

Ref: 9090

February 22, 2023

Mr. Anthony J. Bucchere, Chair
Zoning Board of Appeals
Town of Scituate
600 Chief Justice Cushing Highway
Scituate, MA 02066

Attn: Ms. Janine M. Cicchese

Re: Response to 2nd Traffic Peer Review
The Cottages at Old Oaken Bucket - 279-281 Old Oaken Bucket Road
Scituate, Massachusetts

Dear Ms. Cicchese:

Vanasse & Associates, Inc. (VAI) is providing responses to the comments that were raised in the December 29, 2022 2nd *Traffic Peer Review* letter prepared by Ron Müller & Associates (RMA) in reference to their review of the October 24, 2022 *Response to Traffic Peer Review* (the “October 2022 Response Letter”) prepared by VAI in support of The Cottages at Old Oaken Bucket to be located at 279-281 Old Oaken Bucket Road in Scituate, Massachusetts (hereafter referred to as the “Project”). Listed below are the comments that were identified by RMA in the subject letter pertaining to the October 2022 Response Letter followed by our response on behalf of the Applicant.

Comment 1: *There was a discrepancy between the various site plans submitted that requires clarification. There is a site plan set dated February 7, 2022 that shows a different unit mix and access configuration than the June 6, 2022 Preliminary Plan on which the traffic study was based. The February 7, 2022 plan shows 26 duplex units in 13 buildings and 5 single family homes in addition to an existing house on the site. Most of the units are shown to be accessed via the same driveway as on the June 6, 2022 plan with the exception of one duplex building and the existing home that have direct access from Old Oaken Bucket Road. It is unclear which site plan is proposed, but for the purpose of the initial review, the June 6, 2022 site plan was assumed to be the correct one as it matches the description in the traffic study.*

The applicant responded that the development plan has since been updated to include 24 single family detached cottages. All of the single-family cottages will be accessed from a full access driveway that will intersect the south side of Old Oaken Bucket Road at the approximate location of the existing driveway that serves 279 Old Oaken Bucket Road. Comment resolved.

Response: No response required

Comment 6: *Accident data were reviewed and summarized within the traffic study. The intersections of Old Oaken Bucket Road at Maple Street / Winter Street and Old Oaken Bucket Road at Route 123 experienced a crash rate higher than both the statewide and district wide averages indicating that safety issues exist. Furthermore, the Scituate rotary has experienced 18 crashes over the five-year period averaging 3.6 crashes per year. A Road Safety Audit (RSA) was conducted in December 2021. The RSA provided suggestions for improvements to enhance safety. RMA suggested that the town include a condition of approval that these RSAs be completed and submitted to the town.*

The applicant responded that subsequent to the preparation of the June 2022 TIA, the Applicant retained Toole Design to conduct a Road Safety Audit (RSA) for the Old Oaken Bucket Road/Maple Street/Winter Street and Old Oaken Bucket Road/Route 123 intersections. After discussions with MassDOT and the Town, the Old Oaken Bucket Road/Route 123 intersection was removed from the RSA locations as this intersection was included in the RSA that was performed for the Scituate Rotary (Chief Justice Cushing Highway (Route 3A) at Route 123, New Driftway and County Road), and it was MassDOT's opinion that the frequency of crashes occurring at Old Oaken Bucket Road/Maple Street/Winter Street did not warrant conducting an RSA. MassDOT suggested to the Town that VAI provide recommended improvement measures that could be implemented at the intersection to improve safety. The Town concurred with this suggestion and, as such, VAI has reviewed existing conditions at the Old Oaken Bucket Road/Maple Street/Winter Street intersection and developed a list of potential improvement measures for the intersection that are intended to enhance safety. These measures are as follows and will be designed and constructed in conjunction with the Project subject to receipt of all necessary rights, permits and approvals.

- 1. Replace the STOP-signs, "All Way" plaques and marked STOP-lines on all approaches to include high visibility, thermoplastic pavement markings and the addition or red reflective tape to the sign posts;*
- 2. Relocate the STOP-signs and marked STOP-lines on the Maple Street approaches so as to be located 5-feet from the edge of the traveled-way along Old Oaken Bucket Road to define the desired stopping point and improve sight lines to and from Old Oaken Bucket Road*
- 3. Selectively trim/remove vegetation located within the sight triangle areas on the corners of the intersection; and*
- 4. Install/replace the "Stop Sign Ahead" warning signs (graphic symbol) on all approaches and include supplemental street name and "All Way" plaques.*

RMA concurs with the improvements recommended at the intersection of Old Oaken Bucket Road and Maple Street/Winter Street. These improvements should be included as a condition of approval of the project.

