STATE OF NEW YORK
SUPREME COURT : COUNTY OF TOMPKINS

In the Matter of the Application, CAYUGA LAKE ENVIRONMENTAL ACTION NOW (CLEAN), an Unincorporated Association by President JOHN V. DENNIS, and LOUISE BUCK, BURKE CARSON, JOHN V. DENNIS, WILLIAM HECHT, HILARY LAMBERT, ELIZABETH and ROBERT THOMAS, and KEN ZESERSON

Petitioners,

For a Judgment Pursuant to Article 78 of the New York Civil Practice Laws and Rules

vs.

THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, and CARGILL INCORPORATED

Respondents.

AFFIDAVIT OF KAREN L. EDELSTEIN IN SUPPORT OF PETITION

Index No.

State of New York,
County of Tompkins, ss.:

KAREN L. EDELSTEIN, being duly sworn, deposes and says:

1. I am a resident of Lansing, NY and am an environmental cartographer. I have a master's degree in environmental management from Cornell University, and have been using GIS for environmental analysis since 1999. Primarily, I use ESRI geographic information systems software, but also make use of Google Earth and QGIS. In addition to doing mapping for CLEAN, I have worked as a GIS specialist in academia (Cornell University, Hobart and William Smith Colleges, Ithaca Public Education Initiative), in

local government (Seneca County Real Property Services, Tompkins County Environmental Management Council, Town of Danby, Town of Caroline, Town of Lansing), and elsewhere in the nonprofit sphere (FracTracker Alliance, Finger Lakes Land Trust, The Wetland Trust, Towerkill.com, Cayuga Lake Watershed Network, Otsego Land Trust, Cayuga Bird Club, Citizens' Campaign for the Environment).

2. I have prepared the maps attached as Exhibits A, B, C, & D. To create these maps, I have prepared and superimposed several different map data layers that show relevant features such as the Frontenac Point Anomaly [according to each of two different definitions, linear and oval] and existing and planned mine panels relative to the shoreline of the southern third of Cayuga Lake.

3. To prepare my map layers showing each of the two different versions of the FPA, using ArcGIS software, I georeferenced a digital file of the location of the FPA linear feature from RESPEC Figure 1-1: Mine Map of the Cayuga Mine Northern Reserves (date unknown) and the oval feature from Cargill's "Scour and Frontenac Point Anomalies Cayuga Mine, Cargill Deicing Technology, Inc. Seneca and Tompkins Counties, New York" (2018) in a manner that maintains the same position/orientation of the FPA relative to the lake shoreline as shown in the source.

Assuming the FPA is accurately shown in the source, the error in my transfer of the FPA from source to my map layer(s) [due to the quality of the original graphic, the thickness of the lines in the source and/or any minor mismatch of shoreline between the source map and the known shoreline due to lake level changes] is no more than about 150 feet in a

north-south direction and no more than about 150 feet in an east-west direction. The georeferencing process establishes the location of the feature in coordinate space. ArcGIS "projects on the fly", which also means that once a coordinate space is established for each layer, all data layers will accurately lay on top of one another when a complex map is created.

4. To prepare my map layer showing existing and planned mine panels, I traced the shapes of these panels from Cargill's various multi-year mine plans ("Cargill Mine, 3-Yr Mine Plan For Mining Under C Anomaly 2017/2018 Fiscal Year", "Cargill Mine, 3-Yr Plan, 2018-21", "Cargill Mine, 3-Yr Plan, 2021-23", and others.

Georeferencing techniques were the same as described in item #3 above. Assuming the mine panels are accurately shown in the source, the error in my transfer of the panels from source to my map layer [due to thickness of the lines in the source and/or minor mismatch of shoreline between the source map and the known shoreline] is no more than 50-100 feet in a north-south direction and no more than 50-100 feet in an east-west direction. In general, the resolution of the mine plan maps is quite high, allowing for more accurate georeferencing and digitization.

