



DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT  
1650 ARCH STREET  
PHILADELPHIA, PENNSYLVANIA 19103-2004

OPR

February 24, 2025

MEMORANDUM FOR RECORD

SUBJECT: US Army Corps of Engineers (Corps) Approved Jurisdictional Determination in accordance with the "Revised Definition of 'Waters of the United States'"; (88 FR 3004 (January 18, 2023) as amended by the "Revised Definition of 'Waters of the United States'; Conforming" (8 September 2023) ,<sup>1</sup> NAP-2024-00463-103

BACKGROUND. An Approved Jurisdictional Determination (AJD) is a Corps document stating the presence or absence of waters of the United States on a parcel or a written statement and map identifying the limits of waters of the United States on a parcel. AJDs are clearly designated appealable actions and will include a basis of JD with the document.<sup>2</sup> AJDs are case-specific and are typically made in response to a request. AJDs are valid for a period of five years unless new information warrants revision of the determination before the expiration date or a District Engineer has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.<sup>3</sup>

On January 18, 2023, the Environmental Protection Agency (EPA) and the Department of the Army ("the agencies") published the "Revised Definition of 'Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule"). On September 8, 2023, the agencies published the "Revised Definition of 'Waters of the United States'; Conforming", which amended the 2023 Rule to conform to the 2023 Supreme Court decision in *Sackett v. EPA*, 598 U.S., 143 S. Ct. 1322 (2023) ("*Sackett*").

This Memorandum for Record (MFR) constitutes the basis of jurisdiction for a Corps AJD as defined in 33 CFR §331.2. For the purposes of this AJD, we have relied on Section 10 of the Rivers and Harbors Act of 1899 (RHA),<sup>4</sup> the 2023 Rule as amended, as well as other applicable guidance, relevant case law, and longstanding practice in evaluating jurisdiction.

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<sup>1</sup> While the Revised Definition of "Waters of the United States"; Conforming had no effect on some categories of waters covered under the CWA, and no effect on any waters covered under RHA, all categories are included in this Memorandum for Record for efficiency.

<sup>2</sup> 33 CFR 331.2.

<sup>3</sup> Regulatory Guidance Letter 05-02.

<sup>4</sup> USACE has authority under both Section 9 and Section 10 of the Rivers and Harbors Act of 1899 but for convenience, in this MFR, jurisdiction under RHA will be referred to as Section 10.

OPR

SUBJECT: 2023 Rule, as amended, Approved Jurisdictional Determination in Light of *Sackett v. EPA*, 143 S. Ct. 1322 (2023), NAP-2024-00463-103

## 1. SUMMARY OF CONCLUSIONS.

- a. Provide a list of each individual feature within the review area and the jurisdictional status of each one (i.e., identify whether each feature is/is not a water of the United States and/or a navigable water of the United States).
  - i. Swale, non-jurisdictional
  - ii. Stream 2P, non-jurisdictional
  - iii. Stream E, jurisdictional, Section 404
  - iv. Stream E Braid, jurisdictional, Section 404
  - v. Stream F, jurisdictional, Section 404
  - vi. Wetland C, non-jurisdictional
  - vii. Wetland G, jurisdictional, Section 404
  - viii. Wetland I-1, jurisdictional, Section 404
  - ix. Wetland I-2, jurisdictional, Section 404
  - x. Wetland K, jurisdictional, Section 404
  - xi. Wetland J, jurisdictional, Section 404
  - xii. Wetland L, jurisdictional, Section 404

## 2. REFERENCES.

- a. "Revised Definition of 'Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule")
- b. "Revised Definition of 'Waters of the United States'; Conforming" 88 FR 61964 (September 8, 2023))
- c. *Sackett v. EPA*, 598 U.S., 143 S. Ct. 1322 (2023)

OPR

SUBJECT: 2023 Rule, as amended, Approved Jurisdictional Determination in Light of *Sackett v. EPA*, 143 S. Ct. 1322 (2023), NAP-2024-00463-103