The following low-cost improvements/suggestions were identified as part of the RSA that was completed at the intersection of Route 123 and Old Oaken Bucket Road:

- Consider making the Chief Justice Cushing Highway (Route 3A) southbound channelized right turn lane a truck-only lane.***



- *Evaluate the STOP sign visibility at the Chief Justice Cushing Highway (Route 3A) southbound channelized right turn lane.*
- *Consider adding signs to inform drivers to keep one lane of traffic within the rotary.*
- *Evaluate signage at the rotary to see if improvements can be made.*
- *Replace the missing sharp turn warning sign (W1-1R) on the Cornet Stetson Road (Route 123) approach.*
- *Trim vegetation around the rotary that inhibits sight distance.*

The town should consider requiring the applicant to investigate and implement these improvements.

Response:

As a condition of the approval of the Project, the Applicant will design and construct the suggested improvements at the at the intersection of Old Oaken Bucket Road at Maple Street/Winter Street subject to receipt of all necessary rights, permits and approvals.

In addition, the Applicant has agreed to install radar speed feedback signs on Old Oaken Bucket Road at two (2) locations, east and west of the Project site driveway, in order to moderate travel speeds along this roadway and enhance safety. The suggested locations along Old Oaken Bucket Road for the installation of the radar speed feedback signs are shown on Figure 1.

Project-related impacts to the Scituate Rotary were defined as an increase of 7 to 10 vehicles during the weekday peak hours, or approximately one (1) additional vehicle ever 6 to 9 minutes, a level of impact that would not be perceivable over existing conditions. Accordingly, the improvements that will be advanced as a part of the Project are focused on Old Oaken Bucket Road, including the installation of radar speed feedback signs to reduce vehicle travel speeds and safety improvements at the Old Oaken Bucket Road/Maple Street/Winter Street intersection.

Comment 8:

Based on discussions between the applicant and the Town of Scituate, there are three developments that should be included in the background growth rate assumptions. Traffic associated with the following developments was included:

- *Greenbush Mixed Use Development on New Driftway*
- *Mixed Use-Development at 48-52 New Driftway*
- *Residential Development at 7 New Driftway*

Given the proximity of the site to Norwell, it is recommended that the applicant also contact that town to see if any developments there would have an impact on traffic volumes within the study area.

The applicant responded that the Director of Planning and Community Development for the Town of Norwell was contacted in order to determine if there were any planned future developments with the Town that would result in an increase in traffic volumes that would



exceed the background traffic growth rate. Based on discussions with the town, no projects were identified for inclusion in the future condition traffic volumes. Comment resolved.

Response: No response required.

Comment 10: *Based on the site plan there will be 32 residential units on site consisting of 11 attached duplexes (22 units) and 10 single family detached homes. The anticipated trip generation of the duplex units was appropriately estimated using the Institute of Transportation Engineers (ITE) Trip Generation Manual for Single Family Attached Housing (Land Use Code 215) and Single Family Detached Housing (Land Use Code 210).*

The applicant responded that as previously noted, the development program of the project has been revised and now includes the construction of 24 single family detached cottages. ITE Land Use Code (LUC) 210, Single-Family Detached Housing was used to estimate the trip generation of the site. As such, 272 weekday daily vehicle trips can be expected with 20 vehicle trips (5 in and 15 out) occurring during the weekday AM peak hour and 26 vehicle trips (16 in and 10 out) occurring during the weekday PM peak hour. The change in development plan results in 32 additional vehicle trips on a daily basis with 5 additional trips (1 in and 4 out) occurring during the weekday AM peak hour and 6 additional trips (4 in and 2 out) occurring during the weekday PM peak hour. RMA concurs with these trip generation assumptions.

Response: No response required.

Comment 12: *The unsignalized capacity analyses tables do not include the volume-to-capacity (v/c) ratio for each movement. It was recommended that these tables be updated to show the v/c ratio as this measure of effectiveness can be helpful in determining the project's impacts in particular with movements that are approaching capacity.*

The applicant revised the table to include the requested information and to include the revised traffic operations analyses for the 2029 Build condition to reflect the revised development program for the Project. A comparison of the results that were presented in Table 8 of the June 2022 TIA to those presented in the updated table indicates that the minor increase in peak-hour trips that are associated with the revised development program did not result in a change in level of service or in vehicle queuing for any movement at the study area intersections over No-Build conditions. All movements at the site driveway intersection with Old Oaken Bucket Road are expected to continue to operate at LOS A during peak hours with negligible vehicle queuing. RMA concurs that the increase in trips due to the change in development plan will have minimal impacts on traffic operations.

