MEETING OF THE TOWN BOARD
Town Board Room
807 Mountain Avenue
Town of Berthoud, Colorado
Tuesday, February 10, 2026, 6:30 p.m.

This is an IN-PERSON meeting at the location and time noted above.

This meeting will be streamed live on YouTube. The live stream is accessible by visiting www.berthoud.org/stream

The Town Board may take action on any of the following agenda items as presented or modified prior to or during the meeting and items necessary or convenient to effectuate the agenda items.

1. CALL TO ORDER
2. PLEDGE OF ALLEGIANCE
3. ROLL CALL
4. CITIZEN PARTICIPATION
5. SCHEDULED ITEMS AND ESTIMATED TIME FOR DISCUSSION

5.I. Consent Agenda

Consent Agenda items are considered to be routine by the Town Board and will be enacted with a single vote. There will be no separate discussion of these items. If discussion is deemed necessary, an item may be removed from the Consent Agenda and considered separately.

Documents:

A. FEBRUARY 10, 2026, MEETING AGENDA.PDF
B. JANUARY 27, 2026, MEETING MINUTES.PDF
C. WASTE WATER LIFT STATION PROFESSIONAL SERVICES AGREEMENT.PDF
D. FIREWORKS CONTRACT.PDF

5.II. Water Snapshot Presentation

Documents:

MEMO RE WATER SNAPSHOT.PDF
TOWN OF BERTHOUD WATER SNAPSHOT DECEMBER 2025 UPDATE.PDF
PRESENTATION RE WATER SNAPSHOT UPDATE.PDF

5.III. Master Plan For Intersection Management

Documents:

MEMO RE MASTER PLAN FOR INTERSECTION MANAGEMENT.PDF
02 FEHR AND PEERS PRESENTATION.PDF

5.IV. Tree Strips

Documents:

02 SB 24-005 PROHIBITION OF NONFUNCTIONAL TURF.PDF
MEMO RE TREE STIPS.PDF
03 TREE STRIPS PRESENTATION.PDF

5.V. PUBLIC HEARING: Reenactment Of Certain Portions Of Chapter 14 Regarding Licensing

Ordinance 1376 - An Ordinance of the Town of Berthoud, Colorado, Amending Chapter 14 of the Berthoud Municipal Code with Respect to Contractor's Licensing Requirements, Specifically, Sections 14.9-9, 14.9-8 & Appendix A

Documents:

MEMO RE CHAPTER 14 UPDATE.PDF
02 ORDINANCE 1376.PDF
03 CHAPTER 14 PRESENTATION.PDF

5.VI. PUBLIC HEARING: Fickel Farm 5th Filing Preliminary Plat

Resolution 2026-05 - A Resolution of the Town of Berthoud Board of Trustees Approving a Preliminary Plat for a Development Known as the "Fickel Farm 5th Filing Development" in the Town of Berthoud.

Documents:

MEMO RE FICKEL FARM 5TH FILING.PDF
01 PRELIMINARY PLAT TBT STAFF REPORT.PDF
01.1 COMBINED STAFF REPORT ATTACHMENTS.PDF
02 RESOLUTION 5 2026.PDF
03 DRAFT PC MINUTES-2026 01 08.PDF
2026 02 10_FICKEL FARM 5TH TBT PRESENTATION.PDF

5.VII. Board Member Compensation

Documents:

MEMO RE BOARD COMPENSATION.PDF
COUNCIL STIPEND LIST.PDF

6. ELECTED OFFICIAL REPORTS

1. Town Board – Tim Hardy, May Albrecht, Sean Murphy, Karl Ayers, Brett Wing, and Mark Brodie
2. Mayor – William Karspeck
3. Staff – Town Administrator, Attorney

7. ADJOURN

The order of agenda items listed above is approximate and intended as a guideline for the

Town Board. Individuals needing special accommodation may request assistance by contacting the Town Clerk 807 Mountain Avenue, Berthoud, Colorado 80513, 970-532-2643 at least 24 hours in advance.

BOARD OF TRUSTEES REGULAR MEETING
807 Mountain Avenue
Town Board Meeting Room
Berthoud, Colorado 80513
Tuesday, February 10, 2026, at 6:30 PM

This meeting will be streamed live on YouTube. The live stream is accessible by visiting www.berthoud.org/stream

The Town Board may act on any of the following agenda items as presented or modified prior to or during the meeting and items necessary or convenient to effectuate the agenda items.

I. CALL TO ORDER (10 Min)

II. PLEDGE OF ALLEGIANCE

III. ROLL CALL

IV. CITIZEN PARTICIPATION

V. SCHEDULED ITEMS and ESTIMATED TIMES FOR DISCUSSION

1. **Consent Agenda** **(5 Min)**
   Consent Agenda items are considered to be routine by the Town Board and will be enacted with a single vote. There will be no separate discussion of these items. If discussion is deemed necessary, an item may be removed from the Consent Agenda and considered separately.

   a) February 10, 2026, Meeting Agenda
   b) January 27, 2026, Meeting Minutes
   c) Waste Water Lift Station Professional Services Agreement
   d) Fireworks Contract

2. **Water Snapshot Presentation** **(20 Min)**

3. **Master Plan for Intersection Management** **(20 Min)**

4. **Tree Strips** **(15 Min)**

5. **PUBLIC HEARING: Reenactment of Certain portions of Chapter 14 Regarding Licensing** **(10 Min)**
   Ordinance 1376 - An Ordinance of the Town of Berthoud, Colorado, Amending Chapter 14 of the Berthoud Municipal Code with Respect to Contractor's Licensing Requirements, Specifically, Sections 14.9-9, 14.9-8 & Appendix A

6. **PUBLIC HEARING: Fickel Farm 5th Filing Preliminary Plat** **(45 Min)**
   Resolution 2026-05 - A Resolution of the Town of Berthoud Board of Trustees Approving a Preliminary Plat for a Development Known as the "Fickel Farm 5th Filing Development" in the Town of Berthoud.

7. **Board Member Compensation** **(10 Min)**

VI. ELECTED OFFICIAL REPORTS (20 Min)

1. Town Board – Tim Hardy, May Albrecht, Sean Murphy, Karl Ayers, Brett Wing, and Mark Brodie
2. Mayor – William Karspeck
3. Staff – Town Administrator, Attorney

VII. ADJOURN

February 10, 2026, Meeting Agenda

The order of agenda items listed above is approximate and intended as a guideline for the Town Board. Individuals needing special accommodation may request assistance by contacting the Town Clerk 807 Mountain Avenue, Berthoud, Colorado 80513, 970-532-2643 at least 24 hours in advance.

_____ _____

Town Clerk or Deputy Town Clerk William Karspeck, Mayor

The order of agenda items listed above is approximate and intended as a guideline for the Town Board. Individuals needing special accommodation may request assistance by contacting the Town Clerk 807 Mountain Avenue, Berthoud, Colorado 80513, 970-532-2643 at least 24 hours in advance.

MEETING MINUTES OF THE TOWN BOARD
Town Board Room
807 Mountain Avenue
Town of Berthoud, Colorado
Tuesday, January 27, 2026, 6:30 p.m.

1/27/2026 - Minutes

1. CALL TO ORDER

   Mayor Karspeck called the meeting to order at 6:30 pm.

2. PLEDGE OF ALLEGIANCE

   Mayor Karspeck led the Pledge of Allegiance.

3. ROLL CALL

   The following Board members were present:

   May Albrecht, Trustee
   Karl Ayers, Trustee
   Mark Brodie, Trustee
   Tim Hardy, Trustee
   Brett Wing, Trustee
   Will Karspeck, Mayor

   The following Board members were absent:

   Sean Murphy, Mayor Pro-Tem

   The following staff members were present:

   Erin Smith, Town Attorney, via Zoom
   Chris Kirk, Town Administrator
   Christian Samora, Town Clerk
   Lexi Dovel, Deputy Town Clerk
   Sergeant Justin Williamson, Larimer County Sheriff
   Audry Bothun, Building Permit Technician
   Daniel Buendia, Project Engineer
   Keith Knoll, Public Works Operational Manager

4. CITIZEN PARTICIPATION

   No one spoke during Citizen Participation.

5. SCHEDULED ITEMS AND ESTIMATED TIME FOR DISCUSSION

   5.I. Consent Agenda

Items:

a) January 27, 2026, Meeting Agenda
b) January 13, 2026, Meeting Minutes
c) January 2026 Board Report
d) Larimer County Law Enforcement Services Agreement
e) Appointment of Local Licensing Authority Member
f) Verizon Cell Tower Lease

Trustee Wing moved to combine and approve the items on the Consent Agenda. Trustee Hardy seconded the motion. In a 6-0 roll call vote, THE MOTION CARRIED.

5.II. Town Attorney Appointment

Administrator Kirk provided information about the Town Attorney appointment.

Trustee Wing moved to authorize the Town Administrator to execute the Letter of Engagement with Hoffman, Parker, Wilson & Carberry, P.C. for municipal legal services. Trustee Brodie seconded the motion. In a 6-0 roll call vote, THE MOTION CARRIED.

5.III. INTRODUCTION: Reenactment Of Certain Portions Of Chapter 14 Regarding Licensing

Building Permit Technician, Audry Bothun, gave a presentation on Ordinance 1376.

Mayor Karspeck opened the item to public comment.
No one spoke during public comment.

The Board was supportive of bringing the item back for Public Hearing on February 10, 2026.

5.IV. Road Improvement Plan Update

Project Engineer, Daniel Buendia, gave a presentation on the Road and Sidewalk Improvement Plan.

Mayor Karspeck opened the item to public comment.
Ann Karspeck spoke during public comment.

Trustee Wing moved to proceed with soliciting bids for the 2026 Road and Sidewalk Improvement Projects. Trustee Hardy seconded the motion. In a 6-0 roll call vote, THE MOTION CARRIED.

5.V. Newell Farm Update

Public Works Operational Manager, Keith Knoll, gave an introduction on Newell Farm Park.

Tyler Kiggins with Wenk Associates gave a presentation.

Mayor Karspeck opened the item to public comment.
Sarah Lincoln, Casey Grace, and Butch Hause spoke during public comment.

The Board provided feedback on the Newell Farm Park design concepts.

6. ELECTED OFFICIAL REPORTS

Trustee Hardy:

Hardy provided an update on Berthoud Main Street and discussed compensation for Board members.

Trustee Ayers:

Ayers thanked the Streets department staff for their work during the inclement weather this past weekend.

Trustee Albrecht:

Albrecht discussed increasing the number of meetings for the Youth Advisory Commission and having Trustee Wing serve as a second liaison to the committee.

Trustee Wing:

Wing discussed estimated times for items on the meeting agendas and potentially having Town Hall staff in the office on Fridays.

Mayor Karspeck:

Karspeck reported on potentially updating Board compensation. Karspeck reported on the recent Branding Open House event and thanked Attorney Smith for her service.

Attorney Smith:

Smith thanked the staff and Board members who served on the interview panels for the new Town Attorney.

Administrator Kirk:

Kirk reported that there are no available spots at the National League of Cities Conference for the Youth Advisory members to attend. The Board discussed potential alternatives, including a scholarship for a trip to Washington D.C.

Sergeant Williamson:

Williamson reported on the recent Larimer County Sheriff's Office award ceremony where several Berthoud deputies were recognized.

7. ADJOURN

The meeting was adjourned at 8:35 pm.

_____
Town Clerk or Deputy Town Clerk

_____
William Karspeck, Mayor

BOARD OF TRUSTEES INFORMATION

UTILITIES

Meeting Date:	**February 10, 2026**
	Lift Station Consolidation Feasibility Study
Type of Item:	**Consent Agenda**
Purpose:	Approval of Professional Services
Presented by:	**Ken Matthews, Director of Water Utilities**

BACKGROUND:
The Campion and Bomar Lift Stations are critical components of the Town's wastewater collection system and serve Campion. Both facilities are constrained by aging equipment, limited emergency storage, and tight site conditions that complicate maintenance, upgrades, and long-term reliability. Because the Bomar Lift Station pumps into Campion Lift Station, operational issues at either station can quickly affect service across the basin.
Previous evaluations identified near-term operational concerns at Campion; however, a comprehensive analysis of both facilities together—including consolidation, relocation, or coordinated upgrades—has not been completed. To support informed capital planning and risk reduction, staff issued a Request for Proposals for a Lift Station Consolidation Feasibility Study to evaluate system-wide alternatives and identify a preferred long-term strategy.
The proposed feasibility study will evaluate three primary alternatives:

- **Consolidation** of Campion and Bomar into a new regional lift station at a hydraulically favorable location;
- **Partial reconstruction**, retaining Bomar while relocating and upgrading Campion; and
- **Individual upgrades** at both existing sites to address capacity, storage, power, and reliability concerns.

The Town received four proposals in response to the RFP. Staff completed a comparative evaluation of the proposals based on qualifications, project approach, relevant experience, understanding of Berthoud's system, and overall value to the Town. Following this evaluation, RESPEC Company, LLC was selected as the preferred consultant.

UPDATE/NEXT STEPS:
RESPEC's proposal demonstrated a strong understanding of the operational interdependence of the Campion and Bomar Lift Stations and provided a clear, data-driven approach to evaluating consolidation and upgrade alternatives. The proposed scope includes data review, field verification, hydraulic evaluation, site and alignment screening, conceptual alternatives development, planning-level cost estimates, lifecycle cost analysis, and qualitative risk assessment for each alternative.

The feasibility study is anticipated to take approximately 120 days from Notice to Proceed to

completion and will include staff coordination meetings and a draft alternatives review prior to finalizing recommendations. Upon Board approval, staff will execute a professional services agreement with RESPEC and issue a Notice to Proceed.

Key next steps include:

- Executing the professional services agreement and issuing a Notice to Proceed;
- Completing field visits and data review for the Campion and Bomar Lift Stations;
- Developing and evaluating consolidation, relocation, and upgrade alternatives; and
- Presenting the final feasibility study and recommended path forward to the Board.

FISCAL IMPACT AND FUND SOURCE:
The total cost of the Lift Station Consolidation Feasibility Study is $75,150. Funding will be provided through the Wastewater Capital Operations and Maintenance Fund. This planning-level effort is intended to inform future capital improvement decisions and reduce long-term operational, regulatory, and financial risk. No outside grant or loan funds are currently applied to this effort.

COMMUNITY TOUCHSTONES:
This feasibility study reinforces the Town's commitment to proactive, transparent, and fiscally responsible infrastructure planning. By evaluating long-term solutions now, the Town is reducing the likelihood of emergency failures, improving operational resiliency, and ensuring future capital investments are well-informed and aligned with community growth.

RECOMMENDED ACTION(S):
Authorize staff to execute a professional services agreement with RESPEC Company, LLC in the amount of $75,150 and proceed with the Lift Station Consolidation Feasibility Study.

RESPONSE TO REQUEST FOR PROPOSAL

LIFT STATION CONSOLIDATION FEASIBILITY STUDY

Due December 22, 2025

SUBMITTED TO:
Town of Berthoud
807 Mountain Ave.
Berthoud, CO 80513

SUBMITTED BY:
RESPEC Company, LLC
2975 Ginnala Drive
Loveland, CO 80538

RSI/P-12301

December 22, 2025

Town of Berthoud
Steve Dumler
807 Mountain Ave.
Berthoud, CO 80513

Dear Steve:

RE: Response to Request for Proposals (RFP) for Lift Station Consolidation Feasibility Study (RSI/P-12301)

RESPEC is pleased to submit our proposal to perform the Lift Station Consolidation Feasibility Study for the Town of Berthoud. Our team brings a unique combination of deep local knowledge, continuity of service to smaller communities, and hands-on experience with water and wastewater infrastructure planning, design, and operations. We understand that the Campion and Bomar Lift Stations are critical nodes in your wastewater collection system, both facing significant challenges due to aging equipment, limited storage capacity, and constrained sites. The interdependence of these facilities heightens the importance of a thorough, forward-looking alternatives evaluation that addresses reliability, risk reduction, and operational realities.

Our approach is shaped by our long-standing relationship with Berthoud and similar communities, as well as our team's direct operational experience with your systems. We will build on prior analyses and work collaboratively with Town staff and operators to develop and compare the three alternatives requested in your RFP: consolidation, partial reconstruction, and individual upgrades. Our team, led by Project Manager Amy Patterson, PE, and supported by a certified operator familiar with Berthoud's system, will deliver practical, cost-conscious solutions that reflect your priorities and budget realities.

We have carefully reviewed the RFP and are fully committed to the detailed scope outlined, including data review, field verification, hydraulic and site evaluation, conceptual alternatives development, cost and risk analysis, and clear reporting. Our deliverables will include all requested reports, mapping, cost tables, and presentations, and our proposed schedule meets the Town's project milestones and 120-day completion target.

RESPEC's qualifications are demonstrated through our extensive lift station project portfolio, including recent master planning and design for the City and County of Denver, major consolidation and phased upgrades for Widefield Water and Sanitation District, and complex dual-basin lift station work for Meridian Service Metropolitan District. We provide not only technical design, but also long-term operational support and capital planning guidance, ensuring that solutions are feasible and sustainable for the Town.

We look forward to the opportunity to support Berthoud in this important project and help chart a reliable, efficient path for your wastewater infrastructure. Please contact us with any questions or requests for additional information. Please feel free to contact Amy Patterson (amy.patterson@respec.com) and/or Gwen Dall (gwen.dall@respec.com) at your earliest convenience to discuss this proposal further.

Sincerely,

Amy Patterson, PE
Project Manager

Gwen Dall, PE
Technical Advisor

2975 GINNALA DRIVE
LOVELAND, CO 80538
720.398.5523

PROJECT UNDERSTANDING & APPROACH

Campion and Bomar are critical nodes in the Town of Berthoud's (Town's) wastewater collection system, and both are constrained by aging equipment, limited storage capacity, and tight sites that complicate maintenance and upgrades. Because Bomar pumps directly into Campion, a disruption at either station can quickly affect services across the northern basin. The feasibility study must therefore focus on system reliability, operator response time, and risk reduction, while also accounting for planned growth in the service area so the preferred alternative supports future demands.

Understanding of Berthoud's System: RESPEC Company, LCC (RESPEC) has reviewed the general basin layout for the northern portion of the Town's collection system and understands the physical and vertical relationship between the Campion and Bomar sites. Based on the Town's future land use map, improving the reliability of these two stations is a near-term priority, while also setting the stage for a more regional approach as Berthoud continues to grow.

We have also reviewed the previous Campion Lift Station Feasibility Report and will build on that effort rather than repeat it. Specifically, the prior evaluation of Campion's electrical configuration and power reliability provides a foundation between Bomar and Campion, feasible relocation or consolidation options, and how those options affect risk, operability, and long-term planning.

This project will be supported by **Hannah Mabry, EI, CWP**, a certified water and wastewater (W/WW) operator who previously worked in Berthoud and has direct familiarity with the Town's system. Her experience helps align the feasibility analysis with local operational realities and the day-to-day considerations faced by Town staff.

WHY RESPEC?

Continuity of Service to Smaller Comunities: While we are able to provide services for large cities, our engineers are highly suited to smaller communities of 10,000 to 50,000 population. Our engineers have many smaller clients for whom we have provided W/WW engineering services to for as long as 40 years.

Background Knowledge: Our team includes a certified operator who knows Berthoud's water and wastewater systems from the inside out. Having operators/engineers on board is a key to planning for not only capital considerations but long-term maintenance and operability.

Efficient by Design: We design efficient, cost-conscious solutions that reduce risk and long-term maintenance for the Town.

Rooted in Berthoud: We bring a true local perspective. Our team understands Berthoud's priorities, people, and culture.

Team Players: RESPEC works hand-in-hand with Town staff and operators to develop the best-fit solution together.

Ready for What's Next: Our experience with similar communities means Berthoud gets proven strategies and access to funding support when needed.

Challenges: Both lift stations are located on small, difficult-to-access parcels, which limits the opportunities for expansion or modernization and complicated maintenance activities. While prior analysis for the Campion Lift Station identified potential improvements, it did not address the broader relationship between the two facilities or longer-term solutions. This study will address those gaps so the Town can compare alternatives on a consistent and practical basis.

- **Emergency Storage and Reliability:** Limited storage capacity affects operator response times and system reliability, particularly at Bomar. The alternatives analysis will evaluate storage needs and practical methods to increase system resiliency, including conventional storage approaches as well as opportunities to increase time-to-failure through system configuration where appropriate.
- **Conveyance and Site Constraints:** Identifying a gravity solution for Bomar would reduce operational complexity, but gravity pathways are constrained by parcel layout, ditches, and topography between Bomar and Campion, including a ridge south of Campion. The study will screen routing and constructability considerations so each alternative reflects realistic hydraulic and physical constraints.
- **Power and Operational Resiliency:** Power reliability issues at Campion, including the existing Y-Delta (open-delta) electrical configuration, have been evaluated previously. This study will build on that work by assessing how each alternative addresses primary and backup power, generator needs, and operational resilience for both individual and consolidated station concepts.
- **Alternative Flexibility and Long-Term Planning:** While the Town has identified three primary approaches to increasing reliability, the study will also identify where phased or hybrid paths could reduce near-term risk while supporting a long-term solution. Any such considerations will be framed to support, not complicate, the Town's comparison of the three required alternatives.

- **Financial and Implementation Constraints:** The Town must balance funding availability, total capital investment, and implementation timing. The feasibility study will consider interim measures that meaningfully reduce risk while supporting longer-term goals, allowing the Town to align recommendations with capital planning and budget realities.
- **Monitoring, Controls, and Operator Response:** Effective and reliable SCADA is critical to maintaining consistent service and providing operators with early warning of abnormal conditions. The alternatives analysis will consider how each option supports monitoring, alarm response, and control strategies that reduce response time and improve operational reliability for Town staff.

Approach: RESPEC's approach is designed to help the Town select a preferred path that improves reliability and operability at Campion and Bomar while remaining practical to fund and implement. We will evaluate the three alternatives identified in the Request for Proposal (RFP)—consolidation at a new site, partial reconstruction (relocate Campion while retaining Bomar), and upgrades at each station—using a consistent and technical cost basis so the Town can compare options confidently. Where a hybrid or phased path is appropriate, we will present it as an implementation strategy that supports the required alternatives rather than replacing them.

Our work will begin with a focused review of the Town's 2022 Wastewater Master Plan, available system data, and the prior Campion feasibility work, followed by field-based verification to confirm hydraulic needs, force main routing, and access/site logistics. Early coordination with Town staff and Ramey Environmental Compliance, Inc. (REC, Inc.), the Town's contracted operator, will incorporate operational history and day-to-day realities so recommendations reflect how the system is operated and maintained, not just how it could be designed.

Depending on the level of detail available in the 2022 Master Plan and supporting data, we will complete targeted basin planning for the northern Bomar/Campion basin to confirm flow assumptions, physical constraints, and long-term conveyance/outfall considerations. This context will help the Town understand how each alternative fits into the broader system, and it will strengthen the defensibility of the recommended option and any interim steps.

As alternatives are developed, we will focus on practical reliability measures such as redundancy, emergency storage, power resiliency, and monitoring/control needs (including SCADA implications) so the Town can understand operational and staffing impacts alongside capital costs. We will translate these differences into the RFP-required comparison outputs (Class IV planning costs, 20-year lifecycle costs, and a risk matrix) so decision-makers can clearly see tradeoffs among the alternatives.

Our project team combines feasibility study experience with lift station planning/design and controls support to match the Town's need for reliable, operable solutions. **Project Manager Amy Patterson, PE,** will lead the effort, drawing on strong relationships with Town staff and a background in municipal feasibility studies. **Casey Hinkson, PE,** and **Ryan Mangino, PE,** add proven expertise in lift station planning and design, while **Gwen Dall, PE,** provides trusted client support and technical review based on years of project experience. **Jack Costello, EI**, from RESPEC's Loveland office, contributes hands-on drafting and wastewater expertise with local familiarity. **John Hendricks**, an experienced controls designer with more than 16 years in instrumentation and SCADA systems, will support the integration of reliable controls and automation for the project. **Hannah Mabry, EI, CWP**, brings direct knowledge of Berthoud's system and operator perspective to keep recommendations grounded in local conditions.

RESPEC will provide the Town with a clear, defensible recommendation and a practical path forward that aligns with Berthoud's infrastructure constraints, budget realities, and long-term community priorities.

DETAILED SCOPE OF WORK

DESCRIPTION OF THE PROJECT

RESPEC recognizes that the primary objective of this project is to incorporate and expand on the Campion analysis, which suggested expanding the easement, increasing emergency storage, and replacing pumps and backup power equipment. The Town has requested analysis of the following alternatives:

- **Option 1 – Consolidate:** At a hydraulically favorable location, combine Campion and Bomar Lift Stations to make a new regional lift station to better meet system needs and streamline operation, maintenance, and monitoring.
- **Option 2 – Partial Reconstruction:** The Bomar Lift Station will remain on the current site with any needed upgrades, while the Campion Lift Station will be moved to a hydraulically favorable location and be upgraded to improve reliability and enable future expansion.
- **Option 3 – Individual Upgrades:** Both lift stations will remain at current sites, but pumps, power systems, monitoring, and wet wells would be upgraded to meet capacity requirements and solve existing operational issues.

The new study will examine the interdependence between the two sites from both hydraulic and operability standpoints. RESPEC will determine the feasibility and practicality of moving or consolidating the facilities, including equipment costs, maintenance and operator response times, improved monitoring and reduced risk of critical failure. The following major factors will be used to drive the investigation:

- **Interdependence:** We will consider how influent flow, wet-well sizing, pump capacity, timing, and controls will inform upgrades or consolidation of the lift stations. Factors will include flow characteristics, emergency storage, and pump choice for separate and combined lift station design.
- **Site Location:** We will investigate proposed new site(s) for the Campion or combined lift station for hydraulic fitness, construction access, and ability to accommodate future expansions, as well as ease and cost of rerouting force mains.
- **Capacity:** We will review emergency storage at existing sites and proposed wet-well design for a Campion upgrade, and incorporate future expansion needs into recommendations on wet-well and pumps capacity and location.
- **Equipment and Backup Power:** We are aware that there is an urgent need to replace and improve backup power systems, including generators, automatic transfer switches, and the electrical system; pump lifespan, health, and capacity will also be considered when we make recommendations and compare costs between the listed alternatives. System reliability and operability are at the forefront of this component of alternative analysis.

DISCUSSION OF THE SCOPE OF SERVICES AND DELIVERABLES

The Town has outlined a detailed Scope of Services and Deliverables in the RFP, which we have thoroughly reviewed and agreed with. We believe the scope is well thought out and is consistent with our scope approach and the deliverables. Below is a summary discussion of the Scope as presented in the RFP.

TASK 1 DATA COLLECTION & REVIEW

The first step of the alternatives analysis will be to review the Town's existing plans, 2022 Wastewater Master Plan, and documentation, as-builts, SCADA trends, and pump station operations and maintenance (O&M) information; this will include information on existing backup power and equipment failure trends. We will incorporate feedback from the operations teams to help shape the evaluation and alternatives development so each approach prioritizes function and efficiency. We will review maps of the system, existing easements, and current development plans within both service areas. We will conduct field visits at both sites and any proposed new plats to verify physical conditions, access constraints, and surrounding land use.

TASK 2 FLOW & CAPACITY EVALUATION

For each lift station, RESPEC will review current and planned development, evaluate current and projected flow data, and determine pump capacity, wet-well volume, and emergency storage needed for each alternative. Extra care will be taken to identify factors that are specific to the hydraulic interdependence between the lift stations. We will also consider sizing for gravity and force mains, noting hydraulic and head conditions that limit or affect upgrades in place, and which might limit or indicate alternative site selection. Critical design parameters, particularly design flow and emergency response time, will be reassessed, as they directly influence emergency storage sizing, pipe sizing, and pump requirements in all proposed alternatives. We will update hydraulic models and flow projections to reflect current growth trends and zoning changes that could impact long-term sewer capacity needs.

TASK 3 SITE & ALIGNMENT EVALUATION

In addition to evaluating the existing Campion and Bomar sites, RESPEC will consider Berthoud's tight-knit culture and recent shift to growth and modernization as we identify and screen options for relocation and consolidation. Potential new sites will be scored based on hydraulic favorability, accessibility, time and cost to acquire ownership and easements, ability to relocate force and gravity mains, utility access, and impacts to traffic and public perception, zoning, and environmental impacts. We will also confirm and expand knowledge about existing sites to make appropriate comparisons for each alternative. For each alternative, we will determine what force or gravity main alignments will be needed and provide estimates of length and sizing, conceptual mapping, and identification of easements (current and future) and potential conflicts. We will also consider whether modifications to the Master Plan may serve to streamline the alternatives and solidify overall system reliability and efficiency, also utilizing anticipated development resources to support improvements.

TASK 4

CONCEPTUAL ALTERNATIVE DEVELOPMENT

The Lift Station Evaluation and Alternatives Analysis focuses on developing and comparing potential design solutions, culminating in selecting a preferred alternative. It is essential to develop a shared understanding of existing conditions and lift station challenges, ensuring that a path can be found toward a design that aligns with the Town's needs, priorities, and long-term goals. RESPEC will incorporate knowledge of the existing system and potential sites as well as considering future regional needs. RESPEC will develop and refine the requested design alternatives, building on the information gathered in Tasks 1 through 3. This process will evaluate proposed sites, assess the feasibility of converting pumped conveyance to gravity flow, and evaluate property and easement acquisition, zoning, site access, environmental and permitting impacts, and constructability. RESPEC will also evaluate the impacts of potential improvements on system pressure and pipe size requirements, assess pump technologies (including submersible and centrifugal pumps), and explore potential site layouts to meet storage requirements for an appropriate response time. A Draft Alternatives Workshop will allow the Town to review progress, offer input, and guide refinement before alternatives are finalized.

TASK 5

COST & RISK EVALUATION

For each alternative, RESPEC will conduct a qualitative risk analysis that considers redundancy, operational flexibility, failure consequences, and lifecycle maintenance concerns. We will prepare a Class IV planning-level cost estimate for each alternative, including site acquisition, construction, power, and O&M, outline lifecycle (20-year) costs, and discuss opportunities for future expansion, regionalization, or integration with nearby basins.

TASK 6

RECOMMENDATIONS & REPORTING

Once the alternatives analysis has been completed, RESPEC will submit a Draft Feasibility Study Report, which will summarize underlying assumptions, findings from the analysis, including outstanding risk, cost, or time concerns for each alternative, and provide a recommendation for the approach that will best serve the Town's goals and needs. The RESPEC team will present the draft to the Town for feedback and discussion, and the Town will have the opportunity to request additional detail on any aspect of the report. Notes from the review will be used to prepare the Final Report, including a breakdown of each alternative, cost tables, risk evaluation matrix, maps and draft layouts, and a detailed recommendation for next steps, including information on land acquisition process, tentative Capital Improvement Plan budget, proposed schedule, and preliminary design for the selected alternative.

The Final Report will be submitted with supporting documentation, including conceptual maps of sites and force mains, a risk evaluation matrix, a cost table, and a lifecycle assessment summary, presented to the Town Engineering and Utilities team, and offered or provided as a slide deck to the Board at the Town's discretion.

PROJECT SCHEDULE

The proposed project schedule, including key milestones and timelines, is included in **Appendix A**.

PROJECT TEAM

Brief biographies for our key personnel are provided below, with full resumes included in **Appendix B**. In addition to the individuals highlighted in this section, RESPEC's Colorado team is supported by 23 technical staff in Colorado whose expertise can be applied as needed to support the Town.

MARIO DIPASQUALE, PE | PRINCIPAL-IN-CHARGE

With more than 18 years of experience, Mario DiPasquale specializes in municipal water and wastewater engineering throughout Colorado. He has led the planning, design, and construction of a wide range of pump stations, booster stations, and water treatment systems for public agencies. Mario's technical strengths include hydraulic modeling, pump sizing, integration of operational controls, and the delivery of backup power systems. He is recognized for guiding system upgrades and new infrastructure projects from concept through completion, always focused on reliability, cost-effectiveness, and long-term operational success.

AMY PATTERSON, PE | PROJECT MANAGER

Amy Patterson is a professional civil engineer with more than 10 years of experience delivering municipal and industrial wastewater projects. She specializes in project management, technical documentation, and construction administration, with a focus on lift station rehabilitation and wastewater treatment plant improvements. Amy has managed and designed upgrades for multiple lift stations, including new pumps, valve vaults, forcemain redundancy, backup generators, and access improvements. Her experience includes overseeing project teams, coordinating with clients, and providing quality assurance/quality control on lift station and reclaimed water projects. Amy's strong

communication supports clear collaboration with both technical and non-technical stakeholders.

GWEN DALL, PE | TECHNICAL ADVISOR

Gwen Dall is a civil engineer with 15 years of experience in municipal water resources, specializing in the design and management of pumping stations, booster stations, water treatment systems, and distribution infrastructure. She is highly proficient in hydraulic modeling and water quality analysis, and has overseen projects from concept through construction, including permitting, bid and construction administration, and inspection. Gwen's experience includes managing upgrades and new construction for pump stations of varied capacities, integrating backup power, and ensuring regulatory compliance. Her project leadership and technical depth contribute to reliable, efficient solutions for municipal water system challenges.

CASEY HINKSON, PE | QA/QC

Casey Hinkson is a civil engineer with more than 9 years of experience delivering water and wastewater infrastructure projects from planning through construction. She has significant expertise in pump systems, including the design of lift stations, well pumps, and booster stations, as well as experience managing condition assessments, capacity analysis, and capital improvement planning for municipal systems. Casey's project management experience includes leading a master plan for 12 municipal lift stations and designing new lift stations for development projects. She is proficient in hydraulic modeling and 3D design and communicates technical information clearly to both clients and project teams.

RYAN MANGINO, PE | SR. PROJECT ENGINEER ADVISOR

Ryan Mangino is a civil engineer with more than 23 years of experience specializing in water and wastewater pumping, treatment, and distribution for public utilities. He has designed and overseen the construction of wastewater lift stations, including high-head and wet-well/dry-well facilities with redundant pumping, emergency storage, and backup power, as well as water booster stations, filtration plants, and large-scale transmission lines. Ryan's expertise covers every phase of project delivery, from system studies and permitting to on-site inspection and SCADA integration. His technical leadership supports reliable, efficient infrastructure for communities throughout Colorado.

HANNAH MABRY, EI, CWP | PROJECT ENGINEER

Hannah Mabry is a chemical engineer with 6 years of experience in water and wastewater operations, systems engineering, and process control. She brings practical knowledge in process controls, compliance monitoring, and water quality analysis. She holds Class B Water Treatment and Class C Wastewater Treatment licenses, spent 2 years operating the Town of Berthoud's water and wastewater facilities, and maintains an excellent rapport with the Town and contract staff. Hannah manages operational data, supports design and drafting, and develops alternatives to address utility needs. She also authors technical documentation with a focus on translating complex issues into actionable solutions for staff and clients.

JACK COSTELLO, EI | PROJECT ENGINEER

Jack Costello is an environmental consultant and engineer with more than 6 years of experience in wastewater system design, permitting, and infrastructure analysis. He has worked as a project engineer on new and existing wastewater treatment projects, including lift stations and utility reviews for water districts, managing alternatives analyses, permitting, and technical reporting from project inception through construction. Jack is skilled in process design, hydrogeological investigations, and system modeling using Civil3D and ArcGIS Pro. He emphasizes clear communication and values collaboration with system operators and owners to deliver practical, client-focused solutions that meet project goals and regulatory requirements.

JOHN HENDRICKS | CONTROLS DESIGNER

John Hendricks is a controls designer with over 16 years of experience in instrumentation, automation, and facility system integration for public and institutional clients. He has led the design, programming, installation, and commissioning of control systems for critical infrastructure, including HVAC, access control, security, and monitoring systems. John's experience includes developing operational sequences, selecting and configuring equipment, and coordinating with engineering teams to deliver reliable, maintainable solutions. His attention to system reliability, troubleshooting, and clear documentation supports smooth integration and long-term performance of controls for pump stations and other essential municipal facilities.

BRIAN HAYDEN, PE | LEAD ELECTRICAL ENGINEER

Brian Hayden will be the lead electrical engineer and designer of record on this project. He graduated in 2001 from Colorado School of Mines and has been in consulting engineering for more than 24 years. Lessons learned from those years of experience will be applied to this project for ease of constructability, limiting equipment lead times, while managing cost impacts. Brian serves as the region's electrical supervisor and leads his electrical department on various projects. This team has a wide range of design experience to support anything this project might encounter.

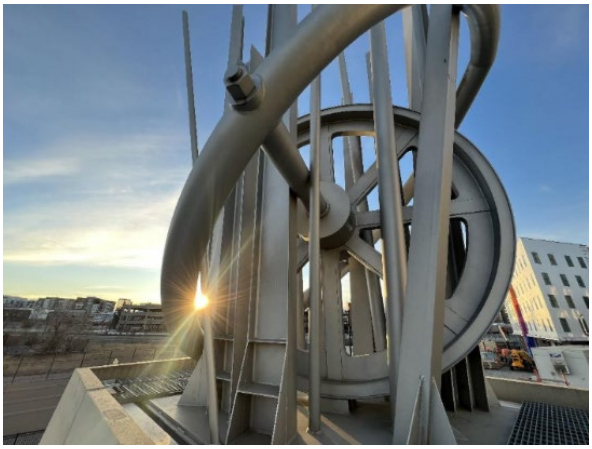
RELEVANT EXPERIENCE

RESPEC has completed more than 25 lift station projects over the years, which include condition assessments, master planning, consolidation, permitting, design, and rehabilitation, as well as new lift stations. We have selected three past lift station projects that demonstrate our broad background with lift stations and also demonstrate that RESPEC has continued to provide support for these facilities for many years.

CITY AND COUNTY OF DENVER (DEPARTMENT OF TRANSPORTATION AND INFRASTRUCTURE (DOTI)

CONDITION ASSESSMENT AND MASTER PLANNING OF ALL LIFT STATIONS IN THE CITY OF DENVER

Jun Meng, PE, CFM DOTI Engineer-Architect Specialist, 303.446.3654, jun.meng@denvergov.org



In 2023, RESPEC was awarded the contract to evaluate, assess the condition, and master plan all 13 lift stations within the City. Roughly half were sanitary lift stations, and the other half were stormwater lift stations. RESPEC's evaluations included a deep dive into every aspect of the facilities and associated forcemains, including structural evaluation, capacity, location, electrical systems, and comprehensive SCADA planning. The evaluations resulted in recommended improvements and upgrades that were prioritized for budgeting in the upcoming 6 years. The recommendations also included expanded operator staffing and improved capital outlay planning. Another major element was the development of a standard SCADA approach for all facilities where little or no operation, monitoring, and/or reporting previously existed. Two substantial lift stations were slated for full rehabilitation or reconstruction. Concept redevelopment plans for the two lift stations were included in the master plan.

RESPEC managed the base project under budget, so we were able to extend many additional services and begin addressing many of the pressing needs within the system. The evaluations also included providing much-needed operational and maintenance guidance, as well as planning for staff to complete many deferred maintenance issues in-house. This operational support function has been ongoing since the project's inception.

FINAL PLANNING AND DESIGN OF LIFT STATION 10

In 2025, RESPEC was subsequently awarded the contract for engineering services to begin the final planning and design of Lift Station 10. Lift Station 10 includes four pumping units, a main wet-well, backup power, and discharges to a dual 10-inch force main.

WIDEFIELD WATER AND SANITATION DISTRICT

JIMMY CAMP REGIONAL LIFT STATION AND FORCE MAIN

Rob Bannister, District Engineer, 719.201.2031, rob@wwsdonline.com

RESPEC designed this original lift station and force main to develop a new sanitary sewer basin and also consolidate several existing lift stations. The facility was master-planned with anticipated phased upgrades to both the station, capacity, and force main. The station eliminated four existing smaller facilities and also master-planned for the elimination of two more. Design included wet-well/dry-well, auxiliary storage, odor control, backup power, high-head *pump facilities, SCADA coordination, abandonment and cross-ties of four minor lift stations, and 7,500 linear feet of 12-inch PVC force main. The project consisted of providing all permitting through the Colorado Department of Public Health and Environment and local agencies, as well as full construction administration through completion and start-up.*

The project included cost allocation among five entities, as well as:

- Full SCADA systems integrated into the main SCADA at the treatment plant
- Below-grade wet-well, dry-well pump room, auxiliary storage basin/equalization basin
- Fully redundant high-head pumping systems

- 2-mile, 12-inch force main system designed to be paralleled in the future
- Above-grade masonry building, including stucco over decorative block exterior
- Odor-control system using Bi-oxide feed equipment for wet-well application
- Full backup power generation via an on-site diesel generator and Automatic Transfer Switch
- Installation of Class 1, Division 1 electrical and mechanical equipment

FORCE MAIN AND LIFT STATION UPGRADES

RESPEC has also continued to provide facility support, and the original engineers are still at RESPEC to provide support. Upgrades have generally all been master-planned upgrades as the facility service area is rapidly building out. RESPEC is currently providing Phase Three lift Station Upgrades and force main expansions.

MERIDIAN SERVICE METROPOLITAN DISTRICT

DUAL HIGH-HEAD WASTEWATER LIFTSTATION WITH HEADWORKS

Lawrence Grahem, 719.495.7444, lawrence@meridianranch.com

The 5.0 MGD lift station and equalization basin is a unique lift station that includes two lift stations in one that receives co-mingled wastewater from two separate districts, reallocates flow allowance, and pumps/meters separately to two different wastewater treatment plants. The facility includes primary treatment of screening and grit removal. Portions of Meridian Service Metropolitan District wastewater are pumped 6 miles at low head conditions through a 16-inch force main and at high-head, 2 miles to the Woodmen Hills Metropolitan District. RESPEC was initially hired to redesign an existing lift station design to incorporate the second pumping facility and change many of the components of the original design. The client continued with RESPEC to oversee construction of the facility, and we have continued to support minor upgrades within the facility as well as provide operational guidance. **The facility features:**

- Below-grade headworks with full screening (two-story, 6 mm bar screen) and de-gritting
- Below-grade wet well, pump room, emergency storage basin, and equalization basin
- Flow metering from two different collection entities, and distributes wastewater accordingly to the different treatment plants
- Two sets of redundant pumping systems, conveying wastewater to two separate treatment facilities
- SCADA Design of the operating system to manage the headworks, equalization facilities, different incoming flows, and meters for effluent allocations to different plants
- Above-grade masonry building that contains grit classification, upper portion of screen with washer-compactor, bathroom, electrical room, and future blower room
- Odor-control system using ozone-generating equipment for both classified and unclassified areas of the lift station
- Full backup power generation via an on-site diesel generator and an Automatic Transfer Switch
- Installation of Class 1, Division 1 electrical and mechanical equipment

FOLLOW-UP FORCE MAIN AND LIFT STATION UPGRADES

RESPEC has also continued to provide facility support, and the original engineer at RESPEC is continuing to provide minor upgrade support and is currently providing force main upgrades on the lower 16-inch force main.

FEE PROPOSAL

Our fee, including a detailed breakdown of costs, is included in **Appendix C**.

ADDENDA & EXCEPTIONS

RESPEC acknowledges receipt of Addendum No. 1 issued on December 2, 2025.

RESPEC has no deviations or exceptions to the scope of services or requirements.

TOWN-PROVIDED INFORMATION NEEDS

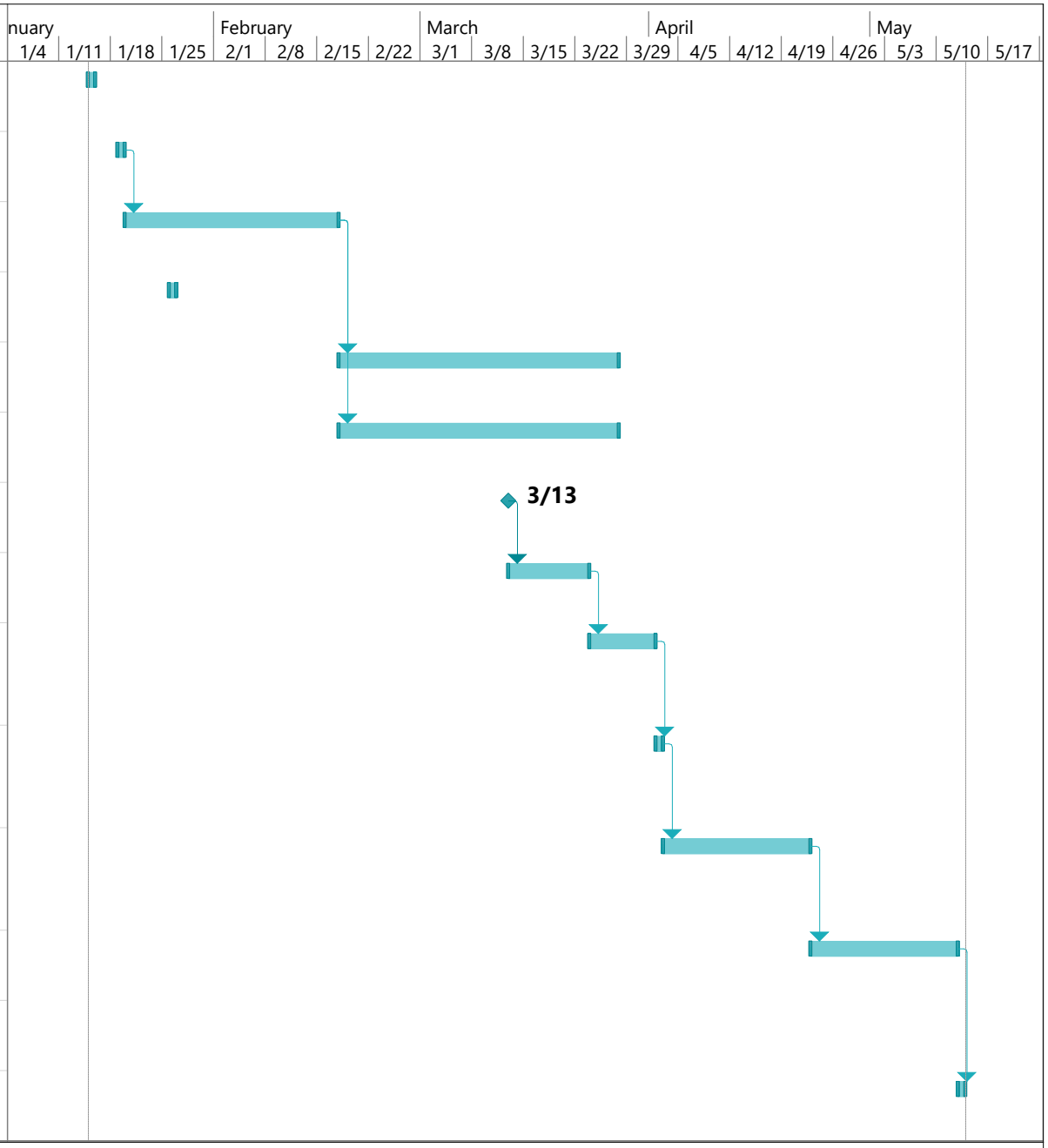
RESPEC requests that the Town provide the following materials to support the alternatives analysis:

- 2022 Wastewater Master Plan, service area map (GIS shapefiles preferred)
- As-built records for both lift stations and the collection system, including surveys, easement agreements/property records
- Controls system information
- O&M records, including any upgrades or changes to existing equipment and known issues from operations staff
- SCADA trends, flow data from the last 3 years.
- Equipment failure/sewer backup incident reports, main break reports relevant to determine collection system health
- In-progress and planned development in the service area
- Details for the property under consideration for relocation screening

APPENDIX A.

PROJECT SCHEDULE

ID	Task Name	Duration	Start	Finish
1	NTP	1 day	1/15/2026	1/15/2026
2	Project kickoff meeting	1 day	1/19/2026	1/19/2026
3	Data review	21 days	1/20/2026	2/17/2026
4	Site visit	1 day	1/26/2026	1/26/2026
5	Site screening	28 days	2/18/2026	3/27/2026
6	Hydraulic evaluation	28 days	2/18/2026	3/27/2026
7	Identify potential sites	0 days	3/13/2026	3/13/2026
8	Evaluate FM alignments	7 days	3/13/2026	3/23/2026
9	Identify Easement Requirements	7 days	3/24/2026	4/1/2026
10	Draft Alternatives Workshop	1 day	4/2/2026	4/2/2026
11	Incorporate Workshop into Report	14 days	4/3/2026	4/22/2026
12	Draft Report	14 days	4/23/2026	5/12/2026
13	Present Draft Report	1 day	5/6/2026	5/6/2026
14	Finalize Report	1 day	5/13/2026	5/13/2026



Project: Berthoud LS Eval

Manual Task	Start-only	Deadline	
Duration-only	Finish-only	Progress	
Manual Summary Rollup	External Tasks	Manual Progress	
Manual Summary	External Milestone		

APPENDIX B.

RÉSUMÉS

MARIO L. DIPASQUALE, PE

PRINCIPAL-IN-CHARGE

OVERVIEW

Mario DiPasquale is a senior civil engineer with over 18 years of experience supporting Colorado municipalities with complex water and wastewater infrastructure needs. He specializes in the planning, design, and construction of municipal pump stations, booster stations, and water treatment systems. Mario brings a practical approach to aging infrastructure and operational challenges, with technical strengths in hydraulic modeling, pump station upgrades, and systems integration to help public agencies make effective decisions.

PROJECT EXPERIENCE

Triview B-Plant Booster Pump Station Addition, Triview Metropolitan District, Monument, Colorado. Mario was the project manager for the Triview B-Plant Booster Pump Station Addition, which included design and construction management services. The project scope included evaluating the existing water system hydraulics, system modeling, sizing of pumping systems for maximum day demands (MDD) and fire flows, designing the building structure and foundation, and designing the connection to existing pipeline and operational controls. Construction management included performing all bidding services, review of contractor shop drawings, and on-site observation.

Sanctuary Pointe Tank and Booster Pump Station, Triview Metropolitan District, Monument, Colorado. Mario was the project manager for master planning the Sanctuary Pointe Tank and Booster Pump Station Zone Expansion for the Triview Metropolitan District. The project scope included the design of a 1.1-million-gallon American Water Works Association (AWWA) D110 Type III Pre-Stressed concrete storage tank and 500-gallon-per-minute (gpm) booster pump station. This work also included Colorado Department of Public Health and Environment (CDPHE) drinking water approvals, modeling of water system hydraulics, sizing of pumping and storage systems for MDD and fire flows, design of building structure and foundation, and operational controls.

Booster #2 Pump Station Replacement, Widefield Water and Sanitation District, El Paso County, Colorado. Mario was the project manager for the planning, hydraulic modeling, designing, and permitting of the Booster #2 Pumping Station replacement. The new pump station is master planned for a 10-million-gallon-per-day (MGD) pumping system with controls, backup power, site development, yard piping, and superstructure. This project is to be constructed in 2022.

Northern Regional Water Delivery Project, Triview Metropolitan District, Monument, Colorado. Mario was the project manager for this project that evaluated four Northern El Paso County water systems for delivering renewable water resources. This project included outlined phases, evaluation of individual entity hydraulic delivery components, a full pipeline routing study with alternatives, pumping and storage facilities planning, pipeline system hydraulics, sizing for a 24-inch water main, County 1041 planning and permitting, easements, an environmental assessment, and cost estimates.

Southmoor Per- and Polyfluoroalkyl Substances (PFAS) Water Treatment Plant, Widefield Water and Sanitation District, El Paso County, Colorado. Mario was the project manager for the 3.0 MGD Southmoor PFAS Water Treatment Plant. Duties included the permitting, design, and construction administration for the first full-scale Ion Exchange (IX) water filtration system in the United States to remove of perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) for municipal drinking water. The project included local planning, CDPHE drinking water approvals, hydraulic modeling, design of pumps, piping, filter vessel sizing, backwash system, and review of disinfection system.

TECHNICAL EXPERTISE

- Project Management
- Master Planning
- Water Treatment
- Hydraulic Modeling
- Lift Station and Pumping System Design
- Transmission and Distribution System Design
- Sanitary Sewer Collection Design
- Water Facility Storage Design
- Deep Well and Alluvial Well Design

EDUCATION

- BS in Civil Engineering, South Dakota School of Mines & Technology, Rapid City, SD (2002)

REGISTRATIONS & LICENSES

- Professional Engineer, CO (41667)
- Professional Engineer, WY (13687)

PROFESSIONAL MEMBERSHIPS

- American Water Works Association (AWWA)
- American Society of Civil Engineers (ASCE)
- American Council of Engineering Companies (ACEC)

WORK HISTORY

- RESPEC (2021–Present)
- JDS-Hydro Consultants (2005–2021)*
- Billmayer Engineering (2003–2005)

**RESPEC acquired JDS-Hydro Consultants in 2021.*

Fontaine Water Treatment Plant, Widefield Water and Sanitation District, El Paso County, Colorado. Mario was the project manager for the Fontaine PFAS Water Treatment Plant that included the design of a 500-gpm IX water filtration system to remove PFOA and PFOS for municipal drinking water. This project included hydraulic modeling, sizing for filter vessels, re-piping configuration for the existing plant, and review of existing disinfection process.

PFAS Drinking Water Pilot Study, Widefield Water and Sanitation District, El Paso County, Colorado. Mario was the project manager for the pilot study to remove PFOA and PFOS with Granular Activated Carbon (GAC) and IX from groundwater contaminated with perflourinated compounds. The project study objectives were to evaluate the effectiveness for removal of PFOA, PFOS, perfluoroheptanoic acid (PFHpA), perfluorononanoic acid (PFNA), perfluorobutyrate (PFBA), and perfluorohexane sulfonate (PFHxS) with select IX resins and GAC. This study also evaluated nitrate roll-off potential, long-term operational considerations, and costs estimates.

Jimmy Camp Well Field Re-Drill, Widefield Water and Sanitation District, El Paso County, Colorado. Mario was the project manager for the re-drill of two alluvial groundwater wells for the Widefield Water and Sanitation District. Improvements included planning, permitting, engineering design, and construction support for the re-drilling of the JHW#2 and C#2 high-capacity alluvial wells. Additional improvement included the design and CDPHE permitting of the disinfection system for potable drinking water.

Lower West to East 24-Inch Transmission Pipeline Project, Widefield Water and Sanitation District, El Paso County, Colorado. Mario was the project manager for the design of the Widefield Lower West to East Transmission Pipeline project. This work included the completion of planning, permitting, engineering design, and construction support of Phases 1, 2, 3, and 4. The project consisted designing an approximately 7,500 lineal feet of a 24-inch transmission main through established residential areas, well isolation to centralized treatment plants, 40-inch steel casing bore across a state highway, and two railroad rights-of-way.

Well #1 Re-Drill, City of Fountain, Fountain, Colorado. Mario was the project manager for the re-drill of an alluvial groundwater well for the City of Fountain. Improvements included planning, permitting, engineering design, drilling evaluation, pump testing, pump selection and construction support for re-drilling of the City of Fountain's Well #1.

AMY M. PATTERSON, PE

PROJECT MANAGER

OVERVIEW

Amy Patterson is a professional civil engineer with more than 10 years of experience managing municipal wastewater and lift station projects. She has led the rehabilitation and design of multiple municipal lift stations, pump upgrades, and facility improvements, overseeing project teams from planning through construction. Amy brings a strong focus on technical documentation, quality assurance, and client collaboration, ensuring that project goals are met efficiently and effectively. Her background includes work on complex wastewater systems, regulatory compliance, and communicating technical solutions to both municipal clients and operators.

TECHNICAL EXPERTISE

- Wastewater Treatment Design
- Lift Station and Pumping Design
- Sanitary Sewer Pipe Rehabilitation
- Project Management
- Quality Assurance and Control

EDUCATION

- BS in Civil Engineering, University of Colorado, Boulder, CO (2013)

REGISTRATIONS & LICENSES

- Professional Engineer in Minnesota (55243) and Colorado (64799)

PROFESSIONAL MEMBERSHIPS

- Central States Water Environmental Association (CSWEA) (2014–Current)
- American Society of Civil Engineers
- Rocky Mountain Water Environment Association

CERTIFICATIONS & TRAINING

- A/E/C Project Management Bootcamp, PSMJ Resources, Inc. (2017)

WORK HISTORY

- RESPEC (2024–Present)
- TKDA (2013–2024)
- Gardiner & Theobald (2011)

PROJECT EXPERIENCE

Red Rock North and Energy Park Lift Stations Rehabilitation, City of Saint Paul, Saint Paul, Minnesota. Amy managed the design for rehabilitating the Red Rock North lift station and the Energy Park lift station. The design included all new pumps and valves, new and rehabilitated valve vaults, new meter structures, and site paving.

Red Rock South and Eustis Lift Stations Rehabilitation, City of Saint Paul, Saint Paul, Minnesota. Amy designed and managed the rehabilitation of the Red Rock South and Como Eustis lift stations. Design included new pumps and valves, new valve vaults, new meter structures, a new access structure for future forcemain redundancy or bypass, new backup generators, and site paving. She provided construction administration, coordination, and construction observation.

Sherman Street Lift Station Rehabilitation, City of Saint Paul, Saint Paul, Minnesota. Amy worked on the design for the rehabilitation of the lift station, including all new pumps and valves, a new valve vault, a new access structure, new backup generators, a driveway, plantings, and a new dual forcemain for redundancy that ran under railroad tracks and through a storm tunnel up the sandstone bluffs, provided construction administration, coordination, and construction observation.

Engineering Services, Metropolitan Council of Environmental Services (MCES), Saint Paul, Minnesota. Amy managed and developed standard details for the interceptor, lift station, and maintenance hole rehabilitation and design.

Glycol Improvements, Metropolitan Airport Commission, Saint Paul, Minnesota. Amy designed Glycol Lift Stations and valve vaults for recovering glycol from the deicing pads and the Minneapolis-Saint Paul International Airport.

Trilby 6M Gallon Tank, Fort Collins Loveland Water District, Fort Collins, Colorado. Amy worked on the design of the tank control building, coordinating between disciplines, and providing review of the civil design drawings and specifications. The project is currently under construction.

Brush! RO Treatment Plant, City of Brush, Brush, Colorado. Amy is managing a project to design and build a new Reverse Osmosis Treatment Plant for the City of Brush. Design includes a new building, new RO treatment skid, greensand filters, chlorine generation, a production well, septic field, piping and a deep well for brine disposal. The project is in design and we are preparing the PNA to help fund the construction.

Brush! Dewatering Facility, City of Brush, Brush, Colorado. Amy is managing a project to design and build a new Dewatering Building for the City of Brush Wastewater Treatment Plant. Design includes a new building, new dewatering press, tanks, and piping. The project is in design and we are preparing a site application.

Town of Hillrose General Permits, Town of Hillrose, Hillrose, Colorado. Amy is managing a project in response to the general permits issued by the state for the wastewater treatment. The permits include requirements for a lagoon liner study, an I&I study, and general discharge requirements.

Metropolitan Wastewater Treatment Plant Improvements, MCES, Saint Paul, Minnesota. Amy managed a multidisciplinary, multimillion-dollar project, including cooling towers, site and street improvements, tank and channel rehabilitation, watermain abandonment and installation, keyed pedestrian entrances, parking lot improvements, storage pad rehabilitation and regrading, prestressed concrete cylinder pipe forcemain inspection, and Stormwater Pollution Prevention Plan (SWPPP) preparation.

Metropolitan Wastewater Treatment Plant Flood Access, MCES, Saint Paul, Minnesota. Amy managed and worked on updating plans required for a temporary road and traffic control used to access the plant in the event of flooding. She also assisted with the permit application.

Metropolitan Wastewater Treatment Plant East Pretreatment and Dissolved Air Flotation Improvements, MCES, Saint Paul, Minnesota. Amy worked on the design of the rehabilitation of bar screens, DAF units, HVAC, and miscellaneous site improvements at the Metropolitan plant and provided construction administration and coordination.

Metropolitan Wastewater Treatment Plant Dissolved Air Flotation Fire Rehabilitation, MCES, Saint Paul, Minnesota. Amy worked on the design and provided construction administration and coordination for repairs because of fire damage, including roof inspection and replacement, cleaning, and electrical inspection and replacement.

Metropolitan Wastewater Treatment Plant Services Building Planning, MCES, Saint Paul, Minnesota. Amy worked on the preliminary site design for updated parking and entrances associated with moving more than 100 staff to the wastewater treatment plant and having a public meeting room.

Crow River Future Treatment Plant Planning, MCES, Rogers, Minnesota. Amy managed the project and developed options for routes between the existing Rogers treatment plant and the future MCES Crow River treatment plant.

Scott County Future Treatment Plant Planning, MCES, Louisville Township, Minnesota. Amy managed the project and provided planning for the future treatment plant, including site layout, treatment process, and outfall routing.

Luverne Wastewater Treatment Plant Expansion, City of Luverne, Luverne, Minnesota. Amy was the lead designer for all site piping, splitter box, site grading and development, and SWPPP preparation for wastewater treatment plant expansion and assisted with process design.

Roseville Interceptor Improvements, MCES, Roseville, Minnesota. Amy managed and worked on multiple large-diameter pipe rehabilitation projects for cast-in-place-pipe rehabilitation, maintenance hole rehabilitation with both spray coatings and fiber-reinforced plastic inserts, meter replacement, utility replacement and coordination, and restoration in undeveloped and highly developed areas.

1-MN-320 Emergency Sewer Repair, MCES, Minneapolis, Minnesota. Amy worked on an emergency sewer repair design for a sewer collapse.

Western Lake Superior Sanitary District Pipe Rehabilitation, Western Lake Superior Sanitary District, Duluth, Minnesota. Amy designed cast-in-place-pipe rehabilitation and sanitary sewer bypass systems for four interceptors and provided construction administration.

Engineering Services, White Bear Township, White Bear, Minnesota. Amy assisted with utility and street design in conjunction with street rehabilitation and development, including water, storm, and sanitary and SWPPP preparation for multiple projects.

Campground Loop Upgrades, Washington County, Lake Elmo, Minnesota. Amy designed camper trailer hooks up in campgrounds for water, electricity and sanitary services, and drain fields.

Site Improvements, Amtrak, BNSF, and NS, Multiple, Minnesota, Montana, Washington, California, New Mexico, Pennsylvania, and North Carolina. Amy designed site utilities for multiple sites, including water service, sanitary service, sanitary sewers and maintenance holes, sanitary lift stations, industrial waste sewers, industrial waste maintenance holes, industrial waste lift stations, and industrial waste oil-water separators.

Belen Fueling Facility, UPPR, Belen, New Mexico. Amy worked on the design of an industrial waste treatment facility, which included a bar screen, grit chamber, oil-water separator, and dissolved air flotation unit. Site work included industrial waste storage tanks, sanitary sewer, evaporation ponds, and pumping stations.

GWEN J. DALL, PE

TECHNICAL ADVISOR

OVERVIEW

Gwen Dall is a civil engineer with 15 years of experience delivering municipal water and pumping system projects, including the planning, design, and construction of booster pump stations and water treatment facilities. She specializes in hydraulic modeling, water quality analysis, and all phases of municipal infrastructure delivery, from permitting through construction administration. Gwen has supported numerous Colorado communities with pump station upgrades, system capacity assessments, and regulatory compliance. Her collaborative approach and technical depth help ensure reliable and efficient solutions for clients facing complex water and wastewater system challenges.

PROJECT EXPERIENCE

Rolling Hills Booster Pump Station, Widefield Water and Sanitation District, Colorado Springs, Colorado. Gwen was the Project Engineer/Manager for designing a 4,800 gpm, 1,707-square-foot pump station that replaces the initial station installed as part of the Veterans Affairs (VA) Pikes Peak National Cemetery (PPNC) project. Work included modeling, El Paso County permitting, CDPHE permitting for chlorine boosting, landscaping, and bid and construction administration and observation.

Rampart Range Road (3R) Booster Pump Station, City of Woodland Park, Woodland Park, Colorado. Gwen was the Project Engineer/Manager responsible for an 800-gallon-per-minute (gpm), 335-square-foot pump station. Her work on the project included concept design, construction administration and observation, consideration of nearby 2.45-million-gallon (MG) tank foundation, backup power generation, coordination with the Colorado Department of Public Health and Environment (CDPHE) to comply with requirements outlined in the Disinfection Outreach Verification Effort (DOVE) notice received, updating the Record of Approved Waterworks, and chlorine contact calculations.

Trails at Aspen Ridge Booster Pump Station, Widefield Water and Sanitation District, Colorado Springs, Colorado. Gwen was the Project Engineer/Manager for designing a 1,351-square-foot pump station with a flowrate from 20 to 3,500 gpm. Work included modeling, easement acquisition, bid and construction administration, and observation.

Phase II Regional Water Improvements, Forest Lakes Metropolitan District, Monument, Colorado. Gwen was the Design Engineer and Project Manager for the planning, permitting, and designing of a 300 gpm booster pump station, 0.26 MG Bolted Steel Potable Storage Tank, and sizing of interconnecting zone piping. The design also included hydraulic modeling for upper pressure zone creation and expansion, as well as water age/chlorine residual degradation modeling for the new zone, especially in the early development stages. Permitting included El Paso County permitting approvals, 1041 Exemption, and CDPHE approvals. Gwen also completed the bid and construction administration for the project.

Sunnywood Booster Pump Station Upgrade, City of Woodland Park, Woodland Park, Colorado. Gwen was the Design Engineer and Project Manager for the planning, design, and hydraulic modeling of the direct feed Sunnywood Pump Station. Upgrades included backup power, relocation of controls and electric above grade, pump and motor replacement, pressure relief, coordination of single-phase utility power and three-phase generator power, and sequencing of construction to keep the pump station in operation throughout reconstruction activities. Gwen also completed the bid and construction administration for the project.

Booster Pump Station, Forest View Acres Water District, Monument, Colorado. Gwen was the Project Engineer for a 130 gpm booster pump station. On-site observation and construction coordination

TECHNICAL EXPERTISE

- Project Management
- Bentley WaterCAD
- Innovyze InfoWater
- Water Master Planning
- Pump Station Design
- Transmission and Distribution System Design
- Water Treatment

EDUCATION

- BS in Engineering Science (Environmental Engineering), Colorado State University, Fort Collins, CO (1999)
- ASCE Courses: Drinking Water Treatment Technology, Fundamentals of Water Treatment Processes: Physical, Chemical and Biological, Planning for Water Treatment Plant Design, Surface Water Treatment Plant Design
- Stagen Foundational Leadership Course

REGISTRATIONS & LICENSES

- Professional Engineer in Colorado
- Professional Engineer in Florida

PROFESSIONAL MEMBERSHIPS

- American Society of Civil Engineers
- American Water Works Association, Rocky Mountain Section

WORK HISTORY

- RESPEC (2021–Present)
- JDS-Hydro Consultants (2015–2021)*
- Pipeline Strategies and Integrity (2010–2015)
- Applied Hydrology Associates (1999–2000)

**RESPEC acquired JDS-Hydro Consultants in 2021.*

included constructing a 390-square-foot building, field piping connections, existing booster station demolition, landscape and revegetation, and managing multiple subcontractors.

VA PPNC Water Delivery System, Widefield Water and Sanitation District, El Paso County, Colorado. Gwen was the Project Engineer/Manager for this project, which included routing, planning, permitting, design, and bidding of approximately 3.5 miles of 16-inch through 10-inch potable water delivery system; two booster pump stations, and an interim storage tank. The pipeline route crossed under Bradley Road and over the Colorado Springs Utilities' 66-inch diameter Southern Delivery System raw water transmission line. The project included hydraulic and water quality-water age modeling, county permitting approvals, crossing agreements, 1041 Exemption, coordination with affected entities, including developers, VA engineering staff, and property owners for easements.

Northern Delivery System, Triview Metropolitan District, Monument, Colorado. Gwen was the assistant project manager/project engineer responsible for the design of a 4-million-gallon-per-day regional water delivery system that includes 4.5 miles of 16-inch-diameter pipeline and a booster pump station. Gwen was on the team that completed routing, concept planning, and public outreach. She completed the 1041 permitting, assisted with easement acquisition, and coordinated with affected entities, including Colorado Springs Utilities and the El Paso County Department of Public Works. She performed construction inspection, submittal review, and startup coordination.

2 MG Concrete Potable Water Storage Tank, Widefield Water and Sanitation District, Colorado Springs, Colorado. Gwen was the Project Engineer/Manager for design, including tank sizing, site design, El Paso County 1041, and Site Development planning and approval processes. The project included easement acquisition, CDPHE permitting, grading and drainage design, access and service road design, passive mixing system, solar-powered irrigation system considerations, bid and construction administration, and observation.

Rolling Hills Tank Inlet Pipeline, Widefield Water and Sanitation District, Colorado Springs, Colorado. Gwen was the Project Engineer/Manager for the design, permitting, and construction administration of roughly 4,900 linear feet (LF) of 24-inch-diameter potable water pipeline. The alignment crossed Tri-State and Mountain View Electric Association's major powerlines and a 4-inch high-pressure natural gas main. The project included easement acquisition, 1041 permitting, and El Paso County planning approval.

Water Master Plan, City of Gunnison, Gunnison, Colorado. Gwen was the Project Engineer/Assistant Manager for the master plan, which included a review of current water demands and existing sources of supply, evaluation of the adequacy and condition of current water infrastructure, projection of future demands, and recommendations for meeting the needs of future growth and new regulatory requirements. The project included defining user characteristics based on water records, evaluating risk factors and trigger events, creating and calibrating a water model using InfoWater, Capital Improvement Planning, and presenting it to the City Council.

DOVE Compliance Upgrades, Forest View Acres Water District, Monument, Colorado. Gwen was the Design Engineer/Manager for relocation of the entry point chlorine residual monitoring tap for the direct filtration surface water treatment plant to downstream of the existing chlorine contact pipe to comply with requirements outlined in the DOVE notice received. The project included coordination with the CDPHE, updating the Record of Approved Waterworks, chlorine contact calculations, and significant field construction coordination because of the difficulty in locating the existing plant inlet and outlet lines.

Western Water Line Phase 2, Triview Metropolitan District, Monument, Colorado. Gwen was the Project Manager for the routing, planning, permitting, and design, which included a 12-inch transmission line with a 900-foot directional bore, interface with endangered species habitat, and paralleling of Tri-State major power lines. The project included hydraulic modeling, county permitting approvals, 1041 Exemption, and coordination with affected entities, including developers, Tri-State, and property owners for easements.

Water Treatment Plant, High Mountain Institute, Leadville, Colorado. Gwen was the Project Engineer/Manager for the treatment plan design, which included chemical feed for corrosion control and disinfection, internal layout for a 150-square-foot plant, roughly 160 LF of 10-inch chlorine contact pipe, and field piping for the existing water source. CDPHE permitting for a new community water system and on-site construction observation was also required.

CASEY R. HINKSON, PE

QUALITY ASSURANCE/QUALITY CONTROL

OVERVIEW

Casey Hinkson is a civil engineer with more than nine years of experience planning, designing, and assessing water and wastewater infrastructure for municipal clients. She has specialized expertise in lift stations and has supported a variety of assessment and planning projects, including master plans, alternatives analyses, hydraulic analyses and capacity assessments, and inflow and infiltration studies. She is skilled in technical writing and is known for her organization and ability to review technical reports for clarity, consistency, and technical accuracy.

PROJECT EXPERIENCE

Lift Station Master Plan, City and County of Denver Department of Transportation and Infrastructure, Denver, Colorado. Casey served as the project manager for the City and County of Denver's Lift Station Master Plan, which evaluated 12 lift stations (7 stormwater and 5 sanitary). The effort included condition assessments, capacity analysis, regulatory compliance review, SCADA integration feasibility analysis, project identification, conceptual design development, cost estimating, and capital improvement planning. The plan identified 25 capital projects over an 8-year period with a total estimated cost of $44 million. Proposed improvements were aimed at addressing deficiencies identified during the assessment and analysis phases and ranged from targeted repairs to full lift station replacements.

Jimmy Camp Lift Station Expansion, Widefield Water and Sanitation District. Casey served as the technical lead for an alternatives analysis project evaluating expansion options for the Jimmy Camp Lift Station. The project included development of a phased implementation timeline and assessment of multiple alternatives addressing wet well and emergency storage capacity, pump capacity, and alternate force main routes and sizes. Alternatives were evaluated based on capital and O&M costs, footprint, phasing potential, constructability, and impacts to surrounding communities.

Coffey Place Housing Development Lift Station, Town of Snowmass Village Housing Department, Snowmass Village, Colorado. Casey was the design engineer for a new lift station for a housing development project in Snowmass Village. The project involved hydraulic analysis, pump design, forced main design, wet well and lift station enclosure design, instrumentation and controls, and construction drawings.

Wastewater Alternatives Analysis, City of Victor, Victor, Colorado. Casey was the design engineer for a wastewater treatment alternatives analysis for the City of Victor's 0.16 MGD wastewater treatment plant. The purpose of the project was to address current nitrogen effluent violations, as well as to prepare for anticipated future nutrient removal requirements. In addition to the alternatives analysis report, the project included a stream study for Wilson Creek, demonstrating that the year-round flow in the creek provided sufficient dilution to justify a lower nitrogen effluent limit. Alternatives considered included expansion and retrofit of the existing activated sludge treatment plant, SBR package system, Aero-Mod package system, and integrated fixed film activated sludge package system. All alternatives included extensive headworks improvements and the addition of aerated digesters. The project involved conceptual drawings, process design, cost estimating, stream study and dilution analysis, and report preparation.

Drinking Water Treatment Improvements Alternatives Analysis and Preliminary Engineering Report, Town of Mancos, Mancos, Colorado. Casey was an engineering consultant for an alternatives analysis and conceptual design of water treatment improvements for the Town of Mancos. The design included

TECHNICAL EXPERTISE

- Wastewater Treatment
- Wastewater Collection and Pumping
- Water Treatment
- Water Storage and Pumping
- Water Delivery and Distribution
- Client Needs Analysis
- Condition and Capacity Assessment
- Master Planning
- CDPHE Permitting
- Cost Estimating
- Construction Administration
- Microsoft Suite
- AutoCAD Civil 3D and Plant 3D
- Visual Basic for Application (VBA)

EDUCATION

- BS in Civil Engineering, United States Military Academy, West Point, NY (2010)
- Master of Business Administration, Webster University, St. Louis, MO (2015)

REGISTRATIONS & LICENSES

- Professional Engineer in CO (No. 0055807)

WORK HISTORY

- RESPEC (2023–Present)
- SGM (2016–2023)
- U.S. Army (2010–2015)

storage tank replacement, disinfection analysis and recommendations, capacity analysis, chlorine metering and storage equipment replacement, and security improvements. Alternatives assessed included steel vs. concrete storage tank and disinfection contact time via pipe loop, contact basin, or storage tank.

Water Storage Tank and Pump Station Replacement, City of Salida, Salida, Colorado. Casey was a design engineer for replacing the 600- gallon-per-minute (GPM)GPM Pasquale Springs pump station and storage tank for the City of Salida. The project aimed to increase the production capacity of Pasquale Spring to match the City's full water right allotment to reduce reliance on other, lower-quality sources, which cost more to treat. The design was constrained by a limited footprint, and the entire site was inside the floodplain of the Arkansas River, with the buried tank partially below the water table. The design included the replacement of existing pumps with higher capacity pumps, demolishing the existing buried tank, constructing a larger buried concrete tank, and relocating and improving the chlorine gas disinfection building. The project involved hydraulic analysis, CDPHE permitting, pump design, design of pump station building, field piping design, and design drawings.

Wastewater Capital Improvements Plan, Town of Silverton, Silverton, Colorado. Casey was a design engineer for a wastewater collection and treatment system analysis and improvement plan for the Town of Silverton. The project involved infrastructure assessment, I&I analysis, collection system repair and improvement recommendations, demographic analysis and flow/loading projection, capacity analysis, rate study, and report preparation.

Wastewater Infrastructure Assessment, Town of Gypsum, Gypsum, Colorado. Casey was a design engineer for the wastewater collection and treatment system analysis for the Town of Gypsum. The project involved collection system flow monitoring and data analysis, demographic analysis and flow/loading projection, capacity analysis, recommendations for capacity expansion and advanced nutrient removal improvements, and report preparation.

I&I Study and Remediation Plan, City of Creede, Creede, Colorado. Casey was a design engineer for the City of Creede's wastewater collection system analysis and improvement plan. The project was part of a larger series of investigation and improvement projects intended to address CDPHE compliance schedules for I&I reduction and the removal of zinc and selenium in effluent and prepare for anticipated future nutrient removal requirements. The project involved infrastructure assessment, I&I analysis, phased replacement recommendations for 8,345 linear feet of sewer pipe, report preparation, and grant application preparation.

Water and Wastewater Master Plan, Town of Moffat, Moffat, Colorado. Casey was a design engineer for a water and wastewater infrastructure master plan for the Town of Moffat. The Town did not have a centralized water or wastewater treatment system. Its residents instead received their water and wastewater services through shared neighborhood wells and on-site septic systems. The purpose of the project was to investigate options and costs for establishing organized Town water and wastewater systems, which were becoming increasingly necessary due to recent growth, driven partly by the Area 420 development, and scrutiny from CDPHE. The master plan included a package SBR wastewater treatment plant, 38,184 linear feet of sewer pipe, five lift stations, disinfection systems for four wells, an elevated water storage tank, and 6,535 linear feet of water distribution pipe. The project involved conceptual design, site planning, conceptual drawings, cost estimating, and report preparation.

Water Treatment Facility Improvements and Tank Rehabilitation, Town of Silverton, Silverton, Colorado. Casey was a design engineer for the improvement of a 500 GPM package sand filtration water treatment facility for the Town of Silverton. Improvements included a new backwash pump station, chlorine residual sampling point relocation, and tank repair and re-coating. The project involved disinfection contact time analysis, CDPHE permitting, pump design, design of pump station building, field piping design, and complete construction documents.

Feasibility Analysis, JB Double Bar "Glamping" Campground, Eagle County, Colorado. Casey was an engineering consultant for a feasibility analysis of a luxury campground in Eagle County. The proposed development included dedicated drinking water and wastewater treatment plants and collection and distribution systems. Casey provided a conceptual-level cost estimate for the project's water/wastewater treatment plant scope.

RYAN M. MANGINO, PE

SR. PROJECT ENGINEER ADVISOR

OVERVIEW

Ryan Mangino is a civil engineer with more than 23 years of experience in the planning, design, and construction of municipal water and wastewater infrastructure. He has extensive background in wastewater lift station replacement and high-head pump station projects, as well as treatment facility upgrades and system studies for public utilities. Ryan's expertise includes all phases of project delivery: permitting, hydraulic modeling, SCADA integration, and construction administration. He focuses on delivering reliable, cost-effective solutions that address operational challenges and improve system performance for communities throughout Colorado.

PROJECT EXPERIENCE

Dual, High-Head Wastewater Lift Station With Headworks, Meridian Service Metropolitan District, Falcon, Colorado. Ryan was the project engineer/on-site engineer for a dual, high-head wastewater pump station with headworks equipment for the Meridian Service Metropolitan District (with Woodmen Hills Metropolitan District represented at the same facility). The project included redesign and re-permitting of an original design incorporating wastewater screening, grit removal, and pumping. The facility also involved dual pairs of pumping equipment, each with full redundancy, backup generation, odor control, equalization storage, and emergency storage.

Wastewater Treatment Facility Permitting, Design, and Construction Administration, Woodmen Hills Metropolitan District, Falcon, Colorado. Ryan was the project/design engineer for a 1.3 million gallon per day (MGD) activated sludge wastewater treatment facility for the Woodmen Hills Metropolitan District. The project included permitting, design, and construction administration of a new mechanical wastewater treatment plant on the same site as an existing lagoon facility. The facility incorporated existing primary treatment, all of the new secondary treatment with aerobic and anoxic zones, secondary clarification, odor control, subgrade and above-grade infrastructure, process piping and pumps, dewatering, backup power generation, and solids handling.

Wastewater Lift Station Replacement, Woodmen Hills Metropolitan District, Falcon, Colorado. Ryan was the project engineer/on-site engineer for the replacement of an existing wastewater lift station for the Woodmen Hills Metropolitan District. This project included planning, designing, and permitting a new, wet-well/dry-well lift station to replace an existing facility at the end of its design life. The new facility incorporated redundant pumping, emergency storage, emergency backup, pressure relief, and tie-ins to an existing force main and gravity sewer.

Design for Raw Water Booster Pump Station, Deep Well Completions, Vaults, and Supervisory Control and Data Acquisition (SCADA) System, Woodmen Hills Metropolitan District and Meridian Service Metropolitan District, Falcon, Colorado. Ryan was the staff/design engineer for the Guthrie Water Booster Pump Station, several deep well completions, vaults, and an intricate SCADA system for a joint water project between the Woodmen Hills Metropolitan District and Meridian Service Metropolitan District. The design included site grading, cast-in-place concrete vaults, well sections, well piping, a complete construction drawing design, and on-site observation.

Water Filtration Plant Design, Woodmen Hills Metropolitan District, Falcon, Colorado. Ryan was the staff/design engineer for a 1.3 MGD water filtration plant for the Woodmen Hills Metropolitan District. The design included flocculation, filtration, backwash systems, chlorination, an internal booster repumping station, and instrumentation and control. The design also required building and well designs, building

TECHNICAL EXPERTISE

- AutoCAD Civil 3D
- Water Modeling Software
- Business Management
- Client Needs Analysis
- Microsoft and Adobe Suites
- Acquisitions and Training

EDUCATION

- BS in Civil Engineering Technology, Colorado State University, Pueblo, CO (2002)

REGISTRATIONS & LICENSES

- Professional Engineer in Colorado

PROFESSIONAL MEMBERSHIPS

- American Water Works Association
- American Society of Civil Engineers

CERTIFICATIONS & TRAINING

- Civil 3D – CAD-1 (2006)

HONORS & AWARDS

- All American Project Award, Engineering America, Inc. (2007)

WORK HISTORY

- RESPEC (2021–Present)
- JDS-Hydro Consultants, Inc. (2002–2021)*

**RESPEC acquired JDS-Hydro Consultants in 2021.*

drawings and Colorado Department of Public Health and Environment permitting, field piping design, complete construction drawings, and on-site observation.

Concrete Water Storage Tank Planning, Permitting, Design, and Construction Administration, Woodmen Hills Metropolitan District, Falcon, Colorado. Ryan was the staff/design engineer and construction administrator for a 3.0 million gallon (MG) prestressed-concrete water storage tank for the Woodmen Hills Metropolitan District. His duties included planning, permitting, design, and construction administration.

Potable Water Transmission Line Planning, Permitting, Design, and Construction Administration, Woodmen Hills Metropolitan District, Falcon, Colorado. Ryan was the staff/design engineer and construction administrator for a 21,000-foot-long, 18-inch potable water transmission line for the Woodmen Hills Metropolitan District. The project included connecting to an existing booster station and connecting to a new, 3.0 MG, prestressed-concrete water storage tank. Ryan's duties included planning, permitting, design, and construction administration.

Raw Water Transmission Pipeline Design, Woodmen Hills Metropolitan District, Falcon, Colorado. Ryan was the staff/design engineer for a 14-mile raw water transmission pipeline for the Woodmen Hills Metropolitan District. The design included aerial sections of alignment, overseeing utility locations, plan and profile drawings of pipeline, design and placement of pipeline, permitting, complete construction drawing design, and on-site observation.

HANNAH E. MABRY, EI, CWP

PROJECT ENGINEER

OVERVIEW

Hannah Mabry is an engineer with hands-on experience in municipal water and wastewater operations, including direct work as a certified operator for the Town of Berthoud. She brings expertise in process control, compliance monitoring, and technical documentation, with additional strengths in data analysis and water quality reporting. Hannah has supported the design, installation, and maintenance of system upgrades, collaborating closely with municipal staff and operators. Her approach emphasizes practical solutions and clear communication, making her valuable for projects that require both technical insight and a working knowledge of local utility systems.

TECHNICAL EXPERTISE

- Water and Wastewater Operations
- Process Control, Systems Engineering, & Flow Modeling
- Compliance Monitoring and Regulatory Reporting.
- Data Management, Analysis, & Visualization
- Technical Communication & Training
- Grant & Patent Writing, Regulatory Submissions
- LIMS, SCADA Data Integration

EDUCATION

- BS in Chemical & Biological Engineering, Colorado State University, Fort Collins, CO (2021)
- BS Biomedical Engineering, Colorado State University, Fort Collins, CO (2021)

REGISTRATIONS & LICENSES

- Engineering Intern (EI) in Colorado
- Colorado Certified Water Professional (CCWP)

CERTIFICATIONS & TRAINING

- Water Treatment Operator Class B
- Wastewater Treatment Operator Class C
- Collection Systems Operator Class 1
- Distribution Systems Operator Class 1
- Wastewater Short School (Indigo Water)
- Confined Space Entry Operations
- Fall Safety Competency
- H2S Safety

WORK HISTORY

- RESPEC (2025–Present)
- Ramey Environmental Compliance, Inc. (2023–2025)
- Membrane Protective Technologies, Inc. (2021–2023)
- Colorado State University, WSJ College of Engineering (2019–2021)

TECHNICAL EXPERIENCE

Water and Wastewater Operations. Hannah worked as a certified water and wastewater contract operator for the Town of Berthoud, Colorado. Her responsibilities included process controls, maintenance, designing and installing new plumbing systems, water quality analysis, treatment microbiology, compliance monitoring, and water accounting. She also trained new operators, authored standard operating procedures and regulatory documents, supported municipal distribution team, and regularly evaluated and presented operational data to the client's engineering team.

Process Control, Systems Engineering, & Flow Modeling. Hannah has developed and managed process controls for municipal water and wastewater operations. Hannah has also participated in computational biology and systems engineering projects, using modeling to understand physical, chemical, and biological interactions. She applies systems thinking to process design, flow modeling, and troubleshooting, and is experienced with MATLAB, Python, and engineering modeling software.

Compliance Monitoring and Regulatory Reporting. Hannah conducted compliance monitoring and developed regulatory documentation for municipal water and wastewater systems. She authored standard operating procedures and prepared compliance reports, supporting both day-to-day operations and regulatory review.

Data Management, Analysis, & Visualization. Hannah manages large datasets related to water quality, laboratory results, and operational performance. Hannah applies analytical and statistical methods to extract actionable insights, develops custom dashboards, automates routine data tasks, and is proficient in Microsoft Excel and Python for data processing and visualization. She regularly presents findings to both technical and non-technical audiences.

Technical Communication & Training. Hannah has authored a range of technical documents, including experimental designs, training materials, water quality and production reports, and compliance documentation. She is skilled at creating clear SOPs for operators and staff and has experience presenting technical information in accessible formats for municipal teams.

Grant and Patent Writing, Regulatory Submissions. Hannah has written technical sections for grant and patent applications and supported regulatory submissions for water and wastewater system improvements and innovation.

Laboratory Information Management Systems (LIMS), SCADA Data Integration. Hannah works with laboratory information management systems (LIMS) and SCADA data, automating data processing and integrating laboratory and operational results into clear, decision-focused outputs for municipal water and wastewater operations.

JACK COSTELLO, EI

PROJECT ENGINEER

TECHNICAL EXPERTISE

- Wastewater System Design & Management
- Lift Station and Utility Infrastructure
- System Modeling & GIS/CAD Implementatin
- Permitting & Technical Reporting
- Water & Soil Sampling, Contaminant Analysis

EDUCATION

- BS in Environmental Engineering, University of Colorado Boulder, Boulder, CO (2021)

REGISTRATIONS & LICENSES

- Engineer Intern (EI) in Colorado

CERTIFICATIONS & TRAINING

- Autodesk Civil 3D: Fundamentals, IMAGINiT Technologies
- Activated Sludge Process Control and Nutrient Removal Workshop

WORK HISTORY

- RESPEC (2023–Present)
- Lakeshore Environmental, Inc. (2019–2023)

OVERVIEW

Jack Costello is an environmental engineer with more than 6 years of experience in wastewater system design, permitting, and infrastructure analysis for municipal and special district clients. He has worked on projects involving lift stations, wastewater treatment facilities, and utility reviews, preparing alternatives analyses, design parameters, and regulatory submissions from project inception through construction. Jack is experienced in system modeling, permitting, and technical reporting, with a focus on clear communication and collaboration with operators and owners. His technical background supports practical, regulatory-compliant solutions for complex water and wastewater system challenges.

