

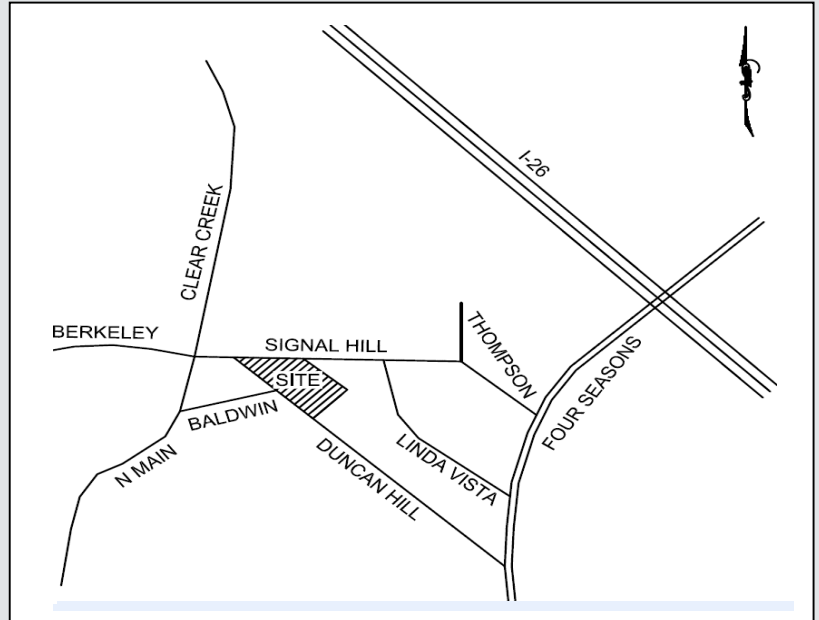
REZONING: CONDITIONAL REZONING - DUNCAN TERRACE (P21-79-CZD)  
CITY OF HENDERSONVILLE - COMMUNITY DEVELOPMENT STAFF REPORT

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## PROJECT SUMMARY

- Project Name & Case #:
  - Duncan Terrace
  - P21-79-CZD
- Applicant & Property Owner:
  - Leah Bergman of Lee Ray Berman LLC. [Applicant]
  - Lee Ray Berman LLC [Owner]
- Property Address:
  - 710 Duncan Hill Road
- Project Acreage:
  - 8.66 Acres
- Parcel Identification (PIN):
  - 9569-95-7758
  - 9569-95-5941
  - 9569-96-4013
- Current Parcel Zoning:
  - Planned Residential Development Conditional Zoning District (PRD-CZD)
- Proposed Zoning:
  - Planned Residential Development Conditional Zoning District (PRD-CZD)
- Requested Uses:
  - Residential dwelling, multi-family
- Neighborhood Compatibility Meeting:
  - December 9<sup>th</sup>, 2021
- Future Land Use Designation:
  - High Intensity Neighborhood