Response: No response required.

Comment 14: *Available sight distances from the proposed site driveway were measured and compared with minimum requirements as established by the American Association of State Highway and Transportation Officials (AASHTO) assuming a travel speed on Old Oaken Bucket Road of 40 mph. Based on the speed data, these minimum requirements should be based on an 85th percentile speed of 38 mph traveling eastbound and westbound, however use of a higher speed of 40 mph results in a more conservative assessment. Based on a speed*



of 40 mph, the minimum required sight distance would be 305 feet in both directions. Table 11 in the study shows that the minimum required distances can be exceeded assuming trimming or removal of trees and vegetation located within the sight triangle areas of the site driveway. The existing embankment to the east of the project site driveway should be regraded in order to provide the required line of sight. A field investigation of the proposed site driveway confirms this information and concurs that vegetation will need to be removed along the south side of Old Oaken Way within the sight triangles and the embankment east of the site driveway will need to be regraded. It was recommended that a sight line plan and profile be developed to specifically identify the areas of regrading and vegetation removal necessary to ensure that adequate sight distance will exist.

The applicant responded that the project proponent is in the process of obtaining detailed ground survey for Old Oaken Bucket Road approaching the site driveway. Once this information is received the applicant will be able to develop the requested sight line plan. This plan will be provided under separate cover once the survey data is received.

*The sight line plan and profile were not included in the updated plan set. **It is still recommended that a sight line plan and profile be developed to identify the areas of regrading and vegetation removal necessary to ensure that adequate sight distance will exist.***

Response: Figure 2 depicts the sight lines for the intersection of Old Oaken Bucket Road at the Project site driveway in plan and profile. It should be noted that at the time the field observations that form the basis of the June 2022 *Transportation Impact Assessment*¹ were collected (August 2021), a pile of wood chips/mulch within the public right-of-way to the east of the Project site driveway was limiting lines of sight. At this time, the wood chips/mulch have been removed, affording the required lines of sight looking east from the Project site driveway as shown on Figure 2; however, as noted on Figure 2, signs, landscaping and other features located within sight triangle areas of the Project site driveway shall be designed, installed and maintained so as not to exceed 2.5-feet in height. Snow windrows located within sight triangle areas that exceed 3.5-feet in height or that would otherwise inhibit sight lines shall be promptly removed. The Applicant will accept a condition requiring that the sight triangle area be kept clear of obstructions pursuant to the note on Figure 2.

Comment 16. *Independent of the Project, the Old Oaken Bucket Road and Maple Street at Winter Street and Route 123 at Old Oaken Bucket Road intersections were identified to have motor vehicle crash histories that warrant further review and advancement of specific improvements to enhance safety. As part of the project the proponent has committed to facilitate the completion of a Road Safety Audit (RSA) at these intersections that is intended to identify improvement strategies to increase safety. The proponent has also agreed to provide a financial contribution (fair-share contribution) to the town for the design and construction of the short-term improvements suggested as part of the RSA. As noted in Comment 6, it was recommended that the town include a condition of approval that these RSAs be completed and submitted to the town prior to issuance of a Certificate of Occupancy. It was further recommended that the town determine what a “fair-share” contribution for these improvements should be. One way to establish a fair share*

¹Transportation Impact Assessment; The Cottages at Old Oaken Bucket; Scituate, Massachusetts; VAI; June 2022.



contribution is to calculate the percentage increase in volume-to-capacity ratio of the critical movements at the intersections and apply that percentage to the estimated cost of design and construction of the improvements.

The applicant responded to this in Comment 6.

Response: No response required.

Comment 17: *The site plan proposes one full access driveway to the site on the south side of Old Oaken Bucket Road. The site plan does not show any interior signing, striping, or dimensions. It was recommended that the applicant include a signing and striping plan of the interior of the site. A sidewalk is proposed along both sides of the driveway providing pedestrian connections to all buildings. It was recommended that a stop line and STOP sign (R1-1) be placed on the driveway exit to Old Oaken Bucket Road and that traffic control be established at the internal intersections.*

*The updated plan set does not include a signing and striping plan of the interior of the site. **It is recommended that a plan be included in the plan set showing interior signing and striping.***

Response: The Site Plans will be revised accordingly to include the requested signs and pavement markings and will be submitted by others under separate cover.

