US-101 / LOST HILLS ROAD INTERCHANGE NADR

Noise Abatement Decision Report

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CALABASAS

CALIFORNIA

07-LA-101-31.9/32.3

ID 0700000419

September 2010
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Caltrans

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City of Calabasas

List of Abbreviated Terms

Caltrans	California Department of Transportation
dB	A measure of sound pressure level on a logarithmic scale
dBA	A-weighted sound pressure level
FHWA	Federal Highway Administration
Leq	Equivalent sound level (energy averaged sound level)
Leq[h]	A-weighted, energy average sound level during a 1-hour period
Benefited residence	A dwelling unit expected to receive a noise reducton of at least 5 dBA from the proposed abatement measure
NSR	Noise Study Report
NADR	Noise Abatement Decision Report
NAC	Noise abatement criteria
ED	Environmental document
Reasonable allowance	A single dollar value—a reasonable allowance per benefited residence that embodies five reasonableness factors

1. Introduction

The Noise Abatement Decision Report (NADR) presents the preliminary noise abatement decision as defined in the Caltrans Traffic Noise Analysis Protocol (Protocol). This report has been appoved by a California licensed professional civil engineer. The project level Noise Study Report (NSR) (Acentech, April 2010) prepared for this project is hereby incorporated by reference.

1.1. Noise Abatement Assessment Requirements

Title 23, Code of Federal Regulations (CFR), Part 772 of the Federal Highway Administration (FHWA) standards (23 CFR 772) and the Protocol require that noise abatement be considered for projects that are predicted to result in traffic noise impacts. A traffic noise impact is considered to occur when future predicted design-year noise levels with the project "approach or exceed" Noise Abatement Criteria (NAC) defined in 23 CFR 772 or when the predicted design-year noise levels with the project substantially exceed existing noise levels. A predicted design-year noise level is considered to "approach" the NAC when it is within 1 dB of the NAC. A substantial increase is defined as being a 12-dB increase above existing conditions.

23 CFR 772 requires that noise abatement measures that are reasonable and feasible and are likely to be incorporated into the project be identified before adoption of the final environmental document.

The Protocol establishes a process for assessing the reasonableness and feasibility of noise abatement. Before publication of the draft environmental document, a *preliminary noise abatement decision* is made. The preliminary noise abatement decision is based on the *feasibility* of evaluated abatement and the *preliminary reasonableness determination.* Noise abatement is considered to be acoustically feasible if it provides noise reduction of at least 5 dBA at receivers subject to noise impacts. Other nonacoustical factors relating to geometric standards (e.g., sight distances), safety, maintenance, and security can also affect feasibility.

The preliminary reasonableness determination is made by calculating an allowance that is considered to be a reasonable amount of money, per benefited residence, to spend on abatement. This *reasonable allowance* is then compared to the engineer's cost estimate for the abatement. If the engineer's cost estimate is less than the allowance, the preliminary determination is that the abatement is reasonable. If the cost estimate is higher than the allowance, the preliminary determination is that abatement is not reasonable.

The NADR presents the preliminary noise abatement decision based on acoustical and nonacoustical feasibility factors and the relationship between noise abatement allowances and the engineer's cost estimate. The NADR does not present the final decision regarding noise abatement; rather, it presents key information on abatement to be considered throughout the environmental review process, based on the best available information at the time the draft environmental document (ED) is published. The final overall reasonableness decision will take this information into account, along with other reasonableness factors identified during the environmental review process. These factors may include:

- environmental impacts of abatement construction,
- public and local agency input,
- life cycle of abatement measures,
- views/opinions of impacted residents, and
- social, economic, environmental, legal, and technological factors.

At the end of the public review process for the ED, the final noise abatement decision is made and is indicated in the final ED. The preliminary noise abatement decision will become the final noise abatement decision unless compelling information received during the environmental review process indicates that it should be changed.

1.2. Purpose of the Noise Abatement Decision Report

The purpose of the NADR is to:

- summarize the conclusions of the NSR relating to acoustical feasibility and the reasonable allowances for abatement evaluated,
- present the engineer's cost estimate for evaluated abatement,
- present the engineer's evaluation of nonacoustical feasibility issues,
- present the preliminary noise abatement decision, and
- present preliminary information on secondary effects of abatement (impacts on cultural resources, scenic views, hazardous materials, biology, etc.).

The NADR does not address noise barriers or other noise-reducing treatments required as mitigation for significant adverse environmental effects identified under the California Environmental Quality Act (CEQA).

1.3. Project Description

US-101 provides the primary regional access for the City of Calabasas and adjacent cities with the western part of Calabasas served by the interchanges at Lost Hills Road and Las Virgenes Road. Lost Hills Road is a north-south arterial street that extends from the Calabasas Landfill north of Canwood Street to its southerly termination at Las Virgenes Road. Proposed build alternatives include replacement of the existing Lost Hills Road overcrosing.

The NSR analyzed seven alternatives for the future year (2040) horizon.

No-Build Alternative (Alternative 1)

Alternative 1 considers no improvements to the Lost Hills Interchange by the year 2040.

Transportation Management Systems Alternative (Alternative 2)

Alternative 2 considers no capacity improvements to the Lost Hills Road Interchange. This alternative includes improvement to traffic signal timing and coordination at the interchange (i.e. video detection, CCTV).

Roundabout Alternative (Alternative 3)

Alternative 3 considers the construction of a new overcrossing to meet the Caltrans design standards and a four-legged roundabout at the north side and south side of US-101. Access to the residential community to the northwest of the interchange would be relocated to Driver Avenue.

Expanded Diamond Interchange Alternative (Alternative 4)

Alternative 4 considers the construction of a new overcrossing, but retains the same diamond interchange configuration. Canwood Street will be maintained at its current location.

Partial Cloverleaf Alternative (Alternative 5)

Alternative 5 considers the construction of a new overcrossing to meet Caltrans design standards, and a new partial cloverleaf on-ramp for northbound Lost Hills Road to northbound US-101. Access to the residential community to the northwest of the interchange would be relocated to Driver Avenue.

Full Standard Diamond Interchange Alternative (Alternative 6)

Alternative 6 considers the construction of a new overcrossing to meet Caltrans design standards, but retains the same diamond interchange configuration. Access to the residential community to the northwest of the interchange would be relocated to Driver Avenue.

Cloverleaf Alternative (Alternative 7)

Alternative 7 considers the construction of a new overcrossing to meet Caltrans design standards, a new cloverleaf on-ramp for northbound US-101, and the closure of the existing US-101 northbound on-ramp. The new cloverleaf on-ramp for US-101 northbound would be located 500 feet north of Canwood Street, and serve both northbound and southbound traffic on Lost Hills Road. Access to the residential community to the northwest of the interchange would remain at Canwood Street. This alternative includes the signalization of Lost Hills Road/US-101 northbound ramps and Lost Hills Road/Canwood Street

1.4. Affected Land Uses

A field investigation was conducted to identify land uses that could be subject to traffic and construction noise impacts from the proposed project. Single family residences and Grape Arbor Park located on the northwest quadrant of the project were identified as Activity Category B (see Exhibit 1 below) land uses in the project area.

As required by the Protocol, although all developed land uses were evaluated in the NSR analysis, noise abatement is only considered for areas of frequent human use that would benefit from a lowered noise level. Accordingly, this impact analysis focuses on locations with defined outdoor activity areas, such as residential backyards and park area as described below.

- First Row receivers adjacent to US-101. This residential area is separated from the main traveled lanes by the northbound on-ramp and Canwood Street. Backyards and side yards face the freeway.

- Second Row receivers that are located an additional residence away from US-101.
- Third Row receivers that are located an additional residence away from US-101 on Dante View Drive and Ludgate Drive.
- First Row receivers adjacent to Lost Hills Road. This residential area is separated from Lost Hills Road by Grape Arbor Park. Backyards and side yards face the street.
- Grape Arbor Park located west of Lost Hills Road.

Exhibit 1. Activity Categories and Noise Abatement Criteria

Activity Category	***NAC, Hourly A-Weighted Noise Level (dBA-Leq [h])***	***Description of Activities***
A	*57 Exterior*	*Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose*
B	*67 Exterior*	*Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels schools churches, libraries, and hospitals*
C	*72 Exterior*	*Developed lands, properties, or activities not included in categories A or B above*
D	-	*Undeveloped lands*
E	*52 Interior*	*Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums*

Source: Caltrans, 2006 – Traffic Noise Analysis Protocol, August

2. Results of the Noise Study Report

The NSR for this project was prepared by Acentech, Inc. on April 23, 2010 and approved by Robert Yalda, P.E., Public Works Director for the City of Calabasas, on April 28, 2011.

The following is a discussion of noise abatement considered for each evaluation area where traffic noise impacts are predicted for each of the design alternatives. The modeled peak-hour noise levels for the future year 2040 for Alternative 3 through Alternative 7 were compared to traffic noise level under existing and design year conditions (with and without the project). Where outdoor noise levels for each alternative (build without barrier) approach or exceed the NAC, barrier heights ranging from 8 ft to 16 ft were evaluated and the results are included in tables 1-2 to 1-7 below. The minimum barrier heights are identified which would provide at least 5 dB noise reduction. The minimum barrier heights required to cut the line-of-sight from each receptor to the exhaust stacks of heavy trucks was also calculated.