3. REVIEW AREA. The review area (labeled as Area of Interest (AOI) on the plan) consists of 113.13 acres located along Ratledge Road in Townsend, New Castle County, Delaware (39.375783, -75.687760). The review area is located within New Castle County Tax Parcel 1402000095. On the approved plans, the review area is noted as 'Area of Interest'. A USACE site visit was conducted on July 16, 2024. The main purpose of the site visit was to determine if Wetland C, comprised of forested and emergent wetlands and open water, exhibited a continuous surface connection to any paragraph (a)(1) through (a)(3) waters. Additionally, Stream E and Stream 2P were examined due to being possible locations for future crossings.
4. NEAREST TRADITIONAL NAVIGABLE WATER (TNW), THE TERRITORIAL SEAS, OR INTERSTATE WATER TO WHICH THE AQUATIC RESOURCE IS CONNECTED. The nearest downstream TNW is Blackbird Creek. Blackbird Creek is influenced by the ebb and flow of the tide.<sup>5</sup>
5. FLOWPATH FROM THE SUBJECT AQUATIC RESOURCES TO A TNW, THE TERRITORIAL SEAS, OR INTERSTATE WATER. Stream E (labeled as Barlow Branch on USGS Topographic maps) enters the review area from the northwest and exits the review area to the east. Once outside the review area, Stream E terminates into a non-tidal portion of Blackbird Creek approximately 1.4 miles downstream. From the point that Stream E flows into Blackbird Creek, it becomes a TNW approximately 0.15 miles downstream when it crosses the US13 fixed bridge.
6. SECTION 10 JURISDICTIONAL WATERS<sup>6</sup>: Describe aquatic resources or other features within the review area determined to be jurisdictional in accordance with Section 10 of the Rivers and Harbors Act of 1899. Include the size of each aquatic resource or other feature within the review area and how it was determined to be jurisdictional in accordance with Section 10.<sup>7</sup> N/A

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<sup>5</sup> This MFR should not be used to complete a new stand-alone TNW determination. A stand-alone TNW determination for a water that is not subject to Section 9 or 10 of the Rivers and Harbors Act of 1899 (RHA) is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where upstream or downstream limits or lake borders are established.

<sup>6</sup> 33 CFR 329.9(a) A waterbody which was navigable in its natural or improved state, or which was susceptible of reasonable improvement (as discussed in § 329.8(b) of this part) retains its character as "navigable in law" even though it is not presently used for commerce, or is presently incapable of such use because of changed conditions or the presence of obstructions.

<sup>7</sup> This MFR is not to be used to make a report of findings to support a determination that the water is a navigable water of the United States. The district must follow the procedures outlined in 33 CFR part 329.14 to make a determination that water is a navigable water of the United States subject to Section 10 of the RHA.

OPR

SUBJECT: 2023 Rule, as amended, Approved Jurisdictional Determination in Light of *Sackett v. EPA*, 143 S. Ct. 1322 (2023), NAP-2024-00463-103

7. SECTION 404 JURISDICTIONAL WATERS: Describe the aquatic resources within the review area that were found to meet the definition of waters of the United States in accordance with the 2023 Rule as amended, consistent with the Supreme Court's decision in *Sackett*. List each aquatic resource separately, by name, consistent with the naming convention used in section 1, above. Include a rationale for each aquatic resource, supporting that the aquatic resource meets the relevant category of "waters of the United States" in the 2023 Rule as amended. The rationale should also include a written description of, or reference to a map in the administrative record that shows, the lateral limits of jurisdiction for each aquatic resource, including how that limit was determined, and incorporate relevant references used. Include the size of each aquatic resource in acres or linear feet and attach and reference related figures as needed.

a. Traditional Navigable Waters (TNWs) (a)(1)(i): N/A

b. The Territorial Seas (a)(1)(ii): N/A

c. Interstate Waters (a)(1)(iii): N/A

d. Impoundments (a)(2): N/A

e. Tributaries (a)(3):

a. Stream E is a 1230 linear foot perennial stream that enters the review area from the northwest and exits to the east. The tributary has a defined bed, bank, an ordinary high water mark, and contained flowing water as shown in the Wetland Delineation Report. Relatively permanent flow was observed during the USACE field visit. Review of USGS topographic maps show Stream E (labeled as Barlow Branch) as a blue line stream. Additionally, historic aerial imagery shows Stream E containing standing or flowing water. Per the agencies' interpretation of relatively permanent tributaries, this tributary meets the relatively permanent standard due to having flowing or standing water year-round or continuously during certain times of the year.

b. Stream E Braid is a 38 linear foot perennial stream that is entirely within the review area. Stream E Braid originates from Stream E and terminates back into Stream E. The tributary has a defined bed, bank, an ordinary high water mark, and contained flowing water as shown in the Wetland Delineation Report. Relatively permanent flow was observed during the USACE field visit. Per the agencies' interpretation of relatively permanent tributaries, this tributary meets the relatively permanent standard due to

OPR

SUBJECT: 2023 Rule, as amended, Approved Jurisdictional Determination in Light of *Sackett v. EPA*, 143 S. Ct. 1322 (2023), NAP-2024-00463-103

having flowing or standing water year-round or continuously during certain times of the year.