Comment 18: *The fire department's largest vehicle should be able to traverse the site. It is recommended that the proponent coordinate with the Scituate Fire Department regarding adequate accessibility to all dwellings.*

*The revised plan set includes an emergency vehicle turning movement plan. The plan set does not show a firetruck entering the site via Old Oaken Bucket Road. **It is recommended that a right turn movement entering the site be included on the plans. The applicant should also confirm adequate accessibility to all buildings with the fire department.***

Response: The requested vehicle turning analysis will be performed and will be submitted by others under separate cover.

Comment 19: *The site plan should show the sight triangles at the proposed driveways to assure that any proposed landscaping or signs are outside these sight triangles and do not impede driver visibility. As discussed in Comment 13, a sight line plan and profile should be developed for the site driveway intersection with Old Oaken Bucket Road to specifically identify the areas of regrading and vegetation removal necessary to ensure that adequate sight distance will exist.*

*The applicant responded that the sight triangle areas will be added to the site plans and a profile of the sight line for motorists exiting the project site driveway will be developed to define the areas of vegetation removal and regrading. These plans were not included with the revised site plans. **It is recommended that the sight triangles at the proposed driveway be shown on the plans.***

Response: Figure 2 depicts the sight triangle areas for the Project site driveway. See response to Comment 14.

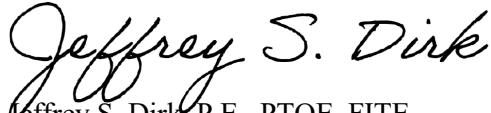


Ms. Janine M. Cicchese
February 21, 2023
Page 7 of 7

We trust that this information is responsive to the comments that were raised in the December 29, 2022 2nd Traffic Peer Review letter prepared by RMA. If you should have any questions or would like to discuss our responses in more detail, please feel free to contact me.

Sincerely,

VANASSE & ASSOCIATES, INC.



Jeffrey S. Dirk, P.E., PTOE, FITE
Managing Partner

Professional Engineer in CT, MA, ME, NH, RI, and VA

JSD/dcl

Attachments: Figure 1 – Radar Speed Feedback Sign Installation
Figure 2 - Sight Distance Plan and Profiles



