

AIR COMPLIANCE ANALYSIS SUMMARY SHEET

COMPANY/FACILITY: New-Indy Catawba, LLC
LOCATION (COUNTY): Catawba (York) **DATE:** 9/26/22
PERMIT NUMBER: 2440-0005 **REVIEWED BY:** BPM/SWS

REQUEST:	<input type="checkbox"/> CONSTRUCTION PERMIT	<input type="checkbox"/> STATE PERMIT
	<input type="checkbox"/> OPERATING PERMIT - NEW	<input type="checkbox"/> CONDITIONAL MAJOR
	<input type="checkbox"/> OPERATING PERMIT - RENEWAL	<input type="checkbox"/> GENERAL CM
	<input type="checkbox"/> PERMIT - MODIFICATION	<input type="checkbox"/> TITLE V PERMIT
	<input checked="" type="checkbox"/> AIR COMPLIANCE DEMO	<input type="checkbox"/> PSD MAJOR
ANALYSIS:	<input checked="" type="checkbox"/> AMBIENT AIR QUALITY STANDARDS	<input type="checkbox"/> PSD INCREMENT
	<input checked="" type="checkbox"/> TOXIC AIR POLLUTANTS	<input type="checkbox"/> DE MINIMIS
	<input type="checkbox"/> EXEMPTION	<input type="checkbox"/> DEFERRAL
OTHER:	<input type="checkbox"/> EXPEDITED	<input checked="" type="checkbox"/> COLLOCATED (Y or N)

PROJECT DESCRIPTION: On May 7, 2021, SC DHEC issued an *Order to Correct Undesirable Level of Air Contaminants* (Order) to New-Indy Catawba, LLC (New-Indy). Paragraph 5 of the Order required New-Indy to conduct a facility-wide air dispersion modeling analysis for sulfur dioxide (SO₂), hydrogen sulfide (H₂S) and total reduced sulfur (TRS). New-Indy submitted an analysis for these pollutants in August 2021. In response to comments from SC DHEC and EPA, an updated analysis was submitted in October 2021. SC DHEC made a further request for the emissions for each TRS constituent for each emission point which had been modeled previously as part of the Order. This information was provided to SC DHEC on June 30, 2022. SC DHEC used this data to conduct a modeling analysis for methyl mercaptan (MM) to address community concerns. The modeling for H₂S and TRS was also updated by SC DHEC using this revised emissions data. This summary is based on information contained in the October 2021 and June 20, 2022 submissions.

SUMMARY OF ANALYSIS & RESULTS: All4, Inc. submitted the AERMOD air dispersion modeling analysis on behalf of New-Indy.

Standard 2: SO₂ 1-hr and 3-hr average concentrations were assessed. For the 1-hr standard, the maximum design value modeled concentration was added to the representative background concentration. For the 3-hr standard, the maximum 3-hr modeled concentration was added to the representative background concentration. Total results for both averaging periods were less than the respective ambient air quality standards. Some details about the SO₂ analysis include:

- Receptor Grid – The receptor grid for this modeling demonstration is the same receptor grid used in the SO₂ Data Requirements Rule modeling of 2016, which places receptors in all locations where there is public access out to a distance of approximately 21 km to about 25 km from the facility.
- Hourly Emissions – Hourly emission rates were used for the combination boilers (emission points FUTCB1 and FUTCB2) and recovery furnaces (emission points FUTRF2 and FUTRF3) to account for the actual No. 6 fuel oil combustion emissions that occurred in the 2015-2019 period (the same period covered by the meteorological data used in the analysis). As a conservative measure, the maximum hourly rates from all other fuels were added to these No. 6 fuel oil combustion actual hourly emissions.
- Stack Test Emissions – June 2021 stack test results were used to calculate maximum hourly SO₂ emissions for emission point FUTNCG1 at the maximum proposed production level of unbleached paper as calculated for the construction permit DF dated July 23, 2019, which allowed conversion of the facility to unbleached paper production (Note: the facility has not

been granted permission to operate at this maximum proposed production level and is still limited to a production of 1825 Air Dried Tons of Pulp per day (ADTP/day)). These FUTNCG1 emissions represent combustion emissions of non-condensable gases (NCG) and stripper-off-gases (SOG), in addition to the fuel combustion emissions from the combination boilers (FUTCB1 and FUTCB2).

Standard 7: Since PSD is not being assessed at this time, no Standard 7 analysis was conducted.

Standard 8: The facility was required under the Order to conduct facility-wide air dispersion modeling for hydrogen sulfide (H₂S) and Total Reduced Sulfur (TRS, which includes H₂S, methyl mercaptan (MM), dimethyl sulfide (DMS), and dimethyl disulfide (DMDS)). The modeling for TRS is based on emission rates calculated as H₂S, which is consistent with how emissions are calculated in 40 CFR 60, Subpart BB and BBa and SC Regulation 61-62.5, Standard No. 4, Section XI. Since a South Carolina Maximum Allowable Ambient Concentration (MAAC) standard does not exist for TRS, the TRS as H₂S modeling results were evaluated against the H₂S MAAC. There is also not a Standard 8 MAAC for DMS or DMDS. Thus, no modeling for either has been conducted. In addition to the 24-hour averaging period required by South Carolina for Std. 8 compliance, the EPA requested that the facility also model for a 30-minute and 1-hr averaging period so that these results could be compared to the EPA's acute exposure guideline levels (AEGl, see <https://www.epa.gov/aegl>).

The average actual emissions for H₂S and the other TRS components as measured by stack testing in June 2021 were used in the modeling for the Paper Machine 3 vents (FUTPM3_1-4, 6-8), the Kraft Mill Non-Condensable Gases System (FUTNCG1- which vents to one of the combination boiler outlets (FUTCB1)), the Pulp Dryer (FUTPD), Smelt Dissolving Tanks No. 2 and 3 (FUTST2 and FUTST3), and the Post Aeration Basin Vent Stack (POSTAERB). The facility was operating at 94.6% of permitted capacity during the testing (1725.64 Air Dried Tons of Pulp per day (ADTP/day) vs. 1825 ADTP/day maximum permitted rate). Paper Machine 2 (FUTPM2) was not operating at the time of the stack test. Therefore, maximum permitted emission rates for FUTPM2 were calculated by SC DHEC based on the stack tests from Paper Machine 3 and those maximum permitted rates were used in the modeling. The H₂S, MM and TRS (as H₂S) emissions from the wastewater treatment system were modeled as fugitive area sources. The wastewater treatment system emissions rates were determined based on liquid samples collected July 9-11, 2021 under Condition 2 of the Order, using the ALS-Columbia Analytical Services Gas Chromatograph (ALS GC) method water test. The H₂S, MM and TRS (as H₂S) emissions from all other processes are based on the February 2021 Title V permit modification request to incorporate Construction Permit DF.