TECHNICAL EXPERIENCE

Wastewater System Design & Management. Jack has worked as a project engineer for new and existing municipal wastewater solutions, including mechanical wastewater treatment facilities, land application systems, and lift stations. He has taken projects from inception through construction, developing alternatives analyses, establishing design parameters, and preparing regulatory submissions and bid packages. His background supports the design and delivery of practical, regulatory-compliant systems.

Lift Station and Utility Infrastructure. Jack has evaluated and reviewed existing water and wastewater infrastructure, including lift stations and system utilities, to ensure compliance with district and municipal standards. He is experienced in reviewing water and sewer plans and providing technical guidance to ensure infrastructure meets all required specifications before construction.

System Modeling & GIS/CAD Implementation. Skilled in ArcGIS Pro and Civil3D, Jack develops system models for water and sewer districts to support infrastructure planning and design. His modeling expertise helps inform alternatives analyses, design solutions, and project decision-making.

Permitting & Technical Reporting. Jack prepares permit applications, process design reports, and site location applications for a wide range of water and wastewater projects. His experience in technical writing and regulatory compliance ensures clear, thorough documentation throughout the project lifecycle.

Water & Soil Sampling, Contaminant Analysis. Jack also brings experience in analyzing water and soil samples to assess quality and identify signs of contamination, helping clients address regulatory requirements and ensure the safety and sustainability of their systems.

JOHN T. HENDRICKS

CONTROLS DESIGNER

OVERVIEW

John Hendricks has more than 17 years of experience in instrumentation, HVAC controls, access control, intrusion, closed-circuit television (CCTV), and public address systems. He has participated in planning, designing, installing, tuning, and testing a wide range of facility systems at sites across Alaska.

TECHNICAL EXPERTISE

- Instrumentation and Controls
- Access Control
- Intrusion
- CCTV
- Public Address
- Commissioning

EDUCATION

- BS in Electrical Engineering, University of Alaska Fairbanks, Fairbanks, AK (2008)

WORK HISTORY

- RESPEC (2022–Present)
- Convergint (2021–2022)
- ATS Alaska (2008–2021)

PROJECT EXPERIENCE

City of North Pole - Moose Creek Water Expansion, Moose Creek, Alaska. John worked under the supervision of a licensed Professional Enginner to close out the final punch list items and complete the project. Troublehooting pump controls and replacing 150 water meter transmitters that were not functioning correctly.

Fairbanks Veterans Affairs Clinic Security, Fairbanks, Alaska. John designed, programmed, and tested access control, CCTV, and intrusion systems. His scope of work included shop drawings, submittals, equipment selection, coordination with other contractors, finalizing sequences of operation, and participating in commissioning.

University of Alaska Fairbanks Patty Center Doors, Fairbanks, Alaska. John designed and tested the access control system for the door upgrades. His responsibilities included shop drawings, submittals, equipment selection, and testing the final sequence of operations.

Readiness and Control Office Relocation FTG208, Fort Greely, Alaska. John worked under the supervision of a licensed Professional Engineer to design and install HVAC controls for the remodeled spaces. He was responsible for designing, programming, and testing the HVAC control system. John's other duties included shop drawings, submittals, equipment selection, sizing valves and actuators, finalizing sequences of operation, and participating in commissioning.

Yukon-Kuskokwin Health Corporation Dr. Paul John Calricaraq Project Clinic and Hospital, Bethel, Alaska. John designed, programmed, and tested access control, CCTV, and audio-video systems. His other duties included shop drawings, submittals, equipment selection, coordination with other contractors, finalizing sequences of operation, and participating in commissioning.

IDT Switchgear FTG 192, Fort Greely, Alaska. John worked under the supervision of a licensed Professional Engineer to design and install HVAC controls. He also designed and installed access control, surveillance, and public address systems in the switchgear shelters. His other duties included shop drawings, submittals, equipment selection, sizing actuators, finalizing sequences of operation, and participating in commissioning.

Quinhagak K-12 School, Quinhagak, Alaska. John worked under the supervision of a licensed Professional Engineer to design and install HVAC controls for the new school. He was responsible for designing, programming, and testing the HVAC control system. John's other duties included shop drawings, submittals, equipment selection, sizing valves and actuators, finalizing sequences of operation, and participating in commissioning.

BRIAN K. HAYDEN, PE

LEAD ELECTRICAL ENGINEER

OVERVIEW

Brian Hayden applies more than 24 years of design and project management experience to each project he works on. He is detail-oriented, hard-working, creative in finding solutions, well-respected by his peers, and a supportive team member. Brian has performed condition assessments, as-builting, master planning, calculations, design, office CA, field CA, and Cx for hundreds of projects over his career, including renovations, additions, and new construction projects. His extensive experience has allowed him to become very familiar with electrical systems from a practical standpoint, including constructability and project experience optimizing system performance and functionality. Brian continues his education by attending seminars hosted by the IEEE, ASME, the IESNA, and other professional organizations, as well as various trade events.

PROJECT EXPERIENCE

Rock Creek Pump Station, Colorado Springs, Colorado. This project provides a sustainable water supply solution for water service to the Rock Creek Metropolitan District. The project includes comprehensive engineering services, including site investigation, preliminary and final design, and permitting. There will be a pump station equipped with hydro-pneumatic tanks and re-chlorination systems to meet the hydraulic and fire flow requirements. The project team will ensure compliance with regulatory requirements and address operational needs such as surge mitigation and environmental assessments. RESPEC's approach is rooted in proactive communication and collaboration, leveraging our experience in pump station design and construction. Brian is designer of record and provided technical assistance for the team's coordination and will continue in this role through design and CA efforts on this project.

City of Fountain Water Treatment Plant Design, City of Fountain, Colorado. Brian was part of the team that designed power including medium voltage extension to the site for a water treatment plant. The design also included power at the project site to (4) 225horsepower pumps along with some smaller pumps, local power, lighting, and controls. Brian provided the independent technical review and led the design through the recent schematic design phase. Design is continuing and construction is expected to start in 2026.

Wastewater Treatment Plant Design, City of Hoonah, Hoonah, Alaska. Brian was part of the team that designed a wastewater treatment plant expansion that would meet the community's future expansion needs for the next 20 years. The design developed by the team allows for a sequencing batch reactor with a maximum daily flow of 450,000 gallons. Brian provided the independent quality control review and provided technical assistance during design and construction activities. The 2-year construction process concluded in 2021 with the team providing record drawings and assisting the City of Hoonah with obtaining final approval to operate from the Alaska Department of Environmental Conservation (ADEC).

Energy Module Two (EM2) Renewal, University of Alaska Anchorage, Anchorage, Alaska. Brian was part of a team that provided electrical, mechanical, and structural engineering services to replace the generator at EM2. The module was constructed in 1977 and provides heating, cooling, and backup power services for numerous nearby campus facilities. The design team's Scope of Work included investigation, evaluation, and analysis of the capacity and condition of the existing systems. Generator replacement at EM2 was the first project from our investigation and recommendations. Brian designed the generator replacement and was also the design team project manager. The existing generator was in an interior location, and the new generator was built on an exterior pad with a "skin-tight" weatherproof enclosure. The well and water distribution system was refed as part of this project. Improved controls and monitoring were provided as part of this project to assist University maintenance staff.

TECHNICAL EXPERTISE

- Power Distribution
- Power Systems
- UPS and Standby Systems
- Telecommunications/Data Systems
- Control Systems
- Energy Analysis
- Lighting Systems
- Security and Access Control Systems
- Signal Systems
- Construction Administration (CA)
- Commissioning (Cx)

EDUCATION

- BS in Electrical Engineering, Colorado School of Mines, Golden, CO (2001)

REGISTRATIONS & LICENSES

- Professional Electrical Engineer in Colorado (0062199)
- Professional Electrical Engineer in Alaska (No. AELE12459)

PROFESSIONAL MEMBERSHIPS

- Construction Specifications Institute (CSI)
- Illuminating Engineering Society of North America (IESNA)
- Institute of Electrical and Electronics Engineers (IEEE)

CERTIFICATIONS & TRAINING

- LEED Green Associate (2011)
- Construction Documents Technologist, CSI (2006)

HONORS & AWARDS

- IESNA Alaska Chapter, Exterior Lighting (2019)

WORK HISTORY

- RESPEC (2020–Present)
- PDC Engineers (2011–2020)
- AMC Engineers (2001–2011)

Akutan Snow Removal and Equipment Building (SREB) Generator Replacement: Akutan, Alaska. AKDOT&PF needed their SREB generators replaced as soon as possible for this facility. 2 of the 3 prime power generators were no longer functional and were the only source of power on the island. The generators are meant to support the runway lights as we all the SREB building loads and having functioning generators is critical in these demands. RESPEC designed the replacement of the 3 SREB prime power generators. Additional heating loads and load shedding steps and controls were added to improve efficiency of the generators and reduce the chance for wet stacking. Construction was recently completed.

LRDR Complex Maintenance Facility, U.S. Air Force, Clear Space Force Station, Alaska. Brian was part of a team that designed multiple projects involving Clear Space Force Station's LRDR campus, including site planning and design for the complex and determining where the complex should be built. As a subconsultant to RIM Architects, the project team was tasked with designing a maintenance facility building and completing the final site features on the LRDR complex. This project completed the final site features, encompassing paving the complex's roadway, conducting Loop Road upgrades, landscaping, and signaling. Brian designed the site and building power, lighting, signal, and grounding systems for this maintenance facility and the associated site development. This project installed a generator and load bank on an exterior pad near the building in a "skin-tight" weatherproof enclosure. Brian provided power and controls designs for the water and wastewater systems, pumps, and tanks for this site development.

Municipality of Skagway (MOS) Incinerator Replacement, Skagway, Alaska. In 2025, the garbage incinerator building in Skagway was designed to be renovated, including the replacement of all electrical systems. Brian provided independent QC for this project including the control system of the incinerator, the power, lighting, data, fire alarm, surveillance, intrusion detection, and the leak detection systems for the building. The designs of the special systems were coordinated with the facility staff to meet all of their operational needs. The facility had a number of unique features, including a wastewater storage tank, a cistern, and a fire pump. The design was finished in August 2025 and is presently in the bid phase.

USCG Ketchikan North Shop, Ketchikan, Alaska. RESPEC supported the U.S. Coast Guard's (USCG's) plans to enhance their blasting and paint operations at USCG Base Ketchikan. This work included correcting building life safety and code violations and upgrading electrical, mechanical, automatic controls, and fire protection systems in the existing Industrial Shop Buildings. By expanding the paint booth expansion, USCG can accommodate a larger vessel, up to 45 feet in length, and maintaining their current buoy service operations. Major medium-voltage power feeder modifications were required to make this maintenance facility code-compliant. Brian was the lead electrical engineer and will oversee CA efforts. Water and wastewater system components were replaced or supplemented in this project. Brian led the design of the power and control designs to the modified components on the water and wastewater systems. This project is currently in the bid phase.

APPENDIX C.

FEE PROPOSAL

ENGINEERING FEE ESTIMATE WORKSHEET

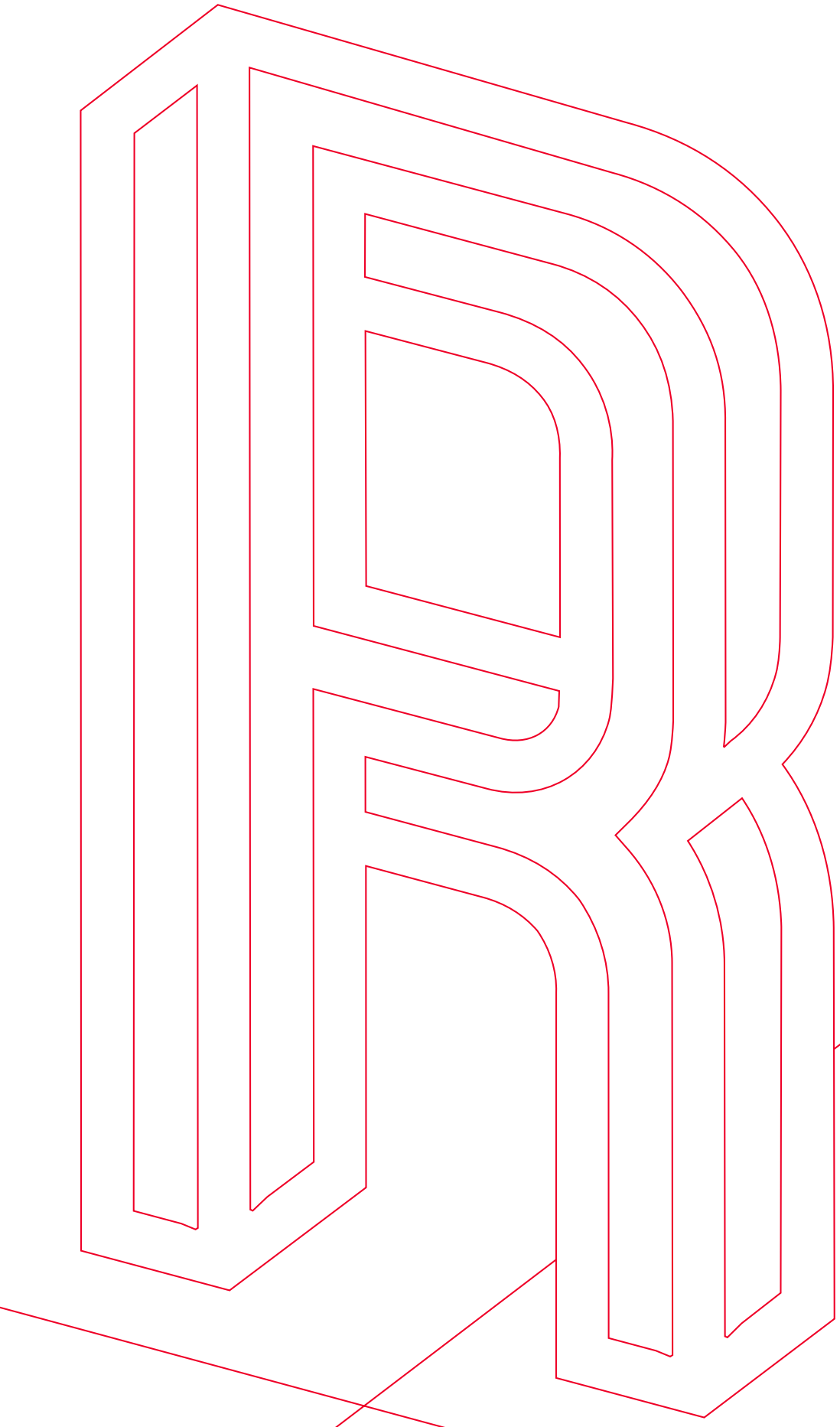
DESIGN SERVICES

Client: Town of Berthoud

Project: LS Feasibility Fee

12/22/2025

TASK DESCRIPTION (2025 HOURLY RATES)	Sr. PM $220	PM $200	Sr. PE $190	PE $160	Designer $140	Elec PM $210	Elec PE $150	Elec Tech $135	Tech $110	Admin $85	Mileage **$0.625**	TASK COST
TASK I												
Data Collection and review												
Kickoff meeting (in person)		3.0		2.0	2.0						16.0	$1,210.00
Review availible documentation		2.0		4.0	4.0							$1,600.00
Review mapping/easements etc.		2.0		2.0	4.0							$1,280.00
Field visits to verify physical conditions, access, land use (1 assumed)		4.0			4.0						16.0	$1,370.00
Electrical, 1 person 1 hr kick off mtg, review record info		1.0				5.0		18.0				$3,680.00
Total Hours	*0.0*	*12.0*	*0.0*	*8.0*	*14.0*	*5.0*	*0.0*	*18.0*	*0.0*	*0.0*	*32.0*	**$9,140.00**
Days	*0.0*	*1.5*	*0.0*	*1.0*	*1.8*	*0.6*	*0.0*	*2.3*	*0.0*	*0.0*		
TASK II												
Progress meetings (2 assumed, one in person one virtual)		4.0			3.0						16.0	$1,230.00
Evaluate existing flow		2.0		4.0	4.0							$1,600.00
Determine pumping capacity, wet well volume, and emergency storage for 3 alternatives		2.0		12.0	8.0							$3,440.00
Identify any hydraulic limitations/head conditions that influence task 3	2.0	2.0		12.0	8.0							$3,880.00
Electrical coordination		1.0				2.0		4.0				$1,160.00
Total Hours	*2.0*	*11.0*	*0.0*	*28.0*	*23.0*	*2.0*	*0.0*	*4.0*	*0.0*	*0.0*	*16.0*	**$11,310.00**
Days	*0.3*	*1.4*	*0.0*	*3.5*	*2.9*	*0.3*	*0.0*	*0.5*	*0.0*	*0.0*		
TASK III												
Site and alignment evaluation												
Progress meeting s (1 assumed, in person)		2.0			2.0						16.0	$690.00
Identify and screen potential consolidation sites (hydraulic, utility, access, environmental, land)		8.0		8.0	12.0							$4,560.00
Evaluate new fm alignments for each alternative	2.0	2.0		4.0	8.0							$2,600.00
Identify easement requirements		2.0		4.0	8.0							$2,160.00
Elec coordination		1.0				2.0		4.0				$1,160.00
Total Hours	*2.0*	*15.0*	*0.0*	*16.0*	*30.0*	*2.0*	*0.0*	*4.0*	*0.0*	*0.0*	*16.0*	**$11,170.00**
Days	*0.3*	*1.9*	*0.0*	*2.0*	*3.8*	*0.3*	*0.0*	*0.5*	*0.0*	*0.0*		
TASK IV												
Conceptual Design alternatives												
Progress meetings (2 assumed, one in person one virtual)		4.0			3.0						16.0	$1,230.00
Conceptual station footprint		2.0		1.0	4.0				4.0			$1,560.00
Conceptual site configuration		2.0		1.0	4.0				4.0			$1,560.00
Forcemain routing diagrams (2 assumed)		1.0		2.0	4.0				8.0			$1,960.00
Pumping concept drawing		1.0		2.0	4.0				8.0			$1,960.00
Identify opportunities for shared emergency power or regional control integration		2.0		4.0	4.0							$1,600.00
Assess the benefits of consolidation on maintenance, staff, and capital costs		2.0		4.0	4.0							$1,600.00
Electrical - Create narrative on options		1.0				6.0		16.0				$3,620.00
Concept electrical drawings		1.0				4.0	6.0	12.0				$3,560.00
Total Hours	*0.0*	*16.0*	*0.0*	*14.0*	*27.0*	*10.0*	*6.0*	*28.0*	*24.0*	*0.0*	*16.0*	**$18,650.00**
Days	*0.0*	*2.0*	*0.0*	*1.8*	*3.4*	*1.3*	*0.8*	*3.5*	*3.0*	*0.0*		
TASK V												
Cost and Risk Evaluation												
Progress meetings (1 assumed, in person)		2.0			2.0						16.0	$690.00
Class IV cost estimate		2.0		2.0	8.0							$1,840.00
Evaluate lifecycle costs		2.0		2.0	8.0							$1,840.00
Identify opportunities for future regionalization/integration		2.0		2.0	4.0							$1,280.00
Electrical cost estimate effort		1.0				2.0		12.0				$2,240.00
Electrical life cycle efforts		1.0				2.0		6.0				$1,430.00
Total Hours	*0.0*	*10.0*	*0.0*	*6.0*	*22.0*	*4.0*	*0.0*	*18.0*	*0.0*	*0.0*	*16.0*	**$9,320.00**
Days	*0.0*	*1.3*	*0.0*	*0.8*	*2.8*	*0.5*	*0.0*	*2.3*	*0.0*	*0.0*		
TASK VI												
Prepare draft feasibilty report	2.0	2.0	2.0	4.0	12.0							$3,540.00
Draft Alternatives Work Shop (in person)		5.0		4.0	4.0						16.0	$2,210.00
Finalize report		1.0			2.0					2.0		$650.00
Risk Matrix	2.0	2.0		2.0	4.0							$1,720.00
1 in-person meeting to present report		3.0			2.0						16.0	$890.00
Electrical draft report		1.0				6.0		20.0				$4,160.00
Electrical report updates		1.0				4.0		10.0				$2,390.00
Total Hours	*4.0*	*15.0*	*2.0*	*10.0*	*24.0*	*10.0*	*0.0*	*30.0*	*0.0*	*2.0*	*32.0*	**$15,560.00**
Days	*0.5*	*1.9*	*0.3*	*1.3*	*3.0*	*1.3*	*0.0*	*3.8*	*0.0*	*0.3*		
Project Design Total	**8.0**	**79.0**	**2.0**	**82.0**	**140.0**	**33.0**	**6.0**	**102.0**	**24.0**	**2.0**	**96.0**	**$75,150.00**



RESPEC.COM

CONSULTING SERVICES AGREEMENT

This Consulting Service Agreement ("**Agreement**") is made effective as of January 1, 2026 ("**Effective Date**") and entered into between RESPEC Company, LLC., a limited liability company, with an address of 2975 Ginnala Drive, Loveland, CO 80538, ("**Consultant**") and Town of Berthoud ("**Town**" or "**Berthoud**"). Taken together, Consultant and Town shall be referred to as "**Parties**."

Recitals

WHEREAS, the Town desires to hire Consultant to perform certain services as more particularly described in Exhibit "A" attached hereto and by this reference made a part hereof;

Agreement

NOW, THEREFORE, in consideration of the mutual covenants, promises and agreements contained herein, the sufficiency of which is hereby acknowledged, the Parties do hereby promise and agree to and with each other as follows:

1. **Services**. Consultant shall provide to Berthoud the Services set forth in Exhibit A attached hereto (the **"Services**"), in a good and workmanlike manner and in accordance with all applicable professional standards and industry practices. Exhibit A shall describe in reasonable detail (i) the services to be performed by Consultant and any deliverables to be provided by Consultant (ii) the contract price to be paid by Berthoud ("**Contract Price**"), and (iii) any additional terms or conditions related to the Services. All Services shall be governed by the terms and conditions of this Agreement, the Exhibits attached hereto, and any Change Orders that may be executed by the Parties (collectively, the "**Contract Documents**"). To the extent a conflict arises between the Parties, the terms of this Agreement shall control.

2. **Term**. This Agreement and all provisions contained herein shall be effective as of the Effective Date and all Services contemplated hereunder shall be completed no later than **the end of the 2026 Calendar Year, December 31st, 2026** ("**Term**"). The Term identified in this paragraph is subject to any written Change Orders that may be executed by the Parties and/or any Termination that may occur in accordance with Paragraph 3, below.

3. **Change Orders**. Any modification to the Services, including any change in the basic character of the Services, increase in the Contract Price or other deviation from the Contract Documents, must be: (i) mutually agreed upon by the Parties, (ii) comply with all terms in this section 3, (iii) formalized in writing, and (iv) signed by the Parties (a "**Change Order**"). Either party will be entitled to initiate a Change Order, and for such purpose shall submit its Change Order, including a detailed description of the required change and the reasons for it, to the other party. The Parties will evaluate the Change Order and negotiate in good faith any changes to the Services required to implement the Change Order. If both parties agree to implement the Change Order, both parties will execute the Change Order to indicate their acceptance of the changes. Neither party will be obligated to proceed with a Change Order until such time as the Change Order has been agreed upon by both parties and formalized in a signed writing. The Parties shall not be obligated to accept a proposed Change Order from the other party. In the absence of a fully executed Change Order, this Agreement and the Services set forth on Exhibit A will remain in full force and effect without modification.

4. **Fees, Expenses and Taxes**. Consultant expressly acknowledges that all costs, expenses and applicable taxes for materials and services that it is required to supply and perform hereunder, including any costs associated with travel, lodging and meals, are included in the **Contract Price set forth in Exhibit A, Appendix A: Detailed Cost estimate**. Unless otherwise explicitly set forth in Exhibit A, Consultant shall provide and pay for labor, materials, furniture, furnishings and equipment, tools, consumables, installation equipment and machinery, delivery and other facilities and services necessary for the proper execution and completion of the Services.

5. **Payment Terms**. The "Fee", **as identified in Exhibit A under section Appendix A: Detailed cost Estimate shall not exceed the Contract Price** without prior written authorization by Town. The Fee shall be paid by the Town pursuant to invoices ("Invoices") submitted by consultant. Consultant shall submit Invoices no more often than monthly. Each Invoice shall describe the Services that have been

completed and the portion of the Fee payable for same. Berthoud shall not be obligated to pay any costs and/or fees in excess of the Fee identified on Exhibit A and referenced again in this sub-paragraph.

6. **Engagement of Third Parties & Consultants**. Consultant shall not engage third parties with respect to the Services without prior written authorization from the Town. Consultant is fully responsible for the performance and compensation of its subconsultants.

7. **Representations, Warranties and Covenants**.

a. Consultant hereby represents, warrants and agrees that:

i. Consultant has adequate skill, training, expertise, knowledge and experience to perform the Services in a competent and professional manner consistent with industry standards;

ii. Consultant has sufficient personnel and equipment available to perform and complete the Services within the milestones, timelines and time frames specified in this Agreement;

iii. Consultant will perform the Services in a good and workmanlike manner consistent with industry standards;

iv. Consultant has the full right and authority to enter into and fully perform this Agreement;

v. Consultant shall perform its activities under this Agreement in accordance with all federal, state and local codes, laws, rules, regulations, and legal requirements relating to the services provided by Consultant under this Agreement ("**Legal Requirements**");

vi. The execution, delivery and performance of this Agreement will not violate the provisions of any agreement to which Consultant is a party or by which it is bound; and

vii. The person signing this Agreement on behalf of Consultant has the full authority to do so.

b. Berthoud hereby represents, warrants and agrees that:

i. Berthoud has the full right and authority to enter into and fully perform this Agreement;

ii. Berthoud shall perform its activities under this Agreement in accordance with all Legal Requirements;

iii. The execution, delivery and performance of this Agreement will not violate the provisions of any agreement to which Berthoud is a party or by which it is bound;

iv. The person signing this Agreement on behalf of Berthoud has the full authority to do so.

8. **Insurance**. Consultant agrees to maintain insurance during the life of the agreement:

a. Comprehensive general liability insurance coverage in an amount not less than $1 million per occurrence and automobile liability for owned, hired, and non-owned vehicles; and

b. Professional/negligent acts, errors and omissions insurance in an amount not less than $1 million; and

c. Such workers' compensation insurance as required.

9. **Termination**. Town may terminate this agreement at any time by giving Consultant ten working days' prior written notice, provided that in such event Consultant shall be entitled to payment for those Services rendered through the date of termination, provided those Services rendered are satisfactory to the Town.

10. **Records**. Information, data, estimates, reports, studies, and all other project documents drafted or created by Consultant or on behalf of Consultant for Town shall belong to Town and Consultant hereby assigns all of its copyright interests to Town. All of the foregoing documents hereafter prepared by Consultant for Town shall be retained and maintained for Town by Consultant in its offices at no additional cost to Town. Consultant shall release all such files and documents as instructed by Town from time to time. Consultant shall not be liable for use of any such documents for purposes other than their original intended purpose.

11. **Liability and indemnity**. To the fullest extent permitted by law, the Consultant shall indemnify, defend, and hold harmless the Town, its officers, officials, employees, and agents from and against any and all claims, damages, losses, liabilities, costs, and expenses, including reasonable attorneys' fees and expenses, but only to the extent caused by the negligent acts, errors, or omissions of the Consultant, its subconsultants, or anyone for whose acts they may be liable, arising out of or relating to the performance of professional services under this Agreement.
The Consultant's indemnification obligations under this Section shall not be limited by the availability of insurance, by the amount of fees paid or payable under this Agreement, or by any limitation on the amount or type of damages recoverable under workers' compensation or similar employee benefit acts.

12. **Notices**. All notices required to be given pursuant to this Agreement shall be made in writing and shall be delivered by personal delivery and securing a written receipt, or shall be sent by certified mail, return receipt requested, to the respective Party's address included below. Notice given as provided herein shall be deemed to have been given on the date it was received as evidenced by the receipt received pursuant to either form of delivery. Notice hereunder shall be addressed to:

    If sent to Berthoud:

    Town of Berthoud
    c/o Mr. Chris Kirk
    807 Mountain Ave.
    Berthoud, CO 80513

    If sent to Consultant:

    RESPEC
    c/o Ms. Amy Patterson
    of 2975 Ginnala Drive, Suite 200
    Loveland, CO 80538

13. **Restriction of Assignment**. Neither party shall have the right or power to assign its rights or obligations under this Agreement without the written consent of the other party.

14. **Waiver**. The failure of any of the Parties to enforce any provision or condition contained in this Agreement at any time will not be construed as a waiver of that condition or provision nor will it operate as a forfeiture of any right of future enforcement of the condition or provision.

15. **Entire Agreement**. This Agreement, together with all Contract Documents, contains the entire agreement between the parties and merges any prior representations, warranties, or understandings they may have had regarding the subject matter of this Agreement. This Agreement may not be amended or modified except by a writing executed by all parties.

16. **Counterpart; Facsimile Signatures**. This Agreement may be executed in counterparts by each party, separately, and when each party has executed a copy thereof, such copies taken together shall be deemed to be a full and complete contract between the Parties.

17. **Headings**. The section headings appearing in this Agreement are inserted for reference purposes only and in no way define, limit, construe or describe the scope or intent of such section, or in any way affect the meaning or interpretation of this Agreement.

18. **Construction**. It is agreed that all parties have participated in preparation of this Agreement and that there shall be no presumption of construing ambiguities against the drafter.

19. **Governing Law**. This Agreement and the parties' conduct arising out of or related to it shall be governed by and interpreted under the laws of the State of Colorado. Any suit, action or proceeding seeking to enforce any of the terms of this Agreement shall be brought in a court of competent jurisdiction in Larimer County, Colorado. All Parties expressly and irrevocably consent to jurisdiction and venue in said courts.

20. **Severability**. In the event that any provisions of this Agreement are found to be illegal or unenforceable, such provisions shall be modified to the extent necessary to make it enforceable, and as so modified, the remainder of this Agreement shall remain in full force and effect.

IN WITNESS WHEREOF the parties have executed this Agreement by their properly authorized signatories:

RESPEC		TOWN OF BERTHOUD
By:		By: Chris Kirk
Its:		Its: Town Administrator
Date:		Date:

EXHIBIT A

A. Project Description

The Consultant shall provide professional engineering services to prepare a Lift Station Consolidation Feasibility Study evaluating alternatives for the Campion Lift Station and Bomar Lift Station. The purpose of the study is to evaluate operational reliability, capacity, site constraints, and long-term planning considerations associated with consolidating, reconstructing, or upgrading these facilities.

The feasibility study shall build upon, but not duplicate, prior Campion Lift Station analysis and shall evaluate system-wide alternatives involving both lift stations, consistent with the Town's Request for Proposal and the Consultant's proposal .

B. Scope of Services

The Consultant shall perform the following tasks:

Task 1 – Data Collection and Review

- Review available background information including:
  - Wastewater Master Plan
  - Available as-built drawings and surveys
  - Historical flow data
  - Operations and maintenance records
  - Existing easements, property records, and development plans
- Coordinate with Town staff and the operations to incorporate operational history and known system issues.
- Conduct site visits to the Campion and Bomar Lift Stations and potential relocation areas to verify physical conditions, access constraints, and surrounding land use.

Task 2 – Flow and Capacity Evaluation

- Evaluate existing and projected wastewater flows based on current service areas and planned development.
- Determine required pumping capacity, wet well volume, and emergency storage needs for each alternative.
- Identify hydraulic limitations, head conditions, and conveyance constraints affecting site selection, force main sizing, or gravity conversion opportunities.
- Update or refine hydraulic assumptions as necessary to reflect current conditions.

Task 3 – Site and Alignment Evaluation

- Identify and screen potential new sites for consolidation or relocation based on:
  - Hydraulic feasibility
  - Access and constructability
  - Utility availability
  - Environmental and zoning considerations
  - Property ownership and acquisition constraints
- Evaluate required force main and gravity main alignments for each alternative, including conceptual routing, estimated lengths, and pipe sizing.
- Identify easement requirements and potential conflicts for each alternative.

Task 4 – Conceptual Alternatives Development

The Consultant shall develop conceptual layouts for the following alternatives:

1. **Alternative 1 – Consolidation:**
   Construction of a new regional lift station at a hydraulically favorable site to replace both Campion and Bomar Lift Stations.
2. **Alternative 2 – Partial Reconstruction:**
   Construction of a new Campion Lift Station at a new site, with upgrades to the Bomar Lift Station at its existing location.
3. **Alternative 3 – Individual Upgrades:**
   Rehabilitation and modernization of both lift stations at their existing sites.

For each alternative, the Consultant shall evaluate:

- Conceptual site layout and footprint
- Pumping configuration and redundancy
- Electrical and backup power concepts
- Emergency storage approach
- Monitoring, controls, and SCADA implications
- Operational and maintenance considerations

A draft alternatives workshop shall be conducted with Town staff to review findings and receive direction prior to finalizing alternatives.

Task 5 – Cost and Risk Evaluation

- Prepare Class IV planning-level cost estimates for each alternative, including:
  - Site acquisition (where applicable)
  - Construction costs
  - Electrical and power infrastructure
  - Estimated operation and maintenance considerations
- Develop a 20-year lifecycle cost comparison for each alternative.
- Prepare a qualitative risk evaluation matrix addressing redundancy, operational flexibility, failure consequences, and long-term reliability.
- Identify opportunities for future regionalization or phased implementation where applicable.

Task 6 – Reporting and Recommendations

- Prepare a Draft Feasibility Study Report summarizing assumptions, analysis, alternatives, cost comparisons, and risks.
- Present the draft findings to Town Engineering and Utilities staff.
- Incorporate Town comments and prepare a Final Feasibility Study Report, including:
  - Summary of alternatives
  - Cost tables
  - Risk evaluation matrix
  - Conceptual site and alignment mapping
  - Recommended path forward and next steps (e.g., land acquisition, design, CIP planning)
- Provide presentation materials suitable for Town staff and optional Board presentation, if requested.

C. Deliverables

The Consultant shall provide the following deliverables:

- Draft and Final Feasibility Study Report (PDF)
- Conceptual site layouts and force main alignments (PDF and GIS shapefiles)
- Cost comparison tables and lifecycle cost summaries
- Risk evaluation matrix
- Presentation materials for Town staff and/or Board (PDF)

D. Project Schedule

The Consultant shall complete the Services in accordance with the project schedule included in **Appendix A** of the Consultant's proposal, unless modified by written Change Order

E. Town-Provided Information

The Town shall provide, to the extent available, the following information to support the Services:

- 2022 Wastewater Master Plan and GIS mapping
- As-built drawings and survey information
- SCADA trends and historical flow data
- Operations and maintenance records
- Known development and planning information
- Property information for potential screening

Consultant may use Town-Provided Information in performing services under this Agreement; however, Consultant shall exercise professional judgment and reasonable care in reviewing such information and shall promptly notify the Town of any errors, omissions, inconsistencies, or deficiencies that are discovered or should reasonably be discovered in the exercise of the Standard of Care. Reliance on Town-Provided Information shall not relieve Consultant of its obligations under this Agreement.

F. Contract Price

The not-to-exceed Contract Price for the Services described herein shall be as set forth in Appendix A: Detailed Cost Estimate of the Consultant's proposal. Compensation shall be on a lump-sum basis, inclusive of all labor, expenses, travel, and incidentals, unless otherwise authorized by written Change Order

BOARD OF TRUSTEES INFORMATION

ADMINISTRATION DEPARTMENT

Meeting Date:	**February 10, 2026**
Agenda Title/Subject:	**Town Fireworks Event**
Type of Item:	**Consent Agenda**
Purpose:	**Board Approval of Event and Contract**
Presented by:	**Administration**

ATTACHMENTS:

- July 3rd Fireworks Proposal
- Zambelli Contract

BACKGROUND:

The Town of Berthoud is planning to host its 8th annual fireworks show for the community on Friday July 3rd,2026. Staff recommends working with Zambelli fireworks who has managed all of Berthoud's previous annual shows to date. In similarity to last year, we are preparing for the fireworks show launch zone to be located at Waggener Farm Park. This centralized location will also host the community event that evening on the north portion of the property at the multiple purpose fields. The planned fireworks show this year is estimated at 21 plus minutes.

For information, Town staff is also planning a July 3rd festival and fireworks viewing at the northern end of the park, similar in scope to previous years. The Town will provide community entertainment including food for sale at food trucks. The free event will also include various activities for the community, DJ music, and as well as the live concert from 7pm-9pm that night. The Event is estimated to begin at 5pm and last until roughly 10pm in the park. Exact details and hours of the event will be marketed and made available to the community after Board approval.

FISCAL IMPACT AND FUND SOURCE:

In recognition of the 250th anniversary of the signing of the declaration of independence, staff has asked the contractor to add additional fireworks to the display, including a more significant red, white, and blue themed finale. As a result, the contract price for this year's event is more than what staff initially planned in the annual budget for 2026. While there is capacity within the Community Events line item (11-01-5252-01), staff will expect to bring a small increase at mid-year to support other community event spending later in the year if the board supports the added scope for this year's fireworks display.

COMMUNITY TOUCHSTONES:

Part of Berthoud's **Community Identity** is being a great place to visit, live, and recreate. Providing an event of this nature creates an additional way to show a community togetherness

and harmony by providing areas for family entertainment and viewing Fireworks show that frequently brings a positivity synergy within the Town throughout the event and several months after.

RECOMMENDED ACTION(S):

Authorize the Town Administrator to sign the contract with Zambelli's for the July 3rd, 2026 fireworks show

Zambelli
FIREWORKS

TOWN OF BERTHOUD COLORADO

JULY 3, 2026

Fireworks Proposal Prepared By

Ernie Simmons
303-570-5135
Cell 863-287-9168
esimmons@zambellifireworks.com

Zambelli
FIREWORKS

Display Overview: Berthoud Colorado

Show Date: JULY 3, 2026
BUDGET: $42,500.00-22 minutes
Mid Finale Option $6,000.00 1 additional minute
AdditionalTariff Charges $2,180.00

Insurance Liability Coverage: $10 Million dollars (per show coverage) for each Fireworks Display. Zambelli uses the highest insurance premium in the industry with "AAA" rated companies.

Permit/Fire Dept: Zambelli Fireworks will secure all needed permits (unless otherwise specified by the City) and organize plans directly with Fire and Safety Authorities.

Transportation Liability Coverage: $5 Million dollars as required by United States Department of Transportation. (DOT)

Workers Compensation: Pyrotechnicians will meet all of the requirements of the Workers Compensation Laws of Colorado.

Transportation: Fireworks and equipment will be delivered by qualified CDL drivers with Haz-Mat endorsed licenses as required by US DOT.

Personnel: Zambelli Certified Pyrotechnicians and Trained Assistants; no subcontractors used.

Safety Procedures: Zambelli Fireworks adheres to all safety regulations. NFPA 1123, 1126 and NFPA 160 codes will be strictly enforced.

Zambelli
FIREWORKS

Berthoud Colorado July 3, 2025

Opener
20-3" finale salutes
30-4" red white and blue color finale shells

Body of Program
240-4" assorted color and pattern shells
150-5" assorted color and pattern shells
90-6" assorted color and pattern shells
300-1.5" multishot devices

Grand Finale
60-3" finale salutes
210-4" color finale shells
15-5" color finale shells
16-6" color finale shells

Additional Mid Finale Option-$6,000.00 I minute

60-4" Red-White and Blue Finale shells
30-5" Red-White and Blue Finale Shells
16-6" Red-White and Blue Finale Shells

Zambelli
FIREWORKS

Program Philosophy

Generally speaking there's an opening segment, main body and grand finale of a fireworks display. Just as a great play or movie has various segments that flow together, firework shows are similar type productions that should never leave the audience wanting more or leaving disappointed.

There are fundamental basics that Zambelli Fireworks adheres to, with which we create the best displays in the industry. Some of these fundamentals include:

- **No Dead Air** Just as any TV, radio or Big Screen Production, "Dead-Air" is simply not acceptable. At any given time there will be multiple firings of shots and shells in the air for the display.

- **Shell Size Combinations** A common way for companies to set a show is to shoot all 2 inch shells, then all 3 inch shells, then all 4 inch shells, etc. While this makes it easy for a technician, it is simply boring. Zambelli technicians are trained to set shows to create the ultimate in shell combinations for the various firing sites. For example, firing two 3 inch Gold Kamuro Willow shell (400 ft.) and six 2.5 inch Purple Dahlias is a great, beautiful combination. Firing two 3 inch Pink strobing lights and six 2.5 inch white strobing lights within seconds offers up to 8 seconds of beautiful strobes covering 200 to 400 ft in the air.

- **Rhythm and Intensity** Just as many movies have a loud, action-packed car chase one moment followed by a romantic scene the next moment, fireworks productions also need to flow. A show that is too fast or too slow can get monotonous. Zambelli designs shows that one moment are a constant barrage of colors and booms while the next moment may be soft horsetail golden willows fluttering down from the sky one-by-one.

- **Finales** There's a major art to shooting a spectacular finale. Many people think a finale is simply shooting a lot of shells. While true from a quantitative standpoint, a finale must make sense in order to entertain most effectively. Zambelli deigns finales that start slower and lower. For example, 3 inch peony finale shells fired every half-second for 20 seconds may then grow in intensity to include white or silver glittering for the next 20 seconds. Then larger 4 inch blue cracking spiders take over while 3 inch white coconut trees are laying the ground cover. Finally the 100 3 inch multi-color crossettes are covering the sky while the 3 inch titanium salutes are rumbling the skies for miles.

Zambelli
FIREWORKS

Details of Proposed Show Segments

OPENING: An opening barrage is designed to attract the attention of the audience and entice them to pay attention…"The show has just begun!" The opening barrage for your event will certainly impress as a barrage of assorted colors, effects, and noise shells fill the night's air.

The purpose of the opener is to impress on your audience that they are about to see something spectacular. A well-designed Zambelli opener will grab the crowd's attention and prepare them for a wonderful fireworks display.

FEATURE PRESENTATION: The main body of the fireworks display should not be just one shell fired one after another. It's about rhythm, timing, and choosing the perfect effects to complement one another to build themes. Some fireworks shells are designed to be extremely intense while others are designed to slow the pace down with beautiful, softer effects. The design team hand picks every display shell used to ensure a wonderful variety of effects. The audience will never see the same combinations of shells fired in a Zambelli production.

Different size shells will be breaking simultaneously throughout the display. This allows us to vary the intensity of the show, but more importantly create beautiful canvases of color and effect in the sky, that stimulate both visually and audibly.

BARRAGES OF MULTI-SHOT DEVICES: Multi-shot devices or barrage cakes are used to add to the dynamics of the show. Zambelli Fireworks uses only the highest quality Barrages with innovative effects, colors, and angles. These devices incorporate effect sizes from 1" to 2".

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GRAND FINALE: and it will be GRAND!

Human nature is to remember things last experienced. The Grand Finale is what people will remember the most about a fireworks production. A poor finale will leave an audience disappointed. Zambelli Fireworks has a long tradition of supplying the best and biggest finales in the industry. It will be loud, it will be full of vibrant colors, it will be long, and it will leave a lasting impression. Hundreds of shots and effects of multi-color shells, gold and silver sparking lights, gold brocade crown shells and other effects coupled with chest-pounding titanium-salutes will be the magical ending of the grand display. The finale will be fired from multiple positions with dynamic angles. The incorporated shells, with multiple different sizes and effects, will cover every inch of sky from 150 to 300 ft in the air.

The Finale will be LARGE, but classy. Effects will be fired at angles to light up a larger portion of the sky rather than create an area of overlapping colors. After an intense array of colors, effects, and sounds, the final few seconds of the Display will fire a barrage of gold hanging effects that will linger in the sky well after the last shell breaks.

Products:

Zambelli Fireworks carries an inventory of display shells that is more than 2,000 unique shapes, colors, patterns or varieties from nearly a dozen manufacturers. During the 2015 July 4th display season Zambelli fired more than 1,200 different types of unique shells during the opener, body and finale of shows. It would be next to impossible to discuss every single shell in detail and provide information on each one.

Zambelli chooses fireworks from a number of different manufacturers from around the world to provide audiences with both unique and creative products. Sunny, PyroEast, Vulcan, Dominator and Dancing products all come from premium Chinese manufacturers. Cabeller shells are very premium Spanish shells. Panzera from Italy make the best multi-shot shells and roman candles in the industry. Hosoya Japanese shells provide some of the best willow and kamuro shells in the world. Lastly, Zambelli still manufactures shells, some of which will be seen during the display.

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WHY CHOOSE ZAMBELLI?

Zambelli Fireworks prides itself on being able to provide the largest "bang for your buck." We have a Colorado network which is unrivaled in the industry. With our offices in Denver, a permanent storage facility in Aurora, and technicians around the state, Zambelli can pass the savings these local facilities provide, onto you. We can offer more shells, regular site visits for safety, and local technicians and management to ensure you receive the best production possible.

Zambelli Fireworks believes in honesty and integrity as a core company philosophy. We invite, and encourage, our clients to audit our firing sites for quality and quantity of our fireworks and equipment.

Experience and Qualifications

Proudly known as the "First Family of Fireworks," Zambelli Fireworks is one of the oldest and largest American fireworks companies.

The corporate headquarters and main plant operations are based in New Castle, PA. The southeast regional office is located in Boca Raton, FL, the western office is located in Bakersfield, CA, the central US office is in Denver Co. Zambelli Fireworks currently employees over 40 full-time individuals and thousands of trained, qualified pyrotechnicians. All full-time staff and technicians working with your display will be fully trained, federally approved, Zambelli employees.

The Zambelli family has manufactured the highest quality fireworks and has presented artistic excellence in fireworks displays for over 100 years.

The Zambelli name is recognized and respected, worldwide. Competitors strive to achieve the name recognition that Zambelli Fireworks commands today.

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Zambelli Fireworks is known worldwide for setting the industry standard in show design and technology.

George Zambelli, Sr. was the pioneer of Zambelli Fireworks for over 65 years. His father, Antonio Zambelli, brought the artistry to New Castle, PA from Italy.
George Zambelli Jr., current Chairman of the Board, is carrying on the Family Tradition of "Lighting Up the Skies!" The Zambelli family and year-round professional staff of technicians, designers, office staff and administrators are here to assist and guide you in the development and implementation that is specific for your fireworks event. We have a team of individuals ready to make your event an extreme success.

Many of the most sought-after master pyrotechnicians in the industry are longtime employees of Zambelli Fireworks.

Experience means quality. Zambelli Fireworks is proud to have a number of individuals who have made long careers within the pyrotechnics industry. The Senior Plant Manager has over 35 years experience in fireworks, the Senior Choreographer/Show Designer has over 25 years experience in fireworks, and the Senior Product Manager has over 25 years experience choosing the highest quality shells and equipment. These individuals' dedication to the artistry of pyrotechnics creates a scenario for quality fireworks shows for every client, large and small.

There's a tremendous dedication to technician training to ensure the most safe display with the highest quality production.

All of our display technicians have attended Zambelli Fireworks' extensive training program and have met all of the rigid safety procedures, which exceed state and federal requirements. We offer a number of different training courses with extensive classroom

and hands-on training, per year, around the country. New technicians must also work alongside experienced technicians to gain competence and meet the highest safety, regulatory, and overall performance standards.

Zambelli Fireworks exists as the largest fireworks company in the United States for one reason…customer service and satisfaction EVERY SHOW!

Zambelli Fireworks is proud to be the largest fireworks company in the United States. However, we cannot rest on our laurels by simply being the largest. We must prove our quality and customer satisfaction to every client, on every show, every time. Clients trust us to successfully produce thousands of displays every year. Our goal is to outperform with every show, large or small.

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COMPANY EXPERIENCE:

Internationally Known Programs

The Statue of Liberty, Super Bowls, Presidential Inaugurations, Visits of Kings and Queens, Times Square New Years Eve, Mount Rushmore, Washington D.C. and New York City Fireworks displays, Kuwait Display for the Troops in the First Gulf War and many more historical events.

Top U.S. Festivals and Civic Celebrations

Thunder Over Louisville/Kentucky Derby Festival, Minneapolis Aquatennial, Pittsburgh 250th Anniversary, Boise Riverfest, Macon Cherry Blossom Festival, the North Carolina State Fair, Canton Football Hall of Fame, Tampa Gasparilla Celebration, the Florida State Fair and many more.

Sports Franchises and Venues

MLB World Series, NFL Super Bowl, Detroit Tigers, Pittsburgh Pirates, Baltimore Orioles, Colorado Rockies, Florida Marlins, Atlanta Braves, Washington Redskins, Pittsburgh Steelers, Tampa Bay Bucs, Miami Dolphins, Ft. Myers Miracle, Carolina Mudcats, Buffalo Bison, Charleston Riverdogs, Winston-Salem Wart Hogs, Louisville Bats, Clemson University, University of Miami, ACC Championship Game (Tampa), St. Petersburg Bowl (Tropicana Field) and a number of other College and HS Football venues.

Colorado Displays

Colorado Rockies, Colorado Rapids, Colorado Outlaws, City of Aurora, City of Arvada, City of Thornton, Town Of Idaho Springs, Fiddlers Green, Elitch Gardens, Steamboat Springs Ski School, Steamboat Lake Resort, I25 Speedway, City of Cripple Creek,
Ute Mountain Casino, as well as many corporate and private events.

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Your Personalized Zambelli Fireworks Team and Technicians

Ernie Simmons
Operations Manager
Senior Project Manager
863-287-9168 cell
epsimms@aol.com
esimmons@zambellifireworks.com

Ernie has worked with Zambelli Fireworks since 1978 designing, shooting and training technicians. His primary roles include training both fireworks technicians and Fire Marshals/Safety Officials, and of course lead technician on dozens of shows annually.

Jerry Jones
Facilities Manager
Senior Technician
303-845-2620

Jerry has over 25 years experience as a technician and manages our Colorado storage facility.

Danielle Fredrickson
Senior Customer Service Manager
561-395-0955
daniellefredrickson@zambellifireworks.com

Danielle is the person who works behind the scenes to make everything regarding the fireworks show logistics come together. She will work on the permit applications, certificates of insurance, technician coordination, area site maps, and can answer any question you may have regarding your fireworks display.

Zach Taminosian
Senior Designer/Choreographer
561-395-0955 office
239-225-8012 cell
zach@zambeliifireworks.com

Zach has worked for Zambelli Fireworks for more than twelve years. His in-depth knowledge of show design and choreography is second-to-none. He is tasked with designing some of the largest displays in the United States. Zach also works tirelessly to buy the best fireworks from around the world.

Zach just recently designed and produced the winning program representing the United States in the International Fireworks Competition for 2016 in Calgary.

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Chrysanthemums

Description: Typically a spherical break of colored stars that leave a trail or sparks behind. May include pistils (center multi break stars) or other features such as multi-colored, half and half, cracking, etc.

Body

Red Chrys
Green Chrys
Yellow Chrys
Blooming Silvery Chrys
Blue Chrys
Red, White and Blue Chrys
Green to Purple Chrys
Varied Colorful Flowers
Multi-Color Chrys
Golden Chrys w/rising tails
Silver to Purple Chrys
Glittering Silver to Red Chrys
Purple Chrys with White Pistil
Red Chrys with white Pistil
Gold Wave to Red/Blue Chrys

Red to Blue Chyrs.
Silver to Green Chyrs.
Gold Chrys. w/ rising tails
Glitter Silver to Red Chrys
White Twinkling Chrys.
Spangle Chrys. w/rising tails
Orange Chrys. w/rising tails
Purple Chrys
Yellow Chrys
Silver Chrys w/rising tails
Silver to Green Chrys
Variegated Rainbow Chrys
Green Chrys with Green Pisitl
Silver and Gold Chrys
Multi-Color Chrys to Popping Flowers

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Peonies

Description: Typically a spherical break of colored stars that leave no trail or sparks behind. May include pistils (center multi break stars) or other features such as multi-colored, half and half, cracking, etc.

Body

White Peony
Silver Wave to Purple Peony
Yellow Peony
Purple Peony w/Gold Palm
Variegated Peony (rainbow)
Red, White and Blue Peony
Silver to Red Peony
Orange Peony
Silver Wave to Blue Peony
Red to Silver Peony
Golden Peony
Red and Green Peony
Color Changing Peony
Popping Peony (Red)
Half Blue Half Red Peony
Half Green Half White Peony
Pink Peony
Green to Silver to Blue Peony
Blue Peony w/Blue Palm Tree.
Multi-Colored Peony
Green Peony w/Gold Palm Tree
Red to Blue Peony
White Peony w/Blue Pistil
Glittering Peony
Silver to Blue Peony
Half Green Half White Peony
Silver Wave to Purple Peony
Green to Purple Peony
Blue Peony w/titanium reports
Blue to Silver Peony
Sparkling Peony w/Pistil
Popping Peony (White)
Half White Half Red Peony
Golden Waves to Purple Peony
Brilliant Orange Peony
Red to White to Blue Peony

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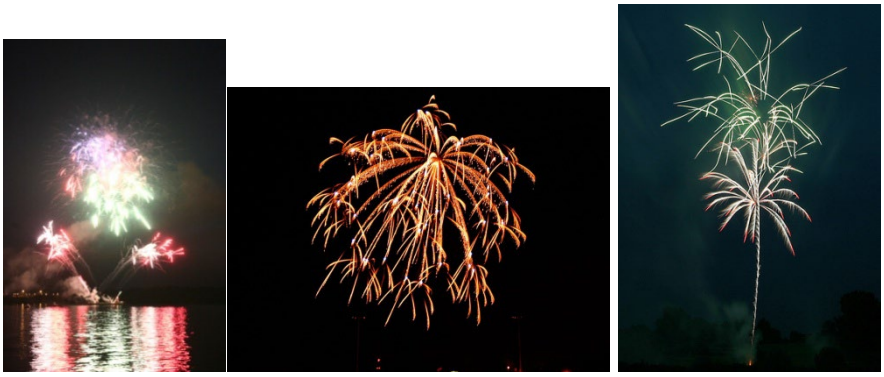
Crossettes



Description: A crossette is a unique shell that breaks into 6 or 8 arms. Then, after some delay, those arms again break into multiple arms criss-crossing each other in a grid-like fashion throughout the sky. Larger caliber shells may even have a third break in all of the arms.

Blue Crossettes
Red to Blue Crossettes
Variegated Rainbow Crossettes
Crackling Crossettes
Red to Green Crossettes
Green to Purple Crossettes
Red Crossette Palm Tree
White Flitter Crossettes

Green to Blue Crossettes
Silver Crossettes
Purple and White Crossettes
Gold Crossettes w/rising tails
Green Crossette w/green Tails
Rainbow Crossettes w/red Tails
Blue Crossette Palm Tree
Silver Crossettes

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Duration/Lingering Effects (Willows, Brocades, Kamuros)

Description: A Long Duration/Lingering Effect is like a Chrysanthemum but burns slowly to the ground leaving a trail of aerial spark dust. These shells are many times gold or silver with various color tips, color changing, or have various colored centers. Zambelli uses many long duration effects at the end of finales to create a sky of gold or silver.

- Twilight Glitter w/Purple
- Brocade Crowns
- Brocade Crown to Purple
- Variegated Falling Leaves
- Long Duration Kamuro
- Pixie Dust Willows
- White Poca Shells
- Twilight Glitter w/Red
- Long Duration Red Falling Leaves
- Brocade Crown to Red
- Purple Falling Leaves
- Super Brocade Crowns
- Ultra-Long Duration Gold Kamuro
- Gold Poca Shells

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Dahlias

Description: A Dahlia shell is like a peony but uses dramatically larger and fewer stars to create brighter, wider trails of sparks through the air. They are typically very bold, defined colors used to mix up the pace of a show. They many times are also used in finales.

Assorted Color Dahlia	Blue Dahlias w/Pistil
Green Dahlia w/Pistil	Red Dahlia w/Pisitl
Yellow Dahlia w/Pistil	Red and Blue Dahlia
Pink Dahlia	Silver Dahlia
Gold Strobe Dahlia	Blue Strobe Dahlia
Red Strobe Dahlia	Purple Strobe Dahlia
Variegated Dalia	White Dahlie w/Purple Tips
Purple and Red Dahlia	White Dahlia w/Red Tips

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Patterns

Description: Pattern shells come in a variety of shapes, sizes and depictions. Most notable shapes are shells with stars in patterns of hearts, smile faces, Saturn or other planet blasts, 4-leaf clovers, wagon wheels, etc.

Red Palm Trees
Red Hearts
Green to Purple Ring
Octopus Shells
Saturn Rings
Smile Faces
Green to Blue Crossing Rings
White/Red Bowtie in Ring

Blue Palm Trees
Triple Rings
Saturn Blasts
Meteor Rings
Crackling Palm Trees
Triple Rings w/scattering stars
Half White Half Purple Ring

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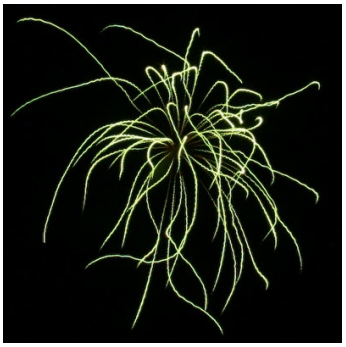
Specialty Shells



Description: There's a variety of specialty, premium shells that include horsetail willows, scattering stars, bees, falling leaves, Palm Trees and other unique designs and effects.

Silver Bees	Blue Bees
Horsetails	Aluminum King Shells
Large Silver Whirls (Serpents)	Blue and Red Spiders
Trees of Many Colors	Kaleidoscopes
Peacock Feathers	Gold Sparkling Kamikazes
Thousands of Gold Waves	Thousands of Red Waves
Peacock Tails	Red, White, Blue Dragon Eggs
Silver and Purple Strobes	Popping Flowers
Treasure Chests	Red Shell of Shells
Green Magnesium to Fast Strobe	Green Shell of Shells
Multi-Color Shell of Shells	Tourbillion and Multi-Color

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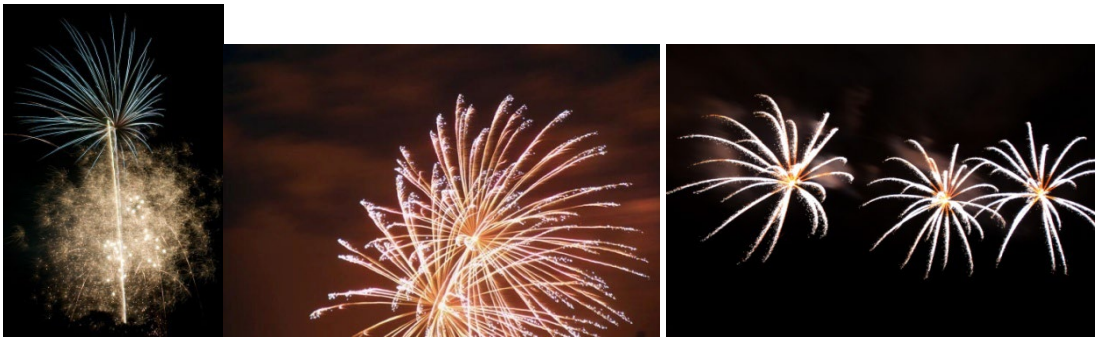
Specialty Noise



Description: Noise shells come in many different types. The most popular are cracking, whistling or screamers, thousands of popping flowers, and the extremely loud titanium salutes.

Cracking Delight
Diamond Screamer Whistles
Crackling Double Rings
Crackling Coconut Trees
Twice Crackling Rain
Blue Crackling Flowers
Artillery Titanium
Gold Crackling Chrys
Serpents with Reports
Large Silver Screaming Whirls
White and Green Scattering
Blue Crackling Spiders
Tourbillion w/Reports
Green Crackling Flowers
Thundering Tourbillions
Whistles and Stars

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Barrage Cakes

Description: Barrage Cakes or Multi-shot devices are designed to significantly enhance fireworks displays by adding hundreds of rapid-fire shots of various effects. They are mainly used to create tableaus in tandem with aerial shells breaking around the multi-shot devices. Below are an example of the various types and designs.

35 Shot White Flitter Comet Box
35 Shot Red Crossette Fan Box
35 Shot Thunder Tourbillion Fan Box
35 Shot Dragon Eggs w/Tails
36 Shot Silver Fish with Tourbillion
36 Shot Assorted Colorful Falling Leaves
36 Shot Gold Twinkling Kamuro Box
36 Shot Red and Blue Crossettes
49 Shot Red and Silver Moons
49 Shot Red Crackling Tails
49 Shot Silver Crossettes
49 Shot Red and Green Crossettes
100 Shot Hammer Boxes
100 Shot Brocade Crowns
100 Shot Blue Crossettes with Tails
100 Shot Variegated Peonies
136 Shot W Shape Purple Kamuro
300 Shot 8 Shape White Strobe
372 Shot W-Shape Golden Willow

119 Shot Rapid Fired Gold Comets
192 Shot Fast Pearl Zippers
96 Shot Peacock Tails
140 Shot Silver Rain
80 Shot V-Shape Silver Coconuts
80 Shot V-Shape Rainbow Chrys.
200 Shot Whistling Comets
70 Shot Z-Shape Midnight Snow
400 Shot V Shape Rapid Fire Box
408 Shot Zipper Rapid Fire Box
300 Shot Finale Comet Box
665 Shot Silver Barriers
Angle Wipe Devices – (various angles)
Zipper Curtain Devices
Zipper Chase Devices
Fan Chase Devices
136 Shot W-Shape Silver to Green
300 Shot 8 Shape Red Pear Comets
408 Shot Z Shape Lime Green Pearl

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References

City of Thornton
Contact-Chris Steinke 720-977-5939 email chris.steinke@cityofthornton.net
2211 Eppinger Blvd.
Thornton Co. 80229

Colorado Rockies Baseball Club
Contact-Beverly Coleman 303-312-2245 email Beverly.coleman@rockies.com
2001 Blake Street
Denver Co. 80205

Steamboat Springs Ski Resort
Contact Nelson Wingard 970-871-5386 email nwingard@steamboat.com
2305 Mt. Werner Circle
Steamboat Springs Co. 80487

City of Aurora Co.
Contact-Joshua Strum 303-739-7163 email jstrum@auroragov.org
15151 East Alameda Parkway
Aurora Co.

Ernie Simmons will be the Project Manager, his info is listed on page 10.

Matthew Johnson will be the lead technician.
300-726-3343 email mj147@gmail.com
2121 Night Sky Lane
Lafayete Co. 80026
Matt is holds a Pyrotechnicians license issued by the State of Colorado Fire Marshall's office.
He has been an employee of Zambelli Fireworks for more than 10 years.
He has worked on the following projects.
City of Longmont
City of Idaho Springs
City Cripple Creek
City of Lochbuie
Ute Mountain Casino
Elitch Gardens
Colorado Rockies

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Denver Outlaws

ZAMBELLI FIREWORKS MANUFACTURING CO.

THIS CONTRACT AND AGREEMENT (this "Contract") is made effective as of this

4th day of February, 2026, by and between:

Zambelli Fireworks Manufacturing Co. of Cranberry Township, Pennsylvania (hereinafter referred to as "Zambelli"),

Town of Berthoud (hereinafter referred to as "Client").

WHEREAS, Zambelli is in the business of designing and performing exhibitions and displays of fireworks; and

WHEREAS, Client desires that Zambelli provide an exhibition and display of fireworks for Client's benefit pursuant to the terms and conditions hereof, and Zambelli desires to perform an exhibition and display of fireworks for Client's benefit pursuant to the terms and conditions hereof.

NOW, THEREFORE, in consideration of the mutual agreements herein contained:

Zambelli, intending to be legally bound, agrees as follows:

1. Zambelli agrees to sell, furnish and deliver to Client a fireworks display [per the quote submitted by Zambelli to Client, accepted by Client and made a part hereof] (hereinafter referred to as the "Display") to be exhibited on the display date set forth below (hereinafter referred to as the "Display Date"), or on the postponement date set forth below (hereinafter referred to as the "Postponement Date") if the Display is postponed as provided herein, which Display Date and Postponement Date have been agreed upon at the time of signing this Contract.

   Display Date: July 3, 2026 **Postponement Date (if any):** _____

2. Zambelli agrees to furnish the services of display technicians (hereinafter referred to as "Display Technicians") who are sufficiently trained to present the Display. Zambelli shall determine in its sole discretion the number of Display Technicians necessary to take charge of and safely present the Display.

3. Zambelli agrees to furnish insurance coverage in connection with the Display for bodily injury and property damage, including products liability, which insurance shall include Client as additional insured regarding claims made against Client for bodily injury or property damage arising from the operations of Zambelli in performing the Display provided for in this Contract. All those entities/individuals appearing as an additional insured on the certificate of insurance shall be deemed an additional insured per this contract. Such insurance afforded by Zambelli shall not include claims made against Client for bodily injury or property damage arising from failure of Client, including through or by its employees, agents and independent contractors, to perform its obligations under this Contract, including without limitation those set forth in paragraphs 5 and 6 below. Client shall indemnify and hold Zambelli harmless from all claims and suits made against Zambelli for bodily injury or property damage arising from failure of Client, including through or by its employees, agents and independent contractors, to perform its obligations under this Contract, including without limitation those set forth in paragraphs 5 and 6 below.

Client, intending to be legally bound, agrees as follows:

4. Client agrees to pay Zambelli the sum of **$** 50,680 (hereinafter referred to as the "Purchase Price"), fifty percent (50%) of which is due upon signing this Contract and the balance of which is due at noon three days before the Display Date. All credit card payments will be subject to a 3.9% surcharge. Zambelli reserves the right to add to Client's invoice an equitable transportation surcharge in the event of any material increase in transportation costs (including the cost of fuel and third party shipping costs) to Zambelli after the date of this Contract. Client agrees to pay a postponement fee of fifteen percent (15%) of the Purchase Price plus Additional Third Party Charges (as defined in paragraph 11 below) if the Display is fired on the Postponement Date, or twenty-five percent (25%) of the Purchase Price plus Additional Third Party Charges if the Display is fired on a date other than the Display Date or the Postponement Date ("Alternate Date"). The Alternate Date must occur within six months of the original Display Date at a time agreeable to both Zambelli and the Client. Generally, Alternate Dates will not include the period from June 28th through July 7th. This Checks shall be made payable to Zambelli Fireworks Manufacturing Co., unless otherwise authorized in writing by Zambelli. NO CASH shall be paid to any agent or employee of Zambelli, unless otherwise authorized in writing by Zambelli. There shall be no

refund of the Purchase Price due and payable under this paragraph 4, except as specifically provided in paragraph 11 below.

5. Client agrees to meet all deadlines outlined in the Design and Production Provisions, which has been provided to Client, including but not limited to the following:

   (a) Client must select a suitable place for the Display, including a firing and debris zone reasonably acceptable to Zambelli (hereinafter referred to as the "Display Area") and submit such selection to Zambelli no later than sixty (60) days prior to the Display Date. The Display Area shall adhere to or exceed applicable National Fire Protection Association ("NFPA") standards including the Zambelli guideline that the Display Area have a radius of at least 100 feet per inch (or as mutually agreed to between Zambelli and Client) of the largest diameter pyrotechnic from the firing site in all directions to any parking area, spectators, inhabited buildings, public roads, or active railroad. Client shall submit a site map (attached hereto as Exhibit A) to Zambelli accurately representing the physical characteristics of the Display Area as pertains to NFPA and Zambelli guidelines. The content of the Display may be limited by the selection of the Display Area due to the requirement to provide sufficient safety zones.

   (b) Zambelli will secure all permits necessary for the Display as required, including but not limited to police, local, state and United States Coast Guard ("USCG") permits, where applicable, and arrange for any security bonds or insurance as required by law. In addition, Zambelli will notify and obtain permission from the FAA to display fireworks when required. Client will assist Zambelli when appropriate in completing permit applications. Client shall be responsible for any Special Event permits required by the City. It is the responsibility of the Client to contact the City's Special Events Department regarding their event.

   (c) If the display is choreographed to music, the final selection of the music must be submitted to Zambelli by Client no later than ninety (90) days prior to the Display Date.

6. If, in its sole discretion, Client designates an area for members of the public to view the Display (hereinafter referred to as the "Spectator Area") or an area for vehicular parking (hereinafter referred to as the "Parking Area"), Client shall (a) ensure that the Spectator Area does not infringe on the Display Area, (b) have sole responsibility for ensuring that the terrain of the Spectator Area and any structures thereon, including but not limited to grandstands and bleachers are safe for use by spectators, (c) have sole responsibility for ensuring that the Parking Area is safe for use, (d) have sole responsibility to police, monitor and appropriately control spectator access to the Spectator Area and the Parking Area and police and monitor and appropriately control the behavior of persons in these areas. It is expressly agreed that Zambelli shall not inspect any area other than the Display Area, except to ensure that any Spectator or Parking Areas are outside the Display Area.

7. Prior to, during, and immediately following the Display, Client shall monitor the Display Area and will be solely responsible to keep all persons and property not authorized by Zambelli out of the Display Area and behind safety zone lines and limits.

8. Following the Display, Client shall be solely responsible for policing of the Display Area and for cleanup except as specifically provided in the sentence immediately following. Zambelli shall be responsible for the removal of unexploded fireworks and the cleanup of material debris, the removal of frames, sets and lumber from the Discharge Area, and the refilling of holes created by Zambelli or on behalf of Zambelli within the Discharge Area.

9. Client will include a direct reference to "Zambelli Fireworks" in all promotional material, including but not limited to event schedules; radio, television, newspaper and internet announcements; newspaper articles; and other media.

The parties, intending to be legally bound, mutually agree as follows:

10. It is agreed and understood by the parties hereto that should inclement weather prevent firing of the Display on the Display Date, as determined by the Authority Having Jurisdiction (as defined in paragraph 14 below) or as reasonably determined by Zambelli, then the program shall be postponed and fired on the Postponement Date. If there is no Postponement Date and the Display is not fired on the Display Date, or if inclement weather prevents firing of the Display on the Postponement Date, as determined by the Authority Having Jurisdiction or as reasonably determined by Zambelli, the Display will be cancelled and there will be no refund of the Deposit or fifty percent (50%) of the Purchase Price, whichever is greater.

11. Client's cancellation of the Display will only be effective upon receipt by Zambelli of a written notice from an authorized person representing Client. In the event of cancellation of the Display, the parties agree as follows:

    (a) If Client cancels the Display more than sixty-one (61) days prior to the Display Date, Client agrees to pay Zambelli a cancellation fee equal to ten percent (10%) of the Purchase Price plus Additional Third Party Charges, as defined below.

    (b) If Client cancels the Display from thirty-one (31) to sixty (60) days prior to the Display Date, Client agrees to pay Zambelli a cancellation fee equal to twenty percent (20%) of the Purchase Price plus Additional Third Party Charges, as defined below.

    (c) If Client cancels the Display from five (5) days prior the Display to thirty (30) days prior to the Display Date, Client agrees to pay Zambelli a cancellation fee equal to thirty percent (30%) of the Purchase Price plus Additional Third Party Charges, as defined below.

    (d) If Client cancels the Display less than five (5) days prior to the day of the Display, Client agrees to pay Zambelli a cancellation fee equal to fifty percent (50%) of the Purchase Price plus Additional Third Party Charges, as defined below.

    (e) "Additional Third Party Charges" shall mean all costs and expenses incurred by Zambelli and paid or payable to third parties in connection with the Display, including but not limited to security fees, permits and licensing fees and expenses, barge and tow expenses, and firewatch fees.

12. Zambelli reserves the exclusive right to make minor modifications and substitutions to the Display, provided that such changes are reasonable and necessary and do not materially adversely affect price, time of delivery, functional character or performance of the Display.

13. It shall be within Zambelli's and/or the Authority Having Jurisdiction's discretion to terminate the firing of the Display if any unsafe or unsuitable condition is identified. If such condition is not corrected, Zambelli may cancel the Display without further liability to Client for such cancellation.

14. The parties agree to cooperate with the regulatory authorities having jurisdiction over the Display, including, but not limited to local fire and police departments, the Bureau of Alcohol, Tobacco, Firearms and Explosives, the Department of Transportation, the Department of Homeland Security, and the USCG (any such authority having jurisdiction over the Display is sometimes referred to herein as, the "Authority Having Jurisdiction"). The parties acknowledge that such governmental regulatory authorities having jurisdiction over the Display have the right to prohibit the Display until unsafe or unsuitable conditions are corrected.

15. This contract shall be deemed made in the State of Colorado and shall be construed in accordance with the laws of the State of Colorado, excluding its conflict of law rules. The parties agree and consent to the jurisdiction of the courts of the State of Colorado to decide all disputes regarding this Contract.

16. If Client becomes bankrupt or insolvent, or if a petition in bankruptcy is filed by or against Client or if a receiver is appointed for Client, Zambelli may refuse to perform under this Contract and may terminate this Contract without prejudice to the rights of Zambelli. If Client's financial condition becomes unsatisfactory to Zambelli, Zambelli may require that Client deposit the balance of the Purchase Price in escrow or provide sufficient proof of its ability to pay the balance of the Purchase Price.

17. Except to the extent, if any, specifically provided to the contrary herein, in no event shall Zambelli be liable to Client for any indirect, special, consequential, incidental or punitive damages or lost profits, however caused and on any theory of liability (including negligence of any kind, strict liability or tort) arising in any way out of this contract, whether or not Zambelli has been advised of the possibility of damages.

18. If Client fails to pay the monies due under this Contract, Zambelli is entitled to recover the balance due plus interest at one and one-half percent (1 ½ %) per month on amounts past due sixty (60) days or more. Further, on balances outstanding one hundred twenty (120) days or more, Zambelli is entitled to recover the balance due, plus accrued interest, plus attorneys fees of ten percent (10%) of the amount past due, plus court costs, or, if less, the maximum amount permitted by law.

19. This Contract shall not be construed to create a partnership or joint venture between the parties or persons mentioned herein.

20. Each party hereunder shall be excused for the period of delay in the performance of any of its obligations hereunder and shall not be liable for failure to perform or considered in default hereunder, when prevented from so performing by a cause or causes beyond its reasonable control, including but not limited to fire, storm, earthquake, flood, drought, accident, explosion, operation malfunction, or interruption, strikes, lockouts, labor disputes, riots, war (whether or not declared or whether or not the United States is a member), Federal, state, municipal or other governmental legal restriction or limitation or compliance therewith, failure or delay of transportation, shortage of, or inability to obtain materials, supplies, equipment, fuel, power, labor or other operational necessity, interruption or curtailment of power supply, or act of God, nature or public enemy.

21. This Contract constitutes the sole and entire understanding of the parties with respect to the matters contemplated hereby and supersedes and renders null and void all prior negotiations, representations, agreements and understandings (oral and written) between the parties with respect to such matters. No change or amendment may be made to this Contract except by an instrument in writing signed by each of the parties.

22. Notices, consents, requests or other communications required or permitted to be given by either party pursuant to this Contract shall be given in writing by first class mail, postage prepaid addressed as follows: if to Zambelli, to the address set forth below; if to Client, to _____ 807 Mountain Ave, Berhoud, CO 80513_____.

23. This Contract may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which together shall be deemed to be one and the same instrument. The exchange of copies of this Contract and of signature pages by facsimile transmission shall constitute effective execution and delivery of this Contract as to the parties and may be used in lieu of the original Contract for all purposes. This Contract and all the rights and powers granted by this Contract shall bind and inure to the benefit of the parties and their respective successors and assigns.

24. _____
_____
_____

IN WITNESS WHEREOF, we set our hands and seals to the agreement in duplicate the day and year first above written.

FOR Client:	**FOR: Zambelli Fireworks Manufacturing Co.**
BY_____	BY_____
PRINT_____	PRINT_____
DATE_____	DATE_____

Please sign contract where indicated for Client and return all copies for final acceptance to:

Zambelli Fireworks Manufacturing Co.
1060 Holland Drive, Suite J
Boca Raton, FL 33487
561.395.0955 800.245.0397 FAX 561.395.1799

Zambelli
FIREWORKS

Communication Sheet

Communications Sheet must be completed in its entirety each year.

Our insurance carrier requires a newly completed form each year.

A Zambelli Fireworks representative will use this sheet to contact you.

	Customer Information		**Show Information**
Customer Name		Show Date	
Address		Rain Date	
City, State, Zip		Time of Show	
E-Mail			
	Firing Site Location		**Storage Site Location**
Description		Description	
Site contact Name		Site Contact Name	
Phone Number		Phone Number	
Address		Address	
City, State, Zip		City, State, Zip	
	Main Contact		**A/P Billing Contact**
Name		Name	
Address		Address	
City, State, Zip		City, State, Zip	
Home Phone Number		Home Phone Number	
Fax Number		Fax Number	
Office Number (& ext.)		Office Number (& ext.)	
Cell Number		Cell Number	
E-Mail		E-Mail	
	Alternate Contact		**Show Day Contact**
Name		Name	
Address		Address	
City, State, Zip		City, State, Zip	
Home Phone Number		Home Phone Number	
Fax Number		Fax Number	
Office Number (& ext.)		Office Number (& ext.)	
Cell Number		Cell Number	
E-Mail		E-Mail	

SAFE SHOWS ARE A RESULT OF PROPER PLANNING!

1060 Holland Drive – Suite J
Boca Raton, FL 33487
(561) 395-0955
www.zambellifireworks.com

Zambelli
FIREWORKS

Required Insurance Requisition Form

Customer Name

Address

City State Zip

Display Date Rain Date

Location of Display

City State Zip

Name all Additional Insured

Name & Address of Display Site Property Owner

Certificate to be issued to:

Address

City State Zip

Title Phone

*** This form must be returned with your signed contract for the insurance certificate to be processed. Our insurance company requires that we have this form in addition to the signed contract prior to the certificate being issued.**

1060 Holland Drive – Suite J
Boca Raton, FL 33487
(561) 395-0955
www.zambellifireworks.com

Zambelli Fireworks
280 Executive Drive, Suite 100
Cranberry Township, PA 16066
(800) 245-1397

PLEASE RETURN COMPLETED FORM TO:
lorie.martch@zambellifireworks.com

CUSTOMER BILLING FORM

CUSTOMER INFORMATION

COMPANY / CUSTOMER as shown on Federal Tax Return		**PO #**
ALTERNATE NAME if applicable / (doing business as)		**BILLING TERMS (i.e. Deposit, Net 30)**
POINT OF CONTACT NAME	**BILLING CONTACT NAME**	
BILLING ADDRESS:		
PHONE	**FAX**	**BILLING CONTACT EMAIL**
PO# REQUIRED ON INVOICE?	**DOCUMENTS, BUSINESS LICENSES, OR INFORMATION REQUIRED TO PROCESS PAYMENTS**	
YES NO		

ORGANIZATION TYPE

	Corporation		Individual / Sole Proprietor		Joint Venture
	LLC		Partnership / Limited Partnership		Non Profit

ENROLL IN ACH/EFT Payments?

	YES
	NO

PAYING BY CREDIT CARD? e.g, Visa, MC, etc.

	YES
	NO

REQUESTOR / CUSTOMER'S NAME	**SIGNATURE**	**DATE REQUESTED / SENT**

INTERNAL USE ONLY	**VENDOR ID**	**DATE RECEIVED**	**DATE PAYMENT PROCESSED**

BOARD OF TRUSTEES INFORMATION

UTILITIES

Meeting Date:	**February 10, 2026**
Agenda Title/Subject:	**Water Snapshot Update**
Type of Item:	**Regular Item**
Purpose:	**To provide an update on current water supply**
Presented by:	**Ken Matthews and Alex Tennant**

BACKGROUND:

During the Board of Trustees' 2023 Water Dedication Policy Work Sessions, the Board directed Town Staff to periodically update the Town's water supply and demand outlook so the Board can continue to evaluate the Town's water dedication policy. As requested, the Town's water resources engineers have updated their prior water supply and demand outlook, with updated data regarding both supply and demand.

With respect to water supply, the updated outlook also incorporates the water supply associated with the Town's recent acquisitions and dedication of Handy shares, while they are not yet available for treatment demand, they can be used for non-potable irrigation until a future change case is filed. The updated outlook continues to evaluate three supply scenarios: 1) no yield from the Town's Windy Gap Units, 2) average yield from the Town's Windy Gap Units and 3) firm yield from the Town's Windy Gap Units.

With respect to water demand, the outlook incorporates updated water demand data and utilizes a water bank accounting tool developed in 2023 to more closely analyze the difference between the Town's "Actual Demand" (which is based on treated water production at the Town's water treatment plant) and "Committed Demand" (which includes both Actual Demand and water service commitments the Town has made but that are not yet included in the Actual Demand). The difference between Actual Demand and Committed Demand is classified as Unrealized Water Demand. These demand concepts are depicted in the graphic below, along with three water supply scenarios described above.

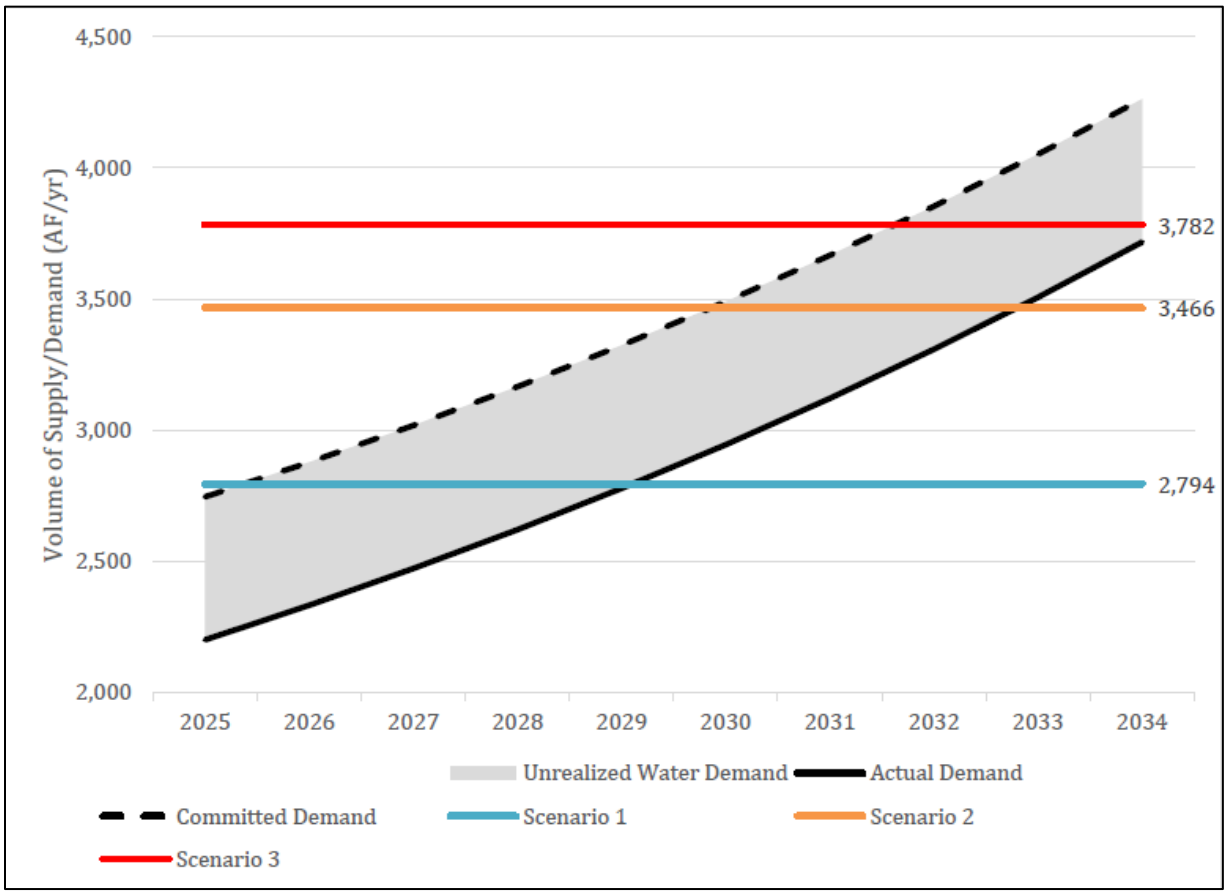
The updated outlook conservatively assumes that the Town's Unrealized Water Demand will grow proportionally with the Town's Actual Demand, meaning the Town will continue to issue water credits at a rate proportionate to the growth in Actual Demand. These demand assumptions are very conservative and could be further refined through an evaluation of the projected water demands associated with the Town's undeveloped area and expected annexation areas.

As shown in the graphic below, the updated outlook projects that under the most conservative assumptions (zero yield from the Town's interest in the Windy Gap Project, a.k.a. Scenario 1, and continued growth of both Actual Water Demand and Committed Water Demand as describe the Town's current water supply will support Actual Demand into 2029. Under the slightly less conservative Scenario 2, the Town's current water supply will support the projected Actual Demand through approximately 2032. It is important to understand that the Town's Unrealized Water Demand will not become Actual Water Demand overnight; rather, the Unrealized Demand will become Actual Water Demand as the Town continues to approve building permits associated with new development. The Town has already made water service commitments for much of the currently planned growth within Town boundaries, so these conservative demand projections may over-estimate the demand for new water taps in the coming years.

The different water supply scenarios show that the Town's firm water supply increases significantly once it firms the yield of its Windy Gap Units (Scenario 3), which underscores the importance of the Town's ongoing projects to firm its Windy Gap Units. These projects will provide an additional firm water supply that can reliably serve the Town's water demand, and the projects could yield even more water with reuse. Town Staff will continue efforts to firm the supply from its Windy Gap Units. Town Staff will also continue with additional water rights acquisitions if terms are favorable.

The updated outlook demonstrates that the Town has sufficient water for multiple years of continuing demand growth under the most conservative conditions. Therefore, Town Staff does not recommend changes to the Town's water dedication policy at this time.

Berthoud Projected Raw Water Demands 2025-2034



Memorandum

To:	Town of Berthoud & Lyons Gaddis
From:	Andrew Case & Molly Adams, LRE Water
Date:	December 8, 2025
Project:	1425TOB
Subject:	Town of Berthoud Water Snapshot – December 2025 Update

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The purpose of the Berthoud Water Snapshot is to evaluate the Town's ability to serve projected treated water demands based on historical hydrologic conditions using an average yield of currently available and reliable water supplies, and a few specific short-term Windy Gap (WG) firming water development scenarios. The last update to the Berthoud Water Snapshot was completed in April 2025.

Based upon the updated analysis of Berthoud's projected water supplies and demands, LRE Water estimates that Berthoud currently has **2,332 single-family equivalents (SFEs) or 722 acre-feet per year (AF/yr)** of unallocated water that could be sold, assuming Berthoud is achieving an average yield from its raw water supplies. This is a decrease of 40 SFEs or 13 AF/yr from the April 2025 update. The decrease of unallocated water that could be sold is due to the Town's issuance of building permits for new homes and businesses, as expected, while not acquiring additional water supplies during that time.

Note that Berthoud's code requires a raw water dedication volume of 0.4 AF/SFE, however, for the most recent drought year (2021), LRE Water has calculated a raw water demand of approximately **0.31 AF/SFE**, which is what the calculations in this memorandum are based on.

The following changes and updates have been made since the most recent Water Snapshot update in April 2025:

- Inclusion of Berthoud's metered customer deliveries through August 2025 for the purpose of calculating treated and raw water demands;
- Inclusion of Berthoud's issued water certificates through October 2025, for the purpose of estimating the total raw water demand that Berthoud has committed to serving; and

- Updated growth rates based on water demands analysis completed for the Case No. 22CW3206 26(a)(2) Expert Disclosure Report. Revised growth rates are 5.9963% for years 2025-2042 and 2.5614% for years 2043-2063.