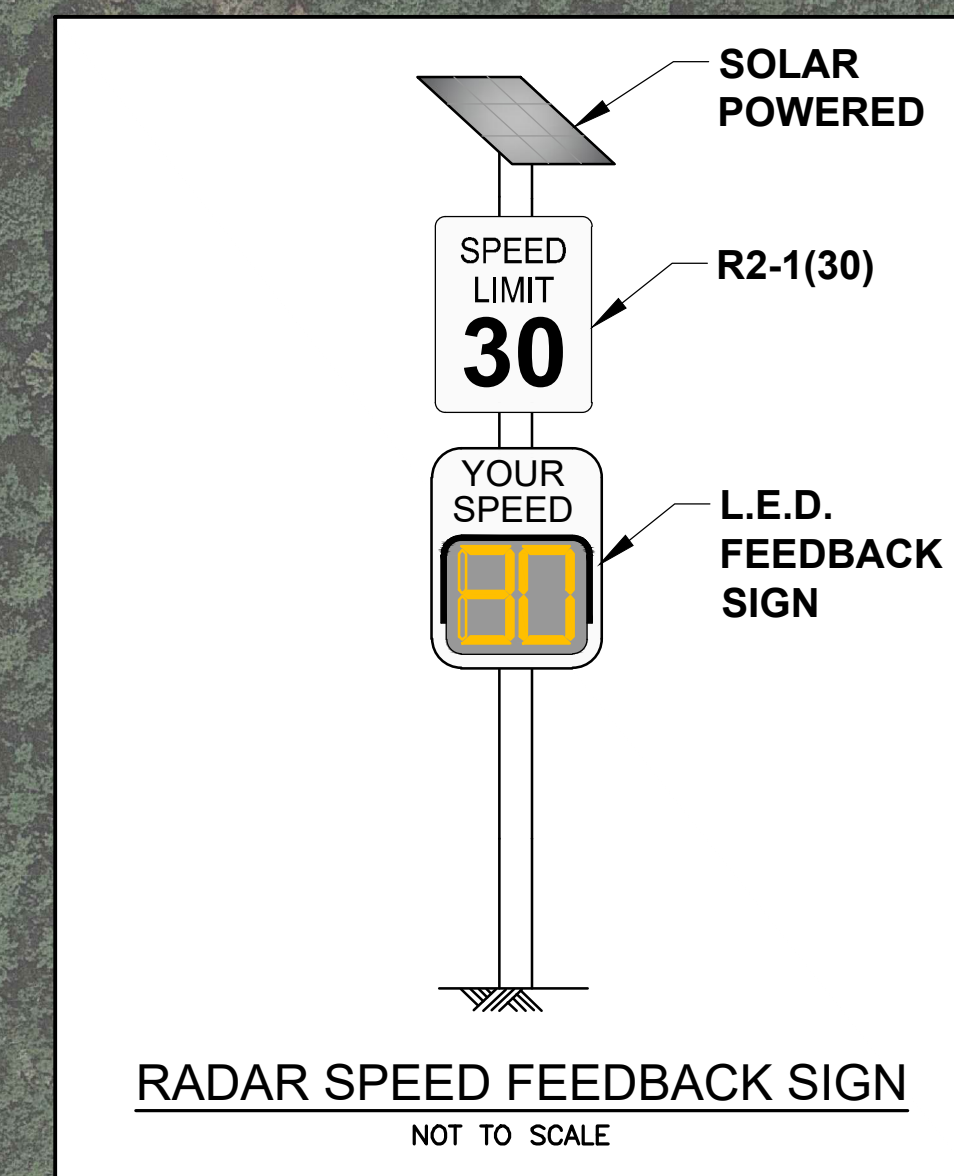


FIGURE 1
 279-281 OLD OAKEN BUCKET ROAD
 RADAR FEEDBACK SIGN LOCATION PLAN

PROJECT:
 THE COTTAGES AT OLD OAKEN BUCKET
 SCITUATE, MASSACHUSETTS