Aerators 26, 28 and 39 in the aeration basin (ASB), although operating and surrounded by a small area of free water, were reported by the facility to be "landlocked" at the time of the site wastewater testing. The facility indicated that wastewater entered the northern part of the ASB and bypassed aerators 26, 28 and 39 as they were surrounded by accumulated solid material (which has since been removed). Thus, emissions were not expected from the small surface areas near these aerators and these areas were excluded from the modeling analysis. In the rest of the ASB where wastewater from the facility process was being routed, the average number of aerators operating each day was used to calculate the ASB emissions rates for all the TRS components.

The receptor grid for the toxics modeling is consistent with current SC DHEC modeling guidance, with receptors placed at 50-meter spacing along property boundaries, on publicly accessible locations along railroads and public roads, and on property within the facility boundary not owned by New-Indy.

During the course of updating and reviewing the modeling, SC DHEC discovered a small number of anomalously high concentrations at a few, isolated receptors. Internal review and subsequent

testing by the EPA indicated that these anomalous results were caused by a bug in the AERMOD code, triggered when certain, rare meteorological and topographic conditions occur. For the New-Indy modeling project, only the 1-hour averaging period results were affected such that the anomalous results became the maximum or controlling concentration and only the AREAPOLY (area polygon) source types appear to trigger the bug.

In this instance, the anomalous receptor was associated with the DITCH2 AREAPOLY source, which caused a maximum 1-hour predicted concentration of 122.32 ug/m³, which was more than double the maximum predicted concentration at any other receptor in the modeling domain. The anomalous value was still under both the 30-minute and 1-hour EPA Acute Exposure Standard guidelines. The location of this maximum receptor was approximately 1400 meters from the facility fence line and approximately 3300 meters from the location of the other highest-order receptors. As a work-around, SC DHEC reran the H₂S modeling after reordering the vertices of the DITCH2 area source polygon. This did not alter the shape of the polygon but only caused the AERMAP terrain preprocessor to assign a slightly different elevation (153.5 m vs. 154.99 m) to the DITCH2 source. With this change, the bug was no longer triggered for that receptor, and the maximum 1-hour concentration (60.57 ug/m³) was predicted to be at the railroad cut at the northeast side of the New-Indy facility, as expected. SC DHEC conferred with EPA Region 4 modeling personnel on the work-around, and EPA concurred that the work-around is an appropriate resolution to the AERMOD bug and that this work-around provides appropriate H₂S results for this modeling exercise.

Odor: Because of the many odor complaints SC DHEC has received in York and Lancaster counties as well as the Charlotte area, hydrogen sulfide and methyl mercaptan modeling results were analyzed in regard to the odor thresholds of these pollutants.

For methyl mercaptan, results at the odor threshold of 3.7 ug/m³ (and higher) were predicted in all directions in the area within about 5 km of the facility. Farther than that, predicted results to the north, northeast, east, southeast and south were at or above the odor threshold at distances of approximately 9 km to 26 km, depending on direction, with the maximum distance at about 26.2 km to the southeast.

For hydrogen sulfide, results at the odor threshold of 13.9 ug/m³ (and higher) were predicted only to the north, northeast, east, southeast, and south of the facility. The extent of the predicted locations at or above the odor threshold ranged from a maximum of approximately 400 m to 4.5 km, depending on direction, with the maximum distance at about 4.5 km to the southeast.

Note that the modeling results cannot be used to predict exact locations that may have a detectable odor but can only be used to provide a general idea of the direction and extent of possible detectable odors. Also, because of the influence of the Catawba River valley, winds may channel along the river and push methyl mercaptan and hydrogen sulfide emissions in concentrations high enough to cause a detectable odor at locations along the river and at greater distances than would be predicted by the AERMOD model.

[Note: This summary addresses only emissions and sources of the pollutants modeled in response to the SC DHEC Order mentioned above and should not be used as a template for future permit compliance summaries.]

STANDARD NO. 2 - AMBIENT AIR QUALITY STANDARDS ANALYSIS							
Pollutant	Averaging Time	Basis	Maximum Concentration (µg/m ³)	Background Concentration (µg/m ³)	Total (µg/m ³)	Standard (µg/m ³)	% Of Standard
SO ₂	1-Hour	AERMOD	150.3 ⁽¹⁾	2.6	153	196	78
	3-Hour	AERMOD	182.9 ⁽²⁾	3.8	187	1300	14
1) The five-year average of the fourth-high 1-hr daily maximum concentrations							
2) The first-high over five years of met data (this is a conservative approach)							

BACKGROUND MONITORING DATA (µg/m ³) ⁽¹⁾									
Pollutant	Site Name	County	Year	1-Hr	3-Hr	8-Hr	24-Hr	3-Mo	Annual
SO ₂	Greenville ESC	Greenville	2017-19	2.6	3.8				
1) 3-year design values									

STANDARD NO. 8 - TOXIC AIR POLLUTANTS ANALYSIS						
Pollutant	Averaging Time	CAS Number	Basis	Maximum Concentration (µg/m ³) ⁽¹⁾⁽²⁾	Standard (µg/m ³)	% Of Standard
Hydrogen Sulfide (H ₂ S)	1-Hour	7783-06-4	AERMOD	60.57	837 ⁽³⁾	7
	24-Hour				710 ⁽⁴⁾	9
Methyl Mercaptan	1-Hour	74-93-1	AERMOD	47.80	57000 ⁽⁶⁾	<1
	24-Hour				45000 ⁽⁷⁾	<1
Total Reduced Sulfur (as H ₂ S) ⁽⁴⁾	1-Hour	n/a	AERMOD	385.11	837 ⁽³⁾	46
	24-Hour				710 ⁽⁴⁾	54
				51.19	140.00 ⁽⁸⁾	37
1) Concentrations are rounded to two decimal places to compare to the standards.						
2) Modeling for all air toxics in this table was conducted using average actual emission rates for each source (except as noted below for Paper Machine 2). The modeling rates were either derived using a stack test for the equipment sources or using the ALS GC method water test for wastewater sources. For sources that had neither stack nor water tests, a NCASI emission factor was used. In the case of Paper Machine 2, the maximum emission rates are based on the stack test results for Paper Machine 3, as Paper Machine 2 was not operating at the time of the stack test.						
3) H ₂ S and TRS 1 st highest 1-hr modeled concentrations compared to 30-minute U.S. EPA Acute Exposure Guideline Level 1 (AEG1; see https://www.epa.gov/aegl/hydrogen-sulfide-results-aegl-program).						
4) H ₂ S and TRS 1 st highest 1-hr modeled concentrations compared to 1-hour U.S. EPA Acute Exposure Guideline Level 1 (AEG1; see https://www.epa.gov/aegl/hydrogen-sulfide-results-aegl-program).						
5) SC Maximum Allowable 24-hr Average Concentration (MAAC)						
6) Methyl Mercaptan 1 st highest 1-hr concentration compared to 30-minute U.S. EPA Acute Exposure Guideline Level 2 (AEG2; AEG1 Action Level not available; see https://www.epa.gov/aegl/methyl-mercaptan-results-aegl-program).						
7) Methyl Mercaptan 1 st highest 1-hr concentration compared to 1-hour U.S. EPA AEG2 (AEG1 not available; see https://www.epa.gov/aegl/methyl-mercaptan-results-aegl-program).						
8) TRS is not a HAP nor TAP. For this analysis, TRS is evaluated using the H ₂ S MAAC.						

