

Department of Energy

Portsmouth/Paducah Project Office 1017 Majestic Drive, Suite 200 Lexington, Kentucky 40513 (859) 219-4000

June 13, 2022

RECEIVED
By Terri.Drake at 3:57 pm, Jun 13, 2022

PPPO-02-10021300-22B

Ms. Jamie Nielsen, Supervisor Permit Administration Section Division of Waste Management, Solid Waste Branch Kentucky Department for Environmental Protection 300 Sower Boulevard, 2nd Floor Frankfort, Kentucky 40601

Dear Ms. Nielsen:

2022 ANNUAL SURVEY FOR THE PADUCAH GASEOUS DIFFUSION PLANT C-746-U CONTAINED LANDFILL, PERMIT NUMBER 073-00045, AGENCY INTEREST NO. 3059

Enclosed is the certified 2022 Solid Waste Landfill Annual Survey Form, DEP 8059 (6/10), and the associated cross-section drawings for Kentucky Division of Waste Management (KDWM) information, as required by 401 *KAR* 47:190 § 8(2) (Enclosures 1 and 2). The 2022 annual survey is being submitted electronically to the Kentucky Energy and Environmental Cabinet via the Kentucky Online Gateway website using Solid Waste Branch Submittal eForm #203.

Four Rivers Nuclear Partnership, LLC (FRNP) completed aerial activities to support the annual survey on April 19, 2022, using a small Unmanned Aircraft System.

In the 2019, 2020, and 2021 annual survey submittals, FRNP reported that temporary, long-term cover material had either encroached or had exceeded the vertical landfill limit. In comparing the results from this year's survey to the previous three submittals, the volume of this excess cover material to be removed prior to final cap construction (13,600 yd³) has not changed (see Enclosure 3). Also, as requested by KDWM during a conference call dated May 11, 2020, clarification is provided for line item #35 of KDWM Form DEP 8059 (6/10). The rate of compaction was calculated by dividing the quantity of waste received since the last survey (3,527.48 tons) by the difference between the filled airspace from the 2021 landfill survey (144,835 yd³) and the 2022 landfill survey (150,054 yd³), rounded to the nearest whole number in cubic yards. The reported rate of compaction, rounded to the nearest whole number, is 1,352 lbs per yd³.

To assist in the 2022 annual survey review, the previously submitted figures of C-746-U Landfill Phases, Revision 4; engineering drawing C7DC7460UA001, Rev. 9; and engineering drawing C5E-59701-K10, Rev. B are enclosed (Enclosures 4, 5, and 6). A certification page also is enclosed (Enclosure 1).

If you have any questions or require additional information, please contact David Dollins at (270) 441-6819.

Sincerely,

April Ladd April Ladd Date: 2022.06.09 15:55:24 -05'00'

April Ladd Acting Paducah Site Lead Portsmouth/Paducah Project Office

Enclosures:

- 1. Certification Page
- 2. 2022 Annual Survey Form DEP 8059 (6/10)
- 3. C-746-U Landfill 2022 Annual Landfill Survey Drawings
- 4. Volume of Soil to be Removed Prior to Final Cap Table
- 5. C-746-U Landfill Phases, Revision 4
- 6. Engineering Drawing C7DC7460UA001, Rev. 9
- 7. Engineering Drawing C5E-59701-K10, Rev. B

cc w/enclosures:

abigail.parish@pppo.gov, PPPO april.ladd@pppo.gov, PPPO april.webb@ky.gov, KDEP bart.schaffer@ky.gov, KDEP brian.begley@ky.gov, KDEP bruce.ford@pad.pppo.gov, FRNP christopher.travis@ky.gov, KDEP dave.dollins@pppo.gov, PPPO dennis.greene@pad.pppo.gov, FRNP frnpcorrespondence@pad.pppo.gov gary.hines@pad.pppo.gov, FRNP jennifer.woodard@pppo.gov, PPPO jerry.arnzen@pad.pppo.gov, FRNP joel.bradburne@pppo.gov, PPPO jolie.fleming@pad.pppo.gov, FRNP leo.williamson@ky.gov, KDEP lisa.crabtree@pad.pppo.gov, FRNP myrna.redfield@pad.pppo.gov, FRNP pad.rmc@pad.pppo.gov tammy.smith@pad.pppo.gov, FRNP tracey.duncan@pppo.gov, PPPO

cc via KY eForms portal: jamie.nielsen@ky.gov, KDEP

CERTIFICATION

Document Identification:

2022 Annual Survey for the Paducah Gaseous Diffusion Plant C-746-U Contained Landfill, Permit Number 073-00045, Agency Interest No. 3059

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for such violations.