Background

The dry-year yield associated with Berthoud's current water rights portfolio is summarized below in **Table 1**.

Table 1. Water Snapshot Average Annual Yield of Berthoud Water Supplies for Potable Use

Berthoud Water Supply	Dry Year Yield (AF/yr)
Decree Water	1,822.6
1,088 C-BT Units	652.8
40.33 Changed Handy Ditch Company Shares	163.3*
34 Changed Ryan Gulch Res. Company Shares	0.0**
10 Windy Gap Units Scenarios 1, 2, 3	0.0, 630, 950
Totals Scenarios 1, 2, 3	2,638.7, 3,268.7, 3,588.7

*500 AF/yr is reserved for Heron Lakes golf course and residential non-potable use consisting of 260.8 AF/yr of Handy Ditch share farm headgate deliveries.
**239.2 AF/yr of Ryan Gulch Reservoir share farm headgate deliveries.

Three scenarios were evaluated for the yield of Windy Gap units:

1. First, assume no WG deliveries and that a minimum 50 AF of WG in lieu of 50 AF Colorado-Big Thompson project water (C-BT) is needed to cover winter Handy Ditch Company (HDC) return flow obligations, which reduces C-BT yield by 50 AF.

2. Second, assume the average WG pumping yield conveyed to participants of 63 AF/unit/yr is available each year and is collateralized with C-BT for winter deliveries as Windy Gap, and C-BT is assumed repaid in spring with WG pumping or lease of other C-BT water by Berthoud.

3. Third, assumes WG yield with use and reuse is firmed up at 95 AF/unit/yr (which requires additional infrastructure including storage, alluvial wells, and/or firming storage in Dry Creek Reservoir)

There have been many years historically where the Windy Gap Project did not pump, so operation in this manner would result in Berthoud having to convey collateralized C-BT back to Northern Water.

The water supply analysis first uses the Decree Water, changed Handy Ditch shares, and C-BT to serve Berthoud's demands in April through October. When demands exceed that supply, and during the months of November through March, the demands are met using Windy Gap water and up to 39% (200 AF) of the active capacity of water stored in Berthoud Reservoir.

Water Demand Details

Berthoud's current Water Dedication Ordinance defines an SFE as requiring 0.4 AF/yr of raw water supply at Berthoud's WTP. Based on Berthoud's treated water meter readings since 2011, 1 residential SFE averages 0.265 AF per year of treated water. In 2021, a recent representative drought year, residential accounts used an average of 0.275 AF per SFE at the customer meter. In this analysis, LRE Water has used the dry-year use increased by the 8.35% system loss and additionally by 3% for the loss assessed by the Bureau of Reclamation for a WTP raw water demand of 0.31 AF/SFE when reporting how many estimated SFEs can be served with the Town's current water supplies. **Figure 1** summarizes the historical total annual raw water demand at Berthoud's WTP for 2012 through August 2025 and does not yet show the total annual demand for 2025.

In the future, if Berthoud is at its SFE capacity and experiences a drought more severe than 2021, use of the entire operating volume of Berthoud Reservoir, outdoor use restrictions, and/or lease of additional C-BT Units may be required to adequately serve the Town's customers.

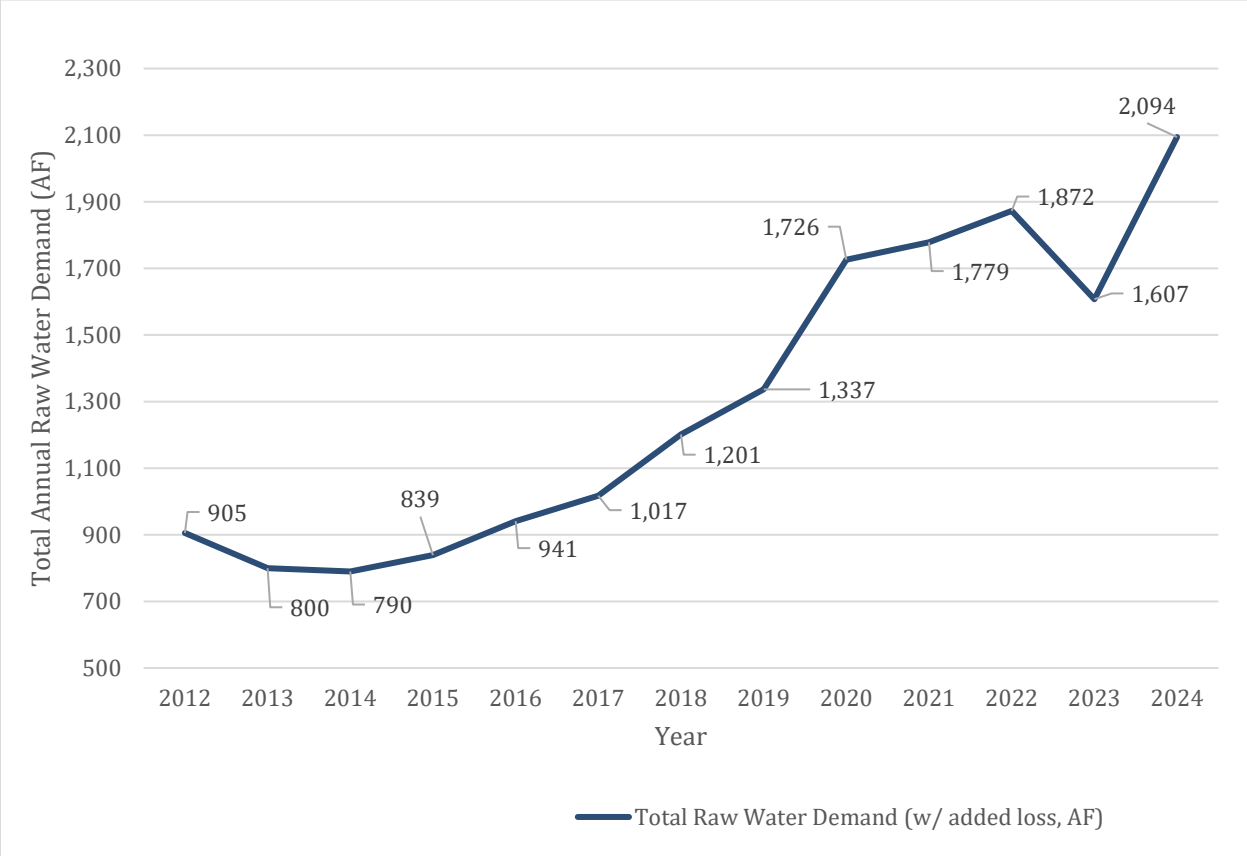


Figure 1. Town of Berthoud Raw Water Demand at the WTP for 2012-2024

As of August 2025, Berthoud was serving 7,098.1 SFEs, which in a dry year would correspond to approximately 2,200 AF/yr of raw water demands.

Berthoud's annual raw water unit demand for each tap category based on the dry-year demand of 0.31 AF/SFE through August 2025 is shown in **Table 2.** Table 2 also provides a summary of how LRE Water estimated the current-year drought demand, by multiplying dry-year unit demands by the number of units being served by Berthoud through August 2025.

Table 2. 2021 Monthly Unit Water Demands for the Town of Berthoud

Tap Category	Dry-Year Raw Water Unit Demand (AF/Unit)	Dry-Year Average SFEs/Unit	Aug 2025 Units	Aug 2025 SFEs
Residential	0.31	1.00*	5,281	5,281
Commercial	0.98	3.15	279	878.8
Commercial-Variance	7.54	24.33	1	24.3
Multi-family	0.98	3.17	165	522.4
Education	12.04	38.88	7	272.1
Dairy	36.98	119.41	1	119.4
Total	-	-	5,734	7,098.1

*The dry-year annual unit raw water demand at the WTP for residential taps of 0.31 AF per tap was considered 1 SFE.

The metered customer data from the Town represents the Town's current total demand and deliveries of potable water. The corresponding raw water demand is referred to herein as "Actual Water Demand." The Actual Water Demand does not include the total number of SFEs that Berthoud has committed to serving, as water credits have been issued pursuant to cash-in-lieu payments for properties that are not yet developed and taking delivery of water. In addition to the 7,098.1 SFEs of Actual Water Demand (estimated with data through August 2025), Berthoud is committed to serving 1,760.1 additional SFEs (545.1 AF) associated with water credits it has issued. This amount of committed water demand in excess of Actual Water Demand is described in this memorandum as "Unrealized Water Demand." The total of Actual Water Demand plus the Unrealized Water Demand is described in this memorandum as "Actual and Unrealized Water Demand."

To determine the Town's Unrealized Water Demand, we relied upon data obtained from Berthoud's Water Bank accounting tool developed in 2023 by LRE Water updated through October 2025. The tool tracks the volume in AF and number of SFEs the Town has committed to serve and debits a volume every time a developer is issued a building permit. The remaining commitments, which include building permits issued since January 1, 2025 total 545.1 AF (1,760.1 SFEs), bringing **the Actual and Unrealized Annual Water Demand to 8,858.2 SFEs or 2,743.4 AF** at the WTP. The Unrealized Water Demand becomes Actual Water Demand in the upcoming months and years as properties are developed and then connected to the Town's potable water distribution system.

For future projections, this memorandum assumes that Berthoud's Unrealized Water Demand will remain constant at 545.1 AF/yr. These assumptions could be further clarified through additional consultation with the Town's Building and Planning Departments regarding the projected water demands associated with the Town's undeveloped service area and expected annexation areas. The analysis described in the following section is focused on Berthoud's Actual and Unrealized Water Demand, and its ability to meet those demands in the near future.

Supply and Demand Scenarios

Using the monthly pattern of Berthoud's demands since 2011 and existing water supplies, LRE Water projects an increase in annual Actual Raw Water Demand until a shortage occurs to estimate the total number of SFEs that Berthoud could reliably serve with its existing supplies and the three Windy Gap yield supply scenarios based on 0.31 AF/SFE, with the following results:

- Scenario 1 – Windy Gap Yield of 0 AF, 50 AF in-lieu delivery reduces CBT yield 50 AF: Berthoud can serve a total of 9,023 SFEs or 2,794.5 AF/yr of raw water demand in drought years.
- Scenario 2 – Windy Gap Average Yield of 63 AF/unit: Berthoud can serve a total of 11,190 SFEs or 3,465.6 AF/yr of raw water demand in drought years, assuming 63 AF/unit is available each year.
- Scenario 3 – Windy Gap Firm Yield of 95 AF/Unit: Berthoud can serve a total of 12,213 SFEs or 3,782.4 AF/yr of raw water demand in drought years, assuming 95 AF/unit is available each year.

To estimate the total number of SFEs that Berthoud could commit to serving with its existing water supplies under the three different Windy Gap scenarios, the current annual demand was increased to a maximum demand that could be met without a shortage, allowing for 200 AF of water stored in Berthoud Reservoir to be used to meet dry-year demands. For each scenario, the maximum demand that could be met without a shortage was divided by 0.31 AF/SFE (dry-year demand) to determine the total number of SFE's that Berthoud could reliably serve with available water supplies in a typical dry year such as 2021.

In Tetra Tech's Water and Wastewater Master Plan, it was projected that Berthoud will experience population growth of approximately 6.0%. These projections were adjusted slightly to 5.9963% for years 2025-2042 and 2.5914% for years 2043-2063 by LRE Water in April 2025 based on continued engineering work in Berthoud's Case No. 22CW3206. If those growth rates continue,

Berthoud can expect to serve approximately 9,497 SFEs by 2030 and 32,490 SFEs by 2063 (2,941 and 10,062 AF, respectively).

Table 3 below summarizes the number of SFEs, and associated water demand for the various water supply scenarios. We estimate Berthoud can serve up to a total of 3,782 AF of annual raw water demands or 12,213 SFEs with its Decree Water, C-BT Units, use of water stored in Berthoud Reservoir, and firmed up Windy Gap supplies (Scenario 3). Water available for future sales is the number of SFEs Berthoud could serve (in each scenario) minus the Actual and Unrealized Water Demands. Firming Berthoud's Windy Gap water supplies will require reuse infrastructure to be constructed to realize the additional yield, or acquisition of firming storage in Dry Creek Reservoir or Chimney Hollow Reservoir.

Table 3. Summary of Town of Berthoud 5-yr Plan Scenarios

Water Supply Scenario	SFEs Berthoud Could Serve	Estimated Demand (0.31 AF/SFE) (AF/YR)	Water Available for Future Sales
Actual SFE's Served (Aug 2025)	7,098	2,198	NA
Actual and Unrealized Water Demands (Aug 2025)	8,858	2,743	
1. Current Supply with No WG	9,023	2,795	165 SFEs or 51 AF
2. Current Supply with Average WG 63 AF/unit	11,190	3,466	2,332 SFEs or 723 AF
3. Current Supply with Firmed WG 95 AF/unit	12,213	3,782	3,355 SFEs or 1,040 AF

Figure 2 below, shows the monthly distribution of Berthoud's Scenario 2 water supplies used to satisfy water demands for 11,190 SFEs (3,466 AF/yr), assuming average Windy Gap deliveries of 63 AF/Unit. For the analysis and discussion herein, Scenario 2 is considered to be the base scenario.

Figure 2 also shows that a sizable portion of the water demand in the months of May through October will be met with Berthoud's Decree Water. C-BT and changed water rights will be used to make up the remaining demand in the months of April, June, and July. Windy Gap supplies and excess Decree Water stored in Berthoud Reservoir will be needed August and September and the winter months of November through March.

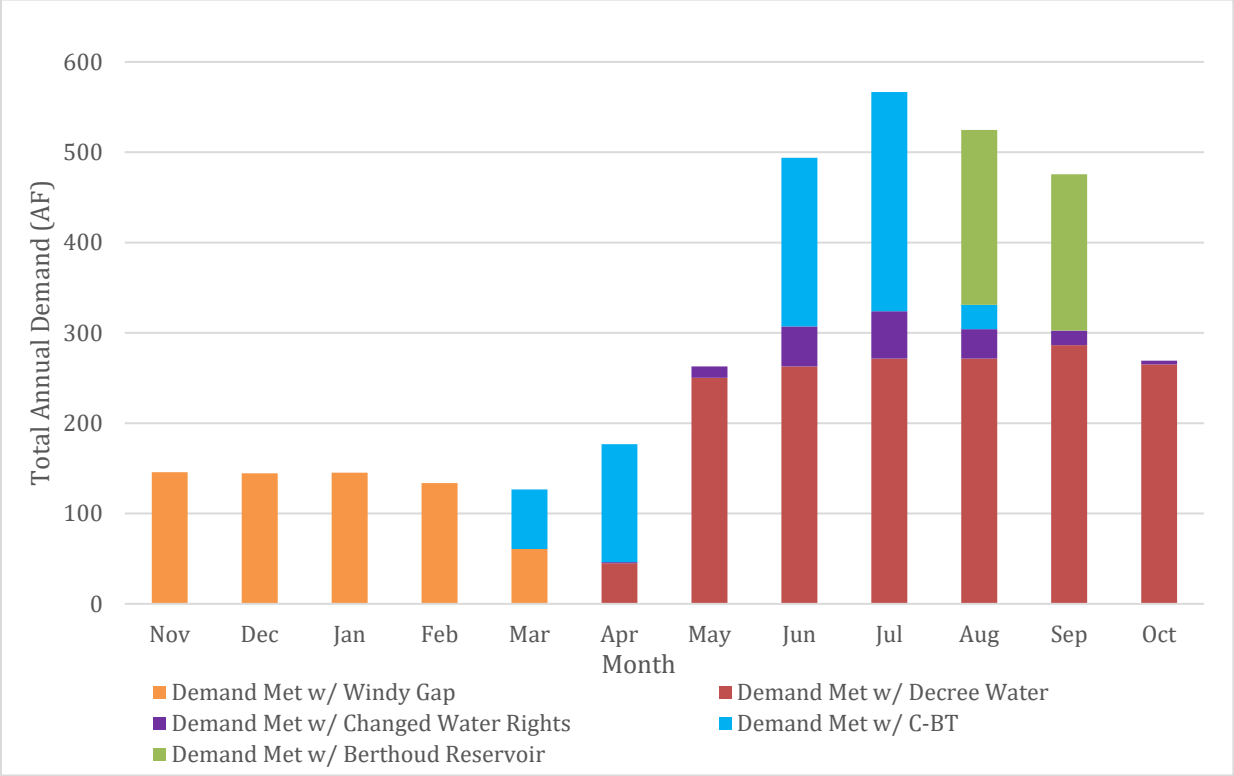


Figure 2. Town of Berthoud Current "Base" Water Supply Yield (3,466 AF/yr WTP Raw Water Demand)

Figure 3 below provides a graphical representation of Scenarios 1, 2, and 3, and how much of Berthoud's treated water demand can ultimately be supported by each scenario. To create Figure 3, we assumed that the 5.9963% annual rate of growth from Berthoud's Water and Wastewater Master Plan will continue through 2033 and would apply to the Town's Actual Raw Water Demand. Berthoud's Unrealized Raw Water Demand was assumed to stay constant at 545.1 AF, the current estimated value.

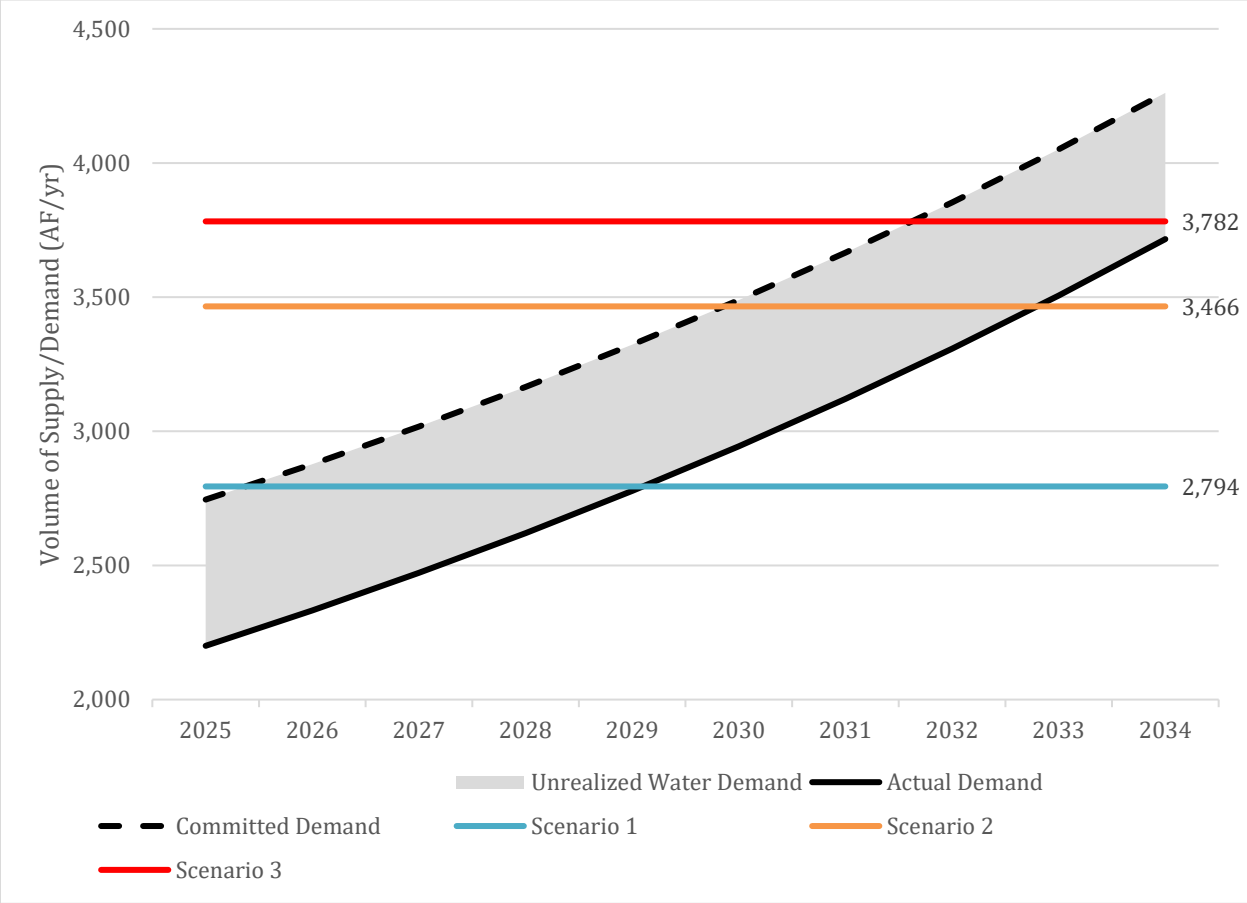


Figure 3. Town of Berthoud Projected Raw Water Demands for 2024-2034.

Conclusions

- Under the conservative assumption that Windy Gap does not yield without firming storage, Berthoud's current raw water portfolio can sustain the current rate of annual growth through 2029.
- If Windy Gap provides an average yield, Berthoud's current raw water portfolio can sustain the current rate of annual growth through mid-2033.
- When or if Berthoud's Windy Gap Units can be firmed, the Town's current raw water portfolio can sustain the current rate of annual growth through at least 2034.

Note, these projections conservatively assume that Berthoud will not acquire additional water supplies, and Berthoud's growth in both Actual Raw Water Demand will continue at the predicted

rate. If Berthoud continues to acquire additional water supplies and/or the annual growth rate is updated in the future, the assumptions and demand estimates described in the memo will be refined and considered accordingly.

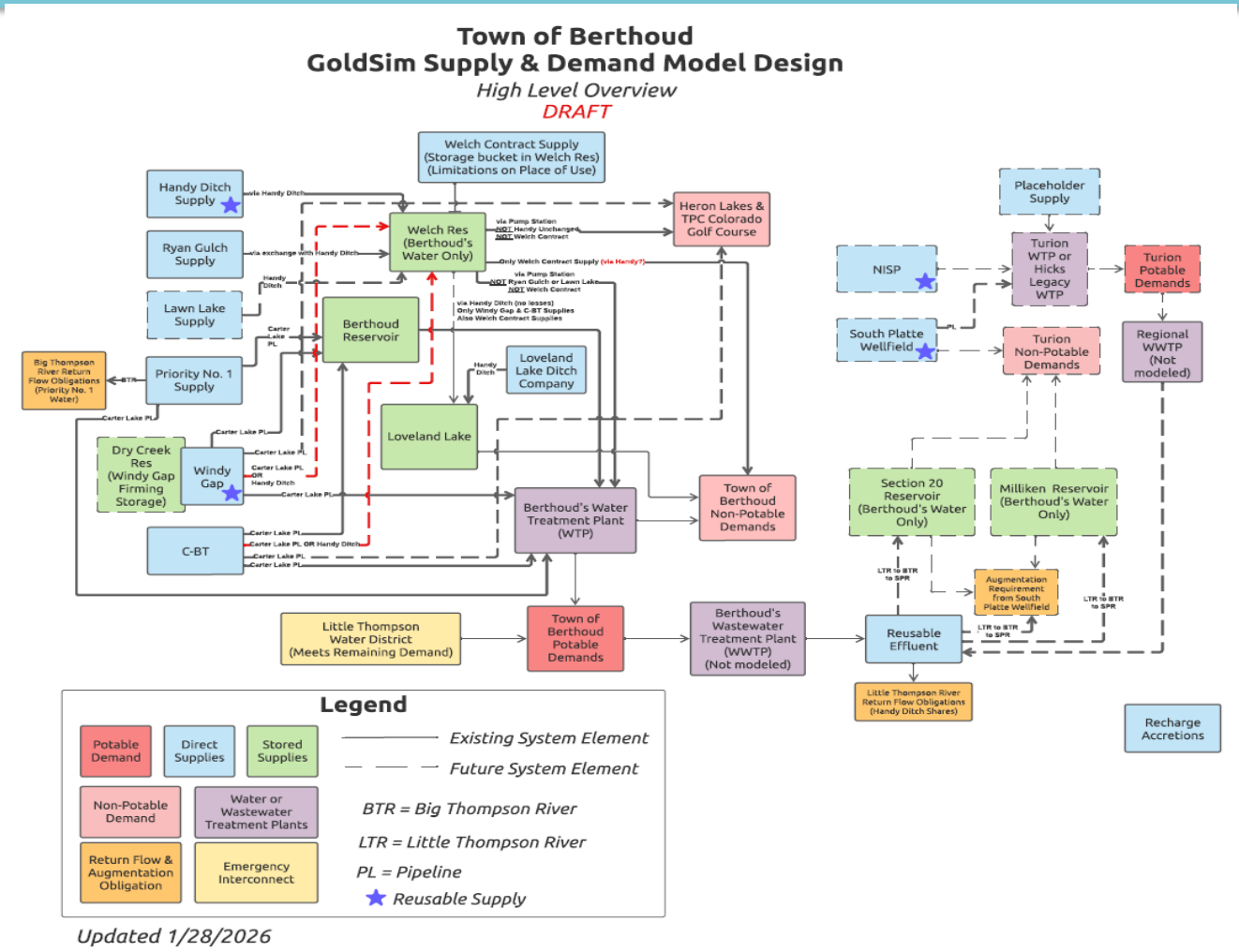
Water Snapshot Update

February 10, 2026

BACKGROUND

- Water Snapshot
  - 5-year Supply v. Demand Outlook
  - Updated Twice Per Year
    - Water Supplies
    - Customer Use
    - Committed Development
- 2020 Water Resources Master Plan
  - Update in 2026
- 2024 Non-potable Water Master Plan
- GoldSim Water Portfolio Model - Q1 2026

BACKGROUND

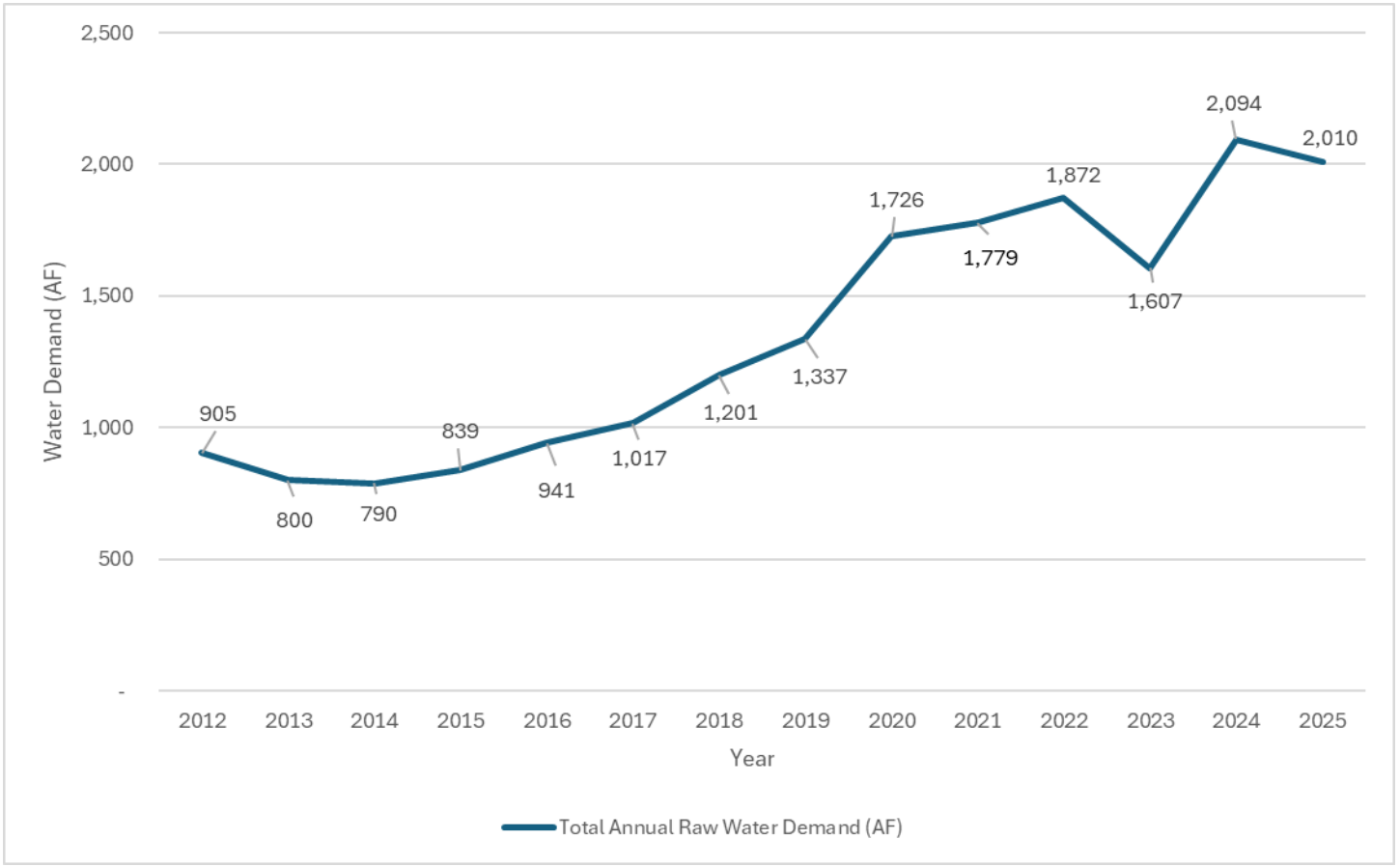

Town of Berthoud
GoldSim Supply & Demand Model Design
High Level Overview
DRAFT
Welch Contract Supply (Storage bucket in Welch Res) (Limitations on Place of Use)
Handy Ditch Supply
Ryan Gulch Supply
Lawn Lake Supply
Big Thompson River Return Flow Obligations (Priority No. 1 Water)
Priority No. 1 Supply
Dry Creek Res (Windy Gap Firming Storage)
Windy Gap
C-BT
Welch Res (Berthoud's Water Only)
Berthoud Reservoir
Loveland Lake Ditch Company
Loveland Lake
Heron Lakes & TPC Colorado Golf Course
Berthoud's Water Treatment Plant (WTP)
Town of Berthoud Non-Potable Demands
Little Thompson Water District (Meets Remaining Demand)
Town of Berthoud Potable Demands
Berthoud's Wastewater Treatment Plant (WWTP) (Not modeled)
Placeholder Supply
NISP
South Platte Wellfield
Turion WTP or Hicks Legacy WTP
Turion Non-Potable Demands
Turion Potable Demands
Regional WWTP (Not modeled)
Section 20 Reservoir (Berthoud's Water Only)
Milliken Reservoir (Berthoud's Water Only)
Augmentation Requirement from South Platte Wellfield
Reusable Effluent
Little Thompson River Return Flow Obligations (Handy Ditch Shares)
Recharge Accretions
Legend
Potable Demand
Direct Supplies
Stored Supplies
Non-Potable Demand
Water or Wastewater Treatment Plants
Return Flow & Augmentation Obligation
Emergency Interconnect
Existing System Element
Future System Element
BTR = Big Thompson River
LTR = Little Thompson River
PL = Pipeline
Reusable Supply
Updated 1/28/2026

BERTHOUD'S WATER SUPPLIES

Water Supply	Dry-year Yield (acre-feet)		
Decree Water	1,822.6		
1,088 C-BT Units	652.8		
50.67 Handy Ditch Shares	163.3*		
34 Ryan Gulch Shares	0.0*		
10 Windy Gap Units	0.0	630.0	950.0
Total	2,638.7	3,268.7	3,588.7

*Yield of Berthoud's changed shares. A portion of Berthoud's Handy and Ryan Gulch water rights are reserved for irrigation use at Heron Lakes

BERTHOUD'S WATER DEMANDS



*2025 demand is an estimated value using preliminary treatment numbers

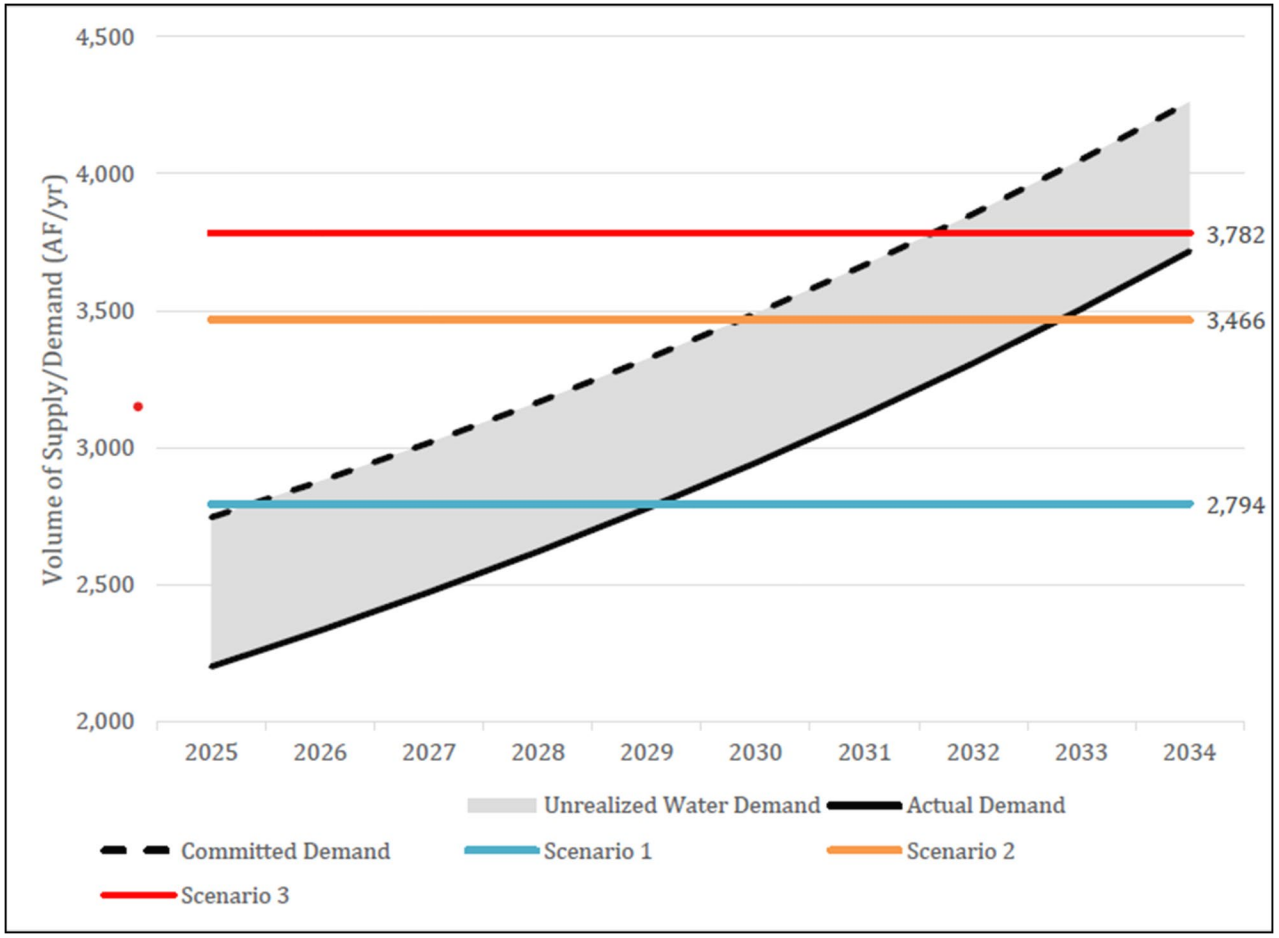
UNREALIZED WATER DEMAND

- Water commitments to developers are not reflected in the Town's current treated water demands ("Unrealized Water Demand").
- Unrealized Water Demand will be converted to actual Treated Water Demand over the coming years.
- Current Unrealized Water Demand is estimated to be approximately 545 acre-feet.

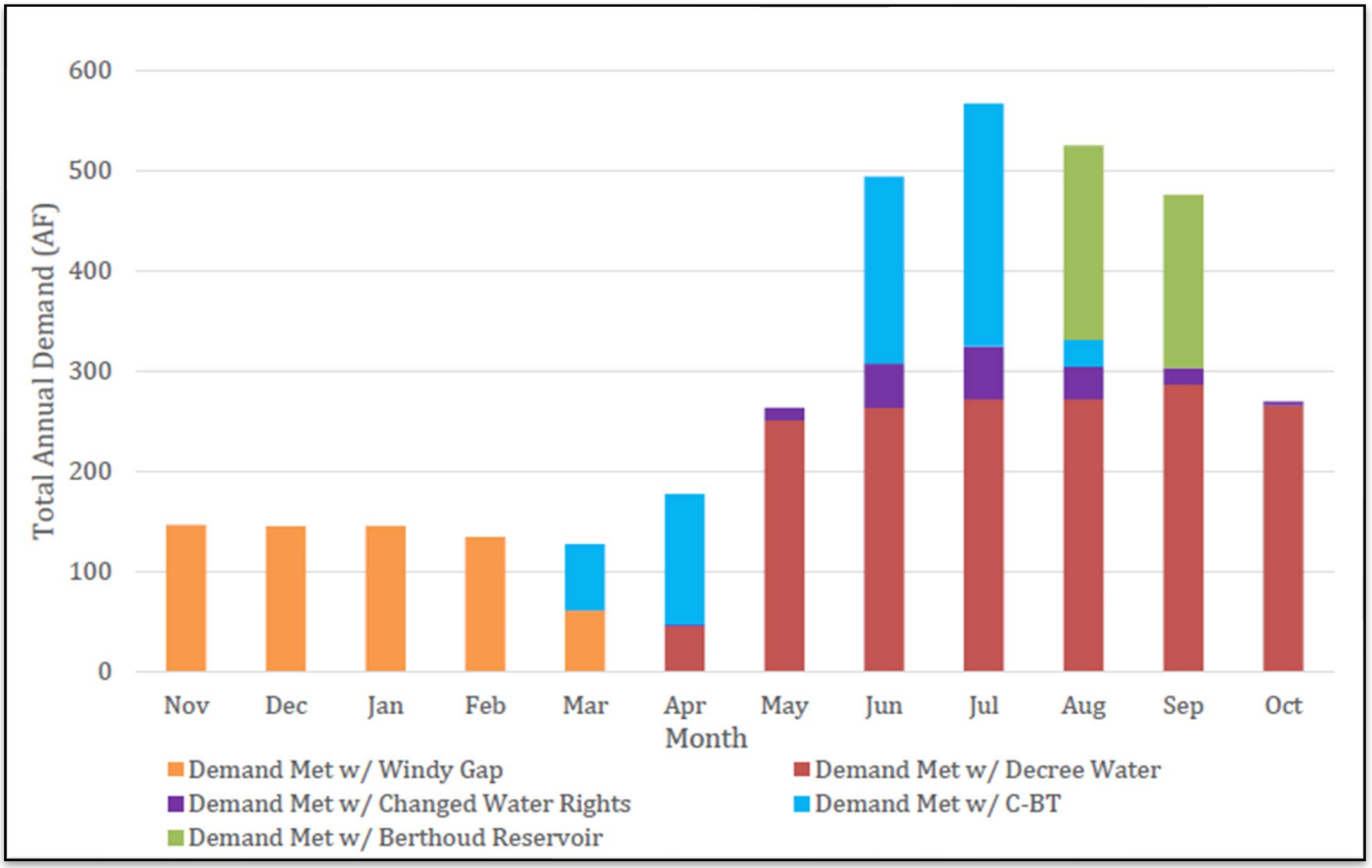
WATER SNAPSHOT SCENARIOS

- Current Day
  - 8,858 Existing Actual & Unrealized SFEs
- Scenario 1 (No Firm Windy Gap Yield)
  - 9,023 Projected SFEs in the next 5 years
- Scenario 2 (Average Windy Gap Yield)
  - 11,190 Projected SFEs in the next 5 years
- Scenario 3 (Firm Windy Gap Yield)
  - 12,213 Projected SFEs in the next 5 years

WATER SNAPSHOT RESULTS



WATER SNAPSHOT RESULTS



CONCLUSIONS

- Continue to acquire new raw water supplies
  - Windy Gap firming and reuse storage is a priority in 2026
  - Development of South Platte supplies is ongoing
- No recommended change to dedication policy
- 2026 WR Master Plan
  - Cash in lieu recommendation for 2027
  - Incorporate long range development in the model

BOARD OF TRUSTEES INFORMATION

COMMUNITY DEVELOPMENT DEPARTMENT

Meeting Date:	**February 10, 2026**
Agenda Title/Subject:	**Informational update on the development of a Town-Wide Intersection Management Plan**
Type of Item:	**Presentation**
Type of Item:	
Purpose:	**To provide the Town Board of Trustees with an update on the preparation of the Intersection Management Plan**
Presented by:	**Luke Seeber, Development Review Engineer, Community Development**

ATTACHMENTS:

- Fehr & Peers Presentation

BACKGROUND:

As the Town grows, staff continuously reviews the immediate and long-term impact of growth to services such as recreation, roads, intersections, water, sewer and stormwater. Just as the School District, Fire Protection District, Library District and other special districts gauge the impact of growth on their service, so does the Town.

The next potential area for growth concentration may be the 1st Street Corridor area (aka Innovation District). In anticipation of this growth and as a directed outcome of the 2021 Comprehensive Plan update, the Town Trustees along with the Planning Commission created the Innovation District in April, 2023. This District extends from Mountain Avenue north to and including the State Highway 287 interchange and from 3rd Street/Railroad line on the west to approximately 300' east of 1st Street. The vision for developing this Master Plan was to establish goals for guiding growth, development and design for the corridor including architecture, design, scale, form, character, intensity of development, connectivity, and focusing on multi-modal design.

A large component of the transition from the present state of the Innovation District is traffic management. To better understand traffic planning for this area, the Town enlisted the assistance of Fehr & Peers in 2024 to develop a scope of work to understand the current traffic impact reports from pending/past development as well as projections from CDOT and the North Front Range Metropolitan Planning Organization (NFRMPO) specifically for this District. After review of the initial findings, staff determined a Town-wide intersection management plan was needed. With this understanding, the Town extended the contract with Fehr & Peers on September 9, 2025 to include the following scope:

- Create a town-wide model that provides detailed intersection analysis to support decision making related to development review and capital improvement planning.

- Provide a report and User Guide for the transportation modeling software.
- Conduct a training session for Staff on model use and maintenance.
- Hold 3 additional quarterly meetings to discuss questions and scenario analyses.

Tonight, Town Staff will provide initial findings from Fehr & Peers as well as what the next deliverables will look like.

UPDATE/NEXT STEPS:
Next steps include completing the 2045 future conditions town-wide traffic model, which will incorporate approved development traffic, regional background growth, and planned infrastructure improvements. A Model Development Report and User Guide will be delivered in March/April. Fehr & Peers will provide targeted training for Town staff on using and updating the Synchro model, along with ongoing quarterly support. Once finalized, the model will be used as a long-term tool to compare existing and future conditions, evaluate infrastructure improvements, support development review, inform capital improvement planning and master plan updates, and analyze future traffic scenarios on a town-wide basis

FISCAL IMPACT AND FUND SOURCE:
There is no negative impact to the Town by providing this information. Staff is managing the contract to ensure the deliverables are met within budget and on schedule.

COMMUNITY TOUCHSTONES:
The three touchstones of resiliency, sustainability and promoting community identity are at the heart of the action plan item. This project advances the Town's goals for these touchstones by proactively planning for growth in a coordinated, data-driven manner. By developing a town-wide intersection-level transportation model informed by current conditions and long-range regional projections, the Town is strengthening the resiliency of its transportation network to adapt to increased demand, changing travel patterns, and future development pressures. The focus on multimodal connectivity and corridor-wide planning supports sustainable growth by improving safety and efficiency for all users, reducing congestion and emissions, and aligning transportation investments with land use decisions. At the same time, this transportation model reinforces community identity by establishing a clear vision for the transportation corridors that reflect the Town's character, scale, and design values, ensuring that growth enhances—not erodes—the sense of place while supporting economic vitality and livability.

RECOMMENDED ACTION(S):
This report is informational only. No action is required.

Fehr & Peers

Berthoud Town Wide Model Development

Town Board Meeting Briefing

February 10th, 2026

Agenda

01 Introduction & Purpose

02 Study Area and Data

03 Existing Traffic

04 Future Traffic (ongoing)

05 Next Steps

Why is Berthoud Developing its own Model?

Holistic Traffic View

View of systemwide traffic operations

Not just project-by-project impacts from TIS

Evaluation Tool

Evaluate future roadway or intersection upgrades impact on intersection operations

Trips from proposed development can be added to evaluate intersection operations

Scenarios can be developed to understand impact of intersection changes (e.g,. Spartan and US-287)

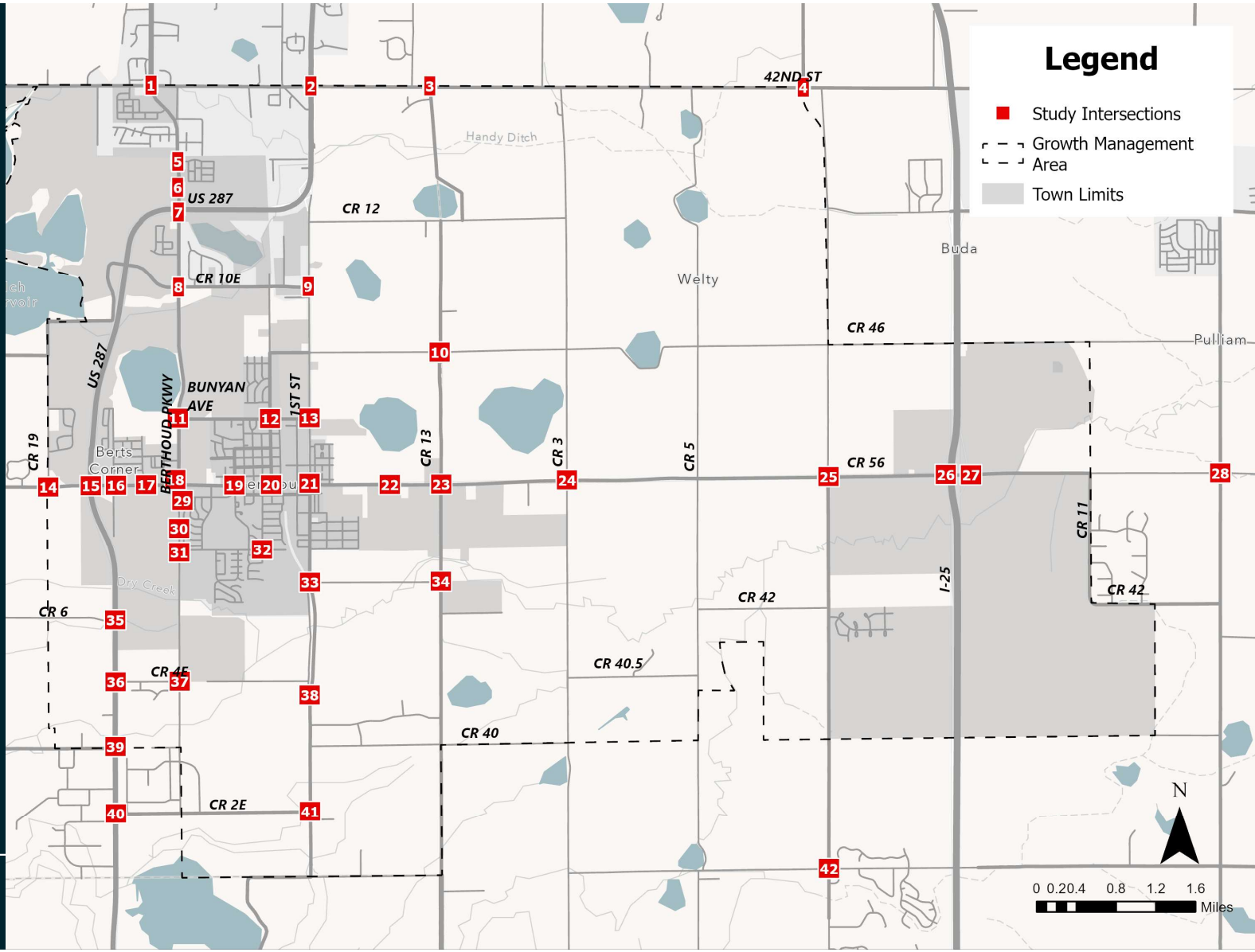
Development Review

Model to be provided to developers as a baseline for traffic studies

Town model can be updated with approved developments

Study Area

Fehr & Peers



Data Sources

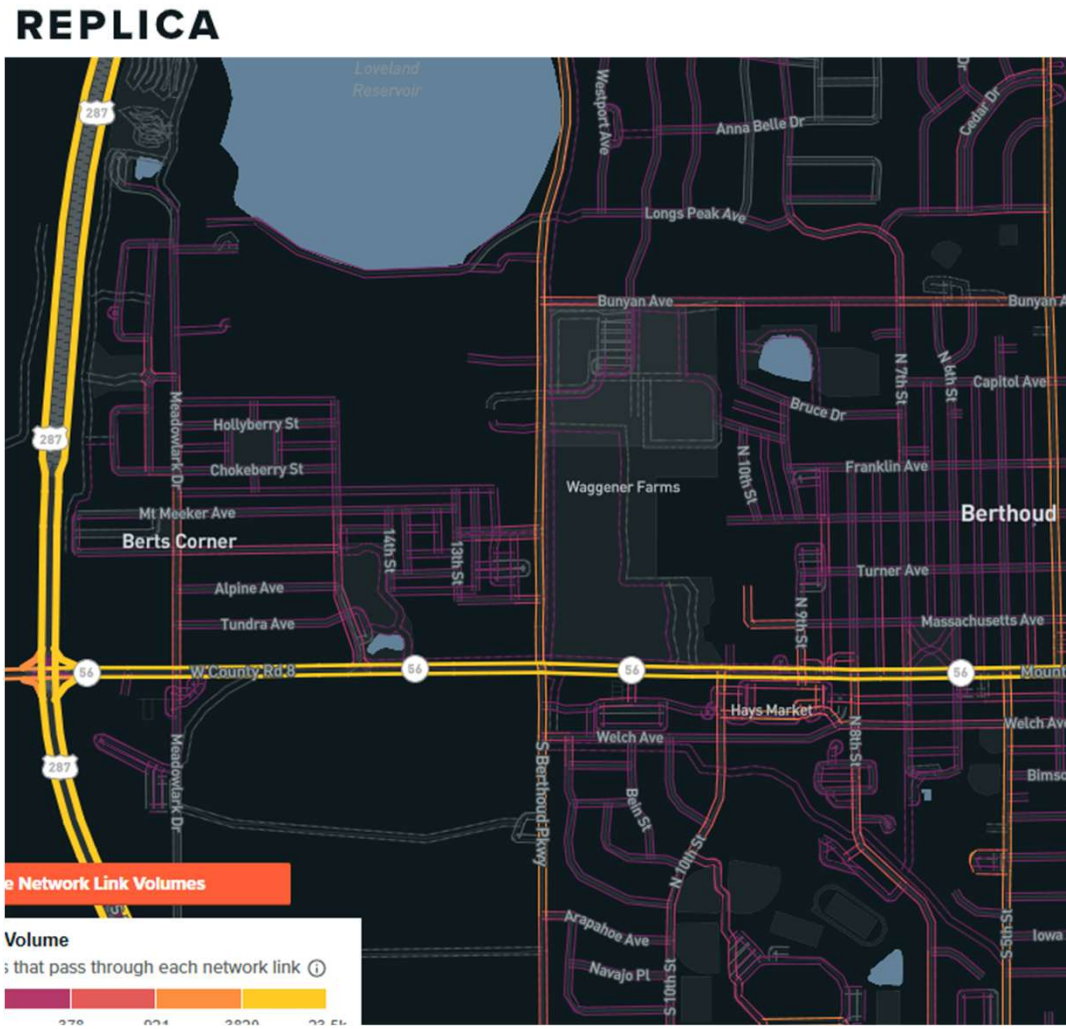
01 Previous Traffic Impact Studies

02 New Turning Movement Counts

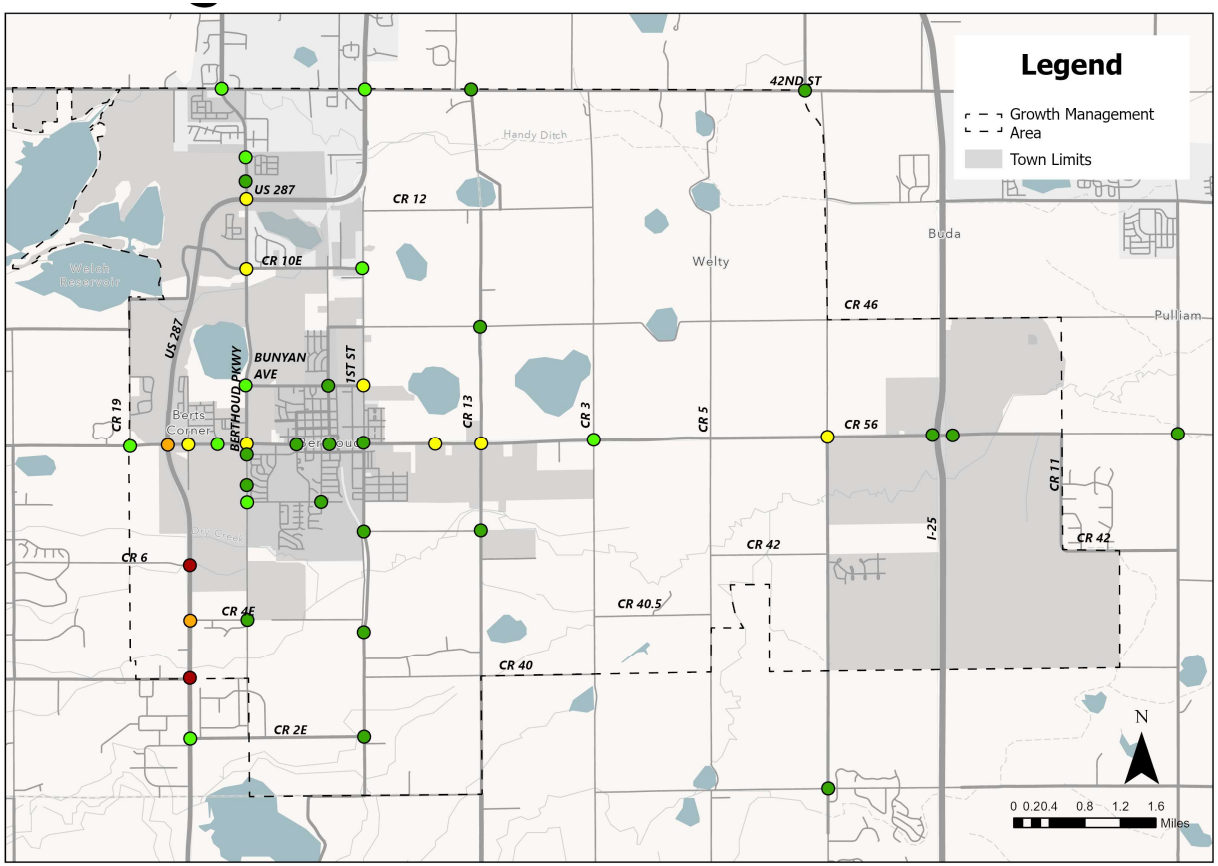
03 Big Data: Replica

04 Travel Demand Model

North Front Range Metropolitan Planning Organization

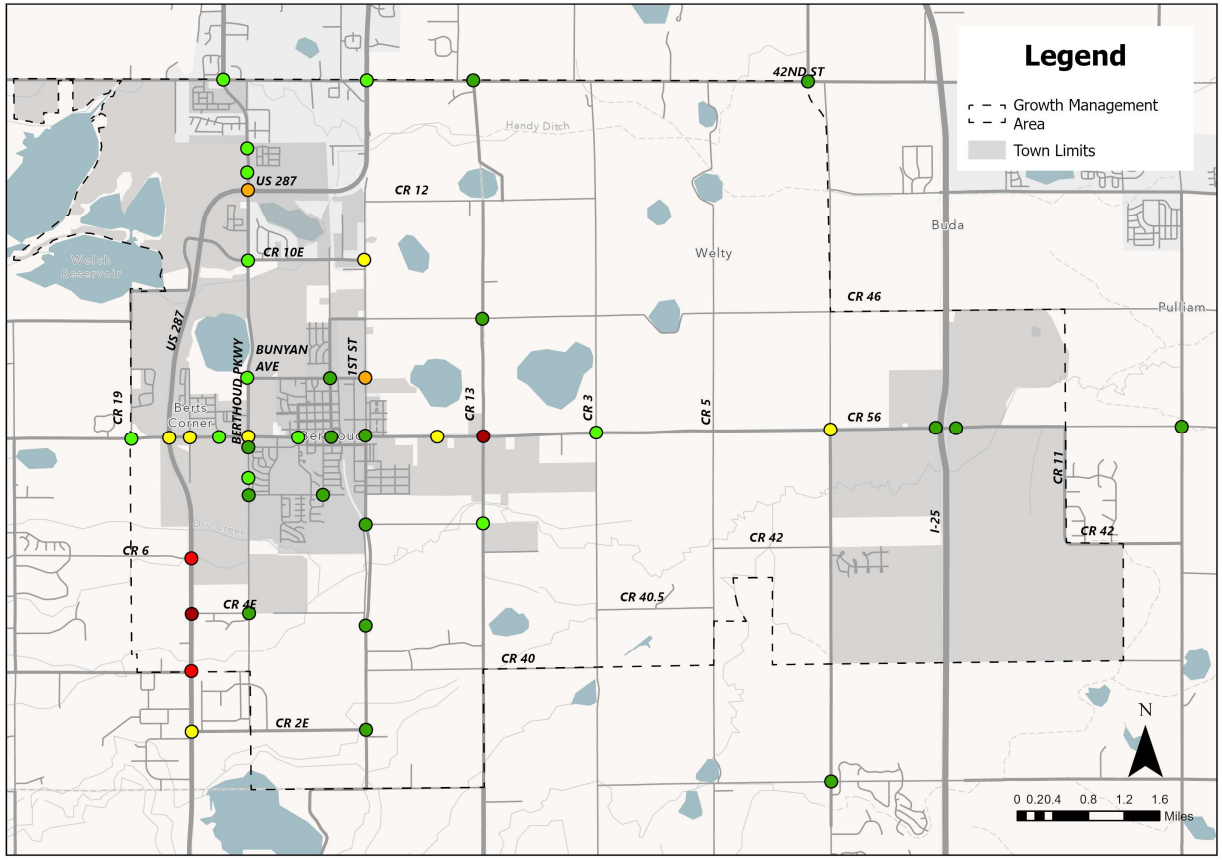


Existing AM Peak Traffic Level of Service (LOS)



Level of Service	Signalized Intersection Average Total Delay (s/veh)	Unsignalized Intersection Average Total Delay (s/veh)
A	≤10	≤10
B	>10 and ≤20	>10 and ≤15
C	>20 and ≤35	>15 and ≤25
D	>35 and ≤55	>25 and ≤35
E	>55 and ≤80	>35 and ≤50
F	>80	>50

Existing PM Peak Traffic Level of Service (LOS)



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D	>35 and ≤55	>25 and ≤35
E	>55 and ≤80	>35 and ≤50
F	>80	>50

Future Traffic Scenario (development ongoing)

- Future 2045 scenario with approved development included (trip generation added from provided TIS)
- Overall regional background traffic volume added
- Future developer and town funded infrastructure improvements added (signals, stop control, general purpose lane and turn lane additions)

Next Steps and Future Application

Staff Training

Scope includes targeted training for Town staff to learn Synchro to update assumptions and interpret results

Ongoing quarterly support provided for additional questions

Ongoing Usage

Comparing existing conditions to future volumes with and without infrastructure improvements

Future Application

Infrastructure decisions

Development proposals

Master plan updates

Additional scenario analysis

Model Development Status

COMPLETE Existing Conditions

ONGOING 2045 Conditions

MARCH/ APRIL Model Development Report and User Guide

Berthoud Town Wide Model Development

An Act

SENATE BILL 24-005

BY SENATOR(S) Roberts and Simpson, Bridges, Hinrichsen, Buckner, Cutter, Exum, Fields, Jaquez Lewis, Marchman, Michaelson Jenet, Priola, Winter F., Fenberg;
also REPRESENTATIVE(S) McCormick and McLachlan, Amabile, Bacon, Bird, Boesenecker, Brown, Daugherty, deGruy Kennedy, Duran, Epps, Froelich, Garcia, Herod, Jodeh, Joseph, Kipp, Lieder, Lindsay, Lukens, Mabrey, Martinez, Marvin, Mauro, Ortiz, Parenti, Rutinel, Sirota, Snyder, Story, Titone, Valdez, Velasco, Weissman, Willford, McCluskie.

CONCERNING THE CONSERVATION OF WATER IN THE STATE THROUGH THE PROHIBITION OF CERTAIN LANDSCAPING PRACTICES.

Be it enacted by the General Assembly of the State of Colorado:

SECTION 1. In Colorado Revised Statutes, **add** article 99 to title 37 as follows:

ARTICLE 99
Prohibition of Nonfunctional Turf, Artificial Turf, and Invasive Plant Species

37-99-101. Legislative declaration. (1) THE GENERAL ASSEMBLY

Capital letters or bold & italic numbers indicate new material added to existing law; dashes through words or numbers indicate deletions from existing law and such material is not part of the act.

FINDS THAT:

(a) AS COLORADO CONTINUES TO GRAPPLE WITH THE IMPACTS OF CLIMATE CHANGE, GREEN URBAN SPACES, SUCH AS URBAN TREE CANOPIES, ARE A VITAL ADAPTATION TOOL FOR MITIGATING THE IMPACTS OF CLIMATE CHANGE, ESPECIALLY FOR MITIGATING THE URBAN HEAT ISLAND EFFECT, WHICH CAN INCREASE ENERGY COSTS, AIR POLLUTION, AND HEAT-RELATED ILLNESSES AND DEATHS;

(b) HOWEVER, WATER SUPPLY IN THE WESTERN UNITED STATES IS UNDER INCREASING PRESSURE DUE TO CLIMATE CHANGE AND INCREASING DEMAND;

(c) MANY COMMUNITIES IN THE STATE OVERUSE NONNATIVE GRASS FOR LANDSCAPING PURPOSES, WHICH REQUIRES LARGE AMOUNTS OF WATER TO MAINTAIN;

(d) WHILE THERE ARE APPROPRIATE AND IMPORTANT USES FOR TURF, INCLUDING FOR CIVIC, COMMUNITY, OR RECREATIONAL PURPOSES SUCH AS USE IN PARKS, SPORTS FIELDS, AND PLAYGROUNDS, MUCH OF THE TURF IN THE STATE IS NONFUNCTIONAL, LOCATED IN AREAS THAT RECEIVE LITTLE, IF ANY, USE, AND COULD BE REPLACED WITH LANDSCAPING THAT ADHERES TO WATER-WISE LANDSCAPING PRINCIPLES WITHOUT ADVERSELY IMPACTING QUALITY OF LIFE OR LANDSCAPE FUNCTIONALITY;

(e) PROHIBITING THE INSTALLATION, PLANTING, OR PLACEMENT OF NONFUNCTIONAL TURF IN APPLICABLE PROPERTY IN THE STATE CAN HELP CONSERVE THE STATE'S WATER RESOURCES;

(f) INSTALLED VEGETATION THAT ADHERES TO WATER-WISE LANDSCAPING PRINCIPLES CAN HELP REDUCE OUTDOOR DEMAND OF WATER; AND

(g) ADDITIONALLY, ARTIFICIAL TURF CAN CAUSE NEGATIVE ENVIRONMENTAL IMPACTS, SUCH AS EXACERBATING HEAT ISLAND EFFECTS IN URBAN AREAS AND RELEASING HARMFUL CHEMICALS, INCLUDING PLASTICS, MICROPLASTICS, AND PERFLUOROALKYL AND POLYFLUOROALKYL CHEMICALS, INTO THE ENVIRONMENT AND WATERSHEDS.

(2) THE GENERAL ASSEMBLY THEREFORE DECLARES THAT

PREVENTING THE INSTALLATION, PLANTING, OR PLACEMENT OF NONFUNCTIONAL TURF, ARTIFICIAL TURF, AND INVASIVE PLANT SPECIES IN APPLICABLE PROPERTY IN THE STATE IS:

(a) A MATTER OF STATEWIDE CONCERN; AND

(b) IN THE PUBLIC INTEREST.

37-99-102. Definitions. AS USED IN THIS ARTICLE 99, UNLESS THE CONTEXT OTHERWISE REQUIRES:

(1) (a) "APPLICABLE PROPERTY" MEANS:

(I) COMMERCIAL, INSTITUTIONAL, OR INDUSTRIAL PROPERTY;

(II) COMMON INTEREST COMMUNITY PROPERTY; OR

(III) A STREET RIGHT-OF-WAY, PARKING LOT, MEDIAN, OR TRANSPORTATION CORRIDOR.

(b) "APPLICABLE PROPERTY" DOES NOT INCLUDE RESIDENTIAL PROPERTY.

(2) "ARTIFICIAL TURF" MEANS AN INSTALLATION OF SYNTHETIC MATERIALS DEVELOPED TO RESEMBLE NATURAL GRASS.

(3) "COMMERCIAL, INSTITUTIONAL, OR INDUSTRIAL" HAS THE MEANING SET FORTH IN SECTION 37-60-135 (2)(b).

(4) "COMMON INTEREST COMMUNITY" HAS THE MEANING SET FORTH IN SECTION 38-33.3-103 (8).

(5) "COMMON INTEREST COMMUNITY PROPERTY" MEANS PROPERTY WITHIN A COMMON INTEREST COMMUNITY THAT IS OWNED AND MAINTAINED BY A UNIT OWNERS' ASSOCIATION, SUCH AS ENTRYWAYS, PARKS, AND OTHER COMMON ELEMENTS AS DEFINED IN SECTION 38-33.3-103 (5).

(6) "DEPARTMENT" MEANS THE DEPARTMENT OF PERSONNEL CREATED IN SECTION 24-1-128 (1).

(7) "FUNCTIONAL TURF" MEANS TURF THAT IS LOCATED IN A RECREATIONAL USE AREA OR OTHER SPACE THAT IS REGULARLY USED FOR CIVIC, COMMUNITY, OR RECREATIONAL PURPOSES, WHICH MAY INCLUDE PLAYGROUNDS; SPORTS FIELDS; PICNIC GROUNDS; AMPHITHEATERS; PORTIONS OF PARKS; AND THE PLAYING AREAS OF GOLF COURSES, SUCH AS DRIVING RANGES, CHIPPING AND PUTTING GREENS, TEE BOXES, GREENS, FAIRWAYS, AND ROUGHS.

(8) "INVASIVE PLANT SPECIES" HAS THE MEANING SET FORTH IN SECTION 37-60-135 (2)(e).

(9) "LOCAL ENTITY" MEANS A:

(a) HOME RULE OR STATUTORY CITY, COUNTY, CITY AND COUNTY, TERRITORIAL CHARTER CITY, OR TOWN;

(b) SPECIAL DISTRICT; AND

(c) METROPOLITAN DISTRICT.

(10) "MAINTAIN" OR "MAINTAINING" MEANS AN ACTION TO PRESERVE THE EXISTING STATE OF NONFUNCTIONAL TURF, ARTIFICIAL TURF, OR AN INVASIVE PLANT SPECIES THAT HAS ALREADY BEEN INSTALLED, PLANTED, OR PLACED.

(11) "NATIVE PLANT" MEANS A PLANT SPECIES THAT IS INDIGENOUS TO THE STATE OF COLORADO.

(12) "NEW DEVELOPMENT PROJECT" MEANS A NEW CONSTRUCTION PROJECT THAT REQUIRES A BUILDING OR LANDSCAPING PERMIT, PLAN CHECK, OR DESIGN REVIEW.

(13) (a) "NONFUNCTIONAL TURF" MEANS TURF THAT IS NOT FUNCTIONAL TURF.

(b) "NONFUNCTIONAL TURF" INCLUDES TURF LOCATED IN A STREET RIGHT-OF-WAY, PARKING LOT, MEDIAN, OR TRANSPORTATION CORRIDOR.

(c) "NONFUNCTIONAL TURF" DOES NOT INCLUDE TURF THAT IS DESIGNATED TO BE PART OF A WATER QUALITY TREATMENT SOLUTION

REQUIRED FOR COMPLIANCE WITH FEDERAL, STATE, OR LOCAL AGENCY WATER QUALITY PERMITTING REQUIREMENTS THAT IS NOT IRRIGATED AND DOES NOT HAVE HERBICIDES APPLIED.

(14) "REDEVELOPMENT PROJECT" MEANS A CONSTRUCTION PROJECT THAT:

(a) REQUIRES A BUILDING OR LANDSCAPING PERMIT, PLAN CHECK, OR DESIGN REVIEW; AND

(b) RESULTS IN A DISTURBANCE OF MORE THAN FIFTY PERCENT OF THE AGGREGATE LANDSCAPE AREA.

(15) "SPECIAL DISTRICT" HAS THE MEANING SET FORTH IN SECTION 32-1-103 (20).

(16) "TRANSPORTATION CORRIDOR" MEANS A TRANSPORTATION SYSTEM THAT INCLUDES ALL MODES AND FACILITIES WITHIN A DESCRIBED GEOGRAPHIC AREA, HAVING LENGTH AND WIDTH.

(17) "TURF" HAS THE MEANING SET FORTH IN SECTION 37-60-135 (2)(i).

(18) "UNIT OWNERS' ASSOCIATION" HAS THE MEANING SET FORTH IN SECTION 38-33.3-103 (3).

(19) "WATER-WISE LANDSCAPING" HAS THE MEANING SET FORTH IN SECTION 37-60-135 (2)(l).

37-99-103. Prohibition of nonfunctional turf, artificial turf, and invasive plant species - local entities - construction or renovation of state facilities. (1) ON AND AFTER JANUARY 1, 2026, A LOCAL ENTITY SHALL NOT INSTALL, PLANT, OR PLACE, OR ALLOW ANY PERSON TO INSTALL, PLANT, OR PLACE, ANY NONFUNCTIONAL TURF, ARTIFICIAL TURF, OR INVASIVE PLANT SPECIES, AS PART OF A NEW DEVELOPMENT PROJECT OR REDEVELOPMENT PROJECT, ON ANY PORTION OF APPLICABLE PROPERTY WITHIN THE LOCAL ENTITY'S JURISDICTION.

(2) ON OR BEFORE JANUARY 1, 2026, A LOCAL ENTITY SHALL ENACT OR AMEND ORDINANCES, RESOLUTIONS, REGULATIONS, OR OTHER LAWS

REGULATING NEW DEVELOPMENT PROJECTS AND REDEVELOPMENT PROJECTS ON APPLICABLE PROPERTY IN ACCORDANCE WITH THE REQUIREMENTS OF THIS SECTION.

(3) THE DEPARTMENT SHALL NOT INSTALL, PLANT, OR PLACE, OR ALLOW ANY PERSON TO INSTALL, PLANT, OR PLACE, ANY NONFUNCTIONAL TURF, ARTIFICIAL TURF, OR INVASIVE PLANT SPECIES AS PART OF A PROJECT FOR THE CONSTRUCTION OR RENOVATION OF A STATE FACILITY, WHICH PROJECT DESIGN COMMENCES ON OR AFTER JANUARY 1, 2025.

(4) NOTHING IN THIS SECTION PROHIBITS:

(a) A LOCAL ENTITY FROM MAINTAINING, OR ALLOWING ANY PERSON TO MAINTAIN, ANY NONFUNCTIONAL TURF, ARTIFICIAL TURF, OR INVASIVE PLANT SPECIES INSTALLED, PLANTED, OR PLACED BEFORE JANUARY 1, 2026;

(b) THE DEPARTMENT FROM MAINTAINING, OR ALLOWING ANY PERSON TO MAINTAIN, ANY NONFUNCTIONAL TURF, ARTIFICIAL TURF, OR INVASIVE PLANT SPECIES INSTALLED, PLANTED, OR PLACED AT A STATE FACILITY BEFORE JANUARY 1, 2025;

(c) A LOCAL ENTITY OR THE DEPARTMENT FROM INSTALLING, OR ALLOWING ANY PERSON TO INSTALL, GRASS SEED OR SOD THAT IS A NATIVE PLANT OR HAS BEEN HYBRIDIZED FOR ARID CONDITIONS;

(d) A LOCAL ENTITY OR THE DEPARTMENT FROM ESTABLISHING PROHIBITIONS ON, OR REQUIREMENTS FOR, NONFUNCTIONAL TURF, ARTIFICIAL TURF, OR INVASIVE PLANT SPECIES THAT ARE MORE STRINGENT THAN THE REQUIREMENTS OF THIS SECTION; OR

(e) A LOCAL ENTITY OR THE DEPARTMENT FROM INSTALLING, OR ALLOWING ANY PERSON TO INSTALL, ARTIFICIAL TURF ON ATHLETIC FIELDS OF PLAY.

SECTION 2. Act subject to petition - effective date - applicability. (1) This act takes effect at 12:01 a.m. on the day following the expiration of the ninety-day period after final adjournment of the general assembly; except that, if a referendum petition is filed pursuant to section 1 (3) of article V of the state constitution against this act or an item, section, or part of this act within such period, then the act, item, section, or

part will not take effect unless approved by the people at the general election to be held in November 2024 and, in such case, will take effect on the date of the official declaration of the vote thereon by the governor.

(2) This act does not apply to projects approved by the department of personnel or a local entity before the effective date of this act.

Steve Fenberg
PRESIDENT OF
THE SENATE

Julie McCluskie
SPEAKER OF THE HOUSE
OF REPRESENTATIVES

Cindi L. Markwell
SECRETARY OF
THE SENATE

Robin Jones
CHIEF CLERK OF THE HOUSE
OF REPRESENTATIVES

APPROVED Friday March 15th 2024 at 2:15 pm
(Date and Time)

Jared S. Polis
GOVERNOR OF THE STATE OF COLORADO

TOWN TRUSTEES INFORMATION

COMMUNITY DEVELOPMENT DEPARTMENT

Meeting Date:	**February 10, 2026**
Agenda Title/Subject:	**Work Session regarding tree strips and landscape design in rights-of-way**
Type of Item:	**Regular Item**
Purpose:	**To provide the Town Board of Trustees with an opportunity to review examples of tree strips from other communities with a focus on landscaping, especially in regards to alternatives to nonfunctional turf in compliance with SB 24-005**
Presented by:	**Bella Manzo, Town Planner**

ATTACHMENTS:

- SB 24-005 Prohibition of Nonfunctional Turf, Artificial Turf, and Invasive Plant Species
- Staff Presentation slides

BACKGROUND:. This work session will include information regarding changes as a result of SB 24-005 to nonfunctional turf in commercial, institutional, and industrial property, the changes in response to such in Chapter 30 of the Town of Berthoud Municipal Code, as well as general information on turf, both functional and nonfunctional. The work session will include examples from nearby communities and others in the region on alternatives to turf in tree strips and rights-of-way. The benefits of native and waterwise planting in these areas will also be discussed.

UPDATE/NEXT STEPS:
The February 10, 2026 Work Session will include a virtual field trip presentation by Staff with time for questions and comments at each of the stops along the tour. The outcome of the Work Session will inform potential changes to the Landscape Design Guidelines that will be incorporated by Staff and consultants. Staff will gather input received and determine the next steps regarding design vision and regulatory implementation.

COMMUNITY TOUCHSTONES:
The three touchstones of resiliency, sustainability and promoting community identity are encapsulated into the design and development standards in the Land Use Code. Periodic checks of these standards is essential to ensure the vision and the regulatory standards align.

RECOMMENDED ACTION(S):
This report is informational only. No action is required.

Town Board of Trustees
February 10, 2026

What are tree lawns/tree strips?

- *Tree lawn* means a strip of landscaping within the right-of-way, generally between the street and an adjacent sidewalk.

- Also referred to as a landscape strip, parkway strip, or **tree strip.**

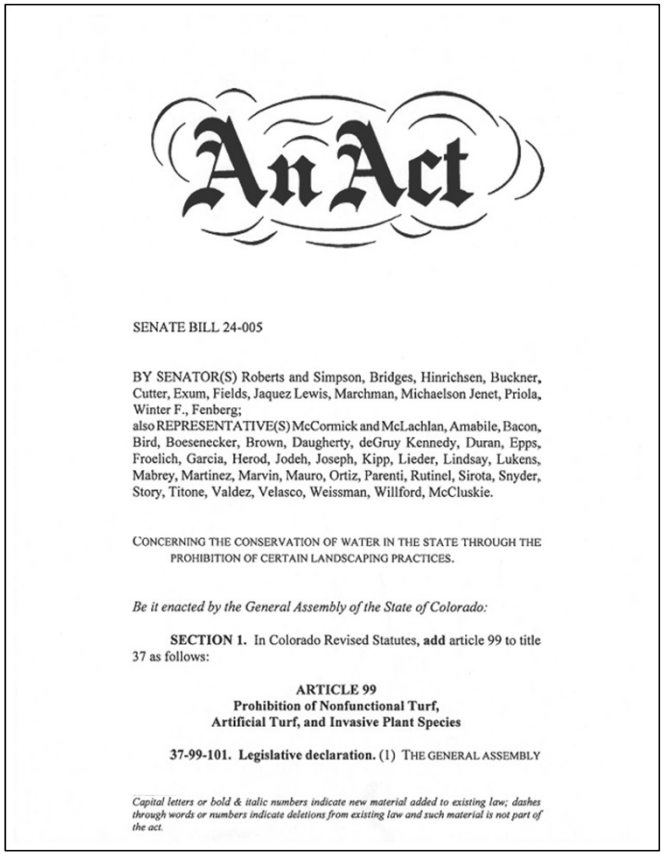
Turf

- Turf generally means any cool-season turf species, variety or blend, including but not limited to Kentucky bluegrass and fescue.

Non-functional turf

- SB24-005 prohibits the installation of nonfunctional turf, artificial turf, and invasive plant species on **commercial, institutional, or industrial property**
  - Includes street right-of-ways, parking lots, medians, and transportation corridors.

- Took effect January 1, 2026



An Act

SENATE BILL 24-005

BY SENATOR(S) Roberts and Simpson, Bridges, Hinrichsen, Buckner, Cutter, Exum, Fields, Jaquez Lewis, Marchman, Michaelson Jenet, Priola, Winter F., Fenberg;
also REPRESENTATIVE(S) McCormick and McLachlan, Amabile, Bacon, Bird, Boesenecker, Brown, Daugherty, deGruy Kennedy, Duran, Epps, Froelich, Garcia, Herod, Jodeh, Joseph, Kipp, Lieder, Lindsay, Lukens, Mabrey, Martinez, Marvin, Mauro, Ortiz, Parenti, Rutinel, Sirota, Snyder, Story, Titone, Valdez, Velasco, Weissman, Willford, McCluskie.

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SECTION 1. In Colorado Revised Statutes, **add** article 99 to title 37 as follows:

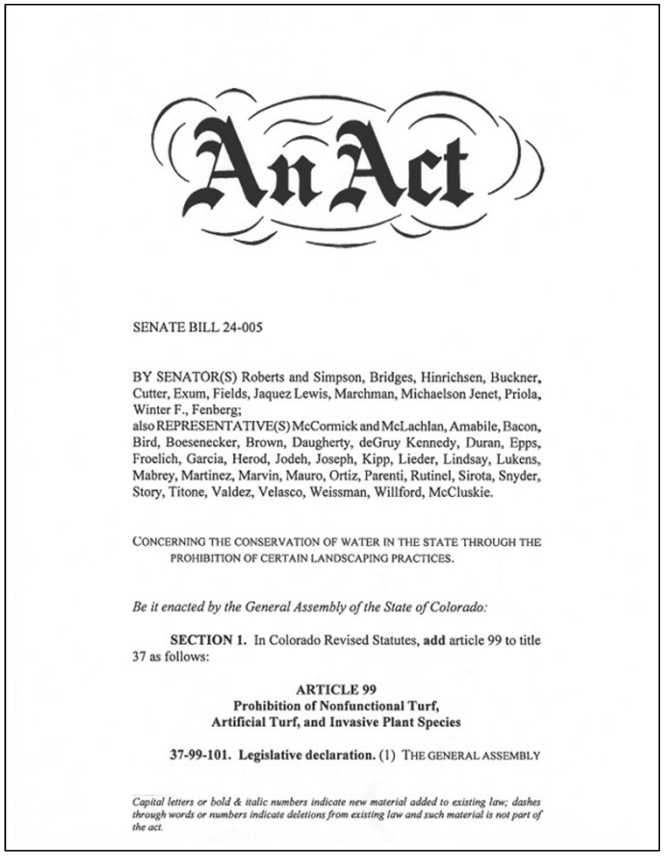
ARTICLE 99
Prohibition of Nonfunctional Turf, Artificial Turf, and Invasive Plant Species

37-99-101. Legislative declaration. (1) THE GENERAL ASSEMBLY

Capital letters or bold & italic numbers indicate new material added to existing law; dashes through words or numbers indicate deletions from existing law and such material is not part of the act.

Functional turf, defined

*"**Functional turf**" means turf that is located in a recreational use area or other space that is regularly used for civic, community, or recreational purposes, which may include playgrounds; sports fields; picnic grounds; amphitheaters; portions of parks; and the playing areas of golf courses, such as driving ranges, chipping and putting greens, tee boxes, greens, fairways, and roughs.*



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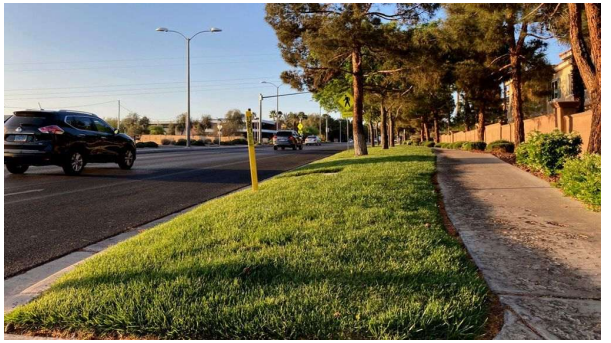
Term change

~~Tree lawn~~ → Tree strip

Turf in tree strips

- Pros
  - Reduced heat island effect
  - Aesthetics
  - Pet relief
- Cons
  - High maintenance (mowing, trimming around trees, fertilization, weed control, aeration, etc.)
  - High water use
  - Difficult to irrigate (over-spray and runoff likely)
  - High foot traffic



Alternative & native plantings in tree strips

- Pros
  - Reduced heat island effect
  - Aesthetics (seasonal and year-round)
  - Pet relief
  - Stormwater filtration
  - Pollinator support
  - Lower water use
  - Lower maintenance (weeding and seasonal pruning)
  - Lower chemical use
- Cons
  - Establishment time (+/- 2 years)
  - Weeding
  - Plant replacement

Timnath, CO

- Durable, low maintenance
- Low-water species
- Aesthetically pleasing

Windsor, CO

- Color variety
- Native species

Longmont, CO

- Can function as bioswales
- May reduce foot traffic in the tree strip and unsafe street crossing

Fort Collins

- Year-round appeal
- Variety of species
- Pollinator-friendly

Fort Collins, CO

- Maintains good visibility
- Durable plant species

Fort Collins, CO

- Durable in harsh and dry conditions
- Use of hardscape elements

Albuquerque, NM

- Can be executed even in very arid conditions
- Project prototype executed on over 70 miles of City medians in 9 years.
- Modular approach with standardized designs

Town Board of Trustees
February 10, 2026

BOARD OF TRUSTEES INFORMATION

COMMUNITY DEVELOPMENT DEPARTMENT

Meeting Date:	**February 10, 2026**
Agenda Title/Subject:	**Public Hearing to consider Ordinance 1376 (Series 2026) to repeal and replace portions of Chapter 14 of the Berthoud Municipal Code**
Type of Item:	**Public Hearing**
Purpose:	**A Public Hearing to present proposed amendments to Chapter 14 of the Berthoud Municipal Code, Second Reading**
Presented by:	**Audry Bothun, Building Permit Technician** **Christian Samora, Town Clerk** **Anne Johnson, Community Development Director**

ATTACHMENTS:

- Ordinance 1376
- Presentation

BACKGROUND

The proposed ordinance revisions are intended to make the contractor licensing process easier to understand, more consistent, and more transparent for contractors and staff. The changes are also designed to improve customer service by reducing confusion and ensuring licensing requirements are applied uniformly.

Section 14.9-8 and Appendix A referenced specific fees. If the Town's fee schedule should change and fees are reflected in this section incorrectly it is an opportunity for conflict and confusion. By referencing the fee schedule, this potential conflict is removed.

Staff have identified administrative and operational reasons for these changes to Appendix A. Under the current ordinance, some contractor license names differ from those used by the International Code Council (ICC) and other municipalities. This inconsistency has caused confusion during the application process, resulting in contractors frequently applying for the incorrect license classification. The proposed license name changes align better with industry standards and common usage, making the licensing process more intuitive for applicants. Berthoud offers reciprocal license acceptance with other municipalities. Having consistent license names will not only benefit staff, it will also benefit the contractors.

In addition to improving clarity for contractors, the proposed amendments will simplify internal administration. The revisions will make the ordinance easier for permit technicians to administer and enforce, while promoting consistency across applications and reducing processing errors.
Overall, these ordinance changes are intended to create a clearer, more efficient contractor licensing system that benefits contractors, staff, and the public.

In existing subsection 14.9-9 (f) the Municipal Code establishes the types of insurance required. The minimum amount of coverage is now being provided by the proposed addition of section 14.9-9 (g).

The proposed ordinance also contains a revision to the General Business Licensing provision of the Berthoud Municipal Code. This change is to clarify that if a business holds a different class of business license, there is not a requirement for the business to also obtain a general business license.

UPDATE/NEXT STEPS:
Public meeting on February 10, 2026 is the second reading.

FISCAL IMPACT AND FUND SOURCE:
There is no negative fiscal impact to the Town in amending these documents. The proposed change could provide a positive fiscal benefit to the building community by streamlining the contractor licensing process.

COMMUNITY TOUCHSTONES:
Consideration of the amendment request does not negatively impact community touchstones. Consideration of approval of the request does provide support for enhancing community identity by providing a more friendly and enhanced business process.

RECOMMENDED ACTION(S):
Staff recommends the Town Trustees approve the amendments presented to Chapter 14.

ORDINANCE NO. 1376 (Series 2026)

AN ORDINANCE OF THE TOWN OF BERTHOUD, COLORADO, AMENDING CHAPTER 14 OF THE BERTHOUD MUNICIPAL CODE WITH RESPECT TO CONTRACTOR'S LICENSING REQUIREMENTS, SPECIFICALLY SECTIONS 14.9-9, 14.9-8 & APPENDIX A

WHEREAS, pursuant to C.R.S. Section 31-15-501, the Board of Trustees for the Town of Berthoud (the "Town") is authorized to regulate businesses that operate within the Town; and

WHEREAS, the Town desires to establish a contractor licensing program to provide standards for qualifying those in the contracting trade to perform work within the Town; and

WHEREAS, it is deemed to be in the interest of public health, safety and general welfare to revise the Municipal Code of the Town to adopt a program for contractor licensing to implement standards for qualifying contractors; and

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN BOARD OF THE TOWN OF BERTHOUD, COLORADO THAT THE FOLLOWING CHANGES ARE HEREBY INCORPORATED INTO THE MUNICIPAL CODE:

Section 1. Chapter 14, Section 14.9-8 of the Berthoud Municipal Code is hereby amended to read as follows:

14.9-8 Forms; fees; validity

(a) The Building Official shall prepare a contractor licensing application, which shall contain, among other potential requirements, the items required in Section 14.9-9, and is subject to approval of the Town Administrator. The Building Official shall prepare all forms necessary to satisfy the provisions of this Article, which are subject to approval of the Town Administrator.
(b) Prior to issuance of a contractor's license, the applicant shall complete the contractor licensing application.
(c) The contractor shall pay a non-refundable fee as outlined in the Town's fee schedule ~~of $100.00~~, due, and payable with the submission of the contractor licensing application, which fee shall be applied to offset the Town's costs associated with regulating the Building Code and administering the contractor licensing program.
(d) A contractor's license is valid for a period of one year from the date of issuance and may be renewed by payment of a renewal fee as outlined in the Town's fee schedule ~~in the amount of $100.00~~.
(e) A contractor who performs construction prior to obtaining a contractor's license shall, in addition to the other remedies set forth in this Article, be required to pay an investigation fee in an amount equal to, and in addition to, the license fee, which fee shall be paid before a contractor's license may be issued.
(f) The fee established herein may be adjusted from time to time by a resolution of the Board of Trustees.