STANDARD NO. 2 - AMBIENT AIR QUALITY STANDARDS EMISSION RATES (LBS/HR)						
Emission Point ID	PM₁₀	PM_{2.5}	SO₂	NO_x	CO	Lead
FUTAMU	--	--	0.076	--	--	--
FUTCB1	--	--	Variable ⁽¹⁾	--	--	--
FUTCB2	--	--	Variable ⁽¹⁾	--	--	--
FUTLK2	--	--	0.58	--	--	--
FUTNCG1	--	--	653.66 ⁽²⁾	--	--	--
FUTRF2	--	--	Variable ⁽¹⁾	--	--	--
FUTRF3	--	--	Variable ⁽¹⁾	--	--	--
FUTST2	--	--	0.28	--	--	--
FUTST3	--	--	0.51	--	--	--
FACILITY TOTAL	--	--	Variable	--	--	--
1) Hourly emissions for 2015-19 period were used (an hourly emissions file was used in AERMOD)						
2) Emissions are from combustion of non-condensable gases and stripper-off-gases, based on June 2021 source test (these are in addition to the fuel combustion emissions from FUTCB1 and FUTCB2).						

STANDARD NO. 8 - TOXIC AIR POLLUTANTS EMISSION RATES (LB/HR)				
Emission Point ID	Hydrogen Sulfide	Methyl Mercaptan	Total Reduced Sulfur (TRS)	
	7783-06-4	74-93-1	n/a	
ASB1	0.4260	0.6198	1.8923	
ASB2	0.3200	0.0176	0.3640	
ASB3	0.1900	0.0005	0.1916	
BLAKSTOR	0.2420	0.2400	1.1581	
CAUST	0.0000	0.0900	0.2600	
CLARIFY	0.0013	0.0037	0.2018	
DITCH0	0.0015	0.0019	0.0943	
DITCH1	0.0208	0.0118	0.6503	
DITCH2	0.4710	0.0213	0.5132	
EQLBASIN	0.0362	--	0.0362	
FUTLK2	0.8646	0.0004	0.8638	
FUTNCG1 ⁽¹⁾	0.0740	1.0500	0.9200	
FUTPD	0.0200	0.2528	0.2300	
FUTPM2_1	0.0429	0.0551	0.1198	
FUTPM2_2	0.0699	0.0744	0.1910	
FUTPM2_3	0.0317	0.0526	0.1339	
FUTPM3_1	0.0374	0.0464	0.1070	
FUTPM3_2	0.0727	0.0947	0.2010	
FUTPM3_3	0.0861	0.0951	0.2330	
FUTPM3_4	0.0443	0.0439	0.1150	
FUTPM3_6	0.0486	0.0506	0.1410	
FUTPM3_7	0.0422	0.0640	0.1630	
FUTPM3_8	0.0409	0.0744	0.1890	
FUTRF2	0.1585	0.0699	0.2328	
FUTRF3	0.2425	0.1070	0.3562	
FUTST2	0.3257	0.0793	0.3896	
FUTST3	0.6023	0.1467	0.7204	
HOLDPOND	0.3170	0.0009	0.3186	
MIXTANK	0.0000	0.0085	0.0125	
POSTAERB	0.0011	0.0074	0.0127	
PULPSTOR	--	0.0611	7.3631	
SLDGLAGN	0.2100	--	0.2101	
WLIQSTOR	0.0180	1.1600	1.1900	
FACILITY TOTAL	5.0593	4.6017	19.7754	
<p>1) Kraft Mill NCG (non-compressible gases) are incinerated in either Combination Boiler No. 1 or 2, but not both simultaneously. Thus, the facility total emission rates include only one Combination Boiler burning NCG. Combination Boiler No. 1 was used in the modeling analysis since it was the worst-case scenario. The rates listed for FUTNCGG1 are the total of the NCG and fuel combustion emissions.</p>				

Emission Point ID	Source Identification & Description	Date Installed (Modified)	Alternate Emission Point ID
ASB1	Aeration Stabilization Basin Free Water Zone 1		
ASB2	Aeration Stabilization Basin Free Water Zone2		
ASB3	Aeration Stabilization Basin Free Water Zone3		
BLAKSTOR	Black Liquor Storage Tanks	1966 to 2006	
CAUST	Causticizing	1995	2700
CLARIFY	Primary Clarifier	1959 (1999)	2901
DITCH0	Ditch No. 0. Runs from Clarifier to Equalization Basin.		
DITCH1	Ditch No. 1. Runs from Equalization Basin to Aeration Stabilization Basin Free Water Zone 1 (ASB1).		
DITCH2	Ditch No. 2. Runs from Aeration Stabilization Basin Free Water Zone 3 (ASB3) to Holding Pond.		
EQLBASIN	Equalization Stabilization Basin		
FUTAMU	Air Make-up Unit (Combustion)	2000	9900
FUTCB1	Combination Boiler No. 1 (Fuel Burning)	1959	2610S2
FUTCB2	Combination Boiler No. 2 (Fuel Burning)	1968	2610S1
FUTLK2	Lime Kiln No. 2	1995 (2003, 2010)	2723
FUTNCG1	Kraft Mill NCG System (includes stripper-off-gases). Vents through Combination Boiler No. 1.	2001 and 2003 (2020)	2610S2
FUTPM2_1-3	Paper Machine No. 2. Emissions vent through 3 roof vents.	1986 (2019)	4600
FUTPM3_1-4, 6-8	Paper Machine No. 3. Emissions vent through 7 roof vents.	1968 (2003, 2019)	4100
FUTRF2	Recovery Furnace No. 2	1966	2505
FUTRF3	Recovery Furnace No. 3	1983 (2003, 2007)	5105
FUTST2	Smelt Dissolving Tank No. 2	1966	2510
FUTST3	Smelt Dissolving Tank No. 3	1983	5110
FUTPD	Pulp Dryer: Screen System, Decker, Headbox System, Cylinder Mold, Hood Exhaust, Vacuum System, Press System, Press Pulper, Dryers, Economizer, Dry End Pulper, Steam heated Booster Oven on dry end, Cutter, Stacker	1959 (1999, 2019)	2100
HOLDPOND	Holding Pond	1959 (1999)	
MIXTANK	Precipitator Storage/Mix Tanks No. 2 and No. 3	1966	
POSTAERB	Post-Aeration Basin Vent		
PULPSTOR	Pulp Storage Tanks	1959 - 1986	1299
SLDGLAGN	No. 4 Sludge Lagoon		
WLIQSTOR	White Liquor Storage Tank (470,000 gallon)	1995	