Four Rivers Nuclear Partnership, LLC Permittee (Operator)

Myrna E Redfield, Program Manager Four Rivers Nuclear Partnership, LLC Date Signed

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for such violations.

U.S. Department of Energy

April Ladd, Acting Paducah Site Lead Portsmouth/Paducah Project Office

U.S. Department of Energy

Date Signed

Form DEP 8059 (06/10) Page 1 of 5



ENERGY AND ENVIRONMENT CABINET

DEPARTMENT FOR ENVIRONMENTAL PROTECTION DIVISION OF WASTE MANAGEMENT 200 FAIR OAKS LANE, SECOND FLOOR FRANKFORT, KY 40601 TELEPHONE NUMBER (502) 564-6716

Solid Waste Landfill Annual Survey Form DEP 8059 (6/10)

(To be submitted in conjunction with the annual survey report required by 401 KAR 47:190, Section 8)

Statutes and regulations may be viewed online at the following website address: http://www.lrc.ky.gov/search.htm

Solid waste application forms are available at the following website address: http://www.waste.ky.gov

DWM OFFICAL USE ONLY					
AI#:	Application #:				



Form DEP 8059 (06/10) Page 2 of 5

GENERAL INSTRUCTIONS

1. APPLICABILITY - The owner or operator of a contained, construction and demolition or residual landfill shall complete, and submit the following reporting forms as listed in 401 KAR 47:190, Section 8(4).

- 2. ASSISTANCE Questions regarding this form may be directed in writing to the Division of Waste Management (DWM), Solid Waste Branch at the address listed above, or by calling (502) 564-6716.
- 3. SUBMISSION Please type or print legibly in permanent ink. Submit the original and one copy of the completed form to the DWM at the address listed above. If an item is not applicable to your facility write "N/A" in the space provided.
- 4. LAWS AND REGULATIONS Applicants are expected to understand and comply with all laws and regulations applicable to the facility.

To assist you in the submittal of a complete and accurate report, the DWM has identified the most common errors found during the review process. These errors are listed below for your convenience.

- 1. Failure to complete the report. Required maps, attachments, and supplemental data must be submitted with this report.
- 2. Failure to properly sign the report and drawings. An individual with signature authority for the applicant as defined by KRS 224.01-010(44) and 401 KAR 47:160 must sign the appropriate signature section of the form. Maps and drawings must be signed, dated and sealed by a professional engineer or professional land surveyor.
- 3. Failure to provide appropriate attachments, maps, drawings and narratives of sufficient detail.

NOTE: Solid Waste Regulations require the landfill owner or operator to notify the cabinet no less than fifteen (15) calendar days prior to the date the survey is to be conducted. Additionally, the annual survey is required to be made between January 1 and May 1 each year. The results of the survey must be submitted to the cabinet within sixty (60) days of the date of the survey unless aerial photography is used. If aerial photography is used, the results must be submitted within ninety (90) days of the aerial photography. Refer to 401 KAR 47:190, Section 8(2) for additional requirements for annual surveys.

Warning! Due to the potential for identity theft, do not provide social security numbers to the DWM as part of this application. If this information is required during the normal course of review of the application, a cabinet representative will contact the appropriate individual to acquire this information in a secure format.



Form DEP 8059 (06/10) Page 3 of 5

Permittee Information

1. Agency Interest #: 3059

2. Permit #: 073 - 00045

3. Permittee Name: Owner: U.S. Department of Energy

(This refers to the corporation, LLC, business, person, government agency, etc., that owns or operates the facility.)

