



# Glenrock



Michigan State University  
4-Year Program Construction Management  
NAHB Student Competition 2023



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# Executive Summary

## Market Analysis

Situated in the highly sought-after Summerlin West community, Glenrock offers a unique blend of luxury living, educational excellence, and an abundance of amenities. Nestled in between the world-famous Las Vegas Strip and the breathtaking views of Red Rock Canyon, Glenrock caters to a wide range of target buyers ready to upgrade their lives. The Glenrock Development has been strategically designed to meet the needs of the market and fall within the opportunity zone identified in the competitive market area.

## Product Design and Selection

Glenrock will be in the Grand Park neighborhood of Summerlin West, combining parcels K & L, which consists of 48.84 acres and is tagged with an asking price of \$55,000,000. The neighborhood is designed to have a strong commitment to the outdoors and to match the natural landscape and surroundings of Summerlin West. Red Cedar is excited to offer five home plans between 2,900 and 4200 SF and between \$1.2 – 1.5 million. Glenrock homes are developed in a way that integrates luxury, sustainability, and the outdoors.

## Construction Management

Red Cedar Real Estate has developed a comprehensive construction management plan to produce this development on time and on budget. The comprehensive estimate for Glenrock details a breakdown of horizontal costs and home costs with our total horizontal estimate at \$70.8 million and our home constructions costs totaling at \$105.8 million. The project will begin in March 2024 and end in July of 2029, for a total duration just over 5 years. The schedule is divided into three phases to optimize efficiency and align with market demands.

## Project Management

The project management team for Glenrock will work strategically to finish the development on time and on budget. The team will consist of a project manager and two construction managers, focusing on both vertical and horizontal construction depending on the needs of the project. Red Cedar Real Estate will also have a comprehensive sales and marketing plan for Glenrock that will strategically integrate our target buyer groups.

## Financial and Risk Analysis

Glenrock offers a return on investment of 18.46% for the baseline scenario based on 9 sales per quarter. Red Cedar also analyzed several risk scenarios ranging from 1.65% - 17.32% ROI. The required financing for the project will be \$73.63 million. The financing requires a large upfront draw for the land acquisition followed by 3 other quarterly distributions to support the project until it becomes self-sufficient.





## Introduction

Welcome to Glenrock, where the excitement of Las Vegas meets luxury living. Here, you are not just discovering a luxury lifestyle, but also a chance to be a part of the growing Summerlin community. Imagine homes designed for the future, nestled between the buzz of Las Vegas and the serene beauty of Red Rock Canyon. Glenrock is more than a neighborhood - it is a window of opportunity to connect homebuyers with their needs and an opportunity to steer our company towards great success. Join us in shaping a community that promises luxury living and charts a course for a joyful and sustainable future.





## Section 1: Market Analysis

### 1.1 Local Attractors

#### Amenities

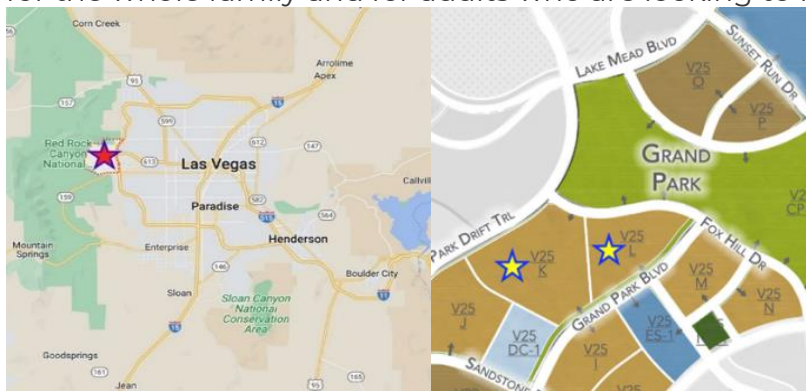
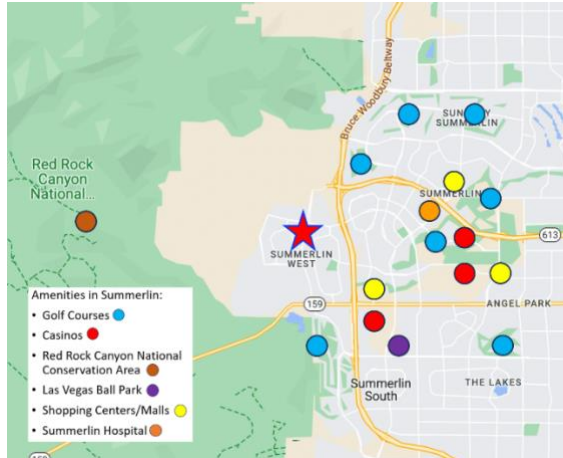
Summerlin West is a community located in Clark County, Nevada. Summerlin West is a part of the new and growing Summerlin master-planned community, located 25 minutes from downtown Las Vegas and 2 miles from Red Rock Canyon. Summerlin has abundant attractions and amenities including golf courses, parks, areas for hiking and biking, casinos, baseball, shopping centers and malls, and a local hospital. Nearby is Las Vegas, which offers many different types of entertainment including casinos, theaters for live shows, world famous restaurants, bars, arcades, theme parks, and museums.

Clearly, Summerlin has a lot to offer for people of all ages and offers activities to do for the whole family and for adults who are looking to have a night out.

**Figure 1.1**

Amenities Map

Source: Red Cedar Real Estate



**Figure 1.2**

Site Location and Parcel Map

Source: Grand Park Design Guide and Google Maps)

The proposed site is made up of parcels K and L which comprise 48.4 acres, offered for sale for \$55 million. Summerlin has a lot to offer and is a perfect place for families and active adults who would like to live close enough to a large city but still be comfortable in their own residential community outside of the city of Las Vegas.



## Schooling

The site is served by some of Nevada's best schools, with elementary, middle, and high schools ranked within the top tier statewide. This academic distinction makes the community an attractive choice for families who place a high value on educational opportunities. Summerlin is an ideal community for families prioritizing education.

## 1.2 Demographics

### Age Distribution

Figure 1.4 captures a substantial recent increase in younger families moving into the area. While there remains a sizeable segment of residents over 55, the influx of young families is noteworthy. The age brackets of 0-9 and 10-19 years have seen increases to 15.24% and 13.69% in 2021. The 30-39 and 40-49 age groups have shown significant growth as well, indicating a dynamic community in transition.

### Income

Figure 1.5 illustrates the average income trends in various census tracts surrounding 58.72. Notably, the nearby census tracts experienced a gradual increase in average income from 2016 to 2021. In stark contrast, Census Tract 58.72 exhibited a surge in income and population, in both 2020 and 2021. This steep and recent rise underscores a distinct economic trajectory, positioning the area as an outlier in terms of income growth within the past two.

## Competitive Market Area

Within the Glenrock Census Tract, 66.5% of workers over 16, commute to work. Comparable communities within the CMA include Summerlin South, Summerlin North, and spring valley. However, due to Summerlin's unique brand name neighborhood attributes, the market analysis took a closer look at the demand drivers of Summerlin West specifically.

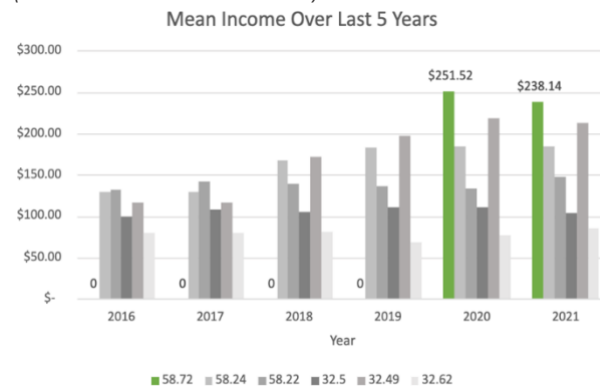
**Figure 1.3**

*Best Schools in Nevada. (Source: US News)*

<b>Linda Rankin Givens Elementary School</b> <small>655 Park Vista Dr, Las Vegas, NV 89138   (702) 799-1430   Website</small> <b>#14 in Nevada Elementary Schools</b> <small>Overall Score 96.65/100</small>	<b>Quick Stats</b> Type: Public Grades: PK-5 Total Enrollment: 647
<b>Palo Verde High School</b> <small>333 S Pavilion Center Dr, Las Vegas, Nevada   (702) 799-1430</small> <b>#28 in Nevada High Schools</b> <small>Overall Score 79.94/100</small>	<b>Quick Stats</b> Grades: 9-12 Total Enrollment: 3,234 Student-Teacher Ratio: N/A
<b>Doral Academy Red Rock</b> <small>610 Crossbridge Dr., Las Vegas, NV 89134   (702) 776-8530</small> <b>#14 in Nevada High Schools</b> <small>Overall Score 88.18/100</small>	<b>Quick Stats</b> Grades: kg-12 Total Enrollment: 861 Student-Teacher Ratio: N/A
<b>Ernest Becker Middle School</b> <small>9151 Pinewood Hills Dr, Las Vegas, NV 89134   (702) 799-4460   Website</small> <b>#38 in Nevada Middle Schools</b> <small>Overall Score 76.13/100</small>	<b>Quick Stats</b> Type: Public Grades: 6-8 Total Enrollment: 1,276

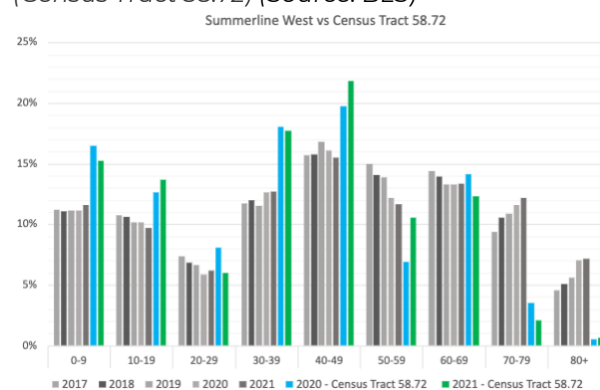
**Figure 1.4**

*Summerlin West - Age Distribution (Source: US Census Data)*



**Figure 1.5**

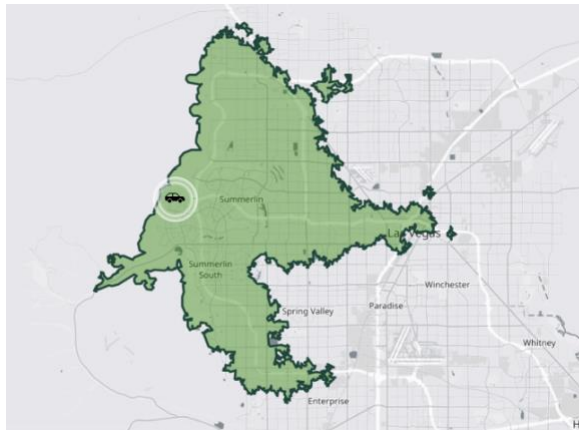
*Mean Income Summerlin West (Census Tract 58.72) (Source: BLS)*





**Figure 1.6**

25 Minute Drive Time Radius 8:00 am  
(Source: Travel Time)



The proposed development site is located just west of the Las Vegas Strip. Figure 1.6 presents a commute radius map generated using the average 25-minute commute time from the US Census. This map, specific to the 8 AM timeframe, visualizes the extent of travel possible from the central focus within a typical 25-minute morning commute.

## Migration

Redfin data shows Las Vegas attracts a significant influx from cities like Los Angeles, Seattle, New York City, San Francisco, Chicago, and Washington D.C. Nearly 75% of new buyers hail from California, 7% from the Pacific Northwest, and the rest primarily from Eastern cities. This highlights Las Vegas as a diverse and appealing destination for those seeking a vibrant lifestyle change.

**Figure 1.7**

Las Vegas Migration Trends  
(Source: Redfin)

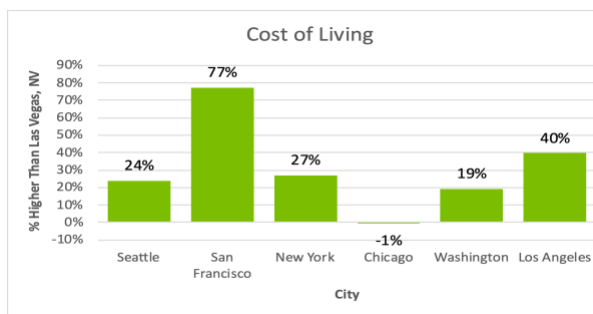


## Cost of Living

Given that Las Vegas offers a significantly more affordable cost of living compared to the cities mentioned in the section above, it is increasingly becoming a preferred destination for individuals seeking the amenities of a large city without the associated high living costs. Figure 1.8 compares the cost of living in Las Vegas to that of the cities of origin for those migrating to Las Vegas highlighting the relative affordability for those with similar income levels considering relocation. In addition to its lower cost of living, Las Vegas provides an additional draw with its favorable tax structure.

**Figure 1.8**

Cost of Living Comparison  
(Source: BLS)



Nevada stands out as one of the few states that does not impose a state income tax. This absence of state income tax results in significant savings for potential residents, allowing them to retain a larger portion of their earnings.





## Target Buyers

### Cali Escapee

- High income, growing families.
- Seeking lower cost of living.
- Bringing equity and cash to sale.

### Desert Wanderer

- Nevada Resident
- Establish Families seeking luxury schools and a luxury lifestyle.
- 2<sup>nd</sup> time home buyer

### City Retreats

- Mature active adults
- Enhanced value of retirement.
- Long term appreciation and escape from the Vegas noise.

Based on our research described above, target buyers for Glenrock are established and growing families, seeking an upgrade in their active lifestyles. Professionals, families, and mature residents seeking quality, tranquility, and community will call Glenrock home. Financially stable, they value high-end finishes, outdoor living, and educational excellence. Attracted by the allure of lower living costs, these buyers aim to transplant their success and seek appreciative investment opportunities in a luxurious yet serene environment away from urban noise.

