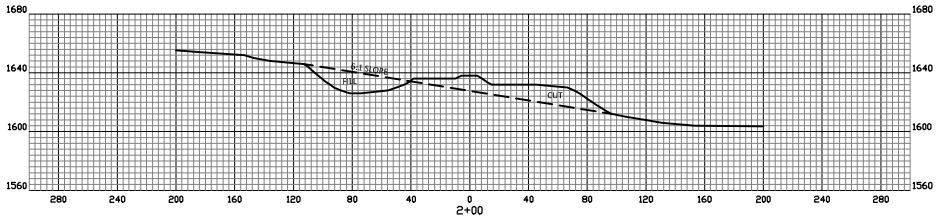
SCALE 1"=40'

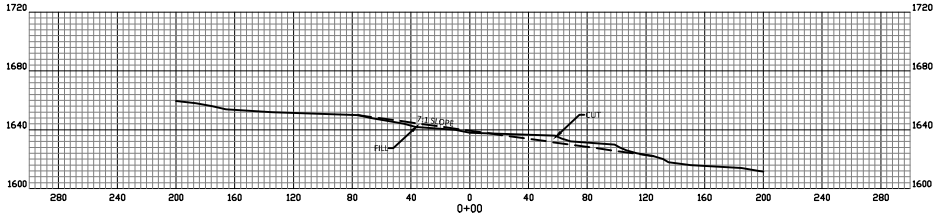
0 40 80 120

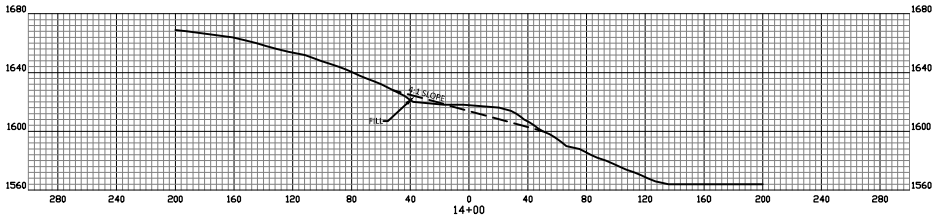
ENTITY	TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION LAND RECLAMATION SECTION
PROJECT	CLIFTY-HALE RECLAMATION PROJECT
	CLIFTY SITE - BASELINE 1 - CROSS SECTIONS
BY	DRAWN BY: MPP DATE: 12/18/2020 · SURVEYED BY: DATE: · DESIGNED BY: MPP DATE: 12/15/2020
SWC	CHECKED BY: BEE DATE: 1/11/2021 · SCALE 1" = 40' · SHEET 4 OF 13

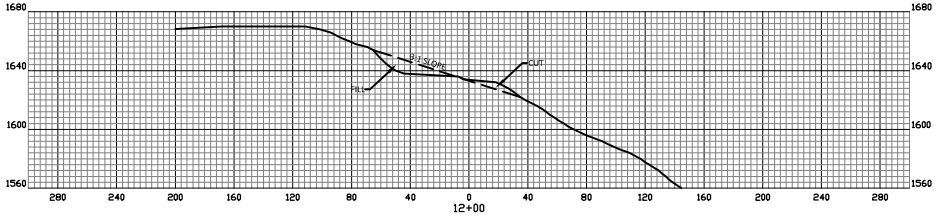


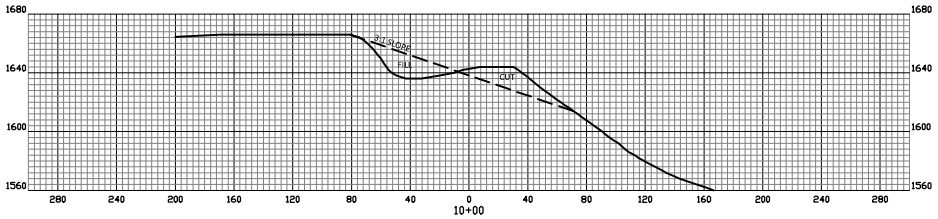


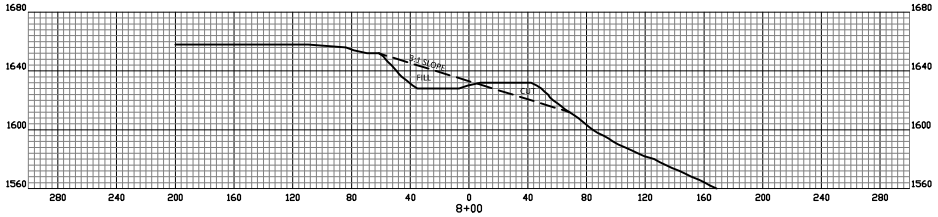












LEGEND

- ORIGINAL GROUND
- PROPOSED GRADE
- GRASSED WATERWAY
- WATER

CLIFTY SITE

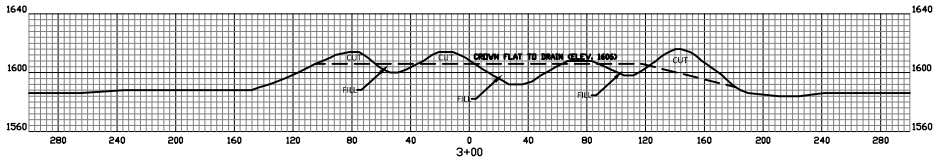
BASELINE 2

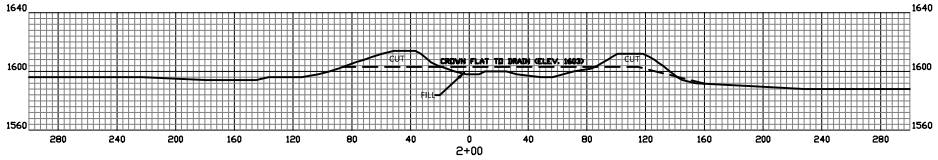
CROSS SECTIONS

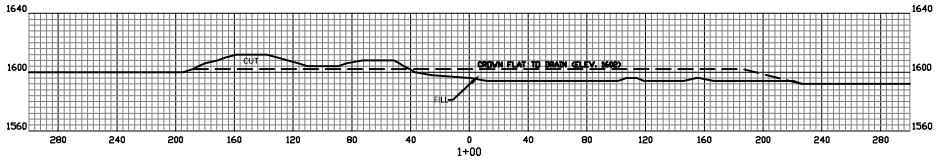
SCALE 1"=40'