POINT SOURCE PARAMETERS

Emission Point ID	Date Last Modeled	Location (UTM)		Emission Point Height (ft)	Exit Temp. (°F)	Exit Velocity (ft/sec)	Emission Point Diameter (ft)	Discharge Orientation	Cap? (Y/N)	Distance To Property Line (ft)	Building Parameters		
		East (M)	North (M)								Height (ft)	Length (ft)	Width (ft)
FUTCB1	9/8/22	510039	3855689	228	364	47.2	10	Vertical	No	(1)	(1)	(1)	(1)
FUTCB2	9/8/22	510020	3855678	228	405	62.3	10	Vertical	No	(1)	(1)	(1)	(1)
FUTLK2	9/8/22	510206	3855813	184	387	32.1	6.0	Vertical	No	(1)	(1)	(1)	(1)
FUTNCG1	9/8/22	510039	3855689	228	364	47.2	10	Vertical	No	(1)	(1)	(1)	(1)
FUTPM2_1	9/8/22	509915	3855961	86.5	172	63	4.7	Vertical	No	(1)	(1)	(1)	(1)
FUTPM2_2	9/8/22	509894	3855948	86.5	185	56	4.7	Vertical	No	(1)	(1)	(1)	(1)
FUTPM2_3	9/8/22	509875	3855937	86.5	184	72	4.7	Vertical	No	(1)	(1)	(1)	(1)
FUTPM3_1	9/8/22	509800	3855821	84.4	172	63	4.2	Vertical	No	(1)	(1)	(1)	(1)
FUTPM3_2	9/8/22	509791	3855815	83.5	179	78	4.7	Vertical	No	(1)	(1)	(1)	(1)
FUTPM3_3	9/8/22	509783	3855810	83.5	185	82	4.7	Vertical	No	(1)	(1)	(1)	(1)
FUTPM3_4	9/8/22	509778	3855807	83.5	194	56	4.7	Vertical	No	(1)	(1)	(1)	(1)
FUTPM3_6	9/8/22	509768	3855802	84.4	191	78	4.3	Vertical	No	(1)	(1)	(1)	(1)
FUTPM3_7	9/8/22	509762	3855798	88.2	189	75	5.5	Vertical	No	(1)	(1)	(1)	(1)
FUTPM3_8	9/8/22	509752	3855793	88.2	184	72	5.5	Vertical	No	(1)	(1)	(1)	(1)
FUTPD	9/8/22	509895	3855778	77.9	158	43	5	Vertical	No	(1)	(1)	(1)	(1)
FUTRF2	9/8/22	510096	3855744	195	365	99.1	7.0	Vertical	No	(1)	(1)	(1)	(1)
FUTRF3	9/8/22	510032	3855802	225	342	61.7	10.5	Vertical	No	(1)	(1)	(1)	(1)
FUTST2	9/8/22	510030	3855771	218	170	34.4	6.0	Vertical	No	(1)	(1)	(1)	(1)
FUTST3	9/8/22	510030	3855771	218	170	34.4	6.0	Vertical	No	(1)	(1)	(1)	(1)

1) See modeling files.

AREA SOURCE PARAMETERS

Emission Point ID	Date Last Modeled	Location (UTM)		Source Height (ft)	Easterly Length X Initial (ft)	Northerly Length Y Initial (ft)	Angle From North (°)	Initial Vertical Dimension σ_z (ft)	Distance To Property Line (ft)
		East (M)	North (M)						
BLAKSTOR	9/8/22	510021	3855757	40	278.9	278.9	-27.4	0.0	(1)
FUTAMU	9/8/22	509709	3855693	80	830.0	510.0	-30.0	0.0	(1)
MIXTANK	9/8/22	510044	3855766	20	76.6	65.2	0.0	0.0	(1)

AREA SOURCE PARAMETERS

Emission Point ID	Date Last Modeled	Location (UTM)		Source Height (ft)	Easterly Length X Initial (ft)	Northerly Length Y Initial (ft)	Angle From North (°)	Initial Vertical Dimension σ_z (ft)	Distance To Property Line (ft)
		East (M)	North (M)						
PULPSTOR	9/8/22	509929	3855823	50	306.0	322.1	-27.4	0.0	(1)
WLIQSTOR	9/8/22	510154	3855704	55.1	65.6	65.6	-30.0	0.0	(1)

1) See modeling files.

AREA CIRCULAR SOURCE PARAMETERS

Emission Point ID	Date Last Modeled	Location (UTM)		Release Height AGL (ft)	Radius of Area (ft)	Number Of Vertices	Initial Vertical Dimension σ_z (ft)	Distance To Property Line (ft)
		East (M)	North (M)					
CLARIFY	9/8/22	510342	3855605	0.0	137.8	20	0.0	(1)

1) See modeling files.

AREA POLYGON SOURCE PARAMETERS

Emission Point ID	Date Last Modeled	Location (UTM)		Release Height AGL (ft)	Vertical Dimension (ft)	Number Of Vertices	Area (ft ²)	Distance To Property Line (ft)
		East-1 (M)	North-1 (M)					
ASB1	9/8/22	510803	3856320	20.0	0.0	15	544,923	(1)
ASB2	9/8/22	510964	3856054	20.0	0.0	18	716,231	(1)
ASB3	9/8/22	511052	3855887	20.0	0.0	10	778,790	(1)
DITCH0	9/8/22	510378	3855635	0.0	0.0	5	2,400	(1)
DITCH1	9/8/22	510813	3856255	0.0	0.0	14	23,573	(1)
DITCH2	9/8/22	510993	3855727	0.0	0.0	8	19,644	(1)
EQLBASIN	9/8/22	510439	3855563	0.0	0.0	10	81,978	(1)
HOLDPOND	9/8/22	510392	3855143	0.0	0.0	7	4,182,317	(1)
SLDGLAGN	9/8/22	510924	3855545	0.0	0.0	4	475,679	(1)

1) See modeling files.