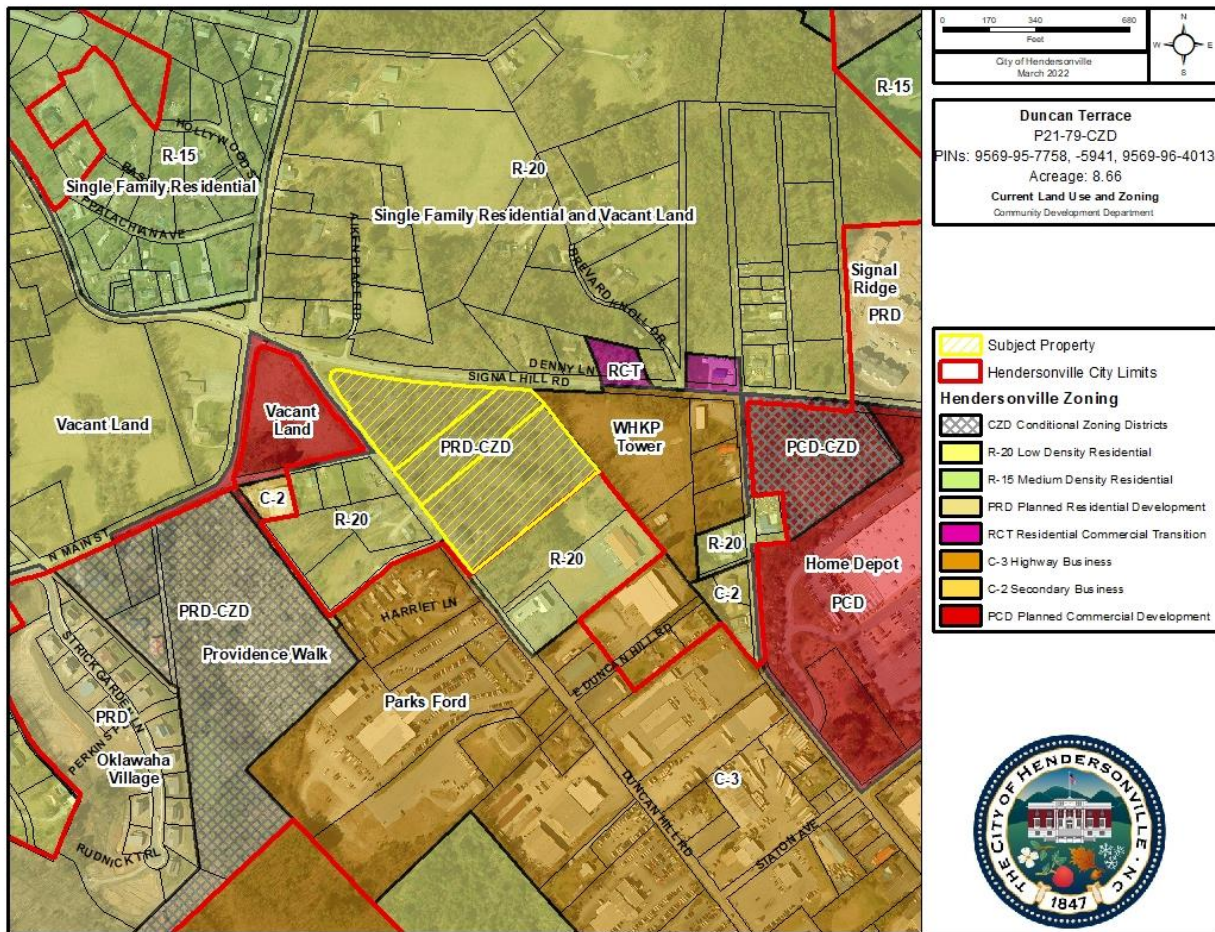
SITE VICINITY MAP

*The City of Hendersonville is in receipt of an application for a conditional rezoning from Leah Bergman of Lee Ray Bergman LLC. The applicant is requesting to rezone the subject property, PINs 9569-95-7758, 9569-95-5941, and 9569-96-4013 and located between Duncan Hill Road and Signal Hill Road, from PRD CZD, Planned Residential Development Conditional Zoning District to PRD CZD, Planned Residential Development Conditional Zoning District for the construction of a multi-family development consisting of 132 apartment units on approximately 8.66 acres. This equates to a density of 15.24 units per acre.*

*The site plan shows 6 - 3-story multi-family structures, a club house and a pool. The total footprint of buildings is 52,242 Sq Ft. The total Gross Floor Area proposed is 150,636 Sq Ft. This includes 12 - 3-bedroom units, 72 - 2-bedroom units and 48 - 1-bedroom units.*

*The site plan proposes access from Duncan Hill Road and Signal Hill Road.*

## EXISTING ZONING & LAND USE



### City of Hendersonville Current Zoning & Land Use Map

The subject property is currently zoned Planned Residential Development Conditional Zoning District. The parcel is surrounded by a variety of zoning classifications and uses. The residential uses in this area range from single family neighborhoods to a mobile home community. The Commercial uses in this area range from a telecommunication tower to a UPS distribution center.

Parcels to the north, across Signal Hill Rd and Berkeley Rd are zoned R-15 Medium Density Residential, R-20 Low Density Residential and RCT- Residential Commercial Transition. This area is largely made up of single-family lots, vacant land and single-family homes converted into commercial uses. Parcels to the east primarily contain commercial uses. This area contains the Home Depot, WHKP radio tower and the under-construction Signal Hill Mini Storage. Parcels to the south are mostly comprised of commercial uses and C-3 zoning. Parcels to the west are zoned PCD, Planned Commercial Development (Eastside Meadows – which was never constructed but an NCM has been held for a potential multi-family development on this site), PRD Planned Residential Development (Providence Walk and Oklawaha Village) and R-20 Low Density Residential.



SITE IMAGES



*View of existing single-family home on the site  
(710 Duncan Hill Road)  
\*To be demolished, if approved\**



*View from the southern point of the property looking northwest*



## SITE IMAGES



*Interior view of the site looking northeastward*



*View of the WHKP tower from the property*



SITE IMAGES



*Interior view of the site looking westward*



*View from where the subject property abuts Signal Hill Road looking westward*



SITE IMAGES



*View from the intersection of Signal Hill and Duncan Hill Roads  
looking southeast along Duncan Hill Road*



*View of Baldwin Hill Avenue and Duncan Hill Road intersection*

## REZONING HISTORY

Prior Rezoning	Summary of Prior Petition	Status
Approved March 4 <sup>th</sup> , 2021 P20-48-CZD R-20 Low Density Residential to PRD-CZD Planned Residential Development Conditional Zoning District	8.66 acres multi-family development containing 84 units. The project was tied to a Low-Income Housing Tax Credit application that did not receive tax credits.	Preliminary plan approved by City Council- Final site plan never submitted for staff review.

Minutes from the City Council meeting: <https://mccmeetings.blob.core.usgovcloudapi.net/hvlnC-pubu/MEET-Minutes-56eb57685a524f15a2cf7030399c3f70.pdf>

### Duncan Terrace

Units/Building- 84 units. 9.7 Units per acre.