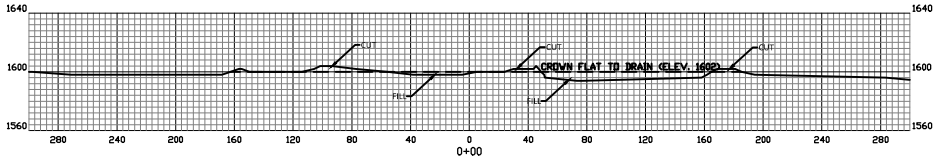
0 40 80 120

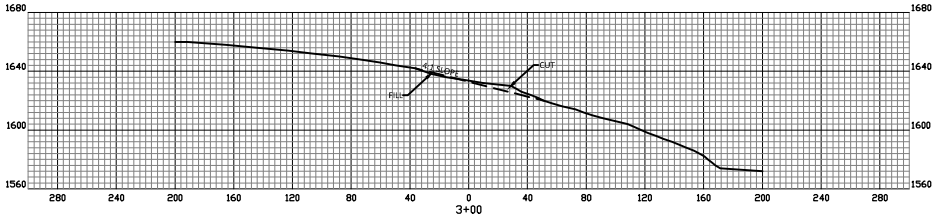
FACILITY	TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION LAND RECLAMATION SECTION		
PROJECT	CLIFTY-HALE RECLAMATION PROJECT		
	CLIFTY SITE - BASELINE 2 - CROSS SECTIONS		
BY	DRAWN BY: MPP DATE: 12/18/2020	SURVEYED BY: DATE:	DESIGNED BY: MPP DATE: 12/15/2020
DWG	CHECKED BY: BEE DATE: 1/11/2021	SCALE 1" = 40'	SHEET 5 OF 13

