Town of New Castle
450 W Main Street
PO Box 90
New Castle, CO 81647

Administration Department
Phone: (970) 984-2311
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www.newcastlecolorado.org

Agenda
New Castle July 8, 2026 Planning and Zoning
July 8, 2026 at 7:00 PM

Virtual Meetings are subject to internet and technical capabilities.

To join by computer, smart phone or tablet:
https://us02web.zoom.us/j/7096588400

If you prefer to telephone in:

Please call: 1-346-248-7799

Meeting ID: 709 658 8400

Follow the prompts as directed. Be sure to set your phone to mute until called on

Call to Order

Roll Call

Meeting Notice

Conflicts of Interest

Citizen Comments on Items not on the Agenda
Comments are limited to three minutes

Items for Consideration

A. **Consider Appointment of Commission Chair and Commission Vice-chair**

Public Hearing

B. **Consider Resolution PZ2026-04 A RESOLUTION OF THE NEW CASTLE PLANNING AND ZONING COMMISSION RECOMMENDING APPROVAL OF A FINAL PUD DEVELOPMENT**

PLAN AND FINAL SUBDIVISION PLAT FOR CASTLE VALLEY RANCH PLANNING AREA 12, FILING 14 (ARCHWOOD TOWNHOMES)

C. CIRSA Onboarding Video

Comments/Reports

Minutes

D. Approval of March 25, 2026 Minutes

Adjourn

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Staff Report

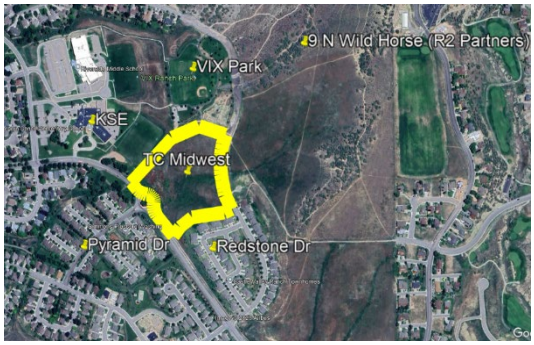
Castle Valley Ranch PA 12 – Filing 14
Final PUD/Subdivision Application
Planning Commission – *Resolution 2026-4*
July 8th, 2026

Report Compiled: 7/1/2026

Project Information

Applicant:	Maarjan Hashami
Applicant's Mailing Address:	17774 Preston Rd. Dallas, TX 75254
Email:	maarjan@tcfuels.com
Property Owner:	TC Midwest LLC
Owner Mailing Address	17774 Preston Rd Dallas, TX 75254
Proposed Use:	66 Multi-family Residential Townhomes
Parcel Acreage:	10.32 acres @ 6.4 units/acre
Open Space:	~2.02 acres or 19.3%
Underlying Zoning:	Mixed Use MU-1
Proposed Zoning:	Castle Valley Ranch MF-2
Surrounding Zoning:	SF & multifamily homes (N Wild Horse Dr., Redstone Dr, CVB); Parkland (VIX Park) Residential zoning (CVRI) School (Kathryn Senor Elementary)

I Introduction



TC Midwest, LLC originally submitted a sketch plan application in February of 2024 proposing commercial development on Planning Area 12 (PA12) east of the Castle Valley Blvd. (CVB) roundabout near Katheryn Senor Elementary and across from Pyramid Dr. That plan included various commercial uses developed in several phases. With the feedback received from the meeting, the Applicant reconsidered alternative uses more consistent with the surrounding neighborhood. These alternatives were reviewed at Sketch Plan by the Planning Commission (P&Z) and Council on April 9th, 2025 and May 6th, 2025, respectively. The Sketch Plan was later presented at a community open house on May 14th, 2025.

On February 25th, 2026 the preliminary application was reviewed and conditionally approved by P&Z. The preliminary plan included 66 two-story townhome units zoned Castle Valley Ranch MF-2. Road designs will match Town standards and will align with existing intersections such as the CVB roundabout and the future Silverado Trail to the Lakota PUD. Open space will include areas for snow storage, a children's play area, pickleball courts, various connecting trails, and the usual sidewalks. The preliminary hearing generated the following takeaways:

- Silverado Trail should be designed with a 62' ROW.
- A committed right turn lane from southbound N Wild Horse will be included in the road designs.
- Grading would be improved on select lots to mitigate steep yard slopes.
- Proposed pickleball court locations would be finalized in consultation with Staff.
- Kids play area would be situated in a more family friendly location.
- A final proposal for affordable housing would be prepared for final P&Z input.
- Garage sizes would be optimized for parking and storage.
- Considerations for roofs on patios and/or decks will be presented at final application.

The final plan application was determined complete on June 19th, 2026. As the final of three application steps for new planned unit developments ("PUD") & subdivisions, final PUD reviews assess zoning conformance, compliance with Public Works requirements, the suitability of utilities and infrastructure, compatibility with the comprehensive plan, and address any adverse impacts to the town. By final approval, all civil drawings should attain construction level readiness.

Within thirty (30) days after the close of the P&Z public hearing, or within such time as is mutually agreed by P&Z and the Applicant, the commission shall make one (1) of three (3) recommendations to Town Council regarding the application: 1) approve the application unconditionally; 2) approve the application with conditions; 3) deny the application. The commission's decision will be made by written resolution. A continuance may be granted pursuant to Section 16.08.040(G) of this title.

Within sixty (60) days from the date of the P&Z's written recommendation on the application, or within such time as is mutually agreed by the Town Council and the Applicant, Town Council

shall approve the application, with or without conditions, or deny the application. Town Council's decision will be made by ordinance which shall be introduced twice at a Town Council meeting and, if approved, shall take effect 14 days after final publication pursuant to Article IV of the New Castle municipal code.

II Changes from Preliminary Plan

At the preliminary hearing, the Commissioners were broadly supportive of the application and efforts to meet or exceed the requirements of the Town Code and Comprehensive Plan. Nonetheless, the Commissioners offered some fine-tuning considerations as the application moved to the final step. Similarities and differences between what was seen at Preliminary and now at Final include:

Preliminary Plan	Preliminary Plan
• **Units:** 66 townhome units in 14 buildings;	• No change
• **Zoning:** MF-2	• No change
• **Density:** 6.4 units/acre	• No change
• **Open Space:** 19.4%	• No change
• **Off-Street Parking:** 122 required/204 proposed;	• No change
• **Max Building Height Proposed per Definition (6A1): 40.2'; Per Slab: ~32'**	• No change
• **Min Lot Area:** 2,200sf/4 lots @ 2,137sf	• No change
• **Net Zero**: All electric	• No change
• **Snow storage:** 17% of road area	• No change
• **Trails:** VIX Trail paved and connected	• No change
• **Garages:** 24 units with 1-car driveways & 1-car garages; 12 units with 2-car driveways & 2-car driveways; Remaing 30 units with 2-car drives & 2-car garages;	• No change
• **Workforce Housing:** Applicant proposes up to six units at market rent rate; For-purchase options to be explored.	• **Workforce Housing:** Applicant proposes a $30K discount on up to 3 units at the current market rate. No appreciation caps;
• **Pickleball Courts:** Two located @ VIX; Town to consider cash in-lieu.	• **Pickleball Courts:** $25k towards the development of a PB venue in VIX;
• **Kids Play Park:** Consider options away from CVB.	• **Kids Play Park:** Potential location at NE corner of property adjacent to VIX.
• **Porch Areas:** Rear patios are uncovered; Rear doors exposed to weather.	• **Porch Areas:** Patio roofs added to building 7B only. Rendering provided in packet.
• **Property Grades:** Concern with steeply sloped yards;	• **Property Grades:** Terraced planters added to diffuse grade impacts.

III Staff Review (Changes to Preliminary Staff Report are in Red):

Throughout the application process, the submittal documents will be reviewed pursuant to the criteria in the Municipal Code (*MC*) for planned unit developments (PUDs) and subdivisions. Any proposal should show general conformity to the following (*MC* 17.100.050(H)):

1. Consistency with the comprehensive plan;
2. Compliance with zoning and density requirements;
3. Compatibility to neighboring land uses;
4. Availability of town services from public works (including water and sewer services), fire, and police;
5. Adequacy of off-street parking and vehicle, bicycle, and pedestrian circulation;
6. The extent to which any required open space or parks are designed for active or passive use by residents of the subdivision or the public; and
7. Development is consistent with the natural character, contours, and viewsheds of the land.

1) Is the proposal consistent with the comprehensive plan?

Applicants are expected to clearly demonstrate substantial conformity with the CP in all applications (**Policy CG-1B**). Substantial conformance to the CP should include:

- Fostering distinctive, attractive communities with a strong sense of place and quality of life.
- Demonstrating a fully-balanced community and land use structure.
- Ensuring a mix of uses that complement existing land-use patterns.
- Creating walkable communities and encourage multi-modal transportation.
- Balancing housing types that support a range of affordability.
- Preserving open space, natural beauty, and critical wildlife habitat.
- Encouraging economic development.
- Providing efficient and cost-effective services.

Balanced Community: The proposal pairs well with a number of New Castle goals and values, central being a commitment to quality of life. The Applicant intends to repurpose the underlying mixed-use zoning with a fully residential site. Commercial uses will be considered in a more suitable location. Though "all residential" is potentially a better fit for the location, it is advisable that P&Z and Council recognize the growing deficit of commercial prospects in New Castle with each deferment of commercially zoned land. During Sketch Plan the Applicant discussed this concern and their intent to relocate the commercial zoning on other properties owned within CVR.

Smart Growth: The project favors Smart Growth (**Goal CG-5**) including sensitivity to: Aesthetics – employing architectural features already observed in Town; Recreational opportunities – including trails, courts, a playground, and seamless access to VIX park; Livability – attention given to pedestrian safety, parking, and efficient vehicle circulation (**Goal RT-1**). The Applicant's future commitment to a TBD commercial property along CVB will help right the imbalance of needed goods and services in the immediate vicinity. Staff would encourage maximizing outdoor living areas such as covered patios and/or decks to enhance connections with the outdoors. Consider building 1B:



Affordability: A higher density, multifamily development comprised of two and mostly three bedroom units should advance the cause of affordability. Floor plans will range from 1,283sf to 1,951sf (with one 2-bed @ 1,164sf) of conditioned space expected to track current market rates. Seven of the 66 units will be two-bedroom. Staff have been in initial

conversations with the Applicant about affordable and/or workforce housing options. Currently the Applicant is prepared to commit to three (3) for-sale units at $30,000 below market rate with no appreciation cap. Additionally, the agreement defers to the Town to determine qualifications and approval processes for purchasing deed-restricted units. P&Z and Council, therefore, will have the discretion to limit eligibility to the local workforce if deemed appropriate.

For context, the Town's Comprehensive Plan mentions "affordability" dozens of times but never fully defines the concept. The Town instead defers to affordability metrics offered by various government agencies. The US Department of Housing and Urban Development (HUD) at one time recommended that total housing expenses should not exceed 30% of gross household income. With a current Area Median Income (AMI) for New Castle hovering around $95k or better, total housing costs exceeding $2,375/month are considered burdensome. HUD also compiles fair market rents (FMR) for counties. FMR is defined as the 40th percentile of the typical rentals in the county, with 50th percentile being the median. Currently published FMR's for Garfield County are below:

Final FY 2026 & Final FY 2025 FMRs By Unit Bedrooms					
Year	Efficiency	One-Bedroom	Two-Bedroom	Three-Bedroom	Four-Bedroom
FY 2026 FMR	$1,215	$1,223	$1,605	$2,232	$2,391
FY 2025 FMR	$1,211	$1,219	$1,599	$2,241	$2,463

https://www.huduser.gov/portal/datasets/

Presumably, the market rate for housing in New Castle tracks higher than the Garfield County median because of the higher cost of living which is perhaps why Zillow lists the average rent for New Castle at $2,625 for all bedrooms as of 2/12/2026. Of course, these metrics do not solely drive price discovery. Innumerable factors can influence price. Nevertheless, the government data, coupled with the Applicant's six unit offer, can help frame this development's concept of affordability.

Fiscal Impact: A fiscal impact study was performed (Triple Point Strategic Consulting) comparing estimated revenues with costs associated with the new development. The study helps determine whether the Town can meet the new demand on services (**Policy CG-7B, CP pg. 54**). The analysis projects a population increase of 2,012 for the entire town of New Castle with approximately 170 associated specifically with the new development. The analysis then projects revenues and costs based off of the Town's budget averaged between the tax years of 2023 and 2025. The results provided in the packet show an *annual* net benefit to the town post construction of $112,271. The *cumulative* net benefit by 2045 is estimated to be $3 million with $1.1 million coming in the initial two years of construction. The Town's finance department has reviewed the assumptions and projected outcomes separately with consistent results. Based on the assumptions of the analysis, Staff is confident that the development is fiscally viable.

Trails/Open Space/Recreation: The site plan establishes a commitment to pedestrian friendly communities and active open space. The development will memorialize the connecting trail from the CVB pedestrian culvert to the Dog Park. Detached sidewalks will wrap the entirety of the filing allowing non-vehicular access to nearby locations.

Since Preliminary Plan the Applicant has collaborated with Town Staff to determine an optimal location for at least two pickleball courts within the vicinity of the development. Initially two courts were envisioned on the northeast corner adjacent to VIX. Due to

concerns with access and noise impacts, the Town and Applicant have been considering an alternative location within VIX Park shown to the right. The location has better access from the new VIX parking area and is sufficiently removed from residential area to attenuate noise concerns. The location also allows the Applicant to relocate the children's play area closer to VIX and the bike pump track. Both would be open to the public. Finally, the Applicant has agreed to offer $25,000 towards the funding of the courts if built in a timely manner as stipulated in the resolution.



Preserves Natural Environment: New Castle is committed to stewardship of the natural environment and recognizes the potential negative impacts of new development. The Town will work with Colorado Parks and Wildlife (CPW) and the Applicant to identify and protect critical environmental resources (**Goal EN-1**). CPW recognizes that the surrounding areas of the property are established year-long habitat for various birds and mammals. It will be important to minimize conflicts by, for instance, prohibiting dogs off-leash, minimizing light trespass, preserving native habitat, and limiting use of fences. In some cases, added landscape buffers in certain locations may offset these impacts with enhanced vegetation and/or landscape features.

New Castle also endorses sustainable building practices that minimize the consumption of fossil fuels and maximizes use of renewables (**Goal EN-7**). All buildings will comply with the recently adopted Colorado Electrical and Solar Ready codes. It will be important for the Applicant to discuss how sustainable building measures are featured in the proposal as the application progresses. Net-zero/all-electric alternatives are achievable solutions manifested in new developments throughout the Valley. The recently approved 9 N Wild Horse PUD has proposed similar efficiency measures. The Applicant therefore has expressed the intent to make these units all electric using heat pumps for mechanical equipment.

The Town's raw water supply will be connected to all 66 units for landscape irrigation. Raw water is non-potable water which bypasses the town's treatment facility thereby eliminating the processing step. The Applicant also receives a 25% reduction in water tap fees as a result of implementation. Opting for raw water is ultimately an economic and sustainability win for all involved.

Manicured landscaping should be minimal and located mainly within active areas adjacent to units. Native grasses, drought tolerant shrubs and trees should fill the balance of remaining open space. A landscape plan will be finalized prior to approval.

2) Does the proposal demonstrate compatibility with the proposed zoning, density, and general development plan to neighboring land uses and applicable town code provisions?

Land Use: The Applicant has elected to develop under the CVR **MF-2** zoning criteria. According to *MC* 17.104.080, MF-2 is a "multifamily district allowing higher density including apartments." The following land uses are permitted by right:

- Attached dwelling units with rear yards;

- Patio homes;
- Attached dwelling units in structures containing more than two units
- Parking;
- Playgrounds;
- Trails;
- Open space;

The MF-2 also permits the following density and area standards:

- Minimum lot area of 2,200sf;
- Minimum lot area per dwelling unit 1,600sf;
- Maximum building height of 40'
- Minimum front yard setback 18';
- Minimum side yard setback of 0';
- Minimum rear yard setback of 10'
- Minimum distance between buildings of 10';
- Off street parking: 2/unit for duplex, triplex, or four-plex; 1.5/unit for five or more units/building + 1 for recreational vehicles per 5 dwelling units;

The Applicant adopts only permitted uses, with structures complying with density and separation. Compliance with building height limits was confirmed less one unit extending slightly over the technical definition for allowable building heights. All building heights and setbacks are displayed in the packet. The Town should prioritize ways of mitigating the potential visual impacts of building mass adjacent to the surrounding neighborhoods. Massing alternatives, structure orientation, landscape screening, and roof articulation, for example, are ways visual impacts can be attenuated. Since Sketch Plan, the Applicant has added various nuances to the architectural aesthetic to address these matters.

Off-Street Parking: The purpose of off-street parking in the PUD "is to ensure that safe and convenient off-street parking is provided to serve the requirements of all land uses in the Castle Valley Ranch PUD and to avoid congestion in the streets" (MC 17.104.100). The following off-street parking standards apply:

- Duplex, tri-plex or four-plex – Two spaces per dwelling unit;
- Five or more dwelling units in one structure – One and one-half spaces per dwelling unit + 1 recreational vehicle parking space for every 5 units in a 5-plex or greater;

Per the standards, required off-street parking totals 122 spaces. The Applicant shows approximately 205 functional off-street spaces, 36 units of which are single car garages with 12 of those single-car garages having two-car-width driveways. Regardless of the off-street parking overage, Staff recommends a minimum of two-car width driveways for single car garages to solve for issues related to garages used as storage rather than parking. This tendency inevitably results in "tandem" parking which induces residents to park at least one car on the street which further aggravates street congestion and sometimes compromises safety. The Applicant was directed by P&Z and Council to relegate seasonal/RV parking to additional general use parking.

On-Street parking: On-street parking serves to accommodate overflow vehicle parking for guests, deliveries, trash pick-up, and emergency vehicles. To the extent these accommodations are priorities for the Town, they deserve special attention in project design. Proposed ROW cross-sections are illustrated in the packet. The recently adopted Town standard for residential roads recommends a 58' ROW cross-section with parallel parking on

both sides of the street and minor collectors reaching 62.0'. Both standards are implemented on the site plan, however, the 62' ROW for Silverado Trail will prohibit parking in order to expedite traffic flow, with bike lanes added instead. The central alleyway will be a narrower 20 ', one-way drive with 4' driving buffers on either side. The one-way will direct vehicles downhill from east to west.

3) Is there availability of town services from public works, fire, and police?

Police: There is little indication that police service would be compromised with the added population increase. The Police Department is currently fully staffed with 13 officers. Generally, additional officers are considered for every 1,000 resident increase.

Fire: In response to the current multi-year drought and the ongoing expansion of the wildland-urban interface, Colorado River Fire Rescue now emphasizes the resiliency of structures and improving defensible space (**Goal EN-8**). Recently, such measures were codified with the adoption of the 2021 International Fire and Wildland-Urban Interface Codes. Structures are required to use materials with better ignition resistance than more conventional materials. Limiting the combustion properties of a structure reduces fuel loads thereby inhibiting flame spread and buys time for firefighting during a wildland fire incident. Vegetation or landscaping surrounding new structures will also be scarcer than before in response to the requirements of defensible space.

Public Works: The CVR Master PUD is approved for 1,400 residential units and 100,000sf of commercial space. These totals were primarily the result of calculations performed on the basis of water dedicated from Elk Creek. At present, the CVR PUD has no commercial space developed. The current sewer treatment plant is sufficiently sized to process the full build-out of both CVR, Lakota, and any commercial in-fill properties downtown.

Raw Water: Raw water is available at the roundabout on CVB and VIX Park and is expected to irrigate all lots and common areas within the new PUD.

Streets/Snow Storage: Other than the central, interior alleyway, all roads will match the Town standards. Snow storage and management policies are included in the packet with designated storage locations adequate to the task. Snow storage is crucial for public safety, cost savings, and quality of life.

Due to the traffic demands for future residential development east of N Wild Horse Dr., the Applicant has provided a southbound right-turn lane (i.e. splitter lane) at the intersection of N Wild Horse and Silverado. The intent here is to encourage vehicles immediately to the west towards the CVB roundabout and hence reduce the potential congestion at the two-way stop of CVB and N Wild Horse.

4) Is there adequate vehicle, bicycle, and pedestrian circulation?

Because roads will approximate Town standards, the anticipated detached sidewalks will provide a safer and more pleasant pedestrian experience. Driveways fronting Silverado Trail have been removed to expedite vehicle travel through the property. The southbound splitter lane from N Wild Horse Dr should help maintain a level of service

(LOS) “A” at the intersection of NWH and CVB. The future traffic loads from the new 9NWH development have been a concern for both Staff, P&Z, and residents. The LOS “A” is considered the lowest (or lightest) level of traffic density. The traffic analysis provided with the application did not require the additional splitter lane. The Applicant provided one nonetheless.

With higher density and disrupted lines-of-sight, it will be important for streets to have high visibility crosswalks, preferably with bump outs, placed in priority locations. The development will also dedicate the connecting trail from the CVB pedestrian culvert to the Dog Park. This path should be modestly landscaped.

5) Is the natural character of the land preserved?

The parcel slopes gradually downhill from east to west dropping 30-40’ in 700ft (~4% slope). Such slopes are rarely problematic from a design standpoint and therefore structural steps or terracing of landscaping should be minimal. Nevertheless, the Applicant should demonstrate material balance of expected cut-and-fill before construction commences. The structural designs appear to preserve and match existing grade features and follow uniformly with the current slope.

To conserve water and limit landscape maintenance such as mowing, staff requests the applicant consider drought resistant vegetation and seeding of native grasses to restore disturbed areas to their original state. Sod with landscape irrigation, likewise, should be used sparingly to limit the need for landscape maintenance.

Staff recommends landscape berms where possible to obscure traffic noise and headlights along CVB (see Eagle Ridge Ranch development).

6) Are the required open space or parks designed for active or passive use by residents of the subdivision or the public?

Since the open space requirements for CVR have already been met, open space dedication is not required. Nevertheless, a children’s play park on the northeast boundary of the property is slated to be added to VIX Park. The Applicant also intends to contribute some funds to a future pickleball court venue within VIX Park (see Section 1 above). Both locations will be owned and maintained by the Town. Likewise, the trail connector from the CVB pedestrian culvert north to the dog park will be paved and also dedicated. All other sidewalks will be public ROW.

7) Is the development consistent with the natural character, contours, and viewsheds of the land?

The site plan includes sloping topography downhill from northeast to southwest. Each building/unit generally terraces with the existing slope. Terracing of structures limits cut-and-fill and reduces the need for unsightly landscape retention. The approach also softens the blunt, “blocky” appearance, that may otherwise disrupt the undulating, natural landscape. The Applicant has been working with staff to minimize excessive slopes on various. Driveways maintain an 8% grade or less with some landscape retention expected. A sample color palate for the units is provided. Colors should reflect a natural appearance thereby minimizing visual impacts to viewsheds (**Policy EN-6B**).

To conserve water and limit landscape maintenance such as mowing, Staff requests the Applicant consider drought resistant vegetation and seeding with native grasses to restore disturbed areas to their original state. Sod and landscape irrigation, likewise, should be used sparingly to limit the need for landscape maintenance. Modestly mowed buffers and borders can provide a satisfying manicured look needing little maintenance.



IV Staff Recommendations

Staff provides the following recommendations for P&Z's consideration of Resolution *PZ 2026-04*:

A. Maximum building heights shall not exceed those depicted in the Applicant's submittal packet dated February 15th, 2026.

B.

As part of the final approval , Town Council shall define the eligibility requirements and application process for deed restricting up to three townhome units.

C. The Applicant shall maximize covered patio areas for each unit where feasible per the recommendations of P&Z.

D. The Applicant shall demonstrate compliance with all recommendations of the Town Engineer, Town Public Works Director, Colorado River Fire Rescue, and Town Attorney provided in response to review of the Application.

E. As part of its final application, the Applicant shall provide a declaration of covenants for the common interest community that to the satisfaction of the Town Attorney.

F. The Applicant shall comply with all currently adopted building code and municipal code requirements, including all sign code regulations in effect at the time of building permit application. All site specific development applications subject to the provisions of the International Fire Code or matters requiring fire alarms and/or fire suppression shall be submitted to the Fire Marshal for review and comment.

G. All exterior lighting to be dark-sky compliant per the comprehensive plan. Demonstrate that all exterior lighting will limit trespass. Parking lot lighting shall be on timers to reduce the light duration at night while maintaining security lighting as required by the building code.

H. The approved construction drawings shall demonstrate compliance with the Town Engineer, Police Chief, and Public Works Director for traffic and pedestrian signage.

I. The Applicant agrees to contribute $25,000 to the construction of at least two standard pickleball courts within VIX Park at the location shown in Application exhibits. Subject to annual budgeting and appropriation as required by Colorado law, the Town will be responsible for all construction and future maintenance of the courts. TC Midwest shall pay the $25,000 to the Town upon demand provided that the following conditions have been met:

    1. Construction of the courts commences later than two years after the issuance of the first certificate of occupancy for a townhome; and
    2. The construction of at least two courts is complete within five (5) years after the issuance of the first certificate of occupancy.

J. The Applicant shall finalize the water rights dedication requirements for the project, including the calculation of irrigated areas and finalization of EQR dedication requirements. A warranty deed conveying the required water rights in the Coryell Ditch shall be executed and recorded together with the Final Plat.

K. A subdivision improvements agreement shall be provided containing an engineer's stamped cost estimate of public improvements, to the satisfaction of the Town Engineer and Town Attorney.

L. Landscaping shall incorporate native grasses and plants that minimize maintenance, moving, and irrigating. The landscaping plan shall be approved by the Parks Department. Plans submitted to obtain a building permit for any building shall demonstrate no more than 2,500 square feet of sod per dwelling unit as specified in 13.20.060 of the Municipal Code.

M. All representations of the Applicant made verbally or in written submittals presented to the Town in conjunction with the Application before the Commission or Town Council shall be considered part of the Application and binding on the Applicant.

N. The Applicant shall reimburse the Town for any and all expenses incurred by the Town regarding this approval, including, without limitation, all costs incurred by the Town's outside consultants such as legal and engineering costs.

O. The sale of individual lots may not occur until a plat creating the lot is recorded with Garfield County and security for the public improvements has been received by the Town.

VI Final Plan Exhibits:

A. Application form, narrative, and submittal documents submitted February 13, 2026
B. Master Plan submitted February 13, 2026
C. Building Type Elevations dated February 13, 2026
D. Building Type Key Plan and Floor Plans dated February 5, 2026
E. Site Development, Site Plan, and Civil Plans dated February 12, 2026
F. Preliminary Plat dated February 2026
G. Referral comments from Town Engineer dated February 15, 2026
H. Referral comments from Public Works Director dated January 22 and February 10, 2026

I. Referral comments from Town Engineer dated February 15, 2026
J. Referral comments from Fire Marshal dated January 22, 2026
K. Comments from outside referral agencies dated variously
L. Public comments dated February 14, 2026
M. Notarized affidavit of public notice dated February 10, 2026

Town of New Castle
450 W. Main Street
PO Box 90
New Castle, CO 81647

Planning & Code Administration Department
Phone: (970) 984-2311
Fax: (970) 984-2716

Staff Report

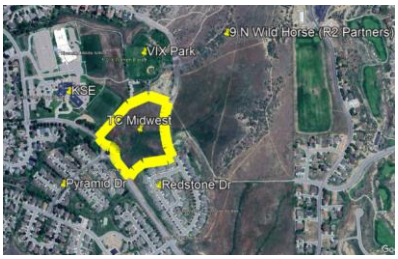
Castle Valley Ranch PA 12 – Filing 14
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July 8th, 2026

Report Compiled: 7/1/2026

Project Information

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Applicant's Mailing Address:	17774 Preston Rd. Dallas, TX 75254
Email:	maarjan@tcfuels.com
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- Garage sizes would be optimized for parking and storage.
- Considerations for roofs on patios and/or decks will be presented at final application.

The final plan application was determined complete on June 19th, 2026. As the final of three application steps for new planned unit developments ("PUD") & subdivisions, final PUD reviews assess zoning conformance, compliance with Public Works requirements, the suitability of utilities and infrastructure, compatibility with the comprehensive plan, and address any adverse impacts to the town. By final approval, all civil drawings should attain construction level readiness.

Within thirty (30) days after the close of the P&Z public hearing, or within such time as is mutually agreed by P&Z and the Applicant, the commission shall make one (1) of three (3) recommendations to Town Council regarding the application: 1) approve the application unconditionally; 2) approve the application with conditions; 3) deny the application. The commission's decision will be made by written resolution. A continuance may be granted pursuant to Section 16.08.040(G) of this title.

Within sixty (60) days from the date of the P&Z's written recommendation on the application, or within such time as is mutually agreed by the Town Council and the Applicant, Town Council

shall approve the application, with or without conditions, or deny the application. Town Council's decision will be made by ordinance which shall be introduced twice at a Town Council meeting and, if approved, shall take effect 14 days after final publication pursuant to Article IV of the New Castle municipal code.

II Changes from Preliminary Plan

At the preliminary hearing, the Commissioners were broadly supportive of the application and efforts to meet or exceed the requirements of the Town Code and Comprehensive Plan. Nonetheless, the Commissioners offered some fine-tuning considerations as the application moved to the final step. Similarities and differences between what was seen at Preliminary and now at Final include:

Preliminary Plan	Preliminary Plan
• **Units:** 66 townhome units in 14 buildings;	• No change
• **Zoning:** MF-2	• No change
• **Density:** 6.4 units/acre	• No change
• **Open Space:** 19.4%	• No change
• **Off-Street Parking:** 122 required/204 proposed;	• No change
• **Max Building Height Proposed per Definition (6A1): 40.2'; Per Slab: ~32'**	• No change
• **Min Lot Area:** 2,200sf/4 lots @ 2,137sf	• No change
• **Net Zero**: All electric	• No change
• **Snow storage:** 17% of road area	• No change
• **Trails:** VIX Trail paved and connected	• No change
• **Garages:** 24 units with 1-car driveways & 1-car garages; 12 units with 2-car driveways & 2-car driveways; Remaing 30 units with 2-car drives & 2-car garages;	• No change
• **Workforce Housing:** Applicant proposes up to six units at market rent rate; For-purchase options to be explored.	• **Workforce Housing:** Applicant proposes a $30K discount on up to 3 units at the current market rate. No appreciation caps;
• **Pickleball Courts:** Two located @ VIX; Town to consider cash in-lieu.	• **Pickleball Courts:** $25k towards the development of a PB venue in VIX;
• **Kids Play Park:** Consider options away from CVB.	• **Kids Play Park:** Potential location at NE corner of property adjacent to VIX.
• **Porch Areas:** Rear patios are uncovered; Rear doors exposed to weather.	• **Porch Areas:** Patio roofs added to building 7B only. Rendering provided in packet.
• **Property Grades:** Concern with steeply sloped yards;	• **Property Grades:** Terraced planters added to diffuse grade impacts.

III Staff Review (Changes to Preliminary Staff Report are in Red):

Throughout the application process, the submittal documents will be reviewed pursuant to the criteria in the Municipal Code (*MC*) for planned unit developments (PUDs) and subdivisions. Any proposal should show general conformity to the following (*MC* 17.100.050(H)):

1. Consistency with the comprehensive plan;
2. Compliance with zoning and density requirements;
3. Compatibility to neighboring land uses;
4. Availability of town services from public works (including water and sewer services), fire, and police;
5. Adequacy of off-street parking and vehicle, bicycle, and pedestrian circulation;
6. The extent to which any required open space or parks are designed for active or passive use by residents of the subdivision or the public; and
7. Development is consistent with the natural character, contours, and viewsheds of the land.

1) Is the proposal consistent with the comprehensive plan?

Applicants are expected to clearly demonstrate substantial conformity with the CP in all applications (**Policy CG-1B**). Substantial conformance to the CP should include:

- Fostering distinctive, attractive communities with a strong sense of place and quality of life.
- Demonstrating a fully-balanced community and land use structure.
- Ensuring a mix of uses that complement existing land-use patterns.
- Creating walkable communities and encourage multi-modal transportation.
- Balancing housing types that support a range of affordability.
- Preserving open space, natural beauty, and critical wildlife habitat.
- Encouraging economic development.
- Providing efficient and cost-effective services.

Balanced Community: The proposal pairs well with a number of New Castle goals and values, central being a commitment to quality of life. The Applicant intends to repurpose the underlying mixed-use zoning with a fully residential site. Commercial uses will be considered in a more suitable location. Though "all residential" is potentially a better fit for the location, it is advisable that P&Z and Council recognize the growing deficit of commercial prospects in New Castle with each deferment of commercially zoned land. During Sketch Plan the Applicant discussed this concern and their intent to relocate the commercial zoning on other properties owned within CVR.

Smart Growth: The project favors Smart Growth (**Goal CG-5**) including sensitivity to: Aesthetics – employing architectural features already observed in Town; Recreational opportunities – including trails, courts, a playground, and seamless access to VIX park; Livability – attention given to pedestrian safety, parking, and efficient vehicle circulation (**Goal RT-1**). The Applicant's future commitment to a TBD commercial property along CVB will help right the imbalance of needed goods and services in the immediate vicinity. Staff would encourage maximizing outdoor living areas such as covered patios and/or decks to enhance connections with the outdoors. Consider building 1B:



Affordability: A higher density, multifamily development comprised of two and mostly three bedroom units should advance the cause of affordability. Floor plans will range from 1,283sf to 1,951sf (with one 2-bed @ 1,164sf) of conditioned space expected to track current market rates. Seven of the 66 units will be two-bedroom. Staff have been in initial

conversations with the Applicant about affordable and/or workforce housing options. Currently the Applicant is prepared to commit to three (3) for-sale units at $30,000 below market rate with no appreciation cap. Additionally, the agreement defers to the Town to determine qualifications and approval processes for purchasing deed-restricted units. P&Z and Council, therefore, will have the discretion to limit eligibility to the local workforce if deemed appropriate. ~~Currently the Applicant is prepared commit to six rental units at market rate but is hospitable to other possibilities.~~

For context, the Town's Comprehensive Plan mentions "affordability" dozens of times but never fully defines the concept. The Town instead defers to affordability metrics offered by various government agencies. The US Department of Housing and Urban Development (HUD) at one time recommended that total housing expenses should not exceed 30% of gross household income. With a current Area Median Income (AMI) for New Castle hovering around $95k or better, total housing costs exceeding $2,375/month are considered burdensome. HUD also compiles fair market rents (FMR) for counties. FMR is defined as the 40th percentile of the typical rentals in the county, with 50th percentile being the median. Currently published FMR's for Garfield County are below:

Final FY 2026 & Final FY 2025 FMRs By Unit Bedrooms					
Year	Efficiency	One-Bedroom	Two-Bedroom	Three-Bedroom	Four-Bedroom
FY 2026 FMR	$1,215	$1,223	$1,605	$2,232	$2,391
FY 2025 FMR	$1,211	$1,219	$1,599	$2,241	$2,463

https://www.huduser.gov/portal/datasets/

Presumably, the market rate for housing in New Castle tracks higher than the Garfield County median because of the higher cost of living which is perhaps why Zillow lists the average rent for New Castle at $2,625 for all bedrooms as of 2/12/2026. Of course, these metrics do not solely drive price discovery. Innumerable factors can influence price. Nevertheless, the government data, coupled with the Applicant's six unit offer, can help frame this development's concept of affordability.

Fiscal Impact: A fiscal impact study was performed (Triple Point Strategic Consulting) comparing estimated revenues with costs associated with the new development. The study helps determine whether the Town can meet the new demand on services (**Policy CG-7B, CP pg. 54**). The analysis projects a population increase of 2,012 for the entire town of New Castle with approximately 170 associated specifically with the new development. The analysis then projects revenues and costs based off of the Town's budget averaged between the tax years of 2023 and 2025. The results provided in the packet show an *annual* net benefit to the town post construction of $112,271. The *cumulative* net benefit by 2045 is estimated to be $3 million with $1.1 million coming in the initial two years of construction. The Town's finance department has reviewed the assumptions and projected outcomes separately with consistent results. Based on the assumptions of the analysis, Staff is confident that the development is fiscally viable.

Trails/Open Space/Recreation: The site plan establishes a commitment to pedestrian friendly communities and active open space. The development will memorialize the connecting trail from the CVB pedestrian culvert to the Dog Park. Detached sidewalks will wrap the entirety of the filing allowing non-vehicular access to nearby locations.

Since Preliminary Plan ~~T~~the Applicant has collaborated with Town Staff to determine an optimal location for at least two pickleball courts within the vicinity of the development.

Initially two courts were envisioned on the northeast corner adjacent to VIX. Due to concerns with access and noise impacts, the Town and Applicant have been considering an alternative location within VIX Park shown to the right. The location has better access from the new VIX parking area and is sufficiently removed from residential area to attenuate noise concerns. The location also allows the Applicant to relocate the children's play area closer to VIX and the bike pump track. Both would be open to the public. Finally, the Applicant has agreed to offer $25,000 towards the funding of the courts if built in a timely manner as stipulated in the resolution.



~~volunteered a new pickleball hub to the northeast of the development. Presently, the Town is considering locating the area to a yet-to-be-determined location within VIX Park. The Town maintained courts will be a community amenity. Lastly, the children's play area relocated to the northeast corner of the development available to families walking home from school.~~

Preserves Natural Environment: New Castle is committed to stewardship of the natural environment and recognizes the potential negative impacts of new development. The Town will work with Colorado Parks and Wildlife (CPW) and the Applicant to identify and protect critical environmental resources (**Goal EN-1**). CPW recognizes that the surrounding areas of the property are established year-long habitat for various birds and mammals. It will be important to minimize conflicts by, for instance, prohibiting dogs off-leash, minimizing light trespass, preserving native habitat, and limiting use of fences. In some cases, added landscape buffers in certain locations may offset these impacts with enhanced vegetation and/or landscape features.

New Castle also endorses sustainable building practices that minimize the consumption of fossil fuels and maximizes use of renewables (**Goal EN-7**). All buildings will comply with the recently adopted Colorado Electrical and Solar Ready codes. It will be important for the Applicant to discuss how sustainable building measures are featured in the proposal as the application progresses. Net-zero/all-electric alternatives are achievable solutions manifested in new developments throughout the Valley. The recently approved 9 N Wild Horse PUD has proposed similar efficiency measures. The Applicant therefore has expressed the intent to make these units all electric using heat pumps for mechanical equipment.

The Town's raw water supply will be connected to all 66 units for landscape irrigation. Raw water is non-potable water which bypasses the town's treatment facility thereby eliminating the processing step. The Applicant also receives a 25% reduction in water tap fees as a result of implementation. Opting for raw water is ultimately an economic and sustainability win for all involved.

Manicured landscaping should be minimal and located mainly within active areas adjacent to units. Native grasses, drought tolerant shrubs and trees should fill the balance of remaining open space. A landscape plan will be finalized prior to approval.

2) Does the proposal demonstrate compatibility with the proposed zoning, density, and general development plan to neighboring land uses and applicable town code provisions?

Land Use: The Applicant has elected to develop under the CVR **MF-2** zoning criteria. According to *MC* 17.104.080, MF-2 is a "multifamily district allowing higher density including apartments." The following land uses are permitted by right:

- Attached dwelling units with rear yards;
- Patio homes;
- Attached dwelling units in structures containing more than two units
- Parking;
- Playgrounds;
- Trails;
- Open space;

The MF-2 also permits the following density and area standards:

- Minimum lot area of 2,200sf;
- Minimum lot area per dwelling unit 1,600sf;
- Maximum building height of 40'
- Minimum front yard setback 18';
- Minimum side yard setback of 0';
- Minimum rear yard setback of 10'
- Minimum distance between buildings of 10';
- Off street parking: 2/unit for duplex, triplex, or four-plex; 1.5/unit for five or more units/building + 1 for recreational vehicles per 5 dwelling units;

The Applicant adopts only permitted uses, with structures complying with density and separation. Compliance with building height limits was confirmed less one unit extending slightly over the technical definition for allowable building heights. All building heights and setbacks are displayed in the packet. The Town should prioritize ways of mitigating the potential visual impacts of building mass adjacent to the surrounding neighborhoods. Massing alternatives, structure orientation, landscape screening, and roof articulation, for example, are ways visual impacts can be attenuated. Since Sketch Plan, the Applicant has added various nuances to the architectural aesthetic to address these matters.

Off-Street Parking: The purpose of off-street parking in the PUD "is to ensure that safe and convenient off-street parking is provided to serve the requirements of all land uses in the Castle Valley Ranch PUD and to avoid congestion in the streets" (MC 17.104.100). The following off-street parking standards apply:

- Duplex, tri-plex or four-plex – Two spaces per dwelling unit;
- Five or more dwelling units in one structure – One and one-half spaces per dwelling unit + 1 recreational vehicle parking space for every 5 units in a 5-plex or greater;

Per the standards, required off-street parking totals 122 ~~121.5~~ spaces. The Applicant shows approximately 205 ~~210~~ functional off-street spaces, 36 ~~30~~ units of which are single car garages with 12 ~~six~~ of those single-car garages having two-car-width driveways. Regardless of the off-street parking overage, Staff recommends a minimum of two-car width driveways for single car garages to solve for issues related to garages used as storage rather than parking. This tendency inevitably results in "tandem" parking which induces residents to park at least one car on the street which further aggravates street congestion and sometimes compromises safety. The Applicant was directed by P&Z and Council to relegate seasonal/RV parking to additional general use parking.

On-Street parking: On-street parking serves to accommodate overflow vehicle parking for guests, deliveries, trash pick-up, and emergency vehicles. To the extent these accommodations are priorities for the Town, they deserve special attention in project design. Proposed ROW cross-sections are illustrated in the packet. The recently adopted Town standard for residential roads recommends a 58' ROW cross-section with parallel parking on both sides of the street and minor collectors reaching 62.0'. Both standards are implemented on the site plan, however, the 62' ROW for Silverado Trail will prohibit parking in order to expedite traffic flow, with bike lanes added instead. The central alleyway will be a narrower 20 ~~12'~~', one-way drive with 4' driving buffers on either side. The one-way will direct vehicles downhill from east to west ~~from west to east so that cars will contend mainly with right turns~~.

3) Is there availability of town services from public works, fire, and police?

Police: There is little indication that police service would be compromised with the added population increase. The Police Department is currently fully staffed with 13 officers. Generally, additional officers are considered for every 1,000 resident increase.

Fire: In response to the current multi-year drought and the ongoing expansion of the wildland-urban interface, Colorado River Fire Rescue now emphasizes the resiliency of structures and improving defensible space (**Goal EN-8**). Recently, such measures were codified with the adoption of the 2021 International Fire and Wildland-Urban Interface Codes. Structures are required to use materials with better ignition resistance than more conventional materials. Limiting the combustion properties of a structure reduces fuel loads thereby inhibiting flame spread and buys time for firefighting during a wildland fire incident. Vegetation or landscaping surrounding new structures will also be scarcer than before in response to the requirements of defensible space.

Public Works: The CVR Master PUD is approved for 1,400 residential units and 100,000sf of commercial space. These totals were primarily the result of calculations performed on the basis of water dedicated from Elk Creek. At present, the CVR PUD has no commercial space developed. The current sewer treatment plant is sufficiently sized to process the full build-out of both CVR, Lakota, and any commercial in-fill properties downtown.

Raw Water: Raw water is available at the roundabout on CVB and VIX Park and is expected to irrigate all lots and common areas within the new PUD.

Streets/Snow Storage: Other than the central, interior alleyway, all roads will match the Town standards. Snow storage and management policies are included in the packet with designated storage locations adequate to the task. Snow storage is crucial for public safety, cost savings, and quality of life.

Due to the traffic demands for future residential development east of N Wild Horse Dr., the Applicant has provided a southbound right-turn lane (i.e. splitter lane) at the intersection of N Wild Horse and Silverado. The intent here is to encourage vehicles immediately to the west towards the CVB roundabout and hence reduce the potential congestion at the two-way stop of CVB and N Wild Horse.

~~*Open Space:* The Applicant has made efforts to integrate open space in three locations. The kid's park, the pickleball courts, and the central accessory spaces will be~~

~~available to all residents and will complement other amenities in VIX Park.~~

4) Is there adequate vehicle, bicycle, and pedestrian circulation?

Because roads will approximate Town standards, the anticipated detached sidewalks will provide a safer and more pleasant pedestrian experience. Driveways fronting Silverado Trail have been removed to expedite vehicle travel through the property. The southbound splitter lane from N Wild Horse Dr should help maintain a level of service (LOS) "A" at the intersection of NWH and CVB. The future traffic loads from the new 9NWH development have been a concern for both Staff, P&Z, and residents. The LOS "A" is considered the lowest (or lightest) level of traffic density. The traffic analysis provided with the application did not require the additional splitter lane. The Applicant provided one nonetheless.

With higher density and disrupted lines-of-sight, it will be important for streets to have high visibility crosswalks, preferably with bump outs, placed in priority locations. The development will also dedicate the connecting trail from the CVB pedestrian culvert to the Dog Park. This path should be modestly landscaped.

5) Is the natural character of the land preserved?

The parcel slopes gradually downhill from east to west dropping 30-40' in 700ft (~4% slope). Such slopes are rarely problematic from a design standpoint and therefore structural steps or terracing of landscaping should be minimal. Nevertheless, the Applicant should demonstrate material balance of expected cut-and-fill before construction commences. The structural designs appear to preserve and match existing grade features and follow uniformly with the current slope.

To conserve water and limit landscape maintenance such as mowing, staff requests the applicant consider drought resistant vegetation and seeding of native grasses to restore disturbed areas to their original state. Sod with landscape irrigation, likewise, should be used sparingly to limit the need for landscape maintenance.

Staff recommends landscape berms where possible to obscure traffic noise and headlights along CVB (see Eagle Ridge Ranch development).

6) Are the required open space or parks designed for active or passive use by residents of the subdivision or the public?

Since the open space requirements for CVR have already been met, open space dedication is not required. Nevertheless, a children's play park on the northeast boundary of the property is slated to be added to VIX Park. The Applicant also intends to contribute some funds to a future pickleball court venue within VIX Park (see Section 1 above). Both locations will be owned and maintained by the Town. ~~The Applicant does, however, contemplate the dedication of the pickleball courts and the kids play area to the Town for community use.~~ Likewise, the trail connector from the CVB pedestrian culvert north to the dog park will be paved and also dedicated. All other sidewalks will be public ROW.

7) Is the development consistent with the natural character, contours, and viewsheds of

the land?

The site plan includes sloping topography downhill from northeast to southwest. Each building/unit generally terraces with the existing slope. Terracing of structures limits cut-and-fill and reduces the need for unsightly landscape retention. The approach also softens the blunt, "blocky" appearance, that may otherwise disrupt the undulating, natural landscape. The Applicant has been working with staff to minimize excessive slopes on various. Driveways maintain an 8% grade or less with some landscape retention expected. A sample color palate for the units is provided. Colors should reflect a natural appearance thereby minimizing visual impacts to viewsheds (**Policy EN-6B**).

To conserve water and limit landscape maintenance such as mowing, Staff requests the Applicant consider drought resistant vegetation and seeding with native grasses to restore disturbed areas to their original state. Sod and landscape irrigation, likewise, should be used sparingly to limit the need for landscape maintenance. Modestly mowed buffers and borders can provide a satisfying manicured look needing little maintenance.



IV Staff Recommendations

Staff provides the following recommendations for P&Z's consideration of Resolution *PZ 2026-04*:

A. Maximum building heights shall not exceed those depicted in the Applicant's submittal packet dated February 15th, 2026.

B. ~~As part of its final application, the Applicant shall provide a memorandum of understanding with an estimate of reimbursable costs for the completion of N Wild Horse Dr subject to the provisions of the cost recovery agreement in Exhibit M of Ordinance TC 2025-1 (otherwise known as the 9 N Wild Horse project).~~

B. As part of the final approval ~~application~~, Town Council shall define the eligibility requirements and application process for deed restricting up to three townhome units. ~~the Applicant shall include provisions for a workforce housing plan/agreement consistent with the recommendations of the Planning Commission.~~

C. ~~As part of the proposed covenants, the Applicant shall include provisions for exterior fencing limited to a split-rail and wire mesh type.~~

~~D.~~C. T~~As part of its final application, t~~he Applicant shall maximize covered patio areas for each unit where feasible per the recommendations of P&Z.

~~E.~~D. T~~As part of its final application, t~~he Applicant shall demonstrate compliance with all recommendations of the Town Engineer, Town Public Works Director, Colorado River Fire Rescue, and Town Attorney provided in response to review of the Application.

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~~F.~~E. As part of its final application, the Applicant shall provide a declaration of covenants for the common interest community that ~~are~~ to the satisfaction of the Town Attorney. ~~The declaration of covenants shall include a prohibition on short-term rentals understood as the renting of a unit for less than 30 days.~~

~~G.~~F. The Applicant shall comply with all currently adopted building code and municipal code requirements, including all sign code regulations in effect at the time of building permit application. All site specific development applications subject to the provisions of the International Fire Code or matters requiring fire alarms and/or fire suppression shall be submitted to the Fire Marshal for review and comment.

~~H.~~G. All exterior lighting to be dark-sky compliant per the comprehensive plan. Demonstrate that all exterior lighting will limit trespass. Parking lot lighting ~~should~~ shall be on timers to reduce the light duration at night while maintaining security lighting as required by the building code~~needed~~.

~~I.~~H. The approved construction drawings shall demonstrate compliance with the Town Engineer, Police Chief, and Public Works Director for traffic and pedestrian signage.

I. The Applicant agrees to contribute $25,000 to the construction of at least two standard pickleball courts within VIX Park at the location shown in Application exhibits. Subject to annual budgeting and appropriation as required by Colorado law, the Town will be responsible for all construction and future maintenance of the courts. TC Midwest shall pay the $25,000 to the Town upon demand provided that the following conditions have been met:

1. Construction of the courts commences later than two years after the issuance of the first certificate of occupancy for a townhome; and
2. The construction of at least two courts is complete within five (5) years after the issuance of the first certificate of occupancy.

~~As part of its final application, the Applicant shall provide a memorandum of understanding that proposes a cash payment in lieu of constructing two proposed pickleball courts and children's play area. As a result of the exchange, both facilities shall be constructed by the Town in a location to be determined within VIX Park and within two years of the issuance of the first building permit.~~

J. The Applicant shall finalize the water rights dedication requirements for the project, including the calculation of irrigated areas and finalization of EQR dedication requirements. A warranty deed conveying the required water rights in the Coryell Ditch shall be executed and recorded together with the Final Plat.

K. A subdivision improvements agreement shall be provided containing an engineer's stamped cost estimate of public improvements, to the satisfaction of the Town Engineer and Town Attorney.

L. Landscaping shall incorporate native grasses and plants that minimize maintenance, moving, and irrigating. The landscaping plan shall be approved by the Parks Department. Plans submitted to obtain a building permit for any building shall demonstrate no more than 2,500 square feet of sod per dwelling unit as specified in

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13.20.060 of the Municipal Code.

M. All representations of the Applicant made verbally or in written submittals presented to the Town in conjunction with the Application before the Commission or Town Council shall be considered part of the Application and binding on the Applicant.

N. The Applicant shall reimburse the Town for any and all expenses incurred by the Town regarding this approval, including, without limitation, all costs incurred by the Town's outside consultants such as legal and engineering costs.

O. The sale of individual lots may not occur until a plat creating the lot is recorded with Garfield County and security for the public improvements has been received by the Town.

VI Final Plan Exhibits:

A. Application form, narrative, and submittal documents submitted February 13, 2026
B. Master Plan submitted February 13, 2026
C. Building Type Elevations dated February 13, 2026
D. Building Type Key Plan and Floor Plans dated February 5, 2026
E. Site Development, Site Plan, and Civil Plans dated February 12, 2026
F. Preliminary Plat dated February 2026
G. Referral comments from Town Engineer dated February 15, 2026
H. Referral comments from Public Works Director dated January 22 and February 10, 2026
I. Referral comments from Town Engineer dated February 15, 2026
J. Referral comments from Fire Marshal dated January 22, 2026
K. Comments from outside referral agencies dated variously
L. Public comments dated February 14, 2026
M. Notarized affidavit of public notice dated February 10, 2026

AFFIDAVIT AS TO NOTICE OF PUBLIC HEARING

We, **TC Midwest, LLC**, do hereby certify that pursuant to ordinances of the Town of New Castle, Colorado, we provided **Notice of a Public Hearing** for **July 8th[th], 2026,** regarding a proposed preliminary PUD/subdivision application by doing the following:

1. At least fifteen **(15) days prior** to such hearing, we **sent a copy of the attached Notice of Public Hearing by certified mail to the owners of all property within two hundred fifty (250) feet** of the subject property and to the Town of New Castle.

2. If required by Chapter 16.10 of the new Castle Municipal Code, at least thirty **(30) days prior** to such hearing, I sent a copy of the attached Notice of Public Hearing by certified mail to the **owners of mineral estates** who have requested notification with respect to the subject property at the Garfield County Clerk and Recorder.

3. At least fifteen (15) days prior to such hearing, **we posted Notice of Public Hearing on the property on a sign** approved by the Town at least twenty-two (22) inches wide, twenty-six (26) inches high, with letters at least one (1) inch in height. The sign was posted so that it was visible from a public street.

4. At least (15) days prior to such hearing, the attached notice of public hearing was published on the **Town's website**.

_____
Signature

STATE OF ~~COLORADO~~ Tx)
) ss.
COUNTY OF Collin)

Subscribed and sworn to before me this 23 day of June, 2026, by Saad Sheikh.

Witness my hand and official seal.

_____
Notary Public
My commission expires: _____

SAMEER JASANI
Notary ID #130959195
My Commission Expires
April 3, 2029

FINAL PLAN APPLICATION

ARCHWOOD TOWNHOMES



Presented by

KLUTCH
CONSULTANT LLC



Index

NARRATIVE + CONFORMITY WITH COMPREHENSIVE PLAN	3	WATER PLAN	29
ZONING SUMMARY	4	WATER PROFILE	30
FINAL PLAT	5	WATER DETAILS	31
FINAL PLAT	6	SANITARY SEWER PLAN	32
CIVIL COVER SHEET	7	SANITARY SEWER PROFILE	33
IMPROVEMENT AND TOPOGRAPHIC SURVEY	8	SANITARY SEWER DETAILS	34
GENERAL NOTES	9	OVERALL PAVING PLAN	35
SITE PLAN	10	PAVING PLAN AND PROFILE	36
DEMOLITION PLAN	11	PAVING PLAN AND PROFILE	37
PHASING PLAN	12	PAVING PLAN AND PROFILE	38
OVERALL GRADING PLAN	13	PAVING PLAN AND PROFILE	39
GRADING PLAN	14	PAVING DETAILS	40
GRADING PLAN	15	SIGNAGE & STRIPING PLAN	41
GRADING PLAN – WALL & STAIRS	16	FRANCHISE UTILITY & LIGHTNING PLAN	42
GRADING SECTIONS PLAN	17-18	SNOW STORAGE PLAN	43
EROSION CONTROL PLAN	19	LANDCAPE AND IRRIGATION PLANS	44-50
PRE-DRAINAGE AREA MAP	20	CONSTRUCTION MANAGEMENT PLAN	51
POST-DRAINAGE AREA MAP	21	STREET SECTION SITE PLAN	52
DRAINAGE CALCULATIONS	22	R.O.W PLAN (SILVERADO TRAIL)	53
OVERALL STORM PLAN	23	R.O.W PLAN (NORTH/SOUTH LOOP)	54
STORM LINE-A PLAN AND PROFILE	24	AERIAL SITE VIEW	55
STORM LINE-B PLAN AND PROFILE	25	EQR CALCULATIONS	56
STORM LATERAL PROFILE	26	CONCEPTUAL FLOOR PLANS	57-94
DETENTION POND PLAN	27	COLORIZED ELEVATIONS/MATERIALS	95-98
STORM DETAILS	28	SITE DETAILS/VIEW SHED ANALYSIS	99-108

KLUTCH CONSULTANT LLC



Development **Narrative**

THE SUBJECT PARCEL IS A ±10-ACRE MULTIFAMILY-2 SITE LOCATED WITHIN THE CASTLE VALLEY RANCH PUD IN THE TOWN OF NEW CASTLE. IT IS STRATEGICALLY POSITIONED ADJACENT TO KEY COMMUNITY ASSETS—INCLUDING KATHERYN SENIOR ELEMENTARY, RIVERSIDE MIDDLE SCHOOL, VIX PARK, AND HOT SHOT PARK—WITH PLANNED ACCESS VIA THE EXTENSION OF NORTH WILDHORSE DRIVE AND CONNECTION TO EXISTING UTILITY SERVICES.

THE SITE FEATURES GENTLY SLOPING TERRAIN CHARACTERIZED BY NATIVE SAGEBRUSH, PINON, AND JUNIPER INTERMINGLED WITH OPEN MEADOW AND PASTURE AREAS. A NATURAL DRAINAGE CHANNEL AND A NETWORK OF RECREATIONAL TRAILS TRAVERSE THE PROPERTY, UNDERSCORING ITS LARGELY UNDEVELOPED CHARACTER AND PROVIDING SEAMLESS CONNECTIVITY TO ADJACENT PARKLANDS.

THE PROPOSED RESIDENTIAL DEVELOPMENT ENVISIONS A VIBRANT MIX OF 66 TOWNHOMES THAT ENHANCE HOUSING DIVERSITY WHILE PRESERVING APPROXIMATELY 20% OF THE SITE AS OPEN SPACE. KEY DESIGN PRIORITIES INCLUDE CLUSTERING UNITS TO RESPOND TO EXISTING TOPOGRAPHY, INTEGRATING ON-SITE TRAIL ACCESS FOR ENHANCED CONNECTIVITY, INSTALLING OUTDOOR RECREATIONAL COURTS FOR PUBLIC USE, AND CREATING HIGH-QUALITY, LIVABLE SPACES THAT ALIGN WITH NEW CASTLE'S COMPREHENSIVE PLAN GOALS.

Conformance with **Comprehensive Plan**

GOAL CG-5: EMBRACING SMART GROWTH PRINCIPLES

We conform to Smart Growth by integrating mixed land uses, compact building design, and a diverse range of housing opportunities that foster walkable, vibrant communities. In addition, our project preserves open space and prioritizes development toward existing communities while ensuring predictable, cost-effective decision-making.

SUPPORTING RESIDENTIAL AND COMMERCIAL GROWTH

Our project reinforces New Castle's infrastructure by upgrading on-site utilities, transportation networks, and public amenities to support new residential growth. Additionally, we are aligned with the Town's strategic commercial infrastructure initiatives to foster economic development and ensure robust connectivity both on- and off-site.

POLICY HO-2B: FAVORING DEVELOPMENTS WITH HIGHER BUILDING DENSITIES.

Our project meets Policy HO-2B by delivering smaller, efficiently designed units in a higher-density format that serve middle and lower-income homebuyers. This approach maximizes housing opportunities and aligns with New Castle's land use policies, ensuring affordability and quality for the community.

POLICY POST-1A:ENHANCING COMMUNITY CONNECTIVITY

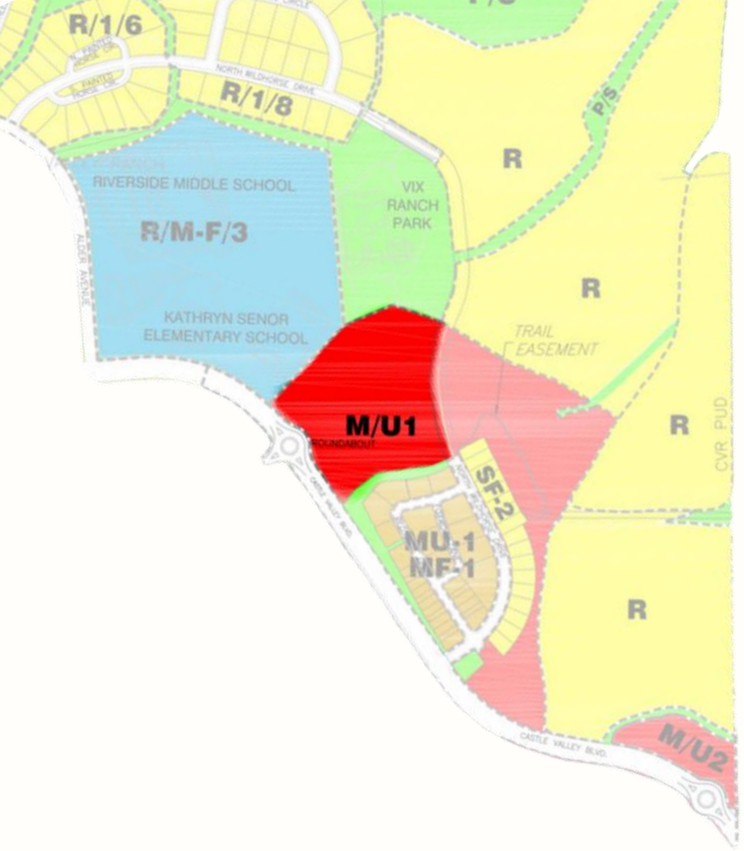
Our project conforms with Policy POST-1A by dedicating land and establishing trail easements that integrate seamlessly with existing park networks. Furthermore, our development is structured to generate resources that directly support the creation and enhancement of public park facilities and trail systems throughout New Castle,

GOAL E-2: STRENGHTENING LOCAL ECONOMY

Our project supports Goal E-2 by fostering mixed-use development that encourages local business growth and employment opportunities within New Castle. By integrating residential spaces with future commercial potential, we contribute to a more sustainable local economy and help increase employment opportunities for town residents .

POLICY CD-1G: DESIGN DIVERSITY

Our project embraces Policy CD-1G by implementing innovative multifamily layouts that break away from monotonous repetition. This design strategy creates distinctive, quality indoor and outdoor spaces that elevate the overall residential experience.



Approved **Land Usage**

OUR OPPORTUNITY

MF-2 Zoning PUD

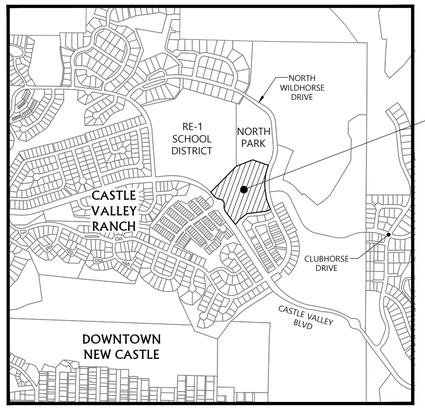
Allowed Per Code	Proposed
Multifamily Residential Dwellings	Yes
Recreation & Entertainment	Yes — Playground

Required Per Code	
10% Gross Area as Open Space	19.3% Gross Area as Open Space
Max Residential Density= 10 Units/Acre	6.4 Units/Acre
Residential Parking= 122	Parking Provided= 205

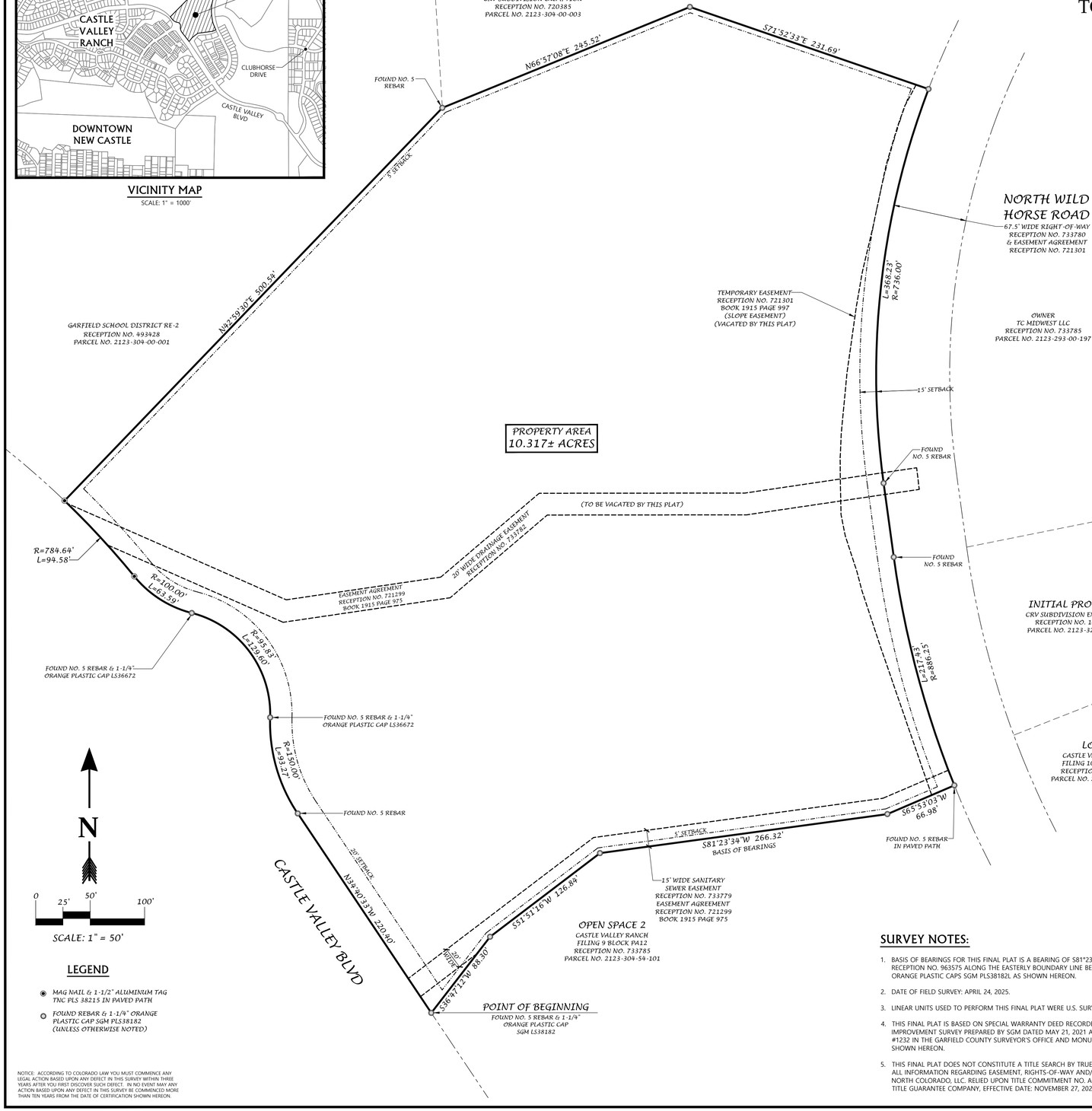
FINAL PLAT

ARCHWOOD TOWNHOMES

CASTLE VALLEY RANCH FILING 14, PA12 A SUBDIVISION IN THE SE1/4 SECTION 30, TOWNSHIP 5 SOUTH, RANGE 90 WEST OF THE 6TH PM
TOWN OF NEW CASTLE, COUNTY OF GARFIELD, STATE OF COLORADO



VICINITY MAP
SCALE: 1" = 1000'



LEGEND

- ◉ MAG NAIL & 1-1/2" ALUMINUM TAG TNC PLS 38215 IN PAVED PATH
- ○ FOUND REBAR & 1-1/4" ORANGE PLASTIC CAP SGM PLS38182 (UNLESS OTHERWISE NOTED)

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF CERTIFICATION SHOWN HEREON.

TITLE CERTIFICATE

I, _____ AN AGENT AUTHORIZED OF LAND TITLE GUARANTEE COMPANY, DO HEREBY CERTIFY THAT I HAVE EXAMINED THE TITLE TO ALL LANDS SHOWN UPON THIS PLAT AND THAT TITLE TO SUCH LANDS IS VESTED IN TC MIDWEST LLC, A TEXAS LIMITED LIABILITY COMPANY IS FREE AND CLEAR OF ALL LIENS AND ENCUMBRANCES (INCLUDING MORTGAGES, DEEDS OF TRUST, JUDGMENTS, EASEMENTS, CONTRACTS AND AGREEMENTS OF RECORD AFFECTING THE REAL PROPERTY IN THIS PLAT), EXCEPT AS SET FORTH IN THE COMMITMENT FOR TITLE INSURANCE ISSUED BY LAND TITLE GUARANTEE COMPANY, COMMITMENT NO. ABS63021376-7 DATED: DECEMBER 19, 2024.

DATED THIS_____DAY OF_____, A.D., 2026.

LAND TITLE GUARANTEE COMPANY
901 GRAND AVENUE-SUITE 202
GLENWOOD SPRINGS, CO 81601

BY:_____
AUTHORIZED AGENT

TOWN COUNCIL CERTIFICATE

THIS PLAT APPROVED BY THE TOWN COUNCIL OF THE TOWN OF NEW CASTLE, GARFIELD COUNTY, COLORADO, THIS_____ DAY OF _____, A.D. 2026, FOR FILING WITH THE CLERK AND RECORDER OF GARFIELD COUNTY AND FOR CONVEYANCE TO THE TOWN OF THE PUBLIC DEDICATIONS SHOWN HEREON, SUBJECT TO THE PROVISION THAT APPROVAL IN NO WAY OBLIGATES THE TOWN OF NEW CASTLE FOR FINANCING OR CONSTRUCTING OF IMPROVEMENTS ON LAND, STREETS OR EASEMENTS DEDICATED TO THE PUBLIC EXCEPT AS SPECIFICALLY AGREED TO BY THE TOWN COUNCIL. ARCHWOOD TOWNHOMES, CASTLE VALLEY RANCH FILING 1, PA12 IS SUBJECT TO THE TERMS AND CONDITIONS OF TOWN OF NEW CASTLE ORDINANCE NO. 2025 - _____.

BY:_____
MAYOR

WITNESS MY HAND AND THE SEAL OF THE TOWN OF NEW CASTLE.

ATTEST:_____
TOWN CLERK

CLERK AND RECORDER'S CERTIFICATE

THIS FINAL PLAT WAS FILED FOR RECORD IN THE OFFICE OF THE CLERK AND RECORDER OF GARFIELD COUNTY AT ____ O'CLOCK___M., ON THE _____ DAY OF_____, A.D. 2026, AND IS DULY RECORDED AS RECEPTION NO._____.

_____
CLERK AND RECORDER

BY:_____
DEPUTY

LIENHOLDER CONSENT

THE UNDERSIGNED, REGENT BANK, BEING THE BENEFICIARY UNDER THE DEED OF TRUST RECORDED AS RECEPTION NO._____ GRANTED BY TC MIDWEST LLC, A TEXAS LIMITED LIABILITY COMPANY AS THE OWNER AGAINST THE REAL PROPERTY IN THIS FINAL PLAT OF ARCHWOOD TOWNHOMES, CERTIFIES THAT THE UNDERSIGNED HAS REVIEWED THE FINAL PLAT AND BY THIS CERTIFICATION HEREBY CONSENTS TO SAID FINAL PLAT AND TO THE RECORDING THEREOF.

DATE: _____

REGENT BANK
7136 S. YALE AVENUE STE 100
TULSA, OKLAHOMA 74136

BY:_____

PRINT: _____, AUTHORIZED AGENT

STATE OF OKLAHOMA)
) SS
COUNTY OF _____)

THE FOREGOING LIENHOLDER CONSENT WAS ACKNOWLEDGED BEFORE ME THIS _____ DAY OF_____, 2026,
BY _____ AS AUTHORIZED AGENT FOR REGENT BANK.

WITNESS MY HAND AND OFFICIAL SEAL

_____
NOTARY PUBLIC

CERTIFICATE OF OWNERSHIP

KNOW ALL MEN BY THESE PRESENTS THAT TC MIDWEST LLC, A TEXAS LIMITED LIABILITY COMPANY BEING SOLE OWNER(S) IN FEE SIMPLE OF ALL THAT REAL PROPERTY DESCRIBED AS FOLLOWS:

A PARCEL OF LAND LOCATED IN THE SE1/4 OF SECTION 30, TOWNSHIP 5 SOUTH, RANGE 90 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF GARFIELD, STATE OF COLORADO, SAID PARCEL OF LAND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF CASTLE VALLEY BOULEVARD, SAME BEING THE WESTERNMOST CORNER OF CASTLE VALLEY RANCH PA12 FLG 9 FINAL, AS FILED WITH THE GARFIELD COUNTY CLERK AND RECORDER'S OFFICE, AS RECEPTION NO. 733785;
THENCE ALONG SAID NORTHERLY RIGHT-OF-WAY LINE THE FOLLOWING FIVE (5) COURSES:
1.) N34°40'33"W 220.40 FEET;
2.) ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 150.00 FEET, AN ARC LENGTH OF 93.27 FEET, CHORD BEARS N16°51'46"W 91.77 FEET;
3.) ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 95.83 FEET, AN ARC LENGTH OF 129.60 FEET, CHORD BEARS N37°47'30"W 119.95 FEET;
4.) ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 100.00 FEET, AN ARC LENGTH OF 63.58 FEET, CHORD BEARS N58°19'04"W 62.52 FEET;
5.) ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 784.64 FEET, AN ARC LENGTH OF 94.58 FEET, CHORD BEARS N43°33'19"W 94.52 FEET TO A POINT ON THE EASTERLY LINE OF THE GARFIELD SCHOOL DISTRICT RE2, AS FILED WITH SAID CLERK AND RECORDER'S OFFICE AS RECEPTION NO. 493428; THENCE DEPARTING SAID NORTHERLY RIGHT-OF-WAY ALONG SAID EASTERLY LINE N42°59'30"E 500.54 FEET TO A POINT IN THE SOUTHERLY LINE OF NORTH PARK PARCEL, AS FILED WITH SAID CLERK AND RECORDER'S OFFICE AS RECEPTION NO. 720385 AND RECEPTION NO. 721291;
THENCE WITH SAID SOUTHERLY LINE THE FOLLOWING TWO (2) COURSES:
1.) N66°57'08"E 245.52 FEET;
2.) S71°52'33"E 231.69 FEET TO A POINT IN THE WESTERLY RIGHT-OF-WAY LINE OF NORTH WILD HORSE ROAD;
THENCE ALONG SAID WESTERLY RIGHT-OF-WAY LINE THE FOLLOWING THREE (3) COURSES:
1.) ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 736.00 FEET, AN ARC LENGTH OF 368.23 FEET, CHORD BEARS S05°37'46"W 364.40 FEET; 2) THENCE S08°42'12"E 68.52 FEET;
2.) ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 886.25 FEET, AN ARC LENGTH OF 217.43 FEET, CHORD BEARS S15°43'53"E 216.88 FEET TO A POINT IN THE NORTH LINE OF SAID CASTLE VALLEY RANCH PA12 FLG 9 FINAL; THENCE WITH SAID NORTH LINE THE FOLLOWING FOUR (4) COURSES:
1.) S65°53'03"W 66.89 FEET;
2.) S81°23'34"W 266.32 FEET;
3.) S51°51'16"W 126.84 FEET;
4.) S36°47'12"W 88.30 FEET TO THE POINT OF BEGINNING.

AND CONTAINING 10.317 ACRES, MORE OR LESS, HAVE BY THESE PRESENTS LAID OUT, PLATTED AND SUBDIVIDED THE SAME INTO LOTS AND BLOCKS AS SHOWN HEREON AND DESIGNATE THE SAME AS ARCHWOOD TOWNHOMES CASTLE VALLEY RANCH FILING 14, PA 12 IN THE TOWN OF NEW CASTLE, COUNTY OF GARFIELD, STATE OF COLORADO; AND DO HEREBY GRANT TO THE TOWN OF NEW CASTLE, COUNTY OF GARFIELD, COLORADO, FOR PUBLIC USE THE STREETS SHOWN HEREON, INCLUDING SILVERADO, TRAIL NORTH LOOP, SOUTH LOOP, AND OPEN SPACE LOT 2X AND LOT 17X OF BLOCK A AND OPEN SPACE LOT 1X OF BLOCK B, SHOWN HEREON FOR THEIR INDICATED PUBLIC USE AND THE UTILITY AND DRAINAGE EASEMENTS SHOWN HEREON FOR UTILITY AND DRAINAGE PURPOSES ONLY; AND SO FURTHER STATE THAT THIS SUBDIVISION SHALL BE SUBJECT TO THE PROTECTIVE COVENANTS FILED AND RECORDED FOR THIS SUBDIVISION IN THE OFFICE OF THE CLERK AND RECORDER OF GARFIELD COUNTY, COLORADO AS DOCUMENT NO._____.

EXECUTED THIS _____ DAY OF _____, A.D. 2026.

OWNER:
TC MIDWEST LLC, A TEXAS LIMITED LIABILITY COMPANY
17774 PRESTON ROAD
DALLAS, TX 75252

BY:_____
SIGNATURE

_____
PRINT NAME & TITLE

STATE OF COLORADO)
COUNTY OF GARFIELD)
TOWN OF NEW CASTLE)

THE FOREGOING CERTIFICATION OF OWNERSHIP WAS ACKNOWLEDGED BEFORE ME THIS _____ DAY OF_____, 2026, BY _____ AS_____
OF TC MIDWEST LLC.

WITNESS MY HAND AND SEAL

_____
NOTARY PUBLIC

SURVEYOR'S CERTIFICATE

I, RODNEY P. KISER, DO HEREBY CERTIFY THAT I AM A REGISTERED LAND SURVEYOR LICENSED UNDER THE LAWS OF THE STATE OF COLORADO, THAT THIS PLAT IS A TRUE, CORRECT AND COMPLETE PLAT OF THE ARCHWOOD TOWNHOMES CASTLE VALLEY RANCH FILING 14, PA 12 AS LAID OUT, PLATTED, DEDICATED AND SHOWN HEREON, THAT SUCH PLAT WAS MADE FROM AN ACCURATE SURVEY OF SAID PROPERTY BY ME AND UNDER MY SUPERVISION AND CORRECTLY SHOWS THE LOCATION AND DIMENSIONS OF THE LOTS, EASEMENTS AND STREETS OF SAID SUBDIVISION AS THE SAME ARE STAKED UPON THE GROUND IN COMPLIANCE WITH STATE REGULATIONS GOVERNING THE SUBDIVISION OF LAND.

IN WITNESS WHEREOF I HAVE SET MY HAND AND SEAL THIS _____ DAY OF _____, 2026.

_____
RODNEY P. KISER
LICENSED PROFESSIONAL SURVEYOR
COLORADO REGISTRATION NO. 38215

SURVEY NOTES:

1. BASIS OF BEARINGS FOR THIS FINAL PLAT IS A BEARING OF S81°23'34"W AS RECORDED IN RECEPTION NO. 963575 ALONG THE EASTERLY BOUNDARY LINE BETWEEN FOUND REBARS & 1-1/4" ORANGE PLASTIC CAPS SGM PLS38182L AS SHOWN HEREON.
2. DATE OF FIELD SURVEY: APRIL 24, 2025.
3. LINEAR UNITS USED TO PERFORM THIS FINAL PLAT WERE U.S. SURVEY FEET.
4. THIS FINAL PLAT IS BASED ON SPECIAL WARRANTY DEED RECORDED AS RECEPTION NO. 963575, AN IMPROVEMENT SURVEY PREPARED BY SGM DATED MAY 21, 2021 AND RECORDED AS SURVEY MAP #1232 IN THE GARFIELD COUNTY SURVEYOR'S OFFICE AND MONUMENTS FOUND IN PLACE AS SHOWN HEREON.
5. THIS FINAL PLAT DOES NOT CONSTITUTE A TITLE SEARCH BY TRUE NORTH COLORADO, LLC FOR ALL INFORMATION REGARDING EASEMENT, RIGHTS-OF-WAY AND/OR TITLE OF RECORD, TRUE NORTH COLORADO, LLC. RELIED UPON TITLE COMMITMENT NO. ABS63021376-7 ISSUED BY LAND TITLE GUARANTEE COMPANY, EFFECTIVE DATE: NOVEMBER 27, 2024.

TRUE NORTH
COLORADO
A LAND SURVEYING AND MAPPING COMPANY

FINAL PLAT
ARCHWOOD TOWNHOMES
CASTLE VALLEY RANCH FILING 14, PA12
TOWN OF NEW CASTLE, COUNTY OF GARFIELD, STATE OF COLORADO

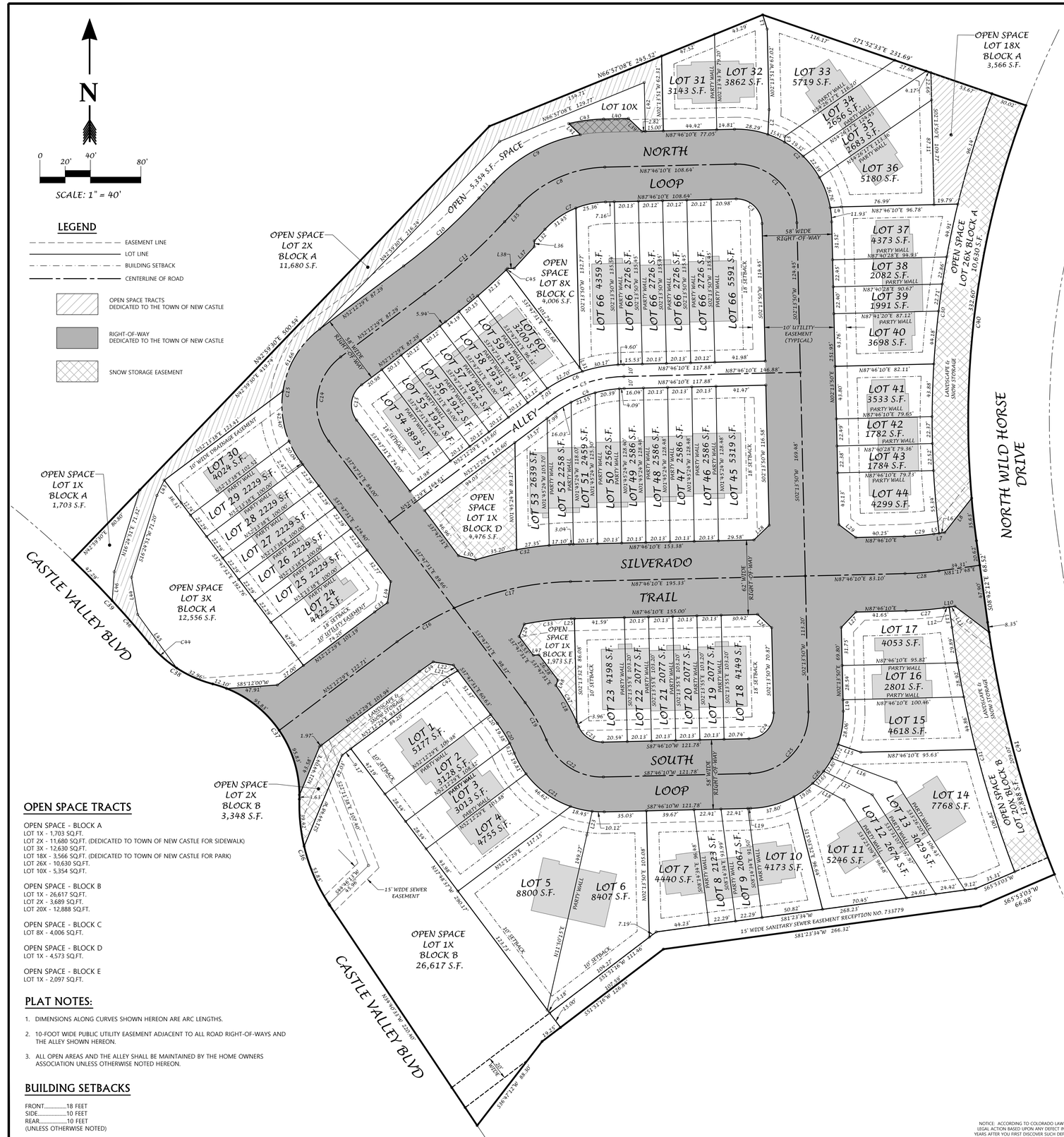
FOR PRELIMINARY REVIEW
June 18, 2026

TRUE NORTH COLORADO LLC.
A LAND SURVEYING AND MAPPING COMPANY
P.O. BOX 614 - 386 MAIN STREET UNIT 3
NEW CASTLE, COLORADO 81647
(970) 984-0474
www.truenorthcolorado.com

PROJECT NO: 2025-195	DRAWN: RPK	SHEET 1 OF 2
DATE: June 2026	SURVEYED: RPK	

FINAL PLAT
ARCHWOOD TOWNHOMES

CASTLE VALLEY RANCH FILING 14, PA12
A SUBDIVISION IN THE SE1/4 SECTION 30,
TOWNSHIP 5 SOUTH, RANGE 90 WEST OF THE 6TH PM
TOWN OF NEW CASTLE,
COUNTY OF GARFIELD, STATE OF COLORADO


N
0 20' 40' 80'
SCALE: 1" = 40'
LEGEND
EASEMENT LINE
LOT LINE
BUILDING SETBACK
CENTERLINE OF ROAD
OPEN SPACE TRACTS DEDICATED TO THE TOWN OF NEW CASTLE
RIGHT-OF-WAY DEDICATED TO THE TOWN OF NEW CASTLE
SNOW STORAGE EASEMENT
NORTH LOOP
SILVERADO TRAIL
SOUTH LOOP
ALLEY
NORTH WILD HORSE DRIVE
CASTLE VALLEY BLVD
OPEN SPACE LOT 1X BLOCK A 1,703 S.F.
OPEN SPACE LOT 2X BLOCK A 11,680 S.F.
OPEN SPACE LOT 3X BLOCK A 12,556 S.F.
OPEN SPACE LOT 1X BLOCK B 26,617 S.F.
OPEN SPACE LOT 2X BLOCK B 3,348 S.F.
OPEN SPACE LOT 1X BLOCK C 4,573 S.F.
OPEN SPACE LOT 1X BLOCK D 4,476 S.F.
OPEN SPACE LOT 1X BLOCK E 1,973 S.F.
OPEN SPACE LOT 8X BLOCK C 4,006 S.F.
OPEN SPACE LOT 10X 5,354 S.F.
OPEN SPACE LOT 18X BLOCK A 3,566 S.F.
OPEN SPACE LOT 26X BLOCK A 10,630 S.F.
OPEN SPACE LOT 20X BLOCK B 12,888 S.F.
LOT 1 5177 S.F.
LOT 2 3128 S.F.
LOT 3 3013 S.F.
LOT 4 4755 S.F.
LOT 5 8800 S.F.
LOT 6 8407 S.F.
LOT 7 4440 S.F.
LOT 8 2123 S.F.
LOT 9 2067 S.F.
LOT 10 4173 S.F.
LOT 11 5246 S.F.
LOT 12 2674 S.F.
LOT 13 3029 S.F.
LOT 14 7768 S.F.
LOT 15 4618 S.F.
LOT 16 2801 S.F.
LOT 17 4053 S.F.
LOT 18 4149 S.F.
LOT 19 2077 S.F.
LOT 20 2077 S.F.
LOT 21 2077 S.F.
LOT 22 2077 S.F.
LOT 23 4198 S.F.
LOT 24 4422 S.F.
LOT 25 2229 S.F.
LOT 26 2229 S.F.
LOT 27 2229 S.F.
LOT 28 2229 S.F.
LOT 29 2229 S.F.
LOT 30 4024 S.F.
LOT 31 3143 S.F.
LOT 32 3862 S.F.
LOT 33 5719 S.F.
LOT 34 2656 S.F.
LOT 35 2683 S.F.
LOT 36 5180 S.F.
LOT 37 4373 S.F.
LOT 38 2082 S.F.
LOT 39 1991 S.F.
LOT 40 3698 S.F.
LOT 41 3533 S.F.
LOT 42 1782 S.F.
LOT 43 1784 S.F.
LOT 44 4299 S.F.
LOT 45 5319 S.F.
LOT 46 2586 S.F.
LOT 47 2586 S.F.
LOT 48 2586 S.F.
LOT 49 2586 S.F.
LOT 50 2562 S.F.
LOT 51 2562 S.F.
LOT 52 2258 S.F.
LOT 53 2639 S.F.
LOT 54 3893 S.F.
LOT 55 1912 S.F.
LOT 56 1912 S.F.
LOT 57 1912 S.F.
LOT 58 1913 S.F.
LOT 59 1914 S.F.
LOT 60 3200 S.F.
LOT 61 2726 S.F.
LOT 62 2726 S.F.
LOT 63 2726 S.F.
LOT 64 2726 S.F.
LOT 65 2726 S.F.
LOT 66 5591 S.F.
58' WIDE RIGHT-OF-WAY
10' UTILITY EASEMENT (TYPICAL)
18' SETBACK
20' SETBACK
10' SETBACK
15' WIDE SEWER EASEMENT
15' WIDE SANITARY SEWER EASEMENT RECEPTION NO. 733779
LANDSCAPE & SNOW STORAGE
10' WIDE DRAINAGE EASEMENT
N87°46'10"E 108.64'
N87°46'10"E 117.88'
N87°46'10"E 146.88'
N87°46'10"E 153.38'
N87°46'10"E 195.33'
N87°46'10"E 155.00'
N87°46'10"E 121.78'
S87°46'10"W 121.78'
N87°46'10"E 96.78'
N87°46'10"E 82.11'
N87°46'10"E 83.10'
N87°46'10"E 95.63'
N87°46'10"E 77.05'
S87°46'10"W 108.64'
S87°46'10"W 117.88'
S87°46'10"W 153.38'
S87°46'10"W 195.33'
S87°46'10"W 155.00'
S87°46'10"W 121.78'
S87°46'10"W 121.78'
N87°46'10"E 90.25'
N87°46'10"E 91.65'
N87°46'10"E 95.82'
N87°46'10"E 100.46'
N87°46'10"E 95.63'
S87°46'10"W 77.05'
S87°46'10"W 90.25'
S87°46'10"W 91.65'
S87°46'10"W 95.82'
S87°46'10"W 100.46'
S87°46'10"W 95.63'
S87°46'10"W 96.78'
S87°46'10"W 82.11'
S87°46'10"W 83.10'
S87°46'10"W 95.63'
N66°57'08"E 285.52'
N66°57'08"E 129.77'
S71°52'33"E 231.69'
S87°46'10"W 96.78'
S87°46'10"W 82.11'
S87°46'10"W 83.10'
S87°46'10"W 95.63'
N87°40'28"E 99.91'
N87°40'28"E 90.67'
N87°40'28"E 79.36'
N87°40'28"E 79.73'
N87°40'28"E 79.65'
N87°40'28"W 79.65'
N87°40'28"W 79.73'
N87°40'28"W 79.36'
N87°40'28"W 90.67'
N87°40'28"W 99.91'
N87°41'20"E 87.12'
N87°41'20"W 87.12'
N87°41'20"W 87.12'
N87°41'20"W

SITE DEVELOPMENT PLANS

FOR

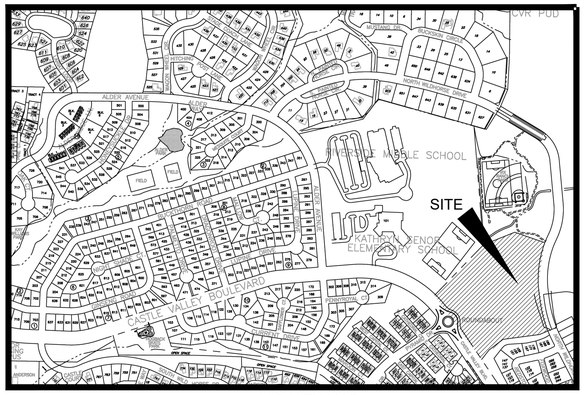
ARCHWOOD TOWN HOMES

CASTLE VALLEY BOULEVARD
TOWN OF NEW CASTLE

GARFIELD COUNTY, COLORADO 81647

10.315 ACRES

66 RESIDENTIAL LOTS & 7 OPEN AREAS



VICINITY MAP
N.T.S.

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
C-1.0	COVER SHEET
S-1	IMPROVEMENT & TOPOGRAPHIC SURVEY
C-1.1	GENERAL NOTES
SP	SITE PLAN
C-2.0	DEMOLITION PLAN
C-3.0	PHASING PLAN
C-4.0	OVERALL GRADING PLAN
C-4.1	GRADING PLAN
C-4.2	GRADING PLAN
C-4.3	GRADING PLAN -WALL & STAIRS
C-4.4	GRADING SECTIONS PLAN
C-4.5	GRADING SECTIONS
C-5.0	EROSION CONTROL PLAN
C-6.0	PRE-DRAINAGE AREA MAP
C-6.1	POST-DRAINAGE AREA MAP
C-6.2	DRAINAGE CALCULATIONS
C-6.3	OVERALL STORM PLAN
C-6.4	STORM LINE-A PLAN & PROFILE
C-6.5	STORM LINE-B PLAN & PROFILE
C-6.6	STORM LATERAL PROFILE
C-6.7	DETENTION POND PLAN
C-6.8	STORM DETAILS
C-7.0	WATER PLAN
C-7.1	WATER PROFILE
C-7.2	WATER DETAILS
C-8.0	SANITARY SEWER PLAN
C-8.1	SANITARY SEWER PROFILE
C-8.2	SANITARY SEWER DETAILS
C-9.0	OVERALL PAVING PLAN
C-9.1	PAVING PLAN & PROFILE
C-9.2	PAVING PLAN & PROFILE
C-9.3	PAVING PLAN & PROFILE
C-9.4	PAVING PLAN & PROFILE
C-9.5	PAVING DETAILS
C-10.0	SIGNAGE & STRIPING PLAN
C-11.0	FRANCHISE UTILITY & LIGHTING PLAN
C-12.0	SNOW STORAGE PLAN

811 Know what's **below.** **Call** before you dig.

NO.	DATE	DESCRIPTION	BY
1	08/25/25	1ST PRELIMINARY PUD SUBMITTAL	KP
2	02/12/26	2ND PRELIMINARY PUD SUBMITTAL	KP
3	04/16/26	1ST FINAL PUD SUBMITTAL	KP
4	06/19/26	1ST REVISED FINAL PUD SUBMITTAL	KP
.	.		.
.	.		.
.	.		.

STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

COVER SHEET

ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
TOWN OF NEW CASTLE
GARFIELD COUNTY, COLORADO 81647

TRIANGLE ENGINEERING LLC
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P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38-25	C-1.0

IMPROVEMENT SURVEY PLAT
W/TOPOGRAPHY

SE1/4 SECTION 30, TOWNSHIP 5 SOUTH, RANGE 90 WEST OF THE 6TH PM
TOWN OF NEW CASTLE, COUNTY OF GARFIELD, STATE OF COLORADO
PARCEL NO. 2123-304-00-002

PROPERTY DESCRIPTION:

SPECIAL WARRANTY DEED RECORDED AS RECEPTION NO. 963575

A PARCEL OF LAND LOCATED IN THE SE1/4 OF SECTION 30, TOWNSHIP 5 SOUTH, RANGE 90 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF GARFIELD, STATE OF COLORADO,
SAID PARCEL OF LAND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF CASTLE VALLEY BOULEVARD, SAME BEING THE WESTERNMOST CORNER OF CASTLE VALLEY RANCH PA12 FLG 9 FINAL, AS FILED WITH THE GARFIELD COUNTY CLERK AND RECORDER'S OFFICE, AS RECEPTION NO. 733785;
THENCE ALONG SAID NORTHERLY RIGHT-OF-WAY LINE THE FOLLOWING FIVE (5) COURSES:
1.) N34°40'33"W 220.40 FEET;
2.) ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 150.00 FEET, AN ARC LENGTH OF 93.27 FEET, CHORD BEARS N16°51'46"W 91.77 FEET;
3.) ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 95.83 FEET, AN ARC LENGTH OF 129.60 FEET, CHORD BEARS N37°47'30"W 119.95 FEET;
4.) ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 100.00 FEET, AN ARC LENGTH OF 63.58 FEET, CHORD BEARS N58°19'04 "W 62.52 FEET;
5.) ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 784.64 FEET, AN ARC LENGTH OF 94.58 FEET, CHORD BEARS N43°33'19"W 94.52 FEET TO A POINT ON THE EASTERLY LINE OF THE GARFIELD SCHOOL DISTRICT RE2, AS FILED WITH SAID CLERK AND RECORDER'S OFFICE AS RECEPTION NO. 493428;
THENCE DEPARTING SAID NORTHERLY RIGHT-OF-WAY ALONG SAID EASTERLY LINE N42°59'30"E 500.54 FEET TO A POINT IN THE SOUTHERLY LINE OF NORTH PARK PARCEL, AS FILED WITH SAID CLERK AND RECORDER'S OFFICE AS RECEPTION NO. 720385 AND RECEPTION NO. 721291;
THENCE WITH SAID SOUTHERLY LINE THE FOLLOWING TWO (2) COURSES:
1.) N66°57'08"E 245.52 FEET;
2.) S71°52'33"E 231.69 FEET TO A POINT IN THE WESTERLY RIGHT-OF-WAY LINE OF NORTH WILD HORSE ROAD; THENCE ALONG SAID WESTERLY RIGHT-OF-WAY LINE THE FOLLOWING THREE (3) COURSES:
1.) ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 736.00 FEET, AN ARC LENGTH OF 368.23 FEET, CHORD BEARS S05°37'46"W 364.40 FEET; 2) THENCE S08°42'12"E 68.52 FEET;
2.) ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 886.25 FEET, AN ARC LENGTH OF 217.43 FEET, CHORD BEARS S15°43'53"E 216.88 FEET TO A POINT IN THE NORTH LINE OF SAID CASTLE VALLEY RANCH PA12 FLG 9 FINAL; THENCE WITH SAID NORTH LINE THE FOLLOWING FOUR (4) COURSES:
1.) S65°53'03"W 66.89 FEET;
2.) S81°23'34"W 266.32 FEET;
3.) S51°51'16"W 126.84 FEET;
4.) S36°47'12"W 88.30 FEET TO THE POINT OF BEGINNING,
COUNTY OF GARFIELD,
STATE OF COLORADO.

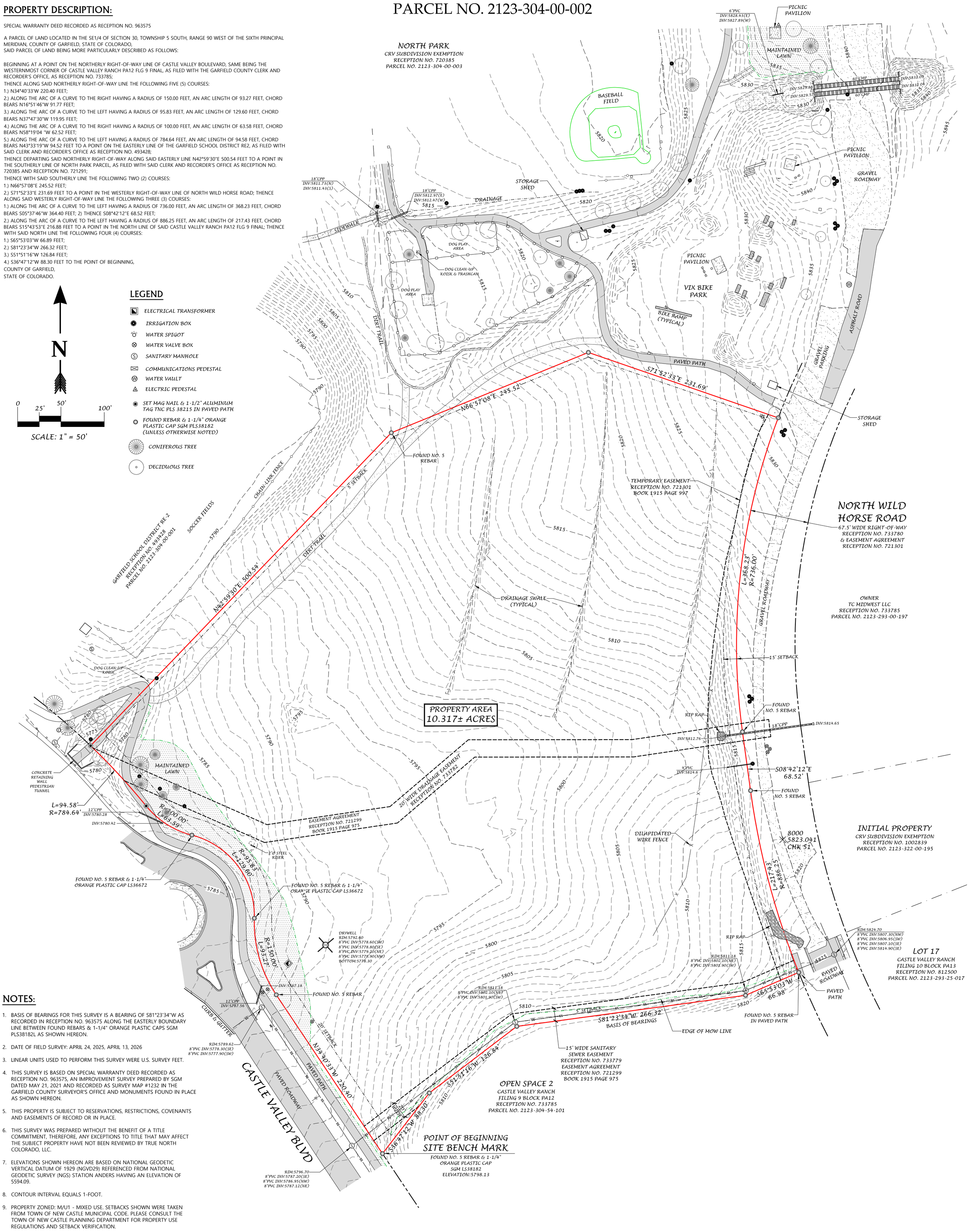
LEGEND

- ELECTRICAL TRANSFORMER
- IRRIGATION BOX
- WATER SPIGOT
- WATER VALVE BOX
- SANITARY MANHOLE
- COMMUNICATIONS PEDESTAL
- WATER VAULT
- ELECTRIC PEDESTAL
- SET MAG NAIL & 1-1/2" ALUMINUM TAG TNC PLS 38215 IN PAVED PATH
- FOUND REBAR & 1-1/4" ORANGE PLASTIC CAP SGM PLS38182 (UNLESS OTHERWISE NOTED)
- CONIFEROUS TREE
- DECIDUOUS TREE

N

0 25' 50' 100'

SCALE: 1" = 50'



NOTES:

1. BASIS OF BEARINGS FOR THIS SURVEY IS A BEARING OF S81°23'34"W AS RECORDED IN RECEPTION NO. 963575 ALONG THE EASTERLY BOUNDARY LINE BETWEEN FOUND REBARS & 1-1/4" ORANGE PLASTIC CAPS SGM PLS38182L AS SHOWN HEREON.
2. DATE OF FIELD SURVEY: APRIL 24, 2025, APRIL 13, 2026
3. LINEAR UNITS USED TO PERFORM THIS SURVEY WERE U.S. SURVEY FEET.
4. THIS SURVEY IS BASED ON SPECIAL WARRANTY DEED RECORDED AS RECEPTION NO. 963575, AN IMPROVEMENT SURVEY PREPARED BY SGM DATED MAY 21, 2021 AND RECORDED AS SURVEY MAP #1232 IN THE GARFIELD COUNTY SURVEYOR'S OFFICE AND MONUMENTS FOUND IN PLACE AS SHOWN HEREON.
5. THIS PROPERTY IS SUBJECT TO RESERVATIONS, RESTRICTIONS, COVENANTS AND EASEMENTS OF RECORD OR IN PLACE.
6. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT, THEREFORE, ANY EXCEPTIONS TO TITLE THAT MAY AFFECT THE SUBJECT PROPERTY HAVE NOT BEEN REVIEWED BY TRUE NORTH COLORADO, LLC.
7. ELEVATIONS SHOWN HEREON ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29) REFERENCED FROM NATIONAL GEODETIC SURVEY (NGS) STATION ANDERS HAVING AN ELEVATION OF 5594.09.
8. CONTOUR INTERVAL EQUALS 1-FOOT.
9. PROPERTY ZONED: M/U1 - MIXED USE. SETBACKS SHOWN WERE TAKEN FROM TOWN OF NEW CASTLE MUNICIPAL CODE. PLEASE CONSULT THE TOWN OF NEW CASTLE PLANNING DEPARTMENT FOR PROPERTY USE REGULATIONS AND SETBACK VERIFICATION.

SURVEYOR'S CERTIFICATION

I, RODNEY P. KISER, HEREBY CERTIFY TO TC MIDWEST, LLC THAT THIS IS AN "IMPROVEMENT SURVEY PLAT" AS DEFINED BY C.R.S.38-51-102(9) AND THAT IT IS A MONUMENTED LAND SURVEY PERFORMED UNDER MY DIRECT SUPERVISION AND RESPONSIBLE CHARGE, SHOWING THE LOCATION OF ALL STRUCTURES, VISIBLE UTILITIES, FENCES, HEDGES, OR WALLS SITUATED ON THE DESCRIBED PARCEL AND WITHIN FIVE FEET OF ALL BOUNDARIES OF SUCH PARCEL, ANY CONFLICTING BOUNDARY EVIDENCE OR VISIBLE ENCROACHMENTS, AND ALL AVAILABLE EASEMENTS. THE INFORMATION SHOWN HEREON IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, HOWEVER IT IS NOT A GUARANTY OR WARRANTY, EITHER EXPRESSED OR IMPLIED.

RODNEY P. KISER
LICENSED PROFESSIONAL LAND SURVEYOR
COLORADO REGISTRATION NO. 38215
TRUE NORTH COLORADO, LLC.

REVISED: APRIL 15, 2026: ADDITIONAL TOPOGRAPHY AREA FOR DRAINAGE DESIGN.
REVISED: JULY 24, 2025: ADDED STORM & SEWER INVERT & PIPE DATA.
REVISED: JULY 1, 2025: ADJUSTED TOPOGRAPHY FROM NAVD88 DATUM TO NGVD29 DATUM.

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF CERTIFICATION SHOWN HEREON.

TRUE NORTH
COLORADO
A LAND SURVEYING AND MAPPING COMPANY

TC MIDWEST, LLC
IMPROVEMENT & TOPOGRAPHIC SURVEY
PARCEL NO. 2123-304-00-002
TOWN OF NEW CASTLE, COUNTY OF GARFIELD, STATE OF COLORADO

COLORADO LICENSED RODNEY P. KISER 38215 PROFESSIONAL LAND SURVEYOR 4/15/26

TRUE NORTH COLORADO LLC.
A LAND SURVEYING AND MAPPING COMPANY
P.O. BOX 614 - 386 MAIN STREET UNIT 3
NEW CASTLE, COLORADO 81647
(970) 984-0474
www.truenorthcolorado.com

PROJECT NO: 2025-195	DRAWN: RPK	SHEET 1 OF 1
DATE: MAY 13, 2025	SURVEYED: RPK-MAN-RPS	

GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST DESIGN STANDARDS OF TOWN OF NEW CASTLE AND THE RESPECTIVE UTILITY COMPANY UNLESS OTHERWISE NOTED.
2. THE EXISTING CONTOUR INTERVAL IS TWO (2) FEET (DASHED). EXISTING CONDITIONS ARE BASED ON AN IMPROVEMENT SURVEY PERFORMED BY SOPRIS ENGINEERING, LLC.
3. ALL EXISTING UTILITIES EITHER UNDERGROUND OR OVERHEAD, SHALL BE MAINTAINED IN CONTINUOUS SERVICE THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL BE RESPONSIBLE AND LIABLE FOR ANY DAMAGE TO, OR INTERRUPTION OF SERVICES CAUSED BY THE CONSTRUCTION.
4. ALL CONTRACTORS AND SUBCONTRACTORS SHALL HAVE A SET OF APPROVED CONSTRUCTION DOCUMENTS ON SITE AT ALL TIMES.
5. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING CONDITIONS OUTSIDE THE DESIGNATED IMPROVEMENT AREA FROM DAMAGE. ANY DAMAGE TO EXISTING AREAS OUTSIDE THE DESIGNATED IMPROVEMENT AREA DURING CONSTRUCTION SHALL, AT A MINIMUM, BE RESTORED TO A STATE EQUAL TO ITS PRE CONSTRUCTION STATE.
6. THE GENERAL CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS TO COMPLETE WORK, AND SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. IDENTIFYING THE NEED FOR A PERMIT, PREPARING THE APPLICATION, AND PAYING THE SUBMITTAL AND REVIEW FEES NECESSARY TO SECURE PERMITS WILL BE THE TOTAL RESPONSIBILITY OF THE GENERAL CONTRACTOR. A COPY OF ALL PERMITS MUST BE POSTED AND WEATHER PROOFED ON SITE AT ALL TIMES.
7. THE GENERAL CONTRACTOR SHALL PERFORM THE WORK ACCORDING TO ALL LOCAL GOVERNMENT, COUNTY, STATE, AND FEDERAL SAFETY AND HEALTH REGULATIONS. IN PARTICULAR, THE "TRENCHING" AND "OPEN EXCAVATION" OPERATIONS SHALL COMPLY WITH ALL CURRENT O.S.H.A. REGULATORY REQUIREMENTS.
8. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING THEIR OWN DISPOSAL SITE FOR ALL DISPOSED MATERIALS.
9. COORDINATION WITH OTHER AGENCIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING INSPECTIONS PERFORMED BY OTHER GOVERNMENTAL AGENCIES, AND THE ENGINEER OF RECORD, AS PRESCRIBED IN THEIR PERMITS AND APPROVALS.
10. MAINTAIN TRAFFIC CONTROL DEVICES: THE CONTRACTOR SHALL INSTALL AND MAINTAIN FENCES, BARRIERS, LIGHTS AND SIGNS THAT ARE NECESSARY TO GIVE ADEQUATE WARNING TO THE PUBLIC AND TRAVELING MOTORISTS AT ALL TIMES.
11. NO MATERIAL OR EQUIPMENT SHALL BE STORED IN THE PUBLIC RIGHT-OF-WAY WITHOUT PRIOR APPROVAL FROM THE TOWN OF NEW CASTLE.
12. NOTIFY UTILITY OWNERS: CONTRACTOR SHALL NOTIFY ALL PUBLIC OR PRIVATE UTILITY OWNERS FORTY-EIGHT HOURS (OR AS REQUIRED BY UTILITY COMPANIES) PRIOR TO COMMENCEMENT OF WORK ADJACENT TO THE UTILITY.
13. IT IS THE CONTRACTORS RESPONSIBILITY TO SCHEDULE INSTALLATION INSPECTIONS AND SCHEDULE/OBTAIN AS-BUILT SURVEY DATA DURING CONSTRUCTION OF ALL IMPROVEMENTS TO INCLUDE, BUT NOT LIMITED TO, STORM PIPE INVERTS AT ALL BENDS, INLETS, OUTFALLS, AND UTILITY INFRASTRUCTURE.
14. COORDINATION WITH OTHER CONTRACTORS: WHERE TWO OR MORE CONTRACTORS ARE WORKING IN THE SAME AREA, EACH SHALL CONDUCT THEIR OPERATIONS IN SUCH A MANNER AS NOT TO CAUSE ANY UNNECESSARY DELAY OR HINDRANCE TO THE OTHER. WHERE CONFLICTS CANNOT BE AVOIDED, THE LOCAL GOVERNMENT WILL DETERMINE WHICH CONTRACTOR(S) HAVE CONSTRUCTION PRIORITY OVER THE OTHER CONTRACTORS AND THE TERMS OF SUCH CONSTRUCTION PRIORITY.
15. THE CONTRACTOR AND SUB-CONTRACTOR MUST MAKE EVERY ATTEMPT TO PREVENT DAMAGE TO EXISTING TREES AND ASSOCIATED ROOTS IN AND AROUND THE WORK AREA.

CONCRETE FLATWORK SPECIFICATIONS

1. CONCRETE MATERIAL AND PLACEMENT SHALL BE PER TOWN'S PUBLIC WORKS MANUAL.
2. WEATHER PROTECTION SHALL BE PROVIDED IN COMPLIANCE WITH CDOT STANDARD SPECIFICATIONS (LATEST STANDARDS) SECTION 412 & 601.
3. PERMITTEE SHALL SCHEDULE A FORM INSPECTION AND OBTAIN APPROVAL PRIOR TO POURING WITHIN TOWN OF NEW CASTLE RIGHT-OF-WAY.
4. DAMAGED CONCRETE PAVEMENT SHALL BE REMOVED AND REPLACED AS A FULL PANEL SECTION WITH DOWELS SET INTO ADJACENT PANELS IN COMPLIANCE WITH CDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION AND M&S STANDARDS (LATEST EDITION).
5. DAMAGED FLATWORK AND CURB AND GUTTER SHALL BE REPLACED IN FULL SECTIONS FROM EXISTING CONTRACTION JOINTS. PARTIAL SECTION REPLACEMENT SHALL NOT BE PERMITTED.
6. CONCRETE REMOVED ADJACENT TO ASPHALT PAVEMENTS SHALL BE SAWCUT A MINIMUM OF 2' STRIP ALONG THE ABUTTING EDGE PRIOR TO REMOVAL IN ORDER TO REMOVE WITHOUT DAMAGE TO THE ASPHALT PAVEMENT. THE SAWCUT EDGE SHALL NOT BE USED AS A FORM FOR THE NEW CONCRETE. TEMPORARY FORMWORK SHALL BE PLACED ALONG THE SAWCUT EDGE IN THE DESIRED ALIGNMENT. THE TOP EDGE OF THE REPLACED CONCRETE SECTION (CONC. LIP) SHALL BE STRAIGHT AND TRUE WITHOUT WARPING OR IRREGULARITY. AFTER THE FORMWORK IS REMOVED, THE GAP SHALL BE RE-PAVED WITH ASPHALT. DAMAGE CAUSED TO THE EDGE OF THE ASPHALT PAVEMENT SHALL RESULT IN THE ASSESSMENT OF A RESTORATION FOR ASPHALT RESURFACING.
7. SUBGRADE ELEVATION SHALL BE BROUGHT UP TO +/- 0.05 FOOT OF FINAL GRADE PER PLANS, WITH APPROVED MATERIALS PRIOR TO PLACING FORMS.
8. NO WATER SHALL BE PLACED ON CONCRETE SURFACE TO ASSIST FINISHING.
9. VARIATIONS OF CONCRETE SURFACE SHALL NOT EXCEED 18 INCH IN TEN FEET (10') IN ALL DIRECTIONS.
10. LIQUID MEMBRANE CURING COMPOUND SHALL BE PLACED IN COMPLIANCE WITH CDOT STANDARD SPECIFICATIONS (LATEST EDITION) SECTION 601.13.36 AT A RATE TO COMPLETELY COAT ALL EXPOSED SURFACES.
11. PERMITTEE SHALL BE RESPONSIBLE FOR REPAIRING SIDEWALK, CURB, OR GUTTER DAMAGED FROM WORK ACTIVITIES OF PERMITTEE.
12. PERMITTEE SHALL BE RESPONSIBLE FOR INSTALLATION OF NEW SIDEWALK, CURB AND GUTTER PER TOWN OF NEW CASTLE CODE, AND FOR REPAIR OF SIDEWALK, CURB AND GUTTER PER TOWN OF NEW CASTLE CODE.
13. ALL CONTRACTION JOINTS SHALL BE SAWN JOINTS AND MUST BE CUT WITHIN 12 HOURS OF PLACEMENT. SAWN JOINTS SHALL BE STRAIGHT AND TRUE AND 1/8 IN WIDTH AND 1/3 OF CONCRETE THICKNESS AND CUT AT INTERVALS EQUAL TO THE WIDTH OF SIDEWALK.
14. BASE FOR FLATWORK SHALL BE AT LEAST 6" OF CDOT CLASS 6 ABC COMPACTED TO 95% OF STANDARD PROCTOR DENSITY WITHIN 2% OF OPTIMUM MOISTURE.
15. COARSE BROOM FINISH SHALL BE PROVIDED PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL ON SIDEWALK AND RAMPS AND PERPENDICULAR TO THE DIRECTION OF WATER FLOW ON CURB AND GUTTER

IRRIGATION RAW WATER INSTALLATION SPECIFICATIONS:

1. BURY DEPTH SHALL BE MINIMIZED WHERE POSSIBLE. MINIMUM BURY DEPTH IS 2 FEET.
2. IRRIGATION MAIN LINES SHALL HAVE GRAVITY DRAINS FOR WINTERIZATION, LOCATED AT ELEVATION LOW POINTS.
3. IRRIGATION MAIN LINES SHALL BE 4" GASKETED BELL C900 DR 18, PURPLE IN COLOR. 14 GUAGE TRACER WIRE REQUIRED ON ALL IRRIGATION MAINS.
4. RAW WATER MAIN LINES SHALL BE CONSTRUCTED WITH MECHANICAL JOINTS AND A THRUST BLOCK, OR MECHANICAL JOINTS WITH MEGA LUG CONNECTIONS.
5. RAW WATER SERVICE TAPS SHALL INCLUDE A WEEPING CURB STOP AND GRAVEL DRAINAGE PIT.

EROSION CONTROL NOTES:

1. CONTRACTOR MUST UTILIZE "BEST MANAGEMENT PRACTICES" (BMP), TO CONTROL EROSION AND SEDIMENTATION DURING CONSTRUCTION, TO INCLUDE THE INSTALLATION OF INLET PROTECTION AROUND THE NEAREST DOWNSTREAM RECEIVING INLET LOCATED WITHIN THE TOWN OF NEW CASTLE'S ROW.
2. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF ALL TEMPORARY EROSION CONTROL MEASURES.
3. DUST CAUSED BY EXCAVATION, TOPSOIL REMOVAL OPERATIONS, OR ROAD BASE PLACEMENT SHALL BE CONTROLLED BY THE CONTRACTOR AT HIS EXPENSE. THE ENGINEER OR TOWN OF NEW CASTLE MAY REQUIRE THE CONTRACTOR AT ANY TIME TO DISCONTINUE CONSTRUCTION ACTIVITIES UNTIL DUST CONDITIONS ARE REDUCED TO THE TOWN OF NEW CASTLE'S SATISFACTION.
4. THE CONTRACTOR WILL BE REQUIRED TO FURNISH AND APPLY A DUST PALLIATIVE ON THE SITE AS DIRECTED BY THE TOWN OF NEW CASTLE. DUST PALLIATIVE MAY CONSIST OF WATER OR A NON-POLLUTING SOLUTION. SPREADING OF WATER OR WATER MIXTURE SHALL BE DONE WITH ACCEPTABLE SPRINKLING EQUIPMENT. ALL DUST CONTROL SHALL EXTEND BEYOND THE CONSTRUCTION AREA PROPER TO THE SIDE STREETS ENTERING AND EXISTING THE PROJECT, WHERE MUD AND DIRT FROM CONSTRUCTION EQUIPMENT, AS WELL AS LOCAL TRAFFIC, MAY GET ONTO THE SIDE STREETS. CLEANUP OF THESE AREAS WILL BE REQUIRED AS NECESSARY OR AS DIRECTED BY THE TOWN OF NEW CASTLE/OWNER/ENGINEER.
5. MAINTENANCE OF PROPER DRAINAGE AND CLEANING TEMPORARY SEDIMENT CONTAINMENT DURING THE PROGRESS OF THE CONTRACT IS ESSENTIAL. ANY DAMAGE DUE TO IMPROPER MAINTENANCE OF SAID DRAINAGE PRIOR TO FINAL ACCEPTANCE OF THE PROJECT WILL BE THE CONTRACTOR'S RESPONSIBILITY.
6. BMP'S SHALL BE INSTALLED BEFORE ANY EARTH DISTURBING ACTIVITIES COMMENCE.
7. STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES SHALL NOT CAUSE, HAVE THE REASONABLE POTENTIAL TO CAUSE, OR MEASURABLY CONTRIBUTE TO AN EXCEEDANCE OF ANY WATER QUALITY STANDARD.
8. CONSTRUCTION SHALL BE PHASED IN A MANNER TO LIMIT EARTH DISTURBING ACTIVITIES (I.E. THE ENTIRE PROJECT SITE SHOULD NOT BE DISTURBED IF CONSTRUCTION WILL ONLY BE OCCURRING IN ONE PARTICULAR SECTION).
9. SEDIMENT CAUSED BY ACCELERATED SOIL EROSION SHALL BE REMOVED FROM RUNOFF WATER BEFORE IT LEAVES THE CONSTRUCTION SITE.
10. BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND ANY OTHER CHEMICALS SHALL HAVE SECONDARY CONTAINMENT OR EQUIVALENT PROTECTION TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING STATE WATERS.
11. THE EROSION CONTROL PLAN SHALL BE CONTINUOUSLY UPDATED TO REFLECT NEW OR REVISED BEST MANAGEMENT PRACTICES (BMP'S) DUE TO CHANGES IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF THE CONSTRUCTION SITE. UPDATES MUST BE MADE WITHIN 72 HOURS FOLLOWING THE CHANGE IN BMP'S.
12. THE CONTRACTOR SHALL INSPECT THE CONSTRUCTION SITE (INCLUDING ALL BMP'S, STORAGE CONTAINERS, AND CONSTRUCTION EQUIPMENT) A MINIMUM OF EVERY 14 CALENDAR DAYS AND WITHIN 24 HOURS AFTER A PRECIPITATION EVENT OR SNOW MELT THAT MAY CAUSE SURFACE EROSION.
13. THE CONTRACTOR SHALL KEEP A RECORD OF ALL INSPECTIONS ON SITE AND AVAILABLE FOR REVIEW BY TOWN OF NEW CASTLE STAFF. INSPECTION REPORTS MUST IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE WITH THE TERMS AND CONDITIONS OF A PERMIT.
14. STRAW BALES SHALL NOT BE USED FOR PRIMARY EROSION OR SEDIMENT CONTROL (I.E. STRAW BALES MAY BE USED FOR REINFORCEMENT BEHIND ANOTHER BMP SUCH AS SILT FENCE).
15. BMP'S INTENDED FOR SHEET FLOW SEDIMENT RUNOFF SHALL BE PLACED PARALLEL TO THE SLOPE.
16. ALL BMP'S SHALL BE CLEANED WHEN SEDIMENT LEVELS ACCUMULATE TO HALF THE DESIGN OF THE BMP UNLESS OTHERWISE SPECIFIED.
17. A VEHICLE TRACKING PAD (VTP) SHALL BE PLACED AT ALL EXITS FROM THE SITE TO PREVENT TRACK-OUT ONTO TOWN OF NEW CASTLE STREETS. IF TRACK-OUT DOES OCCUR, THE CONTRACTOR SHALL IMMEDIATELY SWEEP THE STREET OF DEBRIS.
18. ALL PORTA-POTTY STRUCTURES MUST BE FIRMLY SECURED WITH #4 REBAR ANCHORS OR EQUAL. MUST BE PLACED AWAY FROM FLOW LINES OF STREET, SWALES, RAIN GARDENS & AWAY FROM INLETS.
19. A CONCRETE WASHOUT AREA (CWA) MUST BE PROVIDED AND ROUTINELY MAINTAINED. NO WASHING OUT OF CONCRETE TRUCKS OR WASHING OF SWEEPINGS FROM EXPOSED AGGREGATE CONCRETE INTO STORM DRAINS, OPEN DITCHES, STREETS OR STREAMS IS ALLOWED.
20. EXCESS CONCRETE IS NOT ALLOWED TO BE DUMPED ON-SITE, EXCEPT IN DESIGNATED TEMPORARY CONCRETE WASHOUT AREAS (CWA).
21. ON-SITE TEMPORARY CONCRETE WASHOUT FACILITIES WILL BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS AND MUST BE CLEANED OUT OR REPLACED BEFORE THE WASHOUT IS 75% FULL.
22. STOCKPILES OF SOIL OR OTHER ERODABLE MATERIALS MUST BE MANAGED SO THAT STORMWATER DOES NOT COME IN CONTACT WITH THE PILE AND POTENTIALLY WASH POLLUTANTS OFFSITE. AT A MINIMUM STOCKPILES SHALL BE ROUTINELY WETTED AND/OR BLANKETED AS WELL AS INCLUDE AN EROSION SOCK PERIMETER BARRIER TO PREVENT WIND EROSION AND SEDIMENT TRANSPORT OFFSITE. STOCKPILES THAT ARE INACTIVE FOR MORE THAN 7 DAYS WILL REQUIRE SOIL BINDER OR HAVE MUCLH/MULCH TACKIFIER APPLIED.
23. EROSION CONTROL BLANKETS SHALL BE INSTALLED ON ALL SLOPES EXCEEDING 3:1.

POTABLE WATER INSTALLATION SPECIFICATIONS

1. ALL WATER MAIN CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE TOWN OF NEW CASTLE PUBLIC WORKS MANUAL DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL PROVIDE MATERIAL SUBMITTAL FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
2. POTABLE WATER MAIN AND WATER SERVICES LARGER THAN 4" SHALL BE GASKETED C900 PVC DR14 OR APPROVED EQUAL.
3. WATER SERVICES SMALLER THAN 4" SHALL BE AWWA PURE CORE OR APPROVED EQUAL. THE WATER SERVICE TAPS ON THE WATER MAIN MUST BE A MINIMUM OF 4 FEET FROM EACH OTHER, AND MUST BE MORE THAN 4' FROM A FITTING OR A JOINT.
4. THE PIPE BEDDING MATERIAL SHALL BE 3/4" INCH CRUSHED SCREENED ROCK HAULED IN FOR BEDDING AND NOT NATIVE EXCAVATED MATERIAL.
5. THE BACKFILL MATERIAL FROM 12 INCHES ABOVE THE TOP OF THE PIPE TO THE TOP OF THE TRENCH SHALL BE CLASS 6 AGGREGATE BASE COURSE MATERIAL.
6. MINIMUM COVER OF WATER MAINS AND SERVICE LINES SHALL BE 5.5 FEET DEEP FROM TOP OF PIPE TO FINISHED GRADE.
7. MINIMUM COVER OF 5.5 FEET SHALL BE MAINTAINED AT STORM SEWER CROSSINGS. BLUE BOARD INSULATION SHALL BE INSTALLED 1" THICK FOR EVERY FOOT LESS THAN THE MINIMUM COVER. CONTRACTOR SHALL PROVIDE INSULATION SUBMITTAL FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. REFER TO INSULATION TRENCH DETAIL FOR MORE INFORMATION.
8. ALL FITTINGS MUST HAVE MEGA LUG FITTINGS IN ADDITION TO CONCRETE THRUST BLOCKS.
9. FIRE HYDRANTS SHALL BE KENNEDY, INSTALLED PER LATEST DETAIL AND SPECIFICATIONS IN THE TOWN PUBLIC WORKS MANUAL.
10. VALVES: GATE VALVES SHALL BE INSTALLED FOR ALL VALVES 12" AND SMALLER AND SHALL BE A MUELLER OR PRE APPROVED EQUIVALENT RESILIENT SEAT, EPOXY COATED MECHANICAL JOINT, NON-RISING VALVE STEM AND SHALL OPEN BY TURNING TO THE LEFT, COUNTER-CLOCKWISE. VALVES SHALL CONFORM TO AWWA SPECIFICATIONS C-509; OR THE LATEST REVISION THEREOF; IN ZONES WHICH HAVE STATIC PRESSURES GREATER THAN 80 PSI THE VALVE APPLICATION WILL BE A CLASS 250 BUTTERFLY VALVE OF THE ABOVE MENTIONED MANUFACTURERS WITH EPOXY INTERIOR AND EXTERIOR COATINGS. AT INTERSECTIONS, GATE VALVES SHALL BE INSTALLED WITHIN 3' OF A TEE, CROSS, OR BEND, ALL CONNECTIONS SHALL HAVE MEGA-LUGS ON THE FITTINGS EXCEPT WHERE THE TEE BRANCH AND BRANCH VALVE ARE FLANGED. ALL MECHANICAL JOINT FITTINGS WILL HAVE MEGA-LUG FITTINGS, AND CONCRETE THRUST BLOCKS. TIE RODS MAY BE USED ONLY WERE APPROVED.
11. PRESSURE REDUCING VALVE SHALL BE CLA-VAL OR APPROVED EQUAL.
12. ALL WATER MAIN CONSTRUCTION SHALL BE OBSERVED AND COORDINATED WITH THE TOWN OF NEW CASTLE OR AUTHORIZED REPRESENTATIVE.
13. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO COMMENCING ANY WORK.

PAVING SPECIFICATIONS:

PAVEMENT REMOVAL:

1. ALL ASPHALT PAVEMENT CUTS SHALL BE IN STRAIGHT NEAT LINES. IRREGULAR SHAPED CUTS WITH MORE THAN FOUR (4) SIDES OR CUTS WITHIN EXISTING PATCHES SHALL NOT BE ALLOWED. ALL CUTS SHALL BE RECTANGULAR IN SHAPE, AND EDGES SHALL BE PARALLEL OR PERPENDICULAR TO THE FLOW OF TRAFFIC.
2. IN ORDER TO PROVIDE STRAIGHT EDGES, ALL ASPHALT PAVEMENT CUTS SHALL BE CUT BY A MECHANICAL SAW CUTTING EQUIPMENT, ROTOMILLING, OR OTHER APPROVED METHOD WHICH ASSURES A NEAT STRAIGHT EDGE FOR THE REQUIRED DEPTH OF THE CUT.
3. ASPHALT PAVEMENT CUTS SHALL BE SUCH THAT NO LONGITUDINAL JOINT LIES WITHIN THE WHEEL TRACK; ANY PATCH WHICH PENETRATES A WHEEL PATH MUST BE EXTENDED TO FULL LANE WIDTH.
4. CONCRETE PAVEMENT SHALL BE REMOVED AND REPLACED FROM EXISTING PANEL JOINTS ONLY.
5. STRESS CRACKING OF EXISTING PAVEMENT MAY OCCUR DURING EXCAVATION FOR A VARIETY OF REASONS. IF THIS OCCURS, THE CONTRACTOR MUST SAWCUT AT LEAST 12" BEYOND THE LIMIT OF VISIBLE CRACKS AND REMOVE ALL STRESSED PAVEMENT.

ASPHALT PAVEMENTS:

1. THE MINIMUM PATCH DIMENSIONS SHALL BE TWELVE INCHES (12" MIN.) BEYOND EACH SIDE OF THE TRENCH OR EXCAVATION; REFER TO DETAILS AND TOWN OF NEW CASTLE'S LATEST DESIGN STANDARDS.
2. THE LONGITUDINAL EDGES OF THE PATCH SHALL NOT FALL WITHIN THE EXISTING WHEEL TRACKS WHENEVER POSSIBLE.
3. PRIOR TO PLACING THE PERMANENT PATCH, THE EXISTING PAVEMENT SHALL BE SAWCUT TO A NEAT STRAIGHT-LINE, SQUARE TO THE TRAVEL LANE.
4. ASPHALT MIX SHALL BE CDOT, S-MIX (58-28 (IN THE EVENT OF A CONFLICT, THE GEOTECHNICAL REPORT SHALL GOVERN). PATCH BACK AREAS GREATER THAN ONE HUNDRED TWENTY SQUARE FEET (120 S.F.) SHALL REQUIRE THE SUBMITTAL AND APPROVAL OF A MIX DESIGN TO THE ENGINEER PRIOR TO PLACEMENT.
5. COMPACTION SHALL BE AT LEAST 95% OF MAX. DENSITY WITHIN 2% OPTIMUM MOISTURE AS DEFINED BY ASTM 1557 METHOD "C".
6. COMPACTION EQUIPMENT SHALL BE CAPABLE OF COMPACTING CORNERS AND EDGES OF PATCH.
7. HOT BITUMINOUS PATCHES SHALL BE PLACED A MIN. OF 5-INCHES OR MATCH EXISTING DEPTH, WHICHEVER IS GREATER. PLACEMENT SHALL BE PERFORMED IN A MIN. OF 2 LIFTS. THE BOTTOM COURSE SHALL BE 3-INCHES AND THE TOP SHALL BE 2-INCHES.
8. PATCHES SHALL ALSO HAVE A CROSS SLOPE SECTION CONSISTENT WITH THE DESIGN OF THE EXISTING ROADWAY.
9. TEMPORARY OR PERMANENT ASPHALT PATCHES SHALL BE PLACED WITHIN TWENTY FOUR (24) HOURS OF TRENCH BACKFILLING. WHENEVER PERMANENT PATCHES ARE NOT CONSTRUCTED WITHIN TWENTY FOUR (24) HOURS FOLLOWING TRENCH BACKFILLING OPERATIONS, TEMPORARY PAVEMENT PATCHES CONSISTING OF A MINIMUM OF THREE INCHES (3") OF HOT OR COLD PLANT MIX OR STEEL PLATES MUST BE PLACED TO PROVIDE THE REQUIRED NUMBER OF PAVED TRAVEL LANES. TEMPORARY PAVEMENT PATCHES MAY BE LEFT IN PLACE FOR A MAX. OF FIVE (5) WORKING DAYS FOLLOWING COMPLETION OF BACKFILLING OPERATIONS UNLESS OTHERWISE APPROVED BY THE ENGINEER OF RECORD OR THE TOWN OF NEW CASTLE PAVING INSPECTOR.
10. THE PERMITTEE SHALL MONITOR TEMPORARY PATCHES ON A DAILY BASIS AND TEMPORARY PATCHES EXHIBITING RUTS, HUMPS, OR DEPRESSIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.
11. A PERMANENT HOT PATCH SHALL BE MADE WITHIN FIVE (5) DAYS AFTER THE AREA IS OPEN TO TRAFFIC, WEATHER PERMITTING.
12. IF FINAL PATCHING IS NOT COMPLETED WITHIN THE SPECIFIED TIME, NO NON-EMERGENCY PERMITS SHALL BE GRANTED TO THE PERMITTEE UNTIL ALL OUTSTANDING WORK IS COMPLETED.
13. UPON COMPLETION OF THE PERMANENT PATCH, THE SURFACE SHALL BE THOROUGHLY COMPACTED, SMOOTH AND FREE FROM RUTS, HUMPS, DEPRESSIONS, OR IRREGULARITIES. WHEN A STRAIGHTEDGE TEN FEET (10') LONG IS LAID ACROSS THE PERMANENT PATCH PARALLEL TO THE CENTERLINE, THE SURFACE SHALL NOT VARY MORE THAN 14" FROM THE LOWER EDGE OF THE STRAIGHT EDGE. PATCHES EXHIBITING DEVIATIONS GREATER THAN 14" SHALL BE REPLACED PRIOR TO ACCEPTANCE OF PATCH. IF THE EXISTING STREET EXCEEDS THE ABOVE TOLERANCES, THEN THE PATCH SHALL BE EQUAL OR BETTER THAN THE CONDITION OF THE SURROUNDING PAVEMENT. IN MOST CASES, AND PARTICULARLY IN THE CASES OF EXTENSIVE EXCAVATION AND REPAIRS, IT IS DESIRABLE TO SURVEY THE EXISTING PAVEMENT CONDITIONS WITH A REPRESENTATIVE OF THE TOWN OF NEW CASTLE PRIOR TO THE WORK. AFTER COMPLETION OF THE WORK, SURVEY THE PAVEMENT CONDITION AGAIN TO VERIFY THAT THE PAVEMENT CONDITION HAS BEEN MAINTAINED OR IMPROVED. IN THE CASE OF MINOR REPAIRS, THESE PAVEMENT SURVEYS CAN BE MADE BY VISUAL OBSERVATION.