## 1.3 Supply and Demand

The Multiple Listing Service data for neighborhoods around the Glenrock site shown in figure 1.9 indicates a strong sales-to-list price ratio for homes in the \$1.2M to \$1.5M range. This demonstrates a favorable market for properties within this price bracket, underscoring the potential for successful sales of the proposed development.

**Figure 1.9**

*Segmented Sales to List Price*  
(Source: MLS)

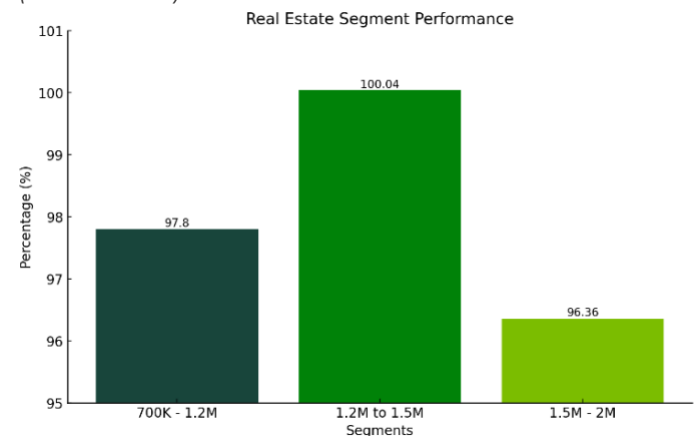


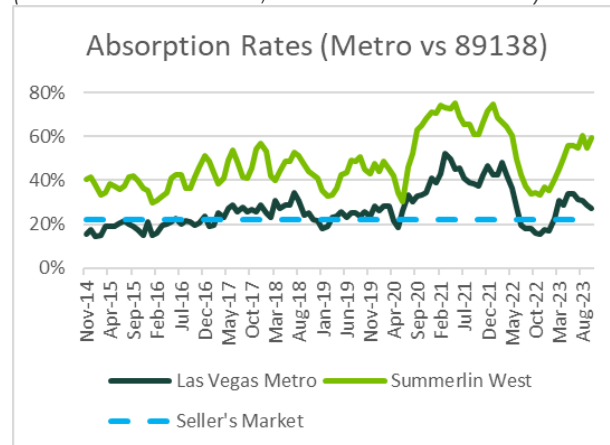


Figure 1.10 illustrates monthly absorption rates for the Las Vegas Metro and the specific zip code of the site. The dashed blue light represents a 22% seller's market threshold. While the Las Vegas Metro fluctuates around this threshold, occasionally entering a buyer's market, the Summerlin West area consistently exhibits nearly double the absorption rate. From March to October 2023, there is a noticeable divergence with the metro's competitiveness decreasing and Summerlin West experiencing heightened growth.

**Figure 1.10**

*Absorption Rates*

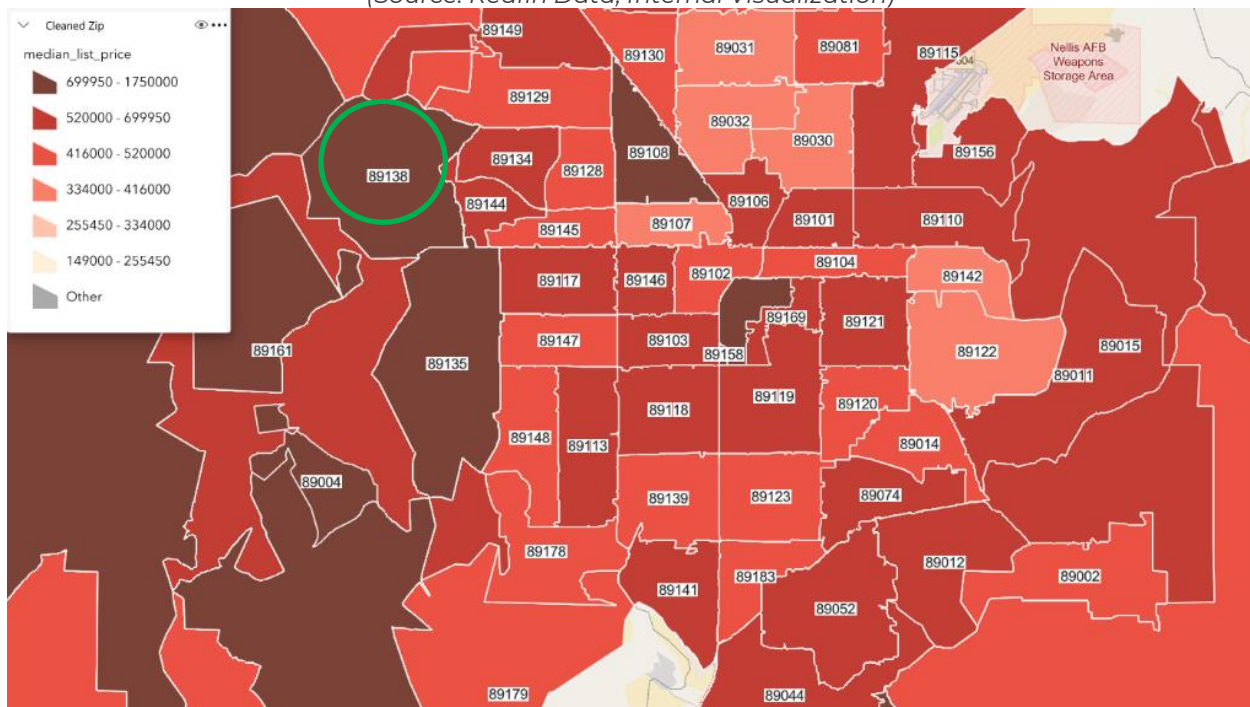
*(Source: Redfin Data, Internal Visualization)*



**Figure 1.11**

*Median Sales Price Heatmap*

*(Source: Redfin Data, Internal Visualization)*

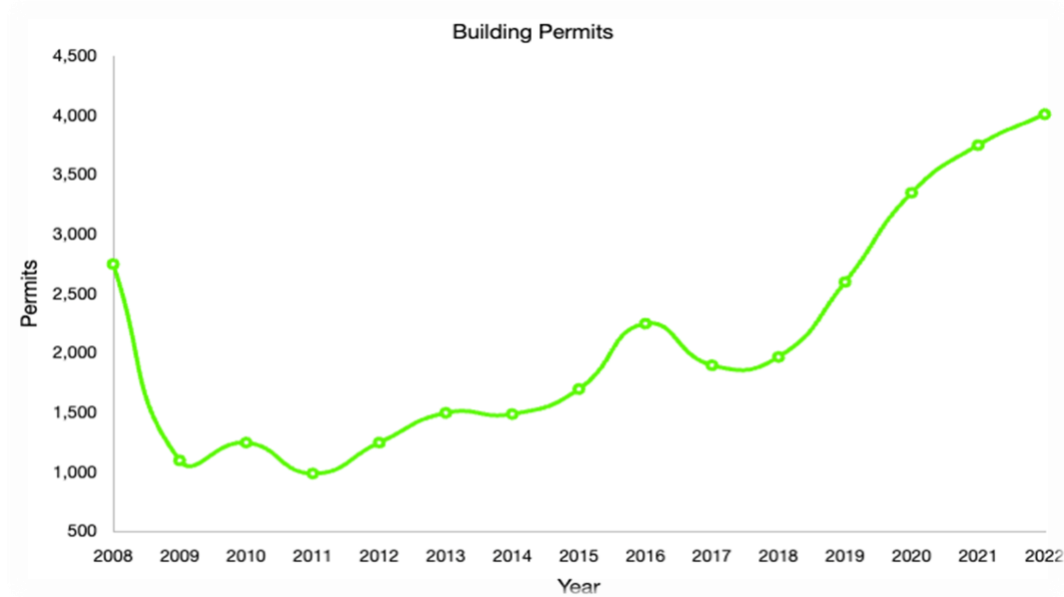


The heatmap, as illustrated in Figure 1.11, depicts the variation in median sales prices across different zip codes. Glenrock's zip code, 89138, is outlined by the green circle on the east side of the map. This specific zip code falls within the highest category for median sale prices, ranging from \$699,950 to \$1,750,000. Glenrock has been strategically selected due to its elevation and position, factors that contribute to higher sale prices, breathtaking views, and an unbeatable location. This visual representation underscores Glenrock's advantageous position in a higher-value area, surrounded by neighborhoods that command premium prices.



**Figure 1.12**

Source: US Census Bureau Building Permit Survey



Illustrated in Figure 1.12, the surge in building permits in Las Vegas is striking, escalating from 1,000 in 2011 to an impressive 4,000 in 2022. This substantial increase signals not just the scale but the robust expansion of the real estate market in Las Vegas. The proposed building site in Summerlin West is strategically positioned to capitalize on this flourishing growth, presenting a prime opportunity for our investment.

## 1.4 Competing Developments

It is clear that the Las Vegas real estate market is booming, offering a promising opportunity in Summerlin West. As we navigate this growth, it is curial to acknowledge the complete landscape that lays ahead. Anticipating the rise of surrounding neighborhood developments, from Pulte, Tri Pointe, KB Homes, Toll Brothers, and many others have already dipped their hands into the pot of Summerlin.



**Figure 1.13**

Competitor Home  
Pulte "The Cesena"

**\$1,230,990**

4 Bed / 3 Bath  
2,875 SF



**Figure 1.14**

Competitor Home  
TriPointe "Plan 2"

**\$1,063,210**

4 Bed / 3 Bath  
2,974 SF



**Figure 1.15**

*Competitive Market Analysis*

*(Source: Movoto Sales Data, Internal Visualization)*

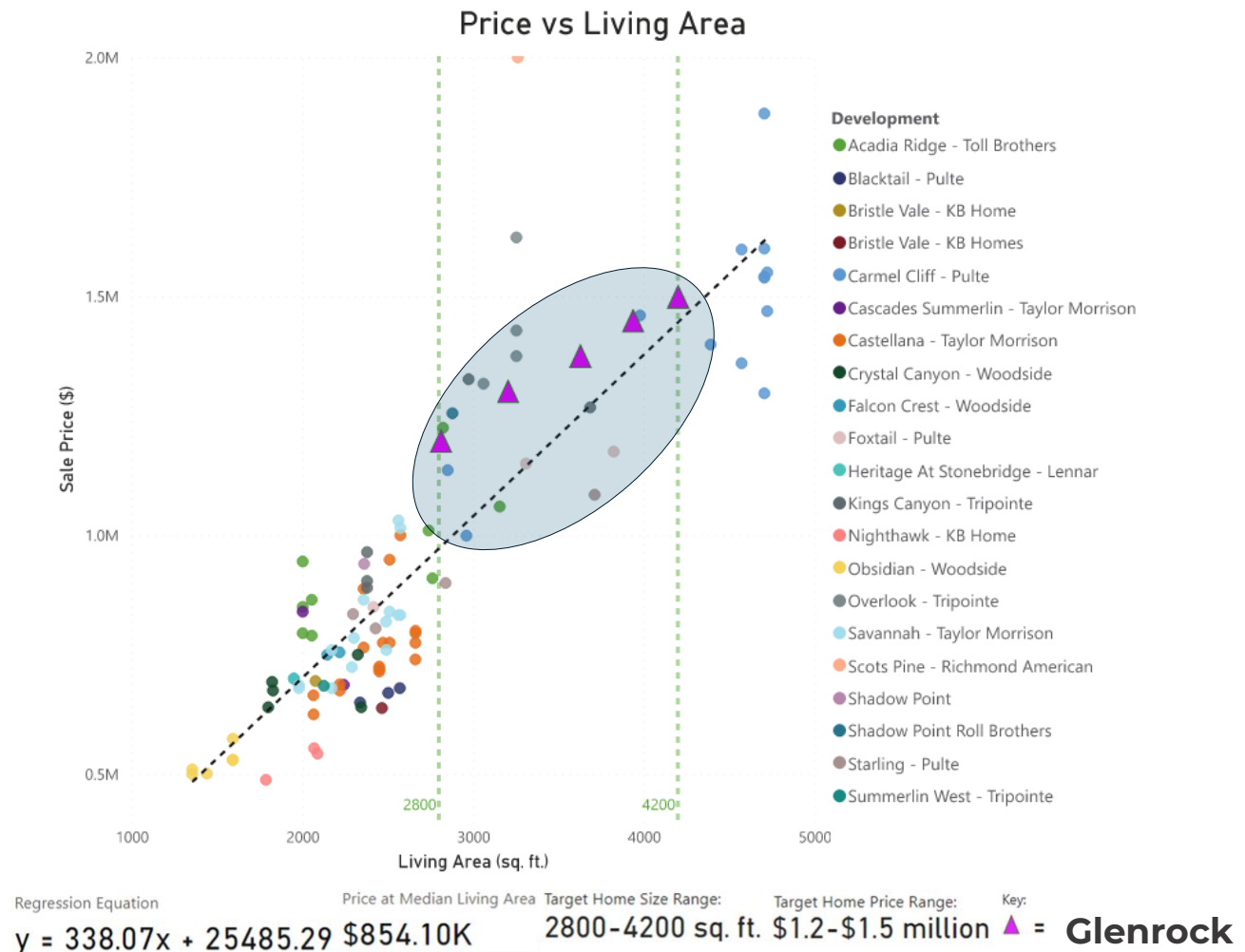


Figure 1.15 presents a scatterplot that correlates the sale prices with the living areas of homes in competing developments. Competing developments were identified using a combination of the 25-minute commute radius from the site in Figure 1.6, and the heatmap in Figure 1.10 that showcases the site's premium location.

The scatterplot reveals an opportunity zone (highlighted in the blue oval) in the 2,800 to 4,200 square foot range. This segment appears less saturated yet aligns the higher value areas surrounding the site and the key demographics analyzed earlier. The introduction of a trendline in this scatterplot facilitates a comparative analysis of the project's homes against existing market offerings.

Notably, the smaller homes for Glenrock slightly overshoot the trendline, but their pricing is still within the range of other competitive sales. Conversely, as the size of homes increases, their pricing gravitates toward the trendline, indicating a competitive pricing strategy for larger units.