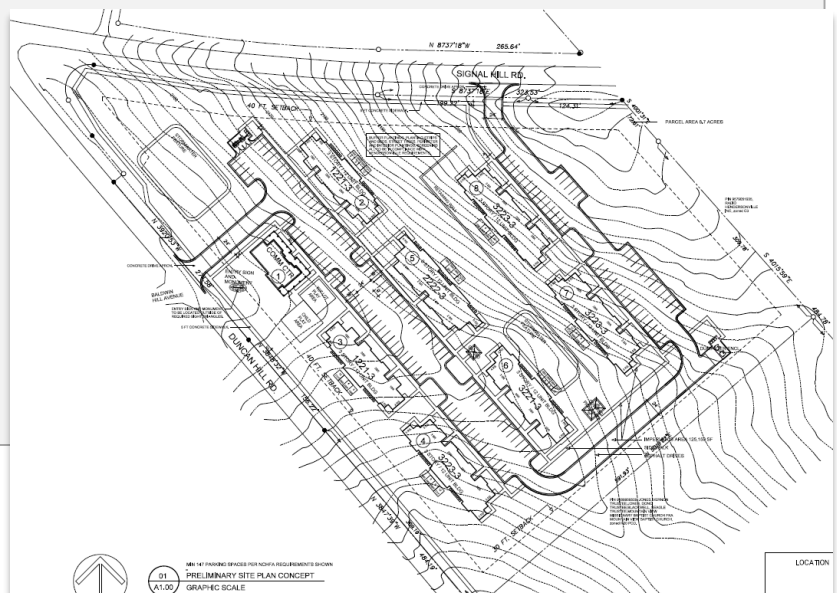
- 7 3-story multi-family buildings. Each building contained 12 units.
- 1 Community Center
- 40,977 Sq Ft of Building Footprint
- 105,776 Sq Ft of GFA

Conditions of Approval:

- The Duncan Hill Road entrance/exit will be realigned to match Baldwin Hill Ave.
- Make all reasonable efforts to preserve the three (3) existing trees in front of the existing single-family home at 710 Duncan Hill Road.
- Exterior site lighting should be in accordance with the International Dark Sky Association's recommendations subject to any ADA and the North Carolina Housing Finance Agency requirements.

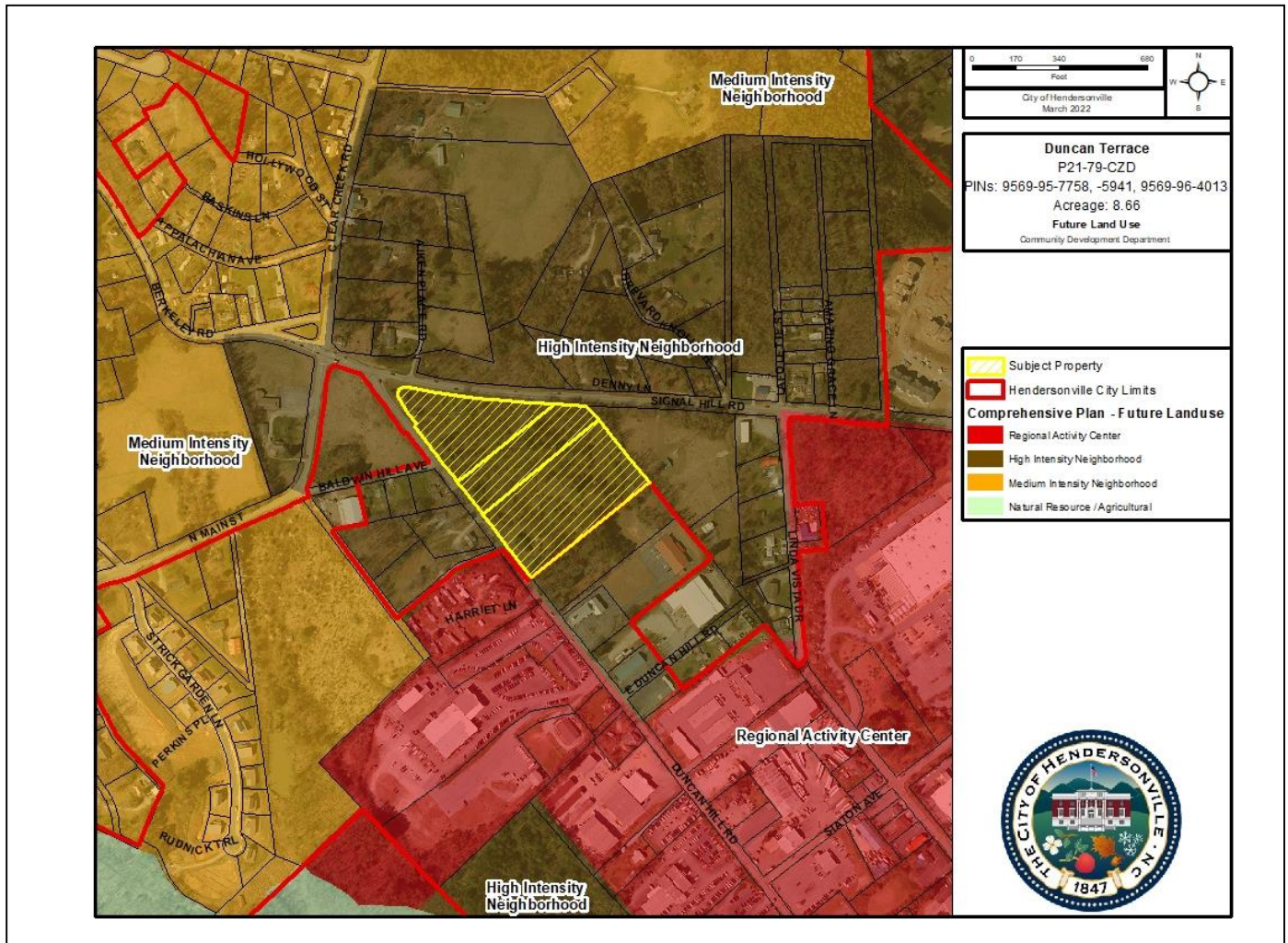
Uses:

- Residential dwellings, multi-family
- Accessory structures
- Parks
- Home Occupations
- Customary accessory uses





## FUTURE LAND USE



City of Hendersonville Future Land Use Map

The site is designated as High Intensity Neighborhood. This designation is due to this parcel being located between a Regional Activity Center (Duncan Hill Road and US 64) and Medium Intensity Neighborhood (Clear Creek Road) This area is intended to serve as a transition between the high intensity commercial uses along the US 64 corridor and the single-family neighborhoods to the north (Windsor Hills). And to serve as a node of higher density residential around an intersection of minor thoroughfares.