PUBLIC IMPROVEMENTS NOTE:

1. PUBLIC IMPROVEMENTS SHALL BE IN COMPLIANCE WITH THE TOWN OF NEW CASTLE ENGINEERING STANDARDS AND TOWN OF NEW CASTLE ROW STANDARDS. PUBLIC IMPROVEMENTS IN THE ROW MUST MEET THE TOWN OF NEW CASTLE'S CONSTRUCTION AND EXCAVATION STANDARDS.

UTILITY LOCATE NOTE:

1. PER STATE SB 18-167, ALL SUBSURFACE UTILITIES WILL NEED TO BE ELECTRONICALLY LOCATABLE USING TRACER WIRE, MAGNETIC TAPE, ETC. THIS INCLUDES MAIN AND SERVICE LINES. CONTRACTOR SHALL PROVIDE LOCATE MATERIAL SUBMITTAL FOR REVIEW AND APPROVAL BY THE ENGINEER OF RECORD AND THE UTILITY COMPANY PRIOR TO CONSTRUCTION.

GRAVITY SANITARY SEWER SERVICE LINE INSTALLATION SPECIFICATIONS:

1. ALL SANITARY SEWER MAIN CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE TOWN OF NEW CASTLE PUBLIC WORKS MANUAL DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL PROVIDE MATERIAL SUBMITTAL FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
2. ALL SEWER SERVICES SHALL BE PVC CLASS-SDR 35 UNLESS OTHERWISE NOTED.
3. FITTINGS: PVC PUSH JOINT-ASTM D1784.
4. CLEAN ALL PIPE, FITTINGS AND RELATED MATERIALS THOROUGHLY OF ALL FOREIGN MATERIAL AND INSPECT FOR CRACKS, EXCESSIVE DEFLECTION FLAWS OR OTHER DEFECTS PRIOR TO AND AFTER INSTALLATION.
5. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT ANY CONSTRUCTION DEBRIS FROM ENTERING THE SEWER LINES DURING CONSTRUCTION. IF THIS DEBRIS SHOULD ENTER THE PIPE LINE SYSTEM, THE CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS NECESSARY TO CLEAN THE SYSTEM. UNDER NO CIRCUMSTANCES WILL THE CONTRACTOR FLUSH THE DEBRIS INTO AN EXISTING SANITARY SEWER SYSTEM.
6. ALL PIPES MUST BE INSTALLED WITH A LASER. IF BENDING OF THE BEAM DUE TO AIR TEMPERATURE VARIATIONS BECOMES APPARENT WITH "IN PIPE" UNITS, A FAN SHALL BE PROVIDED TO CIRCULATE AIR IN THE PIPE. AIR VELOCITY SHALL NOT BE SO EXCESSIVE AS TO CAUSE PULSATING OR VIBRATING OF THE BEAM. IF, IN THE OPINION OF THE ENGINEER, THE BEAM CANNOT BE ACCURATELY CONTROLLED, THIS METHOD OF SETTING LINE AND GRADE SHALL BE ABANDONED.
7. PIPE SHALL BE LAID TRUE TO LINE AND GRADE, IN AN UPHILL DIRECTION, WITH BELL ENDS FACING IN THE DIRECTION OF LAYING. WHEN PIPE LAYING IS NOT IN PROGRESS, THE OPEN END OF PIPE SHALL BE CLOSED BY A WATERTIGHT PLUG.
8. MANHOLES & CLEANOUTS SHALL BE FURNISHED AND INSTALLED TO DEPTHS AND DIMENSIONS SHOWN ON THE CONSTRUCTION DRAWINGS AND/OR STAKED IN THE FIELD. MANHOLES SHALL BE CONSTRUCTED OF CAST-IN-PLACE OR PRECAST CONCRETE IN ACCORDANCE WITH DETAILS SHOWN ON THE CONSTRUCTION DRAWINGS.
9. CONNECTIONS TO EXISTING SEWER FACILITIES WHERE LIVE FLOWS EXIST SHALL BE MADE ONLY AFTER PRIOR CONSULTATION WITH AND RECEIPT OF WRITTEN PERMISSION FROM THE ENGINEER. NO BYPASS OF SEWAGE TO THE SURFACE WILL BE ALLOWED IN THE COMPLETION OF THIS CONNECTION. CONNECTIONS SHALL BE MADE AS SHOWN ON THE DRAWINGS. ALL CONNECTIONS BETWEEN PIPES OF DIFFERENT MATERIALS SHALL BE MADE WITH APPROVED MANUFACTURED CONNECTORS.
10. THE CONTRACTOR IS REQUIRED TO PROVIDE AS-BUILTS AND CCTV THE INSTALLED SEWER SERVICE MAIN LINES AFTER CONSTRUCTION.

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STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

GENERAL NOTES
ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
TOWN OF NEW CASTLE
GARFIELD COUNTY, COLORADO 81647

TRIANGLE ENGINEERING LLC
T: 469.331.8566 I F: 469.213.7145 I E: info@triangle-engr.com
W: triangle-engr.com I O: 1782 W. McDermott Drive, Allen, TX 75013
Planning | Civil Engineering | Construction Management

P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38-25	C-1.1



0 50 100

Scale: 1" = 50' Feet

SITE LEGEND

CONCRETE CURB	
PARKING SPACES	[X]
FIRE HYDRANT	
SANITARY SEWER MANHOLE	
SANITARY SEWER CLEANOUT	
SANITARY SEWER DOUBLE CLEANOUT	
SANITARY SEWER SAMPLE PORT	
IRRIGATION METER	
TRANSFORMER	[T]
LIGHT POLE	
POWER POLE	
WATER METER / MECH CLOSET	[W]
PROPOSED RETAINING WALL	

SITE NOTES:

1. THE IMPROVEMENT AND TOPOGRAPHIC SURVEY WAS PERFORMED BY TRUE NORTH COLORADO, LLC.
2. THE EASEMENTS SHOWN HERE ON FOR SITE PLAN REFERENCE. REFER TO THE FINAL PLAT FOR FINAL RIGHT-OF-WAY AND EASEMENT DEDICATIONS.
3. REFER TO THE ARCHITECT'S PLANS FOR BUILDING INFORMATION.
4. REFER TO THE LANDSCAPE ARCHITECT'S PLANS REGARDING THE SITE LANDSCAPE IMPROVEMENTS.
5. ALL GEOTECHNICAL ENGINEERING RECOMMENDATIONS SHALL BE ADHERED TO REPORT DONE BY K+A ASSOCIATES, INC. DATED JUNE 2025.
6. ALL THE CALCULATION AND DESIGN IS DONE BASED ON DRAINAGE REPORT DONE BY " TRIANGLE ENGINEERING" FOR ARCHWOOD TOWNHOMES DATED AUGUST 2025.
7. REFER TO TRAFFIC IMPACT ANALYSIS DONE BY TURNKEY CONSULTING, LLC DATED JULY 2025.
8. ALL PROPOSED UTILITY LINE CAPACITY AND IMPACT RELATED CALCULATION, REFER TO WATER AND WASTEWATER REPORT DONE BY WRIGHT WATER ENGINEERS, INC DATED AUGUST 2025.

SEE SHEET C-1.1 FOR TOWN OF NEW CASTLE GENERAL NOTES.

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STATE OF COLORADO
KARTAVYA S. PATEL
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06/19/26

SITE PLAN

ARCHWOOD TOWNHOMES

CASTLE VALLEY BLVD

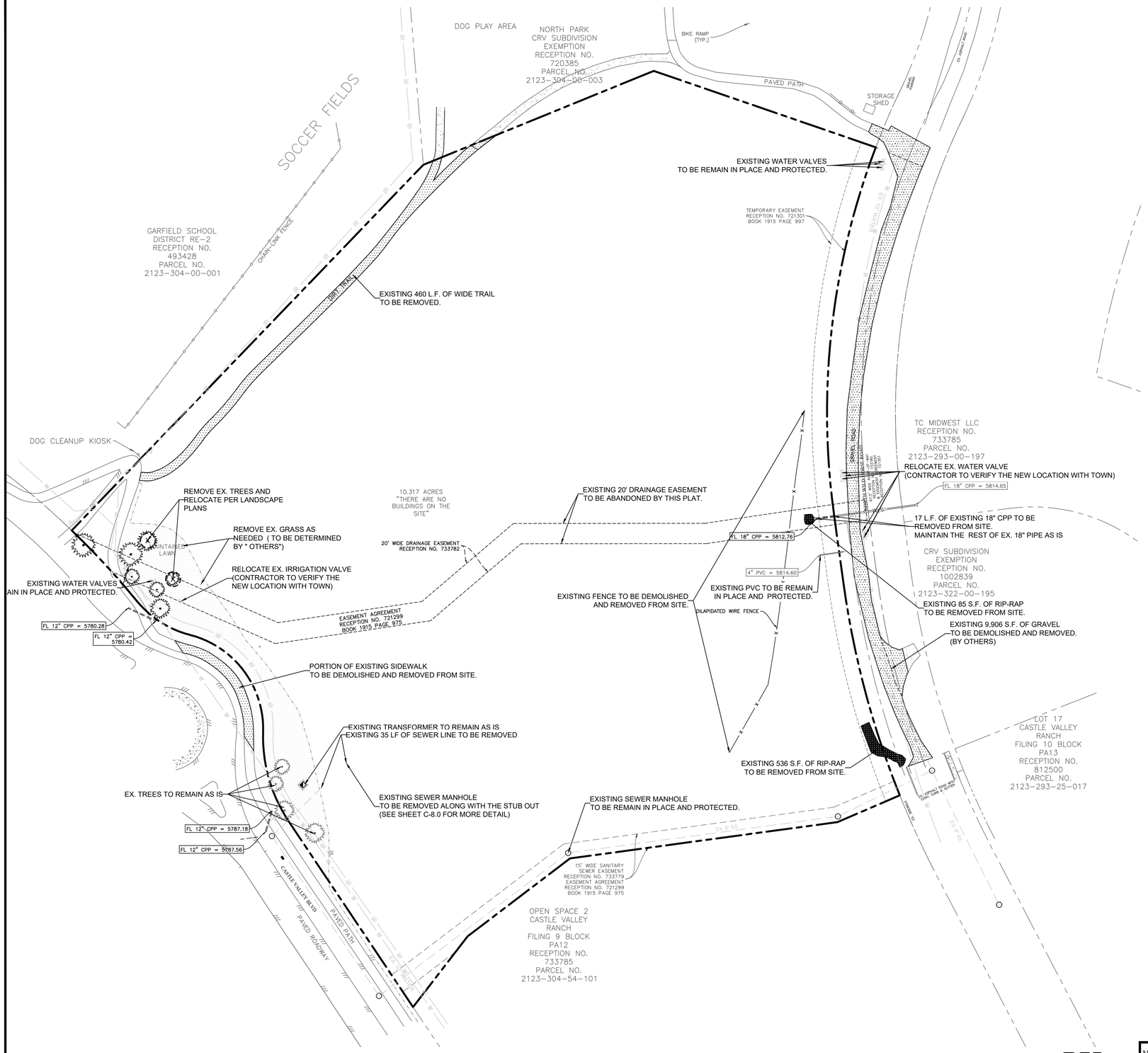
67 RESIDENTIAL LOTS & 7 OPEN AREAS

TOWN OF NEW CASTLE

GARFIELD COUNTY, COLORADO 81647

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KP	SS	08/25/25	SEE SCALE BAR	38-25	SP



0 50 100

Scale: 1" = 50' Feet

DEMOLITION LEGEND

PAVEMENT TO BE REMOVED

TREES TO BE REMOVED

DEMOLITION GENERAL NOTES

1. ANY DEMOLITION IS TO BE PERFORMED IN STRICT CONFORMANCE WITH ALL APPLICABLE CITY, COUNTY AND STATE, AND/OR GOVERNING BODY'S STANDARDS.
2. EROSION AND SEDIMENT CONTROL MEASUREMENTS SHALL BE MAINTAINED AT ALL TIMES DURING DEMOLITION.
3. THE PURPOSE OF THIS DRAWING IS TO CONVEY THE OVERALL SCOPE OF WORK AND IT IS NOT INTENDED TO COVER ALL DETAILS OR SPECIFICATIONS REQUIRED TO COMPLY WITH GENERALLY ACCEPTED DEMOLITION PRACTICES. CONTRACTOR SHALL THOROUGHLY GET FAMILIARIZED WITH THE SITE, SCOPE OF WORK, AND ALL EXISTING CONDITIONS AT THE JOB SITE PRIOR TO BIDDING AND COMMENCING THE WORK. THE DEMOLITION CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS, METHODS, TECHNIQUES, OR PROCEDURES USED TO COMPLETE THE WORK IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND IS LIABLE FOR THE SAFETY OF THE PUBLIC OR CONTRACTOR'S EMPLOYEES DURING THE COURSE OF THE PROJECT.
4. THE DEMOLITION PLAN IS INTENDED TO SHOW REMOVAL OF KNOWN SITE FEATURES AND UTILITIES AS SHOWN ON THE SURVEY. THERE MAY BE OTHER SITE FEATURES, UTILITIES, STRUCTURES, AND MISCELLANEOUS ITEMS BOTH BURIED AND ABOVE GROUND THAT ARE WITHIN THE LIMITS OF WORK THAT MAY NEED TO BE REMOVED FOR THE PROPOSED PROJECT THAT ARE NOT SHOWN HEREON. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE CITY, ENGINEER AND/OR OWNER PRIOR TO REMOVING ITEMS NOT SHOWN ON THE PLANS.
5. THE CONTRACTOR SHALL CONTACT RESPECTIVE UTILITY COMPANIES PRIOR TO DEMOLITION TO COORDINATE DISCONNECTION AND REMOVAL OF EXISTING UTILITIES WITHIN THE AREA OF WORK.
6. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES THAT ARE INTENDED TO CONTINUE TO PROVIDE SERVICE WHETHER THESE UTILITIES ARE SHOWN ON THE PLAN OR NOT.
7. UPON DISCOVERY OF ANY UNDERGROUND TANKS, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE. NO REMOVAL OF TANKS SHALL OCCUR UNTIL AUTHORIZED BY OWNER.
8. BUILDING AND APPURTENANCES DESIGNATED FOR DEMOLITION SHALL NOT BE DISTURBED BY THE CONTRACTOR UNTIL HE HAS BEEN FURNISHED WITH NOTICE TO PROCEED BY THE OWNER. AS SOON AS SUCH NOTICE HAS BEEN GIVEN, THE CONTRACTOR SHALL PERFORM THE DEMOLITION, UNDER THE DIRECTION OF THE OWNER'S REPRESENTATIVE.
9. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL UNSUITABLE MATERIAL AND DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH ALL CITY, STATE, AND FEDERAL LAWS AND ORDINANCES.
10. AS SOON AS DEMOLITION WORK HAS BEEN COMPLETED, THE FINAL GRADE OF BACKFILL IN DEMOLITION AREAS SHALL BE COMPACTED PER THE GEOTECHNICAL REPORT. CONTRACTOR TO PREVENT WATER FROM DRAINING ONTO ADJACENT PROPERTIES.
11. EXISTING TREES TO REMAIN SHOULD BE PROTECTED FROM DAMAGE DURING DEMOLITION AND CONSTRUCTION.

NOTE TO GENERAL CONTRACTOR:
EXISTING PRIVATE AND PUBLIC STORM SEWER AND UTILITY INFRASTRUCTURE ARE SHOWN PER RECORD DRAWING PLANS. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES (WHETHER SHOWN ON PLANS OR NOT) PRIOR TO COMMENCING CONSTRUCTION. IF FIELD CONDITIONS DIFFER FROM LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

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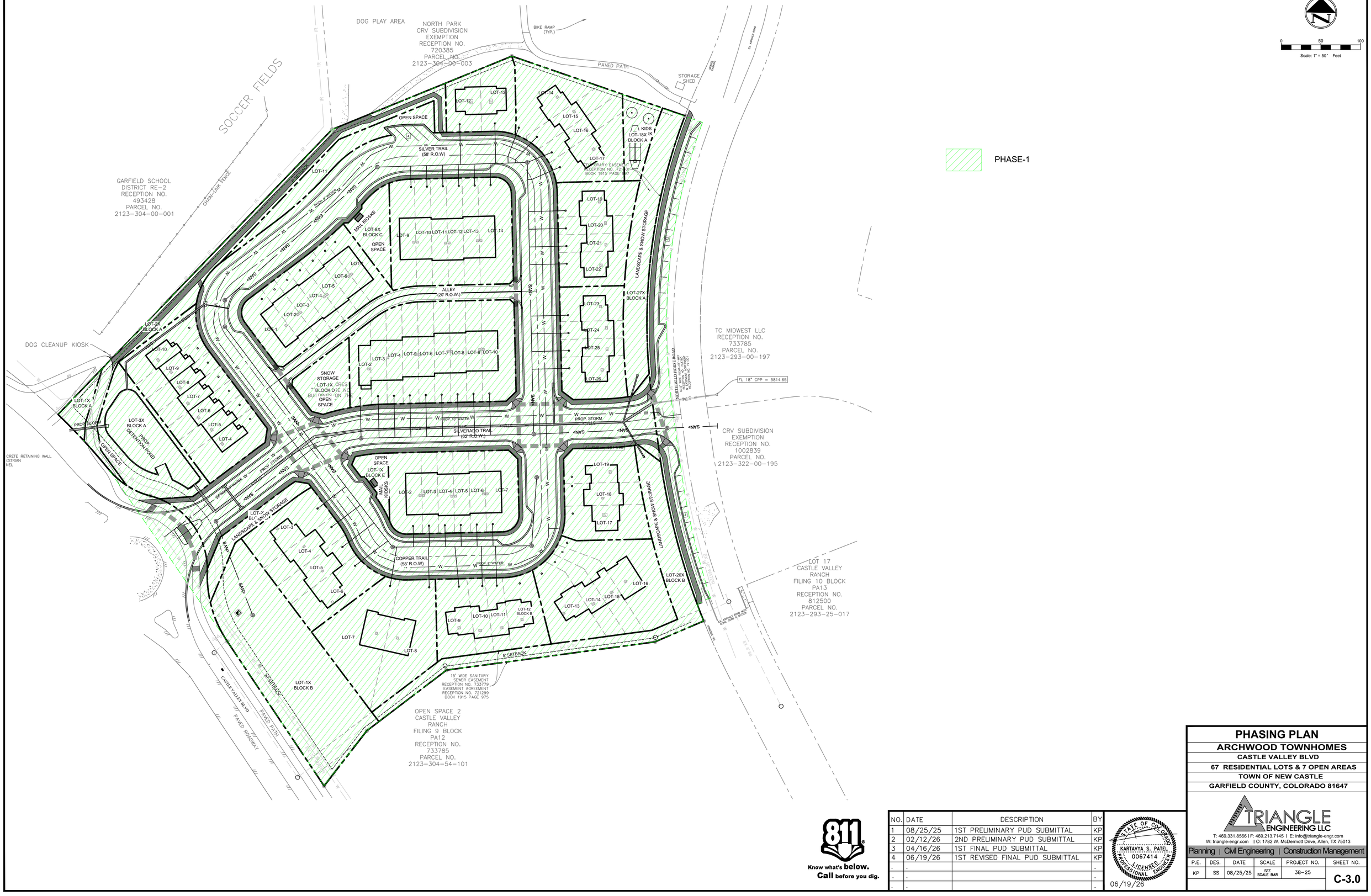
STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED
PROFESSIONAL ENGINEER
06/19/26

DEMOLITION PLAN

ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
TOWN OF NEW CASTLE
GARFIELD COUNTY, COLORADO 81647

TRIANGLE ENGINEERING LLC
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STATE OF COLORADO
KARTAVYA S. PATEL
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06/19/26

PHASING PLAN

ARCHWOOD TOWNHOMES

CASTLE VALLEY BLVD

67 RESIDENTIAL LOTS & 7 OPEN AREAS

TOWN OF NEW CASTLE

GARFIELD COUNTY, COLORADO 81647

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MINIMUM EARTH GRADES= 1%
MAXIMUM EARTH GRADES ON LOT = 25%
MAXIMUM DITCH GRADE = 25%
ALL SITE DISTURBED AREAS SHALL BE STABILIZED PER EROSION CONTROL PLAN, THE TOWN STANDARD.

HOME BUILDER SHALL PROVIDE EXPOSED GRADE BEAM WHERE NEEDED TO ENSURE SIDE SLOPED DO NOT EXCEED 25%.

PROPOSED CONTOURS ARE SHOWN FOR REFERENCE ONLY. THE SITE SHALL BE GRADED PER SPOT SHOTS PROVIDED.

PROVIDE DROP GARAGES WHERE DRIVEWAY SLOPES EXCEEDS 8%.

WALL NOTE:
RETAINING WALLS ≤ 2'-0" IN HEIGHT MAY BE CONSTRUCTED USING BOULDERS OR MODULAR LANDSCAPE WALL SYSTEMS.

REFER TO THE STRUCTURAL DRAWINGS FOR WALL DETAILS AND THE REQUIRED WALL TYPE AT EACH SECTION.

N

0 100
Scale: 1" = 50 ' Feet

GRADING LEGEND

EXISTING MINOR CONTOURS	464
EXISTING MAJOR CONTOURS	465
MINOR CONTOURS	464
MAJOR CONTOURS	465
SWALE	
HIGH POINT	HP HP HP HP
STORM PIPE	STM->
RETAINING WALL	
RIP RAP	
FINISH FLOOR ELEVATION	467.00 FF
TOP OF CURB ELEVATION	466.00 TC
GUTTER ELEVATION	465.50 G
SIDEWALK ELEVATION	465.00 SW
TOP OF PAVEMENT	464.00 TP
GROUND ELEVATION	463.00 GR
DRAINAGE FLOW DIRECTION	
CURB INLET	
STORM MANHOLE	
STORM CLEANOUT	
SANITARY SEWER MANHOLE	
SANITARY SEWER CLEANOUT	
SANITARY SEWER DOUBLE CLEANOUT	
SANITARY SEWER SAMPLE PORT	
GREASE TRAP	G.T.
DOMESTIC WATER METER	
IRRIGATION METER	
GAS METER	
TRANSFORMER	T
LIGHT POLE	
POWER POLE	

GRADING NOTES

1. FINISH FLOOR IS 04" ABOVE THE FINISH PAD.
2. GRADE SLOPES AWAY FROM THE BUILDING PADS WITH A MINIMUM FALL OF 6 INCHES OVER 10 FEET. REFER TO GEOTECHNICAL PLANS AND APPLY THE MORE STRINGENT RECOMMENDATION.
3. RETAINING WALLS/ DROP BRICK LEDGE/ EXPOSED BEAMS ARE REQUIRED WHERE SLOPE EXCEEDS 4:1. BUILDER HAS DISCRETION TO USE ONE, SOME OR ALL TO ACHIEVE GRADES.
4. DRAINAGE ON SIDE LOT LINES GRADE AT MINIMUM 1.00% ADJACENT TO PADS.
5. THE RETAINING WALLS SHOWN ARE FOR HORIZONTAL AND VERTICAL LOCATIONS ONLY. A GEOTECHNICAL OR STRUCTURAL ENGINEER'S DESIGN PLANS ARE NECESSARY FOR PROPER DESIGN OF WALL AND BACK FILL REQUIREMENTS.
6. NO SLOPES TO EXCEED 4H:1V WITHOUT SLOPE STABILIZATION.

ALL GEOTECHNICAL ENGINEERING RECOMMENDATIONS SHALL BE ADHERED TO REPORT DONE BY K+A ASSOCIATES, INC. DATED JUNE 2025.

!! WARNING !!

EXISTING UTILITIES IN THE AREA. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITH THE PROVIDER PRIOR TO START OF CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. CONTRACTOR IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WHERE NECESSARY AND PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN). IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THEM AT THEIR OWN EXPENSE.

811 Know what's **below.** **Call** before you dig.

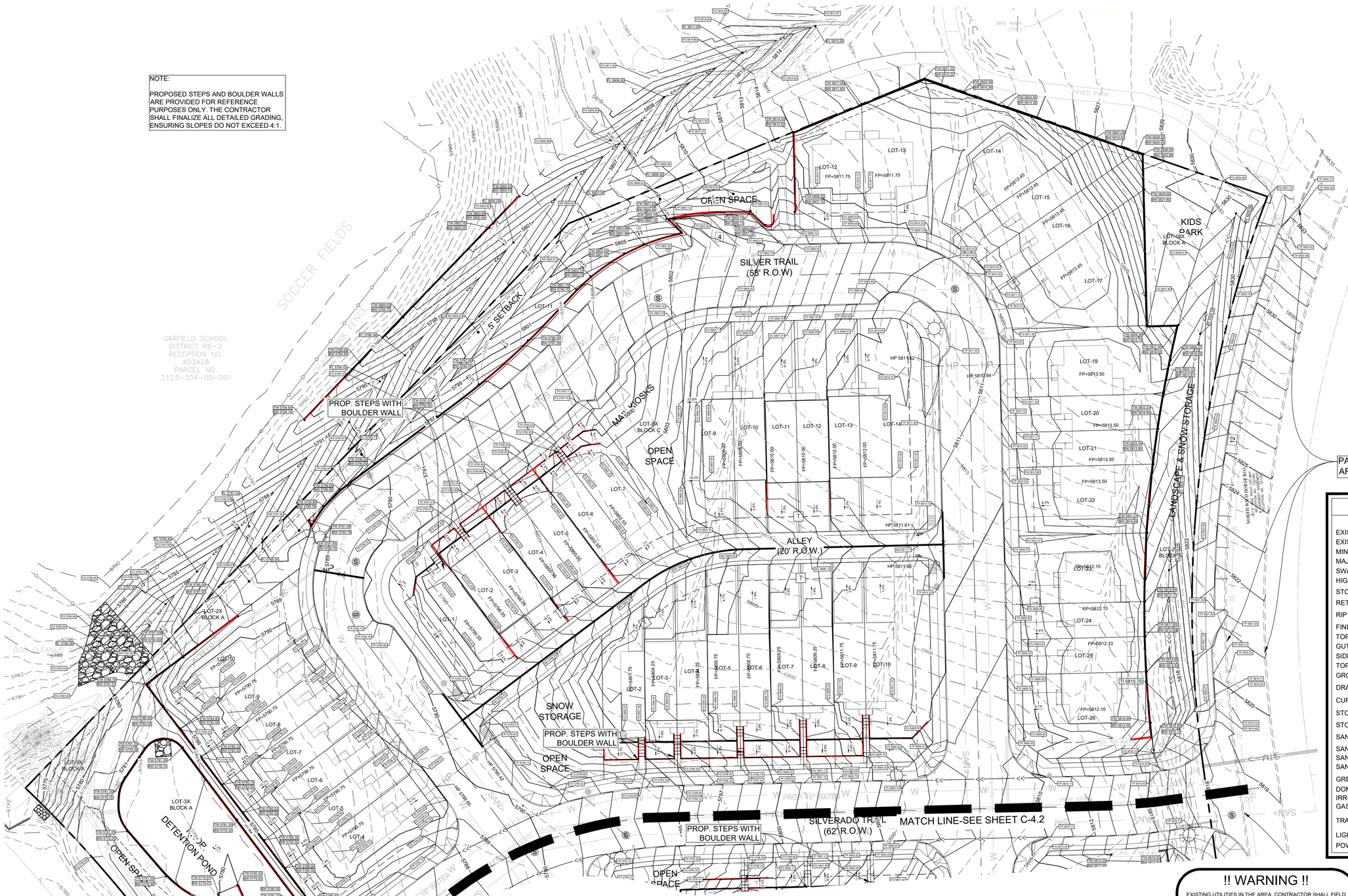
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STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

OVERALL GRADING PLAN
ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
TOWN OF NEW CASTLE
GARFIELD COUNTY, COLORADO 81647

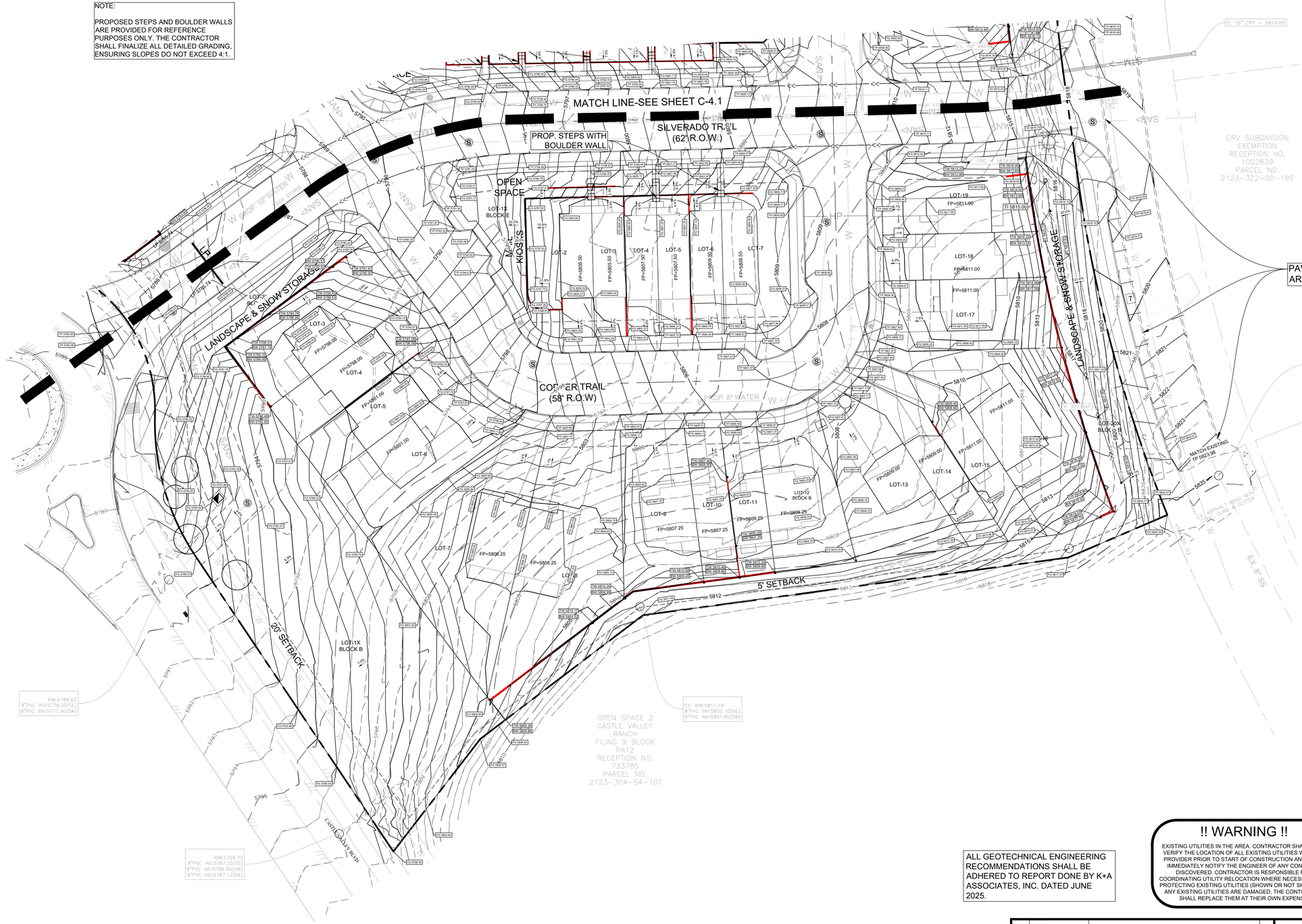
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KP	SS	08/25/25	SEE SCALE BAR	38-25	C-4.0


NOTE:
PROPOSED STEPS AND BOULDER WALLS ARE PROVIDED FOR REFERENCE PURPOSES ONLY. THE CONTRACTOR SHALL FINALIZE ALL DETAILED GRADING, ENSURING SLOPES DO NOT EXCEED 4:1.
GARFIELD SCHOOL DISTRICT RE-2 RECEPTION NO. 493428 PARCEL NO. 2123-304-00-001
SOCCER FIELDS
OPEN SPACE
SILVER TRAIL (58' R.O.W)
5' SETBACK
LOT-11
LOT-12
LOT-13
LOT-14
LOT-15
LOT-16
LOT-17
LOT-19
LOT-20
LOT-21
LOT-22
LOT-23
LOT-24
LOT-25
LOT-26
KIDS PARK
LOT-4X BLOCK A
LANDSCAPE & SNOW STORAGE
PROP. STEPS WITH BOULDER WALL
MAILKIOSKS
LOT-9X BLOCK C
OPEN SPACE
LOT-10
LOT-9
LOT-8
LOT-7
LOT-6
LOT-5
LOT-4
LOT-3
LOT-2
LOT-1
ALLEY (20' R.O.W.)
SNOW STORAGE
PROP. STEPS WITH BOULDER WALL
OPEN SPACE
PROP. STEPS WITH BOULDER WALL
SILVERADO TRL (62' R.O.W.)
MATCH LINE-SEE SHEET C-4.2
LOT-2X BLOCK A
LOT-1X BLOCK A
LOT-3X BLOCK A
DETENTION POND
OPEN SPACE
PAVED PATH
BIKE RAMP (TYP.)
PAVEMENT IN THIS AREA (BY OTHERS)
0
60
Scale: 1" = 30 ' Feet
MINIMUM EARTH GRADES= 1%
MAXIMUM EARTH GRADES ON LOT = 25%
MAXIMUM DITCH GRADE = 25%
ALL SITE DISTURBED AREAS SHALL BE STABILIZED PER EROSION CONTROL PLAN, THE TOWN STANDARD.
HOME BUILDER SHALL PROVIDE EXPOSED GRADE BEAM WHERE NEEDED TO ENSURE SIDE SLOPED DO NOT EXCEED 25%.
PROPOSED CONTOURS ARE SHOWN FOR REFERENCE ONLY. THE SITE SHALL BE GRADED PER SPOT SHOTS PROVIDED.
PROVIDE DROP GARAGES WHERE DRIVEWAY SLOPES EXCEEDS 8%.
WALL NOTE:
RETAINING WALLS ≤ 2'-0" IN HEIGHT MAY BE CONSTRUCTED USING BOULDERS OR MODULAR LANDSCAPE WALL SYSTEMS.
REFER TO THE STRUCTURAL DRAWINGS FOR WALL DETAILS AND THE REQUIRED WALL TYPE AT EACH SECTION.
GRADING LEGEND
EXISTING MINOR CONTOURS
EXISTING MAJOR CONTOURS
MINOR CONTOURS
MAJOR CONTOURS
SWALE
HIGH POINT
STORM PIPE
RETAINING WALL
RIP RAP
FINISH FLOOR ELEVATION 467.00 FF
TOP OF CURB ELEVATION 466.00 TC
GUTTER ELEVATION 465.50 G
SIDEWALK ELEVATION 465.00 SW
TOP OF PAVEMENT 464.00 TP
GROUND ELEVATION 463.00 GR
DRAINAGE FLOW DIRECTION
CURB INLET
STORM MANHOLE
STORM CLEANOUT
SANITARY SEWER MANHOLE
SANITARY SEWER CLEANOUT
SANITARY SEWER DOUBLE CLEANOUT
SANITARY SEWER SAMPLE PORT
GREASE TRAP
DOMESTIC WATER METER
IRRIGATION METER
GAS METER
TRANSFORMER
LIGHT POLE
POWER POLE
ALL GEOTECHNICAL ENGINEERING RECOMMENDATIONS SHALL BE ADHERED TO REPORT DONE BY K+A ASSOCIATES, INC. DATED JUNE 2025.
!! WARNING !!
EXISTING UTILITIES IN THE AREA. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITH THE PROVIDER PRIOR TO START OF CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. CONTRACTOR IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WHERE NECESSARY AND PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN). IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THEM AT THEIR OWN EXPENSE.
811 Know what's below. Call before you dig.
NO. DATE DESCRIPTION BY
1 08/25/25 1ST PRELIMINARY PUD SUBMITTAL KP
2 02/12/26 2ND PRELIMINARY PUD SUBMITTAL KP
3 04/16/26 1ST FINAL PUD SUBMITTAL KP
4 06/19/26 1ST REVISED FINAL PUD SUBMITTAL KP
STATE OF COLORADO KARTAVYA S. PATEL 0067414 LICENSED PROFESSIONAL ENGINEER
06/19/26
GRADING PLAN
ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
TOWN OF NEW CASTLE
GARFIELD COUNTY, COLORADO 81647
TRIANGLE ENGINEERING LLC
T: 469.331.8566 I F: 469.213.7145 I E: info@triangle-engr.com
W: triangle-engr.com I O: 1782 W. McDermott Drive, Allen, TX 75013
Planning | Civil Engineering | Construction Management
P.E. DES. DATE SCALE PROJECT NO. SHEET NO.
KP SS 08/25/25 SEE SCALE BAR 38-25 C-4.1

NOTE:

PROPOSED STEPS AND BOULDER WALLS ARE PROVIDED FOR REFERENCE PURPOSES ONLY. THE CONTRACTOR SHALL FINALIZE ALL DETAILED GRADING, ENSURING SLOPES DO NOT EXCEED 4:1.



0 60

Scale: 1" = 30' Feet

MINIMUM EARTH GRADES= 1%
MAXIMUM EARTH GRADES ON LOT = 25%
MAXIMUM DITCH GRADE = 25%
ALL SITE DISTURBED AREAS SHALL BE STABILIZED PER EROSION CONTROL PLAN, THE TOWN STANDARD.

HOME BUILDER SHALL PROVIDE EXPOSED GRADE BEAM WHERE NEEDED TO ENSURE SIDE SLOPED DO NOT EXCEED 25%.

PROPOSED CONTOURS ARE SHOWN FOR REFERENCE ONLY. THE SITE SHALL BE GRADED PER SPOT SHOTS PROVIDED.

PROVIDE DROP GARAGES WHERE DRIVEWAY SLOPES EXCEEDS 8%.

WALL NOTE:
RETAINING WALLS ≤ 2'-0" IN HEIGHT MAY BE CONSTRUCTED USING BOULDERS OR MODULAR LANDSCAPE WALL SYSTEMS.

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GRADING LEGEND

EXISTING MINOR CONTOURS	464
EXISTING MAJOR CONTOURS	465
MINOR CONTOURS	464
MAJOR CONTOURS	465
SWALE	
HIGH POINT	HP HP HP HP
STORM PIPE	STM->
RETAINING WALL	
RIP RAP	
FINISH FLOOR ELEVATION	467.00 FF
TOP OF CURB ELEVATION	466.00 TC
GUTTER ELEVATION	465.50 G
SIDEWALK ELEVATION	465.00 SW
TOP OF PAVEMENT	464.00 TP
GROUND ELEVATION	463.00 GR
DRAINAGE FLOW DIRECTION	
CURB INLET	
STORM MANHOLE	
STORM CLEANOUT	
SANITARY SEWER MANHOLE	
SANITARY SEWER CLEANOUT	
SANITARY SEWER DOUBLE CLEANOUT	
SANITARY SEWER SAMPLE PORT	
GREASE TRAP	
DOMESTIC WATER METER	
IRRIGATION METER	
GAS METER	
TRANSFORMER	
LIGHT POLE	
POWER POLE	

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!! WARNING !!

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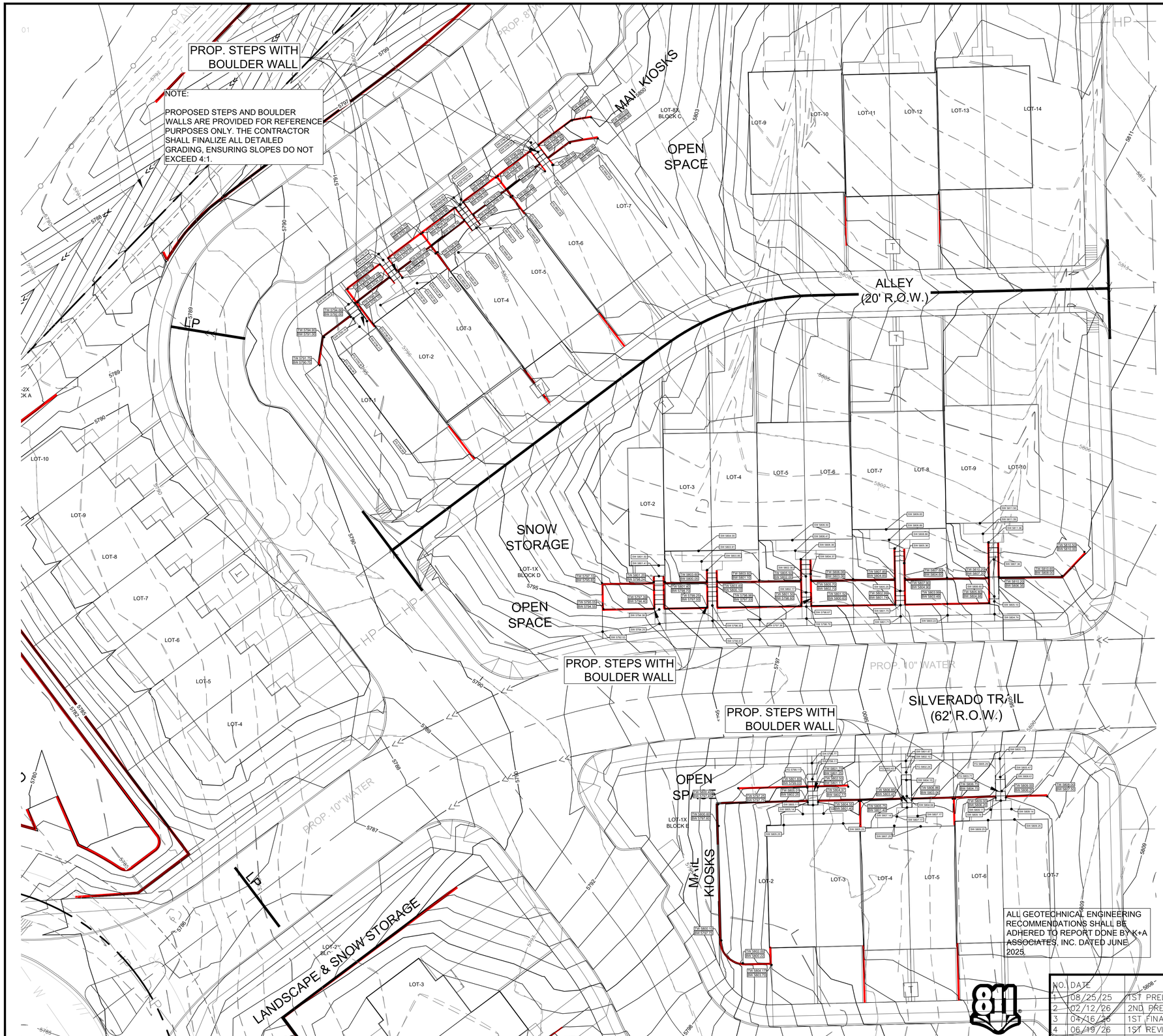
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3	04/16/26	1ST FINAL PUD SUBMITTAL	KP
4	06/19/26	1ST REVISED FINAL PUD SUBMITTAL	KP
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STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

GRADING PLAN
ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
TOWN OF NEW CASTLE
GARFIELD COUNTY, COLORADO 81647

TRIANGLE ENGINEERING LLC
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Planning | Civil Engineering | Construction Management

P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38-25	C-4.2





MINIMUM EARTH GRADES= 1%
MAXIMUM EARTH GRADES ON LOT = 25%
MAXIMUM DITCH GRADE = 25%
ALL SITE DISTURBED AREAS SHALL BE STABILIZED PER EROSION CONTROL PLAN, THE TOWN STANDARD.

HOME BUILDER SHALL PROVIDE EXPOSED GRADE BEAM WHERE NEEDED TO ENSURE SIDE SLOPED DO NOT EXCEED 25%.

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GRADING LEGEND

EXISTING MINOR CONTOURS	464
EXISTING MAJOR CONTOURS	465
MINOR CONTOURS	464
MAJOR CONTOURS	465
SWALE	
HIGH POINT	HP
STORM PIPE	
RETAINING WALL	
RIP RAP	
FINISH FLOOR ELEVATION	467.00 FF
TOP OF CURB ELEVATION	466.00 TC
GUTTER ELEVATION	465.50 G
SIDEWALK ELEVATION	465.00 SW
TOP OF PAVEMENT	464.00 TP
GROUND ELEVATION	463.00 GR
DRAINAGE FLOW DIRECTION	
CURB INLET	
STORM MANHOLE	
STORM CLEANOUT	
SANITARY SEWER MANHOLE	
SANITARY SEWER CLEANOUT	
SANITARY SEWER DOUBLE CLEANOUT	
SANITARY SEWER SAMPLE PORT	
GREASE TRAP	
DOMESTIC WATER METER	
IRRIGATION METER	
GAS METER	
TRANSFORMER	
LIGHT POLE	
POWER POLE	

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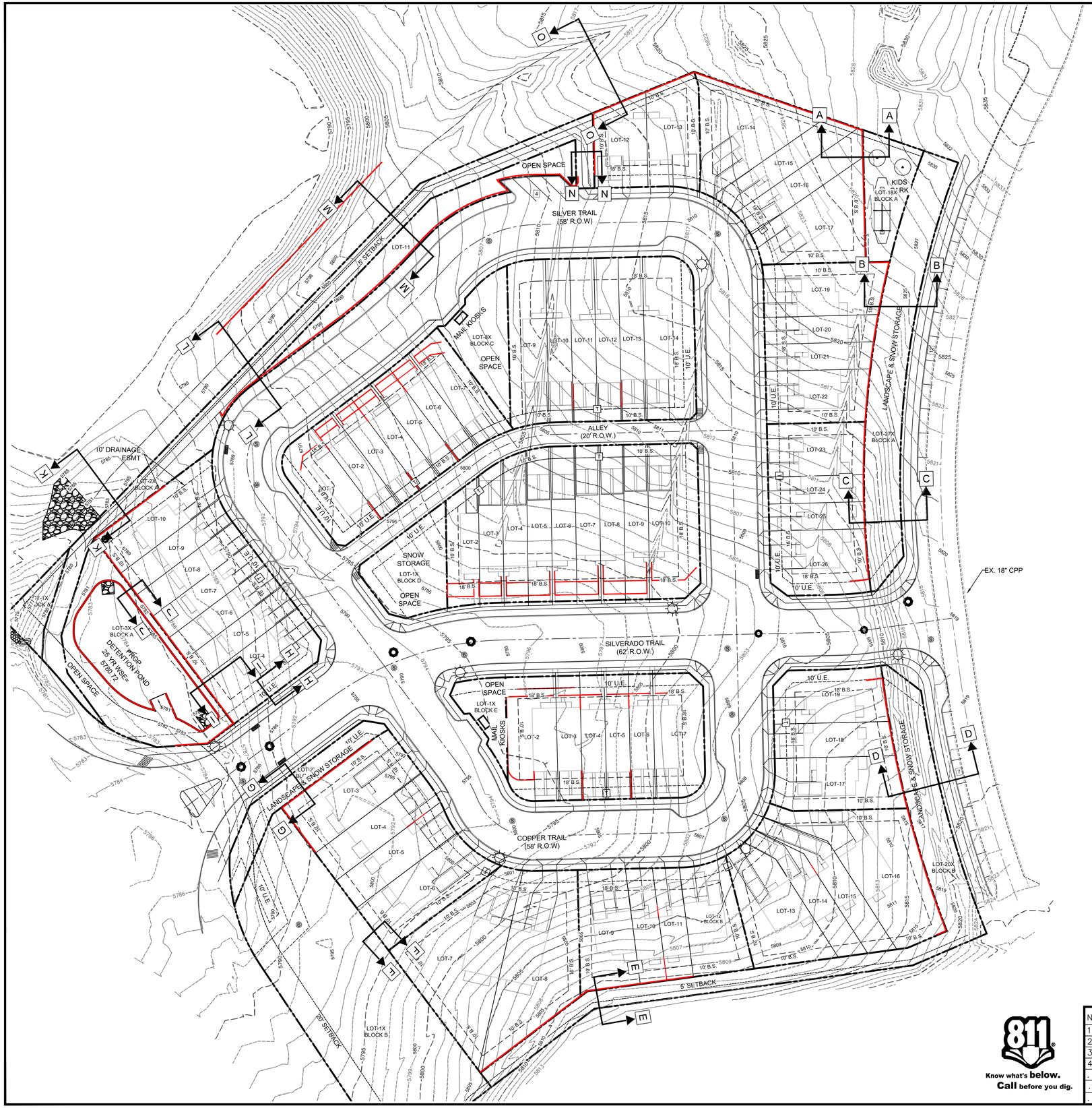
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STATE OF COLORADO
KARTAVYA S. PATEL
NO. 0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

GRADING PLAN -WALL & STAIRS
ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
TOWN OF NEW CASTLE
GARFIELD COUNTY, COLORADO 81647

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P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38–25	C-4.3



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ALL GEOTECHNICAL ENGINEERING RECOMMENDATIONS SHALL BE ADHERED TO REPORT DONE BY K+A ASSOCIATES, INC. DATED JUNE 2025.

0 80
Scale: 1" = 40 ' Feet

GRADING LEGEND

EXISTING MINOR CONTOURS	464
EXISTING MAJOR CONTOURS	465
MINOR CONTOURS	464
MAJOR CONTOURS	465
SWALE	
HIGH POINT	HP
STORM PIPE	STM
RETAINING WALL	
RIP RAP	
FINISH FLOOR ELEVATION	467.00 FF
TOP OF CURB ELEVATION	466.00 TC
GUTTER ELEVATION	465.50 G
SIDEWALK ELEVATION	465.00 SW
TOP OF PAVEMENT	464.00 TP
GROUND ELEVATION	463.00 GR
DRAINAGE FLOW DIRECTION	1%
CURB INLET	
STORM MANHOLE	
STORM CLEANOUT	
SANITARY SEWER MANHOLE	
SANITARY SEWER CLEANOUT	
SANITARY SEWER DOUBLE CLEANOUT	
SANITARY SEWER SAMPLE PORT	
GREASE TRAP	G.T.
DOMESTIC WATER METER	
IRRIGATION METER	
GAS METER	
TRANSFORMER	T
LIGHT POLE	
POWER POLE	

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STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED
PROFESSIONAL ENGINEER
06/19/26

GRADING SECTIONS PLAN

ARCHWOOD TOWNHOMES

CASTLE VALLEY BLVD

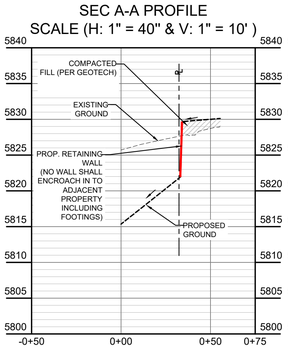
67 RESIDENTIAL LOTS & 7 OPEN AREAS

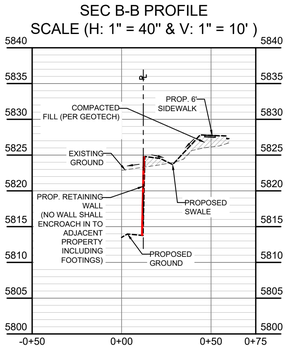
TOWN OF NEW CASTLE

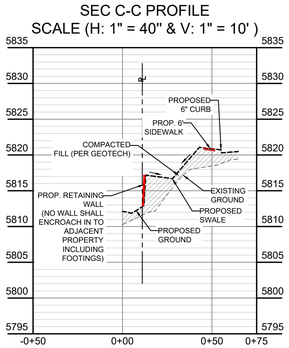
GARFIELD COUNTY, COLORADO 81647

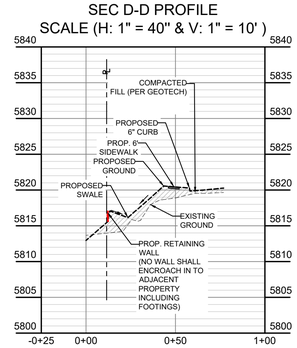
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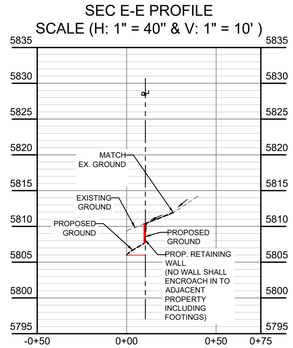
P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38-25	C-4.4

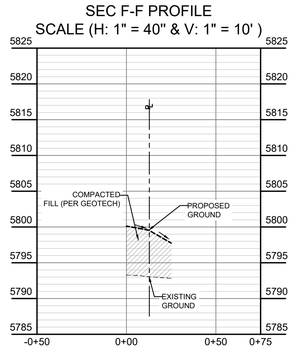


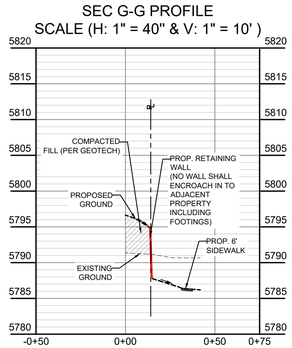


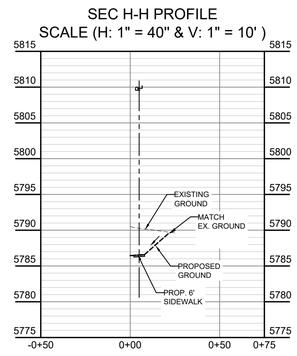


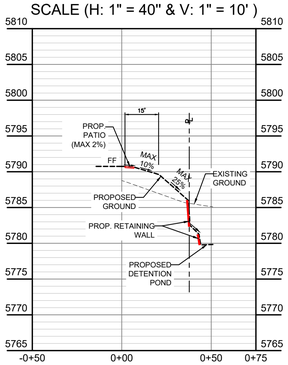


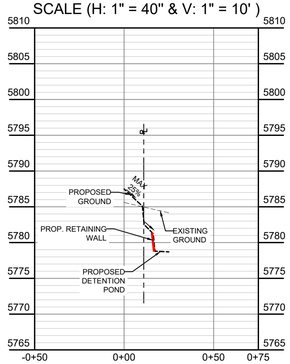


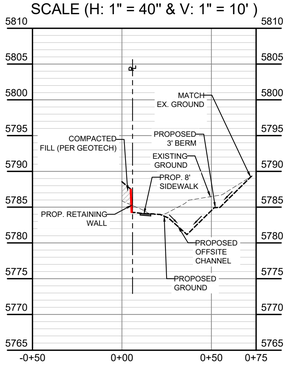


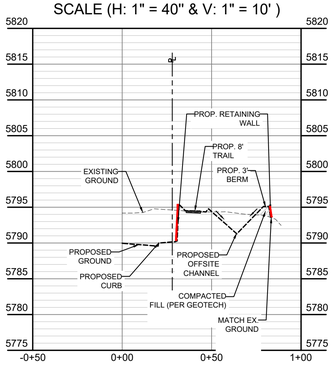


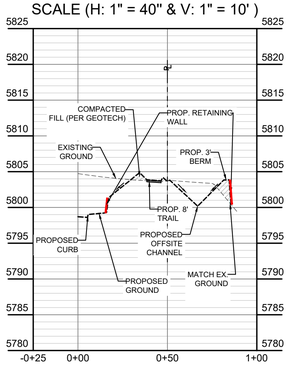


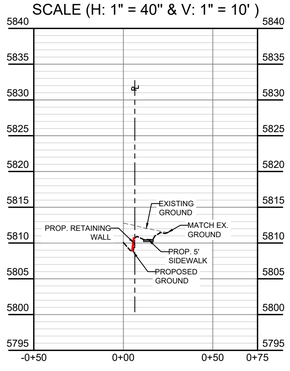


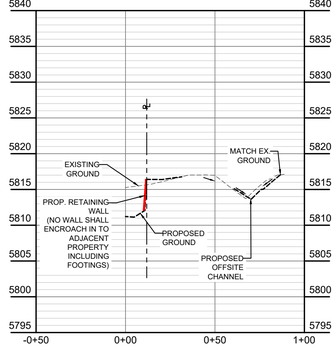














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4	06/19/26	1ST REVISED FINAL PUD SUBMITTAL	KP
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STATE OF COLORADO
KARTAVYA S. PATEL
NO. 0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

GRADING SECTIONS

ARCHWOOD TOWNHOMES

CASTLE VALLEY BLVD

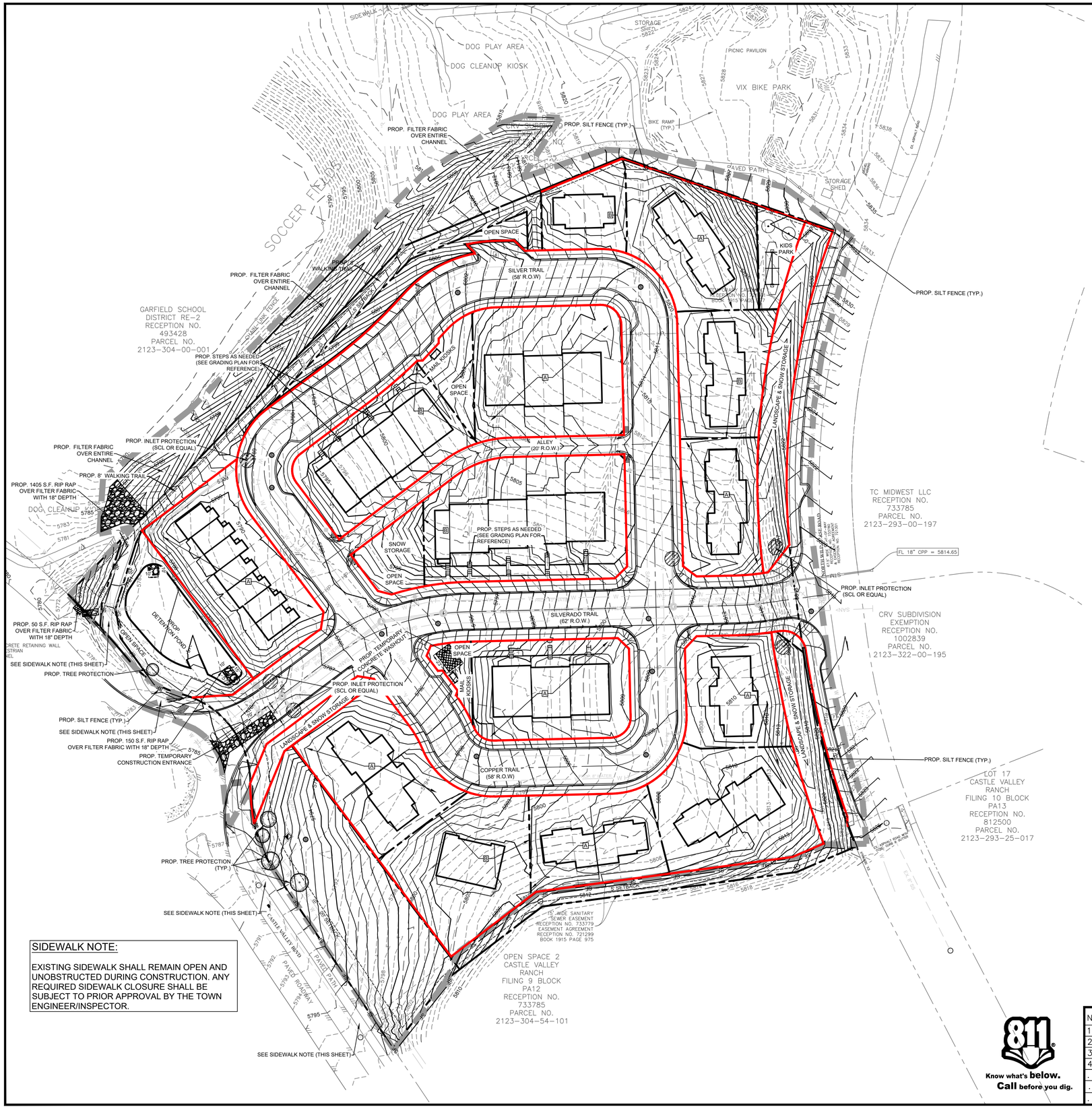
67 RESIDENTIAL LOTS & 7 OPEN AREAS

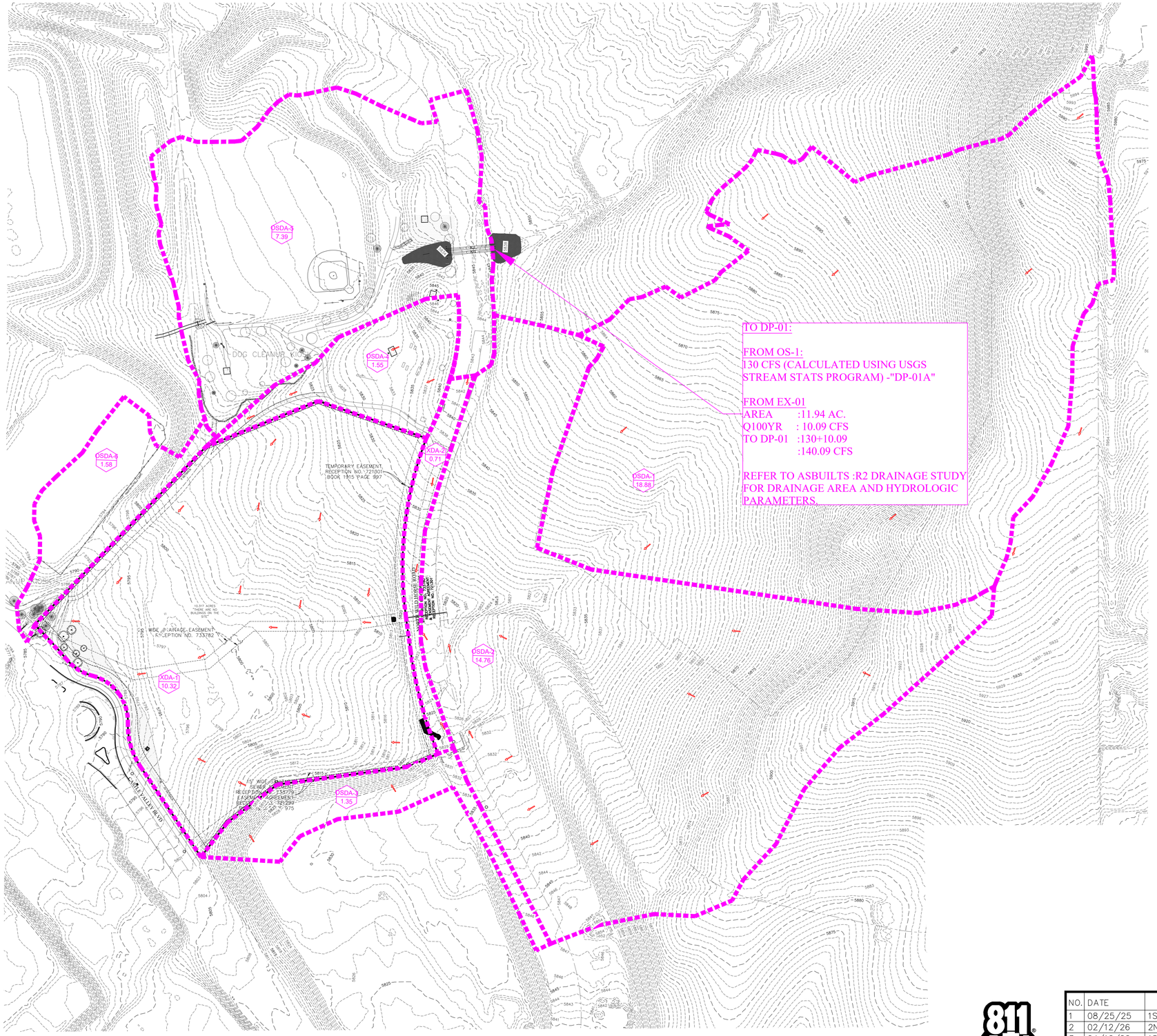
TOWN OF NEW CASTLE

GARFIELD COUNTY, COLORADO 81647

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P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38-25	C-4.5


SOCCER FIELDS
DOG PLAY AREA
DOG CLEANUP KIOSK
PICNIC PAVILION
VIX BIKE PARK
BIKE RAMP (TYP.)
PAVED PATH
STORAGE SHED
KIDS PARK
OPEN SPACE
SILVER TRAIL (58' R.O.W)
ALLEY (20' R.O.W.)
SILVERADO TRAIL (62' R.O.W.)
COPPER TRAIL (58' R.O.W)
PROP. 8' WALKING TRAIL
PROP. FILTER FABRIC OVER ENTIRE CHANNEL
PROP. SILT FENCE (TYP.)
PROP. STEPS AS NEEDED (SEE GRADING PLAN FOR REFERENCE)
MAIL KIOSKS
SNOW STORAGE
LANDSCAPE & SNOW STORAGE
PROP. INLET PROTECTION (SCL OR EQUAL)
PROP. 1405 S.F. RIP RAP OVER FILTER FABRIC WITH 18" DEPTH
PROP. 50 S.F. RIP RAP OVER FILTER FABRIC WITH 18" DEPTH
PROP. 150 S.F. RIP RAP OVER FILTER FABRIC WITH 18" DEPTH
PROP. DETENTION POND
PROP. TEMPORARY CONCRETE WASHOUT
PROP. TEMPORARY CONSTRUCTION ENTRANCE
PROP. TREE PROTECTION
PROP. TREE PROTECTION (TYP.)
SEE SIDEWALK NOTE (THIS SHEET)
GARFIELD SCHOOL DISTRICT RE-2 RECEPTION NO. 493428 PARCEL NO. 2123-304-00-001
TC MIDWEST LLC RECEPTION NO. 733785 PARCEL NO. 2123-293-00-197
CRV SUBDIVISION EXEMPTION RECEPTION NO. 1002839 PARCEL NO. 2123-322-00-195
LOT 17 CASTLE VALLEY RANCH FILING 10 BLOCK PA13 RECEPTION NO. 812500 PARCEL NO. 2123-293-25-017
OPEN SPACE 2 CASTLE VALLEY RANCH FILING 9 BLOCK PA12 RECEPTION NO. 733785 PARCEL NO. 2123-304-54-101
15' WIDE SANITARY SEWER EASEMENT RECEPTION NO. 733779 EASEMENT AGREEMENT RECEPTION NO. 721299 BOOK 1915 PAGE 975
CASTLE VALLEY BLVD
PAVED ROADWAY
DETACHED SIDEWALK
FL 18" CPP = 5814.65
FL 18" RCP = 5815.70
FL 18" RCP = 5815.90
FL 18" RCP = 5816.10
FL 18" RCP = 5816.30
FL 18" RCP = 5816.50
FL 18" RCP = 5816.70
FL 18" RCP = 5816.90
FL 18" RCP = 5817.10
FL 18" RCP =



N

0 200

Scale: 1" = 100' Feet

PRE-DRAINAGE LEGEND

- EXISTING MINOR CONTOURS
- EXISTING MAJOR CONTOURS
- DRAINAGE DIVIDE
- DRAINAGE AREA NO. / DRAINAGE AREA ACREAGE (OSA-2 / 14.76)
- DRAINAGE FLOW DIRECTION

Pre-Development Drainage Area Calculation Table (25-Year Storm)

Area ID	Areas Drained: Total Drainage Area (s.f.)	Areas Drained: Total Drainage Area (acres)	Runoff Coeffecient C	Time of Concentration Tc (min)	25-YR STORM I-25 (in/hr)	25-YR STORM Q-25 (cfs)	Drains To/Remarks
XDA-1	449,498	10.32	0.33	22.27	2.02	6.88	Drains to Ex. Underpass
XDA-2	31,047	0.71	0.88	5.00	4.38	2.75	Drains to project site
OSDA-1	822,480	18.88	*	*	*	9.83	Drains to ex. 18"CPP
OSDA-2	643,026	14.76	0.37	26.52	1.81	9.89	Drains to ex. 18"CPP
OSDA-3	58,975	1.35	0.68	12.30	2.83	2.61	Drains to Castle Valley Blvd through porject site
OSDA-4	67,407	1.55	0.33	12.57	2.79	1.42	Drains to Ex. Underpass
OSDA-5	322,043	7.39	0.33	19.53	2.97	7.25	Drains to Ex. Underpass
OSDA-6	69,022	1.58	0.40	17.55	3.19	2.02	Drains to Ex. Underpass

NOTE:
- *** TAKEN FROM R2 DRAINAGE STUDY DONE BY SOPRIS ENGINEERING LLC.
- FOR TIME OF CONCENTRATION, RUNOFF COEFFICIENT AND INTENSITY REFER TO DRAINAGE REPORT DONE BY * TRIANGLE ENGINEERING" FOR ARCHWOOD TOWNHOMES DATED JUNE 2026.

811 Know what's **below.** **Call** before you dig.

NO.	DATE	DESCRIPTION	BY
1	08/25/25	1ST PRELIMINARY PUD SUBMITTAL	KP
2	02/12/26	2ND PRELIMINARY PUD SUBMITTAL	KP
3	04/16/26	1ST FINAL PUD SUBMITTAL	KP
4	06/19/26	1ST REVISED FINAL PUD SUBMITTAL	KP
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STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

PRE-DRAINAGE AREA MAP

ARCHWOOD TOWNHOMES

CASTLE VALLEY BLVD

67 RESIDENTIAL LOTS & 7 OPEN AREAS

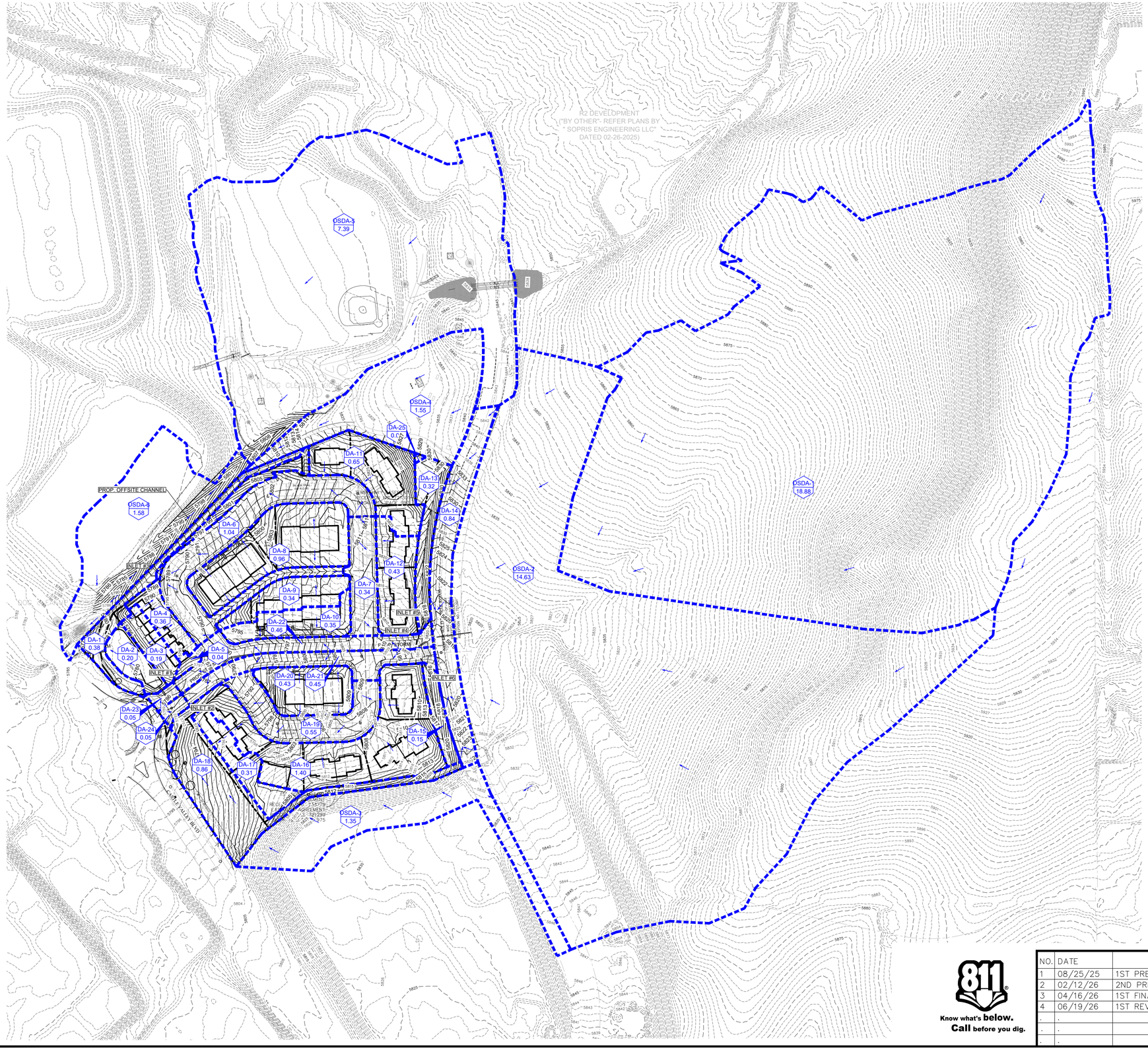
TOWN OF NEW CASTLE

GARFIELD COUNTY, COLORADO 81647

TRIANGLE ENGINEERING LLC
T: 469.331.8566 | F: 469.213.7145 | E: info@triangle-engr.com
W: triangle-engr.com | O: 1782 W. McDermott Drive, Allen, TX 75013

Planning | Civil Engineering | Construction Management

P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38-25	C-6.0



0 100

Scale: 1" = 50 ' Feet

POST-DRAINAGE LEGEND

- EXISTING MINOR CONTOURS
- EXISTING MAJOR CONTOURS
- MINOR CONTOURS
- MAJOR CONTOURS
- DRAINAGE DIVIDE
- HIGH POINT (HP)
- DRAINAGE AREA NO. / DRAINAGE AREA ACREAGE (DA-X / X.XX)
- DRAINAGE FLOW DIRECTION

Post-Development Drainage Area Calculation Table (25-Year Storm)

Area ID	Areas Drained: Total Drainage Area (s.f.)	Areas Drained: Total Drainage Area (acres)	Runoff Coeffecient C	Time of Concentration Tc (min)	25-YR STORM I-25 (in/hr)	25-YR STORM Q-25 (cfs)	Drains To/Remarks
DA-1	16,448	0.38	0.40	10	3.26	0.49	Drains to Ex. Underpass
DA-2	8,720	0.20	0.33	10	3.26	0.22	Detention Pond Area
DA-3	8,293	0.19	0.52	10	3.26	0.32	Drains to Detention Pond Via Surface Flow
DA-4	15,553	0.36	0.54	10	3.26	0.63	Drains to Detention Pond Via Inlet
DA-5	1,800	0.04	0.40	5	4.80	0.08	Drains to Detention Pond Via Inlet
DA-6	45,108	1.04	0.71	10	3.26	2.40	Drains to Detention Pond Via Inlet
DA-7	14,994	0.34	0.77	10	3.26	0.86	Drains to Detention Pond Via Inlet
DA-8	41,623	0.96	0.60	10	3.26	1.87	Drains to Detention Pond Via Inlet
DA-9	14,681	0.34	0.71	10	3.26	0.78	Drains to Detention Pond Via Inlet
DA-10	15,317	0.35	0.52	10	3.26	0.60	Drains to Detention Pond Via Inlet
DA-11	28,205	0.65	0.55	10	3.26	1.16	Drains to Detention Pond Via Inlet
DA-12	18,786	0.43	0.60	10	3.26	0.84	Drains to Detention Pond Via Inlet
DA-13	13,870	0.32	0.40	10	3.26	0.42	Drains to Detention Pond Via Drop Inlet
DA-14	36,590	0.84	0.68	10	3.26	1.86	Drains to Detention Pond Via Inlet
DA-15	6,404	0.15	0.33	10	3.26	0.16	Drains to Detention Pond Via Drop Inlet
DA-16	60,859	1.40	0.57	10	3.26	2.60	Drains to Detention Pond Via Inlet
DA-17	13,608	0.31	0.46	10	3.26	0.47	Drains to Castle Valley Blvd
DA-18	37,492	0.86	0.33	10	3.25	0.92	Drains to Castle Valley Blvd
DA-19	23,948	0.55	0.88	10	3.26	1.58	Drains to Detention Pond Via Inlet
DA-20	18,694	0.43	0.60	10	3.26	0.84	Drains to Detention Pond Via Inlet
DA-21	19,497	0.45	0.88	10	3.26	1.28	Drains to Detention Pond Via Inlet
DA-22	20,171	0.46	0.88	10	3.26	1.33	Drains to Detention Pond Via Inlet
DA-23	2,106	0.05	0.88	5	4.80	0.20	Drains to Detention Pond Via Inlet
DA-24	2,106	0.05	0.88	5	4.80	0.20	Drains to Detention Pond Via Inlet
DA-25	273	0.01	0.66	5	4.80	0.02	Drains to Detention Pond Via Inlet
OSDA-1	822,480	18.88	*	*	*	9.83	Drains to ex. 18"CPP
OSDA-2	637,307	14.63	0.37	26.52	1.81	9.80	Drains to ex. 18"CPP
OSDA-3	58,975	1.35	0.68	12.30	2.88	2.65	Drains to Castle Valley Blvd through porject site
OSDA-4	67,407	1.55	0.33	12.57	2.82	1.44	Drains to Ex. Underpass
OSDA-5	322,043	7.39	0.33	19.53	2.97	7.25	Drains to Prop. Offsite Channel
OSDA-6	69,022	1.58	0.40	17.55	3.19	2.02	Drains to Prop. Offsite Channel

NOTE:
- *** TAKEN FROM R2 DRAINAGE STUDY DONE BY SOPRIS ENGINEERING LLC.
- FOR TIME OF CONCENTRATION, RUNOFF COEFFICIENT AND INTENSITY REFER TO DRAINAGE REPORT DONE BY " TRIANGLE ENGINEERING" FOR ARCHWOOD TOWNHOMES DATED AUGUST 2025.

Know what's below. Call before you dig.

NO.	DATE	DESCRIPTION	BY
1	08/25/25	1ST PRELIMINARY PUD SUBMITTAL	KP
2	02/12/26	2ND PRELIMINARY PUD SUBMITTAL	KP
3	04/16/26	1ST FINAL PUD SUBMITTAL	KP
4	06/19/26	1ST REVISED FINAL PUD SUBMITTAL	KP
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STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

POST-DRAINAGE AREA MAP
ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
TOWN OF NEW CASTLE
GARFIELD COUNTY, COLORADO 81647

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P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38-25	C-6.1

Proposed Grate Inlet Capacity Calulation Table															
Inlet	Type	Drainage Area	Tc (min)	C	I-25 (in/hr)	A (sf)	A (Acres)	25 Year flow (Q-25) (cfs)	Location of Inlet	Coeffecient of Discharge (C_d)	Headwater Depth (H_d ft)	Inlet Area Opening (sf)	Effective Area with 50 % Clogging (sf)	Inlet Capacity with 50 % Clogging (cfs)	Remarks
INLET #1	SAG	DA-5,DA-10,DA-22,DA-23, DA-14	10.00	0.65	3.26	57688	1.32	3.14	Sag	0.60	0.33	2.8	1.40	3.87	Neenah R-3504-F Double Grate
INLET #2	SAG	DA-16,DA-19,DA-20,DA-21,DA-24, DA-14	10.00	0.65	3.26	145171	3.33	7.43	Sag	0.60	0.33	5.6	2.80	7.74	Neenah R-3504-F Double Grate
INLET #3	SAG	DA-4, DA-6,DA-8,DA-9,DA-11	10.00	0.65	3.26	160165	3.68	6.84	Sag	0.60	0.33	5.6	2.80	7.74	Neenah R-3504-F Double Grate
INLET #4	SAG	DA-7, DA-12	10.00	0.33	3.26	33780	0.78	1.71	Sag	0.60	0.33	2.8	1.40	3.87	Neenah R-3504-F Double Grate
INLET #5	SAG	DA-13	10.00	0.40	3.26	13870	0.32	0.42	Sag	0.6	0.5	1.50	0.75	2.55	Install #20 Catch Basin (FORTERRA)
INLET #6	SAG	DA-15	10.00	0.68	3.26	6404	0.15	0.16	Sag	0.6	0.5	1.50	0.75	2.55	Install #20 Catch Basin (FORTERRA)

TE-Report

Line No.	Line ID	Line Length (ft)	Line Size (in)	Line Type	Line Slope (%)	Invert Up (ft)	Invert Dn (ft)	HGL Up (ft)	HGL Dn (ft)	Gnd/Rim El Up (ft)	Gnd/Rim El Dn (ft)	Known Q (cfs)	Capac Full (cfs)	Flow Rate (cfs)	Sf Ave (%)	Vel Ave (ft/s)	Vel Hd Up (ft)	Vel Hd Dn (ft)	
1	A01-A0	43.250	30	Cir	0.51	5780.37	5780.15	5782.92	5782.65	5786.23	5781.52	0.00	29.26	32.58	0.631	6.64	0.68	0.69	
2	A02-A01	29.180	30	Cir	0.75	5780.59	5780.37	5783.79	5783.61	5786.08	5786.23	0.00	35.59	32.58	0.631	6.64	0.68	0.69	
3	A03-A02	129.010	30	Cir	2.29	5783.55	5780.59	5785.14 j	5784.48	5789.93	5786.08	0.00	62.12	22.01	0.410	5.57	0.69	0.31	
4	A04-A03	64.790	30	Cir	1.68	5784.64	5783.55	5786.23	5785.14	5793.01	5789.93	0.00	53.20	22.01	0.000	6.66	0.69	0.69	
5	A05-A04	238.750	24	Cir	7.48	5802.51	5784.64	5804.18	5786.23	5809.20	5793.01	0.00	61.88	22.01	0.000	8.02	0.96	0.96	
6	A06-A05	87.650	24	Cir	8.35	5809.83	5802.51	5811.45 j	5804.18	5814.90	5809.20	0.00	65.36	20.30	0.000	7.35	0.87	0.87	
7	A07-A06	43.400	24	Cir	3.89	5811.52	5809.83	5813.12 j	5811.45	5817.52	5814.90	19.72	44.63	19.72	0.000	7.30	0.84	0.84	
8	LAT A41-LAT A40	61.650	12	Cir	4.06	5812.33	5809.83	5812.60 j	5811.45	5815.25	5814.90	0.42	7.17	0.42	0.289	1.51	0.10	0.00	
9	LAT A11-LAT A10	18.000	21	Cir	4.11	5781.70	5780.96	5784.48	5784.48	5785.79	5786.08	3.14	32.12	3.14	0.039	1.31	0.03	0.03	
10	LAT A21-LAT A20	15.000	21	Cir	0.67	5782.19	5782.09	5784.51	5784.48	5785.80	5786.08	7.43	12.94	7.43	0.220	3.09	0.15	0.15	
11	LAT A31-A30	46.180	18	Cir	0.84	5804.47	5804.08	5804.96	5804.51	5808.38	5809.20	1.71	9.65	1.71	0.000	3.76	0.18	0.18	
12	LAT A51-LAT A50	51.323	12	Cir	3.51	5811.63	5809.83	5811.79 j	5811.45	5814.50	5814.90	0.16	6.67	0.16	0.301	1.06	0.06	0.00	
13	B01-B0	34.810	18	Cir	0.49	5778.87	5778.70	5780.87	5780.72	5785.05	5781.26	0.00	7.34	6.84	0.424	3.87	0.23	0.23	
14	B02-B01	124.980	18	Cir	2.86	5782.44	5778.87	5783.45 j	5781.08	5788.87	5785.05	6.84	17.75	6.84	0.547	4.63	0.45	0.23	

Project File: 25 YR STORM.stm | Number of lines: 14 | Date: 6/18/2026

NOTES: ** Critical depth

Storm Sewers

Know what's below. Call before you dig.

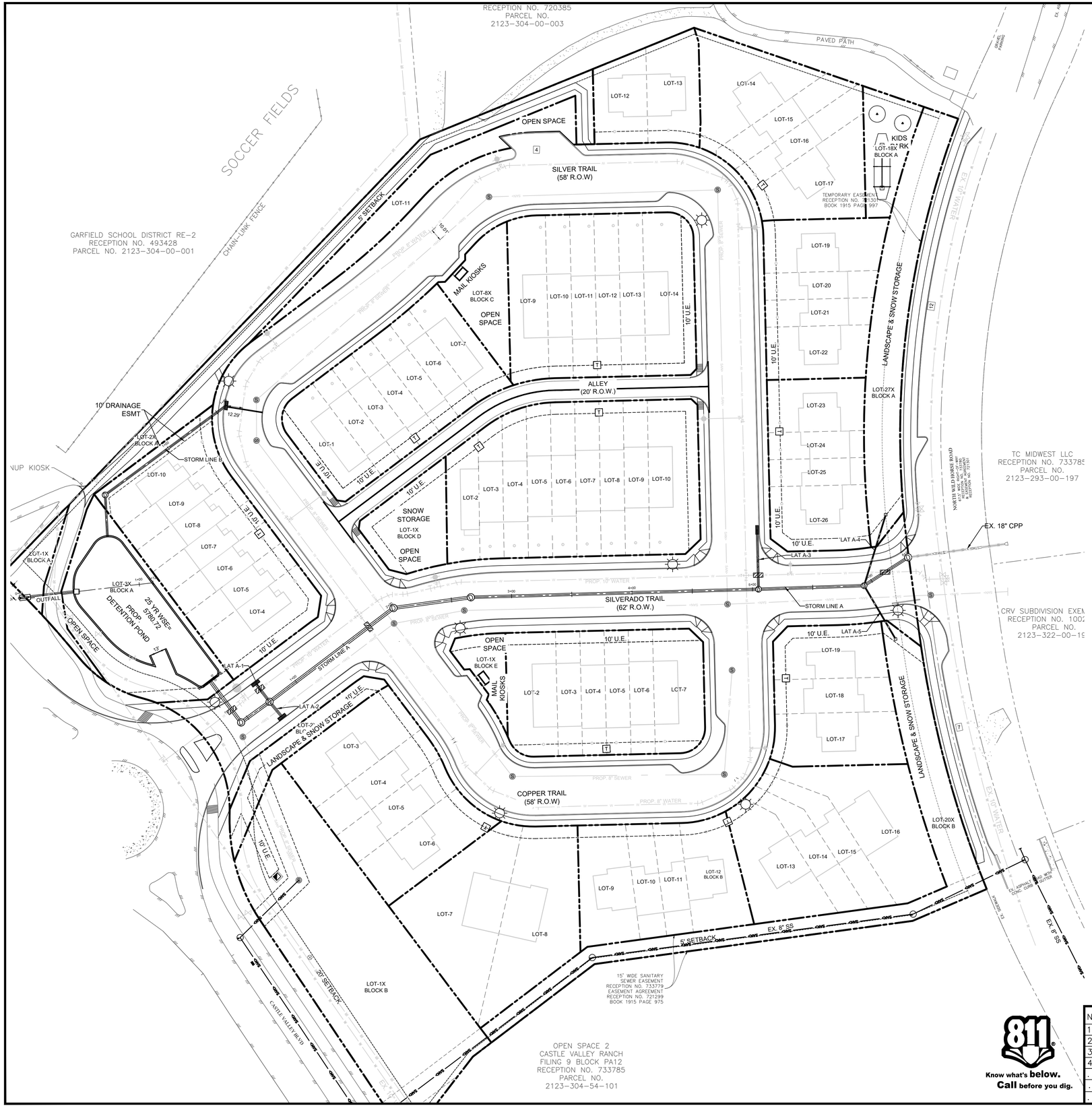
NO.	DATE	DESCRIPTION	BY
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3	04/16/26	1ST FINAL PUD SUBMITTAL	KP
4	06/19/26	1ST REVISED FINAL PUD SUBMITTAL	KP
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STATE OF COLORADO — KARTAVYA S. PATEL — 0067414 — LICENSED PROFESSIONAL ENGINEER — 06/19/26

DRAINAGE CALCULATIONS
ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
TOWN OF NEW CASTLE
GARFIELD COUNTY, COLORADO 81647

TRIANGLE ENGINEERING LLC
T: 469.331.8566 I F: 469.213.7145 I E: info@triangle-engr.com
W: triangle-engr.com I O: 1782 W. McDermott Drive, Allen, TX 75013
Planning | Civil Engineering | Construction Management

P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38-25	C-6.2



N

0 80

Scale: 1" = 40 ' Feet

STORM SEWER LEGEND

EXISTING MINOR CONTOURS	681
EXISTING MAJOR CONTOURS	680
MINOR CONTOURS	681
MAJOR CONTOURS	680
STORM PIPE	STM->
HIGH POINT	HP
CURB INLET	
GRATE INLET	
STORM MANHOLE	
STORM CLEANOUT	
JUNCTION BOX	
SANITARY SEWER MANHOLE	
SANITARY SEWER CLEANOUT	
SANITARY SEWER DOUBLE CLEANOUT	
SANITARY SEWER SAMPLE PORT	
GREASE TRAP	G.T.
DOMESTIC WATER METER	
IRRIGATION METER	
GAS METER	
TRANSFORMER	T
LIGHT POLE	
POWER POLE	

NOTE:

REFER TO DRAINAGE REPORT PREPARED BY " TRIANGLE ENGINEERING" DATED JUNE 2026 FOR MORE DETAIL REGARDING DRAINAGE AND STORM DESIGN.

SEE SHEET C-1.1 FOR TOWN OF NEW CASTLE GENERAL NOTES.

811 Know what's **below.** **Call** before you dig.

NO.	DATE	DESCRIPTION	BY
1	08/25/25	1ST PRELIMINARY PUD SUBMITTAL	KP
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3	04/16/26	1ST FINAL PUD SUBMITTAL	KP
4	06/19/26	1ST REVISED FINAL PUD SUBMITTAL	KP
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STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

OVERALL STORM PLAN

ARCHWOOD TOWNHOMES

CASTLE VALLEY BLVD

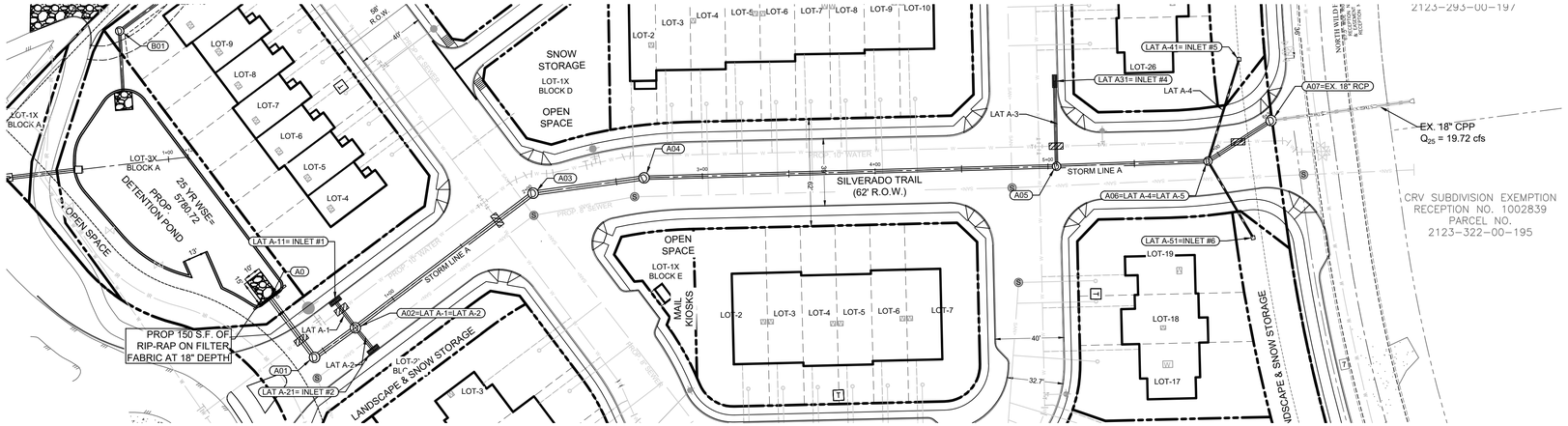
67 RESIDENTIAL LOTS & 7 OPEN AREAS

TOWN OF NEW CASTLE

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P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38-25	C-6.3

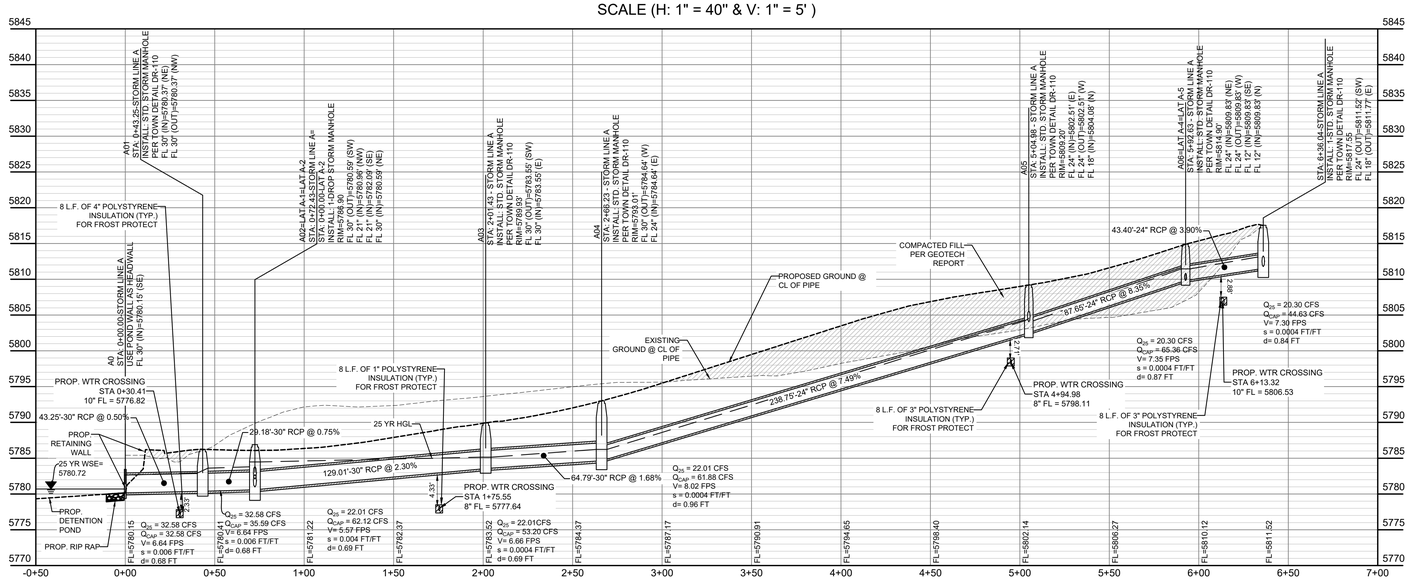




STORM SEWER LEGEND

EXISTING MINOR CONTOURS	681
EXISTING MAJOR CONTOURS	680
MINOR CONTOURS	681
MAJOR CONTOURS	680
STORM PIPE	STM> STM>
HIGH POINT	HP HP HP HP HP HP HP
CURB INLET	
GRATE INLET	
STORM MANHOLE	
STORM CLEANOUT	
JUNCTION BOX	
SANITARY SEWER MANHOLE	
SANITARY SEWER CLEANOUT	
SANITARY SEWER DOUBLE CLEANOUT	
SANITARY SEWER SAMPLE PORT	
GREASE TRAP	
DOMESTIC WATER METER	
IRRIGATION METER	
GAS METER	
TRANSFORMER	T
LIGHT POLE	
POWER POLE	

STORM LINE A PROFILE
SCALE (H: 1" = 40" & V: 1" = 5')



STORM STRUCTURE TABLE	
STRUCTURE NAME	STRUCTURE DETAILS
A0	STORM LINE A USE POND WALL AS HEADWALL STATION:0+00.00 RIM/FG = 5783.442 30" INV IN = 5780.150
A01	STORM LINE A STD. STORM MANHOLE PER TOWN DETAIL DR-110 STATION:0+43.25 RIM/FG = 5786.232 30" INV IN = 5780.366 30" INV OUT = 5780.366
A02=LAT A-1=LAT A-2	STORM LINE A DROP STORM MANHOLE STATION:0+72.43 RIM/FG = 5786.898 21" INV IN = 5780.965 21" INV IN = 5782.085 30" INV IN = 5780.586 30" INV OUT = 5780.586
A03	STORM LINE A STD. STORM MANHOLE PER TOWN DETAIL DR-110 STATION:2+01.43 RIM/FG = 5789.930 30" INV IN = 5783.553 30" INV OUT = 5783.553
A04	STORM LINE A STD. STORM MANHOLE PER TOWN DETAIL DR-110 STATION:2+66.23 RIM/FG = 5793.007 24" INV IN = 5784.642 30" INV OUT = 5784.642

STORM STRUCTURE TABLE	
STRUCTURE NAME	STRUCTURE DETAILS
A05	STORM LINE A STD. STORM MANHOLE PER TOWN DETAIL DR-110 STATION:5+04.98 RIM/FG = 5809.198 24" INV IN = 5802.513 18" INV IN = 5804.080 24" INV OUT = 5802.513
A06=LAT A-4=LAT A-5	STORM LINE A STD. STORM MANHOLE PER TOWN DETAIL DR-110 STATION:5+92.63 RIM/FG = 5814.904 24" INV IN = 5809.832 12" INV IN = 5809.830 12" INV IN = 5809.830 24" INV OUT = 5809.832
A07=EX. 18" RCP	STORM LINE A STD. STORM MANHOLE PER TOWN DETAIL DR-110 STATION:6+36.04 RIM/FG = 5817.546 24" INV OUT = 5811.524 18" INV OUT = 5811.770
LAT A-11= INLET #1	LAT A-1 STD. TWO GRATE INLET STATION:0+19.25 RIM/FG = 5785.769 21" INV OUT = 5781.700
LAT A-21= INLET #2	LAT A-2 STD. TWO GRATE INLET STATION:0+16.26 RIM/FG = 5785.774 21" INV OUT = 5782.195

STORM STRUCTURE TABLE	
STRUCTURE NAME	STRUCTURE DETAILS
LAT A-41= INLET #5	LAT A-4 #20 CATCH BASIN STATION:0+61.59 RIM/FG = 5815.250 12" INV OUT = 5812.330
LAT A-51=INLET #6	LAT A-5 18" NYPLOPLAST DRAIN STATION:0+51.41 RIM/FG = 5814.502 12" INV OUT = 5811.630

SEE SHEET C-1.1 FOR TOWN OF NEW CASTLE GENERAL NOTES.

!! WARNING !!

EXISTING UTILITIES IN THE AREA. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITH THE PROVIDER PRIOR TO START OF CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. CONTRACTOR IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WHERE NECESSARY AND PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN). IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THEM AT THEIR OWN EXPENSE.

Know what's **below.** **Call** before you dig.

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STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

STORM LINE-A PLAN & PROFILE

ARCHWOOD TOWNHOMES

CASTLE VALLEY BLVD

67 RESIDENTIAL LOTS & 7 OPEN AREAS

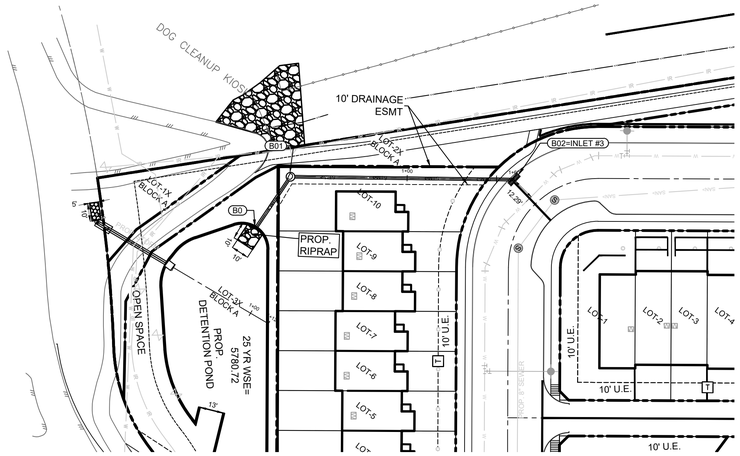
TOWN OF NEW CASTLE

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P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38-25	C-6.4



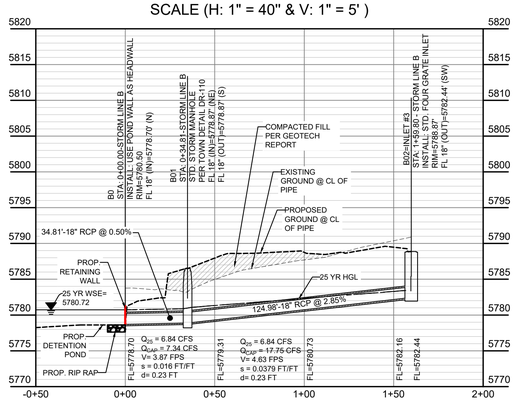
STORM STRUCTURE TABLE	
STRUCTURE NAME	STRUCTURE DETAILS
B0	STORM LINE B USE POND WALL AS HEADWALL STATION:0+00.00 RIM/FG = 5780.504 18" INV IN = 5778.700
B01	STORM LINE B STD. STORM MANHOLE PER TOWN DETAIL DR-110 STATION:0+34.81 RIM/FG = 5786.490 18" INV IN = 5778.874 18" INV OUT = 5778.874
B02=INLET #3	STORM LINE B STD. FOUR GRATE INLET STATION:1+59.80 RIM/FG = 5788.874 18" INV OUT = 5782.436



STORM SEWER LEGEND

EXISTING MINOR CONTOURS	681
EXISTING MAJOR CONTOURS	680
MINOR CONTOURS	681
MAJOR CONTOURS	680
STORM PIPE	STM> STM>
HIGH POINT	HP HP HP HP HP HP HP
CURB INLET	
GRATE INLET	
STORM MANHOLE	
STORM CLEANOUT	
JUNCTION BOX	
SANITARY SEWER MANHOLE	
SANITARY SEWER CLEANOUT	
SANITARY SEWER DOUBLE CLEANOUT	
SANITARY SEWER SAMPLE PORT	
GREASE TRAP	
DOMESTIC WATER METER	
IRRIGATION METER	
GAS METER	
TRANSFORMER	T
LIGHT POLE	
POWER POLE	

STORM LINE B PROFILE
SCALE (H: 1" = 40" & V: 1" = 5')



SEE SHEET C-1.1 FOR TOWN OF NEW CASTLE GENERAL NOTES.

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STATE OF COLORADO — KARTAVYA S. PATEL — 0067414 — LICENSED PROFESSIONAL ENGINEER
06/19/26

STORM LINE-B PLAN & PROFILE

ARCHWOOD TOWNHOMES

CASTLE VALLEY BLVD

67 RESIDENTIAL LOTS & 7 OPEN AREAS

TOWN OF NEW CASTLE

GARFIELD COUNTY, COLORADO 81647

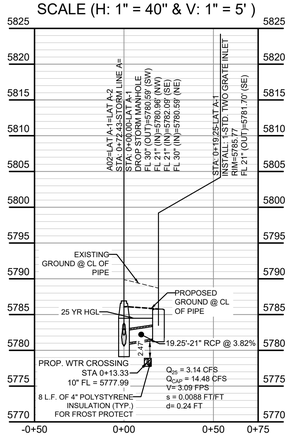
TRIANGLE ENGINEERING LLC
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W: triangle-engr.com I O: 1782 W. McDermott Drive, Allen, TX 75013
Planning | Civil Engineering | Construction Management

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KP	SS	08/25/25	SEE SCALE BAR	38-25	C-6.5

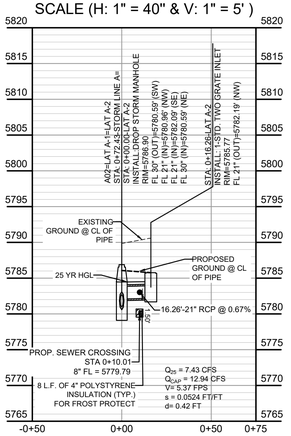
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Scale: 1" = 40 ' Feet

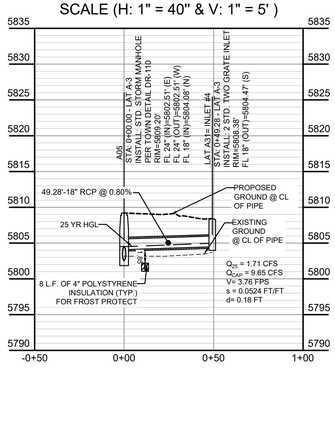
LAT A-1 PROFILE
SCALE (H: 1" = 40" & V: 1" = 5')



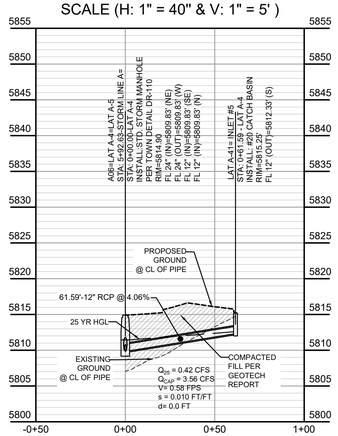
LAT A-2 PROFILE
SCALE (H: 1" = 40" & V: 1" = 5')



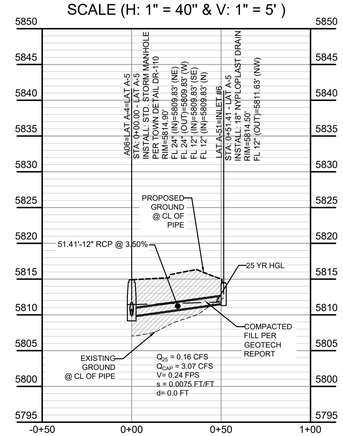
LAT A-3 PROFILE
SCALE (H: 1" = 40" & V: 1" = 5')



LAT A-4 PROFILE
SCALE (H: 1" = 40" & V: 1" = 5')



LAT A-5 PROFILE
SCALE (H: 1" = 40" & V: 1" = 5')



SEE SHEET C-7.1 FOR INSULATION DETAIL & NOTES.

SEE SHEET C-1.1 FOR TOWN OF NEW CASTLE GENERAL NOTES.

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STATE OF COLORADO — KARTAVYA S. PATEL — 0067414 — LICENSED PROFESSIONAL ENGINEER

06/19/26

STORM LATERAL PROFILE

ARCHWOOD TOWNHOMES

CASTLE VALLEY BLVD

67 RESIDENTIAL LOTS & 7 OPEN AREAS

TOWN OF NEW CASTLE

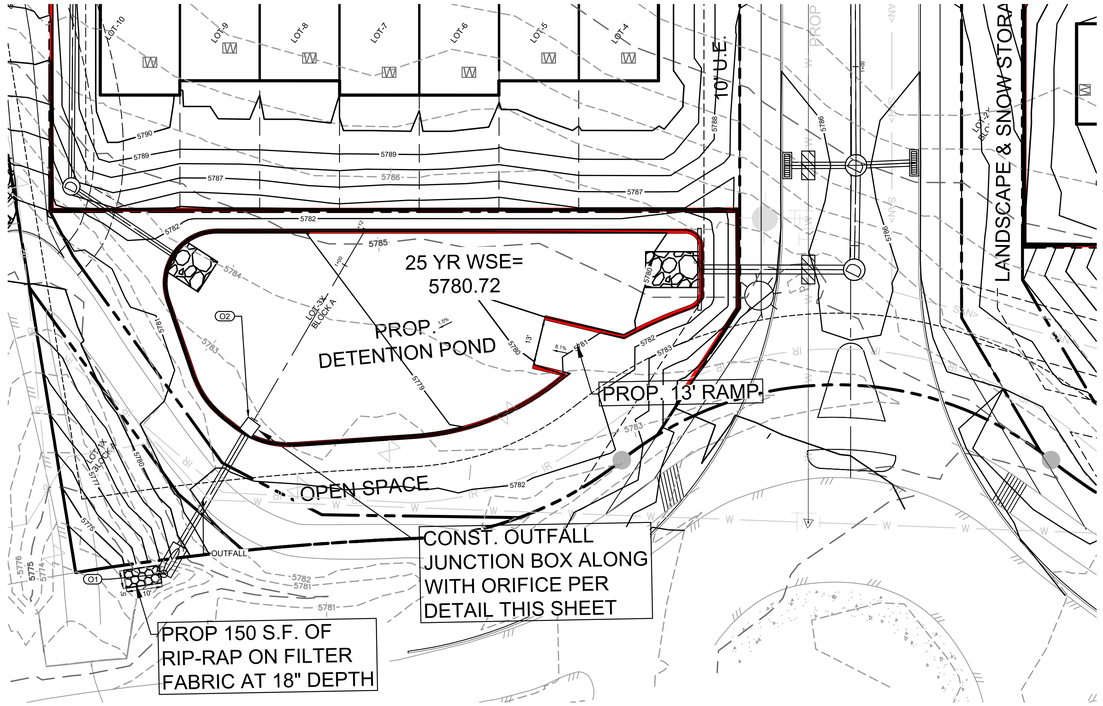
GARFIELD COUNTY, COLORADO 81647

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Planning | Civil Engineering | Construction Management

P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38-25	C-6.6



STORM STRUCTURE TABLE	
STRUCTURE NAME	STRUCTURE DETAILS
O1	OUTFALL INSTALL SAFETY END TREATMENT STATION:0+00.00 RIM/FG = 5778.333 24" INV IN = 5776.000
O2	OUTFALL STD. 3'X3' JUNCTION BOX STATION:0+47.50 RIM/FG = 5781.506 24" INV OUT = 5778.250

Detention Pond Volume Summary				
Year Event	Volume (CF) REQUIRED	Volume (CY) REQUIRED	Volume (CY) PROVIDED	Elevation
25yrs	10,282	381	385	5780.72

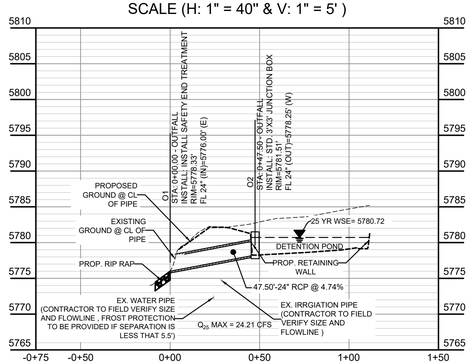
Detention Pond-Orifice Calculations		
A=(Qa/(C(2gh)^0.5))	Discharge Calculations	
Orifice at Elev=5778		
Discharge Coeff (C):	0.36	
Discharge at this orifice (Q):	24.21	cfs
WSELEV:	5780.72	ft
25yr Depth (cnt to ws):	1.36	ft
Required Cross Sectional Area:	7.19	sq. ft.
	1034.77	sq. in.

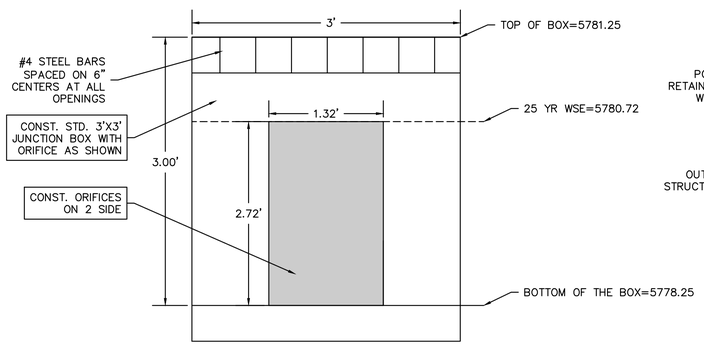
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Scale: 1" = 20 ' Feet

STORM SEWER LEGEND

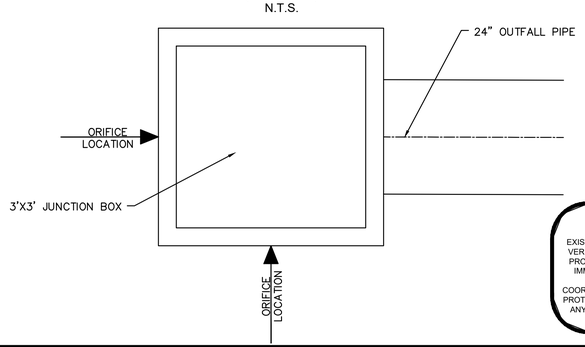
- EXISTING MINOR CONTOURS — 681
- EXISTING MAJOR CONTOURS — 680
- MINOR CONTOURS — 681
- MAJOR CONTOURS — 680
- STORM PIPE
- HIGH POINT
- CURB INLET
- GRATE INLET
- STORM MANHOLE
- STORM CLEANOUT
- JUNCTION BOX
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEANOUT
- SANITARY SEWER DOUBLE CLEANOUT
- SANITARY SEWER SAMPLE PORT
- GREASE TRAP
- DOMESTIC WATER METER
- IRRIGATION METER
- GAS METER
- TRANSFORMER
- LIGHT POLE
- POWER POLE

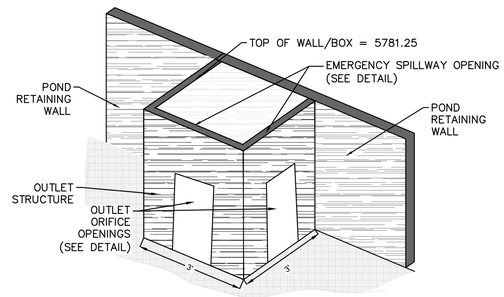
OUTFALL PROFILE
SCALE (H: 1" = 40" & V: 1" = 5')





OUTLET & OVERFLOW STRUCTURE
(PLAN VIEW)
N.T.S.





OUTLET & OVERFLOW STRUCTURE
(ISOMETRIC VIEW)
N.T.S.

NOTE:
SEE STRUCTURAL PLAN FOR MORE DETAIL REGARDING WALL THICKNESS, CONCRETE & REINFORCING .

NOTE:
ALL THE CALCULATION AND DESIGN IS DONE BASED ON DRAINAGE REPORT DONE BY " TRIANGLE ENGINEERING" FOR ARCHWOOD TOWNHOMES DATED JUNE 2026.

SEE SHEET C-1.1 FOR TOWN OF NEW CASTLE GENERAL NOTES.

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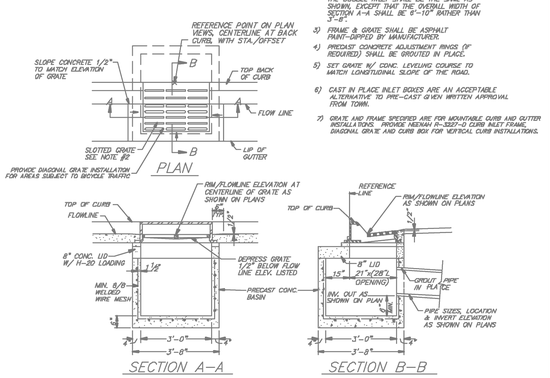
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STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

DETENTION POND PLAN
ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
TOWN OF NEW CASTLE
GARFIELD COUNTY, COLORADO 81647

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KP	SS	08/25/25	SEE SCALE BAR	38–25	C-6.7



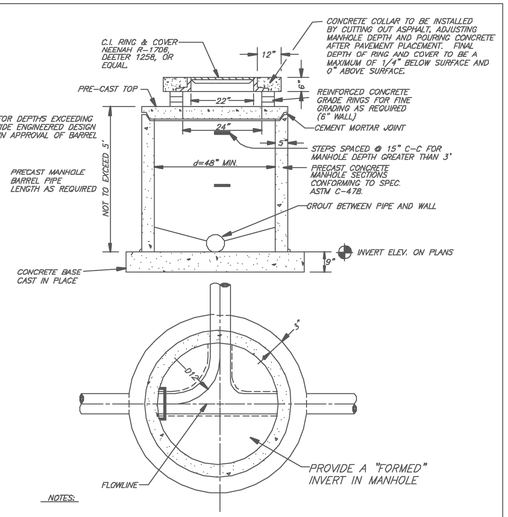
NOTES:

1) FRAME, GRATE & CURB INLET TO BE NEENAH R-3501-F OR APPROVED EQUAL. SEE BELOW.
2) DOUBLE INLET FRAME, GRATE & CURB INLET TO BE NEENAH R-3504-F OR APPROVED EQUAL. (ADJUTING SIDE FLANGES TO BE OMITTED TO FORM DOUBLE). THE CONCRETE BASIN FOR THE DOUBLE INLET SHALL BE THE SAME AS SHOWN, EXCEPT THAT THE OVERALL WIDTH OF SECTION A-A SHALL BE 6'-10" RATHER THAN 3'-8".
3) FRAME & GRATE SHALL BE ASPHALT PAINT-DIPPED BY MANUFACTURER.
4) PRECAST CONCRETE ADJUSTMENT RINGS (IF REQUIRED) SHALL BE GROUTED IN PLACE.
5) SET GRATE W/ CONC. LEVELING COURSE TO MATCH LONGITUDINAL SLOPE OF THE ROAD.
6) CAST IN PLACE INLET BOXES ARE AN ACCEPTABLE ALTERNATIVE TO PRE-CAST GIVEN WRITTEN APPROVAL FROM TOWN.
7) GRATE AND FRAME SPECIFIED ARE FOR MOUNTABLE CURB AND GUTTER INSTALLATIONS. PROVIDE NEENAH R-3527-D CURB INLET FRAME, DIAGONAL GRATE AND CURB BOX FOR VERTICAL CURB INSTALLATIONS.

TYPE I DRAIN INLET DETAIL

NOT TO SCALE

DRAIN INLET TYPE 1	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: DR-90



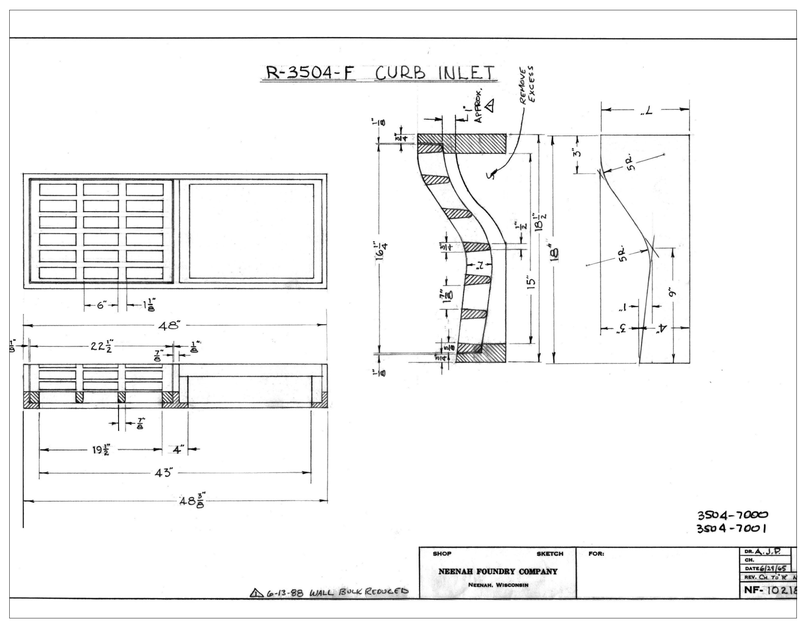
NOTES:

1. Precast rings or metal riser ring course shall be utilized where required with 2 courses minimum and 6 courses maximum (1" minimum, 6" maximum height).
2. Where available from pipe manufacturer, use expandable water stop or special sleeve as per manufacturer's specifications.
3. All bases shall be cast in place or precast concrete, use #4 rebar on 12" c-c both ways in poured bases.
4. Set each ring in a full bed of mortar and grout all inside joints.

STORM DRAIN MANHOLE DETAIL

N.T.S.

STORM DRAIN MANHOLE	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: DR-110



⚠ 6-13-88 WALL SLOPE REDUCED

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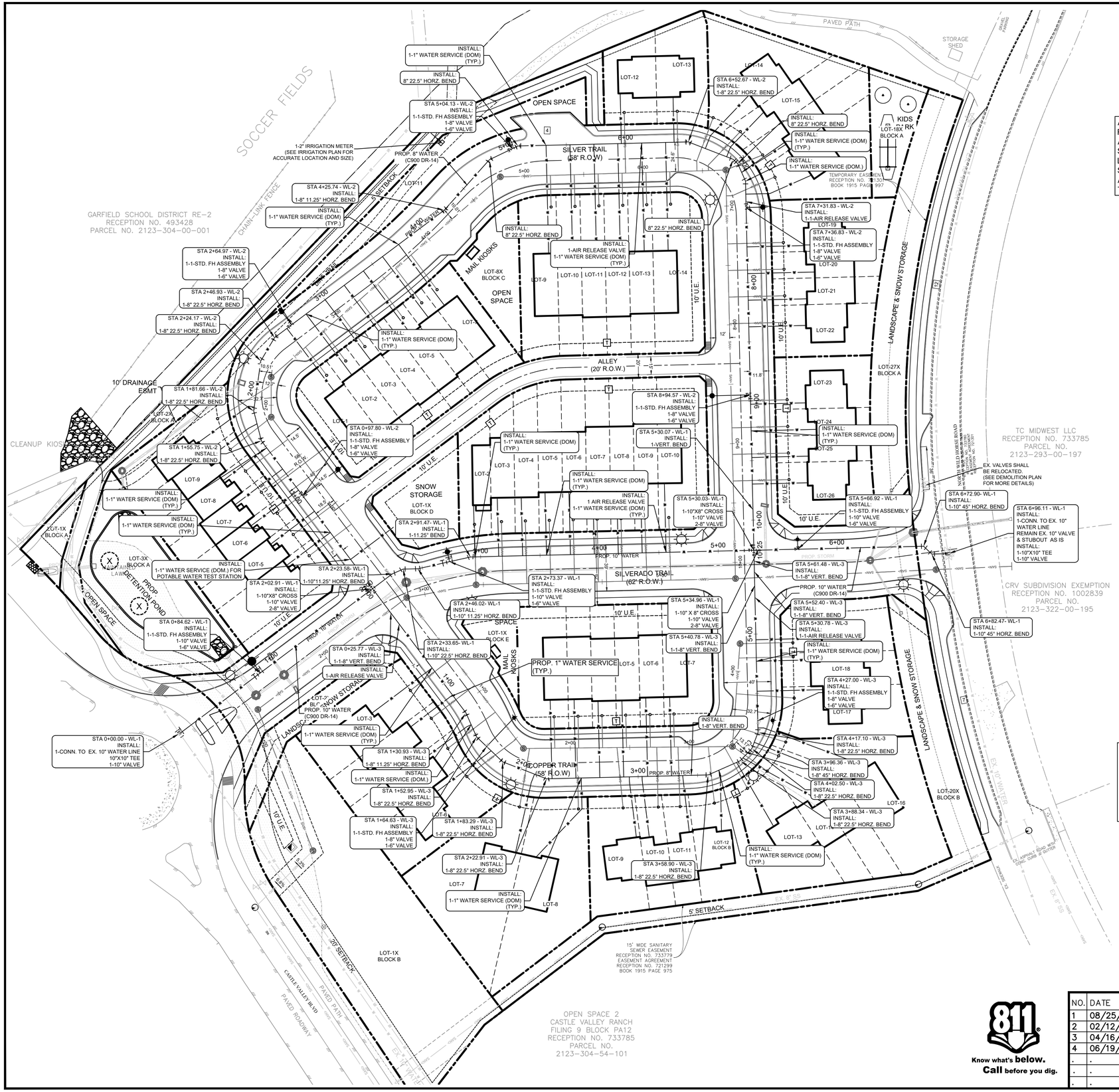
STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

STORM DETAILS

ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
TOWN OF NEW CASTLE
GARFIELD COUNTY, COLORADO 81647

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AIR RELEASE VALVE NOTE:
REFER TO TOWN STANDARD DETAIL WA-60 FOR AIR RELEASE VALVE INSTALLATION. CONTRACTOR SHALL PLACE AIR RELEASE VALVE WITHIN A LANDSCAPED AREA AND AWAY FROM DRIVEWAYS, SIDEWALKS, AND OTHER VEHICULAR TRAFFIC AREAS, UNLESS OTHERWISE APPROVED BY THE TOWN.

UTILITY LEGEND

UNDERGROUND TELEPHONE LINE	UTF UTF UTF
UNDERGROUND ELECTRIC LINE	UGE UGE UGE
GAS LINE	G G G
SANITARY SEWER LINE	SAN SAN
WATER MAIN	W W W
DOMESTIC WATER LINE	DOM DOM DOM
STORM LINE	STM STM STM
STORM SEWER MANHOLE	
STORM SEWER CLEANOUT	
SANITARY SEWER MANHOLE	
SANITARY SEWER CLEANOUT	
SANITARY SEWER DOUBLE CLEANOUT	
SANITARY SEWER SAMPLE PORT	
GREASE TRAP	G.T.
DOMESTIC WATER METER	
IRRIGATION METER	
GAS METER	
FIRE HYDRANT	
FIRE DEPARTMENT CONNECTION-FDC	
TRANSFORMER	T
LIGHT POLE	
POWER POLE	

NOTE:
- THE POTABLE WATER MAIN LINE PIPE SHALL BE C900 DR14.
- ALL POTABLE WATER CONNECTIONS SHALL BE PROTECTED BY A REDUCED PRESSURE PRINCIPLE ASSEMBLY (RPPA) BACKFLOW PREVENTION DEVICE. THIS REQUIREMENT IS DUE TO THE PRESENCE OF PARALLEL RAW WATER IRRIGATION LINES AND THE INCREASED POTENTIAL FOR CROSS-CONNECTION.
- FIRE HYDRANTS SHALL BE MANUFACTURED BY KENNEDY VALVE COMPANY, MODEL K-81D.
- TYPE K COPPER SERVICE LINES MAY BE SUBSTITUTED WITH PURE CORE PIPING. USE OF POLY PIPING SHALL REQUIRE THE INSTALLATION OF A TRACER WIRE.
- WATER MAIN TRENCH CONSTRUCTION SHALL COMPLY WITH STANDARD DETAIL WA-40. THE USE OF ¾-INCH SCREENED ROCK IS NOT PERMITTED; CLASS 6 AGGREGATE SHALL BE USED AS THE PREFERRED BEDDING MATERIAL.

WATER METER SCHEDULE

TYPE	SIZE	QTY.
DOMESTIC	0'-1"	67
IRRIGATION*	0'-2"	1
FIRE HYDRANT		10

*IRRIGATION NOTE:
SEE IRRIGATION PLANS BY HYDRO SYSTEMS DATED 06/17/2026, FOR ACCURATE LOCATION AND SIZE.

NOTE : 1
PROVIDE CONCRETE THRUST BLOCKS AT ALL WATER LINE BENDS AND TEES IN ACCORDANCE WITH TOWN STANDARDS.

NOTE : 2
PROVIDE INSULATION IN ACCORDANCE WITH TOWN STANDARDS WHERE THE HORIZONTAL OR VERTICAL CLEARANCE BETWEEN WATER AND STORM LINES IS LESS THAN 5.5 FEET.

NOTE:
ALL PROPOSED UTILITY LINE CAPACITY AND IMPACT RELATED CALCULATION, REFER TO WATER AND WASTEWATER REPORT DONE BY WRIGHT WATER ENGINEERS, INC DATED AUGUST 2025.

SEE SHEET C-1.1 FOR TOWN OF NEW CASTLE GENERAL NOTES.