Section 2. Chapter 14, Section 14.9-9 of the Berthoud Municipal Code is hereby amended to read as follows:

14.9-9 Application for contractor's license

Prior to being issued any contractor's license, the applicant shall complete a contractor licensing application containing, among other potential requirements, the following information:

(a) The applicant's business name, the names of all principals of the contractor, a current mailing address and telephone number.
(b) Contractor's licenses for each subcontractor with whom the applicant is associated or with whom the contractor will be working in the Town.
(c) A written summary documenting the applicant's relevant experience with at least three separate construction projects and identifying an owner, general contractor, architect, professional engineer, or other person involved in each construction project, who has personal knowledge of the applicant's responsibilities on said projects.
(d) A copy of all contractor's licenses issued by any other governmental authority.
(e) A signed statement by the applicant acknowledging the obligations associated with the contractor's license.
(f) Certificates of insurance setting forth the insurance maintained by the applicant for work performed within the Town, including, but not limited to, workers' compensation, builder's risk insurance and general liability coverage.
(g) General Liability Insurance provided on an ISO 1998 (or most current) Form or equivalent form with a minimum combined single limit for each occurrence of:

(1) General Contractor A $1,000,000.00
(2) General Contractor B..... $1,000,000.00
(3) Residential General Contractor C..... $1,000,000.00
(4) General Contractor D……. $300,000.00
(5) Trade Contractor……..... $300,000.00
(6) Sign Contractor….....$300,000.00

Proof of such insurance shall be accompanied by a Certificate of Insurance issued to the Town as a Certificate Holder requiring a ten (10) days' notice for NON-PAYMENT OF PREMIUM and providing 30 days advance written notice for all other reasons to the Chief Building Official (at Town of Berthoud Building Department, 807 Mountain Ave, Berthoud, CO. 80513) signed by an authorized agent of the issuing company. In the event the required insurance is revoked, the contractor license is revoked upon such notice.

Section 3. Chapter 14, Appendix A of the Berthoud Municipal Code is hereby amended to read as follows:

Appendix A

Contractor Type	Description*	Testing Requirement	Fee***
General Contractor - A	Performs new construction and additions of commercial buildings	ICC – G11	See Town's fee schedule ~~$100.00~~
General Contractor - B	Performs Tenant Finishes and Remodels, swimming pool spa of Commercial Buildings	ICC – G12	
Residential General Contractor - C	Performs new construction and additions of residential one- and two-family homes and townhouses. Performs residential basement finishes, remodels and accessory buildings, swimming pool/spa.	ICC – G13	
General Contractor - D	Performs residential construction for decks, sheds, carports, pergolas, and small interior remodeling/handyman projects. Performs demolition and excavation projects.	Signed Memorandum	
Trade Contractor	Performs work in the licensed trade – Roofing(G14 or G15), Mechanical(G29), plumbing, electrical and solar**	State License or Equivalent.	
Sign Contractor	Erection and installation of commercial signs.	Signed Memorandum	

* Contractor may perform work of any lower license type within their respective class of Commercial or Residential

** Fee is not charged for Electrical or Plumbing Contractors per State Statutes.

~~*** Fee is subject to adjustment in accordance with Section 14.9-8.~~

Section 4. Chapter 14, Section 14.10-2 of the Berthoud Municipal Code is hereby amended to read as follows:

14.10-2 License Required

(a) Every person must obtain a license from the Town before operating, conducting, or carrying on any retail trade, profession, or business that has more than an incidental presence within the limits of the Town; except that nonprofit state corporations, excluding federal, state, or municipal corporations, are hereby exempt from the license requirements set forth in this Chapter.

(b) Each license shall be granted and issued by the Town Clerk or their designee and shall be in force and effect until the thirty-first day of December of the year in which it is issued, unless sooner revoked in accordance with this chapter. Such license shall be granted or renewed only upon an application that states the name and address of the person desiring such license, the name of such business and location, and other information that the Town Clerk may require.

(c) Having been issued a General Business License pursuant to this section shall not preclude any business from obtaining a State of Colorado Sales Tax License and collecting sales tax pursuant to Chapter 23 of this Code.

(d) The provisions of this Chapter 14.10 shall not apply to businesses that otherwise qualify for and obtain other licensing in accordance with licensing provisions in Chapter 13 and Chapter 14~~, Sections 2 through 9.~~ of the Berthoud Municipal Code.

(e) Businesses that either do not have a physical presence in the Town or have only incidental physical presence within the town shall be issued a business license at no charge in accordance with CRS 39-26-802.9. The terms "physical presence" and "incidental physical presence" shall have the definitions set forth in CRC 39-26-802.9 or any successor statute, as amended from time to time.

Section 5. Severability. Should any one or more sections or provisions of this Ordinance or of any of the primary or secondary codes adopted by reference be judicially determined invalid or unenforceable, such judgment shall not affect, impair or invalidate the remaining provisions of this Ordinance or the codes adopted by reference hereby, the intention being that the various sections and provisions are severable.

Section 6. Repeal. Any and all ordinances or codes or parts thereof in conflict or inconsistent herewith are, to the extent of such conflict or inconsistency, hereby repealed; provided, however, that the repeal of any such ordinance or code or part thereof shall not revive any other section or part of any ordinance or code heretofore repealed or superseded and this repeal shall not affect or prevent the prosecution or punishment of any person for any act done or committed in violation of any ordinance hereby repealed prior to the effective date of this Ordinance.

Section 7. Effective Date. The provisions of this ordinance shall take effect thirty days after publication as required by law, and shall apply to all development and construction permitted after such date.

INTRODUCED AND READ on this 27th day of January, 2026.

TOWN OF BERTHOUD

By _____

William Karspeck, Mayor

ATTEST:

By: _____

Christian Samora, Town Clerk

READ, ADOPTED, AND APPROVED on this 10th day of February, 2026.

TOWN OF BERTHOUD

By _____

William Karspeck, Mayor

ATTEST:

By: _____

Christian Samora, Town Clerk

Town Board of Trustees
February 10, 2026

Proposed Ordinance Revision

- Application For Contractor's License
- Chapter 14: Section 14.9-8
- Chapter 14: Section 14.9-9
- Appendix A

Insurance Requirements for Contractor's License

Section 1. Chapter 14, Section 14.9-8 of the Berthoud Municipal Code is hereby amended to read as follows:

14.9-8 Forms; fees; validity

(a) The Building Official shall prepare a contractor licensing application, which shall contain, among other potential requirements, the items required in Section 14.9-9, and is subject to approval of the Town Administrator. The Building Official shall prepare all forms necessary to satisfy the provisions of this Article, which are subject to approval of the Town Administrator.

(b) Prior to issuance of a contractor's license, the applicant shall complete the contractor licensing application.

(c) The contractor shall pay a non-refundable fee as outlined in the Town's fee schedule ~~of $100.00~~, due, and payable with the submission of the contractor licensing application, which fee shall be applied to offset the Town's costs associated with regulating the Building Code and administering the contractor licensing program.

(d) A contractor's license is valid for a period of one year from the date of issuance and may be renewed by payment of a renewal fee as outlined in the Town's fee schedule ~~in the amount of $100.00~~.

(e) A contractor who performs construction prior to obtaining a contractor's license shall, in addition to the other remedies set forth in this Article, be required to pay an investigation fee in an amount equal to, and in addition to, the license fee, which fee shall be paid before a contractor's license may be issued.

(f) The fee established herein may be adjusted from time to time by a resolution of the Board of Trustees.

Application for Contractor's License

Section 2. Chapter 14, Section 14.9-9 of the Berthoud Municipal Code is hereby amended to read as follows:

14.9-9 Application for contractor's license

Prior to being issued any contractor's license, the applicant shall complete a contractor licensing application containing, among other potential requirements, the following information:

(a) The applicant's business name, the names of all principals of the contractor, a current mailing address and telephone number.

(b) Contractor's licenses for each subcontractor with whom the applicant is associated or with whom the contractor will be working in the Town.

(c) A written summary documenting the applicant's relevant experience with at least three separate construction projects and identifying an owner, general contractor, architect, professional engineer, or other person involved in each construction project, who has personal knowledge of the applicant's responsibilities on said projects.

(d) A copy of all contractor's licenses issued by any other governmental authority.

(e) A signed statement by the applicant acknowledging the obligations associated with the contractor's license.

(f) Certificates of insurance setting forth the insurance maintained by the applicant for work performed within the Town, including, but not limited to, workers' compensation, builder's risk insurance and general liability coverage.

(g) General Liability Insurance provided on an ISO 1998 (or most current) Form or equivalent form with a minimum combined single limit for each occurrence of:

(1) General Contractor A $1,000,000.00
(2) General Contractor B..... $1,000,000.00
(3) Residential General Contractor C..... $1,000,000.00
(4) General Contractor D..... $300,000.00
(5) Trade Contractor..... $300,000.00
(6) Sign Contractor.....$300,000.00

Proof of such insurance shall be accompanied by a Certificate of Insurance issued to the Town as a Certificate Holder requiring a ten (10) days' notice for NON-PAYMENT OF PREMIUM and providing 30 days advance written notice for all other reasons to the Chief Building Official (at Town of Berthoud Building Department, 807 Mountain Ave, Berthoud, CO. 80513) signed by an authorized agent of the issuing company. In the event the required insurance is revoked, the contractor license is revoked upon such notice.

Chapter 14: Section 14.9-9

Appendix A

Contractor Type	Description*	Testing Requirement	Fee***
General Contractor - A	Performs new construction and additions of commercial buildings	ICC – G11	
General Contractor - B	Performs Tenant Finishes and Remodels, swimming pool spa of Commercial Buildings	ICC – G12	
Residential General Contractor - C	Performs new construction and additions of residential one- and two-family homes and townhouses. Performs residential basement finishes, remodels and accessory buildings, swimming pool/spa.	ICC – G13	
General Contractor - D	Performs residential construction for decks, sheds, carports, pergolas, and small interior remodeling/handyman projects. Performs demolition and excavation projects.	Signed Memorandum	
Trade Contractor	Performs work in the licensed trade – Roofing, Mechanical, plumbing, electrical and solar**	State License or Equivalent.	
Sign Contractor	Erection and installation of commercial signs.	Signed Memorandum	See Town's fee schedule ~~$100.00~~

* Contractor may perform work of any lower license type within their respective class of Commercial or Residential

** Fee is not charged for Electrical or Plumbing Contractors per State Statutes.

~~*** Fee is subject to adjustment in accordance with Section 14.9-8.~~

TOWN BOARD INFORMATION

COMMUNITY DEVELOPMENT DEPARTMENT

Meeting Date:	**February 10, 2026**
Agenda Title/Subject:	**Public Hearing to consider a request for a Preliminary Plat, known as Fickel Farm 5th Filing, located south of Mountain Avenue at Pyramid Peak Street.**
Type of Item:	**Public Hearing**
Purpose:	**Request for approval of a Preliminary Plat to create a residential development consisting of 104 townhome lots and 50 paired home (duplex) lots.**
Presented by:	**Tawn Hillenbrand, Planning Manager**

ATTACHMENTS:

- Staff Report with application materials
- Resolution 5 (Series 2026)
- Draft PC meeting minutes

BACKGROUND:

Fickel Farm 5th Filing received Neighborhood Master Plan and Rezone approval in November 2024. The currently undeveloped property, consisting of two parcels, is approximately 14.52 acres and is currently zoned Urban Residential. The proposed Preliminary Plat is in substantial compliance with the Neighborhood Master Plan approved in November 2024. The road network, lot configuration, and proposed open space areas are aligned with the previously approved plan. Minor modifications have been made to one stormwater detention area, and the overall density has been reduced from the approved Neighborhood Master Plan. The modification to the stormwater detention area and the reduction in density are not considered substantial changes, and therefore, are consistent with the approved Neighborhood Master Plan.

Preliminary Plat is the next phase of the overall land use approval process for a subdivision following Neighborhood Master Plan and Rezone approval.

This is the applicant's second application for the Fickel Farm 5th Filing Preliminary Plat. The first application was withdrawn by the Applicant following the November 13, 2025, Planning Commission meeting and prior to the Board of Trustees hearing.

Planning Commission heard the applicant's request for approval at their January 8, 2026 public hearing.

UPDATE/NEXT STEPS:
Tonight, the Town Board will hear one request of the applicant. The purpose of the Preliminary Plat is to provide the Town with an overall plat and the associated engineering for the proposed development.

The applicant will be required to provide documents for recording by Staff if approved by the Town Board of Trustees, and any Conditions of Approval will need to be addressed prior to submitting an application for the final process. The final planning process step would be a public hearing before the Planning Commission for a Final Plat. The Final Plat phase includes review of the Construction Documents (100% completeness), referral agency review, analysis of the utilities and infrastructure planned for the project, off-site and on-site improvements, for example. Both the Preliminary and Final platting must adhere to the Neighborhood Master Plan.

Referral agencies such as the school district, fire protection district, utility and infrastructure providers, for example, have reviewed the Preliminary Plat application. Referral agency comments at this phase are incorporated into the Staff Report and are used by the applicant when they are preparing their next land use application materials for review. Sanitary sewer and water main engineering designs, the need for water dedication, and school bus stop locations, if needed, for example are reviewed at the Preliminary Plat and Final Plat stages. The developer has provided Construction Documents with this phase and will be required to with the next or final phase of development, and these will be reviewed by the Town Engineer and supportive agencies.

FISCAL IMPACT AND FUND SOURCE:
There is no negative impact to the Town in consideration of this request for Preliminary Plat. Public notice is funded through fees paid by the applicant. Development review is funded through fees paid by the applicant.

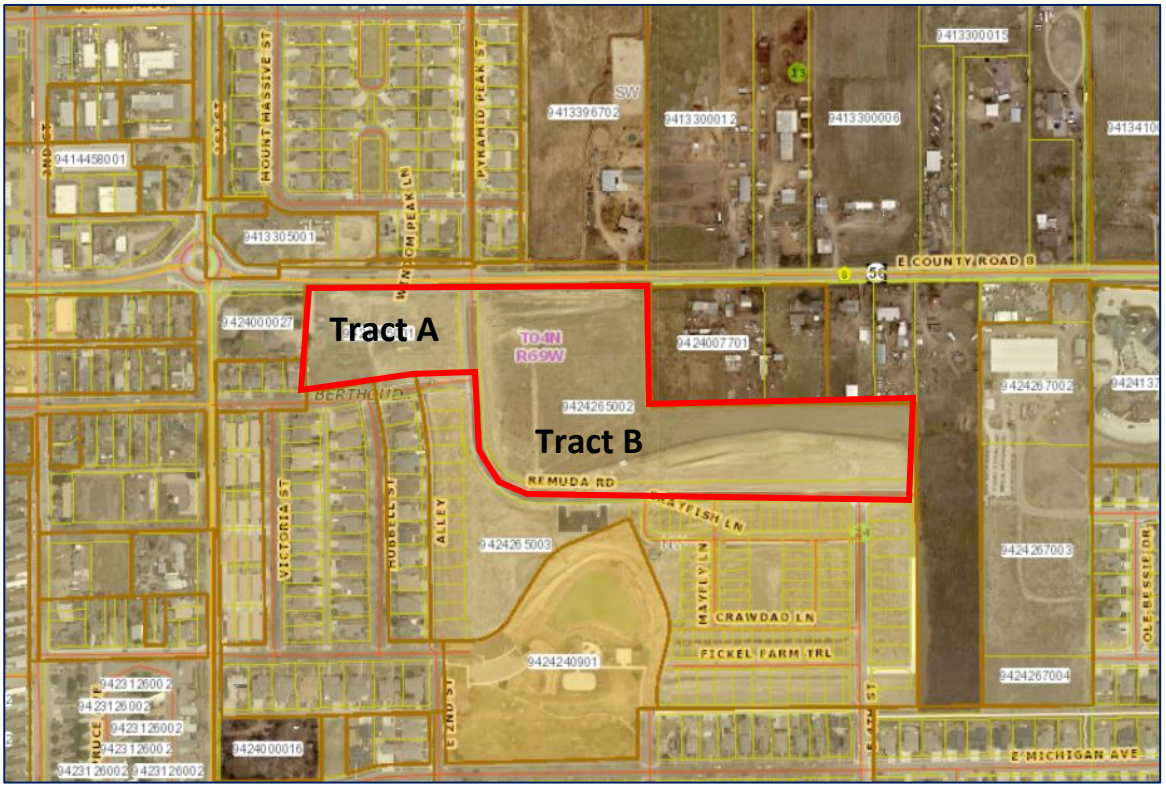
COMMUNITY TOUCHSTONES:
Consideration of this request does not negatively impact community touchstones and in fact is supportive of the 2021 Comprehensive Plan. The proposed Preliminary Plat is consistent with the previously approved Neighborhood Master Plan which aligns with the vision of the Comprehensive Plan.

RECOMMENDED ACTION(S):
Planning Commission heard the applicant's request for approval at their January 8, 2026 public hearing and recommended approval to the Town Board of Trustees. See suggested motions in the Staff Report.

807 Mountain Avenue | PO Box 1229 | Berthoud, CO 80513 | O: 970.532.2643 | F: 970.532.0640 | **Berthoud.org**

STAFF REPORT: FICKEL FARM 5TH FILING PRELIMINARY PLAT

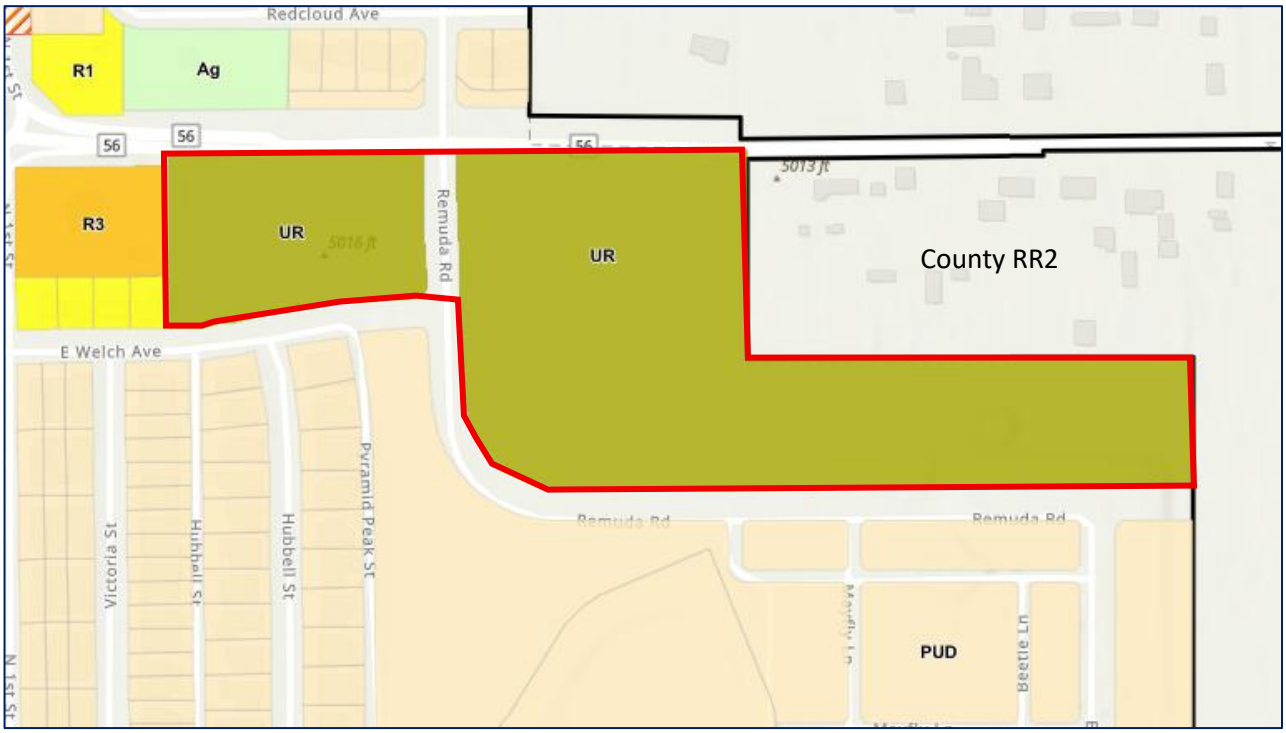
DATE: February 10, 2026

GENERAL INFORMATION		
Applicant:	Kurt Jones – TruMark Homes Kristin Turner – TB Group	Size: 14.52 acres
Site Location:	Tract A: parcel #9424265001 and Tract B: parcel #9424265002. The two subject parcels are located south of Mountain Avenue at the intersection of Pyramid Peak Street.  *Subject property is outlined in red.*	
Applicant's Request:	The Applicant is requesting Preliminary Plat approval to create a residential development consisting of 104 townhome lots and 50 paired home (duplex) lots.	
Current Zoning:	UR – Urban Residential	

ZONING DISTRICT INFORMATION		
	UR (Townhome)	UR (Paired Home)
Max Density	Defined by approved NMP	Defined by approved NMP
Min. Lot Width	16’	20’
Front Setback	8’-12’	8’-12’
Side Setback	5’ / 10’ corner side (0’ attached)	5’ / 10’ corner side (0’ attached)
Rear Setback	5’ rear loaded garage	5’ rear loaded garage
Max Building Height:	30’	30’

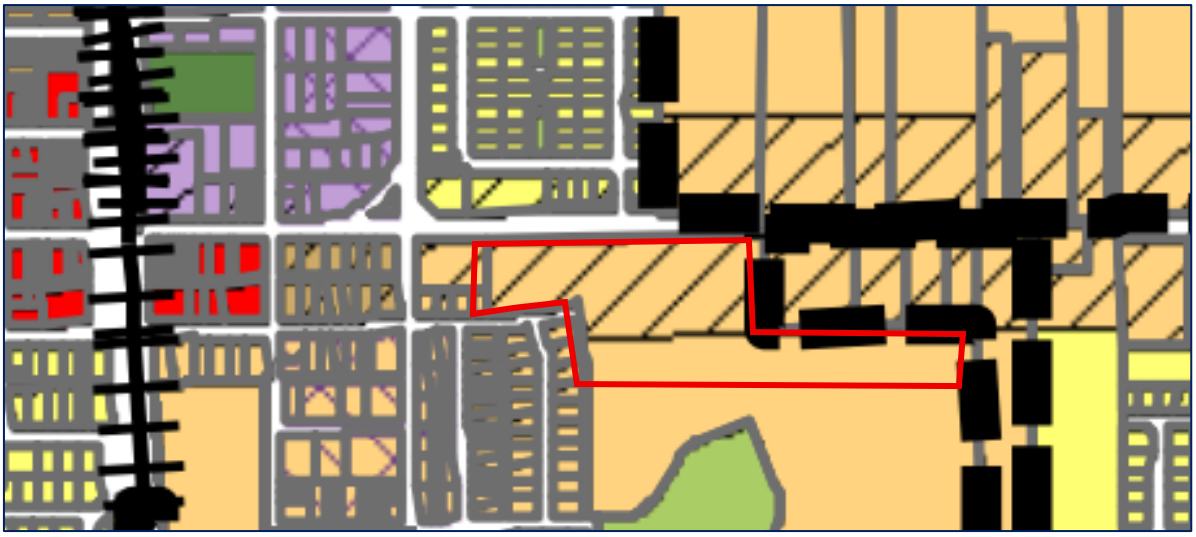
SURROUNDING ZONING, LAND USE AND REQUIRED BUFFERS			
	Adjacent Zoning	**Adjacent Land Uses**	**Setbacks for Adjacent Zoning**
North	AG, PUD, County RR2	Single Family, Single Family/Ag	N/A
South	PUD	Single Family, Paired Homes (Duplex)	N/A
East	County RR2	Single Family/Ag	N/A
West	R3, R1, PUD	Single Family	N/A

Town Zoning Map:



BERTHOUD COMPREHENSIVE PLAN AND MASTER PLANS

Berthoud Comprehensive Plan - Future Land Use Map:



Urban Residential Character District (area in orange) and Mountain Avenue Corridor (area in hatch)

Berthoud Trails Master Plan:

Proposed Regional Trail (purple line) and Planned Neighborhood (orange line)

Berthoud Open Space Plan:

Proposal

The applicant proposes Preliminary Plat approval to create 104 paired home (duplex) lots and 50 townhome lots. The proposed Preliminary Plat is in substantial compliance with the approved Neighborhood Master Plan approved in November 2024. The Preliminary Plat, if approved, would allow the applicant to apply for a Final Plat that would formally subdivide the lots.

Background

The currently undeveloped property is approximately 14.52 acres and is currently zoned Urban Residential. Fickel Farm 5th Filing received Neighborhood Master Plan and Rezone approval in November 2024. The approved Neighborhood Master Plan includes 115 townhome lots and 50 paired home (duplex) lots.

The proposed Preliminary Plat is consistent with the approved Neighborhood Master Plan with two minor modifications:

1. The first minor modification is the size of the stormwater detention area located at the curve of Pyramid Peak Street and Remuda Road. This detention area was expanded as result of the Preliminary Drainage Study to accommodate stormwater flows.
2. The second minor modification is a reduction in the overall density of the development. The approved Neighborhood Master Plan proposed 115 townhome lots and 50 paired home lots, while this Preliminary Plat request proposes 104 townhome lots and 50 paired home lots. The overall density has been reduced from 165 to 154 total lots.

These modifications do not change the overall layout of the development, road network, or lot configuration. And while the density has changed, a reduction in density is not considered a substantial change. Therefore, the Preliminary Plat is considered to be consistent with the approved Neighborhood Master Plan.

This is the applicant's second application for the Fickel Farm 5th Filing Preliminary Plat. The first application was withdrawn by the Applicant following the November 13, 2025, Planning Commission meeting and prior to the Board of Trustees hearing.

Preliminary Plat Development Requirements

In addition to all provisions of this Code, the Town shall use the following Development Requirements to evaluate the applicant's request:

30-5-101 Development Requirements	Finding	Rationale
A. Complement the Town's historic development patterns and fit into the context of the existing and planned development on surrounding properties.	Meets the Intent	The preliminary plat is a functional system of land use. The road network, lot configuration, density, and proposed open space areas are aligned with the previously approved Neighborhood Master Plan, and thereby the historic development patterns of the existing and planned development on surrounding properties. Those residential lots being created with this plat meet the standards of the UR – Urban Residential zone district and are consistent with the lots developed in the Fickel Farm 4th Filing.
B. Adhere to the vision established in the Comprehensive Plan, Land Development Code, Overlay Districts and Master Plans covering the property.	Meets the Intent	The plan is consistent with the approved Neighborhood Master Plan (2024) which was found to be in alignment with the Comprehensive Plan, Land Development Code, Overlay Districts and Master Plans. The Future Land Use Map envisions this area as Urban Residential. The approved Neighborhood Master Plan is consistent with the Future Land Use Map, and the Preliminary Plat is consistent with the approved Neighborhood Master Plan.

		The creation of townhome and paired home lots conforms to Berthoud's Development Code for the UR – Urban Residential district. The project provides adequate public sidewalks, trails, and pedestrian connections to allow walkability within the project area and well beyond. Once developed, the project will be well connected to the neighboring residential areas.
30-5-101 Development Requirements	**Finding**	**Rationale**
C. Ensure there is sufficient provision for public utilities, services and facilities. The development shall be designed with consideration of the future needs as well as adequately managing the impact of the proposed development on the surrounding area and Town in general. Hazardous conditions on- and off-site shall not be created by the proposal.	Meets the Intent	As part of the Preliminary Plat application, the applicant provided a Preliminary Traffic Impact Study (TIS), Preliminary Utility Report, and Preliminary Construction Documents. Additionally, the required dry utility easement locations are included on the Plat. The plans were reviewed by Town Staff as well as outside referral agencies. Staff and referral agencies find that the applicant has provided adequate plans for utilities and transportation designs for Preliminary Plat. Final versions of these reports/plans, at 100% completeness, will be required at Final Plat submittal. The proposed project does not appear to create hazardous conditions on- or off-site.
D. Mitigate negative impacts of the development on the surrounding property.	Meets the Intent	The applicant provided the following required preliminary plans and reports which were reviewed by Town Staff and referral agencies specializing in specific areas of study: - Preliminary Drainage Plan - Preliminary Utility Report - Soils Report (Geotechnical Report) - Preliminary Landscape Plan - Preliminary Traffic Impact Study (TIS) Staff and referral agencies found that the reports and plans identify and satisfactorily mitigate impacts to surrounding property.
E. Addresses a need or desirability within Berthoud and the development proposal will help achieve a balance of land use, create a specific sense of place through place-making in each distinct neighborhood, provide a variety of housing types, meet architectural diversity standards, and integrate meaningful neighborhood identity features into the development according to Town goals.	Meets the Intent	The Future Land Use Map envisions this area as Urban Residential. Additionally, the portion of the property located adjacent to Mountain Avenue is in the Mountain Avenue Overlay District, specifically Berthoud East Character District. The Comprehensive Plan states that the dominant land use in the Urban Residential Character District will be a mix of residential housing types with non-residential uses to support the neighborhoods. Housing types should include single-family detached homes, single-family attached homes (paired homes), townhomes, and multi-family options. Urban Residential areas should generally maintain moderate to high density. The proposed Fickel Farm 5th Filing Preliminary Plat proposes alley loaded Townhomes along Mountain Avenue transitioning to Paired Homes (duplexes) further

		into the development along Pyramid Peak Street, adjacent to the recently constructed paired homes in Fickel Farm 4th Filing. The proposed product type (townhomes and paired homes) address changes in the housing market including a desire for smaller homes at different price points. The proposed project meets the housing diversity standards intended for the Urban Residential Character District while also potentially providing more attainable housing options. The proposed density would be consistent with the intent of the Urban Residential Character District. The Mountain Avenue Overlay District envisions this area as Berthoud East Character District with the primary use being residential with mix-use commercial as the secondary use. The plan states that mixed-use commercial should be located near County Line Road 1, away from existing residential neighborhoods; appropriate transitions from existing residential neighborhoods are critical. The Fickel Farm 5th Filing NMP does not include a commercial component, which supports the concept plan for the Berthoud East Character District.
30-5-101 Development Requirements	**Finding**	**Rationale**
F. Meet all applicable local, state and federal permits have been or will be obtained.	NA	Local, state and federal permits are not required at the Preliminary Plat phase. The Applicant/Developer will be required to obtain all required permits following Final Plat.
G. Address such other matters as the Town may deem necessary in order to protect the best interest of the public.	NA	The approved Neighborhood Master Plan did not contain conditions that needed to be addressed with the Preliminary Plat.

PUBLIC NOTICE AND COMMENT

Notice of the Planning Commission Public Hearing and Town Board of Trustees hearing has been mailed to property owners within 500 feet of the subject property on December 22, 2025, a legal ad published on December 21, 2025, and the property was posted as required by the Development Code on December 22, 2025.

As of the drafting of this report (February 2, 2026), Staff have received several public comment emails regarding the proposed request. Those emails are included as an attachment to this request.

The Fickel Farm 5th Filing Preliminary Plat application completed one (1) round of referral agency and staff review in the following sequence:

Submittal Number	Review documents submitted by Applicant on:	Staff and Referral Agency comments provided to Applicant on:
1st and final	December 15, 2025	December 29, 2025

FINDINGS AND RECOMMENDATIONS

Planning Commission heard the request for approval of the Fickel Farm 5th Filing Preliminary Plat at their January 8, 2026 public meeting and provide the following recommendation:

Planning Commission voted unanimously to send their recommendation for approval of the Fickel Farm 5th Filing Preliminary Plat to the Town Board of Trustees.

Attachments

1. Application form
2. Preliminary Plat
3. Preliminary Landscape Plan
4. Approved Neighborhood Master Plan (for reference only)
5. Preliminary Traffic Analysis
6. Combined Public Comment

Attachment 1

Town of Berthoud
807 Mountain Ave.
P.O. Box 1229
Berthoud, CO 80513
970.532.2643

DEVELOPMENT REVIEW APPLICATION

All required information must be provided before submittal will be accepted and deemed complete.
To be complete, the application must include all items identified on the submittal checklist.
Please complete both sides of application form.

Parcel Number(s): 9424265001 & 9424265002		
Site Address: SE side of Intersection of Mountain Avenue & Pyramid Peak Street		
Project Name: Fickel Farms 5th Filing		
Brief description of project: A residential subdivision which will consist of a combination townhomes and duplex products.		
APPLICATION TYPE *(Check as appropriate)*:		
☐ Annexation	☑ Preliminary Subdivision Plat	☐ Final Site Plan
☐ Rezoning	☐ Final Subdivision Plat	☐ PUD Amendment
☐ Concept Plan	☐ Plat Amendment	☐ PUD Preliminary Development Plan
☐ Minor Subdivision	☐ Oil and Gas	☐ PUD Final Development Plan
☐ Special Use Review	☐ ROW Vacation	☐ Other _____

APPLICANT	
Name: TruMark Homes (Kurt Jones)	
E-mail: kjones@trumarkco.com Phone: 720-346-2800	Mailing Address: 8350 E. Crescent Pkwy, Ste. #450 City/State/Zip: Greenwood Village, CO 80111
CONTACT PERSON ***(will receive correspondence from Town Staff/Referral Agencies)***	
Name: Kristin Turner	
E-mail: kristin@tbgroup.us Phone: 970-532-5891	Mailing Address: 444 Mountain Ave. City/State/Zip: Berthoud, CO 80513
OWNER(S) ***(If different than applicant)***	
Name: Edwards Development (Will Edwards)	
E-mail: will@edwardsdevelopment.com Phone: (949) 413-4711	Mailing Address: 506 Shoshoni St, Cheyenne, WY 82009 City/State/Zip: 506 Shoshoni St, Cheyenne, WY 82009
CONSULTANT ***(Engineer, Surveyor, or Planner)***	
Name: Kristin Turner	
E-mail: kristin@tbgroup.us Phone: 970-532-5891	Mailing Address: 444 Mountain Ave. City/State/Zip: Berthoud, CO 80513

Docusign Envelope ID: 30A8B287-D3FB-42CF-9F59-23CF398A4DE2

LAND USE INFORMATION

Existing Use: Vacant

Proposed Use: Residential

Existing Zoning: UR

Proposed Zoning: (if applicable):

Number of acres: 14.52 AC

Proposed Access: Mountain Ave, Welch Av

Adjacent zoning / land use:

East Side: Larimer County RR2	North Side: Larimer County RR2/HWY 56
West Side: Residential R1	South Side: Residential PUD

UTILITY SERVICE INFORMATION

Water: Town of Berthoud

Sewer: Town of Berthoud

PROJECT INFORMATION

Number of proposed units:
165
Number of phases:
TBD
Number of Units per phase:
TBD
Number of lots proposed:
165
Lot size minimum:
25x70
Lot size maximum:
28x71
Lot size average:
26.5 x70.5
Gross density (units/acre):
11.3
Net density (units/acre):
14.3
Area and percent open space:
2.70 OS

Non-Residential Building Area (Sq. Ft.) Proposed:
N/A
Non-Residential Construction Floor Area Ratio Proposed: N/A

Total Number of Parking Spaces: N/A

Acreage of Site:

a. Gross: 14.52
b. Right-of-Way: 3.01
c. Net (a-b) 11.51

Type of Housing Proposed (*please check*):

- ☐ Future Single Family
- ☑ Duplex
- ☐ Multi-family (# of units:)
- ☑ Townhouse
- ☐ Condominium

Signatures are required for ALL Property Owners and the Applicant

I hereby certify that I am the lawful owner of the parcel(s) of land that this application concerns and consent to the action. I hereby permit Town of Berthoud staff to enter upon the property for the purposes of inspection relating to the application. Building Permits will not be accepted while this application is in process.

Property Owner(s): Signed by: Will Edwards D9F34FECDF8E4DD... Date: 12/8/2025

Property Owner(s): Date:

In submitting the application materials and signing this application agreement, I acknowledge and agree that the application is subject to the applicable processing and public hearing requirements set forth in the Development Code.

Applicant: Signed by: Kurt Jones FDE59AE10FFF412... Date: 12/8/2025

FOR OFFICE USE ONLY	*Received By:*	*Date:*

FICKEL FARM FIFTH FILING

Being a Replat of Tracts 1 & 2, Fickel Farm PUD Fourth Filing
Situate in the NW Quarter of Section 24, Township 4 North, Range 69 West of the 6th P.M.,
Town of Berthoud, County of Larimer, State of Colorado

LEGAL DESCRIPTION AND DEDICATION:

KNOW ALL MEN BY THESE PRESENTS: That the undersigned, being the owners of a parcel of land situate in the Northwest Quarter of Section Twenty-four (24), Township Four North (T.4N.), Range Sixty-nine West (R.69W.) of the Sixth Principal Meridian (6th P.M.) being more particularly described as follows:

Tracts 1 and 2, Fickel Farm PUD Fourth Filing, (as recorded March 8, 2022, as Reception Number 20220015532 of the records of the Larimer County Clerk and Recorder), Town of Berthoud, County of Larimer, State of Colorado.

Said parcel contains 608,176 Square Feet or 13.962 Acres more or less by this survey.

Have laid out, platted, and subdivided the above described land, under the name and style of FICKEL FARM FIFTH FILING, and by these presents do dedicate to the Town of Berthoud in fee simple the street and public rights-of-way as shown on the plat, and grants to the Town of Berthoud such easements as are created hereby and depicted or, by note, referenced hereon, along with the right to install, maintain, and operate mains, transmission lines, service lines, and appurtenances, either directly or through the various public utilities, as may be necessary to provide such utility, cable television, and sanitary services within this subdivision or property contiguous thereto, through, over, under, and across streets, utility and other easements, and other public places as shown on the plat.

Owner: Trumark Properties, LLC, a California limited liability company

BY: Brian Mulqueen AS: President

NOTARIAL CERTIFICATE

STATE OF COLORADO)
ss
COUNTY OF LARIMER)
The foregoing instrument was acknowledged before me by _____ as _____ this ____ day of _____, 20__.

Witness my Hand and Official Seal.

Notary Public

My commission expires: _____

APPROVAL CERTIFICATES

Approved by the Board of Trustees of the Town of Berthoud, Colorado, this ____ day of _____, 20__.

Mayor

The foregoing plat is approved for filing and accepted by the Town of Berthoud, Colorado, this ____ day of _____, 20__.

Attest: Town Clerk

APPROVAL CERTIFICATES

Approved by the Planning Commission of the Town of Berthoud, Colorado, this ____ day of _____, 20__.

Chairperson

The foregoing plat is approved for filing and accepted by the Town of Berthoud, Colorado, this ____ day of _____, 20__.

Attest: Planner

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 the certification shown hereon. (13-80-105 C.R.S. 2012)

SURVEYOR'S CERTIFICATE

I, Matthew A. Kramer, a Licensed Land Surveyor in the State of Colorado, do hereby certify that the survey of FICKEL FARM FIFTH FILING was made under my supervision and the accompanying plat accurately and properly shows said subdivision and is in compliance with the Subdivision Regulations of the Town of Berthoud.

PRELIMINARY

Matthew A. Kramer - On Behalf of Majestic Surveying, LLC
Colorado Licensed Professional Land Surveyor #38844

TOWN OF BERTHOUD NOTES:

VESTING OF PROPERTY RIGHTS
Approval of this site-specific development plan constitutes the creation of vested property rights pursuant to Article 68 of Title 24, C.R.S., as amended. The approval of vested property rights shall be subject to all rights of referendum and judicial review. This approved site specific development plan voids any and all pre-existing vested property rights on the same real property.

PROJECT APPROVAL
The plans contained on this plat as well as the staff report dated _____and Resolution_____are the limits of the approval. Any changes to the approved plans may necessitate an amendment or new permit.

DEVELOPMENT IMPROVEMENTS
All Development Improvements shall be constructed in accordance with the Plat and Plans as well as the requirements of the Berthoud Municipal Code, if applicable. The development shall adhere to the Development Agreement entered into between the Developer and the Town of Berthoud.

EROSION CONTROL
Prior to commencement of construction of any Development Improvements including alterations to existing grading contours, removal of vegetation and/or excavating, the Town-approved erosion control plan will be implemented. The Town-approved erosion control plan measures shall be installed and maintained throughout the construction of Development Improvements and shall not be removed or abandoned until authorized by the Town. At all times during construction on the Property, or off-site projects associated with development of the Property, Developer shall maintain all streets, drainage, and drainage facilities in an orderly and workmanlike fashion.

CONSTRUCTION RULES AND REGULATIONS
Construction activities shall adhere to the Construction Rules and Regulations found in Chapter 30 of the Berthoud Municipal Code at all times.

DARK SKY
The Town of Berthoud has adopted a Dark Sky Ordinance. All development shall adhere to the Town of Berthoud Dark Sky Ordinance No. 1230, adopted January 9, 2018, and as may be amended, at all times.

RIGHT TO FARM STATEMENT
The Town of Berthoud has adopted a "Right to Farm" policy. All new and existing residents are expected to read and understand the policy. For a copy of the policy, please contact the Town of Berthoud.

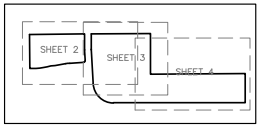
MOUNTAIN AVENUE OVERLAY DISTRICT
The Town of Berthoud has adopted the *Mountain Avenue Overlay District*. This development falls within the Mountain Overlay distinct and is required to adhere to the Overlay plan, adopted October 2019, and as may be amended.

TITLE COMMITMENT NOTE

For all information regarding easements, rights-of-way and title of records, Majestic Surveying, LLC relied upon Title Commitment Number 459-H1S0821744-414, dated October 20, 2025, as prepared by Heritage Title Company to delineate the aforesaid information. This survey does not constitute a title search by Majestic Surveying, LLC to determine ownership or easements of record.

SITE SPECIFIC DEVELOPMENT PLAN

This plan constitutes a site specific development plan as defined in Article 68 of Title 24, C.R.S., as amended, and Chapter 30 of the Berthoud Development Code available at the Berthoud Town Hall, 807 Mountain Avenue, Berthoud, Colorado 80513.



KEY MAP
SCALE: 1" = 500'

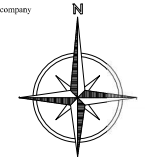
CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	CH BEARING
C1	5.00'	79.00'	3°37'42"	5.00'	S02°11'26"E
C2	23.56'	15.00'	90°00'00"	21.21'	S41°54'39"W
C3	35.54'	332.50'	6°07'29"	35.53'	S83°53'21"W
C4	67.56'	731.63'	5°17'28"	67.54'	S79°36'48"W
C5	128.88'	570.00'	12°57'16"	128.60'	S83°26'42"W
C6	259.62'	171.00'	86°59'16"	235.39'	N46°34'59"W
C7	4.78'	101.00'	2°42'46"	4.78'	N01°43'58"W

LINE TABLE		
LINE	BEARING	LENGTH
L1	N89°38'07"E	58.00'

Owner: Trumark Properties, LLC, a California limited liability company
C/O Brian Mulqueen
8350 E. Crescent Pkwy #450
Greenwood Village, CO 80111
720-826-6500

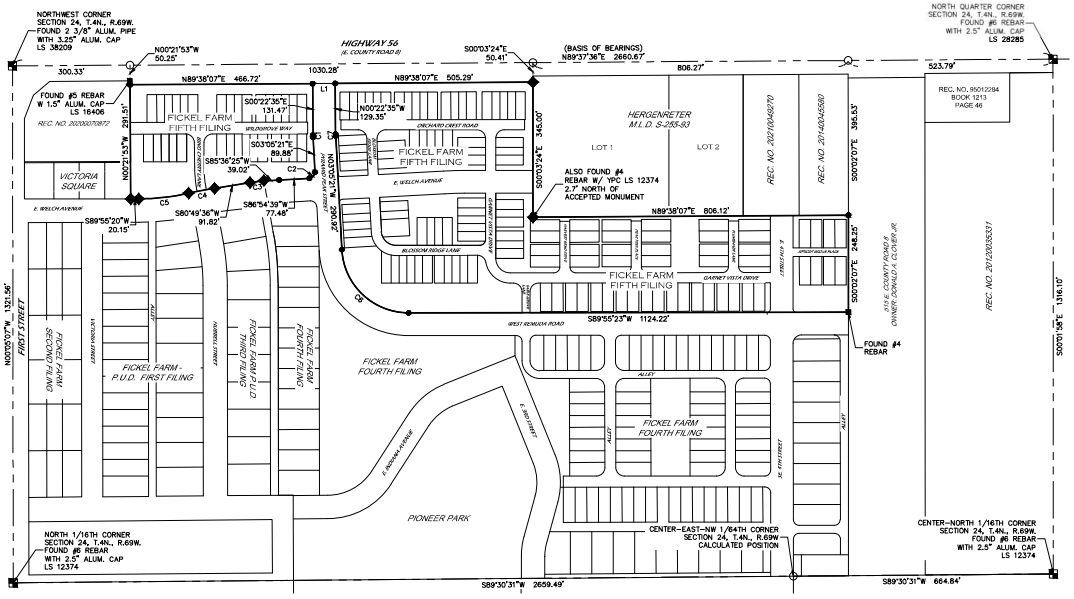
Engineer: Justin Beckner
4025 Automation Way, Ste. B2
Fort Collins, CO
970-698-6046

Surveyor: Majestic Surveying, LLC
C/O Matt Kramer, PLS
1111 Diamond Valley Drive, Suite 104
Windsor, CO 80550
970-833-5698



SCALE: 1" = 150'

VICINITY MAP
SCALE: 1" = 1000'



FICKEL FARM FIFTH FILING Land Use Table					
Name	Description/Land Use	Area		Intended Fee Ownership	Maintenance Upon Completion & Acceptance
154 Lots	Single and Multifamily Residential	272,805 sq. ft.	6.263 acres	Owner	Owner
Tract A	Private Drive, Access, Drainage & Utility Easment	17,599 sq. ft.	0.396 acres	HOA/Metro District	HOA/Metro District
Tract B	Private Drive, Access, Drainage & Utility Easment	18,309 sq. ft.	0.420 acres	HOA/Metro District	HOA/Metro District
Tract C	Private Drive, Access, Drainage & Utility Easment	46,342 sq. ft.	1.064 acres	HOA/Metro District	HOA/Metro District
Tract D	Private Drive, Access, Drainage & Utility Easment	3,112 sq. ft.	0.071 acres	HOA/Metro District	HOA/Metro District
Outlot A	Access, Drainage, Utility Easement	40,039 sq. ft.	0.919 acres	HOA/Metro District	HOA/Metro District
Outlot B	Access, Drainage, Utility Easement	18,370 sq. ft.	0.422 acres	HOA/Metro District	HOA/Metro District
Outlot C	Access, Drainage, Utility Easement	24,615 sq. ft.	0.565 acres	HOA/Metro District	HOA/Metro District
Outlot D	Access, Drainage, Utility Easement	31,690 sq. ft.	0.767 acres	HOA/Metro District	HOA/Metro District
Outlot E	Access, Drainage, Utility Easement	13,629 sq. ft.	0.313 acres	HOA/Metro District	HOA/Metro District
Outlot F	Access, Drainage, Utility Easement	31,410 sq. ft.	0.721 acres	HOA/Metro District	HOA/Metro District
Outlot G	Access, Drainage, Utility Easement	1,164 sq. ft.	0.027 acres	HOA/Metro District	HOA/Metro District
Outlot H	Access, Drainage, Utility Easement	435 sq. ft.	0.009 acres	HOA/Metro District	HOA/Metro District
Outlot I	Access, Drainage, Utility Easement	3,276 sq. ft.	0.075 acres	HOA/Metro District	HOA/Metro District
Outlot J	Access, Drainage, Utility Easement	11,714 sq. ft.	0.269 acres	HOA/Metro District	HOA/Metro District
Outlot K	Access, Drainage, Utility Easement	8,423 sq. ft.	0.193 acres	HOA/Metro District	HOA/Metro District
Outlot L	Access, Drainage, Utility Easement	42,356 sq. ft.	0.972 acres	HOA/Metro District	HOA/Metro District
ROW	Right-Of-Way	43,281 sq. ft.	0.994 acres	Town of Berthoud	Town of Berthoud
TOTAL		608,176 sq. ft.	13.962 acres		

LEGEND

- BOUNDARY LINE
- EASEMENT LINE
- RIGHT OF WAY LINE
- SECTION LINE
- CENTERLINE
- ALIQUOT CORNER AS DESCRIBED
- FOUND MONUMENT AS DESCRIBED
- CALCULATED POSITION
- FOUND #4 REBAR WITH GREEN PLASTIC CAP LS 20676
- SET 24" OF #4 REBAR WITH PINK PLASTIC CAP LS 38844

SURVEYOR'S NOTES

1. No record of Right-of-Way for Colorado State Highway 56 was found for this tract of land. This portion is not included within the vesting deed (Reception No. 20200070872), and was not dedicated with any of the Fickel Farm Annexations. The Blue Spruce Addition has Right of way in this area that does not extend to the west line of Fickel Farm 3rd Annexation, creating an area of obscurity. It is assumed that this Tract of land is being used as Right-of-Way for Highway 56.
2. The area of Right-of-Way dedicated to the Town of Berthoud with this plat is 125,018 sq. ft., or 2.870 acres.
3. The Subject Property is in flood zone X, "areas determined to be outside the 0.2% annual chance of flooding" per FEMA flood maps 08069C1387G and 08069C1391G, revised February 6th, 2013.

BASIS OF BEARINGS AND LINEAL UNIT DEFINITION

Assuming the north line of the NW Quarter of Section 24, Township 4 North, Range 69 West of the 6th P.M., monumented as shown on this drawing, as bearing North 89°37'36" East, being a Grid Bearing of the Colorado State Plane, North Zone, North American Datum 1983/2011, a distance of 2,660.67 feet and with all other bearings contained herein relative thereto.

The lineal dimensions as contained herein are based upon the "U.S. Survey Foot".

MAJESTIC SURVEYING
MAJESTIC SURVEYING, LLC 1111 DIAMOND VALLEY DRIVE #104, WINDSOR, CO 80550

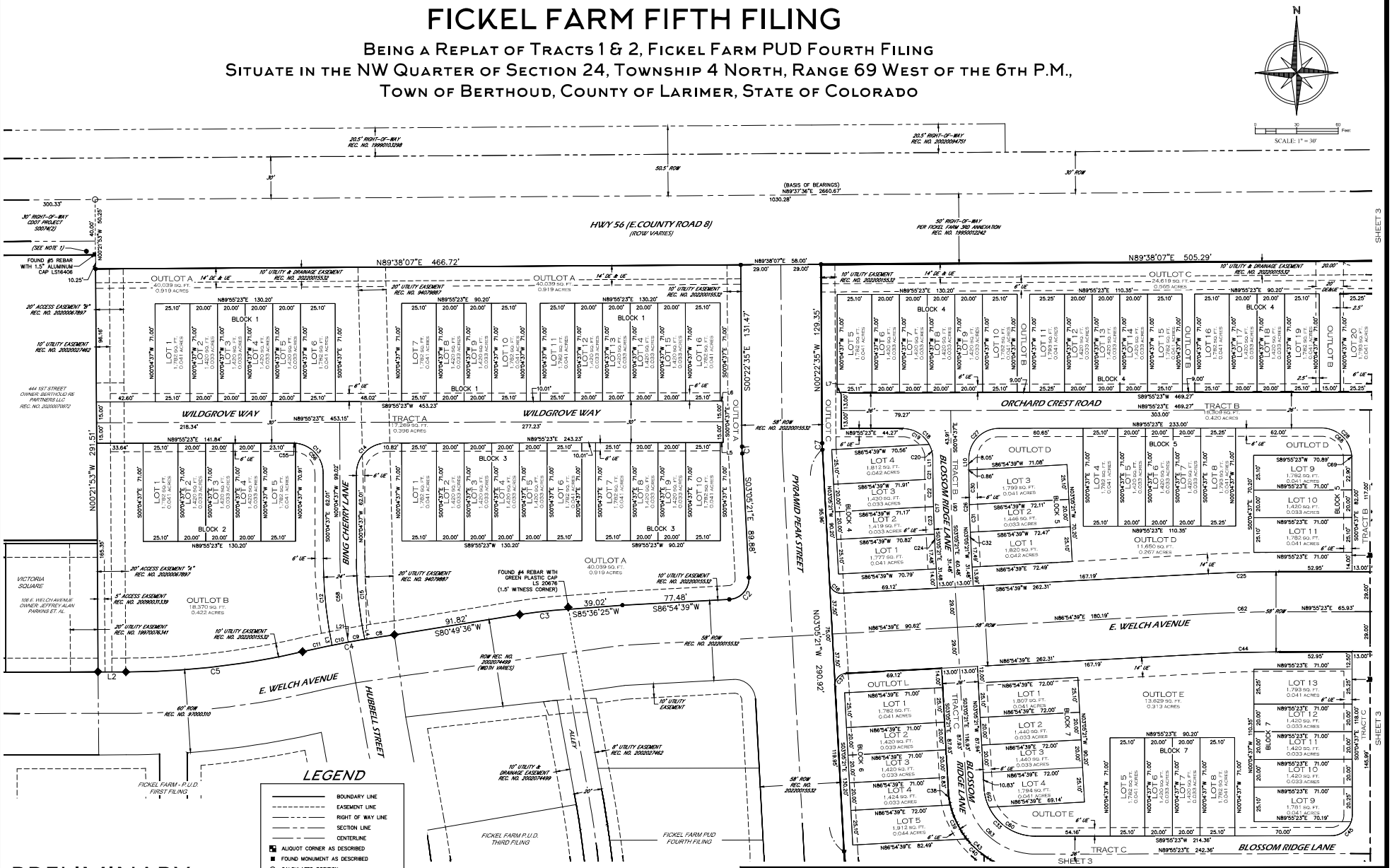
PROJECT NO: 2024487	NAME: FICKEL FARM 5TH	REVISIONS:	DATE:
DATE: 12-15-2025	CLIENT: CIVILWORX	REDLINES	7-30-25
DRAWN BY: MAK	FILE NAME: 2024487SUB		
CHECKED BY: GG	SCALE: 1" = 150'		

1
SHEET 1 OF 4

Attachment 2

FICKEL FARM FIFTH FILING

Being a Replat of Tracts 1 & 2, Fickel Farm PUD Fourth Filing
Situate in the NW Quarter of Section 24, Township 4 North, Range 69 West of the 6th P.M.,
Town of Berthoud, County of Larimer, State of Colorado



LEGEND

- BOUNDARY LINE
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- ALIQUOT CORNER AS DESCRIBED
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PRELIMINARY

Matthew A. Kramer - On Behalf of Majestic Surveying, LLC
Colorado Licensed Professional Land Surveyor #38844

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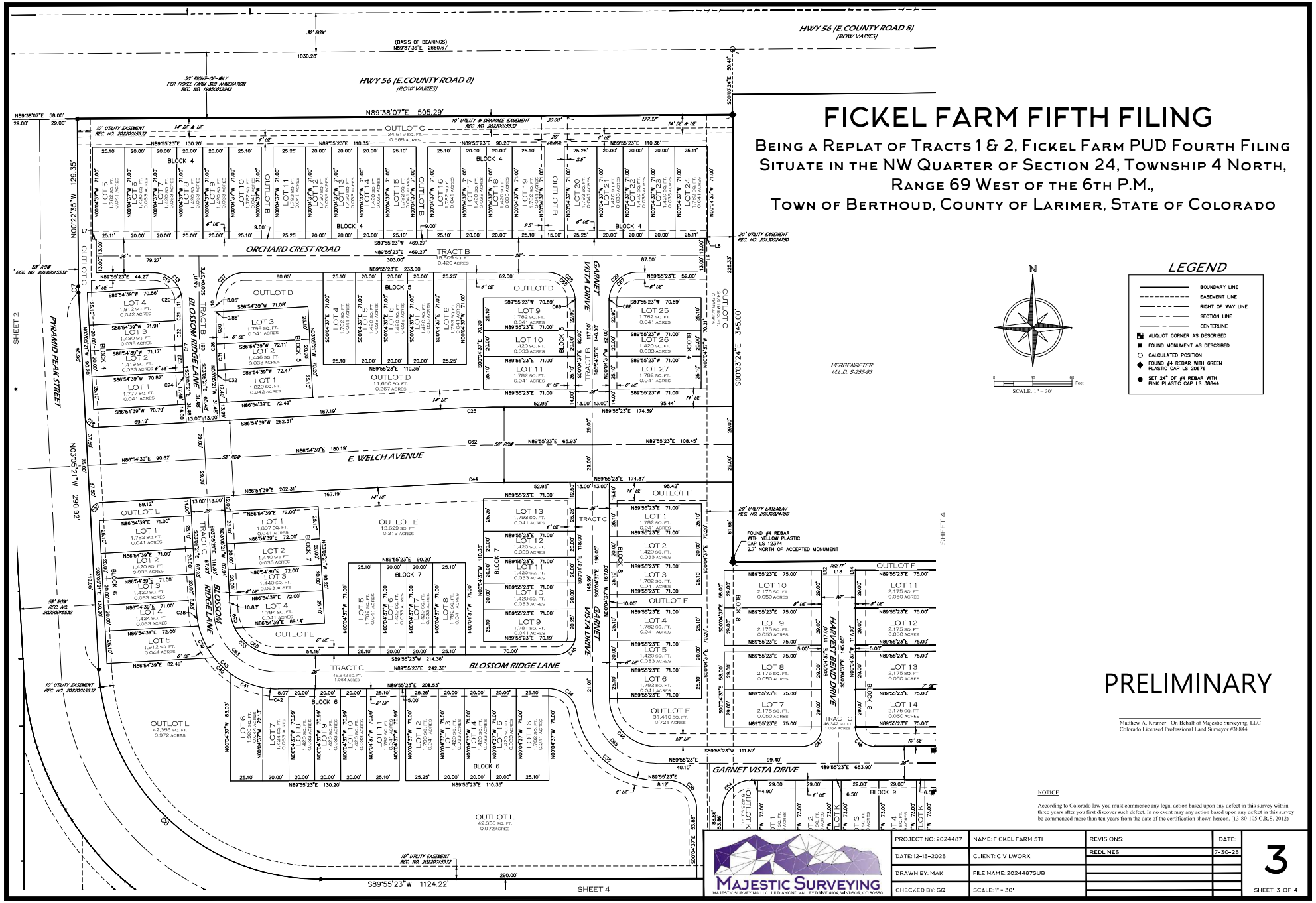
MAJESTIC SURVEYING
MAJESTIC SURVEYING, LLC 1111 DIAMOND VALLEY DRIVE #104, WINDSOR, CO 80550

PROJECT NO: 2024487	NAME: FICKEL FARM 5TH	REVISIONS:	DATE:
DATE: 12-15-2025	CLIENT: CIVILWORX	REDLINES	7-30-25
DRAWN BY: MAK	FILE NAME: 2024487SUB		
CHECKED BY: GQ	SCALE: 1" = 30'		

2

SHEET 2 OF 4



FICKEL FARM FIFTH FILING

Being a Replat of Tracts 1 & 2, Fickel Farm PUD Fourth Filing Situate in the NW Quarter of Section 24, Township 4 North, Range 69 West of the 6th P.M., Town of Berthoud, County of Larimer, State of Colorado

LEGEND

- BOUNDARY LINE
- EASEMENT LINE
- RIGHT OF WAY LINE
- SECTION LINE
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MAJESTIC SURVEYING
MAJESTIC SURVEYING, LLC 1111 DIAMOND VALLEY DRIVE #104, WINDSOR, CO 80550

PROJECT NO: 2024487	NAME: FICKEL FARM 5TH	REVISIONS:	DATE:
DATE: 12-15-2025	CLIENT: CIVILWORX	REDLINES	7-30-25
DRAWN BY: MAK	FILE NAME: 2024487SUB		
CHECKED BY: GQ	SCALE: 1" = 30'		

3

SHEET 3 OF 4

FICKEL FARM FIFTH FILING

Being a Replat of Tracts 1 & 2, Fickel Farm PUD Fourth Filing

Situate in the NW Quarter of Section 24, Township 4 North, Range 69 West of the 6th P.M., Town of Berthoud, County of Larimer, State of Colorado

LINE TABLE		
LINE	BEARING	LENGTH
L1	N89°38'07"E	58.00'
L2	S89°55'20"W	20.15'
L3	S10°23'14"E	6.53'
L4	N10°23'14"W	6.53'
L5	S89°55'23"W	2.00'
L6	N89°55'23"E	2.00'
L7	N89°55'23"E	2.85'
L8	N89°55'23"E	2.00'
L9	S00°04'37"E	26.00'
L10	N00°04'37"W	8.91'
L11	S00°04'37"E	8.91'
L12	N00°04'37"W	4.00'
L13	S89°55'23"W	26.00'
L14	S00°04'37"E	4.00'
L15	N00°04'37"W	4.00'
L16	S89°55'23"W	26.00'
L17	S00°04'37"E	4.00'
L18	N00°04'37"W	4.00'
L19	S89°56'27"W	26.00'
L20	S00°04'37"E	4.00'
L21	N10°23'13"W	6.46'

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	CH BEARING
C1	5.00'	79.00'	3°37'42"	5.00'	S02°11'26"E
C2	23.56'	15.00'	90°00'00"	21.21'	S41°54'39"W
C3	35.54'	332.50'	6°07'29"	35.53'	S83°53'21"W
C4	67.56'	731.63'	5°17'28"	67.54'	S79°36'48"W
C5	128.88'	570.00'	12°57'16"	128.60'	S83°26'42"W
C6	259.62'	171.00'	86°59'16"	235.39'	N46°34'59"W
C7	4.78'	101.00'	2°42'46"	4.78'	N01°43'58"W
C8	21.79'	731.63'	1°42'22"	21.78'	N81°24'21"E
C9	12.00'	731.63'	0°56'23"	12.00'	N80°04'59"E
C10	12.00'	731.63'	0°56'23"	12.00'	N79°08'35"E
C11	21.78'	731.63'	1°42'20"	21.78'	N77°49'14"E
C12	56.14'	312.00'	10°18'37"	56.07'	S05°13'56"E
C13	34.56'	22.00'	90°00'00"	31.11'	S45°04'37"E
C14	34.56'	22.00'	90°00'00"	31.11'	N44°55'23"E
C15	51.82'	288.00'	10°18'37"	51.75'	N05°13'56"W
C16	13.35'	8.50'	90°00'00"	12.02'	N48°06'21"W
C17	53.26'	1013.00'	3°00'44"	53.25'	S01°34'59"E
C18	34.56'	22.00'	90°00'00"	31.11'	S45°04'37"E
C19	23.64'	22.00'	61°34'18"	22.52'	N59°17'28"W
C20	10.92'	22.00'	28°25'42"	10.80'	N14°17'28"W
C21	5.62'	101.00'	0°19'04"	5.62'	N00°14'09"W

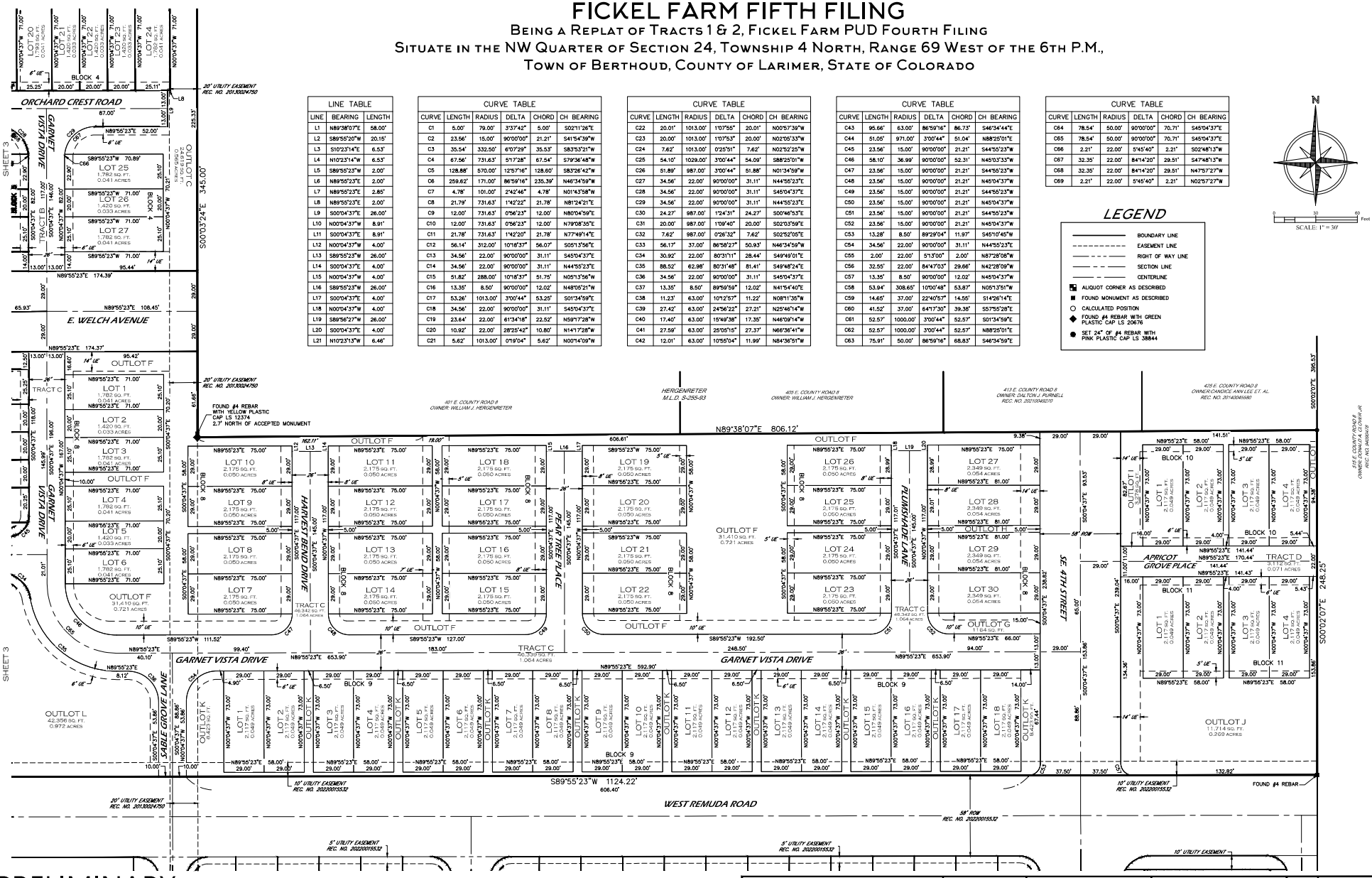
CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	CH BEARING
C22	20.01'	1013.00'	1°07'55"	20.01'	N00°57'39"W
C23	20.00'	1013.00'	1°07'53"	20.00'	N02°06'33"W
C24	7.62'	1013.00'	0°25'51"	7.62'	N02°52'25"W
C25	54.10'	1029.00'	3°00'44"	54.09'	S88°25'01"W
C26	51.89'	987.00'	3°00'44"	51.88'	N01°34'59"W
C27	34.56'	22.00'	90°00'00"	31.11'	N44°55'23"E
C28	34.56'	22.00'	90°00'00"	31.11'	S45°04'37"E
C29	34.56'	22.00'	90°00'00"	31.11'	N44°55'23"E
C30	24.27'	987.00'	1°24'31"	24.27'	S00°46'53"E
C31	20.00'	987.00'	1°09'40"	20.00'	S02°03'59"E
C32	7.62'	987.00'	0°26'32"	7.62'	S02°52'05"E
C33	56.17'	37.00'	86°58'27"	50.93'	N46°34'59"W
C34	30.92'	22.00'	80°31'11"	28.44'	S49°49'01"E
C35	88.52'	62.98'	80°31'48"	81.41'	S49°48'24"E
C36	34.56'	22.00'	90°00'00"	31.11'	S45°04'37"E
C37	13.35'	8.50'	89°59'59"	12.02'	N41°54'40"E
C38	11.23'	63.00'	10°12'57"	11.22'	N08°11'35"W
C39	27.42'	63.00'	24°56'22"	27.21'	N25°46'14"W
C40	17.40'	63.00'	15°49'38"	17.35'	N46°09'14"W
C41	27.59'	63.00'	25°05'15"	27.37'	N66°36'41"W
C42	12.01'	63.00'	10°55'04"	11.99'	N84°36'51"W

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	CH BEARING
C43	95.66'	63.00'	86°59'16"	86.73'	S46°34'44"E
C44	51.05'	971.00'	3°00'44"	51.04'	N88°25'01"E
C45	23.56'	15.00'	90°00'00"	21.21'	S44°55'23"W
C46	58.10'	36.99'	90°00'00"	52.31'	N45°03'33"W
C47	23.56'	15.00'	90°00'00"	21.21'	S44°55'23"W
C48	23.56'	15.00'	90°00'00"	21.21'	N45°04'37"W
C49	23.56'	15.00'	90°00'00"	21.21'	S44°55'23"W
C50	23.56'	15.00'	90°00'00"	21.21'	N45°04'37"W
C51	23.56'	15.00'	90°00'00"	21.21'	S44°55'23"W
C52	23.56'	15.00'	90°00'00"	21.21'	N45°04'37"W
C53	13.28'	8.50'	89°29'04"	11.97'	S45°10'45"W
C54	34.56'	22.00'	90°00'00"	31.11'	N44°55'23"E
C55	2.00'	22.00'	5°13'00"	2.00'	N87°28'08"W
C56	32.55'	22.00'	84°47'03"	29.66'	N42°28'09"W
C57	13.35'	8.50'	90°00'00"	12.02'	N45°04'37"W
C58	53.94'	308.65'	10°00'48"	53.87'	N05°13'51"W
C59	14.65'	37.00'	22°40'57"	14.56'	S14°26'14"E
C60	41.52'	37.00'	64°17'30"	39.38'	S57°55'28"E
C61	52.57'	1000.00'	3°00'44"	52.57'	S01°34'59"E
C62	52.57'	1000.00'	3°00'44"	52.57'	N88°25'01"E
C63	75.91'	50.00'	86°59'16"	68.83'	S46°34'59"E

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	CH BEARING
C64	78.54'	50.00'	90°00'00"	70.71'	S45°04'37"E
C65	78.54'	50.00'	90°00'00"	70.71'	S45°04'37"E
C66	2.21'	22.00'	5°45'40"	2.21'	S02°48'13"W
C67	32.35'	22.00'	84°14'20"	29.51'	S47°48'13"W
C68	32.35'	22.00'	84°14'20"	29.51'	N47°57'27"W
C69	2.21'	22.00'	5°45'40"	2.21'	N02°57'27"W

LEGEND

- BOUNDARY LINE
- EASEMENT LINE
- RIGHT OF WAY LINE
- SECTION LINE
- CENTERLINE
- ALIQUOT CORNER AS DESCRIBED
- FOUND MONUMENT AS DESCRIBED
- CALCULATED POSITION
- FOUND #4 REBAR WITH GREEN PLASTIC CAP LS 20676
- SET 24" OF #4 REBAR WITH PINK PLASTIC CAP LS 38844



PRELIMINARY

Matthew A. Kramer - On Behalf of Majestic Surveying, LLC
Colorado Licensed Professional Land Surveyor #38844

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 the certification shown hereon. (13-80-105 C.R.S. 2012)

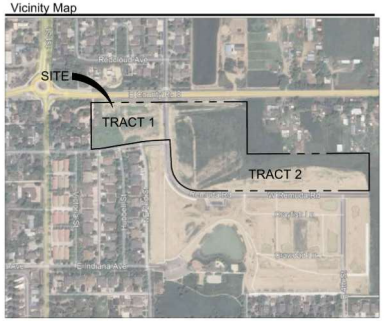
MAJESTIC SURVEYING
MAJESTIC SURVEYING, LLC 1111 DIAMOND VALLEY DRIVE #104, WINDSOR, CO 80550

PROJECT NO: 2024487	NAME: FICKEL FARM 5TH	REVISIONS:	DATE:
DATE: 12-15-2025	CLIENT: CIVILWORX	REDLINES	7-30-25
DRAWN BY: MAK	FILE NAME: 2024487SUB		
CHECKED BY: GQ	SCALE: 1" = 30'		

4

SHEET 4 OF 4

Vicinity Map



Subdivision Identity & Residential Standards

UNITS PROVIDED:	154
SUBDIVISION IDENTITY ELEMENTS POINTS REQUIRED:	7
PREVIOUSLY APPROVED ELEMENTS:	
1. COMMUNITY GARDENS	1
2. USABLE OPEN SPACE	2
3. PLAYGROUND	1
4. ENHANCED ENTRYWAY	1
5. ALLEY LOADED STREETS, MAINTAINED BY TOWN	1
TOTAL	6
PROPOSED IDENTITY ELEMENT:	
1. POCKET PARK	1
TOTAL	7

General Notes:

1. ALL SIGNS SHALL BE REQUIRED TO APPLY FOR SIGN PERMIT.
2. PROPOSED GRADES SHALL MATCH OR IMPROVE EXISTING GRADES TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING WHILE PROVIDING A SMOOTH TRANSITION BETWEEN ALL ADJACENT UNDISTURBED GRADES AND PROPOSED GRADES.
3. JOB SITE TO BE KEPT CLEAN AT ALL TIMES AND CONSTRUCTION AREAS ARE TO BE MAINTAINED FOR SAFETY.
4. ALL SOILS DISTURBED ADJACENT TO WORK AREA, INCLUDING AREAS OUTSIDE OF CONSTRUCTION LIMITS, DUE TO NEW CONSTRUCTION ARE TO BE REGRADED AND SURFACE CONDITIONS REPAIRED EQUIVALENT TO THAT CONDITION PRIOR TO START OF WORK PER THE NATIVE SEED MIX NOTES THIS SHEET.
5. PROTECT EXISTING SURFACES AND SOILS, BOTH INSIDE AND OUTSIDE OF CONSTRUCTION LIMITS, DURING CONSTRUCTION. IF GRADES, CONCRETE OR ASPHALT ARE DAMAGED DUE TO CONSTRUCTION OPERATIONS OR WEATHER THE CONTRACTOR IS RESPONSIBLE FOR REPAIR TO THAT EQUIVALENT TO EXISTING CONDITIONS AT NO EXPENSE TO THE OWNER / TOWN.
6. CONTRACTOR IS RESPONSIBLE FOR SETUP OF BARRICADES, WARNING SIGNAGE, OR OTHER PROTECTIVE DEVICES IF ANY EXCAVATIONS ARE LEFT EXPOSED AFTER ON-SITE WORK HOURS.
7. THE CONTRACTOR SHALL NOT PURPOSEFULLY PROCEED WITH ANY CONSTRUCTION PER PLANS PROVIDED WHEN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT WERE NOT CONSIDERED OR CHANGED AFTER PLANS WERE SUBMITTED. CONTRACTOR SHALL NOTIFY OWNER OR OWNER'S REPRESENTATIVE AND THE TOWN IF SITUATION ARISES AND REVISIONS ARE NECESSARY.
8. THE CONTRACTOR SHALL PREVENT SEDIMENT, DEBRIS AND OTHER POLLUTANTS FROM ENTERING ANY STORM WATER SEWER SYSTEM OR, ADJACENT WATER WAYS, ETC., DURING THE DEMOLITION OR CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT. THE CONTRACTOR SHALL BE HELD RESPONSIBLE AND EXPENSE FOR THE CORRECTION OF ANY ADVERSE IMPACTS TO THE STORM WATER SEWER SYSTEM OR, ADJACENT WATER WAYS, WETLANDS ETC., RESULTING FROM THE WORK DONE AS PART OF THIS PROJECT/CONTRACT.
9. THE CONTRACTOR SHALL BE RESPONSIBLE PRIOR TO BIDDING AND CONSTRUCTION, OF BECOMING AWARE OF ALL EXISTING AND PROPOSED UTILITIES, PIPES, STRUCTURES, ETC. CALL UNCC THREE DAYS BEFORE SCHEDULED WORK AT 811 OR 1-800-922-1987.

Landscape Notes

1. LANDSCAPE AREAS SHALL BE MAINTAINED, INCLUDING MOWING, WATERING AND FERTILIZING BY CONTRACTOR, UP TO FINAL ACCEPTANCE. AT SUCH TIME OWNER WILL BE RESPONSIBLE FOR ALL MAINTENANCE. LANDSCAPE AND IRRIGATION WILL BE WARRANTED FOR ONE (1) FULL YEAR AFTER FINAL ACCEPTANCE. ALL NATIVE GRASS AREAS MAY NOT EXCEED 8" IN HEIGHT.
2. ANY DISCREPANCIES WITH THE DRAWINGS AND SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNERS REPRESENTATIVE PRIOR TO PROCEEDING WITH CONSTRUCTION.
3. CONTRACTOR TO VERIFY ALL FIELD CONDITIONS, EASEMENTS, PROPERTY LINES, ETC. PRIOR TO STARTING WORK. SHOULD ANY DISCREPANCIES, OMISSIONS, OR ERRORS OCCUR, NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY.
4. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES 48 HRS. PRIOR TO ANY EXCAVATION OR PLANTING.
5. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.
6. STREET AND ORNAMENTAL TREES SHALL BE PLANTED NO CLOSER THAN FORTY (40) FEET AND FIFTEEN (15) FEET RESPECTIVELY FROM STREET LIGHTS. NO TREES SHALL BE PLANTED WITHIN TEN (10) FEET FROM WATER AND SEWER LINES, FOUR (4) FEET FROM GAS, TELEPHONE AND ELECTRIC UTILITIES, FIVE (5) FEET FROM STORM SEWER LINES, AND FIVE (5) FEET FROM ANY DRIVEWAY.
7. MINIMUM CLEARANCE OF THREE (3) FEET ON EACH SIDE OF FIRE DEPARTMENT CONNECTION (FDC). NO VEGETATION OTHER THAN TURF OR GROUND COVERS PLANTED IN FRONT OF FDC.
8. ANY OBJECT WITHIN THE SIGHT DISTANCE EASEMENT MORE THAN 30 INCHES ABOVE THE FLOWLINE ELEVATION OF THE ADJACENT STREET SHALL CONSTITUTE A SIGHT OBSTRUCTION, AND SHALL BE REMOVED OR LOWERED. SUCH OBJECTS INCLUDE BUT ARE NOT LIMITED TO BERMS, BUILDINGS, PARKED VEHICLES ON PRIVATE PROPERTY, CUT SLOPES, HEDGES, TREES, BUSHES, UTILITY CABINETS, OR TALL CROPS. MAILBOX CLUSTERS MUST BE INSTALLED A MINIMUM OF 2 FEET FROM BACK OF WALK AND NOT CAUSE ANY SIGHT OBSTRUCTION. IN NO CASE SHALL ANY PERMANENT OBJECT ENCROACH INTO THE LINE-OF-SIGHT OF ANY PART OF THE SIGHT-DISTANCE TRIANGLE. STREET TREES REQUIRED ARE EXCEPTED FROM THIS REQUIREMENT. TREES ARE PERMITTED IF PRUNED UP TO 8 FEET. IN ADDITION TO THE SIGHT DISTANCE TRIANGLE REQUIREMENTS, A CLEAR SPACE ZONE IS REQUIRED WITHIN ALL CURB RETURNS (MEASURED FROM POINT OF CURB TO POINT OF CURB RETURN) WHERE NO TREES, SHRUBS, AESTHETIC STRUCTURES/FEATURES, MONUMENT SIGNS, OR OBJECTS THAT HAVE THE POTENTIAL TO HINDER DRIVER VISIBILITY, AND/OR PEDESTRIAN AND BICYCLE SAFETY, ARE ALLOWED. SEE LARIMER COUNTY URBAN AREA STREET STANDARDS SECTION 7.4.1.C. FOR ADDITIONAL INFORMATION.
9. IF TREES OR SHRUBS ARE LOCATED ON TOP OF FIELD VERIFIED UTILITIES, CONTRACTOR SHALL NOTIFY OWNER BEFORE ANY DIGGING HAS COMMENCED. VERIFY WITH OWNER IF AND WHICH SHRUBS/TREES SHALL BE TAKEN OUT OF PROJECT/CONTRACT. ANY REMOVAL OR SUBSTITUTION OF PLANT MATERIAL SHALL BE APPROVED BY THE TOWN, PRIOR TO PROCEEDING.
10. TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.
11. EXCAVATED MATERIAL TO BE USED AS FILL WILL HAVE ALL ROCKS, DEBRIS, WASTE MATERIAL, FROZEN MATERIAL, VEGETATION LARGER THAN 3" IN ANY DIMENSION REMOVED BEFORE PLACEMENT AND COMPACTION OF SOIL.
12. PRIOR TO FINE GRADING, DURA-TURF TALL FESCUE SOD OR DURA-TURF TALL FESCUE SEEDED AREAS AND PLANTING BEDS, SHALL BE THOROUGHLY LOOSENED AND TILLED TO A 6" DEPTH. REMOVE ALL UNSUITABLE TOPSOIL, INCLUDING ALL ROCKS LARGER THAN 3 INCHES IN ANY DIRECTION, ALL CONCRETE, TRASH, DEBRIS, WEEDS, ROOTS AND OTHER WASTE MATERIALS. AFTER THAT TIME CLASS I OR II, EXCLUDING MANURE, SHALL THEN BE THOROUGHLY TILLED AND INCORPORATED TO A MINIMUM 6" DEPTH IN THESE AREAS AT THE MINIMUM OF RATE OF 3 CU. YDS. / 1,000 SQ.FT.
13. UNIFORMLY COMPACT AND FINE GRADE THESE SOD / GRASS AREAS AND PLANTING BEDS TO A SMOOTH SURFACE, FREE FROM IRREGULAR SURFACE CHANGES. CUT OUT SOFT SPOTS, FILL IN LOW SPOTS AND TRIM HIGH SPOTS TO COMPLY WITH REQUIRED GRADE TOLERANCES.
14. ONCE COMPACTED AND FINE GRADED ALL ROCKS, DEBRIS, WASTE MATERIAL AND VEGETATION MATERIAL LARGER THAN 1/2" WILL BE RAKED FROM THE SURFACE AND REMOVED FROM SITE.
15. SOD TO BE 100% COLORADO GROWN, GRAFF'S RTF TALL FESCUE BLEND (OR APPROVED EQUAL) SPECIFICALLY GROWN FOR LOW WATER LAWN APPLICATIONS WITH MINIMUM THREE (3) IMPROVED VARIETIES, HAVING A HEALTHY VIGOROUS ROOT SYSTEM. ONCE TURF IS LAID IT SHALL BE PROPERLY ROLLED, COMPACTED AND PUSHED TOGETHER TO ELIMINATE ANY GAPS BETWEEN ROLL EDGES. APPLY FERTILIZER IN THESE AREAS PER SOD FARM'S RECOMMENDATIONS.
16. ALL PLANT MATERIALS ARE SIZED AND OUTLINED IN PLANT LIST. ALL PLANTS TO BE PLANTED IN AMENDED SOIL AND STAKED AS SHOWN IN DETAILS. ALL PLANT MATERIAL SHALL MEET OR EXCEED THE CODE OF STANDARDS CURRENTLY RECOMMENDED BY THE COLORADO NURSERY ACT FOR NUMBER ONE GRADE.
17. IF PLANTS ARE IN NEED OF REPLACEMENT DUE TO DECLINING HEALTH, DISEASE, OR DEATH, THE PLANTS MUST BE REPLACED WITH THE ORIGINAL SPECIES UNLESS APPROVED BY THE TOWN.
18. CHANGES IN PLANT SPECIES OF PLANT LOCATIONS FROM WHAT IS LISTED ON THE LANDSCAPE PLAN WILL REQUIRE THE APPROVAL OF THE TOWN PRIOR TO INSTALLATION OF REPLACEMENT. OVERALL QUANTITY AND QUALITY TO BE CONSISTENT WITH THE APPROVED PLANS. IN THE EVENT OF CONFLICT WITH THE QUANTITIES INCLUDED IN THE PLANT LIST, SPECIES AND QUANTITIES SHALL BE PROVIDED.
19. ALL TREES AND SHRUBS TO BE BALLED AND BURLAPPED, OR CONTAINERIZED.
20. ALL EXISTING TREES TO REMAIN UNLESS OTHERWISE NOTED.
21. ALL PLANT MATERIAL SHALL HAVE ALL WIRE, TWINE, BASKETS, BURLAP, AND ALL OTHER NON-BIODEGRADABLE CONTAINMENT MATERIAL REMOVED FROM THE TRUNK AND/OR ROOT BALL OF THE PLANT, PRIOR TO PLANTING.
22. ALL SHRUB BEDS SHALL HAVE MINIMUM 4" DEPTH SHREDDED CEDAR MULCH - NATURAL COLOR AND/OR WASHED SMOOTH COBBLE. A CONTINUOUS LAYER OF TYPAR LANDSCAPE FABRIC OR APPROVED EQUAL SHALL BE INSTALLED IN ALL COBBLE AREA WITH 6" OVERLAP AT SEAMS WITH 4" STAPLES 4' O.C. IN ALL DIRECTIONS.
23. EDGING BETWEEN GRASS TYPES AND SHRUB BEDS / ROCK COBBLE SHALL BE HEAVY DUTY STEEL EDGER MIN. $\frac{3}{8}$" x 4" WITH ROUNDED TOP AND PLASTIC CAP AND SHALL BE SET LEVEL WITH THE TOP OF THE ADJACENT SOD. NO EDGING SHALL BE USED BETWEEN CEDAR MULCH AND COBBLE TRANSITIONS.
24. LANDSCAPING WITHIN THE FRONT YARD SETBACK OF RESIDENTIAL PROPERTIES MUST BE INSTALLED WITHIN ONE (1) YEAR OF CERTIFICATION OF OCCUPANCY.
25. MAINTENANCE OF ALL COMMON AREAS AND PUBLIC R.O.W. LANDSCAPING IS THE RESPONSIBILITY OF THE METRO DISTRICT.
26. ALL TURF GRASSES PLANTED IN PUBLIC R.O.W. MUST BE SOD
27. THE PROPOSED POCKET PARK SHALL BE BUILT AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION OR METRO DISTRICT.
28. STREET TREES WILL BE PLANTED AT LEAST 5' FROM ANY SERVICE LINE AND DRIVEWAY.
29. LANDSCAPE IN TREE LAWNS IS THE RESPONSIBILITY OF THE BUILDER/HOME OWNER IN FRONT OF INDIVIDUAL LOTS.
30. IN ANY CIRCUMSTANCE WHERE PLANT LIST QUANTITIES OR SPECIES DO NOT MATCH THE PLAN LAYOUT, THE LANDSCAPE INSTALLATION SHALL MATCH THE PLAN LAYOUT.
31. WEED CONTROL WILL BE PRACTICED ON ALL AREAS DISTURBED BY CONSTRUCTION AND THOSE AREAS SHALL BE RESEEDED TO PREVENT EROSION. NATIVE, NONINVASIVE GRASSES SHALL BE USED FOR REVEGETATION WHERE PRACTICAL. WEED CONTROL IS THE RESPONSIBILITY OF THE LANDOWNER ON ALL RESEEDED AREAS AND PRESERVATION AREAS. WEED CONTROL SHALL BE A CONTINUAL RESPONSIBILITY OF THE OWNER DURING ALL PHASES OF LAND CLEARING AND CONSTRUCTION, AND OPERATION. EVERY EFFORT SHALL BE MADE TO PREVENT THE SPREAD OF NOXIOUS WEEDS.
32. IF ANY FENCES, COLUMNS, WALLS OR OTHER STRUCTURES ARE LOCATED ON TOP OF FIELD VERIFIED UTILITIES AND/OR WITHIN A UTILITY EASEMENT, CONTRACTOR SHALL NOTIFY OWNER BEFORE ANY CONSTRUCTION OF THOSE ITEMS HAS COMMENCED.
33. RIGHT-OF-WAY TREE SPACING IS CONCEPTUAL AND MAY REQUIRE FIELD ADJUSTMENT AT THE TIME OF CONSTRUCTION. THE INTENT IS TO LOCATE ONE TREE APPROXIMATELY 40' ON CENTER, UNLESS FIRE HYDRANTS, STREETLIGHTS, DRIVEWAY LOCATIONS, UTILITIES OR OTHER ITEMS WHICH REQUIRE SEPARATION FROM TREES, PROHIBIT THE INTENDED SPACING.