- c. Stream F is an 80 linear foot intermittent stream that is entirely within the review area. It originates within the review area and terminates into Stream E. Stream F primarily carries flow from the adjacent agricultural field in addition to groundwater. Stream F contained relatively permanent flow as shown in the Wetland Delineation Report. Per the agencies' interpretation of relatively permanent tributaries, this tributary meets the relatively permanent standard due to having flowing or standing water year-round or continuously during certain times of the year.
- f. Adjacent Wetlands (a)(4):
  - a. Wetland G is a 0.06 acre emergent non-tidal wetland that is entirely within the review area. Wetland G directly abuts Stream E, an (a)(3) tributary, establishing a continuous surface connection. Wetland G has a continuous surface connection to an (a)(3) tributary, thereby meeting the definition of an (a)(4) adjacent wetland.
  - b. Wetland I-1 is a 0.01 acre emergent non-tidal wetland that is entirely within the review area. Wetland I-1 directly abuts Stream E, an (a)(3) tributary, establishing a continuous surface connection. Wetland I-1 has a continuous surface connection to an (a)(3) tributary, thereby meeting the definition of an (a)(4) adjacent wetland.
  - c. Wetland I-2 is a 0.53 acre emergent non-tidal wetland that is entirely within the review area. Wetland I-2 directly abuts Stream E, an (a)(3) tributary, establishing a continuous surface connection. Wetland I-2 has a continuous surface connection to an (a)(3) tributary, thereby meeting the definition of an (a)(4) adjacent wetland.
  - d. Wetland K is a 0.06 acre emergent non-tidal wetland that is entirely within the review area. Wetland K directly abuts Stream E, an (a)(3) tributary, establishing a continuous surface connection. Wetland K has a continuous surface connection to an (a)(3) tributary, thereby meeting the definition of an (a)(4) adjacent wetland.
  - e. Wetland J is a 0.08 acre emergent non-tidal wetland that is entirely within the review area. Wetland J directly abuts Stream E, an (a)(3) tributary, establishing a continuous surface connection. Wetland J has a

OPR

SUBJECT: 2023 Rule, as amended, Approved Jurisdictional Determination in Light of *Sackett v. EPA*, 143 S. Ct. 1322 (2023), NAP-2024-00463-103

continuous surface connection to an (a)(3) tributary, thereby meeting the definition of an (a)(4) adjacent wetland.

- f. Wetland L is an emergent non-tidal wetland that is partially within the review area. It continues to the northwest outside the review area. The portion within the review area is 0.004 acre. Wetland L directly abuts Stream E, an (a)(3) tributary, establishing a continuous surface connection. Wetland L has a continuous surface connection to an (a)(3) tributary, thereby meeting the definition of an (a)(4) adjacent wetland.
  - g. Additional Waters (a)(5): N/A
8. NON-JURISDICTIONAL AQUATIC RESOURCES AND FEATURES
- a. Describe aquatic resources and other features within the review area identified in the 2023 Rule as amended as not “waters of the United States” even where they otherwise meet the terms of paragraphs (a)(2) through (5). Include the type of excluded aquatic resource or feature, the size of the aquatic resource or feature within the review area and describe how it was determined to meet one of the exclusions listed in 33 CFR 328.3(b).<sup>8</sup>
    - a. Swale is a 329 linear foot erosional feature entirely within the review area. It does not flow to an (a)(1-3) water or any other aquatic feature. It seems to have formed from runoff from the surrounding farm field. During the USACE site visit, this feature did not contain any flowing or standing water. It did not have an ordinary high-water mark, bed, or bank. Swale is an erosional feature characterized by low volume, infrequent, or short duration flow, thereby meeting the definition of a paragraph (b)(8) swale.
  - b. Describe aquatic resources and features within the review area that were determined to be non-jurisdictional because they do not meet one or more categories of waters of the United States under the 2023 Rule as amended (e.g., tributaries that are non-relatively permanent waters; non-tidal wetlands that do not have a continuous surface connection to a jurisdictional water).
    - a. Stream 2P is a 38 linear foot ephemeral stream that is partially within the review area. Stream 2P is a drainage feature of other off-site aquatic resources to the west of the review area. Stream 2P carries infrequent flow, only in response to rain events, to the east of the review area. During the USACE site visit there was no standing or flowing water observed

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<sup>8</sup> 88 FR 3004 (January 18, 2023)