## Section 2: Product Design and Selection

### Product Design

#### 2.1 Mission

Here at Glenrock, we build homes that integrate luxury, sustainability, and the outdoors. Glenrock features 168 homes across five unique home plans that buyers can choose from. Two of the home plans are single story and range from 2,891 SF to 3,146 SF. The other three home plans are two stories and range from 3,722 SF to 4,203 SF. Our homes will range from 3-4 bedrooms and 3-5.5 bathrooms. By offering a diverse set of home plans, we can appeal to our target markets of active and established families, and active adults. The exterior design of our homes was created to fit in with the desert environment and complies with all design requirements in the Grand Park Design Criteria. The interior of the homes features a contemporary, open space design concept. The exterior and interior design features of the home can be customized through our standard design packages. We will also offer upgrade packages for some design features, such as upgraded kitchen, bathroom, and exterior features. To seamlessly integrate the outdoors with the indoors, we will incorporate front entry courtyards or porches on all our home plans and balconies on our two-story home plans. We will also be offering upgrade packages for backyard patios. All front yards will come fully landscaped, but the backyard landscaping is up to the homeowner, to allow them to match the backyard design that suits their lifestyle.

#### 2.2 Home Construction Overview

The homes in Glenrock will be built on post-tensioned concrete slabs because of the caliche soil that underlies much of the site. Homes are wood framed and have stucco exteriors. To diversify the look of the neighborhood, we will offer three different stucco color choices for buyers to select. Our standard roof is barrel shaped clay roof tiles ensuring longevity and premium quality. Upon completion of the final site grading plan, the high-pressure boundary running through the site will be reevaluated and pressure reducing valves will be installed on homes if pressure exceeds 80 psi, per applicable Las Vegas Valley Water District code.

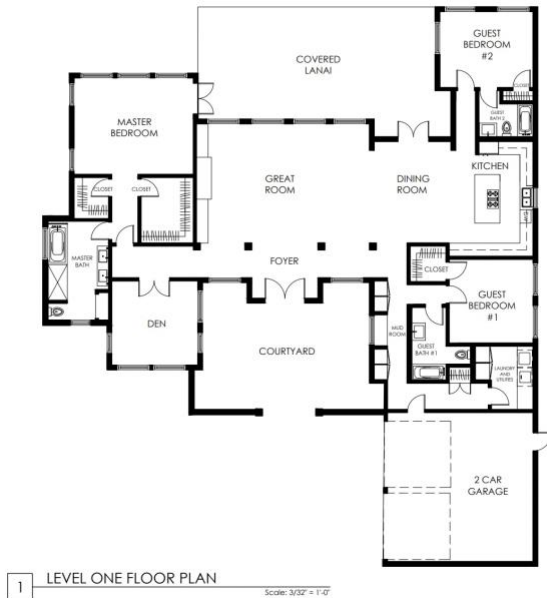


## 2.3 Available Home Plans

### The Calico

Starting: \$1.23 Million

2,891 SF | 3 Bed | 3 Baths | 2-Car Garage



The Calico is the smallest out of our five house plans. This house plan is single story and offers an open layout with three bedrooms and three bathrooms. This plan also features a courtyard entry and a covered lanai with potential for a back patio. This plan is perfect for people who are looking for a smaller home and active adults looking for a comfortable home they can retire in. The Calico features options with a zero step entry and reinforced bathroom walls for the installation of grab bars and walk-in tubs.



## The Canyon

Starting: \$1.29 Million

3,146 SF | 3 Beds | 3.5 Baths | 2 Car Garage



1 LEVEL ONE FLOOR PLAN

Scale: 3/32" = 1'-0"



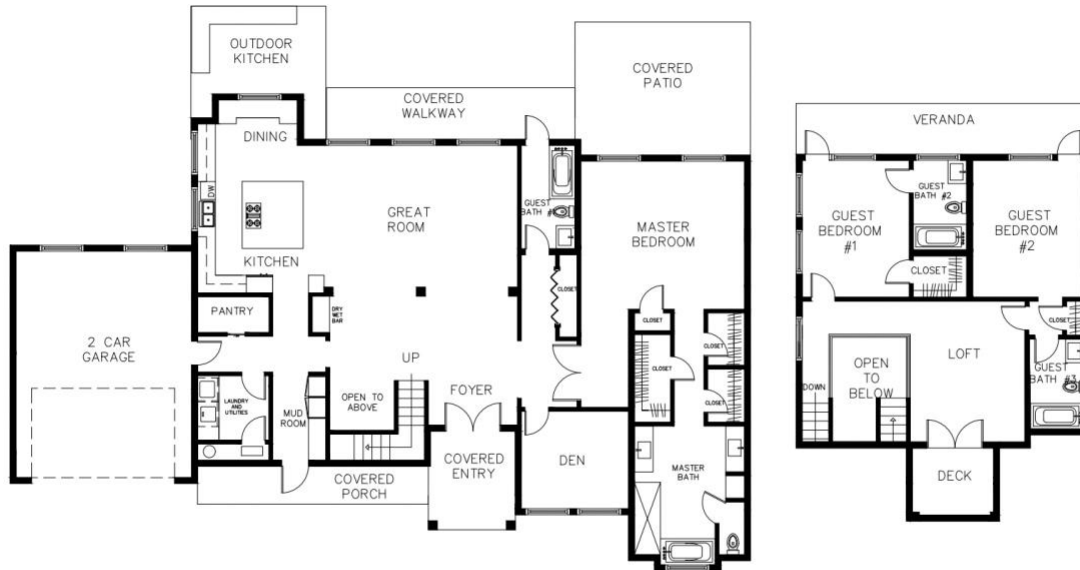
The canyon is our second single story house plan. This plan offers three bedrooms, three bathrooms, and one-half bath. This plan also has a covered lanai with potential for a back patio. This is a great plan for families who would like a smaller floor plan on one story and older couples who would like one story and also host guests.



## The Delilah

Starting: \$1.36 Million

3,722 SF | 3 Beds | 4 Baths | 2 Car Garage



1 LEVEL ONE FLOOR PLAN  
Scale: 3/32" = 1'-0"

1 LEVEL TWO FLOOR PLAN  
Scale: 3/32" = 1'-0"



The Delilah is the smallest of our two-story house plans, offering a master bedroom on the first floor with two bedrooms on the second floor, and four full bathrooms. The second floor has a loft area that opens to a balcony and the two guest bedrooms also open to a connected balcony. The plan shown above also shows our outdoor kitchen upgrade package. This home is ideal for young families and professionals.





## The Whitney

Starting: \$1.42 Million

3,899 SF | 4 Beds | 4.5 Baths | 2 Car Garage



1 LEVEL ONE FLOOR PLAN Scale: 3/32" = 1'-0"



2 LEVEL TWO FLOOR PLAN Scale: 3/32" = 1'-0"



The Whitney is our next two-story house plan offering a master bedroom on the first floor and three bedrooms on the second floor. The second-floor bedrooms also open to spacious balconies. This plan also offers a den and a garage with extra space for a shop or storage. This plan is ideal for a larger family or for families who plan on hosting and entertaining guests.



## The Kingman

Starting: \$1.51 Million

4,203 SF | 4 Beds | 5.5 Baths | 3 Car Garage



The Kingman is our largest house plan offering a guest bedroom on the first floor and the master bedroom along with two bedrooms on the second floor. Five full bathrooms and one-half bathroom is also offered. The second floor also has access to a balcony. Included in this home plan is also a three-car garage with extra room for a shop or storage. This plan is also ideal for a larger family or for families who plan on hosting and entertaining guests.



## 2.4 Standard Home Features

### General Home Features

- Luxury Vinyl Plank Flooring
- Google Nest Smart Thermostat
- 8' Door Openings
- Carbon Monoxide Detectors
- Smoke Alarms
- Cable Outlets
- Tankless Water Heater
- Hybrid Split HVAC System
- Contemporary Minimal Framed Windows
- Low E Window Glazing

### Kitchen

- Granite Counter Tops
- 12" Tile Backsplash
- LG Stainless Steel Appliances
- Kohler Stainless Steel Single Basin Sink
- Kohler Pull Down Faucet

### Bathroom

- Granite Countertops
- Tiled Showers
- Cabinet Vanity
- Kohler 1.5 GPM Faucets
- Euro Shower Doors
- 1.28 GPF Toilet

### Laundry

- High Efficiency LG Front Load Washer and Dryer
- Built-in Bench

### Exterior

- Stucco Siding
- Landscaped Front Lawn
- Drought Resistant Plants & Accent Trees
- Subterranean Drip irrigation System
- California Gold Rock Bed
- Stone Paver Courtyard
- 2-3 Car Garage
- Balconies



## 2.5 Upgrade Features

### Interior

- Quartz Counter Tops
- Full Quartz Kitchen Backsplash
- Full Bathroom Quartz Backsplash
- Bathroom Heated Towel Racks
- Backlit Bathroom Mirror
- Kitchen Cabinet and Drawer Organizers
- Home Automation System
- Steam Shower
- Gas Fireplace

### Exterior

- In Ground Pool
- Synthetic Artificial Turf
- Outdoor Kitchen
- Stone Paver Back Patio
- Roof Solar Panel System
- Electric Vehicle Charger
- 3 Car Garage
- Living Area Sliding Glass Wall System

## 2.6 Featured Renderings



**Figure R.1**

*Living Room Rendering - "The Calico"*



**Figure R.2**

*Kitchen. Rendering - "The Whitney"*



**Figure R.3**

*Bedroom Rendering - "The Delilah"*





## Site Design

### 2.7 Site Design Overview

The new Grand Park Neighborhood District development located in Summerlin West consists of 688 total acres. Within this district, parcels K and L, comprising 48.84 acres, will become the Glenrock neighborhood. With stunning views of the Spring Mountains and overlooking the Las Vegas Strip, it may make living in Glenrock seem surreal. This neighborhood will have a solid commitment to outdoor living and is a short walking distance from Grand Park, the most significant recreational open space area in all of Summerlin. Glenrock will also have open sidewalks leading to other neighborhoods, open spaces, and walking trails surrounding the Grand Park area. The homes and sites in this neighborhood will integrate luxury, sustainability, and the outdoors, making this the perfect place to find the new home that is right for our buyers.

The site is located in a seismic zone with moderate probability of earthquakes producing a VII intensity on the modified Mercalli scale, which correlates to a Richter Magnitude 5.75 event. We have reviewed USGS data and concluded that this seismicity does not present a problem for this site because this area has a historically low incident rate of heavy shaking earthquakes.

### 2.8 Existing Site Conditions

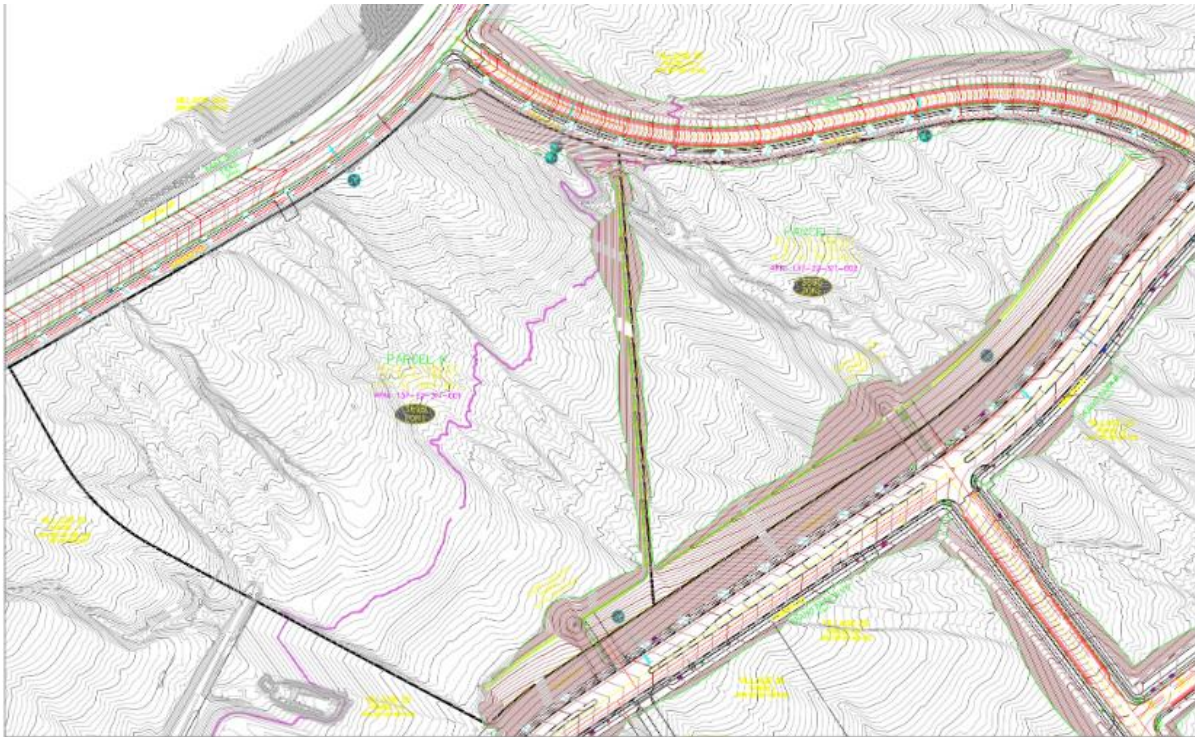
This site is in a desert biome. Several washes transverse the area that runs from the site's Northwest part to the site's Southeast part, the largest of which is 25' deep and over 100' wide. There is also an existing manmade wash in the middle of the site that runs from north to south. The stormwater on the site drains via these natural and manmade washes and by sheet flow to the south and southeast of the site. These washes must be filled to bring the site to a proper grade. The site subsoil is comprised of gravel with silt and sand. Some areas also have partially cemented sand which is known as caliche. The caliche is prevalent and must be removed. All extra costs for the caliche removal are included in the sitework estimate.