Native Grass Seed Mix

NON IRRIGATED NATIVE GRASS - (TEMPORARY IRRIGATION FOR ESTABLISHMENT)

NATIVE LOW GROW GRASS SEED MIX OR APPROVED EQUAL: SEED SHALL BE A MIXTURE THAT MATCHES THE FOLLOWING:

LOW GROW SEED MIX

COMMON NAME	%
EPHRAIM CRESTED WHEATGRASS	30%
SHEEP FESCUE	25%
PERENNIAL RYE	20%
CHEWINGS FESCUE	15%
CANADA BLUEGRASS	10%

1. SEED SHALL BE AS MANUFACTURED BY ARKANSAS VALLEY SEED SOLUTIONS OR APPROVED EQUAL, 4625 COLORADO BOULEVARD, DENVER, CO 80216, (877) 957-3337, OR APPROVED EQUAL.
2. DRILLED IN TWO PERPENDICULAR DIRECTIONS WITH AN APPLICATION RATE OF 15 - 20 LBS (PLS) PER ACRE.
3. ADEQUATE TEMPORARY IRRIGATION, OR BY OTHER ACCEPTABLE MEANS, WILL BE PROVIDED BY CONTRACTOR FOR THE WATERING , ESTABLISHMENT AND MAINTENANCE OF THESE SEEDED AREAS, AND THAT NATIVE GRASSES SHALL BE MAINTAINED IN A CONDITION OF ACCEPTABLE HEIGHT, FREE OF WEEDS, TRASH AND DEBRIS, AND SHALL NOT REPRESENT A FIRE HAZARD NOR BECOME A NUISANCE SITE FOR WATER OR WIND EROSION.

MULCH IN ALL NATIVE SEED AREAS:

1. IMMEDIATELY FOLLOWING THE RAKING / SEEDING OPERATION, ADD STRAW MULCH TO THE SEEDED AREAS.
2. APPLY STRAW MULCH AT A MINIMUM OF 1.5 TONS PER ACRE OF AIR DRY MATERIAL. SPREAD STRAW MULCH UNIFORMLY OVER THE AREA WITH MECHANICAL MULCH SPREADER / CRIMPER. DO NOT MULCH WHEN WIND VELOCITY EXCEEDS 10 MPH.
3. WHEREVER THE USE OF CRIMPING EQUIPMENT IS PRACTICAL, PLACE MULCH IN THE MANNER NOTED ABOVE AND ANCHOR IT INTO THE SOIL. USE A DISC SUCH AS A MULCH TILLER, WITH A FLAT SERRATED DISC AT LEAS ½ INCH IN THICKNESS, HAVING DULL EDGES, AND SPACE NO MORE THAN 9 INCHES APART, WITH DISCS OF SUFFICIENT DIAMETER TO PREVENT THE FRAME OF THE EQUIPMENT FROM DRAGGING THE MULCH. ANCHOR MULCH A MINIMUM DEPTH OF 2 INCHES AND ACROSS THE SLOPE WHERE PRACTICAL WITH NO MORE THAN TWO PASSES OF THE ANCHORING EQUIPMENT.
4. IMMEDIATELY UPON COMPLETION OF THE MULCHING AND BINDING OPERATION, THE SEEDED AREAS SHALL BE IRRIGATED, KEEPING THE TOP 2 INCHES OF SOIL EVENLY MOIST UNTIL SEED HAS UNIFORMLY GERMINATED AND GROWN TO A HEIGHT OF 2-INCHES.
5. WATERING APPLICATION SHALL BE DONE IN A MANNER WHICH WILL PROVIDE UNIFORM COVERAGE BUT WHICH WILL NOT CAUSE EROSION, MOVEMENT, OR DAMAGE TO THE FINISHED SURFACE.
6. APPLY TEMPORARY SEEDING OR TACKIFIER ON ALL DISTURBED AREAS WITHIN LOTS.

Irrigation Notes

1. ENTIRE IRRIGATION SYSTEM AND ASSOCIATED IRRIGATION TAP(S) TO BE SIZED, DESIGNED AND BUILT BY CONTRACTOR. IRRIGATION CONTRACTOR SHALL VERIFY P.S.I. AND GPM AVAILABLE. SYSTEM SHALL BE DESIGNED TO MEET THE AVAILABLE P.S.I. AND GPM. IF NECESSARY CONTACT THE WATER DISTRICT PRIOR TO BEGINNING DESIGN TO OBTAIN AVAILABLE PRESSURES.
2. ALL INDICATED TURF GRASS AREAS ARE TO BE IRRIGATED BY A PERMANENT UNDERGROUND AUTOMATIC IRRIGATION SYSTEM, TURF AREAS LESS THAN 25 FEET IN WIDTH ARE TO BE IRRIGATED WITH POP-UP SPRAY HEADS AND AREAS GREATER THAN 25 FEET SHALL USE A ROTOR POP-UP SPRAY SYSTEM.
3. ALL TREES, SHRUBS AND PERENNIALS OUTSIDE OF IRRIGATED TURF GRASS AREAS ARE TO BE IRRIGATED WITH A PERMANENT DRIP IRRIGATION SYSTEM.
4. IRRIGATION SYSTEM WITH SMART CONTROLLER, RAIN SENSOR, AND NECESSARY SLEEVING WILL BE DESIGNED AND BUILT BY CONTRACTOR AND ADJUSTED TO A LOW WATER REQUIREMENT, BASED ON THE NEEDS OF SELECTED PLANT MATERIAL.
5. QUICK COUPLERS SHALL BE PROVIDED AT EACH POINT OF CONNECTION AND AT REGULAR SPACING ALONG THE IRRIGATION MAINLINE. SPACING OF QUICK COUPLERS SHALL NOT EXCEED 200 FEET. LOCATE QUICK COUPLING VALVE AT A POINT OF EASY ACCESS.
6. FINAL LOCATION OF IRRIGATION HEADS MUST BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO PLANTING. HEAD LOCATION SHALL BE COORDINATED IN THE FIELD WITH EXISTING SITE CONDITIONS AND PLANT MATERIAL.
7. ALL IRRIGATION TRENCHES SHALL BE PROPERLY WATERED AND COMPACTED TO AVOID FUTURE SETTLING. ANY SETTLING DURING WARRANTY PERIOD WILL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
8. COORDINATE ALL IRRIGATION WORK WITH EXISTING UTILITIES AND RESPECTIVE TRADES.
9. ALL IRRIGATION SLEEVING SHALL BE PROVIDED AND INSTALLED BY GENERAL CONTRACTOR. IRRIGATION CONTRACTOR SHALL COORDINATE SLEEVING LOCATIONS WITH GENERAL CONTRACTOR. ALL IRRIGATION SLEEVING TO BE STAKED IN THE FIELD OR LOCATED ON DIMENSIONED "AS-BUILT" DRAWING BY THE GENERAL CONTRACTOR TO ALLOW FUTURE USE AND LOCATION.
10. NATIVE SEED AREAS ARE TO RECEIVE A PERMANENT IRRIGATION SYSTEM. ONCE NATIVE SEED HAS BEEN WELL-ESTABLISHED, IRRIGATION SYSTEM MAY BE UTILIZED AT OWNER'S DISCRETION DURING TIMES OF DROUGHT, BEGINNING OF GROWING SEASONS, ETC.

PARKING SUMMARY	
REQUIRED PARKING	PROVIDED
1.5 spaces per dwelling unit 1.5 x 154 dwellings = 231	308
For all residential units without direct street frontage, an extra 0.20 spaces of off-street visitor parking per unit will be required. 71 x 0.20 = 15	44
TOTAL	
246	352

NOTES:
1. ADDITIONAL PARKING VIA ON-STREET SPACES IS NOT INCLUDED IN THESE CALCULATIONS.
2. ALLEY-LOADED HOMES WITH LESS THAN 1,250 SQ. FT. OF TOTAL FLOOR AREA (INCLUDING UNFINISHED) ARE ONLY REQUIRED ONE PARKING SPACE PER DWELLING UNIT.
3. DWELLING UNIT PARKING IS PROVIDED VIA 2-CAR GARAGES.

TOWN OF BERTHOUD, COLORADO
PRELIMINARY APPROVAL

Town Planner — Date

Landscape Sheet Index:

SHEET 1	COVER SHEET
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SHEETS 3-4	LANDSCAPE PLANS
SHEET 5	LANDSCAPE PLAN & POCKET PARK ENLARGEMENT
SHEETS 6-7	LANDSCAPE NOTES & DETAILS
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IR1.1 - IR1.5	IRRIGATION PLAN
IR2.1 - IR2.2	IRRIGATION DETAILS
IR2.3	IRRIGATION SPECIFICATIONS

TB GROUP
landscape architecture | planning | elevation
444 Mountain Ave, Berthoud,CO 80513 | tel. 970.532.5891 | web TBGroup.us

SEAL

PROJECT TITLE

FICKEL FARM
5TH FILING

LANDSCAPE PLAN

PREPARED FOR:

OWNER:

TRUMARK

8350 E. Crescent Pkwy.
Suite 450
Greenwood Village, CO
80111

REVISIONS — DATE

DATE

December 15, 2025

SHEET TITLE

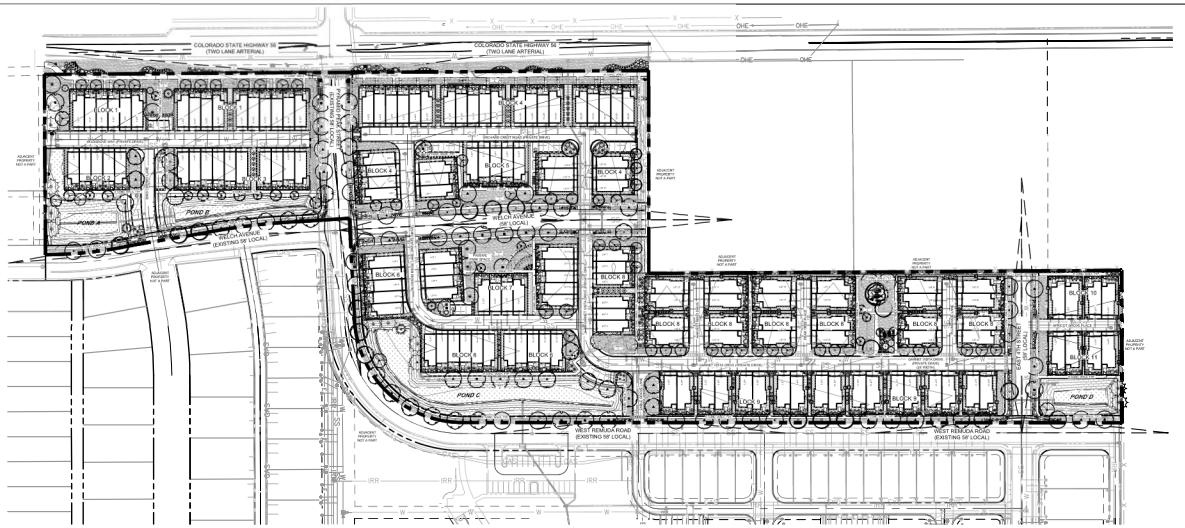
COVER SHEET

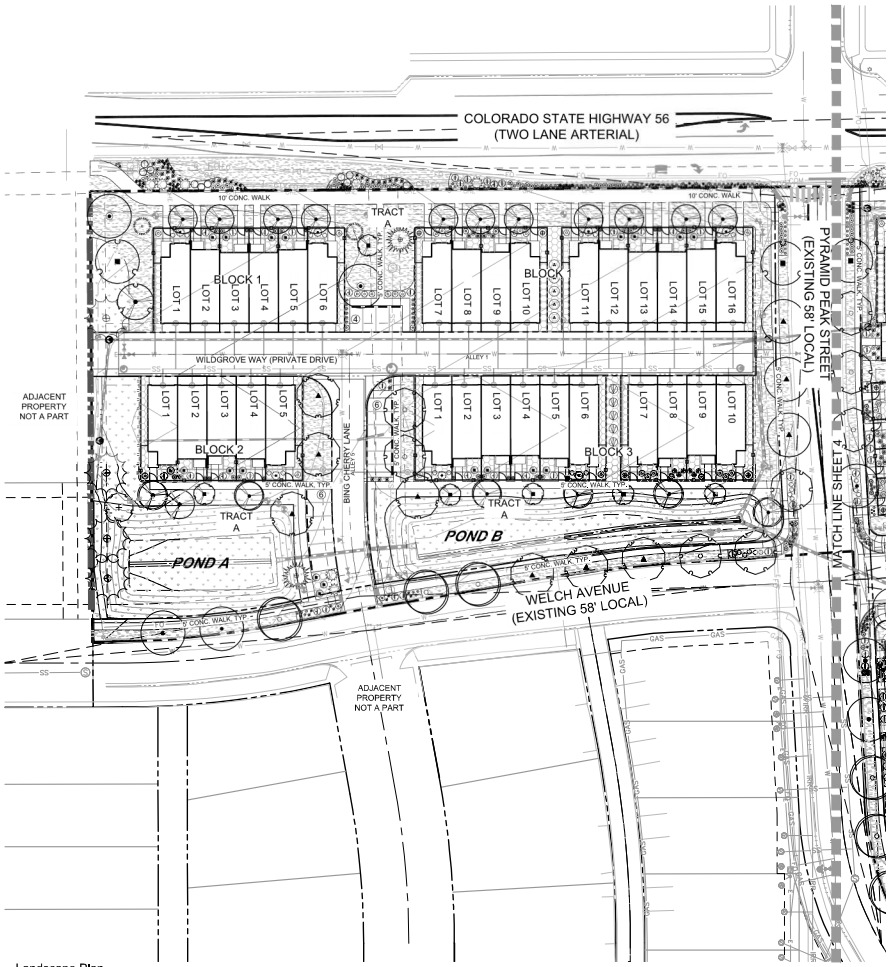
SHEET INFORMATION

Sheet Number: 1

Of: 7

Attachment 3


COLORADO STATE HIGHWAY 56
(TWO LANE ARTERIAL)
BLOCK 1
BLOCK 2
BLOCK 3
BLOCK 4
BLOCK 5
BLOCK 6
BLOCK 7
BLOCK 8
BLOCK 9
BLOCK 10
BLOCK 11
BLOCK 12
BLOCK 13
BLOCK 14
BLOCK 15
BLOCK 16
BLOCK 17
BLOCK 18
BLOCK 19
BLOCK 20
BLOCK



Landscape Plan

0 40' 80' 80' NORTH

SCALE 1" = 40'-0"

Landscape Legend

SYMBOL	BOTANICAL / COMMON NAME
DECIDUOUS TREES	
	Catalpa speciosa Western Catalpa
	Celtis occidentalis Western Hackberry
	Gleditsia triacanthos inermis 'Shademaster' Shademaster Honeylocust
	Gymnocladus dioicus 'Espresso' Seedless Kentucky Coffeetree
	Quercus macrocarpa Bur Oak
	Tilia americana 'Redmond' Redmond American Linden
	Ulmus davidiana japonica 'Discovery' Discovery Elm
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	Pinus heldreichii leucodermis Bosnian Pine
	Pinus nigra Austrian Pine
	Pinus nigra 'Frank' Columnar Austrian Pine
	Pinus ponderosa Ponderosa Pine
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	Amelanchier x grandiflora 'Autumn Brilliance' 'Autumn Brilliance' Serviceberry
	Koelreuteria paniculata Golden Rain Tree
	Prunus virginiana 'P002' Sucker Punch Chokecherry
	Syringa reticulata Japanese Tree Lilac

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	Ericameria nauseosa nauseosa Blue Rabbitbrush
	Fallugia paradoxa Apache Plume
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	Krascheninnikovia lanata Winterfat
	Perovskia atriplicifolia 'Little Spire' TM Little Spire Russian Sage
	Philadelphus microphyllus Littleleaf Mockorage
	Physocarpus opulifolius 'Little Devil' TM Little Devil Ninebark
	Potentilla fruticosa 'Fargo' Dakota Sunspot® Bush Cinquefoil
	Potentilla fruticosa 'Mango Tango' Mango Tango Potentilla
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	Hemerocallis fulva Orange Daylily
	Hesperaloe parviflora Red Yucca
	Rudbeckia hirta fulgida Black-eyed Susan
	Sedum x 'Autumn Joy' Autumn Joy Sedum

Materials Legend

01 GROUND COVER		
	IRRIGATED TURF GRAFF'S RTF TALL FESCUE BLEND OR APPROVED EQUAL	79,372 sf
	NON-IRRIGATED NATIVE SEED SEE DETAILS FOR SEED MIX	73,299 sf
	1.5" WASHED RIVER ROCK COBBLE ALL SHRUB BEDS TO RECEIVE A MINIMUM 2"-3" DEPTH ROCK COBBLE	111,096 sf
	PLAYGROUND SURFACE FIBAR WOOD MULCH	1,200 sf

PROPERTY BOUNDARY

EASEMENTS

LANDSCAPE EDGING

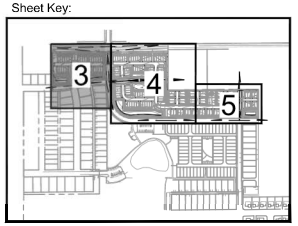
6' PRIVACY FENCE

LOT FENCING & GATES

SIGHT DISTANCE TRIANGLE

LIGHT POLES

Sheet Key:



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SEAL

PROJECT TITLE

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5TH FILING

LANDSCAPE PLAN

PREPARED FOR

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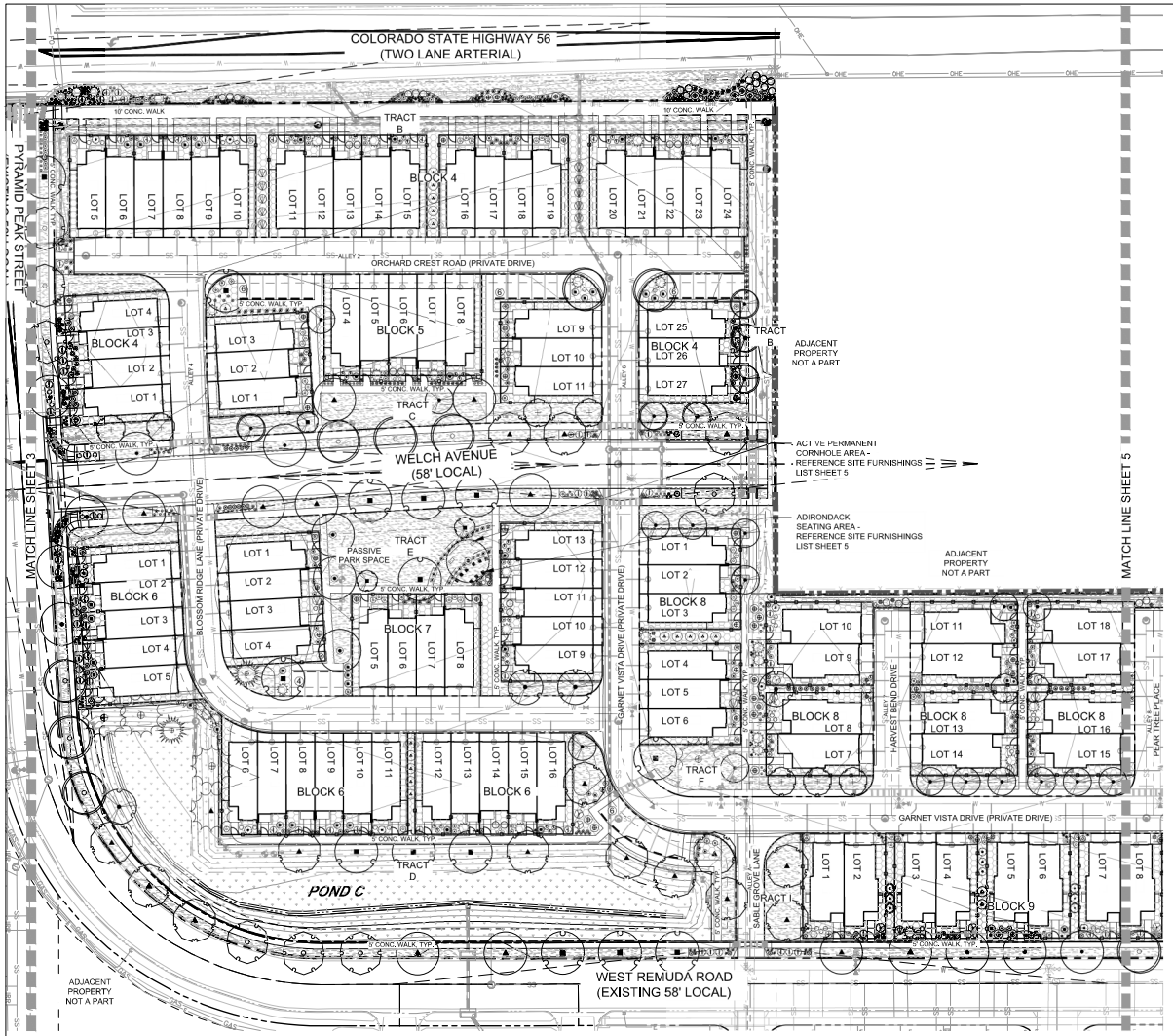
LANDSCAPE PLAN

SHEET INFORMATION

Sheet Number: 3

Of: 7



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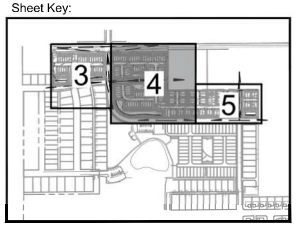

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SEAL

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FICKEL FARM
5TH FILING

LANDSCAPE PLAN

PREPARED FOR

OWNER:
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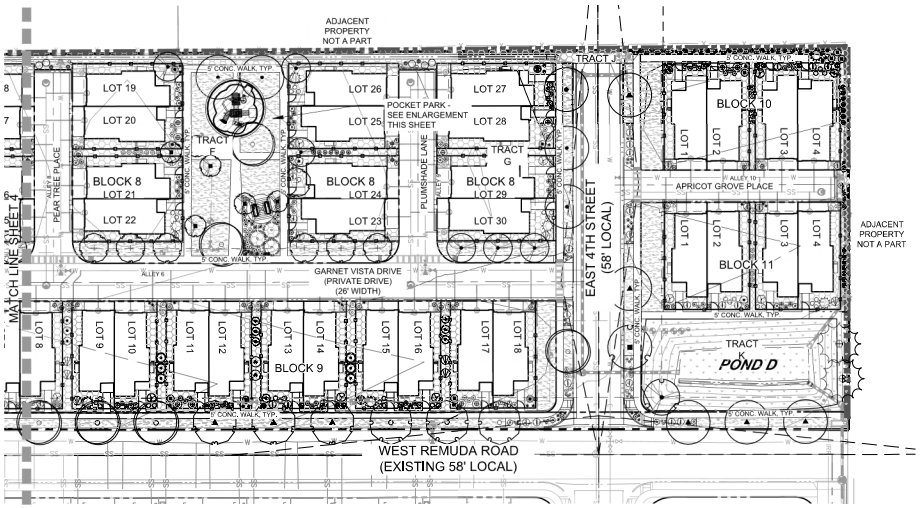
LANDSCAPE PLAN

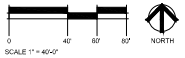
SHEET INFORMATION

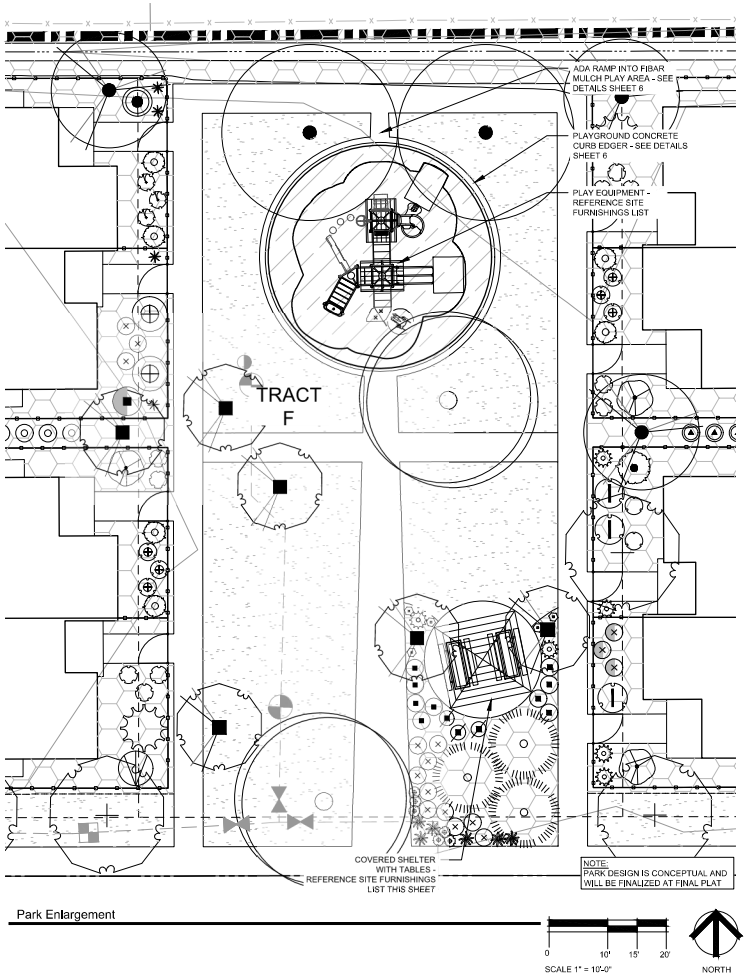
Sheet Number: 4

Of: 7



Landscape Plan





Park Enlargement

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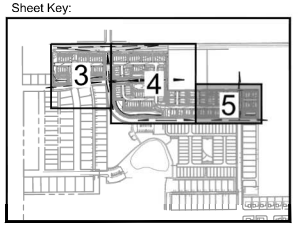
PROPERTY BOUNDARY
EASEMENTS
LANDSCAPE EDGING
6' PRIVACY FENCE
LOT FENCING & GATES
SIGHT DISTANCE TRIANGLE
LIGHT POLES

Pocket Park - Furnishing Schedule

DESCRIPTION	MANUFACTURER	MODEL	QUANTITY	MATERIAL / COLOR	MOUNT TYPE
PLAY STRUCTURE	LITTLE TIKES		1		
PARK SHELTER	ICON	SQ20M-P6	1		
TRASH RECEPTACLE	ANOVA	L2019	1	TBD	SURFACE
PARK TABLE	ANOVA	L2003	2	TBD	PORTABLE/SURFACE
BIKE RACK	ANOVA	LBR3PSURF	1	TBD	SURFACE
ADIRONDACK CHAIR	ANOVA	PLK60C	9	TBD	PORTABLE
DOG WASTE	ANOVA	D022-B	1	TBD	INGROUND
BENCH	ANOVA	L2016	1	TBD	SURFACE
PERMANENT CORNHOLE SETS	ICON		1		
NOTE: ALL PARK EQUIPMENT AS SPECIFIED OR APPROVED EQUAL					

POCKET PARK REQUIREMENTS	
REQUIRED	PROVIDED
List A - all	All
List B - 5	Group Picnic Shelter, 2 Tables
List C - 1 High	Commercial-Grade Playground
List C - 2 Low	Passive Adirondack Seating Area Active, Permanent Cornhole Area

Sheet Key:



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SHEET TITLE

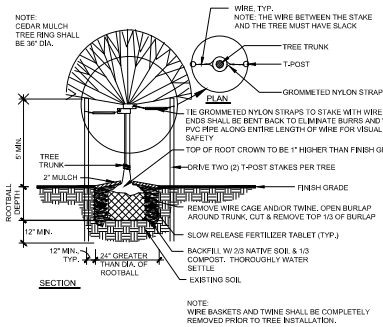
LANDSCAPE PLAN & POCKET PARK ENLARGEMENT

SHEET INFORMATION

Sheet Number: 5

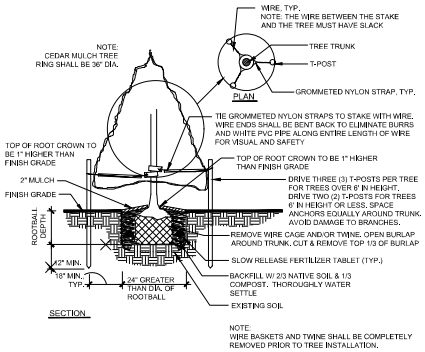
Of: 7

Planting Details



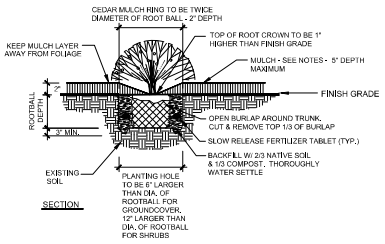
1 DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE TBG-L-02



2 CONIFER TREE PLANTING DETAIL

NOT TO SCALE TBG-L-03



3 GROUND COVER AND SHRUB PLANTING DETAIL

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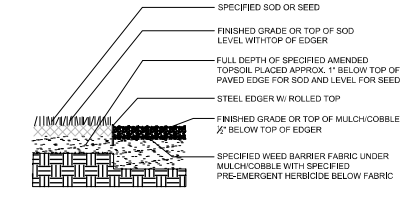
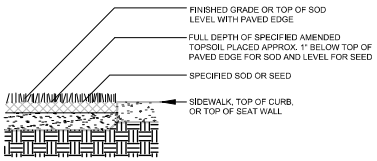
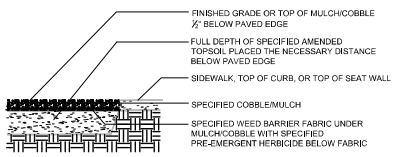
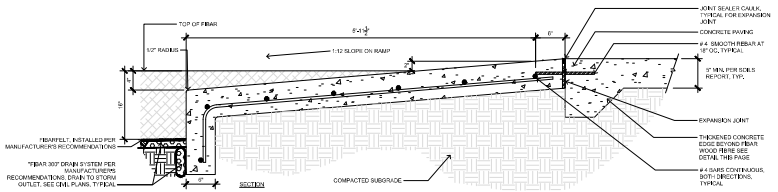






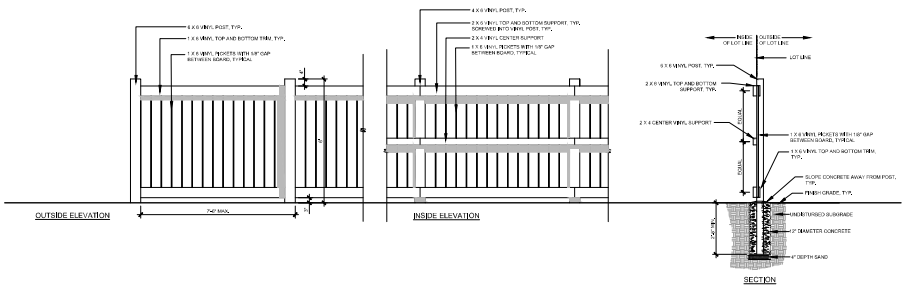
4 EDGE TREATMENT

NOT TO SCALE TBG-L-EDG-01



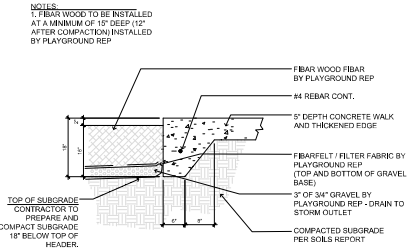
5 CONCRETE RAMP INTO FIBAR

NOT TO SCALE TBG-L-CO-03



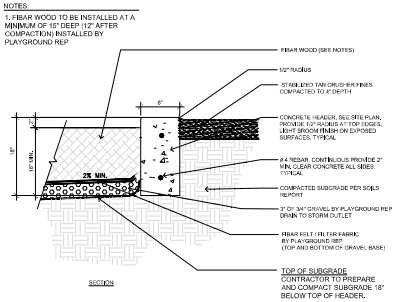
Fence Type 2 - 6 Foot Privacy Fence Without Column

SCALE 1/2" = 1'-0"



7 FIBAR SURFACING & THICKENED EDGE

3/4" = 1'-0" TBG-L-CO-04



8 TYPICAL CONCRETE PLAYGROUND HEADER

1" = 1'-0" TBG-L-CO-06

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LANDSCAPE NOTES
& DETAILS

SHEET INFORMATION

Sheet Number: 6

Of: 7

LOT FENCING AND GATE EXAMPLE

MANUFACTURER: ARBOR FENCING 4' BLACK METAL, OR APPROVED EQUAL.
PER MANUFACTURER SPECIFICATIONS

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8350 E. Crescent Pkwy.
Suite 450
Greenwood Village, CO
80111

REVISIONS DATE

DATE

December 15, 2025

SHEET TITLE

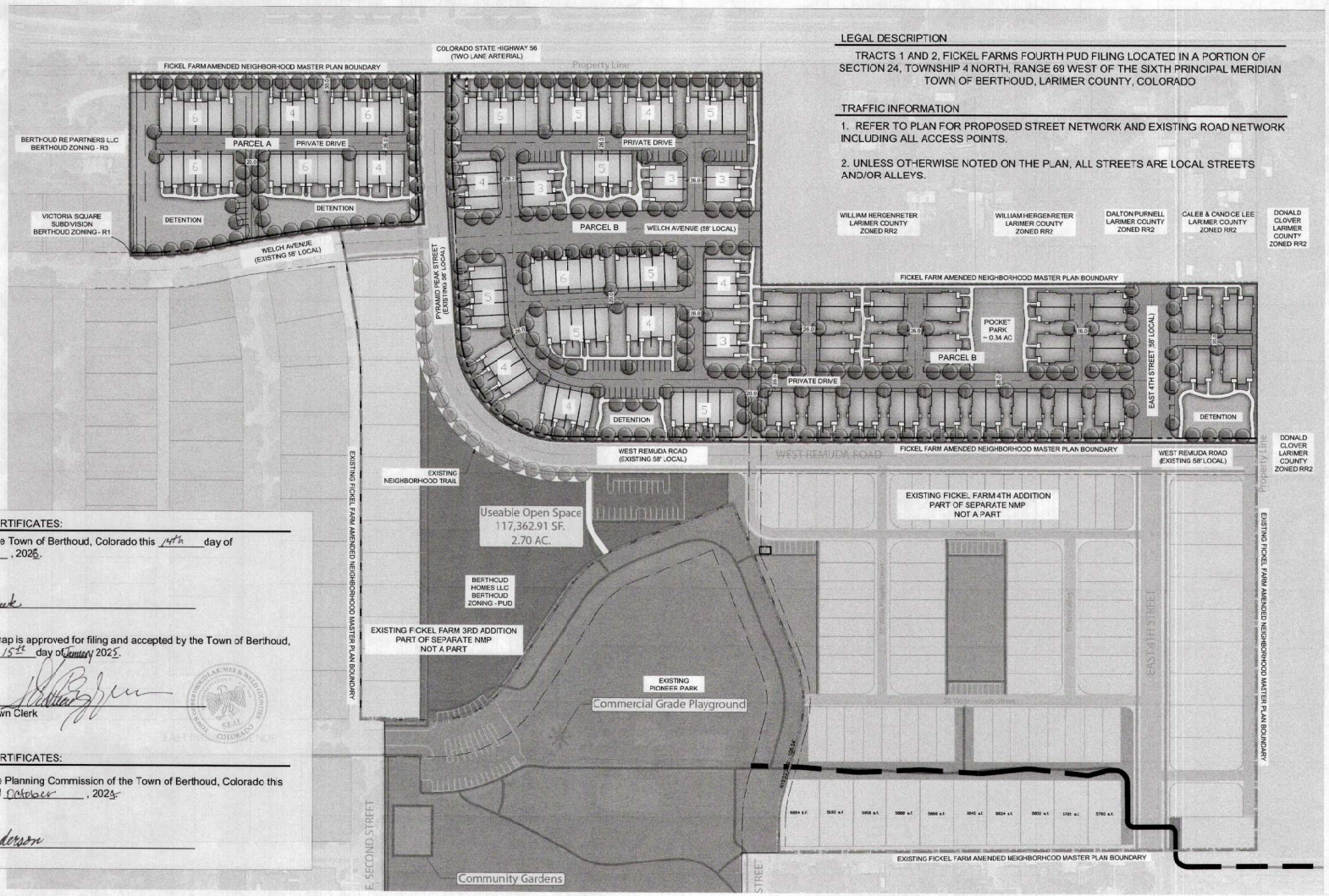
LANDSCAPE NOTES
& DETAILS

SHEET INFORMATION

Sheet Number: 7

Of: 7

FICKEL FARM PROPERTY | SEPTEMBER 2024



LEGAL DESCRIPTION

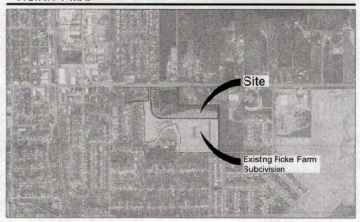
TRACTS 1 AND 2, FICKEL FARMS FOURTH PUD FILING LOCATED IN A PORTION OF SECTION 24, TOWNSHIP 4 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN TOWN OF BERTHOUD, LARIMER COUNTY, COLORADO

TRAFFIC INFORMATION

1. REFER TO PLAN FOR PROPOSED STREET NETWORK AND EXISTING ROAD NETWORK INCLUDING ALL ACCESS POINTS.

2. UNLESS OTHERWISE NOTED ON THE PLAN, ALL STREETS ARE LOCAL STREETS AND/OR ALLEYS.

VICINITY MAP



LAND USE SUMMARY

LAND USE	DENSITY
DUPLEX	50 LOTS
TOWNHOMES	115 LOTS
TOTAL =	165 LOTS

LAND USE STATISTICS

TOTAL ACREAGE =	14.52 ACRES
ROW/PRIVATE DRIVE ACREAGE =	3.01 ACRES
% OF SITE AS ROW =	20.8%

NOTES:

- THE NEIGHBORHOOD MASTER PLAN IS BINDING ON A DEVELOPMENT, AND ALL FUTURE PLATTING/ZONING ACTIONS MUST FOLLOW THE APPROVED PLAN AS PRESENTED AND APPROVED BY THE TOWN BOARD OF TRUSTEES. SHOULD THIS NEIGHBORHOOD MASTER PLAN BE ALTERED POST-APPROVAL, A FORMAL AMENDMENT OF THE PLAN MAY BE REQUIRED.
- OVERALL LAYOUT MAY SHIFT DURING DESIGN, SO LONG AS OVERALL DENSITY, AS DEPICTED IN THIS NEIGHBORHOOD MASTER PLAN, IS NOT EXCEEDED. DENSITY WITHIN A DEVELOPMENT AREA MAY NOT EXCEED THE MAXIMUM PERMITTED PER THE UNDERLYING ZONE DISTRICT. DENSITY SHIFTS MUST ADHERE TO THE NEIGHBORHOOD MASTER PLAN REQUIREMENTS PER SECTION 30-6-106-C.5 OF THE BERTHOUD MUNICIPAL CODE.
- ZONING IS PROPOSED URBAN RESIDENTIAL (UR).
- THE NEIGHBORHOOD MASTER PLAN IS BINDING ON A DEVELOPMENT, AND ALL FUTURE PLATTING/ZONING ACTIONS MUST FOLLOW THE APPROVED PLAN AS PRESENTED AND APPROVED BY THE TOWN BOARD OF TRUSTEES. SHOULD THIS NEIGHBORHOOD MASTER PLAN BE ALTERED POST-APPROVAL, A FORMAL AMENDMENT OF THE PLAN MAY BE REQUIRED.

SHEET INDEX

SHEET 1 - NEIGHBORHOOD MASTER PLAN
SHEET 2 - OPEN SPACE, CIRCULATION, & PARKS EXHIBIT

0 80' 120' 160' NORTH
SCALE 1" = 80'-0"

APPROVAL CERTIFICATES:

Approved by the Town of Berthoud, Colorado this 14th day of January, 2025.

Mayor

The foregoing map is approved for filing and accepted by the Town of Berthoud, Colorado this 15th day of January 2025.

ATTEST:
Town Clerk

APPROVAL CERTIFICATES:

oved by the Planning Commission of the Town of Berthoud, Colorado this 4th day of October, 2024.

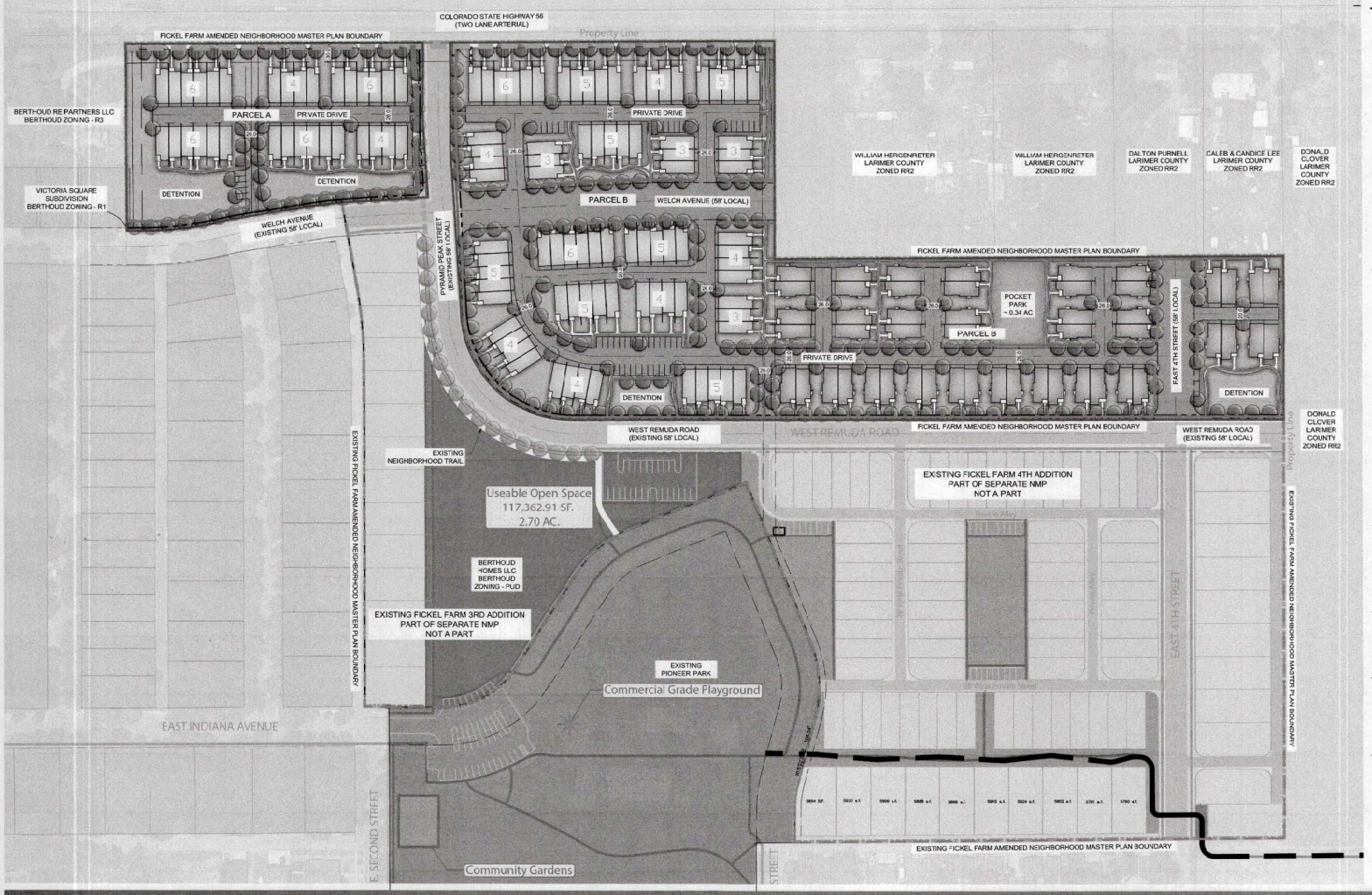
rman

RECEPTION #20250003099, 1/16/2025 3:57:50 PM
1 of 2, $23.00
Tina Harris, Clerk & Recorder, Larimer County, CO

Attachment 4

GHBORHOOD MASTER PLAN

FICKEL FARM PROPERTY | SEPTEMBER 2024



SUBDIVISION IDENTITY & RESIDENTIAL STANDARDS

THE SUBDIVISION IDENTITY ELEMENTS LISTED INCLUDE ELEMENTS AT THE EXISTING FICKEL FARM DEVELOPMENTS, IN ADDITION TO NEW AMENITIES TO BE PROVIDED. SPECIFIC AMENITIES AND LOCATIONS WERE DESIGNED AS PART OF THE MASTER PLANNING FOR THE COMMUNITY, WITH THE INTENTION OF SATISFYING TOWN REQUIREMENTS FOR THE OVERALL FICKEL FARM DEVELOPMENT.

SUBDIVISION LOT UNIT COUNTS:

• PREVIOUSLY APPROVED NMP UNITS (A/B ONLY):	70
• PROPOSED NMP UNITS (A/B ONLY):	165
• PREVIOUSLY APPROVED NMP UNITS (A-N):	171
• PROPOSED AMENDED NMP UNITS (A-N):	266
• TOTAL CHANGE IN UNITS	+95

SUBDIVISION IDENTITY ELEMENTS:

• PREVIOUSLY APPROVED SUBDIVISION IDENTITY ELEMENTS REQUIRED:	6
• AMENDED SUBDIVISION IDENTITY ELEMENTS REQUIRED:	1
TOTAL:	7

THE FOLLOWING IS A LIST OF ELEMENTS THAT IS BEING EVALUATED FOR THIS SITE, BUT IS SUBJECT TO CHANGE, SO LONG AS THE REQUIRED ELEMENT POINTS ARE ACHIEVED AT THE TIME OF PLAT.

SUBDIVISION IDENTITY ELEMENTS PROVIDED PER EXISTING/APPROVED NEIGHBORHOOD MASTER PLAN:

1.	COMMUNITY GARDENS	1
2.	USABLE OPEN SPACE	2
3.	PLAYGROUND	1
4.	ENHANCED ENTRYWAY	1
5.	ALLEY-LOADED STREETS, MAINTAINED BY TOWN	1
	SUBTOTAL:	6

PROPOSED SUBDIVISION IDENTITY ELEMENT PER AMENDED NEIGHBORHOOD MASTER PLAN:

1.	POCKET PARK	1
	FICKEL FARM DEVELOPMENT TOTAL :	7

OPEN SPACE ELEMENTS

PARK AND OPEN SPACE REQUIREMENTS APPROVED AND SATISFIED PER THE FICKEL FARM PUD.

TRAILS AND WALKS

- DETACHED CONCRETE SIDEWALK (6') - 7,734 feet
- 10' REGIONAL TRAIL W/ PARALLEL 3' SOFT SURFACE TRAIL - 1,271 feet
- NEIGHBORHOOD TRAIL - 237 feet

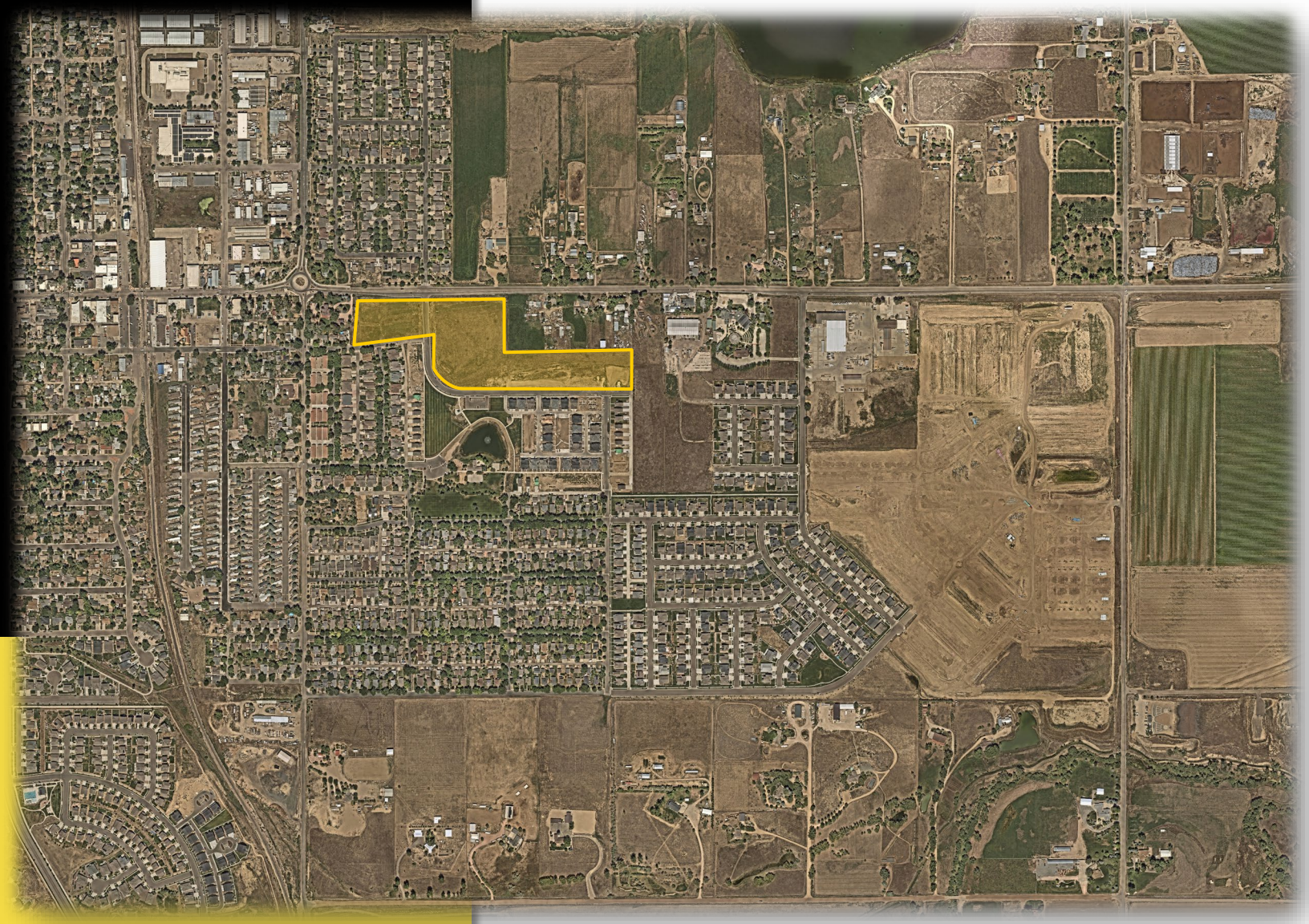
0 80' 120' 160' NORTH
SCALE 1" = 80'-0"

OPEN SPACE, CIRCULATION, & PARKS EXHIBIT

Attachment 5

Fickel Farm

Traffic Impact Study



1st Submittal Date: January 14, 2025

Revised: December 15, 2025

Submitted To:
Trumark Homes
8350 E Crescent Parkway, Suite 450
Greenwood Village, CO 80111

Submitted By:
Fox Tuttle Transportation Group, LLC
1580 Logan Street, Suite 600-PMB 0604
Denver, CO 80203

FOX TUTTLE

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Level of Service Definitions
Existing Traffic Data
Intersection Capacity Worksheets
Background Documentation

FICKEL FARM
TRAFFIC IMPACT STUDY

1.0 Introduction

The Fox Tuttle Transportation Group has prepared this traffic impact study update for the Fickel Farm residential development project. The project site is comprised of vacant property and is located in the Town of Berthoud, Colorado south of State Highway 56 along Pyramid Peak Street and Remuda Road. It is understood that the entire Fickel Farm development is being developed in two (2) phases and at completion will include a total of up to 35 single-family detached homes and 231 single-family attached homes. Note that the current land use proposal for the second phase is for 154 units. The internal roadway network is proposed to connect to Pyramid Peak Street, Remuda Road, 4th Street, and Welch Avenue. Adjacent land uses are comprised of residential neighborhoods and agricultural sites. **Figure 1** provides a vicinity map for the proposed project.

Phase 1 is currently under construction. Phase 2 is still in design, and the proposed number and type of dwelling units has been changed from the original study. This study focuses on Phase 2 of the Fickel Farm project and assumes all Phase 1 development to be completed and occupied in the near-term background.

The purpose of this study is to assist in identifying potential traffic impacts within the study area as a result of Phase 2 of the Fickel Farm project. The traffic study addresses existing, short-term, and long-term peak hour intersection conditions in the study area with and without the project-generated traffic. The information contained in this study is anticipated to be used by the Town of Berthoud staff in identifying any intersection or roadway deficiencies and potential improvements for the build-out condition and long-term future scenarios. This study focused on the weekday AM and PM peak hours which represent the periods of highest trip generation for the proposed use and adjacent street traffic.

2.0 Project Description

The overall Fickel Farm project plans to develop vacant land with up to 35 single-family detached homes and 231 single-family attached homes over the course of two (2) phases. Phase 2 will include up to 165 single-family attached dwelling units (note that the latest site plan is for 154 units and thus the analysis provided in this study is slightly conservative). The project proposes to construct an internal roadway

network that will connect to State Highway 56, Pyramid Peak Street, Remuda Road, 4th Street, and Welch Avenue. For the purpose of this traffic study, it was assumed that Phase 1 of the project will be completed by Year 2028 and is added into the background scenarios as it was previously approved and is currently under construction. It was assumed Phase 2 will also be completed by Year 2028 and will be analyzed as part of this study. **Figure 2** shows the Phase 2 site plan and proposed access locations.

3.0 Study Considerations

3.1 Data Collection

Intersection turning movement volumes were collected in November 2024 or July 2025 at five (5) existing intersections during the weekday AM and PM peak hours, including pedestrians and bicyclists.

The study area intersections are shown on **Figure 3**. The existing traffic volumes are illustrated on **Figure 4**. The existing intersection geometry and traffic control are also shown on this figure. Count data sheets are provided in the **Appendix**.

3.2 Evaluation Methodology

The traffic operations analysis addressed the signalized and unsignalized intersection operations using the procedures and methodologies set forth by the *Highway Capacity Manual (HCM)*[1]. Existing peak hour factors (PHF) and heavy vehicle percentages by approach and peak hour were applied to the study intersections for Year 2024 and Year 2028 scenarios. For Year 2045 scenarios, the peak hour factors were changed to 0.92 for movements on State Highway 56 and 0.88 for all other movements unless the existing PHF was higher, and heavy vehicle percentages were changed to 2% unless the existing percentage was lower. Study intersections were evaluated using Synchro software (v12).

3.3 Level of Service Capacity Analysis

A Level of Service analysis was conducted to determine the existing and future performance of the study area intersections and accesses to determine the most appropriate intersection traffic controls and auxiliary lanes for future conditions.

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1 Highway Capacity Manual, Highway Research Board Special Report 209, Transportation Research Board, National Research Council, 7th Edition (2022).

To measure and describe the operational status of the study intersections, transportation engineers and planners commonly use a system referred to as "Level of Service" (LOS) that is defined by the *HCM.* LOS characterizes the operational conditions of an intersection's traffic flow, ranging from LOS A (indicating free flow operations) and LOS F (indicating congested and sometimes oversaturated conditions). These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with traveling through the intersections. The intersection LOS is based on delay in seconds per vehicle for the intersection as a whole and for each movement.

Typically, LOS D overall during peak hours is acceptable. Individual movements may be allowed to fall to LOS E or F at signalized intersections. Minor movements at unsignalized intersections, such as left turns onto a major arterial, may be allowed to fall below LOS D, specifically where there are low volumes and/or no viable alternative. The Town of Berthoud follows *Larimer County Urban Area Street Standards, Chapter 4 (LCUASS)*[2] with regard to transportation impact study standards. Table 4-1 in the current version of *LCUASS* was used to determine acceptable Levels of Service for intersections and individual movements. Criteria contained in the *HCM* was applied for these analyses in order to determine peak hour LOS for each scenario. A more detailed discussion of LOS methodology is contained in the **Appendix** for reference.

4.0 Existing Conditions

4.1 Roadways

The study area boundaries are based on the amount of traffic to be generated by the project and potential impact to the existing roadway network. The primary public roadways that serve the project site are discussed in the following text and illustrated on **Figure 1**.

> ***State Highway 56*** is a two-lane, east-west, arterial roadway that provides access to urban and rural residential neighborhoods near the project site. Regionally, the roadway provides access to US Highway 287, I-25 and Weld County. State Highway 56 extends from Larimer County Road 23 (west) to Weld County Road 23 (east). The roadway is a Colorado Department of Transportation (CDOT) managed roadway classified as NR-B (Non-Rural Arterial) from west of 1st Street to west of County Line Road, where it transitions to NR-A (Non-Rural Principal Highway). In the eastbound

[2] *Larimer County Urban Area Street Standards, Chapter 4*. Adopted August, 2021.

direction, State Highway 56 has a posted speed limit of 25 miles per hour (mph) near the 1st Street roundabout, and then transitions to 55 mph to the east, near County line Road. In the westbound direction, State Highway 56 has a posted speed limit of 55 mph just west of the County Line Road intersection, then transitions to 40 mph just east of Pyramid Peak Street, and to 25 mph just west of Pyramid Peak Street approaching the 1st Street roundabout. State Highway 56 serves approximately 7,600 vehicles per day (vpd) west of 1st Street and approximately 7,400 vpd east of County Line Road (CDOT, Year 2023).

1st Street is a two-lane, north-south, roadway that provides access to local residential and commercial neighborhoods within Berthoud. 1st Street is classified as a local roadway north of State Highway 56, and as a major collector roadway south of State Highway 56. The roadway extends from US Highway 287 (north), becomes County Road 15 south of County Road 6C, and extends to East County Line Road (south). South of State Highway 56, 1st Street serves approximately 2,950 vpd (CDOT, Year 2024).

Pyramid Peak Street is a two-lane, unstriped north-south roadway that provides local access to residential neighborhoods and will directly serve the Fickel Farm project from State Highway 56. The roadway extends from Little Bear Avenue (north) to Remuda Road (south).

Nebraska Avenue is a two-lane, east-west roadway that provides access to local residential and rural neighborhoods. The roadway extends from 1st Street (west) to Dorothy Drive (east). As the vacant land to the east develops, Nebraska Avenue will extend to County Line Road (east). Nebraska Avenue will indirectly serve the Fickel Farm project via 4th Street.

Welch Avenue is a two-lane, east-west roadway that provides access to local residential and commercial uses extending from Pyramid Peak Street to Berthoud Parkway. The posted speed limit is 25 mph.

4.2 Intersections

The study area includes five (5) existing intersections that are listed below with the current traffic control and were analyzed for existing and future year traffic operations:

1. State Highway 56 at County Line Road [side-street stop controlled]
2. State Highway 56 at 1st Street [roundabout]
3. 1st Street at Nebraska Avenue [side-street stop controlled]

4. State Highway 56 at Pyramid Peak Street [side-street stop controlled]
5. 1st Street at Welch Avenue [side-street stop controlled]

The existing lane configuration at each of the study locations is illustrated on **Figure 3**.

4.3 Pedestrian and Bicycle

Currently, there are no sidewalks along State Highway 56 east of 1st Street. 1st Street has intermittent and inconsistent sidewalks within the study area. Nebraska Avenue has sidewalks on the north side of the roadway. Pyramid Peak Street has sidewalks on both sides of the roadway north of State Highway 56, and sidewalks adjacent to developed frontage south of State Highway 56.

There are no on-street bike facilities within the project study area. Bikes are permitted to travel within the travel lanes of the study roadways.

4.4 Transit

The Town of Berthoud works with other agencies to provide public transportation to residents. Berthoud also operates the Berthoud Area Transportation Service (BATS), which provides door-to-door transit services within Berthoud or to Loveland. Berthoud is also serviced by the Transfort FLEX route, which provides regional services between Fort Collins, Loveland, Longmont and Boulder. Stops for the FLEX route in Berthoud are located at Mountain Avenue and 2nd Street, and Mountain Avenue and 3rd Street. These stops are approximately 1/3 mile west of the State Highway 56 and Pyramid Peak Street intersection.

4.5 Year 2024 Existing Intersection Capacity Analysis

The existing volumes, lane configuration, and traffic control are illustrated on **Figure 3**. The details of LOS for each movement are provided in **Table 1** and the 95th percentile queues are provided in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**. **Currently, a majority of the study intersections operate overall at LOS A in both peak hours, with most individual movements operating at LOS D or better in both peak hours.** All 95th percentile queues were estimated to be contained within existing storage.

The intersection of State Highway 56 and County Line Road currently operates at LOS B in the AM peak hour and LOS F in the PM peak hour. The northbound approach operates at LOS F in both peak hours, and the southbound approach operates at LOS F in the PM peak hour. This is due to the heavy northbound traffic volume and conflicting eastbound and westbound volumes. Per discussion with Town staff, this

intersection is planned to be converted to a single-lane roundabout as part of the adjacent Farmstead development project. A roundabout is anticipated to effectively mitigate these existing delays.

5.0 Future Conditions

5.1 Annual Growth Factor and Future Volume Methodology

In order to forecast the future peak hour traffic volumes, background traffic growth assumptions were estimated based the CDOT growth rates and other traffic studies performed for the town.

Based on CDOT historic data and forecasts, the 20-year growth factor for State Highway 56 is estimated to be 1.3. This equates to an annual growth rate of **1.32%**, however does not account for the projected volume of traffic to be generated by the Farmstead development to the east. The following steps were taken to develop background traffic volumes:

- Estimated traffic volumes associated with Fickel Farm Phase 1 were added to existing volumes to develop background volumes for movements in and out of the south approach of Pyramid Peak Street at State Highway 56. No additional background growth was applied to these movements.

- Estimated traffic volumes associated with the Farmstead project were added to existing volumes to develop background volumes per the *Farmstead Traffic Impact Study*[3]. Farmstead Phase 1 volumes were used to develop Year 2028 Background volumes, and Farmstead full buildout volumes were used to develop Year 2045 Background volumes. Farmstead project-generated traffic volumes figures are in the **Appendix**. To account for any additional background growth, an annual growth rate of 1.0% was applied to the movements serving the Farmstead project.

- An annual growth rate of 1.32% was applied to existing volumes for all movements not serving the Fickel Farm or Farmstead projects.

Using these assumptions and steps, the Year 2028 background traffic is summarized on **Figure 4** and the Year 2045 background traffic is summarized on **Figure 5**.

[3] *Farmstead Traffic Impact Study.* Delich Associates. March, 2024.

5.2 Year 2028 Anticipated Transportation Network

This study assumes the construction of a single-lane roundabout at the intersection of State Highway 56 and County Line Road per Town staff and the *Farmstead Traffic Impact Study*.

This study assumes that the speed limit on State Highway 56 will be lowered to 35 mph maximum between the roundabouts at 1st Street and County Line Road. Roundabout entry speeds are typically 25 mph or lower, and it is advisable to have no more than a 10 mph differential between speed limit and entry speed.

5.3 Year 2028 Background Intersection Capacity Analysis

The study area intersections were evaluated to determine baseline operations for the Year 2028 background scenario and to identify any capacity constraints associated with background traffic (refer to **Section 5.1** for growth assumptions). It was assumed that the improvements listed in **Section 5.2** will be implemented by Year 2028 background. The background volumes, lane configuration, and traffic control are illustrated on **Figure 4**.

The Level of Service criteria discussed previously was applied to the study area intersections to determine the impacts with the short-term background volumes. The details of LOS for each movement are provided in **Table 1** and the 95th percentile queues are provided in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**.

In summary, all of the study intersections were estimated to operate overall at LOS C or better, with most movements operating at LOS D or better. All 95th percentile queues were estimated to be contained within existing storage. At the intersection of State Highway 56 and Pyramid Peak Street, the following movements were estimated to operate below LOS D in one or more peak hours:

- Northbound left-turn + through operates at LOS E in the AM peak hour and LOS F in the PM peak hour. This is due to the high volume of eastbound and westbound traffic on State Highway 56. The 95th percentile queue was calculated to be 28 feet in the AM peak hour and 33 feet in the PM peak hour.

- Southbound left-turn + through + right-turn operates at LOS E in the PM peak hour. This is due to the high volume of eastbound and westbound traffic on State Highway 56. The 95th percentile queue was calculated to be 10 feet in the PM peak hour.

Recommendation: No mitigation measures are recommended. *LCUASS* Table 4-1 allows for movements at minor intersections to operate at LOS F.

5.4 Year 2045 Anticipated Transportation Network

Based on the projected 20-year background growth assumptions to include the Farmstead-added traffic growth, it is anticipated that the roundabout at State Highway 56 and County Line Road would need to be widened to include two (2) lanes on State Highway 56 eastbound and westbound through the roundabout. The projected 20-year volumes are above the capacity of single-lane roundabout entries for these approaches. For the 2045 scenarios, it is assumed that this widening would be in place.

Based on 20-year growth projections, the eastbound approach at the State Highway 56 and 1st Street roundabout would exceed single-lane entry capacity. To mitigate this long-term capacity deficiency, an eastbound right-turn bypass lane would be needed and is assumed to be in place for the long-term scenarios. The Year 2045 Background lane geometry is shown on **Figure 5**.

5.5 Year 2045 Background Intersection Capacity Analysis

The study area intersections were evaluated to determine baseline operations for the Year 2045 background scenario and to identify any capacity constraints associated with background traffic in the long-term scenario (refer to **Section 5.1** for growth assumptions). The long-term background volumes, lane configuration, and traffic control are illustrated on **Figure 5**.

The Level of Service criteria discussed previously was applied to the study area intersections to determine the impacts with the long-term background volumes. The details of LOS for each movement are provided in **Table 1** and the 95th percentile queues are provided in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**.

In summary, all four (4) of the study intersections operate at LOS D or better in both peak periods, with most movements operating at LOS D or better. The following intersections have movements which operate below LOS D in one or more peak hours:

State Highway 56 at Pyramid Peak Street was estimated to operate at LOS A in both peak hours.

- Northbound left-turn + through was estimated to operate at LOS F in both peak hours. The 95th percentile queue was estimated to be up to 60 feet.

- Southbound left-turn + through + right-turn was estimated to operate at LOS E in the AM peak hour and LOS F in the PM peak hour. The 95th percentile queue was estimated to be up to 40 feet.

Recommendation: No mitigation measures are recommended. *LCUASS* Table 4-1 allows for movements at minor intersections to operate at LOS F.

6.0 Future Conditions with the Development

The Fickel Farm project will be comprised of 35 single-family detached homes and 231 single-family attached homes, constructed over two (2) phases. Phase 1 of the project is constructing 35 single-family detached homes and 66 single-family attached homes. Phase 2 proposes to construct up to 165 single-family attached homes. This study assumed that both phases will be completed by Year 2028. As Phase 1 was previously approved and is currently under construction, the traffic associated with Phase 1 has been added to the background traffic volumes for this study. The project proposes to connect its internal roadway network to State Highway 56, Pyramid Peak Street, Remuda Road, 4th Street, and Welch Avenue. **Figure 2** shows the site plan and proposed roadway connections.

6.1 Trip Generation

A trip generation estimate was performed to determine the traffic characteristics for Phase 2 of the proposed development. The trip rates contained in the Institute of Transportation Engineers (ITE) *Trip Generation Handbook and Manual*[4] were applied to estimate the traffic for the dwelling units. This study applied the trip rates for "Single-Family Attached Housing" [ITE #215] to determine Phase 2 trips.

Phase 2 of the Fickel Farm project was estimated to generate approximately 1,188 daily trips with 79 trips in the AM peak hour and 94 trips in the PM peak hour. Trip generation is described on **Table 3**.

6.2 Trip Distribution and Assignment

The estimated trip volumes were distributed onto the study area street network based on existing traffic characteristics, land uses, and traffic patterns in the area. The existing volumes were utilized to determine where vehicles are coming from and going to within the study area.

The following overall distributions were assumed for this project and are shown on **Figure 6**:

- North via 1st Street: 20%

[4] *Trip Generation Handbook and Manual, 11th Edition*, Institute of Transportation Engineers, 2021.

- South via 1st Street: 5%
- East via State Highway 56: 35%
- West via State Highway 56: 20%
- West via Welch Avenue 5%
- North via County Line Road: 5%
- South via County Line Road: 10%

Using the distribution assumptions, the projected site traffic was assigned to the study area roadway network for the weekday AM and PM peak hour periods. Project-generated trips are shown on **Figure 7**.

6.3 Year 2028 Background + Project Intersection Capacity Analysis

This section discusses impacts associated with the addition of the project trips in the Year 2028 scenario. The site-generated volumes were added to the Year 2028 background volumes and are illustrated on **Figure 8**. This figure also illustrates the necessary traffic control and lane configurations for the study intersections. The recommended improvements in the Year 2028 background scenario were assumed to be implemented.

The study intersections are anticipated to operate similarly to the Year 2028 background conditions with the addition of project trips. All of the overall intersection and most of the individual movement Levels of Service remain the same. At the intersection of State Highway 56 and Pyramid Peak Street, the northbound left-turn + through (AM peak hour) and southbound left-turn + through + right-turn (PM peak hour) fall from LOS E in the background scenario to LOS F when project trips are added.

Recommendation: No mitigation measures are recommended. *LCUASS* Table 4-1 allows for movements at minor intersections to operate at LOS F. Additionally, as the northbound approach reaches capacity, it is likely vehicles will use alternative routes, such as Welch Avenue to get to 1st Street.

The details of LOS for each movement are provided in **Table 1** and the 95th percentile queues are provided in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**.

6.4 Year 2045 Background + Project Intersection Capacity Analysis

This section discusses impacts associated with the addition of project trips in the Year 2045 scenario. The site-generated volumes were added to the Year 2045 background volumes and are illustrated on **Figure**

14. This figure also illustrates the necessary traffic control and lane configurations for all of the study intersections.

The recommended improvements identified for the Year 2045 Background scenario were assumed to be implemented for this scenario.

The study intersections are anticipated to operate similarly to the Year 2045 background conditions with the addition of project trips. All of the overall intersection and most of the individual movement Levels of Service remain the same. The following intersections have movements which are more significantly impacted by the addition of project traffic:

State Highway 56 at 1st Street continues to operate overall at LOS D in the AM peak hour and LOS E in the PM peak hour.

- The eastbound approach falls from LOS D to LOS E in the PM peak hour. 95th percentile queues are estimated to be up to 325 feet
- The westbound approach falls from LOS D to LOS E in the both peak hours. 95th percentile queues are estimated to be up to 400 feet.
- The southbound approach falls from LOS D to LOS E in the PM peak hour. 95th percentile queues were estimated to be up to 48 feet.

Recommendation: No mitigation measures are recommended. *LCUASS* Table 4-1 allows for movements at major intersections to operate at LOS E.

State Highway 56 at Pyramid Peak Street continues to operate overall at LOS A in both peak hours.

- The southbound left-turn + through + right-turn movement falls from LOS E to LOS F in the AM peak hour. 95th percentile queues are estimated to be up to 48 feet.

Recommendation: No mitigation measures are recommended. *LCUASS* Table 4-1 allows for movements at minor intersections to operate at LOS F.

The details of LOS for each movement are provided in **Table 1** and the 95th percentile queues are provided in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**.

7.0 Queuing Analysis

A queuing analysis was performed to determine if the 95th percentile queues would be accommodated by the existing storage length, to determine the storage lengths for future auxiliary lanes, and if any of the queues would impact an upstream intersection/access. **Table 2** provides the existing storage lengths, as well as the 95th percentile queues for each existing and future scenario as calculated by Synchro (assuming each vehicle utilizes 25 feet of space). It should be noted that the 95th percentile queue length is a theoretical queue that is 1.65 standard deviations above the average queue length. In theory, the 95th percentile queue would be exceeded 5% of the time based on the average queue length, but it is also possible that a queue this long may not occur.

As shown in **Table 2**, the estimated queues are shorter than the existing storage length at the side-street stop-controlled intersections in all scenarios. The project trips have minimal impact on queues at the existing study intersections. At the roundabout controlled intersections, queues may begin to impact existing or future upstream intersections and should be monitored.

The westbound approach on State Highway 56 at Pyramid Peak Street includes a westbound left-turn deceleration lane consisting of approximately 60 feet of storage plus a 130-foot taper. The *State Highway Access Code* prescribes that a left-turn deceleration lane at a 40-mph posted speed should include storage (at 50 feet per 60 vehicles per hour) and a 12:1 taper. At 35 mph, the taper is shortened to 10:1. Since the existing westbound deceleration lane striping exceeds the *State Highway Access Code* requirement for storage plus taper for 35 mph (which is the recommended speed limit once the intersection is between two roundabouts on State Highway 56), no changes to the existing lane striping on State Highway 56 is proposed for this project.

8.0 Conclusions

The Fickel Farm project plans to develop vacant land with 35 single-family detached homes and 231 single-family attached homes over the course of two (2) phases. Phase 1 was previously approved and is currently under construction. Phase 1 consists of 35 single-family detached homes and 66 single-family attached homes. Phase 2 was evaluated through this study and proposes to construct up to 165 single-family attached homes. The project proposes to construct an internal roadway network that will connect to State Highway 56, Pyramid Peak Street, Remuda Road, 4th Street, and Welch Avenue. For the purpose of this traffic study, it was assumed that both phases will be completed by Year 2028.

The Fickel Farm Phase 2 project is estimated to generate approximately 1,188 daily trips with 79 trips occurring in the AM peak hour and 94 trips occurring in the PM peak hour. **It was determined that the proposed roadway system can adequately accommodate the projected traffic volumes with recommended improvements.**

Existing/Background Conditions (Non-Project Related):

- **State Highway 56 at County line Road**
  - Construct single-lane roundabout at the intersection. *[Implemented prior to Year 2028 Background based on Farmstead Traffic Impact Study* found *in the **Appendix**]*
  - Widen roundabout to two lanes for eastbound and westbound traffic. *[Year 2045 Background]*

- **State Highway 56 from 1st Street to County Line Road**
  - Reduce speed to 35 mph maximum. *[Year 2028 Background]*

- **State Highway 56 at 1st Street**
  - Construct eastbound right-turn bypass lane at roundabout. *[Year 2045 Background]*

Note that the traffic study provides technical information and evaluates the need for transportation mitigation as traffic grows, but it does not address infrastructure commitments or obligations of the Fickel Farm project.

Tables and Figures:

Table 1 – Peak Hour Intersection Level of Service Summary

Table 2 – Peak Hour Estimated Queues and Proposed Auxiliary Lanes

Table 3 –Trip Generation Summary

Figure 1 – Vicinity Map

Figure 2 – Conceptual Site Plan

Figure 3 – Year 2024 Existing Traffic Volumes

Figure 4 – Year 2028 Background Traffic Volumes

Figure 5 – Year 2045 Background Traffic Volumes

Figure 6 – Site Trip Distribution

Figure 7 – Site-Generated Traffic Volumes

Figure 8 – Year 2028 Background + Project Traffic Volumes

Figure 9 – Year 2045 Background + Project Traffic Volumes

Fickel Farm Traffic Impact Study

Table 1 - Peak Hour Intersection Level of Service Summary

Intersections and Lane Groups	Year 2024 Existing				Year 2028 Background				Year 2028 with Project				Year 2045 Background				Year 2045 with Project			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
STOP SIGN CONTROL																				
1. State Highway 56 at County Line Road	**13**	**B**	**62**	**F**																
Eastbound Left + Through + Right	8	A	8	A	*Analyzed as Roundabout*				*Analyzed as Roundabout*				*Analyzed as Roundabout*				*Analyzed as Roundabout*			
Westbound Left + Through + Right	9	A	9	A																
Northbound Left + Through + Right	85	F	>120	F																
Southbound Left + Through + Right	26	D	52	F																
3. 1st Street at Nebraska Avenue	**3**	**A**	**2**	**A**	**3**	**A**	**2**	**A**	**3**	**A**	**3**	**A**	**3**	**A**	**2**	**A**	**3**	**A**	**2**	**A**
Westbound Left + Right	9	A	10	A	10	A	10	B	10	A	11	B	10	A	11	B	10	A	11	B
Northbound Through + Right	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
Southbound Left + Through	7	A	8	A	8	A	8	A	8	A	8	A	8	A	8	A	8	A	8	A
4. State Highway 56 at Pyramid Peak Street	**1**	**A**	**1**	**A**	**2**	**A**	**2**	**A**	**4**	**A**	**4**	**A**	**3**	**A**	**4**	**A**	**6**	**A**	**9**	**A**
Eastbound Left	8	A	9	A	9	A	9	A	9	A	9	A	10	A	10	A	10	A	10	A
Eastbound Through	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
Eastbound Right	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
Westbound Left	9	A	9	A	9	A	10	A	9	A	10	A	9	A	11	B	10	A	11	B
Westbound Through + Right	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
Northbound Left + Through	23	C	29	D	48	E	72	F	66	F	115	F	102	F	>120	F	>120	F	>120	F
Northbound Right	12	B	12	B	14	B	15	B	15	B	16	C	15	B	18	C	16	C	20	C
Southbound Left + Through + Right	16	C	22	C	26	D	42	E	29	D	52	F	49	E	91	F	56	F	>120	F
5. 1st Street at Welch Avenue	**2**	**A**	**3**	**A**	**2**	**A**	**3**	**A**	**3**	**A**	**3**	**A**	**3**	**A**	**4**	**A**	**8**	**A**	**5**	**A**
Eastbound Left + Through + Right	12	B	14	B	12	B	14	B	13	B	14	B	15	B	19	C	15	B	20	C
Westbound Left + Through + Right	11	B	16	C	11	B	16	C	11	B	14	B	13	B	20	C	12	B	19	C
Northbound Left + Through + Right	8	A	8	A	8	A	8	A	8	A	8	A	8	A	8	A	8	A	8	A
Southbound Left + Through + Right	8	A	8	A	8	A	8	A	8	A	8	A	8	A	8	A	8	A	8	A
ROUNDABOUT CONTROL																				
1. State Highway 56 at County Line Road					**16**	**C**	**17**	**C**	**17**	**C**	**18**	**C**	**15**	**B**	**14**	**B**	**16**	**C**	**15**	**B**
Eastbound Left + Through + Right	*Analyzed as Stop Control*				13	B	14	B	14	B	14	B								
Eastbound Left + Through													7	A	10	A	7	A	10	A
Eastbound Through + Right													8	A	11	B	8	A	11	B
Westbound Left + Through + Right					19	C	23	C	20	C	26	D								
Westbound Left + Through													10	A	11	B	10	A	11	B
Westbound Through + Right													11	B	12	B	11	B	13	B
Northbound Left + Through + Right					18	C	13	B	19	C	13	B	28	D	22	C	31	D	24	C
Southbound Left + Through + Right					9	A	10	A	9	A	10	B	9	A	11	B	10	A	12	B
2. State Highway 56 at 1st Street	**9**	**A**	**9**	**A**	**13**	**B**	**15**	**C**	**14**	**B**	**16**	**C**	**23**	**C**	**30**	**D**	**26**	**D**	**33**	**D**
Eastbound Left + Through + Right	9	A	10	B	13	B	19	C	13	B	21	C								
Eastbound Left + Through													14	B	34	D	15	B	39	E
Eastbound Right													3	A	4	A	3	A	4	A
Westbound Left + Through + Right	9	A	9	A	15	C	14	B	17	C	15	B	33	D	32	D	39	E	35	E
Northbound Left + Through	7	A	8	A	10	A	12	B	10	B	13	B	11	B	19	C	12	B	21	C
Northbound Right	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
Southbound Left + Through + Right	9	A	10	A	14	B	16	C	14	B	17	C	22	C	34	D	24	C	38	E

Fickel Farm Traffic Impact Study

Table 2 - Peak Hour Estimated Queues

Intersections and Lane Groups	2024 Existing 95th% Queue		2028 Background 95th% Queue		2028 with Project 95th% Queue		2045 Background 95th% Queue		2045 with Project 95th% Queue		Max. Queue	Existing Storage
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
1. State Highway 56 at County Line Road	*Stop Control*		*Roundabout*		*Roundabout*		*Roundabout*		*Roundabout*			
Eastbound Left + Through + Right	0'	0'	125'	125'	150'	150'					150'	-
Eastbound Left + Through							50'	75'	50'	75'	75'	-
Eastbound Through + Right							50'	75'	50'	75'	75'	-
Westbound Left + Through + Right	10'	18'	175'	250'	175'	275'					275'	-
Westbound Left + Through							50'	75'	50'	75'	75'	-
Westbound Through + Right							75'	100'	75'	100'	100'	-
Northbound Left + Through + Right	170'	423'	125'	100'	150'	100'	275'	200'	300'	225'	423'	-
Southbound Left + Through + Right	13'	28'	0'	0'	0'	25'	0'	25'	25'	25'	28'	-
2. State Highway 56 at 1st Street	*Roundabout*		*Roundabout*		*Roundabout*		*Roundabout*		*Roundabout*			
Eastbound Left + Through + Right	50'	75'	100'	175'	100'	200'					200'	-
Eastbound Left + Through							125'	300'	125'	325'	325'	-
Eastbound Right							0'	0'	0'	0'	0'	-
Westbound Left + Through + Right	75'	75'	150'	125'	175'	150'	350'	325'	400'	350'	400'	-
Northbound Left + Through	25'	25'	25'	25'	25'	50'	25'	75'	50'	75'	75'	-
Northbound Right	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	50'
Southbound Left + Through + Right	50'	50'	100'	125'	100'	150'	175'	275'	175'	300'	300'	-
3. 1st Street at Nebraska Avenue	*Stop Control*		*Stop Control*		*Stop Control*		*Stop Control*		*Stop Control*			
Westbound Left + Right	5'	5'	8'	8'	8'	8'	8'	8'	10'	8'	10'	-
Northbound Through + Right	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	-
Southbound Left + Through	0'	3'	0'	3'	0'	3'	0'	3'	0'	3'	3'	-
4. State Highway 56 at Pyramid Peak Street	*Stop Control*		*Stop Control*		*Stop Control*		*Stop Control*		*Stop Control*			
Eastbound Left	0'	0'	0'	0'	0'	0'	0'	3'	0'	3'	3'	35'
Eastbound Through	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	-
Eastbound Right	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	160'
Westbound Left	0'	0'	3'	5'	3'	8'	3'	5'	3'	8'	8'	60'
Westbound Through + Right	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	-
Northbound Left + Through	5'	8'	28'	33'	58'	65'	50'	60'	90'	100'	100'	-
Northbound Right	3'	3'	8'	8'	18'	15'	8'	10'	15'	18'	18'	100'
Southbound Left + Through + Right	8'	5'	15'	10'	18'	10'	28'	40'	33'	48'	48'	-
5. 1st Street at Welch Avenue	*Stop Control*		*Stop Control*		*Stop Control*		*Stop Control*		*Stop Control*			
Eastbound Left + Through + Right	10'	15'	10'	18'	10'	18'	18'	38'	20'	40'	40'	-
Westbound Left + Through + Right	3'	3'	3'	3'	5'	5'	5'	8'	8'	10'	10'	-
Northbound Left + Through + Right	3'	5'	3'	5'	3'	5'	3'	5'	3'	5'	5'	-
Southbound Left + Through + Right	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	-

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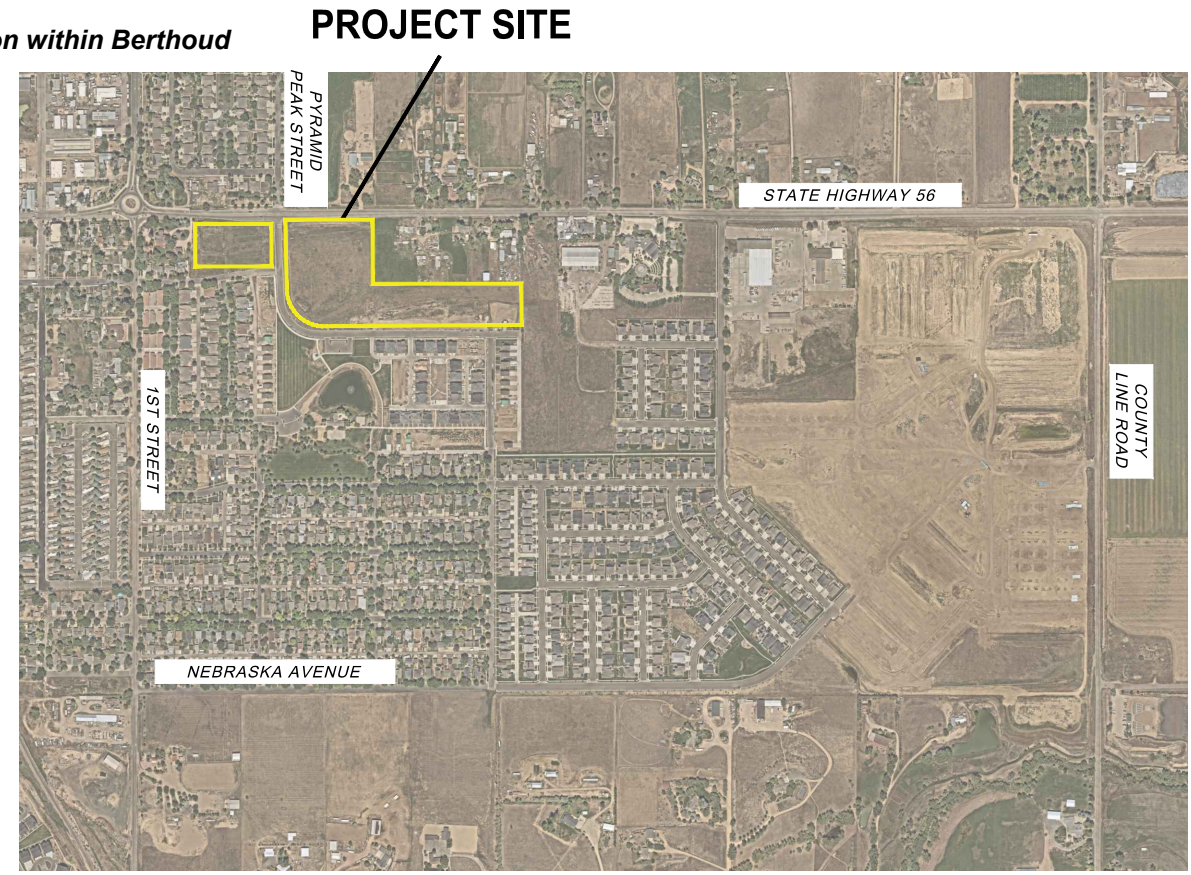
Table 3 - Trip Generation

Land Use	Size	Unit	Weekday											
			Average Daily				AM Peak Hour				PM Peak Hour			
			Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
ITE 215 - Single-Family Attached Housing	165	Dwelling Units	7.20	1188	594	594	0.48	79	20	59	0.57	94	55	39
Total				***1188***	***594***	***594***		***79***	***20***	***59***		***94***	***55***	***39***

Sources : ITE Trip Generation 11th Edition, 2021.

