Alachua County
Environmental Protection Department

Chris Bird, *Director*

February 10, 2020

U.S. Army Corps of Engineers
Attn: District Engineer
Mining Team
10117 Princess Palm Avenue, Suite 120
Tampa, Florida 33610

RE: Summary Comments for Chemours - Trail Ridge South Mine
SAJ-2019-00480 (SP-JPF)

To Whom It May Concern,

Due to concerns associated with proposed and potential impacts to environmental resources within the Santa Fe River watershed, Alachua County has conducted an evaluation of information submitted for the proposed mine plan. The following summary comments are provided for consideration.

Proposed Wetland Impacts – The application information references a substantial quantity (740 acres) of direct wetland and surface water impacts due to mining operations. As referenced in the application, some degree of wetland impacts can be anticipated for mining activities within landscapes typical of this proposed site. However, there could be mine plan modifications that could result in major reductions in the quantity and associated quality of wetlands proposed for impact while still mining the desired quantities of heavy minerals. As an example, over 200 acres of the proposed wetland impacts are associated with pine plantations previously established within wetlands. As referenced in the application, the lower quality habitat conditions associated with wetland pine plantations does not compare to higher quality function and benefits of natural wetland habitat conditions. In contrast to the wetland pine plantations, there are 480 acres of proposed direct impacts to forested, shrub and marsh habitats. Limiting necessary encroachments and mine activities to only pine plantation wetlands reduces cumulative and secondary ecosystem impacts, increases the potential of achieving a post-mine landscape conducive for successful mitigation and reclamation habitats, while reducing the associated costs associated with reclamation and vegetative establishment and habitat management. As indicated on Post-Mining Land Use Map (attached Figure 13) within the western portion of the project site, there are 378-acres of upland pine plantations not proposed for mining activities. In addition, a high percentage of the 708-acres of proposed undisturbed wetlands adjacent to these uplands are also comprised of pine plantations. The combination of

these upland and wetland pine plantations result in larger contiguous areas, so extending the mining activities within the western areas of the project site could provide appropriate and viable alternatives compared to mining large areas of natural wetland habitats.

Secondary Wetland Impacts – As also indicated Figure 13, the mine plan designates preservation of approximately 100 acres associated with three narrow remnant corridors (avg. 300 ft. wide) located within the lower elevation cores of large, predominantly forested natural wetlands proposed for mining activities. Even with preserving these corridors from direct mining activities, the adjacent mining activities substantially affect the short and long-term biological, hydrological, water quality and wildlife habitat functions and benefits of what would otherwise be remnant wetland corridors. Thus by UMAM definition, these corridors should be quantified and qualified as receiving secondary impacts by the mining activities. However, if wetland encroachments were restricted to only mining within the wetland pine plantations, this would result in preserving the majority of the natural wetland habitats and substantially reduce the quantity of secondary impacts.

UMAM Assessment - As far as the UMAM assessment, the evaluation categories ("Location & Landscape Support, "Water Environment" and "Community Structure") reference the same "5-6" range of ratings for the proposed wetland impacts. All the created and enhanced wetlands proposed for mitigation credit have "7" ratings for the same three categories, as well as time lag ratings of 1.00 and risk factors of 1.50 for forested and 1.25 for marsh wetlands. These ratings could represent an underestimation of the value, function and benefits of some wetland systems and/or higher than reasonable expectations for every component of the proposed mitigation. This is particularly applicable for the over 600 acres of proposed forested wetland creation, which represents the majority of the proposed 847 acres of mitigation. Forested wetland creation is typically the reclamation & mitigation option with the highest risk of failure and requires the longest duration to achieve success criteria. These risk levels increase with more unpredictable post-reclamation surface and ground water hydrology and variations in proposed grade elevations. The proposed mitigation cross-sections depict locations where the outer slopes of proposed forested wetland creation will have gradients ranging up to several feet between the adjacent upland areas and lower elevation wetland zones. Even with the best available surface/ground water modeling options, attempting to restore or mimic natural seepage hydrology and associated vegetation across slope gradients is difficult to evaluate, achieve and maintain in a post-mining landscape. By minimizing encroachment within the native habitat wetlands and reducing the necessary wetland mining activities to just the higher elevation pine plantations, this reduces the necessity to create some forested wetlands that will rely on unpredictable post-mining seepage hydrology.