Table 1-2. Summary of Alt. 2 Soundwall Locations and Elevations

Barrier No.	Barrier Location	US-101 Barrier Location	Approximate Barrier Height	Top of Barrier Elevation, ft
S32/Edge of Roadway	ETW (NB On-Ramp)	1687+10	0	799
		1687+10	16	815
		1689+00	16	803
		1692+00	16	799
		1695+00	16	809
		1698+00	16	824
		1701+00	16	839
		1703+00	16	850
		1704+00	16	854
		1704+00	12	850
		1705+00	12	856
		1705+00	8	852
		1706+00	8	857
		1706+00	0	855
		Approximate Length: 1,890 ft		

Table 1-3. Summary of Alt. 3 Soundwall Locations and Elevations

Barrier No.	Barrier Location	US-101 Barrier Location	Approximate Barrier Height	Top of Barrier Elevation, ft
S32/Edge of Roadway	ETW (NB On-Ramp)	1685+20	0	812
		1685+20	10	822
		1687+00	10	809
		1687+00	12	811
		1689+00	12	799
		1689+00	16	803
		1692+00	16	799
		1695+00	16	809
		1698+00	16	824
		1701+00	16	839
		1703+00	16	850
		1703+00	10	844
		1704+00	10	848
		1705+00	10	854
		1705+00	8	852
		1706+00	8	857
		1706+00	0	849
		Approximate Length: 2,080 ft		

Table 1-4. Summary of Alt. 4 Soundwall Locations and Elevations

Barrier No.	Barrier Location	US-101 Barrier Location	Approximate Barrier Height	Top of Barrier Elevation, ft
S32/Edge of Roadway	ETW (NB On-Ramp)	1685+10	0	812
		1685+10	16	828
		1687+00	16	815
		1687+00	16	815
		1689+00	16	803
		1692+00	16	799
		1695+00	16	809
		1698+00	16	824
		1701+00	16	839
		1703+00	16	850
		1704+00	16	854
		1704+00	10	848
		1705+00	10	854
		1706+00	10	859
		1706+00	0	849
		Approximate Length: 2,090 ft		

Table 1-5. Summary of Alt. 5 Soundwall Locations and Elevations

Barrier No.	Barrier Location	US-101 Barrier Location	Approximate Barrier Height	Top of Barrier Elevation, ft
S32/Edge of Roadway	ETW (NB On-Ramp)	1685+10	0	812
		1685+10	10	822
		1687+00	10	809
		1687+00	16	815
		1689+00	16	803
		1692+00	16	799
		1695+00	16	809
		1698+00	16	824
		1701+00	16	839
		1703+00	16	850
		1705+01	16	854
		1706+00	16	854
		1707+00	16	871
		1707+00	0	855
		Approximate Length: 2,090 ft		

Table 1-6. Summary of Alt. 6 Soundwall Locations and Elevations

Barrier No.	Barrier Location	US-101 Barrier Location	Approximate Barrier Height	Top of Barrier Elevation, ft
S32/Edge of Roadway	ETW (NB On-Ramp)	1685+10	0	799
		1685+10	10	809
		1687+00	10	797
		1687+00	16	803
		1689+00	16	799
		1692+00	16	809
		1695+00	16	824
		1698+00	16	839
		1701+00	14	848
		1703+00	14	852
		1703+00	10	848
		1704+00	10	854
		1705+00	10	859
		1705+00	0	849
		Approximate Length: 1,990 ft		

Table 1-7. Summary of Alt. 7 Soundwall Locations and Elevations

Barrier No.	Barrier Location	US-101 Barrier Location	Approximate Barrier Height	Top of Barrier Elevation, ft
S32/Edge of Roadway	ETW (NB On-Ramp)	1684+68	0	810
		1685+00	16	809
		1686+00	16	805
		1687+00	16	802
		1688+00	16	800
		1689+00	16	798
		1690+00	16	798
		1691+00	16	798
		1692+00	16	799
		1693+00	16	801
		1694+00	16	804
		1695+00	16	809
		1696+00	16	814
		1697+00	16	819
		1698+00	16	824
		1699+00	16	828
		1700+00	16	833
		1701+00	16	838
		1701+00	14	836
		1702+00	14	842
		1703+00	14	847
		1704+00	14	851
		1704+00	12	849
		1705+00	12	855
		1705+00	0	843
		Approximate Length: 2,032 ft		

The results of the barrier analysis as presented in the NSR include one soundwall along the edge of traveled way for the northbound on-ramp. A location along the highway right of way is lower than the highway and was discarded from considerations. If placed at right of way, the wall would have to be higher than 16' to reach the elevations needed to benefit residences per the NSR. Placing a soundwall along the edge of traveled way would be beneficial to some residents but is impractical due to the future widening of US-101. Locating the soundwall along Canwood Street was also discarded since in many areas it is lower than the highway and the residences. A soundwall along Lost Hills Road would not provide substantial noise reduction to the community since noise from the highway and ramps are the major contributor to the noise in this residential area. The noise at some non-first row receivers and Grape Arbor Park did not exceed the NAC and would not benefit from noise abatement. Although these receivers would be behind the wall, many would not receive a 5 dB noise reduction and are not considered as benefited. Soundwalls along Lost Hills Road would not benefit these receptors.

Alternative 3

As described in Table 2-3, Soundwall S32 would be 8 ft to 16 ft in height located along the northbound on-ramp to US-101, extending between Stations 1685+20 and 1706+00. Sheets 3 and 4 in Appendix A shows the location and height of S32 to achieve a 5 dB noise reduction. This wall would have a reasonable allowance per residence of $53,000 based on the base reasonable allowance of $31,000 per residence (Caltrans, 2009).

Table 2-3. Summary of Alt. 3 Barrier Evaluation from Noise Study Report

Barrier	Location	Station	Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Reasonable Allowance per Residence	Total Reasonable Allowance
S32	ETW NB On-Ramp	1685+20 to 1706+00	6	No	0	$0	$0
			8	Yes	13	$51,000	$663,000
			10	Yes	18	$53,000	$954,000
			12	Yes	21	$53,000	$1,113,000
			14	Yes	23	$53,000	$1,219,000
			16	Yes	25	$53,000	$1,325,000

ETW = Edge of travel way

Alternative 4

As described in Table 2-4, Soundwall S32 would be 10 ft to 16 ft in height located along the northbound on-ramp to US-101, extending between Stations 1685+10 and 1706+00. Sheets 5 and 6 in Appendix A shows the location and height of S32 to achieve a 5 dB noise reduction. This wall would have a reasonable allowance per residence of $53,000 based on the base reasonable allowance of $31,000 per residence (Caltrans, 2009).

Table 2-4. Summary of Alt. 4 Barrier Evaluation from Noise Study Report

Barrier	Location	Station	Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Reasonable Allowance per Residence	Total Reasonable Allowance
S32	ETW NB On-Ramp	1685+10 to 1706+00	6	No	0	$0	$0
			8	Yes	15	$51,000	$765,000
			10	Yes	18	$53,000	$954,000
			12	Yes	21	$53,000	$1,113,000
			14	Yes	23	$53,000	$1,219,000
			16	Yes	27	$53,000	$1,431,000

ETW = Edge of travel way

Alternative 5

As described in Table 2-5, Soundwall S32 would be 10 ft to 16 ft in height located along the northbound on-ramp to US-101, extending between Stations 1685+00 and 1707+00. Sheets 7 and 8 in Appendix A shows the location and height of S32 to achieve a 5 dB noise reduction. This wall would have a reasonable cost per residence of $53,000 based on the base reasonable allowance of $31,000 per residence (Caltrans, 2009).

Table 2-5. Summary of Alt. 5 Barrier Evaluation from Noise Study Report

Barrier	Location	Station	Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Reasonable Allowance per Residence	Total Reasonable Allowance
S32	ETW NB On-Ramp	1685+00 to 1707+00	6	No	0	$0	$0
			8	Yes	17	$51,000	$867,000
			10	Yes	18	$53,000	$954,000
			12	Yes	21	$53,000	$1,113,000
			14	Yes	24	$53,000	$1,272,000
			16	Yes	25	$53,000	$1,325,000

ETW = Edge of travel way

Alternative 6

As described in Table 2-6, Soundwall S32 would be 10 ft to 16 ft in height located along the northbound on-ramp to US-101, extending between Stations 1685+10 and 1705+00. Sheets 9 and 10 in Appendix A shows the location and height of S32 to achieve a 5 dB noise reduction. This wall would have a reasonable allowance per residence of $53,000 based on the base reasonable allowance of $31,000 per residence (Caltrans, 2009).

Table 2-6. Summary of Alt. 6 Barrier Evaluation from Noise Study Report

Barrier	Location	Station	Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Reasonable Allowance per Residence	Total Reasonable Allowance
S32	ETW NB On-Ramp	1685+10 to 1705+00	6	No	0	$0	$0
			8	Yes	13	$51,000	$663,000
			10	Yes	18	$53,000	$954,000
			12	Yes	21	$53,000	$1,113,000
			14	Yes	23	$53,000	$1,219,000
			16	Yes	25	$53,000	$1,325,000

ETW = Edge of travel way

Alternative 7

As described in Table 2-7 below, Soundwall S32 would be 12 ft to 16 ft in height located along the northbound on-ramp to US-101, extending between Stations 1684+68 and 1705+00. The top of wall elevation south of 1685+00 would remain constant as the wall tapers into the embankment for Lost Hills Road. Sheets 11 and 12 in Appendix A shows the location and height of S32 to achieve a 5 dB noise reduction. This wall would have a reasonable allowance per residence of $53,000 based on the base reasonable allowance of $31,000 per residence (Caltrans, 2009).

Table 2-7. Summary of Alt. 7 Barrier Evaluation from Noise Study Report

Barrier	Location	Station	Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Reasonable Allowance per Residence	Total Reasonable Allowance
S32	ETW NB On-Ramp	1684+68 to 1705+00	6	No	0	$0	$0
			8	Yes	13	$51,000	$663,000
			10	Yes	16	$51,000	$816,000
			12	Yes	17	$53,000	$901,000
			14	Yes	20	$53,000	$1,060,000
			16	Yes	23	$53,000	$1,219,000

ETW = Edge of travel way

3. Preliminary Noise Abatement Decision

3.1. Summary of Key Information

In accordance with 23 CFR 772, noise abatement is considered where noise impacts are predicted in areas of frequent human use that would benefit from a lowered noise level. Because of the configuration and location of the project, abatement in the form of noise barriers is the only abatement that is considered to be feasible.