Area Map

Location within Berthoud



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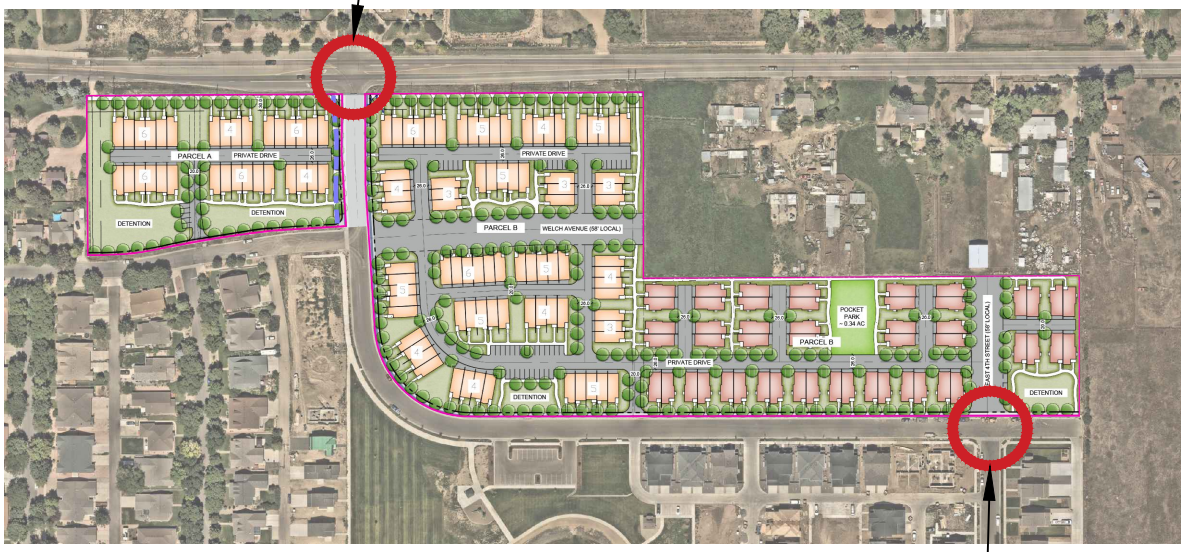
FICKEL FARM TRAFFIC IMPACT STUDY

VICINITY MAP

Project #	24095	Original Scale	NTS	Date	12/12/2024	Drawn by	CAF	Figure #	1

Proposed Connection
to State Highway 56 via Pyramid Peak Street
Full Movement
Side-Street Stop Controlled



Proposed Connection
to 1st Street via 4th Street and Nebraska Avenue
Full Movement
Side-Street Stop Controlled

N

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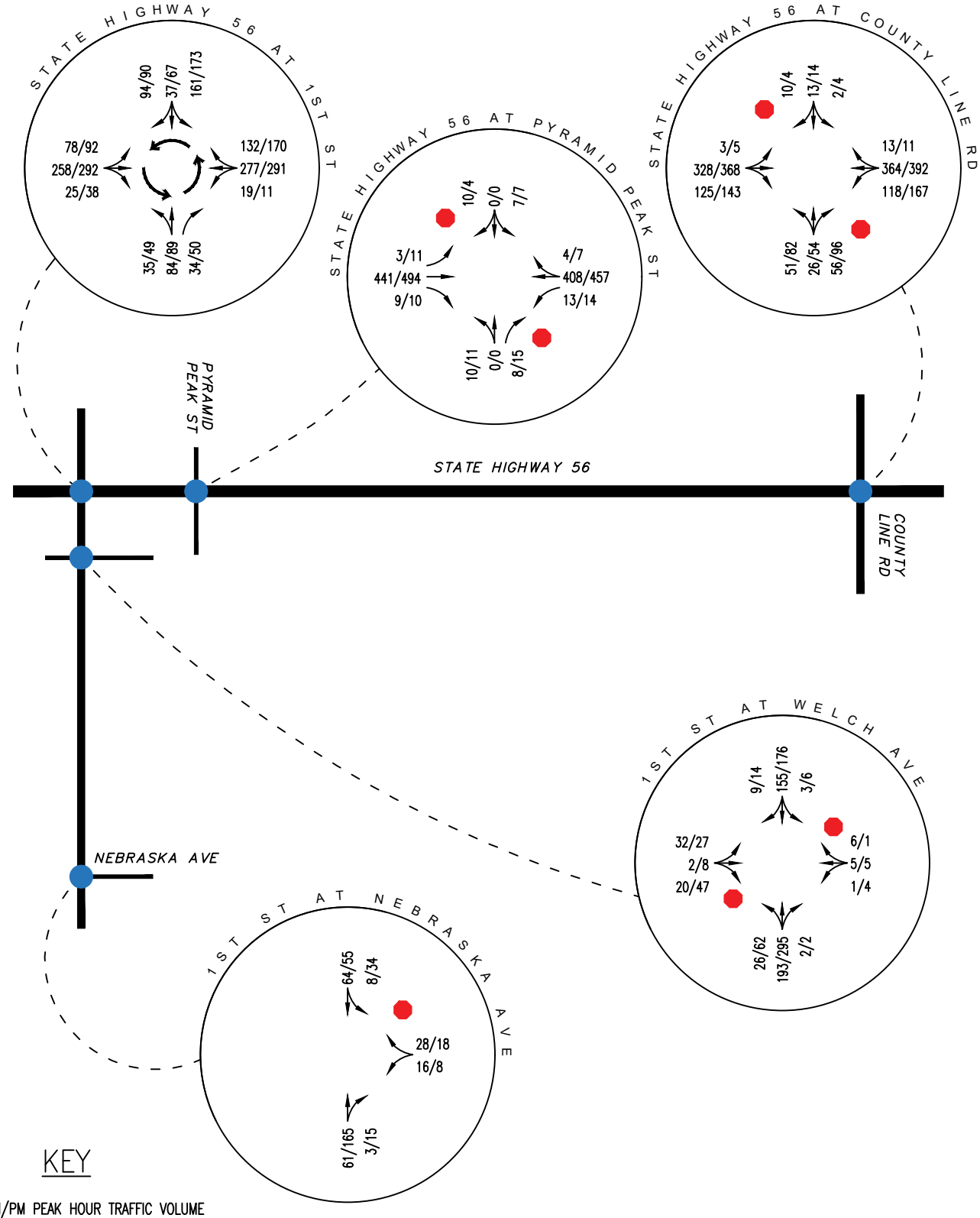
FICKEL FARM TRAFFIC IMPACT STUDY

CONCEPTUAL SITE PLAN

Project #	24095	Original Scale	NTS	Date	12/12/2024	Drawn by	CAF	Figure #	2



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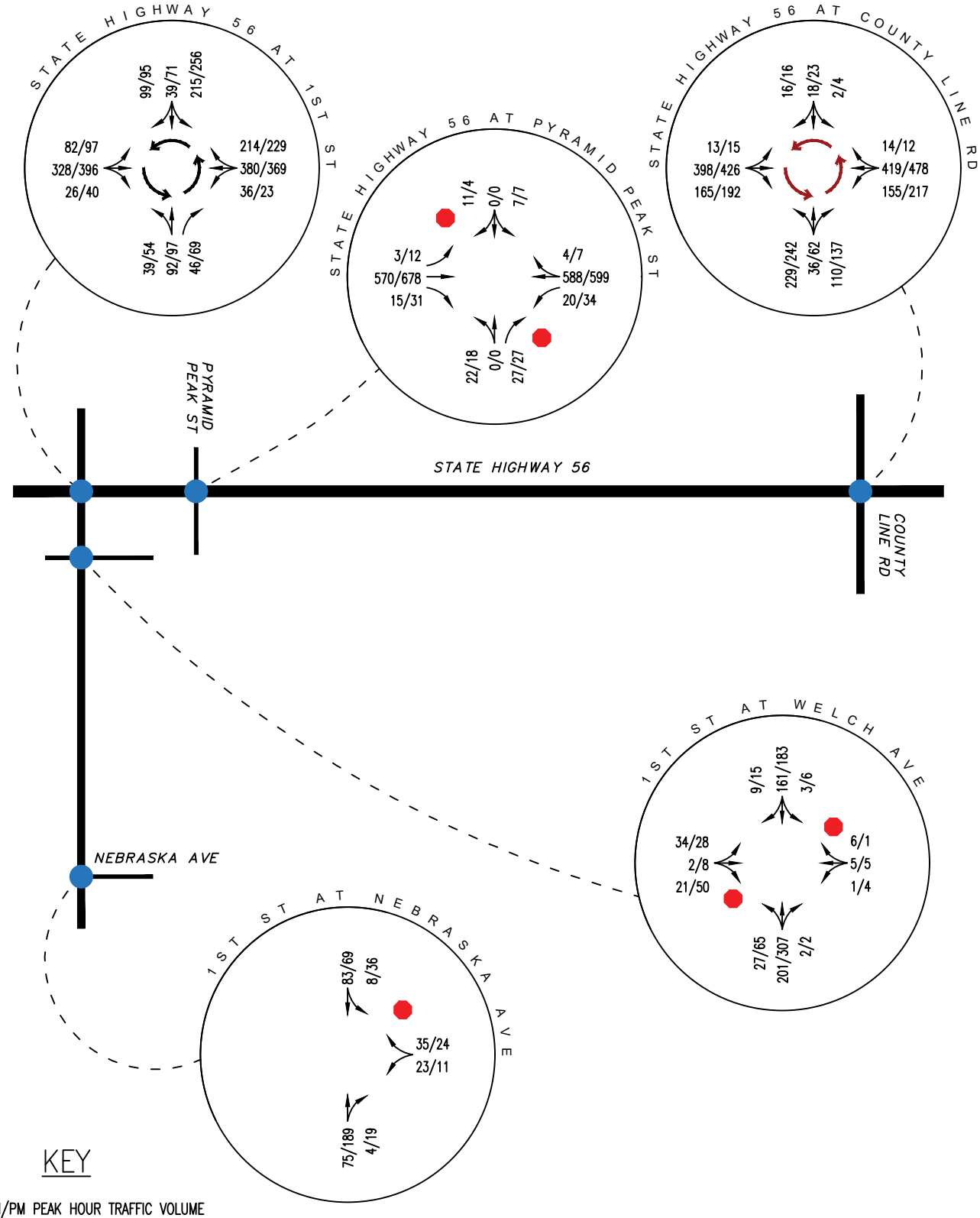
FICKEL FARM TRAFFIC IMPACT STUDY

YEAR 2024 EXISTING TRAFFIC VOLUMES

Project #	24095	Original Scale	NTS	Date	8/1/25	Drawn by	CAF	Figure #	3



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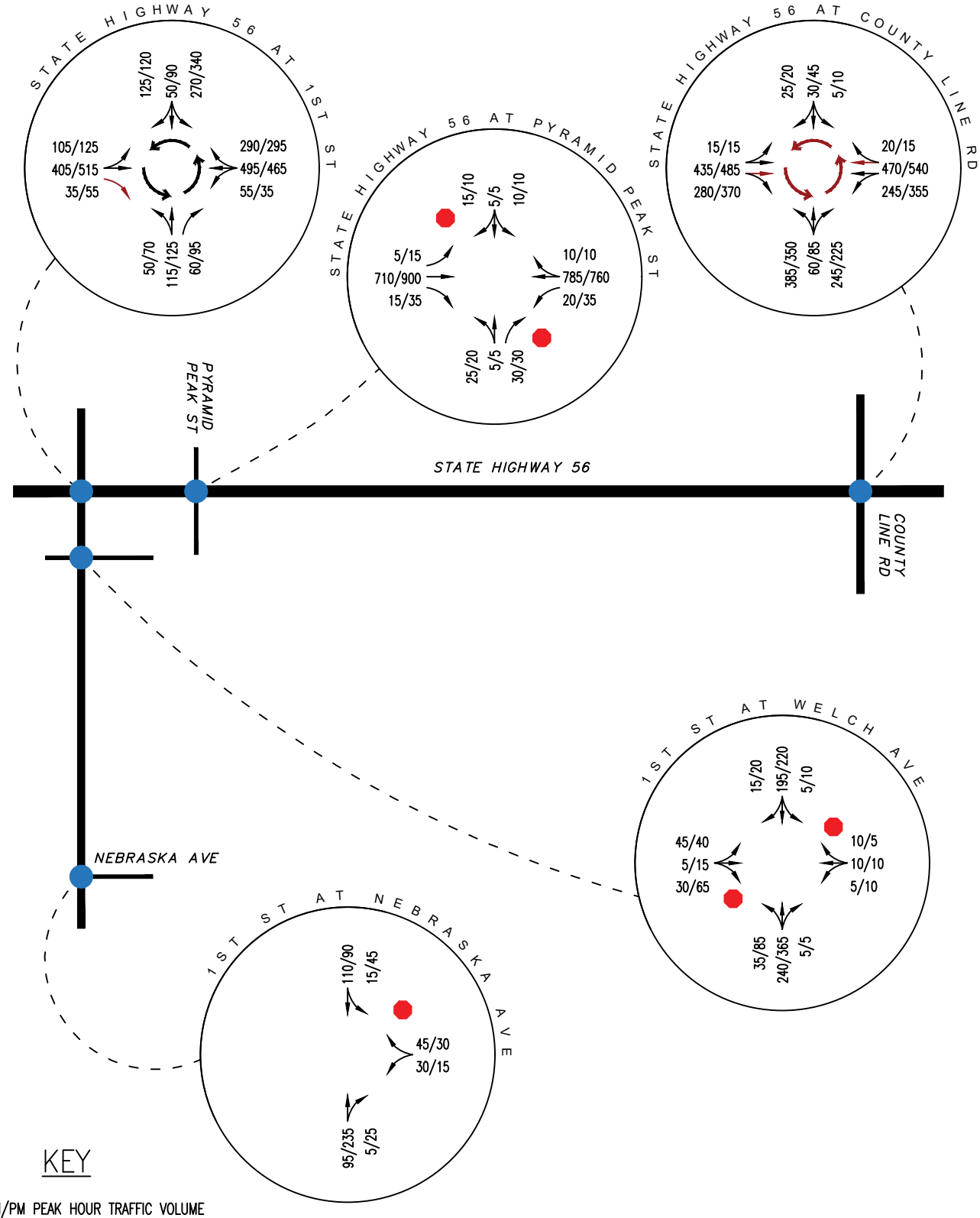
FICKEL FARM TRAFFIC IMPACT STUDY

YEAR 2028 BACKGROUND TRAFFIC VOLUMES

Project #	24095	Original Scale	NTS	Date	8/1/25	Drawn by	CAF	Figure #	4



KEY

XX/XX AM/PM PEAK HOUR TRAFFIC VOLUME

EXISTING LANE CONFIGURATION

PROPOSED FUTURE LANE

N

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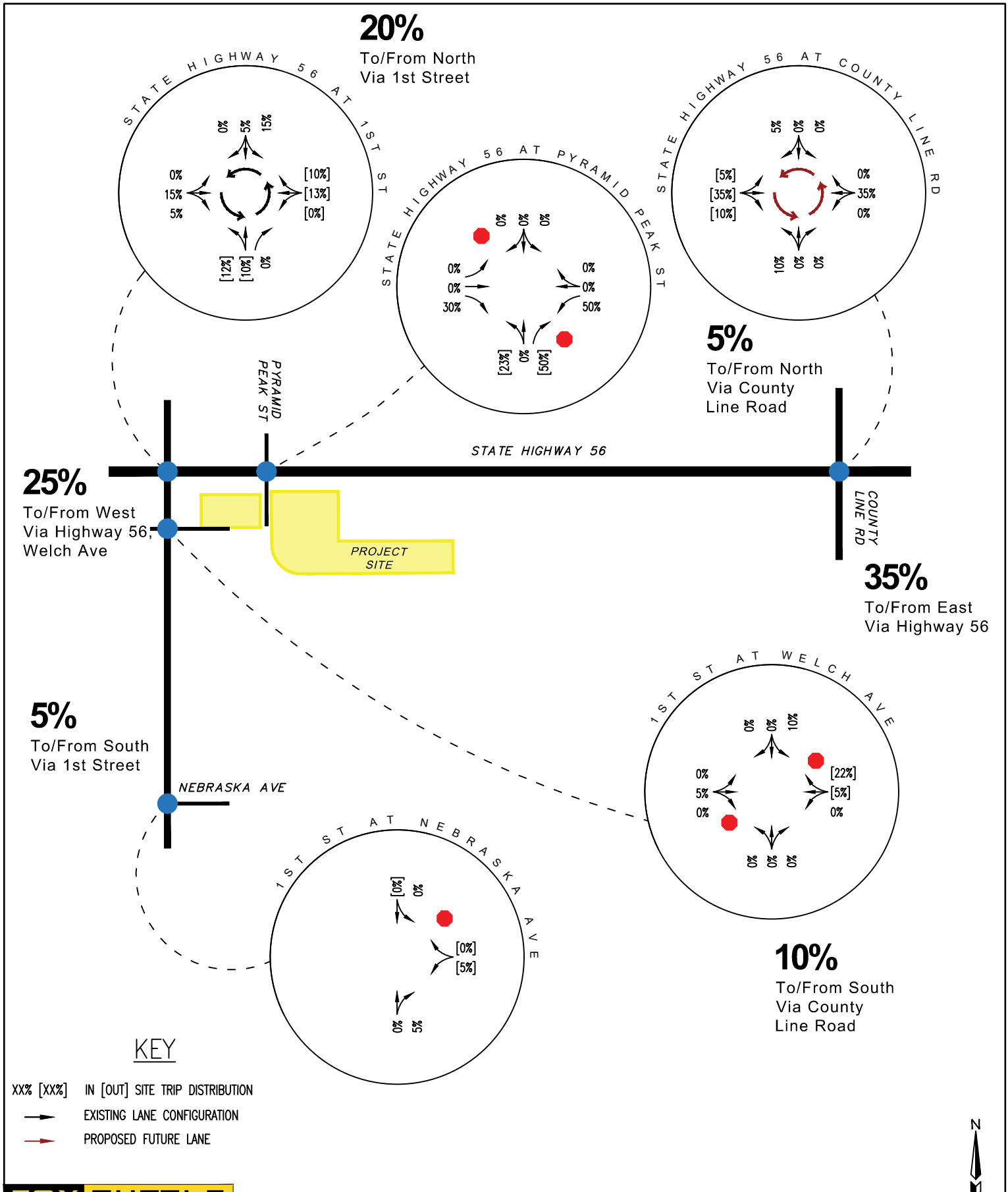
FICKEL FARM TRAFFIC IMPACT STUDY

YEAR 2045 BACKGROUND TRAFFIC VOLUMES

Project #	24095	Original Scale	NTS	Date	8/1/25	Drawn by	CAF	Figure #	5



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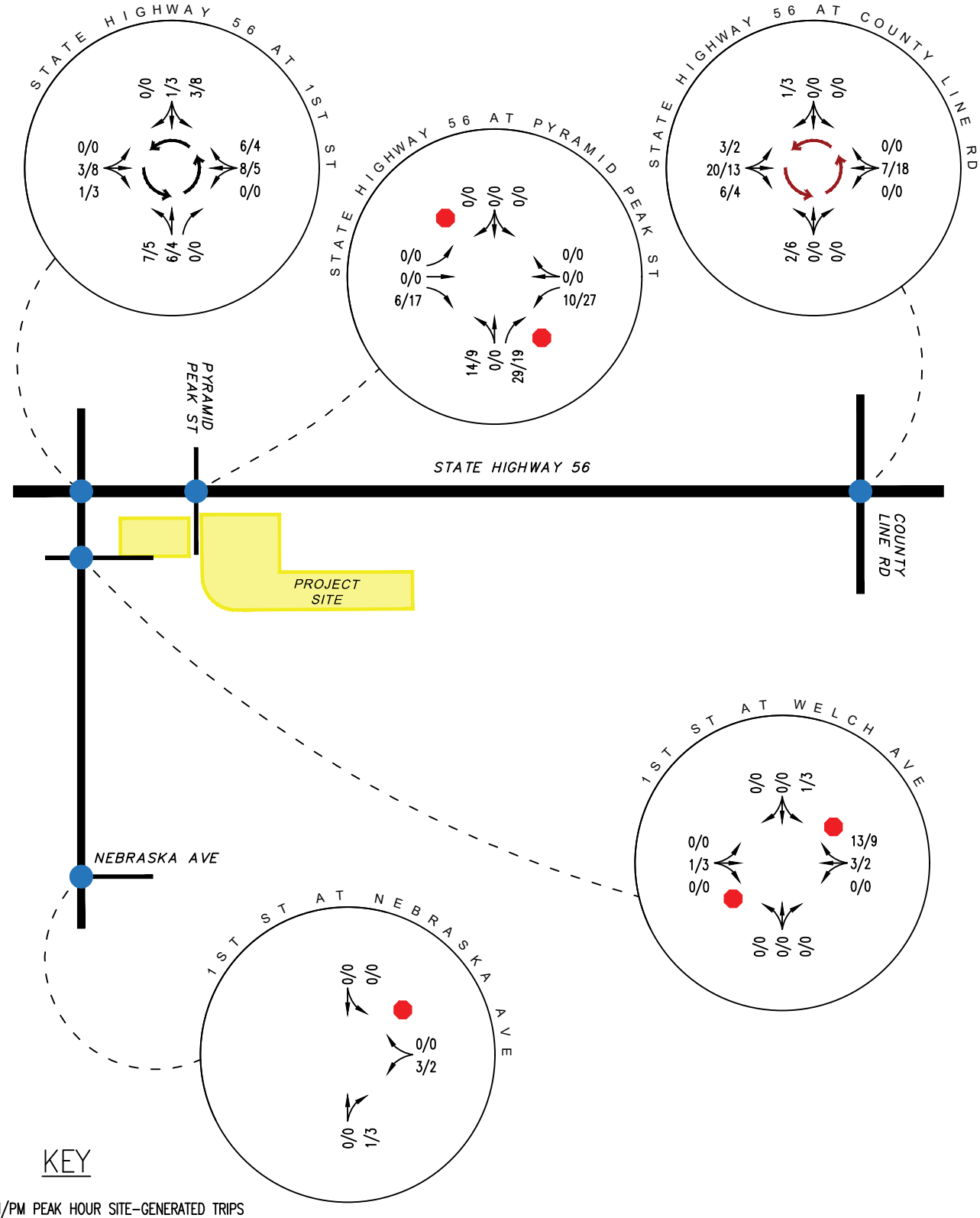
FICKEL FARM TRAFFIC IMPACT STUDY

SITE TRIP DISTRIBUTION

Project #	24095	Original Scale	NTS	Date	8/1/25	Drawn by	CAF	Figure #	6



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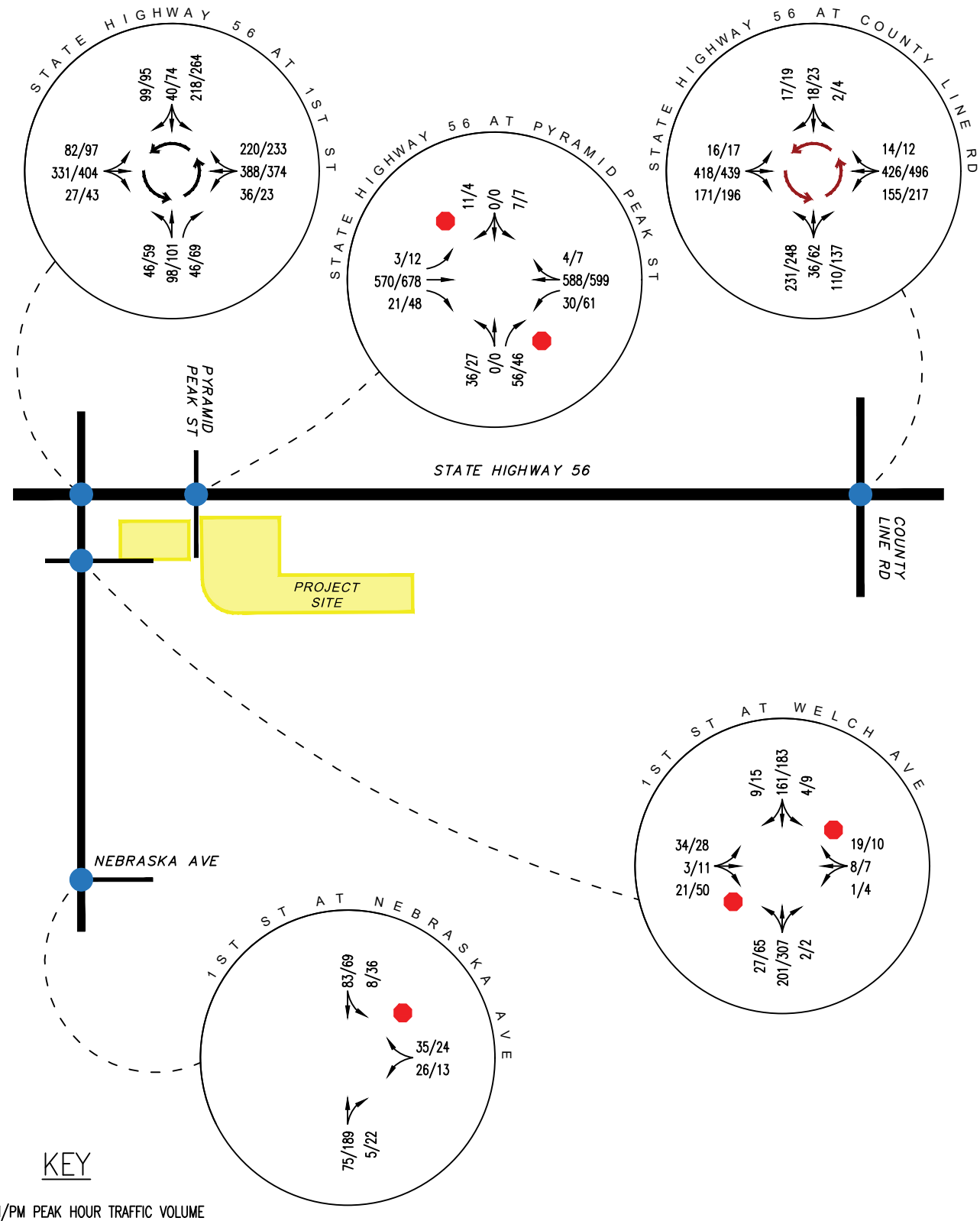
FICKEL FARM TRAFFIC IMPACT STUDY

SITE-GENERATED TRAFFIC VOLUMES

Project #	24095	Original Scale	NTS	Date	8/1/25	Drawn by	CAF	Figure #	7



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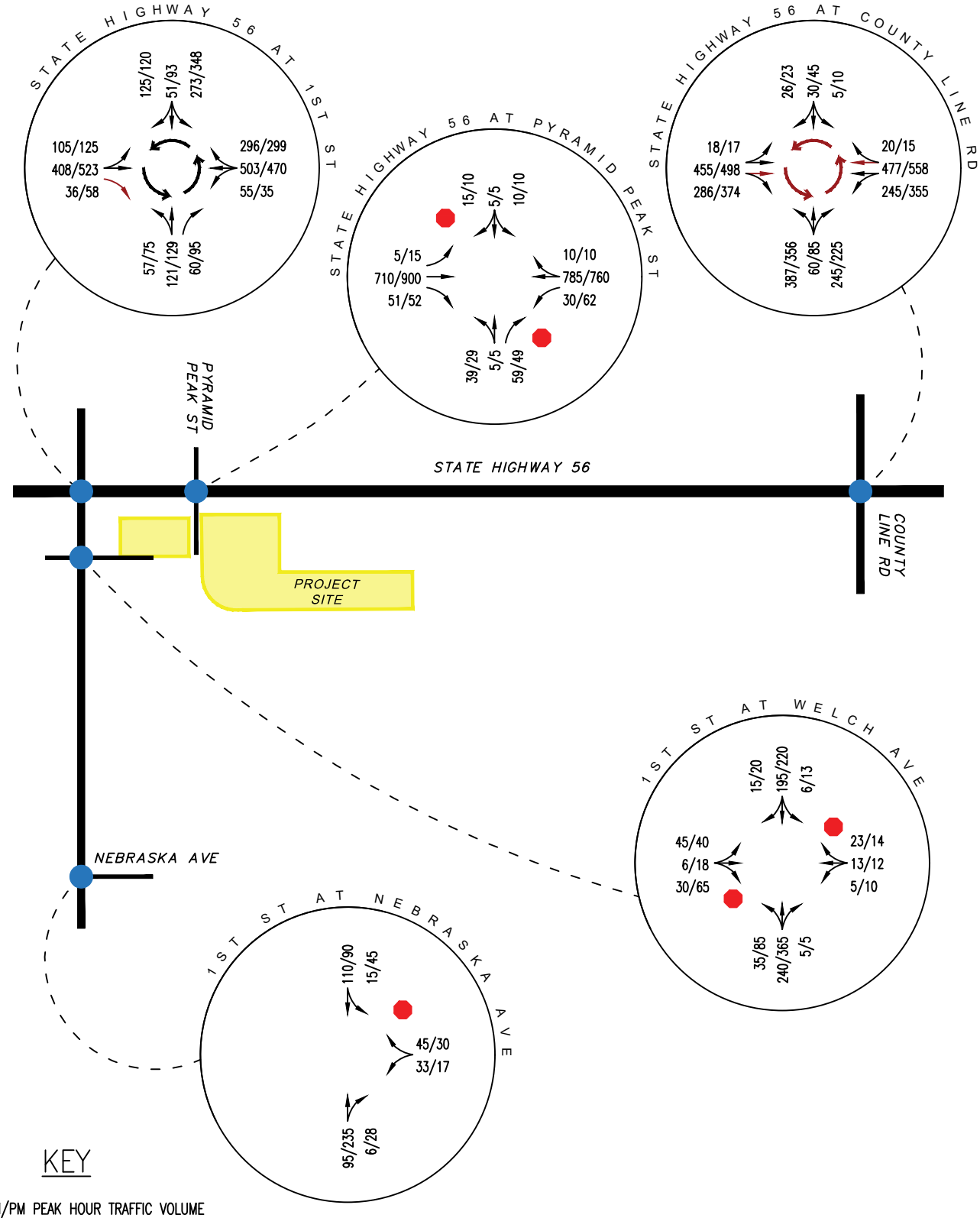
FICKEL FARM TRAFFIC IMPACT STUDY

YEAR 2028 BACKGROUND + PROJECT TRAFFIC VOLUMES

Project #	24095	Original Scale	NTS	Date	8/1/25	Drawn by	CAF	Figure #	8



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FICKEL FARM TRAFFIC IMPACT STUDY

YEAR 2045 BACKGROUND + PROJECT TRAFFIC VOLUMES

Project #	24095	Original Scale	NTS	Date	8/1/25	Drawn by	CAF	Figure #	9

Appendix:

Level of Service Definitions

Existing Traffic Data

Intersection Capacity Worksheets

Background Documentation

Level of Service Definitions

LEVEL OF SERVICE DEFINITIONS

In rating roadway and intersection operating conditions with existing or future traffic volumes, "Levels of Service" (LOS) A through F are used, with LOS A indicating very good operation and LOS F indicating poor operation. Levels of service at signalized and unsignalized intersections are closely associated with vehicle delays experienced in seconds per vehicle. More complete level of service definitions and delay data for signal and stop sign controlled intersections are contained in the following table for reference.

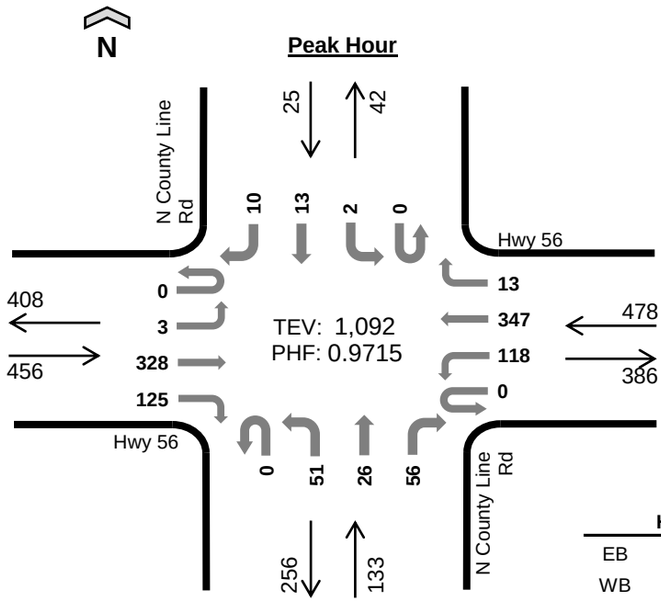
Level of Service Rating	Delay in seconds per vehicle *(a)*		Definition
	Signalized	Unsignalized	
A	0.0 to 10.0	0.0 to 10.0	Low vehicular traffic volumes; primarily free flow operations. Density is low and vehicles can freely maneuver within the traffic stream. Drivers are able to maintain their desired speeds with little or no delay.
B	10.1 to 20.0	10.1 to 15.0	Stable vehicular traffic volume flow with potential for some restriction of operating speeds due to traffic conditions. Vehicle maneuvering is only slightly restricted. The stopped delays are not bothersome and drivers are not subject to appreciable tension.
C	20.1 to 35.0	15.1 to 25.0	Stable traffic operations, however the ability for vehicles to maneuver is more restricted by the increase in traffic volumes. Relatively satisfactory operating speeds prevail, but adverse signal coordination or longer vehicle queues cause delays along the corridor.
D	35.1 to 55.0	25.1 to 35.0	Approaching unstable vehicular traffic flow where small increases in volume could cause substantial delays. Most drivers are restricted in ability to maneuver and selection of travel speeds due to congestion. Driver comfort and convenience are low, but tolerable.
E	55.1 to 80.0	35.1 to 50.0	Traffic operations characterized by significant approach delays and average travel speeds of one-half to one-third the free flow speed. Vehicular flow is unstable and there is potential for stoppages of brief duration. High signal density, extensive vehicle queuing, or corridor signal progression/timing are the typical causes of vehicle delays at signalized corridors.
F	> 80.0	> 50.0	Forced vehicular traffic flow and operations with high approach delays at critical intersections. Vehicle speeds are reduced substantially, and stoppages may occur for short or long periods of time because of downstream congestion.

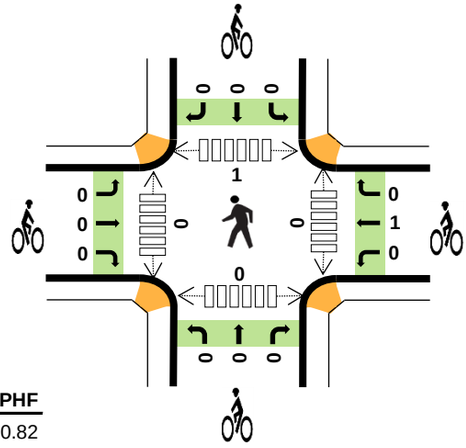
(a) Delay ranges based on Highway Capacity Manual (6th Edition, 2016) criteria.

Existing Traffic Data

N County Line Rd
Hwy 56

Date: 11/14/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV%	PHF
EB	4%	0.82
WB	7%	0.92
NB	10%	0.76
SB	8%	0.78
TOTAL	6%	0.97

Peak Hour Count Summaries

Peak Hour Interval Start		Hwy 56 Eastbound				Hwy 56 Westbound				N County Line Rd Northbound				N County Line Rd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:15 AM		0	2	95	42	0	26	77	3	0	7	5	12	0	0	4	3	276	0
7:30 AM		0	0	84	26	0	35	92	1	0	12	5	10	0	0	3	1	269	0
7:45 AM		0	1	74	32	0	33	91	6	0	15	8	15	0	0	2	4	281	0
8:00 AM		0	0	75	25	0	24	87	3	0	17	8	19	0	2	4	2	266	1,092
Pk Hr	All	0	3	328	125	0	118	347	13	0	51	26	56	0	2	13	10	1,092	
	HV	0	0	15	3	0	8	24	0	0	4	2	7	0	0	0	2	65	
	HV%	-	0%	5%	2%	-	7%	7%	0%	-	8%	8%	13%	-	0%	0%	20%	6%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) E	W	N	S	Total
7:15 AM	4	6	0	1	*11*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	4	5	2	0	*11*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	7	12	5	1	*25*	0	1	0	0	*1*	0	0	1	0	*1*
8:00 AM	3	9	6	0	*18*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	18	32	13	2	*65*	0	1	0	0	*1*	0	0	1	0	*1*

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Count Summaries - All Vehicles

Interval Start	Hwy 56 Eastbound				Hwy 56 Westbound				N County Line Rd Northbound				N County Line Rd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	93	29	0	30	71	2	0	10	8	9	0	0	1	1	255	0
7:15 AM	**0**	**2**	**95**	**42**	**0**	**26**	**77**	**3**	**0**	**7**	**5**	**12**	**0**	**0**	**4**	**3**	**276**	**0**
7:30 AM	**0**	**0**	**84**	**26**	**0**	**35**	**92**	**1**	**0**	**12**	**5**	**10**	**0**	**0**	**3**	**1**	**269**	**0**
7:45 AM	**0**	**1**	**74**	**32**	**0**	**33**	**91**	**6**	**0**	**15**	**8**	**15**	**0**	**0**	**2**	**4**	**281**	**1,081**
8:00 AM	**0**	**0**	**75**	**25**	**0**	**24**	**87**	**3**	**0**	**17**	**8**	**19**	**0**	**2**	**4**	**2**	**266**	**1,092**
8:15 AM	0	2	60	26	0	24	99	1	0	10	3	8	0	1	2	1	237	1,053
8:30 AM	0	0	72	19	0	17	68	4	0	10	3	8	0	1	2	1	205	989
8:45 AM	0	1	52	19	0	20	70	3	0	11	3	11	0	1	1	1	193	901
Count Total	0	7	605	218	0	209	655	23	0	92	43	92	0	5	19	14	1,982	
Pk Hr All	**0**	**3**	**328**	**125**	**0**	**118**	**347**	**13**	**0**	**51**	**26**	**56**	**0**	**2**	**13**	**10**	**1,092**	
Pk Hr HV	**0**	**0**	**15**	**3**	**0**	**8**	**24**	**0**	**0**	**4**	**2**	**7**	**0**	**0**	**0**	**2**	**65**	
Pk Hr HV%	**-**	**0%**	**5%**	**2%**	**-**	**7%**	**7%**	**0%**	**-**	**8%**	**8%**	**13%**	**-**	**0%**	**0%**	**20%**	**6%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	5	7	0	0	*12*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**4**	**6**	**0**	**1**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
7:30 AM	**4**	**5**	**2**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
7:45 AM	**7**	**12**	**5**	**1**	**25**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**1**
8:00 AM	**3**	**9**	**6**	**0**	**18**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	6	2	1	0	*9*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	3	8	2	0	*13*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	5	11	3	0	*19*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	37	60	19	2	*118*	0	1	0	0	*1*	0	0	1	0	*1*
Peak Hour	**18**	**32**	**13**	**2**	***65***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**1**	**0**	**1**

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Count Summaries - Heavy Vehicles

Interval Start	Hwy 56				Hwy 56				N County Line Rd				N County Line Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	3	1	0	0	7	0	0	0	0	0	0	0	0	0	12	0
7:15 AM	**0**	**0**	**2**	**2**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**11**	**0**
7:30 AM	**0**	**0**	**4**	**0**	**0**	**1**	**4**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**11**	**0**
7:45 AM	**0**	**0**	**6**	**1**	**0**	**7**	**5**	**0**	**0**	**1**	**1**	**3**	**0**	**0**	**0**	**1**	**25**	**59**
8:00 AM	**0**	**0**	**3**	**0**	**0**	**0**	**9**	**0**	**0**	**2**	**1**	**3**	**0**	**0**	**0**	**0**	**18**	**65**
8:15 AM	0	0	6	0	0	1	1	0	0	1	0	0	0	0	0	0	9	63
8:30 AM	0	0	3	0	0	4	4	0	0	0	0	2	0	0	0	0	13	65
8:45 AM	0	0	2	3	0	6	5	0	0	1	0	2	0	0	0	0	19	59
Count Total	0	1	29	7	0	19	41	0	0	6	2	11	0	0	0	2	118	
Pk Hr Heavy	**0**	**0**	**15**	**3**	**0**	**8**	**24**	**0**	**0**	**4**	**2**	**7**	**0**	**0**	**0**	**2**	**65**	

Count Summaries - Bikes

Interval Start	Hwy 56				Hwy 56				N County Line Rd				N County Line Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	

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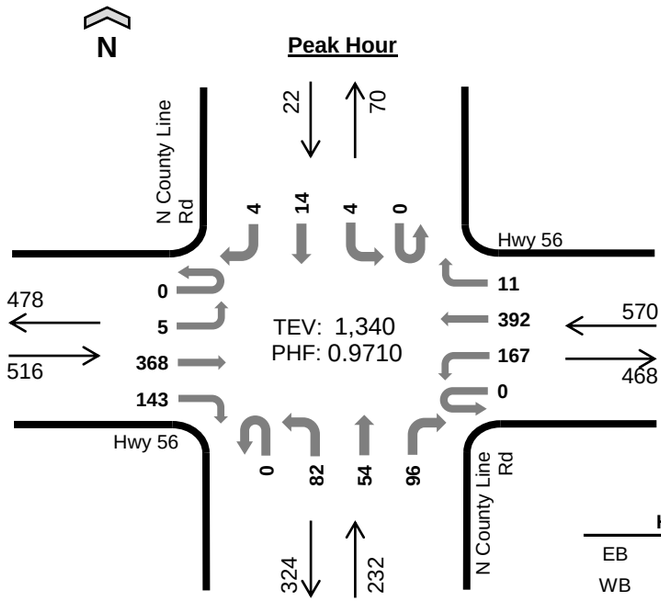
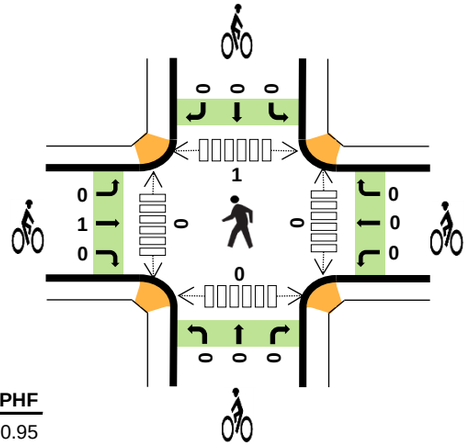
N County Line Rd
Hwy 56

Date: 11/14/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV%	PHF
EB	2%	0.95
WB	2%	0.90
NB	3%	0.95
SB	5%	0.69
TOTAL	2%	0.97

Peak Hour Count Summaries

Peak Hour Interval Start		Hwy 56 Eastbound				Hwy 56 Westbound				N County Line Rd Northbound				N County Line Rd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:30 PM		0	0	83	37	0	41	96	3	0	19	17	24	0	2	3	1	326	0
4:45 PM		0	3	93	40	0	47	98	2	0	23	13	22	0	1	3	0	345	0
5:00 PM		0	2	96	34	0	36	85	4	0	16	16	29	0	0	6	2	326	0
5:15 PM		0	0	96	32	0	43	113	2	0	24	8	21	0	1	2	1	343	1,340
Pk Hr	All	0	5	368	143	0	167	392	11	0	82	54	96	0	4	14	4	1,340	
	HV	0	0	8	0	0	2	11	0	0	2	2	2	0	1	0	0	28	
	HV%	-	0%	2%	0%	-	1%	3%	0%	-	2%	4%	2%	-	25%	0%	0%	2%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:30 PM	5	3	2	1	*11*	1	0	0	0	*1*	0	0	1	0	*1*
4:45 PM	1	2	1	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
5:00 PM	1	3	1	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	1	5	2	0	*8*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	8	13	6	1	*28*	1	0	0	0	*1*	0	0	1	0	*1*

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Count Summaries - All Vehicles

Interval Start	Hwy 56 Eastbound				Hwy 56 Westbound				N County Line Rd Northbound				N County Line Rd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	87	19	0	43	76	1	0	23	11	8	0	0	1	5	275	0
4:15 PM	0	0	87	30	0	32	92	0	0	23	11	24	0	0	3	2	304	0
4:30 PM	**0**	**0**	**83**	**37**	**0**	**41**	**96**	**3**	**0**	**19**	**17**	**24**	**0**	**2**	**3**	**1**	**326**	**0**
4:45 PM	**0**	**3**	**93**	**40**	**0**	**47**	**98**	**2**	**0**	**23**	**13**	**22**	**0**	**1**	**3**	**0**	**345**	**1,250**
5:00 PM	**0**	**2**	**96**	**34**	**0**	**36**	**85**	**4**	**0**	**16**	**16**	**29**	**0**	**0**	**6**	**2**	**326**	**1,301**
5:15 PM	**0**	**0**	**96**	**32**	**0**	**43**	**113**	**2**	**0**	**24**	**8**	**21**	**0**	**1**	**2**	**1**	**343**	**1,340**
5:30 PM	0	0	80	24	0	43	96	2	0	21	6	24	0	0	0	1	297	1,311
5:45 PM	0	0	75	24	0	45	105	1	0	26	10	30	0	0	1	0	317	1,283
Count Total	0	6	697	240	0	330	761	15	0	175	92	182	0	4	19	12	2,533	
Pk Hr All	**0**	**5**	**368**	**143**	**0**	**167**	**392**	**11**	**0**	**82**	**54**	**96**	**0**	**4**	**14**	**4**	**1,340**	
Pk Hr HV	**0**	**0**	**8**	**0**	**0**	**2**	**11**	**0**	**0**	**2**	**2**	**2**	**0**	**1**	**0**	**0**	**28**	
Pk Hr HV%	**-**	**0%**	**2%**	**0%**	**-**	**1%**	**3%**	**0%**	**-**	**2%**	**4%**	**2%**	**-**	**25%**	**0%**	**0%**	**2%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	5	5	0	0	*10*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	8	4	1	0	*13*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**5**	**3**	**2**	**1**	**11**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**1**
4:45 PM	**1**	**2**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM	**1**	**3**	**1**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM	**1**	**5**	**2**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	2	4	0	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	7	0	0	*8*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	24	33	7	1	*65*	1	0	0	0	*1*	0	0	1	0	*1*
Peak Hour	**8**	**13**	**6**	**1**	***28***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**1**	**0**	**1**

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Count Summaries - Heavy Vehicles

Interval Start	Hwy 56				Hwy 56				N County Line Rd				N County Line Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	4	1	0	3	2	0	0	0	0	0	0	0	0	0	10	0
4:15 PM	0	0	5	3	0	0	4	0	0	0	0	1	0	0	0	0	13	0
4:30 PM	**0**	**0**	**5**	**0**	**0**	**0**	**3**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**11**	**0**
4:45 PM	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	**38**
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**5**	**33**
5:15 PM	**0**	**0**	**1**	**0**	**0**	**1**	**4**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**8**	**28**
5:30 PM	0	0	2	0	0	1	3	0	0	0	0	0	0	0	0	0	6	23
5:45 PM	0	0	1	0	0	0	7	0	0	0	0	0	0	0	0	0	8	27
Count Total	0	0	20	4	0	6	27	0	0	2	2	3	0	1	0	0	65	
Pk Hr Heavy	**0**	**0**	**8**	**0**	**0**	**2**	**11**	**0**	**0**	**2**	**2**	**2**	**0**	**1**	**0**	**0**	**28**	

Count Summaries - Bikes

Interval Start	Hwy 56				Hwy 56				N County Line Rd				N County Line Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Pk Hr Bike	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	

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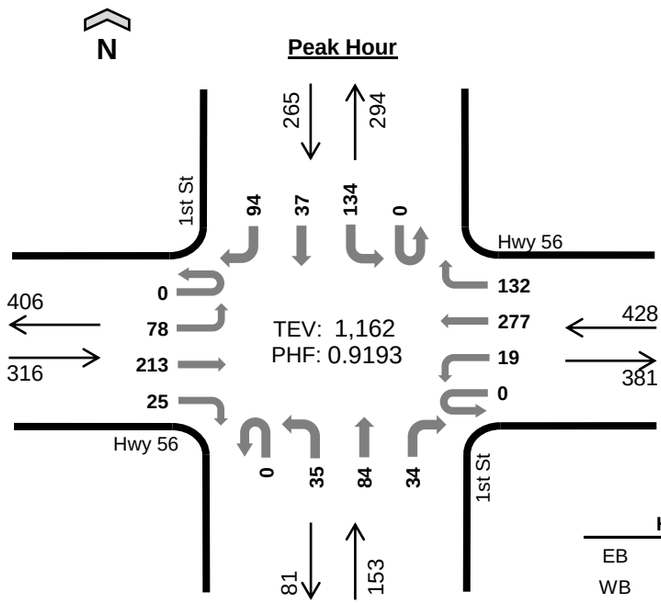
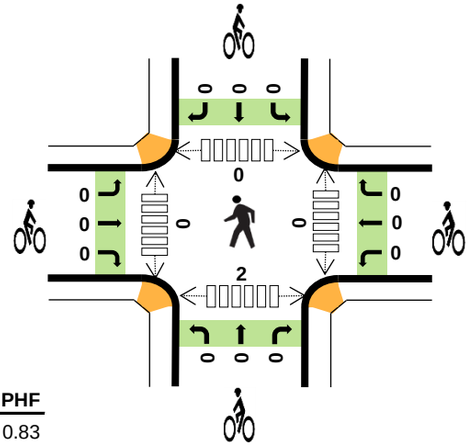
1st St
Hwy 56

Date: 11/14/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM





	HV%	PHF
EB	7%	0.83
WB	7%	0.92
NB	1%	0.80
SB	5%	0.81
TOTAL	6%	0.92

Peak Hour Count Summaries

Peak Hour Interval Start		Hwy 56 Eastbound				Hwy 56 Westbound				1st St Northbound				1st St Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:45 AM		0	18	49	3	0	6	73	37	0	8	26	6	0	48	9	25	308	0
8:00 AM		0	26	62	7	0	3	75	32	0	5	21	12	0	35	9	29	316	0
8:15 AM		0	19	42	8	0	8	71	34	0	1	19	7	0	31	14	23	277	0
8:30 AM		0	15	60	7	0	2	58	29	0	21	18	9	0	20	5	17	261	1,162
Pk Hr	All	0	78	213	25	0	19	277	132	0	35	84	34	0	134	37	94	1,162	
	HV	0	6	15	0	0	0	22	6	0	0	1	1	0	6	3	5	65	
	HV%	-	8%	7%	0%	-	0%	8%	5%	-	0%	1%	3%	-	4%	8%	5%	6%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:45 AM	4	10	1	4	*19*	0	0	0	0	*0*	0	0	0	0	*0*
8:00 AM	7	12	0	6	*25*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	6	3	1	1	*11*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	4	3	0	3	*10*	0	0	0	0	*0*	0	0	0	2	*2*
Peak Hour	21	28	2	14	*65*	0	0	0	0	*0*	0	0	0	2	*2*

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Count Summaries - All Vehicles

Interval Start	Hwy 56 Eastbound				Hwy 56 Westbound				1st St Northbound				1st St Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	19	63	2	0	5	48	35	0	6	15	12	0	45	3	15	268	0
7:15 AM	0	16	51	1	0	5	52	30	0	6	23	14	0	57	8	15	278	0
7:30 AM	0	16	37	1	0	5	56	43	0	5	17	14	0	49	3	10	256	0
7:45 AM	**0**	**18**	**49**	**3**	**0**	**6**	**73**	**37**	**0**	**8**	**26**	**6**	**0**	**48**	**9**	**25**	**308**	**1,110**
8:00 AM	**0**	**26**	**62**	**7**	**0**	**3**	**75**	**32**	**0**	**5**	**21**	**12**	**0**	**35**	**9**	**29**	**316**	**1,158**
8:15 AM	**0**	**19**	**42**	**8**	**0**	**8**	**71**	**34**	**0**	**1**	**19**	**7**	**0**	**31**	**14**	**23**	**277**	**1,157**
8:30 AM	**0**	**15**	**60**	**7**	**0**	**2**	**58**	**29**	**0**	**21**	**18**	**9**	**0**	**20**	**5**	**17**	**261**	**1,162**
8:45 AM	0	19	43	6	0	2	36	40	0	13	23	15	0	24	11	19	251	1,105
Count Total	0	148	407	35	0	36	469	280	0	65	162	89	0	309	62	153	2,215	
Pk Hr All	**0**	**78**	**213**	**25**	**0**	**19**	**277**	**132**	**0**	**35**	**84**	**34**	**0**	**134**	**37**	**94**	**1,162**	
Pk Hr HV	**0**	**6**	**15**	**0**	**0**	**0**	**22**	**6**	**0**	**0**	**1**	**1**	**0**	**6**	**3**	**5**	**65**	
Pk Hr HV%	**-**	**8%**	**7%**	**0%**	**-**	**0%**	**8%**	**5%**	**-**	**0%**	**1%**	**3%**	**-**	**4%**	**8%**	**5%**	**6%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	1	7	3	1	*12*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	4	7	0	1	*12*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	2	4	2	1	*9*	0	0	0	0	*0*	0	0	0	2	*2*
7:45 AM	**4**	**10**	**1**	**4**	**19**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	**7**	**12**	**0**	**6**	**25**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	**6**	**3**	**1**	**1**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	**4**	**3**	**0**	**3**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**2**
8:45 AM	4	4	0	4	*12*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	32	50	7	21	*110*	0	0	0	0	*0*	0	0	0	4	*4*
Peak Hour	**21**	**28**	**2**	**14**	***65***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**2**	**2**

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Count Summaries - Heavy Vehicles

Interval Start	Hwy 56				Hwy 56				1st St				1st St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	7	0	0	1	1	1	0	0	0	1	12	0
7:15 AM	0	0	3	1	0	1	5	1	0	0	0	0	0	1	0	0	12	0
7:30 AM	0	0	2	0	0	1	2	1	0	0	0	2	0	1	0	0	9	0
7:45 AM	**0**	**2**	**2**	**0**	**0**	**0**	**6**	**4**	**0**	**0**	**1**	**0**	**0**	**3**	**1**	**0**	**19**	**52**
8:00 AM	**0**	**2**	**5**	**0**	**0**	**0**	**10**	**2**	**0**	**0**	**0**	**0**	**0**	**3**	**1**	**2**	**25**	**65**
8:15 AM	**0**	**1**	**5**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**11**	**64**
8:30 AM	**0**	**1**	**3**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**10**	**65**
8:45 AM	0	1	3	0	0	0	2	2	0	0	0	0	0	2	1	1	12	58
Count Total	0	7	24	1	0	2	38	10	0	1	2	4	0	10	4	7	110	
Pk Hr Heavy	**0**	**6**	**15**	**0**	**0**	**0**	**22**	**6**	**0**	**0**	**1**	**1**	**0**	**6**	**3**	**5**	**65**	

Count Summaries - Bikes

Interval Start	Hwy 56				Hwy 56				1st St				1st St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

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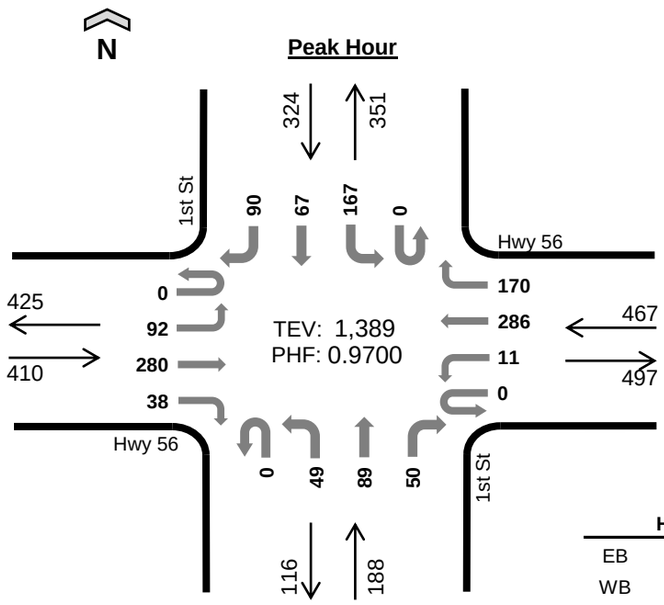
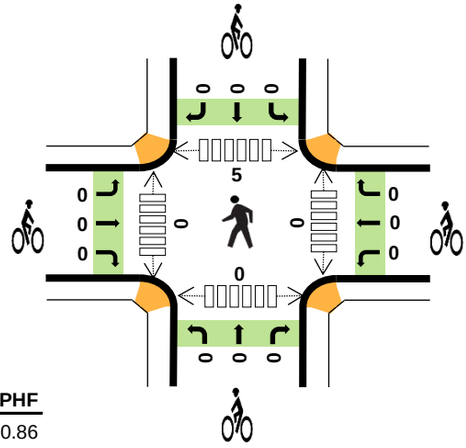
1st St
Hwy 56

Date: 11/14/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV%	PHF
EB	4%	0.86
WB	3%	0.94
NB	3%	0.89
SB	3%	0.79
TOTAL	3%	0.97

Peak Hour Count Summaries

Peak Hour Interval Start		Hwy 56 Eastbound				Hwy 56 Westbound				1st St Northbound				1st St Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	38	66	15	0	3	81	40	0	12	22	11	0	29	16	25	358	0
4:15 PM		0	17	82	11	0	4	67	43	0	11	22	14	0	34	17	23	345	0
4:30 PM		0	17	59	4	0	2	74	40	0	11	23	9	0	53	24	25	341	0
4:45 PM		0	20	73	8	0	2	64	47	0	15	22	16	0	51	10	17	345	1,389
Pk Hr	All	0	92	280	38	0	11	286	170	0	49	89	50	0	167	67	90	1,389	
	HV	0	5	12	0	0	0	12	3	0	0	4	2	0	6	0	3	47	
	HV%	-	5%	4%	0%	-	0%	4%	2%	-	0%	4%	4%	-	4%	0%	3%	3%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	6	4	2	4	*16*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	3	3	1	2	*9*	0	0	0	0	*0*	0	0	4	0	*4*
4:30 PM	5	5	2	3	*15*	0	0	0	0	*0*	0	0	1	0	*1*
4:45 PM	3	3	1	0	*7*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	17	15	6	9	*47*	0	0	0	0	*0*	0	0	5	0	*5*

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Count Summaries - All Vehicles

Interval Start	Hwy 56 Eastbound				Hwy 56 Westbound				1st St Northbound				1st St Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**38**	**66**	**15**	**0**	**3**	**81**	**40**	**0**	**12**	**22**	**11**	**0**	**29**	**16**	**25**	**358**	0
4:15 PM	**0**	**17**	**82**	**11**	**0**	**4**	**67**	**43**	**0**	**11**	**22**	**14**	**0**	**34**	**17**	**23**	**345**	**0**
4:30 PM	**0**	**17**	**59**	**4**	**0**	**2**	**74**	**40**	**0**	**11**	**23**	**9**	**0**	**53**	**24**	**25**	**341**	**0**
4:45 PM	**0**	**20**	**73**	**8**	**0**	**2**	**64**	**47**	**0**	**15**	**22**	**16**	**0**	**51**	**10**	**17**	**345**	**1,389**
5:00 PM	0	17	57	12	0	3	56	33	0	14	29	16	0	50	22	38	347	1,378
5:15 PM	0	18	67	4	0	1	81	55	0	4	20	18	0	37	18	32	355	1,388
5:30 PM	0	21	58	4	0	3	79	32	0	8	24	18	0	30	21	11	309	1,356
5:45 PM	0	14	53	8	0	2	76	48	0	6	18	9	0	25	10	22	291	1,302
Count Total	0	162	515	66	0	20	578	338	0	81	180	111	0	309	138	193	2,691	
Pk Hr All	**0**	**92**	**280**	**38**	**0**	**11**	**286**	**170**	**0**	**49**	**89**	**50**	**0**	**167**	**67**	**90**	**1,389**	
Pk Hr HV	**0**	**5**	**12**	**0**	**0**	**0**	**12**	**3**	**0**	**0**	**4**	**2**	**0**	**6**	**0**	**3**	**47**	
Pk Hr HV%	**-**	**5%**	**4%**	**0%**	**-**	**0%**	**4%**	**2%**	**-**	**0%**	**4%**	**4%**	**-**	**4%**	**0%**	**3%**	**3%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	**6**	**4**	**2**	**4**	**16**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:15 PM	**3**	**3**	**1**	**2**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**4**
4:30 PM	**5**	**5**	**2**	**3**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**
4:45 PM	**3**	**3**	**1**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM	0	3	0	1	*4*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	3	3	0	3	*9*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	3	2	1	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	3	1	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	24	26	8	13	*71*	0	0	0	0	*0*	0	0	5	0	*5*
Peak Hour	**17**	**15**	**6**	**9**	***47***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**5**	**0**	**5**

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Count Summaries - Heavy Vehicles

Interval Start	Hwy 56 Eastbound				Hwy 56 Westbound				1st St Northbound				1st St Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**3**	**3**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**1**	**1**	**0**	**2**	**0**	**2**	**16**	0
4:15 PM	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**9**	**0**
4:30 PM	**0**	**1**	**4**	**0**	**0**	**0**	**4**	**1**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**1**	**15**	**0**
4:45 PM	**0**	**1**	**2**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**7**	**47**
5:00 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	4	35
5:15 PM	0	0	3	0	0	0	2	1	0	0	0	0	0	2	1	0	9	35
5:30 PM	0	1	2	0	0	0	2	0	0	1	0	0	0	0	0	0	6	26
5:45 PM	0	0	1	0	0	1	0	2	0	1	0	0	0	0	0	0	5	24
Count Total	0	6	18	0	0	1	19	6	0	2	4	2	0	8	1	4	71	
Pk Hr Heavy	**0**	**5**	**12**	**0**	**0**	**0**	**12**	**3**	**0**	**0**	**4**	**2**	**0**	**6**	**0**	**3**	**47**	

Count Summaries - Bikes

Interval Start	Hwy 56 Eastbound				Hwy 56 Westbound				1st St Northbound				1st St Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

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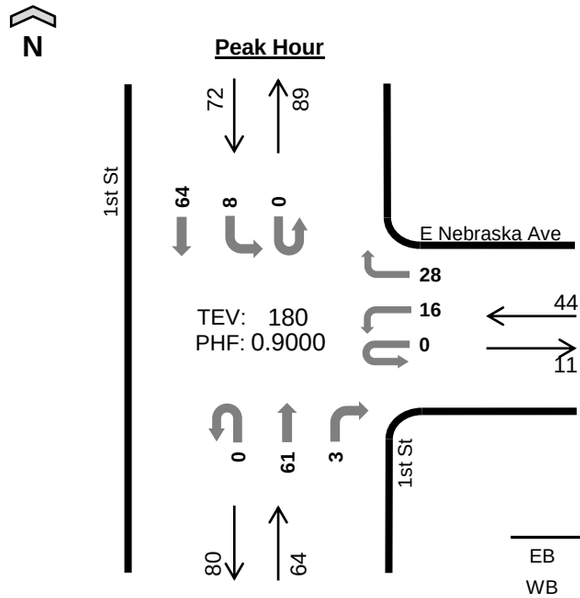
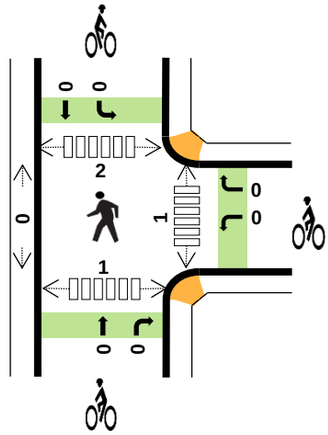
1st St
E Nebraska Ave

Date: 11/14/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV%	PHF
EB	--	--
WB	2%	0.73
NB	3%	0.80
SB	6%	0.90
TOTAL	4%	0.90

Peak Hour Count Summaries

Peak Hour Interval Start		n/a				E Nebraska Ave				1st St				1st St				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:15 AM		0	0	0	0	0	6	0	3	0	0	11	1	0	1	19	0	41	0
7:30 AM		0	0	0	0	0	8	0	7	0	0	17	1	0	1	14	0	48	0
7:45 AM		0	0	0	0	0	1	0	9	0	0	20	0	0	2	18	0	50	0
8:00 AM		0	0	0	0	0	1	0	9	0	0	13	1	0	4	13	0	41	180
Pk Hr	All	0	0	0	0	0	16	0	28	0	0	61	3	0	8	64	0	180	
	HV	0	0	0	0	0	1	0	0	0	0	2	0	0	1	3	0	7	
	HV%	-	-	-	-	-	6%	-	0%	-	-	3%	0%	-	13%	5%	-	4%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:15 AM	0	1	0	1	*2*	0	0	0	0	*0*	1	0	0	1	*2*
7:30 AM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	1	0	*1*
7:45 AM	0	0	1	2	*3*	0	0	0	0	*0*	0	0	0	0	*0*
8:00 AM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	1	0	*1*
Peak Hour	0	1	2	4	*7*	0	0	0	0	*0*	1	0	2	1	*4*

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Count Summaries - All Vehicles

Interval Start	n/a				E Nebraska Ave				1st St				1st St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	5	0	3	0	0	6	1	0	1	14	0	30	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**3**	**0**	**0**	**11**	**1**	**0**	**1**	**19**	**0**	**41**	**0**
7:30 AM	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**7**	**0**	**0**	**17**	**1**	**0**	**1**	**14**	**0**	**48**	**0**
7:45 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**9**	**0**	**0**	**20**	**0**	**0**	**2**	**18**	**0**	**50**	**169**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**9**	**0**	**0**	**13**	**1**	**0**	**4**	**13**	**0**	**41**	**180**
8:15 AM	0	0	0	0	0	0	0	3	0	0	12	1	0	3	16	0	35	174
8:30 AM	0	0	0	0	0	5	0	8	0	0	12	0	0	8	9	0	42	168
8:45 AM	0	0	0	0	0	2	0	9	0	0	11	0	0	5	15	0	42	160
Count Total	0	0	0	0	0	28	0	51	0	0	102	5	0	25	118	0	329	
Pk Hr All	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**28**	**0**	**0**	**61**	**3**	**0**	**8**	**64**	**0**	**180**	
Pk Hr HV	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**3**	**0**	**7**	
Pk Hr HV%	**-**	**-**	**-**	**-**	**-**	**6%**	**-**	**0%**	**-**	**-**	**3%**	**0%**	**-**	**13%**	**5%**	**-**	**4%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	1	0	*1*	0	0	0	0	*0*	1	0	0	0	*1*
7:15 AM	**0**	**1**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**2**
7:30 AM	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**
7:45 AM	**0**	**0**	**1**	**2**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**
8:15 AM	0	0	2	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	1	2	*3*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	1	6	7	*14*	0	0	0	0	*0*	2	0	2	1	*5*
Peak Hour	**0**	**1**	**2**	**4**	***7***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**2**	**1**	**4**

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Count Summaries - Heavy Vehicles

Interval Start	n/a				E Nebraska Ave				1st St				1st St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**3**	**7**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**7**
8:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	8
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	7
Count Total	0	0	0	0	0	1	0	0	0	0	6	0	0	1	6	0	14	
Pk Hr Heavy	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**3**	**0**	**7**	

Count Summaries - Bikes

Interval Start	n/a				E Nebraska Ave				1st St				1st St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

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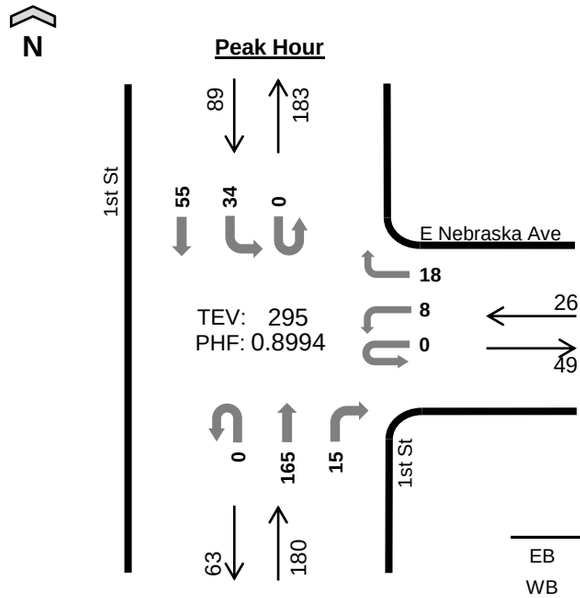
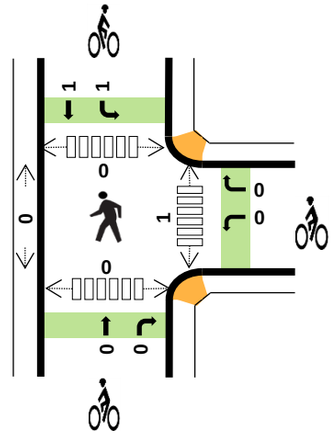
1st St
E Nebraska Ave

Date: 11/14/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV%	PHF
EB	--	--
WB	0%	0.59
NB	1%	0.88
SB	1%	0.77
TOTAL	1%	0.90

Peak Hour Count Summaries

Peak Hour Interval Start		n/a				E Nebraska Ave				1st St				1st St				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:15 PM		**0**	**0**	**0**	**0**	**0**	**3**	**0**	**4**	**0**	**0**	**42**	**4**	**0**	**11**	**18**	**0**	**82**	**0**
4:30 PM		**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**36**	**5**	**0**	**12**	**10**	**0**	**67**	**0**
4:45 PM		**0**	**0**	**0**	**0**	**0**	**3**	**0**	**8**	**0**	**0**	**40**	**2**	**0**	**4**	**11**	**0**	**68**	**0**
5:00 PM		**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**47**	**4**	**0**	**7**	**16**	**0**	**78**	**295**
Pk Hr	All	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**18**	**0**	**0**	**165**	**15**	**0**	**34**	**55**	**0**	**295**	
	HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**3**	
	HV%	**-**	**-**	**-**	**-**	**-**	**0%**	**-**	**0%**	**-**	**-**	**1%**	**0%**	**-**	**0%**	**2%**	**-**	**1%**	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:15 PM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***
4:30 PM	**0**	**0**	**2**	**0**	***2***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Peak Hour	**0**	**0**	**2**	**1**	***3***	**0**	**0**	**0**	**2**	***2***	**1**	**0**	**0**	**0**	***1***

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Count Summaries - All Vehicles

Interval Start	n/a				E Nebraska Ave				1st St				1st St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	2	0	3	0	0	39	1	0	4	14	0	63	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**4**	**0**	**0**	**42**	**4**	**0**	**11**	**18**	**0**	**82**	**0**
4:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**36**	**5**	**0**	**12**	**10**	**0**	**67**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**8**	**0**	**0**	**40**	**2**	**0**	**4**	**11**	**0**	**68**	**280**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**47**	**4**	**0**	**7**	**16**	**0**	**78**	**295**
5:15 PM	0	0	0	0	0	1	0	2	0	0	50	7	0	7	4	0	71	284
5:30 PM	0	0	0	0	0	2	0	2	0	0	36	5	0	8	13	0	66	283
5:45 PM	0	0	0	0	0	0	0	1	0	0	30	5	0	6	5	0	47	262
Count Total	0	0	0	0	0	13	0	26	0	0	320	33	0	59	91	0	542	
Pk Hr All	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**18**	**0**	**0**	**165**	**15**	**0**	**34**	**55**	**0**	**295**	
Pk Hr HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**3**	
Pk Hr HV%	**-**	**-**	**-**	**-**	**-**	**0%**	**-**	**0%**	**-**	**-**	**1%**	**0%**	**-**	**0%**	**2%**	**-**	**1%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	0	1	0	*1*	0	0	1	0	*1*	0	0	1	0	*1*
4:15 PM	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**
4:30 PM	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	1	1	0	*2*
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	0	3	2	*5*	0	0	1	2	*3*	1	1	2	0	*4*
Peak Hour	**0**	**0**	**2**	**1**	***3***	**0**	**0**	**0**	**2**	***2***	**1**	**0**	**0**	**0**	**1**

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Count Summaries - Heavy Vehicles

Interval Start	n/a				E Nebraska Ave				1st St				1st St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	0	0	0	0	3	0	0	1	1	0	5	
Pk Hr Heavy	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**3**	

Count Summaries - Bikes

Interval Start	n/a				E Nebraska Ave				1st St				1st St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	3	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**2**	

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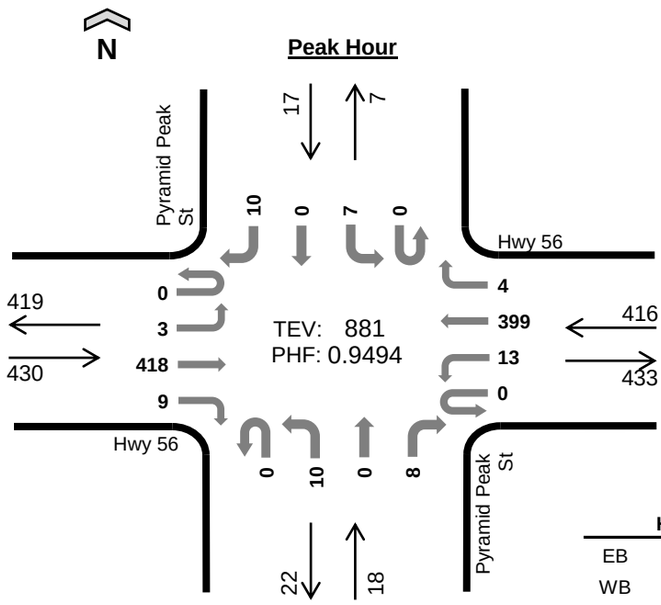
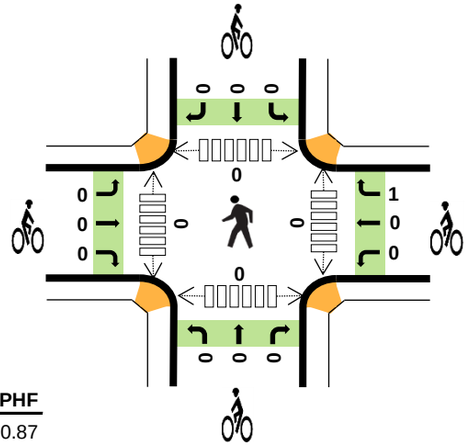
Pyramid Peak St
Hwy 56

Date: 11/14/2024
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV%	PHF
EB	5%	0.87
WB	8%	0.90
NB	0%	0.64
SB	0%	0.53
TOTAL	6%	0.95

Peak Hour Count Summaries

Peak Hour Interval Start		Hwy 56 Eastbound				Hwy 56 Westbound				Pyramid Peak St Northbound				Pyramid Peak St Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:15 AM		0	0	121	2	0	2	88	0	0	1	0	2	0	4	0	4	224	0
7:30 AM		0	1	99	0	0	5	97	2	0	4	0	3	0	0	0	2	213	0
7:45 AM		0	0	97	2	0	4	102	1	0	4	0	0	0	1	0	1	212	0
8:00 AM		0	2	101	5	0	2	112	1	0	1	0	3	0	2	0	3	232	881
Pk Hr	All	0	3	418	9	0	13	399	4	0	10	0	8	0	7	0	10	881	
	HV	0	0	21	1	0	0	35	0	0	0	0	0	0	0	0	0	57	
	HV%	-	0%	5%	11%	-	0%	9%	0%	-	0%	-	0%	-	0%	-	0%	6%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:15 AM	4	7	0	0	*11*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	5	6	0	0	*11*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	6	10	0	0	*16*	0	1	0	0	*1*	0	0	0	0	*0*
8:00 AM	7	12	0	0	*19*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	22	35	0	0	*57*	0	1	0	0	*1*	0	0	0	0	*0*

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Count Summaries - All Vehicles

Interval Start	Hwy 56 Eastbound				Hwy 56 Westbound				Pyramid Peak St Northbound				Pyramid Peak St Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	118	2	0	1	82	0	0	1	0	1	0	2	0	3	210	0
7:15 AM	**0**	**0**	**121**	**2**	**0**	**2**	**88**	**0**	**0**	**1**	**0**	**2**	**0**	**4**	**0**	**4**	**224**	**0**
7:30 AM	**0**	**1**	**99**	**0**	**0**	**5**	**97**	**2**	**0**	**4**	**0**	**3**	**0**	**0**	**0**	**2**	**213**	**0**
7:45 AM	**0**	**0**	**97**	**2**	**0**	**4**	**102**	**1**	**0**	**4**	**0**	**0**	**0**	**1**	**0**	**1**	**212**	**859**
8:00 AM	**0**	**2**	**101**	**5**	**0**	**2**	**112**	**1**	**0**	**1**	**0**	**3**	**0**	**2**	**0**	**3**	**232**	**881**
8:15 AM	0	2	75	2	0	2	99	1	0	4	1	2	0	1	0	4	193	850
8:30 AM	0	2	85	1	0	1	89	1	0	0	0	1	0	1	0	3	184	821
8:45 AM	0	1	76	1	0	4	68	0	0	4	0	1	0	0	0	1	156	765
Count Total	0	8	772	15	0	21	737	6	0	19	1	13	0	11	0	21	1,624	
Pk Hr All	**0**	**3**	**418**	**9**	**0**	**13**	**399**	**4**	**0**	**10**	**0**	**8**	**0**	**7**	**0**	**10**	**881**	
Pk Hr HV	**0**	**0**	**21**	**1**	**0**	**0**	**35**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**57**	
Pk Hr HV%	**-**	**0%**	**5%**	**11%**	**-**	**0%**	**9%**	**0%**	**-**	**0%**	**-**	**0%**	**-**	**0%**	**-**	**0%**	**6%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	2	7	0	0	*9*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**4**	**7**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
7:30 AM	**5**	**6**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
7:45 AM	**6**	**10**	**0**	**0**	**16**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
8:00 AM	**7**	**12**	**0**	**0**	**19**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	6	2	0	0	*8*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	3	2	0	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	6	4	0	0	*10*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	39	50	0	0	*89*	0	1	0	0	*1*	0	0	0	0	*0*
Peak Hour	**22**	**35**	**0**	**0**	***57***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	**0**

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Count Summaries - Heavy Vehicles

Interval Start	Hwy 56				Hwy 56				Pyramid Peak St				Pyramid Peak St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	2	0	0	0	7	0	0	0	0	0	0	0	0	0	9	0
7:15 AM	**0**	**0**	**4**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**
7:30 AM	**0**	**0**	**5**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**
7:45 AM	**0**	**0**	**5**	**1**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**47**
8:00 AM	**0**	**0**	**7**	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	**57**
8:15 AM	0	0	6	0	0	0	2	0	0	0	0	0	0	0	0	0	8	54
8:30 AM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	48
8:45 AM	0	0	6	0	0	0	4	0	0	0	0	0	0	0	0	0	10	42
Count Total	0	0	38	1	0	0	50	0	0	0	0	0	0	0	0	0	89	
Pk Hr Heavy	**0**	**0**	**21**	**1**	**0**	**0**	**35**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**57**	

Count Summaries - Bikes

Interval Start	Hwy 56				Hwy 56				Pyramid Peak St				Pyramid Peak St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	

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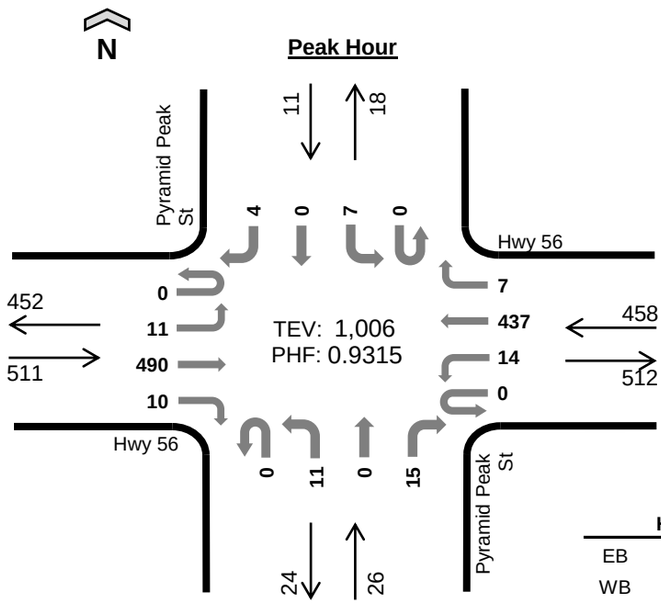
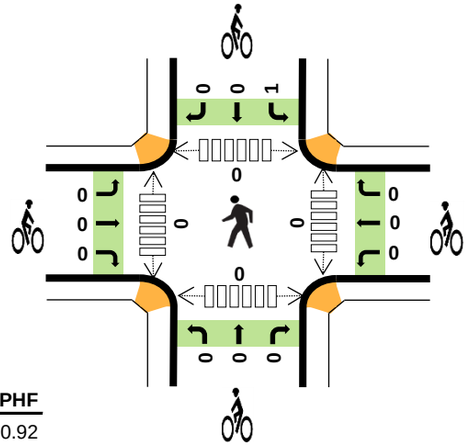
Pyramid Peak St
Hwy 56



Date: 11/14/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV%	PHF
EB	3%	0.92
WB	2%	0.84
NB	12%	0.65
SB	0%	0.92
TOTAL	3%	0.93

Peak Hour Count Summaries

Peak Hour Interval Start		Hwy 56 Eastbound				Hwy 56 Westbound				Pyramid Peak St Northbound				Pyramid Peak St Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:30 PM		0	3	114	3	0	3	111	0	0	5	0	5	0	1	0	1	246	0
4:45 PM		0	6	131	2	0	6	109	0	0	1	0	4	0	2	0	1	262	0
5:00 PM		0	0	124	2	0	3	83	6	0	3	0	4	0	1	0	2	228	0
5:15 PM		0	2	121	3	0	2	134	1	0	2	0	2	0	3	0	0	270	1,006
Pk Hr	All	0	11	490	10	0	14	437	7	0	11	0	15	0	7	0	4	1,006	
	HV	0	0	12	2	0	0	11	0	0	3	0	0	0	0	0	0	28	
	HV%	-	0%	2%	20%	-	0%	3%	0%	-	27%	-	0%	-	0%	-	0%	3%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:30 PM	6	6	1	0	*13*	0	0	0	1	*1*	0	0	0	0	*0*
4:45 PM	2	1	0	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
5:00 PM	1	2	1	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	5	2	1	0	*8*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	14	11	3	0	*28*	0	0	0	1	*1*	0	0	0	0	*0*

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Count Summaries - All Vehicles

Interval Start	Hwy 56 Eastbound				Hwy 56 Westbound				Pyramid Peak St Northbound				Pyramid Peak St Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	107	3	0	4	111	1	0	5	0	3	0	1	0	2	238	0
4:15 PM	0	5	126	3	0	2	108	3	0	0	0	7	0	2	0	1	257	0
4:30 PM	**0**	**3**	**114**	**3**	**0**	**3**	**111**	**0**	**0**	**5**	**0**	**5**	**0**	**1**	**0**	**1**	**246**	**0**
4:45 PM	**0**	**6**	**131**	**2**	**0**	**6**	**109**	**0**	**0**	**1**	**0**	**4**	**0**	**2**	**0**	**1**	**262**	**1,003**
5:00 PM	**0**	**0**	**124**	**2**	**0**	**3**	**83**	**6**	**0**	**3**	**0**	**4**	**0**	**1**	**0**	**2**	**228**	**993**
5:15 PM	**0**	**2**	**121**	**3**	**0**	**2**	**134**	**1**	**0**	**2**	**0**	**2**	**0**	**3**	**0**	**0**	**270**	**1,006**
5:30 PM	0	0	99	1	0	2	112	1	0	2	0	0	0	2	0	1	220	980
5:45 PM	0	0	85	1	0	2	132	3	0	3	0	1	0	1	0	1	229	947
Count Total	0	17	907	18	0	24	900	15	0	21	0	26	0	13	0	9	1,950	
Pk Hr All	**0**	**11**	**490**	**10**	**0**	**14**	**437**	**7**	**0**	**11**	**0**	**15**	**0**	**7**	**0**	**4**	**1,006**	
Pk Hr HV	**0**	**0**	**12**	**2**	**0**	**0**	**11**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**28**	
Pk Hr HV%	**-**	**0%**	**2%**	**20%**	**-**	**0%**	**3%**	**0%**	**-**	**27%**	**-**	**0%**	**-**	**0%**	**-**	**0%**	**3%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	6	5	1	0	*12*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	6	1	0	0	*7*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**6**	**6**	**1**	**0**	**13**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**
4:45 PM	**2**	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM	**1**	**2**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM	**5**	**2**	**1**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	1	2	0	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	4	0	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	28	23	4	0	*55*	0	0	0	1	*1*	0	0	0	0	*0*
Peak Hour	**14**	**11**	**3**	**0**	***28***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	**0**

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Count Summaries - Heavy Vehicles

Interval Start	Hwy 56				Hwy 56				Pyramid Peak St				Pyramid Peak St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	6	0	0	0	5	0	0	1	0	0	0	0	0	0	12	0
4:15 PM	0	0	5	1	0	0	1	0	0	0	0	0	0	0	0	0	7	0
4:30 PM	**0**	**0**	**6**	**0**	**0**	**0**	**6**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**0**
4:45 PM	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**35**
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**27**
5:15 PM	**0**	**0**	**4**	**1**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**28**
5:30 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	18
5:45 PM	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	5	20
Count Total	0	0	25	3	0	0	23	0	0	4	0	0	0	0	0	0	55	
Pk Hr Heavy	**0**	**0**	**12**	**2**	**0**	**0**	**11**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**28**	

Count Summaries - Bikes

Interval Start	Hwy 56				Hwy 56				Pyramid Peak St				Pyramid Peak St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	

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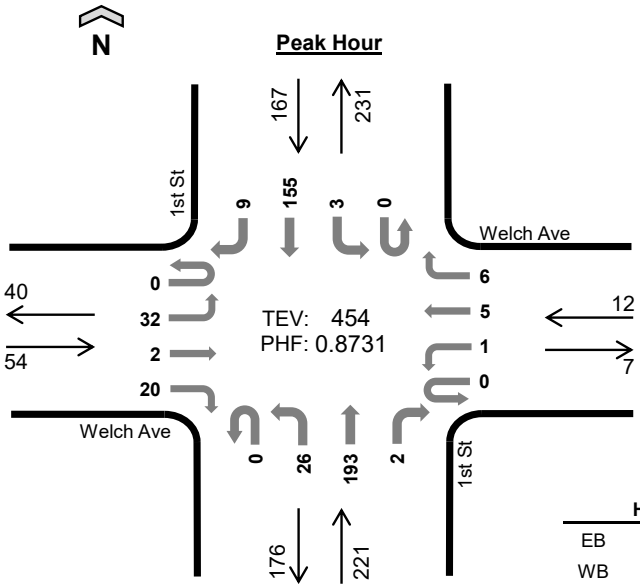
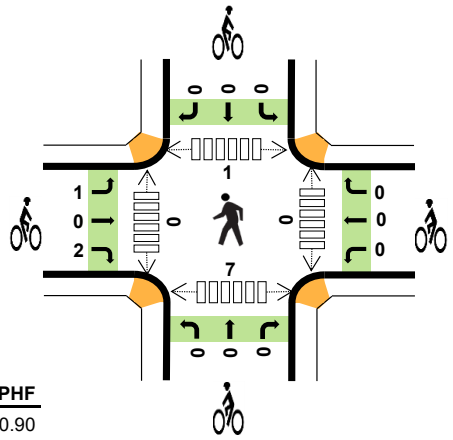
1st St
Welch Ave

Date: 7/22/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV%	PHF
EB	0%	0.90
WB	0%	0.75
NB	1%	0.94
SB	5%	0.73
TOTAL	2%	0.87