After reviewing this subsoil, it is concluded that it cannot be built on directly, and must be cleared, grubbed, and excavated. The subsoil must be over-excavated to a minimum of 18" or to the bottom of the footings, whichever is more profound. This over-excavation must be extended far enough to get to a native subgrade that is of at least medium density. After this, the exposed subgrade should be scarified to a minimum of 12", moisture conditioned, and a compacted dry thickness of 90%. Then, engineered fill will be placed and compacted to a dry thickness of 90%. Site excavation must follow the Angle Engineering Geotechnical Report for parcels K and L. The information on this site's soil was gathered from 15 soil borings in different areas across the site, which went to a depth of 15'.



**Figure 2.1**

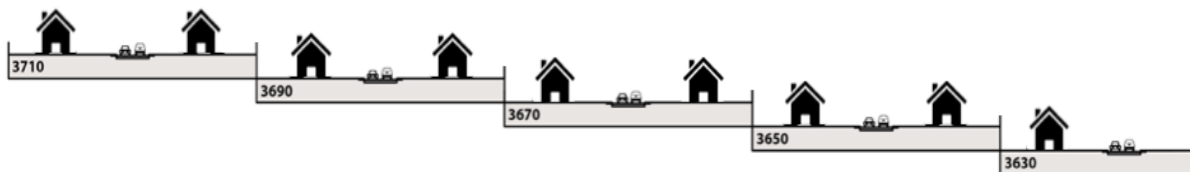
Parcels K & L Existing Site Conditions & Contour Map  
(Source: Grand Park K & L Criteria)



Glenrock will contain 168 lots with a lot of square footage ranging from 7,300 S.F to 8,300 SF. Parcels K and L have been treated as a single parcel, which assumes that we are successful in receiving a variance to combine these two separate parcels. Our risk analysis section analyzes a scenario where we do not receive this variance and therefore must develop the site differently.

**Figure 2.2**

*Glenrock Site Cross Section and Elevations*



## 2.9 Glenrock Site Design

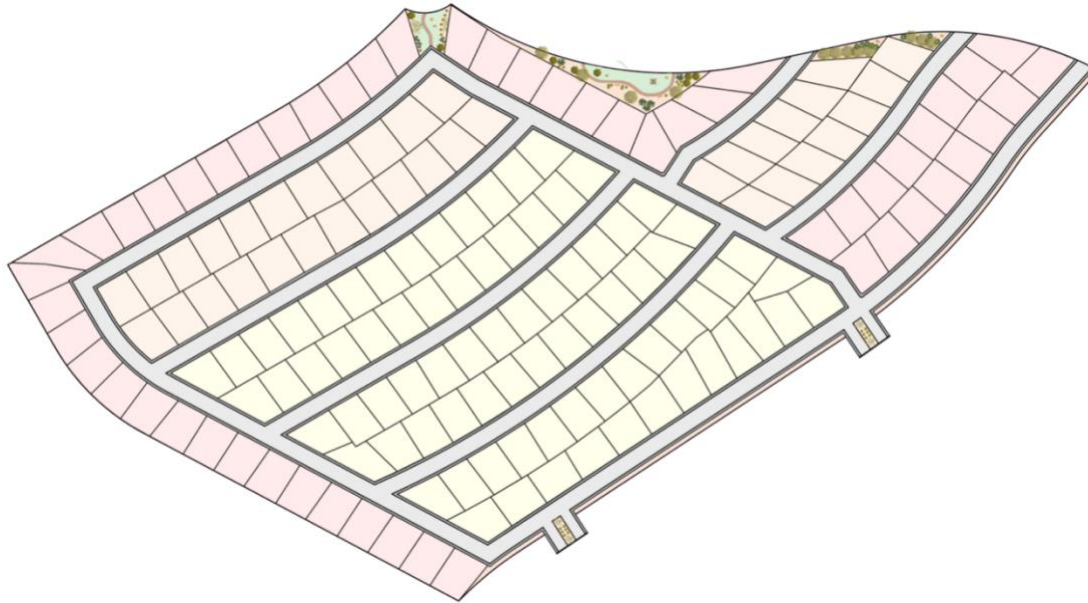
Due to the significant contours and elevation changes of the site, the Glenrock grading plan features benching to minimize areas of soil disturbance and to minimize cut and fill requirements by working with the contours, to minimize overland storm runoff velocity, and to add value by providing a significant number of premium lots with views of the Las Vegas Strip. Retaining walls will be used throughout the site, as provided in the Grand Park Design Requirements.



We will encourage outdoor activity by installing sidewalks throughout the neighborhood. While there are no open space requirements for parcels K and L, Glenrock will contain multiple small green spaces at the northern portion of the site. Grand Park is located just north of Glenrock, which will provide access to and there are other parks and trails located near the neighborhood.

**Figure 2.3**

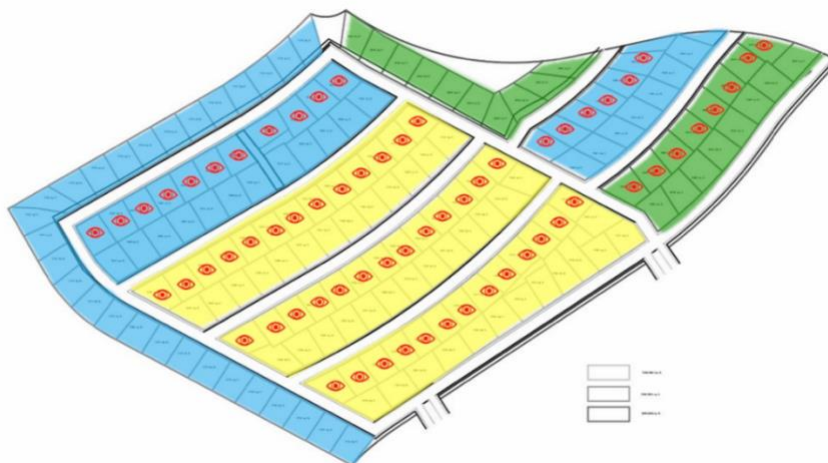
*Glenrock Site Plan*



Glenrock features three different lot sizes. King size lots are the largest, ranging from 8,000 SF - 8,300 SF; Queen lots range from 7,850 SF – 7,650 SF; and standard size Jack lots range from 7,550 SF – 7,300 SF. Lot sizes and guaranteed views of Las Vegas Strip are shown in Figure 2.4. Strip view lots are in high demand among buyers in various Summerlin West communities and command a significant lot premium. Real estate experts have consistently seen these strip view lots sell first in nearby communities.

**Figure 2.4**

*Glenrock Site Plan with Lot Sizes*



**Strip View**

\$100,000 Premium



**King Lots**

\$20,000 Premium  
8,000 SF-8300 SF



**Queen Lots**

\$15,000 Premium  
7,850 SF-7,650 SF



**Jack Lots**

7,300 SF-7550 SF





There will be two entrances to access this site. Both entrances will be located along the southeastern edge of the site, and provide entry from Grand Park Boulevard, a collector road for Summerlin West. According to the Summerlin Grand Park Design Criteria, one entrance must be a Type 1 entrance, and the other must be a Type 2 entrance. The design criteria for these entrances are consistent with Grand Park entry designs. Both entrances are gated and have a pedestrian path on either side of the entrance with a pedestrian gate. Each entrance must have a monument displaying the neighborhood's name and is detailed in the Grand Park Entries Documents.



Images are Property of Red Cedar Real Estate

Another monument whose sole purpose is to display the neighborhood name to the public is required and will be located at the north end of the site. A gated pedestrian path will also be at this monument. More design information on this monument and the previously mentioned monuments can be found in the Grand Park Monuments Schematic Design Document



Images are Property of Red Cedar Real Estate





## Neighborhood Perimeter

To ensure neighborhood privacy, Glenrock will be encircled by a perimeter wall. There are three perimeter wall requirements for this site: 1) the northwest side of the site is bounded by a conventional edge-village wall; 2) the northeast and southeast sides of the site are boarded by a park edge-urban village wall; and 3) the northwest side of the site is edged by an enhanced product wall. When it comes to ensuring the privacy of each home, all homes will be contained within their own product wall. All walls are solid brick walls and will be following all requirements that are in the Grand Park Design Criteria.

## Neighborhood Landscaping

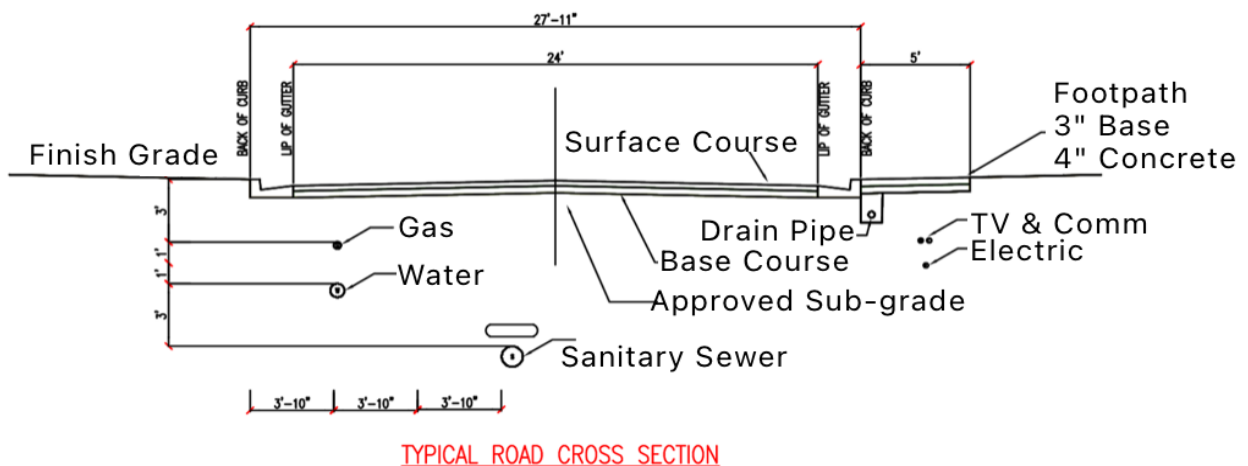
Lining the streets of Glenrock will be drought resistant shade trees which will serve the purpose of aesthetics and to keep sidewalks cool. Neighborhood entrances will be accented with various types of drought resistant plants, flowers, and trees to make for a grand appearance. For safety at night, neighborhood streets will be lit up by residential light poles that fit with the surroundings of the neighborhood, and front entry monuments will have landscape lighting.

## Site Infrastructure

The design and functionality of the infrastructure at Glenrock is of the utmost importance. A speed limit of 25 mph will be imposed to promote the safety of all residents. Major roads within the development will have counterpart 5-foot-wide pedestrian paths, allowing residents to cycle, walk, or drive safely.

**Figure 2.5**

*Glenrock Typical Road and Utilities Cross Section*



All utilities within the development will comply with NV Energy guidelines, local building codes, and the benchmarks established by the Grand Park design criteria. Code compliance is just the start when designing this community; Glenrock aims higher than minimum standards. The primary objective at Glenrock is to promote quality infrastructure with a pleasing design, offering residents a perfect blend of safety, convenience, and beauty at a market-competitive price.



## Stormwater Management

Leveraging the natural topography of our site to our advantage, our stormwater management strategy integrates with the contours of the land and our site plan. Situated in a desert biome, where landscape infiltration is inherently challenging, the site's unique hillside location directs water flow down the natural slope. Gravity will direct most of the storm water through our underground system, southeast into the three existing reinforced concrete collector pipes along the site's southern edge.

Our innovative stormwater management system is designed to handle adequate water flow through the landscape, considering both on-site conditions, permeable concrete, and runoff from higher elevations in the area. This strategic approach not only aligns with sustainable construction practices but also demonstrates our commitment to environmental responsibility and effective stormwater control in the dynamic context of desert terrain.

## 2.10 Sustainability

### Sustainability Mission

Glenrock is on a mission to provide not only luxury living, but also sustainable and future proof living. Red Cedar Real Estate is committed to construction of environmentally responsible homes that prioritize efficiency, conservation, and embrace green living practices. By aligning with nationally recognized standards like the ICC700 – National Green Building Standard, we are building a healthier future for both our residents and the planet.

### Land Development

The ICC700 standards for land development are focused on creating environmentally conscious communities. Glenrock has been specially designed to integrate into the natural landscape and mitigate impact to its surrounding ecosystems. Landscaping choices were carefully selected to thrive in their native environments and minimize the demand for excess irrigation, though we will support irrigation to establish the abundance of deciduous trees, which will help limiting solar heat gain and reduce cooling energy demand.

### Home Construction

Energy efficiency stands as a cornerstone in our home design process. Each of our five home plans were designed with High-Performance windows, top-rated insulation, and a quality building envelope. Ample covered outdoor spaces, overhangs, and thoughtfully designed courtyards further fortify this commitment, minimizing direct radiation. These features not only support natural light and ventilation but also significantly reduce the reliance on artificial lighting and climate control systems.



Our dedication to energy efficiency extends beyond design aesthetics. Every home estimate considers energy-efficient lighting, smart appliances, and high-efficiency building systems, aligning seamlessly with the ICC700 standards. Moreover, our commitment to sustainability is underscored by the incorporation of WaterSense fixtures, permeable concrete, and water-efficient appliances, meeting the rigorous Las Vegas Sustainability Codes and the Summerlin Design Criteria.

Glenrock takes pride in offering additional sustainability features to our residents, including EV chargers and solar panels as part of our premium upgrade packages priced at \$2,500 and \$15,000, respectively. These enhancements not only align with our mission but empower residents to embrace a greener and more sustainable lifestyle.



**Figure 2.6**  
*WaterSense Logo.*

### Holistic Approach

The holistic sustainability approach extends beyond just construction and development, encompassing a strategy for homeowner education and engagement. Red Cedar Real Estate prioritizes sharing the tools and knowledge necessary for our residents to understand how to operate their homes to maximize energy efficiency. Promotional campaigns, workshops and online videos demonstrate Glenrock's commitment to empowering residents to live a happy and healthy, luxury life.