As provided in the NSR, the minimum barrier heights required to cut the line of sight from each receptor to the exhaust stacks of heavy trucks was calculated. A 12-foot barrier typically breaks the line of sight to an 11.5-foot truck stack, however, because of upslope conditions, 14-foot high was required at some locations. A 16-foot high sound wall benefits the most residences by providing at least 5 dB reduction and blocks the line of sight between heavy truck exhaust stacks on the highway and first row residential and recreational land uses.

Unusual and extraordinary abatement measures do not have to be considered for this project. Although some residences exceed a noise level of 75 dBA, the noise levels at all of those residences can be reduced by 5 dBA or more through a comination of sound walls and berms.

Tables 3-3 through 3-7 below are an evaluation of the following:

- an indication of acoustical feasibility,
- number of benefited residences,
- the total reasonableness allowance and engineer's cost estimate for the abatement,
- the total reasonableness allowance and engineer's cost estimate for each barrier and barrier height evaluated, and
- comparison of cost versus allowance.

Alternative 3

Table 3-3. Summary of Abatement Key Information						
Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?
S32	6	No	0	$0	NA	NA
	8	Yes	13	$663,000	$481,000	Yes
	10	Yes	18	$954,000	$666,000	Yes
	12	Yes	21	$1,113,000	$777,000	Yes
	14	Yes	23	$1,219,000	$851,000	Yes
	16	Yes	25	$1,325,000	$925,000	Yes

Alternative 4

Table 3-4. Summary of Abatement Key Information						
Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?
S32	6	No	0	$0	NA	NA
	8	Yes	15	$765,000	$450,000	Yes
	10	Yes	18	$954,000	$540,000	Yes
	12	Yes	21	$1,113,000	$630,000	Yes
	14	Yes	23	$1,219,000	$690,000	Yes
	16	Yes	27	$1,431,000	$810,000	Yes

Alternative 5

Table 3-5. Summary of Abatement Key Information						
Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?
S32	6	No	0	$0	NA	NA
	8	Yes	17	$867,000	$697,000	Yes
	10	Yes	18	$954,000	$738,000	Yes
	12	Yes	21	$1,113,000	$861,000	Yes
	14	Yes	24	$1,272,000	$984,000	Yes
	16	Yes	25	$1,325,000	$1,025,000	Yes

Alternative 6

Table 3-6. Summary of Abatement Key Information						
Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?
S32	6	No	0	$0	NA	NA
	8	Yes	13	$663,000	$416,000	Yes
	10	Yes	18	$954,000	$576,000	Yes
	12	Yes	21	$1,113,000	$672,000	Yes
	14	Yes	23	$1,219,000	$736,000	Yes
	16	Yes	25	$1,325,000	$800,000	Yes

Alternative 7

Table 3-7. Summary of Abatement Key Information						
Barrier	Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?
S32	6	No	0	$0	NA	NA
	8	Yes	13	$663,000	$429,000	Yes
	10	Yes	16	$816,000	$528,000	Yes
	12	Yes	17	$901,000	$561,000	Yes
	14	Yes	20	$1,060,000	$660,000	Yes
	16	Yes	23	$1,219,000	$759,000	Yes

3.2. Nonacoustical Factors Relating to Feasibility

The following nonacoustical factors relating to the feasibility of noise abatement for all alternatives were considered:

- Locating the proposed sound wall along the northbound on-ramp to US-101 would have a potential conflict with existing storm drain inlets and pipes and proposed storm drain improvements between stations 1688+50 and 1690+50.

- The sound wall location would create maintenance challenges. The maintenance from the freeway side would be uninhibited since it is along the edge of traveled way. The back of the wall will be difficult to access because of the upslope conditions.

This area would be difficult to access from Caltrans right-of-way and would be subject to vandalism.

- The Transportation Concept Report for US-101 recommends the addition of a HOV lane for the stretch of US-101 that encompasses the Lost Hills Road interchange. Although the widening of the freeway is unfunded at this time it should be noted that a sound wall that would be constructed at this time would have to be demolished in the future to allow for the widening.

- The proposed sound wall would not have any impact on the geometric standards, such as minimum sight distances.

3.3. Preliminary Recommendation and Decision

The preliminary noise abatement decision presented in this report is based on preliminary project alignments and profiles, which may be subject to change. As such, the physical characteristics of noise abatement described herein also may be subject to change. If pertinent parameters change substantially during the final project design, the preliminary noise abatement decision may be changed or eliminated from the final project design. A final decision to construct noise abatement will be made upon completion of the project design.

The preliminary noise abatement decision presented here will be included in the draft environmental document, which will be circulated for public review.

The result of the analysis shows that the cost to construct the sound wall, if 8' or higher, is less than the reasonable allowance per benefited residence as defined by Caltrans. The main noise producer impacting the residences is the traffic on the freeway mainline. Freeway traffic will be unchanged with the improvements proposed for this project.

At the Public Scoping meeting for the project held in September 2009, residents expressed concerns from the existing and future noise levels from the freeway traffic. They noted a particular interest in having sound walls constructed as part of this project.

It is recommended that soundwalls be constructed for noise abatement as the reasonable cost is less than the reasonable allowance. It should be noted that the sound wall that would be constructed at this time would have to be removed in the future when the freeway widening project is implemented.

4. Secondary Effects of Abatement

The noise abatement method considered for this project is not expected to have secondary effects on the environment.

5. References

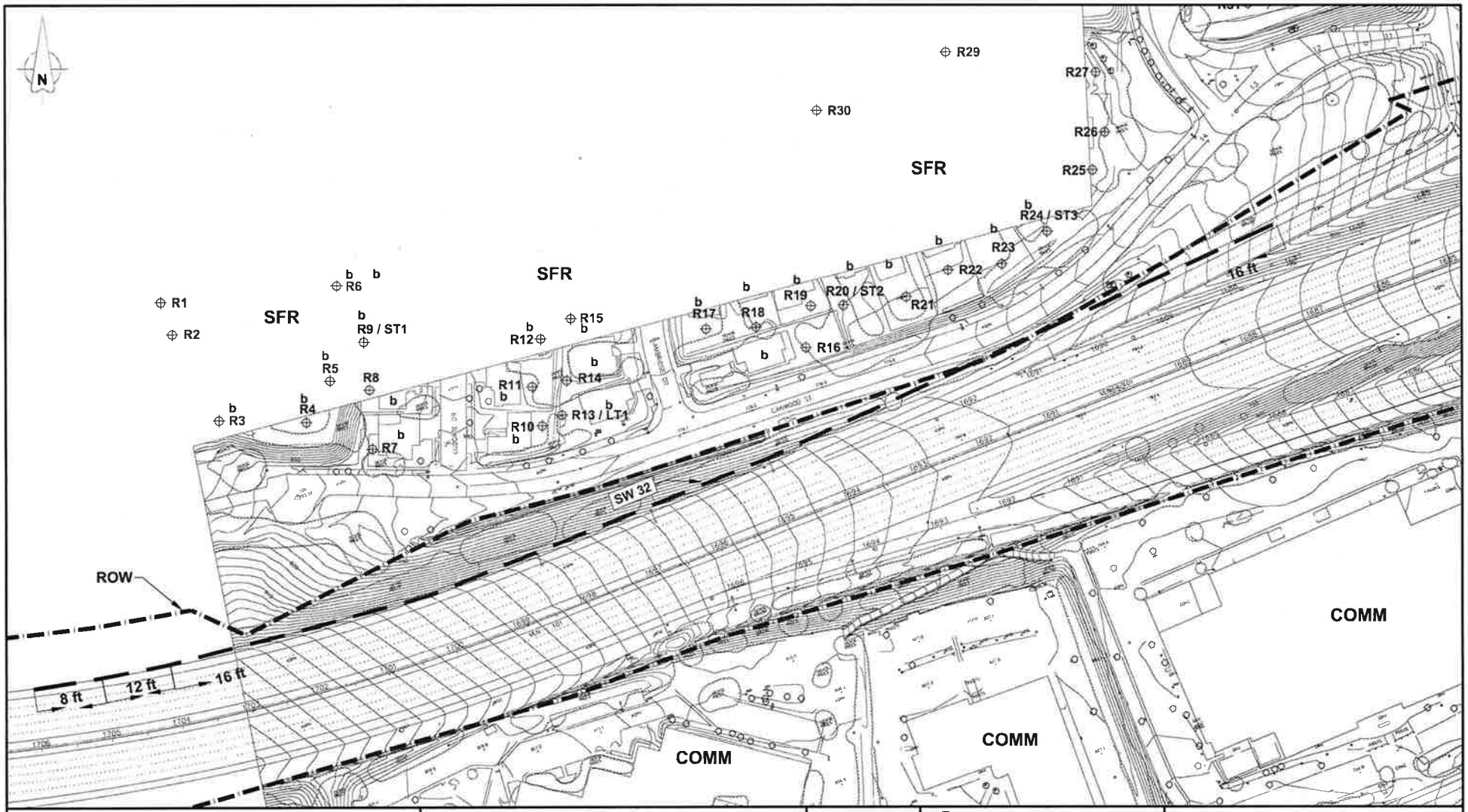
23 CFR Part 772, 2009. *Procedures for Abatement of Highway Traffic Noise and Construction Noise*, 23 Codes of Federal Regulations, part 772, April

Caltrans, 2006. California Department of Transportation. *Traffic Noise Analysis Protocol, August.*

Caltrans, 2006. *Standard Specifications,* May.