4. Permittee Mailing Address: Four Rivers Nuclear Partnership, LLC; 5511 Hobbs Road

5. City: Kevil

6. State: KY **7.** Zip Code: 42053

8. Contact Person: Gary Hines

9. Title: Landfill Manager

10. E-mail Address: gary.hines@pad.pppo.gov

11. Phone #: 270 - 441 - 6211 ext. N/A

12. Cell #: 270 - 816 - 4164

13. Fax #: 270 - 441 - 6303

Preparer Information

14. Firm Name: Soldier Creek Engineering and Technical Services, LLC

15. Mailing Address: 459 Soldier Creek Road

16. City: Kirksey

17. State: KY **18.** Zip Code: 42054

19. Individual Name: Keith Thorn

20. E-mail Address: keith.thorn@soldiercreekengineering.com

21. Phone #: 270 - 462 - 4600 ext. N/A

22. Cell #: 270 - 556 - 5501

23. Fax #: N/A -

24. Name of licensed person performing survey: Keith Palmer, P.L.S. Number 3378

a. Firm - KY P. E. License No.: N/A

Expires: - -

b. Individual - KY P. E. License No.: N/A

Expires: - -

c. Firm - KY L. S. License No.: 567

Expires: 12 - 31 - 2022

d. Individual - KY L. S. License No.: 3378

Expires: 6 - 30 - 2022



Form DEP 8059 (06/10) Page 4 of 5

Facility Information

KEITH THOR

- **25.** Date of current over-flight / survey: 4 19 2022
- **26.** Date of last over-flight / survey: 4 20 2021
- 27. Number of days between over-flights / surveys: 364
- 28. Total permitted landfill airspace in cubic yards: 1,179,420 C.Y.
- 29. FILLED airspace as of this date in cubic yards: 150,054 C.Y.
- 30. Subtract Item 28 from Item 29 to obtain remaining airspace in cubic yards: 1,029,366 C.Y.
- **31.** Provide the necessary Cross-sections, maps or drawings
- **32.** Have any waste limits been exceeded horizontally or vertically? Yes
- **33.** If the answer to Item 32 is "yes", provide a summary description of the area(s) where the waste boundary or limits have been exceeded. Include, in this summary, a description of the specific locations or areas exceeded, along with volume calculations specifying the amount, in cubic yards, filled outside the permitted airspace. Clearly delineate the areas on the cross sections that must accompany this submittal.

N/A

34. Provide the quantity of waste (in tons) disposed per day by dividing the number of days since the last survey by the waste (in tons) received for the number of days to the date of this annual survey (based on *365* calendar days per year).

9.69 Tons Per Day

Example: ABC Landfill conducts its current annual survey on April 1. The last survey was done on March 15 of the previous year.

Total days between March 15 of 1998 and April 1 of 1999: 365+16=381 days

During the time period from March 15 of the previous year to April 1 of the current year, ABC Landfill disposed of 381,000 tons of all wastes.

Divide 381,000 tons by 381 days.

Thus the ABC Landfill disposed of an average of 1,000 tons of waste per day.



35. Provide the rate of compaction of waste by subtracting the volume of airspace consumed since the last annual survey and dividing the resulting figure by the pounds of waste received since the date of the last survey.

1,352 lbs/ C.Y.

Example: In the previous example, if 381,000 tons of waste was received between March 15, 1998 and April 1, 1999. During that time period, 481,234 CY were filled.

$$\frac{(\# TONS) (2,000 lbs)}{C.Y.} = \frac{(381,000)(2,000)}{481,234} = 1,583.43 lbs/C.Y.$$

The landfill achieved a compaction rate of 1,583 lbs per cubic yards.

Certification

36. Pursuant to 401 KAR 47:160, Section 6, a person with signature authority such as a sole proprietor, owner, partner, corporate officer, plant manager, LLC member, mayor, county judge executive or other authorized official must sign this certification statement.

NOTE: Consultants may not sign the following certification statement.