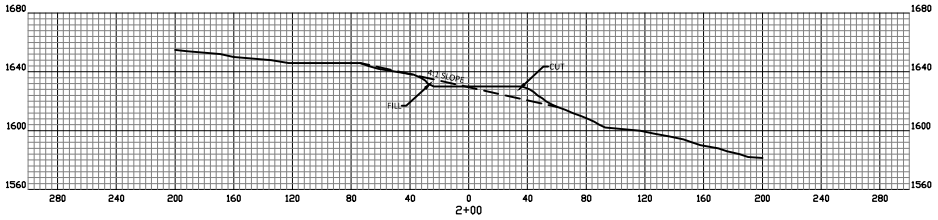


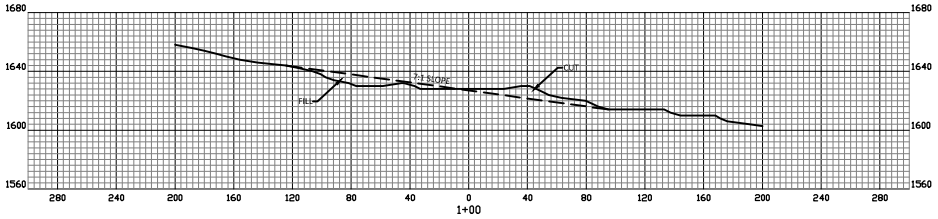


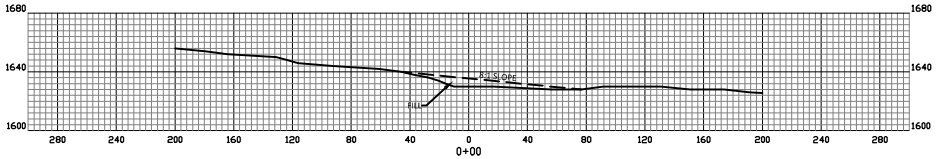












LEGEND

- ORIGINAL GROUND
- PROPOSED GRADE
- GRASSED WATERWAY
- WATER

CLIFTY SITE

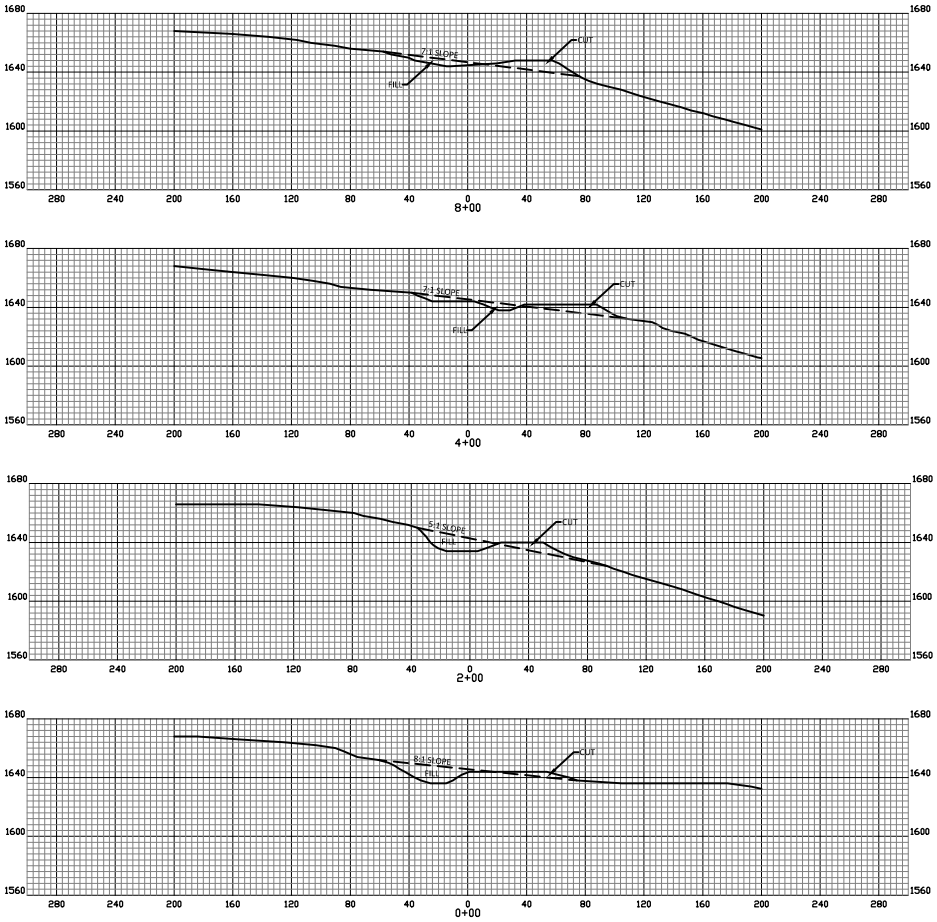
BASELINES 3 & 4

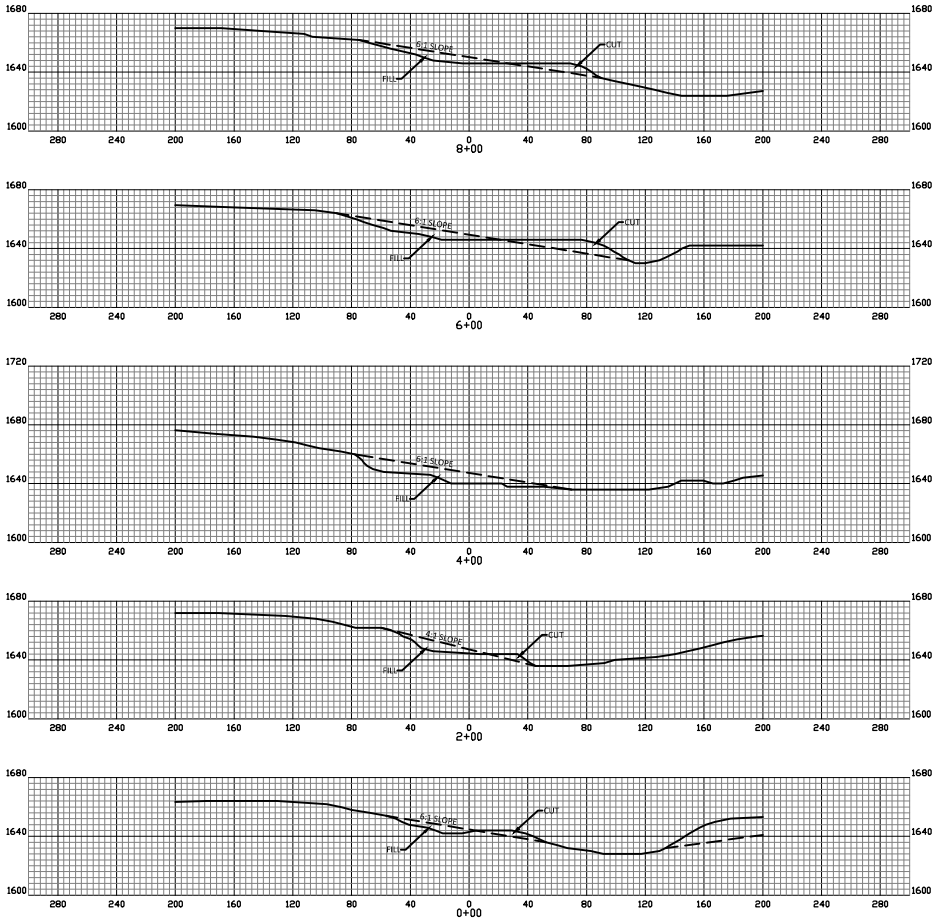
CROSS SECTIONS

SCALE 1"=40'

0 40 80 120

ENTITY	TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION LAND RECLAMATION SECTION		
PROJECT	CLIFTY-HALE RECLAMATION PROJECT		
	CLIFTY SITE - BASELINES 3 & 4 - CROSS SECTIONS		
BY	DRAWN BY: MPP DATE: 12/18/2020	SURVEYED BY: DATE:	DESIGNED BY: MPP DATE: 12/15/2020
DWG	CHECKED BY: BEE DATE: 1/11/2021	SCALE 1" = 40'	SHEET 6 OF 14





LEGEND

- ORIGINAL GROUND
- PROPOSED GRADE
- GRASSED WATERWAY
- WATER

CLIFTY SITE

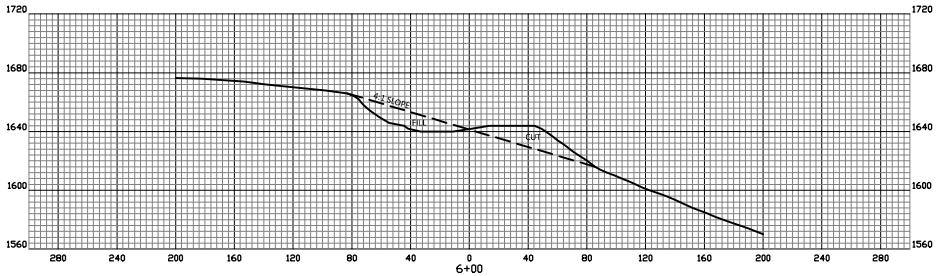
BASELINES 5 & 6

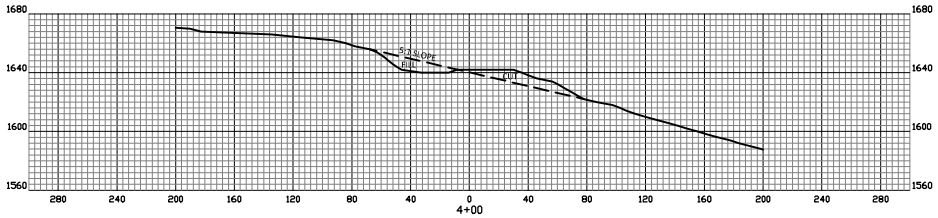
CROSS SECTIONS

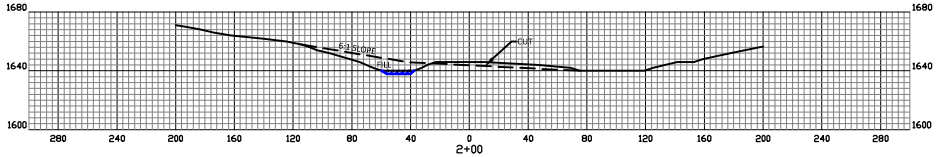
SCALE 1"=40'