Acentech Inc. 2010. *Noise Study Report, US-101 / Lost Hills Road Interchange, Calabasas, California-EA 07-242300.*

Appendix A Sound Wall Location



LEGEND			
R5	SENSITIVE RECEPTOR SITE		RIGHT OF WAY
b	BENEFITED RESIDENCE	SFR	SINGLE FAMILY RESIDENCE
	SOUNDWALL	COMM	COMMERCIAL
	EXISTING MASONRY WALL	REC	RECREATIONAL
	EXISTING WOODEN FENCE		

SCALE

150 Feet 0 150 300 Feet

Caltrans

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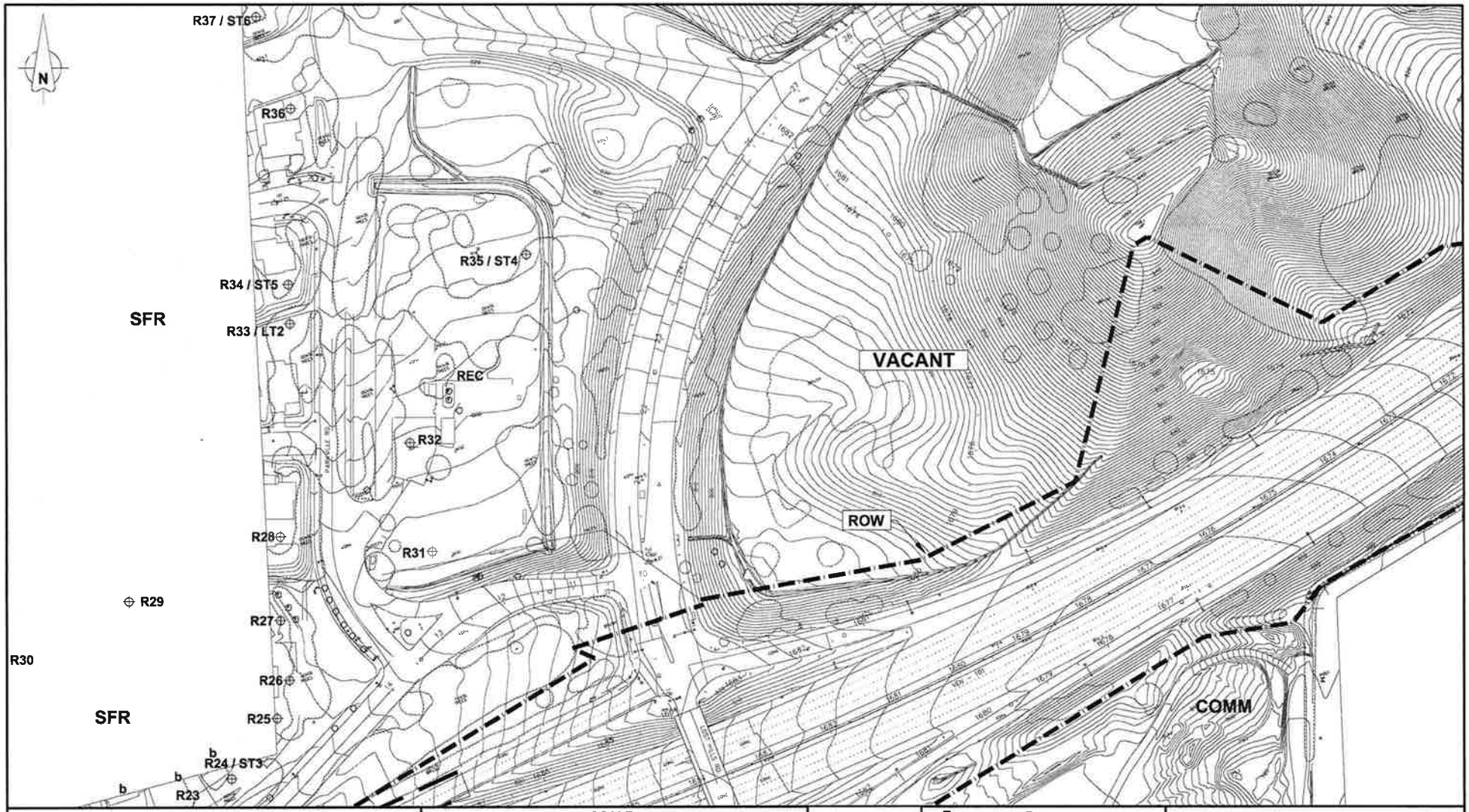
LOST HILLS ROAD INTERCHANGE PROJECT

SENSITIVE RECEPTOR AND NOISE BARRIER LOCATIONS ALTERNATIVE 2

SHEET 1 OF 12



LEGEND

R5	SENSITIVE RECEPTOR SITE		RIGHT OF WAY
b	BENEFITED RESIDENCE	SFR	SINGLE FAMILY RESIDENCE
	SOUNDWALL	COMM	COMMERCIAL
	EXISTING MASONRY WALL	REC	RECREATIONAL
	EXISTING WOODEN FENCE		

SCALE

150 Feet 0 150 300 Feet

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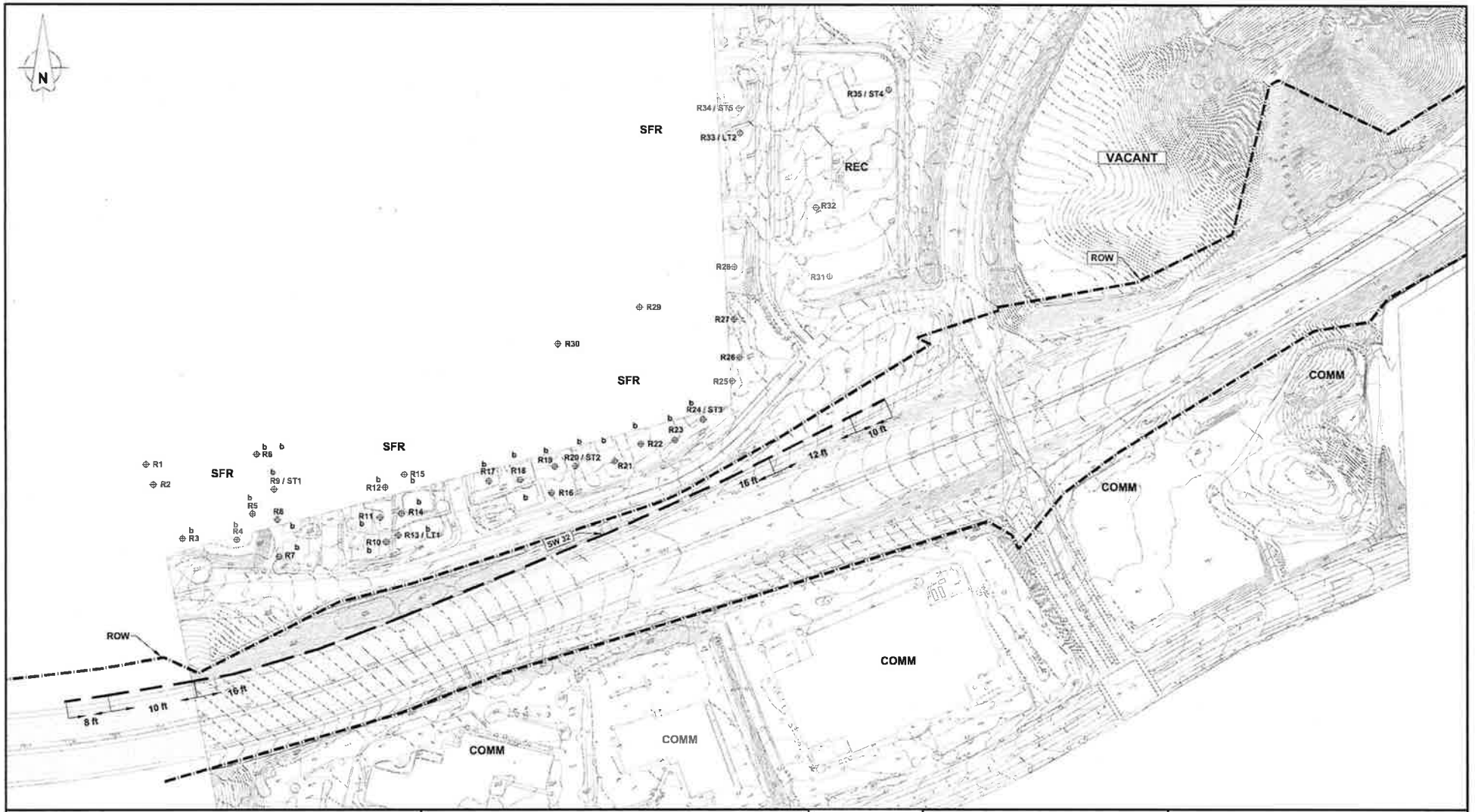
LOST HILLS ROAD INTERCHANGE PROJECT

SENSITIVE RECEPTOR AND NOISE BARRIER LOCATIONS ALTERNATIVE 2

SHEET 2 OF 12



LEGEND

R5	SENSITIVE RECEPTOR SITE		RIGHT OF WAY
b	BENEFITED RESIDENCE	SFR	SINGLE FAMILY RESIDENCE
———	SOUNDWALL	COMM	COMMERCIAL
- - - -	EXISTING MASONRY WALL	REC	RECREATIONAL
-x-x-x-	EXISTING WOODEN FENCE		