## Section 3: Construction Management

### Estimate

#### 3.1 Horizontal Estimate

The horizontal estimate includes everything that is involved in the sitework for Glenrock. The horizontal estimate is broken down into 9 categories. The categories that are included are earthwork, roads and sidewalks, infrastructure, sedimentation and erosion control, assemblies, entryway assemblies, neighborhood landscaping, land and permits, and miscellaneous items. For the earthwork estimate, the fill that is required for this site is type II engineered fill. Instead of hauling all the bad soil off site and purchasing engineered fill to be hauled to the site, we found it more cost effective to rent a crusher and turn the bad soil into Type II engineered fill. This is a common risk and cost reduction practice used throughout the region. A price comparison of these two methods is shown in Table 3.2. The total cost for all site work including a 7% contingency fee and the land acquisition price comes to \$70,832,246.68. Not including land acquisition, the total price for land development is \$15,832,247.

**Table 3.1**

*Sitework Estimate Summary*

Glenrock Site Work Estimate Summary	
Earthwork	\$1,654,540.52
Roads & Sidewalks	\$1,393,543.60
Infrastructure	\$2,394,942.35
Sedimentation & Erosion Control	\$16,837.85
Assemblies	\$278,632.88
Entry Way Assemblies	\$1,425,932.33
Neighborhood Landscaping	\$208,647.21
<b>Land Development Subtotal</b>	<b>\$7,373,076.74</b>
Land/Permits	\$58,297,702.80
Miscellaneous	\$527,582.13
<b>Total Estimate Cost W/ Contingency &amp; Acquisition Cost</b>	<b>\$70,832,246.99</b>
<b>Total Estimate Cost Without Acquisition Cost</b>	<b>\$15,832,246.99</b>

**Table 3.2**

*Type II Engineered Fill & Hauling Vs. Crusher Method*

Type II Engineered Fill & Hauling Vs. Crusher				
	Total O & P	Unit	Quantity	Price Per Activity
Type II Engineerd Fill	\$6.02	CY	118193.00	\$711,521.86
Hauling On and Off Site	\$3.60	CY	118193.00	\$425,494.80
<b>Total</b>				<b>\$1,137,016.66</b>
Vs.				
Crusher For Type II Soil	36,500	Month	3	\$ 109,500.00
Hauling On and Off Site	\$3.60	CY	118193.00	\$ 425,494.80
<b>Total</b>				<b>\$ 534,994.80</b>





Table 3.3  
Horizontal Estimate

Glen Rock Horizontal Estimate						
Work Type	Activity	Method Used	Total (O&P)	Unit	Quantity	Price Per Activity
Earthwork						
	Clear and Grub	Light Vegetation and Stumps up to 6" Diameter	\$7,825.00	Acre	48.84	\$382,173.00
	Cut/Strip Top Soil, Compaction	410 HP Dozer, Haul 150', Compaction 12" Lifts 2 Passes, Cut 18"	\$5.25	CY	118193.00	\$620,513.25
	Scarification	410 HP Dozer Pass Through	\$0.78	CY	78796.00	\$61,460.88
	Moisture Treatment	5,000 Gallon Water Tank Trailer	\$158.82	Day	30.00	\$4,764.60
	Crusher	Crusher to Make Type II Engineered Fill	\$36,500.00	Month	3.00	\$109,500.00
	Compaction	After Moisturization	\$1.70	CY	236386.00	\$401,856.20
					Total:	\$1,654,540.52
Roads, Sidewalks						
	Road Construction	Porous Paving/Wear Course, Excavation, Compaction	\$93.43	LF	8940	\$835,264.20
	Sidewalks	4"x5', Porous Concrete, 3" Gravel Base	\$38.20	LF	8940	\$341,508.00
	Curbs	Straight Curbs	\$17.25	LF	8940	\$154,215.00
	Curbs	Radius Curbs	\$29.00	LF	0	\$0.00
					Total:	\$1,393,543.60
Infrastructure						
	Manholes - Sanitary Sewer & Storm	Pre-cast Concrete, 4' I.D Riser, 6' Deep	\$4,425.00	EA	20	\$88,500.00
	Excavation	6' Wide, 6' Deep Trench, 3/4 CY Excavator, Trench Boxes, Backfill, Utility Sand Bedding	\$44.35	LF	8940	\$396,489.00
	Sanitary Sewer	8" PVC SDR 35, 6' Deep	\$36.65	LF	8940	\$327,651.00
	Underground Gas	2" PE SDR 11, 60 psi, 2' Deep	\$18.40	LF	8940	\$164,496.00
	Underground Electrical & Phone	2 @ 2" dia, 40 PVC, 2' Deep	\$32.45	LF	8940	\$290,103.00
	Underground Water Line	6" HDPE SDR 21, 5' Deep	\$30.80	LF	8940	\$275,352.00
	Electrical Distribution		\$53,203.00	EA	14	\$744,842.00
					Total:	\$2,394,942.35
Sedimentation & Erosion Control						
	Silt Fence		3.74	LF	4300	\$16,082.00
					Total:	\$16,837.85
Assemblies						
	Neighborhood Lighting	Landscape Lighting & Light Poles	\$50,000.00	LS	1	\$50,000.00
	Fire Hydrants	4.5" Valve, 2 Way, 4' Deep	\$11,375.00	EA	19	\$216,125.00
					Total:	\$278,632.88
Entry Way Assemblies						
	Pedestrian Gate	Gate with key pad	\$1,300.00	EA	4	\$5,200.00
	Vehicular Gate	Automatic Gate	\$4,000.00	EA	4	\$16,000.00
	Entry Call Box	Call box with key pad	\$1,200.00	EA	2	\$2,400.00
	Monument Sign	Iris Glen	\$11,100.00	EA	3	\$33,300.00
	Perimeter Walls	Screen Wall	\$24.50	SF	49,311	\$1,208,119.50
	Pavers	Brick Pavers w/ Asphalt Base	\$20.75	SF	4670	\$96,902.50
					Total:	\$1,425,932.33
Entry Way/Neighborhood Landscaping						
	Irrigation System	Drip Irrigation/Install	\$2.86	LF	300	\$858.00
	Entry Way Trees	Pistacia Chinensis	\$161.50	EA	22	\$3,553.00
	Neighborhood Shade Trees	London Plane Tree	\$222.00	EA	400	\$88,800.00
	Neighborhood Shade Trees	Silk Tree	\$43.50	EA	400	\$17,400.00
	Shrub	Yellow Bird of Paradise	\$19.25	EA	200	\$3,850.00
	Shrub	Red Bird of Paradise	\$19.25	EA	200	\$3,850.00
	Shrub	Desert Spoon	\$29.85	EA	200	\$5,970.00
	Rock Bedding	California Gold	\$75,000.00	LS	1	\$75,000.00
					Total:	\$208,647.21
Land & Permits						
	Land	Land Acquisition	\$55,000,000.00	LS	1	\$55,000,000.00
	Permits	Plan Review, Zoning, Inspections	\$322,822.00	LS	1	\$521,820.46
	Permits	Exterior Walls	\$8,706.00	LS	1	\$8,706.00
	Survey	Boundry Survey	\$1,850.00	Acre	48.84	\$90,354.00
	Survey	Topographical Survey	\$1,225.00	Acre	48.84	\$59,829.00
					Total:	\$58,297,702.80
Miscellaneous						
	Construction Signage	Post/Panel Sign, 81"W x 46"H	\$2,900.00	EA	1	\$2,900.00
	Mobilization	50 Ton Lowboy	\$2,300.00	EA	5	\$11,500.00
	Demobilization	50 Ton Lowboy	\$2,300.00	EA	5	\$11,500.00
	Road Cleaning	90 HP Road Sweeper, Self-propelled	\$4,041.36	Month	58	\$234,398.88
	Dust Control	Water Tank Trailer	\$4,200.00	Month	58	\$243,600.00
					Total:	\$527,582.13
Horizontal Estimate Total						
					Base Cost:	\$66,198,361.67
					Contingency	7.00%
					Total Cost:	\$70,832,246.99







### 3.2 Home Cost Estimate

Table 3.3 displays the home cost breakdown for each home type we will be offering. The home construction costs range from \$538,405.73 to \$749,359.54 with construction square footage prices ranging from approximately \$186 to \$178. All home sales prices include overhead of 10%, a profit of 10%, and a contingency of 10%. All prices took into account local cost factors and exact site location. Also included is the price for pressure reducing valves for homes within the high-pressure boundary but this price is a weighted average and was added to all home prices.

**Table 3.4**

*Home Cost Estimate*

Glenrock Home Costs						
Model	The Calico		The Canyon		The Delilah	
SF	2,891		3,146		3,722	
Construction Cost Per SF	\$186.24		\$185.27		\$170.22	
	Cost	%	Cost	%	Cost	%
Sitework	\$2,336.00	0.43%	\$2,336.00	0.40%	\$2,569.60	0.41%
Foundation	\$39,459.71	7.33%	\$43,405.68	7.45%	\$46,010.03	7.26%
Driveway	\$1,344.00	0.25%	\$1,344.00	0.23%	\$1,344.00	0.21%
Framing	\$40,164.23	7.46%	\$45,787.22	7.86%	\$51,739.56	8.17%
Exterior Envelope	\$27,406.68	5.09%	\$31,243.62	5.36%	\$35,305.29	5.57%
Roofing	\$89,251.28	16.58%	\$99,961.44	17.15%	\$104,959.51	16.57%
Interiors	\$127,553.47	23.69%	\$140,308.82	24.07%	\$154,339.70	24.36%
Specialties	\$35,000.00	6.50%	\$35,000.00	6.00%	\$45,500.00	7.18%
Landscaping	\$75,967.88	14.11%	\$75,967.88	13.03%	\$75,967.88	11.99%
Mechanical/Plumbing	\$61,453.60	11.41%	\$67,598.96	11.60%	\$74,358.86	11.74%
Electrical	\$14,268.87	2.65%	\$15,695.76	2.69%	\$17,265.33	2.73%
Garage	\$24,200.00	4.49%	\$24,200.00	4.15%	\$24,200.00	3.82%
Total Construction Cost	\$538,405.73	100.00%	\$582,849.38	100.00%	\$633,559.75	100.00%
Total Construction Cost	\$538,405.73		\$582,849.38		\$633,559.75	
Meters & Connections	\$2,761.00		\$2,761.00		\$2,761.00	
Land & Development	\$393,579.80		\$393,579.80		\$393,579.80	
Permits	\$1,850.00		\$1,850.00		\$1,850.00	
Overhead & Profit	\$187,319.31	20%	\$196,208.04	20%	\$206,350.11	20%
Contingency	\$112,391.58	10%	\$117,724.82	10%	\$123,810.07	10%
Total Sales Price	\$1,236,307.43		\$1,294,973.04		\$1,361,910.74	
Sales Cost Per SF	\$427.64		\$411.63		\$365.91	

Glenrock Home Costs				
Model	The Whitney		The Kingman	
SF	3,899		4,203	
Construction Cost Per SF	\$173.96		\$178.29	
	Cost	%	Cost	%
Sitework	\$2,569.60	0.38%	\$2,826.56	0.38%
Foundation	\$48,770.63	7.19%	\$51,696.86	6.90%
Driveway	\$1,344.00	0.20%	\$1,344.00	0.18%
Framing	\$56,913.52	8.39%	\$62,604.87	8.35%
Exterior Envelope	\$38,835.81	5.73%	\$42,719.40	5.70%
Roofing	\$115,455.46	17.02%	\$122,382.79	16.33%
Interiors	\$169,773.67	25.03%	\$186,751.04	24.92%
Specialties	\$45,500.00	6.71%	\$54,600.00	7.29%
Landscaping	\$75,967.88	11.20%	\$75,967.88	10.14%
Mechanical/Plumbing	\$80,307.56	11.84%	\$89,141.40	11.90%
Electrical	\$18,646.56	2.75%	\$20,324.75	2.71%
Garage	\$24,200.00	3.57%	\$39,000.00	5.20%
Total Construction Cost	\$678,284.70	100.00%	\$749,359.54	100.00%
Total Construction Cost	\$678,284.70		\$749,359.54	
Meters & Connections	\$2,761.00		\$2,761.00	
Land & Development	\$393,579.80		\$393,579.80	
Permits	\$1,850.00		\$1,850.00	
Overhead & Profit	\$215,295.10	20%	\$229,510.07	20%
Contingency	\$129,177.06	10%	\$137,706.04	10%
Total Sales Price	\$1,420,947.66		\$1,514,766.46	
Sales Cost Per SF	\$364.44		\$360.40	



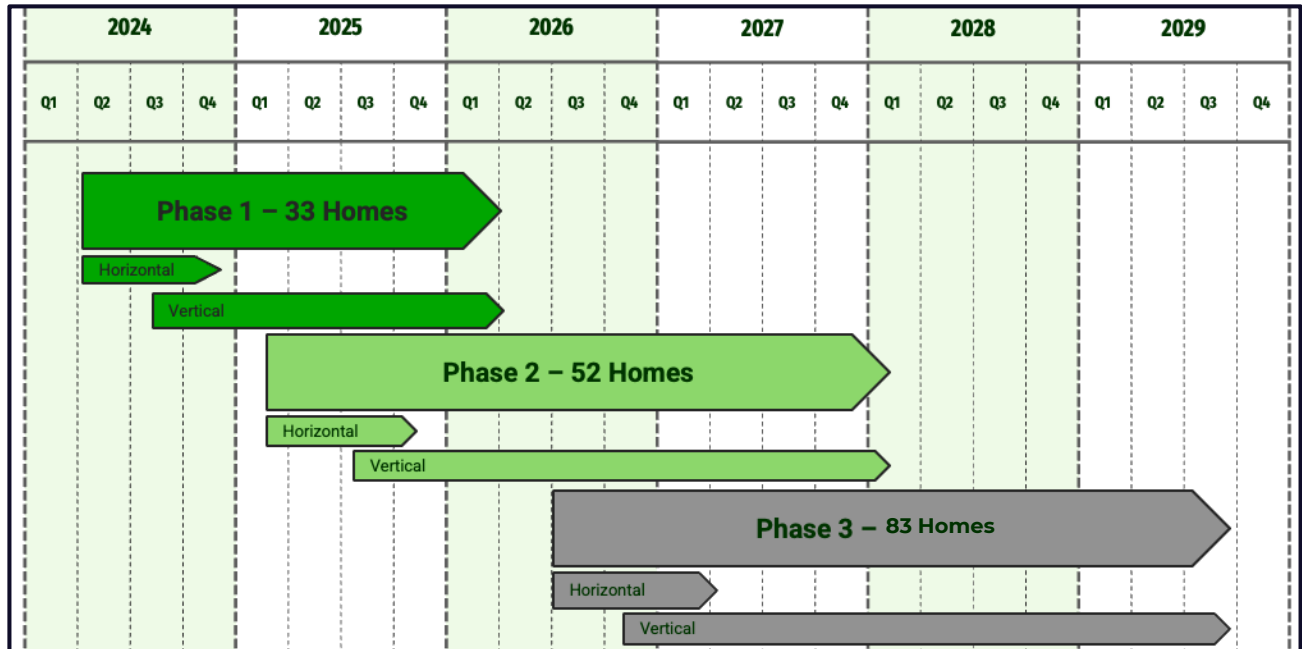
## Schedule

### 3.3 Schedule Summary

Commencing in March of 2024, the project has been strategically planned to unfold over a period just over five years or 61 months. The project is divided into three distinct phases, each designed to enhance the community's functionality, minimize community disturbance, minimize vertical construction downtime, and maximize efficiency. Phase 1 involves the construction of 33 homes, including our first 5 model homes; the smallest of the three phases, it has been designed to mitigate risks and get cashflows moving as soon as possible. Phase 2 introduces an additional 52 homes to the Summerlin community. Phase 2 has been designed to continue bringing 3 homes to market every month. These phases will allow Red Cedar Real Estate to minimize our risk as we constantly analyzed what the markets are doing. After phase w we will finish the project with phase 3 expanding another 84 lots. Red Cedar Real Estate had organized the development into Horizontal and Vertical phases, allowing for efficient use of resources and seamless communication throughout project stakeholders. Figure 3.5 shows us each phase and subphases planned duration and timing.