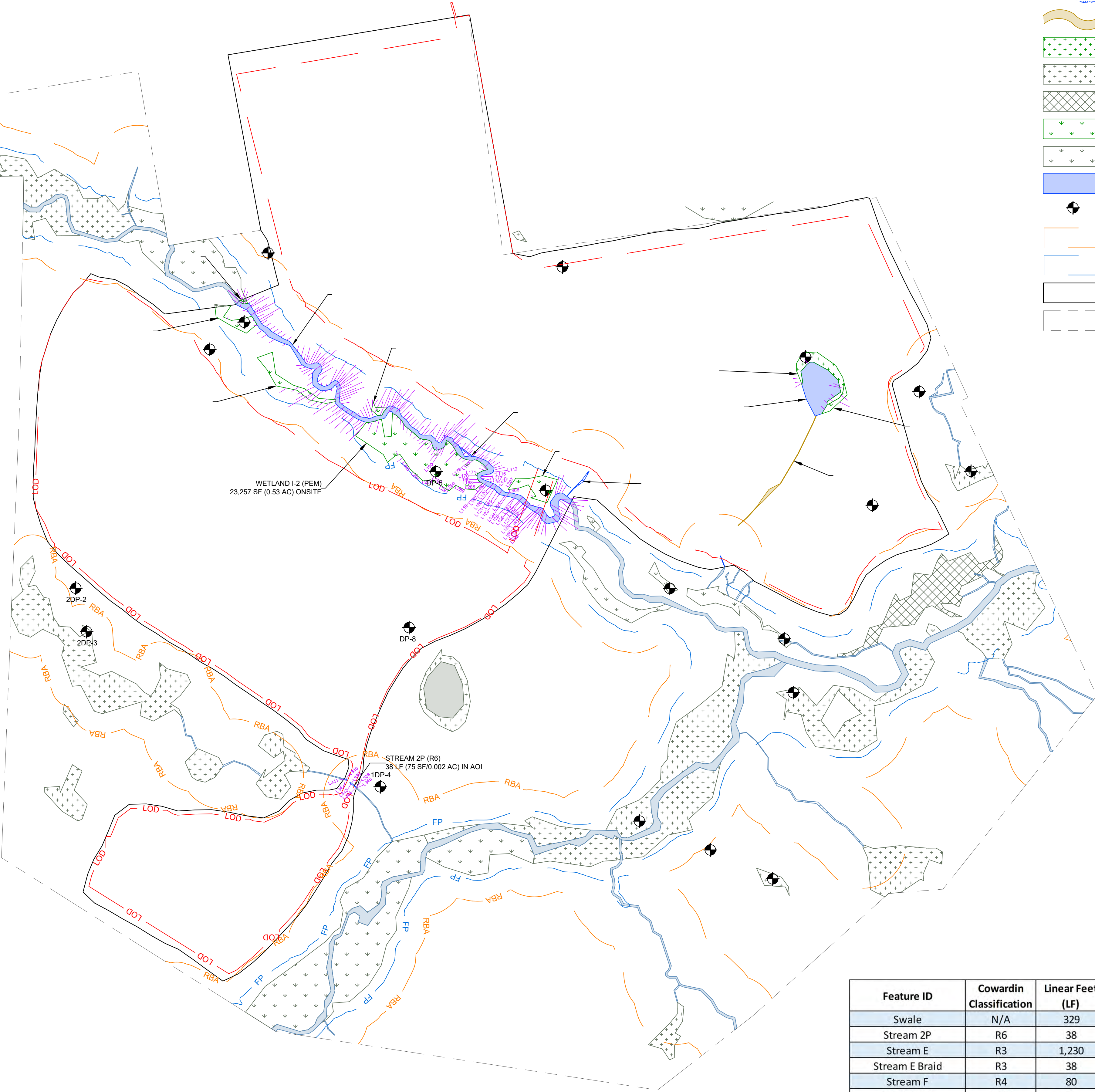
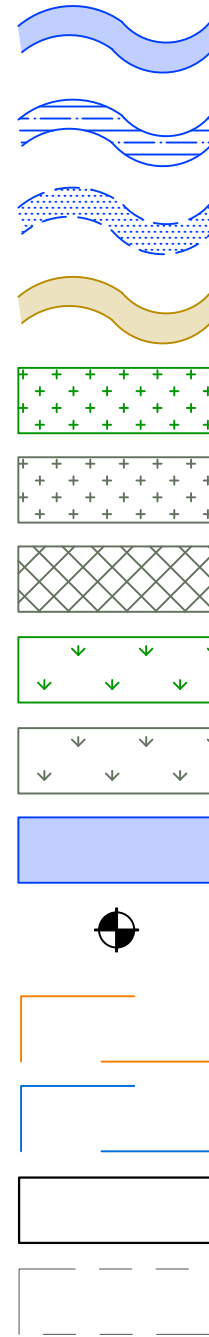
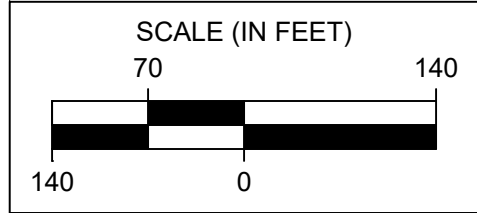
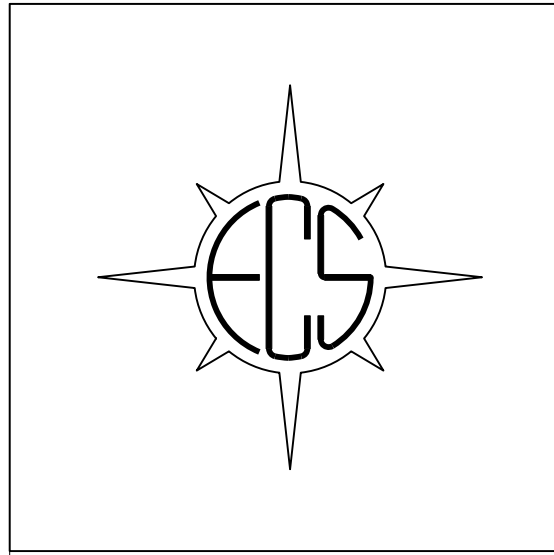
OPR