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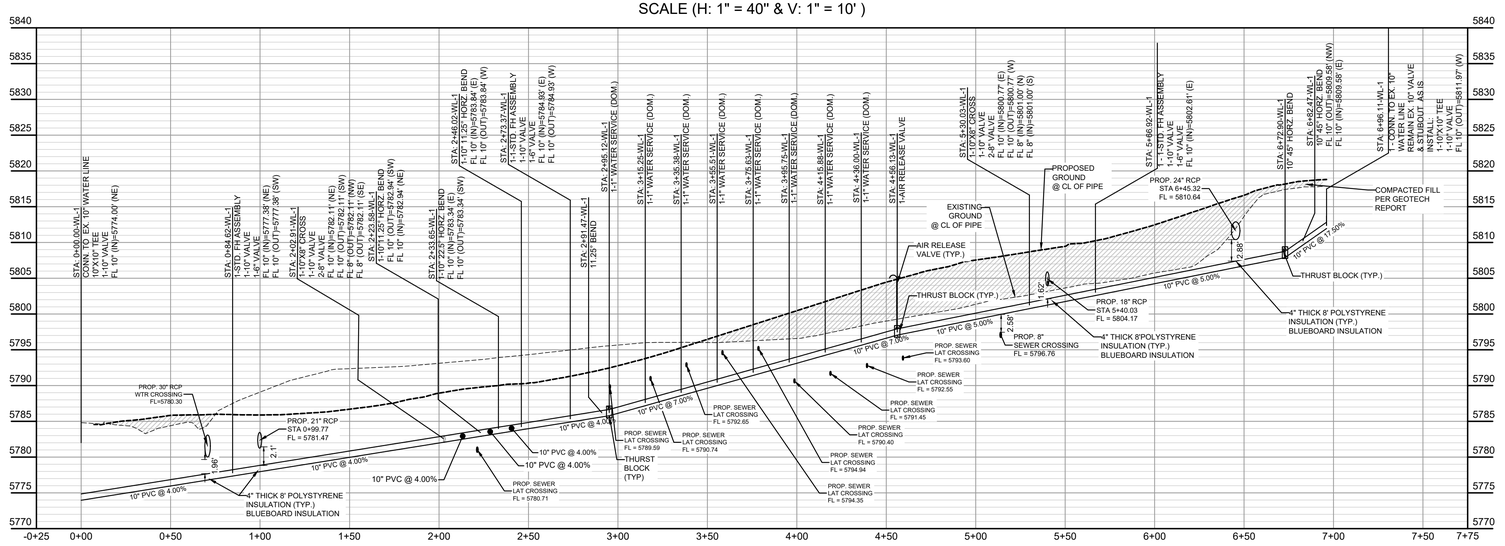
STATE OF COLORADO — KARTAVYA S. PATEL — 0067414 — LICENSED PROFESSIONAL ENGINEER
06/19/26

WATER PLAN
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P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38-25	C-7.0

WL-1 PROFILE
SCALE (H: 1" = 40" & V: 1" = 10')



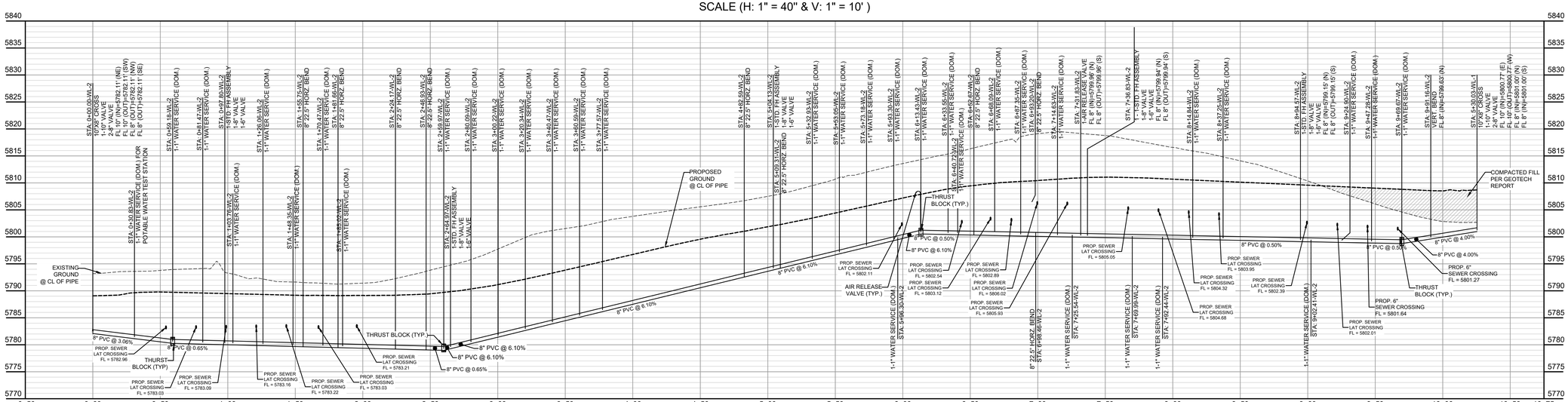
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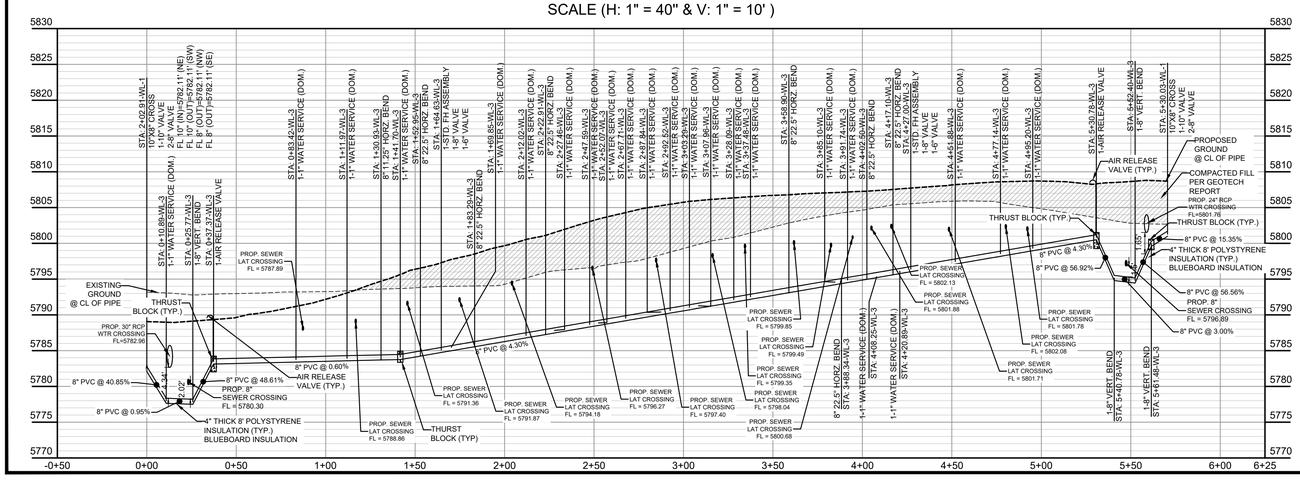
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WL-2 PROFILE
SCALE (H: 1" = 40" & V: 1" = 10')



WL-3 PROFILE
SCALE (H: 1" = 40" & V: 1" = 10')



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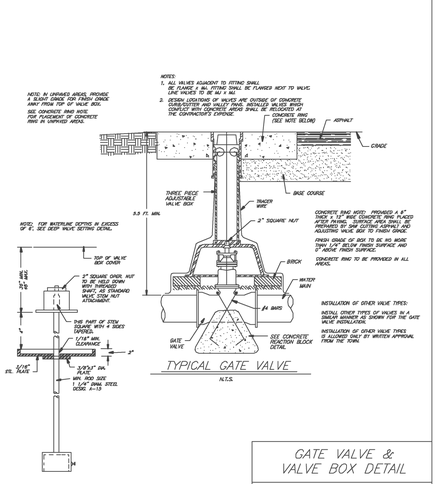
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STATE OF COLORADO — KARTAVYA S. PATEL — 0067414 — LICENSED PROFESSIONAL ENGINEER
06/19/26

WATER PROFILE
ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
TOWN OF NEW CASTLE
GARFIELD COUNTY, COLORADO 81647

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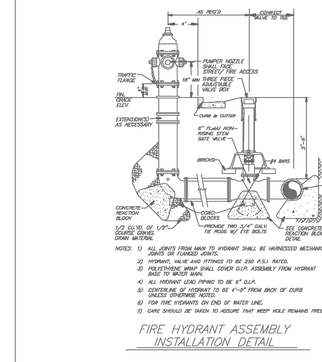
P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38–25	C-7.1



GATE VALVE & VALVE BOX DETAIL

TOWN OF NEW CASTLE

NOT TO SCALE | DWG: WA-10



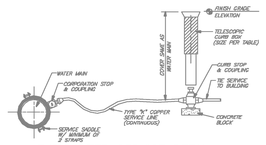
FIRE HYDRANT SETTING DETAIL

TOWN OF NEW CASTLE

NOT TO SCALE | DWG: WA-20

SERVICE PIPE	CORP STOP	CURB STOP	SERVICE BOX
3/4"	3/4"	3/4"	3"
1"	1"	1"	3"
1 1/4"	1 1/4"	1 1/4"	3"
1 1/2"	1 1/4" - 1 1/2"	1 1/2"	3"
2"	1/2" - 2"	2"	3"

NOTE: CONTRACTOR TO VERIFY THE REQUIRED SERVICE SIZE WITH THE TOWN PRIOR TO INSTALLATION. THE TOWN WILL REQUIRE INDIVIDUAL DEMAND REQUIREMENTS BY THE SERVICE PRIOR TO SERVICE SIZE VERIFICATION.



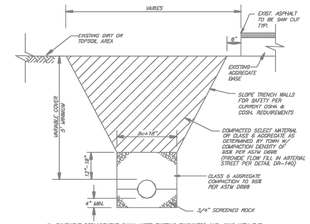
NOTE:
1. LEAVE CORPORATION STOP AT MAIN IN THE "ON" POSITION.
2. LOCATE THE CURB STOP (AND SERVICE BOX) ON PRIVATE PROPERTY WITHIN TWO (2') FEET OF THE PROPERTY LINE, OR AS APPROVED BY THE TOWN.
3. DIRECT TAPS ARE AN ACCEPTABLE ALTERNATIVE, GIVEN WRITTEN TOWN APPROVAL

TYP. WATER SERVICE DETAIL

WATER SERVICE INSTALLATION DETAIL

TOWN OF NEW CASTLE

NOT TO SCALE | DWG: WA-30



1) PAVEMENT REPLACEMENT SHALL MEET EXISTING THICKNESS AND KIND WITH THE FOLLOWING MINIMUMS: ASPHALT SURFACING = 3" MIN., AGGREGATE BASE COURSE = 6" MIN.
2) FOR UNPAVED SURFACES, BASE COURSE REPLACEMENT SHALL MEET EXISTING THICKNESS WITH THE FOLLOWING MINIMUMS: AGGREGATE BASE COURSE = 12" MIN.
3) EMF / TOPSOIL PLACEMENT SHALL MEET EXISTING THICKNESS AND KIND WITH THE FOLLOWING MINIMUMS: 4" TOPSOIL
4) SELECT MATERIAL AS FOLLOWS: 6" MAXIMUM SIZE IN TOP 12" OF BACKFILL, 12" MAXIMUM SIZE IN REMAINDER OF BACKFILL
5) PROVIDE TRACER WIRE TAPED TO THE TOP OF PIPE FOR PVC INSTALLATIONS. (TYPE OF TAPE TO BE APPROVED BY THE TOWN)
6) PROVIDE POLYETHYLENE WRAP AROUND DUCTILE IRON PIPE INSTALLATIONS. USE A MINIMUM OF 12" LAPS WITH THE POLYETHYLENE WRAP. TAPE WRAP WITH TOWN APPROVED TAPE AT 3'-0" O.C.
7) DETAIL ABOVE FOR "DRY TRENCH" CONDITIONS. FOR UNSTABLE OR "WET TRENCH" CONDITIONS PROVIDE A MINIMUM OF 6" OF SCREENED ROCK UNDER BEDDING MATERIAL WITH FILTER FABRIC PLACED BELOW AND ABOVE THE SCREENED ROCK.

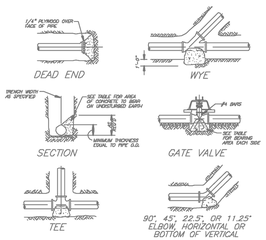
STANDARD WATER MAIN TRENCH SECTION

SCALE: 3/4"= 1'-0"

TRENCH CROSS SECTION

TOWN OF NEW CASTLE

NOT TO SCALE | DWG: WA-40



SIZE (INCHES)	ELBOWS				TEES & DEAD ENDS	GATE VALVES
	90° (SQ. FT.)	45° (SQ. FT.)	22.5° (SQ. FT.)	11.25° (SQ. FT.)		
4	1.8	1.0	0.5	0	1.3	0.5
6	4.0	2.2	1.1	0	2.8	0.7
8	7.1	3.9	2.0	1.0	5.0	0.7
10	11.1	6.0	3.1	1.5	7.8	0.7
12	16.0	8.6	4.5	2.2	11.1	0.7
14	21.7	11.8	6.0	3.0	13.4	11.0
16	28.4	15.3	8.0	4.0	20.0	16.6
18	36.0	19.4	10.0	5.0	25.4	24.8

AREAS GIVEN IN TABLE ARE BASED UPON AN INTERNAL STATIC PRESSURE OF 150 P.S.I. AND A SOIL BEARING CAPACITY OF 1000 LBS. PER SQ. FT. BEARING AREAS FOR ANY PRESSURE AND SOIL BEARING CAPACITY MAY BE OBTAINED BY MULTIPLYING THE TABULATED VALUES BY A CORRECTION FACTOR OF:

F= ACTUAL SPECIFIED TEST PRESSURE, IN HUNDREDS OF LBS.
ACTUAL SOIL BEARING CAPACITY IN THOUSANDS OF LBS. PER SQ. FT.

INSTALLATION OF THRUST BLOCKS ARE NOT ALLOWED FOR CONDITIONS OUTSIDE OF THOSE LISTED UNTIL SUBMITTAL OF CALCULATIONS FOR THE CORRECTION FACTOR ARE SUBMITTED TO AND REVIEWED BY THE TOWN AND WRITTEN APPROVAL BY THE TOWN IS GIVEN.

TABLE OF BEARING AREAS IN SQ. FT.

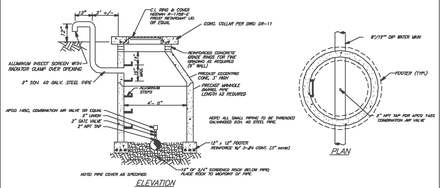
TYP. CONCRETE REACTION BLOCK DETAILS

THRUST BLOCKING DETAILS

TOWN OF NEW CASTLE

NOT TO SCALE | DWG: WA-50

MANHOLE CONSTRUCTION NOTES:
1. Use MJ-it-tite preformed gasket (3 types) or grout in place between all bottom sections, and between upper cone, riser, and top sections.
2. Provide minimum 24" of manhole. Crush & aggregate or native materials with less than 2" size.
3. Precast rings w/ metal steel ring crowns shall be offset where required with 2 courses minimum and 12 courses maximum (3 minimum, 12 maximum height).
4. Adjust manhole rim to finish grade with up to 12" max. (2 max. rows) concrete bond rings/units, less than 1 foot, concrete or metal grade rings.
5. Manhole grade or flatness shall be applied w/ concrete pavement(s) flush; with base course surface or shall/round "2" below grade.



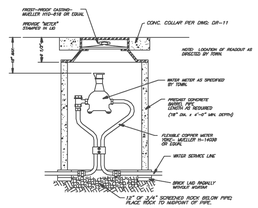
COMBINATION AIR VALVE MANHOLE DETAIL

N.T.S.

COMBINATION AIR VALVE MANHOLE

TOWN OF NEW CASTLE

NOT TO SCALE | DWG: WA-60



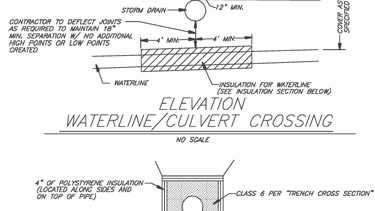
OUTSIDE METER SETTING DETAIL

N.T.S.

OUTSIDE METER SETTING DETAIL

TOWN OF NEW CASTLE

NOT TO SCALE | DWG: WA-70



ELEVATION
WATERLINE/CULVERT CROSSING

NO SCALE

INSULATION SECTION

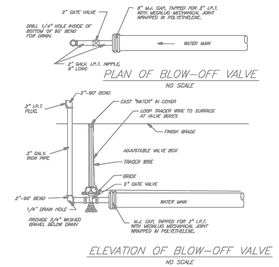
NO SCALE

NOTE: AS DRAWN, THE INSULATION DETAIL ADDRESSES CULVERT CROSSINGS. PROVIDE THE SAME DETAIL FOR THOSE INSTANCES WHERE THE WATERLINE IS INSTALLED WITHIN 5' OF OPEN AIR.

WATERLINE INSULATION DETAIL

TOWN OF NEW CASTLE

NOT TO SCALE | DWG: WA-80



BLOW OFF DETAIL

TOWN OF NEW CASTLE

NOT TO SCALE | DWG: WA-90

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STATE OF COLORADO — KARTAVYA S. PATEL — 0067414 — LICENSED PROFESSIONAL ENGINEER — 06/19/26

WATER DETAILS

ARCHWOOD TOWNHOMES

CASTLE VALLEY BLVD

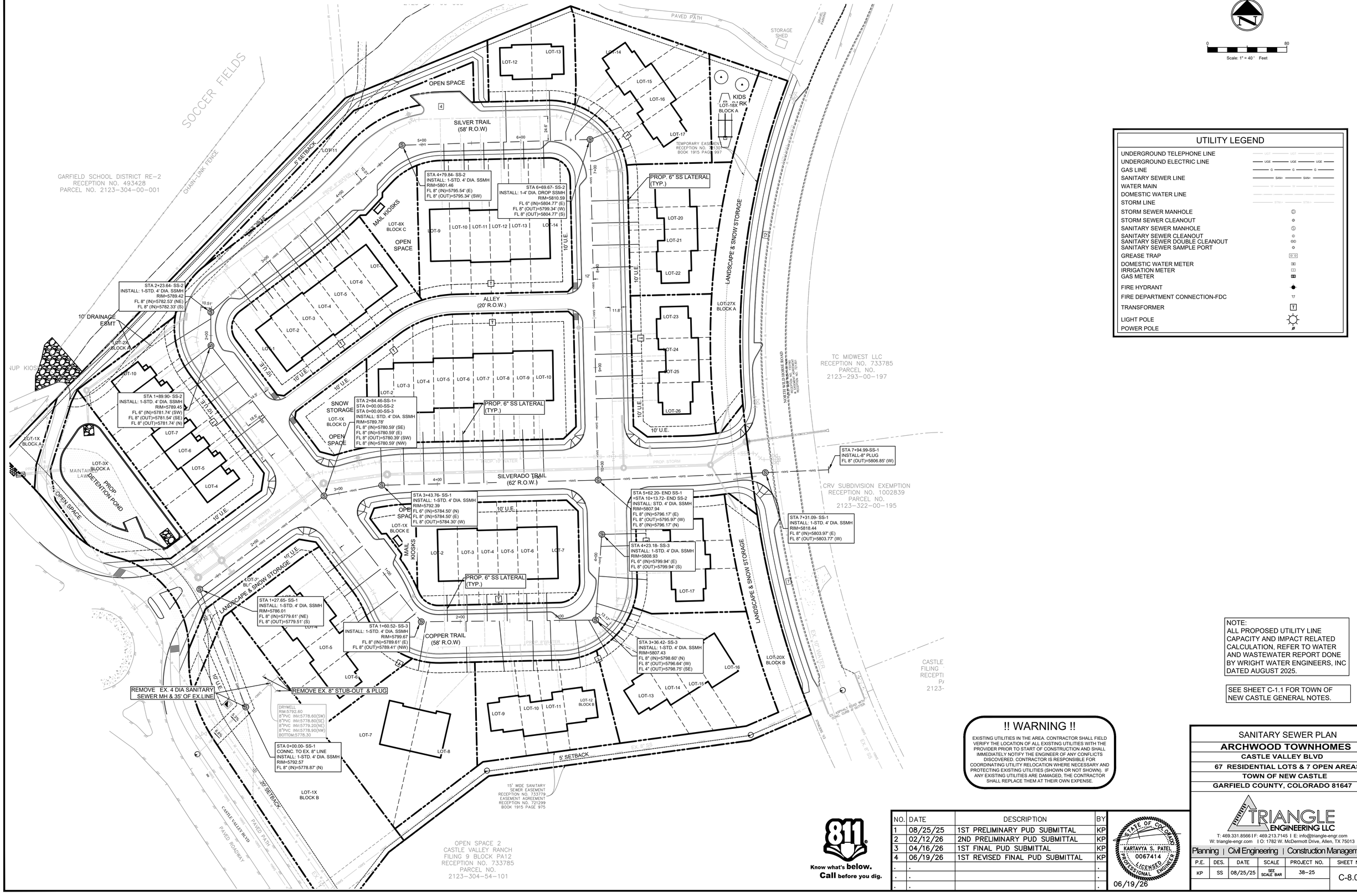
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UTILITY LEGEND

UNDERGROUND TELEPHONE LINE	UGT
UNDERGROUND ELECTRIC LINE	UGE
GAS LINE	G
SANITARY SEWER LINE	SAN
WATER MAIN	W
DOMESTIC WATER LINE	W
STORM LINE	STM
STORM SEWER MANHOLE	
STORM SEWER CLEANOUT	
SANITARY SEWER MANHOLE	
SANITARY SEWER CLEANOUT	
SANITARY SEWER DOUBLE CLEANOUT	
SANITARY SEWER SAMPLE PORT	
GREASE TRAP	
DOMESTIC WATER METER	
IRRIGATION METER	
GAS METER	
FIRE HYDRANT	
FIRE DEPARTMENT CONNECTION-FDC	
TRANSFORMER	T
LIGHT POLE	
POWER POLE	

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STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

SANITARY SEWER PLAN

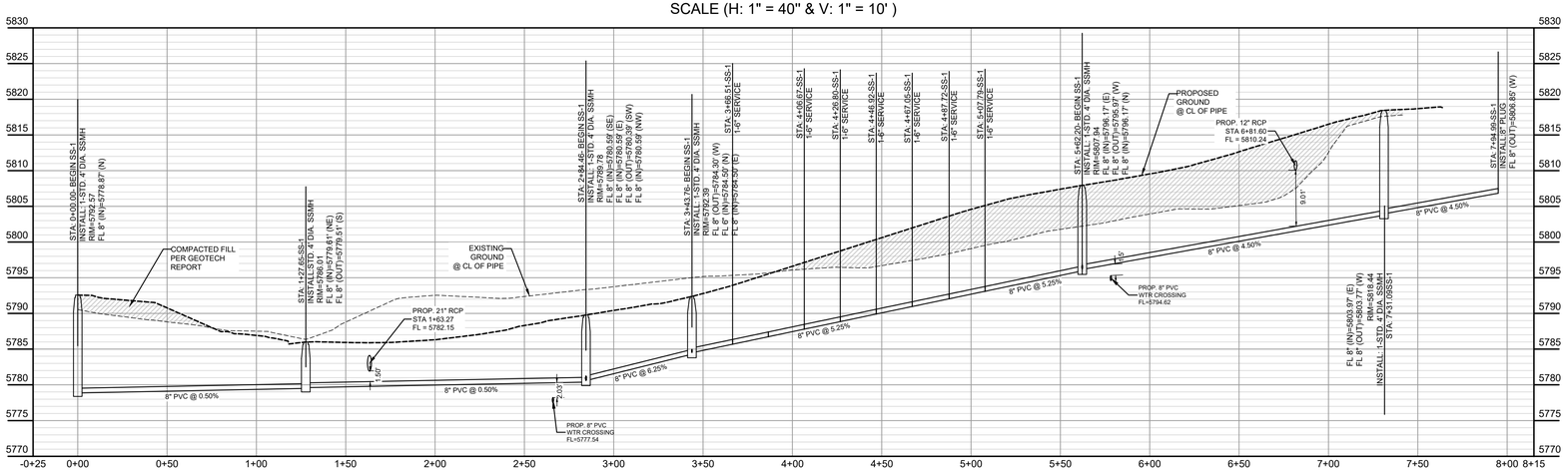
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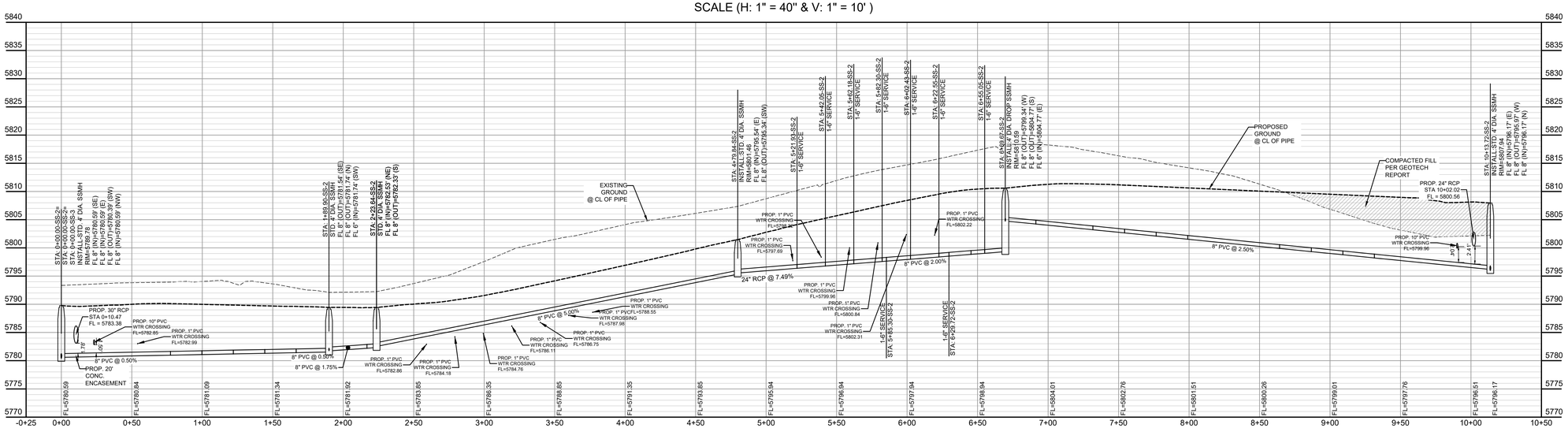
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KP	SS	08/25/25	SEE SCALE BAR	38-25	C-8.0

SS-1 PROFILE
SCALE (H: 1" = 40" & V: 1" = 10')

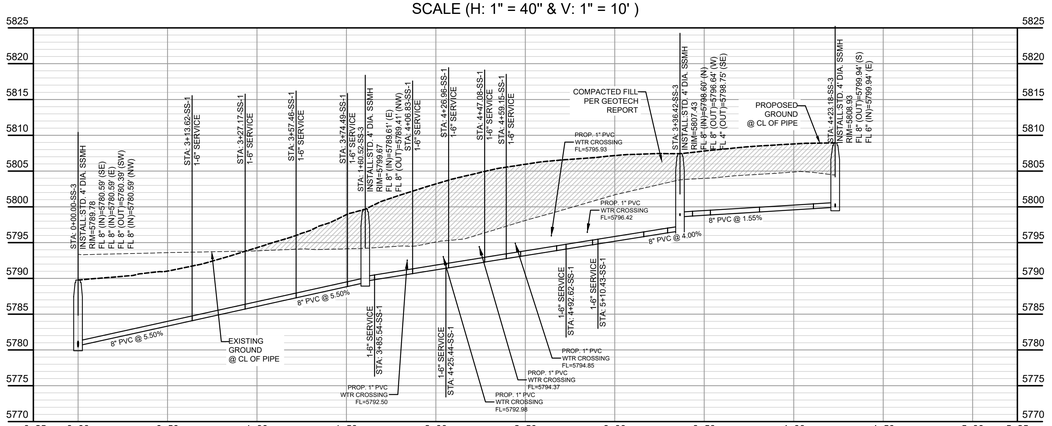


SEE SHEET C-7.1 FOR INSULATION AND RELATED NOTE.

SS-2 PROFILE
SCALE (H: 1" = 40" & V: 1" = 10')



SS-3 PROFILE
SCALE (H: 1" = 40" & V: 1" = 10')



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STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

SANITARY SEWER PROFILE

ARCHWOOD TOWNHOMES

CASTLE VALLEY BLVD

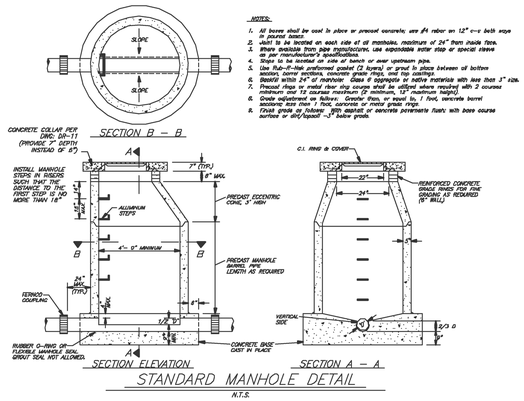
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TOWN OF NEW CASTLE

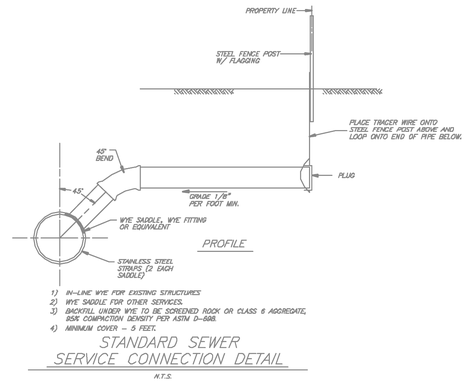
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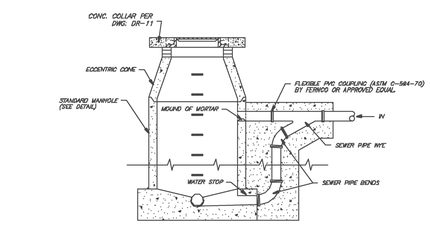
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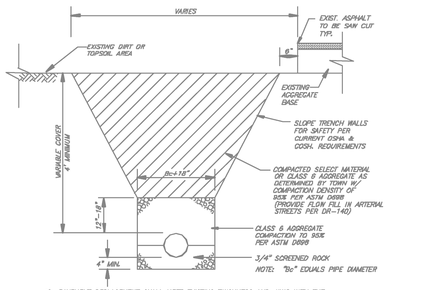
STANDARD SEWER MANHOLE DETAIL	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: SW-10



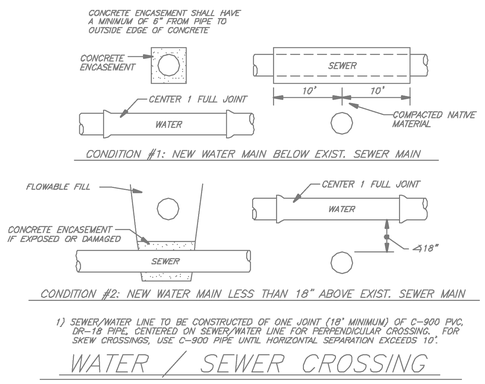
SEWER SERVICE CONNECTION DETAIL	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: SW-40



DROP MANHOLE CONNECTION DETAIL	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: SW-30



STANDARD SEWER MAIN TRENCH SECTION	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: SW-50



WATER/SEWER CROSSING DETAIL	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: SW-60

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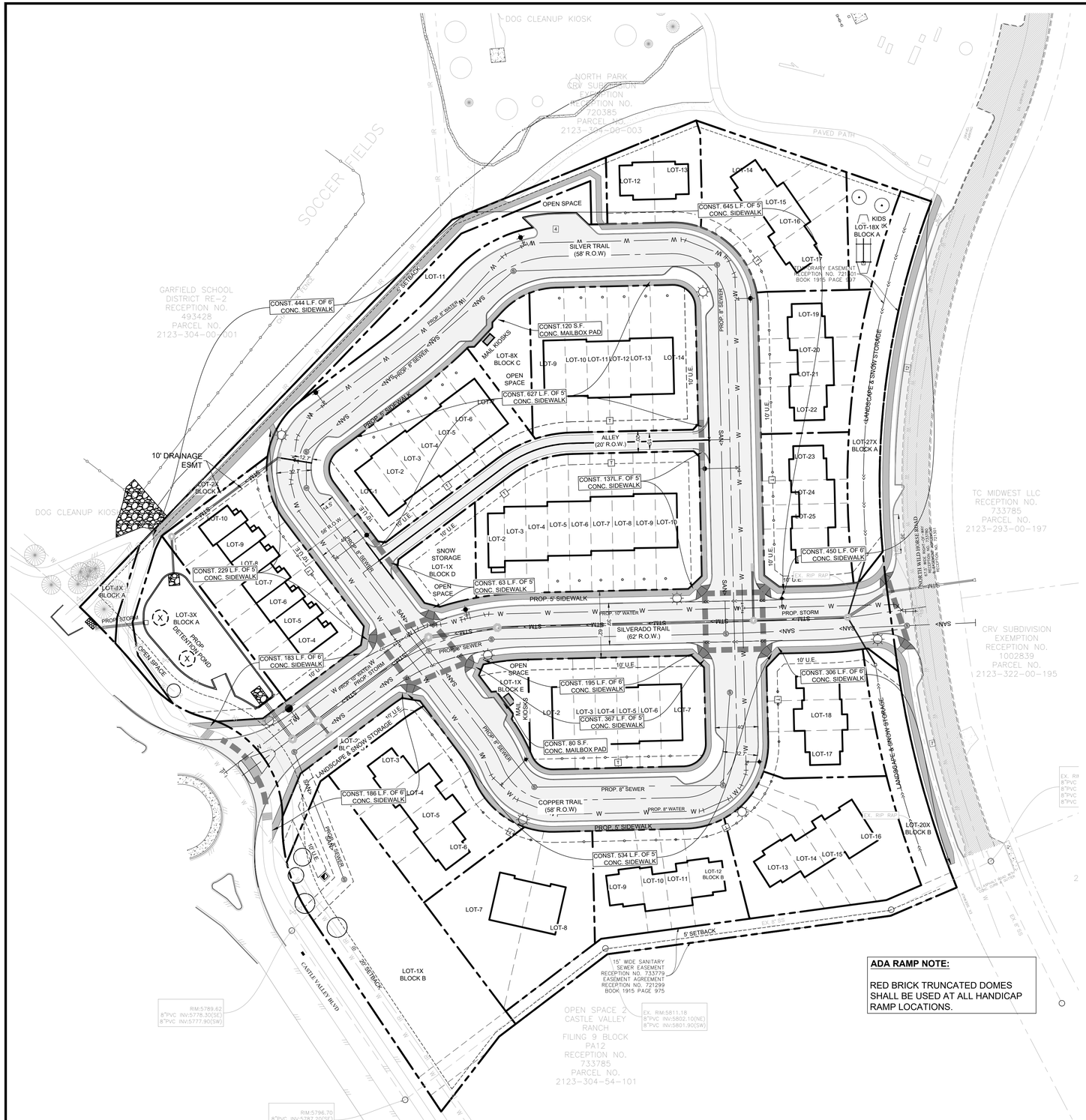
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SANITARY SEWER DETAILS
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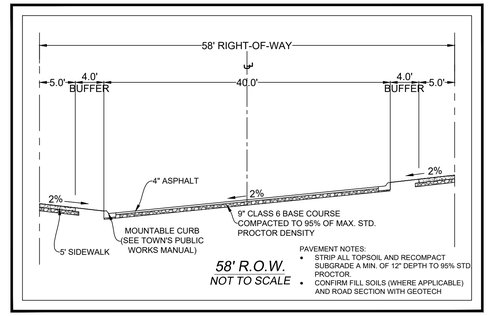
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ADA RAMP NOTE:

RED BRICK TRUNCATED DOMES SHALL BE USED AT ALL HANDICAP RAMP LOCATIONS.

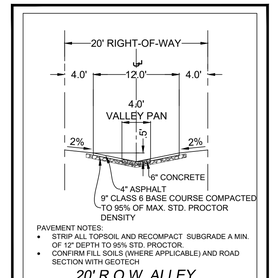


58' R.O.W.
NOT TO SCALE

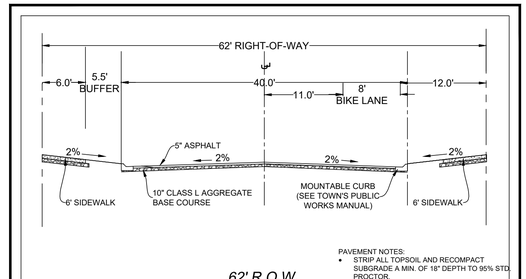


LEGEND

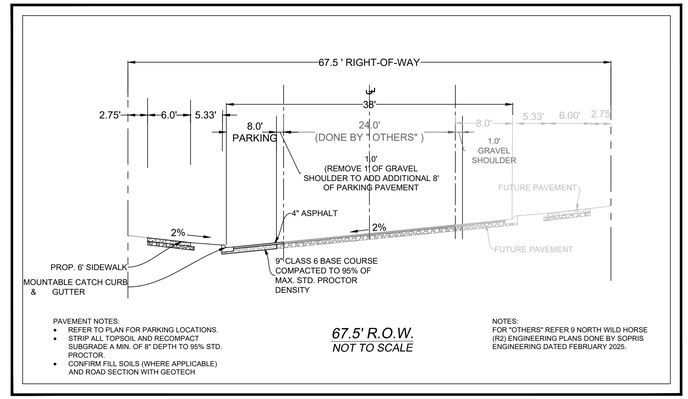
R.O.W.	RIGHT-OF-WAY	FG	FINISHED GROUND
TP	TOP OF PAVEMENT	EG	EXISTING GROUND
EXP	EXISTING TOP OF PAVEMENT		DIRECTION OF DRAINAGE FLOW
LP	LOW POINT		CENTERLINE
HP	HIGH POINT		PROP. ROAD (BY OTHERS)
20'R	RADIUS		PROPOSED ROAD
PC	POINT OF CURVATURE		
PT	POINT OF TANGENCY		
PI	POINT OF INTERSECTION		
PVI	POINT OF VERTICAL INTERSECTION		
CONST.	CONSTRUCT		
℄	CENTERLINE		
RT	RIGHT		
LT	LEFT		
GND	GROUND		



20' R.O.W. ALLEY
NOT TO SCALE



62' R.O.W.
NOT TO SCALE



67.5' R.O.W.
NOT TO SCALE

REFER TO TRAFFIC IMPACT ANALYSIS DONE BY TURNKEY CONSULTING, LLC DATED JULY 2025.

ALL GEOTECHNICAL ENGINEERING RECOMMENDATIONS SHALL BE ADHERED TO REPORT DONE BY K+A ASSOCIATES, INC. DATED JUNE 2025.

Know what's below.
Call before you dig.

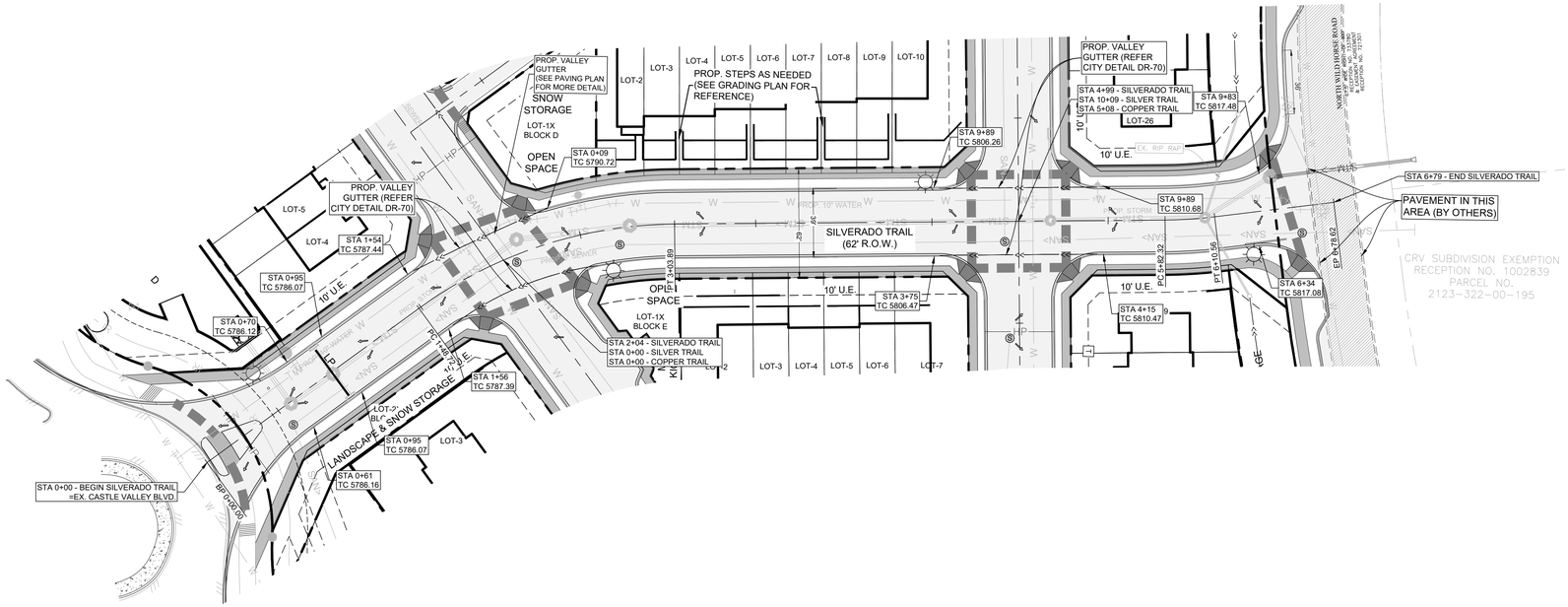
NO.	DATE	DESCRIPTION	BY
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2	02/12/26	2ND PRELIMINARY PUD SUBMITTAL	KP
3	04/16/26	1ST FINAL PUD SUBMITTAL	KP
4	06/19/26	1ST REVISED FINAL PUD SUBMITTAL	KP
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STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

OVERALL PAVING PLAN
ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
TOWN OF NEW CASTLE
GARFIELD COUNTY, COLORADO 81647

TRIANGLE ENGINEERING LLC
T: 469.331.8566 I F: 469.213.7145 I E: info@triangle-engr.com
W: triangle-engr.com I O: 1782 W. McDermott Drive, Allen, TX 75013
Planning | Civil Engineering | Construction Management

P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38–25	C-9.0

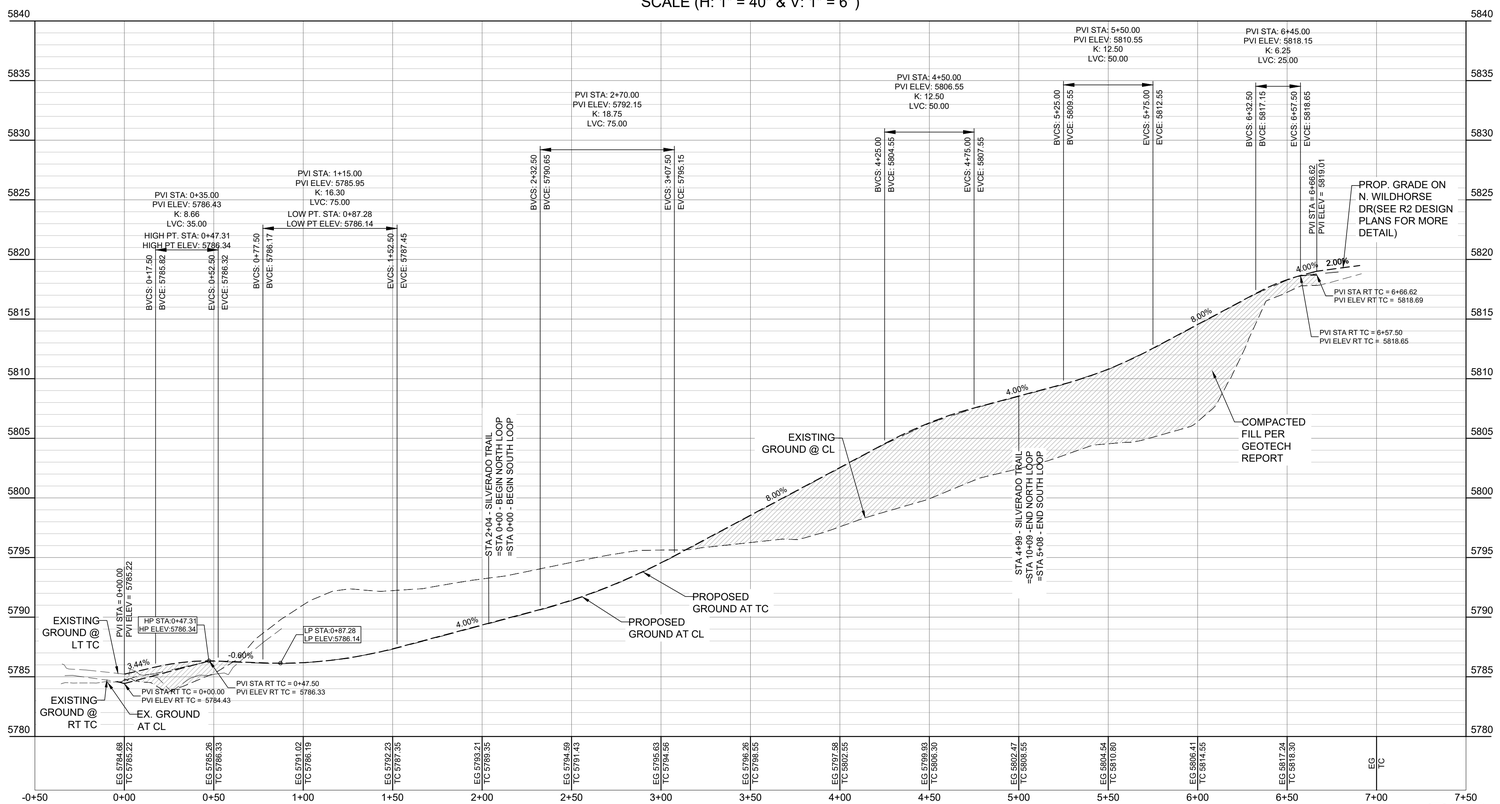




LEGEND

R.O.W.	RIGHT-OF-WAY	FG	FINISHED GROUND
TP	TOP OF PAVEMENT	EG	EXISTING GROUND
EXP	EXISTING TOP OF PAVEMENT		DIRECTION OF DRAINAGE FLOW
LP	LOW POINT		CENTERLINE
HP	HIGH POINT		PROP. ROAD (BY OTHERS)
20'R	RADIUS		PROPOSED ROAD
PC	POINT OF CURVATURE		
PT	POINT OF TANGENCY		
PI	POINT OF INTERSECTION		
PVI	POINT OF VERTICAL INTERSECTION		
CONST.	CONSTRUCT		
℄	CENTERLINE		
RT	RIGHT		
LT	LEFT		
GND	GROUND		

SILVERADO TRAIL PROFILE
SCALE (H: 1" = 40" & V: 1" = 6')



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NOTE: REFER TO SHEET C-9.0 FOR TYPICAL PAVEMENT DETAILS.

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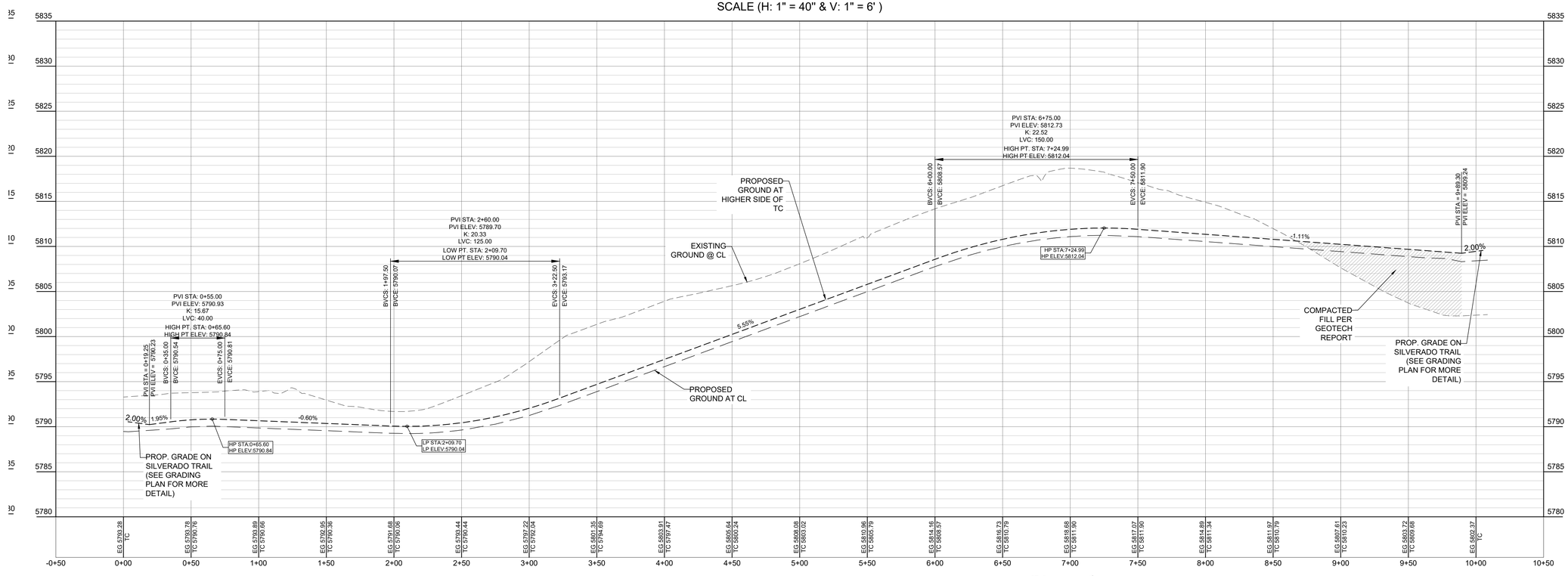
STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

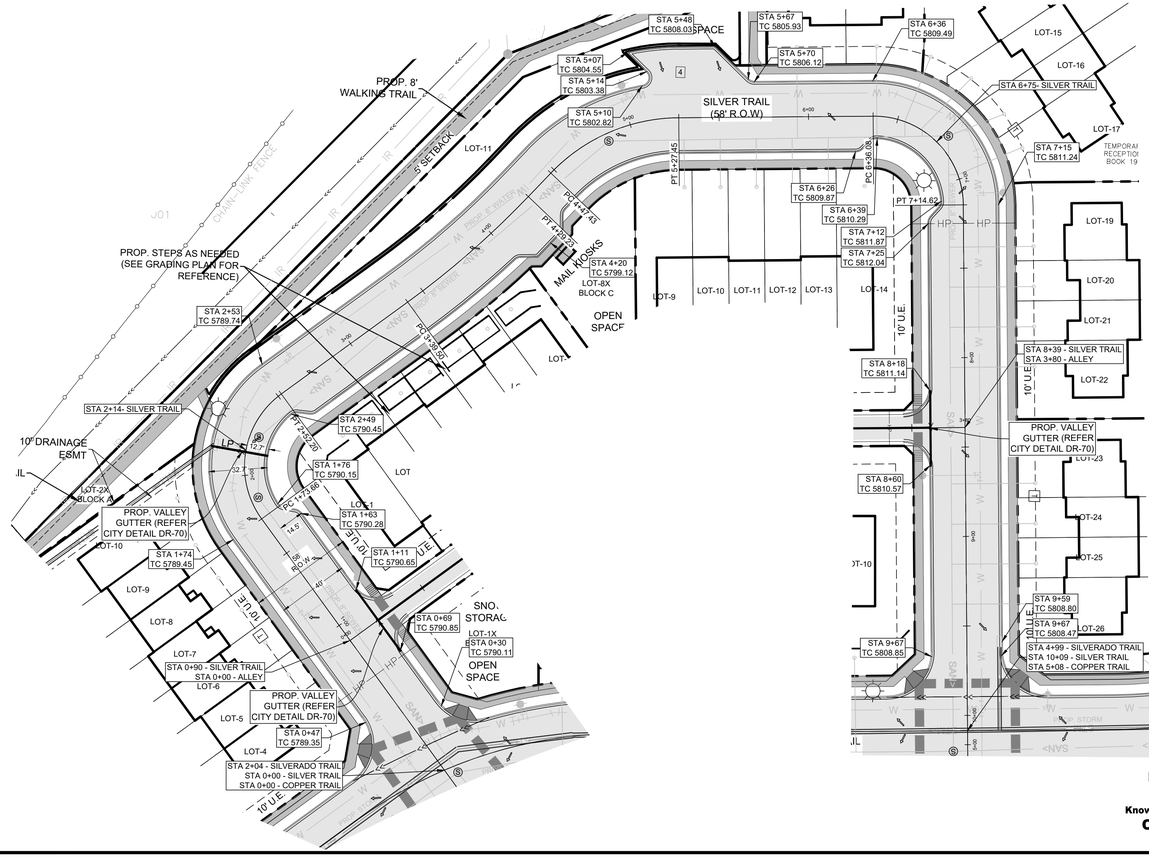
PAVING PLAN & PROFILE
ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
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Planning | Civil Engineering | Construction Management

P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38-25	C-9.1

SILVER TRAIL PROFILE
SCALE (H: 1" = 40'' & V: 1" = 6')





Know what's **below.**
Call before you dig.

LEGEND

R.O.W.	RIGHT-OF-WAY	FG	FINISHED GROUND
TP	TOP OF PAVEMENT	EG	EXISTING GROUND
EXP	EXISTING TOP OF PAVEMENT		DIRECTION OF DRAINAGE FLOW
LP	LOW POINT		CENTERLINE
HP	HIGH POINT		PROP. ROAD (BY OTHERS)
20'R	RADIUS		PROPOSED ROAD
PC	POINT OF CURVATURE		
PT	POINT OF TANGENCY		
PI	POINT OF INTERSECTION		
PVI	POINT OF VERTICAL INTERSECTION		
CONST.	CONSTRUCT		
℄	CENTERLINE		
RT	RIGHT		
LT	LEFT		
GND	GROUND		

NOTE:
THERE IS ONLY A MARGINAL DIFFERENCE (0.03 ') BETWEEN THE PROPOSED GROUND LEVEL AT THE CENTERLINE (CL) AND THE PROPOSED GROUND LEVEL AT THE LOWER-SIDE TOP OF CURB (TC) OF THE ROAD. THEREFORE, THE LOWER-SIDE TC HAS NOT BEEN SHOWN IN THE PROFILE, AS DISPLAYING BOTH LINES WOULD CAUSE OVERLAP AND REDUCE CLARITY.

REFER TO TRAFFIC IMPACT ANALYSIS DONE BY TURNKEY CONSULTING, LLC DATED JULY 2025.

ALL GEOTECHNICAL ENGINEERING RECOMMENDATIONS SHALL BE ADHERED TO REPORT DONE BY K+A ASSOCIATES, INC. DATED JUNE 2025.

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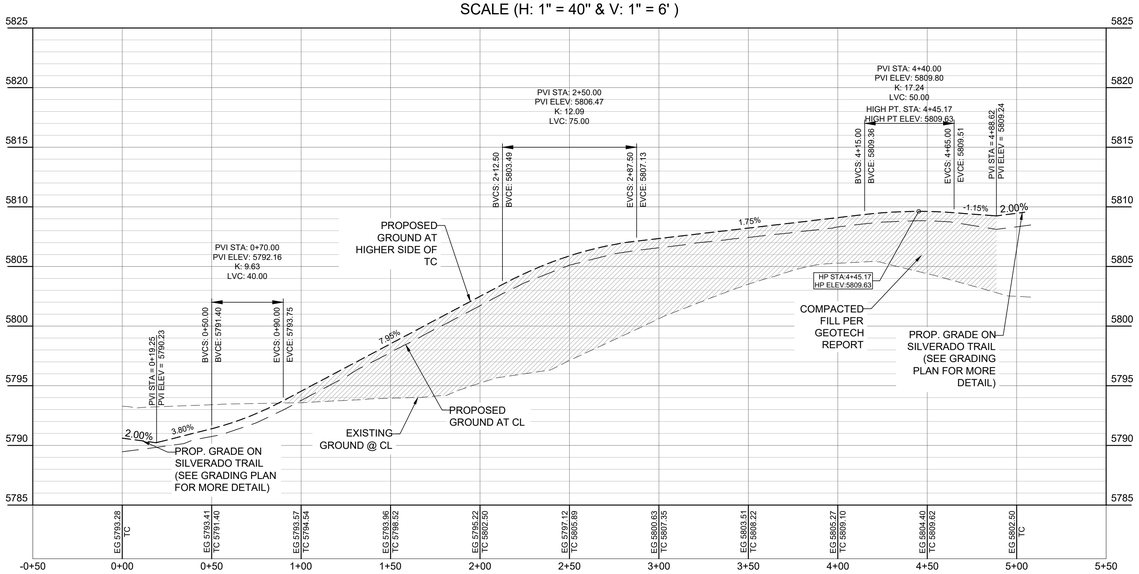
STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

PAVING PLAN & PROFILE
ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
TOWN OF NEW CASTLE
GARFIELD COUNTY, COLORADO 81647

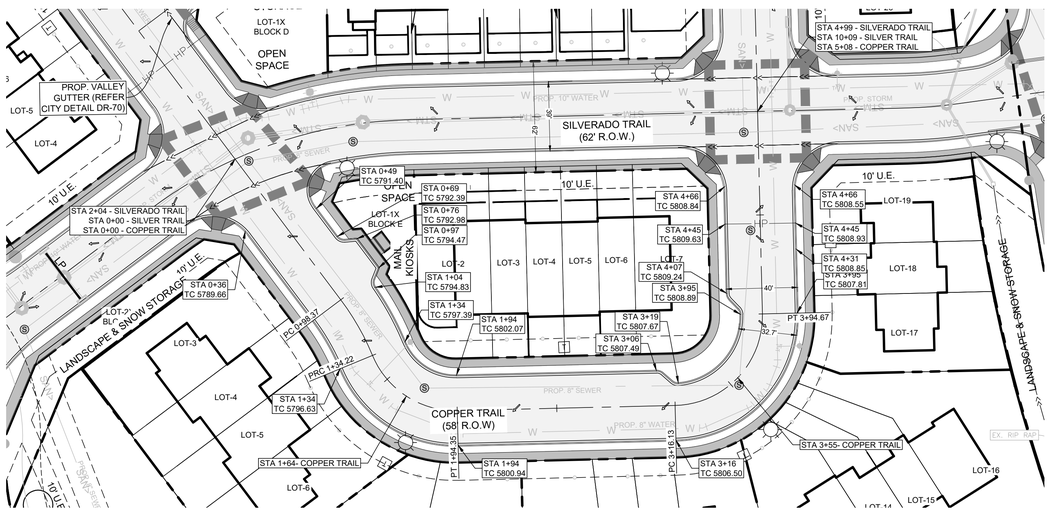
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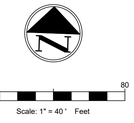
Planning | Civil Engineering | Construction Management

P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38-25	C-9.2



NOTE:
THERE IS ONLY A MARGINAL DIFFERENCE (0.03 ') BETWEEN THE PROPOSED GROUND LEVEL AT THE CENTERLINE (CL) AND THE PROPOSED GROUND LEVEL AT THE LOWER-SIDE TOP OF CURB (TC) OF THE ROAD. THEREFORE, THE LOWER-SIDE TC HAS NOT BEEN SHOWN IN THE PROFILE, AS DISPLAYING BOTH LINES WOULD CAUSE OVERLAP AND REDUCE CLARITY.





LEGEND

R.O.W.	RIGHT-OF-WAY	FG	FINISHED GROUND
TP	TOP OF PAVEMENT	EG	EXISTING GROUND
EXP	EXISTING TOP OF PAVEMENT		DIRECTION OF DRAINAGE FLOW
LP	LOW POINT		CENTERLINE
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PC	POINT OF CURVATURE		
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PI	POINT OF INTERSECTION		
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CONST.	CONSTRUCT		
℄	CENTERLINE		
RT	RIGHT		
LT	LEFT		
GND	GROUND		

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4	06/19/26	1ST REVISED FINAL PUD SUBMITTAL	KP
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STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

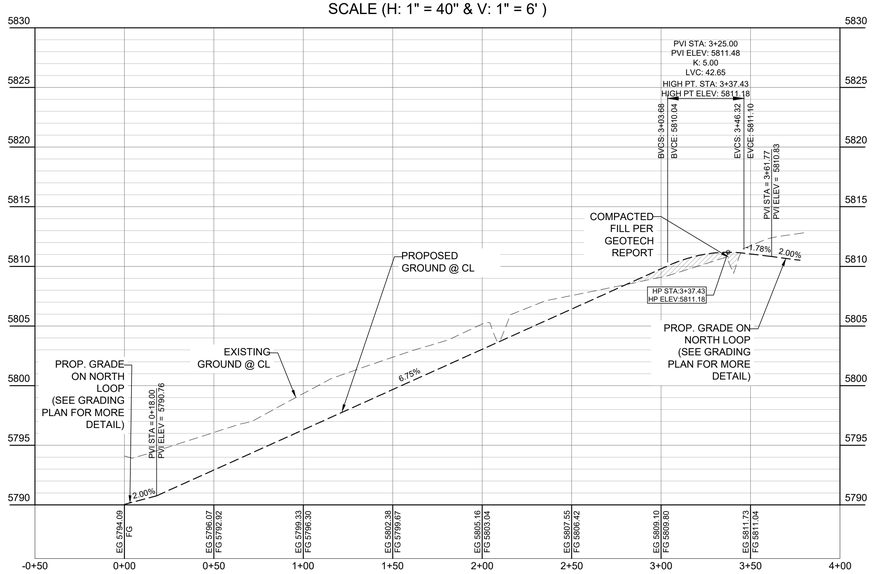
PAVING PLAN & PROFILE
ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
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GARFIELD COUNTY, COLORADO 81647

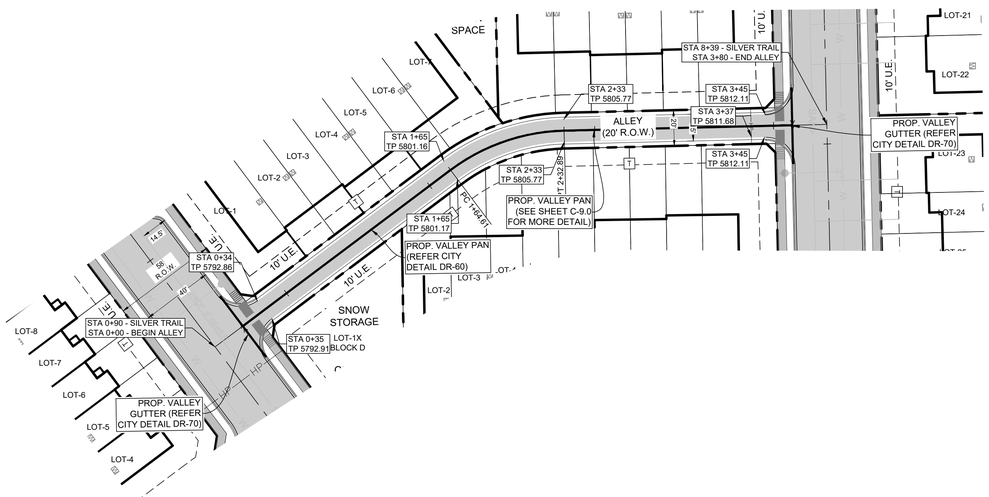
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P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38-25	C-9.3



ALLEY PROFILE
SCALE (H: 1" = 40" & V: 1" = 6')





LEGEND

R.O.W.	RIGHT-OF-WAY	FG	FINISHED GROUND
TP	TOP OF PAVEMENT	EG	EXISTING GROUND
EXP	EXISTING TOP OF PAVEMENT		DIRECTION OF DRAINAGE FLOW
LP	LOW POINT		CENTERLINE
HP	HIGH POINT		PROP. ROAD (BY OTHERS)
20'R	RADIUS		PROPOSED ROAD
PC	POINT OF CURVATURE		
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CONST.	CONSTRUCT		
℄	CENTERLINE		
RT	RIGHT		
LT	LEFT		
GND	GROUND		

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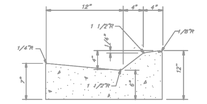
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STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

PAVING PLAN & PROFILE
ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
TOWN OF NEW CASTLE
GARFIELD COUNTY, COLORADO 81647

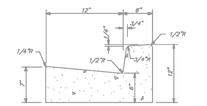
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P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38–25	C-9.4



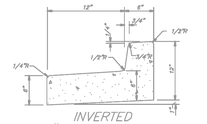
MOUNTABLE CURB & GUTTER

SCALE: 1 1/2"= 1'-0"



18" CURB & GUTTER

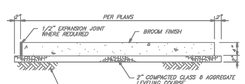
SCALE: 1 1/2"= 1'-0"



INVERTED 18" CURB & GUTTER

SCALE: 1 1/2"= 1'-0"

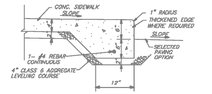
24" CURB AND GUTTER DETAILS	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: DR-10



NOTES:
1) EXPANSION JOINTS: NO MORE THAN 100' ON CENTER AND AT DRIVEWAYS.
2) DUMMY JOINTS: 1" DEEP BY 1/8" - 1/4" WIDTH AT INTERVALS EQUAL TO SIDEWALK WIDTH.
3) USE 1/4" RADIUS ON ALL EDGES.
4) USE 6" DEPTH OF CONCRETE ON ALL DRIVEWAYS.
5) CURE FOR 72 HOURS USING CURING COMPOUND, PLASTIC COVERING OR MOISTURE.
6) USE 3750 PSI CONCRETE WITH FIBERMESH ADDITIVE AT 1-1/2 LBS./C.Y. MAXIMUM SLUMP 4".

CONCRETE SIDEWALK

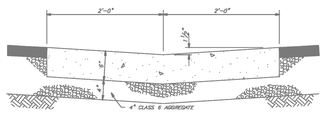
SCALE: 1"= 1'-0"



TYP. DETACHED SIDEWALK W/ THICKENED EDGE

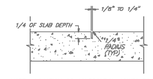
SCALE: 1"= 1'-0"

TYPICAL SIDEWALK AND SIDEWALK W/THICKENED EDGE	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: DR-40



VALLEY PAN DETAIL

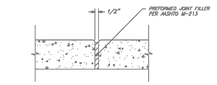
SCALE: 1/2"= 1'-0"



NOTE: LOCATION OF CONTRACTION JOINTS TO BE AS DETAILED OR AS DETERMINED IN FIELD WITH AND APPROVED BY TOWN.

STANDARD CONTRACTION JOINT

N.T.S.

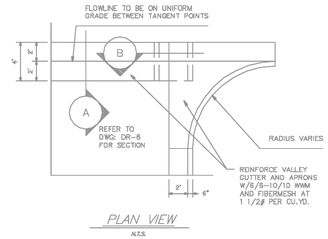


NOTE: EXPANSION JOINTS TO BE LOCATED ADJACENT TO ANY EXISTING CONCRETE OR FIXED STRUCTURE.

STANDARD EXPANSION JOINT

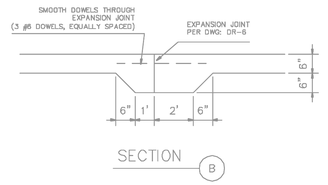
N.T.S.

VALLEY PAN DETAIL AND EXPANSION AND CONTRACTION JOINT DETAILS	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: DR-60



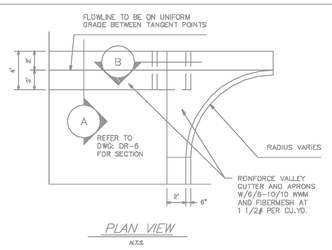
PLAN VIEW

N.T.S.



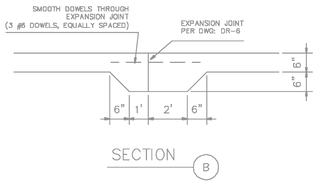
SECTION

VALLEY GUTTER AT INTERSECTION	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: DR-70



PLAN VIEW

N.T.S.



SECTION

VALLEY GUTTER AT INTERSECTION	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: DR-70

Know what's **below.**
Call before you dig.

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STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

PAVING DETAILS

ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
TOWN OF NEW CASTLE
GARFIELD COUNTY, COLORADO 81647

TRIANGLE ENGINEERING LLC
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P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38-25	C-9.5



0 50 100

Scale: 1" = 50' Feet

LEGEND

1. STOP (R1-1)
2. SPEED LIMIT 20 MPH (R2-1)
3. STREET NAME SIGNS (D3 OR TO MATCH LOCAL SIGNAGE)
4. NO PARKING ANY TIME (R7-1)
5. NO PARKING ON STREET 48 HOURS AFTER A SNOW FALL EVENT OF 2" OR MORE

SIGNAGE & STRIPING NOTES

1. ALL SIGN LOCATION AND CONSTRUCTION TO MUTCD & TOWN OF NEW CASTLE STANDARDS. ALL STREET SIGNS TO BE HIGH INTENSITY PRISMATIC SIGNS. REFER TO SIGN DETAIL ON THIS SHEET.
2. ALL CROSSWALK MARKINGS, AND STOP BARS TO BE WHITE REFLECTIVE THERMOPLASTIC. REFER TO DETAIL ON THIS SHEET.
3. STREET NAME SIGNS TO BE MOUNTED ABOVE STOP AND YIELD SIGNS ONSITE. STREET SIGNS TO CONFORM TO TOWN OF NEW CASTLE STANDARDS.

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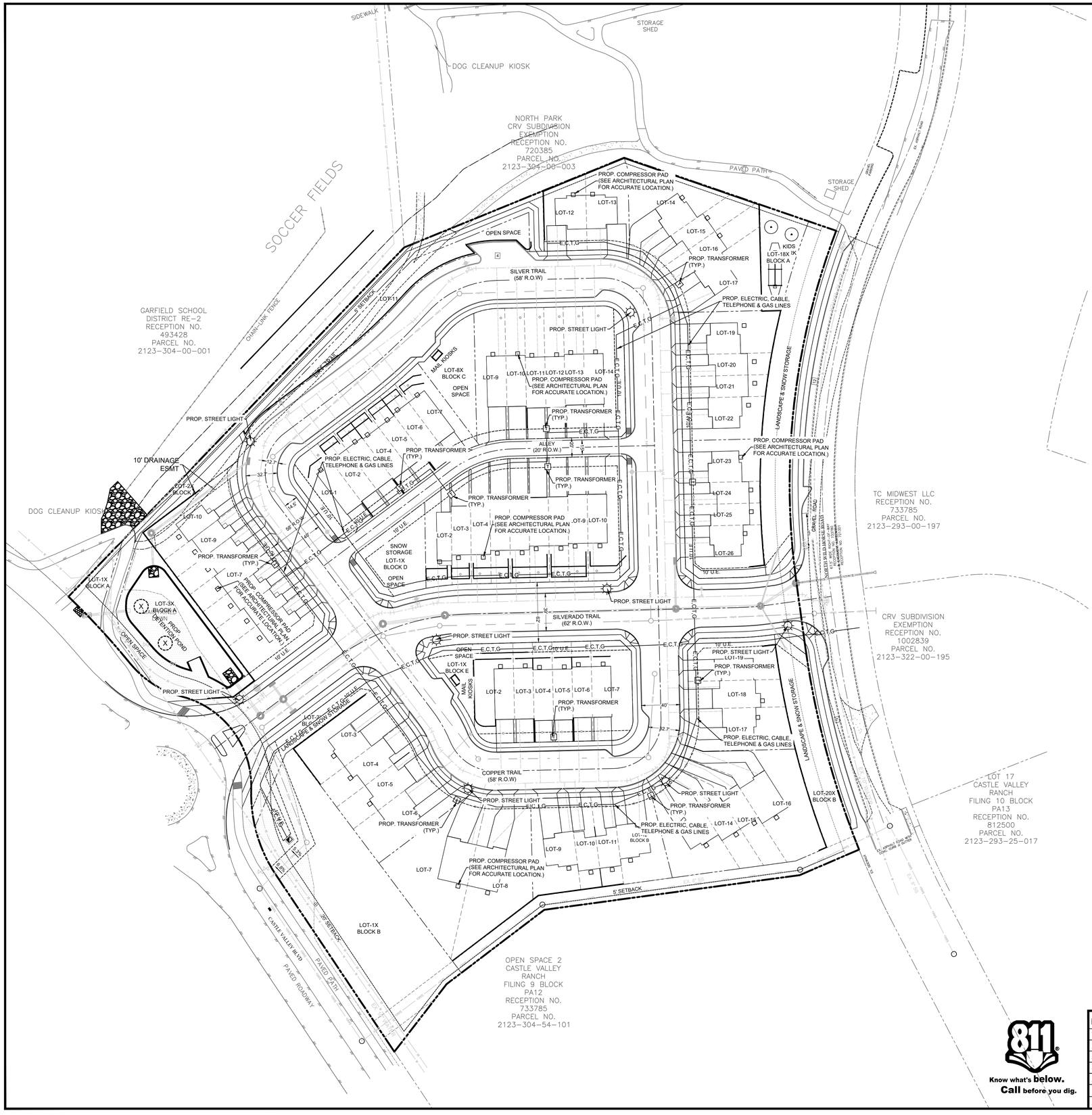
STATE OF COLORADO
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SIGNAGE & STRIPING PLAN

ARCHWOOD TOWNHOMES
CASTLE VALLEY BLVD
67 RESIDENTIAL LOTS & 7 OPEN AREAS
TOWN OF NEW CASTLE
GARFIELD COUNTY, COLORADO 81647

TRIANGLE ENGINEERING LLC
T: 469.331.8566 I F: 469.213.7145 I E: info@triangle-engr.com
W: triangle-engr.com I O: 1782 W. McDermott Drive, Allen, TX 75013
Planning | Civil Engineering | Construction Management

P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38-25	C-10.0



NOTE:

THIS PLAN IS FOR REFERENCE ONLY. FOR CONSTRUCTION PLANS OF THIS UTILITIES, REFER TO RELATED PLANS PREPARED BY EACH INDIVIDUAL PROVIDER/ LANDSCAPE ARCHITECT .

IRRIGATION PLAN NOTE:

REFER TO IRRIGATION PLAN PREPARED BY " HYDRO SYSTEM" DATED 04.10.2026 FOR IRRIGATION DESIGN.

0 50 100

Scale: 1" = 50 ' Feet

UTILITY LEGEND

UNDERGROUND TELEPHONE LINE	UGT
UNDERGROUND ELECTRIC LINE	UGE
GAS LINE	G
SANITARY SEWER LINE	SAN+
WATER MAIN	W
DOMESTIC WATER LINE	W
STORM LINE	STM+
STORM SEWER MANHOLE	
STORM SEWER CLEANOUT	
SANITARY SEWER MANHOLE	
SANITARY SEWER CLEANOUT	
SANITARY SEWER DOUBLE CLEANOUT	
SANITARY SEWER SAMPLE PORT	
GREASE TRAP	
DOMESTIC WATER METER	
IRRIGATION METER	
GAS METER	
FIRE HYDRANT	
FIRE DEPARTMENT CONNECTION-FDC	
TRANSFORMER	T
LIGHT POLE	
POWER POLE	

Know what's below. Call before you dig.

NO.	DATE	DESCRIPTION	BY
1	08/25/25	1ST PRELIMINARY PUD SUBMITTAL	KP
2	02/12/26	2ND PRELIMINARY PUD SUBMITTAL	KP
3	04/16/26	1ST FINAL PUD SUBMITTAL	KP
4	06/19/26	1ST REVISED FINAL PUD SUBMITTAL	KP
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STATE OF COLORADO
KARTAVYA S. PATEL
P.E. 0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

FRANCHISE UTILITY & LIGHTING PLAN

ARCHWOOD TOWNHOMES

CASTLE VALLEY BLVD

67 RESIDENTIAL LOTS & 7 OPEN AREAS

TOWN OF NEW CASTLE

GARFIELD COUNTY, COLORADO 81647

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P.E.	DES.	DATE	SCALE	PROJECT NO.	SHEET NO.
KP	SS	08/25/25	SEE SCALE BAR	38-25	C-11.0



0 50 100

Scale: 1" = 50' Feet

LEGEND

SNOW STORAGE AREA

SNOW STORAGE CALCULATIONS				
ROAD	**PAVED AREA (S.F)**	**15% OF AREA (S.F.)**	**PLANNED SNOW STORAGE (S.F.)**	**NOTES**
SILVERADO TRAIL	23000	3450	4183.84	5.5' WIDE, BOTH SIDES WITH IN GREEN SPACE
NORTH LOOP	40478	6072	4286	4' WIDE PER PLAN + 20' WIDTH N PARKING
SOUTH LOOP	19537	2931	825	4' WIDE PER PLAN
OPEN AREA/ LANDSCAPE AREA	103673	15551	23616	SNOW STORAGE/OPEN SPACE LOT
TOTAL	186688	28003	32911	17.6 % SNOW STORAGE CALCULATED

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STATE OF COLORADO
KARTAVYA S. PATEL
0067414
LICENSED PROFESSIONAL ENGINEER
06/19/26

SNOW STORAGE PLAN

ARCHWOOD TOWNHOMES

CASTLE VALLEY BLVD

67 RESIDENTIAL LOTS & 7 OPEN AREAS

TOWN OF NEW CASTLE

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KP	SS	08/25/25	SEE SCALE BAR	38-25	C-12.0



PLANT SCHEDULE

Quanity	Symbol	Scientific Name	Common Name	Code Name	Planting Size
Deciduous Trees					
23		Malus spp. 'Spring Snow'	Spring Snow Crabapple	SSC	2.5"-Cal
28		Gleditsia triacanthos inermis ' Shademaster'	Shademaster Honeylocust	SH	2.5"-Cal.
37		Acer rubrum	Red Sunset Maple	RM	2.5"-Cal.
9		Acer ginnala 'Flame'	Ginnala Flame Maple	AM	2.5"-Cal.
13		Acer tataricum 'Hot Wings'	Hot Wings Maple	HWM	2.5"-Cal.
15		Acer x Freemani	Autumn Blaze Maple	ABM	2.5"-Cal.
4		Populus angustifolia	Narrowleaf Cottonwood	NC	2.5"-Cal.
Evergreen Trees					
5		Picea pungens ' Hoopsi'	Hoopsi Blue Spruce	BSH	8'
18		Pinus nigra	Austrian Pine	AP	8'
Shrubs					
56		Rosa spp. 'Nearly Wild'	Nearly Wild Rose	NWR	5-Gal
73		Potentill fruiticosa ' Gold Drop'	Gold Drop Potentilla	GDP	5-Gal
51		Potentill fruiticosa ' McKay's'	McKays Whited Potentilla	MWP	5-Gal
44		Cotoneaster apiculata	Cranberry Cotoneaster	CC	5-Gal
25		Euonymous alatus ' Compacta'	Dwarf Winged Euonymous	DWE	5-Gal
27		Syringa patula ' Miss Kim'	Miss Kim Dwarf Lilac	MKL	5-Gal
11		Berberis thunbergii 'Crimson Pygmy'	Crimson Pygmy Barberry	CB	5-Gal
11		Spiraea japonica Neon Flash"	Neon Flash Spirea	NFS	5-Gal
Ornamental Grasses					
22		Calamagrostis acutiflora Karl Foerster'	Karl Foester Reed Grass	KF	5-Gal

NATIVE GRASS SEED MIX SHALL BE LOW GROW MIX CONSISTING OF THE FOLLOWING GRASSES:

30% EPHRAIM CRESTED WHEATGRASS
25% SHEEPS FESCUE
20% VIBRANT PERENNIAL RYEGRASS
15% CHEWINGS FESCUE
10% CANADA BLUEGRASS

APPLY SEED AT A RATE OF 1/2 LB./1,000 S.F.

LAWN GRASS SHALL CONSISTING OF THE FOLLOWING GRASSES:

34% CREEPING RED FESCUE
33% CHEWINGS FESCUE
33% HARD FESCUE

APPLY SEED AT A RATE OF 5 LBS./1,000 S.F.

LEGEND

- NATIVE GRASS AREA
- 2" OF 3/8" TAN GRAVEL W/WEED BARRIER IN AREAS BETWEEN STREETS AND SIDEWALKS AND BETWEEN PARKING SPACES (AWAY FROM SHRUBS), AS NOTED ON DRAWING.
- 2" OF 3/8" TAN GRAVEL, NO WEED BARRIER IN SHRUB AREAS IN FRONT OF BUILDINGS AND OTHER SHRUB AREAS.
- ENGINEERED WOOD FIBER (EWF)
- NEW DROUGHT RESISTANT LAWN (SOD) AREA
- EXISTING PINE TREE

N

50 0 50 100 150
Scale: 1" = 50'

PRELIMINARY - FOR REVIEW ONLY

JLT

JOHN L. TAUFER
&
ASSOCIATES, INC.

LANDSCAPE ARCHITECTURE / LAND PLANNING

P.O. BOX 323
GLENWOOD SPRINGS, COLORADO
81602

(970) 618-0497 MOBILE

ARCHWOOD TOWNHOMES

CASTLE VALLEY RANCH
NEW CASTLE COLORADO

JLT PROJ NO.

DRAWN BY: JLT
CHKD BY: JLT

SCALE: 1" = 50'-0"
DATES: 6/28/16

REVISIONS:

SHEET TITLE
LANDSCAPE PLAN

SHEET
L1.0

IRRIGATION CONSTRUCTION NOTES

1. DRAWINGS AND BASE INFORMATION - ALL BASE AND PLANTING INFORMATION HAVE BEEN PROVIDED BY KLUTCH CONSULTANT, LLC. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY HYDROSYSTEMS*KDI OF ANY DISCREPANCIES BETWEEN THE UTILITY OR PLANTING PLANS AND THE IRRIGATION PLAN. IF CONTRACTOR FAILS TO NOTIFY HYDROSYSTEMS*KDI AND MAKES CHANGES TO THE IRRIGATION SYSTEM DESIGN, THEY ASSUME ALL COSTS AND LIABILITIES ASSOCIATED WITH THOSE FIELD CHANGES. REFER TO SPECIFICATIONS FOR ADDITIONAL PROJECT REQUIREMENTS. CONTACT IRRIGATION CONSULTANT FOR CURRENT SPECIFICATIONS IF NOT PROVIDED.

2. SYSTEM PRESSURE - HYDROSYSTEMS*KDI HAS CONTACTED THE LOCAL WATER DISTRICT THAT SERVES THIS SITE AND THEY HAVE BEEN TOLD THAT THE STATIC WATER PRESSURE IN THIS AREA SHOULD BE 60 PSI. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY PRESSURE PRIOR TO COMMENCING ANY CONSTRUCTION AND NOTIFY HYDROSYSTEMS*KDI OF ANY VARIANCE FROM THE STATED PRESSURE IMMEDIATELY. WRITTEN DOCUMENTATION OF PRESSURE TEST AND RESULTS SHALL BE PROVIDED TO HYDROSYSTEMS*KDI AT CONSTRUCTION ONSET. IF CONTRACTOR FAILS TO FIELD VERIFY PRESSURE AND/OR NOTIFY HYDROSYSTEMS*KDI OR ANY VARIATIONS FROM THIS PRESSURE, THEN THEY ASSUME ALL CONSTRUCTION AND ENGINEERING COSTS ASSOCIATED WITH SYSTEM MODIFICATIONS REQUIRED TO ACCOMMODATE ACTUAL SITE PRESSURE. THIS SYSTEM HAS BEEN DESIGNED FOR A REQUIRED STATIC PRESSURE OF 55 PSI MINIMUM. A BOOSTER PUMP IS REQUIRED FOR THIS SYSTEM.

3. NON-POTABLE WATER SOURCE - THIS SITE HAS BEEN DESIGNED TO BE IRRIGATED WITH NON-POTABLE WATER. ALL CAPS ON HEADS, VALVE HANDLES, VALVE BOX LIDS SHALL BE CONSTRUCTED OF PURPLE MATERIALS AND LABELED TO INDICATE NON-POTABLE WATER SUPPLY. ALL MAINLINE AND LATERAL PIPING SHALL BE PURPLE IF REQUIRED BY THE SUPPLYING UTILITY. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING SIGNS NOTIFYING THE PUBLIC OF THE USE OF NON-POTABLE WATER ON THIS SITE. SEE STATE REGULATIONS FOR CONTENT AND SIZE OF NOTIFICATION SIGNS. INSTALLATION CREWS ARE TO BE INFORMED OF THE USE OF NON-POTABLE WATER.

4. IRRIGATION SYSTEM OPERATION INTENT - THIS IRRIGATION SYSTEM HAS BEEN DESIGNED TO IRRIGATE THE ESTABLISHED LANDSCAPE WITHIN A THREE NIGHT PER WEEK, EIGHT HOUR PER NIGHT WATERING WINDOW. ESTABLISHMENT WATERING WILL REQUIRE UP TO TWICE AS MUCH IRRIGATION FOR A FOUR TO SIX WEEK PERIOD. THE DESIGN IS BASED ON THE FOLLOWING PROJECTED WEEKLY APPLICATION RATES AFTER ESTABLISHMENT. THESE FIGURES ARE BASED ON A 30-YEAR AVERAGE WEATHER DATA AND WILL NEED TO BE ADJUSTED DUE TO SEASONAL CHANGES AND WEATHER CONDITIONS ABOVE AND BELOW THE AVERAGE VALUES UTILIZED.

DROUGHT RESISTANT LAWN MIX	0.99" PER WEEK PEAK SEASON
TREES AND SHRUBS	0.71" PER WEEK PEAK SEASON
NATIVE SEED MIXES	0.59" PER WEEK PEAK SEASON (TWO SEASONS)

NOTE: IT IS THE INTENT OF THIS DESIGN THAT NATIVE AREAS WOULD ONLY BE IRRIGATED FOR ESTABLISHMENT. SYSTEM WILL REMAIN FOR USE DURING YEARS WITH LESS THAN NORMAL RAINFALL.

5. EQUIPMENT INSTALLATION - IT IS THE INTENT OF THIS DESIGN THAT ALL IRRIGATION EQUIPMENT BE INSTALLED WITHIN PROPERTY LIMITS AND WITHIN LANDSCAPED AREAS. INSTALLATION SHALL BE COORDINATED WITH OTHER UTILITY WORK, ALL OTHER UTILITIES SHALL TAKE PRECEDENCE OVER IRRIGATION LOCATION. LANDSCAPE TREES, SHRUBS AND OTHER PERMANENT ELEMENTS SHALL BE AVOIDED WHEN PLACING IRRIGATION BOXES AND PRESSURIZED MAINLINE, REFER TO LANDSCAPE PLANS. FLAG LOCATIONS FOR LANDSCAPE ARCHITECT REVIEW WHERE CONFLICTS MAY OCCUR IN FIELD. ANY EQUIPMENT OTHER THAN VALVE BOXES OR SLEEVING THAT CONTAINS PIPE OR WIRES SHOWN OUTSIDE OF THESE LIMITS IS SHOWN IN THAT LOCATION FOR GRAPHICAL CLARITY ONLY. ALL VALVE BOXES SHALL BE INSTALLED A MINIMUM OF 2'-0" FROM EDGE OF ANY PAVED SURFACES UNLESS SPECIFICALLY INDICATED ON PLANS. BOXES INSTALLED IN OPEN TURF AREAS SHALL BE KEPT TO EDGES AND STAKED FOR REVIEW IF ALONG HIGH TRAFFIC AREAS. ALL VALVE BOXES SHALL BE PLACED A MINIMUM OF 3'-0" FROM THE CENTERLINE OF ANY DRAINAGE SWALE. ALL VALVE BOXES WITHIN PAVEMENT SHALL BE TIER 15 RATED BOXES FOR HEAVY DUTY NON-DELIBERATE TRAFFIC. BOX LID COLOR SHALL MATCH ADJACENT MATERIALS, I.E. GREEN IN TURF, TAN IN WOOD MULCH, GRAY IN STONE MULCH, PURPLE FOR RECLAIMED WATER SYSTEMS (IF REQUIRED). REFER TO LANDSCAPE PLANS FOR MATERIAL COLORS AND TYPES. ALL BOXES SHALL BE INSTALLED TO BE FLUSH WITH GRADE AND IN AN ORDERLY MANNER. WHERE MORTAR PAVING LIDS ARE INSTALLED ABOVE BOXES, IRRIGATION BOX WITH LID SHALL BE LOWERED TO ACCOMMODATE PAVING LID. REFER TO LANDSCAPE FOR ADDITIONAL INFORMATION, TO BE INSTALLED PER MANUFACTURE RECOMMENDATIONS.

6. PIPING INSTALLATION - IRRIGATION PIPING SHALL MAINTAIN A MINIMUM DISTANCE FROM BUILDING FOUNDATIONS OF 5 FEET OR AS DESCRIBED IN SOILS REPORT, WHICHEVER IS GREATER. NO SPRAY IRRIGATION SHALL OCCUR WITHIN 10 FEET OF THE FOUNDATION. NO DRIP IRRIGATION SHALL OCCUR WITHIN 5 FEET OF THE FOUNDATION UNLESS SOIL MOISTURE SENSORS ARE INSTALLED ON VALVES SERVICING THESE AREAS. ALL IRRIGATION PIPING AND EMISSION DEVICES LOCATED ON TOP OF OR WITHIN BUILDING STRUCTURE SHALL CONFORM TO WATERPROOFING CONSULTANT REQUIREMENTS. PIPE ROUTING MAY BE SHOWN WITHIN THESE DISTANCES FOR GRAPHICAL CLARITY ONLY.

7. MANUAL DRAIN VALVES - CONTRACTOR TO INSTALL ONE MANUAL DRAIN VALVE ON PRESSURE SUPPLY LINE DIRECTLY DOWNSTREAM OF BACKFLOW PREVENTER AND AT ALL LOW POINTS AND DEAD ENDS OF PRESSURE SUPPLY PIPING TO ENSURE COMPLETE DRAINAGE OF SYSTEM. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THESE LOCATIONS IN-FIELD AND INSTALLATION LOCATIONS SHALL BE NOTED ON AS-BUILTS.

8. POP-UP SPRAY NOZZLES - CONTRACTOR TO INSTALL PLASTIC NOZZLES ON ALL POP-UP SPRAY HEADS. INSTALL 17 SERIES NOZZLES ON ALL HEADS SPACED AT 16' TO 15'. INSTALL 15 SERIES NOZZLES ON ALL HEADS SPACED AT 12' TO 14'. INSTALL 12 SERIES NOZZLES ON ALL HEADS SPACED 10' TO 11'. INSTALL 10 SERIES NOZZLES ON ALL HEADS SPACED AT 8' TO 9'. INSTALL 8 SERIES NOZZLES ON ALL HEADS SPACED AT 6' TO 7'. INSTALL 5' NOZZLES ON ALL HEADS SPACED AT 5'. INSTALL SIDE STRIP NOZZLES ON ALL HEADS WITH AN "S" DESIGNATION AND RIGHT AND LEFT CORNER STRIP NOZZLES ON ALL HEADS WITH AN "L" OR "R" DESIGNATION. VARIABLE ARC NOZZLES SHOULD BE UTILIZED ADJACENT TO CURVILINEAR SHRUB BEDS OR FOR ANY ANGLES THAT ARE NOT A STANDARD NOZZLE ANGLE.

9. DRIP IRRIGATION - REFER TO IRRIGATION DETAIL SHEET FOR DRIP EMITTER QUANTITIES AND PLACEMENT.

10. UNLABELED PIPING - ALL UNLABELED LATERAL PIPING SHALL BE 1" MINIMUM UNLESS OTHERWISE NOTED.

11. SLEEVING - ALL SLEEVING UNDER PAVED SURFACES SHOWN ON PLANS IS BY CONTRACTOR UNLESS OTHERWISE NOTED. SLEEVING SHALL BE INSTALLED IN THE SIZES AND QUANTITIES SHOWN ON PLANS OR BASED ON THE SCHEDULE BELOW. WHERE SLEEVES ARE SHOWN, BUT NOT LABELED, FOLLOW THE SCHEDULE BELOW. ALL MAINLINE, CONTROL WIRES AND DRIP LINES UNDER PAVED SURFACES ARE TO BE INSTALLED IN SLEEVING. ALL MAINLINE SLEEVE LOCATIONS TO INCLUDE A SEPARATE WIRE SLEEVE.

SLEEVED PIPE SIZE/WIRE QUANTITY	REQUIRED SLEEVE SIZE & (QUANTITY)
¾" - 1¼" PIPING	2" PVC (1)
1½" - 2" PIPING	4" PVC (1)
2½" - 3" PIPING	6" PVC (1)
COMMUNICATION CABLE	2" PVC (1)

12. 2-WIRE SYSTEM NOTES - CONTRACTOR SHALL INSTALL ALL TWO-WIRE COMPONENTS PER MANUFACTURER'S RECOMMENDATIONS AND STANDARDS.
    - 12.1. CONTRACTOR SHALL USE ONLY MANUFACTURED 2-WIRE DECODER CABLE (SEE SCHEDULE FOR SPECIFIC 2-WIRE CABLE).
    - 12.2. ONLY USE SINGLE STATION DECODERS (SEE SCHEDULE FOR SPECIFIC MODEL).
    - 12.3. ONLY USE SENSOR DECODER FOR FLOW SENSOR (SEE SCHEDULE FOR SPECIFIC MODEL) IF INDICATED ON PLANS.
    - 12.4. LOOP 5' OF 2-WIRE DECODER CABLE INTO ALL VALVE BOXES (WITH DECODERS AND SPLICES) FOR MAINTENANCE.
    - 12.5. LOOP 2' OF 2-WIRE DECODER CABLE AS AN EXPANSION LOOP AT ALL CHANGES OF DIRECTION.
    - 12.6. USE ONLY 3M DBR-6 WATERPROOF CONNECTORS ON ALL WIRE SPLICES AND ALL WIRE SPLICES ARE TO BE MADE WITHIN A VALVE BOX WITH CONTROL VALVES OR A SEPARATE 10" ROUND VALVE BOX FOR WIRE SPLICES.
    - 12.7. INSTALL SURGE PROTECTOR RODS OR PLATES 8 LF. PERPENDICULARLY FROM VALVES, DECODERS, AND COMMUNICATION WIRE. WHERE 8 LF IS NOT AVAILABLE, REFER TO ASIC GUIDELINES FOR PLATE LAYOUT.
    - 12.8. GROUNDING SHALL BE IN AN IRRIGATED AREA.
    - 12.9. GROUND ALL DECODERS AND DECODER WIRE A MINIMUM OF EVERY 1000' OF WIRE OR EVERY 12TH DECODER AND AT ALL ENDS OF 2-WIRE DECODER CABLE RUN.

13. ADJUSTMENT - CONTRACTOR SHALL FINE TUNE/ADJUST THE IRRIGATION SYSTEM TO REDUCE/AVOID OVERSPRAY ONTO HARD SURFACES BY ADJUSTING NOZZLE DIRECTION AND NOZZLE RADIUS.

14. PLANS AND SPECIFICATIONS - CONTRACTOR RESPONSIBLE TO ENSURE WORK CONFORMS TO PLANS AND SPECIFICATIONS, INCLUDING ANY REVISED SETS. AT ONSET OF CONSTRUCTION, VERIFY PLANS ARE CURRENT. DO NOT CONSTRUCT ANY PORTIONS OF THE IRRIGATION OFF OF PLANS MARKED NOT FOR CONSTRUCTION OR FOR REVIEW ONLY. FAILURE TO VERIFY CURRENT PLANS MAY RESULT IN RECONSTRUCTION AT CONTRACTOR'S EXPENSE. WHERE REQUIRED BY CITY, TOWN OR WATER DISTRICT ENTITY, CONTRACTOR SHALL CONSTRUCT ONLY OFF PLANS STAMPED WITH APPROVAL. PLANS PREPARED FOR CITY SUBMITTAL MAY BE MARKED "ISSUE FOR CONSTRUCTION", BUT ARE NOT VALID WITHOUT CITY APPROVAL STAMP BELOW. IF NO STAMP IS PRESENT, CONFIRM NO CITY APPROVAL IS REQUIRED. REVISIONS TO APPROVED OR STAMPED PLANS SHALL CONFORM TO FIELD CHANGE PROCEDURES AND DOCUMENTATION AS REQUIRED BY THE CITY OR DISTRICT.

15. SIMULTANEOUS ZONE OPERATION - THIS IRRIGATION SYSTEM HAS BEEN DESIGNED TO OPERATE MULTIPLE ZONES SIMULTANEOUSLY BASED ON INDIVIDUAL ZONE FLOW. THE DESIGN IS INTENDED TO OPERATE MULTIPLE VALVES, UP TO THE MAXIMUM FLOW IN THE POINT OF CONNECTION NOTE. REFER TO CONTROLLER SPECIFICATION FOR MAXIMUM SIMULTANEOUS VALVE COUNT.

16. BACKFLOW DEVICES: ALL CONNECTION COMPONENTS AND BACKFLOW DEVICES SHALL BE LEAD-FREE. CONTRACTOR SHALL CONTACT WATER SERVICE PROVIDER FOR ANY ADDITIONAL REQUIREMENTS REGARDING BACKFLOW TESTING.

17. WATER BUDGETS AND PROJECTIONS - HYDROSYSTEMS-KDI HAS BASED THE IRRIGATION DESIGN AND THE ASSOCIATED PROJECTED WATER USE UPON SUCH FACTORS AS CITY OR WATER DISTRICT IMPOSED REQUIREMENTS, PUBLISHED PLANT SPECIES WATER NEEDS, SELECTED IRRIGATION METHOD EFFICIENCIES AS REPORTED BY INDEPENDENT TESTING FACILITIES, HISTORICAL WEATHER DATA FOR THE PROJECT LOCATION, AND PROPER MAINTENANCE PROCEDURES. HYDROSYSTEMS*KDI IS NOT RESPONSIBLE, AND ACCEPTS NO RESPONSIBILITY, FOR THE ACTUAL WATER USAGE VARIATION THAT IS A RESULT OF FIELD MODIFICATIONS TO THE SYSTEM NOT MATCHING CONSTRUCTION DOCUMENTS, IMPROPER MAINTENANCE, WASTE DUE TO SYSTEM DAMAGE OR VANDALISM, OR WEATHER CONDITIONS THAT DEVIATE FROM PUBLISHED 30 YEAR HISTORICAL AVERAGES.

18. PRESSURE TESTING - CONDUCT MAINLINE TEST IN PRESENCE OF CONSULTANT. ARRANGE FOR PRESENCE OF CONSULTANT 48 HOURS IN ADVANCE OF TESTING. SUPPLY FORCE PUMP AND ALL OTHER TEST EQUIPMENT. COMPRESSED AIR SHALL NOT BE USED FOR PRESSURE TESTING SYSTEM.
    - 18.1. AFTER BACKFILLING, AND INSTALLATION OF ALL CONTROL VALVES, FILL PRESSURE SUPPLY LINE WITH WATER, AND PRESSURIZE TO 40 PSI OVER THE DESIGNATED STATIC PRESSURE OR 120 PSI, WHICHEVER IS GREATER, FOR A PERIOD OF 2 HOURS.
    - 18.2. LEAKAGE, PRESSURE LOSS - TEST IS ACCEPTABLE IF NO LOSS OF PRESSURE IS EVIDENT DURING THE TEST PERIOD.
    - 18.3. LEAKS - DETECT AND REPAIR LEAKS.
    - 18.4. RETEST SYSTEM UNTIL TEST PRESSURE CAN BE MAINTAINED FOR DURATION OF TEST.
    - 18.5. BEFORE FINAL ACCEPTANCE, PRESSURE SUPPLY LINE SHALL REMAIN UNDER PRESSURE FOR A PERIOD OF 48 HOURS.
    - 18.6. PRESSURE TEST SHALL BE SCHEDULED AND PASSED PRIOR TO SCHEDULING OF SUBSTANTIAL COMPLETION WALK-THROUGH.

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER	MODEL NO.	DESCRIPTION	DETAIL NO.
	HUNTER	PROS-06-CV-PRS30-R WITH PRO-SPRAY NOZZLE	POPUP SPRAY HEAD	1
L R S	HUNTER	PROS-06-CV-PRS30-R WITH PRO-SPRAY SST, CORNER NOZZLE	POPUP SPRAY HEAD	1
	HUNTER	PROS-12-CV-PRS30-R WITH PRO-SPRAY NOZZLE	HI-POP SPRAY HEAD	2
L R S	HUNTER	PROS-12-CV-PRS30-R WITH PRO-SPRAY SST, CORNER NOZZLE	HI-POP SPRAY HEAD	2
#25 #25 #25 #25	HUNTER	I-20-06-SS-R WITH #MPR25 MATCHED PRECIPITATION NOZZLE (RED)	GEAR DRIVEN ROTOR	3
#30 #30 #30 #30	HUNTER	I-20-06-SS-R WITH #MPR30 MATCHED PRECIPITATION NOZZLE (GREEN)	GEAR DRIVEN ROTOR	3
#35 #35 #35 #35	HUNTER	I-20-06-SS-R WITH #MPR35 MATCHED PRECIPITATION NOZZLE (TAN)	GEAR DRIVEN ROTOR	3
#4 #8 #8 #8	HUNTER	I-20-12-R WITH # STANDARD NOZZLE (BLUE)	HI-POP GEAR DRIVEN ROTOR	4
#25 #25 #25 #25	HUNTER	I-20-12-R WITH #MPR25 MATCHED PRECIPITATION NOZZLE (RED)	HI-POP GEAR DRIVEN ROTOR	4
#30 #30 #30 #30	HUNTER	I-20-12-R WITH #MPR30 MATCHED PRECIPITATION NOZZLE (GREEN)	HI-POP GEAR DRIVEN ROTOR	4
#35 #35 #35 #35	HUNTER	I-20-12-R WITH #MPR35 MATCHED PRECIPITATION NOZZLE (TAN)	HI-POP GEAR DRIVEN ROTOR	4
	RAIN BIRD	44-NP	QUICK COUPLING VALVE	5
A	HUNTER	A2C-75D-M WITH ACC-PED	TWO-WIRE ELECTRIC CONTROLLER	6
W	HUNTER	SOLAR SYNC - WSS-SEN	WEATHER SENSOR DEVICE	7
	FEBCO	LF825YA	RP BACKFLOW PREVENTER	8
		TYPE K COPPER	HARD COPPER PIPE	8
N/S	GUARDSHACK	GS-1	BACKFLOW PREVENTER ENCLOSURE	9
	AY MCDONALD	76001 - 1/4 TURN - 1"	MANUAL DRAIN VALVE	10
	LEEMCO	LINE SIZE	GATE VALVE	11
FS	HUNTER	FCT-200 WITH ICD-SEN (2")	FLOW SENSOR	12
	HUNTER	ICV-R (2") AND ICD-100 DECODER	MASTER CONTROL VALVE	13
	HUNTER	ICV-R WITH ICD-100 DECODER AND NIBCO BALL VALVE	ELECTRIC CONTROL VALVE	14
	HUNTER	ICZ-101-LF-R-40 WITH ICD-100 DECODER AND NIBCO BALL VALVE	DRIP VALVE ASSEMBLY	15
	APCO	#50	AIR RELIEF VALVE	16
N/S	LEEMCO		MECHANICAL JOINT RESTRAINTS	17
		CLASS 200 RT	PURPLE PVC MAINLINE	18
		CLASS 200 BE	PURPLE PVC LATERAL	18
		CLASS 160	PVC SLEEVING	19
	TORO	BLUE STRIPE	PURPLE STRIPE POLY DRIP TUBING - ¾" MIN. WIDTH	20
N/S	RAIN BIRD	XBGV - XERI-BUG WITH CHECK VALVE	DRIP EMITTERS	20
	HUNTER / NIBCO	ECO-ID-12-R WITH NIBCO BALL VALVE	DRIP LINE BLOW-OUT STUB AND INDICATOR HEAD	21
N/S	HUNTER	ICD-100	VALVE DECODER	13, 14, 15 & 22
N/S	PAIGE	P7354D	2-WIRE DECODER CABLE	12, 13, 14, 15, 22 & 23
A			TWO-WIRE GROUNDING LOCATION	23
G			CONTROLLER GROUNDING LOCATION	24
P	PRECISION PUMPING SYSTEMS (PPS)	NOVA-3BF-3-D-241-A01-A03	BOOSTER PUMP	25, 26
M			WATER METER	BY OTHERS
N/S	OLDCASTLE / CARSON	REFER TO SPECIFICATIONS AND DETAILS	PURPLE VALVE BOXES	VARIOUS

CONTROLLER & STATION NO.
CONTROL VALVE SIZE

REFER TO SHEET

IR0	IRRIGATION NOTES
IR0	IRRIGATION SCHEDULE
IR1 - IR2	IRRIGATION PLANS
IR3 - IR5	IRRIGATION DETAILS

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o: 303.980.5327 www.hydrosystemskdi.com

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IRRIGATION DESIGN AND CONSULTING

ARCHWOOD TOWNHOMES

CASTLE VALLEY RANCH
NEW CASTLE, COLORADO. 81647.

KLUTCH CONSULTANT, LLC.
DALLAS, TX. 75252
INFO@KLUTCHCONSULTANT.COM

REVISION: BY	DESCRIPTION	DATE

ISSUE DATE: 06/17/26

DRAWN BY: HO
CHECKED BY: KD

SHEET DESCRIPTION:

IRRIGATION NOTES AND SCHEDULE

IR0

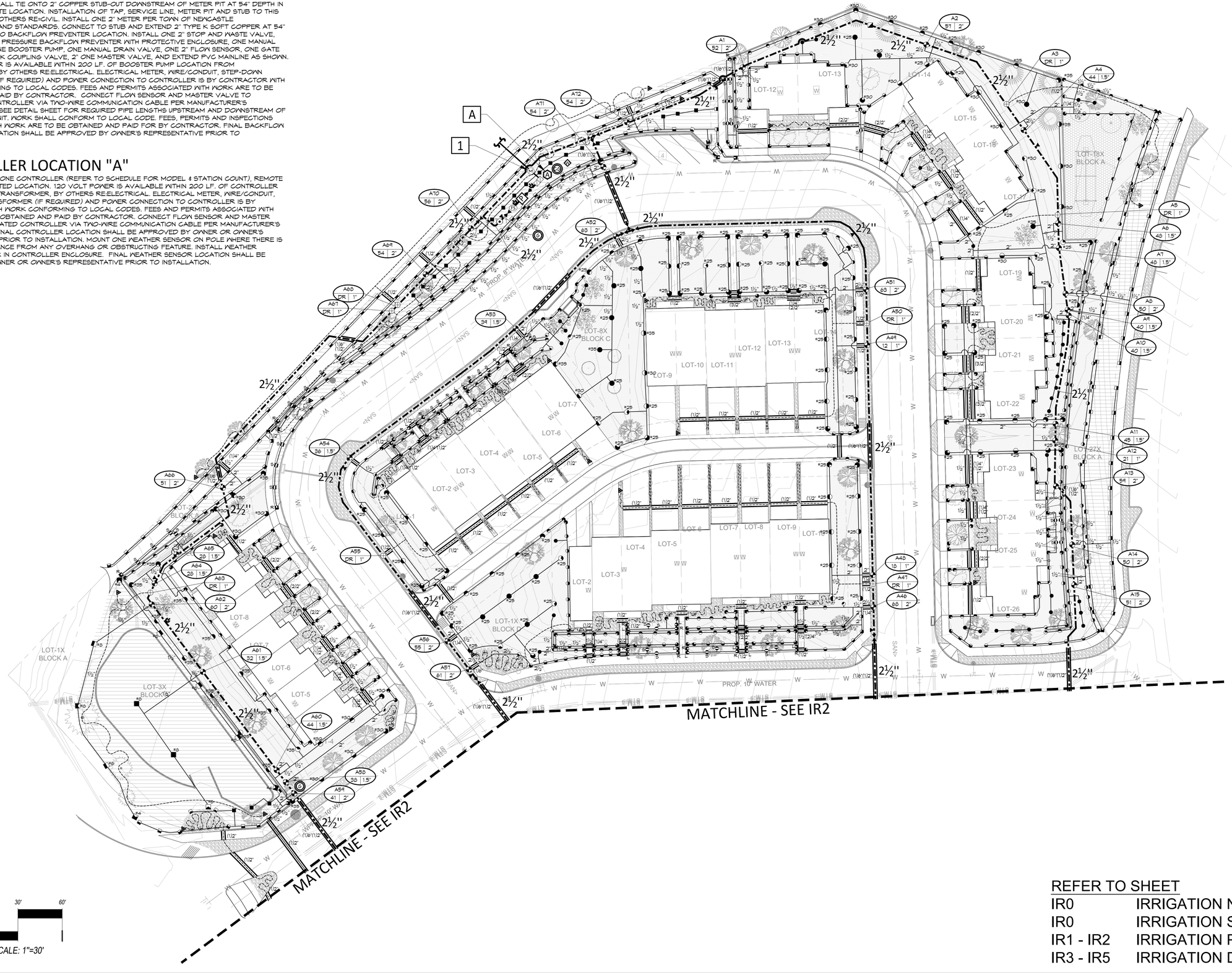
1 POINT OF CONNECTION #1 - 2"

PEAK FLOW REQUIREMENT: 70 GPM. REQUIRED STATIC PRESSURE: 85 PSI

CONTRACTOR SHALL TIE ONTO 2" COPPER STUB-OUT DOWNSTREAM OF METER PIT AT 54" DEPTH IN THIS APPROXIMATE LOCATION. INSTALLATION OF TAP, SERVICE LINE, METER PIT AND STUB TO THIS LOCATION IS BY OTHERS RE:CIVIL. INSTALL ONE 2" METER PER TOWN OF NEWCASTLE SPECIFICATIONS AND STANDARDS. CONNECT TO STUB AND EXTEND 2" TYPE K SOFT COPPER AT 54" MINIMUM DEPTH TO BACKFLOW PREVENTER LOCATION. INSTALL ONE 2" STOP AND WASTE VALVE, ONE 2" REDUCED PRESSURE BACKFLOW PREVENTER WITH PROTECTIVE ENCLOSURE, ONE MANUAL DRAIN VALVE, ONE BOOSTER PUMP, ONE MANUAL DRAIN VALVE, ONE 2" FLOW SENSOR, ONE GATE VALVE, ONE QUICK COUPLING VALVE, 2" ONE MASTER VALVE, AND EXTEND PVC MAINLINE AS SHOWN. 240 VOLT POWER IS AVAILABLE WITHIN 200 LF. OF BOOSTER PUMP LOCATION FROM TRANSFORMER, BY OTHERS RE:ELECTRICAL. ELECTRICAL METER, WIRE/CONDUIT, STEP-DOWN TRANSFORMER (IF REQUIRED) AND POWER CONNECTION TO CONTROLLER IS BY CONTRACTOR WITH WORK CONFORMING TO LOCAL CODES. FEES AND PERMITS ASSOCIATED WITH WORK ARE TO BE OBTAINED AND PAID BY CONTRACTOR. CONNECT FLOW SENSOR AND MASTER VALVE TO ASSOCIATED CONTROLLER VIA TWO-WIRE COMMUNICATION CABLE PER MANUFACTURER'S REQUIREMENTS. SEE DETAIL SHEET FOR REQUIRED PIPE LENGTHS UPSTREAM AND DOWNSTREAM OF FLOW SENSING UNIT. WORK SHALL CONFORM TO LOCAL CODE. FEES, PERMITS AND INSPECTIONS ASSOCIATED WITH WORK ARE TO BE OBTAINED AND PAID FOR BY CONTRACTOR. FINAL BACKFLOW PREVENTER LOCATION SHALL BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

A CONTROLLER LOCATION "A"

PEDESTAL MOUNT ONE CONTROLLER (REFER TO SCHEDULE FOR MODEL & STATION COUNT), REMOTE READY, AT INDICATED LOCATION. 120 VOLT POWER IS AVAILABLE WITHIN 200 LF. OF CONTROLLER LOCATION FROM TRANSFORMER, BY OTHERS RE:ELECTRICAL. ELECTRICAL METER, WIRE/CONDUIT, STEP-DOWN TRANSFORMER (IF REQUIRED) AND POWER CONNECTION TO CONTROLLER IS BY CONTRACTOR WITH WORK CONFORMING TO LOCAL CODES. FEES AND PERMITS ASSOCIATED WITH WORK ARE TO BE OBTAINED AND PAID BY CONTRACTOR. CONNECT FLOW SENSOR AND MASTER VALVE TO ASSOCIATED CONTROLLER VIA TWO-WIRE COMMUNICATION CABLE PER MANUFACTURER'S REQUIREMENTS. FINAL CONTROLLER LOCATION SHALL BE APPROVED BY OWNER OR OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. MOUNT ONE WEATHER SENSOR ON POLE WHERE THERE IS 20 FT. OF CLEARANCE FROM ANY OVERHANG OR OBSTRUCTING FEATURE. INSTALL WEATHER SENSOR RECEIVER IN CONTROLLER ENCLOSURE. FINAL WEATHER SENSOR LOCATION SHALL BE APPROVED BY OWNER OR OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.



REFER TO SHEET

IR0	IRRIGATION NOTES
IR0	IRRIGATION SCHEDULE
IR1 - IR2	IRRIGATION PLANS
IR3 - IR5	IRRIGATION DETAILS

KDI HydroSystems
Irrigation Consulting & Water Management
13949 W. Colfax Ave, Suite 200 Lakewood, Colorado 80401
o: 303.980.5327 www.hydrosystemskdi.com

Know what's below. Call before you dig. It's free and it's the law. You must contact Utility Notification Center of Colorado (UNCC) at least 2 full business days before you begin excavation. 811 or 1-800-922-1987

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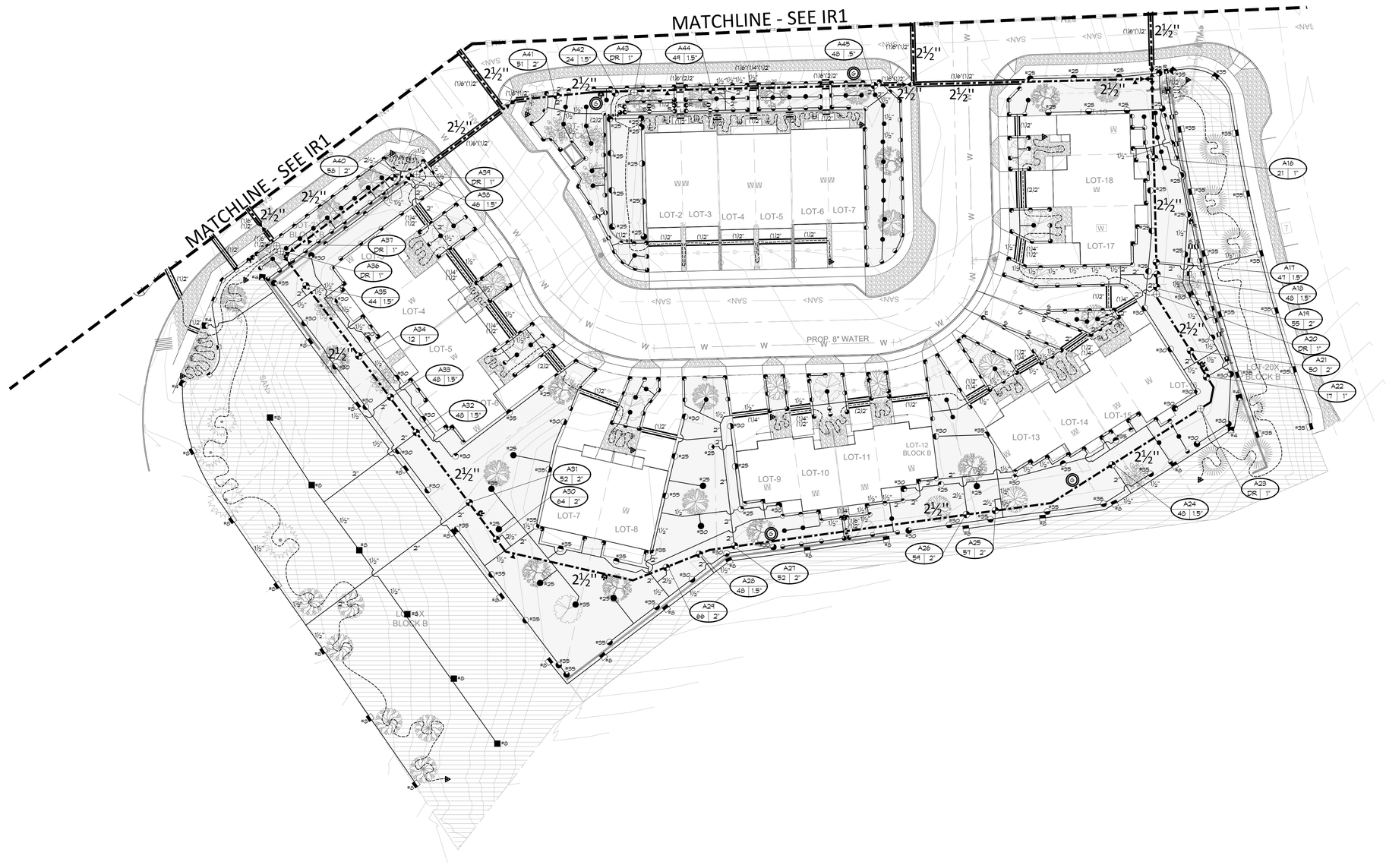
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SHEET DESCRIPTION:

IRRIGATION PLANS

IR1



NORTH

0 15' 30' 60'

SCALE: 1"=30'

REFER TO SHEET

IR0	IRRIGATION NOTES
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CALL 3 business days before you begin excavation or demolition to have underground utilities marked. (CRS 9-1.5-103)

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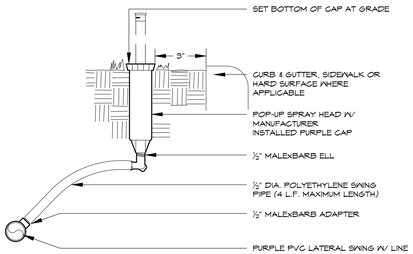
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IRRIGATION PLANS

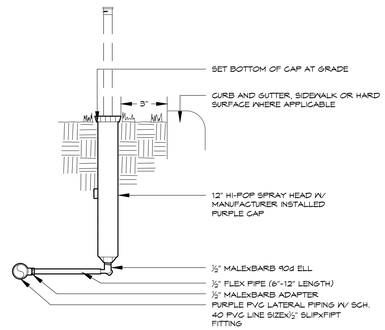
IR2



NOTE:
- SET HEAD PERPENDICULAR TO FINISH GRADE.
- APPLY TEFLON TAPE TO MALE PVC THREADED FITTINGS.
- DOUBLE CLAMP ½" & 2" DIAMETER FITTINGS.

POP-UP SPRAY HEAD
SWING PIPE - PURPLE PVC

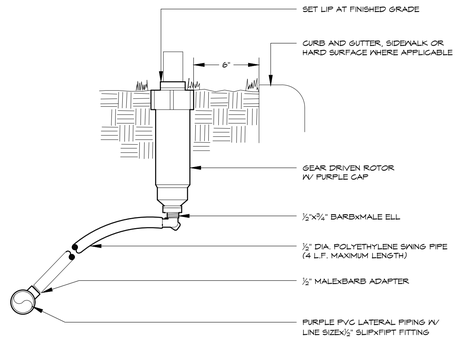
1



NOTE:
- SET HEAD PERPENDICULAR TO FINISH GRADE SWING.
- FLEX PIPE SHALL BE ATTACHED TO BOTTOM SPRAY HEAD INLET ONLY.
- APPLY TEFLON TAPE TO ALL MALE PVC THREADED FITTINGS AND NIPPLES.

HI-POP SPRAY HEAD
SWING PIPE - PURPLE PVC

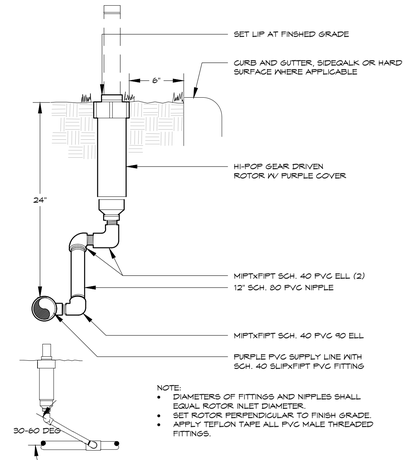
2



SET HEAD PERPENDICULAR TO FINISH GRADE

GEAR DRIVEN ROTOR
SWING PIPE - PURPLE PVC

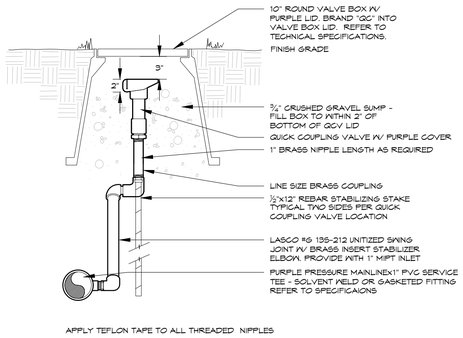
3



NOTE:
- DIAMETERS OF FITTINGS AND NIPPLES SHALL EQUAL ROTOR INLET DIAMETER.
- SET ROTOR PERPENDICULAR TO FINISH GRADE.
- APPLY TEFLON TAPE ALL PVC MALE THREADED FITTINGS.

HI-POP GEAR DRIVEN ROTOR
PURPLE PVC

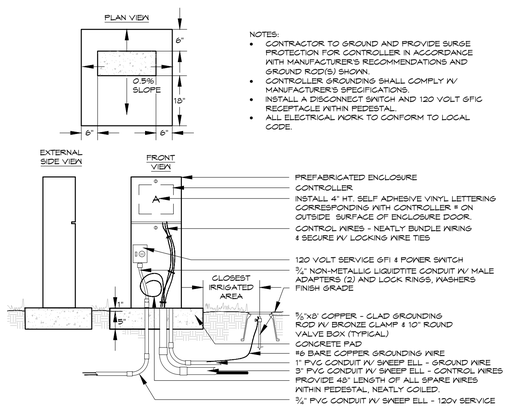
4



APPLY TEFLON TAPE TO ALL THREADED NIPPLES

QUICK COUPLING VALVE
LASCOSWING - PURPLE PVC

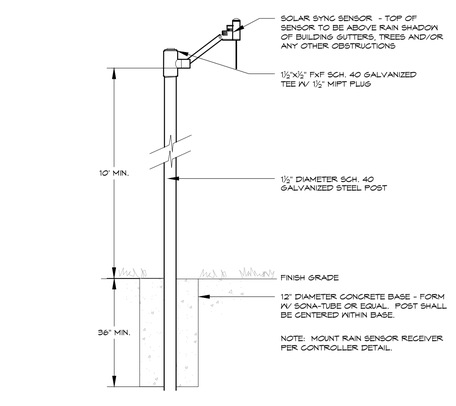
5



NOTES:
- CONTRACTOR TO GROUND AND PROVIDE SURGE PROTECTION FOR CONTROLLER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND GROUND ROD(S) SHOWN.
- CONTROLLER GROUNDING SHALL COMPLY W/ MANUFACTURER'S SPECIFICATIONS.
- INSTALL A DISCONNECT SWITCH AND 120 VOLT GFIC RECEPTACLE WITHIN PEDESTAL.
- ALL ELECTRICAL WORK TO CONFORM TO LOCAL CODE.

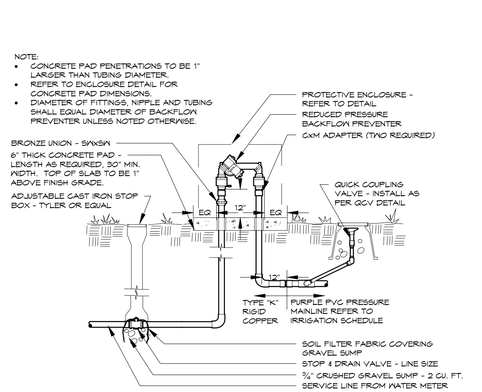
ELECTRIC CONTROLLER
PEDESTAL - FRONT OPENING - TYPICAL

6



WEATHER SENSOR
POLE MOUNTED - SolarSync

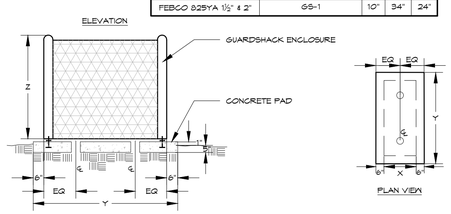
7



BACKFLOW PREVENTER
3/4" - 2" SYSTEMS WITH PURPLE PVC CONNECTION

8

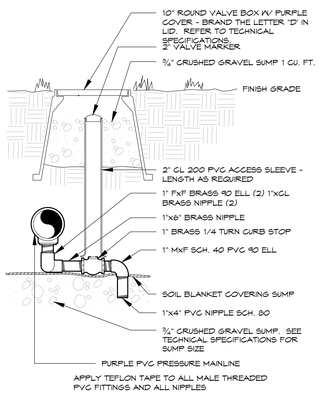
BFP MODEL/SIZE	ENCLOSURE MODEL	X	Y	Z
FEBCO 825YA 3/4" & 1"	GS-5	10"	24"	18"
FEBCO 825YA 1½" & 2"	GS-1	10"	34"	24"



NOTES:
- PAD PENETRATIONS FOR BACKFLOW PREVENTER RISERS TO BE 1" LARGER THAN RISER DIAMETER.
- TOP SURFACE OF CONCRETE PAD SHALL BE 1" ABOVE FINISH GRADE.
- INSTALL ENCLOSURE ANCHORS AS PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE OWNER WITH KEYED PADLOCK FOR ENCLOSURE.
- PROVIDE ENCLOSURE IN FEDERAL GREEN COLOR, UNLESS OTHERWISE NOTED (SEE SCHEDULE).

BACKFLOW ENCLOSURE
GUARDSHACK - 3/4" - 2" SYSTEMS

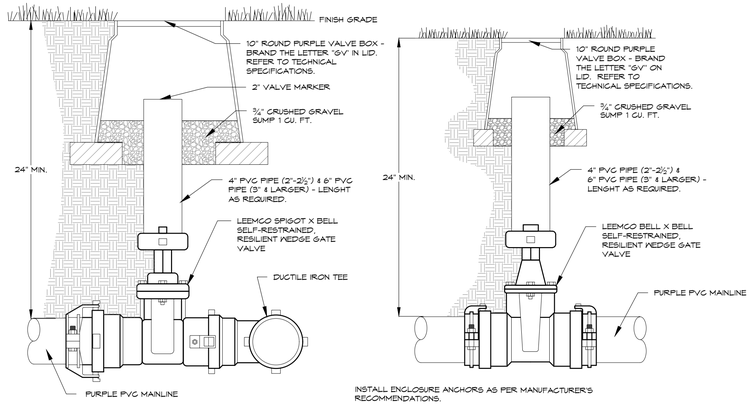
9



APPLY TEFLON TAPE TO ALL MALE THREADED PVC FITTINGS AND ALL NIPPLES

MANUAL DRAIN VALVE
PURPLE PVC

10



INSTALL ENCLOSURE ANCHORS AS PER MANUFACTURER'S RECOMMENDATIONS.

LEEMCO GATE VALVE

11

REFER TO SHEET

IR0	IRRIGATION NOTES
IR0	IRRIGATION SCHEDULE
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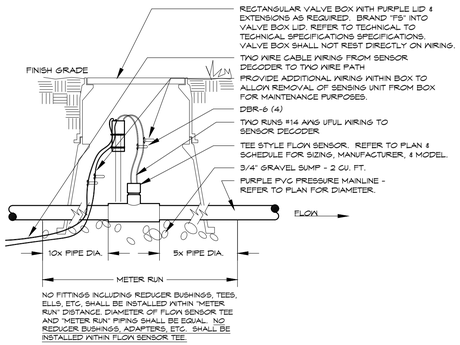
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IRRIGATION DETAILS

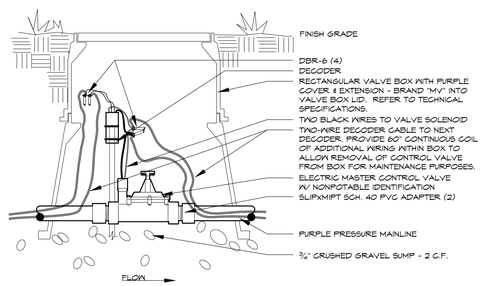
IR3



FLOW SENSOR

VIA DECODER - TEE STYLE - PURPLE MAINLINE

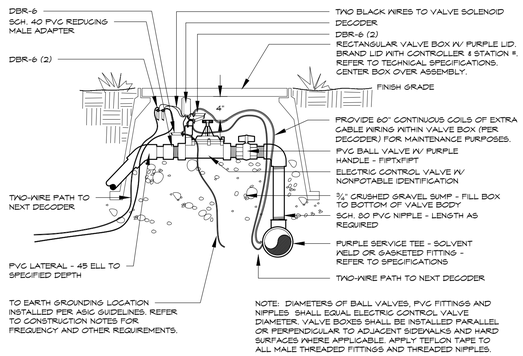
12



MASTER VALVE

VIA DECODER - TAPS 2" & SMALLER - PURPLE MAINLINE

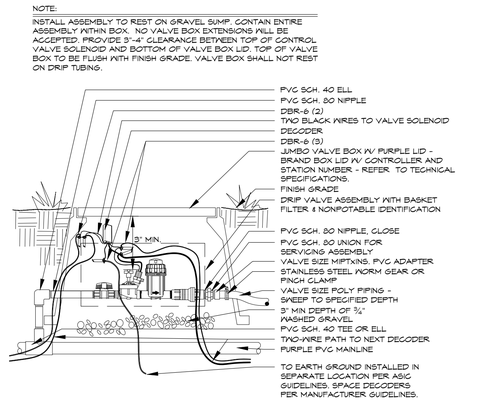
13



ELECTRIC CONTROL VALVE

TWO-WIRE SYSTEM - PVC PIPE - PURPLE PVC

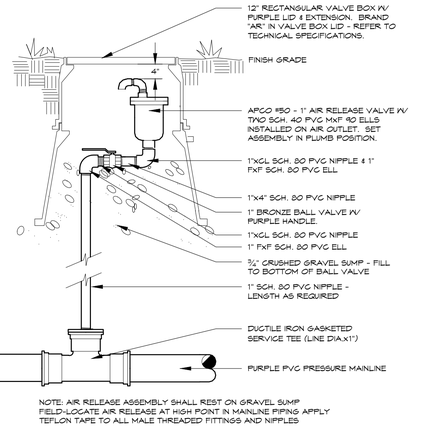
14



DRIP VALVE

TWO-WIRE SYSTEM -

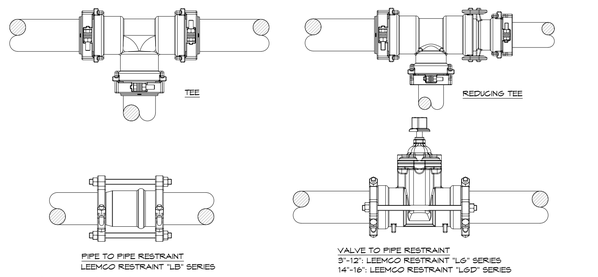
15



NOTE: AIR RELEASE ASSEMBLY SHALL REST ON GRAVEL SUMP
FIELD-LOCATE AIR RELEASE AT HIGH POINT IN MAINLINE PIPING APPLY TEFLON TAPE TO ALL MALE THREADED FITTINGS AND NIPPLES

AIR RELIEF VALVE

16



INSTALLATION CHART

REFER TO THE FOLLOWING TABLE WHICH LISTS THE NUMBER OF BOLTS, SIZE, AND TORQUE FOR EACH BOLT IN REFERENCE TO THE SIZE OF PIPE WHICH IS BEING RESTRAINED.

AS AN EXAMPLE, IF YOU HAVE A 3" PIPE, YOU WILL NEED 2 BOLTS THAT ARE 3/8 X 2.5" AND TIGHTEN THEM WITH A TORQUE WRENCH TO 20 FT-LBS.

PIPE SIZE	NO. BOLTS	BOLT SIZE	TORQUE FT-LBS.
2"	2	5/8" x 2.5"	20
2.5"	2	5/8" x 2.5"	20
3"	2	5/8" x 2.5"	20
4"	2	1/2" x 3"	50
6"	2	1/2" x 3.5"	50
8"	4	1/2" x 4"	50
10"	4	3/4" x 5.5"	100
12"	4	7/8" x 5.5"	100

CONTACT TONY GARNER @ (205) 631-7157, THE LEEMCO REPRESENTATIVE, FOR ALL QUESTIONS CONCERNING LEEMCO PRODUCTS. COORDINATE AN INSTALLATION CLINIC WITH TONY GARNER PRIOR TO INSTALLING THE MAINLINE.

DISTANCE CHART

REFER TO THE FOLLOWING TABLE THAT LISTS THE LENGTH (IN FEET) FOR EACH SIZE/TYPE FITTING WITHIN WHICH ALL JOINTS JUST BE RESTRAINED. ALL FITTINGS AND JOINT RESTRAINTS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS & SPECIFICATIONS.

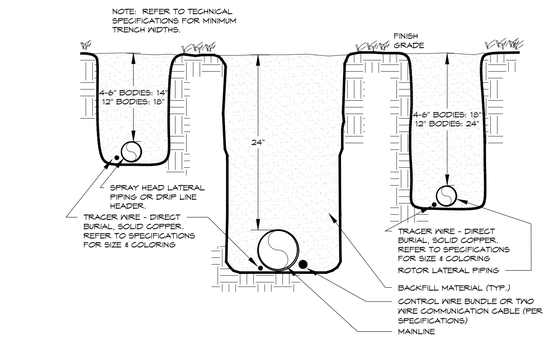
AS AN EXAMPLE, IF YOU ARE INSTALLING A 3" MAINLINE WITH A DIRECTIONAL CHANGE OF 90°, REFER TO CHART UNDER PIPE SIZE TO 3" AND UNDER BENDS 90 YOU WILL SEE THE DISTANCE OF 11'. IF THERE IS ANY JOINT (VALVE, BELL, ETC.) YOU MUST INSTALL A JOINT RESTRAINT WITHIN 11' OF THE 90° MAINLINE DIRECTIONAL CHANGE.

PIPE SIZE	BENDS				REDUCERS			DEAD END	
	11°	22°	45°	90°	1STEP	2STEP	3STEP	BLIND	SERV.B.
2"	1'	1'	2'	6'	-	-	-	19'	6'
2.5"	1'	2'	4'	9'	4'	-	-	23'	10'
3"	2'	3'	6'	11'	5'	10'	-	30'	19'
4"	2'	4'	8'	20'	14'	20'	31'	45'	25'
6"	3'	6'	13'	24'	30'	40'	53'	63'	40'
8"	4'	8'	15'	35'	33'	55'	63'	75'	70'
10"	5'	9'	19'	45'	36'	55'	78'	86'	90'
12"	5'	10'	21'	53'	38'	60'	83'	112'	110'

NOTES:
1. THE RESTRAINT SCHEMES HERE ARE FOR SYSTEM PRESSURES UP TO 125 PSI. FOR HIGHER PRESSURES, CALL THE LEEMCO FACTORY.
2. EACH FITTING AND VALVE BELL MUST BE RESTRAINED TO THE LENGTH OF PIPE NOTED IN THE TABLE USING FITTING TO PIPE RESTRAINT, VALVE TO PIPE RESTRAINT, AND PIPE TO PIPE RESTRAINT AS REQUIRED.
3. PIPE JOINTS WITHIN THE RESTRAINED LENGTH REQUIREMENT MUST BE RESTRAINED WITH PIPE TO PIPE RESTRAINTS.
4. SERVICE TEES AND COUPLINGS WITHIN THE RESTRAINED LENGTH REQUIREMENT MUST BE RESTRAINED WITH FITTING TO PIPE RESTRAINTS.
5. CONTACT JASON MONER @ (720) 233-9648, THE LEEMCO REPRESENTATIVE, FOR ALL QUESTIONS CONCERNING LEEMCO PRODUCTS. COORDINATE AN INSTALLATION CLINIC WITH JASON MONER PRIOR TO INSTALLING THE MAINLINE.

LEEMCO FITTINGS/JOINT RESTRAINTS - PURPLE MAIN

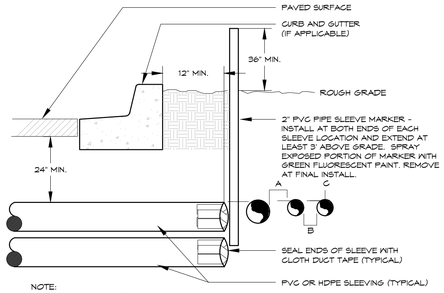
17



TRENCH

########## with TRACER WIRE

18

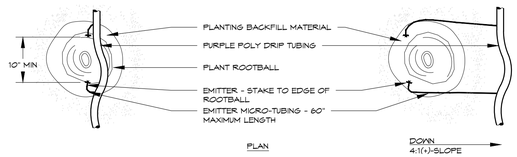


NOTE:
- ALL SLEEVE MATERIAL PER IRRIGATION SCHEDULE, SIZE AS NOTED ON PLAN.
- INSTALL SLEEVES IN SIDE-BY-SIDE CONFIGURATION WHERE MULTIPLE SLEEVES ARE TO BE INSTALLED. SPACE SLEEVES 4" TO 6" APART. DO NOT STACK SLEEVES VERTICALLY.
- CONTRACTOR TO COORDINATE WITH FLATWORK INSTALLER TO BRAND A "I" IN SIDEWALK OR CURB AT BOTH ENDS OF SLEEVE CROSSING.
- SLEEVING THROUGH OR UNDER RETAINING WALLS, PLANTER WALLS, POND LINING, OR WATER QUALITY AREAS SHALL BE COORDINATED WITH CIVIL WORK AT APPROXIMATE LOCATIONS SHOWN.
- AN INDIVIDUAL SLEEVE SHALL CONTAIN NO MORE THAN ONE PIPE OR WIRE BUNDLE.