Parcels to the north are designated as Medium Intensity Neighborhood and High Intensity Neighborhood. Other than the Signal Ridge Apartments, most parcels designated as High Intensity Neighborhood do not currently reflect the goals or strategies for this designation. This area is largely comprised of single-family homes and vacant land that reflect the current R-20 zoning. Parcels to the east are designated as High Intensity Neighborhood and Regional Activity Center. This area has a mix of housing types and commercial use. The parcels to the south are designated as Regional Activity Center and High Intensity Neighborhood. Parcels to the west are designated as High Intensity Neighborhood and Medium Intensity Neighborhood.

COMPREHENSIVE PLAN CONSISTENCY	
Future Land Use	<p><b>Goal LU-7 High Intensity Neighborhood:</b>  <i>“Encourage low-maintenance, high density housing that supports Neighborhood and Regional Activity Centers and downtown and provides a transition between commercial and single-family development. Promote walkable neighborhood design that creates attractive and functional roadway corridors and multi-family residential neighborhoods”</i>  <b>[CONSISTENT]</b></p>
	<p><b>Strategy LU-7.1. Locations:</b></p> <ul style="list-style-type: none"> <li>Existing or planned high-density housing neighborhoods (greater than eight units per acre) <b>[CONSISTENT]</b></li> <li>Priority infill development areas where high-density development is desirable and/or expected, including: <ul style="list-style-type: none"> <li>Areas surrounding Regional Activity Centers <b>[CONSISTENT]</b></li> </ul> </li> </ul>
	<p><b>Strategy LU-7.2. Primary recommended land uses:</b></p> <ul style="list-style-type: none"> <li>Single-family attached and multi-family residential <b>[CONSISTENT]</b></li> <li>Planned Residential Developments <b>[CONSISTENT]</b></li> <li>Open space <b>[CONSISTENT]</b></li> </ul>
	<p><b>Strategy LU-7.3. Secondary recommended land uses:</b></p> <ul style="list-style-type: none"> <li>Recreational amenities <b>[CONSISTENT]</b></li> </ul>
	<p><b>Strategy LU-7.4. Development guidelines:</b></p> <ul style="list-style-type: none"> <li>Eight or more units per gross acre <b>[CONSISTENT]</b></li> <li>Placement of higher-intensity uses (e.g. office or higher-density residential) close to Boulevards and Major Thoroughfares, and/or adjacent to Neighborhood and Regional Activity Centers <b>[CONSISTENT]</b></li> <li>At least 60% open space in new residential developments greater than three acres <b>[CONSISTENT]</b></li> <li>Architectural guidelines to encourage compatibility between different land uses (e.g. similarities in building height, massing, roof pitch, and rhythm of windows and façade detailing) <b>[INCONSISTENT (elevations not required)]</b></li> <li>Encouragement of walkable neighborhood design, as described under Goal PH-3 in Chapter 2 <b>[CONSISTENT]</b></li> </ul>
Land Use & Development	<p>The property is designated as a “<b>Priority Infill Area</b>” on the Growth Management Map (Map 8.3a). “Areas that are considered a high priority for the City to encourage infill development on remaining vacant lots and redevelopment of underutilized or underdeveloped properties”. <b>[CONSISTENT]</b></p>
	<p>A portion of the project area is identified as a “<b>Development Opportunity</b>” in the Comprehensive Plan’s Map 8.2b: Development Framework. This includes vacant land, agricultural land, and single-family residential properties greater than five acres. <b>[CONSISTENT]</b></p>