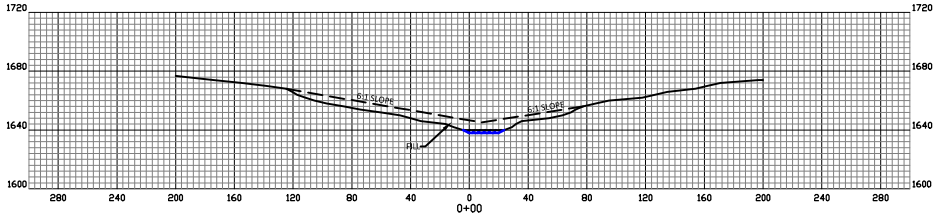
0 40 80 120

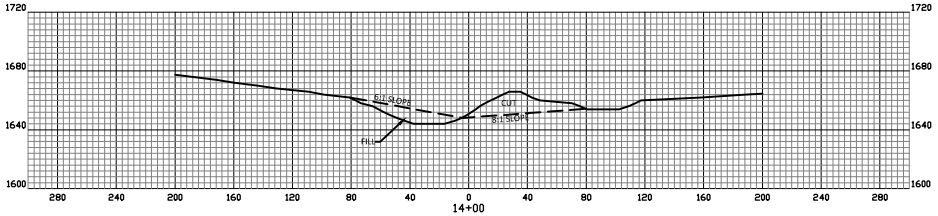
ENTITY	TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION LAND RECLAMATION SECTION		
PROJECT	CLIFTY-HALE RECLAMATION PROJECT		
	CLIFTY SITE - BASELINES 5 & 6 - CROSS SECTIONS		
BY	DRAWN BY: MPP DATE: 12/18/2020	SURVEYED BY: DATE:	DESIGNED BY: MPP DATE: 12/15/2020
DWG	CHECKED BY: BEE DATE: 1/11/2021	SCALE 1" = 40'	SHEET 7 OF 13

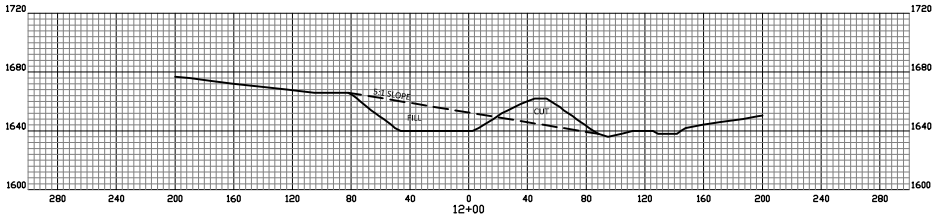


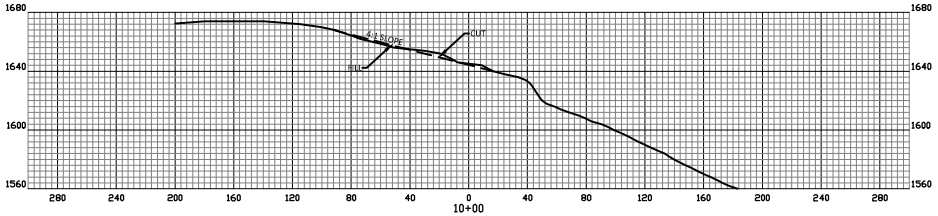


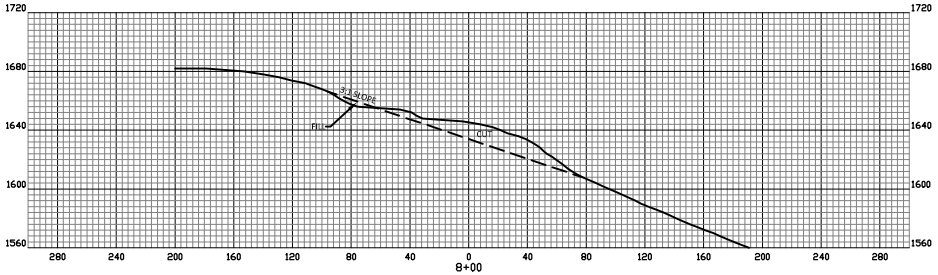












LEGEND

- ORIGINAL GROUND
- PROPOSED GRADE
- GRASSED WATERWAY
- WATER

CLIFTY SITE

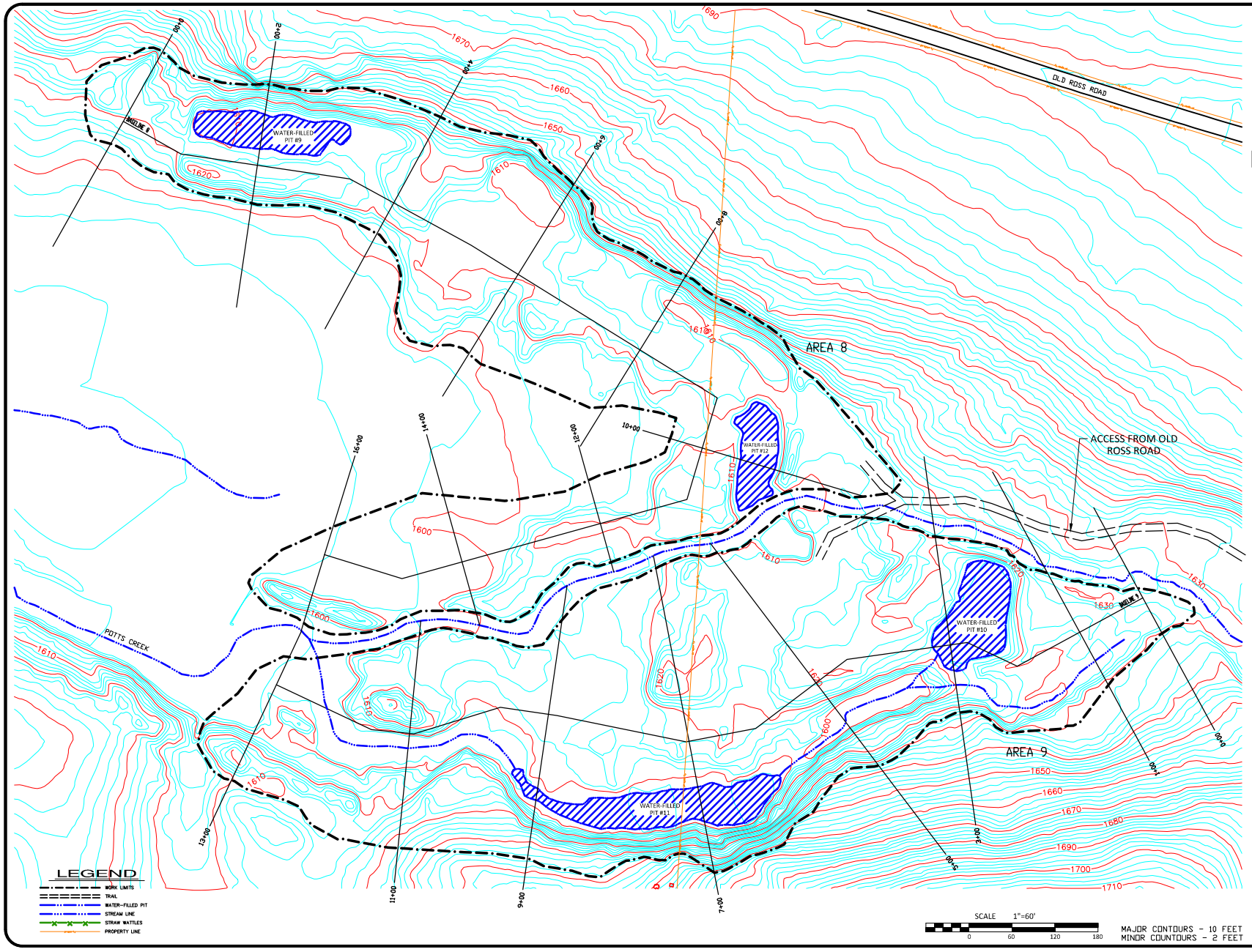
BASELINE 7

CROSS SECTIONS

SCALE 1"=40'

