



AGENDA
CITY OF GLENWOOD SPRINGS
Planning and Zoning Commission
Regular Meeting
JULY 27, 2021
Council Chambers, First Floor
101 W. 8TH STREET
6:00 PM

1 Meeting Attendance Instructions

A. You are invited to a Zoom webinar.

When: Jul 27, 2021 06:00 PM Mountain Time (US and Canada)

Topic: 2021/07/27 Planning and Zoning Commission Meeting

Please click the link below to join the webinar:

<https://us02web.zoom.us/j/86788422208>

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2 Roll Call

3 Receipt of the Minutes

A. May 10, 2021 Minutes

B. June 22, 2021 Minutes

4 Comments from citizens appearing for items not on the agenda

5 Continued Items

Planning File 58-20-Consideration of a Major Site Architectural Plan review for the construction of a 36-unit multifamily building. The application includes consideration of a Special Use Permit to allow a building height exceeding 40 feet and consideration of a Variance to exceed the maximum building length allowed by the Glenwood Meadows Annexation and Development Agreement and Zoning and Development Plan.

Planning File 18-21 - Consideration of Planning and Zoning Commission by-laws

6 New Items

- A. Planning File 60-20 - Request to Continue Major Site/Architectural Plan Review application for the construction of 300-unit multi-family development in 14 separate buildings in Glenwood Meadows to the August 24, 2021 Planning and Zoning Commission meeting.

7 Commissioner Comments

8 Director Comments

9 Adjournment



MINUTES
City of Glenwood Springs
Planning and Zoning Commission
Special Meeting
May 10, 2021
Zoom
6:00PM

1. Roll Call

Present at roll call were Commissioners: Marco Dehm, Amber Wissing, Joy White, Carolyn Cipperly, Sumner Schachter, Ben West

Absent at roll call were Commissioners: George Shaver, Pete Waller

Also present were: Asst. City Manager Jenn Ooton, Asst. Community/Economic Dev. Director Gretchen Ricehill, Senior Planner Trent Hyatt, City Attorney Karl Hanlon, Assistant City Engineer Jessica Bowser, City Engineer Terri Partch, Public Works Director Matt Langhorst, Fire Chief Gary Tillotson,

Commissioner Schachter attested to viewing and listening to the April 27th meeting and reading all staff supplied materials.

2. Public Comments

Greg Boecker, 220 3rd Street made the following comments requesting Planning Commission to reconsider parking requirements in Code. Boecker stated the requirements should be higher.

3. Continued Items

- a. Planning File 08-21: Consideration of an amendment to a Development Agreement for a Minor Site/Architectural Plan review for Caverns Village (continued from the April 27, 2021 meeting)

Assistant Community Director Gretchen Ricehill provided Commission with a shorty summary on the item, which was continued from the April 27th meeting. Ricehill stated that staff recommended approval of the item with findings and conditions on page 3 and 4 of the staff report.

Commissioner Dehm asked to confirm that there had been no changes to the application and that no public comments had been received, which Ricehill confirmed.

Commissioner Wissing asked for clarification on the reclassified units. Ricehill explained that four of the units would be classified as hotel units. Wissing asked if these reclassified units would require a Short Term Rental Permit. Ricehill explained they were classified as hotel units.

Commissioner Schachter asked for more information on the definitions of the four units to be amended. Ricehill explained that these would be hotel units and that it did not change the allocation of units or the amount of affordable units offered. Schachter also how the recently passed inclusionary zoning ordinance would affect any redevelopment of these units. Schachter also asked if additional conditions could be placed on the amendment in relation to the voluntary deed restriction for the other fifteen units. City Attorney Karl Hanlon stated that the prior units and their status were not affected by this item.

Applicant Doug Pratte stated that the application amendment was due to Code requirements and that reclassifying the four free market units to hotel units was the desired outcome.

Commissioner Dehm stated that the item had already been open to public comment and did not open the item to further public comment.

Commissioner Schachter made a motion to approve the item with findings and conditions on pages 3 & 4 of the staff report.

Commissioner Cipperly seconded the motion.

Commissioner Dehm called the item to question.

Motion passed unanimously.

4. New Items

- a. Planning File 12-21: Appeal of a Community Development Director decision to not accept/process a Major Site/Architectural Plan review application and a Minor Subdivision application due to the proposal exceeding the maximum number of multi-family residential apartment units allowed by the Glenwood Meadows Annexation and Development Agreement and Zoning and Development Plan.

Commissioner Schachter made a motion to continue the item to the May 25th, 2021 meeting.

Commissioner Wissing seconded the motion.

Commissioner Dehm called the item to question.

Motion passed unanimously.

- b. Workshop – Joint Meeting with Downtown Development Authority to discuss downtown land use matters including promoting vitality, ground floor strengthening design standards.

Planning & Zoning Commission conducted a workshop with members of Downtown Development Authority.

Executive Director of the DDA Laura Kirk introduced the members of the Board. Kirk summarized the DDA's concerns over recent development in the downtown, including the ANB Bank project.

DDA Member Chad Lee expressed desire to see more retail and small business in the downtown area. Lee also stated importance of balancing regulation as to not stifle development.

Staff provided some explanation on the items and information provided to the Commission and the DDA for the workshop. Further discussion touched on the following topics:

- Incentives to keep commercial rents affordable
- Regional examples of vibrant downtowns such as Ridgeway and Durango
- Balancing regulation as to not stifle development
- Limiting formula businesses
- Preserving equity between existing and new businesses when considering incentives or assistance
- Tiering incentives to encourage specific types of businesses
- Façade improvements
- 6th Street redevelopment
- Design standards
- Revolving loan fund
- Encouraging downtown events
- Outdoor dining and food trucks
- Reaching out to local high schools to promote local part time employment
- Surface parking

- c. Workshop – Discussion with the City Attorney regarding land use, quasi-judicial powers, and decision making, ex parte communications, and other general procedural matters.

Planning & Zoning Commission conducted a workshop with the City Attorney to discuss several topics. Discussion touched on the following topics:

- State law basis for Planning & Zoning Commissions
- Municipal Code requirements
- Quasi-judicial procedures and requirements
- Conflict of interest
- Comprehensive Plan
- Variances

5. Commissioner Comments

Commissioner Schachter reminded Commission members to route suggestions on downtown to staff.

6. Director Comments

Ricehill also provided the Commission on an update for the next month's regular meeting.

7. Adjournment

Meeting was adjourned at 8:54 PM.

DRAFT



MINUTES
City of Glenwood Springs
Planning and Zoning Commission
Regular Meeting
June 22, 2021
Zoom
6:00PM

1. Roll Call

Present at roll call were Commissioners: Marco Dehm, Amber Wissing, Joy White, Carolyn Cipperly, Sumner Schachter, Ben West

Absent at roll call were Commissioners: Pete Waller, George Shaver

Also present were: Asst. City Manager Jenn Ooton, Asst. Community/Economic Dev. Director Gretchen Ricehill, Senior Planner Trent Hyatt, City Attorney Karl Hanlon, Senior Planner Hannah Klausman, Assistant City Engineer Jessica Bowser,

2. Receipt of the Minutes

Commissioner Schachter made a motion to accept the minutes from the May 25th meeting. Commissioner Wissing seconded the motion. Commissioner White confirmed watching and listening to the May 25th meeting. Commissioner Schachter requested additional details to be added to the minutes on page 2 and page 5. Commissioner Cipperly requested a change to a name for public comments on page 4.

Commissioner Schachter made a motion to approve minutes with requested changes. Commissioner Wissing seconded the motion. Commissioner Dehm called the item to question.

Motion passed unanimously.

3. Public Comments

Comments from citizens appearing for items not on the agenda. No citizens presented.

4. Continued Items

- a. Planning File 09-21: *Consideration of a Minor Site/Architectural Plan review for addition of eleven multifamily units in a building that is currently vacant. The application includes consideration of an administratively Right-of-way Encroachment license for building cornices that overhang the public right-of-way. Continued from the May 25, 2021 meeting.*

Assistant Community Development Director Gretchen Ricehill provided the Commission with a summary of the application item, which was originally presented at the May 25, 2021 meeting.

Ricehill indicated staff recommended approval of the item with findings on page 8 and suggested conditions on pages 8 and 9 of the staff report. Ricehill stated that no additional public comment had been received since the May 25th meeting.

Commissioner Dehm asked who was the neighboring property owner. Dehm opened up the item to public comment. No members of the public presented for comment. Commissioner Dehm closed the item to public comment.

Commissioner White asked if there were open space requirements for the project. Ricehill explained that there were no open space requirements in the M2 Zoning District. White also asked if the existing sewer lines were adequate for the development. Applicant explained that they were examining that issue. White also asked about the repaving of the alleyways and the possibility of sharing that cost with the applicant, and if that would be included as a condition. Ricehill explained the cost share of paving alley ways had not been decided. If it were, it would be included in the development agreement for the project.

Commissioner Cipperly made a motion to approve the planning item with findings on page 8 and suggested conditions on pages 8 and 9 of the staff report. Commissioner Wissing seconded the motion.

Commissioner Schachter stated support for the item and also wanted to state that it was unfortunate that there was no retail space on the first floor and that there were no affordable units.

Commissioner White commended applicant for their efforts to preserve the building.

Commissioner Dehm seconded Schachter's comments in that it would be nice to see a retail space on the ground floor. Commissioner Dehm called the item to question.

Motion passed unanimously.

- b. Planning File 16-21: Consideration of a Variance from Article 070.040.110(g)(4)a4 and 070.040.110(i)(3) to allow the installation of two signs in the RM1 Residential Medium Density zoning district that exceed the maximum 10 square foot sign area allowed and to illuminate one of the two signs. Continued from the May 25th, 2021 meeting.

Assistant Community Director Gretchen Ricehill provided a summary of the item which had been continued from the May 25th, 2021 meeting. Ricehill explained no additional public comment had been received since May 25th. Ricehill indicated staff recommended approval of the item with findings and conditions on page 6 and 7 of the staff report.

Commissioner Schachter asked if the existing non-compliant sign on the north side of the property had been removed. Applicant confirmed it had been removed.

Applicant Rich Carter did not have additional comment.

Commissioner Dehm asked if there had been additional public comment which was confirmed by Ricehill. Dehm did not re-open the item to public comment.

Commissioner Schachter made a motion to deny the consideration of a variance with findings that the application does not meet all the variance criteria. Schachter suggested adding the condition to denial that the applicant could revise their existing signage.

Commissioner Wissing seconded the motion.

Commissioner Schachter expressed reluctance to approve the variance explaining that the existing sign that has an existing variance was adequate.

Commissioner White stated support to approve the item, stating it met the variance requirements, citing the fact it is a long standing non-residential use in a residential zoning district.

City Attorney Karl Hanlon stated that conditions could not be added to a denial, that a denial was just a denial.

Commissioner Cipperly stated support to approve the item, also citing the fact that it is a long standing non-residential use in a residential zoning district.

Commissioner Dehm asked staff for information on how sign area was calculated and allocated, which was further explained by Ricehill.

Commissioner Schachter stated would be willing to withdraw the motion to deny. Commissioner Wissing seconded withdrawing the motion.

Commissioner Cipperly made a motion to approve the item with finding and conditions on pages 6 & 7 of the staff report.

Commissioner White seconded the motion.

Commissioner Schachter requested to add the condition as subject of approval that the applicant be able to revise the existing 28 square foot sign.

City Attorney Karl Hanlon explained that the requested condition was not relevant to the proposed motion.

Commissioner Dehm stated support of the item and mentioned that this was a long standing non-residential use in a residential zoning district.

Commissioner Dehm called the item to question.

Motion passed 4-1.

Commissioner Dehm, White, West, and Cipperly voted in favor the motion. Commissioner Schachter was opposed.

5. New Items

- a. Planning File 58-20: Consideration of a Major Site Architectural Plan review for the construction of a 36-unit multifamily building. The application includes Consideration of a Special Use Permit to allow a building height exceeding 40 feet and consideration of a Variance to exceed the maximum building length allowed by the Glenwood Meadows Annexation and Development Agreement and Zoning and Development Plan.

Senior Planner Hannah Klausman provided the Commission with a presentation on the application. Klausman indicated that staff recommend approval of Action Items 1 (Special Use Permit) and 2 (Variance) with findings on pages 13-14 of the staff report and pages 134-135 of the packet. Staff recommended approval to City Council of Action Item 3 (Major Site/Arch Plan Review) with findings and conditions on pages 14-15 of the staff report (pages 135-136 of the packet).

Commissioner White asked for more information on the Special Use Permits and variances for previous phases. Klausman provided more information on variances and Special Use Permits on previous phases. Applicant Richard Myers explained all previous phases had variances for length and height. White also asked about underground parking and Myers explained Phases III and IV would have underground parking and the Phases I and II had tuck under parking.

Commissioner Wissing asked for a definition of a fast casual restaurant.

Commissioner Schachter questioned the use of small town character as a criteria for approval of this project. Schachter asked if the applicant reduced units, if they could meet the length requirement. Klausman stated applicant could better ask that question.

Applicant Richard Myers, Realty Capital Management, provided the Commission with a presentation on the item. Applicant Myers explained that the building length was 15' over the limit and that previous buildings that had been approved were longer. Myers indicated that the

extra 15' enabled the creation of a better and more efficient parking garage. Myers explained the number of units could be the same without the 15' but amenities would be reduced.

Commissioner Schachter asked if the report of existing Lofts residents broke down the employment location of residents. Applicant Myers stated the report included employment locations for all residents. Schachter asked if that report was available to the Commission. Myers indicated the report contained confidential information and was not public information. Schachter requested the applicant provide the percentage of tenants in the Lofts that were employed within the City of Glenwood Springs. Myers indicated they could provide that information. Schachter also asked if this application was submitted before the inclusionary housing ordinance was enacted, which was confirmed by Hannah Klausman.

Commissioner White asked if there was any plan to phase any units out as condominiums and if that was something that the applicant had done with other projects. Myers stated they had developed condos and for sale housing. Myers also stated that the applicant did not have immediate plans for converting the units to a condo style building.

Commissioner Cipperly had questions on the building heights and elevations. Cipperly expressed concerns on scale of the building compared to previous phases. Applicant Myers explained how the proposed project would compare to existing buildings. Cipperly also asked if there would be additional storage in the building. Applicant Myers explained there was some storage in the parking garage as well as additional storage on other floors and that the applicants were aware of need for storage especially bicycle parking. Cipperly asked if the project met storage requirements. Klausman confirmed that the proposed project met storage requirements.

Commissioner Dehm asked if there was any concerns about the condition of Wulfsohn Road. Klausman stated that no conditions had been included on Wulfsohn. Applicant Myers explained that the Phase III Development of the Lofts did include some requirements to redo sections of Wulfsohn, directly in front of the building.

Commissioner White asked about the potential restaurant space. Applicant Myers explained that it was the intent to develop a restaurant.

Assistant City Engineer Jessica Bowser provided additional information on the state of Wulfsohn Road. Bowser indicated that Engineering was aware of the road's current condition and that it would need reconstruction at some point. Dehm asked if it was a scheduled improvement.

City Attorney Karl Hanlon explained that several funding solutions were being pursued to help fund improvements to Wulfsohn Road.

Commissioner Schachter stated that the left hand turn from Market Street onto Wulfsohn was difficult and that sometimes people turn into oncoming Wulfsohn traffic. Schachter proposed that staff research potential safety improvements at that intersection.

Commissioner Dehm opened the item to public comment. No members of the public presented for comment. Commissioner Dehm closed the item to public comment. Dehm stated public

input could be sent to staff and Senior Planner Hannah Klausman provided information on providing public comment.

Commissioner Cipperly made a motion to continue the item to the next regularly scheduled Planning & Zoning Commission meeting. Commissioner White seconded the motion. Commissioner Dehm called the item to question.

Motion passed unanimously.

b. Planning File 18-21: Consideration of Planning and Zoning Commission by-laws.

Community Development Director Jen Ooton provided the Commission some suggested changes to the bylaws including changing of review time deadlines and references to cassette tape recording. Ooton also mentioned the existing bylaws that limit meetings to not going past 11:00 PM and not taking up a new item past 10:00 PM.

Commissioner Cipperly provided several suggested changes to by-law language.

City Attorney Karl Hanlon provided clarification on when applicants may ask for a continuance. Additional discussion on Planning & Zoning Commission making site visits to applicant locations, rules to ensure fairness, and other aspects of the by-laws.

6. Commissioner Comments

Commissioner Cipperly stated that the Planning & Zoning Commission should be involved in any discussions on potential planning projects related to South Canyon.

Commissioner Schachter wanted to provide a compliment for the City Broadband installation services. Schachter also discussed the City's Fire Prevention campaign and asked the Commission to help assist distributing signage.

All the Commissioners thanked Gretchen Ricehill for all her service to the City.

7. Director Comments

Jen Ooton provided the Commission with an update on upcoming items and meetings.

8. Adjournment

Meeting was adjourned at 8:13 PM.



Planning and Zoning Commission Report

Date: June 22, 2021
 To: Planning and Zoning Commission
 From: Hannah Klausman, Senior Planner
 Subject: #58-20- Major Site/Architectural Plan Review; Variance; Special Use Permit

REQUEST	Consideration of a Major Site/Architectural Plan review for the construction of a 36-unit multifamily building in Glenwood Meadows. The project includes consideration of a variance from the Glenwood Meadows Zoning and Development Plan; and a Special Use Permit to exceed the 40-foot building height in the M2-Mixed Use Central Core zoning district. The project also includes consideration of an administratively reviewed Parking Alternative request.
APPLICANT	Stoneleigh Companies, LLC
OWNER	Weingarten Miller, LLC
ZONE	M2-Mixed Use Central Core
LOCATION:	Lot 8, Glenwood Meadows No. 2 405 E Meadows Drive (PIN#218508138008)
SURROUNDING LAND USES	North: Offices/Commercial/Retail South: Residential/Commercial East: Hotel/Lodging West: Residential/Commercial
LOT SIZE	41,643 square feet, 0.95 acres

ACTION ITEMS

Action 1:

Consideration of a Special Use Permit to allow for the construction of a 60-foot tall building in the M2-Mixed Use Central Core zoning district.

Staff recommends approval of the Special Use Permit with findings on page 13.

Action 2:

Consideration of a variance from section V.D.3.c of the Glenwood Meadows Zoning and Development Plan which limits maximum length of 125 feet for multifamily buildings, allowing for a maximum building length of up to 140 feet.

Staff recommends approval with suggested findings on page 13-14.

Action 3:

Consideration of a Major Site/Architectural Plan review for the construction of a 36-unit multifamily building in the M2-Mixed Use Central Core zoning district.

Staff recommends **approval** with suggested findings on page 14, and suggested conditions on page 14-15 of this report.

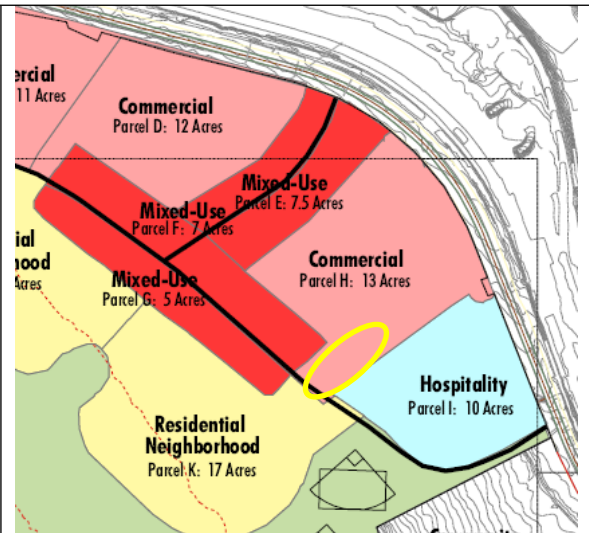
Background & Project Description

In 2002, City Council approved the Glenwood Meadows annexation, rezoning, and development plan, which is memorialized in the Annexation and Development Agreement (ADA) and Zoning and Development Plan. The later document divides the 345-acre Glenwood Meadows property into 12 distinct parcels which represent 5 zoning districts. The Zoning and Development Plan includes general and parcel-specific development standards intended to provide an additional level of quality over and above the city's Municipal Code requirements.

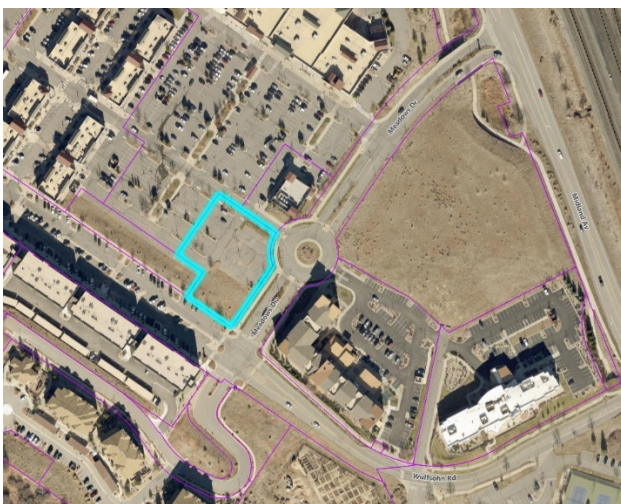
Lot 8, the subject property, is located in Glenwood Meadows parcel H and is zoned M2-Mixed Use Central Core.



Zone District Map



Glenwood Meadows Zoning and Development Plan





Between 2015 and 2019 Stoneleigh, LLC, the project applicant, in partnership with Realty Capital Management, LLC received approval to develop 6 multifamily buildings along Wulfsohn Road in Glenwood Meadows adjacent, and in proximity to the subject property. Five of the buildings (phase I and II, consisting of 185 units) are occupied and the sixth (phase III, consisting of 89 units) is currently under construction.

The current proposal, phase IV, calls for constructing a four story, 36-unit apartment building, and one level of underground parking. The footprint of the proposed building is 12,683 square feet, which includes a raised amenity deck, amounting to a lot coverage of 30.4%. The project includes setting aside a 6,000 square foot pad north of the proposed building for future commercial development.

Review Process

According to Municipal Code section 070.060.050(a), the construction of 36 multifamily units is classified as a Major Site/Architectural Plan review requiring a public hearing before both the Planning and Zoning Commission and City Council. The Planning and Zoning Commission is a recommending body to Council.

PROJECT ANALYSIS

Attached for the Commission's review is the owner's application which includes a project description, civil and architectural plans, and related reports.

Development Standards

Site layout, building design, parking, landscaping, and other specifics related to development within Glenwood Meadows are subject to the Glenwood Meadows Zoning and Development Plan (GMZDP). Sections therein provide General Development Standards (Chapter V., beginning on page 11) as well as standards specific to each area (Chapter VIII., beginning on page 31) within the development. Where not address by the GMZDP, Section 070.040 of the *Glenwood Spring Municipal Code* (Code) outlines the development standards for all land use applications. Staff provides an overview of the various applicable standards below.

Parcel H Commercial (C-1 and C-2) Site Layout and Building Design

Section VII of the GMZDP outlines design specifics for the Commercial parcels located in Glenwood Meadows related to building orientation, architectural elements, heights, and façade articulation.



For residential buildings, all sides visible by the public, shall display similar architectural interest. At least every 50 linear feet, wall planes shall contain offsets or setbacks with a differential in horizontal plane of at least 5 feet. All elevations shall contain windows, and a minimum 12-inch eave or overhang shall be provided on the perimeter of all residential buildings, except gable roof ends.

Phase IV mirrors previous building design in Phases I through III. Exterior colors and finishes are illustrated below.



Building height

The applicant is requesting a special review permit to allow Phase IV to exceed the current building height restriction of 40 ft, in the M2 zone district. The request is for the West wall of the building to reach 60 ft.

Special use review is required for building heights exceeding the general M2 zone district maximum of 40 up to 60 feet. The applicant proposes a maximum building height of 60 feet on the four-story north side of the building. Criteria for the review and approval of a special use are outlined in Section 070.060.050(e)(3)e.2 of the Code as outlined in bold italics below. Other language is provided by staff.

i. The use will be compatible with the surrounding area;

Similar multi-family residential developments and hotels of equal height and similar dimension are located in close proximity to the subject property. Some of these buildings received similar building heights special use approvals. Additionally the GMZDP identifies the need for greater heights along Wulfsohn Road to address existing grades.

ii. The impacts of the use on surrounding areas have been adequately minimized;

Potential impacts related to building heights, such as overwhelming mass/bulk, lack of solar exposure, etc., are mitigated by planned site layout of Glenwood Meadows large streets and pedestrian oriented sidewalk widths along Wulfsohn Road. The building also incorporates elements which soften height impacts such as windows, canopies, balconies, and changes in materials.

iii. The use will be consistent with the general purpose and intent of this Code;

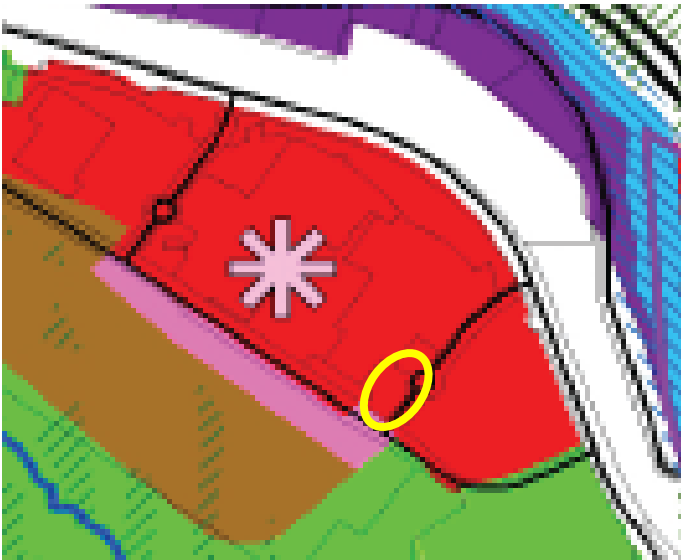
The proposal is consistent with the general purpose and intent of the Code as it relates to efficient development, compatible design, and addressing impacts.

iv. The use will comply with all applicable standards of this Code;

As outlined herein, the use complies with various standards of the Code and/or GMZDP, exclusive the of a building length variance request addressed below.

v. The use is in conformance with the Comprehensive Plan and other City plans and policies; and

As shown at right, Map 2.1 Future Land Use – North Portion of the City of the Glenwood Springs of the Comprehensive Plan (Comp Plan) identifies the area as “Commercial” in red and “Secondary Commercial Center” with a pink asterisk. According to the Comp Plan, the “Commercial” designation “...provides a wide range of general retail goods and services for both regional and local markets, in attached and freestanding structures.” A “Secondary Commercial Center” is an area where the “...Comprehensive Plan encourages mixed-use development “and sub-area plans to “...to determine the mix of uses and type of development that can be supported”.



Numerous community goals and related objectives and strategies are outlined in the Executive Summary and subsequent chapters of the Comp Plan which are summarized in the following table.

<u>Comprehensive Plan Goal Supported</u>	<u>Objective and Strategies</u>
Promote long-term, sustainable, diverse, economic development	-Direct development into a compact form: infill and redevelopment (Chapter 3, Page 34) -Create sub-area plans for center development (Chapter 3, Page 45)
Staff Comment: The objectives/strategies outlined above are supported by the current application as it includes infill development guided by a sub-area plan.	
Preserve small town character while maintaining the livability of Glenwood Springs and increasing the vibrancy and commercial success of the downtown	-Develop according to the vision (Chapter 4, Page34) -Direct development into a compact form: infill and redevelopment (Chapter 3, Page 34) -Enhance pedestrian–friendliness while facilitating traffic (Chapter 3, Page 36) -Create sub-area plans for center development (Chapter 3, Page 45) -Direct growth inward (Chapter 9, Page 102)
Staff Comment: Infill, as proposed, makes improvements more cost effective. The design of the project is in character with those surrounding the site, aligns with the GMZDP, and maintains the pedestrian oriented design of the Mixed-Use area designation.	
Address transportation and provide multiple convenient travel choices	-Direct development into a compact form: infill and redevelopment (Chapter 3, Page 34)

	-Encourage reduction of single occupant vehicles and encourage alternate travel modes through land use planning and community design (Chapter 5, Page 66)
Staff Comment: Dense infill in a mixed-use area, as proposed, is a land use strategy used to address transportation issues per the Comp Plan which also encourages the use of public transportation to reduce single occupancy vehicle use.	
Direct development to locations and building forms that are cost effective to serve	-Direct development into a compact form: infill and redevelopment (Chapter 3, Page 34) -Create sub-area plans for center development (Chapter 3, Page 45) -Direct growth to areas where utilities and services can be provided efficiently (Chapter 7, Page 82) -Direct growth inward (Chapter 9, Page 102)
Staff Comment: Infill/redevelopment, as proposed, makes improvements more cost effective. Therefore, the objectives/strategies associated with the project support the Comp Plan goal.	
Provide housing opportunities for the entire community	-Direct development into a compact form: infill and redevelopment (Chapter 3, Page 34) -Create sub-area plans for center development (Chapter 3, Page 45) -Require good design for mixed-use and higher density project (Chapter 6, Page 78)
Staff Comment: Infill/redevelopment, as proposed and per a sub-area plan, makes improvements more cost effective while providing a nice aesthetic. Therefore, the objectives/strategies associated with the project support the Comp Plan goal.	
Support social diversity	-Direct development into a compact form: infill and redevelopment (Chapter 3, Page 34) -Require good design for mixed-use and higher density projects (Chapter 6, Page 78) -Direct growth inward (Chapter 9, Page 102) -Direct growth inward (Chapter 9, Page 102)
Staff Comment: Dense infill in a mixed-use area, as proposed, is a land use strategy to address transportation issues per the Comp Plan which encourage the use of public transportation and reduce single occupancy vehicle use. Infill/development allows for easier access to goods/services for the entire community.	

The current proposal is in compliance with the *Future Land Use* map designations and descriptions and goals and objectives outlined above. Additionally, as addressed in various sections of the staff report, the proposal is in compliance with the GMZDP (and amendments thereto) and the Mixed-Use C-2 standards addressed therein.

- vi. **The use minimizes adverse impacts to the health, safety, and welfare of the inhabitants of the surrounding areas and the city.**

The request does not negatively impact the health, safety, and welfare of the inhabitants of the surrounding areas and the city.

Building Length

The proposal includes a single apartment building that measures approximately 75 feet wide by 140 feet in length. Section V.D.3.c of the GMZDP outlines a maximum building length of 125 feet for multi-family residential buildings. The applicant is requesting a variance to allow a building length of 140 linear feet.

Variance Approval Criteria

Variances requests must adhere to the approval criteria outlined in Section 070.060.070(a)(3)e.2 of the Code as outlined in ***bold italics*** below. Other language is provided by staff.

i. The subject property has an exceptional shape, topography, building configuration or other exceptional site condition that is not a general condition throughout the zone district;

The subject parcel has a grade difference of 14 feet between the Wulfsohn Road and the existing parking lot north of the site. Additionally, the Eagle Valley evaporite hydrocompactive soils at the site require heavily engineered deep pile foundations of up to 65 feet as opposed to foundation walls anchored by soil nails. Additionally, a continuous shoring system adjacent to and supporting Wulfsohn Road is required for the excavation of site.

ii. The strict application of the Code standards for which a variance is sought would produce undue hardship;

The exceptional shape, topography, and soil conditions outlined above create difficulty in developing the site. Area necessary to excavate, construct the foundation, and build the shoring wall is limited and places an undue hardship on potential developers. Stability of the foundation, lower level parking, and shoring wall are all increased by being interconnected.

iii. The applicant did not create the hardship by his/her own actions;

The shape, layout, topography, or existing soils are not hardships created by the applicant.

iv. The variance requested does not harm the public and does not impair the intent or purposes of this Code, goals, and policies, including the specific regulation for which the variance is sought;

The proposal is consistent with the general purpose and intent of the Code regarding guarding against natural hazards, efficient development, compatible design, and addressing impacts. Additionally, the subject maximum building length standard is located in the residential subsection of Section V General Development Standards of the GMZDP. Neither the non-residential subsection of Section V nor the Commercial development standards of Section VII contain the same regulation as they are intended to be dense commercial areas.

v. The variance request demonstrates exceptional hardship not related to purposes of

convenience or financial burden;

As outlined above the exceptional hardship is not related to convenience nor financial burden and is required to allow development of the site in the manner intended by the GMZDP.

vi. The variance request will not violate building or fire code requirements; and

The request does not create a building nor fire code violation.

vii. The variance is the minimum variance that will afford relief of the subject standards of the Code.

This variance request is the minimum required to allow for construction on the subject parcel as intended by the GMZDP.

Common Open Space

Required open space/park land for the entire Glenwood Meadows development has been previously satisfied by various improvements or land transfers to the City including the creation of hiking/biking trails, pedestrian infrastructure such as Midland Trail, transfer of Community Center property, etc. However, the proposal includes approximately 2,400 square feet of open space which covers nearly 6 percent of the site. For its own residents (Phase 4), the applicant is providing roof terrace with fire pit and barbeque amenities, a club room and fitness center, and a street level raised amenity terrace with hot tub and pool. Bicycle/general storage areas are also located on the lower parking level. There are 18 bicycle spaces located on the parking level.

Landscaping

The GMZDP includes landscaping standards for the Commercial Zones that require 15% of the site be landscaped. The applicant is providing 11,225 square feet of landscaping or approximately 26% of the lot area. This includes a heavily landscaped strip between the building and existing sidewalk on East Meadows Street.

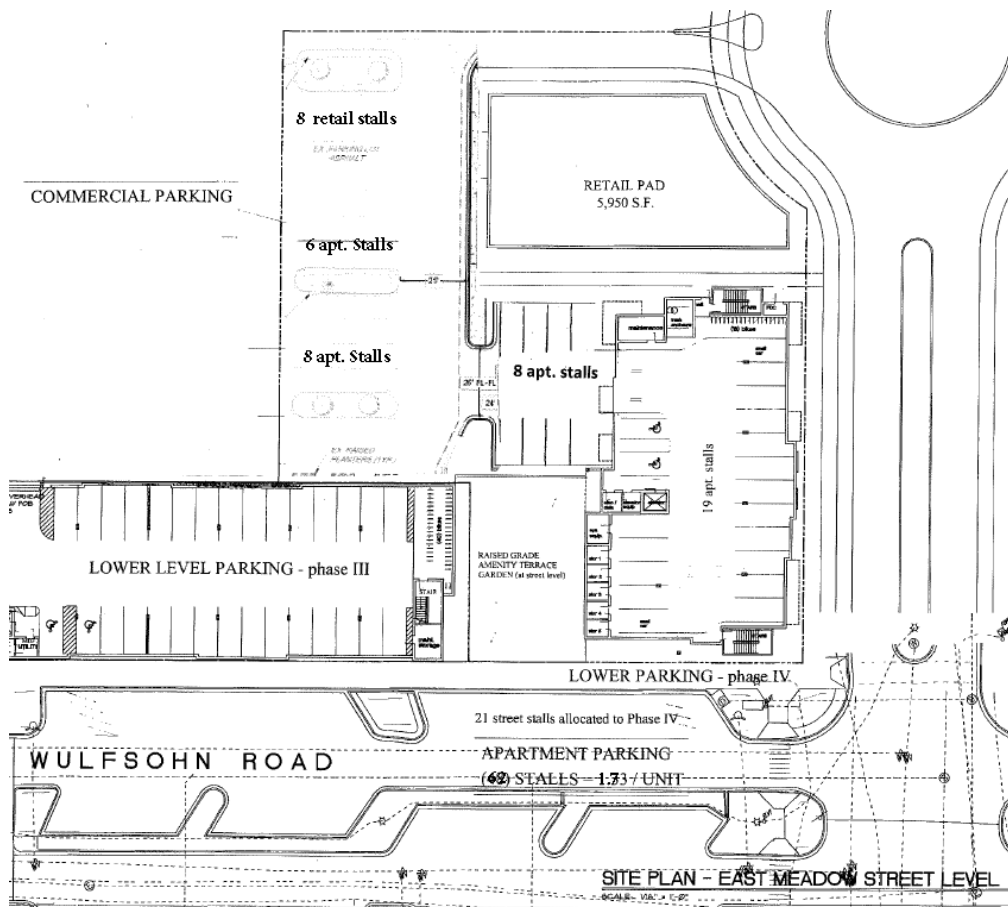
In commercial areas, the GMZDP requires a certain number of trees/shrubs to be planted within setbacks and along street frontages. Compliance with the GMZDP requires of 1 street tree per 35 linear feet of frontage along Wulfsohn Road. When Wulfsohn Road was developed, the owner at that time planted street trees roughly 35 feet apart. The 3 existing street trees in front of the Phase IV on Wulfsohn meet the plan's requirement. Additional street trees on East Meadows and the internal neighborhood street are in compliance as well. There are 3 existing trees, and one new tree proposed along East Meadows Street. Should any of the existing trees be damaged during construction, the Lofts will be required to replace them with a size & species acceptable to the Parks Department.

The geotechnical report does indicate that plantings and irrigation should be minimized and not include lawn within 10 feet of the building. The applicant shall review the landscaping plan to comply with the recommendations.

The future commercial pad site is indicated to remain as native seed landscaping. Irrigation shall be provided for the first year in order to establish the area.

Off Street Parking and Loading

Section 070.030.020(e)/Table 030.1 Table of Allowed Uses outlines 1.5 spaces per multi-family dwelling unit and one guest space per five dwelling units requiring 62 total spaces for the current proposal, or 1.7 per unit.



19 spaces are proposed in the lower-level garage, 8 surface level spaces, 14 spaces from the existing parking lot in the northwest corner of the lot, and 21 of the existing on-street parking spaces within the Wulfsohn Road right-of-way allocated to Lot 8, amount to a total of 62 residential parking spaces.

There are currently 8 additional existing spaces that will be used to accommodate commercial parking for the future use. The future commercial pad site may necessitate a parking lot reconfiguration at that time and a look at shared parking feasibility and alternative parking reductions with the Residential use. The applicant could also consider revising the layout of the existing surface lot to include compact vehicle spaces which may increase the number of spaces provided. The Code allows for the compact spaces to account for 10 percent (generally 20 percent but only 10 percent when other parking alternatives are included as part of any proposal) of the required spaces.

Traffic Impact

The applicant has submitted a Traffic Impact Study for the proposal. The study included analysis for the 36 apartment units and assumed a fast-casual restaurant for the future commercial site for purposes of the traffic study. The traffic generation for these uses is included on the next page from the traffic study.

Table 1 – Lofts at Red Mountain – Phase IV Traffic Generation

Land Use	Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Multifamily Housing (Mid-Rise) (221) – 36 Dwelling Units	196	3	10	13	10	7	17
Fast Casual Restaurant (930) – 5,950 Square Feet	1,876	8	4	12	46	38	84
Total Project Trips	2,072	11	14	25	56	45	101

Based on the results of the analysis, the key intersection recommended improvements and control for the 2023 build are as follows:

1. At the Midland Avenue and E Meadows Drive intersection, a 150-foot plus 120-foot taper eastbound acceleration lane is recommended along Midland Avenue, so the northbound right turn operates with free turning movements. This will likely require reconstruction of the existing channelized median island in the E Meadows Drive throat of the intersection.



2. It is recommended that the existing free northbound right turn movement at the intersection of Midland Avenue and Wulfsohn Road be better designated to fully operate as a “FREE” lane. To accomplish this, it is recommended that improved channelized striping or a median be provided designating the left edge for the right turning vehicles.

The engineering department has recommended a 4-way stop at East Meadows Drive and Wulfsohn which is at the southeast corner of the proposal property. Planning staff supports that recommendation and has included it in the conditioned language.

An annual growth rate of 1.15 percent was used to calculate short term 2023 and long term 2040 background traffic projections for the key intersections and roadways in the study area. Recommendations are included if projected traffic volumes in the long-term horizon years are realized including the possible widening of Midland Avenue.

If future 2040 volumes are realized, Midland Avenue may need to be widened to four-lanes to accommodate the increase in traffic. The Memorandum of Understanding between the City and the

Meadows outlines the obligations in regard to the expansion of Midland Avenue. The widening of Midland Avenue is listed to be constructed “*if and when the City deems it appropriate.*” Subsequent agreements have identified the developer meeting the financial obligation for these improvements and the City cannot exact further compensation for this item.

Community Housing (070.045)

The requirement to provide deed restricted community housing was added to the Code on April 1, 2021. Any residential development proposing 10 or more new dwelling units is required to set aside 20% of the units as deed restricted resident-occupied community housing.

This application was filed March 30th, prior to the effective date of the inclusionary housing ordinance and therefore is not subject to the community housing requirements.

Drainage

The applicant submitted a Drainage compliance letter for Phase IV. The proposal is in conformance with the approved Final Drainage Report for Glenwood Meadows and the City of Glenwood Springs drainage criteria.

Site/Architectural Plan Review Approval Criteria

A Major Site/Architectural Plan Review application must adhere to the approval criteria outlined in Section 070.060.050(6) of the Code as outlined in ***bold italics*** below. Other language is provided by staff.

a. The site/architectural plan is consistent with the general purpose and intent of this Code;

The general purpose of the Code is to protect the public health, safety, and welfare of the city and to implement policies, goals including those in the Comprehensive Plan. More specifically, the intent of the Development Code among other things, is to create the best built environment by promoting orderly, efficient development; to provide for a variety of housing and densities, including workforce housing; to regulate the development based on impacts; and to provide minimum standards for design and improvement of the land and buildings to ensure that each building site is capable of accommodating its intended use.

b. The site/architectural plan is consistent with the dimensional, design, development, and all other standards of this Code;

As outlined above, staff found that the proposal is consistent with the dimensional, design, development, and all other standards of the GMZDP exclusive of the variance discussion included herein.

c. The site/architectural plan is consistent with any previously approved plat, PUD, or any other precedent land use approval; and

As outlined above, staff found that the proposal is consistent with the dimensional, design, development, and all other standards of the GMZDP exclusive of the variance discussion included herein.

d. The site/architectural plan is consistent with the Comprehensive Plan and other adopted City policies and plans.

As addressed in detail above, the current proposal is in compliance with the *Future Land Use* map

designations and descriptions and goals and objectives of the Comp Plan and the GMZDP (and amendments thereto).

COMMENTS

Staff distributed the application to the city's departments for review and comment. The Engineering Department submitted written comments addressing specific details of project construction including drainage, pavement patching, and permitting. Compliance with these comments/requirements have been added as conditions of project approval.

No public comments were received as of the writing of this report.

ACTION ITEMS AND STAFF RECOMMENDATIONS

Section 070.060.030(g)(1)d outlines the review and decision procedures for applications being considered by the Planning and Zoning Commission and/or City Council. The Commission may approve, approve with conditions, or deny the application based on the applicable approval criteria listed in the application-specific procedures. The Commission may also continue the hearing to with a request for specific additional information.

NOTE: The Planning and Zoning Commission **will not** vote on this item at the June 22nd meeting. As has been the policy since meeting remotely, to accommodate public comment the Commission will continue this item to the July 27th meeting. The action and recommendations below are for information only.

Action 1:

Action 1:

Consideration of a Special Use Permit to allow for the construction of a 60-foot-tall building in the M2-Mixed Use Central Core zoning district.

Staff recommends approval of the Special Use Permit with the following suggested findings:

Recommended Findings:

1. The use is compatible with the surrounding area;
2. The impacts of the use on surrounding areas have been adequately minimized;
3. The use is consistent with the general purpose and intent of this Code;
4. The use complies with all applicable standards of this Code;
5. The use is in conformance with the Comprehensive Plan and other City plans and policies; and
6. The use minimizes adverse impacts to the health, safety, and welfare of the inhabitants of the surrounding areas and the city.

Action 2:

Consideration of a variance from section V.D.3.c of the Glenwood Meadows Zoning and Development Plan which limits maximum length of 125 feet for multifamily buildings, allowing for a maximum building length of up to 140 feet.

Staff recommends approval with the following suggested findings:

Recommended Findings:

1. The subject property has an exceptional shape, topography, and soil conditions that are not general conditions throughout the Mixed-Use (M2) Core zone district;
2. The strict application of the Code standards for which the variance is sought produce undue hardship;
3. The applicant did not create the hardship by his/her own actions;
4. The variance requested does not harm the public and does not impair the intent or purposes of this Code, goals, and policies, including the specific regulation for which the variance is sought;
5. The variance request demonstrates exceptional hardship not related to purposes of convenience or financial burden;
6. The variance request does not violate building or fire code requirements; and
7. The variance is the minimum variance that will afford relief of the subject standards of the Code.

Action 3:

Consideration of a Major Site/Architectural Plan review for the construction of a 36-unit multifamily building in the M2-Mixed Use Central Core zoning district.

Staff recommends **approval (with conditions)** of the Major Site/Architectural Plan Review with the following findings and conditions:

Recommended Findings:

1. The site/architectural plan is consistent with general purpose and intent of the Code;
2. The site/architectural plan is consistent with dimensional, design, development, and all other standards of this Code;
3. The site/architectural plan is not in conflict with precedent land use approvals; and
4. The site/architectural plan is consistent with goals and objectives of the Comprehensive Plan.

Suggested Conditions:

1. The development shall comply with the requirements of the Code. Any future physical changes or improvements to the property or buildings are subject to the review and approval of the Community Development Director for compliance with applicable requirements of the Glenwood Springs Municipal Code.
2. The owner shall comply with all verbal representations made in the public hearings, as outlined in all application materials, and/or as revised per conditions herein and approved by the Community Development Director.
3. Irrigation shall be provided for a minimum of one year for the native seed area of the future pad site in order to establish the landscaping.
4. Prior to submitting a building and/or grading permit application, the owner shall -
 - a. Submit a Final Plans application in accordance with Municipal Code section 070.060.050(c).
 - b. Provide plans for all 2023 recommended improvements as indicated in the Traffic Study.
 - c. Include design for a 4-way stop at the intersection of Wulfsohn and East Meadows.
 - d. Submit an Engineer's Estimate of all public improvements and provide security for completing said improvements per requirements of the Engineering Standards.
 - e. Enter into a Development Agreement that memorializes the development approvals.
5. At the time of Construction Plans review the owner shall submit all required civil and architectural plans and related reports that demonstrate compliance with Code requirements and the Engineering Standards, including applicable comments provided by the City's Engineering Department in a memo dated April 30, 2021.

6. Prior to issuance of the building permit, the owner shall pay all required system improvement fees including but not limited to water, sewer, parkland, school land, and Fire/EMS.
7. Developer shall pay a surcharge of \$814/EQR to offset the costs of necessary lift station upgrades to accommodate the development.
8. Developer shall pay an equitable portion of intersection improvements on Midland Avenue not to exceed \$500/residential unit.
9. Prior to issuance of the Certificate of Occupancy, owner shall
 - a. Provide as-built plans and an Improvement Survey Plat per the Engineering Standards.

Alternative Motion

***A member of City Council has requested that land use applications include suggested motions for both approval and denial. In most instances, staff has worked diligently with the applicant to address requirements outlined in the *Glenwood Springs Municipal Code* (Code) applicable to any given proposal. Therefore, we are usually in support of an application by the time it reaches the Planning and Zoning Commission and/or City Council. However, if the Planning and Zoning Commission does not believe the application meets the Code's minimum standards, your denial motion should be based on one or more of the same approval criteria applicable to the application. You should support your findings with information outlining the shortcomings of the request as shown in the example below:

Action 1:

Consideration of a Special Use Permit to allow for the construction of a 60 foot tall building in the M2-Mixed Use Central Core zoning district. I move to **DENY** finding that –

- i. The use will NOT be compatible with the surrounding area; **[insert reasoning]**
- ii. The impacts of the use on surrounding areas have NOT been adequately minimized; **[insert reasoning]**
- iii. The use will NOT be consistent with the general purpose and intent of this Code; **[insert reasoning]**
- iv. The use does NOT comply with all applicable standards of this Code; **[insert reasoning]**
- v. The use is NOT in conformance with the Comprehensive Plan and other City plans and policies; **[insert reasoning]**and
- vi. The use does NOT minimize adverse impacts to the health, safety, and welfare of the inhabitants of the surrounding areas and the City. **[insert reasoning]**

Action 2:

Consideration of a variance from section V.D.3.c of the Glenwood Meadows Zoning and Development Plan which limits maximum length of 125 feet for multifamily buildings, allowing for a maximum building length of up to 140 feet. I move to **DENY** finding that -

- i. The subject property does NOT have an exceptional shape, topography, building configuration or other exceptional site condition that is not a general condition throughout the zone district; **[insert reasoning]**
- ii. The strict application of the Code standards for which a variance is sought would NOT produce undue hardship; **[insert reasoning]**
- iii. The applicant DID create the hardship by his/her own actions; **[insert reasoning]**
- iv. The variance requested harms the public and impairs the intent or purposes of this Code, goals, and policies, including the specific regulation for which the variance is sought; **[insert reasoning]**
- v. The variance request does NOT demonstrate exceptional hardship not related to purposes of convenience or financial burden; **[insert reasoning]**
- vi. The variance request will violate building or fire code requirements; **[insert reasoning]**

- vii. The variance is NOT the minimum variance that will afford relief of the subject standards of the Code. **[insert reasoning]**

Action 3:

Consideration of a Major Site/Architectural Plan review for the construction of a 36-unit multifamily building in the M2-Mixed Use Central Core zoning district. I move to **DENY** finding that -

1. The site/architectural plan is not consistent with general purpose and intent of the Code because **[insert reasoning]**;
2. The site/architectural plan is not consistent with dimensional, design, development, and other standards of this Code **[insert where you find inconsistencies with Code requirements]**; and
3. The site/architectural plan is not in conformance with **[insert applicable Comp Plan or other City plan or policy sections here]** of the Comprehensive Plan and other City plans and policies.

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	RVC CONSTRUCTION TRAFFIC PLAN
	TOPO SURVEY
	PHASE I ESA

R 2.26.21



LAND USE APPLICATION

City of Glenwood Springs
Economic and Community Development Dept.
101 West 8th Street
Glenwood Springs, CO 81601
970-384-6411

Ordinance Amendments		Development Permits	
☐	Rezoning	☐	Site/Architectural Plan Review
☐	Rezoning to Planned Unit Development (PUD)	☐	Administrative
☐	Annexation	☐	Minor
☐	Condominiumization	☒	Major
☐	Annexation	☐	Master Plan
☐	Street Vacation	☐	Construction Plans
☐		☐	Location & Extent
Subdivisions		☐	Right of Way Encroachment License
☐	Minor Subdivision	☐	Floodplain Development Permit
☐	Preliminary Plat	☐	Special Use Permit
☐	Final Plat	Flexibility and Relief Procedures	
☐	Vacation of Right-of-Way	☐	Variance
☐		☐	Administrative Adjustment
Other Land Use Applications		☐	Appeal
☐	Outdoor Seating	☐	

Applicant/Property Owner Information:			
Applicant		Owner	
STONELEIGH COMPANIES, LLC		WEINGARTEN MILLER GLENWOOD, LLC	
Relationship to Owner		Owner	
PURCHASER		STEVEN SHOFLOCK	
Applicant Address		Owner Address	
760 W MAIN STREET, STE 140	Barrington, IL 60010	6900 E. Bellevue Ave. Ste 300	Greenwood Village, CO 80111
Phone 224-588-9556	Email Address arodriguez@stoneleighcos.com	Phone 303-996-1328	Email Address sshoflock@millerre.com

Property Information:	
Address	Parcel Number
405 E Meadows Drive	218508138008
Subdivision	Lot and Block Number
Glenwood Meadows No 2	Section: 8 Township: 6 Range: 89 Subdivision: Glenwood Meadows No 2 Lot 8
Zone District M2	Existing Land Use Vacant

General Project Description:
Phase IV of the Lofts at Red Mountain. Adjacent to Phase III, construction will consist of a 4 story, 1 building structure of 36 for rent units above a 1 story parking garage with 19 stalls. Phase III and IV will be separated by a raised amenity deck which is proposed to include a swimming pool. Phase IV will also include a retail outparcel up to 6,000 sq. ft. with 30 parking stalls.

Signatures:									
The owner or applicant must be present at the hearing. All public hearings must be properly noticed according to G.S.M.C. Section 070.010.030. Signatures of all owners of the property must appear before the application is accepted. Partnerships or corporations may have the authorized general partner or corporate officer sign the	<table border="1"> <tr> <td></td> <td>2/24/2021</td> </tr> <tr> <td>Applicant</td> <td>Date</td> </tr> <tr> <td></td> <td>2/24/2021</td> </tr> <tr> <td>Owner</td> <td>Date</td> </tr> </table>		2/24/2021	Applicant	Date		2/24/2021	Owner	Date
	2/24/2021								
Applicant	Date								
	2/24/2021								
Owner	Date								



657443 08/09/2004 08:58A B1611 P534 M ALSDORF
1 of 4 R 21.00 D 468.00 GARFIELD COUNTY CO

SPECIAL WARRANTY DEED

[STATUTORY FORM – C.R.S. § 38-30-115]

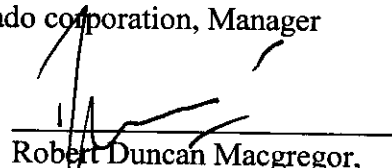
GLENWOOD MEADOWS WMG, LLC, a Colorado limited liability company (“Grantor”), whose street address is 1315 Sage Court, Aspen, Colorado, 81611, for TEN DOLLARS (\$10.00) and other good and valuable consideration, in hand paid, hereby sells and conveys to WEINGARTEN MILLER GLENWOOD, LLC, a Colorado limited liability Company (“Grantee”), whose address is 850 Englewood Parkway, Suite 200, Englewood, Colorado 80110-2304, the real property in the County of Garfield and State of Colorado that is legally described on Exhibit A attached hereto, with all its appurtenances and warrants the title against all persons claiming under Grantor, subject to the matters set forth on Exhibit B attached hereto.

Signed as of this 6 day of August, 2004.

GLENWOOD MEADOWS WMG, a Colorado
limited liability company

By: Glenwood Meadows, LLC, a Colorado
limited liability company, its sole member

By: Dunrene Management, Inc., a
Colorado corporation, Manager

By: 
Robert Duncan Macgregor,
President

[ACKNOWLEDGEMENT ON FOLLOWING PAGE]



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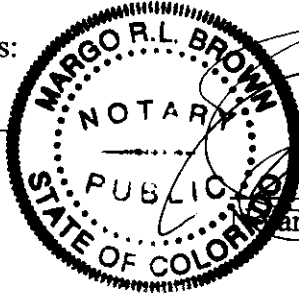
STATE OF COLORADO)
CITY AND)
COUNTY OF DENVER)

The foregoing instrument was acknowledged before me this 6th day of AUGUST, 2004, by Robert Duncan Macgregor, as President of Dunrene Management, Inc., a Colorado corporation, Manager of Glenwood Meadows, LLC, a Colorado limited liability company, sole Member of Glenwood Meadows WMG, a Colorado limited liability company.

Witness my hand and official seal.

My commission expires:

12-3-07





657443 08/09/2004 08:58A B1611 P536 M ALSDORF
3 of 4 R 21.00 D 468.00 GARFIELD COUNTY CO

EXHIBIT A

LEGAL DESCRIPTION

PARCEL A:

LOT 1, GLENWOOD MEADOWS NO. 2, AS RECORDED 8-9-04 UNDER
RECEPTION NO. 657439, CITY OF GLENWOOD SPRINGS, COUNTY OF
GARFIELD, STATE OF COLORADO.

PARCEL B:

LOTS 2 THROUGH 6, 8 AND 9, GLENWOOD MEADOWS NO. 2, AS RECORDED
8-9-04 UNDER RECEPTION NO. 657439, CITY OF
GLENWOOD SPRINGS, COUNTY OF GARFIELD, STATE OF COLORADO.



EXHIBIT B

PERMITTED ENCUMBRANCES

1. TAXES AND ASSESSMENTS FOR THE YEAR 2004 AND SUBSEQUENT YEARS, A LIEN NOT YET DUE AND PAYABLE.
2. RIGHT OF PROPRIETOR OF A VEIN OR LODE TO EXTRACT AND REMOVE HIS ORE THEREFROM SHOULD THE SAME BE FOUND TO PENETRATE OR INTERSECT THE PREMISES AS RESERVED IN UNITED STATES PATENT RECORDED SEPTEMBER 30, 1949, IN BOOK 245 AT PAGE 268.
3. RIGHT OF PROPRIETOR OF A VEIN OR LODE TO EXTRACT AND REMOVE HIS ORE THEREFROM SHOULD THE SAME BE FOUND TO PENETRATE OR INTERSECT THE PREMISES AS RESERVED IN UNITED STATES PATENT RECORDED SEPTEMBER 30, 1949, IN BOOK 245 AT PAGE 269.
4. RIGHT OF PROPRIETOR OF A VEIN OR LODE TO EXTRACT AND REMOVE HIS ORE THEREFROM SHOULD THE SAME BE FOUND TO PENETRATE OR INTERSECT THE PREMISES AS RESERVED IN UNITED STATES PATENT RECORDED SEPTEMBER 30, 1949, IN BOOK 245 AT PAGE 270.
5. EASEMENTS AND RIGHTS OF WAY AS GRANTED TO THE MOUNTAIN STATES TELEPHONE AND TELEGRAPH COMPANY IN INSTRUMENTS RECORDED JUNE 25, 1936 IN BOOK 183 AT PAGE 430.
6. EASEMENT AS GRANTED TO ROCKY MOUNTAIN NATURAL GAS COMPANY, INC., IN INSTRUMENT RECORDED JANUARY 31, 1962 IN BOOK 339 AT PAGE 88.
7. TERMS, CONDITIONS AND PROVISIONS OF RIGHT OF WAY ACQUISITION AGREEMENT RECORDED SEPTEMBER 26, 1994 IN BOOK 916 AT PAGE 864.
8. TERMS, CONDITIONS AND PROVISIONS OF ANNEXATION AGREEMENT RECORDED DECEMBER 21, 2002 IN BOOK 1414 AT PAGE 526 AND AMENDED MAY 6, 2004 IN BOOK 1585 AT PAGE 438 AND SECOND AMENDMENT RECORDED IN BOOK 1607 AT PAGE 895.
9. EASEMENTS, NOTES, AND RESTRICTIONS AS SHOWN ON THE PLAT FOR GLENWOOD MEADOWS NO. 1, RECORDED 8-9-04 UNDER RECEPTION NO. 657438.
10. EASEMENTS, NOTES, AND RESTRICTIONS AS SHOWN ON THE PLAT FOR GLENWOOD MEADOWS NO. 2, RECORDED 8-9-04 UNDER RECEPTION NO. 657439.

PUBLIC NOTICE

P&Z MEETING

Public notice will be completed as required prior to P&Z meeting, including Mineral Estate notification.

Proof will be provided to Planning as soon as notification has been made.

Neighborhood Meeting Narrative

Date Held: 6:00pm on 2/24/2021

Location: Lofts at Red Mountain Leasing Office

All property owners within 300 feet of the project were mailed public notices with return receipt requested mailings via USPS.

A notarized Proof of Public Notice, a copy of the notice, a list of landowners, copies of the mailed envelopes, and copies of the return receipts are attached. Also attached is an informational handout that was prepared for those attending.

Richard Myers attended the meeting on behalf of the Lofts at Red Mountain. A Lofts staff member was present to greet attendees and answer any questions. Richard and the staff remained at the location until 8:00pm but unfortunately, no one showed up for the meeting.

Garfield County Land Explorer

Parcel	Physical Address	Owner	Account Num	Mailing Address
218508138005	150 W MEADOWS DR GLENWOOD SPRINGS	WEINGARTEN MILLER GLENWOOD LLC	R041492	6900 EAST BELLEVIEW AVENUE SUITE 300 GREENWOOD VILLAGE, CO 80111
218508138006	Not available GLENWOOD SPRINGS	WEINGARTEN MILLER GLENWOOD LLC	R041493	6900 EAST BELLEVIEW AVENUE SUITE 300 GREENWOOD VILLAGE, CO 80111
218508138007	253 WULFSOHN RD GLENWOOD SPRINGS	SC GLENWOOD III LLC	R041494	760 W MAIN STREET SUITE 140 BARRINGTON, IL 60010
218508138008	405 E MEADOWS DR GLENWOOD SPRINGS	WEINGARTEN MILLER GLENWOOD LLC	R041495	6900 EAST BELLEVIEW AVENUE SUITE 300 GREENWOOD VILLAGE, CO 80111
218508138009	205 E MEADOWS DR GLENWOOD SPRINGS	WEINGARTEN MILLER GLENWOOD LLC	R041496	6900 EAST BELLEVIEW AVENUE SUITE 300 GREENWOOD VILLAGE, CO 80111
218508139001	125 WULFSOHN RD GLENWOOD SPRINGS	SOPRIS SUITES, LLC	R045782	4949 S NIAGARA STREET, SUITE 300 DENVER, CO 80237
218508139003	Not available GLENWOOD SPRINGS	GLENWOOD MEADOWS, LLC	R045784	710 E DURANT AVENUE, SUITE W6 ASPEN, CO 81611
218508141001	FLAT TOP VIEW DR GLENWOOD SPRINGS	GLENWOOD MEADOWS APARTMENTS I LLC	R083218	6875 EAST EVANS AVENUE DENVER, CO 80224
218508141004	150 WULFSOHN RD GLENWOOD SPRINGS	GLENWOOD MEADOWS, LLC	R083221	710 E DURANT AVENUE, SUITE W6 ASPEN, CO 81611
218508141005	Not available GLENWOOD SPRINGS	GLENWOOD MEADOWS APARTMENTS I LLC	R083222	6795 E TENNESSEE AVENUE 5TH FLOOR DENVER, CO 80224
218508142002	Not available GLENWOOD SPRINGS	SC GLENWOOD II LLC	R084014	760 W MAIN STREET, STE 140 BARRINGTON, IL 60010
218508238018	130 WULFSOHN RD GLENWOOD SPRINGS	GLENWOOD SPRINGS, CITY OF	R041505	101 W 8TH STREET GLENWOOD SPRINGS, CO 81601
ROW	Not available null			
ROW	Not available null			

**PROOF OF PUBLIC NOTICE
PRE-APPLICATION NEIGHBORHOOD MEETING**

I hereby affirm that Public Notice requirements of the Municipal Code of Glenwood Springs have been met for the Pre-Application Neighborhood Meeting held:

at LOFTS AT RED MOUNTAIN LEASING OFFICE
300 WOLFSON ROAD (Location)

on FEBRUARY 24, 2021
(Date)

Attached are:

1. A list of names and addresses of owners of record of all property within 300 feet of the subject property and registered neighborhood groups that have boundaries including the proposed project site.

Date mailed: FEBRUARY 08, 2021;

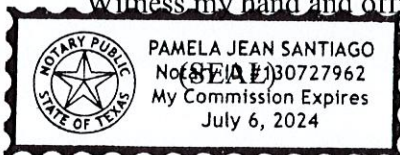
2. A list of the meeting attendees;
3. A summary of the meeting.

Name: [Signature]
Applicant

Date: FEB 24, 2021

Subscribed and sworn to before me, a notary public in and for the County of
Dallas, State of Texas, this 24th day of
February 2021, A.D.

Witness my hand and official seal



[Signature]
Notary Public

My commission expires: July 6th 2024

LOFTS

LOFTS

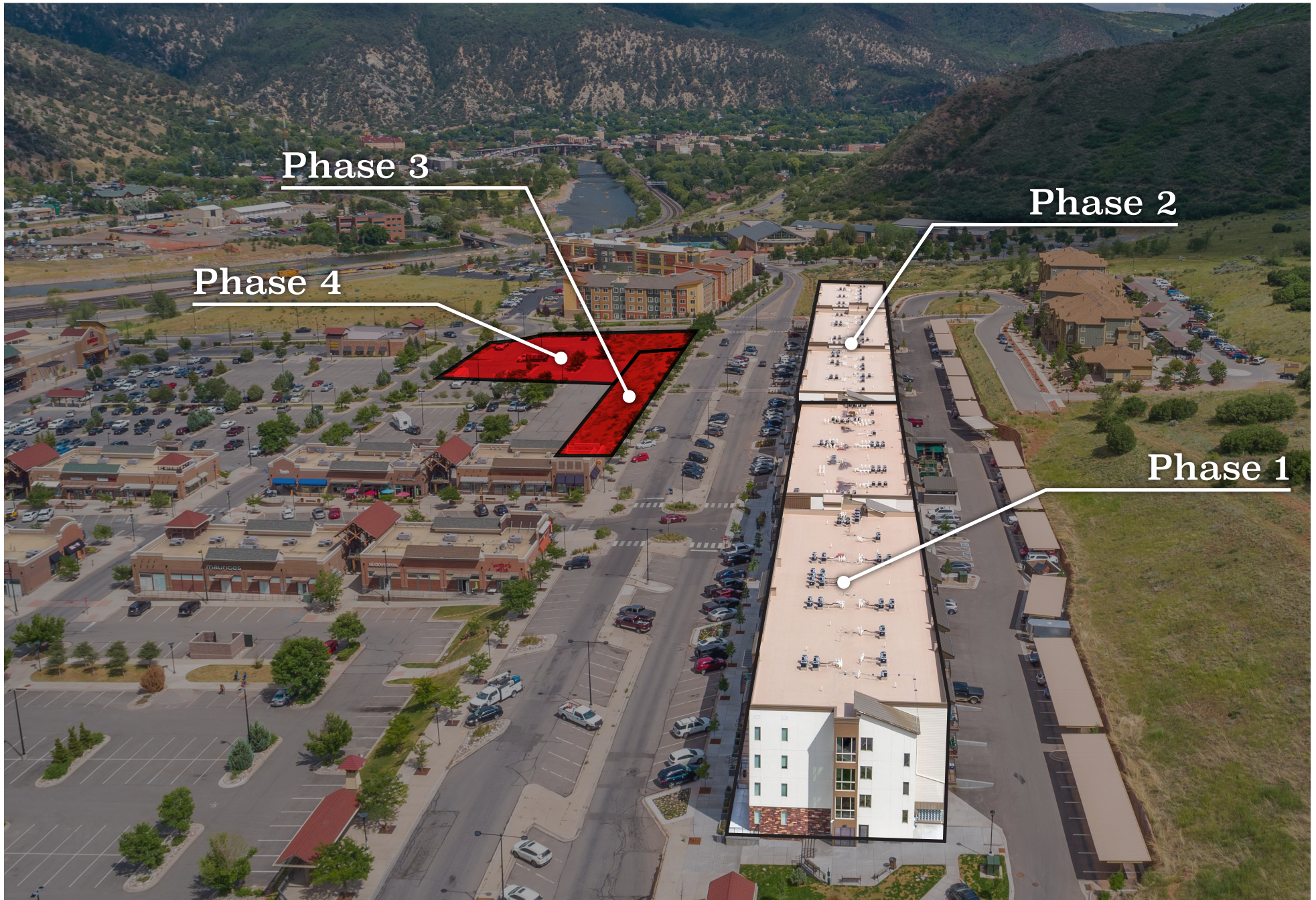
AT RED MOUNTAIN

Phase IV
36 Units
Glenwood Springs, CO

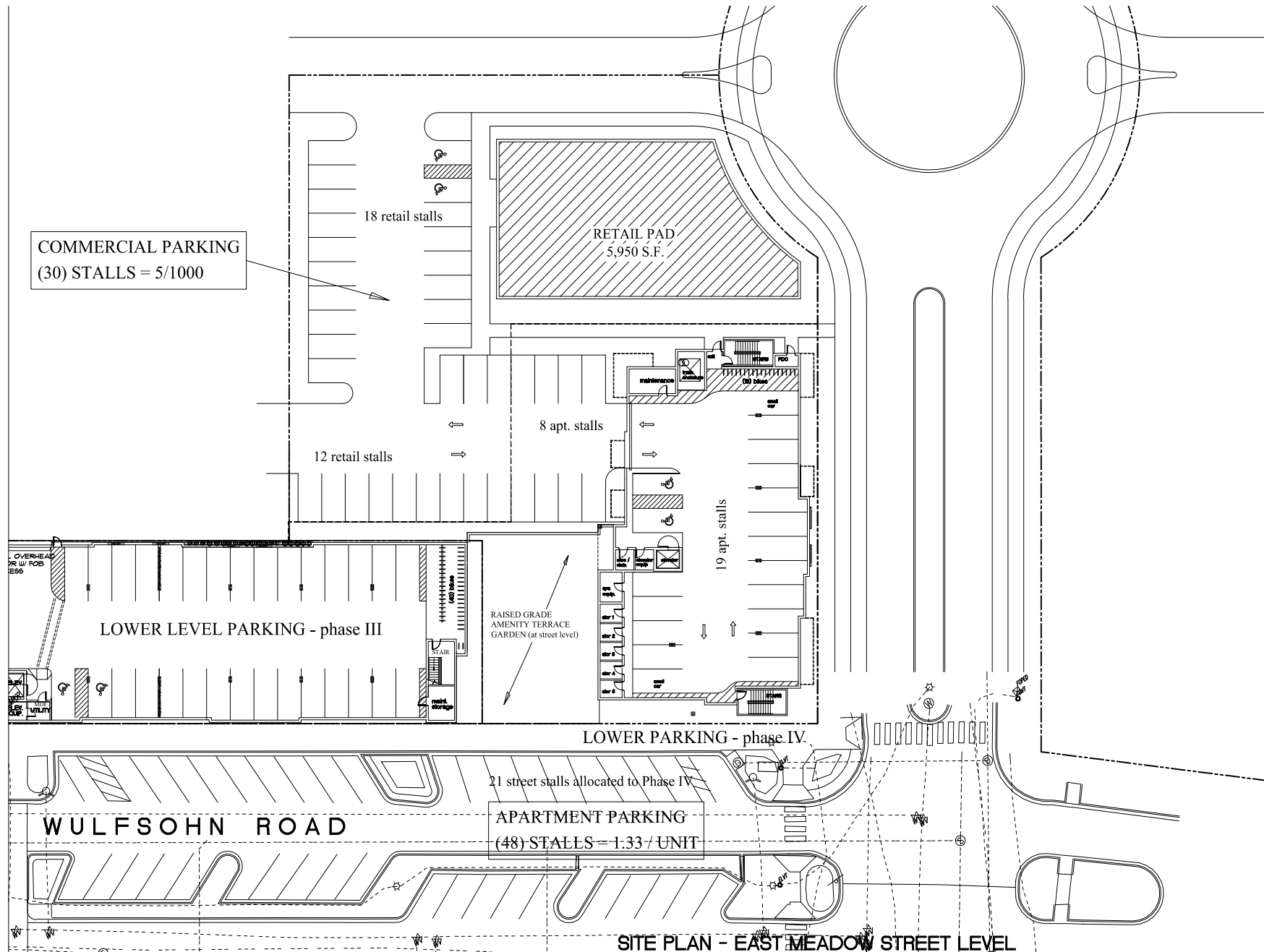
Neighborhood
Meeting
Handout



Location



Parking Plan



One lower level parking garage for (19) apartment spaces. Street level parking will also be provided.

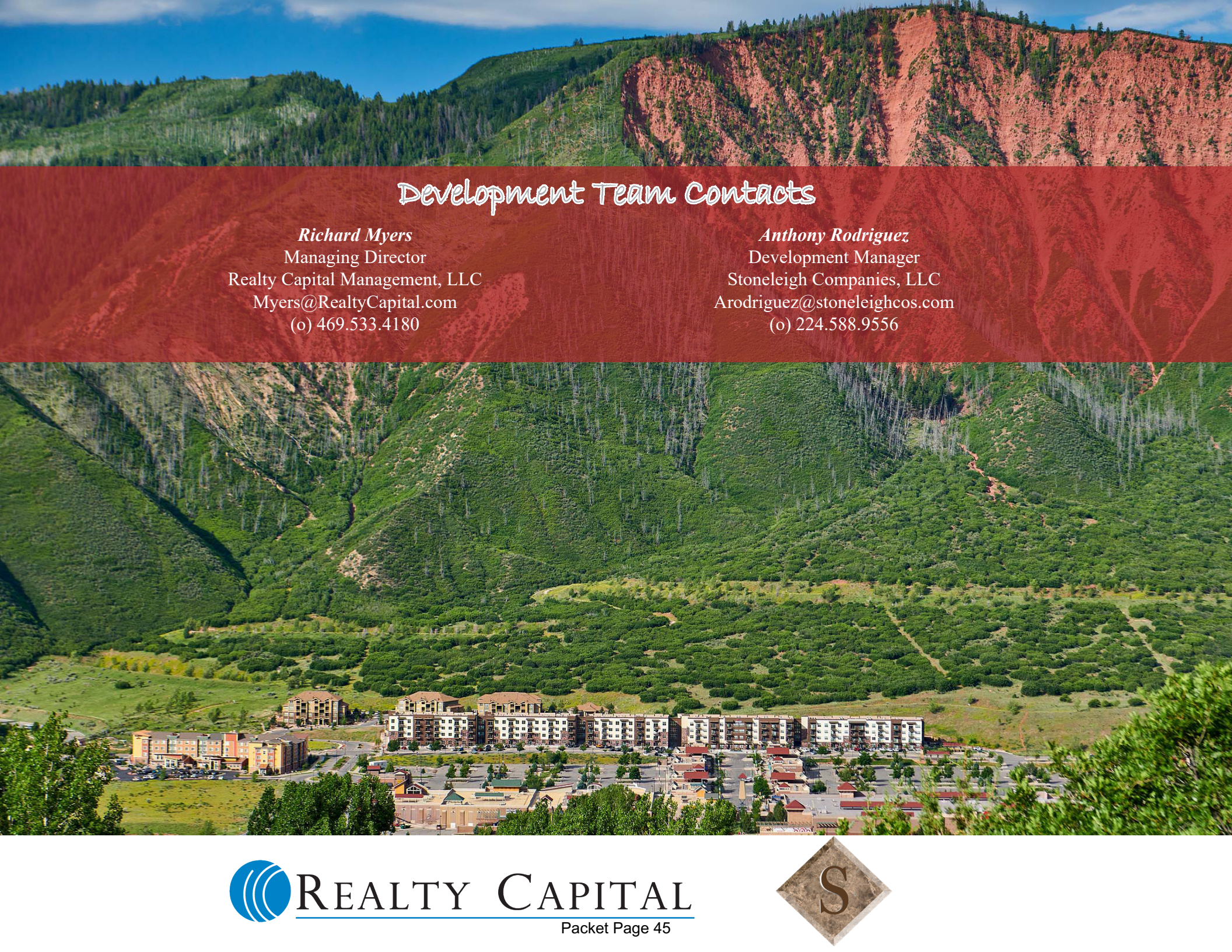
Amenities

COMMUNITY AMENITIES

- Club Room
- Fitness Center
- Amenity Terrace and Spa
- Roof Amenity Deck with Fire Pits
- BBQ Pavilion
- Zen Lounge with Hanging Swings and Daybeds
- Bicycle Storage
- Parcel Pending



- High Speed Internet
- 5-star Management Team
- 24-Hour Emergency Maintenance Service
- Monthly Resident Events
- Salto Keyless Access throughout Community
- ButterflyMX Video Intercom
- Underground parking garage
- Electric Car Charging Station
- Walking Distance to Glenwood Meadows Mall and RFTA Bus Stop



Development Team Contacts

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(o) 224.588.9556



ATTENDANCE ROSTER

LOFTS AT RED MOUNTAIN PHASE IV NEIGHBORHOOD MEETING

FEB 24, 2021 6:00 PM

NO ONE CAME TO THE MEETING.

LOFTS AT RED MOUNTAIN PHASE IV

Narrative Description

Stoneleigh Companies is in the process of purchasing Lot 8 in Glenwood Meadows No 2. The plan is to continue with Phase IV of the Lofts at Red Mountain by constructing one 36-unit, 4 story apartment building with 1 level of underground parking. Phase III and IV will be separated by a raised grade amenity deck area. The units will be market rate rental only units. The unit mix of the apartments will be approximately eight (8) 490 sf efficiency units, eight (8) 535 sf efficiency units, sixteen (16) 720 sf one-bedroom units and four (4) 1,294 sf two-bedroom units. Phase IV will include its own club room, fitness area and outdoor terrace which is currently designed to include a swimming pool. We propose to share the existing Phase I and II leasing office with Phase IV. We plan to have an underground parking garage with 19 stalls and 8 surface stalls. 21 street parking spaces are assigned to lot 8 within Wulfsohn road right of way. An additional 14 spaces will be accommodated in the existing parking lot in the northwest corner of the property for a total of 62 residential parking spaces.

The exterior facade will be the same as Phase I, II, and III. Assuming all necessary approvals are in place, we anticipate beginning construction on Phase IV in late spring of 2021.

Phase IV will also include a retail pad up to 6,000 sq. ft.. Stoneleigh is not proposing to construct a commercial building on the pad at this time, the potential commercial use of the pad is currently

Application for Special Use Permit

Project Description

Stoneleigh Companies is submitting an Application for a Special Use Permit for The Lofts at Red Mountain Phase IV. We are proposing to construct one 36-unit multifamily building and create a 6,000 sq. ft. commercial pad just Northwest of Wulfsohn Road and East Market St. that is part of the larger Glenwood Meadows Master Plan. Also included as part of this application, to be reviewed concurrently, are a Major Development Application and applications for variances from the City Code's requirements related to parking and building length.

The Lofts at Red Mountain, is a new multi-family mixed use community to Glenwood Springs, CO. Located along Wulfsohn Road, across from the Glenwood Meadows shopping area. Phases 1 and 2 of The Lofts sit on the South side of Wulfsohn Road at the base of Red Mountain. Phase III, now under construction, will be a single building directly across and on the North side of Wulfsohn Road. Phase IV will be a 36-unit multifamily building with an underground parking structure adjacent to Phase III. The Lofts at Red Mountain is a great pedestrian community within walking distance of Glenwood Springs Community Center, Ride Glenwood Springs bus system, Glenwood Meadows Market Street retail, and downtown.

The purpose of this request for a special review permit is to allow The Lofts at Red Mountain Phase IV to exceed the current building height restriction of 40 ft. in the C/2 Commercial District.

070.020.020 Table 20.3 Maximum height of buildings: forty (40) feet without special review use permit, or up to sixty (60) feet with special review use permit.

Request: Applicant requests a height different from the standard 40 feet in building height in the C/2 Commercial Zone to 60 ft. The highest part of the building from existing Wulfsohn Road and East Market Street grades will be less than 40 ft. However, due to the sharp grade change, the highest part of the West wall facing the Glenwood Meadows parking lot will exceed 40 ft. We request a variance for the West wall up to 60 ft.

The project currently meets the criteria for building height review as follows:

- a.) The proposed structure will have some impact on light and shadow patterns but not in a significant way to adversely impact the surrounding area or preclude solar energy use or create snow and ice buildup on adjacent properties.
- b.) The proposed structure will not alter the opportunity for quality views from public property. Glenwood Green is located to the south of the proposed development and will remain at a greater height than the proposed development. The same is true of the Wulfsohn trail system. Therefore cross valley views will remain unaffected by the proposed building.
- c.) The proposed structure will not affect the existing level of privacy in the neighborhood with the additional height. The original plans for Glenwood Meadows call for residential units in this location with buildings over 2 stories in height at a minimum. The building design for The Lofts at Red Mountain meets the intended use for the site. Furthermore, as stated above, the proposed development would be adjacent to similar residential buildings with similar heights, helping to create visual continuity as contemplated in the Glenwood Meadows Master Plan.
- d.) The scale of the proposed structure is compatible with the overall neighborhood. The Lofts at Red Mountain is surrounded by the Glenwood Meadows retail corridor, Courtyard Marriott,

Residence Inn, Glenwood Springs Community Center, and Glenwood Green Apartments. All of those buildings are similar in height and scale to the proposed building.

- e.) As illustrated in the narrative to the Major Development Application, the proposed structure is in compliance with the GSMC and City plans and policies where applicable.

This special use in height follows the strategies in the Comprehensive Plan for Compact Form: Infill Development (p34). Due to the largely topographic constraints the City likes to focus development inward and upward. Directing the residential development upward allows for the accommodation of the commercial pad and related parking, which, once developed, will bring sales tax revenue, commercial amenities, and jobs to the City. Focusing compact urban form where infrastructure already exists allows efficient service delivery while preserving small town character and cultural and natural resources.

It also follows the intent of the Comprehensive Plan to encourage housing variety and affordability throughout the community. Projects located near transit and job centers offer greater savings to individual households, the community and the City.

Not only does the extension of building height not harm the public good, it directly correlates to the intent of the GSMC and its goals and policies to create more quality affordable housing in Glenwood Springs. The Glenwood Meadows retail corridor will benefit by getting the much needed residential density originally intended for the area. Visually the valley views will not be harmed as Red Mountain will still be seen from all directions.

- f.) Not Applicable. Inclusionary housing requirements are for-sale housing. Furthermore, Glenwood Green has fulfilled/qualified for all housing requirements for the Glenwood Meadows subdivision.

The project currently meets the special review criteria as follows:

- a.) Per the Major Development Application and the initial design of the Glenwood Meadows master planned community, pedestrian walkways and access points are incorporated across the site. The overall design of The Lofts at Red Mountain highlights walkability and new urban design.
- b.) Per the Major Development Application and the initial design of the Glenwood Meadows master planned community, vehicular access, vehicular circulation, and vehicular parking are all designed to code or slight variances to code.
- c.) The overall character of the Glenwood Meadows neighborhood is defined by the retail corridor and walkability of the area. The proposed development has been the intended use of the site since its inception. The extension in height helps the project meet the Glenwood Springs goal of creating more quality housing in the area.
- d.) Per the Major Development Application, the proposal for the development of Phase IV completely mitigates any negative impacts of the extension of building height by creating quality housing in Glenwood Springs and by being consistent with surrounding buildings, including the other Lofts buildings and the hotel structures across the street. The proposed mix of uses add to the character of the surrounding properties and will increase the viability of the area while providing much needed workforce housing for the community at large. All design requirements have been thoughtfully considered to mitigate any negative impacts brought on by the extension of building height.

By limiting height in the C/2 Commercial Zone in the Glenwood Meadows master planned community on a lot bound by natural impediments, it would limit the amount of multifamily units that could be constructed. In practical terms, it would limit the original intentions of the City and the Glenwood Meadows community.

Design Variance #1 – Building Length

Building Length - Glenwood Meadows Zoning & Development Standards

The maximum length on multi-family buildings shall be 125 feet.

The building length exceeds the maximum 125' design standard.

Request: We are requesting the allowance of a building up to 140' in length on east side of the lot.

- 1.) First, the overall layout of the development along Wulfsohn and Market Street encourages pedestrian orientation at street level. Breaking up the buildings into two smaller units would only separate and decrease the walkability of the site. Secondly, if the development was held to the 125' standards it would create a greater number of smaller buildings, thus losing the efficiency gained by shared space. It would also reduce the amount of open space available on the property and encroach into the area being reserved for commercial use. Two smaller buildings would also result in a decrease in the number of underground parking spaces which would be a detriment to the future residents and further complicate code compliance.
- 2.) The soils in this area are unstable and will require deep pile foundations up to 65 feet. Uniformity of the weight of the parking structure and building above these piles needs to be loaded across the site equally, making separated buildings infeasible. The varying elevations of the lot also complicate construction. Applicant did not create this hardship by its own actions. Those conditions are natural and have existed long before Applicant submitted its application.
- 3.) At the adoption of the ADA and Zoning and Development Design Guidelines, it is likely the 125' standard was intended for condo or townhome residential portions of Glenwood Meadows because buildings across Wulfsohn, in the C-2 commercial zone, already exceed 125' in length as does the Phase III building. A variance for that building was approved in 2020, allowing it to be 330 feet in length. Applicant is requesting this variance to allow for the maximum number of much needed housing units to be constructed on this lot. We consider this plan for a single building to be the best and highest use for this lot, and the minimal 15-foot extension of the building length is needed to make that happen.
- 4.) By providing one building on the lot, it allows the site to be provided with greater common open space, an amenity deck, large spa, fire pit etc. and connections with Phase III via an amenity terrace. Two buildings would force the elimination of the amenity terrace and open space since the site would be all buildings. We have chosen this plan to allow the residents of Phase III and IV to share this amenity and open space. Splitting the building may also create narrow passageways at unusable grades between the buildings. These passageways would be shaded resulting in accumulations of snow and ice in the winter, resulting in potential pedestrian hazards. A single building would eliminate these narrow passageways and eliminate a potential safety hazard to the residents and the public.
- 5.) This variance request does not harm the public nor impair the Development Code outlined in Section 070.020.030 in any way. Rather, by granting this limited variance, the "intent of providing a variety of housing and neighborhood types and densities at a range of housing costs," will be enhanced in that this will allow for the maximum number of housing units for this lot.

Furthermore, this will help address the Glenwood Springs housing shortages identified in the January 2019 Roaring Fork Valley Regional Housing Study by infusing an additional 36 rental units into the tight rental market. The requested variance is also consistent with those granted to the other apartment buildings along Wulfsohn Road, creating continuity and consistency in the area. The fact that the short end of the proposed building will present along Wulfsohn will help break up the massing along the road, while maintaining continuity with it.

- 6.) This variance will not violate building or fire code requirements in any way. All codes and requirements will be fully complied with.
- 7.) This variance request is the minimum required to allow for feasible multifamily construction on this lot. Due to parking requirements, a full underground parking facility will be required. Additionally, reducing the length of the building means reducing the number of units constructed and that result is not consistent with the Community need for additional housing. The requested variance of 140 feet in length is the minimum needed to make this residential development meet its full potential and is negligible compared to other variances granted in the immediate vicinity.
- 8.) In summary: Understanding the concern of a long building not having articulation of the façade and massing, the architectural details of this building show cantilevered balconies, and articulation of massing both horizontally and vertically (varying parapet heights, etc.) and in materials and colors. The end result is not the straight monolithic mass that is undesirable, but a well-developed and articulated massing that breaks up the length. Overall, it will appear very similar to what has already been approved across Wulfsohn and on the adjacent lots.

THE LOFTS AT RED MOUNTAIN - PHASE 4
MAJOR SITE/ARCHITECTURAL PLAN

LOT 8, GLENWOOD MEADOWS NO. 2

LOCATED IN THE NORTHEAST QUARTER OF SECTION 8, TOWNSHIP 6 SOUTH, RANGE 89 WEST OF THE SIXTH PRINCIPAL MERIDIAN,
CITY OF GLENWOOD SPRINGS, COUNTY OF GARFIELD, STATE OF COLORADO.

PROJECT TEAM

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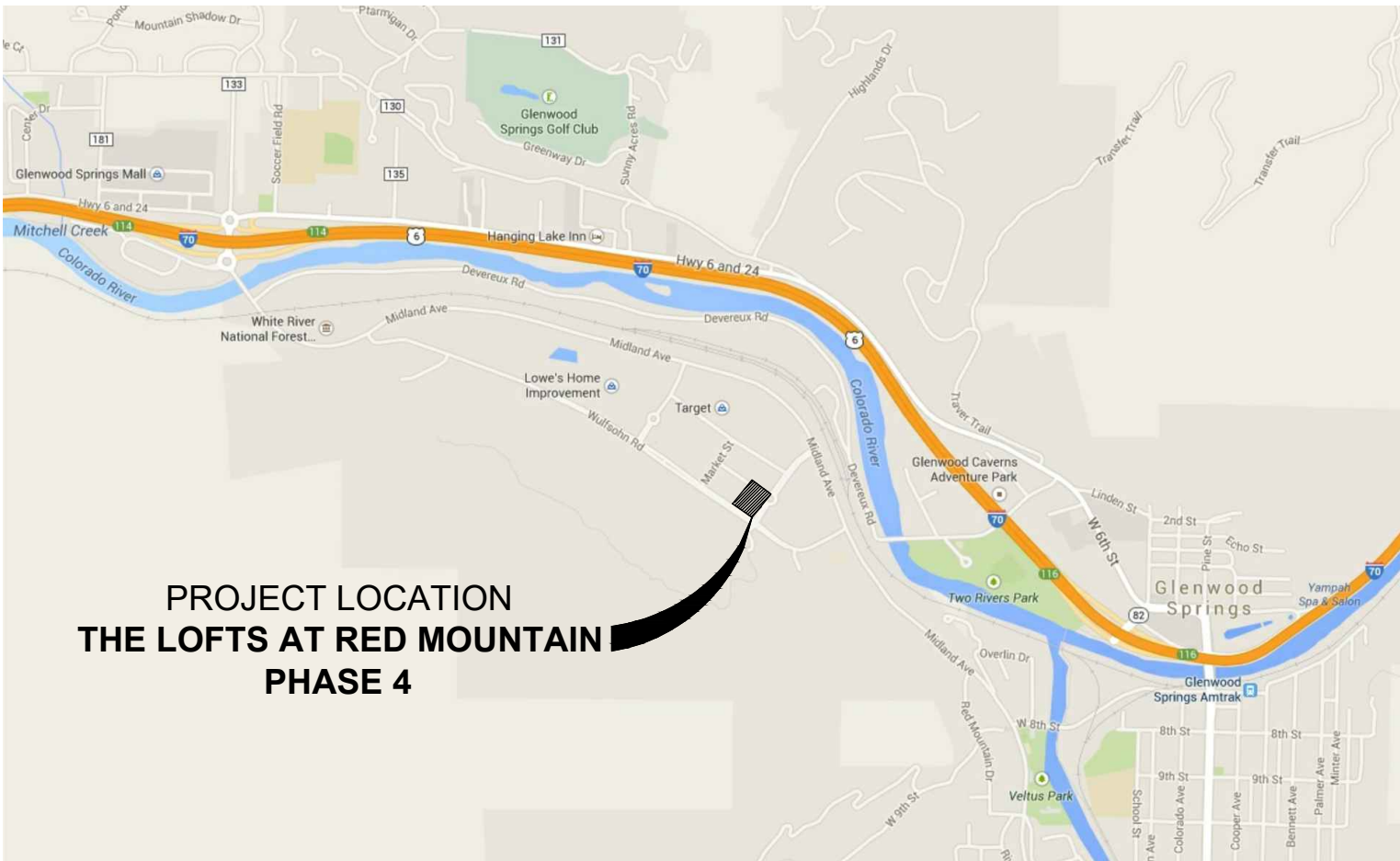
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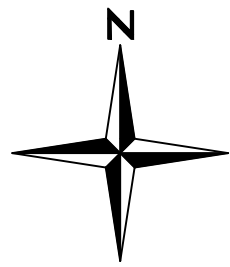
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VICINITY MAP
1" = 2000'



Sheet List Table	
Sheet Number	Sheet Title
CO	COVER SHEET
C1	SITE PLAN
C2	PRELIMINARY GRADING PLAN
L1	PRELIMINARY LANDSCAPE PLAN
A1.0	PARKING SITE
A1.1	SITE WULFSON RD LEVEL
A2.0	PARKING LEVEL
A2.1	MAINFL
A2.2	2NDFL
A2.3	3RDFL
A2.4	4THFL
A3.1	ELEVATIONS
A3.2	ELEVATIONS
A3.3	SITE SECTION
A4.1	UNITS
A4.2	UNITS

PROJECT SUMMARY DESCRIPTION						
LOT SIZE INFORMATION	AREA	SQUARE FT.		LOT COVERAGE	EXISTING (SQ FT & %)	PROPOSED (SQ FT & %)
	0.956 AC.	41,655			0 0%	12,683 30.4%
LIMITS OF DISTURBANCE		PROPOSED (SQ. FT. & %)		AVERAGE SLOPE WITHIN LIMITS OF DISTURBANCE	PERCENTAGE %	
		29,745 100%			8.70 %	
PARKING SPACES (PARKING REQUIRED: 36 UNITS AT 1.7 SPACES/UNITS = 62 SPACES WITH 30% REDUCTION = 44 SPACES)	GARAGE			BICYCLE PARKING	EXISTING # SPACES	PROPOSED # SPACES
	2 (ACCESSIBLE)	17 (REGULAR)			0	10 (GARAGE)
	OFF-SITE WULFSOHN RD			NON-RESIDENTIAL USES	TYPE OF USE(S)	
	3 (ACCESSIBLE)	18 (REGULAR)			NONE	0
	AT-GRADE PARKING			TOTAL LANDSCAPED AREA	EXISTING (SQ FT & %)	PROPOSED (SQ FT & %)
	0	8 (REGULAR)			15,900 38%	11,225 27%
	TOTAL			TOTAL IMPERVIOUS AREA	EXISTING (SQ FT & %)	PROPOSED (SQ FT & %)
	5 (ACCESSIBLE)	43 (REGULAR)			3,005 13%	20,085 87%
RESIDENTIAL UNITS	# EXISTING UNITS	# PROPOSED UNITS		OTHER		
	0	36				
OPEN SPACE *	EXISTING (SQ FT & %)	PROPOSED (SQ FT & %)				
	0	0				
BUILDING HEIGHT (SEE BUILDING ELEVATIONS)	EXISTING	PROPOSED (MAXIMUM)				
	0	58" - 2"				
SNOW STORAGE	REQUIRED (SQ FT)	PROPOSED (SQ FT)				
	0	265				

BASIS OF BEARINGS

BEARINGS SHOWN HEREON ARE GRID BEARINGS DERIVED FROM RTK FAST STATIC GPS OBSERVATIONS AND ARE BASED UPON THE COLORADO COORDINATE SYSTEM OF 1983 CENTRAL ZONE (NAD 83, 1992), ALONG THE SOUTHWESTERLY LINE OF LOT 7, GLENWOOD MEADOWS NO. 2, WHICH BEARS NORTH 55° 33' 44" WEST, BETWEEN THE MONUMENTS SHOWN HEREIN.

BENCHMARK

GLENWOOD SPRINGS BENCHMARK #199 BEING A CHISELED SQUARE ON A HEADWALL OF A PEDESTRIAN TUNNEL LOCATED IN THE SOUTH CORNER OF THE INTERSECTION OF WULFSOHN ROAD AND MIDLAND AVENUE.

ELEVATION = 5761.63 (NAVD 88)



GEOLOGICAL HAZARDS DISCLOSURE

THIS PROPERTY IS SUBJECT TO GEOLOGIC HAZARDS PER THE ADOPTED MAPPING BY THE CITY OF GLENWOOD SPRINGS. HAZARDS TO NOTE ARE SEVERE HYDRO COMPACTIVE SOILS AND SEVERE ANCIENT DEBRIS FLOW, MUD FLOW AND LANDSLIDE DEPOSITS. ADDITIONAL INFORMATION REGARDING GEOLOGICAL HAZARDS AT THIS SITE CAN BE FOUND IN THE GEOTECHNICAL ENGINEERING STUDY, PROPOSED LOFTS AT RED MOUNTAIN PHASE 3 BUILDING, PROJECT NO. 19-7-521, DATED OCTOBER 10, 2019, PREPARED BY KUMAR & ASSOCIATES. A FINAL GEOLOGIC HAZARD REPORT WILL BE SUBMITTED UPON APPLICATION OF A BUILDING PERMIT.

FEMA FLOODPLAIN STATEMENT

THE SITE LIES WITHIN FEMA FLOOD ZONE D, ACCORDING TO FEMA MAP NO. 0802051432B, JANUARY 3, 1986. ZONE D IS DESCRIBED AS AREAS OF UNDETERMINED, BUT POSSIBLE, FLOOD HAZARDS.

THE LOFTS AT RED MOUNTAIN
PHASE 4

COVER SHEET

CO

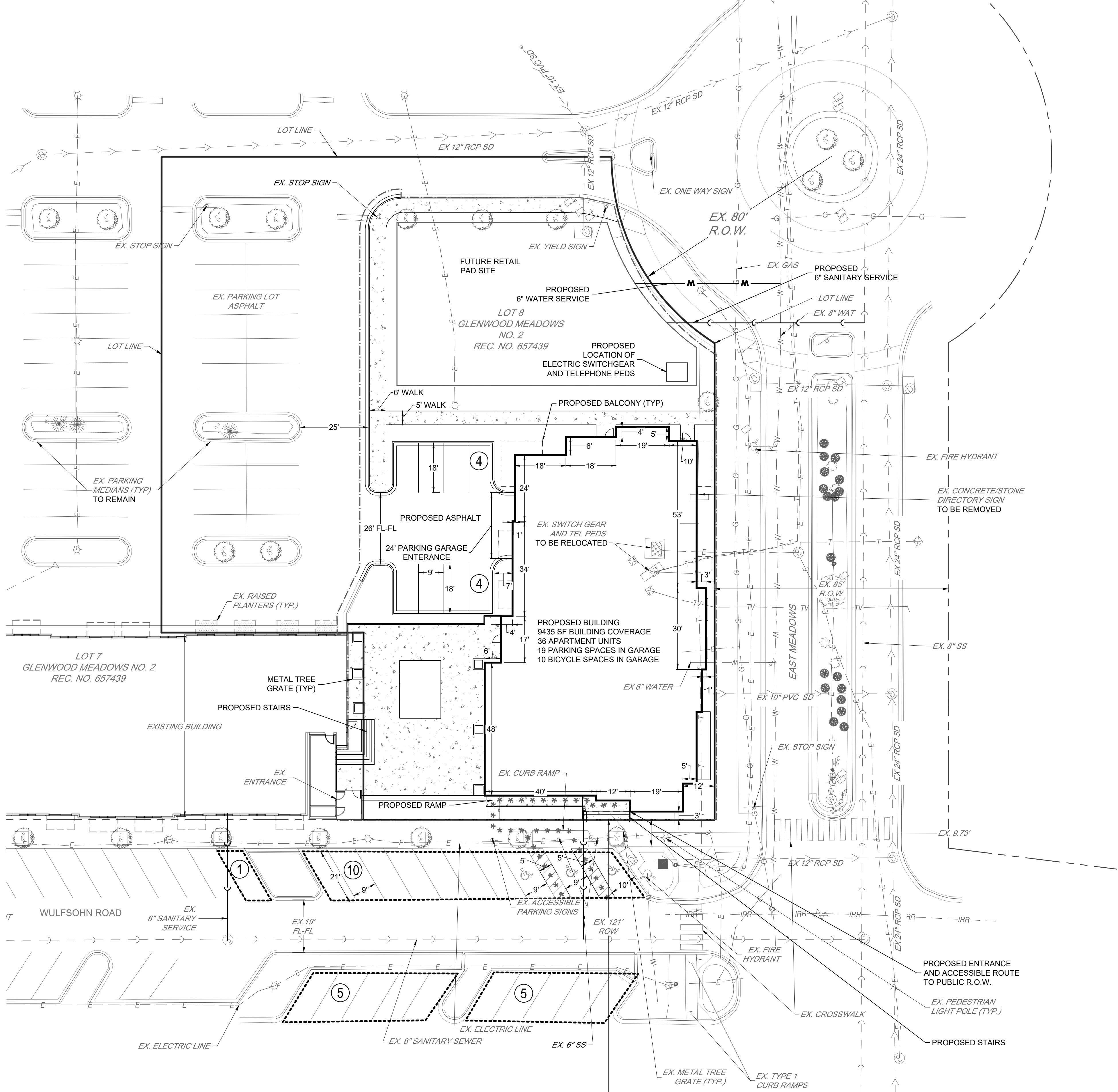


THE LOFTS AT RED MOUNTAIN - PHASE 4

MAJOR SITE/ARCHITECTURAL PLAN

LOT 8, GLENWOOD MEADOWS NO. 2

LOCATED IN THE NORTHEAST QUARTER OF SECTION 8, TOWNSHIP 6 SOUTH, RANGE 89 WEST OF THE SIXTH PRINCIPAL MERIDIAN,
CITY OF GLENWOOD SPRINGS, COUNTY OF GARFIELD, STATE OF COLORADO.



PROPOSED LEGEND

---	PROPERTY LINE
- - - -	R.O.W.
---	LOT LINE
---	SETBACK
---	EASEMENT
---	ROAD CENTERLINE
---	CURB AND GUTTER
---	SIDEWALK
---	LIMITS OF CONSTRUCTION / SAWCUT
---	SANITARY SEWER

EXISTING LEGEND

---	PROPERTY LINE
- - - -	R.O.W.
---	LOT LINE
---	EASEMENT LINE
---	SECTION LINE
---	ROAD CENTERLINE
---	EDGE OF PAVEMENT
---	CURB AND GUTTER
---	FENCE
---	WATER LINE
---	RAW WATER LINE
---	IRRIGATION LINE
---	SANITARY SEWER
---	STORM SEWER
---	ELECTRIC LINE
---	GAS LINE
---	TELEPHONE LINE
---	FIBER OPTICS LINE
---	OVERHEAD ELECTRIC LINE
---	CABLE TELEVISION

BICYCLE PARKING SUMMARY

BICYCLE PARKING SPACES: 10 SPACES IN GARAGE

PARKING SUMMARY PHASE 4

PARKING REQUIRED:
36 UNITS AT 1.7 SPACES/UNIT = 62 SPACES
WITH 30% REDUCTION = 44 SPACES

PARKING PROVIDED:
GARAGE: 17 REGULAR; 2 ACCESSIBLE
OFF-SITE WULFSOHN RD: 18 REGULAR; 3 ACCESSIBLE
PAYMENT IN LIEU: 8 REGULAR

TOTAL: 43 REGULAR; 5 ACCESSIBLE

DESIGNATES OFF-SITE PARKING
SPACE ALLOCATED TO THE
LOFTS AT RED MOUNTAIN PHASE 4

NOTE:

- TRASH DUMPSTER LOCATION WILL BE IN GARAGE.
- ACCESS AND DRAINAGE EASEMENTS FOR THE BENEFIT OF LOT 8 ARE DESCRIBED IN THE EASEMENT CONDITIONS AND RESTRICTIONS AGREEMENT FOUND AT BOOK 1611 PAGE 606.

DEVELOPER

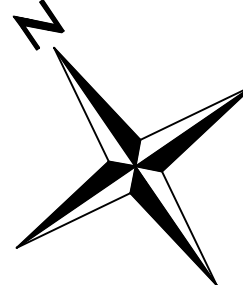
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DEVELOPER

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Phone: 469.533.4100



Know what's below.
Call before you dig.



0 10 20 40
SCALE: 1" = 20'

THE LOFTS AT RED MOUNTAIN
PHASE 4

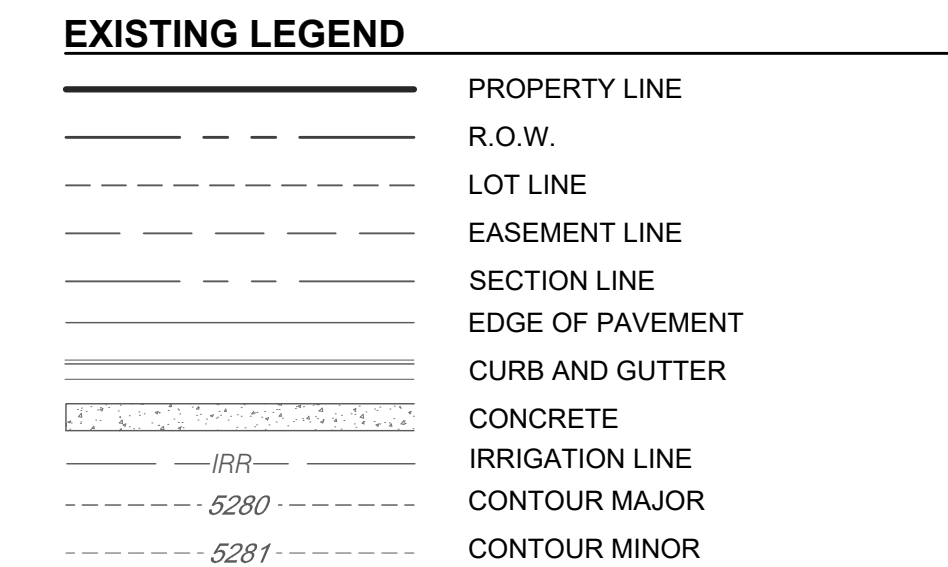
SITE PLAN

SHEET

C1

Redland
WHERE GREAT PLACES BEGIN
720.283.6793 Office
720.283.6793 Cell
Littleton, Colorado 80120
REDLAND.COM

LOT 8, GLENWOOD MEADOWS NO. 2
LOCATED IN THE NORTHEAST QUARTER OF SECTION 8, TOWNSHIP 6 SOUTH, RANGE 89 WEST OF THE SIXTH PRINCIPAL MERIDIAN,
CITY OF GLENWOOD SPRINGS, COUNTY OF GARFIELD, STATE OF COLORADO.



C2

DISTURBED AREAS:	
BUILDING FOOTPRINT	9,433.20 SF (EXCLUDES OUTDOOR PATIO)
OPEN SPACE AREA	<u>0.0%</u>
TOTAL PHASE IV LAND AREA	0.956 AC / 41,655 SF
LANDSCAPE AREA	11,225 SF

LOT 8, GLENWOOD MEADOWS NO. 2

SUBMITTAL NOTES

1. ALL PLANTING BEDS TO RECEIVE A MINIMUM OF 3" DEPTH MULCH OVER WEED BARRIER.
2. PRIOR TO PLANTING, ALL SITES FOR PLANTINGS SHALL INCORPORATE ORGANIC SOIL AMENDMENTS AT A RATE OF FOUR (4) CUBIC YARDS FOR EACH 1,000 SQUARE FEET TO A MINIMUM DEPTH OF SIX (6) INCHES.
3. EXISTING TOPSOIL SHALL BE SALVAGED AND STOCKPILED FOR USE AS SOIL AMENDMENT TO TOPSOIL. NO TOPSOIL SHALL BE REMOVED FROM THE SITE UNLESS THE CITY APPROVES THE TRANSFER OF TOPSOIL TO A CITY-OWNED PARK OR OPEN SPACE AREA.
4. IRRIGATION:
 - THE EXISTING NON-POTABLE IRRIGATION SYSTEM WITHIN THE RIGHT-OF-WAY (R.O.W.) WILL BE PROTECTED IN PLACE AND USED TO IRRIGATE ALL LANDSCAPING WITHIN THE R.O.W AND AROUND THE PROPOSED BUILDING. IT IS ASSUMED THE R.O.W. IRRIGATION SYSTEM COMPLIES WITH THE FOLLOWING:
 - a. A MOISTURE SENSOR WITH AUTOMATIC SHUT-OFF OF THE SYSTEM DURING PERIODS OF HIGH MOISTURE.
 - b. AN IRRIGATION CLOCK WHICH ALLOWS PROGRAMMING TO MEET THE DIFFERENTIAL NEEDS OF THE SPECIFIED PLANTING PLAN.
 - c. ALL LANDSCAPED AREAS IN THE BUILT ENVIRONMENT SHALL HAVE 1806 POPUP SPRAY HEADS WITH VARIABLE ARC NOZZLES.
5. ALL PLANTS SHALL BE MAINTAINED CONTINUALLY IN A HEALTHY CONDITION IN ACCORDANCE WITH GENERALLY ACCEPTED PROFESSIONAL HORTICULTURAL STANDARDS AND PRACTICES. PLANTS THAT DIE OR ARE UNHEALTHY SHALL BE REPLACED. REGULAR PRUNING AND TRIMMING SHALL APPLY TO MAINTAIN HEALTH AND AN ATTRACTIVE APPEARANCE AND TO PERMIT THE PLANTS TO ACHIEVE THEIR INTENDED FORM AND HEIGHT. LANDSCAPE AREAS SHALL REMAIN FREE OF WEEDS, LITTER, JUNK, RUBBISH AND OTHER NUISANCES AND OBSTRUCTIONS. TO PREVENT WEED GROWTH, EROSION AND BLOWING DUST, AREAS NOT COVERED BY VEGETATION SHALL BE COVERED WITH MULCH, WOOD OR BARK CHIPS, OR DECORATIVE ROCKS OR COBBLE, OR SIMILAR NATURAL MATERIALS PROVIDING A CLEAN, UNIFORM APPEARANCE.
6. ALL UTILITY EASEMENTS AND EMERGENCY ACCESSES SHALL REMAIN UNOBSTRUCTED AND FULLY ACCESSIBLE ALONG THEIR ENTIRE LENGTH FOR MAINTENANCE AND EMERGENCY EQUIPMENT AND VEHICLES.
7. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL DISTURBED LANDSCAPE AREAS AND REPAIRING ANY DAMAGED IRRIGATION COMPONENTS AND/OR HARDCAPE PAVING AREAS DUE TO CONSTRUCTION ACTIVITY.

1. **ORGANIC SOIL AMENDMENTS:** CONTRACTOR WILL TILL FOUR (4) CUBIC YARDS OF ORGANIC SOIL AMENDMENT, TO A MINIMUM DEPTH OF SIX (6) INCHES. FOR EACH 1,000 SQUARE FEET OF SOIL PREPARATION IN ALL LANDSCAPE AREAS, INCLUDING ALL TURF, NATIVE SEED, TREE, SHRUB PLANTING BEDS IN THEIR ENTIRETY, ANNUAL, VINE, AND GROUNDCOVER AREAS (IF APPLICABLE), AS WELL AS ALL TREE LAWNS AND RIGHT-OF-WAYS ADJACENT TO THE PROPERTY.

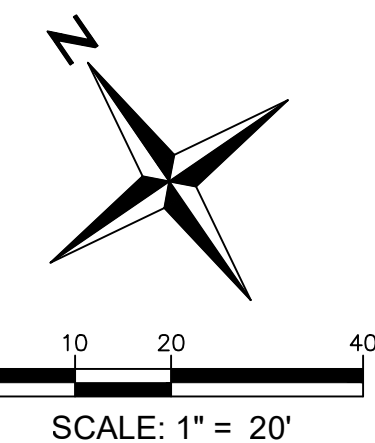
RECOMMENDED PRODUCT: A1 ORGANICS (EATON, CO, 970-454-3492) BIOCOMP CLASS 1 COMPOST OR APPROVED EQUAL.
2. **ORGANIC FERTILIZER AND SOIL CONDITIONERS:** CONTRACTOR WILL UTILIZE GRANULAR UREA MYCORRHIZAE, MENEFEE GRANULAR HUMATE AND BIOSOL FORTE (7-2-1), OR APPROVED EQUAL, AS PART OF THE PLANTING PROCESS FOR ALL TREES, SHRUBS, AND SEEDED AREAS.

RECOMMENDED SUPPLIER: ROCKY MOUNTAIN BIO PRODUCTS, 10801 E. 54TH AVENUE, DENVER, CO 80239 (303-696-8960)
3. **TURF SOD:** TURF SOD TO BE A BLUEGRASS BLEND WITH RECOGNIZED DROUGHT TOLERANCE AND COLD HARDINESS.

RECOMMENDED SUPPLIER: RIVENDELL SOD FARM, 3961 CR 114, GLENWOOD SPRINGS, CO 81601, 970-945-2568.
4. **WOOD MULCH:** TO BE SMALL BARK MULCH. INSTALL TO A DEPTH OF 3".
5. **COBBLE MULCH:** REMOVE EXISTING RIVER COBBLE, STOCKPILE, AND REUSE IN PARKING LOT ISLANDS ALONG WULFSOHN ROAD WHERE SHOWN IN THE PLANS. SET OVER WEED BARRIER FABRIC.
6. **WEED BARRIER FABRIC:** TO BE A NONWOVEN GEOTEXTILE COMPOSED OF POLYPROPYLENE FIBERS.
7. **CUT X-SHAPES INTO THE FABRIC TO ALLOW FOR PLANT MATERIAL.** EDGES SHOULD BE BURIED AND OVERLAPPED BY A MINIMUM OF 12".

RECOMMENDED SUPPLIER: MIRAFI 140N, TERRATEX NO4.5 (HANES GEO COMPANIES), OR SIMILAR NONWOVEN GEOTEXTILE.
8. **TRASH DUMPSTER** WILL BE IN GARAGE.
9. **IT IS ASSUMED THAT MOST, IF NOT ALL, OF THE EXISTING RIGHT-OF-WAY TREES AND ORNAMENTAL GRASSES ALONG WULFSOHN ROAD WILL REQUIRE REPLACEMENT.** THE PLANT SCHEDULE ABOVE INCLUDES THIS PROPOSED NEW PLANT MATERIAL.
10. **SALVAGE, STORE, AND REUSE EXISTING TREE GRATES IN NEW TREE WELLS ALONG WULFSOHN ROAD.** ASSUME NEW FRAMES TO SUPPORT THE TREE GRATES WILL NEED TO BE INSTALLED.