Peak Hour Count Summaries

Peak Hour Interval Start		Welch Ave Eastbound				Welch Ave Westbound				1st St Northbound				1st St Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:15 AM		**0**	**9**	**1**	**5**	**0**	**0**	**0**	**3**	**0**	**4**	**45**	**0**	**0**	**0**	**32**	**3**	**102**	**0**
7:30 AM		**0**	**9**	**0**	**3**	**0**	**0**	**2**	**0**	**0**	**6**	**52**	**1**	**0**	**0**	**56**	**1**	**130**	**0**
7:45 AM		**0**	**8**	**1**	**6**	**0**	**0**	**0**	**3**	**0**	**8**	**48**	**0**	**0**	**1**	**39**	**1**	**115**	**0**
8:00 AM		**0**	**6**	**0**	**6**	**0**	**1**	**3**	**0**	**0**	**8**	**48**	**1**	**0**	**2**	**28**	**4**	**107**	**454**
Pk Hr	All	**0**	**32**	**2**	**20**	**0**	**1**	**5**	**6**	**0**	**26**	**193**	**2**	**0**	**3**	**155**	**9**	**454**	
	HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**8**	**0**	**11**	
	HV%	-	**0%**	**0%**	**0%**	-	**0%**	**0%**	**0%**	-	**4%**	**1%**	**0%**	-	**0%**	**5%**	**0%**	**2%**	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:15 AM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**7**	***8***
7:30 AM	**0**	**0**	**0**	**3**	***3***	**2**	**0**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***
7:45 AM	**0**	**0**	**0**	**4**	***4***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
8:00 AM	**0**	**0**	**2**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Peak Hour	**0**	**0**	**3**	**8**	***11***	**3**	**0**	**0**	**0**	***3***	**0**	**0**	**1**	**7**	***8***

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Count Summaries - All Vehicles

Interval Start	Welch Ave Eastbound				Welch Ave Westbound				1st St Northbound				1st St Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	10	0	6	0	1	1	1	0	4	26	0	0	1	34	0	84	0
7:15 AM	**0**	**9**	**1**	**5**	**0**	**0**	**0**	**3**	**0**	**4**	**45**	**0**	**0**	**0**	**32**	**3**	**102**	**0**
7:30 AM	**0**	**9**	**0**	**3**	**0**	**0**	**2**	**0**	**0**	**6**	**52**	**1**	**0**	**0**	**56**	**1**	**130**	**0**
7:45 AM	**0**	**8**	**1**	**6**	**0**	**0**	**0**	**3**	**0**	**8**	**48**	**0**	**0**	**1**	**39**	**1**	**115**	**431**
8:00 AM	**0**	**6**	**0**	**6**	**0**	**1**	**3**	**0**	**0**	**8**	**48**	**1**	**0**	**2**	**28**	**4**	**107**	**454**
8:15 AM	0	2	0	7	0	2	0	3	0	2	37	0	0	0	42	3	98	450
8:30 AM	0	7	2	4	0	0	2	1	0	7	38	1	0	0	36	1	99	419
8:45 AM	0	6	0	5	0	0	0	0	0	8	35	0	0	1	25	4	84	388
Count Total	0	57	4	42	0	4	8	11	0	47	329	3	0	5	292	17	819	
Pk Hr All	**0**	**32**	**2**	**20**	**0**	**1**	**5**	**6**	**0**	**26**	**193**	**2**	**0**	**3**	**155**	**9**	**454**	
Pk Hr HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**8**	**0**	**11**	
Pk Hr HV%	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**-**	**4%**	**1%**	**0%**	**-**	**0%**	**5%**	**0%**	**2%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	0	0	*0*	0	0	0	1	*1*	0	0	0	1	*1*
7:15 AM	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**7**	**8**
7:30 AM	**0**	**0**	**0**	**3**	**3**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**
7:45 AM	**0**	**0**	**0**	**4**	**4**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
8:00 AM	**0**	**0**	**2**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	0	0	1	2	*3*	0	0	1	0	*1*	0	0	0	2	*2*
8:30 AM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	0	1	*1*
8:45 AM	0	0	3	2	*5*	0	0	0	0	*0*	1	0	0	1	*2*
Count Total	0	0	7	13	*20*	3	0	1	1	*5*	1	0	1	12	*14*
Peak Hour	**0**	**0**	**3**	**8**	***11***	**3**	**0**	**0**	**0**	***3***	**0**	**0**	**1**	**7**	**8**

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Count Summaries - Heavy Vehicles

Interval Start	Welch Ave Eastbound				Welch Ave Westbound				1st St Northbound				1st St Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**3**	**0**
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**4**	**8**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**3**	**11**
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	13
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	11
8:45 AM	0	0	0	0	0	0	0	0	0	1	2	0	0	0	2	0	5	12
Count Total	0	0	0	0	0	0	0	0	0	2	5	0	0	0	13	0	20	
Pk Hr Heavy	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**8**	**0**	**11**	

Count Summaries - Bikes

Interval Start	Welch Ave Eastbound				Welch Ave Westbound				1st St Northbound				1st St Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
7:30 AM	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**
7:45 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	4
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	1	0	2	0	0	0	0	0	0	1	0	0	0	1	0	5	
Pk Hr Bike	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	

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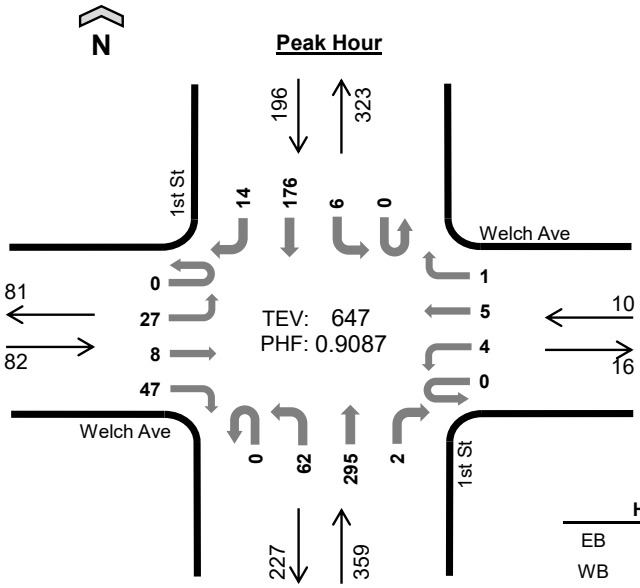
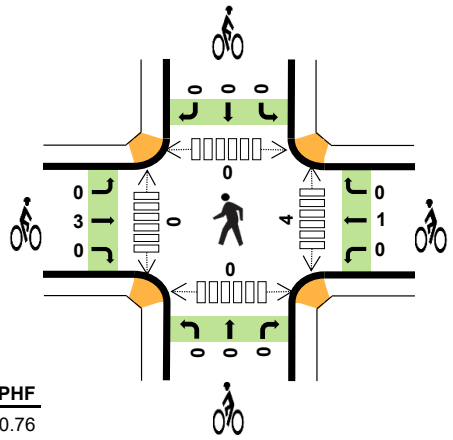
1st St
Welch Ave

Date: 7/22/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV%	PHF
EB	1%	0.76
WB	0%	0.50
NB	2%	0.82
SB	0%	0.88
TOTAL	1%	0.91

Peak Hour Count Summaries

Peak Hour Interval Start		Welch Ave Eastbound				Welch Ave Westbound				1st St Northbound				1st St Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:30 PM		0	7	4	8	0	1	2	0	0	15	67	1	0	0	37	3	145	0
4:45 PM		0	12	2	13	0	2	0	0	0	17	71	0	0	2	47	7	173	0
5:00 PM		0	3	0	18	0	0	0	0	0	11	68	0	0	1	48	2	151	0
5:15 PM		0	5	2	8	0	1	3	1	0	19	89	1	0	3	44	2	178	647
Pk Hr	All	0	27	8	47	0	4	5	1	0	62	295	2	0	6	176	14	647	
	HV	0	0	1	0	0	0	0	0	0	1	7	0	0	0	0	0	9	
	HV%	-	0%	13%	0%	-	0%	0%	0%	-	2%	2%	0%	-	0%	0%	0%	1%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:30 PM	1	0	1	0	*2*	0	1	0	0	*1*	2	0	0	0	*2*
4:45 PM	0	0	1	0	*1*	1	0	0	0	*1*	0	0	0	0	*0*
5:00 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	0	0	5	0	*5*	2	0	0	0	*2*	2	0	0	0	*2*
Peak Hour	1	0	8	0	*9*	3	1	0	0	*4*	4	0	0	0	*4*

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Count Summaries - All Vehicles

Interval Start	Welch Ave Eastbound				Welch Ave Westbound				1st St Northbound				1st St Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	7	0	8	0	0	3	1	0	13	54	0	0	1	49	2	138	0
4:15 PM	0	3	4	15	0	1	0	1	0	9	95	2	0	2	40	2	174	0
4:30 PM	**0**	**7**	**4**	**8**	**0**	**1**	**2**	**0**	**0**	**15**	**67**	**1**	**0**	**0**	**37**	**3**	**145**	**0**
4:45 PM	**0**	**12**	**2**	**13**	**0**	**2**	**0**	**0**	**0**	**17**	**71**	**0**	**0**	**2**	**47**	**7**	**173**	**630**
5:00 PM	**0**	**3**	**0**	**18**	**0**	**0**	**0**	**0**	**0**	**11**	**68**	**0**	**0**	**1**	**48**	**2**	**151**	**643**
5:15 PM	**0**	**5**	**2**	**8**	**0**	**1**	**3**	**1**	**0**	**19**	**89**	**1**	**0**	**3**	**44**	**2**	**178**	**647**
5:30 PM	0	7	1	3	0	0	1	0	0	9	79	1	0	0	31	6	138	640
5:45 PM	0	9	0	8	0	1	2	3	0	6	71	2	0	1	47	3	153	620
Count Total	0	53	13	81	0	6	11	6	0	99	594	7	0	10	343	27	1,250	
Pk Hr All	**0**	**27**	**8**	**47**	**0**	**4**	**5**	**1**	**0**	**62**	**295**	**2**	**0**	**6**	**176**	**14**	**647**	
Pk Hr HV	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**7**	**0**	**0**	**0**	**0**	**0**	**9**	
Pk Hr HV%	**-**	**0%**	**13%**	**0%**	**-**	**0%**	**0%**	**0%**	**-**	**2%**	**2%**	**0%**	**-**	**0%**	**0%**	**0%**	**1%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	0	1	4	*5*	0	0	0	0	*0*	0	0	0	2	*2*
4:15 PM	0	0	3	2	*5*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**1**	**0**	**1**	**0**	**2**	**0**	**1**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**2**
4:45 PM	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
5:00 PM	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM	**0**	**0**	**5**	**0**	**5**	**2**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**2**
5:30 PM	0	0	4	0	*4*	0	0	0	0	*0*	1	0	0	0	*1*
5:45 PM	1	0	3	0	*4*	0	0	0	0	*0*	1	0	0	0	*1*
Count Total	2	0	19	6	*27*	3	1	0	0	*4*	6	0	0	2	*8*
Peak Hour	**1**	**0**	**8**	**0**	***9***	**3**	**1**	**0**	**0**	***4***	**4**	**0**	**0**	**0**	**4**

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Count Summaries - Heavy Vehicles

Interval Start	Welch Ave				Welch Ave				1st St				1st St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4	0	5	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	2	0	0	0	2	0	5	0
4:30 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**13**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**9**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**5**	**9**
5:30 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4	11
5:45 PM	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	4	14
Count Total	0	1	1	0	0	0	0	0	0	2	17	0	0	0	6	0	27	
Pk Hr Heavy	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**7**	**0**	**0**	**0**	**0**	**0**	**9**	

Count Summaries - Bikes

Interval Start	Welch Ave				Welch Ave				1st St				1st St				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:15 PM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**4**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4	
Pk Hr Bike	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	

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Intersection Capacity Worksheets: Year 2024 Existing

Intersection	
Int Delay, s/veh	61.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	368	143	167	392	11	82	54	96	4	14	4
Future Vol, veh/h	5	368	143	167	392	11	82	54	96	4	14	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	90	90	90	95	95	95	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	5	5	5
Mvmt Flow	5	387	151	186	436	12	86	57	101	6	20	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	448	0	0	538	0	0	1290	1292	463	1239	1361	442
Stage 1	-	-	-	-	-	-	473	473	-	813	813	-
Stage 2	-	-	-	-	-	-	817	819	-	426	548	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.13	6.53	6.23	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.15	5.55	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.527	4.027	3.327	3.545	4.045	3.345
Pot Cap-1 Maneuver	1113	-	-	1030	-	-	140	162	597	150	146	609
Stage 1	-	-	-	-	-	-	570	557	-	368	388	-
Stage 2	-	-	-	-	-	-	369	388	-	600	512	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1113	-	-	1030	-	-	89	122	597	57	110	609
Mov Cap-2 Maneuver	-	-	-	-	-	-	89	122	-	57	110	-
Stage 1	-	-	-	-	-	-	566	553	-	280	295	-
Stage 2	-	-	-	-	-	-	259	295	-	444	508	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.08	2.71	$ 351.63	51.81
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	153	17	-	-	525	-	-	108
HCM Lane V/C Ratio	1.601	0.005	-	-	0.18	-	-	0.296
HCM Ctrl Dly (s/v)	$ 351.6	8.3	0	-	9.3	0	-	51.8
HCM Lane LOS	F	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	16.9	0	-	-	0.7	-	-	1.1

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	9.3
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	491	503	211	418
Demand Flow Rate, veh/h	511	517	218	431
Vehicles Circulating, veh/h	326	271	691	388
Vehicles Exiting, veh/h	493	580	146	400
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	10.3	9.4	6.1	9.7
Approach LOS	B	A	A	A

Lane	Left	Left	Left	Bypass	Left
Designated Moves	LTR	LTR	LT	R	LTR
Assumed Moves	LTR	LTR	LT		LTR
RT Channelized				Free	
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	511	517	160	58	431
Cap Entry Lane, veh/h	990	1047	682	1957	929
Entry HV Adj Factor	0.962	0.972	0.969	0.971	0.971
Flow Entry, veh/h	491	503	155	56	418
Cap Entry, veh/h	952	1018	661	1900	902
V/C Ratio	0.516	0.494	0.235	0.029	0.464
Control Delay, s/veh	10.3	9.4	8.3	0.0	9.7
LOS	B	A	A	A	A
95th %tile Queue, veh	3	3	1	0	2

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	18	165	15	34	55
Future Vol, veh/h	8	18	165	15	34	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	59	59	88	88	77	77
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	14	31	188	17	44	71

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	356	196	0	0	205	0
Stage 1	196	-	-	-	-	-
Stage 2	160	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	644	848	-	-	1373	-
Stage 1	839	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	623	848	-	-	1373	-
Mov Cap-2 Maneuver	623	-	-	-	-	-
Stage 1	839	-	-	-	-	-
Stage 2	842	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.01	0	2.95
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	763	688	-
HCM Lane V/C Ratio	-	-	0.058	0.032	-
HCM Ctrl Dly (s/v)	-	-	10	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	494	10	14	457	7	11	0	15	7	0	4
Future Vol, veh/h	11	494	10	14	457	7	11	0	15	7	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	35	-	160	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	84	84	84	65	65	65	92	92	92
Heavy Vehicles, %	3	3	3	2	2	2	12	12	12	1	1	1
Mvmt Flow	12	537	11	17	544	8	17	0	23	8	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	552	0	0	548	0	0	1138	1147	537	1142	1153	548
Stage 1	-	-	-	-	-	-	561	561	-	582	582	-
Stage 2	-	-	-	-	-	-	577	586	-	561	572	-
Critical Hdwy	4.13	-	-	4.12	-	-	7.22	6.62	6.32	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.22	5.62	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.22	5.62	-	6.11	5.51	-
Follow-up Hdwy	2.227	-	-	2.218	-	-	3.608	4.108	3.408	3.509	4.009	3.309
Pot Cap-1 Maneuver	1013	-	-	1022	-	-	171	191	525	178	198	538
Stage 1	-	-	-	-	-	-	495	494	-	501	501	-
Stage 2	-	-	-	-	-	-	485	482	-	514	506	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1013	-	-	1022	-	-	165	185	525	166	193	538
Mov Cap-2 Maneuver	-	-	-	-	-	-	165	185	-	166	193	-
Stage 1	-	-	-	-	-	-	489	488	-	493	493	-
Stage 2	-	-	-	-	-	-	473	474	-	486	500	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.18	0.25	19.45	22.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	165	525	1013	-	-	1022	-	-	221
HCM Lane V/C Ratio	0.103	0.044	0.012	-	-	0.016	-	-	0.054
HCM Ctrl Dly (s/v)	29.4	12.2	8.6	-	-	8.6	-	-	22.2
HCM Lane LOS	D	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	27	8	47	4	5	1	62	295	2	6	176	14
Future Vol, veh/h	27	8	47	4	5	1	62	295	2	6	176	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	9	52	4	5	1	68	324	2	7	193	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	677	677	201	673	684	325	209	0	0	326	0	0
Stage 1	214	214	-	462	462	-	-	-	-	-	-	-
Stage 2	463	463	-	211	222	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	366	375	840	369	371	716	1362	-	-	1233	-	-
Stage 1	788	725	-	580	565	-	-	-	-	-	-	-
Stage 2	579	564	-	791	720	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	336	350	840	316	347	716	1362	-	-	1233	-	-
Mov Cap-2 Maneuver	336	350	-	316	347	-	-	-	-	-	-	-
Stage 1	783	721	-	545	530	-	-	-	-	-	-	-
Stage 2	537	530	-	729	715	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	13.46	15.59	1.34	0.24
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	310	-	-	515	351	54	-	-
HCM Lane V/C Ratio	0.05	-	-	0.175	0.031	0.005	-	-
HCM Ctrl Dly (s/v)	7.8	0	-	13.5	15.6	7.9	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.6	0.1	0	-	-

Intersection	
Int Delay, s/veh	13

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	328	125	118	364	13	51	26	56	2	13	10
Future Vol, veh/h	3	328	125	118	364	13	51	26	56	2	13	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	92	92	92	76	76	76	78	78	78
Heavy Vehicles, %	4	4	4	7	7	7	10	10	10	8	8	8
Mvmt Flow	4	400	152	128	396	14	67	34	74	3	17	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	410	0	0	552	0	0	1144	1150	476	1084	1219	403
Stage 1	-	-	-	-	-	-	484	484	-	659	659	-
Stage 2	-	-	-	-	-	-	661	666	-	424	560	-
Critical Hdwy	4.14	-	-	4.17	-	-	7.2	6.6	6.3	7.18	6.58	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-	6.2	5.6	-	6.18	5.58	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.2	5.6	-	6.18	5.58	-
Follow-up Hdwy	2.236	-	-	2.263	-	-	3.59	4.09	3.39	3.572	4.072	3.372
Pot Cap-1 Maneuver	1138	-	-	993	-	-	171	192	573	189	176	635
Stage 1	-	-	-	-	-	-	550	539	-	443	451	-
Stage 2	-	-	-	-	-	-	439	445	-	596	501	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1138	-	-	993	-	-	125	159	573	111	145	635
Mov Cap-2 Maneuver	-	-	-	-	-	-	125	159	-	111	145	-
Stage 1	-	-	-	-	-	-	547	537	-	369	376	-
Stage 2	-	-	-	-	-	-	342	371	-	484	499	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.05	2.18	85.2	26.02
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	199	11	-	-	426	-	-	203
HCM Lane V/C Ratio	0.881	0.003	-	-	0.129	-	-	0.158
HCM Ctrl Dly (s/v)	85.2	8.2	0	-	9.2	0	-	26
HCM Lane LOS	F	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	6.8	0	-	-	0.4	-	-	0.5

Intersection	
Intersection Delay, s/veh	8.5
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	435	465	191	361
Demand Flow Rate, veh/h	466	497	192	379
Vehicles Circulating, veh/h	279	251	643	388
Vehicles Exiting, veh/h	488	542	102	360
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.9	9.0	5.8	8.9
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Bypass	Left
Designated Moves	LTR	LTR	LT	R	LTR
Assumed Moves	LTR	LTR	LT		LTR
RT Channelized				Free	
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	466	497	150	42	379
Cap Entry Lane, veh/h	1038	1068	716	1919	929
Entry HV Adj Factor	0.934	0.935	0.993	0.990	0.952
Flow Entry, veh/h	435	465	149	42	361
Cap Entry, veh/h	970	999	711	1900	884
V/C Ratio	0.449	0.465	0.209	0.022	0.408
Control Delay, s/veh	8.9	9.0	7.4	0.0	8.9
LOS	A	A	A	A	A
95th %tile Queue, veh	2	3	1	0	2

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	28	61	3	8	64
Future Vol, veh/h	16	28	61	3	8	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	80	80	90	90
Heavy Vehicles, %	2	2	3	3	6	6
Mvmt Flow	22	38	76	4	9	71

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	167	78	0	0	80	0
Stage 1	78	-	-	-	-	-
Stage 2	89	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.16	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.254	-
Pot Cap-1 Maneuver	823	983	-	-	1493	-
Stage 1	945	-	-	-	-	-
Stage 2	935	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	818	983	-	-	1493	-
Mov Cap-2 Maneuver	818	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	929	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.21	0	0.83
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	916	200	-
HCM Lane V/C Ratio	-	-	0.066	0.006	-
HCM Ctrl Dly (s/v)	-	-	9.2	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	441	9	13	408	4	10	0	8	7	0	10
Future Vol, veh/h	3	441	9	13	408	4	10	0	8	7	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	35	-	160	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	90	90	90	64	64	64	53	53	53
Heavy Vehicles, %	5	5	5	8	8	8	1	1	1	1	1	1
Mvmt Flow	3	507	10	14	453	4	16	0	13	13	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	458	0	0	517	0	0	996	1000	507	998	1009	456
Stage 1	-	-	-	-	-	-	514	514	-	484	484	-
Stage 2	-	-	-	-	-	-	482	487	-	514	524	-
Critical Hdwy	4.15	-	-	4.18	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.245	-	-	2.272	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1087	-	-	1019	-	-	224	244	568	223	241	607
Stage 1	-	-	-	-	-	-	545	537	-	566	554	-
Stage 2	-	-	-	-	-	-	567	552	-	545	531	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1087	-	-	1019	-	-	213	240	568	215	237	607
Mov Cap-2 Maneuver	-	-	-	-	-	-	213	240	-	215	237	-
Stage 1	-	-	-	-	-	-	544	535	-	558	546	-
Stage 2	-	-	-	-	-	-	542	544	-	532	530	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.06	0.26	17.99	16.45
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	213	568	1087	-	-	1019	-	-	346
HCM Lane V/C Ratio	0.073	0.022	0.003	-	-	0.014	-	-	0.093
HCM Ctrl Dly (s/v)	23.2	11.5	8.3	-	-	8.6	-	-	16.4
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.1	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	32	2	20	1	5	6	26	193	2	3	155	9
Future Vol, veh/h	32	2	20	1	5	6	26	193	2	3	155	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	2	23	1	6	7	30	222	2	3	178	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	475	474	183	469	478	223	189	0	0	224	0	0
Stage 1	190	190	-	283	283	-	-	-	-	-	-	-
Stage 2	284	284	-	186	195	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	500	489	859	505	486	817	1386	-	-	1345	-	-
Stage 1	812	743	-	724	677	-	-	-	-	-	-	-
Stage 2	723	676	-	816	739	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	477	475	859	475	473	817	1386	-	-	1345	-	-
Mov Cap-2 Maneuver	477	475	-	475	473	-	-	-	-	-	-	-
Stage 1	809	741	-	706	661	-	-	-	-	-	-	-
Stage 2	693	660	-	789	737	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	12.08	11.15	0.9	0.14
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	211	-	-	571	599	32	-	-
HCM Lane V/C Ratio	0.022	-	-	0.109	0.023	0.003	-	-
HCM Ctrl Dly (s/v)	7.7	0	-	12.1	11.1	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	17.0
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	666	785	464	62
Demand Flow Rate, veh/h	679	801	478	65
Vehicles Circulating, veh/h	287	346	479	1051
Vehicles Exiting, veh/h	829	611	487	96
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	13.5	23.0	12.7	9.9
Approach LOS	B	C	B	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	679	801	478	65
Cap Entry Lane, veh/h	1030	970	847	472
Entry HV Adj Factor	0.981	0.980	0.971	0.959
Flow Entry, veh/h	666	785	464	62
Cap Entry, veh/h	1010	951	822	453
V/C Ratio	0.659	0.826	0.565	0.138
Control Delay, s/veh	13.5	23.0	12.7	9.9
LOS	B	C	B	A
95th %tile Queue, veh	5	10	4	0

Intersection	
Intersection Delay, s/veh	15.3
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	620	661	248	534
Demand Flow Rate, veh/h	645	681	255	551
Vehicles Circulating, veh/h	452	293	930	493
Vehicles Exiting, veh/h	592	812	167	481
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	19.3	13.8	8.2	16.0
Approach LOS	C	B	A	C

Lane	Left	Left	Left	Bypass	Left
Designated Moves	LTR	LTR	LT	R	LTR
Assumed Moves	LTR	LTR	LT		LTR
RT Channelized				Free	
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	645	681	175	80	551
Cap Entry Lane, veh/h	870	1023	534	1957	835
Entry HV Adj Factor	0.961	0.971	0.970	0.971	0.970
Flow Entry, veh/h	620	661	170	78	534
Cap Entry, veh/h	836	994	518	1900	809
V/C Ratio	0.741	0.665	0.327	0.041	0.660
Control Delay, s/veh	19.3	13.8	11.9	0.0	16.0
LOS	C	B	B	A	C
95th %tile Queue, veh	7	5	1	0	5

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	24	189	19	36	69
Future Vol, veh/h	11	24	189	19	36	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	59	59	88	88	77	77
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	19	41	215	22	47	90

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	409	226	0	0	236	0
Stage 1	226	-	-	-	-	-
Stage 2	183	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	601	816	-	-	1337	-
Stage 1	814	-	-	-	-	-
Stage 2	851	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	579	816	-	-	1337	-
Mov Cap-2 Maneuver	579	-	-	-	-	-
Stage 1	814	-	-	-	-	-
Stage 2	819	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.42	0	2.67
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	723	617	-
HCM Lane V/C Ratio	-	-	0.082	0.035	-
HCM Ctrl Dly (s/v)	-	-	10.4	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	678	31	34	599	7	18	0	27	7	0	4
Future Vol, veh/h	12	678	31	34	599	7	18	0	27	7	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	35	-	160	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	84	84	84	65	65	65	92	92	92
Heavy Vehicles, %	3	3	3	2	2	2	12	12	12	1	1	1
Mvmt Flow	13	737	34	40	713	8	28	0	42	8	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	721	0	0	771	0	0	1557	1565	737	1561	1595	717
Stage 1	-	-	-	-	-	-	763	763	-	798	798	-
Stage 2	-	-	-	-	-	-	794	802	-	763	797	-
Critical Hdwy	4.13	-	-	4.12	-	-	7.22	6.62	6.32	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.22	5.62	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.22	5.62	-	6.11	5.51	-
Follow-up Hdwy	2.227	-	-	2.218	-	-	3.608	4.108	3.408	3.509	4.009	3.309
Pot Cap-1 Maneuver	876	-	-	844	-	-	87	106	402	91	107	431
Stage 1	-	-	-	-	-	-	382	399	-	381	399	-
Stage 2	-	-	-	-	-	-	367	382	-	398	400	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	876	-	-	844	-	-	81	99	402	77	101	431
Mov Cap-2 Maneuver	-	-	-	-	-	-	81	99	-	77	101	-
Stage 1	-	-	-	-	-	-	376	393	-	363	380	-
Stage 2	-	-	-	-	-	-	346	364	-	352	394	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.15	0.5	37.57	41.79
HCM LOS			E	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	81	402	876	-	-	844	-	-	110
HCM Lane V/C Ratio	0.344	0.103	0.015	-	-	0.048	-	-	0.109
HCM Ctrl Dly (s/v)	71.5	15	9.2	-	-	9.5	-	-	41.8
HCM Lane LOS	F	B	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	1.3	0.3	0	-	-	0.2	-	-	0.4

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	28	8	50	4	5	1	65	307	2	6	183	15
Future Vol, veh/h	28	8	50	4	5	1	65	307	2	6	183	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	9	55	4	5	1	71	337	2	7	201	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	705	705	209	700	712	338	218	0	0	340	0	0
Stage 1	223	223	-	481	481	-	-	-	-	-	-	-
Stage 2	483	482	-	219	231	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	351	361	831	354	358	704	1352	-	-	1220	-	-
Stage 1	780	719	-	566	554	-	-	-	-	-	-	-
Stage 2	565	553	-	784	713	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	320	335	831	300	332	704	1352	-	-	1220	-	-
Mov Cap-2 Maneuver	320	335	-	300	332	-	-	-	-	-	-	-
Stage 1	775	715	-	529	518	-	-	-	-	-	-	-
Stage 2	522	517	-	718	709	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	13.83	16.1	1.36	0.23
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	312	-	-	502	335	52	-	-
HCM Lane V/C Ratio	0.053	-	-	0.188	0.033	0.005	-	-
HCM Ctrl Dly (s/v)	7.8	0	-	13.8	16.1	8	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.7	0.1	0	-	-

Intersection Capacity Worksheets: Year 2028 Background

Intersection	
Intersection Delay, s/veh	16.1
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	702	638	493	47
Demand Flow Rate, veh/h	730	683	543	51
Vehicles Circulating, veh/h	208	400	524	998
Vehicles Exiting, veh/h	841	667	414	85
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.7	19.1	17.7	9.2
Approach LOS	B	C	C	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	730	683	543	51
Cap Entry Lane, veh/h	1116	918	809	499
Entry HV Adj Factor	0.961	0.934	0.908	0.924
Flow Entry, veh/h	702	638	493	47
Cap Entry, veh/h	1073	857	735	461
V/C Ratio	0.654	0.744	0.672	0.102
Control Delay, s/veh	12.7	19.1	17.7	9.2
LOS	B	C	C	A
95th %tile Queue, veh	5	7	5	0

Intersection	
Intersection Delay, s/veh	13.2
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	525	685	222	435
Demand Flow Rate, veh/h	562	733	224	456
Vehicles Circulating, veh/h	370	271	807	533
Vehicles Exiting, veh/h	619	701	125	471
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.8	15.3	7.1	13.6
Approach LOS	B	C	A	B

Lane	Left	Left	Left	Bypass	Left
Designated Moves	LTR	LTR	LT	R	LTR
Assumed Moves	LTR	LTR	LT		LTR
RT Channelized				Free	
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	562	733	165	59	456
Cap Entry Lane, veh/h	946	1047	606	1919	801
Entry HV Adj Factor	0.935	0.935	0.993	0.990	0.953
Flow Entry, veh/h	525	685	164	58	435
Cap Entry, veh/h	884	978	602	1900	764
V/C Ratio	0.594	0.700	0.272	0.031	0.569
Control Delay, s/veh	12.8	15.3	9.6	0.0	13.6
LOS	B	C	A	A	B
95th %tile Queue, veh	4	6	1	0	4

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	35	75	4	8	83
Future Vol, veh/h	23	35	75	4	8	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	80	80	90	90
Heavy Vehicles, %	2	2	3	3	6	6
Mvmt Flow	32	48	94	5	9	92

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	206	96	0	0	99	0
Stage 1	96	-	-	-	-	-
Stage 2	110	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.16	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.254	-
Pot Cap-1 Maneuver	782	960	-	-	1469	-
Stage 1	928	-	-	-	-	-
Stage 2	915	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	777	960	-	-	1469	-
Mov Cap-2 Maneuver	777	-	-	-	-	-
Stage 1	928	-	-	-	-	-
Stage 2	909	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.51	0	0.66
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	878	158	-
HCM Lane V/C Ratio	-	-	0.09	0.006	-
HCM Ctrl Dly (s/v)	-	-	9.5	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

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	570	15	20	588	4	22	0	27	7	0	11
Future Vol, veh/h	3	570	15	20	588	4	22	0	27	7	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	35	-	160	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	90	90	90	64	64	64	53	53	53
Heavy Vehicles, %	5	5	5	8	8	8	1	1	1	1	1	1
Mvmt Flow	3	655	17	22	653	4	34	0	42	13	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	658	0	0	672	0	0	1360	1364	655	1362	1379	656
Stage 1	-	-	-	-	-	-	662	662	-	700	700	-
Stage 2	-	-	-	-	-	-	698	702	-	662	679	-
Critical Hdwy	4.15	-	-	4.18	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.245	-	-	2.272	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	916	-	-	891	-	-	126	148	468	126	145	468
Stage 1	-	-	-	-	-	-	453	461	-	431	443	-
Stage 2	-	-	-	-	-	-	433	442	-	453	453	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	916	-	-	891	-	-	117	144	468	111	141	468
Mov Cap-2 Maneuver	-	-	-	-	-	-	117	144	-	111	141	-
Stage 1	-	-	-	-	-	-	451	459	-	421	432	-
Stage 2	-	-	-	-	-	-	403	431	-	410	451	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.05	0.3	28.97	25.64
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	117	468	916	-	-	891	-	-	208
HCM Lane V/C Ratio	0.293	0.09	0.004	-	-	0.025	-	-	0.163
HCM Ctrl Dly (s/v)	48	13.5	8.9	-	-	9.1	-	-	25.6
HCM Lane LOS	E	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	1.1	0.3	0	-	-	0.1	-	-	0.6

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	34	2	21	1	5	6	27	201	2	3	161	9
Future Vol, veh/h	34	2	21	1	5	6	27	201	2	3	161	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	2	24	1	6	7	31	231	2	3	185	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	493	493	190	487	497	232	195	0	0	233	0	0
Stage 1	197	197	-	294	294	-	-	-	-	-	-	-
Stage 2	296	295	-	193	202	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	486	477	852	491	475	807	1378	-	-	1334	-	-
Stage 1	805	738	-	714	669	-	-	-	-	-	-	-
Stage 2	712	669	-	809	734	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	463	464	852	461	461	807	1378	-	-	1334	-	-
Mov Cap-2 Maneuver	463	464	-	461	461	-	-	-	-	-	-	-
Stage 1	802	736	-	696	652	-	-	-	-	-	-	-
Stage 2	682	651	-	781	732	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	12.33	11.28	0.9	0.13
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	211	-	-	556	587	31	-	-
HCM Lane V/C Ratio	0.023	-	-	0.118	0.024	0.003	-	-
HCM Ctrl Dly (s/v)	7.7	0	-	12.3	11.3	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.1	0	-	-

Intersection Capacity Worksheets: Year 2045 Background

Intersection	
Intersection Delay, s/veh	14.8
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	1	1	2	2
Adj Approach Flow, veh/h	793	799	784	68
Demand Flow Rate, veh/h	808	814	800	70
Vehicles Circulating, veh/h	312	532	504	1239
Vehicles Exiting, veh/h	997	772	616	107
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.4	10.2	27.6	9.4
Approach LOS	A	B	D	A

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.471	0.529	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.544	4.544	4.544	4.544	4.328	4.328
A (Intercept)	1420	1420	1420	1420	1420	1420
B (Slope)	9.101e-4	9.101e-4	9.101e-4	9.101e-4	8.501e-4	8.501e-4
Entry Flow, veh/h	380	428	383	431	800	70
Cap Entry Lane, veh/h	1069	1069	875	875	925	495
Entry HV Adj Factor	0.980	0.981	0.980	0.982	0.980	0.976
Flow Entry, veh/h	372	420	375	423	784	68
Cap Entry, veh/h	1048	1049	858	860	906	483
V/C Ratio	0.355	0.400	0.438	0.493	0.865	0.141
Control Delay, s/veh	7.1	7.7	9.6	10.6	27.6	9.4
LOS	A	A	A	B	D	A
95th %tile Queue, veh	2	2	2	3	11	0

Intersection	
Intersection Delay, s/veh	22.9
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	592	913	256	506
Demand Flow Rate, veh/h	604	931	259	516
Vehicles Circulating, veh/h	432	306	878	668
Vehicles Exiting, veh/h	752	762	119	569
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	13.5	33.3	8.4	22.3
Approach LOS	B	D	A	C

Lane	Left	Bypass	Left	Left	Bypass	Left
Designated Moves	LT	R	LTR	LT	R	LTR
Assumed Moves	LT		LTR	LT		LTR
RT Channelized		Yield			Free	
Lane Util	1.000		1.000	1.000		1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609		2.609
Critical Headway, s	4.976	4.976	4.976	4.976		4.976
A (Intercept)	1380	1380	1380	1380		1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3		1.02e-3
Entry Flow, veh/h	565	39	931	190	69	516
Cap Entry Lane, veh/h	888	1222	1010	564	1919	698
Entry HV Adj Factor	0.981	0.980	0.981	0.988	0.990	0.980
Flow Entry, veh/h	554	38	913	188	68	506
Cap Entry, veh/h	871	1198	991	557	1900	684
V/C Ratio	0.636	0.032	0.922	0.337	0.036	0.739
Control Delay, s/veh	14.2	3.3	33.3	11.4	0.0	22.3
LOS	B	A	D	B	A	C
95th %tile Queue, veh	5	0	14	1	0	7

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	45	95	5	15	110
Future Vol, veh/h	30	45	95	5	15	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	90	90
Heavy Vehicles, %	2	2	3	3	6	6
Mvmt Flow	34	51	108	6	17	122

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	266	111	0	0	114	0
Stage 1	111	-	-	-	-	-
Stage 2	156	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.16	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.254	-
Pot Cap-1 Maneuver	723	942	-	-	1451	-
Stage 1	914	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	714	942	-	-	1451	-
Mov Cap-2 Maneuver	714	-	-	-	-	-
Stage 1	914	-	-	-	-	-
Stage 2	862	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.8	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	835	216	-
HCM Lane V/C Ratio	-	-	0.102	0.011	-
HCM Ctrl Dly (s/v)	-	-	9.8	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	710	15	20	785	10	25	5	30	10	5	15
Future Vol, veh/h	5	710	15	20	785	10	25	5	30	10	5	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	35	-	160	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	8	8	8	1	1	1	1	1	1
Mvmt Flow	5	772	16	22	853	11	28	6	34	11	6	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	864	0	0	788	0	0	1682	1690	772	1688	1701	859
Stage 1	-	-	-	-	-	-	783	783	-	902	902	-
Stage 2	-	-	-	-	-	-	900	908	-	785	799	-
Critical Hdwy	4.15	-	-	4.18	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.245	-	-	2.272	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	766	-	-	805	-	-	75	94	401	75	92	358
Stage 1	-	-	-	-	-	-	389	406	-	334	358	-
Stage 2	-	-	-	-	-	-	335	356	-	387	399	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	766	-	-	805	-	-	65	91	401	62	89	358
Mov Cap-2 Maneuver	-	-	-	-	-	-	65	91	-	62	89	-
Stage 1	-	-	-	-	-	-	386	403	-	325	348	-
Stage 2	-	-	-	-	-	-	305	346	-	347	396	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.07	0.24	58.34	48.63
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	68	401	766	-	-	805	-	-	116
HCM Lane V/C Ratio	0.5	0.085	0.007	-	-	0.027	-	-	0.295
HCM Ctrl Dly (s/v)	101.9	14.8	9.7	-	-	9.6	-	-	48.6
HCM Lane LOS	F	B	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	2	0.3	0	-	-	0.1	-	-	1.1

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	45	5	30	5	10	10	35	240	5	5	195	15
Future Vol, veh/h	45	5	30	5	10	10	35	240	5	5	195	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	6	34	6	11	11	40	276	6	6	224	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	606	606	233	598	612	279	241	0	0	282	0	0
Stage 1	244	244	-	359	359	-	-	-	-	-	-	-
Stage 2	362	362	-	239	253	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	409	411	806	414	408	760	1325	-	-	1281	-	-
Stage 1	759	704	-	659	627	-	-	-	-	-	-	-
Stage 2	657	625	-	765	698	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	375	394	806	375	391	760	1325	-	-	1281	-	-
Mov Cap-2 Maneuver	375	394	-	375	391	-	-	-	-	-	-	-
Stage 1	755	700	-	635	604	-	-	-	-	-	-	-
Stage 2	611	603	-	722	694	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	14.49	12.97	0.98	0.18
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	224	-	-	471	480	41	-	-
HCM Lane V/C Ratio	0.03	-	-	0.195	0.06	0.004	-	-
HCM Ctrl Dly (s/v)	7.8	0	-	14.5	13	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	0.2	0	-	-

Intersection	
Intersection Delay, s/veh	13.8
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	1	1	2	2
Adj Approach Flow, veh/h	916	989	694	85
Demand Flow Rate, veh/h	934	1009	708	86
Vehicles Circulating, veh/h	457	482	548	1368
Vehicles Exiting, veh/h	997	774	843	123
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	10.3	11.7	21.9	11.1
Approach LOS	B	B	C	B

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.544	4.544	4.544	4.544	4.328	4.328
A (Intercept)	1420	1420	1420	1420	1420	1420
B (Slope)	9.101e-4	9.101e-4	9.101e-4	9.101e-4	8.501e-4	8.501e-4
Entry Flow, veh/h	439	495	474	535	708	86
Cap Entry Lane, veh/h	937	937	916	916	891	444
Entry HV Adj Factor	0.980	0.981	0.981	0.980	0.981	0.988
Flow Entry, veh/h	430	485	465	524	694	85
Cap Entry, veh/h	919	919	898	898	874	439
V/C Ratio	0.469	0.528	0.518	0.584	0.794	0.194
Control Delay, s/veh	9.7	10.9	10.8	12.4	21.9	11.1
LOS	A	B	B	B	C	B
95th %tile Queue, veh	3	3	3	4	8	1

Intersection	
Intersection Delay, s/veh	29.7
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	756	846	326	624
Demand Flow Rate, veh/h	771	863	333	637
Vehicles Circulating, veh/h	536	363	1104	624
Vehicles Exiting, veh/h	725	965	142	602
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	31.3	32.1	12.6	33.6
Approach LOS	D	D	B	D

Lane	Left	Bypass	Left	Left	Bypass	Left
Designated Moves	LT	R	LTR	LT	R	LTR
Assumed Moves	LT		LTR	LT		LTR
RT Channelized		Yield			Free	
Lane Util	1.000		1.000	1.000		1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609		2.609
Critical Headway, s	4.976	4.976	4.976	4.976		4.976
A (Intercept)	1380	1380	1380	1380		1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3		1.02e-3
Entry Flow, veh/h	710	61	863	224	109	637
Cap Entry Lane, veh/h	799	1194	953	448	1938	730
Entry HV Adj Factor	0.980	0.980	0.980	0.979	0.980	0.980
Flow Entry, veh/h	696	60	846	219	107	624
Cap Entry, veh/h	783	1170	934	438	1900	715
V/C Ratio	0.889	0.051	0.906	0.500	0.056	0.872
Control Delay, s/veh	33.7	3.5	32.1	18.7	0.0	33.6
LOS	D	A	D	C	A	D
95th %tile Queue, veh	12	0	13	3	0	11

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	30	235	25	45	90
Future Vol, veh/h	15	30	235	25	45	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	17	34	267	28	51	102

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	486	281	0	0	295	0
Stage 1	281	-	-	-	-	-
Stage 2	205	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	542	760	-	-	1272	-
Stage 1	769	-	-	-	-	-
Stage 2	832	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	519	760	-	-	1272	-
Mov Cap-2 Maneuver	519	-	-	-	-	-
Stage 1	769	-	-	-	-	-
Stage 2	797	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.93	0	2.65
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	658	600	-
HCM Lane V/C Ratio	-	-	0.078	0.04	-
HCM Ctrl Dly (s/v)	-	-	10.9	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	900	35	35	760	10	20	5	30	10	5	10
Future Vol, veh/h	15	900	35	35	760	10	20	5	30	10	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	35	-	160	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	88	88	88	92	92	92
Heavy Vehicles, %	3	3	3	2	2	2	12	12	12	1	1	1
Mvmt Flow	16	978	38	38	826	11	23	6	34	11	5	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	837	0	0	1016	0	0	1916	1924	978	1921	1957	832
Stage 1	-	-	-	-	-	-	1011	1011	-	908	908	-
Stage 2	-	-	-	-	-	-	905	913	-	1014	1049	-
Critical Hdwy	4.13	-	-	4.12	-	-	7.22	6.62	6.32	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.22	5.62	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.22	5.62	-	6.11	5.51	-
Follow-up Hdwy	2.227	-	-	2.218	-	-	3.608	4.108	3.408	3.509	4.009	3.309
Pot Cap-1 Maneuver	793	-	-	683	-	-	48	63	291	51	64	371
Stage 1	-	-	-	-	-	-	277	305	-	331	356	-
Stage 2	-	-	-	-	-	-	318	339	-	289	306	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	793	-	-	683	-	-	40	58	291	38	59	371
Mov Cap-2 Maneuver	-	-	-	-	-	-	40	58	-	38	59	-
Stage 1	-	-	-	-	-	-	271	299	-	313	336	-
Stage 2	-	-	-	-	-	-	287	320	-	245	299	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.15	0.46	98.2	92.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	42	291	793	-	-	683	-	-	67
HCM Lane V/C Ratio	0.672	0.117	0.021	-	-	0.056	-	-	0.408
HCM Ctrl Dly (s/v)	193.2	19	9.6	-	-	10.6	-	-	92.1
HCM Lane LOS	F	C	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	2.5	0.4	0.1	-	-	0.2	-	-	1.6

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	40	15	65	10	10	5	85	365	5	10	220	20
Future Vol, veh/h	40	15	65	10	10	5	85	365	5	10	220	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	44	16	71	11	11	5	93	401	5	11	242	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	868	868	253	863	876	404	264	0	0	407	0	0
Stage 1	275	275	-	591	591	-	-	-	-	-	-	-
Stage 2	593	593	-	272	286	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	273	290	786	275	287	647	1300	-	-	1152	-	-
Stage 1	731	683	-	493	495	-	-	-	-	-	-	-
Stage 2	492	493	-	734	675	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	233	260	786	211	258	647	1300	-	-	1152	-	-
Mov Cap-2 Maneuver	233	260	-	211	258	-	-	-	-	-	-	-
Stage 1	723	675	-	448	449	-	-	-	-	-	-	-
Stage 2	431	447	-	644	668	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	19.15	20.06	1.49	0.33
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	335	-	-	385	266	71	-	-
HCM Lane V/C Ratio	0.072	-	-	0.343	0.103	0.01	-	-
HCM Ctrl Dly (s/v)	8	0	-	19.2	20.1	8.2	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.5	0.3	0	-	-

Intersection Capacity Worksheets: Year 2028 Background + Project

Intersection	
Intersection Delay, s/veh	17.2
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	739	646	496	48
Demand Flow Rate, veh/h	768	691	546	52
Vehicles Circulating, veh/h	208	407	554	1009
Vehicles Exiting, veh/h	853	693	422	89
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	13.8	20.0	19.3	9.3
Approach LOS	B	C	C	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	768	691	546	52
Cap Entry Lane, veh/h	1116	911	784	493
Entry HV Adj Factor	0.962	0.934	0.909	0.926
Flow Entry, veh/h	739	646	496	48
Cap Entry, veh/h	1073	851	713	457
V/C Ratio	0.688	0.758	0.696	0.105
Control Delay, s/veh	13.8	20.0	19.3	9.3
LOS	B	C	C	A
95th %tile Queue, veh	6	7	6	0

Intersection	
Intersection Delay, s/veh	14.1
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	531	700	238	440
Demand Flow Rate, veh/h	568	750	241	461
Vehicles Circulating, veh/h	375	288	815	553
Vehicles Exiting, veh/h	639	709	128	485
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	13.1	16.8	7.7	14.4
Approach LOS	B	C	A	B

Lane	Left	Left	Left	Bypass	Left
Designated Moves	LTR	LTR	LT	R	LTR
Assumed Moves	LTR	LTR	LT		LTR
RT Channelized				Free	
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	568	750	182	59	461
Cap Entry Lane, veh/h	941	1029	601	1919	785
Entry HV Adj Factor	0.935	0.934	0.988	0.990	0.954
Flow Entry, veh/h	531	700	180	58	440
Cap Entry, veh/h	880	961	594	1900	749
V/C Ratio	0.603	0.729	0.303	0.031	0.587
Control Delay, s/veh	13.1	16.8	10.2	0.0	14.4
LOS	B	C	B	A	B
95th %tile Queue, veh	4	7	1	0	4

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	35	75	5	8	83
Future Vol, veh/h	26	35	75	5	8	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	80	80	90	90
Heavy Vehicles, %	2	2	3	3	6	6
Mvmt Flow	36	48	94	6	9	92

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	207	97	0	0	100	0
Stage 1	97	-	-	-	-	-
Stage 2	110	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.16	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.254	-
Pot Cap-1 Maneuver	782	959	-	-	1468	-
Stage 1	927	-	-	-	-	-
Stage 2	915	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	777	959	-	-	1468	-
Mov Cap-2 Maneuver	777	-	-	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	909	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.57	0	0.66
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	872	158	-
HCM Lane V/C Ratio	-	-	0.096	0.006	-
HCM Ctrl Dly (s/v)	-	-	9.6	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	570	21	30	588	4	36	0	56	7	0	11
Future Vol, veh/h	3	570	21	30	588	4	36	0	56	7	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	35	-	160	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	90	90	90	64	64	64	53	53	53
Heavy Vehicles, %	5	5	5	8	8	8	1	1	1	1	1	1
Mvmt Flow	3	655	24	33	653	4	56	0	88	13	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	658	0	0	679	0	0	1382	1387	655	1384	1408	656
Stage 1	-	-	-	-	-	-	662	662	-	722	722	-
Stage 2	-	-	-	-	-	-	720	724	-	662	686	-
Critical Hdwy	4.15	-	-	4.18	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.245	-	-	2.272	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	916	-	-	885	-	-	122	144	468	121	139	468
Stage 1	-	-	-	-	-	-	453	461	-	419	433	-
Stage 2	-	-	-	-	-	-	421	432	-	453	449	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	916	-	-	885	-	-	112	138	468	95	134	468
Mov Cap-2 Maneuver	-	-	-	-	-	-	112	138	-	95	134	-
Stage 1	-	-	-	-	-	-	451	459	-	404	416	-
Stage 2	-	-	-	-	-	-	387	415	-	367	448	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.05	0.44	34.72	28.84
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	112	468	916	-	-	885	-	-	185
HCM Lane V/C Ratio	0.504	0.187	0.004	-	-	0.038	-	-	0.184
HCM Ctrl Dly (s/v)	66.2	14.5	8.9	-	-	9.2	-	-	28.8
HCM Lane LOS	F	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	2.3	0.7	0	-	-	0.1	-	-	0.7

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	34	3	21	1	8	19	27	201	2	4	161	9
Future Vol, veh/h	34	3	21	1	8	19	27	201	2	4	161	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	3	24	1	9	22	31	231	2	5	185	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	497	495	190	490	499	232	195	0	0	233	0	0
Stage 1	199	199	-	294	294	-	-	-	-	-	-	-
Stage 2	298	295	-	196	205	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	483	476	852	488	473	807	1378	-	-	1334	-	-
Stage 1	802	736	-	714	669	-	-	-	-	-	-	-
Stage 2	711	669	-	806	732	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	447	462	852	457	459	807	1378	-	-	1334	-	-
Mov Cap-2 Maneuver	447	462	-	457	459	-	-	-	-	-	-	-
Stage 1	799	733	-	696	652	-	-	-	-	-	-	-
Stage 2	664	651	-	776	729	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	12.58	10.84	0.9	0.18
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	211	-	-	541	649	41	-	-
HCM Lane V/C Ratio	0.023	-	-	0.123	0.05	0.003	-	-
HCM Ctrl Dly (s/v)	7.7	0	-	12.6	10.8	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.2	0	-	-

Intersection	
Intersection Delay, s/veh	18.4
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	686	805	470	67
Demand Flow Rate, veh/h	699	821	484	70
Vehicles Circulating, veh/h	287	354	495	1077
Vehicles Exiting, veh/h	860	625	491	98
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	14.1	25.7	13.3	10.4
Approach LOS	B	D	B	B

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	699	821	484	70
Cap Entry Lane, veh/h	1030	962	833	460
Entry HV Adj Factor	0.981	0.980	0.971	0.962
Flow Entry, veh/h	686	805	470	67
Cap Entry, veh/h	1010	943	809	443
V/C Ratio	0.679	0.854	0.581	0.152
Control Delay, s/veh	14.1	25.7	13.3	10.4
LOS	B	D	B	B
95th %tile Queue, veh	6	11	4	1

Intersection	
Intersection Delay, s/veh	16.4
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	633	670	257	548
Demand Flow Rate, veh/h	659	690	264	565
Vehicles Circulating, veh/h	466	302	951	503
Vehicles Exiting, veh/h	602	833	174	489
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	21.1	14.5	8.8	17.0
Approach LOS	C	B	A	C

Lane	Left	Left	Left	Bypass	Left
Designated Moves	LTR	LTR	LT	R	LTR
Assumed Moves	LTR	LTR	LT		LTR
RT Channelized				Free	
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	659	690	184	80	565
Cap Entry Lane, veh/h	858	1014	523	1957	826
Entry HV Adj Factor	0.961	0.971	0.971	0.971	0.970
Flow Entry, veh/h	633	670	179	78	548
Cap Entry, veh/h	824	985	508	1900	802
V/C Ratio	0.768	0.680	0.352	0.041	0.684
Control Delay, s/veh	21.1	14.5	12.6	0.0	17.0
LOS	C	B	B	A	C
95th %tile Queue, veh	8	6	2	0	6

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	24	189	22	36	69
Future Vol, veh/h	13	24	189	22	36	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	59	59	88	88	77	77
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	22	41	215	25	47	90

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	410	227	0	0	240	0
Stage 1	227	-	-	-	-	-
Stage 2	183	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	599	815	-	-	1333	-
Stage 1	813	-	-	-	-	-
Stage 2	851	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	577	815	-	-	1333	-
Mov Cap-2 Maneuver	577	-	-	-	-	-
Stage 1	813	-	-	-	-	-
Stage 2	819	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.55	0	2.67
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	712	617	-
HCM Lane V/C Ratio	-	-	0.088	0.035	-
HCM Ctrl Dly (s/v)	-	-	10.5	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	678	48	61	599	7	27	0	46	7	0	4
Future Vol, veh/h	12	678	48	61	599	7	27	0	46	7	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	35	-	160	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	84	84	84	65	65	65	92	92	92
Heavy Vehicles, %	3	3	3	2	2	2	12	12	12	1	1	1
Mvmt Flow	13	737	52	73	713	8	42	0	71	8	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	721	0	0	789	0	0	1621	1630	737	1626	1678	717
Stage 1	-	-	-	-	-	-	763	763	-	862	862	-
Stage 2	-	-	-	-	-	-	858	867	-	763	815	-
Critical Hdwy	4.13	-	-	4.12	-	-	7.22	6.62	6.32	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.22	5.62	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.22	5.62	-	6.11	5.51	-
Follow-up Hdwy	2.227	-	-	2.218	-	-	3.608	4.108	3.408	3.509	4.009	3.309
Pot Cap-1 Maneuver	876	-	-	831	-	-	78	96	402	82	95	431
Stage 1	-	-	-	-	-	-	382	399	-	351	373	-
Stage 2	-	-	-	-	-	-	338	357	-	398	392	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	876	-	-	831	-	-	70	87	402	61	86	431
Mov Cap-2 Maneuver	-	-	-	-	-	-	70	87	-	61	86	-
Stage 1	-	-	-	-	-	-	376	393	-	320	341	-
Stage 2	-	-	-	-	-	-	305	326	-	323	387	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.15	0.89	52.48	51.73
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	70	402	876	-	-	831	-	-	89
HCM Lane V/C Ratio	0.597	0.176	0.015	-	-	0.087	-	-	0.135
HCM Ctrl Dly (s/v)	114.9	15.8	9.2	-	-	9.7	-	-	51.7
HCM Lane LOS	F	C	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	2.6	0.6	0	-	-	0.3	-	-	0.4

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	28	11	50	4	7	10	65	307	2	9	183	15
Future Vol, veh/h	28	11	50	4	7	10	65	307	2	9	183	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	12	55	4	8	11	71	337	2	10	201	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	713	712	209	708	719	338	218	0	0	340	0	0
Stage 1	229	229	-	481	481	-	-	-	-	-	-	-
Stage 2	484	482	-	227	237	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	347	358	831	349	354	704	1352	-	-	1220	-	-
Stage 1	774	715	-	566	554	-	-	-	-	-	-	-
Stage 2	564	553	-	776	709	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	309	331	831	292	328	704	1352	-	-	1220	-	-
Mov Cap-2 Maneuver	309	331	-	292	328	-	-	-	-	-	-	-
Stage 1	767	708	-	529	518	-	-	-	-	-	-	-
Stage 2	511	517	-	706	702	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	14.31	13.92	1.36	0.35
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	312	-	-	484	427	77	-	-
HCM Lane V/C Ratio	0.053	-	-	0.202	0.054	0.008	-	-
HCM Ctrl Dly (s/v)	7.8	0	-	14.3	13.9	8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.7	0.2	0	-	-

Intersection Capacity Worksheets: Year 2045 Background + Project

Intersection	
Intersection Delay, s/veh	15.8
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	1	1	2	2
Adj Approach Flow, veh/h	826	806	786	70
Demand Flow Rate, veh/h	842	821	802	72
Vehicles Circulating, veh/h	312	538	531	1248
Vehicles Exiting, veh/h	1008	795	623	111
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.6	10.3	30.7	9.5
Approach LOS	A	B	D	A

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.544	4.544	4.544	4.544	4.328	4.328
A (Intercept)	1420	1420	1420	1420	1420	1420
B (Slope)	9.101e-4	9.101e-4	9.101e-4	9.101e-4	8.501e-4	8.501e-4
Entry Flow, veh/h	396	446	386	435	802	72
Cap Entry Lane, veh/h	1069	1069	870	870	904	492
Entry HV Adj Factor	0.980	0.982	0.981	0.982	0.980	0.977
Flow Entry, veh/h	388	438	379	427	786	70
Cap Entry, veh/h	1048	1049	854	854	886	480
V/C Ratio	0.370	0.417	0.444	0.500	0.887	0.146
Control Delay, s/veh	7.3	7.9	9.8	10.8	30.7	9.5
LOS	A	A	A	B	D	A
95th %tile Queue, veh	2	2	2	3	12	1

Intersection	
Intersection Delay, s/veh	25.6
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	598	929	271	510
Demand Flow Rate, veh/h	610	947	274	520
Vehicles Circulating, veh/h	436	321	888	685
Vehicles Exiting, veh/h	769	772	119	583
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	13.9	38.9	9.1	23.9
Approach LOS	B	E	A	C

Lane	Left	Bypass	Left	Left	Bypass	Left
Designated Moves	LT	R	LTR	LT	R	LTR
Assumed Moves	LT		LTR	LT		LTR
RT Channelized		Yield			Free	
Lane Util	1.000		1.000	1.000		1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609		2.609
Critical Headway, s	4.976	4.976	4.976	4.976		4.976
A (Intercept)	1380	1380	1380	1380		1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3		1.02e-3
Entry Flow, veh/h	571	39	947	205	69	520
Cap Entry Lane, veh/h	885	1222	995	558	1919	686
Entry HV Adj Factor	0.981	0.980	0.981	0.988	0.990	0.981
Flow Entry, veh/h	560	38	929	203	68	510
Cap Entry, veh/h	868	1198	976	551	1900	673
V/C Ratio	0.646	0.032	0.952	0.367	0.036	0.758
Control Delay, s/veh	14.6	3.3	38.9	12.1	0.0	23.9
LOS	B	A	E	B	A	C
95th %tile Queue, veh	5	0	16	2	0	7

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	33	45	95	6	15	110
Future Vol, veh/h	33	45	95	6	15	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	90	90
Heavy Vehicles, %	2	2	3	3	6	6
Mvmt Flow	38	51	108	7	17	122

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	267	111	0	0	115	0
Stage 1	111	-	-	-	-	-
Stage 2	156	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.16	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.254	-
Pot Cap-1 Maneuver	722	942	-	-	1450	-
Stage 1	913	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	713	942	-	-	1450	-
Mov Cap-2 Maneuver	713	-	-	-	-	-
Stage 1	913	-	-	-	-	-
Stage 2	862	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.86	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	829	216	-
HCM Lane V/C Ratio	-	-	0.107	0.011	-
HCM Ctrl Dly (s/v)	-	-	9.9	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	710	51	30	785	10	39	5	59	10	5	15
Future Vol, veh/h	5	710	51	30	785	10	39	5	59	10	5	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	35	-	160	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	88	88	88	88	88	88
Heavy Vehicles, %	5	5	5	8	8	8	1	1	1	1	1	1
Mvmt Flow	5	772	55	33	853	11	44	6	67	11	6	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	864	0	0	827	0	0	1704	1712	772	1709	1762	859
Stage 1	-	-	-	-	-	-	783	783	-	924	924	-
Stage 2	-	-	-	-	-	-	921	929	-	785	838	-
Critical Hdwy	4.15	-	-	4.18	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.245	-	-	2.272	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	766	-	-	778	-	-	73	91	401	72	85	358
Stage 1	-	-	-	-	-	-	389	406	-	324	350	-
Stage 2	-	-	-	-	-	-	325	348	-	387	383	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	766	-	-	778	-	-	61	87	401	54	81	358
Mov Cap-2 Maneuver	-	-	-	-	-	-	61	87	-	54	81	-
Stage 1	-	-	-	-	-	-	386	403	-	311	335	-
Stage 2	-	-	-	-	-	-	292	333	-	316	380	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.06	0.36	78.82	56.25
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	64	401	766	-	-	778	-	-	103
HCM Lane V/C Ratio	0.787	0.167	0.007	-	-	0.042	-	-	0.331
HCM Ctrl Dly (s/v)	163.4	15.8	9.7	-	-	9.8	-	-	56.2
HCM Lane LOS	F	C	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	3.6	0.6	0	-	-	0.1	-	-	1.3

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	45	6	30	5	13	23	35	240	5	6	195	15
Future Vol, veh/h	45	6	30	5	13	23	35	240	5	6	195	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	7	34	6	15	26	40	276	6	7	224	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	610	609	233	601	614	279	241	0	0	282	0	0
Stage 1	247	247	-	359	359	-	-	-	-	-	-	-
Stage 2	364	362	-	241	255	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	406	410	806	412	407	760	1325	-	-	1281	-	-
Stage 1	757	702	-	659	627	-	-	-	-	-	-	-
Stage 2	655	625	-	762	696	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	362	393	806	372	390	760	1325	-	-	1281	-	-
Mov Cap-2 Maneuver	362	393	-	372	390	-	-	-	-	-	-	-
Stage 1	753	698	-	635	604	-	-	-	-	-	-	-
Stage 2	595	603	-	718	692	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	14.85	12.42	0.98	0.22
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	224	-	-	458	532	49	-	-
HCM Lane V/C Ratio	0.03	-	-	0.203	0.089	0.005	-	-
HCM Ctrl Dly (s/v)	7.8	0	-	14.9	12.4	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0.3	0	-	-

Intersection	
Intersection Delay, s/veh	14.8
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	1	1	2	2
Adj Approach Flow, veh/h	936	1009	701	88
Demand Flow Rate, veh/h	954	1029	722	93
Vehicles Circulating, veh/h	460	496	564	1399
Vehicles Exiting, veh/h	1032	790	850	126
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	10.6	12.2	24.4	12.2
Approach LOS	B	B	C	B

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.544	4.544	4.544	4.544	4.328	4.328
A (Intercept)	1420	1420	1420	1420	1420	1420
B (Slope)	9.101e-4	9.101e-4	9.101e-4	9.101e-4	8.501e-4	8.501e-4
Entry Flow, veh/h	448	506	484	545	722	93
Cap Entry Lane, veh/h	934	934	904	904	879	432
Entry HV Adj Factor	0.981	0.980	0.980	0.981	0.971	0.951
Flow Entry, veh/h	440	496	474	535	701	88
Cap Entry, veh/h	917	916	886	887	854	411
V/C Ratio	0.479	0.542	0.535	0.603	0.821	0.215
Control Delay, s/veh	9.9	11.2	11.3	13.0	24.4	12.2
LOS	A	B	B	B	C	B
95th %tile Queue, veh	3	3	3	4	9	1

Intersection	
Intersection Delay, s/veh	33.3
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	771	855	336	637
Demand Flow Rate, veh/h	787	872	343	650
Vehicles Circulating, veh/h	549	373	1132	634
Vehicles Exiting, veh/h	735	994	142	611
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	36.1	35.2	14.0	37.6
Approach LOS	E	E	B	E

Lane	Left	Bypass	Left	Left	Bypass	Left
Designated Moves	LT	R	LTR	LT	R	LTR
Assumed Moves	LT		LTR	LT		LTR
RT Channelized		Yield			Free	
Lane Util	1.000		1.000	1.000		1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609		2.609
Critical Headway, s	4.976	4.976	4.976	4.976		4.976
A (Intercept)	1380	1380	1380	1380		1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3		1.02e-3
Entry Flow, veh/h	726	61	872	234	109	650
Cap Entry Lane, veh/h	788	1194	943	435	1938	723
Entry HV Adj Factor	0.980	0.980	0.981	0.979	0.980	0.980
Flow Entry, veh/h	711	60	855	229	107	637
Cap Entry, veh/h	772	1170	925	426	1900	708
V/C Ratio	0.921	0.051	0.924	0.538	0.056	0.899
Control Delay, s/veh	38.9	3.5	35.2	20.6	0.0	37.6
LOS	E	A	E	C	A	E
95th %tile Queue, veh	13	0	14	3	0	12

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	39	235	28	45	90
Future Vol, veh/h	17	39	235	28	45	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	19	44	267	32	51	102

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	488	283	0	0	299	0
Stage 1	283	-	-	-	-	-
Stage 2	205	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	541	758	-	-	1268	-
Stage 1	767	-	-	-	-	-
Stage 2	832	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	518	758	-	-	1268	-
Mov Cap-2 Maneuver	518	-	-	-	-	-
Stage 1	767	-	-	-	-	-
Stage 2	797	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.99	0	2.65
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	665	600	-
HCM Lane V/C Ratio	-	-	0.096	0.04	-
HCM Ctrl Dly (s/v)	-	-	11	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	900	52	62	760	10	29	5	49	10	5	10
Future Vol, veh/h	15	900	52	62	760	10	29	5	49	10	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	35	-	160	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	88	88	88	92	92	92
Heavy Vehicles, %	3	3	3	2	2	2	12	12	12	1	1	1
Mvmt Flow	16	978	57	67	826	11	33	6	56	11	5	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	837	0	0	1035	0	0	1974	1983	978	1980	2034	832
Stage 1	-	-	-	-	-	-	1011	1011	-	966	966	-
Stage 2	-	-	-	-	-	-	964	972	-	1014	1067	-
Critical Hdwy	4.13	-	-	4.12	-	-	7.22	6.62	6.32	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.22	5.62	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.22	5.62	-	6.11	5.51	-
Follow-up Hdwy	2.227	-	-	2.218	-	-	3.608	4.108	3.408	3.509	4.009	3.309
Pot Cap-1 Maneuver	793	-	-	672	-	-	44	58	291	46	57	371
Stage 1	-	-	-	-	-	-	277	305	-	307	334	-
Stage 2	-	-	-	-	-	-	294	318	-	289	300	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	793	-	-	672	-	-	34	51	291	30	51	371
Mov Cap-2 Maneuver	-	-	-	-	-	-	34	51	-	30	51	-
Stage 1	-	-	-	-	-	-	271	299	-	276	301	-
Stage 2	-	-	-	-	-	-	252	286	-	225	293	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.15	0.82	155.12	125.55
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	36	291	793	-	-	672	-	-	54
HCM Lane V/C Ratio	1.087	0.191	0.021	-	-	0.1	-	-	0.502
HCM Ctrl Dly (s/v)	$ 349.4	20.3	9.6	-	-	11	-	-	125.6
HCM Lane LOS	F	C	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	4	0.7	0.1	-	-	0.3	-	-	1.9

Intersection	
Int Delay, s/veh	4.5

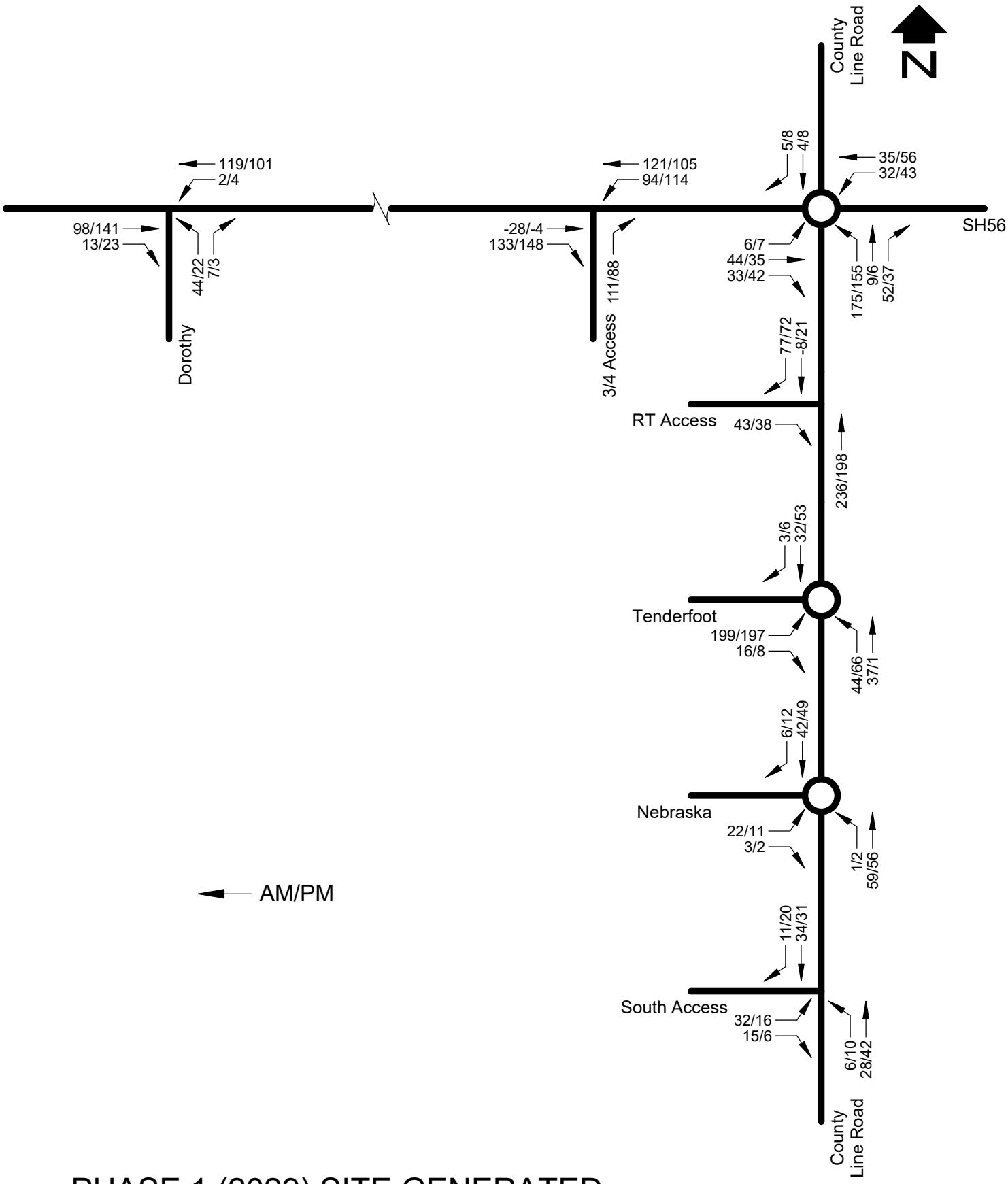
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	40	18	65	10	12	14	85	365	5	13	220	20
Future Vol, veh/h	40	18	65	10	12	14	85	365	5	13	220	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	44	20	71	11	13	15	93	401	5	14	242	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	876	875	253	871	883	404	264	0	0	407	0	0
Stage 1	281	281	-	591	591	-	-	-	-	-	-	-
Stage 2	595	593	-	280	292	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	269	288	786	271	285	647	1300	-	-	1152	-	-
Stage 1	726	678	-	493	495	-	-	-	-	-	-	-
Stage 2	491	493	-	726	671	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	224	257	786	205	254	647	1300	-	-	1152	-	-
Mov Cap-2 Maneuver	224	257	-	205	254	-	-	-	-	-	-	-
Stage 1	715	668	-	448	449	-	-	-	-	-	-	-
Stage 2	422	447	-	632	661	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	20.13	18.48	1.49	0.42
HCM LOS	C	C		

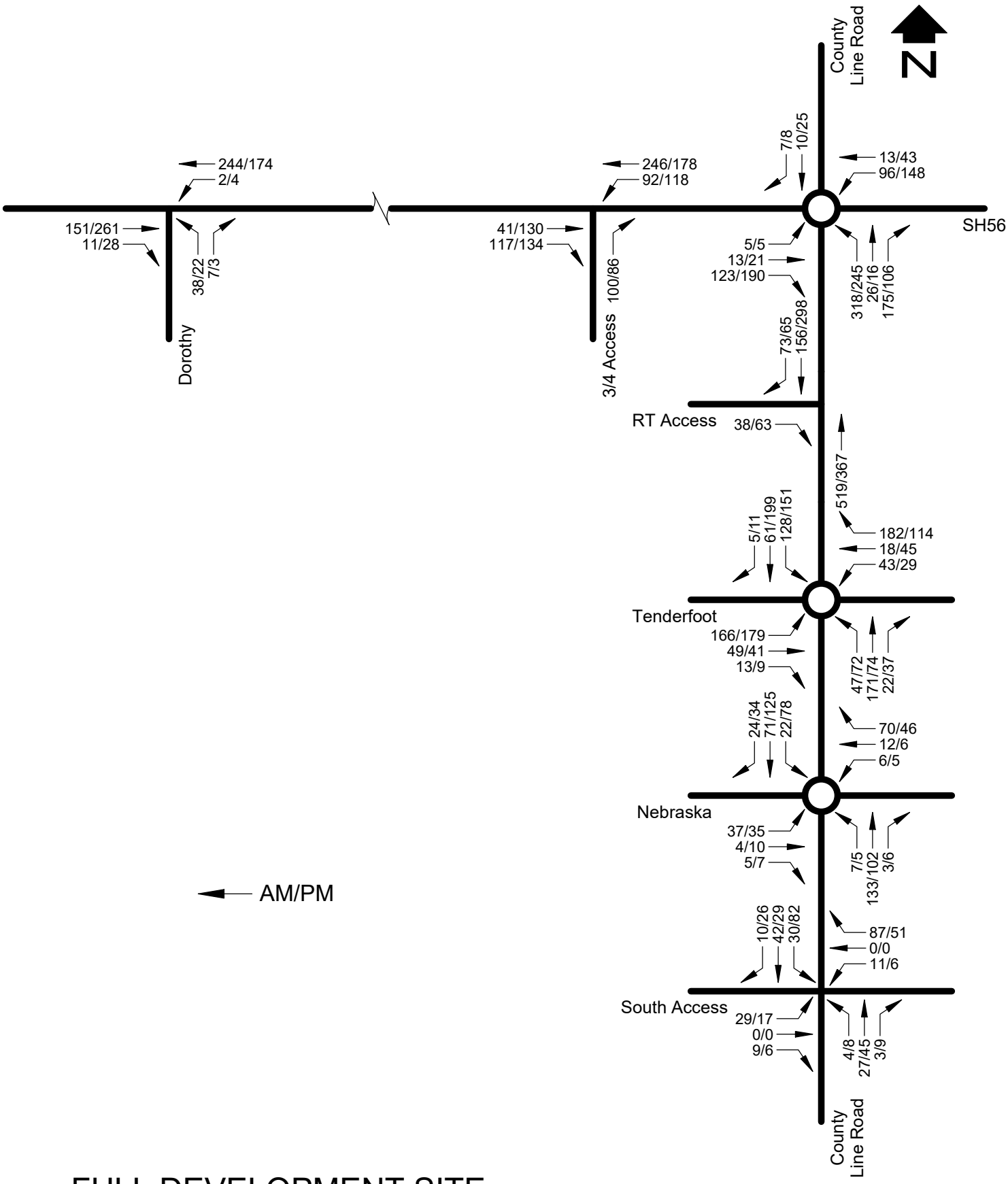
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	335	-	-	371	306	91	-	-
HCM Lane V/C Ratio	0.072	-	-	0.364	0.129	0.012	-	-
HCM Ctrl Dly (s/v)	8	0	-	20.1	18.5	8.2	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.6	0.4	0	-	-

Background Documentation



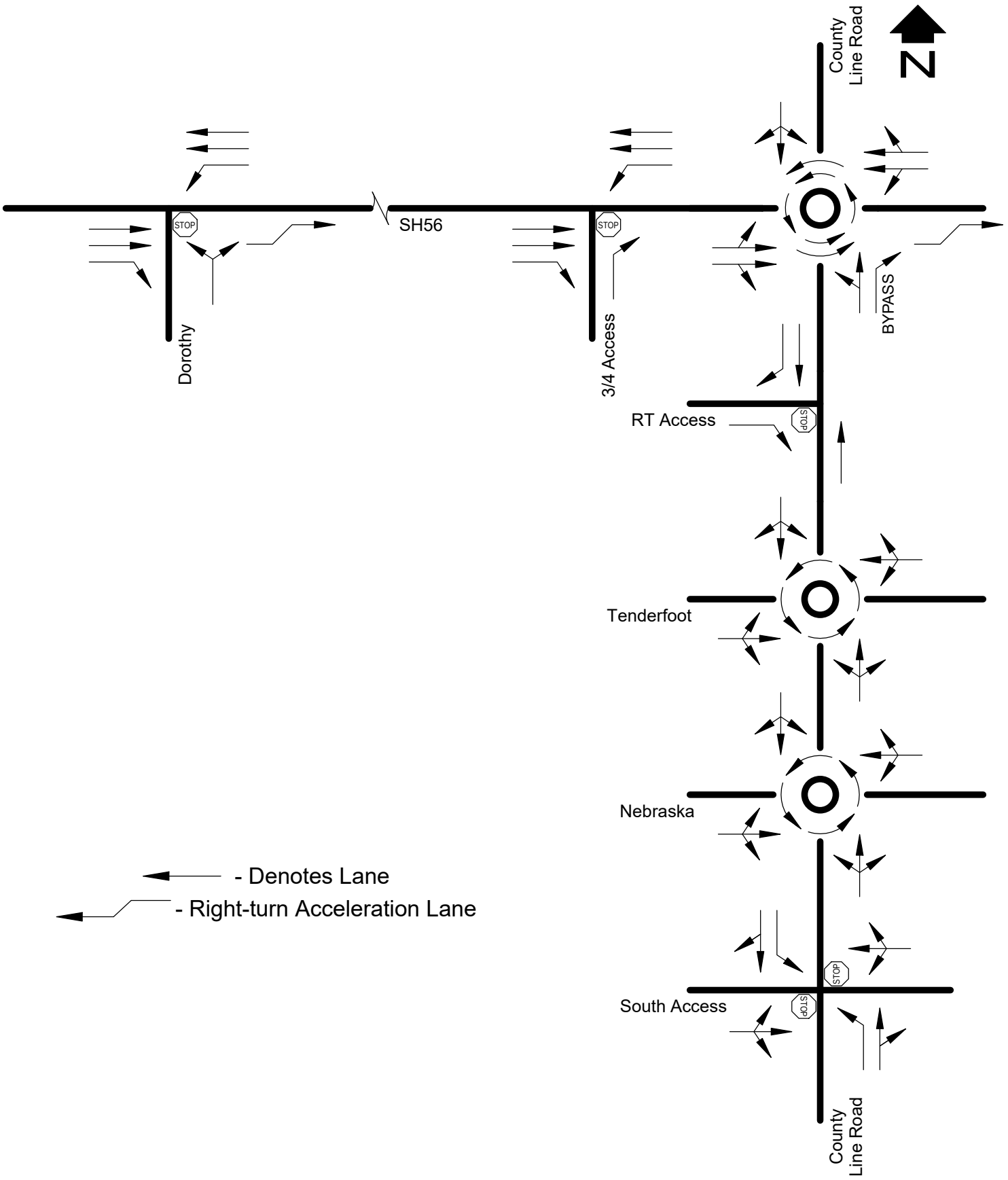
PHASE 1 (2029) SITE GENERATED PEAK HOUR TRAFFIC

Figure 7



FULL DEVELOPMENT SITE GENERATED PEAK HOUR TRAFFIC

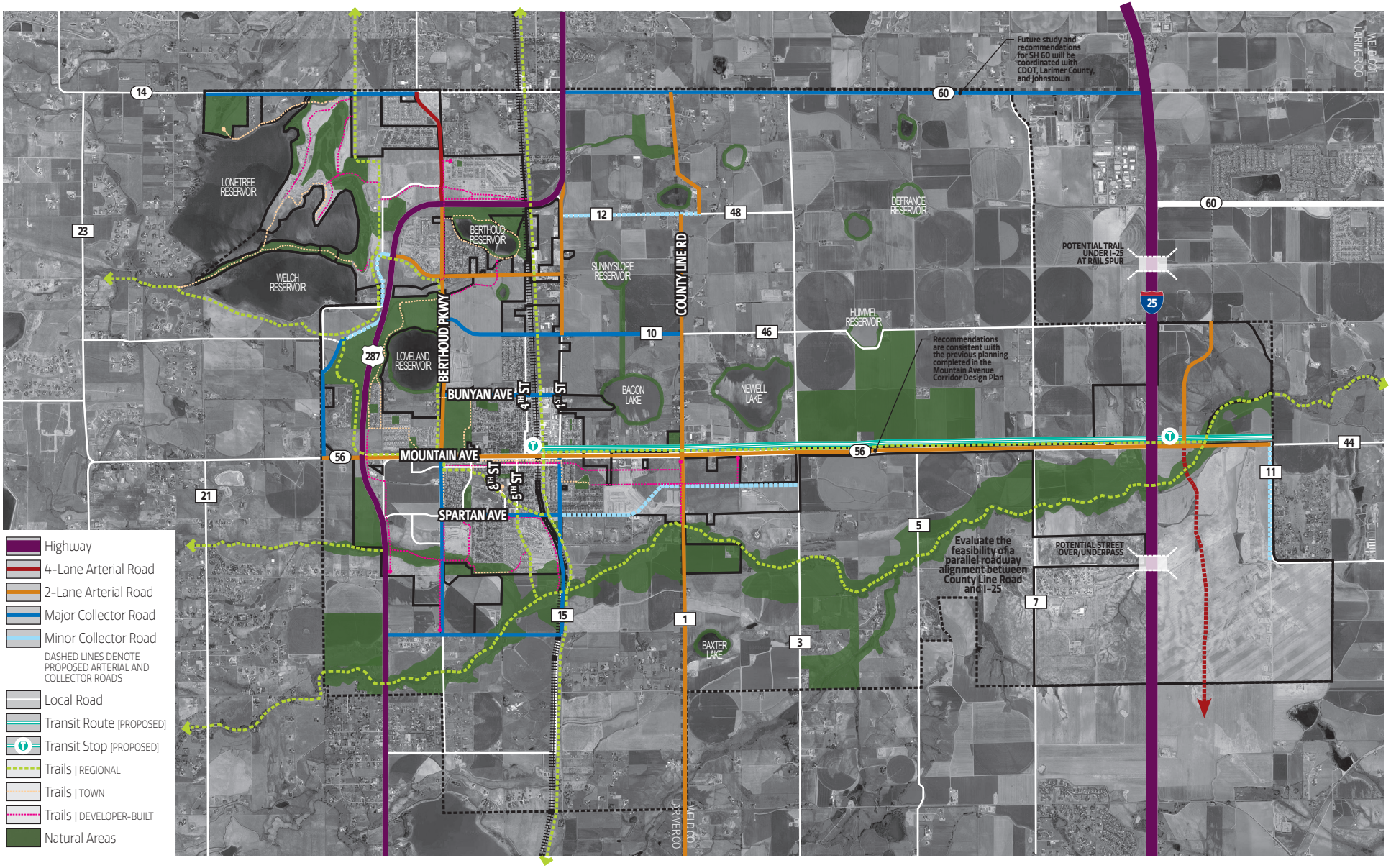
Figure 8



LONG RANGE (2045) GEOMETRY

Figure 14

DELICH ASSOCIATES



TRANSPORTATION PLAN MAP

LAST REVISED: SEPTEMBER 9, 2021

Table 4-1
Loveland (GMA and City Limits)
Motor Vehicle LOS Standards (Intersections)

Intersection Component	Major Intersection[1]	Minor Intersection[2]	Driveway
Overall (City Limits)	LOS C	LOS C	No Limit
Overall (GMAs)	LOS D	LOS D	No Limit
Any Leg	LOS D	LOS E	No Limit
Any Movement	LOS E	LOS F	No Limit

[1] Includes all signalized and unsignalized arterial/arterial and arterial/ major collector intersections.
[2] Includes all unsignalized intersections (except major intersections) and high volume driveways
[3] There are no LOS standards for I-25 Interchanges.
[4] On State Highways, overall LOS D is acceptable.

Table 4-2
Fort Collins (GMA and City Limits)
Motor Vehicle LOS Standards (Intersections)

	Overall	Any Approach leg	Any Movement
Signalized	D[1]	E	E[2]
Unsignalized Arterial / Arterial Collector / Collector	E[3]	F[4]	
Unsignalized Arterial / Collector Arterial / Local Collector / Local Local / Local	D[3]	F[4]	
Roundabout	E [3,5]	E[54]	E[5]

[1] In mixed use district including downtown as defined by structure plan, overall LOS E is acceptable
[2] Applicable with at least 5% of total entering volume
[3] Use weighted average to identify overall delay
[4] Mitigation may be required
[5] Apply unsignalized delay value thresholds to determine LOS

Attachment 6

Public Comment

From: Jennifer Vander Zee <bmrjensed@gmail.com>
Sent: Thursday, January 8, 2026 7:07 AM
To: Tawn Hillenbrand
Subject: Fickel Farm 5th, NW Proposal

[You don't often get email from bmrjensed@gmail.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Good Morning Tawn,

I live on Victoria street. I want to express/ record my concerns about the Fickel's 5th proposal, specifically the NW expansion.

I DO support the growth and expansion of new homes in Berthoud with similar neighborhood design, character, quality, and sq foot density as lots in the Fickel Farm 1st - 4th filings. There is a need.

We have owned our home since 2007, and we love and DO want to preserve the small town feel to our neighborhood. The proposed NW expansion of tiny high-density townhomes would not be inclusive for everyone. Specifically, the elderly and the disabled as there would be two stories/stairs.

These proposed units would not be family friendly. No yards. Most young families today require two incomes, and the need for two cars. The proposed high density townhomes on 20x71 ft lots are inadequate for two parking space-double car garages to be constructed. Two parking spaces requires 20x20 ft. This will create overflow parking congestion risk onto our neighborhood streets.

I foresee safety issues for public services to access to these high density dwellings, due to increased congestion of vehicles that have to overflow park onto the Main Street, regardless of preventative signage, to the narrow Welch ave. I understand there was a traffic study and Fire safety signed off. Did they have the premise these townhomes allowed for 2 car parking.

A population boom from this housing proposal will increase the city costs due to an increased public services demand to support the influx/volume and percentage of at risk populations that do follow with high density properties.

My main concern is the change to the city code that now allows a fraction of the 1600 sq ft minimum dwelling requirement only needed. This will open the flood gates to high density units, not only in our neighborhood, but the entire town of Berthoud. 20 x 71 lots are not a like-dwelling proposal to our neighborhood.

The current high-density townhome proposal has no transition away from existing property neighborhood low density lots and is not compatible.

Townhomes stacked like cord wood, without a transition away from low density surround dwellings will further risk the "small town feel" of our neighborhood. The multiple proposed detention ponds, proposed to be adjacent to our back yard, do not count as an appropriate transition.

We love the green space of Pioneer Park that our neighborhood currently enjoys. I have a concern and wonder if we will continue to enjoy it safely, or will it become an at risk hangout for illicit activities that come with high density housing.

I believe the small town feel will be lost to this neighborhood, and to the town of Berthoud, if this proposal gets approved AS IS.