SUBJECT: 2023 Rule, as amended, Approved Jurisdictional Determination in Light of *Sackett v. EPA*, 143 S. Ct. 1322 (2023), NAP-2024-00463-103

within Stream 2P. Additionally, it did not have a defined bed and bank. Picture 15 within the Wetland Delineation Report is representative of Stream 2P. Stream 2P does not contain relatively permanent, standing or continuously flowing water, thereby meeting the definition of a non-relatively permanent ephemeral stream.

- b. Wetland C is comprised of POW, PEM, and PFO totaling 0.29 acre that is entirely within the review area and is surrounded by uplands. This wetland lacks a continuous surface connection to any other aquatic resources, leaving it geographically separated. Swale drains Wetland C during high water, but Swale does not flow to an (a)(1-3) water. Because Wetland C does not have a continuous surface connection to any (a)(1) through (a)(3) waters it does not meet the definition of an (a)(4) adjacent wetland. This wetland has formed within a depressional feature and is surrounded by uplands.
9. DATA SOURCES. List sources of data/information used in making determination. Include titles and dates of sources used and ensure that information referenced is available in the administrative record.
- a. USACE Site Visit on July 16, 2024.
  - b. Wetland Delineation Plans titled "Sawtooth Solar Ratledge Road New Castle County, Delaware"; prepared by ECS Mid-Atlantic, LLC; dated May 20, 2024; revised November 4, 2024 and January 13, 2025; 1 sheet.
  - c. Wetland Delineation Report titled "Sawtooth Solar WOUS Report"; prepared by ECS Mid-Atlantic, LLC; dated May 22, 2024.
  - d. Flow Path, titled "2024-00463\_FlowPath", prepared by USACE
10. OTHER SUPPORTING INFORMATION. N/A
11. NOTE: The structure and format of this MFR were developed in coordination with the EPA and Department of the Army. The MFR's structure and format may be subject to future modification or may be rescinded as needed to implement additional guidance from the agencies; however, the approved jurisdictional determination described herein is a final agency action.





Feature ID	Cowardin Classification	Linear Feet (LF)	Square Feet (SF)	Acres (AC)
Swale	N/A	329	699	0.02
Stream 2P	R6	38	75	0.002
Stream E	R3	1,230	13,836	0.32
Stream E Braid	R3	38	106	0.002
Stream F	R4	80	204	0.005
Wetland C	POW	-	7,673	0.18
Wetland C	PEM	-	862	0.02
Wetland C	PFO	-	3,803	0.09
Wetland G	PEM	-	2,810	0.06
Wetland I-1	PEM	-	523	0.01
Wetland I-2	PEM	-	23,257	0.53
Wetland J	PEM	-	3,468	0.08
Wetland K	PEM	-	2,506	0.06
Wetland L	PEM	-	156	0.004