0 40 80 120

ENTITY	TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION LAND RECLAMATION SECTION		
PROJECT	CLIFTY-HALE RECLAMATION PROJECT		
	CLIFTY SITE - BASELINE 7 - CROSS SECTIONS		
DWG BY	DRAWN BY: MPP DATE: 12/18/2020	SURVEYED BY: DATE:	DESIGNED BY: MPP DATE: 12/15/2020
	CHECKED BY: BEE DATE: 1/11/2021	SCALE 1" = 40'	SHEET 8 OF 13



CLIFTY RECLAMATION PROJECT

HALE SITE - PLAN VIEW

NOTES:

1. ALL CLEARING DEBRIS SHALL BE DISPOSED OF BY BURYING, WINDROWING, AND/OR PILING AND BURNING
2. WATER IN PITS SHALL BE TESTED AND TREATED, IF REQUIRED, TO ENSURE COMPLIANCE AND THEN BE DEWATERED BY PUMPING OR DRAINING IN ACCORDANCE WITH SECTION 214.03
3. HIGHWALLS SHALL BE BACKFILLED TO THE SLOPES AS SHOWN ON SHEETS 11-12 OF THE DRAWINGS
4. GRADING SHALL PROVIDE POSITIVE DRAINAGE AND ELIMINATE ALL DEPRESSIONS THAT WILL HOLD WATER
5. HIGHWALLS SHALL NOT BE BROKEN DOWN DURING GRADING
6. STRAW WATTLES SHALL BE INSTALLED AT THE LOCATIONS SHOWN AND ANY OTHER PLACES AS NEEDED FOR SEDIMENT CONTROL
7. RIP-RAP DITCHES SHALL BE CONSTRUCTED AT THE LOCATIONS SHOWN, ADDITIONAL RIP-RAP DITCHES MAY BE REQUIRED
8. ROCK IN RIP-RAP DITCHES SHALL BE A MIXTURE OF CLEAN CLASS-A AND CLASS-B LIMESTONE
9. TERRACES SHALL BE CONSTRUCTED TO CONTROL SURFACE DRAINAGE AS DETERMINED BY THE PROJECT OFFICER
10. ANOXIC LIMESTONE DRAINS SHALL BE CONSTRUCTED BEFORE BACKFILLING OPERATIONS
11. ALL LIMESTONE SHALL BE HIGH CALCIUM LIMESTONE
12. ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE TO THE SPECIFICATIONS IN SECTION 801.0
13. TREE AND SHRUB SEEDLING SHALL BE PLANTED ON ANY DISTURBANCE WITHIN 20' OF POTTS CREEK AND THE GRASS-LINED WATERWAY

ESTIMATED QUANTITIES	SIZE	CUT	FILL
AREA 8	7.3 ACRES	32,000 YD³	27,000 YD³
AREA 9	9.0 ACRES	26,000 YD³	28,000 YD³
TOTAL	16.3 ACRES	61,000 YD³	58,000 YD³

RIP-RAP CHANNEL	LENGTH	LIMESTONE
RIP-RAP CHANNEL #9	150'	130 TONS

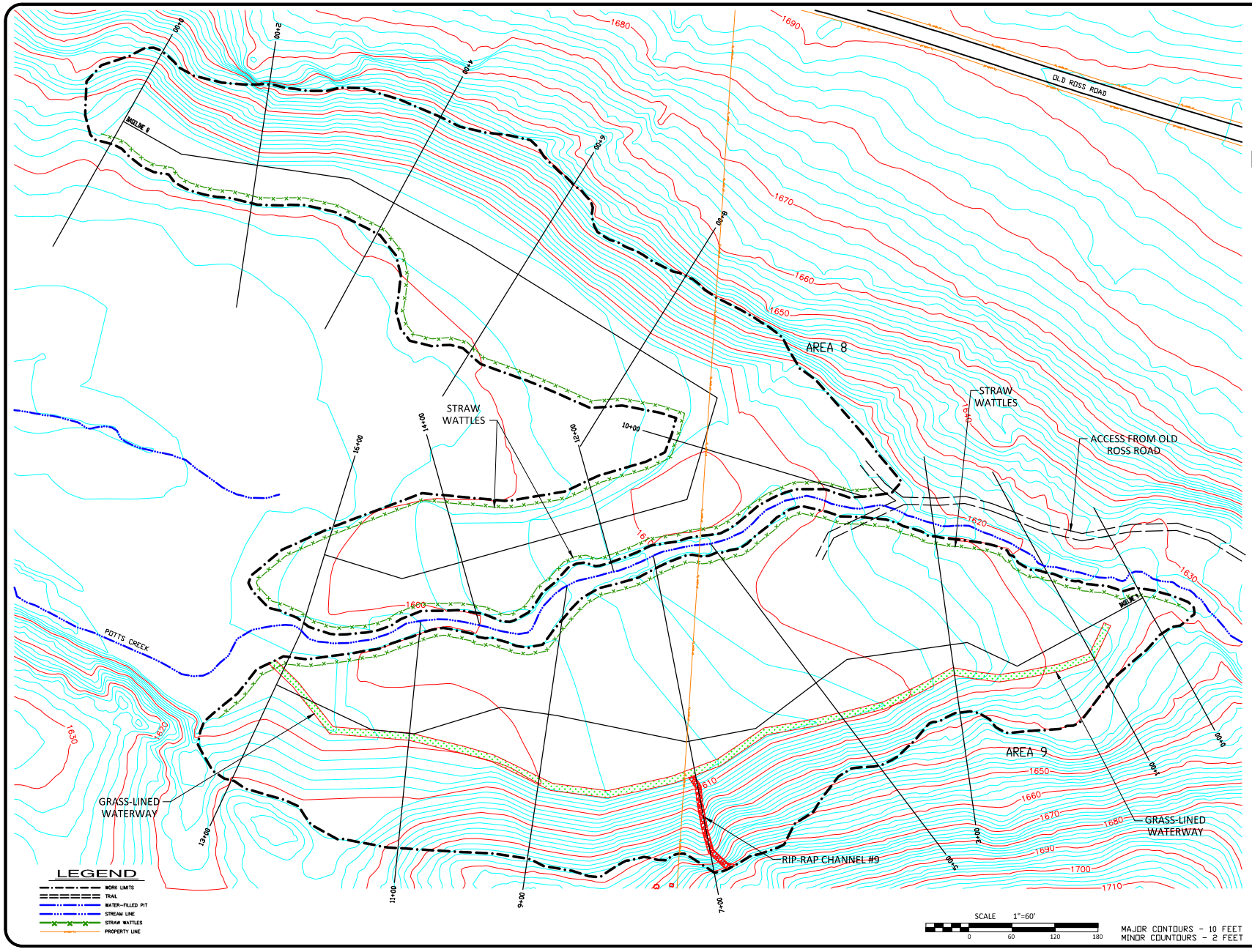
ESTIMATED VOLUME	
PIT #9	350,000 gal
PIT #10	410,000 gal
PIT #11	550,000 gal
PIT #12	250,000 gal