VOLUME SOURCE PARAMETERS

Emission Point ID	Date Last Modeled	Location (UTM)		Source Release Height (ft)	Horizontal Dimension σ_y (ft)	Vertical Dimension σ_z (ft)	Distance To Property Line (ft)
		East (M)	North (M)				
CAUST	9/8/22	510241	3855750	45	13.73	21.00	(1)
1) See modeling files.							

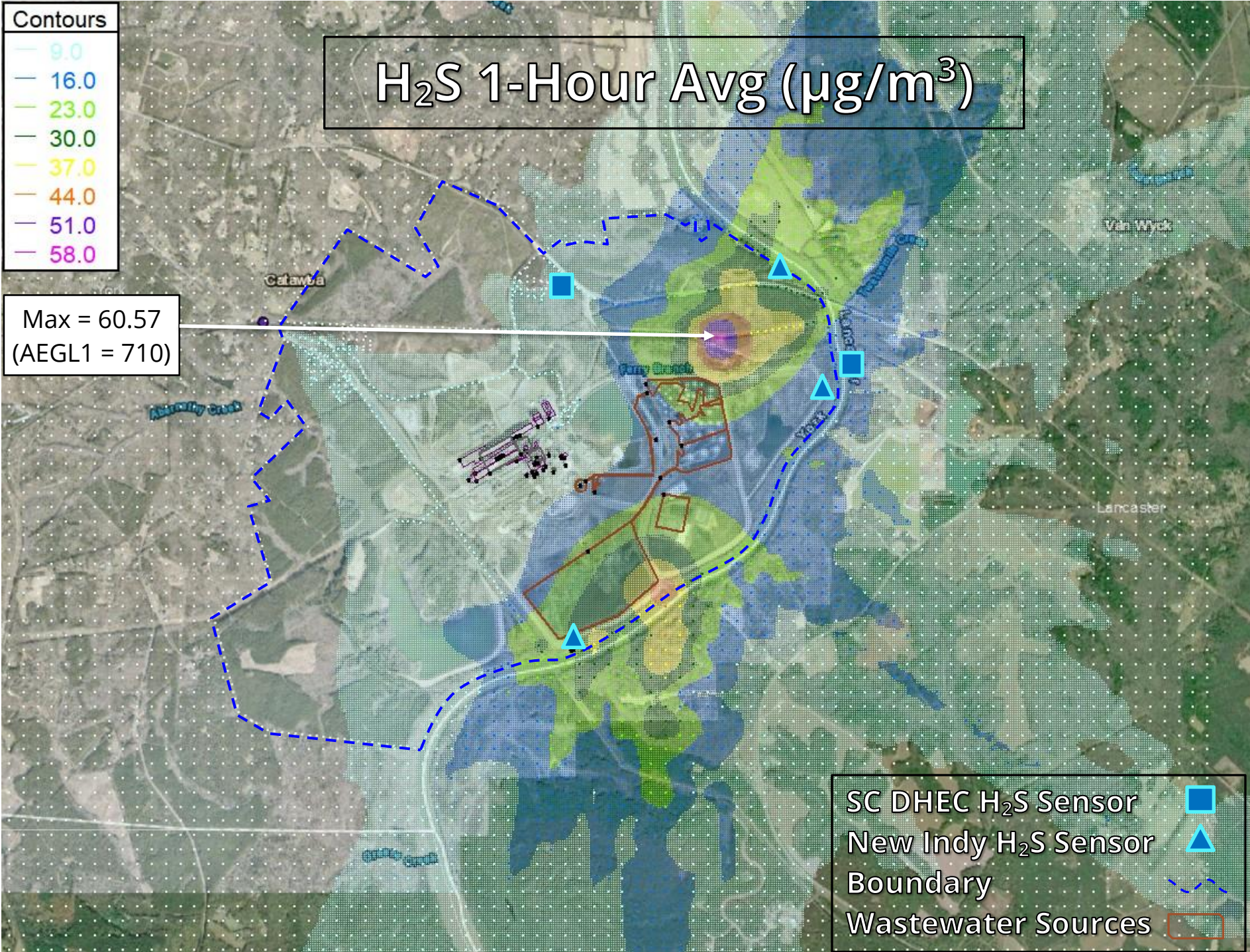
AERMOD/AERMAP SPECIFICATIONS TABLE

MET DATA	UZA-GSO 2015-19 [Surface = Rock Hill, SC (669 ft MSL); Upper Air = Greensboro, NC]											
	ADJ_U*	<input checked="" type="checkbox"/>	(Y/N)									
NED TERRAIN FILES	Chester, SC; Lancaster, SC; York, SC; Mecklenburg, NC, Union, NC											
PROJECTION DATUM	NAD27	<input type="checkbox"/>	<input type="checkbox"/>	NAD83	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WGS-84	<input type="checkbox"/>	<input type="checkbox"/>	NWS-84	<input type="checkbox"/>	<input type="checkbox"/>
RURAL or URBAN?	Rural	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Urban	<input type="checkbox"/>	<input type="checkbox"/>						
ELEVATIONS EXTRACTED	Buildings	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sources	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Tanks	<input type="checkbox"/>	<input type="checkbox"/>	Receptors	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Contours	
—	9.0
—	16.0
—	23.0
—	30.0
—	37.0
—	44.0
—	51.0
—	58.0

H₂S 1-Hour Avg ($\mu\text{g}/\text{m}^3$)

Max = 60.57
(AEGL1 = 710)

