

# Wake Robin Inn

Salisbury, Connecticut

## **Acoustical Analysis**

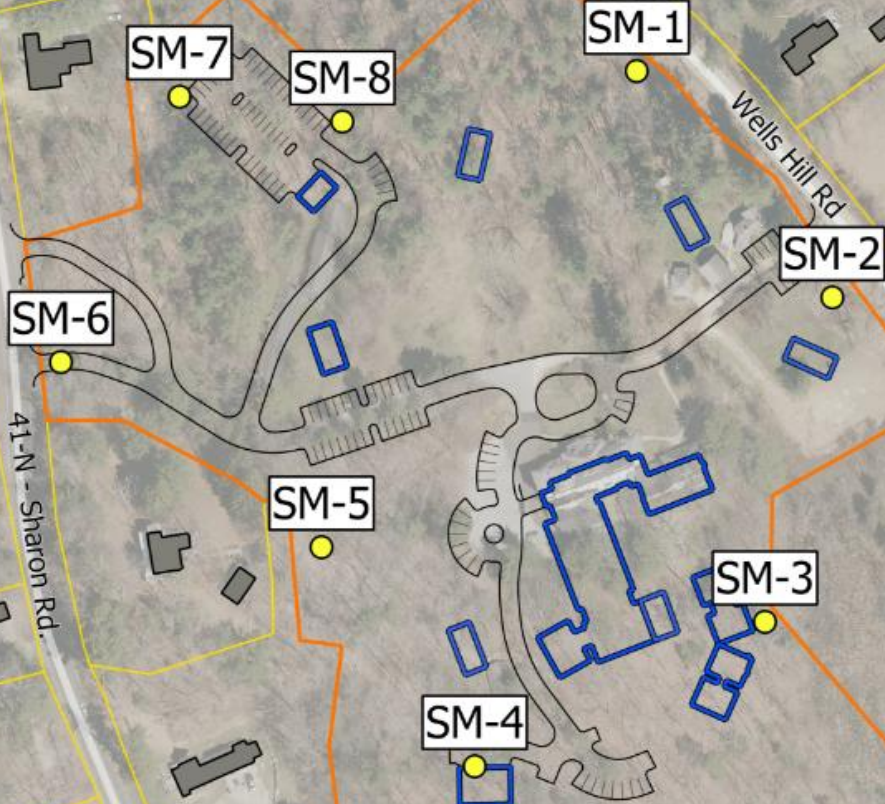
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# Wake Robin Inn—Sound Study

- Identify Sound Limits—
  - CT Title 22a-69 Noise Control
  - Salisbury PZC Special Permit Uses §803.2
- Sound Monitoring
  - Design Goals
- Identify Sources—Equipment and Activities
- Identify Receptors
- Estimate Sound Levels at Receptors
- Compare Levels with Limits and Goals
- Sound Controls

Wake Robin Inn  
104-106 Sharon Road  
Salisbury, CT



- Sound Monitor
- ▭ Proposed Structure
- ▭ Local Structure
- ▭ Local Parcel
- ▭ WRI Parcel