ENTITY: TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION LAND RECLAMATION SECTION

PROJECT: CLIFTY - HALE RECLAMATION PROJECT

HALE SITE - PLAN VIEW

BY			
	DRAWN BY: MPP DATE: 12/18/2020	SURVEYED BY: DATE:	DESIGNED BY: MPP DATE: 12/15/2020
CHKD	CHECKED BY: BEE DATE: 1/11/2021	SCALE 1" = 60'	SHEET 9 OF 13



CLIFTY RECLAMATION PROJECT

HALE SITE - FINAL VIEW

NOTES:

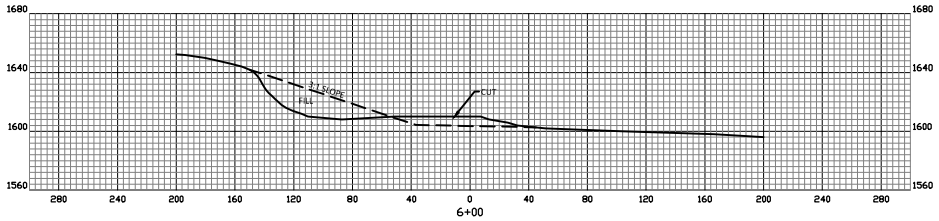
1. ALL CLEARING DEBRIS SHALL BE DISPOSED OF BY BURYING, WINDROWING, AND/OR PILING AND BURNING
2. WATER IN PITS SHALL BE TESTED AND TREATED, IF REQUIRED, TO ENSURE COMPLIANCE AND THEN BE DEWATERED BY PUMPING OR DRAINING IN ACCORDANCE WITH SECTION 214.03
3. HIGHWALLS SHALL BE BACKFILLED TO THE SLOPES AS SHOWN ON SHEETS 11-12 OF THE DRAWINGS
4. GRADING SHALL PROVIDE POSITIVE DRAINAGE AND ELIMINATE ALL DEPRESSIONS THAT WILL HOLD WATER
5. HIGHWALLS SHALL NOT BE BROKEN DOWN DURING GRADING
6. STRAW WATTLES SHALL BE INSTALLED AT THE LOCATIONS SHOWN AND ANY OTHER PLACES AS NEEDED FOR SEDIMENT CONTROL
7. RIP-RAP DITCHES SHALL BE CONSTRUCTED AT THE LOCATIONS SHOWN, ADDITIONAL RIP-RAP DITCHES MAY BE REQUIRED
8. ROCK IN RIP-RAP DITCHES SHALL BE A MIXTURE OF CLEAN CLASS-A AND CLASS-B LIMESTONE
9. TERRACES SHALL BE CONSTRUCTED TO CONTROL SURFACE DRAINAGE AS DETERMINED BY THE PROJECT OFFICER
10. ANOXIC LIMESTONE DRAINS SHALL BE CONSTRUCTED BEFORE BACKFILLING OPERATIONS
11. ALL LIMESTONE SHALL BE HIGH CALCIUM LIMESTONE
12. ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE TO THE SPECIFICATIONS IN SECTION 801.0
13. TREE AND SHRUB SEEDLING SHALL BE PLANTED ON ANY DISTURBANCE WITHIN 20' OF POTTS CREEK AND THE GRASS-LINED WATERWAY

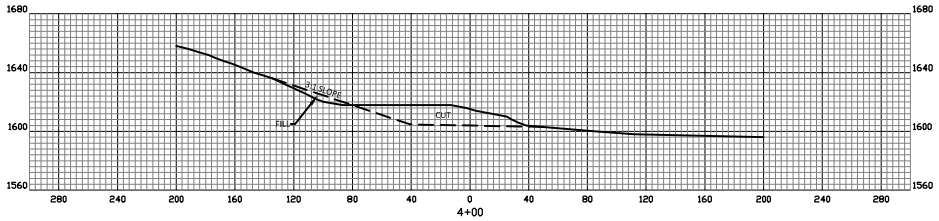
ESTIMATED QUANTITIES	SIZE	CUT	FILL
AREA 8	7.3 ACRES	32,000 YD³	27,000 YD³
AREA 9	9.0 ACRES	26,000 YD³	28,000 YD³
TOTAL	16.3 ACRES	61,000 YD³	58,000 YD³

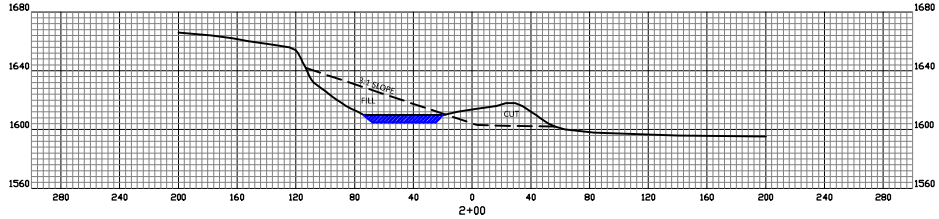
RIP-RAP CHANNEL	LENGTH	LIMESTONE
RIP-RAP CHANNEL #9	150'	130 TONS