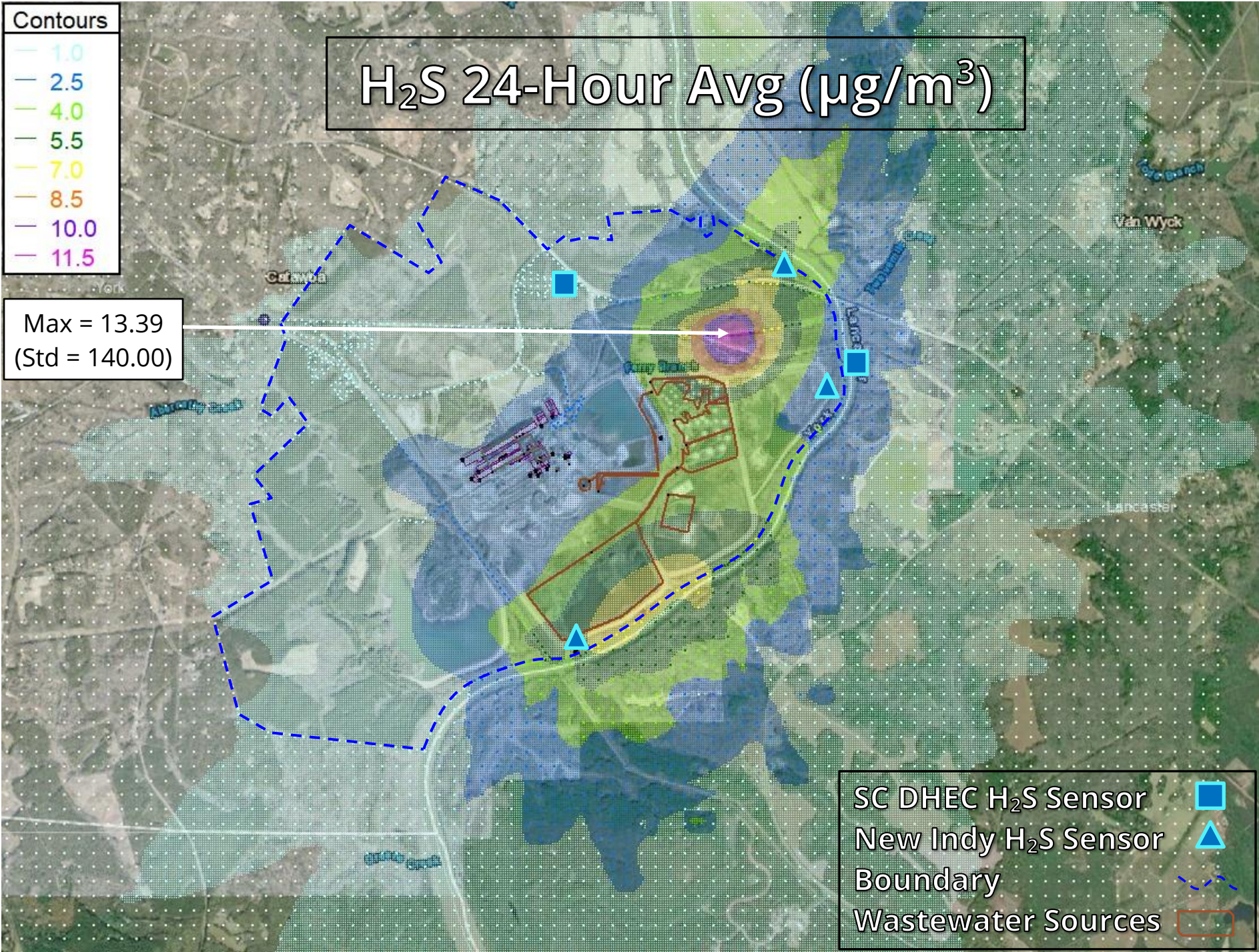


SC DHEC H ₂ S Sensor	
New Indy H ₂ S Sensor	
Boundary	
Wastewater Sources	

Contours	
—	1.0
—	2.5
—	4.0
—	5.5
—	7.0
—	8.5
—	10.0
—	11.5

H₂S 24-Hour Avg ($\mu\text{g}/\text{m}^3$)

Max = 13.39
(Std = 140.00)

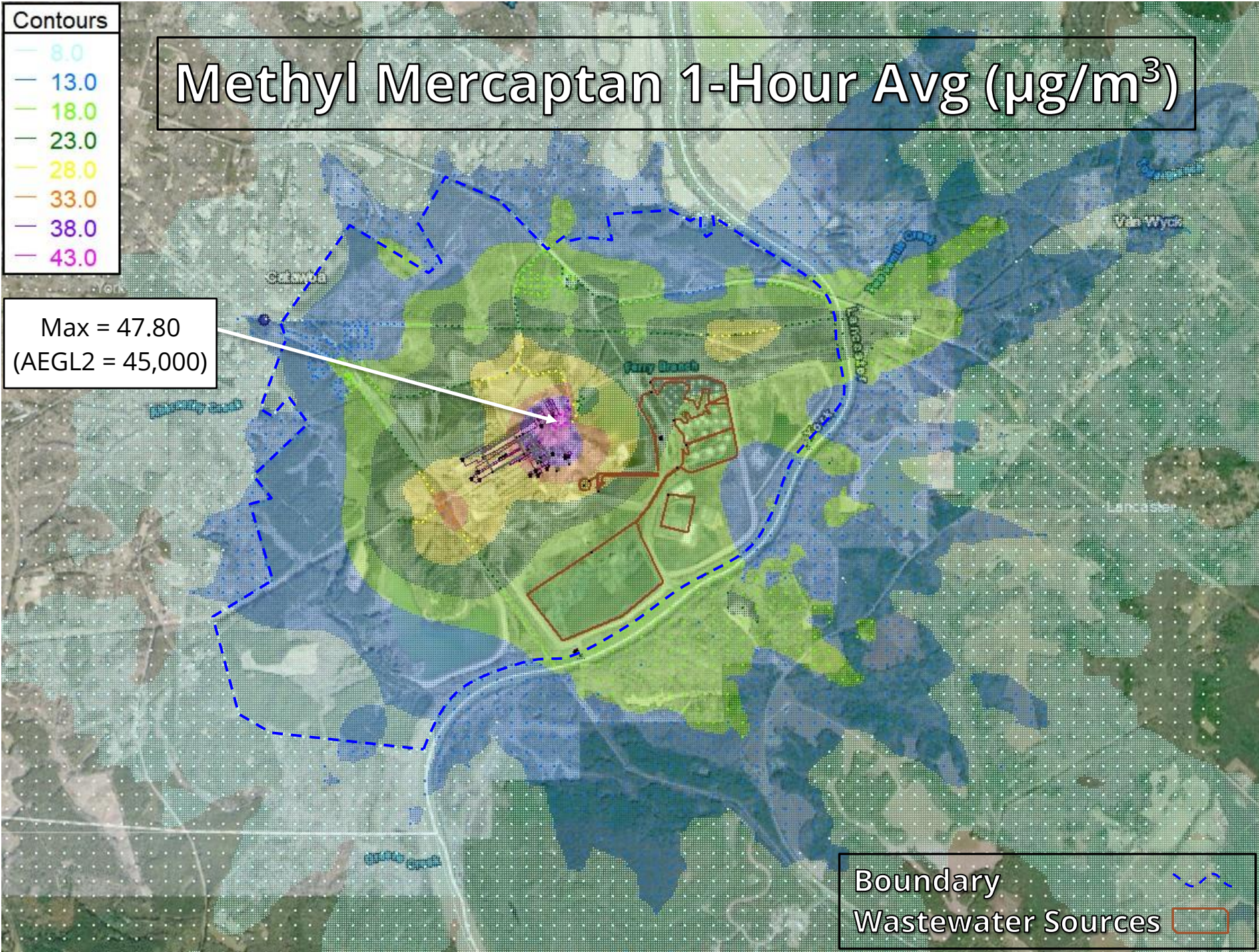


SC DHEC H ₂ S Sensor	■
New Indy H ₂ S Sensor	▲
Boundary	- - -
Wastewater Sources	▭