SCALE

150 Feet 0 150 300 Feet

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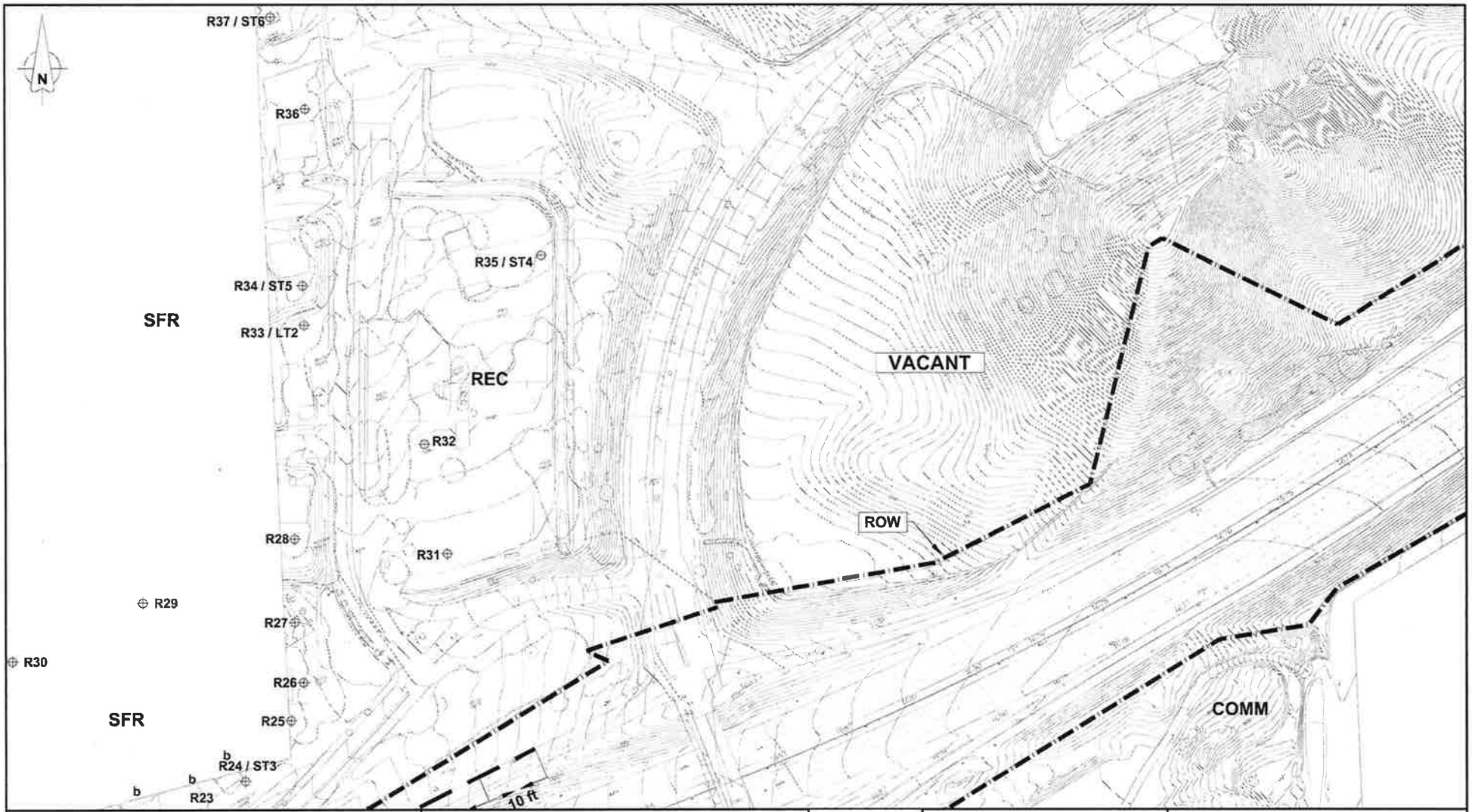
LOST HILLS ROAD INTERCHANGE PROJECT

SENSITIVE RECEPTOR AND NOISE BARRIER LOCATIONS ALTERNATIVE 3

SHEET 3 OF 12



LEGEND

R5	SENSITIVE RECEPTOR SITE		RIGHT OF WAY
b	BENEFITED RESIDENCE	SFR	SINGLE FAMILY RESIDENCE
	SOUNDWALL	COMM	COMMERCIAL
	EXISTING MASONRY WALL	REC	RECREATIONAL
	EXISTING WOODEN FENCE		

SCALE

150 Feet 0 150 300 Feet

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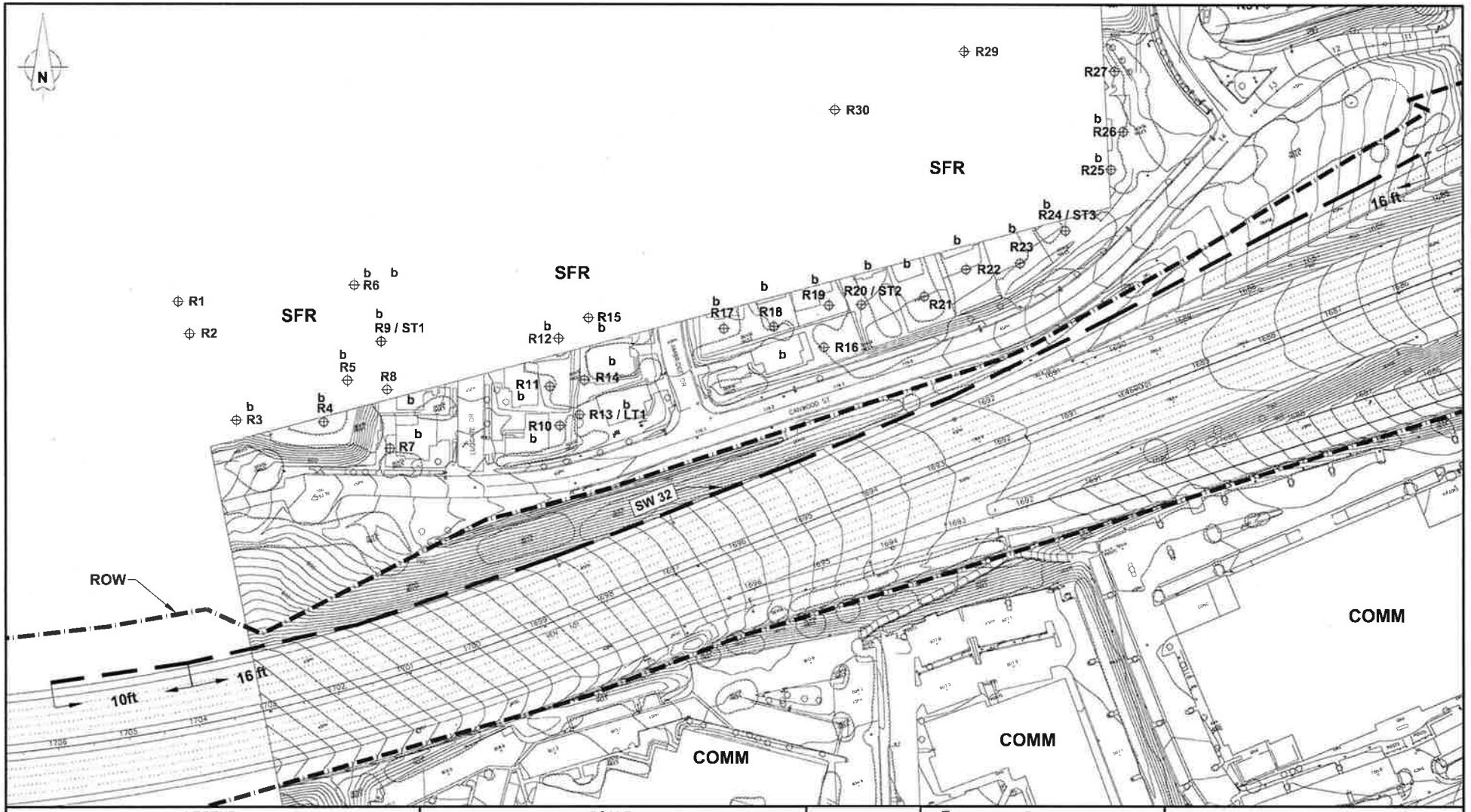
LOST HILLS ROAD INTERCHANGE PROJECT

SENSITIVE RECEPTOR AND NOISE BARRIER LOCATIONS ALTERNATIVE 3

SHEET 4 OF 12



LEGEND			
R5	SENSITIVE RECEPTOR SITE		RIGHT OF WAY
b	BENEFITED RESIDENCE	SFR	SINGLE FAMILY RESIDENCE
	SOUNDWALL	COMM	COMMERCIAL
	EXISTING MASONRY WALL	REC	RECREATIONAL
	EXISTING WOODEN FENCE		