5. My maps in Exhibits A, B, C, & D are created by overlaying the data layers described above, with an error that would only reflect the discrepancies in the original layers. No error is generated in the process of overlaying data layers themselves in the creation of the outputted map.

This affidavit is based on information available to me at this time, including sources cited in the appended exhibits. Should additional information become available, I reserve the right to determine the impact, if any, of the new information on my opinions and conclusions and to modify or supplement this affidavit if necessary.

Sworn to before me this 8th day of June 2021.

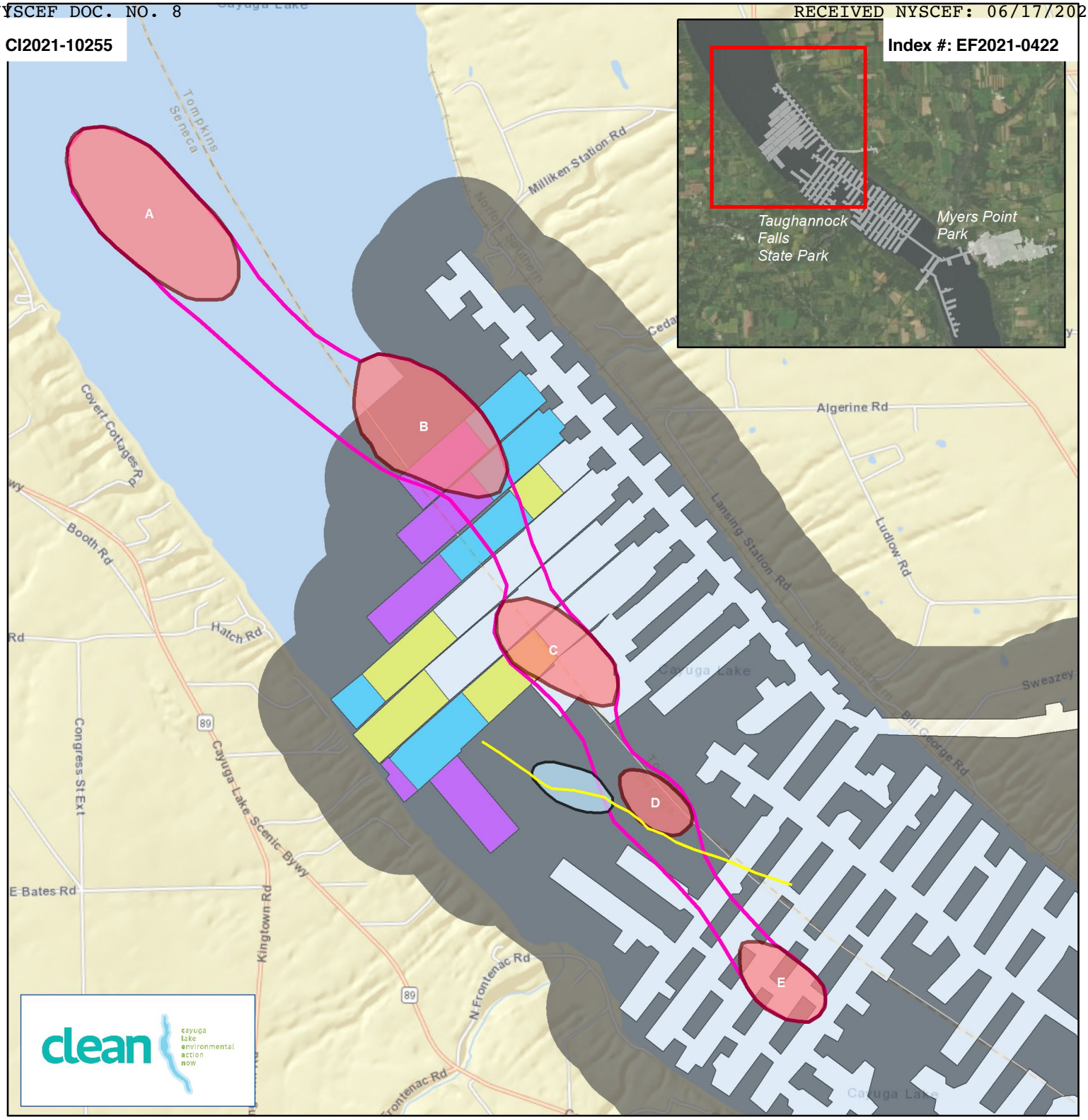
Notary Public, State of New York

SERENNA L. MCCLOUD, ESQ.
Notary Public, State of New York
Registration No. 02MC6403734
Qualified in Tompkins County
Commission Expires February 3, 2024