Line	Distance	Bearing	Line	Distance	Bearing	Line	Distance	Bearing
L1	24.82	N40° 49' 54.97"E	L125	19.82	S74° 17' 44.87"E	L249	24.05	N32° 32' 29.30"W
L2	28.57	N45° 52' 05.62"E	L126	12.62	S50° 26' 28.32"E	L250	23.40	N70° 15' 05.88"W
L3	26.56	N35° 51' 21.45"E	L127	11.02	S40° 57' 20.87"E	L251	33.42	N65° 49' 17.51"W
L4	2.00	S57° 19' 15.48"E	L128	4.08	S57° 28' 52.70"E	L252	12.02	N36° 16' 35.98"W
L5	27.31	S29° 35' 19.61"W	L129	5.44	S30° 36' 19.07"E	L253	17.15	N53° 28' 05.17"W
L6	29.24	S53° 41' 35.69"W	L130	4.62	S80° 10' 52.13"E	L254	13.86	N33° 27' 17.97"W
L7	24.66	S40° 49' 54.97"W	L131	6.09	S68° 34' 46.93"E	L255	17.97	N30° 59' 32.68"W
L8	28.42	N21° 19' 53.68"W	L132	9.61	S75° 59' 58.57"E	L256	12.33	N39° 09' 33.19"W
L9	1.00	N68° 40' 06.32"E	L133	4.86	N89° 31' 41.09"E	L257	7.91	N28° 57' 16.49"W
L10	28.61	S21° 19' 53.68"E	L134	5.93	S60° 17' 47.35"E	L258	8.10	N66° 25' 33.14"W
L11	1.02	S79° 08' 18.61"W	L135	3.62	S54° 30' 56.57"E	L259	22.49	N62° 35' 03.12"W
L12	8.65	S51° 59' 55.81"E	L136	5.37	S14° 55' 20.92"E	L260	11.13	N38° 22' 44.76"E
L13	6.07	S70° 33' 47.57"E	L137	18.48	S37° 44' 42.66"E	L261	33.05	S50° 23' 24.28"W
L14	5.64	N76° 23' 13.33"E	L138	12.78	N72° 37' 39.17"E	L262	39.40	N63° 42' 59.52"W
L15	6.55	S87° 29' 05.09"E	L139	11.99	N07° 17' 20.05"W	L263	43.03	N59° 40' 49.63"W
L16	18.14	S31° 23' 26.54"E	L140	12.60	N33° 46' 02.53"W	L264	23.03	N06° 12' 53.71"W
L17	4.38	S44° 23' 13.72"E	L141	11.28	N05° 24' 26.46"W	L265	28.81	N82° 27' 03.19"E
L18	5.12	S14° 39' 23.28"E	L142	16.86	N35° 05' 07.96"E	L266	9.30	S85° 55' 51.04"E
L19	6.00	S33° 50' 40.20"E	L143	4.29	N29° 33' 46.01"E	L267	31.77	S33° 50' 41.91"W
L20	9.60	S34° 07' 03.07"E	L144	7.07	N64° 02' 30.16"E	L268	20.81	S67° 05' 13.27"E
L21	6.26	S32° 50' 06.86"E	L145	7.07	N78° 05' 56.48"E	L269	28.49	N82° 16' 55.15"E
L22	5.66	S28° 35' 31.06"E	L146	4.78	S78° 52' 28.19"E	L270	21.38	N72° 51' 40.65"E
L23	4.70	S32° 58' 31.15"E	L147	27.83	S53° 41' 12.24"E	L271	23.30	S79° 26' 07.23"W
L24	18.25	S60° 32' 32.76"E	L148	10.68	S26° 50' 54.42"W	L272	40.11	N78° 04' 19.04"W
L25	7.87	S37° 44' 55.18"E	L149	12.95	N61° 44' 34.00"W	L273	38.01	N52° 05' 29.02"W
L26	12.84	S58° 22' 08.25"E	L150	9.08	N63° 14' 01.69"W	L274	50.96	N78° 20' 16.35"W
L27	7.60	S60° 07' 16.96"E	L151	4.37	N76° 37' 46.78"W	L275	45.21	N29° 47' 18.61"W
L28	15.50	S57° 41' 05.81"E	L152	4.90	S43° 51' 49.51"W	L276	37.05	N39° 12' 58.24"W
L29	16.30	S66° 22' 42.29"E	L153	25.66	S00° 52' 37.22"E	L277	38.78	N70° 04' 50.68"E
L30	37.58	S38° 21' 17.42"E	L154	12.41	S15° 25' 55.20"E	L278	52.86	S08° 40' 18.18"E
L31	14.97	S34° 34' 46.40"E	L155	11.43	S20° 24' 58.67"W	L279	49.66	S57° 10' 38.27"E
L32	9.52	S35° 38' 04.90"E	L156	28.01	S75° 23' 24.64"W	L280	28.68	S72° 36' 30.26"E
L33	3.37	S28° 32' 07.06"E	L157	13.12	N53° 50' 46.30"W	L281	41.48	S55° 41' 47.48"E
L34	3.79	S68° 05' 19.07"E	L158	18.15	N34° 18' 18.91"W	L282	41.48	S85° 44' 18.32"E