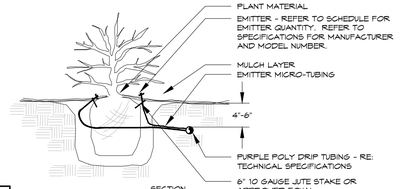
IRRIGATION SLEEVING

TYPICAL

19



PLANT SIZE	EMITTER FLOW RATE	EMITTER QTY. AT MULCHED BED LOCATIONS	EMITTER QTY. AT NATIVE SEED LOCATIONS
1 - 2 GALLON MATERIAL	0.5 GPH	ONE EACH	ONE EACH
5 GALLON MATERIAL	0.5 GPH	TWO EACH	TWO EACH
1½" CALIPER TREE	1.0 GPH	THREE EACH	FOUR EACH
2" CALIPER TREE	1.0 GPH	FOUR EACH	SIX EACH
2½" CALIPER TREE	1.0 GPH	SIX EACH	EIGHT EACH
3" CALIPER TREE	1.0 GPH	EIGHT EACH	TEN EACH
3½" CALIPER TREE	1.0 GPH	NINE EACH	ELEVEN EACH
4" CALIPER TREE	1.0 GPH	TEN EACH	TWELVE EACH
6 FT. CONIFEROUS TREE	1.0 GPH	FOUR EACH	SIX EACH
8 FT. CONIFEROUS TREE	1.0 GPH	SIX EACH	NINE EACH
10 FT. CONIFEROUS TREE	1.0 GPH	EIGHT EACH	TWELVE EACH
12 FT. CONIFEROUS TREE	1.0 GPH	TEN EACH	FOURTEEN EACH



NOTES:
- INSTALL EMITTERS ON OPPOSING SIDES OF ROOTBALL. THREE OR MORE EMITTERS SHALL BE EQUALLY SPACED AROUND ROOT BALL.
- EMITTERS ARE TO BE INSTALLED TO CLEAR SURFACE BY A MINIMUM OF 1" AND A MAXIMUM OF 2".
- FLUSH ALL LINES THOROUGHLY, INCLUDING EMITTER MICRO-TUBING PRIOR TO EMITTER INSTALLATION.
- IF PLANTING ON A 4:1 SLOPE OR STEEPER, INSTALL BOTH EMITTERS ON UPHILL SIDE OF ROOT BALL.
- EMITTERS SHALL BE SELF-FLUSHING, PRESSURE COMPENSATING-TYPE UNLESS NOTED OTHERWISE WITHIN TECHNICAL SPECIFICATIONS.
- DRIP VALVE ZONES ARE DESIGNED TO ACCOUNT FOR DIFFERENCES IN PLANT REQUIREMENTS (HYDROZONES) AND SUN EXPOSURE.
- CONTRACTOR SHALL ENSURE HYDROZONES ARE VALVED SEPARATELY AS SHOWN ON PLAN.
- SITE CONDITIONS MAY DICTATE THAT MULTIPLE SUN EXPOSURES ARE VALVED TOGETHER DURING THE DESIGN PROCESS. CONTRACTOR SHALL ADJUST EMITTER SCHEDULE AS FOLLOWS:
  - ** EMITTER QUANTITIES SHALL REMAIN THE SAME BUT EMITTER GALLONAGES SHALL BE DOUBLED FOR PLANTS WITH SOUTH AND WEST EXPOSURES.
  - ** EMITTER QUANTITIES AND GALLONAGE SHALL BE AS SHOWN IN SCHEDULE FOR PLANTS WITH NORTH AND EAST EXPOSURES.
  - ** PLANTINGS WITH NORTH AND EAST EXPOSURE SHALL DICTATE VALVE RUN-TIMES AND CONTRACTOR SHALL ADJUST SCHEDULING ACCORDINGLY.

DRIP EMITTER

BELOW GRADE - PURPLE PIPE

20

REFER TO SHEET

IR0	IRRIGATION NOTES
IR0	IRRIGATION SCHEDULE
IR1 - IR2	IRRIGATION PLANS
IR3 - IR5	IRRIGATION DETAILS

KDI HydroSystems
Irrigation Consulting & Water Management
13949 W. Colfax Ave, Suite 200 Lakewood, Colorado 80401
o: 303.980.5327 www.hydrosystemskdi.com

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IRRIGATION DESIGN AND CONSULTING

ARCHWOOD TOWNHOMES

CASTLE VALLEY RANCH
NEW CASTLE, COLORADO. 81647.

KLUTCH CONSULTANT, LLC.
DALLAS, TX. 75252
INFO@KLUTCHCONSULTANT.COM

REVISION: BY	DESCRIPTION	DATE

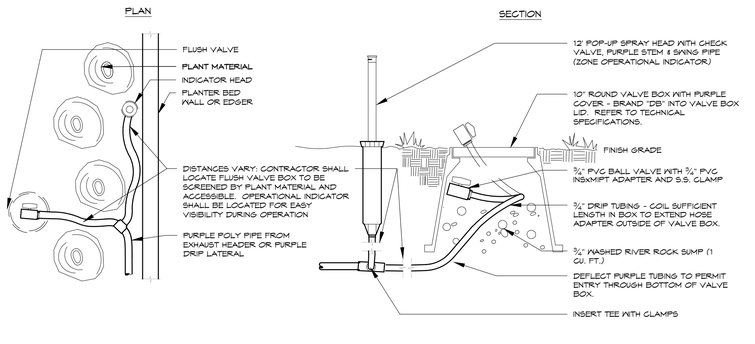
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IRRIGATION DETAILS

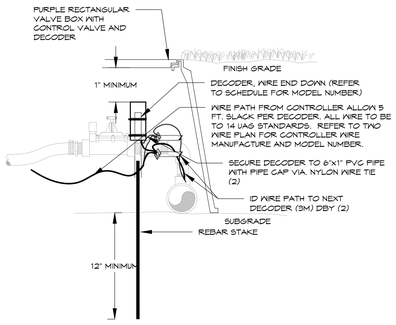
IR4



DRIP FLUSH VALVE

WITH OPERATIONAL INDICATOR - PURPLE PIPE

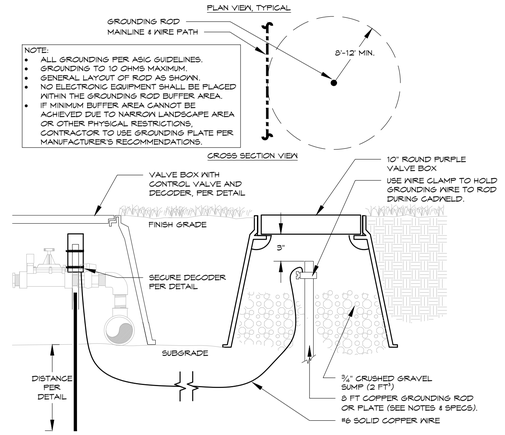
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DECODER INSTALLATION

TWO-WIRE SYSTEM

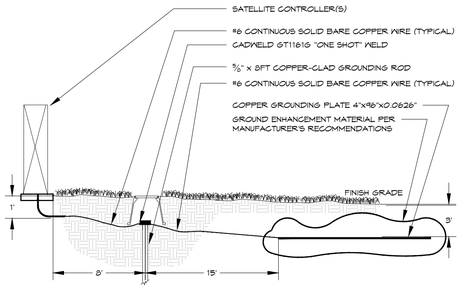
22



ACC GROUNDING

TWO-WIRE SYSTEM - NON-POTABLE

23



GROUNDING MUST MEET ALL MANUFACTURER'S REQUIREMENTS. IN ADDITION, GROUNDING PLATE DESIGN CONSISTS OF ONE VERTICAL 8-FOOT COPPER CLAD GROUNDING ROD (AT LEAST EIGHT FEET FROM THE EQUIPMENT), AND ONE COPPER GROUNDING PLATE PER 40 STATIONS REQUIRING GROUNDING. INSTALL GROUNDING PLATE HORIZONTALLY, THREE FEET DEEP AND 15' FROM THE GROUNDING ROD. SHOULD MULTIPLE RODS/PLATES BE REQUIRED, THEY SHALL BE PLACED A MINIMUM OF 3 LINEAR FEET FROM EACH OTHER. PERFORM CADWELD CONNECTION TO GROUNDING ROD(S) AND PLACEMENT OF GROUNDING PLATE(S) IN OWNER'S PRESENCE PRIOR TO BACKFILL. REFER TO ASIC STANDARDS FOR MORE INFORMATION.

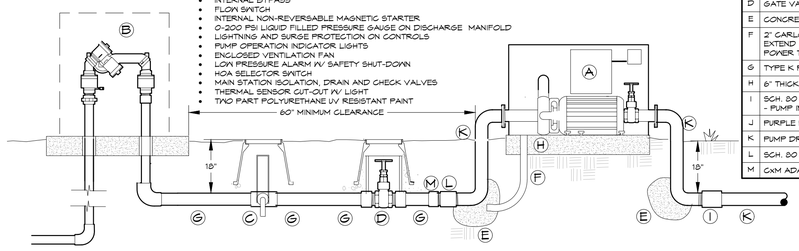
CONTROLLER GROUNDING

TWO-WIRE SYSTEM - Pedestal Mount

24

Ⓐ PREFABRICATED BOOSTER PUMP STATION - PUMP MODEL, HORSEPOWER, INPUT POWER, DISCHARGE PRESSURE AND FLOW CAPACITY PER SCHEDULE. BOOSTER PUMP SHALL BE ACTIVATED/DEACTIVATED VIA FLOW SWITCH. MOUNT BOOSTER PUMP ASSEMBLY TO CONCRETE PAD PER MANUFACTURER'S RECOMMENDATIONS. PUMP STATIONS SHALL BE EQUIPPED WITH FOLLOWING COMPONENTS:

- 14 GA. STEEL ENCLOSURE W/ STAINLESS STEEL HINGE LOCKABLE ACCESS COVER (CONTRACTOR TO PROVIDE KEYED LOCK TO OWNER).
- EXTERNAL, LOCKABLE ELECTRICAL DISCONNECT (CONTRACTOR TO PROVIDE KEYED LOCK TO OWNER).
- INTERNAL BYPASS
- FLOW SWITCH
- NTERNAL NON-REVERSABLE MAGNETIC STARTER
- 0-200 PSI LIQUID FILLED PRESSURE GAUGE ON DISCHARGE MANIFOLD
- LIGHTNING AND SURGE PROTECTION ON CONTROLS
- PUMP OPERATION INDICATOR LIGHTS
- ENCLOSED VENTILATION FAN
- LOW PRESSURE ALARM W/ SAFETY SHUT-DOWN
- HOA SELECTOR SWITCH
- MAIN STATION ISOLATION, DRAIN AND CHECK VALVES
- THERMAL SENSOR CUT-OUT W/ LIGHT
- TWO PART POLYURETHANE UV RESISTANT PAINT



PUMP SCHEMATIC KEY	
A	BOOSTER PUMP - REFER TO SCHEDULE FOR MODEL #
B	BACKFLOW PREVENTER - REFER TO DETAIL
C	MANUAL DRAIN VALVE - - SIZE PER PLAN - REFER TO DETAIL
D	GATE VALVE - FxF (QTY. 2) - PUMP INLET SIZE
E	CONCRETE THRUST BLOCK - 1 C.F.
F	2" CARLON ELECTRICAL CONDUIT & SWEEP ELL - EXTEND 12" BEYOND EDGE OF CONCRETE PAD - 120V POWER TO PUMP DISCONNECT
G	TYPE K RIGID COPPER - PUMP INLET SIZE
H	6" THICK CONCRETE PAD - REFER TO DETAIL
I	SCH. 80 PVC SLIP COUPLING WITH SLIPXFIPT BUSHING - PUMP INLET SIZE x MAINLINE SIZE
J	PURPLE PVC IRRIGATION MAINLINE - MAINLINE SIZE
K	PUMP DROP PIPE - PUMP INLET SIZE
L	SCH. 80 PVC FIPTXFIPT COUPLING - PUMP INLET SIZE
M	GxM ADAPTER (4) - PUMP INLET SIZE

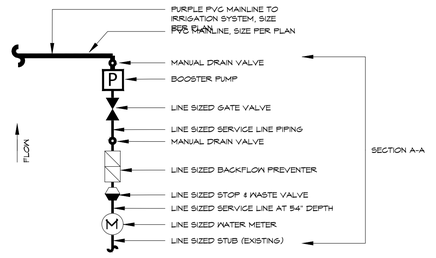
BOOSTER PUMP - 2" & SMALLER - SECTION A-A

PIPING SCHEMATIC - DETAIL VIEW

25

BOOSTER PUMP CONCRETE PAD

26



POINT OF CONNECTION & PUMP

PIPING SCHEMATIC PLAN VIEW - NOT TO SCALE

27

REFER TO SHEET

IR0	IRRIGATION NOTES
IR0	IRRIGATION SCHEDULE
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IR3 - IR5	IRRIGATION DETAILS

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ARCHWOOD TOWNHOMES

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DALLAS, TX. 75252
INFO@KLUTCHCONSULTANT.COM

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IRRIGATION DETAILS

IR5



CONSTRUCTION MANAGEMENT PLAN
ARCHWOOD TOWNHOMES, CASTLE VALLEY RANCH, CO

SITE PLAN 15

SCALE: 1"=50'-0" ■ JOB#: 24042 ■ ISSUE DATE: 09/22/2025
APPROVED BY: _____ DATE: _____

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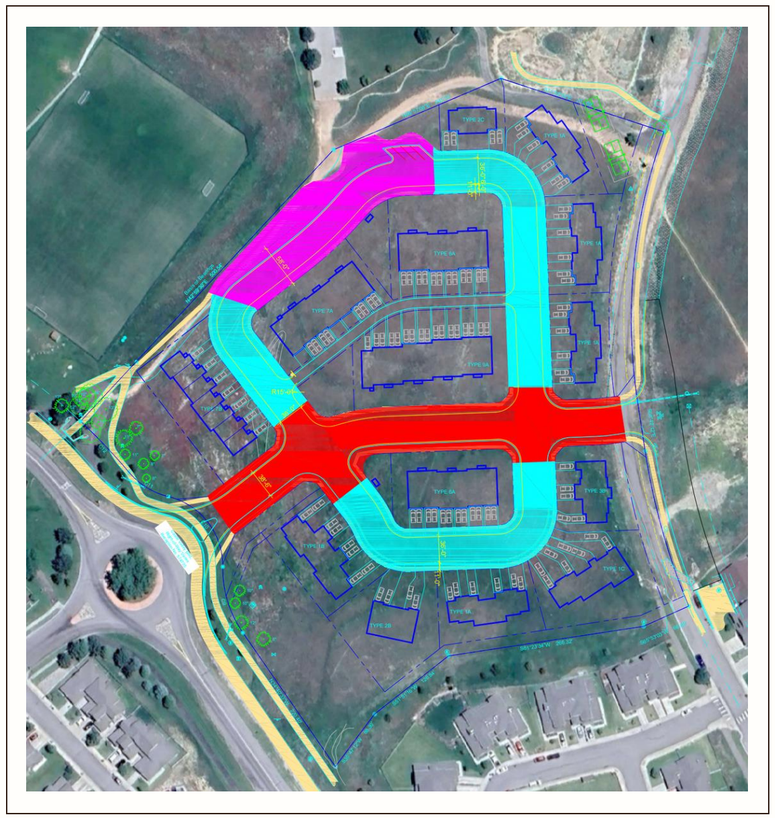


STREET SECTION SITE PLAN
ARCHWOOD TOWNHOMES, CASTLE VALLEY RANCH, CO

SITE PLAN 15

SCALE: 1"=50'-0" ■ JOB#: 24042 ■ ISSUE DATE: 02/13/2026
APPROVED BY: _____ DATE: _____

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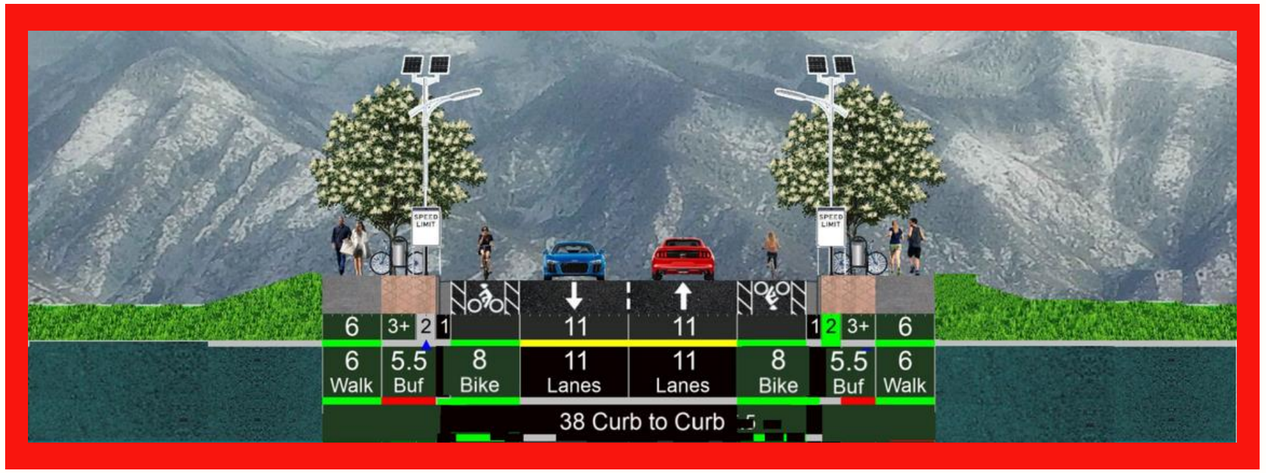


Right of Way

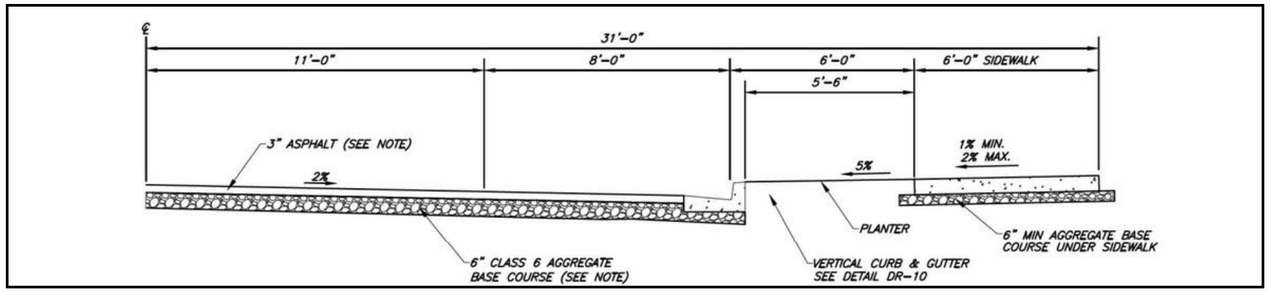
62 Feet

Silverado Trail

R.O.W 62 FEET



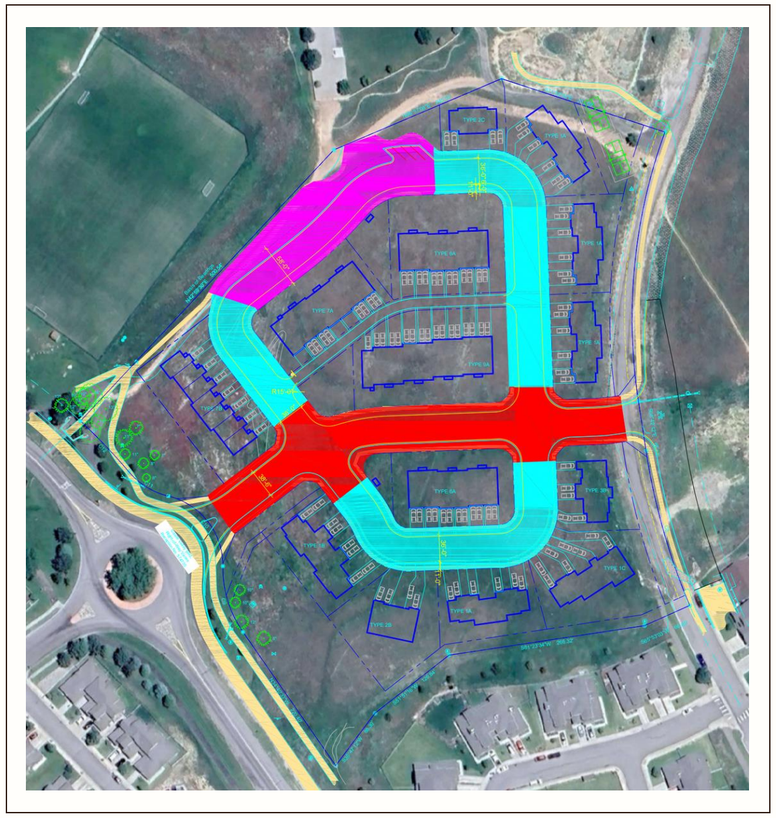
DEVELOPMENT PROPOSED



CITY STANDARD

Designed as a vital collector and main thoroughfare within our development, the road features an 11-foot travel lane with no on-street parking to ensure smooth traffic flow and safety. A dedicated, marked bike lane promotes cycling as a safe transportation option. For pedestrian comfort and safety, 6-foot sidewalks are provided on both sides, separated from the road by a 5.5-foot landscaped buffer. This thoughtful layout enhances both aesthetics and safety for pedestrians and cyclists.

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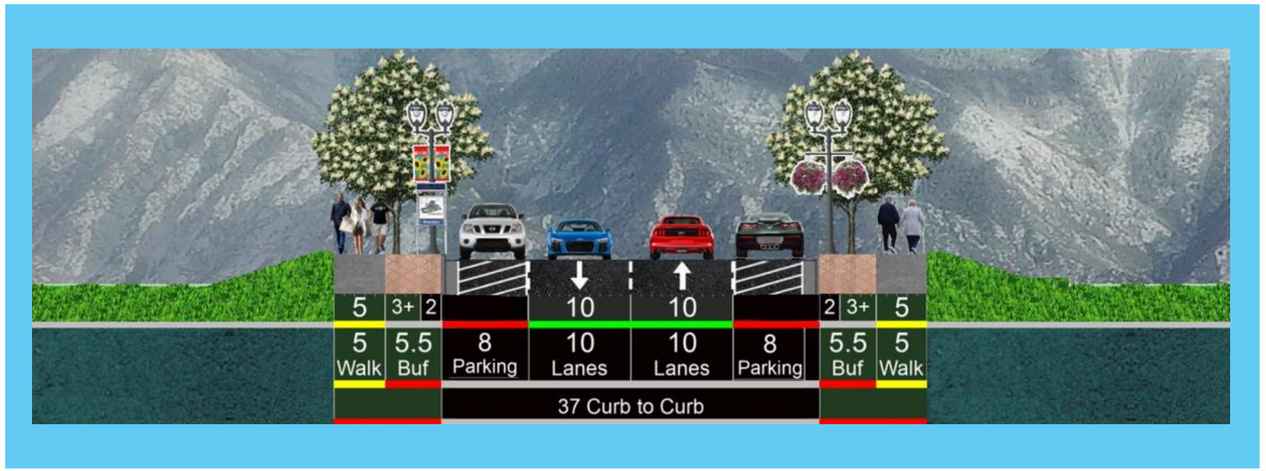


Right of Way

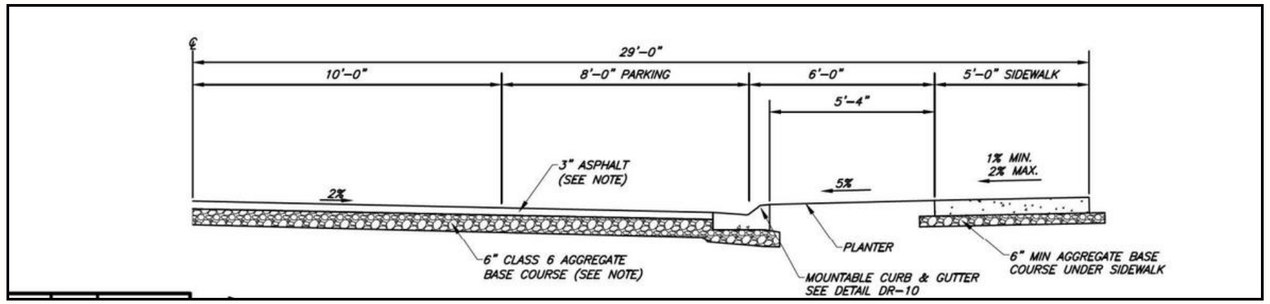
58 Feet

North/South Loop

R.O.W 58 FEET



DEVELOPMENT PROPOSED



CITY STANDARD

Designed to enhance safety and traffic control, the road includes an 11-foot travel lane with no parking on either side to ensure smooth vehicle flow. A dedicated, marked bike lane supports safe cycling, while 6-foot sidewalks on both sides are separated by a 5.5-foot landscaped buffer. This layout improves pedestrian safety and adds to the area's overall aesthetic, creating a more pleasant environment for residents.

BUILDING TYPE	NUM. OF UNITS	NUM. OF BLDG. TYPES	BEDROOMS PER BUILD.	FULL BATHS PER BUILD.	HALF BATHS PER BUILD.	CAR GARAGE PER BUILD.	CONDITIONED SQUARE FOOTAGE	TOTAL CONDITIONED SQUARE FOOTAGE
TYPE 1A	4	4	12 (48)	8 (32)	4 (16)	4 (16)	5,286 SF	21,144 SF
TYPE 1B	4	1	10	8	4	6	6,622 SF	6,622 SF
TYPE 1C	4	1	12	8	4	4	5,513 SF	5,513 SF
TYPE 2B	2	1	6	4	2	2	3,174 SF	3,174 SF
TYPE 2C	2	1	4	4	2	2	2,720 SF	2,720 SF
TYPE 3B	3	1	7	6	3	4	4,594 SF	4,594 SF
TYPE 6A	6	2	18 (36)	12 (24)	6 (12)	12 (24)	9,492 SF	18,984 SF
TYPE 7A	7	1	21	14	7	14	11,074 SF	11,074 SF
TYPE 7B	7	1	21	14	7	7	8,981 SF	8,981 SF
TYPE 9A	9	1	26	18	9	17	13,820 SF	13,820 SF
TOTALS	66	14	191	132	66	96	---	96,626 SF



Aerial **Site View**

OUR VISION

KLUTCH CONSULTANT LLC

EQR ACCOUNTING FROM	
TOTAL UNITS	66
TOTAL OPEN SPACE	86,865

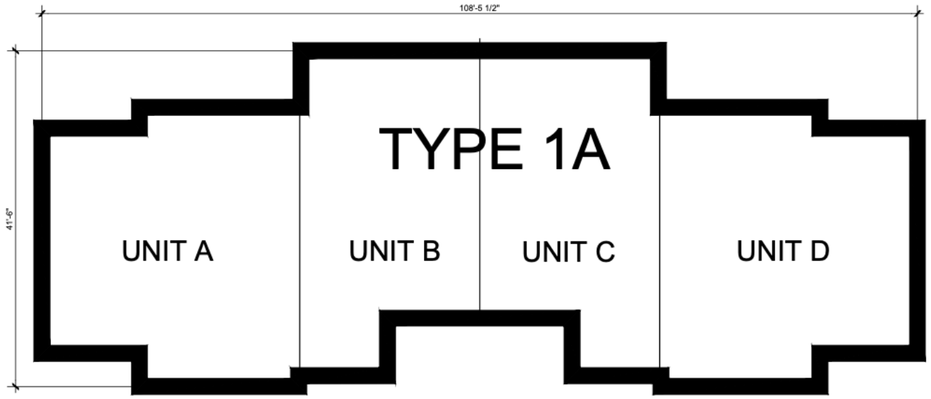
NO.	DEVELOPMENT		UNIT
1	NUMBER OF EQR DEVELOPED		EQRs
2	NUMBER OF EQR PROPOSED IN FILLING (#)	16.5	EQRs
3	NUMBER OF EQRs FOR RAW WATER IRRIGATION DEVELOPED (*)	5.79	EQRs
4	NUMBER OF EQRs PROPOSED FOR RAW WATER IRRIGATION IN FILLING		EQRs
5	TOTAL NUMBER OF EQRs	**22.29**	EQRs

(#) Dedication of 0.4 EQR/6,000 SQFT for 86,865 SQFT
(*) Dedication of 0.25 EQR for each unit served by raw water irrigation

EQR Calculations

NO.		EQRs	ACRES/EQR		UNIT
1	EQRs x 0.10 ACRES/EQR	22.29	0.1	2.23	ACRES
2	TOTAL DEDICATED ACRES			**2.23**	

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UNIT A	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT B	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT C	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT D	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT A	SQUARE FOOTAGE
FLOOR PLAN - 1ST	680 SF
FLOOR PLAN - 2ND	680 SF
GARAGE	336 SF
COVERED PATIO	0 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,360 SF
TOTAL	1,696 SF

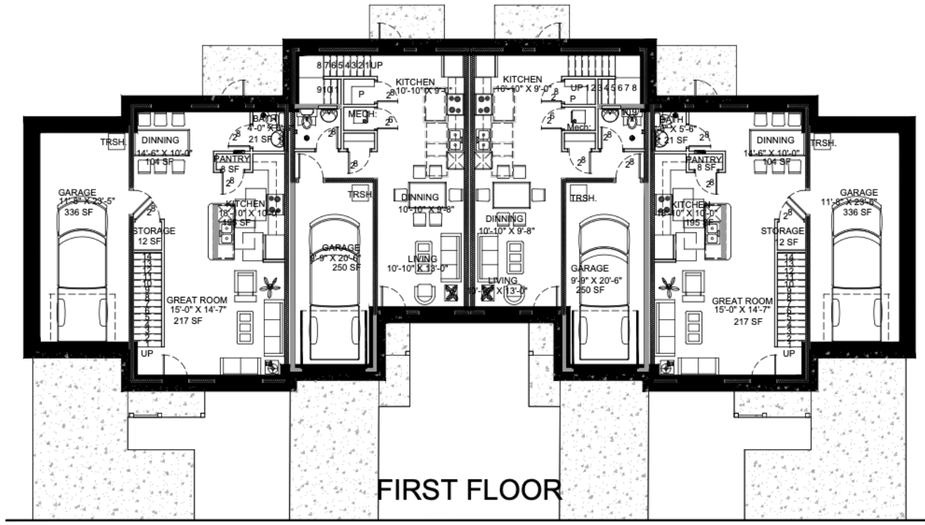
UNIT B	SQUARE FOOTAGE
FLOOR PLAN - 1ST	553 SF
FLOOR PLAN - 2ND	730 SF
GARAGE	250 SF
COVERED PATIO	20 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,283 SF
TOTAL	1,553 SF

UNIT C	SQUARE FOOTAGE
FLOOR PLAN - 1ST	553 SF
FLOOR PLAN - 2ND	730 SF
GARAGE	250 SF
COVERED PATIO	20 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,283 SF
TOTAL	1,553 SF

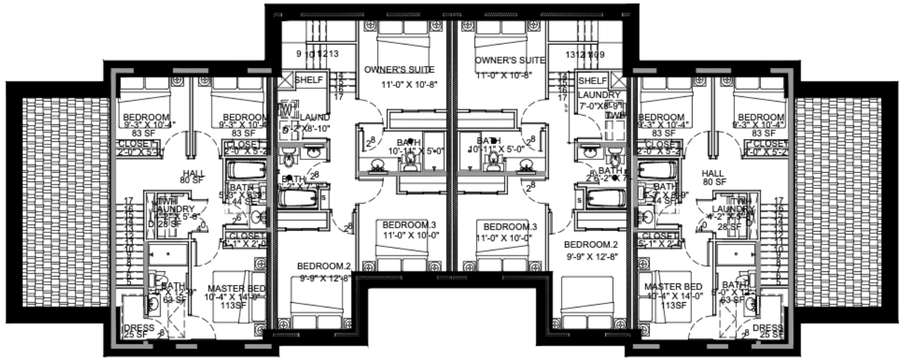
UNIT D	SQUARE FOOTAGE
FLOOR PLAN - 1ST	680 SF
FLOOR PLAN - 2ND	680 SF
GARAGE	336 SF
COVERED PATIO	0 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,360 SF
TOTAL	1,696 SF

BUILDING TYPE	NUM. OF UNITS IN BLDG	NUM. OF BLDG. TYPES	CONDITIONED SQUARE FOOTAGE	TOTAL CONDITIONED SQUARE FOOTAGE
TYPE 1A	4	4	5,286 SF	21,144 SF

TYPE 1A	SQUARE FOOTAGE
FLOOR PLAN - 1ST	2,466 SF
FLOOR PLAN - 2ND	2,820 SF
GARAGE	1,172 SF
COVERED PATIO	40 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	5,286 SF
TOTAL	6,498 SF



FIRST FLOOR



SECOND FLOOR

CASTLE VALLEY RANCH, CO

FLOOR PLAN TYPE 1A

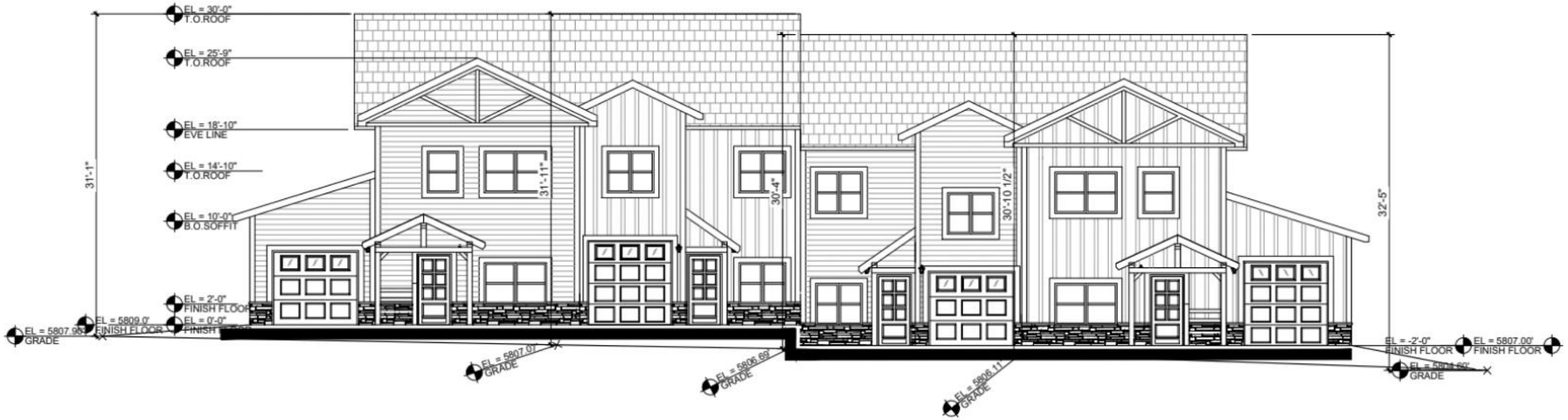
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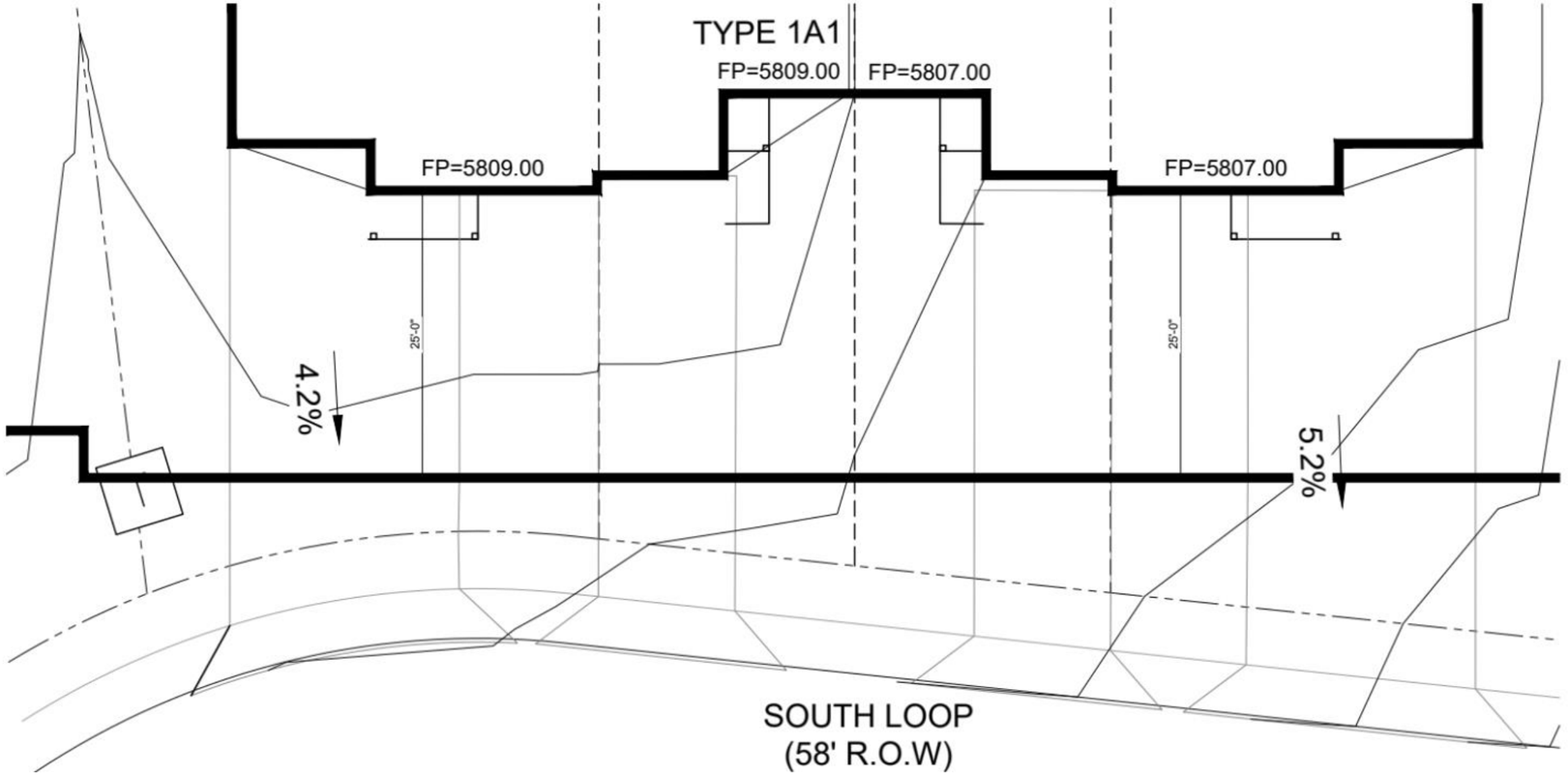
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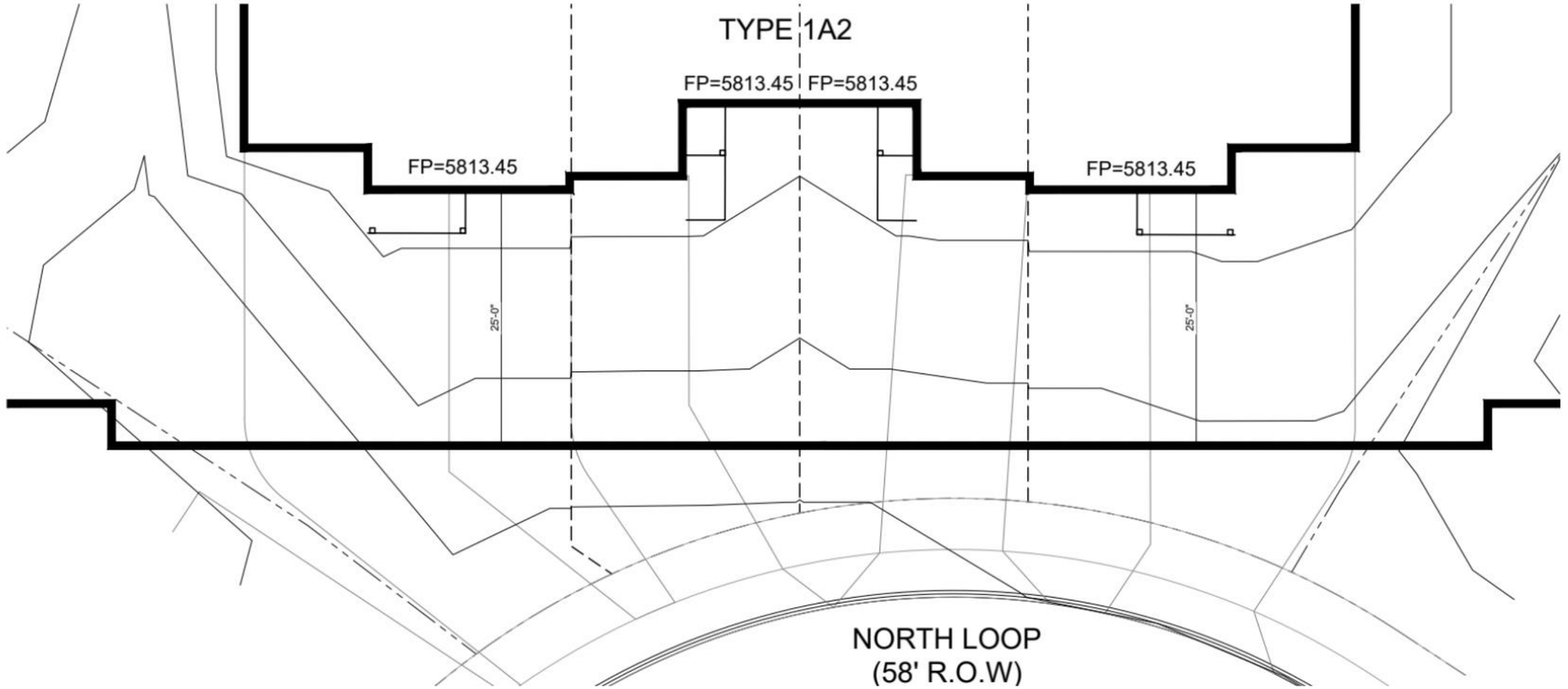


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Elevation - **TYPE 1A1**







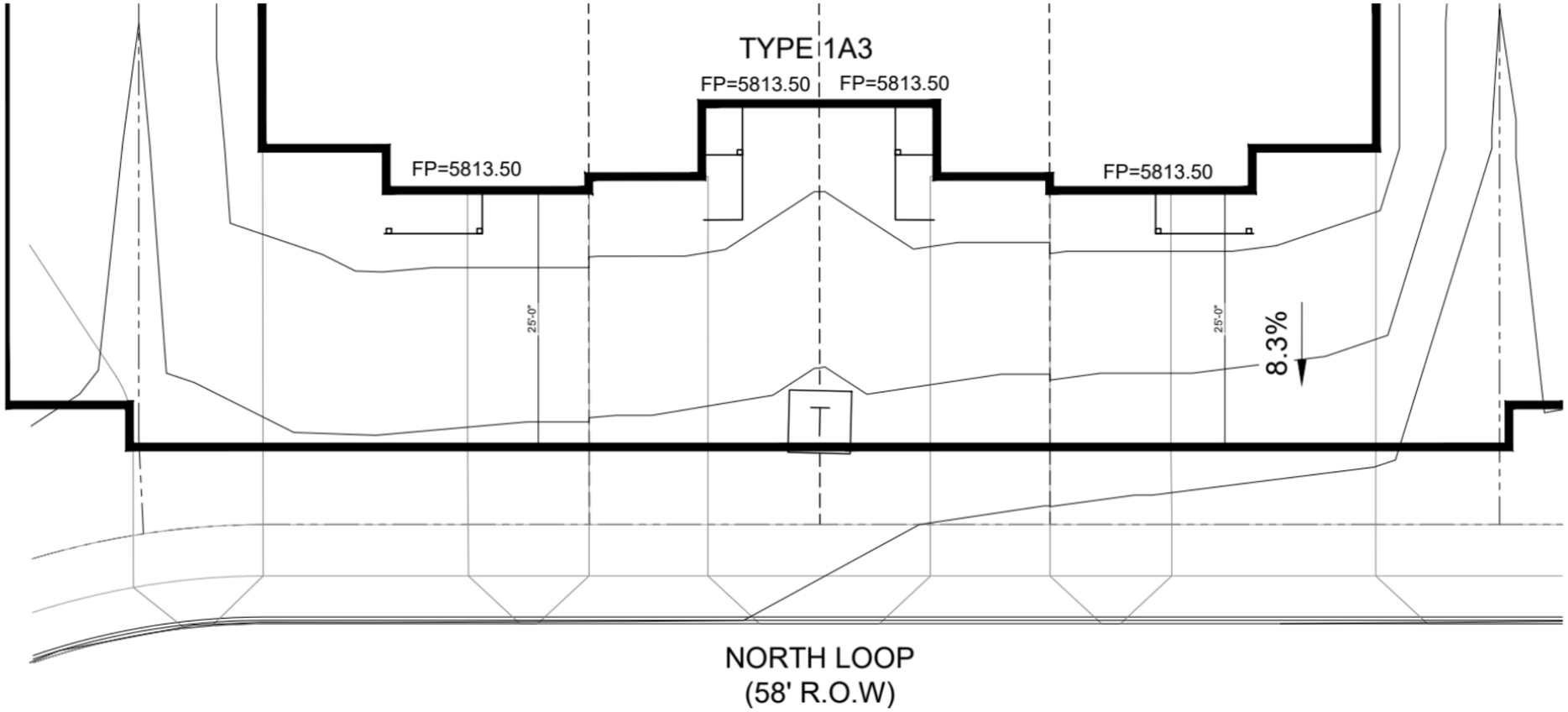


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Elevation - **TYPE 1A2**







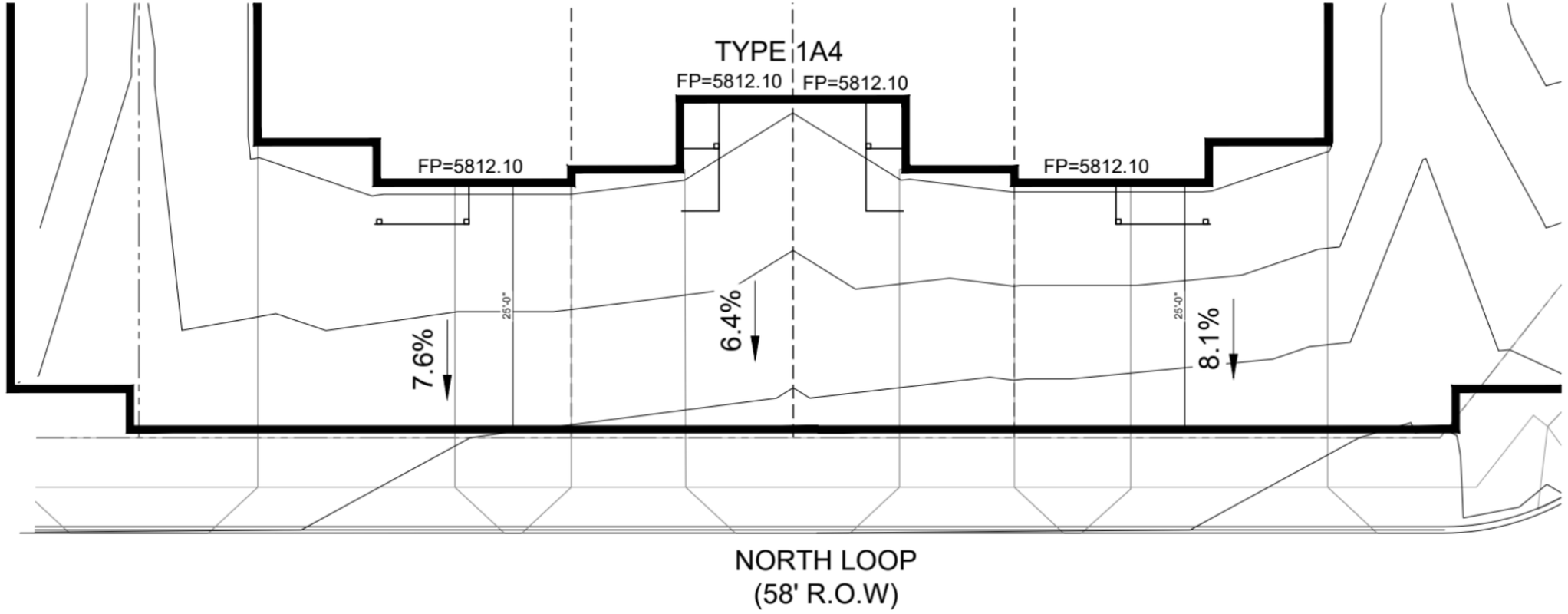


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Elevation - **TYPE 1A3**



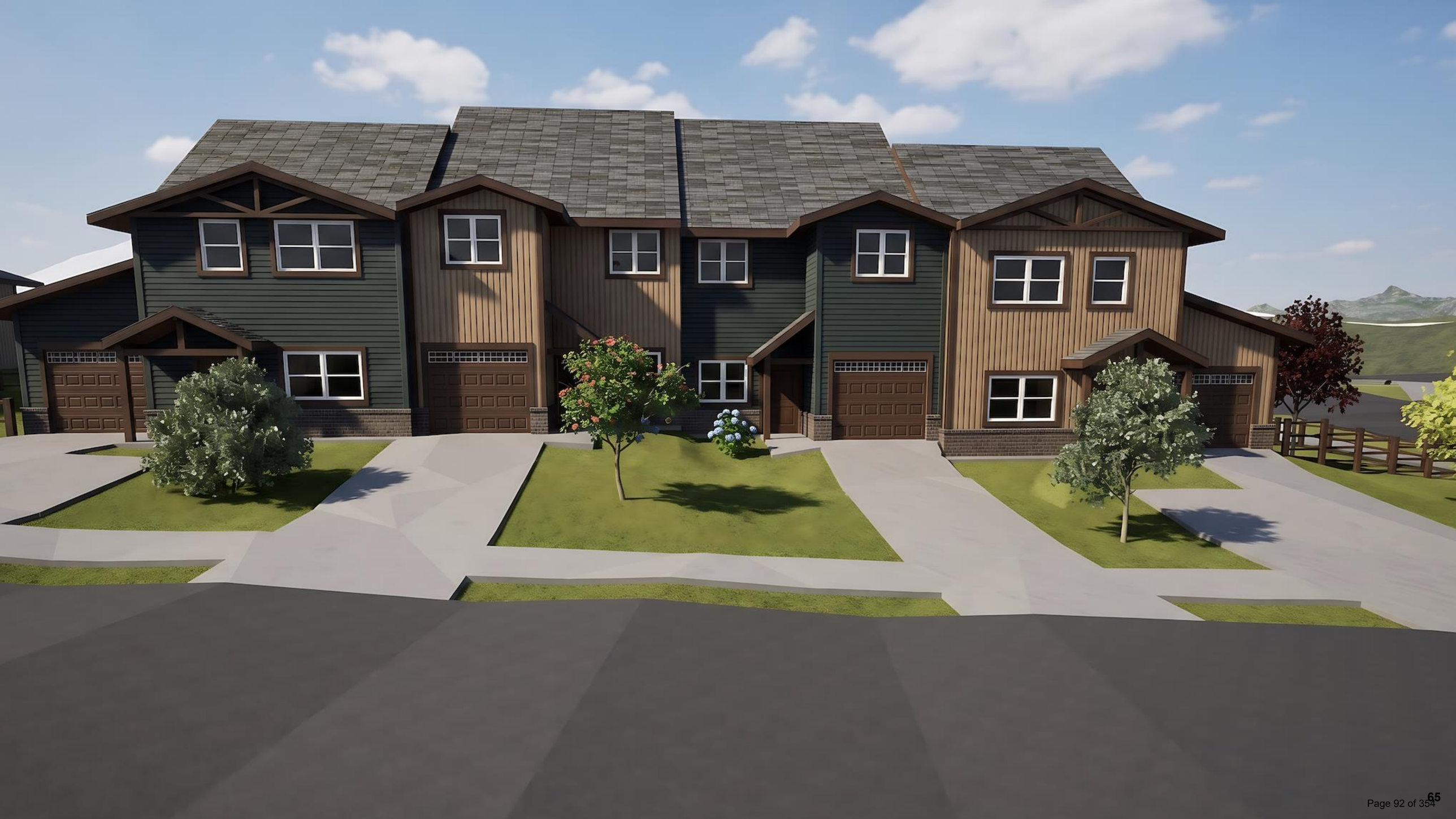


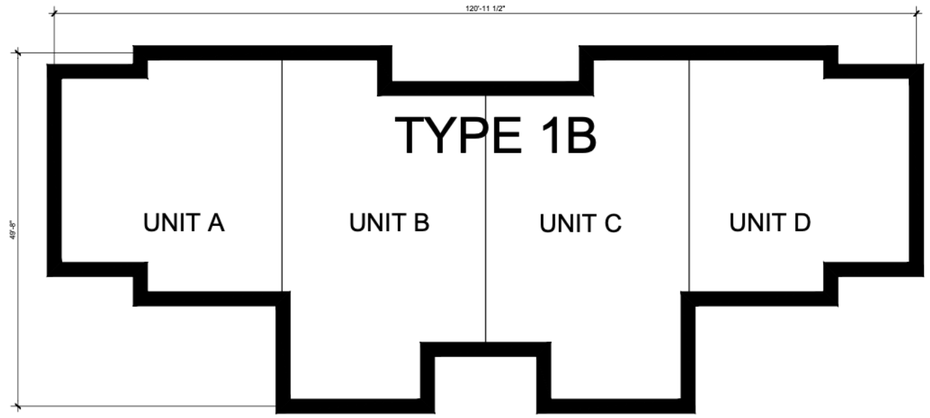




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Elevation - **TYPE 1A4**





UNIT A	NUMBER
BEDROOMS	2
HOME OFFICE	1
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT B	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT C	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT D	NUMBER
BEDROOMS	2
HOME OFFICE	1
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT A	SQUARE FOOTAGE
FLOOR PLAN - 1ST	680 SF
FLOOR PLAN - 2ND	680 SF
GARAGE	336 SF
COVERED PATIO	0 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,360 SF
TOTAL	1,696 SF

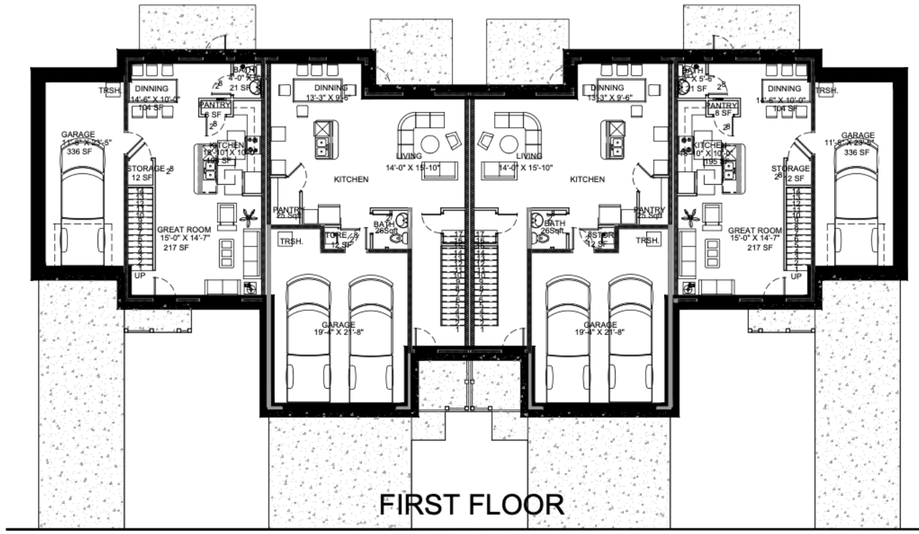
UNIT B	SQUARE FOOTAGE
FLOOR PLAN - 1ST	820 SF
FLOOR PLAN - 2ND	1,131 SF
GARAGE	449 SF
COVERED PATIO	64 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,951 SF
TOTAL	2,464 SF

UNIT C	SQUARE FOOTAGE
FLOOR PLAN - 1ST	820 SF
FLOOR PLAN - 2ND	1,131 SF
GARAGE	449 SF
COVERED PATIO	64 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,951 SF
TOTAL	2,464 SF

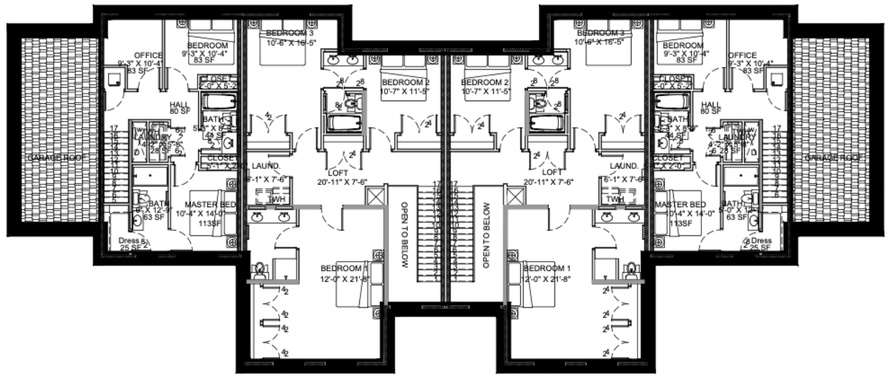
UNIT D	SQUARE FOOTAGE
FLOOR PLAN - 1ST	680 SF
FLOOR PLAN - 2ND	680 SF
GARAGE	336 SF
COVERED PATIO	0 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,360 SF
TOTAL	1,696 SF

BUILDING TYPE	NUM. OF UNITS IN BLDG	NUM. OF BLDG. TYPES	CONDITIONED SQUARE FOOTAGE	TOTAL CONDITIONED SQUARE FOOTAGE
TYPE 1B	4	1	6,622 SF	6,622 SF

TYPE 1B	SQUARE FOOTAGE
FLOOR PLAN - 1ST	3,000 SF
FLOOR PLAN - 2ND	3,622 SF
GARAGE	1,570 SF
COVERED PATIO	128 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	6,622 SF
TOTAL	8,320 SF



FIRST FLOOR



SECOND FLOOR

CASTLE VALLEY RANCH, CO

FLOOR PLAN TYPE 1B

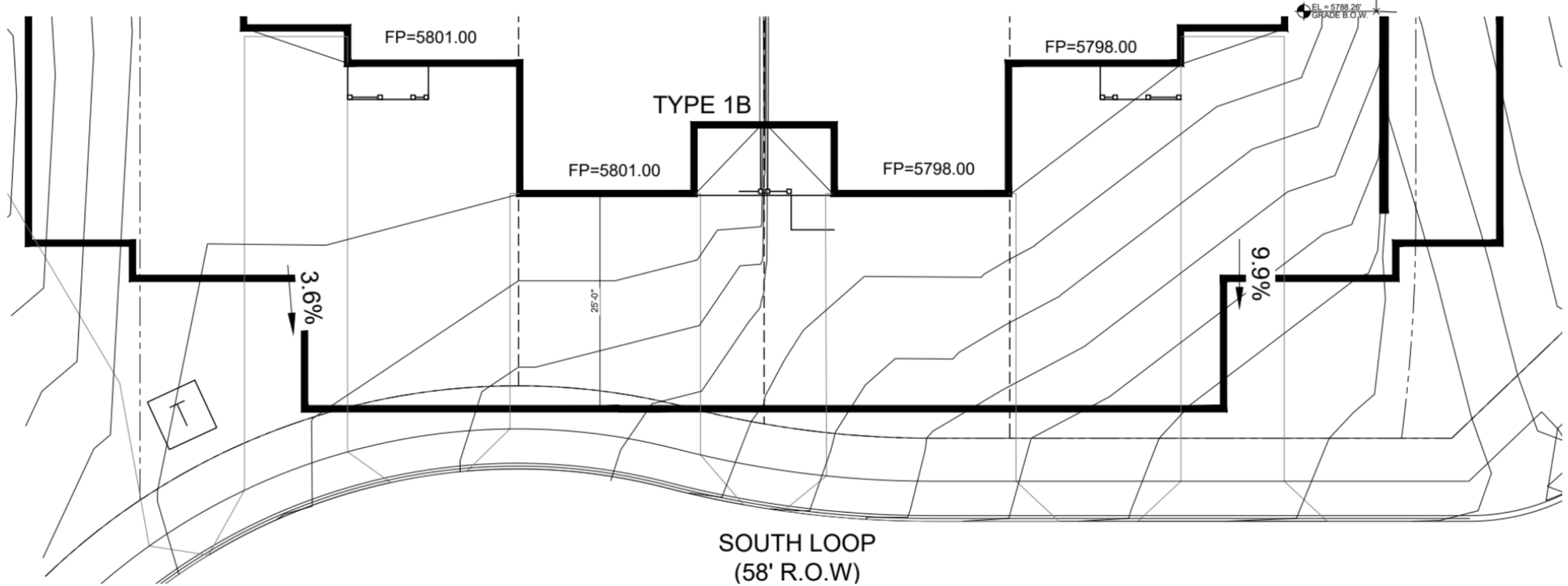
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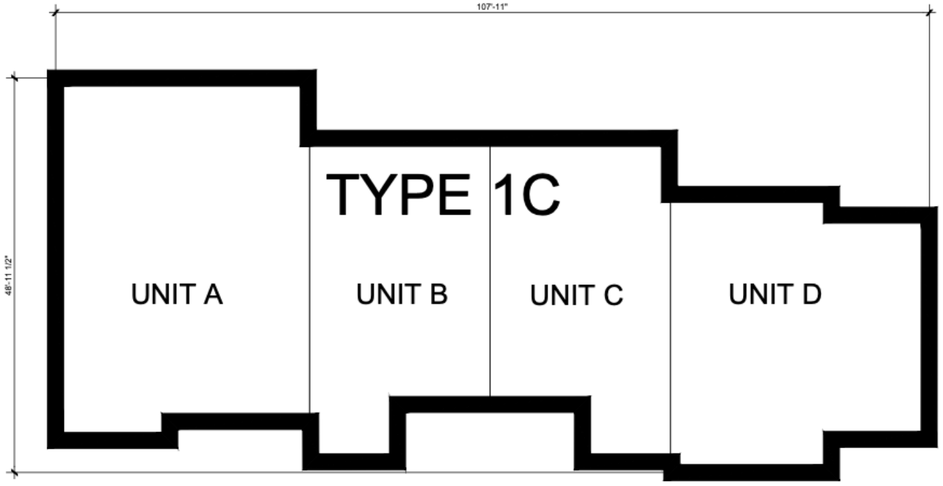




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Elevation - **TYPE 1B**





UNIT A	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT B	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT C	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT D	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT A	SQUARE FOOTAGE
FLOOR PLAN - 1ST	1,030 SF
FLOOR PLAN - 2ND	557 SF
GARAGE	329 SF
COVERED PATIO	0 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,587 SF
TOTAL	1,916 SF

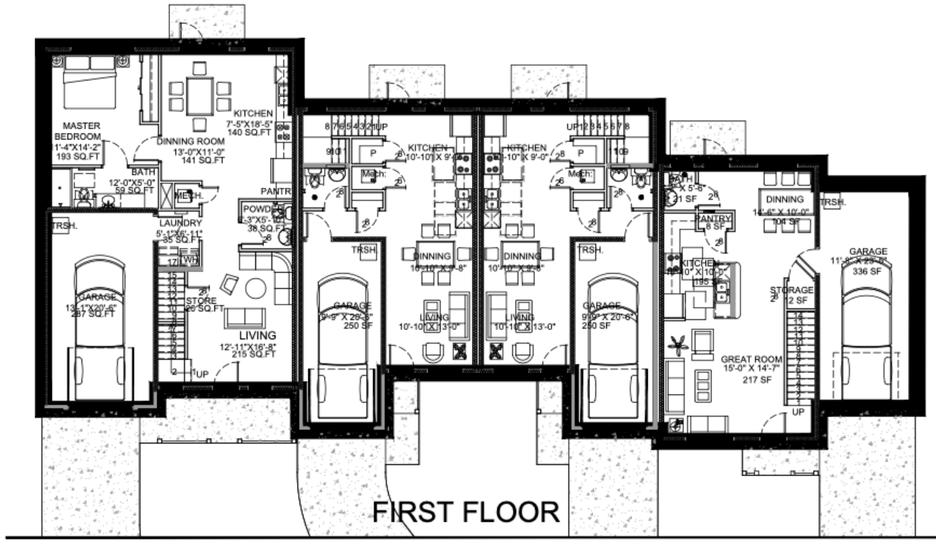
UNIT B	SQUARE FOOTAGE
FLOOR PLAN - 1ST	553 SF
FLOOR PLAN - 2ND	730 SF
GARAGE	250 SF
COVERED PATIO	20 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,283 SF
TOTAL	1,553 SF

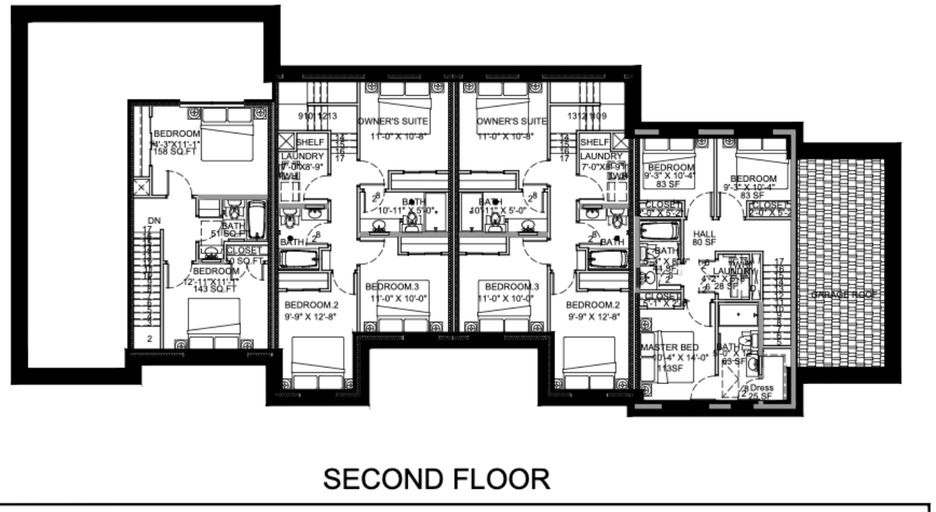
UNIT C	SQUARE FOOTAGE
FLOOR PLAN - 1ST	553 SF
FLOOR PLAN - 2ND	730 SF
GARAGE	250 SF
COVERED PATIO	20 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,283 SF
TOTAL	1,553 SF

UNIT D	SQUARE FOOTAGE
FLOOR PLAN - 1ST	680 SF
FLOOR PLAN - 2ND	680 SF
GARAGE	336 SF
COVERED PATIO	0 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,360 SF
TOTAL	1,696 SF

BUILDING TYPE	NUM. OF UNITS IN BLDG	NUM. OF BLDG. TYPES	CONDITIONED SQUARE FOOTAGE	TOTAL CONDITIONED SQUARE FOOTAGE
TYPE 1C	4	1	5,513 SF	5,513 SF

TYPE 1C	SQUARE FOOTAGE
FLOOR PLAN - 1ST	2,816 SF
FLOOR PLAN - 2ND	2,697 SF
GARAGE	1,165 SF
COVERED PATIO	40 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	5,513 SF
TOTAL	6,718 SF





CASTLE VALLEY RANCH, CO

FLOOR PLAN TYPE 1C

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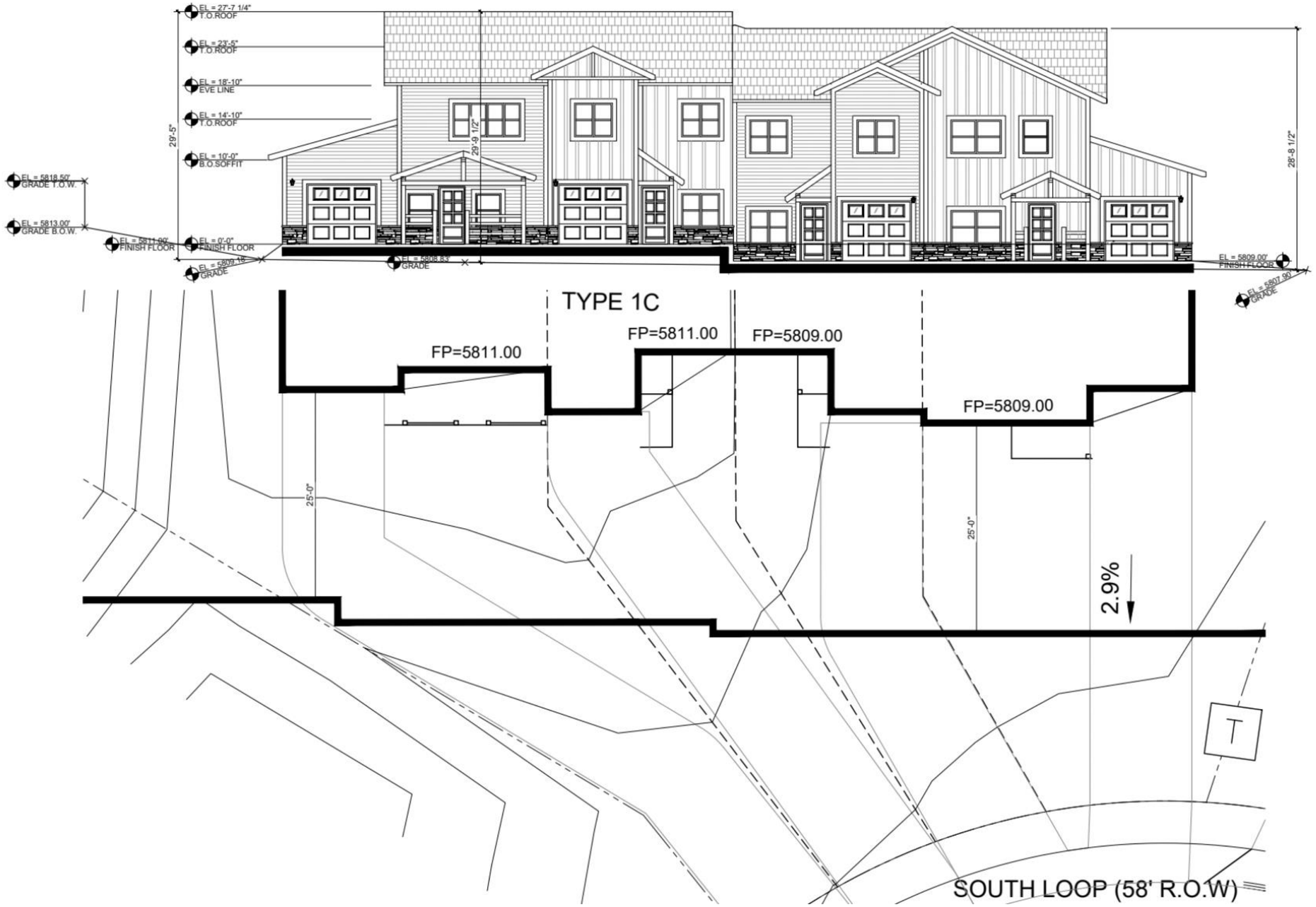
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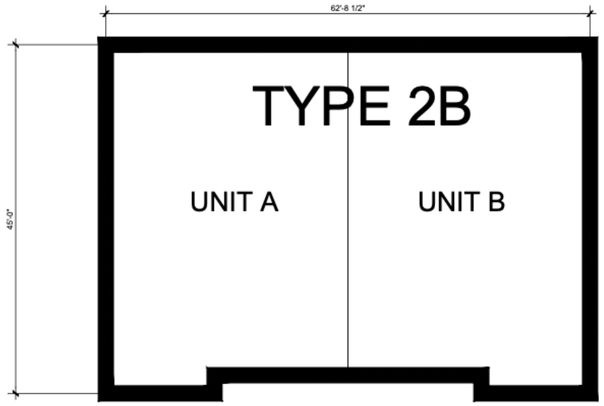
Floor Plan - **TYPE 1C**





Elevation - **TYPE 1C**





UNIT A	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

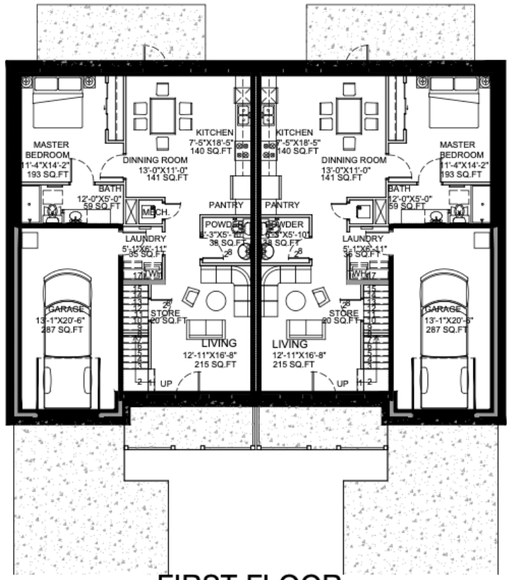
UNIT B	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT A	SQUARE FOOTAGE
FLOOR PLAN - 1ST	1,030 SF
FLOOR PLAN - 2ND	557 SF
GARAGE	329 SF
COVERED PATIO	0 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,587 SF
TOTAL	1,916 SF

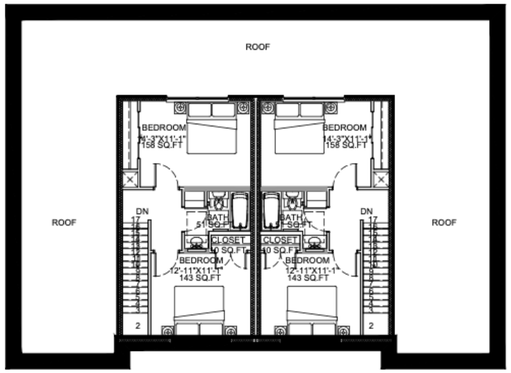
UNIT B	SQUARE FOOTAGE
FLOOR PLAN - 1ST	1,030 SF
FLOOR PLAN - 2ND	557 SF
GARAGE	329 SF
COVERED PATIO	0 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,587 SF
TOTAL	1,916 SF

BUILDING TYPE	NUM. OF UNITS IN BLDG	NUM. OF BLDG. TYPES	PARKING PROVIDED MINUS GARAGE	CONDITIONED SQUARE FOOTAGE	TOTAL CONDITIONED SQUARE FOOTAGE
TYPE 2B	2	1	4	3,174 SF	3,174 SF

TYPE 2B	SQUARE FOOTAGE
FLOOR PLAN - 1ST	2,060 SF
FLOOR PLAN - 2ND	1,114 SF
GARAGE	658 SF
COVERED PATIO	0 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	3,174 SF
TOTAL	3,832 SF



FIRST FLOOR



SECOND FLOOR

CASTLE VALLEY RANCH, CO

FLOOR PLAN TYPE 2B

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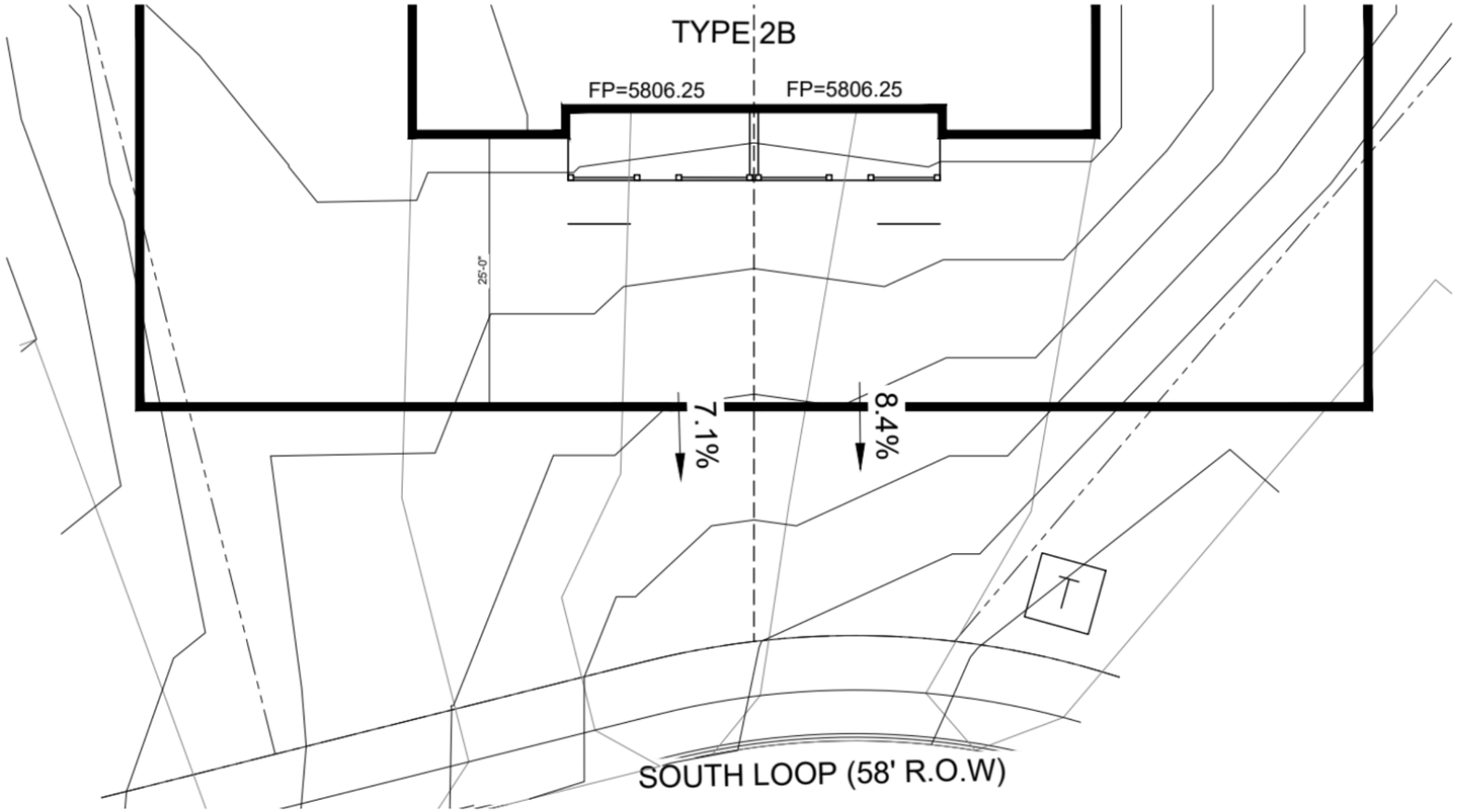
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Floor Plan - **TYPE 2B**

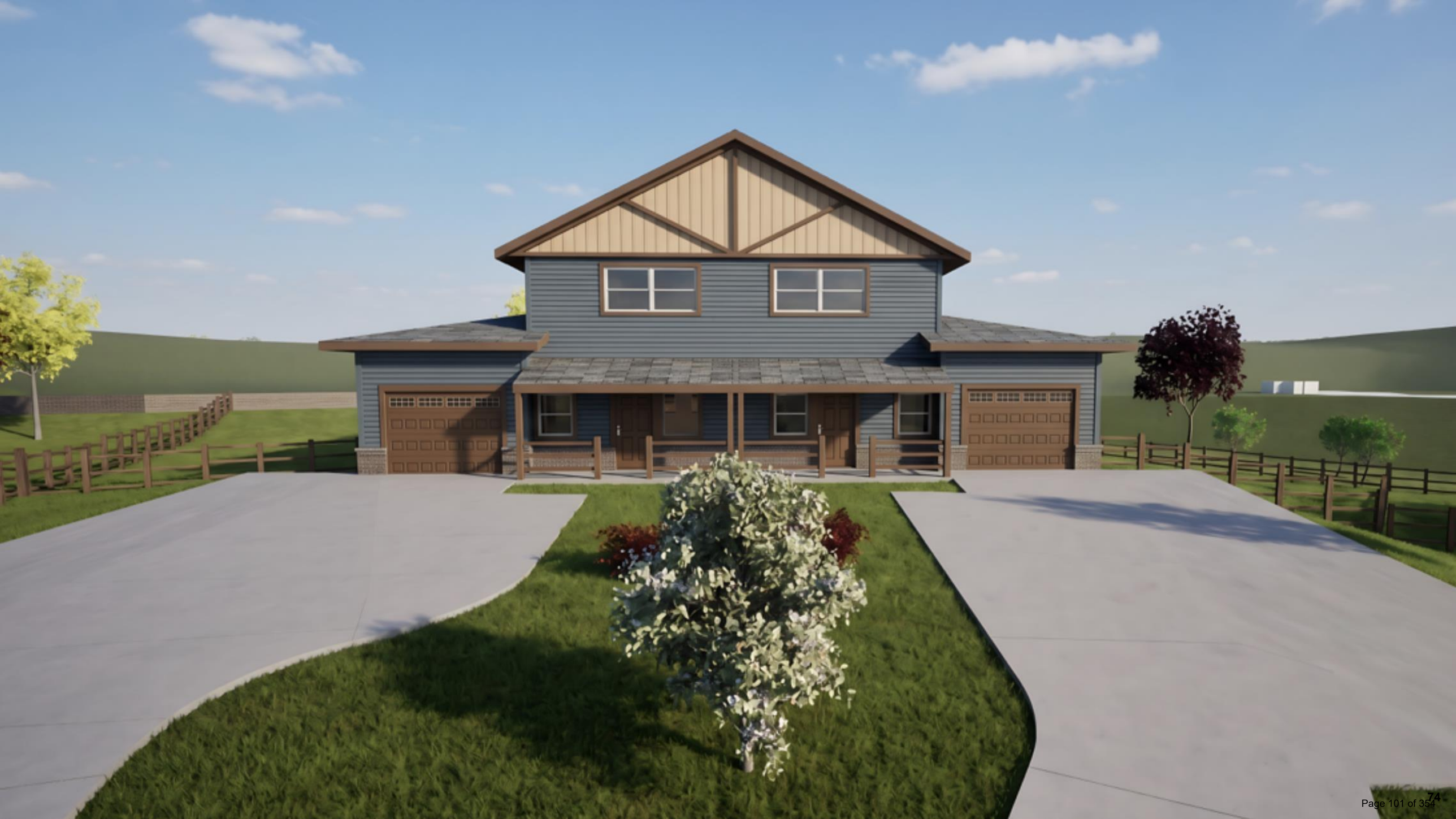


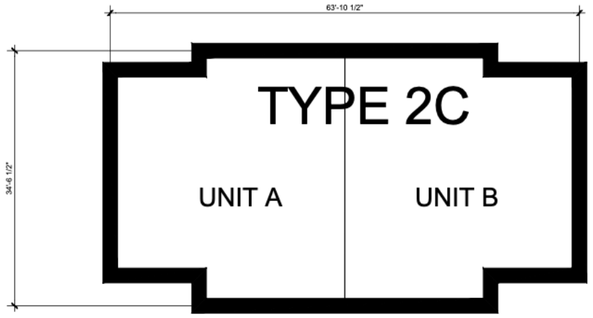




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Elevation - **TYPE 2B**





UNIT A	NUMBER
BEDROOMS	2
HOME OFFICE	1
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

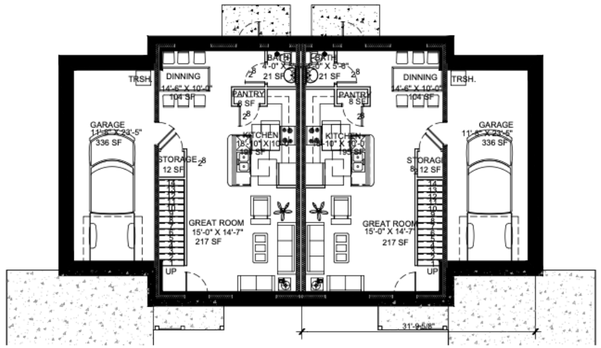
UNIT B	NUMBER
BEDROOMS	2
HOME OFFICE	1
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

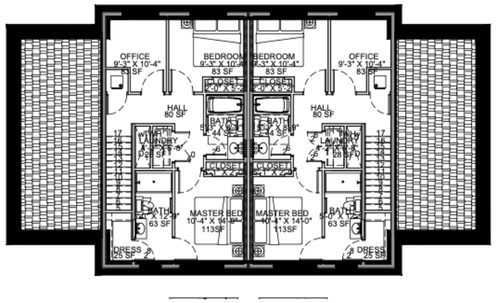
UNIT A	SQUARE FOOTAGE
FLOOR PLAN - 1ST	680 SF
FLOOR PLAN - 2ND	680 SF
GARAGE	336 SF
COVERED PATIO	0 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,360 SF
TOTAL	1,696 SF

UNIT B	SQUARE FOOTAGE
FLOOR PLAN - 1ST	680 SF
FLOOR PLAN - 2ND	680 SF
GARAGE	336 SF
COVERED PATIO	0 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,360 SF
TOTAL	1,696 SF

BUILDING TYPE	NUM. OF UNITS IN BLDG	NUM. OF BLDG. TYPES	CONDITIONED SQUARE FOOTAGE	TOTAL CONDITIONED SQUARE FOOTAGE
TYPE 2C	2	1	2,720 SF	2,720 SF

TYPE 2C	SQUARE FOOTAGE
FLOOR PLAN - 1ST	1,360 SF
FLOOR PLAN - 2ND	1,360 SF
GARAGE	672 SF
COVERED PATIO	0 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	2,720 SF
TOTAL	3,392 SF





FIRST FLOOR

SECOND FLOOR

CASTLE VALLEY RANCH, CO

FLOOR PLAN TYPE 2C

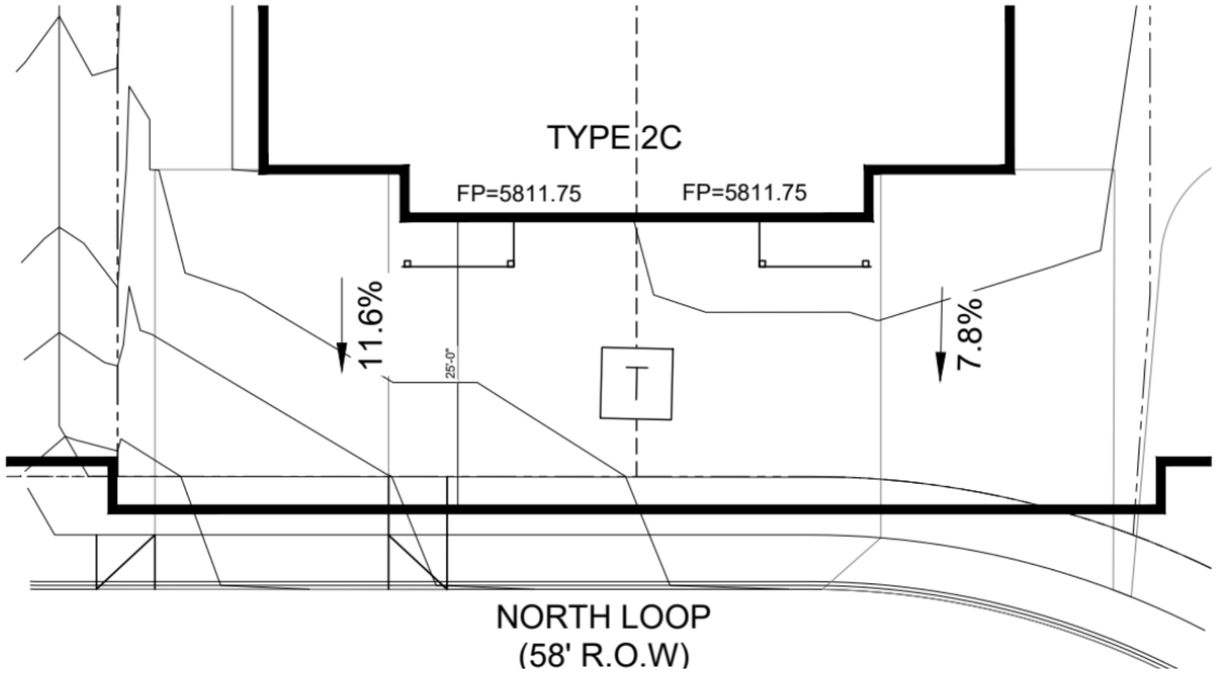
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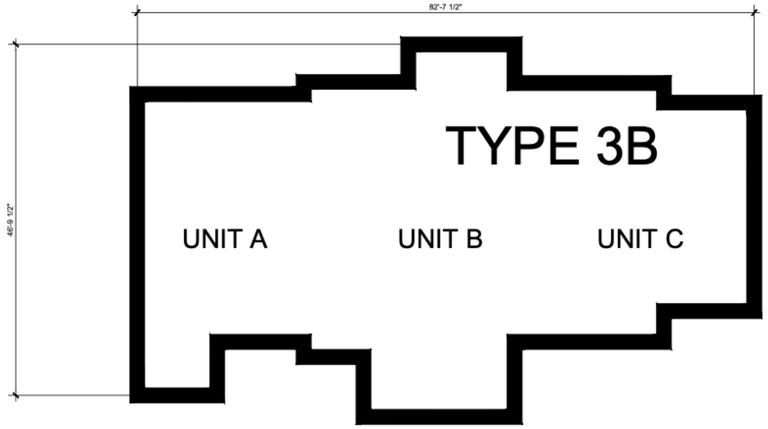




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Elevation - **TYPE 2C**





UNIT A	NUMBER
BEDROOMS	2
HOME OFFICE	1
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT B	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT C	NUMBER
BEDROOMS	2
HOME OFFICE	1
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

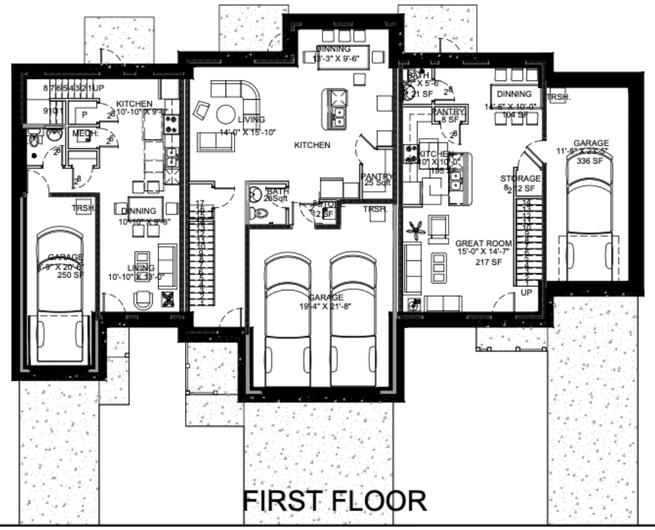
UNIT A	SQUARE FOOTAGE
FLOOR PLAN - 1ST	553 SF
FLOOR PLAN - 2ND	730 SF
GARAGE	250 SF
COVERED PATIO	20 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,283 SF
TOTAL	1,553 SF

UNIT B	SQUARE FOOTAGE
FLOOR PLAN - 1ST	820 SF
FLOOR PLAN - 2ND	1,131 SF
GARAGE	449 SF
COVERED PATIO	64 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,951 SF
TOTAL	2,464 SF

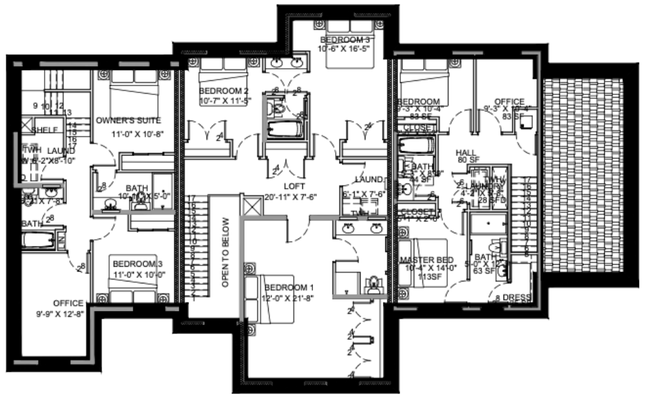
UNIT C	SQUARE FOOTAGE
FLOOR PLAN - 1ST	680 SF
FLOOR PLAN - 2ND	680 SF
GARAGE	336 SF
COVERED PATIO	0 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,360 SF
TOTAL	1,696 SF

BUILDING TYPE	NUM. OF UNITS IN BLDG	NUM. OF BLDG. TYPES	CONDITIONED SQUARE FOOTAGE	TOTAL CONDITIONED SQUARE FOOTAGE
TYPE 3B	3	1	4,594 SF	4,594 SF

TYPE 3B	SQUARE FOOTAGE
FLOOR PLAN - 1ST	2,053 SF
FLOOR PLAN - 2ND	2,541 SF
GARAGE	1,035 SF
COVERED PATIO	84 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	4,594 SF
TOTAL	5,713 SF



FIRST FLOOR



SECOND FLOOR

CASTLE VALLEY RANCH, CO

FLOOR PLAN TYPE 3B

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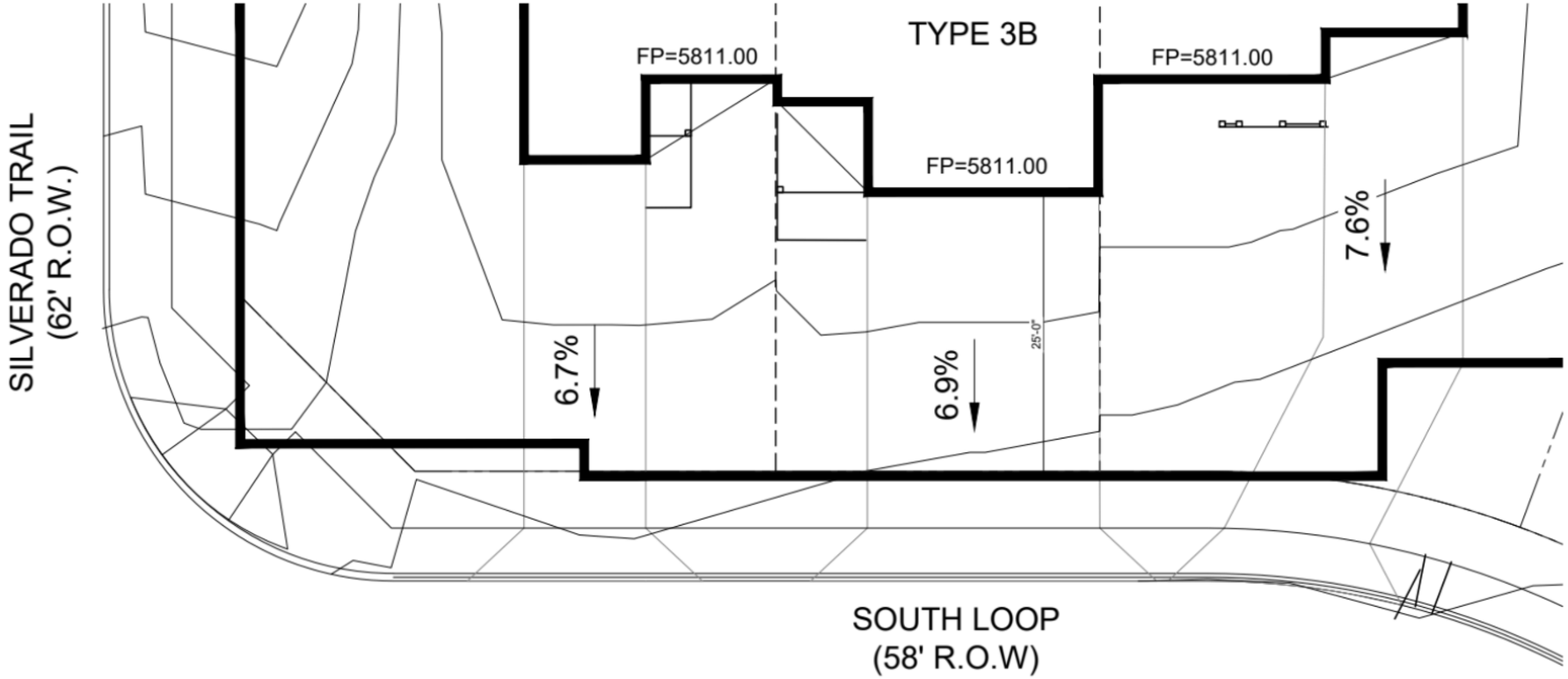
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Floor Plan - **TYPE 3B**

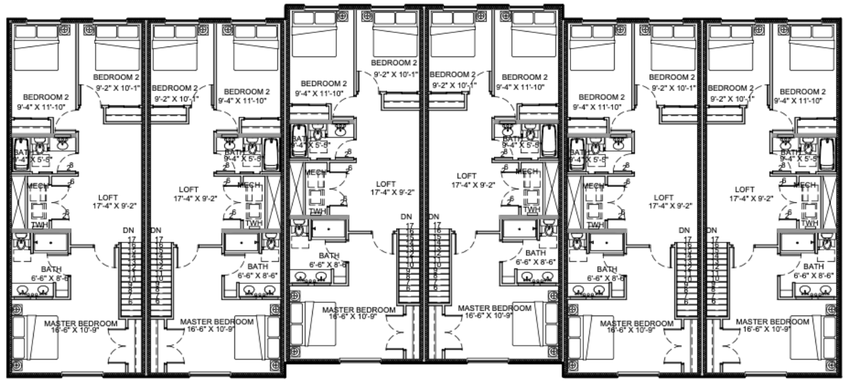




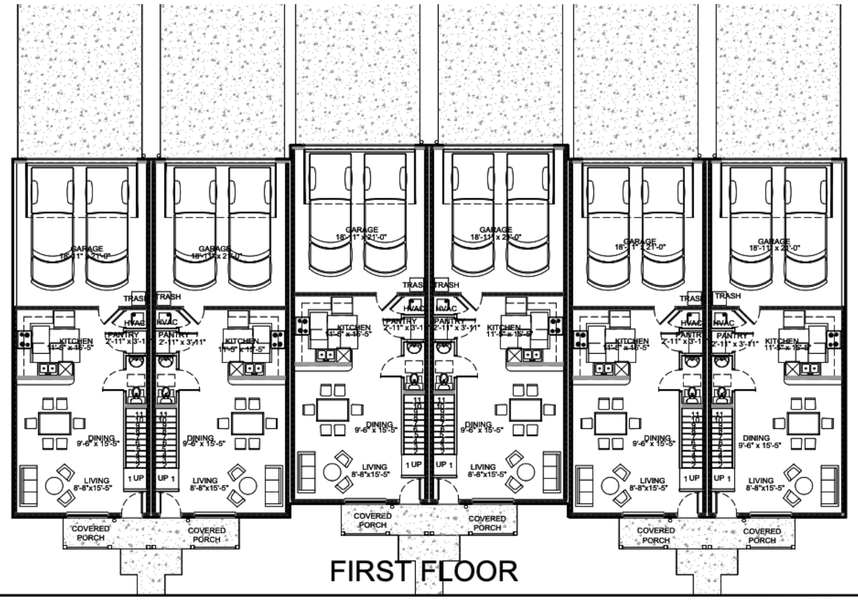


Elevation - **TYPE 3B**





SECOND FLOOR



FIRST FLOOR

UNIT A	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT B	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT C	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT D	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT A	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	430 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

UNIT B	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	430 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

UNIT C	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	430 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

UNIT D	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	430 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

UNIT E	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

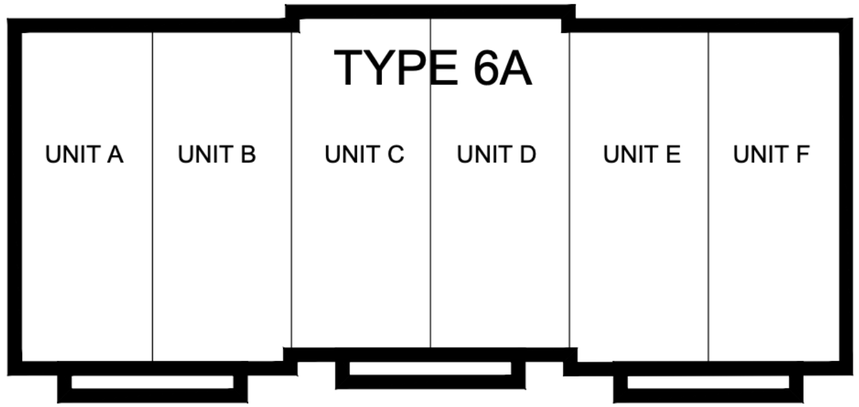
UNIT F	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT E	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	430 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

UNIT F	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	430 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

BUILDING TYPE	NUM. OF UNITS IN BLDG	NUM. OF BLDG. TYPES	CONDITIONED SQUARE FOOTAGE	TOTAL CONDITIONED SQUARE FOOTAGE
TYPE 6A	6	2	9,492 SF	18,984 SF

TYPE 6A	SQUARE FOOTAGE
FLOOR PLAN - 1ST	3,630 SF
FLOOR PLAN - 2ND	5,862 SF
GARAGE	2,580 SF
COVERED PATIO	114 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	9,492 SF
TOTAL	12,072 SF





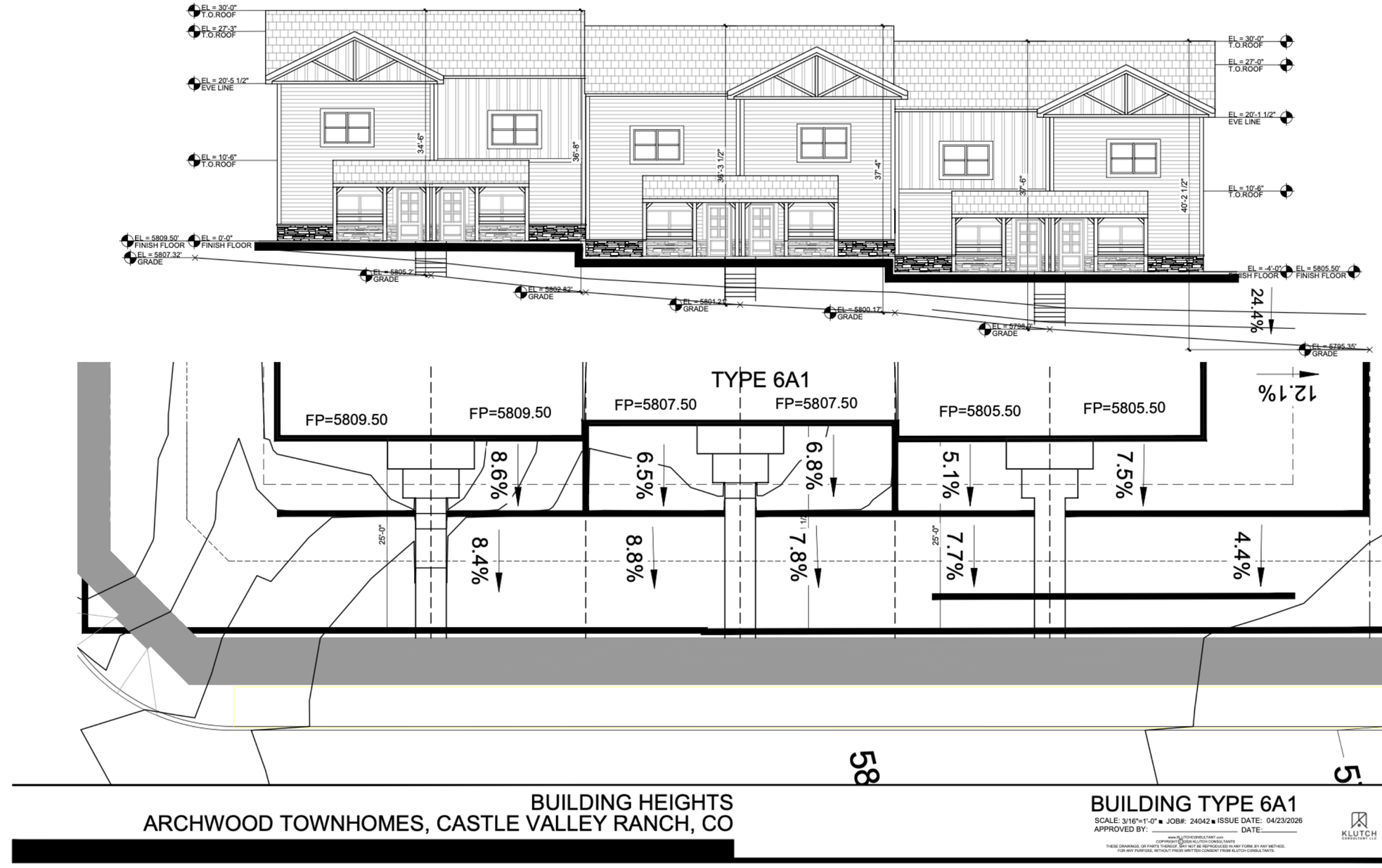
CASTLE VALLEY RANCH, CO

FLOOR PLAN TYPE 6A

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BUILDING HEIGHTS
ARCHWOOD TOWNHOMES, CASTLE VALLEY RANCH, CO

BUILDING TYPE 6A1
SCALE: 3/16"=1'-0" ■ JOB#: 24042 ■ ISSUE DATE: 04/23/2026
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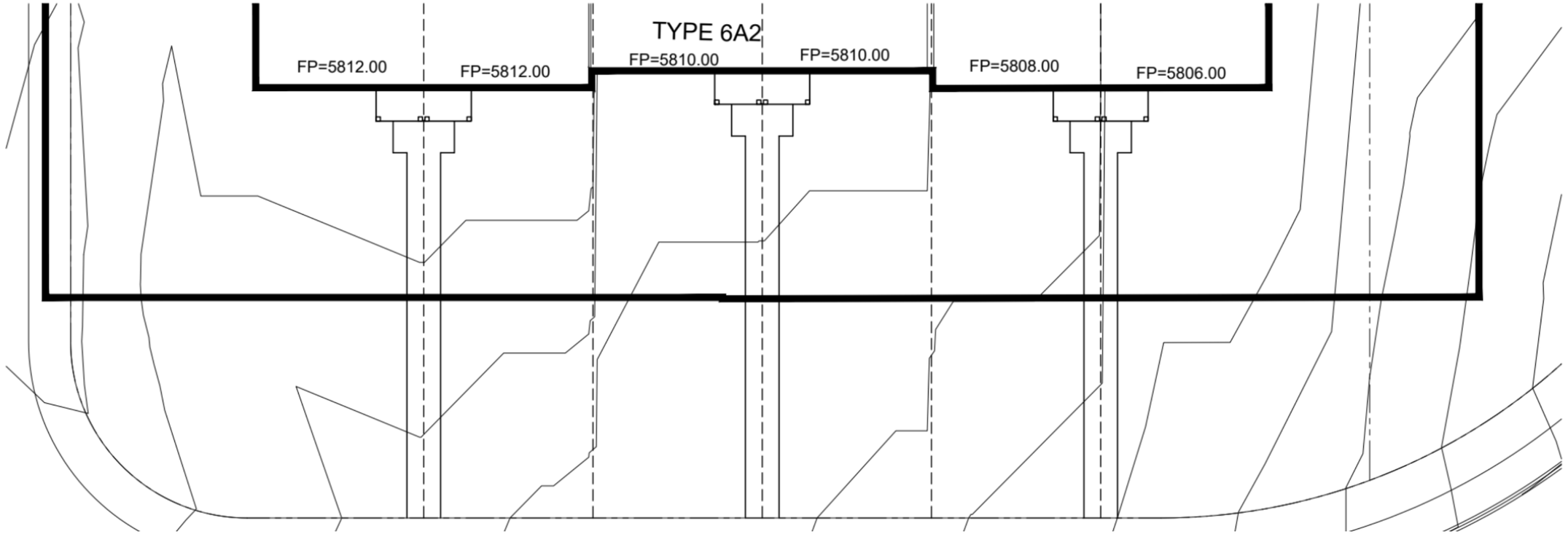
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Elevation - **TYPE 6A1**









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Elevation - **TYPE 6A2**

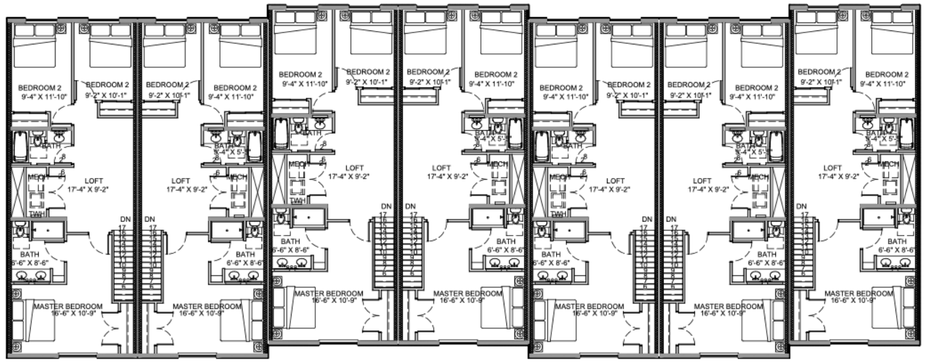


UNIT A	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT B	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT C	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT D	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2



SECOND FLOOR

UNIT A	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	430 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

UNIT B	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	430 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

UNIT C	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	430 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

UNIT D	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	430 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

UNIT E	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT F	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT G	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

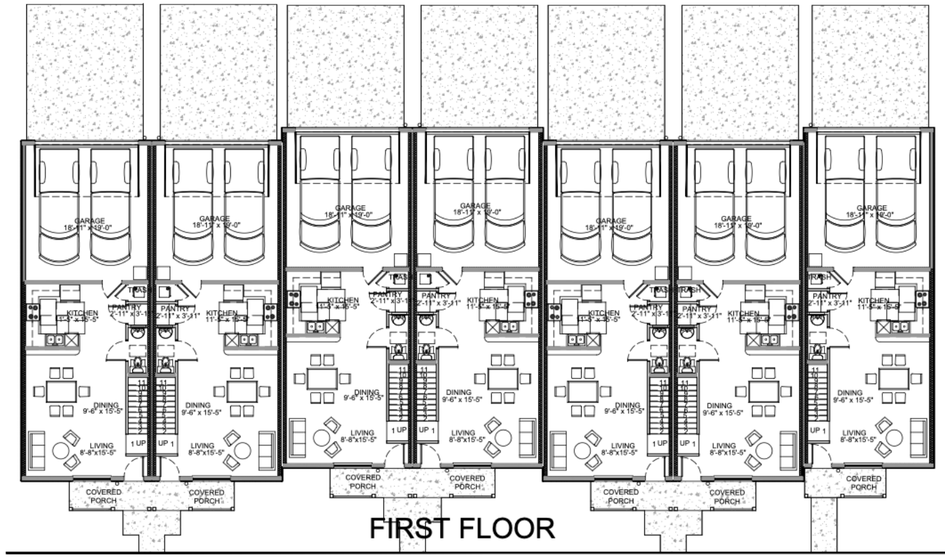
UNIT E	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	430 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

UNIT F	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	430 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

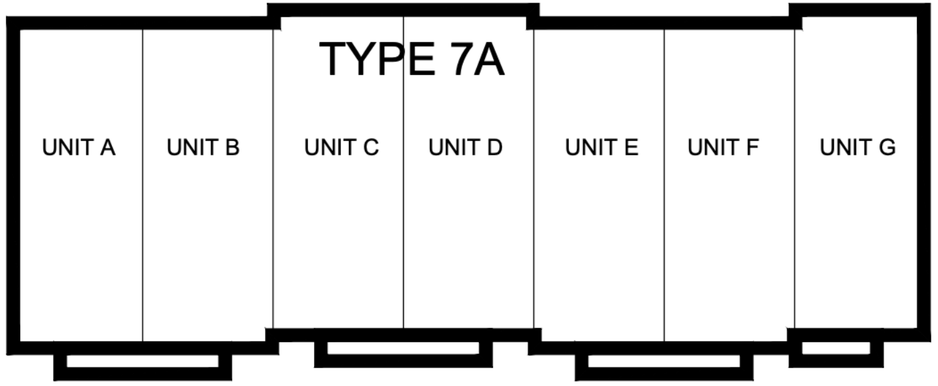
UNIT G	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	430 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

BUILDING TYPE	NUM. OF UNITS IN BLDG	NUM. OF BLDG. TYPES	CONDITIONED SQUARE FOOTAGE	TOTAL CONDITIONED SQUARE FOOTAGE
TYPE 7A	7	1	10,864 SF	10,864 SF

TYPE 7A	SQUARE FOOTAGE
FLOOR PLAN - 1ST	4,235 SF
FLOOR PLAN - 2ND	6,839 SF
GARAGE	3,010 SF
COVERED PATIO	133 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	11,074 SF
TOTAL	14,084 SF



FIRST FLOOR





CASTLE VALLEY RANCH, CO

FLOOR PLAN TYPE 6A

SCALE: N.T.S. ■ JOB#: 24042 ■ ISSUE DATE: 06/01/2026
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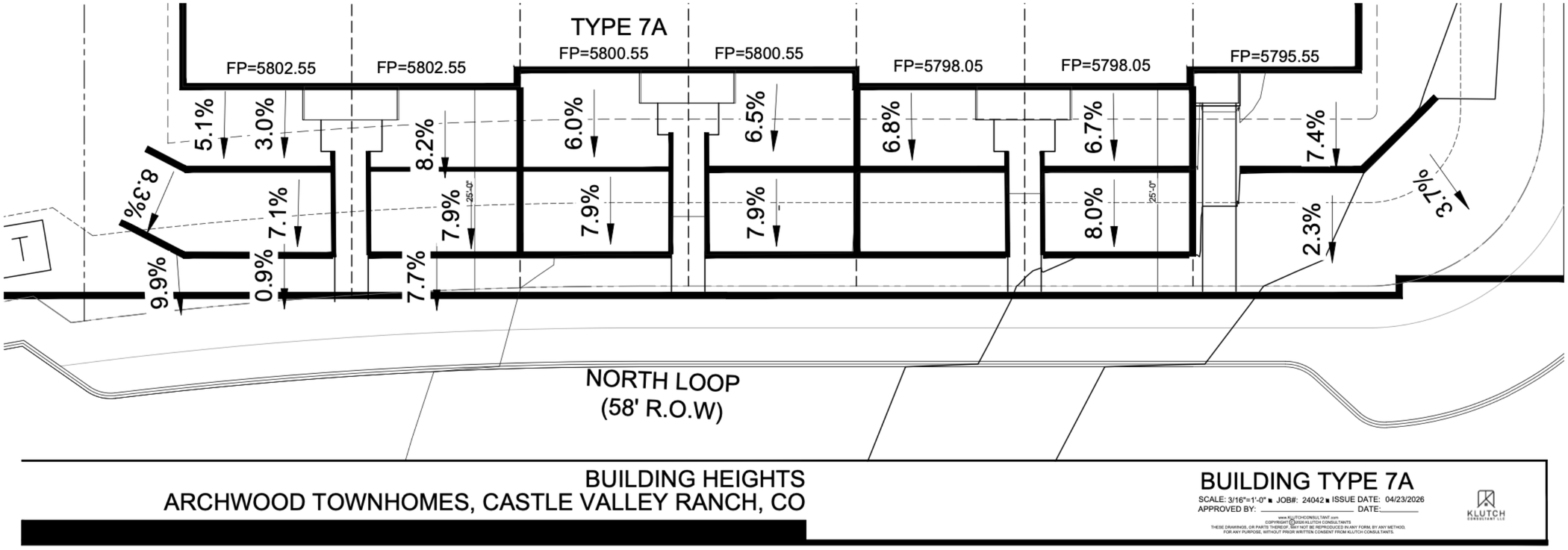
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KLUTCH CONSULTANT LLC

KLUTCH CONSULTANT LLC

Floor Plan - **TYPE 7A**





BUILDING HEIGHTS
ARCHWOOD TOWNHOMES, CASTLE VALLEY RANCH, CO

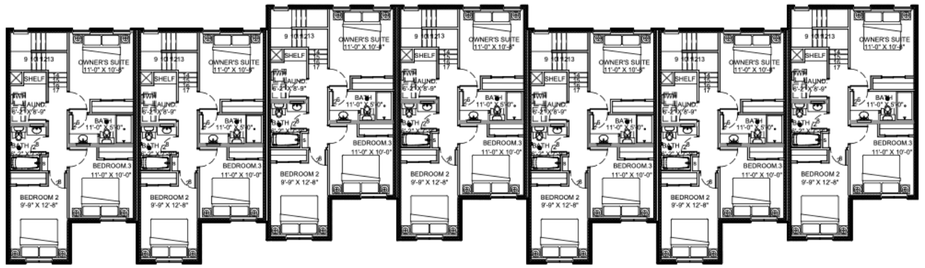
BUILDING TYPE 7A
SCALE: 3/16"=1'-0" ■ JOB#: 24042 ■ ISSUE DATE: 04/23/2026
APPROVED BY: _____ DATE:_____

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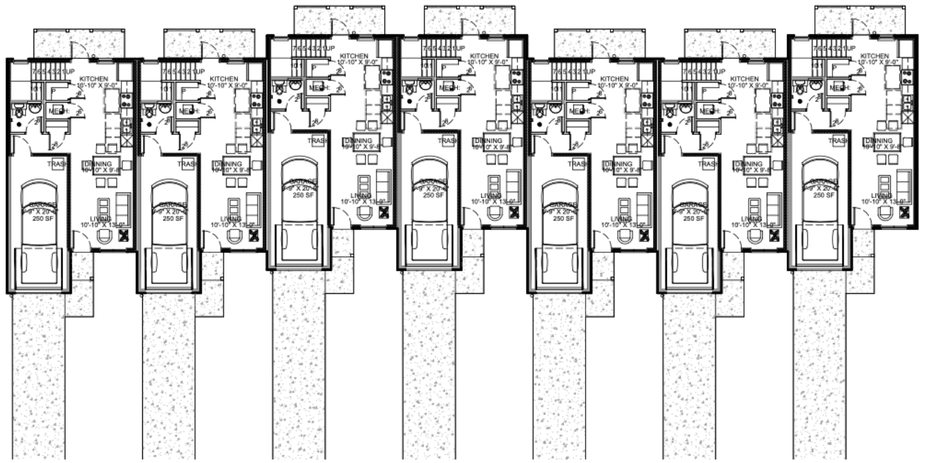


Elevation – TYPE 7A





SECOND FLOOR



FIRST FLOOR

UNIT A	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT B	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT C	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT D	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT A	SQUARE FOOTAGE
FLOOR PLAN - 1ST	553 SF
FLOOR PLAN - 2ND	730 SF
GARAGE	250 SF
COVERED PATIO	20 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,283 SF
TOTAL	1,553 SF

UNIT B	SQUARE FOOTAGE
FLOOR PLAN - 1ST	553 SF
FLOOR PLAN - 2ND	730 SF
GARAGE	250 SF
COVERED PATIO	20 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,283 SF
TOTAL	1,553 SF

UNIT C	SQUARE FOOTAGE
FLOOR PLAN - 1ST	553 SF
FLOOR PLAN - 2ND	730 SF
GARAGE	250 SF
COVERED PATIO	20 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,283 SF
TOTAL	1,553 SF

UNIT D	SQUARE FOOTAGE
FLOOR PLAN - 1ST	553 SF
FLOOR PLAN - 2ND	730 SF
GARAGE	250 SF
COVERED PATIO	20 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,283 SF
TOTAL	1,553 SF

UNIT E	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT F	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT G	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

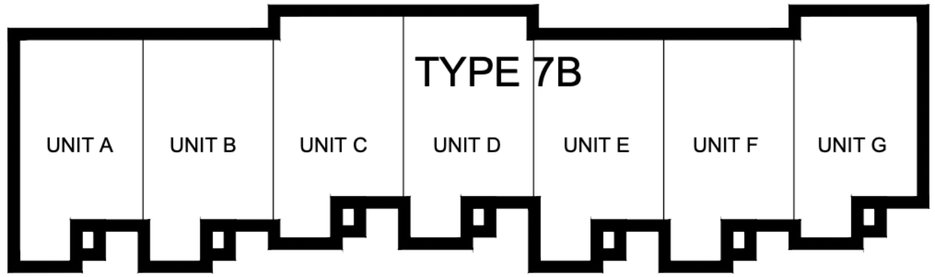
UNIT E	SQUARE FOOTAGE
FLOOR PLAN - 1ST	553 SF
FLOOR PLAN - 2ND	730 SF
GARAGE	250 SF
COVERED PATIO	20 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,283 SF
TOTAL	1,553 SF

UNIT F	SQUARE FOOTAGE
FLOOR PLAN - 1ST	553 SF
FLOOR PLAN - 2ND	730 SF
GARAGE	250 SF
COVERED PATIO	20 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,283 SF
TOTAL	1,553 SF

UNIT G	SQUARE FOOTAGE
FLOOR PLAN - 1ST	553 SF
FLOOR PLAN - 2ND	730 SF
GARAGE	250 SF
COVERED PATIO	20 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,283 SF
TOTAL	1,553 SF

BUILDING TYPE	NUM. OF UNITS IN BLDG	NUM. OF BLDG. TYPES	CONDITIONED SQUARE FOOTAGE	TOTAL CONDITIONED SQUARE FOOTAGE
TYPE 7B	7	1	8,981 SF	8,981 SF

TYPE 7B	SQUARE FOOTAGE
FLOOR PLAN - 1ST	3,871 SF
FLOOR PLAN - 2ND	5,110 SF
GARAGE	1,750 SF
COVERED PATIO	120 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	8,981 SF
TOTAL	10,871 SF





CASTLE VALLEY RANCH, CO

FLOOR PLAN TYPE 7B

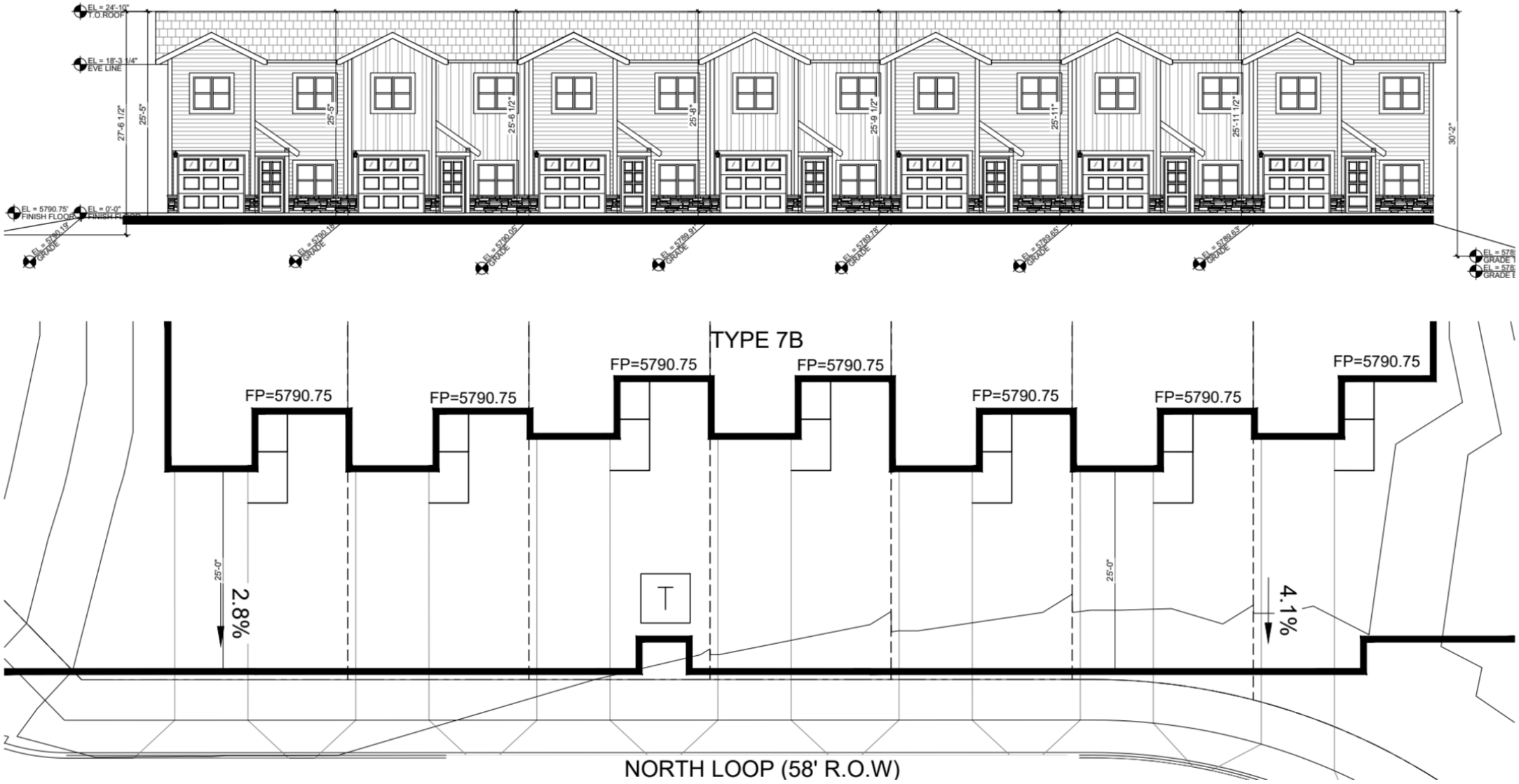
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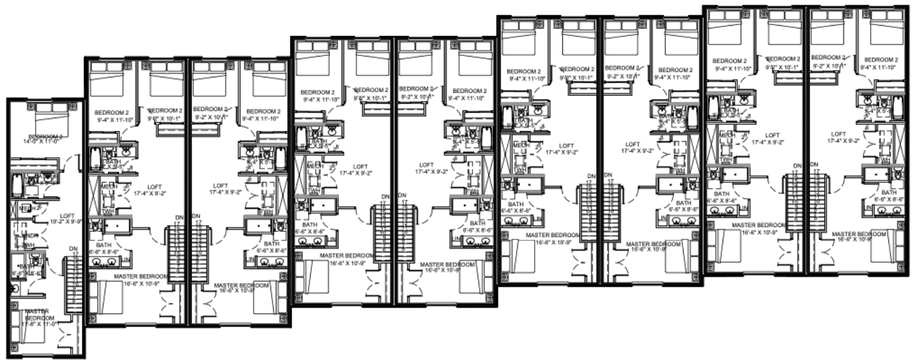
Floor Plan - **TYPE 7B**



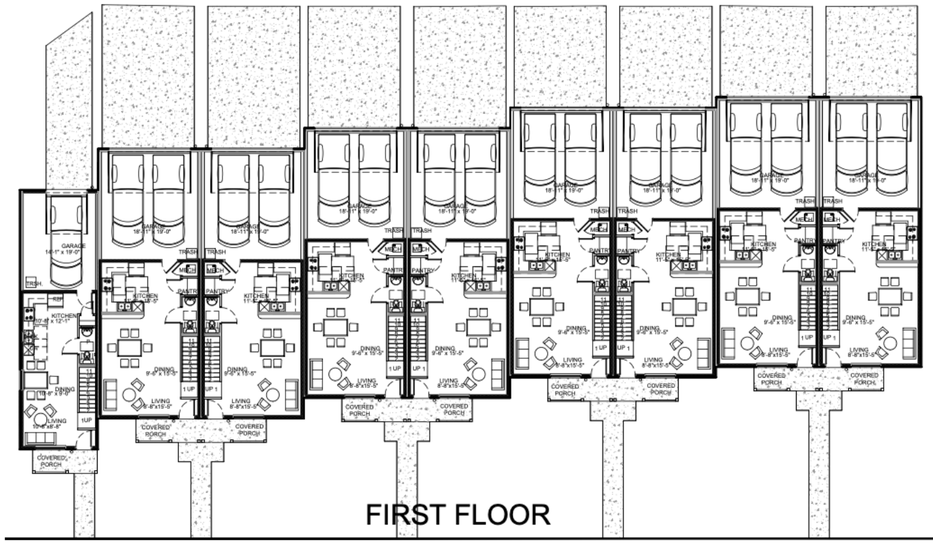


Elevation – **TYPE 7B**





SECOND FLOOR



FIRST FLOOR

UNIT A	NUMBER
BEDROOMS	2
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	1

UNIT A	SQUARE FOOTAGE
FLOOR PLAN - 1ST	457 SF
FLOOR PLAN - 2ND	707 SF
GARAGE	295 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,164 SF
TOTAL	1,478 SF

UNIT B	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT B	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	490 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

UNIT C	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT C	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	490 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

UNIT D	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT D	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	490 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

UNIT E	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT E	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	490 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

UNIT F	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT F	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	490 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

UNIT G	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT G	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	490 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

UNIT H	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

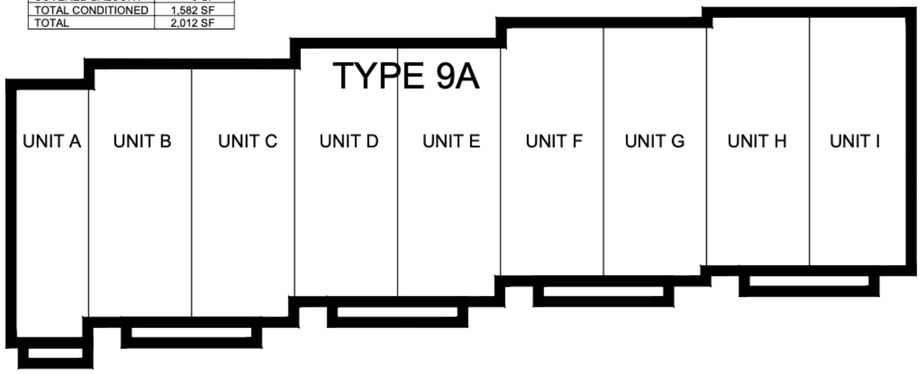
UNIT H	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	490 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

UNIT I	NUMBER
BEDROOMS	3
HOME OFFICE	0
FULL BATHS	2
HALF BATHS	1
CAR GARAGE	2

UNIT I	SQUARE FOOTAGE
FLOOR PLAN - 1ST	605 SF
FLOOR PLAN - 2ND	977 SF
GARAGE	490 SF
COVERED PATIO	19 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	1,582 SF
TOTAL	2,012 SF

BUILDING TYPE	NUM. OF UNITS IN BLDG	NUM. OF BLDG. TYPES	CONDITIONED SQUARE FOOTAGE	TOTAL CONDITIONED SQUARE FOOTAGE
TYPE 9A	9	1	13,820 SF	13,820 SF

TYPE 9A	SQUARE FOOTAGE
FLOOR PLAN - 1ST	5,297 SF
FLOOR PLAN - 2ND	8,523 SF
GARAGE	3,735 SF
COVERED PATIO	171 SF
COVERED BALCONY	0 SF
TOTAL CONDITIONED	13,820 SF
TOTAL	17,574 SF





CASTLE VALLEY RANCH, CO

FLOOR PLAN TYPE 9A

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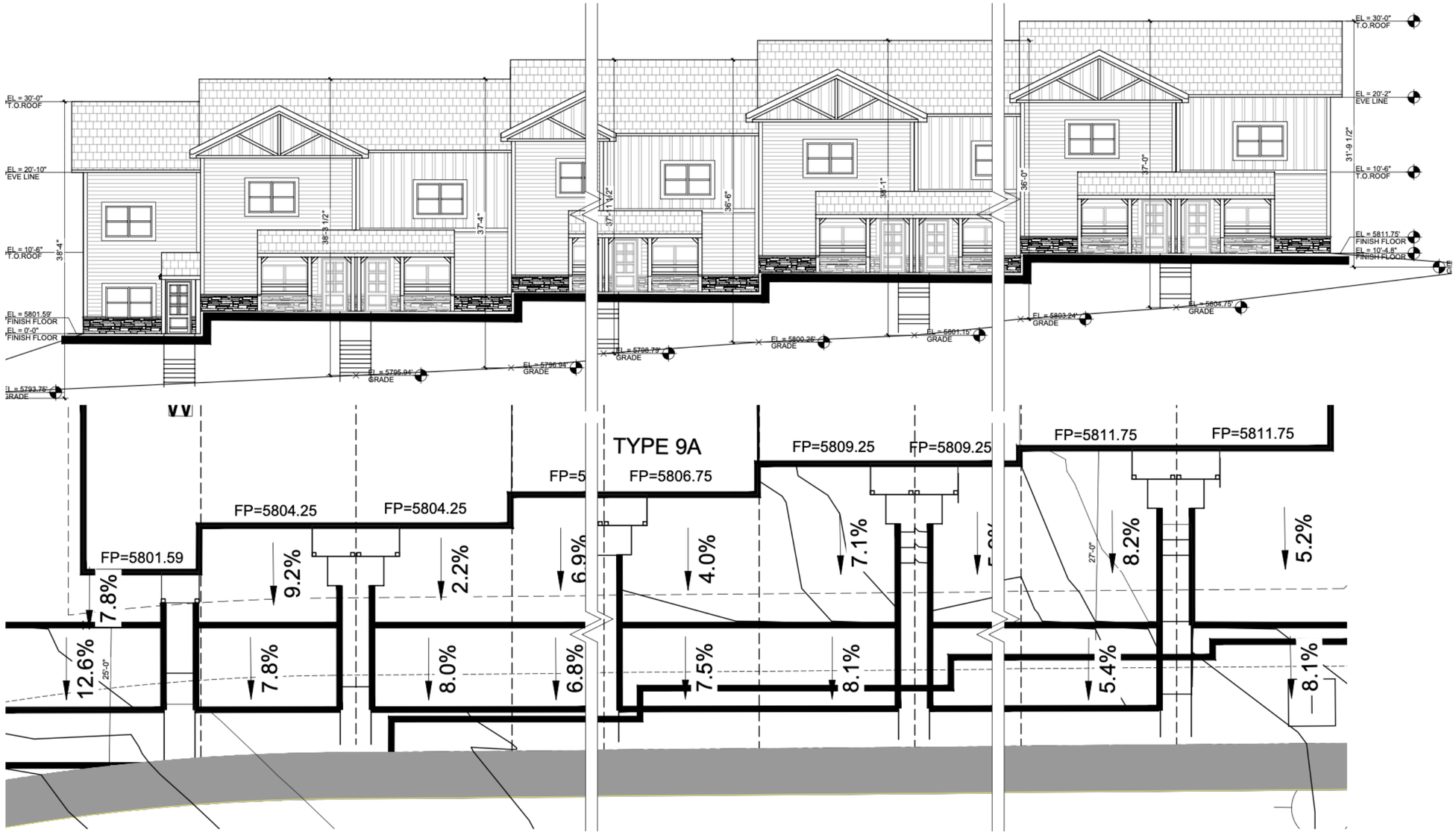
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Floor Plan - **TYPE 9A**



BUILDING HEIGHTS
ARCHWOOD TOWNHOMES, CASTLE VALLEY RANCH, CO

BUILDING TYPE 9A
SCALE: 3/16"=1'-0" ■ JOB#: 24042 ■ ISSUE DATE: 04/23/2026
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Elevation – **TYPE 9A**



Elevations

COLORIZED

KLUTCH
CONSULTANT LLC



06 ELEVATION TYPE 3B

SCALE: 3/16" = 1'-0"



05 ELEVATION TYPE 2C

SCALE: 3/16" = 1'-0"



04 ELEVATION TYPE 2B

SCALE: 3/16" = 1'-0"



03 ELEVATION TYPE 1C

SCALE: 3/16" = 1'-0"



02 ELEVATION TYPE 1B

SCALE: 3/16" = 1'-0"



01 ELEVATION TYPE 1A

SCALE: 3/16" = 1'-0"

CASTLE VALLEY RANCH, CO

ELEVATIONS 09A

SCALE: 1/16"=1-0" ▪ JOB#: 24042 ▪ ISSUE DATE: 09/22/2025

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10 ELEVATION TYPE 9A

SCALE: 3/16" = 1'-0"



09 ELEVATION TYPE 7B

SCALE: 3/16" = 1'-0"



08 ELEVATION TYPE 7A

SCALE: 3/16" = 1'-0"



07 ELEVATION TYPE 6A

SCALE: 3/16" = 1'-0"

CASTLE VALLEY RANCH, CO

ELEVATIONS 09B

SCALE: 1/16"=1-0' • JOB#: 24042 • ISSUE DATE: 09/22/2025

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EXTERIOR SIDING



LAP SIDING, COLOR AS SELECTED



BOARD AND BATTEN, COLOR AS SELECTED

STONE

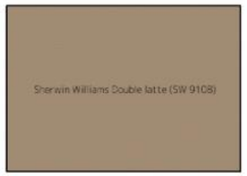


LINEAR LEDGE STONE

PAINT COLORS SLECTED



SW 6461, ISLE OF PINES



SW 9108, DOUBLE LATTE



SW 9141, WATERLOO

TRIM, & DOORS



SW 2923, CEDAR BROWN

ROOFING



ASPHALT SHINGLES

WOOD



CEDAR

ARCHWOOD TOWNHOMES, CASTLE VALLEY RANCH, CO

MATERIAL BOARD

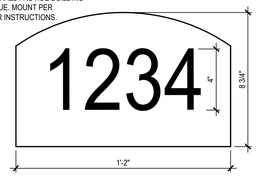
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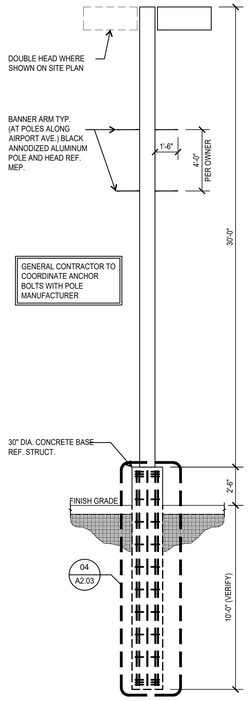
SITE DETAILS

KLUTCH
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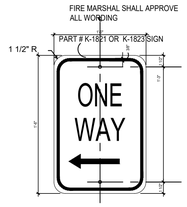
NOTE:
CONTRACTOR SHALL PROVIDE BUILDING ADDRESS PLAQUE. MOUNT PER MANUFACTURER INSTRUCTIONS.