	EXISTING PROPERTY LINE
	EXISTING RIGHT OF WAY
	EXISTING STORM LINE
	EXISTING SANITARY LINE
	EXISTING ELECTRIC LINE
	EXISTING WATERLINE
	EXISTING NON-POTABLE WATERLINE (IRRIGATION)



<u>DECIDUOUS TREES</u>	<u>QTY</u>	<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>	<u>SIZE</u>	<u>CONTAINER</u>	<u>HEIGHT</u>	<u>SPREAD</u>
SHA	1	Gleditsia triacanthos inermis 'Shademaster'	Shademaster Locust	2.5' Cal.	B&B	50'	35'
<u>EVERGREEN TREES</u>	<u>QTY</u>	<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>	<u>SIZE</u>	<u>CONTAINER</u>	<u>HEIGHT</u>	<u>SPREAD</u>
SBB	1	Picea pungens 'Baby Blue Eyes'	Baby Blue Eyes Spruce	6' Ht.	B&B	18'	8'
WOW	10	Juniperus scopulorum 'Woodward'	Woodward Juniper	6' Ht.	Pot	20'	3'
<u>ORNAMENTAL TREES</u>	<u>QTY</u>	<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>	<u>SIZE</u>	<u>CONTAINER</u>	<u>HEIGHT</u>	<u>SPREAD</u>
CCP	3	Pyrus calleryana 'Chanticleer'	Chanticleer Pear	1.5' Cal.	B&B	35'	15'
<u>DECIDUOUS SHRUBS</u>	<u>QTY</u>	<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>	<u>SIZE</u>	<u>CONTAINER</u>	<u>HEIGHT</u>	<u>SPREAD</u>
AFD	24	Cornus sericea 'Farrow'	Arctic Fire Dogwood	#5	Pot	4'	4'
CEC	14	Viburnum opulus 'Compactum'	Compact European Cranberry Bush	#5	Pot	5'	5'
CGM	6	Ribes alpinum 'Green Mound'	Green Mound Currant	#5	Pot	3'	3'
PDS	35	Potentilla fruticosa 'Fargo'	Dakota Sunspot Potentilla	#5	Pot	3'	3'
URC	7	Aronia arbutifolia 'Erecta'	Upright Red Chokeberry	#5	Pot	8'	4'
<u>EVERGREEN SHRUBS</u>	<u>QTY</u>	<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>	<u>SIZE</u>	<u>CONTAINER</u>	<u>HEIGHT</u>	<u>SPREAD</u>
BCH	18	Juniperus horizontalis 'Blue Chip'	Blue Chip Juniper	#5	Pot	0.75'	6'
<u>ORNAMENTAL GRASSES</u>	<u>QTY</u>	<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>	<u>SIZE</u>	<u>CONTAINER</u>	<u>HEIGHT</u>	<u>SPREAD</u>
AVG	69	Helictotrichon sempervirens	Blue Avena	#1	Pot	2.5'	2.5'
LBG	9	Schizachyrium scoparium	Little Bluestem	#1	Pot	3'	2'
<u>PERENNIALS</u>	<u>QTY</u>	<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>	<u>SIZE</u>	<u>CONTAINER</u>	<u>HEIGHT</u>	<u>SPREAD</u>
CLT	41	Nepeta 'Pefike'	Little Trudy Catmint	#1	Pot	0.75'	1.25'
DDY	21	Hemerocallis 'Stella d'Oro'	Stella d'Oro Daylily	#1	Pot	1.25'	1.25'
ENG	14	Parthenocissus quinquefolia engelmannii	Engelmann Virginia Creeper	#1	Pot	25'	4'
POM	15	Callirhoe involucrata	Purple Poppymallow	#1	Pot	1'	2'

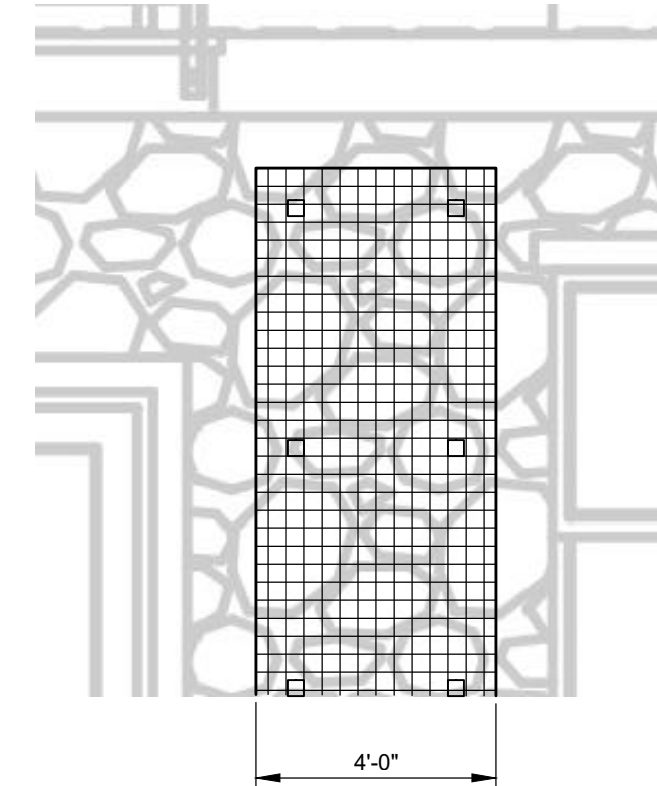
Redland
1500 W. Canal Ct.
Littleton, Colorado 80120
Phone: 720.283.6783
Contact: Brice J. Bradley, PLA
Email: bbradley@redland.com



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

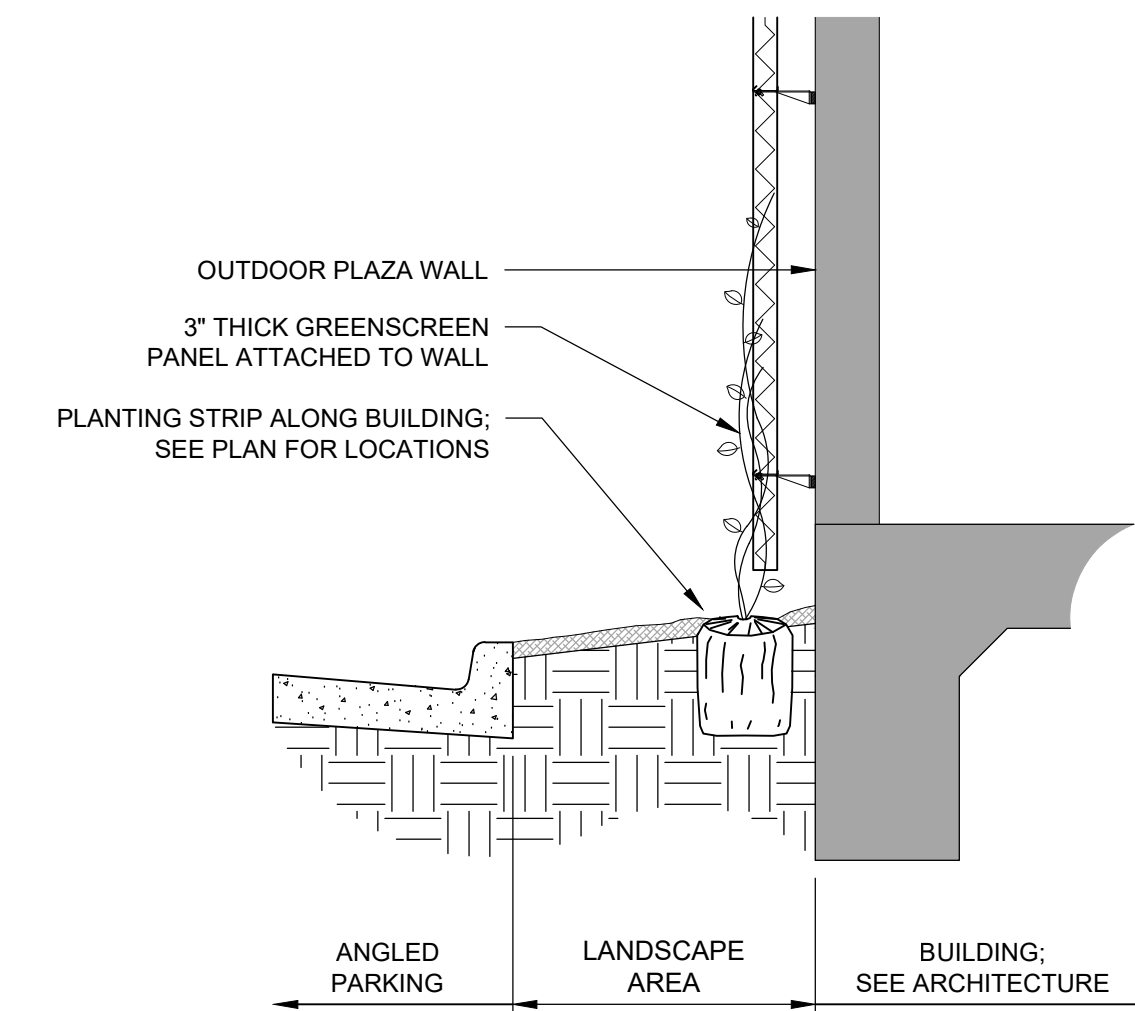


MANUFACTURE



SIZES: (A) 4' W x 8' HT
COLOR: SUBMIT SAMPLES OF THE SIX (6) STANDARD
AVAILABLE COLORS FOR SELECTION BY CLIENT.
QUANTITY: PER PLAN

2 SCALE: N.T.S.



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

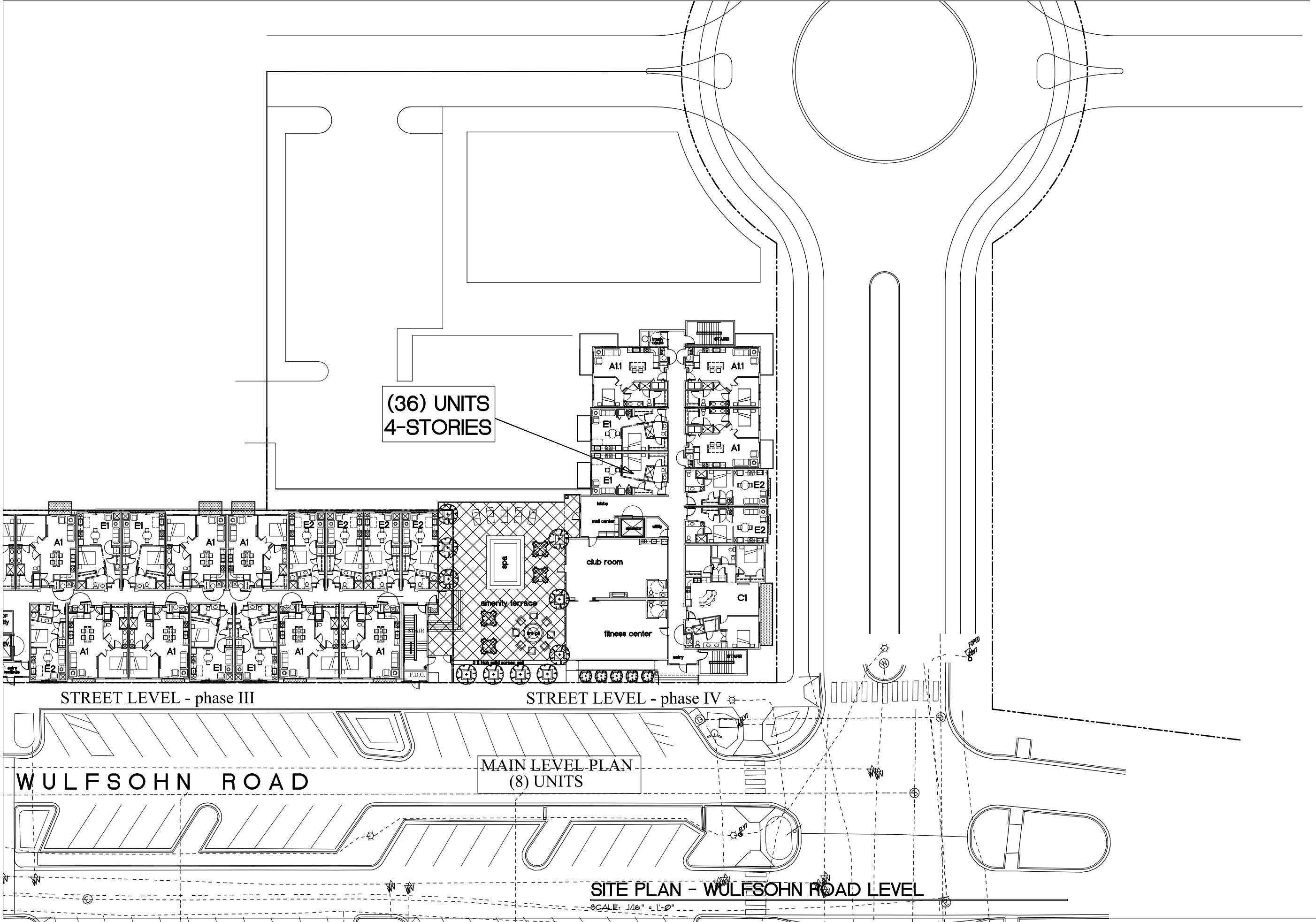
Redland
WHERE GREAT PLACES BEGIN
720.283.6783 Office
1500 West Canal Court
Littleton, Colorado 80120
REDLAND.COM

THE LOFTS AT RED MOUNTAIN
PHASE 4

PRELIMINARY LANDSCAPE PLAN

SHEE

L1



PROJECT NUMBER

20-029

SHEET TITLE

SITE PLAN
STREET LEVEL (WULFSOHN RD)
SCALE: 1/16" = 1'-0"

PROJECT/OWNER

LOFTS AT RED MOUNTAIN
PHASE IV
WULFSOHN ROAD / EAST MEADOWS
LOT 8
GLENWOOD SPRINGS, CO
STONELEIGH COMPANIES, LLC

ARCHITECT



architecture

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(801) 593-9328

REVISION DATE

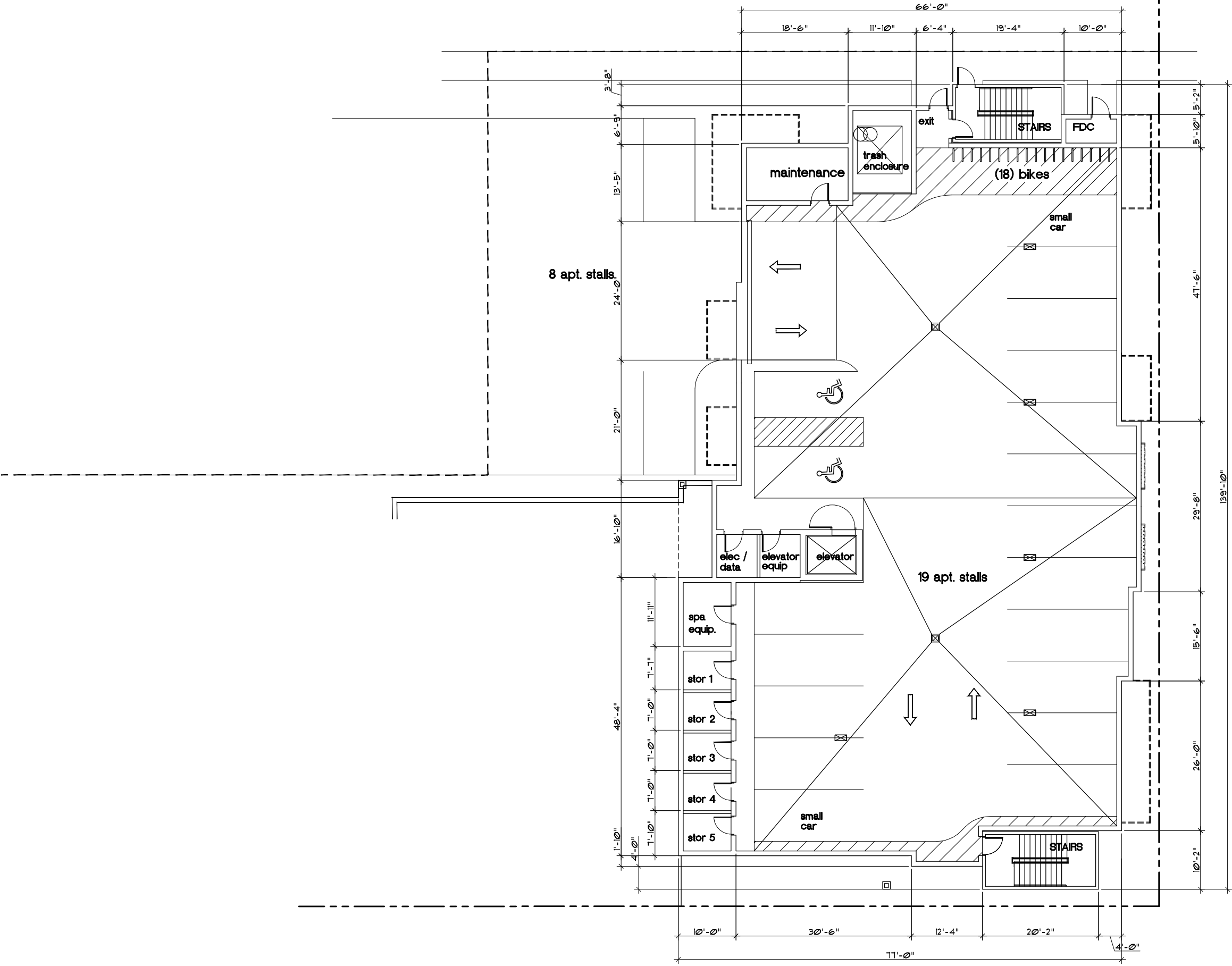
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DATE

15 FEB 2021

SHEET NUMBER

A1.1



FLOOR PLAN - PARKING LEVEL

SCALE: 1/8" = 1'-0"

PROJECT NUMBER

20-029

SHEET TITLE

PARKING LEVEL PLAN

SCALE: 1/8" = 1'-0"

PROJECT/OWNER

LOFTS AT RED MOUNTAIN
PHASE IV
WULFSOHN ROAD / EAST MEADOWS
LOT 8
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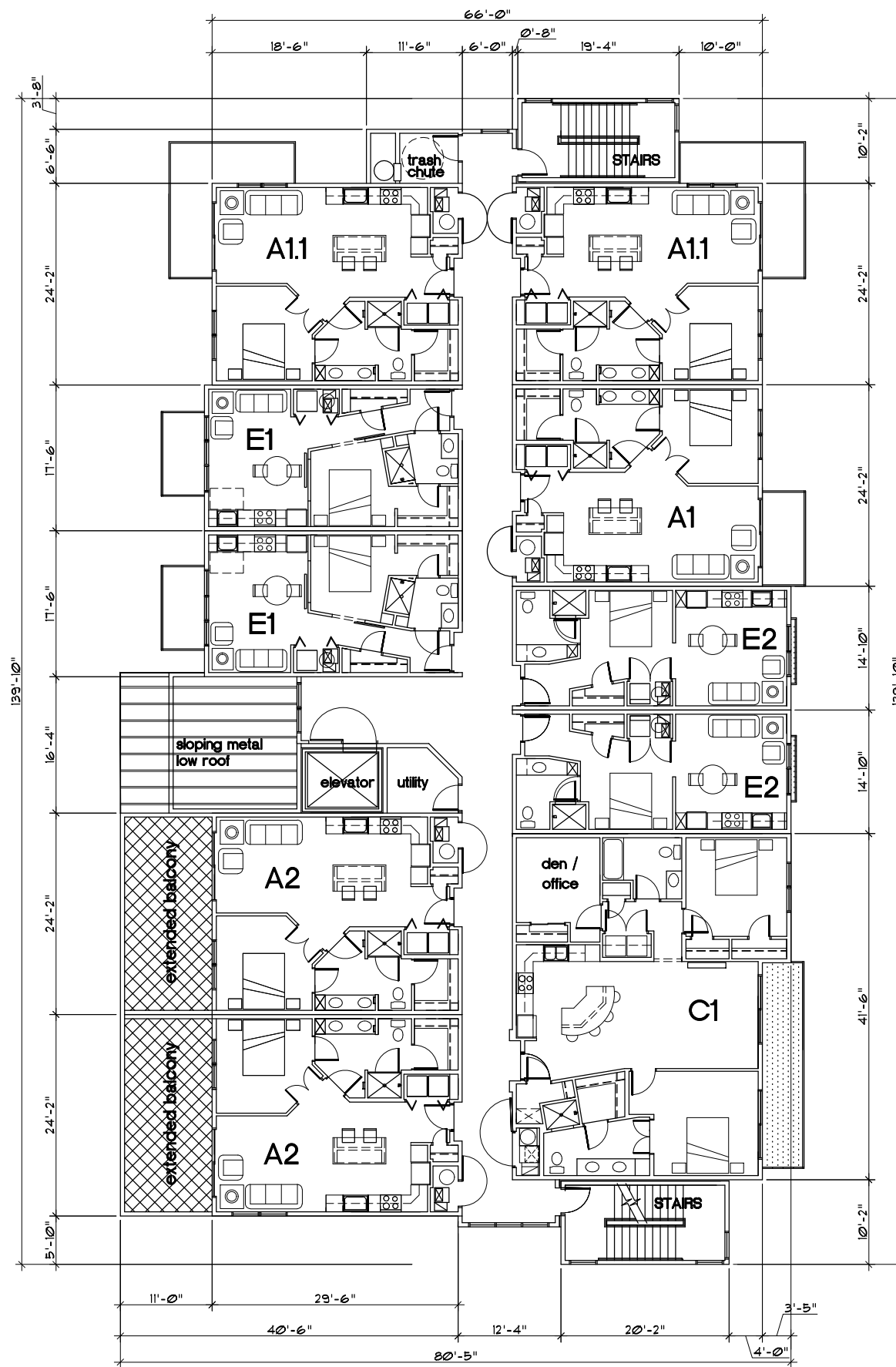
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DATE

15 FEB 2021

SHEET NUMBER

A2.0



UNIT MIX THIS FLOOR:	
A1	1 UNIT
A1.1	2 UNITS
A2	2 UNITS
E1	2 UNITS
E2	2 UNITS
C1	1 UNIT
TOTAL:	10 UNITS

FLOOR PLAN - 2ND LEVEL

SCALE: 1/8" = 1'-0"

PROJECT NUMBER

20-029

SHEET TITLE

2ND FLOOR PLAN

SCALE: 1/8" = 1'-0"

PROJECT/OWNER

LOFTS AT RED MOUNTAIN
PHASE IV
WILFBOHN ROAD / EAST MEADOWS
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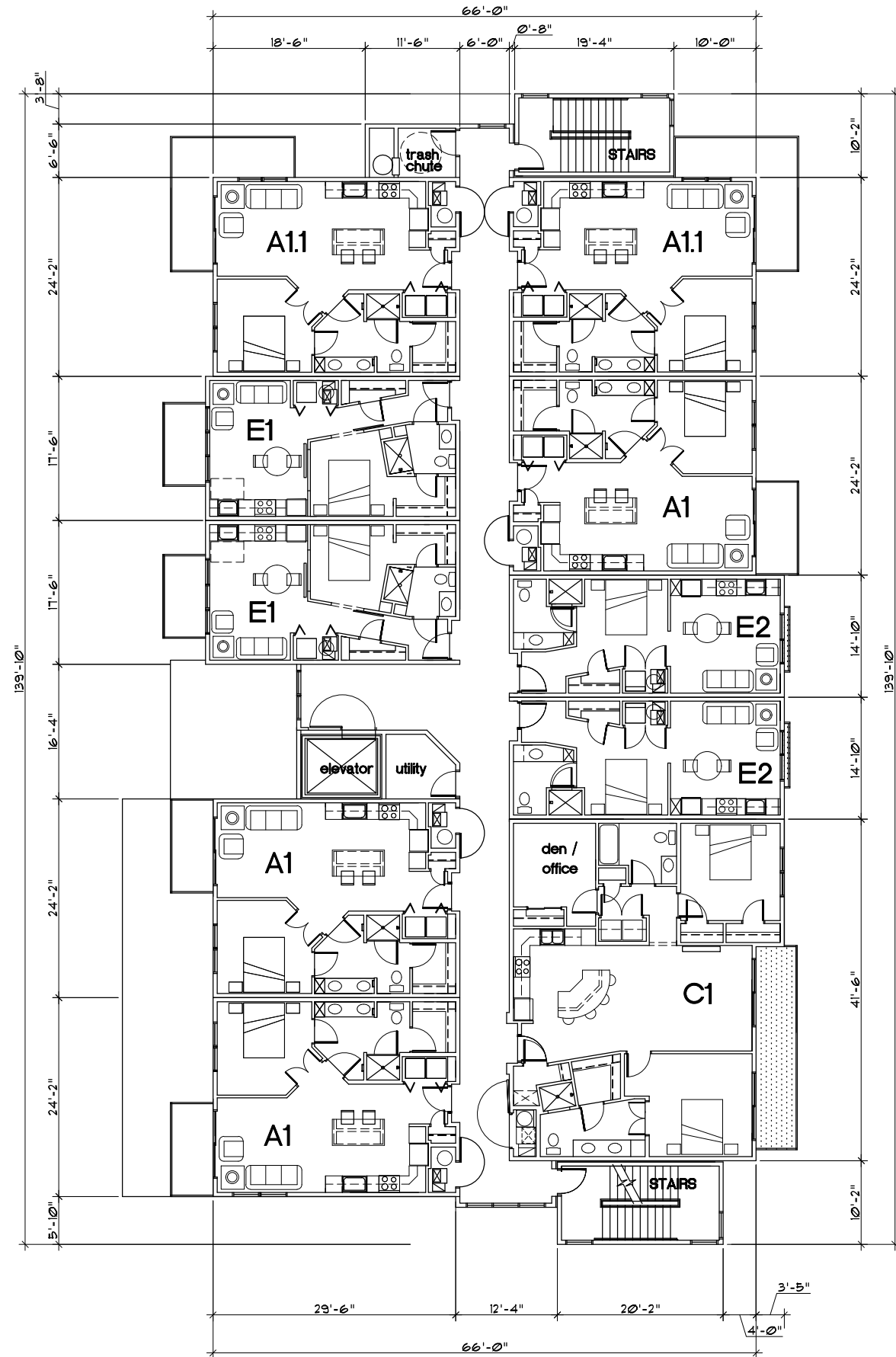
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15 FEB 2021

SHEET NUMBER

A2.2



FLOOR PLAN - 3RD LEVEL
SCALE: 1/8" = 1'-0"

UNIT MIX THIS FLOOR:	
A1	3 UNIT
A1.1	2 UNITS
E1	2 UNITS
E2	2 UNITS
C1	1 UNIT
TOTAL:	10 UNITS

PROJECT NUMBER

20-029

SHEET TITLE

3RD FLOOR PLAN
SCALE: 1/8" = 1'-0"

PROJECT/OWNER

LOFTS AT RED MOUNTAIN
PHASE IV
WULFSOHN ROAD / EAST MEADOWS
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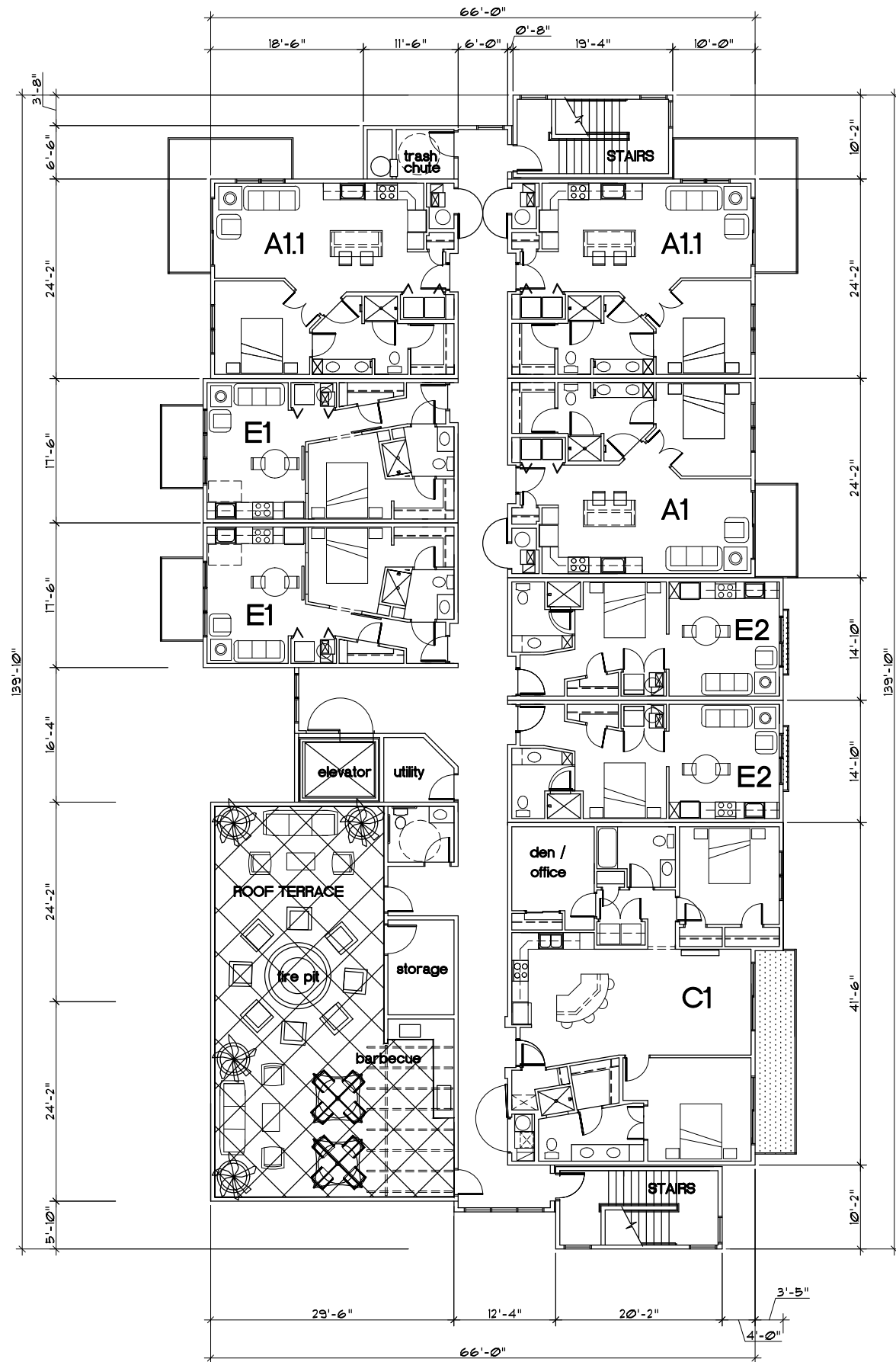
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DATE

15 FEB 2021

SHEET NUMBER

A2.3



FLOOR PLAN - 4TH LEVEL
 SCALE: 1/8" = 1'-0"

UNIT MIX THIS FLOOR:	
A1	1 UNIT
A1.1	2 UNITS
E1	2 UNITS
E2	2 UNITS
C1	1 UNIT
TOTAL:	8 UNITS

PROJECT NUMBER

20-029

SHEET TITLE

4TH FLOOR PLAN
 SCALE: 1/8" = 1'-0"

PROJECT/OWNER

LOFTS AT RED MOUNTAIN
 PHASE IV
 WULFGOHN ROAD / EAST MEADOWS
 LOT 8
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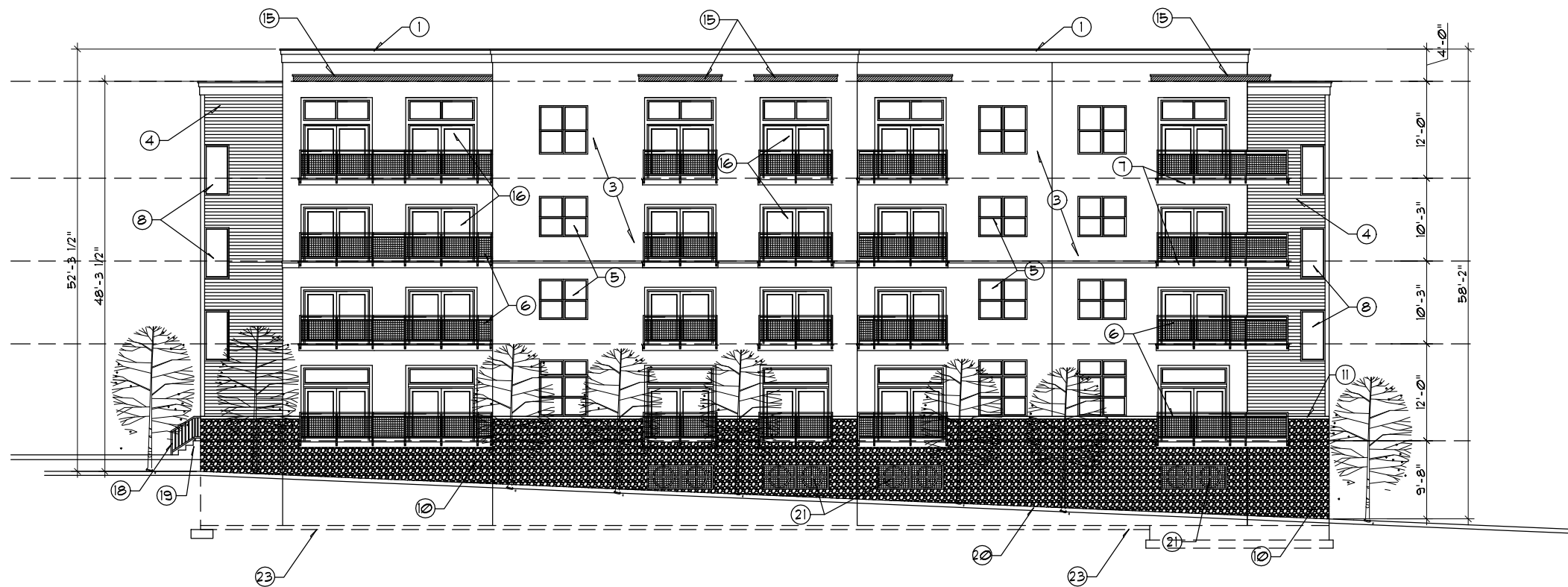
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A2.4



SOUTH ELEVATION
WULFSOHN ROAD

- EXTERIOR ELEVATION KEYED NOTES:**
1. METAL PARAPET CAP FLASHING.
 2. STEPPED FASCIA AT TOP OF PARAPET.
 3. HARD COAT STUCCO
 4. CEMENT BOARD SIDING
 5. VINYL WINDOWS
 6. ALUMINUM BALCONY RAILING
 7. METAL FASCIA AND VENTED ALUM SOFFIT AT BALCONIES
 8. ALUMINUM STOREFRONT WINDOWS
 9. ALUMINUM STOREFRONT ENTRY DOORS
 10. SYNTHETIC STONE VENEER
 11. LEDGESTONE CAP AT TOP OF STONE WAINSCOT.
 12. STEEL TUBE TRELLIS - PAINTED.
 13. CONC. RETAINING WALL AT RAISED TERRACE
 14. OVERHEAD RAPID OPEN PARKING ENTRY ACCESS.
 15. METAL FASCIA AND SOFFIT EYEBROW ELEMENT ABOVE 4TH FLOOR BALCONY DOORS.
 16. VINYL BALCONY DOORS AND SIDELIGHTS.
 17. STANDING SEAM METAL ROOF AT LOW SHED ROOF ELEMENTS.
 18. WROUGHT IRON RAILING AT STEPS - PAINTED.
 19. CONCRETE STEPS AND RAMP AT ENTRY.
 20. STREET SIDEWALK
 21. STEEL TUBE GRILL AT PARKING STRUCTURE OPENING - PAINTED.
 22. FIN SIGN PER SEPARATE SIGN PACKAGE.
 23. FTG AND FND AT PARKING STRUCTURE LEVEL.
 24. FLAT PANEL CEMENT BOARD W/ BATTENS. - PAINTED.



EAST ELEVATION
EAST MEADOWS

PROJECT NUMBER

20-029

SHEET TITLE

EXTERIOR ELEVATIONS

SCALE: 1/8" = 1'-0"

PROJECT/OWNER

LOFTS AT RED MOUNTAIN
PHASE IV
WULFSOHN ROAD / EAST MEADOWS
LOT 8
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26 FEB 2021

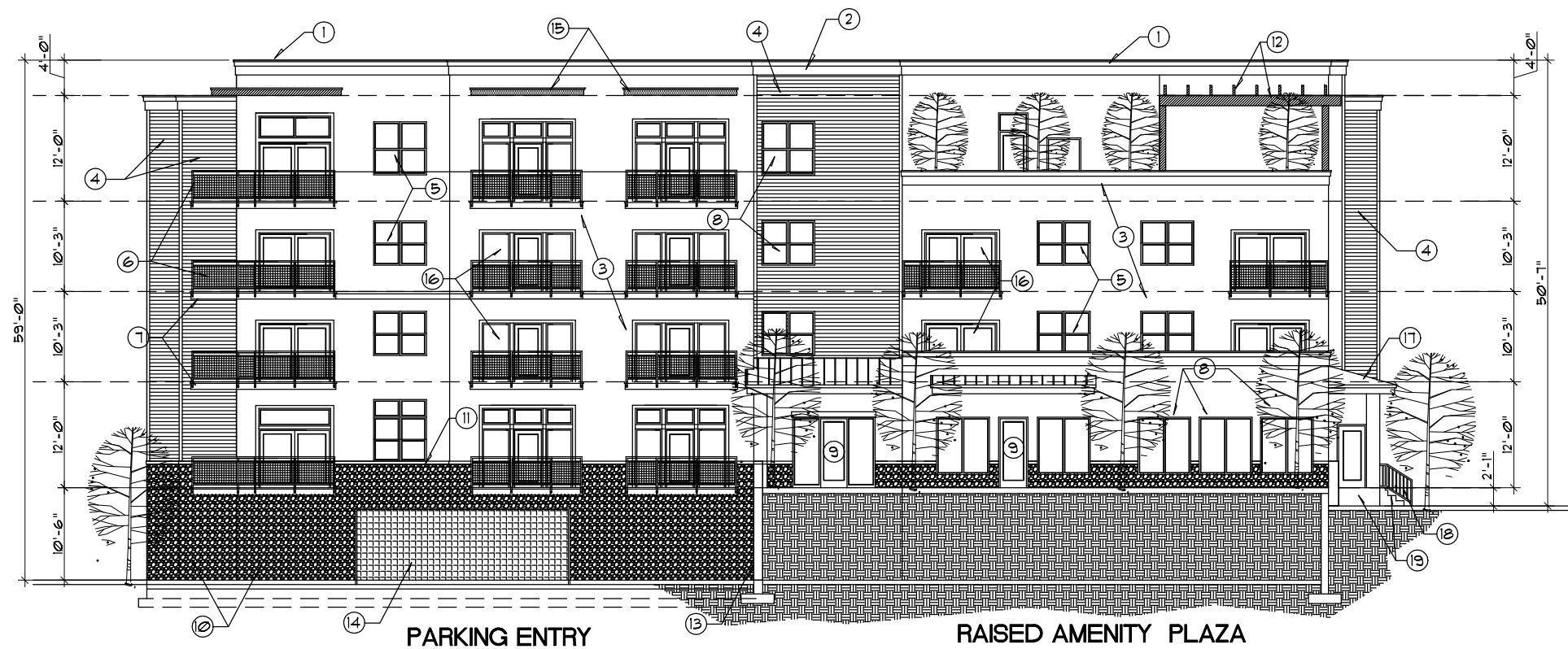
SHEET NUMBER

A3.1



NORTH ELEVATION

- EXTERIOR ELEVATION KEYED NOTES:**
1. METAL PARAPET CAP FLASHING.
 2. STEPPED FASCIA AT TOP OF PARAPET.
 3. HARD COAT STUCCO
 4. CEMENT BOARD SIDING
 5. VINYL WINDOWS
 6. ALUMINUM BALCONY RAILING
 7. METAL FASCIA AND VENTED ALUM SOFFIT AT BALCONIES
 8. ALUMINUM STOREFRONT WINDOWS
 9. ALUMINUM STOREFRONT ENTRY DOORS
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 11. LEDGESTONE CAP AT TOP OF STONE WAINSCOT.
 12. STEEL TUBE TRELLIS - PAINTED.
 13. CONC. RETAINING WALL AT RAISED TERRACE
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 16. VINYL BALCONY DOORS AND SIDELIGHTS.
 17. STANDING SEAM METAL ROOF AT LOW SHED ROOF ELEMENTS.
 18. WROUGHT IRON RAILING AT STEPS - PAINTED.
 19. CONCRETE STEPS AND RAMP AT ENTRY.



PARKING ENTRY

RAISED AMENITY PLAZA

WEST ELEVATION

PROJECT NUMBER

20-029

SHEET TITLE

EXTERIOR ELEVATIONS

SCALE: 1/8" = 1'-0"

PROJECT/OWNER

**LOFTS AT RED MOUNTAIN
PHASE IV**
WULFSOHN ROAD / EAST MEADOWS
LOT 8
GLENWOOD SPRINGS, CO
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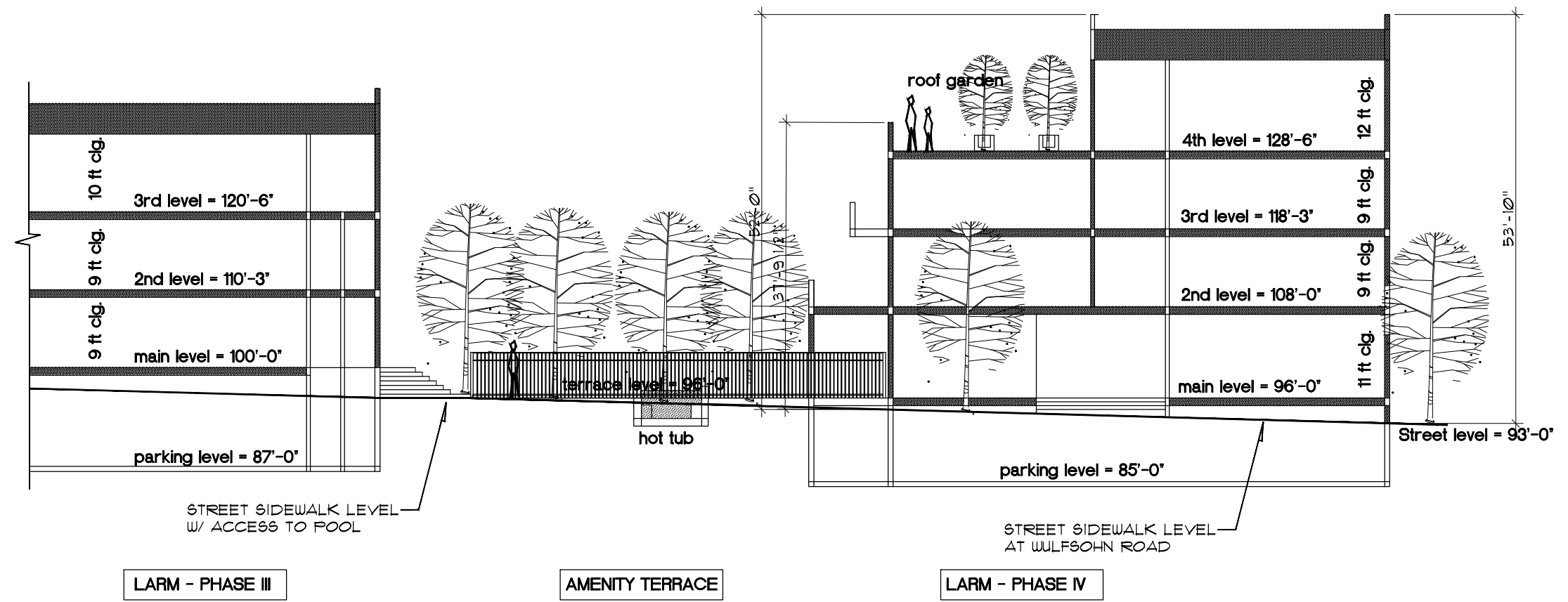
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DATE

26 FEB 2021

SHEET NUMBER

A3.2



SITE SECTION

SCALE: 1/8" = 1'-0"

PROJECT NUMBER

20-029

SHEET TITLE

SITE SECTION
SCALE: 1/8" = 1'-0"

PROJECT/OWNER

LOFTS AT RED MOUNTAIN
PHASE IV
WULFSOHN ROAD / EAST MEADOWS
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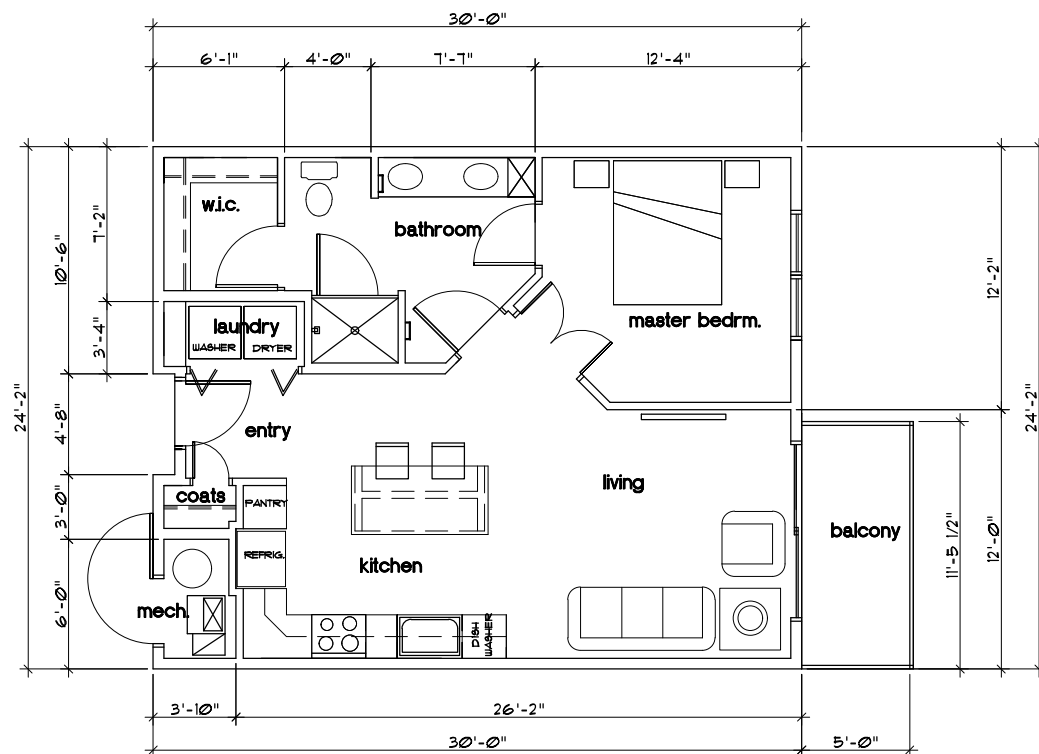
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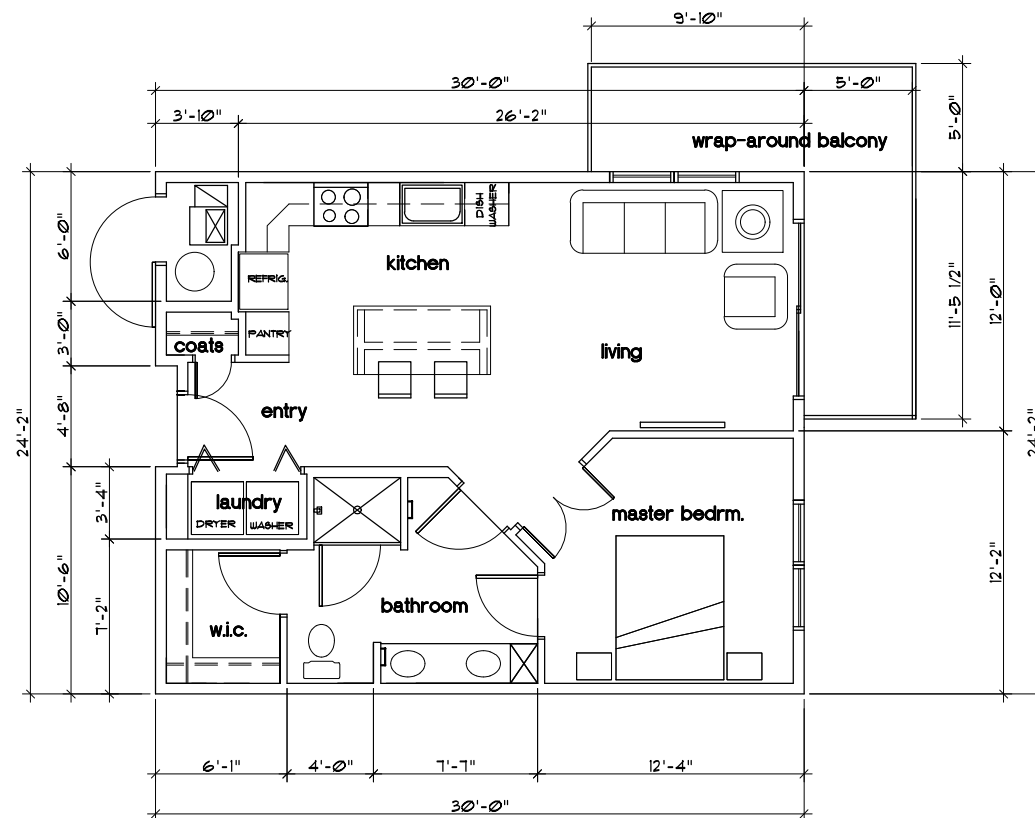
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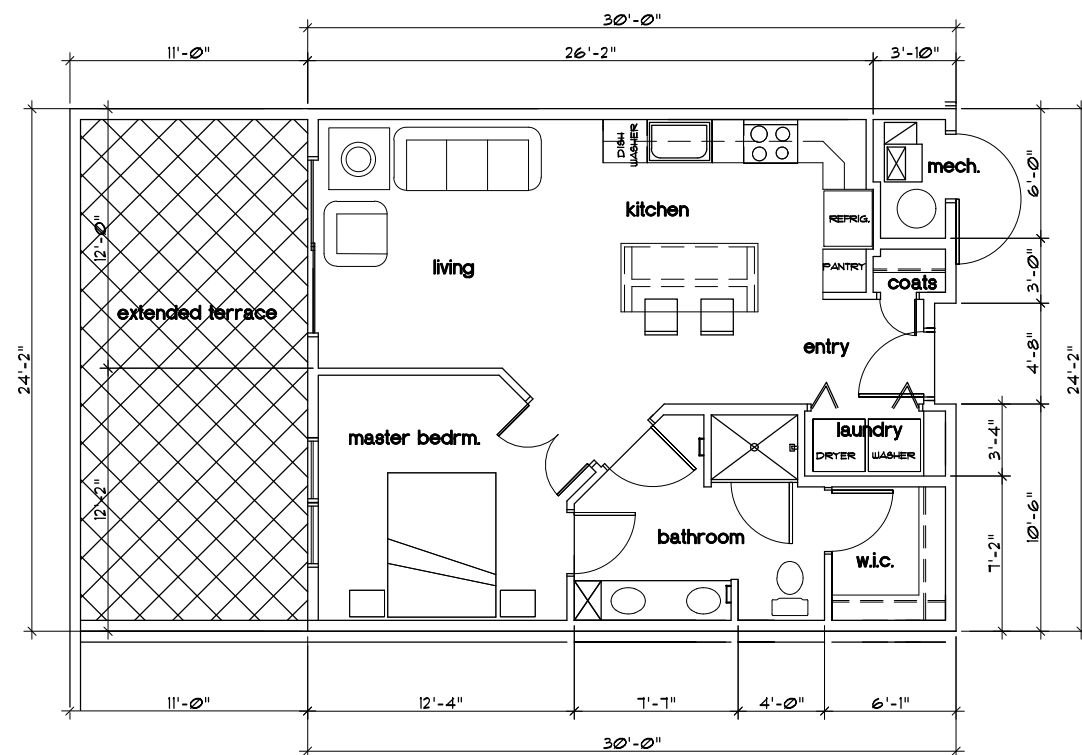
A3.3



UNIT PLAN - A1 720 s.f.
 SCALE: 1/4" = 1'-0" **1-bed**



UNIT PLAN - A1.1 720 s.f.
 SCALE: 1/4" = 1'-0" **1-bed w/ wrap-around balcony**



UNIT PLAN - A2 720 s.f.
 SCALE: 1/4" = 1'-0" **1-bed w/ extended terrace**

PROJECT NUMBER

20-029

SHEET TITLE

UNIT PLANS

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

PROJECT/OWNER

LOFTS AT RED MOUNTAIN
 PHASE IV
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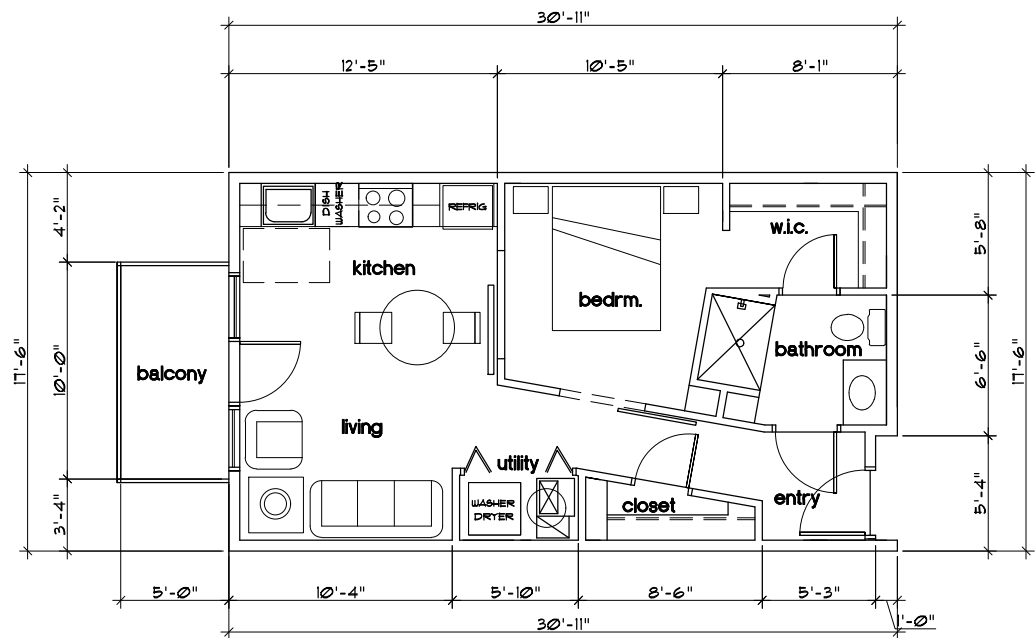
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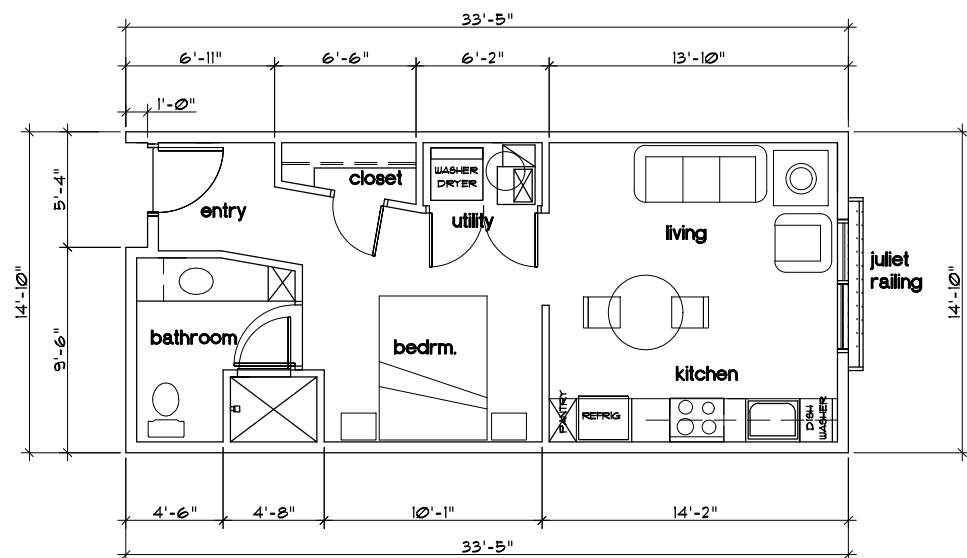
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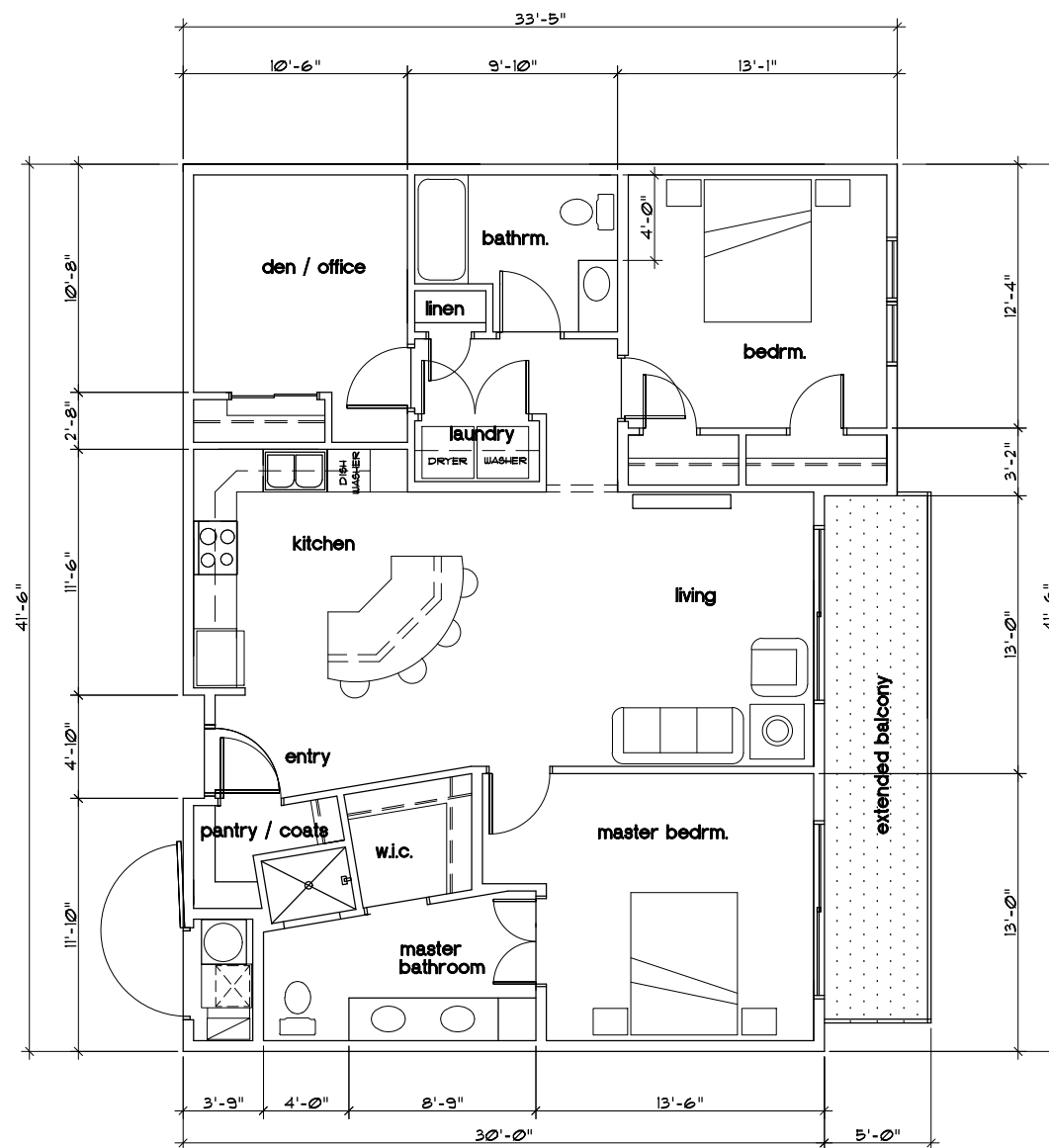
A4.1



UNIT PLAN - E1 535 s.f.
 SCALE: 1/4" = 1'-0" efficiency 1-bed



UNIT PLAN - E2 490 s.f.
 SCALE: 1/4" = 1'-0" studio



UNIT PLAN - C1 1,294 s.f.
 SCALE: 1/4" = 1'-0" 2-bed + den

PROJECT NUMBER
20-029

SHEET TITLE

UNIT PLANS

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

PROJECT/OWNER

LOFTS AT RED MOUNTAIN
 PHASE IV
 WILFSON ROAD / EAST MEADOWS
 LOT 8
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DATE

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SHEET NUMBER

A4.2





Traffic Impact Study

Lofts at Red Mountain Phase IV Glenwood Springs, Colorado

Prepared for:
Realty Capital Management

Kimley»Horn

T R A F F I C I M P A C T S T U D Y

Lofts at Red Mountain – Phase IV

Glenwood Springs, Colorado

Prepared for
Realty Capital Management
909 Lake Carolyn Parkway
Suite 150
Irving, TC 75039

Prepared by
Kimley-Horn and Associates, Inc.
Curtis D. Rowe, P.E., PTOE
4582 South Ulster Street
Suite 1500
Denver, Colorado 80237
(303) 228-2300



February 2021

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

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1.0 EXECUTIVE SUMMARY

The Lofts at Red Mountain – Phase IV is proposed to be located on the northwest corner of the intersection of Wulfsohn Road and E Meadows Drive within the Glenwood Meadows development in Glenwood Springs, Colorado. The Lofts at Red Mountain – Phase IV development is anticipated to include 36 multifamily dwelling units and a 5,950 square foot retail pad, assumed as a fast-casual restaurant for purposes of this traffic study. It is expected that the project will be completed within the next couple of years; therefore, analysis was completed for the 2023 short term and 2040 long term horizons.

The purpose of this study is to identify project traffic generation characteristics, to identify potential project traffic related impacts on the local street system, and to develop mitigation measures required for identified impacts. The following intersections were incorporated into this traffic study in accordance with the City of Glenwood Springs standards:

- Midland Avenue and W Meadows
- Wulfsohn Road and E Meadows Drive
- E Meadows Drive Roundabout
- Midland Avenue and E Meadows Drive
- Midland Avenue and Wulfsohn Road

Regional access to the project will be provided by Interstate 70 (I-70) and State Highway 82 (SH-82). Primary access will be provided by Midland Avenue and Wulfsohn Road. Direct access to the site will be provided by diagonal parking along Wulfsohn Road and the northeast leg of the E Meadows Drive Roundabout.

Lofts at Red Mountain – Phase IV is expected to generate approximately 2,072 weekday trips, with 25 of these trips occurring during the morning peak hour and 101 of these trips occurring during the afternoon peak hour.

Distribution of project traffic on the street system was based on the area street system characteristics, existing traffic patterns and volumes, demographic information, and the proposed access system for the project. Assignment of project traffic was based upon the trip generation described previously and the distributions developed.

Based on the analysis presented in this report, Kimley-Horn believes the Lofts at Red Mountain – Phase IV will be successfully incorporated into the existing and future roadway network. The proposed project development resulted in the following recommendations and conclusions:

- At the Midland Avenue and E Meadows Drive intersection, a 150-foot plus 120-foot taper eastbound acceleration lane is recommended along Midland Avenue, so the northbound right turn operates with free turning movements. This will likely require reconstruction of the existing channelized median island in the E Meadows Drive throat of the intersection.
- It is recommended that the existing free northbound right turn movement at the intersection of Midland Avenue and Wulfsohn Road be better designated to fully operate as a “FREE” lane. To accomplish this, it is recommended that improved channelized striping or a median be provided designating the left edge for the right turning vehicles.
- If future 2040 volumes are realized, Midland Avenue may need to be widened to four-lanes to accommodate the increase in traffic. If this occurs, all of the eastbound right turn acceleration and deceleration lanes could be absorbed at the study intersections with exception of the eastbound right turn acceleration lane from the northbound right turn at the Midland Avenue and Wulfsohn Road intersection which would need to be reconstructed. Existing counts were conducted during the COVID-19 pandemic and a conservatively high 40 percent pandemic factor was applied to traffic in this area to represent normal traffic conditions. Once the pandemic is over, it is recommended that new counts be conducted in the area and that an overall transportation master plan be conducted for this area to confirm the full extent of improvements needed to accommodate traffic by the long term horizon.
- Any on-site or offsite improvements should be incorporated into the Civil Drawings and conform to the standards of the City of Glenwood Springs and the Manual on Uniform Traffic Control Devices (MUTCD) – 2009 Edition.

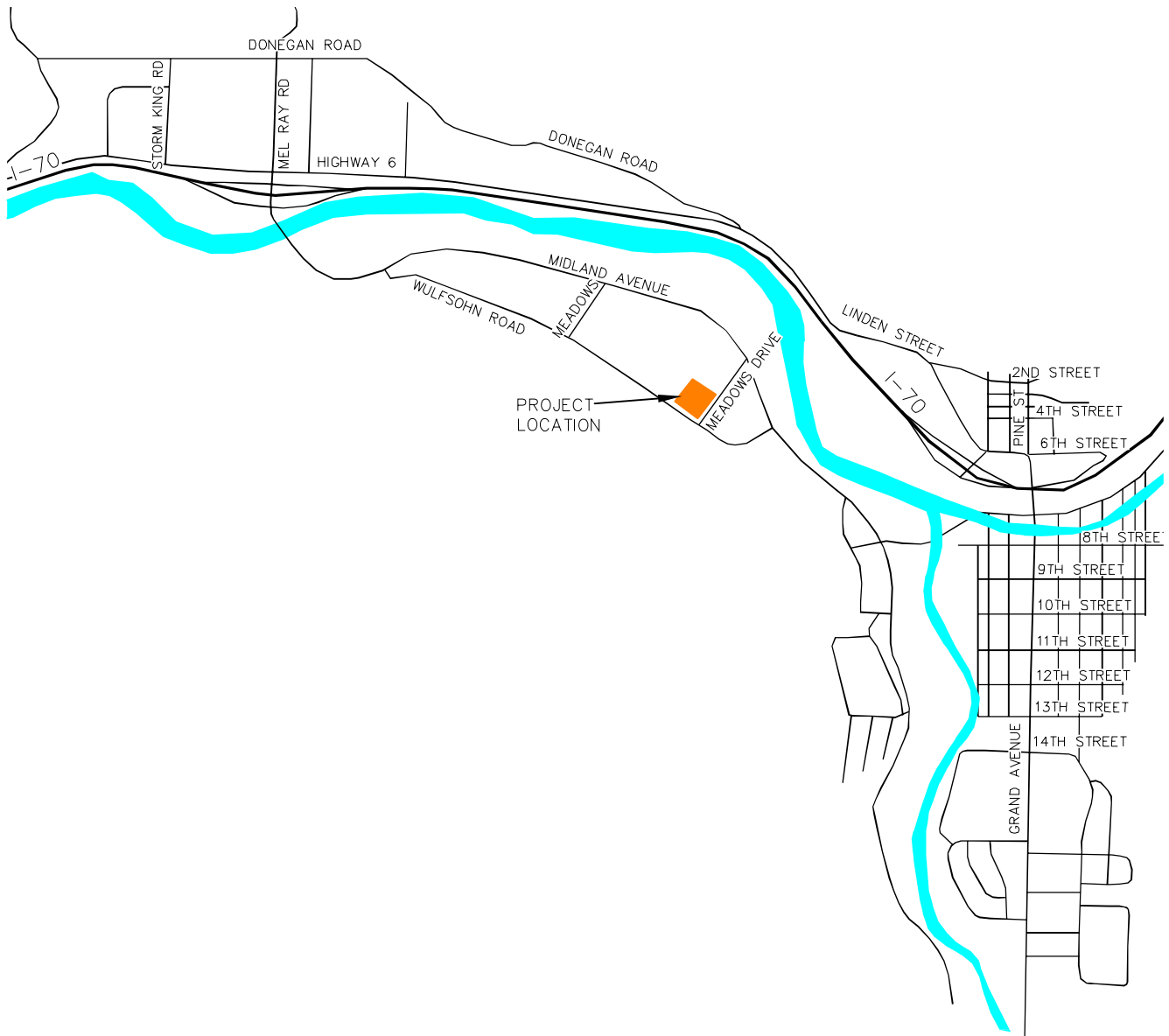
2.0 INTRODUCTION

Kimley-Horn and Associates, Inc. has prepared this report to document the results of a Traffic Impact Study of future traffic conditions associated with a new mixed-use project named Lofts at Red Mountain – Phase IV that is proposed to be located on the northwest corner of the intersection of Wulfsohn Road and E Meadows Drive within the Glenwood Meadows development in Glenwood Springs, Colorado. A vicinity map illustrating the project site location is shown in **Figure 1**. The Lofts at Red Mountain – Phase IV development is anticipated to include 36 multifamily dwelling units and a 5,950 square foot retail pad, assumed as a fast-casual restaurant for purposes of this traffic study. Conceptual site plans are shown in **Appendix F**. It is expected that the project will be completed within the next couple of years; therefore, analysis was completed for the 2023 short term and 2040 long term horizons.

The purpose of this study is to identify project traffic generation characteristics, to identify potential project traffic related impacts on the local street system, and to develop mitigation measures required for identified impacts. The following intersections were incorporated into this traffic study in accordance with the City of Glenwood Springs standards:

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Regional access to the project will be provided by Interstate 70 (I-70) and State Highway 82 (SH-82). Primary access will be provided by Midland Avenue and Wulfsohn Road. Direct access to the site will be provided by diagonal parking along Wulfsohn Road and the northeast leg of the E Meadows Drive Roundabout.



LOFTS AT RED MOUNTAIN – PHASE IV
 GLENWOOD SPRINGS, COLORADO
 VICINITY MAP

FIGURE 1

3.0 EXISTING AND FUTURE CONDITIONS

3.1 Existing Study Area

The existing site is vacant land. To the west of the site is Phase III of the Lofts at Red Mountain development. Phase III is currently under construction and Phase I and Phase II to the south is already built and occupied. To the northwest of the site are mixed uses of retail and restaurant buildings. The area to the south of Glenwood Meadows is vacant land. The land uses and roadway network surrounding the site within the study area are shown in the aerial of **Figure 2**.

3.2 Existing Roadway Network

Midland Avenue is a two-lane roadway with one through lane in each direction that runs east-west. The roadway has a posted speed limit of 35 miles per hour in the vicinity of the site. Wulfsohn Road connects to Midland Avenue to the east and west on the south end of the Glenwood Meadows property with a posted speed limit of 25 miles per hour. Between W Meadows and E Meadows Drive, Wulfsohn Road provides on-street diagonal parking. W Meadows connects Wulfsohn Road and Midland Avenue on the northwest end of the Glenwood Meadows property and E Meadows Drive connects Wulfsohn Road and Midland Avenue on the southeast end of the Glenwood Meadows property.

The intersection of Midland Avenue and W Meadows is a signalized three-leg T-intersection with the westbound left turn operating under protected-permissive phasing. The eastbound approach consists of a right turn lane and a through lane while the westbound approach consists of a left turn lane and a through lane. The northbound approach consists of separate left and right turn lanes.

The unsignalized intersection of Wulfsohn Road and E Meadows Drive operates with stop control on the north-south approaches of E Meadows Drive. The northbound approach consists of a left turn lane and a share through/right turn lane. The eastbound, westbound, and southbound approaches consist of one lane for shared movements.

The E Meadows Drive roundabout operates under yield conditions for the northbound, southbound, eastbound, and westbound approaches. The intersection consists of single lanes for all movements at each approach.



LOFTS AT RED MOUNTAIN — PHASE IV
GLENWOOD SPRINGS, COLORADO
SITE AREA

FIGURE 2

The unsignalized T-intersection of E Meadows Drive and Midland Avenue operates with stop control on the northbound approach of E Meadows Drive. The westbound approach consists of a left turn lane and a through lane while the eastbound approach consists of a right turn lane and a through lane. The northbound approach consists of a right-turn lane only, as this intersection is restricted to three-quarter movements with left turns prohibited from the minor street approach.

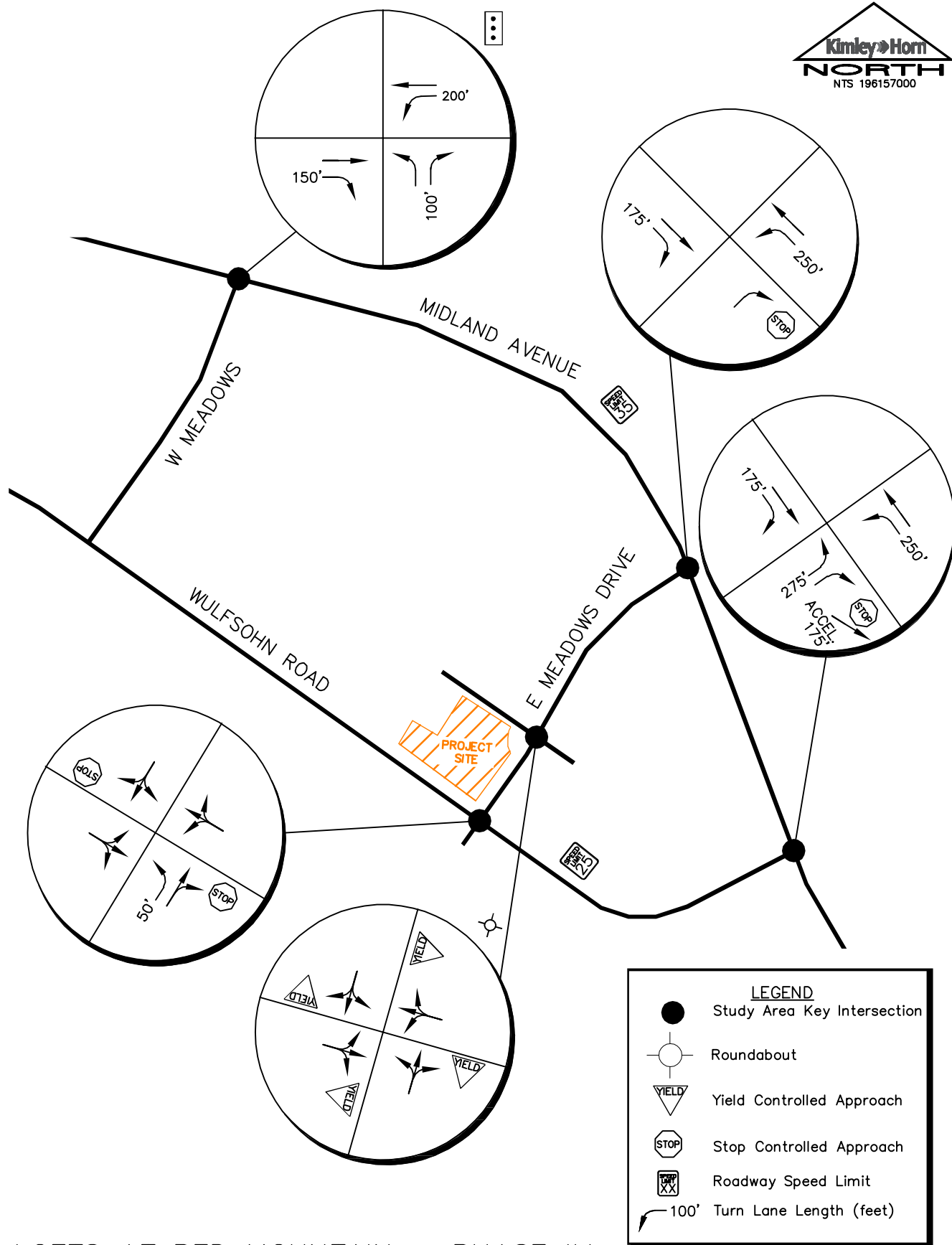
The unsignalized T-intersection of Wulfsohn Road and Midland Avenue operates with stop control on the northbound approach of Wulfsohn Road. The westbound approach consists of a left turn lane and a through lane while the eastbound approach consists of a right turn lane and a through lane. The northbound approach consists of separate right and left turn lanes. In addition, an acceleration lane has been provided for the northbound right turn movement.

The intersection lane configuration and control for the study area intersections are shown in **Figure 3**.

3.3 Existing Traffic Volumes

The existing morning peak hour turning movement counts were conducted at the intersections on Thursday, February 18, 2021 while the existing afternoon peak hour turning movement counts were conducted at the intersections on Wednesday, February 17, 2021. The counts were conducted during the morning and afternoon peak hours of adjacent street traffic in 15-minute intervals from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. The existing intersection traffic volumes are shown in **Figure 4** with count sheets provided in **Appendix A**.

To account for the traffic volumes being collected during the COVID-19 Pandemic an adjustment factor was applied to represent normal traffic conditions. Historical count data in the immediate area could not be obtained to adjust existing traffic volumes due to the COVID-19 pandemic; therefore, existing traffic volumes were increased by 40 percent during the morning and afternoon peak hours to be consistent with CDOT data along US-6. Existing traffic volumes on SH-6 west of SH-82 were compared to historical counts from CDOT to calculate a COVID-19 adjustment factor. These adjusted turning movement counts are shown in **Figure 5**.



LOFTS AT RED MOUNTAIN – PHASE IV
GLENWOOD SPRINGS, COLORADO
EXISTING LANE CONFIGURATION

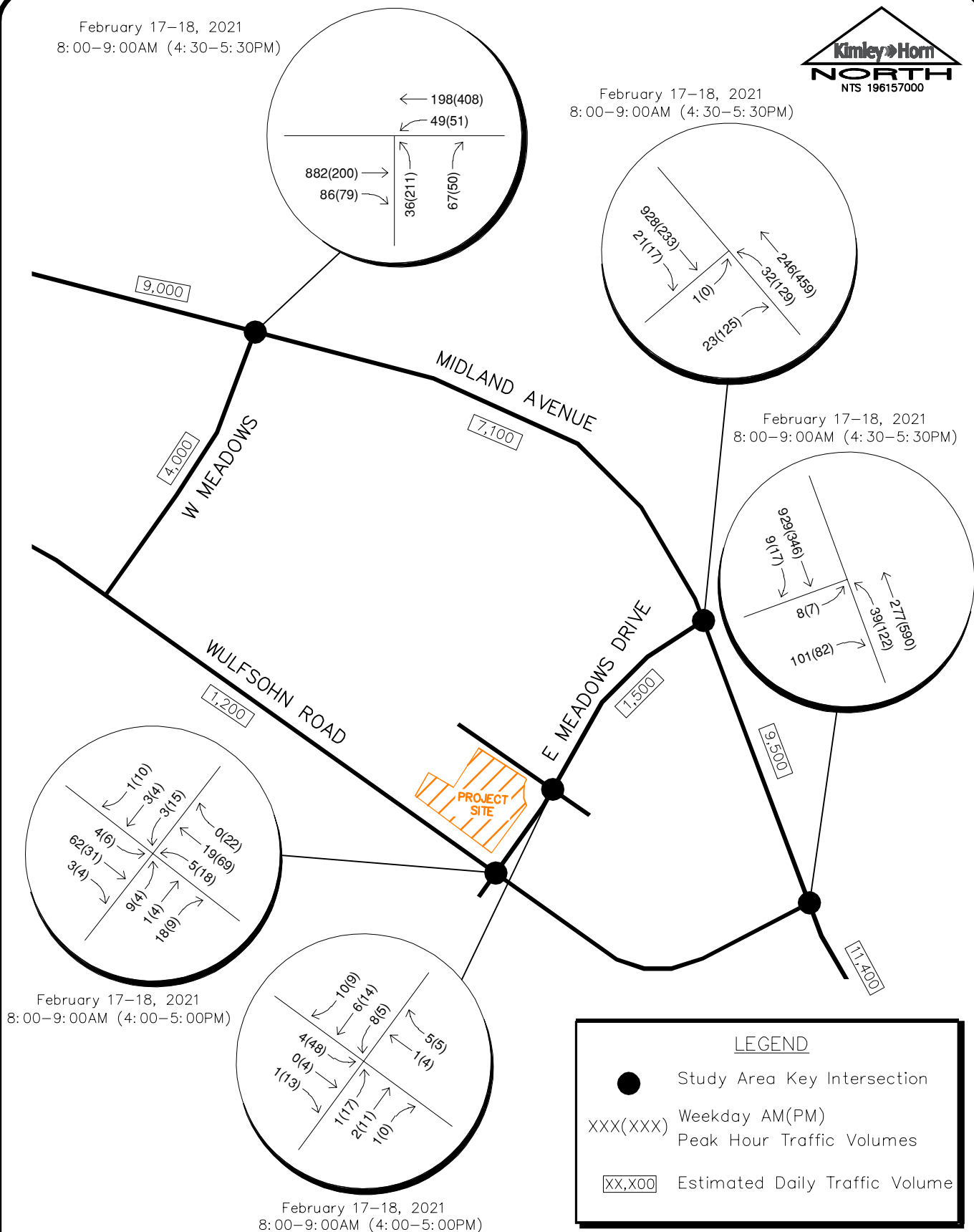
FIGURE 3

February 17-18, 2021
8:00-9:00AM (4:30-5:30PM)



February 17-18, 2021
8:00-9:00AM (4:30-5:30PM)

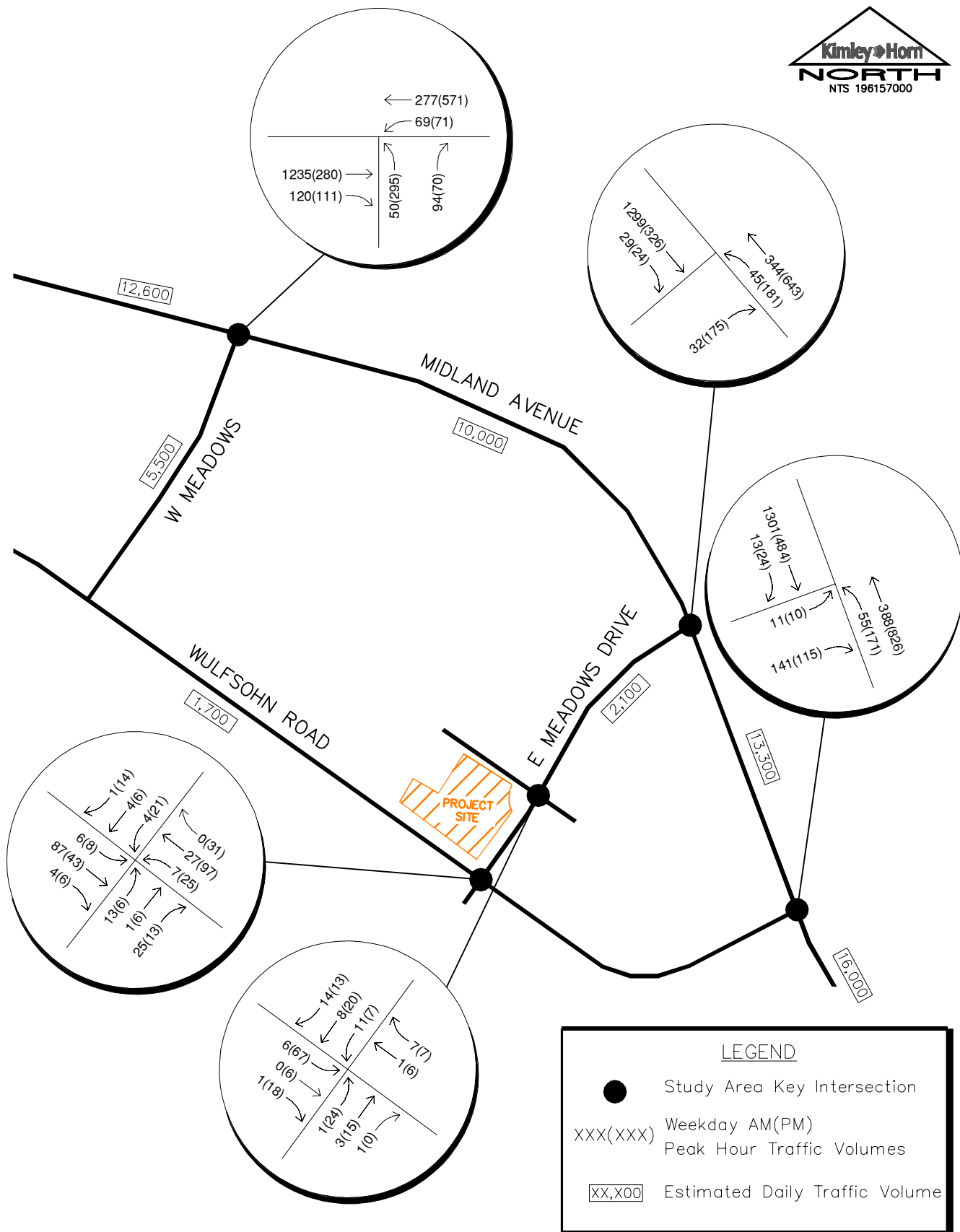
February 17-18, 2021
8:00-9:00AM (4:30-5:30PM)



LOFTS AT RED MOUNTAIN – PHASE IV
GLENWOOD SPRINGS, COLORADO
2021 EXISTING TRAFFIC VOLUMES

FIGURE 4





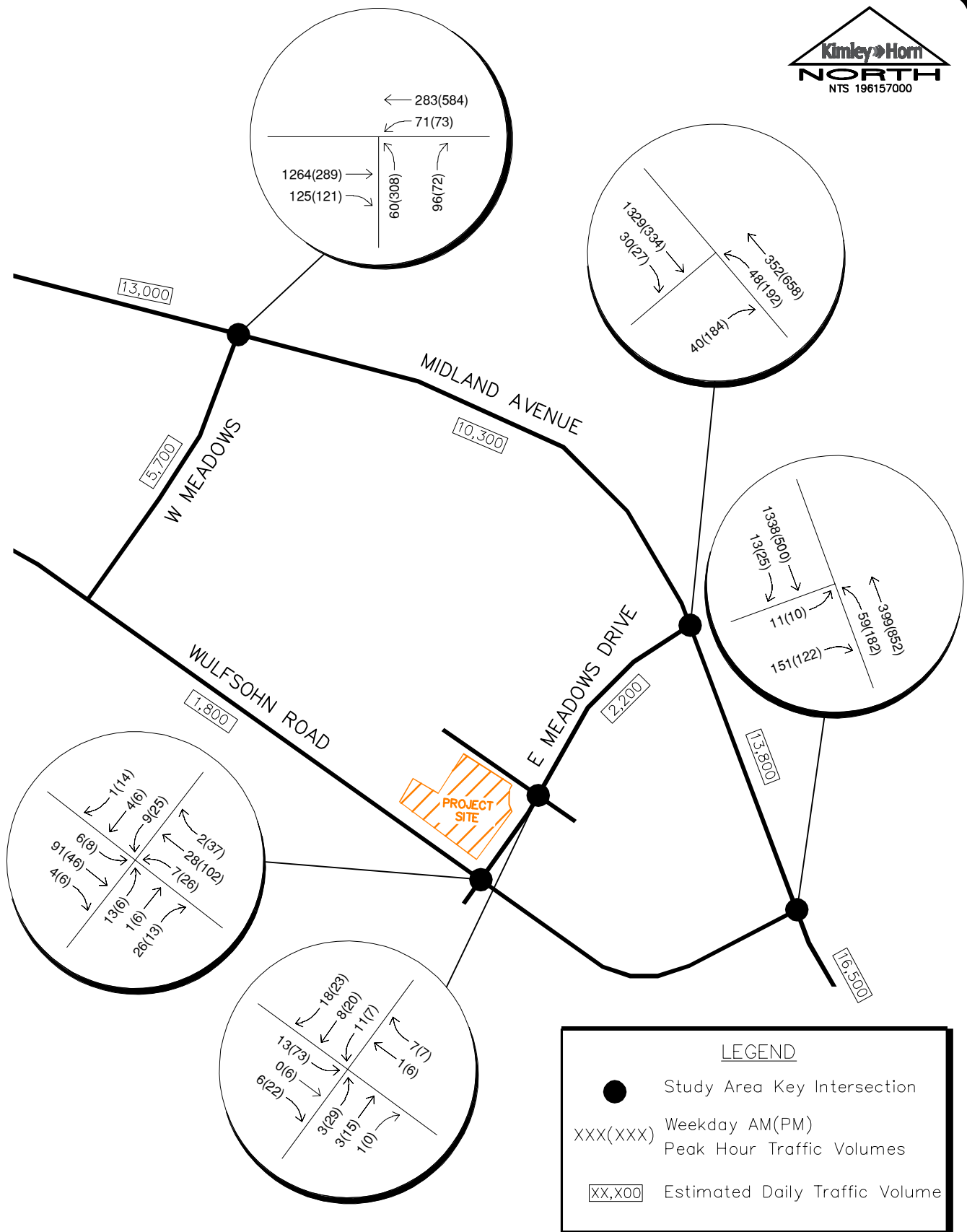
LOFTS AT RED MOUNTAIN – PHASE IV
 GLENWOOD SPRINGS, COLORADO
 2021 ADJUSTED TRAFFIC VOLUMES

FIGURE 5

3.4 Unspecified Development Traffic Growth

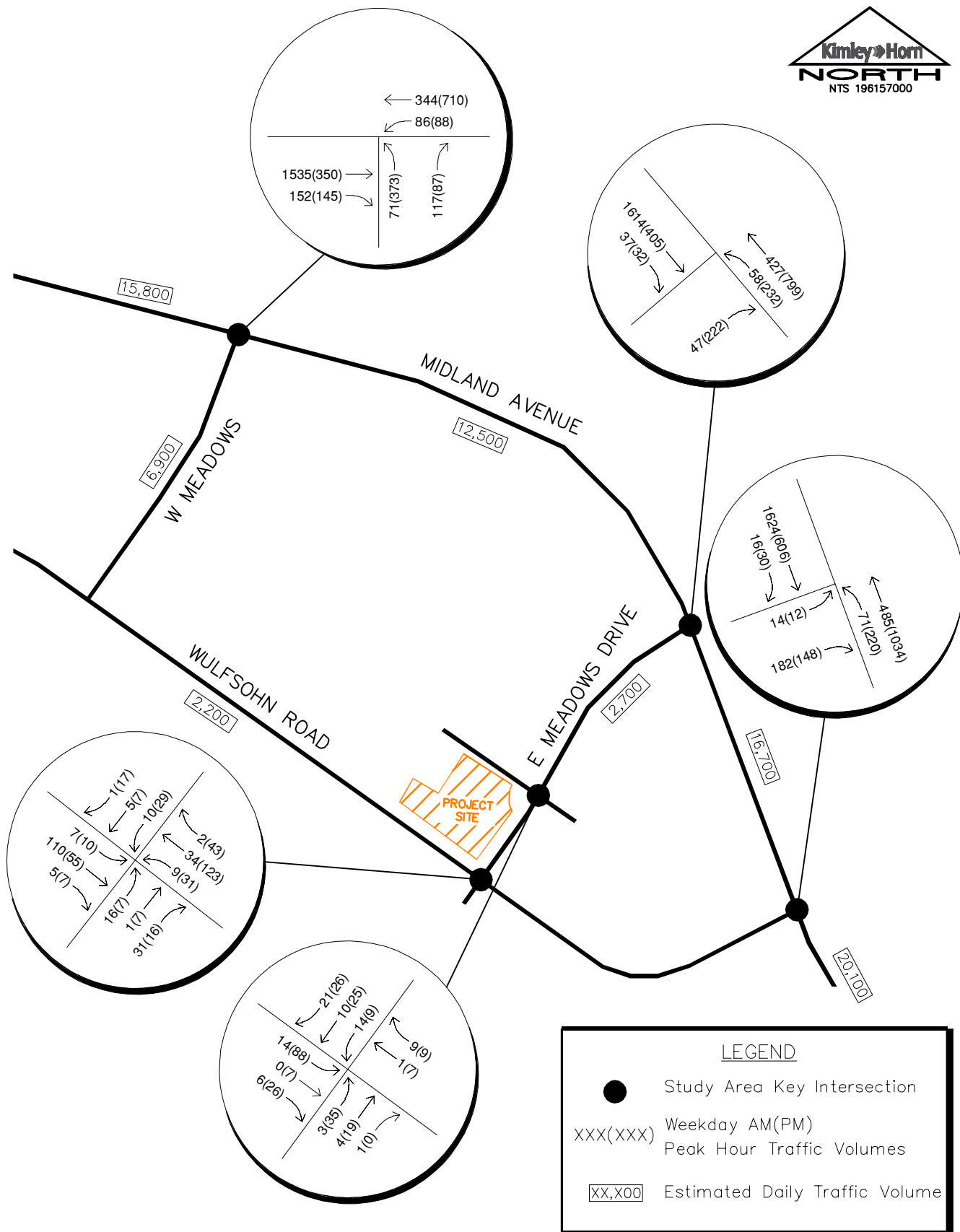
According to traffic projections provided by CDOT OTIS, I-70 is expected to have a 20-year growth factor between 1.24 and 1.27. This equates to an average annual growth rate of approximately 1.14 percent. Therefore, an annual growth rate of 1.15 percent was used to calculate short term 2023 and long term 2040 background traffic projections for the key intersections and roadways in the study area.

Phase III of the Lofts at Red Mountain multifamily units to the west of the proposed site are currently under construction and will be built by the project's buildout year. Therefore, trip estimates for the 89 units currently under construction are included as background traffic in 2023 and 2040. CDOT OTIS traffic information is included in **Appendix B**. Background traffic volumes for 2023 and 2040 are shown in **Figure 6** and **Figure 7**, respectively.



LOFTS AT RED MOUNTAIN – PHASE IV
 GLENWOOD SPRINGS, COLORADO
 2023 BACKGROUND TRAFFIC VOLUMES

FIGURE 6



LOFTS AT RED MOUNTAIN – PHASE IV
GLENWOOD SPRINGS, COLORADO
2040 BACKGROUND TRAFFIC VOLUMES

FIGURE 7

4.0 PROJECT TRAFFIC CHARACTERISTICS

4.1 Trip Generation

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Manual*¹ published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. For this study, Kimley-Horn used the ITE Trip Generation Report fitted curve equation that applies to Mid-Rise Multifamily Housing (ITE Land Use Code 221) and average rates that applied to Fast Casual Restaurant (ITE Land Use Code 930) for traffic associated with the development.

Lofts at Red Mountain – Phase IV is expected to generate approximately 2,072 weekday trips, with 25 of these trips occurring during the morning peak hour and 101 of these trips occurring during the afternoon peak hour. Calculations were based on the procedure and information provided in the ITE *Trip Generation Manual, 10th Edition – Volume 1: User's Guide and Handbook*, 2017. **Table 1** summarizes the estimated trip generation for the proposed development. The trip generation worksheet is included in **Appendix C**.

Table 1 – Lofts at Red Mountain – Phase IV Traffic Generation

Land Use	Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Multifamily Housing (Mid-Rise) (221) – 36 Dwelling Units	196	3	10	13	10	7	17
Fast Casual Restaurant (930) – 5,950 Square Feet	1,876	8	4	12	46	38	84
Total Project Trips	2,072	11	14	25	56	45	101

¹ Institute of Transportation Engineers, *Trip Generation Manual*, Tenth Edition, Washington DC, 2017.

4.2 Trip Distribution

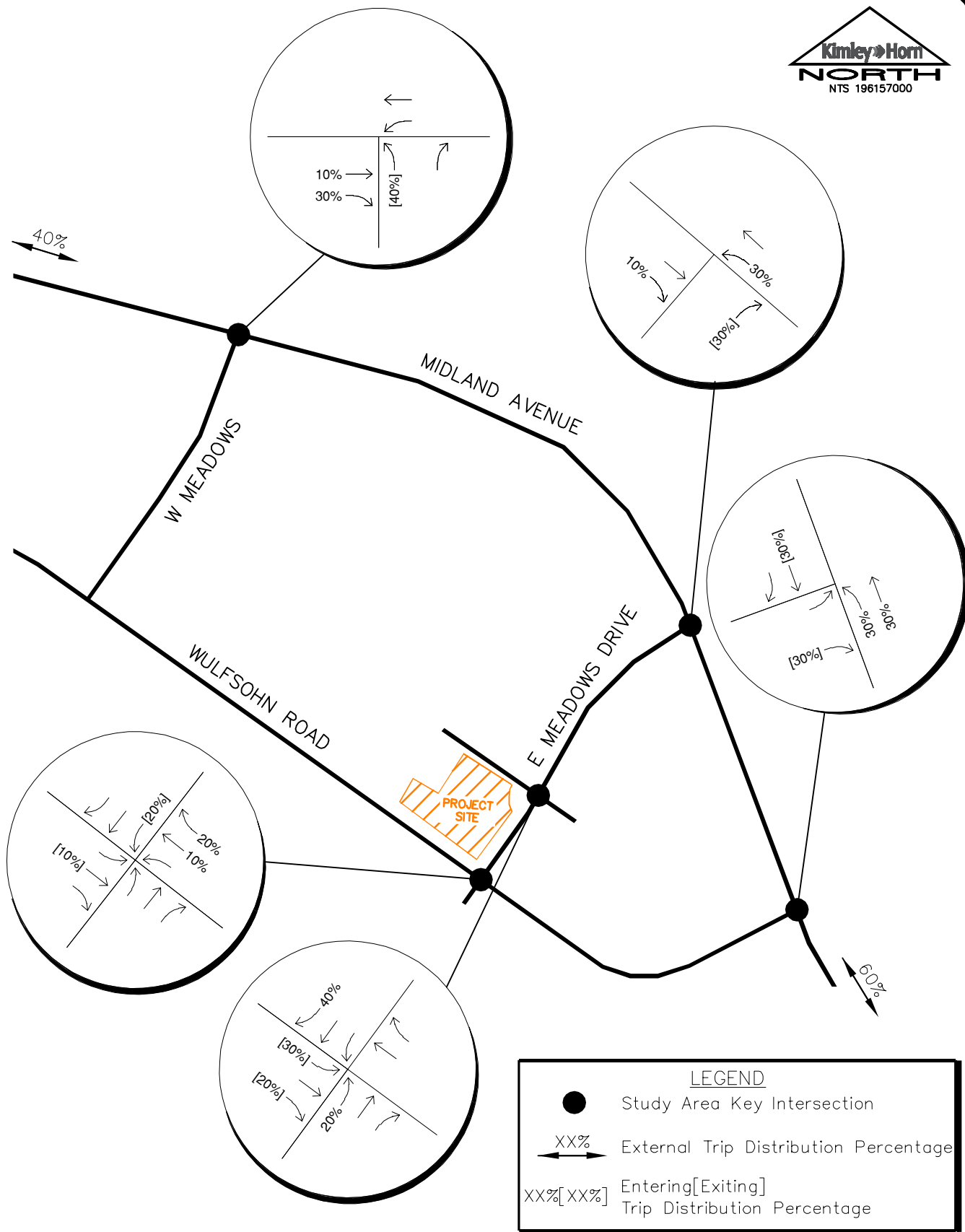
Distribution of site traffic was based on the area street system characteristics, existing traffic patterns and volumes, existing demographic information, and the proposed access system for the project. The directional distribution of traffic is a means to quantify the percentage of site-generated traffic that approaches the site from a given direction and departs the site back to the original source. The project trip distribution is illustrated in **Figure 8**.

4.3 Traffic Assignment

Project traffic assignment was obtained by applying the project trip distribution to the estimated traffic generation of the development shown in **Table 1**. Project traffic assignment is shown in **Figure 9**.

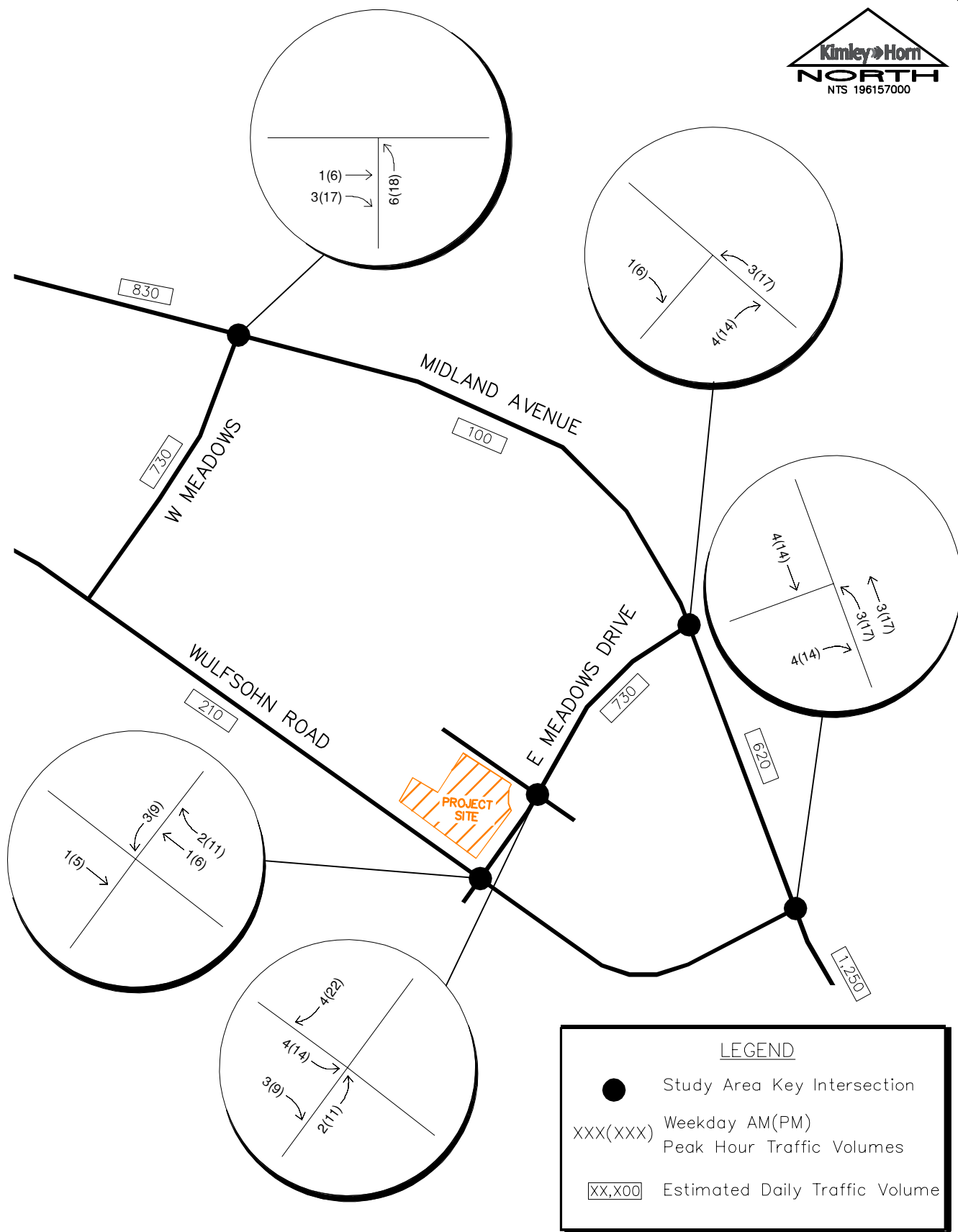
4.4 Total (Background Plus Project) Traffic

Site traffic volumes were added to the background volumes to represent estimated traffic conditions for the short term 2023 horizon and long term 2040 horizon. These total traffic volumes for the project study area are illustrated for the 2023 and 2040 horizon years in **Figures 10** and **11**, respectively.



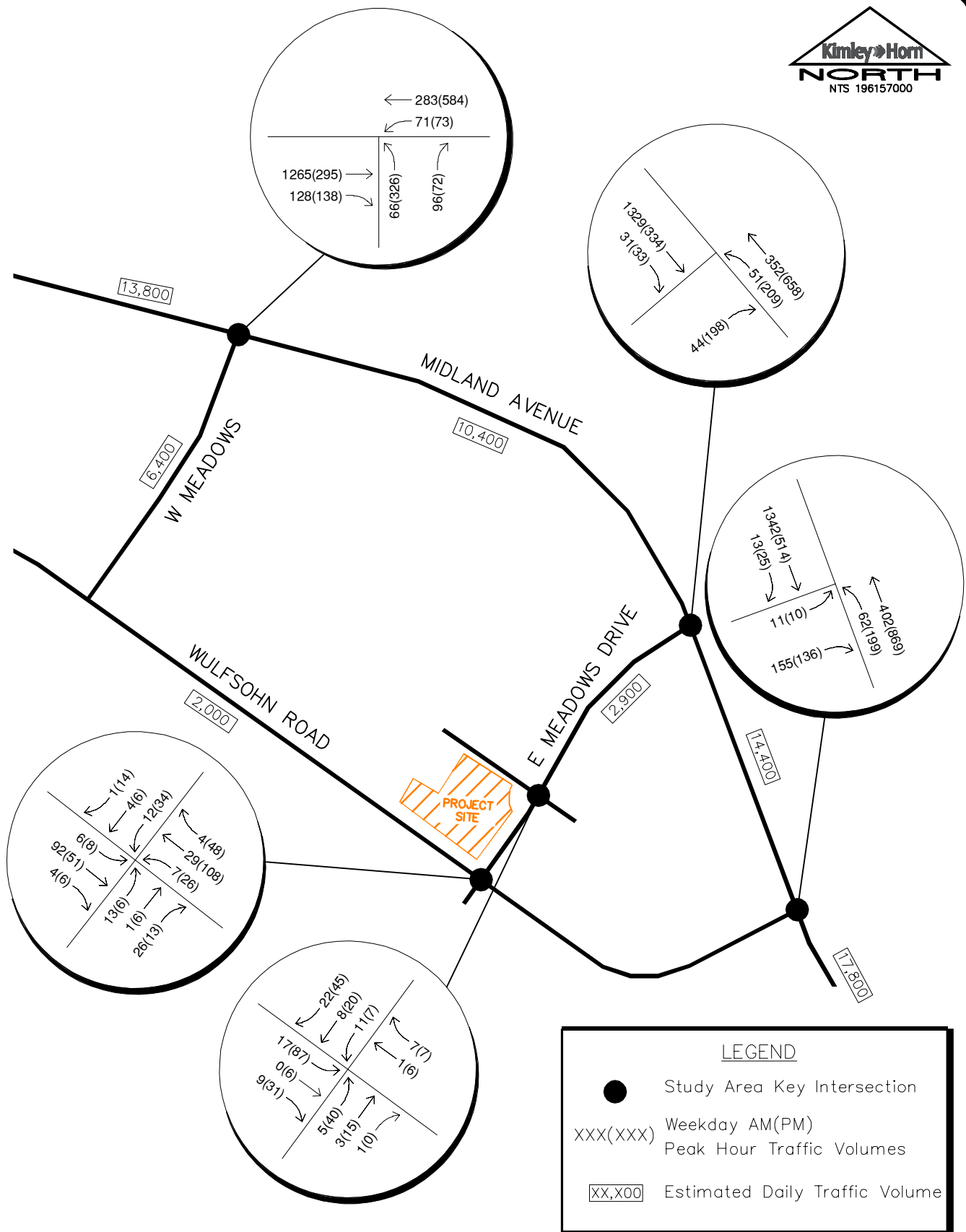
LOFTS AT RED MOUNTAIN – PHASE IV
 GLENWOOD SPRINGS, COLORADO
 PROJECT TRIP DISTRIBUTION

FIGURE 8



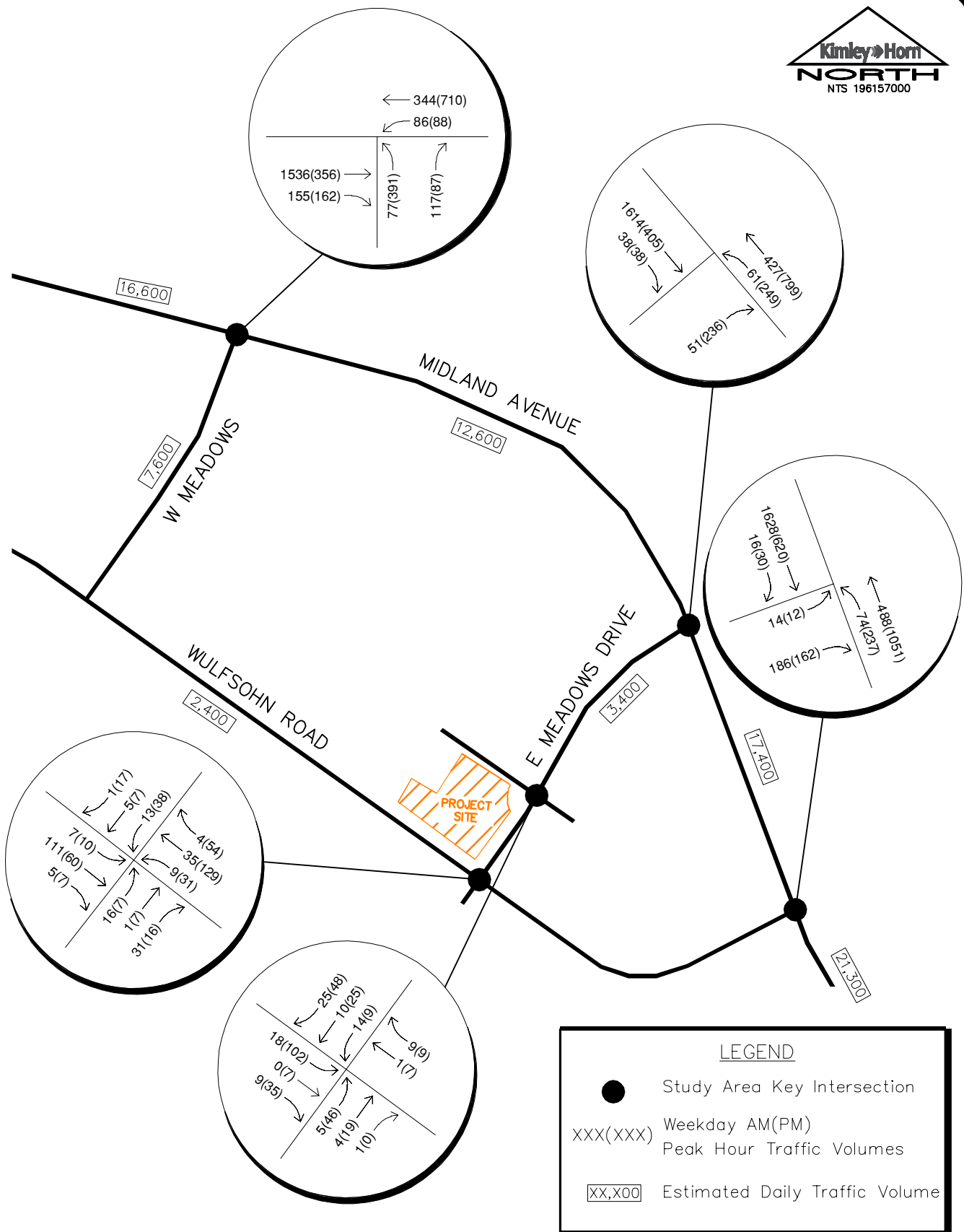
LOFTS AT RED MOUNTAIN – PHASE IV
 GLENWOOD SPRINGS, COLORADO
 PROJECT TRAFFIC ASSIGNMENT

FIGURE 9



LOFTS AT RED MOUNTAIN – PHASE IV
 GLENWOOD SPRINGS, COLORADO
 2023 TOTAL TRAFFIC VOLUMES

FIGURE 10



LOFTS AT RED MOUNTAIN – PHASE IV
 GLENWOOD SPRINGS, COLORADO
 2040 TOTAL TRAFFIC VOLUMES

FIGURE 11

5.0 TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies in the 2023 and 2040 development horizons at the identified key intersections and access driveways. The acknowledged source for determining overall capacity is the current edition of the *Highway Capacity Manual (HCM)*².

5.1 Analysis Methodology

Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). The City of Glenwood Springs has adopted LOS D as the minimum acceptable level of service for all movements and approaches when evaluating intersection operations. **Table 2** shows the definition of level of service for signalized and unsignalized intersections.

Table 2 – Level of Service Definitions

Level of Service	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (sec/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

Definitions provided from the Highway Capacity Manual, Sixth Edition, Transportation Research Board, 2016.

Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. Under the unsignalized analysis, the level of service (LOS) for a two-way stop-controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. Level of service for a two-way stop-controlled intersection is not defined for the intersection as a whole. Level of service for signalized, all-way stop controlled, and roundabout intersections is defined for each approach and for the overall intersection.

² Transportation Research Board, *Highway Capacity Manual*, Sixth Edition, Washington DC, 2016.

5.2 Key Intersection Operational Analysis

Calculations for the level of service at the key intersections for the study area are provided in **Appendix D**. The existing year analysis is based on the lane geometry and intersection control shown in **Figure 3**. The existing peak hour factors were utilized in the existing and short-term horizon (2023) analysis while the recommended HCM peak hour factor of 0.92 was used for the 2040 horizon analysis. Synchro traffic analysis software was used to analyze the signalized, roundabout, and unsignalized key intersections for level of service.

Midland Avenue and W Meadows

The intersection of Midland Avenue and W Meadows is a signalized three-leg T-intersection with the westbound left turn operating under protected-permissive phasing. This intersection currently operates acceptably with LOS D during the morning peak hour and LOS C during the afternoon peak hour. With the existing lane configuration and control, this intersection is anticipated to continue to operate acceptably with LOS D during the morning peak hour and LOS C during the afternoon peak hour with the addition of project traffic.

If future 2040 traffic volumes are realized, Midland Avenue may need to be widened to four-lanes to accommodate the increase in traffic. If this occurs, the eastbound right turn deceleration lane could be absorbed into the outside through lane. However, existing counts were conducted during the COVID-19 pandemic and a conservatively high 40 percent growth factor was applied to traffic in this area. Once the pandemic is over, it is recommended that new counts be conducted in the area and that an overall transportation master plan be conducted for this area to confirm the full extent of improvements needed to accommodate traffic by the long term horizon. **Table 3** shows the level of service results at this intersection.

Table 3 – Midland Avenue and W Meadows LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2021 Existing	36.4	D	22.1	C
2023 Background	40.8	D	22.9	C
2023 Background Plus Project	41.0	D	23.6	C
2040 Background	96.8	F	24.7	C
2040 Background #	17.8	B	27.7	C
2040 Background Plus Project #	17.9	B	28.1	C

= Midland Ave widened to 4-lanes

Wulfsohn Road and E Meadows Drive

The unsignalized intersection of Wulfsohn Road and E Meadows Drive operates with stop control on the north-south approaches of E Meadows Drive. All movements at this intersection currently operate acceptably with LOS B or better during the morning and afternoon peak hours. With construction of this project, the movements at this intersection are anticipated to continue operating acceptably throughout 2040 buildout with LOS B or better during both peak hours. **Table 4** shows the level of service results at this intersection.

Table 4 – Wulfsohn Road and E Meadows Drive LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2021 Existing				
Northbound Left	10.6	B	10.7	B
Northbound Through/Right	9.4	A	9.5	A
Eastbound Approach	7.3	A	7.5	A
Westbound Approach	7.6	A	7.4	A
Southbound Approach	10.6	B	10.5	B
2023 Background				
Northbound Left	10.7	B	10.9	B
Northbound Through/Right	9.5	A	9.6	A
Eastbound Approach	7.3	A	7.5	A
Westbound Approach	7.6	A	7.4	A
Southbound Approach	10.9	B	10.7	B
2023 Background Plus Project				
Northbound Left	10.7	B	11.0	B
Northbound Through/Right	9.5	A	9.7	A
Eastbound Approach	7.3	A	7.6	A
Westbound Approach	7.6	A	7.4	A
Southbound Approach	11.1	B	11.1	B
2040 Background				
Northbound Left	9.9	A	11.1	B
Northbound Through/Right	9.1	A	9.6	A
Eastbound Approach	7.3	A	7.6	A
Westbound Approach	7.5	A	7.4	A
Southbound Approach	10.1	B	10.9	B
2040 Background Plus Project				
Northbound Left	10.0	B	11.3	B
Northbound Through/Right	9.1	A	9.6	A
Eastbound Approach	7.3	A	7.6	A
Westbound Approach	7.5	A	7.4	A
Southbound Approach	10.2	B	11.3	B

E Meadows Drive Roundabout

The E Meadows Drive single lane roundabout operates under yield conditions for all approaches. The intersection consists of single approach lanes. All approaches at this intersection currently operate acceptably with LOS A during the morning and afternoon peak hours. With construction of this project, the approaches at this intersection are anticipated to operate acceptably throughout 2040 buildout with LOS A or better during both peak hours. **Table 5** shows the level of service results at this intersection.

Table 5 –E Meadows Drive Roundabout LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2021 Existing	2.8	A	3.3	A
Eastbound Approach	2.7	A	3.5	A
Westbound Approach	2.8	A	3.2	A
Northbound Approach	2.8	A	3.3	A
Southbound Approach	2.9	A	3.1	A
2023 Background	2.9	A	3.4	A
Eastbound Approach	2.9	A	3.6	A
Westbound Approach	2.8	A	3.3	A
Northbound Approach	2.8	A	3.4	A
Southbound Approach	2.9	A	3.2	A
2023 Background Plus Project	3.0	A	3.6	A
Eastbound Approach	3.0	A	3.8	A
Westbound Approach	2.8	A	3.4	A
Northbound Approach	2.8	A	3.5	A
Southbound Approach	3.0	A	3.4	A
2040 Background	2.8	A	3.4	A
Eastbound Approach	2.8	A	3.6	A
Westbound Approach	2.7	A	3.2	A
Northbound Approach	2.8	A	3.4	A
Southbound Approach	2.9	A	3.2	A
2040 Background Plus Project	2.9	A	3.6	A
Eastbound Approach	2.9	A	3.7	A
Westbound Approach	2.8	A	3.3	A
Northbound Approach	2.8	A	3.5	A
Southbound Approach	3.0	A	3.4	A

E Meadows Drive and Midland Avenue

The unsignalized three-quarter T-intersection of E Meadows Drive and Midland Avenue operates with stop control on the northbound approach of E Meadows Drive. All movements at this intersection currently operate acceptably with LOS D or better during the morning and afternoon peak hours. With construction of this project, the northbound right movement may operate at LOS E with 35.4 seconds of delay for 44 vehicles. Therefore, the City of Glenwood Springs may require construction of an acceleration lane along eastbound Midland Avenue. This acceleration lane will need to provide a length of 150 feet plus 120-foot taper. This will likely require reconstruction of the existing channelized median island in the E Meadows Drive throat of the intersection. If 2040 volumes are realized, Midland Avenue may need to be improved to provide two through lanes in each direction. If this occurs, the separate eastbound right turn deceleration lane and possible eastbound acceleration lane could be absorbed into the outside through lane. It is recommended that this configuration be further studied in the future by the City of Glenwood Springs. **Table 6** shows the level of service results at this intersection.

Table 6 –E Meadows Drive and Midland Avenue LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2021 Existing				
Northbound Right	30.6	D	12.6	B
Westbound Left	13.2	B	8.8	A
2023 Background				
Northbound Right	34.1	D	12.9	B
Westbound Left	13.5	B	8.9	A
2023 Background Plus Project				
Northbound Right	35.4	E	13.2	B
Westbound Left	13.6	B	9.1	A
2023 Background Plus Project #				
Northbound Right	0.0	A	0.0	B
Westbound Left	13.6	B	9.1	A
2040 Background				
Northbound Right	57.7	F	14.5	B
Westbound Left	16.8	C	9.3	A
2040 Background ##				
Northbound Right	19.5	C	11.9	B
Westbound Left	16.9	C	9.3	A
2040 Background Plus Project ##				
Northbound Right	19.8	C	12.1	B
Westbound Left	17.1	C	9.5	A

= Northbound to Eastbound Free Right Turn with Acceleration Lane

= Midland Ave widened to 4-lanes

Wulfsohn Road and Midland Avenue

The unsignalized T-intersection of Wulfsohn Road and Midland Avenue operates with stop control on the eastbound approach of Wulfsohn Road. Of note, it is recommended that the existing free northbound right turn movement at the intersection of Midland Avenue and Wulfsohn Road be better designated to fully operate as a “FREE” lane. To accomplish this, it is recommended that improved channelized striping or a median be provided designating the left edge for the right turning vehicles. All movements at this intersection currently operate acceptably with LOS D or better during the morning and afternoon peak hours. By 2023, the northbound left turn may operate at LOS E with 38.6 seconds of delay for 10 projected left turning vehicles. If drivers choose to re-route, the signalized intersection of Midland Avenue and W Meadows has additional capacity for these volumes. Again, if future 2040 traffic volumes are realized, Midland Avenue may need to be a four-lane roadway to provide acceptable traffic operations. If this occurs, the separate eastbound right turn deceleration lane could be absorbed into the outside through lane. However, the eastbound acceleration lane along Midland Avenue from the northbound right turn would need to be replaced. It is recommended that this configuration be further studied in the future by the City of Glenwood Springs. **Table 7** shows the level of service results at this intersection.

Table 7 – Wulfsohn Road and Midland Avenue LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2021 Existing				
Northbound Left	26.9	D	34.4	D
Westbound Left	12.9	B	9.5	A
2023 Background				
Northbound Left	28.0	D	37.6	E
Westbound Left	13.3	B	9.7	A
2023 Background Plus Project				
Northbound Left	28.3	D	41.1	E
Westbound Left	13.4	B	9.9	A
2040 Background				
Northbound Left	39.0	E	43.7	E
Westbound Left	16.8	C	10.4	B
2040 Background #				
Northbound Left	42.9	E	29.5	D
Westbound Left	16.9	C	10.4	B
2040 Background Plus Project #				
Northbound Left	43.3	E	31.7	D
Westbound Left	17.1	C	10.7	B

= Midland Ave widened to 4-lanes

5.3 Vehicle Queuing Analysis

A vehicle queuing analysis was conducted for the study area intersections. The queuing analysis was performed using Synchro presenting the results of the 95th percentile queue lengths. Results are shown in the following **Table 8** with calculations provided within the level of service operational sheets of **Appendix D** for unsignalized intersections and **Appendix E** for signalized intersections.

Table 8 – Turn Lane Queuing Analysis Results

Intersection Turn Lane	Existing Turn Lane Length (feet)	2023 Calculated Queue (feet)	2023 Recommended Length (feet)	2040 Calculated Queue (feet)	2040 Recommended Length (feet)
W Meadows & Midland Ave					
Eastbound Right	150'	34'	150'	#	#
Westbound Left	200'	69'	200'	79'	200'
Northbound Right	100'	32'	100'	54'	100'
Wulfsohn Rd & E Meadows					
Northbound Left	50'	25'	50'	25'	50'
Midland Ave & E Meadows					
Westbound Left	250'	25'	250'	25'	250'
Midland Ave & Wulfsohn Rd					
Northbound Left	275'	25'	275'	25'	275'
Westbound Left	250'	25'	250'	50'	250'

Separate Eastbound Right Turn Deceleration Lane Removed when Midland Avenue widened to two-through lanes in each direction

As shown in the table representing the queuing results, none of the queues are projected to extend past the provided storage bays available during the short-term or long-term study horizons. Therefore, no modifications to turn lane lengths are anticipated to be needed.

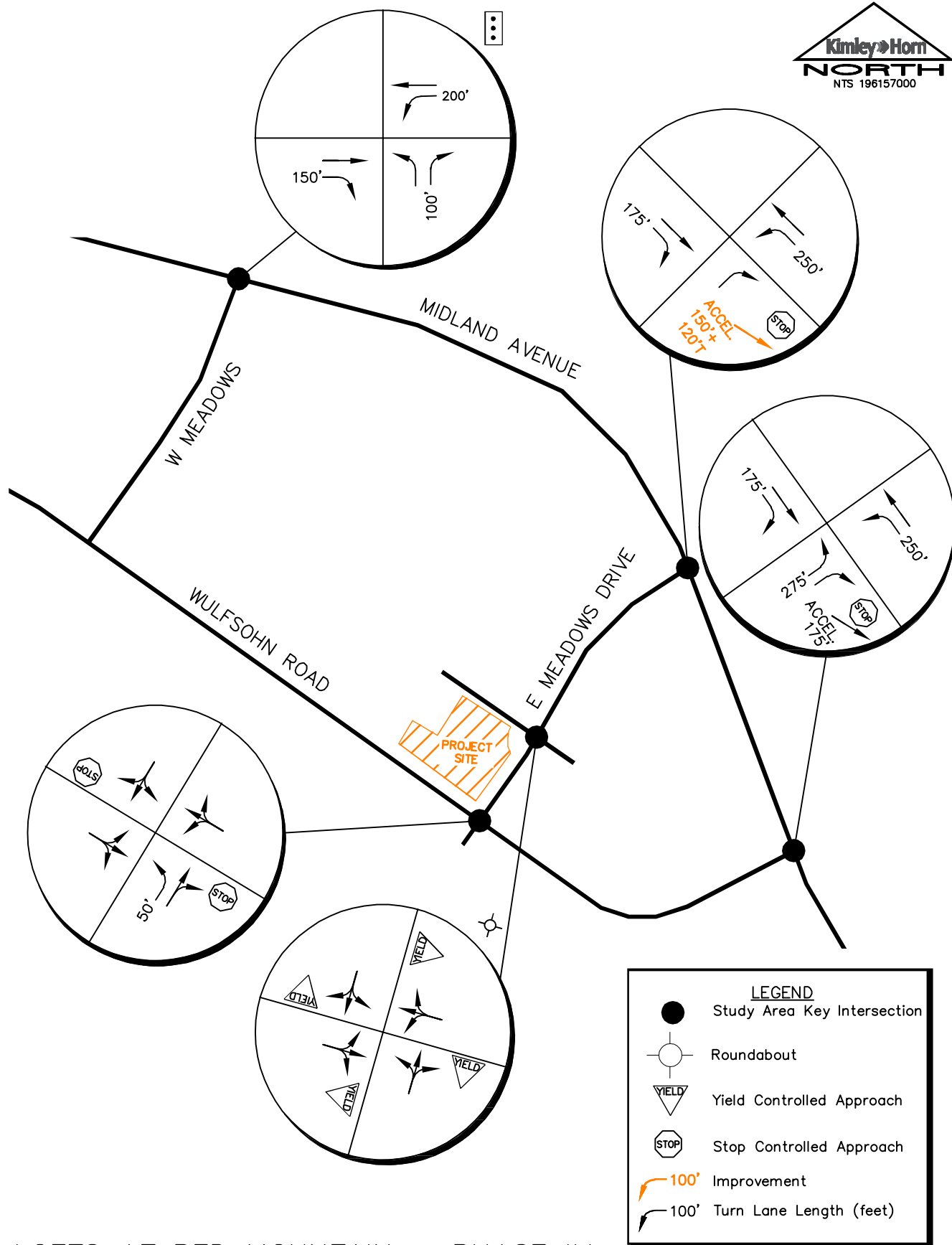
5.4 Bicycle and Pedestrian Access

Bicycle and pedestrian access evaluations were conducted for the area surrounding the proposed project site. There are no designated bicycle lanes on either side of Midland Avenue or Wulfsohn Road. There is a 12-foot sidewalk that is a multi-use trail along the south side of Midland Avenue from the east and west connections to Wulfsohn Road. There is a sidewalk on the north side of Wulfsohn Road from the east and west connections to Midland Avenue. There are sidewalks on the east and west sides of W Meadow and E Meadows Drive, in addition, there are crosswalks provided at the roundabout along E Meadows Drive. At the intersection of Midland Avenue and W Meadows, Midland Avenue and E Meadows Drive, and Midland Avenue

and Wulfsohn Road, there are at-grade crosswalks and below-grade crossings/trails. In the future, the Glenwood Spring's Long Rang Transportation Master Plan identifies Midland Avenue as providing on-street bike facilities. No additional offsite pedestrian or bicycle improvements are anticipated to be needed with the addition of the Lofts at Red Mountain – Phase IV project.

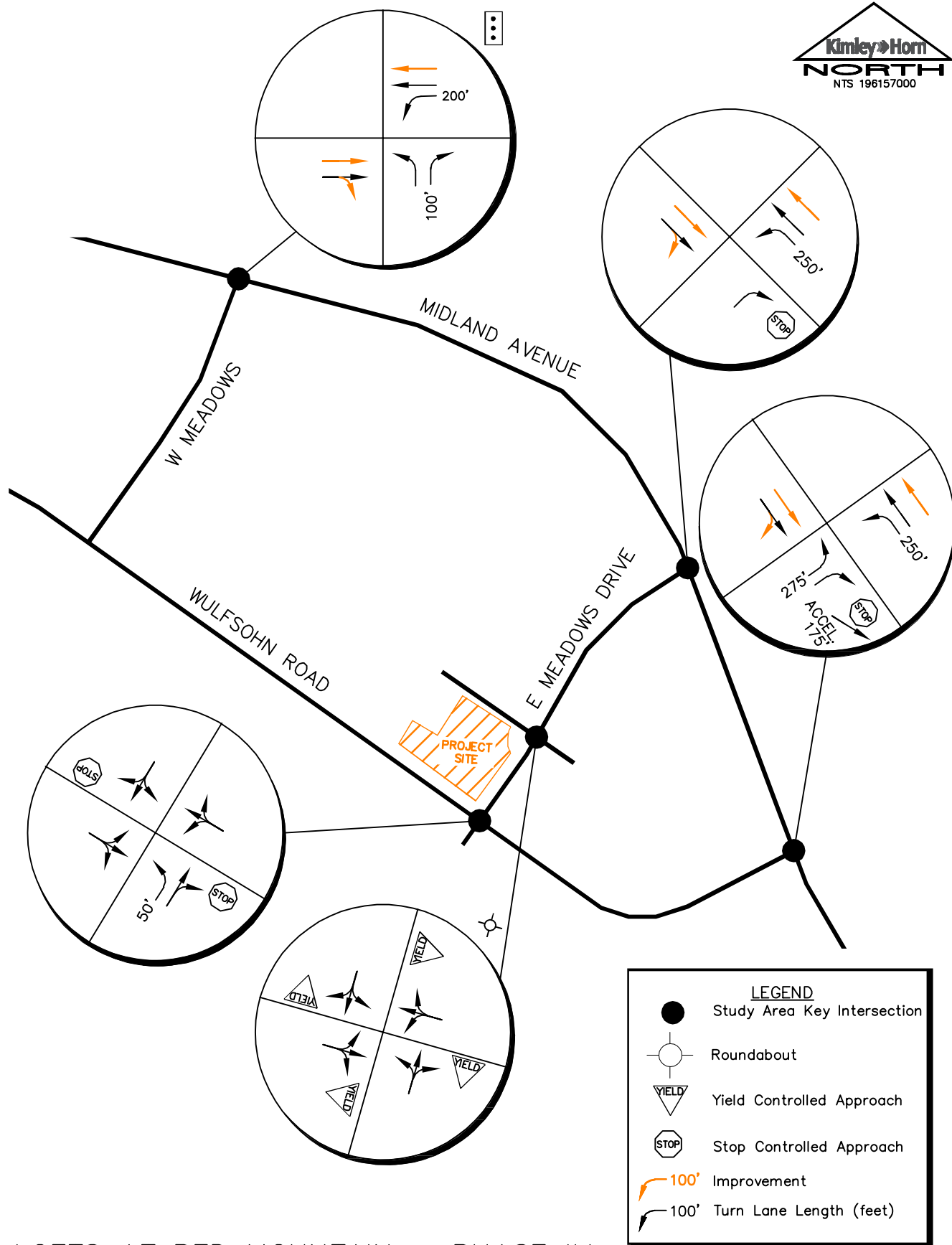
5.5 Improvement Summary

Based on the results of the intersection operational and vehicle queuing analysis, the key intersection recommended improvements and control for the 2023 build out and 2040 long-term horizon years are shown in **Figures 12** and **13**, respectively.



LOFTS AT RED MOUNTAIN – PHASE IV
 GLENWOOD SPRINGS, COLORADO
 2023 RECOMMENDATIONS

FIGURE 12



LOFTS AT RED MOUNTAIN – PHASE IV
GLENWOOD SPRINGS, COLORADO
2040 RECOMMENDATIONS

FIGURE 13

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, Kimley-Horn believes the Lofts at Red Mountain – Phase IV will be successfully incorporated into the existing and future roadway network. The proposed project development resulted in the following recommendations and conclusions:

- At the Midland Avenue and E Meadows Drive intersection, a 150-foot plus 120-foot taper eastbound acceleration lane is recommended along Midland Avenue, so the northbound right turn operates with free turning movements. This will likely require reconstruction of the existing channelized median island in the E Meadows Drive throat of the intersection.
- It is recommended that the existing free northbound right turn movement at the intersection of Midland Avenue and Wulfsohn Road be better designated to fully operate as a “FREE” lane. To accomplish this, it is recommended that improved channelized striping or a median be provided designating the left edge for the right turning vehicles.
- If future 2040 volumes are realized, Midland Avenue may need to be widened to four-lanes to accommodate the increase in traffic. If this occurs, all of the eastbound right turn acceleration and deceleration lanes could be absorbed at the study intersections with exception of the eastbound right turn acceleration lane from the northbound right turn at the Midland Avenue and Wulfsohn Road intersection which would need to be reconstructed. Existing counts were conducted during the COVID-19 pandemic and a conservatively high 40 percent pandemic factor was applied to traffic in this area to represent normal traffic conditions. Once the pandemic is over, it is recommended that new counts be conducted in the area and that an overall transportation master plan be conducted for this area to confirm the full extent of improvements needed to accommodate traffic by the long term horizon.
- Any on-site or offsite improvements should be incorporated into the Civil Drawings and conform to the standards of the City of Glenwood Springs and the Manual on Uniform Traffic Control Devices (MUTCD) – 2009 Edition.