Perpetual Land Management – The application anticipates post-reclamation vegetative maintenance & monitoring activities conducted on an annual basis for five years or until such time success criteria has been met. Typically, mining companies own the associated property and conduct any perpetual management activities to rectify any issues and problems that may occur to maintain the agreed-upon success criteria. That option becomes much more problematic for this proposed mine project since perpetual ownership and land management

activities for the Bradford County portion of the subject site will be through the Suwanee River Water Management District (SRWMD) and the Camp Blanding Joint Training Center (The Armory Board of the State of Florida) for the Clay County portion. Even if Chemours provides some financial resources and contingency bonds in escrow for these agencies to assist with perpetually management of the property, it is unrealistic to expect resource agencies to perpetually retain mandated success criteria of reclamation/mitigation areas that would otherwise require additional effort, public taxes and commitment beyond the routine land management activities. For sites with similar conditions as this property, routine land management activities are predominantly associated with conducting prescribed fires within uplands designated for potential flatwood restoration and/or retaining silviculture operations. By reducing the quantity of natural wetland encroachment and associated wetland creation mitigation, management of the property will be primarily associated with the upland areas that will require substantially less effort and associated expenditures in the short-term for Chemours and perpetually for the SRWMD and Camp Blanding.

Storm & Surface Water Management – Review of the correspondence between FDEP and the applicant indicates unresolved issues related to providing appropriate and adequate storage of surface water runoff, particularly associated with storms exceeding the 25-year, 24-hour events. With a trend of more frequent and extensive rainfall events in the region combined with the large percentage of wetlands and high surface and ground water conditions at this project site, this issue presents a major concern that should be further evaluated with additional modeling analysis and addressed through potential design modifications and contingency options.

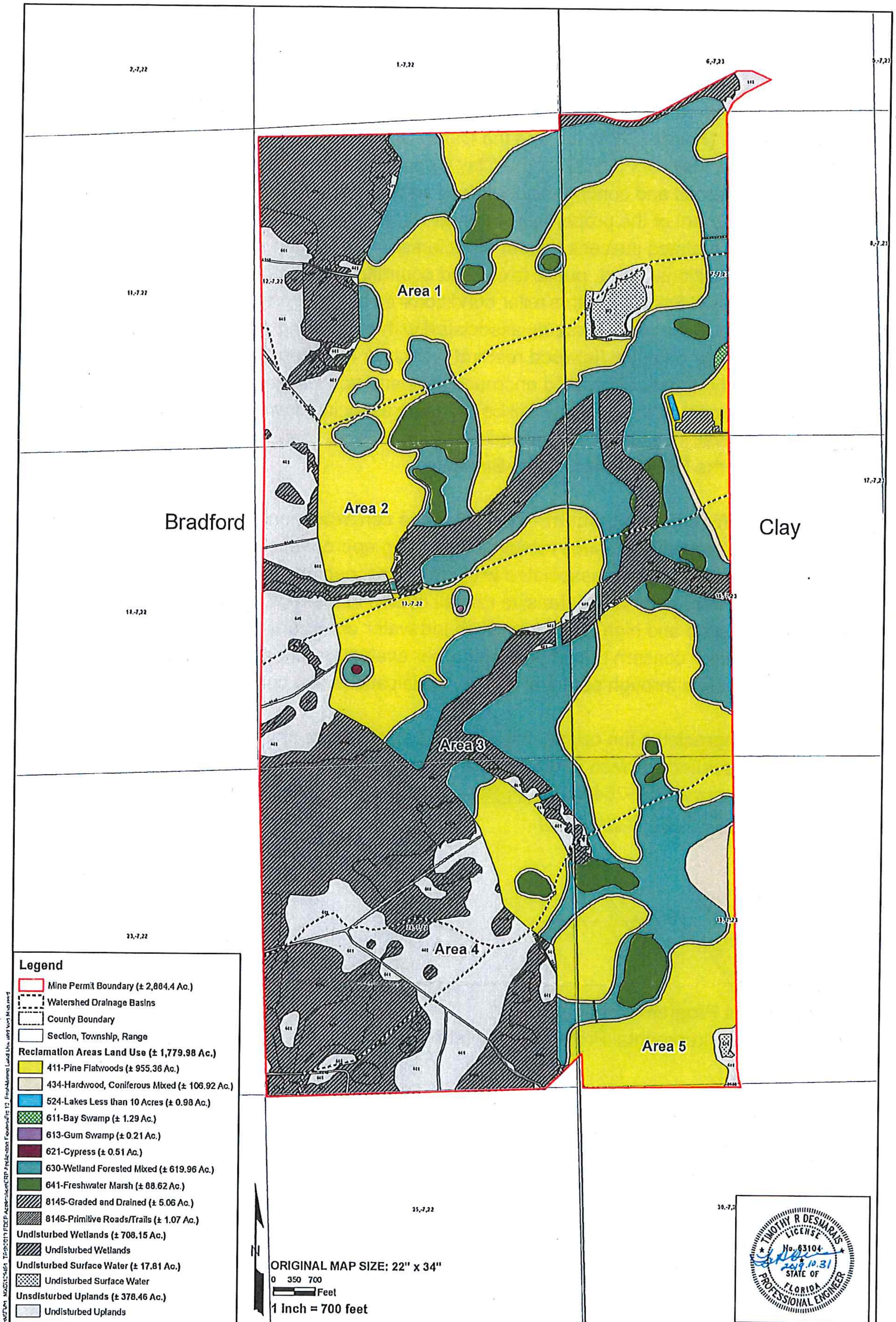
Alachua County appreciates the opportunity to provide comments on the proposed mine project. If staff have any questions or wish to discuss various aspects of the project, please do not hesitate to contact me at 352-264-6811(shofstetter@alachuacounty.us) or Mark Brown at 352-264-6815 (mbrown@alachuacounty.us).