Exhibit A

CI2021-10255

Index #: EF2021-0422



0 0.25 0.5 1 Miles

Exhibit A. 2020-23 Mining plan plus Anomalies A-E and linear FPA & oval FPA

Scour Anomalies A through E as Identified by Willott (in Willott, Richard, 2010, Geophysical Progress Report, Analysis of the Frontenac Point Anomoly, Cayuga Mine, for Cargill Salt Division, Boyd / PetroSearch Project #20101017, August 3, 2010), included in memo "Scour and Frontenac Point Anomalies Cayuga Mine, Cargill Deicing Technology, Inc. Seneca and Tompkins Counties, New York" dated February 22, 2018 from John T. Boyd Company, Mining and Geological Consultants, to NYS DEC, Division of Mineral Resources. Figure on p. 4. FOIL release from DEC Syracuse.

** FOIL release from DEC Syracuse.

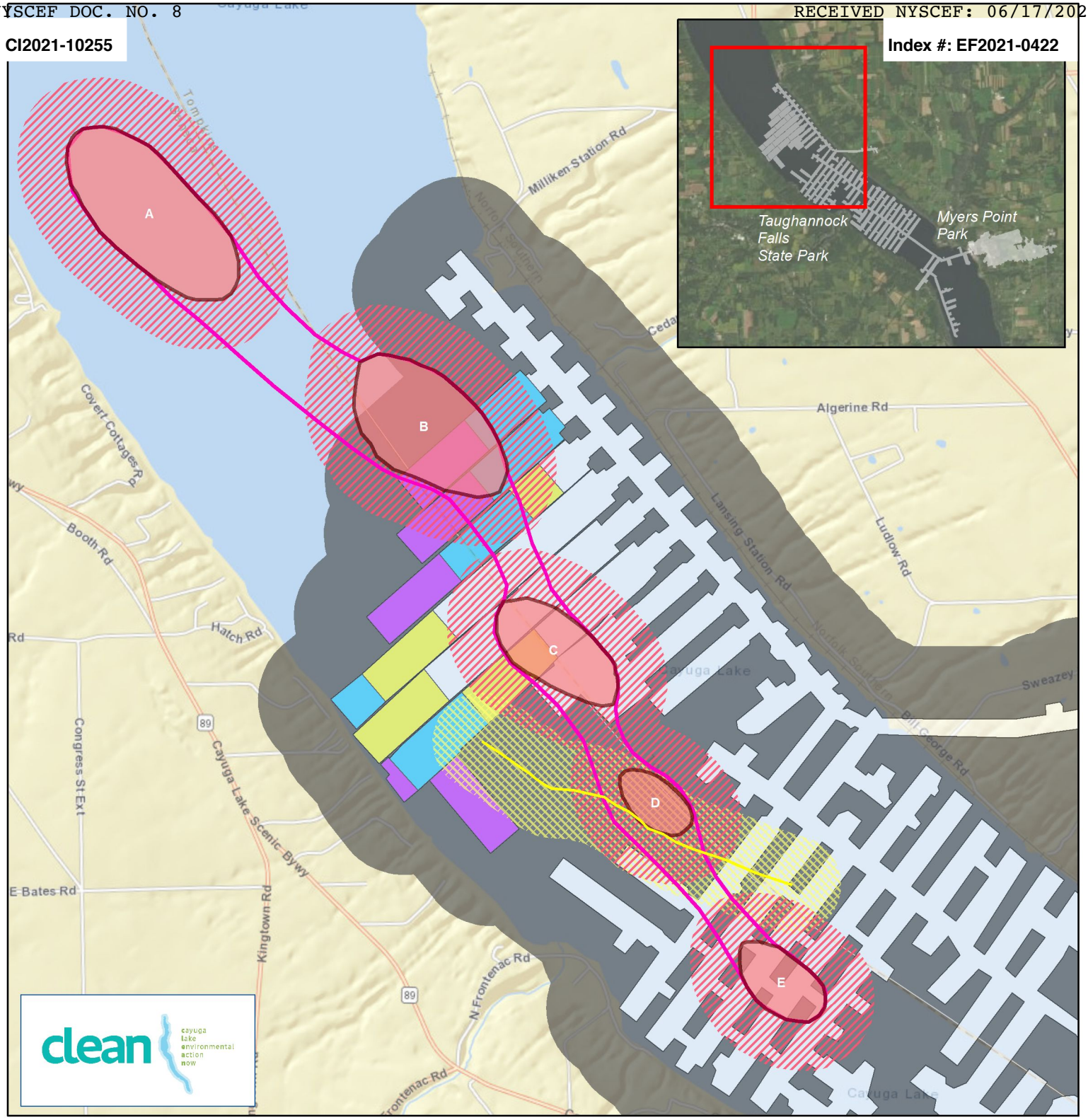
Cargill Salt Mine

- Already mined
- Mining plan 2020-21
- Mining plan 2021-22
- Mining plan 2022-23
- Thinner limestone (Willott, 2010)
- Potential subsidence zone, ~35 deg. at base
- Frontenac Point Anomaly (yellow line)**
- Anomalies A-E (Willott,
- Frontenac Point Anomaly (Cargill 2017 Annual Report to DEC)

Exhibit B

CI2021-10255

Index #: EF2021-0422



0 0.25 0.5 1 Miles

Exhibit B. 2020-23 Mining plan plus Anomalies A-E and linear FPA with 1000' setback

Scour Anomalies A through E as Identified by Willott (in Willott, Richard, 2010, Geophysical Progress Report, Analysis of the Frontenac Point Anomoly, Cayuga Mine, for Cargill Salt Division, Boyd / PetroSearch Project #20101017, August 3, 2010), included in memo "Scour and Frontenac Point Anomalies Cayuga Mine, Cargill Deicing Technology, Inc. Seneca and Tompkins Counties, New York" dated February 22, 2018 from John T. Boyd Company, Mining and Geological Consultants, to NYS DEC, Division of Mineral Resources. Figure on p. 4. FOIL release from DEC Syracuse.

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- Anomalies A-E (Willott,
- FPA (line)+1000'
- Willot anomalous zones+1000'