In closing, your approval actions do affect our neighborhood, specifically by allowing minimal sq foot housing, codes that you have changed to conform to this proposal.

Sincerely,

Jennifer Vander Zee, ARNP-BC

Public Comment - 2

From: Wade Cooper <forwecooper@gmail.com>
Sent: Thursday, January 8, 2026 8:36 AM
To: Tawn Hillenbrand
Subject: Fickel Farm 5th Filing Preliminary Plat

Categories: Neighbor Comment

Hello Tawn,
Please consider this email as public comments for the subject Plat and hearing for January 8, 2026, and ensure it is provided to the applicant, the Planning Commission, and the Board of Trustees and becomes a part of the record for the application.

The subject Preliminary Plat appears to be the same as the previous Preliminary Plat whose file was reportedly closed before its scheduled Dec 9, 2025 Board hearing.

I have yet to understand how the applicant's Narrative can specify "There has been no public comment to-date," when I submitted 6 comment emails to your office from Nov 3- Dec 5, and all of these emails were responded to as being included in the application file, and all but the last email were acknowledged as being shared with the applicant, the Planning Commission, and the Board of Trustees. Someone is lying here!!! A similar problem occurred with the Staff report provided to the Planning Commission at their hearing of Nov 13, 2025, to approve the previous Plat application. It wrongfully specified "No public comments were received." You were gracious enough to apologize for the error in the Staff report, but that doesn't change the fact that the Preliminary Plat was unanimously passed based on an inaccurate Staff report. Submitted public comments are either not reaching the applicant, Planning Commission, and Board of Trustees, or they're simply being ignored. These actions are contrary to Code requirements (both old and new) at 30-3-116-5 and 30-5-101F which specifies:
"F. Public Review. The public may view the application and provide comments which shall be reviewed by Staff, provided to the Applicant, and provided in packet materials for the public hearing process. When written comments are received prior to the Public Hearing, the applicant shall address public comments in a report to be included with the record prior to the Public Hearing."

Problems with the new Development Code (Ordinance 1367)

When engineers design a product, they incorporate safety factors into their design to account for the variation and unreliability of the design data so they have a high confidence that the product will not fail. Planners, including the Planning Commission and the Board, should use a similar concept when developing Development Codes to provide assurance that the developments do not fail.

In order to prevent housing development failures, housing development codes, such as the minimum number of parking spaces, should include requirements that meet the needs of a high percentile of population households, such as the 90 to 95 percentile. This is necessary to ensure dwelling units and housing developments maintain a high level of demand, and thereby maintain property values and meet diversity criteria. The minimum Code required paved off-street parking spaces for Residential Units shown in the Required Parking Table on page 151 are inadequate for meeting a high percentile of population households. They are inadequate because our current Society has many 2-vehicle

households that need at least 2 paved off-street full time parking spaces, yet the Code only requires 1 or 1.5 parking spaces per unit in all but R1-R3 zoning districts. These 2-vehicle households don't live in just R1-R3 zoning districts, they could be in any of the zoning districts with dwelling units, including even single bedroom units. The number of vehicles in a household also continually changes. Their parking space needs can change when someone gets married or takes on a domestic partner, or their teenager gets a driver's license and gets their own car, or their children move back home for financial reasons. These households may be forced to move when the dwelling unit no longer meets their parking needs. **The absolute minimum number of required paved off-street parking spaces for all dwelling units should be at least 2.0 with an additional full parking space required for those units with 3 or more bedrooms.** This would considerably increase and maintain property values and demand for residential housing units and help satisfy diversity criteria. **It is ridiculous to require partial parking spaces, when vehicles cannot be partial vehicles.**

Providing an adequate number of parking spaces becomes even more critical as densities increase and other parking areas are reduced. It is better to have more than enough parking spaces, than not enough. Not providing enough parking spaces prevents wage earners or potential wage earners from being able to use a vehicle to get to work. In Developments such as this, where there is no additional dwelling unit parking space except for the double car garage, it is even more critical that at least two full parking spaces per dwelling unit be provided. Otherwise these townhomes will not meet the needs of many households and thereby become low value homes and/or rentals for transitory occupants.

This Required Parking Table is also confusing for R3 units because in one column it requires 2.0 and in the very next column it requires 1.5.

The new Code is also deficient by not requiring different parking space requirements for open parking space versus enclosed parking space such as garages. In the Code, a "parking space" is defined as an area of 10 ft by 20 ft. This size is adequate for open parking space of most residential vehicles because obstructions don't prevent the opening of doors or walking around the vehicle. However, it is woefully inadequate for an enclosed parking space. As an example, my Ram half-ton truck is considered a regular full size truck, but it is 7 ft wide from door to door (excluding mirrors) and 20 ft long. A 10 ft by 20 ft enclosed parking space (garage) would be inadequate because I would not be able to park the truck in the space and still close the overhead door. Additionally, I would not be able to get out of the truck due to the walls of the garage preventing me from opening the door enough to exit the truck. To exit/enter vehicles, a minimum of 2.5 ft is required for door swing clearance (5-6 inch door thickness). Thus, in order for me to be able to park my truck in a single car garage, and be able to access both sides and get into it on both sides, would minimally require a 12 ft by 23 ft garage. The 3 ft additional length is needed to provide 0.5-1 ft clearance in the back and 2-2.5 ft clearance in the front for access to the other side of the truck. Even mid-sized vehicles are typically 6 ft wide (excluding mirrors). Thus, they would require an 11-ft wide single car garage. **In order to meet the garage needs for a high percentile (90 to 95) of population households, a double car garage capable of parking at least a mid-size and full-size vehicle should be required in the Code. This equates to minimally requiring a 21 ft by 23 ft garage (interior dimensions).** This width is determined by adding 2.5 ft on each side of the garage for persons to enter/exit vehicles, 3 ft clearance between vehicles to enter/exit with 0.5 ft for parking variation, and 13 ft for the width of the two vehicles (6 ft + 7 ft). This explains why the 4th Filing for Fickel Farm has parking problems as presented in another email submitted for this hearing. They have problems with vehicles parking in front of their garages and thereby partially blocking private streets, and with visitor parking spaces being used by residents to park their vehicles, especially full sized trucks and SUVs, due to inadequate enclosed parking spaces (garages).

The Code requirement for only 0.2 visitor parking space per dwelling unit (i.e., 1 space per 5 dwelling units) is inadequate, especially when the visitor parking spaces are being taken up by the residents who are unable to park their vehicles, especially full size vehicles, in their small inadequate garages. This is exactly what is happening in the Fickel Farm 4th Filing duplexes. **To prevent these parking issues, this Code minimum requirement should be increased to at least 0.25 visitor parking space per dwelling unit (i.e., 1 space per 4 dwelling units).** Thankfully, the developers for this development are providing 0.29 (45/154=0.29) visitor parking spaces per dwelling unit.

The Code is deficient in not requiring visitor parking spaces to be within a specified distance, such as 300 or 400 ft (block), of the dwelling units requiring the visitor parking space. It currently only requires these spaces to be in the development. It is wrong to believe visitors will find or use parking spaces that are not in reasonable proximity to the units they are visiting.

Problems with the Preliminary Plat application

The Plat shows 104 row townhome lots with 3-6 townhomes per building in the western portion and an additional 50 duplex lots in the southeastern portion. Fifty eight of the townhomes have lot sizes of 20 ft by 71 ft (1420 sq ft). The "Project Information" section on the Plat application signatory pages provides a lot of information that doesn't agree with the Preliminary Plat and Landscaping Plan in the application. As some examples, it specifies 165 dwelling units with minimum (25x70) and maximum (28x71) lot sizes, and the size of the development as 14.52 acres. These do not agree with the Plat showing 13.962 acres, 154 dwelling units, minimum 20 ft x 71 ft lot size and maximum 29 ft x 81 ft lot size. The Staff report and Commission info for the hearing has wrongly used the 14.52 acre figure. **Based on the inaccuracy of the information provided in the Plat application, I have a hard time trusting the applicant to follow through with the construction presented in their Landscape Plan or the Plat. This Plat application should be disapproved based on the information discrepancy between the Preliminary Plat and the Plat application (signatory page) information, otherwise false information is being approved. The Planning Staff should have recognized this discrepancy prior to accepting the Plat application for further processing. They should be requiring the applicant to submit a complete and accurate Plat application that meets the current Code requirements before scheduling a public hearing.**

The proposed 20-ft-wide townhome lots (56 percent of 104 total) will provide undesirable living conditions for many population households due to their small cramped cave-like living conditions from a lack of windows on 3 sides on the ground level, and both length sides of the second level, as well as noise coming from the common wall neighbors on both sides. This Plat also does not meet the recommended diversity plan because it proposes to build only two story units on extremely small lots, instead of a diverse range of sizes/types as defined by "diversity." These two story units are typically undesirable for seniors (20 percent of the US adult population) because the aging process commonly causes mobility issues that prevent stair usage. Even young families have family members that periodically have accidents or injuries that prevent using stairs. All the lots in Fickel Farm 4th Filing also contain two-story dwelling units, which further compounds the lack of diversity for these two developments. These are all factors that will result in these townhomes being low value and/or rental housing for transitory occupants. **The Plat should be required to have more diversity by providing ranch dwelling units and no more than four units per building.**

In conclusion, the Board and Planning Commission needs to be more responsible in their primary mission "to improve the quality of life for Berthoud residents" by disapproving this plat and requiring the developer to design a more desirable development that meets the needs of a vast majority (diversity) of households, including seniors, and provide an accurate Plat application that meets all of the current Code requirements, including compatibility with the adjacent neighborhood properties. Please stand up to this developer and stop their attempts to maximize profits at the expense of the surrounding community and Berthoud as a whole. This project should not become a part of the legacy the Board and Planning Commission wants to be remembered for.

Thank you for your time and consideration.
Wade E. Cooper, PE

Public Comment - 3

From: Wade Cooper <forwecooper@gmail.com>
Sent: Thursday, January 8, 2026 12:51 PM
To: Tawn Hillenbrand
Subject: Fickel Farm 5th Filing Preliminary Plat
Attachments: 1000001210.jpg; 1000001207.jpg; 1000001126.jpg; 1000001128.jpg

Categories: Neighbor Comment

Caution: This is an external email and has a suspicious subject or content. Please take care when clicking links or opening attachments.

Hello Tawn,
These are comments on the subject Plat application. Please share these comments with the applicant, the Planning Commission and the Board of Trustees. Please ensure the applicant provides a report to be included in the record as required by 30-5-101F.

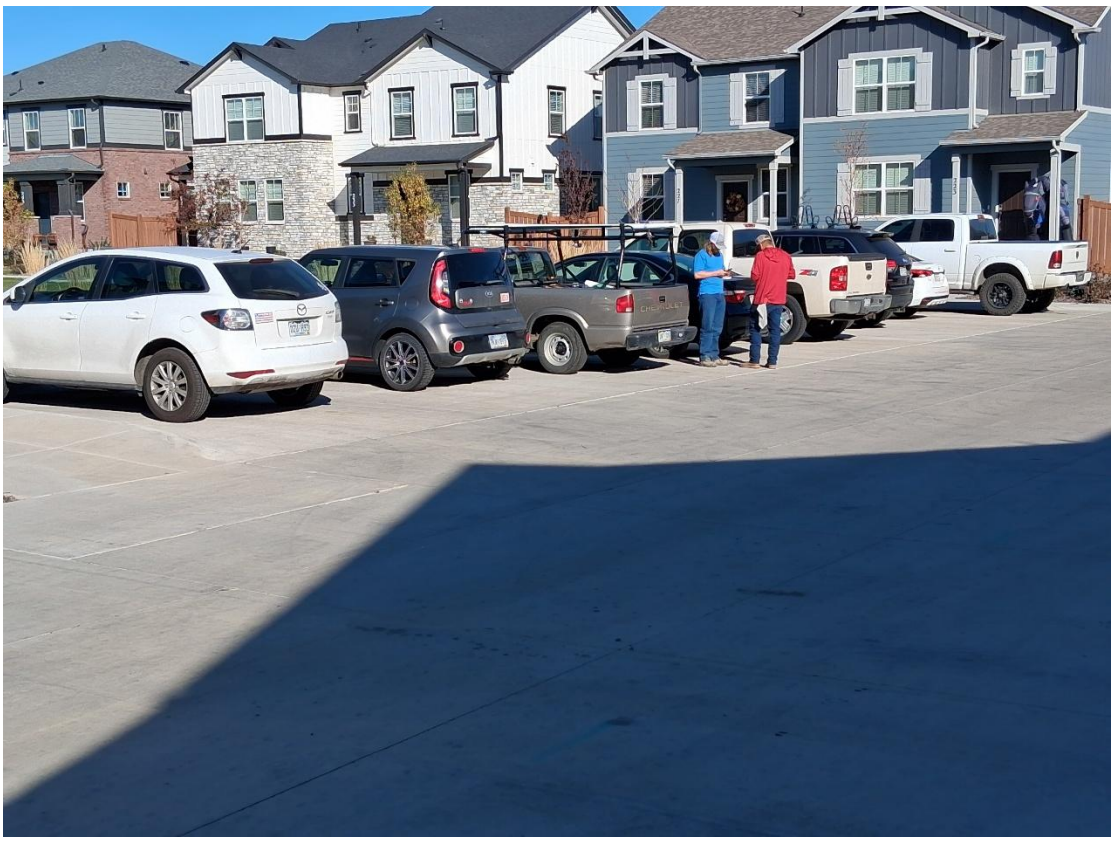
Attached are 4 photos to show the parking problems within the duplexes of the 4th Filing, yet these lot sizes (2700+ sq ft) are nearly twice the size of 58 (56 percent) of the proposed townhome lots (1420 sq ft) in the 5th Filing . These photos were taken around 1pm on Friday Oct 31, 2025 and Thursday Jan 1, 2026. All duplex units within the 4th Filing have a double car garage 20 ft wide with a concrete driveway apron in front of the garage about 13 ft long, and the majority of perimeter duplexes have street parking in front of their units. The photos show that many homeowners are parking their vehicles in front of their garages such that they partially block the "no parking" private streets. One photo shows the visitor parking spaces being full, while the other is 2/3rds full. This parking situation, even with signs prohibiting parking on the private streets, is a safety issue for emergency vehicles such as longer fire trucks and is a nightmare for snow removal plows. Also of importance, it shows the problems with inadequately sized garages to park full sized vehicles such as regular full sized trucks, vans and SUVs. These vehicles typically end up being parked in outside parking spaces because they either don't fit in the garage, restrict access around the vehicle, restrict entry/exit, or they restrict parking of a mid-sized vehicle in the garage at the same time.

My Ram half-ton regular full size truck is 7 ft wide (excluding mirrors) and 20 ft long. I need a 23 ft length garage to be able to park it inside and still provide access in front to get to the other side. This is determined by 0.5-1 ft (rear space) to park it and clear the door, plus 2.0-2.5 ft for front access equals 3 ft, plus 20 ft for the vehicle length equals 23 ft. Entering or exiting a vehicle requires 2.5 ft of door swing clearance; i.e., 2 ft for entry/exit and 5-6 inches for door width. In order to park a full-sized vehicle and a mid-sized vehicle in a garage at the same time and provide access and entry/exit to both, requires a 21 ft wide by 23 ft long garage (interior dimensions). My Honda CR-V is considered a mid-sized vehicle and it is 6 ft wide (excluding mirrors). The 21 ft width is determined by: 3x2.5 ft for entry/exit plus 13 ft for vehicle widths plus 0.5 ft for parking variation.

The parking situation for the proposed 5th Filing would be considerably worse because the 58 townhomes with 20 ft wide lots aren't wide enough to allow the construction of 20-ft wide double car garages (2 parking spaces), and there are no other parking spaces except for visitor parking. To help prevent resident parking in visitor parking and on the streets, such as in the 4th filing, it is critical that

adequate residential parking be provided at these proposed townhome and duplex lots. The applicant should be required to minimally provide 21 ft by 23 ft (interior dimensions) double car garages in all of the townhomes and duplexes to prevent these parking issues This would effectively require the 20 ft wide townhome lots to be increased to 21 ft 8 inches wide so the garages can be constructed. This would help considerably in increasing demand and property values for this development because they would meet the needs of a substantially higher percentile of population households. Minimally, for Code compliance with meeting 2 parking spaces (20 ft by 20 ft interior dimension), these 20-ft-wide townhome lots need to be wider due to foundation walls limiting their garages to less than 20 ft wide (interior).

Thank you for your time and consideration.
Wade E. Cooper, PE



Public Comment 4

Thursday, January 8, 2026

Dear Berthoud Planning Commission –

My father enjoyed living in Berthoud for approximately 20 years before we moved him to Iowa for his last year of life. I acquired his duplex at 304 Victoria Street in Berthoud upon his passing and have maintained it ever since. Two of my daughters have lived there for years while getting their Masters at Colorado State.

Without surprise, what was most attractive about Berthoud to both my father and I was the small town feel of Berthoud. No surprise, because in the Berthoud Neighborhood Master Plan completed recently, the "small town feel" was the #1 most attractive feature of living in Berthoud. Not too surprising – if you want a different living environment, you can easily live in Loveland, Longmont, or someplace else nearby.

The Fickel Farm subdivision is a community of duplexes and smaller single family dwellings, moderately well built. Many of us have our homes set up for low maintenance, and enjoy the quiet, slower pace of living here, yet convenient to all the nice small town amenities of Berthoud. Just as I have enjoyed this for the past 20 years, I would be hopeful that my children could also enjoy this aspect of Berthoud for the next 20 years.

The Fickel Farm Fifth Filing, as presently proposed, clearly jeopardizes the small-town attraction that those of us in Berthoud now value. Upon approval, the townhouses, on those extremely small lots, and with the obvious shortcomings for vehicle parking and street navigation, would transform the Mountain Drive entrance into one huge billboard – WELCOME TO THE BEDROOM COMMUNITY OF BERTHOUD. The absolute density of living in the proposed development is VERY out of place with the way Berthoud is presently structured and enjoyed. If you want the townhome/apartment/bedroom community feel- it is more than accessible in Loveland or Longmont, it does not require that Berthoud's "feel" as a community succumb to this pressure.

I am not against development of the land, nor am I against property owners' rights. However, there are mechanisms and guardrails in place to prevent subsequent development from severely negatively impacting existing homes, their value, and indeed, the surrounding community. There would be no complaints, I am sure, if the developer would propose a plan for development CONSISTENT WITH the surrounding community – smaller single family homes and duplexes. This also has NOTHING to do with the need for "affordable" or lower-income housing – I would have NO objection to a proposal for a mobile home development similar to the Blue Spruce mobile home park immediately across 1st Avenue from Fickel Farm.

There are at least two areas of particular concern with the Fickel Farm Fifth Addition as presently proposed clearly evident in plain view. The new development clearly proposes these high-density townhomes immediately adjacent to at least 9 single family homes in Fickel Farms. The proposed townhomes will have immediate and seriously negative effect on the value of these homes to the present homeowners. There is no gradual transition from one form of housing (single family homes on separate lots) to another (High-density townhomes), just, BAM – right across the fence or across the street. I believe the Code requires some transition between housing types, and certainly more than 20 feet across a fence.

Additionally, somehow, the 31 townhomes proposed in the Northwest aspect of the development, along "Wildgrove Way" would have only one ingress/egress point, namely "Bing Cherry Lane". You could easily have over 100 people living in these units, with at least 2 vehicles per unit, with garages that WILL NOT accommodate two present day vehicles. There WILL BE high density on-street parking in that area, whether permitted or not. There is NO way that a safe easy entrance or exit can be guaranteed for emergency vehicles (EMS, Fire) to access these townhomes, and these residents, on an expedient basis. This is a very clear and indeed, breathtaking example of single-point failure, and should the Planning Commission approve as presently proposed, you can't say you haven't been warned.

Again, if you want a Bedroom Community, in Berthoud, at least have the foresight to permit it immediately on the West side of the I-25 exit, not in near proximity and right on top of our cherished small town of Berthoud.

Sincerely yours,

A. John Vander Zee
304 Victoria Street
Berthoud, CO 80513

e-mail – Plastx@aol.com

Public Comment - 5

From: Wade Cooper <forwecooper@gmail.com>
Sent: Thursday, January 8, 2026 3:34 PM
To: Tawn Hillenbrand
Subject: Fickel Farm 5th Filing Preliminary Plat
Attachments: Resolution 2024.14 Fickel Farm 5th Filing NMP.pdf; 2024 10 09 Chapter 30 Update_Redline_General Code Changes_2.pdf; Chapter 30 Code 11-10-25.pdf

Hello Tawn,
This email is a public comment for the subject Plat and hearing of January 8, 2026. It concerns the validity of the Planning Commission's and Board's approval of "Resolution 14, Neighborhood Master Plan (NMP)" and the conformance of the NMP and Plat to the current Code. For verification purposes, I've attached your provided applicable Municipal Code document at the date of the Board's approval of Resolution Number 14, the current Code (Ordinance 1367), and Resolution No 14.

The Board wrongfully approved this Resolution 14. It specifies "... the Board of Trustees determines and finds that compliance with the Neighborhood Master Plan review criteria as provided in Section 30-6-106.G of the Berthoud Municipal Code has been demonstrated." A review of this criteria and the submitted Plan application shows that it did **not** meet all of these review criteria. Section 30-6-106.G (page 256 and incorrectly shown as E instead of G) specifically requires "The Town shall use the following criteria in addition to other applicable provisions of this Code to evaluate the applicant's application." The approved Plan did not meet the required "other applicable provisions of this Code." More specifically, it did not meet 1) the applicable Zoning District minimum lot size requirement of 1600 sq ft for UR Townhomes (Table 3.11 on page 160 of the Code), and 2) Section 30-6-106F16 (page 255) requiring "Compliance with lot area size" requirements. The reviewed NMP has well over 60 Townhomes with lot sizes (20 ft x 71 ft = 1420 sq ft) below the minimum Code required lot size. Similarly, the Planning Commission also wrongfully approved the Resolution when it did not meet the same Code requirement for minimum lot size.

Furthermore, **the NMP and Preliminary Plat do not meet 30-6-101I of the current Code. More specifically, they do not meet either the physical buffer or gradual density transition requirements for adjacent existing residential neighborhoods (both are required).** The proposed townhome lots range from 1420 to 1725 sq ft with the majority (56 percent) being 1420 sq ft. These townhome lots are adjacent to or abut twelve single family residential lots on their west and southwest perimeter (1st St, E Welch Ave and Pyramid Peak St). These lots are 1.21 acre at 444 1st St, range from 6156 to 8805 sq ft along E Welch Ave (4 lots), and range from 7362 to 5469 sq ft on Pyramid Peak St (7 lots). They also abut an Ag Residence of nearly 3 acres to their east. The proposed duplex lots in the southeast portion of the development are mostly 29 ft by 75 ft (2175 sq ft). These proposed duplex lots abut the same Ag Residence to their north; another Ag Residence (1.7 acres) and two single family residences (1 and 1.2 acres) north of the proposed duplex lots; and a 6 acre single family residence east of the proposed duplex lots. The Fickel Farm 4th Filing met this gradual density transition for the 6 acre single family residence by providing 6290 sq ft single family lots between 4th St and this large lot. These small townhome and duplex lots have a density more than 4 times higher than the adjacent residential lots noted above. This Code section also specifies, "The responsibility for providing and demonstrating compatibility rests with the developer of the higher-density neighborhood."

The NMP and Preliminary Plat also do not meet 30-6-116B&C requirements. More specifically, they do not meet the 10 required Subdivision Identity and Place Elements. The NMP and Plat includes meeting only one additional element, the Pocket Park, and is relying on the previous development for six other elements.

I have personal experience in these types of Townhome developments. In 1979, I purchased my first home for $35,000 in Thornton, CO. It was a Townhome in a four-plex building with both two story and ranch lots, and had much better amenities, better interior window lighting, no traffic noise, and better parking facilities than these proposed Townhomes. After purchasing, the housing market deteriorated, even with declining mortgage rates, and I couldn't sell it until 8 years later at a 17 percent loss ($29,000). They became low value rental havens for motorcycle bikers and drug dealers. There's nothing like being woken up by the sweet sounds of a Harley motorcycle being warmed up. I was so thankful to move away. **Based on my many years of experience, the majority of the proposed townhomes, especially those fronting Mountain Ave, will become low value rental properties for short-term transient occupants.**

More importantly, the NMP for this development should never have been approved because it's more than quadrupling lot densities around the existing adjacent neighborhood lots and will ultimately devalue these neighborhoods, increase crime in their neighborhood, and lower their quality of life as well as Berthoud as a whole. The prime objective for the Town of Berthoud is to improve the quality of life for Berthoud residents. This development does exactly the opposite. As Town Administrators, you should not be inviting or approving developments into our community that do not meet this objective.

In conclusion, both the Planning Commission and Board of Trustees have wrongfully approved the NMP for Fickel Farm 5th Filing and need to take appropriate action such as repealing it and considering it to be null and void. **The NMP and Preliminary Plat do not meet the physical buffer and gradual density transition requirements of 30-6-110I, nor do they meet the Subdivision and Identity Element requirements of 30-6-116B&C. Therefore, the Staff report and Commission info posted for the January 8, 2026 hearing should not be recommending approval, and the Planning Commission should disapprove this Preliminary Plat. Most importantly, this development is contrary to the Town of Berhoud's primary objective to improve the quality of life for Berthoud residents. The compatibility of new developments with adjacent existing residential neighborhoods must be ensured so these new developments do not devalue or reduce the quality of life for adjacent existing residents and the Berthoud community.**

Thank you for your patience and assistance in this matter.
Also, please share this email with the applicant, the Planning Commission and Board of Trustees, and ensure it becomes a part of the hearing record.
Wade E Cooper, PE

RESOLUTION NUMBER 14

(SERIES 2024)

A RESOLUTION OF THE TOWN OF BERTHOUD BOARD OF TRUSTEES APPROVING A NEIGHBORHOOD MASTER PLAN FOR A DEVELOPMENT KNOW AS THE "FICKLE FARM 5TH FILING" DEVELOPMENT" IN THE TOWN OF BERTHOUD.

WHEREAS, the property under consideration is known as the "Fickel Farm 5th Filing" development; and

WHEREAS, the Town of Berthoud ("Town") approved Ordinances 747 on August 26, 1996, which approved the Zoning of the Fickel Farm 5th Filing property to Planned Unit Development; and

WHEREAS, the applicant has reviewed the 2021 Comprehensive Plan and seeks to incorporate the Town's new zoning classifications and conform to the land development vision outlined in the 2021 Comprehensive Plan at the request of staff; and

WHEREAS, the Neighborhood Master Plan attached herein as Exhibit A has been reviewed by referral agencies to ensure the proposed development does not present a burden on service provision; and

WHEREAS, notice was properly posted in the manner required by law and a public hearing was conducted on October 24, 2024, before the Berthoud Planning Commission; and

WHEREAS, after the public hearing, the Berthoud Planning Commission made a unanimous recommendation to the Town Board of Trustees to approve the Neighborhood Master Plan as presented; and

WHEREAS, notice was properly posted in a manner required by law and a public hearing was conducted on November 12, 2024, before the Board of Trustees as required by law and which public hearing incorporated the testimony of citizens which were allowed to speak during "Citizen Participation" during the Board of Trustees meeting held November 12, 2024, and which testimony the applicant confirmed it had reviewed; and

WHEREAS, based on the testimony and evidence presented at the public hearing and that given November 12, 2024, the Board of Trustees determines and finds that compliance with the Neighborhood Master Plan review criteria as provided in Section 30-6-106.G of the Berthoud Municipal Code has been demonstrated.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD, COLORADO:

Section 1. NMP Approval. The Neighborhood Master Plan is hereby approved. The Preliminary Plat shall be submitted in accordance with the Neighborhood Master Plan and the processing shall follow the Land Use Code and all master plans affecting the property.

Section 2. Interpretation: This Resolution shall be interpreted and construed to effectuate its general purpose.

Section 3. Effective Date: The provisions of this Resolution shall take effect upon adoption.

APPROVED AND ADOPTED this 12th day of November 2024.

TOWN OF BERTHOUD

By _____

William Karspeck, Mayor

TOWN OF BERTHOUD LARIMER & WELD COUNTIES INCORPORATED OCT. 3 A.D. 1888 SEAL COLORADO

ATTEST:

By: _____

Christian Samora, Town Clerk

FICKEL FARM PROPERTY | SEPTEMBER 2024

Exhibit A: Neighborhood Master Plan

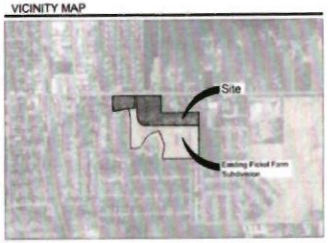
LEGAL DESCRIPTION

TRACTS 1 AND 2, FICKEL FARMS FOURTH PUD FILING LOCATED IN A PORTION OF SECTION 24, TOWNSHIP 4 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN TOWN OF BERTHOUD, LARIMER COUNTY, COLORADO

VESTING

THIS PLAN CONSTITUTES A SITE-SPECIFIC DEVELOPMENT PLAN AS DEFINED IN ARTICLE 68 OF TITLE 24, C.R.S., AS AMENDED, AND CHAPTER 30 OF THE BERTHOUD DEVELOPMENT CODE AVAILABLE AT THE BERTHOUD TOWN HALL, 328 MASSACHUSETTS AVENUE, BERTHOUD, COLORADO 80513.

VICINITY MAP



LAND USE SUMMARY

LAND USE	DENSITY
DUPLEX	50 LOTS
TOWNHOMES	115 LOTS
TOTAL =	165 LOTS

LAND USE STATISTICS

TOTAL ACREAGE =	14.52 ACRES
ROW/PRIVATE DRIVE ACREAGE =	3.01 ACRES
% OF SITE AS ROW =	20.8%

TRAFFIC INFORMATION

1. REFER TO PLAN FOR PROPOSED STREET NETWORK AND EXISTING ROAD NETWORK INCLUDING ALL ACCESS POINTS.

2. UNLESS OTHERWISE NOTED ON THE PLAN, ALL STREETS ARE LOCAL STREETS AND/OR ALLEYS.

NOTES:

- OVERALL LAYOUT MAY SHIFT DURING DESIGN, SO LONG AS OVERALL DENSITY, AS DEPICTED IN THIS NEIGHBORHOOD MASTER PLAN, IS NOT EXCEEDED. DENSITY WITHIN A DEVELOPMENT AREA MAY NOT EXCEED THE MAXIMUM PERMITTED PER THE UNDERLYING ZONE DISTRICT. DENSITY SHIFTS MUST ADHERE TO THE NEIGHBORHOOD MASTER PLAN REQUIREMENTS PER SECTION 30-6-106-C.5 OF THE BERTHOUD MUNICIPAL CODE.
- ZONING IS PROPOSED URBAN RESIDENTIAL (UR).

SHEET INDEX

SHEET 1 - NEIGHBORHOOD MASTER PLAN
SHEET 2 - OPEN SPACE, CIRCULATION, & PARKS EXHIBIT

PROVAL CERTIFICATES:

pproved by the Town of Berthoud, Colorado this _____day of _____, 202_.

_____
yor

e foregoing map is approved for filing and accepted by the Town of Berthoud, lorado this _____day of____, 202_.

ATTEST: _____
Town Clerk

APPROVAL CERTIFICATES:

Approved by the Planning Commission of the Town of Berthoud, Colorado this _____day of _____, 202_.

_____
Chairman

NEIGHBORHOOD MASTER PLAN

FICKEL FARM PROPERTY | SEPTEMBER 2024

SUBDIVISION IDENTITY & RESIDENTIAL STANDARDS

THE SUBDIVISION IDENTITY ELEMENTS LISTED INCLUDE ELEMENTS AT THE EXISTING FICKEL FARM DEVELOPMENTS, IN ADDITION TO NEW AMENITIES TO BE PROVIDED. SPECIFIC AMENITIES AND LOCATIONS WERE DESIGNED AS PART OF THE MASTER PLANNING FOR THE COMMUNITY. WITH THE INTENTION OF SATISFYING TOWN REQUIREMENTS FOR THE OVERALL FICKEL FARM DEVELOPMENT.

SUBDIVISION LOT UNIT COUNTS:

• PREVIOUSLY APPROVED NMP UNITS (A/B ONLY):	70
• PROPOSED NMP UNITS (A/B ONLY):	165
• PREVIOUSLY APPROVED NMP UNITS (A-N):	171
• PROPOSED AMENDED NMP UNITS (A-N):	266
• TOTAL CHANGE IN UNITS	+95

SUBDIVISION IDENTITY ELEMENTS:

• PREVIOUSLY APPROVED SUBDIVISION IDENTITY ELEMENTS REQUIRED:	6
• AMENDED SUBDIVISION IDENTITY ELEMENTS REQUIRED:	1
TOTAL:	7

THE FOLLOWING IS A LIST OF ELEMENTS THAT IS BEING EVALUATED FOR THIS SITE, BUT IS SUBJECT TO CHANGE, SO LONG AS THE REQUIRED ELEMENT POINTS ARE ACHIEVED AT THE TIME OF PLAT:

SUBDIVISION IDENTITY ELEMENTS PROVIDED PER EXISTING/APPROVED NEIGHBORHOOD MASTER PLAN:

1.	COMMUNITY GARDENS	1
2.	USABLE OPEN SPACE	2
3.	PLAYGROUND	1
4.	ENHANCED ENTRYWAY	1
5.	ALLEY-LOADED STREETS, MAINTAINED BY TOWN	1
	SUBTOTAL:	6

PROPOSED SUBDIVISION IDENTITY ELEMENT PER AMENDED NEIGHBORHOOD MASTER PLAN:

1.	POCKET PARK	1
	FICKEL FARM DEVELOPMENT TOTAL :	7

OPEN SPACE ELEMENTS

PARK AND OPEN SPACE REQUIREMENTS APPROVED AND SATISFIED PER THE FICKEL FARM PUD.

TRAILS AND WALKS

- DETACHED CONCRETE SIDEWALK (6') - 7,734 feet
- 10' REGIONAL TRAIL W/ PARALLEL 3' SOFT SURFACE TRAIL - 1,271 feet
- NEIGHBORHOOD TRAIL - 237 feet

SCALE 1" = 60'-0"

OPEN SPACE, CIRCULATION, & PARKS EXHIBIT

Public Comment 6

From: Wade Cooper <forwecooper@gmail.com>
Sent: Tuesday, February 3, 2026 9:02 AM
To: Board of Trustees; Chris Kirk; Tawn Hillenbrand
Subject: Fickel Farm 5th Filing NMP and Preliminary Plat
Attachments: Berthoud 2-1-26 letter.pdf; Attachment A-5th Filing Density Calcs.pdf

Categories: Neighbor Comment

Dear Town of Berthoud,
This email is in regard to the subject NMP and Plat and their lack of legal compliance with the Town of Berthoud Development Code (Chapter 30) enacted via Ordinance 1367 on 11/11/25. **This Preliminary Plat is currently on the Feb 10, 2026 Board meeting agenda for Board approval. This is also to be included as a public comment for this meeting.**

This proposed Development (both NMP and Plat) does not meet the following Development Code legal requirements:
1. 30-1-106A4 -- Code Purpose: Maintain and enhance property values by stabilizing expectations, fostering predictability in land development, and establishing transparent processes to efficiently and equitably apply this Code to individual sites. This requires balancing economic development with community values.

2. 30-5-101D4 -- Mitigate negative impacts of the development on the surrounding property.
e. Compatibility of uses.

3. 30-6-101I -- Density Transitions - Where proposed residential development includes densities that differ from those of adjacent existing residential neighborhoods, the applicant shall:
1. Provide a physical buffer between developments; and
2. Incorporate a gradual transition from higher density to lower density. The responsibility for providing and demonstrating compatibility rests with the developer of the higher-density neighborhood. Compatibility shall be established through measures including, but not limited to, landscaping, buffer depth, berming, and the reduction of density at the perimeter of the development.

4. 30-6-116B -- Applicability. Subdivision identity and place features are required in all developments which include residential use. Where the number of acres and the number of dwelling units proposed in a development results in two different numbers of required subdivision identity and place elements, the larger number of required elements shall be used. The following table specifies the quantity of elements required per the number of units or acreage of the development.
21 to 50 dwelling units; or 6-11 acres ---------- 7
51 to 100 dwelling units; or 11-50 acres ----------8
101 to 200 dwelling units; or 51-100 acres ----------9
201 to 300 dwelling units; or 101-200 acres ---- 10
Over 301 dwelling units; or 201 acres or more------11

5. 30-1-109 Relationship to existing ordinances and resolutions
A. All ordinances, **resolutions** or motions of the Town of Berthoud Board of Trustees **or parts thereof in**

conflict with this Code are, to the extent of such conflict, hereby superseded and repealed, provided that no such repeal shall repeal the repealer clauses of such ordinance, resolution or motion, nor revive any ordinance, resolution or motion thereby.

CODE NON-COMPLIANCE INFORMATION

The Development Plat proposes to construct 104 small row-type townhome lots with up to 6 lots per building in the western portion, and 50 small duplex lots in the south-eastern portion. The Townhome lots include 58 lots of 1420 sq ft (20'x71') and 46 lots of 1775 sq ft (25'x71') for an average Townhome lot size of 1577 sq ft (calculation details and adjacent lot sizes are provided as Attachment A). The 12 adjacent existing residential lots to the west and southwest perimeter of the Townhome lots have an average lot size of 10,133 sq ft. **This equates to an average lot density ratio of 6.43 (10,133/1,577) between the Townhome lots and the adjacent existing residential lots with no gradual transition in lot density. For adjacent existing residential properties (5 lots ranging from 1 to 6 acres) to the east and northeast of the proposed duplex lots, this lot density ratio is minimally 20.** This is due to the smallest adjacent existing residential lot being 1 acre (43560 sq ft) and these duplex lots being mostly 2175 sq ft (29'x75'). **Again, there is no gradual transition in lot density. These lot density ratios represent a 643 and 2000 percent increase in lot densities, which are certainly not gradual transitions in density. The Code requirements of 30-6-101I for a physical buffer and gradual transition in lot density are crucial to help mitigate the negative impact of lower property values on adjacent existing residential properties.**

The negative impact of significantly lower property values to adjacent existing residential properties to the west, southwest, east, and northeast due to these small high-density lower valuation townhomes/duplexes has not been mitigated (30-5-101D4). Nor does this proposed development meet the Code purpose (30-1-106A4) of maintaining and enhancing property values.

The required Subdivision Identity and Place Elements of 30-6-116B are not being met. The addition of the 4th Filing (66 duplex + 35 single family detached units) to the 154 units in the 5th Filing equals 255 dwelling units, thus **10 elements are required**. The NMP and Plat addresses meeting only one additional element, the Pocket Park, and is relying on the previous development for six other elements. Per 30-6-116C, the inclusion of trails within the proposed development does not count as an additional element because they are in the same category as the trail element in the previous 4th Filing development.

Per 30-1-109, these Code requirements supersede and repeal the conflicting lot densities and elements that were approved Nov 12, 2024 in Resolution Number 14, the NMP for this development.

The Town of Berthoud needs to consider these legal requirements when evaluating the Plat for approval. If necessary, I fully intend to legally compel compliance of this development with the Code, as this high-density low-valuation development will significantly reduce neighboring property values. Also attached for your consideration is a copy of a letter to the Town of Berthoud regarding the invalidity of the Board's Nov 12, 2024 approval of Resolution Number 14, the NMP for this development.

Best regards,
Wade E Cooper

February 1, 2026

Town of Berthoud
c/o Chris Kirk
PO Box 1229
Berthoud CO 80513

Re: Fickel Farm 5th Filing Preliminary Plat and NMP

Dear Town of Berthoud,

This letter is in regard to the subject Plat which is on the agenda for Board approval in their February 10, 2026 meeting. It concerns the validity of Resolution Number 14, the Board's approval of the NMP for the Fickel Farm 5th Filing.

This Resolution was inappropriately, fraudulently and illegally approved by the Board on November 12, 2024 as being in compliance with the Chapter 30 Development Code, when it was not in compliance with at least the following two Code requirements:

1.) **Table 3.11** minimum lot size requirement of 1600 sq ft for UR Townhomes. The development proposes 58 townhome lots that are 1420 sq ft (20 ft by 71 ft).
2.) **30-6-106E4.** The negative impacts on the surrounding neighborhood properties have not been mitigated. These small sized high-density low-valuation townhomes will reduce property values for the surrounding low density existing residential properties.

The Town of Berthoud shall be requiring the development to comply with the Code requirements in effect at the time of approval.

Thank you for your time and consideration.

Wade E. Cooper

Wade E Cooper

West + Southwest perimeter adjacent existing residential lots.

W+SW Adjacent Residential Lots

444 1st St	1.21 Ac = 52708	sq ft
106 E Welch Ave	6317	" "
314 Victoria St	6156	" "
311 Hubbell St	6579	" "
310 " "	8805	" "
351 Pyramid Peak St	7362	" "
343 " " "	5910	" "
333 " " "	5855	" "
325 " " "	5489	" "
317 " " "	5469	" "
309 " " "	5470	" "

301 Pyramid Peak St 5471 sq ft

Avg lot size 10,133 sq ft

$$\text{Density ratio} = \frac{10133 \text{ sq ft}}{1577 \text{ sq ft}} = 6.43 \text{ or } 643 \text{ percent}$$

Imagery ©2026 Airbus, Maxar Technologies, Map data ©2026 Google 100 ft

Google Maps East and Northeast perimeter Single Family Residence lots

Notice: For 4th Filing a gradual transition between large 6 ac Res. lot and duplexes (2700 - 3000 sq ft) These single family detached lots are 6290 sq ft)

minimum lot density ratio = $\frac{43560 \text{ sq ft}}{2175 \text{ sq ft}} = 20$ or 2000 percent

For 6 Ac lot $6 \times 20 = 120$ or 12,000 percent

Calculation for lot size ratio on West + southwest perimeter

Townhomes Avg Lot Size Calc: 58@ 20'x71' (1420 sq ft)
46@ 25 x 71' (1775 sq ft)

$$\frac{58 @ 1420\ sq\ ft + 46 @ 1775\ sq\ ft}{104} = 1577\ sq\ ft$$

Avg lot size for townhomes

12 Residential Lots Average Lot size calc.
444 1st St 106 E Welch 314 Victoria 311 Hubbell 310 Hubbell

$$\frac{(1.21\ ac \times 43560) + (6317) + (6156) + (6579) + (8805)}{}$$

Pyramid St 351 343 333 325 317 309 301

$$+(7362) + (5910) + (5855) + (5489) + (5469) + (5470) + (5471)$$

$$\frac{}{12}$$

$$= 10133\ sq\ ft$$

$$\text{Avg lot density Ratio} = \frac{10133\ sq\ ft}{1577\ sq\ ft} = 6.43 \leftarrow$$

between adjacent existing Residential lots west and southwest of proposed Townhome lots and the proposed Townhome lots.

Calculation for minimum lot size ratio on east and northeast perimeter

Duplex lot sizes 29'x75' = 2175 sq ft

The adjacent existing residential lots are minimum of 1 acre and range up to 6 acres. 1 acre = 43560 sq ft

For 6 ac lot Ratio = 120 or 12,000 percent

$$\text{Minimum lot density Ratio} = \frac{43560\ sq\ ft}{2175\ sq\ ft} = 20.0 \text{ or } 2000 \text{ percent}$$

between adjacent existing residential lots east and northeast of proposed Duplex lots and the proposed Duplex lots.

RESOLUTION NUMBER 5

(SERIES 2026)

A RESOLUTION OF THE TOWN OF BERTHOUD BOARD OF TRUSTEES APPROVING A PRELIMINARY PLAT FOR A DEVELOPMENT KNOWN AS THE "FICKEL FARM 5TH FILING DEVELOPMENT" IN THE TOWN OF BERTHOUD.

WHEREAS, the property under consideration is known as the "Fickel Farm 5th Filing" development; and more particularly described in Exhibit A attached hereto; and

WHEREAS, the Town of Berthoud ("Town") approved on November 12, 2024, a Neighborhood Master Plan; and,

WHEREAS, the Town approved Ordinance No. 1345 on November 12, 2024, amending the zoning map of the Town of Berthoud to Urban Residential (UR); and

WHEREAS, the Preliminary Plat attached herein as Exhibit B has been reviewed by referral agencies to ensure the proposed development does not present a burden on service provision; and

WHEREAS, notice was properly posted in the manner required by law and a public hearing was conducted on February 10, 2026; a legal ad was published on December 21, 2025, and affected property owners within 500 feet of the site were notified by first-class mail before the Berthoud Planning Commission hearing on January 8, 2026; and

WHEREAS, after the public hearing on January 8, 2026, the Berthoud Planning Commission made a unanimous recommendation to the Town Board of Trustees to approve the Preliminary Plat; and

WHEREAS, based on the testimony and evidence presented at the public hearing on February 10, 2026, the Board of Trustees determines and finds that compliance with the Preliminary Plat intent statements as provided in Section 30-5-101 of the Berthoud Municipal Code has been demonstrated.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD, COLORADO:

Section 1. Preliminary Plat Approval. The Preliminary Plat is hereby approved.

Section 2. Interpretation: This Resolution shall be interpreted and construed to effectuate its general purpose.

Section 3. Effective Date: The provisions of this Resolution shall take effect upon adoption.

APPROVED AND ADOPTED this 10th day of February 2026.

TOWN OF BERTHOUD

By _____

William Karspeck, Mayor

ATTEST:

By: _____

Christian Samora, Town Clerk

Exhibit A: Legal Description

Tract 1 and Tract 2, Fickel Farm PUD Fourth Filing, Town of Berthoud, Colorado, County of Larimer, State of Colorado.

Exhibit B: Preliminary Plat

(to be inserted)

Town of Berthoud Planning Commission
Town Hall
Board Room
807 Mountain Avenue, Berthoud, CO 80513
January 8, 2026 at 6:00 p.m.

1. Meeting called to order – Chairperson Anderson at 6:00 p.m.

2. Pledge of Allegiance

3. Roll Call

   The following Planning Commission members were present:
   Karen Anderson, Chair
   Abigail Smith, Vice Chair
   Marc Hofmans, Commissioner
   Bryce Filho, Commissioner
   David Pond, Commissioner
   Stacy Sigman, Commissioner

   The following Planning Commission members were absent:
   Nick Semedalas, Commissioner

   The following staff members were present:
   Anne Johnson, Community Development Director
   Tawn Hillenbrand, Planning Manager
   Bella Manzo, Planner
   Luke Seeber, Town Development Review Engineer

4. Approval of Minutes from December 10, 2025, were moved for approval by Commissioner Pond and a second to the motion was made by Commissioner Filho.

5. Public Hearing: Fickel Farm 5th
   A Public Hearing to consider a request for a Preliminary Plat, known as Fickel Farm 5th Filing, located south of Mountain Avenue at Pyramid Peak Street. Continued from September 11, 2025.
   a. Planning Manager Tawn Hillenbrand provided a staff presentation at 6:06 p.m.
   b. The applicant was represented by Kristin Turner. They provided a presentation at 6:21 p.m.
   c. Public testimony opened at 6:40 p.m. and closed at 6:57 p.m. The following members of the public provided testimony: Pam Inman, Jennifer Vander Zee, John Vander Zee, Wade Cooper.
   d. The applicant provided a rebuttal at 6:57 p.m.
   e. Planning Commissioners deliberated and discussed the proposed Preliminary Plat. Discussion opened at 7:40 p.m. and closed at 7:53 p.m.
   f. Commissioner Smith moved to send a recommendation of approval to the Town Board of

Trustees of the Preliminary Plat as proposed. A second to this motion was made by Commissioner Hofmans.

g. The public hearing closed at 7:54 p.m.

6. Work Session: Annual Review of Ordinance 1241 and Member Terms
   Annual Review of ordinance 1241, Membership in the Town of Berthoud Planning Commission; Terms and Membership
   a. Community Development Director Anne Johnson provided a staff presentation at 7:55 p.m.
   b. The work session concluded at 8:23 p.m.

7. Work Session: Berthoud Municipal Code, Chapter 30, Section 5: Subdivision and Land Use
   Review of Section 5, Subdivision and Land Use, as a result of Ordinance 1376, repeal and replacement of the Berthoud land Use Code, Chapter 30 of the Municipal Code
   a. Community Development Director Anne Johnson provided a staff presentation at 8:23 p.m.
   b. The work session concluded at 8:38 p.m.

8. Report by Staff:
   a. There will be no meeting of the Planning Commission on January 22nd, 2026.
   b. The Planning Commission Meeting on February 12 is planned ton include information on the Comprehensive Plan Action Plan and Housing Diversity Plan Report Card and required updates to water required by the State.
   c. There may be a land use matter on the agenda for the February 26 meeting of the Planning Commission.
   d. Approval of the consultant selection for the Public Art Master Plan will be going before the Town Board of Trustees on January 13, 2026.

9. Adjourn
   The meeting was adjourned by Motion of Commissioner Sigman seconded by Commissioner Smith at 8:48 p.m.

_____ _____

Chairperson Secretary

Board of Trustees Public Hearing
February 10, 2026

Land Use Planning Process: Overview

1. PRE-APPLICATION

Discussions with staff
Pre-Application meetings
Staff input and direction
Application preparation

2. APPLICATION SUBMITTAL

Application materials received
Completeness review performed
Referral notification and comments
Staff review and comments
Schedule and notice public meetings/hearings

3. MEETING

Staff presentation
Discussion and vote

4. POST-APPROVAL ACTIONS

Record documents
Prepare Final Plat application materials
Development Agreement

Development Tool Kit: Public Hearing Process

1. STAFF PRESENTATION

The agenda item is introduced by Town Staff, including details of the official request, location, and how the project satisfies the Development Code and Comprehensive Plan

2. APPLICANT PRESENTATION

The applicant presents their proposal and makes their case for approval.

3. PUBLIC COMMENT

- **One at a time, citizens have an opportunity to speak for up to 3 minutes about the proposed project.** This time is used to ask questions, provide concerns, and offer approval or disapproval of the proposal.
- Public comments are testimony. The Applicant, Staff and Trustees will not respond to the comments until all testimony has been received and the public hearing is closed.
- Once all who wish to speak have done so, the Mayor will officially close the Public Comment period.

4. DISCUSSION & VOTE

- The Applicant has the opportunity to address public testimony.
- The Trustees confer and have an opportunity to ask the applicant or staff questions that arose during the public hearing period or questions of their own.
- A motion must be made on an item, and if a motion is seconded, a vote is called; a majority must be found for any issue to pass (tie votes do not result in the passage of the item).
- If any citizen disagrees with the decision, they have 30 days to file an appeal with the Town.

Quasi-Judicial Roles and Decision-Making

Town Board, Planning Commission, BOA Role:

- Arrive at the meeting unbiased
- Do not make pre-hearing statements
- Do not engage in pre-hearing “buzz”
- Do not engage in ex parte communication – send public and public comments to staff
- Do not participate if they will have a financial or other personal interest in the matter
- Do not sign any “pro” or “con” petitions
- Ask questions to seek clarification
- Do not bring facts or evidence that aren’t part of the testimony into the hearing
- Are not a witness, prosecutor, advocate, or investigator

How decisions are made:

- Provides due process to all
- Criteria/Intent and the Process outlined in the Development Code
- Deliberation/discussion of the evidence is critical

  Facts learned +
  Legal criteria applicable to the matter
  = Decision
- The Body formulates the bases of its decision by connecting the evidence with the applicable criteria.

Fickel Farm 5th Filing

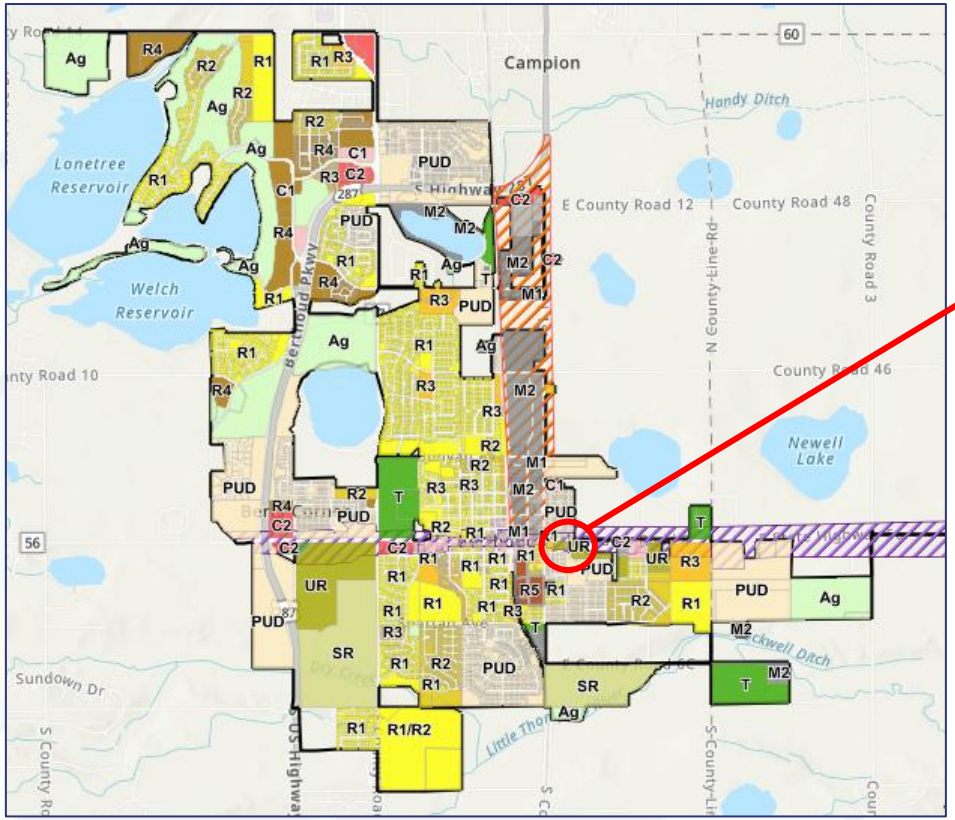
PROJECT: Fickel Farm 5th Filing Preliminary Plat

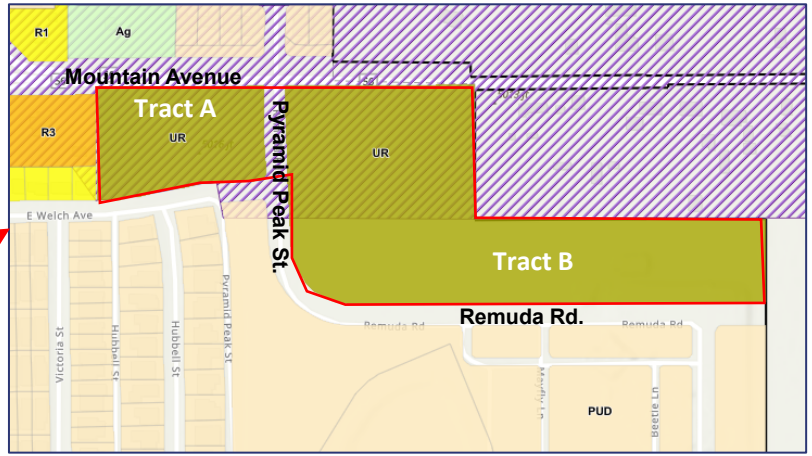
APPLICANT: TruMark Homes

LOCATION: The two parcels are located south of Mountain Avenue (Hwy 56) at the intersection of Pyramid Peak Street.

SIZE: 14.5 Acres

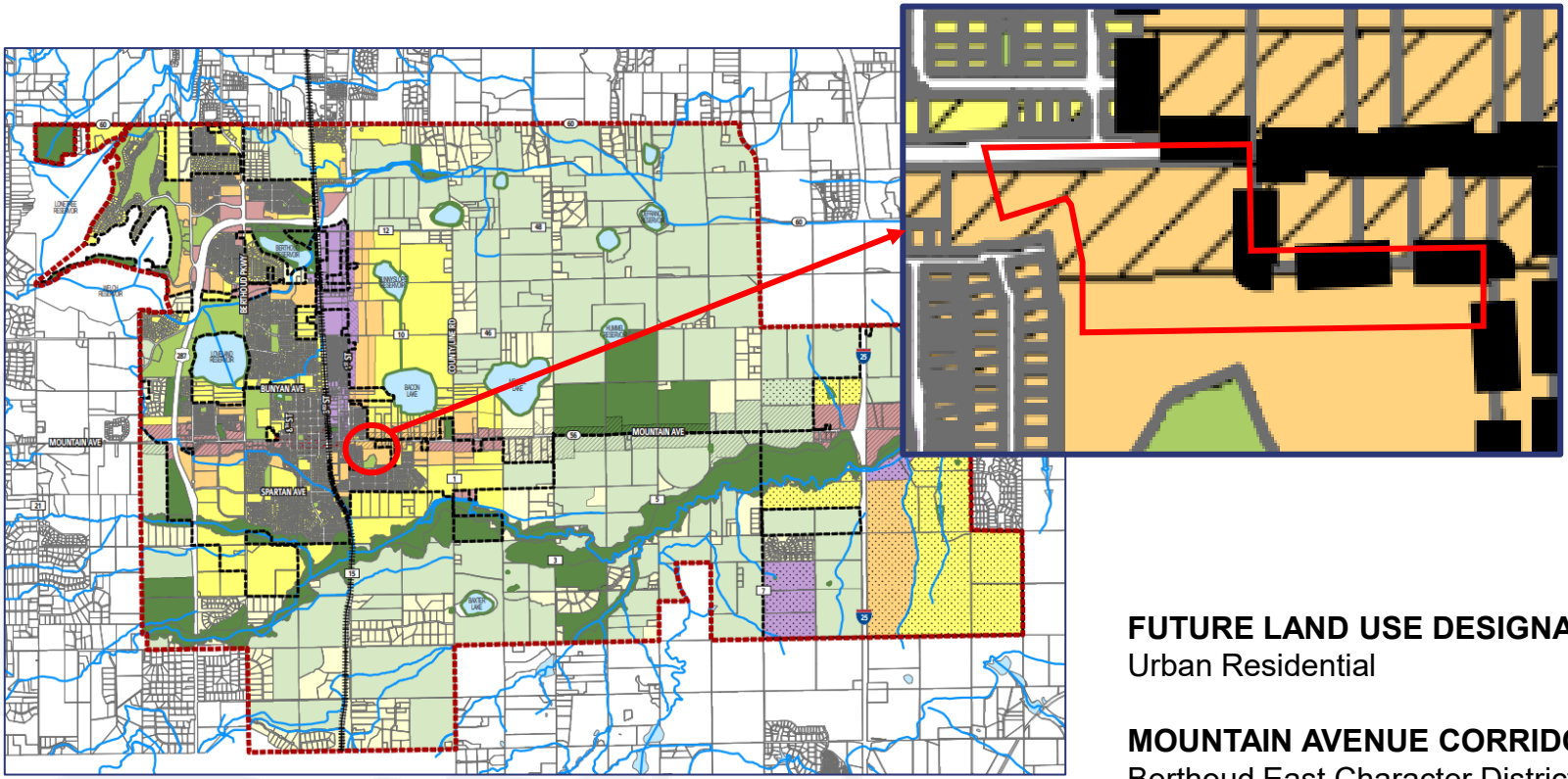
Fickel Farm 5th Filing – Zoning Map





CURRENT ZONING: UR – Urban Residential

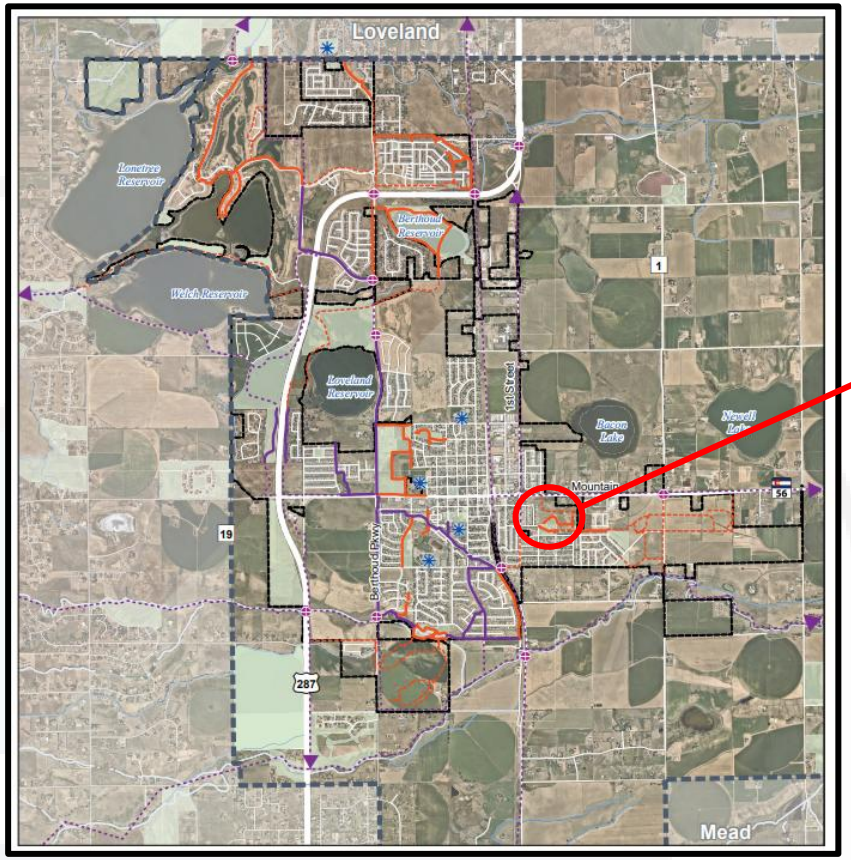
Fickel Farm 5th Filing – Future Land Use Map and Mountain Avenue Corridor

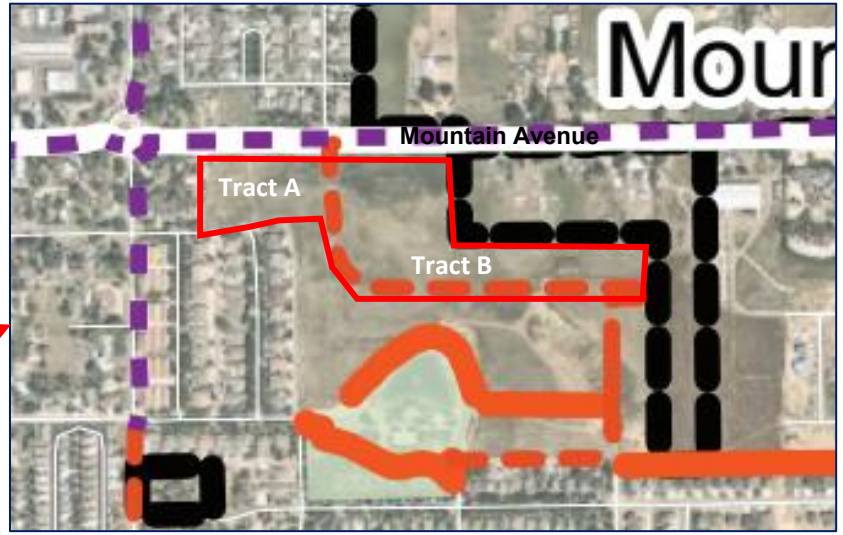


FUTURE LAND USE DESIGNATION:
Urban Residential

MOUNTAIN AVENUE CORRIDOR:
Berthoud East Character District

Fickel Farm 5th Filing – Trails Master Plan



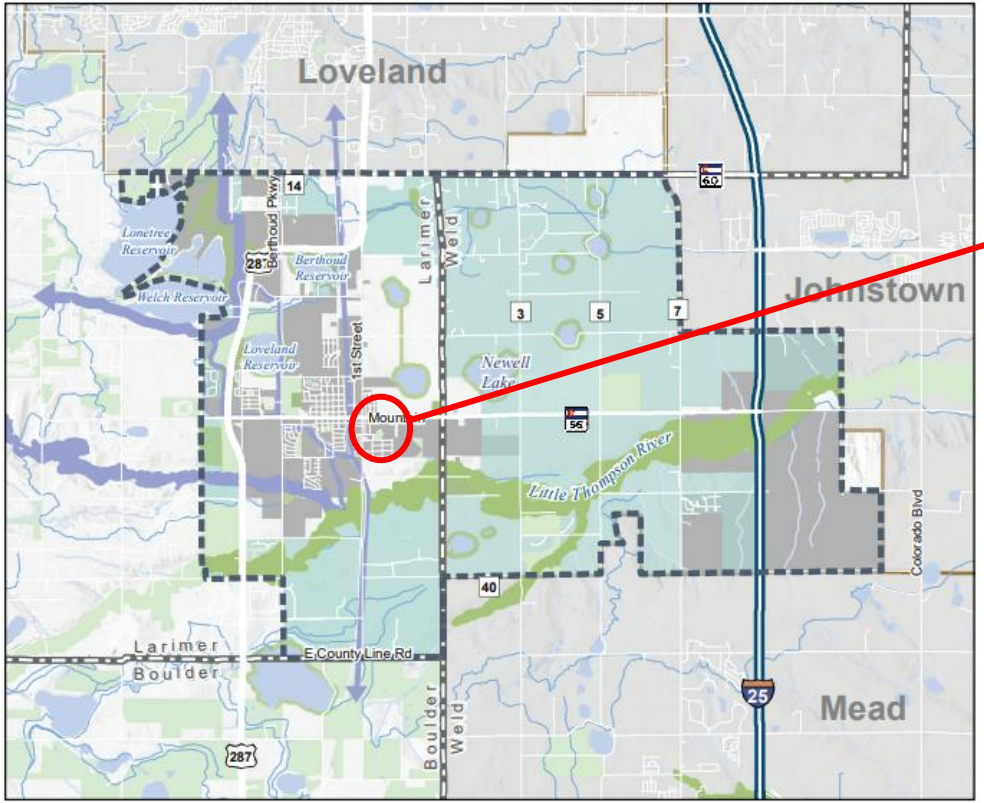


Proposed Regional Trail (purple dashed line)
Planned Neighborhood (orange dashed line)

Trails Master Plan (Enlargement)

- Existing Neighborhood
- Planned Neighborhood
- Existing Regional
- Planned Regional
- Trail Crossing Opportunities
- Schools
- Berthoud Growth Management Area
- Town Limits
- Existing Parks, Open Space, & Conservation Easements

Fickel Farm 5th Filing – Open Space Plan Local Perspective



Adjacent to Pioneer Park

Open Space Focus Areas

- Stream
- Canal or Ditch
- Waterbodies and Wetlands
- County Boundary
- Berthoud Growth Management Area
- Adjacent Growth Management Areas
- Town Limits
- Existing Parks, Open Space, & Conservation Easements

Focus Areas

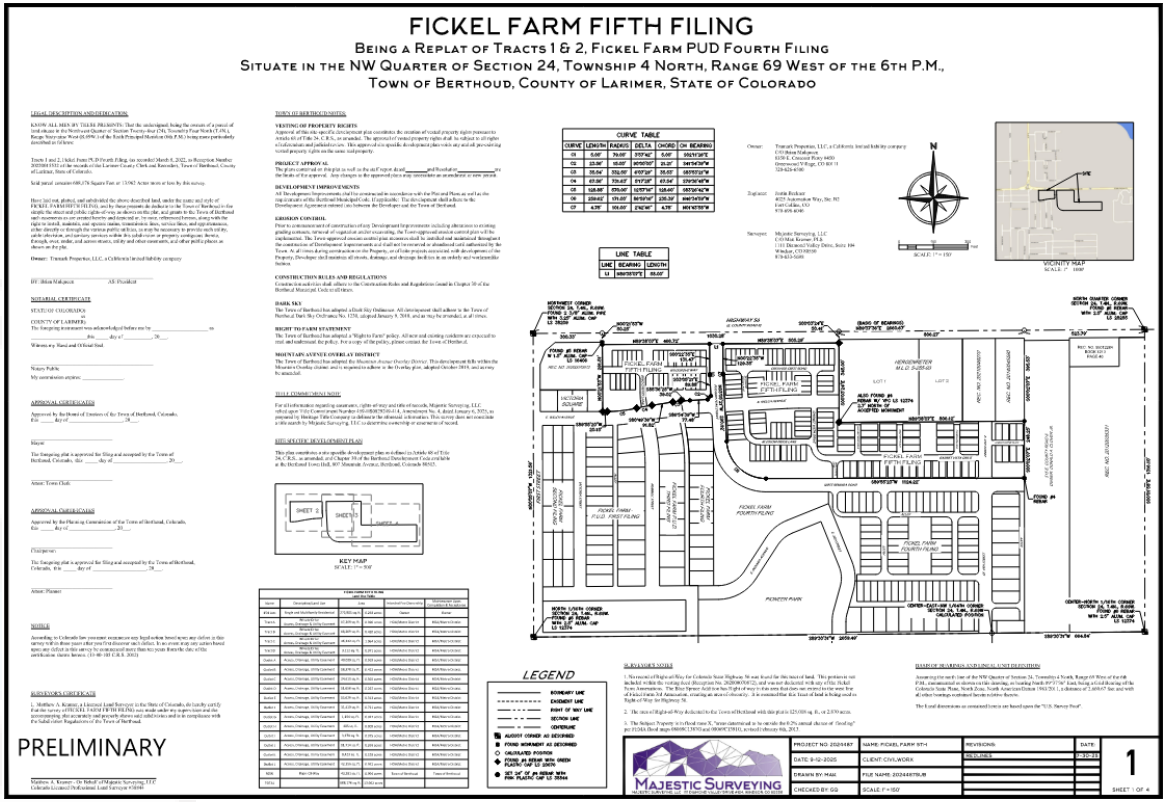
- Trail Corridors
- Natural Areas
- Agriculture

Fickel Farm 5th Filing – Request

APPLICANT'S REQUEST:

Preliminary Plat approval to create a residential development consisting of 104 townhome lots and 50 paired home (duplex) lots.

- This is the applicant's second application for the Fickel Farm 5th Filing Preliminary Plat.
- The first application was withdrawn by the Applicant following the November 13, 2025, Planning Commission meeting and prior to the Board of Trustees hearing.



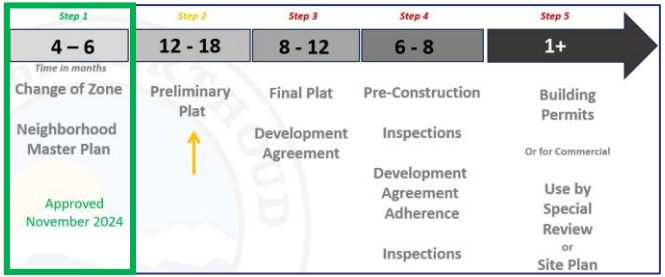
Development Tool Kit: Procedures for Land Division

Step 1	Step 2	Step 3	Step 4	Step 5
4 – 6	12 - 18	8 - 12	6 - 8	1+
Time in months				
Change of Zone	Preliminary Plat	Final Plat	Pre-Construction	Building Permits
Neighborhood Master Plan		Development Agreement	Inspections	Or for Commercial
			Development Agreement Adherence	Use by Special Review or Site Plan
Approved November 2024			Inspections	

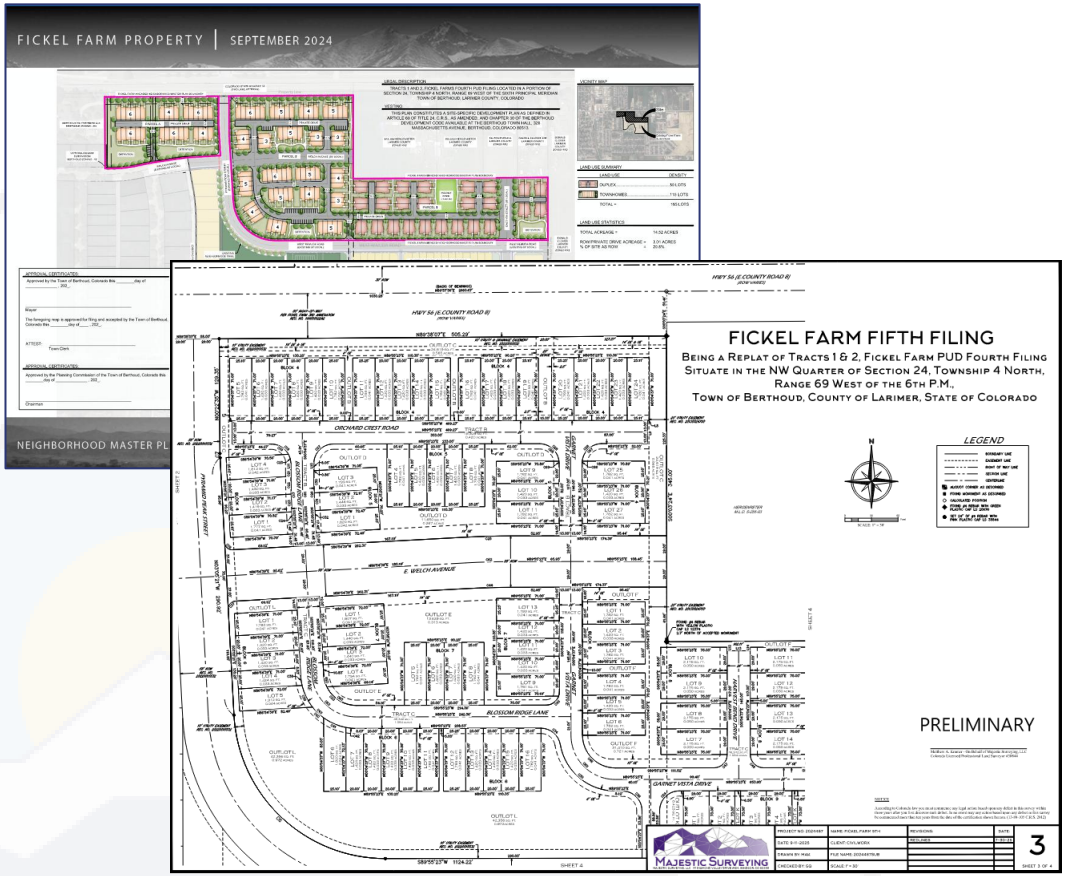
Fickel Farm 5th Filing – Background

Fickel Farm 5th Filing History

- Received Neighborhood Master Plan (NMP) and Rezone approval in **November 2024**
  - Approved NMP included:
    115 townhome lots
    50 paired home lots
    1 pocket park



Fickel Farm 5th Filing – Current Request



Preliminary Plat Request

- Consistent with the approved NMP with **2 minor modifications**:
  1. Size of the stormwater detention area located at the curve of Pyramid Peak Street and Remuda Road has been expanded
  2. Reduction in the overall density of the development
     - 104 townhome lots
     - 50 paired home lots

Fickel Farm 5th Filing – Referral Agency for Preliminary Plats

TOWN OF BERTHOUD

Project Planner
Town Engineer
Baseline Engineer (Surveyor and Landscape Designer)
Town Forester
Town Water Utilities
Town Public Works
Building Department

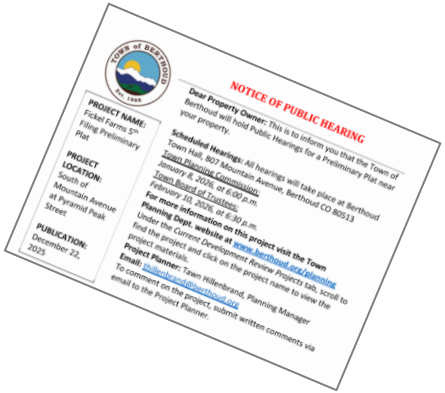
OTHER AGENCIES

Army Corp of Engineers
Berthoud Fire Protection District
CDOT
Colorado Parks & Wildlife (CPW)
Comcast
Larimer County Assessor
Larimer County Engineering
Larimer County Planning
Larimer Emergency Telephone Authority (LETA)
Little Thompson Water District
Lumen / CenturyLink
Post Office
Poudre Valley REA
Thompson School District
Xcel Energy

This new Fickel Farm 5th Filing Preliminary Plat application completed one (1) round of referral agency and staff review. All comments have been adequately addressed.

Fickel Farm 5th Filing – Public Noticing for Preliminary Plats

New Application = New Public Noticing


NOTICE OF PUBLIC HEARING

Dear Property Owner: This is to inform you that the Town of Berthoud will hold Public Hearings for a Preliminary Plat near your property.

PROJECT NAME: Fickel Farms 5th Filing Preliminary Plat

PROJECT LOCATION: South of Mountain Avenue at Pyramid Peak Street

PUBLICATION: December 22, 2025

Scheduled Hearings: All hearings will take place at Berthoud Town Hall, 807 Mountain Avenue, Berthoud CO 80513
Town Planning Commission:
January 8, 2026, at 6:00 p.m.
Town Board of Trustees:
February 10, 2026, at 6:00 p.m.

For more information on this project visit the Town Planning Dept. website at www.berthoud.org/planning
Under the Current Development Review Projects tab, scroll to find the project and click on the project name to view the project materials.

Project Planner: Town Hillenbrand, Planning Manager
Email: planning@berthoud.org
To comment on the project, submit written comments via email to the Project Planner.

- **Prior to hearing, every application completes public noticing requirements**
  - Neighbor Notification - completed December 22, 2025
  - Sign Posted on property - confirmed December 22, 2025
  - Legal notice - published December 21, 2025

- **What happened to the comments received as part of the previous application once the application was withdrawn?**
  - Comments received as part of a previous application remain with the public record for that application; they do not move forward with the new application.
    - This applies to not only applications that are withdrawn, but also those that are approved or denied.
  - A new application is reviewed on its own merits and therefore, previous comments whether made by Staff, Referral Agencies, or the Community, are not valid to the new application.
  - Community is given a new opportunity to provide comment on the new application

- **Several public comments to date**
  - Included as an attachment to the Staff Report

Fickel Farm 5th Filing – Preliminary Plat Development Expectations

Section 30-5-101 of the Town Development Code states that the town shall use the following development requirements to evaluate the applicant's request.

A. Complement the Town's historic development patterns and fit into the context of the existing and planned development on surrounding properties.

1. Street, sidewalk and trail alignment with adjoining developments and properties to ensure safe, efficient and pleasant walking, biking and driving experiences.
2. Decrease dependency on vehicles.
3. Existing and planned parks and open spaces in the development as well as in Town shall be connected by sidewalks and trails.
4. The Parks, Trails and Open Space Master Plans were utilized in the development of the project.
5. Compact, well-defined, sustainable neighborhoods to enhance the Town's character, complements the existing neighborhood and surrounding area.

B. Adhere to the vision established in the Comprehensive Plan, Land Development Code, Overlay Districts and Master Plans covering the property.

1. The Land Use Code and underlying zone district.
2. The Land Use Code development and design standards.
3. Architectural Guidelines.
4. Landscape Design Guidelines.
5. Engineering Standards and Specifications.
6. Flood hazard mitigation.
7. Geologic hazard mitigation.
8. Other plans, specifications and guidelines that may impact the property.

Fickel Farm 5th Filing – Preliminary Plat Development Expectations

C. Ensure there is sufficient provision for public utilities, services and facilities. The development shall be designed with consideration of the future needs as well as adequately managing the impact of the proposed development on the surrounding area and Town in general. Hazardous conditions on- and off-site shall not be created by the proposal.

1. Water
2. Sanitary Sewer
3. Stormwater
4. Electric and Natural Gas
5. Schools
6. Fire Protection and Emergency Response
7. Public Transit
8. Traffic circulation
9. Pedestrian movement
10. Irrigation practices

D. Mitigate negative impacts of the development on the surrounding property.

1. Light
2. Air quality
3. The Oil and Gas regulation section of this Chapter
4. Sensitive natural, historic and environmental areas and properties
5. Compatibility of uses

E. Addresses a need or desirability within Berthoud and the development proposal will help achieve a balance of land use, create a specific sense of place through place-making in each distinct neighborhood, provide a variety of housing types, meet architectural diversity standards, and integrate meaningful neighborhood identity features into the development according to Town goals.

F. Meet all applicable local, state and federal permits have been or will be obtained.

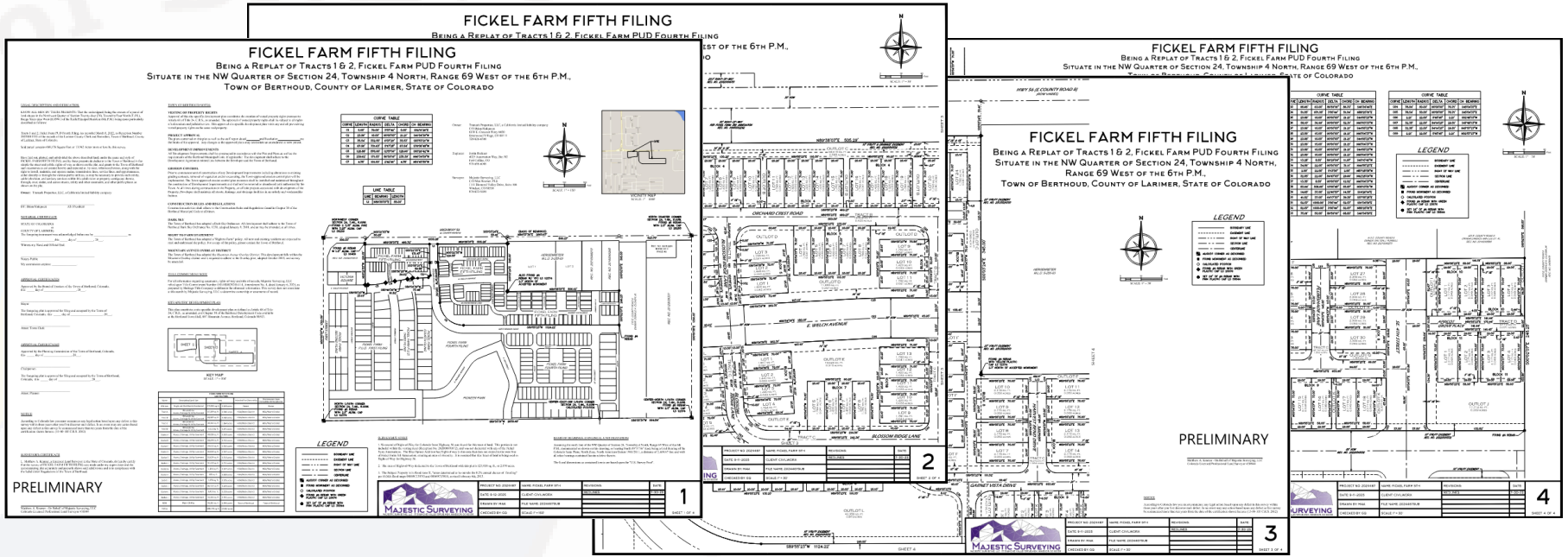
G. Address such other matters as the Town may deem necessary in order to protect the best interest of the public.

Planning Commission finds that the Fickel Farm 5th Filing Preliminary Plat request meets the above Development Requirements.

Fickel Farm 5th Filing – Planning Commission Findings

FINDINGS AND RECOMMENDATIONS

Planning Commission makes a motion to recommend approval of the Fickel Farm 5th Filing Preliminary Plat to the Town Board of Trustees.



Board of Trustees Public Hearing
February 10, 2026

TOWN TRUSTEES INFORMATION

ADMINISTRATION DEPARTMENT

Meeting Date:	**February 10, 2026**
Agenda Title/Subject:	**Board Member Compensation**
Type of Item:	**Regular Item**
Purpose:	**Consider the compensation amounts for the Mayor and Trustees**
Presented by:	**Chris Kirk, Town Administrator**

ATTACHMENTS:

- List of board compensation rates for Colorado municipalities as self-reported in January 2026

BACKGROUND:

At the January 27, 2026, Regular Board Meeting, Mayor Karspeck requested that staff review compensation rates for Board Members with the possibility of increasing compensation for future boards. Attached to this memo is a list of other Colorado jurisdictions who recently self-reported their Board compensation. An average of north front range municipalities is included in light blue at the bottom of the list.

While this is not an exhaustive list, it generally shows that the compensation amounts for Mayors and Trustees are relatively consistent. For Mayors, the typical monthly compensation in the north front range is approximately $1,000 and the Trustee compensation is approximately $700. In addition to monthly pay, some jurisdictions cover some or all of the cost of a recreation center membership for the Mayor and Trustees.

The current compensation rates for the Berthoud Mayor and Trustees were established by Ordinance in March 2018. Under the current structure, the mayor receives $200 per meeting, not to exceed $600 per month. The Trustees receive $150 per meeting, not to exceed $450 per month. There are no other items included in the compensation structure for the Mayor and Trustees.

For information purposes, Colorado Revised Statutes (CRS) 31-4-305 states that,

> "The emoluments of any member of the governing body, including the mayor, trustees, and councilmen, shall not be increased or diminished during the term for which he has been elected or appointed except in the case of abolition of an office, in which case the emoluments of the office shall cease at the time of such abolishment."

Emoluments is simply another word for salary and as such, the CRS section referenced does not allow Board member compensation to increased or decreased during the term for which they were elected. While four of the current Trustees will be reaching the end of their terms in April, the remaining three will not reach the end of their terms until 2028 and

therefore, any increase in compensation can only be effective in April for the four newly elected officials.

Therefore, staff recommends that the Board adopt an ordinance at their next regular meeting, establishing pay for Town Board members elected or appointed after April 1, 2026, at the following rates:

Mayor - $500 per meeting attended with a maximum of $1,500 per month

Trustee - $350 per meeting attended with a maximum of $1,050 per month

Additionally, staff recommends that the cost of an individual membership at the Berthoud Rec Center be covered by the Town. The added cost of a partner, or family membership may be added to the membership at the expense of the elected official. This is consistent with the benefit provided to Town staff.

Lastly, staff would suggest that the pay amounts be adjusted upwards annually in January of each year, by 3%.

UPDATE/NEXT STEPS:
With the direction of the Board, Town staff will prepare an ordinance for adoption at the February 24, 2026 Town Board meeting

FISCAL IMPACT AND FUND SOURCE:
An adjustment to the 2026 Annual Budget will be made at mid-year to include the minor increase in expense associated with the adjusted pay

RECOMMENDED ACTION(S):
Direct staff to prepare an ordinance, modifying pay for future mayors and town trustees, to be considered at the February 24, 2026, regular town board meeting

Mayor & Council Pay as of 1/6/26	per month Mayor	Council	
Akron			Trustees $25/meeting + $250/year and our Mayor $25/meeting + $500/year
Basalt	1,562.50	1,041.67	
Boulder	1,285.52	1,285.52	
Breckenridge	1,500.00	1,000.00	$500/year stipend for Town Rec Facilities, Health Ins at their expense
Castle Pines	1,100.00	750.00	
Creede	416.67	166.67	Mayor $5000/yr; Trustee $2000/yr
Fountain	400.00	300.00	
Johnstown	1,000.00	600.00	Mayor $500 per meeting, Council $300 per meeting. No pay for work session.
Keystone	400.00	200.00	Access to 2 transferable ski passes
Kiowa	200.00	100.00	
La Jara	100.00		free water & sewer
Lafayette	1,329.03	966.54	paid every pay period
Limon	49.75	45.00	
Lone Tree	1,570.35	1,110.64	
Louisville	1,164.00	972.00	Rec Ctr membership
Lyons	700.00	400.00	set by ordinance
Mead	1,000.00	700.00	
Monte Vista	326.00	245.00	Adj every 5 years based on COLA
Parker	1,631.67	1,305.32	
Red Cliff	250.00	150.00	
Salida	1,000.00	750.00	Counci may participate in Health Ins, retirement at their expense
San Luis	200.00	100.00	Asking voters to double amounts
Superior	1,100.00	900.00	
Victor	600.00	400.00	
Wellington	300.00	100.00	
Windsor	1,000.00	666.67	+ 50% off at Rec Ctr; Prop. in April: M $1,500, C $833.33 + 50% off at Rec Ctr.

North Front Range Average	986.51	732.30	