SCALE

150 Feet 0 150 300 Feet

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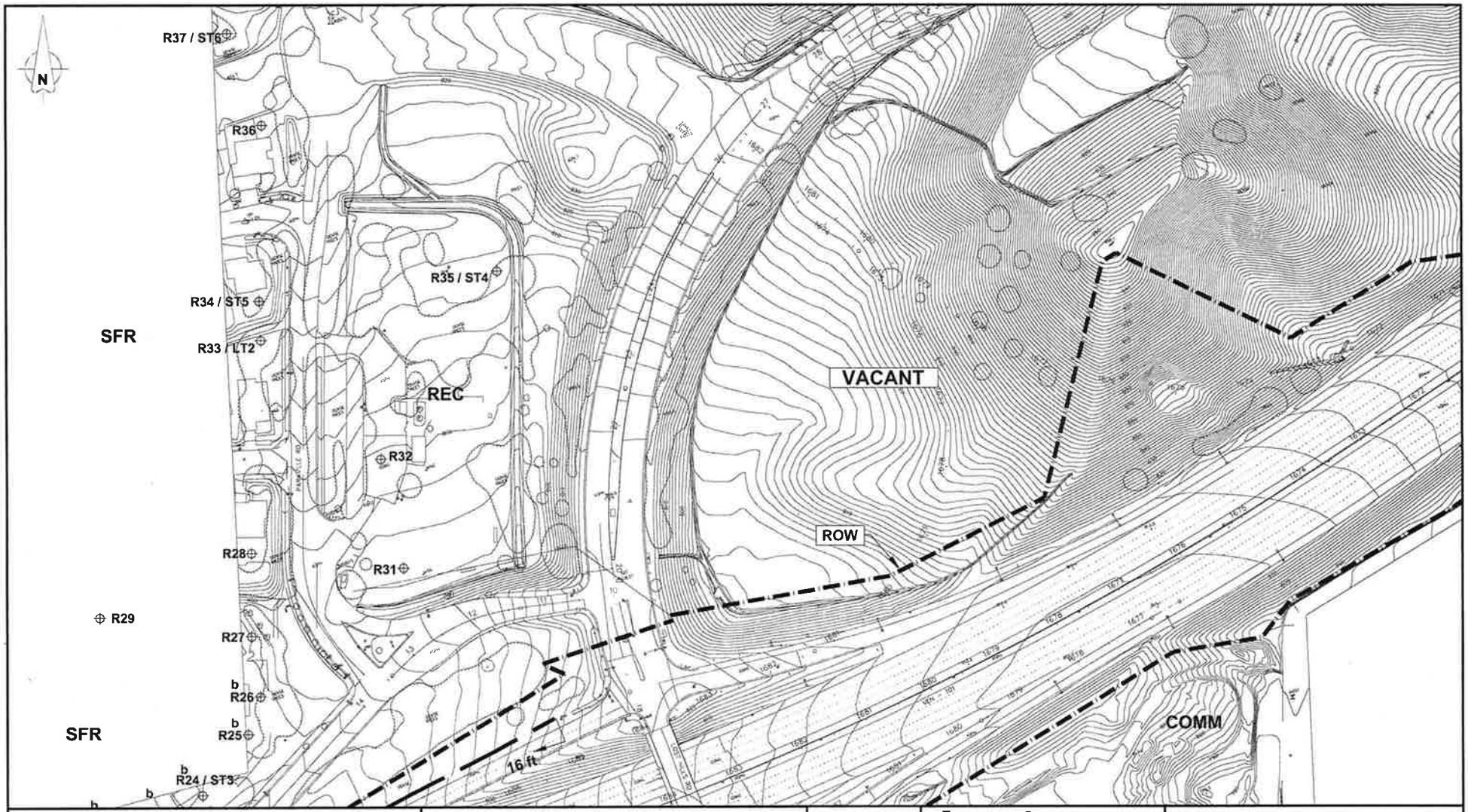
LOST HILLS ROAD INTERCHANGE PROJECT

SENSITIVE RECEPTOR AND NOISE BARRIER LOCATIONS ALTERNATIVE 4



LEGEND

R5	SENSITIVE RECEPTOR SITE		RIGHT OF WAY
b	BENEFITED RESIDENCE	SFR	SINGLE FAMILY RESIDENCE
	SOUNDWALL	COMM	COMMERCIAL
	EXISTING MASONRY WALL	REC	RECREATIONAL
	EXISTING WOODEN FENCE		

SCALE

150 Feet 0 150 300 Feet

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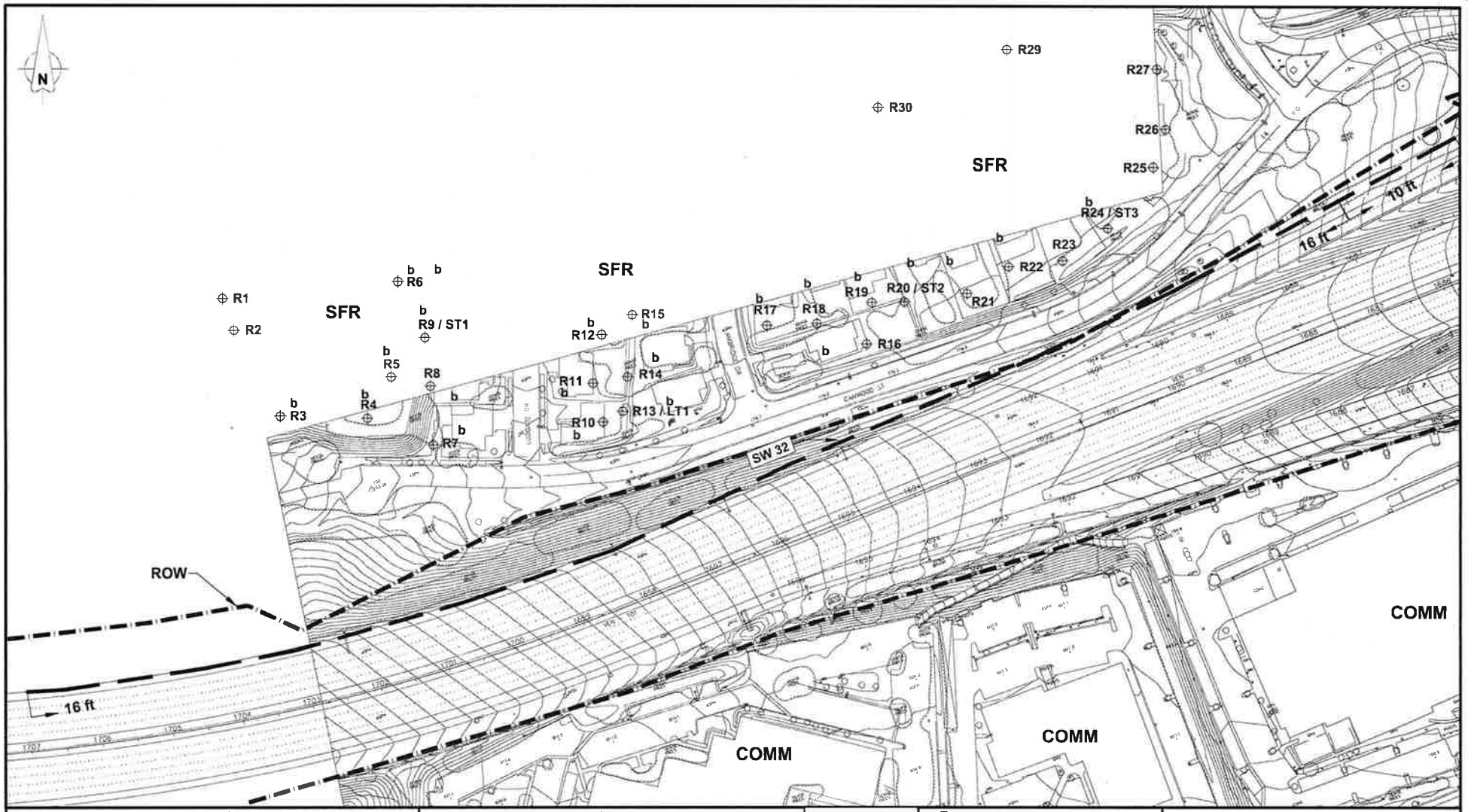
LOST HILLS ROAD INTERCHANGE PROJECT

SENSITIVE RECEPTOR AND NOISE BARRIER LOCATIONS ALTERNATIVE 4

SHEET 6 OF 12



LEGEND

R5	SENSITIVE RECEPTOR SITE		RIGHT OF WAY
b	BENEFITED RESIDENCE	SFR	SINGLE FAMILY RESIDENCE
	SOUNDWALL	COMM	COMMERCIAL
	EXISTING MASONRY WALL	REC	RECREATIONAL
	EXISTING WOODEN FENCE		

SCALE

150 Feet 0 150 300 Feet

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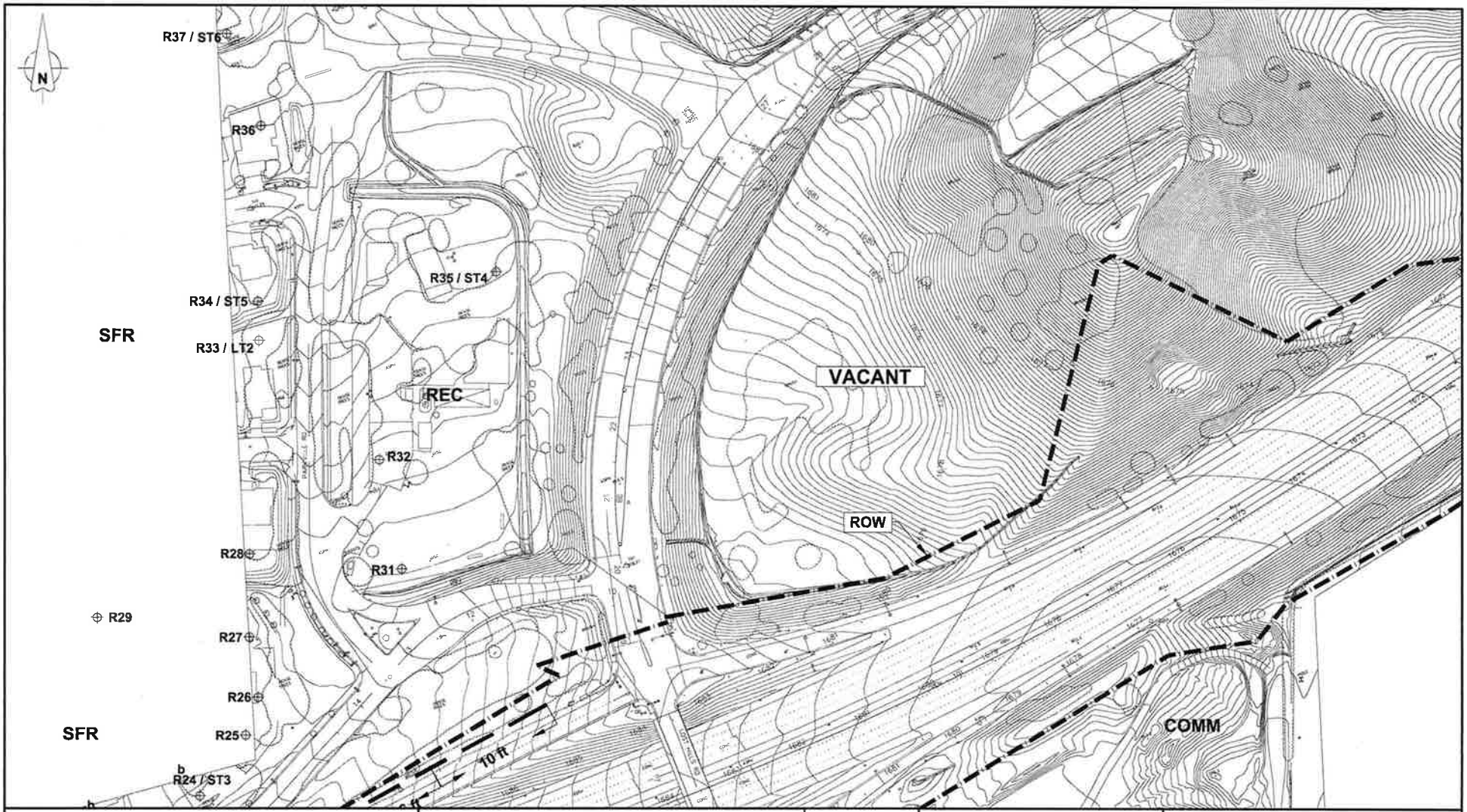
LOST HILLS ROAD INTERCHANGE PROJECT