Exhibit C

CI2021-10255

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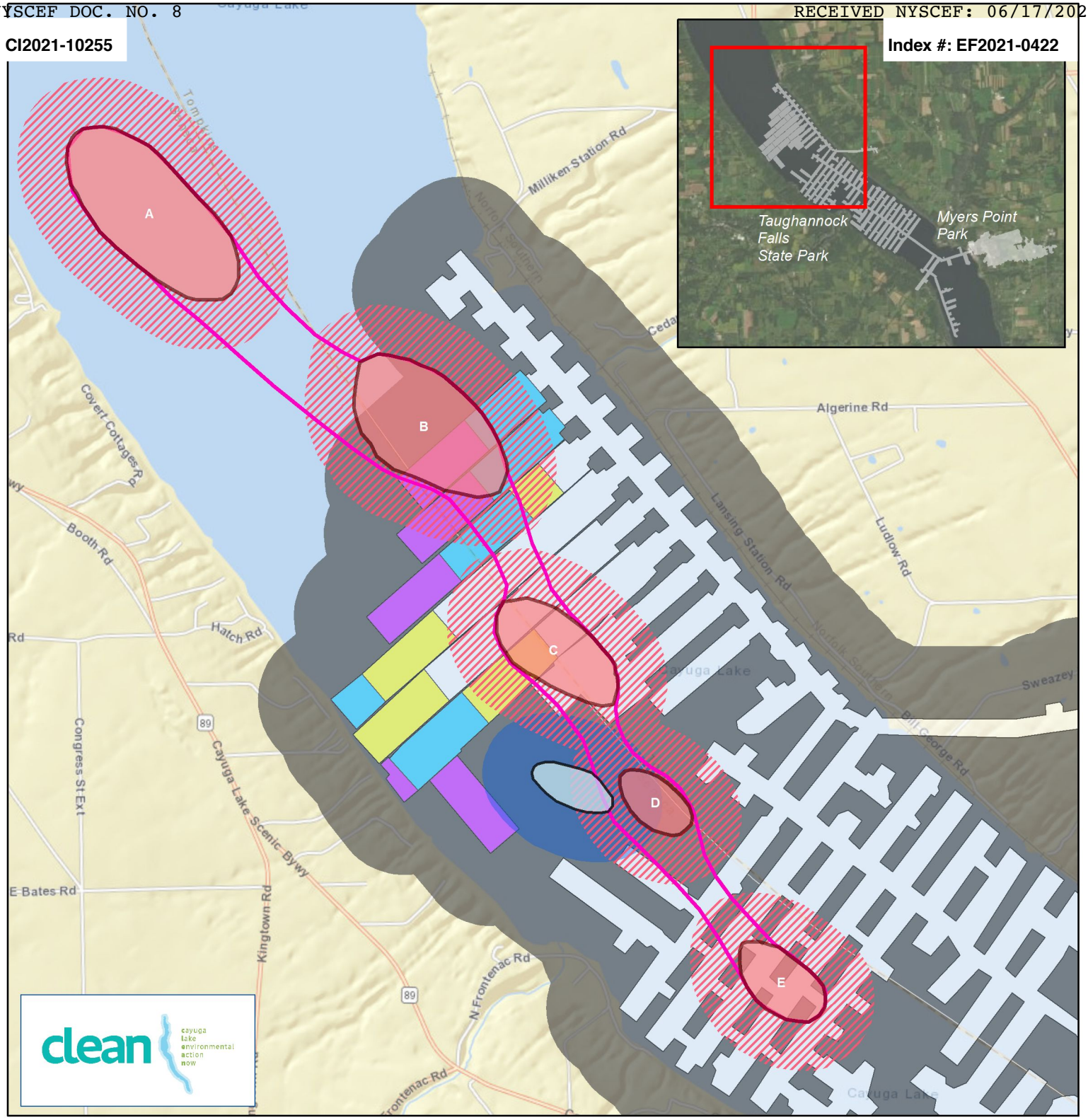

0 0.25 0.5 1 Miles

Exhibit C. 2020-23 Mining plan plus Anomalies A-E and Oval FPA with 1000'-setback

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- Already mined
- Mining plan 2020-21
- Mining plan 2021-22
- Mining plan 2022-23
- Thinner limestone (Willott, 2010)
- Potential subsidence zone, ~35 deg. at base
- Anomalies A-E (Willott,
- Frontenac Point Anomaly (Cargill 2017 Annual Report to DEC)
- Willot anomalous zones+1000'
- FPA (oval)+1000'