GENERAL REZONING STANDARDS: COMPREHENSIVE PLAN CONSISTENCY	
Population & Housing	<ul style="list-style-type: none"> <li>Strategy PH-1.1 Promote compatible infill development.</li> </ul>
	<ul style="list-style-type: none"> <li>Goal PH – 2 Encourage a wide range of housing types and price points in order to meet the diverse and evolving needs of current and future residents, match the housing supply with the local workforce, and promote diverse neighborhoods.</li> </ul>
	<ul style="list-style-type: none"> <li>Strategy PH – 2.2. Encourage provision of affordable housing units in new developments.</li> <li>Action PH 2.2.1 Develop performance standards and/or density bonuses that encourage at least 10% of new housing units sold in a new development to be affordable to people making up to 80% of the area median household income.</li> <li>Action PH-2.2.2. Support development proposals that mix subsidized housing with market rate housing</li> </ul>
	<ul style="list-style-type: none"> <li>Strategy PH-3.1 Establish neighborhood design guidelines that promote safe walkable and bikeable neighborhoods while accommodating the automobile.</li> <li>Action PH 3.1.2 Encourage public space design features that calm traffic and provide space for pedestrian gathering and circulation.</li> </ul>
Natural & Environmental Resources	<ul style="list-style-type: none"> <li>Strategy NR-2.1. Encourage clustered development that preserves open space while allowing a return on investment.</li> <li>Action NR-2.1.1 Maintain density bonuses that allow additional density in return for open space preservation.</li> </ul>
	<ul style="list-style-type: none"> <li>Strategy NR-2.3. Promote preservation of woodlands. Mature trees and wooded areas are significant community-defining natural features that contribute to Hendersonville's identity. Trees provide several additional community benefits, as described in Figure 3.3c.</li> <li>Action NR-2.3.1 Continue to encourage tree preservation by providing existing tree preservation credit toward landscaping requirements.</li> <li>Action NR-2.3.2 Continue to allow the Tree Board to review and provide recommendations for tree preservation for Special Use Permit projects.</li> </ul>
	<ul style="list-style-type: none"> <li>Strategy NR-3.2. Enable and encourage Low-Impact Development practices in stormwater management.</li> </ul>
Cultural & Historic Resources	<b>No Goals, Strategies or Actions are directly applicable to this project.</b>
Community Facilities	<ul style="list-style-type: none"> <li>Strategy CF-6.1 Encourage community open-space or play areas in new or redeveloped residential neighborhoods.</li> <li>Action CF-6.1.1 Incorporate recreational amenity requirements and/or incentives in the Planned Residential Development District.</li> <li>Action CF-6.1.2 Maintain open space set-aside standards and incentives in the Planned Residential Development District</li> </ul>
Water Resources	<ul style="list-style-type: none"> <li>Strategy WR-2.3. Enable and encourage Low-Impact Development practices in stormwater management.</li> </ul>
Transportation & Circulation	<ul style="list-style-type: none"> <li>Strategy TC-1.2. Identify and prioritize needed pedestrian connections within the community</li> <li>Strategy TC-3.4. Improve roadways as needed to implement the land use vision and meet level-of-service requirements. (Duncan Hill Road is included)</li> </ul>

GENERAL REZONING STANDARDS	
Compatibility	<b>Is the proposed rezoning compatible or incompatible with surrounding uses?</b>
	<p>Two apartment complexes are currently within 0.25 miles of the subject property (Signal Ridge and Oklawaha Village).</p> <ul style="list-style-type: none"> <li>- Signal Ridge Multi-family- 72 units on 7 acres- 10.29 units per acre.</li> <li>- Oklawaha Village Multi-family- 78 units on 6.43 acres- 12.13 units per acre.</li> </ul> <p>This area is designated to serve as a high-density transition between commercial uses and single-family neighborhoods in the Comprehensive plan.</p> <p>An 84-unit apartment complex with a similar layout and design is already permitted on this site with conditions.</p> <p>Much of the existing development northeast of the site is single-family detached housing.</p>
Changed Conditions	<b>Highlight any changed conditions, on surrounding property, etc. that suggest a rezoning is appropriate.</b>
	<p>The site is currently associated with a Conditional Zoning District that approved 84 multi-family units. The previous project was associated with Low-Income Housing Tax Credits and did not get funding. The current developer does not want to develop in accordance with the previously approved Conditional Zoning District. They are also not pursuing LIHTC funding.</p> <p>Additionally, 93 single-family homes off on N. Main St (Providence Walk) were approved in 2021 and site work has begun on this project.</p>
Public Interest	<b>Are there public interests or benefits that would be derived for the greater population from the rezoning?</b>
	<p>This project is proposing to be a mix of market rate (87 units) and “affordable” (80% AMI) apartments (45 units).</p> <p>Based on the 2021 Bowen Housing Needs Assessment for Western North Carolina, Henderson County has an estimated rental housing gap of <u>1,650 to 2,008</u> Units for incomes between &lt;50%-120% AMI. Between 1,389 – 1,682 units within the gap are specifically needed to satisfy incomes ranging from &lt;50%-80%. Over the last 3 years, the City of Hendersonville has approved 346 rental units (286 market rate / 60 affordable). An additional 792 (including this project) are seeking entitlements to construct rental housing. If all projects are approved, the recently-approved rental units would total <u>1,138</u>. Of the 792-units seeking approval, 175 units will target income levels at or below 80% AMI. It should be noted that the Housing Needs Assessment Study does not account for the housing gap for incomes above 120% AMI. An additional gap, beyond that reflected in this 1,650 to 2,008-unit gap, exist for those income levels greater than 120%.</p>
Public Facilities	<b>Are there public facilities that can support the proposed rezoning, water, wastewater, fire and police, schools, and transportation?</b>
	<ul style="list-style-type: none"> <li>- The development is proposing to use City of Hendersonville water and sewer. A sewer lift station is proposed. A water-sewer availability request has <u>not</u> been issued for this project. The Water-Sewer Dept has indicated that a pump station would not be permitted for this site.</li> <li>- The site is also accessed by 2 NCDOT maintained roads.</li> <li>- The developer is extending sidewalks off their property on Duncan Hill and Baldwin Hill Roads in order to meet Density Bonus requirements and to foster better pedestrian connections. They will also be providing internal sidewalks and sidewalks along some frontages.</li> <li>- The property will be served by City Police and Fire</li> </ul>
Effect on Natural Environment	<b>Would the proposed amendment result in “significantly adverse impacts” on the natural environment?</b>
	<p>Some of the site is currently greenfield, new development reflects a significant increase in impervious surfaces.</p> <p>The site is currently wooded. A significant number of mature trees would be lost if developed.</p> <p>The developer will have to provide stormwater control measures for the site.</p>