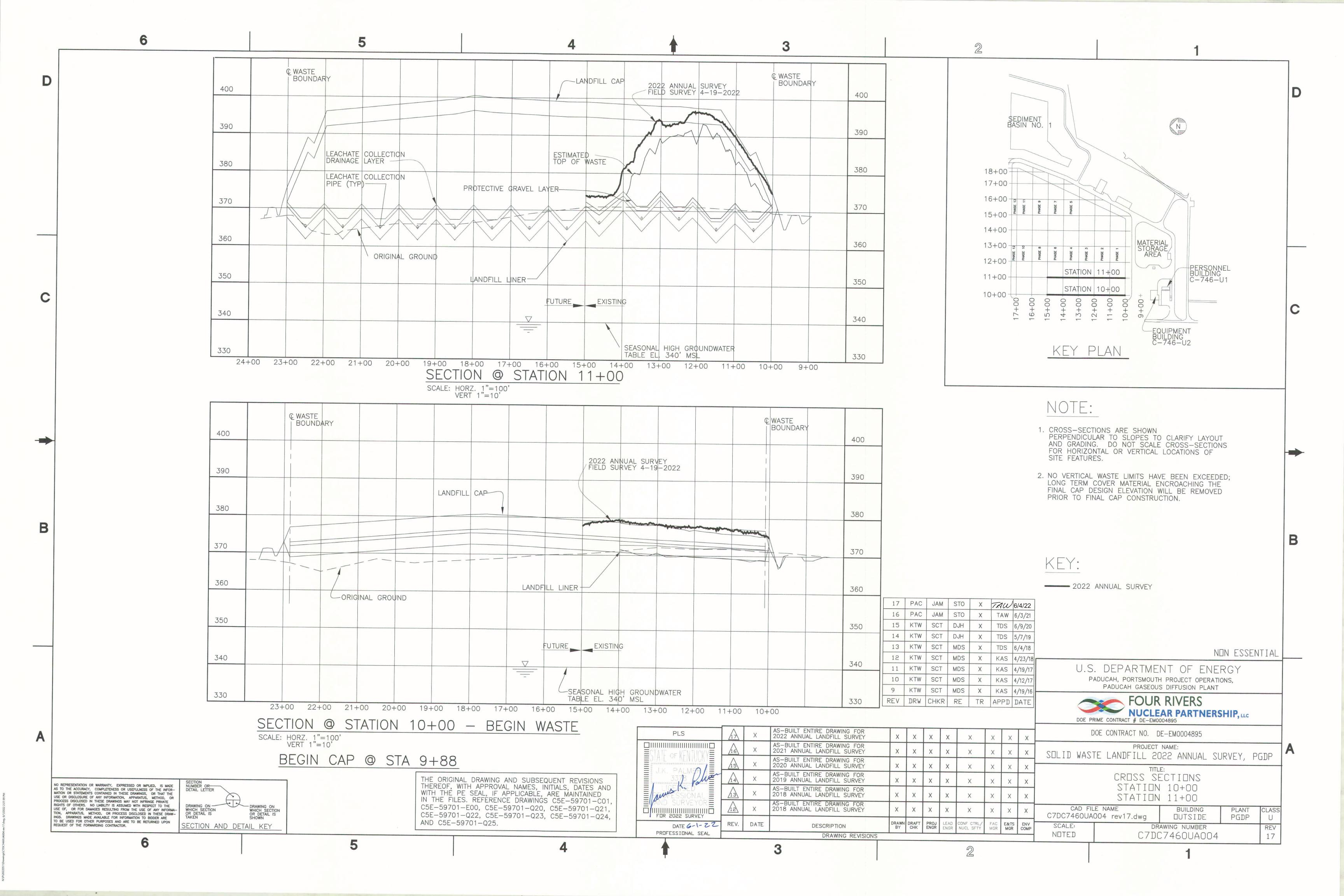
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for such violations."

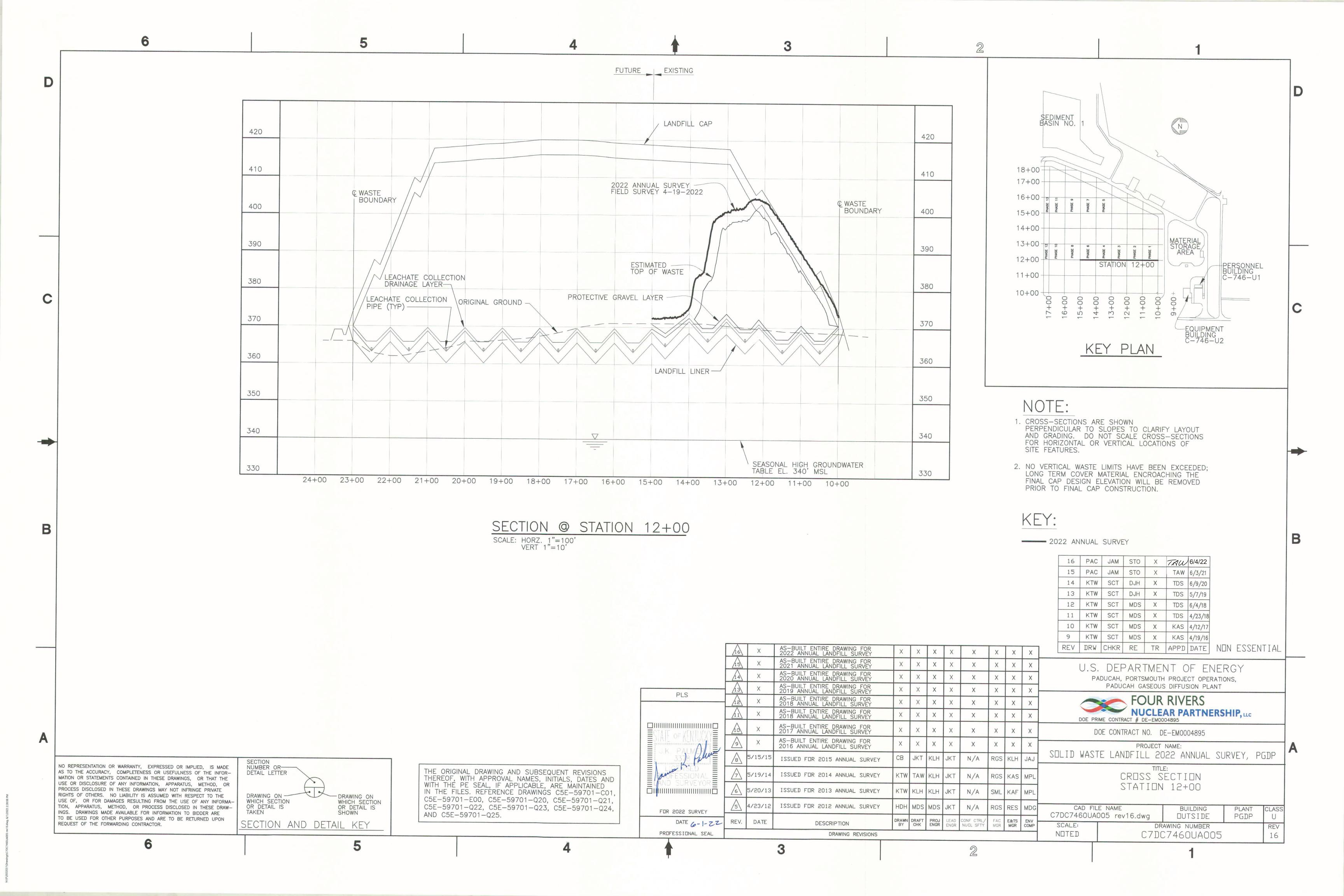
Name of Person Signing (type or print): Myrna E. Redfield