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Exhibit D

CI2021-10255

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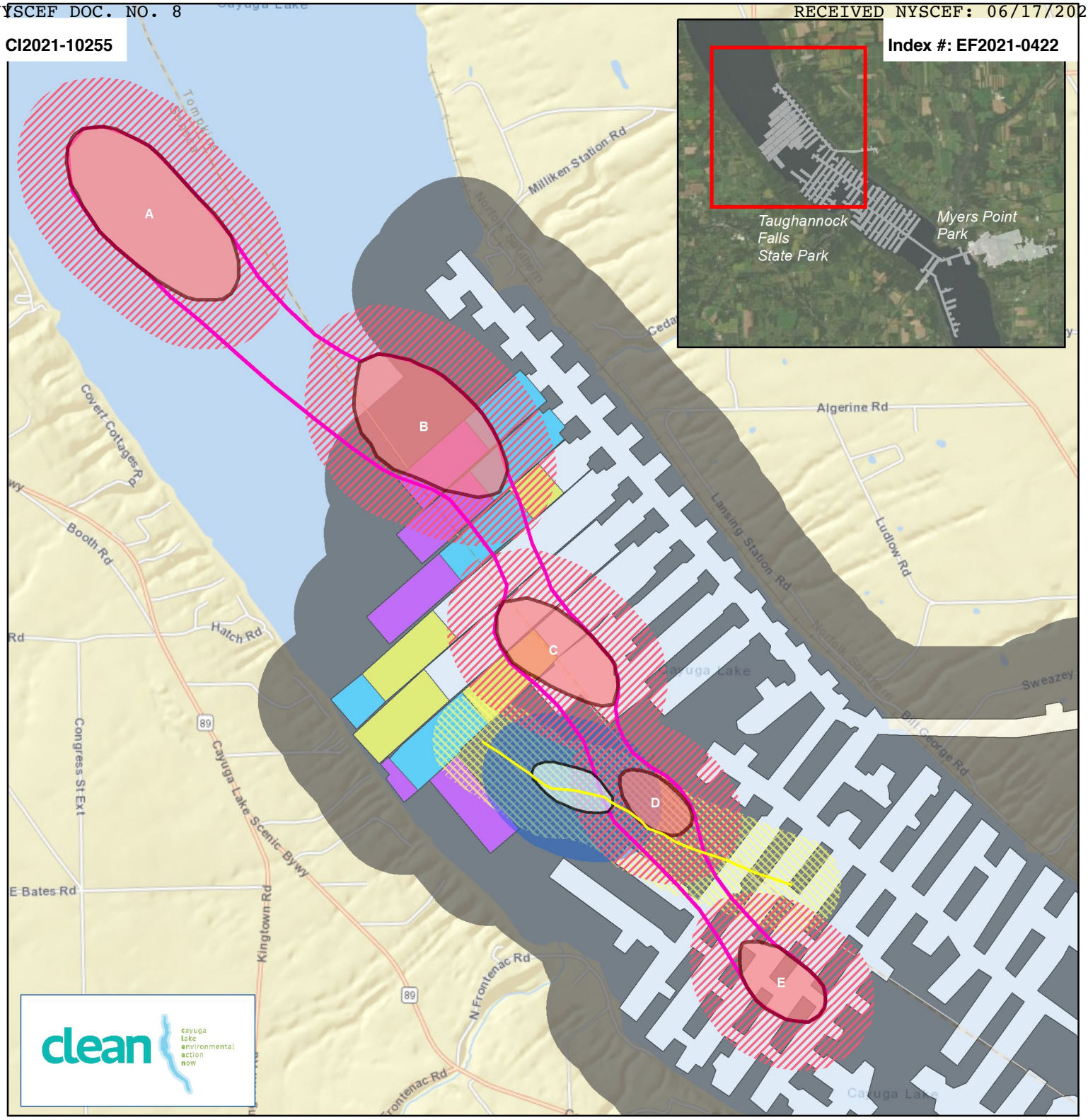

0 0.25 0.5 1 Miles

Exhibit D. 2020-23 Mining plan plus Anomalies A-E, linear FPA, and 1000'-setbacks for all six anomalies

Scour Anomalies A through E as Identified by Willott (in Willott, Richard, 2010, Geophysical Progress Report, Analysis of the Frontenac Point Anomoly, Cayuga Mine, for Cargill Salt Division, Boyd / PetroSearch Project #20101017, August 3, 2010), included in memo "Scour and Frontenac Point Anomalies Cayuga Mine, Cargill Deicing Technology, Inc. Seneca and Tompkins Counties, New York" dated February 22, 2018 from John T. Boyd Company, Mining and Geological Consultants, to NYS DEC, Division of Mineral Resources. Figure on p. 4. FOIL release from DEC Syracuse.

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