APPENDICES

APPENDIX A

Intersection Count Sheets



Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
AM Peak
E Meadows Dr & Wolfsohn Rd

File Name : E Meadows and Wulfsohn AM
Site Code : IPO 526
Start Date : 2/18/2021
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

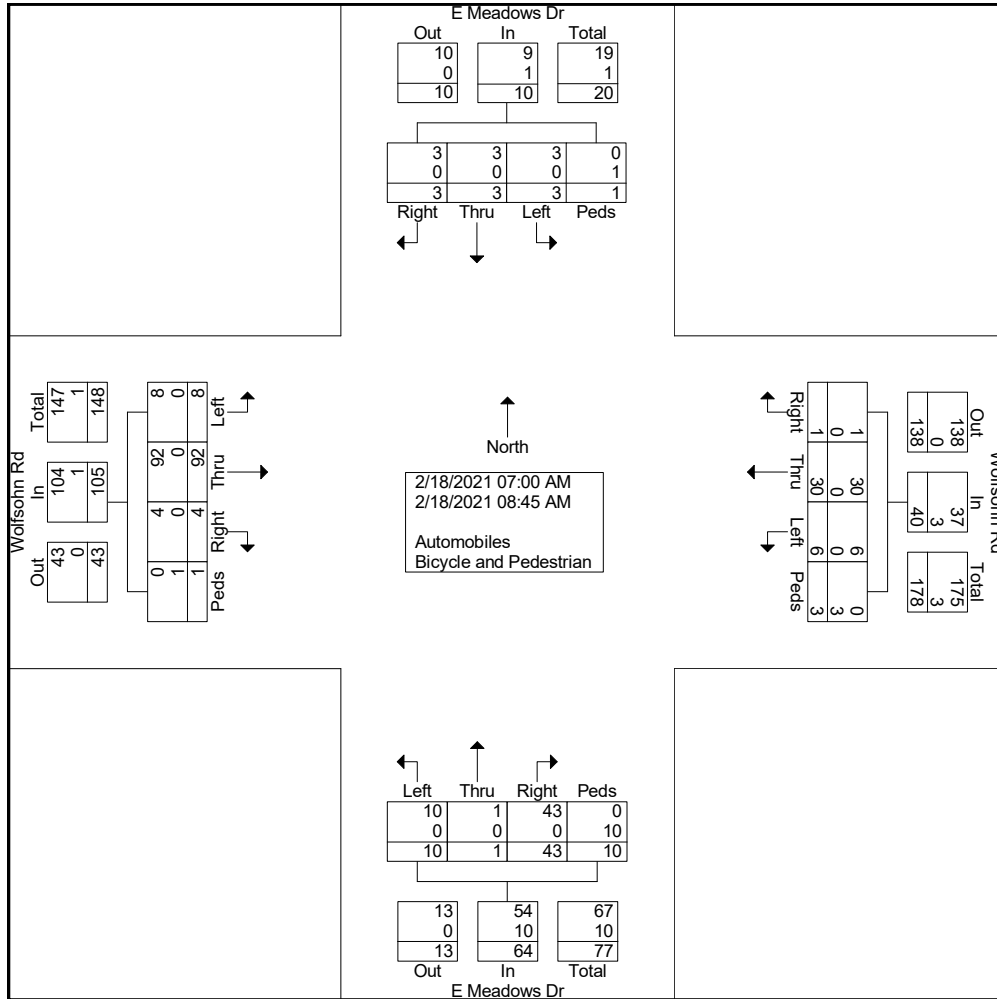
	Wolfsohn Rd Eastbound					Wolfsohn Rd Westbound					E Meadows Dr Northbound					E Meadows Dr Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	5	0	0	6	1	1	1	0	3	1	0	4	2	7	0	0	0	0	0	16
07:15 AM	1	9	0	0	10	0	1	0	0	1	0	0	4	2	6	0	0	0	0	0	17
07:30 AM	1	10	1	1	13	0	2	0	0	2	0	0	17	1	18	0	0	2	1	3	36
07:45 AM	1	6	0	0	7	0	7	0	0	7	0	0	0	2	2	0	0	0	0	0	16
Total	4	30	1	1	36	1	11	1	0	13	1	0	25	7	33	0	0	2	1	3	85
08:00 AM	0	8	0	0	8	2	5	0	0	7	3	1	3	0	7	2	1	0	0	3	25
08:15 AM	0	6	0	0	6	0	8	0	3	11	4	0	6	3	13	1	1	0	0	2	32
08:30 AM	3	29	2	0	34	1	3	0	0	4	1	0	4	0	5	0	1	0	0	1	44
08:45 AM	1	19	1	0	21	2	3	0	0	5	1	0	5	0	6	0	0	1	0	1	33
Total	4	62	3	0	69	5	19	0	3	27	9	1	18	3	31	3	3	1	0	7	134
Grand Total	8	92	4	1	105	6	30	1	3	40	10	1	43	10	64	3	3	3	1	10	219
Apprch %	7.6	87.6	3.8	1		15	75	2.5	7.5		15.6	1.6	67.2	15.6		30	30	30	10		
Total %	3.7	42	1.8	0.5	47.9	2.7	13.7	0.5	1.4	18.3	4.6	0.5	19.6	4.6	29.2	1.4	1.4	1.4	0.5	4.6	
Automobiles	8	92	4	0	104	6	30	1	0	37	10	1	43	0	54	3	3	3	0	9	204
% Automobiles	100	100	100	0	99	100	100	100	0	92.5	100	100	100	0	84.4	100	100	100	0	90	93.2
Bicycle and Pedestrian	0	0	0	1	1	0	0	0	3	3	0	0	0	10	10	0	0	0	1	1	15
% Bicycle and Pedestrian	0	0	0	100	1	0	0	0	100	7.5	0	0	0	100	15.6	0	0	0	100	10	6.8



Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
AM Peak
E Meadows Dr & Wolfsohn Rd

File Name : E Meadows and Wulfsohn AM
Site Code : IPO 526
Start Date : 2/18/2021
Page No : 2



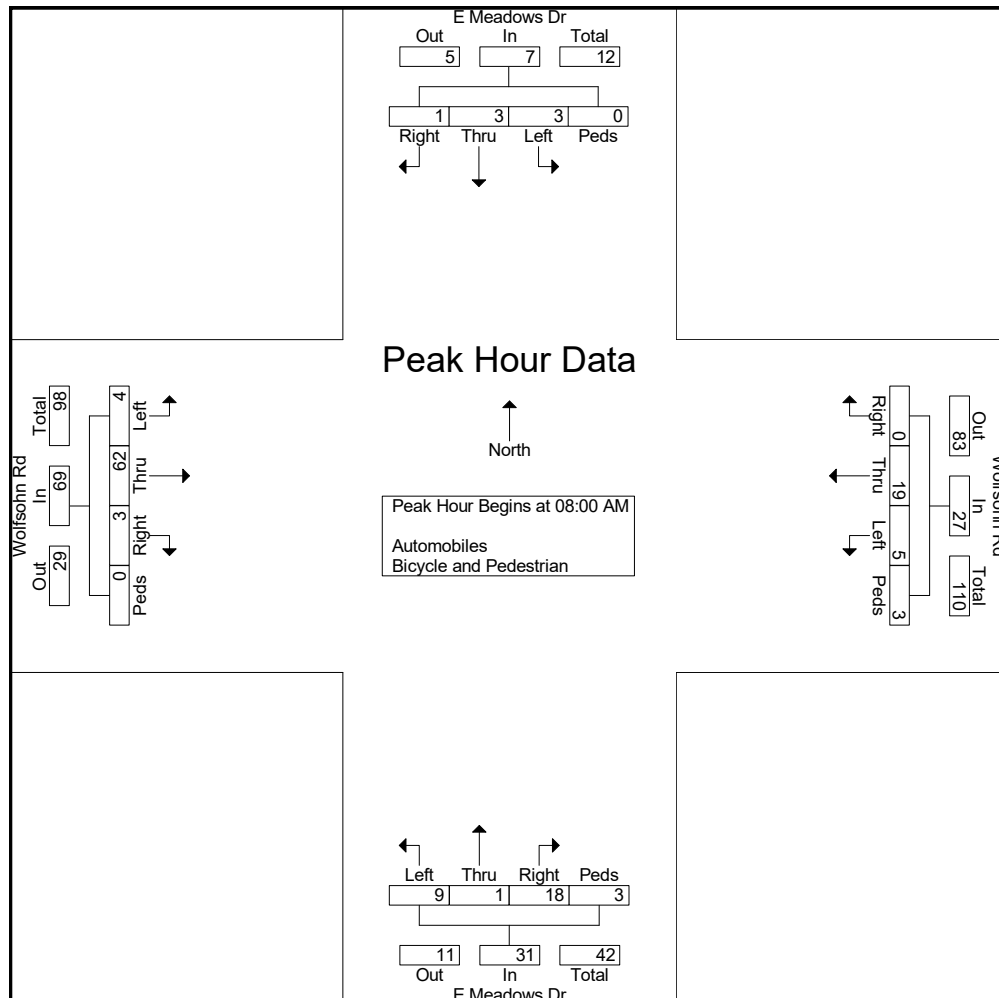


Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
AM Peak
E Meadows Dr & Wolfsohn Rd

File Name : E Meadows and Wulfsohn AM
Site Code : IPO 526
Start Date : 2/18/2021
Page No : 3

	Wolfsohn Rd Eastbound					Wolfsohn Rd Westbound					E Meadows Dr Northbound					E Meadows Dr Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	8	0	0	8	2	5	0	0	7	3	1	3	0	7	2	1	0	0	3	25
08:15 AM	0	6	0	0	6	0	8	0	3	11	4	0	6	3	13	1	1	0	0	2	32
08:30 AM	3	29	2	0	34	1	3	0	0	4	1	0	4	0	5	0	1	0	0	1	44
08:45 AM	1	19	1	0	21	2	3	0	0	5	1	0	5	0	6	0	0	1	0	1	33
Total Volume	4	62	3	0	69	5	19	0	3	27	9	1	18	3	31	3	3	1	0	7	134
% App. Total	5.8	89.9	4.3	0		18.5	70.4	0	11.1		29	3.2	58.1	9.7		42.9	42.9	14.3	0		
PHF	.333	.534	.375	.000	.507	.625	.594	.000	.250	.614	.563	.250	.750	.250	.596	.375	.750	.250	.000	.583	.761





Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
PM Peak
E Meadows Dr & Wolfsohn Rd

File Name : E Meadows and Wulfsohn PM
Site Code : IPO 526
Start Date : 2/17/2021
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

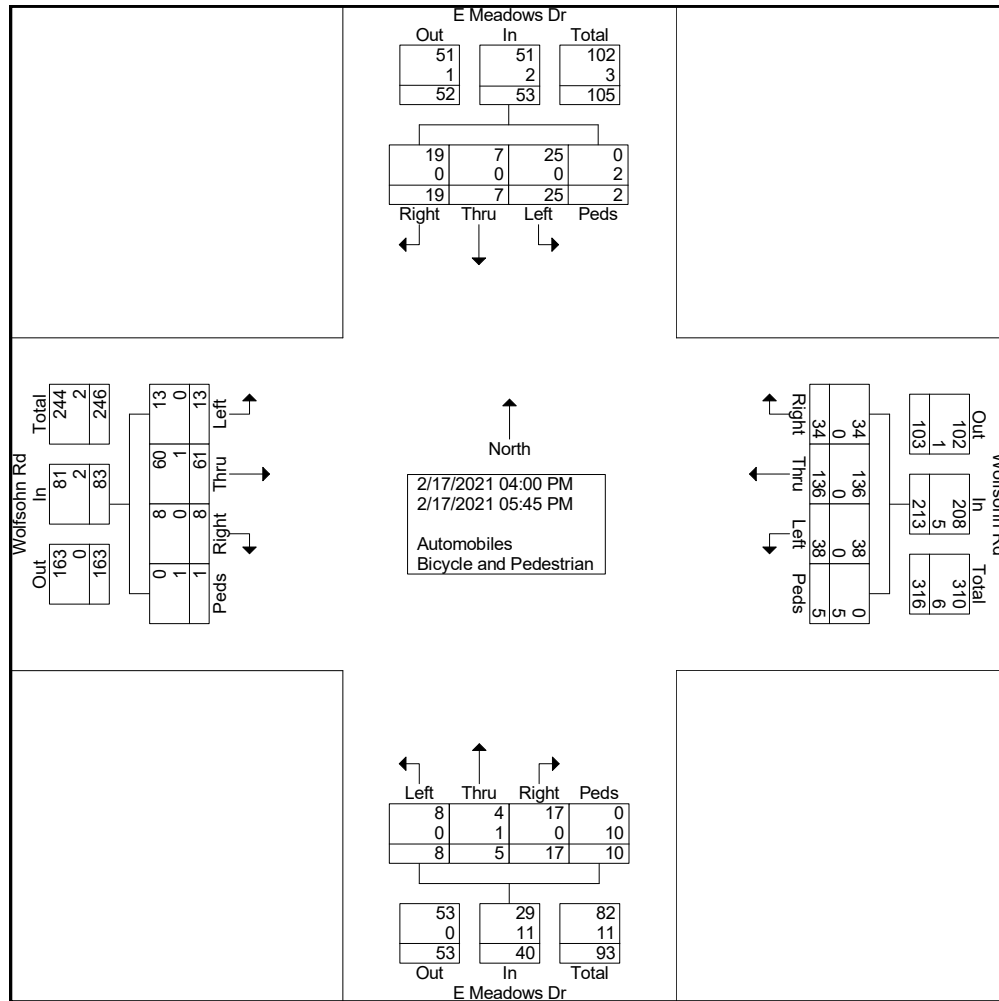
	Wolfsohn Rd Eastbound					Wolfsohn Rd Westbound					E Meadows Dr Northbound					E Meadows Dr Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:00 PM	1	6	0	0	7	4	21	5	0	30	1	1	1	1	4	4	2	3	0	9	50
04:15 PM	1	12	1	1	15	4	14	6	0	24	0	1	1	2	4	5	1	0	1	7	50
04:30 PM	3	8	1	0	12	5	16	6	2	29	2	1	4	2	9	2	0	2	0	4	54
04:45 PM	1	5	2	0	8	5	18	5	0	28	1	1	3	0	5	4	1	5	0	10	51
Total	6	31	4	1	42	18	69	22	2	111	4	4	9	5	22	15	4	10	1	30	205
05:00 PM	1	8	3	0	12	3	14	1	0	18	0	1	2	1	4	1	2	2	0	5	39
05:15 PM	3	8	0	0	11	7	20	4	2	33	0	0	1	1	2	4	1	1	0	6	52
05:30 PM	2	5	0	0	7	2	20	2	1	25	3	0	3	1	7	2	0	3	0	5	44
05:45 PM	1	9	1	0	11	8	13	5	0	26	1	0	2	2	5	3	0	3	1	7	49
Total	7	30	4	0	41	20	67	12	3	102	4	1	8	5	18	10	3	9	1	23	184
Grand Total	13	61	8	1	83	38	136	34	5	213	8	5	17	10	40	25	7	19	2	53	389
Apprch %	15.7	73.5	9.6	1.2		17.8	63.8	16	2.3		20	12.5	42.5	25		47.2	13.2	35.8	3.8		
Total %	3.3	15.7	2.1	0.3	21.3	9.8	35	8.7	1.3	54.8	2.1	1.3	4.4	2.6	10.3	6.4	1.8	4.9	0.5	13.6	
Automobiles	13	60	8	0	81	38	136	34	0	208	8	4	17	0	29	25	7	19	0	51	369
% Automobiles	100	98.4	100	0	97.6	100	100	100	0	97.7	100	80	100	0	72.5	100	100	100	0	96.2	94.9
Bicycle and Pedestrian	0	1	0	1	2	0	0	0	5	5	0	1	0	10	11	0	0	0	2	2	20
% Bicycle and Pedestrian	0	1.6	0	100	2.4	0	0	0	100	2.3	0	20	0	100	27.5	0	0	0	100	3.8	5.1



Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
PM Peak
E Meadows Dr & Wolfsohn Rd

File Name : E Meadows and Wulfsohn PM
Site Code : IPO 526
Start Date : 2/17/2021
Page No : 2



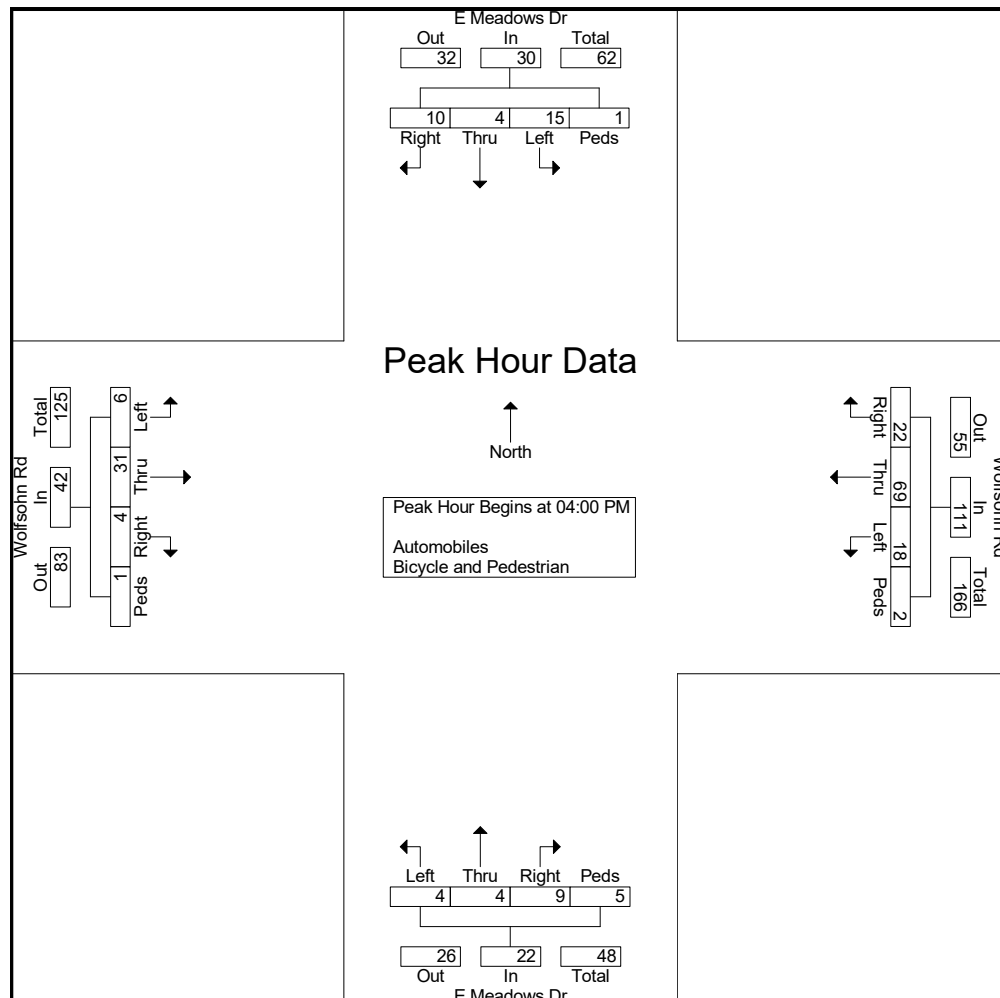


Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
PM Peak
E Meadows Dr & Wolfsohn Rd

File Name : E Meadows and Wulfsohn PM
Site Code : IPO 526
Start Date : 2/17/2021
Page No : 3

	Wolfsohn Rd Eastbound					Wolfsohn Rd Westbound					E Meadows Dr Northbound					E Meadows Dr Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	1	6	0	0	7	4	21	5	0	30	1	1	1	1	4	4	2	3	0	9	50
04:15 PM	1	12	1	1	15	4	14	6	0	24	0	1	1	2	4	5	1	0	1	7	50
04:30 PM	3	8	1	0	12	5	16	6	2	29	2	1	4	2	9	2	0	2	0	4	54
04:45 PM	1	5	2	0	8	5	18	5	0	28	1	1	3	0	5	4	1	5	0	10	51
Total Volume	6	31	4	1	42	18	69	22	2	111	4	4	9	5	22	15	4	10	1	30	205
% App. Total	14.3	73.8	9.5	2.4		16.2	62.2	19.8	1.8		18.2	18.2	40.9	22.7		50	13.3	33.3	3.3		
PHF	.500	.646	.500	.250	.700	.900	.821	.917	.250	.925	.500	1.0 0	.563	.625	.611	.750	.500	.500	.250	.750	.949





Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
AM Peak
E Meadows Dr Roundabout

File Name : E Meadows Roundabout AM
Site Code : IPO 526
Start Date : 2/18/2021
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

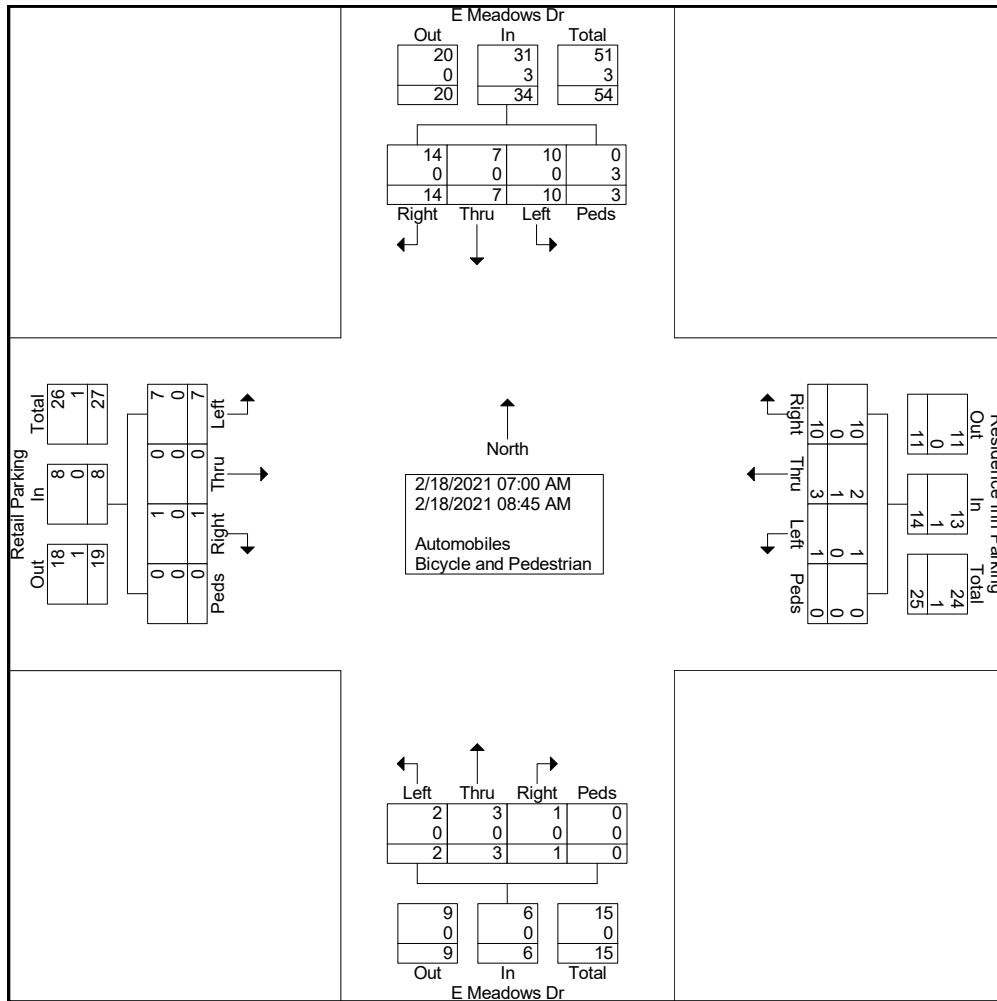
	Retail Parking Eastbound					Residence Inn Parking Westbound					E Meadows Dr Northbound					E Meadows Dr Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	3
07:15 AM	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	4
07:30 AM	0	0	0	0	0	0	1	2	0	3	0	1	0	0	1	1	1	0	0	2	6
07:45 AM	1	0	0	0	1	1	1	0	0	2	0	0	0	0	0	1	0	3	0	4	7
Total	3	0	0	0	3	1	2	5	0	8	1	1	0	0	2	2	1	4	0	7	20
08:00 AM	1	0	1	0	2	0	0	1	0	1	0	1	0	0	1	4	2	1	2	9	13
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	3	0	7	7
08:30 AM	2	0	0	0	2	0	0	2	0	2	0	1	1	0	2	2	1	2	1	6	12
08:45 AM	1	0	0	0	1	0	1	2	0	3	1	0	0	0	1	0	1	4	0	5	10
Total	4	0	1	0	5	0	1	5	0	6	1	2	1	0	4	8	6	10	3	27	42
Grand Total	7	0	1	0	8	1	3	10	0	14	2	3	1	0	6	10	7	14	3	34	62
Apprch %	87.5	0	12.5	0		7.1	21.4	71.4	0		33.3	50	16.7	0		29.4	20.6	41.2	8.8		
Total %	11.3	0	1.6	0	12.9	1.6	4.8	16.1	0	22.6	3.2	4.8	1.6	0	9.7	16.1	11.3	22.6	4.8	54.8	
Automobiles	7	0	1	0	8	1	2	10	0	13	2	3	1	0	6	10	7	14	0	31	58
% Automobiles	100	0	100	0	100	100	66.7	100	0	92.9	100	100	100	0	100	100	100	100	0	91.2	93.5
Bicycle and Pedestrian	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3	3	4
% Bicycle and Pedestrian	0	0	0	0	0	0	33.3	0	0	7.1	0	0	0	0	0	0	0	0	100	8.8	6.5



Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
AM Peak
E Meadows Dr Roundabout

File Name : E Meadows Roundabout AM
Site Code : IPO 526
Start Date : 2/18/2021
Page No : 2



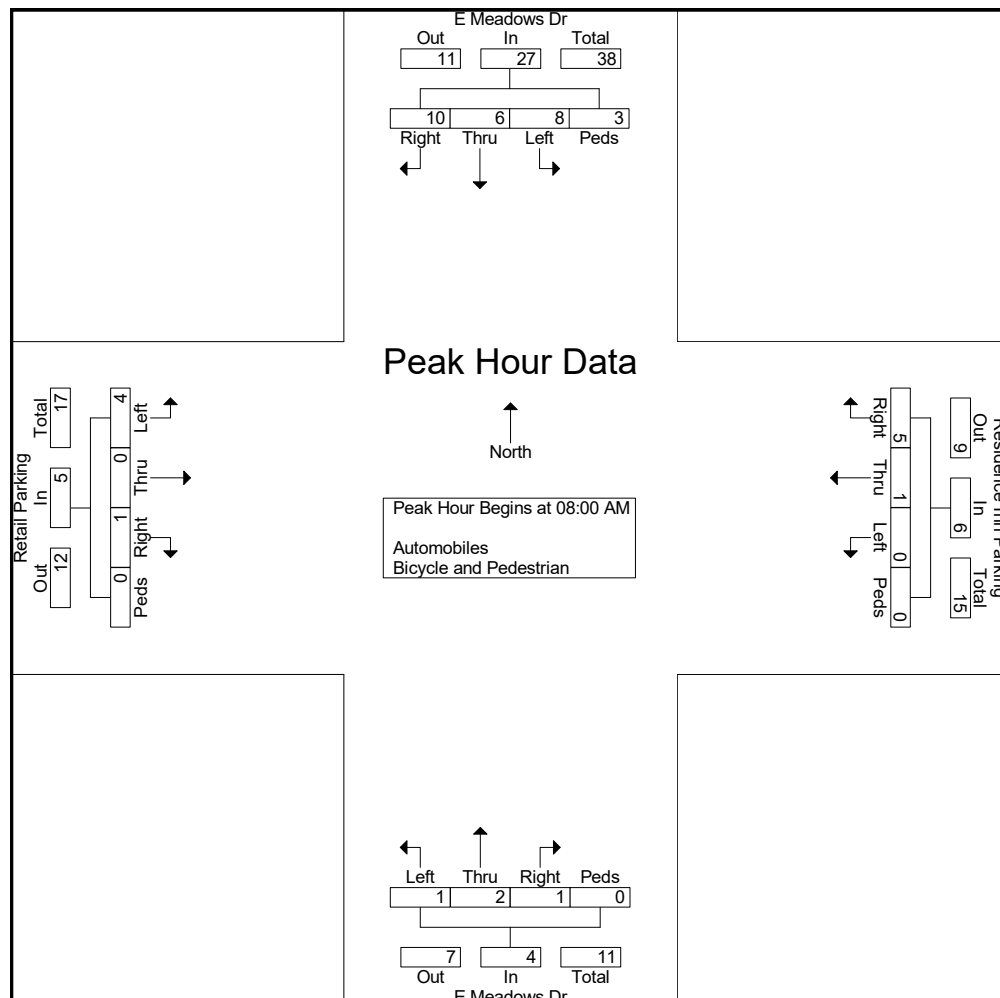


Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
AM Peak
E Meadows Dr Roundabout

File Name : E Meadows Roundabout AM
Site Code : IPO 526
Start Date : 2/18/2021
Page No : 3

	Retail Parking Eastbound					Residence Inn Parking Westbound					E Meadows Dr Northbound					E Meadows Dr Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	1	0	1	0	2	0	0	1	0	1	0	1	0	0	1	4	2	1	2	9	13
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	3	0	7	7
08:30 AM	2	0	0	0	2	0	0	2	0	2	0	1	1	0	2	2	1	2	1	6	12
08:45 AM	1	0	0	0	1	0	1	2	0	3	1	0	0	0	1	0	1	4	0	5	10
Total Volume	4	0	1	0	5	0	1	5	0	6	1	2	1	0	4	8	6	10	3	27	42
% App. Total	80	0	20	0		0	16.7	83.3	0		25	50	25	0		29.6	22.2	37	11.1		
PHF	.500	.000	.250	.000	.625	.000	.250	.625	.000	.500	.250	.500	.250	.000	.500	.500	.750	.625	.375	.750	.808





Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
PM Peak
E Meadows Dr Roundabout

File Name : E Meadows Roundabout PM
Site Code : IPO 526
Start Date : 2/17/2021
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

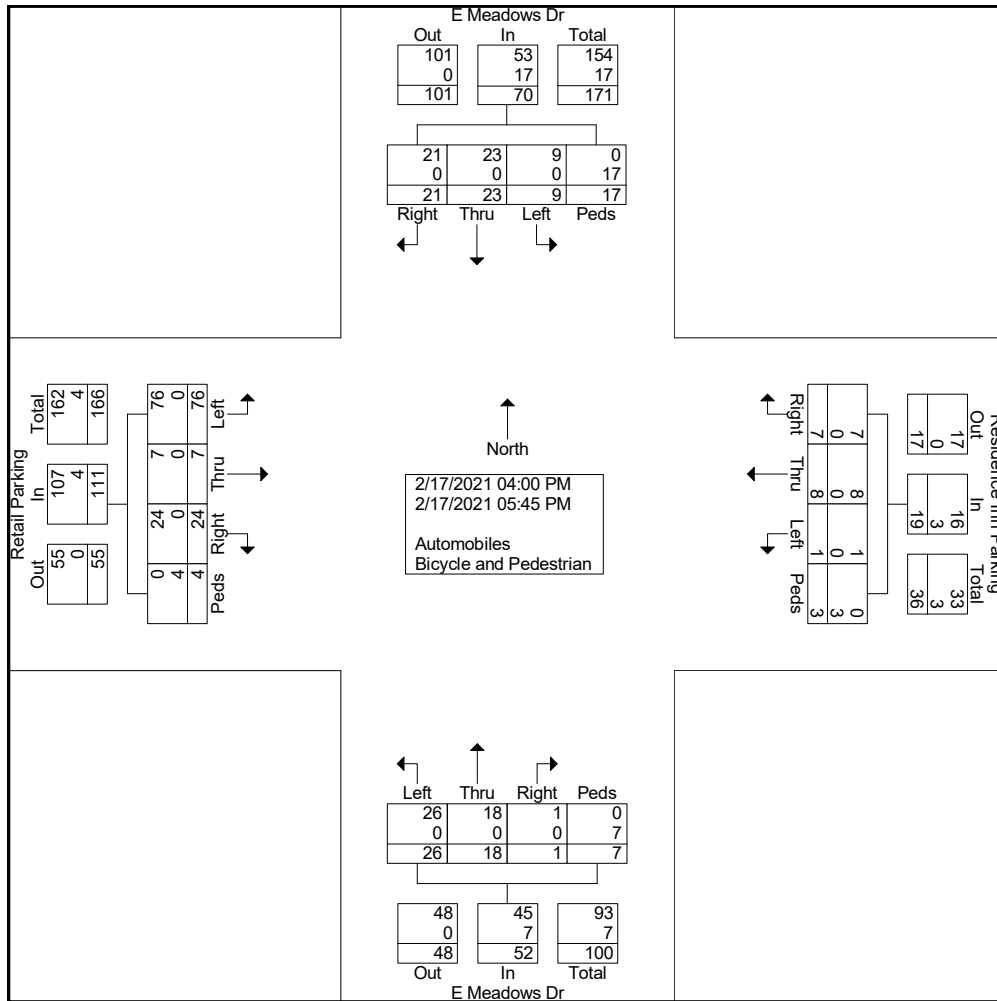
	Retail Parking Eastbound					Residence Inn Parking Westbound					E Meadows Dr Northbound					E Meadows Dr Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:00 PM	11	1	2	0	14	0	2	3	1	6	4	3	0	0	7	1	5	4	3	13	40
04:15 PM	12	0	3	0	15	0	0	1	1	2	3	3	0	0	6	0	3	3	4	10	33
04:30 PM	13	2	1	0	16	0	0	0	0	0	4	4	0	0	8	1	4	1	3	9	33
04:45 PM	12	1	7	2	22	0	2	1	0	3	6	1	0	2	9	3	2	1	2	8	42
Total	48	4	13	2	67	0	4	5	2	11	17	11	0	2	30	5	14	9	12	40	148
05:00 PM	9	2	4	0	15	0	1	0	0	1	1	1	0	0	2	1	1	3	0	5	23
05:15 PM	5	0	3	0	8	0	1	1	1	3	2	4	0	0	6	1	3	5	5	14	31
05:30 PM	8	0	2	0	10	1	1	1	0	3	2	2	0	4	8	1	1	1	0	3	24
05:45 PM	6	1	2	2	11	0	1	0	0	1	4	0	1	1	6	1	4	3	0	8	26
Total	28	3	11	2	44	1	4	2	1	8	9	7	1	5	22	4	9	12	5	30	104
Grand Total	76	7	24	4	111	1	8	7	3	19	26	18	1	7	52	9	23	21	17	70	252
Apprch %	68.5	6.3	21.6	3.6		5.3	42.1	36.8	15.8		50	34.6	1.9	13.5		12.9	32.9	30	24.3		
Total %	30.2	2.8	9.5	1.6	44	0.4	3.2	2.8	1.2	7.5	10.3	7.1	0.4	2.8	20.6	3.6	9.1	8.3	6.7	27.8	
Automobiles	76	7	24	0	107	1	8	7	0	16	26	18	1	0	45	9	23	21	0	53	221
% Automobiles	100	100	100	0	96.4	100	100	100	0	84.2	100	100	100	0	86.5	100	100	100	0	75.7	87.7
Bicycle and Pedestrian	0	0	0	4	4	0	0	0	3	3	0	0	0	7	7	0	0	0	17	17	31
% Bicycle and Pedestrian	0	0	0	100	3.6	0	0	0	100	15.8	0	0	0	100	13.5	0	0	0	100	24.3	12.3



Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
PM Peak
E Meadows Dr Roundabout

File Name : E Meadows Roundabout PM
Site Code : IPO 526
Start Date : 2/17/2021
Page No : 2



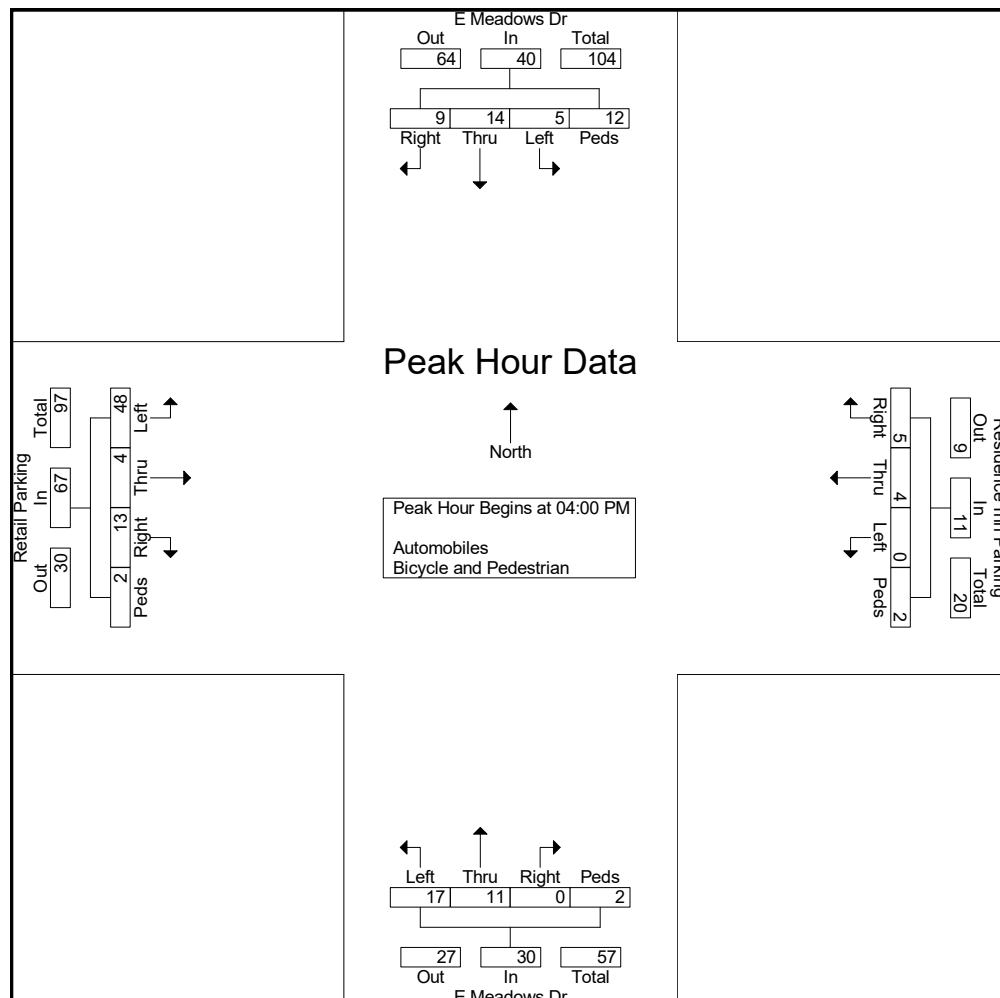


Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
PM Peak
E Meadows Dr Roundabout

File Name : E Meadows Roundabout PM
Site Code : IPO 526
Start Date : 2/17/2021
Page No : 3

	Retail Parking Eastbound					Residence Inn Parking Westbound					E Meadows Dr Northbound					E Meadows Dr Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	11	1	2	0	14	0	2	3	1	6	4	3	0	0	7	1	5	4	3	13	40
04:15 PM	12	0	3	0	15	0	0	1	1	2	3	3	0	0	6	0	3	3	4	10	33
04:30 PM	13	2	1	0	16	0	0	0	0	0	4	4	0	0	8	1	4	1	3	9	33
04:45 PM	12	1	7	2	22	0	2	1	0	3	6	1	0	2	9	3	2	1	2	8	42
Total Volume	48	4	13	2	67	0	4	5	2	11	17	11	0	2	30	5	14	9	12	40	148
% App. Total	71.6	6	19.4	3		0	36.4	45.5	18.2		56.7	36.7	0	6.7		12.5	35	22.5	30		
PHF	.923	.500	.464	.250	.761	.000	.500	.417	.500	.458	.708	.688	.000	.250	.833	.417	.700	.563	.750	.769	.881





Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
AM Peak
Midland Ave & E Meadows Dr

File Name : Midland and E Meadows AM
Site Code : IPO 526
Start Date : 2/18/2021
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

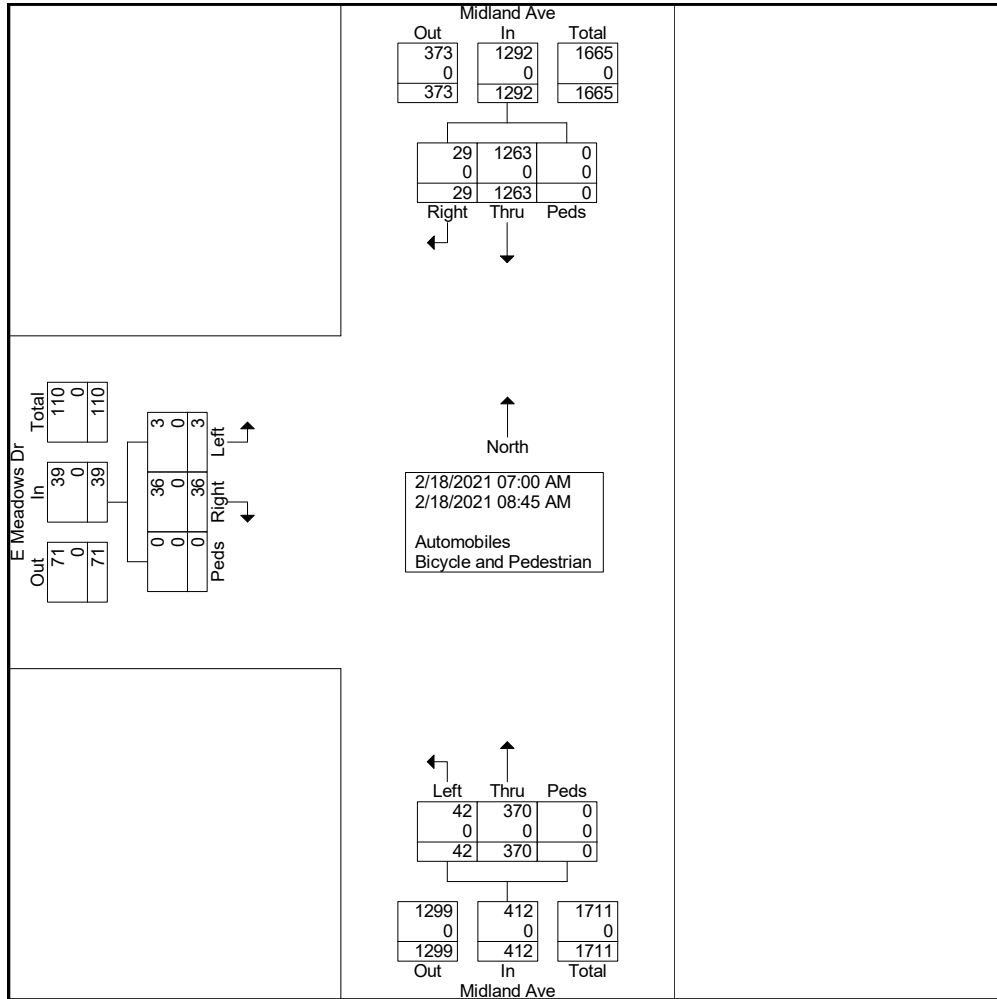
Start Time	E Meadows Dr Eastbound				Midland Ave Northbound				Midland Ave Southbound				Int. Total
	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	
07:00 AM	1	2	0	3	0	18	0	18	37	3	0	40	61
07:15 AM	0	5	0	5	3	32	0	35	43	0	0	43	83
07:30 AM	1	1	0	2	4	38	0	42	97	1	0	98	142
07:45 AM	0	5	0	5	3	36	0	39	158	4	0	162	206
Total	2	13	0	15	10	124	0	134	335	8	0	343	492
08:00 AM	0	4	0	4	6	54	0	60	239	7	0	246	310
08:15 AM	0	5	0	5	5	60	0	65	234	8	0	242	312
08:30 AM	1	7	0	8	5	64	0	69	227	3	0	230	307
08:45 AM	0	7	0	7	16	68	0	84	228	3	0	231	322
Total	1	23	0	24	32	246	0	278	928	21	0	949	1251
Grand Total	3	36	0	39	42	370	0	412	1263	29	0	1292	1743
Apprch %	7.7	92.3	0		10.2	89.8	0		97.8	2.2	0		
Total %	0.2	2.1	0	2.2	2.4	21.2	0	23.6	72.5	1.7	0	74.1	
Automobiles	3	36	0	39	42	370	0	412	1263	29	0	1292	1743
% Automobiles	100	100	0	100	100	100	0	100	100	100	0	100	100
Bicycle and Pedestrian	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycle and Pedestrian	0	0	0	0	0	0	0	0	0	0	0	0	0



Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
AM Peak
Midland Ave & E Meadows Dr

File Name : Midland and E Meadows AM
Site Code : IPO 526
Start Date : 2/18/2021
Page No : 2



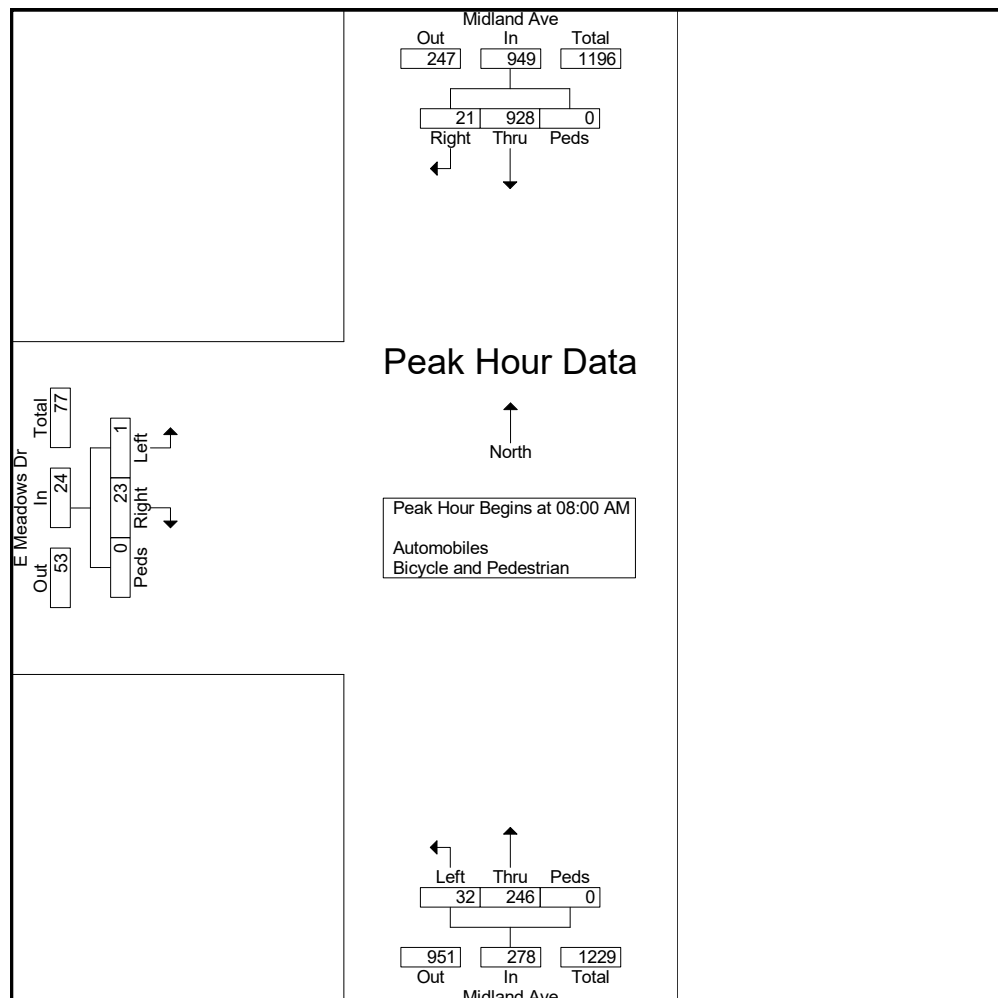


Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
AM Peak
Midland Ave & E Meadows Dr

File Name : Midland and E Meadows AM
Site Code : IPO 526
Start Date : 2/18/2021
Page No : 3

	E Meadows Dr Eastbound				Midland Ave Northbound				Midland Ave Southbound				
Start Time	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	0	4	0	4	6	54	0	60	239	7	0	246	310
08:15 AM	0	5	0	5	5	60	0	65	234	8	0	242	312
08:30 AM	1	7	0	8	5	64	0	69	227	3	0	230	307
08:45 AM	0	7	0	7	16	68	0	84	228	3	0	231	322
Total Volume	1	23	0	24	32	246	0	278	928	21	0	949	1251
% App. Total	4.2	95.8	0		11.5	88.5	0		97.8	2.2	0		
PHF	.250	.821	.000	.750	.500	.904	.000	.827	.971	.656	.000	.964	.971





Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
PM Peak
Midland Ave & E Meadows Dr

File Name : Midland and E Meadows PM
Site Code : IPO 526
Start Date : 2/17/2021
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

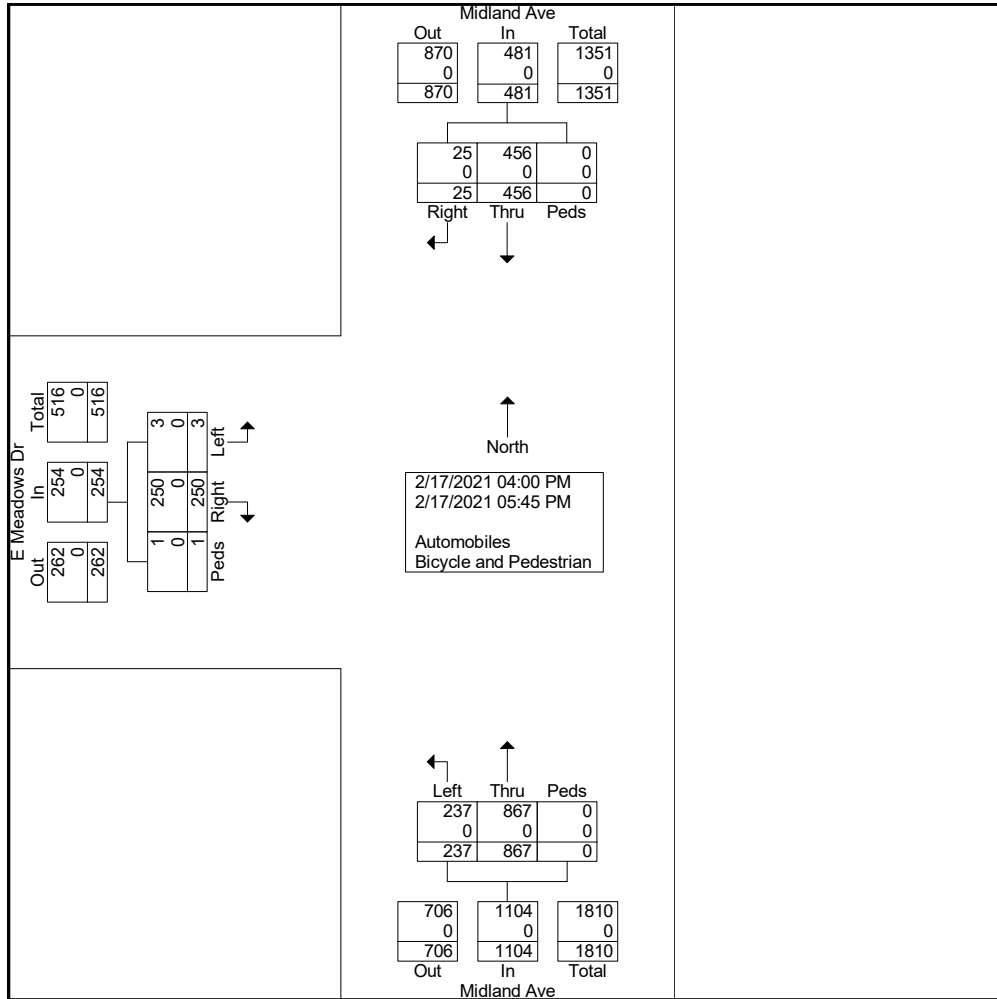
Start Time	E Meadows Dr Eastbound				Midland Ave Northbound				Midland Ave Southbound				Int. Total
	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	
04:00 PM	2	36	0	38	26	108	0	134	65	2	0	67	239
04:15 PM	1	34	0	35	35	88	0	123	61	1	0	62	220
04:30 PM	0	35	1	36	31	96	0	127	64	6	0	70	233
04:45 PM	0	37	0	37	29	92	0	121	48	2	0	50	208
Total	3	142	1	146	121	384	0	505	238	11	0	249	900
05:00 PM	0	33	0	33	35	122	0	157	64	3	0	67	257
05:15 PM	0	20	0	20	34	149	0	183	57	6	0	63	266
05:30 PM	0	29	0	29	23	128	0	151	48	2	0	50	230
05:45 PM	0	26	0	26	24	84	0	108	49	3	0	52	186
Total	0	108	0	108	116	483	0	599	218	14	0	232	939
Grand Total	3	250	1	254	237	867	0	1104	456	25	0	481	1839
Apprch %	1.2	98.4	0.4		21.5	78.5	0		94.8	5.2	0		
Total %	0.2	13.6	0.1	13.8	12.9	47.1	0	60	24.8	1.4	0	26.2	
Automobiles	3	250	1	254	237	867	0	1104	456	25	0	481	1839
% Automobiles	100	100	100	100	100	100	0	100	100	100	0	100	100
Bicycle and Pedestrian	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycle and Pedestrian	0	0	0	0	0	0	0	0	0	0	0	0	0



Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
PM Peak
Midland Ave & E Meadows Dr

File Name : Midland and E Meadows PM
Site Code : IPO 526
Start Date : 2/17/2021
Page No : 2



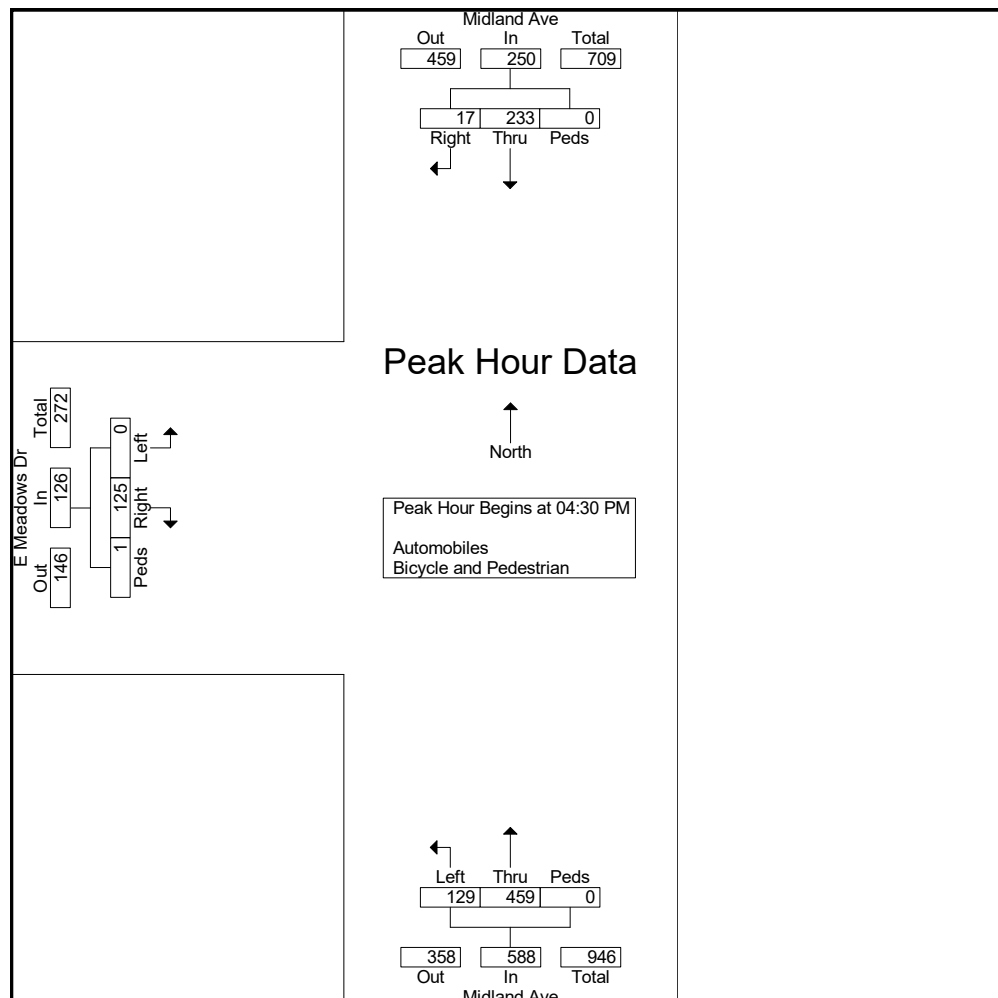


Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
PM Peak
Midland Ave & E Meadows Dr

File Name : Midland and E Meadows PM
Site Code : IPO 526
Start Date : 2/17/2021
Page No : 3

	E Meadows Dr Eastbound				Midland Ave Northbound				Midland Ave Southbound				
Start Time	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	0	35	1	36	31	96	0	127	64	6	0	70	233
04:45 PM	0	37	0	37	29	92	0	121	48	2	0	50	208
05:00 PM	0	33	0	33	35	122	0	157	64	3	0	67	257
05:15 PM	0	20	0	20	34	149	0	183	57	6	0	63	266
Total Volume	0	125	1	126	129	459	0	588	233	17	0	250	964
% App. Total	0	99.2	0.8		21.9	78.1	0		93.2	6.8	0		
PHF	.000	.845	.250	.851	.921	.770	.000	.803	.910	.708	.000	.893	.906





Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
AM Peak
Midland Ave & West Meadows

File Name : Midland and W Meadows AM
Site Code : IPO 526
Start Date : 2/18/2021
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

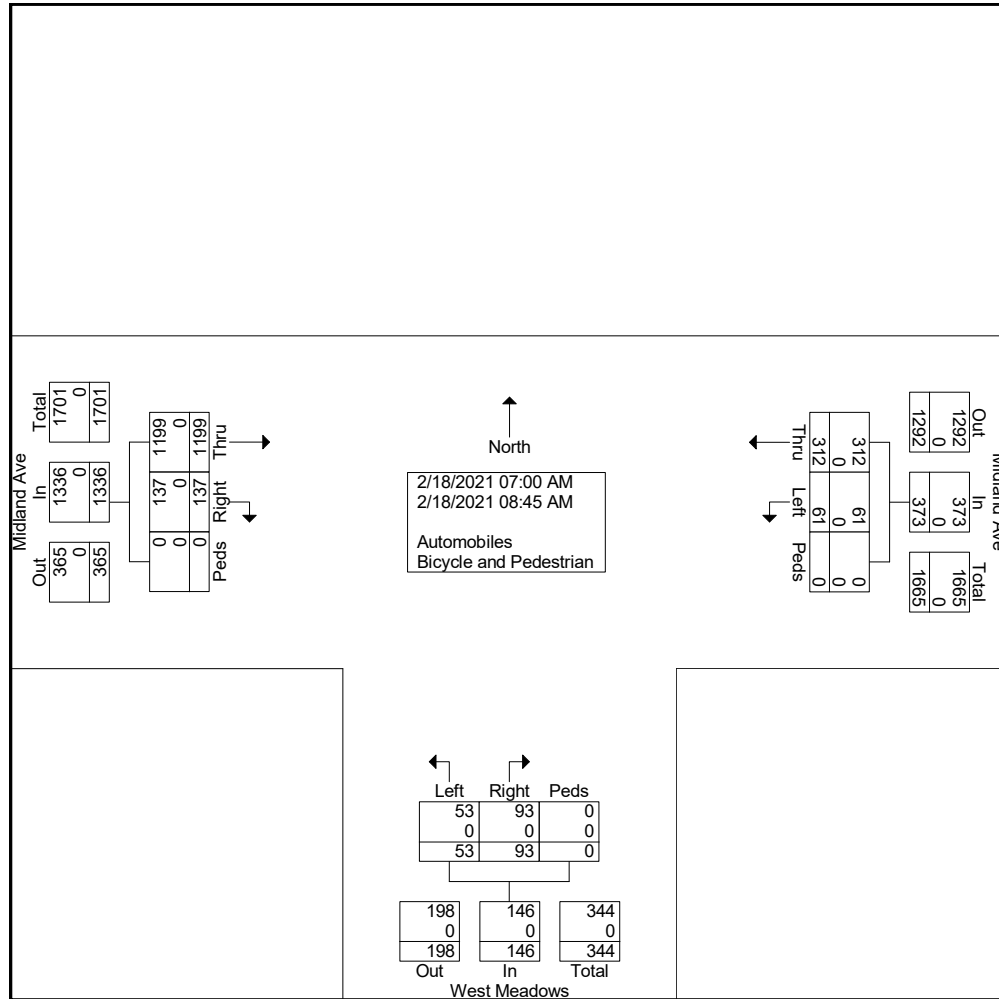
	Midland Ave Eastbound				Midland Ave Westbound				West Meadows Northbound				
Start Time	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
07:00 AM	37	13	0	50	2	17	0	19	1	3	0	4	73
07:15 AM	37	5	0	42	4	28	0	32	2	6	0	8	82
07:30 AM	93	15	0	108	1	38	0	39	5	5	0	10	157
07:45 AM	150	18	0	168	5	31	0	36	9	12	0	21	225
Total	317	51	0	368	12	114	0	126	17	26	0	43	537
08:00 AM	232	23	0	255	7	47	0	54	7	14	0	21	330
08:15 AM	235	23	0	258	12	48	0	60	9	7	0	16	334
08:30 AM	210	21	0	231	14	51	0	65	14	20	0	34	330
08:45 AM	205	19	0	224	16	52	0	68	6	26	0	32	324
Total	882	86	0	968	49	198	0	247	36	67	0	103	1318
Grand Total	1199	137	0	1336	61	312	0	373	53	93	0	146	1855
Apprch %	89.7	10.3	0		16.4	83.6	0		36.3	63.7	0		
Total %	64.6	7.4	0	72	3.3	16.8	0	20.1	2.9	5	0	7.9	
Automobiles	1199	137	0	1336	61	312	0	373	53	93	0	146	1855
% Automobiles	100	100	0	100	100	100	0	100	100	100	0	100	100
Bicycle and Pedestrian	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycle and Pedestrian	0	0	0	0	0	0	0	0	0	0	0	0	0



Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
AM Peak
Midland Ave & West Meadows

File Name : Midland and W Meadows AM
Site Code : IPO 526
Start Date : 2/18/2021
Page No : 2



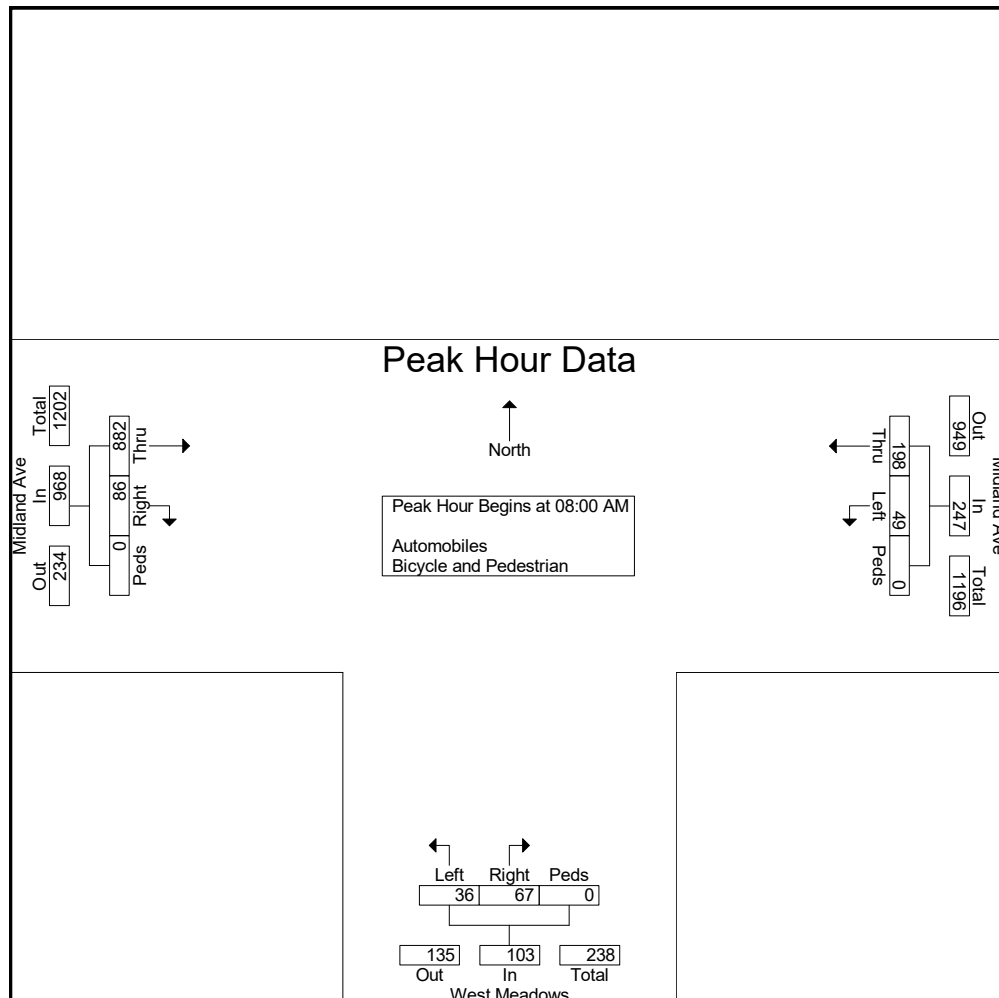


Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
AM Peak
Midland Ave & West Meadows

File Name : Midland and W Meadows AM
Site Code : IPO 526
Start Date : 2/18/2021
Page No : 3

	Midland Ave Eastbound				Midland Ave Westbound				West Meadows Northbound				
Start Time	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	232	23	0	255	7	47	0	54	7	14	0	21	330
08:15 AM	235	23	0	258	12	48	0	60	9	7	0	16	334
08:30 AM	210	21	0	231	14	51	0	65	14	20	0	34	330
08:45 AM	205	19	0	224	16	52	0	68	6	26	0	32	324
Total Volume	882	86	0	968	49	198	0	247	36	67	0	103	1318
% App. Total	91.1	8.9	0		19.8	80.2	0		35	65	0		
PHF	.938	.935	.000	.938	.766	.952	.000	.908	.643	.644	.000	.757	.987





Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
PM Peak
Midland Ave & West Meadows

File Name : Midland and W Meadows PM
Site Code : IPO 526
Start Date : 2/17/2021
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

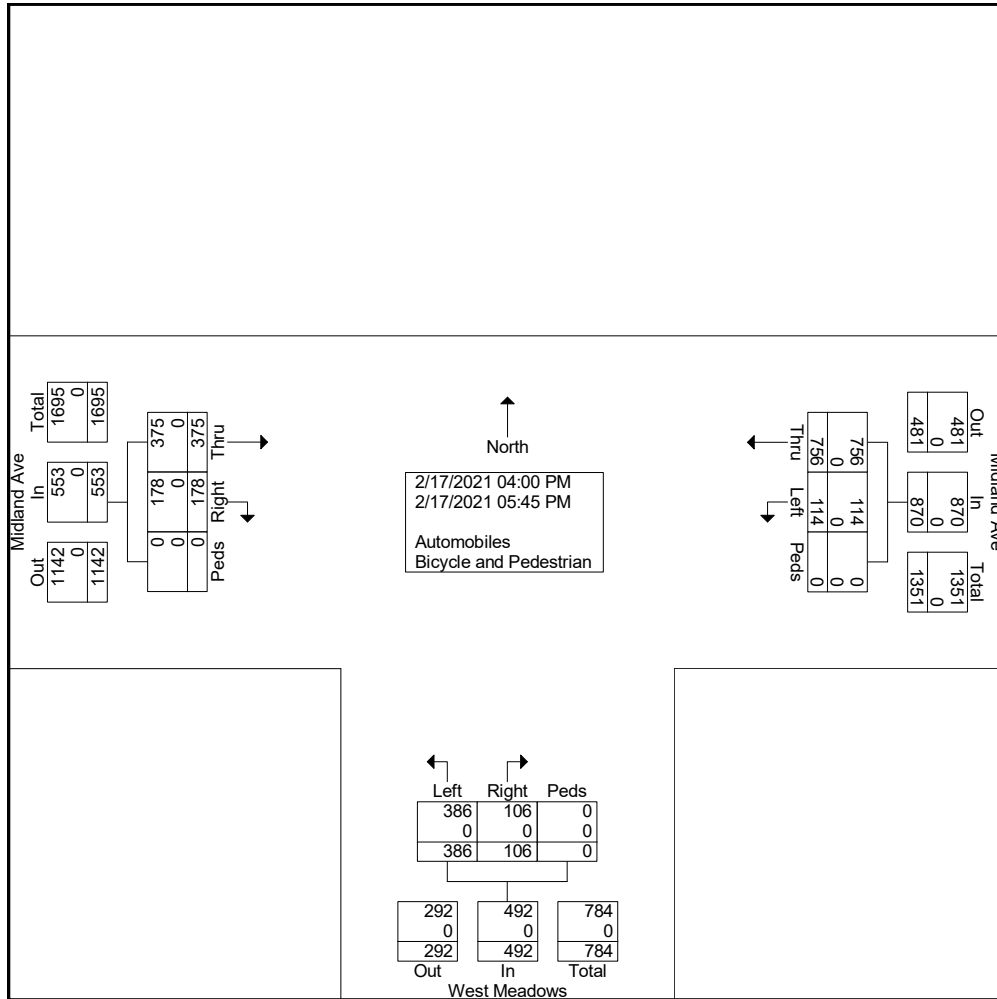
Start Time	Midland Ave Eastbound				Midland Ave Westbound				West Meadows Northbound				Int. Total
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	
04:00 PM	45	31	0	76	21	89	0	110	50	22	0	72	258
04:15 PM	54	31	0	85	12	77	0	89	50	8	0	58	232
04:30 PM	56	25	0	81	11	85	0	96	60	14	0	74	251
04:45 PM	41	21	0	62	10	82	0	92	60	9	0	69	223
Total	196	108	0	304	54	333	0	387	220	53	0	273	964
05:00 PM	47	18	0	65	13	109	0	122	43	20	0	63	250
05:15 PM	56	15	0	71	17	132	0	149	48	7	0	55	275
05:30 PM	39	22	0	61	10	118	0	128	35	11	0	46	235
05:45 PM	37	15	0	52	20	64	0	84	40	15	0	55	191
Total	179	70	0	249	60	423	0	483	166	53	0	219	951
Grand Total	375	178	0	553	114	756	0	870	386	106	0	492	1915
Apprch %	67.8	32.2	0		13.1	86.9	0		78.5	21.5	0		
Total %	19.6	9.3	0	28.9	6	39.5	0	45.4	20.2	5.5	0	25.7	
Automobiles	375	178	0	553	114	756	0	870	386	106	0	492	1915
% Automobiles	100	100	0	100	100	100	0	100	100	100	0	100	100
Bicycle and Pedestrian	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycle and Pedestrian	0	0	0	0	0	0	0	0	0	0	0	0	0



Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
PM Peak
Midland Ave & West Meadows

File Name : Midland and W Meadows PM
Site Code : IPO 526
Start Date : 2/17/2021
Page No : 2



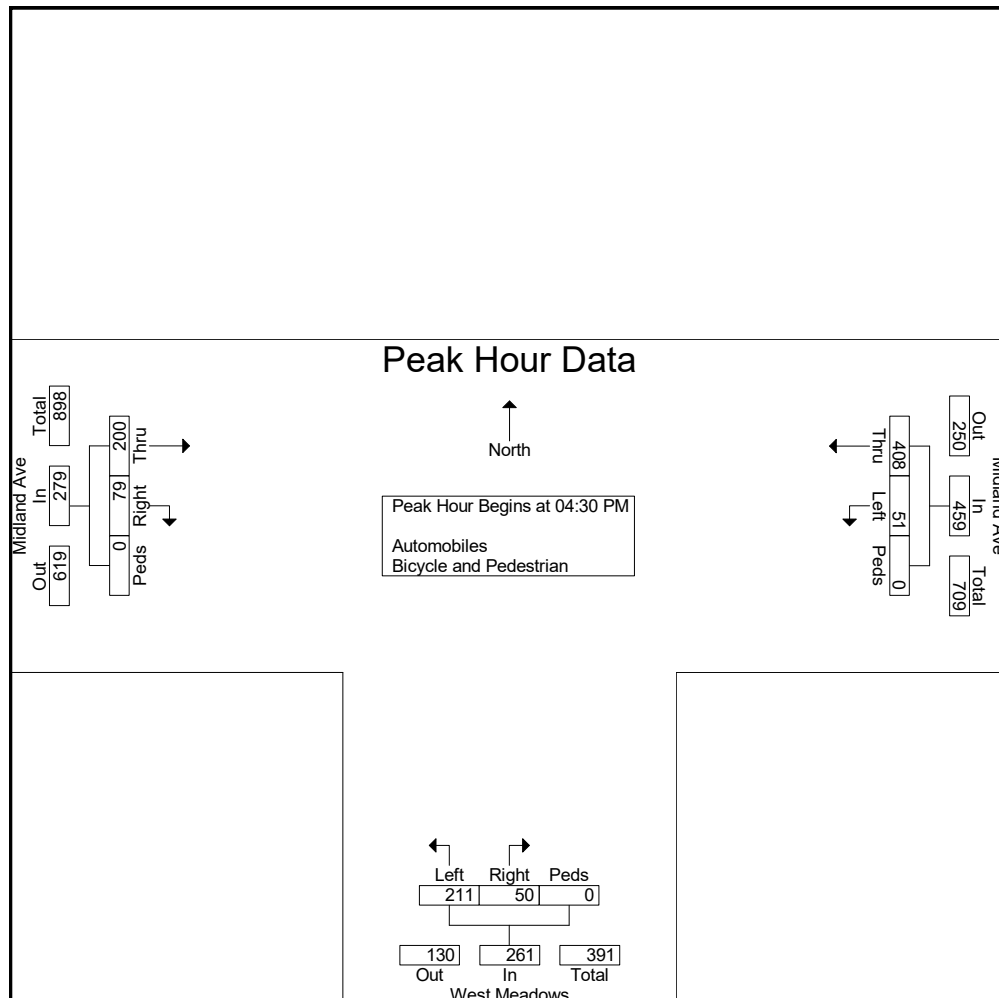


Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
PM Peak
Midland Ave & West Meadows

File Name : Midland and W Meadows PM
Site Code : IPO 526
Start Date : 2/17/2021
Page No : 3

	Midland Ave Eastbound				Midland Ave Westbound				West Meadows Northbound				
Start Time	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	56	25	0	81	11	85	0	96	60	14	0	74	251
04:45 PM	41	21	0	62	10	82	0	92	60	9	0	69	223
05:00 PM	47	18	0	65	13	109	0	122	43	20	0	63	250
05:15 PM	56	15	0	71	17	132	0	149	48	7	0	55	275
Total Volume	200	79	0	279	51	408	0	459	211	50	0	261	999
% App. Total	71.7	28.3	0		11.1	88.9	0		80.8	19.2	0		
PHF	.893	.790	.000	.861	.750	.773	.000	.770	.879	.625	.000	.882	.908





Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
AM Peak
Midland Ave & Wolfsohn Rd

File Name : Midland and Wulfsohn AM
Site Code : IPO 526
Start Date : 2/18/2021
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

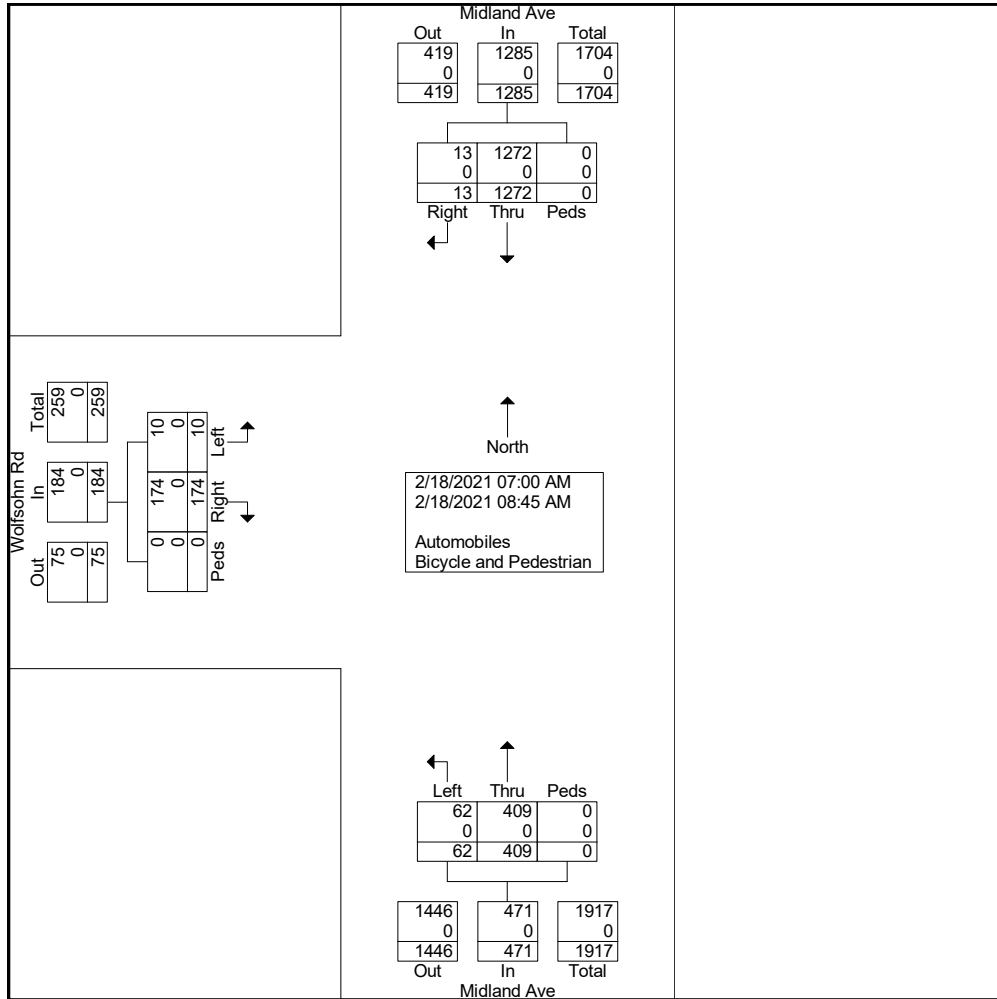
Start Time	Wolfsohn Rd Eastbound				Midland Ave Northbound				Midland Ave Southbound				Int. Total
	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	
07:00 AM	0	15	0	15	8	17	0	25	39	1	0	40	80
07:15 AM	0	15	0	15	3	36	0	39	47	0	0	47	101
07:30 AM	1	28	0	29	6	40	0	46	94	1	0	95	170
07:45 AM	1	15	0	16	6	39	0	45	163	2	0	165	226
Total	2	73	0	75	23	132	0	155	343	4	0	347	577
08:00 AM	3	16	0	19	11	60	0	71	236	4	0	240	330
08:15 AM	2	20	0	22	15	67	0	82	237	2	0	239	343
08:30 AM	1	31	0	32	7	69	0	76	228	1	0	229	337
08:45 AM	2	34	0	36	6	81	0	87	228	2	0	230	353
Total	8	101	0	109	39	277	0	316	929	9	0	938	1363
Grand Total	10	174	0	184	62	409	0	471	1272	13	0	1285	1940
Apprch %	5.4	94.6	0		13.2	86.8	0		99	1	0		
Total %	0.5	9	0	9.5	3.2	21.1	0	24.3	65.6	0.7	0	66.2	
Automobiles	10	174	0	184	62	409	0	471	1272	13	0	1285	1940
% Automobiles	100	100	0	100	100	100	0	100	100	100	0	100	100
Bicycle and Pedestrian	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycle and Pedestrian	0	0	0	0	0	0	0	0	0	0	0	0	0



Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
AM Peak
Midland Ave & Wolfsohn Rd

File Name : Midland and Wulfsohn AM
Site Code : IPO 526
Start Date : 2/18/2021
Page No : 2



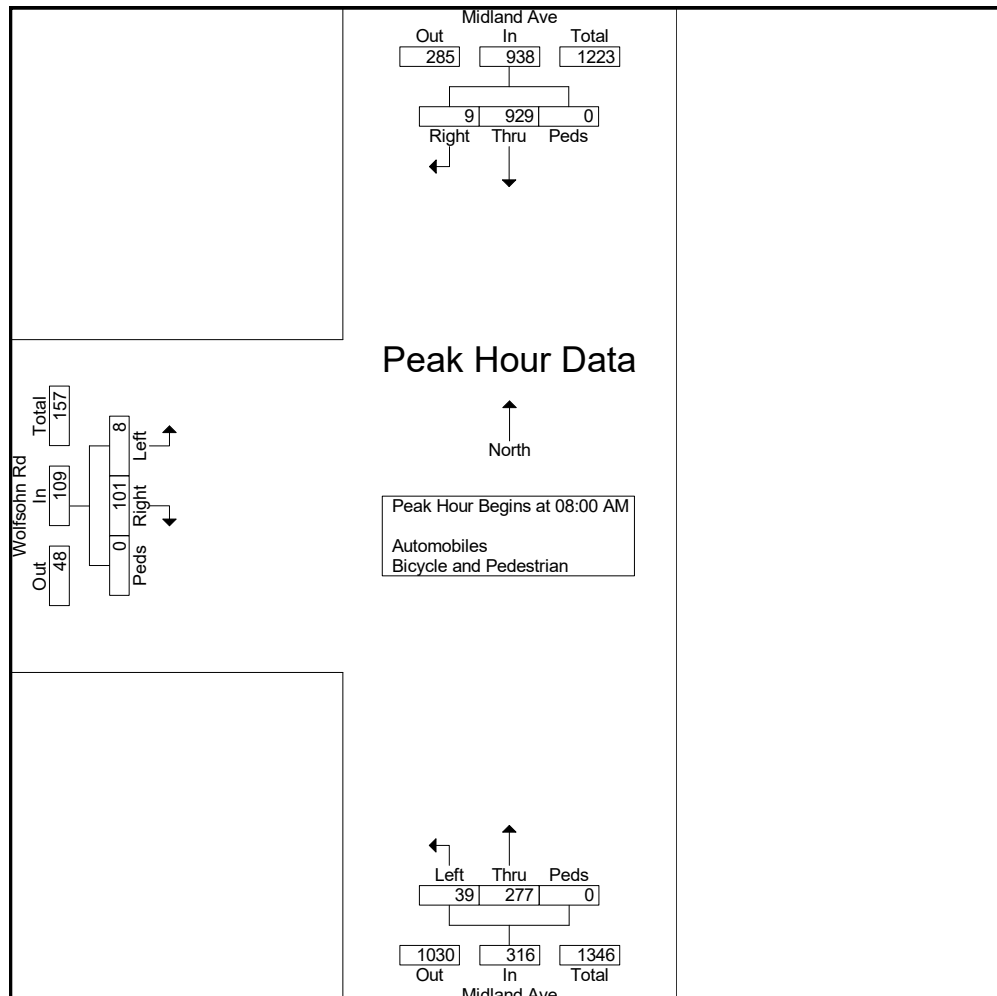


Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
AM Peak
Midland Ave & Wolfsohn Rd

File Name : Midland and Wulfsohn AM
Site Code : IPO 526
Start Date : 2/18/2021
Page No : 3

	Wolfsohn Rd Eastbound				Midland Ave Northbound				Midland Ave Southbound				
Start Time	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	3	16	0	19	11	60	0	71	236	4	0	240	330
08:15 AM	2	20	0	22	15	67	0	82	237	2	0	239	343
08:30 AM	1	31	0	32	7	69	0	76	228	1	0	229	337
08:45 AM	2	34	0	36	6	81	0	87	228	2	0	230	353
Total Volume	8	101	0	109	39	277	0	316	929	9	0	938	1363
% App. Total	7.3	92.7	0		12.3	87.7	0		99	1	0		
PHF	.667	.743	.000	.757	.650	.855	.000	.908	.980	.563	.000	.977	.965





Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
PM Peak
Midland Ave & Wolfsohn Rd

File Name : Midland and Wulfsohn PM
Site Code : IPO 526
Start Date : 2/17/2021
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

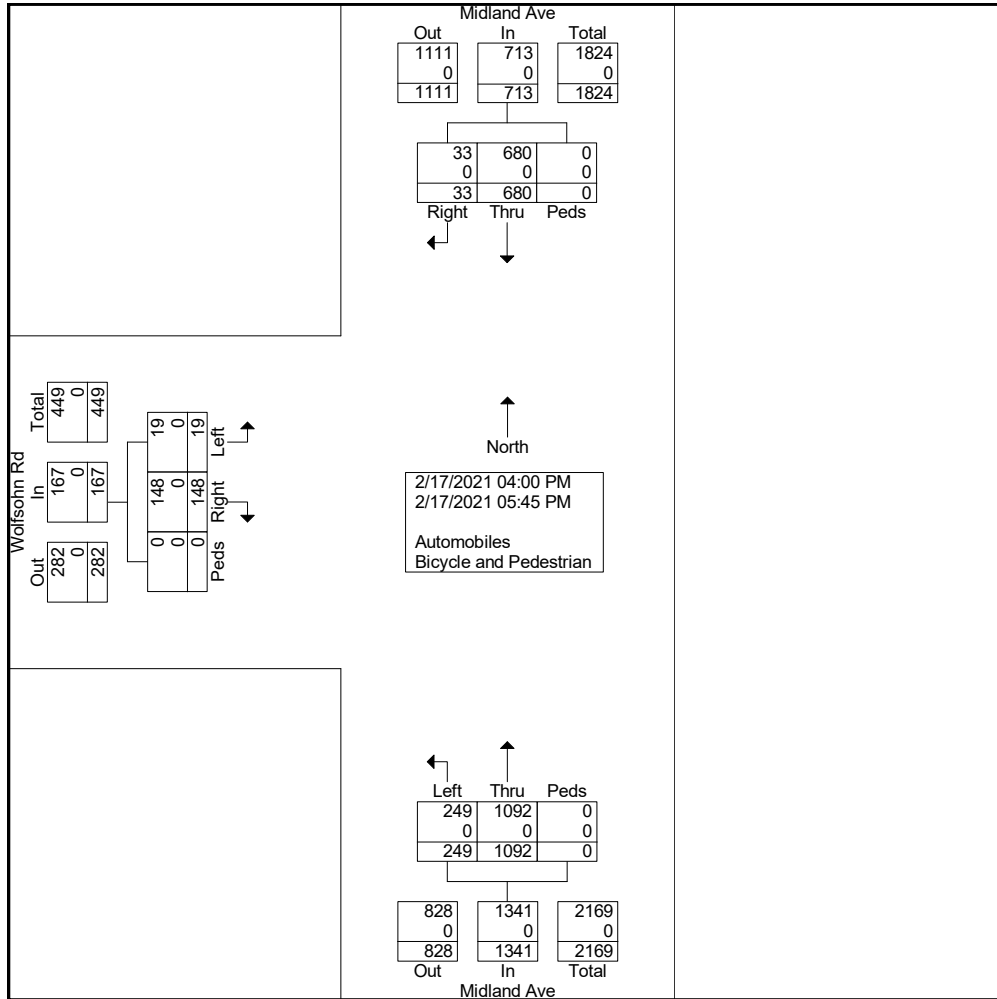
	Wolfsohn Rd Eastbound				Midland Ave Northbound				Midland Ave Southbound				
Start Time	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
04:00 PM	4	9	0	13	37	134	0	171	96	3	0	99	283
04:15 PM	5	16	0	21	36	115	0	151	91	9	0	100	272
04:30 PM	1	19	0	20	29	128	0	157	96	3	0	99	276
04:45 PM	5	23	0	28	28	119	0	147	80	6	0	86	261
Total	15	67	0	82	130	496	0	626	363	21	0	384	1092
05:00 PM	0	22	0	22	24	161	0	185	97	3	0	100	307
05:15 PM	1	18	0	19	41	182	0	223	73	5	0	78	320
05:30 PM	3	25	0	28	20	146	0	166	74	0	0	74	268
05:45 PM	0	16	0	16	34	107	0	141	73	4	0	77	234
Total	4	81	0	85	119	596	0	715	317	12	0	329	1129
Grand Total	19	148	0	167	249	1092	0	1341	680	33	0	713	2221
Apprch %	11.4	88.6	0		18.6	81.4	0		95.4	4.6	0		
Total %	0.9	6.7	0	7.5	11.2	49.2	0	60.4	30.6	1.5	0	32.1	
Automobiles	19	148	0	167	249	1092	0	1341	680	33	0	713	2221
% Automobiles	100	100	0	100	100	100	0	100	100	100	0	100	100
Bicycle and Pedestrian	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycle and Pedestrian	0	0	0	0	0	0	0	0	0	0	0	0	0



Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
PM Peak
Midland Ave & Wolfsohn Rd

File Name : Midland and Wulfsohn PM
Site Code : IPO 526
Start Date : 2/17/2021
Page No : 2



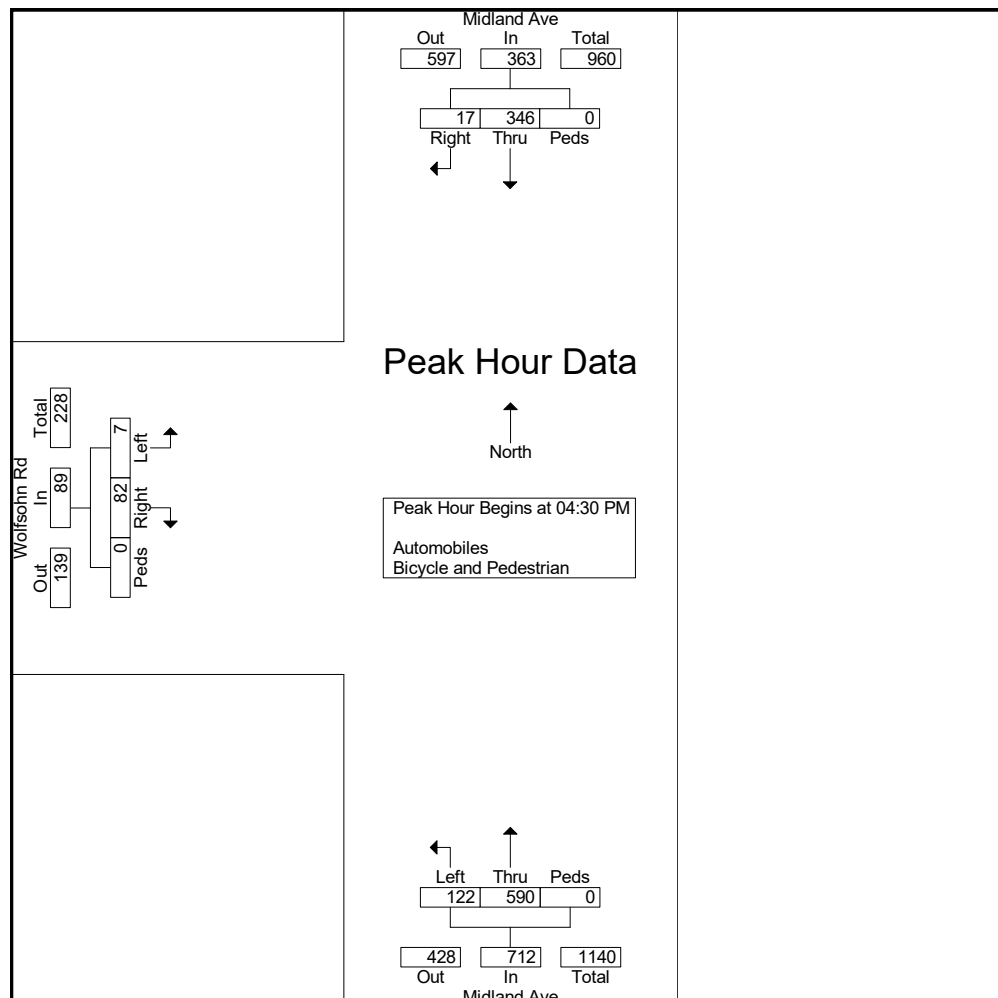


Ridgeview Data
Collection

Glenwood Springs, CO
Lofts at Red Mountain
PM Peak
Midland Ave & Wolfsohn Rd

File Name : Midland and Wulfsohn PM
Site Code : IPO 526
Start Date : 2/17/2021
Page No : 3

	Wolfsohn Rd Eastbound				Midland Ave Northbound				Midland Ave Southbound				
Start Time	Left	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	1	19	0	20	29	128	0	157	96	3	0	99	276
04:45 PM	5	23	0	28	28	119	0	147	80	6	0	86	261
05:00 PM	0	22	0	22	24	161	0	185	97	3	0	100	307
05:15 PM	1	18	0	19	41	182	0	223	73	5	0	78	320
Total Volume	7	82	0	89	122	590	0	712	346	17	0	363	1164
% App. Total	7.9	92.1	0		17.1	82.9	0		95.3	4.7	0		
PHF	.350	.891	.000	.795	.744	.810	.000	.798	.892	.708	.000	.908	.909



APPENDIX B

CDOT OTIS Traffic Information and Projections

ROUTE	REFPT	ENDREFPT	LENGTH	UPDATEYR	AADT	AADTYR	COUNTYEAR	YR20FACTOR	Growth Rate	DHV	DD	COUNTSTATIONID	LOCATION
070A	109	114.295	5.297	2019	32000	2019	2019	1.27	1.20%	10.5	56	103014	ON I-70 E/O SH 6 CANYON CREEK RD EXIT 114
070A	114.295	116.38	2.083	2019	26000	2019	2018	1.24	1.08%	10.5	56	103015	ON I-70 W/O SH 82 GLENWOOD SPRINGS
									1.14%				

APPENDIX C

Trip Generation Worksheets

Project Lofts at Red Mountain - Phase III (Background)
 Subject Trip Generation for Multifamily Housing (Mid-Rise)
 Designed by MAG Date February 23, 2021 Job No. 196157000
 Checked by _____ Date _____ Sheet No. 1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Fitted Curve Equations

Land Use Code - Multifamily Housing (Mid-Rise) (221)

Independant Variable - Dwelling Units (X)

$$X = 89$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (Series 200 Page 74)

$\ln(T) = 0.98 \ln(X) - 0.98$ $\ln(T) = 0.98 * \ln(89.0) - 0.98$	Directional Distribution: 26% ent. 74% exit. T = 31 Average Vehicle Trip Ends 8 entering 23 exiting 8 + 23 = 31
--	--

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (Series 200 Page 75)

$\ln(T) = 0.96 \ln(X) - 0.63$ $\ln(T) = 0.96 * \ln(89.0) - 0.63$	Directional Distribution: 61% ent. 39% exit. T = 40 Average Vehicle Trip Ends 24 entering 16 exiting 24 + 16 = 40
--	--

Weekday (Series 200 Page 73)

$(T) = 5.45*(X) - 1.75$ $(T) = 5.45 * 89 - 1.75$	Directional Distribution: 50% ent. 50% exit. T = 484 Average Vehicle Trip Ends 242 entering 242 exiting 242 + 242 = 484
--	--

Peak Hour of Generator, Saturday (Series 200 Page 79)

$(T) = 0.42*(X) + 6.73$ $(T) = 0.42 * 89 + 6.73$	Directional Distribution: 49% ent. 51% exit. T = 44 Average Vehicle Trip Ends 22 entering 22 exiting 22 + 22 = 44
--	--

Project Lofts at Red Mountain - Phase IV
 Subject Trip Generation for Multifamily Housing (Mid-Rise)
 Designed by MAG Date February 23, 2021 Job No. 196157000
 Checked by _____ Date _____ Sheet No. 1 of 2

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Fitted Curve Equations

Land Use Code - Multifamily Housing (Mid-Rise) (221)

Independant Variable - Dwelling Units (X)

$$X = 36$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (Series 200 Page 74)

$\ln(T) = 0.98 \ln(X) - 0.98$ $\ln(T) = 0.98 * \ln(36.0) - 0.98$	Directional Distribution: 26% ent. 74% exit. T = 13 Average Vehicle Trip Ends 3 entering 10 exiting 3 + 10 = 13
--	--

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (Series 200 Page 75)

$\ln(T) = 0.96 \ln(X) - 0.63$ $\ln(T) = 0.96 * \ln(36.0) - 0.63$	Directional Distribution: 61% ent. 39% exit. T = 17 Average Vehicle Trip Ends 10 entering 7 exiting 10 + 7 = 17
--	--

Weekday (Series 200 Page 73)

$(T) = 5.45*(X) - 1.75$ $(T) = 5.45 * 36 - 1.75$	Directional Distribution: 50% ent. 50% exit. T = 196 Average Vehicle Trip Ends 98 entering 98 exiting 98 + 98 = 196
--	--

Peak Hour of Generator, Saturday (Series 200 Page 79)

$(T) = 0.42*(X) + 6.73$ $(T) = 0.42 * 36 + 6.73$	Directional Distribution: 49% ent. 51% exit. T = 22 Average Vehicle Trip Ends 11 entering 11 exiting 11 + 11 = 22
--	--

Project Lofts at Red Mountain - Phase IV
 Subject Trip Generation for Fast Casual Restaurant
 Designed by MAG Date February 23, 2021 Job No. 196157000
 Checked by _____ Date _____ Sheet No. 2 of 2

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Fast Casual Restaurant (930)

Independant Variable - 1000 Square Feet Gross Floor Area (X)

Gross Floor Area = 5,950 Square Feet

X = 5.950

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (900 Series Page 62)

Average Weekday	Directional Distribution:	67% ent.	33% exit.
T = 2.07 (X)	T = 12	Average Vehicle Trip Ends	
T = 2.07 * 5.950	8 entering	4	exiting
	8 + 4 =	12	

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (900 Series Page 63)

Average Weekday	Directional Distribution:	55% ent.	45% exit.
T = 14.13(X)	T = 84	Average Vehicle Trip Ends	
T = 14.13 * 5.950	46 entering	38	exiting
	46 + 38 =	84	

Weekday (900 Series Page 61)

Average Weekday	Directional Distribution:	50% entering, 50% exiting
T = 315.17 (X)	T = 1876	Average Vehicle Trip Ends
T = 315.17 * 5.950	938 entering	938 exiting
	938 + 938 =	1876

Saturday Peak Hour of Generator (900 Series Page 67)

	Directional Distribution:	55% ent.	45% exit.
T = 34.02 (X)	T = 202	Average Vehicle Trip Ends	
T = 34.02 * 5.950	111 entering	91	exiting
	111 + 91 =	202	

APPENDIX D

Intersection Analysis Worksheets

Timings

1: W Meadows & Midland Ave

2021 Adjusted Existing AM.syn

02/25/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↘	↑	↘	↘
Traffic Volume (vph)	1235	120	69	277	50	94
Future Volume (vph)	1235	120	69	277	50	94
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	88.0	88.0	9.5	97.5	22.5	22.5
Total Split (%)	73.3%	73.3%	7.9%	81.3%	18.8%	18.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Max	Max
Act Effect Green (s)	83.6	83.6	91.1	91.1	18.0	18.0
Actuated g/C Ratio	0.71	0.71	0.77	0.77	0.15	0.15
v/c Ratio	1.00	0.11	0.56	0.21	0.24	0.36
Control Delay	42.8	3.2	29.0	4.1	47.7	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.8	3.2	29.0	4.1	47.7	11.0
LOS	D	A	C	A	D	B
Approach Delay	39.2			9.0	23.7	
Approach LOS	D			A	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 118.1

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 32.1

Intersection LOS: C

Intersection Capacity Utilization 78.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: W Meadows & Midland Ave

↖ Ø2	↘ Ø3	→ Ø4
22.5 s	9.5 s	88 s
	↖ Ø8	
	97.5 s	

HCM 6th Signalized Intersection Summary
1: W Meadows & Midland Ave

2021 Adjusted Existing AM.syn
02/25/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↙	↑	↙	↗
Traffic Volume (veh/h)	1235	120	69	277	50	94
Future Volume (veh/h)	1235	120	69	277	50	94
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1314	128	76	304	66	124
Peak Hour Factor	0.94	0.94	0.91	0.91	0.76	0.76
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1306	1107	129	1448	268	239
Arrive On Green	0.70	0.70	0.04	0.77	0.15	0.15
Sat Flow, veh/h	1870	1585	1781	1870	1781	1585
Grp Volume(v), veh/h	1314	128	76	304	66	124
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1870	1781	1585
Q Serve(g_s), s	83.5	3.2	1.3	5.2	3.9	8.6
Cycle Q Clear(g_c), s	83.5	3.2	1.3	5.2	3.9	8.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1306	1107	129	1448	268	239
V/C Ratio(X)	1.01	0.12	0.59	0.21	0.25	0.52
Avail Cap(c_a), veh/h	1306	1107	135	1454	268	239
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.0	5.9	34.4	3.6	44.8	46.8
Incr Delay (d2), s/veh	26.4	0.0	6.2	0.1	2.2	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	40.5	1.0	1.8	1.7	1.9	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.5	6.0	40.5	3.7	47.0	54.7
LnGrp LOS	F	A	D	A	D	D
Approach Vol, veh/h	1442			380	190	
Approach Delay, s/veh	41.1			11.1	52.0	
Approach LOS	D			B	D	
Timer - Assigned Phs	2		3	4	8	
Phs Duration (G+Y+Rc), s	22.5		9.1	88.0	97.1	
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	
Max Green Setting (Gmax), s	18.0		5.0	83.5	93.0	
Max Q Clear Time (g_c+l1), s	10.6		3.3	85.5	7.2	
Green Ext Time (p_c), s	0.3		0.0	0.0	2.0	
Intersection Summary						
HCM 6th Ctrl Delay			36.4			
HCM 6th LOS			D			

Timings

1: W Meadows & Midland Ave

2021 Adjusted Existing PM.syn

02/25/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↘	↑	↘	↘
Traffic Volume (vph)	280	111	71	571	295	70
Future Volume (vph)	280	111	71	571	295	70
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	66.0	66.0	10.0	76.0	44.0	44.0
Total Split (%)	55.0%	55.0%	8.3%	63.3%	36.7%	36.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Max	Max
Act Effect Green (s)	34.3	34.3	42.1	42.1	40.1	40.1
Actuated g/C Ratio	0.38	0.38	0.46	0.46	0.44	0.44
v/c Ratio	0.47	0.19	0.24	0.86	0.43	0.11
Control Delay	23.9	3.9	14.4	33.0	22.5	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.9	3.9	14.4	33.0	22.5	5.6
LOS	C	A	B	C	C	A
Approach Delay	18.2			30.9	19.2	
Approach LOS	B			C	B	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 91.3

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 24.7

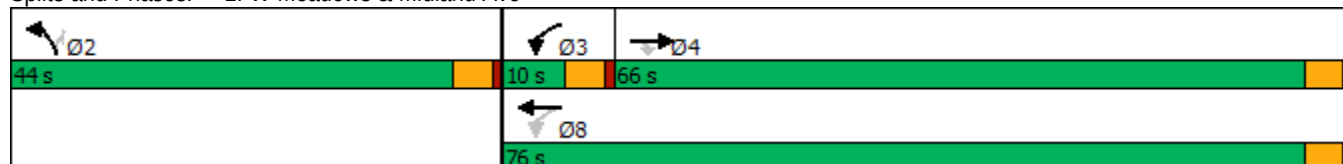
Intersection LOS: C

Intersection Capacity Utilization 53.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: W Meadows & Midland Ave



HCM 6th Signalized Intersection Summary
1: W Meadows & Midland Ave

2021 Adjusted Existing PM.syn
02/25/2021

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	280	111	71	571	295	70
Future Volume (veh/h)	280	111	71	571	295	70
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	326	129	92	742	335	80
Peak Hour Factor	0.86	0.86	0.77	0.77	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	659	558	373	848	793	706
Arrive On Green	0.35	0.35	0.05	0.45	0.45	0.45
Sat Flow, veh/h	1870	1585	1781	1870	1781	1585
Grp Volume(v), veh/h	326	129	92	742	335	80
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1870	1781	1585
Q Serve(g_s), s	12.1	5.1	2.8	31.9	11.4	2.6
Cycle Q Clear(g_c), s	12.1	5.1	2.8	31.9	11.4	2.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	659	558	373	848	793	706
V/C Ratio(X)	0.49	0.23	0.25	0.87	0.42	0.11
Avail Cap(c_a), veh/h	1296	1098	393	1507	793	706
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	20.3	16.7	22.0	16.8	14.4
Incr Delay (d2), s/veh	0.6	0.2	0.3	3.0	1.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	1.9	1.1	13.8	4.8	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.1	20.5	17.0	25.0	18.5	14.7
LnGrp LOS	C	C	B	C	B	B
Approach Vol, veh/h	455			834	415	
Approach Delay, s/veh	22.4			24.1	17.8	
Approach LOS	C			C	B	
Timer - Assigned Phs	2		3	4	8	
Phs Duration (G+Y+Rc), s	44.0		9.0	35.8	44.7	
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	
Max Green Setting (Gmax), s	39.5		5.5	61.5	71.5	
Max Q Clear Time (g_c+l1), s	13.4		4.8	14.1	33.9	
Green Ext Time (p_c), s	1.3		0.0	2.6	6.3	
Intersection Summary						
HCM 6th Ctrl Delay			22.1			
HCM 6th LOS			C			

Timings

2023 Background AM.syn

1: W Meadows & Midland Ave

02/25/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↘	↑	↘	↑
Traffic Volume (vph)	1264	125	71	283	60	96
Future Volume (vph)	1264	125	71	283	60	96
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	88.0	88.0	9.5	97.5	22.5	22.5
Total Split (%)	73.3%	73.3%	7.9%	81.3%	18.8%	18.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Max	Max
Act Effect Green (s)	83.6	83.6	91.1	91.1	18.0	18.0
Actuated g/C Ratio	0.71	0.71	0.77	0.77	0.15	0.15
v/c Ratio	1.02	0.12	0.57	0.22	0.29	0.36
Control Delay	49.1	3.3	30.3	4.1	48.6	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.1	3.3	30.3	4.1	48.6	10.9
LOS	D	A	C	A	D	B
Approach Delay	45.0			9.3	25.4	
Approach LOS	D			A	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 118.1

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 36.3

Intersection LOS: D

Intersection Capacity Utilization 80.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: W Meadows & Midland Ave

↖ Ø2	↘ Ø3	→ Ø4
22.5 s	9.5 s	88 s
	↖ Ø8	
	97.5 s	

HCM 6th Signalized Intersection Summary

1: W Meadows & Midland Ave

2023 Background AM.syn

02/25/2021

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1264	125	71	283	60	96
Future Volume (veh/h)	1264	125	71	283	60	96
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1345	133	78	311	79	126
Peak Hour Factor	0.94	0.94	0.91	0.91	0.76	0.76
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1306	1106	129	1448	268	239
Arrive On Green	0.70	0.70	0.04	0.77	0.15	0.15
Sat Flow, veh/h	1870	1585	1781	1870	1781	1585
Grp Volume(v), veh/h	1345	133	78	311	79	126
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1870	1781	1585
Q Serve(g_s), s	83.5	3.3	1.4	5.4	4.7	8.8
Cycle Q Clear(g_c), s	83.5	3.3	1.4	5.4	4.7	8.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1306	1106	129	1448	268	239
V/C Ratio(X)	1.03	0.12	0.60	0.21	0.29	0.53
Avail Cap(c_a), veh/h	1306	1106	135	1454	268	239
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	6.0	34.4	3.7	45.2	46.9
Incr Delay (d2), s/veh	33.0	0.0	7.0	0.1	2.8	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	42.9	1.1	1.9	1.7	2.3	4.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	51.0	6.0	41.3	3.7	48.0	55.0
LnGrp LOS	F	A	D	A	D	E
Approach Vol, veh/h	1478			389	205	
Approach Delay, s/veh	47.0			11.3	52.3	
Approach LOS	D			B	D	
Timer - Assigned Phs	2		3	4	8	
Phs Duration (G+Y+Rc), s	22.5		9.1	88.0	97.1	
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	
Max Green Setting (Gmax), s	18.0		5.0	83.5	93.0	
Max Q Clear Time (g_c+l1), s	10.8		3.4	85.5	7.4	
Green Ext Time (p_c), s	0.3		0.0	0.0	2.1	
Intersection Summary						
HCM 6th Ctrl Delay			40.8			
HCM 6th LOS			D			

Timings

2023 Background PM.syn

1: W Meadows & Midland Ave

02/25/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↘	↑	↘	↑
Traffic Volume (vph)	289	121	73	584	308	72
Future Volume (vph)	289	121	73	584	308	72
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	64.6	64.6	10.4	75.0	45.0	45.0
Total Split (%)	53.8%	53.8%	8.7%	62.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Max	Max
Act Effect Green (s)	36.0	36.0	44.0	44.0	41.1	41.1
Actuated g/C Ratio	0.38	0.38	0.47	0.47	0.44	0.44
v/c Ratio	0.47	0.20	0.24	0.87	0.45	0.11
Control Delay	24.4	3.8	14.6	33.8	23.8	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.4	3.8	14.6	33.8	23.8	5.6
LOS	C	A	B	C	C	A
Approach Delay	18.3			31.7	20.4	
Approach LOS	B			C	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 94.3

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 25.3

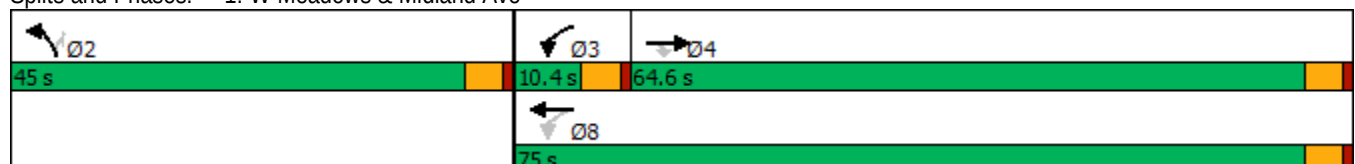
Intersection LOS: C

Intersection Capacity Utilization 55.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: W Meadows & Midland Ave



HCM 6th Signalized Intersection Summary
1: W Meadows & Midland Ave

2023 Background PM.syn

02/25/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↙	↑	↙	↗
Traffic Volume (veh/h)	289	121	73	584	308	72
Future Volume (veh/h)	289	121	73	584	308	72
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	336	141	95	758	350	82
Peak Hour Factor	0.86	0.86	0.77	0.77	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	676	573	370	861	787	700
Arrive On Green	0.36	0.36	0.05	0.46	0.44	0.44
Sat Flow, veh/h	1870	1585	1781	1870	1781	1585
Grp Volume(v), veh/h	336	141	95	758	350	82
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1870	1781	1585
Q Serve(g_s), s	12.8	5.7	2.9	33.7	12.5	2.8
Cycle Q Clear(g_c), s	12.8	5.7	2.9	33.7	12.5	2.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	676	573	370	861	787	700
V/C Ratio(X)	0.50	0.25	0.26	0.88	0.44	0.12
Avail Cap(c_a), veh/h	1226	1039	396	1438	787	700
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.8	20.5	16.9	22.5	17.8	15.1
Incr Delay (d2), s/veh	0.6	0.2	0.4	3.7	1.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	2.1	1.2	14.8	5.3	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.4	20.7	17.3	26.2	19.6	15.4
LnGrp LOS	C	C	B	C	B	B
Approach Vol, veh/h	477			853	432	
Approach Delay, s/veh	22.6			25.2	18.8	
Approach LOS	C			C	B	
Timer - Assigned Phs	2		3	4	8	
Phs Duration (G+Y+Rc), s	45.0		9.1	37.7	46.7	
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	
Max Green Setting (Gmax), s	40.5		5.9	60.1	70.5	
Max Q Clear Time (g_c+l1), s	14.5		4.9	14.8	35.7	
Green Ext Time (p_c), s	1.4		0.0	2.7	6.5	
Intersection Summary						
HCM 6th Ctrl Delay			22.9			
HCM 6th LOS			C			

Timings

1: W Meadows & Midland Ave

2023 Total AM.syn

02/25/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↘	↑	↘	↘
Traffic Volume (vph)	1265	128	71	283	66	96
Future Volume (vph)	1265	128	71	283	66	96
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	88.0	88.0	9.5	97.5	22.5	22.5
Total Split (%)	73.3%	73.3%	7.9%	81.3%	18.8%	18.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Max	Max
Act Effect Green (s)	83.6	83.6	91.1	91.1	18.0	18.0
Actuated g/C Ratio	0.71	0.71	0.77	0.77	0.15	0.15
v/c Ratio	1.02	0.12	0.57	0.22	0.32	0.36
Control Delay	49.3	3.3	30.3	4.1	49.2	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.3	3.3	30.3	4.1	49.2	10.9
LOS	D	A	C	A	D	B
Approach Delay	45.1			9.3	26.6	
Approach LOS	D			A	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 118.1

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 36.5

Intersection LOS: D

Intersection Capacity Utilization 80.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: W Meadows & Midland Ave

↖ Ø2	↘ Ø3	→ Ø4
22.5 s	9.5 s	88 s
	↖ Ø8	
	97.5 s	

HCM 6th Signalized Intersection Summary
1: W Meadows & Midland Ave

2023 Total AM.syn
02/25/2021

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (veh/h)	1265	128	71	283	66	96
Future Volume (veh/h)	1265	128	71	283	66	96
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1346	136	78	311	87	126
Peak Hour Factor	0.94	0.94	0.91	0.91	0.76	0.76
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1306	1106	129	1448	268	239
Arrive On Green	0.70	0.70	0.04	0.77	0.15	0.15
Sat Flow, veh/h	1870	1585	1781	1870	1781	1585
Grp Volume(v), veh/h	1346	136	78	311	87	126
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1870	1781	1585
Q Serve(g_s), s	83.5	3.4	1.4	5.4	5.2	8.8
Cycle Q Clear(g_c), s	83.5	3.4	1.4	5.4	5.2	8.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1306	1106	129	1448	268	239
V/C Ratio(X)	1.03	0.12	0.60	0.21	0.32	0.53
Avail Cap(c_a), veh/h	1306	1106	135	1454	268	239
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	6.0	34.4	3.7	45.4	46.9
Incr Delay (d2), s/veh	33.2	0.0	7.0	0.1	3.2	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	43.0	1.1	1.9	1.7	2.6	4.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	51.3	6.0	41.3	3.7	48.6	55.0
LnGrp LOS	F	A	D	A	D	E
Approach Vol, veh/h	1482			389	213	
Approach Delay, s/veh	47.1			11.3	52.4	
Approach LOS	D			B	D	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		22.5	9.1	88.0		97.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s		18.0	5.0	83.5		93.0
Max Q Clear Time (g_c+l1), s		10.8	3.4	85.5		7.4
Green Ext Time (p_c), s		0.4	0.0	0.0		2.1
Intersection Summary						
HCM 6th Ctrl Delay			41.0			
HCM 6th LOS			D			

Timings

1: W Meadows & Midland Ave

2023 Total PM.syn

02/25/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↘	↑	↘	↗
Traffic Volume (vph)	295	138	73	584	326	72
Future Volume (vph)	295	138	73	584	326	72
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	63.8	63.8	10.2	74.0	46.0	46.0
Total Split (%)	53.2%	53.2%	8.5%	61.7%	38.3%	38.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Max	Max
Act Effect Green (s)	36.8	36.8	44.7	44.7	42.1	42.1
Actuated g/C Ratio	0.38	0.38	0.47	0.47	0.44	0.44
v/c Ratio	0.48	0.23	0.25	0.87	0.48	0.11
Control Delay	24.7	3.7	15.0	34.5	24.4	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.7	3.7	15.0	34.5	24.4	5.7
LOS	C	A	B	C	C	A
Approach Delay	18.0			32.3	21.0	
Approach LOS	B			C	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 96

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 25.5

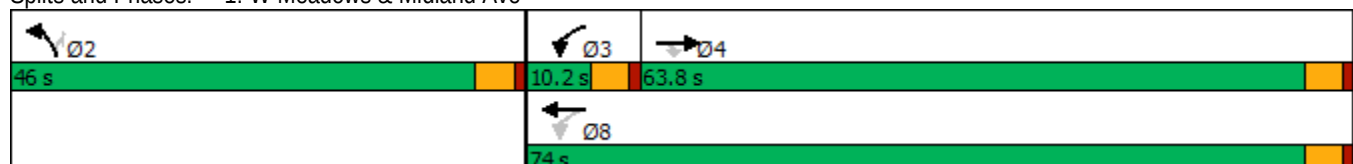
Intersection LOS: C

Intersection Capacity Utilization 56.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: W Meadows & Midland Ave



HCM 6th Signalized Intersection Summary
1: W Meadows & Midland Ave

2023 Total PM.syn
02/25/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↙	↑	↙	↗
Traffic Volume (veh/h)	295	138	73	584	326	72
Future Volume (veh/h)	295	138	73	584	326	72
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	343	160	95	758	370	82
Peak Hour Factor	0.86	0.86	0.77	0.77	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	677	573	360	858	792	705
Arrive On Green	0.36	0.36	0.05	0.46	0.44	0.44
Sat Flow, veh/h	1870	1585	1781	1870	1781	1585
Grp Volume(v), veh/h	343	160	95	758	370	82
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1870	1781	1585
Q Serve(g_s), s	13.4	6.7	3.0	34.4	13.6	2.8
Cycle Q Clear(g_c), s	13.4	6.7	3.0	34.4	13.6	2.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	677	573	360	858	792	705
V/C Ratio(X)	0.51	0.28	0.26	0.88	0.47	0.12
Avail Cap(c_a), veh/h	1188	1007	382	1393	792	705
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.3	21.1	17.3	23.0	18.2	15.2
Incr Delay (d2), s/veh	0.6	0.3	0.4	4.2	2.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	2.5	1.2	15.2	5.8	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.9	21.4	17.7	27.2	20.1	15.5
LnGrp LOS	C	C	B	C	C	B
Approach Vol, veh/h	503			853	452	
Approach Delay, s/veh	23.1			26.1	19.3	
Approach LOS	C			C	B	
Timer - Assigned Phs	2		3	4	8	
Phs Duration (G+Y+Rc), s	46.0		9.1	38.3	47.3	
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	
Max Green Setting (Gmax), s	41.5		5.7	59.3	69.5	
Max Q Clear Time (g_c+l1), s	15.6		5.0	15.4	36.4	
Green Ext Time (p_c), s	1.4		0.0	2.9	6.4	
Intersection Summary						
HCM 6th Ctrl Delay			23.6			
HCM 6th LOS			C			

Timings

2040 Background AM.syn

1: W Meadows & Midland Ave

02/25/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↘	↑	↘	↘
Traffic Volume (vph)	1535	152	86	344	71	117
Future Volume (vph)	1535	152	86	344	71	117
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	88.0	88.0	9.5	97.5	22.5	22.5
Total Split (%)	73.3%	73.3%	7.9%	81.3%	18.8%	18.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Max	Max
Act Effect Green (s)	83.5	83.5	93.0	93.0	18.0	18.0
Actuated g/C Ratio	0.70	0.70	0.78	0.78	0.15	0.15
v/c Ratio	1.26	0.14	0.69	0.26	0.29	0.39
Control Delay	144.7	3.8	42.8	4.3	48.7	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	144.7	3.8	42.8	4.3	48.7	16.0
LOS	F	A	D	A	D	B
Approach Delay	132.0			12.0	28.3	
Approach LOS	F			B	C	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.26
Intersection Signal Delay: 100.7
Intersection Capacity Utilization 95.5%
Analysis Period (min) 15
Intersection LOS: F
ICU Level of Service F

Splits and Phases: 1: W Meadows & Midland Ave

↖ 02	↘ 03	→ 04
22.5 s	9.5 s	88 s
	↖ 08	
	97.5 s	

HCM 6th Signalized Intersection Summary
1: W Meadows & Midland Ave

2040 Background AM.syn

02/25/2021

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1535	152	86	344	71	117
Future Volume (veh/h)	1535	152	86	344	71	117
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1633	162	93	374	77	127
Peak Hour Factor	0.94	0.94	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1304	1105	131	1449	268	238
Arrive On Green	0.70	0.70	0.04	0.77	0.15	0.15
Sat Flow, veh/h	1870	1585	1781	1870	1781	1585
Grp Volume(v), veh/h	1633	162	93	374	77	127
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1870	1781	1585
Q Serve(g_s), s	83.5	4.1	2.1	6.7	4.6	8.9
Cycle Q Clear(g_c), s	83.5	4.1	2.1	6.7	4.6	8.9
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1304	1105	131	1449	268	238
V/C Ratio(X)	1.25	0.15	0.71	0.26	0.29	0.53
Avail Cap(c_a), veh/h	1304	1105	134	1452	268	238
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	6.1	36.5	3.8	45.2	47.0
Incr Delay (d2), s/veh	120.0	0.1	15.5	0.1	2.7	8.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	74.5	1.3	2.5	2.2	2.2	4.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	138.2	6.2	51.9	3.9	47.9	55.3
LnGrp LOS	F	A	D	A	D	E
Approach Vol, veh/h	1795			467	204	
Approach Delay, s/veh	126.3			13.5	52.5	
Approach LOS	F			B	D	
Timer - Assigned Phs	2		3	4	8	
Phs Duration (G+Y+Rc), s	22.5		9.3	88.0	97.3	
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	
Max Green Setting (Gmax), s	18.0		5.0	83.5	93.0	
Max Q Clear Time (g_c+l1), s	10.9		4.1	85.5	8.7	
Green Ext Time (p_c), s	0.3		0.0	0.0	2.6	
Intersection Summary						
HCM 6th Ctrl Delay			98.8			
HCM 6th LOS			F			

Timings

2040 Background PM.syn

1: W Meadows & Midland Ave

02/25/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↘	↑	↘	↗
Traffic Volume (vph)	350	145	88	710	373	87
Future Volume (vph)	350	145	88	710	373	87
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	62.8	62.8	10.2	73.0	47.0	47.0
Total Split (%)	52.3%	52.3%	8.5%	60.8%	39.2%	39.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Max	Max
Act Effect Green (s)	38.8	38.8	46.7	46.7	43.2	43.2
Actuated g/C Ratio	0.39	0.39	0.47	0.47	0.44	0.44
v/c Ratio	0.52	0.22	0.27	0.88	0.52	0.13
Control Delay	25.7	3.6	15.4	35.3	26.4	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.7	3.6	15.4	35.3	26.4	5.5
LOS	C	A	B	D	C	A
Approach Delay	19.2			33.1	22.4	
Approach LOS	B			C	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 99

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 26.4

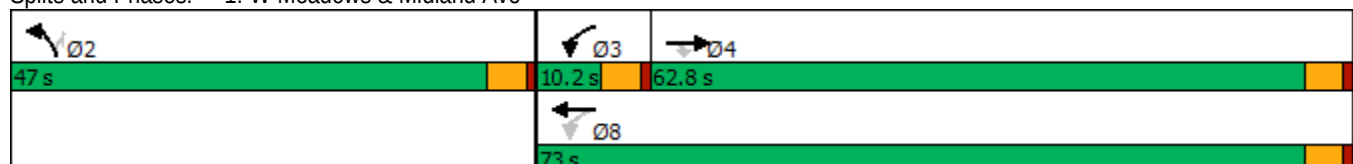
Intersection LOS: C

Intersection Capacity Utilization 65.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: W Meadows & Midland Ave



HCM 6th Signalized Intersection Summary
1: W Meadows & Midland Ave

2040 Background PM.syn

02/25/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↙	↑	↙	↗
Traffic Volume (veh/h)	350	145	88	710	373	87
Future Volume (veh/h)	350	145	88	710	373	87
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	380	158	96	772	405	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	690	585	342	869	787	700
Arrive On Green	0.37	0.37	0.05	0.46	0.44	0.44
Sat Flow, veh/h	1870	1585	1781	1870	1781	1585
Grp Volume(v), veh/h	380	158	96	772	405	95
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1870	1781	1585
Q Serve(g_s), s	15.5	6.7	3.1	36.2	15.8	3.4
Cycle Q Clear(g_c), s	15.5	6.7	3.1	36.2	15.8	3.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	690	585	342	869	787	700
V/C Ratio(X)	0.55	0.27	0.28	0.89	0.51	0.14
Avail Cap(c_a), veh/h	1134	961	361	1332	787	700
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	21.3	17.8	23.5	19.4	15.9
Incr Delay (d2), s/veh	0.7	0.2	0.4	5.1	2.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	2.5	1.3	16.2	6.8	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.7	21.5	18.2	28.6	21.8	16.3
LnGrp LOS	C	C	B	C	C	B
Approach Vol, veh/h	538			868	500	
Approach Delay, s/veh	23.8			27.4	20.8	
Approach LOS	C			C	C	
Timer - Assigned Phs	2		3	4	8	
Phs Duration (G+Y+Rc), s	47.0		9.2	40.0	49.2	
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	
Max Green Setting (Gmax), s	42.5		5.7	58.3	68.5	
Max Q Clear Time (g_c+l1), s	17.8		5.1	17.5	38.2	
Green Ext Time (p_c), s	1.6		0.0	3.1	6.5	
Intersection Summary						
HCM 6th Ctrl Delay			24.7			
HCM 6th LOS			C			

Timings

2040 Background AM_Improved.syn

1: W Meadows & Midland Ave

02/25/2021

	→	↖	←	↗	↘
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↖	↑↑	↖	↖
Traffic Volume (vph)	1535	86	344	71	117
Future Volume (vph)	1535	86	344	71	117
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	4	3	8	2	
Permitted Phases		8			2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	22.5
Total Split (s)	80.0	15.0	95.0	25.0	25.0
Total Split (%)	66.7%	12.5%	79.2%	20.8%	20.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	None	None	None	Max	Max
Act Effect Green (s)	66.3	75.9	75.9	21.0	21.0
Actuated g/C Ratio	0.62	0.72	0.72	0.20	0.20
v/c Ratio	0.82	0.47	0.15	0.22	0.31
Control Delay	19.5	20.2	4.6	42.9	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	20.2	4.6	42.9	9.7
LOS	B	C	A	D	A
Approach Delay	19.5		7.7	22.3	
Approach LOS	B		A	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 106.1

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 17.5

Intersection LOS: B

Intersection Capacity Utilization 67.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: W Meadows & Midland Ave

↖ 02	↖ 03	→ 04
25 s	15 s	80 s
	↖ 08	
	95 s	

HCM 6th Signalized Intersection Summary
1: W Meadows & Midland Ave

2040 Background AM_Improved.syn

02/25/2021

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1535	152	86	344	71	117
Future Volume (veh/h)	1535	152	86	344	71	117
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1633	162	93	374	77	127
Peak Hour Factor	0.94	0.94	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2002	196	212	2502	366	326
Arrive On Green	0.61	0.61	0.05	0.70	0.21	0.21
Sat Flow, veh/h	3363	320	1781	3647	1781	1585
Grp Volume(v), veh/h	879	916	93	374	77	127
Grp Sat Flow(s),veh/h/ln	1777	1813	1781	1777	1781	1585
Q Serve(g_s), s	37.8	39.5	1.8	3.5	3.6	6.9
Cycle Q Clear(g_c), s	37.8	39.5	1.8	3.5	3.6	6.9
Prop In Lane		0.18	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1088	1110	212	2502	366	326
V/C Ratio(X)	0.81	0.83	0.44	0.15	0.21	0.39
Avail Cap(c_a), veh/h	1346	1373	317	3227	366	326
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	15.1	18.8	4.9	32.9	34.2
Incr Delay (d2), s/veh	3.0	3.5	1.4	0.0	1.3	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.6	15.6	1.3	1.1	1.7	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.8	18.6	20.2	4.9	34.2	37.7
LnGrp LOS	B	B	C	A	C	D
Approach Vol, veh/h	1795			467	204	
Approach Delay, s/veh	18.3			8.0	36.3	
Approach LOS	B			A	D	
Timer - Assigned Phs	2		3	4	8	
Phs Duration (G+Y+Rc), s	25.0		9.1	65.6	74.7	
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	
Max Green Setting (Gmax), s	20.5		10.5	75.5	90.5	
Max Q Clear Time (g_c+l1), s	8.9		3.8	41.5	5.5	
Green Ext Time (p_c), s	0.5		0.1	19.6	2.8	
Intersection Summary						
HCM 6th Ctrl Delay			17.8			
HCM 6th LOS			B			

Timings

2040 Background PM_Improved.syn

1: W Meadows & Midland Ave

02/25/2021

	→	↖	←	↗	↘
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	350	88	710	373	87
Future Volume (vph)	350	88	710	373	87
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	4	3	8	2	
Permitted Phases		8			2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	22.5
Total Split (s)	40.0	18.0	58.0	62.0	62.0
Total Split (%)	33.3%	15.0%	48.3%	51.7%	51.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	None	None	None	Max	Max
Act Effect Green (s)	21.9	33.1	33.1	57.9	57.9
Actuated g/C Ratio	0.22	0.33	0.33	0.58	0.58
v/c Ratio	0.69	0.38	0.66	0.40	0.10
Control Delay	37.9	27.1	31.1	14.5	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	27.1	31.1	14.5	3.0
LOS	D	C	C	B	A
Approach Delay	37.9		30.7	12.3	
Approach LOS	D		C	B	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 100.1
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 27.9
Intersection Capacity Utilization 51.1%
Analysis Period (min) 15
Intersection LOS: C
ICU Level of Service A

Splits and Phases: 1: W Meadows & Midland Ave

↖ Ø2	↖ Ø3	→ Ø4
62 s	18 s	40 s
	↖ Ø8	
	58 s	

HCM 6th Signalized Intersection Summary
1: W Meadows & Midland Ave

2040 Background PM_Improved.syn

02/25/2021

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (veh/h)	350	145	88	710	373	87
Future Volume (veh/h)	350	145	88	710	373	87
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	380	158	96	772	405	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	498	204	226	1093	1066	949
Arrive On Green	0.20	0.20	0.06	0.31	0.60	0.60
Sat Flow, veh/h	2552	1008	1781	3647	1781	1585
Grp Volume(v), veh/h	273	265	96	772	405	95
Grp Sat Flow(s),veh/h/ln	1777	1689	1781	1777	1781	1585
Q Serve(g_s), s	13.9	14.2	3.9	18.5	11.3	2.5
Cycle Q Clear(g_c), s	13.9	14.2	3.9	18.5	11.3	2.5
Prop In Lane		0.60	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	360	342	226	1093	1066	949
V/C Ratio(X)	0.76	0.77	0.43	0.71	0.38	0.10
Avail Cap(c_a), veh/h	657	624	373	1979	1066	949
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.1	36.2	27.7	29.4	10.0	8.2
Incr Delay (d2), s/veh	3.3	3.7	1.3	0.8	1.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	6.1	1.7	7.8	4.4	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	39.4	39.9	29.0	30.3	11.0	8.4
LnGrp LOS	D	D	C	C	B	A
Approach Vol, veh/h	538			868	500	
Approach Delay, s/veh	39.6			30.1	10.5	
Approach LOS	D			C	B	
Timer - Assigned Phs	2		3	4	8	
Phs Duration (G+Y+Rc), s	62.0		10.1	24.0	34.0	
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	
Max Green Setting (Gmax), s	57.5		13.5	35.5	53.5	
Max Q Clear Time (g_c+l1), s	13.3		5.9	16.2	20.5	
Green Ext Time (p_c), s	1.7		0.1	3.2	6.2	
Intersection Summary						
HCM 6th Ctrl Delay			27.7			
HCM 6th LOS			C			

Timings

1: W Meadows & Midland Ave

2040 Total AM.syn

02/25/2021

	→	↖	←	↗	↘
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↖	↑↑	↖	↖
Traffic Volume (vph)	1536	86	344	77	117
Future Volume (vph)	1536	86	344	77	117
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	4	3	8	2	
Permitted Phases		8			2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	22.5
Total Split (s)	80.0	15.0	95.0	25.0	25.0
Total Split (%)	66.7%	12.5%	79.2%	20.8%	20.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	None	None	None	Max	Max
Act Effect Green (s)	66.4	76.0	76.0	21.0	21.0
Actuated g/C Ratio	0.63	0.72	0.72	0.20	0.20
v/c Ratio	0.82	0.47	0.15	0.24	0.31
Control Delay	19.6	20.2	4.6	43.1	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.6	20.2	4.6	43.1	9.7
LOS	B	C	A	D	A
Approach Delay	19.6		7.7	23.0	
Approach LOS	B		A	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 106.2

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 17.6

Intersection LOS: B

Intersection Capacity Utilization 67.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: W Meadows & Midland Ave

↖ 02	↖ 03	→ 04
25 s	15 s	80 s
	↖ 08	
	05 s	

HCM 6th Signalized Intersection Summary
1: W Meadows & Midland Ave

2040 Total AM.syn
02/25/2021

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1536	155	86	344	77	117
Future Volume (veh/h)	1536	155	86	344	77	117
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1634	165	93	374	84	127
Peak Hour Factor	0.94	0.94	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2002	200	211	2504	366	325
Arrive On Green	0.61	0.61	0.05	0.70	0.21	0.21
Sat Flow, veh/h	3357	325	1781	3647	1781	1585
Grp Volume(v), veh/h	880	919	93	374	84	127
Grp Sat Flow(s),veh/h/ln	1777	1812	1781	1777	1781	1585
Q Serve(g_s), s	37.9	39.7	1.8	3.5	3.9	6.9
Cycle Q Clear(g_c), s	37.9	39.7	1.8	3.5	3.9	6.9
Prop In Lane		0.18	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1090	1111	211	2504	366	325
V/C Ratio(X)	0.81	0.83	0.44	0.15	0.23	0.39
Avail Cap(c_a), veh/h	1343	1369	316	3219	366	325
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	15.1	18.9	4.9	33.1	34.3
Incr Delay (d2), s/veh	3.1	3.6	1.4	0.0	1.5	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.6	15.7	1.3	1.1	1.8	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.9	18.7	20.3	4.9	34.6	37.8
LnGrp LOS	B	B	C	A	C	D
Approach Vol, veh/h	1799			467	211	
Approach Delay, s/veh	18.3			8.0	36.5	
Approach LOS	B			A	D	
Timer - Assigned Phs	2		3	4	8	
Phs Duration (G+Y+Rc), s	25.0		9.1	65.8	74.9	
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	
Max Green Setting (Gmax), s	20.5		10.5	75.5	90.5	
Max Q Clear Time (g_c+l1), s	8.9		3.8	41.7	5.5	
Green Ext Time (p_c), s	0.5		0.1	19.6	2.8	
Intersection Summary						
HCM 6th Ctrl Delay			17.9			
HCM 6th LOS			B			

Timings

1: W Meadows & Midland Ave

2040 Total PM.syn

02/25/2021

	→	↖	←	↗	↘
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑↑	↑	↑
Traffic Volume (vph)	356	88	710	391	87
Future Volume (vph)	356	88	710	391	87
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	4	3	8	2	
Permitted Phases		8			2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	22.5
Total Split (s)	40.0	17.0	57.0	63.0	63.0
Total Split (%)	33.3%	14.2%	47.5%	52.5%	52.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	None	None	None	Max	Max
Act Effect Green (s)	22.7	33.9	33.9	58.9	58.9
Actuated g/C Ratio	0.22	0.33	0.33	0.58	0.58
v/c Ratio	0.70	0.39	0.66	0.42	0.10
Control Delay	38.2	27.7	31.3	15.1	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	38.2	27.7	31.3	15.1	3.0
LOS	D	C	C	B	A
Approach Delay	38.2		30.9	12.9	
Approach LOS	D		C	B	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 101.9

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 28.2

Intersection LOS: C

Intersection Capacity Utilization 52.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: W Meadows & Midland Ave

↖ 02	↖ 03	→ 04
63 s	17 s	40 s
	↖ 08	
	57 s	

HCM 6th Signalized Intersection Summary
1: W Meadows & Midland Ave

2040 Total PM.syn
02/25/2021

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↱	↑↑	↱	↱
Traffic Volume (veh/h)	356	162	88	710	391	87
Future Volume (veh/h)	356	162	88	710	391	87
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	387	176	96	772	425	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	501	225	222	1113	1060	943
Arrive On Green	0.21	0.21	0.06	0.31	0.60	0.60
Sat Flow, veh/h	2478	1070	1781	3647	1781	1585
Grp Volume(v), veh/h	287	276	96	772	425	95
Grp Sat Flow(s),veh/h/ln	1777	1678	1781	1777	1781	1585
Q Serve(g_s), s	15.0	15.3	4.0	18.7	12.5	2.5
Cycle Q Clear(g_c), s	15.0	15.3	4.0	18.7	12.5	2.5
Prop In Lane		0.64	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	373	352	222	1113	1060	943
V/C Ratio(X)	0.77	0.78	0.43	0.69	0.40	0.10
Avail Cap(c_a), veh/h	642	606	346	1898	1060	943
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	36.7	28.1	29.6	10.6	8.6
Incr Delay (d2), s/veh	3.4	3.8	1.3	0.8	1.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	6.5	1.8	7.9	4.9	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	39.9	40.6	29.4	30.4	11.7	8.8
LnGrp LOS	D	D	C	C	B	A
Approach Vol, veh/h	563			868	520	
Approach Delay, s/veh	40.2			30.3	11.2	
Approach LOS	D			C	B	
Timer - Assigned Phs	2		3	4	8	
Phs Duration (G+Y+Rc), s	63.0		10.1	25.1	35.3	
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	
Max Green Setting (Gmax), s	58.5		12.5	35.5	52.5	
Max Q Clear Time (g_c+l1), s	14.5		6.0	17.3	20.7	
Green Ext Time (p_c), s	1.7		0.1	3.3	6.2	
Intersection Summary						
HCM 6th Ctrl Delay			28.1			
HCM 6th LOS			C			