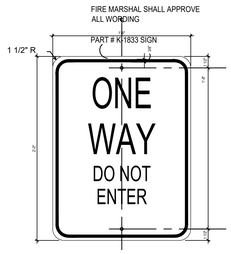
13 BULDING ADDRESS
SCALE: 3" = 1'-0"



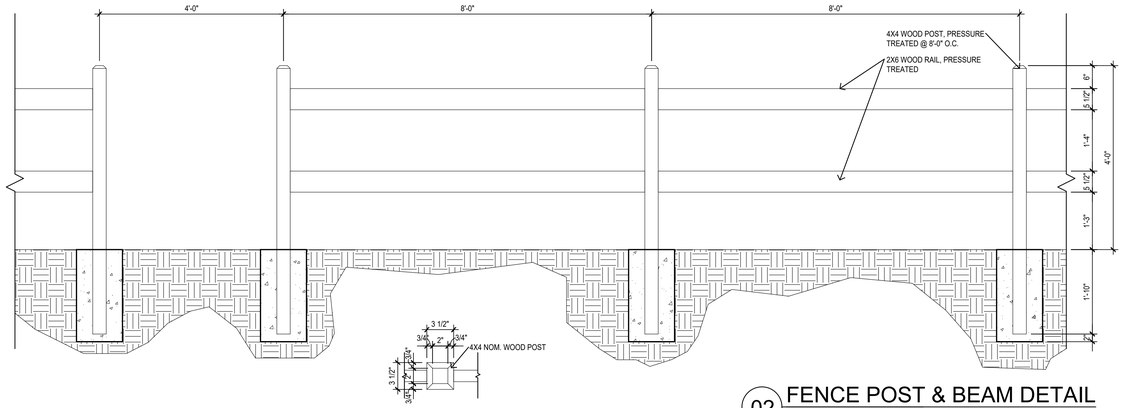
12 PAINTED STOP SIGN DETAIL
1/4" = 1'-0"



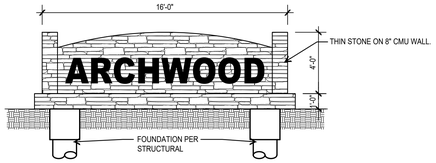
15 ON WAY SIGNAGE
N.T.S.



14 ONE WAY SIGNAGE
N.T.S.



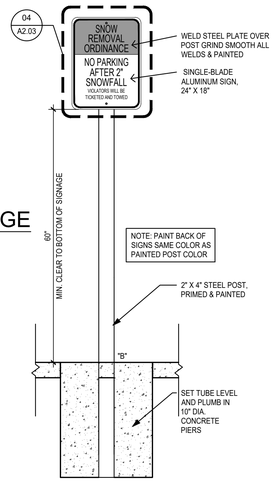
02 FENCE POST & BEAM DETAIL
3/4" = 1'-0"



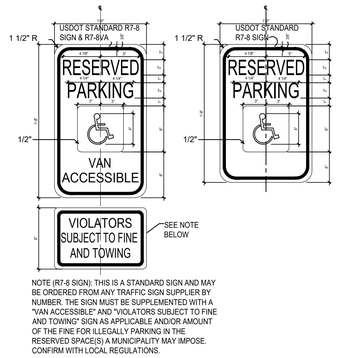
12 NEIGHBORHOOD SIGN DETAIL
1/4" = 1'-0"



04B NO PARKING SIGNAGE
N.T.S.

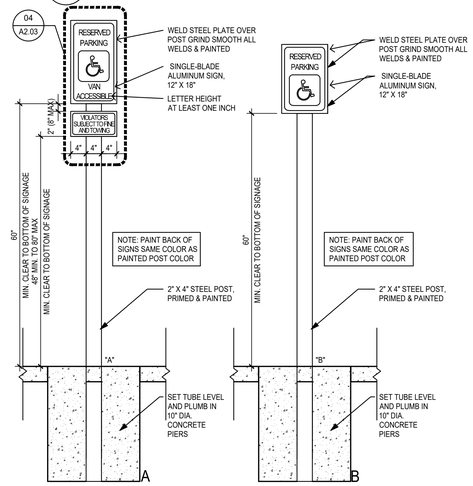


02 SIGN DETAIL
3/4" = 1'-0"

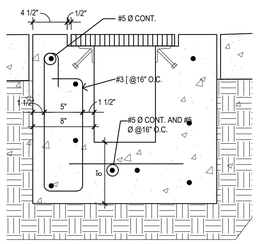


NOTE (R7-8 SIGN): THIS IS A STANDARD SIGN AND MAY BE ORDERED FROM ANY TRAFFIC SIGN SUPPLIER BY NUMBER. THE SIGN MUST BE SUPPLEMENTED WITH A "VAN ACCESSIBLE" AND "VIOLATORS SUBJECT TO FINE AND TOWING" SIGN AS APPLICABLE AND/OR AMOUNT OF THE FINE FOR ILLEGALLY PARKING IN THE RESERVED SPACE(S) A MUNICIPALITY MAY IMPOSE. CONFIRM WITH LOCAL REGULATIONS.

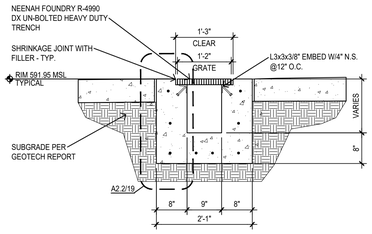
04 ACCESSIBILITY SIGNAGE
N.T.S.



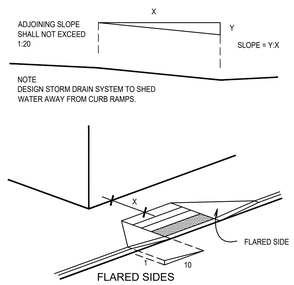
02 H.C. SIGN DETAIL
3/4" = 1'-0"



04 DRAIN DETAIL
N.T.S.



02 TRENCH DRAIN DETAIL
3/4" = 1'-0"



NOTE
IF X IS LESS THAN 36 IN. (914 MM), THEN THE SLOPE OF THE FLARED SIDE SHALL NOT EXCEED 1:12.

NOTE: CONSTRUCT ALL CURB RAMPS TO MEET REQUIREMENTS OF "TAS" & "ADA" CODES. MAX. SLOPE TO BE 1:12. PROVIDE NON-SLIP FINISH ON RAMP. PROVIDE DETECTABLE SURFACE OF 1/8" DEEP 1/2" WIDE GROVES @ 2" O.C. TOP OF OUTSIDE CURB IS TO BE FLUSH WITH RAMP, AND SLOPE DOWN FROM 6" TO 0"

7.05 DETECTABLE WARNINGS

7.05.1 GENERAL. DETECTABLE WARNINGS SHALL CONSIST OF A SURFACE OF TRUNCATED DOMES AND SHALL COMPLY WITH 705

705.1.1 DOME SIZE. TRUNCATED DOMES IN A DETECTABLE WARNING SURFACE SHALL HAVE A BASE DIAMETER OF 0.9 INCH (23 MM) MINIMUM AND 1.4 INCHES (36 MM)MAXIMIN, A TOP DIAMETER OF 50 PERCENT OF THE BASE DIAMETER MINIMUM TO 65 PERCENT OF THE BASE DIAMETER MAXINUM, AND A HEIGHT OF 0.2 INCH (5.1 MM).

705.1.2 DOME SPACING. TRUNCATED DOMES IN A DETECTABLE WARNING SURFACE SHALL HAVE A CENTER-TO-CENTER SPACING OF 1.6 INCHES (41 MM) MINIMUM AND 2.4 INCHES (61 MM) MAXIMUM, AND A BASE-TO-BASE SPACING OF 0.65 INCH (17 MM) MINIMUM, MEASURE BETWEEN THE MOST ADJACENT DOMES ON A SQUARE GRID.

705.1.3 CONTRAST. DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT WALKING SURFACES EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT.

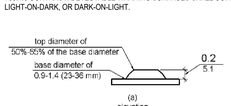
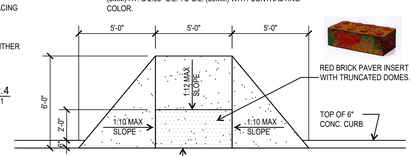


FIGURE 705.1
SIZE AND SPACING OF TRUNCATED DOMES

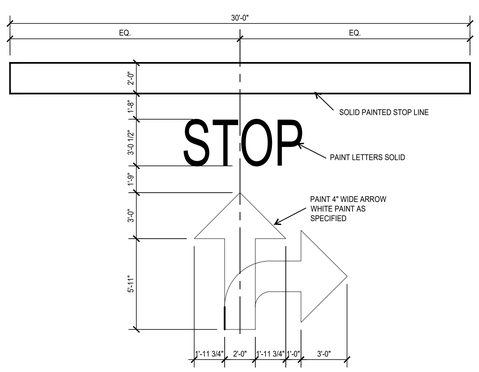
705.2 PLATFORM EDGES. DETECTABLE WARNING SURFACES AT PLATFORM BOARDING EDGES SHALL BE 24 INCHES (610 MM) WIDE AND SHALL EXTEND THE FULL LENGTH OF THE PUBLIC USE AREAS OF THE PLATFORM.

PROVIDE DETECTABLE WARNINGS ON WALKING SURFACE: RAISED TRUNCATED DOMES 0.9 IN. (23MM) DIA., 0.2 IN. (5MM) HT. & 2.35" C.L. TO C.L. (60MM) WITH CONTRASTING COLOR.

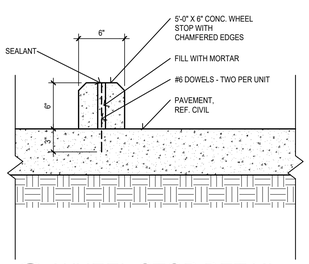


NOTE: CONSTRUCT ALL CURB RAMPS TO MEET REQUIREMENTS OF ADA CODE. MAX. SLOPE TO BE 1:12. PROVIDE NON-SLIP FINISH ON RAMP AND SLOPE DOWN FROM 6" TO 0"

06 RAMP DETAIL
1/4" = 1'-0"

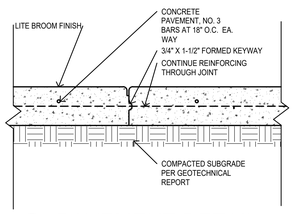


12 PAINTED STOP SIGN DETAIL
1/4" = 1'-0"

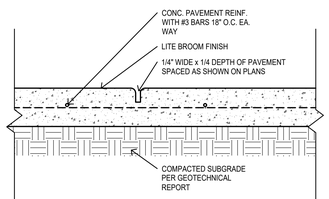


05 WHEEL STOP DETAIL
1-1/2" = 1'-0"

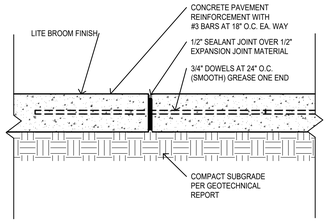
05 RAMP DETAILS
1/4" = 1'-0"



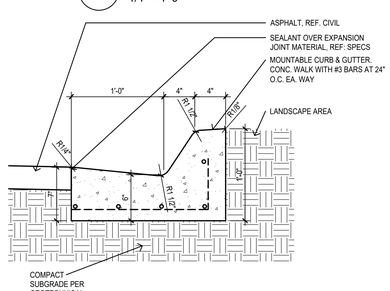
04 PAVEMENT DETAIL
1-1/2" = 1'-0"



03 PAVEMENT DETAIL
1-1/2" = 1'-0"



02 PAVEMENT DETAIL
1-1/2" = 1'-0"



01 CURB DETAIL
1-1/2" = 1'-0"

ARCHWOOD TOWNHOMES

A DEVELOPMENT OF
MISTER DEVELOPER

NEW CASTLE, COLORADO 81647

ISSUE LOG

NO.	DESCRIPTION	DATE

KLUTCH CONSULTANT LLC

17760 PRESTON RD
DALLAS, TEXAS 75252
DAVID@KLUTCHCONSULTANT.COM
817-938-7434

DAVID HOFF - ARCHITECT
REGISTRATION NO. 25947

DATE:	PROJECT NO.:	SCALE:
07-31-2025	24042	NTS

SHEET NO.

A2.10

SITE DETAILS

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View Shed **Analysis**


ARCHWOOD

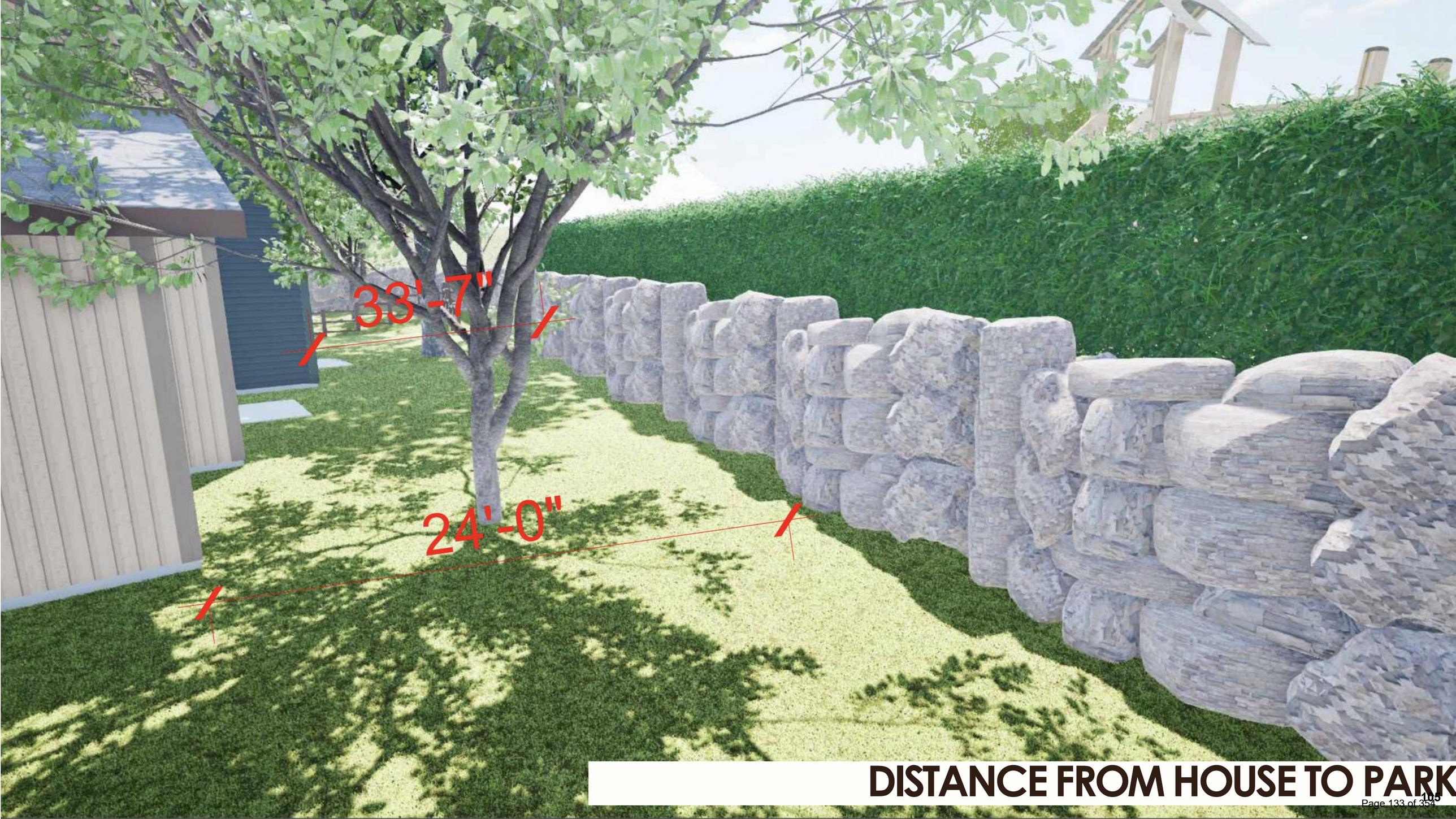


ALLEY WAY



BACK PATIO 7B


PLAYGROUND



DISTANCE FROM HOUSE TO PARK



RETAINING WALL



OPEN SPACE



KLUTCH
CONSULTANT LLC

Let’s build the future together.

TOWN OF NEWCASTLE FINAL SUBMITTAL

TC MIDWEST LLC – ARCHWOOD TOWNHOMES

SUBMITTAL DOCUMENTS

Parcel	Physical Address	Owner	Account Num	Mailing Address
212329300197	Not available NEW CASTLE	TC MIDWEST LLC	R045250	17774 PRESTON ROAD DALLAS, TX 75252
212329325014	152 N WILDHORSE DR NEW CASTLE	SCHAUSTER, ALAN & STACY	R083035	152 N WILDHORSE DRIVE NEW CASTLE, CO 81647
212329325015	156 N WILDHORSE DR NEW CASTLE	SARABIA, CHRISTOPHER A & ALANA LYNN	R083036	156 NORTH WILDHORSE DRIVE NEW CASTLE, CO 81647
212329325016	160 N WILDHORSE DR NEW CASTLE	FERNANDEZ, IRASEMA L & GIRALDO FERNANDEZ, RENE SR	R083037	6001 NORTH OCEAN DRIVE APT 602 HOLLYWOOD, FL 33019
212329325017	164 N WILDHORSE DR NEW CASTLE	VALENCIA PANTOJA, ELIZABETH	R083038	164 N WILDHORSE DRIVE NEW CASTLE, CO 81647
212329326001	66 N FOXWOOD LN NEW CASTLE	WOOD, WILLIAM L & KLINE, KATHY ANN	R083598	66 NORTH FOXWOOD LANE NEW CASTLE, CO 81647
212330400001	Not available NEW CASTLE	GARFIELD SCHOOL DISTRICT RE-2	R380824	839 WHITERIVER AVENUE RIFLE, CO 81650-3515
212330400002	Not available NEW CASTLE	TC MIDWEST LLC	R043959	17774 PRESTON ROAD DALLAS, TX 75252
212330400003	Not available NEW CASTLE	NEW CASTLE, TOWN OF	R043960	PO BOX 90 NEW CASTLE, CO 81647
212330424002	104 E CATHEDRAL CT NEW CASTLE	FULLER, THOMAS L	R044052	104 E CATHEDRAL COURT NEW CASTLE, CO 81647
212330424003	114 E CATHEDRAL CT NEW CASTLE	MAYS, KATIE SELLERS & ANDERSON CONNOR	R044053	114 E CATHEDRAL COURT NEW CASTLE, CO 81647
212330424004	124 E CATHEDRAL CT NEW CASTLE	MORRIS, ROBBIN REV TRUST	R044054	8 PHILLIPS RIVER VIEW SNOWMASS, CO 81654
212330425002	134 E CATHEDRAL CT NEW CASTLE	WARD, P A	R044055	PO BOX 103 CARBONDALE, CO 81623
212330425003	144 E CATHEDRAL CT NEW CASTLE	HENKE, NANCY	R044056	275 NORTH THOMAS ROAD CARBONDALE, CO 81623
212330425004	154 E CATHEDRAL CT NEW CASTLE	154 E CATHEDRAL LLC	R044057	0832 CANYON CREEK DRIVE GLENWOOD SPRINGS, CO 81601
212330450002	Not available NEW CASTLE	CASTLE VALLEY RANCH, PA21A HOMEOWNERS ASSOC	R006753	0981 COUNTY ROAD 245 NEW CASTLE, CO 81647
212330451001	Not available NEW CASTLE	NEW CASTLE, TOWN OF	R006745	PO BOX 90 NEW CASTLE, CO 81647-0166
212330451003	Not available NEW CASTLE	NEW CASTLE, TOWN OF	R006747	PO BOX 90 NEW CASTLE, CO 81647-0166
212330451004	Not available NEW CASTLE	NEW CASTLE, TOWN OF	R006748	PO BOX 90 NEW CASTLE, CO 81647-0166
212330452002	152 W CATHEDRAL CT NEW CASTLE	152 W CATHEDRAL LLC	R007822	0832 CANYON CREEK DRIVE GLENWOOD SPRINGS, CO 81601
212330452003	142 W CATHEDRAL CT NEW CASTLE	QUINN, REGIS & DEBRA GREENE	R007823	7641 MONARCH ROAD NIWOT, CO 80503
212330452004	132 W CATHEDRAL CT NEW CASTLE	BIG WAVES LLC	R007824	PO BOX 487 WOODY CREEK, CO 81656
212330453002	122 W CATHEDRAL CT NEW CASTLE	HINDERBERGER, KIRK D & SACHA JANE	R007850	140 TOTTERDOWN ROAD EAST PEORIA, IL 61611
212330453003	112 W CATHEDRAL CT NEW CASTLE	WARREN, JULIE & CUNNINGHAM, RED	R007851	PO BOX 371 BASALT, CO 81621-0371
212330453004	102 W CATHEDRAL CT NEW CASTLE	HUGHES PROPERTIES LLC	R007852	PO BOX 1982 CARBONDALE, CO 81623
212330454011	137 REDSTONE DR NEW CASTLE	STOTT, MORGAN M	R084199	137 REDSTONE DRIVE NEW CASTLE, CO 81647
212330454012	141 REDSTONE DR NEW CASTLE	ARNHOLD, NIKI N	R084200	141 REDSTONE DIRVE NEW CASTLE, CO 81647
212330454013	145 REDSTONE DR NEW CASTLE	107 INDICA WAY LLC	R084201	PO BOX 670 CARBONDALE, CO 81623
212330454014	151 REDSTONE DR NEW CASTLE	LANDEROS, EDWARD VINCENT & DEEANN LYNN	R084202	151 REDSTONE DRIVE NEW CASTLE, CO 81647
212330454015	155 REDSTONE DR NEW CASTLE	IRON CROSS LLC	R084203	1900 DOLORES WAY CARBONDALE, CO 81623
212330454016	159 REDSTONE DR NEW CASTLE	PHELPS, SAMUEL DALE	R084204	159 REDSTONE DRIVE NEW CASTLE, CO 81647
212330454017	167 REDSTONE DR NEW CASTLE	SOMMERS, ELLEN J & REINERT, ARLEEN M	R084291	167 REDSTONE DRIVE NEW CASTLE, CO 81647
212330454018	171 REDSTONE DR NEW CASTLE	BARBOUR, CHRIS	R084292	171 REDSTONE DRIVE NEW CASTLE, CO 81647
212330454019	175 REDSTONE DR NEW CASTLE	PEFFER, GARY ALLEN & KATHRYN M	R084293	175 REDSTONE DRIVE #9C NEW CASTLE, CO 81647
212330454020	181 REDSTONE DR NEW CASTLE	EBERLY, KEELY	R084275	181 REDSTONE DRIVE NEW CASTLE, CO 81647
212330454021	185 REDSTONE DR NEW CASTLE	MOWDAY, SUSAN L	R084276	185 REDSTONE DRIVE NEW CASTLE, CO 81647
212330454022	189 REDSTONE DR NEW CASTLE	BENZEL FAMILY TRUST	R084277	PO BOX 109 SILT, CO 81652
212330454101	Not available NEW CASTLE	CASTLE VALLEY RANCH PUD HOA	R044712	1512 GRAND AVENUE #109 GLENWOOD SPRINGS, CO 81601
212331160001	193 E CATHEDRAL CT NEW CASTLE	WEAVER, THERESA LIVING TRUST	R044139	28931 VACATION DRIVE CANYON LAKE, CA 92587
212331160002	203 E CATHEDRAL CT NEW CASTLE	DEPRIEST, CHRISTOPHER W, & SUSANNA L	R044140	203 EAST CATHEDRAL COURT NEW CASTLE, CO 81647
212331160003	213 E CATHEDRAL CT NEW CASTLE	2 AMIGOS 2 LLC	R044141	PO BOX 129 WOODY CREEK, CO 81656
212331161001	Not available NEW CASTLE	NEW CASTLE, TOWN OF	R042928	PO BOX 90 NEW CASTLE, CO 81647-0166
212331162067	Not available NEW CASTLE	NEW CASTLE, TOWN OF	R042996	PO BOX 90 NEW CASTLE, CO 81647-0166
212331164017	122 REDSTONE DR NEW CASTLE	HALEVY, KRISTA & RANDELL, BLAKE	R084031	122 REDSTONE DRIVE NEW CASTLE, CO 81647
212331164028	127 REDSTONE DR NEW CASTLE	WILSON, JUDITH E	R084117	127 REDSTONE DRIVE NEW CASTLE, CO 81647
212332200195	Not available NEW CASTLE	TC MIDWEST LLC	R043962	17774 PRESTON ROAD DALLAS, TX 75252
ROW	Not available null			

AFFORDABLE HOUSING STATEMENT

TC MIDWEST, LLC

Maarjan Pasha | +1(469) 531-4115 | maarjan@tcfuels.com

To: Town of New Castle

From: TC Midwest

Date: 6/19/2026

Subject: Affordable Housing Commitments

To whom it may concern,

TC Midwest submits this memorandum to outline our affordable housing commitments associated with the Archwood Townhomes development and to document the additional steps we are taking to support local workforce housing in the New Castle community.

TC Midwest is prepared to make available three (3) deed restricted residential units at a $30,000 below market discount per unit. This reduction will be fully subsidized by the developer and is intended to expand attainable homeownership opportunities for local residents and workers. This is contingent on developing a deed restriction satisfactory to the town of New Castle and the developer. To ensure the units are promptly utilized for local housing needs, the deed restricted offering is subject to a 180 day availability period beginning on the date the unit is available for sale. If a unit is not placed under contract within 180 days, the unit will be able to be sold by TC Midwest at market rate. Upon reversion, no deed restriction or affordability covenant will be recorded or carried forward. The deed restricted financial contribution proposed by TC Midwest is contingent upon the Town's approval of the Archwood Townhome development, including final plat approval.

If the deed restricted option is not selected, TC Midwest is prepared to offer and reserve a limited number of residential units within the Archwood Townhomes development for the Town of New Castle under a master lease style arrangement designed to support workforce or community housing needs. The Town must confirm the number of units it intends to rent by a date to be determined by TC Midwest. Under this conceptual framework, the town would pay a fixed monthly rental amount for each unit, manage routine upkeep within the units, and place eligible occupants as appropriate. The specific units to be provided would be identified by the developer as the project advances, with further details regarding structure and terms to be refined during subsequent discussions. The master lease style arrangement by TC Midwest is contingent upon the Town's approval of the Archwood Townhome development, including final plat approval.

To further encourage local residency and strengthen community roots, TC Midwest will offer a local resident discount during the initial sales release. This incentive will apply to qualified New Castle residents and workers and is intended to prioritize local households before opening sales to the broader market. Details of the program including eligibility criteria, discount structure, and timing will be finalized prior to the sales launch.

TC MIDWEST

COST SHARING AGREEMENT

TC MIDWEST, LLC

Maarjan Pasha | +1(469) 531-4115 | maarjan@tcfuels.com

To: Town of New Castle

From: TC Midwest

Date: 4/18/2026

Subject: Commitment to Assist in Construction of North Wild Horse Dr.

To whom it may concern,

Our traffic engineer has completed an impact analysis for our parcel adjacent to North Wild Horse Drive, Parcel 212330400002. Based on the engineer's findings, our development is projected to generate less than 1% of the total traffic anticipated to utilize the improved roadway segment. Accordingly, TC Midwest is willing to contribute 1% of the lesser of (a) the Reimbursable Costs identified on Exhibit D or (b) the actual costs of constructing the Improvement as determined by the Town as outlined in Exhibit M Cost Recovery Agreement between the Town of New Castle and Wildhorse Apartments LLC. Using the reimbursable cost figures provided in Exhibit M, this equates to a maximum contribution of: $7,515.15. The financial contribution by TC Midwest is contingent upon the Town's approval of the Archwood Townhome development, including final plat approval.

TC Midwest also owns and plans to develop additional parcels identified as Parcels 212329300197 and 212332200195. Because these parcels are not yet entitled and their traffic characteristics cannot be accurately determined at this stage, our future contribution will be dependent upon the following:

- A project-specific traffic impact analysis will be completed only if the Planned Development (PD) application for Parcels 212329300197 and 212332200195 receive approval past the preliminary Planning & Zoning meeting.
- Once preliminary P&Z approval is secured, the traffic analysis will quantify the parcel's actual traffic generation and its proportional use of North Wild Horse Dr.
- After approval of such development, TC Midwest will then contribute to roadway construction costs in an amount directly tied to the parcels' measured traffic impact, consistent with the Town's cost-recovery methodology and the construction amount established in Exhibit M.

TC MIDWEST

PICKLEBALL COURTS AGREEMENT

TC MIDWEST, LLC

Maarjan Pasha | +1(469) 531-4115 | maarjan@tcfuels.com

To: Town of New Castle

From: TC Midwest

Date: 6/19/2026

Subject: Commitment to Assist in Construction of Pickleball Courts at VIX Park

To whom it may concern,

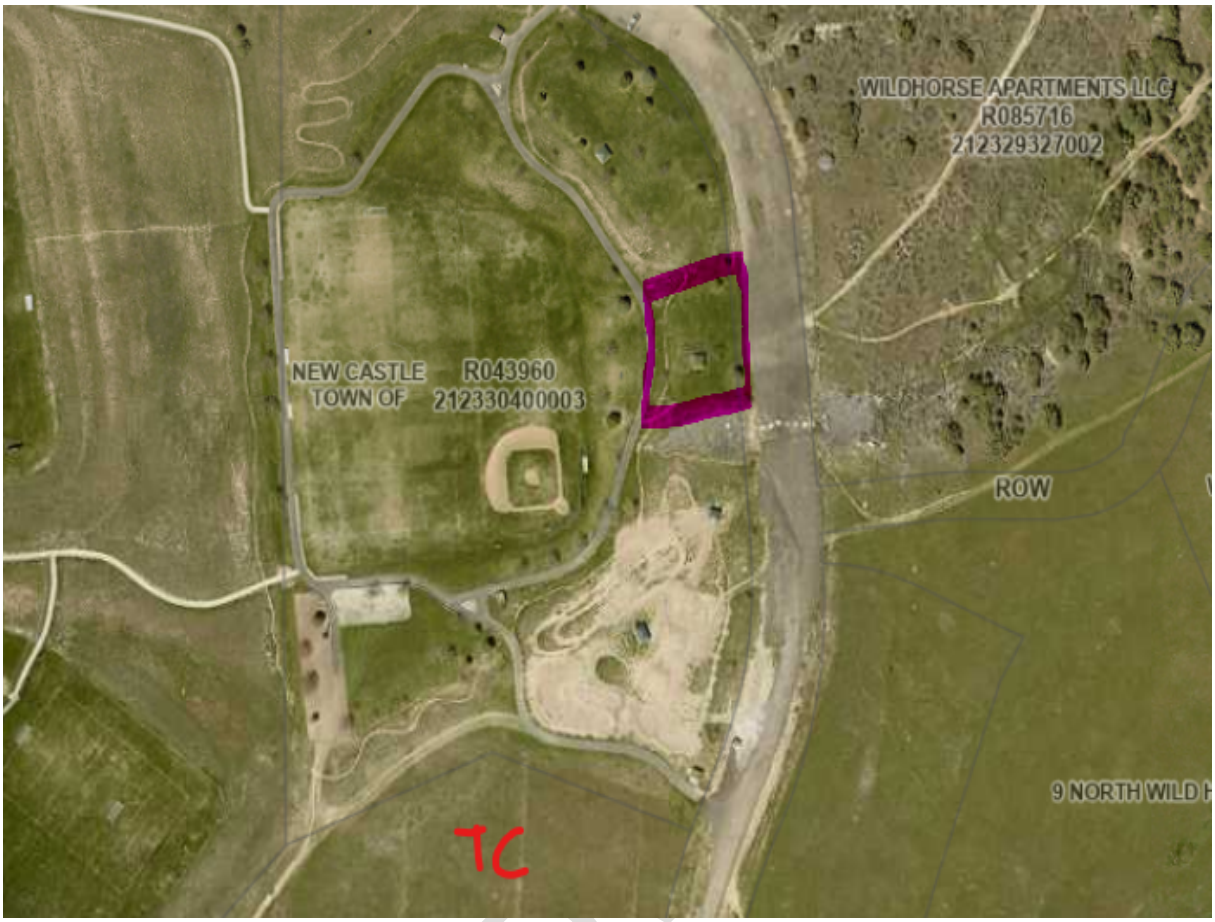
TC Midwest is pleased to confirm its commitment to assist in the construction of pickleball courts at VIX Park as part of our ongoing collaboration with the Town of New Castle. The pickleball courts are to be constructed within VIX Park directly north of the TC Midwest property (parcel 212330400002). The proposed court location is outlined in Exhibit A.

TC Midwest agrees to contribute $25,000 to the Town to support the construction of the pickleball courts. This contribution is provided solely for the purpose of constructing at minimum two (2) pickleball courts in the mutually agreed-upon location outlined in Exhibit A. The Town shall be responsible for the design, contracting, and construction of the courts and all associated improvements. The contribution may be paid by TC Midwest in a series of installments, with the full contribution amount to be paid only upon completion of the pickleball courts. The payment schedule will be mutually agreed upon in writing and may be tied to construction milestones or other reasonable triggers of the Archwood Development.

The pickleball courts must be fully constructed and open for use within five (5) years of the completion of the first townhome within the TC Midwest development. If construction does not commence within two (2) years, the courts are not completed within five (5) years, or fewer than two (2) courts are constructed, TC Midwest shall have the right to recoup any amounts paid to the Town toward this contribution. The financial contribution by TC Midwest is contingent upon the Town's approval of the Archwood Townhome development, including final plat approval. We look forward to continuing our partnership with the Town of New Castle and supporting the enhancement of community recreational infrastructure.

TC MIDWEST

Exhibit A:


WILDHORSE APARTMENTS LLC
R085716
212329327002
NEW CASTLE
TOWN OF
R043960
212330400003
ROW
9 NORTH WILD H
TC

TC MID

WEED & DUST MITIGATION PLAN

ARCHWOOD DEVELOPMENT WEED AND DUST MITIGATION PLAN

Project: Archwood Multifamily Development

Location: New Castle, Colorado

Owner/Developer: TC Midwest/SoHo Construction

Date: June 2026

Purpose

The purpose of this plan is to minimize the spread of noxious weeds and control fugitive dust emissions during construction activities to protect adjacent properties, public rights-of-way, drainage systems, and the general public during development of the Archwood Multifamily Project.

1. Weed Management

Existing Vegetation: Prior to commencement of earthwork, the site shall be inspected for noxious weeds and invasive vegetation.

Construction Equipment: Equipment entering the project site from areas known to contain noxious weeds shall be cleaned of soil, mud, and plant material prior to mobilization.

Soil Management: Topsoil stockpiles shall be designated and protected. Stockpiles remaining longer than thirty (30) days shall be stabilized through temporary seeding, mulch application, erosion control blankets, or other approved stabilization methods.

Imported Materials: Imported topsoil and mulch products shall be weed-free. Straw mulch used on the project shall be certified weed-free.

Monitoring: The Contractor shall conduct periodic inspections and remove emerging noxious weeds through mechanical removal, hand pulling, or approved herbicide application.

Final Stabilization: Disturbed areas shall be permanently stabilized with approved vegetation or landscaping immediately following completion of grading and construction activities.

2. Dust Control

General Requirements: Dust shall be controlled at all times to prevent migration onto adjacent properties, public roads, sidewalks, and rights-of-way.

Water Application: Water trucks, water trailers, or approved dust suppression methods shall be utilized as necessary to maintain adequate soil moisture and minimize airborne dust.

Vehicle Speed Limits: Construction traffic shall be limited to a maximum speed of fifteen (15) miles per hour on unpaved surfaces.

Tracking Control: Stabilized construction entrances shall be installed and maintained to minimize tracking of dirt and debris onto public roadways. Streets shall be swept as necessary.

Stockpile Management: Soil stockpiles shall be watered, covered, or otherwise stabilized when inactive or during windy conditions.

Wind Events: Additional dust control measures shall be implemented during periods of elevated wind. Dust-generating activities may be temporarily suspended if adequate control cannot be maintained.

Haul Trucks: Trucks transporting soil, aggregate, or debris shall be loaded and covered to prevent material loss and dust generation during transport.

3. Responsible Party

The Site Superintendent shall be responsible for implementation and enforcement of this plan, including coordination of dust suppression activities, weed management measures, subcontractor compliance, and corrective actions.

4. Corrective Actions

If excessive dust generation or weed proliferation is observed, corrective measures shall be implemented immediately. Corrective actions may include increased watering, additional stabilization measures, street sweeping, weed treatment, or temporary suspension of work activities until compliance is achieved.

PROPOSED COVENANTS

COVENANTS, CONDITIONS, AND RESTRICTIONS OF THE ARCHWOOD TOWNHOMES

The undersigned owner ("Declarant") being all the owner of certain property described in Exhibit A, all as described and depicted on the Final Plat The Archwood Townhomes recorded in the records of Garfield County, Colorado, on _____, 202_, as Reception No. _____("Property") hereby declares, establishes, makes, and grants the following covenants, conditions, restrictions, reservations, agreements as set forth herein (the "Declaration").

NOW, THEREFORE, Declarant hereby adopts and imposes the following Covenants on the Property:

ARTICLE 1.
GENERAL PURPOSE AND SCOPE

1. Imposition of Servitudes. Declarant hereby makes, declares and establishes the covenants, conditions, restrictions, reservations and easements contained in this Declaration for the benefit of the Property, including all improvements, amenities and facilities appurtenant to or located within the boundaries of the Property now and constructed or installed in the future. From this day forward, the real property and improvements that comprise the Property, or any portion thereof, shall be held, sold, conveyed, encumbered, leased, rented, occupied, improved, and dealt with in any manner whatsoever subject to this Declaration. All covenants, conditions, restrictions, reservations, agreements, easements and other terms and provisions whatsoever established under this Declaration shall: (i) run with the Property or as equitable servitudes the case may be, and (ii) shall inure to the benefit of and bind all persons or entities having any right, title or interest in all or any part of the Property, including the Declarant, all owners of Lots or Parcels within the Property and their respective heirs, executors, administrators, personal representatives, successors, assigns, grantees, tenants, guests, employees, families, contractors, agents, licensees and invitees; and (iii) create specific rights and privileges which may be shared and enjoyed by all owners and lawful occupants of any part of the Property.

2. Declarant's Intent. Declarant intends to preserve and protect the attractiveness of the Property, to restrain and minimize future impairment or deterioration of the Property, and to preserve, protect and enhance the value and desirability of the Property and to promote and safeguard the health, comfort, safety, convenience and welfare of the owners and lawful occupants of the Property. Declarant intends to encourage the construction and maintenance of attractive permanent improvements, appropriately located to preserve the harmonious development of the Property and to promote and safeguard the health, comfort, safety, convenience and welfare of all occupants of the Property.

3. Maximum Number of Lots. Currently, the Property contains sixty-five (65) Lots subject to this Declaration, upon which undivided muti-family residential buildings will be constructed.

ARTICLE 2.
DEFINITIONS

1. Allocated Interests. The interests allocated to each Lot for the Common Elements, the Common Expense liabilities, and votes in the Association.

2. Articles. The articles of incorporation for the Association will be filed with the Colorado Secretary of State, and any amendments that may be made to those Articles from time to time.

3. Association. The Archwood Townhomes Property Owner's Association, shall be a registered Colorado nonprofit corporation. Every Owner is a member of the Association.

4. Board. Board of Directors of the Association.

5. Bylaws. The bylaws of the Association.

6. Common Area. Any portion of the Property designated for shared use and enjoyment of the Owners and Occupants on a non-exclusive basis pursuant to this Declaration or the Plat, including Open Space, shared easements for access, drainage, trails, and utilities, together with the related facilities and equipment. For example, storm water drainage and detention areas, shared mailboxes and trash receptacles, driveways, parking areas, walk ways or trails as depicted on the Final Plat.

7. Common Expenses. Expenditures made or liabilities incurred by or on behalf of the Association, together with any allocations to reserves.

8. Common Expense Assessment(s): Assessment(s). These terms shall include but not be limited to the following items levied against a particular Owner: (i) the Owner's allocated interest in the Common Expenses; (ii) late charges, attorneys' fees, fines and interest charged by the Association at the rate as determined by the Bylaws and rules and regulations enacted by the Association, (iii) charges against a particular Owner and the Lot for the purpose of reimbursing the Association for expenditures and other costs of the Association in curing any violation of the Governing Documents by the Owner or related users; (iv) charges levied against an Owner pursuant to Section 4.5, below, due to the Owner's negligence or misconduct ("Default Assessment") and (iv) any sums permitted by the Governing Documents to be assessed against a particular Owner or Lot.

9. Covenants. Collective term for all promises, restrictions, reservations, conditions, terms, easements, and rights-of-way specifically set forth or referenced in this Declaration and set forth in the Governing Documents, as the same may be adopted and amended from time to time. Each and every Covenant shall be given the same force and effect at law or equity without regard to in which Governing Document it is set forth.

10. Governing Documents. Collective references to those documents which govern the operation of the Association, including: (a) Articles; (b) Bylaws; (c) its rules and regulations; and (d) this Declaration, as one or more of the same may be amended from time to time. Each and every provision of the Governing Documents shall be given the force and effect as if set forth in this Declaration.

11. Improvement. Any building, structure, fixtures or other capital improvements erected or affixed to the Property, including all apparatus, equipment, and appliances used in connection with the operation or occupancy of the Property, and all facilities used to provide any services to the Property of the structures affixed thereto.

12. Limited Common Elements. That portion of each Lot, the Common Elements, or the Common Area that is allocated for the exclusive use of one or more of the Lots but fewer than all of the Lots. The improvements constructed on each Lot that are for the exclusive use by the occupants of that Lot shall be considered Limited Common Elements for that respective Lot.

13. Lot. One individual Lot or Parcel as set forth on the Final Plat.

14. Occupant. Any person holding any portion of the Property in actual possession, for example, residing in any improvement on the Property.

15. Owner. The owner of record, whether one or more persons (a person means a natural person, a corporation, a partnership, an association, a trust, or any other entity or any combination thereof) or entities, of fee simple title to any Lot.

16. Open Space. The Parcels I and 2 as depicted on the Final Plat.

17. Plat (or Final Plat). The Final Plat of the Archwood Townhomes, recorded in the Garfield County real property records at Reception No. _____ on _____.

18. Special Assessments. The Association may at any time, from time to time, determine, levy and assess a Special Assessment applicable to that particular assessment year for the purpose of defraying, in whole or in part, payments for any operating deficit and/or unbudgeted costs, fees and expenses of any construction, reconstruction, repair, demolition, replacement or maintenance of a capital improvement on the Property. Any such Special Assessment shall be due and payable as determined by the Board. Notice in

writing setting forth the amount of such Special Assessment per Lot and the due date for payment thereof shall be given to the Owners not less than thirty (30) days prior to such due date.

ARTICLE 3.
THE ARCHWOOD TOWNHOMES PROPERTY OWNER ASSOCIATION

1. Organization. The Association may be formed with as an unincorporated association or a registered Colorado nonprofit corporation charged with the duties and invested with the powers prescribed by law and set forth in the Articles, the Bylaws, and this Declaration.

2. Membership on Board. Each Owner of a Lot shall be entitled either to serve as a voting member of the Board or appoint a voting member to the Board. Provided, however, that in the event any Lot is owned by two (2) or more Owners, whether by joint tenancy, tenancy in common, or otherwise, there shall be only one (l) director per Lot, and the several Owners of any one (l) Lot shall designate to the Association which one of the co-Owners shall be a director. In the event a corporation or other association is the Owner of a Lot, the corporation or association shall designate which one of its representatives shall be a director. The membership on the Board shall be appurtenant to each Lot, and shall not be transferred, pledged, or alienated, in any way, except upon the transfer of title to each Lot or a portion thereof, and then only to the transferee of title to a Lot or portion thereof. Any attempt to make a prohibited transfer shall be void. Any transfer of title to a Lot shall operate automatically to transfer membership to the new owner thereof.

3. In the event an Owner of a Lot declines to participate on or appoint a director to the Board, the Board shall appoint a director (who shall not be deemed to be the representative or agent of the Owner of the Lot who declined to participate). In the event an Owner desires to participate on the Board who previously had declined to participate or had appointed a representative, such Owner shall become a director immediately upon giving written notice to the Board. In that event, the term of any director appointed in the Owner's absence (whether appointed by the Owner or the Board) shall terminate immediately upon the Owner giving written notice to the Board.

4. Each director shall have one vote. In the event Owners of more than one Lot appoint the same director, such director shall have one vote for each Lot for which the director was appointed.

5. The right to vote may not be severed or separated from the ownership of the parcel of property conferring the right to vote.

6. Assignment of the right to vote to designee, lessee, or beneficiary, as provided herein is permitted.

7. If at any meeting where proper notice of the meeting was given, a director casts a vote representing a certain Lot, it will be conclusively presumed for all purposes that the director casting the vote was acting with the authority and consent of all Owners of the Lot.

8. The Association shall have the obligation, subject to and in accordance with the Covenants, to perform each of the following duties for the benefit of the Owners of each Lot within the Property.

1. To accept and exercise jurisdiction over the Property.

2. To adopt and amend bylaws and rules and regulations.

3. To adopt and amend budgets for revenues, expenditures and reserves and collect Assessments.

4. To hire and terminate management agents and other employees, agents and independent contractors.

5. To institute, defend or intervene in litigation or administrative proceedings in its own name on behalf of itself or two or more Owners on matters affecting the Property.

6. To make contracts and incur liabilities.

7. To regulate the use, maintenance, repair, replacement and modification of the Property.

8. To cause additional improvements to be made to the Property.

9. To impose charges for late payment of Assessments, recover reasonable attorney fees and other legal costs for collection of Assessments and other actions to enforce the power of the Association, regardless of whether or not suit was initiated, and after notice and opportunity to be heard, levy reasonable fines for violations of the Governing Documents.

10. To impose reasonable charges for the preparation and recordation of amendments to the Declaration or statements of unpaid Assessments.

11. To provide for indemnification of its officers and Board and maintain directors' and officers' liability insurance.

12. To assign its right to future income, including the right to receive Assessments.

13. To exercise any other powers conferred by the Declaration or the Bylaws.

14. To obtain and maintain in force policies of insurance covering the liability of the Association for all activities of the Association and its directors and officers, and such other insurance as it deems advisable.

15. To exercise all other powers that may be exercised in this state by legal entities of the same type as the Association.

16. Such other powers as are consistent with the powers herein outlined and those powers adopted by the Association not in conflict herewith.

2. Rights of Action. The Association on behalf of itself and any aggrieved Owner shall be granted a right of action against any and all Owners for failure to comply with the provisions of the Governing Documents, or with decisions of the Board made pursuant to authority granted to the Association in the Governing Documents. The Owners shall have a right of action against the Association for failure to comply with the provisions of the Governing Documents, or with decisions of the Board made pursuant to authority granted to the Association in the Governing Documents. In any action covered by this section, the 'Association or any Owner shall have the right but not the obligation to enforce the Governing Documents by any proceeding at law or in equity, or as set forth in the Governing Documents, or by mediation or binding arbitration if the parties so agree. Failure by the Association or by any Owner to enforce compliance with any provision of the Governing Documents shall not be deemed a waiver of the right to enforce any provision thereafter.

3. Implied Rights and Obligations. The Association may exercise any right or privilege expressly granted to the Association in the Governing Documents or by the Colorado Nonprofit Corporation Act.

4. Notice. Any notice to an Owner of matters affecting the Property by the Association or by another Owner shall be sufficiently given if in writing and delivered personally, by courier or private service delivery, or the third business day after deposit in the mails for registered or certified mail, return receipt requested, at the address of record for real property tax assessment notices with respect to that Owner's Lot.

ARTICLE 4.
ASSESSMENTS

1. Purpose of Assessments. Assessments shall be used for the purposes of promoting the health, safety, and welfare of Owners and related users, and in particular:

1.1. To provide for a Common Expense Assessment made on an annual basis against all Lots based upon the Association's advance budget of the cash requirements needed by it to provide for the administration and performance of its duties during such Assessment year;

1.2. To enforce all provisions of the Governing Documents;

1.3. To exercise all rights and powers and to discharge all duties and obligations pursuant to the Governing Documents;

1.4. To discharge all expenses incurred by the Association in the alteration, improvement, construction, reconstruction, repair, maintenance or replacement of the Property;

1.5. To fund any operating deficit or reserves the Association deems necessary to meet its financial obligations.

2. Budget. Annually and prior to the expiration of the previous budget period, the Board shall adopt an annual budget and distribute the same to the Lot Owners within 90 days after adoption.

3. Annual Assessments. Annual Assessments made for Common Expenses shall be based upon the estimated cash requirements as the Board shall from time to time determine to be paid by all of the Owners, subject to Section 4.1 above. Estimated Common Expenses shall include, but shall not be limited to, the cost of routine maintenance and snow removal on the Property, expenses of management and insurance premiums for insurance coverage as deemed desirable or necessary by the Association, wages, legal and accounting fees, management fees, expenses and liabilities incurred by the Association under or by reason of this Declaration, payment of any default remaining from a previous assessment period, and the creation of a reasonable and adequate contingency or other reserve or surplus fund for insurance deductibles and general, routine maintenance of the Property on a periodic basis, as needed. Unless Declarant owns all Lots, or the Board otherwise approves by a majority vote, Annual Assessments shall not include lingering development expenses incurred by Declarant prior to creation of the Association.

4. Apportionment of Common Expenses. Except as provided below and elsewhere in this Declaration, all Common Expense Assessments shall be assessed pro rata against each Lot. If the number of Lots increases or decreases, the allocated interest shall remain pro rata against all resulting Lots.

4.1. Any Common Expense for insurance may be assessed in proportion to risk.

4.2. If a Common Expense is caused by the misconduct of an Owner, the Association may assess that expense exclusively against that Owner and that Lot, in addition to sums charged to the Owner pursuant to paragraph 4.5 below.

4.3. Fees, charges, taxes, impositions, late charges, fines, collection costs and interest charged against an Owner are enforceable as Common Expense Assessments.

4.4. Expenses apportioned to any Limited Common Element shall be apportioned pro rata only among the Lot or Lots which enjoy the use of the Limited Common Element.

5. Owner's Negligence or Misconduct. In the event that the need for maintenance or repair of the Property or any portion thereof, is caused by or in any way results from the negligent or willful act or failure to act, or the misconduct of an Owner or an Owner's related user, then the expenses, costs, and fees incurred by the Association for such maintenance or repair shall be a personal obligation of such Owner, and such obligation shall be considered a Default Assessment, collectible as a Common Expense Assessment.

6. Special Assessments. The Association may at any time, from time to time, determine, levy and assess a Special Assessment applicable to that particular assessment year for the purpose of defraying, in whole or in part, payments for any operating deficit and/or unbudgeted costs, fees and expenses of any construction, reconstruction, repair, demolition, replacement or maintenance of the Property or any portion thereof. Any such Special Assessment shall be due and payable as determined by the Board. Notice in writing setting forth the amount of such Special Assessment per Lot and the due date for payment thereof shall be given to the Owners not less than thirty (30) days prior to such due date.

7. Effect of Nonpayment; Assessment Lien. Any Assessment installment whether pertaining to any Annual, Special or Default Assessment, which is not paid on or before five (5) days after its due date shall be delinquent. [f an Assessment installment becomes delinquent, the Association, in its sole discretion, may take any or all of the following actions:

7.1. Assess a late charge for each delinquency in such amount the Association deems appropriate.

7.2. Assess an interest charge from the due date at the yearly rate of six (6) points above the prime rate charged by the Association's bank, or such other lawful rate as the Board may establish, not exceeding twenty-one percent (21 %) per year.

7.3. Suspend the voting rights of the Owner during any period of delinquency.

7.4. Bring an action against any Owner personally obligated to pay the delinquent Assessments.

7.5. Proceed with foreclosure as set forth in more detail below.

8. Lien Rights. Assessments chargeable to any Lot shall constitute a lien on such Lot. the Association may institute foreclosure proceedings against the defaulting Owner's Lot in the manner for foreclosing a mortgage on real property under the laws of the State of Colorado. In the event of foreclosure, the Owner shall be liable for the amount of unpaid assessments, any penalties and interest thereon, the cost and expenses of such proceedings, the cost and expenses for filing the notice of the claim and lien, and all reasonable attorneys' fees incurred in connection with the enforcement of the lien. the Association shall have the power to bid on a Lot at foreclosure sale and to acquire and hold, lease, mortgage, and convey the same.

ARTICLE 5.
MAINTENANCE

1. Association's Maintenance Responsibility. The Association shall maintain and keep the Property in good, clean, attractive and sanitary condition and repair, the costs and expenses of which shall be Common Expenses. Without limiting the foregoing, the Association shall be responsible for maintaining and operating the following in good condition consistent with an upscale residential development:

1.1. All internal roads, alleyways, trails, sidewalks, and walkways within the Property, including the roadway surface, shoulder, footpaths and their asphalt, concrete or gravel driving surface or walking surface;

1.2. Landscaping, vegetation or grass within the Open Space Parcels, and within any other Common Element, including control of noxious weeds;

1.3. The raw water irrigation system serving the Community, including the irrigation lines and associated trenches; irrigation pump(s), its pedestal, housing, vault, ditch turnout, controllers, control wiring, other associated electronics, and power supply; and all other irrigation features / items equipment used to irrigate the Community;

1.4. All stormwater and drainage infrastructure located on the Property;

1.5. All landscaping upon the Property;

1.6. Common utilities installations including associated trenches and pedestals, but not feeder lines that serve individual Lots, which are the individual Lot Owner's responsibility;

1.7. Fire hydrants;

1.8. Signs; and

1.9. all other Common Elements.

The Association will also be responsible for keeping all roads, parking areas, sidewalks and access ways reasonably free of snow, ice, debris and other obstructions, maintaining clear access on the access drive for emergency vehicles and clear access to the fire hydrants, and maintaining the landscaping within the Common Areas.

2. Lot Owner's Maintenance Responsibility. Except as provided otherwise in this Declaration or by written agreement with the Association, all maintenance of individual Lots including, without limitation, all exterior and interior surfaces, structural and nonstructural members, utility systems, utility lines from the point of departure from a shared usage, glazing, doors, patios, decks, balconies and other fixtures designed to serve a single Lot, shall be the sole responsibility of the respective Lot Owners. Each Lot, and the Improvements thereon, shall be maintained in a good, clean, attractive and sanitary condition and repair. Additionally, a Lot Owner shall be fully responsible for all damage and the cost of repair and restoration of service for utility lines or connections outside the boundaries of such Owner's Lot if the Owner or his family members, tenants, guests, invitees, licensees or agents caused such damage or the necessity of repair.

ARTICLE 6.
GENERAL RESTRICTIONS APPLICABLE TO THE PROPERTY

1. Use and Occupancy of Lots. All Lots shall be used in accordance with the Development Agreement, Project Documents, PUD Guide, and any other applicable laws. Each Owner shall be entitled to the exclusive ownership and possession of his or her Lot, subject to the rights of the Declarant and the Association provided in this Declaration. Occupancy of the improvements on each Lot shall comply with any applicable health or safety code adopted by the Town or County in which the Project is located at the time this Declaration is recorded.

2. Prohibition on Short Term Rentals. Rentals of any unit for a tenancy of less than thirty (30) days is prohibited.

3. Compliance with Laws, Ordinances. Development Agreement and Association Documents. No Lot shall be used for any purpose not permitted by the PUD Guide for the Project, the Development Agreement, applicable law, or this Declaration.

4. Prohibition of Increases in Insurable Risks and Certain Activities. Nothing shall be done or kept in any Lot or in or on the Common Elements, or any part thereof, which would result in the cancellation of the insurance on all or any part of the Project or in an increase in the rate of the insurance on all or any part of the Project over what the Association, but for such activity, would pay, without the prior written approval of the Board of Directors. Nothing shall be done or kept in any Lot or in or on the Common Elements which would be in violation of any Applicable Law. No damage to or waste of the Common Elements shall be committed by any Owner or Occupant, and each Owner shall indemnify and hold the Association and the other Owners harmless against all loss resulting from any such damage or waste caused by such Owner or an Occupant of such Owner's Lot (including all Costs of Enforcement incurred in the defense of claims arising by reason of this Section or incurred in establishing the right to indemnification). Failure to so indemnify shall be a default by such Owner under this Section and shall give rise to a Default Assessment against such Owner's Lot. At its own initiative or upon the written request of any Owner, if the Association determines that further action by the Association is proper, the Association shall enforce the foregoing indemnity as a Default Assessment levied against such Lot.

5. Lighting. No lights shall be emitted which are unreasonably bright or cause unreasonable glare; no sound shall be emitted which is unreasonably loud or annoying; and no odor shall be emitted which is nauseous or unreasonably offensive to others. The Association may adopt additional restrictions regarding these matters in the Rules and Regulations or in a separate policy.

6. Subdivision of Lots. No Lot or Parcel shall be further subdivided without the express consent of the Association and the Town of New Castle. In the event of further subdivision, the Town may require these Covenants to be amended to comply with the Colorado Common Interest Ownership Act, or other law as applicable at the time of said subdivision. This provision shall not be amended without the express consent of the Town of Newcastle.

7. Parking. The Association shall manage parking on the Property in a reasonable manner and may enact further rules and policies about parking. If the Association fails to adopt parking rules or policies for the Property, the Town may require the Association to adopt and enforce a parking management plan deemed appropriate in the Town's reasonable discretion.

8. Pets. No more than 2 pets shall be kept within any single residential dwelling unit at any time, and only domestic dogs or cats may be kept. The Association may enact further rules and policies regarding pets.

9. Outdoor Irrigation. Landscaping on the Property, including on a Lot or Common Area, shall be irrigated only with raw ditch water through the Association managed raw water system, except that if the raw water irrigation system is malfunctioning, newly planted landscaping or newly planted vegetation required for soil stabilization may be watered by other water sources, including potable, and such irrigation system shall be repair expeditiously. All irrigation systems within the Property should be maintained and in good repair.

10. Use of Open Space. All Lot owners, their tenants and permittees are granted easement for use of the Open Space for recreational uses and no other uses. All use is at the sole risk and responsibility of such user. Each Lot Owner utilizing, or authorizing or allowing the use of the Open Space by a guest, permittee or invitee of such Lot Owner shall indemnify, defend and hold harmless the Association for any and all claims, liabilities, losses, damages, fees, costs, or expenses of any kind, including without limitation attorneys' fees and disbursements, arising out of or related to such Lot Owner or such Lot Owner's guest, permittee or invitee's use of the Open Space. No use of the Open Space shall be allowed other than by Lot Owners, their guests, permittees and invitees as set forth herein; provided, however, that public use of the trail easements dedicated on the Plat is permitted. Any other use of the Open Space by any other person shall constitute unlawful trespass. The Association shall maintain appropriate insurance covering the authorized use of the Open Space described in this section, with limits of not less than $1,000,000 per occurrence of coverage or such higher amount as may be determined by the Executive Board. Uses shall be suspended for residents who demonstrate unruly, careless, reckless, unsafe or injurious behavior in this area. Uses that endanger any user of the Open Space are not allowed. All residents and guests using the Open Space must clean up after themselves and their pets. Any failure to leave the area in a clean and orderly fashion will result in suspension of use rights for such resident and/or guest. Recreation activities are not allowed in the common areas that lie outside of the Open Space.

11. Severability. Invalidation of any one of these covenants or restrictions by judgment or court order shall in no way affect any other provisions which shall remain in full force and effect.

12. Conflicts Between Documents. In case of conflict between this Declaration and the Articles and the Bylaws, this Declaration shall control. In case of conflict between the Articles and the Bylaws, the Articles shall control.

DECLARANT:
TC Midwest LLC, LLC, a Texas
limited liability company

By:_____
Saad Sheikh, Manager

STATE OF _____)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this ____ day of _____, 20___, by Saad Sheikh, Manager of TC Midwest, LLC a Texas limited liability company.

WITNESS my hand and official seal.

My commission expires: _____

_____
Notary Public

PROPOSED NET ZERO OPTION

On Mon, Feb 9, 2026 at 10:26 AM Shiza <shiza@klutchconsultant.com> wrote:

> Hi Blaine,
>
> Yes we're currently in preliminary phase we have our meeting towards the end of this month. We still have to go through final approval beforehand.
>
> Thanks,
> Shiza
>
> ---
>
> **From:** M Blaine Buck <blaine@bighorneng.com>
> **Sent:** Monday, February 9, 2026 12:14 PM
> **To:** Shiza <shiza@klutchconsultant.com>; David Hoff <David@klutchconsultant.com>
> **Cc:** Greg Waldorf <greg@bighorneng.com>
> **Subject:** Archwood
>
> Shiza and David,
>
> Just to confirm a few items after my call with Paul Smith this morning.
>
> Net Zero is an option, not a code requirement. We will plan on doing all electric systems (minisplits) and that should get us most of the way on the energy side.
>
> Also, Paul mentioned that a third party energy consultant would be required to perform some of the tasks for permits.
> He also mentioned that your team is a ways away from approvals, correct? I would like to confirm schedule as to when you want to turn in building permit drawings so we can get the designs taken care of in a timely manner. David mentioned the end of February, while this is not possible, how soon after is a reasonable time frame? End of March? Mid April?
>
> Let us know and we will get moving on the designs.
>
> Thanks!!
>
> 
>
> **Disclaimer**
>
> The information contained in this communication from the sender is confidential. It is intended solely for use by the recipient and others authorized to receive it. If you are not the recipient, you are hereby notified that any disclosure, copying, distribution or taking action in relation of the contents of this information is strictly prohibited and may be unlawful.
>
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REFERRALS

WILL SERVE LETTER

November 6, 2025

SHIZA KHAN
N WILD HORSE DR
NEW CASTLE, CO 81647

Re: N WILD HORSE DR, NEW CASTLE

Dear SHIZA,

This letter is to confirm that Xcel Energy is your utility provider for natural gas and electric service. In accordance with our tariffs, on file with and approved by the Colorado Public Utilities Commission, gas and electric facilities can be made available to serve the project at N WILD HORSE DR, NEW CASTLE. The cost, and whether any reinforcements or extensions are required, for the Company to provide those facilities will be determined by your designer upon receipt of application and project plans.

Your utility service(s) will be provided after the following steps are completed:

- ***Application submitted to Xcel Energy's "Builders Call Line (BCL)"*** – once your application is accepted you will be assigned a design department representative who will be your primary point of contact
- ***Utility design is completed*** – you must provide your design representative with the site plan, the one - line diagrams, and panel schedules for electric and gas loads if applicable
- ***All documents provided by design representative are signed and returned***
- ***Payment is received*** (Residential Service Laterals if applicable)
- ***Required easements are granted*** - you must sign and return applicable easement documents to your Right-of-Way agent
- ***Site is ready for utility construction -*** the site ready information can be found on our website at may be viewed at Construction and Inspection | Xcel Energy.

An estimated scheduled in-service date will be provided once these requirements have been met. It is important to keep in mind that the terms and conditions of utility service, per our tariffs, require that you provide adequate space and an easement on your property for all gas and electric facilities required to serve your project, including but not limited to gas and electrical lines and meters, transformers, and pedestals. General guidelines for requirements can be found on our website at xcelenergy.com/InstallAndConnect.

Xcel Energy looks forward to working with you on your project and if I can be of further assistance, please contact me at the phone number or email listed below.

Sincerely,

Mike Cherry
Xcel Energy Planner

Mailing address: Public Service Company of Colorado
2538 Blichmann Ave
Grand Junction, CO 81505

Subject: Re: Garfield School District Referral Request – Preliminary Development Application
Date: Thursday, October 16, 2025 at 3:33:43 PM Central Daylight Time
From: John Oldham
To: Shiza
CC: thamilton@garfieldre2.net, Maarjan
Attachments: image001.png

We acknowledge with no comments.

On Thu, Oct 16, 2025 at 1:07 PM Shiza <shiza@klutchconsultant.com> wrote:

> Dear Garfield RE-2 School District,
>
> We are in the process of submitting a preliminary development application to the Town of New Castle. As part of the Town's submittal requirements, we are requesting referral input from the Garfield RE-2 School District regarding our proposed project located at N. Wildhorse Dr and Castle Valley Blbd.
>
> I've linked our preliminary project deck, which should include the information you may need for review. If additional documentation is required, please let us know and we'll be happy to provide it.
>
> I'm not certain if this message has reached the correct department or contact person. If not, please kindly forward it to the appropriate individual who handles development referrals or planning-related matters.
>
> Please let us know if the District would like to provide comments or has any concerns regarding the proposed project. If no comments are necessary, a brief acknowledgment confirming that would be greatly appreciated for our records.
>
> Thank you very much for your time and assistance.
>
> Best regards,
>
> Shiza Khan

--
John Oldham
Director of Facilities
970-665-7614

Sent from Garfield School District No. Re-2

Subject: Re: CDOT Referral Request – Preliminary Development Application (Town of New Castle)
Date: Wednesday, October 22, 2025 at 2:10:46 PM Central Daylight Time
From: Killian - CDOT, Brian
To: Shiza
CC: Kandis Aggen - CDOT
Attachments: image001.png

Shiza,

CDOT has no comment on this development since it will have minimal impacts to the interchange and Hwy 6.

Thanks,

Brian Killian
Region 3 Access Program Manager
Traffic & Safety

COLORADO
Department of Transportation

P 970-683-6284 | C 970-210-1101 | F 970-683-6290
222 S. 6th St, Room 100 Grand Junction, CO 81501
brian.killian@state.co.us | www.codot.gov | www.cotrip.org

On Thu, Oct 16, 2025 at 1:32 PM Shiza <shiza@klutchconsultant.com> wrote:

> Dear Colorado Department of Transportation,
>
> We are in the process of submitting a preliminary development application to the Town of New Castle. As part of the Town's submittal requirements, we are requesting referral input from the Colorado Department of Transportation regarding our proposed project.
>
> I've attached our preliminary project deck, which should include the information you may need for review. If additional documentation is required, please let us know.

If this message has not reached the appropriate contact for development referrals, please kindly forward it to the correct person or department within CDOT.

Please let us know if CDOT would like to provide comments or has any concerns regarding access, traffic impacts, or right-of-way considerations. If no comments are necessary, a brief acknowledgment confirming that would be greatly appreciated for our records.

Thank you very much for your time and assistance.

Best regards,

Shiza Khan

Subject: Re: CVR HOA Referral Request – Preliminary Development Application (Town of New Castle)
Date: Friday, December 19, 2025 at 4:16:22 PM Central Standard Time
From: debbie.sanderson@rmcrealestate.com
To: Shiza
Attachments: image001.png

Shiza, thanks for the reminder.

The Association has no formal objection to your team proceeding for review by the Town of New Castle with the proposed development and the Association looks forward to complete design review as the project advances.

If you need anything else from me, please let me know. If you would like a formal letter, please provide to whom you would like me to write and an address.

Debbie Sanderson, Association Manager

-----Original Message-----
From: "Shiza" <shiza@klutchconsultant.com>
Sent: Friday, December 19, 2025 1:33pm
To: "debbie.sanderson@rmcrealestate.com" <debbie.sanderson@rmcrealestate.com>
Subject: Re: CVR HOA Referral Request – Preliminary Development Application (Town of New Castle)

Good morning Debbie,

Hope you are doing well. Just wanted to follow up on this. Were you able to get it approved?

Thanks,
Shiza

From: debbie.sanderson@rmcrealestate.com <debbie.sanderson@rmcrealestate.com>
Date: Friday, November 21, 2025 at 5:48 PM
To: Shiza <shiza@klutchconsultant.com>
Subject: Re: CVR HOA Referral Request – Preliminary Development Application (Town of New Castle)

Nothing. Just trying to get final approval on my letter. Sorry it is taking so long.

-----Original Message-----
From: "Shiza" <shiza@klutchconsultant.com>
Sent: Monday, November 17, 2025 9:04am
To: "debbie@rmcrealestate.com" <debbie@rmcrealestate.com>
Cc: "cvrhoa@gmail.com" <cvrhoa@gmail.com>
Subject: Re: CVR HOA Referral Request – Preliminary Development Application (Town of New Castle)

COLORADO
Parks and Wildlife
Department of Natural Resources

Grand Junction Office, Area 7 Service Center
711 Independent Ave • Grand Junction, CO 81505
PH: (970) 255.6100

RE: Archwood Townhomes Preliminary Plan Application

To Whom It May Concern,

Colorado Parks and Wildlife (CPW) has reviewed the preliminary application for the Archwood Townhomes development, located on approximately 10 acres owned by TC Midwest LLC in New Castle, Colorado. The proposal includes construction of 66 townhomes between Castle Valley Blvd and North Wildhorse Dr, with 20 percent of the parcel designated as open space.

The project area consists primarily of native grassland located within an elk winter concentration area and severe winter range. It is also frequently used by mule deer, mountain lions, and black bears. TC Midwest LLC additionally owns the adjacent 50-acre and 65-acre parcels to the proposed development site. CPW remains concerned about the cumulative impacts of ongoing development in the New Castle area, particularly within these critical elk winter ranges. Continued development in this region introduces uncertainties for the health and sustainability of the local elk population and associated wildlife.

Given the significant wildlife presence on the property, CPW recommends implementing the following Best Management Practices (BMPs) to minimize wildlife conflicts and habitat impacts:

1. Waste Management: During construction, all garbage must be stored in bear-proof containers and disposed of regularly. Maintaining a clean worksite is essential to eliminate potential attractants for wildlife.
2. Timing of Construction: Construction activities should be avoided between December 1st and April 30th to prevent disturbing wintering wildlife.
3. Fencing: Any fencing installed on the property should comply with CPW's wildlife-friendly fencing standards to reduce injury or entanglement risks. Standard 4-6 foot wood plank, stone, or composite privacy fencing is acceptable. However,

Jeff Davis, Director, Colorado Parks and Wildlife
Parks and Wildlife Commission: Richard Reading, Chair · James 'Jay' Tutchton, Vice-Chair · Eden Vardy, Secretary · Jessica Beaulieu · Frances Silva Blaney · John Emerick · Tai Jacober · Dallas May · Jack Murphy · Gabriel Otero · Murphy Robinson

woven wire, hog panels, cattle panels, or decorative steel panel fencing should be avoided.

4. Landscaping: Landscaping should prioritize non-fruiting native trees, shrubs, and flowers. Fruit-bearing and ornamental species attract wildlife and can lead to increased human-wildlife conflicts.
5. Residential Garbage: After construction, all residential garbage should continue to be stored in bear-proof dumpsters or secure enclosures, as human-bear conflicts are a significant concern in this area.
6. Pets: Pets, particularly dogs, should not be allowed to roam freely, as they may chase or harass wildlife. CPW recommends that dogs be leashed or kenneled at all times in areas where bears and mountain lions are present. Outdoor feeding of pets should be avoided, and all food should be securely stored.
7. Feeding Wildlife: Feeding wildlife, including birds, should be strictly prohibited. Suet and hummingbird feeders often attract bears, mule deer, skunks, and raccoons, increasing conflict risk. Feeding of big game species such as deer, elk, bears, and lions is illegal and should be avoided entirely.

Colorado Parks and Wildlife appreciates the opportunity to provide comments on this project and looks forward to making recommendations to Garfield County. Adhering to these BMPs will help reduce human-wildlife conflict within the New Castle area.

For questions or additional information, please contact District Wildlife Manager Jake Stanton at (970)366-1908.

Sincerely,



Jake Stanton, District Wildlife Manager

Cc. Travis Bybee, Assistant Area Wildlife Manager

WATER AND WASTEWATER REPORT

WRIGHT WATER ENGINEERS, INC.

Water and Wastewater Report

PREPARED FOR THE PROPOSED ARCHWOOD TOWNHOMES DEVELOPMENT IN THE TOWN OF NEW CASTLE, COLORADO



September 2025 251-061.010

DENVER | GLENWOOD SPRINGS | DURANGO

TABLE OF CONTENTS

Page

1.0 Introduction 1
Third Party Engineering Analysis 2
2.0 Water Report 2
2.1 Estimated Potable Water Demands 3
2.2 Fire Flow Requirements 3
2.3 Water Distribution System EPANET Model 3
Anticipated Service Pressures and Flow Velocities 4
2.4 Non-Potable Irrigation Water Demands 5
2.5 Impacts to Existing Town Infrastructure 5
3.0 Wastewater Report 6
3.1 Proposed Wastewater Collection System Description 6
Connection to Existing Town Wastewater Collection System 6
3.2 Anticipated Wastewater Flows and Loadings 7
3.3 Proposed Sewer Pipe Sizing 7
Design Capacity, Pipe Slopes, and Flow Velocities 7
3.4 Additional Capacity for Proposed Future Development 8
References 9

TABLES

Table 1. Archwood Wastewater Flow and Loading Estimates 7

FIGURES

Figure 1. Archwood Site Overview 1

PHOTOGRAPHS

Photograph 1. Existing Manhole Connection with Archwood's Wastewater Collection System and Note on Triangle Engineering Design Pans 6

ATTACHMENTS

Attachment 1: EQR Analysis and Estimated Potable Water Demands
Attachment 2: EPANET Model Overview and Results Summary
Attachment 3: Non-Potable Irrigation Demand Calculations
Attachment 4: Wastewater Collection System Design Capacity Analysis

1.0 INTRODUCTION

Wright Water Engineers, Inc. (WWE), on behalf of Klutch Consultant, LLC, is pleased to provide the Town of New Castle, Colorado (Town) with this water and wastewater report for the proposed Archwood Townhome Development (Archwood). Archwood is located within the Castle Valley Ranch Planned Use Development which is in the Town's water and wastewater service area (see Figure 1).



Figure 1. Archwood Site Overview

The purpose of this report is to provide the Town with documentation to meet the Supplemental Application Materials requirements outlined in Chapter 17.100.050 Parts D.4 and D.5 of the Town's Current Municipal Code (Town of New Castle, 2024), which states the following:

> *D.4 – Water Report. Identify anticipated service pressures, fire flow, demands, velocities under peak flow conditions as well as irrigation demands and design if a separate irrigation system is proposed. Identify any impacts to the town's existing storage, treatment, and distribution system.*
>
> *D.5 – Wastewater Report. Identify anticipated loadings, velocities, pipe sizes, pumping needs, etc. We would need to assure that the sewer report identifies what the impacts are anticipated to be to the town's collection and treatment system;*

WWE's water system evaluation includes estimated potable water demands, estimated fire flow requirements, a hydraulic analysis using EPANET software, and an assessment of system pressures and velocities under peak demand and fire flow conditions.

The wastewater evaluation includes an overview of the proposed collection system layout, estimated flows under average and peak conditions, preliminary pipe sizing and velocities, and evaluation of

downstream design capacity. Additionally, this report estimates available excess sewer capacity for a stub-out east of the Archwood site, which could accommodate a portion of future proposed development.

To prepare this report, WWE relied upon the following documentation and information:

- Town of New Castle Public Works Manual (Town of New Castle, 2022) - referred to herein as Town Manual.
- Town of New Castle Municipal Code (Town of New Castle, 2024) – referred to herein as Town Code.
- Colorado Department of Public Health and Environment (CDPHE) Design Criteria for Potable Water Systems (CDPHE, 2024) – referred to herein as CDPHE Potable Water Design Criteria.
- CDPHE Wastewater Design Criteria Policy WPC-DR-1 (CDPHE, 2022) - referred to herein as CDPHE Wastewater Design Criteria.
- Archwood Townhomes Utility Plan Drawings prepared by Triangle Engineering, LLC. (Triangle, 2025) – referred to herein as July 2025 Utility Plans.
- Archwood Townhomes Sketch Plan Meeting Presentation Slides prepared by Klutch Consultants, LLC (Klutch Consultant, 2025) – referred to herein as Archwood Sketch Plans.
- Teleconference with Fire Marshall for Colorado River Fire Protection District (CRFPD) on August 5, 2025 (CRFPD, 2025).
- Email communication with Town Engineer on June 24, and June 25, 2025 (Town Engineer, 2025).
- Video conference with Town Engineer and Town Planner/Inspector on August 25, 2025.

Third Party Engineering Analysis

Please note this Report is associated with WWE's review of design drawings and utility plans not designed by WWE. The scope of WWE's analysis presented herein was limited to the development and presentation of supporting calculations and analysis for the purposes of meeting the Supplemental Application Materials requirements outlined in Chapter 17.100.050 Parts D.4 and D.5 of the Town Code. This Report shall not be viewed as a formal review of the adequacy, competency, cost effectiveness, or safety aspects of the design drawings and specifications developed by the Engineer of Record. WWE reserves the right to update the results of our analysis presented herein in the event there are any changes made to the July 2025 Utility Plans.

2.0 WATER REPORT

This Report Section summarizes WWE's approach to estimating potable water demands for the proposed Archwood development and evaluating the related distribution system hydraulics, including service pressures and flow velocities during peak flow plus fire flow conditions. Non-potable irrigation demands are considered separately, as they relate to the Town's existing Raw Water Irrigation System. The results presented herein are based on preliminary design and are intended to support entitlement review, with system design subject to refinement through final engineering and continued coordination with the Town.

2.1 Estimated Potable Water Demands

WWE estimated potable water demands for Archwood using Equivalent Residential Units (EQRs), as defined in Section 13.24.030 of the Town Code. Per the Town Code, one (1) EQR represents the typical indoor and outdoor water use of a single-family residence up to 3,000 square feet with 2,500 square feet of irrigated area, housing a statistical average of 3.5 people, each using 100 gallons per day (gpd). The Town Code also indicates one (1) EQR represents the following:

- A peak monthly demand of 22,000 gallons
- A peak daily demand of 900 gallons

Please note Archwood is proposing to provide connections to the Town's Raw Water Irrigation System, and non-potable irrigation demands are addressed separately in Section 2.4.

To determine the total number of EQRs, WWE reviewed the proposed unit types shown on the Archwood sketch plans and compared them with the EQR classifications in Section 13.24.060 of the Town Code. All units fall under the multifamily residential category. For consistency with the Archwood Sketch Plans, WWE assumed each unit equates to one (1) EQR of indoor use. With 66 units proposed, the total potable water demand is based on 66 EQRs. Based on these assumptions and the Town's definition of an EQR (Town of New Castle, 2024), WWE estimated potable water demands for Archwood as follows:

- **Average Day Demand (ADD)**: 350 gpd per EQR × 66 EQR = **23,100 gpd**
- **Peak Day Demand (PDD):** 350 gpd per EQR x 2.57 × 66 EQR = **59,400 gpd**
  - Peak Day Factor assumed to be 900 gpd/350 gpd or 2.57 per Town Code Section 13.24
- **Peak Hour Demand (PHD)**: 350 gpd per EQR x 3.25 x 66 EQR ÷ 24 hours/day = **3,130 gallons per hour (gph) or 52.1 gallons per minute (gpm)**
  - Peak Hour Factor of 3.25 determined from CDPHE Wastewater Design Criteria (CDPHE, 2022) for a population of approximately 5,000 people (Town of New Castle, 2025)

The PHD was used as the base demand scenario for the EPANET model, which is discussed further in Section 2.3. WWE's detailed EQR and estimated potable water demand calculations are provided as **Attachment 1**.

2.2 Fire Flow Requirements

WWE understands Town's minimum fire flow requirement is 1,000 gpm at a residual pressure of 20 pounds per square inch (psi) (Town Engineer, 2025). WWE used a minimum fire flow requirement of 1,500 gpm at a residual pressure of 20 psi for a duration of 2 hours for our analysis. This fire flow requirement, compared to the Town minimum, is based on a conversation with Orrin Moon, the current Fire Marshal for the Colorado River Fire Protection District (CRFPD, 2025), and review of Table B105.1(2) in IFC (2021).

2.3 Water Distribution System EPANET Model

WWE developed a hydraulic model using EPANET 2.2 software to evaluate the proposed water distribution system for Archwood. **Attachment 2** includes a map of the model layout and a summary table of the modeled junctions and pipes, including pipe elevations, diameters, roughness values, lengths, and other key parameters.

The EPANET model layout is based on the July 2025 Utility Plans. Water distribution system linework from these plans was imported into EPANET to define the pipe network and demand node locations. For simplicity, each building with multiple townhomes is represented by a single demand node, with fire hydrants also modeled as individual demand nodes. The model includes a total of 14 building demand nodes and 7 fire hydrant demand nodes. The CDPHE Potable Water Design Criteria require a minimum pressure of 20 psi at ground level at all points in the distribution system under all conditions of flow (CDPHE, 2024). To estimate the demand node elevations (at ground level), WWE used the proposed finished grade elevation at the location of each demand node in the July 2025 Utility Plans.

Peak hour demands were assigned to each demand node based on the number of EQRs per building. Each unit was assigned one EQR, and total building EQRs were converted to peak hour flows using the Town's EQR definition and peaking factors described in Section 2.1. The resulting peak hour demands serve as the base demand for each demand node. Base demands were not applied to fire hydrant demand nodes. EQR totals for each building and resulting peak hour demand estimates are summarized in **Attachment 2**.

Based on telephone communication with Klutch Consultants, LLC, WWE understands that it is the developer's intent to use 8-inch diameter PVC water mains. All water mains in the EPANET model were assumed to be 8-inch diameter PVC with a Standard Dimension Ratio (SDR) of 14, consistent with the Town of New Castle Public Works Manual (Specification 2300-2.3). The model utilized the inner diameter of these pipes, and a Hazen-Williams C-factor of 130 was applied to reflect PVC pipe conditions (Lindeburg, 2018).

The model includes two points of connection to the existing Town system—along Castle Valley Boulevard and North Wildhorse Drive—identified in coordination with the Town Engineer (Town Engineer, 2025). The Town Engineer also provided the design hydraulic grade line (HGL) and pipe elevations, at both points of connection, under normal and fire flow conditions. These boundary conditions were modeled in EPANET using a reservoir at each point of connection, with the reservoir HGL set to match normal conditions. Calibration pipes were added between each reservoir and the proposed points of connection to introduce headloss such that the HGL at each point of connection aligns with the Town-specified fire flow HGL at 1,500 gpm. The specific design points for the various flow conditions are provided in **Attachment 2**. To avoid false demands on the system, model "dummy" check valves were included on the entry piping at each point of connection.

Anticipated Service Pressures and Flow Velocities

WWE ran a base scenario representing peak hour demand conditions without fire flows, followed by seven separate fire flow scenarios, each simulating a 1,500 gpm fire flow event at one of the seven proposed hydrants. The results of the analysis are provided in **Attachment 2**.

Under peak hour demand conditions, the EPANET model indicates pressures ranging from 58.3 to 75.3 psi across the site, with flow velocities generally below 6 feet per second (fps), which is within the acceptable range for normal operation.

Under fire flow conditions, each hydrant was capable of supplying 1,500 gpm while maintaining system pressures above 20 psi in all cases. These results demonstrate the proposed system's ability to meet the fire flow requirements outlined in Section 2.2 and satisfy the minimum residual pressure criteria specified in Section 8.2.1 of the CDPHE Potable Water Design Criteria.

The model assumes 8-inch diameter laterals serving fire hydrants with the full 1,500 gpm demand applies to a single hydrant. Pipe velocities greater than 10 feet per second occurred only in the fire hydrant laterals under all fire flow scenarios (see **Attachment 2**). The Fire Marshal assumed two hydrants would be required to obtain the full fire flow of 1,500 gpm (CRFPD, 2025), meaning the actual flow velocities in the fire hydrant laterals would likely be lower than the modeled velocities.

2.4 Non-Potable Irrigation Water Demands

A separate non-potable irrigation system is proposed for Archwood, which will connect to the Town's existing raw water (non-potable) irrigation system. To estimate irrigation demands, WWE utilized the StateCU Model to determine Archwood's monthly irrigation water requirement based on site-specific conditions. Site condition assumptions and detailed irrigation demand calculations are provided in **Attachment 3**.

Results of the StateCU modeling indicate that irrigation demands vary significantly by month, with the highest demand occurring in July and the lowest in October. Based on Archwood's proposed irrigated area, the maximum average day irrigation demand is approximately 40,700 gpd in July, while the minimum month demand is approximately 7,200 gpd in October.

2.5 Impacts to Existing Town Infrastructure

The WWE analysis did not indicate significant hydraulic impacts to the existing Town water distribution system. The proposed distribution system is looped, avoids dead ends, and connects to existing mains along Castle Valley Boulevard and North Wildhorse Drive, which are already hydraulically connected to the south of the proposed Archwood development.

The combined peak hour and fire flow demand of 1,550 gpm would draw approximately 95,000 gph from the Town's distribution system (1,500 gpm for fire flow equals 90,000 gph, plus about 3,130 gph for peak hour demand of 52.1 gpm).

The anticipated irrigation demands are not expected to adversely impact the Town's potable water infrastructure, as the non-potable system operates independently and is supplied from a different source. Coordination with the Town will be necessary during final design to confirm the point of connection and available capacity within the Town's non-potable distribution system.

3.0 WASTEWATER REPORT

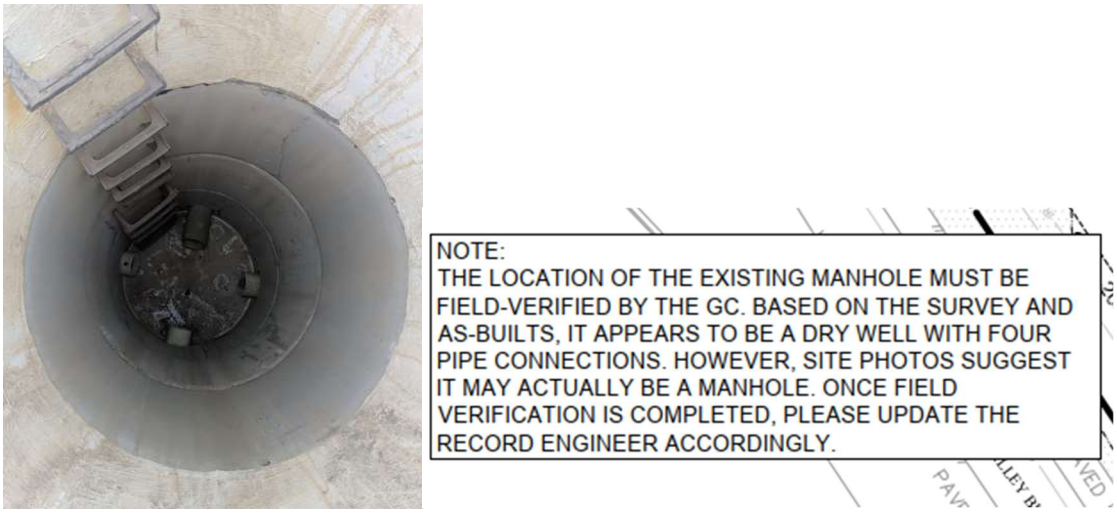
This Report Section summarizes WWE's evaluation of the proposed Archwood wastewater collection system. The analysis includes a description of the collection system, estimated wastewater flows based on EQRs, preliminary sewer pipe sizing and flow velocities. The evaluation also includes an estimate of remaining system capacity to inform future development density to the east of Archwood. The results presented herein are based on preliminary design and are intended to support entitlement review, with system design subject to refinement through final engineering and continued coordination with the Town.

3.1 Proposed Wastewater Collection System Description

Archwood is proposed to be served by a gravity wastewater collection system. Site topography supports wastewater conveyance by gravity, and no lift stations or pumping requirements are anticipated. Buildings are assumed to not include basements. The proposed layout includes sewer mains arranged in a north loop and south loop which combine to discharge into an existing manhole located southwest of the site near Castle Valley Boulevard. **Attachment 4** provides a diagram of the proposed collection system layout, including flow directions and identification of which buildings or portions thereof discharge to each sewer segment.

Connection to Existing Town Wastewater Collection System

The Archwood wastewater collection system would tie into an existing manhole located near the roundabout intersection of Castle Valley Blvd and Pyramid Drive. A photo of this manhole is provided in Photograph 1 below along with the note for this manhole shown on Triangle Engineering, LLC (Triangle) design plans. As shown in Photograph 1, the manhole appears dry, includes four (4) existing pipe connections, and does not have a grouted bottom to convey wastewater through the manhole and into the downstream sanitary sewer pipe. The Town Engineer confirmed there are no known as-builts of this manhole because the area was under construction when the prior developer went bankrupt.



Photograph 1. Existing Manhole Connection with Archwood's Wastewater Collection System and Note on Triangle Engineering Design Pans

WWE understands Triangle is proposing to update their design plans pending final field survey and a field video inspection of the four (4) existing pipes that would determine their actual location and identify

existing upstream (if any) and downstream connections. Once the locations and potential connections are known, Triangle would update their design with an approach for connecting the new Archwood collection system into this manhole, and if necessary, plugging and abandoning existing sewer pipes.

3.2 Anticipated Wastewater Flows and Loadings

WWE estimated wastewater flows based on 66 EQRs (see Attachment 4), using a unit wastewater generation rate of 262.5 gallons per day per EQR. This rate is derived from email communication with the Town (Town Engineer, 2025), which assumes an average household size of 3.5 persons and a wastewater production rate of 75 gallons per capita per day. These assumptions yield the average day flow shown in Table 1. To estimate peak day flows, a peaking factor of 2.57 was applied, which is consistent with the ratio of peak day to average day potable water demand (900 gpd / 350 gpd=2.57), as discussed in Section 2.1.

Peak hour flows were calculated using a peaking factor of 3.25, consistent with Figure 3.1 in CDPHE Wastewater Design Criteria (CDPHE, 2022), for a service area population of approximately 5,000 people (Town of New Castle, 2025). Peak hour flow values were used as the basis for WWE's hydraulic evaluation of the collection system and are not pertinent to loading calculations.

Per Section 13.32.010 of the Town Municipal Code, normal domestic strength wastewater is defined as containing no more than 250 mg/L of five-day Biochemical Oxygen Demand (BOD_5) and 250 mg/L of Total Suspended Solids (TSS). Since Archwood is a residential development with no commercial or industrial wastewater sources, WWE assumed all wastewater would be of normal domestic strength. Loadings were calculated for average day and peak day flows using these assumed concentrations. The resulting flow and loading estimates are summarized in Table 1.

Table 1. Archwood Wastewater Flow and Loading Estimates

Flow Condition	Flow	Units	BOD_5 Loading[1] (lb/day)	TSS Loading[2] (lb/day)
Average Day	17,325	gpd	36	36
Peak Day	44,530	gpd	93	93
Peak Hour	39	gpm	-	-

1. Assumes normal domestic strength wastewater, or $BOD_5 \leq 250$ mg/L.
2. Assumes normal domestic strength wastewater, or TSS ≤ 250 mg/L.

3.3 Proposed Sewer Pipe Sizing

Based on preliminary utility layouts provided in the July 2025 Utility Plans, an 8-inch diameter PVC gravity sewer is proposed to serve all units in the development.

Design Capacity, Pipe Slopes, and Flow Velocities

WWE used Hydraulic Toolbox 5.4.0 to calculate flow capacity and velocity for each sewer pipe segment between manholes. The analysis assumed a Manning's roughness coefficient of n = 0.015, proposed pipe slopes and diameters from the July 2025 Utility Plans, and a maximum design flow depth-to-diameter (d/D) ratio of 0.8 consistent with CDPHE Wastewater Design Criteria (CDPHE, 2022). The results are

summarized in **Attachment 4**. All proposed segments provide sufficient capacity to convey peak hour flows while maintaining flow depths below the 0.8 d/D threshold. Flow velocities at the d/D threshold of 0.8 meet or exceed 2 feet per second, meeting minimum velocity requirements in the CDPHE Wastewater Design Criteria (CDPHE, 2022).

3.4 Additional Capacity for Proposed Future Development

WWE estimates the proposed Archwood wastewater collection system as shown in the July 2025 Utility Plans, would have a design capacity of approximately 320 gallons per minute (gpm). Peak hour flows from Archwood are estimated at 40 gpm, leaving approximately 280 gpm of remaining capacity.

Assuming the same peak hour flows associated with the Town's definition of an EQR, the number of additional EQRs that could be served by the remaining capacity of the proposed Archwood wastewater collection system can be estimated as follows:

- 280 gpm ÷ (3.5 people × 75 gpcd × 3.25 peak hour factor ÷ 1,440 min/day) ≈ **Up to 470 EQRs**

This remaining capacity may provide an opportunity to serve a portion of proposed future development to the east of Archwood, subject to further analysis during final design.

REFERENCES

CDPHE, 2024. Colorado Department of Public Health and Environment (CDPHE) Design Criteria for Potable Water Systems. Safe Drinking Water Program Implementation Policy DW005. Effective Date: November 27, 2024. Available here: https://cdphe.colorado.gov/water-quality/regulations-policies-and-guidance/facility-design-approval-policies

CDPHE, 2022. Colorado Department of Public Health and Environment Wastewater Design Criteria Policy WPC-DR-1. Effective Date: June 7, 2022. Available here: https://cdphe.colorado.gov/water-quality/regulations-policies-and-guidance/facility-design-approval-policies

CRFPD, 2025. Teleconference with Fire Marshall for Colorado River Fire Protection District on August 5, 2025. CRFPD Website: https://www.crfr.us/.

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Lindeburg, 2018. Civil Engineering Reference Manual. Twelfth Edition. Professional Publications, Inc. 150 Fifth Avenue, Belmont, CA 94002.

Town Engineer, 2025. Email communication with Town of New Castle Engineer. Emails received 6/24/2025 and 6/25/2025. Subject: RE: Water and Wastewater Reports - Archwood Townhomes.

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Town of New Castle, 2025. Demographics. Available here: https://www.newcastlecolorado.org/about/page/demographics

Triangle, 2025. Archwood Townhomes Utility Plan Drawings prepared by Triangle Engineering, LLC. Received July 31, 2025. Triangle Engineering, LLC, 1782 W Mcdermott Dr, Allen, TX 75013.

P:\251-061 Klutch Consultants\000\Report\2025-09-16 Archwood W & WW Report.docx

ATTACHMENTS

Attachment 1: EQR Analysis and Estimated Potable Water Demands

WWE CALCULATION SHEET

Project: Archwood Townhomes
Job. No.: 251-061.000
Date: July 2025
Subject: EQR Analysis and Estimated Potable Water Demand

Design: HAL
Check: SLP

WRIGHT WATER ENGINEERS, INC.

Purpose: **Evaluate the number of EQRs for the proposed development using materials provided by Klutch Consultants. Based on the Town Code definition of an EQR, estimate the potable water demands, including average day, peak day, and peak hour demands**

References:
1. **Town of New Castle Municipal Code (Town of New Castle, 2024)**
2. **CDPHE Wastewater Design Criteria Policy WPC-DR-1 (CDPHE, 2022)**
3. **Town of New Castle, CO Demographics Webpage(https://www.newcastlecolorado.org/about/page/demographics) accessed on July 30, 2025.**

Assumptions **REFERENCE**

EQR Equivalent Potable Water Demand

Average Daily Per Capita Water Demand	100	gallons per capita per day		1
Average Number of Townhome Occupants	3.5	people per unit		1
Average Daily Water Demand	350	gallons per day per EQR		1
Peak Day Water Demand	900	gallons per day per EQR		1

Peak Hour Factor

Town Population	5000	people		3
	5	thousand people		
Peaking Factor	3.25			2 (Figure 3.1)
Peak Hour Water Demand	47.3	gallons per hour per EQR	Equals Average Day Demand / 24 hours per day x Peaking	

Classifications *EQR*

One or two bedroom apartment	1	(assume 1 EQR for 2 bedroom/2.5 bath units)	1
Three bedroom or more apartment	1		1

Calculations

Evaluate the total number of EQRs for the proposed development based on the unit count/type and number of buildings.

Table 1. EQR Analysis

Building Type	No. of Buildings per Building Type	No. of 3 Bedrooms Units per Building Type	No. of 2 Bedrooms Units per Building Type	EQR for Single Building	EQR Total per Building Type
(1)	(2)	(3)	(4)	(5)	(6)
1A	4	4	0	4.0	16.0
1B	1	2	2	4.0	4.0
1C	1	4	0	4.0	4.0
2B	1	2	0	2.0	2.0
2C	1	0	2	2.0	2.0
3B	1	1	2	3.0	3.0
6A	2	6	0	6.0	12.0
7A	1	7	0	7.0	7.0
7B	1	7	0	7.0	7.0
9A	1	8	1	9.0	9.0
Total	14	-	-	-	66.0

Notes:
1. Columns (1 through 4) are based on the information provided on the April 29, 2025 Archwood Sketch Plan Deck presented by Virtus Developers and Klutch Consultant, LLC. (Klutch Consultant, 2025).
2. Column (5) = (Column (3) x (Three bedroom or more apartment EQRs)) + (Column (4) x One or two bedroom apartment
3. Column (6) = (Column (5) x Column (2))

WWE CALCULATION SHEET

Project: Archwood Townhomes
Job. No.: 251-061.000
Date: July 2025
Subject: EQR Analysis and Estimated Potable Water Demand

Design: HAL
Check: SLP

WRIGHT WATER ENGINEERS, INC.

Purpose: **Evaluate the number of EQRs for the proposed development using materials provided by Klutch Consultants. Based on the Town Code definition of an EQR, estimate the potable water demands, including average day, peak day, and peak hour demands**

References:
1. Town of New Castle Municipal Code (Town of New Castle, 2024)
2. CDPHE Wastewater Design Criteria Policy WPC-DR-1 (CDPHE, 2022)
3. Town of New Castle, CO Demographics Webpage(https://www.newcastlecolorado.org/about/page/demographics) accessed on July 30, 2025.

Estimate the total potable water demands associated with indoor-use only

Table 2. Estimated Potable Water Demands

Building Type	EQR Total per Building Type	Average Day Demand	Peak Day Demand	Peak Hour Demand	
		gpd	gpd	gph	gpm
(1)	(2)	(3)	(4)	(5)	(6)
1A	16.0	5,600	14,400	757	12.6
1B	4.0	1,400	3,600	189	3.2
1C	4.0	1,400	3,600	189	3.2
2B	2.0	700	1,800	95	1.6
2C	2.0	700	1,800	95	1.6
3B	3.0	1,050	2,700	142	2.4
6A	12.0	4,200	10,800	568	9.5
7A	7.0	2,450	6,300	331	5.5
7B	7.0	2,450	6,300	331	5.5
9A	9.0	3,150	8,100	426	7.1
Total	66.0	**23,100**	**59,400**	**3,123**	**52.1**

Notes:
1. Columns (1 and 2) are based on Table 1. EQR Analysis
2. Column (3)= (Column (2) x (350 gallons per day per EQR)) where the resulting value is the average day demand from all buildings of this type
3. Column (4)= (Column (2) x (900 gallons per day per EQR)) where the resulting value is the peak day demand from all buildings of this type
4. Column (5)= (Column (2) x (47.3 gallons per hour per EQR)
5. Column (6)= (Column (5) ÷ 60)

Conclusions

The totals column in Table 2 shows the estimated potable water demands for the proposed development.

Attachment 2: EPANET Model Overview and Results Summary

ARCHWOOD TOWNHOMES DEVELOPMENT

EPANET MODEL LAYOUT AND BOUNDARY CONDITIONS



TOWN DESIGN POINT SUMMARY						
Point of Connection	Base Scenario			Fire Flow Scenarios		
	Invert Elevation	HGL	Pressure	Invert Elevation	HGL	Pressure
	ft.	ft.	psi	ft.	ft.	psi
NWHDR[1]	5811.66	5949.16	59.6	5811.66	5901.4	38.9
CVBLVD	5774	5947.73	75.2	5774	5891.7	51

[1] The Town-provided design points for North Wild Horse Drive include a base scenario HGL of 5949.16 with a pipe invert elevation of 5843.97, a static pressure of 45.5 psi, and a fire flow residual pressure of 24.9 psi (HGL=5901.4). The Town-provided invert is approximately 10 feet higher than the highest proposed site grade. Therefore, WWE assumed an invert elevation of 5811.66, which reflects the Town's minimum burial depth of 5.5 feet for a 10-inch pipe (Town of New Castle, 2022), equal to about 6 feet 4 inches from pipe invert to proposed grade. WWE also assumed the same HGL as that provided by the town for this point of connection under both flow scenarios. With the lower pipe invert elevation, the resulting static and fire flow pressures are adjusted as reflected in the table above.

ARCHWOOD TOWNHOMES DEVELOPMENT

EPANET MODEL RESULTS SUMMARY

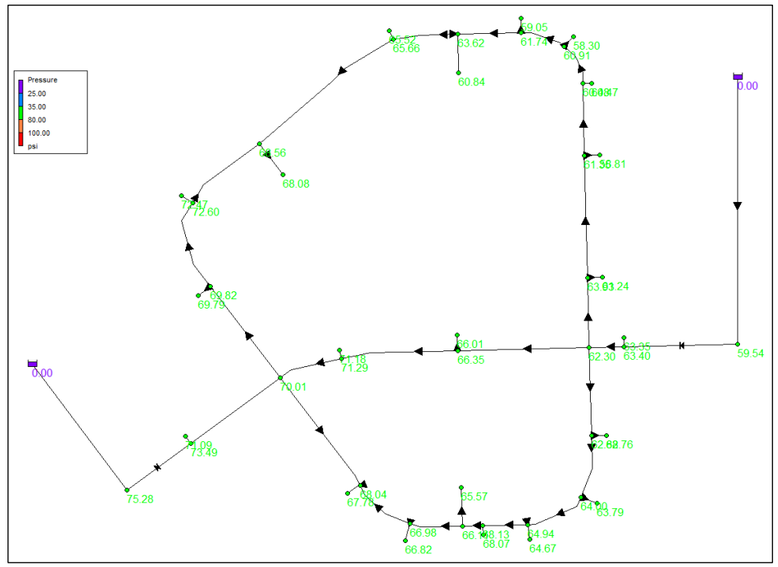
Scenario Name		Base run
Scenario Description		Peak hour flows only, no fire flows
	=	Proposed Fire Hydrant
	=	Proposed Townhome
	=	Connections to Existing Town Water System

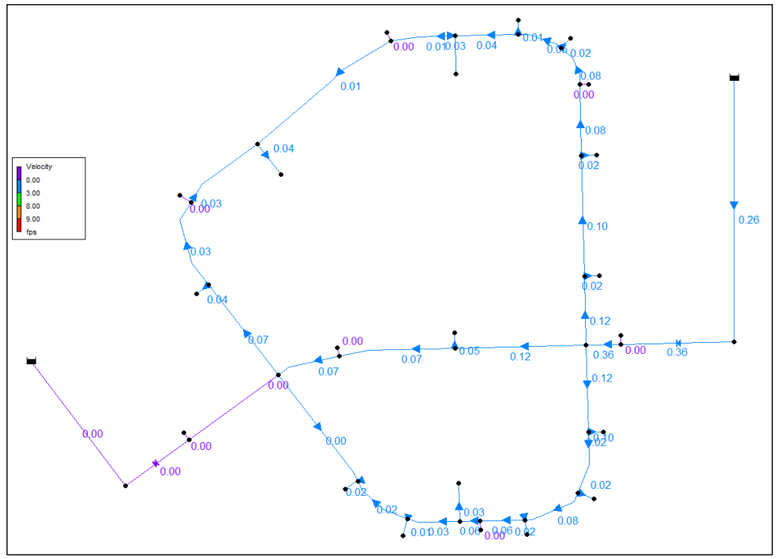
Network Table - Nodes

Node ID	Elevation	Base Demand	Demand	Head	Pressure
	ft	gpm	gpm	ft	psi
Junc tee_14	5779.45	0	0	5949.05	73.49
Junc tee_21	5802.23	0	0	5949.05	63.62
Junc tee_1	5806.57	0	0	5949.05	61.74
Junc tee_2	5808.47	0	0	5949.05	60.91
Junc tee_3	5809.46	0	0	5949.05	60.48
Junc tee_4	5807.47	0	0	5949.05	61.35
Junc tee_5	5801.5	0	0	5949.05	63.93
Junc tee_20	5797.52	0	0	5949.05	65.66
Junc FH_1	5797.83	0	0	5949.05	65.52
Junc FH_2	5809.48	0	0	5949.05	60.47
Junc FH_3	5802.86	0	0	5949.05	63.35
Junc tee_6	5802.74	0	0	5949.05	63.4
Junc FH_4	5791.96	0	0	5949.05	68.07
Junc tee_10	5791.82	0	0	5949.05	68.13
Junc tee_18	5781.5	0	0	5949.05	72.6
Junc FH_7	5781.8	0	0	5949.05	72.47
Junc FH_6	5784.78	0	0	5949.05	71.18
Junc tee_15	5784.53	0	0	5949.05	71.29
Junc FH_5	5784.97	0	0	5949.05	71.09
Junc tee_19	5790.82	0	0	5949.05	68.56
Junc TH_7A	5791.92	5.52	5.52	5949.05	68.08
Junc TH_2C	5812.76	1.58	1.58	5949.05	59.05
Junc TH_1A_1	5814.51	3.15	3.15	5949.05	58.3
Junc TH_6A_1	5808.64	4.73	4.73	5949.05	60.84
Junc TH_1A_2	5813.32	3.15	3.15	5949.05	58.81
Junc TH_1A_3	5807.71	3.15	3.15	5949.05	61.24
Junc TH_3B	5804.21	2.37	2.37	5949.05	62.76
Junc tee_7	5803.92	0	0	5949.05	62.88
Junc TH_1C	5801.82	3.15	3.15	5949.05	63.79
Junc tee_8	5801.35	0	0	5949.05	64
Junc tee_9	5799.17	0	0	5949.05	64.94
Junc TH_1A_4	5799.8	3.15	3.15	5949.05	64.67
Junc tee_11	5796.48	0	0	5949.05	66.11
Junc TH_6A_2	5797.73	4.73	4.73	5949.05	65.57
Junc tee_12	5794.47	0	0	5949.05	66.98
Junc TH_2B	5794.84	1.58	1.58	5949.05	66.82
Junc tee_13	5792.03	0	0	5949.05	68.04
Junc TH_1B	5792.63	3.15	3.15	5949.05	67.78
Junc TH_9A	5796.7	7.1	7.1	5949.05	66.01
Junc tee_16	5795.93	0	0	5949.05	66.35
Junc tee_17	5787.91	0	0	5949.05	69.82
Junc TH_7B	5787.98	5.52	5.52	5949.05	69.79
Junc t-1	5805.27	0	0	5949.05	62.3
Junc t-2	5787.48	0	0	5949.05	70.01
Junc NWHDR_POC	5811.66	0	0	5949.06	59.54
Junc CVBLVD_POC	5774	0	0	5947.73	75.28
Resvr NWHDR	5949.16	#N/A	-52.05	5949.16	0
Resvr CVBLVD	5947.73	#N/A	0	5947.73	0

Network Table - Links

Link ID	Length	Diameter	Roughness	Flow	Velocity	Status
	ft	in		gpm	fps	
Pipe p2	67.54	7.68	130	6.28	0.04	Open
Pipe p4	46.69	7.68	130	11.01	0.08	Open
Pipe p5	132.4	7.68	130	14.16	0.1	Open
Pipe p6	9.97	7.68	130	0	0	Open
Pipe p7	9.408	7.68	130	0	0	Open
Pipe p8	9.67	7.68	130	0	0	Open
Pipe p9	9.67	7.68	130	0	0	Open
Pipe p10	13.97	7.68	130	0	0	Open
Pipe p11	9.72	7.68	130	0	0	Open
Pipe p13	41.69	7.68	130	5.52	0.04	Open
Pipe p14	15.96	7.68	130	1.58	0.01	Open
Pipe p15	14.4	7.68	130	3.15	0.02	Open
Pipe p16	41.99	7.68	130	4.73	0.03	Open
Pipe p17	16.03	7.68	130	3.15	0.02	Open
Pipe p18	16.04	7.68	130	3.15	0.02	Open
Pipe p19	16	7.68	130	2.37	0.02	Open
Pipe p20	18.4	7.68	130	3.15	0.02	Open
Pipe p21	16.07	7.68	130	3.15	0.02	Open
Pipe p22	41.93	7.68	130	4.73	0.03	Open
Pipe p23	19.66	7.68	130	1.58	0.01	Open
Pipe p24	16.33	7.68	130	3.15	0.02	Open
Pipe p25	17	7.68	130	7.1	0.05	Open
Pipe p26	15.99	7.68	130	5.52	0.04	Open
Pipe p27	95.67	7.68	130	17.48	0.12	Open
Pipe p28	21.97	7.68	130	8.81	0.06	Open
Pipe p29	47.79	7.68	130	8.81	0.06	Open
Pipe p30	66.67	7.68	130	11.96	0.08	Open
Pipe p31	68.91	7.68	130	15.11	0.1	Open
Pipe p32	55.7	7.68	130	4.08	0.03	Open
Pipe p33	70.31	7.68	130	2.5	0.02	Open
Pipe p34	123.6	7.68	130	9.49	0.07	Open
Pipe p35	101.5	7.68	130	3.97	0.03	Open
Pipe p36	96.26	7.68	130	3.97	0.03	Open
Pipe p37	182.9	7.68	130	1.55	0.01	Open
Pipe p38	68.06	7.68	130	1.55	0.01	Open
Pipe p39	78.01	7.68	130	11.01	0.08	Open
Pipe p41	139.2	7.68	130	17.25	0.12	Open
Pipe p42	123.8	7.68	130	10.15	0.07	Open
Pipe p43	118.3	7.68	130	0	0	Open
Pipe p44	75.86	7.68	130	17.31	0.12	Open
Pipe p45	37	7.68	130	52.05	0.36	Open
Pipe p46	69.24	7.68	130	10.15	0.07	Open
Pipe p47	144.2	7.68	130	-0.65	0	Open
Pipe 2	126.35	7.68	130	7.86	0.05	Open
Pipe 3	9.75	7.68	130	0	0	Open
Pipe 4	125	7.68	130	52.05	0.36	Open
Pipe CALPIPE_NWHDR	1000	9	85	-52.05	0.26	Open
Pipe 5	84.54	7.68	130	0	0	Closed
Pipe CALPIPE_CVBLVD	1000	9	78.1	0	0	Open





ARCHWOOD TOWNHOMES DEVELOPMENT

EPANET MODEL RESULTS SUMMARY

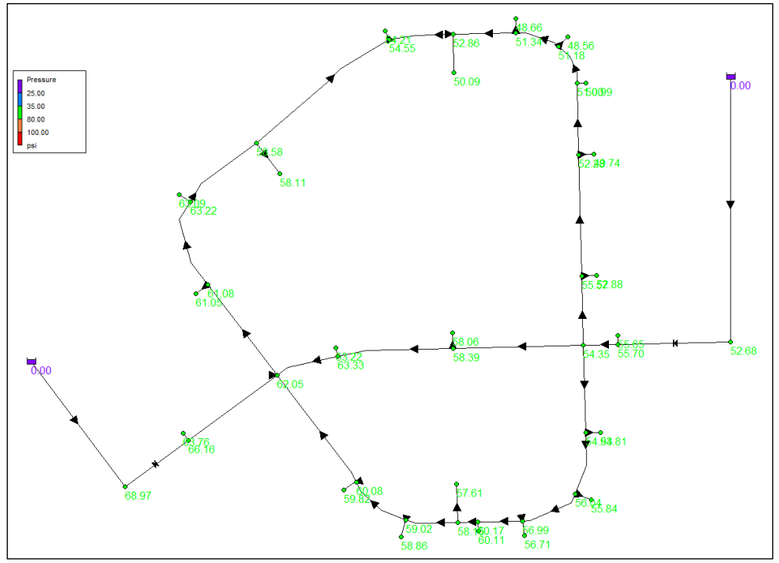
Scenario Name		Fire Flow Analysis (FH-1)
Scenario Description		Peak hour flows AND 1500 gpm fire flow from FH-1
	=	Proposed Fire Hydrant
	=	Proposed Townhome
	=	Connections to Existing Town Water System

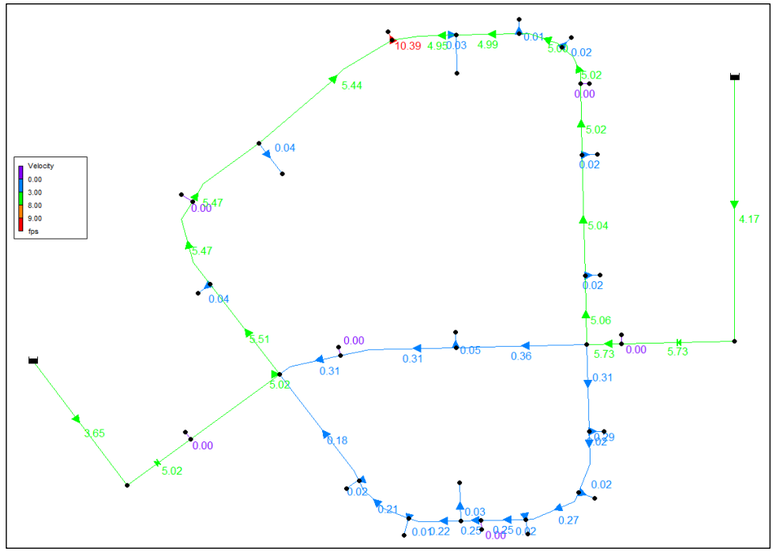
Network Table - Nodes

	Elevation	Base Demand	Demand	Head	Pressure
	ft	gpm	gpm	ft	psi
Junc tee_14	5779.45	0	0	5932.13	66.16
Junc tee_21	5802.23	0	0	5924.23	52.86
Junc tee_1	5806.57	0	0	5925.05	51.34
Junc tee_2	5808.47	0	0	5926.59	51.18
Junc tee_3	5809.46	0	0	5927.16	51
Junc tee_4	5807.47	0	0	5928.12	52.28
Junc tee_5	5801.5	0	0	5929.76	55.57
Junc tee_20	5797.52	0	0	5923.42	54.55
Junc FH_1	5797.83	1500	1500	5922.95	54.21
Junc FH_2	5809.48	0	0	5927.16	50.99
Junc FH_3	5802.86	0	0	5931.28	55.65
Junc tee_6	5802.74	0	0	5931.28	55.7
Junc FH_4	5791.96	0	0	5930.69	60.11
Junc tee_10	5791.82	0	0	5930.69	60.17
Junc tee_18	5781.5	0	0	5927.41	63.22
Junc FH_7	5781.8	0	0	5927.41	63.09
Junc FH_6	5784.78	0	0	5930.68	63.22
Junc tee_15	5784.53	0	0	5930.68	63.33
Junc FH_5	5784.97	0	0	5932.13	63.76
Junc tee_19	5790.82	0	0	5926.02	58.58
Junc TH_7A	5791.92	5.52	5.52	5926.02	58.11
Junc TH_2C	5812.76	1.58	1.58	5925.05	48.66
Junc TH_1A_1	5814.51	3.15	3.15	5926.59	48.56
Junc TH_6A_1	5808.64	4.73	4.73	5924.23	50.09
Junc TH_1A_2	5813.32	3.15	3.15	5928.12	49.74
Junc TH_1A_3	5807.71	3.15	3.15	5929.76	52.88
Junc TH_3B	5804.21	2.37	2.37	5930.7	54.81
Junc tee_7	5803.92	0	0	5930.7	54.93
Junc TH_1C	5801.82	3.15	3.15	5930.69	55.84
Junc tee_8	5801.35	0	0	5930.69	56.04
Junc tee_9	5799.17	0	0	5930.69	56.99
Junc TH_1A_4	5799.8	3.15	3.15	5930.69	56.71
Junc tee_11	5796.48	0	0	5930.69	58.15
Junc TH_6A_2	5797.73	4.73	4.73	5930.69	57.61
Junc tee_12	5794.47	0	0	5930.68	59.02
Junc TH_2B	5794.84	1.58	1.58	5930.68	58.86
Junc tee_13	5792.03	0	0	5930.68	60.08
Junc TH_1B	5792.63	3.15	3.15	5930.68	59.82
Junc TH_9A	5796.7	7.1	7.1	5930.69	58.06
Junc tee_16	5795.93	0	0	5930.69	58.39
Junc tee_17	5787.91	0	0	5928.87	61.08
Junc TH_7B	5787.98	5.52	5.52	5928.87	61.05
Junc t-1	5805.27	0	0	5930.7	54.35
Junc t-2	5787.48	0	0	5930.68	62.05
Junc NWHDR_POC	5811.66	0	0	5933.24	52.68
Junc CVBLVD_POC	5774	0	0	5933.17	68.97
Resvr NWHDR	5949.16	#N/A	-827.38	5949.16	0
Resvr CVBLVD	5947.73	#N/A	-724.65	5947.73	0

Network Table - Links

	Length	Diameter	Roughness	Flow	Velocity	Status
	ft	in		gpm	fps	
Pipe p2	67.54	7.68	130	719.81	4.99	Open
Pipe p4	46.69	7.68	130	724.54	5.02	Open
Pipe p5	132.4	7.68	130	727.69	5.04	Open
Pipe p6	9.97	7.68	130	1500	10.39	Open
Pipe p7	9.408	7.68	130	0	0	Open
Pipe p8	9.67	7.68	130	0	0	Open
Pipe p9	9.67	7.68	130	0	0	Open
Pipe p10	13.97	7.68	130	0	0	Open
Pipe p11	9.72	7.68	130	0	0	Open
Pipe p13	41.69	7.68	130	5.52	0.04	Open
Pipe p14	15.96	7.68	130	1.58	0.01	Open
Pipe p15	14.4	7.68	130	3.15	0.02	Open
Pipe p16	41.99	7.68	130	4.73	0.03	Open
Pipe p17	16.03	7.68	130	3.15	0.02	Open
Pipe p18	16.04	7.68	130	3.15	0.02	Open
Pipe p19	16	7.68	130	2.37	0.02	Open
Pipe p20	18.4	7.68	130	3.15	0.02	Open
Pipe p21	16.07	7.68	130	3.15	0.02	Open
Pipe p22	41.93	7.68	130	4.73	0.03	Open
Pipe p23	19.66	7.68	130	1.58	0.01	Open
Pipe p24	16.33	7.68	130	3.15	0.02	Open
Pipe p25	17	7.68	130	7.1	0.05	Open
Pipe p26	15.99	7.68	130	5.52	0.04	Open
Pipe p27	95.67	7.68	130	44.78	0.31	Open
Pipe p28	21.97	7.68	130	36.11	0.25	Open
Pipe p29	47.79	7.68	130	36.11	0.25	Open
Pipe p30	66.67	7.68	130	39.26	0.27	Open
Pipe p31	68.91	7.68	130	42.41	0.29	Open
Pipe p32	55.7	7.68	130	31.38	0.22	Open
Pipe p33	70.31	7.68	130	29.8	0.21	Open
Pipe p34	123.6	7.68	130	795.96	5.51	Open
Pipe p35	101.5	7.68	130	790.44	5.47	Open
Pipe p36	96.26	7.68	130	790.44	5.47	Open
Pipe p37	182.9	7.68	130	-784.92	5.44	Open
Pipe p38	68.06	7.68	130	715.08	4.95	Open
Pipe p39	78.01	7.68	130	724.54	5.02	Open
Pipe p41	139.2	7.68	130	51.76	0.36	Open
Pipe p42	123.8	7.68	130	44.66	0.31	Open
Pipe p43	118.3	7.68	130	-724.65	5.02	Open
Pipe p44	75.86	7.68	130	730.84	5.06	Open
Pipe p45	37	7.68	130	827.38	5.73	Open
Pipe p46	69.24	7.68	130	44.66	0.31	Open
Pipe p47	144.2	7.68	130	26.65	0.18	Open
Pipe 2	126.35	7.68	130	721.39	5	Open
Pipe 3	9.75	7.68	130	0	0	Open
Pipe 4	125	7.68	130	827.38	5.73	Open
Pipe CALPIPE_NWHDR	1000	9	85	-827.38	4.17	Open
Pipe 5	84.54	7.68	130	724.65	5.02	Open
Pipe CALPIPE_CVBLVD	1000	9	78.1	-724.65	3.65	Open





ARCHWOOD TOWNHOMES DEVELOPMENT

EPANET MODEL RESULTS SUMMARY

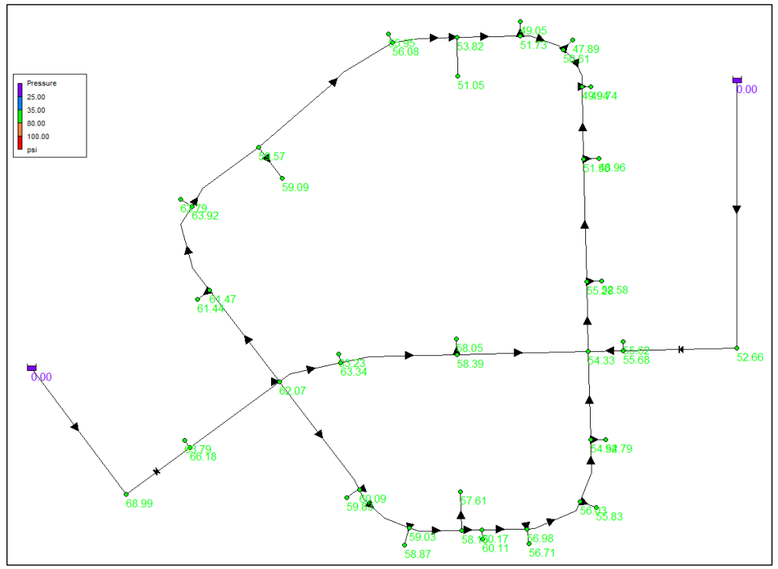
Scenario Name		Fire Flow Analysis (FH-2)
Scenario Description		Peak hour flows AND 1500 gpm fire flow from FH-2
	=	Proposed Fire Hydrant
	=	Proposed Townhome
	=	Connections to Existing Town Water System

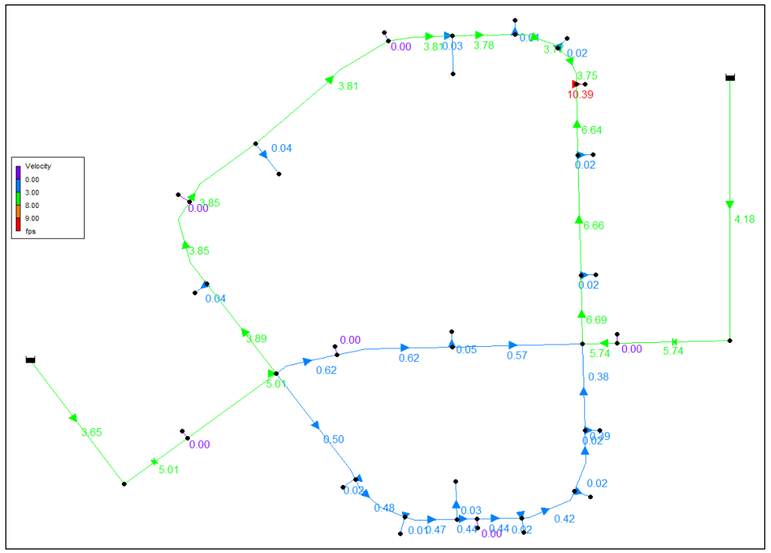
Network Table - Nodes

	Elevation	Base Demand	Demand	Head	Pressure
	ft	gpm	gpm	ft	psi
Junc tee_14	5779.45	0	0	5932.18	66.18
Junc tee_21	5802.23	0	0	5926.45	53.82
Junc tee_1	5806.57	0	0	5925.96	51.73
Junc tee_2	5808.47	0	0	5925.05	50.51
Junc tee_3	5809.46	0	0	5924.71	49.94
Junc tee_4	5807.47	0	0	5926.32	51.5
Junc tee_5	5801.5	0	0	5929.07	55.28
Junc tee_20	5797.52	0	0	5926.95	56.08
Junc FH_1	5797.83	0	0	5926.95	55.95
Junc FH_2	5809.48	1500	1500	5924.27	49.74
Junc FH_3	5802.86	0	0	5931.23	55.62
Junc tee_6	5802.74	0	0	5931.23	55.68
Junc FH_4	5791.96	0	0	5930.68	60.11
Junc tee_10	5791.82	0	0	5930.68	60.17
Junc tee_18	5781.5	0	0	5929.02	63.92
Junc FH_7	5781.8	0	0	5929.02	63.79
Junc FH_6	5784.78	0	0	5930.71	63.23
Junc tee_15	5784.53	0	0	5930.71	63.34
Junc FH_5	5784.97	0	0	5932.18	63.79
Junc tee_19	5790.82	0	0	5928.3	59.57
Junc TH_7A	5791.92	5.52	5.52	5928.3	59.09
Junc TH_2C	5812.76	1.58	1.58	5925.96	49.05
Junc TH_1A_1	5814.51	3.15	3.15	5925.05	47.89
Junc TH_6A_1	5808.64	4.73	4.73	5926.45	51.05
Junc TH_1A_2	5813.32	3.15	3.15	5926.32	48.96
Junc TH_1A_3	5807.71	3.15	3.15	5929.07	52.58
Junc TH_3B	5804.21	2.37	2.37	5930.66	54.79
Junc tee_7	5803.92	0	0	5930.66	54.92
Junc TH_1C	5801.82	3.15	3.15	5930.67	55.83
Junc tee_8	5801.35	0	0	5930.67	56.03
Junc tee_9	5799.17	0	0	5930.68	56.98
Junc TH_1A_4	5799.8	3.15	3.15	5930.68	56.71
Junc tee_11	5796.48	0	0	5930.69	58.15
Junc TH_6A_2	5797.73	4.73	4.73	5930.69	57.61
Junc tee_12	5794.47	0	0	5930.69	59.03
Junc TH_2B	5794.84	1.58	1.58	5930.69	58.87
Junc tee_13	5792.03	0	0	5930.71	60.09
Junc TH_1B	5792.63	3.15	3.15	5930.71	59.83
Junc TH_9A	5796.7	7.1	7.1	5930.68	58.05
Junc tee_16	5795.93	0	0	5930.68	58.39
Junc tee_17	5787.91	0	0	5929.79	61.47
Junc TH_7B	5787.98	5.52	5.52	5929.79	61.44
Junc t-1	5805.27	0	0	5930.65	54.33
Junc t-2	5787.48	0	0	5930.73	62.07
Junc NWHDR_POC	5811.66	0	0	5933.2	52.66
Junc CVBLVD_POC	5774	0	0	5933.21	68.99
Resvr NWHDR	5949.16	#N/A	-828.63	5949.16	0
Resvr CVBLVD	5947.73	#N/A	-723.41	5947.73	0

Network Table - Links

	Length	Diameter	Roughness	Flow	Velocity	Status
	ft	in		gpm	fps	
Pipe p2	67.54	7.68	130	-545.72	3.78	Open
Pipe p4	46.69	7.68	130	-540.99	3.75	Open
Pipe p5	132.4	7.68	130	962.16	6.66	Open
Pipe p6	9.97	7.68	130	0	0	Open
Pipe p7	9.408	7.68	130	-1500	10.39	Open
Pipe p8	9.67	7.68	130	0	0	Open
Pipe p9	9.67	7.68	130	0	0	Open
Pipe p10	13.97	7.68	130	0	0	Open
Pipe p11	9.72	7.68	130	0	0	Open
Pipe p13	41.69	7.68	130	5.52	0.04	Open
Pipe p14	15.96	7.68	130	1.58	0.01	Open
Pipe p15	14.4	7.68	130	3.15	0.02	Open
Pipe p16	41.99	7.68	130	4.73	0.03	Open
Pipe p17	16.03	7.68	130	3.15	0.02	Open
Pipe p18	16.04	7.68	130	3.15	0.02	Open
Pipe p19	16	7.68	130	2.37	0.02	Open
Pipe p20	18.4	7.68	130	3.15	0.02	Open
Pipe p21	16.07	7.68	130	3.15	0.02	Open
Pipe p22	41.93	7.68	130	4.73	0.03	Open
Pipe p23	19.66	7.68	130	1.58	0.01	Open
Pipe p24	16.33	7.68	130	3.15	0.02	Open
Pipe p25	17	7.68	130	7.1	0.05	Open
Pipe p26	15.99	7.68	130	5.52	0.04	Open
Pipe p27	95.67	7.68	130	-54.46	0.38	Open
Pipe p28	21.97	7.68	130	-63.13	0.44	Open
Pipe p29	47.79	7.68	130	-63.13	0.44	Open
Pipe p30	66.67	7.68	130	-59.98	0.42	Open
Pipe p31	68.91	7.68	130	-56.83	0.39	Open
Pipe p32	55.7	7.68	130	-67.86	0.47	Open
Pipe p33	70.31	7.68	130	-69.44	0.48	Open
Pipe p34	123.6	7.68	130	561.49	3.89	Open
Pipe p35	101.5	7.68	130	555.97	3.85	Open
Pipe p36	96.26	7.68	130	555.97	3.85	Open
Pipe p37	182.9	7.68	130	-550.45	3.81	Open
Pipe p38	68.06	7.68	130	-550.45	3.81	Open
Pipe p39	78.01	7.68	130	959.01	6.64	Open
Pipe p41	139.2	7.68	130	-82.22	0.57	Open
Pipe p42	123.8	7.68	130	-89.32	0.62	Open
Pipe p43	118.3	7.68	130	-723.41	5.01	Open
Pipe p44	75.86	7.68	130	965.31	6.69	Open
Pipe p45	37	7.68	130	828.63	5.74	Open
Pipe p46	69.24	7.68	130	-89.33	0.62	Open
Pipe p47	144.2	7.68	130	-72.59	0.5	Open
Pipe 2	126.35	7.68	130	-544.14	3.77	Open
Pipe 3	9.75	7.68	130	0	0	Open
Pipe 4	125	7.68	130	828.63	5.74	Open
Pipe CALPIPE_NWHDR	1000	9	85	-828.63	4.18	Open
Pipe 5	84.54	7.68	130	723.41	5.01	Open
Pipe CALPIPE_CVBLVD	1000	9	78.1	-723.41	3.65	Open