**Figure 3.4**

*Master Schedule – Summary*





### 3.4 Schedule Description

The schedule's core objective was to provide an efficient and realistic look ahead to bring 3 new homes to market every 30 days. This intentional approach aligns construction timelines with market demands, leading to a consistent and responsive release of residential offerings.

The comprehensive P6 schedule outlines the tasks and milestones associated with each phase and its activities. From initial groundwork to vertical construction, the P6 Master Schedule provides a road map to track progress and forecast futures schedules in real time. Additional time has been considered for excess earth work and the challenges with current soil conditions. Red Cedar Real Estate has also considered combining the horizontal work of phases 2 and 3 to minimize total duration of dust control and heavy equipment use. This would present additional financial risk and cashflow interruptions. Upon review, the schedule was finalized with Phase 2 and 3 separated, and with plans to reconsider this aspect closer to 2025, when we can better forecast our demand into the future.

Each of the 168 homes within Glenrock has been allotted an average of 230 days for permitting and construction. During planning phases of the schedule, Red Cedar Real Estate analyzed potential outcomes and projected sales for each of our five home models. After analysis, we selected our second largest home plan, "The Whitney" at 3,900 SF, as a baseline home schedule at 221 days of work and an additional two weeks of schedule to allow for maximizing contractor efficiency and to mitigate any additional schedule risk. and consistent results. The rest of the home plans have durations as followed:

**The Calico:** 210 Days

**The Canyon:** 215 Days

**The Delilah:** 220 Days

**The Whitney:** 230 Days

**The Kingman:** 240 Days

**Table 3.5***Key Milestone Dates*

	<b>Start</b>	<b>Finish</b>	<b>Duration</b>
<b>Project Start</b>	March 2024.		1499
<b>Phase 1</b>	<b>March 2024</b>	<b>March 2026</b>	<b>539</b>
Horizontal	March 2024	August 2024	104
Vertical	July 2024	March 2026	450
<b>Phase 2</b>	<b>February 2025</b>	<b>January 2028</b>	<b>760</b>
Horizontal	February 2025	August 2025	127
Vertical	June 2025	January 2028	660
<b>Phase 3</b>	<b>June 2026</b>	<b>November 2029</b>	<b>910</b>
Horizontal	June 2026	April 2027	225
Vertical	August 2026	July 2029	850

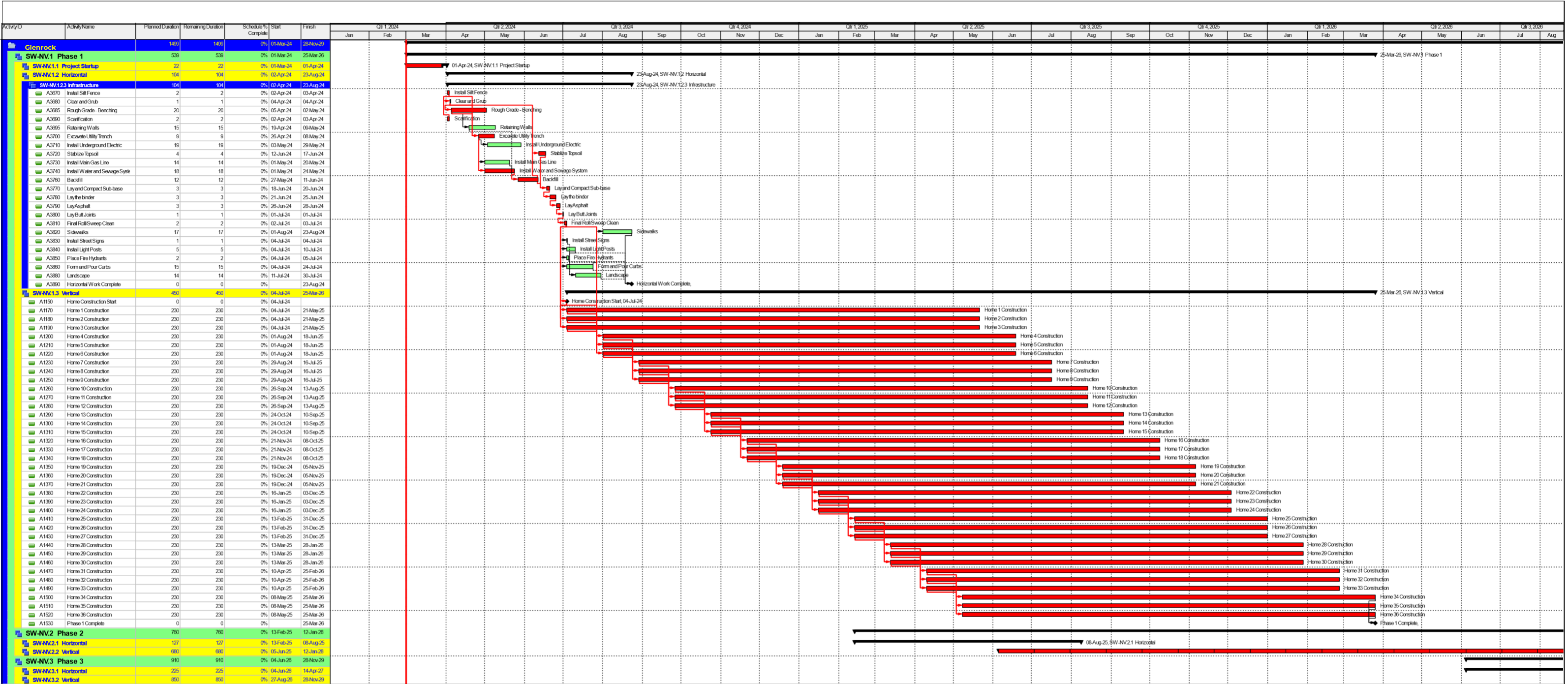
### 3.5 Attached Schedules

#### P6 Master Schedule

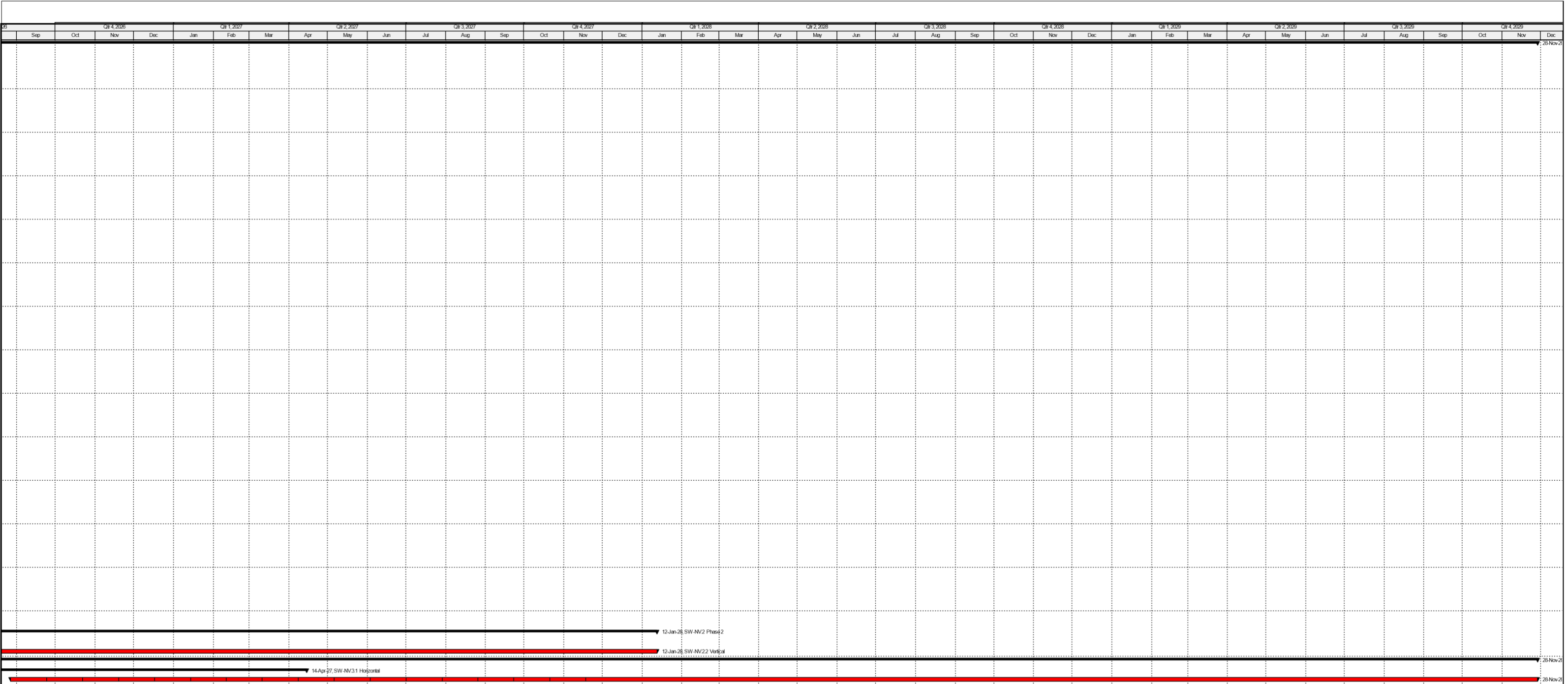
The Glenrock Master Schedule is the first attachment. It commences on March 1st, 2024, guiding you through the permitting process, phase 1 horizontal development, and phase 1 vertical construction, itemized by activity. Following this, summary bars for phases 2 and 3 are provided as they share similar durations. The entire project is slated for completion in July of 2029.

#### P6 Individual Schedule

The second attachment is the home schedule specifically tailored for The Whitey floor plan. Spanning a total of 221 days, this schedule intricately navigates through the construction phases of our products, serving as a foundational template for our other floor plans.