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	6	87	4	7	27	0	13	1	25	4	4	1
Future Vol, veh/h	6	87	4	7	27	0	13	1	25	4	4	1
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	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	51	51	51	61	61	61	60	60	60	58	58	58
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	171	8	11	44	0	22	2	42	7	7	2
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	44	0	0	179	0	0	270	265	175	287	269	44
Stage 1	-	-	-	-	-	-	199	199	-	66	66	-
Stage 2	-	-	-	-	-	-	71	66	-	221	203	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1564	-	-	1397	-	-	683	640	868	665	637	1026
Stage 1	-	-	-	-	-	-	803	736	-	945	840	-
Stage 2	-	-	-	-	-	-	939	840	-	781	733	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1564	-	-	1397	-	-	667	629	868	624	626	1026
Mov Cap-2 Maneuver	-	-	-	-	-	-	667	629	-	624	626	-
Stage 1	-	-	-	-	-	-	796	729	-	936	833	-
Stage 2	-	-	-	-	-	-	922	833	-	735	726	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			1.6			9.8			10.6		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1NBLn2		EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)	667	855	1564	-	-	1397	-	-	653			
HCM Lane V/C Ratio	0.032	0.051	0.008	-	-	0.008	-	-	0.024			
HCM Control Delay (s)	10.6	9.4	7.3	0	-	7.6	0	-	10.6			
HCM Lane LOS	B	A	A	A	-	A	A	-	B			
HCM 95th %tile Q(veh)	0.1	0.2	0	-	-	0	-	-	0.1			

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	8	43	6	25	97	31	6	6	13	21	6	14
Future Vol, veh/h	8	43	6	25	97	31	6	6	13	21	6	14
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	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	93	93	93	61	61	61	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	61	9	27	104	33	10	10	21	28	8	19
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	137	0	0	70	0	0	276	279	66	278	267	121
Stage 1	-	-	-	-	-	-	88	88	-	175	175	-
Stage 2	-	-	-	-	-	-	188	191	-	103	92	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1447	-	-	1531	-	-	676	629	998	674	639	930
Stage 1	-	-	-	-	-	-	920	822	-	827	754	-
Stage 2	-	-	-	-	-	-	814	742	-	903	819	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1447	-	-	1531	-	-	642	612	998	638	622	930
Mov Cap-2 Maneuver	-	-	-	-	-	-	642	612	-	638	622	-
Stage 1	-	-	-	-	-	-	913	815	-	820	740	-
Stage 2	-	-	-	-	-	-	774	728	-	866	812	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			1.2			9.8			10.5		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1NBLn2		EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)	642	832	1447	-	-	1531	-	-	712			
HCM Lane V/C Ratio	0.015	0.037	0.008	-	-	0.018	-	-	0.077			
HCM Control Delay (s)	10.7	9.5	7.5	0	-	7.4	0	-	10.5			
HCM Lane LOS	B	A	A	A	-	A	A	-	B			
HCM 95th %tile Q(veh)	0	0.1	0	-	-	0.1	-	-	0.2			

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	6	91	4	7	28	2	13	1	26	9	4	1
Future Vol, veh/h	6	91	4	7	28	2	13	1	26	9	4	1
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	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	51	51	51	61	61	61	60	60	60	58	58	58
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	178	8	11	46	3	22	2	43	16	7	2
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	49	0	0	186	0	0	280	277	182	299	280	48
Stage 1	-	-	-	-	-	-	206	206	-	70	70	-
Stage 2	-	-	-	-	-	-	74	71	-	229	210	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1558	-	-	1388	-	-	672	631	861	653	628	1021
Stage 1	-	-	-	-	-	-	796	731	-	940	837	-
Stage 2	-	-	-	-	-	-	935	836	-	774	728	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1558	-	-	1388	-	-	657	620	861	611	617	1021
Mov Cap-2 Maneuver	-	-	-	-	-	-	657	620	-	611	617	-
Stage 1	-	-	-	-	-	-	789	724	-	932	830	-
Stage 2	-	-	-	-	-	-	918	829	-	727	721	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			1.4			9.9			10.9		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1NBLn2		EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)	657	849	1558	-	-	1388	-	-	631			
HCM Lane V/C Ratio	0.033	0.053	0.008	-	-	0.008	-	-	0.038			
HCM Control Delay (s)	10.7	9.5	7.3	0	-	7.6	0	-	10.9			
HCM Lane LOS	B	A	A	A	-	A	A	-	B			
HCM 95th %tile Q(veh)	0.1	0.2	0	-	-	0	-	-	0.1			

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	8	46	6	26	102	37	6	6	13	25	6	14
Future Vol, veh/h	8	46	6	26	102	37	6	6	13	25	6	14
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	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	93	93	93	61	61	61	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	66	9	28	110	40	10	10	21	33	8	19
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	150	0	0	75	0	0	293	299	71	294	283	130
Stage 1	-	-	-	-	-	-	93	93	-	186	186	-
Stage 2	-	-	-	-	-	-	200	206	-	108	97	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1431	-	-	1524	-	-	659	613	991	658	626	920
Stage 1	-	-	-	-	-	-	914	818	-	816	746	-
Stage 2	-	-	-	-	-	-	802	731	-	897	815	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1431	-	-	1524	-	-	625	596	991	622	608	920
Mov Cap-2 Maneuver	-	-	-	-	-	-	625	596	-	622	608	-
Stage 1	-	-	-	-	-	-	907	811	-	809	731	-
Stage 2	-	-	-	-	-	-	762	716	-	860	808	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			1.2			9.9			10.7		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1NBLn2		EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)	625	819	1431	-	-	1524	-	-	689			
HCM Lane V/C Ratio	0.016	0.038	0.008	-	-	0.018	-	-	0.087			
HCM Control Delay (s)	10.9	9.6	7.5	0	-	7.4	0	-	10.7			
HCM Lane LOS	B	A	A	A	-	A	A	-	B			
HCM 95th %tile Q(veh)	0	0.1	0	-	-	0.1	-	-	0.3			

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	6	92	4	7	29	4	13	1	26	12	4	1
Future Vol, veh/h	6	92	4	7	29	4	13	1	26	12	4	1
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	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	51	51	51	61	61	61	60	60	60	58	58	58
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	180	8	11	48	7	22	2	43	21	7	2
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	55	0	0	188	0	0	286	285	184	305	286	52
Stage 1	-	-	-	-	-	-	208	208	-	74	74	-
Stage 2	-	-	-	-	-	-	78	77	-	231	212	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1550	-	-	1386	-	-	666	624	858	647	623	1016
Stage 1	-	-	-	-	-	-	794	730	-	935	833	-
Stage 2	-	-	-	-	-	-	931	831	-	772	727	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1550	-	-	1386	-	-	651	613	858	605	612	1016
Mov Cap-2 Maneuver	-	-	-	-	-	-	651	613	-	605	612	-
Stage 1	-	-	-	-	-	-	787	723	-	927	826	-
Stage 2	-	-	-	-	-	-	914	824	-	725	720	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			1.3			9.9			11.1		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1NBLn2		EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)	651	845	1550	-	-	1386	-	-	621			
HCM Lane V/C Ratio	0.033	0.053	0.008	-	-	0.008	-	-	0.047			
HCM Control Delay (s)	10.7	9.5	7.3	0	-	7.6	0	-	11.1			
HCM Lane LOS	B	A	A	A	-	A	A	-	B			
HCM 95th %tile Q(veh)	0.1	0.2	0	-	-	0	-	-	0.1			

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	8	51	6	26	108	48	6	6	13	34	6	14
Future Vol, veh/h	8	51	6	26	108	48	6	6	13	34	6	14
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	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	93	93	93	61	61	61	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	73	9	28	116	52	10	10	21	45	8	19
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	168	0	0	82	0	0	312	324	78	313	302	142
Stage 1	-	-	-	-	-	-	100	100	-	198	198	-
Stage 2	-	-	-	-	-	-	212	224	-	115	104	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1410	-	-	1515	-	-	641	594	983	640	611	906
Stage 1	-	-	-	-	-	-	906	812	-	804	737	-
Stage 2	-	-	-	-	-	-	790	718	-	890	809	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1410	-	-	1515	-	-	608	577	983	604	593	906
Mov Cap-2 Maneuver	-	-	-	-	-	-	608	577	-	604	593	-
Stage 1	-	-	-	-	-	-	899	806	-	798	722	-
Stage 2	-	-	-	-	-	-	749	703	-	853	803	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			1.1			10			11.1		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1NBLn2		EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)	608	804	1410	-	-	1515	-	-	660			
HCM Lane V/C Ratio	0.016	0.039	0.008	-	-	0.018	-	-	0.109			
HCM Control Delay (s)	11	9.7	7.6	0	-	7.4	0	-	11.1			
HCM Lane LOS	B	A	A	A	-	A	A	-	B			
HCM 95th %tile Q(veh)	0	0.1	0	-	-	0.1	-	-	0.4			

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↵	↵			↕	
Traffic Vol, veh/h	7	110	5	9	34	2	16	1	31	10	5	1
Future Vol, veh/h	7	110	5	9	34	2	16	1	31	10	5	1
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	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	120	5	10	37	2	17	1	34	11	5	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	39	0	0	125	0	0	200	198	123	214	199	38
Stage 1	-	-	-	-	-	-	139	139	-	58	58	-
Stage 2	-	-	-	-	-	-	61	59	-	156	141	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1571	-	-	1462	-	-	759	698	928	743	697	1034
Stage 1	-	-	-	-	-	-	864	782	-	954	847	-
Stage 2	-	-	-	-	-	-	950	846	-	846	780	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1571	-	-	1462	-	-	747	690	928	709	689	1034
Mov Cap-2 Maneuver	-	-	-	-	-	-	747	690	-	709	689	-
Stage 1	-	-	-	-	-	-	860	778	-	949	841	-
Stage 2	-	-	-	-	-	-	936	840	-	810	776	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			1.5			9.4			10.1		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)	747	918	1571	-	-	1462	-	-	717			
HCM Lane V/C Ratio	0.023	0.038	0.005	-	-	0.007	-	-	0.024			
HCM Control Delay (s)	9.9	9.1	7.3	0	-	7.5	0	-	10.1			
HCM Lane LOS	A	A	A	A	-	A	A	-	B			
HCM 95th %tile Q(veh)	0.1	0.1	0	-	-	0	-	-	0.1			

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	10	55	7	31	123	43	7	7	16	29	7	17
Future Vol, veh/h	10	55	7	31	123	43	7	7	16	29	7	17
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	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	93	93	93	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	60	8	33	132	46	8	8	17	32	8	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	178	0	0	68	0	0	320	330	64	320	311	155
Stage 1	-	-	-	-	-	-	86	86	-	221	221	-
Stage 2	-	-	-	-	-	-	234	244	-	99	90	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1398	-	-	1533	-	-	633	589	1000	633	604	891
Stage 1	-	-	-	-	-	-	922	824	-	781	720	-
Stage 2	-	-	-	-	-	-	769	704	-	907	820	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1398	-	-	1533	-	-	599	570	1000	601	585	891
Mov Cap-2 Maneuver	-	-	-	-	-	-	599	570	-	601	585	-
Stage 1	-	-	-	-	-	-	915	817	-	775	703	-
Stage 2	-	-	-	-	-	-	727	687	-	876	813	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			1.2			10			10.9		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	599	813	1398	-	-	1533	-	-	668
HCM Lane V/C Ratio	0.013	0.031	0.008	-	-	0.022	-	-	0.086
HCM Control Delay (s)	11.1	9.6	7.6	0	-	7.4	0	-	10.9
HCM Lane LOS	B	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0.1	0	-	-	0.1	-	-	0.3

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↵	↵			↕	
Traffic Vol, veh/h	7	111	5	9	35	4	16	1	31	13	5	1
Future Vol, veh/h	7	111	5	9	35	4	16	1	31	13	5	1
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	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	121	5	10	38	4	17	1	34	14	5	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	42	0	0	126	0	0	203	202	124	217	202	40
Stage 1	-	-	-	-	-	-	140	140	-	60	60	-
Stage 2	-	-	-	-	-	-	63	62	-	157	142	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1567	-	-	1460	-	-	755	694	927	739	694	1031
Stage 1	-	-	-	-	-	-	863	781	-	951	845	-
Stage 2	-	-	-	-	-	-	948	843	-	845	779	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1567	-	-	1460	-	-	743	686	927	705	686	1031
Mov Cap-2 Maneuver	-	-	-	-	-	-	743	686	-	705	686	-
Stage 1	-	-	-	-	-	-	859	777	-	946	839	-
Stage 2	-	-	-	-	-	-	934	837	-	809	775	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			1.4			9.4			10.2		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)	743	917	1567	-	-	1460	-	-	712			
HCM Lane V/C Ratio	0.023	0.038	0.005	-	-	0.007	-	-	0.029			
HCM Control Delay (s)	10	9.1	7.3	0	-	7.5	0	-	10.2			
HCM Lane LOS	B	A	A	A	-	A	A	-	B			
HCM 95th %tile Q(veh)	0.1	0.1	0	-	-	0	-	-	0.1			

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	10	60	7	31	129	54	7	7	16	38	7	17
Future Vol, veh/h	10	60	7	31	129	54	7	7	16	38	7	17
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	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	93	93	93	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	65	8	33	139	58	8	8	17	41	8	18
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	197	0	0	73	0	0	338	354	69	338	329	168
Stage 1	-	-	-	-	-	-	91	91	-	234	234	-
Stage 2	-	-	-	-	-	-	247	263	-	104	95	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1376	-	-	1527	-	-	616	571	994	616	590	876
Stage 1	-	-	-	-	-	-	916	820	-	769	711	-
Stage 2	-	-	-	-	-	-	757	691	-	902	816	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1376	-	-	1527	-	-	582	553	994	585	571	876
Mov Cap-2 Maneuver	-	-	-	-	-	-	582	553	-	585	571	-
Stage 1	-	-	-	-	-	-	909	813	-	763	694	-
Stage 2	-	-	-	-	-	-	715	674	-	871	809	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			1.1			10			11.3		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1NBLn2		EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)	582	800	1376	-	-	1527	-	-	642			
HCM Lane V/C Ratio	0.013	0.031	0.008	-	-	0.022	-	-	0.105			
HCM Control Delay (s)	11.3	9.6	7.6	0	-	7.4	0	-	11.3			
HCM Lane LOS	B	A	A	A	-	A	A	-	B			
HCM 95th %tile Q(veh)	0	0.1	0	-	-	0.1	-	-	0.3			

Intersection				
Intersection Delay, s/veh	2.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	12	16	10	45
Demand Flow Rate, veh/h	12	16	10	45
Vehicles Circulating, veh/h	26	18	25	4
Vehicles Exiting, veh/h	23	17	13	30
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	2.7	2.8	2.8	2.9
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	12	16	10	45
Cap Entry Lane, veh/h	1344	1355	1345	1374
Entry HV Adj Factor	1.000	0.998	0.988	0.995
Flow Entry, veh/h	12	16	10	45
Cap Entry, veh/h	1344	1351	1329	1368
V/C Ratio	0.009	0.012	0.007	0.033
Control Delay, s/veh	2.7	2.8	2.8	2.9
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection				
Intersection Delay, s/veh	3.3			
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	120	28	47	52
Demand Flow Rate, veh/h	122	28	48	53
Vehicles Circulating, veh/h	36	138	107	43
Vehicles Exiting, veh/h	60	17	51	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	3.5	3.2	3.3	3.1
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	122	28	48	53
Cap Entry Lane, veh/h	1330	1199	1237	1321
Entry HV Adj Factor	0.982	0.991	0.972	0.990
Flow Entry, veh/h	120	28	47	52
Cap Entry, veh/h	1307	1188	1202	1307
V/C Ratio	0.092	0.023	0.039	0.040
Control Delay, s/veh	3.5	3.2	3.3	3.1
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection				
Intersection Delay, s/veh	2.9			
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	31	16	14	50
Demand Flow Rate, veh/h	31	16	14	50
Vehicles Circulating, veh/h	26	33	36	8
Vehicles Exiting, veh/h	32	17	21	41
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	2.9	2.8	2.8	2.9
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	31	16	14	50
Cap Entry Lane, veh/h	1344	1334	1330	1369
Entry HV Adj Factor	1.000	0.998	0.992	0.996
Flow Entry, veh/h	31	16	14	50
Cap Entry, veh/h	1344	1331	1319	1363
V/C Ratio	0.023	0.012	0.011	0.037
Control Delay, s/veh	2.9	2.8	2.8	2.9
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection				
Intersection Delay, s/veh	3.4			
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	133	28	53	65
Demand Flow Rate, veh/h	136	28	54	67
Vehicles Circulating, veh/h	36	152	115	49
Vehicles Exiting, veh/h	80	17	57	131
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.6	3.3	3.4	3.2
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	136	28	54	67
Cap Entry Lane, veh/h	1330	1182	1227	1313
Entry HV Adj Factor	0.977	0.991	0.975	0.977
Flow Entry, veh/h	133	28	53	65
Cap Entry, veh/h	1299	1171	1196	1283
V/C Ratio	0.102	0.024	0.044	0.051
Control Delay, s/veh	3.6	3.3	3.4	3.2
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection				
Intersection Delay, s/veh	3.0			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	41	16	18	55
Demand Flow Rate, veh/h	42	16	18	56
Vehicles Circulating, veh/h	26	44	43	12
Vehicles Exiting, veh/h	42	17	25	48
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.0	2.8	2.8	3.0
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	42	16	18	56
Cap Entry Lane, veh/h	1344	1319	1321	1363
Entry HV Adj Factor	0.976	0.998	0.993	0.978
Flow Entry, veh/h	41	16	18	55
Cap Entry, veh/h	1312	1316	1312	1333
V/C Ratio	0.031	0.012	0.014	0.041
Control Delay, s/veh	3.0	2.8	2.8	3.0
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection				
Intersection Delay, s/veh	3.6			
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	163	28	66	93
Demand Flow Rate, veh/h	166	28	67	95
Vehicles Circulating, veh/h	36	183	133	62
Vehicles Exiting, veh/h	121	17	69	149
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.8	3.4	3.5	3.4
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	166	28	67	95
Cap Entry Lane, veh/h	1330	1145	1205	1295
Entry HV Adj Factor	0.981	0.991	0.980	0.984
Flow Entry, veh/h	163	28	66	93
Cap Entry, veh/h	1305	1134	1180	1274
V/C Ratio	0.125	0.024	0.056	0.073
Control Delay, s/veh	3.8	3.4	3.5	3.4
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection				
Intersection Delay, s/veh	2.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	22	11	8	49
Demand Flow Rate, veh/h	22	11	8	49
Vehicles Circulating, veh/h	26	22	30	4
Vehicles Exiting, veh/h	27	16	18	29
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	2.8	2.7	2.8	2.9
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	22	11	8	49
Cap Entry Lane, veh/h	1344	1349	1338	1374
Entry HV Adj Factor	1.000	0.998	0.990	0.996
Flow Entry, veh/h	22	11	8	49
Cap Entry, veh/h	1344	1347	1325	1368
V/C Ratio	0.016	0.008	0.006	0.036
Control Delay, s/veh	2.8	2.7	2.8	2.9
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection				
Intersection Delay, s/veh	3.4			
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	132	18	59	65
Demand Flow Rate, veh/h	135	18	60	67
Vehicles Circulating, veh/h	38	158	116	47
Vehicles Exiting, veh/h	76	18	57	129
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.6	3.2	3.4	3.2
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	135	18	60	67
Cap Entry Lane, veh/h	1327	1174	1226	1315
Entry HV Adj Factor	0.977	0.991	0.976	0.977
Flow Entry, veh/h	132	18	59	65
Cap Entry, veh/h	1296	1164	1197	1285
V/C Ratio	0.102	0.015	0.049	0.051
Control Delay, s/veh	3.6	3.2	3.4	3.2
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection				
Intersection Delay, s/veh	2.9			
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	30	11	10	53
Demand Flow Rate, veh/h	30	11	10	54
Vehicles Circulating, veh/h	26	29	35	6
Vehicles Exiting, veh/h	34	16	21	34
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	2.9	2.8	2.8	3.0
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	30	11	10	54
Cap Entry Lane, veh/h	1344	1340	1331	1371
Entry HV Adj Factor	1.000	0.998	0.992	0.977
Flow Entry, veh/h	30	11	10	53
Cap Entry, veh/h	1344	1337	1321	1341
V/C Ratio	0.022	0.008	0.008	0.039
Control Delay, s/veh	2.9	2.8	2.8	3.0
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection				
Intersection Delay, s/veh	3.6			
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	157	18	71	89
Demand Flow Rate, veh/h	160	18	72	91
Vehicles Circulating, veh/h	38	185	131	59
Vehicles Exiting, veh/h	112	18	67	144
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.7	3.3	3.5	3.4
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	160	18	72	91
Cap Entry Lane, veh/h	1327	1143	1207	1299
Entry HV Adj Factor	0.980	0.991	0.980	0.983
Flow Entry, veh/h	157	18	71	89
Cap Entry, veh/h	1301	1133	1184	1277
V/C Ratio	0.121	0.016	0.060	0.070
Control Delay, s/veh	3.7	3.3	3.5	3.4
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑		↑
Traffic Vol, veh/h	1299	29	45	344	0	32
Future Vol, veh/h	1299	29	45	344	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	175	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	83	83	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1353	30	54	414	0	43

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1383
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	495
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	495
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	30.6
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	183	-	-	495	-
HCM Lane V/C Ratio	0.233	-	-	0.11	-
HCM Control Delay (s)	30.6	-	-	13.2	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.9	-	-	0.4	-

Intersection						
Int Delay, s/veh	2.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑		↗
Traffic Vol, veh/h	326	24	181	643	0	175
Future Vol, veh/h	326	24	181	643	0	175
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	175	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	80	80	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	366	27	226	804	0	206
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	393	0	-	366
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	-	3.318
Pot Cap-1 Maneuver	-	-	1166	-	0	679
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1166	-	-	679
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.9		12.6	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	679	-	-	1166	-	
HCM Lane V/C Ratio	0.303	-	-	0.194	-	
HCM Control Delay (s)	12.6	-	-	8.8	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	1.3	-	-	0.7	-	

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑		↗
Traffic Vol, veh/h	1329	30	48	352	0	40
Future Vol, veh/h	1329	30	48	352	0	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	175	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	83	83	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1384	31	58	424	0	53
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1415	0	-	1384
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	-	3.318
Pot Cap-1 Maneuver	-	-	482	-	0	176
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	482	-	-	176
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.6		34.1	
HCM LOS					D	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	176	-	-	482	-	
HCM Lane V/C Ratio	0.303	-	-	0.12	-	
HCM Control Delay (s)	34.1	-	-	13.5	-	
HCM Lane LOS	D	-	-	B	-	
HCM 95th %tile Q(veh)	1.2	-	-	0.4	-	

Intersection						
Int Delay, s/veh	2.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑		↗
Traffic Vol, veh/h	334	27	192	658	0	184
Future Vol, veh/h	334	27	192	658	0	184
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	175	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	80	80	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	375	30	240	823	0	216
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	405	0	-	375
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	-	3.318
Pot Cap-1 Maneuver	-	-	1154	-	0	671
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1154	-	-	671
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		2		12.9	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	671	-	-	1154	-	
HCM Lane V/C Ratio	0.323	-	-	0.208	-	
HCM Control Delay (s)	12.9	-	-	8.9	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	1.4	-	-	0.8	-	

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑		↗
Traffic Vol, veh/h	1329	31	51	352	0	44
Future Vol, veh/h	1329	31	51	352	0	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	175	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	83	83	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1384	32	61	424	0	59
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1416	0	-	1384
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	-	3.318
Pot Cap-1 Maneuver	-	-	481	-	0	176
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	481	-	-	176
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.7		35.4	
HCM LOS					E	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	176	-	-	481	-	
HCM Lane V/C Ratio	0.333	-	-	0.128	-	
HCM Control Delay (s)	35.4	-	-	13.6	-	
HCM Lane LOS	E	-	-	B	-	
HCM 95th %tile Q(veh)	1.4	-	-	0.4	-	

Intersection						
Int Delay, s/veh	3.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑		↗
Traffic Vol, veh/h	334	33	209	658	0	198
Future Vol, veh/h	334	33	209	658	0	198
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	175	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	80	80	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	375	37	261	823	0	233
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	412	0	-	375
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	-	3.318
Pot Cap-1 Maneuver	-	-	1147	-	0	671
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1147	-	-	671
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		2.2		13.2	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	671	-	-	1147	-	
HCM Lane V/C Ratio	0.347	-	-	0.228	-	
HCM Control Delay (s)	13.2	-	-	9.1	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	1.6	-	-	0.9	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑		↗
Traffic Vol, veh/h	1329	31	51	352	0	44
Future Vol, veh/h	1329	31	51	352	0	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	175	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	83	83	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1384	32	61	424	0	59
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1416	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	-	-
Pot Cap-1 Maneuver	-	-	481	-	0	0
Stage 1	-	-	-	-	0	0
Stage 2	-	-	-	-	0	0
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	481	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.7		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	-	-	-	481	-	
HCM Lane V/C Ratio	-	-	-	0.128	-	
HCM Control Delay (s)	0	-	-	13.6	-	
HCM Lane LOS	A	-	-	B	-	
HCM 95th %tile Q(veh)	-	-	-	0.4	-	

Intersection

Int Delay, s/veh 1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑		↗
Traffic Vol, veh/h	334	33	209	658	0	198
Future Vol, veh/h	334	33	209	658	0	198
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	175	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	80	80	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	375	37	261	823	0	233

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	412
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1147
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1147
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1147	-
HCM Lane V/C Ratio	-	-	-	0.228	-
HCM Control Delay (s)	0	-	-	9.1	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0.9	-

Intersection

Int Delay, s/veh 1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑		↑
Traffic Vol, veh/h	1614	37	58	427	0	47
Future Vol, veh/h	1614	37	58	427	0	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	175	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1681	39	63	464	0	51

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1720
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	368
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	368
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	57.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	117	-	-	368	-
HCM Lane V/C Ratio	0.437	-	-	0.171	-
HCM Control Delay (s)	57.7	-	-	16.8	-
HCM Lane LOS	F	-	-	C	-
HCM 95th %tile Q(veh)	1.9	-	-	0.6	-

Intersection

Int Delay, s/veh 3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑		↑
Traffic Vol, veh/h	405	32	232	799	0	222
Future Vol, veh/h	405	32	232	799	0	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	175	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	440	35	252	868	0	241

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	475
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1087
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1087
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	14.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	617	-	-	1087	-
HCM Lane V/C Ratio	0.391	-	-	0.232	-
HCM Control Delay (s)	14.5	-	-	9.3	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1.9	-	-	0.9	-

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑		↘
Traffic Vol, veh/h	1614	37	58	427	0	47
Future Vol, veh/h	1614	37	58	427	0	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1681	39	63	464	0	51
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1720	0	-	860
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	-	364	-	0	299
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	364	-	-	299
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		2		19.5	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	299	-	-	364	-	
HCM Lane V/C Ratio	0.171	-	-	0.173	-	
HCM Control Delay (s)	19.5	-	-	16.9	-	
HCM Lane LOS	C	-	-	C	-	
HCM 95th %tile Q(veh)	0.6	-	-	0.6	-	

Intersection						
Int Delay, s/veh	2.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↱	↑↑		↱
Traffic Vol, veh/h	405	32	232	799	0	222
Future Vol, veh/h	405	32	232	799	0	222
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	440	35	252	868	0	241
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	475	0	-	238
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	-	1083	-	0	763
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1083	-	-	763
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		2.1		11.9	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	763	-	-	1083	-	
HCM Lane V/C Ratio	0.316	-	-	0.233	-	
HCM Control Delay (s)	11.9	-	-	9.3	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	1.4	-	-	0.9	-	

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑		↗
Traffic Vol, veh/h	1614	38	61	427	0	51
Future Vol, veh/h	1614	38	61	427	0	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1681	40	66	464	0	55
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1721	0	-	861
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.14	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.22	-	-	3.32
Pot Cap-1 Maneuver	-	-	364	-	0	299
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	364	-	-	299
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		2.1		19.8	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	299	-	-	364	-	
HCM Lane V/C Ratio	0.185	-	-	0.182	-	
HCM Control Delay (s)	19.8	-	-	17.1	-	
HCM Lane LOS	C	-	-	C	-	
HCM 95th %tile Q(veh)	0.7	-	-	0.7	-	

Intersection

Int Delay, s/veh 3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑		↖
Traffic Vol, veh/h	405	38	249	799	0	236
Future Vol, veh/h	405	38	249	799	0	236
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	440	41	271	868	0	257

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	481
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	1078
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1078
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	760	-	-	1078	-
HCM Lane V/C Ratio	0.338	-	-	0.251	-
HCM Control Delay (s)	12.1	-	-	9.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1.5	-	-	1	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	1301	13	55	388	11	141
Future Vol, veh/h	1301	13	55	388	11	141
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	175	250	-	275	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	91	91	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1328	13	60	426	14	186
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1341	0	1874	-
Stage 1	-	-	-	-	1328	-
Stage 2	-	-	-	-	546	-
Critical Hdwy	-	-	4.12	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	-
Pot Cap-1 Maneuver	-	-	514	-	79	0
Stage 1	-	-	-	-	247	0
Stage 2	-	-	-	-	580	0
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	514	-	70	-
Mov Cap-2 Maneuver	-	-	-	-	179	-
Stage 1	-	-	-	-	247	-
Stage 2	-	-	-	-	512	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.6		26.9	
HCM LOS	D					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	179		-	-	-	514
HCM Lane V/C Ratio	0.081		-	-	-	0.118
HCM Control Delay (s)	26.9		0	-	-	12.9
HCM Lane LOS	D		A	-	-	B
HCM 95th %tile Q(veh)	0.3		-	-	-	0.4

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	484	24	171	826	10	115
Future Vol, veh/h	484	24	171	826	10	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	175	250	-	275	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	532	26	214	1033	13	144
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	558	0	1993	-
Stage 1	-	-	-	-	532	-
Stage 2	-	-	-	-	1461	-
Critical Hdwy	-	-	4.12	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	-
Pot Cap-1 Maneuver	-	-	1013	-	66	0
Stage 1	-	-	-	-	589	0
Stage 2	-	-	-	-	213	0
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1013	-	52	-
Mov Cap-2 Maneuver	-	-	-	-	135	-
Stage 1	-	-	-	-	589	-
Stage 2	-	-	-	-	168	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.6		34.4	
HCM LOS	D					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	135		-	-	-	1013
HCM Lane V/C Ratio	0.093		-	-	-	0.211
HCM Control Delay (s)	34.4		0	-	-	9.5
HCM Lane LOS	D		A	-	-	A
HCM 95th %tile Q(veh)	0.3		-	-	-	0.8

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	1338	13	59	399	11	151
Future Vol, veh/h	1338	13	59	399	11	151
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	175	250	-	275	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	91	91	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1365	13	65	438	14	199
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1378	0	1933	-
Stage 1	-	-	-	-	1365	-
Stage 2	-	-	-	-	568	-
Critical Hdwy	-	-	4.12	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	-
Pot Cap-1 Maneuver	-	-	498	-	73	0
Stage 1	-	-	-	-	237	0
Stage 2	-	-	-	-	567	0
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	498	-	63	-
Mov Cap-2 Maneuver	-	-	-	-	171	-
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	493	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.7		28	
HCM LOS					D	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	171	-	-	-	498	-
HCM Lane V/C Ratio	0.085	-	-	-	0.13	-
HCM Control Delay (s)	28	0	-	-	13.3	-
HCM Lane LOS	D	A	-	-	B	-
HCM 95th %tile Q(veh)	0.3	-	-	-	0.4	-

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	500	25	182	852	10	122
Future Vol, veh/h	500	25	182	852	10	122
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	175	250	-	275	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	549	27	228	1065	13	153
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	576	0	2070	-
Stage 1	-	-	-	-	549	-
Stage 2	-	-	-	-	1521	-
Critical Hdwy	-	-	4.12	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	-
Pot Cap-1 Maneuver	-	-	997	-	59	0
Stage 1	-	-	-	-	579	0
Stage 2	-	-	-	-	199	0
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	997	-	45	-
Mov Cap-2 Maneuver	-	-	-	-	123	-
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	153	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.7		37.6	
HCM LOS	E					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	123		-	-	-	997
HCM Lane V/C Ratio	0.102		-	-	-	0.228
HCM Control Delay (s)	37.6		0	-	-	9.7
HCM Lane LOS	E		A	-	-	A
HCM 95th %tile Q(veh)	0.3		-	-	-	0.9

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	1342	13	62	402	11	155
Future Vol, veh/h	1342	13	62	402	11	155
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	175	250	-	275	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	91	91	76	76
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1369	13	68	442	14	204
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1382	0	1947	-
Stage 1	-	-	-	-	1369	-
Stage 2	-	-	-	-	578	-
Critical Hdwy	-	-	4.12	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	-
Pot Cap-1 Maneuver	-	-	496	-	71	0
Stage 1	-	-	-	-	236	0
Stage 2	-	-	-	-	561	0
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	496	-	61	-
Mov Cap-2 Maneuver	-	-	-	-	169	-
Stage 1	-	-	-	-	236	-
Stage 2	-	-	-	-	484	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	1.8		28.3		
HCM LOS	D					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	169	-	-	-	496	-
HCM Lane V/C Ratio	0.086	-	-	-	0.137	-
HCM Control Delay (s)	28.3	0	-	-	13.4	-
HCM Lane LOS	D	A	-	-	B	-
HCM 95th %tile Q(veh)	0.3	-	-	-	0.5	-

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	514	25	199	869	10	136
Future Vol, veh/h	514	25	199	869	10	136
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	175	250	-	275	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	565	27	249	1086	13	170
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	592	0	2149	-
Stage 1	-	-	-	-	565	-
Stage 2	-	-	-	-	1584	-
Critical Hdwy	-	-	4.12	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	-
Pot Cap-1 Maneuver	-	-	984	-	53	0
Stage 1	-	-	-	-	569	0
Stage 2	-	-	-	-	185	0
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	984	-	40	-
Mov Cap-2 Maneuver	-	-	-	-	112	-
Stage 1	-	-	-	-	569	-
Stage 2	-	-	-	-	138	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.8		41.1	
HCM LOS	E					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	112		-	-	-	984
HCM Lane V/C Ratio	0.112		-	-	-	0.253
HCM Control Delay (s)	41.1		0	-	-	9.9
HCM Lane LOS	E		A	-	-	A
HCM 95th %tile Q(veh)	0.4		-	-	-	1

Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	1624	16	71	485	14	182
Future Vol, veh/h	1624	16	71	485	14	182
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	175	250	-	275	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1657	16	77	527	15	198
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1673	0	2338	-
Stage 1	-	-	-	-	1657	-
Stage 2	-	-	-	-	681	-
Critical Hdwy	-	-	4.12	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	-
Pot Cap-1 Maneuver	-	-	383	-	40	0
Stage 1	-	-	-	-	171	0
Stage 2	-	-	-	-	503	0
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	383	-	32	-
Mov Cap-2 Maneuver	-	-	-	-	121	-
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	402	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		2.1		39	
HCM LOS					E	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	121	-	-	-	383	-
HCM Lane V/C Ratio	0.126	-	-	-	0.201	-
HCM Control Delay (s)	39	0	-	-	16.8	-
HCM Lane LOS	E	A	-	-	C	-
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7	-

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	606	30	220	1034	12	148
Future Vol, veh/h	606	30	220	1034	12	148
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	175	250	-	275	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	659	33	239	1124	13	161
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	692	0	2261	-
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	1602	-
Critical Hdwy	-	-	4.12	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	-
Pot Cap-1 Maneuver	-	-	903	-	45	0
Stage 1	-	-	-	-	515	0
Stage 2	-	-	-	-	182	0
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	903	-	33	-
Mov Cap-2 Maneuver	-	-	-	-	106	-
Stage 1	-	-	-	-	515	-
Stage 2	-	-	-	-	134	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.8		43.7	
HCM LOS	E					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	106		-	-	-	903
HCM Lane V/C Ratio	0.123		-	-	-	0.265
HCM Control Delay (s)	43.7		0	-	-	10.4
HCM Lane LOS	E		A	-	-	B
HCM 95th %tile Q(veh)	0.4		-	-	-	1.1

Intersection

Int Delay, s/veh 0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Traffic Vol, veh/h	1624	16	71	485	14	182
Future Vol, veh/h	1624	16	71	485	14	182
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	-	250	-	275	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1657	16	77	527	15	198

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1673
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	380
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	380
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	42.9
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	110	-	-	-	380	-
HCM Lane V/C Ratio	0.138	-	-	-	0.203	-
HCM Control Delay (s)	42.9	0	-	-	16.9	-
HCM Lane LOS	E	A	-	-	C	-
HCM 95th %tile Q(veh)	0.5	-	-	-	0.8	-

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↱	↑↑	↱	↱
Traffic Vol, veh/h	606	30	220	1034	12	148
Future Vol, veh/h	606	30	220	1034	12	148
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	-	250	-	275	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	659	33	239	1124	13	161
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	692	0	1716	-
Stage 1	-	-	-	-	676	-
Stage 2	-	-	-	-	1040	-
Critical Hdwy	-	-	4.14	-	6.84	-
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	-
Pot Cap-1 Maneuver	-	-	899	-	81	0
Stage 1	-	-	-	-	467	0
Stage 2	-	-	-	-	302	0
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	899	-	59	-
Mov Cap-2 Maneuver	-	-	-	-	160	-
Stage 1	-	-	-	-	467	-
Stage 2	-	-	-	-	222	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.8		29.5	
HCM LOS					D	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	160		-	-	-	899
HCM Lane V/C Ratio	0.082		-	-	-	0.266
HCM Control Delay (s)	29.5		0	-	-	10.4
HCM Lane LOS	D		A	-	-	B
HCM 95th %tile Q(veh)	0.3		-	-	-	1.1

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↱	↑↑	↱	↱
Traffic Vol, veh/h	1628	16	74	488	14	186
Future Vol, veh/h	1628	16	74	488	14	186
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	-	250	-	275	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1661	16	80	530	15	202
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1677	0	2094	-
Stage 1	-	-	-	-	1669	-
Stage 2	-	-	-	-	425	-
Critical Hdwy	-	-	4.14	-	6.84	-
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	-
Pot Cap-1 Maneuver	-	-	378	-	45	0
Stage 1	-	-	-	-	138	0
Stage 2	-	-	-	-	627	0
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	378	-	35	-
Mov Cap-2 Maneuver	-	-	-	-	109	-
Stage 1	-	-	-	-	138	-
Stage 2	-	-	-	-	494	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		2.2		43.3	
HCM LOS	E					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	109		-	-	-	378
HCM Lane V/C Ratio	0.14		-	-	-	0.213
HCM Control Delay (s)	43.3		0	-	-	17.1
HCM Lane LOS	E		A	-	-	C
HCM 95th %tile Q(veh)	0.5		-	-	-	0.8

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↱	↑↑	↱	↱
Traffic Vol, veh/h	620	30	237	1051	12	162
Future Vol, veh/h	620	30	237	1051	12	162
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	-	250	-	275	0
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	674	33	258	1142	13	176
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	707	0	1778	-
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	1087	-
Critical Hdwy	-	-	4.14	-	6.84	-
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	-
Pot Cap-1 Maneuver	-	-	887	-	74	0
Stage 1	-	-	-	-	459	0
Stage 2	-	-	-	-	285	0
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	887	-	52	-
Mov Cap-2 Maneuver	-	-	-	-	148	-
Stage 1	-	-	-	-	459	-
Stage 2	-	-	-	-	202	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		2		31.7	
HCM LOS	D					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	148		-	-	-	887
HCM Lane V/C Ratio	0.088		-	-	-	0.29
HCM Control Delay (s)	31.7		0	-	-	10.7
HCM Lane LOS	D		A	-	-	B
HCM 95th %tile Q(veh)	0.3		-	-	-	1.2

APPENDIX E

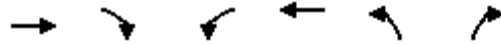
Queues Analysis Worksheets

Queues

2023 Total AM.syn

1: W Meadows & Midland Ave

02/25/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1346	136	78	311	87	126
v/c Ratio	1.02	0.12	0.57	0.22	0.32	0.36
Control Delay	49.3	3.3	30.3	4.1	49.2	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.3	3.3	30.3	4.1	49.2	10.9
Queue Length 50th (ft)	~1125	15	12	55	61	0
Queue Length 95th (ft)	#1387	34	#69	80	94	32
Internal Link Dist (ft)	864			883	389	
Turn Bay Length (ft)		150	200			
Base Capacity (vph)	1318	1140	136	1468	270	348
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.12	0.57	0.21	0.32	0.36

Intersection Summary

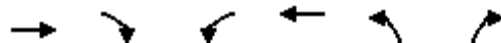
- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

2023 Total PM.syn

1: W Meadows & Midland Ave

02/25/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	343	160	95	758	370	82
v/c Ratio	0.48	0.23	0.25	0.87	0.48	0.11
Control Delay	24.7	3.7	15.0	34.5	24.4	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.7	3.7	15.0	34.5	24.4	5.7
Queue Length 50th (ft)	160	0	31	395	152	0
Queue Length 95th (ft)	219	31	48	414	311	31
Internal Link Dist (ft)	864			883	389	
Turn Bay Length (ft)		150	200			
Base Capacity (vph)	1168	1052	382	1369	776	740
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.15	0.25	0.55	0.48	0.11
Intersection Summary						

Queues

2040 Total AM.syn

1: W Meadows & Midland Ave

02/25/2021



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1799	93	374	84	127
v/c Ratio	0.82	0.47	0.15	0.24	0.31
Control Delay	19.6	20.2	4.6	43.1	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.6	20.2	4.6	43.1	9.7
Queue Length 50th (ft)	471	16	35	53	0
Queue Length 95th (ft)	626	65	49	107	54
Internal Link Dist (ft)	864		883	389	
Turn Bay Length (ft)		200			
Base Capacity (vph)	2546	243	2982	350	414
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.71	0.38	0.13	0.24	0.31
Intersection Summary					

Queues

2040 Total PM.syn

1: W Meadows & Midland Ave

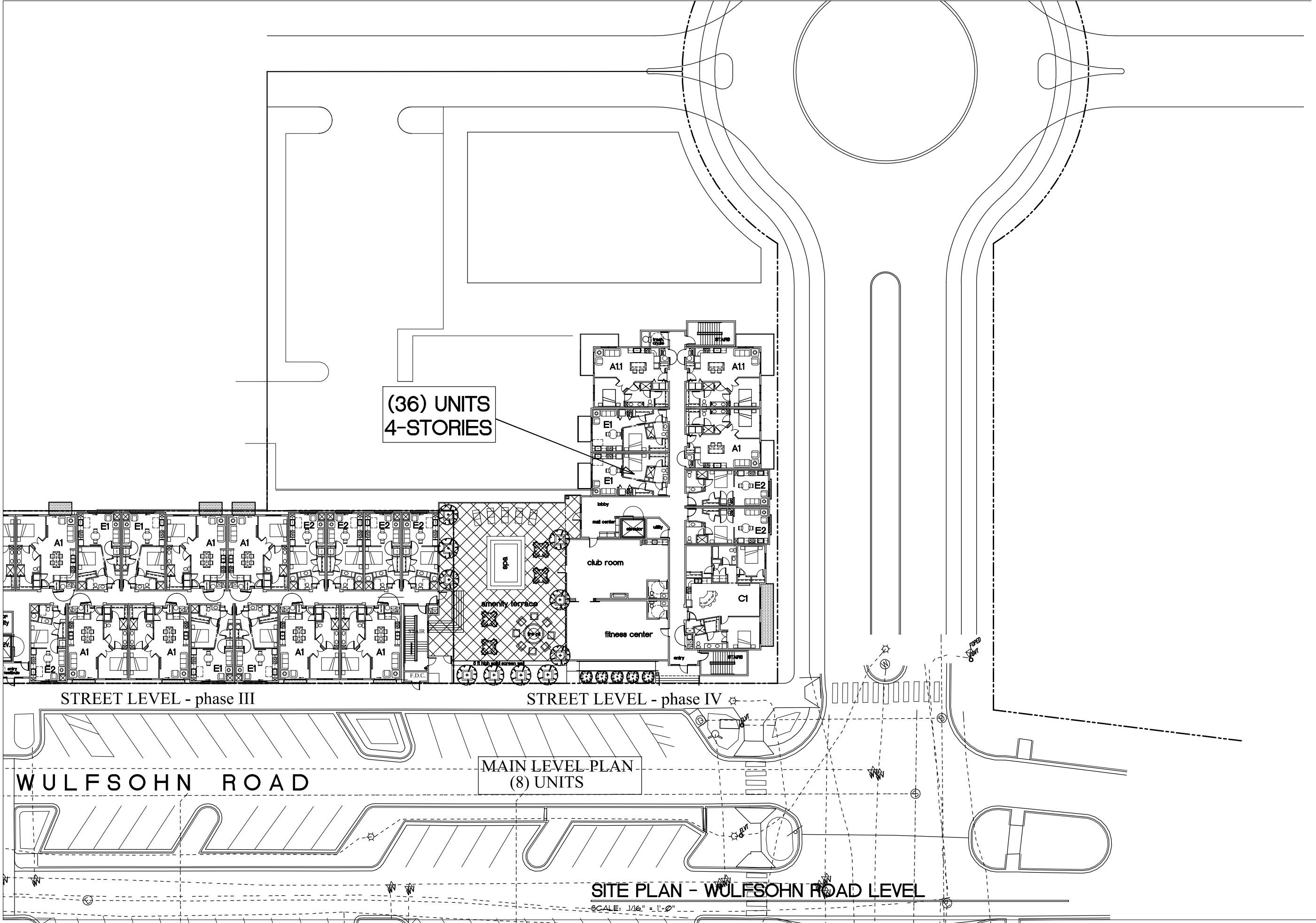
02/25/2021



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	563	96	772	425	95
v/c Ratio	0.70	0.39	0.66	0.42	0.10
Control Delay	38.2	27.7	31.3	15.1	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	38.2	27.7	31.3	15.1	3.0
Queue Length 50th (ft)	163	43	222	148	0
Queue Length 95th (ft)	231	79	282	276	26
Internal Link Dist (ft)	864		883	389	
Turn Bay Length (ft)		200			
Base Capacity (vph)	1223	290	1836	1023	955
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.46	0.33	0.42	0.42	0.10
Intersection Summary					

APPENDIX F

Conceptual Site Plan



PROJECT NUMBER

20-029

SHEET TITLE

SITE PLAN
STREET LEVEL (WULFSOHN RD)
SCALE: 1/16" = 1'-0"

PROJECT/OWNER

LOFTS AT RED MOUNTAIN
PHASE IV
WULFSOHN ROAD / EAST MEADOWS
LOT 8
GLENWOOD SPRINGS, CO
STONELEIGH COMPANIES, LLC

ARCHITECT



architecture
2033 dan drive
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REVISION DATE

XX

DATE

15 FEB 2021

SHEET NUMBER

A1.1





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**GEOTECHNICAL ENGINEERING STUDY
PROPOSED LOFTS AT RED MOUNTAIN
PHASE 3 BUILDINGS
LOT 8, GLENWOOD MEADOWS
WULFSOHN ROAD AND EAST MEADOWS DRIVE
GLENWOOD SPRINGS, COLORADO**

PROJECT NO. 19-7-521.01

OCTOBER 6, 2020

PREPARED FOR:

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PURPOSE AND SCOPE OF STUDY

This report presents the results of a geotechnical engineering study for the proposed Lofts at Red Mountain, Phase 3 Building located on Lot 8, Glenwood Meadows, Wulfsohn Road and East Meadows Drive, Glenwood Springs, Colorado. The project site is shown on Figure 1. The purpose of the study was primarily to develop recommendations for the foundation design of the buildings. The study was conducted in accordance with our proposal for geotechnical engineering services to Stoneleigh Companies, LLC dated August 10, 2020.

A field exploration program consisting of exploratory borings was conducted to obtain information on the subsurface conditions and ground settlement risks. Samples of the subsoils obtained during the field exploration were tested in the laboratory to determine their classification, compressibility or swell and other engineering characteristics. The results of the field exploration, laboratory testing and site characteristics were analyzed to develop recommendations for possible ground treatment methods to help mitigate settlement potential, foundation types and allowable pressures for the proposed building foundation design. This report summarizes the data obtained during this study and presents our conclusions, design recommendations and other geotechnical engineering considerations based on the proposed construction and the subsurface conditions encountered.

PROPOSED CONSTRUCTION

The proposed Phase 3 apartment building consists of a 4-story structure with parking at the lower level daylighting on the downhill, north side. The building will extend east from the proposed building on Lot 7 and include a rooftop swimming pool as shown on Figure 1. The elevation difference from the uphill, street side to the downhill parking lot side is about 10 feet. The site elevation is generally just below 5800 feet which indicates the property probably lies below the highest historic field irrigation of Wulfsohn Ranch based on the old ditch line at about elevation 5805 feet. The building is proposed to have a uniform lower floor level with the uphill wall and east end wall of the building retaining earth backfill. Foundation loading will be relatively heavy, around 14.5 kips per foot for exterior walls and up to 600 kips for columns. We understand that the developer, Stoneleigh Companies, and the design and construction team are familiar with the potential for ground shifting at the project site, and that a certain level of future movement and building distress likely requiring remediation is expected and accepted. A future retail building, assumed to be a relatively lightly loaded structure, is proposed just north of the apartment building as shown on Figure 1.

If the building locations, grading or other development plans change significantly from those described above, we should be notified to re-evaluate the recommendations contained in this report.

SITE CONDITIONS

The project site lies within the upper, mid area of the Glenwood Meadows development along the downhill side of Wulfsohn Road and along the west side of East Meadows Road as shown on Figure 1. The ground surface across the southern part of the lot is graded and moderately to gently sloping down to the north from Wulfsohn Road to the gently sloping asphalt paved parking lot in the north part. Vegetation consists mainly of grass and some small trees along the sidewalk that borders Wulfsohn Road.

SITE GEOLOGY

The Glenwood Meadows development is mainly located on a large alluvial fan complex that has formed below several coalescing drainage basins. The debris fan complex in this area is known to be relatively deep and prone to collapse when wetted and can result in settlement related distress to facilities constructed on the fan. Ground cracks can also result from differential settlement between wetted and naturally dry soils areas, and possibly between fine to coarse grained fan deposit areas. Our experience with previous development in the project area identified ground cracks near the top of the old irrigated fields located roughly at elevation 5810 feet.

The project site appears to be located in the lower part of the area impacted by the July 24, 1977 debris flow (Lincoln-DeVore, 1978). The debris flow impact risk to the Glenwood Meadows development has been mitigated by constructing consecutive drainage collection basins located several hundred feet uphill of the project site. The effectiveness of these basins to mitigate debris flow impacts to the project site has not been evaluated by us and is beyond the scope of our study. It is our assumption that the debris flow basins effectively contain storm event runoff and the site is considered to not be potentially impacted by debris flows.

The Eagle Valley Evaporite mapped as underlying the Glenwood Meadows development is believed to be associated with sinkhole development. The exploratory borings drilled for the current study and those drilled by us for Phases 1 and 2, and the earlier Phase 3 development did not encounter subsurface voids associated with caving or piping of soil into subsurface cavities in the underlying formation rock. To our knowledge, the project site is not impacted by existing

sinkholes and the risk of future sinkhole development is considered low throughout the service life of the project but the owner should be aware of the risk.

FIELD EXPLORATION

The field exploration for the project was conducted on September 8 and 14, 2020. Four exploratory borings were drilled at the locations shown on Figure 1 to evaluate the subsurface conditions. The borings were advanced with 4-inch diameter continuous flight augers powered by a truck-mounted CME-45B drill rig and were logged by a representative of Kumar & Associates.

Samples of the subsoils were taken with 1¾ and 2-inch I.D. spoon samplers. The samplers were driven into the subsoils at various depths with blows from a 140 pound hammer falling 30 inches. This test is similar to the standard penetration test described by ASTM Method D-1586. The penetration resistance values are an indication of the relative density or consistency of the subsoils. Depths at which the samples were taken and the penetration resistance values are shown on the Logs of Exploratory Borings, Figure 2. The samples were returned to our laboratory for review by the project engineer and testing.

SUBSURFACE PROFILE CONDITIONS

Graphic logs of the subsurface conditions encountered at the site are shown on Figure 2. Two borings were drilled in the lower part of the lot to a depth of 31 feet in the alluvial fan soils and 2 borings were drilled in the upper part of the lot to determine the depth to dense river gravel alluvium. The borings were sampled for laboratory testing to evaluate the collapse potential typical of alluvial fan deposits. The two deep borings showed the alluvial fan deposit to extend to depths of 57½ to 66 feet in Borings 6 and 7. The alluvial fan deposits were slightly moist to moist, typically 4 to 8% moisture content with some soils of 9 to 14% moisture content with depth, notably in the areas under the existing pavement. No free water was encountered in the borings. The slightly moist soils (roughly 25 to 40% saturation level) possess a collapse potential when wetted and the somewhat higher moisture content soils (roughly 45 to 70% saturation level) should be less compressible when wetted. Drilling in the coarse granular river gravel alluvium with auger equipment was difficult due to the cobbles and possible boulders.

The subsurface profiles were generally the same as encountered in exploratory borings drilled for the previous adjacent Phase 3 Building.

Laboratory testing performed on samples obtained from the borings included natural moisture content and density and gradation analyses. Results of swell-consolidation testing performed on relatively undisturbed drive samples of the more fine-grained soils, presented on Figures 4 through 6, indicate low compressibility under existing low moisture condition and minor to low collapse potential (settlement under constant load) when wetted. The samples were moderately compressible under additional loading after wetting. Results of gradation analyses performed on small diameter drive samples (minus 1½-inch fraction) of the more granular soils are shown on Figures 7 and 8. The laboratory testing is summarized in Table 1.

ENGINEERING ANALYSIS

The project site has inherent risks associated with geotechnical conditions which have been extensively studied for the existing developments at Glenwood Meadows and should be considered by the design and construction team for the current development. Consequently, the need for special foundation systems, such as structural post-tensioned slab foundations or deep foundation and structural slab, and the need for additional ground modification is recommended with the intent to achieve an acceptable risk of future settlement and building distress. Building at the site with special foundation types, even with ground modification, will be a calculated risk and the lowest cost option should not be the deciding factor in selecting the ground modification methods and structural foundation designs. Based on the proposed development plan and prior discussion with the design and construction team, the preferred foundation type for the apartment building consists of piles or piers with bearing down in the underlying dense, river gravel alluvium. If other ground mitigation methods and foundation types are desired for the apartment building, we should be contacted to provide additional analysis and recommendations.

Lightly loaded spread footings placed on the natural soils may be suitable for support of the retail building provided the risk of differential settlement and building distress is acceptable to the owner. If a low risk of building settlement and distress is desired, a deep pile or pier foundation support should be used.

DESIGN RECOMMENDATIONS

FOUNDATION

Piles or Piers: Piles that extend down into the underlying dense river gravel alluvium encountered at depths of about 57½ to 66 feet in the exploratory borings are a feasible foundation with low settlement potential. Deep foundations can consist of “screw piles” or

driven piles. A screw pile foundation is a heavy-duty helical pile (typically 5 to 6-inch diameter, high strength steel pipe with single or double 8 to 12-inch diameter helixes) that has been used in Colorado to provide relatively high load capacity and low foundation settlement risk. Driven piles typically used in this area consist of H-piles and concrete filled, closed-end pipe piles. The building ground level floor slab should also be supported on the pile foundation. We expect the piles will penetrate the dense river gravel up to around 5 feet to achieve the desired load capacity, but the pile installation contractor should be contacted for specific loading and design information. We expect downward allowable pile load capacity to be around 100 to 150 kips and will be achieved mainly by end bearing. Uplift capacity will depend on the pile section, helix size and embedment depth. Settlements or uplift under sustained loading are expected to be minor, ½ inch or less. Lateral capacity of screw piles is normally provided by battered piles. Pipe piles and H-piles can be analyzed for lateral load capacity based on horizontal subgrade modulus or L-Pile analysis. Piles should be spaced at least 3 feet from center to center to avoid reduction from group action. At least one pile should be load tested to confirm the assigned load capacity in both compression and tension (if used). The pile load testing should be performed under the supervision of a registered professional engineer and a summary report provided of their adequacy to support the design loading. A representative of the geotechnical engineer should observe the test pile and production pile installations. Grade beams and pile caps should have a minimum depth of 3 feet for frost cover and void form below them is not needed. When the pile or pier type has been selected, we can provide additional analysis and recommendations for the final design.

Shallow Spread Footings (Retail Building): Considering the subsurface conditions encountered in Borings 8 and 9, and the assumed lightly loaded construction, the retail building can be founded with spread footings bearing on the natural granular soils with potential for differential settlement and distress.

The design and construction criteria presented below can be used for preliminary design of a spread footing foundation system.

- 1) Footings placed on the undisturbed natural granular soils should be designed for an allowable bearing pressure of 1,500 psf. Based on experience, we expect initial settlement of footings designed and constructed as discussed in this section will be about 1 inch or less. Additional post-construction differential settlement of around 1 inch should be expected depending on the depth and extent of wetting below the foundation.

- 2) The footings should have a minimum width of 20 inches for continuous walls and 2 feet for isolated pads.
- 3) Exterior footings and footings beneath unheated areas should be provided with adequate soil cover above their bearing elevation for frost protection. Placement of foundations at least 36 inches below exterior grade is typically used in this area.
- 4) Continuous foundation walls should be heavily reinforced top and bottom to span local anomalies such as by assuming an unsupported length of at least 14 feet. Foundation walls acting as retaining structures should also be designed to resist lateral earth pressures as discussed in the "Foundation and Retaining Walls" section of this report.
- 5) All existing fill, topsoil and any loose or disturbed soils should be removed and the footing bearing level extended down to the natural granular soils. The exposed soils in footing area should then be moistened and compacted.
- 6) A representative of the geotechnical engineer should observe all footing excavations prior to concrete placement to evaluate bearing conditions.

GRADING AND DRAINAGE CONCEPTS

Extraordinary grading and drainage provisions are recommended regardless of the settlement mitigation methods selected. These should include a minimum 10% slope away from the buildings for at least 10 feet. Plantings and irrigation should be minimized and not include lawn. Swales needed to collect surface runoff should have a minimum invert slope of 2% and preferably 3%. Frequent drop inlets or yard drains with solid watertight piping could be needed to achieve the desired surface drainage. Roof runoff should be 100% contained by gutters and downspouts that discharge to solid watertight restrained-joint subsurface piping. Perimeter underdrains should not be provided for the slab-at-grade foundation areas. Site retaining walls for grade change should be protected with an underdrain. The underdrain should be lined with an impervious membrane such as 30 mil PVC to contain possible drain water flow and discharge to solid pipe. All pressure and sewer pipes should have mechanical restrained joints to prevent leakage in the event of some ground movement. Proper backfill compaction will be critical to maintain site grades since ground settlement will tend to reduce the effectiveness of the site grading provisions. Typically, backfill should be compacted to at least 95% of standard Proctor density at near optimum moisture content. Even with close attention to proper grading and drainage construction, regular maintenance will be needed to correct even the smallest changes

or to provide additional improvements. A rigorous maintenance program and budget will be required throughout the project life to ensure proper grading and drainage are maintained.

RETAINING WALLS

Retaining structures which are laterally supported and can be expected to undergo only a slight amount of deflection should be designed for a lateral earth pressure computed on the basis of an equivalent fluid unit weight of at least 50 pcf for backfill consisting of the on-site soils.

Cantilevered retaining structures which are separate from the buildings and can be expected to deflect sufficiently to mobilize the full active earth pressure condition should be designed for a lateral earth pressure computed on the basis of an equivalent fluid unit weight of at least 40 pcf for flat backslope and 45 pcf for sloping backslope of 3 horizontal to 1 vertical and backfill consisting of the on-site soils. A maximum allowable bearing pressure of 2,000 psf can be assumed for site retaining walls that can tolerate considerable differential settlement.

All retaining structures should be designed for appropriate hydrostatic and surcharge pressures such as adjacent footings, traffic, construction materials and equipment. The pressures recommended above assume drained conditions behind the walls. The buildup of water behind a wall or an upward sloping backfill surface will increase the lateral pressure imposed on a foundation wall or retaining structure. An underdrain should be provided to prevent hydrostatic pressure buildup behind walls.

Backfill should be placed in uniform lifts and compacted to at least 90% of the maximum standard Proctor density at a moisture content near optimum. Backfill placed in pavement and walkway areas should be compacted to at least 95% of the maximum standard Proctor density. Care should be taken not to overcompact the backfill or use large equipment near the wall, since this could cause excessive lateral pressure on the wall. Some settlement of deep foundation wall backfill should be expected, even if the material is placed correctly, and could result in distress to facilities constructed on the backfill.

The lateral resistance of foundation or retaining wall footings will be a combination of the sliding resistance of the footing on the foundation materials and passive earth pressure against the side of the footing. Resistance to sliding at the bottoms of the footings can be calculated based on a coefficient of friction of 0.40. Passive pressure of compacted backfill against the sides of the footings can be calculated using an equivalent fluid unit weight of 350 pcf. The coefficient of friction and passive pressure values recommended above assume ultimate soil

strength. Suitable factors of safety should be included in the design to limit the strain which will occur at the ultimate strength, particularly in the case of passive resistance. Fill placed against the sides of the footings to resist lateral loads should be a predominantly granular material compacted to at least 95% of the maximum standard Proctor density at a moisture content near optimum.

SLABS-ON-GRADE

We understand the ground floor of the apartment building will be a structural slab constructed on-grade and supported by the building foundation. The natural on-site soils can be used to support lightly loaded slab-on-grade construction exterior to the apartment building and possibly for the retail building with a risk of settlement and distress if the bearing soils are wetted. To reduce the effects of some differential movement, non-structural slabs should be separated from all foundations and walls with expansion joints which allow unrestrained vertical movement. Floor slab control joints should be used to reduce damage due to shrinkage cracking. The requirements for joint spacing and slab reinforcement should be established by the designer based on experience and the intended slab use. A minimum 4-inch layer of relatively well graded sand and gravel such as CDOT Class 6 road base should be placed beneath exterior slabs and the at-grade slab of the retail building for subgrade support. A minimum 4-inch layer of relatively free draining gravel should be provided below the interior floor slab of the apartment building to facilitate drainage. This material should consist of minus 2-inch aggregate with at least 50% retained on the No. 4 sieve and less than 2% passing the No. 200 sieve.

All fill materials for support of slabs should be compacted to at least 95% of maximum standard Proctor density at a moisture content near optimum. Required fill can consist of the on-site granular soils devoid of vegetation, topsoil and rock larger than about 4 inches.

UNDERDRAIN SYSTEM

Although free water was not encountered during our exploration, it has been our experience in this area that local perched groundwater can develop during times of heavy precipitation or seasonal runoff. Frozen ground during spring runoff can also create a perched condition. We recommend below-grade construction, such as retaining walls and basement areas, be protected from wetting and hydrostatic pressure buildup by an underdrain system. If shallow crawlspace is used, we do not recommend a perimeter underdrain system because the drain can result in collection of surface water sources and wetting of the bearing soils.

The drains should consist of rigid perforated drainpipe placed in the bottom of the wall backfill surrounded above the invert level with free-draining granular material. The drain should be placed at each level of excavation and at least 1 foot below lowest adjacent finish grade and sloped at a minimum ½% to a suitable gravity outlet with solid pipe. Free-draining granular material used in the underdrain system should contain less than 2% passing the No. 200 sieve, less than 50% passing the No. 4 sieve and have a maximum size of 2 inches. The drain gravel backfill should be at least 1½ feet deep. An impervious membrane such as 30 mil PVC should be placed beneath the drain gravel in a trough shape and attached to the foundation wall with mastic to prevent wetting of the bearing soils.

SITE GRADING

We assume cut and fill depths for the apartment building project will be up to about 15 feet. Embankment fills should consist of the onsite soils processed down to about minus 4-inch material and compacted to at least 95% of the maximum standard Proctor density near optimum moisture content. Prior to fill placement, the subgrade should be carefully prepared by removing all vegetation and topsoil and compacting to at least 95% of the maximum standard Proctor density. The fill should be benched into slopes that exceed 20% grade. Permanent unretained cut and fill slopes should be graded at 2 horizontal to 1 vertical or flatter and protected against erosion by revegetation or other means. This office should review site grading plans for the project prior to construction.

PAVEMENT DESIGN RECOMMENDATIONS

A pavement section is designed to distribute concentrated traffic loads to the subgrade. Pavement design procedures are based on strength properties of the subgrade and pavement materials assuming stable, uniform subgrade conditions. Certain soils such as the upper, silty matrix soils encountered on this site, are frost susceptible and could impact pavement performance. Frost susceptible soils are problematic when there is a free water source. If those soils are wetted, the resulting frost heave movements can be large and erratic. Therefore, pavement design procedures assume dry subgrade conditions by providing proper surface and subsurface drainage.

Subgrade Materials: The fine-grained matrix soils encountered at the site are mainly low plasticity which are considered a poor support for pavement materials. The soil classification tests indicate an AASHTO Soil Classification of A-4 and an 'R' value in the range of 10. For

design purposes, the soil support value of the subgrade was selected based on an Hveem 'R' value of 10 for flexible (asphalt) pavements and a modulus of subgrade reaction of 100 tcf was selected for rigid (portland cement) pavements. The soils are considered moderately to highly susceptible to frost action.

Pavement Section: Since anticipated traffic loading information was not available at the time of report preparation, an 18 kip equivalent daily load application (EDLA) of 5 was assumed for exterior automobile parking areas and an EDLA of 10 was assumed for combined automobile and truck traffic areas. These loadings should be checked by the project civil engineer. A Regional Factor of 2 was assumed for this area of Garfield County based on the site terrain, surface drainage and climatic conditions.

Based on the assumed parameters, the pavement section in driveway areas subjected to combined automobile and truck traffic should consist of 8 inches of high quality base course and 4 inches of asphalt surface and in parking areas should consist of 8 inches of high quality base course and 3 inches of asphalt.

As an alternative to asphalt pavement and in areas where truck turning movements are concentrated, the pavement section can consist of 6 inches of portland cement concrete above 4 inches of base course.

The section thicknesses assume structural coefficients of 0.14 for aggregate base course, 0.44 for asphalt surface and design strength of 4,500 psi for portland cement concrete. The material properties and compaction should be in accordance with the project specifications.

Subgrade Preparation: Design subgrade level should be established by placing and compacting at least 3 feet of the onsite soils processed to minus 4-inch material. Prior to fill placement, the entire subgrade area should be scarified to a depth of 8 inches, adjusted to a moisture content near optimum and compacted to at least 95% of the maximum standard Proctor density. The pavement subgrade should be proof-rolled with a heavily loaded pneumatic-tired vehicle. Pavement design procedures assume a stable subgrade. Areas which deform excessively under heavy wheel loads are not stable and should be removed and replaced to achieve a stable subgrade prior to placing structural fill or pavement materials.

Drainage: The collection and diversion of surface drainage away from paved areas is extremely important to the satisfactory performance of pavement. Drainage design should provide for the removal of water from paved areas and prevent wetting of the subgrade soils.

SIGNIFICANT ASSUMPTIONS

- 1) Stoneleigh Companies and the other design and construction team members for the project are aware of the potential for ground shifting due to the collapse potential of the extreme debris flow deposit depth that could result in future movements and distress of the constructed facilities requiring remedial repairs.
- 2) Our study has been conducted according to the standard of care ordinarily followed in this area for geotechnical engineering. By accepting our findings, recommendations, and conditions, it is accepted that our study meets the standard of care and no other higher standard will be imposed after completion of the project.
- 3) Kumar & Associates will be retained for additional evaluations as needed, and construction observation and testing services through substantial completion of the project. If another consultant is selected to complete the project, Kumar & Associates will not be the geotechnical engineer of record on the project.
- 4) Stoneleigh Companies is assumed to keep the project as apartments at least 8 years after substantial completion. If the property changes ownership prior to that time in the future, Kumar & Associates will be contacted for possible limitations on their services provided.
- 5) The potential debris flow impacts to the project site have been mitigated by the uphill, nearby debris basins.

LIMITATIONS

The findings and recommendations submitted in this letter are intended for selection of settlement risk mitigation methods and for preliminary foundation, grading and drainage designs based on the subsurface exploration findings and our experience with collapsible soils in this area. The risk of foundation movement may be greater than indicated in this report because of possible variations in the subsurface conditions. We encourage peer review of our findings and recommendations by a practicing professional engineer who has been the geotechnical engineer of record for multi-family housing projects built on collapsible soils requiring foundation settlement mitigation. The conclusions and recommendations submitted in this report are based upon the data obtained from the exploratory borings drilled at the locations indicated on Figure 1, the proposed type of construction and our experience in the area. Our services do not include determining the presence, prevention or possibility of mold or other biological contaminants (MOBC) developing in the future. If the client is concerned about MOBC, then a professional in this special field of practice should be consulted. Our findings include

interpolation and extrapolation of the subsurface conditions identified at the exploratory borings and variations in the subsurface conditions may not become evident until excavation is performed. If conditions encountered during construction appear different from those described in this report, we should be notified so that re-evaluation of the recommendations may be made.

This report has been prepared for the exclusive use by our client for design purposes. We are not responsible for technical interpretations by others of our information. As the project evolves, we should provide continued consultation and field services during construction to review and monitor the implementation of our recommendations, and to verify that the recommendations have been appropriately interpreted. Significant design changes may require additional analysis or modifications to the recommendations presented herein. We recommend on-site observation of excavations and foundation bearing strata and testing of structural fill by a representative of the geotechnical engineer.

Respectfully Submitted,

Kumar & Associates, Inc.

Steven L. Pawlak, P.E.

Reviewed by:

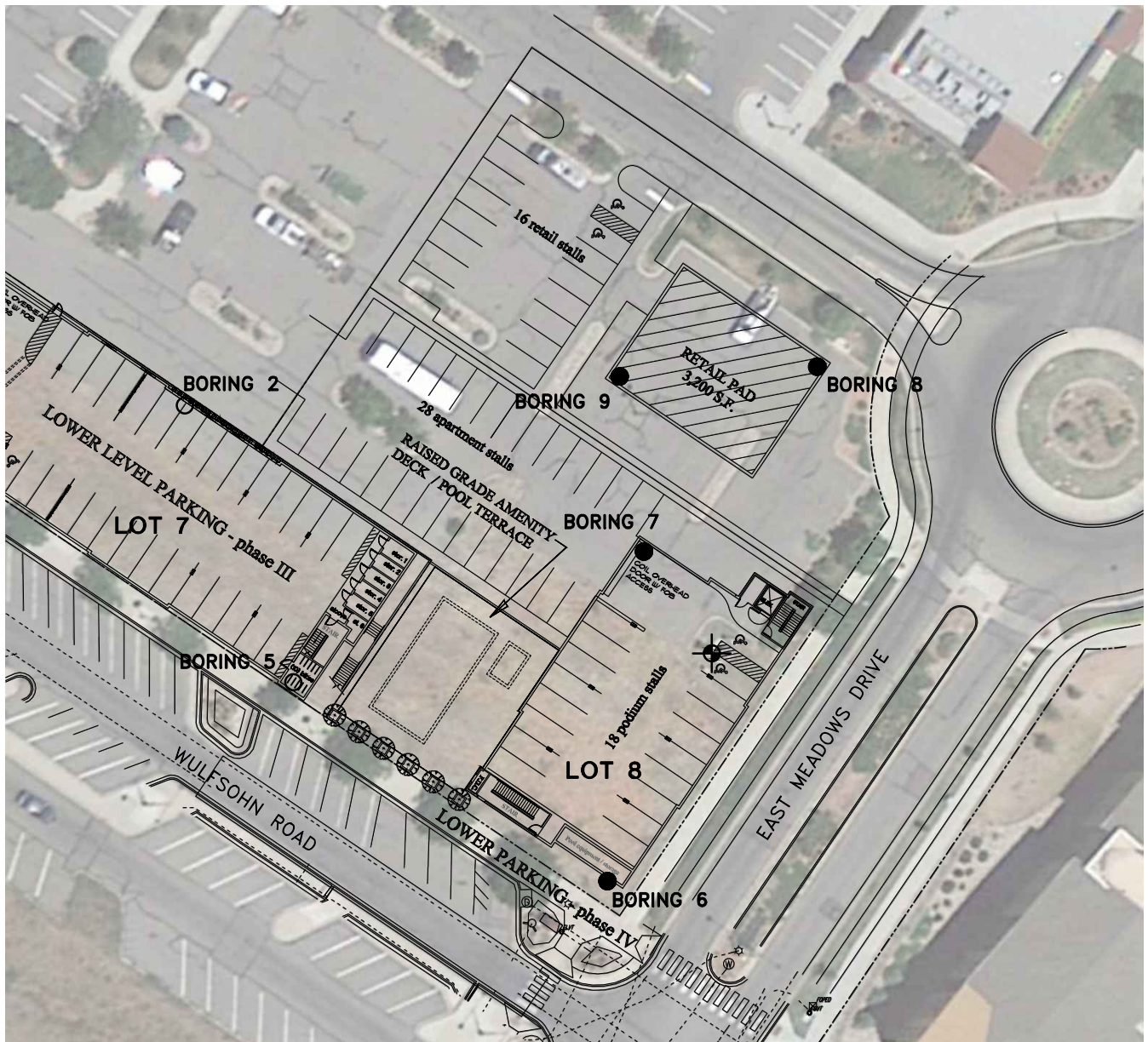
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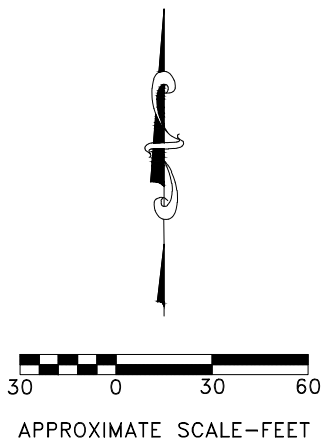
REFERENCE

Lincoln-DeVore, 1978, *Geologic Hazards of the Glenwood Springs Metropolitan Area, Garfield County, Colorado*, Colorado Geologic Survey Open File Report 78-10.

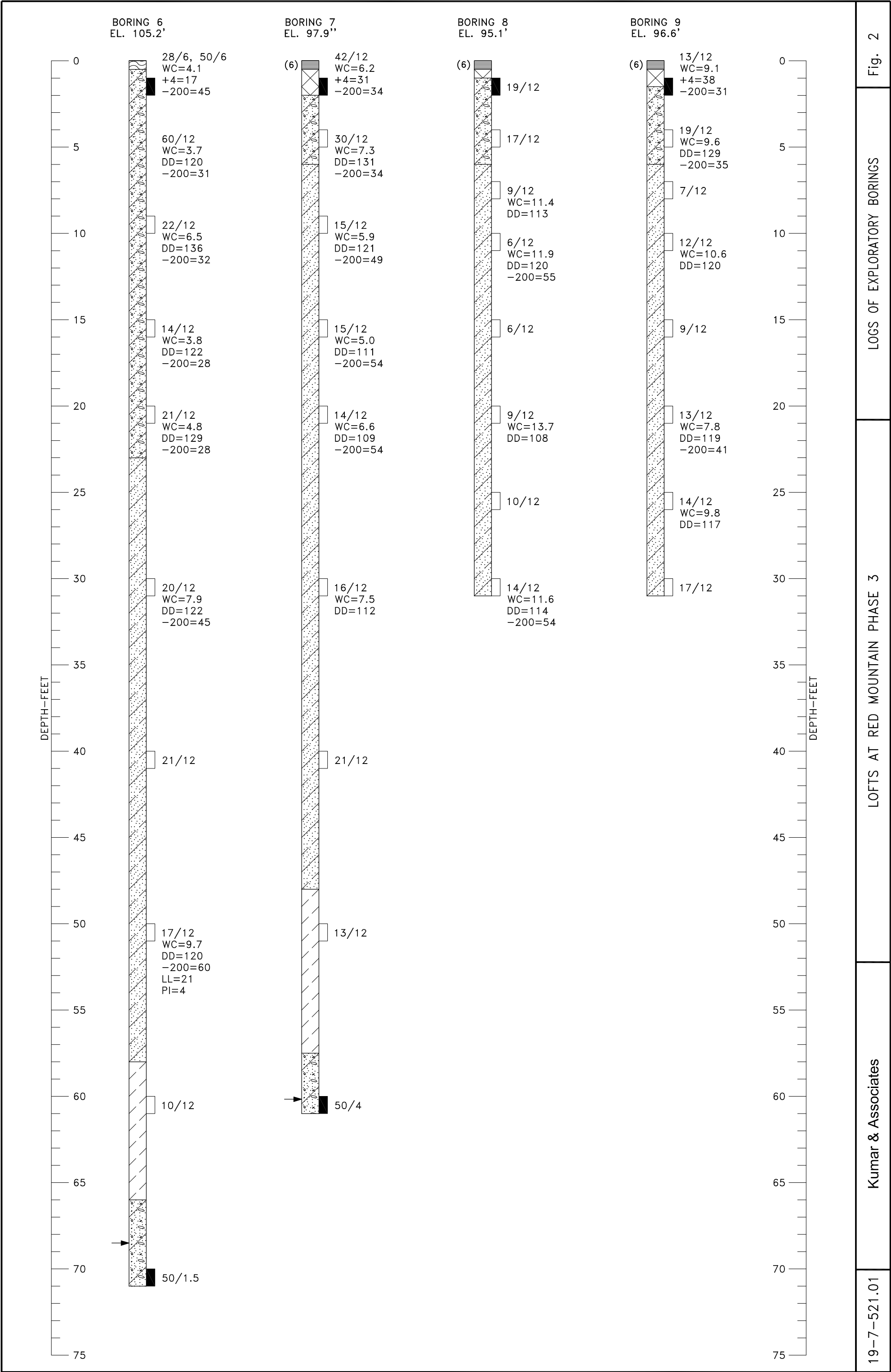


LEGEND:

- BENCHMARK SURFACE OF TRANSFORMER SLAB ELEVATION 100' ASSUMED.
- BORING FOR CURRENT STUDY.
- BORING FOR PREVIOUS STUDY, PROJECT NO. 19-7-521.



October 06, 2020 - 09:45pm
V:\Projects\2019\19-7-521.01\19-7-521.01.dwg



LEGEND

- (6)



ASPHALT, THICKNESS IN INCHES SHOWN IN PARENTHESES TO LEFT OF THE LOG.
- 

FILL: SILTY SAND AND GRAVEL WITH COBBLES, MEDIUM DENSE, SLIGHTLY MOIST, RED, SILTSTONE FRAGMENTS.
- 

CLAY (CL); SILTY, SANDY TO VERY SANDY, STIFF, MOIST TO VERY MOIST, RED, LOW PLASTICITY.
- 

SAND AND GRAVEL (SM-GM): SILTY TO VERY SILTY, SLIGHTLY CLAYEY, COBBLES MEDIUM DENSE, SLIGHTLY MOIST TO MOIST, RED, SUBANGULAR ROCK.
- 

SAND (SM-SC); SILTY, SLIGHTLY CLAYEY TO SANDY SILT AND CLAY LAYERS, SCATTERED GRAVEL, MEDIUM DENSE/MEDIUM STIFF TO STIFF, MOIST, RED.
- 

GRAVEL AND COBBLES (GM-GP); SLIGHTLY SILTY, SANDY, PROBABLE BOULDERS, DENSE, SLIGHTLY MOIST, GRAY-BROWN, ROUNDED ROCK.
- 

DRIVE SAMPLE, 2-INCH I.D. CALIFORNIA LINER SAMPLE.
- 

DRIVE SAMPLE, 1 3/8-INCH I.D. SPLIT SPOON STANDARD PENETRATION TEST.
- 19/12

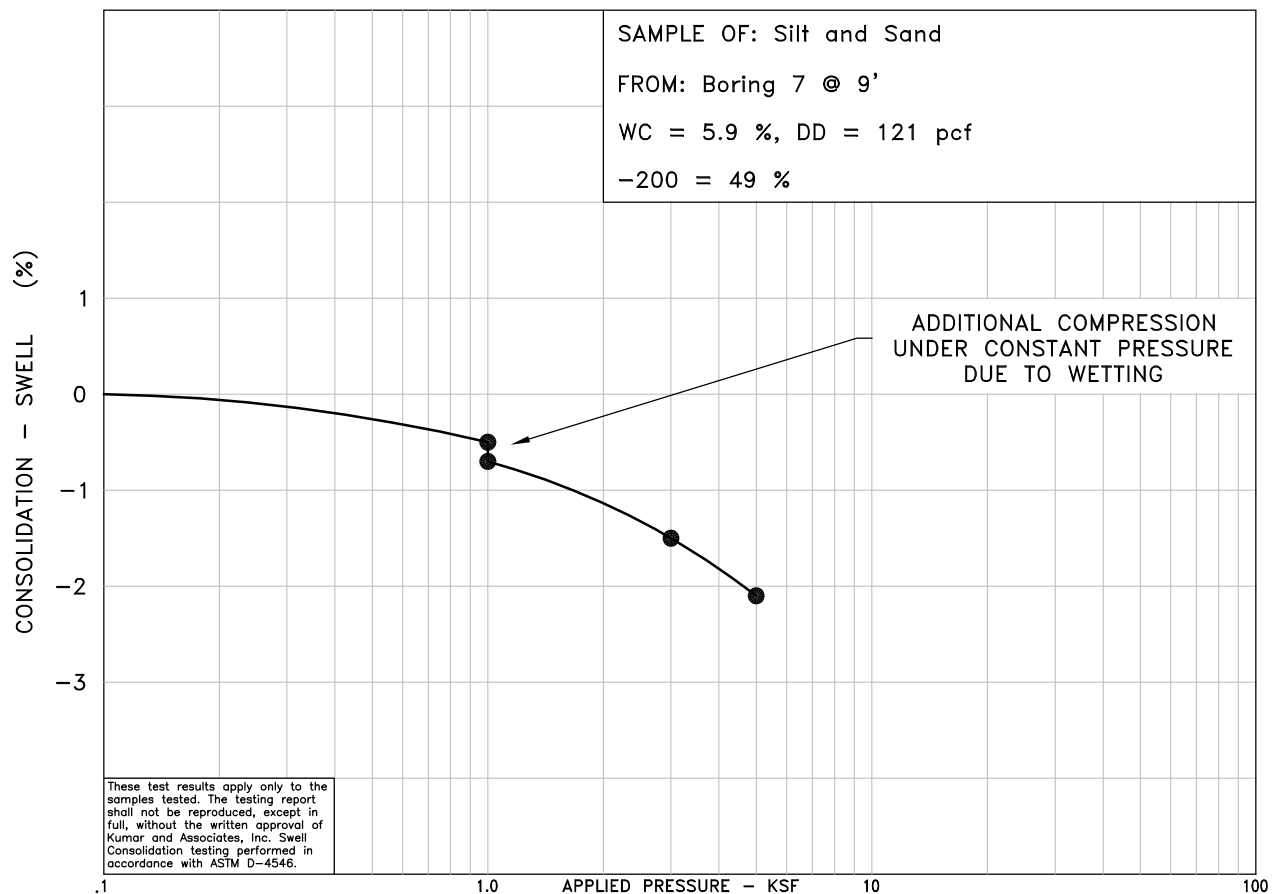
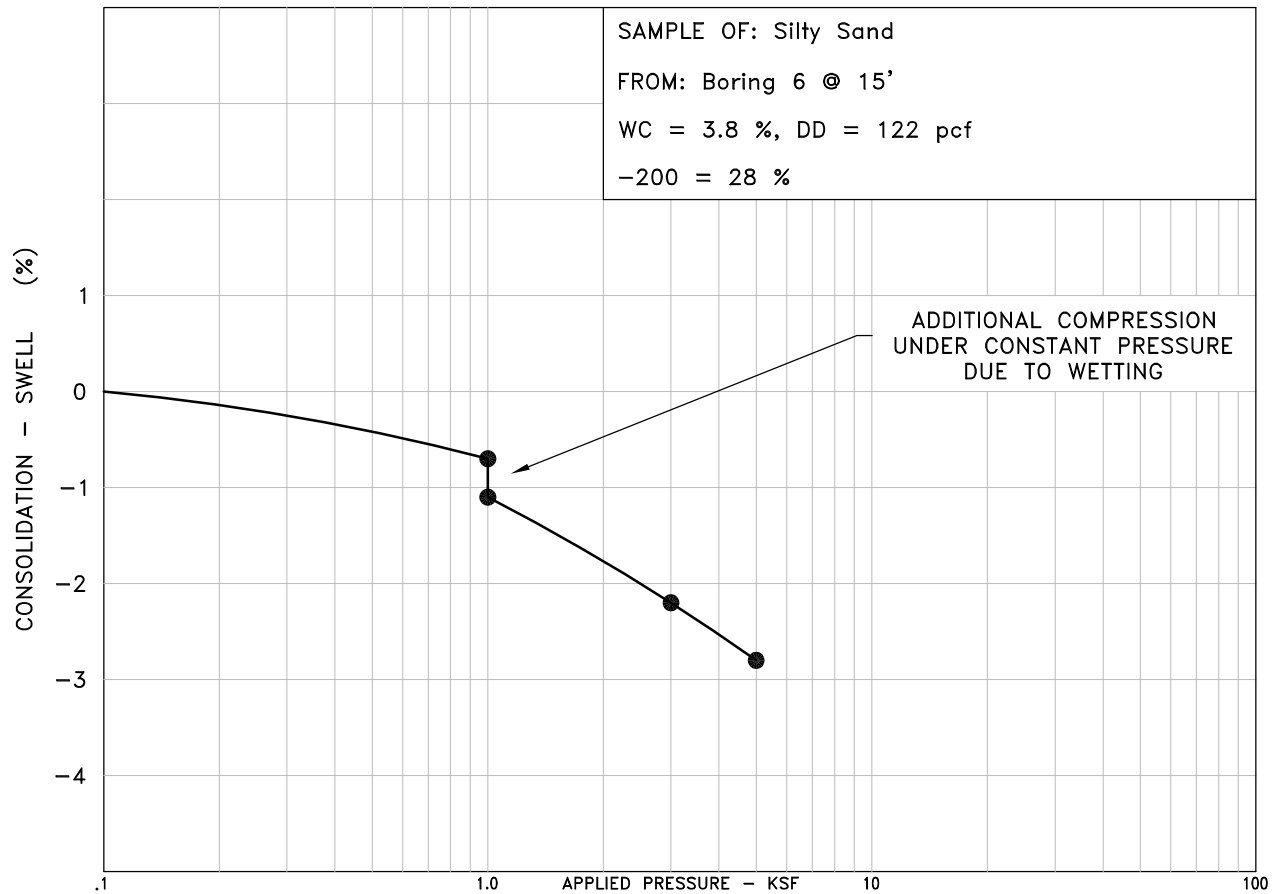
DRIVE SAMPLE BLOW COUNT. INDICATES THAT 19 BLOWS OF A 140-POUND HAMMER FALLING 30 INCHES WERE REQUIRED TO DRIVE THE SAMPLER 12 INCHES.
- 

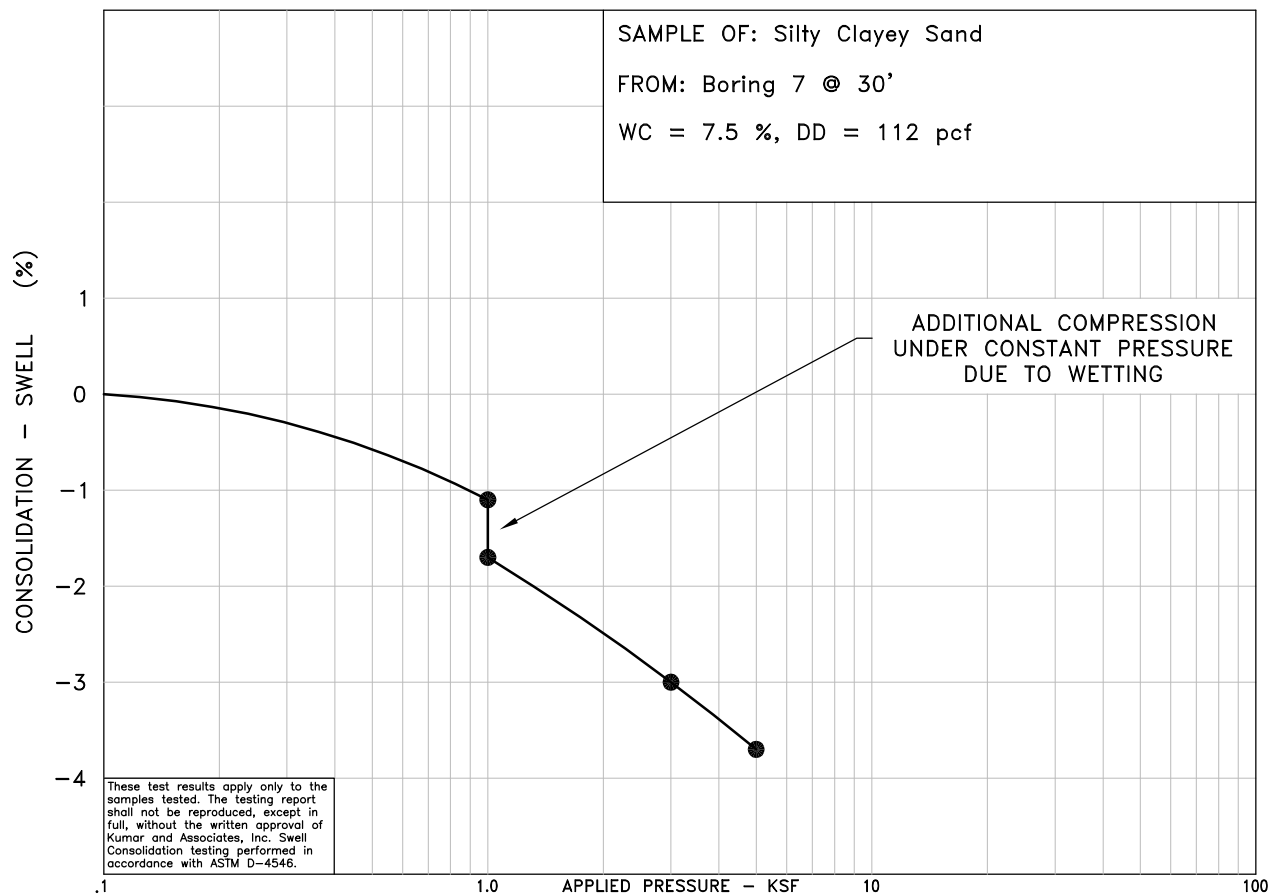
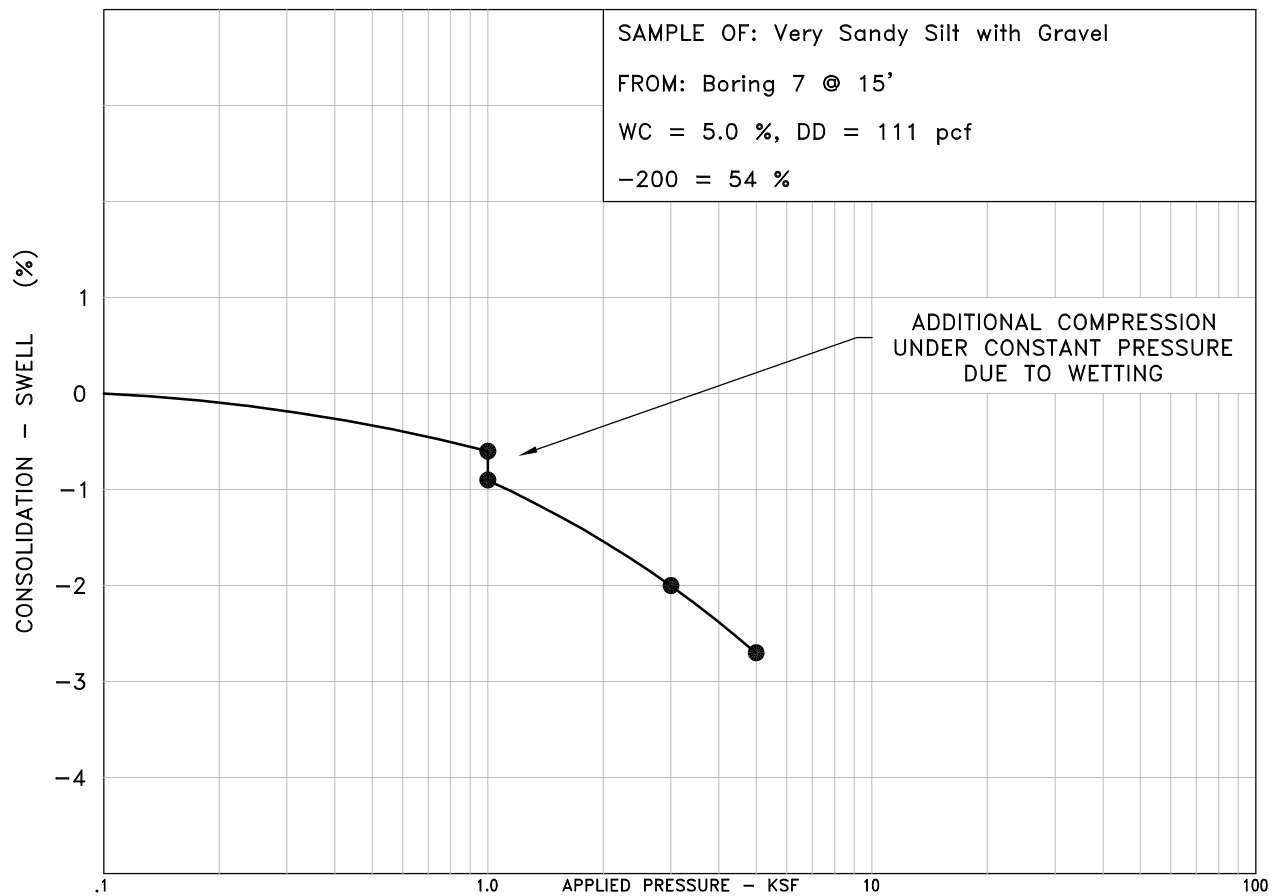
DEPTH AT WHICH BORING CAVED.

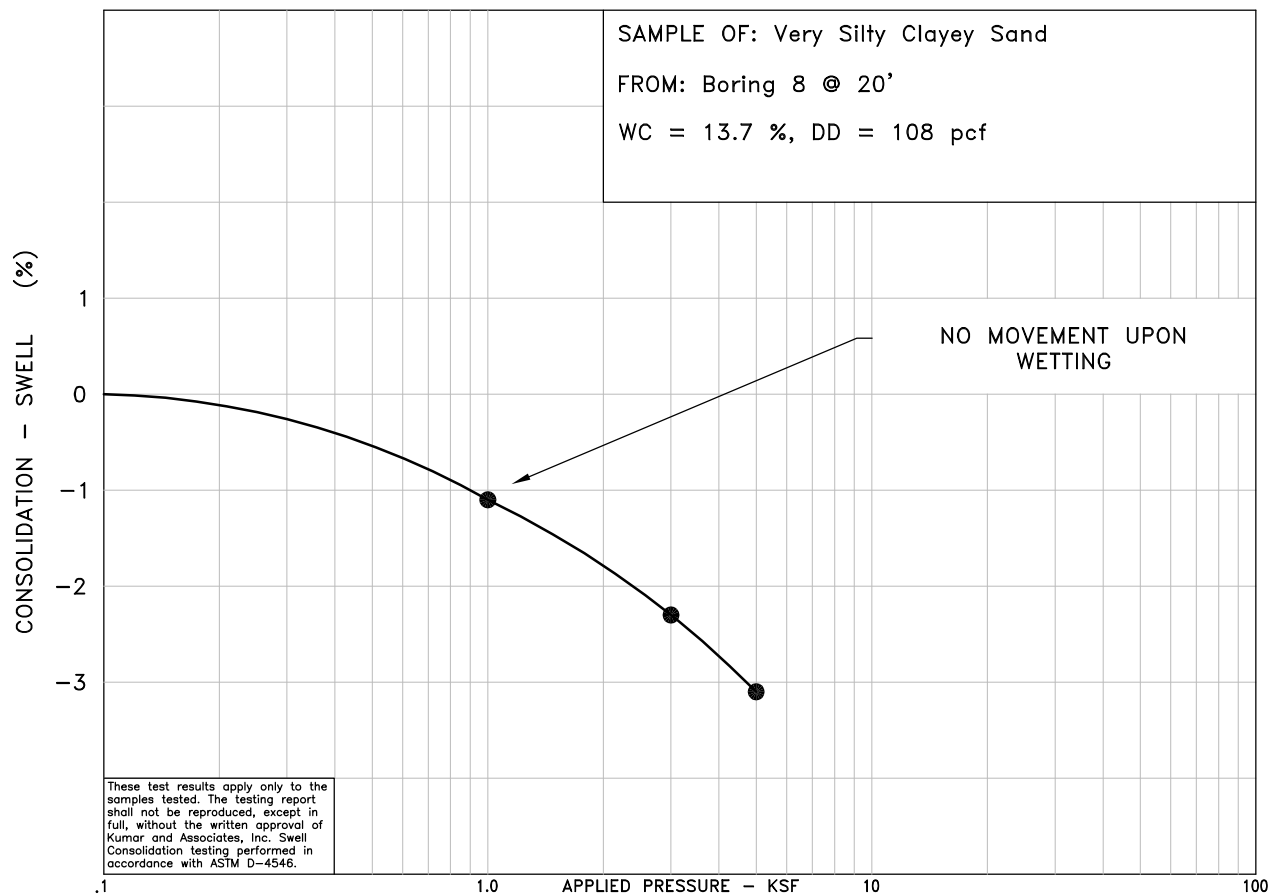
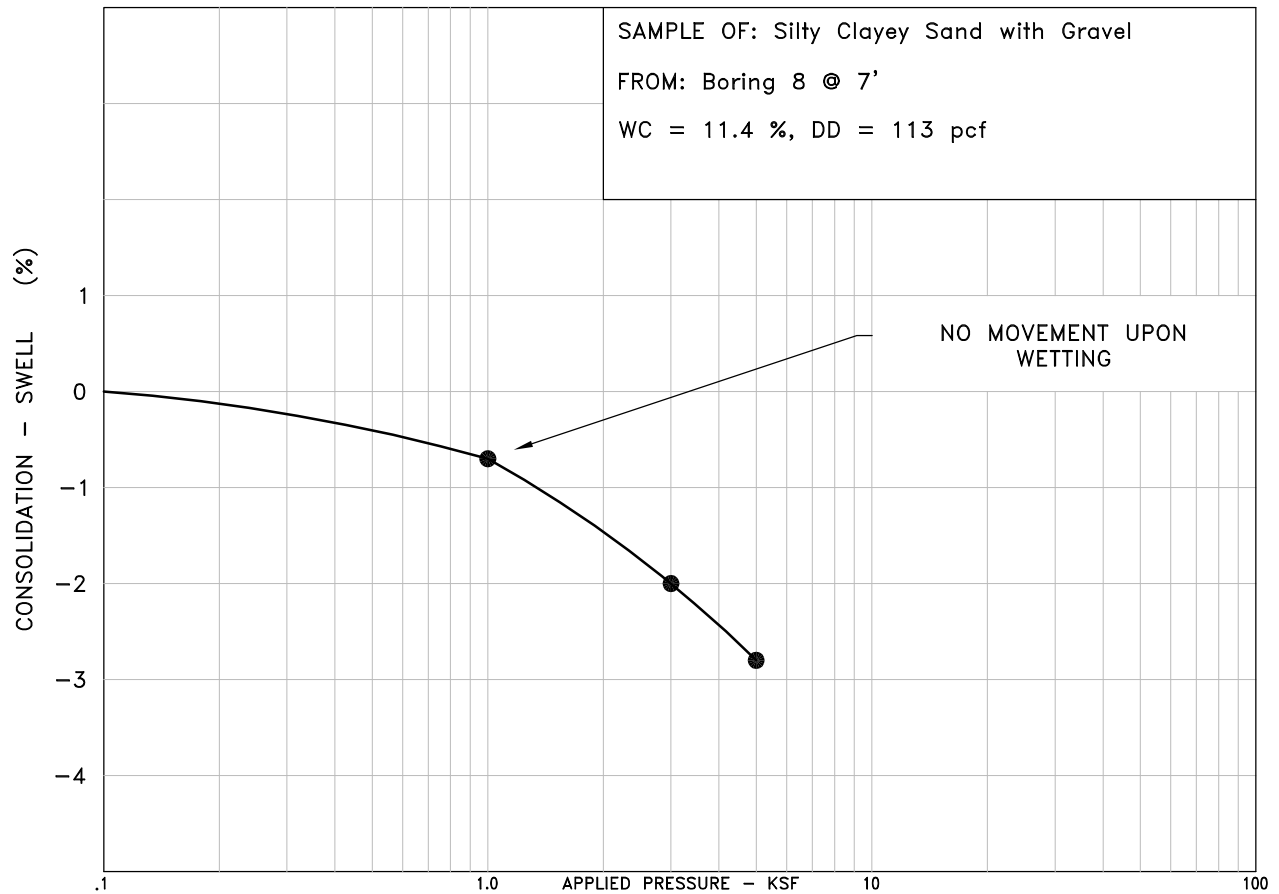
NOTES

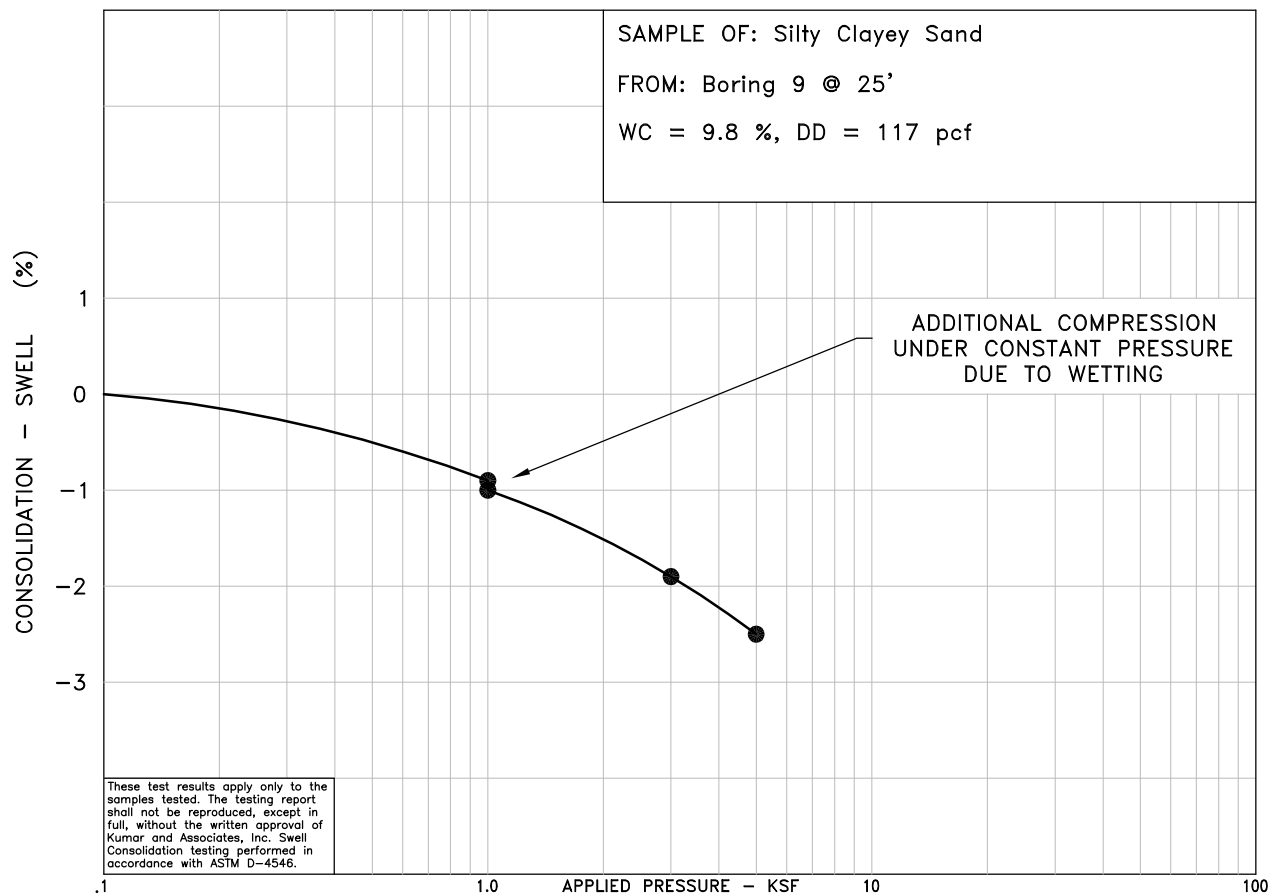
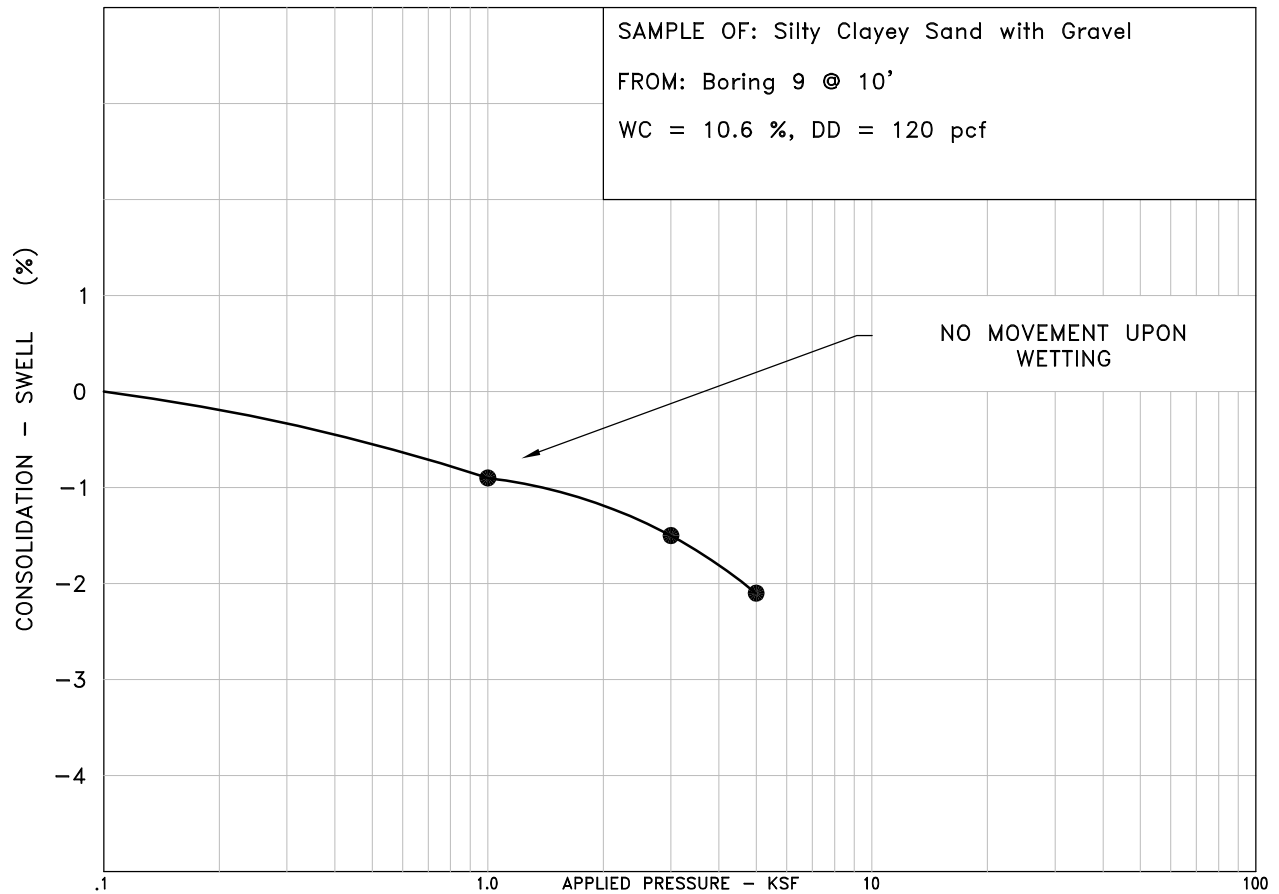
1. THE EXPLORATORY BORINGS WERE DRILLED ON SEPTEMBER 8 AND 14, 2020 WITH A 4-INCH-DIAMETER CONTINUOUS-FLIGHT POWER AUGER.
2. THE LOCATIONS OF THE EXPLORATORY BORINGS WERE MEASURED APPROXIMATELY BY PACING FROM FEATURES SHOWN ON THE SITE PLAN PROVIDED.
3. THE ELEVATIONS OF THE EXPLORATORY BORINGS WERE MEASURED BY HAND LEVEL AND REFER TO THE BENCHMARK ON FIG. 1.
4. THE EXPLORATORY BORING LOCATIONS AND ELEVATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
5. THE LINES BETWEEN MATERIALS SHOWN ON THE EXPLORATORY BORING LOGS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES AND THE TRANSITIONS MAY BE GRADUAL.
6. GROUNDWATER WAS NOT ENCOUNTERED IN THE BORINGS AT THE TIME OF DRILLING.
7. LABORATORY TEST RESULTS:

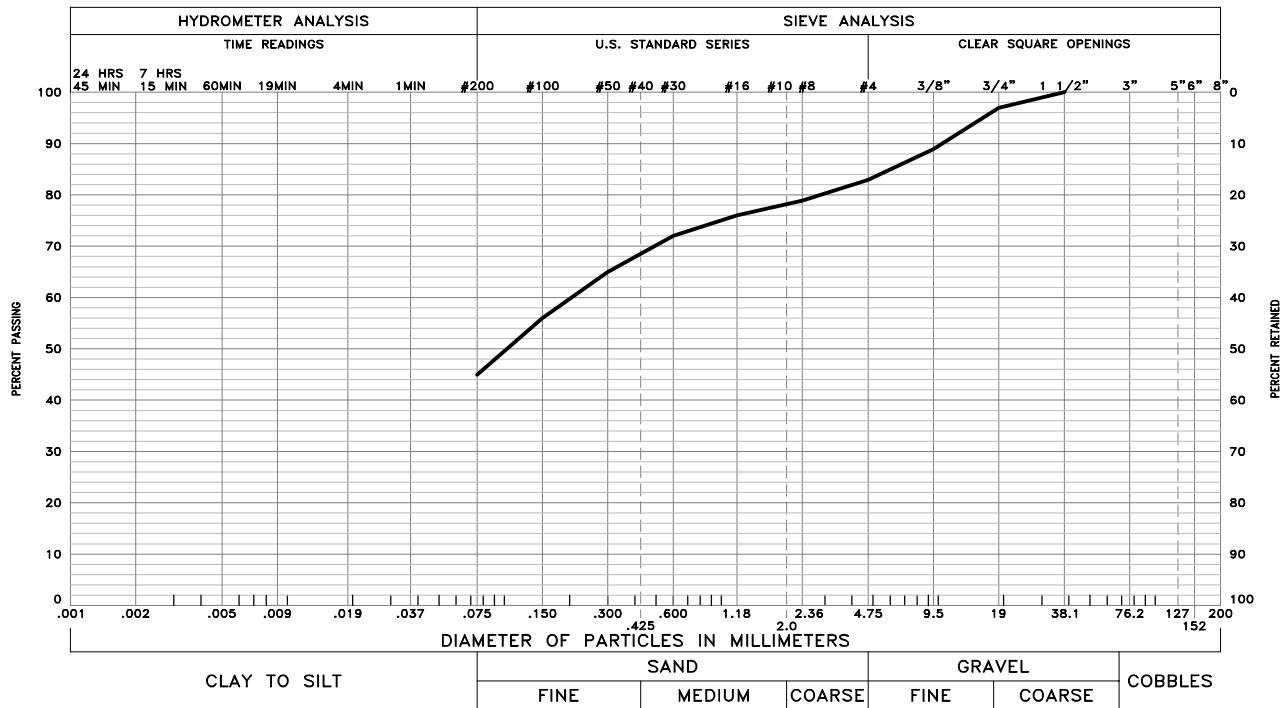
WC = WATER CONTENT (%) (ASTM D2216);
DD = DRY DENSITY (pcf) (ASTM D2216);
+4 = PERCENTAGE RETAINED ON NO. 4 SIEVE (ASTM D6913);
-200= PERCENTAGE PASSING NO. 200 SIEVE (ASTM D1140);
LL = LIQUID LIMIT (ASTM D4318);
PI = PLASTICITY INDEX (ASTM D4318).







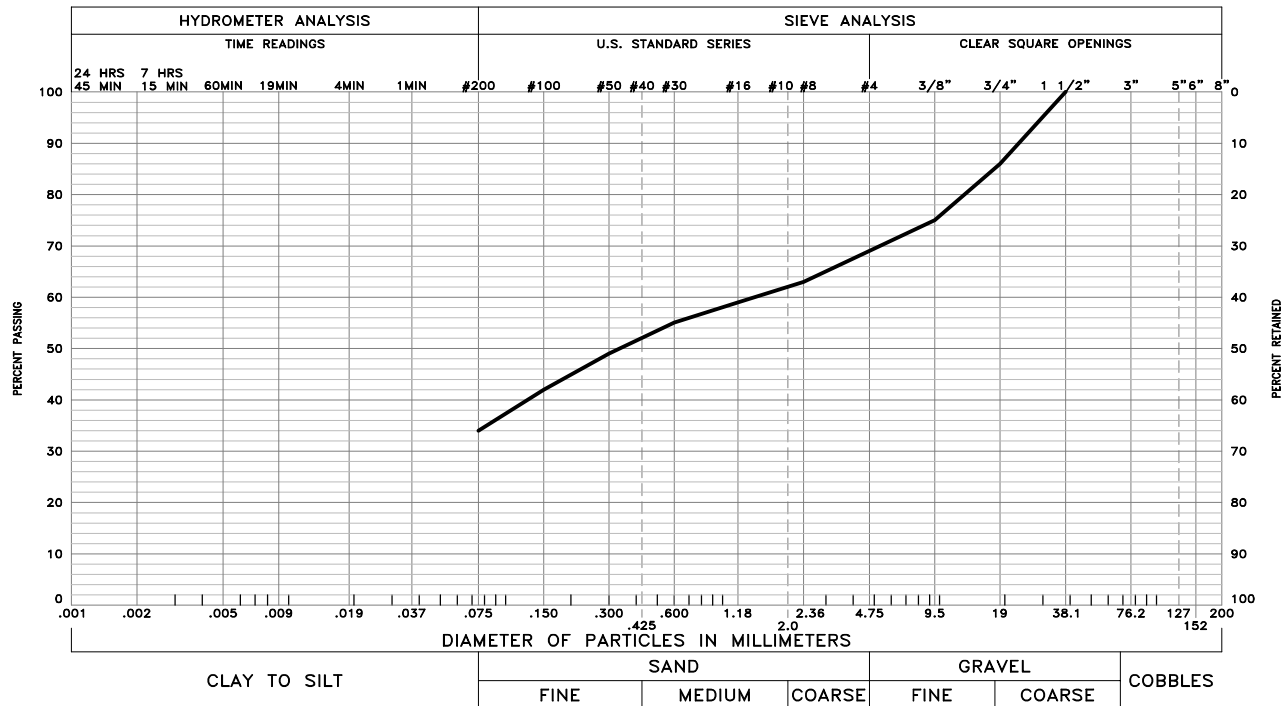




GRAVEL 17 % SAND 38 % SILT AND CLAY 45 %

LIQUID LIMIT PLASTICITY INDEX

SAMPLE OF: Very Silty Sand with Gravel FROM: Boring 6 @ 1'



GRAVEL 31 % SAND 35 % SILT AND CLAY 34 %

LIQUID LIMIT PLASTICITY INDEX

SAMPLE OF: Silty Gravelly Sand (Fill) FROM: Boring 7 @ 1'

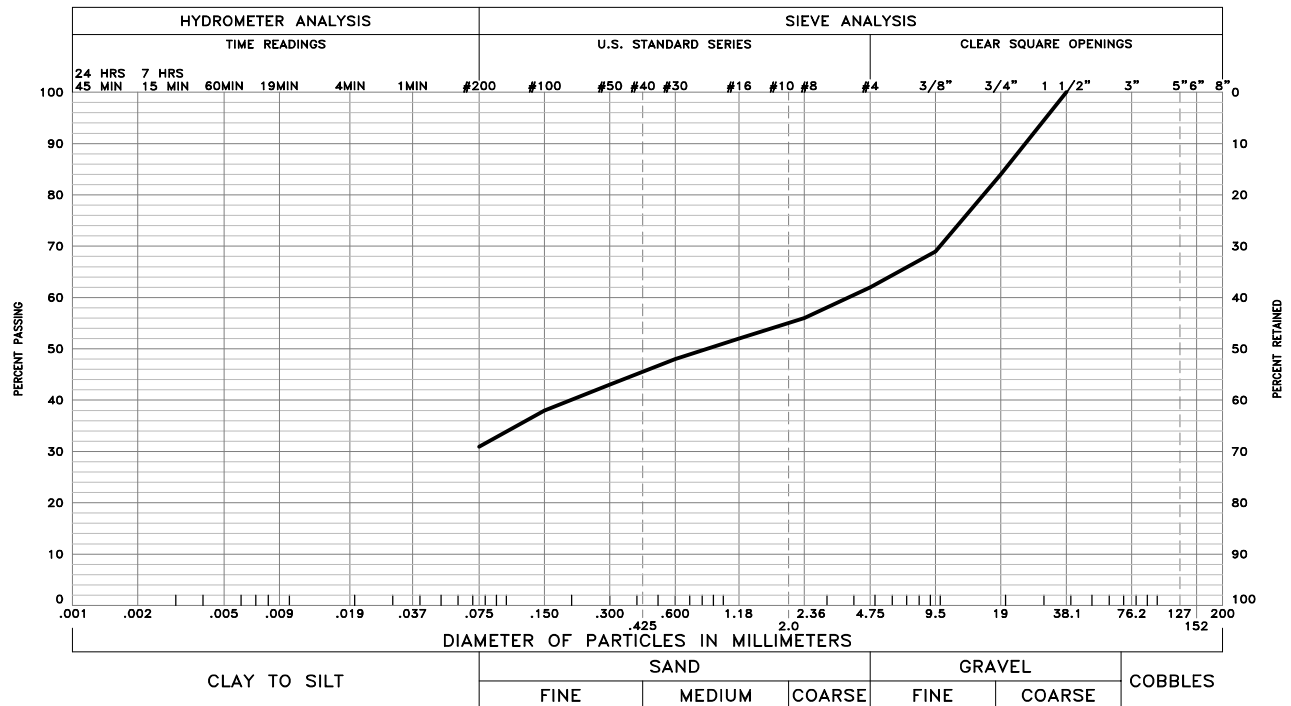
These test results apply only to the samples which were tested. The testing report shall not be reproduced, except in full, without the written approval of Kumar & Associates, Inc. Sieve analysis testing is performed in accordance with ASTM D6913, ASTM D7928, ASTM C136 and/or ASTM D1140.

19-7-521.01

Kumar & Associates

GRADATION TEST RESULTS

Fig. 8



LIQUID LIMIT _____ PLASTICITY INDEX _____

SAMPLE OF: Silty Clayey Sandy Gravel (Fill) FROM: Boring 9 @ 1'

These test results apply only to the samples which were tested. The testing report shall not be reproduced, except in full, without the written approval of Kumar & Associates, Inc. Sieve analysis testing is performed in accordance with ASTM D6913, ASTM D7928, ASTM C136 and/or ASTM D1140.

TABLE 1
SUMMARY OF LABORATORY TEST RESULTS

Project No. 19-7-521.01
Page 1 of 2

SAMPLE LOCATION		NATURAL MOISTURE CONTENT (%)	NATURAL DRY DENSITY (pcf)	GRADATION		PERCENT PASSING NO. 200 SIEVE	ATTERBERG LIMITS		UNCONFINED COMPRESSIVE STRENGTH (psf)		SOIL TYPE
Boring	DEPTH (ft)			GRAVEL (%)	SAND (%)		LIQUID LIMIT (%)	PLASTIC INDEX (%)			
6	1	4.1		17	38	45					Very Silty Sand with Gravel
	4	3.7	120			31					Silty Gravel and Sand
	9	6.5	136			32					Silty Gravel and Sand
	15	3.8	122			28					Silty Sand
	20	4.8	129			28					Silty Clayey Gravel and Sand
	30	7.9	122			45					Very Silty Clayey Sand
	50	9.7	120			60	21	4			Very Sandy Silt and Clay
7	1	6.2		31	35	34					Silty Gravelly Sand (Fill)
	4	7.3	131			34					Silty Gravel and Sand
	9	5.9	121			49					Silt and Sand
	15	5.0	111			54					Very Sandy Silt with Gravel
	20	6.6	109			54					Very Sandy Silt with Gravel
	30	7.5	112								Silty Clayey Sand

TABLE 1
SUMMARY OF LABORATORY TEST RESULTS

Project No. 19-7-521.01
Page 2 of 2

SAMPLE LOCATION		NATURAL MOISTURE CONTENT	NATURAL DRY DENSITY	GRADATION		PERCENT PASSING NO. 200 SIEVE	ATTERBERG LIMITS		UNCONFINED COMPRESSIVE STRENGTH		SOIL TYPE
Boring	DEPTH (ft)			GRAVEL (%)	SAND (%)		LIQUID LIMIT (%)	PLASTIC INDEX (%)			
8	7	11.4	113								Silty Clayey Sand with Gravel
	10	11.9	120			55					Very Sandy Silt and Clay
	20	13.7	108								Very Silty Clayey Sand
	30	11.6	114			54					Very Sandy Silt and Clay
9	1	9.1		38	31	31					Silty Clayey Sandy Gravel (Fill)
	4	9.6	129			35					Silty Clayey Sand and Gravel
	10	10.6	120								Silty Clayey Sand with Gravel
	20	7.8	119			41					Silty Clayey Sand
	25	9.8	117								Silty Clayey Sand

February 26, 2021

Ms. Terri Partch
City of Glenwood Springs
101 West 8th Street
Glenwood Springs, CO 81601

Re: Drainage Compliance Letter for the Glenwood Meadows Lot 8 – The Lofts at Red Mountain Phase 4

Dear Ms. Partch:

This letter has been prepared to address drainage compliance for the proposed Glenwood Meadows Lot 8 - Lofts at Red Mountain Phase 4 project (Site). The Site is located in Lot 8 of Glenwood Meadows No. 2, in Section 8, Township 6 South, Range 89 West of the 6th Principal Meridian, City of Glenwood Springs, Garfield County, Colorado. The Site is located on the south corner of the Glenwood Meadows retail center (north of the intersection at Wulfsohn Road and East Meadows Drive). This compliance letter addresses the development of Lot 8 and the conformance of the drainage design to the Final Drainage Report for Glenwood Meadows Lots 1-10 and Tracts A, B, and C, by V3 Consultants, July 30, 2004 (Final Drainage Report).

The existing site consists of undeveloped land and existing parking lot adjacent to East Meadows Drive that was anticipated to be developed in the Final Drainage Report. An existing 5' Type R storm inlet was added to the north side of the Site's parking area and a 10" storm sewer stub was added to the storm sewer line in East Meadows Dr. during the construction of the Glenwood Meadows retail center; both of which will be utilized as a part of the drainage design for the Site. Phase 4 of the Lofts at Red Mountain consists of one 9,435 square-feet, 36-unit apartment building with garage parking and an overlot-graded future commercial pad to the north of the building. Pedestrian access will be achieved from the Wulfsohn Road right of way at the south side of the building and vehicle access to the parking garage will be through Lots 6 and 8 of Glenwood Meadows No. 2.

Proposed Site Drainage

Runoff from the Site was determined by using the rational method, with the minor storm being the 2-year event and the major storm being the 25-year event, in accordance with the Final Drainage Report for Glenwood Meadows and the City of Glenwood Springs Drainage Criteria. No on-site water quality has been provided since developed runoff from the Site was accounted for in existing Water Quality Ponds B and C along Midland Avenue per the Final Drainage Report for Glenwood Meadows Lots 1-10 and Tracts A, B, C prepared by V3 Consultants dated July 30, 2004 (see appendix).

Four drainage basins have been modified from the Final Drainage Report. These basins are Basins C4, C8, C10, and C20. One additional drainage basin has been added, Basin C20a.

Basin C4 contains 0.31 acres and consists of proposed parking lot, landscaping, and a future commercial pad. The design includes the future 5,550 building within the drainage calculations (see attachments). Runoff from this basin sheet flows to the north towards an existing single Type R inlet. The 25-year developed runoff from Basin C4 is 0.65 cfs. The Final Drainage Report assumed Basin C4 would be 0.37 acres with a 25-year developed runoff of 1.23 cfs. The runoff is less in the proposed condition; therefore, the proposed change will not have a negative impact on the downstream system.

Basin C8 contains 0.69 acres and consists of existing drive aisle, parking lot, and landscaping. Runoff from this basin combines with runoff from Basin C7 from the Final Drainage Report and sheet flows to the north towards an existing single Type 13 sump inlet. The 25-year runoff from Basin C8 is 2.07 cfs. The combined 25-year runoff from Basins C7 and C8 is 6.37 cfs. The Final Drainage Report assumed the combined Basin C7 and C8 would be 2.43 acres with a 25-year developed runoff of 9.28 cfs. The runoff is less in the proposed condition; therefore, the proposed change will not have a negative impact on the downstream system.

Basin C10 contains 0.50 acres and consists of existing drive aisles, parking lot, and landscaping. Runoff from this basin sheet flows to the north towards an existing 5' Type R sump inlet. The 25-year developed runoff from Basin C10 is 0.72 cfs. The Final Drainage Report assumed Basin C10 would be 0.21 acres with a 25-year developed runoff of 1.30 cfs. The runoff is less in the proposed condition; therefore, the proposed change will not have a negative impact on the downstream system.

Basin C20 contains 0.22 acres and consists of the roof of the proposed building. Runoff from this basin is collected by 10" storm sewer stub which extends east of the existing storm sewer within East Meadows Road. The 25-year developed runoff from Basin C20 is 0.61 cfs. The Final Drainage Report assumed Basin C20 would be 0.21 acres with a 25-year developed runoff of 0.69 cfs. The runoff is less in the proposed condition; therefore, the proposed change will not have a negative impact on the downstream system.

Basin C20a contains 0.07 acres and consists of the proposed building's roof. Runoff from this basin is discharged into an existing 12" RCP storm sewer stub located on the Site. The 25-year runoff from Basin C20a is 0.22 cfs. Runoff from this basin will enter Basin C1 and be collected by a 5' Type R Inlet at the intersection of Wulfsohn Road and East Meadows Road. According to the Final Drainage Report, this inlet, STIN 6-7 has a total capacity of 8.0 cfs which is enough to handle the 5.5 cfs flow from Basin C1 as well as the addition flow from C20a.

The proposed Lofts at Red Mountain Phase 4 drainage design is in conformance with the approved Final Drainage Report for Glenwood Meadows and the City of Glenwood Springs drainage criteria. Calculations and excerpts from previously approved reports are included with the attachments of this letter.