Sincerely,

Stephen Hofstetter
Natural Resources Program Manager
Alachua County Environmental Protection Department

cc: FDEP – Mining & Mitigation Program
Orlando Rivera – Program Administrator
The Chemours Company FC, LLC
DEP File No.: MMR_137482-018

Alachua County Board of County Commissioners
Chris Bird, Alachua County – Environmental Protection Director
Sylvia Torres, Alachua County – County Attorney


Bradford
Clay
Area 1
Area 2
Area 3
Area 4
Area 5
Legend
Mine Permit Boundary (± 2,884.4 Ac.)
Watershed Drainage Basins
County Boundary
Section, Township, Range
Reclamation Areas Land Use (± 1,779.98 Ac.)
411-Pine Flatwoods (± 955.36 Ac.)
434-Hardwood, Coniferous Mixed (± 106.92 Ac.)
524-Lakes Less than 10 Acres (± 0.98 Ac.)
611-Bay Swamp (± 1.29 Ac.)
613-Gum Swamp (± 0.21 Ac.)
621-Cypress (± 0.51 Ac.)
630-Wetland Forested Mixed (± 619.96 Ac.)
641-Freshwater Marsh (± 88.62 Ac.)
8145-Graded and Drained (± 5.06 Ac.)
8146-Primitive Roads/Trails (± 1.07 Ac.)
Undisturbed Wetlands (± 708.15 Ac.)
Undisturbed Wetlands
Undisturbed Surface Water (± 17.81 Ac.)
Undisturbed Surface Water
Unsdisturbed Uplands (± 378.46 Ac.)
Undisturbed Uplands
N
ORIGINAL MAP SIZE: 22" x 34"
0 350 700
Feet
1 Inch = 700 feet
TIMOTHY R DESMARAIS
LICENSE
No. 63104
2019.10.31
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO	129491 003
DRAWN	10/23/2019
DRAWN BY.	LS
CHECKED BY.	NA
FILE NAME	See File Path

Post-Mining Land Use and Vegetation Map

Trail Ridge South
The Chemours Company FC, LLC
Bradford and Clay Counties, FL

Figure 13