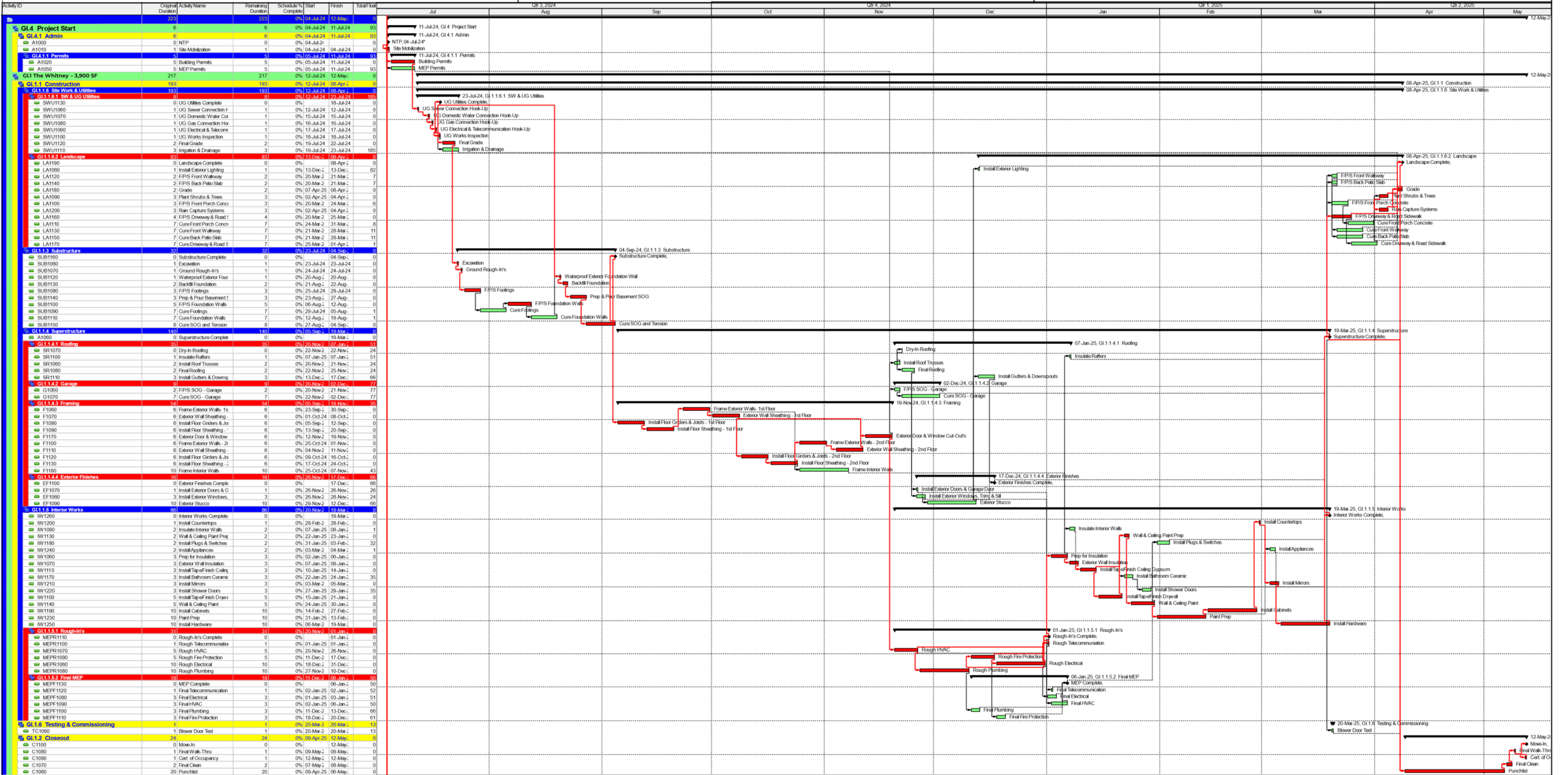






# Master Schedule





# Individual Home Schedule





## Section 4: Project Management

### Site Management & Logistics

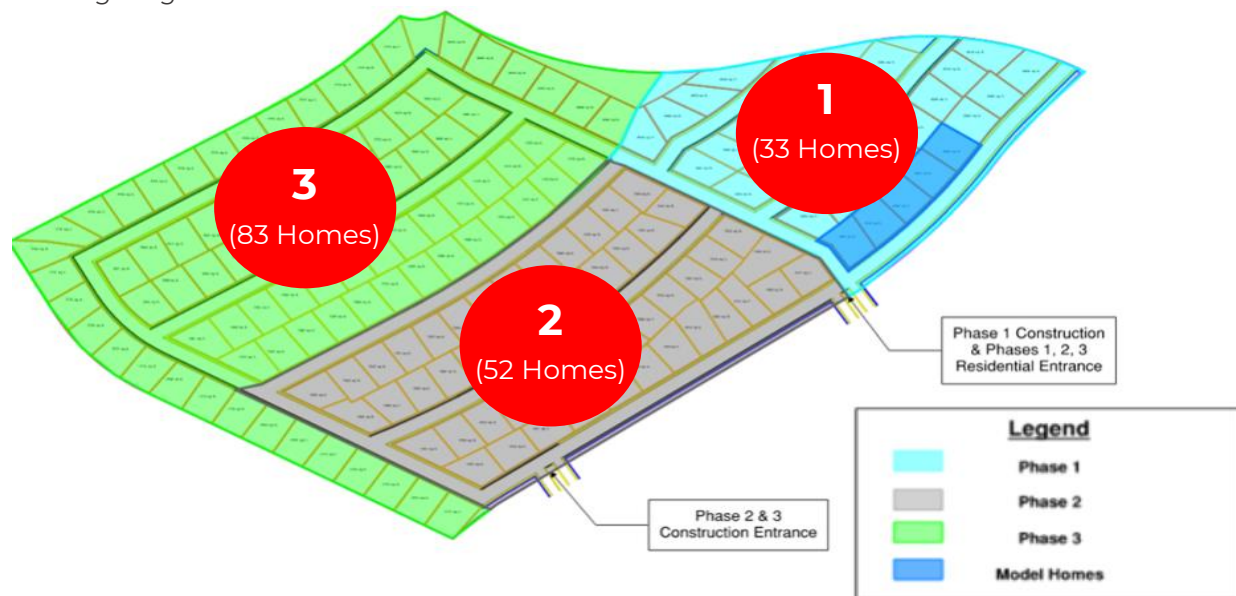
#### 4.1 Overview

Glenrock's project management team strives to complete the development on time, on budget, and with superior craftsmanship. The management team consists of one project manager (PM) and two construction managers (CMs). The PM's role is pivotal in strategic oversight, while CMs ensure meticulous on-site management during vertical and horizontal phases.

#### 4.2 Phasing

**Figure 4.1**

*Phasing Diagram*



Glenrock's development begins with the construction of the model home park. Phase 1 is aimed to quickly move into vertical construction, in order to generate revenue and offset the large initial capital expenditure. The groundwork for Phase 2 commences while Phase 1 homes are being constructed, ensuring cash flow stability, and avoiding revenue pauses. Phase 3 follows suit, overlapping with Phase 2, to maintain cash flow continuity. Resident satisfaction is prioritized through the implementation of dust and noise control measures and transparent communication regarding construction schedules. Early completion of landscaping and amenities in each phase is also planned to enhance residents' living experience.



**Figure 4.2**

*PM Team Breakdown*

Glen Rock Project Management Team	
Project Manager	\$90,000.00
Vertical Construction Manager	\$70,000.00
Horizontal Construction Manager	\$70,000.00
Annual	\$230,000.00

## 4.3 Project Staff

### Project Manager (PM)

The PM is pivotal in driving the strategic oversight of the entire project. This role, with a salary of \$90k, encompasses the overall management of the 168-home, 48-acre development. The PM's responsibilities include coordination of large-scale sitework, ensuring project adherence to timelines and budgets, and overseeing both the horizontal and vertical phases of construction. The PM serves as the primary liaison with key stakeholders and leads a team of construction managers and sales staff to ensure seamless execution and client satisfaction.

### Vertical Construction Manager (VCM)

The VCM is responsible for managing the home construction phase. With a focus on quality, schedule adherence, and budget control, the VCM collaborates with key subcontractors and construction to ensure a smooth and efficient building process.

### Horizontal Construction Manager (HCM)

The HCM oversees the extensive sitework necessary for the development. This role includes managing soil erosion, dust control, and ensuring that infrastructure development aligns with the overall project timeline.

## 4.4 Construction Risk Management

Several risks have been identified, and appropriate mitigation strategies have been developed to address them. Extended entitlement processes, now taking up to 90 days, have been accounted for in the project timeline, ensuring a smooth and uninterrupted planning phase. Environmental factors, such as stringent dust control requirements, are also a key consideration. The project team has plans to implement robust measures like full time onsite water trucks, sprinklers for soil processing, and a fully developed Storm Water Pollution Prevention Plan to address these concerns.

While local developers report no current labor shortages, the project plan includes provisions for potential labor challenges. Additionally, the project is prepared to handle fluctuations in material costs and supply chain delays, notably in concrete pricing and long lead time items, through flexible budgeting and procurement strategies.





## 4.5 Warranty

Red Cedar Real Estate's commitment to delivering a seamless homeownership experience through our comprehensive warranty involves several aspects. First and foremost, upon the completion of a Glenrock home, our team conducts a thorough inspection of the structural elements, including the foundation, roof, and framing, ensuring that they meet the highest quality standards. In the rare event of structural issues, our 10-year warranty ensures that homeowners receive prompt attention and resolution. Simultaneously, major systems such as plumbing and electrical undergo rigorous testing, and any potential concerns are addressed proactively before the homeowner takes possession. The 5-year coverage for these critical systems provides homeowners with an added layer of security and peace of mind. To facilitate this process, Red Cedar Real Estate establishes a clear communication channel, educating homeowners about the warranty details and how to report any issues. In the event of emergencies or significant issues, our rapid response protocol comes into play. Homeowners can expect a swift and efficient resolution process, minimizing any inconvenience. Red Cedar Real Estate also conducts regular post-purchase inspections during the first few years to identify and address any potential issues before they escalate.

## 4.6 Quality Assurance & Quality

Quality assurance starts with a pre-construction meeting before each phase to set clear quality benchmarks and scheduling expectations. During these meetings, homebuyers are introduced to their respective superintendents, familiarizing them with the construction process and establishing a direct line of communication. Emphasizing craftsmanship and precision, Red Cedar implements thorough inspections and buyer walkthroughs at three critical stages: pre-drywall, post-fixture installation, and a final review before completion. These checkpoints ensure each home meets our high-quality standards, allowing for any necessary adjustments well before the turnkey date.

## 4.7 Performance Monitoring (KPIs)

The project management team utilizes critical KPIs to track project quality, safety, and performance. Cost variance ensures budget control, schedule variance guarantees timely completion, and customer satisfaction indicates quality assurance. This strategic application of KPIs leads to efficient, high-quality project execution, aligning consistently with client expectations.

**Figure 4.3**

*KPI Dashboard*







## 4.8 Dust/Air Quality Control

Red Cedar ensures these measures are effectively maintained 24/7 until the closure of the permit as mandated by Section 94.5(n)(2). This rigorous strategy demonstrates a commitment to environmental stewardship and community health, aligning with Red Cedar's values of responsible and sustainable development.

- **Maintaining Soil Moisture:** Keeping the soil in a damp condition to prevent dislodgement of particles.
- **Clean Gravel Covering:** Using clean gravel to cover surfaces and reduce dust emissions.
- **Dust Suppressants:** Employing chemical dust suppressants as needed.
- **Alternative Approved Methods:** Implementing other dust control techniques approved in advance by the control officer.

Red Cedar ensures these measures are effectively maintained 24/7 until the closure of the permit as mandated by Section 94.5(n)(2). This rigorous strategy demonstrates a commitment to environmental stewardship and community health, aligning with Red Cedar's values of responsible and sustainable development.

## Sales and Marketing

### 4.9 Overview

To sell the homes in Glenrock, Red Cedar Real Estate will utilize various social media sites and a website to advertise online so we can reach our target markets. We would like to make Glenrock seem as desirable as possible and will have a professional sales team to work in our sales office located in the Glenrock model home park.



## 4.10 Marketing Strategy

We will implement marketing strategies that will reach our three target buyer groups. Our strategies will be aimed to reach buyers from across the Las Vegas metro area, Los Angeles, San Francisco, Seattle, Chicago, and New York. Our first step will be to hire a website development professional to create a high-end website for Glenrock. Our website will include information about the neighborhood, about the area around the neighborhood, the site plan, the five different home plans, and virtual tours of the home plans. Once our models are built, we would like to offer virtual tours of the homes for people who are buying from a distance and cannot easily make it to the site to visit a model home. The base cost of the website including labor fees for the marketing professional, and all features on the website will be \$48,000. The monthly cost of maintenance fees will be \$100 per month.

Our second strategy will be using online ads. First, we will put out daily Facebook ads to capture a broad swatch of the target market, across age demographics, who use this platform.

We plan for our ad to reach across the Las Vegas metro and out of state areas mentioned earlier, aligned with key interests and demographics of our target buyer groups. We will spend \$100 a day to reach 1.9K-5.6K people a day which is projected to generate 34-105 leads a day. Next, we will use a Google local services ad. We will pay \$720 a week which is projected to generate 8-20 leads a week.

**Table 4.4 - Marketing Budget**

Marketing Budget						
Item	2024	2025	2026	2027	2028	2029
	Price Included	Price Included	Price Included	Price Included	Price Included	Price Included
Website	\$48,000.00	-	-	-		
Website Fees	\$1,200.00	\$1,200.00	\$1,200.00	\$1,200.00	\$1,200.00	\$1,200.00
Facebook	\$27,000.00	\$36,500.00	\$36,500.00	\$36,500.00	\$36,500.00	\$27,000.00
Google	\$25,920.00	\$36,720.00	\$36,720.00	\$36,720.00	\$36,720.00	\$25,920.00
Billboards	\$180,000.00	\$240,000.00	\$240,000.00	\$240,000.00	\$240,000.00	-
Print Ads	\$63,000.00	\$84,000.00	\$84,000.00	\$42,000.00	\$14,000.00	-
Staffing	\$447,300.74	\$447,300.74	\$447,300.74	\$447,300.74	\$447,300.74	\$447,300.74
Total Per Year	\$792,420.74	\$845,720.74	\$845,720.74	\$803,720.74	\$775,720.74	\$501,420.74
Marketing Total						\$4,564,724.44
Project Total						\$186,568,241.00
Percent of Total						2.45%



Next, we plan to create a direct print mail campaign by mailing flyers to homes in our target market areas. Print mail will help us reach our potential out-of-state. Since we will not have our sales office built until 18 months into the project, our sales associates will first work from Red Cedar Real Estates main office until the sales first office in the model home park is complete. From then on, the sales associates will be scheduled to work in the Glenrock sales office. We will also welcome outside realtors who will get a 3% sales commission. We are assuming that our sales associates will sell approximately 80% of our homes while outside realtors sell approximately 20% of our homes. The sales office will be open every day of the week, Sunday to Saturday, in order to work with all potential buyers' schedules. Figure 4.4 displays the sales office schedule. Potential buyers can also schedule to meet with one of our sales associates to meet one on one and take a more personalized tour of the model homes at their convenience. For our far away home buyers, there is also an option to set up a virtual home tour with one of our sales associates over zoom.

## 4.11 Sales Team

In our model home park, we will have a sales office for our face-to-face marketing. Red Cedar Real Estate has a team of experienced sales associates who will be working in the Glenrock sales office along with an office manager to handle day-to-day relations and keep things organized. Our sales office will be located inside one of the homes in our model home park. Our sales associates will be there to answer all questions and make Glenrock very welcoming to our potential buyers. Our sales associates will also work as realtors and will make 1% commission on homes sold along with a \$30,000 base salary as shown in figure 4.5.