Sincerely,

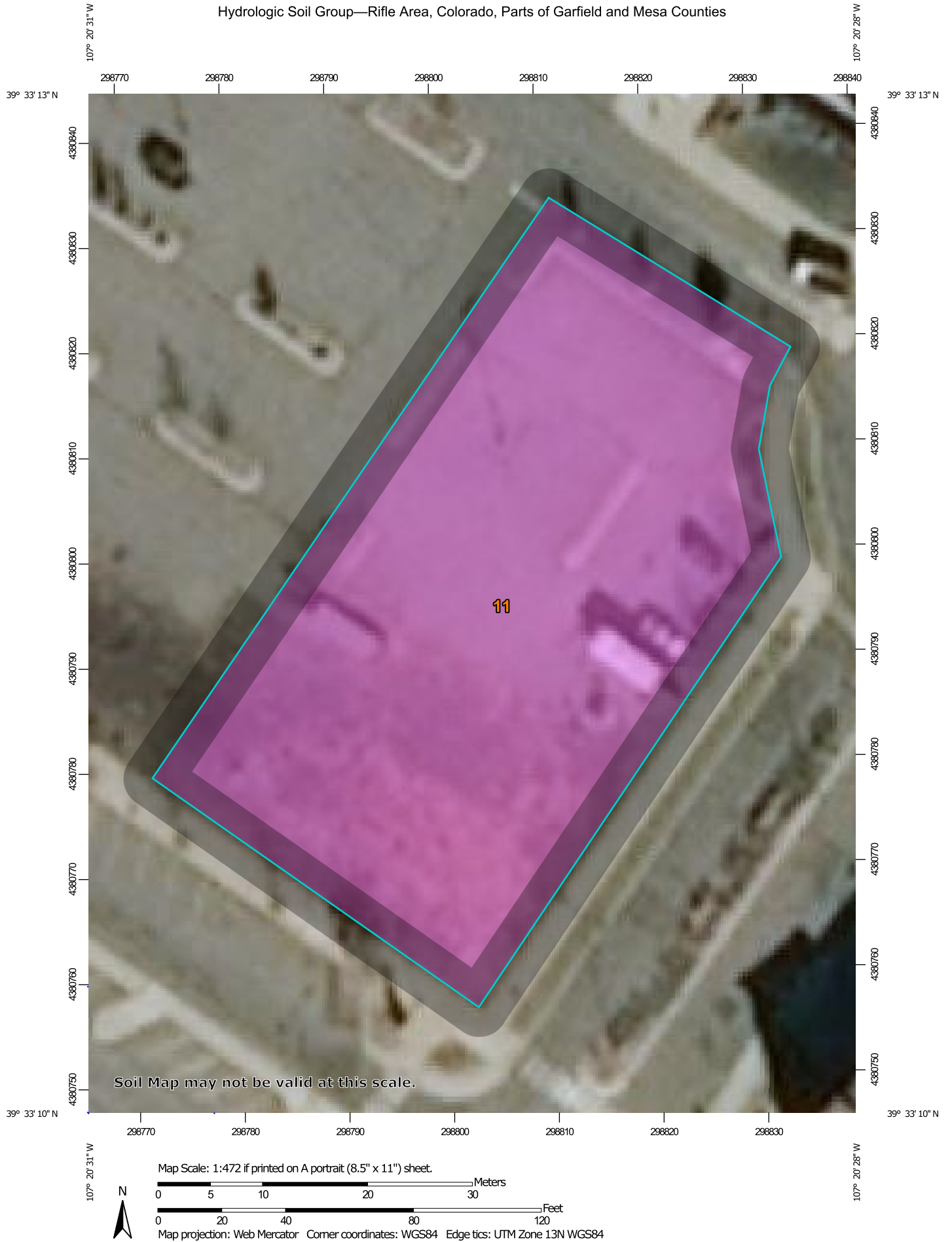


Mark D. Ceva, P.E.
Sr. Project Manager

Attachments

- Soils Map
- SF1, SF2, and SF3 Forms
- Existing and Proposed Basin Comparison
- StormCAD Analysis
- Excerpts from related reports
- Final Drainage Report for Glenwood Meadows Lots 1-10 and Tracts A, B, and C
- Drainage Map

Hydrologic Soil Group—Rifle Area, Colorado, Parts of Garfield and Mesa Counties



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Rifle Area, Colorado, Parts of Garfield and Mesa Counties
 Survey Area Data: Version 13, Jun 5, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 24, 2015—Nov 2, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
11	Begay sandy loam, 6 to 12 percent slopes	A	0.6	100.0%
Totals for Area of Interest			0.6	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



**SF-1
RUNOFF COEFFICIENTS - DEVELOPED**

PROJECT NAME: Proposed - Lofts at Red Mountain Phase 4
 PROJECT NUMBER: 12013.12
 CALCULATED BY: WS
 CHECKED BY: MDC

DATE: 2/26/2021

	Drives & Walks	Lawn	Roof	
LAND USE:	Area	Area	Area	
IMPERVIOUS %	100%	5%	90%	Calculations assume Type A soils per NRCS

OVERALL SITE STUDY AREA

DESIGN BASIN	DESIGN POINT	(AC)	(AC)	(AC)	TOTAL AREA (AC)	Cd(2)	Cd(5)	Cd(25)	Cd(100)	Impervious %
C4	C4	0.11	0.07	0.13	0.31	0.58	0.59	0.63	0.69	74.8%
C8	C8	0.66	0.03		0.69	0.80	0.81	0.84	0.86	95.9%
C10	C10	0.34	0.16		0.50	0.52	0.54	0.58	0.65	69.5%
C20	C20			0.22	0.22	0.73	0.75	0.78	0.81	90.0%
C20a	C20a	0.07			0.07	0.84	0.86	0.88	0.89	100.0%
OVERALL STUDY AREA		1.19	0.26	0.35	1.79	0.67	0.69	0.73	0.77	84.3%
		66.2%	14.5%	19.4%	100.0%					

Table 6-4. Runoff coefficient equations based on NRCS soil group and storm return period

NRCS Soil Group	Storm Return Period						
	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year	500-Year
A	$C_A = 0.84i^{-1.302}$	$C_A = 0.86i^{1.276}$	$C_A = 0.87i^{1.232}$	$C_A = 0.88i^{1.124}$	$C_A = 0.85i+0.025$	$C_A = 0.78i+0.110$	$C_A = 0.65i+0.254$
B	$C_B = 0.84i^{1.169}$	$C_B = 0.86i^{1.088}$	$C_B = 0.81i+0.057$	$C_B = 0.63i+0.249$	$C_B = 0.56i+0.328$	$C_B = 0.47i+0.426$	$C_B = 0.37i+0.536$
C/D	$C_{C/D} = 0.83i^{1.122}$	$C_{C/D} = 0.82i+0.035$	$C_{C/D} = 0.74i+0.132$	$C_{C/D} = 0.56i+0.319$	$C_{C/D} = 0.49i+0.393$	$C_{C/D} = 0.41i+0.484$	$C_{C/D} = 0.32i+0.588$

Source: Mile High Flood District, Denver, Colorado, Urban Storm Drainage Criteria Manual, Volume 1, Chapter 6, Page 6-9, latest online addition.



STANDARD FORM SF-2 - DEVELOPED
Time of Concentration

PROJECT NAME: Proposed - Lofts at Red Mountain Phase 4
PROJECT NUMBER: 12013.12
CALCULATED BY: WS
CHECKED BY: MDC

DATE: 2/26/2021

SUB-BASIN DATA			INITIAL TIME (T _i)			TRAVEL TIME (T _t)						t _c CHECK (URBANIZED BASINS)			FINAL t _c		
DESIGN BASIN (1)	AREA A _c (2)	C ₅ (3)	LENGTH Ft* (4)	SLOPE % (5)	T _i Min. (6)	LENGTH Ft. (7)	SLOPE % (8)	C _v (9)	Land Surface (10)	VEL fps (11)	T _t Min. (12)	COMP. t _c (13)	TOTAL LENGTH (14)	$T_c = (26-17i) + \frac{L_i}{60(14i+9)} S_0^{1/2}$ (15)	Min. (16)	C5 (17)	C100 (18)
C4	0.31	0.59	105	4.3%	5.8	70	1.0%	20.0	Paved Areas	2.0	0.6	6.4	175	13.4	6.4	0.59	0.69
C8	0.69	0.81	15	4.6%	1.2	515	4.0%	20.0	Paved Areas	4.0	2.1	3.4	530	10.0	5.0	0.81	0.86
C10	0.50	0.54	167	1.0%	13.3	80	1.0%	20.0	Paved Areas	2.0	0.7	13.9	247	9.1	13.9	0.54	0.65
C20	0.22	0.75	40	2.0%	3.2	90	2.0%	20.0	Paved Areas	2.8	0.5	3.7	40	11.7	5.0	0.75	0.81
C20a	0.07	0.86	70	2.0%	2.9	0	1.0%	20.0	Paved Areas	2.0	0.0	2.9	70	26.0	5.0	0.86	0.89

* L = 500' max for non-urban land uses and 300' max for urban land uses

$$T_i = \frac{0.395(1.1-C)L^{1/2}}{S^{1/3}} \quad T_t = \frac{L}{60V} \quad t_c = \frac{L}{180} + 10 \quad V = C_v S_w^{0.5}$$

Table 6-2. NRCS Conveyance factors, K

Type of Land Surface	Conveyance Factor, K
Heavy meadow	2.5
Tillage/field	5
Short pasture and lawns	7
Nearly bare ground	10
Grassed waterway	15
Paved areas and shallow paved swales	20

Source: Mile High Flood District, Denver, Colorado, Urban Storm Drainage Criteria Manual, Volume 1, Chapter 6, Page 6-9, latest online addition.



STANDARD FORM SF-3 - DEVELOPED
STORM DRAINAGE DESIGN - RATIONAL METHOD 2 YEAR EVENT

PROJECT NAME: Proposed - Lofts at Red Mountain Phase 4
 PROJECT NUMBER: 12013.12
 CALCULATED BY: WS
 CHECKED BY: MDC

P₁ (1-Hour Rainfall) = 0.51

DATE: 2/26/2021

STORM LINE	DESIGN POINT	DIRECT RUNOFF							TOTAL RUNOFF				STREET		PIPE			TRAVEL TIME			REMARKS
		DESIGN BASIN	AREA (AC)	RUNOFF COEFF C2	t _c (min)	C*A(ac)	I (in/hr)	Q (cfs)	t _c (min)	S(C*A) (ac)	I (in/hr)	Q (cfs)	SLOPE (%)	STREET FLOW(cfs)	DESIGN FLOW(cfs)	SLOPE (%)	PIPE SIZE (in)	LENGTH (ft)	VELOCITY (fps)	t _t (min)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
	C4	C4	0.31	0.58	6.43	0.18	1.61	0.29													
	C8	C8	0.69	0.80	5.00	0.55	1.73	0.95													
	C10	C10	0.50	0.52	13.93	0.26	1.20	0.31													
	C20	C20	0.22	0.73	5.00	0.16	1.73	0.28													
	C20a	C20a	0.07	0.84	5.00	0.06	1.73	0.10													



STANDARD FORM SF-3 - DEVELOPED
STORM DRAINAGE DESIGN - RATIONAL METHOD 25 YEAR EVENT

PROJECT NAME: Proposed - Lofts at Red Mountain Phase 4
 PROJECT NUMBER: 12013.12
 CALCULATED BY: WS
 CHECKED BY: MDC

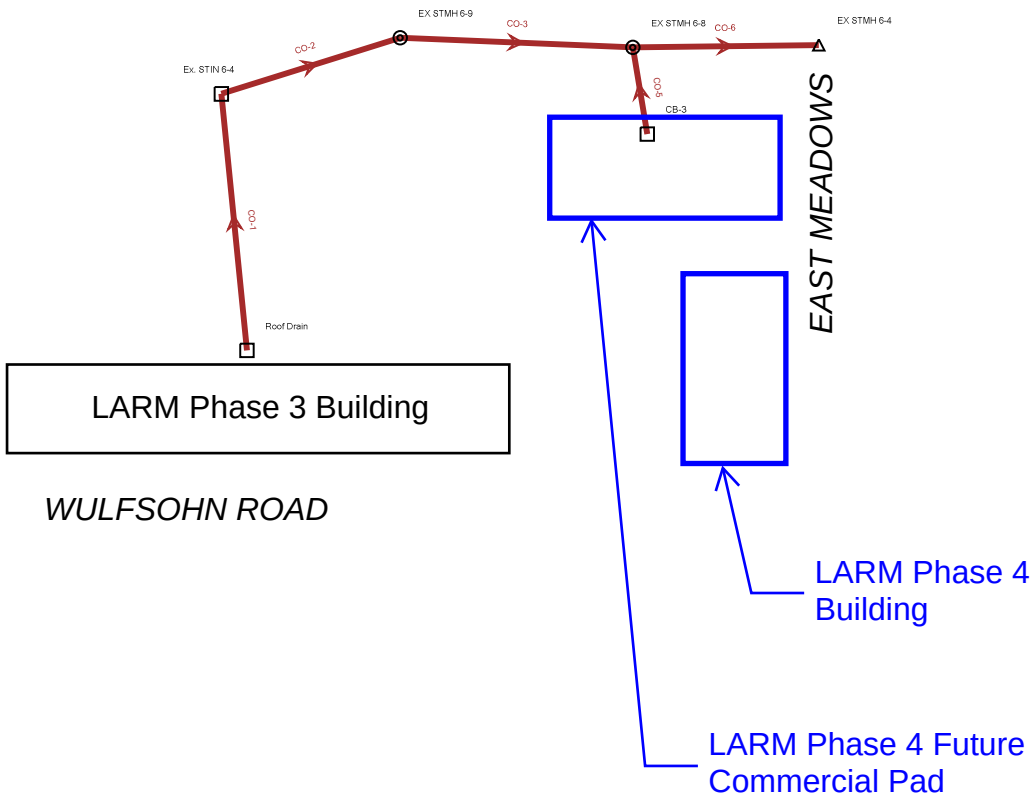
P₁ (1-Hour Rainfall) = **1.05**

DATE: 2/26/2021

STORM LINE	DESIGN POINT	DIRECT RUNOFF							TOTAL RUNOFF				STREET		PIPE		TRAVEL TIME			REMARKS	
		DESIGN BASIN	AREA (AC)	RUNOFF COEFF C ₂₅	t _c (min)	C*A(ac)	I (in/hr)	Q (cfs)	t _c (min)	S(C*A) (ac)	I (in/hr)	Q (cfs)	SLOPE (%)	STREET FLOW(cfs)	DESIGN FLOW(cfs)	SLOPE (%)	PIPE SIZE (in)	LENGTH (ft)	VELOCITY (fps)		t _t (min)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
	C4	C4	0.31	0.63	6.43	0.20	3.32	0.65													
	C8	C8	0.69	0.84	5.00	0.58	3.56	2.07													
	C10	C10	0.50	0.58	13.93	0.29	2.47	0.72													
	C20	C20	0.22	0.78	5.00	0.17	3.56	0.61													
	C20a	C20a	0.07	0.88	5.00	0.06	3.56	0.22													

Basin Comparison Table							Basin Comparison Table- Existing						
Basin	Area (AC)	Runoff Coefficients		I (%)	Peak Flows (cfs)		Basin	Area (AC)	Runoff Coefficients		I (%)	Peak Flows (cfs)	
		C2	C25		Q2	Q25			C2	C25		Q2	Q25
C4	0.31	0.58	0.63	74.8%	0.29	0.65	C4	0.37	0.68	0.78	76.6%	1.07	1.23
C8	0.69	0.80	0.84	95.9%	0.95	2.07	C8	0.73	0.74	0.79	95.7%	1.00	2.17
C10	0.50	0.52	0.58	69.5%	0.31	0.72	C10	0.51	0.60	0.72	67.9%	1.30	1.56
C20	0.22	0.73	0.78	90.0%	0.28	0.61	C20	0.21	0.71	0.78	90.0%	0.63	0.69
C20a	0.07	0.84	0.88	100.0%	0.10	0.22							

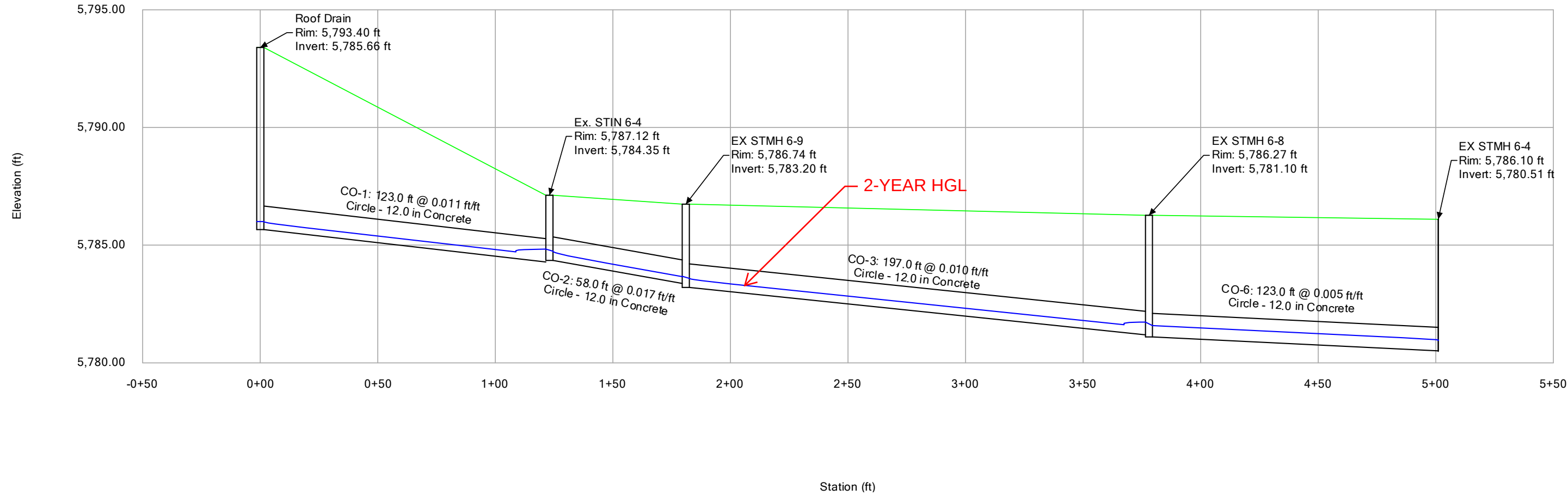
Scenario: Base



Conduit FlexTable: Table - 1
2-Year Storm Scenario

Label	Start Node	Stop Node	Invert (Start) (ft)	Invert (Stop) (ft)	Length (User Defined) (ft)	Slope (Calculated) (ft/ft)	Diameter (in)	Manning's n	Flow (cfs)	Capacity (Full Flow) (cfs)	Velocity (ft/s)	Elevation Ground (Start) (ft)	Elevation Ground (Stop) (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
CO-1	Roof Drain	Ex. STIN 6-4	5,785.66	5,784.28	123.0	0.011	12.0	0.013	0.67	3.77	3.63	5,793.40	5,787.12	5,786.00	5,784.83
CO-2	Ex. STIN 6-4	EX STMH 6-9	5,784.35	5,783.37	58.0	0.017	12.0	0.013	0.87	4.63	4.52	5,787.12	5,786.74	5,784.74	5,783.66
CO-3	EX STMH 6-9	EX STMH 6-8	5,783.20	5,781.19	197.0	0.010	12.0	0.013	0.87	3.60	3.77	5,786.74	5,786.27	5,783.59	5,781.73
CO-5	CB-3	EX STMH 6-8	5,783.61	5,781.32	26.0	0.088	12.0	0.013	0.29	10.57	5.86	5,787.39	5,786.27	5,783.83	5,781.73
CO-6	EX STMH 6-8	EX STMH 6-4	5,781.10	5,780.51	123.0	0.005	12.0	0.013	1.16	2.47	3.09	5,786.27	5,786.10	5,781.58	5,780.96

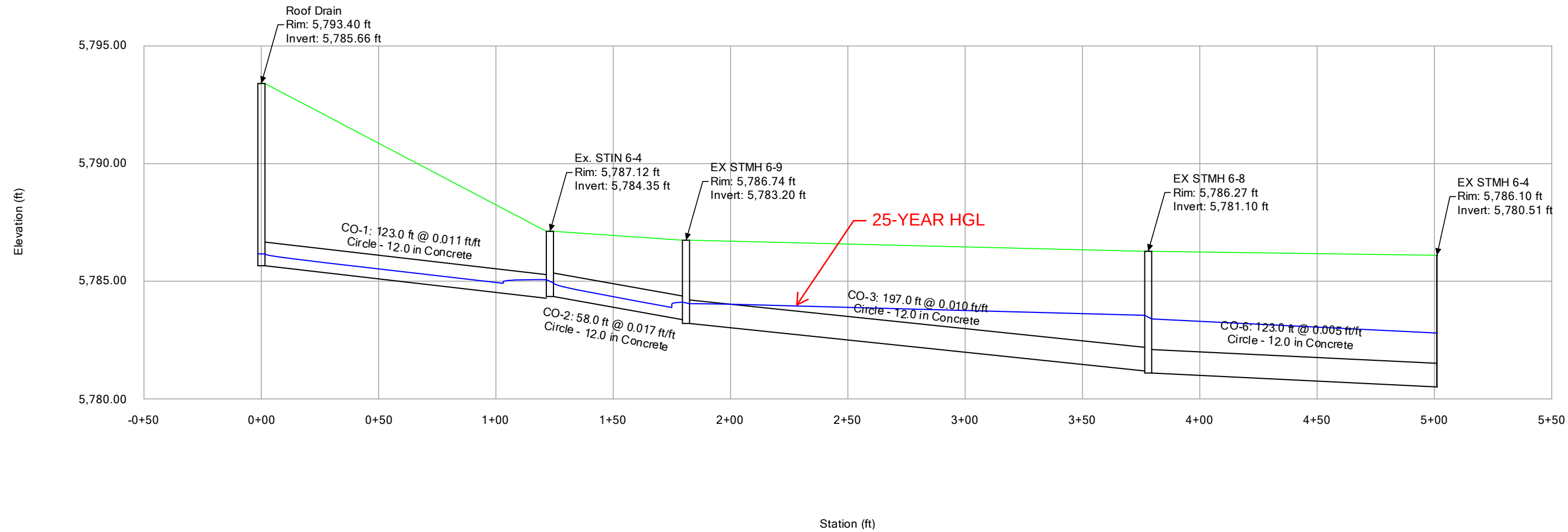
Profile Report
Engineering Profile - Profile - 1 (12013.12 Phase 4 - 2-year.stsw)
2-Year Storm Scenario



Conduit FlexTable: Table - 1
25-Year Storm Scenario

Label	Start Node	Stop Node	Invert (Start) (ft)	Invert (Stop) (ft)	Length (User Defined) (ft)	Slope (Calculated) (ft/ft)	Diameter (in)	Manning's n	Flow (cfs)	Capacity (Full Flow) (cfs)	Velocity (ft/s)	Elevation Ground (Start) (ft)	Elevation Ground (Stop) (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
CO-1	Roof Drain	Ex. STIN 6-4	5,785.66	5,784.28	123.0	0.011	12.0	0.013	1.41	3.77	4.46	5,793.40	5,787.12	5,786.16	5,785.07
CO-2	Ex. STIN 6-4	EX STMH 6-9	5,784.35	5,783.37	58.0	0.017	12.0	0.013	1.83	4.63	5.55	5,787.12	5,786.74	5,784.93	5,784.11
CO-3	EX STMH 6-9	EX STMH 6-8	5,783.20	5,781.19	197.0	0.010	12.0	0.013	1.83	3.60	4.60	5,786.74	5,786.27	5,784.05	5,783.55
CO-5	CB-3	EX STMH 6-8	5,783.61	5,781.32	26.0	0.088	12.0	0.013	0.65	10.57	7.47	5,787.39	5,786.27	5,783.95	5,783.55
CO-6	EX STMH 6-8	EX STMH 6-4	5,781.10	5,780.51	123.0	0.005	12.0	0.013	2.48	2.47	3.16	5,786.27	5,786.10	5,783.40	5,782.80

Profile Report
Engineering Profile - Profile - 1 (12013.12 Phase 4 - 25-year.stsw)
25-Year Storm Scenario



APPENDIX M

INLET SIZING

Glenwood Meadows
Inlet Sizing, 25-yr Storm Event
CALCULATED BY: TJH

INLET NAME	DESIGN POINT	DIRECT RUNOFF							INLET CHARACTERISTICS				NOTES
		DRAINAGE BASINS	TOTAL AREA (ac)	RUNOFF COEFF. (C ₂₅)	t _c (min)	C x A (ac)	INTENSITY I (in/hr)	TOTAL FLOW Q ₂₅ (cfs)	MAX. DEPTH (ft)	STREET SLOPE (%)	MAX. INLET CAPACITY (cfs)	INLET LENGTH TYPE	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
STIN 1-1		A15	0.32	0.86	5.0	0.28	4.25	1.2	0.75	SUMP	8.0	5' TYPE R	
STIN 1-2		A44	0.14	0.94	5.0	0.13	4.25	0.5	0.75	SUMP	8.0	5' TYPE R	
STIN 1-3		A3	0.38	0.66	5.0	0.25	4.25	1.1	0.75	SUMP	8.0	5' TYPE R	
STIN 1-4		A2	0.33	0.82	5.0	0.27	4.25	1.1	1.00	SUMP	49.0	Trench Drain	Neenah 10"x26" R-4990-CX w/Type-A Grate
STIN 1-5		A1	0.95	0.47	7.0	0.45	4.25	1.9	0.75	SUMP	8.0	5' TYPE R	
STIN 2-1		A37	0.66	0.79	5.0	0.52	4.25	2.2	0.75	SUMP	8.0	5' TYPE R	
STIN 2-2		A45	0.39	0.28	5.0	0.11	4.25	0.5	0.75	SUMP	8.0	Area Drain	Neenah R-4340-B Beehive Area Drain
STIN 3-1		A36	0.87	0.91	5.0	0.79	4.25	3.4	0.75	SUMP	8.0	5' TYPE R	
STIN 3-2		A24	0.75	0.86	6.6	0.65	3.85	2.5	0.75	SUMP	8.0	5' TYPE R	
STIN 3-3		A22	0.67	0.84	5.0	0.56	4.25	2.4	0.75	SUMP	8.0	5' TYPE R	
STIN 3-4		A35	1.81	0.87	5.0	1.58	4.25	6.7	0.75	SUMP	8.0	5' TYPE R	
STIN 3-5		A33	0.95	0.78	5.0	0.74	4.25	3.1	0.75	SUMP	8.0	5' TYPE R	
STIN 3-6		A31	0.44	0.81	5.0	0.36	4.25	1.5	0.50	5.00	4.0	5' TYPE R	
STIN 3-7		A26	0.50	0.81	5.0	0.41	4.25	1.7	0.50	5.00	4.0	5' TYPE R	
STIN 3-8		A21	2.71	0.86	6.1	2.34	4.00	9.4	0.75	SUMP	18.0	10' TYPE R	
STIN 3-9		A32	0.35	0.79	5.0	0.28	4.25	1.2	0.75	SUMP	8.0	5' TYPE R	
STIN 3-10		A20	0.49	0.77	5.4	0.38	4.10	1.5	0.75	SUMP	8.0	5' TYPE R	
STIN 3-11		A42	0.31	0.81	5.0	0.25	4.25	1.1	0.50	5.00	4.0	5' TYPE R	
STIN 3-12		A41	0.25	0.81	5.0	0.20	4.25	0.9	0.50	5.00	4.0	5' TYPE R	
STIN 3-13		A16	0.40	0.47	5.0	0.19	4.25	0.8	0.75	SUMP	8.0	5' TYPE R	
STIN 3-14		A17	0.44	0.66	5.0	0.29	4.25	1.2	0.75	SUMP	8.0	5' TYPE R	
STIN 3-15		A30	0.24	0.93	5.0	0.22	4.25	0.9	0.75	SUMP	8.0	5' TYPE R	
STIN 3-16		A29	0.16	0.85	5.0	0.14	4.25	0.6	0.50	3.13	4.0	5' TYPE R	
STIN 3-17		A18	0.46	0.87	5.0	0.40	4.25	1.7	0.50	3.70	4.0	5' TYPE R	
STIN 3-18		A43	0.65	0.87	5.0	0.56	4.25	2.4	0.50	3.70	4.0	5' TYPE R	
STIN 3-19		OS1	3.77	0.28	14.2	1.06	2.80	3.0	1.00	SUMP	5.3	Area Drain	Neenah R-4340-B Beehive Area Drain
STIN 3-20		OS2	8.18	0.54	9.1	4.42	3.35	14.8	1.00	SUMP	34.0	CDOT Type-C	
STIN 3-21		A19	1.15	0.77	5.1	0.88	4.25	3.7	1.00	SUMP	13.0	3' TYPE-13	
STIN 4-1		B38	0.53	0.67	5.0	0.35	4.25	1.5	0.75	SUMP	8.0	5' TYPE R	

EXCERPT FROM FINAL DRAINAGE REPORT

INLET NAME	DESIGN POINT	DIRECT RUNOFF							INLET CHARACTERISTICS				NOTES
		DRAINAGE BASINS	TOTAL AREA (ac)	RUNOFF COEFF. (C ₂₅)	t _c (min)	C x A (ac)	INTENSITY I (in/hr)	TOTAL FLOW Q ₂₅ (cfs)	MAX. DEPTH (ft)	STREET SLOPE (%)	MAX. INLET CAPACITY (cfs)	INLET LENGTH TYPE	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
STIN 4-2		B39	0.06	0.67	5.0	0.04	4.25	0.2	0.50	SUMP	5.3	Area Drain	Neenah R-4340-B Beehive Area Drain
STIN 4-2A		B34	0.05	0.64	5.0	0.03	4.25	0.1	0.50	SUMP	5.3	Area Drain	Neenah R-4340-B Beehive Area Drain
STIN 4-3		B19	0.77	0.86	5.0	0.66	4.25	2.8	0.75	SUMP	8.0	5' TYPE R	
STIN 4-4		B18	1.16	0.90	5.0	1.05	4.25	4.5	1.00	SUMP	13.0	3' TYPE-13	
STIN 4-5		B17	1.70	0.88	5.0	1.50	4.25	6.4	1.00	SUMP	13.0	3' TYPE-13	
STIN 4-6		B27	2.12	0.88	5.0	1.86	4.25	7.9	1.00	SUMP	13.0	3' TYPE-13	
STIN 4-7		B26	0.08	0.91	5.0	0.07	4.25	0.3	0.75	SUMP	8.0	5' TYPE R	
STIN 4-8		B23	0.63	0.90	5.0	0.57	4.25	2.4	0.75	SUMP	8.0	5' TYPE R	
STIN 4-9		B22	0.70	0.90	5.0	0.63	4.25	2.7	0.75	SUMP	8.0	5' TYPE R	
STIN 4-10		B16	0.71	0.92	5.0	0.65	4.25	2.8	0.50	SUMP	13.0	3' TYPE-13	
STIN 4-11		B9	0.39	0.81	5.0	0.32	4.25	1.3	0.75	SUMP	8.0	5' TYPE R	
STIN 4-12		B8	0.49	0.78	5.0	0.38	4.25	1.6	0.75	SUMP	8.0	5' TYPE R	
STIN 4-13		B7	0.59	0.81	5.0	0.48	4.25	2.0	0.75	SUMP	8.0	5' TYPE R	
STIN 4-14		B1	1.25	0.92	5.0	1.15	4.25	4.9	0.75	SUMP	8.0	5' TYPE R	
STIN 4-15		B6	0.30	0.81	5.0	0.24	4.25	1.0	0.75	SUMP	8.0	5' TYPE R	
STIN 4-16		OS3	3.00	0.54	5.2	1.62	4.25	6.9	1.00	SUMP	34.0	CDOT Type-C	
STIN 4-17		OS4	5.23	0.54	9.1	2.82	3.35	9.5	1.00	SUMP	34.0	CDOT Type-C	
STIN 4-18		B35	1.07	0.68	6.6	0.73	4.25	3.1	0.75	SUMP	8.0	5' TYPE R	
STIN 4-19		--	--	--	--	--	--	--	--	--	--	--	REMOVED FROM PLANS
STIN 4-20		B13	0.35	0.93	5.0	0.32	4.25	1.4	0.50	2.80	3.9	5' TYPE R	
STIN 4-21		B12	0.40	0.93	5.0	0.37	4.25	1.6	0.50	2.80	3.9	5' TYPE R	
STIN 4-22		B4	0.38	0.91	5.0	0.35	4.25	1.5	0.75	SUMP	8.0	5' TYPE R	
STIN 4-23		B3	0.32	0.93	5.0	0.30	4.25	1.3	0.75	SUMP	8.0	5' TYPE R	
STIN 4-24		B2	0.47	0.91	5.0	0.43	4.25	1.8	0.75	SUMP	8.0	5' TYPE R	
STIN 5-1		C14	0.15	0.82	5.0	0.12	4.25	0.5	0.75	SUMP	8.0	5' TYPE R	
STIN 5-2		C13	0.09	0.78	5.0	0.07	4.25	0.3	0.75	SUMP	8.0	5' TYPE R	
STIN 5-3		C9	0.42	0.74	5.0	0.31	4.25	1.3	0.75	SUMP	8.0	5' TYPE R	
STIN 5-4		C8	2.43	0.89	5.0	2.16	4.25	9.2	0.75	SUMP	13.0	3' TYPE-13	
STIN 6-1		C10	0.51	0.72	5.0	0.37	4.25	1.6	0.50	4.25	4.1	5' TYPE R	
STIN 6-2		C11	0.39	0.88	5.0	0.34	4.25	1.5	0.50	4.25	4.1	5' TYPE R	
STIN 6-3		C4	0.37	0.78	5.0	0.29	4.25	1.2	0.75	SUMP	8.0	5' TYPE R	
STIN 6-4		C3	0.26	0.85	5.0	0.22	4.25	0.9	0.75	SUMP	8.0	5' TYPE R	
STIN 6-5		C5	0.18	0.82	5.0	0.15	4.25	0.6	0.50	4.25	4.1	5' TYPE R	
STIN 6-6		C6	0.15	0.83	5.0	0.12	4.25	0.5	0.50	4.25	4.1	5' TYPE R	
STIN 6-7		C1	1.39	0.93	5.0	1.29	4.25	5.5	0.75	SUMP	8.0	5' TYPE R	
		OS7	2.19	0.72	5.2	1.58	4.25	6.7		SUMP			
		OS8	8.78	0.54	9.3	4.74	3.30	15.6		SUMP			
STIN 6-8		OS7/OS8	10.97	0.58	9.3	6.32	3.3	20.8	1.00	SUMP	34.0	CDOT Type-C	
STIN 7-1		A27	0.40	0.92	5.0	0.37	4.25	1.6	0.50	5.00	4.1	5' TYPE R	

EXCERPT FROM FINAL DRAINAGE REPORT

INLET NAME	DESIGN POINT	DIRECT RUNOFF							INLET CHARACTERISTICS				NOTES
		DRAINAGE BASINS	TOTAL AREA (ac)	RUNOFF COEFF. (C ₂₅)	t _c (min)	C x A (ac)	INTENSITY I (in/hr)	TOTAL FLOW Q ₂₅ (cfs)	MAX. DEPTH (ft)	STREET SLOPE (%)	MAX. INLET CAPACITY (cfs)	INLET LENGTH TYPE	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
STIN 7-2		A34	0.32	0.85	5.0	0.27	4.25	1.2	0.50	5.00	4.1	5' TYPE R	
STIN 8-1		C15	0.68	0.79	5.0	0.54	4.25	2.3	0.75	SUMP	8.0	5' TYPE R	
STIN 9-1		C18	0.28	0.88	5.0	0.25	4.00	1.0	0.50	4.25	4.1	5' TYPE R	
STIN 9-2		C17	0.48	0.93	5.0	0.45	4.00	1.8	0.50	4.25	4.1	5' TYPE R	
STIN 10-1		C19	1.50	0.88	6.9	1.32	4.00	5.3	0.75	SUMP	8.0	Area Drain	1.5 acres of C19 Neenah R-4340-B Beehive Area Drain
STIN 12-1		A25	0.92	0.53	5.5	0.49	4.25	2.1	0.50	SUMP	5.3	Area Drain	Neenah R-4340-B Beehive Area Drain
STIN 13-1		C16	1.17	0.88	5.0	1.04	4.25	4.4	0.50	SUMP	5.3	Area Drain	Neenah R-4340-B Beehive Area Drain
STIN 14-1		B40	0.94	0.28	5.0	0.26	4.25	1.1	0.50	SUMP	5.3	Area Drain	Neenah R-4340-B Beehive Area Drain
STIN 15-1		A46	0.17	0.28	5.0	0.05	4.25	0.2	0.50	SUMP	5.3	Area Drain	Neenah R-4340-B Beehive Area Drain

- (1) Inlet Designation
- (2) Design Point Location
- (3) Basins Draining to Specified Inlet
- (4) Total Drainage Area
- (5) 25-year Runoff Coefficient, Weighted for Contributing Basins
- (6) Time of Concentration from $t_c = t_i + t_t$
- (7) Total C x A for All Contributing Basins
- (8) Rainfall Intensity from I-D-F Curve for Glenwood Meadows
- (9) Total Runoff from Contributing Basins
- (10) Depth of Ponding/Gutter Flow
- (11) Street Slope
- (12) Maximum Inlet Capacity
- (13) Required Inlet Type/Size
- (14) Notes

EXCERPT FROM FINAL DRAINAGE REPORT

**FINAL
DRAINAGE REPORT
FOR
GLENWOOD MEADOWS
LOTS 1-10 and TRACTS A, B, and C

GLENWOOD SPRINGS, COLORADO**

**Prepared For:
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Thomas Henrikson, P.E.**

**May 6, 2004
Revised: July 30, 2004**

**FINAL
DRAINAGE REPORT
GLENWOOD MEADOWS
LOTS 1-10 and TRACTS A, B and C**

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1.0 INTRODUCTION

This Final Drainage Report for Glenwood Meadows Lots 1-10 and Tracts A, B and C (Site) will address the storm water management practices for this portion of the Glenwood Meadows property while maintaining the criteria set forth in the "Master Drainage Report for Glenwood Meadows" prepared by High Country Engineering, Inc., last revised on March 4, 2004 (Master Report).

1.1 Project Location

Glenwood Meadows is a 344-acre development located in Section 5 and 6, Township 6 South, Range 89 West of the 6th P.M. in the City of Glenwood Springs, County of Garfield, State of Colorado. Glenwood Meadows Lots 1-10 and Tracts A, B and C contains a total of 68.99 acres and is bordered on the north and east by Midland Avenue, on the west by the Colorado Department of Transportation (CDOT) easement, and on the south by Lot 11 and Tract E (see Appendix A). The lot and tract designations are based on the Final Plat for Glenwood Meadows No. 2 (see Appendix B). The proposed commercial development of Glenwood Meadows consists of retail and mixed-use buildings, parking lots and landscaped areas.

The Colorado River is located to the north of the proposed development. However, this project is not affected by the 100 year floodplain of the Colorado River. See the enclosed FEMA Map, Appendix C.

Glenwood Meadows consists of SCS hydrologic Type B Soils. See enclosed Soil Map, Appendix D.

1.2 Existing Conditions

The site is currently undeveloped and consists of native grass and groundcover. There are no permanent structures on the site and existing flow patterns consist of sheet flow and naturally occurring swales directing the runoff to the existing culverts under Midland Avenue.

The existing drainage, as described in the Master Report, consists of 9 subbasins below the elevation of 7,500 feet that drain to the northeast through 10 existing culverts under Midland Avenue. These culverts drain into a ditch on the north side of Midland Avenue that further drains to three existing CMP culverts that convey the flows under the Union Pacific Railroad tracks. The runoff then flows north and northeasterly to the Colorado River.

Runoff from the existing subbasins above the elevation of 7,500 feet will be collected by two Debris Basins that, as described in the Master Report, will capture and detain the majority of the off-site flow. Flow from the outfalls of Debris Flow Basin #1 and #2 will be piped at two separate locations to the proposed storm sewer system serving the Site. The Debris Basins will be designed by others and will be in place and

functioning prior to any vertical construction on the Site (see drawing DR1 from Master Report).

2.0 PROPOSED CONDITIONS

2.1 General Design Criteria

The developed on-site runoff flow rates were calculated using the Rational Method and flow routing, pipe sizing and hydraulic grade lines were determined through the use of the *Hydroflow Storm Sewers 2003* computer model. The Intensity-Duration-Frequency Curves for the City of Glenwood Springs were used to determine storm intensity with respect to the calculated time of concentration. Inlets were sized using the Urban Drainage and Flood Control District criteria for allowable inlet capacity. Storm pipes were designed to fully contain the 2-year storm runoff and runoff from the 25-year event will be full contained in the storm sewer system with no surface ponding at any inlets or manholes. Five Water Quality Ponds, located immediately south of Midland Avenue, have been designed to contain the 2-year developed runoff with a release rate equal to the 2-year historic rate of runoff. Outfalls from the Water Quality Ponds have been designed to convey the 100-year storm runoff to a series of culverts under Midland Avenue. The Pond A-1 outlet structure has been fitted with a restrictor plate to restrict the outfall to a maximum of 95.0 cfs during the 100-year flood event. This restrictor plate is required so as not to exceed the capacity of any downstream culverts.

2.2 Offsite Drainage Basins

There are 9 existing subbasins from the Master Report that together encompass the entire Site. The subbasins' existing drainage patterns, as described in the Master Report, will be maintained.

The runoff from subbasins OS1 and OS2 are tributary to Basin A, along the western portion of the site. Flows from these basins are routed through the proposed storm sewer system to the Water Quality Ponds A1 and A2. Offsite basins OS3, OS4, OS5 and OS6 are tributary to Basin B, which encompasses the center of the site. Runoff from these basins is routed through the proposed storm sewer system to Water Quality Pond B. Offsite basins OS7 and OS8 are tributary to Basin C along the eastern portion of the site. Storm runoff from these basins is routed through the site to Water Quality Ponds C1 and C2. Basin G at the eastern boundary of the site has been included in the sizing of Water Quality Ponds C1 and C2 and runoff from this basin has been calculated assuming a future developed condition. All runoff from the offsite basins is routed through the site by the proposed storm sewer system, through the water quality ponds, under Midland Avenue and the Railroad property and ultimately to the Colorado River. Storm sewer pipes on-site have been sized to include these flows.

2.3 Onsite Drainage Basins

The proposed development is divided into three Major Basins - A, B and C. Runoff from each basin is collected by a series of inlets throughout the site and routed by the storm sewer system to the five Water Quality Ponds. Runoff from Basin A is routed to Water Quality Ponds A1 and A2. Runoff from Basin B is routed to Water Quality Pond B. Similarly, runoff from Major Basin C is routed to Water Quality Ponds C1 and C2. All water quality ponds have been designed to contain the 2-year storm runoff with a historic 2-year release rate. Historic runoff rates have been calculated using the Rational Method assuming an undeveloped condition. Each Water Quality Pond will be equipped with an impermeable polyethylene liner up to the limits of the 2-year water surface elevation. Outlet structure for Ponds A1, B and C2 have been designed with a 2-year water quality orifice that restricts the release rate and a baffle system to promote water quality enhancements. The 25- and 100-year storm events will flow through a grate at the top of each outlet structure and be conveyed to the Midland Avenue culverts.

Basin D is located south of Midland Avenue and east of West Meadows Drive and includes the southern half of Midland Avenue and the adjacent landscaped area. This basin flows to the existing 18" CMP, Midland Culvert No. 8 (see Master Report).

Basin E is also located south of Midland Avenue and east of West Meadows Drive, adjacent to Basin D. This basin collects a portion of the runoff from Midland Avenue along with the adjacent landscaped area. Flow from this basin is conveyed under Midland Avenue by the existing 18" CMP, Midland Culvert No. 9 (see Master Report).

Basin F is located south of Midland Avenue and west of East Meadows Drive. Runoff from this basin is conveyed under Midland Avenue by the existing 18" CMP, Midland Culvert No. 13 (see master Report).

2.4 Water Quality – Best Management Practices

The primary water quality enhancements will be provided by a baffle system in the outlet structures of Ponds A1, B and C1. This baffle system will trap sediment at the bottom of each structure, as well as inhibit the release of oils and other particles on the surface of the stormwater runoff. Periodic maintenance will be required after major storm events to remove any sediment or debris which has been trapped in the outlet structure.

Water quality enhancement will also be provided in the ponds, where sediment and silt suspended in the storm runoff will settle out and be prevented from being transported downstream to the Colorado River.

Sedimentation and erosion protection will also be provided during construction to prevent sediment from flowing off of the site or into the storm sewer system by use of silt fences, check dams, vehicle tracking

control devices and inlet protection. This design is included in Sheet C310 and C311 of the Glenwood Meadows Construction Documents.

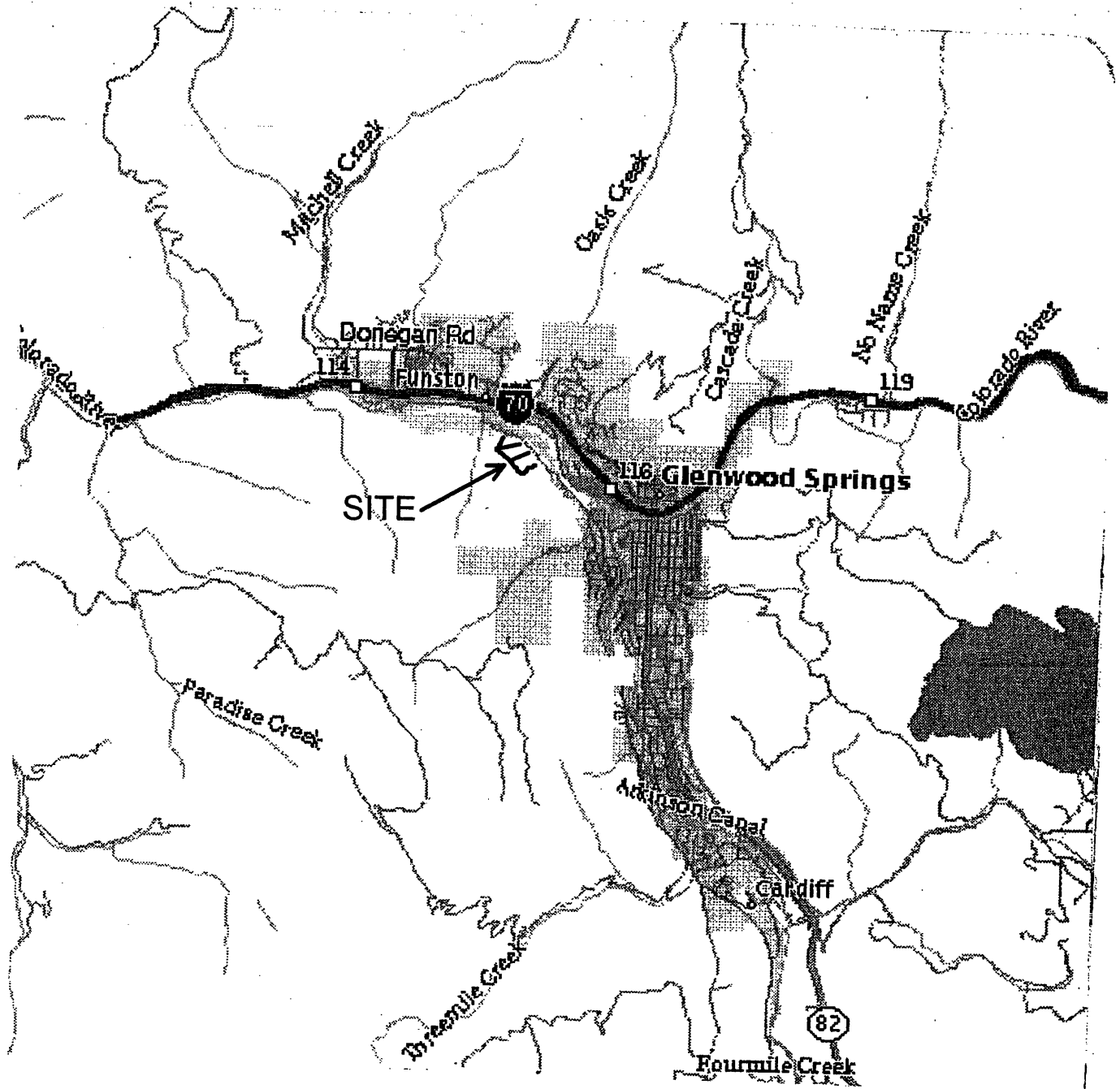
Permanent erosion control measures will be incorporated into the water quality ponds by the addition of rip rap at each outfall into the ponds. This will prevent erosion out each outfall from a storm sewer pipe.

3.0 SUMMARY

This report presents a description and calculations for the Final Drainage Report for Glenwood Meadows Lots 1-10 and Tracts A, B and C. The drainage system was designed to protect all on-site and downstream facilities from potential damage due to excessive storm runoff. The storm sewer system of inlets, storm pipes, water quality ponds, outlet structures, swales and culverts has been designed to promote the efficient and safe conveyance of storm runoff while providing water quality enhancements prior to releasing the runoff downstream of the site. The drainage patterns and the stormwater runoff quantities presented herein are in conformance with the *Master Drainage Report for Glenwood Meadows*, prepared by High Country Engineering, Inc., revised March 4, 2004.

APPENDIX A

VICINITY MAP

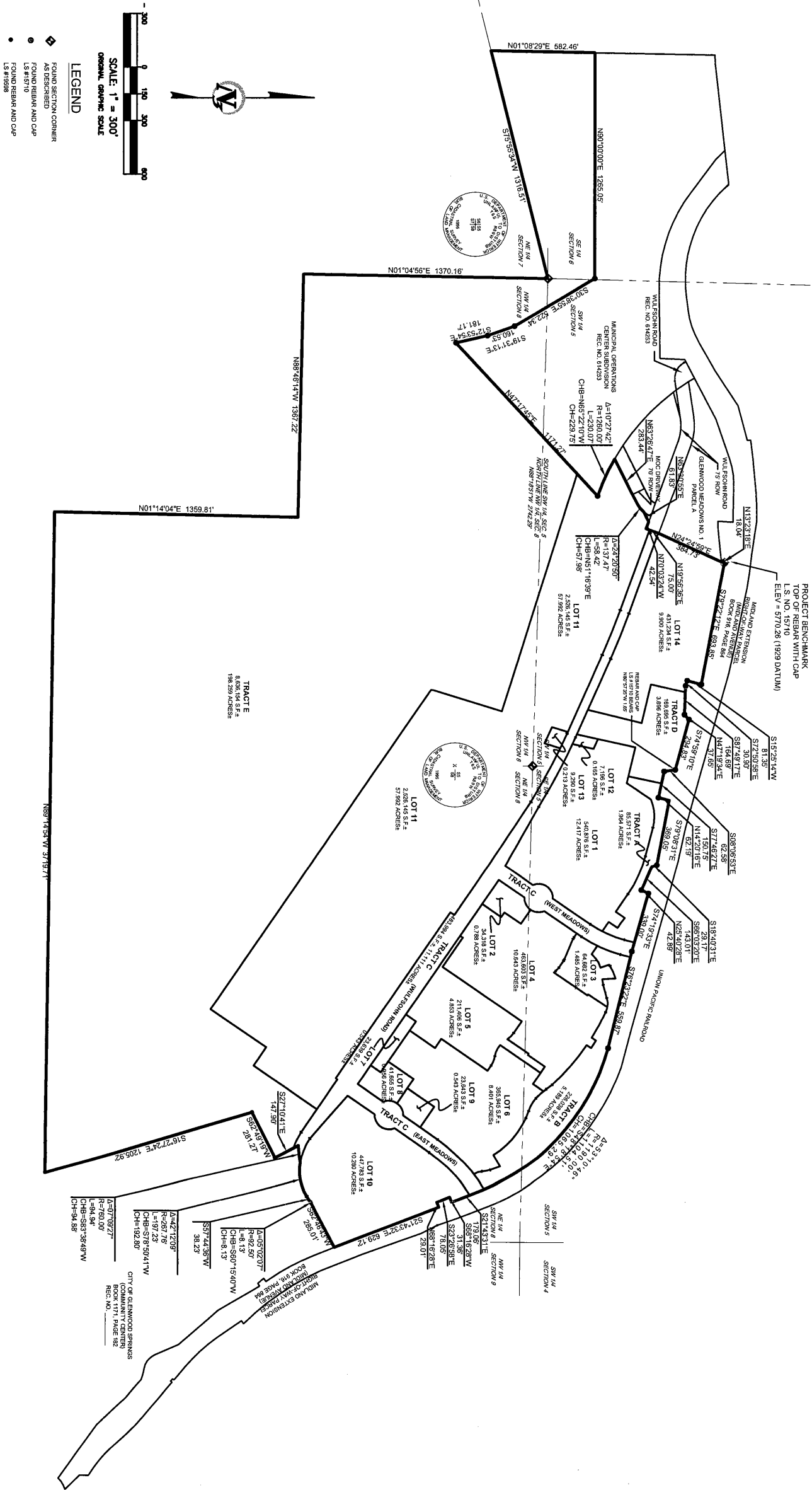


VICINITY MAP

(NTS)

APPENDIX B
FINAL PLAT FOR GLENWOOD
MEADOWS NO.2

GLENWOOD MEADOWS NO. 2
A RESUBDIVISION OF PARCEL B, GLENWOOD MEADOWS NO. 1,
BEING A PARCEL OF LAND LOCATED IN SECTIONS 5, 6, 8 & 9, TOWNSHIP 6 SOUTH, RANGE 89 WEST,
OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF GLENWOOD SPRINGS, COUNTY OF GARFIELD, STATE OF COLORADO



2 OF 8

DRAWING NO.

FINAL PLAT

GLENWOOD MEADOWS NO. 2

GLENWOOD SPRINGS COLORADO

PROJ. NO.: D02049

FILE NAME: 02049FPLAT

DATE: 08/05/03

SCALE: 1"=300'

DESIGNED BY:

DRAWN BY: SEH

CHECKED BY:

PROJ. MANAGER: GB

SEAL:

SEAL:

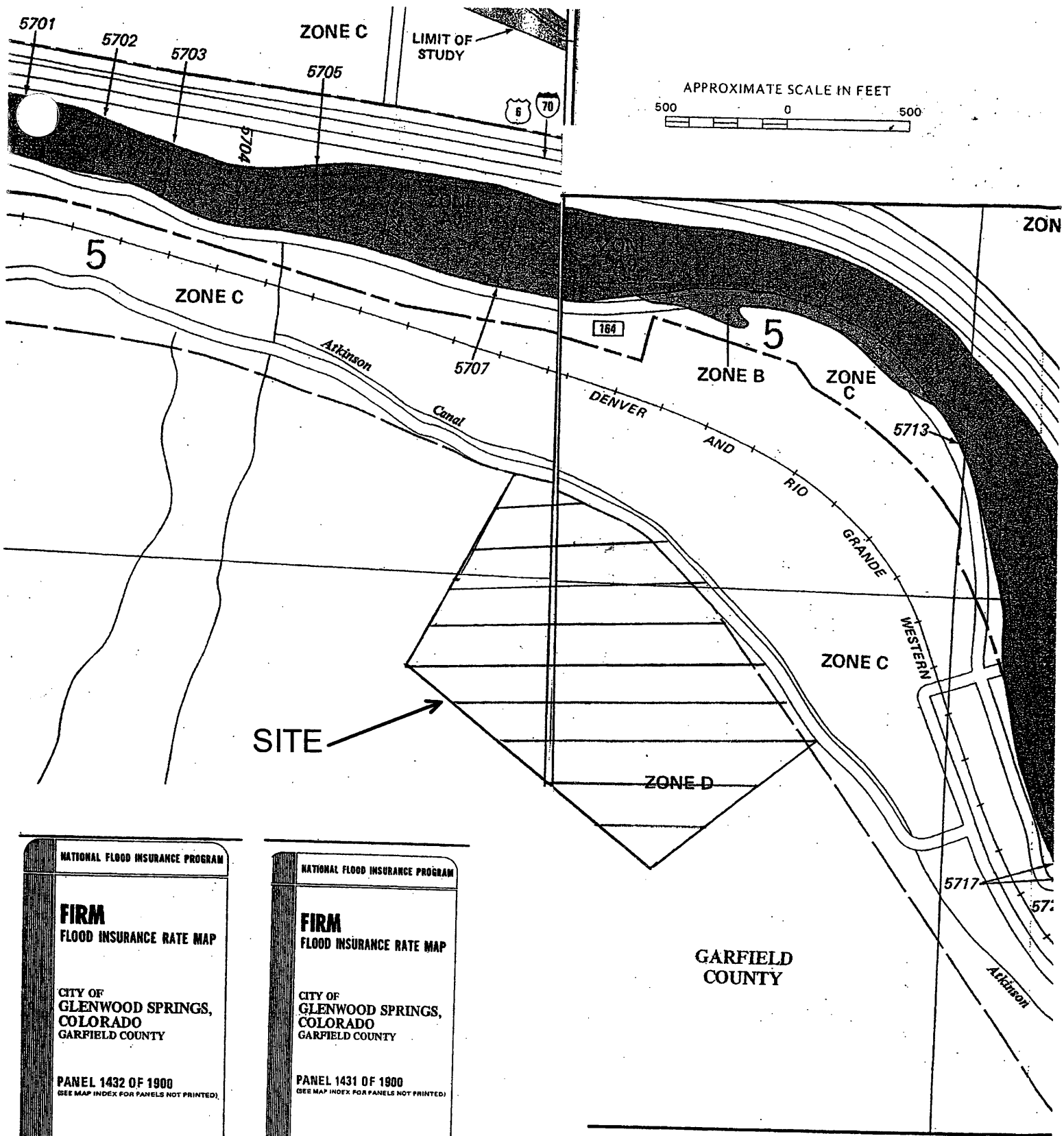
REVISIONS		
NO.	DATE	DESCRIPTION
1	5/4/2004	REVISED PER CITY COMMENTS
2	6/11/2004	REVISED PER CITY COMMENTS
3	6/16/2004	REVISED PER CITY COMMENTS
4	7/09/2004	REVISED PER COMMENTS
5	7/15/2004	REVISED PER COMMENTS
6	7/28/2004	REVISED PER COMMENTS

Engineers
Scientists
Surveyors

200 Union Boulevard, Suite 200
Lakewood, CO 80228
303.588.8588 voice
303.588.9932 fax
V3consultants.com

APPENDIX C

FEMA MAP



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
GLENWOOD SPRINGS,
COLORADO
GARFIELD COUNTY

PANEL 1432 OF 1900
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
080071 1432 C

MAP REVISED:
OCTOBER 15, 1985

Federal Emergency Management Agency

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
GLENWOOD SPRINGS,
COLORADO
GARFIELD COUNTY

PANEL 1431 OF 1900
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
080071 1431 C

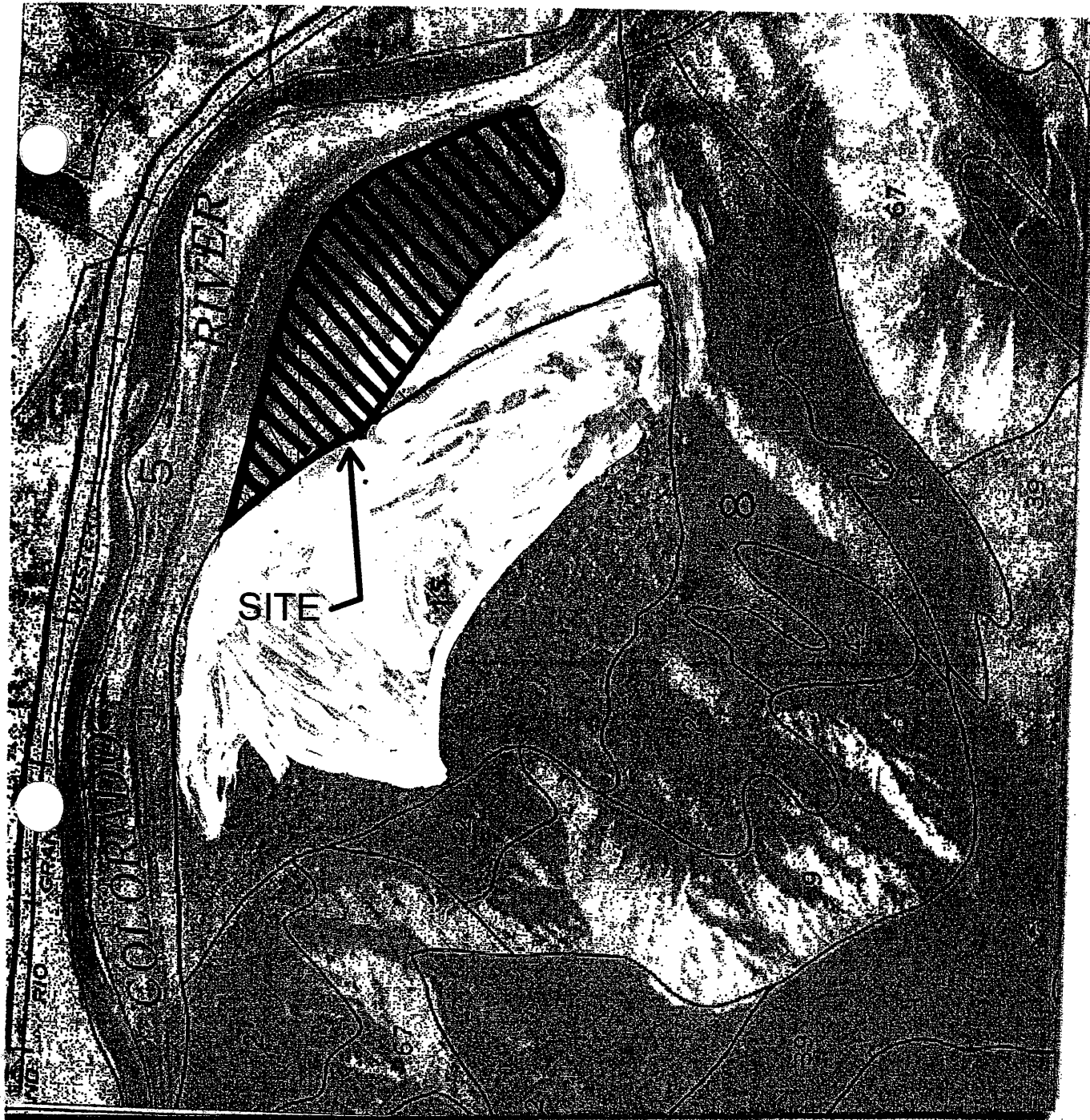
MAP REVISED:
OCTOBER 15, 1985

Federal Emergency Management Agency

FEMA MAP

APPENDIX D

SOIL MAP



SCS SOIL MAP

APPENDIX E

PERCENT IMPERVIOUS CALCULATIONS

GLENWOOD MEADOWS
PERCENT IMPERVIOUS CALCULATIONS

TYPE OF AREA	PERCENT IMP.
PAVEMENT	100
ROOF	90
LANDSCAPE	5

MAJOR BASIN A

SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA sq-ft	PAVEMENT AREA acres	ROOF AREA sq-ft	ROOF AREA acres	LANDSCAPE AREA sq-ft	LANDSCAPE AREA acres	PERCENT IMP. %
A1	0.95	11958	0.275	0	0.000	29424	0.675	32.5
A2	0.33	11755	0.270	0	0.000	2620	0.060	82.7
A3	0.38	9540	0.219	0	0.000	7081	0.163	59.5
A4	2.15	14013	0.322	0	0.000	79641	1.828	19.2
A5	0.27	0	0.000	11806	0.271	0	0.000	90.0
A6	0.27	0	0.000	11806	0.271	0	0.000	90.0
A7	0.27	0	0.000	11806	0.271	0	0.000	90.0
A8	0.27	0	0.000	11806	0.271	0	0.000	90.0
A9	0.27	0	0.000	11806	0.271	0	0.000	90.0
A10	0.27	0	0.000	11806	0.271	0	0.000	90.0
A11	0.27	0	0.000	11806	0.271	0	0.000	90.0
A12	0.27	0	0.000	11806	0.271	0	0.000	90.0
A13	0.27	0	0.000	11806	0.271	0	0.000	90.0
A14	0.27	0	0.000	11806	0.271	0	0.000	90.0
A15	0.32	12384	0.284	0	0.000	1673	0.038	88.7
A16	0.40	5035	0.116	0	0.000	12389	0.284	32.5
A17	0.44	11171	0.256	0	0.000	7995	0.184	60.4
A18	0.46	18038	0.414	0	0.000	2000	0.046	90.5
A19	1.15	36963	0.849	0	0.000	13131	0.301	75.1
A20	0.49	15771	0.362	0	0.000	5573	0.128	75.2
A21	2.71	104252	2.393	0	0.000	13796	0.317	88.9
A22	0.67	24864	0.571	0	0.000	4321	0.099	85.9
A23	0.27	0	0.000	11761	0.270	0	0.000	90.0
A24	0.75	28722	0.659	0	0.000	3948	0.091	88.5
A25	0.92	15442	0.355	0	0.000	24633	0.565	41.6
A26	0.50	17642	0.405	0	0.000	6362	0.095	82.0
A27	0.40	16858	0.387	0	0.000	566	0.013	96.9
A28	0.77	2609	0.060	0	0.000	30932	0.710	12.4
A29	0.16	6044	0.139	0	0.000	926	0.021	87.4
A30	0.24	10233	0.235	0	0.000	221	0.005	98.0
A31	0.44	15525	0.356	0	0.000	3642	0.084	82.0
A32	0.35	11743	0.270	0	0.000	3503	0.080	78.2
A33	0.95	31150	0.715	0	0.000	10232	0.235	76.5
A34	0.32	11989	0.275	0	0.000	1950	0.045	86.7

SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA sq-ft	PAVEMENT AREA acres	ROOF AREA sq-ft	ROOF AREA acres	LANDSCAPE AREA sq-ft	LANDSCAPE AREA acres	PERCENT IMP. %
A35	1.81	70722	1.624	0	0.000	8122	0.186	90.2
A36	0.87	36205	0.831	0	0.000	1692	0.039	95.8
A37	0.66	22095	0.507	0	0.000	6655	0.153	78.0
A38	0.83	5215	0.089	0	0.000	32278	0.741	15.2
A39	0.16	0	0.000	6970	0.160	0	0.000	90.0
A40	0.23	0	0.000	10019	0.230	0	0.000	90.0
A41	0.25	8821	0.203	0	0.000	2069	0.048	82.0
A42	0.31	10938	0.251	0	0.000	2566	0.059	82.0
A43	0.65	25258	0.580	0	0.000	3000	0.069	89.7
A44	0.14	5954	0.137	0	0.000	0	0.000	100.0
A45	0.39	0	0.000	0	0.000	16988	0.390	5.0
A46	0.17	0	0.000	0	0.000	7405	0.170	5.0
A	25.70		14.41		3.37		7.92	69.4

MAJOR BASIN B

SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA sq-ft	PAVEMENT AREA acres	ROOF AREA sq-ft	ROOF AREA acres	LANDSCAPE AREA sq-ft	LANDSCAPE AREA acres	PERCENT IMP. %
B1	1.25	52879	1.214	0	0.000	1571	0.036	97.3
B2	0.47	19473	0.447	0	0.000	1000	0.023	95.4
B3	0.32	13755	0.316	0	0.000	184	0.004	98.7
B4	0.38	15851	0.364	0	0.000	702	0.016	96.0
B5	2.34	10779	0.247	0	0.000	91151	2.093	15.0
B6	0.30	0	0.000	0	0.000	13068	0.300	5.0
B7	0.59	20651	0.474	0	0.000	5049	0.116	81.3
B8	0.49	16217	0.372	0	0.000	5127	0.118	77.2
B9	0.39	13604	0.312	0	0.000	3384	0.078	81.1
B10	0.10	0	0.000	4356	0.100	0	0.000	90.0
B11	0.11	0	0.000	4792	0.110	0	0.000	90.0
B12	0.40	17085	0.392	0	0.000	339	0.008	98.2
B13	0.35	14909	0.342	0	0.000	337	0.008	97.9
B14	0.10	0	0.000	4356	0.100	0	0.000	90.0
B15	0.12	0	0.000	5227	0.120	0	0.000	90.0
B16	0.71	29804	0.684	0	0.000	1124	0.026	96.5
B17	1.70	67431	1.548	0	0.000	6621	0.152	91.5
B18	1.16	47710	1.095	0	0.000	2820	0.065	94.7
B19	0.77	29380	0.674	0	0.000	4161	0.096	88.2
B20	0.12	0	0.000	5227	0.120	0	0.000	90.0
B21	0.12	0	0.000	5227	0.120	0	0.000	90.0
B22	0.70	28819	0.662	0	0.000	1673	0.038	94.8
B23	0.63	25770	0.592	0	0.000	1673	0.038	94.2
B24	0.12	0	0.000	5227	0.120	0	0.000	90.0
B25	0.12	0	0.000	5227	0.120	0	0.000	90.0
B26	0.08	3329	0.076	0	0.000	156	0.004	95.7
B27	2.12	83894	1.926	0	0.000	8453	0.194	91.3

SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA sq-ft	PAVEMENT AREA acres	ROOF AREA sq-ft	ROOF AREA acres	LANDSCAPE AREA sq-ft	LANDSCAPE AREA acres	PERCENT IMP. %
B28	0.03	0	0.000	1307	0.030	0	0.000	90.0
B29	0.58	0	0.000	25265	0.580	0	0.000	90.0
B30	0.58	0	0.000	25265	0.580	0	0.000	90.0
B31	1.15	0	0.000	50094	1.150	0	0.000	90.0
B32	0.02	0	0.000	871	0.020	0	0.000	90.0
B33	0.58	0	0.000	25265	0.580	0	0.000	90.0
B34	0.05	1285	0.029	0	0.000	1081	0.025	56.6
B35	1.07	28493	0.654	0	0.000	18116	0.416	63.1
B36	0.21	0	0.000	9148	0.210	0	0.000	90.0
B37	0.72	0	0.000	31363	0.720	0	0.000	90.0
B38	0.53	13549	0.311	0	0.000	9538	0.219	60.8
B39	0.06	1453	0.033	0	0.000	1025	0.024	60.7
B40	0.94	0	0.000	0	0.000	1025	0.940	5.0
B41	1.22	0	0.000	0	0.000	1025	1.220	5.0
B	23.80		12.77		4.78		6.25	73.0

MAJOR BASIN C

SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA sq-ft	PAVEMENT AREA acres	ROOF AREA sq-ft	ROOF AREA acres	LANDSCAPE AREA sq-ft	LANDSCAPE AREA acres	PERCENT IMP. %
C1	1.39	59634	1.369	0	0.000	914	0.021	98.6
C2	0.47	0	0.000	20473	0.470	0	0.000	90.0
C3	0.26	9698	0.223	0	0.000	1628	0.037	86.3
C4	0.37	12153	0.279	0	0.000	3984	0.091	76.6
C5	0.18	6365	0.146	0	0.000	1476	0.034	82.1
C6	0.15	5422	0.124	0	0.000	1112	0.026	83.8
C7	1.66	66094	1.517	0	0.000	6216	0.143	91.8
C8	0.77	32023	0.735	0	0.000	1518	0.035	95.7
C9	0.42	12888	0.296	0	0.000	5407	0.124	71.9
C10	0.51	14715	0.338	0	0.000	7501	0.172	67.9
C11	0.39	15516	0.356	0	0.000	1472	0.034	91.8
C12	0.55	0	0.000	23958	0.550	0	0.000	90.0
C13	0.09	2960	0.068	0	0.000	960	0.022	76.7
C14	0.15	5374	0.123	0	0.000	1160	0.027	83.1
C15	0.68	22764	0.523	0	0.000	6857	0.157	78.0
C16	1.17	46697	1.072	0	0.000	4268	0.098	92.0
C17	0.48	20652	0.474	0	0.000	257	0.006	98.8
C18	0.28	11060	0.254	0	0.000	1137	0.026	91.1
C19	6.24	246985	5.670	0	0.000	24829	0.570	91.3
C20	0.21	0	0.000	9148	0.210	0	0.000	90.0
C21	0.15	0	0.000	6534	0.150	0	0.000	90.0
C	16.57		13.57		1.38		1.62	89.9

MAJOR BASIN D

SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA sq-ft	PAVEMENT AREA acres	ROOF AREA sq-ft	ROOF AREA acres	LANDSCAPE AREA sq-ft	LANDSCAPE AREA acres	PERCENT IMP. %
SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA sq-ft	PAVEMENT AREA acres	ROOF AREA sq-ft	ROOF AREA acres	LANDSCAPE AREA sq-ft	LANDSCAPE AREA acres	PERCENT IMP. %
D1	0.51	7318	0.168	0	0.000	14898	0.342	36.3
D	0.51		0.17		0.00		0.34	

MAJOR BASIN E

SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA sq-ft	PAVEMENT AREA acres	ROOF AREA sq-ft	ROOF AREA acres	LANDSCAPE AREA sq-ft	LANDSCAPE AREA acres	PERCENT IMP. %
E1	0.65	4577	0.105	0	0.000	23737	0.545	20.4
E	0.65		0.11		0.00		0.54	

MAJOR BASIN F

SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA sq-ft	PAVEMENT AREA acres	ROOF AREA sq-ft	ROOF AREA acres	LANDSCAPE AREA sq-ft	LANDSCAPE AREA acres	PERCENT IMP. %
F1	1.07	27318	0.627	0	0.000	19291	0.443	60.7
F	1.07		0.63		0.00		0.44	

MAJOR BASIN G

SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA sq-ft	PAVEMENT AREA acres	ROOF AREA sq-ft	ROOF AREA acres	LANDSCAPE AREA sq-ft	LANDSCAPE AREA acres	PERCENT IMP. %
G1	6.55	259182	5.950	0	0.000	26136	0.600	91.3
G	6.55		5.95		0.00		0.60	

OFF-SITE BASINS*

SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA sq-ft	PAVEMENT AREA acres	ROOF AREA sq-ft	ROOF AREA acres	LANDSCAPE AREA sq-ft	LANDSCAPE AREA acres	PERCENT IMP. %
OS1	3.77							5.0
OS2	8.18							65.0
OS3	3.00							65.0
OS4	5.23							65.0
OS5	1.58							85.0
OS6	10.02							65.0
OS7	1.31							85.0
OS8	8.78							65.0

*NOTE: Percent Impervious for Off-Site Basins OS1-OS8 is estimated for future developed open space, commercial and residential areas.

5.0% = Open Space
65.0% = Residential
85.0% = Commercial

APPENDIX F

WIEGHTED RUNOFF COEFFICIENT CALCULATIONS

GLENWOOD MEADOWS
2, 5, 25 AND 100 YEAR WEIGHTED RUNOFF COEFFICIENTS

TYPE OF AREA	2-YR "C" FACTOR	5-YR "C" FACTOR	25-YR "C" FACTOR	100-YR "C" FACTOR
PAVEMENT	0.89	0.90	0.94	0.96
ROOF	0.71	0.73	0.78	0.81
LANDSCAPE	0.04	0.10	0.28	0.38

MAJOR BASIN A

SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA acres	ROOF AREA acres	LANDSCAPE AREA acres	2-YR RUNOFF COEFFICIENT	5-YR RUNOFF COEFFICIENT	25-YR RUNOFF COEFFICIENT	100-YR RUNOFF COEFFICIENT
A1	0.95	0.27	0.00	0.68	0.29	0.33	0.47	0.55
A2	0.33	0.27	0.00	0.06	0.74	0.75	0.82	0.85
A3	0.38	0.22	0.00	0.16	0.53	0.56	0.66	0.71
A4	2.15	0.32	0.00	1.83	0.17	0.22	0.38	0.47
A5	0.27	0.00	0.27	0.00	0.71	0.73	0.78	0.81
A6	0.27	0.00	0.27	0.00	0.71	0.73	0.78	0.81
A7	0.27	0.00	0.27	0.00	0.71	0.73	0.78	0.81
A8	0.27	0.00	0.27	0.00	0.71	0.73	0.78	0.81
A9	0.27	0.00	0.27	0.00	0.71	0.73	0.78	0.81
A10	0.27	0.00	0.27	0.00	0.71	0.73	0.78	0.81
A11	0.27	0.00	0.27	0.00	0.71	0.73	0.78	0.81
A12	0.27	0.00	0.27	0.00	0.71	0.73	0.78	0.81
A13	0.27	0.00	0.27	0.00	0.71	0.73	0.78	0.81
A14	0.27	0.00	0.27	0.00	0.71	0.73	0.78	0.81
A15	0.32	0.28	0.00	0.04	0.79	0.80	0.86	0.89
A16	0.40	0.12	0.00	0.28	0.29	0.33	0.47	0.55
A17	0.44	0.26	0.00	0.18	0.54	0.57	0.66	0.72
A18	0.46	0.41	0.00	0.05	0.81	0.82	0.87	0.90
A19	1.15	0.85	0.00	0.30	0.67	0.69	0.77	0.81
A20	0.49	0.36	0.00	0.13	0.67	0.69	0.77	0.81
A21	2.71	2.39	0.00	0.32	0.79	0.81	0.86	0.89
A22	0.67	0.57	0.00	0.10	0.76	0.78	0.84	0.87
A23	0.27	0.00	0.27	0.00	0.71	0.73	0.78	0.81
A24	0.75	0.66	0.00	0.09	0.79	0.80	0.86	0.89
A25	0.92	0.35	0.00	0.57	0.37	0.41	0.53	0.60
A26	0.50	0.41	0.00	0.10	0.73	0.75	0.81	0.85
A27	0.40	0.39	0.00	0.01	0.86	0.87	0.92	0.94
A28	0.77	0.06	0.00	0.71	0.11	0.16	0.33	0.43
A29	0.16	0.14	0.00	0.02	0.78	0.79	0.85	0.88
A30	0.24	0.23	0.00	0.01	0.87	0.88	0.93	0.95
A31	0.44	0.36	0.00	0.08	0.73	0.75	0.81	0.85
A32	0.35	0.27	0.00	0.08	0.69	0.72	0.79	0.83
A33	0.95	0.72	0.00	0.23	0.68	0.70	0.78	0.82
A34	0.32	0.28	0.00	0.04	0.77	0.79	0.85	0.88
A35	1.81	1.62	0.00	0.19	0.80	0.82	0.87	0.90
A36	0.87	0.83	0.00	0.04	0.85	0.86	0.91	0.93
A37	0.66	0.51	0.00	0.15	0.69	0.71	0.79	0.83
A38	0.83	0.09	0.00	0.74	0.13	0.19	0.35	0.44
A39	0.16	0.00	0.16	0.00	0.71	0.73	0.78	0.81
A40	0.23	0.00	0.23	0.00	0.71	0.73	0.78	0.81
A41	0.25	0.20	0.00	0.05	0.73	0.75	0.81	0.85
A42	0.31	0.25	0.00	0.06	0.73	0.75	0.81	0.85
A43	0.65	0.58	0.00	0.07	0.80	0.81	0.87	0.90
A44	0.14	0.14	0.00	0.00	0.89	0.90	0.94	0.96
A45	0.39	0.00	0.00	0.39	0.04	0.10	0.28	0.38

A46	0.17	0.00	0.00	0.17	0.04	0.10	0.28	0.38
A	25.70	14.41	3.37	7.92	0.60	0.63	0.72	0.76

MAJOR BASIN B

SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA acres	ROOF AREA acres	LANDSCAPE AREA acres	2-YR RUNOFF COEFFICIENT	5-YR RUNOFF COEFFICIENT	25-YR RUNOFF COEFFICIENT	100-YR RUNOFF COEFFICIENT
B1	1.25	1.21	0.00	0.04	0.87	0.88	0.92	0.94
B2	0.47	0.45	0.00	0.02	0.85	0.86	0.91	0.93
B3	0.32	0.32	0.00	0.00	0.88	0.89	0.93	0.95
B4	0.38	0.36	0.00	0.02	0.85	0.87	0.91	0.94
B5	2.34	0.25	0.00	2.09	0.13	0.18	0.35	0.44
B6	0.30	0.00	0.00	0.30	0.74	0.78	0.81	0.88
B7	0.59	0.47	0.00	0.12	0.72	0.74	0.81	0.85
B8	0.49	0.37	0.00	0.12	0.69	0.71	0.78	0.82
B9	0.39	0.31	0.00	0.08	0.72	0.74	0.81	0.84
B10	0.10	0.00	0.10	0.00	0.71	0.73	0.78	0.81
B11	0.11	0.00	0.11	0.00	0.71	0.73	0.78	0.81
B12	0.40	0.39	0.00	0.01	0.87	0.88	0.93	0.95
B13	0.35	0.34	0.00	0.01	0.87	0.88	0.93	0.95
B14	0.10	0.00	0.10	0.00	0.71	0.73	0.78	0.81
B15	0.12	0.00	0.12	0.00	0.71	0.73	0.78	0.81
B16	0.71	0.68	0.00	0.03	0.86	0.87	0.92	0.94
B17	1.70	1.55	0.00	0.15	0.81	0.83	0.88	0.91
B18	1.16	1.10	0.00	0.06	0.84	0.86	0.90	0.93
B19	0.77	0.67	0.00	0.10	0.78	0.80	0.86	0.89
B20	0.12	0.00	0.12	0.00	0.71	0.73	0.78	0.81
B21	0.12	0.00	0.12	0.00	0.71	0.73	0.78	0.81
B22	0.70	0.66	0.00	0.04	0.84	0.86	0.90	0.93
B23	0.63	0.59	0.00	0.04	0.84	0.85	0.90	0.92
B24	0.12	0.00	0.12	0.00	0.71	0.73	0.78	0.81
B25	0.12	0.00	0.12	0.00	0.71	0.73	0.78	0.81
B26	0.08	0.08	0.00	0.00	0.85	0.86	0.91	0.93
B27	2.12	1.93	0.00	0.19	0.81	0.83	0.88	0.91
B28	0.03	0.00	0.03	0.00	0.71	0.73	0.78	0.81
B29	0.58	0.00	0.58	0.00	0.71	0.73	0.78	0.81
B30	0.58	0.00	0.58	0.00	0.71	0.73	0.78	0.81
B31	1.15	0.00	1.15	0.00	0.71	0.73	0.78	0.81
B32	0.02	0.00	0.02	0.00	0.71	0.73	0.78	0.81
B33	0.58	0.00	0.58	0.00	0.71	0.73	0.78	0.81
B34	0.05	0.03	0.00	0.02	0.50	0.53	0.64	0.70
B35	1.07	0.65	0.00	0.42	0.56	0.59	0.68	0.73
B36	0.21	0.00	0.21	0.00	0.71	0.73	0.78	0.81
B37	0.72	0.00	0.72	0.00	0.71	0.73	0.78	0.81
B38	0.53	0.31	0.00	0.22	0.54	0.57	0.67	0.72
B39	0.06	0.03	0.00	0.02	0.54	0.57	0.67	0.72
B40	0.94	0.00	0.00	0.94	0.04	0.10	0.28	0.38
B41	1.22	0.00	0.00	1.22	0.04	0.10	0.28	0.38
B	23.80	12.77	4.78	6.25	0.63	0.66	0.73	0.78

MAJOR BASIN C

SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA acres	ROOF AREA acres	LANDSCAPE AREA acres	2-YR RUNOFF COEFFICIENT	5-YR RUNOFF COEFFICIENT	25-YR RUNOFF COEFFICIENT	100-YR RUNOFF COEFFICIENT
C1	1.39	1.37	0.00	0.02	0.88	0.89	0.93	0.95
C2	0.47	0.00	0.47	0.00	0.71	0.73	0.78	0.81
C3	0.26	0.22	0.00	0.04	0.77	0.79	0.85	0.88
C4	0.37	0.28	0.00	0.09	0.68	0.70	0.78	0.82
C5	0.18	0.15	0.00	0.03	0.73	0.75	0.82	0.85
C6	0.15	0.12	0.00	0.03	0.75	0.76	0.83	0.86
C7	1.66	1.52	0.00	0.14	0.82	0.83	0.88	0.91
C8	0.77	0.74	0.00	0.03	0.85	0.86	0.91	0.93
C9	0.42	0.30	0.00	0.12	0.64	0.66	0.74	0.79
C10	0.51	0.34	0.00	0.17	0.60	0.63	0.72	0.76
C11	0.39	0.36	0.00	0.03	0.82	0.83	0.88	0.91
C12	0.55	0.00	0.55	0.00	0.71	0.73	0.78	0.81
C13	0.09	0.07	0.00	0.02	0.68	0.70	0.78	0.82
C14	0.15	0.12	0.00	0.03	0.74	0.76	0.82	0.86
C15	0.68	0.52	0.00	0.16	0.69	0.71	0.79	0.83
C16	1.17	1.07	0.00	0.10	0.82	0.83	0.88	0.91
C17	0.48	0.47	0.00	0.01	0.88	0.89	0.93	0.95
C18	0.28	0.25	0.00	0.03	0.81	0.83	0.88	0.91
C19	6.24	5.67	0.00	0.57	0.81	0.83	0.88	0.91
C20	0.21	0.00	0.21	0.00	0.71	0.73	0.78	0.81
C21	0.15	0.00	0.15	0.00	0.71	0.73	0.78	0.81
C	16.57	13.57	1.38	1.62	0.79	0.81	0.86	0.89

MAJOR BASIN D

SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA acres	ROOF AREA acres	LANDSCAPE AREA acres	2-YR RUNOFF COEFFICIENT	5-YR RUNOFF COEFFICIENT	25-YR RUNOFF COEFFICIENT	100-YR RUNOFF COEFFICIENT
D1	0.51	0.17	0.00	0.34	0.32	0.36	0.50	0.57
D	0.51	0.17	0.00	0.34	0.32	0.36	0.50	0.57

MAJOR BASIN E

SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA acres	ROOF AREA acres	LANDSCAPE AREA acres	2-YR RUNOFF COEFFICIENT	5-YR RUNOFF COEFFICIENT	25-YR RUNOFF COEFFICIENT	100-YR RUNOFF COEFFICIENT
E1	0.65	0.11	0.00	0.54	0.18	0.23	0.39	0.47
E	0.65	0.11	0.00	0.54	0.18	0.23	0.39	0.47

MAJOR BASIN F

SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA acres	ROOF AREA acres	LANDSCAPE AREA acres	2-YR RUNOFF COEFFICIENT	5-YR RUNOFF COEFFICIENT	25-YR RUNOFF COEFFICIENT	100-YR RUNOFF COEFFICIENT
F1	1.07	0.63	0.00	0.44	0.54	0.57	0.67	0.72
F	1.07	0.63	0.00	0.44	0.54	0.57	0.67	0.72

MAJOR BASIN G

SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA acres	ROOF AREA acres	LANDSCAPE AREA acres	2-YR RUNOFF COEFFICIENT	5-YR RUNOFF COEFFICIENT	25-YR RUNOFF COEFFICIENT	100-YR RUNOFF COEFFICIENT
G1	6.55	5.95	0.00	0.60	0.81	0.83	0.88	0.91
G	6.55	5.95	0.00	0.60	0.81	0.83	0.88	0.91

OFF-SITE BASINS

SUBBASIN NAME	TOTAL AREA acres	PAVEMENT AREA acres	ROOF AREA acres	LANDSCAPE AREA acres	2-YR RUNOFF COEFFICIENT	5-YR RUNOFF COEFFICIENT	25-YR RUNOFF COEFFICIENT	100-YR RUNOFF COEFFICIENT
OS1	3.77				0.04	0.10	0.28	0.38
OS2	8.18				0.41	0.45	0.54	0.59
OS3	3.00				0.41	0.45	0.54	0.59
OS4	5.23				0.41	0.45	0.54	0.59
OS5	1.58				0.63	0.66	0.72	0.75
OS6	6.93				0.41	0.45	0.54	0.59
OS7	2.19				0.63	0.66	0.72	0.75
OS8	8.78				0.41	0.45	0.54	0.59

*NOTE: Runoff Coefficients for Off-Site Basins OS1-OS8 is estimated for future developed open space, commercial and residential areas.

Open Space = 0.04(2-yr), 0.10(5-yr), 0.28(25-yr), 0.38(100-yr)

Residential = 0.41(2-yr), 0.45(5-yr), 0.54(25-yr), 0.59(100-yr)

Commercial = 0.63(2-yr), 0.66(5-yr), 0.72(25-yr), 0.75(100-yr)

APPENDIX G

TIME OF CONCENTRATION

**GLENWOOD MEADOWS
STANDARD FORM SF-1, TIME OF CONCENTRATION**

$t_c = t_i + t_o$, t_i =Initial Overland Flow Time, t_o =Overland Travel Time

SUBBASIN DATA				INITIAL/OVERLAND TIME (t_i)			TRAVEL TIME (t_o)				t_c CHECK			FINAL t_c
DESIGN (1)	AREA (AC) (2)	C_s (3)	LENGTH (FT) (4)	SLOPE % (5)	t_i (MIN) (6)	LENGTH (FT) (7)	SLOPE % (8)	CONV. COEFF. C_v (9)	VELOCITY (FPS) (10)	t_o (MIN) (11)	COMP t_c (12)	TOTAL LENGTH (FT) (13)	$t_c = (L/180)+10$ (MIN) (14)	
A1	0.95	0.33	200	25.0	6.8	30	2.0	20.0	2.8	0.2	7.0	230	11.3	7.0
A2	0.33	0.75	45	33.0	1.3	165	4.0	20.0	4.0	0.7	2.0	210	11.2	5.0
A3	0.38	0.56	60	33.0	2.4	105	2.0	20.0	2.8	0.6	3.0	165	10.9	5.0
A4	2.15	0.22	300	15.0	11.3	500	15.0	15.0	5.8	1.4	12.7	800	14.4	12.7
A5	0.27	0.73	0	0.0	0.0	250	1.0	20.0	2.0	2.1	2.1	250	11.4	5.0
A6	0.27	0.73	0	0.0	0.0	250	1.0	20.0	2.0	2.1	2.1	250	11.4	5.0
A7	0.27	0.73	0	0.0	0.0	250	1.0	20.0	2.0	2.1	2.1	250	11.4	5.0
A8	0.27	0.73	0	0.0	0.0	285	1.0	20.0	2.0	2.4	2.4	285	11.6	5.0
A9	0.27	0.73	0	0.0	0.0	285	1.0	20.0	2.0	2.4	2.4	285	11.6	5.0
A10	0.27	0.73	0	0.0	0.0	335	1.0	20.0	2.0	2.8	2.8	335	11.9	5.0
A11	0.27	0.73	0	0.0	0.0	335	1.0	20.0	2.0	2.8	2.8	335	11.9	5.0
A12	0.27	0.73	0	0.0	0.0	335	1.0	20.0	2.0	2.8	2.8	335	11.9	5.0
A13	0.27	0.73	0	0.0	0.0	335	1.0	20.0	2.0	2.8	2.8	335	11.9	5.0
A14	0.27	0.73	0	0.0	0.0	335	1.0	20.0	2.0	2.8	2.8	335	11.9	5.0
A15	0.32	0.80	50	33.0	1.2	75	2.0	20.0	2.8	0.4	1.6	125	10.7	5.0
A16	0.40	0.33	100	33.0	4.4	50	2.0	20.0	2.8	0.3	4.7	150	10.8	5.0
A17	0.44	0.57	75	33.0	2.6	60	2.0	20.0	2.8	0.4	3.0	135	10.8	5.0
A18	0.46	0.82	20	2.0	1.8	825	5.5	20.0	4.7	2.9	4.7	845	14.7	5.0
A19	1.15	0.69	100	3.0	5.1	0	0.0	0.0	0.0	0.0	5.1	100	10.6	5.1
A20	0.49	0.69	65	3.0	4.1	215	2.0	20.0	2.8	1.3	5.4	280	11.6	5.4
A21	2.71	0.81	75	3.0	3.2	595	3.0	20.0	3.5	2.9	6.1	670	13.7	6.1
A22	0.67	0.78	65	3.0	3.2	350	3.0	20.0	3.5	1.7	4.9	415	12.3	5.0
A23	0.27	0.73	0	0.0	0.0	150	1.0	20.0	2.0	1.3	1.3	150	10.8	5.0
A24	0.75	0.80	100	2.0	4.3	400	2.0	20.0	2.8	2.4	6.6	500	12.8	6.6
A25	0.92	0.41	150	33.0	4.8	225	15.0	15.0	5.8	0.6	5.5	375	12.1	5.5
A26	0.50	0.75	50	2.0	3.6	320	5.0	20.0	4.5	1.2	4.8	370	12.1	5.0
A27	0.40	0.87	45	3.0	1.9	340	5.0	20.0	4.5	1.3	3.2	385	12.1	5.0
A28	0.77	0.16	200	25.0	8.3	0	0.0	0.0	0.0	0.0	8.3	200	11.1	8.3
A29	0.16	0.79	50	3.0	2.7	155	3.0	20.0	3.5	0.7	3.5	205	11.0	5.0
A30	0.24	0.88	25	3.0	1.4	150	3.0	20.0	3.5	0.7	2.1	175	11.0	5.0
A31	0.44	0.75	40	3.0	2.8	260	5.0	20.0	4.5	1.0	3.8	300	11.7	5.0

SUBBASIN DATA				INITIAL/OVERLAND TIME (t _i)			TRAVEL TIME (t _t)				t _c CHECK		
DESIGN (1)	AREA (AC) (2)	C _s (3)	LENGTH (FT) (4)	SLOPE % (5)	t _i (MIN) (6)	LENGTH (FT) (7)	SLOPE % (8)	CONV. COEFF. C _v (9)	VELOCITY (FPS) (10)	t _t (MIN) (11)	COMP t _c (12)	TOTAL LENGTH (FT) (13)	FINAL t _c (14)
A32	0.35	0.72	25	3.0	2.4	130	4.0	20.0	4.0	0.5	3.0	155	5.0
A33	0.95	0.70	25	3.0	2.5	510	4.0	20.0	4.0	2.1	4.6	535	5.0
A34	0.32	0.79	60	5.0	2.6	320	6.5	20.0	5.1	1.0	3.6	380	5.0
A35	1.81	0.82	25	3.0	1.8	575	4.0	20.0	4.0	2.4	4.2	600	5.0
A36	0.87	0.86	30	3.0	1.6	300	4.0	20.0	4.0	1.3	2.9	330	5.0
A37	0.66	0.71	20	2.0	2.5	150	4.0	20.0	4.0	0.6	3.1	170	5.0
A38	0.83	0.19	65	33.0	4.2	110	25.0	15.0	7.5	0.2	4.4	175	5.0
A39	0.16	0.73	0	0.0	0.0	90	1.0	20.0	2.0	0.8	0.8	90	5.0
A40	0.23	0.73	0	0.0	0.0	135	1.0	20.0	2.0	1.1	1.1	135	5.0
A41	0.25	0.75	15	2.0	2.0	245	5.0	20.0	4.5	0.9	2.9	260	5.0
A42	0.31	0.75	15	2.0	2.0	245	5.0	20.0	4.5	0.9	2.9	260	5.0
A43	0.65	0.81	20	2.0	1.8	860	5.0	20.0	4.5	3.2	5.0	880	5.0
A44	0.14	0.90	40	2.0	1.8	20	2.0	20.0	2.8	0.1	1.9	60	5.0
A45	0.39	0.10	50	33.0	4.0	150	4.0	15.0	3.0	0.8	4.9	200	5.0
A46	0.17	0.10	75	33.0	4.9	50	33.0	15.0	8.6	0.1	5.0	125	5.0

B1	1.25	0.88	10	3.0	0.9	225	4.0	20.0	4.0	0.9	1.8	235	5.0
B2	0.47	0.86	10	3.0	0.9	185	3.5	20.0	3.7	0.8	1.8	195	5.0
B3	0.32	0.89	20	3.0	1.2	250	3.0	20.0	3.5	1.2	2.4	270	5.0
B4	0.38	0.87	25	3.0	1.5	250	3.0	20.0	3.5	1.2	2.7	275	5.0
B5	2.34	0.18	10	3.0	3.6	185	3.5	20.0	3.7	0.8	4.5	195	5.0
B6	0.30	0.78	20	3.0	1.8	200	3.2	20.0	3.6	0.9	2.7	220	5.0
B7	0.59	0.74	25	3.0	2.2	245	4.0	20.0	4.0	1.0	3.3	270	5.0
B8	0.49	0.71	25	3.0	2.5	240	4.0	20.0	4.0	1.0	3.5	265	5.0
B9	0.39	0.74	25	3.0	2.3	195	4.0	20.0	4.0	0.8	3.1	220	5.0
B10	0.10	0.73	0	0.0	0.0	85	1.0	20.0	2.0	0.7	0.7	85	5.0
B11	0.11	0.73	0	0.0	0.0	100	1.0	20.0	2.0	0.8	0.8	100	5.0
B12	0.40	0.88	20	3.0	1.2	300	4.0	20.0	4.0	1.3	2.5	320	5.0
B13	0.35	0.88	20	3.0	1.2	300	4.0	20.0	4.0	1.3	2.5	320	5.0
B14	0.10	0.73	0	0.0	0.0	85	1.0	20.0	2.0	0.7	0.7	85	5.0
B15	0.12	0.73	0	0.0	0.0	100	1.0	20.0	2.0	0.8	0.8	100	5.0
B16	0.71	0.87	55	3.0	2.1	190	4.0	20.0	4.0	0.8	2.9	245	5.0
B17	1.70	0.83	20	3.0	1.5	490	4.0	20.0	4.0	2.0	3.6	510	5.0
B18	1.16	0.86	20	3.0	1.4	490	4.0	20.0	4.0	2.0	3.4	510	5.0
B19	0.77	0.80	10	3.0	1.2	305	4.0	20.0	4.0	1.3	2.5	315	5.0
B20	0.12	0.73	0	0.0	0.0	100	1.0	20.0	2.0	0.8	0.8	100	5.0
B21	0.12	0.73	0	0.0	0.0	110	1.0	20.0	2.0	0.9	0.9	110	5.0
B22	0.70	0.86	20	3.0	1.4	300	4.0	20.0	4.0	1.3	2.6	320	5.0
B23	0.63	0.85	20	3.0	1.4	310	4.0	20.0	4.0	1.3	2.7	330	5.0
B24	0.12	0.73	0	0.0	0.0	100	1.0	20.0	2.0	0.8	0.8	100	5.0

SUBBASIN DATA				INITIAL/OVERLAND TIME (t _i)				TRAVEL TIME (t _t)				t _c CHECK			FINAL t _c
DESIGN (1)	AREA (AC) (2)	C _s (3)	LENGTH (FT) (4)	SLOPE % (5)	t _i (MIN) (6)	LENGTH (FT) (7)	SLOPE % (8)	CONV. COEFF. C _v (9)	VELOCITY (FPS) (10)	t _t (MIN) (11)	COMP t _c (12)	TOTAL LENGTH (FT) (13)	t _c = (L/180)+10 (MIN) (14)		
B25	0.12	0.73	0	0.0	0.0	110	1.0	20.0	2.0	0.9	0.9	110	10.6	5.0	
B26	0.08	0.86	15	3.0	1.1	75	4.0	20.0	4.0	0.3	1.5	90	10.5	5.0	
B27	2.12	0.83	40	2.0	2.5	470	4.0	20.0	4.0	2.0	4.4	510	12.8	5.0	
B28	0.03	0.73	0	0.0	0.0	125	1.0	20.0	2.0	1.0	1.0	125	10.7	5.0	
B29	0.58	0.73	0	0.0	0.0	275	1.0	20.0	2.0	2.3	2.3	275	11.5	5.0	
B30	0.58	0.73	0	0.0	0.0	275	1.0	20.0	2.0	2.3	2.3	275	11.5	5.0	
B31	1.15	0.73	0	0.0	0.0	275	1.0	20.0	2.0	2.3	2.3	275	11.5	5.0	
B32	0.02	0.73	0	0.0	0.0	100	1.0	20.0	2.0	0.8	0.8	100	10.6	5.0	
B33	0.58	0.73	0	0.0	0.0	275	1.0	20.0	2.0	2.3	2.3	275	11.5	5.0	
B34	0.05	0.53	20	2.0	3.6	0	0.0	0.0	0.0	0.0	3.6	20	10.1	5.0	
B35	1.07	0.59	85	3.0	5.9	135	3.0	20.0	3.5	0.6	6.6	220	11.2	6.6	
B36	0.21	0.73	0	0.0	0.0	110	1.0	20.0	2.0	0.9	0.9	110	10.6	5.0	
B37	0.72	0.73	0	0.0	0.0	210	1.0	20.0	2.0	1.8	1.8	210	11.2	5.0	
B38	0.53	0.57	35	33.0	1.8	210	2.0	20.0	2.8	1.2	3.0	245	11.4	5.0	
B39	0.06	0.57	20	2.0	3.4	0	0.0	0.0	0.0	0.0	3.4	20	10.1	5.0	
B40	0.94	0.10	50	33.0	4.0	100	0.0	0.0	0.0	0.0	4.0	150	10.8	5.0	
B41	1.22	0.10	50	33.0	4.0	150	0.0	0.0	0.0	0.0	4.0	200	11.1	5.0	

C1	1.39	0.89	25	3.0	1.3	300	3.0	20.0	3.5	1.4	2.8	325	11.8	5.0	
C2	0.47	0.73	25	2.0	2.7	300	3.0	20.0	3.5	1.4	4.1	325	11.8	5.0	
C3	0.26	0.79	55	3.0	2.9	145	4.0	20.0	4.0	0.6	3.5	200	11.1	5.0	
C4	0.37	0.70	20	3.0	2.2	110	4.0	20.0	4.0	0.5	2.7	130	10.7	5.0	
C5	0.18	0.75	15	3.0	1.7	165	4.0	20.0	4.0	0.7	2.4	180	11.0	5.0	
C6	0.15	0.76	10	3.0	1.3	170	4.0	20.0	4.0	0.7	2.0	180	11.0	5.0	
C7	1.66	0.83	55	3.0	2.5	460	4.0	20.0	4.0	1.9	4.4	515	12.9	5.0	
C8	0.77	0.86	15	3.0	1.1	515	4.0	20.0	4.0	2.1	3.3	530	12.9	5.0	
C9	0.42	0.66	25	3.0	2.7	155	4.0	20.0	4.0	0.6	3.4	180	11.0	5.0	
C10	0.51	0.63	15	3.0	2.3	375	3.5	20.0	3.7	1.7	4.0	390	12.2	5.0	
C11	0.39	0.83	15	3.0	1.3	380	3.5	20.0	3.7	1.7	3.0	395	12.2	5.0	
C12	0.55	0.73	0	0.0	0.0	200	1.0	20.0	2.0	1.7	1.7	200	11.1	5.0	
C13	0.09	0.70	10	2.0	1.8	65	3.0	20.0	3.5	0.3	2.1	75	10.4	5.0	
C14	0.15	0.76	25	3.0	2.1	185	4.5	20.0	4.2	0.7	2.9	210	11.2	5.0	
C15	0.68	0.71	45	3.0	3.2	145	3.0	20.0	3.5	0.7	3.9	190	11.1	5.0	
C16	1.17	0.83	100	33.0	1.5	55	10.0	15.0	4.7	0.2	1.7	155	10.9	5.0	
C17	0.48	0.89	10	3.0	0.8	355	6.5	20.0	5.1	1.2	2.0	365	12.0	5.0	
C18	0.28	0.83	15	3.0	1.3	335	6.5	20.0	5.1	1.1	2.4	350	11.9	5.0	
C19	6.24	0.83	200	4.0	4.4	600	4.0	20.0	4.0	2.5	6.9	800	14.4	6.9	
C20	0.21	0.73	0	0.0	0.0	85	1.0	20.0	2.0	0.7	0.7	85	10.5	5.0	
C21	0.15	0.73	0	0.0	0.0	65	1.0	20.0	2.0	0.5	0.5	65	10.4	5.0	

SUBBASIN DATA				INITIAL/OVERLAND TIME (t _i)				TRAVEL TIME (t _t)				t _c CHECK		FINAL t _c
DESIGN (1)	AREA (AC) (2)	C _s (3)	LENGTH (FT) (4)	SLOPE % (5)	t _i (MIN) (6)	LENGTH (FT) (7)	SLOPE % (8)	CONV. COEFF. C _v (9)	VELOCITY (FPS) (10)	t _t (MIN) (11)	COMP t _c (12)	TOTAL LENGTH (FT) (13)	t _c = (L/180)+10 (MIN) (14)	
D1	0.51	0.36	35	3	5.5	140	4	15.0	3.0	0.8	6.3	175	11.0	6.3
E1	0.65	0.23	85	33	4.6	175	5	15.0	3.4	0.9	5.4	260	11.4	5.4
F1	1.07	0.57	75	3	5.8	280	6	15.0	3.7	1.3	7.0	355	12.0	7.0
G1	6.55	0.83	200	4	4.4	600	4	20.0	4.0	2.5	6.9	800	14.4	6.9

APPENDIX H

HISTORIC RUNOFF COEFFICIENTS

GLENWOOD MEADOWS

2, 5, 25 AND 100 YEAR HISTORIC WEIGHTED RUNOFF COEFFICIENTS

TYPE OF AREA	2-YR "C" FACTOR	5-YR "C" FACTOR	25-YR "C" FACTOR	100-YR "C" FACTOR
PAVEMENT	0.89	0.90	0.94	0.96
ROOF	0.71	0.73	0.78	0.81
NATURAL COVER	0.03	0.09	0.26	0.36

WQ POND A

HISTORIC DRAINAGE AREA	TOTAL AREA acres	PAVEMENT AREA acres	ROOF AREA acres	NATURAL COVER acres	2-YR RUNOFF COEFFICIENT	5-YR RUNOFF COEFFICIENT	25-YR RUNOFF COEFFICIENT	100-YR RUNOFF COEFFICIENT
Basin A	25.70	0	0	25.70	0.03	0.09	0.26	0.36
Basin OS1	3.77	0	0	3.77	0.03	0.09	0.26	0.36
Basin OS2	8.18	0	0	8.18	0.03	0.09	0.26	0.36
A	37.65	0.00	0.00	37.65	0.03	0.09	0.26	0.36

WQ POND B

HISTORIC DRAINAGE AREA	TOTAL AREA acres	PAVEMENT AREA acres	ROOF AREA acres	LANDSCAPE AREA acres	2-YR RUNOFF COEFFICIENT	5-YR RUNOFF COEFFICIENT	25-YR RUNOFF COEFFICIENT	100-YR RUNOFF COEFFICIENT
Basin B	23.80	0	0	23.80	0.03	0.09	0.26	0.36
Basin OS3	3.00	0	0	3.00	0.03	0.09	0.26	0.36
Basin OS4	5.23	0	0	5.23	0.03	0.09	0.26	0.36
Basin OS5	1.58	0	0	1.58	0.03	0.09	0.26	0.36
Basin OS6	10.02	0	0	10.02	0.03	0.09	0.26	0.36
B	43.63	0.00	0.00	43.63	0.03	0.09	0.26	0.36

WQ POND C

HISTORIC DRAINAGE BASIN	TOTAL AREA acres	PAVEMENT AREA acres	ROOF AREA acres	LANDSCAPE AREA acres	2-YR RUNOFF COEFFICIENT	5-YR RUNOFF COEFFICIENT	25-YR RUNOFF COEFFICIENT	100-YR RUNOFF COEFFICIENT
Basin C	16.57	0	0	16.57	0.03	0.09	0.26	0.36
Basin G	6.55	0	0	6.55	0.03	0.09	0.26	0.36
Basin OS7	1.31	0	0	1.31	0.03	0.09	0.26	0.36
Basin OS8	8.78	0	0	8.78	0.03	0.09	0.26	0.36
C	33.21	0.00	0.00	33.21	0.03	0.09	0.26	0.36

APPENDIX I

HISTORIC RUNOFF FLOW RATES

GLENWOOD MEADOWS
2 YEAR HISTORIC RUNOFF FLOW RATES

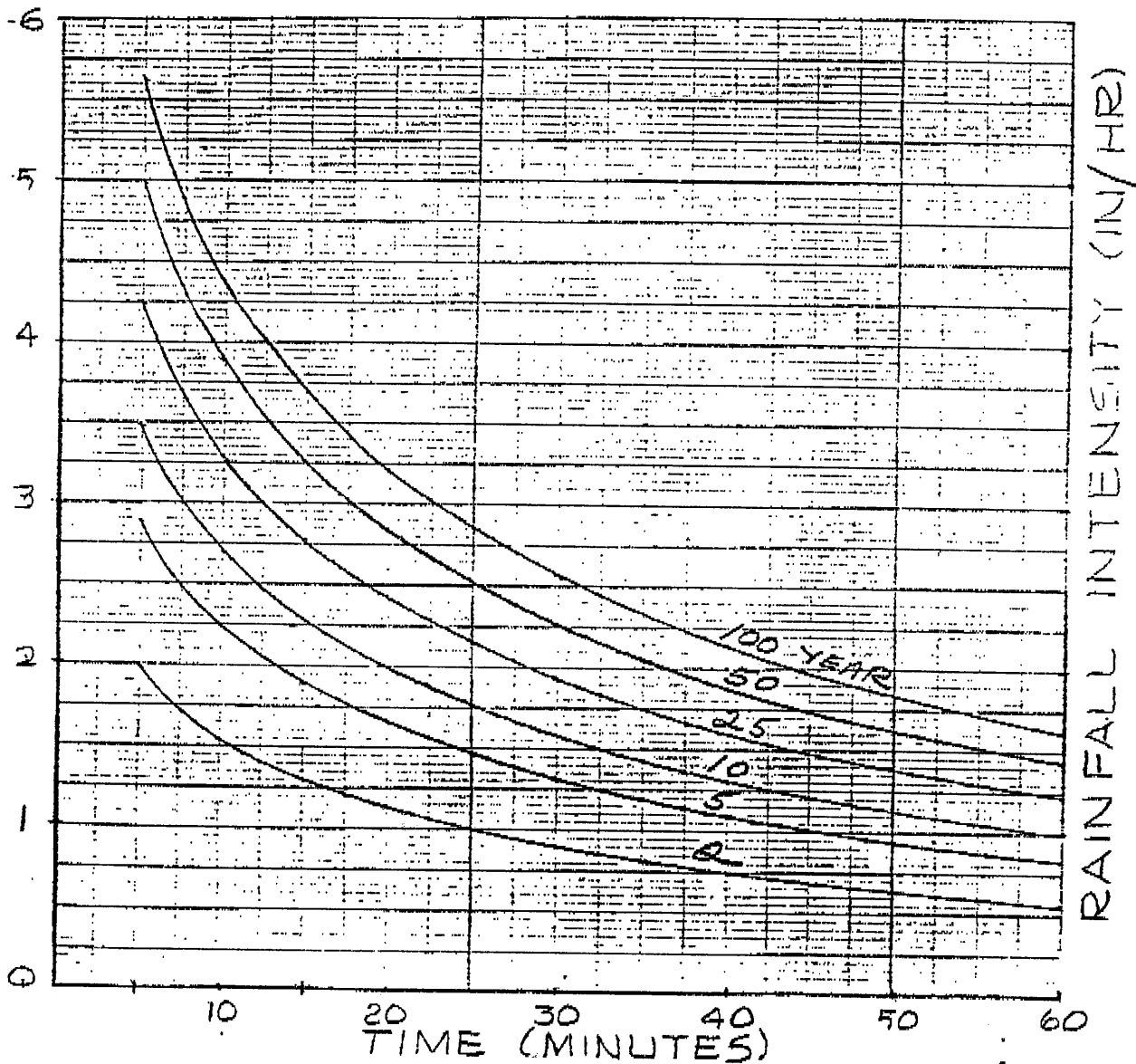
W.Q. POND A	TOTAL AREA acres	TIME OF CONC. t_c , min	2-YR RUNOFF COEFFICIENT	INTENSITY I, in/hr	2-YR RUNOFF Q, cfs
A	37.65	21.70	0.03	1.25	1.4

W.Q. POND B	TOTAL AREA acres	TIME OF CONC. t_c , min	2-YR RUNOFF COEFFICIENT	INTENSITY I, in/hr	2-YR RUNOFF Q, cfs
B	43.63	24.30	0.03	1.15	1.5

W.Q. POND C	TOTAL AREA acres	TIME OF CONC. t_c , min	2-YR RUNOFF COEFFICIENT	INTENSITY I, in/hr	2-YR RUNOFF Q, cfs
C	33.21	17.70	0.03	1.30	1.30

100-YR DET. POND A	TOTAL AREA acres	TIME OF CONC. t_c , min	100-YR RUNOFF COEFFICIENT	INTENSITY I, in/hr	2-YR RUNOFF Q, cfs
A	37.65	21.70	0.36	3.20	43.4

INTENSITY-DURATION-FREQUENCY CURVES



GLENWOOD SPRINGS, COLORADO

5/8/79

APPENDIX J

BASIN A WATER QUALITY POND

Glenwood Meadows: Basin-A, Water Quality Volume Required

Area (ac)= 37.7
 C_2 = 0.50
 Area x C_2 = 18.83 Rel. Rate (cfs)= 1.41

TIME (min)	TIME (sec)	INTENSITY (in/hr)	INFLOW (cu-ft)	OUTFLOW (cu-ft)	STORAGE (cu-ft)	STORAGE (ac-ft)
5	300	2.00	11295	424	10872	0.25
10	600	1.55	17508	847	16661	0.38
15	900	1.30	22026	1271	20755	0.48
20	1200	1.15	25979	1694	24285	0.56
25	1500	1.00	28238	2118	26120	0.60
30	1800	0.90	30497	2541	27956	0.64
35	2100	0.80	31627	2965	28662	0.66
40	2400	0.75	33886	3389	30497	0.70
45	2700	0.70	35580	3812	31768	0.73
50	3000	0.65	36710	4236	32474	0.75
55	3300	0.60	37274	4659	32615	0.75
60	3600	0.55	37274	5083	32192	0.74

<--WQ Vol. Req'd.*

* Pond A1 and Pond A2 are combined to provide this volume.

Glenwood Meadows: Basin-A, Water Quality Volume Provided

POND A1

ELEVATION (ft)	AREA (sq-ft)	Avg. Area (sq-ft)	Incremental Depth (ft)	Incremental Volume (cf)	Cum. Volume (cf)	Cum. Volume (ac-ft)
5742.87	0					
		629	0.13	54	54	0.00
5743.00	1,257					
		2,836	1.00	2,676	2,730	0.06
5744.00	4,414					
		5,514	1.00	5,477	8,207	0.19
5745.00	6,613					
		7,313	1.00	7,302	15,508	0.36
5746.00	8,013					
		9,060	1.00	9,040	24,548	0.56
5747.00	10,107					

POND A2

ELEVATION (ft)	AREA (sq-ft)	Avg. Area (sq-ft)	Incremental Depth (ft)	Incremental Volume (cf)	Cum. Volume (cf)	Cum. Volume (ac-ft)
5744.50	0					
		824	0.50	275	275	0.01
5745.00	1,648					
		3,704	1.00	3,496	3,496	0.08
5746.00	5,759					
		6,399	1.00	6,388	9,884	0.23
5747.00	7,039					

Total Volume Required =	0.75
Total Volume Provided =	0.79
2-yr WQWSEL =	5747.0

Glenwood Meadows: Basin-A, 100-yr Detention Volume Required

Area (ac)= **37.7**

C₁₀₀ = **0.69**

Area x C₂ = **25.98**

Rel. Rate (cfs)= **95.00**

TIME (min)	TIME (sec)	INTENSITY (in/hr)	INFLOW (cu-ft)	OUTFLOW (cu-ft)	STORAGE (cu-ft)	STORAGE (ac-ft)
5	300	5.65	44035	28500	15535	0.36
10	600	4.40	68585	57000	11585	0.27
15	900	3.70	86511	85500	1011	0.02
20	1200	3.20	99760	99760	0	0.00
25	1500	2.85	111061	111061	0	0.00
30	1800	2.60	121582	121582	0	0.00
35	2100	2.35	128207	128207	0	0.00
40	2400	2.15	134052	134052	0	0.00
45	2700	1.95	136780	136780	0	0.00
50	3000	1.85	144184	144184	0	0.00
55	3300	1.70	145743	145743	0	0.00
60	3600	1.65	154316	154316	0	0.00

<--WQ Vol. Req'd.*

* Pond A1 and Pond A2 are combined to provide this volume.

Glenwood Meadows: Basin-A, Water Quality Volume Provided

POND A1

ELEVATION (ft)	AREA (sq-ft)	Avg. Area (sq-ft)	Incremental Depth (ft)	Incremental Volume (cf)	Cum. Volume (cf)	Cum. Volume (ac-ft)
5742.87	0					
		629	0.13	54	54	0.00
5743.00	1,257					
		2,836	1.00	2,676	2,730	0.06
5744.00	4,414					
		5,514	1.00	5,477	8,207	0.19
5745.00	6,613					
		7,313	1.00	7,302	15,508	0.36
5746.00	8,013					
		9,060	1.00	9,040	24,548	0.56
5747.00	10,107					

POND A2

ELEVATION (ft)	AREA (sq-ft)	Avg. Area (sq-ft)	Incremental Depth (ft)	Incremental Volume (cf)	Cum. Volume (cf)	Cum. Volume (ac-ft)
5744.50	0					
		824	0.50	275	275	0.01
5745.00	1,648					
		3,704	1.00	3,496	3,496	0.08
5746.00	5,759					
		6,399	1.00	6,388	9,884	0.23
5747.00	7,039					

Total Volume Required =	0.36
Total Volume Provided =	0.79

APPENDIX K

BASIN B WATER QUALITY POND

Glenwood Meadows: Basin-B, Water Quality Volume Required

Area (ac)= **43.6**
 C_2 = **0.55**
 Area x C_2 = **24.00** Rel. Rate (cfs)= **1.51**

TIME (min)	TIME (sec)	INTENSITY (in/hr)	INFLOW (cu-ft)	OUTFLOW (cu-ft)	STORAGE (cu-ft)	STORAGE (ac-ft)
5	300	2.00	14398	452	13947	0.32
10	600	1.55	22317	903	21414	0.49
15	900	1.30	28077	1355	26722	0.61
20	1200	1.15	33116	1806	31310	0.72
25	1500	1.00	35996	2258	33738	0.77
30	1800	0.90	38875	2709	36166	0.83
35	2100	0.80	40315	3161	37154	0.85
40	2400	0.75	43195	3613	39582	0.91
45	2700	0.70	45355	4064	41290	0.95
50	3000	0.65	46794	4516	42279	0.97
55	3300	0.60	47514	4967	42547	0.98
60	3600	0.55	47514	5419	42095	0.97

<--WQ Vol. Req'd.

Glenwood Meadows: Basin-B, Water Quality Volume Provided

POND B1

ELEVATION (ft)	AREA (sq-ft)	Avg. Area (sq-ft)	Incremental Depth (ft)	Incremental Volume (cf)	Cum. Volume (cf)	Cum. Volume (ac-ft)
5740.50	0					
		2,028	0.50	676	676	0.02
5741.00	4,056					
		6,824	1.00	6,628	7,304	0.17
5742.00	9,592					
		11,581	1.00	11,523	18,828	0.43
5743.00	13,569					
		14,631	1.00	14,618	33,445	0.77
5744.00	15,692					
		16,705	1.00	16,694	50,140	1.15
5745.00	17,717					

Total Volume Required =	0.977
Total Volume Provided =	1.151
2-yr WQWSEL =	5744.8

APPENDIX L

BASIN C WATER QUALITY POND

Glenwood Meadows: Basin-C, Water Quality Volume Required

Area (ac)= **33.2**

C₂ = **0.58**

Area x C₂ = **19.10**

Rel. Rate (cfs)= **1.30**

TIME (min)	TIME (sec)	INTENSITY (in/hr)	INFLOW (cu-ft)	OUTFLOW (cu-ft)	STORAGE (cu-ft)	STORAGE (ac-ft)
5	300	2.00	11457	389	11069	0.25
10	600	1.55	17759	777	16982	0.39
15	900	1.30	22342	1166	21176	0.49
20	1200	1.15	26352	1554	24798	0.57
25	1500	1.00	28644	1943	26701	0.61
30	1800	0.90	30935	2331	28604	0.66
35	2100	0.80	32081	2720	29361	0.67
40	2400	0.75	34372	3108	31264	0.72
45	2700	0.70	36091	3497	32594	0.75
50	3000	0.65	37237	3886	33351	0.77
55	3300	0.60	37810	4274	33535	0.77
60	3600	0.55	37810	4663	33147	0.76

<--WQ Vol. Req'd.*

* Pond C1 and Pond C2 are combined to provide this volume.