0 150 300 ft



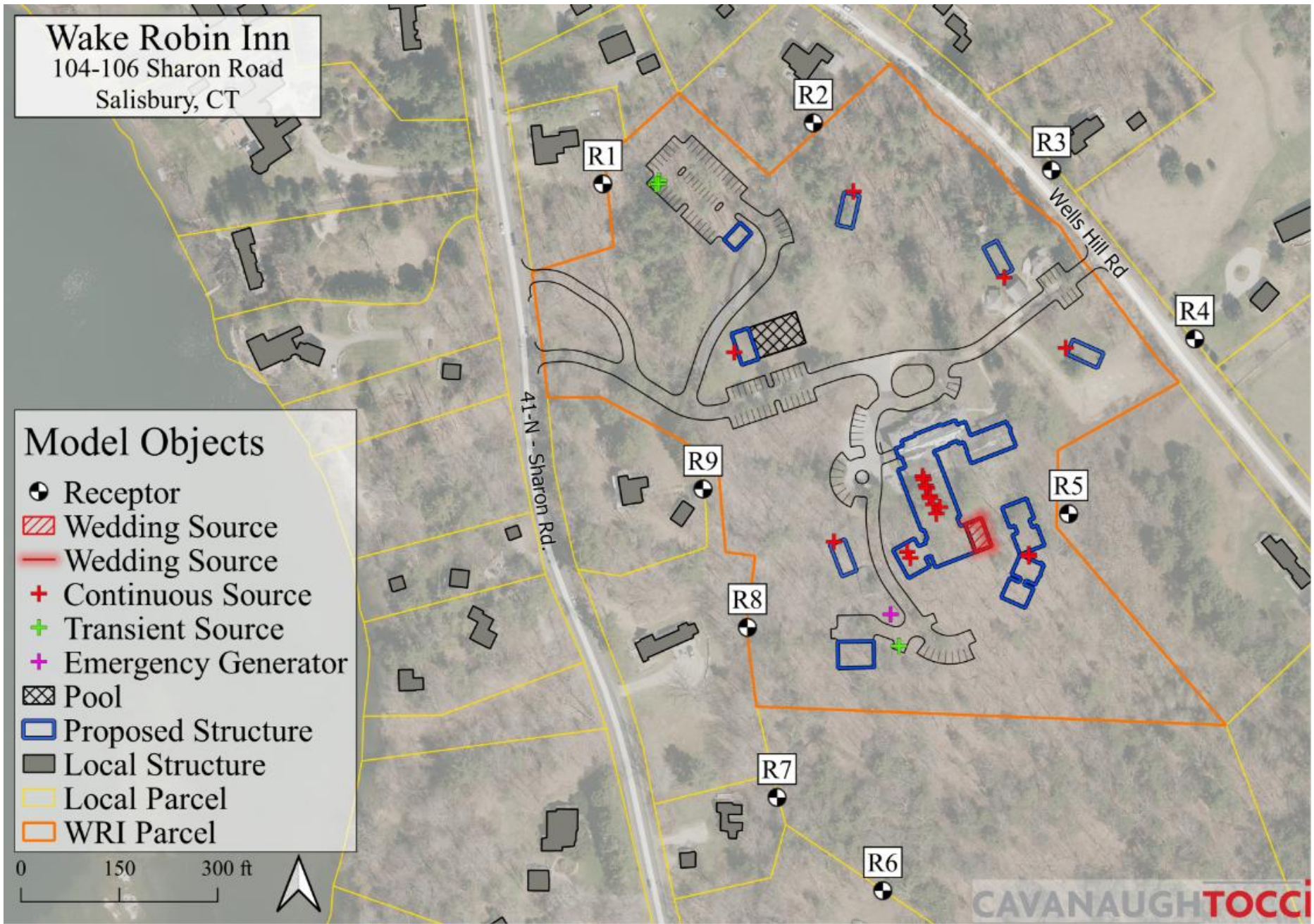
# Wake Robin Inn

104-106 Sharon Road  
Salisbury, CT

## Model Objects

- Receptor
- ▨ Wedding Source
- Wedding Source
- + Continuous Source
- + Transient Source
- + Emergency Generator
- ▨ Pool
- ▭ Proposed Structure
- ▭ Local Structure
- ▭ Local Parcel
- ▭ WRI Parcel

0 150 300 ft



# Limits & Goals

- CT Title 22a-69 Noise Control
  - 55 dBA day (7:00 a.m. to 10:00 p.m.)
  - 45 dBA night (10:00 p.m. to 7:00 a.m.)
- Design Goal for Music

Wedding Music Design Goal Determination				
Sound Monitor	Average of Lowest Measured Daily LAeq, 1hr.	Design Goal (Leq-5dB)	Average of Lowest Measured Daily LA90, 1hr.	Design Goal (L90+5dB)
SM1	43	38	33	38
SM2	42	37	29	34
SM3	37	32	27	32
SM4	40	35	29	34
SM5	41	36	29	34
SM6	54	49	29	34
SM7	41	36	29	34
SM8	41	36	30	35
	<i>Minimum:</i>	<b>32</b>	<i>Minimum:</i>	<b>32</b>

# Receptor Property Line Levels

Source	Sound Pressure Level (dBA)									State of CT Limit (dBA)	Design Goal
	R1	R2	R3	R4	R5	R6	R7	R8	R9		
Car Ignition	42	29	20	16	0	12	15	22	26	45	
Car Door	45	32	24	21	12	18	20	28	31	80*	
Dumpster	11	16	2	18	11	29	29	22	24	80*	
Pool	19	15	10	13	3	6	11	20	24	55**	
HVAC	37	35	35	39	43	40	39	45	43	45	
Emergency Generator	25	29	16	21	26	37	29	42	38	55***	
Wedding	1	4	11	20	24	14	14	13	6	40****	32

\*Impulse noise—Noise of short duration (generally one second or less) with abrupt onset and rapid decay (CT DEP Sec. 22a-69-1.2(k)).

\*\*Pool daytime use only

\*\*\*Maintenance-operated for 1 hour once a week during weekdays 9:00 AM to 4:00 PM

\*\*\*\*27 dBA LA90,1-hr measured at SM3 plus 5 dB leading to a Wake Robin Inn music sound goal of 32 dBA.

# Cross-Spectrum Acoustics (CSA)

- Generally, agrees with methods and conclusions
- CSA recommendations on sound:
  - Use of the 90<sup>th</sup> percentile level for setting music design goal of 32 dBA
  - Construction Noise Control Plan to assess levels and alert community of potentially noisy activities
  - Post-construction monitoring of sound

# Conclusions

- CT Title 22a-69 Noise Control
  - Continuous sounds: 55/45 dBA day/night
  - Impulse sounds: 80 dBA night
- Salisbury PZC Special Permit Uses §803.2
  - *“...use shall not create a nuisance to neighboring properties...”*
- Design Goal for Music
  - 32 dBA at receptor PL based on lowest measured
    - LAeq,1-hr minus 5 dB (Cavanaugh Tocci)
    - LA90,1-hr plus 5 dB (Cross-Spectrum Acoustics)