PROPOSER:
 LOVENDALE LLC
 DUXBURY, MASSACHUSETTS

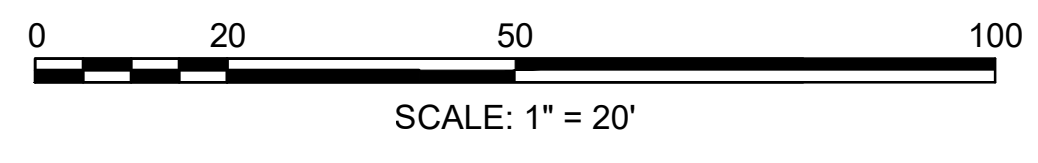
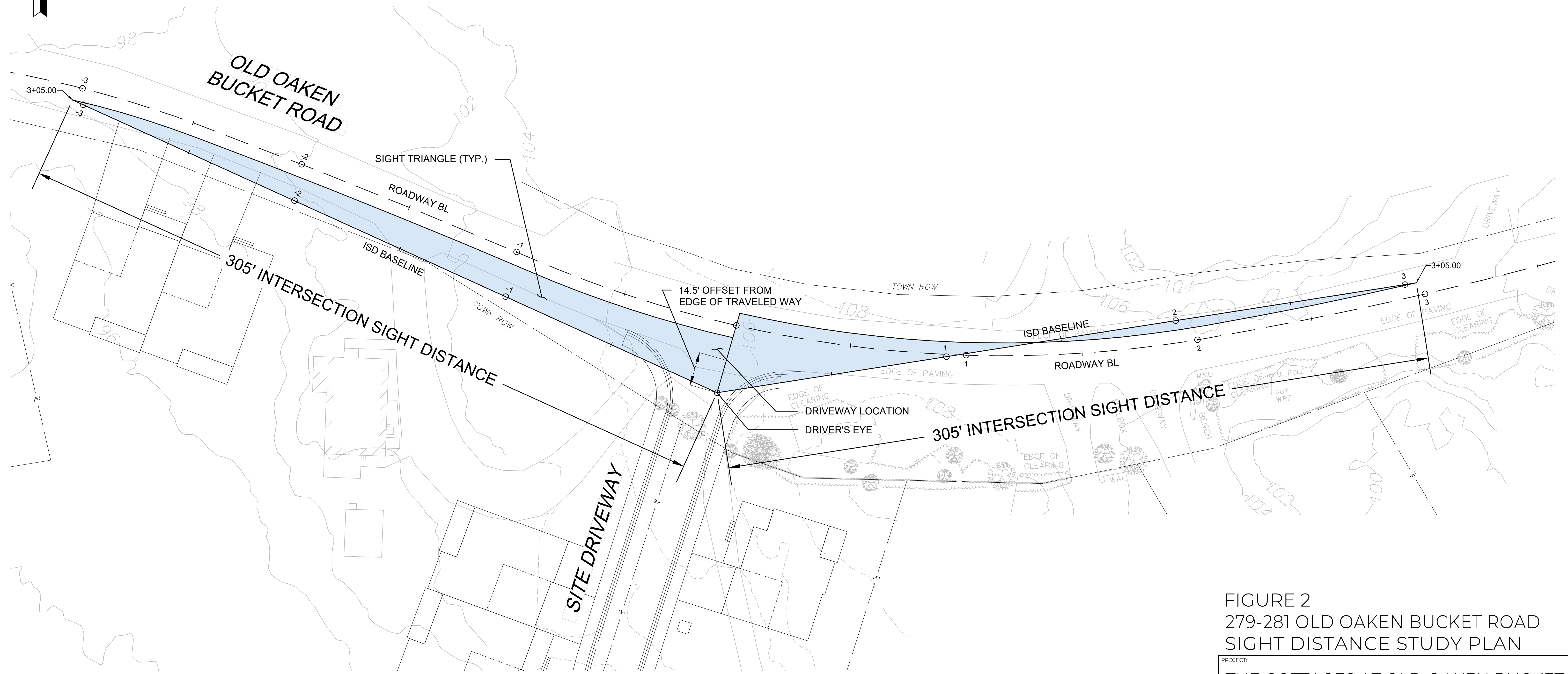
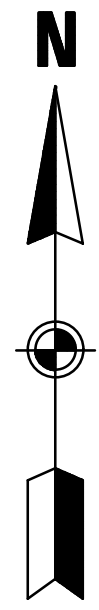
NO.	REVISIONS	DATE