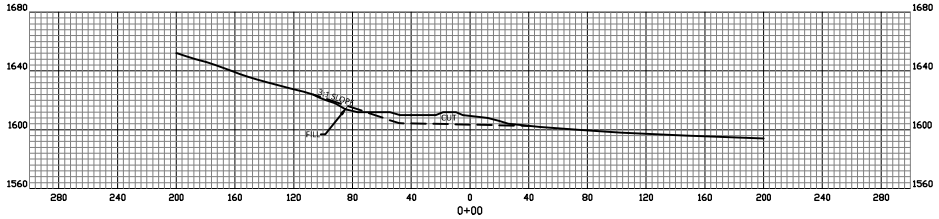
ESTIMATED VOLUME	
PIT #9	350,000 gal
PIT #10	410,000 gal
PIT #11	550,000 gal
PIT #12	250,000 gal

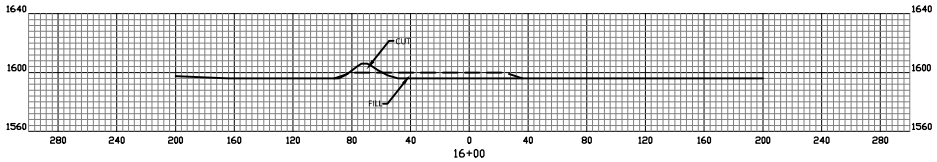
ENTITY	TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION LAND RECLAMATION SECTION		
PROJECT	CLIFTY - HALE RECLAMATION PROJECT		
	HALE SITE - FINAL VIEW		
BY	DRAWN BY: MPP DATE: 12/18/2020	SURVEYED BY: DATE:	DESIGNED BY: MPP DATE: 12/15/2020
DWG	CHECKED BY: BEE DATE: 1/11/2021	SCALE 1" = 60'	SHEET 10 OF 13

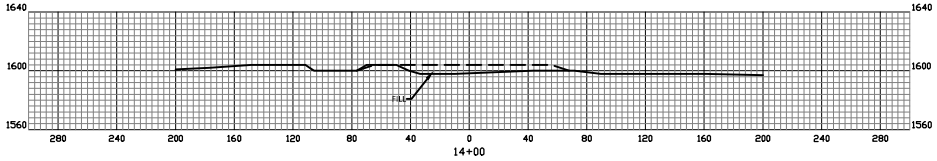


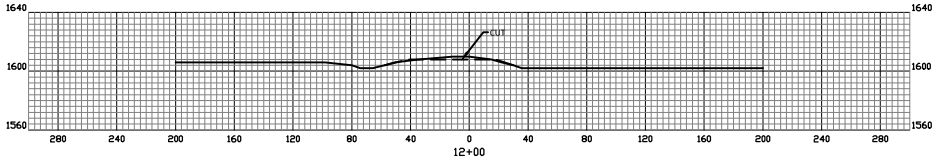


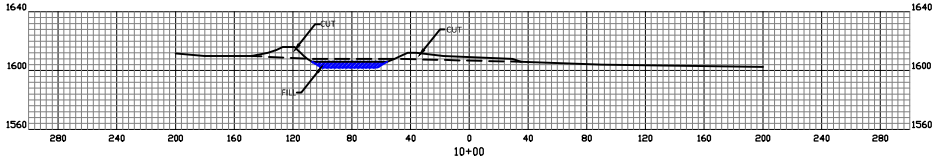


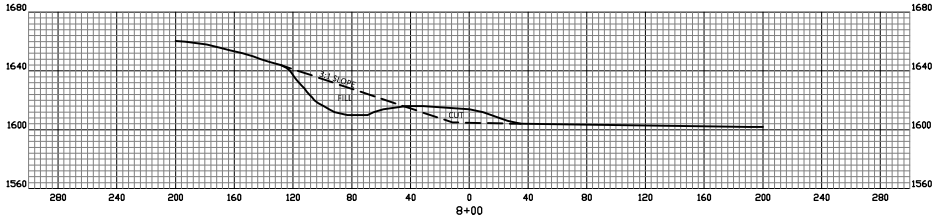












LEGEND

- ORIGINAL GROUND
- PROPOSED GRADE
- GRASSED WATERWAY
- WATER

HALE SITE

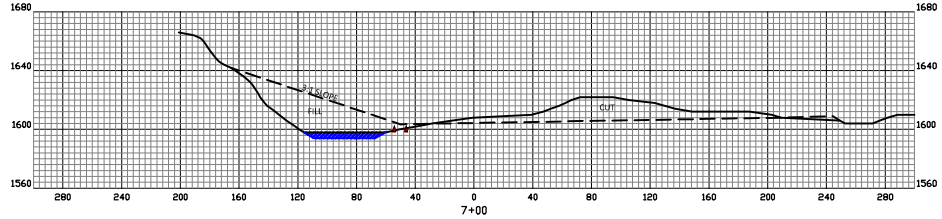
BASELINE 8

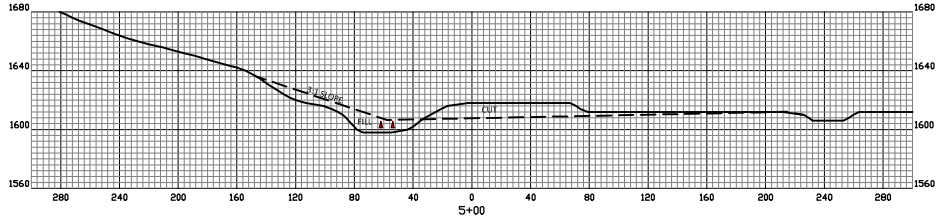
CROSS SECTIONS

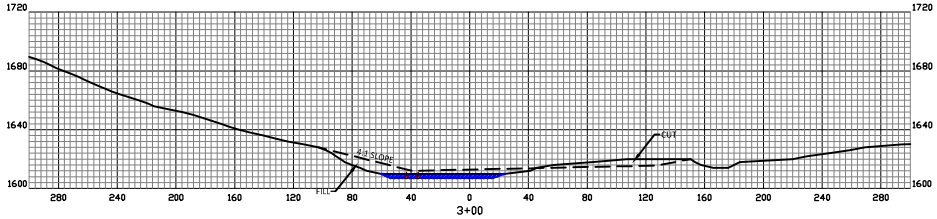
SCALE 1"=40'