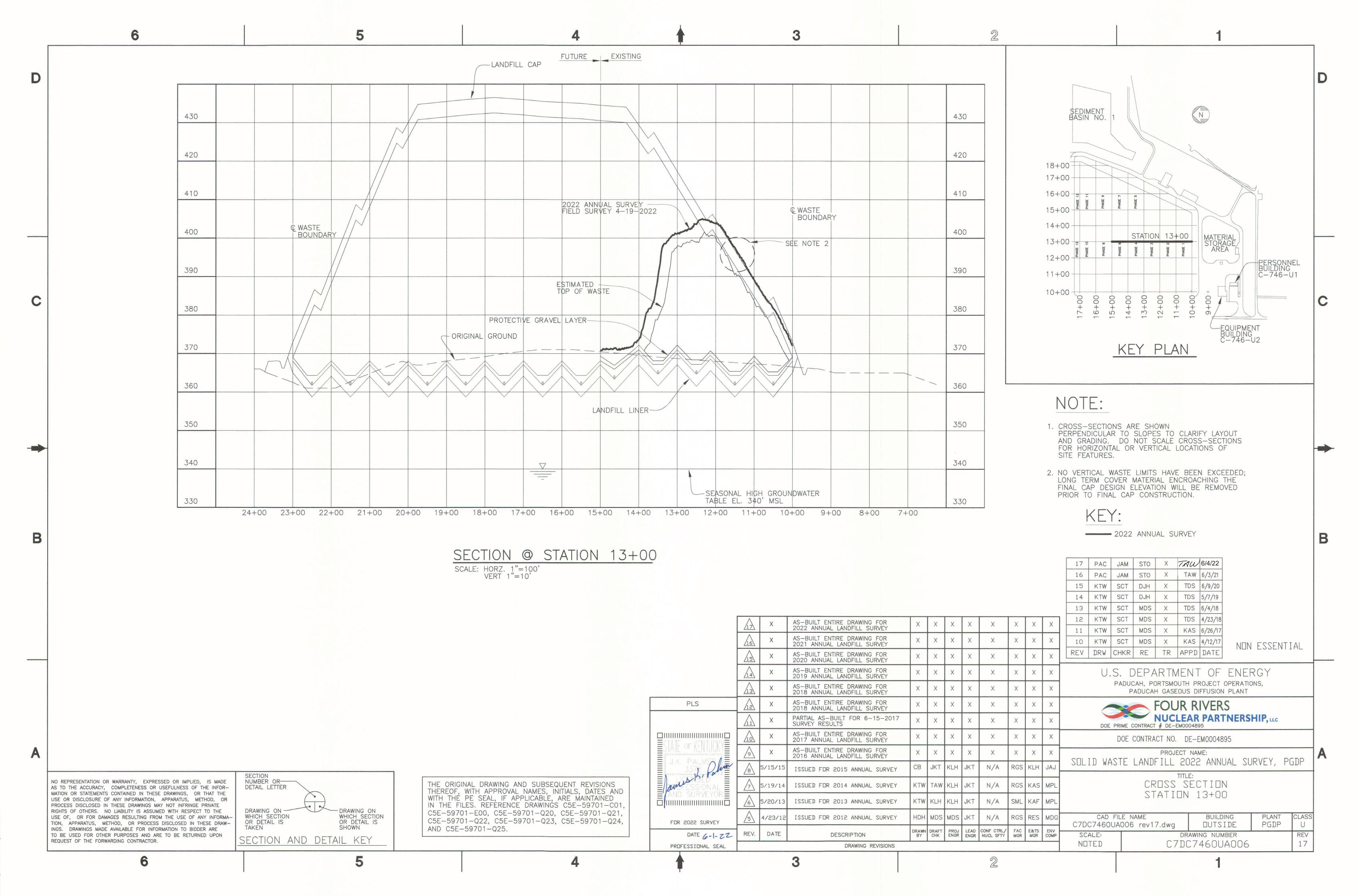
State of KY County of state at large My commission expires: 03/18/2024