Contours	
—	8.0
—	13.0
—	18.0
—	23.0
—	28.0
—	33.0
—	38.0
—	43.0

Methyl Mercaptan 1-Hour Avg ($\mu\text{g}/\text{m}^3$)

Max = 47.80
(AEGL2 = 45,000)



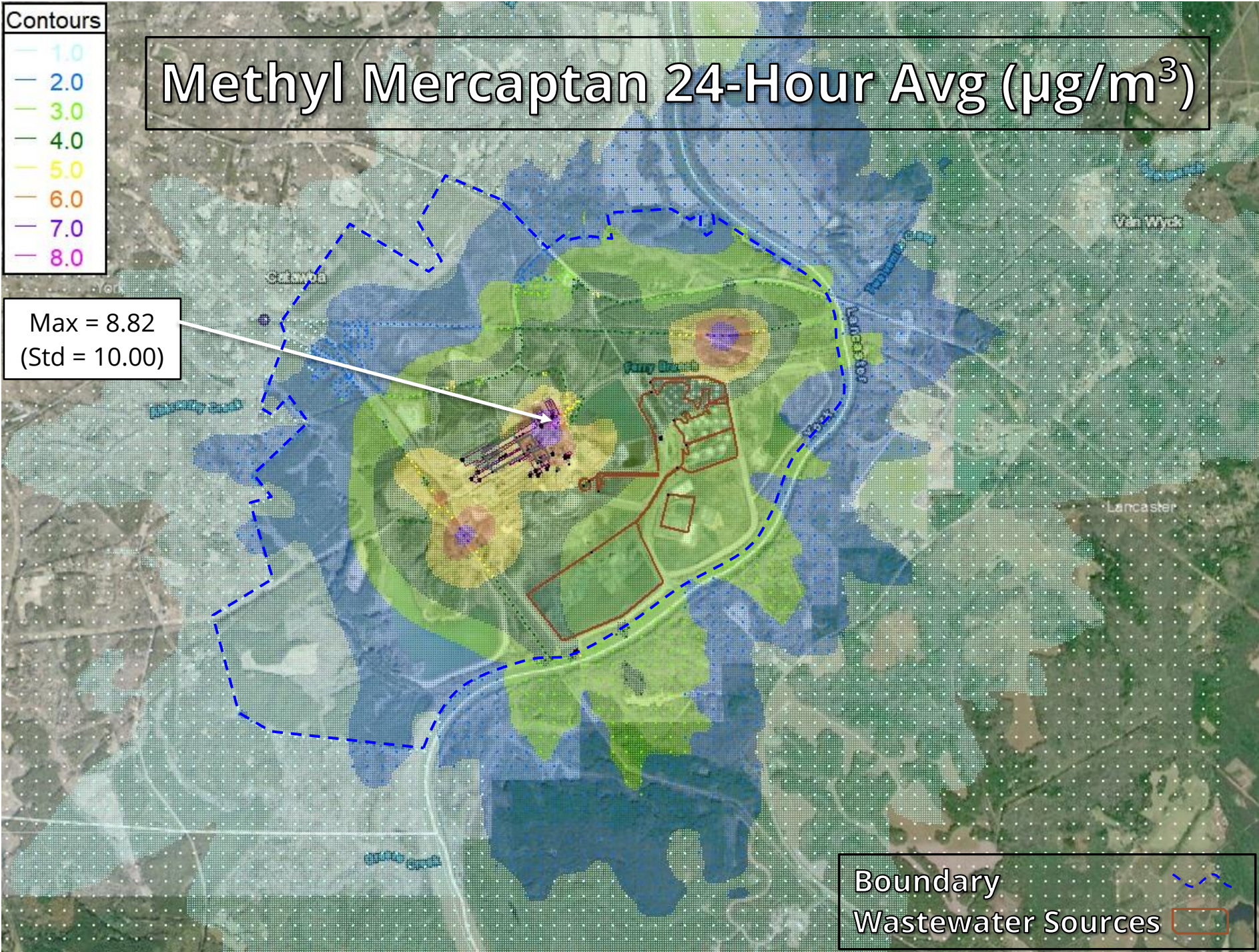
Boundary 
Wastewater Sources 

Contours



Methyl Mercaptan 24-Hour Avg ($\mu\text{g}/\text{m}^3$)

Max = 8.82
(Std = 10.00)