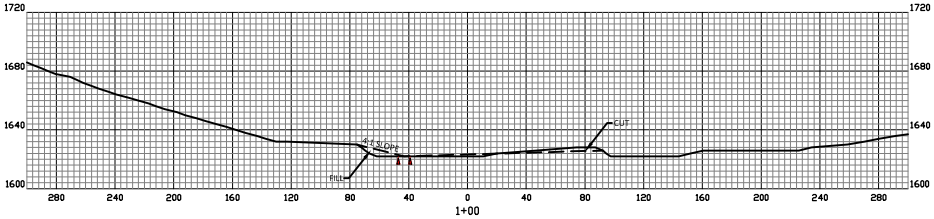
0 40 80 120

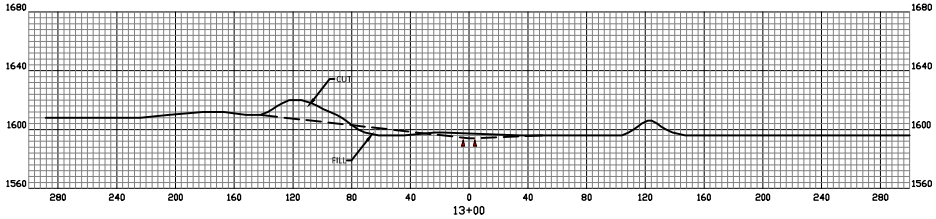
ENTITY	TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION LAND RECLAMATION SECTION		
PROJECT	CLIFTY - HALE RECLAMATION PROJECT		
	HALE SITE - BASELINE 8 - CROSS SECTIONS		
BY	DRAWN BY: MPP DATE: 12/18/2020	SURVEYED BY: DATE:	DESIGNED BY: MPP DATE: 12/15/2020
CHKD	CHECKED BY: BEE DATE: 1/11/2021	SCALE 1" = 40'	SHEET 11 OF 13

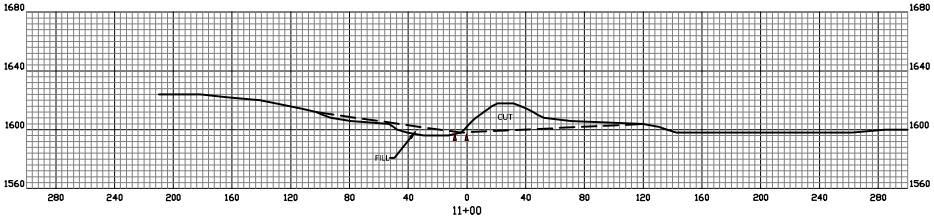


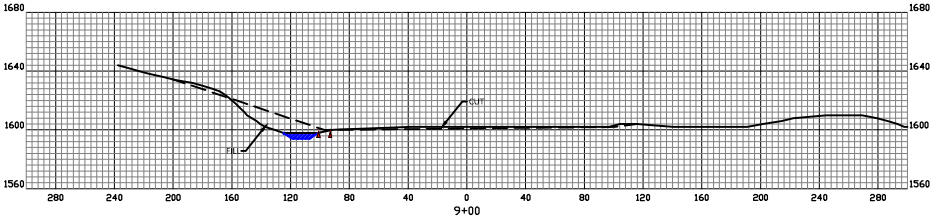












LEGEND

- ORIGINAL GROUND
- PROPOSED GRADE
- GRASSED WATERWAY
- WATER

HALE SITE

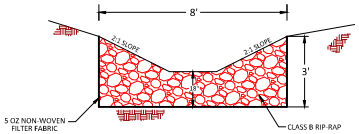
BASELINE 9

CROSS SECTIONS

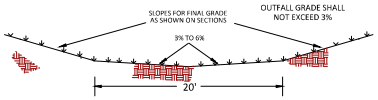
SCALE 1"=40'

0 40 80 120

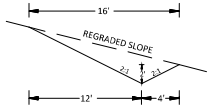
ENTITY	TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION LAND RECLAMATION SECTION		
PROJECT	CLIFTY - HALE RECLAMATION PROJECT		
	HALE SITE - BASELINE 9 - CROSS SECTIONS		
BY	DRAWN BY: MPP DATE: 12/18/2020	SURVEYED BY: DATE:	DESIGNED BY: MPP DATE: 12/15/2020
DWG	CHECKED BY: BEE DATE: 1/11/2021	SCALE 1" = 40'	SHEET 12 OF 13



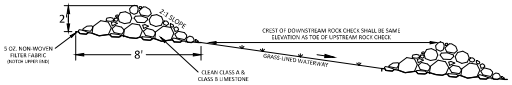
RIP-RAP DIVERSION DITCH SECTION



TYPICAL GRASSED WATERWAY

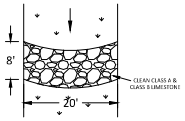


TYPICAL TERRACE SECTION

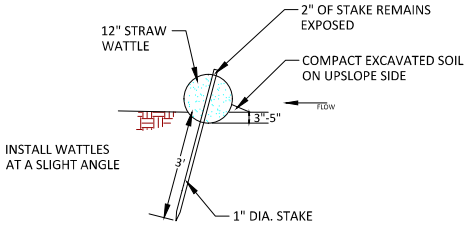


SIDE VIEW
SCALE 1"=3'

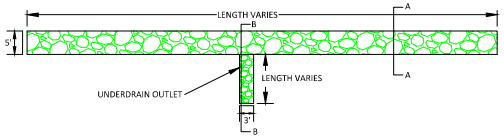
ROCK CHECK DETAIL



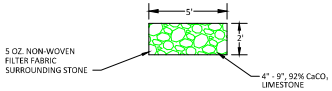
TOP VIEW
SCALE 1"=10'



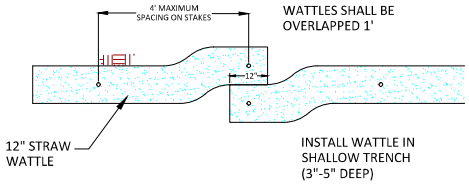
SIDE VIEW



ALD - PLAN VIEW

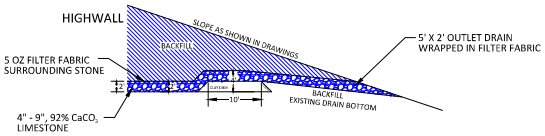


ALD - SECTION A-A



TOP VIEW

STRAW WATTLE DETAIL



ALD - SECTION B-B

ENTITY	TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION LAND RECLAMATION SECTION		
PROJECT	CLIFTY - HALE RECLAMATION PROJECT		
	MISC. DETAILS		
BY	DRAWN BY: MPP DATE: 1/25/2016	SURVEYED BY: DATE:	DESIGNED BY: MPP DATE: 1/12/2016
DWG	CHECKED BY: BEE DATE: 2/3/2016	SCALE NOT TO SCALE	SHEET 13 OF 13