## DRAFT COMPREHENSIVE PLAN CONSISTENCY AND REZONING REASONABLENESS STATEMENT

The petition is found to be **consistent** with the City of Hendersonville 2030 Comprehensive Plan based on the information from the staff analysis and the public hearing, and because:

*The High Intensity Neighborhood designation calls for multi-family residential, Planned Residential Developments and open space as primary recommended land uses. The proposed project satisfies a majority of design guidelines under LU-7.4.*

We **[find/do not find]** this petition to be reasonable and in the public interest based on the information from the staff analysis and the public hearing, and because:

### *DRAFT [Rationale for Approval]*

- *The development would provide 45 “affordable” rental units (for 10 years) for those with household incomes at 80% AMI or less. These units would help to fill the need for affordable housing which currently has a projected gap (shortage) of approximately between 1,329 – 1,622 units in Henderson County according to the 2021 Housing Needs Assessment (Bowen Study).*
- *The development would provide 87 “market-rate” rental units. These units would help reduce the rental housing gap estimated to be between 1,364 and 1,722 units needed within Henderson County to satisfy demand according to the 2021 Housing Needs Assessment (Bowen Study).*
- *The applicant is dedicating +/- 0.59 Acres of right of way at the intersection of Signal Hill and Duncan Hill Road to facilitate future NCDOT road improvements.*
- *The area in proximity to the subject property includes similar and comparable development, including multi-family residential within 0.25 miles of the project.*
- *This development would serve as a transition between the US-64 commercial corridor and the lower density residential northeast of Signal Hill Rd / Berkeley Rd.*

### *DRAFT [Rational for Denial]*

- *The site plan does not address the recommended mitigations from the traffic impact analysis to address traffic congestion caused by this development.*
- *The proposed site is wooded. If developed as proposed, it would not result in clustered development which preserves significant existing mature trees / woodlands which serve as a community-defining natural feature.*

**PROPOSED REQUEST DETAILS**

- The site plan accompanying this petition contains the following provisions:
  - 132-Unit Apartment Development on 8.66 Acres (Density = 15.24 Units/Acre)
  - 6 – 3-story buildings (34.67' Height\*)
    - \*measurement not based on zoning code standards
  - 150,636 Sq Ft of Gross Floor Area
  - Bedroom units
    - 48 1-Bedroom Units
    - 72 2-Bedroom Units
    - 12 3-bedroom Units
- Requested Uses:
  - Residential, Multi-Family
- Developer Conditions:
  - Developer Proposed Concessions:
    - Dedicate +/- 0.59 Acres of land to NCODT as depicted on the site plan to permit future road upgrades to Duncan Hill and Signal Hill Roads.
    - Make 25% of rental units available to residents at or below 80% Area Median Income (AMI) for the initial 10 years that the buildings are in service. The developer shall provide an annual report to the City of Hendersonville to prove compliance with this requirement.
  - Developer Proposed Conditions:
    - The developer is requesting that a Density Bonus be granted by City Council for this project in accordance with section 5-14-5 Density Bonus of the Zoning Ordinance. [see comments below]
    - Developer shall be granted permission to serve the development with a sanitary sewer lift station to pump to gravity lines at the crest of Duncan Hill Road. Once sewer has been run to the site, developer will tie into City sewer. [Water-Sewer Dept has indicated that the site cannot be served by a lift station]

**OUTSTANDING ISSUES & PROPOSED CONDITIONS:**

**COMMUNITY DEVELOPMENT**

**Site Plan Comments**

- The site plan accompanying this petition meets the standards established by the Zoning Ordinance for Planned Residential Development (5-14) and Site Plan Review (7-3) with the following exceptions:
  - Parking spaces are 9'x20' – exceeding the minimum site requirements. [resolved]
  - Some plants on the proposed landscaping plan are not on the City's



- recommended species list. [resolved]
- The height is not measured correctly to the mean point of the gabled roof from the average elevation at the base of the structures. If accurate height measurement exceeds 35' then a height exemption will be needed. [resolved]
- The developer is requesting a density bonus. City Council can grant a density bonus if the following standards are met.
  - The property on which the development is proposed to be situated shall be located in close proximity to a thoroughfare designated as such in the Comprehensive Transportation Plan.
    - Duncan Hill Road is a minor throughfare on the comprehensive transportation plan. [standard satisfied]
  - Vehicular access for such development shall be limited to one or more boulevards or thoroughfares designated as such in the Comprehensive Transportation Plan.
    - Duncan Hill Road is a minor throughfare. [standard satisfied]
    - Signal Hill Road is designated as a local street on the comprehensive plan [see staff recommended condition].
    - The carrying capacity of the roadway shall be adequate to handle increased traffic associated with the development without reducing the level of service of such roadway. {Please see the City of Hendersonville Traffic Consultant comments}.
  - The development is proposed to be located within reasonable walking distance of places of employment and/or shopping facilities and shall provide pedestrian amenities in order to foster pedestrian access to such facilities.
    - The developer is fostering pedestrian access to places of employment by extending sidewalks off their site down Duncan Hill Road to connect with existing sidewalks. A plan for this is shown in your packet. [standard satisfied]
  - The development shall provide common open space sufficient for the needs of its residents, which shall not be less than the greater of the common open space required by Section 6-16-2, below, or 1% of the land area of the development for each dwelling unit per acre proposed.
    - The developer is required to provide 15.23%. they are providing 18.1%. [standard satisfied]
  - Any density authorized by City Council pursuant to this section shall not exceed 18 dwelling units per acre.
    - The developer is proposing 15.23 units per acre. [standard satisfied]