ARCHWOOD TOWNHOMES DEVELOPMENT

EPANET MODEL RESULTS SUMMARY

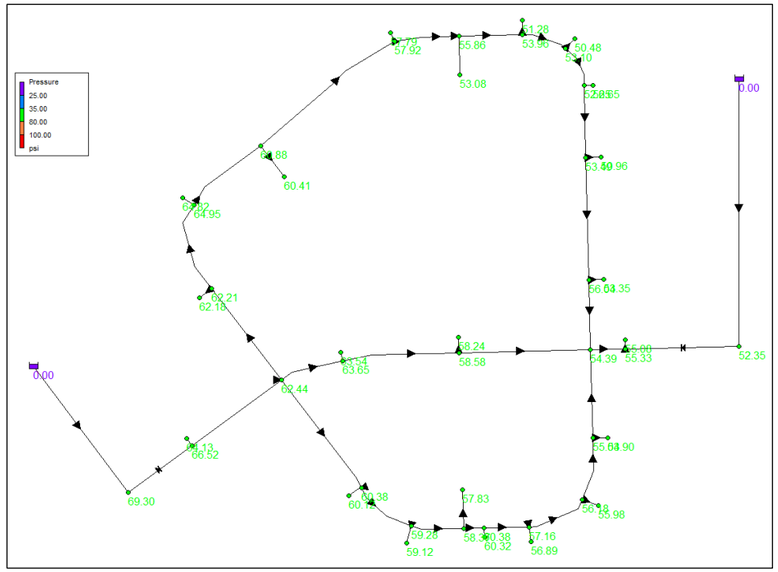
Scenario Name		Fire Flow Analysis (FH-3)
Scenario Description		Peak hour flows AND 1500 gpm fire flow from FH-3
	=	Proposed Fire Hydrant
	=	Proposed Townhome
	=	Connections to Existing Town Water System

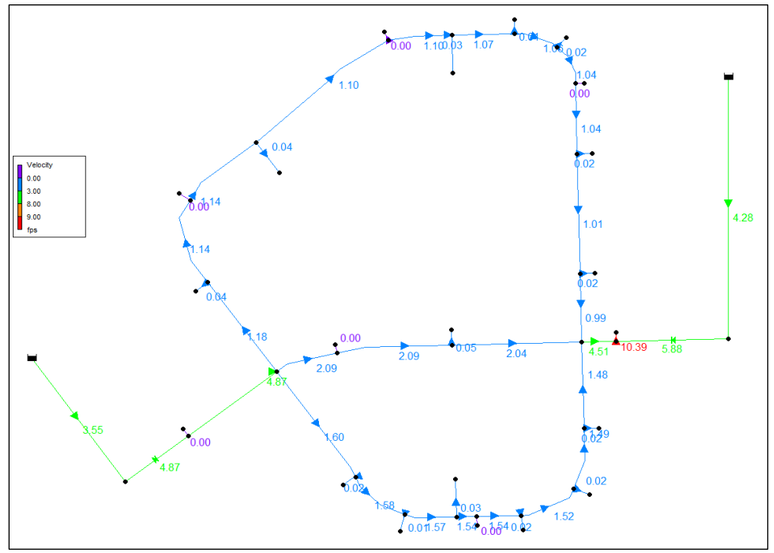
Network Table - Nodes

	Elevation	Base Demand	Demand	Head	Pressure
	ft	gpm	gpm	ft	psi
Junc tee_14	5779.45	0	0	5932.96	66.52
Junc tee_21	5802.23	0	0	5931.14	55.86
Junc tee_1	5806.57	0	0	5931.1	53.96
Junc tee_2	5808.47	0	0	5931.01	53.1
Junc tee_3	5809.46	0	0	5930.98	52.65
Junc tee_4	5807.47	0	0	5930.93	53.49
Junc tee_5	5801.5	0	0	5930.84	56.04
Junc tee_20	5797.52	0	0	5931.19	57.92
Junc FH_1	5797.83	0	0	5931.19	57.79
Junc FH_2	5809.48	0	0	5930.98	52.65
Junc FH_3	5802.86	1500	1500	5929.97	55.08
Junc tee_6	5802.74	0	0	5930.43	55.33
Junc FH_4	5791.96	0	0	5931.16	60.32
Junc tee_10	5791.82	0	0	5931.16	60.38
Junc tee_18	5781.5	0	0	5931.41	64.95
Junc FH_7	5781.8	0	0	5931.41	64.82
Junc FH_6	5784.78	0	0	5931.42	63.54
Junc tee_15	5784.53	0	0	5931.42	63.65
Junc FH_5	5784.97	0	0	5932.96	64.13
Junc tee_19	5790.82	0	0	5931.33	60.88
Junc TH_7A	5791.92	5.52	5.52	5931.33	60.41
Junc TH_2C	5812.76	1.58	1.58	5931.1	51.28
Junc TH_1A_1	5814.51	3.15	3.15	5931.01	50.48
Junc TH_6A_1	5808.64	4.73	4.73	5931.14	53.08
Junc TH_1A_2	5813.32	3.15	3.15	5930.93	50.96
Junc TH_1A_3	5807.71	3.15	3.15	5930.84	53.35
Junc TH_3B	5804.21	2.37	2.37	5930.92	54.9
Junc tee_7	5803.92	0	0	5930.92	55.03
Junc TH_1C	5801.82	3.15	3.15	5931.01	55.98
Junc tee_8	5801.35	0	0	5931.01	56.18
Junc tee_9	5799.17	0	0	5931.1	57.16
Junc TH_1A_4	5799.8	3.15	3.15	5931.1	56.89
Junc tee_11	5796.48	0	0	5931.19	58.37
Junc TH_6A_2	5797.73	4.73	4.73	5931.19	57.83
Junc tee_12	5794.47	0	0	5931.27	59.28
Junc TH_2B	5794.84	1.58	1.58	5931.27	59.12
Junc tee_13	5792.03	0	0	5931.38	60.38
Junc TH_1B	5792.63	3.15	3.15	5931.38	60.12
Junc TH_9A	5796.7	7.1	7.1	5931.12	58.24
Junc tee_16	5795.93	0	0	5931.12	58.58
Junc tee_17	5787.91	0	0	5931.49	62.21
Junc TH_7B	5787.98	5.52	5.52	5931.49	62.18
Junc t-1	5805.27	0	0	5930.8	54.39
Junc t-2	5787.48	0	0	5931.59	62.44
Junc NWHDR_POC	5811.66	0	0	5932.48	52.35
Junc CVBLVD_POC	5774	0	0	5933.95	69.3
Resvr NWHDR	5949.16	#N/A	-848.6	5949.16	0
Resvr CVBLVD	5947.73	#N/A	-703.45	5947.73	0

Network Table - Links

	Length	Diameter	Roughness	Flow	Velocity	Status
	ft	in		gpm	fps	
Pipe p2	67.54	7.68	130	-154.26	1.07	Open
Pipe p4	46.69	7.68	130	-149.53	1.04	Open
Pipe p5	132.4	7.68	130	-146.38	1.01	Open
Pipe p6	9.97	7.68	130	0.01	0	Open
Pipe p7	9.408	7.68	130	0	0	Open
Pipe p8	9.67	7.68	130	-1500	10.39	Open
Pipe p9	9.67	7.68	130	0	0	Open
Pipe p10	13.97	7.68	130	0	0	Open
Pipe p11	9.72	7.68	130	0	0	Open
Pipe p13	41.69	7.68	130	5.52	0.04	Open
Pipe p14	15.96	7.68	130	1.58	0.01	Open
Pipe p15	14.4	7.68	130	3.15	0.02	Open
Pipe p16	41.99	7.68	130	4.73	0.03	Open
Pipe p17	16.03	7.68	130	3.15	0.02	Open
Pipe p18	16.04	7.68	130	3.15	0.02	Open
Pipe p19	16	7.68	130	2.37	0.02	Open
Pipe p20	18.4	7.68	130	3.15	0.02	Open
Pipe p21	16.07	7.68	130	3.15	0.02	Open
Pipe p22	41.93	7.68	130	4.73	0.03	Open
Pipe p23	19.66	7.68	130	1.58	0.01	Open
Pipe p24	16.33	7.68	130	3.15	0.02	Open
Pipe p25	17	7.68	130	7.1	0.05	Open
Pipe p26	15.99	7.68	130	5.52	0.04	Open
Pipe p27	95.67	7.68	130	-213.33	1.48	Open
Pipe p28	21.97	7.68	130	-222	1.54	Open
Pipe p29	47.79	7.68	130	-222	1.54	Open
Pipe p30	66.67	7.68	130	-218.85	1.52	Open
Pipe p31	68.91	7.68	130	-215.7	1.49	Open
Pipe p32	55.7	7.68	130	-226.73	1.57	Open
Pipe p33	70.31	7.68	130	-228.31	1.58	Open
Pipe p34	123.6	7.68	130	170.03	1.18	Open
Pipe p35	101.5	7.68	130	164.51	1.14	Open
Pipe p36	96.26	7.68	130	164.51	1.14	Open
Pipe p37	182.9	7.68	130	-158.99	1.1	Open
Pipe p38	68.06	7.68	130	-158.99	1.1	Open
Pipe p39	78.01	7.68	130	-149.53	1.04	Open
Pipe p41	139.2	7.68	130	-294.84	2.04	Open
Pipe p42	123.8	7.68	130	-301.94	2.09	Open
Pipe p43	118.3	7.68	130	-703.44	4.87	Open
Pipe p44	75.86	7.68	130	-143.23	0.99	Open
Pipe p45	37	7.68	130	-651.4	4.51	Open
Pipe p46	69.24	7.68	130	-301.95	2.09	Open
Pipe p47	144.2	7.68	130	-231.46	1.6	Open
Pipe 2	126.35	7.68	130	-152.68	1.06	Open
Pipe 3	9.75	7.68	130	0	0	Open
Pipe 4	125	7.68	130	848.6	5.88	Open
Pipe CALPIPE_NWHDR	1000	9	85	-848.6	4.28	Open
Pipe 5	84.54	7.68	130	703.45	4.87	Open
Pipe CALPIPE_CVBLVD	1000	9	78.1	-703.45	3.55	Open





ARCHWOOD TOWNHOMES DEVELOPMENT

EPANET MODEL RESULTS SUMMARY

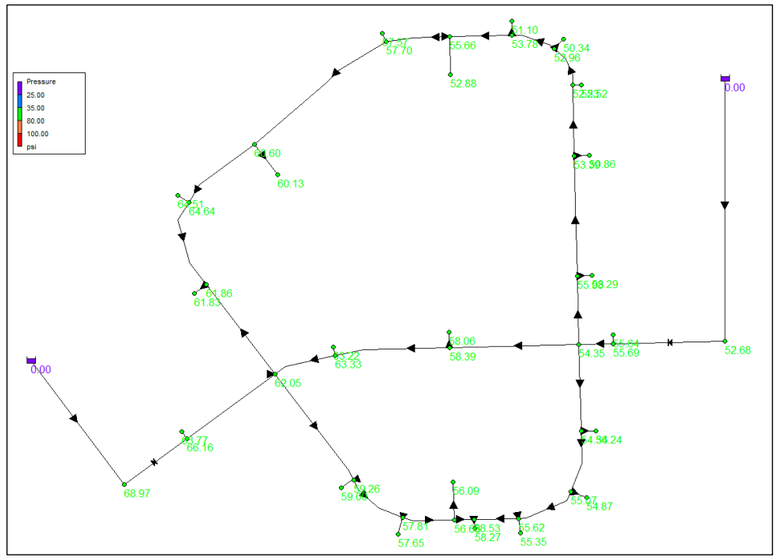
Scenario Name		Fire Flow Analysis (FH-4)
Scenario Description		Peak hour flows AND 1500 gpm fire flow from FH-4
	=	Proposed Fire Hydrant
	=	Proposed Townhome
	=	Connections to Existing Town Water System

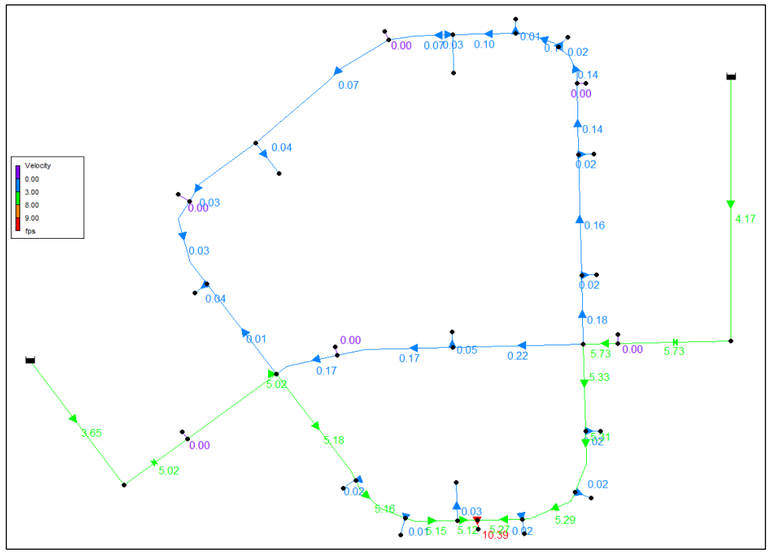
Network Table - Nodes

	Elevation	Base Demand	Demand	Head	Pressure
	ft	gpm	gpm	ft	psi
Junc tee_14	5779.45	0	0	5932.14	66.16
Junc tee_21	5802.23	0	0	5930.69	55.66
Junc tee_1	5806.57	0	0	5930.69	53.78
Junc tee_2	5808.47	0	0	5930.69	52.96
Junc tee_3	5809.46	0	0	5930.69	52.53
Junc tee_4	5807.47	0	0	5930.69	53.39
Junc tee_5	5801.5	0	0	5930.69	55.98
Junc tee_20	5797.52	0	0	5930.69	57.7
Junc FH_1	5797.83	0	0	5930.69	57.57
Junc FH_2	5809.48	0	0	5930.69	52.52
Junc FH_3	5802.86	0	0	5931.28	55.64
Junc tee_6	5802.74	0	0	5931.28	55.69
Junc FH_4	5791.96	1500	1500	5926.44	58.27
Junc tee_10	5791.82	0	0	5926.9	58.53
Junc tee_18	5781.5	0	0	5930.69	64.64
Junc FH_7	5781.8	0	0	5930.69	64.51
Junc FH_6	5784.78	0	0	5930.69	63.22
Junc tee_15	5784.53	0	0	5930.69	63.33
Junc FH_5	5784.97	0	0	5932.14	63.77
Junc tee_19	5790.82	0	0	5930.69	60.6
Junc TH_7A	5791.92	5.52	5.52	5930.69	60.13
Junc TH_2C	5812.76	1.58	1.58	5930.69	51.1
Junc TH_1A_1	5814.51	3.15	3.15	5930.69	50.34
Junc TH_6A_1	5808.64	4.73	4.73	5930.69	52.88
Junc TH_1A_2	5813.32	3.15	3.15	5930.69	50.86
Junc TH_1A_3	5807.71	3.15	3.15	5930.69	53.29
Junc TH_3B	5804.21	2.37	2.37	5929.38	54.24
Junc tee_7	5803.92	0	0	5929.38	54.36
Junc TH_1C	5801.82	3.15	3.15	5928.44	54.87
Junc tee_8	5801.35	0	0	5928.44	55.07
Junc tee_9	5799.17	0	0	5927.54	55.62
Junc TH_1A_4	5799.8	3.15	3.15	5927.54	55.35
Junc tee_11	5796.48	0	0	5927.18	56.63
Junc TH_6A_2	5797.73	4.73	4.73	5927.18	56.09
Junc tee_12	5794.47	0	0	5927.9	57.81
Junc TH_2B	5794.84	1.58	1.58	5927.9	57.65
Junc tee_13	5792.03	0	0	5928.81	59.26
Junc TH_1B	5792.63	3.15	3.15	5928.81	59
Junc TH_9A	5796.7	7.1	7.1	5930.69	58.06
Junc tee_16	5795.93	0	0	5930.69	58.39
Junc tee_17	5787.91	0	0	5930.69	61.86
Junc TH_7B	5787.98	5.52	5.52	5930.69	61.83
Junc t-1	5805.27	0	0	5930.7	54.35
Junc t-2	5787.48	0	0	5930.69	62.05
Junc NWHDR_POC	5811.66	0	0	5933.24	52.68
Junc CVBLVD_POC	5774	0	0	5933.17	68.97
Resvr NWHDR	5949.16	#N/A	-827.58	5949.16	0
Resvr CVBLVD	5947.73	#N/A	-724.46	5947.73	0

Network Table - Links

	Length	Diameter	Roughness	Flow	Velocity	Status
	ft	in		gpm	fps	
Pipe p2	67.54	7.68	130	14.94	0.1	Open
Pipe p4	46.69	7.68	130	19.67	0.14	Open
Pipe p5	132.4	7.68	130	22.82	0.16	Open
Pipe p6	9.97	7.68	130	0	0	Open
Pipe p7	9.408	7.68	130	0	0	Open
Pipe p8	9.67	7.68	130	0	0	Open
Pipe p9	9.67	7.68	130	-1500	10.39	Open
Pipe p10	13.97	7.68	130	0	0	Open
Pipe p11	9.72	7.68	130	0	0	Open
Pipe p13	41.69	7.68	130	5.52	0.04	Open
Pipe p14	15.96	7.68	130	1.58	0.01	Open
Pipe p15	14.4	7.68	130	3.15	0.02	Open
Pipe p16	41.99	7.68	130	4.73	0.03	Open
Pipe p17	16.03	7.68	130	3.15	0.02	Open
Pipe p18	16.04	7.68	130	3.15	0.02	Open
Pipe p19	16	7.68	130	2.37	0.02	Open
Pipe p20	18.4	7.68	130	3.15	0.02	Open
Pipe p21	16.07	7.68	130	3.15	0.02	Open
Pipe p22	41.93	7.68	130	4.73	0.03	Open
Pipe p23	19.66	7.68	130	1.58	0.01	Open
Pipe p24	16.33	7.68	130	3.15	0.02	Open
Pipe p25	17	7.68	130	7.1	0.05	Open
Pipe p26	15.99	7.68	130	5.52	0.04	Open
Pipe p27	95.67	7.68	130	769.5	5.33	Open
Pipe p28	21.97	7.68	130	-739.17	5.12	Open
Pipe p29	47.79	7.68	130	760.83	5.27	Open
Pipe p30	66.67	7.68	130	763.98	5.29	Open
Pipe p31	68.91	7.68	130	767.13	5.31	Open
Pipe p32	55.7	7.68	130	-743.9	5.15	Open
Pipe p33	70.31	7.68	130	-745.48	5.16	Open
Pipe p34	123.6	7.68	130	0.83	0.01	Open
Pipe p35	101.5	7.68	130	-4.69	0.03	Open
Pipe p36	96.26	7.68	130	-4.69	0.03	Open
Pipe p37	182.9	7.68	130	10.21	0.07	Open
Pipe p38	68.06	7.68	130	10.21	0.07	Open
Pipe p39	78.01	7.68	130	19.67	0.14	Open
Pipe p41	139.2	7.68	130	32.1	0.22	Open
Pipe p42	123.8	7.68	130	25	0.17	Open
Pipe p43	118.3	7.68	130	-724.46	5.02	Open
Pipe p44	75.86	7.68	130	25.97	0.18	Open
Pipe p45	37	7.68	130	827.57	5.73	Open
Pipe p46	69.24	7.68	130	25	0.17	Open
Pipe p47	144.2	7.68	130	-748.63	5.18	Open
Pipe 2	126.35	7.68	130	16.52	0.11	Open
Pipe 3	9.75	7.68	130	0	0	Open
Pipe 4	125	7.68	130	827.58	5.73	Open
Pipe CALPIPE_NWHDR	1000	9	85	-827.58	4.17	Open
Pipe 5	84.54	7.68	130	724.46	5.02	Open
Pipe CALPIPE_CVBLVD	1000	9	78.1	-724.46	3.65	Open





ARCHWOOD TOWNHOMES DEVELOPMENT

EPANET MODEL RESULTS SUMMARY

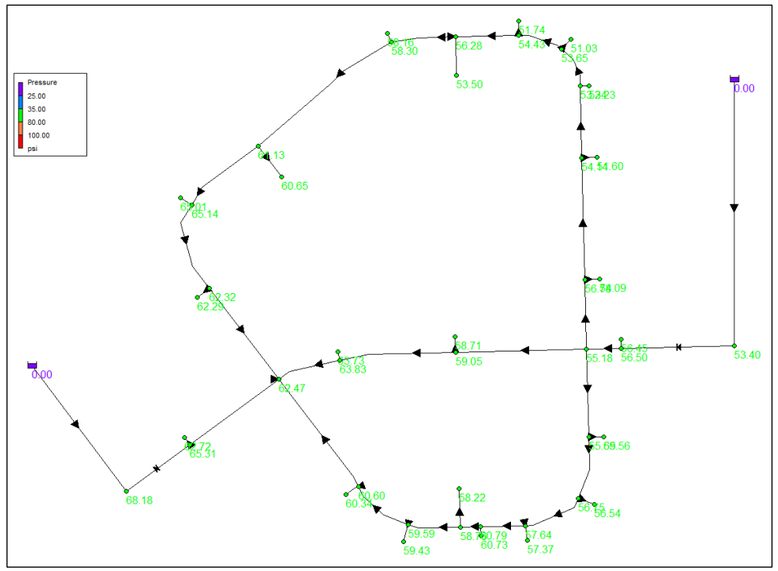
Scenario Name		Fire Flow Analysis (FH-5)
Scenario Description		Peak hour flows AND 1500 gpm fire flow from FH-5
	=	Proposed Fire Hydrant
	=	Proposed Townhome
	=	Connections to Existing Town Water System

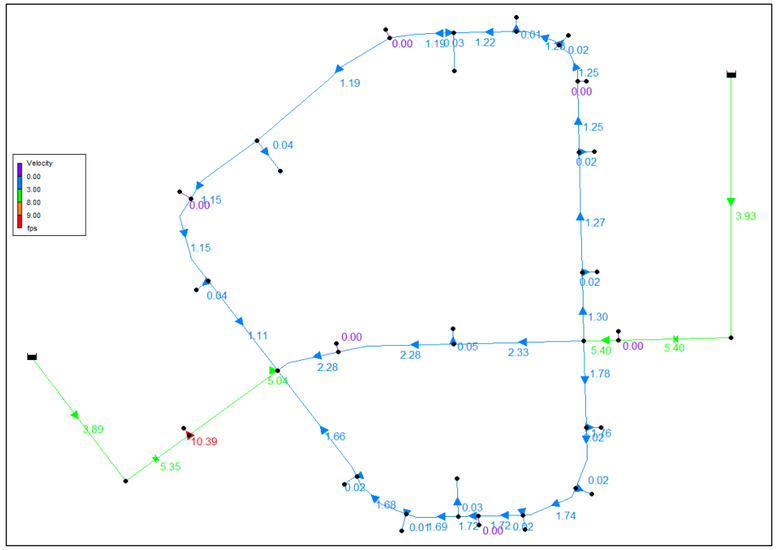
Network Table - Nodes

	Elevation	Base Demand	Demand	Head	Pressure
	ft	gpm	gpm	ft	psi
Junc tee_14	5779.45	0	0	5930.19	65.31
Junc tee_21	5802.23	0	0	5932.12	56.28
Junc tee_1	5806.57	0	0	5932.18	54.43
Junc tee_2	5808.47	0	0	5932.29	53.65
Junc tee_3	5809.46	0	0	5932.33	53.24
Junc tee_4	5807.47	0	0	5932.41	54.14
Junc tee_5	5801.5	0	0	5932.54	56.78
Junc tee_20	5797.52	0	0	5932.06	58.3
Junc FH_1	5797.83	0	0	5932.06	58.16
Junc FH_2	5809.48	0	0	5932.33	53.23
Junc FH_3	5802.86	0	0	5933.13	56.45
Junc tee_6	5802.74	0	0	5933.13	56.5
Junc FH_4	5791.96	0	0	5932.12	60.73
Junc tee_10	5791.82	0	0	5932.12	60.79
Junc tee_18	5781.5	0	0	5931.83	65.14
Junc FH_7	5781.8	0	0	5931.83	65.01
Junc FH_6	5784.78	0	0	5931.85	63.73
Junc tee_15	5784.53	0	0	5931.85	63.83
Junc FH_5	5784.97	1500	1500	5929.73	62.72
Junc tee_19	5790.82	0	0	5931.9	61.13
Junc TH_7A	5791.92	5.52	5.52	5931.9	60.65
Junc TH_2C	5812.76	1.58	1.58	5932.18	51.74
Junc TH_1A_1	5814.51	3.15	3.15	5932.29	51.03
Junc TH_6A_1	5808.64	4.73	4.73	5932.12	53.5
Junc TH_1A_2	5813.32	3.15	3.15	5932.41	51.6
Junc TH_1A_3	5807.71	3.15	3.15	5932.54	54.09
Junc TH_3B	5804.21	2.37	2.37	5932.44	55.56
Junc tee_7	5803.92	0	0	5932.44	55.69
Junc TH_1C	5801.82	3.15	3.15	5932.32	56.54
Junc tee_8	5801.35	0	0	5932.32	56.75
Junc tee_9	5799.17	0	0	5932.2	57.64
Junc TH_1A_4	5799.8	3.15	3.15	5932.2	57.37
Junc tee_11	5796.48	0	0	5932.08	58.76
Junc TH_6A_2	5797.73	4.73	4.73	5932.08	58.22
Junc tee_12	5794.47	0	0	5931.99	59.59
Junc TH_2B	5794.84	1.58	1.58	5931.99	59.43
Junc tee_13	5792.03	0	0	5931.88	60.6
Junc TH_1B	5792.63	3.15	3.15	5931.88	60.34
Junc TH_9A	5796.7	7.1	7.1	5932.2	58.71
Junc tee_16	5795.93	0	0	5932.2	59.05
Junc tee_17	5787.91	0	0	5931.75	62.32
Junc TH_7B	5787.98	5.52	5.52	5931.75	62.29
Junc t-1	5805.27	0	0	5932.61	55.18
Junc t-2	5787.48	0	0	5931.65	62.47
Junc NWHDR_POC	5811.66	0	0	5934.89	53.4
Junc CVBLVD_POC	5774	0	0	5931.35	68.18
Resvr NWHDR	5949.16	#N/A	-780.03	5949.16	0
Resvr CVBLVD	5947.73	#N/A	-772.01	5947.73	0

Network Table - Links

	Length	Diameter	Roughness	Flow	Velocity	Status
	ft	in		gpm	fps	
Pipe p2	67.54	7.68	130	175.97	1.22	Open
Pipe p4	46.69	7.68	130	180.7	1.25	Open
Pipe p5	132.4	7.68	130	183.85	1.27	Open
Pipe p6	9.97	7.68	130	0	0	Open
Pipe p7	9.408	7.68	130	0	0	Open
Pipe p8	9.67	7.68	130	0	0	Open
Pipe p9	9.67	7.68	130	0	0	Open
Pipe p10	13.97	7.68	130	0	0	Open
Pipe p11	9.72	7.68	130	0	0	Open
Pipe p13	41.69	7.68	130	5.52	0.04	Open
Pipe p14	15.96	7.68	130	1.58	0.01	Open
Pipe p15	14.4	7.68	130	3.15	0.02	Open
Pipe p16	41.99	7.68	130	4.73	0.03	Open
Pipe p17	16.03	7.68	130	3.15	0.02	Open
Pipe p18	16.04	7.68	130	3.15	0.02	Open
Pipe p19	16	7.68	130	2.37	0.02	Open
Pipe p20	18.4	7.68	130	3.15	0.02	Open
Pipe p21	16.07	7.68	130	3.15	0.02	Open
Pipe p22	41.93	7.68	130	4.73	0.03	Open
Pipe p23	19.66	7.68	130	1.58	0.01	Open
Pipe p24	16.33	7.68	130	3.15	0.02	Open
Pipe p25	17	7.68	130	7.1	0.05	Open
Pipe p26	15.99	7.68	130	5.52	0.04	Open
Pipe p27	95.67	7.68	130	257.2	1.78	Open
Pipe p28	21.97	7.68	130	248.53	1.72	Open
Pipe p29	47.79	7.68	130	248.53	1.72	Open
Pipe p30	66.67	7.68	130	251.68	1.74	Open
Pipe p31	68.91	7.68	130	254.83	1.76	Open
Pipe p32	55.7	7.68	130	243.8	1.69	Open
Pipe p33	70.31	7.68	130	242.22	1.68	Open
Pipe p34	123.6	7.68	130	-160.2	1.11	Open
Pipe p35	101.5	7.68	130	-165.72	1.15	Open
Pipe p36	96.26	7.68	130	-165.72	1.15	Open
Pipe p37	182.9	7.68	130	171.24	1.19	Open
Pipe p38	68.06	7.68	130	171.24	1.19	Open
Pipe p39	78.01	7.68	130	180.7	1.25	Open
Pipe p41	139.2	7.68	130	335.83	2.33	Open
Pipe p42	123.8	7.68	130	328.73	2.28	Open
Pipe p43	118.3	7.68	130	727.99	5.04	Open
Pipe p44	75.86	7.68	130	187	1.3	Open
Pipe p45	37	7.68	130	780.03	5.4	Open
Pipe p46	69.24	7.68	130	328.73	2.28	Open
Pipe p47	144.2	7.68	130	239.07	1.66	Open
Pipe 2	126.35	7.68	130	177.55	1.23	Open
Pipe 3	9.75	7.68	130	1500	10.39	Open
Pipe 4	125	7.68	130	780.03	5.4	Open
Pipe CALPIPE_NWHDR	1000	9	85	-780.03	3.93	Open
Pipe 5	84.54	7.68	130	772.01	5.35	Open
Pipe CALPIPE_CVBLVD	1000	9	78.1	-772.01	3.89	Open





ARCHWOOD TOWNHOMES DEVELOPMENT

EPANET MODEL RESULTS SUMMARY

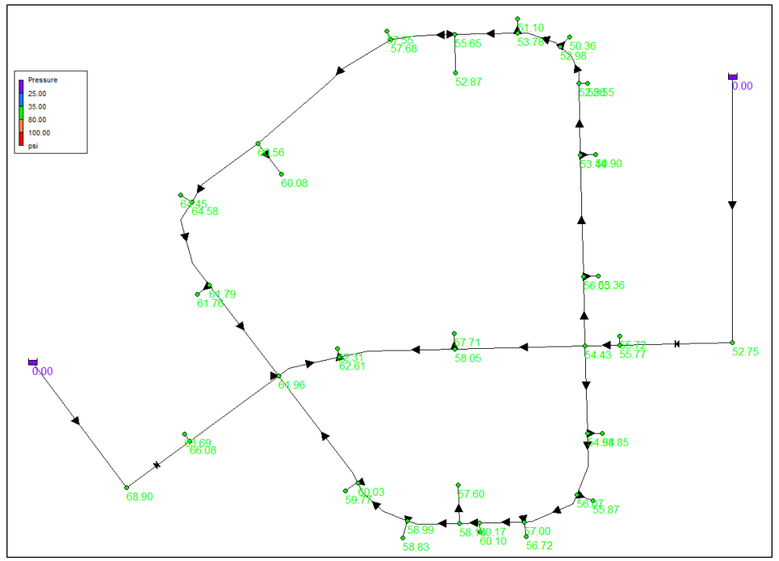
Scenario Name		Fire Flow Analysis (FH-6)
Scenario Description		Peak hour flows AND 1500 gpm fire flow from FH-6
	=	Proposed Fire Hydrant
	=	Proposed Townhome
	=	Connections to Existing Town Water System

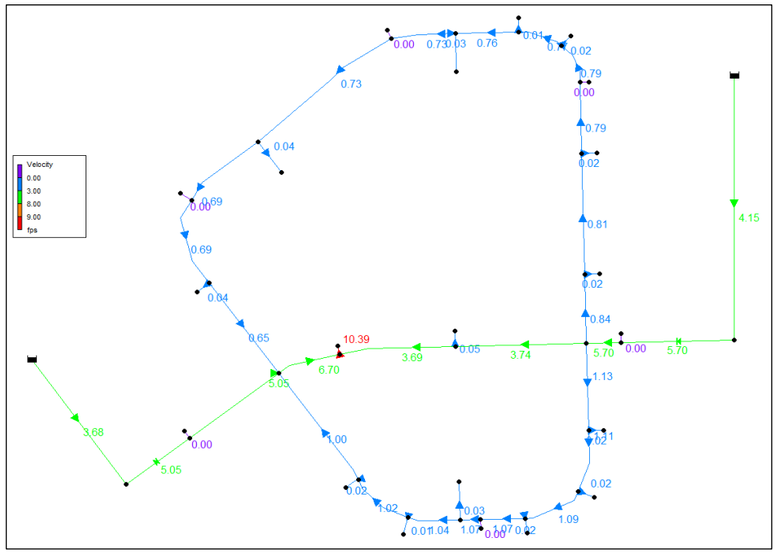
Network Table - Nodes

	Elevation	Base Demand	Demand	Head	Pressure
	ft	gpm	gpm	ft	psi
Junc tee_14	5779.45	0	0	5931.95	66.08
Junc tee_21	5802.23	0	0	5930.67	55.65
Junc tee_1	5806.57	0	0	5930.69	53.78
Junc tee_2	5808.47	0	0	5930.74	52.98
Junc tee_3	5809.46	0	0	5930.76	52.56
Junc tee_4	5807.47	0	0	5930.79	53.44
Junc tee_5	5801.5	0	0	5930.85	56.05
Junc tee_20	5797.52	0	0	5930.65	57.68
Junc FH_1	5797.83	0	0	5930.65	57.55
Junc FH_2	5809.48	0	0	5930.76	52.55
Junc FH_3	5802.86	0	0	5931.46	55.72
Junc tee_6	5802.74	0	0	5931.46	55.77
Junc FH_4	5791.96	0	0	5930.67	60.1
Junc tee_10	5791.82	0	0	5930.67	60.17
Junc tee_18	5781.5	0	0	5930.55	64.58
Junc FH_7	5781.8	0	0	5930.55	64.45
Junc FH_6	5784.78	1500	1500	5928.58	62.31
Junc tee_15	5784.53	0	0	5929.03	62.61
Junc FH_5	5784.97	0	0	5931.95	63.69
Junc tee_19	5790.82	0	0	5930.58	60.56
Junc TH_7A	5791.92	5.52	5.52	5930.58	60.08
Junc TH_2C	5812.76	1.58	1.58	5930.69	51.1
Junc TH_1A_1	5814.51	3.15	3.15	5930.74	50.36
Junc TH_6A_1	5808.64	4.73	4.73	5930.67	52.87
Junc TH_1A_2	5813.32	3.15	3.15	5930.79	50.9
Junc TH_1A_3	5807.71	3.15	3.15	5930.85	53.36
Junc TH_3B	5804.21	2.37	2.37	5930.81	54.85
Junc tee_7	5803.92	0	0	5930.81	54.98
Junc TH_1C	5801.82	3.15	3.15	5930.76	55.87
Junc tee_8	5801.35	0	0	5930.76	56.07
Junc tee_9	5799.17	0	0	5930.71	57
Junc TH_1A_4	5799.8	3.15	3.15	5930.71	56.72
Junc tee_11	5796.48	0	0	5930.66	58.14
Junc TH_6A_2	5797.73	4.73	4.73	5930.66	57.6
Junc tee_12	5794.47	0	0	5930.62	58.99
Junc TH_2B	5794.84	1.58	1.58	5930.62	58.83
Junc tee_13	5792.03	0	0	5930.58	60.03
Junc TH_1B	5792.63	3.15	3.15	5930.58	59.77
Junc TH_9A	5796.7	7.1	7.1	5929.89	57.71
Junc tee_16	5795.93	0	0	5929.89	58.05
Junc tee_17	5787.91	0	0	5930.52	61.79
Junc TH_7B	5787.98	5.52	5.52	5930.52	61.76
Junc t-1	5805.27	0	0	5930.88	54.43
Junc t-2	5787.48	0	0	5930.49	61.96
Junc NWHDR_POC	5811.66	0	0	5933.4	52.75
Junc CVBLVD_POC	5774	0	0	5933	68.9
Resvr NWHDR	5949.16	#N/A	-823.05	5949.16	0
Resvr CVBLVD	5947.73	#N/A	-729	5947.73	0

Network Table - Links

	Length	Diameter	Roughness	Flow	Velocity	Status
	ft	in		gpm	fps	
Pipe p2	67.54	7.68	130	109.7	0.76	Open
Pipe p4	46.69	7.68	130	114.43	0.79	Open
Pipe p5	132.4	7.68	130	117.58	0.81	Open
Pipe p6	9.97	7.68	130	0	0	Open
Pipe p7	9.408	7.68	130	0	0	Open
Pipe p8	9.67	7.68	130	0	0	Open
Pipe p9	9.67	7.68	130	0	0	Open
Pipe p10	13.97	7.68	130	0	0	Open
Pipe p11	9.72	7.68	130	-1500	10.39	Open
Pipe p13	41.69	7.68	130	5.52	0.04	Open
Pipe p14	15.96	7.68	130	1.58	0.01	Open
Pipe p15	14.4	7.68	130	3.15	0.02	Open
Pipe p16	41.99	7.68	130	4.73	0.03	Open
Pipe p17	16.03	7.68	130	3.15	0.02	Open
Pipe p18	16.04	7.68	130	3.15	0.02	Open
Pipe p19	16	7.68	130	2.37	0.02	Open
Pipe p20	18.4	7.68	130	3.15	0.02	Open
Pipe p21	16.07	7.68	130	3.15	0.02	Open
Pipe p22	41.93	7.68	130	4.73	0.03	Open
Pipe p23	19.66	7.68	130	1.58	0.01	Open
Pipe p24	16.33	7.68	130	3.15	0.02	Open
Pipe p25	17	7.68	130	7.1	0.05	Open
Pipe p26	15.99	7.68	130	5.52	0.04	Open
Pipe p27	95.67	7.68	130	162.93	1.13	Open
Pipe p28	21.97	7.68	130	154.25	1.07	Open
Pipe p29	47.79	7.68	130	154.26	1.07	Open
Pipe p30	66.67	7.68	130	157.41	1.09	Open
Pipe p31	68.91	7.68	130	160.56	1.11	Open
Pipe p32	55.7	7.68	130	149.52	1.04	Open
Pipe p33	70.31	7.68	130	147.94	1.02	Open
Pipe p34	123.6	7.68	130	-93.92	0.65	Open
Pipe p35	101.5	7.68	130	-99.44	0.69	Open
Pipe p36	96.26	7.68	130	-99.45	0.69	Open
Pipe p37	182.9	7.68	130	104.97	0.73	Open
Pipe p38	68.06	7.68	130	104.97	0.73	Open
Pipe p39	78.01	7.68	130	114.43	0.79	Open
Pipe p41	139.2	7.68	130	539.4	3.74	Open
Pipe p42	123.8	7.68	130	532.3	3.69	Open
Pipe p43	118.3	7.68	130	-728.99	5.05	Open
Pipe p44	75.86	7.68	130	120.73	0.84	Open
Pipe p45	37	7.68	130	823.05	5.7	Open
Pipe p46	69.24	7.68	130	-967.7	6.7	Open
Pipe p47	144.2	7.68	130	144.79	1	Open
Pipe 2	126.35	7.68	130	111.28	0.77	Open
Pipe 3	9.75	7.68	130	0	0	Open
Pipe 4	125	7.68	130	823.05	5.7	Open
Pipe CALPIPE_NWHDR	1000	9	85	-823.05	4.15	Open
Pipe 5	84.54	7.68	130	729	5.05	Open
Pipe CALPIPE_CVBLVD	1000	9	78.1	-729	3.68	Open





ARCHWOOD TOWNHOMES DEVELOPMENT

EPANET MODEL RESULTS SUMMARY

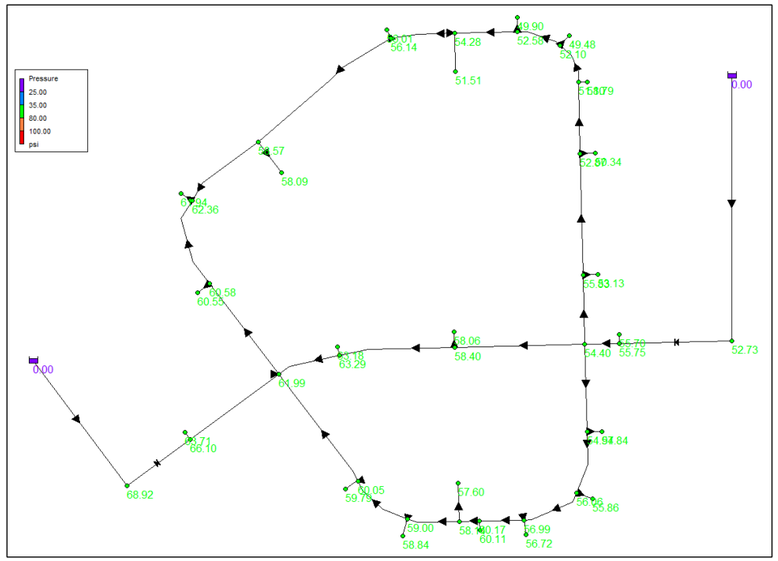
Scenario Name		Fire Flow Analysis (FH-7)
Scenario Description		Peak hour flows AND 1500 gpm fire flow from FH-7
	=	Proposed Fire Hydrant
	=	Proposed Townhome
	=	Connections to Existing Town Water System

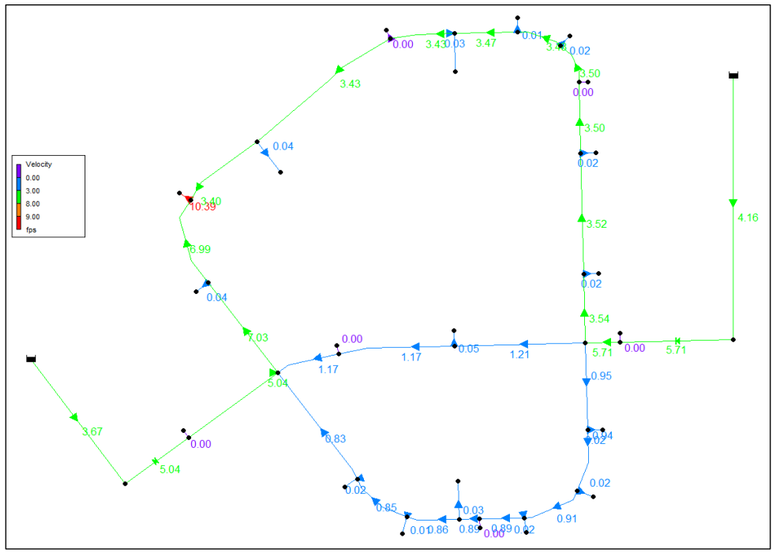
Network Table - Nodes

	Elevation	Base Demand	Demand	Head	Pressure
	ft	gpm	gpm	ft	psi
Junc tee_14	5779.45	0	0	5932.01	66.1
Junc tee_21	5802.23	0	0	5927.51	54.28
Junc tee_1	5806.57	0	0	5927.92	52.58
Junc tee_2	5808.47	0	0	5928.71	52.1
Junc tee_3	5809.46	0	0	5929	51.8
Junc tee_4	5807.47	0	0	5929.5	52.87
Junc tee_5	5801.5	0	0	5930.34	55.83
Junc tee_20	5797.52	0	0	5927.09	56.14
Junc FH_1	5797.83	0	0	5927.09	56.01
Junc FH_2	5809.48	0	0	5929	51.79
Junc FH_3	5802.86	0	0	5931.4	55.7
Junc tee_6	5802.74	0	0	5931.4	55.75
Junc FH_4	5791.96	0	0	5930.68	60.11
Junc tee_10	5791.82	0	0	5930.68	60.17
Junc tee_18	5781.5	0	0	5925.41	62.36
Junc FH_7	5781.8	1500	1500	5924.75	61.94
Junc FH_6	5784.78	0	0	5930.6	63.18
Junc tee_15	5784.53	0	0	5930.6	63.29
Junc FH_5	5784.97	0	0	5932.01	63.71
Junc tee_19	5790.82	0	0	5925.98	58.57
Junc TH_7A	5791.92	5.52	5.52	5925.98	58.09
Junc TH_2C	5812.76	1.58	1.58	5927.92	49.9
Junc TH_1A_1	5814.51	3.15	3.15	5928.71	49.48
Junc TH_6A_1	5808.64	4.73	4.73	5927.51	51.51
Junc TH_1A_2	5813.32	3.15	3.15	5929.5	50.34
Junc TH_1A_3	5807.71	3.15	3.15	5930.34	53.13
Junc TH_3B	5804.21	2.37	2.37	5930.77	54.84
Junc tee_7	5803.92	0	0	5930.77	54.97
Junc TH_1C	5801.82	3.15	3.15	5930.74	55.86
Junc tee_8	5801.35	0	0	5930.74	56.06
Junc tee_9	5799.17	0	0	5930.7	56.99
Junc TH_1A_4	5799.8	3.15	3.15	5930.7	56.72
Junc tee_11	5796.48	0	0	5930.67	58.14
Junc TH_6A_2	5797.73	4.73	4.73	5930.67	57.6
Junc tee_12	5794.47	0	0	5930.64	59
Junc TH_2B	5794.84	1.58	1.58	5930.64	58.84
Junc tee_13	5792.03	0	0	5930.61	60.05
Junc TH_1B	5792.63	3.15	3.15	5930.61	59.79
Junc TH_9A	5796.7	7.1	7.1	5930.7	58.06
Junc tee_16	5795.93	0	0	5930.7	58.4
Junc tee_17	5787.91	0	0	5927.71	60.58
Junc TH_7B	5787.98	5.52	5.52	5927.71	60.55
Junc t-1	5805.27	0	0	5930.83	54.4
Junc t-2	5787.48	0	0	5930.54	61.99
Junc NWHDR_POC	5811.66	0	0	5933.35	52.73
Junc CVBLVD_POC	5774	0	0	5933.05	68.92
Resvr NWHDR	5949.16	#N/A	-824.38	5949.16	0
Resvr CVBLVD	5947.73	#N/A	-727.67	5947.73	0

Network Table - Links

	Length	Diameter	Roughness	Flow	Velocity	Status
	ft	in		gpm	fps	
Pipe p2	67.54	7.68	130	500.51	3.47	Open
Pipe p4	46.69	7.68	130	505.24	3.5	Open
Pipe p5	132.4	7.68	130	508.39	3.52	Open
Pipe p6	9.97	7.68	130	0.01	0	Open
Pipe p7	9.408	7.68	130	0	0	Open
Pipe p8	9.67	7.68	130	0	0	Open
Pipe p9	9.67	7.68	130	0	0	Open
Pipe p10	13.97	7.68	130	1500	10.39	Open
Pipe p11	9.72	7.68	130	0	0	Open
Pipe p13	41.69	7.68	130	5.52	0.04	Open
Pipe p14	15.96	7.68	130	1.58	0.01	Open
Pipe p15	14.4	7.68	130	3.15	0.02	Open
Pipe p16	41.99	7.68	130	4.73	0.03	Open
Pipe p17	16.03	7.68	130	3.15	0.02	Open
Pipe p18	16.04	7.68	130	3.15	0.02	Open
Pipe p19	16	7.68	130	2.37	0.02	Open
Pipe p20	18.4	7.68	130	3.15	0.02	Open
Pipe p21	16.07	7.68	130	3.15	0.02	Open
Pipe p22	41.93	7.68	130	4.73	0.03	Open
Pipe p23	19.66	7.68	130	1.58	0.01	Open
Pipe p24	16.33	7.68	130	3.15	0.02	Open
Pipe p25	17	7.68	130	7.1	0.05	Open
Pipe p26	15.99	7.68	130	5.52	0.04	Open
Pipe p27	95.67	7.68	130	137.42	0.95	Open
Pipe p28	21.97	7.68	130	128.75	0.89	Open
Pipe p29	47.79	7.68	130	128.75	0.89	Open
Pipe p30	66.67	7.68	130	131.9	0.91	Open
Pipe p31	68.91	7.68	130	135.05	0.94	Open
Pipe p32	55.7	7.68	130	124.02	0.86	Open
Pipe p33	70.31	7.68	130	122.44	0.85	Open
Pipe p34	123.6	7.68	130	1015.27	7.03	Open
Pipe p35	101.5	7.68	130	1009.75	6.99	Open
Pipe p36	96.26	7.68	130	-490.25	3.4	Open
Pipe p37	182.9	7.68	130	495.77	3.43	Open
Pipe p38	68.06	7.68	130	495.78	3.43	Open
Pipe p39	78.01	7.68	130	505.24	3.5	Open
Pipe p41	139.2	7.68	130	175.42	1.21	Open
Pipe p42	123.8	7.68	130	168.32	1.17	Open
Pipe p43	118.3	7.68	130	-727.66	5.04	Open
Pipe p44	75.86	7.68	130	511.54	3.54	Open
Pipe p45	37	7.68	130	824.38	5.71	Open
Pipe p46	69.24	7.68	130	168.31	1.17	Open
Pipe p47	144.2	7.68	130	119.29	0.83	Open
Pipe 2	126.35	7.68	130	502.09	3.48	Open
Pipe 3	9.75	7.68	130	0	0	Open
Pipe 4	125	7.68	130	824.38	5.71	Open
Pipe CALPIPE_NWHDR	1000	9	85	-824.38	4.16	Open
Pipe 5	84.54	7.68	130	727.67	5.04	Open
Pipe CALPIPE_CVBLVD	1000	9	78.1	-727.67	3.67	Open





Attachment 3: Non-Potable Irrigation Demand Calculations

WWE CALCULATION SHEET

Project: Archwood Townhomes
Job. No.: 251-061.000
Date: 8/4/2025
Subject: Irrigation Water Requirement for Archwood Townhomes Development

Design: HAL
Check: SLP

WRIGHT WATER ENGINEERS, INC.

Purpose: **Task 1: Estimate Monthly Irrigation Water Requirement Demands for Proposed Archwood Townhomes Using StateCU Model**

References:
1. Triangle, 2025. Archwood Townhomes Site Plan Drawings. Prepared by Triangle Engineering, LLC. Provided to WWE on 6/12/2025.
2. CWCB and DWR, 2025. Colorado Decision Support Systems Map Viewer. Colorado Water Conservation Board and Colorado Division of Water Resources. Available: https://cdss.colorado.gov/map-viewers

Assumptions		*Notes / Comments*	*REFERENCE*
Proposed Irrigated Area			1
Total Area (A+B+C+D)	**242,830 sqft** **5.6 acres**		1
Irrigation System Efficiency	80%	Assumes Sprinkler System Irrigation	
State CU Assumptions			
Crop Type:	Bluegrass - POCHOP		2
Base Climate Station:	Rifle Garfield CO Airport	Station ID = USW00003016 / Data Source = NOAA	2
Precipitation Adjustment Factor:	1.25	Based on Annual Precipitation Isoline map from Reference (12 inches at Base Station / 15 inches at Archwood = 1.25).	2
Field Station Elevation:	5,800	Approx. elevation at Archwood Development	2
Period of Record:	1/1/1998 to 12/31/2024	Years not included in analysis due to missing climate station data: 1998, 2000, 2001, 2003, 2004, 2010	2

Task 1: Estimate Monthly Irrigation Water Requirement Demands for Proposed Archwood Townhomes Using StateCU Model

Month	Outdoor Water Demands			
	Irrigation Water Requirement	Irrigation Water Demand	Total Demand	Total
	Feet per Acre	Feet per Acre	Acre-Feet	Gallons per Day (GPD)
	(1)	(2)	(3)	(4)
January	0.00	0.00	0.00	
February	0.00	0.00	0.00	
March	0.00	0.00	0.00	
April	0.24	0.29	1.64	17,786
May	0.35	0.44	2.43	25,563
June	0.52	0.65	3.60	39,130
July	0.56	0.69	3.87	40,651
August	0.44	0.55	3.07	32,301
September	0.31	0.39	2.16	23,463
October	0.10	0.12	0.68	7,178
November	0.00	0.00	0.00	
December	0.00	0.00	0.00	
Annual Total	**2.51**	**3.13**	**17.46**	
Max Month (during Irrigation Season)	**0.56**	**0.69**	**3.87**	**40,651**
Min Month (during Irrigation Season)	**0.10**	**0.12**	**0.68**	**7,178**

Column Notes

(1) Monthly Irrigation Water Requirement from StateCU Model (1998 to 2024) for Kentucky bluegrass, Climate Station: Rifle Garfield CO Airport, TR21 with elevation adjustment.

(2) Equals Column (1) ÷ Assumed Irrigation Efficiency

(3) Equals Column (2) x Proposed Irrigated Area

(4) Equals Column (3) x 325,851 gallons per AF ÷ Number of Days in Month

Attachment 4: Wastewater Collection System Design Capacity Analysis

PROPOSED ARCHWOOD TOWNHOMES DEVELOPMENT

WASTEWATER COLLECTION SYSTEM LAYOUT AND FLOW ROUTING DIAGRAM



WWE CALCULATION SHEET

Project: Archwood Townhomes
Job. No.: 251-061.000
Date: 8/4/2025
Subject: Wastewater Conveyance Routing to Sewer Segments

Design: SLP
Check: HAL

WWE WRIGHT WATER ENGINEERS, INC.

Purpose: **Determine the number of EQRs contributed from buildings connected to each sewer segment. Use the Town's definition of an EQR to determine the peak hour flow rate contributed from buildings connected to each sewer segment.**

References:
1. Email Communication with Town Engineer (Town Engineer, 2025)
2. EQR Analysis and Estimated Potable Water Demand Calculations Prepared by WWE on July 30th, 2025 (see Attachment 1).

Assumptions

REFERENCE

Wastewater Flow Per EQR

Average Daily Per Capita Wastewater Flow	75	gpcd	**1**
Average Capita Per Townhome	3.5	persons	**1**
Average Daily Wastewater Flow	262.5	gpd/EQR	
Peak Hour Factor	3.25		**2**
Peak Hour Flow	853	gpd/EQR	
	35.5	gph/EQR	
	0.59	**gpm/EQR**	

Calculations

Building Type	EQR Per Building Type
1A	4
1B	4
1C	4
2B	2
2C	2
3B	3
6A	6
7A	7
7B	7
9A	9

Note: Values in this table are consistent with those determined in Reference 2.

Sewer Segment	Building Connection Inventory										Total EQR to Segment	Peak Hour Flow to Segment From Connected Buildings (gpm)
	1A	1B	1C	2B	2C	3B	6A	7A	7B	9A		
SS-1-1											0	0.0
SS-1-2											0	0.0
SS-1-3										1	9	5.3
SS-2-1									1		7	4.1
SS-2-2								1			7	4.1
SS-2-3	0.5				1		1				10	5.9
SS-2-4	2.5										10	5.9
SS-3-1		1									4	2.4
SS-3-2	1		0.5	1			1				14	8.3
SS-3-3			0.5			1					5	3.0
TOTAL	4	1	1	1	1	1	2	1	1	1	66	39.0

Note: Refer to the Wastewater Collection System Layout and Flow Routing Diagram for a visual representation of the above table.
Note: Peak hour flows are determined by multiplying the peak hour flow per EQR (0.59 gpm/EQR) by the total EQRs contributed to a particular segment. For example, for segment SS-1-3, Peak Hour Flow= 9 EQR x 0.59 gpm/EQR= 5.3 gpm.

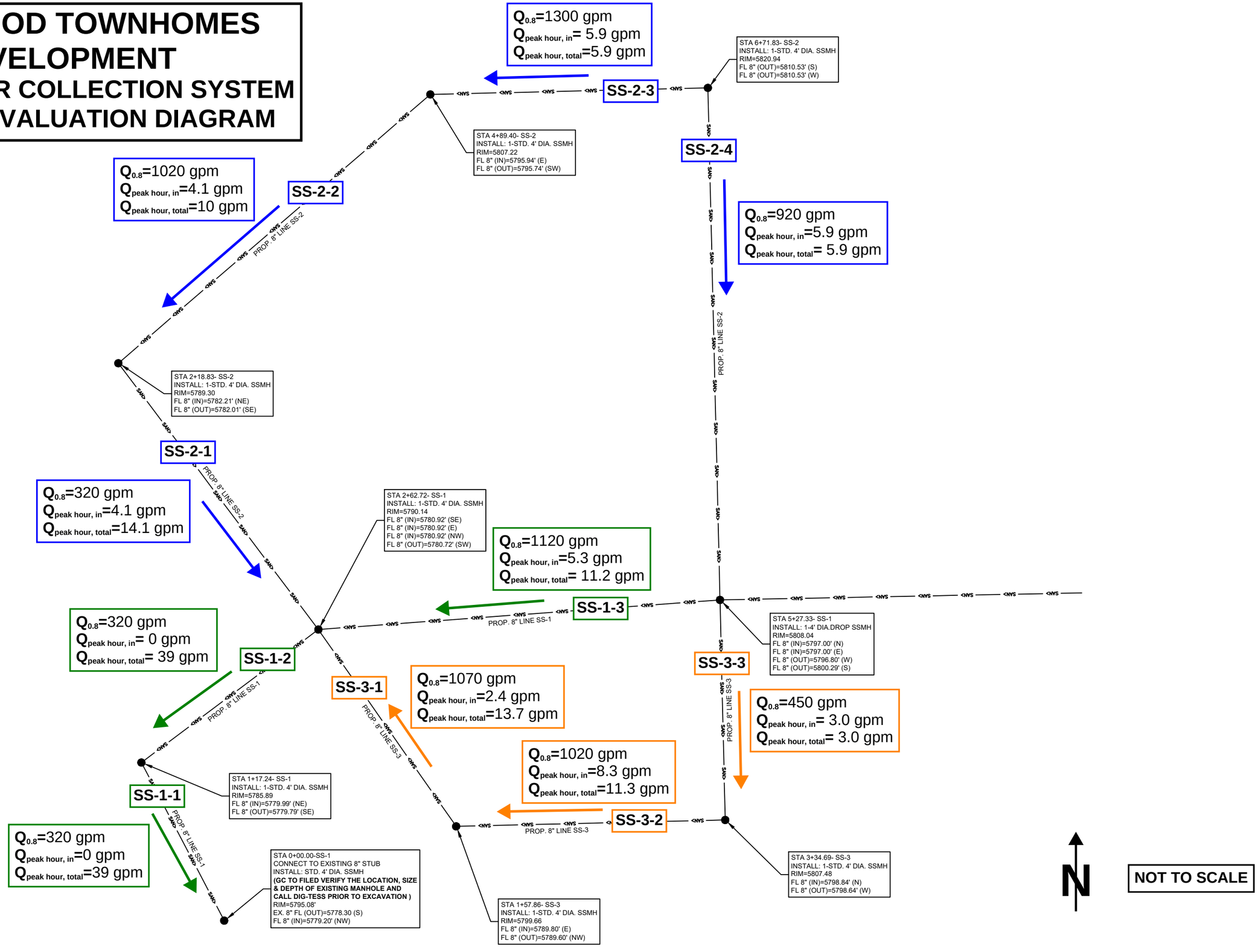
ARCHWOOD TOWNHOMES DEVELOPMENT

SUMMARY OF WASTEWATER COLLECTION SYSTEM ANALYSIS
SEGMENT DESIGN FLOW CAPACITY AND VELOCITY

Sewer Segment	Pipe Size (in)	Pipe Size (ft)	d/D = 0.8	Manning's n	Length (ft)	Upper Invert	Lower Invert	Delta Z (ft)	Slope	$Q_{0.8}$ (cfs)	$Q_{0.8}$ (gpm)	Average Velocity at $Q_{0.8}$ (ft/s)
SS-1-1	8	0.67	0.53	0.015	117.24	5779.79	5779.2	0.59	0.50%	0.724	320	2.42
SS-1-2	8	0.67	0.53	0.015	145.48	5780.72	5779.99	0.73	0.50%	0.724	320	2.42
SS-1-3	8	0.67	0.53	0.015	264.61	5796.8	5780.92	15.88	6.00%	2.509	1120	8.38
SS-2-1	8	0.67	0.53	0.015	218.83	5782.01	5780.92	1.09	0.50%	0.724	320	2.42
SS-2-2	8	0.67	0.53	0.015	270.58	5795.74	5782.21	13.53	5.00%	2.291	1020	7.65
SS-2-3	8	0.67	0.53	0.015	182.43	5810.53	5795.94	14.59	8.00%	2.898	1300	9.68
SS-2-4	8	0.67	0.53	0.015	336.53	5810.53	5797	13.53	4.02%	2.054	920	6.86
SS-3-1	8	0.67	0.53	0.015	157.86	5789.6	5780.92	8.68	5.50%	2.403	1070	8.02
SS-3-2	8	0.67	0.53	0.015	176.83	5798.64	5789.8	8.84	5.00%	2.291	1020	7.65
SS-3-3	8	0.67	0.53	0.015	144.6	5800.29	5798.84	1.45	1.00%	1.024	450	3.42

NOTE: Above analysis performed using Hydraulic Toolbox 5.4.0 software

ARCHWOOD TOWNHOMES DEVELOPMENT
WASTEWATER COLLECTION SYSTEM CAPACITY EVALUATION DIAGRAM



Water and Wastewater Report

PREPARED FOR THE PROPOSED ARCHWOOD TOWNHOMES DEVELOPMENT IN THE TOWN OF NEW CASTLE, COLORADO

TRAFFIC IMPACT ANALYSIS

Traffic Impact Analysis

Prepared For:

Archwood Townhomes
Residential Subdivision

North of Castle Valley Blvd at the Pyramid Dr. Roundabout

New Castle, CO



July 9, 2025

2667 Amber Spring Way
Grand Junction, CO 81506
970-314-4888

TurnKey Consulting, LLC
Superior Project Leadership

Table of Contents

Table of Contents 1
List of Figures 2
List of Tables 2
1 Introduction & Executive Summary 3
1.1 Study Area Intersections & Study Periods 3
1.2 Project Development Plan 3
1.3 Conclusions 5
2 Project Trips 6
2.1 Project Trip Generation 6
2.2 Project Trip Distribution & Assignment 6
2.3 Project Trip Assignment by Intersection and Movement 7
3 Existing Roadway Conditions 8
3.1 Existing Road & Intersection Configurations 8
3.2 Peak Hour Intersection Traffic Counts 10
4 Future Roadway & Traffic Conditions 10
4.1 Assumed Future Road Network 10
4.2 Future Background Traffic Volumes 10
4.2.1 Consideration of Other Adjacent Land Development Projects - 2045 10
4.2.2 Diverted Traffic When N. Wildhorse Dr. is Fully Constructed - 2045 12
4.3 Total Future Traffic Volumes (Background + Project) 12
5 Peak Hour Safety & Traffic Operations Analysis 15
5.1 Turn Lane Warrant Evaluation 15
5.2 Traffic Operations Analysis 18
5.3 Intersection Sight Distance 20
6 Conclusions 21

Appendix

List of Figures

Figure 1 – Project Site Plan Concept 3
Figure 2 – Study Area Map 4
Figure 3 - Existing Intersection Geometry Images 9
Figure 4 - Total Future Traffic Volumes – 2027 AM 13
Figure 5 - Total Future Traffic Volumes – 2027 PM 13
Figure 6 - Total Future Traffic Volumes – 2045 AM 14
Figure 7 - Total Future Traffic Volumes – 2045 PM 14
Figure 8 – Sight View to the West from N. Wildhorse Dr. 20
Figure 9 – Sight View to the East from N. Wildhorse Dr. 20

List of Tables

Table 1 – Project Trip Generation Calculation (66 SFR) 6
Table 2 – Project Trip Distributions & Assignments 7
Table 3 – Trip Generation – 9 North Wild Horse 11
Table 4 – Trip Generation – PA #17 11
Table 5 – Diverted Trips – Buckskin Circle Area 12
Table 6 – CDOT Turn Lane Warrant Criteria – NR-B Roads 15
Table 7 – Intersection Delay & LOS Thresholds 18
Table 8 – Intersection LOS Summary for Peak Hour Conditions 19

1 Introduction & Executive Summary

This report documents the traffic impact analysis (Study) for buildout of the proposed Archwood Townhome residential subdivision (Project) in New Castle, Colorado. The Project would be located north of Castle Valley Blvd. near the existing Pyramid Dr. Roundabout. The traffic study methodology dated 7/3/25 was approved by the Town.

1.1 Study Area Intersections & Study Periods

The Study area included the following intersections, as shown on Figure 2. The roads are not aligned with cardinal directions, so this list includes the assumed orientations of each road. Castle Valley Blvd. is generally considered an east-west road, so the conventions were based on that alignment.

- Int #1, Existing Castle Valley Blvd. (E-W) & Pyramid Dr. (N-S)
- Int #2, Existing Castle Valley Blvd. (E-W) & N. Wildhorse Dr. (N-S)
- Int #3, Proposed N. Wildhorse Dr. (E-W) & Silverado Trail (N-S)

The analysis years were 2027 (assumed build out year) and 2045 (20-yr condition). The analysis focused on the weekday AM & PM peak hours.

1.2 Project Development Plan

The Project would include 66 townhomes, as shown in Figure 1.

Figure 1 – Project Site Plan Concept

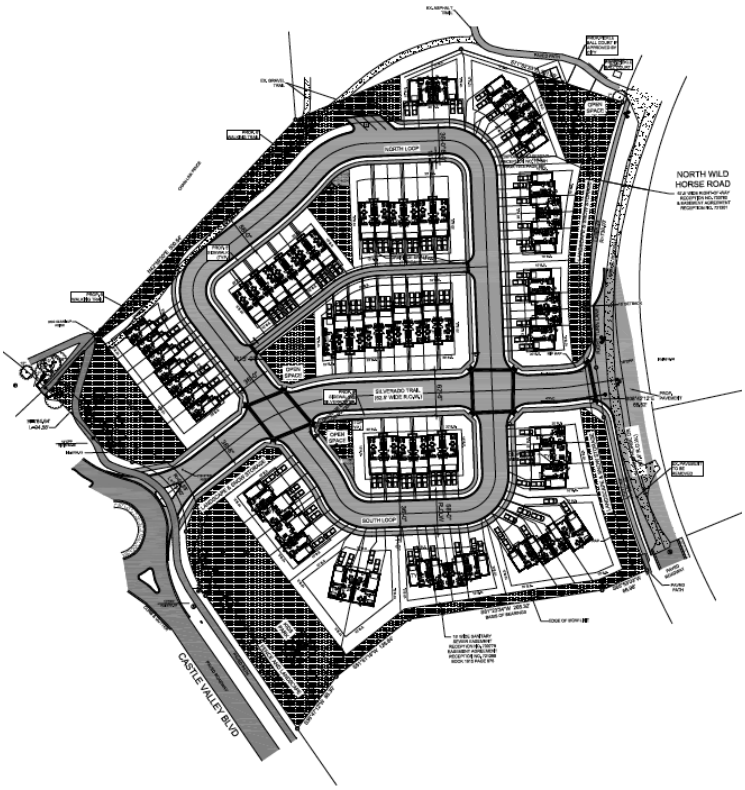


Figure 2 – Study Area Map



1.3 Conclusions

This section summarizes the results of the analysis of existing and proposed conditions resulting from increased background traffic and Project traffic.

The Study area included two existing intersections and one proposed intersection. The analysis years were 2027 (assumed build out year) and 2045 (20-yr condition). The analysis focused on the weekday AM & PM peak hours.

The proposed 66 townhome dwelling units would generate no more than 38 trips per hour in any peak hour condition, which is a relatively low value. The majority of these new trips would travel to/from the east on Castle Valley Blvd.

For the 2045 background traffic conditions, the Study assumed that two other adjacent subdivision projects would be complete and generating traffic in the Study Area. The Study also assumed that some traffic from one existing subdivision would divert through the Study Area.

The two existing intersection configurations on Castle Valley Blvd would operate well in all analysis periods and additional turn lanes would not be warranted. Exclusive turn lanes on the proposed intersection of N. Wildhorse Dr. & Silverado Trail would not be warranted, and the intersection would operate well as a standard 3-leg, stop-controlled configuration. The intersection sight distance at the two existing intersections on Castle Valley Blvd. is adequate.

2 Project Trips

This section includes Project trip generation, distribution, and assignment to the roadway network. Figure 1 shows the development plan, which could represent the Project buildout condition with 66 DU.

2.1 Project Trip Generation

The study analyzed the weekday morning and afternoon peak-hour periods. Project trip generation forecasts were based on the ITE Trip Generation manual (11th Edition). A detailed project trip generation calculation is provided in the Appendix. There were not any trip reductions for pass-by capture or internal trip capture.

Table 1 – Project Trip Generation Calculation (66 SFR)

Land Use	ITE Land Use Code	Period	Trip Ends (66 DU)		
			In	Out	Total
Single-Family Attached Housing	215	Weekday	238	238	475
		AM Peak Hour	8	24	32
		PM Peak Hour	22	16	38

2.2 Project Trip Distribution & Assignment

Previous studies assumed that subdivision traffic would travel 95% to/from the east and 5% to/from the west on Castle Valley Blvd. However, the updated trip split assumptions in this Study were based on the recent count of existing traffic at two intersections on Castle Valley Blvd - N. Wildhorse Dr. intersection and the Pyramid Dr. intersection This calculation used the average of splits for the two intersections, which showed different splits for the AM and PM periods.

- AM Period
  - 93% to/from the east on Castle Valley Blvd.
  - 7% to/from the west on Castle Valley Blvd.
- PM Period
  - 82% to/from the east on Castle Valley Blvd.
  - 18% to/from the west on Castle Valley Blvd.

These splits were used for Project Traffic at the intersection of Castle Valley Blvd. & Pyramid Dr., and they would be the same for years 2027 and 2045.

These splits were also used for splits for assignment of future background and diverted traffic at the intersection of N. Wildhorse Dr. & Silverado Trail. The attachments include the detailed calculations.

2.3 Project Trip Assignment by Intersection and Movement

The following set of tables show the inbound and outbound project trip distribution percentages and project trip assignment for each intersection and movement. It was assumed that all Project trips would access Castle Valley Blvd. at the Pyramid Dr./Silverado Trail roundabout, and they would not travel on N. Wildhorse Dr.

Table 2 – Project Trip Distributions & Assignments

INT 1 Castle Valley Blvd. (E-W) & Pyramid Dr. (N-S)

	Weekday AM Condition											
	Eastbound (CVB)			Westbound (CVB)			Northbound (Pyramid)			Southbound (Silverado)		
Description	L	TH	R	L	TH	R	L	TH	R	L	TH	R
Trip Distribution % Inbound Period 1	7%	0%	0%	0%	0%	93%	0%	0%	0%	0%	0%	0%
Trip Distribution % Outbound Period 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	93%	0%	7%
Trip Distribution % Inbound Period 2	7%	0%	0%	0%	0%	93%	0%	0%	0%	0%	0%	0%
Trip Distribution % Outbound Period 2	0%	0%	0%	0%	0%	0%	0%	0%	0%	93%	0%	7%
Project Trip Volume Inbound - Period 1	1	0	0	0	0	7	0	0	0	0	0	0
Project Trip Volume Outbound - Period 1	0	0	0	0	0	0	0	0	0	22	0	2
Project Trip Volume Total - Period 1	1	0	0	0	0	7	0	0	0	22	0	2
Project Trip Volume Inbound - Period 2	1	0	0	0	0	7	0	0	0	0	0	0
Project Trip Volume Outbound - Period 2	0	0	0	0	0	0	0	0	0	22	0	2
Project Trip Volume Total - Period 2	1	0	0	0	0	7	0	0	0	22	0	2

	Weekday PM Condition											
	Eastbound (CVB)			Westbound (CVB)			Northbound (Pyramid)			Southbound (Silverado)		
Description	L	TH	R	L	TH	R	L	TH	R	L	TH	R
Trip Distribution % Inbound Period 1	18%	0%	0%	0%	0%	82%	0%	0%	0%	0%	0%	0%
Trip Distribution % Outbound Period 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	82%	0%	18%
Trip Distribution % Inbound Period 2	18%	0%	0%	0%	0%	82%	0%	0%	0%	0%	0%	0%
Trip Distribution % Outbound Period 2	0%	0%	0%	0%	0%	0%	0%	0%	0%	82%	0%	18%
Project Trip Volume Inbound - Period 1	4	0	0	0	0	18	0	0	0	0	0	0
Project Trip Volume Outbound - Period 1	0	0	0	0	0	0	0	0	0	13	0	3
Project Trip Volume Total - Period 1	4	0	0	0	0	18	0	0	0	13	0	3
Project Trip Volume Inbound - Period 2	4	0	0	0	0	18	0	0	0	0	0	0
Project Trip Volume Outbound - Period 2	0	0	0	0	0	0	0	0	0	13	0	3
Project Trip Volume Total - Period 2	4	0	0	0	0	18	0	0	0	13	0	3

INT 2 Castle Valley Blvd. (E-W) & N. Wildhorse Dr. (N-S)

	Weekday AM Condition											
	Eastbound (CVB)			Westbound (CVB)			Northbound (wildhorse)			Southbound (wildhorse)		
Description	L	TH	R	L	TH	R	L	TH	R	L	TH	R
Trip Distribution % Inbound Period 1	0%	0%	0%	0%	93%	0%	0%	0%	0%	0%	0%	0%
Trip Distribution % Outbound Period 1	0%	93%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trip Distribution % Inbound Period 2	0%	0%	0%	0%	93%	0%	0%	0%	0%	0%	0%	0%
Trip Distribution % Outbound Period 2	0%	93%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trip Volume Inbound - Period 1	0	0	0	0	7	0	0	0	0	0	0	0
Project Trip Volume Outbound - Period 1	0	22	0	0	0	0	0	0	0	0	0	0
Project Trip Volume Total - Period 1	0	22	0	0	7	0	0	0	0	0	0	0
Project Trip Volume Inbound - Period 2	0	0	0	0	7	0	0	0	0	0	0	0
Project Trip Volume Outbound - Period 2	0	22	0	0	0	0	0	0	0	0	0	0
Project Trip Volume Total - Period 2	0	22	0	0	7	0	0	0	0	0	0	0

	Weekday PM Condition											
	Eastbound (CVB)			Westbound (CVB)			Northbound (wildhorse)			Southbound (wildhorse)		
Description	L	TH	R	L	TH	R	L	TH	R	L	TH	R
Trip Distribution % Inbound Period 1	0%	0%	0%	0%	82%	0%	0%	0%	0%	0%	0%	0%
Trip Distribution % Outbound Period 1	0%	82%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trip Distribution % Inbound Period 2	0%	0%	0%	0%	82%	0%	0%	0%	0%	0%	0%	0%
Trip Distribution % Outbound Period 2	0%	82%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trip Volume Inbound - Period 1	0	0	0	0	18	0	0	0	0	0	0	0
Project Trip Volume Outbound - Period 1	0	13	0	0	0	0	0	0	0	0	0	0
Project Trip Volume Total - Period 1	0	13	0	0	18	0	0	0	0	0	0	0
Project Trip Volume Inbound - Period 2	0	0	0	0	18	0	0	0	0	0	0	0
Project Trip Volume Outbound - Period 2	0	13	0	0	0	0	0	0	0	0	0	0
Project Trip Volume Total - Period 2	0	13	0	0	18	0	0	0	0	0	0	0

INT 3 N. Wildhorse Dr. (E-W) & Silverado Trail (N-S)

	Weekday AM Condition											
	Eastbound (wildhorse)			Westbound (wildhorse)			Northbound (Silverado)			Southbound (Silverado)		
Description	L	TH	R	L	TH	R	L	TH	R	L	TH	R
Trip Distribution % Inbound Period 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trip Distribution % Outbound Period 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trip Distribution % Inbound Period 2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trip Distribution % Outbound Period 2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trip Volume Inbound - Period 1	0	0	0	0	0	0	0	0	0	0	0	0
Project Trip Volume Outbound - Period 1	0	0	0	0	0	0	0	0	0	0	0	0
Project Trip Volume Total - Period 1	0	0	0	0	0	0	0	0	0	0	0	0
Project Trip Volume Inbound - Period 2	0	0	0	0	0	0	0	0	0	0	0	0
Project Trip Volume Outbound - Period 2	0	0	0	0	0	0	0	0	0	0	0	0
Project Trip Volume Total - Period 2	0	0	0	0	0	0	0	0	0	0	0	0

	Weekday PM Condition											
	Eastbound (wildhorse)			Westbound (wildhorse)			Northbound (Silverado)			Southbound (Silverado)		
Description	L	TH	R	L	TH	R	L	TH	R	L	TH	R
Trip Distribution % Inbound Period 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trip Distribution % Outbound Period 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trip Distribution % Inbound Period 2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Trip Distribution % Outbound Period 2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Project Trip Volume Inbound - Period 1	0	0	0	0	0	0	0	0	0	0	0	0
Project Trip Volume Outbound - Period 1	0	0	0	0	0	0	0	0	0	0	0	0
Project Trip Volume Total - Period 1	0	0	0	0	0	0	0	0	0	0	0	0
Project Trip Volume Inbound - Period 2	0	0	0	0	0	0	0	0	0	0	0	0
Project Trip Volume Outbound - Period 2	0	0	0	0	0	0	0	0	0	0	0	0
Project Trip Volume Total - Period 2	0	0	0	0	0	0	0	0	0	0	0	0

3 Existing Roadway Conditions

This section describes the existing roadways and intersections.

3.1 Existing Road & Intersection Configurations

The Study Area included the following existing intersections:

- Int #1, Existing Castle Valley Blvd. (E-W) & Pyramid Dr. (N-S)
- Int #2, Existing Castle Valley Blvd. (E-W) & N. Wildhorse Dr. (N-S)

Castle Valley Blvd.

This is a two-lane asphalt arterial roadway serving Lakota Canyon Ranch and Castle Valley Ranch. It has approximately 24 feet in width, with 2-3-foot gravel shoulders and a posted speed of 30 mph in the vicinity of N Wildhorse Dr. A pedestrian trail (8 ft) is located on the north side of Castle Valley Blvd. For the purposes of this study and application of the State Highway Access Code, it is classified as a non-rural arterial, NR-B using CDOT Access Category standards.

N. Wildhorse Dr.

This is a two-lane asphalt collector roadway, approximately 24 feet in width, with curb, gutter, sidewalk, and on-street parking delineated away from intersections. There is not a posted speed limit. Currently the road ends on the north side of Filing 10 and the south side of VIX Park.

The following set of Figures show the existing intersection lane geometry and configurations at each intersection.

Figure 3 - Existing Intersection Geometry Images



Int. #1 – Castle Valley Blvd. & Pyramid Dr. (3-leg, single lane roundabout)



Int. #2 – Castle Valley Blvd. & N. Wildhorse Dr. (4-leg, two-way stop controlled)

3.2 Peak Hour Intersection Traffic Counts

TurnKey Consulting obtained AM & PM peak period traffic counts at the two existing intersections on 6/26/25. The Appendix includes the detailed traffic count data. The local road intersections are in residential areas that would not experience seasonal traffic variations during the year. School traffic might increase during the AM peak period, but it would not overlap with PM peak hour traffic, which is the higher volume condition. Therefore, the counts were not adjusted for peak season.

4 Future Roadway & Traffic Conditions

This section addresses the planned roadway system changes, growth of background traffic, and the total future traffic volumes.

4.1 Assumed Future Road Network

The Study considered two possible future road extensions.

- The extension of Silverado Trail between Lakota and the Project would not be constructed. This new road segment would be part of Planning Area #15 development, and it would be addressed in a future study. SGM prepared a traffic study for PA #15 in 2022, but it was based on a previous land use concept. The property was sold since then and the future land use is unknown.
- The remaining portion of N. Wildhorse Drive would be complete in the long range 2045 study condition. It would be constructed in two phases. The 9 North Wild Horse development would construct the full roadway section adjacent to VIX Park, and then a partial road section between the park and the existing segment to the south. The Archwood Project would construct the full section in these limits.

4.2 Future Background Traffic Volumes

A general traffic growth rate wasn't considered as part of these calculations due to the nature of development in Castle Valley Ranch. Future background traffic would be more a function of development within specific planning areas. As such, these calculations assumed that the existing traffic volumes would be the future background traffic volumes in year 2027.

However, the estimate of future background traffic for year 2045 considered the following factors.

4.2.1 Consideration of Other Adjacent Land Development Projects - 2045

Future 20-year traffic was considered from other adjacent developments as shown in other traffic studies and calculations by SGM.

9 North Wild Horse (R2).

This project would be located along N. Wildhorse Rd., north of VIX Park. It would include 130 apartments with the following trip generation.

Table 3 – Trip Generation – 9 North Wild Horse

Trip Generation - R2 New Castle
ITE Trip Generation, 11th Edition

			Weekday Design Hour Traffic				
Land Use	Number of Units	ITE Code	Weekday Traffic	AM IN	AM OUT	PM IN	PM OUT
Multi-Family (Low-rise)	130	220	909	15	48	48	28
		Access & N Wildhorse		Right	Left	Right	Left
			Total Leg	63		76	

The Study considered these trips as part of background traffic in the long range condition when N. Wildhorse Dr. is fully constructed. The Study assumed that 100% of this traffic would travel to/from the south on N. Wildhorse Drive and would split at the intersection of N. Wildhorse Dr. & Silverado Trail, with traffic traveling to/from the west on Castle Valley Blvd. using Silverado Trail through the Archwood Project. 9 North Wild Horse traffic traveling to/from the east on Castle Valley Blvd. would use the existing segment of N. Wildhorse Dr. through the existing subdivision. The would create a higher traffic volume condition for the evaluation of the intersection of N. Wildhorse Dr. & Castle Valley Blvd., which is conservative The east-west distribution of 9 North Wild Horse traffic on Castle Valley Blvd. were based on the calculation of existing travel patterns (see previous section on Project Trip Distribution). The appendix shows the calculation of these trips by intersection and movement.

Planning Area #17

SGM prepared a traffic study for PA #17 in 2022, and it was based on a currently valid land use concept. The SGM study provided trip generation for PA #17, and the Study used this information to identify PA #17 trips at the study intersections.

Table 4 – Trip Generation – PA #17

Trip Generation Table - PA 17 Castle Valley Ranch
ITE Trip Generation, 10th Edition

				Design Hour Rates						Weekday DHV				
Land Use	Number of Units	ITE Code	Weekda Rate	AM Rate	AM IN	AM OUT	PM Rate	PM IN	PM OUT	eekd Traffi	AM IN	AM OUT	PM IN	PM OUT
Multi-Family (Low-rise)	91	220	7.11	0.48	0.11	0.37	0.60	0.30	0.18	647	10	34	27	16
ITE Ttrip Generation Manual, 10th Edition	TE Code	Basis of	Time Period Used Above	Weekday Design Distributio AM IN	M OUT		PM IN	M OUT						
Multi-Family (Low-rise)	220	Fitted Cu	Peak Hour adjac	23%	77%		63%	37%						

The Study considered these trips as part of background traffic in the long range condition. The Study assumed that all this traffic would split at the intersection of Castle Valley Blvd. & PA-17 Access Road. The east-west distribution of PA-17 traffic on Castle Valley Blvd. was based on the calculation of existing travel patterns (see previous section on Project Trip Distribution). The appendix shows the calculation of these trips by intersection and movement.

Planning Area #15.
As previously stated, the future land use is unknown for this area, and it was not included in this Study.

4.2.2 Diverted Traffic When N. Wildhorse Dr. is Fully Constructed - 2045

There were two areas to consider for future diverted traffic.

Existing Buckskin Circle Subdivision
There is an existing subdivision on the north side of N. Wildhorse Dr. (north of the school) that must currently travel to/from the east and through the intersection of N. Wildhorse Dr. & Alder Ave. in order to reach Castle Valley Blvd. These would be the 33 existing houses adjacent to Buckskin Circle and Mustang Dr. The Study assumed that 95% of traffic from the east half of this subdivision would divert to N. Wildhorse Dr. when the missing segment is constructed (or 31 SFR DU). The Study calculated the diverted traffic trip generation and distribution throughout the road network in the long range condition.

Table 5 – Diverted Trips – Buckskin Circle Area

Land Use: Single Family Detached	ITE Land Use Code: 210	Period	Trip Ends (31 DU)		
			In	Out	Total
		AM Peak Hour	6	20	26
		PM Peak Hour	21	12	33

Existing VIX Park Event Traffic
Event traffic for VIX park would be negligible in the weekday AM & PM peak hour periods so the Study did not include diversion of VIX Park traffic.

4.3 Total Future Traffic Volumes (Background + Project)

Future total traffic is the sum of Project trips and background traffic. The following Figures show the future total future traffic volumes at each intersection for years 2027 and 2045.

The Total Future Background Traffic volumes are shown in the appendices for Traffic Volume Calculations.

Figure 4 - Total Future Traffic Volumes – 2027 AM

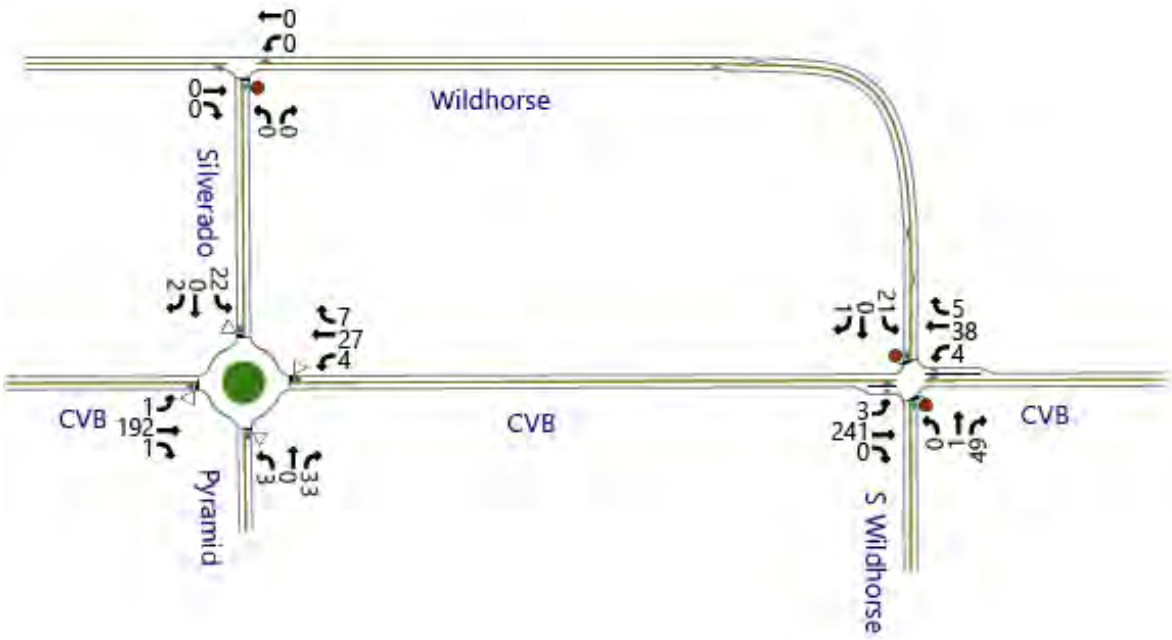


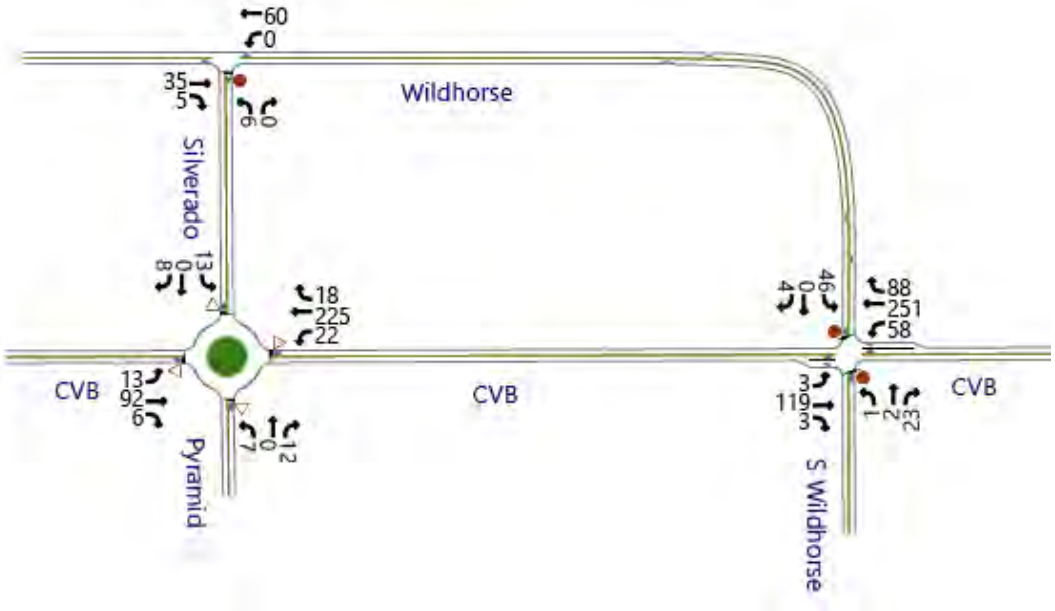
Figure 5 - Total Future Traffic Volumes – 2027 PM



Figure 6 - Total Future Traffic Volumes – 2045 AM



Figure 7 - Total Future Traffic Volumes – 2045 PM



5 Peak Hour Safety & Traffic Operations Analysis

This analysis included turn lane warrant evaluations, traffic operations calculations, and sight distance.

5.1 Turn Lane Warrant Evaluation

Auxiliary turn lane requirements for local collector road access are typically analyzed using the CDOT State Highway Access Code based on the anticipated peak hour volumes, the speed limit and geometry of the highway adjacent to the access, and the classification of the highway. For analysis purposes, the Castle Valley Blvd. speed limit adjacent to the site is 30 mph with an NR-B access category.

CDOT Turn Lane Warrants and Requirements (NR-B)

This criterion includes turn lane warrants, turn lane waiver volumes, and lengths for acceleration and deceleration lanes. The following table shows the CDOT turn lane warrant criteria, per State Highway Access Code.

Table 6 – CDOT Turn Lane Warrant Criteria – NR-B Roads

Auxiliary Lane	CDOT Warrant Requirements
Left Turn Deceleration Lane	More than 25 vph (speed <40 mph) or more than 10 vph (speed >40 mph)
Right Turn Deceleration Lane	More than 50 vph (speed <40 mph) or more than 25 vph (speed >40 mph)
Left Turn Acceleration Lane	May be req'd if benefit to safety and operations. Generally, not required if speed less than 40 mph
Right Turn Acceleration Lane	May be req'd if benefit to safety and operations. Generally, not required if speed less than 40 mph

Turn lane length for NR-B Roads should be:

- Left turn deceleration = taper + storage
- Right turn deceleration = taper + storage
- Acceleration = acceleration distance

Turn Lane Evaluation Results

This section shows the results of the turn lane evaluation.

Int #1, Existing Castle Valley Blvd. (E-W) & Pyramid Dr./Silverado Trail (N-S)

Roundabouts accommodate all turning movements without the need for exclusive turn lanes. Sometimes the operational analysis reveals the need for right turn bypass lanes, but the need wouldn't be a function of turn lane warrants (note: the analysis confirmed that the existing configuration would work well in all conditions).

Int #2, Existing Castle Valley Blvd. (E-W) & N. Wildhorse Dr. (N-S)
Project trips would not travel to/from the south on S. Wildhorse Dr. so this evaluation focused on turn lanes that would service the north leg.

- Eastbound Left Turn Deceleration Lane. The low left turning volume of 3 vph would be less than the warrant volume of 25 vph. This lane wouldn't be warranted.

- Westbound Right Turn Deceleration Lane. In the AM condition, the low right turning volume of 28 vph would be less than the warrant volume of 50 vph. This lane wouldn't be warranted in the AM condition. However, the PM condition would eventually have a turning volume of 88 vph, which would exceed the warrant volume of 50 vph. And the conflicting westbound through volume of 251 vph would be higher than the CDOT waiver volume. The lane would be warranted but there is currently a 200-ft. long right deceleration turn lane that provides the safety benefit.

- Southbound – Westbound Right Turn Acceleration Lane. Acceleration lanes are generally not warranted at the current speed limit. And the low right turning volume of 5 vph would not warrant the lane. The lane would not be warranted but there is currently a 230-ft. long right turn acceleration lane that provides the safety benefit.

- Southbound – Eastbound Left Turn Acceleration Lane. Acceleration lanes are generally not warranted at the current speed limit. But the relatively high future left turning volume of 86 vph indicated that the operational analysis should evaluate the need for this lane (note: the existing intersection configuration would operate well in all conditions). This section of Castle Valley Blvd doesn't have a striped acceleration lane, but there is currently about 400-ft. of extra wide pavement for eastbound travel. It is unlikely that southbound – eastbound left turning vehicles would use this area as an acceleration lane. This lane is not recommended.

Int #3, Proposed N. Wildhorse Dr. (E-W) & Silverado Trail (N-S)
For the foreseeable future, this would be a 3-leg intersection until Silverado Trail is extended to become the north leg of this intersection. This evaluation focused on turn lanes that would service the proposed south leg.

- Westbound Left Turn Deceleration Lane. There would be little or no left turning volume making this movement. This lane wouldn't be warranted.

- Eastbound Right Turn Deceleration Lane. In the either condition, the low right turning volume of 5 vph would be less than the warrant volume of 50 vph. In addition, the low volume of conflicting eastbound through traffic (maximum of 65 vph) is below the CDOT waiver volume. This lane wouldn't be warranted.

  However, there is a system-wide consideration that the Town wanted to explore at this intersection. The 65 vph of eastbound through traffic at this intersection

would become southbound left turns at the intersection of Castle Valley Blvd. & N. Wildhorse Dr. In general, left turns at roundabouts (like at Castle Valley Blvd. & Pyramid Dr.) are safer than left turns at stop-controlled intersections. The Town wondered if an eastbound right turn lane at this intersection would encourage drivers to use the roundabout at Castle Valley Blvd. for left turn movements. It is unlikely that a right turn lane alone would accomplish this. Drivers tend to follow the most direct route to a destination and nowadays use mobile phone routing applications to do this. However, more drivers will start using the roundabout option if they feel unsafe or there was long delay at the stop controlled option. The operations analysis quantified the left turn delay for the proposed conditions at intersection #2 and vehicle delay and queueing would be minimal.

- Northbound – Eastbound Right Turn Acceleration Lane. Acceleration lanes are generally not warranted at the proposed speed limit. There would be little or no right turning volume making this movement. This lane wouldn't be warranted.

- Northbound – Westbound Left Turn Acceleration Lane. Acceleration lanes are generally not warranted at the current speed limit, and the turning volume would be no more than 5 vph. This lane would not be warranted.

5.2 Traffic Operations Analysis

The analysis used the latest version of Synchro Software to evaluate the existing and future traffic operations at the intersections within the study area. The concept of Level of Service (LOS) is used as a basis for computing combinations of roadway operating conditions and delay, which accommodate various level of traffic activity. By definition, six different LOS are used - A, B, C, D, E, and F. LOS "A" represents free-flow conditions with little to no delay. LOS "E" represents the maximum capacity of an intersection or roadway, where delay and/or congestion are severe.

Table 7 – Intersection Delay & LOS Thresholds

Level of Service (LOS)	**Signalized Intersections** *(seconds/vehicle)*	**Unsignalized Intersection** *(seconds/vehicle)*
A	0.0 – 10.0	0.0 – 10.0
B	10.1 – 20.0	10.1 – 15.0
C	20.1 – 35.0	15.1 – 25.0
D	35.1 – 55.0	25.1 – 35.0
E	55.1 – 80.0	35.1 – 50.0
F	Greater than 80.0	Greater than 50.0

Source: Transportation Research Board, *Highway Capacity Manual*

CDOT does not have any specific LOS standards, but they generally reference the AASHTO "Green Book" as a guideline when absent CDOT standards. The Green Book indicates that LOS C is desirable in rural conditions and LOS D is desirable in urban conditions.

The operational analysis included the following assumptions:

- The peak hour factor was 0.92.
- This area is flat, so grade adjustments were not necessary.
- The truck factor was 2%.
- It was assumed that each leg of intersections would have 10 pedestrian crossings per hour.

The following table shows the operation analysis results for the proposed conditions at each intersection and analysis period. All movements at all intersections in all conditions would operation well with mostly level of service A and minimal vehicle queueing.

Table 8 – Intersection LOS Summary for Peak Hour Conditions

Location - Period - Movement	Traffic Control	New Lane Geometry	Year 2027		Year 2045	
			Background	Total	Background	Total
Int # 1 Castle Valley Blvd & Pyramid Dr/Silverado - AM	Roundabout					
Eastbound CVB			A	A	A	A
Westbound CVB			A	A	A	A
Northbound			A	A	A	A
Southbound			A	A	A	A
Overall Intersection (ave. sec/veh)		Construct north leg (1in, 1 out) for total traffic	A (3.8)	A (3.8)	A (3.8)	A (3.8)
Critical Movement Delay (ave. sec/veh)			EB (3.9)	EB (4.1)	EB (4.0)	EB (4.1)
Int #1 Castle Valley Blvd & Pyramid Dr/Silverado - PM	Roundabout					
Eastbound CVB			A	A	A	A
Westbound CVB			A	A	A	A
Northbound			A	A	A	A
Southbound			A	A	A	A
Overall Intersection (ave. sec/veh)		Construct north leg (1in, 1 out) for total traffic	A (4.0)	A (4.1)	A (4.1)	A (4.2)
Critical Movement Delay (ave. sec/veh)			WB (4.3)	WB (4.5)	WB (4.4)	WB (4.6)
Int #2 Castle Valley Blvd & N. Wildhorse Dr - AM	Unsignalized					
Eastbound CVB			A	A	A	A
Westbound CVB			A	A	A	A
Northbound	Stop		B	B	B	B
Southbound	Stop		B	B	B	B
Critical Movement Delay (ave. sec/veh)			SB (11.3)	SB (11.6)	SB (12.4)	SB (12.8)
Int #2 Castle Valley Blvd & N. Wildhorse Dr - PM	Unsignalized					
Eastbound CVB			A	A	A	A
Westbound CVB			A	A	A	A
Northbound	Stop		A	A	A	A
Southbound	Stop		B	B	B	C
Critical Movement Delay (ave. sec/veh)			SB (12.8)	SB (13.2)	SB (14.6)	SB (15.1)
Int #3 N. Wildhorse Dr & Silverado Trail - AM	Unsignalized	Construct all three legs				
Eastbound					A	A
Westbound					A	A
Northbound	Stop				A	A
Critical Movement Delay (ave. sec/veh)					NB (9.2)	NB (9.2)
Int #3 N. Wildhorse Dr & Silverado Trail - PM	Unsignalized	Construct all three legs				
Eastbound					A	A
Westbound					A	A
Northbound	Stop				A	A
Critical Movement Delay (ave. sec/veh)					NB (9.3)	NB (9.3)

5.3 Intersection Sight Distance

The sight distance was evaluated at the two existing intersections.

Int #1, Existing Castle Valley Blvd. (E-W) & Pyramid Dr./Silverado Trail (N-S)
For the proposed north leg, southbound traffic needs enough sight distance to the east to judge adequate gaps in the oncoming traffic flow from the east in the roundabout. The sight view through the central island is clear, and there is plenty of distance to the east along Castle Valley Blvd.

Int #2, Existing Castle Valley Blvd. (E-W) & N. Wildhorse Dr. (N-S)
As shown in the following images for the north leg, southbound traffic would have adequate sight distance to the west along Castle Valley Blvd. Sight distance to the east along Castle Valley Blvd. is compromised by a single evergreen tree. At 30 mph, Table 4-2 of the State Highway Access Code indicates that the entering sight distance should be 390-ft. (2-lane road, SU vehicle). The actual view distance to the east is close to the required distance, but the town could consider removing the single evergreen tree.

Figure 8 – Sight View to the West from N. Wildhorse Dr.



Figure 9 – Sight View to the East from N. Wildhorse Dr.



Int #3, Proposed N. Wildhorse Dr. (E-W) & Silverado Trail (N-S)
N. Wildhorse Dr. should be designed to provide adequate intersection sight distance.

6 Conclusions

This section summarizes the results of the analysis of existing and proposed conditions resulting from increased background traffic and Project traffic.

The Study area included two existing intersections and one proposed intersection. The analysis years were 2027 (assumed build out year) and 2045 (20-yr condition). The analysis focused on the weekday AM & PM peak hours.

The proposed 66 townhome dwelling units would generate no more than 38 trips per hour in any peak hour condition, which is a relatively low value. The majority of these new trips would travel to/from the east on Castle Valley Blvd.

For the 2045 background traffic conditions, the Study assumed that two other adjacent subdivision projects would be complete and generating traffic in the Study Area. The Study also assumed that some traffic from one existing subdivision would divert through the Study Area.

The two existing intersection configurations on Castle Valley Blvd would operate well in all analysis periods and additional turn lanes would not be warranted. Exclusive turn lanes on the proposed intersection of N Wildhorse Dr. & Silverado Trail would not be warranted, and the intersection would operate well as a standard 3-leg, stop-controlled configuration. The intersection sight distance at the two existing intersections on Castle Valley Blvd. is adequate.

Appendix

Project Trip Generation & Distribution Calculations

Existing Traffic Count Summaries

Future Background Traffic Calculations

Traffic Volume Calculation Tables

Intersection Operational Analysis – Sorted by Intersection Number

Project Trip Generation & Distribution Calculations

Graph Look Up

ITETripGen Web-based App

Graph Look Up

How to Use *ITETripGen*

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Query | Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
215

LAND USE GROUP:
(200-299) Residential

LAND USE :
215 - Single-Family Attached Housi

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

INDEPENDENT VARIABLE (IV):
Dwelling Units

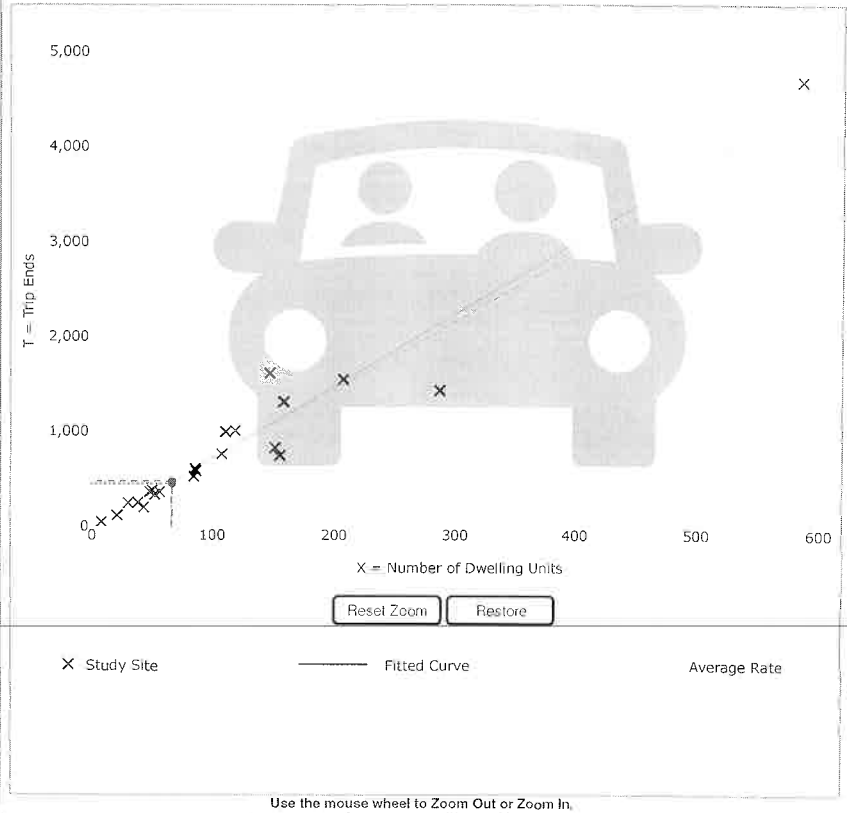
TIME PERIOD:
Weekday

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
66 Calculate

Project Trip Generation Calculations

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Single-Family Attached Housing (215) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
22

Avg. Num. of Dwelling Units:
120

Average Rate:
7.20

Range of Rates:
4.70 - 10.97

Standard Deviation:
1.61

Fitted Curve Equation:
T = 7.62(X) - 50.48

R^2
0.94

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 475 (Total), 238 (Entry), 237 (Exit)
Fitted Curve: 452 (Total), 226 (Entry), 226 (Exit)

Weekday

Add-ons to do more

Try ...

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Graph Look Up

Query | Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
215

LAND USE GROUP:
(200-299) Residential

LAND USE :
215 - Single-Family Attached Housir

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

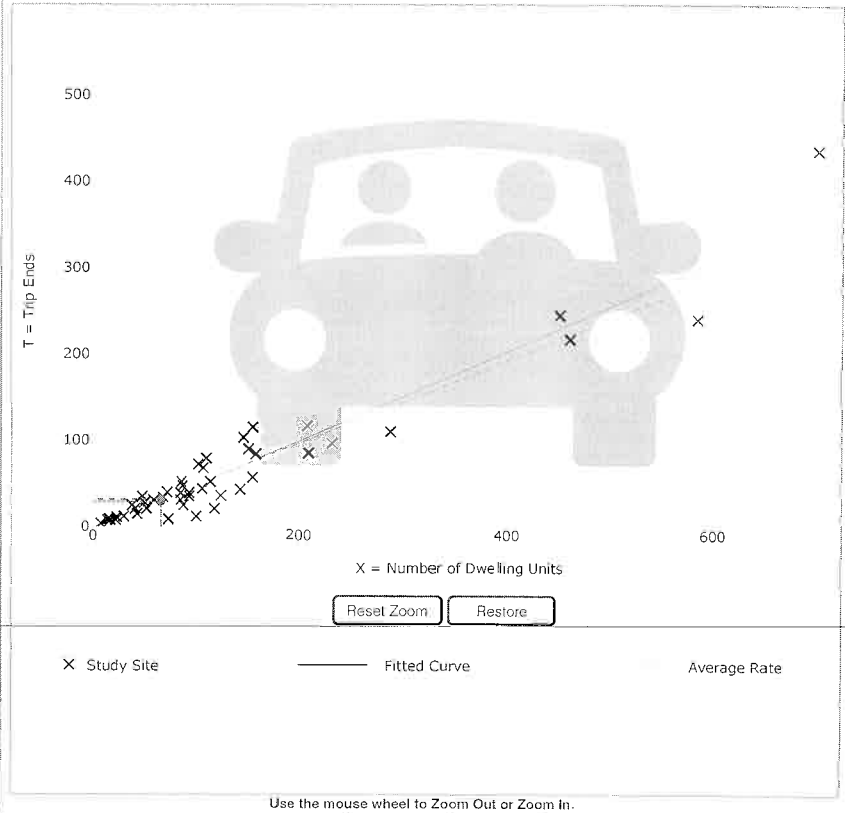
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent St

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
66 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Single-Family Attached Housing (215) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
46

Avg. Num. of Dwelling Units:
135

Average Rate:
0.48

Range of Rates:
0.12 - 0.74

Standard Deviation:
0.14

Fitted Curve Equation:
T = 0.52(X) + 5.70

R^2:
0.92

Directional Distribution:
25% entering, 75% exiting

Calculated Trip Ends:
Average Rate: 32 (Total), 8 (Entry), 24 (Exit)
Fitted Curve: 29 (Total), 7 (Entry), 22 (Exit)

AM Pk hr.

Add-ons to do more

Try Go Pro

3/2

VERSION 6.0.0.43 (UPDATES) | DATA 11TH EDITION | TERMS AND CONDITIONS | PRIVACY | ITE MARKETPLACE | INSIGHT DATA

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Graph Look Up

Query | Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
215

LAND USE GROUP:
(200-299) Residential

LAND USE :
215 - Single-Family Attached Housir

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

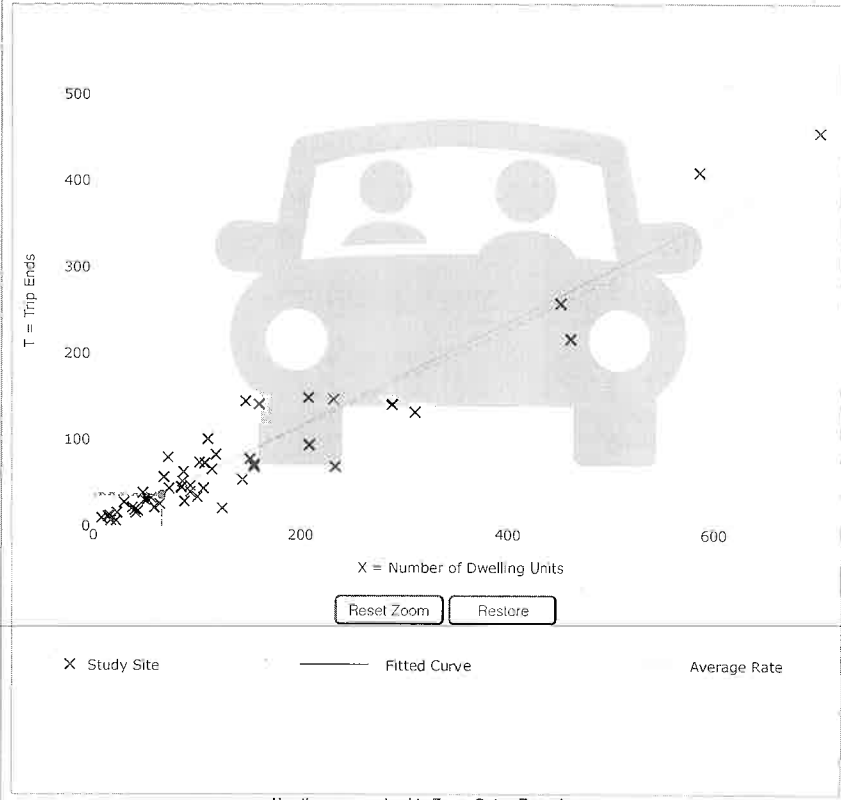
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent St

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
66 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Single-Family Attached Housing (215) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
51

Avg. Num. of Dwelling Units:
136

Average Rate:
0.57

Range of Rates:
0.17 - 1.25

Standard Deviation:
0.18

Fitted Curve Equation:
T = 0.60(X) + 3.93

R^2:
0.91

Directional Distribution:
59% entering, 41% exiting

Calculated Trip Ends:
Average Rate: 38 (Total), 22 (Entry), 16 (Exit)
Fitted Curve: 36 (Total), 21 (Entry), 15 (Exit)

PM peak hr.

Add-ons to do more

Try GTES Pro

3/30

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Dist. Calcs

~~SR 4~~ - Existing patterns E-W (2 int)

TIF East AM = $\frac{90\% + 95\%}{2}$ = 92.5% say 93%

PM = $\frac{72\% + 92\%}{2}$ = 82% say 82%

TIF West AM = 7%

PM = 18%

Project Trip Distribution Calcs

1/3

Intersection Turning Movement Count Summary

APEX CONSULTING ENGINEERS
CIVIL ENGINEERS • MANAGEMENT • DEVELOPMENT

Project: 25-22 TK Counts Archwood New Castle
Location: New Castle, Colorado
EB/WB Road: Castle Valley Bl
NB/SB Road: Wildhorse Dr

Counted By: APEX
Count Date: 6-26-2025

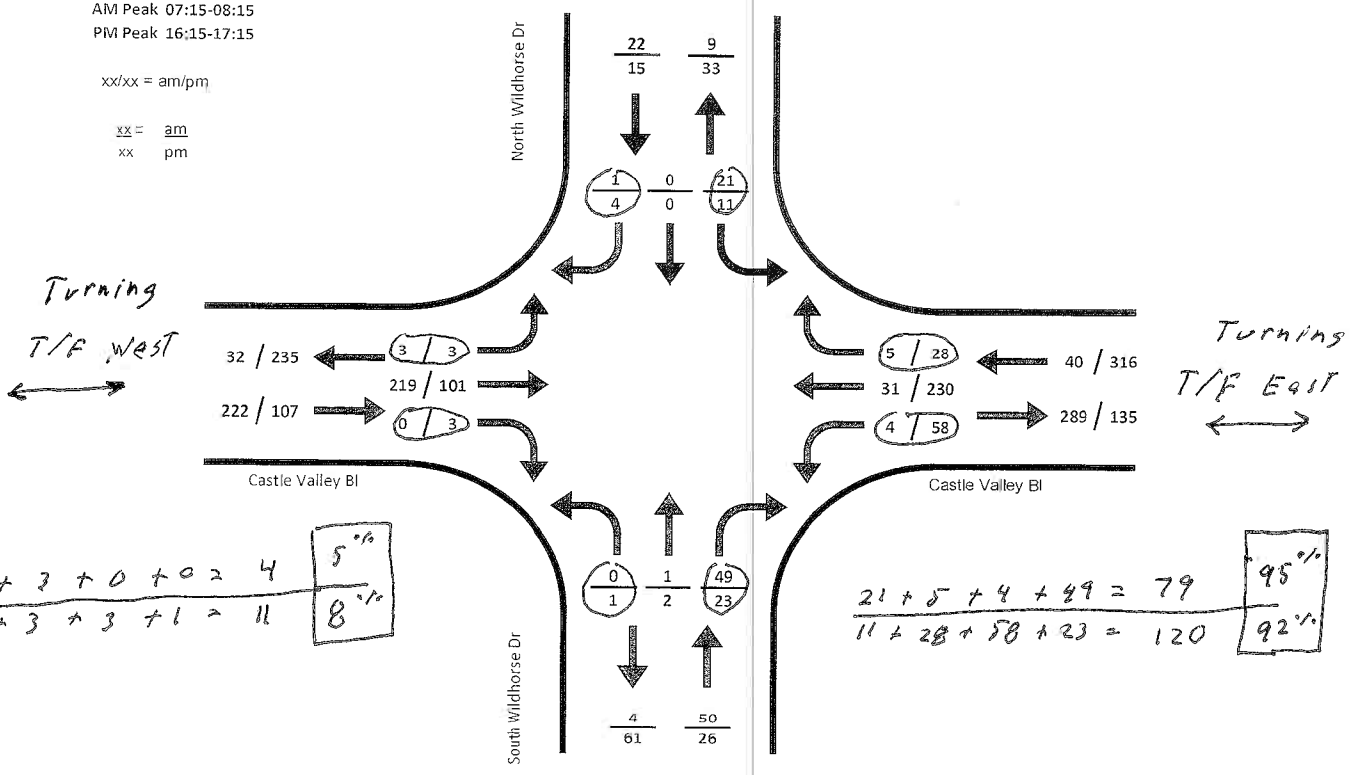
Intersection 2 - Castle Valley Bl & Wildhorse Dr

		Castle Valley Bl - (EB)			Castle Valley Bl - (WB)			Wildhorse Dr - (NB)			Wildhorse Dr - (SB)			
		Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	Sums
AM	07:00	0	46	0	1	10	3	0	0	6	2	0	0	68
	07:15	0	59	0	0	8	2	0	0	11	4	0	0	84
	07:30	0	53	0	1	6	0	0	1	13	6	0	0	80
	07:45	2	51	0	0	5	0	0	0	14	7	0	1	80
	08:00	1	56	0	3	12	3	0	0	11	4	0	0	90
	08:15	0	43	0	7	18	2	0	0	5	3	0	1	79
	08:30	1	45	0	2	16	0	0	0	5	4	1	1	75
	08:45	0	29	0	4	17	1	0	1	8	4	0	0	64
	Peak	3	219	0	4	31	5	0	1	49	21	0	1	334
	Sums		222			40			50			22		
PM	16:00	1	17	0	9	57	3	0	0	8	1	0	0	96
	16:15	2	30	2	12	48	7	0	0	8	3	0	0	112
	16:30	0	26	1	17	63	7	0	0	4	0	0	3	121
	16:45	1	23	0	18	60	8	0	2	4	6	0	0	122
	17:00	0	22	0	11	59	6	1	0	7	2	0	1	109
	17:15	0	26	0	17	55	3	0	0	4	3	0	1	109
	17:30	1	24	0	10	49	5	0	0	9	2	0	2	102
	17:45	3	23	1	10	49	8	1	1	2	2	0	0	100
	Peak	3	101	3	58	230	28	1	2	23	11	0	4	464
	Sums		107			316			26			15		

AM Peak 07:15-08:15
PM Peak 16:15-17:15

xx/xx = am/pm

xx = am
xx pm



2/3

Intersection Turning Movement Count Summary

APEX CONSULTING ENGINEERS
CIVIL ENGINEERS • MANAGEMENT • DEVELOPMENT

Project: 25-22 TK Counts Archwood New Castle
Location: New Castle, Colorado
EB/WB Road: Castle Valley Bl
NB/SB Road: Pyramid Dr

Counted By: APEX
Count Date: 6-26-2025

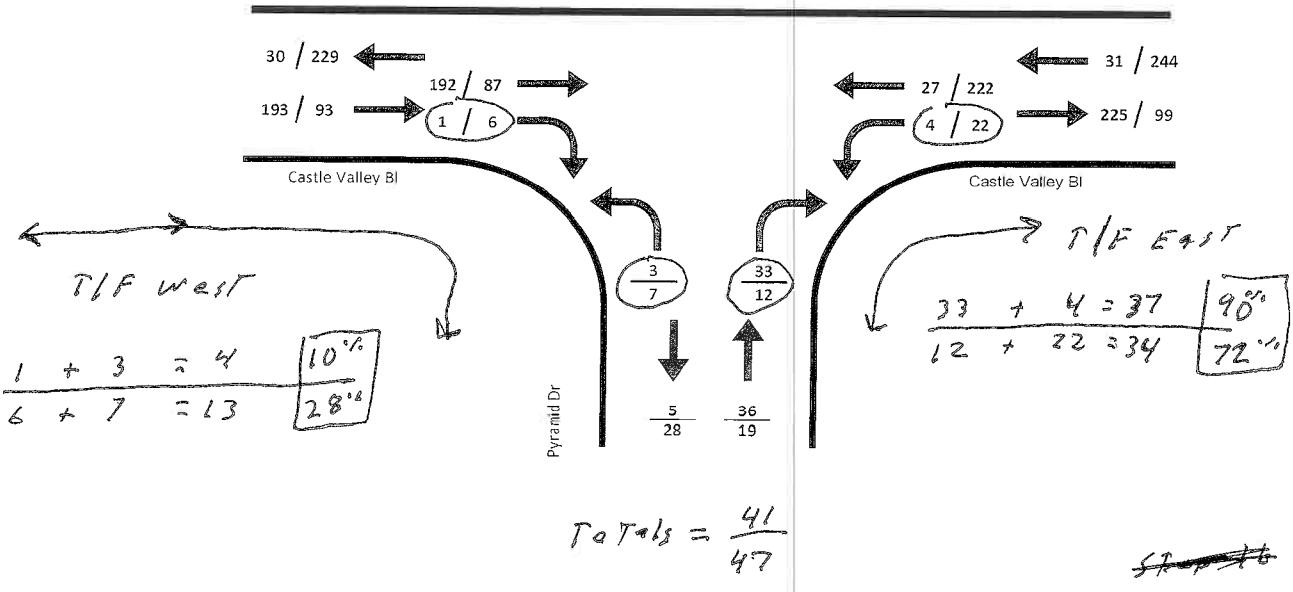
Intersection 1 - Castle Valley Bl & Pyramid Dr

		Castle Valley Bl - (EB)			Castle Valley Bl - (WB)			Pyramid Dr - (NB)			Pyramid Dr - (SB)			
		Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	Sums
AM	07:00	0	38	2	1	9	0	1	0	7	0	0	0	58
	07:15	0	51	0	1	7	0	0	0	13	0	0	0	72
	07:30	0	42	0	0	6	0	1	0	7	0	0	0	56
	07:45	0	48	1	1	5	0	2	0	6	0	0	0	63
	08:00	0	51	0	2	9	0	0	0	7	0	0	0	69
	08:15	0	43	1	2	18	0	1	0	4	0	0	0	69
	08:30	0	36	0	2	14	0	1	0	2	0	0	0	55
	08:45	0	26	0	2	15	0	1	0	2	0	0	0	46
	Peak	0	192	1	4	27	0	3	0	33	0	0	0	260
	Sums		193			31			36			0		
PM	16:00	0	13	2	8	48	0	0	0	3	0	0	0	74
	16:15	0	32	1	7	41	0	0	0	3	0	0	0	84
	16:30	0	22	0	6	61	0	4	0	2	0	0	0	95
	16:45	0	21	2	5	54	0	2	0	3	0	0	0	87
	17:00	0	19	2	6	57	0	1	0	3	0	0	0	88
	17:15	0	25	2	5	50	0	0	0	4	0	0	0	86
	17:30	0	21	3	4	47	0	0	0	2	0	0	0	77
	17:45	0	22	2	1	49	0	2	0	5	0	0	0	81
	Peak	0	87	6	22	222	0	7	0	12	0	0	0	356
	Sums		93			244			19			0		

AM Peak 07:15-08:15
PM Peak 16:30-17:30

xx/xx = am/pm

xx = am
xx pm



3/3

Existing Traffic Count Summaries

Intersection Turning Movement Count Summary

APEX CONSULTING ENGINEERS
CIVIL ENGINEERS • MANAGEMENT • DEVELOPMENT

Project: 25-22 TK Counts Archwood New Castle
Location: New Castle, Colorado
EB/WB Road: Castle Valley Bl
NB/SB Road: Wildhorse Dr

Counted By: APEX
Count Date: 6-26-2025

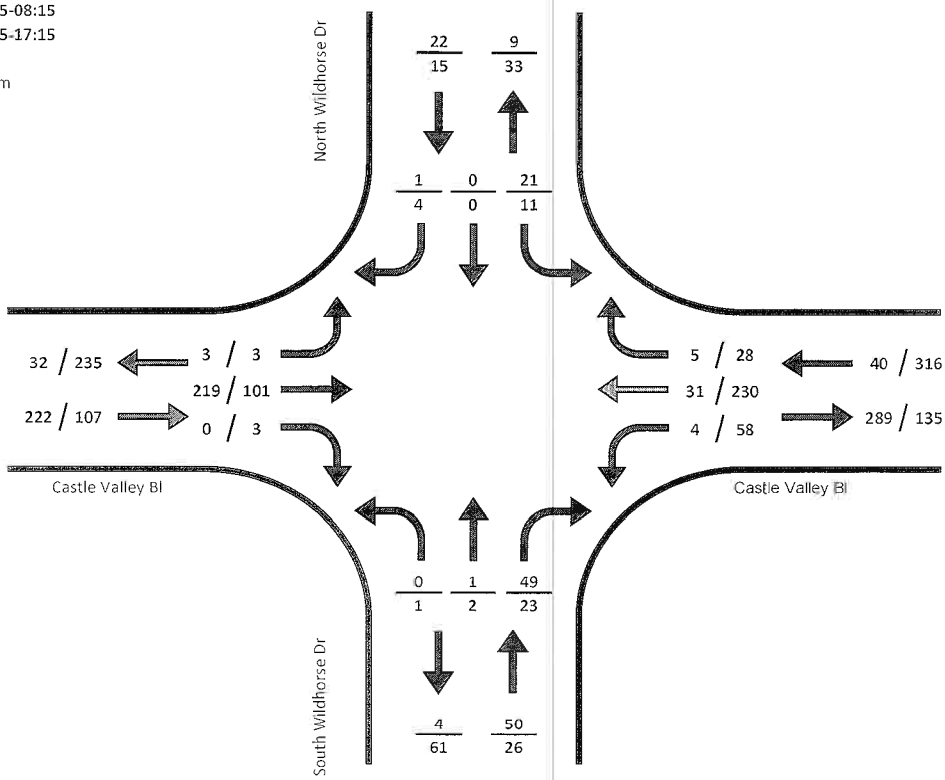
Intersection 2 - Castle Valley Bl & Wildhorse Dr

		Castle Valley Bl - (EB)			Castle Valley Bl - (WB)			Wildhorse Dr - (NB)			Wildhorse Dr - (SB)			Sums
		Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	
AM	07:00	0	46	0	1	10	3	0	0	6	2	0	0	68
	07:15	0	59	0	0	8	2	0	0	11	4	0	0	84
	07:30	0	53	0	1	6	0	0	1	13	6	0	0	80
	07:45	2	51	0	0	5	0	0	0	14	7	0	1	80
	08:00	1	56	0	3	12	3	0	0	11	4	0	0	90
	08:15	0	43	0	7	18	2	0	0	5	3	0	1	79
	08:30	1	45	0	2	16	0	0	0	5	4	1	1	75
	08:45	0	29	0	4	17	1	0	1	8	4	0	0	64
	Peak	3	219	0	4	31	5	0	1	49	21	0	1	334
	Sums	222			40			50			22			
PM	16:00	1	17	0	9	57	3	0	0	8	1	0	0	96
	16:15	2	30	2	12	48	7	0	0	8	3	0	0	112
	16:30	0	26	1	17	63	7	0	0	4	0	0	3	121
	16:45	1	23	0	18	60	8	0	2	4	6	0	0	122
	17:00	0	22	0	11	59	6	1	0	7	2	0	1	109
	17:15	0	26	0	17	55	3	0	0	4	3	0	1	109
	17:30	1	24	0	10	49	5	0	0	9	2	0	2	102
	17:45	3	23	1	10	49	8	1	1	2	2	0	0	100
	Peak	3	101	3	58	230	28	1	2	23	11	0	4	464
	Sums	107			316			26			15			

AM Peak 07:15-08:15
PM Peak 16:15-17:15

xx/xx = am/pm

xx = am
xx pm



Exist Traffic Counts

1/2

Intersection Turning Movement Count Summary

APEX CONSULTING ENGINEERS
CIVIL ENGINEERS • MANAGEMENT • DEVELOPMENT

Project: 25-22 TK Counts Archwood New Castle
Location: New Castle, Colorado
EB/WB Road: Castle Valley Bl
NB/SB Road: Pyramid Dr

Counted By: APEX
Count Date: 6-26-2025

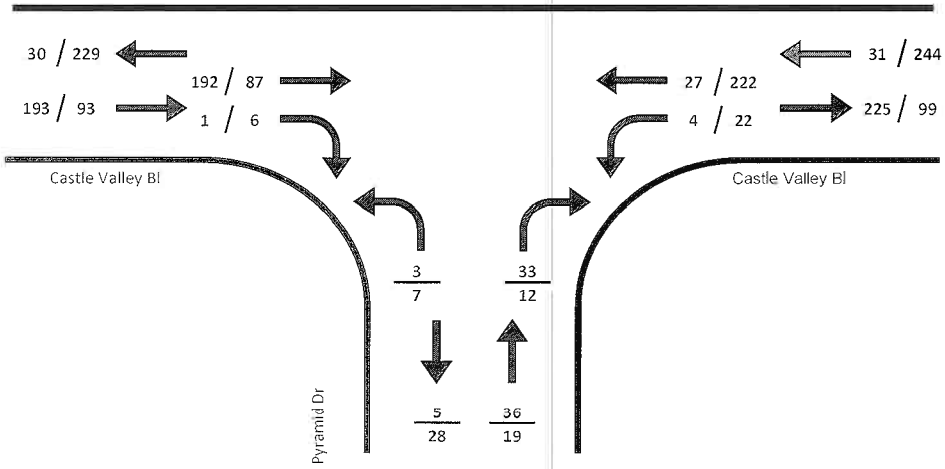
Intersection 1 - Castle Valley Bl & Pyramid Dr

		Castle Valley Bl - (EB)			Castle Valley Bl - (WB)			Pyramid Dr - (NB)			Pyramid Dr - (SB)			Sums
		Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	
AM	07:00	0	38	2	1	9	0	1	0	7	0	0	0	58
	07:15	0	51	0	1	7	0	0	0	13	0	0	0	72
	07:30	0	42	0	0	6	0	1	0	7	0	0	0	56
	07:45	0	48	1	1	5	0	2	0	6	0	0	0	63
	08:00	0	51	0	2	9	0	0	0	7	0	0	0	69
	08:15	0	43	1	2	18	0	1	0	4	0	0	0	69
	08:30	0	36	0	2	14	0	1	0	2	0	0	0	55
	08:45	0	26	0	2	15	0	1	0	2	0	0	0	46
	Peak	0	192	1	4	27	0	3	0	33	0	0	0	260
	Sums		193			31			36			0		
PM	16:00	0	13	2	8	48	0	0	0	3	0	0	0	74
	16:15	0	32	1	7	41	0	0	0	3	0	0	0	84
	16:30	0	22	0	6	61	0	4	0	2	0	0	0	95
	16:45	0	21	2	5	54	0	2	0	3	0	0	0	87
	17:00	0	19	2	6	57	0	1	0	3	0	0	0	88
	17:15	0	25	2	5	50	0	0	0	4	0	0	0	86
	17:30	0	21	3	4	47	0	0	0	2	0	0	0	77
	17:45	0	22	2	1	49	0	2	0	5	0	0	0	81
	Peak	0	87	6	22	222	0	7	0	12	0	0	0	356
	Sums		93			244			19			0		

AM Peak 07:15-08:15
PM Peak 16:30-17:30

xx/xx = am/pm

xx = am
xx pm



2/2

Future Background Traffic Calculations

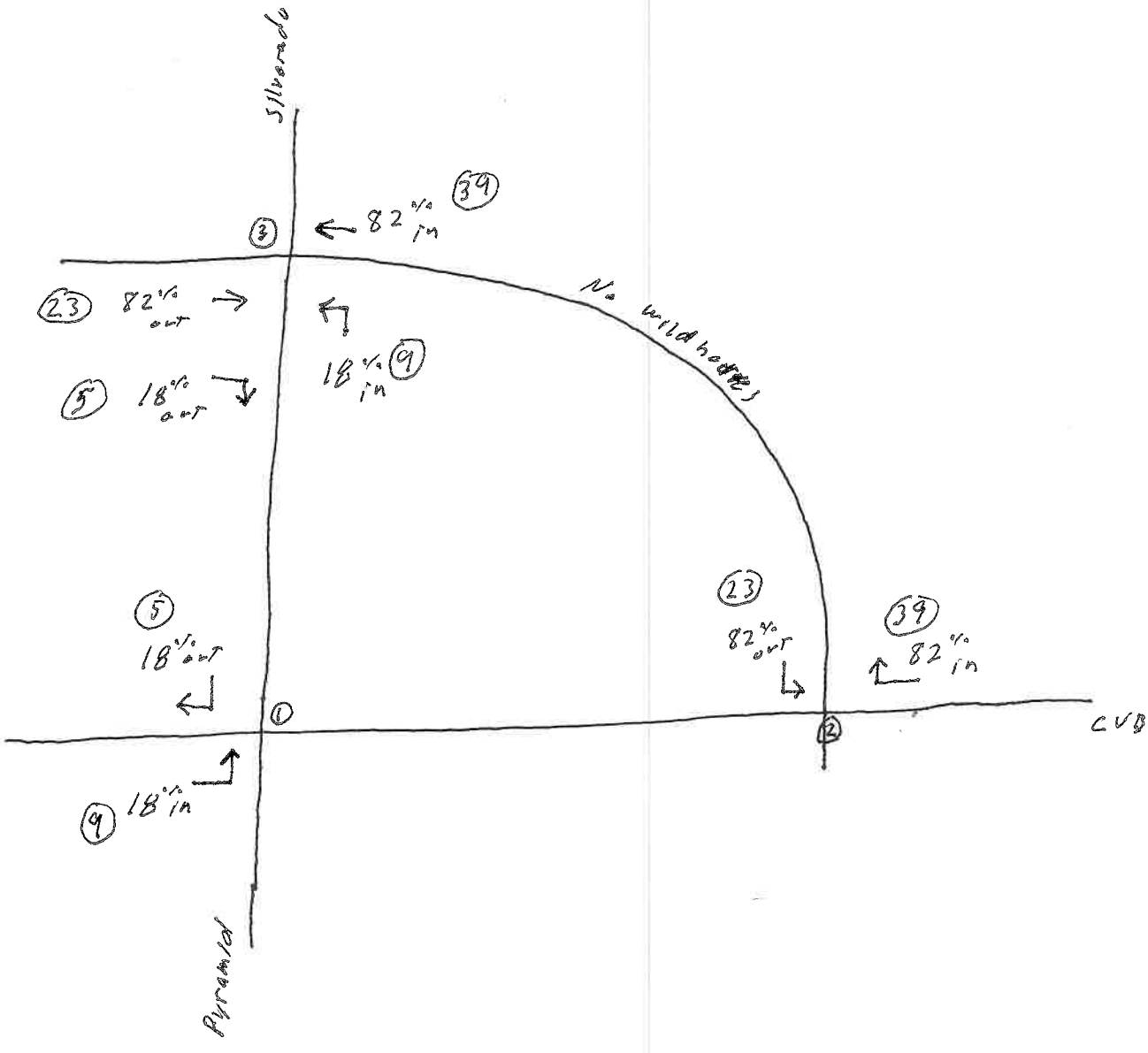


9 North Project Trips - AM

Totals
AM = 15 in, 48 out

Part of 2045 Background Traffic

1/ 4



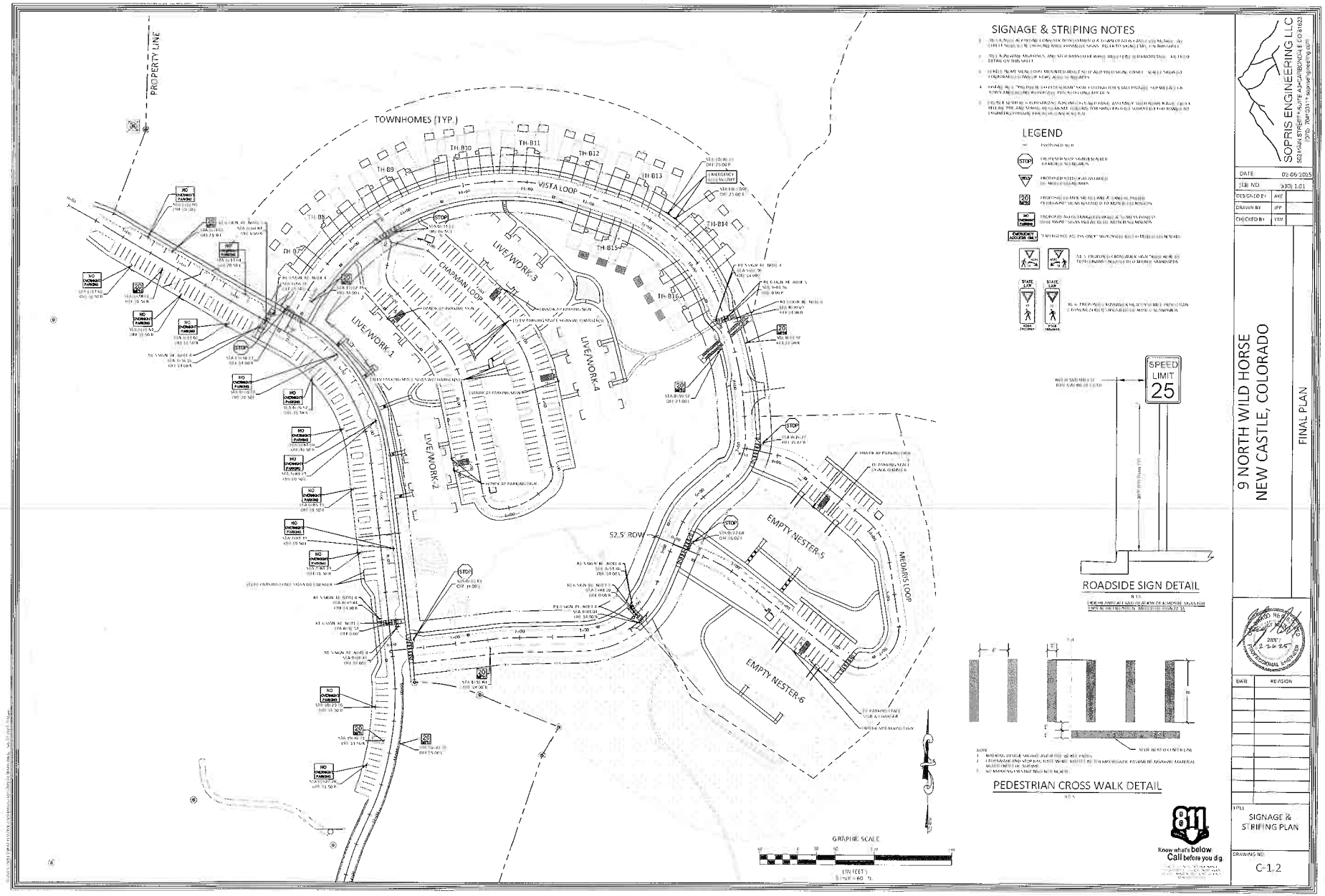
9 North Project Trips - PM

Totals
PM = 48 in, 28 out

Part of 2045 Background Traffic

2/4

EXHIBIT J



SIGNAGE & STRIPING NOTES

1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]

LEGEND

- PROPOSED SIGN
- STOP — PROPOSED STOP SIGN MOUNTED TO METAL SIGN POST
- YIELD — PROPOSED YIELD SIGN MOUNTED
- 20 MPH — PROPOSED SPEED LIMIT SIGN TO BE INSTALLED PER CURRENT MUTCD STANDARDS TO MATCH EXISTING
- NO OVERNIGHT PARKING — PROPOSED NO OVERNIGHT PARKING SIGN TO BE INSTALLED PER CURRENT MUTCD STANDARDS TO MATCH EXISTING
- EMERGENCY ACCESS ONLY — PROPOSED ACCESS ONLY SIGN TO BE INSTALLED PER CURRENT MUTCD STANDARDS
- PROPOSED PEDESTRIAN CROSSWALK SIGN TO BE INSTALLED PER CURRENT MUTCD STANDARDS
- STATE LAW / YOUR ORDINANCE — PROPOSED SPEED LIMIT SIGN TO BE INSTALLED PER CURRENT MUTCD STANDARDS

ROADSIDE SIGN DETAIL

N.T.S.