DESIGNED BY: DCL DATE: 2/21/23

DRAWN BY: IJS SCALE: 1" = 100'

CHECKED BY: JSD SHEET 1 OF 1

R:\9090\HW\9090SSD.dwg 2/22/2023 11:39 AM EDT



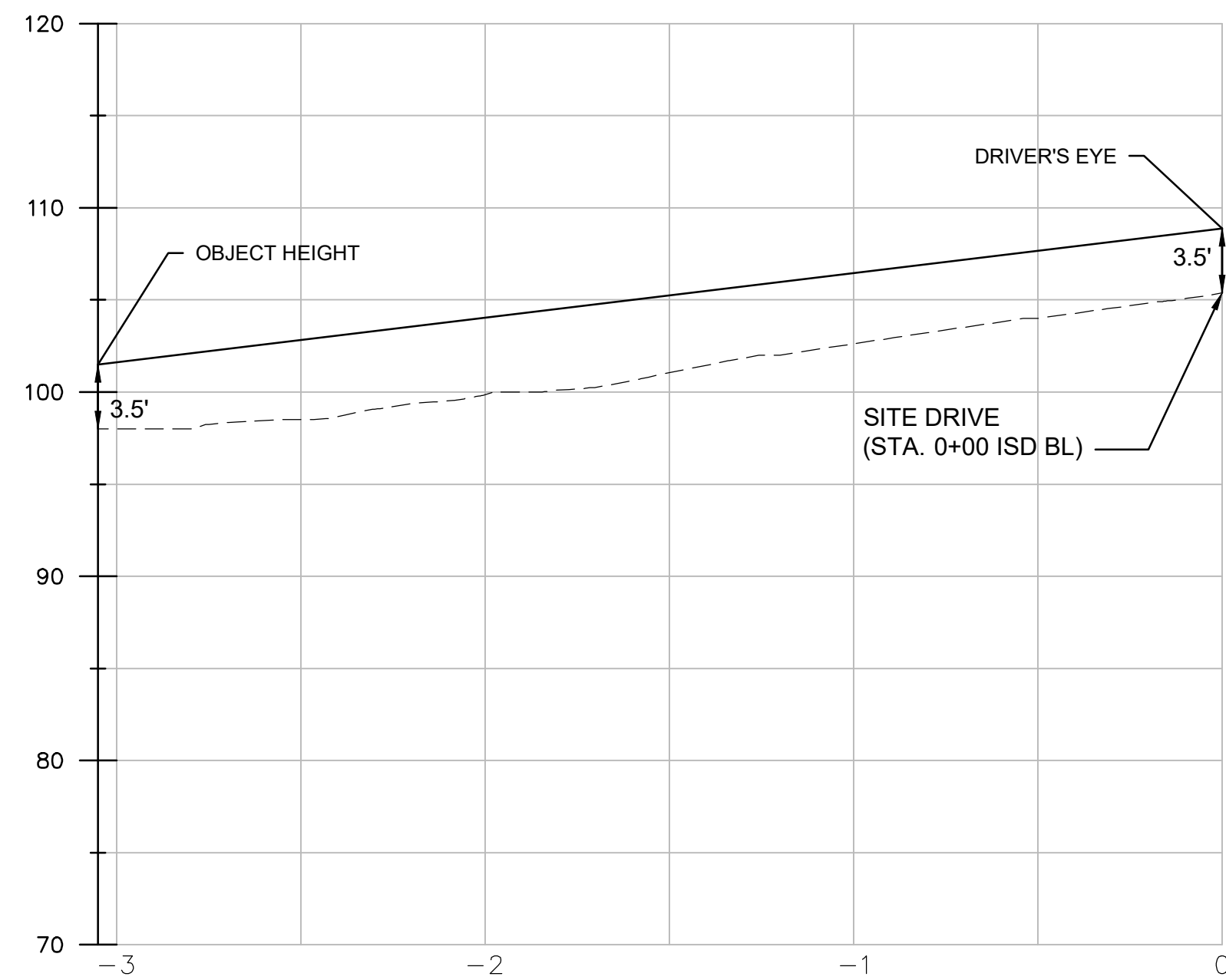
NOTE: SIGNS, LANDSCAPING AND OTHER FEATURES LOCATED WITHIN SIGHT TRIANGLE AREAS OF THE PROJECT SITE DRIVEWAY SHALL BE DESIGNED, INSTALLED AND MAINTAINED SO AS NOT TO EXCEED 2.5- FEET IN HEIGHT. SNOW WINDROWS LOCATED WITHIN SIGHT TRIANGLE AREAS THAT EXCEED 3.5- FEET IN HEIGHT OR THAT WOULD OTHERWISE INHIBIT SIGHT LINES SHALL BE PROMPTLY REMOVED.