**Proposed City-Initiated Conditions:**

- Allow a right in, right out access onto Signal Hill Road even though Signal Hill Road is not designated as a boulevard or throughfare as required in section 5-14-5 (b) Density Bonus. [Developer Agreed]

- Allow the developer to construct sidewalks along Baldwin Hill Avenue to tie into Providence Walk's future sidewalk network instead of constructing sidewalks between the driveway accesses on Duncan Hill and Signal Hill Roads due to the probability of those sidewalks being removed when NCDOT makes improvements to Duncan Hill and Signal Hill Roads. [Developer Agreed]

## **CITY ENGINEER**

### **Site Plan Comments:**

- None

### **Proposed City-Initiated Conditions:**

- None

## **WATER & SEWER**

### **Site Plan Comments:**

- The Site Plan indicates that a Private Lift Station is proposed for this site.
- An Availability Request was received on May 3, 2022 and is currently under review.
- The following comments were provided in regards to the previously approved project at this site:
  - The City requires that all development be served by gravity sewer instead of pump stations, where feasible. It appears gravity sewer service is feasible for this project. On the water side, if the plan is to master meter the development, a public water main extension should not be required.
  - The parcels do affirmatively have frontage that abuts ductile iron water mains on Signal Hill Rd (8" DIP) and Duncan Hill Rd (12" AC). Obtaining water service for these parcels may not require an extension. The parcels do not have frontage that abuts a public sewer main and would require an extension for service. There is an 8" public gravity main approximately 2,100 ft to the west along Halford Dr. Connection to sewer may require the owner to apply for voluntary annexation.

### **Response to Developer-Proposed Condition:**

- A lift station will not be permitted at this site.

## **FIRE MARSHAL**

### **Site Plan Comments**

- Final site plans will require location of FDC's and hydrants.

### **Proposed City-Initiated Conditions:**

- None

## **STORMWATER ADMINISTRATOR**

### **Site Plan Comments:**

- None



**Proposed City-Initiated Conditions:**

- None

**FLOODPLAIN ADMINISTRATOR**

**Site Plan Comments:**

- None

**Proposed City-Initiated Conditions:**

- None

**PUBLIC WORKS DIRECTOR:**

**Site Plan Comments:**

- None

**Proposed City-Initiated Conditions:**

- None

**NCDOT**

**Site Plan Comments:**

- Increase island size for the right in, right out to deter people from turning left [Address at Final Site Plan].
- Will need a sidewalk encroachment from NCDOT

**Proposed City-Initiated Conditions:**

- None

**TRANSPORTATION CONSULTANT**

The proposed development is anticipated to generate 1,123 Daily Trips, 72 AM peak hour trips, and 87 PM peak hour trips per the ITE Trip Generation Manual, 10<sup>th</sup> Edition. The daily trips calculation triggered the threshold of 1,000 daily trips to require a TIA (Section 6-18). The City's Transportation Consultant (Jonathan Guy, Kimley-Horn) provided the following feedback on the TIA submitted by the development team:

- Based on a technical review of the TIA report submitted by the applicant on March 8<sup>th</sup> 2022, the City's traffic consultant provided his formal review which required revisions on behalf of the applicant. Those revisions were submitted on April 13. The revised TIA was reviewed and comments were again received by the City's Transportation Consultant. Due to the nature of the TIA many of the revisions were technical in nature and are not included in this synopsis. The comments ranged from low, moderate and high impact. All high and moderate impact comments are listed below. These comments reflect major corrections that are needed in order for the City to find the TIA acceptable.
- **Technical Observations From Traffic Consultant:**
  - In Tables 5-8, the column headers should be revised to specify whether "Queue Length" refers to Synchro or SimTraffic outputs. [**Moderate Impact**]

- **Latest Review Comment:** This has been corrected in the text but not in an appropriate manner. Reviewing the data contained in the Appendix shows that the queues listed are Simtraffic Max queues, even though the footnote added indicates they are from Synchro. The tables match the data contained in the Appendix except for the intersection of N. Main Street and Signal Hill Road. For this intersection the engineer used a mixture of Synchro 95<sup>th</sup> and Simtraffic max queues. The approaches vary across the horizon years for which this is done. NCDOT guidelines ask that both Synchro 95<sup>th</sup> and Simtraffic max be provided in the appendix and reviewed to recommend the queue. The tables should be corrected to show a consistent source and the footnote updated accordingly. Data sources should not be mixed without justification on why.
- In Tables 5-8, it is unclear which approach measures of effectiveness are reported for major street left-turn movements (i.e., at unsignalized intersections). A footnote should be added to clarify and aid the reader in interpreting the results of the analysis. [**Moderate Impact**]
  - **Latest Review Comment:** This has not been corrected.
- Figure 11 is not legible [**Moderate Impact**]
  - **Latest Review Comment:** This needs to be addressed quickly to review the data contained in the TIA.
- Background PM Queuing and Blocking Report not included in the Appendix [**Moderate Impact**]
  - **Latest Review Comment** A complete TIA including the Appendix is needed to review the TIA.
- The trip distribution shown in Figure 8 does not appear appropriate based on existing traffic patterns and surrounding land uses. Consider revising the trip distribution to assign more traffic to and from I-26/US 74 (to the east) and the City of Hendersonville (to the south) while reducing assignment to Berkeley Road (to the west) and Clear Creek Road (to the north). [**High Impact**]
  - **Latest Review Comment:** – Based on feedback from NCDOT, we concur on the premise that NCDOT stated the distribution and assignment is reasonable. Future submissions should obtain both NCDOT and City of Hendersonville concurrence on the distribution and assignment.
- On Page 33, the TIA report states that “no significant increase in queue length is expected at the study intersections...”. However, the results presented in Table 8 indicate the following:
  - Queues on the westbound approach at Duncan Hill Road/Signal Hill Road increase by 302 feet (140%) during the PM peak hour.
  - Queues on the northbound approach at N Main Street/Baldwin Avenue are negligible under No-Build conditions but nearly 600 feet under the 2023 Build scenario during the PM peak hour.
  - Queues on the westbound (site access) approach at Duncan Hill