PEDESTRIAN CROSS WALK DETAIL

N.T.S.

NOTE
1. [illegible]
2. [illegible]
3. [illegible]

811 Know what's below. Call before you dig.

SOPRIS ENGINEERING LLC
502 MAIN STREET • SUITE A • CARBONDALE, CO 81623
(970) 704-0313 • soprisengineering.com

DATE	02-09-2015
JOB NO.	330.1.01
DESIGNED BY	AKC
DRAWN BY	JPP
CHECKED BY	YTH

9 NORTH WILD HORSE
NEW CASTLE, COLORADO

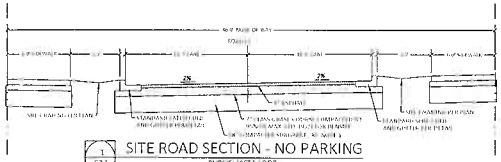
FINAL PLAN

DATE	REVISION

TITLE: SIGNAGE & STRIPING PLAN

DRAWING NO: C-1.2

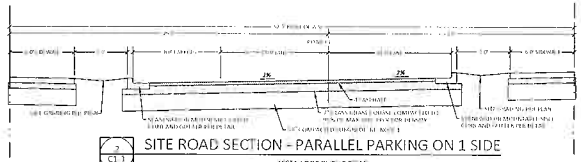
EXHIBIT



1 / C1.1 — SITE ROAD SECTION - NO PARKING

PUBLIC VISTA LOOP
PRIVATE SUNSET LOOP, LIVE/WORK LOOP ROADS
N.T.S.

NOTES:
1. STRIP ALL TOPSOIL, SCARIFY, OVEREXCAVATE, AND RECOMPACT SUBGRADE A MINIMUM OF 18" DEPTH TO 95% STANDARD PROCTOR.
2. SOILS ENGINEER SHALL OBSERVE AND TEST COMPACTION DURING CONSTRUCTION.
3. REFER TO SITE PLAN FOR SIDEWALK LOCATION AND EXTENTS.



2 / C1.1 — SITE ROAD SECTION - PARALLEL PARKING ON 1 SIDE

VISTA LOOP PUBLIC ROAD
N.T.S.

NOTES:
1. STRIP ALL TOPSOIL, SCARIFY, OVEREXCAVATE, AND RECOMPACT SUBGRADE A MINIMUM OF 18" DEPTH TO 95% STANDARD PROCTOR.
2. SOILS ENGINEER SHALL OBSERVE AND TEST COMPACTION DURING CONSTRUCTION.
3. REFER TO SITE PLAN FOR SIDEWALK LOCATION AND EXTENTS.
4. REFER TO PLAN FOR PARKING LOCATIONS.
5. MOUNTABLE CURB PROPOSED ADJACENT TO TOWNHOMES. LANDSCAPE WIDTH REDUCED TO ACCOUNT FOR WIDER CURB.



3 / C1.1 — STRUCTURAL FIRE TRUCK ACCESS SECTION

SOUTH OF EMPTY NESTER ON LOT 5 & PARCEL E
N.T.S.

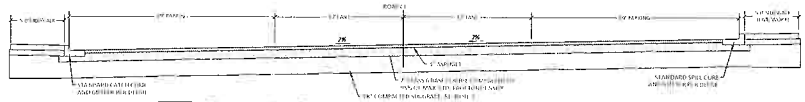
NOTES:
1. STRIP ALL TOPSOIL, SCARIFY, OVEREXCAVATE, AND RECOMPACT SUBGRADE A MINIMUM OF 18" DEPTH TO 95% STANDARD PROCTOR.
2. SOILS ENGINEER SHALL OBSERVE AND TEST COMPACTION DURING CONSTRUCTION.



4 / C1.1 — STRUCTURAL FIRE TRUCK ACCESS SECTION

ON LOT 1 & PARCEL E
N.T.S.

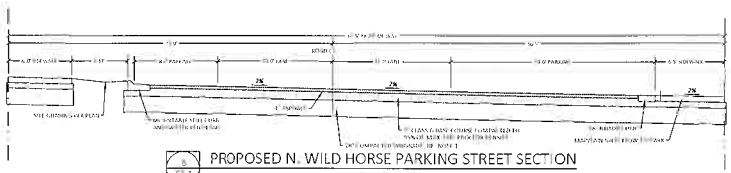
NOTES:
1. STRIP ALL TOPSOIL, SCARIFY, & SHAPE EXISTING SUBGRADE.
2. COORDINATE FINAL TRAIL IMPROVEMENTS WITH FIRE DISTRICT DURING CONSTRUCTION.
3. SOILS ENGINEER SHALL OBSERVE AND TEST COMPACTION DURING CONSTRUCTION.



5 / C1.1 — PRIVATE SITE ROAD SECTION - PERPENDICULAR PARKING

EMPTY NESTER & LIVE/WORK UNITS
N.T.S.

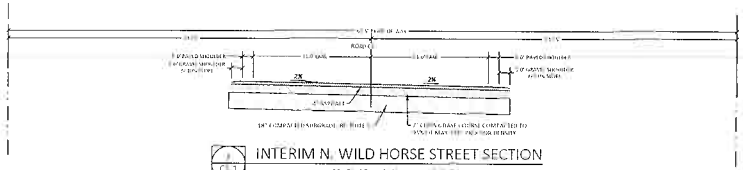
NOTES:
1. STRIP ALL TOPSOIL, SCARIFY, OVEREXCAVATE, AND RECOMPACT SUBGRADE A MINIMUM OF 18" DEPTH TO 95% STANDARD PROCTOR.
2. SOILS ENGINEER SHALL OBSERVE AND TEST COMPACTION DURING CONSTRUCTION.
3. REFER TO SITE PLAN FOR SIDEWALK LOCATION AND EXTENTS.
4. REFER TO PLAN FOR PARKING LOCATIONS.



6 / C1.1 — PROPOSED N. WILD HORSE PARKING STREET SECTION

LOOKING SOUTH
N.T.S.

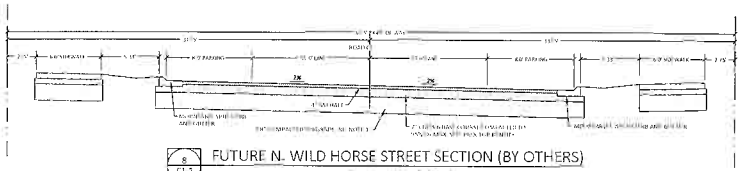
NOTES:
1. STRIP ALL TOPSOIL, SCARIFY, OVEREXCAVATE, AND RECOMPACT SUBGRADE A MINIMUM OF 18" DEPTH TO 95% STANDARD PROCTOR.
2. SOILS ENGINEER SHALL OBSERVE AND TEST COMPACTION DURING CONSTRUCTION.
3. REFER TO SITE PLAN FOR SIDEWALK LOCATION AND EXTENTS.
4. REFER TO PLAN FOR PARKING LOCATIONS.



4 / C1.1 — INTERIM N. WILD HORSE STREET SECTION

SOUTH OF VIX PARK, LOOKING SOUTH
N.T.S.

NOTES:
1. STRIP ALL TOPSOIL, SCARIFY, OVEREXCAVATE, AND RECOMPACT SUBGRADE A MINIMUM OF 18" DEPTH TO 95% STANDARD PROCTOR.
2. SOILS ENGINEER SHALL OBSERVE AND TEST COMPACTION DURING CONSTRUCTION.
3. SECTION INCLUDES TRAVEL LANES TO ALLOW FOR FUTURE BUILD OUT OF ROAD BY OTHERS



8 / C1.1 — FUTURE N. WILD HORSE STREET SECTION (BY OTHERS)

SOUTH OF VIX PARK, LOOKING SOUTH
N.T.S.

NOTES:
1. STRIP ALL TOPSOIL, SCARIFY, OVEREXCAVATE, AND RECOMPACT SUBGRADE A MINIMUM OF 18" DEPTH TO 95% STANDARD PROCTOR.
2. SOILS ENGINEER SHALL OBSERVE AND TEST COMPACTION DURING CONSTRUCTION.

811 Know what's below. Call before you dig.

SOPRIS ENGINEERING LLC
522 MAIN STREET • GLENWOOD SPRINGS, CO 81601
970.945.2988 • soprisengineering.com

DATE: 02.26.2025
JOB NO: 3301.1.01
DESIGNED BY: JPP
DRAWN BY: JPP
CHECKED BY: TTH

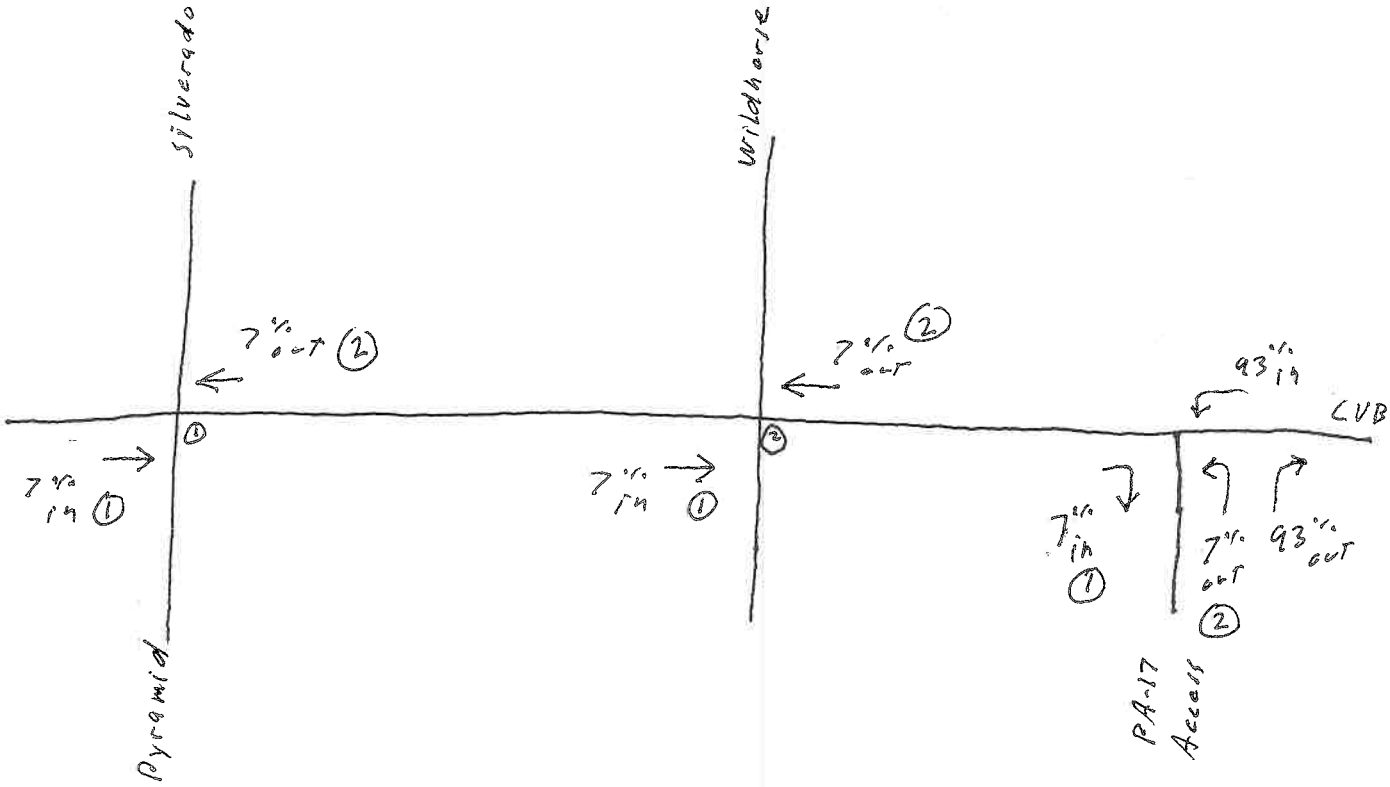
9 NORTH WILD HORSE
NEW CASTLE, COLORADO

FINAL PLAN

DATE	REVISION

TITLE: ROAD SECTIONS

DRAWING NO: C1.1

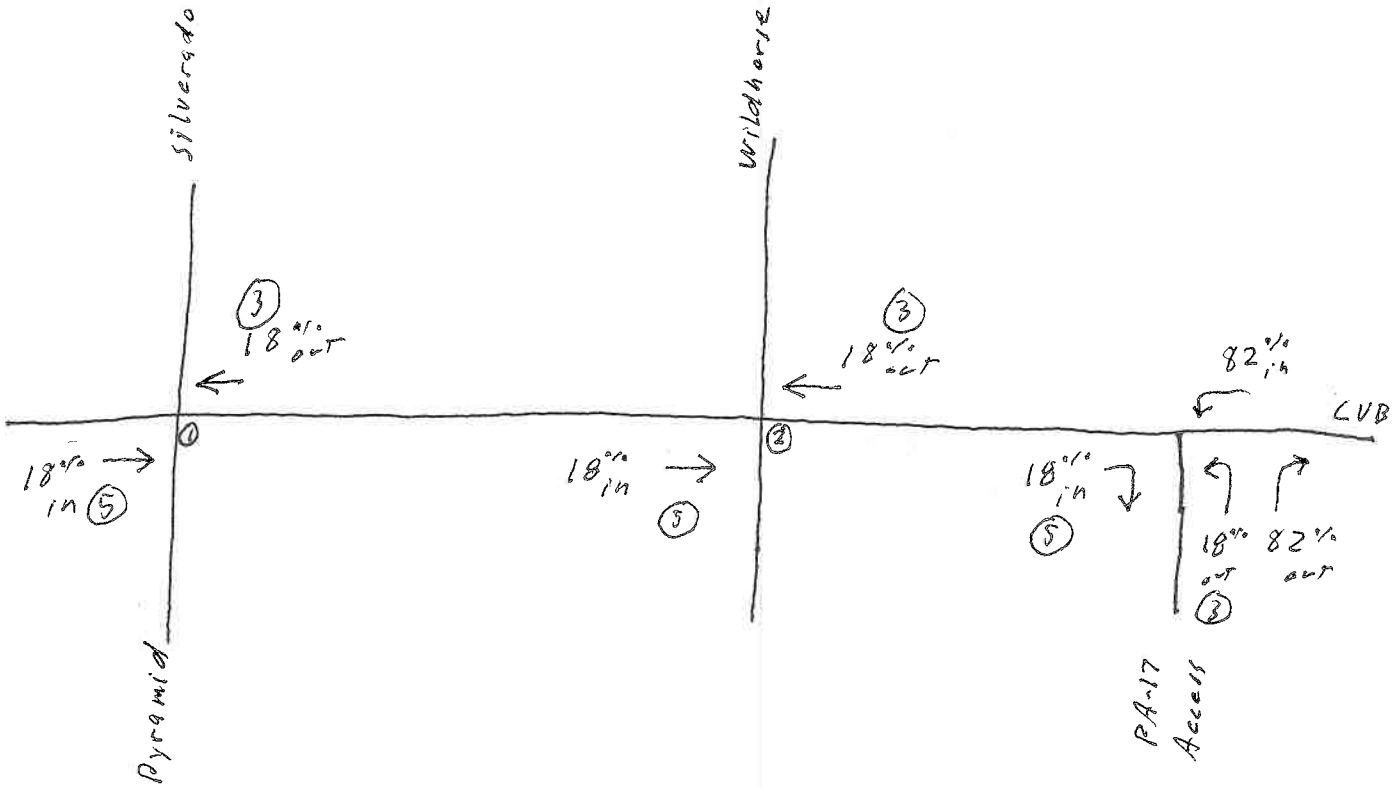


PA-17 Project Trips - AM

Totals - AM
In = 10, out = 34

Part of 2045 Background Traffic

1/3



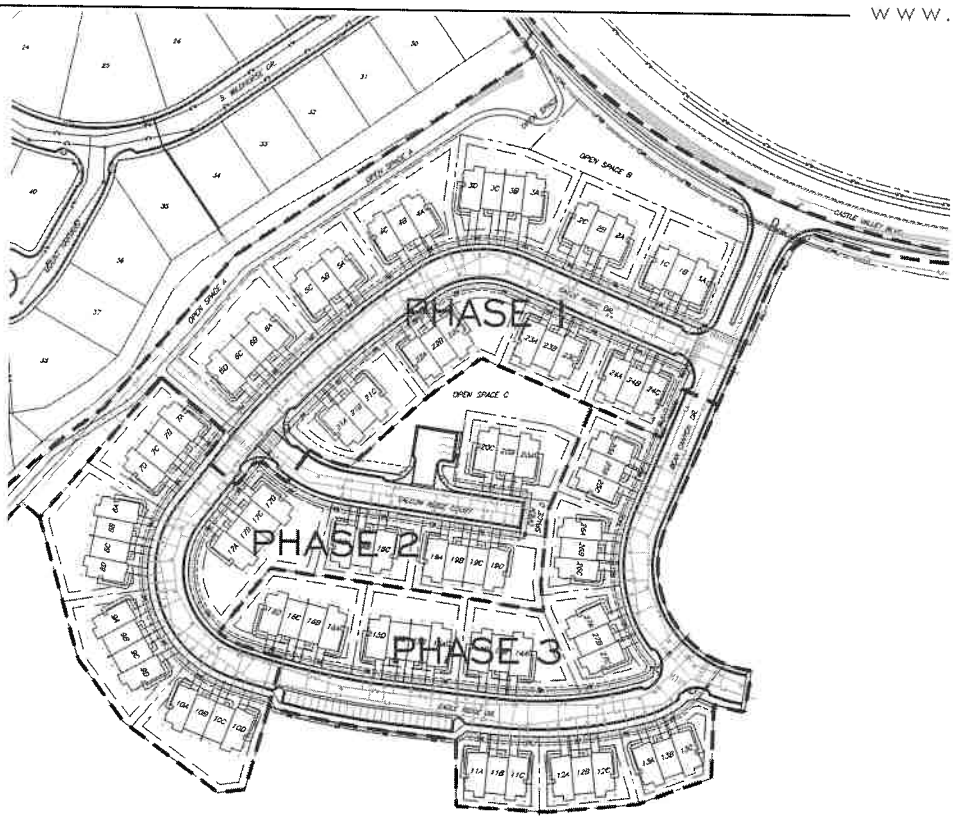
PA-17 Project Trips - PM

Totals - PM

in = 27, out = 16

Part of 2045 Background Traffic

2/3



ITE's *Trip Generation (10th Edition)* provides trip generation rates for Multi-Family, low-rise (Code 220) housing units for weekday AM and PM peak hour. The resulting trip generation is shown in the Table below.

Trip Generation Table - PA 17 Castle Valley Ranch

ITE Trip Generation, 10th Edition

				Design Hour Rates						Weekday DHV				
Land Use	Number of Units	ITE Code	Weekda Rate	AM Rate	AM IN	AM OUT	PM Rate	PM IN	PM OUT	eekd Traffi	AM IN	AM OUT	PM IN	PM OUT
Multi-Family (Low-rise)	91	220	7.11	0.48	0.11	0.37	0.60	0.30	0.18	647	10	34	27	16

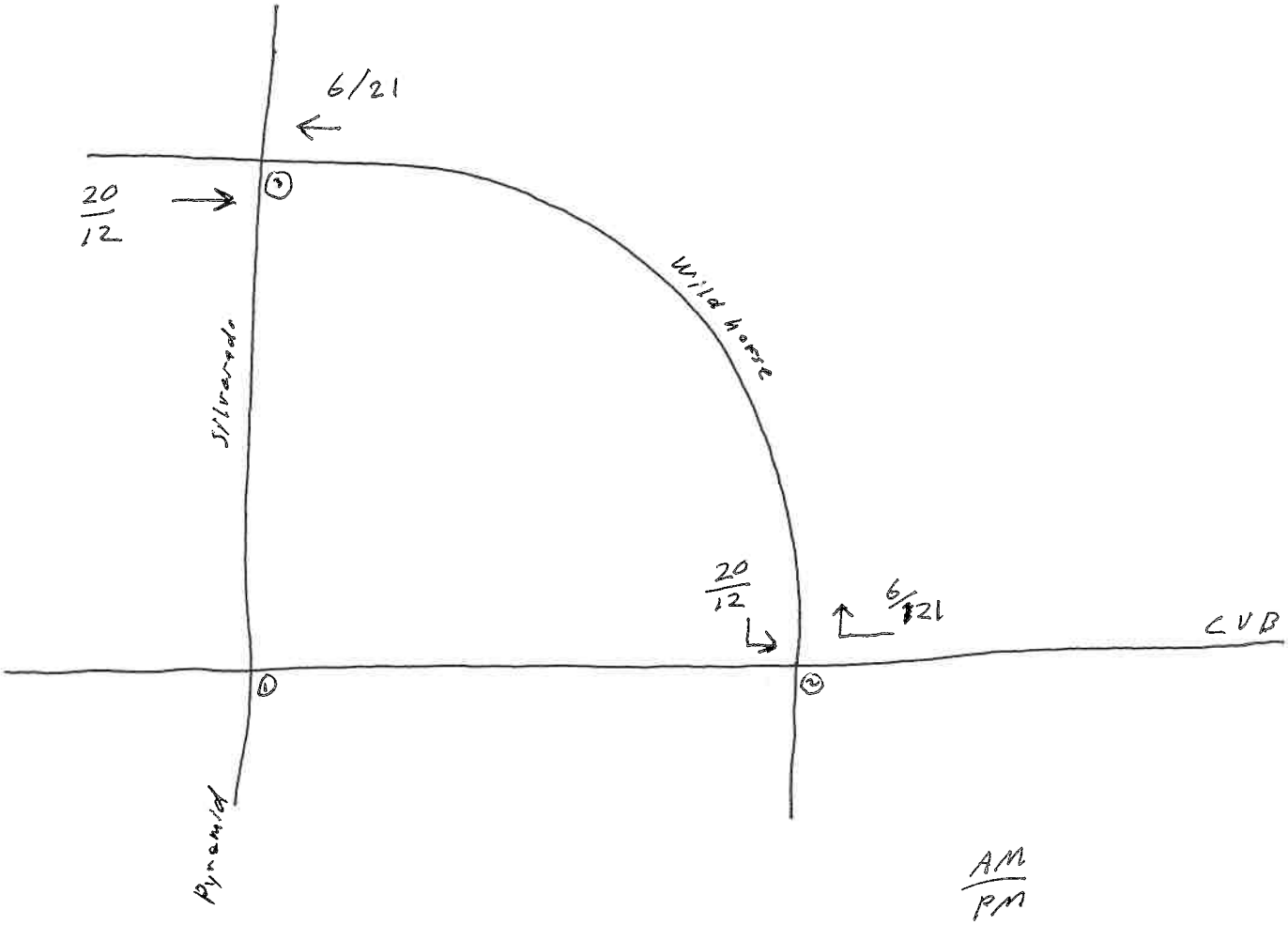
ITE Ttrip Generation Manual, 10th Edition	TE Code	Basis of	Time Period Used Above	Weekday Design Distributio AM IN	M OUT	PM IN	M OUT
Multi-Family (Low-rise)	220	Fitted Cu	Peak Hour adjac	23%	77%	63%	37%

Trip Distribution and Assignment

The distribution and assignment of site generated trips are based upon the primary access and activities oriented toward the I-70 interchange. The distribution is assumed to be 95% oriented to/from the east and 5% oriented to/from the west. The resulting trip assignment is shown on the following page.

PA-17 Trip Info

3/3



Diverted Traffic - AM + PM

Totals
AM = 6 in, 20 out
PM = 20 in, 12 out

Part of 2045 Background Traffic

1/3

Graph Look Up

Query | Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
210

LAND USE GROUP:
(200-299) Residential

LAND USE:
210 - Single-Family Detached Hous

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

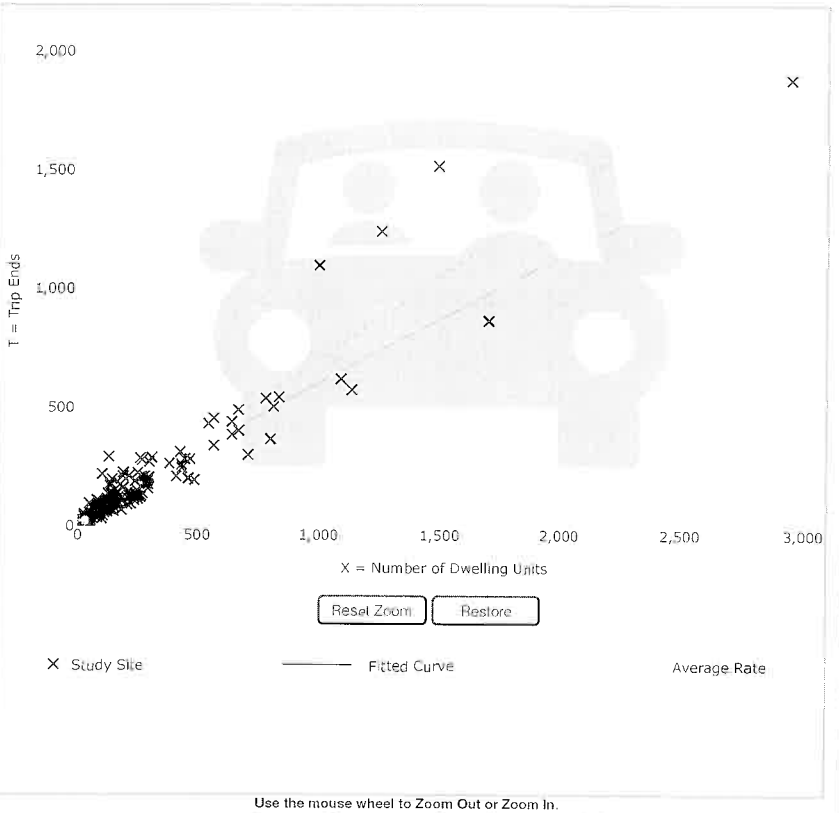
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent St

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
31 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Single-Family Detached Housing (210) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
192

Avg. Num. of Dwelling Units:
226

Average Rate:
0.70

Range of Rates:
0.27 - 2.27

Standard Deviation:
0.24

Fitted Curve Equation:
Ln(T) = 0.91 Ln(X) + 0.12

R^2:
0.90

Directional Distribution:
25% entering, 75% exiting

Calculated Trip Ends:
Average Rate: 22 (Total), 5 (Entry), 17 (Exit)
Fitted Curve: 26 (Total), 6 (Entry), 20 (Exit)

Diverted Traffic - AM Peak

2/3

Graph Look Up

Query | Filter

DATA SOURCE:
Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:
210

LAND USE GROUP:
(200-299) Residential

LAND USE :
210 - Single-Family Detached Hous

LAND USE SUBCATEGORY:
All Sites

SETTING/LOCATION:
General Urban/Suburban

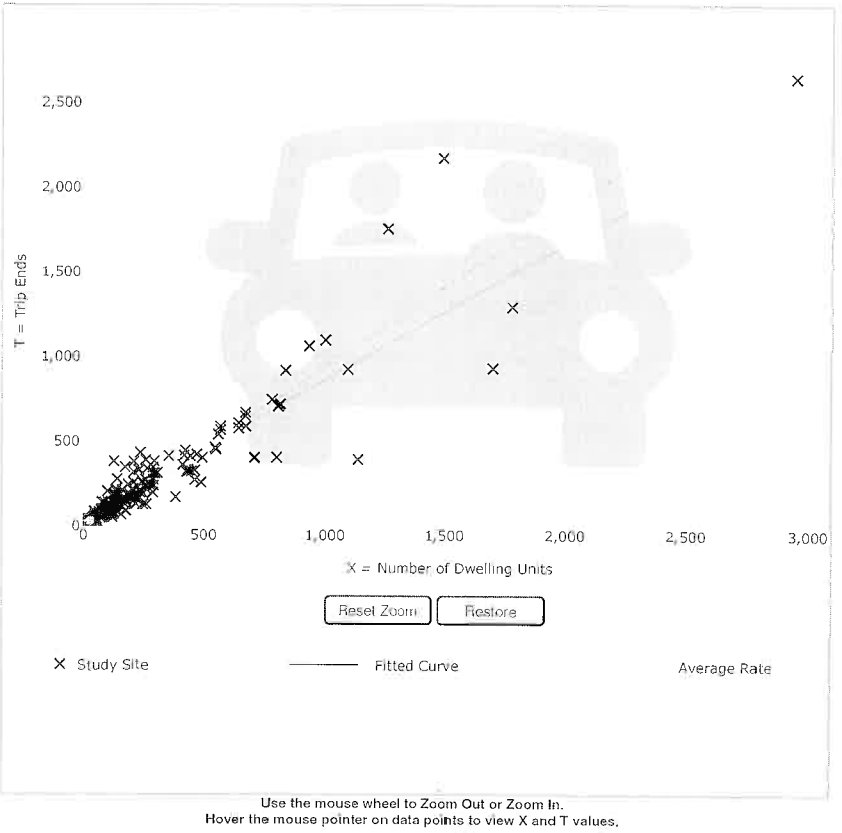
INDEPENDENT VARIABLE (IV):
Dwelling Units

TIME PERIOD:
Weekday, Peak Hour of Adjacent St

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
31 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Single-Family Detached Housing (210) Click for Description and Data Plots

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
208

Avg. Num. of Dwelling Units:
248

Average Rate:
0.94

Range of Rates:
0.35 - 2.98

Standard Deviation:
0.31

Fitted Curve Equation:
Ln(T) = 0.94 Ln(X) + 0.27

R^2:
0.92

Directional Distribution:
63% entering, 37% exiting

Calculated Trip Ends:
Average Rate: 29 (Total), 18 (Entry), 11 (Exit)
Fitted Curve: 33 (Total), 21 (Entry), 12 (Exit)

Diverted Traffic - PM Peak

Traffic Volume Calculation Tables

General Inputs

Project Archwood Resid

Version 7/7/25

Smoothing (yes/no)

		AM	PM
State Hwy	Seasonal Adj Factor =	1	1

Trip Generation - Phase 1			
Driveways			
	Weekday AM	Weekday PM	Sat
Enter (in)	8	22	
Exit (out)	24	16	
Off Site intersection (non-driveways)			
	AM	PM	Sat
Enter (in)	8	22	
Exit (out)	24	16	

Trip Generation - Phase 2			
Driveways			
	Weekday AM	Weekday PM	Sat
Enter (in)	8	22	
Exit (out)	24	16	
Off Site intersection (non-driveways)			
	AM	PM	Sat
Enter (in)	8	22	
Exit (out)	24	16	

Growth Factors		
Period	Year	Factor
1	2027	varies
2	2045	varies
3		

Intersection Names	
INT 1	Castle Valley Blvd. (E-W) & Pyramid Dr. (N-S)
INT 2	Castle Valley Blvd. (E-W) & N. Wildhorse Dr. (N-S)
INT 3	N. Wildhorse Dr. (E-W) & Silverado Trail (N-S)
INT 4	
INT 5	
INT 6	
INT 7	
INT 8	
INT 9	
INT 10	
INT 11	
INT 12	
INT 13	
INT 14	
INT 15	

Study Times

Condition 1	Weekday AM
Condition 2	Weekday PM
Condition 3	Not used

Traffic Volume Cycles

INT 1 Castle Valley Blvd. (E-W) & Pyramid Dr. (N-S) Archwood Resid

	Weekday AM Condition												
	Eastbound (CVB)			Westbound (CVB)			Northbound (Pyramid)			Southbound (Silverado)			
Description	L	TH	R	L	TH	R	L	TH	R	L	TH	R	
Existing Volumes (June 2025) for Period 1 & 2	0	192	1	4	27	0	3	0	33	0	0	0	Exist S. Leg 2-way
Adjusted volumes - seasonal Period 1 &2	0	192	1	4	27	0	3	0	33	0	0	0	41
Trip Distribution % Inbound Period 1	7%	0%	0%	0%	0%	93%	0%	0%	0%	0%	0%	0%	0
Trip Distribution % Outbound Period 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	93%	0%	7%	
Trip Distribution % Inbound Period 2	7%	0%	0%	0%	0%	93%	0%	0%	0%	0%	0%	0%	
Trip Distribution % Outbound Period 2	0%	0%	0%	0%	0%	0%	0%	0%	0%	93%	0%	7%	
Project Trip Volume Inbound - Period 1	1	0	0	0	0	7	0	0	0	0	0	0	
Project Trip Volume Outbound - Period 1	0	0	0	0	0	0	0	0	0	22	0	2	
Project Trip Volume Total - Period 1	1	0	0	0	0	7	0	0	0	22	0	2	
Project Trip Volume Inbound - Period 2	1	0	0	0	0	7	0	0	0	0	0	0	
Project Trip Volume Outbound - Period 2	0	0	0	0	0	0	0	0	0	22	0	2	
Project Trip Volume Total - Period 2	1	0	0	0	0	7	0	0	0	22	0	2	
9 North Traffic Period 1 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
9 North Traffic Period 2 (BG)	1	0	0	0	0	0	0	0	0	0	0	3	
PA-17 Traffic Period 1 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
PA-17 Traffic Period 2 (BG)	0	1	0	0	2	0	0	0	0	0	0	0	
Diverted Bucksin Circle period 1 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
Diverted Bucksin Circle period 2 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	Future S. Leg 2-way
Future Background Volume - Period 1	0	192	1	4	27	0	3	0	33	0	0	0	Manual entry
Future Background Volume - Period 2	1	193	1	4	29	0	3	0	33	0	0	3	Manual entry
Total Future Volume - Period 1	1	192	1	4	27	7	3	0	33	22	0	2	41
Total Future Volume - Period 2	2	193	1	4	29	7	3	0	33	22	0	5	41

	Weekday PM Condition												
	Eastbound (CVB)			Westbound (CVB)			Northbound (Pyramid)			Southbound (Silverado)			
Description	L	TH	R	L	TH	R	L	TH	R	L	TH	R	
Existing Volumes (June 2025) for Period 1 & 2	0	87	6	22	222	0	7	0	12	0	0	0	Exist S. Leg 2-way
Adjusted volumes - seasonal Period 1 &2	0	87	6	22	222	0	7	0	12	0	0	0	47
Trip Distribution % Inbound Period 1	18%	0%	0%	0%	0%	82%	0%	0%	0%	0%	0%	0%	
Trip Distribution % Outbound Period 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	82%	0%	18%	
Trip Distribution % Inbound Period 2	18%	0%	0%	0%	0%	82%	0%	0%	0%	0%	0%	0%	
Trip Distribution % Outbound Period 2	0%	0%	0%	0%	0%	0%	0%	0%	0%	82%	0%	18%	
Project Trip Volume Inbound - Period 1	4	0	0	0	0	18	0	0	0	0	0	0	
Project Trip Volume Outbound - Period 1	0	0	0	0	0	0	0	0	0	13	0	3	
Project Trip Volume Total - Period 1	4	0	0	0	0	18	0	0	0	13	0	3	
Project Trip Volume Inbound - Period 2	4	0	0	0	0	18	0	0	0	0	0	0	
Project Trip Volume Outbound - Period 2	0	0	0	0	0	0	0	0	0	13	0	3	
Project Trip Volume Total - Period 2	4	0	0	0	0	18	0	0	0	13	0	3	
9 North Traffic Period 1 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
9 North Traffic Period 2 (BG)	9	0	0	0	0	0	0	0	0	0	0	5	
PA-17 Traffic Period 1 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
PA-17 Traffic Period 2 (BG)	0	5	0	0	3	0	0	0	0	0	0	0	
Diverted Bucksin Circle period 1 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
Diverted Bucksin Circle period 2 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	Future S. Leg 2-way
Future Background Volume - Period 1	0	87	6	22	222	0	7	0	12	0	0	0	0
Future Background Volume - Period 2	9	92	6	22	225	0	7	0	12	0	0	5	Manual entry
Total Future Volume - Period 1	4	87	6	22	222	18	7	0	12	13	0	3	47
Total Future Volume - Period 2	13	92	6	22	225	18	7	0	12	13	0	8	47

2/4

INT 2 Castle Valley Blvd. (E-W) & N. Wildhorse Dr. (N-S) Archwood Resid

	Weekday AM Condition												
	Eastbound (CVB)			Westbound (CVB)			Northbound (wildhorse)			Southbound (wildhorse)			
Description	L	TH	R	L	TH	R	L	TH	R	L	TH	R	
Existing Volumes (June 2025) for Period 1 & 2	3	219	0	4	31	5	0	1	49	21	0	1	Exist S. Leg 2-way
Adjusted volumes - seasonal Period 1 &2	3	219	0	4	31	5	0	1	49	21	0	1	54
Trip Distribution % Inbound Period 1	0%	0%	0%	0%	93%	0%	0%	0%	0%	0%	0%	0%	0
Trip Distribution % Outbound Period 1	0%	93%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Trip Distribution % Inbound Period 2	0%	0%	0%	0%	93%	0%	0%	0%	0%	0%	0%	0%	
Trip Distribution % Outbound Period 2	0%	93%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Project Trip Volume Inbound - Period 1	0	0	0	0	7	0	0	0	0	0	0	0	
Project Trip Volume Outbound - Period 1	0	22	0	0	0	0	0	0	0	0	0	0	
Project Trip Volume Total - Period 1	0	22	0	0	7	0	0	0	0	0	0	0	
Project Trip Volume Inbound - Period 2	0	0	0	0	7	0	0	0	0	0	0	0	
Project Trip Volume Outbound - Period 2	0	22	0	0	0	0	0	0	0	0	0	0	
Project Trip Volume Total - Period 2	0	22	0	0	7	0	0	0	0	0	0	0	
9 North Traffic Period 1 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
9 North Traffic Period 2 (BG)	0	0	0	0	0	14	0	0	0	45	0	0	
PA-17 Traffic Period 1 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
PA-17 Traffic Period 2 (BG)	0	1	0	0	2	0	0	0	0	0	0	0	
Diverted Bucksin Circle period 1 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
Diverted Bucksin Circle period 2 (BG)	0	0	0	0	0	6	0	0	0	20	0	0	Future S. Leg 2-way
Future Background Volume - Period 1	3	219	0	4	31	5	0	1	49	21	0	1	Manual entry
Future Background Volume - Period 2	3	220	0	4	33	25	0	1	49	86	0	1	Manual entry
Total Future Volume - Period 1	3	241	0	4	38	5	0	1	49	21	0	1	54
Total Future Volume - Period 2	3	242	0	4	40	25	0	1	49	86	0	1	54

	Weekday PM Condition												
	Eastbound (CVB)			Westbound (CVB)			Northbound (wildhorse)			Southbound (wildhorse)			
Description	L	TH	R	L	TH	R	L	TH	R	L	TH	R	
Existing Volumes (June 2025) for Period 1 & 2	3	101	3	58	230	28	1	2	23	11	0	4	Exist S. Leg 2-way
Adjusted volumes - seasonal Period 1 &2	3	101	3	58	230	28	1	2	23	11	0	4	87
Trip Distribution % Inbound Period 1	0%	0%	0%	0%	82%	0%	0%	0%	0%	0%	0%	0%	
Trip Distribution % Outbound Period 1	0%	82%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Trip Distribution % Inbound Period 2	0%	0%	0%	0%	82%	0%	0%	0%	0%	0%	0%	0%	
Trip Distribution % Outbound Period 2	0%	82%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Project Trip Volume Inbound - Period 1	0	0	0	0	18	0	0	0	0	0	0	0	
Project Trip Volume Outbound - Period 1	0	13	0	0	0	0	0	0	0	0	0	0	
Project Trip Volume Total - Period 1	0	13	0	0	18	0	0	0	0	0	0	0	
Project Trip Volume Inbound - Period 2	0	0	0	0	18	0	0	0	0	0	0	0	
Project Trip Volume Outbound - Period 2	0	13	0	0	0	0	0	0	0	0	0	0	
Project Trip Volume Total - Period 2	0	13	0	0	18	0	0	0	0	0	0	0	
9 North Traffic Period 1 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
9 North Traffic Period 2 (BG)	0	0	0	0	0	39	0	0	0	23	0	0	
PA-17 Traffic Period 1 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
PA-17 Traffic Period 2 (BG)	0	5	0	0	3	0	0	0	0	0	0	0	
Diverted Bucksin Circle period 1 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
Diverted Bucksin Circle period 2 (BG)	0	0	0	0	0	21	0	0	0	12	0	0	Future S. Leg 2-way
Future Background Volume - Period 1	3	101	3	58	230	28	1	2	23	11	0	4	0
Future Background Volume - Period 2	3	106	3	58	233	88	1	2	23	46	0	4	Manual entry
Total Future Volume - Period 1	3	114	3	58	248	28	1	2	23	11	0	4	87
Total Future Volume - Period 2	3	119	3	58	251	88	1	2	23	46	0	4	87

3/4

INT 3 N. Wildhorse Dr. (E-W) & Silverado Trail (N-S) Archwood Resid

	Weekday AM Condition												
	Eastbound (wildhorse)			Westbound (wildhorse)			Northbound (Silverado)			Southbound (Silverado)			
Description	L	TH	R	L	TH	R	L	TH	R	L	TH	R	
Existing Volumes (June 2025) for Period 1 & 2	0	0	0	0	0	0	0	0	0	0	0	0	
Adjusted volumes - seasonal Period 1 &2	0	0	0	0	0	0	0	0	0	0	0	0	
Trip Distribution % Inbound Period 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0
Trip Distribution % Outbound Period 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Trip Distribution % Inbound Period 2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Trip Distribution % Outbound Period 2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Project Trip Volume Inbound - Period 1	0	0	0	0	0	0	0	0	0	0	0	0	
Project Trip Volume Outbound - Period 1	0	0	0	0	0	0	0	0	0	0	0	0	
Project Trip Volume Total - Period 1	0	0	0	0	0	0	0	0	0	0	0	0	
Project Trip Volume Inbound - Period 2	0	0	0	0	0	0	0	0	0	0	0	0	
Project Trip Volume Outbound - Period 2	0	0	0	0	0	0	0	0	0	0	0	0	
Project Trip Volume Total - Period 2	0	0	0	0	0	0	0	0	0	0	0	0	
9 North Traffic Period 1 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
9 North Traffic Period 2 (BG)	0	45	3	0	14	0	1	0	0	0	0	0	
PA-17 Traffic Period 1 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
PA-17 Traffic Period 2 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
Diverted Bucksin Circle period 1 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
Diverted Bucksin Circle period 2 (BG)	0	20	0	0	6	0	0	0	0	0	0	0	
Future Background Volume - Period 1	0	0	0	0	0	0	0	0	0	0	0	0	Manual ent
Future Background Volume - Period 2	0	65	3	0	20	0	1	0	0	0	0	0	Manual ent
Total Future Volume - Period 1	0	0	0	0	0	0	0	0	0	0	0	0	
Total Future Volume - Period 2	0	65	3	0	20	0	1	0	0	0	0	0	4

	Weekday PM Condition												
	Eastbound (wildhorse)			Westbound (wildhorse)			Northbound (Silverado)			Southbound (Silverado)			
Description	L	TH	R	L	TH	R	L	TH	R	L	TH	R	
Existing Volumes (June 2025) for Period 1 & 2	0	0	0	0	0	0	0	0	0	0	0	0	
Adjusted volumes - seasonal Period 1 &2	0	0	0	0	0	0	0	0	0	0	0	0	
Trip Distribution % Inbound Period 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Trip Distribution % Outbound Period 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Trip Distribution % Inbound Period 2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Trip Distribution % Outbound Period 2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Project Trip Volume Inbound - Period 1	0	0	0	0	0	0	0	0	0	0	0	0	
Project Trip Volume Outbound - Period 1	0	0	0	0	0	0	0	0	0	0	0	0	
Project Trip Volume Total - Period 1	0	0	0	0	0	0	0	0	0	0	0	0	
Project Trip Volume Inbound - Period 2	0	0	0	0	0	0	0	0	0	0	0	0	
Project Trip Volume Outbound - Period 2	0	0	0	0	0	0	0	0	0	0	0	0	
Project Trip Volume Total - Period 2	0	0	0	0	0	0	0	0	0	0	0	0	
9 North Traffic Period 1 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
9 North Traffic Period 2 (BG)	0	23	5	0	39	0	9	0	0	0	0	0	
PA-17 Traffic Period 1 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
PA-17 Traffic Period 2 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
Diverted Bucksin Circle period 1 (BG)	0	0	0	0	0	0	0	0	0	0	0	0	
Diverted Bucksin Circle period 2 (BG)	0	12	0	0	21	0	0	0	0	0	0	0	
Future Background Volume - Period 1	0	0	0	0	0	0	0	0	0	0	0	0	0
Future Background Volume - Period 2	0	35	5	0	60	0	9	0	0	0	0	0	Manual ent
Total Future Volume - Period 1	0	0	0	0	0	0	0	0	0	0	0	0	
Total Future Volume - Period 2	0	35	5	0	60	0	9	0	0	0	0	0	14

Intersection Operational Analysis
Sorted by Intersection Number

Intersection	
Intersection Delay, s/veh	3.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	210	33	39	0
Demand Flow Rate, veh/h	214	34	40	0
Vehicles Circulating, veh/h	4	3	213	37
Vehicles Exiting, veh/h	33	250	5	0
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	3.9	2.9	3.6	0.0
Approach LOS	A	A	A	-

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	214	34	40	0
Cap Entry Lane, veh/h	1374	1376	1110	1329
Entry HV Adj Factor	0.980	0.983	0.975	1.000
Flow Entry, veh/h	210	33	39	0
Cap Entry, veh/h	1346	1350	1081	1327
V/C Ratio	0.156	0.025	0.036	0.000
Control Delay, s/veh	3.9	2.9	3.6	2.7
LOS	A	A	A	A
95th %tile Queue, veh	1	0	0	0

INT #1

Intersection	
Intersection Delay, s/veh	4.0
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	102	265	21	0
Demand Flow Rate, veh/h	104	270	21	0
Vehicles Circulating, veh/h	24	8	97	278
Vehicles Exiting, veh/h	254	110	31	0
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	3.3	4.3	3.0	0.0
Approach LOS	A	A	A	-

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	104	270	21	0
Cap Entry Lane, veh/h	1346	1369	1250	1039
Entry HV Adj Factor	0.982	0.982	1.000	1.000
Flow Entry, veh/h	102	265	21	0
Cap Entry, veh/h	1320	1342	1248	1038
V/C Ratio	0.077	0.198	0.017	0.000
Control Delay, s/veh	3.3	4.3	3.0	3.5
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

2/8

Intersection	
Intersection Delay, s/veh	3.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	211	41	39	26
Demand Flow Rate, veh/h	215	42	40	26
Vehicles Circulating, veh/h	28	4	238	37
Vehicles Exiting, veh/h	35	274	5	9
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.1	2.9	3.7	2.9
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	215	42	40	26
Cap Entry Lane, veh/h	1341	1374	1082	1329
Entry HV Adj Factor	0.981	0.986	0.975	1.000
Flow Entry, veh/h	211	41	39	26
Cap Entry, veh/h	1313	1353	1054	1327
V/C Ratio	0.161	0.031	0.037	0.020
Control Delay, s/veh	4.1	2.9	3.7	2.9
LOS	A	A	A	A
95th %tile Queue, veh	1	0	0	0

3/8

Intersection	
Intersection Delay, s/veh	4.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	106	285	21	17
Demand Flow Rate, veh/h	108	290	21	17
Vehicles Circulating, veh/h	38	12	115	278
Vehicles Exiting, veh/h	257	124	31	24
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	3.4	4.5	3.1	3.6
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	108	290	21	17
Cap Entry Lane, veh/h	1327	1363	1227	1039
Entry HV Adj Factor	0.982	0.983	1.000	1.000
Flow Entry, veh/h	106	285	21	17
Cap Entry, veh/h	1302	1339	1225	1038
V/C Ratio	0.081	0.213	0.017	0.016
Control Delay, s/veh	3.4	4.5	3.1	3.6
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

4/8

Intersection	
Intersection Delay, s/veh	3.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	212	36	39	3
Demand Flow Rate, veh/h	216	37	40	3
Vehicles Circulating, veh/h	4	4	215	40
Vehicles Exiting, veh/h	39	251	5	1
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.0	2.9	3.6	2.7
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	216	37	40	3
Cap Entry Lane, veh/h	1374	1374	1108	1325
Entry HV Adj Factor	0.981	0.983	0.975	1.000
Flow Entry, veh/h	212	36	39	3
Cap Entry, veh/h	1346	1348	1079	1323
V/C Ratio	0.157	0.027	0.036	0.002
Control Delay, s/veh	4.0	2.9	3.6	2.7
LOS	A	A	A	A
95th %tile Queue, veh	1	0	0	0

5/8

Intersection	
Intersection Delay, s/veh	4.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	117	269	21	5
Demand Flow Rate, veh/h	119	274	21	5
Vehicles Circulating, veh/h	24	18	112	282
Vehicles Exiting, veh/h	263	115	31	10
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	3.4	4.4	3.1	3.5
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	119	274	21	5
Cap Entry Lane, veh/h	1346	1355	1231	1035
Entry HV Adj Factor	0.983	0.982	1.000	1.000
Flow Entry, veh/h	117	269	21	5
Cap Entry, veh/h	1322	1329	1229	1034
V/C Ratio	0.089	0.203	0.017	0.005
Control Delay, s/veh	3.4	4.4	3.1	3.5
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

6/8

Intersection	
Intersection Delay, s/veh	3.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	213	44	39	29
Demand Flow Rate, veh/h	217	45	40	29
Vehicles Circulating, veh/h	28	5	240	40
Vehicles Exiting, veh/h	41	275	5	10
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	4.1	2.9	3.7	2.9
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	217	45	40	29
Cap Entry Lane, veh/h	1341	1373	1080	1325
Entry HV Adj Factor	0.981	0.986	0.975	1.000
Flow Entry, veh/h	213	44	39	29
Cap Entry, veh/h	1313	1351	1052	1323
V/C Ratio	0.162	0.033	0.037	0.022
Control Delay, s/veh	4.1	2.9	3.7	2.9
LOS	A	A	A	A
95th %tile Queue, veh	1	0	0	0

7/8

Intersection	
Intersection Delay, s/veh	4.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	121	289	21	23
Demand Flow Rate, veh/h	123	294	21	23
Vehicles Circulating, veh/h	38	22	130	282
Vehicles Exiting, veh/h	267	129	31	34
Ped Vol Crossing Leg, #/h	10	10	10	10
Ped Cap Adj	0.999	0.999	0.999	0.999
Approach Delay, s/veh	3.5	4.6	3.1	3.7
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	123	294	21	23
Cap Entry Lane, veh/h	1327	1349	1209	1035
Entry HV Adj Factor	0.984	0.983	1.000	1.000
Flow Entry, veh/h	121	289	21	23
Cap Entry, veh/h	1304	1325	1207	1034
V/C Ratio	0.093	0.218	0.017	0.022
Control Delay, s/veh	3.5	4.6	3.1	3.7
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

8/8

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱		↕			↕	
Traffic Vol, veh/h	3	219	0	4	31	5	0	1	49	21	0	1
Future Vol, veh/h	3	219	0	4	31	5	0	1	49	21	0	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	238	0	4	34	5	0	1	53	23	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	49	0	0	248	0	0	307	312	258	308	307	54
Stage 1	-	-	-	-	-	-	255	255	-	52	52	-
Stage 2	-	-	-	-	-	-	52	58	-	255	255	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1558	-	-	1318	-	-	645	603	781	645	607	1014
Stage 1	-	-	-	-	-	-	750	697	-	960	851	-
Stage 2	-	-	-	-	-	-	960	847	-	749	697	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1543	-	-	1305	-	-	629	588	766	584	592	994
Mov Cap-2 Maneuver	-	-	-	-	-	-	629	588	-	584	592	-
Stage 1	-	-	-	-	-	-	741	688	-	948	840	-
Stage 2	-	-	-	-	-	-	947	836	-	688	688	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.1	0.78	10.09	11.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	761	24	-	-	206	-	-	595
HCM Lane V/C Ratio	0.071	0.002	-	-	0.003	-	-	0.04
HCM Ctrl Dly (s/v)	10.1	7.3	0	-	7.8	0	-	11.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

INT #2

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	101	3	58	230	28	1	2	23	11	0	4
Future Vol, veh/h	3	101	3	58	230	28	1	2	23	11	0	4
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	110	3	63	250	30	1	2	25	12	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	290	0	0	123	0	0	512	543	130	513	516	270
Stage 1	-	-	-	-	-	-	126	126	-	386	386	-
Stage 2	-	-	-	-	-	-	386	417	-	127	130	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1271	-	-	1464	-	-	472	447	920	471	463	769
Stage 1	-	-	-	-	-	-	878	791	-	637	610	-
Stage 2	-	-	-	-	-	-	637	592	-	876	789	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1259	-	-	1450	-	-	436	415	902	423	430	754
Mov Cap-2 Maneuver	-	-	-	-	-	-	436	415	-	423	430	-
Stage 1	-	-	-	-	-	-	867	782	-	599	573	-
Stage 2	-	-	-	-	-	-	595	556	-	839	779	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.22	1.39	9.68	12.78
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	797	52	-	-	363	-	-	479
HCM Lane V/C Ratio	0.035	0.003	-	-	0.043	-	-	0.034
HCM Ctrl Dly (s/v)	9.7	7.9	0	-	7.6	0	-	12.8
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.1

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱		↕			↕	
Traffic Vol, veh/h	3	241	0	4	38	5	0	1	49	21	0	1
Future Vol, veh/h	3	241	0	4	38	5	0	1	49	21	0	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	100	-	-	-	-	-	-
Veh in Median Storage, #		0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	262	0	4	41	5	0	1	53	23	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	57	0	0	272	0	0	338	344	282	339	338	61
Stage 1	-	-	-	-	-	-	278	278	-	60	60	-
Stage 2	-	-	-	-	-	-	60	65	-	279	278	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1548	-	-	1291	-	-	615	579	757	615	583	1004
Stage 1	-	-	-	-	-	-	728	680	-	951	845	-
Stage 2	-	-	-	-	-	-	951	840	-	728	680	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1533	-	-	1279	-	-	599	564	743	556	568	985
Mov Cap-2 Maneuver	-	-	-	-	-	-	599	564	-	556	568	-
Stage 1	-	-	-	-	-	-	719	672	-	939	834	-
Stage 2	-	-	-	-	-	-	938	829	-	666	672	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.09	0.67	10.27	11.63
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	738	22	-	-	171	-	-	567
HCM Lane V/C Ratio	0.074	0.002	-	-	0.003	-	-	0.042
HCM Ctrl Dly (s/v)	10.3	7.4	0	-	7.8	0	-	11.6
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

3/8

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱		↔			↔	
Traffic Vol, veh/h	3	114	3	58	248	28	1	2	23	11	0	4
Future Vol, veh/h	3	114	3	58	248	28	1	2	23	11	0	4
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	124	3	63	270	30	1	2	25	12	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	310	0	0	137	0	0	546	577	144	547	549	290
Stage 1	-	-	-	-	-	-	140	140	-	406	406	-
Stage 2	-	-	-	-	-	-	406	436	-	142	144	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1250	-	-	1447	-	-	448	428	903	448	443	750
Stage 1	-	-	-	-	-	-	863	780	-	622	598	-
Stage 2	-	-	-	-	-	-	622	580	-	861	778	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1239	-	-	1433	-	-	413	396	886	401	411	735
Mov Cap-2 Maneuver	-	-	-	-	-	-	413	396	-	401	411	-
Stage 1	-	-	-	-	-	-	852	771	-	583	561	-
Stage 2	-	-	-	-	-	-	580	544	-	824	768	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.2	1.32	9.8	13.18
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	778	46	-	-	341	-	-	456
HCM Lane V/C Ratio	0.036	0.003	-	-	0.044	-	-	0.036
HCM Ctrl Dly (s/v)	9.8	7.9	0	-	7.6	0	-	13.2
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.1

4/8

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱		✣			✣	
Traffic Vol, veh/h	3	220	0	4	33	25	0	1	49	86	0	1
Future Vol, veh/h	3	220	0	4	33	25	0	1	49	86	0	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	239	0	4	36	27	0	1	53	93	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	73	0	0	249	0	0	310	337	259	311	310	56
Stage 1	-	-	-	-	-	-	256	256	-	55	55	-
Stage 2	-	-	-	-	-	-	55	82	-	256	256	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1527	-	-	1316	-	-	642	584	779	642	604	1011
Stage 1	-	-	-	-	-	-	749	696	-	958	849	-
Stage 2	-	-	-	-	-	-	958	827	-	748	696	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1512	-	-	1304	-	-	626	569	765	581	589	992
Mov Cap-2 Maneuver	-	-	-	-	-	-	626	569	-	581	589	-
Stage 1	-	-	-	-	-	-	740	688	-	945	838	-
Stage 2	-	-	-	-	-	-	944	816	-	687	688	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.1	0.5	10.1	12.35
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	759	24	-	-	195	-	-	584
HCM Lane V/C Ratio	0.072	0.002	-	-	0.003	-	-	0.162
HCM Ctrl Dly (s/v)	10.1	7.4	0	-	7.8	0	-	12.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.6

5/8

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱		↔			↔	
Traffic Vol, veh/h	3	106	3	58	233	88	1	2	23	46	0	4
Future Vol, veh/h	3	106	3	58	233	88	1	2	23	46	0	4
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	115	3	63	253	96	1	2	25	50	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	359	0	0	128	0	0	521	617	135	522	524	273
Stage 1	-	-	-	-	-	-	132	132	-	389	389	-
Stage 2	-	-	-	-	-	-	389	485	-	133	135	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1200	-	-	1457	-	-	466	406	914	465	458	765
Stage 1	-	-	-	-	-	-	872	787	-	635	608	-
Stage 2	-	-	-	-	-	-	635	552	-	871	785	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1188	-	-	1443	-	-	428	375	896	416	423	751
Mov Cap-2 Maneuver	-	-	-	-	-	-	428	375	-	416	423	-
Stage 1	-	-	-	-	-	-	861	777	-	594	569	-
Stage 2	-	-	-	-	-	-	591	516	-	833	775	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.22	1.16	9.79	14.55
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	780	50	-	-	359	-	-	431
HCM Lane V/C Ratio	0.036	0.003	-	-	0.044	-	-	0.126
HCM Ctrl Dly (s/v)	9.8	8	0	-	7.6	0	-	14.6
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.4

6/8

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱		↕			↕	
Traffic Vol, veh/h	3	242	0	4	40	25	0	1	49	86	0	1
Future Vol, veh/h	3	242	0	4	40	25	0	1	49	86	0	1
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	263	0	4	43	27	0	1	53	93	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	81	0	0	273	0	0	342	369	283	342	342	63
Stage 1	-	-	-	-	-	-	280	280	-	62	62	-
Stage 2	-	-	-	-	-	-	62	89	-	280	280	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1517	-	-	1290	-	-	612	560	756	612	580	1001
Stage 1	-	-	-	-	-	-	727	679	-	949	843	-
Stage 2	-	-	-	-	-	-	949	821	-	727	679	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1503	-	-	1278	-	-	596	546	742	553	566	982
Mov Cap-2 Maneuver	-	-	-	-	-	-	596	546	-	553	566	-
Stage 1	-	-	-	-	-	-	718	671	-	937	832	-
Stage 2	-	-	-	-	-	-	936	810	-	665	671	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.09	0.45	10.28	12.81
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	736	22	-	-	164	-	-	555
HCM Lane V/C Ratio	0.074	0.002	-	-	0.003	-	-	0.17
HCM Ctrl Dly (s/v)	10.3	7.4	0	-	7.8	0	-	12.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.6

7/8

Intersection

Int Delay, s/veh 2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱		↕			↕	
Traffic Vol, veh/h	3	119	3	58	251	88	1	2	23	46	0	4
Future Vol, veh/h	3	119	3	58	251	88	1	2	23	46	0	4
Conflicting Peds, #/hr	10	0	10	10	0	10	10	0	10	10	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	100	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	129	3	63	273	96	1	2	25	50	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	378	0	0	143	0	0	555	650	149	556	558	293
Stage 1	-	-	-	-	-	-	146	146	-	409	409	-
Stage 2	-	-	-	-	-	-	409	505	-	147	149	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1180	-	-	1440	-	-	442	388	897	442	438	746
Stage 1	-	-	-	-	-	-	857	776	-	619	596	-
Stage 2	-	-	-	-	-	-	619	541	-	856	774	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1169	-	-	1426	-	-	406	358	880	394	404	732
Mov Cap-2 Maneuver	-	-	-	-	-	-	406	358	-	394	404	-
Stage 1	-	-	-	-	-	-	846	767	-	579	557	-
Stage 2	-	-	-	-	-	-	576	505	-	819	764	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.19	1.12	9.91	15.15
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	761	44	-	-	338	-	-	409
HCM Lane V/C Ratio	0.037	0.003	-	-	0.044	-	-	0.133
HCM Ctrl Dly (s/v)	9.9	8.1	0	-	7.6	0	-	15.1
HCM Lane LOS	A	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.5

8/8

Intersection						
Int Delay, s/veh	0.1					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	65	3	0	20	1	0
Future Vol, veh/h	65	3	0	20	1	0
Conflicting Peds, #/hr	0	10	10	0	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None		None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	3	0	22	1	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	84	0	114	92
Stage 1	-	-	-	-	82	-
Stage 2	-	-	-	-	32	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1513	-	882	965
Stage 1	-	-	-	-	941	-
Stage 2	-	-	-	-	991	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1498	-	866	947
Mov Cap-2 Maneuver	-	-	-	-	866	-
Stage 1	-	-	-	-	932	-
Stage 2	-	-	-	-	981	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	9.16
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	866	-	-	1498	-
HCM Lane V/C Ratio	0.001	-	-	-	-
HCM Ctrl Dly (s/v)	9.2	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

INT #3

1/4

Intersection						
Int Delay, s/veh	0.8					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	35	5	0	60	9	0
Future Vol, veh/h	35	5	0	60	9	0
Conflicting Peds, #/hr	0	10	10	0	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	5	0	65	10	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	53	0	126	61
Stage 1	-	-	-	-	51	-
Stage 2	-	-	-	-	75	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1552	-	869	1004
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	948	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1537	-	852	985
Mov Cap-2 Maneuver	-	-	-	-	852	-
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	939	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	9.27
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	852	-	-	1537	-
HCM Lane V/C Ratio	0.011	-	-	-	-
HCM Ctrl Dly (s/v)	9.3	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

2/4

Intersection						
Int Delay, s/veh	0.1					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	65	3	0	20	1	0
Future Vol, veh/h	65	3	0	20	1	0
Conflicting Peds, #/hr	0	10	10	0	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None		None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	3	0	22	1	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	84	0	114	92
Stage 1	-	-	-	-	82	-
Stage 2	-	-	-	-	32	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1513	-	882	965
Stage 1	-	-	-	-	941	-
Stage 2	-	-	-	-	991	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1498	-	866	947
Mov Cap-2 Maneuver	-	-	-	-	866	-
Stage 1	-	-	-	-	932	-
Stage 2	-	-	-	-	981	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	9.16
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	866	-	-	1498	-
HCM Lane V/C Ratio	0.001	-	-	-	-
HCM Ctrl Dly (s/v)	9.2	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

3/4

Intersection						
Int Delay, s/veh	0.8					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	35	5	0	60	9	0
Future Vol, veh/h	35	5	0	60	9	0
Conflicting Peds, #/hr	0	10	10	0	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None		None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	5	0	65	10	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	53	0	126	61
Stage 1	-	-	-	-	51	-
Stage 2	-	-	-	-	75	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1552	-	869	1004
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	948	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1537	-	852	985
Mov Cap-2 Maneuver	-	-	-	-	852	-
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	939	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	9.27
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	852	-	-	1537	-
HCM Lane V/C Ratio	0.011	-	-	-	-
HCM Ctrl Dly (s/v)	9.3	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

4/4

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SUBSOIL STUDY
FOR FOUNDATION DESIGN
PROPOSED HOUSING DEVELOPMENT
NORTHEAST OF CASTLE VALLEY BOULEVARD
EAST OF KATHRYN SENOR ELEMETARY SCHOOL
NEW CASTLE, COLORADO

PROJECT NO. 25-7-336

JUNE 27, 2025

PREPARED FOR:

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TABLE OF CONTENTS

PURPOSE AND SCOPE OF STUDY ..... - 1 -

PROPOSED CONSTRUCTION ..... - 1 -

SITE CONDITIONS ..... - 1 -

FIELD EXPLORATION ..... - 1 -

SUBSURFACE CONDITIONS ..... - 2 -

FOUNDATION BEARING CONDITIONS ..... - 2 -

DESIGN RECOMMENDATIONS ..... - 2 -
FOUNDATIONS ..... - 2 -
FOUNDATION AND RETAINING WALLS ..... - 3 -
FLOOR SLABS ..... - 4 -
UNDERDRAIN SYSTEM ..... - 5 -
SITE GRADING ..... - 5 -
SURFACE DRAINAGE ..... - 5 -

LIMITATIONS ..... - 6 -

FIGURE 1 - LOCATION OF EXPLORATORY BORINGS

FIGURE 2 - LOGS OF EXPLORATORY BORINGS

FIGURE 3 - LEGEND AND NOTES

FIGURES 4 through 15 - SWELL-CONSOLIDATION TEST RESULTS

FIGURES 16 and 17 - GRADATION TEST RESULTS

TABLE 1- SUMMARY OF LABORATORY TEST RESULTS

PURPOSE AND SCOPE OF STUDY

This report presents the results of a subsoil study for a proposed housing development to be located northeast of Castle Valley Boulevarde and west of Wild Horse Drive in New Castle, Colorado. The project site is shown on Figure 1. The purpose of the study was to develop recommendations for foundation design. The study was conducted in accordance with our proposal for geotechnical engineering services to Amos Whiteside, dated May 12, 2025.

A field exploration program consisting of exploratory borings was conducted to obtain information on the subsurface conditions. Samples of the subsoils and bedrock obtained during the field exploration were tested in the laboratory to determine their classification, compressibility or swell and other engineering characteristics. The results of the field exploration and laboratory testing were analyzed to develop recommendations for foundation types, depths and allowable pressures for the proposed building foundation. This report summarizes the data obtained during this study and presents our conclusions, recommendations and other geotechnical engineering considerations based on the proposed construction and the subsurface conditions encountered.

PROPOSED CONSTRUCTION

At the time of our study, design plans for the development consisted of up to 14 multi-family apartment/townhouse buildings. The buildings are proposed in the area of the exploratory boring locations shown on Figure 1. We assume that excavation for the buildings will have a maximum cut depth of one level, up to about 10 feet below the existing ground surface. For the purpose of our analysis, foundation loadings for the structure were assumed to be moderate and typical of the proposed type of construction.

If building loadings, location or grading plans are significantly different from those described above, we should be notified to re-evaluate the recommendations contained in this report.

SITE CONDITIONS

The site consisted of vacant pastureland at the time of our field exploration. Vegetation consisted of grass and weeds. The site slopes moderately down to the south-southwest. Irrigation ditches cross the site. The ditches appeared to be currently inactive. The lower part of the site along Castle Valley Boulevard was landscaped with trees and grass. Kathryn Senor Elementary School is located to the west of the site. An existing housing development is located to the south of the site.

FIELD EXPLORATION

The field exploration for the project was conducted on May 28 and June 5, 2025. Nine exploratory borings were drilled at the locations shown on Figure 1 to evaluate the subsurface conditions. The borings were advanced with 4 inch diameter continuous flight auger powered by a truck-mounted CME-45B drill rig. The borings were logged by a representative of Kumar & Associates, Inc.

Samples of the subsoils were taken with 1⅜ inch and 2 inch I.D. spoon samplers. The samplers were driven into the subsoils at various depths with blows from a 140 pound hammer falling 30

inches. This test is similar to the standard penetration test described by ASTM Method D-1586. The penetration resistance values are an indication of the relative density or consistency of the subsoils and hardness of the bedrock. Depths at which the samples were taken and the penetration resistance values are shown on the Logs of Exploratory Borings, Figure 2. The samples were returned to our laboratory for review by the project engineer and testing.

SUBSURFACE CONDITIONS

Graphic logs of the subsurface profiles encountered at the site are shown on Figure 2. Below about ½ foot of organic topsoil, the subsoils consist of stiff to very stiff, sandy silty clay overlying medium dense, silty to clayey sandy gravel. Weathered to hard claystone bedrock was encountered below the clay and gravel soils at depths of 6 to 16 feet with the shallower bedrock located in the southeastern part of the site. The clay portions of these soils can possess an expansion potential when wetted.

Laboratory testing performed on samples obtained during the field exploration included natural moisture content and density, grain size analyses and liquid and plastic limits. Swell-consolidation testing was performed on relatively undisturbed drive samples of the clay subsoils. The swell-consolidation test results, presented on Figures 4 to 14, indicate low compressibility under relatively light surcharge loading and a low to moderate expansion potential when wetted under a constant light surcharge. Results of gradation analyses performed on the minus 1½-inch fraction of the granular subsoils are presented on Figures 15 and 16. The laboratory testing is summarized in Table 1.

No free water was encountered in the borings at time of drilling or when checked several days later . The subsoils were slightly moist to moist.

FOUNDATION BEARING CONDITIONS

The subsoils/bedrock materials encountered at the site possess low to moderate expansion potential when wetted. The expansion potential can probably be mitigated by load concentration to reduce or prevent swelling in the event of wetting below the foundation bearing level. Surface runoff, landscape irrigation, and utility leakage are possible sources of water which could cause wetting.

DESIGN RECOMMENDATIONS

FOUNDATIONS

Considering the subsurface conditions encountered in the exploratory borings and the nature of the proposed construction, we recommend the proposed buildings be founded with spread footings placed on at least 3 feet of recompacted on-site clay soils.

The design and construction criteria presented below should be observed for a spread footing foundation system.

1) Footings placed on at least 3 feet of re-compacted clay soil can be designed for an allowable bearing pressure of 3,000 psf. The clay soils should be compacted to at least 98% of the maximum standard Proctor density.

2) Based on experience, we expect long-term settlement or heave of footings designed and constructed as discussed in this section will be up to about 1 inch. There could be some additional movement if the bearing soils were to become wet.
3) The footings should have a minimum width of 16 inches for continuous footings and 24 inches for isolated pads.
4) Continuous foundation walls should be reinforced top and bottom to span local anomalies and limit the risk of differential movement. One method of analysis is to design the foundation wall to span an unsupported length of at least 12 feet. Foundation walls acting as retaining structures should also be designed to resist a lateral earth pressure as discussed in the "Foundation and Retaining Walls" section of this report.
5) Exterior footings and footings beneath unheated areas should be provided with adequate soil cover above their bearing elevation for frost protection. Placement of foundations at least 36 inches below the exterior grade is typically used in this area.
6) Prior to the footing construction, any existing fill, topsoil and loose or disturbed soils should be removed and the footing bearing level extended down to competent bearing soils.
7) A representative of the geotechnical engineer should observe all footing excavations prior to concrete placement to evaluate bearing conditions.

FOUNDATION AND RETAINING WALLS

Foundation walls and retaining structures which are laterally supported and can be expected to undergo only a slight amount of deflection should be designed for a lateral earth pressure computed on the basis of an equivalent fluid unit weight of at least 55 pcf for backfill consisting of the on-site fine-grained soils (and at least 45 pcf for backfill consisting of imported granular materials. Cantilevered retaining structures which are separate from the buildfings and can be expected to deflect sufficiently to mobilize the full active earth pressure condition should be designed for a lateral earth pressure computed on the basis of an equivalent fluid unit weight of at least 45 pcf for backfill consisting of the on-site clay soils.

All foundation and retaining structures should be designed for appropriate hydrostatic and surcharge pressures such as adjacent footings, traffic, construction materials and equipment. The pressures recommended above assume drained conditions behind the walls and a horizontal backfill surface. The buildup of water behind a wall or an upward sloping backfill surface will increase the lateral pressure imposed on a foundation wall or retaining structure. An underdrain should be provided to prevent hydrostatic pressure buildup behind walls.

Backfill should be placed in uniform lifts and compacted to at least 90% of the maximum standard Proctor density at a moisture content slightly above optimum. Backfill in pavement areas should be compacted to at least 95% of the maximum standard Proctor density. Care should be taken not to overcompact the backfill or use large equipment near the wall since this could cause excessive lateral pressure on the wall. Some settlement of deep foundation wall backfill should be expected even if the material is placed correctly and could result in distress to facilities constructed on the backfill.

The lateral resistance of foundation or retaining wall footings will be a combination of the sliding resistance of the footing on the foundation materials and passive earth pressure against the side of the footing. Resistance to sliding at the bottoms of the footings can be calculated based on a coefficient of friction of 0.35. Passive pressure of compacted backfill against the sides of the footings can be calculated using an equivalent fluid unit weight of 325 pcf. The coefficient of friction and passive pressure values recommended above assume ultimate soil strength. Suitable factors of safety should be included in the design to limit the strain which will occur at the ultimate strength, particularly in the case of passive resistance. Fill placed against the sides of the footings to resist lateral loads should be compacted to at least 95% of the maximum standard Proctor density at a moisture content near optimum.

FLOOR SLABS

The on-site soils possess an expansion potential and slab heave could occur if the subgrade soils were to become wet. Slab-on-grade construction may be used provided precautions are taken to limit potential movement and the risk of distress to the building is accepted by the owner. A positive way to reduce the risk of slab movement, which is commonly used in the area, is to construct structurally supported floors over crawlspace.

To reduce the effects of some differential movement, nonstructural floor slabs should be separated from all bearing walls and columns with expansion joints which allow unrestrained vertical movement. Interior non-bearing partitions resting on floor slabs should be provided with a slip joint at the bottom of the wall so that, if the slab moves, the movement cannot be transmitted to the upper structure. This detail is also important for wallboards, stairways and door frames. Slip joints which will allow at least 1½-inches of vertical movement are recommended. Floor slab control joints should be used to reduce damage due to shrinkage cracking. Slab reinforcement and control joints should be established by the designer based on experience and the intended slab use.

A minimum 4-inch layer of free-draining gravel should be placed immediately beneath basement (if any) level slabs-on-grade. This material should consist of minus 2-inch aggregate with less than 50% passing the No. 4 sieve and less than 2% passing the No. 200 sieve. The free-draining gravel will aid in drainage below the slabs and should be connected to the perimeter underdrain system.

Required fill beneath slabs can consist of the a suitable imported granular materia (such as ¾ - inch road base), excluding topsoil and oversized rocks. The fill should be spread in thin horizontal lifts, adjusted to at or above optimum moisture content, and compacted to at least 95% of the maximum standard Proctor density. All vegetation, topsoil and loose or disturbed soil should be removed prior to fill placement.

The above recommendations will not prevent slab heave if the expansive soils underlying slabs-on-grade become wet. However, the recommendations will reduce the effects if slab heave occurs. All plumbing lines should be pressure tested before backfilling to help reduce the potential for wetting.

UNDERDRAIN SYSTEM

Although groundwater was not encountered during our exploration, it has been our experience in mountainous areas and where clay soils are present and bedrock is shallow, that local perched groundwater can develop during times of heavy precipitation or seasonal runoff. Frozen ground during spring runoff can create a perched condition. Therefore, we recommend below-grade construction, such as crawlspace and basement areas (if any), be protected from wetting by an underdrain system. The drain should also act to prevent buildup of hydrostatic pressures behind foundation walls.

The underdrain system should consist of a drainpipe surrounded by free-draining granular material placed at the bottom of the wall backfill. The drain lines should be placed at each level of excavation and at least 1 foot below lowest adjacent finish grade, and sloped at a minimum 1% grade to a suitable gravity outlet. Free-draining granular material used in the drain system should consist of minus 2-inch aggregate with less than 50% passing the No. 4 sieve and less than 2% passing the No. 200 sieve. The drain gravel should be at least 1½ feet deep

SITE GRADING

The risk of construction-induced slope instability at the site appears low. We assume the cut depths will not exceed about 5 to 6 feet. Embankment fills should be compacted to at least 95% of the maximum standard Proctor density near optimum moisture content. Prior to fill placement, the subgrade should be carefully prepared by removing all vegetation and topsoil and compacting to at least 95% of the maximum standard Proctor density. The fill should be benched into the portions of the hillside exceeding 20% grade.

Permanent unretained cut and fill slopes should be graded at 3 horizontal to 1 vertical or flatter and protected against erosion by revegetation or other means. The risk of slope instability will be increased if seepage is encountered in cuts and flatter slopes may be necessary. If seepage is encountered in permanent cuts, an investigation should be conducted to determine if the seepage will adversely affect the cut stability. This office should review site grading plans for the project prior to construction.

SURFACE DRAINAGE

The following drainage precautions should be observed during construction and maintained at all times after the buildings have been completed:

1) Excessive wetting or drying of the foundation excavations and underslab areas should be avoided during construction. Drying could increase the expansion potential of the soils.
2) Exterior backfill should be adjusted to near optimum moisture and compacted to at least 95% of the maximum standard Proctor density in pavement areas and to at least 90% of the maximum standard Proctor density in landscape areas. Free-draining wall backfill should be capped with about 2 to 3 feet of the on-site soils to reduce surface water infiltration.
3) The ground surface surrounding the exterior of the building should be sloped to drain away from the foundation in all directions. We recommend a minimum slope

of 12 inches in the first 10 feet in unpaved areas and a minimum slope of 3 inches in the first 10 feet in paved areas.

4) Roof downspouts and drains should discharge well beyond the limits of all backfill.

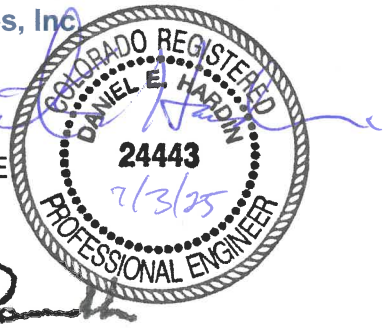
LIMITATIONS

This study has been conducted in accordance with generally accepted geotechnical engineering principles and practices in this area at this time. We make no warranty either express or implied. The conclusions and recommendations submitted in this report are based upon the data obtained from the exploratory borings drilled at the locations indicated on Figure 1, the proposed type of construction and our experience in the area. Our services do not include determining the presence, prevention or possibility of mold or other biological contaminants (MOBC) developing in the future. If the client is concerned about MOBC, then a professional in this special field of practice should be consulted. Our findings include interpolation and extrapolation of the subsurface conditions identified at the exploratory borings /pits and variations in the subsurface conditions may not become evident until excavation is performed. If conditions encountered during construction appear to be different from those described in this report, we should be notified at once so re-evaluation of the recommendations may be made.

This report has been prepared for the exclusive use by our client for design purposes. We are not responsible for technical interpretations by others of our information. As the project evolves, we should provide continued consultation and field services during construction to review and monitor the implementation of our recommendations, and to verify that the recommendations have been appropriately interpreted. Significant design changes may require additional analysis or modifications of the recommendations presented herein. We recommend on-site observation of excavations and foundation bearing strata and testing of structural fill by a representative of the geotechnical engineer.

Respectfully Submitted,

Kumar & Associates, Inc.



Daniel E. Hardin, P.E.

Reviewed by:

Steven L. Pawlak, P.E.

cc: Amos Whiteside (amos@tcfuels.com)

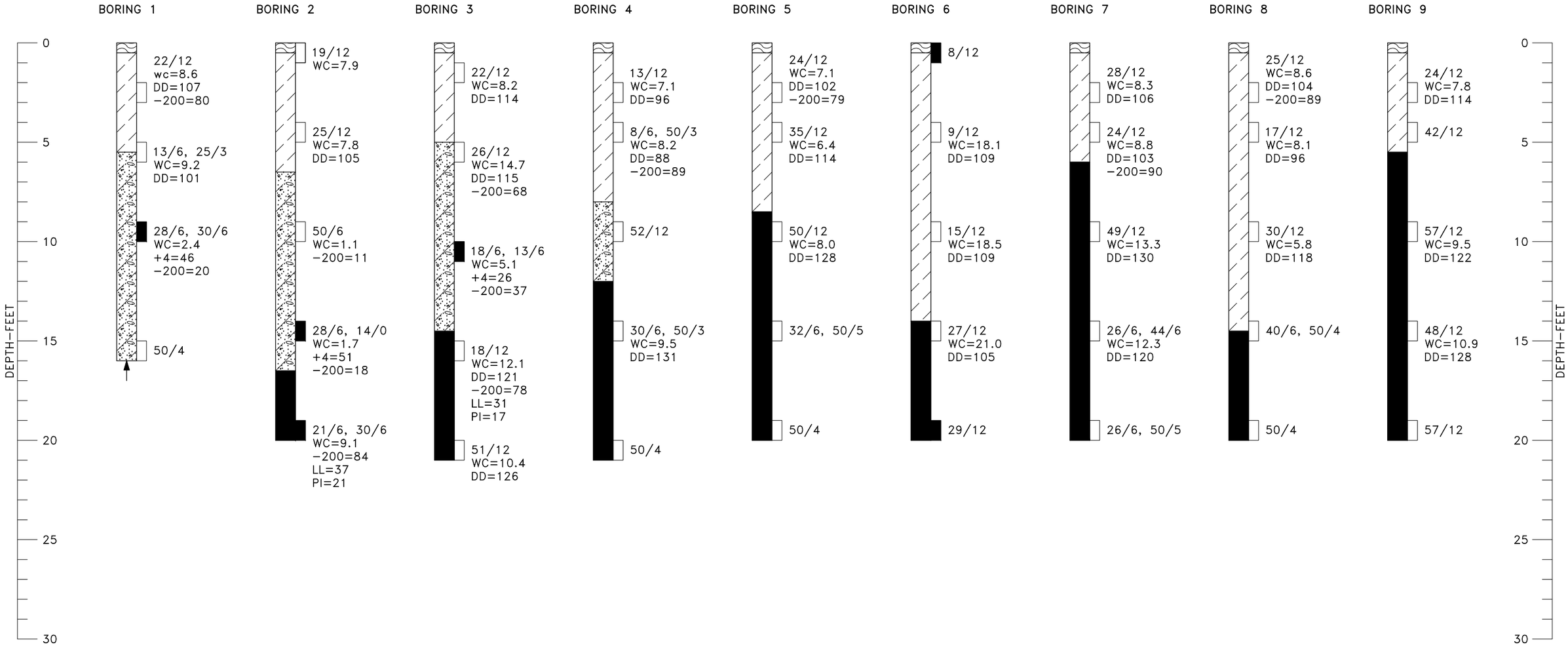


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APPROXIMATE SCALE–FEET

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25–7–336	Kumar & Associates		LOCATION OF EXPLORATORY BORINGS	Fig. 1



25−7−336	Kumar & Associates		LOGS OF EXPLORATORY BORINGS	Fig. 2

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LEGEND


TOPSOIL; ORGANIC SANDY CLAY, STIFF, SLIGHTLY MOIST TO MOIST, BROWN.


CLAY (CL); SILTY, SANDY, VERY STIFF, REDDISH BROWN, CALCAREOUS.


GRAVEL (GC–GM); SANDY, SILTY TO CLAYEY, DENSE, MOIST, LIGHT BROWN.


CLAYSTONE BEDROCK, WEATHERED TO HARD WITH DEPTH, SLIGHTLY MOIST TO MOIST, GRAY TO BROWN.


DRIVE SAMPLE, 2–INCH I.D. CALIFORNIA LINER SAMPLE.


DRIVE SAMPLE, 1 3/8–INCH I.D. SPLIT SPOON STANDARD PENETRATION TEST.

22/12 DRIVE SAMPLE BLOW COUNT. INDICATES THAT 22 BLOWS OF A 140–POUND HAMMER FALLING 30 INCHES WERE REQUIRED TO DRIVE THE SAMPLER 12 INCHES.

NOTES

1. THE EXPLORATORY BORINGS WERE DRILLED ON MAY 28 AND JUNE 5, 2025 WITH A 4–INCH–DIAMETER CONTINUOUS–FLIGHT POWER AUGER.

2. THE LOCATIONS OF THE EXPLORATORY BORINGS WERE MEASURED APPROXIMATELY BY PACING FROM FEATURES SHOWN ON THE SITE PLAN PROVIDED.

3. THE ELEVATIONS OF THE EXPLORATORY BORINGS WERE NOT MEASURED AND THE LOGS OF THE EXPLORATORY BORINGS ARE PLOTTED TO DEPTH.

4. THE EXPLORATORY BORING LOCATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

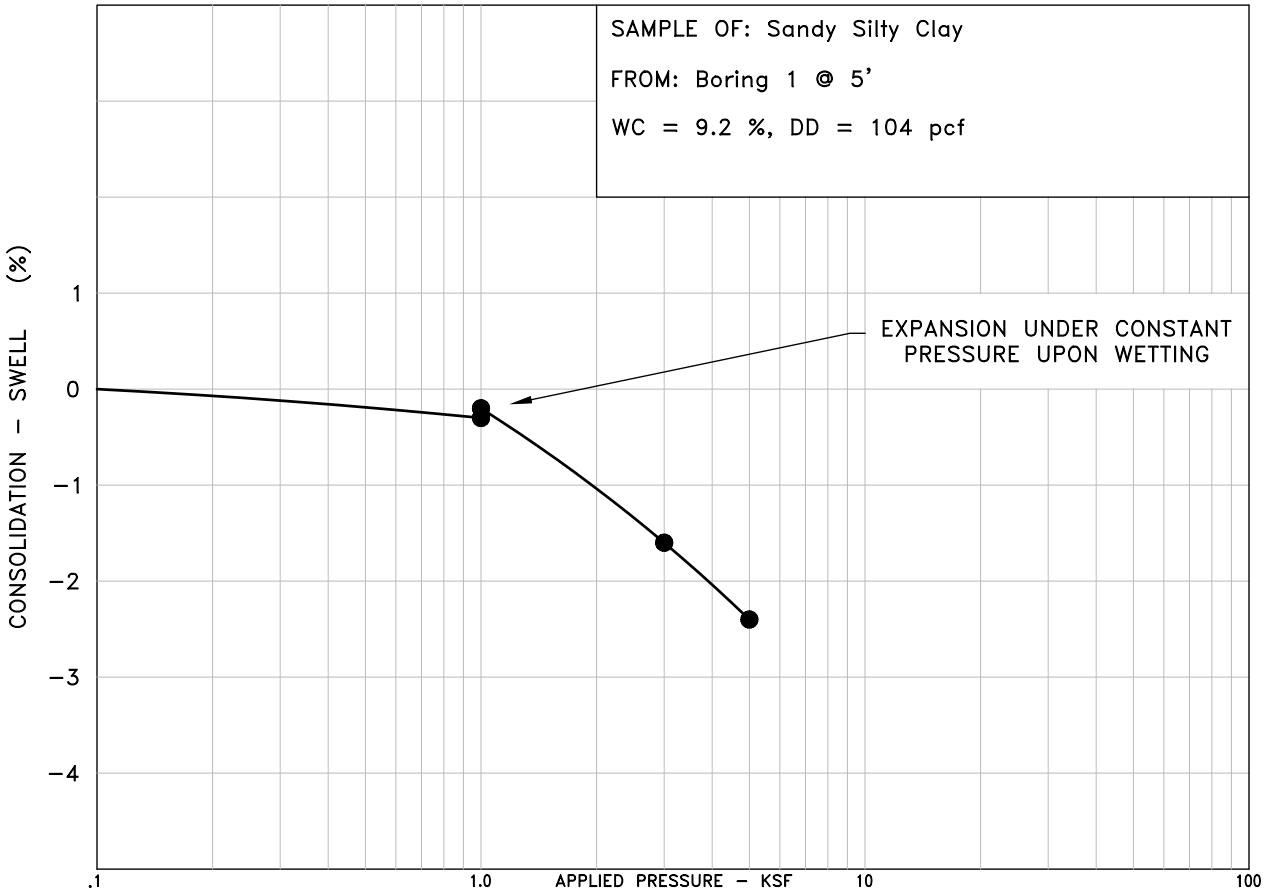
5. THE LINES BETWEEN MATERIALS SHOWN ON THE EXPLORATORY BORING LOGS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES AND THE TRANSITIONS MAY BE GRADUAL.

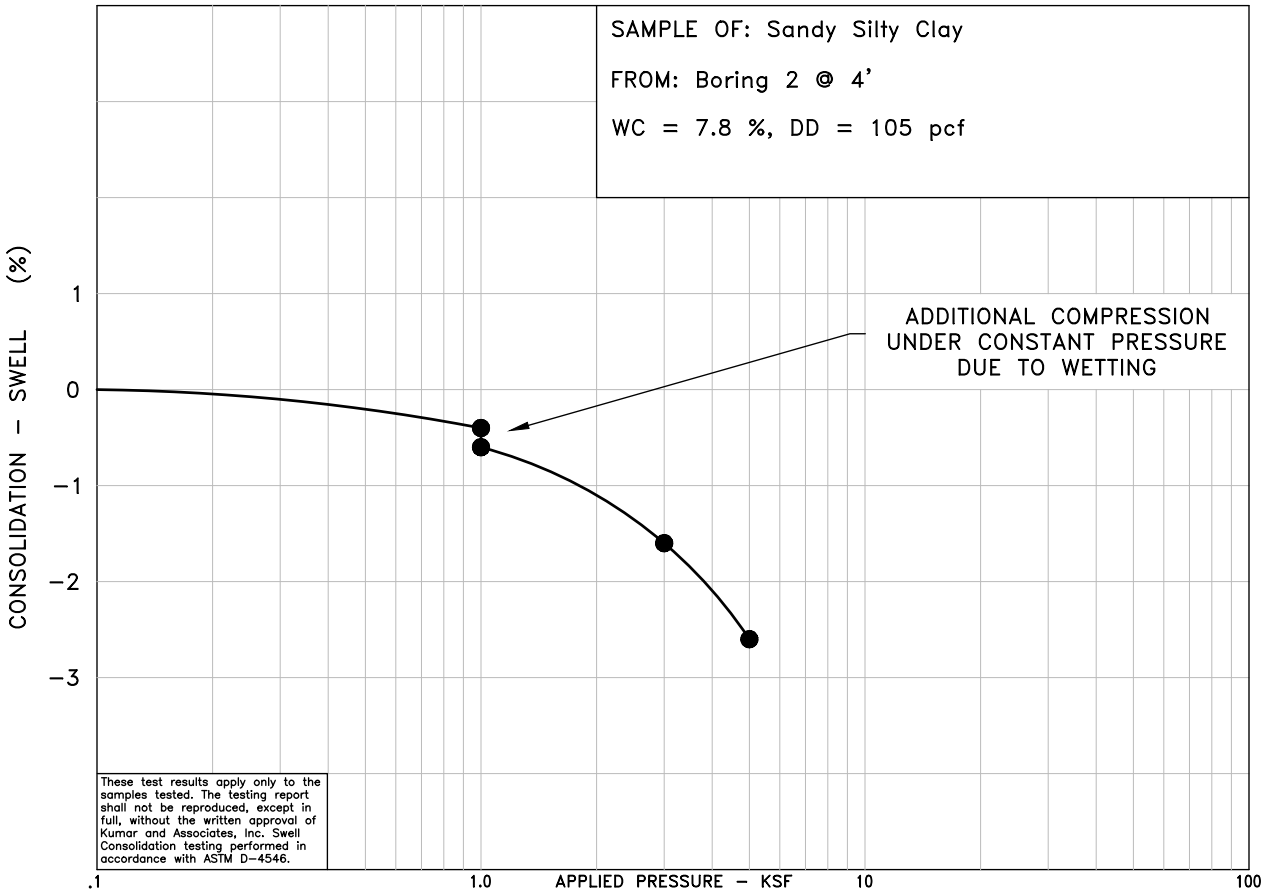
6. GROUNDWATER WAS NOT ENCOUNTERED IN THE BORINGS AT THE TIME OF DRILLING.

7. LABORATORY TEST RESULTS:
   WC = WATER CONTENT (%) (ASTM D2216);
   DD = DRY DENSITY (pcf) (ASTM D2216);
   +4 = PERCENTAGE RETAINED ON NO. 4 SIEVE (ASTM D6913);
   –200= PERCENTAGE PASSING NO. 200 SIEVE (ASTM D1140);
   LL = LIQUID LIMIT (ASTM D4318);
   PI = PLASTICITY INDEX (ASTM D4318).

25–7–336	Kumar & Associates	LEGEND AND NOTES	Fig. 3

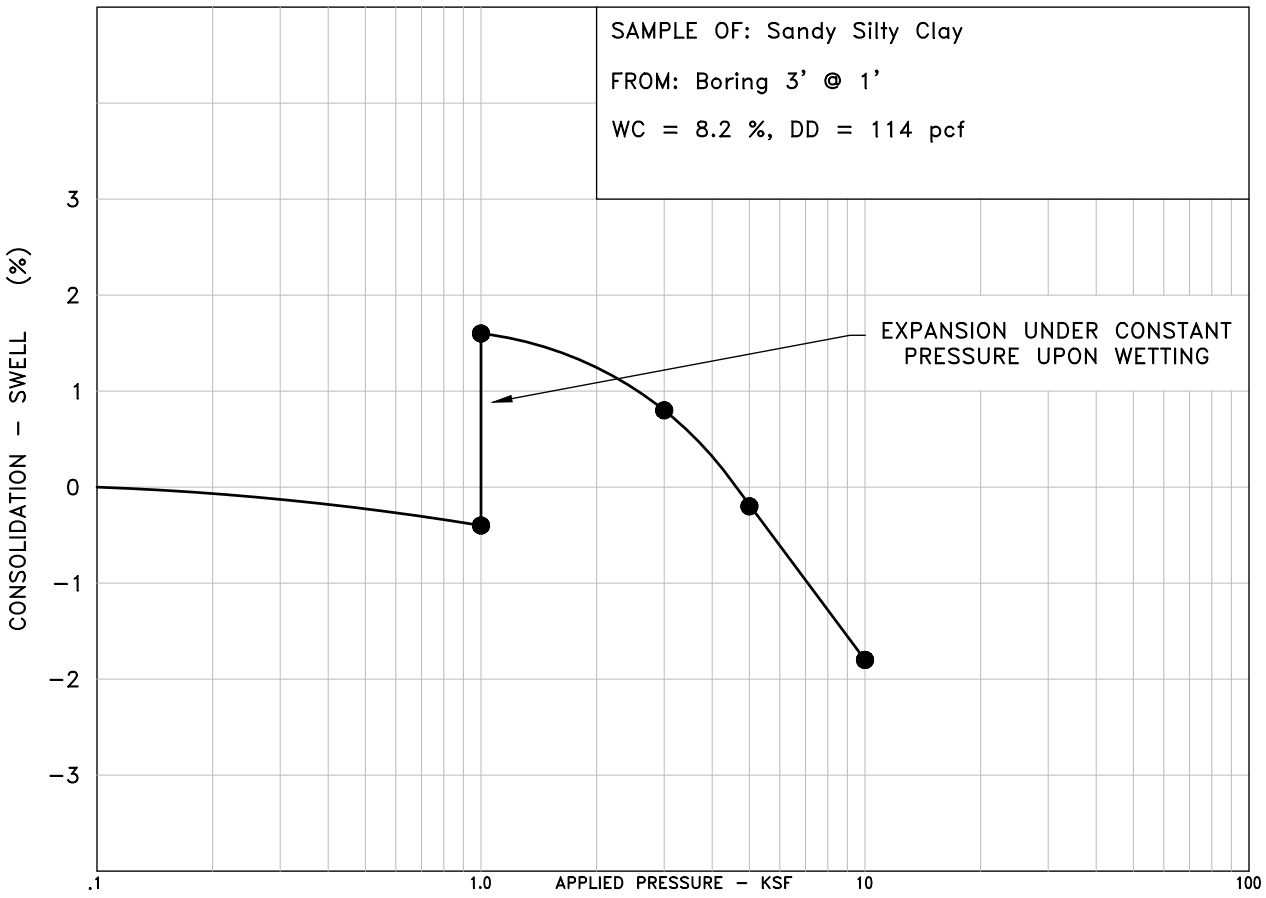
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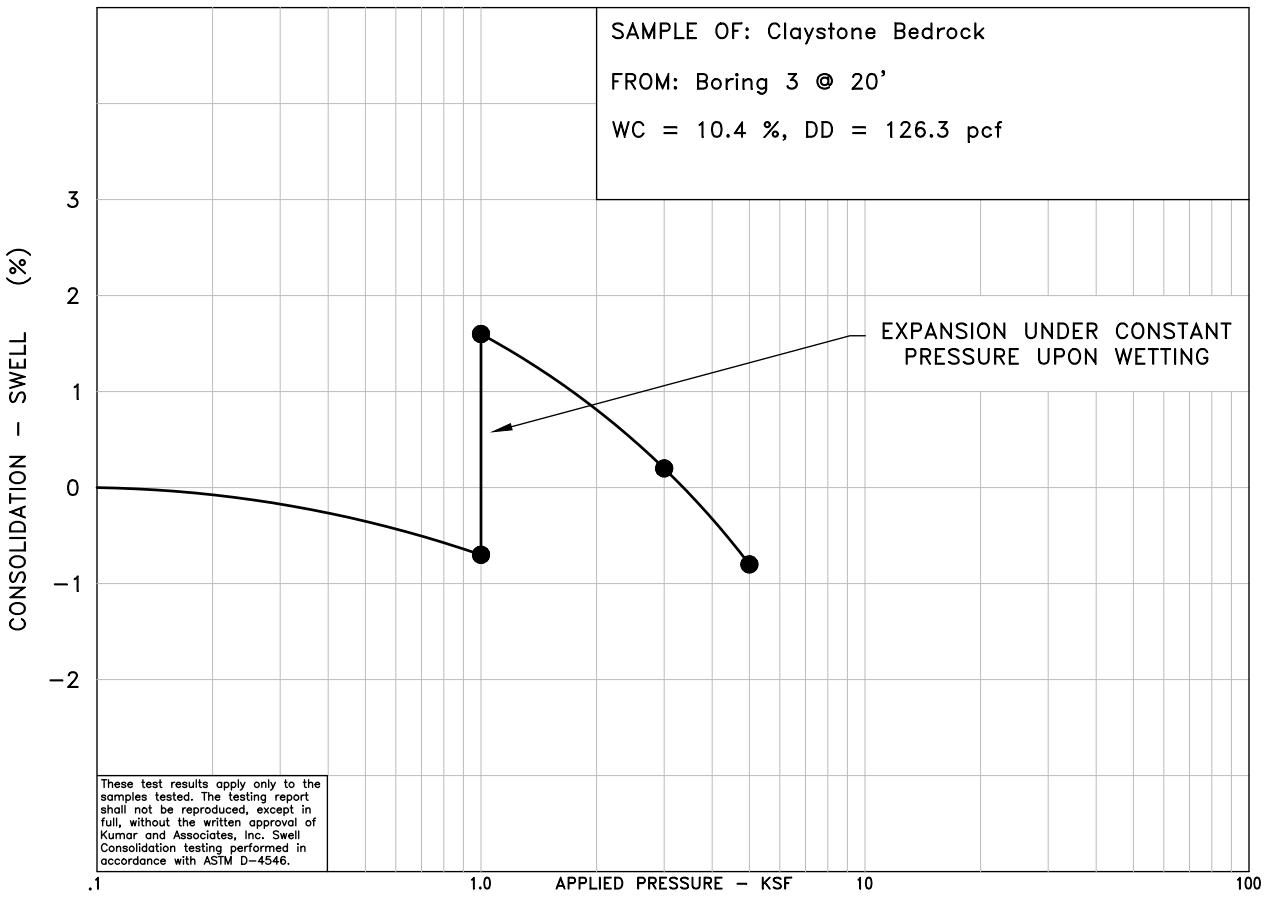




25-7-336	Kumar & Associates	SWELL-CONSOLIDATION TEST RESULTS	Fig. 4

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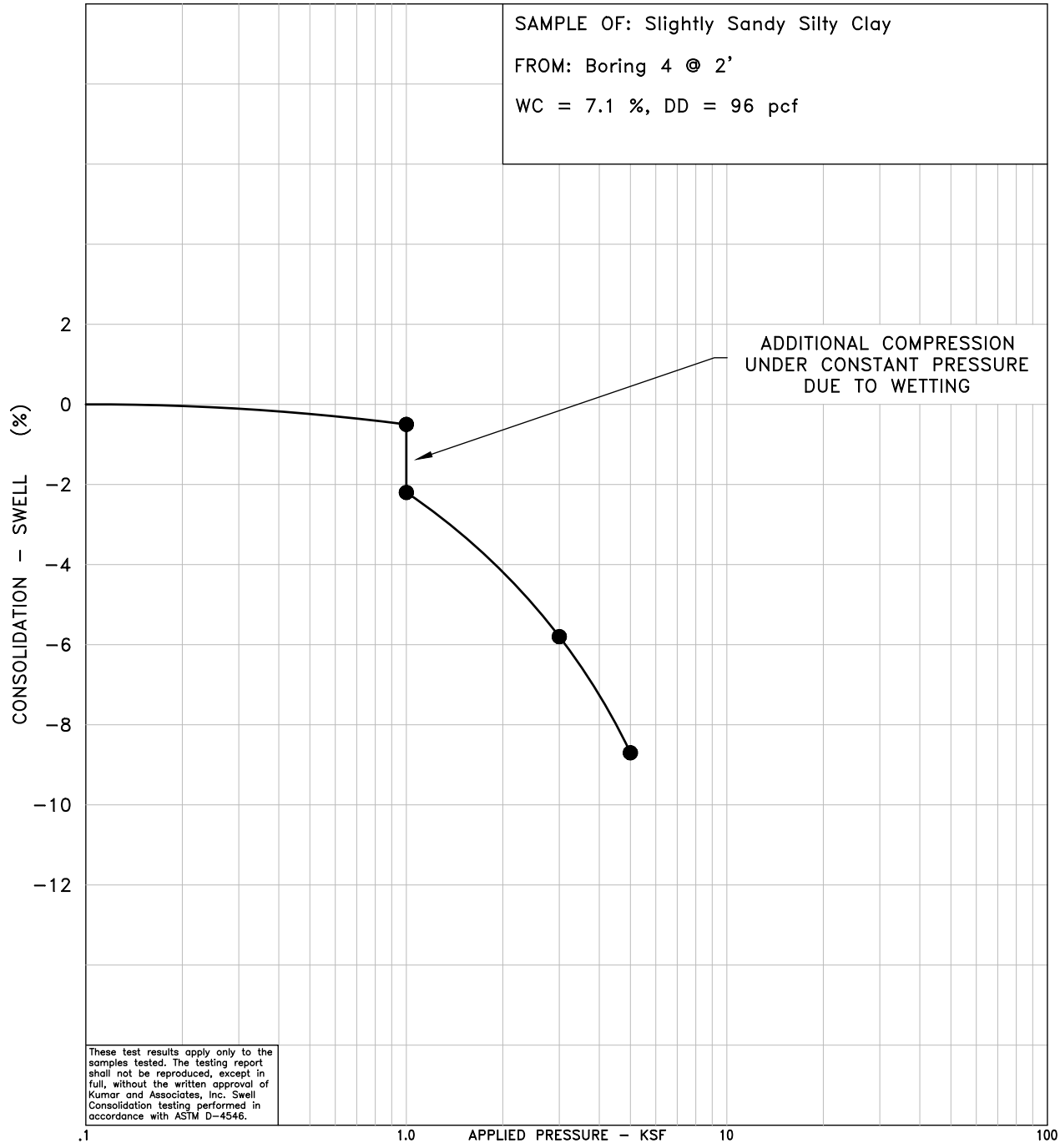




These test results apply only to the samples tested. The testing report shall not be reproduced, except in full, without the written approval of Kumar and Associates, Inc. Swell Consolidation testing performed in accordance with ASTM D-4546.

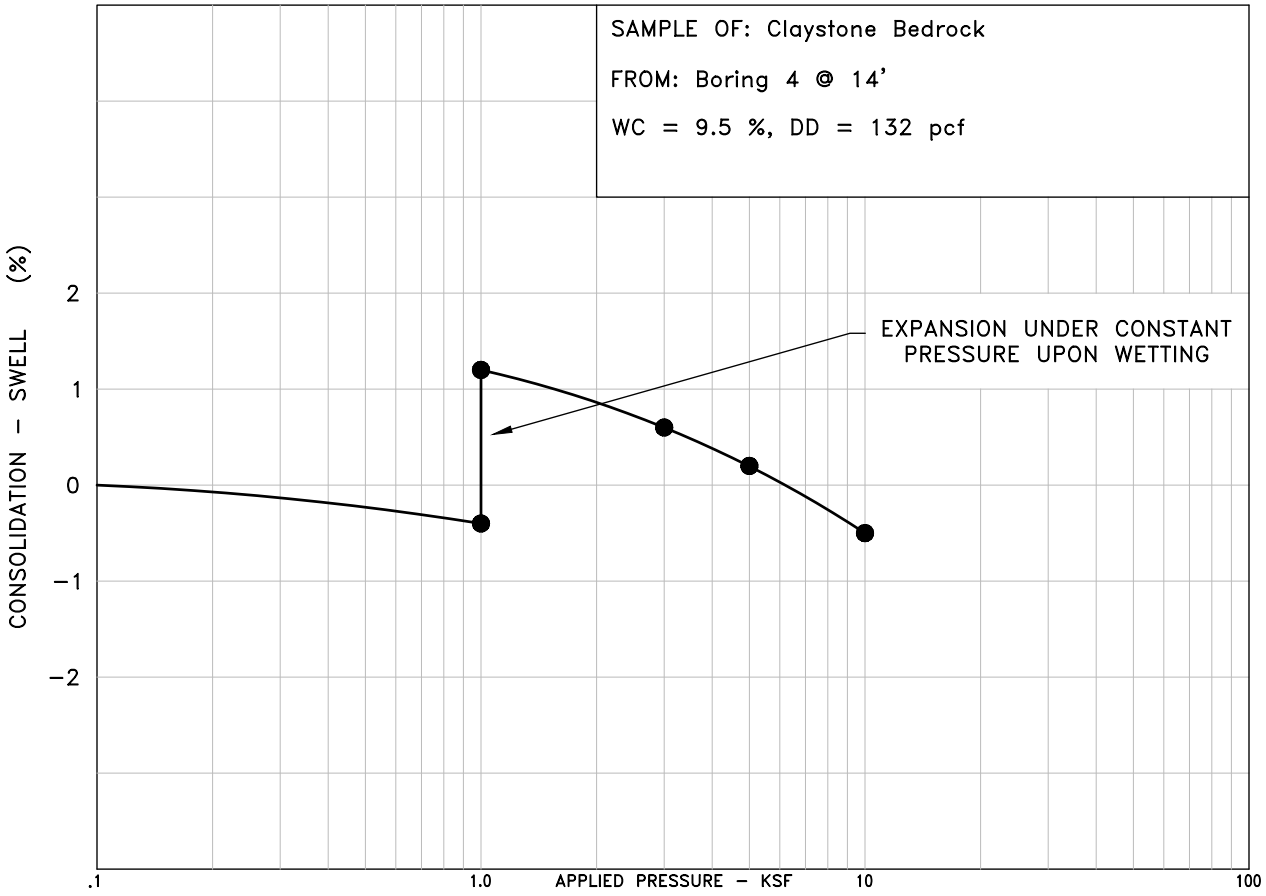
25-7-336	Kumar & Associates	SWELL-CONSOLIDATION TEST RESULTS	Fig. 5

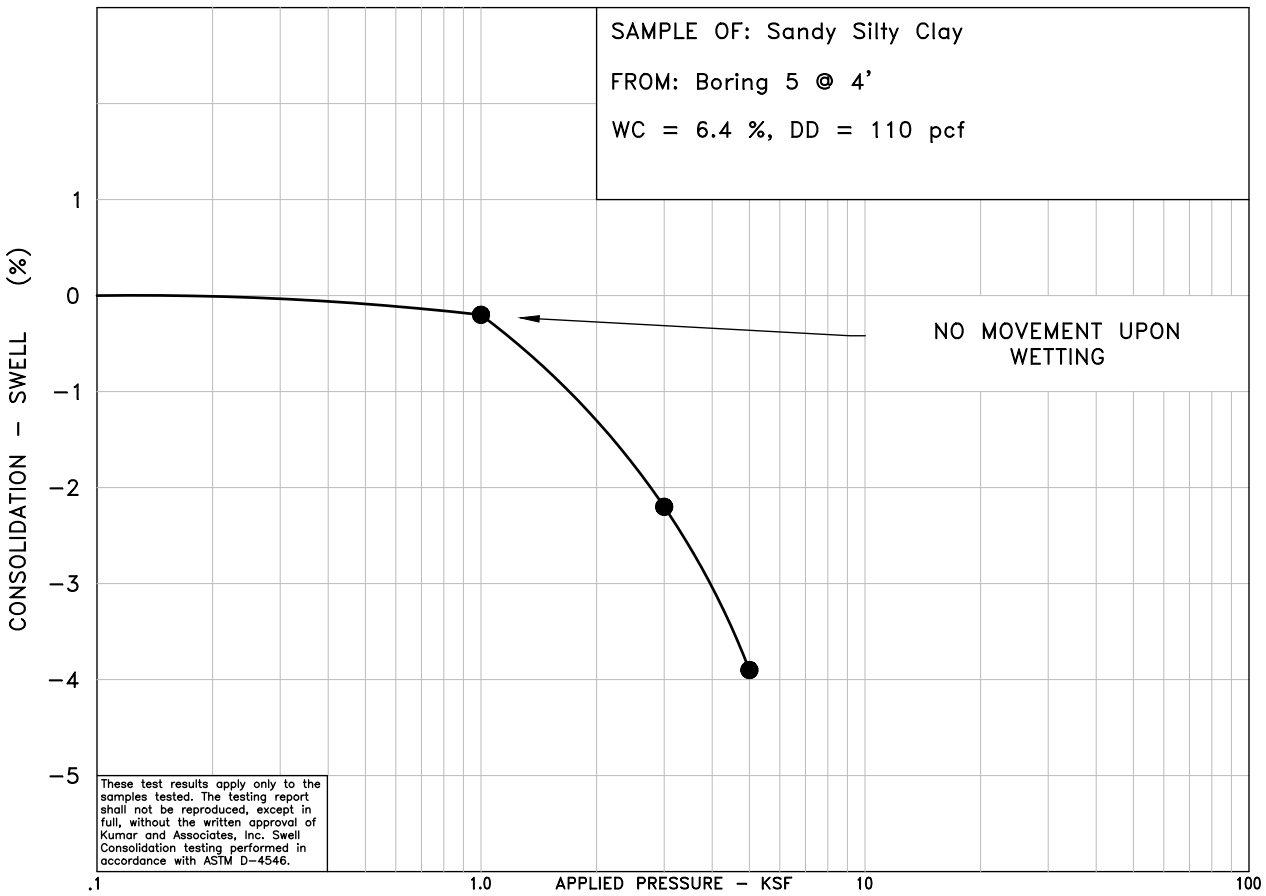
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25-7-336	Kumar & Associates	SWELL-CONSOLIDATION TEST RESULTS	Fig. 6

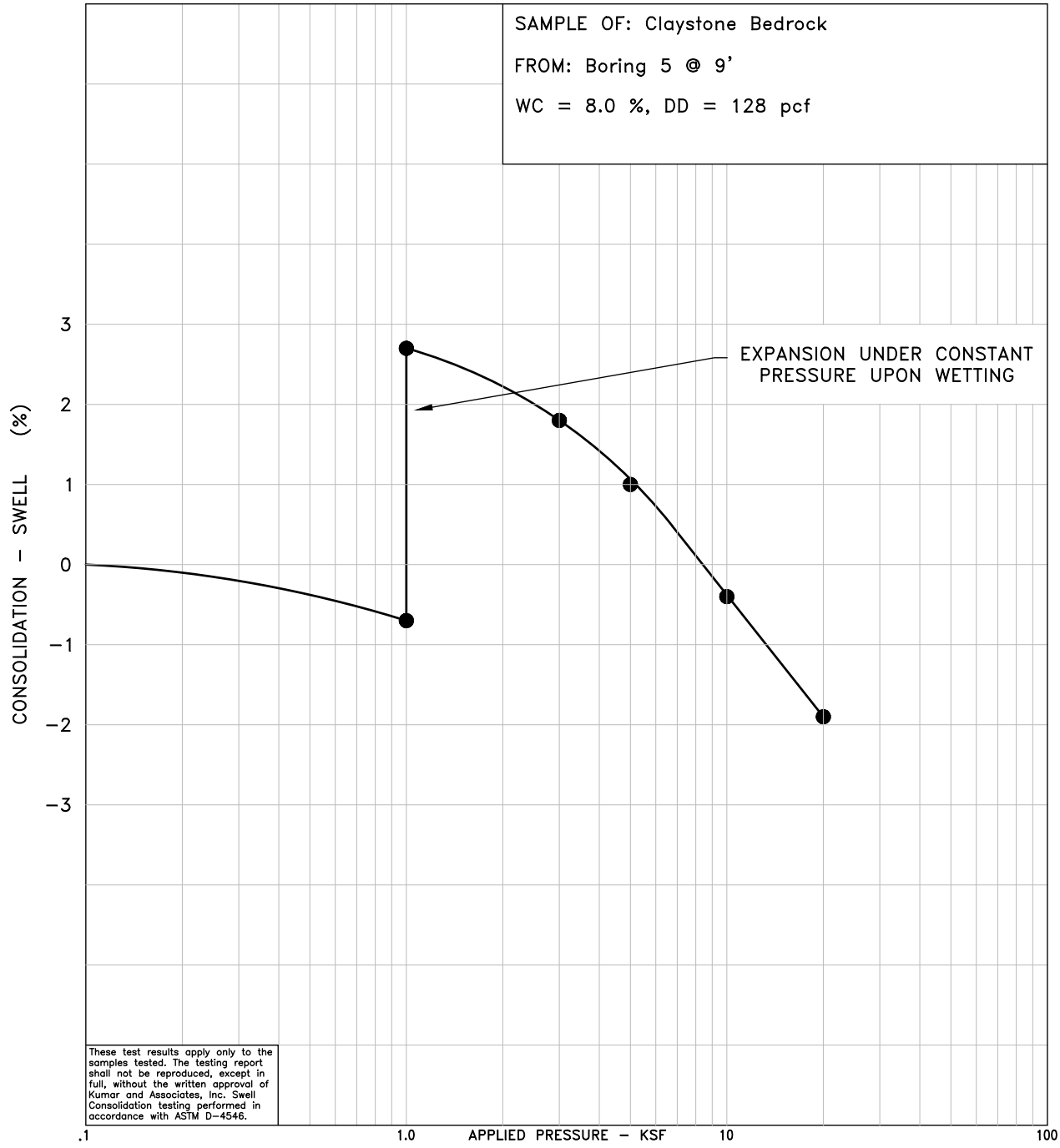
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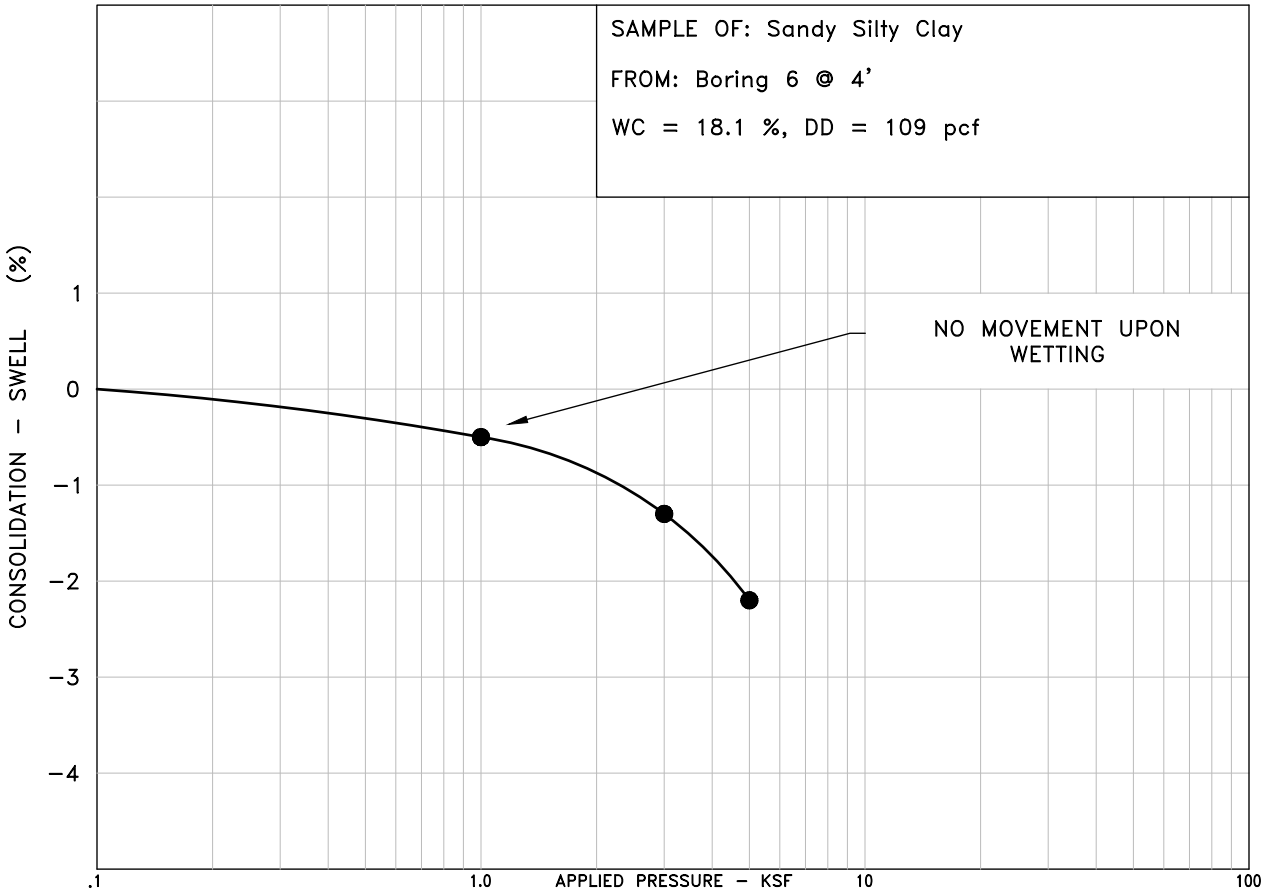
25-7-336	Kumar & Associates	SWELL-CONSOLIDATION TEST RESULTS	Fig. 7

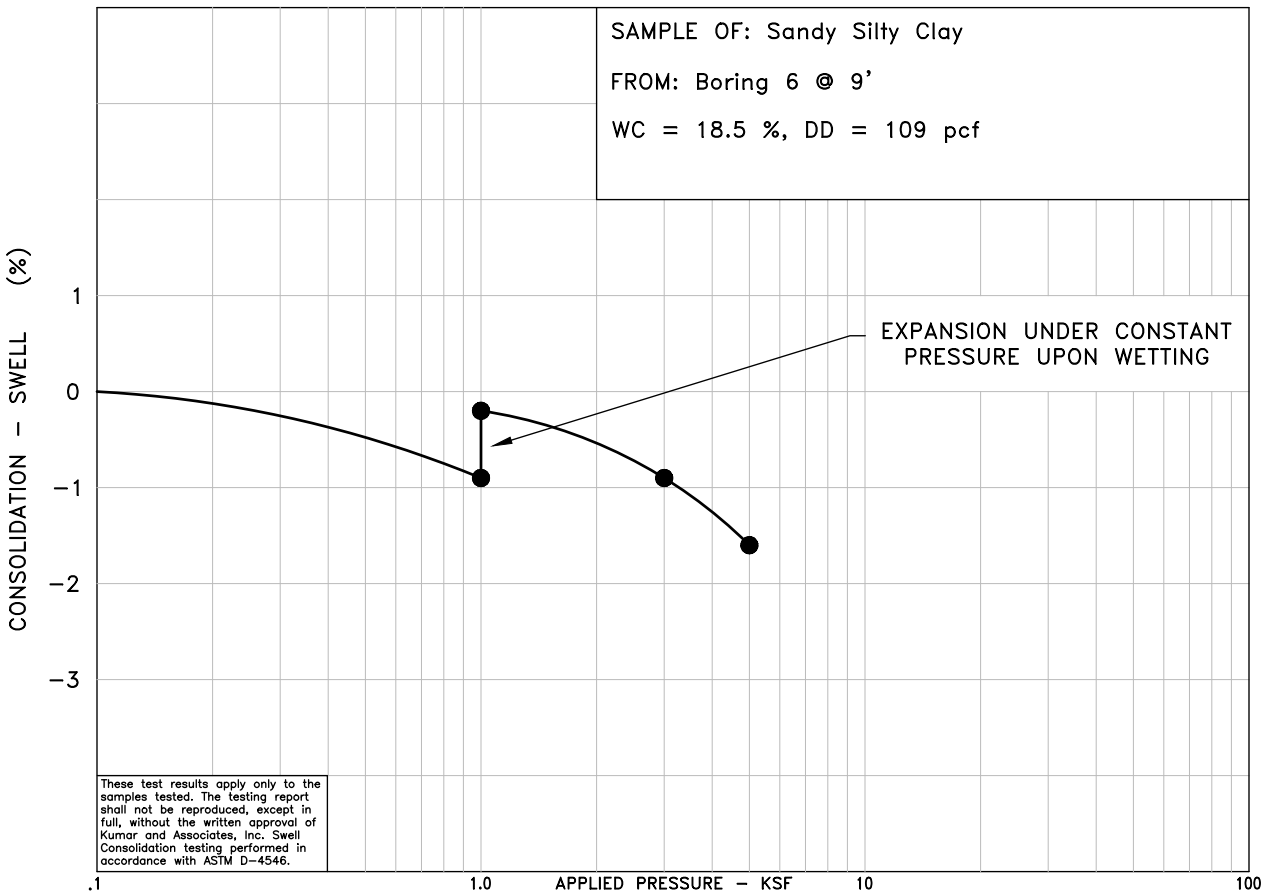
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25-7-336	Kumar & Associates	SWELL-CONSOLIDATION TEST RESULTS	Fig. 8

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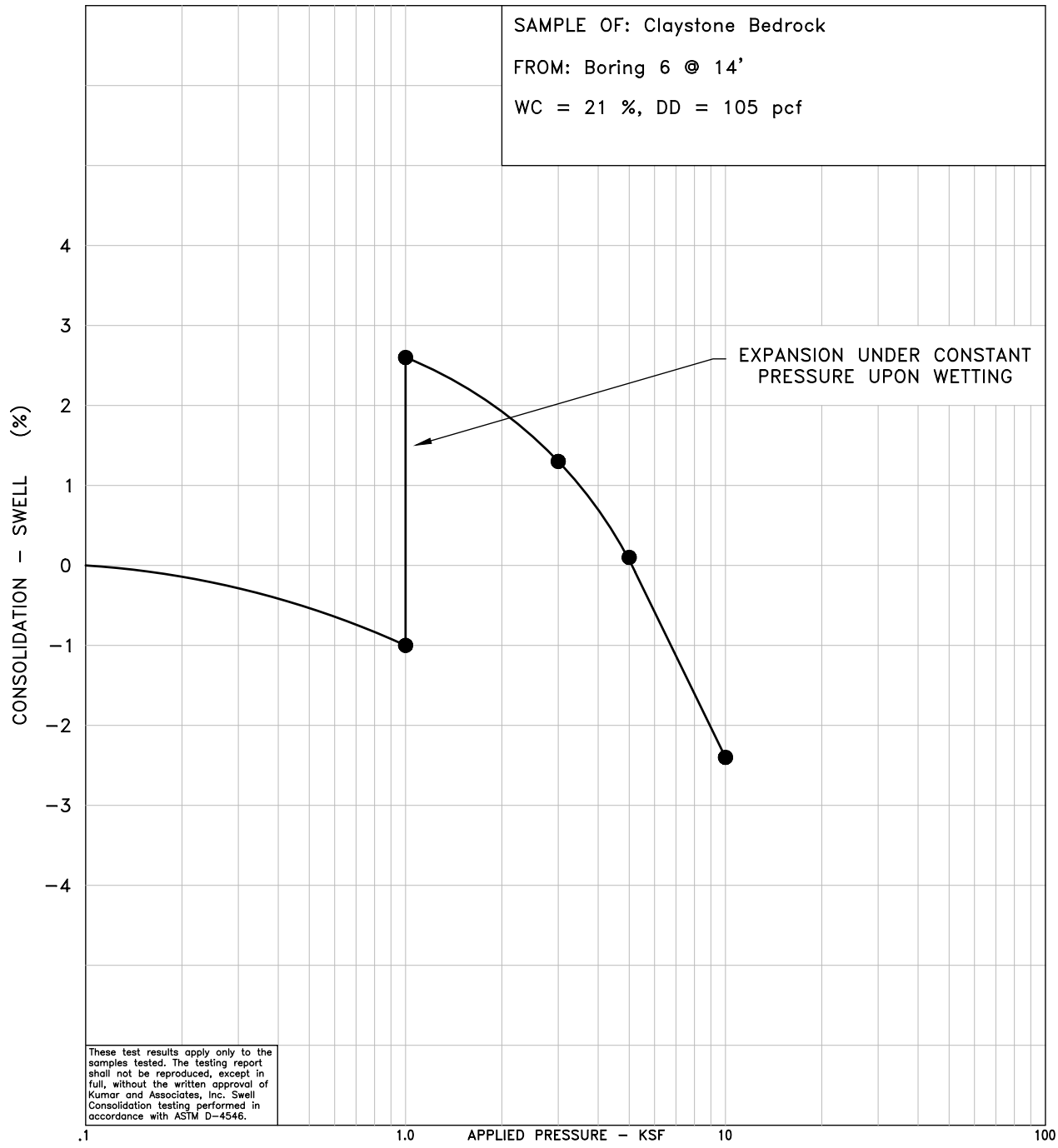




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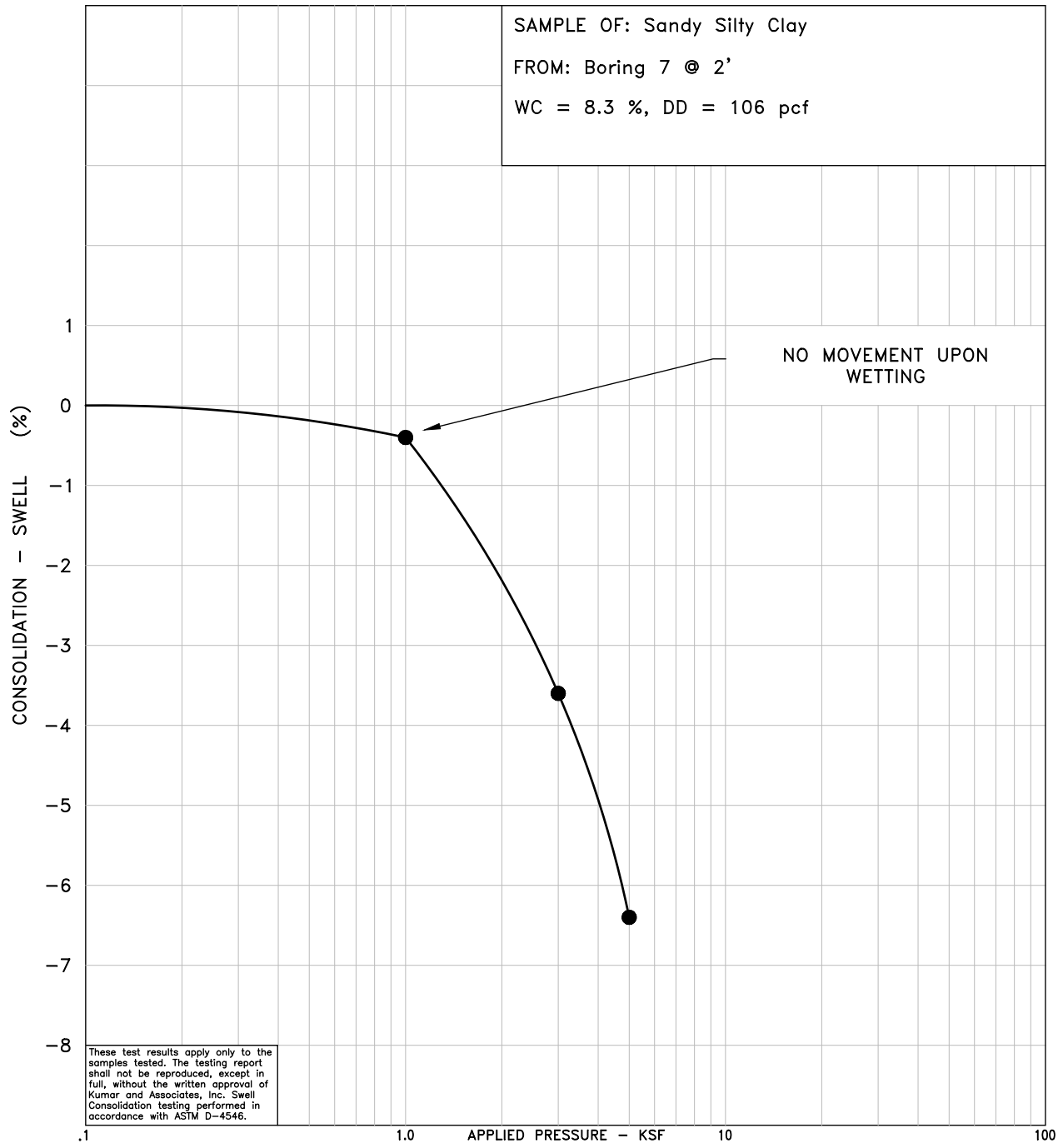
25-7-336	Kumar & Associates	SWELL-CONSOLIDATION TEST RESULTS	Fig. 9