Glenwood Meadows: Basin-C, Water Quality Volume Provided

POND C1

ELEVATION (ft)	AREA (sq-ft)	Avg. Area (sq-ft)	Incremental Depth (ft)	Incremental Volume (cf)	Cum. Volume (cf)	Cum. Volume (ac-ft)
5744.50	0					
		1,069	0.50	356	356	0.01
5745.00	2,137					
		3,592	1.00	3,489	3,846	0.09
5746.00	5,047					
		6,228	1.00	6,190	9,680	0.22
5747.00	7,409					

POND C2

ELEVATION (ft)	AREA (sq-ft)	Avg. Area (sq-ft)	Incremental Depth (ft)	Incremental Volume (cf)	Cum. Volume (cf)	Cum. Volume (ac-ft)
5742.50	0					
		653	0.50	218	218	0.00
5743.00	1,306					
		3,119	1.00	2,925	3,143	0.07
5744.00	4,931					
		5,576	1.00	5,564	8,706	0.20
5745.00	6,221					
		6,858	1.00	6,848	15,554	0.36
5746.00	7,495					
		8,135	1.00	8,127	23,681	0.54
5747.00	8,775					

Total Volume Required =	0.77
Total Volume Provided =	0.77
2-yr WQWSEL =	5747.0

APPENDIX M

INLET SIZING

Glenwood Meadows
Inlet Sizing, 25-yr Storm Event
CALCULATED BY: TJH

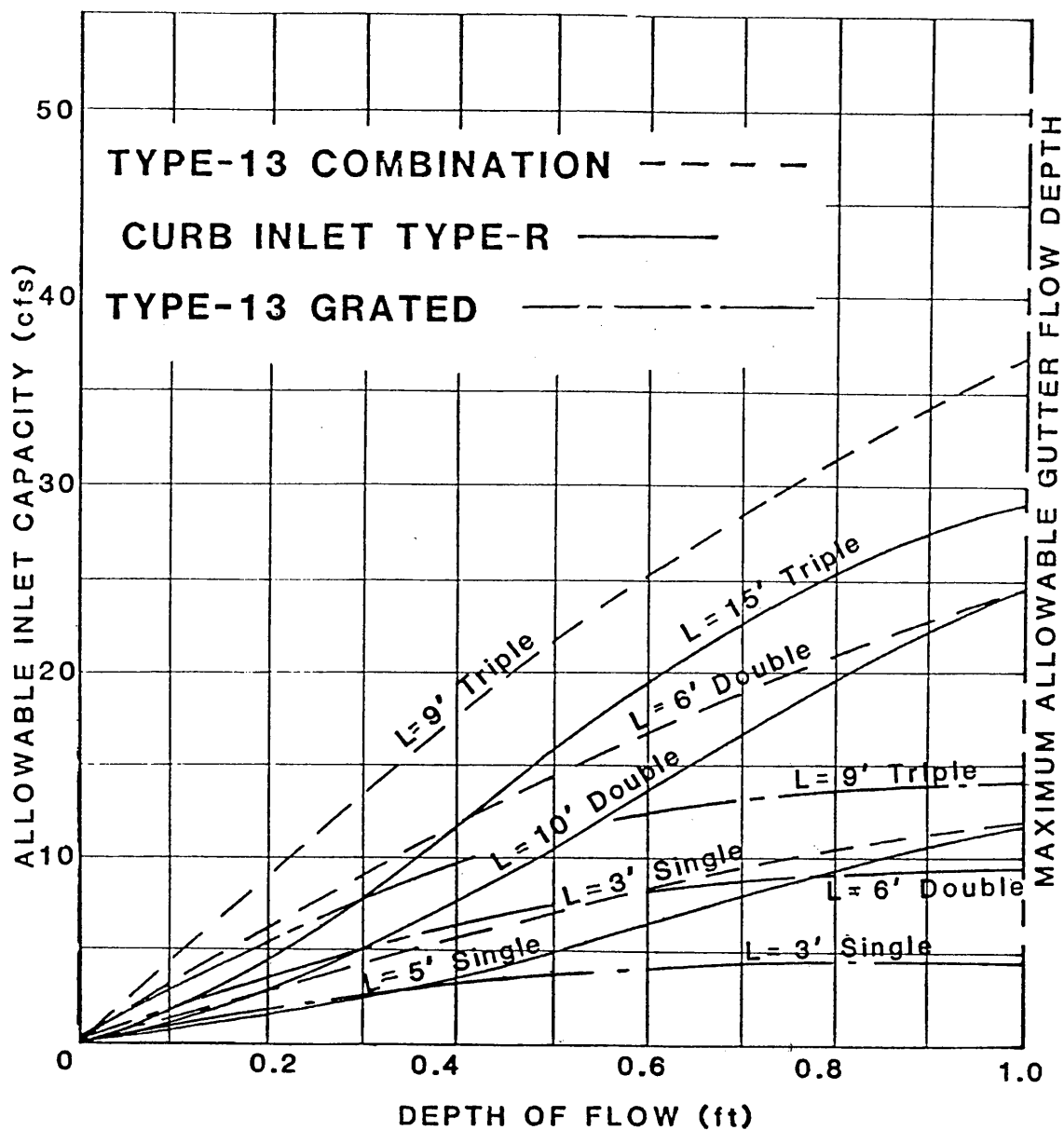
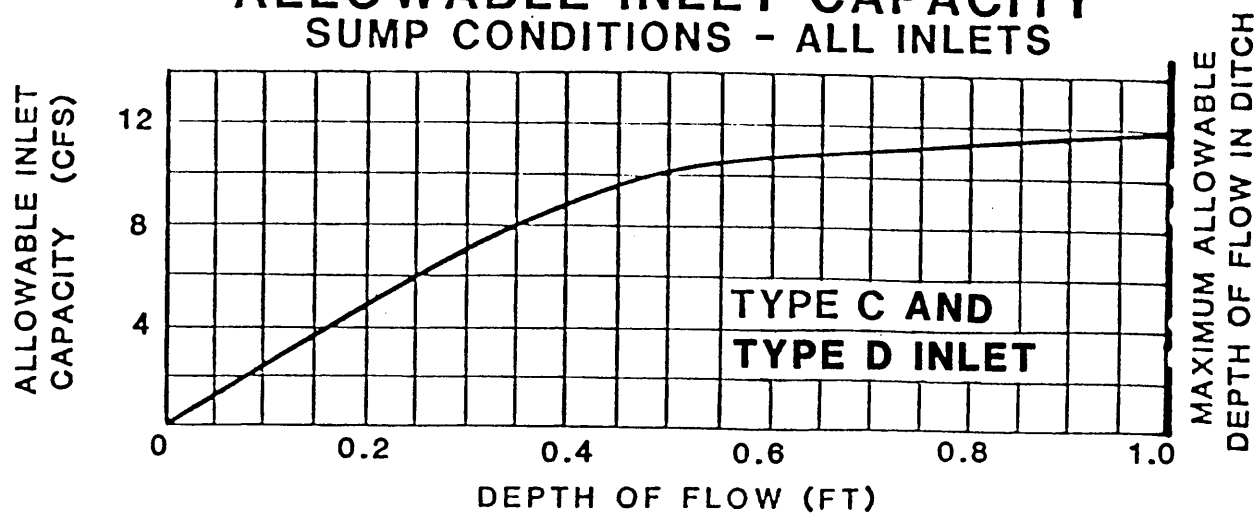
INLET NAME	DESIGN POINT	DIRECT RUNOFF						INLET CHARACTERISTICS					NOTES
		DRAINAGE BASINS	TOTAL AREA (ac)	RUNOFF COEFF. (C ₂₅)	t _c (min)	C x A (ac)	INTENSITY I (in/hr)	TOTAL FLOW Q ₂₅ (cfs)	MAX. DEPTH (ft)	STREET SLOPE (%)	MAX. INLET CAPACITY (cfs)	INLET LENGTH TYPE	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
STIN 1-1		A15	0.32	0.86	5.0	0.28	4.25	1.2	0.75	SUMP	8.0	5' TYPED	
STIN 1-2		A44	0.14	0.94	5.0	0.13	4.25	0.5	0.75	SUMP	8.0	5' TYPED	
STIN 1-3		A3	0.38	0.66	5.0	0.25	4.25	1.1	0.75	SUMP	8.0	5' TYPED	
STIN 1-4		A2	0.33	0.82	5.0	0.27	4.25	1.1	1.00	SUMP	49.0	Trench Drain	Neenah 10"x26" R-4990-CX w/Type-A Grate
STIN 1-5		A1	0.95	0.47	7.0	0.45	4.25	1.9	0.75	SUMP	8.0	5' TYPED	
STIN 2-1		A37	0.66	0.79	5.0	0.52	4.25	2.2	0.75	SUMP	8.0	5' TYPED	
STIN 2-2		A45	0.39	0.28	5.0	0.11	4.25	0.5	0.75	SUMP	8.0	Area Drain	Neenah R-4340-B Beehive Area Drain
STIN 3-1		A36	0.87	0.91	5.0	0.79	4.25	3.4	0.75	SUMP	8.0	5' TYPED	
STIN 3-2		A24	0.75	0.86	6.6	0.65	3.85	2.5	0.75	SUMP	8.0	5' TYPED	
STIN 3-3		A22	0.67	0.84	5.0	0.56	4.25	2.4	0.75	SUMP	8.0	5' TYPED	
STIN 3-4		A35	1.81	0.87	5.0	1.58	4.25	6.7	0.75	SUMP	8.0	5' TYPED	
STIN 3-5		A33	0.95	0.78	5.0	0.74	4.25	3.1	0.75	SUMP	8.0	5' TYPED	
STIN 3-6		A31	0.44	0.81	5.0	0.36	4.25	1.5	0.50	5.00	4.0	5' TYPED	
STIN 3-7		A26	0.50	0.81	5.0	0.41	4.25	1.7	0.50	5.00	4.0	5' TYPED	
STIN 3-8		A21	2.71	0.86	6.1	2.34	4.00	9.4	0.75	SUMP	18.0	10' TYPED	
STIN 3-9		A32	0.35	0.79	5.0	0.28	4.25	1.2	0.75	SUMP	8.0	5' TYPED	
STIN 3-10		A20	0.49	0.77	5.4	0.38	4.10	1.5	0.75	SUMP	8.0	5' TYPED	
STIN 3-11		A42	0.31	0.81	5.0	0.25	4.25	1.1	0.50	5.00	4.0	5' TYPED	
STIN 3-12		A41	0.25	0.81	5.0	0.20	4.25	0.9	0.50	5.00	4.0	5' TYPED	
STIN 3-13		A16	0.40	0.47	5.0	0.19	4.25	0.8	0.75	SUMP	8.0	5' TYPED	
STIN 3-14		A17	0.44	0.66	5.0	0.29	4.25	1.2	0.75	SUMP	8.0	5' TYPED	
STIN 3-15		A30	0.24	0.93	5.0	0.22	4.25	0.9	0.75	SUMP	8.0	5' TYPED	
STIN 3-16		A29	0.16	0.85	5.0	0.14	4.25	0.6	0.50	3.13	4.0	5' TYPED	
STIN 3-17		A18	0.46	0.87	5.0	0.40	4.25	1.7	0.50	3.70	4.0	5' TYPED	
STIN 3-18		A43	0.65	0.87	5.0	0.56	4.25	2.4	0.50	3.70	4.0	5' TYPED	
STIN 3-19		OS1	3.77	0.28	14.2	1.06	2.80	3.0	1.00	SUMP	5.3	Area Drain	Neenah R-4340-B Beehive Area Drain
STIN 3-20		OS2	8.18	0.54	9.1	4.42	3.35	14.8	1.00	SUMP	34.0	CDOT Type-C	
STIN 3-21		A19	1.15	0.77	5.1	0.88	4.25	3.7	1.00	SUMP	13.0	3' TYPE-13	
STIN 4-1		B38	0.53	0.67	5.0	0.35	4.25	1.5	0.75	SUMP	8.0	5' TYPED	

INLET NAME	DESIGN POINT	DIRECT RUNOFF					INLET CHARACTERISTICS					NOTES	
		DRAINAGE BASINS	TOTAL AREA (ac)	RUNOFF COEFF. (C ₂₅)	t _c (min)	C x A (ac)	INTENSITY I (in/hr)	TOTAL FLOW Q ₂₅ (cfs)	MAX. DEPTH (ft)	STREET SLOPE (%)	MAX. INLET CAPACITY (cfs)		INLET LENGTH TYPE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
STIN 4-2		B39	0.06	0.67	5.0	0.04	4.25	0.2	0.50	SUMP	5.3	Area Drain	Neenah R-4340-B Beehive Area Drain
STIN 4-2A		B34	0.05	0.64	5.0	0.03	4.25	0.1	0.50	SUMP	5.3	Area Drain	Neenah R-4340-B Beehive Area Drain
STIN 4-3		B19	0.77	0.86	5.0	0.66	4.25	2.8	0.75	SUMP	8.0	5' TYPE R	
STIN 4-4		B18	1.16	0.90	5.0	1.05	4.25	4.5	1.00	SUMP	13.0	3' TYPE-13	
STIN 4-5		B17	1.70	0.88	5.0	1.50	4.25	6.4	1.00	SUMP	13.0	3' TYPE-13	
STIN 4-6		B27	2.12	0.88	5.0	1.86	4.25	7.9	1.00	SUMP	13.0	3' TYPE-13	
STIN 4-7		B26	0.08	0.91	5.0	0.07	4.25	0.3	0.75	SUMP	8.0	5' TYPE R	
STIN 4-8		B23	0.63	0.90	5.0	0.57	4.25	2.4	0.75	SUMP	8.0	5' TYPE R	
STIN 4-9		B22	0.70	0.90	5.0	0.63	4.25	2.7	0.75	SUMP	8.0	5' TYPE R	
STIN 4-10		B16	0.71	0.92	5.0	0.65	4.25	2.8	0.50	SUMP	13.0	3' TYPE-13	
STIN 4-11		B9	0.39	0.81	5.0	0.32	4.25	1.3	0.75	SUMP	8.0	5' TYPE R	
STIN 4-12		B8	0.49	0.78	5.0	0.38	4.25	1.6	0.75	SUMP	8.0	5' TYPE R	
STIN 4-13		B7	0.59	0.81	5.0	0.48	4.25	2.0	0.75	SUMP	8.0	5' TYPE R	
STIN 4-14		B1	1.25	0.92	5.0	1.15	4.25	4.9	0.75	SUMP	8.0	5' TYPE R	
STIN 4-15		B6	0.30	0.81	5.0	0.24	4.25	1.0	0.75	SUMP	8.0	5' TYPE R	
STIN 4-16		OS3	3.00	0.54	5.2	1.62	4.25	6.9	1.00	SUMP	34.0	CDOT Type-C	
STIN 4-17		OS4	5.23	0.54	9.1	2.82	3.35	9.5	1.00	SUMP	34.0	CDOT Type-C	
STIN 4-18		B35	1.07	0.68	6.6	0.73	4.25	3.1	0.75	SUMP	8.0	5' TYPE R	
STIN 4-19		--	--	--	--	--	--	--	--	--	--	--	REMOVED FROM PLANS
STIN 4-20		B13	0.35	0.93	5.0	0.32	4.25	1.4	0.50	2.80	3.9	5' TYPE R	
STIN 4-21		B12	0.40	0.93	5.0	0.37	4.25	1.6	0.50	2.80	3.9	5' TYPE R	
STIN 4-22		B4	0.38	0.91	5.0	0.35	4.25	1.5	0.75	SUMP	8.0	5' TYPE R	
STIN 4-23		B3	0.32	0.93	5.0	0.30	4.25	1.3	0.75	SUMP	8.0	5' TYPE R	
STIN 4-24		B2	0.47	0.91	5.0	0.43	4.25	1.8	0.75	SUMP	8.0	5' TYPE R	
STIN 5-1		C14	0.15	0.82	5.0	0.12	4.25	0.5	0.75	SUMP	8.0	5' TYPE R	
STIN 5-2		C13	0.09	0.78	5.0	0.07	4.25	0.3	0.75	SUMP	8.0	5' TYPE R	
STIN 5-3		C9	0.42	0.74	5.0	0.31	4.25	1.3	0.75	SUMP	8.0	5' TYPE R	
STIN 5-4		C8	2.43	0.89	5.0	2.16	4.25	9.2	0.75	SUMP	13.0	3' TYPE-13	
STIN 6-1		C10	0.51	0.72	5.0	0.37	4.25	1.6	0.50	4.25	4.1	5' TYPE R	
STIN 6-2		C11	0.39	0.88	5.0	0.34	4.25	1.5	0.50	4.25	4.1	5' TYPE R	
STIN 6-3		C4	0.37	0.78	5.0	0.29	4.25	1.2	0.75	SUMP	8.0	5' TYPE R	
STIN 6-4		C3	0.26	0.85	5.0	0.22	4.25	0.9	0.75	SUMP	8.0	5' TYPE R	
STIN 6-5		C5	0.18	0.82	5.0	0.15	4.25	0.6	0.50	4.25	4.1	5' TYPE R	
STIN 6-6		C6	0.15	0.83	5.0	0.12	4.25	0.5	0.50	4.25	4.1	5' TYPE R	
STIN 6-7		C1	1.39	0.93	5.0	1.29	4.25	5.5	0.75	SUMP	8.0	5' TYPE R	
		OS7	2.19	0.72	5.2	1.58	4.25	6.7		SUMP			
		OS8	8.78	0.54	9.3	4.74	3.30	15.6		SUMP			
STIN 6-8		OS7/OS8	10.97	0.58	9.3	6.32	3.3	20.8	1.00	SUMP	34.0	CDOT Type-C	
STIN 7-1		A27	0.40	0.92	5.0	0.37	4.25	1.6	0.50	5.00	4.1	5' TYPE R	

INLET NAME	DESIGN POINT	DIRECT RUNOFF					INLET CHARACTERISTICS					NOTES	
		DRAINAGE BASINS	TOTAL AREA (ac)	RUNOFF COEFF. (C ₂₅)	t _c (min)	C x A (ac)	INTENSITY I (in/hr)	TOTAL FLOW Q ₂₅ (cfs)	MAX. DEPTH (ft)	STREET SLOPE (%)	MAX. INLET CAPACITY (cfs)		INLET LENGTH TYPE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
STIN 7-2		A34	0.32	0.85	5.0	0.27	4.25	1.2	0.50	5.00	4.1	5' TYPE R	
STIN 8-1		C15	0.68	0.79	5.0	0.54	4.25	2.3	0.75	SUMP	8.0	5' TYPE R	
STIN 9-1		C18	0.28	0.88	5.0	0.25	4.00	1.0	0.50	4.25	4.1	5' TYPE R	
STIN 9-2		C17	0.48	0.93	5.0	0.45	4.00	1.8	0.50	4.25	4.1	5' TYPE R	
													1.5 acres of C19
STIN 10-1		C19	1.50	0.88	6.9	1.32	4.00	5.3	0.75	SUMP	8.0	Area Drain	Neenah R-4340-B Beehive Area Drain
STIN 12-1		A25	0.92	0.53	5.5	0.49	4.25	2.1	0.50	SUMP	5.3	Area Drain	Neenah R-4340-B Beehive Area Drain
STIN 13-1		C16	1.17	0.88	5.0	1.04	4.25	4.4	0.50	SUMP	5.3	Area Drain	Neenah R-4340-B Beehive Area Drain
STIN 14-1		B40	0.94	0.28	5.0	0.26	4.25	1.1	0.50	SUMP	5.3	Area Drain	Neenah R-4340-B Beehive Area Drain
STIN 15-1		A46	0.17	0.28	5.0	0.05	4.25	0.2	0.50	SUMP	5.3	Area Drain	Neenah R-4340-B Beehive Area Drain

- (1) Inlet Designation
- (2) Design Point Location
- (3) Basins Draining to Specified Inlet
- (4) Total Drainage Area
- (5) 25-year Runoff Coefficient, Weighted for Contributing Basins
- (6) Time of Concentration from tc = ti + tt
- (7) Total C x A for All Contributing Basins
- (8) Rainfall Intensity from I-D-F Curve for Glenwood Meadows
- (9) Total Runoff from Contributing Basins
- (10) Depth of Ponding/Gutter Flow
- (11) Street Slope
- (12) Maximum Inlet Capacity
- (13) Required Inlet Type/Size
- (14) Notes

ALLOWABLE INLET CAPACITY SUMP CONDITIONS - ALL INLETS

Date: **OCT. 1986**

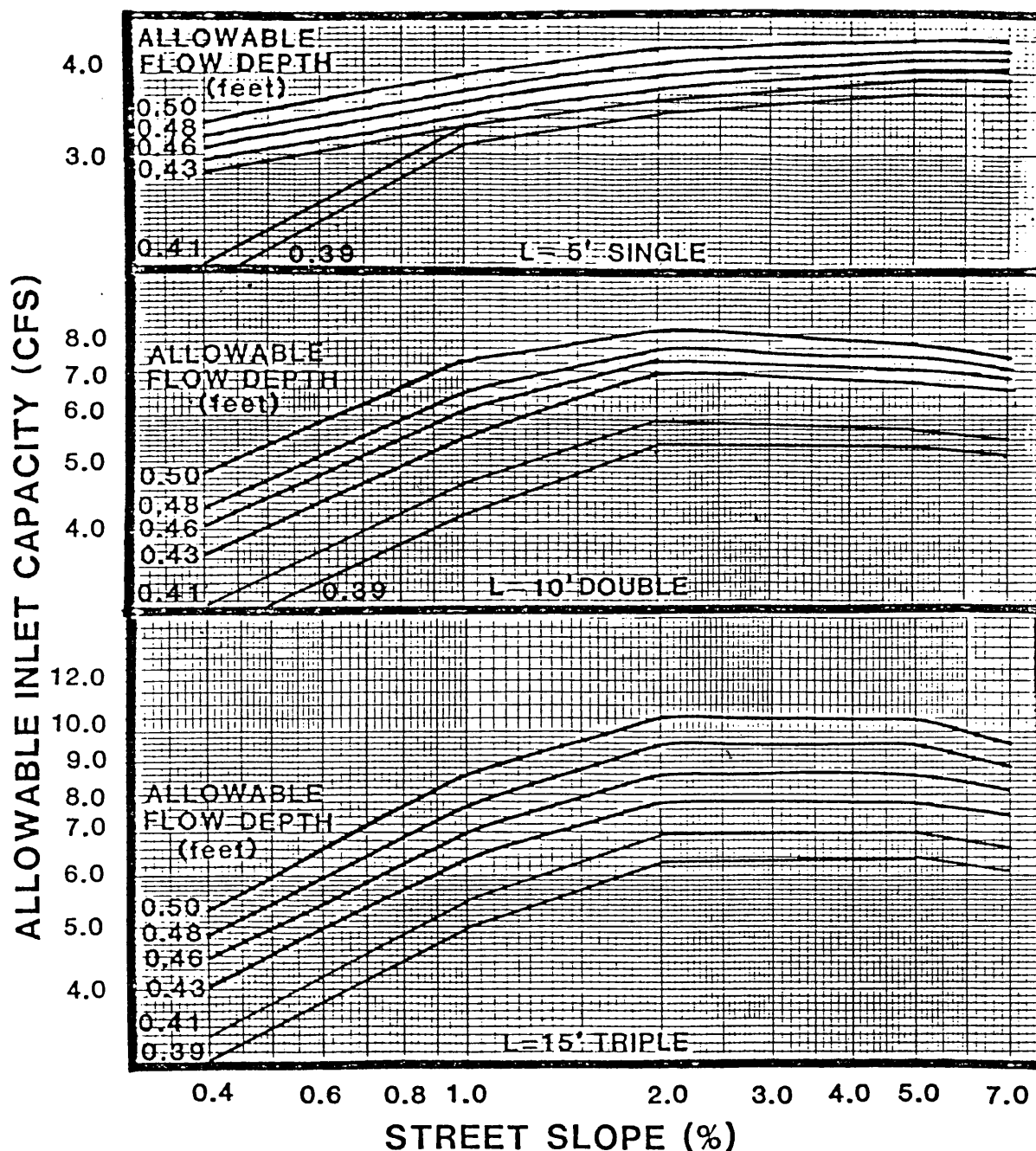
Rev:

REFERENCE:

WRC ENGINEERING INC., TM-1, October 1986

ALLOWABLE INLET CAPACITY

TYPE - R CURB OPENING ON A CONTINUOUS GRADE



NOTES: 1. Maximum inlet capacity at maximum allowable flow depth. Proportionally reduce for other depths.

2. Allowable Capacity =
 88% (L = 5')
 92% (L = 10')
 95% (L = 15')
 } of Theoretical Capacity

3. Interpolate for other inlet lengths.

Date: OCT. 1986

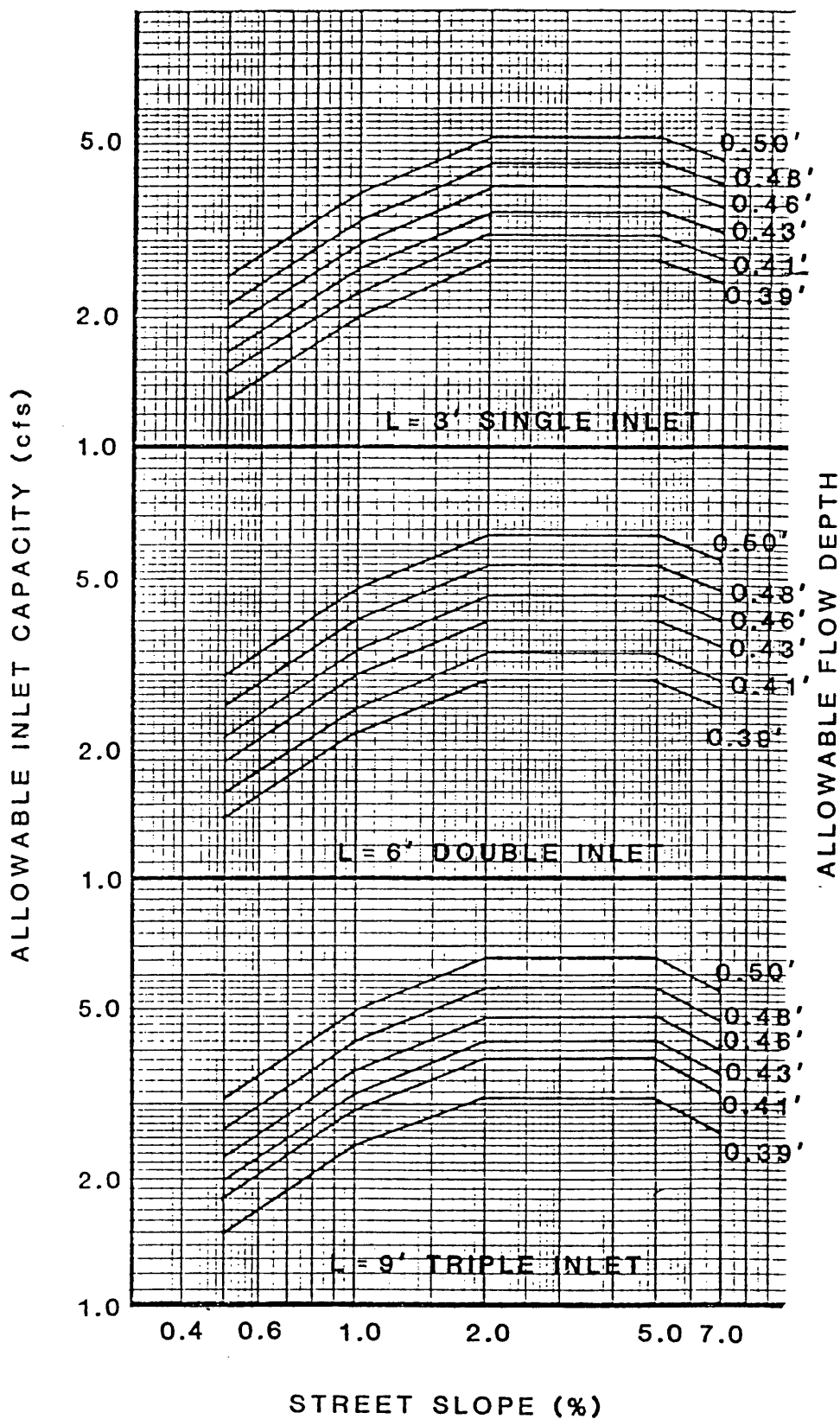
Rev:

REFERENCE:

WRC ENGINEERING, INC., TM-1, October 1986

ALLOWABLE INLET CAPACITY

TYPE 13 GRATED ON A CONTINUOUS GRADE



NOTES:

1. Allowable capacity = 60% theoretical capacity
2. Maximum inlet capacity at maximum allowable flow depth. Proportionally reduce for other depths.

DATE: OCT. 1986

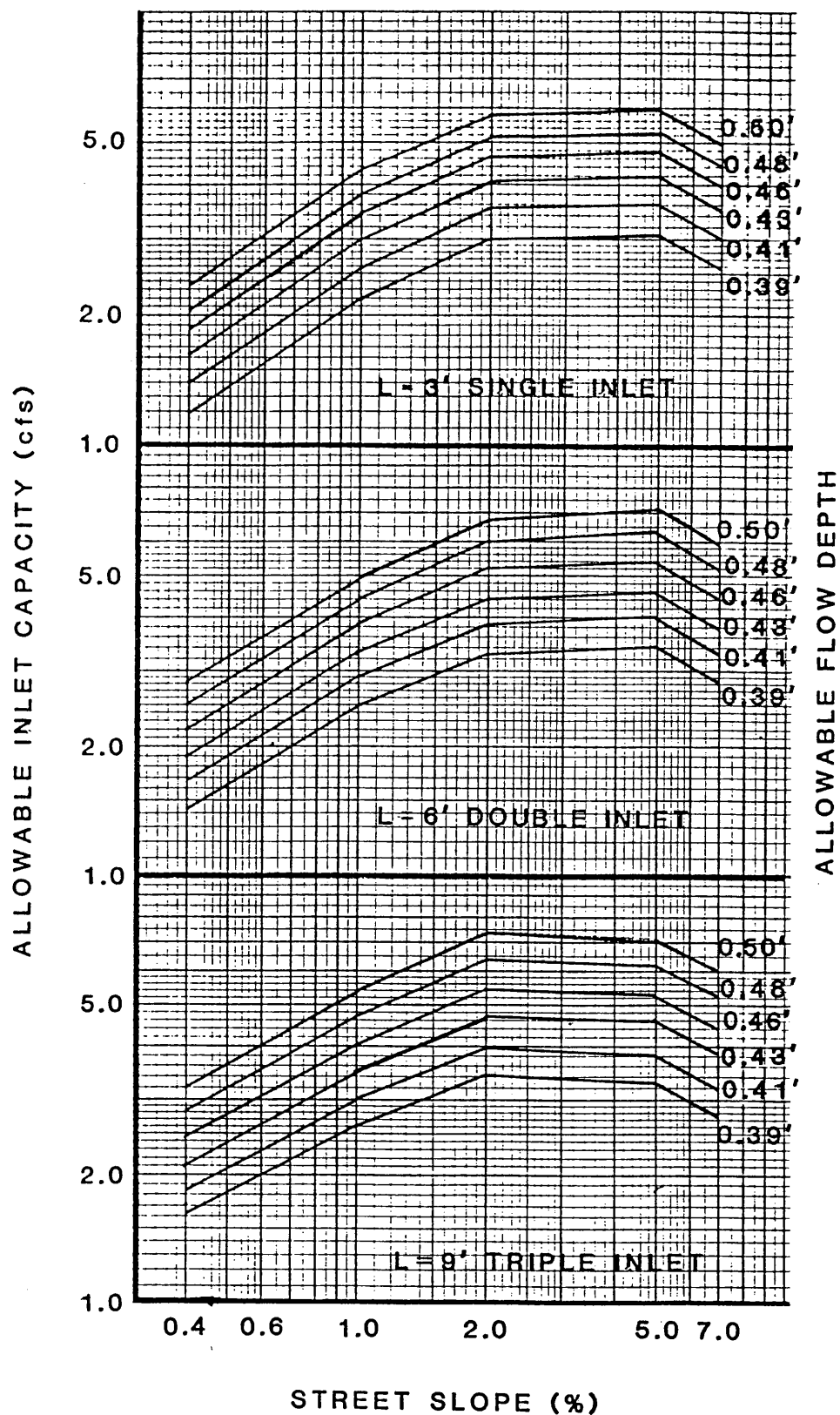
REV:

REFERENCE:

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 WRC ENGINEERING, INC., TM-1, October 1986

ALLOWABLE INLET CAPACITY

TYPE 13 COMBINATION ON A CONTINUOUS GRADE



NOTES:

1. Allowable capacity = 66% theoretical capacity
2. Maximum inlet capacity at maximum allowable flow depth. Proportionally reduce for other depths.

DATE: OCT. 1986

REV:

REFERENCE:

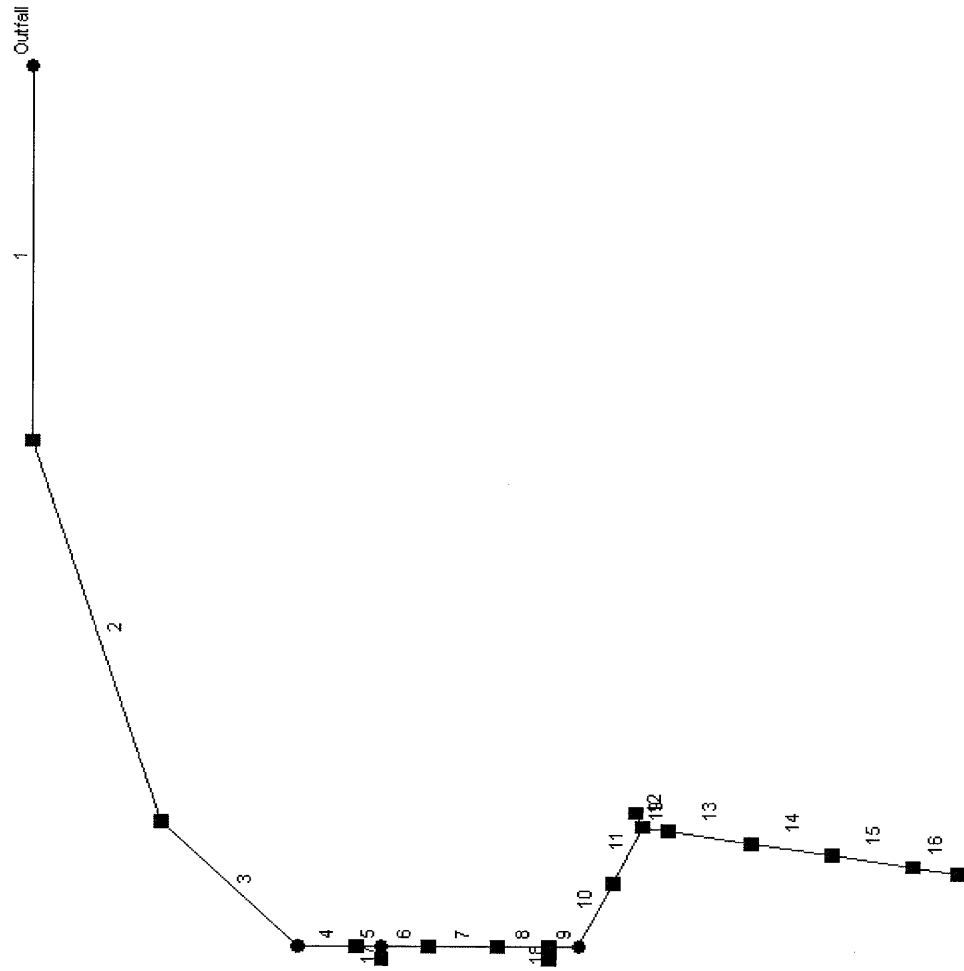
WRC ENGINEERING, INC., TM-1, October 1986

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APPENDIX N

HYDROFLOW STORM SEWER MODELS

Hydraflow Plan View



Project file: D02049 Line-1 25-yr.stm	No. Lines: 19	07-29-2004
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Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)	Vel Ave (ft/s)
1	A23	99.03	14.68	7.22	Outfall	0.00	0.27	3.46	5775.30	5782.30	5758.74	5773.20	5758.12	5772.58	248.00	30	5.83	0.71	19.8	3.63
2	A15	29.00	7.02	7.00	1	0.00	0.32	3.78	5782.30	5783.60	5773.39	5774.75	5772.78	5774.10	264.00	30	0.50	0.79	15.0	3.90
3	MH 1-2	15.99	7.30	9.52	2	0.00	0.00	3.65	5783.60	5786.40	5774.95	5775.56	5774.30	5774.88	116.00	24	0.50	0.00	13.5	4.00
4	A14	7.53	9.52	8.64	3	0.00	0.27	3.68	5786.40	5785.70	5776.12	5776.30	5775.38	5775.56	35.00	18	0.51	0.71	13.3	4.23
5	MH 1-4	7.67	8.44	8.16	4	0.00	0.00	3.44	5785.70	5785.50	5776.46	5776.55	5775.76	5775.84	15.00	18	0.53	0.00	13.2	4.19
6	A13	7.43	7.96	8.42	5	0.00	0.27	3.30	5785.50	5786.10	5776.82	5776.88	5776.04	5776.18	28.00	18	0.50	0.71	13.0	3.83
7	A12	7.51	8.22	7.81	6	0.00	0.27	3.08	5786.10	5785.90	5777.05	5777.26	5776.38	5776.59	41.00	18	0.51	0.71	12.6	4.02
8	A11	7.55	7.61	7.05	7	0.00	0.27	2.85	5785.90	5785.50	5777.43	5777.60	5776.79	5776.95	31.00	18	0.52	0.71	12.3	3.93
9	MH 1-8	7.44	6.85	7.16	8	0.00	0.00	2.32	5785.50	5785.90	5777.95	5777.96	5777.15	5777.24	18.00	18	0.50	0.00	12.1	2.60
10	A10	7.51	6.96	7.82	9	0.00	0.27	2.37	5785.90	5787.00	5778.06	5778.27	5777.44	5777.68	47.00	18	0.51	0.71	11.6	3.56
11	A9	7.51	7.62	3.81	10	0.00	0.27	2.14	5787.00	5783.40	5778.43	5778.65	5777.88	5778.09	41.00	18	0.51	0.71	11.1	3.60
12	A8	6.46	3.81	4.35	11	0.00	0.27	1.52	5783.40	5784.10	5778.90	5778.99	5778.34	5778.50	16.00	15	1.00	0.71	11.0	3.13
13	A7	6.46	4.15	5.35	12	0.00	0.27	1.28	5784.10	5785.80	5779.08	5779.65	5778.70	5779.20	50.00	15	1.00	0.71	10.2	3.61
14	A6	6.46	5.15	5.66	13	0.00	0.27	1.03	5785.80	5786.80	5779.74	5780.30	5779.40	5779.89	49.00	15	1.00	0.71	9.4	3.41
15	A5	6.46	5.46	4.37	14	0.00	0.27	0.78	5786.80	5786.20	5780.39	5780.93	5780.09	5780.58	49.00	15	1.00	0.71	8.1	3.12
16	A1	6.46	4.17	2.70	15	0.00	0.95	0.49	5786.20	5785.00	5781.01	5781.33	5780.78	5781.05	27.00	15	1.00	0.29	7.0	2.73
17	A44	9.14	8.21	8.05	5	0.00	0.14	0.25	5785.50	5785.50	5776.82	5776.82	5776.04	5776.20	8.00	15	2.00	0.89	5.0	0.36
18	A3	9.14	7.10	6.84	8	0.00	0.38	0.40	5785.50	5785.40	5777.95	5777.95	5777.15	5777.31	8.00	15	2.00	0.53	5.0	0.56
19	A2	9.14	3.86	3.46	11	0.00	0.33	0.49	5783.40	5783.20	5778.90	5778.88	5778.29	5778.49	10.00	15	2.00	0.74	5.0	1.16

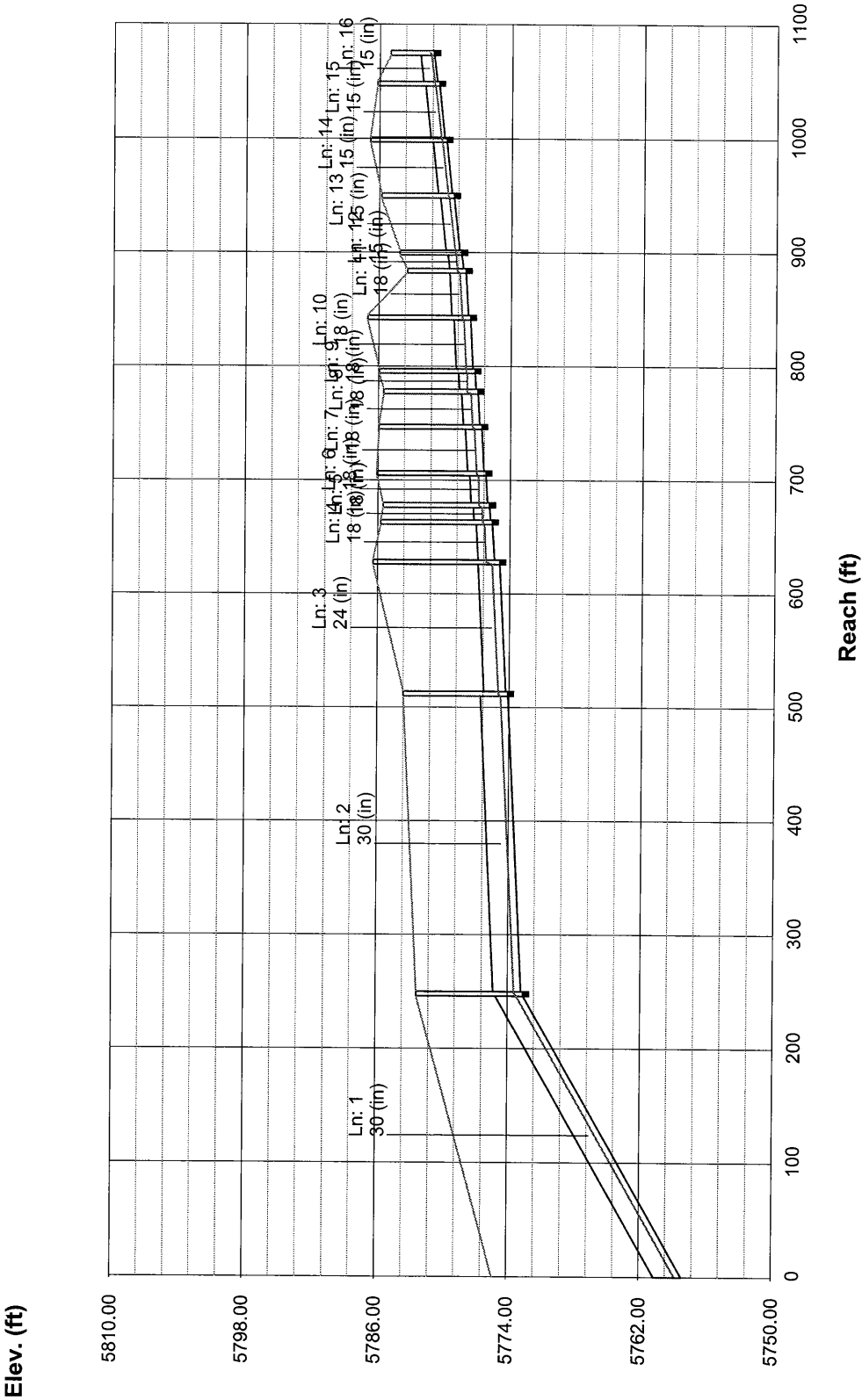
Project File: D02049 Line-1 2-yr.stm

Date: 07-29-2004

Number of lines: 19

NOTES: ** At critical depth

Storm Sewer Profile



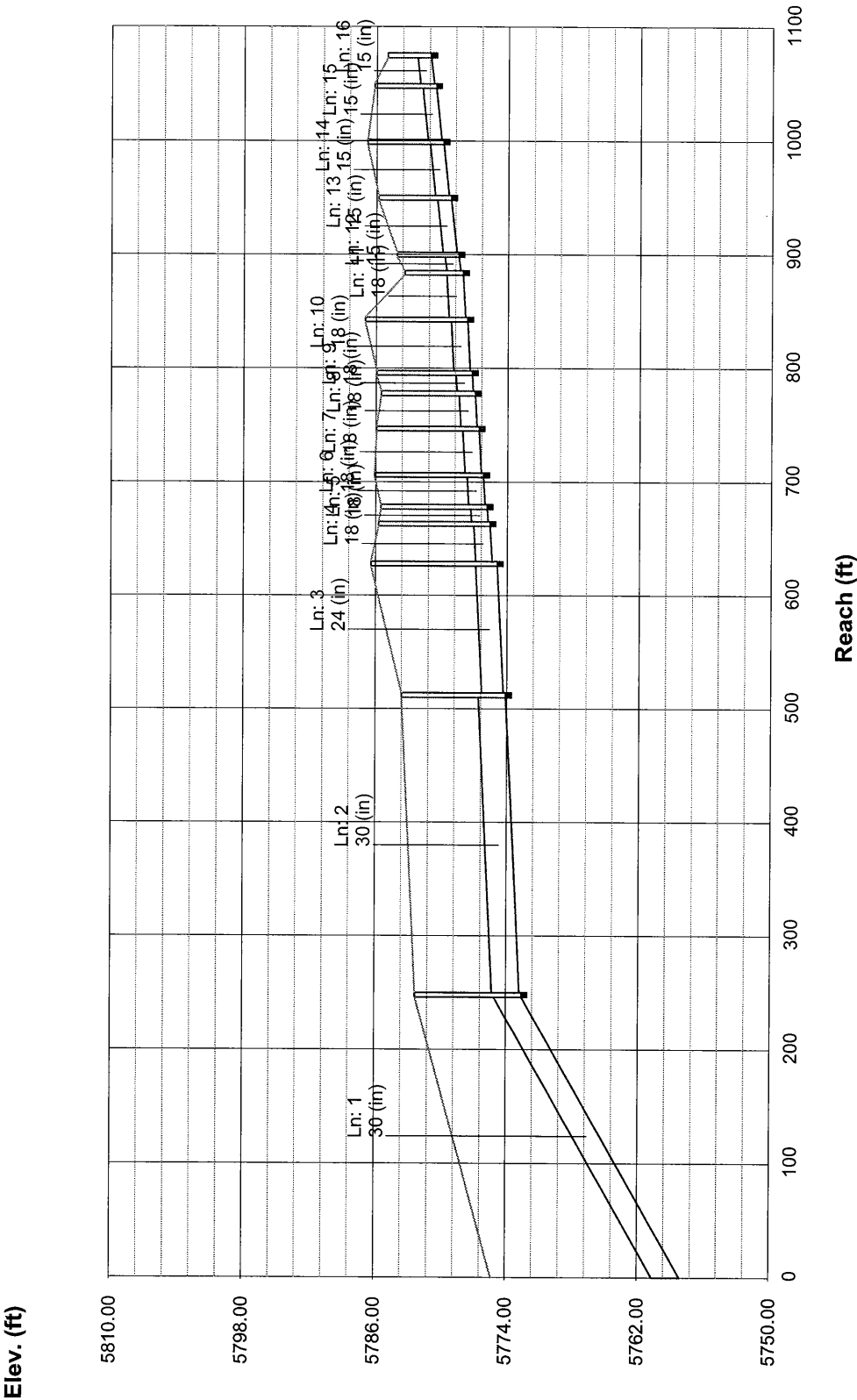
Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)	Vel Ave (ft/s)
1	A23	99.03	14.68	7.22	Outfall	0.00	0.27	11.56	5775.30	5782.30	5759.26	5773.72	5758.12	5772.58	248.00	30	5.83	0.78	11.8	5.32
2	A15	29.00	7.02	7.00	1	0.00	0.32	11.75	5782.30	5783.60	5774.03	5775.25	5772.78	5774.10	264.00	30	0.50	0.86	9.8	5.08
3	MH 1-2	15.99	7.30	9.52	2	0.00	0.00	11.08	5783.60	5786.40	5775.56	5776.08	5774.30	5774.88	116.00	24	0.50	0.00	9.3	5.47
4	A14	7.53	9.52	8.64	3	0.00	0.27	11.12	5786.40	5785.70	5776.88	5777.27	5775.38	5775.56	35.00	18	0.51	0.78	9.2	6.29
5	MH 1-4	7.67	8.44	8.16	4	0.00	0.00	10.41	5785.70	5785.50	5777.58	5777.73	5775.76	5775.84	15.00	18	0.53	0.00	9.1	5.89
6	A13	7.43	7.96	8.42	5	0.00	0.27	9.99	5785.50	5786.10	5778.27	5778.52	5776.04	5776.18	28.00	18	0.50	0.78	9.1	5.65
7	A12	7.51	8.22	7.81	6	0.00	0.27	9.31	5786.10	5785.90	5778.77	5779.09	5776.38	5776.59	41.00	18	0.51	0.78	8.9	5.27
8	A11	7.55	7.61	7.05	7	0.00	0.27	8.61	5785.90	5785.50	5779.31	5779.52	5776.79	5776.95	31.00	18	0.52	0.78	8.8	4.87
9	MH 1-8	7.44	6.85	7.16	8	0.00	0.00	7.00	5785.50	5785.90	5780.07	5780.15	5777.15	5777.24	18.00	18	0.50	0.00	8.7	3.96
10	A10	7.51	6.96	7.82	9	0.00	0.27	7.06	5785.90	5787.00	5780.36	5780.57	5777.44	5777.68	47.00	18	0.51	0.78	8.5	4.00
11	A9	7.51	7.62	3.81	10	0.00	0.27	6.37	5787.00	5783.40	5780.69	5780.85	5777.88	5778.09	41.00	18	0.51	0.78	8.4	3.60
12	A8	6.46	3.81	4.35	11	0.00	0.27	4.65	5783.40	5784.10	5781.10	5781.18	5778.34	5778.50	16.00	15	1.00	0.78	8.3	3.79
13	A7	6.46	4.15	5.35	12	0.00	0.27	3.94	5784.10	5785.80	5781.29	5781.48	5778.70	5779.20	50.00	15	1.00	0.78	8.0	3.21
14	A6	6.46	5.15	5.66	13	0.00	0.27	3.21	5785.80	5786.80	5781.56	5781.68	5779.40	5779.89	49.00	15	1.00	0.78	7.7	2.62
15	A5	6.46	5.46	4.37	14	0.00	0.27	2.48	5786.80	5786.20	5781.73	5781.80	5780.09	5780.58	49.00	15	1.00	0.78	7.3	2.03
16	A1	6.46	4.17	2.70	15	0.00	0.95	1.71	5786.20	5785.00	5781.83	5781.83	5780.78	5781.05	27.00	15	1.00	0.47	7.0	1.84
17	A44	9.14	8.21	8.05	5	0.00	0.14	0.56	5785.50	5785.50	5778.27	5778.27	5776.04	5776.20	8.00	15	2.00	0.94	5.0	0.46
18	A3	9.14	7.10	6.84	8	0.00	0.38	1.06	5785.50	5785.40	5780.07	5780.07	5777.15	5777.31	8.00	15	2.00	0.66	5.0	0.87
19	A2	9.14	3.86	3.46	11	0.00	0.33	1.15	5783.40	5783.20	5781.10	5781.10	5778.29	5778.49	10.00	15	2.00	0.82	5.0	0.94

Project File: D02049 Line-1 25-yr.stm

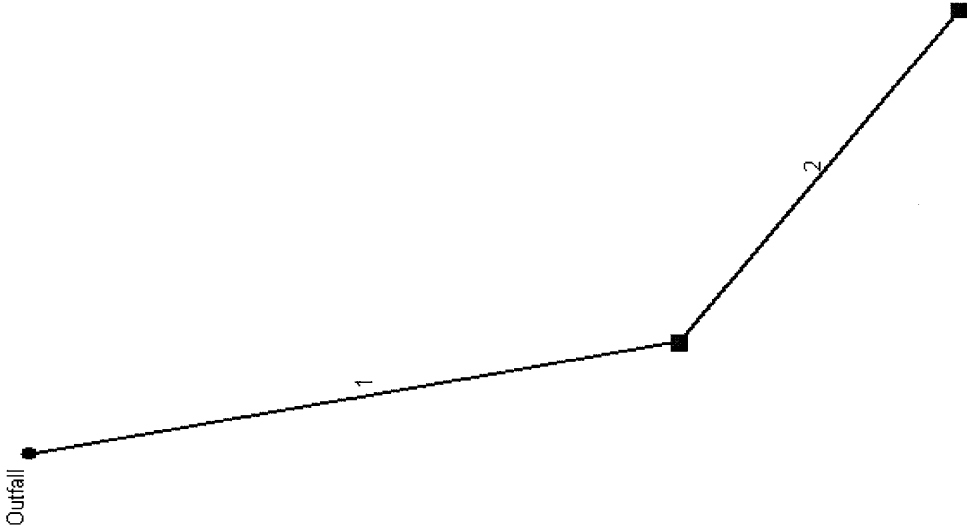
Number of lines: 19

Date: 07-29-2004

NOTES: ** At critical depth



Hydraflow Plan View



Project file: D02049 Line-2 2-yr.stm

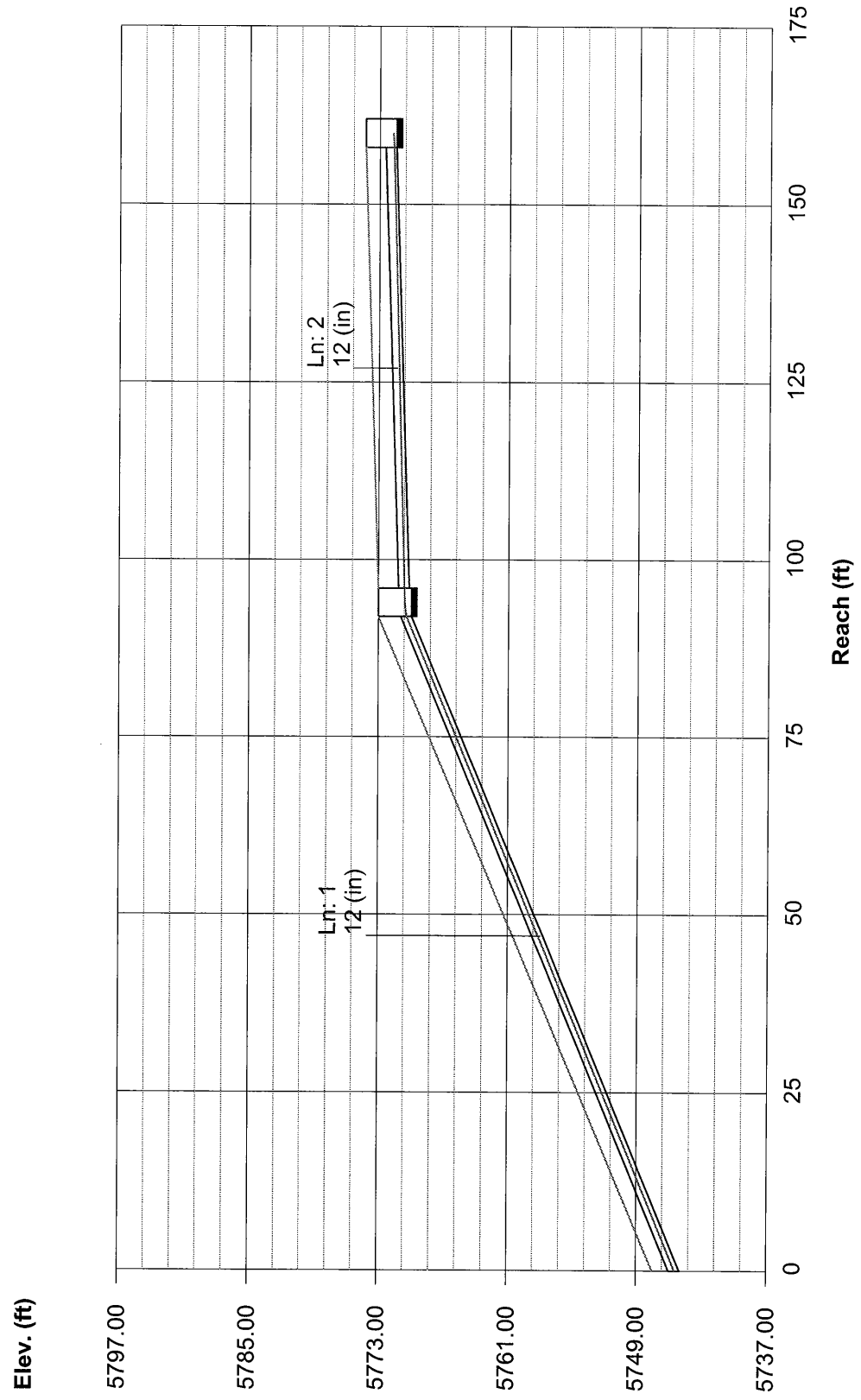
No. Lines: 2

07-29-2004

Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)	Vel Ave (ft/s)
1	A40	18.34	N/A	2.06	Outfall	0.00	0.66	1.07	0.00	5773.00	5745.44	5770.38	5745.00	5769.94	94.00	12	26.53	0.71	7.7	3.22
2	A37	5.04	1.86	1.84	1	0.00	0.23	0.32	5773.00	5774.30	5770.56	5771.70	5770.14	5771.46	66.00	12	2.00	0.69	5.0	1.61
Project File: D02049 Line-2 2-yr.stm													Number of lines: 2		Date: 07-29-2004					
NOTES: ** At critical depth																				

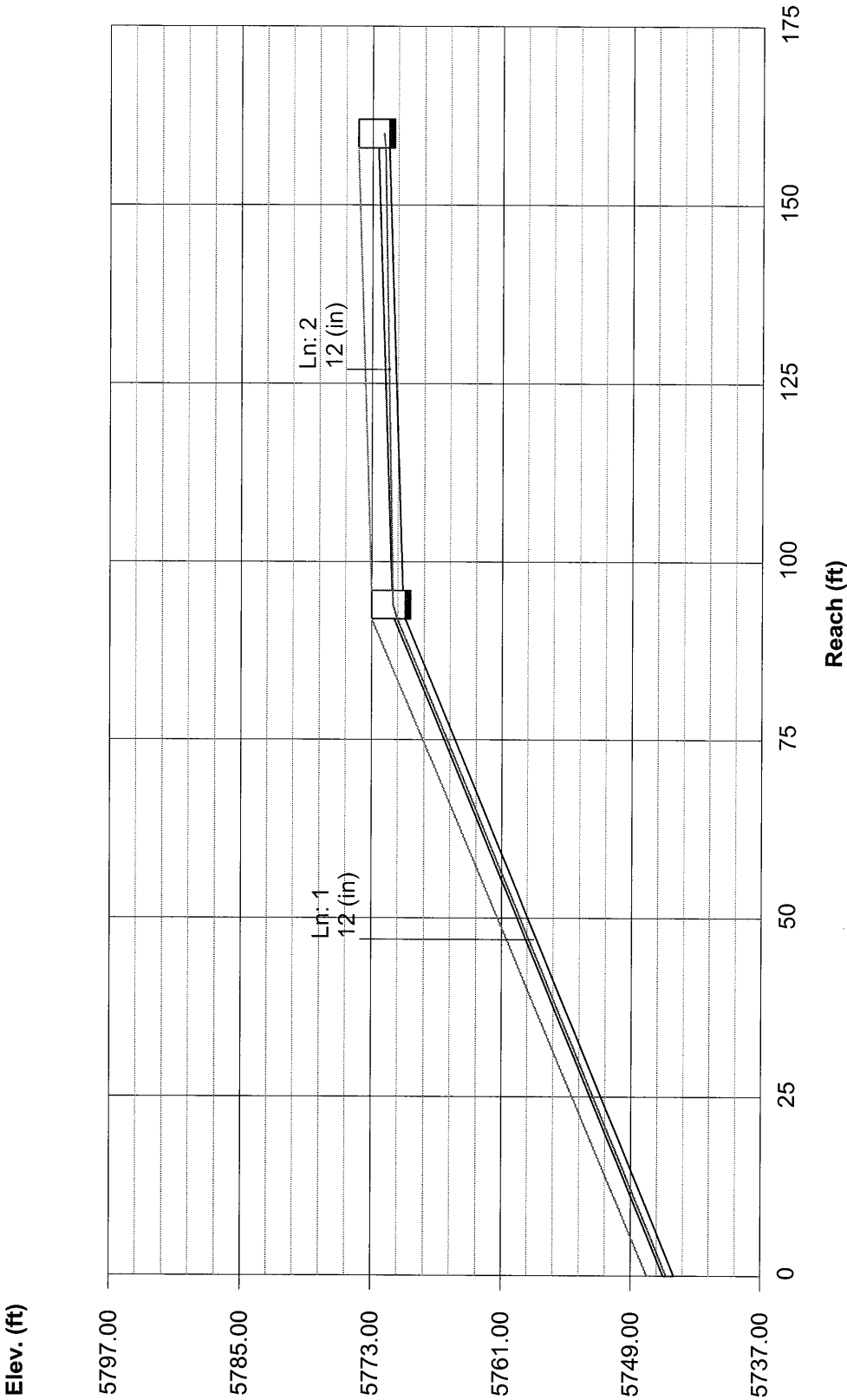
Storm Sewer Profile

Proj. file: D02049 Line-2 2-yr.stm

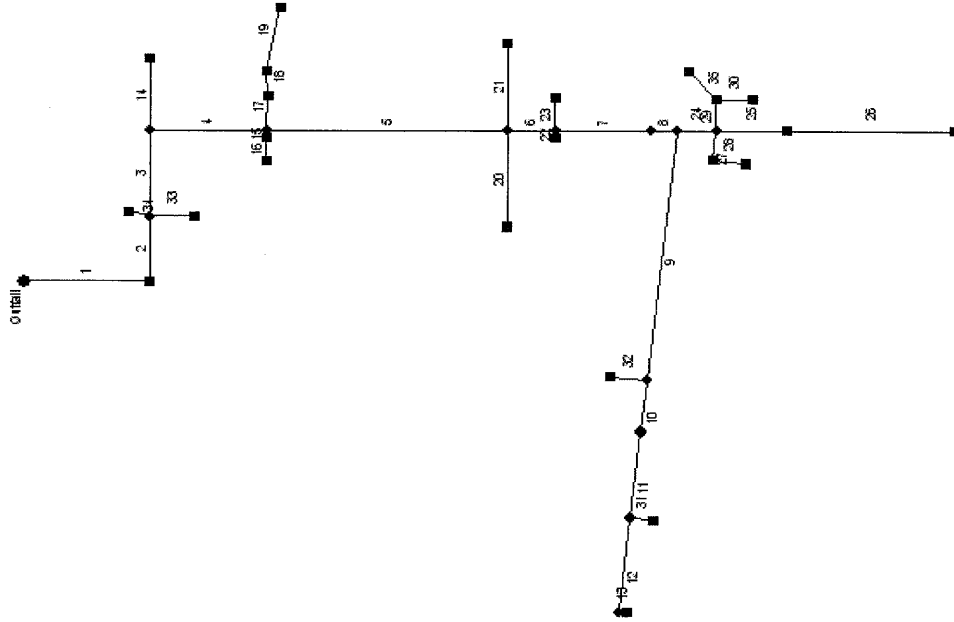


Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)	Vel Ave (ft/s)	
1	A40	18.34	N/A	2.06	Outfall	0.00	0.66	2.80	0.00	5773.00	5745.71	5770.65	5745.00	5769.94	94.00	12	26.53	0.79	6.1	4.70	
2	A37	5.04	1.86	1.84	1	0.00	0.23	0.76	5773.00	5774.30	5771.03	5771.83	5770.14	5771.46	66.00	12	2.00	0.78	5.0	1.96	
Project File: D02049 Line-2 25-yr.stm																Number of lines: 2		Date: 07-29-2004			
NOTES: ** At critical depth																					

Storm Sewer Profile



Hydraflow Plan View



Project file: D02049 Line-3 2-yr.stm

No. Lines: 35

07-29-2004

Hydraflow Storm Sewers 2003

Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)	Vel Ave (ft/s)
1	From Line-1	216.18	0.00	14.38	Outfall	3.46	0.00	16.11	5746.00	5775.30	5744.28	5759.20	5743.00	5757.92	142.00	36	10.51	0.00	36.6	5.61
2	MH 3-12	66.69	14.18	11.26	1	0.00	0.00	12.74	5775.30	5773.20	5759.93	5760.08	5758.12	5758.94	82.00	36	1.00	0.00	36.1	4.02
3	MH 3-1	66.70	11.06	2.98	2	0.00	0.00	12.02	5773.20	5766.20	5760.50	5761.33	5759.14	5760.22	108.00	36	1.00	0.00	35.4	4.48
4	MH 3-2	115.52	2.78	6.45	3	0.00	0.00	11.58	5766.20	5773.80	5761.73	5765.44	5760.42	5764.35	131.00	36	3.00	0.00	34.5	4.47
5	MH 3-3	120.87	6.25	9.75	4	0.00	0.00	8.00	5773.80	5786.20	5765.83	5774.35	5764.55	5773.45	271.00	36	3.28	0.00	31.9	3.63
6	MH 3-4	66.70	9.55	11.31	5	0.00	0.00	7.59	5786.20	5788.50	5774.66	5775.07	5773.65	5774.19	54.00	36	1.00	0.00	31.4	4.01
7	MH 3-5	66.69	11.11	14.94	6	0.00	0.00	7.36	5788.50	5793.40	5775.37	5776.33	5774.39	5775.46	107.00	36	1.00	0.00	30.3	4.02
8	MH 3-6	66.67	14.74	15.84	7	0.00	0.00	7.39	5793.40	5794.80	5776.37	5776.83	5775.66	5775.96	30.00	36	1.00	0.00	29.9	5.08
9	MH 3-7	16.02	15.84	5.26	8	0.00	0.00	1.15	5794.80	5785.80	5777.33	5778.92	5776.96	5778.54	315.00	24	0.50	0.00	21.7	2.85
10	MH 3-8	4.60	5.01	5.38	9	0.00	0.00	0.38	5785.80	5786.50	5779.79	5780.12	5779.54	5779.87	65.00	15	0.51	0.00	19.6	2.22
11	MH 3-9	4.59	5.18	4.23	10	0.00	0.00	0.42	5786.50	5786.10	5780.33	5780.88	5780.07	5780.62	109.00	15	0.50	0.00	16.3	2.29
12	MH 3-10	4.57	4.03	3.14	11	0.00	0.00	0.22	5786.10	5785.80	5781.01	5781.60	5780.82	5781.41	118.00	15	0.50	0.00	5.8	1.89
13	A16	6.47	2.94	2.45	12	0.00	0.40	0.23	5785.80	5785.40	5781.77	5781.90	5781.61	5781.70	9.00	15	1.00	0.29	5.0	2.17
14	A36	10.14	2.78	2.89	3	0.00	0.87	1.48	5766.20	5773.60	5762.68	5770.23	5762.42	5769.71	90.00	12	8.10	0.85	5.0	6.37
15	A26	50.57	6.25	5.55	4	0.00	0.50	4.60	5773.80	5773.60	5765.96	5767.69	5765.55	5766.05	10.00	24	5.00	0.73	6.4	5.79
16	A21	69.02	5.35	2.75	15	0.00	2.71	4.02	5773.60	5773.70	5767.71	5769.66	5766.25	5768.95	29.00	24	9.31	0.79	6.0	2.83
17	A31	30.88	6.25	4.83	4	0.00	0.44	4.31	5773.80	5773.20	5766.06	5767.11	5765.55	5766.37	44.00	24	1.86	0.73	6.9	5.49
18	A33	31.99	4.63	4.03	17	0.00	0.95	3.82	5773.20	5773.20	5767.24	5767.86	5766.57	5767.17	30.00	24	2.00	0.68	6.5	4.06
19	A35	31.98	3.83	5.79	18	0.00	1.81	2.89	5773.20	5776.80	5768.03	5769.61	5767.37	5769.01	82.00	24	2.00	0.80	5.0	3.41
20	A20	10.79	9.30	3.92	5	0.00	0.49	0.66	5786.20	5784.20	5775.86	5779.35	5775.65	5779.03	121.00	15	2.79	0.67	5.0	3.71
21	A32	8.72	9.55	2.45	5	0.00	0.35	0.48	5786.20	5785.70	5775.81	5782.54	5775.65	5782.25	110.00	12	6.00	0.69	5.0	4.20

Project File: D02049 Line-3 2-yr.stm

Number of lines: 35

Date: 07-29-2004

NOTES: ** At critical depth

Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)	Vel Ave (ft/s)
22	A41	11.26	11.11	9.81	6	0.00	0.25	0.36	5788.50	5788.20	5776.51	5777.65	5776.39	5777.39	10.00	12	10.00	0.73	5.0	4.39
23	A42	11.26	11.11	6.51	6	0.00	0.31	0.45	5788.50	5788.10	5776.53	5780.88	5776.39	5780.59	42.00	12	10.00	0.73	5.0	4.69
24	MH3-11	210.90	15.64	13.24	8	0.00	0.00	9.70	5794.80	5796.80	5777.12	5781.55	5776.16	5780.56	44.00	36	10.00	0.00	9.8	4.85
25	OS1	71.52	13.24	5.94	24	0.00	3.77	7.94	5796.80	5797.50	5782.01	5790.56	5781.56	5789.56	80.00	24	10.00	0.04	9.2	10.01
26	OS2	133.81	5.74	10.44	25	2.41	8.18	8.04	5797.50	5868.00	5790.76	5856.56	5789.76	5855.56	188.00	24	35.00	0.41	8.0	5.11
27	A18	11.26	13.24	10.74	24	0.00	0.46	1.73	5796.80	5798.00	5782.83	5786.82	5782.56	5786.26	37.00	12	10.00	0.81	5.5	7.06
28	A43	11.26	10.54	7.54	27	0.00	0.65	1.04	5798.00	5798.80	5787.16	5790.69	5786.46	5790.26	38.00	12	10.00	0.80	5.0	2.48
29	MH 3-14	11.58	13.24	10.42	24	0.00	0.00	0.55	5796.80	5798.10	5782.71	5787.00	5782.56	5786.68	39.00	12	10.56	0.00	8.4	5.02
30	A29	20.40	9.97	6.78	29	0.00	0.16	0.25	5798.10	5799.00	5787.15	5791.17	5786.88	5790.97	41.00	15	9.98	0.78	5.0	1.62
31	A17	9.13	3.93	2.71	11	0.00	0.44	0.47	5786.10	5785.40	5781.11	5781.72	5780.92	5781.44	26.00	15	2.00	0.54	5.0	3.14
32	A19	7.96	5.26	1.96	9	0.00	1.15	1.54	5785.80	5784.60	5779.84	5782.17	5779.54	5781.64	42.00	12	5.00	0.67	5.0	5.76
33	A22	42.50	11.06	6.37	2	0.00	0.67	1.02	5773.20	5776.70	5760.80	5769.22	5760.64	5768.83	50.00	18	16.38	0.76	5.0	6.35
34	A24	50.68	11.06	4.77	2	0.00	0.75	1.18	5773.20	5772.50	5760.80	5766.65	5760.64	5766.23	24.00	18	23.29	0.79	5.0	7.35
35	A30	10.51	10.22	6.43	29	0.00	0.24	0.42	5798.10	5798.40	5787.15	5791.24	5786.88	5790.97	47.00	12	8.70	0.87	5.0	2.40

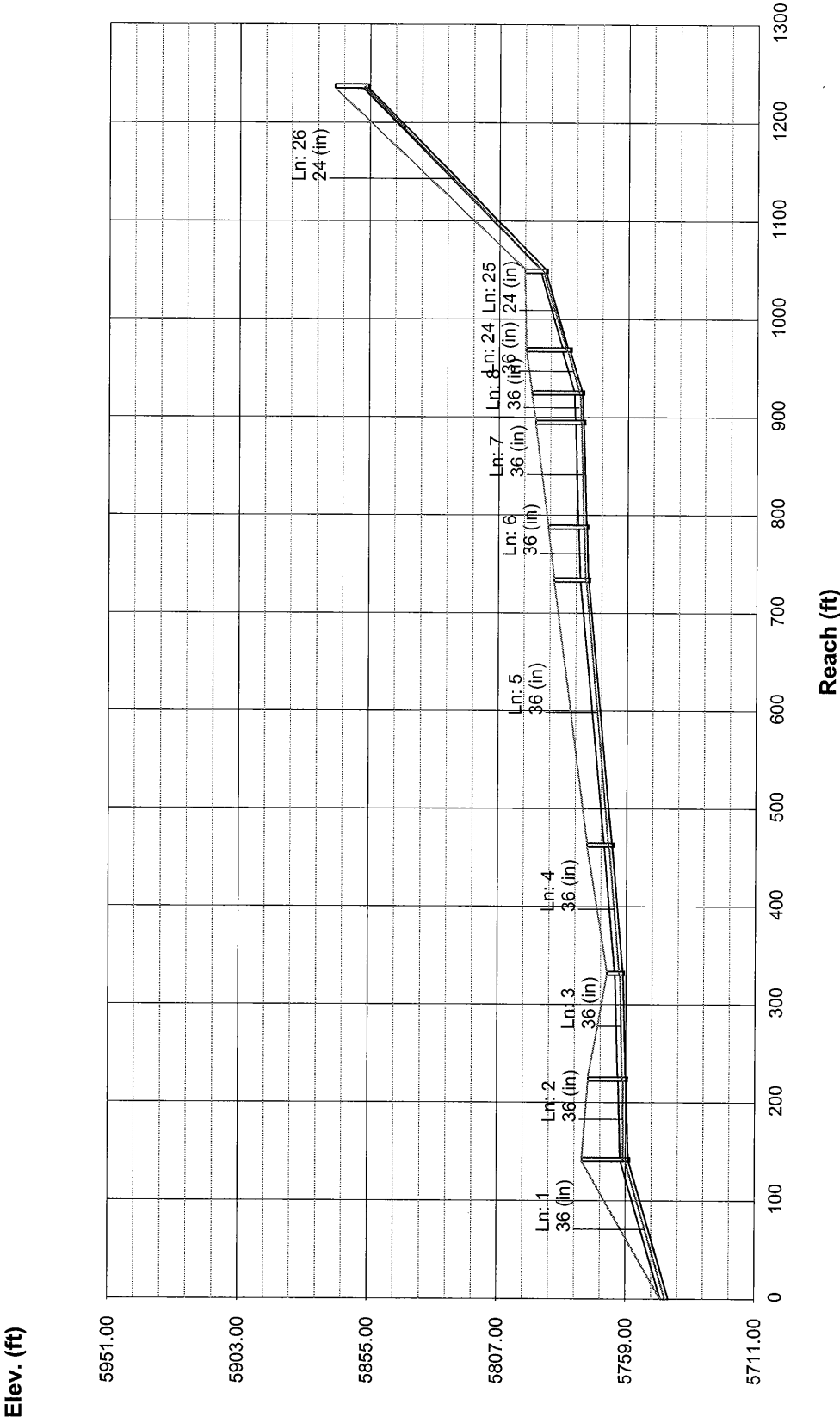
Project File: D02049 Line-3 2-yr.stm

Date: 07-29-2004

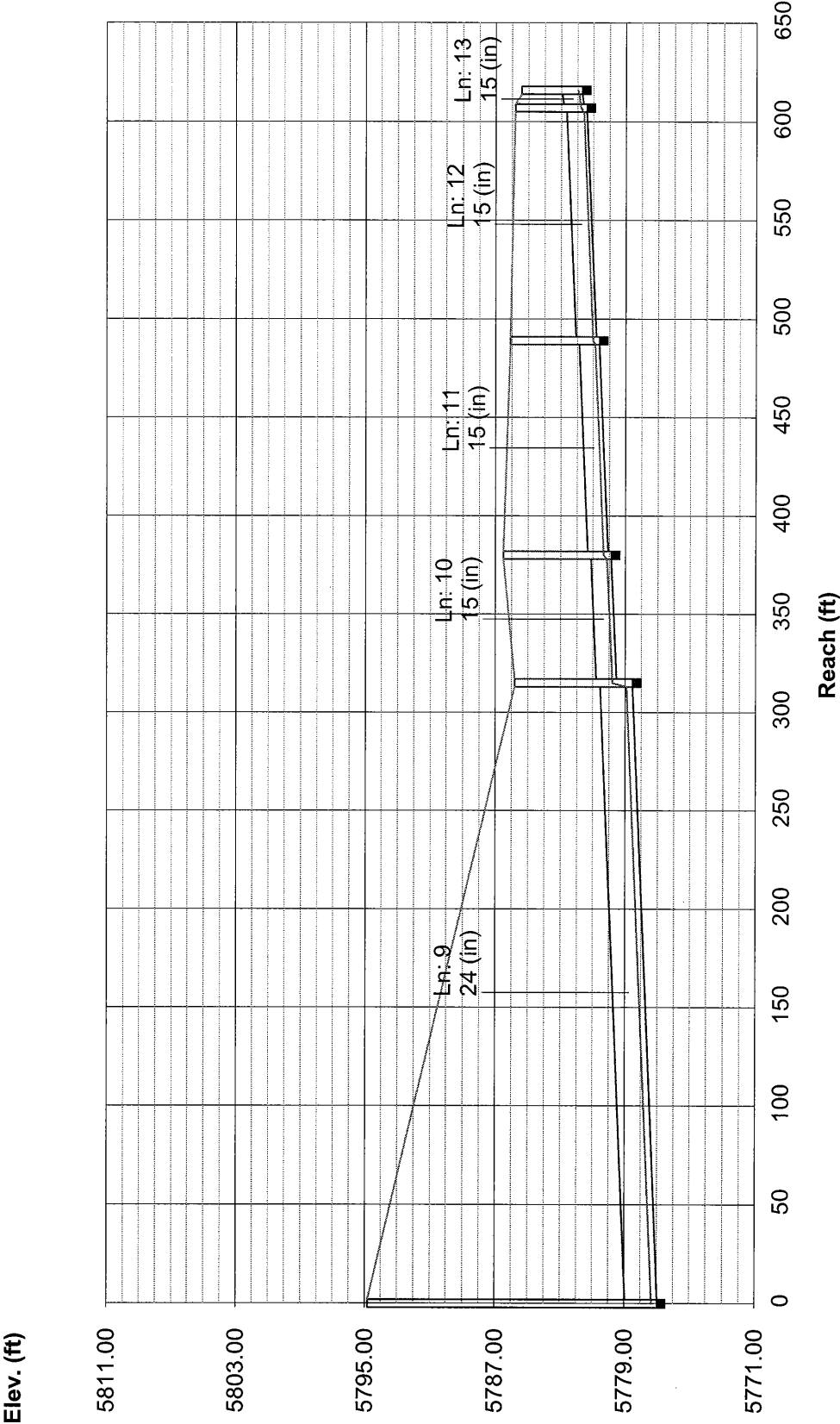
Number of lines: 35

NOTES: ** At critical depth

Storm Sewer Profile



Storm Sewer Profile



Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
1	From Line-1	216.18	0.00	14.38	Outfall	11.77	0.00	59.77	5746.00	5775.30	5745.46	5760.38	5743.00	5757.92	142.00	36	10.51	0.00	15.8
2	MH 3-12	66.69	14.18	11.26	1	0.00	0.00	48.28	5775.30	5773.20	5762.54	5762.97	5758.12	5758.94	82.00	36	1.00	0.00	15.6
3	MH 3-1	66.70	11.06	2.98	2	0.00	0.00	45.34	5773.20	5766.20	5763.70	5764.20	5759.14	5760.22	108.00	36	1.00	0.00	15.4
4	MH 3-2	115.52	2.78	6.45	3	0.00	0.00	43.60	5766.20	5773.80	5764.84	5766.46	5760.42	5764.35	131.00	36	3.00	0.00	15.0
5	MH 3-3	120.87	6.25	9.75	4	0.00	0.00	29.39	5773.80	5786.20	5767.51	5775.18	5764.55	5773.45	271.00	36	3.28	0.00	14.0
6	MH 3-4	66.70	9.55	11.31	5	0.00	0.00	27.68	5786.20	5788.50	5775.93	5775.87	5773.65	5774.19	54.00	36	1.00	0.00	13.8
7	MH 3-5	66.69	11.11	14.94	6	0.00	0.00	26.72	5788.50	5793.40	5776.59	5777.11	5774.39	5775.46	107.00	36	1.00	0.00	13.4
8	MH 3-6	66.67	14.74	15.84	7	0.00	0.00	26.82	5793.40	5794.80	5777.21	5777.61	5775.66	5775.96	30.00	36	1.00	0.00	13.3
9	MH 3-7	16.02	15.84	5.26	8	0.00	0.00	4.55	5794.80	5785.80	5778.32	5779.30	5776.96	5778.54	315.00	24	0.50	0.00	10.1
10	MH 3-8	4.60	5.01	5.38	9	0.00	0.00	1.64	5785.80	5786.50	5780.06	5780.39	5779.54	5779.87	65.00	15	0.51	0.00	9.4
11	MH 3-9	4.59	5.18	4.23	10	0.00	0.00	1.73	5786.50	5786.10	5780.60	5781.15	5780.07	5780.62	109.00	15	0.50	0.00	8.3
12	MH 3-10	4.57	4.03	3.14	11	0.00	0.00	0.79	5786.10	5785.80	5781.34	5781.77	5780.82	5781.41	118.00	15	0.50	0.00	5.2
13	A16	6.47	2.94	2.45	12	0.00	0.40	0.80	5785.80	5785.40	5781.91	5782.06	5781.61	5781.70	9.00	15	1.00	0.47	5.0
14	A36	10.14	2.78	2.89	3	0.00	0.87	3.36	5766.20	5773.60	5764.84	5770.49	5762.42	5769.71	90.00	12	8.10	0.91	5.0
15	A26	50.57	6.25	5.55	4	0.00	0.50	10.92	5773.80	5773.60	5767.51	5767.28	5765.55	5766.05	10.00	24	5.00	0.81	6.2
16	A21	69.02	5.35	2.75	15	0.00	2.71	9.38	5773.60	5773.70	5767.51	5770.04	5766.25	5768.95	29.00	24	9.31	0.86	6.0
17	A31	30.88	6.25	4.83	4	0.00	0.44	10.86	5773.80	5773.20	5767.51	5767.54	5765.55	5766.37	44.00	24	1.86	0.81	5.8
18	A33	31.99	4.63	4.03	17	0.00	0.95	9.50	5773.20	5773.20	5767.79	5768.26	5766.57	5767.17	30.00	24	2.00	0.78	5.6
19	A35	31.98	3.83	5.79	18	0.00	1.81	6.68	5773.20	5776.80	5768.58	5769.93	5767.37	5769.01	82.00	24	2.00	0.87	5.0
20	A20	10.79	9.30	3.92	5	0.00	0.49	1.60	5786.20	5784.20	5775.98	5779.54	5775.65	5779.03	121.00	15	2.79	0.77	5.0
21	A32	8.72	9.55	2.45	5	0.00	0.35	1.17	5786.20	5785.70	5775.93	5782.71	5775.65	5782.25	110.00	12	6.00	0.79	5.0

Project File: D02049 Line-3 25-yr.stm

Number of lines: 35

Date: 07-29-2004

NOTES: ** At critical depth

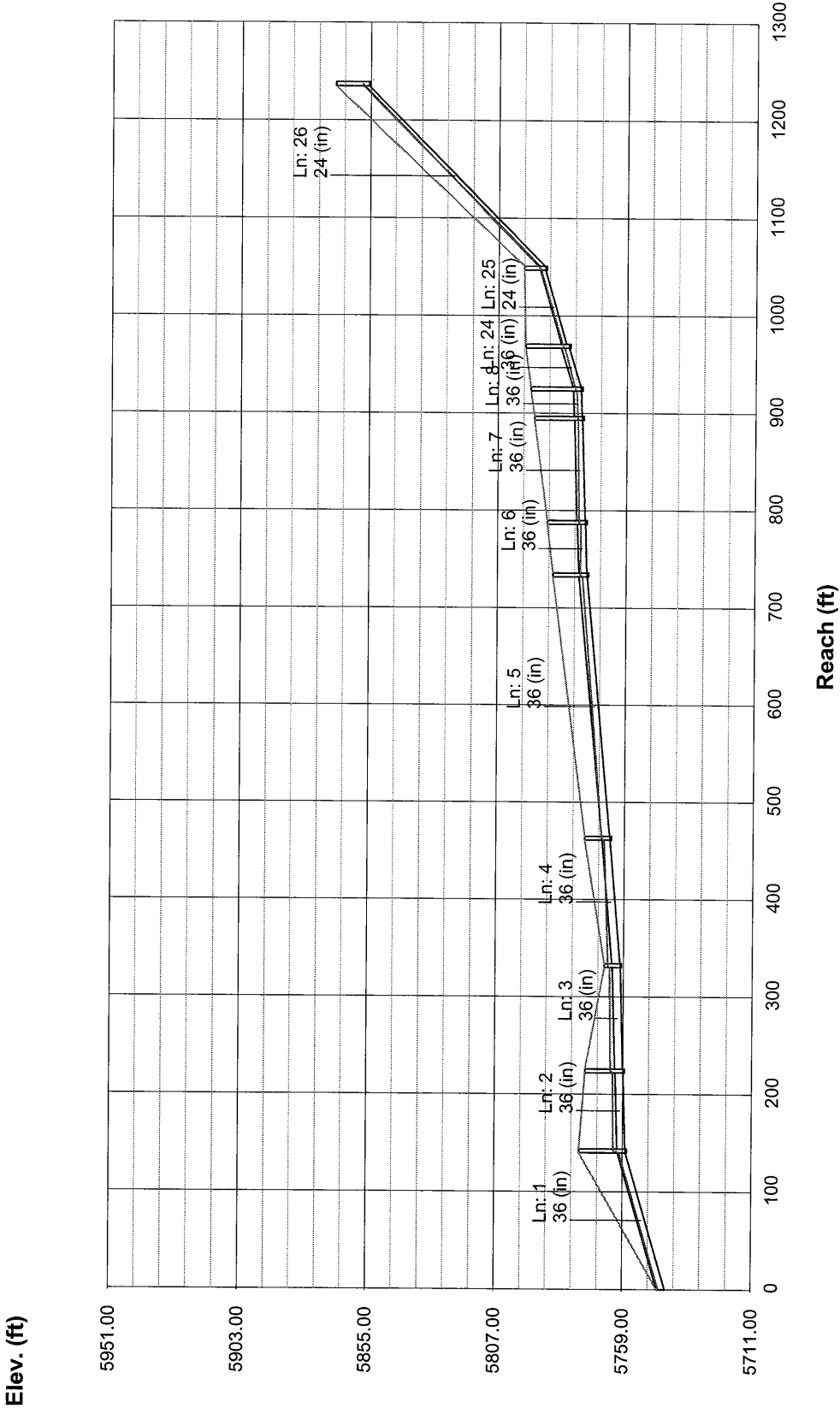
Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
22	A41	11.26	11.11	9.81	6	0.00	0.25	0.86	5788.50	5788.20	5776.59	5777.85	5776.39	5777.39	10.00	12	10.00	0.81	5.0
23	A42	11.26	11.11	6.51	6	0.00	0.31	1.07	5788.50	5788.10	5776.60	5781.03	5776.39	5780.59	42.00	12	10.00	0.81	5.0
24	MH3-11	210.90	15.64	13.24	8	0.00	0.00	26.77	5794.80	5796.80	5778.32	5782.21	5776.16	5780.56	44.00	36	10.00	0.00	8.7
25	OS1	71.52	13.24	5.94	24	0.00	3.77	22.25	5796.80	5797.50	5782.91	5791.23	5781.56	5789.56	80.00	24	10.00	0.28	8.5
26	OS2	133.81	5.74	10.44	25	2.41	8.18	18.86	5797.50	5868.00	5791.72	5857.10	5789.76	5855.56	188.00	24	35.00	0.55	8.0
27	A18	11.26	13.24	10.74	24	0.00	0.46	4.05	5796.80	5798.00	5782.98	5787.33	5782.56	5786.26	37.00	12	10.00	0.87	5.2
28	A43	11.26	10.54	7.54	27	0.00	0.65	2.40	5798.00	5798.80	5787.96	5790.92	5786.46	5790.26	38.00	12	10.00	0.87	5.0
29	MH 3-14	11.58	13.24	10.42	24	0.00	0.00	1.41	5796.80	5798.10	5782.91	5787.19	5782.56	5786.68	39.00	12	10.56	0.00	6.5
30	A29	20.40	9.97	6.78	29	0.00	0.16	0.58	5798.10	5799.00	5787.48	5791.27	5786.88	5790.97	41.00	15	9.98	0.85	5.0
31	A17	9.13	3.93	2.71	11	0.00	0.44	1.23	5786.10	5785.40	5781.34	5781.88	5780.92	5781.44	26.00	15	2.00	0.66	5.0
32	A19	7.96	5.26	1.96	9	0.00	1.15	3.76	5785.80	5784.60	5780.02	5782.46	5779.54	5781.64	42.00	12	5.00	0.77	5.0
33	A22	42.50	11.06	6.37	2	0.00	0.67	2.39	5773.20	5776.70	5763.70	5769.42	5760.64	5768.83	50.00	18	16.38	0.84	5.0
34	A24	50.68	11.06	4.77	2	0.00	0.75	2.74	5773.20	5772.50	5763.70	5766.86	5760.64	5766.23	24.00	18	23.29	0.86	5.0
35	A30	10.51	10.22	6.43	29	0.00	0.24	0.95	5798.10	5798.40	5787.48	5791.38	5786.88	5790.97	47.00	12	8.70	0.93	5.0

Project File: D02049 Line-3 25-yr.stm

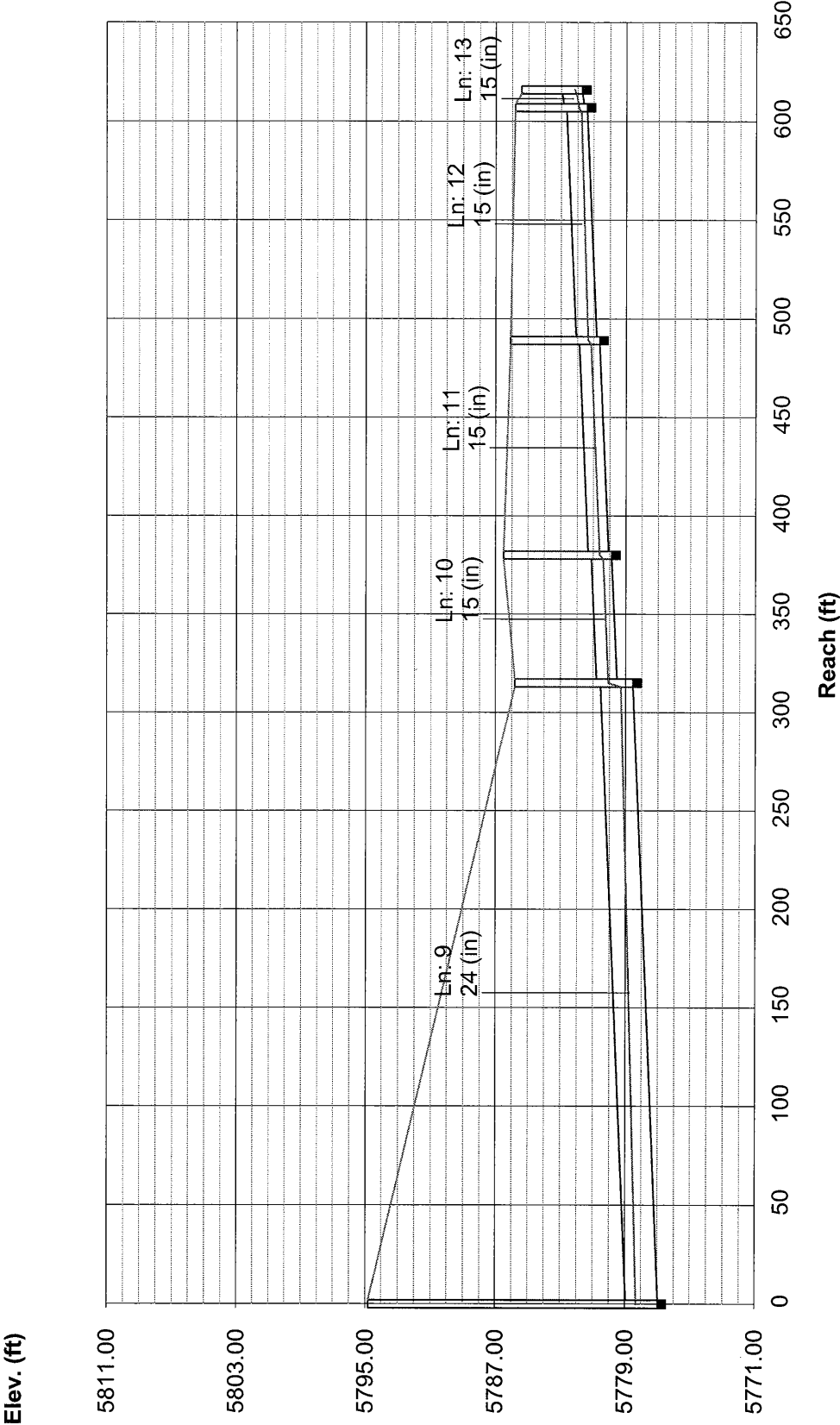
Number of lines: 35

Date: 07-29-2004

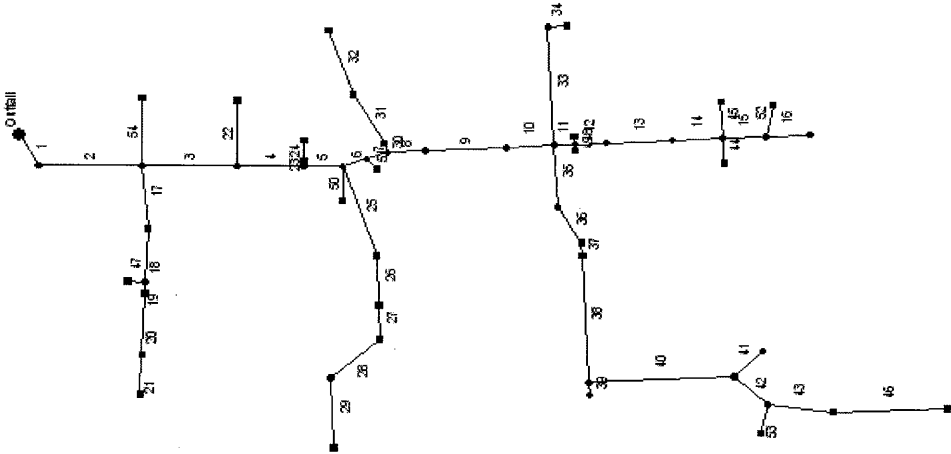
NOTES: ** At critical depth



Storm Sewer Profile



Hydraflow Plan View



Project file: D02049 Line-4 2-yr.stm

No. Lines: 54

07-29-2004

Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
1	MH 4-0	47.18	0.00	2.28	Outfall	0.00	0.00	10.63	5745.90	5748.50	5743.94	5744.26	5742.90	5743.22	64.00	36	0.50	0.00	82.0
2	MH 4-1	210.90	2.08	13.18	1	0.00	0.00	10.68	5748.50	5776.10	5744.58	5760.96	5743.42	5759.92	165.00	36	10.00	0.00	81.1
3	MH 4-2	141.38	8.97	6.04	2	0.00	0.00	9.41	5776.10	5780.00	5764.66	5771.94	5764.13	5770.96	152.00	36	4.49	0.00	80.2
4	MH 4-3	47.38	5.84	5.30	3	0.00	0.00	9.15	5780.00	5780.00	5772.28	5772.66	5771.16	5771.70	107.00	36	0.50	0.00	79.6
5	MH 4-4	47.16	5.10	4.79	4	0.00	0.00	9.14	5780.00	5780.00	5773.00	5773.17	5771.90	5772.21	62.00	36	0.50	0.00	79.2
6	MH 4-5	47.73	4.59	4.38	5	0.00	0.00	14.20	5780.00	5780.00	5773.54	5773.83	5772.41	5772.62	41.00	36	0.51	0.00	22.5
7	MH 4-6	47.85	4.18	4.00	6	0.00	0.00	13.69	5780.00	5780.00	5774.20	5774.19	5772.82	5773.00	35.00	36	0.51	0.00	22.2
8	MH 4-7	120.54	3.80	3.04	7	0.00	0.00	11.47	5780.00	5781.20	5774.62	5776.24	5773.20	5775.16	60.00	36	3.27	0.00	21.6
9	MH 4-8	92.68	2.84	5.33	8	0.00	0.00	11.75	5781.20	5786.20	5776.30	5778.96	5775.36	5777.87	130.00	36	1.93	0.00	20.5
10	MH4-9	81.86	5.13	7.07	9	0.00	0.00	11.92	5786.20	5789.30	5779.02	5780.33	5778.07	5779.23	77.00	36	1.51	0.00	19.8
11	MH 4-10	47.41	7.07	6.92	10	0.00	0.00	3.76	5789.30	5790.60	5780.73	5782.37	5780.23	5781.68	33.00	24	4.39	0.00	11.7
12	MH 4-11	50.57	6.72	6.12	11	0.00	0.00	2.92	5790.60	5792.50	5782.61	5784.99	5781.88	5784.38	50.00	24	5.00	0.00	10.9
13	MH 4-12	50.57	5.92	4.37	12	0.00	0.00	3.13	5792.50	5796.20	5785.02	5790.46	5784.58	5789.83	105.00	24	5.00	0.00	9.4
14	MH 4-13	50.57	4.17	5.17	13	0.00	0.00	3.30	5796.20	5801.20	5790.49	5794.67	5790.03	5794.03	80.00	24	5.00	0.00	8.3
15	MH 4-14A	22.62	4.97	3.78	14	0.00	0.00	2.28	5801.20	5800.70	5794.90	5795.46	5794.23	5794.92	69.00	24	1.00	0.00	6.9
16	OS5	22.62	3.58	4.67	15	0.00	1.58	1.99	5800.70	5802.50	5795.63	5796.33	5795.12	5795.83	71.00	24	1.00	0.63	5.0
17	B33	31.98	9.77	6.93	2	0.00	0.58	3.82	5776.10	5775.50	5764.80	5767.26	5764.33	5766.57	112.00	24	2.00	0.71	8.5
18	MH 4-15	31.99	6.73	4.21	17	0.00	0.00	3.39	5775.50	5774.90	5767.38	5769.34	5766.77	5768.69	96.00	24	2.00	0.00	7.1
19	B31	5.04	4.21	3.39	18	0.00	1.15	2.90	5774.90	5774.50	5770.23	5770.92	5769.69	5770.11	21.00	12	2.00	0.71	7.0
20	B30	3.56	3.19	4.61	19	0.00	0.58	1.53	5774.50	5777.00	5771.06	5771.92	5770.31	5771.39	108.00	12	1.00	0.71	6.1
21	B29	3.56	4.41	2.60	20	0.00	0.58	0.82	5777.00	5775.90	5772.02	5772.69	5771.59	5772.30	71.00	12	1.00	0.71	5.0

Project File: D02049 Line-4 2-yr.stm

Number of lines: 54

Date: 07-29-2004

NOTES: ** At critical depth

Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
22	B36, B37	5.04	6.04	3.70	3	0.00	0.93	1.32	5780.00	5780.00	5773.31	5775.79	5772.96	5775.30	117.00	12	2.00	0.71	5.0
23	B34	3.56	5.30	6.21	4	0.00	0.05	0.08	5780.00	5781.00	5773.80	5773.91	5773.70	5773.79	9.00	12	1.00	0.50	12.5
24	B39	3.56	6.01	5.64	23	0.00	0.06	0.06	5781.00	5781.00	5774.09	5774.47	5773.99	5774.36	37.00	12	1.00	0.54	5.0
25	B19	16.04	4.59	3.24	5	0.00	0.77	1.38	5780.00	5779.50	5773.81	5774.68	5773.41	5774.26	169.00	24	0.50	0.78	77.5
26	B18	2.52	3.24	2.50	25	0.00	1.16	1.11	5779.50	5779.20	5775.73	5776.16	5775.26	5775.70	88.00	12	0.50	0.84	77.2
27	B17	2.52	2.30	2.00	26	0.00	1.70	0.65	5779.20	5779.20	5776.25	5776.55	5775.90	5776.20	60.00	12	0.50	0.81	76.9
28	MH 4-21	2.52	1.80	3.38	27	0.00	0.00	0.01	5779.20	5781.30	5776.67	5776.97	5776.40	5776.92	104.00	12	0.50	0.00	43.2
29	B28	3.56	3.18	2.44	28	0.00	0.03	0.04	5781.30	5781.80	5777.20	5778.45	5777.12	5778.36	124.00	12	1.00	0.71	5.0
30	B23	16.44	4.00	2.51	7	0.00	0.63	3.81	5780.00	5778.60	5774.66	5774.79	5774.00	5774.09	17.00	24	0.53	0.84	8.4
31	B26	15.99	2.31	3.21	30	0.00	0.08	3.19	5778.60	5780.00	5774.95	5775.42	5774.29	5774.79	100.00	24	0.50	0.85	6.8
32	B27	16.06	3.01	2.40	31	0.00	2.12	3.43	5780.00	5780.00	5775.62	5776.26	5774.99	5775.60	121.00	24	0.50	0.81	5.0
33	MH 4-23	4.37	7.07	2.00	10	0.00	0.00	1.19	5789.30	5787.40	5781.59	5784.86	5781.23	5784.40	211.00	12	1.50	0.00	5.3
34	B16	4.36	1.80	2.15	33	0.00	0.71	1.22	5787.40	5788.20	5785.04	5785.52	5784.60	5785.05	30.00	12	1.50	0.86	5.0
35	MH 4-24	47.15	7.07	6.02	10	0.00	0.00	8.64	5789.30	5788.80	5780.73	5780.75	5779.23	5779.78	110.00	36	0.50	0.00	18.5
36	B9	47.17	5.82	4.95	35	0.00	0.39	8.81	5788.80	5788.30	5780.88	5781.30	5779.98	5780.35	74.00	36	0.50	0.72	17.6
37	B8	48.20	4.75	4.13	36	0.00	0.49	8.54	5788.30	5787.80	5781.53	5781.61	5780.55	5780.67	23.00	36	0.52	0.69	17.3
38	MH 4-25	47.16	3.93	2.80	37	0.00	0.00	8.71	5787.80	5787.80	5781.77	5782.94	5780.87	5782.00	226.00	36	0.50	0.00	14.4
39	B7	3.56	2.80	2.27	38	0.00	0.59	0.85	5787.80	5787.50	5784.33	5784.62	5784.00	5784.23	23.00	12	1.00	0.72	5.0
40	MH 4-14	49.80	2.80	4.20	38	0.00	0.00	8.45	5787.80	5800.40	5783.56	5795.23	5783.00	5794.20	231.00	24	4.85	0.00	13.1
41	B1	3.56	4.20	3.15	40	0.00	1.25	2.17	5800.40	5800.00	5795.77	5796.48	5795.20	5795.85	65.00	12	1.00	0.87	5.0
42	MH 4-16	16.00	4.00	3.23	40	0.00	0.00	7.08	5800.40	5800.00	5795.54	5795.72	5794.40	5794.77	74.00	24	0.50	0.00	12.6

Project File: D02049 Line-4 2-yr.stm

Number of lines: 54

Date: 07-29-2004

NOTES: ** At critical depth

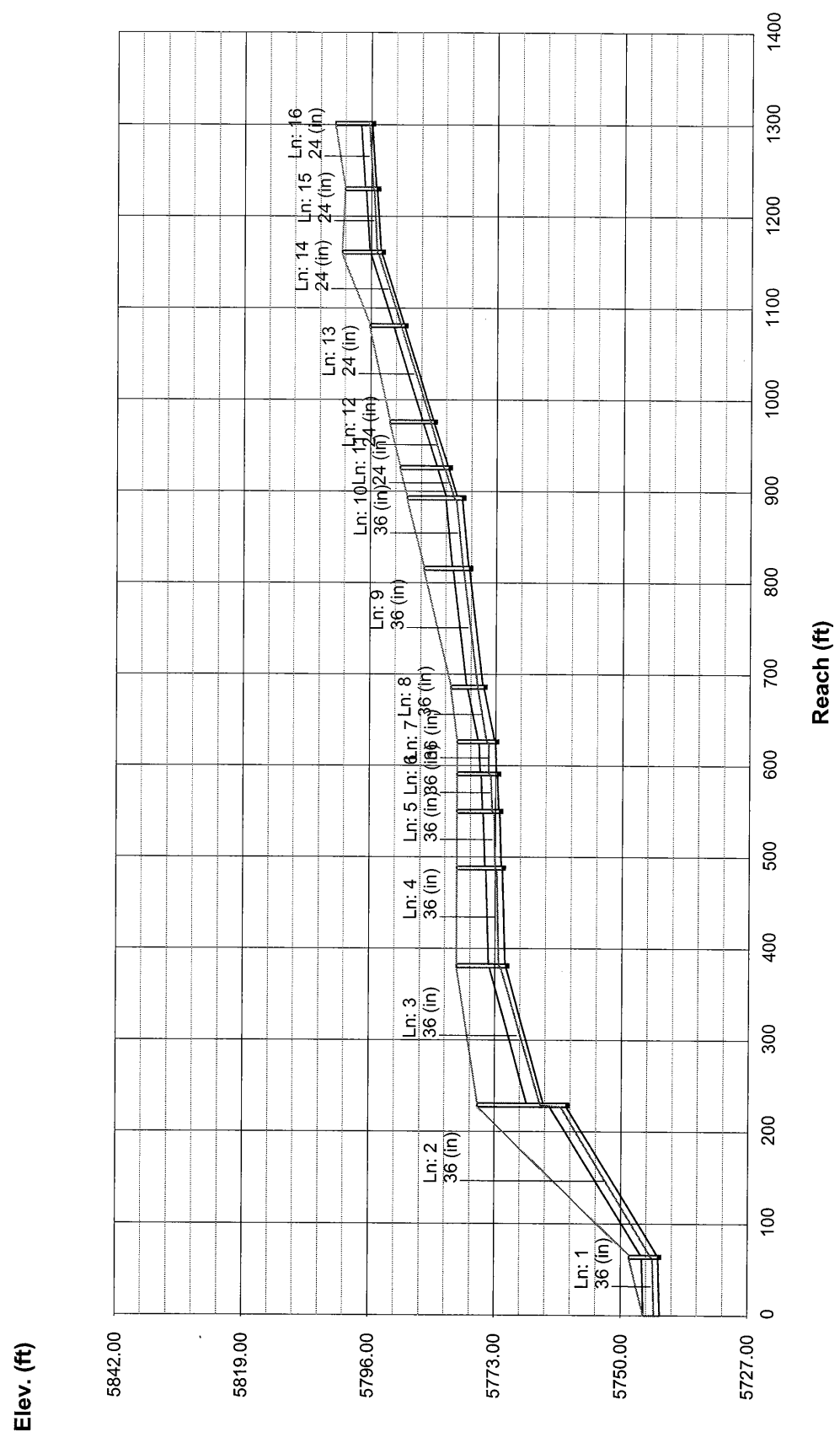
Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
43	OS3	50.57	3.03	5.78	42	0.00	3.00	7.65	5800.00	5808.00	5796.03	5801.20	5794.97	5800.22	105.00	24	5.00	0.41	9.6
44	B2	7.12	4.87	2.71	14	0.00	0.47	0.80	5801.20	5800.80	5795.56	5797.47	5795.33	5797.09	44.00	12	4.00	0.85	5.0
45	B4	7.12	4.87	2.97	14	0.00	0.38	0.65	5801.20	5801.90	5795.54	5798.27	5795.33	5797.93	65.00	12	4.00	0.85	5.0
46	OS4	129.41	5.58	3.00	43	2.41	5.23	6.01	5808.00	5865.00	5801.39	5860.87	5800.42	5860.00	182.00	24	32.74	0.41	8.0
47	B38	3.92	4.21	1.97	18	0.00	0.53	0.57	5774.90	5773.00	5769.95	5770.35	5769.69	5770.03	28.00	12	1.21	0.54	5.0
48	B13	11.26	6.62	5.32	11	0.00	0.35	0.61	5790.60	5790.70	5783.14	5784.71	5782.98	5784.38	14.00	12	10.00	0.87	5.0
49	B12	11.26	6.62	5.72	11	0.00	0.40	0.70	5790.60	5790.80	5783.15	5784.60	5782.98	5784.08	11.00	12	10.00	0.87	5.0
50	B32	5.04	4.79	5.17	5	0.00	0.02	0.03	5780.00	5781.60	5774.26	5775.50	5774.21	5775.43	61.00	12	2.00	0.71	5.0
51	B22	5.63	4.18	3.58	6	0.00	0.70	1.17	5780.00	5780.00	5775.13	5775.88	5774.82	5775.42	24.00	12	2.50	0.84	5.0
52	B3	5.04	2.78	2.84	15	0.00	0.32	0.56	5800.70	5801.90	5797.15	5798.38	5796.92	5798.06	57.00	12	2.00	0.88	5.0
53	B6	5.04	3.03	2.29	42	0.00	1.12	0.09	5800.00	5800.30	5796.06	5797.14	5795.97	5797.01	52.00	12	2.00	0.04	5.0
54	B35	5.04	8.97	5.45	2	0.00	1.07	1.06	5776.10	5775.00	5766.44	5768.99	5766.13	5768.55	121.00	12	2.00	0.56	7.0

Project File: D02049 Line-4 2-yr.stm

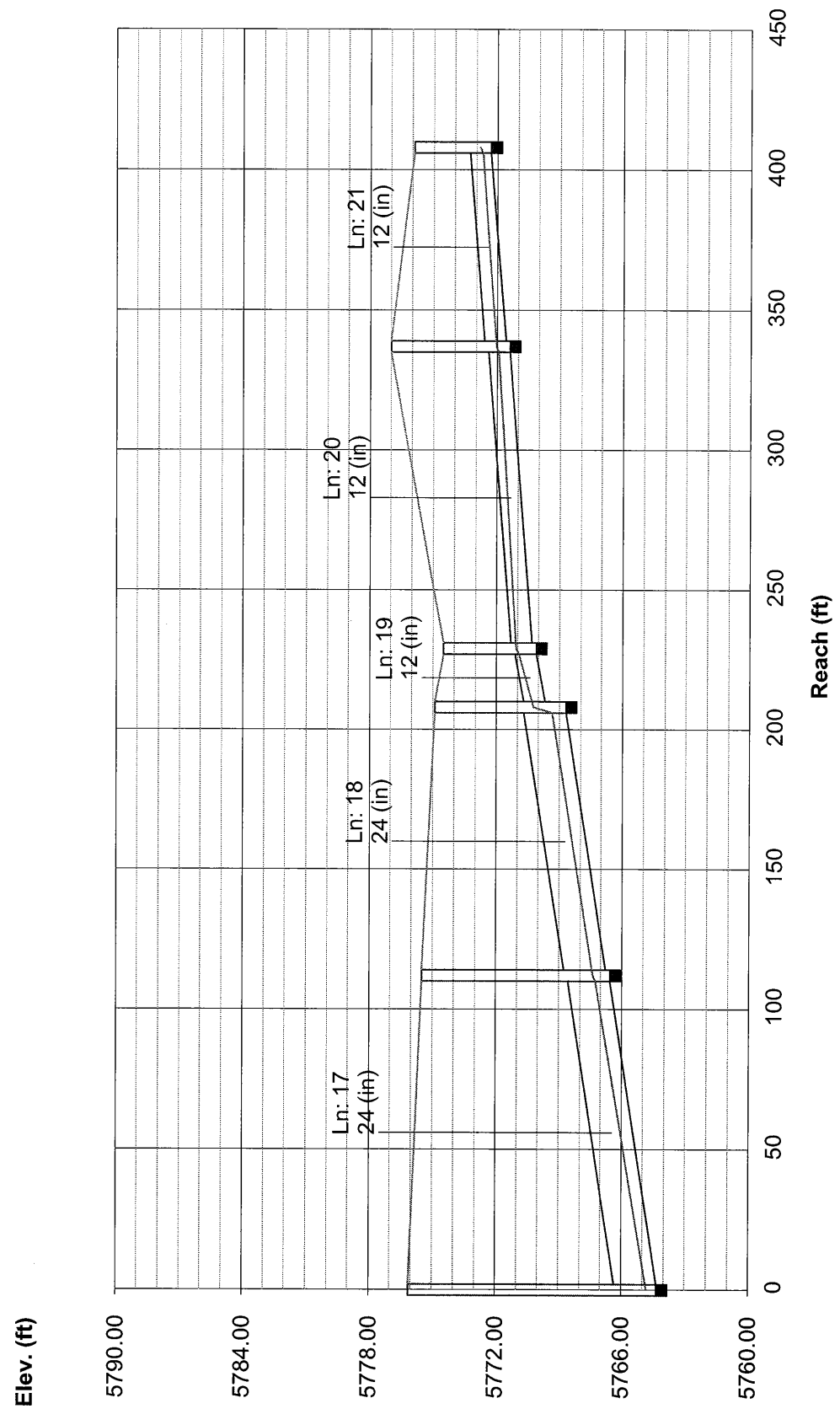
Number of lines: 54

Date: 07-29-2004

NOTES: ** At critical depth

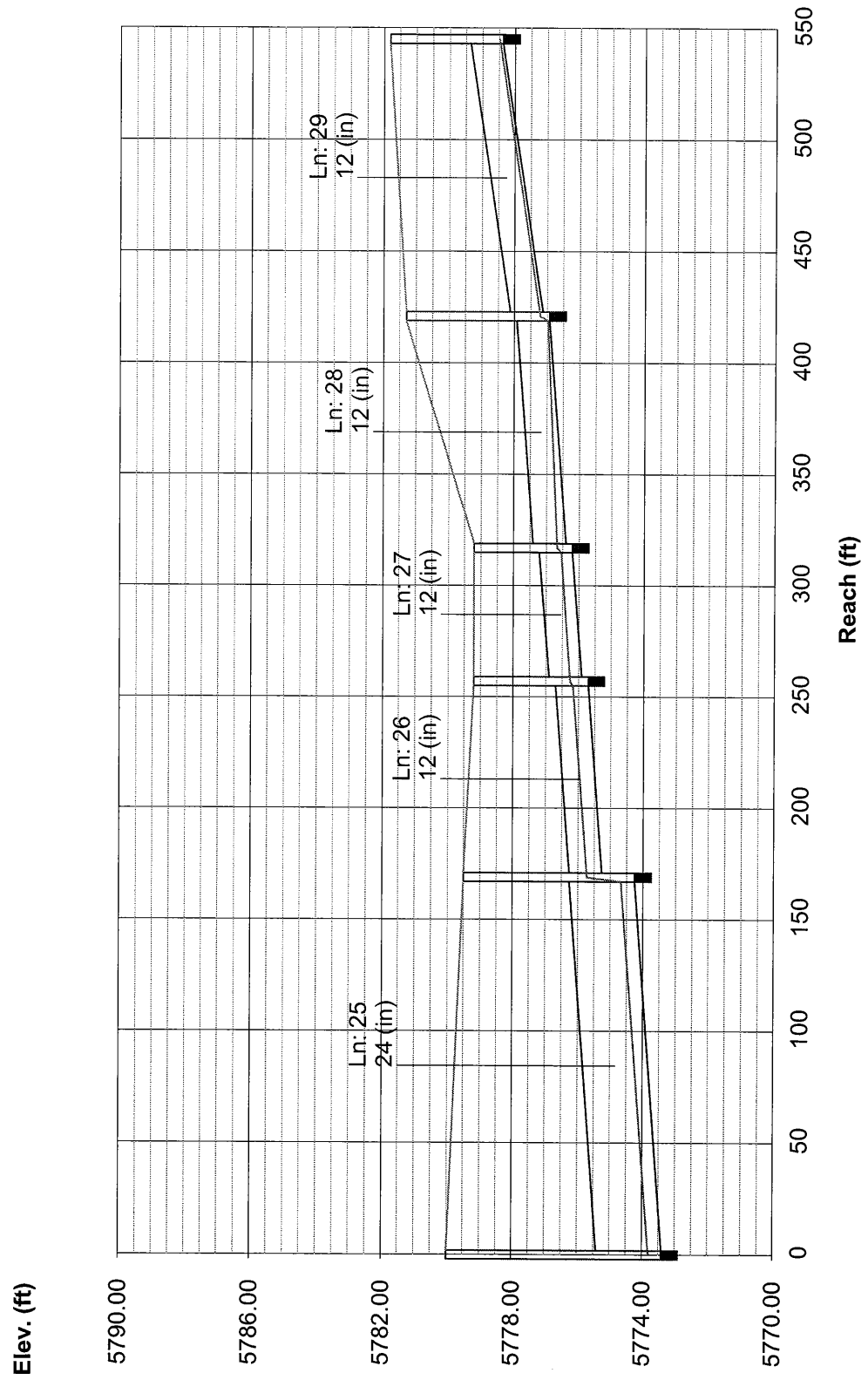


Storm Sewer Profile

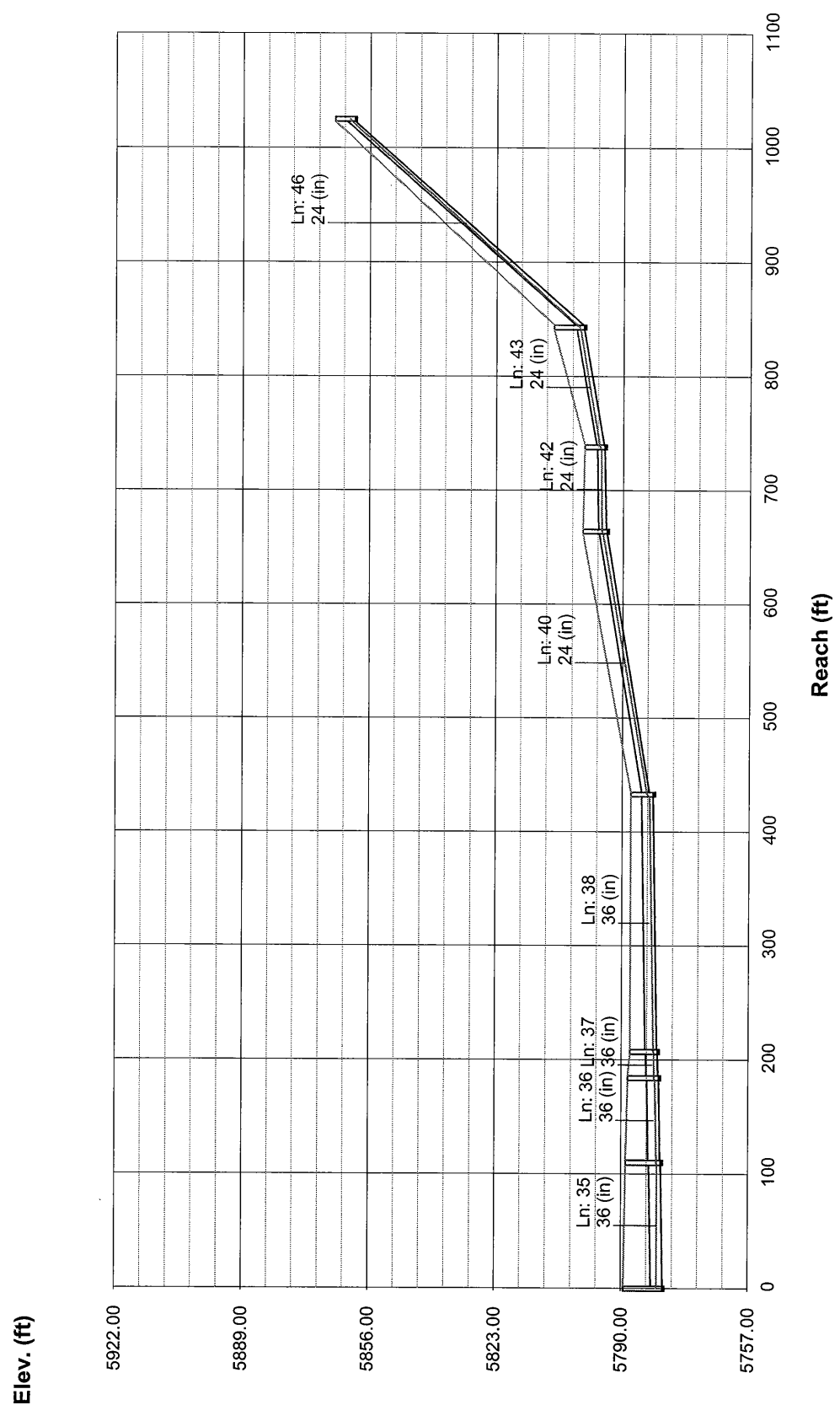


Storm Sewer Profile

Proj. file: D02049 Line-4 2-yr.stm



Storm Sewer Profile



Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
1	MH 4-0	47.18	0.00	2.28	Outfall	0.00	0.00	39.03	5745.90	5748.50	5744.98	5745.30	5742.90	5743.22	64.00	36	0.50	0.00	37.7
2	MH 4-1	210.90	2.08	13.18	1	0.00	0.00	39.25	5748.50	5776.10	5746.04	5761.92	5743.42	5759.92	165.00	36	10.00	0.00	37.4
3	MH 4-2	141.38	8.97	6.04	2	0.00	0.00	33.93	5776.10	5780.00	5765.14	5772.82	5764.13	5770.96	152.00	36	4.49	0.00	37.1
4	MH 4-3	47.38	5.84	5.30	3	0.00	0.00	32.86	5780.00	5780.00	5773.67	5773.80	5771.16	5771.70	107.00	36	0.50	0.00	36.8
5	MH 4-4	47.16	5.10	4.79	4	0.00	0.00	32.82	5780.00	5780.00	5774.40	5774.47	5771.90	5772.21	62.00	36	0.50	0.00	36.7
6	MH 4-5	47.73	4.59	4.38	5	0.00	0.00	47.55	5780.00	5780.00	5774.99	5775.16	5772.41	5772.62	41.00	36	0.51	0.00	12.7
7	MH 4-6	47.85	4.18	4.00	6	0.00	0.00	45.80	5780.00	5780.00	5775.90	5776.06	5772.82	5773.00	35.00	36	0.51	0.00	12.6
8	MH 4-7	120.54	3.80	3.04	7	0.00	0.00	38.46	5780.00	5781.20	5776.71	5777.14	5773.20	5775.16	60.00	36	3.27	0.00	12.4
9	MH 4-8	92.68	2.84	5.33	8	0.00	0.00	39.05	5781.20	5786.20	5777.28	5779.86	5775.36	5777.87	130.00	36	1.93	0.00	11.9
10	MH 4-9	81.86	5.13	7.07	9	0.00	0.00	39.41	5786.20	5789.30	5780.01	5781.23	5778.07	5779.23	77.00	36	1.51	0.00	11.7
11	MH 4-10	47.41	7.07	6.92	10	0.00	0.00	11.65	5789.30	5790.60	5782.19	5782.89	5780.23	5781.68	33.00	24	4.39	0.00	7.5
12	MH 4-11	50.57	6.72	6.12	11	0.00	0.00	9.16	5790.60	5792.50	5783.42	5785.45	5781.88	5784.38	50.00	24	5.00	0.00	7.2
13	MH 4-12	50.57	5.92	4.37	12	0.00	0.00	9.42	5792.50	5796.20	5785.52	5790.92	5784.58	5789.83	105.00	24	5.00	0.00	6.6
14	MH 4-13	50.57	4.17	5.17	13	0.00	0.00	9.63	5796.20	5801.20	5790.99	5795.13	5790.03	5794.03	80.00	24	5.00	0.00	6.2
15	MH 4-14A	22.62	4.97	3.78	14	0.00	0.00	6.72	5801.20	5800.70	5795.59	5795.84	5794.23	5794.92	69.00	24	1.00	0.00	5.7
16	OS5	22.62	3.58	4.67	15	0.00	1.58	5.70	5800.70	5802.50	5796.19	5796.68	5795.12	5795.83	71.00	24	1.00	0.85	5.0
17	B33	31.98	9.77	6.93	2	0.00	0.58	10.25	5776.10	5775.50	5765.11	5767.70	5764.33	5766.57	112.00	24	2.00	0.78	6.5
18	MH 4-15	31.99	6.73	4.21	17	0.00	0.00	8.73	5775.50	5774.90	5767.95	5769.74	5766.77	5768.69	96.00	24	2.00	0.00	5.9
19	B31	5.04	4.21	3.39	18	0.00	1.15	7.30	5774.90	5774.50	5770.69	5771.57	5769.69	5770.11	21.00	12	2.00	0.78	5.9
20	B30	3.56	3.19	4.61	19	0.00	0.58	3.74	5774.50	5777.00	5772.25	5773.44	5770.31	5771.39	108.00	12	1.00	0.78	5.5
21	B29	3.56	4.41	2.60	20	0.00	0.58	1.92	5777.00	5775.90	5773.62	5773.82	5771.59	5772.30	71.00	12	1.00	0.78	5.0

Project File: D02049 Line-4 25-yr.stm

Number of lines: 54

Date: 07-29-2004

NOTES: ** At critical depth

Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
22	B36, B37	5.04	6.04	3.70	3	0.00	0.93	3.08	5780.00	5780.00	5773.67	5776.04	5772.96	5775.30	117.00	12	2.00	0.78	5.0
23	B34	3.56	5.30	6.21	4	0.00	0.05	0.27	5780.00	5780.00	5774.40	5774.40	5773.70	5773.79	9.00	12	1.00	0.64	7.8
24	B39	3.56	6.01	5.64	23	0.00	0.06	0.17	5781.00	5781.00	5774.40	5774.54	5773.99	5774.36	37.00	12	1.00	0.67	5.0
25	B19	16.04	4.59	3.24	5	0.00	0.77	5.47	5780.00	5779.50	5774.99	5775.15	5773.41	5774.26	169.00	24	0.50	0.86	35.9
26	B18	2.52	3.24	2.50	25	0.00	1.16	4.36	5779.50	5779.20	5776.26	5777.58	5775.26	5775.70	88.00	12	0.50	0.90	35.8
27	B17	2.52	2.30	2.00	26	0.00	1.70	2.59	5779.20	5779.20	5777.82	5778.14	5775.90	5776.20	60.00	12	0.50	0.88	35.7
28	MH 4-21	2.52	1.80	3.38	27	0.00	0.00	0.05	5779.20	5781.30	5778.32	5778.32	5776.40	5776.92	104.00	12	0.50	0.00	21.3
29	B28	3.56	3.18	2.44	28	0.00	0.03	0.10	5781.30	5781.80	5778.32	5778.51	5777.12	5778.36	124.00	12	1.00	0.78	5.0
30	B23	16.44	4.00	2.51	7	0.00	0.63	9.85	5780.00	5778.60	5776.71	5776.75	5774.00	5774.09	17.00	24	0.53	0.90	6.5
31	B26	15.99	2.31	3.21	30	0.00	0.08	7.88	5778.60	5780.00	5776.85	5776.97	5774.29	5774.79	100.00	24	0.50	0.91	5.8
32	B27	16.06	3.01	2.40	31	0.00	2.12	7.92	5780.00	5780.00	5777.04	5777.16	5774.99	5775.60	121.00	24	0.50	0.88	5.0
33	MH 4-23	4.37	7.07	2.00	10	0.00	0.00	2.75	5789.30	5787.40	5782.19	5785.10	5781.23	5784.40	211.00	12	1.50	0.00	5.1
34	B16	4.36	1.80	2.15	33	0.00	0.71	2.77	5787.40	5788.20	5785.44	5785.76	5784.60	5785.05	30.00	12	1.50	0.92	5.0
35	MH 4-24	47.15	7.07	6.02	10	0.00	0.00	28.08	5789.30	5788.80	5782.19	5782.32	5779.23	5779.78	110.00	36	0.50	0.00	11.2
36	B9	47.17	5.82	4.95	35	0.00	0.39	28.42	5788.80	5788.30	5782.46	5782.51	5779.98	5780.35	74.00	36	0.50	0.81	10.8
37	B8	48.20	4.75	4.13	36	0.00	0.49	27.50	5788.30	5787.80	5782.81	5782.82	5780.55	5780.67	23.00	36	0.52	0.78	10.7
38	MH 4-25	47.16	3.93	2.80	37	0.00	0.00	27.30	5787.80	5787.80	5783.02	5783.67	5780.87	5782.00	226.00	36	0.50	0.00	9.7
39	B7	3.56	2.80	2.27	38	0.00	0.59	2.03	5787.80	5787.50	5784.54	5784.84	5784.00	5784.23	23.00	12	1.00	0.81	5.0
40	MH 4-14	49.80	2.80	4.20	38	0.00	0.00	26.16	5787.80	5800.40	5784.38	5795.99	5783.00	5794.20	231.00	24	4.85	0.00	9.2
41	B1	3.56	4.20	3.15	40	0.00	1.25	4.88	5800.40	5800.00	5796.90	5798.12	5795.20	5795.85	65.00	12	1.00	0.92	5.0
42	MH 4-16	16.00	4.00	3.23	40	0.00	0.00	22.32	5800.40	5800.00	5796.90	5797.62	5794.40	5794.77	74.00	24	0.50	0.00	9.0

Project File: D02049 Line-4 25-yr.stm

Number of lines: 54

Date: 07-29-2004

NOTES: ** At critical depth

Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
43	OS3	50.57	3.03	5.78	42	0.00	3.00	21.61	5800.00	5808.00	5798.29	5801.87	5794.97	5800.22	105.00	24	5.00	0.85	8.7
44	B2	7.12	4.87	2.71	14	0.00	0.47	1.81	5801.20	5800.80	5795.68	5797.66	5795.33	5797.09	44.00	12	4.00	0.91	5.0
45	B4	7.12	4.87	2.97	14	0.00	0.38	1.47	5801.20	5801.90	5795.64	5798.44	5795.33	5797.93	65.00	12	4.00	0.91	5.0
46	OS4	129.41	5.58	3.00	43	2.41	5.23	12.93	5808.00	5865.00	5802.34	5861.27	5800.42	5860.00	182.00	24	32.74	0.55	8.0
47	B38	3.92	4.21	1.97	18	0.00	0.53	1.51	5774.90	5773.00	5770.16	5770.55	5769.69	5770.03	28.00	12	1.21	0.67	5.0
48	B13	11.26	6.62	5.32	11	0.00	0.35	1.38	5790.60	5790.70	5783.42	5784.88	5782.98	5784.38	14.00	12	10.00	0.93	5.0
49	B12	11.26	6.62	5.72	11	0.00	0.40	1.58	5790.60	5790.80	5783.42	5784.61	5782.98	5784.08	11.00	12	10.00	0.93	5.0
50	B32	5.04	4.79	5.17	5	0.00	0.02	0.07	5780.00	5781.60	5774.99	5775.54	5774.21	5775.43	61.00	12	2.00	0.78	5.0
51	B22	5.63	4.18	3.58	6	0.00	0.70	2.67	5780.00	5780.00	5775.90	5776.11	5774.82	5775.42	24.00	12	2.50	0.90	5.0
52	B3	5.04	2.78	2.84	15	0.00	0.32	1.26	5800.70	5801.90	5797.26	5798.54	5796.92	5798.06	57.00	12	2.00	0.93	5.0
53	B6	5.04	3.03	2.29	42	0.00	0.30	1.12	5800.00	5800.30	5798.29	5798.34	5795.97	5797.01	52.00	12	2.00	0.88	5.0
54	B35	5.04	8.97	5.45	2	0.00	1.07	2.79	5776.10	5775.00	5766.66	5769.26	5766.13	5768.55	121.00	12	2.00	0.68	7.0