Road/Baldwin Avenue exceed 320 feet during the PM peak hour, equivalent to approximately 13 passenger car lengths. If realized, these results indicate that up to 41% of all trips exiting the site during the PM peak hour will be in queue at the height of congested conditions.

- **Latest Review Comment:** It should be noted that the Engineer deleted the sentence noted above but has not offered any mitigation in the TIA to address the queuing outlined in the bullets listed above in the report. Each are addressed below:
  - Westbound approach at Duncan Hill/Signal Hill – in the PM peak hour the TIA reports the existing queue as 447 ft but shows a decrease to 177 (270 ft decrease) in the background conditions, and a queue of 216 with the buildout conditions (addition of site traffic). A review of the analysis files contained shows that the splits change between each of the scenarios analyzed. While it is beneficial to show that signal timing changes can improve operations, a comparison between the background and build scenarios should stay consistent. The report should detail variations in timing and scenarios.
  - The analysis shown in the TIA from Table 8 shows and increase in queues for the Northbound approach from 194 ft to 593 ft in the PM peak hour. The TIA does not recommend mitigation for this increase in queues.
  - The Northbound approach at Duncan Hill and Baldwin Ave in the PM peak hour in Table 8 shows a significant reduction in the queuing from 718 ft in the existing peak hour to 100 in the background horizon year, and then 0 ft with the addition of site traffic in the build horizon year. Justification for the significant reduction in queuing should be provided.
  - Throughout the Table 8 the analysis depicts a reduction of queuing from the existing to the background scenario. Clarification on why this is occurring should be provided by the traffic engineer.
- In light of the queue length observations noted above and presented in Table 8, additional improvements should be considered to accommodate projected site traffic. **[High Impact]**
- The turn lane warrant analysis presented on Page 30 and in Figure 12 does not consider right-turn lane warrants, nor does it include all unsignalized intersections within the study area. The turn lane warrant analysis should be revised to include right-turn lane warrants, and the intersections of N Main Street with Baldwin Avenue and Signal Hill Road with Duncan Hill Road should be included in the analysis. **[High Impact]**
  - **Latest Review Comment:** This has been included in the TIA. A review of the turn lane warrants shows a need for a turn lane between 25 ft and ft feet in length during the PM peak hour for Access #1 with Duncan Hill Road. Furthermore, a turn lane warrant

was only provided for Access 1 and not Access 2 on Signal Hill Road. A turn-lane warrant for Access 2 needs to be provided.

- The traffic signal at the intersection of N Main Street with Signal Hill Road is modeled as actuated-coordinated but operates free (i.e., uncoordinated) per the signal plan provided in Appendix D. Consider revising the analysis files accordingly. [**Moderate Impact**]
  - **Latest Review Comment:** This was not addressed in the analysis.
- **Additional Observations from Revised TIA:**
  - On Page 5, the posted speed limit on Duncan Hill Road is specified as 30 mph, but Google Street View and NCDOT GIS data suggests that the speed limit is posted at 35 mph. Confirm and correct the speed limit in the report text and analysis files as appropriate. [**Moderate Impact**]
    - **Latest Review Comment:** Cannot verify as the synchro reports provided do not contain the speed limits and no synchro files were provided with this submittal.
  -
- **Conclusions:**
  - Based on a technical review of the TIA as submitted, there are still several items that are outstanding that have not been addressed within the TIA. Therefore, the following measures are recommended to mitigate the impact of the proposed development.
    - Duncan Hill Road at Site Access #1
      - Provide for a Northbound right turn lane with 25 ft of full width storage and an appropriate taper.
    - Signal Hill Road at Access #2 RIRO
      - Provide for a Eastbound right turn lane with 25 ft of full width storage and an appropriate taper.
  - The improvements recommended above would be in lieu of the recommended mitigation of a 75 ft long right turn lane at the intersection of N. Main Street and Signal Hill Road as well as the turn lane need shown in the turn lane warrants for Access #1.

### **Proposed City-Initiated Conditions:**

- Revise TIA to address outstanding comments [Developer Agreed]
- Require the developer construct the proposed traffic mitigations from the TIA.
  - Site Access #1
    - Construct Access 1 as with shared left/right egress lane and one ingress lane. [Developer Agreed]
  - Duncan Hill Road at Site Access #1
    - Provide for a Northbound right turn lane with 25 ft of full width storage and an appropriate taper. [Developer Agreed]
  - Signal Hill Road at Access #2 (RIRO)
    - Provide for a Eastbound right turn lane with 25 ft of full width storage and an appropriate taper. [Developer Agreed]



## **TREE BOARD**

### **Site Plan Comments & Recommended Conditions:**

- See attached Tree Board Summary