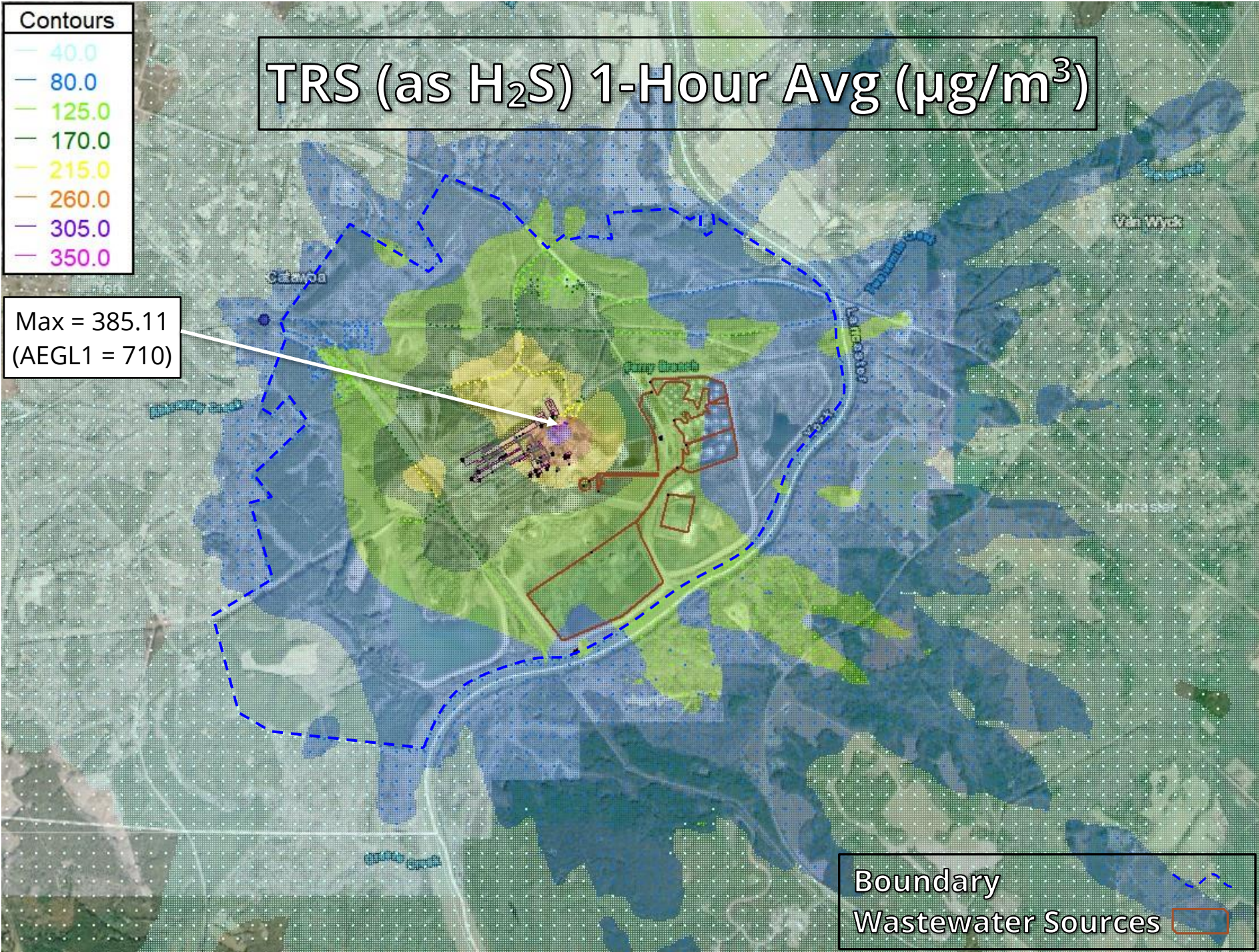


Boundary 
Wastewater Sources 

Contours	
—	40.0
—	80.0
—	125.0
—	170.0
—	215.0
—	260.0
—	305.0
—	350.0

TRS (as H₂S) 1-Hour Avg (µg/m³)

Max = 385.11
(AEGL1 = 710)

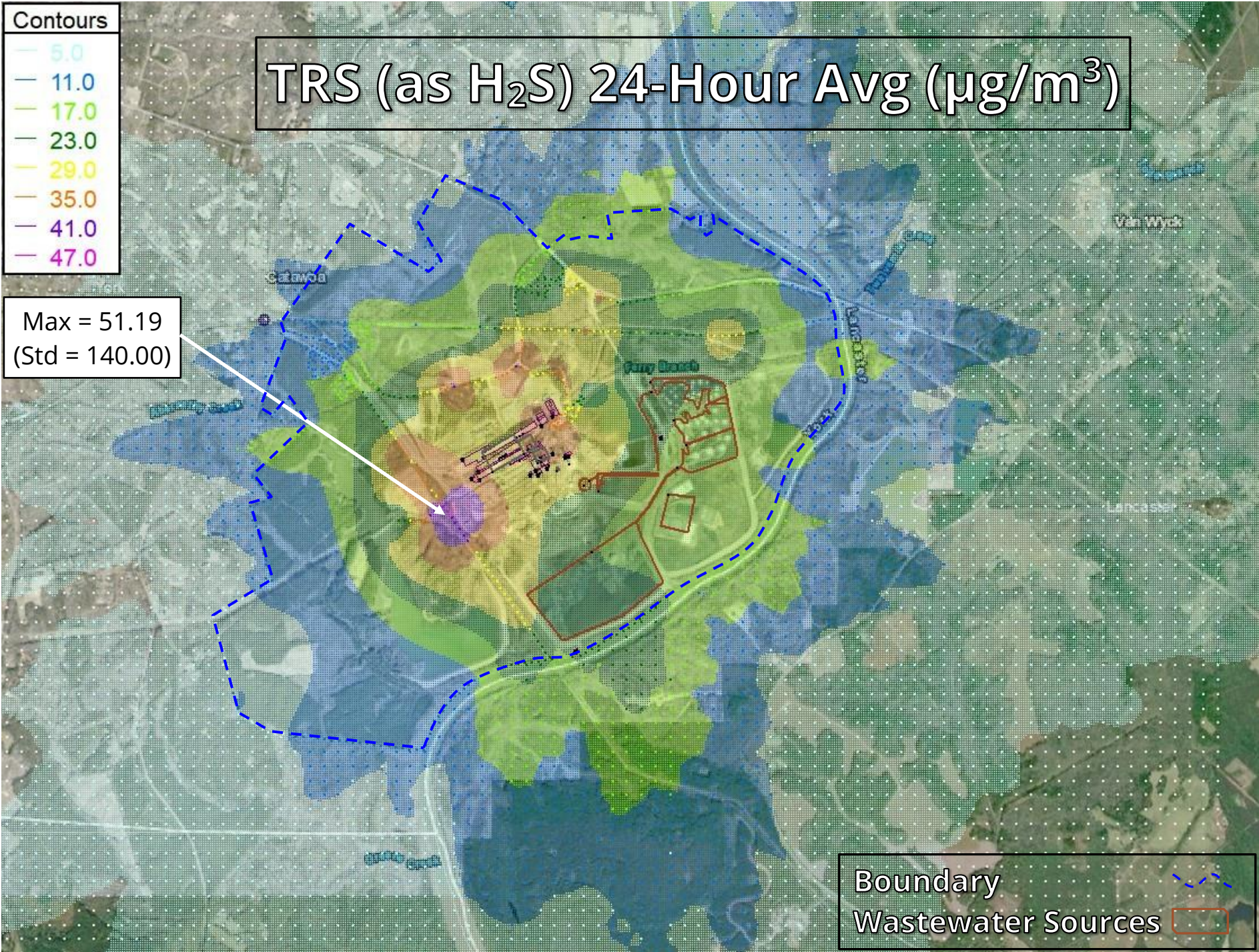


Boundary 
 Wastewater Sources 

Contours	
—	5.0
—	11.0
—	17.0
—	23.0
—	29.0
—	35.0
—	41.0
—	47.0

TRS (as H₂S) 24-Hour Avg (μg/m³)

Max = 51.19
(Std = 140.00)



Boundary 
Wastewater Sources 

Contours	
—	50.0
—	70.0
—	90.0
—	110.0
—	130.0

SO₂ 1-Hour Avg (µg/m³)

Max = 153
(NAAQS = 196)



Contours

40.0
70.0
100.0
130.0
160.0

SO₂ 3-Hour Avg (µg/m³)

Max = 187
(NAAQS = 1300)



Boundary