L35	5.47	S84° 12' 38.76"E	L159	11.26	N55° 00' 36.68"W	L283	19.71	N49° 43' 12.62"W
L36	7.00	N85° 36' 34.71"E	L160	7.63	N62° 03' 32.57"W	L284	19.69	N12° 44' 43.67"E
L37	4.89	N64° 00' 23.20"E	L161	28.35	N54° 47' 51.06"W	L285	13.36	S22° 04' 28.91"E
L38	6.39	N83° 38' 49.71"E	L162	14.95	N48° 14' 29.39"W	L286	28.26	S86° 56' 33.04"E
L39	4.55	S65° 08' 58.23"E	L163	17.54	N71° 31' 40.70"W	L287	22.39	S51° 24' 36.59"W
L40	6.47	S52° 15' 02.06"E	L164	28.49	N77° 40' 27.01"W	L288	25.18	S85° 47' 10.69"W
L41	7.79	S21° 27' 43.15"E	L165	16.64	N42° 18' 00.50"W	L289	24.59	N62° 18' 36.39"W
L42	8.99	S15° 27' 35.16"W	L166	14.66	N67° 27' 32.26"W	L290	21.68	S52° 01' 02.47"W
L43	6.61	S45° 23' 08.28"W	L167	15.62	N59° 58' 05.85"W	L291	23.07	N56° 16' 08.93"W
L44	9.68	S18° 53' 59.41"W	L168	12.03	N59° 37' 42.38"W	L292	28.08	N60° 25' 27.65"W
L45	6.11	S16° 47' 34.58"W	L169	9.75	N29° 20' 54.25"W	L293	18.86	S81° 26' 45.49"W
L46	9.67	S17° 53' 28.44"E	L170	9.35	N02° 05' 42.21"E	L294	42.61	N47° 01' 19.82"W
L47	15.23	S65° 30' 19.84"E	L171	17.61	N61° 30' 56.14"E	L295	21.20	N33° 27' 28.77"W
L48	10.83	N72° 20' 15.34"E	L172	5.54	N83° 26' 45.78"E	L296	20.60	N35° 23' 50.29"W
L49	10.80	N51° 14' 08.24"E	L173	5.05	N74° 17' 52.72"E	L297	12.27	S75° 00' 32.03"W
L50	9.28	N58° 48' 56.69"E	L174	18.09	N43° 06' 26.85"W	L298	24.27	S49° 03' 23.80"W
L51	8.50	S62° 31' 15.42"E	L175	15.34	N56° 03' 12.60"W	L299	21.69	N28° 09' 39.28"W
L52	7.21	S22° 28' 49.43"E	L176	6.92	N75° 58' 54.58"W	L300	55.52	N55° 50' 48.27"W
L53	5.79	S16° 53' 31.42"E	L177	5.45	S79° 52' 10.28"W	L301	24.72	N57° 04' 52.18"W
L54	10.04	S02° 31' 03.89"W	L178	12.06	N86° 13' 34.41"W	L302	41.92	N38° 56' 37.94"E
L55	15.99	S04° 02' 08.37"W	L179	10.05	N72° 48' 48.34"W	L303	13.25	N74° 15' 15.29"E
L56	7.19	S05° 59' 32.04"W	L180	10.86	N55° 50' 30.88"W	L304	33.21	N34° 04' 22.47"W
L57	3.14	S10° 56' 36.09"E	L181	10.64	N43° 45' 44.63"W	L305	22.11	S70° 24' 57.77"W
L58	3.80	S49° 37' 57.75"E	L182	6.48	N24° 06' 41.48"W	L306	28.00	S81° 30' 11.90"W
L59	3.45	S40° 00' 52.98"E	L183	5.82	N33° 36' 27.52"W	L307	33.13	N34° 00' 24.34"E
L60	4.70	S56° 39' 22.08"E	L184	4.68	N31° 02' 54.61"W	L308	32.30	S88° 59' 10.99"E
L61	11.15	S54° 38' 48.95"E	L185	5.66	N32° 04' 08.03"W	L309	32.64	N78° 21' 33.90"E
L62	12.87	S56° 54' 07.91"E	L186	11.11	N48° 49' 48.29"W	L310	36.88	S75° 13' 30.97"E
L63	9.21	S63° 49' 56.61"E	L187	6.00	N60° 22' 21.90"W	L311	60.89	S24° 07' 34.06"W
L64	12.56	S47° 29' 32.28"E	L188	11.36	S11° 30' 43.70"W	L312	40.96	N73° 02' 23.26"W
L65	8.48	S72° 30' 51.25"E	L189	7.13	S35° 18' 14.00"W	L313	26.84	S14° 12' 00.35"E
L66	11.28	S84° 39' 40.93"E	L190	6.97	S63° 41' 19.04"W	L314	56.63	S46° 38' 46.57"W
L67	5.99	S60° 35' 11.41"E	L191	6.84	S69° 39' 11.00"W	L315	20.97	S71° 28' 06.78"W
L68	6.50	N70° 16' 16.31"E	L192	5.20	S79° 55' 23.72"W	L316	24.81	N31° 18' 58.15"E