**Figure 4.4**

*Sales Office/Model Home Park Hours*

Glen Rock Sales Office Hours	
Sunday	11am-5pm
Monday	10am-6pm
Tuesday	10am-6pm
Wednesday	1pm-7pm
Thursday	10am-6pm
Friday	10am-6pm
Saturday	11am-5pm

Sales Office Staff	Yearly Base Pay	Yearly Earnings w/ 1% Comission	Project Overall Pay
Office Manager	\$50,000.00	\$50,000.00	\$300,000.00
Sales Associate	\$30,000.00	\$132,433.58	\$794,601.48
Sales Associate	\$30,000.00	\$132,433.58	\$794,601.48
Sales Associate	\$30,000.00	\$132,433.58	\$794,601.48
Total	\$140,000.00	\$447,300.74	\$2,683,804.44

**Table 4.5 – Sales Team Pay Schedule**



## Section 5: Financial & Risk Analysis

### 5.1 Executive Summary of Financials

**Figure 5.1**

*Financial Summary Baseline*

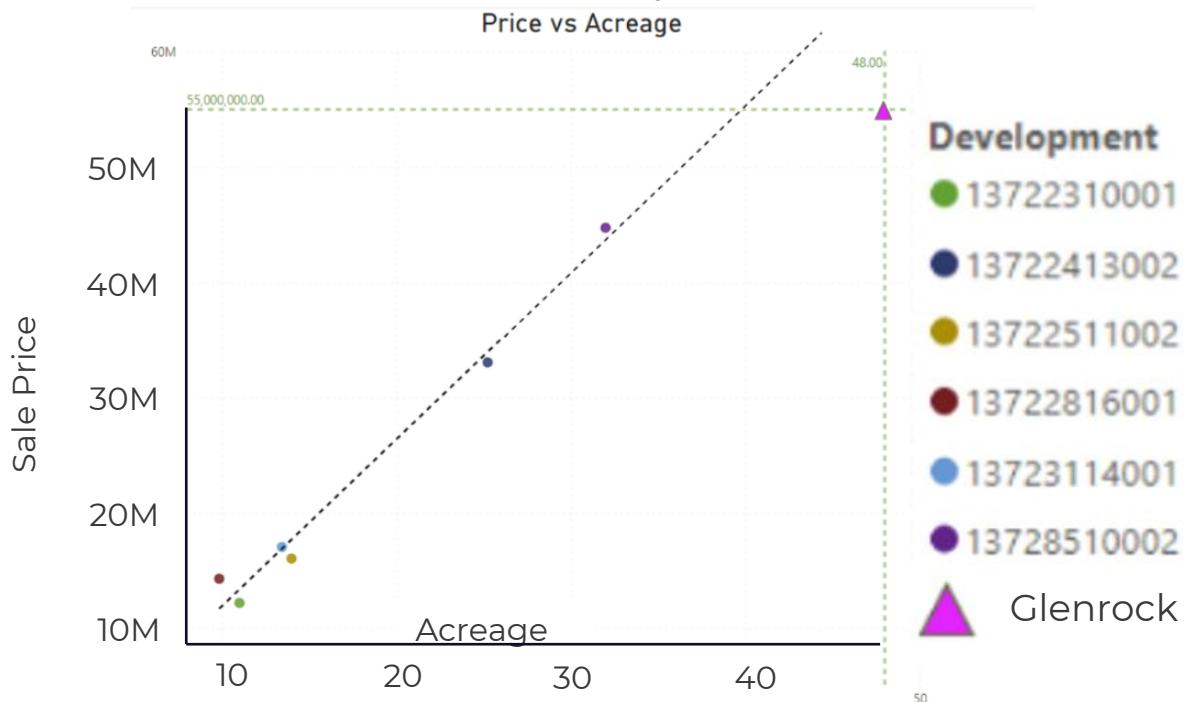
Financial Summary - Baseline	
Sales per Quarter	9
Breakeven	3/1/2028
Receipts	\$240,192,468
Expenditures	\$186,568,241
Cash Flow	\$53,624,226
IRR	18.46%

Under the baseline scenario, Glenrock is projected to achieve a robust financial performance with an IRR of 18.46%, reaching breakeven by March 1, 2028. This scenario, predicated on 9 sales per quarter and generating a cash flow of \$53,624,226, sets a strong precedent for the development's potential profitability.

### 5.2 Land Acquisition and Cost Allocation

**Figure 5.2**

*Land Sales Analysis*



The Glenrock land acquisition of 48 acres for \$55 million translates to a per-acre cost of approximately \$1,145,833. This figure is significantly below the trend line as shown in the scatterplot in figure 5.2 indicating a substantial saving compared to the \$1,726,716 average per acre of recent transactions within the Summerlin West community.





### 5.3 Construction Cost Analysis

Figure 5.3 depicts the sale prices per model for Glenrock, guided by a thorough regression analysis but cross-referenced against recent sales in the Summerlin West community. This ensures that the pricing is competitive yet reflective of the market's current state. The Calico, The Canyon, The Delilah, The Whitney, and The Kingman models each represent a range of square footage options, with sale prices per square foot adjusted accordingly. These prices are the result of careful evaluation, leveraging data-driven insights and sound judgment to meet market expectations and maintain the development's high standards.

**Figure 5.3**

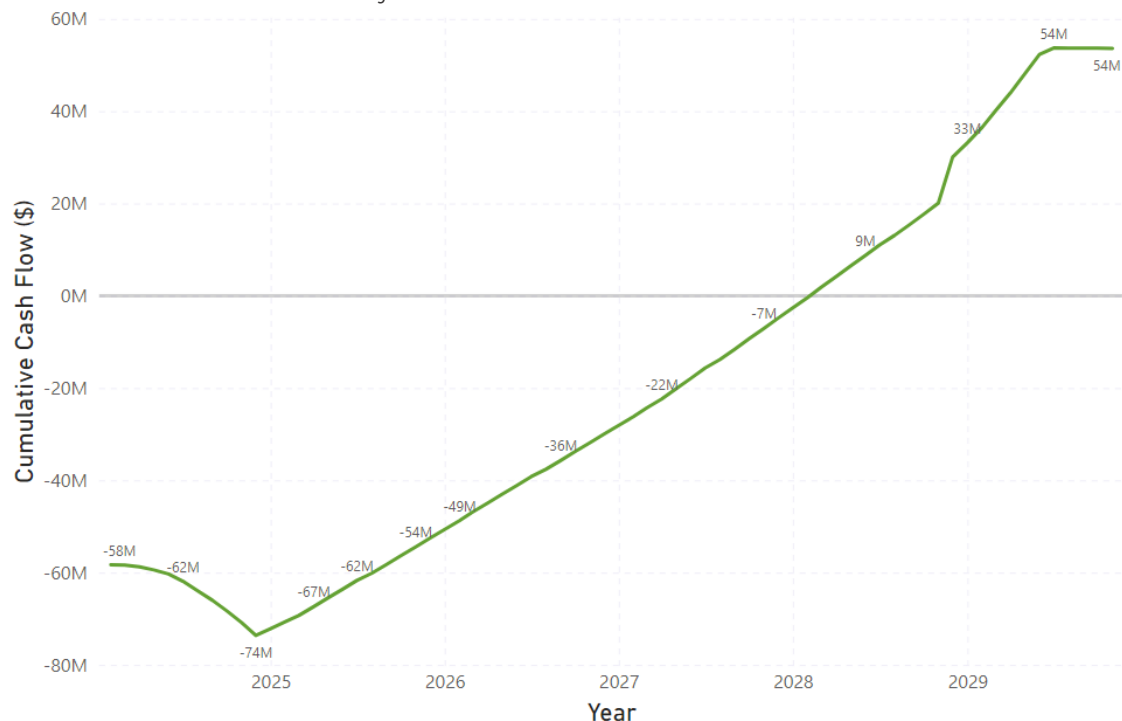
*Sales Price per Model Summary*

Sale Price Per Model				
Model	Number of Units	Sale Price	Square Feet	Sale Price/SF
The Calico	32	\$1,236,307	2891	\$427.64
The Canyon	33	\$1,294,973	3146	\$411.63
The Delilah	33	\$1,361,911	3722	\$365.91
The Whitney	33	\$1,420,948	3899	\$364.44
The Kingman	32	\$1,514,766	4201	\$360.57

### 5.4 Cashflow Projections

**Figure 5.4**

*Baseline Scenario Cashflow Projections*





The cash flow figure for the Glenrock project reveals that the initial land purchase of \$55 million generates a substantial negative cash flow at the beginning of the project lifecycle. As horizontal development begins, the negative cash flow deepens to its lowest point of \$74 million. With the progression of the project, home sales offset negative cashflows for horizontal and vertical construction work, reaching breakeven in Q1 2028. The project's cash flow turns positive thereafter, culminating in a total positive return of \$53,624,226.31 by February 2029.

## 5.5 Draw Schedule

**Figure 5.4**

*Financial Summary – Conservative*

Draw	Cummulative Cashflow	Draw Amount
Q1 2024	\$ (58,378,408.50)	\$58,400,000.00
Q2 2024	\$ (60,320,432.27)	\$ 2,000,000.00
Q3 2024	\$ (66,012,568.03)	\$ 6,000,000.00
Q4 2024	\$ (73,624,790.43)	\$ 8,000,000.00

The project will require four quarterly cash draws before yielding a positive cashflow that allows for internal financing. The draws have been strategically planned to cover enough for the upcoming costs without being excessive. After Q4 2024 the project becomes self-sufficient on its own cashflow.

## 5.6 Financial Performance Scenarios

**Figure 5.5**

*Financial Summary – Conservative*

Financial Summary - Conservative Sales	
Sales per Quarter	6
Breakeven	4/1/2030
Receipts	\$240,192,468
Expenditures	\$189,160,001
Cash Flow	\$51,032,466
IRR	12.91%

The conservative sales scenario, with only 6 sales per quarter, leads to a delayed breakeven point of April 1, 2030. Despite this delay and a slight decrease in cash flow to \$51,032,466, the IRR remains favorable at 12.91%, indicating that the project can still be successful even with conservative estimates. This scenario would commence in March 2024 adding an additional 3.5 years, finishing in February of 2033.



**Figure 5.6**

*Financial Summary - Recession*

Financial Summary - Recession (20% Reduction & Slower Closings)	
Sales per Quarter	6
Breakeven	9/1/2031
Receipts	\$194,971,983
Expenditures	\$189,022,274
Cash Flow	\$5,949,709
IRR	1.65%

The recession scenario, characterized by a 20% reduction in receipts and slower closings, poses a significant risk. The breakeven point is pushed back to September 1, 2031, the cash flow dwindles to \$5,949,709, and the IRR plummets to 1.65%. In this case, a prudent risk management strategy would be to closely monitor the economic state and potentially pause the project until more favorable conditions resume, to avoid committing resources during a period of market downturn. Estimated property taxes equate to approximately \$300,000 per year, which may influence Red Cedar Real Estates decision on whether to move forward.

**Figure 5.7**

*Financial Summary – Small Houses*

Financial Summary - Smaller Homes (Only the Smallest House)	
Sales per Quarter	9
Breakeven	3/1/2028
Receipts	\$219,424,047
Expenditures	\$170,686,239
Cash Flow	\$48,737,808
IRR	17.32%

If the market shifts towards a preference for smaller homes, our proposal for Glenrock reflects this trend with a scenario that still predicts a healthy financial outlook. Though the cash flow is reduced to \$48,737,808 and the IRR to 17.32%, these figures remain favorable, especially considering the same breakeven point of March 1, 2028, as the baseline. This indicates that Glenrock has the flexibility to adapt to changing market preferences while maintaining financial viability.

In the event of a rejection by Summerlin or Clark County concerning the proposal to combine parcels K & L, Red Cedar Real Estate would undergo a reassessment of its development strategy. The integration of these parcels is integral to the overall neighborhood design, a factor that significantly influences cost efficiency. Should this combination be denied, Red Cedar Real Estate would reevaluate the project's viability and determine whether the pursuit of a redesign the appropriate course of action.



## 5.7 Risk Analysis and Mitigation Strategies

### **Legal Risk**

Quality assurance protocols are established to ensure that construction practices exceed the industry standards, reducing potential legal exposures. Regular collaboration with legal counsel aligns the development with the latest construction regulations of Las Vegas.

### **Financial Risk**

The Glenrock development is supported by a robust financial plan that includes comprehensive cash flow analyses to ensure viability across different market scenarios. Strategic financial measures, including a 7% contingency, safeguard against geological uncertainties associated with Caliche rock formations. Housing contracts will include an escalation clause to ensure financial stability in case of material price increases due to significant events, like we saw around COVID -19.

### **Construction Risk**

Mitigation of construction challenges involves advanced equipment, such as rock crushers and D9 dozers, to manage the caliche rock. We have assumed that we will encounter caliche across the entire site and built land development pricing accordingly. This proactive measure addresses possible delays and cost overruns.

### **Schedule Risk**

Although local builders affirm the stability of the current labor market, Red Cedar is fully aware of the significance of staying vigilant in monitoring workforce trends. We are committed to proactively addressing any potential shortages that may arise. In the event of unexpected labor challenges, our project is well-prepared with contingencies, including the allocation of additional time and resources to swiftly adjust and secure the necessary workforce.

Simultaneously, as the construction phase commences, our dedicated construction team will diligently focus on getting ahead with long lead items such as appliances, tile, stucco, and other critical components. This proactive approach aims to mitigate any risks associated with procurement delays, ensuring a smooth and efficient construction process.

### **Regulatory Risk**

Acknowledging the extended timeframes for inspections and zoning approvals in Las Vegas, engagement with authorities and strategic planning are in place to expedite these processes.







## Section 6: Honor Pledge



Student  
Chapters

### NAHB Student Competition Production Home Builder Honor Pledge

To the best of my knowledge and belief, the information used in my team's solution to the competition is in accordance with the rules and guidelines of the NAHB Student Competition. On my honor, I have neither given nor received unauthorized assistance in the completion of this project.

Team (School) Name: Michigan State University

#### Team Members:

Print Name	Signature
Tim McAuliffe	<i>Tim McAuliffe</i>
Sofia Iaquinto	<i>Sofia Iaquinto</i>
Chandler Jones	<i>Chandler Jones</i>
Sam Durgy	<i>Samson Durgy</i>
Grace McKnight	<i>Grace McKnight</i>
Samantha Brown	<i>Samantha Brown</i>

#### Alternate Members (Optional):

Print Name	Signature
Ryan Jessar	<i>Ryan Jessar</i>
Joshua Kuhowski	<i>Joshua Kuhowski</i>

#### Faculty Advisor/Coach:

Print Name	Signature
Dr. George Berghorn	<i>George Berghorn</i>

**This form is REQUIRED. Please upload (1) copy per team as the last page of your written submission.**