Project File: D02049 Line-4 25-yr.stm

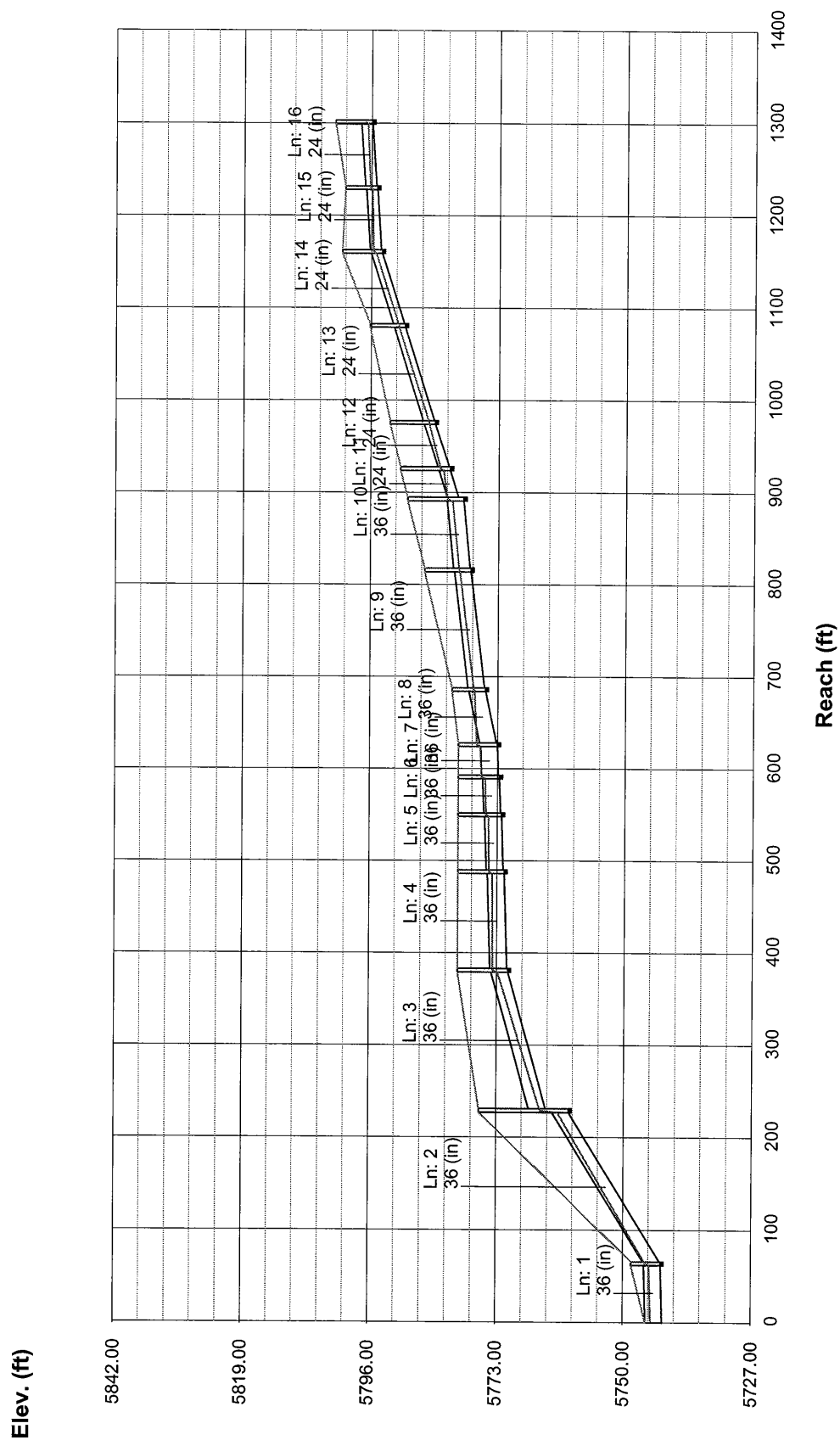
Number of lines: 54

Date: 07-29-2004

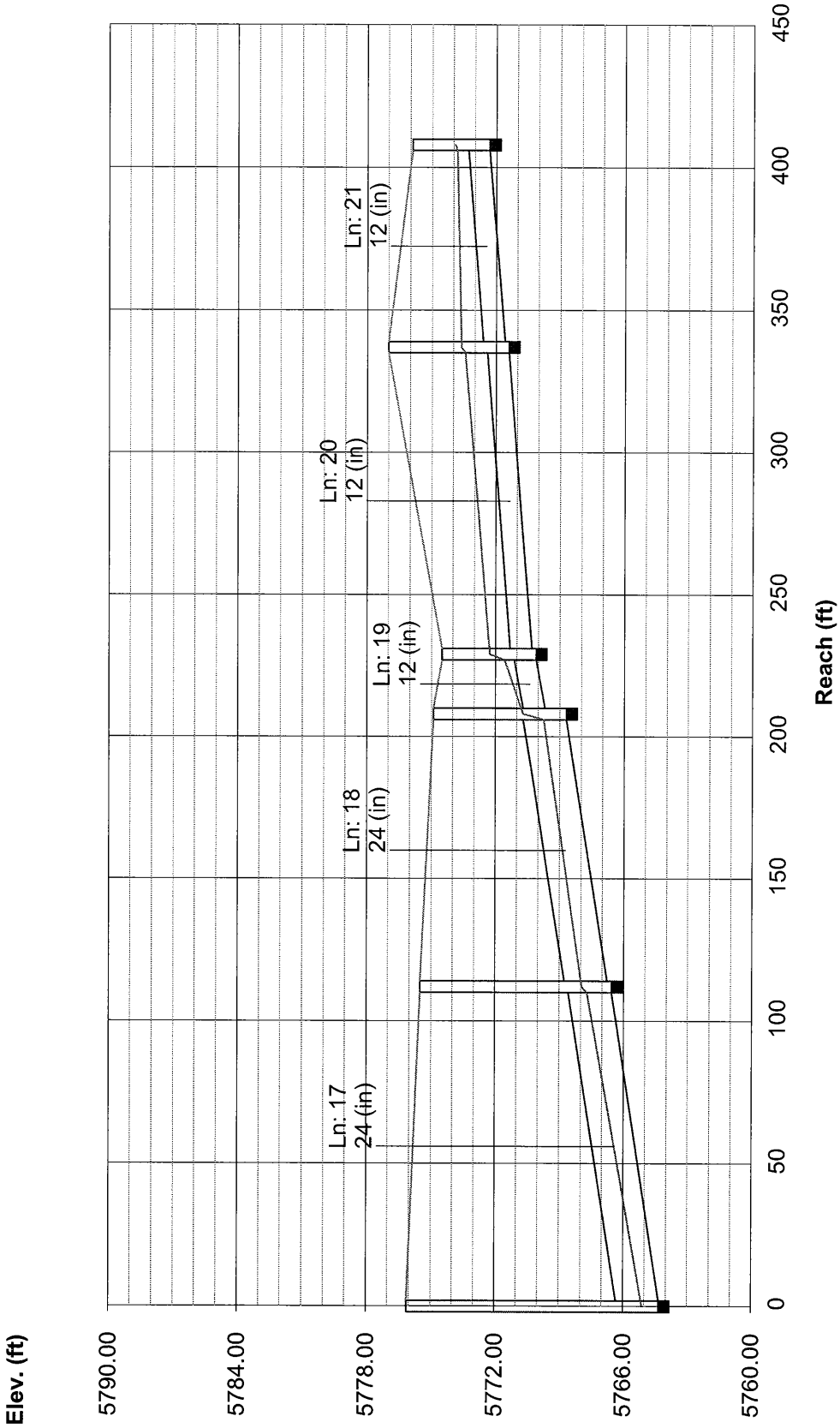
NOTES: ** At critical depth

Storm Sewer Profile

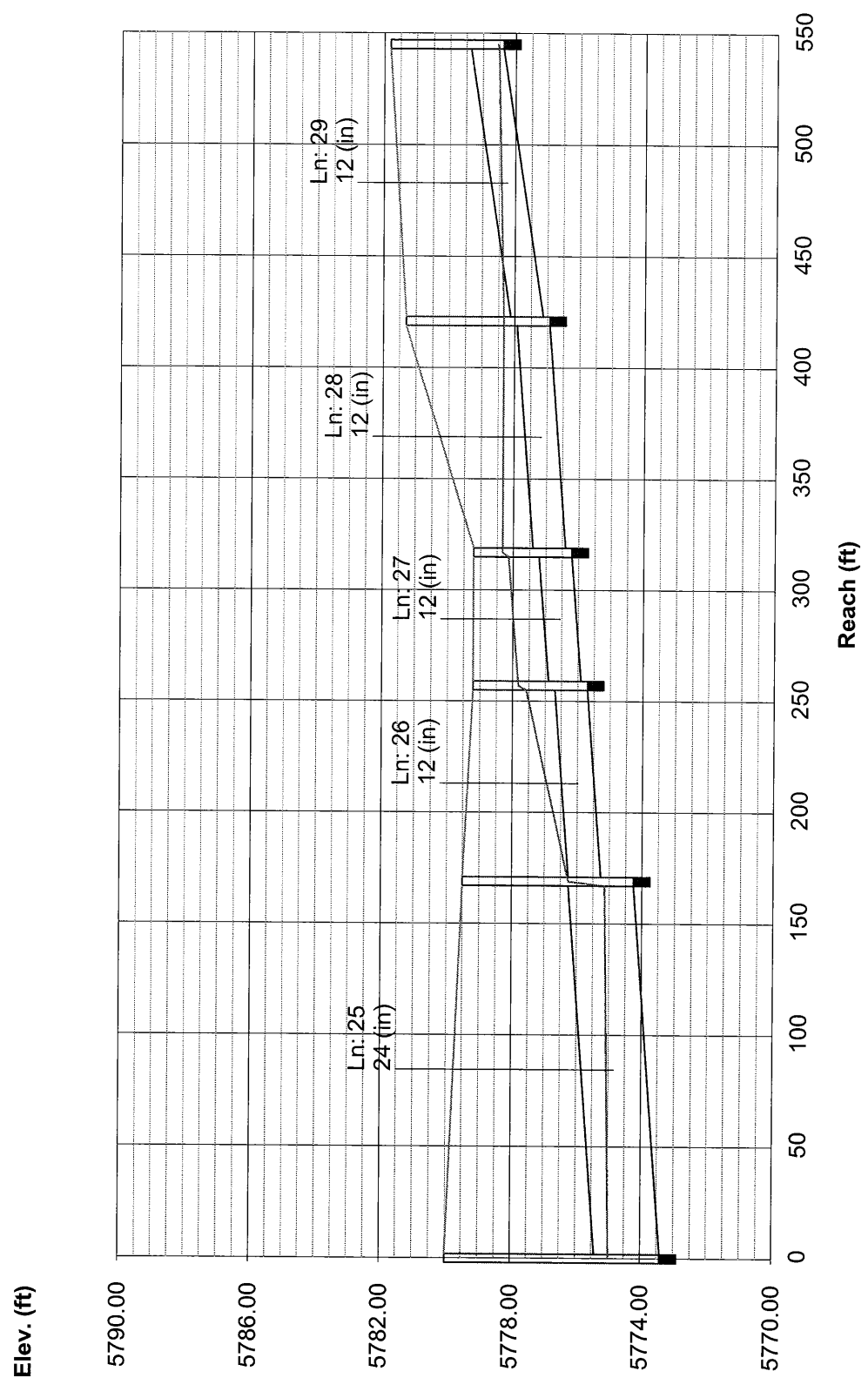
Proj. file: D02049 Line-4 25-yr.stm



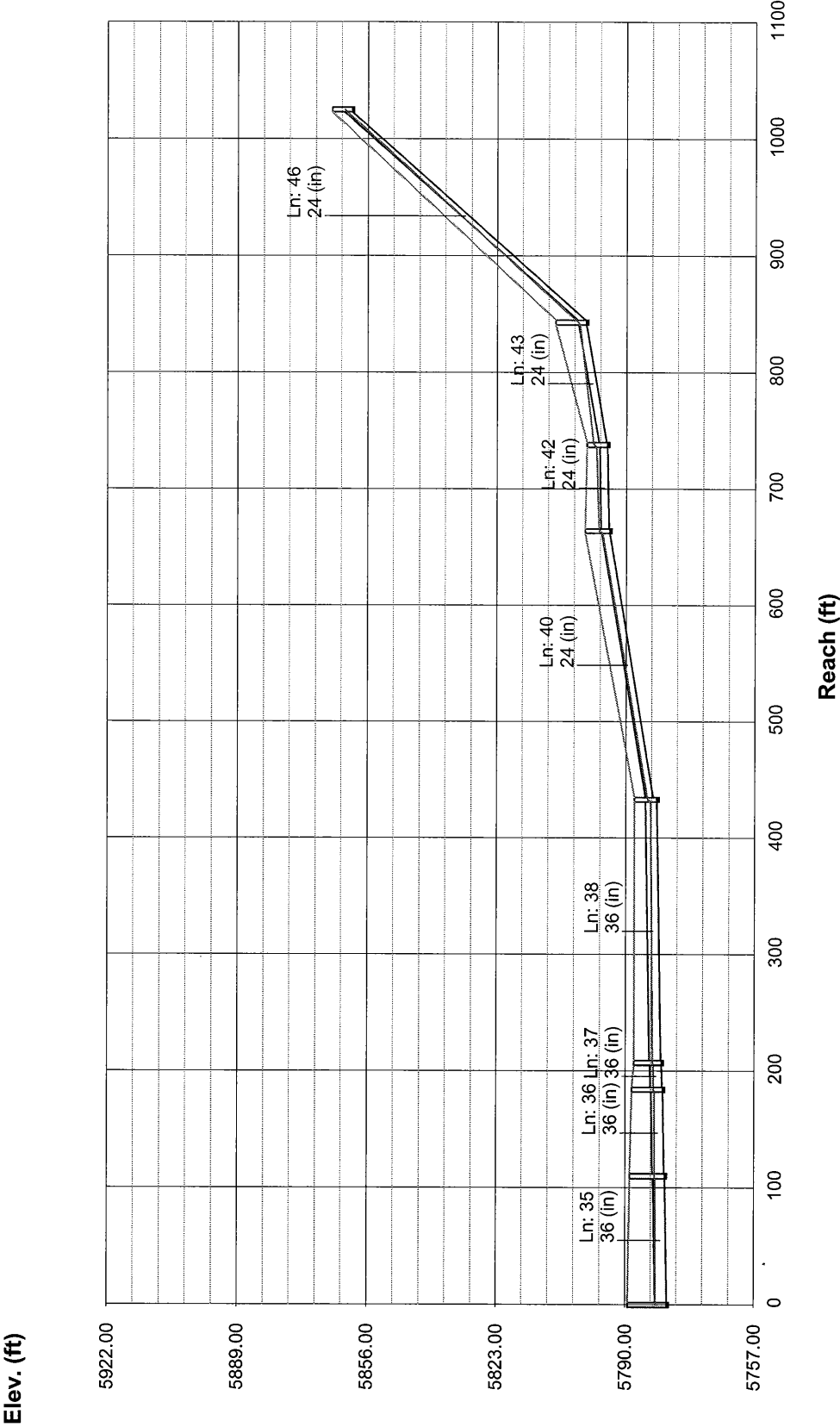
Storm Sewer Profile



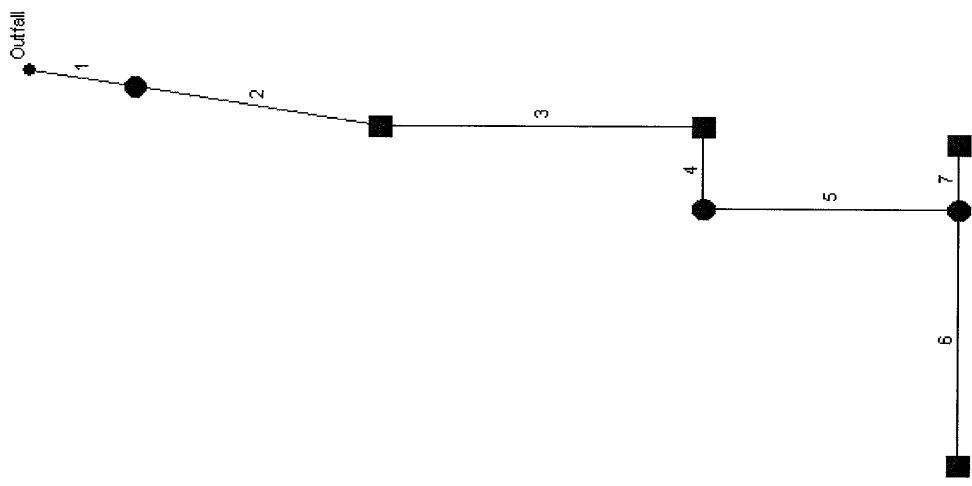
Storm Sewer Profile



Storm Sewer Profile



Hydraflow Plan View



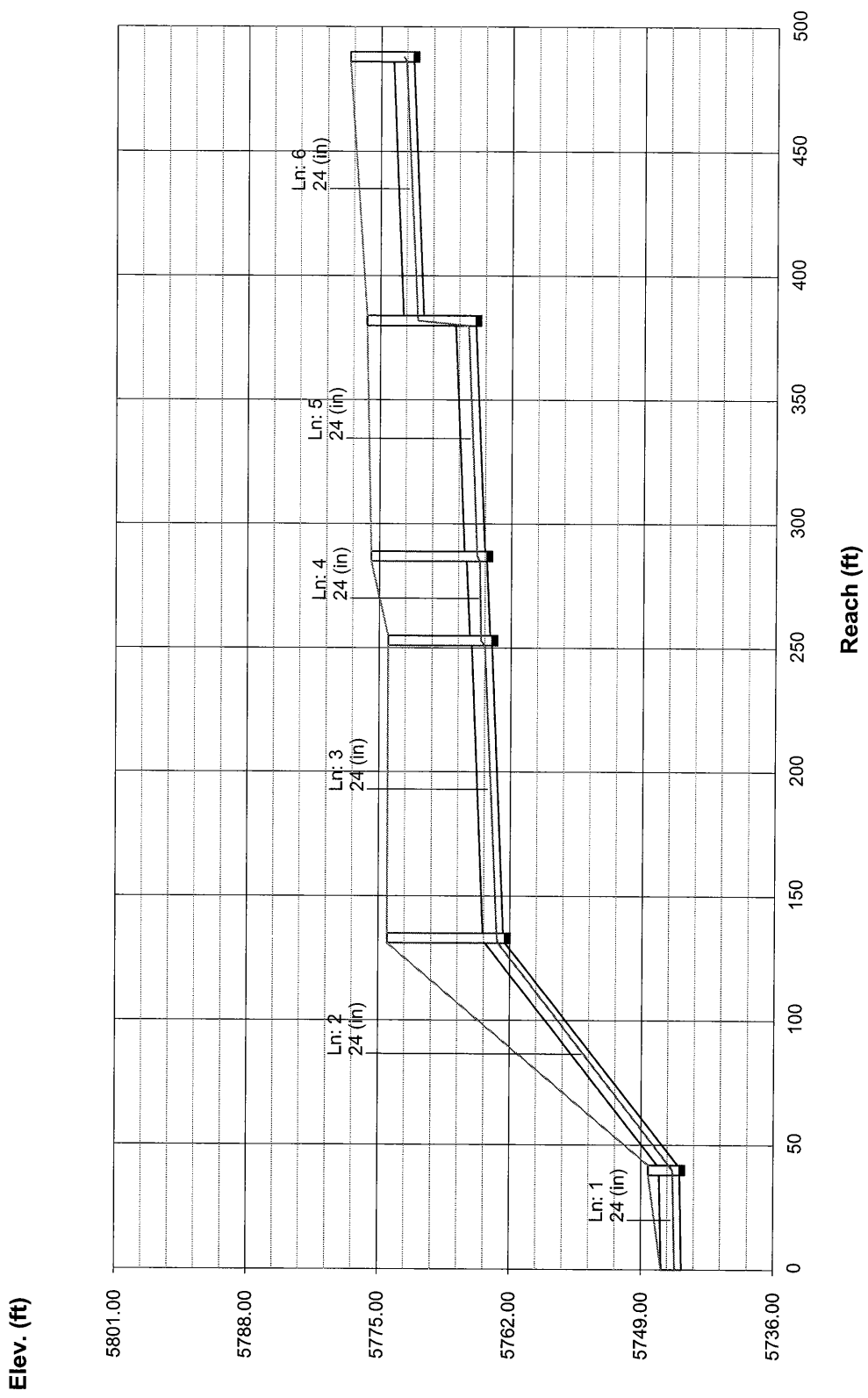
Project file: D02049 Line-5 2-yr.stm

No. Lines: 7

07-29-2004

Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)	
1	MH 5-0	16.00	0.00	1.10	Outfall	0.00	0.00	3.65	5747.00	5748.30	5745.68	5745.88	5745.00	5745.20	40.00	24	0.50	0.00	10.6	
2	C14	96.87	0.90	9.64	1	0.00	0.15	3.85	5748.30	5774.10	5745.92	5763.16	5745.40	5762.46	93.00	24	18.34	0.74	9.4	
3	C13	22.62	9.44	8.24	2	0.00	0.09	3.95	5774.10	5774.10	5763.28	5764.56	5762.66	5763.86	120.00	24	1.00	0.68	7.9	
4	MH 5-1	22.61	8.04	9.40	3	0.00	0.00	3.93	5774.10	5775.80	5764.94	5765.10	5764.06	5764.40	34.00	24	1.00	0.00	7.5	
5	MH 5-2	22.61	9.20	8.75	4	0.00	0.00	4.19	5775.80	5776.30	5765.35	5766.28	5764.60	5765.55	95.00	24	1.00	0.00	6.4	
6	C7/C8	22.61	3.60	4.24	5	0.00	2.43	4.03	5776.30	5778.00	5771.27	5772.47	5770.70	5771.76	106.00	24	1.00	0.83	5.0	
7	C9	5.04	3.60	2.36	5	0.00	0.42	0.54	5776.30	5775.60	5771.92	5772.55	5771.70	5772.24	27.00	12	2.00	0.64	5.0	
Project File: D02049 Line-5 2-yr.stm																Number of lines: 7		Date: 07-29-2004		
NOTES: ** At critical depth																				

Storm Sewer Profile



Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
1	MH 5-0	16.00	0.00	1.10	Outfall	0.00	0.00	10.13	5747.00	5748.30	5746.16	5746.35	5745.00	5745.20	40.00	24	0.50	0.00	7.4
2	C14	96.87	0.90	9.64	1	0.00	0.15	10.36	5748.30	5774.10	5746.42	5763.60	5745.40	5762.46	93.00	24	18.34	0.82	6.9
3	C13	22.62	9.44	8.24	2	0.00	0.09	10.20	5774.10	5774.10	5763.84	5764.99	5762.66	5763.86	120.00	24	1.00	0.78	6.3
4	MH 5-1	22.61	8.04	9.40	3	0.00	0.00	10.01	5774.10	5775.80	5765.71	5765.65	5764.06	5764.40	34.00	24	1.00	0.00	6.1
5	MH 5-2	22.61	9.20	8.75	4	0.00	0.00	10.27	5775.80	5776.30	5766.02	5766.69	5764.60	5765.55	95.00	24	1.00	0.00	5.6
6	C7/C8	22.61	3.60	4.24	5	0.00	2.43	9.28	5776.30	5778.00	5771.60	5772.84	5770.70	5771.76	106.00	24	1.00	0.90	5.0
7	C9	5.04	3.60	2.36	5	0.00	0.42	1.32	5776.30	5775.60	5772.05	5772.73	5771.70	5772.24	27.00	12	2.00	0.74	5.0

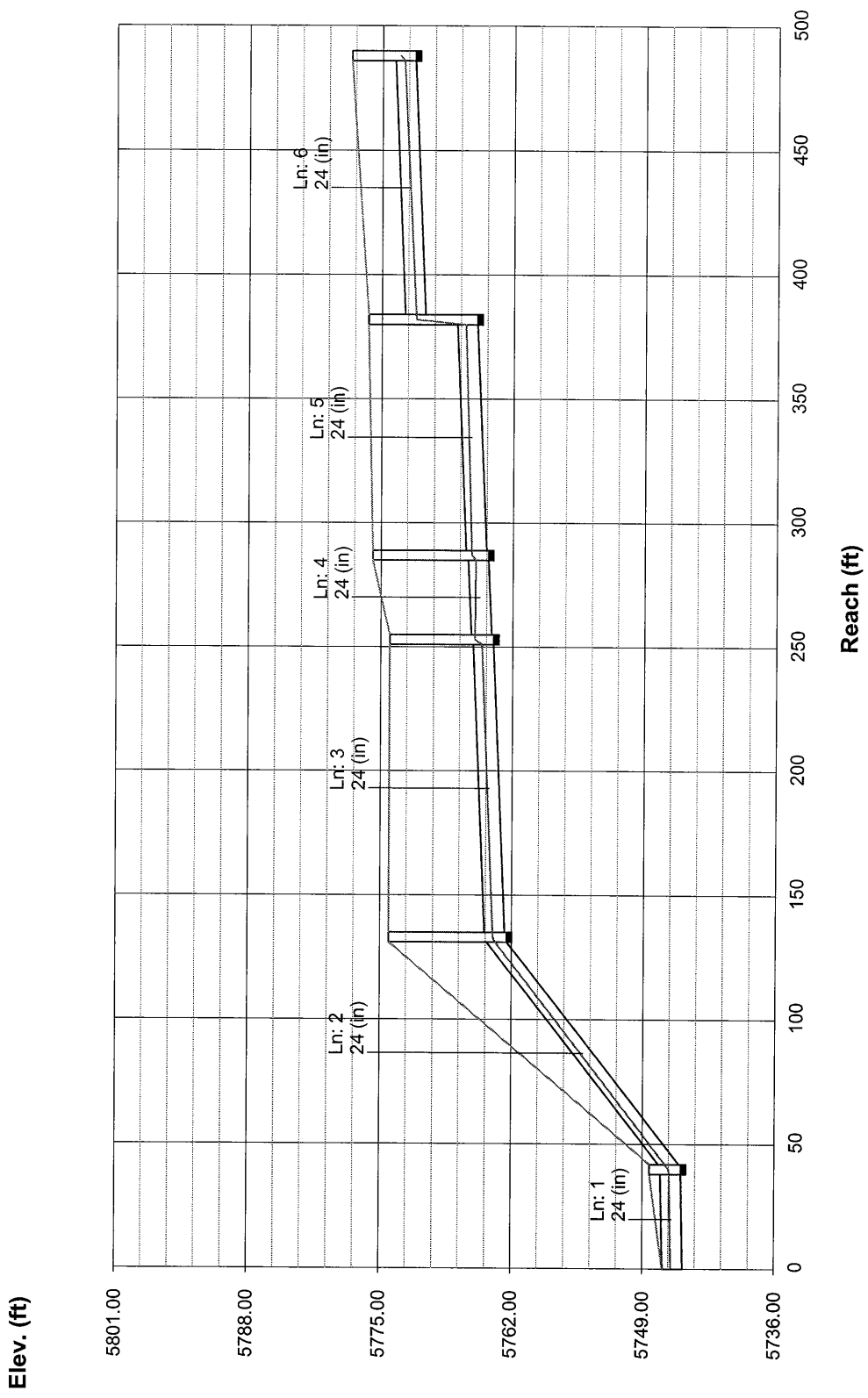
Project File: D02049 Line-5 25-yr.stm

Date: 07-29-2004

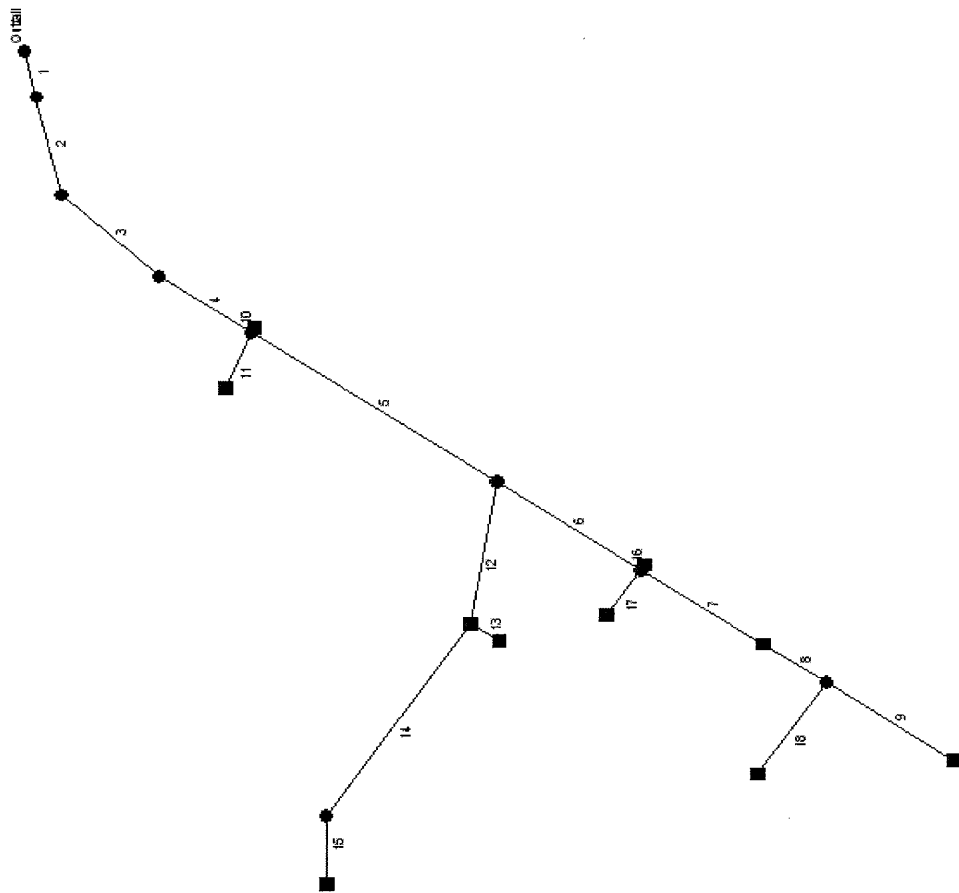
Number of lines: 7

NOTES: ** At critical depth

Storm Sewer Profile



Hydraflow Plan View



Project file: D02049 Line-6 2-yr.stm

No. Lines: 18

07-29-2004

Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
1	MH 6-0	22.63	0.00	2.60	Outfall	0.00	0.00	11.68	5745.30	5748.30	5744.51	5744.91	5743.30	5743.70	40.00	24	1.00	0.00	17.2
2	MH 6-1	93.67	2.40	3.12	1	0.00	0.00	11.78	5748.30	5763.60	5744.99	5759.70	5743.90	5758.48	85.00	24	17.15	0.00	16.9
3	MH 6-2	50.57	2.92	4.42	2	0.00	0.00	11.90	5763.60	5770.20	5759.94	5765.00	5758.68	5763.78	102.00	24	5.00	0.00	16.4
4	MH 6-3	50.58	4.22	4.62	3	0.00	0.00	12.00	5770.20	5774.80	5765.08	5769.41	5763.98	5768.18	84.00	24	5.00	0.00	16.1
5	MH 6-4	50.58	4.42	3.02	4	0.00	0.00	11.51	5774.80	5784.70	5769.96	5780.88	5768.38	5779.68	226.00	24	5.00	0.00	15.1
6	MH 6-5	43.38	2.82	3.59	5	0.00	0.00	11.96	5784.70	5790.40	5781.33	5786.04	5779.88	5784.81	134.00	24	3.68	0.00	11.4
7	C20	22.62	3.39	6.96	6	0.00	0.21	11.79	5790.40	5795.10	5786.58	5787.36	5785.01	5786.14	113.00	24	1.00	0.71	10.9
8	MH 6-7	27.70	6.76	8.29	7	0.00	0.00	11.66	5795.10	5797.50	5787.63	5788.42	5786.34	5787.21	58.00	24	1.50	0.00	10.6
9	OS7/OS8	27.74	8.09	7.83	8	3.18	10.97	10.03	5797.50	5799.00	5788.96	5790.29	5787.41	5789.17	117.00	24	1.50	0.41	10.0
10	C11	7.96	4.62	4.27	4	0.00	0.39	0.64	5774.80	5774.70	5769.96	5769.93	5769.18	5769.43	5.00	12	5.00	0.82	5.0
11	C10	7.96	4.62	2.37	4	0.00	0.51	0.61	5774.80	5775.10	5769.96	5772.06	5769.18	5771.73	51.00	12	5.00	0.60	5.0
12	C21	2.53	3.02	4.00	5	0.00	0.15	0.74	5784.70	5786.30	5781.33	5781.66	5780.68	5781.30	123.00	12	0.50	0.71	13.5
13	C4	7.96	3.70	3.60	12	0.00	0.37	0.50	5786.30	5787.50	5781.82	5783.20	5781.60	5782.90	26.00	12	5.00	0.68	5.0
14	MH 6-9	3.56	3.80	2.33	12	0.00	0.00	0.36	5786.30	5786.80	5781.82	5783.72	5781.50	5783.47	197.00	12	1.00	0.00	6.9
15	C3	3.56	2.13	1.95	14	0.00	0.26	0.40	5786.80	5787.20	5783.90	5784.52	5783.67	5784.25	58.00	12	1.00	0.77	5.0
16	C6	7.96	3.16	2.91	6	0.00	0.15	0.22	5790.40	5790.40	5786.58	5786.69	5786.24	5786.49	5.00	12	5.00	0.75	5.0
17	C5	4.38	3.16	2.25	6	0.00	0.18	0.26	5790.40	5790.20	5786.58	5787.17	5786.24	5786.95	47.00	12	1.51	0.73	5.0
18	C1	3.56	7.09	8.45	8	0.00	1.39	2.44	5797.50	5799.80	5790.02	5791.01	5789.41	5790.35	94.00	12	1.00	0.88	5.0

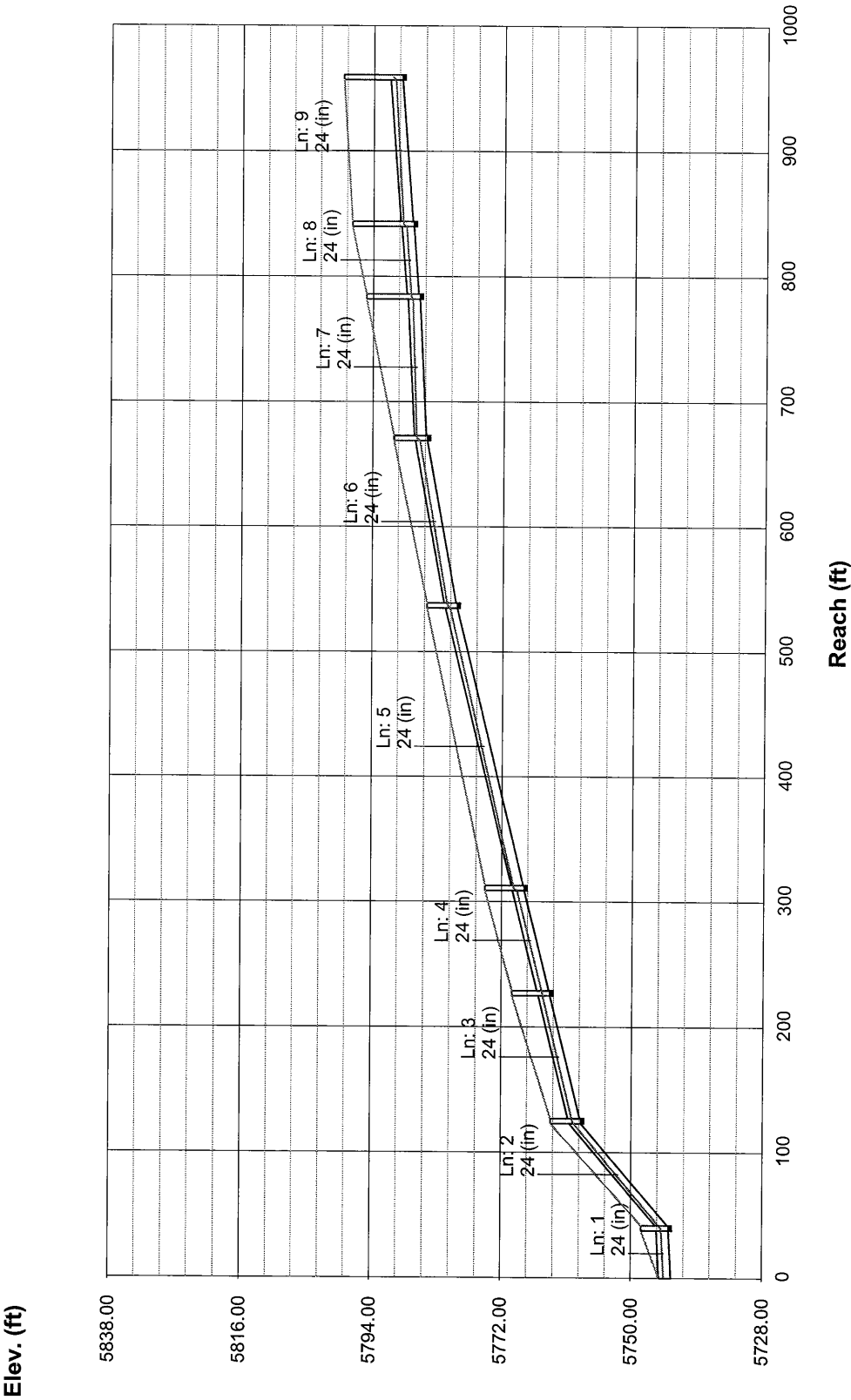
Project File: D02049 Line-6 2-yr.stm

Number of lines: 18

Date: 07-29-2004

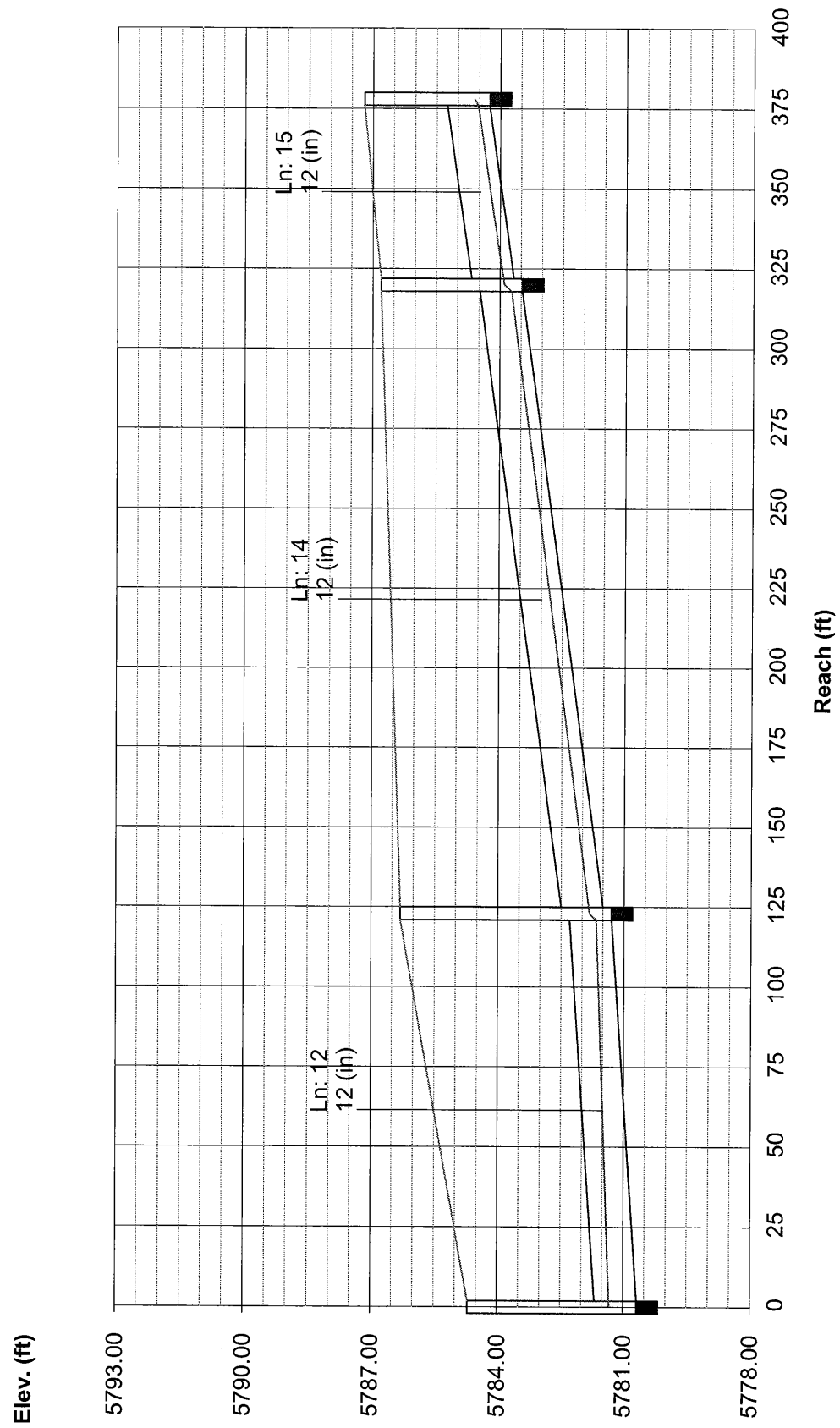
NOTES: ** At critical depth

Storm Sewer Profile



Storm Sewer Profile

Proj. file: D02049 Line-6 2-yr.stm



Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
1	MH 6-0	22.63	0.00	2.60	Outfall	0.00	0.00	31.05	5745.30	5748.30	5745.30	5746.06	5743.30	5743.70	40.00	24	1.00	0.00	11.8
2	MH 6-1	93.67	2.40	3.12	1	0.00	0.00	31.22	5748.30	5763.60	5746.28	5760.36	5743.90	5758.48	85.00	24	17.15	0.00	11.6
3	MH 6-2	50.57	2.92	4.42	2	0.00	0.00	31.43	5763.60	5770.20	5761.09	5765.66	5758.68	5763.78	102.00	24	5.00	0.00	11.4
4	MH 6-3	50.58	4.22	4.62	3	0.00	0.00	31.59	5770.20	5774.80	5765.91	5770.07	5763.98	5768.18	84.00	24	5.00	0.00	11.3
5	MH 6-4	50.58	4.42	3.02	4	0.00	0.00	29.76	5774.80	5784.70	5771.71	5781.54	5768.38	5779.68	226.00	24	5.00	0.00	10.9
6	MH 6-5	43.38	2.82	3.59	5	0.00	0.00	27.99	5784.70	5790.40	5782.80	5786.64	5779.88	5784.81	134.00	24	3.68	0.00	10.6
7	MH 6-6	22.62	3.39	6.96	6	0.00	0.21	27.31	5790.40	5795.10	5787.98	5789.63	5785.01	5786.14	113.00	24	1.00	0.78	10.4
8	MH 6-7	27.70	6.76	8.29	7	0.00	0.00	26.88	5795.10	5797.50	5790.22	5791.04	5786.34	5787.21	58.00	24	1.50	0.00	10.3
9	OS7/OS8	27.74	8.09	7.83	8	3.18	10.09	22.81	5797.50	5799.00	5792.18	5793.37	5787.41	5789.17	117.00	24	1.50	0.58	10.0
10	C11	7.96	4.62	4.27	4	0.00	0.39	1.46	5774.80	5774.70	5771.71	5771.72	5769.18	5769.43	5.00	12	5.00	0.88	5.0
11	C10	7.96	4.62	2.37	4	0.00	0.51	1.56	5774.80	5775.10	5771.71	5772.26	5769.18	5771.73	51.00	12	5.00	0.72	5.0
12	MH 6-8	2.53	3.02	4.00	5	0.00	0.15	2.23	5784.70	5786.30	5782.80	5783.29	5780.68	5781.30	123.00	12	0.50	0.78	8.6
13	C4	7.96	3.70	3.60	12	0.00	0.37	1.22	5786.30	5787.50	5783.44	5783.41	5781.60	5782.90	26.00	12	5.00	0.78	5.0
14	MH 6-9	3.56	3.80	2.33	12	0.00	0.00	0.90	5786.30	5786.80	5783.44	5783.88	5781.50	5783.47	197.00	12	1.00	0.00	5.8
15	C3	3.56	2.13	1.95	14	0.00	0.26	0.94	5786.80	5787.20	5784.02	5784.66	5783.67	5784.25	58.00	12	1.00	0.85	5.0
16	C6	7.96	3.16	2.91	6	0.00	0.15	0.53	5790.40	5790.40	5787.98	5787.98	5786.24	5786.49	5.00	12	5.00	0.83	5.0
17	C5	4.38	3.16	2.25	6	0.00	0.18	0.63	5790.40	5790.20	5787.98	5788.00	5786.24	5786.95	47.00	12	1.51	0.82	5.0
18	C1	3.56	7.09	8.45	8	0.00	1.39	5.49	5797.50	5799.80	5792.18	5794.41	5789.41	5790.35	94.00	12	1.00	0.93	5.0

Project File: D02049 Line-6 25-yr.stm

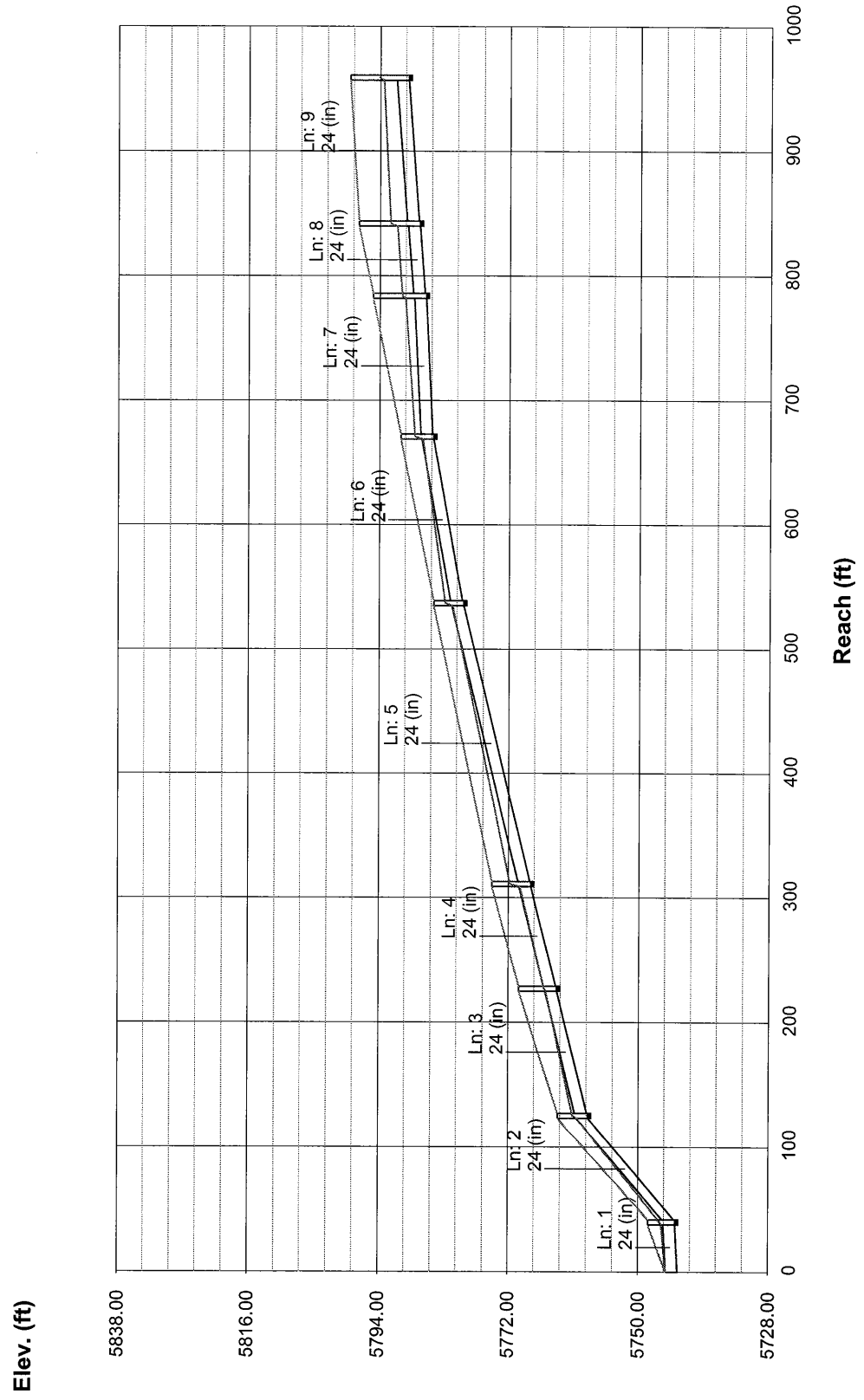
Number of lines: 18

Date: 07-29-2004

NOTES: ** At critical depth

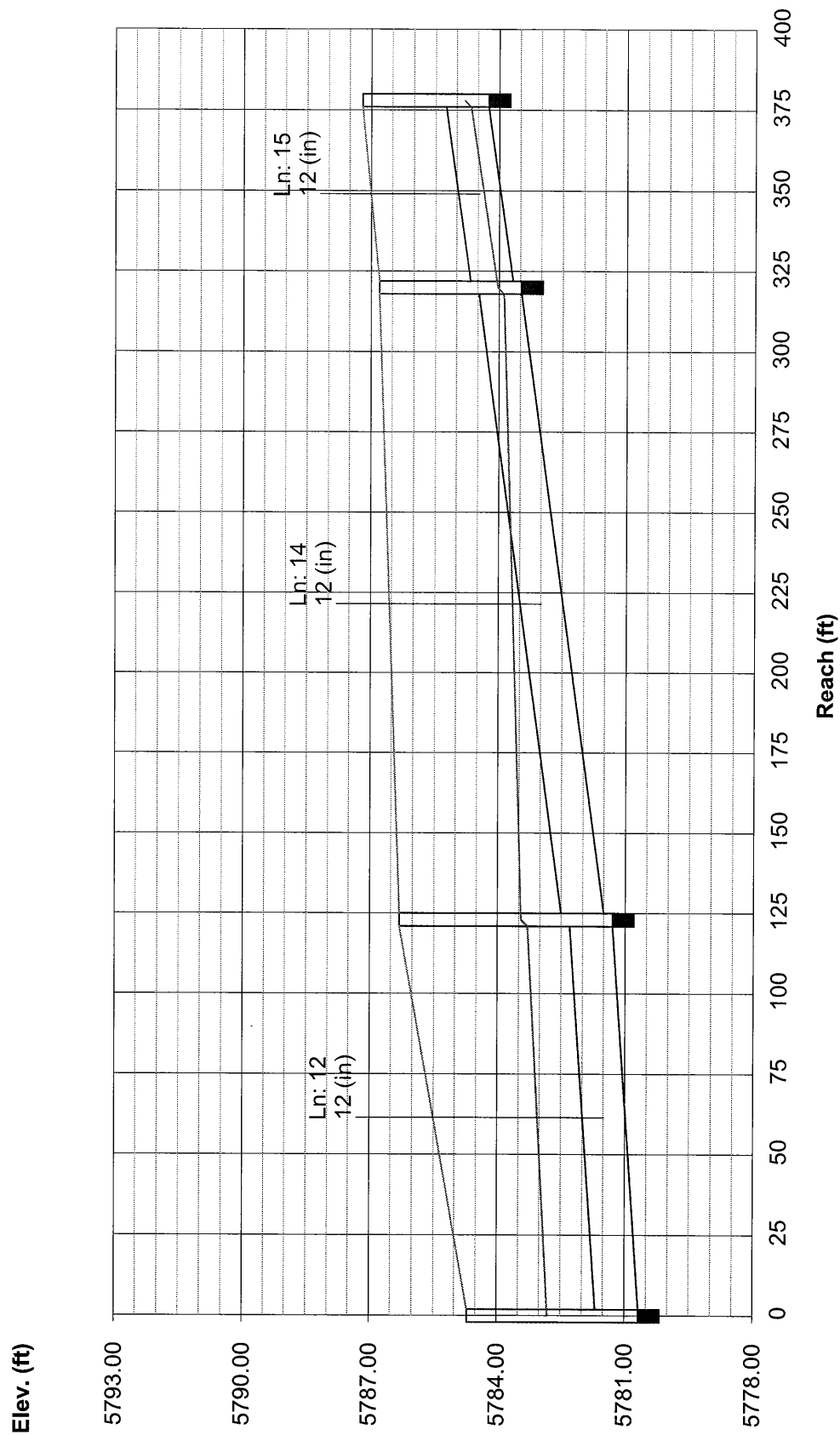
Storm Sewer Profile

Proj. file: D02049 Line-6 25-yr.stm

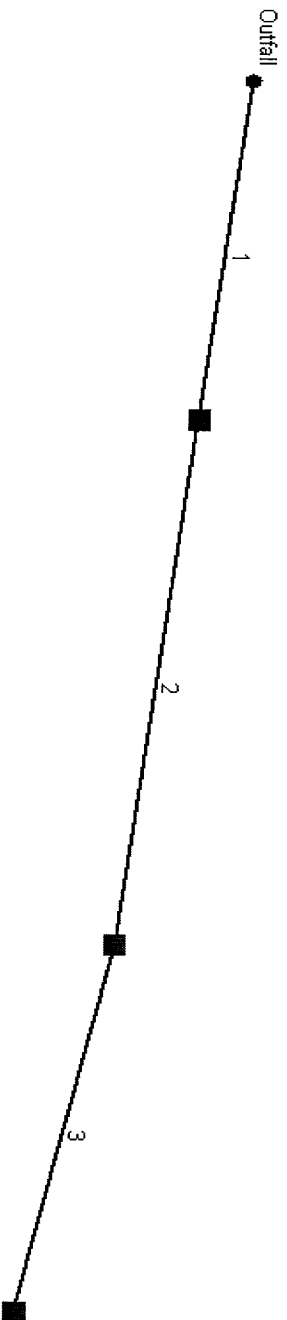


Storm Sewer Profile

Proj. file: D02049 Line-6 25-yr.stm



Hydraflow Plan View



Project file: D02049 Line-7 2-yr.stm

No. Lines: 3

07-29-2004

Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStim Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
1	A27	2.24	0.00	7.75	Outfall	0.00	0.40	1.07	5745.00	5752.90	5744.49	5744.64	5744.00	5744.15	38.00	12	0.39	0.86	6.2
2	A34	2.17	7.76	6.94	1	0.00	0.32	1.07	5752.90	5752.30	5744.70	5744.85	5744.14	5744.36	59.00	12	0.37	0.77	5.5
3	Line-2/A38	2.20	6.94	-0.02	2	1.07	0.83	1.07	5752.30	5745.50	5744.91	5745.02	5744.36	5744.52	42.00	12	0.38	0.13	5.0

Project File: D02049 Line-7 2-yr.stm

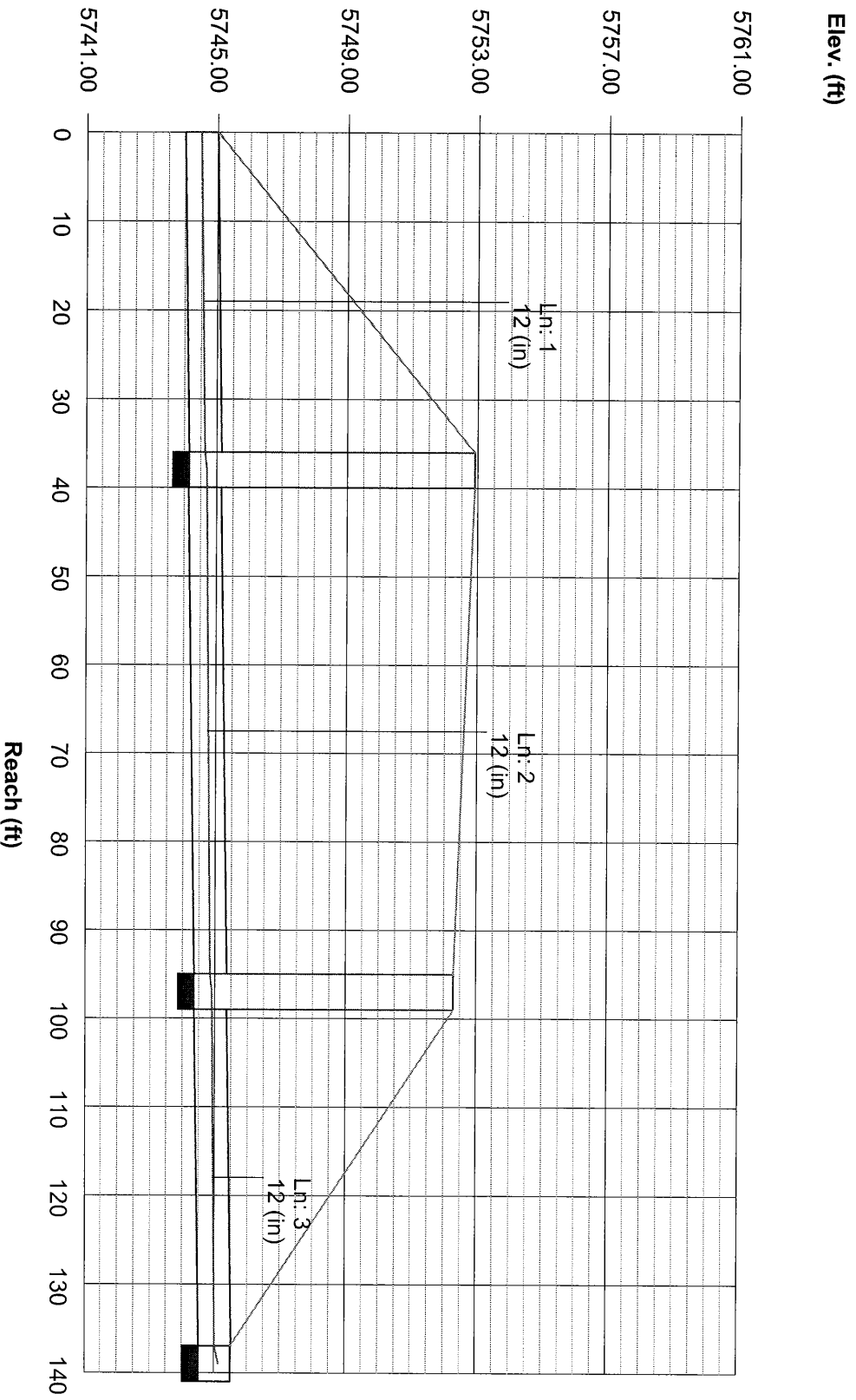
Number of lines: 3

Date: 07-29-2004

NOTES: ** At critical depth

Storm Sewer Profile

Proj. file: D02049 Line-7 2-yr.stm



Line No.	Line ID	Capac Full	Cover Dn	Cover Up	DnStm Ln No	Known Q	Drrng Area	Flow Rate	Gnd/Rim El Dn	Gnd/Rim El Up	HGL Dn	HGL Up	Invert Dn	Invert Up	Line Length	Line Size	Line Slope	Runoff Coeff	Tc
1	A27	2.24	0.00	7.75	Outfall	0.00	0.40	7.10	5745.00	5752.90	5745.00	5746.51	5744.00	5744.15	38.00	12	0.39	0.92	5.3
2	A34	2.17	7.76	6.94	1	0.00	0.32	5.58	5752.90	5752.30	5747.15	5748.60	5744.14	5744.36	59.00	12	0.37	0.85	5.1
3	Line-2/A38	2.20	6.94	-0.02	2	2.80	1.11	4.45	5752.30	5745.50	5748.99	5749.65	5744.36	5744.52	42.00	12	0.38	0.35	5.0

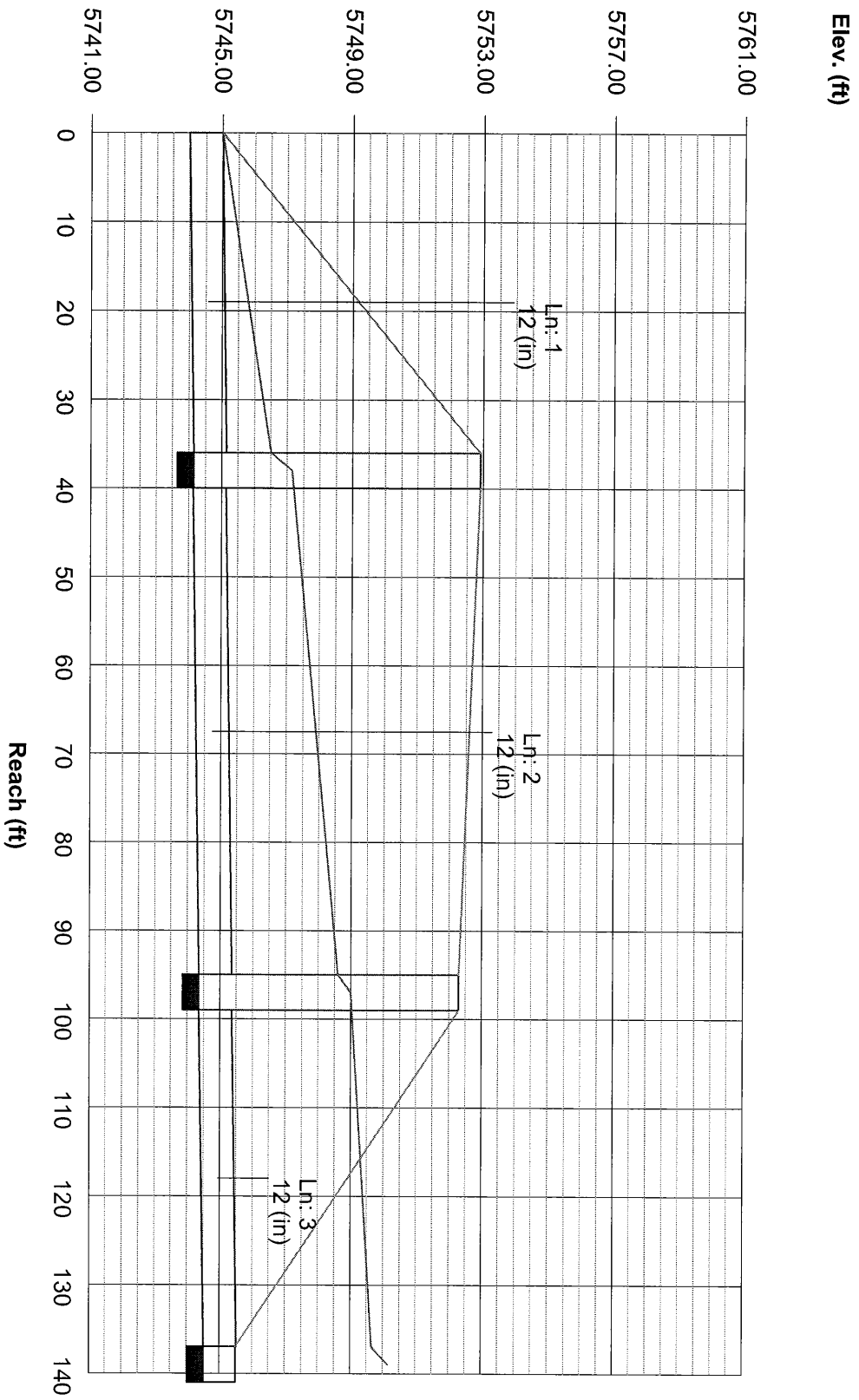
Project File: D02049 Line-7 25-yr.stm

Number of lines: 3

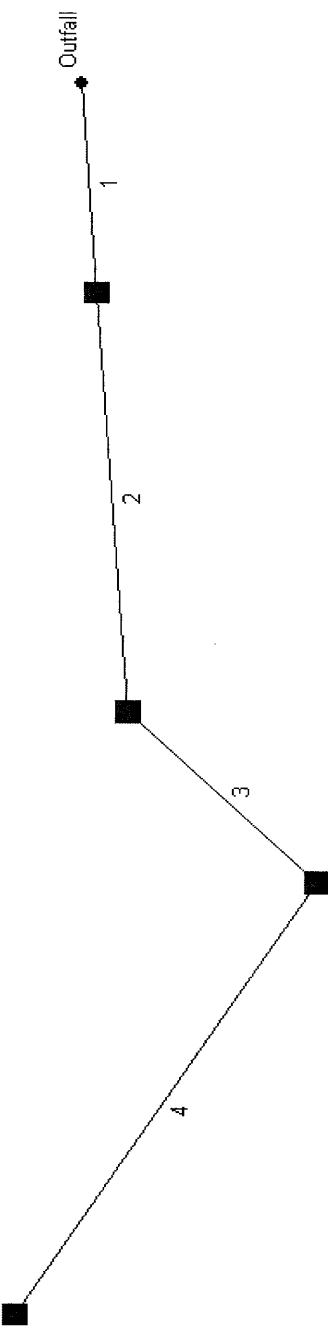
Date: 07-29-2004

Storm Sewer Profile

Proj. file: D02049 Line-7 25-yr.stm



Hydraflow Plan View



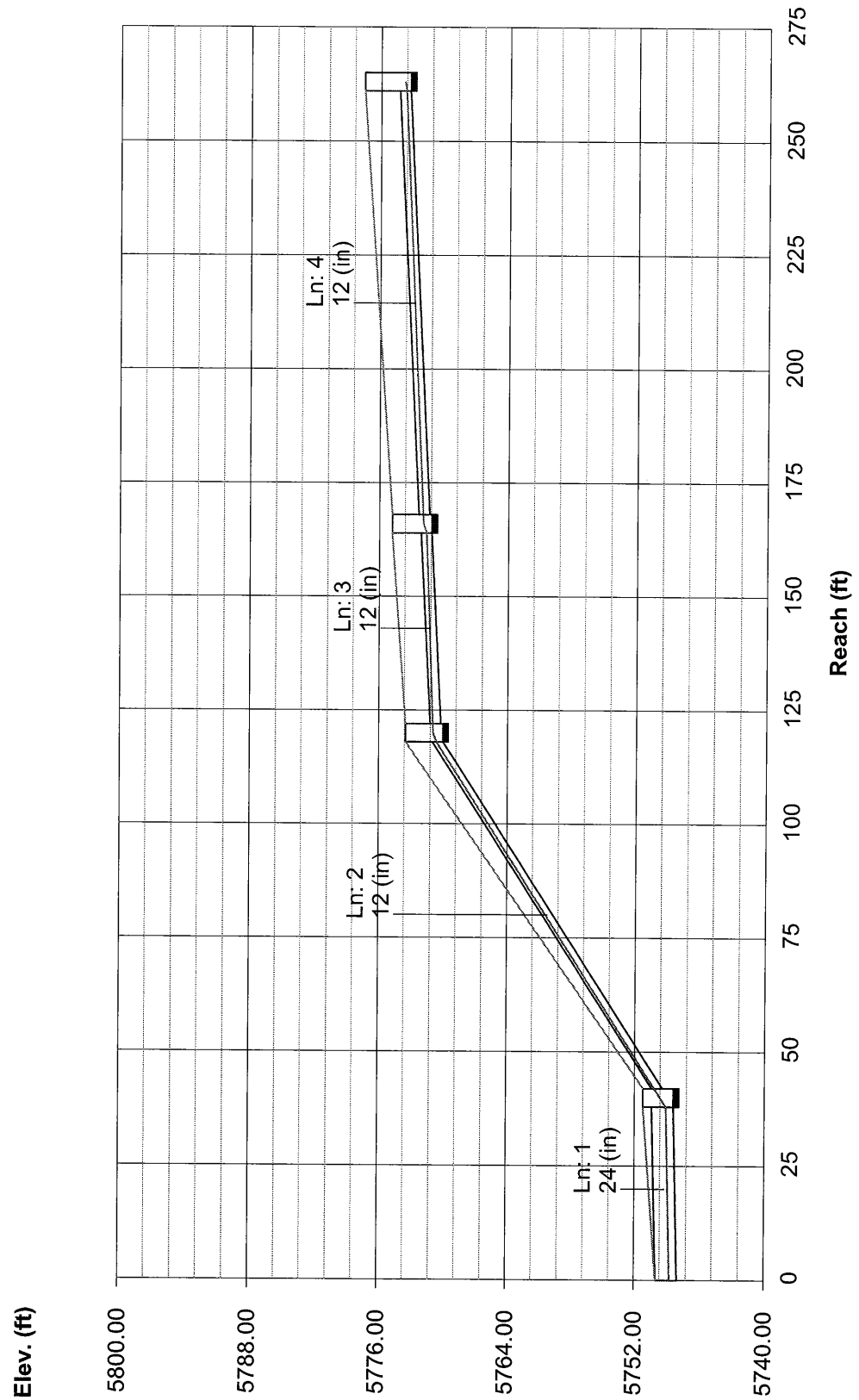
Project file: D02049 Line-8 2-yr.stm

No. Lines: 4

07-29-2004

Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
1	C16	22.62	0.00	0.80	Outfall	0.00	1.17	3.70	5750.00	5751.20	5748.68	5749.08	5748.00	5748.40	40.00	24	1.00	0.82	7.5
2	C15	18.07	0.80	2.50	1	0.00	0.68	2.11	5751.20	5773.50	5749.63	5770.62	5749.40	5770.00	80.00	12	25.75	0.69	7.1
3	C2	5.04	2.30	2.68	2	0.00	0.47	1.31	5773.50	5774.80	5770.91	5771.61	5770.20	5771.12	46.00	12	2.00	0.71	6.6
4	C12	5.04	2.48	3.24	3	0.00	0.55	0.78	5774.80	5777.50	5771.89	5773.63	5771.32	5773.26	97.00	12	2.00	0.71	5.0
Project File: D02049 Line-8 2-yr.stm												Number of lines: 4				Date: 07-29-2004			
NOTES: ** At critical depth																			

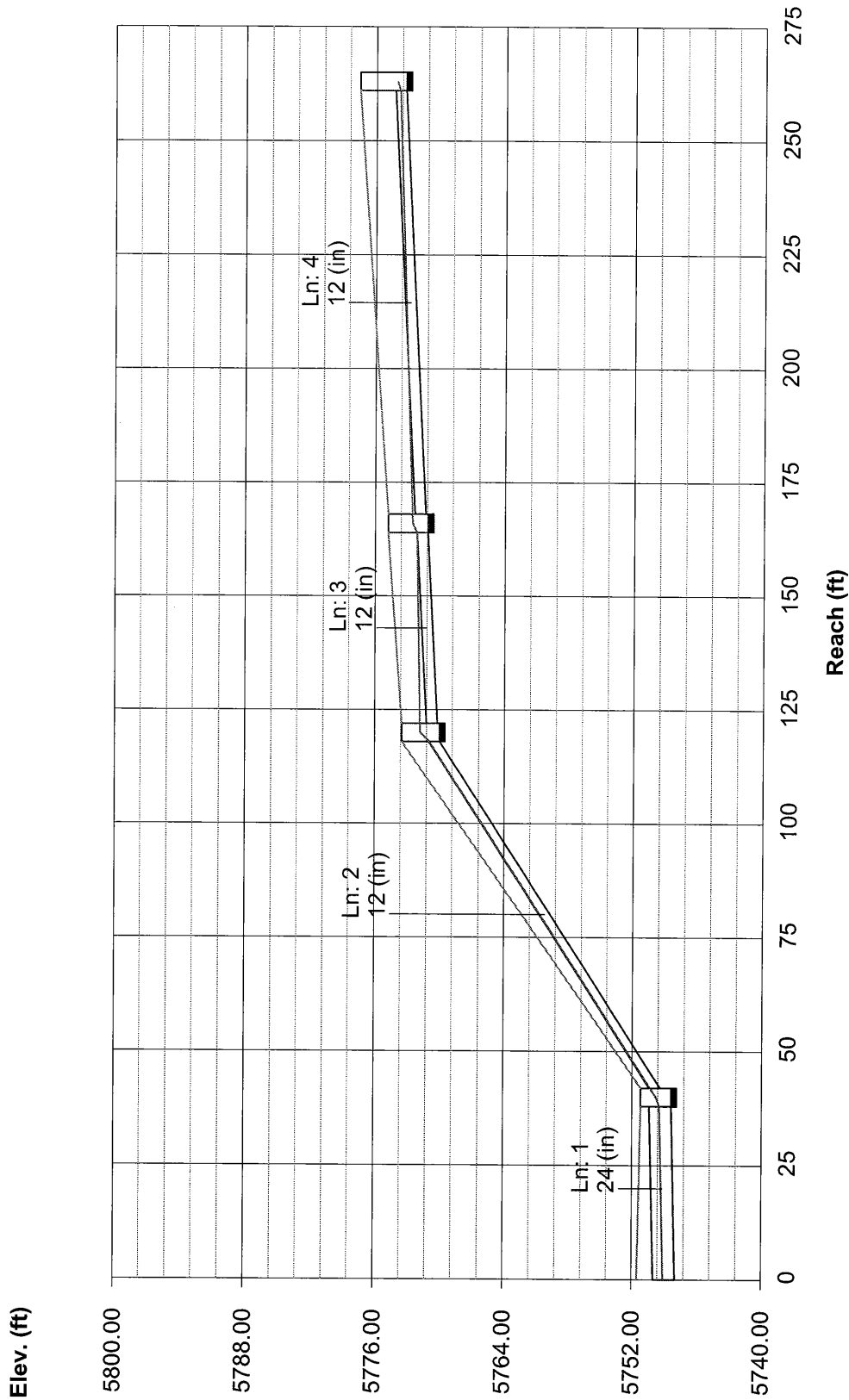
Storm Sewer Profile



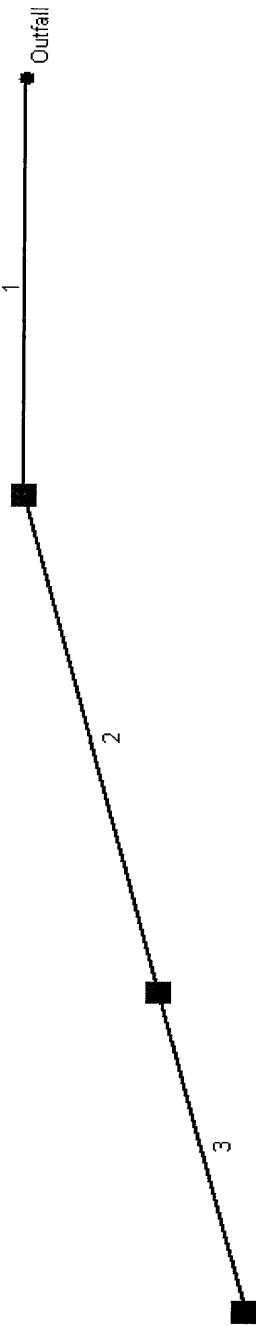
Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
1	C16	22.62	N/A	0.80	Outfall	0.00	1.17	9.47	0.00	5751.20	5749.09	5749.49	5748.00	5748.40	40.00	24	1.00	0.88	6.1
2	C15	18.07	0.80	2.50	1	0.00	0.68	5.40	5751.20	5773.50	5749.78	5770.94	5749.40	5770.00	80.00	12	25.75	0.79	5.9
3	C2	5.04	2.30	2.68	2	0.00	0.47	3.25	5773.50	5774.80	5771.79	5772.12	5770.20	5771.12	46.00	12	2.00	0.78	5.7
4	C12	5.04	2.48	3.24	3	0.00	0.55	1.82	5774.80	5777.50	5772.52	5773.83	5771.32	5773.26	97.00	12	2.00	0.78	5.0
Project File: D02049 Line-8 25-yr.stm													Number of lines: 4		Date: 07-29-2004				

NOTES: ** At critical depth

Storm Sewer Profile



Hydraflow Plan View



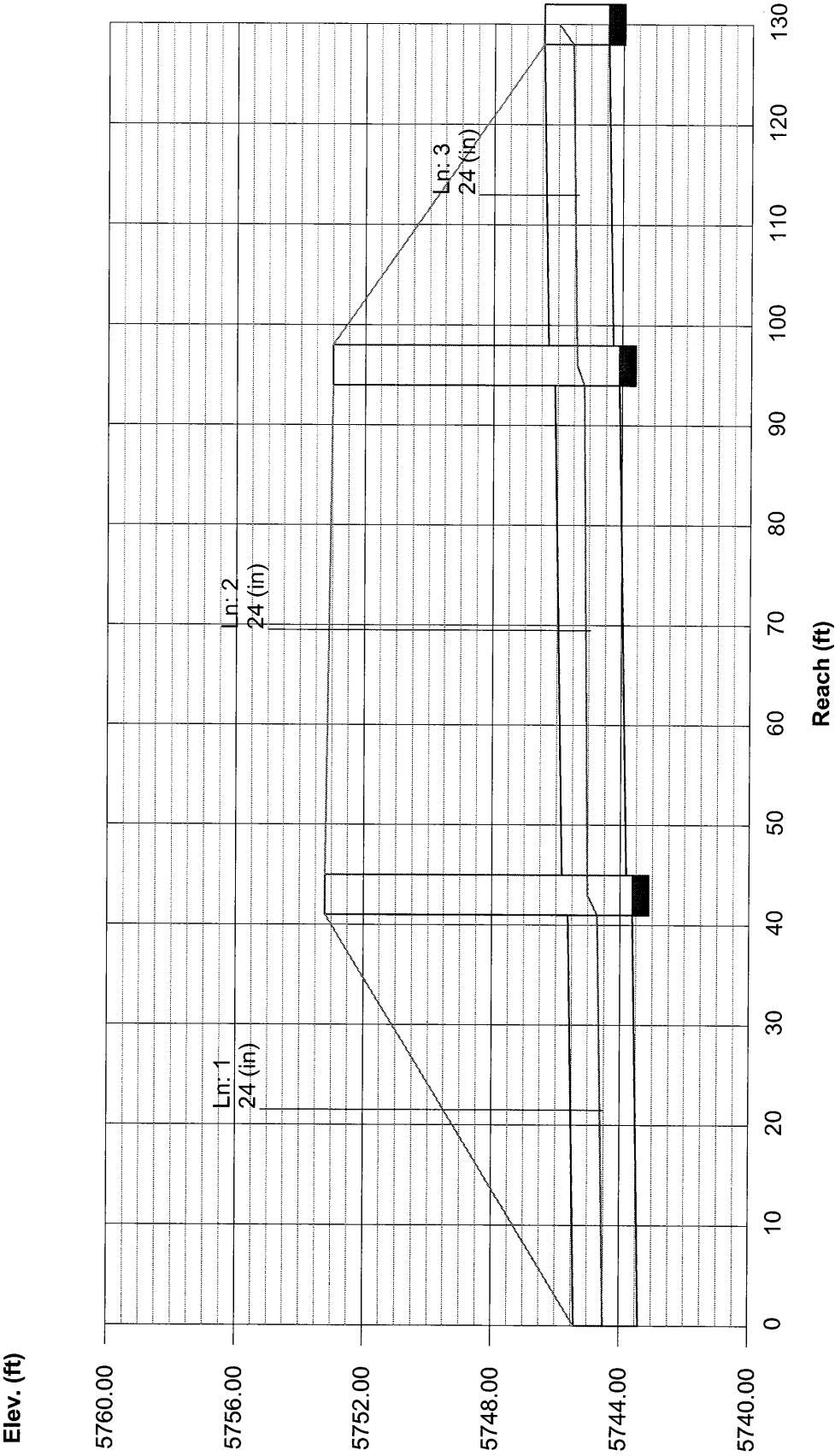
Project file: D02049 Line-9 2-yr.stm

No. Lines: 3

07-29-2004

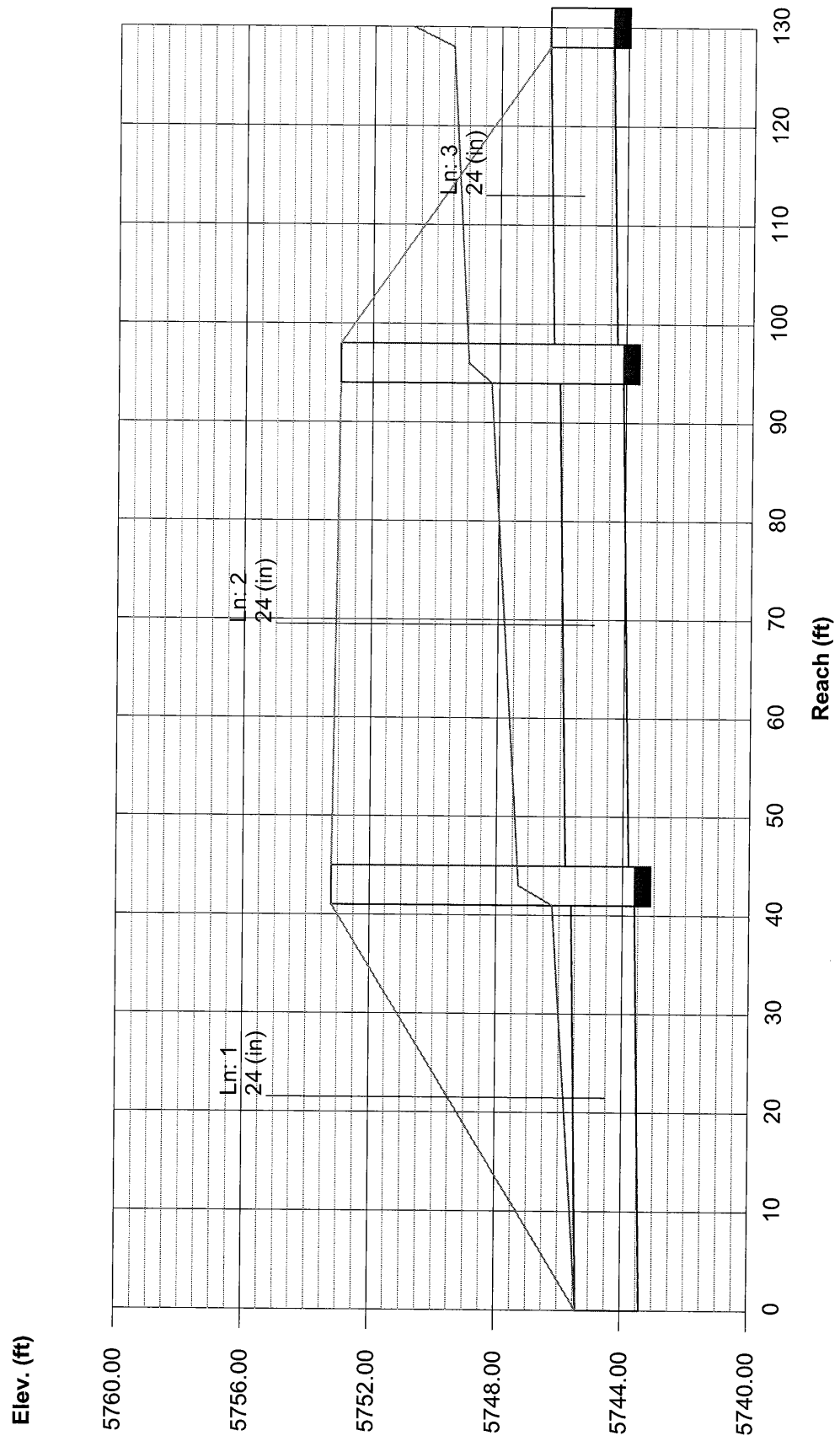
Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)	
1	C18	16.19	0.00	7.58	Outfall	0.00	0.28	9.35	5745.40	5753.20	5744.49	5744.71	5743.40	5743.62	43.00	24	0.51	0.81	5.5	
2	C17	16.14	7.38	6.91	1	0.00	0.48	9.35	5753.20	5753.00	5745.02	5745.18	5743.82	5744.09	53.00	24	0.51	0.88	5.2	
3	Pond C1/C16	15.99	6.71	0.00	2	9.35	1.17	9.35	5753.00	5746.46	5745.40	5745.55	5744.29	5744.46	34.00	24	0.50	0.82	5.0	
Project File: D02049 Line-9 2-yr.stm																Number of lines: 3			Date: 07-29-2004	
NOTES: ** At critical depth																				

Storm Sewer Profile

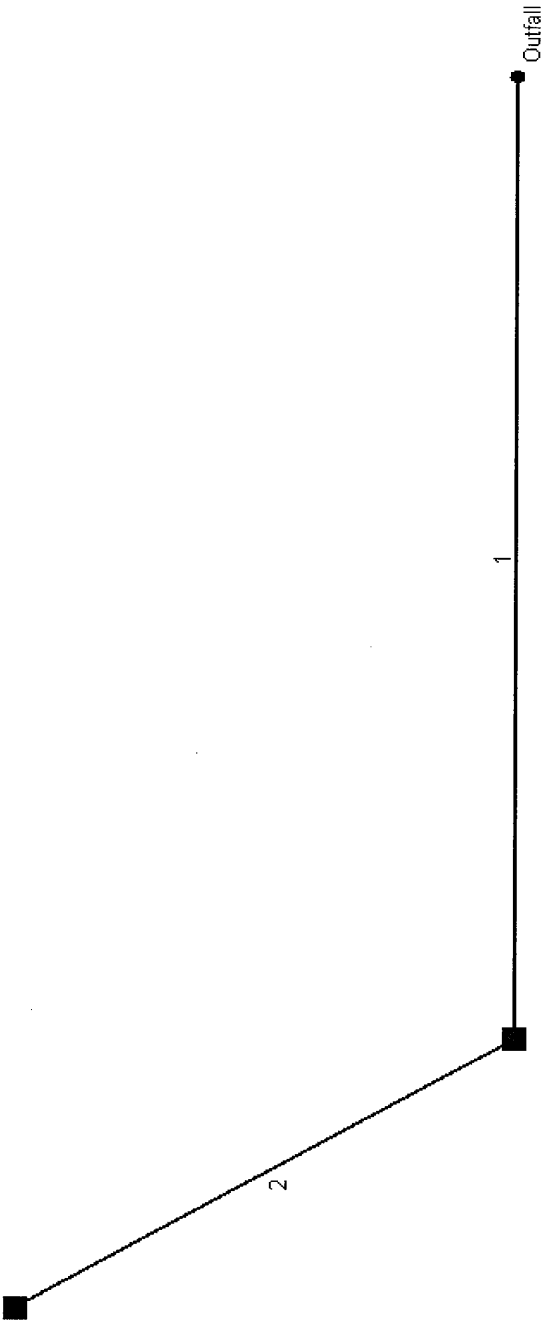


Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)	
1	C18	16.19	0.00	7.58	Outfall	0.00	0.28	31.25	5745.40	5753.20	5745.40	5746.22	5743.40	5743.62	43.00	24	0.51	0.88	5.2	
2	C17	16.14	7.38	6.91	1	0.00	0.48	30.24	5753.20	5753.00	5747.30	5748.25	5743.82	5744.09	53.00	24	0.51	0.93	5.1	
3	Pond C1/C16	15.99	6.71	0.00	2	24.00	1.17	28.37	5753.00	5746.46	5748.97	5749.50	5744.29	5744.46	34.00	24	0.50	0.88	5.0	
Project File: D02049 Line-9 25-yr.stm																Number of lines: 3		Date: 07-29-2004		
NOTES: ** At critical depth																				

Storm Sewer Profile



Hydraflow Plan View



Project file: D02049 Line-10 2-yr.stm

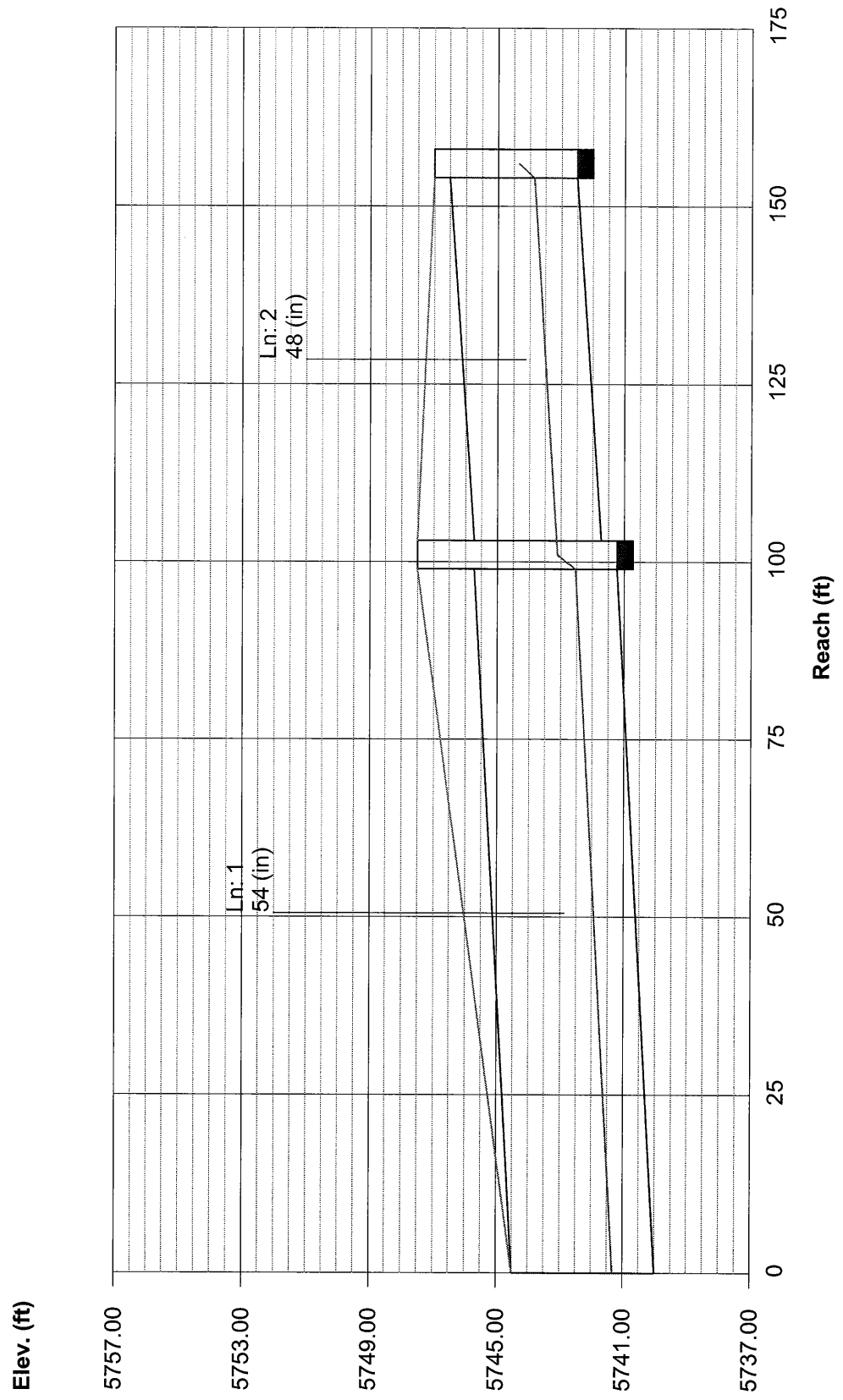
No. Lines: 2

07-29-2004

Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)	
1	C19	216.16	0.00	1.78	Outfall	0.00	6.24	21.03	5744.50	5747.50	5741.32	5742.54	5740.00	5741.22	101.00	54	1.21	0.81	7.0	
2	Pond C2	171.04	1.78	0.50	1	21.03	0.00	21.03	5747.50	5747.00	5743.11	5743.86	5741.72	5742.50	55.00	48	1.42	0.00	0.0	
Project File: D02049 Line-10 2-yr.stm																Number of lines: 2		Date: 07-29-2004		
NOTES: ** At critical depth																				

Storm Sewer Profile

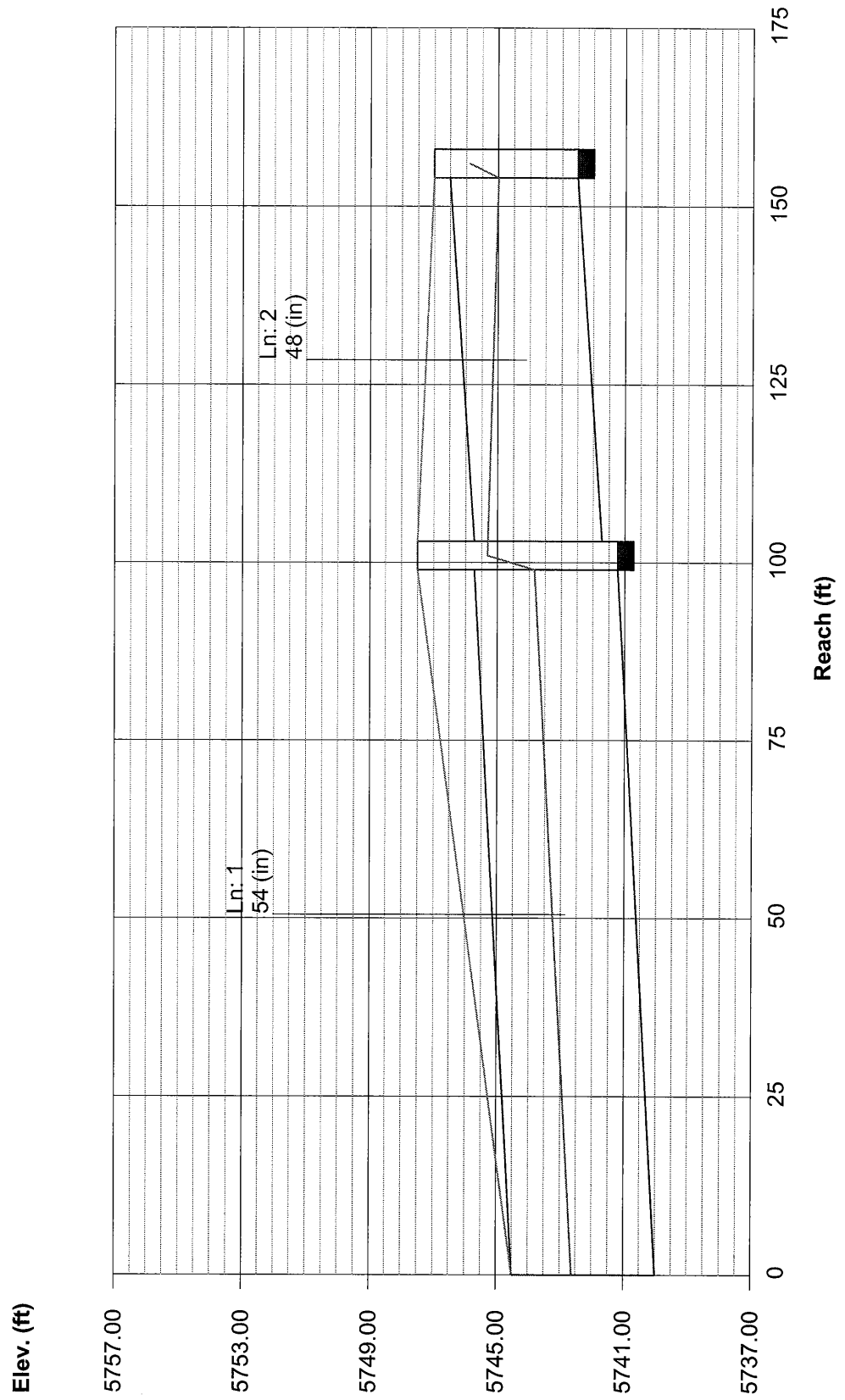
Proj. file: D02049 Line-10 2-yr.stm



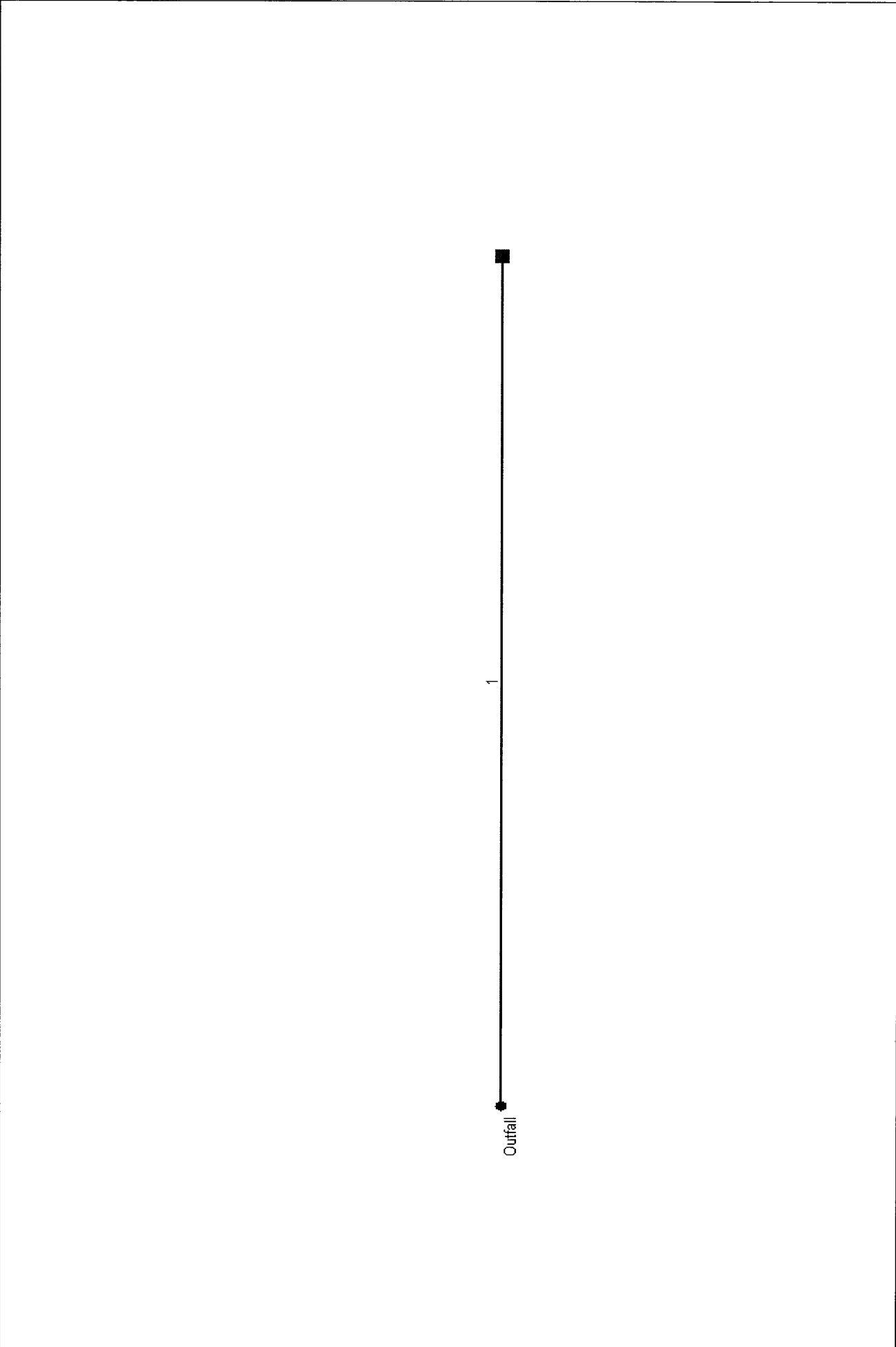
Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)	
1	C19	216.16	0.00	1.78	Outfall	0.00	6.24	83.34	5744.50	5747.50	5742.62	5743.84	5740.00	5741.22	101.00	54	1.21	0.88	7.0	
2	Pond C2	171.04	1.78	0.50	1	62.30	0.00	62.30	5747.50	5747.00	5745.30	5744.98	5741.72	5742.50	55.00	48	1.42	0.00	0.0	
Project File: D02049 Line-10 25-yr.sfm																Number of lines: 2			Date: 07-29-2004	
NOTES: ** At critical depth																				

Storm Sewer Profile

Proj. file: D02049 Line-10 25-yr.stm



Hydraflow Plan View



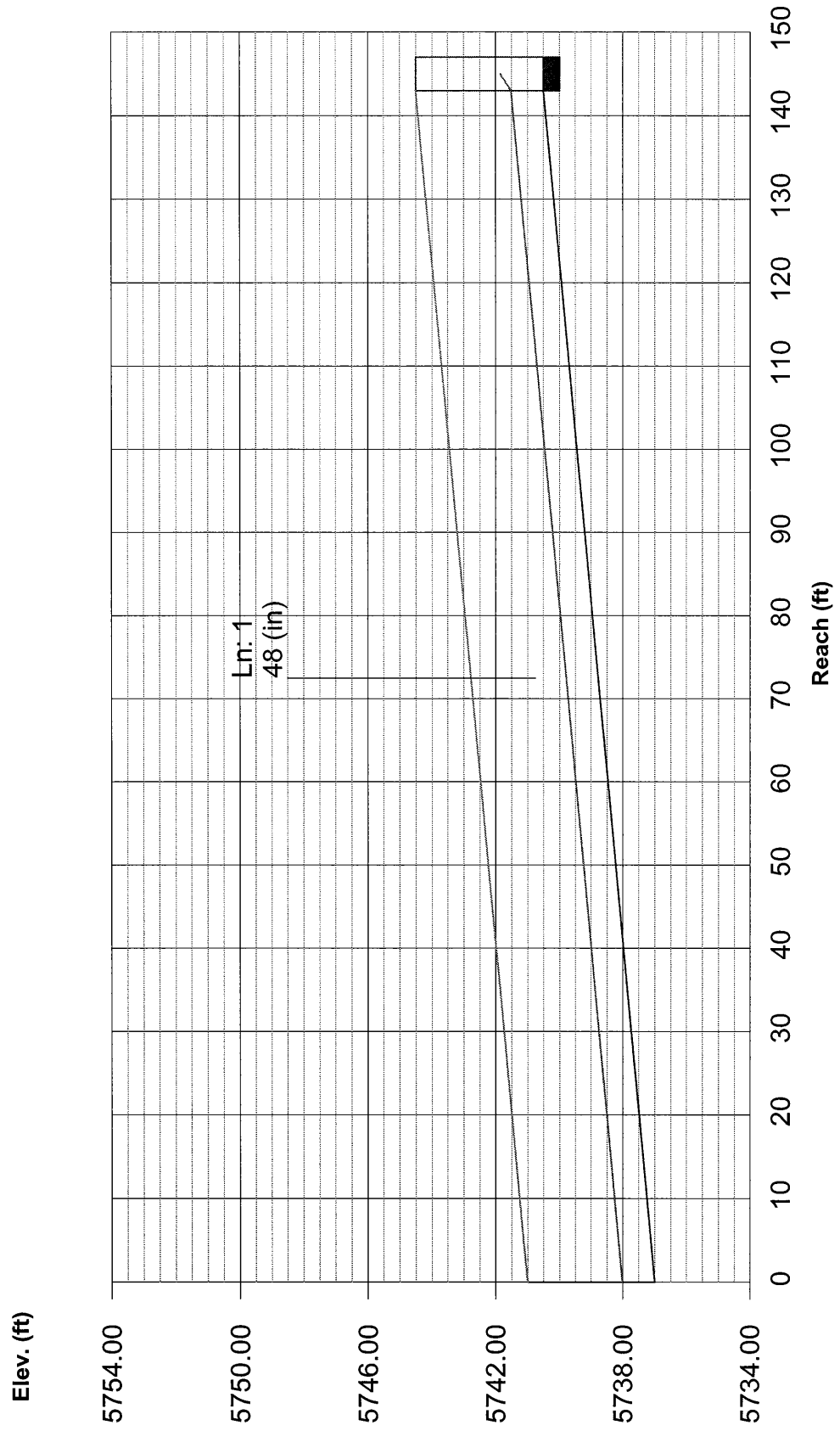
Project file: D02049 Line-11 25-yr.stm	No. Lines: 1	07-29-2004
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Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
1	Pond B/B5	223.18	0.00	0.00	Outfall	11.63	2.34	11.63	5741.00	5744.50	5738.01	5741.51	5737.00	5740.50	145.00	48	2.41	0.13	5.0

Project File: D02049 Line-11 2-yr.stm															Number of lines: 1		Date: 07-29-2004		
NOTES: ** At critical depth																			

Storm Sewer Profile

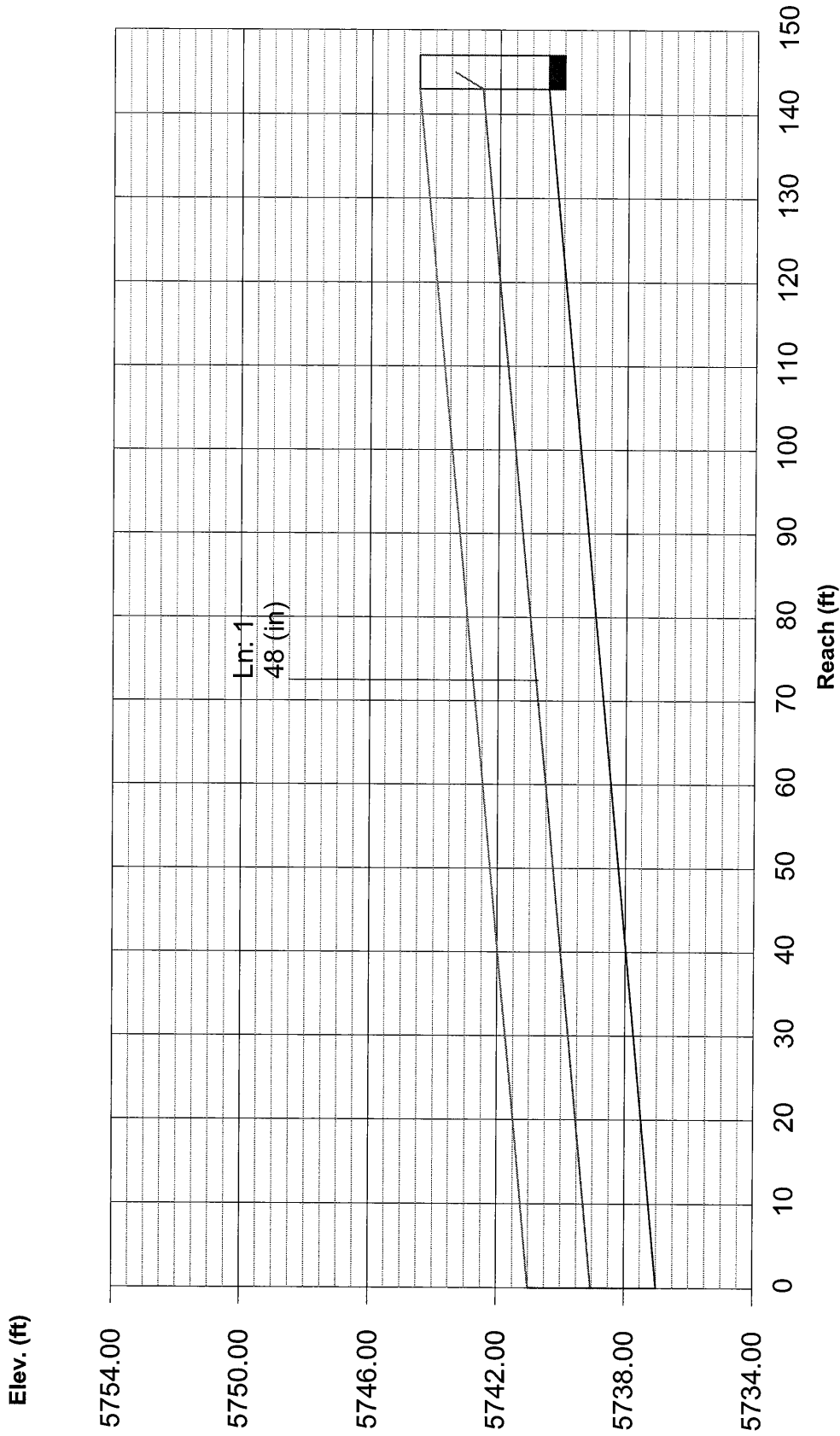
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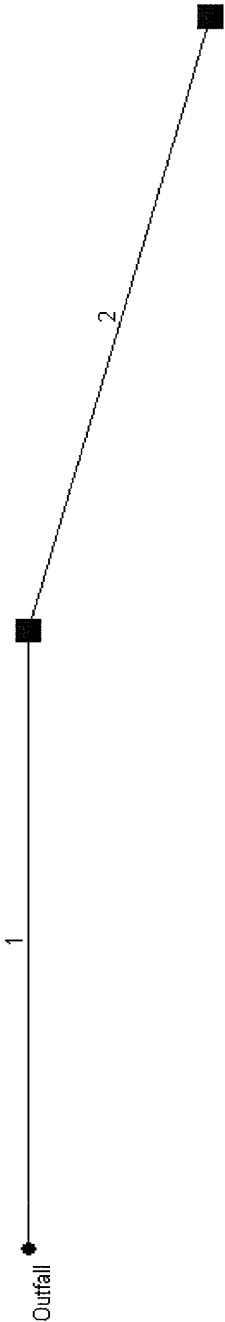
Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
1	Pond B/B5	223.18	0.00	0.00	Outfall	44.20	2.34	47.68	5741.00	5744.50	5739.04	5742.54	5737.00	5740.50	145.00	48	2.41	0.35	5.0

Project File: D02049 Line-11 25-yr.stm															Number of lines: 1		Date: 07-29-2004			
NOTES: ** At critical depth																				

Storm Sewer Profile



Hydraflow Plan View



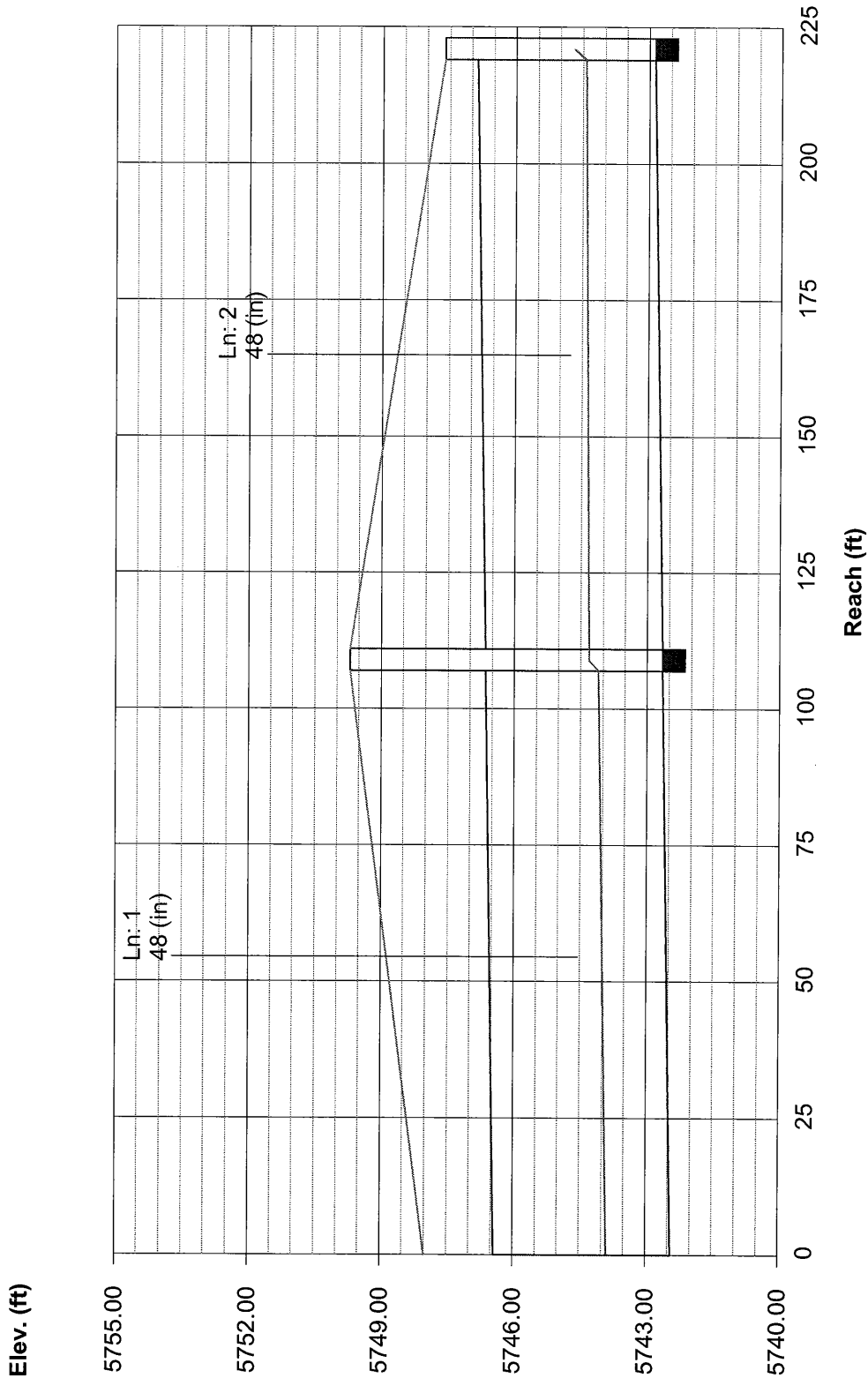
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No. Lines: 2

07-29-2004

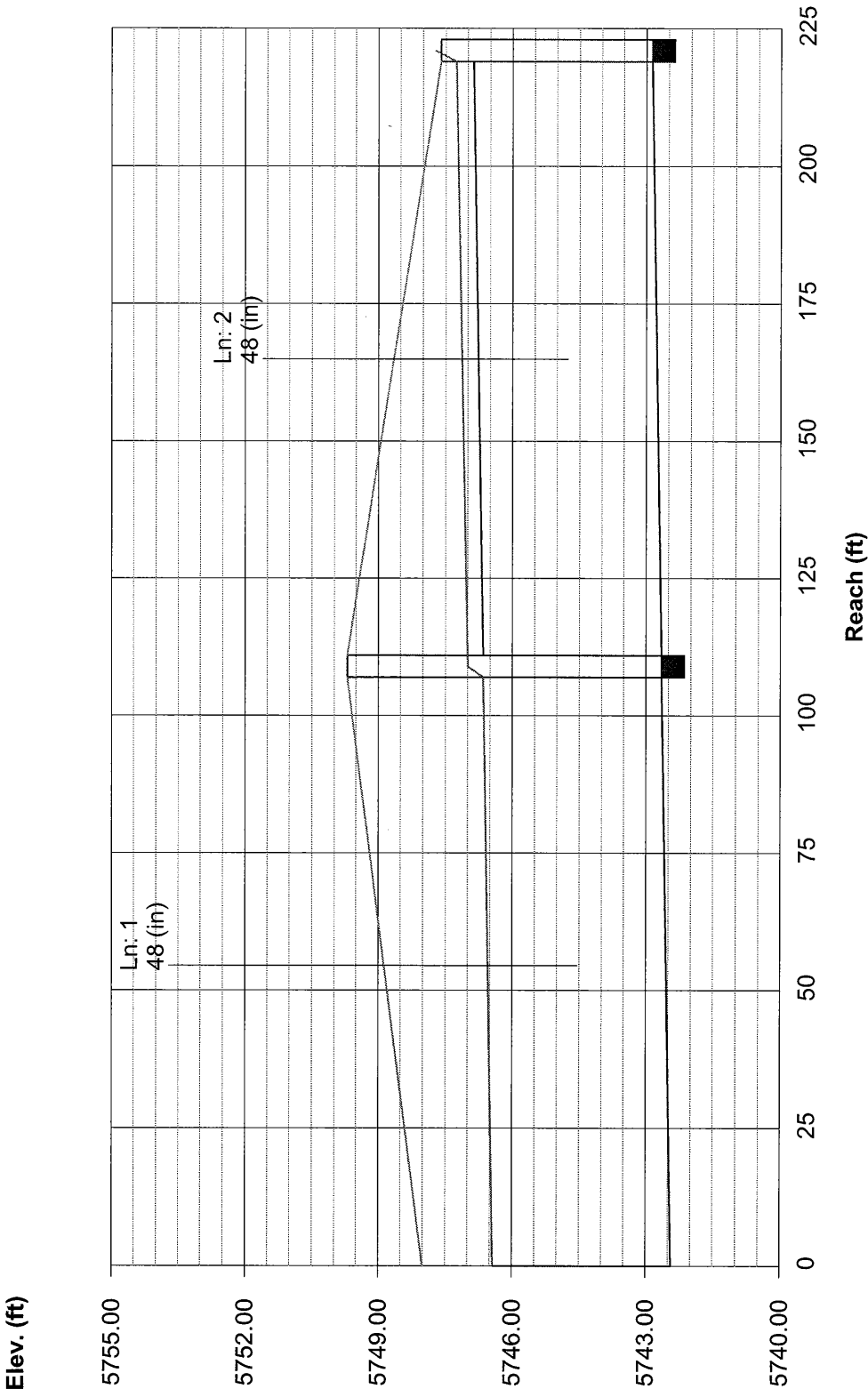
Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)	
1	A25	64.49	1.57	3.05	Outfall	0.00	0.92	18.18	5748.00	5749.70	5743.89	5744.10	5742.43	5742.65	109.00	48	0.20	0.37	9.3	
2	Pond A1/A28	63.70	3.05	0.73	1	18.18	0.77	18.18	5749.70	5747.60	5744.31	5744.43	5742.65	5742.87	112.00	48	0.20	0.11	8.0	
Project File: D02049 Line-12 2-yr.stm																Number of lines: 2		Date: 07-29-2004		
NOTES: ** At critical depth																				

Storm Sewer Profile

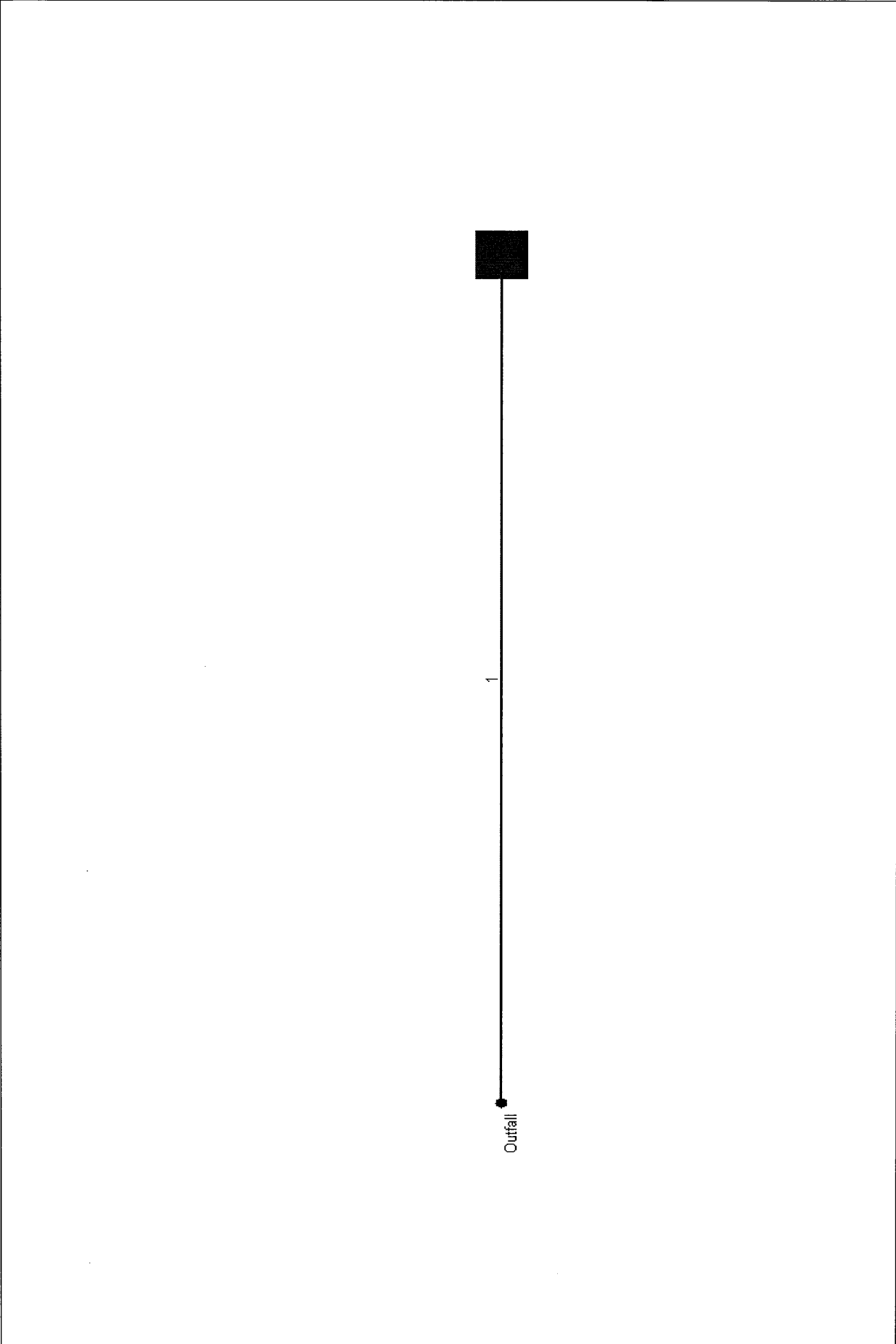


Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)	
1	A25	64.49	1.57	3.05	Outfall	0.00	0.92	70.67	5748.00	5749.70	5746.43	5746.65	5742.43	5742.65	109.00	48	0.20	0.53	8.3	
2	Pond A1/A28	63.70	3.05	0.73	1	68.00	0.77	68.93	5749.70	5747.60	5746.99	5747.25	5742.65	5742.87	112.00	48	0.20	0.33	8.0	
Project File: D02049 Line-12 25-yr.stm																Number of lines: 2		Date: 07-29-2004		
NOTES: ** At critical depth																				

Storm Sewer Profile



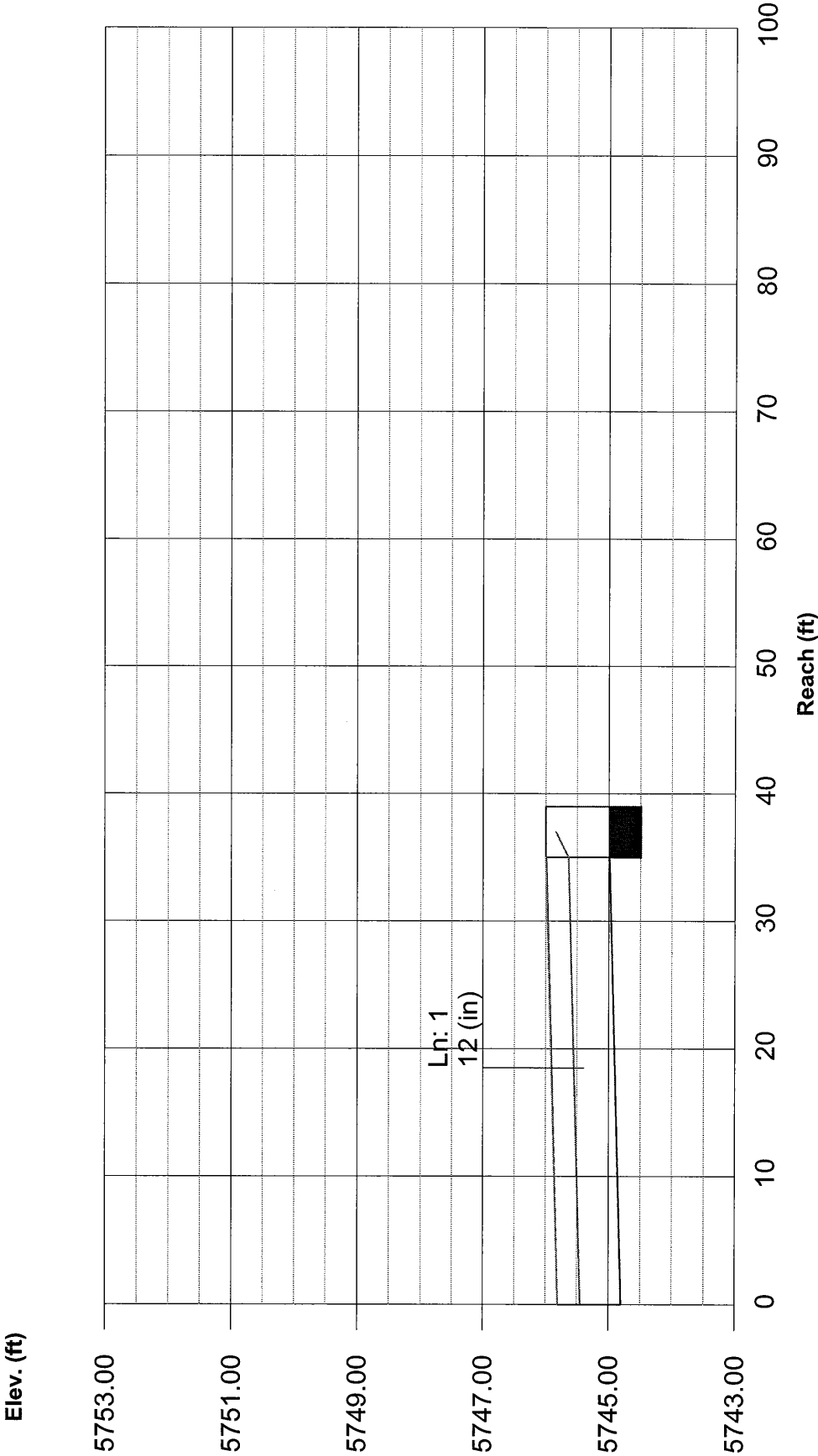
Hydraflow Plan View



Project file: D02049 Line-13 2-yr.stm	No. Lines: 1	07-29-2004
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Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
1	C-16	2.55	0.00	0.01	Outfall	0.00	1.17	1.92	5745.80	5746.00	5745.45	5745.64	5744.80	5744.99	37.00	12	0.51	0.82	5.0
Project File: D02049 Line-13 2-yr.stm Number of lines: 1 Date: 07-29-2004																			
NOTES: ** At critical depth																			

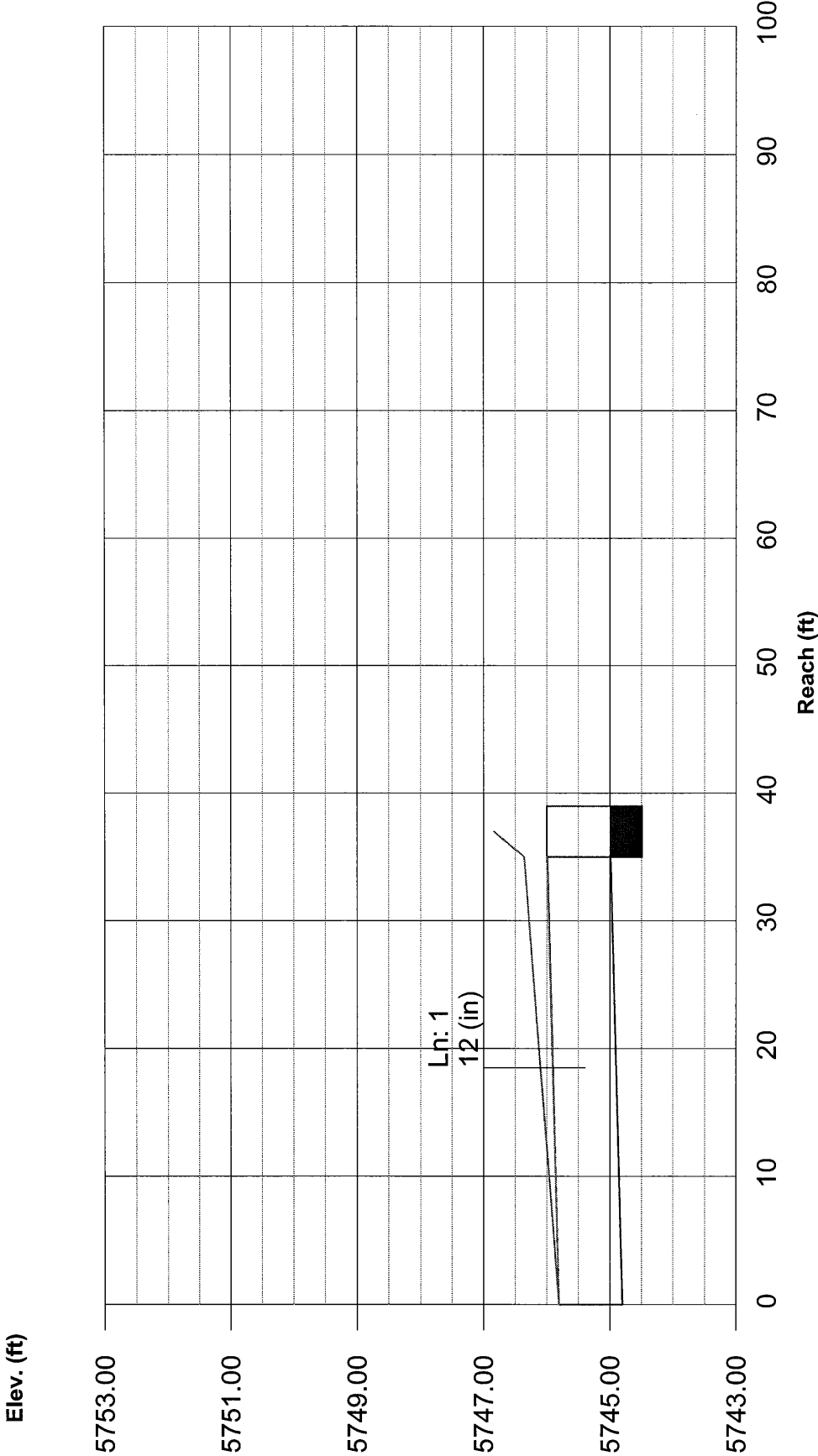
Storm Sewer Profile



Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
1	C-16	2.55	0.00	0.01	Outfall	0.00	1.17	4.37	5745.80	5746.00	5745.80	5746.36	5744.80	5744.99	37.00	12	0.51	0.88	5.0

Project File: D02049 Line-13 25-yr.stm																Number of lines: 1		Date: 07-29-2004		
NOTES: ** At critical depth																				

Storm Sewer Profile



Hydraflow Plan View

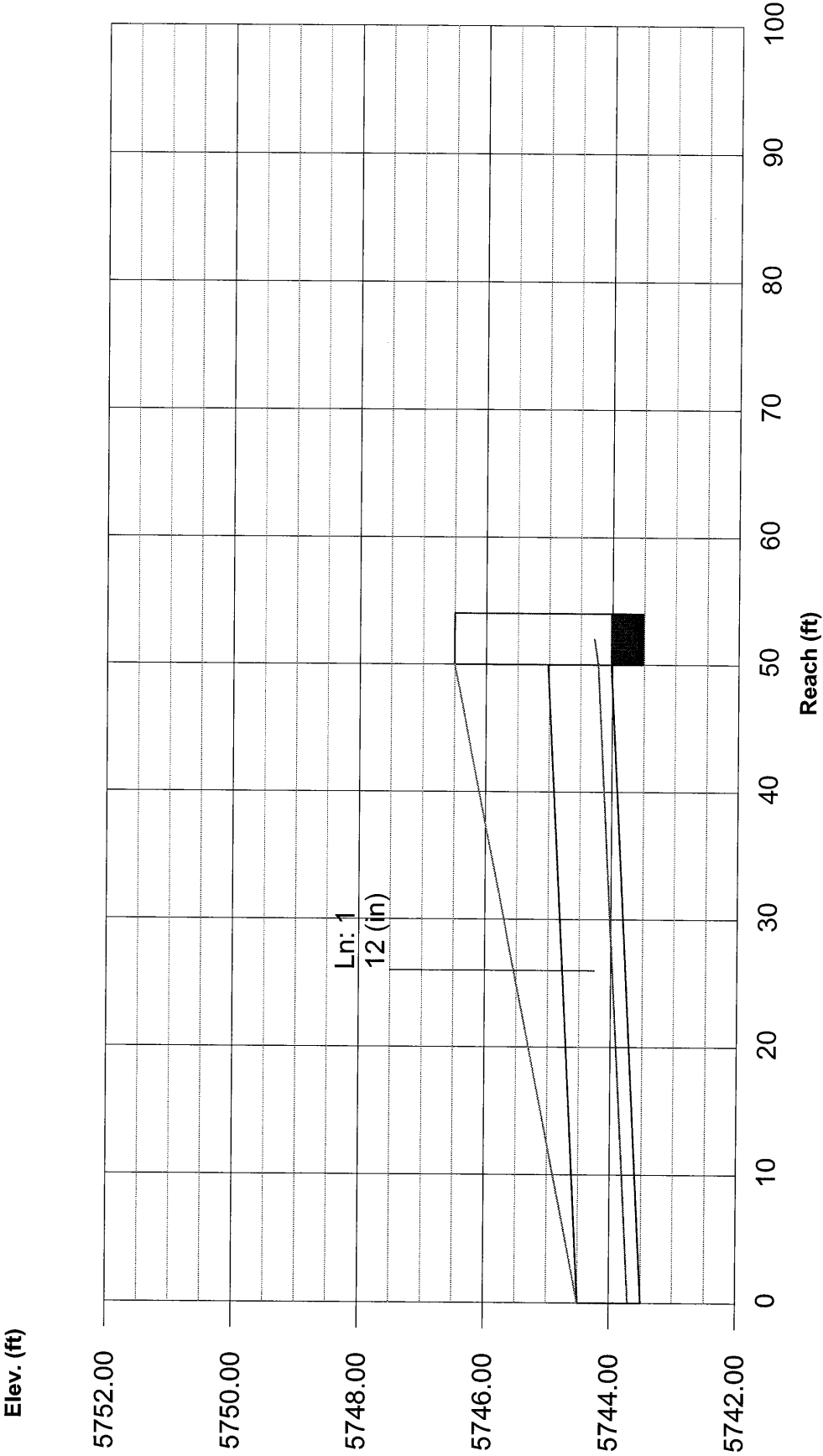


Project file: D02049 Line-14 2-yr.stm		No. Lines: 1	07-29-2004
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Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
1	E1	3.56	0.00	1.48	Outfall	0.00	0.65	0.23	5744.50	5746.50	5743.71	5744.23	5743.50	5744.02	52.00	12	1.00	0.18	5.0