L69	9.28	N66° 45' 59.05"E	L193	6.09	N66° 07' 53.98"W	L317	34.16	N60° 05' 41.02"E
L70	8.05	N71° 46' 51.90"E	L194	11.24	N21° 49' 14.24"W	L318	15.16	N31° 50' 45.75"E
L71	8.74	N88° 00' 37.92"E	L195	7.86	N17° 27' 28.85"W	L319	20.84	N10° 58' 18.84"E
L72	9.30	N26° 22' 08.00"E	L196	4.06	N54° 30' 28.15"W	L320	8.05	N01° 11' 46.26"E
L73	16.17	N42° 44' 56.57"E	L197	7.54	N71° 25' 37.08"W	L321	39.81	N54° 51' 54.53"E
L74	5.92	N66° 20' 09.25"E	L198	8.43	N87° 05' 32.08"W	L322	29.94	N12° 08' 17.39"W
L75	10.97	S70° 23' 51.54"E	L199	10.01	N71° 30' 21.05"W	L323	34.26	N45° 58' 46.71"W
L76	9.63	S65° 27' 46.34"E	L200	17.18	N47° 18' 30.87"W	L324	39.93	N61° 29' 57.45"W
L77	4.60	S39° 07' 32.39"E	L201	13.58	N51° 55' 17.66"W	L325	7.91	S88° 37' 00.28"W
L78	5.61	S06° 20' 42.14"E	L202	15.51	N49° 14' 47.06"W	L326	9.56	S52° 29' 20.47"W
L79	9.36	S27° 05' 39.47"E	L203	13.67	N32° 14' 15.70"W	L327	21.87	S40° 35' 44.96"W
L80	10.47	S54° 22' 39.57"E	L204	8.30	N40° 43' 36.08"W	L328	23.84	S10° 07' 07.35"E
L81	6.77	S43° 41' 31.32"E	L205	10.79	N48° 23' 13.56"W	L329	8.83	S11° 49' 01.42"E
L82	9.29	S34° 00' 31.19"E	L206	9.88	N64° 26' 06.28"W	L330	9.19	N17° 13' 17.79"W
L83	8.23	S37° 30' 03.26"E	L207	4.49	N11° 28' 50.73"W	L331	26.65	N22° 10' 47.96"W
L84	8.61	S60° 18' 27.50"E	L208	3.09	N80° 42' 32.94"W	L332	17.90	N00° 43' 41.95"W
L85	8.80	S56° 30' 13.34"E	L209	4.40	S75° 04' 30.46"W	L333	29.94	N30° 36' 47.82"E
L86	9.24	S31° 59' 42.95"E	L210	7.59	S38° 26' 38.92"W	L334	33.48	N86° 53' 45.66"E
L87	3.09	S68° 50' 38.92"E	L211	6.43	S28° 48' 35.77"W	L335	55.88	S54° 57' 29.85"E
L88	4.72	S67° 05' 36.96"E	L212	6.00	S44° 06' 27.90"W	L336	33.47	S30° 05' 40.66"E
L89	8.38	S88° 07' 12.26"E	L213	8.57	S76° 12' 00.79"W	L337	16.38	S14° 12' 00.35"E
L90	11.78	N87° 58' 08.14"E	L214	6.87	S74° 59' 13.48"W	L338	3.12	N48° 01' 55.68"W
L91	12.03	S49° 13' 40.07"E	L215	9.91	S71° 22' 24.60"W	L339	26.31	N49° 55' 25.29"W
L92	4.69	S17° 43' 19.38"E	L216	7.92	S78° 22' 55.89"W	L340	7.97	N75° 02' 10.82"W
L93	9.79	S51° 55' 35.52"E	L217	7.63	S80° 42' 56.80"W	L341	2.15	S36° 38' 58.88"W
L94	5.71	S79° 46' 07.65"E	L218	10.22	N75° 14' 51.32"W	L342	8.32	S75° 02' 10.82"E
L95	14.04	N33° 39' 49.74"E	L219	5.03	N64° 24' 33.59"W	L343	25.83	S49° 55' 25.29"E
L96	6.19	N03° 12' 12.18"E	L220	11.25	N68° 56' 20.19"W	L344	3.91	S48° 02' 55.21"E
L97	20.77	S72° 48' 30.76"E	L221	20.39	N59° 09' 09.02"W	L345	2.16	N19° 34' 54.44"E
L98	8.10	S16° 57' 46.12"E	L222	13.08	N56° 43' 46.52"W	L346	35.83	S17° 13' 17.79"E
L99	16.48	S49° 44' 37.37"E	L223	18.25	N54° 39' 48.71"W	L347	45.85	S27° 26' 23.37"E
L100	19.52	S29° 48' 16.47"E	L224	4.00	N53° 09' 53.31"W	L348	16.88	N71° 28' 06.78"E
L101	8.73	S23° 42' 56.08"E	L225	10.95	N37° 42' 14.64"W	L349	16.59	N68° 00' 05.97"E
L102	13.72	S82° 46' 38.70"E	L226	6.39	N19° 43' 21.86"E	L350	13.47	S23° 29' 19.09"E
L103	10.18	N81° 29'						