FIGURE 2
279-281 OLD OAKEN BUCKET ROAD
SIGHT DISTANCE STUDY PLAN

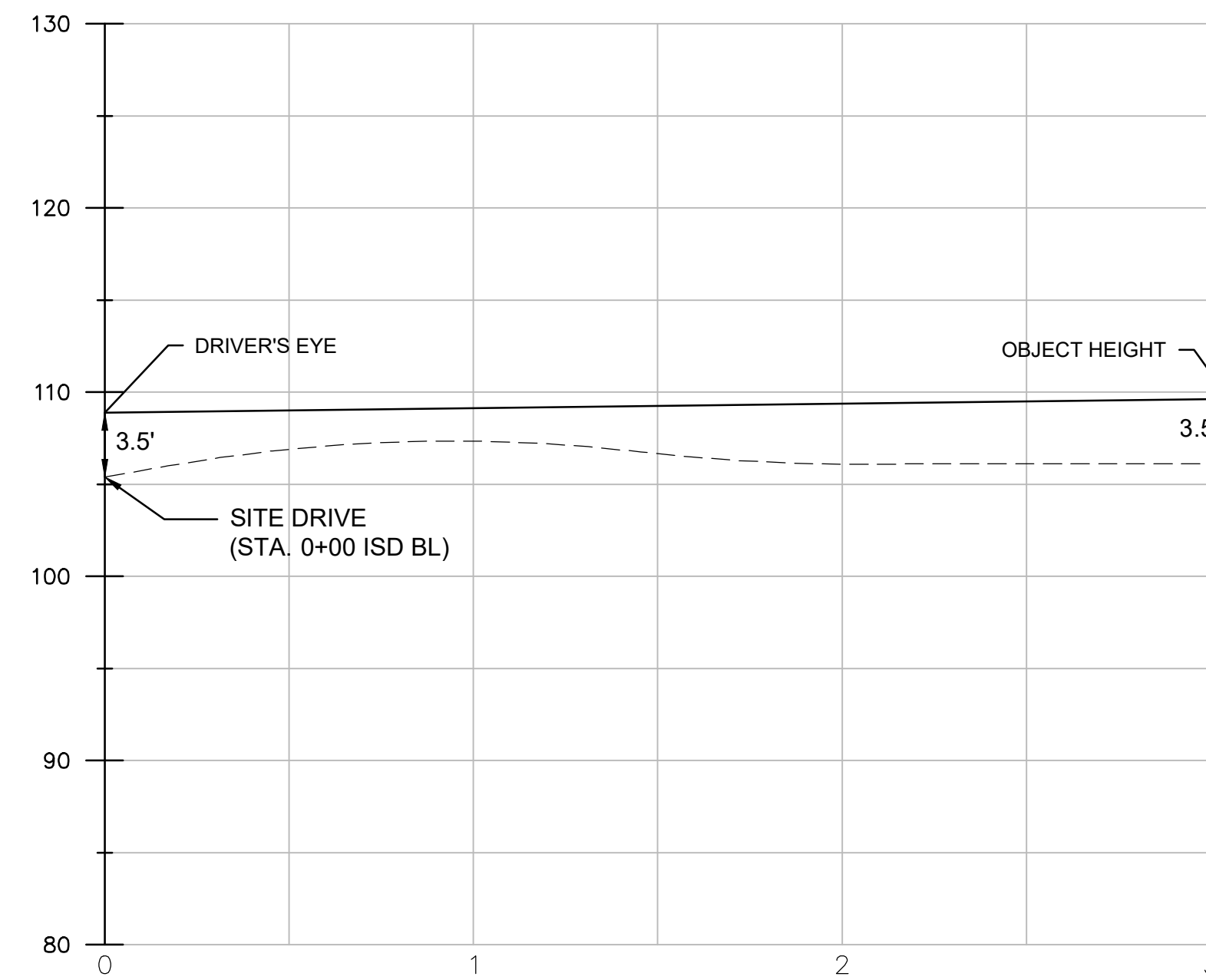
PROJECT:			THE COTTAGES AT OLD OAKEN BUCKET SCITUATE, MASSACHUSETTS		
PROPOSER:			LOVENDALE LLC DUXBURY, MASSACHUSETTS		
NO.	REVISIONS	DATE			
DESIGNED BY:	DCL	DATE:	2/21/23		
DRAWN BY:	IJS	SCALE:	1" = 20'		
CHECKED BY:	JSD	SHEET:	1 OF 2		

R:\9090\HW\9090SSD.dwg 2/22/2023 11:39 AM EDT

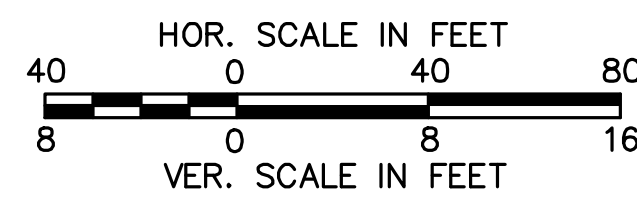
OLD OAKEN BUCKET ROAD
 POSTED SPEED = 30 MPH
 85TH PERCENTILE SPEED = 38 MPH
 STOPPING SIGHT DISTANCE (40 MPH) = 305'
 INTERSECTION SIGHT DISTANCE PROVIDED = 305' *
 * Based on the AASHTO design reference, if the available sight distance for an entering or crossing vehicle is at least equal to the stopping sight distance, drivers have sufficient sight distance to anticipate and avoid collisions.



INTERSECTION SIGHT DISTANCE PROFILE
(LOOKING WEST)



INTERSECTION SIGHT DISTANCE PROFILE
(LOOKING EAST)



NOTE:
 1. THIS PLAN IS FOR REVIEW PURPOSES ONLY
 AND IS NOT INTENDED FOR CONSTRUCTION.

FIGURE 2
 279-281 OLD OAKEN BUCKET ROAD
 SIGHT DISTANCE STUDY PLAN

PROJECT:		THE COTTAGES AT OLD OAKEN BUCKET SCITUATE, MASSACHUSETTS	
PROPOSER:		LOVENDALE LLC DUXBURY, MASSACHUSETTS	
DESIGNED BY:		DCL	
DATE:		2/21/23	
DRAWN BY:		IJS	
SCALE:		1" = 20'	
CHECKED BY:		JSD	
SHEET:		2 OF 2	