SENSITIVE RECEPTOR AND NOISE BARRIER LOCATIONS ALTERNATIVE 5

SHEET 7 OF 12



LEGEND

R5	SENSITIVE RECEPTOR SITE		RIGHT OF WAY
b	BENEFITED RESIDENCE	SFR	SINGLE FAMILY RESIDENCE
	SOUNDWALL	COMM	COMMERCIAL
	EXISTING MASONRY WALL	REC	RECREATIONAL
	EXISTING WOODEN FENCE		

SCALE

150 Feet 0 150 300 Feet

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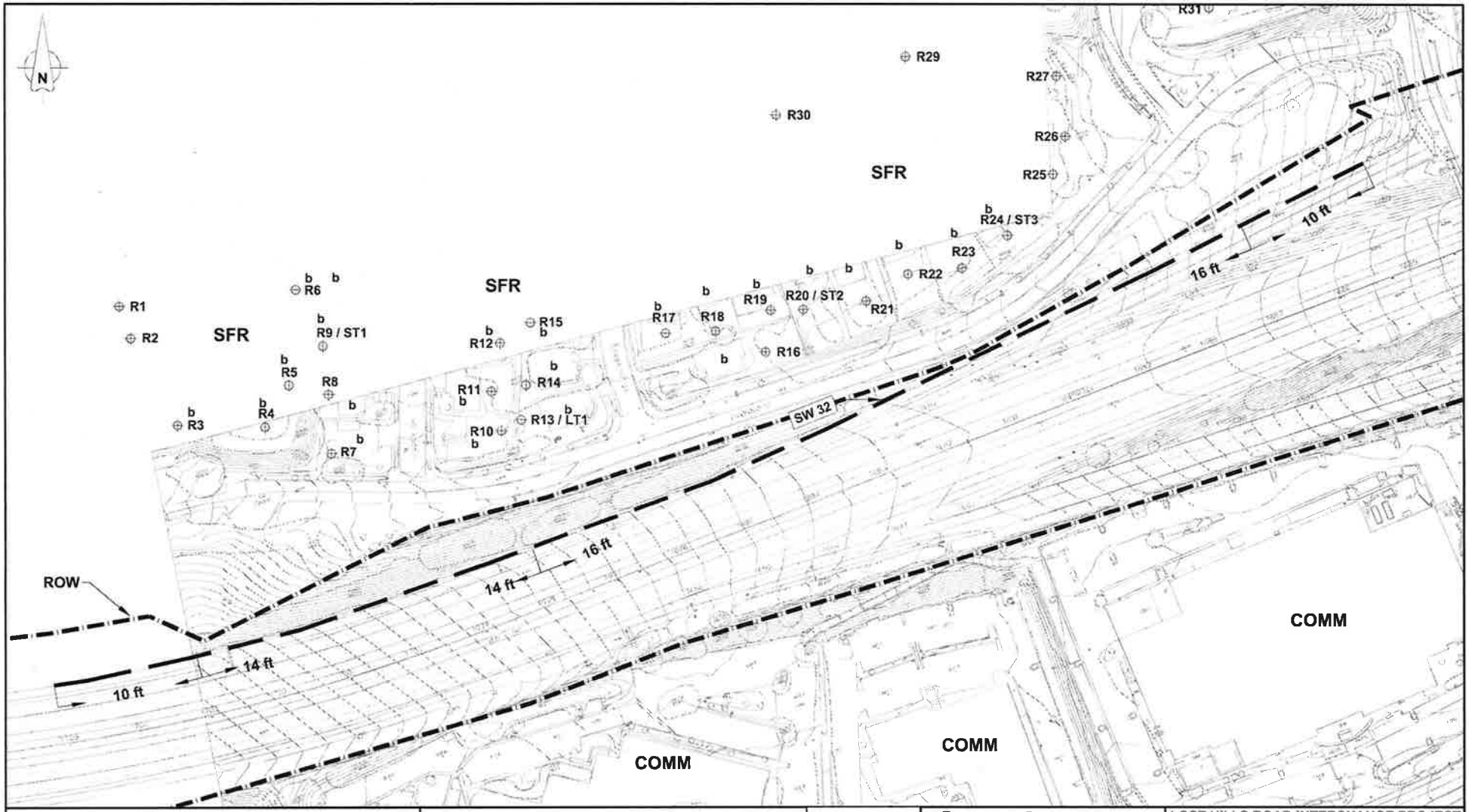
LOST HILLS ROAD INTERCHANGE PROJECT

SENSITIVE RECEPTOR AND NOISE BARRIER LOCATIONS ALTERNATIVE 5



LEGEND			
R5	SENSITIVE RECEPTOR SITE		RIGHT OF WAY
b	BENEFITED RESIDENCE	SFR	SINGLE FAMILY RESIDENCE
———	SOUNDWALL	COMM	COMMERCIAL
- - - -	EXISTING MASONRY WALL	REC	RECREATIONAL
-x-x-x-	EXISTING WOODEN FENCE		

SCALE

150 Feet 0 150 300 Feet

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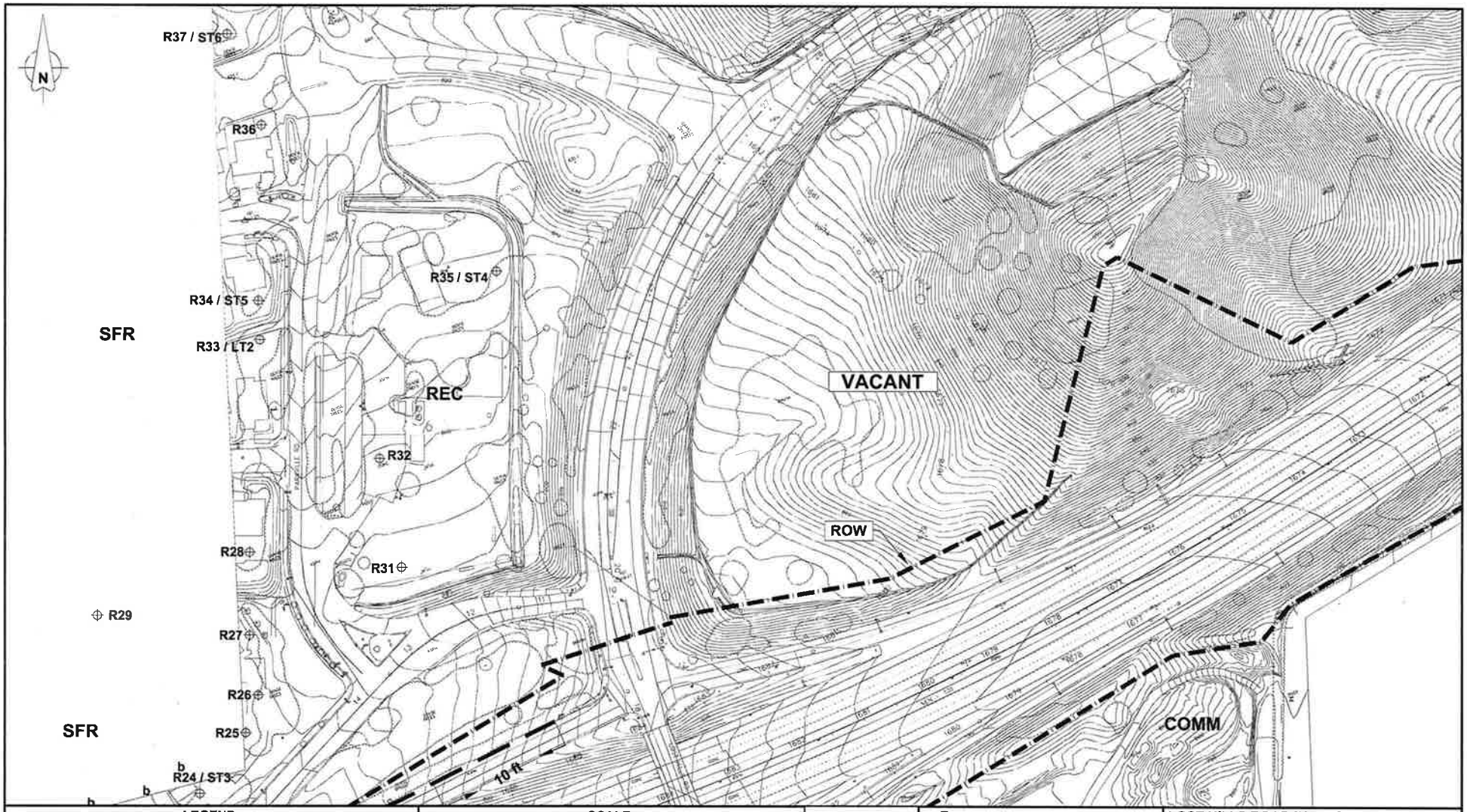
LOST HILLS ROAD INTERCHANGE PROJECT