DAVID L. CURRY Notary Public Commonwealth of Kentucky Commission Number KYNP5284 My Commission Expires Mar 18, 2024

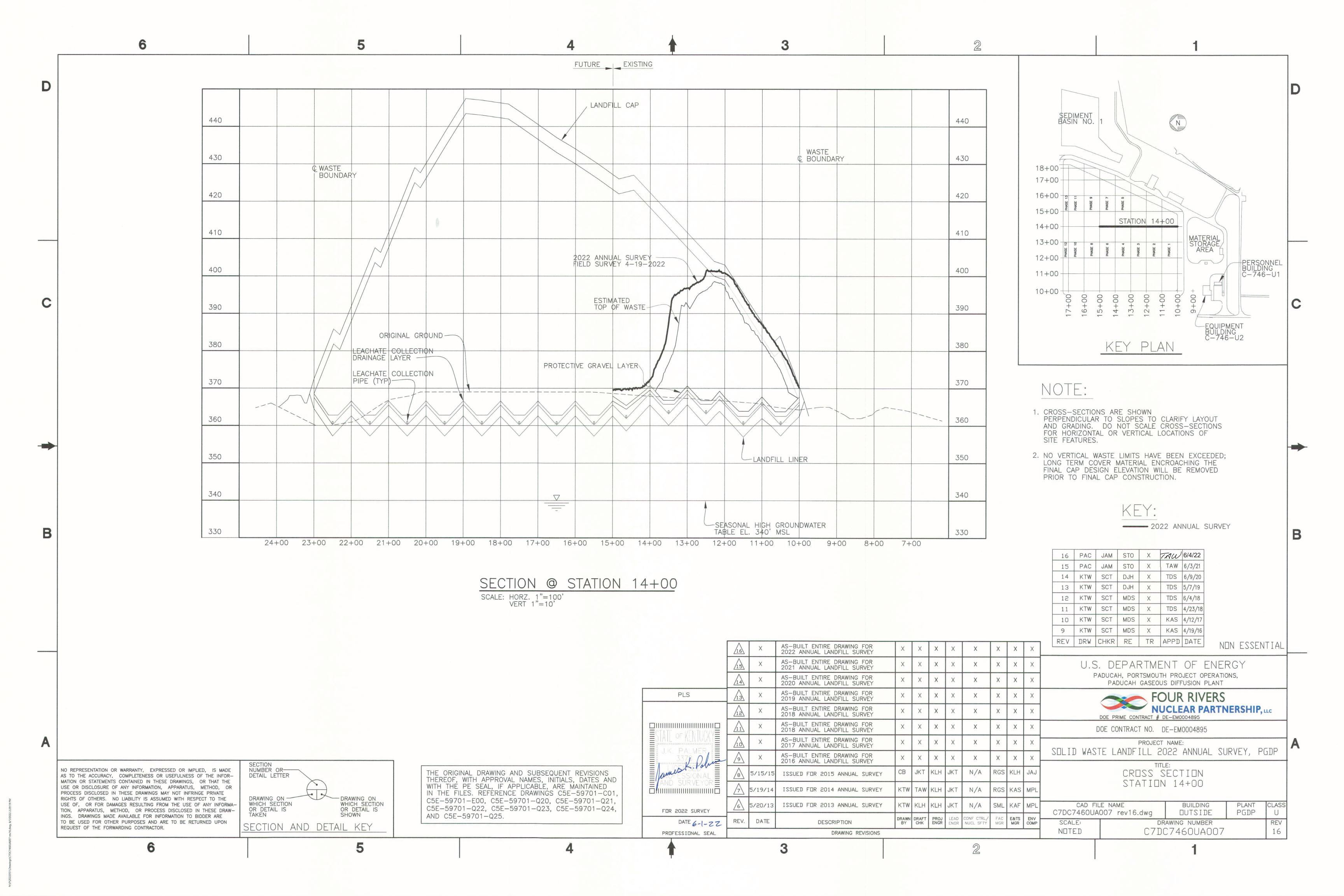


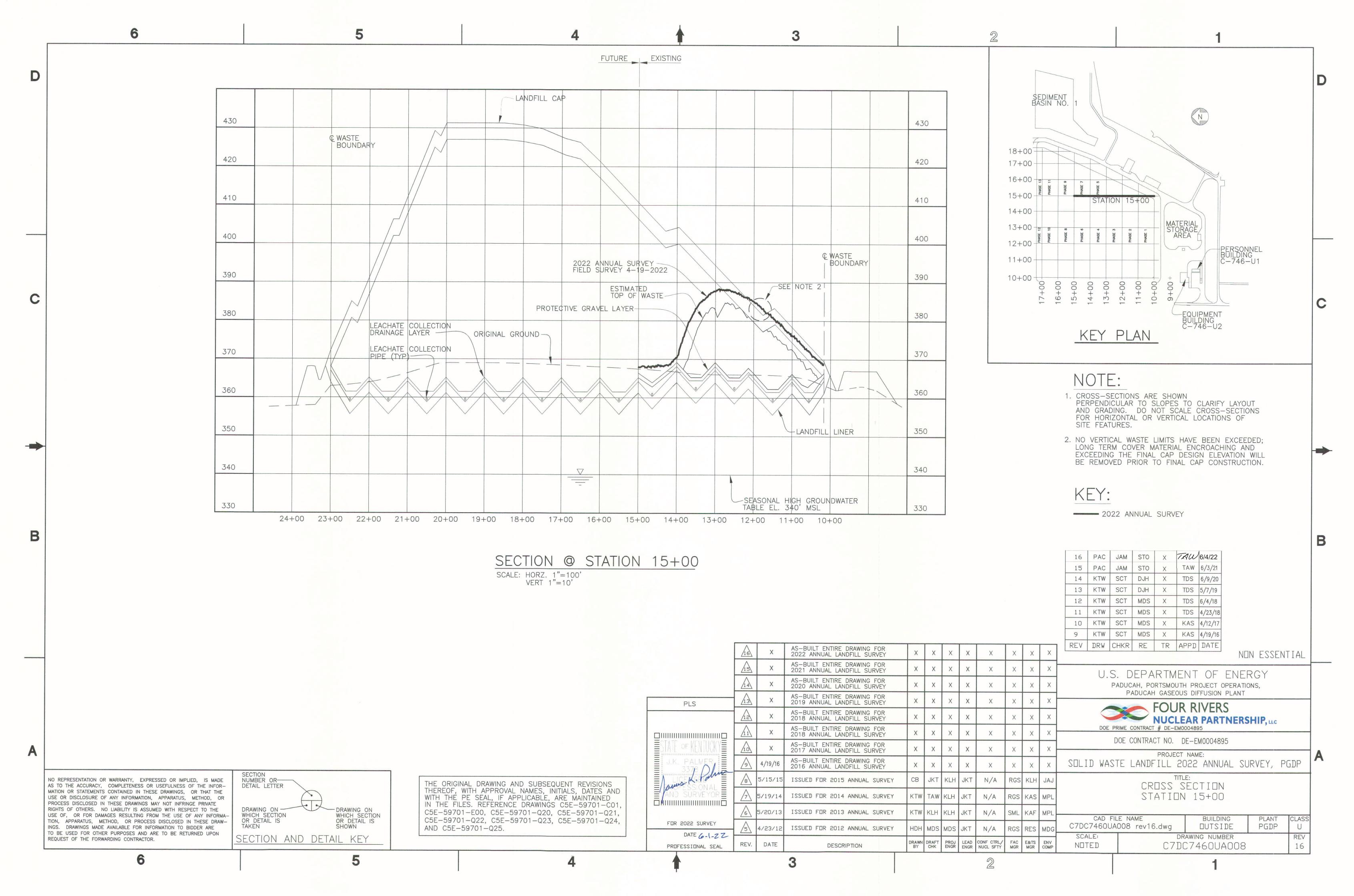




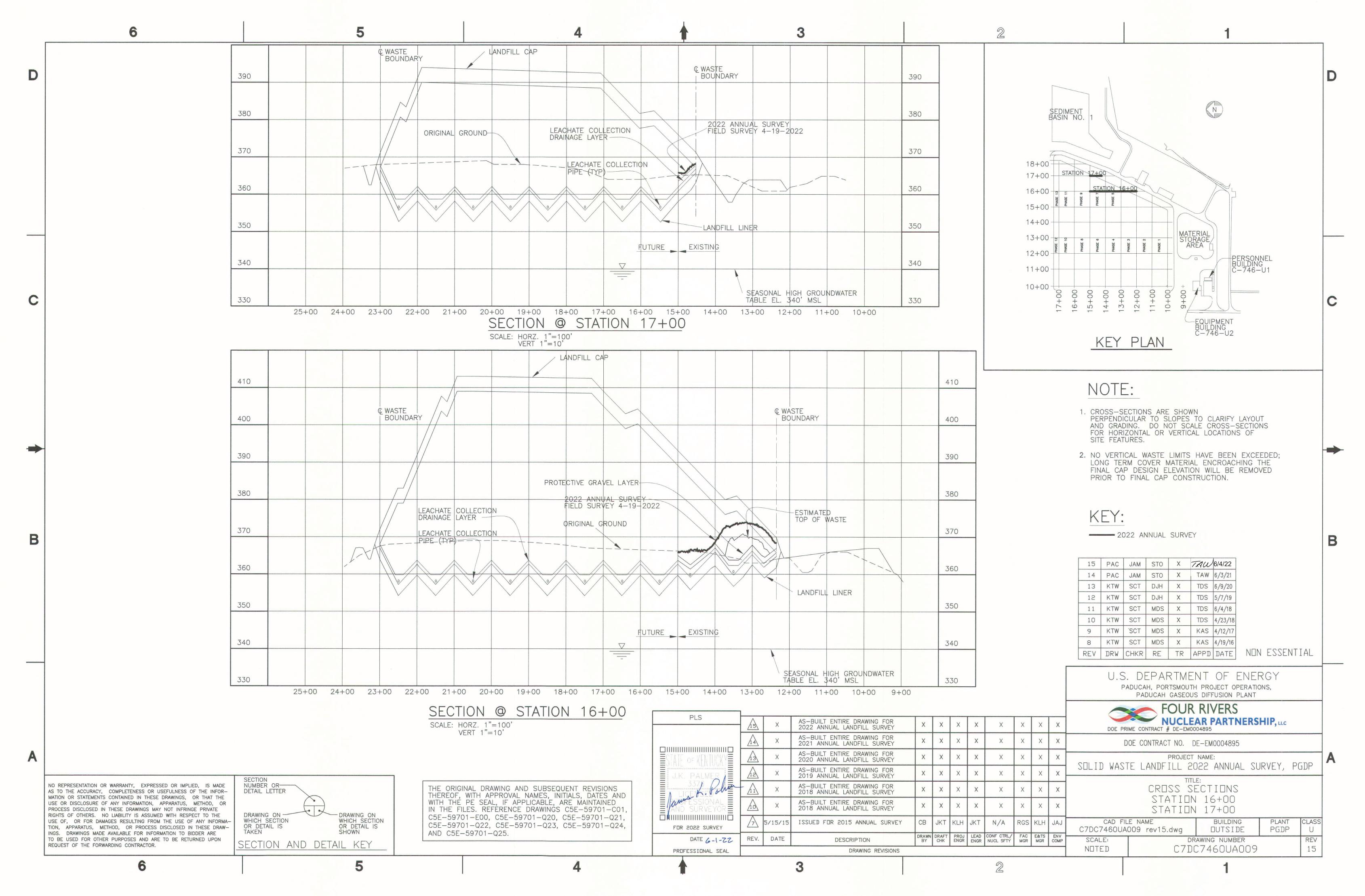


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PGDP C-746-U Landfill Volume of Soil to be Removed Prior to Final Cap

The Landfill is referenced to a Transit Line (TL) that is oriented North/South and a Base Line (BL) that is oriented East/West.

The TL stations are used herein to provide a reference to the beginning and ending locations of the exceedances shown in the cross-section drawings which are cut at each BL Station.

Cross-section	Beginning Point	Ending Point	Volume of Soil
			to be Removed
			(CY)
BL STA 10+00	TL STA 10+00	TL STA 14+00	
			3184
BL STA 11+00	TL STA 10+04	TL STA 12+41	
			1863
BL STA 12+00	TL STA 10+04	TL STA 12+35	
			2519
BL STA 13+00	TL STA 10+03	TL STA 12+46	
			2331
BL STA 14+00	TL STA 10+04	TL STA 12+32	
			1910
BL STA 15+00	TL STA 10+23	TL STA 12+74	
			1155
BL STA 16+00	TL STA 12+41	TL STA 13+03	
			98
BL STA 16+50	TL STA 13+44	TL STA 13+70	
Total Volume of Soil to	13060		