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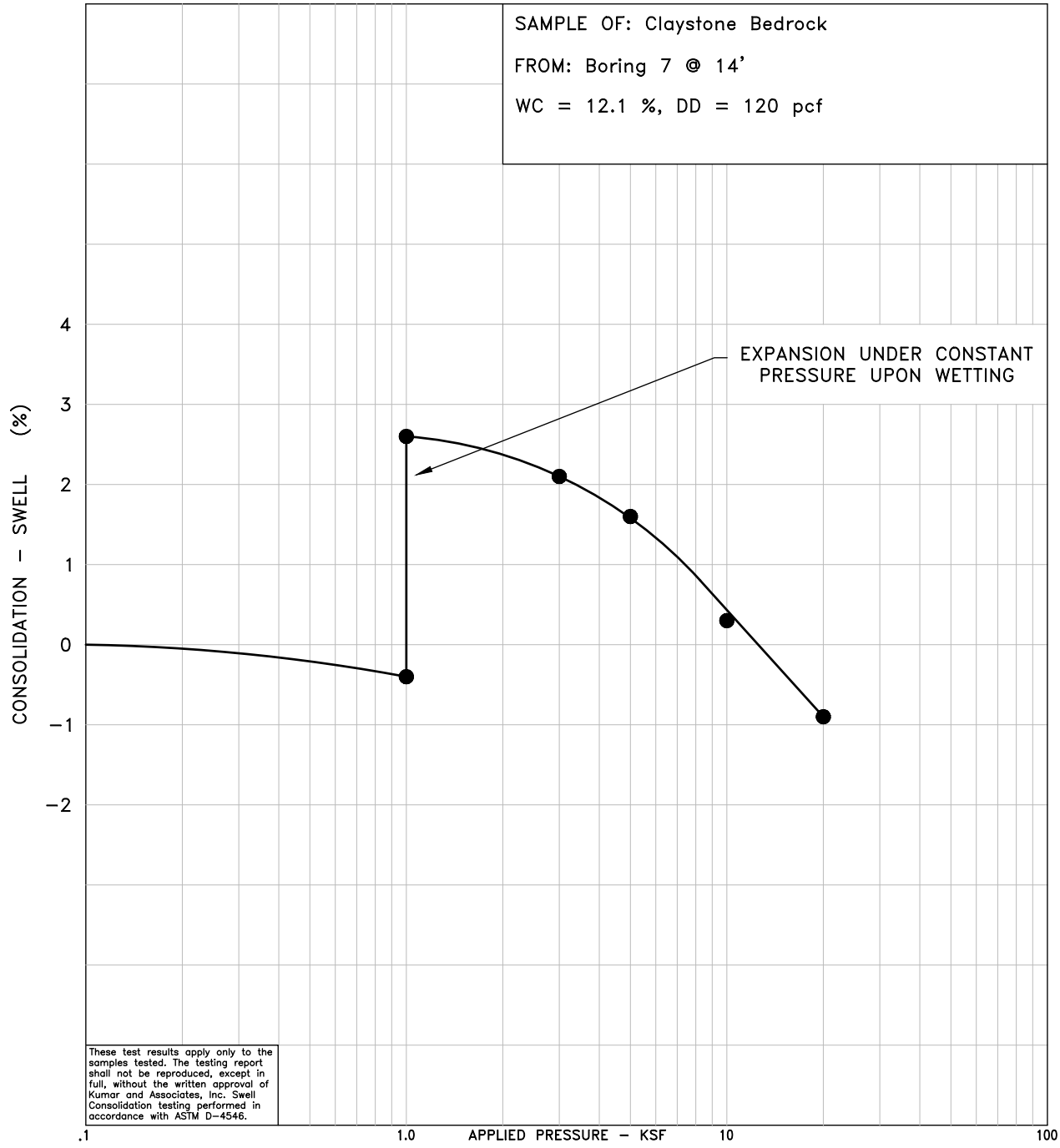
25-7-336	Kumar & Associates	SWELL-CONSOLIDATION TEST RESULTS	Fig. 10

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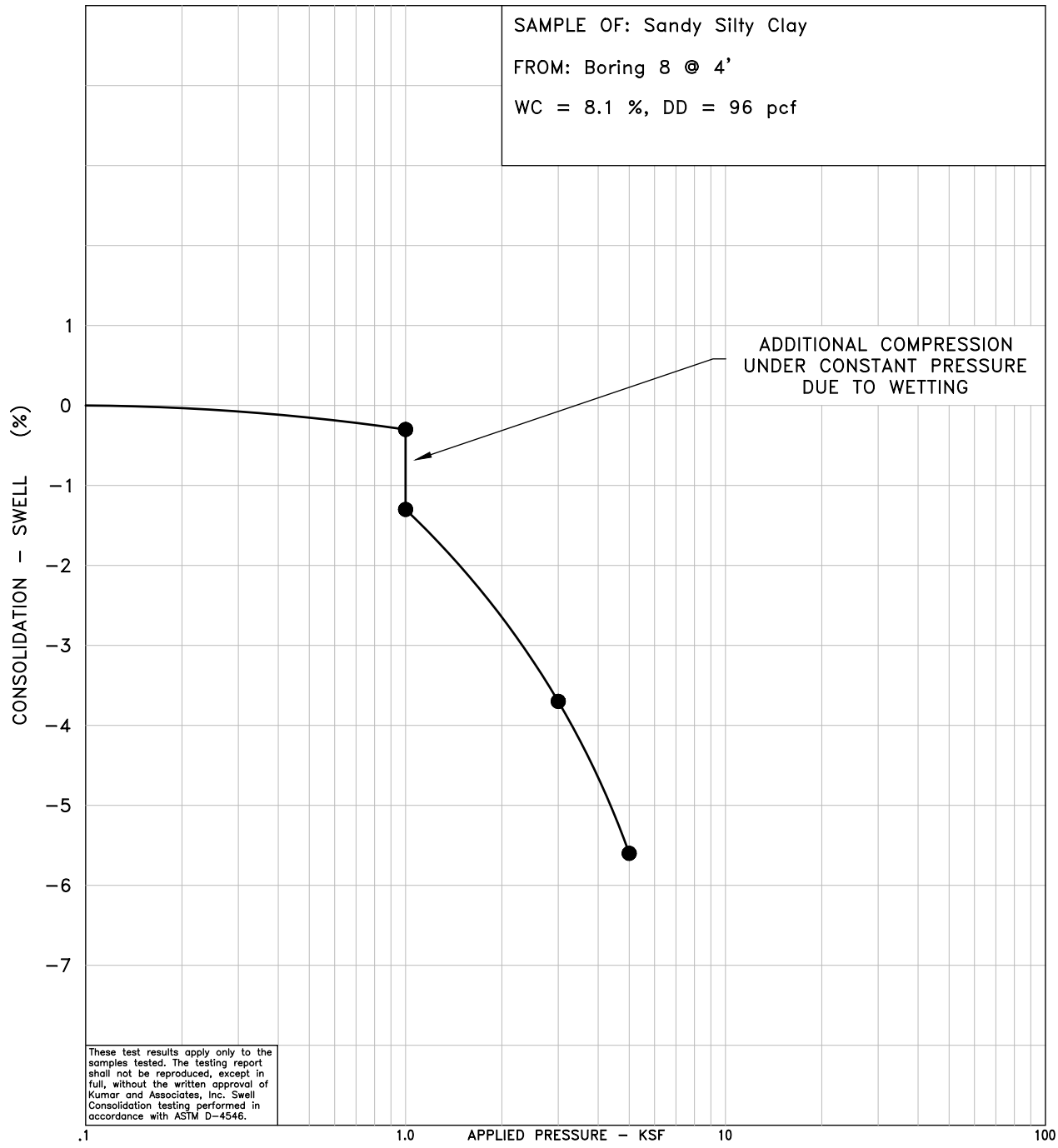
25-7-336	Kumar & Associates	SWELL-CONSOLIDATION TEST RESULTS	Fig. 11

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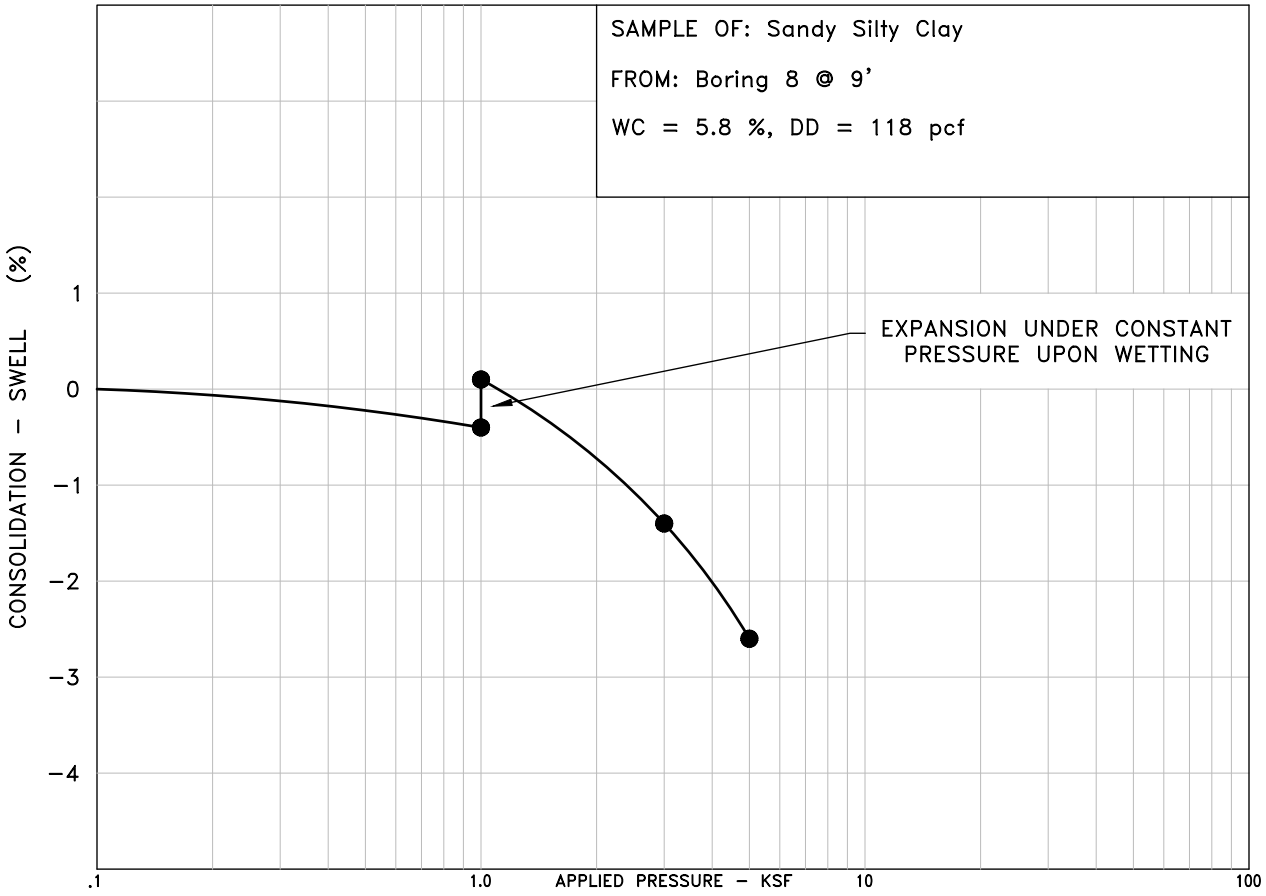
25-7-336	Kumar & Associates	SWELL-CONSOLIDATION TEST RESULTS	Fig. 12

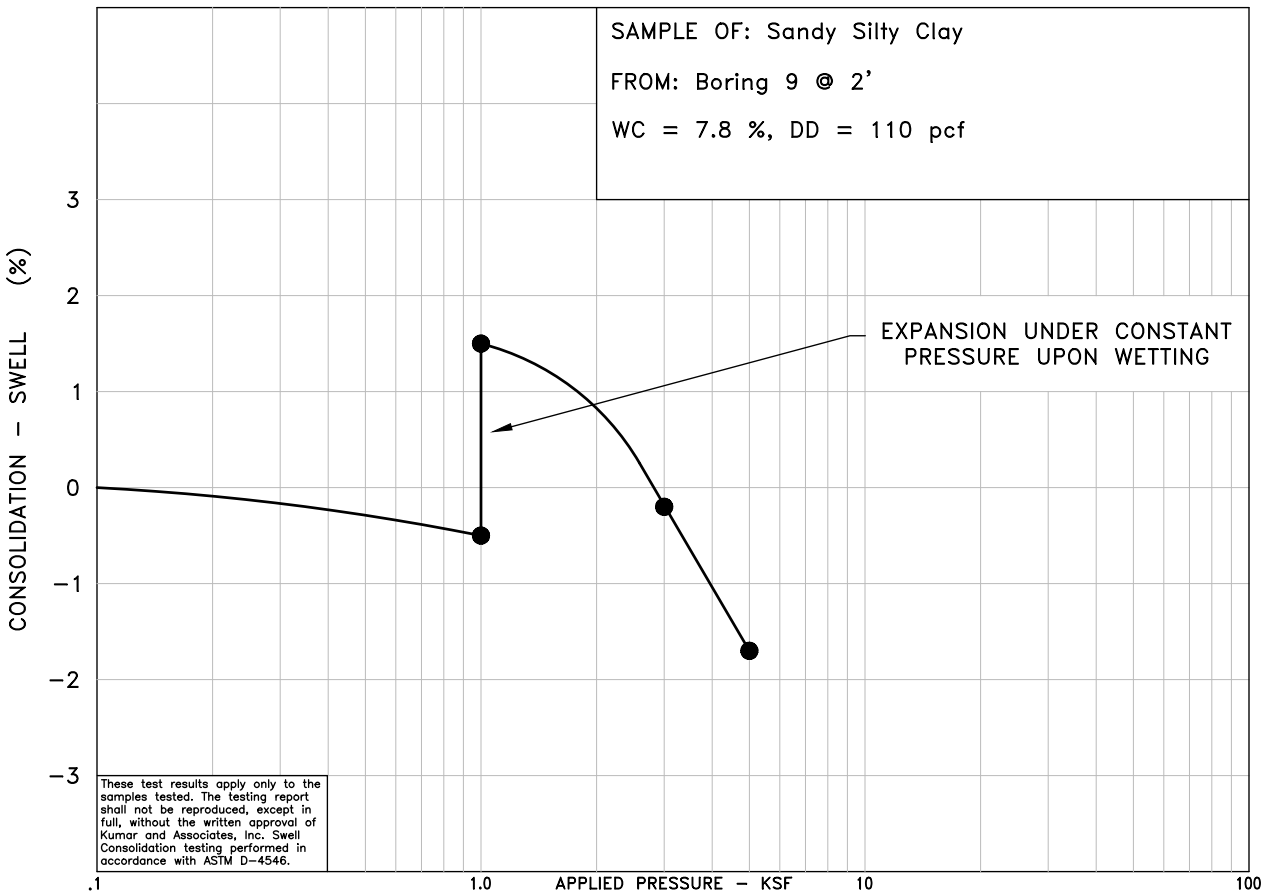
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25-7-336	Kumar & Associates	SWELL-CONSOLIDATION TEST RESULTS	Fig. 13

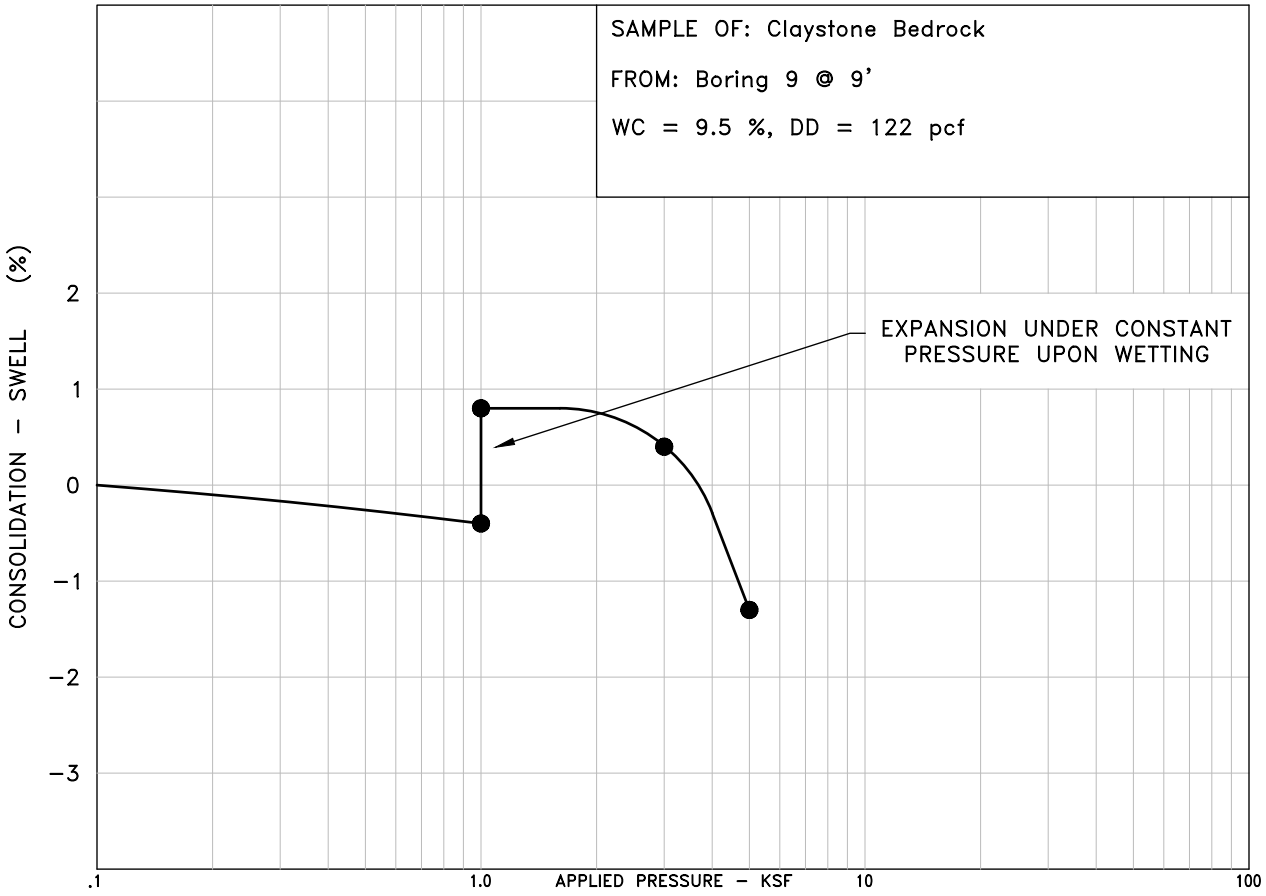
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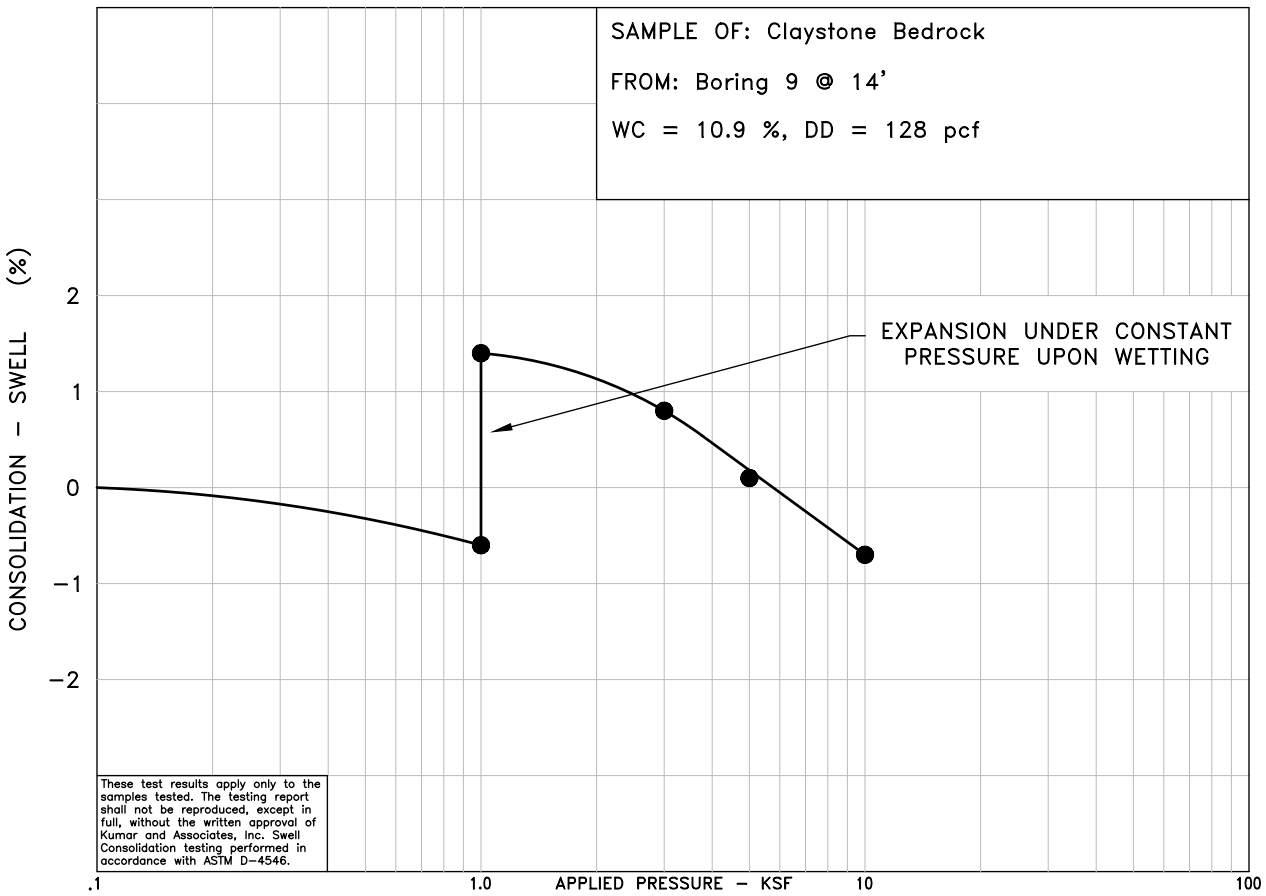




25-7-336	Kumar & Associates	SWELL-CONSOLIDATION TEST RESULTS	Fig. 14

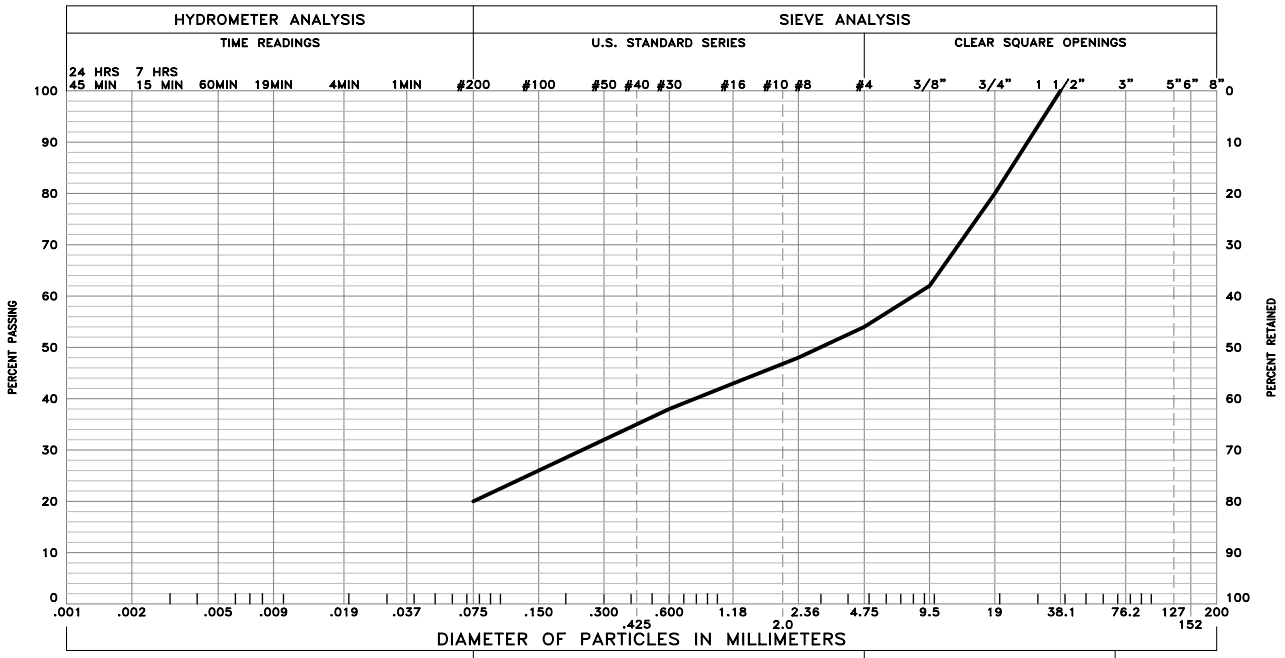
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25-7-336	Kumar & Associates	SWELL-CONSOLIDATION TEST RESULTS	Fig. 15

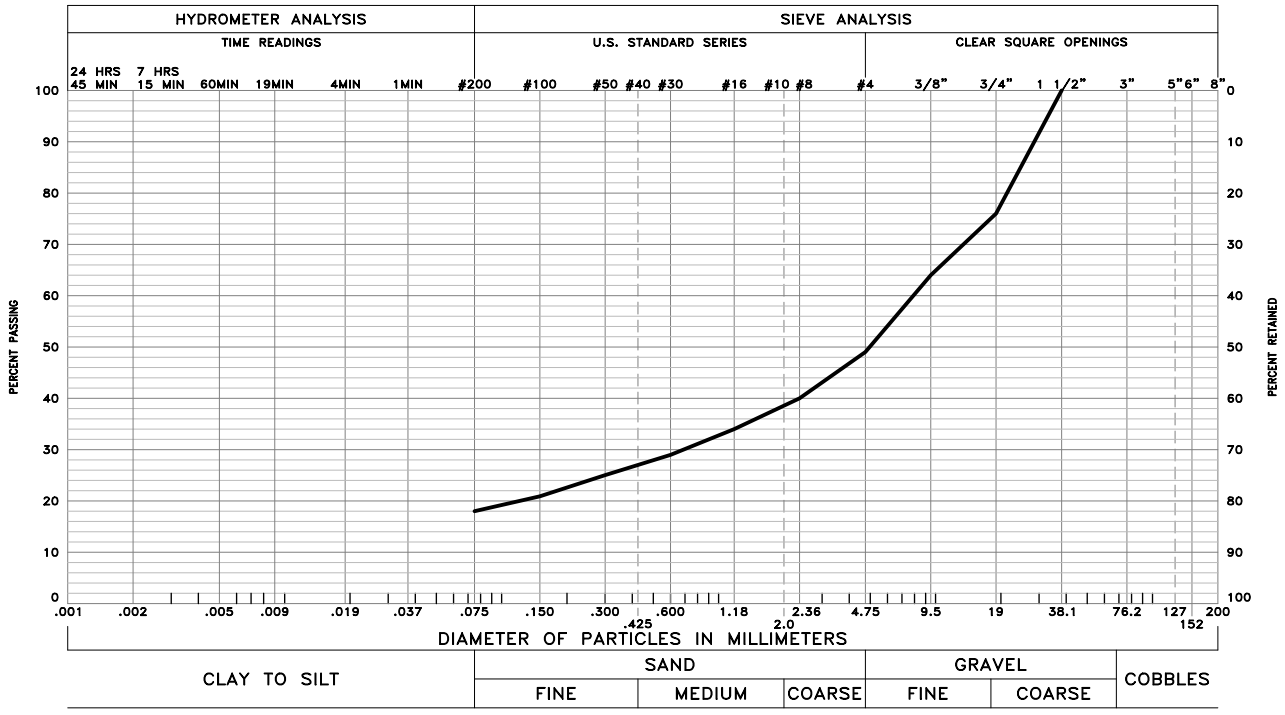
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GRAVEL 46 % SAND 34 % SILT AND CLAY 20 %

LIQUID LIMIT – PLASTICITY INDEX –

SAMPLE OF: Silty Sandy Gravel FROM: Boring 1 @ 9'



GRAVEL 51 % SAND 31 % SILT AND CLAY 18 %

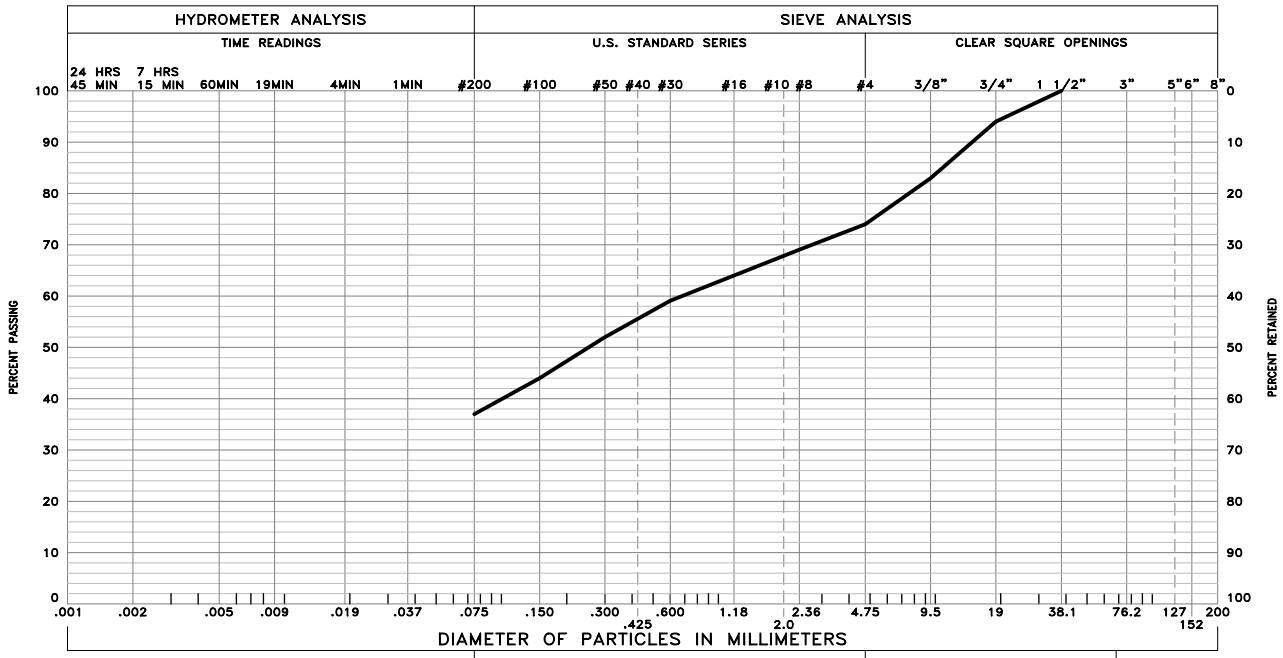
LIQUID LIMIT – PLASTICITY INDEX –

SAMPLE OF: Clayey Sandy Gravel FROM: Boring 2 @ 14'

These test results apply only to the samples which were tested. The testing report shall not be reproduced, except in full, without the written approval of Kumar & Associates, Inc. Sieve analysis testing is performed in accordance with ASTM D6913, ASTM D7928, ASTM C136 and/or ASTM D1140.

25-7-336	Kumar & Associates	GRADATION TEST RESULTS	Fig. 16

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GRAVEL 26 % SAND 37 % SILT AND CLAY 37 %

LIQUID LIMIT – PLASTICITY INDEX –

SAMPLE OF: Very Silty Sand and Gravel FROM: Boring 3 @ 10'

These test results apply only to the samples which were tested. The testing report shall not be reproduced, except in full, without the written approval of Kumar & Associates, Inc. Sieve analysis testing is performed in accordance with ASTM D6913, ASTM D7928, ASTM C136 and/or ASTM D1140.

25-7-336	Kumar & Associates	GRADATION TEST RESULTS	Fig. 17

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Kumar & Associates, Inc.®
Geotechnical and Materials Engineers
and Environmental Scientists

TABLE 1
SUMMARY OF LABORATORY TEST RESULTS

Project No. 25-7-336

SAMPLE LOCATION		NATURAL MOISTURE CONTENT	NATURAL DRY DENSITY	GRADATION		PERCENT PASSING NO. 200 SIEVE	ATTERBERG LIMITS		UNCONFINED COMPRESSIVE STRENGTH		SOIL TYPE
BORING	DEPTH (ft)	(%)	(pcf)	GRAVEL (%)	SAND (%)		LIQUID LIMIT (%)	PLASTIC INDEX (%)	(psf)		
1	2	8.6	107			80					Sandy Silty Clay
	5	9.2	101								Sandy Silty Clay
	9	2.4		46	34	20					Silty Sandy Gravel
2	0	7.9									Sandy Silty Clay
	4	7.8	105								Sandy Silty Clay
	9	1.1				11					Slightly Silty Sandy Gravel
	14	1.7		51	31	18					Clayey Sandy Gravel
	19	9.1				84	37	21			Claystone Bedrock
3	1	8.2	114								Sandy Silty Clay
	5	14.7	115			68					Sandy Silty Clay
	10	5.1		26	37	37					Very Silty Sand and Gravel
	15	12.1	121			78	31	17			Weathered Claystone
	20	10.4	126								Claystone Bedrock

TABLE 1
SUMMARY OF LABORATORY TEST RESULTS

SAMPLE LOCATION		NATURAL MOISTURE CONTENT	NATURAL DRY DENSITY	GRADATION		PERCENT PASSING NO. 200 SIEVE	ATTERBERG LIMITS		UNCONFINED COMPRESSIVE STRENGTH		SOIL TYPE
BORING	DEPTH (ft)	(%)	(pcf)	GRAVEL (%)	SAND (%)		LIQUID LIMIT (%)	PLASTIC INDEX (%)	(psf)		
4	2	7.1	96								Slightly Sandy Silty Clay
	4	8.2	88			89					Slightly Sandy Silty Clay
	14	9.5	131								Claystone Bedrock
5	2	7.1	102			79					Sandy Silty Clay
	4	6.4	114								Sandy Silty Clay
	9	8.0	128								Claystone Bedrock
6	4	18.1	109								Sandy Silty Clay
	9	18.5	109								Sandy Silty Clay
	14	21.0	105								Claystone Bedrock
7	2	8.3	106								Sandy Silty Clay
	4	8.8	103			90					Slightly Sandy Silty Clay
	9	13.3	130								Claystone Bedrock
	14	12.3	120								Claystone Bedrock

Kumar & Associates, Inc.®
Geotechnical and Materials Engineers
and Environmental Scientists

TABLE 1
SUMMARY OF LABORATORY TEST RESULTS

SAMPLE LOCATION		NATURAL MOISTURE CONTENT	NATURAL DRY DENSITY	GRADATION		PERCENT PASSING NO. 200 SIEVE	ATTERBERG LIMITS		UNCONFINED COMPRESSIVE STRENGTH		SOIL TYPE
BORING	DEPTH (ft)	(%)	(pcf)	GRAVEL (%)	SAND (%)		LIQUID LIMIT (%)	PLASTIC INDEX (%)	(psf)		
8	2	8.6	104			89					Slightly Sandy Silty Clay
	4	8.1	96								Sandy Silty Clay
	9	5.8	118								Sandy Silty Clay
9	2	7.8	114								Sandy Silty Clay
	9	9.5	122								Claystone Bedrock
	14	10.9	128								Claystone Bedrock

FISCAL IMPACT ANALYSIS

Fiscal Impact Analysis of Archwood Townhomes

New Castle, Colorado
September 12, 2025

Introduction

Klutch Consultant LLC retained Triple Point Strategic Consulting to conduct a fiscal impact study of the Archwood Townhomes Preliminary Plan Application. The project is located in the Castle Valley Ranch planned unit development (PUD) subdivision, immediately southeast of Kathryn Senor Elementary School in the Town of New Castle, Colorado. Klutch Consultant is proposing to develop 66 townhome units in the town.

According to the Town's Preliminary Plan checklist, a calculation is required of "projected ongoing revenues and costs to be received or incurred by the town as a result of development of the subdivision proposed in the application." Such calculations shall be provided for the first 15 years after full development of the proposed subdivision.

In this analysis, revenues to be received and costs to be incurred as a result of the proposed development have been projected out to 2045 on the basis of available data and various assumptions. The projection period through 2045 is intended to capture ongoing impacts for the first 18 years following full build-out, assuming construction in completed in 2027.

The Town's 2025 adopted budget states the following:

> Despite persistent economic challenges throughout 2024 which included high inflation, limited labor availability, and escalating operational costs, New Castle managed to stay on course, meeting or exceeding its budget goals. By focusing on efficiency and leveraging partial grant funding, when possible, the Town kept major capital projects on track. Self-performing significant portions of most capital projects continued to be a cost cutting measure that allowed projects to move forward and remain on budget. Community engagement remained a bright spot, with strong participation in recreational activities, arts programs, and a growing range of outdoor amenities, thanks to collaboration with partners, sponsors, and volunteers.

On the basis of various inputs—such as building cost per square foot, annual local spending per household, and others—this analysis estimates the economic impact arising from construction of the residential units and from the increased economic activity. Inputs are based on various datasets and assumptions.

Jeffrey L. Moffett, Ph.D., Principal (970) 275-1906 jmoffett@tpsconsulting.net

Methodology

To study the fiscal impacts of the proposed development, Triple Point Strategic Consulting constructed a hybrid model combining build-out analysis with proforma projections. The number of units by type, phasing, and construction costs were used to create a build-out model of the development occurring over two years from 2026 through 2027.

The financial impacts of construction were estimated using an additional economic input-output model developed by IMPLAN and Garfield County data. Two different industry sectors were incorporated in the model representing infrastructure and multifamily construction. Total construction cost is estimated to be $34 million. This amount was reduced to $20.4 million to capture only local impact. IMPLAN modeling estimates multiplier effects known as indirect and induced impacts as construction investment ripples through New Castle's economy. IMPLAN also provides estimates of the number of jobs resulting from a given level and type of investment.

Municipal fiscal impacts were extrapolated from the incremental growth in population and units arising from the development.

New Castle property tax revenues are estimated for the proposed development based on comparable property values and New Castle's 8.551 mill levy. The current property revenue, posted on the county assessor's website, was $24,485 in 2024. The current property tax paid on the parcel is netted out of estimates of future property tax revenues. Once the townhomes are developed, the property may be taxed as multifamily residential at the 6.7 percent assessment rate, depending on the findings of the county assessor and assuming no change in assessment rate. All revenues and expenses are assumed to escalate at 2.5 percent annually.

The following revenue and expense categories are explicitly modeled:

- Construction sales tax, including multiplier effects
- Construction use tax
- Building permits, tap, and other fees
- Incremental general fund revenue, including incremental sales tax
- Incremental utility fund revenue (housing units)
- Property tax – residential
- Property tax – current (negative)
- Incremental general fund expense (residents)
- Incremental utility fund expense (housing units)

Total property tax impacts are also estimated; these include revenue for schools, water, transportation, and other jurisdictions in addition to the Town of New Castle.

Results

The population of New Castle has grown at an average annual rate of 1.4 percent from 2017 to 2024. We estimate the population growing at an average annual rate of 1.6 percent from 2025 to 2045. The rate of 1.6 percent is taken from the State Demographer's Office (SDO) forecast for Garfield County and adding a conservative premium for New Castle relative to the county (25 percent of actual). At this rate, New Castle's population will grow from 4,981 in 2024 to 6,993 in 2045, an increase of 2,012. We use an

average of 2.6 people per unit taken from the sketch plan, slightly less than the SDO estimate for New Castle of 2.69 in 2023. Based on this information, the proposed development would house a total of 170 people from 2028.

The $20.4 million construction investment modeled would generate an indirect impact of $3.7 million and an induced impact of $3.5 million, for a total of $27.7 million. IMPLAN estimates intermediate expenditures to be $11.9 million, which is largely subject to sales tax. To estimate incremental sales tax, we net out the 2 percent use tax that would be paid on 45 percent of the estimated project valuation. The net total incremental sales tax benefit is estimated to be $103,647 and the use tax would be $305,949 over the two years from 2026 through 2027.

Incremental general fund revenue is extrapolated from the estimated number of new residents in the development. This is revenue generated by various sources, from tobacco taxes to soccer registration. Taking an average of 2023 actual through 2025 budget, we find an average of $1,195 per person.

Incremental utility fund revenue is extrapolated in a similar manner as general fund revenue from the estimated number of new housing units in the development. Three primary operating accounts are included: water, wastewater, and trash.

Property tax on the new development begins in 2027. The current New Castle property tax amount of $3,021 is netted out beginning in 2027, when the Town's share of the property tax payment is estimated to be $8,338. The table below shows the total amount of property tax is estimated to be $160,991 in 2028. The amount accruing to each tax authority in 2028 is also shown. From 2028, the total cumulative amount of property tax collected for all tax authorities in tax area 38 would reach $3 million by 2045.

Tax Authorities in Tax Area 38	Tax Rate	Tax Amount
GARFIELD COUNTY	11.716	$27,213
GARFIELD COUNTY - R&B FUND LESS CITY	0.047	$109
GARFIELD COUNTY - NEW CASTL R&B	0.047	$109
GARFIELD COUNTY - SOCIAL SERVICES FUND	0.443	$1,029
GARFIELD COUNTY - CAPITAL EXPENSES	0.935	$2,172
GARFIELD COUNTY - RETIREMENT FUND	0.467	$1,085
TOWN OF NEW CASTLE - GENERAL FUND	8.551	$19,862
COLORADO RIVER FIRE PROTECTION	11.102	$25,787
COLO RIVER WATER CONSERVATION	0.501	$1,164
SCHOOL DIST RE-2 GENERAL FUND	8.727	$20,270
SCHOOL DIST RE-2 - BOND	8.776	$20,384
COLORADO MTN COLLEGE	3.230	$7,502
GARFIELD COUNTY PUBLIC LIBRARY	2.506	$5,821
SCHOOL DIST RE-2 - MILL LEVY OVERRIDE	9.613	$22,328
RFTA	2.650	$6,155
Total Property Tax Revenue in 2028	**69.311**	**$160,991**

The incremental increased costs incurred by the Town are estimated by taking the average general fund expenditure per person for the budget in years 2023 to 2025 ($1,105 per person). Utility fund expenses are extrapolated in the same manner as utility fund revenues, from incremental housing units and per-unit expenses.

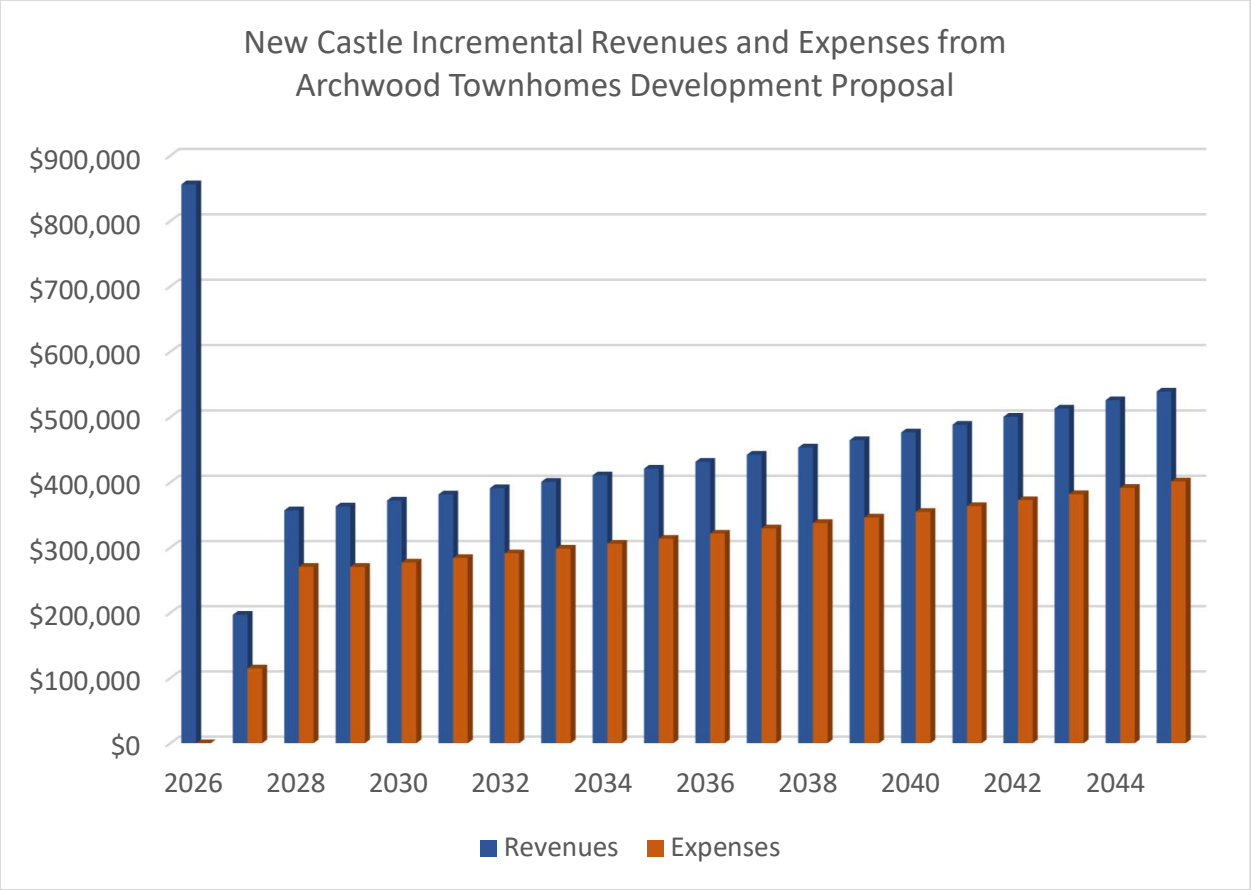
Employment

The table below shows the annual average number of jobs directly resulting from construction as well as the total jobs including multiplier impacts.

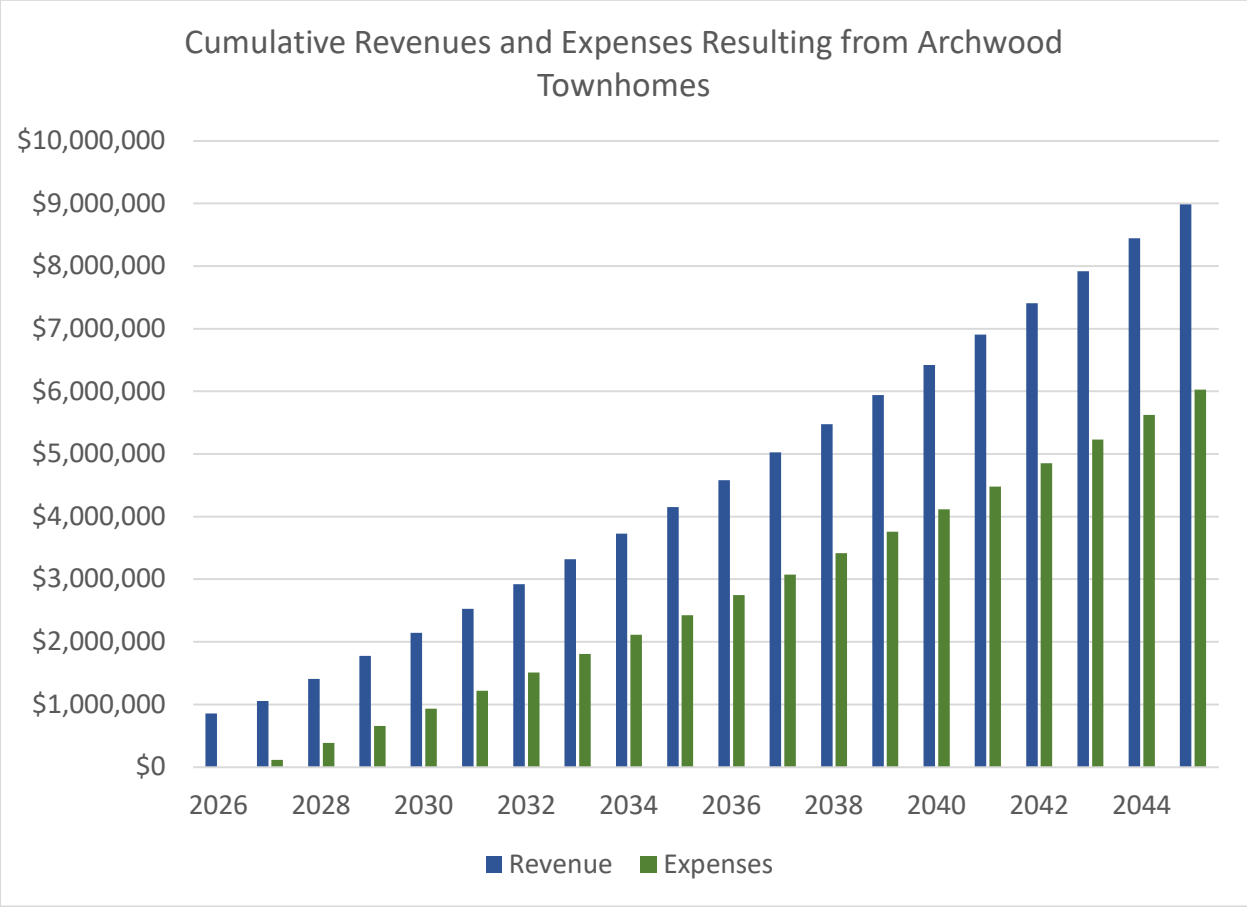
Type of Job	2026	2027
Direct	54.32	50.13
Indirect	8.9	9.27
Induced	9.9	9.2
Total	**73.12**	**68.6**

Combined Fiscal Impacts

The initial economic benefit to the Town would be $1.1 million during the two years of construction. From 2028 through 2045, the average annual net benefit would be $112,271, as shown in the chart below.



The chart below compares cumulative revenues and expenses. By 2045, the total revenue received by New Castle would exceed $9 million, while expenses would cumulate to $6 million.



About IMPLAN

The IMPLAN economic software system is used to estimate the benefits that would result from constructing and operating the Project. IMPLAN uses annual regional data to predict how specific economic changes would impact a given regional economy. For example, IMPLAN estimates supply chain (i.e., indirect) spending, such as the purchase of fuel and lumber for construction, and labor income (i.e., induced) spending, such as grocery and retail goods purchased by employees. The IMPLAN system incorporates more than 90 different datasets. For example, employment and labor income data are sourced from information provided by the U.S. Bureau of Labor Statistics Census of Employment and Wages, U.S. Census Bureau's County Business Patterns Reports, and U.S. Bureau of Economic Analysis' Regional Economic Accounts. Other sources include the National Agricultural Statistical Service, National Bureau of Economic Research, Internal Revenue Service, and Energy Information Administration.

About Triple Point Strategic Consulting

Triple Point specializes in developing custom economic and financial models. We deliver results for our clients with high-value and accurate information, as demonstrated by our many repeat clients. Triple Point is active across the western United States and Canada, modeling for scenario planning, financial forecasting, permitting and approvals, optimal resource allocation, and improved decision-making. Economic impact studies are conducted using the IMPLAN model.

In 2013, Jeff Moffett founded Triple Point Strategic Consulting to provide marketing, strategic planning, and economic analysis services. Focus areas are renewable energy, affordable housing, health assessments, sustainable tourism, and economic development. Jeff earned his M.S. in Econometrics and Ph.D. in Applied Statistics at the University of Washington, Seattle.

Zachary Walusek is a graduate student in Applied Economics and Data Intelligence at the University of Nevada Las Vegas. Zac has analyzed housing issues for Brookings Mountain West and the Kenny Guinn Center for Policy Priorities in Las Vegas.

For more information visit www.tpsconsulting.net.

LAND TITLE COMMITMENT

Customer Distribution

Prevent fraud - Please call a member of our closing team for wire transfer instructions or to initiate a wire transfer. Note that our wiring instructions will never change.

Order Number: **ABC63022363.1** Date: **01/26/2026**

Property Address: **TBD NEW CASTLE (VACANT LAND), NEW CASTLE, CO 81647**

For Closing Assistance	Closers Assistant	For Title Assistance
Jessica Reed 901 GRAND AVENUE, SUITE 202 GLENWOOD SPRINGS, CO 81601 (970) 930-9815 (Work) (800) 318-8206 (Work Fax) jreed@ltgc.com Contact License: CO299243 Company License: CO44565	Marisa Bartnik 901 GRAND AVENUE, SUITE 202 GLENWOOD SPRINGS, CO 81601 (970) 930-9812 (Work) (800) 318-8206 (Work Fax) mbartnik@ltgc.com Company License: CO44565	Scott Bennetts 5975 GREENWOOD PLAZA BLVD GREENWOOD VILLAGE, CO 80111 (303) 850-4175 (Work) sbennetts@ltgc.com Company License: CO44565

Estimate of Title Fees

Order Number: ABC63022363.1 **Date:** 01/26/2026

Property Address: TBD NEW CASTLE (VACANT LAND), NEW CASTLE, CO 81647

Seller(s): TC MIDWEST LLC, A TEXAS LIMITED LIABILITY COMPANY

Buyer(s): A BUYER TO BE DETERMINED

Thank you for putting your trust in Land Title. Below is the estimate of title fees for the transaction. The final fees will be collected at closing. Visit **ltgc.com** to learn more about Land Title.

Estimate of Title Insurance Fees	
"ALTA" Owner's Policy 07-01-21	$0.00
TOTAL	**$0.00**

Note: The documents linked in this commitment should be reviewed carefully. These documents, such as covenants conditions and restrictions, may affect the title, ownership and use of the property. You may wish to engage legal assistance in order to fully understand and be aware of the implications of the documents on your property.

Chain of Title Documents:

Garfield county recorded 09/22/2021 under reception no. 963575

ALTA COMMITMENT

Old Republic National Title Insurance Company

Schedule A

Order Number: ABC63022363.1

Property Address:

TBD NEW CASTLE (VACANT LAND), NEW CASTLE, CO 81647

1. **Commitment Date:**

   12/31/2025 at 5:00 P.M.

2. **Policy to be Issued and Proposed Insured:**

   "ALTA" Owner's Policy 07-01-21 $0.00
   Proposed Insured:
   A BUYER TO BE DETERMINED

3. **The estate or interest in the land described or referred to in this Commitment and covered herein is:**

   FEE SIMPLE

4. **The Title is, at the Commitment Date, vested in:**

   TC MIDWEST LLC, A TEXAS LIMITED LIABILITY COMPANY

5. **The Land is described as follows:**

ALTA COMMITMENT

Old Republic National Title Insurance Company

Schedule A

Order Number: ABC63022363.1

A PARCEL OF LAND LOCATED IN THE SE1/4 OF SECTION 30,
TOWNSHIP 5 SOUTH, RANGE 90 WEST OF THE SIXTH PRINCIPAL MERIDIAN,
COUNTY OF GARFIELD, STATE OF COLORADO,
SAID PARCEL OF LAND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE,
OF CASTLE VALLEY BOULEVARD,
SAME BEING THE WESTERNMOST CORNER OF CASTLE VALLEY RANCH PA12 FLG 9 FINAL,
AS FILED WITH THE GARFIELD COUNTY CLERK AND RECORDER'S OFFICE,
AS RECEPTION NO. 733785;
THENCE ALONG SAID NORTHERLY RIGHT-OF-WAY LINE,
THE FOLLOWING FIVE (5) COURSES:

1) N34°40'33"W 220.40 FEET;
2) ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 150.00 FEET,
AN ARC LENGTH OF 93.27 FEET, CHORD BEARS N16°51'46"W 91.77 FEET;
3) ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 95.83 FEET,
AN ARC LENGTH OF 129.60 FEET, CHORD BEARS N37°47'30"W 119.95 FEET;
4) ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 100.00 FEET,
AN ARC LENGTH OF 63.58 FEET, CHORD BEARS N58°19'04"W 62.52 FEET;
5) ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 784.64 FEET,
AN ARC LENGTH OF 94.58 FEET, CHORD BEARS N43°33'19"W 94.52 FEET,
TO A POINT ON THE EASTERLY LINE OF THE GARFIELD SCHOOL DISTRICT RE2,
AS FILED WITH SAID CLERK AND RECORDER'S OFFICE AS RECEPTION NO. 493428;
THENCE DEPARTING SAID NORTHERLY RIGHT-OF-WAY,
ALONG SAID EASTERLY LINE N42°59'30"E 500.54 FEET,
TO A POINT IN THE SOUTHERLY LINE OF NORTH PARK PARCEL,
AS FILED WITH SAID CLERK AND RECORDER'S OFFICE AS RECEPTION NO. 720385,
AND RECEPTION NO. 721291;
THENCE WITH SAID SOUTHERLY LINE THE FOLLOWING TWO (2) COURSES:

1) N66°57'08"E 245.52 FEET;
2) S71°52'33"E 231.69 FEET TO A POINT IN THE WESTERLY RIGHT-OF-WAY LINE,
OF NORTH WILD HORSE ROAD;
THENCE ALONG SAID WESTERLY RIGHT-OF-WAY LINE,
THE FOLLOWING THREE (3) COURSES:

1) ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 736.00 FEET,
AN ARC LENGTH OF 368.23 FEET, CHORD BEARS S05°37'46"W 364.40 FEET;
2) THENCE S08°42'12"E 68.52 FEET;
3) ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 886.25 FEET,
AN ARC LENGTH OF 217.43 FEET, CHORD BEARS S15°43'53"E 216.88 FEET,
TO A POINT IN THE NORTH LINE OF SAID CASTLE VALLEY RANCH PA12 FLG 9 FINAL;
THENCE WITH SAID NORTH LINE THE FOLLOWING FOUR (4) COURSES:

1) S65°53'03"W 66.89 FEET;
2) S81°23'34"W 266.32 FEET;
3) S51°51'16"W 126.84 FEET;
4) S36°47'12"W 88.30 FEET TO THE POINT OF BEGINNING,
COUNTY OF GARFIELD, STATE OF COLORADO.

ALTA COMMITMENT

Old Republic National Title Insurance Company

Schedule A

Order Number: ABC63022363.1

This page is only a part of a 2021 ALTA® Commitment for Title Insurance. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I—Requirements; Schedule B, Part II—Exceptions; and a counter-signature by the Company or its issuing agent that may be in electronic form.



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ALTA COMMITMENT

Old Republic National Title Insurance Company

Schedule B, Part I

(Requirements)

Order Number: ABC63022363.1

All of the following Requirements must be met:

This proposed Insured must notify the Company in writing of the name of any party not referred to in this Commitment who will obtain an interest in the Land or who will make a loan on the Land. The Company may then make additional Requirements or Exceptions.

Pay the agreed amount for the estate or interest to be insured.

Pay the premiums, fees, and charges for the Policy to the Company.

Documents satisfactory to the Company that convey the Title or create the Mortgage to be insured, or both, must be properly authorized, executed, delivered, and recorded in the Public Records.

1. RELEASE OF DEED OF TRUST DATED OCTOBER 19, 2023 FROM TC MIDWEST LLC, A TEXAS LIMITED LIABILITY COMPANY TO THE PUBLIC TRUSTEE OF GARFIELD COUNTY FOR THE USE OF REGENT BANK TO SECURE THE SUM OF $47,200.00 RECORDED NOVEMBER 13, 2023, UNDER RECEPTION NO. **991312**.

   MODIFICATION AGREEMENT IN CONNECTION WITH SAID DEED OF TRUST WAS RECORDED MAY 12, 2025 UNDER RECEPTION NO. **1006831**.

2. RELEASE OF DEED OF TRUST DATED OCTOBER 19, 2023 FROM TC MIDWEST LLC, A TEXAS LIMITED LIABILITY COMPANY TO THE PUBLIC TRUSTEE OF GARFIELD COUNTY FOR THE USE OF REGENT BANK TO SECURE THE SUM OF $397,888.22 RECORDED NOVEMBER 13, 2023, UNDER RECEPTION NO. **991313**.

3. RELEASE OF DEED OF TRUST DATED OCTOBER 19, 2023 FROM TC MIDWEST LLC, A TEXAS LIMITED LIABILITY COMPANY TO THE PUBLIC TRUSTEE OF GARFIELD COUNTY FOR THE USE OF REGENT BANK TO SECURE THE SUM OF $51,978.20 RECORDED NOVEMBER 13, 2023, UNDER RECEPTION NO. **991314**.

   MODIFICATION AGREEMENT IN CONNECTION WITH SAID DEED OF TRUST WAS RECORDED AUGUST 16, 2024 UNDER RECEPTION NO. **999042**.

   MODIFICATION AGREEMENT IN CONNECTION WITH SAID DEED OF TRUST WAS RECORDED AUGUST 16, 2024 UNDER RECEPTION NO. **999047**.

4. RELEASE OF DEED OF TRUST DATED OCTOBER 19, 2023 FROM TC MIDWEST LLC, A TEXAS LIMITED LIABILITY COMPANY TO THE PUBLIC TRUSTEE OF GARFIELD COUNTY FOR THE USE OF REGENT BANK TO SECURE THE SUM OF $350,000.00 RECORDED NOVEMBER 13, 2023, UNDER RECEPTION NO. **991315**.

   MODIFICATION AGREEMENT IN CONNECTION WITH SAID DEED OF TRUST WAS RECORDED MAY 12, 2025 UNDER RECEPTION NO. **1006830**.

5. RELEASE OF DEED OF TRUST DATED OCTOBER 19, 2023 FROM TC MIDWEST LLC, A TEXAS LIMITED LIABILITY COMPANY TO THE PUBLIC TRUSTEE OF GARFIELD COUNTY FOR THE USE OF REGENT BANK TO SECURE THE SUM OF $160,000.00 RECORDED NOVEMBER 13, 2023, UNDER RECEPTION NO. **991316**.

6. RELEASE OF DEED OF TRUST DATED OCTOBER 19, 2023 FROM TC MIDWEST LLC, A TEXAS LIMITED LIABILITY COMPANY TO THE PUBLIC TRUSTEE OF GARFIELD COUNTY FOR THE USE OF REGENT BANK TO SECURE THE SUM OF $1,290,907.00 RECORDED NOVEMBER 13, 2023, UNDER RECEPTION NO. **991317**.

7. PROVIDE LAND TITLE GUARANTEE COMPANY WITH A CURRENT SURVEY OF SUBJECT PROPERTY. UPON REVIEW, ADDITIONAL REQUIREMENTS AND/OR EXCEPTIONS MAY BE NECESSARY.

   LAND TITLE IS NOT RESPONSIBLE FOR ORDERING SAID SURVEY.

   SAID SURVEY MUST BE CERTIFIED TO LAND TITLE GUARANTEE COMPANY AND OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY.

8. SPECIAL WARRANTY DEED FROM TC MIDWEST LLC, A TEXAS LIMITED LIABILITY COMPANY TO A BUYER TO BE DETERMINED CONVEYING SUBJECT PROPERTY.

ALTA COMMITMENT

Old Republic National Title Insurance Company

Schedule B, Part I

(Requirements)

Order Number: ABC63022363.1

All of the following Requirements must be met:

NOTE: THE STATEMENT OF AUTHORITY RECORDED JANUARY 9, 2025 UNDER RECEPTION NO. **1003292** AND THE OPERATING AGREEMENT FOR TC MIDWEST LLC, A TEXAS LIMITED LIABILITY COMPANY DISCLOSES SAAD SHEIKH AS THE MEMBER AUTHORIZED TO EXECUTE LEGAL INSTRUMENTS ON BEHALF OF SAID ENTITY.

NOTE: THE OPERATING AGREEMENT FOR A BUYER TO BE DETERMINED DISCLOSES SAAD SHEIKH, WITH MEMBER CONSENT, AS THE PRESIDENT AUTHORIZED TO EXECUTE LEGAL INSTRUMENTS ON BEHALF OF SAID ENTITY.

REQUIREMENTS TO DELETE THE PRE-PRINTED EXCEPTIONS IN THE OWNER'S POLICY TO BE ISSUED

A. ITEMS 1-3 OF THE PRE-PRINTED EXCEPTIONS WILL BE DELETED UPON RECEIPT OF AN APPROVED SURVEY. MATTERS DISCLOSED BY SAID SURVEY MAY BE ADDED TO SCHEDULE B, PART II HEREOF.

B. UPON THE APPROVAL OF THE COMPANY AND THE RECEIPT OF A NOTARIZED FINAL LIEN AFFIDAVIT, ITEM 4 OF THE PRE-PRINTED EXCEPTIONS, WILL BE AMENDED TO READ:

ITEM 4 OF THE PRE-PRINTED EXCEPTIONS IS DELETED AS TO ANY LIENS OR FUTURE LIENS RESULTING FROM WORK OR MATERIAL FURNISHED AT THE SPECIFIC, DIRECT REQUEST, AND WITH THE ACTUAL KNOWLEDGE OF TC MIDWEST LLC, A TEXAS LIMITED LIABILITY COMPANY.

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY SHALL HAVE NO LIABILITY FOR ANY LIENS ARISING FROM WORK OR MATERIAL FURNISHED AT THE SPECIFIC, DIRECT REQUEST, AND WITH THE ACTUAL KNOWLEDGE OF A BUYER TO BE DETERMINED.

C. ITEM 5 OF THE PRE-PRINTED EXCEPTIONS WILL BE DELETED IF LAND TITLE GUARANTEE COMPANY CONDUCTS THE CLOSING OF THE CONTEMPLATED TRANSACTION(S) AND RECORDS THE DOCUMENTS IN CONNECTION THEREWITH.

D. UPON PROOF OF PAYMENT OF 2025 TAXES AND ASSESSMENTS, ITEM 6 OF THE PRE-PRINTED EXCEPTIONS WILL BE AMENDED TO READ:

TAXES AND ASSESSMENTS FOR THE YEAR 2026 AND SUBSEQUENT YEARS.

NOTE: ADDITIONAL REQUIREMENTS OR EXCEPTIONS MAY BE NECESSARY WHEN THE BUYERS NAMES ARE ADDED TO THIS COMMITMENT. COVERAGES AND/OR CHARGES REFLECTED HEREIN, IF ANY, ARE SUBJECT TO CHANGE UPON RECEIPT OF THE CONTRACT TO BUY AND SELL REAL ESTATE AND ANY AMENDMENTS THERETO.

ALTA COMMITMENT

Old Republic National Title Insurance Company

Schedule B, Part II

(Exceptions)

Order Number: ABC63022363.1

1. **Any facts, rights, interests, or claims thereof, not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.**
2. **Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.**
3. **Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.**
4. **Any lien, or right to a lien, for services, labor or material heretofore or hereafter furnished, imposed by law and not shown by the Public Records.**
5. **Defects, liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date of the proposed insured acquires of record for value the estate or interest or mortgage thereon covered by this Commitment.**
6. **(a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.**
7. **(a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water.**

   Some historical land records contain Discriminatory Covenants that are illegal and unenforceable by law. This Commitment and the Policy treat any Discriminatory Covenant in a document referenced in Schedule B as if each Discriminatory Covenant is redacted, repudiated, removed, and not republished or recirculated. Only the remaining provisions of the document will be excepted from coverage.
8. EXISTING LEASES AND TENANCIES, IF ANY.
9. RIGHT OF PROPRIETOR OF A VEIN OR LODE TO EXTRACT AND REMOVE HIS ORE THEREFROM SHOULD THE SAME BE FOUND TO PENETRATE OR INTERSECT THE PREMISES AS RESERVED IN UNITED STATES PATENT RECORDED FEBRUARY 17, 1896 IN BOOK 12 AT PAGE 407.

   TERMS, CONDITIONS AND PROVISIONS OF RIGHT OF WAY AS RESERVED IN PATENTS RECORDED FEBRUARY 17, 1896 IN BOOK 12 AT PAGE 407.
10. RIGHT OF WAY FOR ROAD PURPOSES AS CONVEYED TO THE TOWN OF NEW CASTLE RECORDED JUNE 24, 1898 IN BOOK 45 AT PAGE 20
11. MATTERS AS SHOWN ON THE MAP OF CASTLE VALLEY RANCH RECORDED AUGUST 10, 1983 UNDER RECEPTION NO. 344590 AS AMENDED BY AMENDED ANNEXATION AGREEMENT RECORDED MAY 30, 1989 IN BOOK 755 AT PAGE 38.
12. TERMS, CONDITIONS AND PROVISIONS OF ANNEXATION AGREEMENT RECORDED AUGUST 10, 1983 IN BOOK 632 AT PAGE 542, FIRST AMENDMENT TO ANNEXATION AGREEMENT RECORDED DECEMBER 31, 1984 IN BOOK 662 AT PAGE 243 AND AMENDED ANNEXATION AGREEMENT RECORDED MAY 30, 1989 IN BOOK 755 AT PAGE 38.
13. TERMS, CONDITIONS AND PROVISIONS OF SUBDIVISION IMPROVEMENTS AGREEMENT RECORDED AUGUST 15, 1983 IN BOOK 632 AT PAGE 951, AND AMENDMENT RECORDED MAY 30, 1989 IN BOOK 755 AT PAGE 62.

ALTA COMMITMENT

Old Republic National Title Insurance Company

Schedule B, Part II

(Exceptions)

Order Number: ABC63022363.1

14. RESTRICTIVE COVENANTS, WHICH DO NOT CONTAIN A FORFEITURE OR REVERTER CLAUSE, BUT OMITTING ANY COVENANTS OR RESTRICTIONS, IF ANY, BASED UPON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, FAMILIAL STATUS, MARITAL STATUS, DISABILITY, HANDICAP, NATIONAL ORIGIN, ANCESTRY, OR SOURCE OF INCOME, AS SET FORTH IN APPLICABLE STATE OR FEDERAL LAWS, EXCEPT TO THE EXTENT THAT SAID COVENANT OR RESTRICTION IS PERMITTED BY APPLICABLE LAW, AS CONTAINED IN INSTRUMENT RECORDED AUGUST 15, 1983, IN BOOK 632 AT PAGE **961**.
15. TERMS, CONDITIONS AND PROVISIONS OF ORDINANCE NO. 99-8 RECORDED JUNE 08, 1999 IN BOOK 1133 AT PAGE **632**.
16. TERMS, CONDITIONS AND PROVISIONS OF DEED OF EASEMENT RECORDED DECEMBER 21, 1999 IN BOOK 1165 AT PAGE **966**.
17. RESTRICTIVE COVENANTS, WHICH DO NOT CONTAIN A FORFEITURE OR REVERTER CLAUSE, BUT OMITTING ANY COVENANT OR RESTRICTION BASED ON RACE, COLOR, RELIGION, SEX, HANDICAP, FAMILIAL STATUS OR NATIONAL ORIGIN UNLESS AND ONLY TO THE EXTENT THAT SAID COVENANT (A) IS EXEMPT UNDER CHAPTER 42, SECTION 3607 OF THE UNITED STATES CODE OR (B) RELATES TO HANDICAP BUT DOES NOT DISCRIMINATE AGAINST HANDICAPPED PERSONS, AS CONTAINED IN INSTRUMENT RECORDED AUGUST 15, 1983, IN BOOK 632 AT PAGE **961** AND AS AMENDED IN INSTRUMENT RECORDED FEBRUARY 08, 1996, IN BOOK 966 AT PAGE **679** AND AS AMENDED IN INSTRUMENT RECORDED NOVEMBER 06, 2000, IN BOOK 1216 AT PAGE **205**, AND SUPPLEMENTED NOVEMBER 29, 2000 IN BOOK 1219 AT PAGE **640** AND AS AMENDED IN INSTRUMENT RECORDED APRIL 26, 2002 , IN BOOK 1350 AT PAGE **64**, AND AMENDED IN INSTRUMENT RECORDED JUNE 24, 2003 IN BOOK 1484 AT PAGE **125**, AND AMENDED IN INSTRUMENT RECORDED OCTOBER 22, 2004 IN BOOK 1633 AT PAGE **210**, AND ASSIGNMENT OF DECLARANTS RIGHTS RECORDED MARCH 9, 2006 UNDER RECEPTION NO. **693692**
18. TERMS, CONDITIONS AND PROVISIONS OF ORDINANCE NO. 2002-2 RECORDED APRIL 26, 2002 IN BOOK 1349 AT PAGE **946**.
19. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN AGREEMENT RECORDED MARCH 09, 2006 UNDER RECEPTION NO. **693690**.
20. RESTRICTIVE COVENANTS, WHICH DO NOT CONTAIN A FORFEITURE OR REVERTER CLAUSE, BUT OMITTING ANY COVENANTS OR RESTRICTIONS, IF ANY, BASED UPON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, FAMILIAL STATUS, MARITAL STATUS, DISABILITY, HANDICAP, NATIONAL ORIGIN, ANCESTRY, OR SOURCE OF INCOME, AS SET FORTH IN APPLICABLE STATE OR FEDERAL LAWS, EXCEPT TO THE EXTENT THAT SAID COVENANT OR RESTRICTION IS PERMITTED BY APPLICABLE LAW, AS CONTAINED IN INSTRUMENT RECORDED MARCH 09, 2006, UNDER RECEPTION NO. **693698**.
21. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN AGREEMENT RECORDED MARCH 16, 2006 UNDER RECEPTION NO. **694099**.
22. EASEMENTS AND NOTES ON THE CASTLE VALLEY RANCH SUBDIVISION EXEMPTIN MAP AND ALTA/ACSM LAND SURVEY PLAT RECORDED APRIL 17, 2007 UNDER RECEPTION NO. **721291**.
23. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN WATER RIGHTS AGREEMENT RECORDED APRIL 17, 2007 UNDER RECEPTION NO. **721292**.
24. TERMS, CONDITIONS, PROVISIONS, BURDENS, OBLIGATIONS AND EASEMENTS AS SET FORTH AND GRANTED IN AGREEMENT REGARDING GRANT OF EASEMENTS RECORDED APRIL 17, 2007 UNDER RECEPTION NO. **721299**.

ALTA COMMITMENT

Old Republic National Title Insurance Company

Schedule B, Part II

(Exceptions)

Order Number: ABC63022363.1

25. TERMS, CONDITIONS, PROVISIONS, BURDENS, OBLIGATIONS AND EASEMENTS AS SET FORTH AND GRANTED IN AGREEMENT REGARDING SILVERADO TRAIL RECORDED APRIL 17, 2007 UNDER RECEPTION NO. **721300**.
26. TERMS, CONDITIONS, PROVISIONS, BURDENS, OBLIGATIONS AND EASEMENTS AS SET FORTH AND GRANTED IN EASEMENT AGREEMENT RECORDED APRIL 17, 2007 UNDER RECEPTION NO. **721301**.
27. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN GRADING AGREEMENT RECORDED APRIL 17, 2007 UNDER RECEPTION NO. **721302**.
28. TERMS, CONDITIONS, PROVISIONS, BURDENS, OBLIGATIONS AND EASEMENTS AS SET FORTH AND GRANTED IN GRANT OF SANITARY SEWER EASEMENT RECORDED SEPTEMBER 25, 2007 UNDER RECEPTION NO. **733779**.
29. TERMS, CONDITIONS, PROVISIONS, BURDENS, OBLIGATIONS AND EASEMENTS AS SET FORTH AND GRANTED IN GRANT OF STORM WATER DRAINAGE EASEMENT RECORDED SEPTEMBER 25, 2007 UNDER RECEPTION NO. **733782**.
30. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN RESOLUTION NO. BOE-11-040 RECORDED JULY 28, 2011 UNDER RECEPTION NO. **805839**.
31. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN DECLARATION OF RESTRICTIVE COVENANTS RECORDED SEPTEMBER 22, 2021 UNDER RECEPTION NO. **963577**.

ALTA Commitment For Title Insurance
issued by Old Republic National Title Insurance Company

NOTICE

IMPORTANT—READ CAREFULLY: THIS COMMITMENT IS AN OFFER TO ISSUE ONE OR MORE TITLE INSURANCE POLICIES. ALL CLAIMS OR REMEDIES SOUGHT AGAINST THE COMPANY INVOLVING THE CONTENT OF THIS COMMITMENT OR THE POLICY MUST BE BASED SOLELY IN CONTRACT.

THIS COMMITMENT IS NOT AN ABSTRACT OF TITLE, REPORT OF THE CONDITION OF TITLE, LEGAL OPINION, OPINION OF TITLE, OR OTHER REPRESENTATION OF THE STATUS OF TITLE. THE PROCEDURES USED BY THE COMPANY TO DETERMINE INSURABILITY OF THE TITLE, INCLUDING ANY SEARCH AND EXAMINATION, ARE PROPRIETARY TO THE COMPANY, WERE PERFORMED SOLELY FOR THE BENEFIT OF THE COMPANY, AND CREATE NO EXTRACONTRACTUAL LIABILITY TO ANY PERSON, INCLUDING A PROPOSED INSURED.

THE COMPANY'S OBLIGATION UNDER THIS COMMITMENT IS TO ISSUE A POLICY TO A PROPOSED INSURED IDENTIFIED IN SCHEDULE A IN ACCORDANCE WITH THE TERMS AND PROVISIONS OF THIS COMMITMENT. THE COMPANY HAS NO LIABILITY OR OBLIGATION INVOLVING THE CONTENT OF THIS COMMITMENT TO ANY OTHER PERSON. .

COMMITMENT TO ISSUE POLICY

Subject to the Notice; Schedule B, Part I—Requirements; Schedule B, Part II—Exceptions; and the Commitment Conditions ,Old Republic National Title Insurance Company, a Minnesota corporation (the "Company"), commits to issue the Policy according to the terms and provisions of this Commitment. This Commitment is effective as of the Commitment Date shown in Schedule A for each Policy described in Schedule A, only when the Company has entered in Schedule A both the specified dollar amount as the Proposed Amount of insurance and the name of the Proposed Insured. If all of the Schedule B, Part I—Requirements have not been met within 6 months after the Commitment Date, this Commitment terminates and the Company's liability and obligation end.

COMMITMENT CONDITIONS

1. DEFINITIONS
   - (a) "Discriminatory Covenant": Any covenant, condition, restriction, or limitation that is unenforceable under applicable law because it illegally discriminates against a class of individuals based on personal characteristics such as race, color, religion, sex, sexual orientation, gender identity, familial status, disability, national origin, or other legally protected class.
   - (b) "Knowledge" or "Known": Actual knowledge or actual notice, but not constructive notice imparted by the Public Records.
   - (c) "Land": The land described in item 5 of Schedule A and affixed improvements located on that land that by State law constitute real property. The term "Land" does not include any property beyond that described in Schedule A, nor any right, title, interest, estate, or easement in any abutting street, road, aavenue, alley, lane, right-of-way, body of water, or waterway, but does not modify or limit the extent that a right of access to and from the Land is to be insured by the Policy.
   - (d) "Mortgage": A mortgage, deed of trust, trust deed, security deed, or other real property security instrument, including one evidenced by electronic means authorized by law.
   - (e) "Policy": Each contract of title insurance, in a form adopted by the American Land Title Association, issued or to be issued by the Company pursuant to this Commitment.
   - (f) "Proposed Amount of Insurance": Each dollar amount specified in Schedule A as the Proposed Amount of Insurance of each Policy to be issued pursuant to this Commitment.
   - (g) "Proposed Insured": Each person identified in Schedule A as the Proposed Insured of each Policy to be issued pursuant to this Commitment.
   - (h) "Public Records": The recording or filing system established under State statutes in effect at the Commitment Date under which a document must be recorded or filed to impart constructive notice of matters relating to the TItle to a purchaser for value without Knowledge. The term "Public Records" does not include any other recording or filing system, including any pertaining to environmental remediation or protection, planning, permitting, zoning, licensing, building, health, public safety, or national security matters.
   - (i) "State": The state or commonwealth of the United States within whose exterior boundaries the Land is located. The term "State" also includes the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, and Guam.
   - (j) "Title": The estate or interest in the Land identified in Item 3 of Schedule A.

2. If all of the Schedule B, Part I—Requirements have not been met within the time period specified in the Commitment to Issue Policy, Commitment terminates and the Company's liability and obligation end.

3. The Company's liability and obligation is limited by and this Commitment is not valid without:
   - (a) the Notice;
   - (b) the Commitment to Issue Policy;
   - (c) the Commitment Conditions;
   - (d) Schedule A;
   - (e) Schedule B, Part I—Requirements; and
   - (f) Schedule B, Part II—Exceptions; and
   - (g) a counter-signature by the Company or its issuing agent that may be in electronic form.

4. **COMPANY'S RIGHT TO AMEND**

   The Company may amend this Commitment at any time. If the Company amends this Commitment to add a defect, lien, encumbrance, adverse claim, or other matter recorded in the Public Records prior to the Commitment Date, any liability of the Company is limited by Commitment Condition 5. The Company is not liable for any other amendment to this Commitment.

5. **LIMITATIONS OF LIABILITY**
   - (a) The Company's liability under Commitment Condition 4 is limited to the Proposed Insured's actual expense incurred in the interval between the Company's delivery to the Proposed Insured of the Commitment and the delivery of the amended Commitment, resulting from the Proposed Insured's good faith reliance to:
     - i. comply with the Schedule B, Part I—Requirements;
     - ii. eliminate, with the Company's written consent, any Schedule B, Part II—Exceptions; or
     - iii. acquire the Title or create the Mortgage covered by this Commitment.
   - (b) The Company is not liable under Commitment Condition 5(a) if the Proposed Insured requested the amendment or had Knowledge of the matter and did not notify the Company about it in writing.
   - (c) The Company is only liable under Commitment Condition 4 if the Proposed Insured would not have incurred the expense had the Commitment included the added matter when the Commitment was first delivered to the Proposed Insured.

(d) The Company's liability does not exceed the lesser of the Proposed Insured's actual expense incurred in good faith and described in Commitment Condition 5(a) or the Proposed Amount of Insurance.

(e) The Company is not liable for the content of the Transaction Identification Data, if any.

(f) The Company is not obligated to issue the Policy referred to in this Commitment unless all of the Schedule B, Part I—Requirements have been met to the satisfaction of the Company.

(g) The Company's liability is further limited by the terms and provisions of the Policy to be issued to the Proposed Insured.

6. **LIABILITY OF THE COMPANY MUST BE BASED ON THIS COMMITMENT. CHOICE OF LAW AND CHOICE OF FORUM**

(a) Only a Proposed Insured identified in Schedule A, and no other person, may make a claim under this Commitment.

(b) Any claim must be based in contract under the State law of the State where the Land is located and is restricted to the terms and provisions of this Commitment. Any litigation or other proceeding brought by the Proposed Insured against the Company must be filed only in a State or federal court having jurisdiction

(c) This Commitment, as last revised, is the exclusive and entire agreement between the parties with respect to the subject matter of this Commitment and supersedes all prior commitment negotiations, representations, and proposals of any kind, whether written or oral, express or implied, relating to the subject matter of this Commitment.

(d) The deletion or modification of any Schedule B, Part II—Exception does not constitute an agreement or obligation to provide coverage beyond the terms and provisions of this Commitment or the Policy.

(e) Any amendment or endorsement to this Commitment must be in writing and authenticated by a person authorized by the Company.

(f) When the Policy is issued, all liability and obligation under this Commitment will end and the Company's only liability will be under the Policy.

7. **IF THIS COMMITMENT IS ISSUED BY AN ISSUING AGENT**

The issuing agent is the Company's agent only for the limited purpose of issuing title insurance commitments and policies. The issuing agent is not the Company's agent for the purpose of providing closing or settlement services.

8. **PRO-FORMA POLICY**

The Company may provide, at the request of a Proposed Insured, a pro-forma policy illustrating the coverage that the Company may provide. A pro-forma policy neither reflects the status of Title at the time that the pro-forma policy is delivered to a Proposed Insured, nor is it a commitment to insure.

9. **CLAIMS PROCEDURES**

This Commitment incorporates by reference all Conditions for making a claim in the Policy to be issued to the Proposed Insured. Commitment Condition 9 does not modify the limitations of liability in Commitment Conditions 5 and 6.

10. **CLASS ACTION**

ALL CLAIMS AND DISPUTES ARISING OUT OF OR RELATING TO THIS COMMITMENT, INCLUDING ANY SERVICE OR OTHER MATTER IN CONNECTION WITH ISSUING THIS COMMITMENT, ANY BREACH OF A COMMITMENT PROVISION, OR ANY OTHER CLAIM OR DISPUTE ARISING OUT OF OR RELATING TO THE TRANSACTION GIVING RISE TO THIS COMMITMENT, MUST BE BROUGHT IN AN INDIVIDUAL CAPACITY. NO PARTY MAY SERVE AS PLAINTIFF, CLASS MEMBER, OR PARTICIPANT IN ANY CLASS OR REPRESENTATIVE PROCEEDING. ANY POLICY ISSUED PURSUANT TO THIS COMMITMENT WILL CONTAIN A CLASS ACTION CONDITION.

11. **ARBITRATION**

The Policy contains an arbitration clause. All arbitrable matters when the Proposed Amount of insurance is $2,000,000 or less may be arbitrated at the election of either the Company or the Proposed Insured as the exclusive remedy of the parties. A Proposed Insured may review a copy of the arbitration rules at http://www.alta.org/arbitration

IN WITNESS WHEREOF, Old Republic National Title Insurance Company has caused its corporate name and seal to be affixed by its duly authorized officers on the date shown in Schedule A to be valid when countersigned by a validating officer or other authorized signatory.

Issued by:
Land Title Guarantee Company
3033 East First Avenue Suite 600
Denver, Colorado 80206
303-321-1880

Craig B. Rants, Senior Vice President

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY
A Stock Company
1408 North Westshore Blvd., Suite 900, Tampa, Florida 33607
(612) 371-1111 *www.oldrepublictitle.com*

By _____ President

Attest _____ Secretary

This page is only a part of a 2021 ALTA® Commitment for Title Insurance issued by Old Republic National Title Insurance Company. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I—Requirements; and Schedule B, Part II—Exceptions; and a counter-signature by the Company or its issuing agent that may be in electronic form.

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Land Title Guarantee Company
Disclosure Statements

Note: Pursuant to CRS 10-11-122, notice is hereby given that:

(A) The Subject real property may be located in a special taxing district.

(B) A certificate of taxes due listing each taxing jurisdiction will be obtained from the county treasurer of the county in which the real property is located or that county treasurer's authorized agent unless the proposed insured provides written instructions to the contrary. (for an Owner's Policy of Title Insurance pertaining to a sale of residential real property).

(C) The information regarding special districts and the boundaries of such districts may be obtained from the Board of County Commissioners, the County Clerk and Recorder, or the County Assessor.

Note: Effective September 1, 1997, CRS 30-10-406 requires that all documents received for recording or filing in the clerk and recorder's office shall contain a top margin of at least one inch and a left, right and bottom margin of at least one half of an inch. The clerk and recorder may refuse to record or file any document that does not conform, except that, the requirement for the top margin shall not apply to documents using forms on which space is provided for recording or filing information at the top margin of the document.

Note: Colorado Division of Insurance Regulations 8-1-2 requires that "Every title entity shall be responsible for all matters which appear of record prior to the time of recording whenever the title entity conducts the closing and is responsible for recording or filing of legal documents resulting from the transaction which was closed". Provided that Land Title Guarantee Company conducts the closing of the insured transaction and is responsible for recording the legal documents from the transaction, exception number 5 will not appear on the Owner's Title Policy and the Lenders Policy when issued.

Note: Affirmative mechanic's lien protection for the Owner may be available (typically by deletion of Exception no. 4 of Schedule B, Section 2 of the Commitment from the Owner's Policy to be issued) upon compliance with the following conditions:

(A) The land described in Schedule A of this commitment must be a single family residence which includes a condominium or townhouse unit.

(B) No labor or materials have been furnished by mechanics or material-men for purposes of construction on the land described in Schedule A of this Commitment within the past 6 months.

(C) The Company must receive an appropriate affidavit indemnifying the Company against un-filed mechanic's and material-men's liens.

(D) The Company must receive payment of the appropriate premium.

(E) If there has been construction, improvements or major repairs undertaken on the property to be purchased within six months prior to the Date of Commitment, the requirements to obtain coverage for unrecorded liens will include: disclosure of certain construction information; financial information as to the seller, the builder and or the contractor; payment of the appropriate premium fully executed Indemnity Agreements satisfactory to the company, and, any additional requirements as may be necessary after an examination of the aforesaid information by the Company.

No coverage will be given under any circumstances for labor or material for which the insured has contracted for or agreed to pay.

Note: Pursuant to CRS 10-11-123, notice is hereby given:

This notice applies to owner's policy commitments disclosing that a mineral estate has been severed from the surface estate, in Schedule B-2.

(A) That there is recorded evidence that a mineral estate has been severed, leased, or otherwise conveyed from the surface estate

and that there is substantial likelihood that a third party holds some or all interest in oil, gas, other minerals, or geothermal energy in the property; and

(B) That such mineral estate may include the right to enter and use the property without the surface owner's permission.

Note: Pursuant to CRS 10-1-128(6)(a), It is unlawful to knowingly provide false, incomplete, or misleading facts or information to an insurance company for the purpose of defrauding or attempting to defraud the company. Penalties may include imprisonment, fines, denial of insurance, and civil damages. Any insurance company or agent of an insurance company who knowingly provides false, incomplete, or misleading facts or information to a policyholder or claimant for the purpose of defrauding or attempting to defraud the policyholder or claimant with regard to a settlement or award payable from insurance proceeds shall be reported to the Colorado Division of Insurance within the Department of Regulatory Agencies.

Note: Pursuant to Colorado Division of Insurance Regulations 8-1-3, notice is hereby given of the availability of a closing protection letter for the lender, purchaser, lessee or seller in connection with this transaction.

Note: Pursuant to CRS 24-21-514.5, Colorado notaries may remotely notarize real estate deeds and other documents using real-time audio-video communication technology. You may choose not to use remote notarization for any document.

Joint Notice of Privacy Policy of
Land Title Guarantee Company
Land Title Insurance Corporation and
Old Republic National Title Insurancy Company

This Statement is provided to you as a customer of Land Title Guarantee Company as agent for Land Title Insurance Corporation and Old Republic National Title Insurance Company.

We want you to know that we recognize and respect your privacy expectations and the requirements of federal and state privacy laws. Information security is one of our highest priorities. We recognize that maintaining your trust and confidence is the bedrock of our business. We maintain and regularly review internal and external safeguards against unauthorized access to your non-public personal information ("Personal Information").

In the course of our business, we may collect Personal Information about you from:

- applications or other forms we receive from you, including communications sent through TMX, our web-based transaction management system;
- your transactions with, or from the services being performed by us, our affiliates, or others;
- a consumer reporting agency, if such information is provided to us in connection with your transaction;

  and
- The public records maintained by governmental entities that we obtain either directly from those entities, or from our affiliates and non-affiliates.

Our policies regarding the protection of the confidentiality and security of your Personal Information are as follows:

- We restrict access to all Personal Information about you to those employees who need to know that information in order to provide products and services to you.
- We may share your Personal Information with affiliated contractors or service providers who provide services in the course of our business, but only to the extent necessary for these providers to perform their services and to provide these services to you as may be required by your transaction.
- We maintain physical, electronic and procedural safeguards that comply with federal standards to protect your Personal Information from unauthorized access or intrusion.
- Employees who violate our strict policies and procedures regarding privacy are subject to disciplinary action.
- We regularly assess security standards and procedures to protect against unauthorized access to Personal Information.

WE DO NOT DISCLOSE ANY PERSONAL INFORMATION ABOUT YOU WITH ANYONE FOR ANY PURPOSE THAT IS NOT STATED ABOVE OR PERMITTED BY LAW.

Consistent with applicable privacy laws, there are some situations in which Personal Information may be disclosed. We may disclose your Personal Information when you direct or give us permission; when we are required by law to do so, for example, if we are served a subpoena; or when we suspect fraudulent or criminal activities. We also may disclose your Personal Information when otherwise permitted by applicable privacy laws such as, for example, when disclosure is needed to enforce our rights arising out of any agreement, transaction or relationship with you.

Our policy regarding dispute resolution is as follows: Any controversy or claim arising out of or relating to our privacy

policy, or the breach thereof, shall be settled by arbitration in accordance with the rules of the American Arbitration Association, and judgment upon the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof.

Outlook

FW: Fire

From Paul Smith <psmith@newcastlecolorado.org>
Date Tue 6/30/2026 4:42 PM
To Michelle Huster <mhuster@newcastlecolorado.org>

Can you file this for the hearing?

Thank you,
Paul Smith
Town Planner/Building Official
psmith@newcastlecolorado.org
(970) 984-2311 #108

-----Original Message-----
From: Paul Smith
Sent: Tuesday, June 30, 2026 4:14 PM
To: Mindy Andis <mandis@newcastlecolorado.org>
Subject: FW: Fire

Thank you,
Paul Smith
Town Planner/Building Official
psmith@newcastlecolorado.org
(970) 984-2311 #108

-----Original Message-----
From: sally linde[redacted]
Sent: Tuesday, June 30, 2026 3:42 PM
To: Paul Smith <psmith@newcastlecolorado.org>; Dave Reynolds <dreynolds@newcastlecolorado.org>; Caitlin Carey <ccarey@newcastlecolorado.org>
Subject: Fire

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Council

I watch the dryness of our town expand and fires burning around us!
NO construction should be going on!!! We can't even mow or use trimmers for fear of sparking.!!

The dust clouds they are making by VIX is astonishing!
We have no water!!!
I was told last year Warren Moon wouldn't allow trimming because of fire!

Please stop construction till at least wind stops please!!
Plus apartments and townhomes are the biggest hazard if one burns they all burn!!
Please stop construction!!
Clearly I have fire history but this is much more serious than I have seen and we won't have enough firefighters or air support if something happens here.
Please I am begging you

Sally

Sally Linden
Sally Linden Photo Art
[redacted]

TOWN OF NEW CASTLE, COLORADO
RESOLUTION NO. PZ 2026-04

A RESOLUTION OF THE NEW CASTLE PLANNING AND ZONING COMMISSION RECOMMENDING APPROVAL OF A FINAL PUD DEVELOPMENT PLAN AND FINAL SUBDIVISION PLAT FOR CASTLE VALLEY RANCH PLANNING AREA 12, FILING 14 (ARCHWOOD TOWNHOMES)

WHEREAS, TC Midwest, LLC ("Applicant") is the owner of certain real property within the Town of New Castle described Exhibit A attached hereto, which property is located within the Castle Valley Ranch PUD (the "Property," or "Filing 14" or "Archwood"); and

WHEREAS, on February 25, 2026, the Planning and Zoning Commission (the "Commission") passed Resolution No. PZ 2026-02 approving a Preliminary PUD Development Plan ("Preliminary Plan") and a Preliminary Plat ("Preliminary Plat") for Filing 14 subject to the conditions set forth in the resolution; and

WHEREAS, the Applicant's application for a Final PUD Development Plan and Final Subdivision Plat was deemed complete by the Town on June 19, 2026 (the "Application" as further defined below); and

WHEREAS, the Property is zoned Mixed Use (MU-1) within the Castle Valley Ranch PUD; and

WHEREAS, the Application proposes the construction of 66 residential units on a total of 10.32 acres and is generally consistent with the Preliminary Plan but with proposed changes regarding workforce housing restrictions, recreational amenities, and other details as reflected in the Application and summarized in the staff report; and

WHEREAS, the Commission held a duly-noticed public hearing on July 8, 2026, to consider the Application; and

WHEREAS, the Commission has considered the Application materials, testimony, and other evidence from Staff, the Applicant, and members of the public concerning the Application; and

WHEREAS, based on the Application, testimony, and other information presented, subject to compliance with the terms and conditions of this Resolution, the Commission finds that the Application complies with the following review criteria set forth in Sections 16.16.030(G) and 17.100.060(F) of the New Castle Municipal Code ("Code"):

1. Consistency with the comprehensive plan;
2. Compliance with zoning and density requirements;

3. Compatibility to neighboring land uses;
4. Availability of town services from public works (including water and sewer services), fire, and police;
5. Adequacy of off-street parking and vehicle, bicycle, and pedestrian circulation;
6. Required open space or parks designed for active or passive use by residents of the subdivision and the public; and
7. Development consistent with the natural character, contours, and viewsheds of the land.

NOW, THEREFORE, BE IT RESOLVED BY THE PLANNING AND ZONING COMMISSION OF THE TOWN OF NEW CASTLE, COLORADO:

1. Recitals. The foregoing recitals are incorporated by reference as findings and determinations of the Commission.

2. Definition of the Application. The "Application" consists of the documents and information identified on Exhibit B, plus all representations of and other documents presented by the Applicant reflected in the minutes of the Planning and Zoning Commission public hearings held on February 25, 2026 and July 8, 2026.

3. Recommendation of Approval for Subdivision. The Commission recommends that the Town Council approve the subdivision of the Property into 66 residential townhome units to be constructed in 14 separate multi-family buildings and 12 open space lots as shown in the Application. The subdivision process may include, if desired by the Applicant, the creation of separate parcels for each building envelope, with the precise boundaries of each townhome unit within the building and any common elements to be defined in a subsequent subdivision plat to be approved on a staff level based on as-built conditions. The procedures for approval of final plat(s) shall be addressed in the ordinance and subdivision improvements agreement to be considered by the Town Council.

4. Recommendation of Approval for PUD Zoning. The Commission recommends that the Town Council approve the Final PUD Development Plan for the Property as described in the Application. The development and use of the Property shall be subject to the following restrictions and requirements:

a. the restrictions and requirements of the MF-2 Zone District of the Castle Valley Ranch PUD Zoning Regulations, Section 17.104.080 of the Code, provided that any modifications to the MF-2 zone district requirements approved by the Town and shown on the final plat for the Property shall control in the event of a conflict;

b. all other applicable provisions of the Code; and

c. all applicable Ordinances of the Town.

5. Conditions. The Commission recommends that the Town Council include the following conditions of approval of the Application as part of any ordinance of approval and/or in the related subdivision improvements agreement:

A. Maximum building heights shall not exceed those depicted in the Applicant's submittal packet dated February 15th, 2026.

B. As part of the final approval, Town Council shall define the eligibility requirements and application process for deed restricting up to three townhome units.

C. The Applicant shall maximize covered patio areas for each unit where feasible per the recommendations of P&Z.

D. The Applicant shall demonstrate compliance with all recommendations of the Town Engineer, Town Public Works Director, Colorado River Fire Rescue, and Town Attorney provided in response to review of the Application.

E. The Applicant shall provide a declaration of covenants for the common interest community that is to the satisfaction of the Town Attorney.

F. The Applicant shall comply with all currently adopted building code and municipal code requirements, including all sign code regulations in effect at the time of building permit application. All site specific development applications subject to the provisions of the International Fire Code or matters requiring fire alarms and/or fire suppression shall be submitted to the Fire Marshal for review and comment.

G. All exterior lighting shall be dark-sky compliant per the comprehensive plan. The Applicant shall demonstrate that all exterior lighting will limit trespass. Parking lot lighting shall be on timers to reduce the light duration at night while maintaining security lighting as required by the building code.

H. The approved construction drawings shall demonstrate compliance with the written comments of the Town Engineer, Police Chief, and Public Works Director for traffic and pedestrian signage.

I. The Applicant agrees to contribute $25,000 to the construction of at least two standard pickleball courts within VIX Park at the location shown in Application exhibits. Subject to annual budgeting and appropriation as required by Colorado law, the Town will be responsible for all construction and future maintenance of the courts. TC Midwest shall pay the $25,000 to the Town upon demand provided that the following conditions have been met:

1. Construction of the courts commences later than two years after the issuance of the first certificate of occupancy for a townhome; and,
2. The construction of at least two courts is complete within five (5) years after the issuance of the first certificate of occupancy.

J. The Applicant shall finalize the water rights dedication requirements for the project, including the calculation of irrigated areas and finalization of EQR dedication requirements. A warranty deed conveying the required water rights in the Coryell Ditch and/or Red Rock Ditch shall be executed and recorded together with the Final Plat.

K. The applicant and the Town shall enter into a subdivision improvements agreement meeting the requirements of Section 16.32.010 of the Code in addition to providing for compliance with the terms of this Resolution. The Applicant shall provide an engineer's stamped cost estimate of public improvements to the satisfaction of the Town Engineer and Town Attorney, which shall be used to determine the amount of collateral required including an appropriate contingency amount.

L. Landscaping shall incorporate native grasses and plants that minimize maintenance, moving, and irrigating. The landscaping plan shall be approved by the Parks Department. Plans submitted to obtain a building permit for any building shall demonstrate no more than 2,500 square feet of sod per dwelling unit as specified in 13.20.060 of the Code.

M. All representations of the Applicant made verbally or in written submittals presented to the Town in conjunction with the Application before the Commission or Town Council shall be considered part of the Application and binding on the Applicant.

N. The Applicant shall reimburse the Town for any and all expenses incurred by the Town regarding this approval, including, without limitation, all costs incurred by the Town's outside consultants such as legal and engineering costs.

O. The sale of individual lots or units may not occur until a plat creating specific the lot or unit is recorded with Garfield County Clerk and Recorder, which plat shall be subject to the terms of the final approval ordinance and subdivision improvements agreement.

6. Severability. Each section of this Resolution is an independent section and a holding of any section or part thereof to be unconstitutional, void, or ineffective for any cause or reason shall not be deemed to affect the validity or constitutionality of any other section or part hereof, the intent being that the provisions of this Resolution are severable.

7. Effective Date. This Resolution shall be effective upon adoption.

SO RESOLVED this ___ day of _____, 2026, by a vote of ____ to ____.

TOWN OF NEW CASTLE
PLANNING & ZONING
COMMISSION

_____
Chuck Apostolik, Chairman

ATTEST:

_____
Michelle Huster, Professional Assistant
to the Town Clerk

Exhibits:
Exhibit A: Legal Description
Exhibit B: List of Application materials

EXHIBIT A
Legal Description

A PARCEL OF LAND LOCATED IN THE SE1/4 OF SECTION 30, TOWNSHIP 5 SOUTH, RANGE 90 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF GARFIELD, STATE OF COLORADO, SAID PARCEL OF LAND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE, OF CASTLE VALLEY BOULEVARD, SAME BEING THE WESTERNMOST CORNER OF CASTLE VALLEY RANCH PA12 FLG 9 FINAL, AS FILED WITH THE GARFIELD COUNTY CLERK AND RECORDER'S OFFICE, AS RECEPTION NO. 733785;
THENCE ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, THE FOLLOWING FIVE (5) COURSES:
1) N34°40'33"W 220.40 FEET;
2) ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 150.00 FEET, AN ARC LENGTH OF 93.27 FEET, CHORD BEARS N16°51'46"W 91.77 FEET;
3) ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 95.83 FEET, AN ARC LENGTH OF 129.60 FEET, CHORD BEARS N37°47'30"W 119.95 FEET;
4) ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 100.00 FEET, AN ARC LENGTH OF 63.58 FEET, CHORD BEARS N58°19'04"W 62.52 FEET;
5) ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 784.64 FEET, AN ARC LENGTH OF 94.58 FEET, CHORD BEARS N43°33'19"W 94.52 FEET, TO A POINT ON THE EASTERLY LINE OF THE GARFIELD SCHOOL DISTRICT RE2, AS FILED WITH SAID CLERK AND RECORDER'S OFFICE AS RECEPTION NO. 493428;
THENCE DEPARTING SAID NORTHERLY RIGHT-OF-WAY, ALONG SAID EASTERLY LINE N42°59'30"E 500.54 FEET, TO A POINT IN THE SOUTHERLY LINE OF NORTH PARK PARCEL, AS FILED WITH SAID CLERK AND RECORDER'S OFFICE AS RECEPTION NO. 720385, AND RECEPTION NO. 721291;
THENCE WITH SAID SOUTHERLY LINE THE FOLLOWING TWO (2) COURSES:
1) N66°57'08"E 245.52 FEET;
2) S71°52'33"E 231.69 FEET TO A POINT IN THE WESTERLY RIGHT-OF-WAY LINE, OF NORTH WILD HORSE ROAD;
THENCE ALONG SAID WESTERLY RIGHT-OF-WAY LINE, THE FOLLOWING THREE (3) COURSES:
1) ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 736.00 FEET, AN ARC LENGTH OF 368.23 FEET, CHORD BEARS S05°37'46"W 364.40 FEET;
2) THENCE S08°42'12"E 68.52 FEET;

3) ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 886.25 FEET, AN ARC LENGTH OF 217.43 FEET, CHORD BEARS S15°43'53"E 216.88 FEET, TO A POINT IN THE NORTH LINE OF SAID CASTLE VALLEY RANCH PA12 FLG 9 FINAL; THENCE WITH SAID NORTH LINE THE FOLLOWING FOUR (4) COURSES:
1) S65°53'03"W 66.89 FEET;
2) S81°23'34"W 266.32 FEET;
3) S51°51'16"W 126.84 FEET;
4) S36°47'12"W 88.30 FEET TO THE POINT OF BEGINNING,

COUNTY OF GARFIELD, STATE OF COLORADO.

EXHIBIT B

Final PUD Application Materials

1. Application form, narrative, and submittal documents submitted February 13, 2026
2. Master Plan submitted February 13, 2026
3. Building Type Elevations dated February 13, 2026
4. Building Type Key Plan and Floor Plans dated February 5, 2026
5. Site Development, Site Plan, and Civil Plans dated February 12, 2026
6. Preliminary Plat dated February 2026
7. Referral comments from Town Engineer dated February 15, 2026
8. Referral comments from Public Works Director dated January 22 and February 10, 2026
9. Referral comments from Town Engineer dated February 15, 2026
10. Referral comments from Fire Marshal dated January 22, 2026
11. Comments from outside referral agencies dated variously
12. Public comments dated February 14, 2026
13. Notarized affidavit of public notice dated February 10, 2026

New Castle, Colorado
Planning and Zoning Commission
Wednesday, March 25, 2026, 7:00 PM

Call to Order
Chair Apostolik called the meeting to order at 7:00 p.m.

Roll Call

Present	Chair Apostolik
	Commissioner Riddile
	Commissioner Parks
	Commissioner McDonald
Absent	Commissioner Westerlind
	Commissioner Cotey
	Alternate Commissioner Mahaffey
	Alternate Commissioner Rittner
	Commissioner Sass

Also present at the meeting were Town Planner Paul Smith, Town Administrator David Reynolds and Professional Assistant to the Town Clerk, Michelle Huster, and members of the public.

Meeting Notice
Professional Assistant Michelle Huster verified that her office gave notice of the meeting in accordance with Resolution TC 2026-1.

Conflicts of Interest
There were no conflicts of interest.

Citizen Comments on Items NOT on the Agenda
There were no citizen comments.

Public Hearing

Chair Apostolik opened the public hearing at 7:01 p.m.

Consider Resolution No. PZ 2026-3 A RESOLUTION OF THE NEW CASTLE PLANNING AND ZONING COMMISSION RECOMMENDING APPROVAL OF A CONDITIONAL USE PERMIT FOR AN ELECTRICAL SUBSTATION IN THE INDUSTRIAL ZONE DISTRICT
Town Planner Paul Smith introduced Corey Miller and his team from Xcel Energy. Planner Smith presented his staff report. **(Exhibit A)** Planner Smith said he would focus on zoning and structure heights and have Mr. Miller present his expertise on the distribution of electricity.

DRAFT

Planning Commission – Public Hearing
Wednesday, March 25, 2026
Resolution PZ 2026-3
Staff Report

Name of Applicant	*Public Service Company of Colorado, a Colorado corporation conducting business as Xcel Energy; Contact: Jennifer Chester*
Mailing Address	*1800 Larimer Street, Suite 400, Denver, CO 80202*
Property Address	*6385 CR 335*
Name of Property Owner	*Public Service Company of Colorado*
Existing Zoning	*Industrial*
Surrounding Zoning	*Industrial; Open Space*
Surrounding Land Uses	*Construction yard; Town open space; Warehouse/Distribution;*
Existing use of property	*Xcel staging yard; Firewood distribution*
Proposed use of property	*New substation including transmission and feeder lines;*
Property size	*2.478 acres*

I. Background:

The Applicant proposes a new electrical substation at 6385 CR 335 to replace the existing one approximately 0.4 miles west on CR 335. The existing substation has reached the end of its service life and therefore warrants replacement. However, due to the size limitations of the current lot and complications with its topography, relocating the facility was deemed necessary. Whether the current substation will be demolished and the land reclaimed is still unclear. However, that property exists entirely within Garfield County and is not part of this application.

Commissioner Riddile asked where the location of the substation was located in relation to Grady Hazelton's storage business. Planner Smith said several businesses had been in the location in the past, including a firewood business.

The project is comprised of equipment enclosures, transformers, various transmission towers/lines, and fencing. The grade within the property will be raised from 2ft to 4ft in order to mitigate flood risk. Two new driveways will be installed to improve access. A 10' screened security fence on top of a retaining wall will surround the property.

The proposed substation is eligible for conditional use review because it is not listed as a permitted or prohibited use under Section 17.52.050. As a conditional use application, the Planning Commission (P&Z) is required to hold a public hearing in accordance with the procedures set forth in Municipal Code Chapter 16.08.040. Within 30 days of the public hearing, P&Z must make one of these three recommendations to Town Council:

1) *Approve the CUP unconditionally;*
2) *Approve the CUP with conditions;*

3) *Deny the CUP.*

II. ***Application Materials:***

The purpose of this conditional use review is to determine if the nature of the proposed use is appropriate to the location and character of the New Castle Industrial Zone.

1) Site Plan:

a. *Adjacent land uses and location of adjacent structures;*

b. *Adjacent land uses include mini-storage (Royal construction yard, Gabossi Storage, C'Mon-Back Storage), low hazard industrial (National Propane, NAP distributing, Bramco Bld.), factory uses (VR Cabinetry Chop, Granite Shop), business (All Dogs and Cats), and Town open space adjacent to the Colorado River.*

c. *Boundary and size of lot;*

The project spans 2.478 acres. The Industrial zone does not regulate for lot coverage or required open space.

d. *Building location, height and setbacks;*

Permitted setbacks are as follows:

a) *Front – 25ft*
b) *Rear – 10ft*
c) *Side – 5ft*

Per the site plan, all utility infrastructure demonstrate conformance with the allowed setbacks. Section 17.52.090 limits a structure's wall height to no more than 30'. However, section 17.04.050 of the code exempts "poles, lines, cables, or other transmission or other distribution facilities of public utilities" from this provision. The application indicates a maximum structure height of 65'.



e. *Off-street parking and loading areas;*

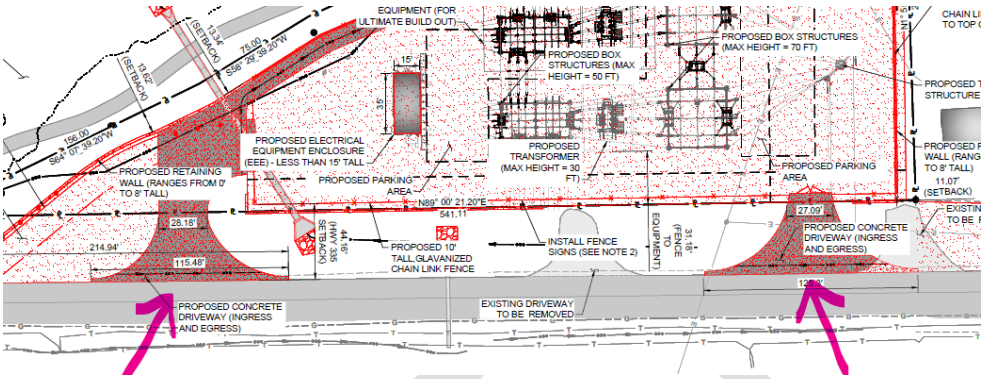
Two access driveways connecting County Road 335 will allow for pass-thru ingress and egress. The site plan projects 12-15 parking spaces available for maintenance workers. The traffic impact analysis concludes that future operations will function at acceptable levels with the current alignment of CR 335 and proposed driveways, so no additional turn lanes or accel/decel lanes should be necessary. During construction, traffic control will be provided

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as necessary for staging and road tie-ins. A construction management plan will be submitted prior to permitting.

f. Points of ingress and egress;

The project proposes two driveways, one at either end of the property.



g. Service and refuse areas; Need for regular trash service is not anticipated.

h. Signs and exterior lighting;

Signage renderings were not provided in the packet. However, all signage shall comply with the sign code. Temporary traffic control signs along CR 335 can be expected during the replacement process. Traffic control plans are subject to a ROW permit as regulated by the Public Works Department.

Exterior lighting is currently proposed as flood lighting. As a condition of approval, all exterior lighting shall conform to dark-sky standards and shall always be shut off other than for emergencies or maintenance. Otherwise, exterior lighting shall comply with section C405.2.7 of the energy code. C405.2.7 includes provisions for sensors, timers, and lighting reduction as necessary.

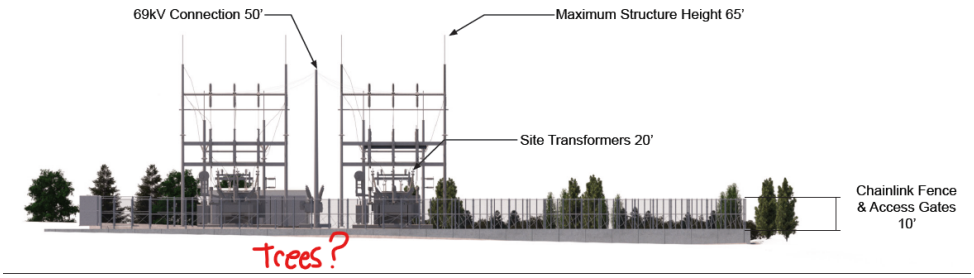
i. Fencing, landscaping and screening;

The Applicant proposes mesh wire fencing in the immediate vicinity of the facility. Moreover, the proposal will be subject to section 17.52.060 for the industrial zone. The perimeter shall be screened with:

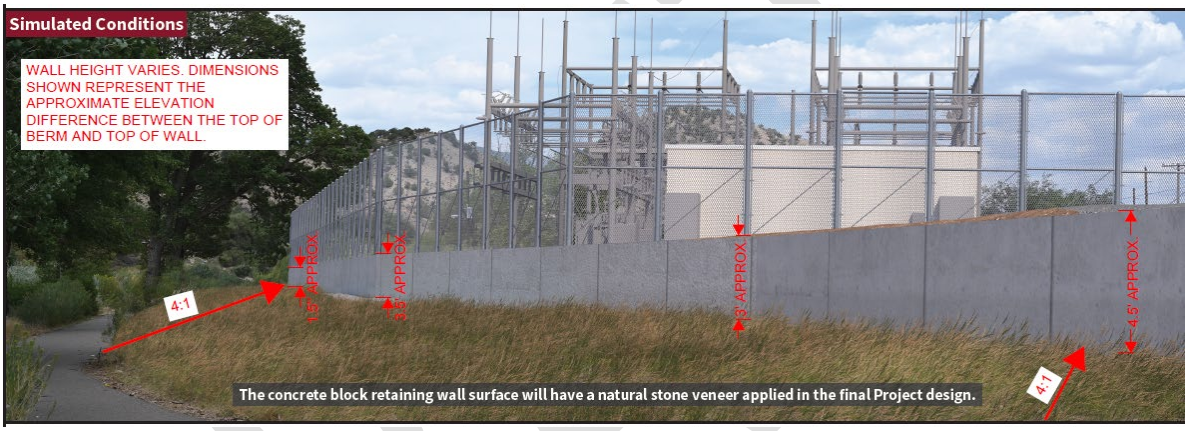
> *"trees and shrubs on at least twenty-five (25) percent of their private property lines in compliance with Chapter 12.20, and with the approval of the New Castle parks and recreation committee. Review of screening by the parks and recreation committee shall be completed prior to the issuance of a building permit."*

Because of the structure's considerable height and visual impacts to properties both adjacent and further towards the north, Staff has worked with the Applicant to expand the screening to the greatest extent possible. Additional trees have been added to the southern property line to attenuate visual impacts to users of the bike path and onlookers from New

Castle's downtown area. Additional screening may be necessary on the west aspect to comply with "25%" code requirement.



The placement of modest landscape berms along the bike path has been discussed to obscure the up to 8' retaining wall along the bike path. Even with all recommendations implemented, the screening methods above will obscure the facility only partially.



j. Compliance with performance standards;

Commissioner McDonald said the mesh screen on the rendering looked like chain linked fence. Mr. Miller said the material for the screen would be a metal mesh, not fabric. Mr. Miller said it looked like chain linked fence on the rendering so the commission could see what was behind the fence, but the screen would go all the way to the top. Town Administrator David Reynolds asked if the screen was solid looking. Mr. Miller said yes and the metal mesh works as a screen as well as deters people from climbing into the facility.

Chair Apostolik asked Mr. Miller why they did not choose gray rock because it was less expensive. Mr. Miller said engineering called for a poured concrete retaining wall. Engineer Madison Swanson said the reason the applicants used a cast in place cantilever wall was because they wanted to make sure the foundation hit the existing grades and go below the berm for stability purposes. Ms. Swanson said she would get more clarification from the structural engineer if more explanation was needed. Mr. Miller said they would use a liner to provide a stone or sack brick look so it does not appear like flat concrete. Mr. Miller explained the rendering was considered half-way rendering because there would be landscaping planted in front of the retaining wall when the project was complete.

Performance Standards are a commitment from the Applicant to minimize potential nuisances. The Applicant has signed the commitment letter. The proposal does not expect to exceed the Town's noise statutes at 80dB, but will consider dark-sky compliant lighting.

k. *Anticipated utility requirements;*

Town services (i.e. water and sewer) are not provided to the property. However, the proposal creates no additional demands for water and sewer than already exist.

l. *The Applicant provided an anticipated schedule of development:*

Table 2: Anticipated Project Schedule

Activity	Timeline
Permanent Improvements	Summer 2026
Construction Material Delivery	Summer 2026
Vegetation Management	Summer 2026
Construction of Substation	Summer 2026
Construction of Transmission Interconnect	Spring 2027
In Service	Summer 2027
Restoration	Summer 2027
Decommissioning of New Castle Substation	Summer 2027 (after in service)

III. Approval Criteria:

A decision on a conditional use application shall be made based on the following criteria:

1) *Is eligible for conditional review under § 17.72.040;*

***Staff Comment** – The application is eligible for conditional review subject to sections 17.84.070 & 17.84.080 as discussed above.*

2) *Is generally compatible with adjacent land uses;*

***Staff Comment** – While a substation may agree with perceptions about industrial uses, the Town also considers the level of impact of a proposed use on current surrounding uses. In this case, uses such as warehousing, construction storage, propane storage, and the Town's wastewater treatment plant are ostensibly consistent with a utility facility. Though the Town's open space parcel along the Colorado River is arguably less consistent, the open space has bordered the industrial district since its origin. Nevertheless, Town code enlists substantial screening efforts to attenuate the visual impacts of industrial operations. As discussed elsewhere, the Applicant intends to provide ample screening to this end.*

3) *Meets all requirements of § 17.84.020, is in compliance with Title 17 of the Code, and minimizes potential adverse impact of the conditional use on adjacent properties and traffic flow;*

Staff Comment *– The application demonstrates compliance with Section 17.84.020 as overviewed in Section II above. Adverse impacts are also discussed above. The provided traffic analysis suggests little impact to traffic flow as a result of the new substation.*

4) Is consistent with the comprehensive plan and

Staff Comment *– The Comprehensive Plan (see Goal POST & Goal EN policies pages 59ff & 65ff) places a premium on the preservation of the natural environment not only for the protection of surrounding ecosystems, but also for its aesthetic value to residents. The applicant has prepared floodplain, grading, and watershed analyses as part of their building permit application. The site will be raised to mitigate the 100 year flood plain, otherwise no adverse effects are projected.*

Viewsheds towards the south are expected to be influenced by the overall height and design of the facility. Therefore, Staff and the Applicant have worked jointly to offer intentional screening solutions such as berms, trees/shrubs, decorative retaining features, and mesh wire fencing to preserve these viewsheds to the greatest extent possible. Staff would like to see additional foliage along the west property line as required by code.

5) The Town has the capacity to serve the proposed use with water, sewer, and fire and police protection.

Staff Comment *– The replacement project is not expected to have any new impacts on water, sewer, fire or police protection.*

IV. Staff Recommendations:

Staff recommends approval of Resolution 2026-2 with the following conditions:

1. *No construction shall begin until a conditional use certificate has been issued by the Town Planner subject to Section 17.84.040.*

2. *Prior to issuance of the conditional use certificate, the Applicant shall demonstrate conformance with any recommendations provided by the town engineer, town attorney, and/or fire district.*

3. *Prior to the issuance of a conditional use certificate, a construction management plan shall be provided for review and approval by town staff. A construction management plan shall include, but is not limited to, identification of best management practices (BMPs), the identification of off-site storage & delivery locations, refuse management, and bathroom locations.*

4. *The Applicant shall conduct a pre-construction meeting with Town staff and relevant agencies at least 14 days prior to the beginning of construction.*

5. *The Applicant shall apply for any right-of-way permits through the Town's Public Works Department.*

6. *Applicant shall add vegetative screening along the west property line pursuant to section 17.52.060. The approved constructions drawings shall demonstrate conformance with the landscaping,*

screening, retaining wall, and berm designs provided in the application.

7. *Applicant shall comply with all applicable building and municipal code requirements, including the sign code and all county licensing requirements. Specifically, the approved construction drawings shall demonstrate that any ambient lighting complies with the 2021 International Energy Conservation Code for exterior lighting, section C405.2.7. Exterior safety or emergency lighting that will only be illuminated during emergencies does not need to comply with said requirement.*

8. *All exterior lighting shall be dark-sky compliant per the New Castle Comprehensive Plan.*

9. *No approved conditional use may be altered, structurally enlarged, expanded in parking area or expanded in ground area unless the site plan is amended and approved in accordance with the procedures applicable to approval of a conditional use as set out in § 17.84.070 of the Code.*

10. *In the event the Town receives any complaints about the use of the site or observes or becomes aware of any violations of the conditional use approval, the Applicant and/or owner may be summoned before the Town Council in a public meeting to show cause why the permit should not be revoked, suspended, or additional conditions imposed. Such show-cause hearing shall be open to the public and the Applicant or owner may present testimony or offer other evidence on its behalf.*

11. *All representations of the Applicant in written and verbal presentations submitted to the Town or made at public hearings before the Planning Commission or Town Council shall be considered part of the application and binding on the Applicant.*

12. *The Applicant shall reimburse the Town for any and all expenses incurred by the Town regarding this approval, including without limitation all costs incurred by the Town's outside consultants such as legal and engineering costs.*

V. <u>Application Exhibits:</u>

A. Land Development Application
B. Town Engineer Referral – Jeff Simonson
C. Public Notice
D. Notarized Affidavit of Notice
E. Signed Performance Standards

Mr. Miller shared his presentation. **(Exhibit B)** Mr. Miller said once the new substation was complete, the existing substation would be removed and reclaimed. Commissioner Riddile said there was a sink hole near the existing substation and asked if that would be addressed. Mr. Miller said he understood Board of Reclamation had been filling the sinkhole with a mixture of stone, aggregate and large boulders. Mr. Miller said the work had been completed. Administrator Reynolds confirmed the sink hole work had been completed.

Mr. Miller said the yellow box highlighted on page 5 **(Exhibit B)** would be the transformer for the new substation. Mr. Miller said the transformer transforms the

energy from the 6584 transmission line which was higher voltage. Mr. Miller said the transformer would transform the voltage down so it could be utilized by users through distribution feeders that exit the substation. Mr. Miller said the structure on the right highlighted in yellow on page 5 of exhibit B, steps the transmission line down to the transformer. Mr. Miller said the box structure highlighted in yellow to the west was for the distribution feeders interconnect and carry energy out of the substation to the developments in New Castle. Mr. Miller said the last building on the left side of the image is called an electric equipment enclosure (Triple E) and is the main control of the modern substation. Mr. Miller said in past years controlling elements were affixed to elements around the substation like the transformers themselves and are now located in the box for safety and security reasons. Mr. Miller said that control structure would deter someone breaking in and tampering with the elements or stealing the metals within the structures. Mr. Miller said the current standard would place everything within the Triple E structure. Mr. Miller said a light switch would be installed for nighttime emergencies. Mr. Miller said the element highlighted in blue on page 5 of Exhibit B was place holder for a second transformer. Mr. Miller said that second transformer was not needed right at this time and would only be installed if the growth of the town required it. Mr. Miller said the renderings showed a full build out and the footprint of the substation would be smaller.

Commissioner McDonald asked if the electricity distributed to the community would be underground. Mr. Miller said there were distribution feeders that would go over the river to the community. Mr. Miller said the distribution team will have a follow-up project to update equipment after the substation is completed. Mr. Miller said the canister transformers currently on distribution lines in the alleys and backyards would need to be upgraded because the voltage would be upgraded to help with power quality issues. Mr. Miller said the main feeder would travel along the river and use the same corridor.

Commissioner Riddile asked if the new developments approved in New Castle would be served by the single substation. Mr. Miller did not know and said the distribution people would answer that. Mr. Miller said that Excel Energy's system planners said there is no current need to install that second transformer immediately and did account for future growth.

Commissioner McDonald suggested the Excel team should consider 500 approved units in the next 6 years. Mr. Miller said the distribution teams would meet with the town and that would be a more appropriate time to discuss the approved units. Mr. Miller said the proposed substation would support future development and if necessary, the second transformer would be installed.

Mr. Miller reviewed the landscaping plan. **(Exhibit C)** Administrator Reynolds asked if the applicants considered landscaping the south property line along County Road 335. Mr. Miller said the main landscaping concern was the northern property line along the bike path and they did not intend to install landscaping on the south side. Administrator Reynolds said landscaping would help break up the mass of the wall and

fence. Mr. Miller said the applicants were aware there was a use on that side of the wall and understood it was outdoor storage facility. Mr. Miller said he was not sure if there was a privacy need when the application was originally considered. Chair Apostolik said the south side of the property is lower than the road, even after the applicants construct the grade higher than the floodplain. Chair Apostolik said P & Z had that discussion with a previous applicant. Commissioner McDonald said it would be nicer to have landscaping on that south wall. Planner Smith said to discuss with the applicants.

Mr. Miller said the team designed the retaining wall to the standards of what the engineers would like to produce. Mr. Miller said he will try to research more details about why the engineers chose that design. Chair Apostolik said he was curious and research was not necessary.

Mr. Miller said he would add notes about lights only on during emergency work during nighttime hours so the substation would be dark sky compliant. Mr. Miller said light shields would be added to the lights in the plan. Planner Smith said there was a condition in the resolution that a right-of-way would be included in that.

Chair Apostolik closed the public hearing at 7:40 p.m.

Commissioner Riddile asked how long the construction would take. Mr. Miller said his estimate would be two to three months.

Commissioner Parks said he noticed trail closures during construction and asked how long and why. Mr. Miller said there were a couple of drainage outfalls underneath the walking path that would need to be installed underground. Commissioner Parks asked how long the trail would be closed. Mr. Miller said a couple of weeks, but if the trail were damaged in any way the applicants would restore the trail to preconstruction conditions. Planner Smith said the applicants would pull a permit and Public Works Director John Wenzel would inspect the work. Mr. Miller said the construction plan would route people around the closed trail.

Commissioner McDonald asked Chair Apostolik if the commission required landscaping along County Road 335 with the vehicle storage lot approved near the substation. Chair Apostolik said they discussed landscaping along the bike path, not on the side or along the roadside because of the elevation. Commissioner McDonald asked if the elevation was the same as the storage lot and Chair Apostolik said the Substation lot was shallower and not as steep.

Commissioner Parks asked how high the finished grade would be above the flood plain. Mr. Miller said it would be three to four feet above the floodplain. Ms. Swanson confirmed it would be four feet. Commissioner Parks asked if there was a concern about back up during a flood situation. Ms. Swanson said they accounted for the flows in the outlet and said they were close to the edge so ideally, they would not be in that situation. Mr. Miller said they were working on a floodplain permit with SGM and said

they would help if that issue did come up in their analysis. Commissioner Parks asked if the applicants needed to deal with the core engineers on their discharge. Mr. Miller said he did not believe so.

Planner Smith asked about the elevation along 335 from the exhibit. Planner Smith said the grade looked higher than the base of the fence and thought there was a detention area off the road. Mr. Miller said it was just an artifact in the rendering itself but did say there is a retention area just south of the fence line to capture water. Planner Smith asked if it was at least 5 to 6 or 7 feet from one of those driveways down to the bottom regarding the elevation change. Planner Smith asked if that was the finished grade of the site, or did it include two to four feet of fill material. Mr. Miller said it was fill material and Ms. Swanson confirmed.

Commissioner McDonald asked if there was landscaping along County Road 335 according to Site View plan one. Planner Smith said no, that landscaping was seen through from the opposite side of the property. Planner Smith asked if some landscaping would interfere with the drainage. Mr. Miller said he was concerned it could interfere with drainage and the team would investigate it.

Motion: Chair Apostolik made a motion to approve PZ 2026-3 A RESOLUTION OF THE NEW CASTLE PLANNING AND ZONING COMMISSION RECOMMENDING APPROVAL OF A CONDITIONAL USE PERMIT FOR AN ELECTRICAL SUBSTATION IN THE INDUSTRIAL ZONE DISTRICT Commissioner Parks seconded the motion and it passed on a roll call vote. Commissioner Riddile: yes; Commissioner Parks: yes; Commissioner McDonald: yes; Chair Apostolik: yes.

Commissioner Parks asked what the schedule was on the powerline replacement. Mr. Miller said it was scheduled to start in May of 2026. Commissioner Parks asked if construction would start in Rifle and Mr. Miller said construction would start at the new Rifle substation and move towards New Castle. Mr. Miller said the delay was caused by material storage issues with Garfield County that restricted them to 6 months of storage with no opportunities for extensions. Mr. Miller said contractors had a steel procurement issue as well, but they are all set with permits and ready to begin in May.

Commission Comments and Reports

Commissioner Parks said HPC was holding a historical designation plaque ceremony for the designation of Highland Cemetery on Memorial Day during the flag raising ceremony. Commissioner Parks said the commission was considering where to put the historic plaque. Commissioner Riddile asked if the original sign could be moved to put at the new entrance. Commissioner Parks said the HPC is doing a videography with the elders of New Castle.

Staff Reports

Planner Smith said P & Z will not meet in April and might meet for TC Midwest in May.

Administrator Reynolds said CDOT successfully moved the bridge and is working on finishing the roundabout. Chair Apostolik asked when the landscaping would be completed. Administrator Reynolds said the work will begin at the end of April. Chair Apostolik asked if there would be a monument in the middle of the roundabout. Administrator Reynolds said the middle would have a tribute to the hogbacks of stone formations with a gap in the middle and a river of stone running though it. Administrator Reynolds said there would be a miner statue looking towards the direction of the mine casualties. Administrator Reynolds said there would be two columns as a gateway. Chair Apostolik asked if there would be internal lighting. Administrator Reynolds said yes and liked that the sign would be visible.

Motion: Commissioner McDonald made a motion to approve January 14, 2026, meeting minutes. Commissioner Parks seconded the motion, and it passed unanimously.

Commissioner Parks asked Planner Smith if an agreement was reached between TC Midwest and R2 Partners for access during construction. Planner Smith said no, and the timing of construction was the issue. Planner Smith said there were plans to mitigate traffic if necessary.

Motion: Chair Apostolik made a motion to approve February 25, 2026, meeting minutes. Commissioner Parks seconded the motion, and it passed unanimously.

Chair Apostolik adjourned the meeting at 7:58 p.m.

Respectfully Submitted,

_____
Chuck Apostolik, Commission Chair

_____
Michelle Huster, Professional Assistant to
the Town Clerk

DRAFT