SENSITIVE RECEPTOR AND NOISE BARRIER LOCATIONS ALTERNATIVE 6

SHEET 9 OF 12



LEGEND			
R5	SENSITIVE RECEPTOR SITE		RIGHT OF WAY
b	BENEFITED RESIDENCE	SFR	SINGLE FAMILY RESIDENCE
	SOUNDWALL	COMM	COMMERCIAL
	EXISTING MASONRY WALL	REC	RECREATIONAL
	EXISTING WOODEN FENCE		

SCALE

150 Feet 0 150 300 Feet

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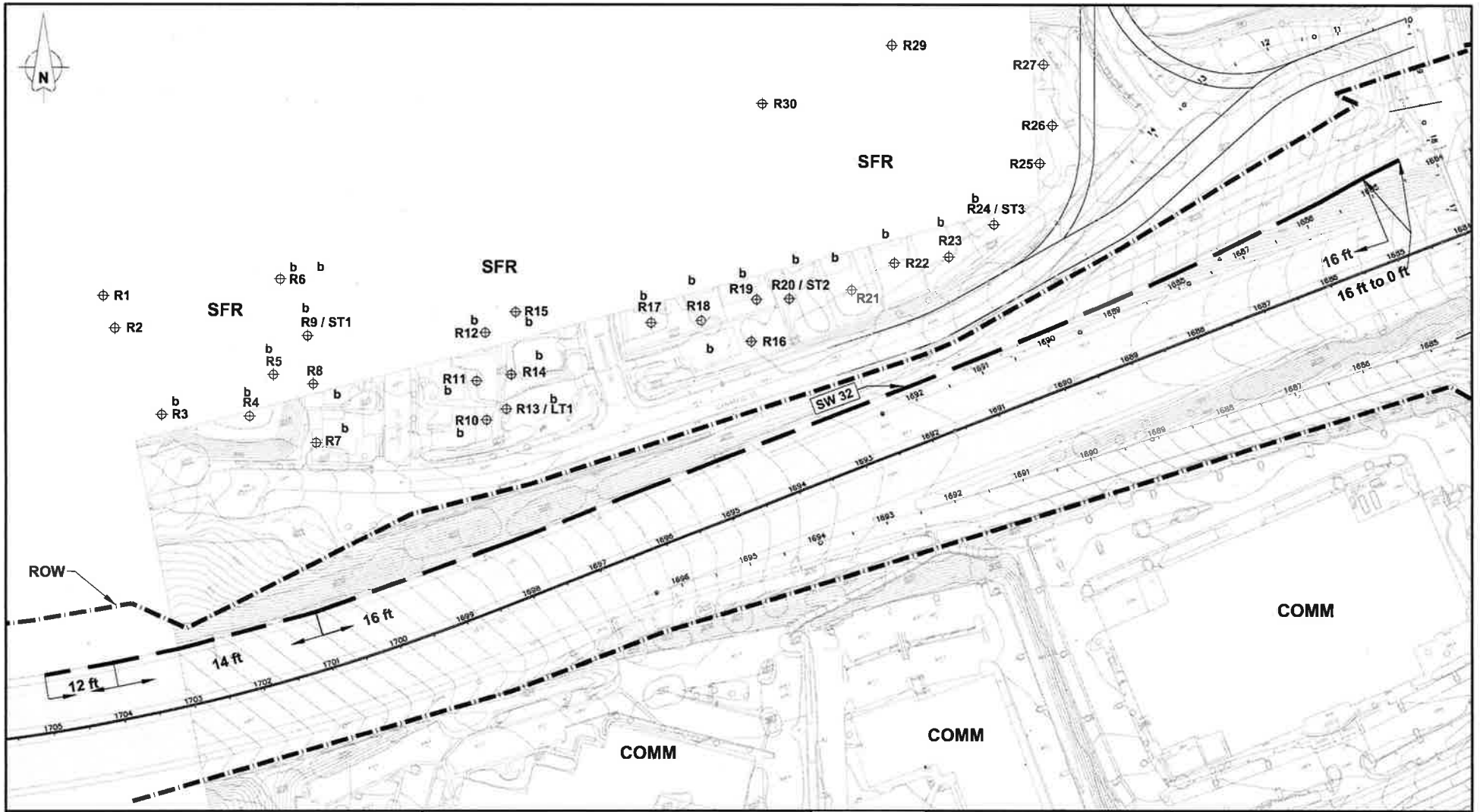
SENSITIVE RECEPTOR AND NOISE BARRIER LOCATIONS ALTERNATIVE 6

SHEET 10 OF 12



LEGEND			
R5	SENSITIVE RECEPTOR SITE		RIGHT OF WAY
b	BENEFITED RESIDENCE	SFR	SINGLE FAMILY RESIDENCE
	SOUNDWALL	COMM	COMMERCIAL
	EXISTING MASONRY WALL	REC	RECREATIONAL
	EXISTING WOODEN FENCE		

SCALE

150 Feet 0 150 300 Feet

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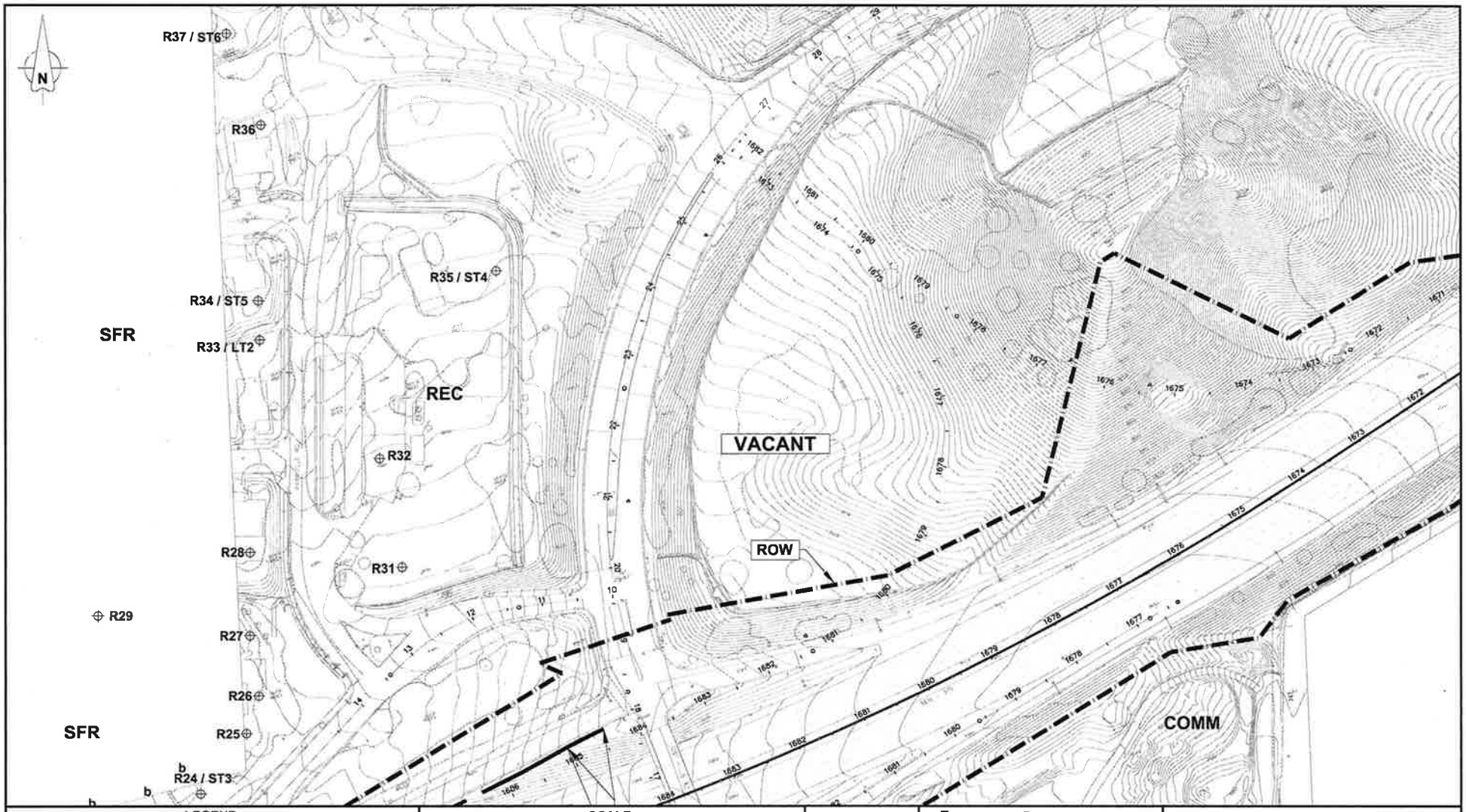
LOST HILLS ROAD INTERCHANGE PROJECT

SENSITIVE RECEPTOR AND NOISE BARRIER LOCATIONS ALTERNATIVE 7

SHEET 11 OF 12



LEGEND

R5	SENSITIVE RECEPTOR SITE		RIGHT OF WAY
b	BENEFITED RESIDENCE	SFR	SINGLE FAMILY RESIDENCE
	SOUNDWALL	COMM	COMMERCIAL
	EXISTING MASONRY WALL	REC	RECREATIONAL
	EXISTING WOODEN FENCE		

SCALE

150 Feet 0 150 300 Feet

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LOST HILLS ROAD INTERCHANGE PROJECT

SENSITIVE RECEPTOR AND NOISE BARRIER LOCATIONS ALTERNATIVE 7

SHEET 12 OF 12