Project File: D02049 Line-14 2-yr.stm																Number of lines: 1		Date: 07-29-2004	
NOTES: ** At critical depth																			

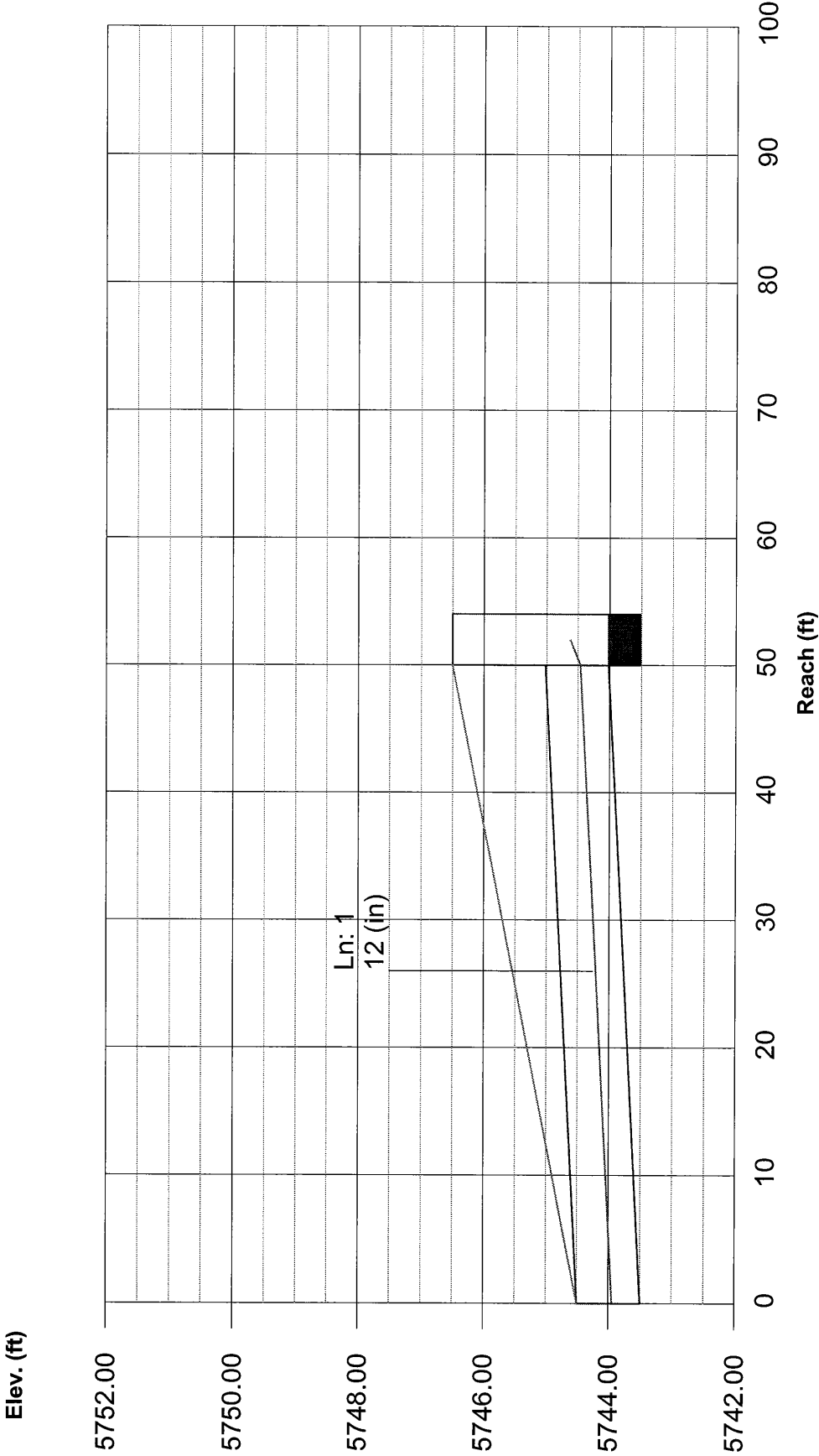
Storm Sewer Profile



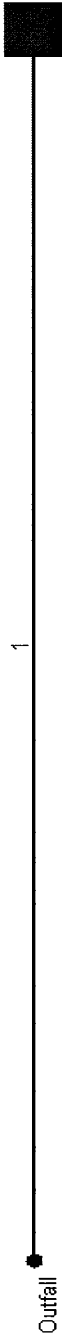
Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
1	E1	3.56	0.00	1.48	Outfall	0.00	0.65	1.08	5744.50	5746.50	5743.94	5744.46	5743.50	5744.02	52.00	12	1.00	0.39	5.0

Project File: D02049 Line-14 25-yr.stm																Number of lines: 1		Date: 07-29-2004	
NOTES: ** At critical depth																			

Storm Sewer Profile



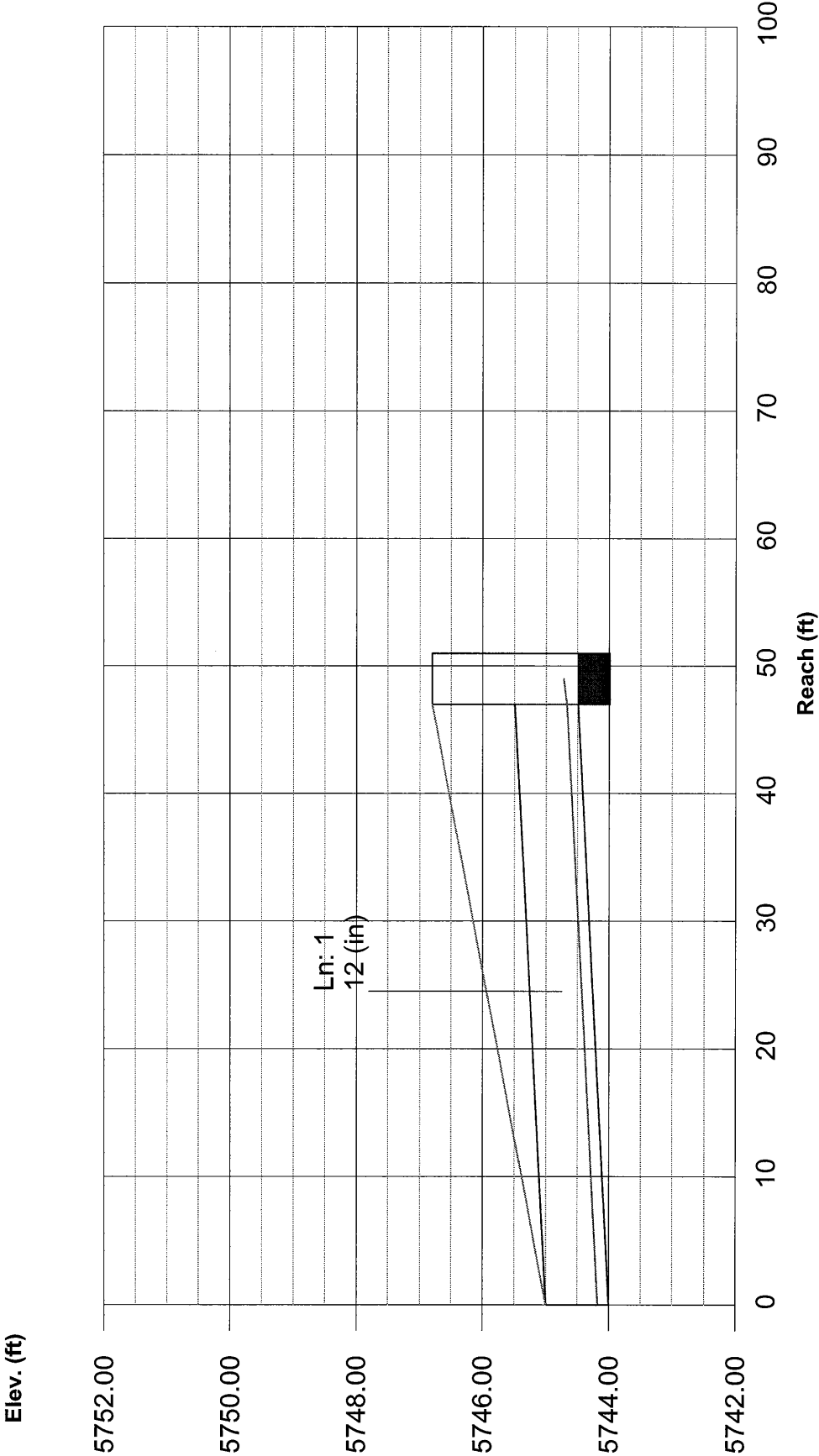
Hydraflow Plan View



Project file: D02049 Line-15 2-yr.stm	No. Lines: 1	07-29-2004
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Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)	
1	A28	3.56	0.00	1.31	Outfall	0.00	0.77	0.17	5745.00	5746.80	5744.17	5744.67	5744.00	5744.49	49.00	12	1.00	0.11	5.0	
Project File: D02049 Line-15 2-yr.stm																Number of lines: 1			Date: 07-29-2004	
NOTES: ** At critical depth																				

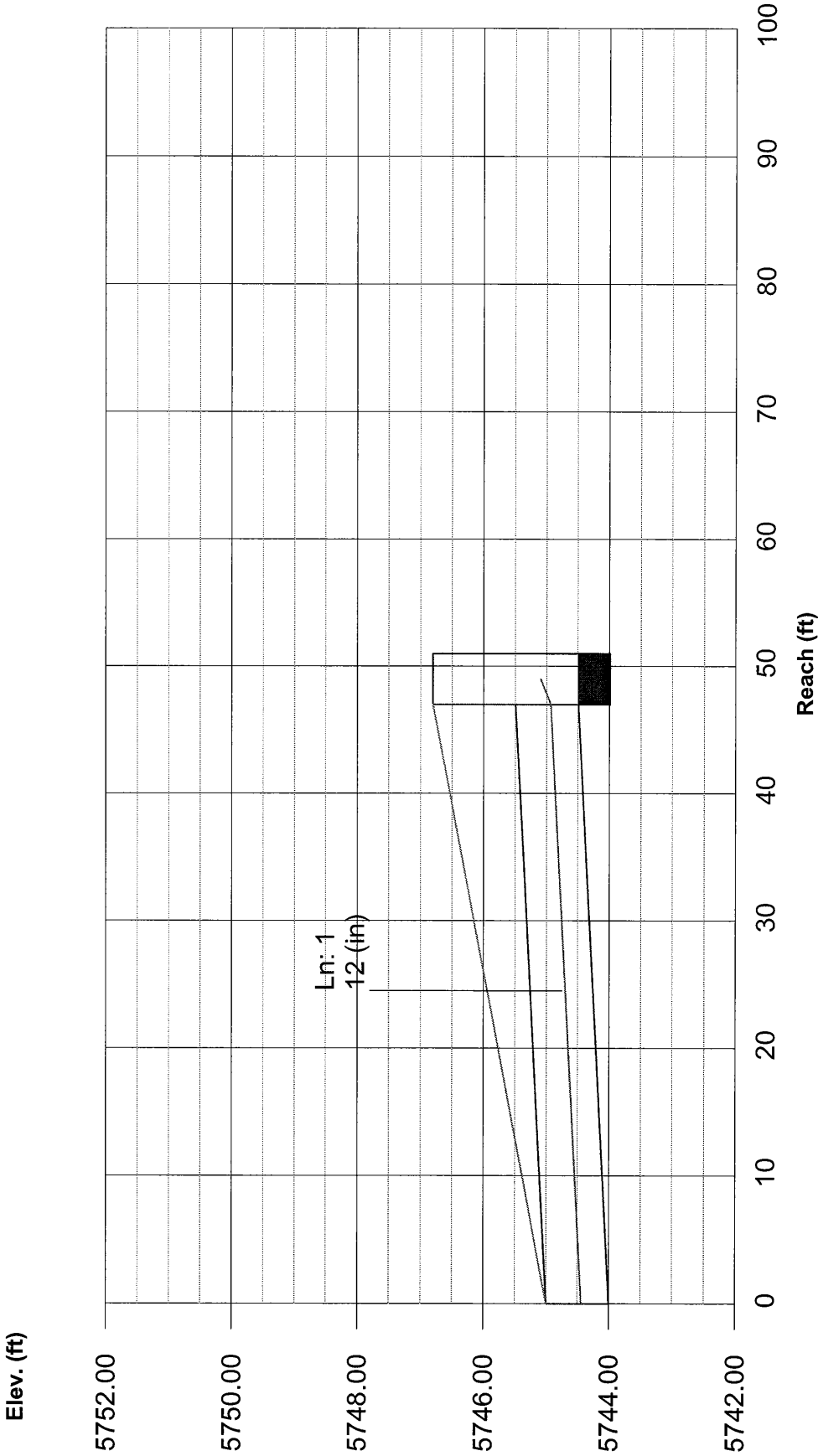
Storm Sewer Profile



Line No.	Line ID	Capac Full (cfs)	Cover Dn (ft)	Cover Up (ft)	DnStm Ln No	Known Q (cfs)	Drng Area (ac)	Flow Rate (cfs)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Invert Dn (ft)	Invert Up (ft)	Line Length (ft)	Line Size (in)	Line Slope (%)	Runoff Coeff (C)	Tc (min)
1	A28	3.56	0.00	1.31	Outfall	0.00	0.77	1.08	5745.00	5746.80	5744.44	5744.93	5744.00	5744.49	49.00	12	1.00	0.33	5.0

Project File: D02049 Line-15 25-yr.stm															Number of lines: 1		Date: 07-29-2004		
NOTES: ** At critical depth																			

Storm Sewer Profile



APPENDIX O

RIP RAP CALCULATIONS

RIP RAP CALCULATIONS

OUTLET FROM STORM LINE-3 TO POND A-1:

$$Q = 59.8 \text{ cfs}, A = \frac{Q}{V} = \frac{59.8 \text{ ft}^3/\text{s}}{9.6 \text{ ft/s}} = 6.2 \text{ ft}^2$$

$$V = 9.6 \text{ ft/s}$$

$$D = 36" = 3.0'$$

$$\frac{Y_t}{D} = 0.40; Y_t = 0.40(3.0') = 1.2'$$

$$\left. \begin{aligned} \frac{Y_t}{D} &= 0.40 \\ \frac{Q}{D^{1.5}} &= \frac{59.8 \text{ ft}^3/\text{s}}{(3.0')^{1.5}} = 11.5 \end{aligned} \right\} \text{FIGURE MD-21} \Rightarrow \text{TYPE-L RIPRAP}$$

$$\left. \begin{aligned} \frac{Y_t}{D} &= 0.40 \\ \frac{Q}{D^{2.5}} &= \frac{59.8 \text{ ft}^3/\text{s}}{(3.0')^{2.5}} = 3.8 \end{aligned} \right\} \text{FIGURE MD-23} \Rightarrow \frac{1}{2} \tan \theta = 3.8$$

$$L_p = \frac{1}{2 \tan \theta} \left[\frac{A}{Y_t} - D \right] = 3.8 \left[\frac{6.2 \text{ ft}^2}{0.40} - 3.0' \right] = 8.2' < 3D$$

USE TYPE-L RIPRAP FOR 12.0'

OUTLET FROM STORM LINE-2 TO POND A-2:

$$Q = 2.8 \text{ cfs}, A = \frac{Q}{V} = \frac{2.8 \text{ ft}^3/\text{s}}{4.7 \text{ ft/s}} = 0.6 \text{ ft}^2$$

$$V = 4.7 \text{ ft/s}$$

$$D = 12" = 1.0'$$

$$\frac{Y_t}{D} = 0.40 \Rightarrow Y_t = 0.40(1.0') = 0.40$$

$$\left. \begin{aligned} \frac{Y_t}{D} &= 0.40 \\ \frac{Q}{D^{1.5}} &= \frac{2.8}{(1.0')^{1.5}} = 2.8 \end{aligned} \right\} \text{FIGURE MD-21} \Rightarrow \text{TYPE-L RIPRAP}$$

$$\left. \begin{aligned} \frac{Y_t}{D} &= 0.40 \\ \frac{Q}{D^{2.5}} &= \frac{2.8}{(1.0')^{2.5}} = 2.8 \end{aligned} \right\} \text{FIGURE MD-23} \Rightarrow \frac{1}{2} \tan \theta = 4.7$$

$$L_p = 3.0 \left[\frac{0.6}{0.4} - 1.0 \right] = 1.5' < 3D$$

USE TYPE-L RIPRAP FOR 3.0'

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CONSULTANTS

ENGINEERING CALCULATIONS

PROJECT:

SUBJECT:

SHEET NO:

OUTFALL FROM STORM LINE-7 TO POND A-1:

$$Q = 7.1 \frac{\text{ft}^3}{\text{s}}, A = \frac{Q}{V} = \frac{7.1 \frac{\text{ft}^3}{\text{s}}}{9.0 \frac{\text{ft}}{\text{s}}} = 0.8 \text{ ft}^2$$

$$V = 9.0 \frac{\text{ft}}{\text{s}}$$

$$D = 12'' = 1.0', \frac{V}{D} = 0.40 \Rightarrow Y_c = 0.40(1.0') = 0.40$$

$$\frac{V}{D} = 0.40$$

$$\frac{Q}{D^{1.5}} = \frac{7.1}{(1.0)^{1.5}} = 7.1$$

} FIGURE MD-21 $\Rightarrow$ TYPE-L RIP RAP

$$\frac{V}{D} = 0.40$$

$$\frac{Q}{D^{2.5}} = 7.1$$

} FIGURE MD-23 $\Rightarrow \frac{1}{2 \tan \theta} = \text{N/A}$, USE $L_p = 3D = 3.0(1.0)$

USE TYPE-L RIP RAP FOR 3.0'

OUTFALL FROM STORM LINE-4 TO POND B:

$$Q = 37.8 \frac{\text{ft}^3}{\text{s}}, A = \frac{Q}{V} = \frac{37.8}{7.4} = 5.1 \text{ ft}^2$$

$$V = 7.4 \frac{\text{ft}}{\text{s}}$$

$$D = 36'' = 3.0', \frac{V}{D} = 0.40, \Rightarrow Y_c = 1.2$$

$$\frac{V}{D} = 0.40$$

$$\frac{Q}{D^{1.5}} = \frac{37.8}{(3.0)^{1.5}} = 7.3$$

} FIGURE MD-21 $\Rightarrow$ TYPE-L RIP RAP

$$\frac{V}{D} = 0.40$$

$$\frac{Q}{D^{2.5}} = \frac{37.8}{(3.0)^{2.5}} = 2.4$$

} FIGURE MD-23 $\Rightarrow \frac{1}{2 \tan \theta} = 5.2$

$$L_p = \frac{1}{2 \tan \theta} \left[\frac{A}{Y_c} - D \right] = 5.2 \left[\frac{5.1}{1.2} - 3.0' \right] = 0.5' < 3D$$

USE TYPE-L RIP RAP FOR 9.0'

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CONSULTANTS

ENGINEERING CALCULATIONS

PROJECT:

SUBJECT:

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OUTFALL FROM STORM LINE-5 TO POND C-1:

$$Q = 10.1 \text{ cfs}, A = \frac{Q}{V} = \frac{10.1}{5.4} = 1.9 \text{ ft}^2$$
$$V = 5.4 \text{ ft/s}$$
$$D = 24" = 2.0', \frac{Y_E}{D} = 0.40 \Rightarrow Y_E = 0.8$$

$$\left. \begin{array}{l} \frac{Y_E}{D} = 0.40 \\ \frac{Q}{D^{1.5}} = \frac{10.1}{(2.0)^{1.5}} = 3.6 \end{array} \right\} \text{FIG. MD-21} \Rightarrow \text{TYPE-L RIP RAP}$$

$$\left. \begin{array}{l} \frac{Y_E}{D} = 0.40 \\ \frac{Q}{D^{2.5}} = \frac{10.1}{(2.0)^{2.5}} = 1.8 \end{array} \right\} \text{FIG. MD-23} \Rightarrow \frac{1}{2k\theta} = 6.0$$

$$L_p = \frac{1}{2k\theta} \left[\frac{A}{Y_E - D} \right] = 6.0 \left[\frac{1.9}{0.8 - 2.0} \right] = 2.3' < 3.0$$

USE TYPE-L RIP RAP FOR 6.0'

OUTFALL FROM STORM LINE-6 TO POND C-1:

$$Q = 31.1 \text{ cfs}, A = \frac{Q}{V} = \frac{31.1}{9.9} = 3.1 \text{ ft}^2$$
$$V = 9.9 \text{ ft/s}$$
$$D = 24" = 2.0', \frac{Y_E}{D} = 0.40, Y_E = 0.80$$

$$\left. \begin{array}{l} \frac{Y_E}{D} = 0.40 \\ \frac{Q}{D^{1.5}} = \frac{31.1}{(2.0)^{1.5}} = 3.6 \end{array} \right\} \text{FIG. MD-21, TYPE-L RIP RAP}$$

$$\left. \begin{array}{l} \frac{Y_E}{D} = 0.40 \\ \frac{Q}{D^{2.5}} = \frac{31.1}{(2.0)^{2.5}} = 1.8 \end{array} \right\} \text{FIG. MD-23,} \Rightarrow \frac{1}{2k\theta} = 6.0$$

$$L_p = 6.0 \left[\frac{3.1}{0.8 - 2.0} \right] = 11.25$$

USE TYPE-L RIP RAP FOR 11.25'

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ENGINEERING CALCULATIONS

PROJECT:

SUBJECT:

SHEET NO:

OUTFALL FROM STORM LINE-8 TO POND C-1:

$$Q = 9.5 \text{ cfs}, A = \frac{Q}{V} = \frac{9.5}{12.1} = 0.78 \text{ ft}^2$$
$$V = 12.1 \text{ ft/s}$$
$$D = 12'' = 1.0', \frac{Y_b}{D} = 0.40, Y_b = 0.40$$

$$\frac{Y_b}{D} = 0.40$$
$$\frac{Q}{D^{1.5}} = \frac{9.5}{(1.0)^{1.5}} = 9.5$$
$$\left. \begin{array}{l} \frac{Y_b}{D} = 0.40 \\ \frac{Q}{D^{1.5}} = 9.5 \end{array} \right\} \text{FIG. MD-21} \Rightarrow \text{TYPE-L RIPRAP}$$

$$\frac{Y_b}{D} = 0.40$$
$$\frac{Q}{D^{2.5}} = \frac{9.5}{(1.0)^{2.5}} = 9.5$$
$$\left. \begin{array}{l} \frac{Y_b}{D} = 0.40 \\ \frac{Q}{D^{2.5}} = 9.5 \end{array} \right\} \text{FIG. MD-23} \Rightarrow \frac{1}{2 \tan \theta} = \text{NA}, \text{ USE } L_p = 3D$$

USE TYPE-L RIPRAP FOR 3'-0"

OUTFALL FROM STORM LINE-9 TO POND C-1:

$$Q = 7.2 \text{ cfs}, A = \frac{Q}{V} = \frac{7.2}{9.2} = 0.8 \text{ ft}^2$$
$$V = 9.2 \text{ ft/s}$$
$$D = 12'' = 1.0', \frac{Y_b}{D} = 0.40, Y_b = 0.40$$

$$\frac{Y_b}{D} = 0.40$$
$$\frac{Q}{D^{1.5}} = \frac{7.2}{(1.0)^{1.5}} = 7.2$$
$$\left. \begin{array}{l} \frac{Y_b}{D} = 0.40 \\ \frac{Q}{D^{1.5}} = 7.2 \end{array} \right\} \text{FIG. MD-21} \Rightarrow \text{TYPE-L RIPRAP}$$

$$\frac{Y_b}{D} = 0.40$$
$$\frac{Q}{D^{2.5}} = \frac{7.2}{(1.0)^{2.5}} = 7.2$$
$$\left. \begin{array}{l} \frac{Y_b}{D} = 0.40 \\ \frac{Q}{D^{2.5}} = 7.2 \end{array} \right\} \text{FIG. MD-23} \Rightarrow \frac{1}{2 \tan \theta} = \text{NA}, \text{ USE } L_p = 3D$$

USE TYPE-L RIPRAP FOR 3'-0"

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CONSULTANTS

ENGINEERING CALCULATIONS

PROJECT:

SUBJECT:

SHEET NO:

OUTFALL FROM STORM LINE-10 / POND C2 TO PROPOSED MIDLAND CULVERT No. 14, 54" RCP

$$Q = 83.3 \text{ cfs}, A = \frac{Q}{V} = \frac{83.3}{8.7} = 9.6 \text{ ft}^2$$

$$V = 8.7 \text{ fps}$$

$$D = 54" = 4.5', \frac{y_e}{D} = 0.40 \Rightarrow y_e = 1.8$$

$$\frac{y_e}{D} = 0.40$$

$$\frac{Q}{D^{1.5}} = \frac{83.3}{(4.5)^{1.5}} = 8.7$$

FIG. MD-21 $\Rightarrow$ TYPE-L RIP RAP

$$\frac{y_e}{D} = 0.40$$

$$\frac{Q}{D^{2.5}} = \frac{83.3}{(4.5)^{2.5}} = 1.9$$

FIG. MD-23 $\Rightarrow \frac{1}{2 \tan \theta} = 6.0$

$$L_p = \frac{1}{2 \tan \theta} \left[\frac{A}{y_e} - D \right] = 6.0 \left[\frac{9.6}{1.8} - 4.5 \right] = 5.0' < 3D$$

$$L_p = 3D = 3(4.5') = 13.5'$$

USE TYPE-L RIP RAP FOR 13.5'

OUTFALL FROM STORM LINE-11 TO PROPOSED MIDLAND CULVERT 12. - 48" RCP

$$Q = 47.7 \text{ cfs}, A = \frac{Q}{V} = \frac{47.7}{7.4} = 6.4 \text{ ft}^2$$

$$V = 7.4 \text{ fps}$$

$$D = 48" = 4.0', \frac{y_e}{D} = 0.40 \Rightarrow y_e = 1.6$$

$$\frac{y_e}{D} = 0.40$$

$$\frac{Q}{D^{1.5}} = 6.0$$

FIG. MD-21 $\Rightarrow$ TYPE-L RIP RAP

$$\frac{y_e}{D} = 0.40$$

$$\frac{Q}{D^{2.5}} = 1.5$$

FIG. MD-23 $\Rightarrow \frac{1}{2 \tan \theta} = 6.3$

$$L_p = \frac{1}{2 \tan \theta} \left[\frac{A}{y_e} - D \right] = 6.3 \left[\frac{6.4}{1.6} - 4.0 \right] = \text{NA}; \text{ Use } L_p = 3D = 3(4.0) = 12'$$

USE TYPE-L RIP RAP FOR 12.0'

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CONSULTANTS

ENGINEERING CALCULATIONS

PROJECT:

SUBJECT:

SHEET NO:

OUTFALL FROM STORM LINE-15 TO POND A-1:

$$Q = 1.1 \text{ cfs}, A = \frac{Q}{V} = \frac{1.1}{3.2} = 0.34 \text{ ft}^2$$

$$V = 3.2 \text{ fps}$$

$$D = 12'' = 1.0', \frac{Y_E}{D} = 0.40 \Rightarrow Y_E = 0.40$$

$$\left. \begin{array}{l} \frac{Y_E}{D} = 0.40 \\ \frac{Q}{D^{1.5}} = \frac{1.1}{(1.0)^{1.5}} = 1.1 \end{array} \right\} \text{FIG. MD-21, TYPE-L RIPRAP}$$

$$L_p = 3D = 3.0'$$

USE TYPE-L RIPRAP FOR 3.0'

OUTLET FROM STORM LINE-13 TO POND C1:

$$Q = 4.4 \text{ cfs}, A = \frac{Q}{V} = \frac{4.4}{5.6} = 0.8$$

$$V = 5.6 \text{ cfs}$$

$$D = 12'' = 1.0', \frac{Y_E}{D} = 0.40 \Rightarrow Y_E = 0.40$$

$$\left. \begin{array}{l} \frac{Y_E}{D} = 0.40 \\ \frac{Q}{D^{1.5}} = \frac{4.4}{(1.0)^{1.5}} = 4.4 \end{array} \right\} \text{FIG. MD-21, TYPE-L RIPRAP}$$

$$\left. \begin{array}{l} \frac{Y_E}{D} = 0.40 \\ \frac{Q}{D^{1.5}} = 4.4 \end{array} \right\} \text{FIG. MD-23, } \frac{1}{2} \tan \theta = 3.0$$

$$L_p = \frac{1}{2 \tan \theta} \left[\frac{A}{Y_E} - D \right] = 3.0 \left[\frac{0.8}{0.4} - 1.0 \right] = 3.0' = 3D$$

USE TYPE-L RIPRAP FOR 3.0'

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CONSULTANTS

ENGINEERING CALCULATIONS

PROJECT:

SUBJECT:

SHEET NO:

OUTFALL FROM STORM LINE-14 TO EXISTING MIDLAND CULVERT No. 10 - 18" CMP

$$Q = 1.1 \text{ cfs}, A = \frac{Q}{V} = \frac{1.1}{3.2} = 0.3$$

$$V = 3.2 \text{ fps}$$

$$D = 12'' = 1.0', \frac{V_e}{V} = 0.40, V_e = 0.40$$

$$\left. \begin{array}{l} \frac{V_e}{V} = 0.40 \\ \frac{Q}{D^3} = 1.1 \end{array} \right\} \text{FIG MD-21} \Rightarrow \text{TYPE-L RIP RAP FOR } L_p = 30$$

USE TYPE-L RIP RAP FOR 3-0'

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CONSULTANTS

ENGINEERING CALCULATIONS

PROJECT:

SUBJECT:

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TABLE MD-7

Classification and Gradation of Ordinary Riprap

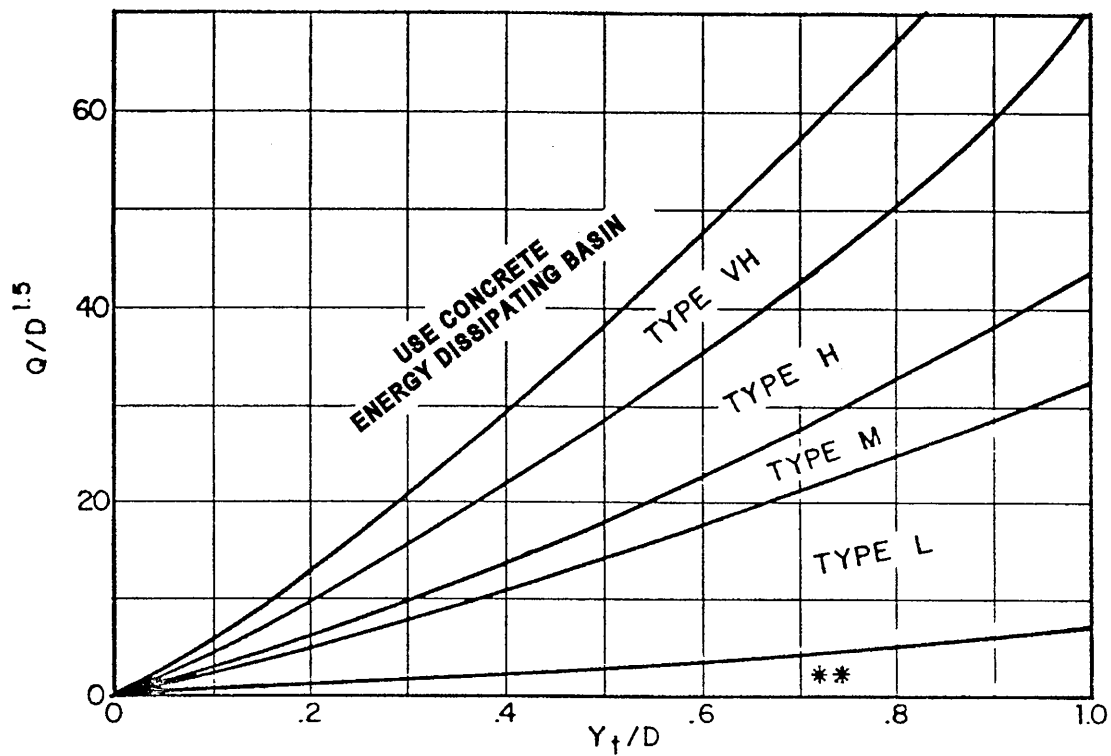
Riprap Designation	% Smaller Than Given Size by Weight	Intermediate Rock Dimensions (inches)	d_{50} (inches)*
Type VL	70-100	12	6**
	50-70	9	
	35-50	6	
	2-10	2	
Type L	70-100	15	9**
	50-70	12	
	35-50	9	
	2-10	3	
Type M	70-100	21	12**
	50-70	18	
	35-50	12	
	2-10	4	
Type H	70-100	30	18
	50-70	24	
	35-50	18	
	2-10	6	
Type VH	70-100	42	24
	50-70	33	
	35-50	24	
	2-10	9	

* d_{50} = mean particle size (intermediate dimension) by weight.

** Mix VL and L riprap with 30% (by volume) topsoil and bury it with 6+ inches of topsoil, all vibration compacted, and revegetate.

Rock used for riprap should be hard, durable, angular in shape, and free from cracks, overburden, shale, and organic matter. Neither breadth nor thickness of a single stone should be less than one-third its length, and rounded stone should be avoided. The rock should sustain a loss of not more than 40% after 500 revolutions in an abrasion test (Los Angeles machine—ASTM C-535-69) and should sustain a loss of not more than 10% after 12 cycles of freezing and thawing (AASHTO test 103 for ledge rock procedure A). Rock having a minimum specific gravity of 2.65 is preferred; however, in no case should rock have a specific gravity less than 2.50.

4.4.1.2 Grouted Boulders. Table MD-8 provides the classification and size requirements for boulders. When grouted boulders are used, they provide a relatively impervious channel lining which is less subject to vandalism than ordinary riprap. Grouted boulders require less routine maintenance by reducing silt and trash accumulation and are particularly useful for lining low-flow channels and steep banks. The appearance of grouted boulders is enhanced by exposing the tops of individual stones and by cleaning the projecting rocks with a wet broom right after the grouting operation. In addition, it is recommended that grouted boulders on channel banks and outside of frequent flow areas be buried with topsoil and revegetated with native grasses, with or without shrubs depending on the local setting. Boulders used for



Use D_a instead of D whenever flow is supercritical in the barrel.
 ** Use Type L for a distance of $3D$ downstream.

FIGURE MD-21

Riprap Erosion Protection at Circular Conduit Outlet Valid for $Q/D^{2.5} \leq 6.0$

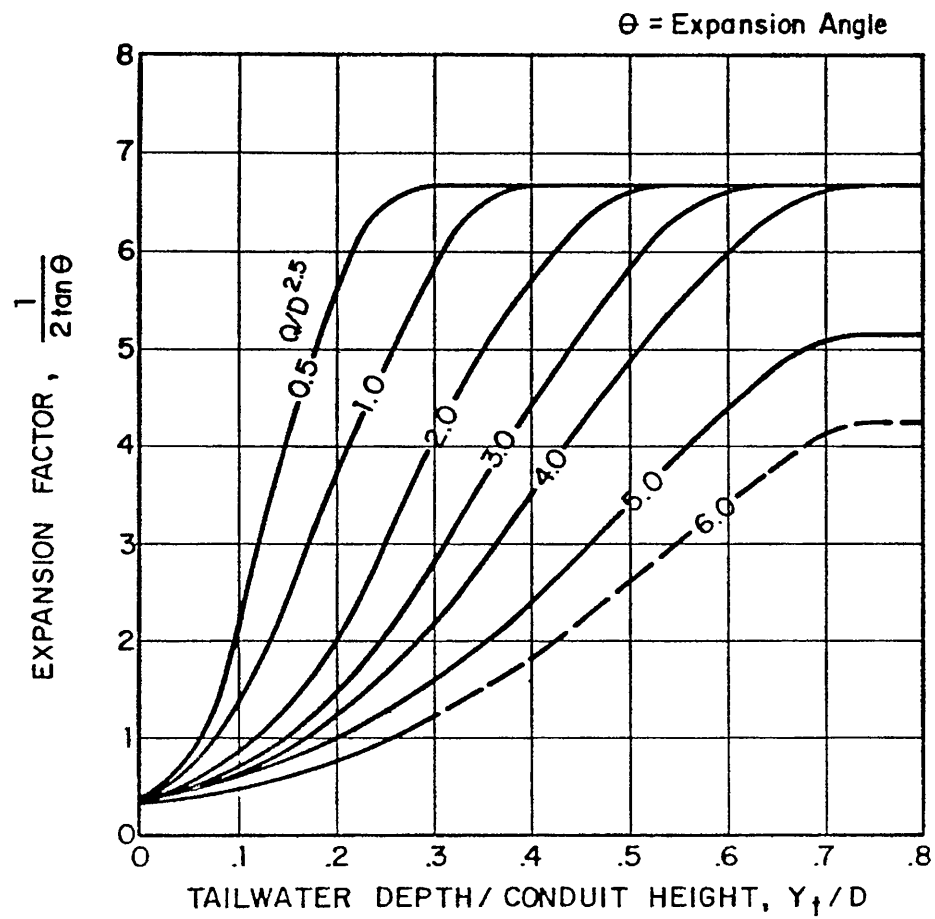


FIGURE MD-23

Expansion Factor for Circular Conduits

APPENDIX P

OUTLET STRUCTURE CALCULATIONS

OUTLET STRUCTURE WATER QUALITY ORIFICE SIZING

$$Q = CA[2gh]^{0.5} \Rightarrow A = \frac{Q}{C[2gh]^{0.5}}$$

POND A1:

$$A = \frac{Q}{C[2gh]^{0.5}} ; \begin{aligned} Q &= 1.41 \text{ cfs} \\ C &= 0.60 \\ g &= 32.2 \frac{\text{ft}}{\text{s}^2} \\ h &= 5747.0' - 5742.87' = 4.1' \end{aligned}$$

$$A = \frac{1.41 \frac{\text{ft}^3}{\text{s}}}{0.60 [2(32.2 \frac{\text{ft}}{\text{s}^2})(4.1')]^{0.5}} = 0.14 \text{ ft}^2$$

$$A = \pi r^2 \Rightarrow r = \sqrt{\frac{A}{\pi}} = \sqrt{\frac{0.14 \text{ ft}^2}{\pi}} = 0.21 \text{ ft} = 2.5''$$

d = 5.0'', FOR A CIRCULAR ORIFICE

POND B:

$$A = \frac{Q}{C[2gh]^{0.5}} ; \begin{aligned} Q &= 1.50 \text{ cfs} \\ C &= 0.60 \\ g &= 32.2 \frac{\text{ft}}{\text{s}^2} \\ h &= 5745.0' - 5740.5' = 4.5' \end{aligned}$$

$$A = \frac{1.50 \frac{\text{ft}^3}{\text{s}}}{0.60 [2(32.2 \frac{\text{ft}}{\text{s}^2})(4.5')]^{0.5}} = 0.15'$$

$$r = \sqrt{\frac{A}{\pi}} = \sqrt{\frac{0.15'}{\pi}} = 0.22' = 2.62''$$

d = 5.25'', FOR A CIRCULAR ORIFICE

POND C2:

$$A = \frac{Q}{C[2gh]^{0.5}} ; \begin{aligned} Q &= 1.2 \text{ cfs} \\ C &= 0.60 \\ g &= 32.2 \frac{\text{ft}}{\text{s}^2} \\ h &= 5747.0' - 5742.5' = 4.5' \end{aligned}$$

$$A = \frac{1.2 \frac{\text{ft}^3}{\text{s}}}{0.60 [2(32.2 \frac{\text{ft}}{\text{s}^2})(4.5')]^{0.5}} = 0.12'$$

$$r = \sqrt{\frac{A}{\pi}} = \sqrt{\frac{0.12'}{\pi}} = 0.19' = 2.32''$$

d = 4.64''

COMPUTED:

DATE:

CHECKED:

DATE:



CONSULTANTS

ENGINEERING CALCULATIONS

PROJECT:

SUBJECT:

SHEET NO:

CAPACITY OF CDOT TYPE-D OUTLET STRUCTURE

$$Q = C \cdot A (2gh)^{3/2} ; \text{ Where } Q = \text{MAX. OUTFALL FLOW RATE - 100 YR}$$

$$C = \text{WEIR COEFF.} = 0.67$$

$$A = \text{EFFECTIVE ORIFICE AREA}$$

$$g = \text{GRAVITATIONAL CONSTANT} = 32.2 \text{ ft/s}^2$$

$$h = \text{HEAD ABOVE ORIFICE}$$

POND A:

$$C = 0.67$$

$$A = L \times W \times \text{EFFECTIVE AREA} = 20' \times 12' \times (0.80) ; \text{ CDOT Type-D Outlet Structure}$$

$$= 13.22 \text{ ft}^2$$

$$h = 5750.0' - 5747.5' = 2.5' \quad (5750.0 \text{ IS MAXIMUM ELEV. OF PONDING DEPTH IN POND A-2})$$

$$Q(\text{Outlet Max.}) = (0.67)(13.22 \text{ ft}^2) \left[2(32.2 \text{ ft/s}^2)(2.5') \right]^{3/2}$$

$$= 123 \text{ cfs}$$

$$Q_{100}(\text{POND A, ACTUAL}) = 95.0 \text{ cfs} \quad \checkmark \text{ OK}$$

POND B:

$$C = 0.67$$

$$A = 13.22 \text{ ft}^2$$

$$h = 5746.5' - 5744.8' = 1.7' \quad (5746.5 \text{ IS MAXIMUM ELEV. OF PONDING DEPTH IN POND B})$$

$$Q(\text{Outlet Max.}) = (0.67)(13.22 \text{ ft}^2) \left[2(32.2 \text{ ft/s}^2)(1.7') \right]^{3/2}$$

$$= 92.7 \text{ cfs}$$

$$Q_{100}(\text{POND B, ACTUAL}) = 66.7 \text{ cfs} \quad \checkmark \text{ OK}$$

COMPUTED:

DATE:

CHECKED:

DATE:



CONSULTANTS

ENGINEERING CALCULATIONS

PROJECT:

SUBJECT:

SHEET NO:

CAPACITY OF CDOT TYPE-D OUTLET STRUCTURE (CONT.)

POND C:

$$C = 0.67$$

$$A = 13.22 \text{ ft}^2$$

$$h = 5749.0' - 5747.0' = 2.0', \text{ (5749.0' IS THE MAXIMUM ELEV. OF PONDING DEPTH)}$$

$$Q(\text{OUTLET C2, MAX}) = (0.67)(13.22)[2(32.2)(2.0')]^{0.5}$$
$$= \underline{\underline{100.5 \text{ cfs}}}$$

$$Q_{100}(\text{POND C-2, ACTUAL}) = \underline{\underline{54.8}} \quad \checkmark \text{ OK}$$

COMPUTED:

DATE:

CHECKED:

DATE:



CONSULTANTS

ENGINEERING CALCULATIONS

PROJECT:

SUBJECT:

SHEET NO:

OUTLET STRUCTURE RESTRICTOR PLATE

POND A-1

N.T.S.

$$Q = C A (Zgh)^{1/2}; \text{ ORIFICE Eq. } C = 0.67$$

$\Rightarrow A = \frac{Q}{C (Zgh)^{1/2}}$

$A = \text{EFFECTIVE AREA, ft}^2$
 $h = \text{TOTAL HEAD, ft}$
 $g = 32.2 \text{ ft/s}^2$
 $Q = \text{FLOWRATE, cfs}$

$$A = \frac{950 \text{ ft}^3/\text{s}}{0.67 (2 (32.2 \text{ ft/s}^2) (2.7 \text{ ft}))^{1/2}}$$
$$= 8.83 \text{ ft}^2$$

POND A-1, $Q_{100} = 950 \text{ cfs}$
POND A, $h_{100} = 2.7 \text{ ft}$

$$A = \pi r^2$$
$$\left(\frac{8.83 \text{ ft}^2}{\pi} \right)^{1/2} = r = 1.67', d = 3.35'$$

COMPUTED:

DATE:

CHECKED:

DATE:



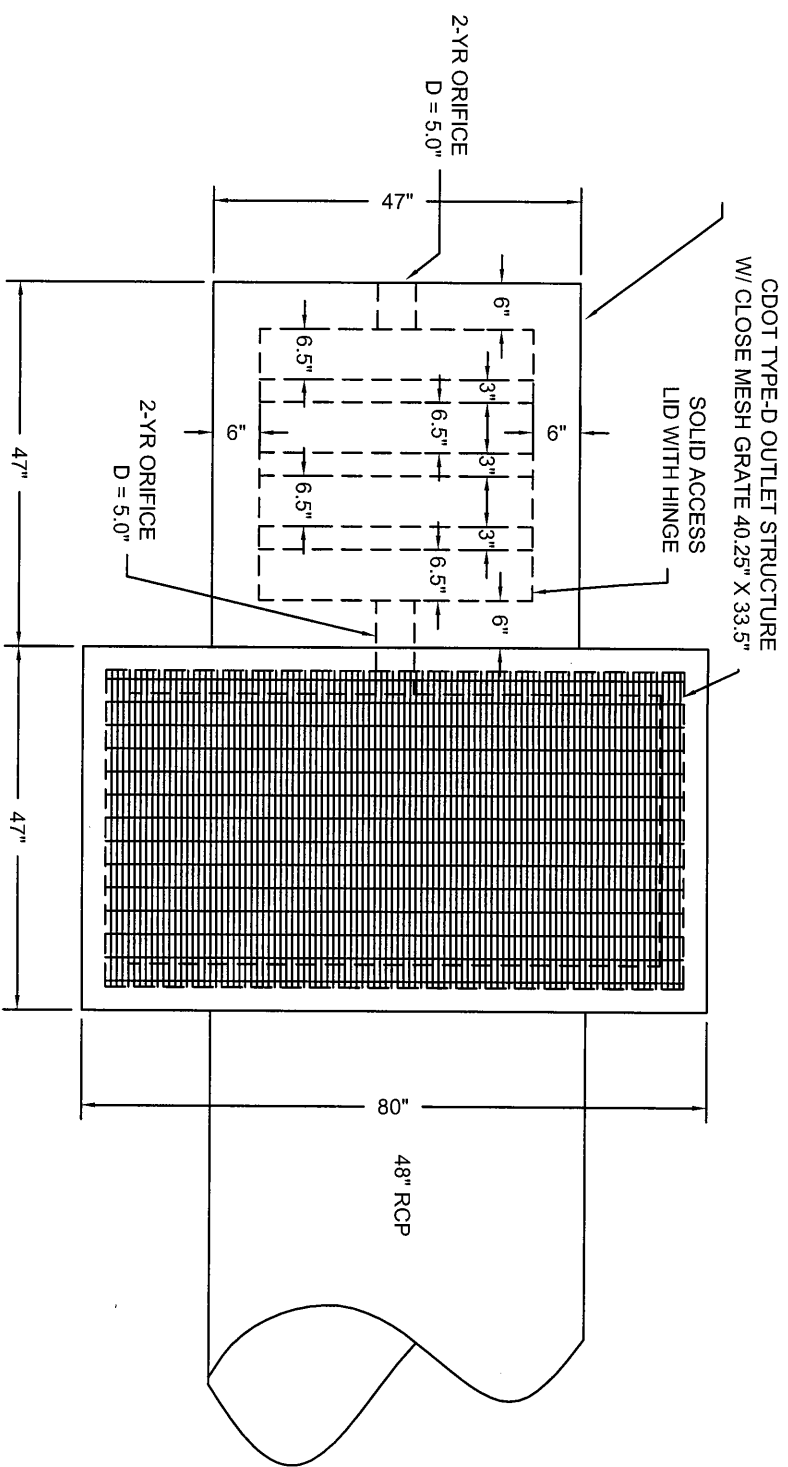
CONSULTANTS

ENGINEERING CALCULATIONS

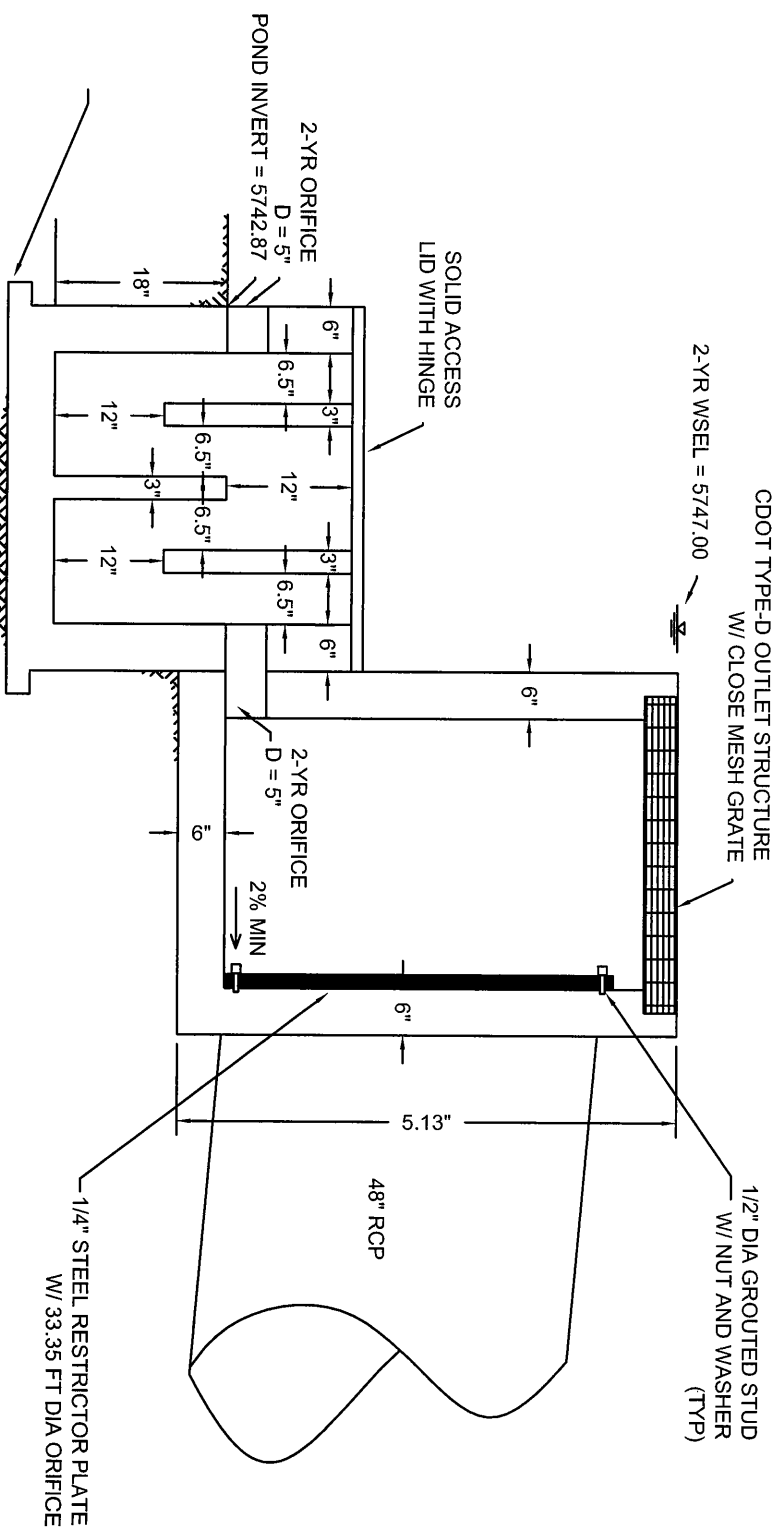
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SUBJECT:

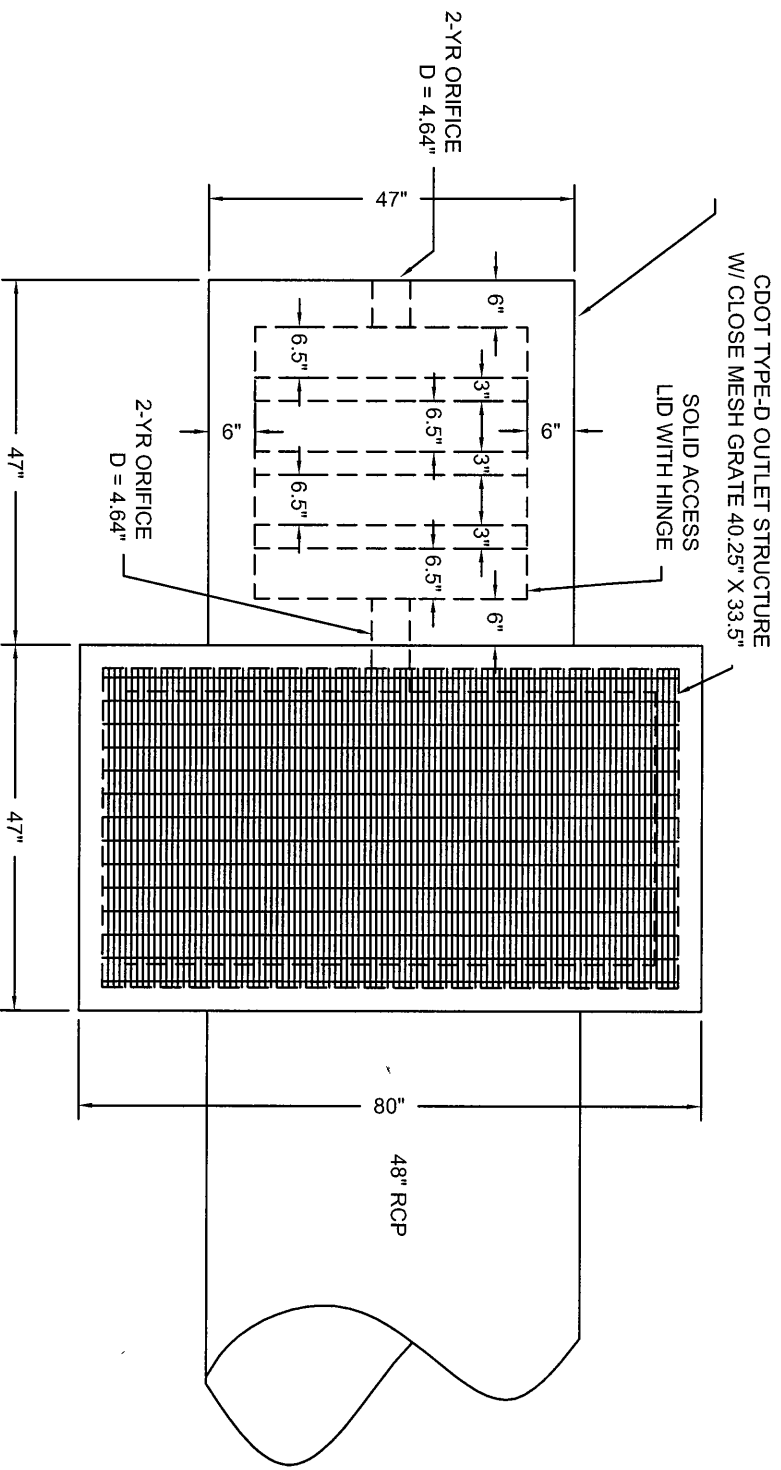
SHEET NO:



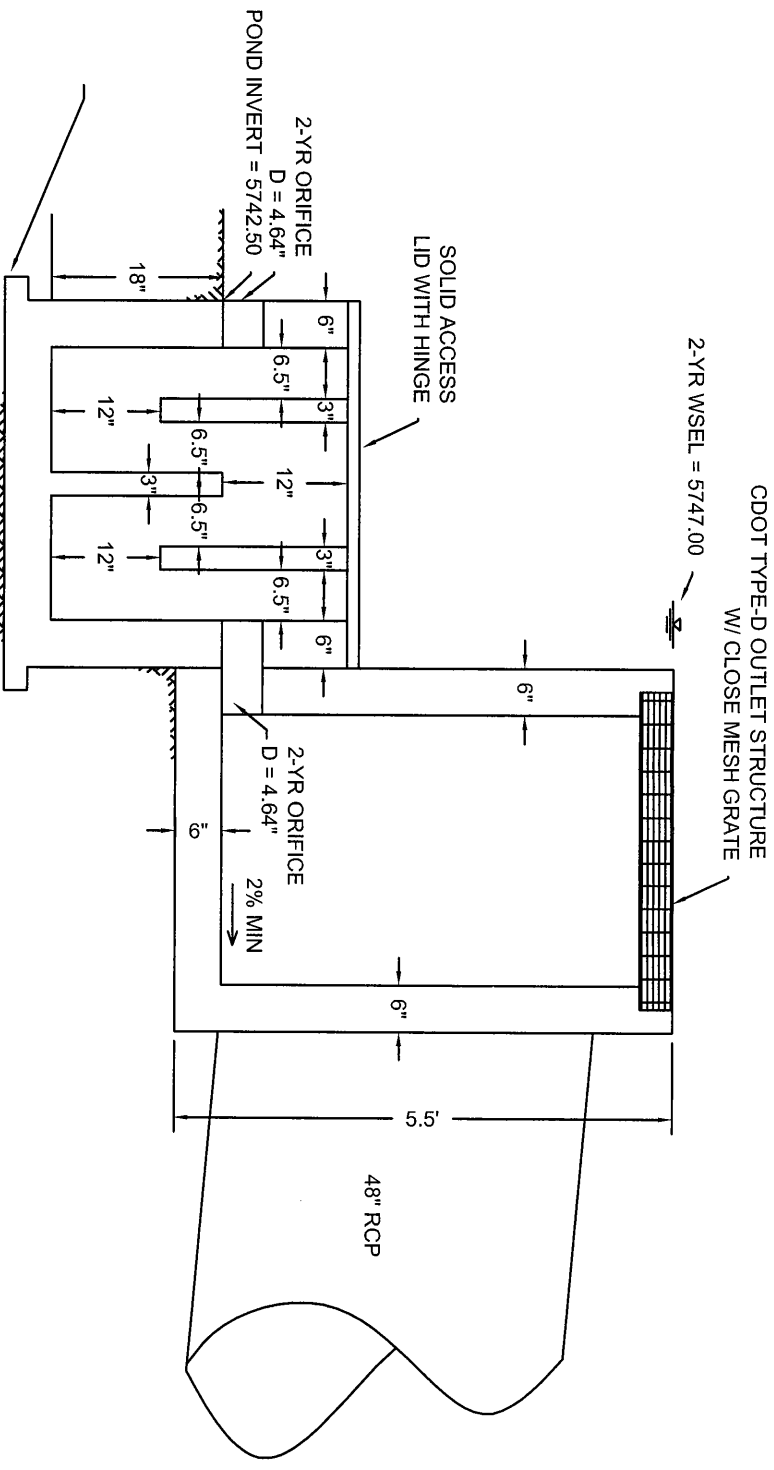
PLAN VIEW



POND A1 OUTLET STRUCTURE CROSS SECTION N.T.S.



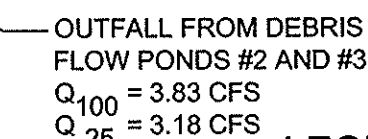
PLAN VIEW



CROSS SECTION

POND C2 OUTLET STRUCTURE N.T.S.

MATCHLINE SEE SHEET D1.1

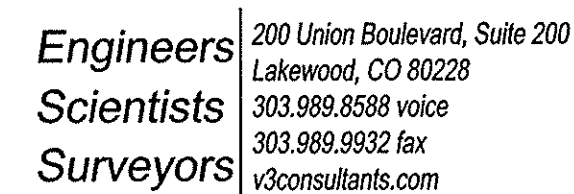


EXISTING	PROPOSED	DESCRIPTION
		TYPE-R INLET CDOT TYPE-D OUTLET STRUT FLARED END SECTION (F.E.S.)
		STORM MANHOLE
		MAJOR BASIN LINE
		MINOR BASIN LINE
		MAJOR CONTOUR
		EXISTING MINOR CONTOUR
		EXISTING MAJOR CONTOUR
		PROPOSED RCP STORM PIPE
		FLOW ARROW
		DESIGN POINT
		RIP RAP
		SUBBASIN
		SUBBASIN AREA
		2.1
		0.00
		0.00
		25-YR RUNOFF COEFF.

Scale : 1"=50'



A horizontal scale bar with tick marks at 0, 50, and 100. The word "FEET" is centered below the bar.

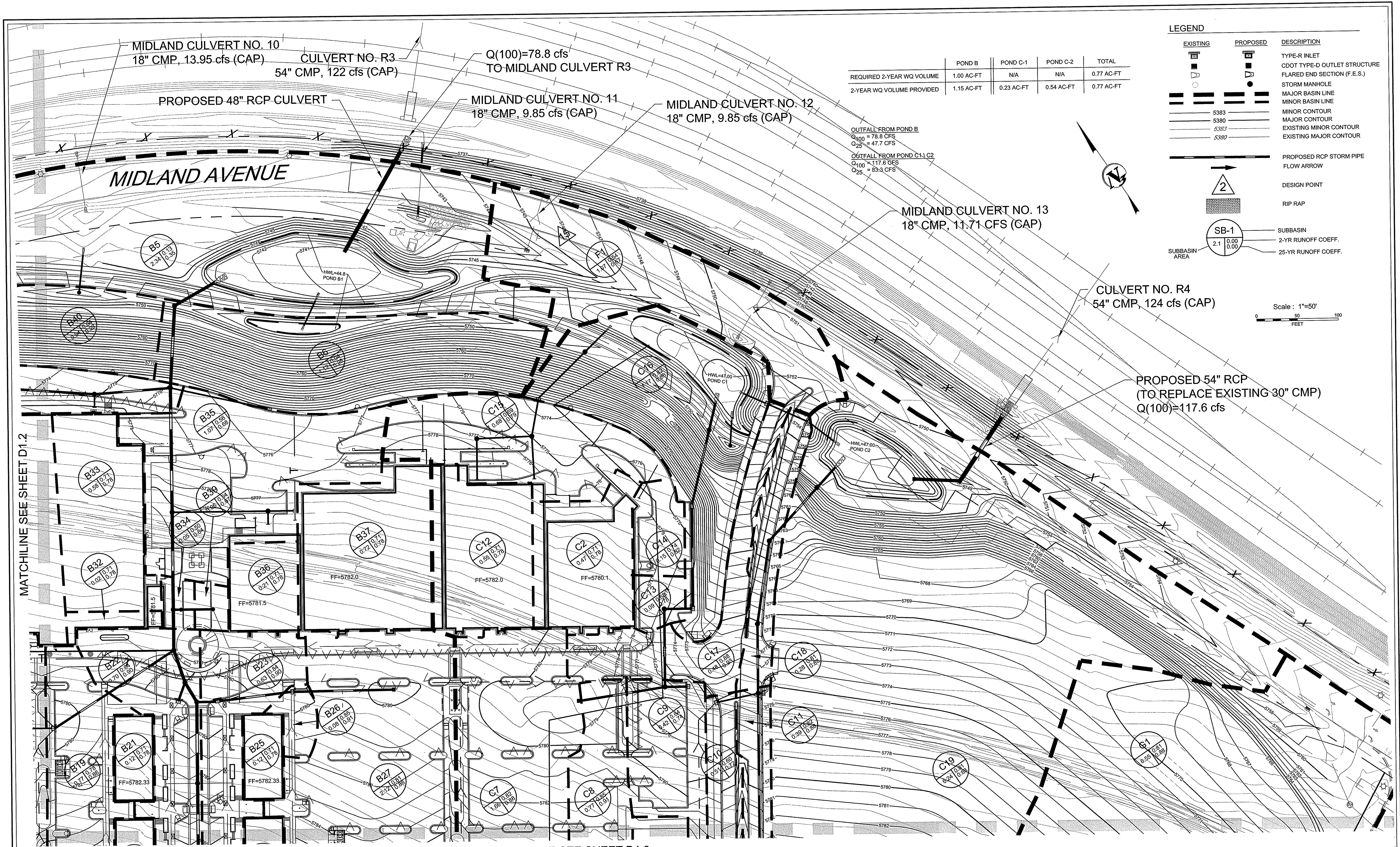
SEAL:

C | GLENWOOD SPRINGS

COLORADO

DRAWING NO.

D1.3



	POND B	POND C-1	POND C-2	TOTAL
REQUIRED 2-YEAR WQ VOLUME	1.00 AC-FT	N/A	N/A	0.77 AC-FT
2-YEAR WQ VOLUME PROVIDED	1.15 AC-FT	0.23 AC-FT	0.54 AC-FT	0.77 AC-FT

OUTFALL FROM POND B
Q₁₀₀ = 78.8 CFS
Q₂₅ = 47.7 CFS

OUTFALL FROM POND C1 & C2
Q₁₀₀ = 117.6 CFS
Q₂₅ = 83.3 CFS

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		TYPE-R INLET
		CDOT TYPE-D OUTLET STRUCTURE
		FLARED END SECTION (F.E.S.)
		STORM MANHOLE
		MAJOR BASIN LINE
		MINOR BASIN LINE
		MINOR CONTOUR
		MAJOR CONTOUR
		EXISTING MINOR CONTOUR
		EXISTING MAJOR CONTOUR
		PROPOSED RCP STORM PIPE
		FLOW ARROW
		DESIGN POINT
		RIP RAP
		SUBBASIN AREA
		SB-1
		2-YR RUNOFF COEFF.
		25-YR RUNOFF COEFF.

Scale: 1"=50'
0 50 100
FEET

MATCHLINE SEE SHEET D1.2

MATCHLINE SEE SHEET D1.3

V3 CONSULTANTS
Engineers
Scientists
Surveyors
200 Union Boulevard, Suite 200
Lakewood, CO 80228
303.989.8588 voice
303.989.9932 fax
v3consultants.com

REVISIONS					
NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
1	7-14-04	MISC REVISIONS			
2	07-30-04	MISC REVISIONS			

PROJ. NO.: D02049	DESIGNED BY: SA
FILE NAME: D1.0 Storm	DRAWN BY: SA
DATE: July 3, 2003	CHECKED BY: MC
SCALE: 1"=100'	PROJ. MANAGER: MC

GLENWOOD MEADOWS
GLENWOOD SPRINGS
COLORADO

STORMWATER DRAINAGE PLAN

DRAWING NO.
D1.4

From: support@www.colorado.gov <support@www.colorado.gov>

Sent: Wednesday, February 24, 2021 12:11 PM

Subject: City of Glenwood Springs Receipt

Payment Receipt Confirmation

Your payment was successfully processed.

Transaction Summary

Description	Amount
City of Glenwood Springs Transaction	\$3,200.00
Service Fee	\$1.00
TOTAL	\$3,201.00

Transaction Detail

The following amounts will be remitted back to the agency.

SKU	Description	Unit Price	Quantity	Amount
Planning	Planning	\$3,200.00	1	\$3,200.00
	Service Fee	\$1.00		\$1.00
				\$3,201.00

This online service is provided by a 3rd party working in partnership with the state of Colorado. The price includes a service fee of \$.75 plus 2.25% of the order total for credit card payments or \$1 for electronic check payments.

Customer Information

Customer Name Anthony Rodriguez
Company Name Glenwood IV in care of
Stoneleigh Companies
Local Reference ID bcbcd244-4e2e-4ff9-99e8-
0db94ba0a56b
Receipt Date 2/24/2021
Receipt Time 11:10:53 AM MST

Payment Information

Payment Type Electronic Check
Account Number *****8736
Order ID 161579440
Billing Name Stoneleigh Companies

Billing Information

Billing Address 760 W Main Street Suite
140
Billing City, State Barrington, IL
ZIP/Postal Code 60010
Country US
Phone Number 2245889556

This receipt has been emailed to the address
below.

Email Address arodriguez@stoneleighcos.com



CITY OF GLENWOOD SPRINGS
101 W. 8th Street
Glenwood Springs, CO 81601
(970) 384-6411

PAYMENT REQUEST

Date: _____
Name: Bob Moore
Address: 909 Lake Carolyn Parkway, Suite 150
Irving, Texas 75039
BMoore@RealtyCapital.com
469-533-4100 – Main
469-533-4142 – Direct

Received By: _____
Company: Realty Capital Management
Permit #: _____
Plan Review #: _____
Contractor #: _____
Planning Item: #58-20

Amount	<u>Engineering</u>
_____	01.1410 Maps
_____	01.1410 Plans/Specs
_____	01.1410 Excavation/Grading
_____	01.1410 ROW Permit
_____	TBD Block Party Permit

	<u>Building</u>
_____	01.1240 Building Permit
_____	01.1240 Plan Review
_____	01.1240 Roofing Permit
_____	01.1240 Plumbing/Gas Permit
_____	01.1240 Mechanical Permit
_____	01.1240 Demolition/Moved Bldg
_____	21.4758 Water Imp. Fee
_____	21.4759 Sewer Imp. Fee
_____	01.1240 PV Solar
_____	01.1240 Window Replacement
_____	21.2160 Water Meter/ Size _____
_____	01.1140 Use Tax
_____	01.0479 TCO Deposit (Refundable)
_____	01.1240 TCO Fee (Non-refundable)
_____	31.2250 Parkland Dedication Fee
_____	01.0404 School Land Dedication
_____	01.1200 Contractor's License Fee
_____	01.1200 Contractor's Testing Fee
_____	70.1400 FIRE IMPACT FEE
_____	01.1240 Change of Use
_____	01.3345 Sidewalk Fee-in-lieu
_____	01.3346 Parking Fee in lieu

Amount	<u>Miscellaneous</u>
_____	01.1240 Reinspection Fee
_____	01.3130 Copies
_____	01.0407 Sales Tax
_____	Other: Explain

Amount	<u>Planning</u>
_____	01.1415 Rezoning
_____	01.1415 Rezoning to PUD
_____	01.1415 PUD Plan Amendment
_____	01.1415 Annexation-Enclave
_____	01.1415 Annexation-Non-Enclave
_____	01.1415 Site/Arch Plan-Administrative
_____	01.1415 Site/Arch Plan-Minor
_____	01.1415 Site/Arch Plan-Major
_____	01.1415 Master Plan
_____	01.1415 Construction Plans
_____	01.1415 Special Use Permit
_____	01.1415 Special Use Permit-Amend
_____	01.1415 ROW Encroachment-Admin
_____	01.1415 ROW Encroachment-Council
_____	01.1415 ROW Encroachment-Vendor
_____	01.1415 Floodplain Permit
_____	01.1415 Minor Subdivision
_____	01.1415 Lot Boundary Adjustment
_____	01.1415 Preliminary Plat
_____	01.1415 Final Plat
_____	01.1415 Condominiumization
_____	01.1240 Vacation of ROW
_____	01.1415 Variance
_____	01.1415 Administrative Adjustment
_____	01.1415 Appeal
_____	01.1415 Parking Fee in lieu
_____	01.1415 Zoning Capability Letter
_____	01.1415 Home Occupation Permit
_____	01.1240 Chicken Permit
_____	01.1240 Vacation Rental Permit
_____	01.1415 Off-Premises Sign Permit
_____	01.1415 Sign Permit
_____	01.1240 Outdoor Dining Permit
_____	01.1260 Temporary Sales
_____	01.1415 Recording Fees
_____	Other: Explain

Total Amount Received

Check - Check #: _____
Cash: Deposit at Finance Dept.
Credit Card # _____

Updated 01/2021



MAJOR SITE/ARCHITECTURAL PLAN REVIEW APPLICATION CHECKLIST

For office use:

Pre-application Meeting Date: _____

Planning File #: 58-20

Applicant: _____

Lead Planner: _____

Submit application electronically – staff will notify you after submission if paper copies are required

During or shortly following your pre-application meeting, you will receive this checklist noting the materials that the City will need to process your site/architectural plan application. This information constitutes your application. Failure to provide the required materials on or before the application deadline will delay your application.

Materials to be Provided by Applicant								
Submittal Requirements		Paper Copy – number and format			PDF	Notes	Required Submission (✓)	Submitted by Applicant (✓)
		8 ½ x11	11 x 17	24 x 36				
✓ 1	Planning Application – completed in full and signed by applicant and all property owners of record	✓			✓		On File	
✓ 2	Ownership - provide proof of ownership such as Deed of Trust, Warranty Deed or Quit Claim Deed. Title commitment will not suffice	✓			✓		X	
✓ 3	Public Noticing – signed and notarized affidavit proof of public notice including mineral estate owner notification	✓				To be completed approximately 2 weeks prior to Planning & Zoning meeting; refer to mineral estate notification requirements at CO Revised Statutes – CRS 24-65.5-103 attached.		
✓ 4	Neighborhood Meeting – provide an attendance list and written summary of the neighborhood meeting	✓			✓	Neighborhood meeting must occur prior to submitting application	X	

Materials to be Provided by Applicant								
Submittal Requirements		Paper Copy – number and format			PDF	Notes	Required Submission (√)	Submitted by Applicant (√)
		8 ½ x11	11 x 17	24 x 36				
✓ 5	Project Description – narrative describing the project	√			√		X	
✓ 6	Administrative Adjustment - refer to the Administrative Adjustment information and criteria page 11.	√			√			
✓ 7	Variance Request – refer to the Variance criteria page 15.	√			√			
8	Complete Plan Set including:	0	1	1	√		X	
	Cover Sheet						X	
	Site Plan						X	
	Utility Plan						X	
	Preliminary Grading Plan						X	
	Conceptual Architectural Plans						X	
	Preliminary Landscape Plan						X	
	Sample materials board					Alternatively, materials and colors can be included in the project narrative or on the architectural plans.	X	
	Lighting Plan					Lighting details can be submitted after the public hearings/approval as part of the construction plans phase of review		
✓ 9	Engineering Reports including:	2	0	0	√		X	
	Preliminary Traffic Impact Analysis or Letter – the level of documentation required depends on the location of the property						X	

Materials to be Provided by Applicant								
Submittal Requirements		Paper Copy – number and format			PDF	Notes	Required Submission (✓)	Submitted by Applicant (✓)
		8 1/2 x 11	11 x 17	24 x 36				
	and the type of development proposed							
a.	Preliminary Soils & Geotechnical Report						X	
b.	Drainage Letter or Study – level of information required depends on the project location, size and type of development. Refer to Engineering Standards					Major drainage report required – refer to Engineering Standards	X	
10	Fee	\$ 3,200				Cash, check or credit card. Check payable to the City of Glenwood Springs	X	
11	Other Materials (list other materials that will be required)							
	Parking agreement for use of spaces on Wulfsohn Road and any related agreement for shared parking on the proposed retail pad site						X	



PHASE I ENVIRONMENTAL SITE ASSESSMENT

**Lot 8 – 0.95-acre Vacant Parcel
Northwest of Intersection of Wulfsohn Road and East Meadows
Drive
Glenwood Springs, Colorado 81601**

AEC Project No. 20-062C
September 14, 2020

Prepared for:

Stoneleigh Companies LLC
760 West Main Street Suite 140
Barrington, Illinois 60010

Prepared by:

Advantage Environmental Consultants, LLC
6395 Gunpark Drive, Unit W
Boulder, Colorado 80301
Phone (720) 459-7251



September 14, 2020

Mr. Anthony Rodriguez
Stoneleigh Companies LLC
760 West Main Street Suite 140
Barrington, Illinois 60010

Subject: **Phase I Environmental Site Assessment
Lot 8 – 0.95-acre Vacant Parcel
Northwest of Intersection of Wulfsohn Road and East Meadows Drive
Glenwood Springs, Colorado 81601
AEC Project No. 20-062C**

Dear Mr. Rodriguez:

Advantage Environmental Consultants, LLC (AEC) has performed a Phase I Environmental Site Assessment (ESA) in conformance with the scope and limitations of American Society for Testing and Materials Practice E1527-13 and 40 Code of Federal Regulations Part 312, of the above-referenced property (hereinafter referred to as "the Site"). This ESA included public environmental agency and historical record reviews, interviews, site observations, and report preparation. This report includes AEC's findings, conclusions, recommendations, and supporting documentation.

We appreciate the opportunity to be of service to you on this project. If you should have any questions regarding this report, or if we can be of further assistance, please contact David Svrjcek at (720) 459-7251.

Sincerely,

ADVANTAGE ENVIRONMENTAL CONSULTANTS, LLC

A handwritten signature in blue ink, appearing to read 'D. Svrjcek', is positioned above a horizontal line.

David F. Svrjcek
Branch Manager
ASTM Environmental Professional

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1.0 Introduction

1.1 Purpose

The purpose of this Phase I ESA is to provide a professional opinion on the presence of recognized environmental conditions and other suspect environmental conditions in connection with the Site as they existed on the date of the site inspection, and to recommend whether further investigation is required. ASTM Standard Practice E 1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, specifies minimum requirements for conducting an ESA of a parcel of commercial real estate with respect to the range of contaminants pertinent to the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as well as petroleum products. As such, this ESA is intended to satisfy one of the threshold criteria for satisfying the landowner liability protections to CERCLA liability assuming compliance with other elements of the defense. In other words, this ESA represents one of the practices that constitute "all appropriate inquiry" into the previous ownership and uses of the property consistent with good commercial or customary practice, as defined in 42 USC Section 9601(35)(B) and 40 CFR Part 312.

The goal of the process is to identify recognized environmental conditions, which are defined by the Practice as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to any release to the environment; 2) under conditions indicative of a release to the environment; or 3) under conditions that pose a material threat of a future release to the environment. The term recognized environmental condition includes hazardous substances or petroleum products even under conditions in compliance with laws. In addition, the term also included historical recognized environmental conditions and controlled recognized environmental conditions. A historical recognized environmental condition is defined by the Practice as "a past release of hazardous substances or petroleum products that has occurred in connection with a property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)." A controlled recognized environmental condition is defined by the Practice as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)." The term recognized environmental condition is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

The term "environment" is defined in CERCLA 42 USC 9601(8) as "(A) the navigable waters, the water of the contiguous zone, and the ocean waters of which the natural resources are under the exclusive management authority of the United States under the Magnuson-Stevens Fishery conservation and Management Act, and (B) any other surface water, ground water, drinking water supply, land surface or subsurface strata, or ambient air within the United States or under the jurisdiction of the United States.

The term “release” means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant), but excludes (A) any release which results in exposure to persons solely within a workplace, with respect to a claim which such persons may assert against the employer of such persons, (B) emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine, (C) release of source, byproduct, or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954 [42 U.S.C. 2011 et seq.], if such release is subject to requirements with respect to financial protection established by the Nuclear Regulatory Commission under section 170 of such Act [42 U.S.C. 2210], or, for the purposes of 42 USC 9604 or any other response action, any release of source byproduct, or special nuclear material from any processing site designated under section 7912(a)(1) or 7942(a) of this title, and (D) the normal application of fertilizer.

1.2 Detailed Scope of Services

The Phase I ESA was conducted in accordance with generally accepted Phase I industry standards using ASTM Standard Practice E 1527-13 and 40 CFR Part 312. The following services were provided for this assessment:

- A search for environmental liens in connection with the Site.
- An evaluation of standard environmental record sources contained within Federal, State and local environmental databases within specific search distances.
- A qualitative evaluation of the physical characteristics of the Site through a review of published topographic, geologic, and hydrogeologic maps; published groundwater data; and area observations to characterize surface water flow in the Site area.
- An evaluation of past Site and adjacent/nearby property uses through a review of historical resources including historical aerial photographs and topographic maps.
- A physical inspection of the Site (interior and exterior) conducted to search for conditions indicative of potential environmental concerns including underground storage tanks (USTs), above ground storage tanks (ASTs), and associated tank piping; stained soil or pavement; equipment that may contain or have historically contained polychlorinated biphenyls (PCBs); and other potential environmental concerns as defined in the ASTM E 1527-13 standard.
- A physical assessment of indications of past uses and visual observations of adjacent and surrounding properties (from curbside or public spaces) to assess potential impacts to the Site.
- Interviews completed with a representative of the current owner of the Site and local regulatory officials.
- The preparation of this Phase I ESA report, which includes the findings of the study and our opinion regarding their level of significance. Conclusions have been drawn based on the significance levels of the findings with subsequent recommendations provided.

1.3 Significant Assumptions

This Phase I ESA was conducted in accordance with ASTM guidelines and 40 CFR Part 312, for the performance of such assessment. No other warranties either express or implied, are made by AEC. AEC's evaluations, analyses, and opinions should not be taken as representations regarding subsurface conditions or the actual value of the Site. Subsurface conditions may differ from the conditions implied by the surficial observations, and can only be reliably evaluated through intrusive techniques.

Documentation and data provided by the client, designated representatives, other interested third parties, or from the public domain, and referred to in the preparation of this assessment, are assumed to be complete and correct and have been used and referenced with the understanding that AEC assumes no responsibility or liability for their accuracy. AEC's conclusions are based upon such information and documentation and on our observations of site conditions, as they existed on the date of the site inspection. Because Site conditions may change significantly over a short period of time and additional data may become available, data reported and conclusions drawn in this report are limited to current conditions and may not be relied upon on a significantly later date.

1.4 Limitations and Exceptions

Reasonable efforts have been made during this assessment to uncover evidence of USTs, ASTs, ancillary equipment associated with such tanks, and other subsurface structures. "Reasonable efforts" are limited to information gained from visual observation of unobstructed areas, recorded database information held in public record, and available information gathered from interviews. Such methods may not identify subsurface equipment that may have been hidden from view due to paving, construction or debris pile storage, or incorrect information from sources.

This investigation was not an environmental compliance audit. While some observations and discussion in this report may address conditions and/or operations that may be regulated, the regulatory compliance of those conditions and/or operations is outside the scope of this investigation. Nothing in this report constitutes a legal opinion or legal advice. For information regarding specific individual or organizational liability, AEC recommends consultation with independent legal counsel.

According to 40 CFR Part 312, Standards and Practices for All Appropriate Inquiry: Final Rule, CERCLA liability rests with the owner or operator of a property and not with an environmental professional hired by the prospective landowner and who is not involved with the ownership or operation of the property. This report meets the requirements set forth in 40 CFR Part 312 Standards and Practices for All Appropriate Inquiries; Final Rule. However, in order to qualify for certain landowner liability protections under CERCLA. Bona Fide Prospective Purchasers, Contiguous Property Owners, and/or Innocent Landowners must meet additional requirements of CERCLA (42 U.S.C. 9601 (35)(B)).

This ESA does not address non-scope ASTM considerations including asbestos containing materials, radon, lead-based paint, lead in drinking water, wetlands, protected environments and habitat, industrial hygiene concerns, indoor air quality (unrelated to releases of hazardous substances or petroleum products into the environment) and high voltage power lines.

1.5 Special Terms and Conditions

No special terms and conditions between AEC and the client pertinent to the findings of this ESA or methodology used to complete this assessment are noted. In addition, AEC does not have a financial interest in the Site.

1.6 User Reliance

This report was prepared for use solely and exclusively by Stoneleigh Companies LLC and is not for the use or benefit of, nor may it be relied upon by, any other person or entity for any purpose without the advance written consent of AEC. AEC makes no representation to any third party except that it has used the degree of care and skill ordinarily exercised by a reasonable prudent environmental professional in the same community and in the same time frame given the same or similar facts and circumstances. No other use or disclosure is intended or authorized by AEC, and no other warranties are made to any third party, either express or implied.

2.0 Site Description

2.1 Location and Legal Description

The Site is approximately 0.95 acres (41,643 square feet) and is identified as Lot 8 Glenwood Meadows. The Site is further identified by Garfield County Parcel No. 218508138008. The Site is located immediately northwest of the intersection of Wulfsohn Road and East Meadows Drive, in Garfield County, Glenwood Springs, Colorado. The Site consists of vacant land and an asphalt-paved parking lot. According to tax records, the Site is owned by Weingarten Miller Glenwood LLC. A Vicinity Map depicting the general location of the Site is included in Section 12.1.

2.2 Site and Vicinity General Characteristics

The Site and its adjacent/nearby properties are situated within the City of Glenwood Springs, Garfield County, Colorado in an area comprised of vacant land, and light commercial and residential properties. Additional details pertaining to the Site and its adjoining properties are provided in the sections below.

2.3 Current Use of the Site

The Site is vacant of structures and includes an asphalt-paved parking lot at the northern portion of the Site.

2.4 Description of Structures, Roads, Other Improvements on the Site

Other than public utilities and parking areas, no improvements are located on the Site. Potable water and sanitary sewer services in the area are provided by the City of Glenwood Springs. Electric and natural gas services in the area are provided by the City of Glenwood. A Site Plan is included in Appendix 12.2. Photographs taken of the Site during the visit are included in Appendix 12.3.

2.5 Current Uses of the Adjoining Properties

AEC performed a visual inspection of adjoining properties from the Site property boundaries, adjacent sidewalks and public right-of-ways. The following table identifies the adjacent property uses:

Direction	Adjoining Property Use
North	Wells Fargo (205 East Meadows Drive) followed by a parking lot and Glenwood Meadows Retail Center (105-135 East Meadows Drive).
South	Intersection of Wulfsohn Road and East Meadows Drive followed by Flat Tops View Drive, vacant land and an apartment complex.
East	East Meadows Drive followed by a Residence Inn (125 Wulfsohn Road).
West	Vacant land, followed by commercial retail and restaurant buildings (10-45 Market Street).

No adjoining properties were observed to be an environmental concern to the Site based on AEC's visual inspection from public right-of-ways and none were identified on any of the provided regulatory databases.

3.0 User Provided Information

3.1 Title Records

No title information was provided to AEC. No environmentally related liens, deed restrictions, activity and use limitations or institutional/engineering controls related to environmental concerns are known for the Site.

3.2 Environmental Liens or Activity and Land Use Limitations

No knowledge of any environmental related liens, deed restrictions or activity and land use limitations that are related to potential environmental issues at the Site are known for the property.

3.3 Specialized Knowledge

The owner representative provided no specialized knowledge pertinent to potential recognized environmental conditions at the Site.

3.4 Commonly Known or Reasonably Ascertainable Information

The owner representative provided no knowledge of commonly known or reasonably ascertainable information pertinent to potential recognized environmental conditions at the Site.

3.5 Valuation Reduction for Environmental Issues

AEC was not made aware of information pertaining to the relationship of the purchase price to the estimated fair market value of the Site that might indicate that significant contamination exists.

3.6 Owner, Property Manager, and Occupant Information

As the Site has no occupants, no interviews were conducted during the Site visit. AEC was unescorted during the Site inspection. However, AEC submitted an environmental questionnaire to a property owner representative. AEC received a response from Stoneleigh Companies Analyst, Mr. Anthony Rodriguez. Mr. Rodriguez was unaware of any environmental concerns related to the Site. This questionnaire response is provided in Appendix 12.6

3.7 Reason for Performing Phase I ESA

AEC has been retained to conduct this Phase I ESA to identify environmental issues that may be present and to comply with 40 CFR Part 312.

4.0 Records Review

4.1 Standard Environmental Record Sources

AEC reviewed Federal and State environmental databases provided by ERIS of Toronto, Canada for information pertaining to documented and/or suspected releases of regulated hazardous substances and/or petroleum products within specified search distances. A copy of the ERIS Report is included in Section 12.4.

AEC also reviewed unmappable sites listed in the environmental database report by cross-referencing addresses and site names. Unmappable sites are sites that cannot be plotted with confidence, but can be located by zip code or city name. In general, a site cannot be mapped because of inaccurate or missing location information in the record provided by the regulatory agency. Any unmappable sites that AEC identifies within the specified search radii were evaluated as part of the preparation of this report.

The following Federal databases related to potential on-site and off-site sources of contamination were reviewed and interpreted by AEC:

Federal Databases	Search Distance From Site
National Priorities List (NPL)	One mile
Delisted NPL	One mile
Superfund Enterprise Management System (SEMS)	One-half mile
SEMS No Further Remedial Action Planned (NFRAP)	One-half mile
Resource Conservation and Recovery Act (RCRA) Corrective Action Report (CORRACTS) Facilities	One mile
RCRA non-CORRACTS Hazardous Waste Treatment, Storage and Disposal Facilities (TSDF)	One-half mile
RCRA Hazardous Waste Generators (RCRA GEN)	One-eighth mile
Emergency Response Notification System (ERNS)	One-eighth mile
Institutional Controls/Engineering Control (IC/EC) Registries	One-half mile

The following State/local databases related to potential on-site and off-site sources of contamination were also searched and reviewed:

State/Local Databases	Search Distance From Site
State-equivalent NPL and SEMS	One mile
State and Tribal Voluntary Cleanup Sites (Indian VCP)	One-half mile
State and Tribal Landfill and/or Solid Waste Disposal Sites (SWF/LF)	One-half mile
State and Tribal Leaking Storage Tank (LST, LAST, Indian LUST)	One-half mile
State and Tribal Registered Storage Tank (UST, AST, Indian UST and FEMA UST)	One-eighth mile

Descriptions/sources of each of the above referenced regulatory databases and the dates these databases were last updated by the applicable regulatory agencies are included in the ERIS report

Subject Site

The Site was not identified on any of the reviewed regulatory databases.

Adjoining and Nearby Properties

Petco #1446 (105 East Meadows Drive) was listed on the Resource Conservation and Recovery Act (RCRA) Conditionally Exempt Small Quantity Generator (CESQG) database and is located approximately 400 feet north and topographically downgradient from the Site. This facility is a documented generator of hazardous products such as benzene, lead, mercury, and corrosive wastes. No violations were identified for this facility. Based on distance, topography, and reported regulatory status, this listing is not considered likely to have adversely impacted the Site.

Target Store T2029 (110 West Meadows Drive) was listed on RCRA Large-Quantity Generator (LQG) and FINDS/FRS database and is located approximately 600 feet northwest and topographically downgradient of the Site. This facility is a documented generator of hazardous products such as lead, benzene, formaldehyde, and corrosive waste. One violation was reported for this facility regarding waste management in mid-2017. According to EPA Enforcement and Compliance History Online (ECHO) database, the last RCRA Inspection was in 2017. No other violations were identified for this facility. Based on distance, topography and reported regulatory status, this listing is not considered likely to have adversely impacted the Site.

Six additional listings between one-eighth and one mile of the Site were listed on regulatory databases. These additional properties are not considered environmental concerns to the Site. This opinion is based on several factors including distance of the off-Site listed properties from the Site, orientation of the listed properties relative to the Site, interpreted direction of groundwater flow, current operation of the Site, and/or regulatory case status information (i.e. "closed case") for the various properties as described in the database report.

4.2 Additional Environmental Record Sources

State Health Departments

AEC searched the Colorado Division of Oil & Public Safety (OPS) online facility database system (COSTIS) for information pertaining to the Site. However, no records were identified for the Site location after searching the COSTIS database.

4.3 Physical Setting Sources

The following physical setting sources were reviewed to provide information about the topographic, hydrologic, geologic and/or hydrogeologic characteristics of the Site.

4.3.1 Topography and Hydrology

USGS Topographic Quadrangle

Based on the review of United States Geological Survey (USGS) 7.5-minute topographic map of the Glenwood Springs, CO Quadrangle (2019), regional topography is depicted with a northwestern/northeastern slope toward Atkinson Canal. The Site is situated on the map at an elevation ranging from approximately 5,800 feet above mean sea level. No structures are depicted on the Site. Public roadways bordering and in the general vicinity of the Site are depicted in their current configurations on the map.

Hydrology/Storm Water Management

Surface runoff at the Site and along adjacent roads moves north/northeast and occurs as sheet flow towards nearby storm drains or infiltrates into undeveloped and/or landscaped areas.

4.3.2 Geology

According to the USGS geologic map of Colorado as provided on Google Earth, the Site is primarily underlain by the Eagle Valley Formation consisting of siltstone, shale, and evaporite, primarily of the Phanerozoic age.

4.3.3 Hydrogeology

Regional groundwater flow at the Site appears to flow northwest/northeast in the direction of the Colorado River. The depth to groundwater at the Site is anticipated to be approximately 30 to 50 feet below ground surface.

4.4 Historical Use Information on the Subject Site and Adjoining Properties

Historical sources (as described in the following sections) were reviewed during this assessment to develop a history of the previous uses of the Site and adjoining properties, and to help identify the likelihood of past uses having led to recognized environmental conditions in connection with the Site.

4.4.1 Topographic Maps

AEC reviewed topographic maps provided by the USGS dated 1927, 1930, 1961, 1981, 2011, 2013, 2016, and 2019. The results of the topographic map review are summarized in the following table:

Topographic Map Review	
Year	Observations
1927	Site: The Site is illustrated with no structures.
1930	Adjacent Properties: Areas surrounding the Site are relatively undeveloped. A railroad track is depicted to the north of the Site.
1961	Site: The Site is illustrated with no structures.
1981	Adjacent Properties: No structures are depicted. Atkinson Canal is depicted to the north of the Site.
2011	Site: The Site is illustrated with no structures.
	Adjacent Properties: No structures are depicted. Wulfsohn Road is depicted to the south of the Site.
2013	Site: The Site is illustrated with no structures.
2016	Adjacent Properties: No structures are depicted. Roadways are generally depicted in their current configurations.
2019	

No on-Site or off-Site environmental concerns for adjacent facilities were noted on the topographic maps. A copy of representative maps is included in Section 12.5.1.

4.4.2 Aerial Photographs

AEC reviewed historical aerial photographs dated 1945, 1955, 1960, 1979, 1983, 1989, 1993, 2002, 2005, 2011, 2015, and 2017 provided by ERIS and Google Earth. The results of the aerial photograph review are summarized in the following table:

Aerial Photograph Review	
Year	Observations
1945 1955 1960 1979 1983 1989 1993 2002	Site: The Site appears as agricultural fields. A temporary structure is present on the eastern edge of the Site on the 2002 aerial but is not observed on any other photographs. Adjacent Properties: Areas surrounding the Site appears as undeveloped land and/or agricultural fields.
2005	Site: The Site appears to be undeveloped with an asphalt-paved parking lot on the northern portion of the Site. Adjacent Properties: Areas surrounding the Site are developed with commercial structures to the northwest, northeast and southeast of the Site. East Meadows Drive is depicted to the east of the Site. Wulfsohn Road is depicted to the south of the Site.
2011 2015 2017	Site: The Site appears to be undeveloped with an asphalt-paved parking lot on the northern portion of the Site. Adjacent Properties: Areas surrounding the Site are developed to the northwest, northeast, southeast and south of the Site.

No on-Site or off-Site environmental concerns for adjacent facilities were noted on the aerial photographs. A temporary metal structure appears only on the 2002 photograph, but does not appear to be an environmental concern based on AEC's site visit and regulatory review. A copy of representative maps is included in Section 12.5.3.

4.4.3 City Directories

As the Site has been historically undeveloped, city directories were not researched.

4.4.4 Fire Insurance Maps

As the Site has been historically undeveloped, fire insurance maps were not researched as they are not expected to be available.

4.4.5 Prior Environmental Reports

AEC was provided with a Phase I ESA of a 250-acre commercial development tract of land that appears to include the Site parcel, prepared by Braun Intertec and dated June 8, 2006. No RECs were identified for the Site. A copy of the report is included in Section 12.7.

AEC was provided with a Phase I ESA of a 436-acre tract of land that included the Site parcel referenced as the Wulfsohn Ranch Property, prepared by Western Technologies, Inc. and dated June 5, 1996. No RECs were identified for the parcel. A copy of the report is included in Section 12.7.

AEC was not provided with any additional environmental reports (i.e., Phase I ESAs or Phase II Subsurface Investigations) for the Site from the client.

4.4.6 Historical Use Summary

The past uses of the Site, as determined by a review of reasonably ascertainable historical information, are summarized in the following table:

Historical Use of the Site	
Years	Site Use
1945 to 2002	Vacant and/or agricultural land.
2005 to Present	Undeveloped land with an asphalt-paved parking lot on the northern portion of the Site.

4.4.7 Historical Data Failure

AEC encountered no historical data failures as defined by ASTM E 1527-13 and 40 CFR Part 312.

5.0 Site Reconnaissance

The objective of the Site reconnaissance was to obtain information indicating the likelihood of recognized environmental conditions in connection with the Site. The reconnaissance was conducted on September 10, 2020 by Ms. Morgan Torstenson of AEC's Colorado office. Ms. Torstenson was unescorted during the survey.

5.1 Methodology and Limiting Conditions

The reconnaissance consisted of walking accessible portions of the Site, and walking accessible roadways and pedestrian walkways surrounding the Site. Full access to the Site was provided. As stated previously, a Site Plan is included in Section 12.2. Photographs of the Site were taken to document existing Site conditions, and are included and described in Section 12.3.

5.2 General Property Setting

The Site is vacant of structures with an asphalt-paved parking lot on the northern portion of the Site. The Site and its adjacent/nearby properties are situated within Glenwood Springs, Colorado in an area comprised of undeveloped land, light commercial and residential properties. The current uses of nearby properties are not ones that are indicative of the use, treatment, storage, disposal or generation of hazardous substances.

5.3 Site Observations

AEC examined the Site for evidence of the following potential environmental concerns:

Conditions	Not Observed or Noted	Observed or Noted	Significant Concern?
Hazardous Substances/Petroleum Products	X		
Waste Generation/Storage/Disposal	X		
Aboveground Storage Tanks (ASTs)	X		
Underground Storage Tanks (USTs)	X		
PCB Containing Equipment	X	X	No
Chemical/Petroleum Odors	X		
Pools of Liquid	X		
Floor Drains/Sumps/Wells	X		
Drums	X		
Stains or Corrosion	X		
Unidentified Substance Containers	X		
Stained Soil or Pavement	X		
Stressed Vegetation	X		
Pits, Ponds or Lagoons	X		
Wastewater Discharges/Disposal Systems	X		
Septic Systems/Cesspools	X		
Non-Hazardous Waste Disposal Areas	X		
Drinking Water Systems/Water Wells/Other	X		
Other Features	X		

Polychlorinated Biphenyls (PCBs)

One presumed utility-owned pad-mounted transformer was observed on the eastern portion of the Site. The transformer was not labeled with regard to PCB content but as observed to be in good condition with no evidence of leaks. Based on utility ownership and observed condition, this transformer is not considered to represent an environmental concern to the Site.

No on-site equipment containing fluids potentially contaminated with PCBs, including capacitors, transformers, hydraulically operated elevators, trash compactors, box balers, or dock levelers were noted.

Natural Gas Pipeline

AEC observed a natural gas pipeline marker on the eastern portion of the Site. No concerns related to releases from pipelines in the Site vicinity were noted on the database.

6.0 Interview Information

6.1 Interview with Owner

AEC submitted an environmental questionnaire to a property owner representative. AEC received a response from Stoneleigh Companies Analyst, Mr. Anthony Rodriguez. Mr. Rodriguez was unaware of any environmental concerns related to the Site. This questionnaire response is provided in Appendix 12.6

6.2 Interview with Property Manager

The Site owner is also considered to be the Site manager. No structures are located on the Site.

6.3 Interviews with Occupants

No occupants are located on the Site, therefore, no interviews with Site occupants were conducted.

6.4 Interview with Local Government Official

No interviews with local government officials were conducted.

6.5 Interview with Others

No other interviews with others were conducted

7.0 Additional Services

7.1. Radon

A review of the CDPHE Map of Radon Zones indicates the Site is located in Zone 1. Zone 1 is an area of high radon propensity and has a predicted average indoor radon screening level greater than four pCi/L. As the Site is vacant, radon is not considered a significant environmental risk; however, future buildings may require initial radon screening and/or mitigation systems to reduce radon risk to an acceptable level. A copy of the CDPHE radon map is included in Appendix 12.7.

7.2 Mold/Fungi/Microbial Growth

As the Site is vacant of permanent structures, a mold inspection was not completed.

7.3 Vapor Intrusion and Encroachment

In conjunction with this Phase I ESA, AEC has evaluated the potential for vapor intrusion to occur at the Site by way of a Tier 1 vapor encroachment screening (VES) consistent with ASTM International Standard E2600-10 (Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions). As stated in the ASTM E 2600-10 standard, a VES screening makes use of information similar to information generally collected as part of an ASTM-compliant Phase I ESA. As such, it is AEC's opinion that the information gathered during this Phase I ESA, including regulatory and historical research, the Site reconnaissance, physical setting characteristics, and interviews is sufficient to conclude that a vapor intrusion concern at the Site can be ruled out because such a condition is not likely to exist at the Site.

7.4 Asbestos Containing Building Materials

As the Site is vacant, no suspect asbestos containing building materials are present. In addition, no areas of dumping were noted that may contain suspect materials.

7.5 Lead-Based Pain (LBP)

As the Site is vacant, no suspect lead-based paint surfaces are present.

8.0 Findings, Opinions, Conclusions and Recommendations

Advantage Environmental Consultants, LLC has performed a Phase I Environmental Site Assessment, in conformance with the scope and limitations of ASTM Practice E1527-13 at Lot 8 Glenwood Meadows, Garfield County, Glenwood Springs, Colorado. Any exceptions to, or deletions from, this practice are described in Section 10.0 of this report.

Based on the results of this assessment, no evidence of recognized environmental conditions (RECs) were identified in connection with the Site and no further investigation (i.e., Phase II Subsurface Investigation) is recommended.

9.0 Deviations and Data Gaps

AEC encountered no historical data failures as defined by ASTM E 1527-13 and 40 CFR Part 312.

10.0 References

"All Appropriate Inquiry" as necessary to satisfy the defenses available under 42 U.S.C. §§ 9607(b) (3), 9607(r) (1), and 9607(q), relying on definitions provided at 42 U.S.C. §§ 9601(35) (B); and as further explained in 40 CFR §§ 312.1 – 312.31.

ASTM International, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process," ASTM Designation E 1527-13, Published November 2013;

Environmental Risk Information Services (ERIS), Inc., September 12, 2020, Report, Inquiry #2029100819 at Lot 8 Glenwood Springs, Colorado";

ERIS, Inc., July 20, 2017, "Aerial Photographs, Inquiry #20170719160 at Glenwood Springs, Colorado" dated 1945, 1955, 1960, 1979, 1983, 1989, 1993, 2005, 2006, 2011, 2013, and 2015;

Google Aerials, dated 2002, 2005, 2011, 2015 and 2017;

Phase I Environmental Site Assessment of Wulfsohn Ranch Property, dated June 5, 1996, prepared by Western Technologies Inc;

US Geologic Map of Colorado;

United States Geological Survey (USGS), 1927, 1930, 1961, 1981, 2011, 2013, 2016, and 2019 "Glenwood Springs, CO, Quadrangle 7.5 Minute Topographic Maps".

11.0 Signatures and Qualifications of Environmental Professionals

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in 40 CFR 312.10. I have the specific qualifications based on education, training and experience to assess a property of the nature, history and setting of the subject Site. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

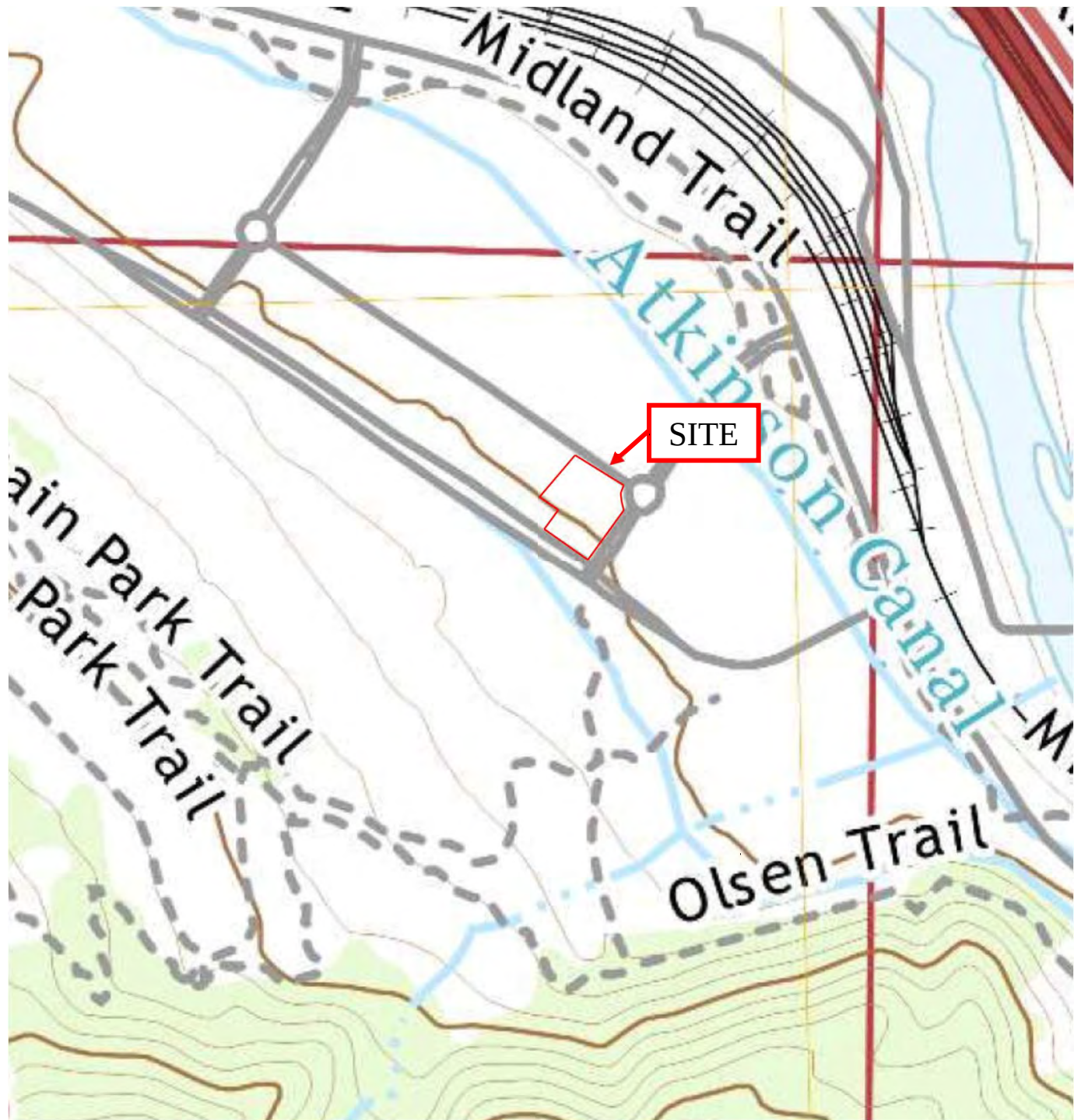


David F. Svrjcek
Branch Manager
AEC Colorado Regional Manager

Qualifications for the environmental professionals involved in the performance of the Phase I ESA are included in Section 12.

12.0 Appendices

12.1 Vicinity Map



Source: United States Geological Survey Glenwood Springs, Colorado 7.5 Minute Quadrangle



6395 Gunpark Drive, Unit W
Boulder, Colorado 80301
Phone: 720-459-7251 • Fax: 720-459-7298

Site Vicinity Map
Lot 8 Glenwood Meadows
Glenwood Springs, Colorado 81601

Work Order No.:
20-062C

Report Date:
September 2020

Drawn By:
MLT

12.2 Site Plan



6395 Gunpark Drive, Unit W
Boulder, Colorado 80301
Phone: 720-459-7251 • Website: www.aec-env.com

Site Plan

Lot 8 Glenwood Meadows
Glenwood Springs, Colorado 81601

Work Order No.:
20-062C

Report Date:
September 2020

Drawn By:
MLT

12.3 Site Photographs



Photograph 1: View of the Site, facing northeast.



Photograph 2: Another view of the Site, facing east.



Photograph 3: Another view of the Site, facing northwest.



Photograph 4: Another view of the Site, facing south/southeast.



Photograph 5: Another view of the Site, facing east.



Photograph 6: View of natural gas pipeline signage at the Site.



Photograph 7: View of property signage at the Site.



Photograph 8: View of drainage at the northeast corner of the parking lot at the Site.



Photograph 9: View of pad-mounted transformer along the eastern Site boundary.



Photograph 10: View to the south of the Site, facing south.



Photograph 11: View to the east of the Site, facing east.



Photograph 12: View to the north of the Site, facing north.



Photograph 13: View to the northeast of the Site, facing northeast.



Photograph 14: View to the west of the Site, facing west.

12.4 Regulatory Database Report



DATABASE REPORT

Project Property: 405 Wulsohn Road
405 Wulsohn Road
Glenwood Springs CO 81601

Project No:

Report Type: Database Report

Order No: 20291000819

Requested by: Advantage Environmental Consultants, LLC

Date Completed: September 12, 2020

Environmental Risk Information Services

A division of Glacier Media Inc.

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Executive Summary

Property Information:

Project Property: 405 Wulsohn Road
405 Wulsohn Road Glenwood Springs CO 81601

Project No:

Coordinates:

Latitude: 39.55335061
Longitude: -107.34179862
UTM Northing: 4,380,804.59
UTM Easting: 298,797.77
UTM Zone: 13S

Elevation: 5,792 FT

Order Information:

Order No: 20291000819
Date Requested: September 10, 2020
Requested by: Advantage Environmental Consultants, LLC
Report Type: Database Report

Historicals/Products:

ERIS Xplorer [ERIS Xplorer](#)
Excel Add-On Excel Add-On

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
<u>Standard Environmental Records</u>								
Federal								
FRP	Y	0.25	0	0	0	-	-	0
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	0.5	0	0	0	0	-	0
SEMS	Y	0.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	0.5	0	0	0	0	-	0
ODI	Y	0.5	0	0	0	0	-	0
IODI	Y	0.5	0	0	0	0	-	0
CERCLIS	Y	0.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	0.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	1	1
RCRA TSD	Y	0.5	0	0	0	0	-	0
RCRA LQG	Y	0.25	0	0	1	-	-	1
RCRA SQG	Y	0.25	0	0	1	-	-	1
RCRA CESQG	Y	0.25	0	0	1	-	-	1
RCRA NON GEN	Y	0.25	0	0	0	-	-	0
FED ENG	Y	0.5	0	0	0	0	-	0
FED INST	Y	0.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	0.5	0	0	0	0	-	0
FEMA UST	Y	0.25	0	0	0	-	-	0
REFN	Y	0.25	0	0	0	-	-	0
BULK TERMINAL	Y	0.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
SUPERFUND ROD	Y	1	0	0	0	0	0	0
State								
DELISTED SHWS	Y	1	0	0	0	0	0	0
SHWS	Y	1	0	0	0	0	0	0
SWF/LF	Y	0.5	0	0	0	0	-	0
HIST LF	Y	0.5	0	0	0	0	-	0
LST	Y	0.5	0	0	1	3	-	4
DELISTED LST	Y	0.5	0	0	0	0	-	0
UST	Y	0.25	0	0	0	-	-	0
AST	Y	0.25	0	0	2	-	-	2
TANKS	Y	0.25	0	0	0	-	-	0
DTNK	Y	0.25	0	0	0	-	-	0
AUL	Y	0.5	0	0	0	0	-	0
VCP	Y	0.5	0	0	0	0	-	0
BROWNFIELDS	Y	0.5	0	0	0	0	-	0
Tribal								
INDIAN LUST	Y	0.5	0	0	0	0	-	0
INDIAN UST	Y	0.25	0	0	0	-	-	0
DELISTED ILST	Y	0.5	0	0	0	0	-	0
DELISTED IUST	Y	0.25	0	0	0	-	-	0
County								
<i>No County standard environmental record sources available for this State.</i>								
<u>Additional Environmental Records</u>								
Federal								
PFAS NPL	Y	0.5	0	0	0	0	-	0
FINDS/FRS	Y	PO	0	-	-	-	-	0
TRIS	Y	PO	0	-	-	-	-	0
PFAS TRI	Y	0.5	0	0	0	0	-	0
PFAS WATER	Y	0.5	0	0	0	0	-	0
HMIRS	Y	0.125	0	0	-	-	-	0
NCDL	Y	0.125	0	0	-	-	-	0
TSCA	Y	0.125	0	0	-	-	-	0
HIST TSCA	Y	0.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	0.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED FED DRY	Y	0.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
PIPELINE INCIDENT	Y	PO	0	-	-	-	-	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	0.25	0	0	0	-	-	0
ALT FUELS	Y	0.25	0	0	1	-	-	1
SSTS	Y	0.25	0	0	0	-	-	0
PCB	Y	0.5	0	0	0	0	-	0

State

SPILLS	Y	0.125	0	0	-	-	-	0
OG SPILLS	Y	0.125	0	0	-	-	-	0
DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
PFAS	Y	0.5	0	0	0	0	-	0
NPDES	Y	PO	0	-	-	-	-	0

Tribal

No Tribal additional environmental record sources available for this State.

County

No County additional environmental record sources available for this State.

Total:	0	0	7	3	1	11
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* PO – Property Only

* 'Property and adjoining properties' database search radii are set at 0.25 miles.

Executive Summary: Site Report Summary - Project Property

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Direction</i>	<i>Distance (mi/ft)</i>	<i>Elev Diff (ft)</i>	<i>Page Number</i>
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No records found in the selected databases for the project property.

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	RCRA CESQG	PETCO STORE #1446	105 E MEADOWS DR GLENWOOD SPRINGS CO 81601 EPA Handler ID: COR000232926	NE	0.13 / 712.67	-49	16
2	RCRA LQG	TARGET STORE T2029	110 W MEADOWS DR GLENWOOD SPRINGS CO 81601-9516 EPA Handler ID: COR000212498	NW	0.15 / 772.56	-9	18
3	ALT FUELS	Target T2029 - Glenwood Springs, CO	110 W. Meadows Dr. Glenwood Springs CO 81601	WNW	0.17 / 878.70	35	25
4	LST	Envirotech	777 Deveroux Ln Glenwood Springs 81601 CO Facility ID: 17895 Event ID Status: 9927 Closed	E	0.19 / 1,024.51	-64	25
4	AST	Envirotech	777 Deveroux Ln Glenwood Springs 81601 CO Facility ID: 17895 Tank Tag Tank Status: 17895-1 Permanently Closed	E	0.19 / 1,024.51	-64	27
5	AST	Lowes #1905	215 W Meadows Dr Glenwood Springs 81601 CO Facility ID: 18586 Tank Tag Tank Status: 18586-1 Currently In Use	WNW	0.23 / 1,239.94	30	28
5	RCRA SQG	LOWES OF GLENWOOD SPRINGS CO #1905	215 W MEADOWS DR GLENWOOD SPRINGS CO 81601 EPA Handler ID: COR000247502	WNW	0.23 / 1,239.94	30	30
6	LST	Coca Cola Bottling Co	1220 Devereux Rd Glenwood Springs 81601 CO Facility ID: 6956 Event ID Status: 7210 Closed	NNE	0.32 / 1,706.51	-85	32
7	LST	CDOT Glenwood	202 Centennial Glenwood Springs 81601 CO Facility ID: 460 Event ID Status: 9806 Closed	E	0.35 / 1,847.63	-68	33
7	LST	CDOT Glenwood Springs	202 Centennial St Glenwood Springs 81601 CO Facility ID: 7564 Event ID Status: 784 Closed	E	0.35 / 1,847.63	-68	34
8	RCRA CORRACTS	EIMCO COAL MACHINERY	2222 DEVERUEX RD GLENWOOD SPRINGS CO 81601-8702 EPA Handler ID: COD981544786	WNW	0.95 / 5,032.18	-91	35

Executive Summary: Summary by Data Source

Standard

Federal

RCRA CORRACTS - RCRA CORRACTS-Corrective Action

A search of the RCRA CORRACTS database, dated Jul 27, 2020 has found that there are 1 RCRA CORRACTS site(s) within approximately 1.00 miles of the project property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
EIMCO COAL MACHINERY	2222 DEVERUEX RD GLENWOOD SPRINGS CO 81601-8702 <i>EPA Handler ID: COD981544786</i>	WNW	0.95 / 5,032.18	8

RCRA LQG - RCRA Generator List

A search of the RCRA LQG database, dated Jul 27, 2020 has found that there are 1 RCRA LQG site(s) within approximately 0.25 miles of the project property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
TARGET STORE T2029	110 W MEADOWS DR GLENWOOD SPRINGS CO 81601-9516 <i>EPA Handler ID: COR000212498</i>	NW	0.15 / 772.56	2

RCRA SQG - RCRA Small Quantity Generators List

A search of the RCRA SQG database, dated Jul 27, 2020 has found that there are 1 RCRA SQG site(s) within approximately 0.25 miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
LOWES OF GLENWOOD SPRINGS CO #1905	215 W MEADOWS DR GLENWOOD SPRINGS CO 81601 <i>EPA Handler ID: COR000247502</i>	WNW	0.23 / 1,239.94	5

RCRA CESQG - RCRA Conditionally Exempt and Very Small Quantity Generators List

A search of the RCRA CESQG database, dated Jul 27, 2020 has found that there are 1 RCRA CESQG site(s) within approximately 0.25 miles of the project property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
PETCO STORE #1446	105 E MEADOWS DR GLENWOOD SPRINGS CO 81601 <i>EPA Handler ID: COR000232926</i>	NE	0.13 / 712.67	1

State

LST - Leaking Storage Tanks

A search of the LST database, dated Jun 30, 2020 has found that there are 4 LST site(s) within approximately 0.50 miles of the project

property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
Envirotech	777 Deveroux Ln Glenwood Springs 81601 CO <i>Facility ID: 17895</i> <i>Event ID Status: 9927 Closed</i>	E	0.19 / 1,024.51	<u>4</u>
Coca Cola Bottling Co	1220 Devereux Rd Glenwood Springs 81601 CO <i>Facility ID: 6956</i> <i>Event ID Status: 7210 Closed</i>	NNE	0.32 / 1,706.51	<u>6</u>
CDOT Glenwood Springs	202 Centennial St Glenwood Springs 81601 CO <i>Facility ID: 7564</i> <i>Event ID Status: 784 Closed</i>	E	0.35 / 1,847.63	<u>7</u>
CDOT Glenwood	202 Centennial Glenwood Springs 81601 CO <i>Facility ID: 460</i> <i>Event ID Status: 9806 Closed</i>	E	0.35 / 1,847.63	<u>7</u>

AST - Aboveground Storage Tanks

A search of the AST database, dated Jun 30, 2020 has found that there are 2 AST site(s) within approximately 0.25 miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
Lowes #1905	215 W Meadows Dr Glenwood Springs 81601 CO <i>Facility ID: 18586</i> <i>Tank Tag Tank Status: 18586-1 Currently In Use</i>	WNW	0.23 / 1,239.94	<u>5</u>

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
Envirotech	777 Deveroux Ln Glenwood Springs 81601 CO <i>Facility ID: 17895</i> <i>Tank Tag Tank Status: 17895-1 Permanently Closed</i>	E	0.19 / 1,024.51	<u>4</u>

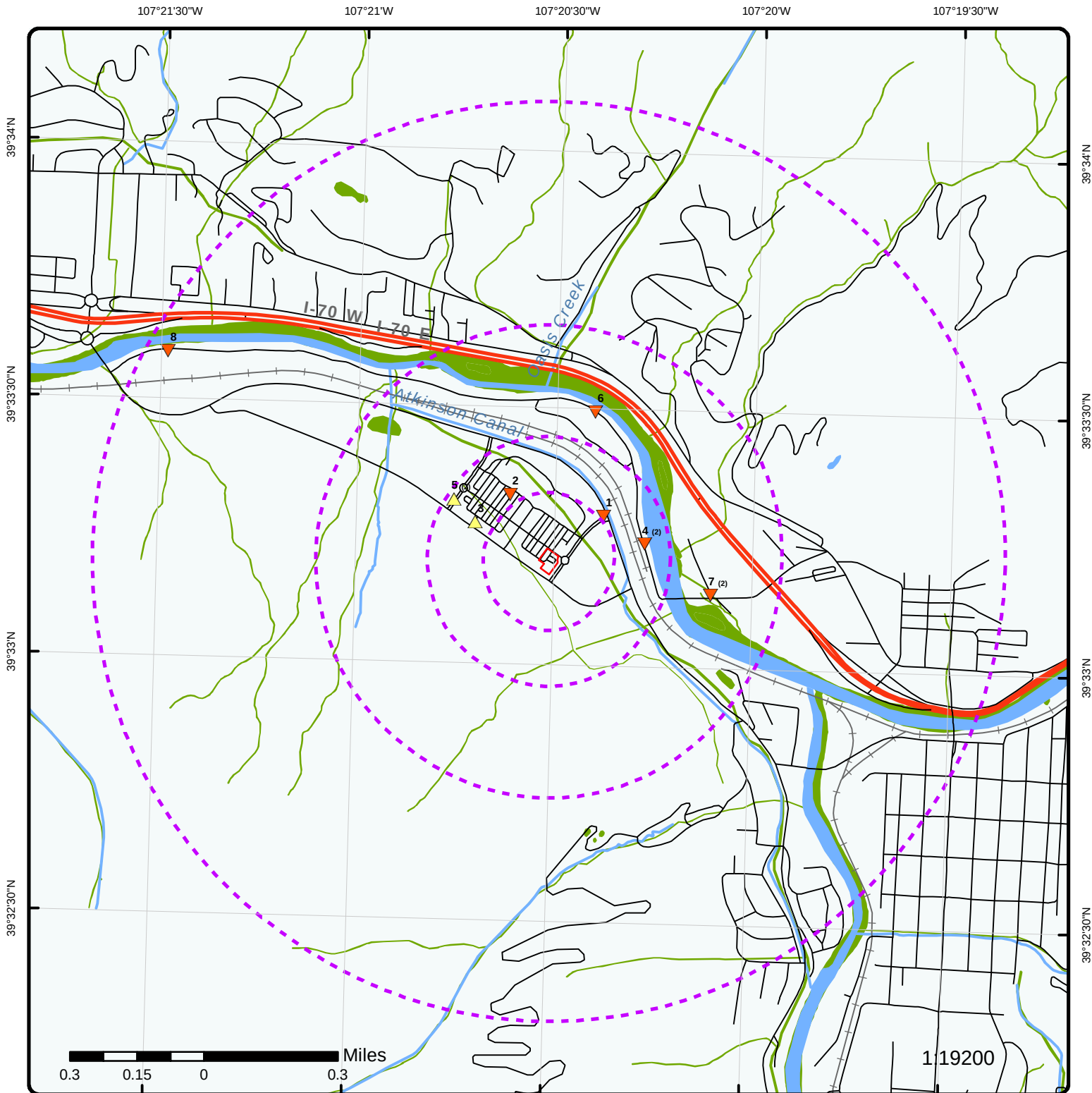
Non Standard

Federal

ALT FUELS - Alternative Fueling Stations

A search of the ALT FUELS database, dated Jun 22, 2020 has found that there are 1 ALT FUELS site(s) within approximately 0.25 miles of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (mi/ft)</u>	<u>Map Key</u>
Target T2029 - Glenwood Springs, CO	110 W. Meadows Dr. Glenwood Springs CO 81601	WNW	0.17 / 878.70	<u>3</u>



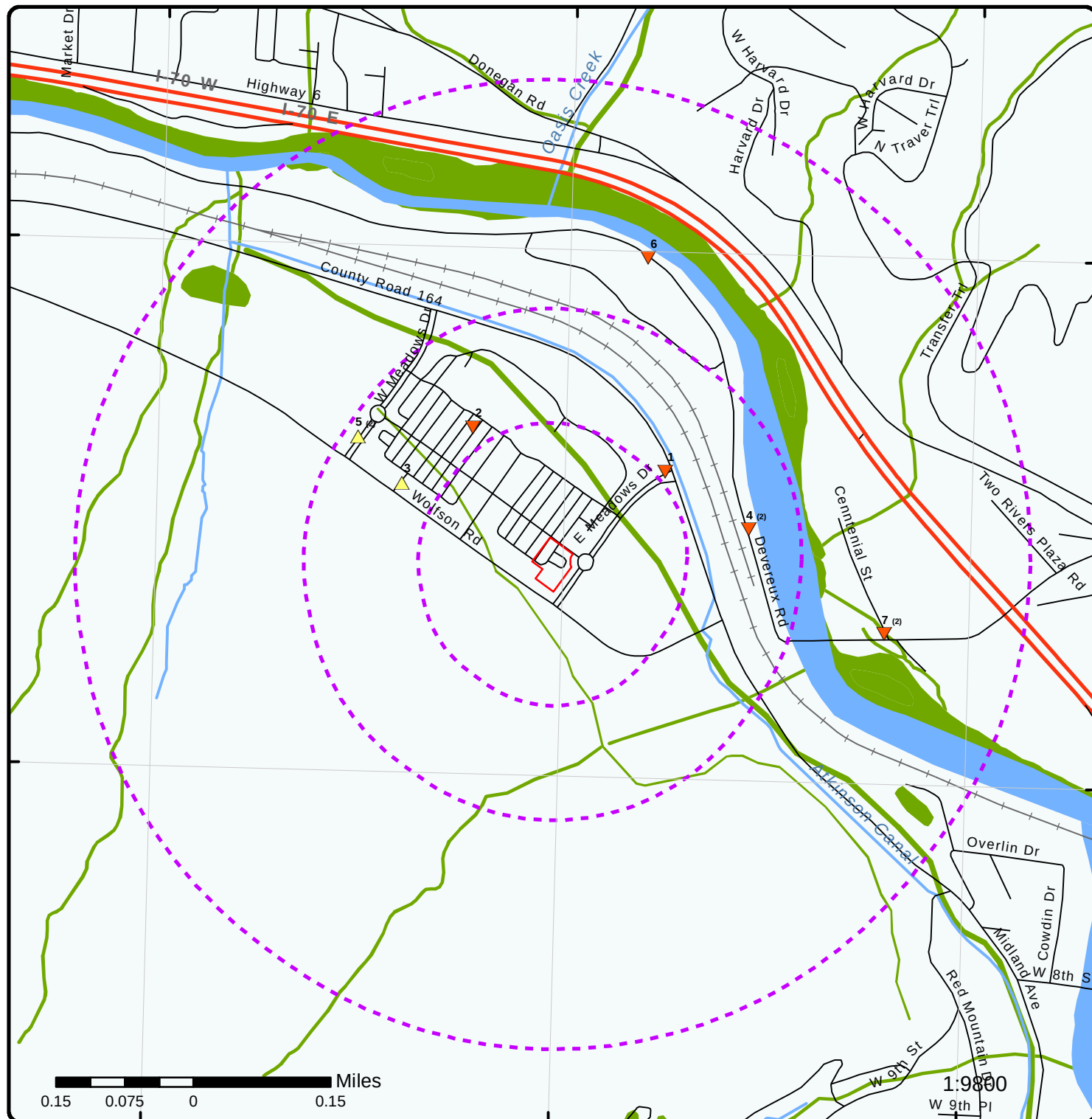
Map : 1.0 Mile Radius

Order Number: 20291000819

Address: 405 Wulfsohn Road, Glenwood Springs, CO



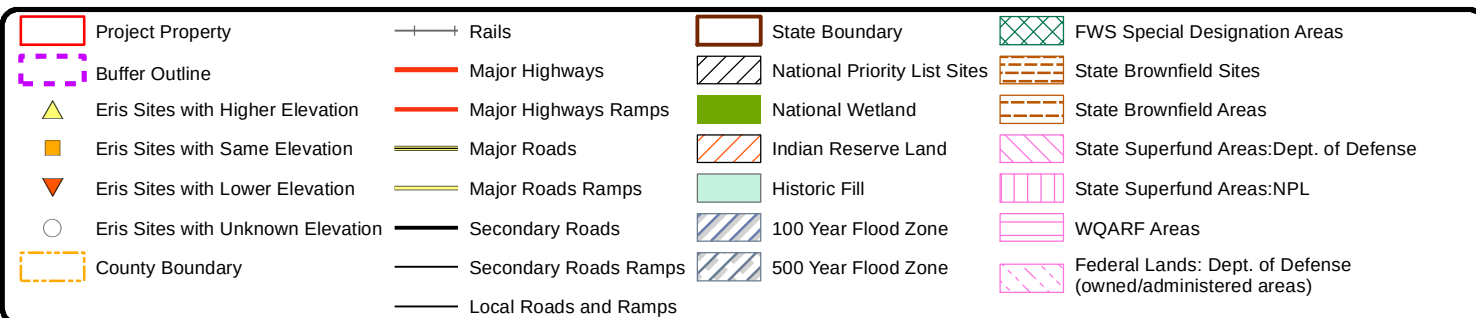
Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas:Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas:NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		

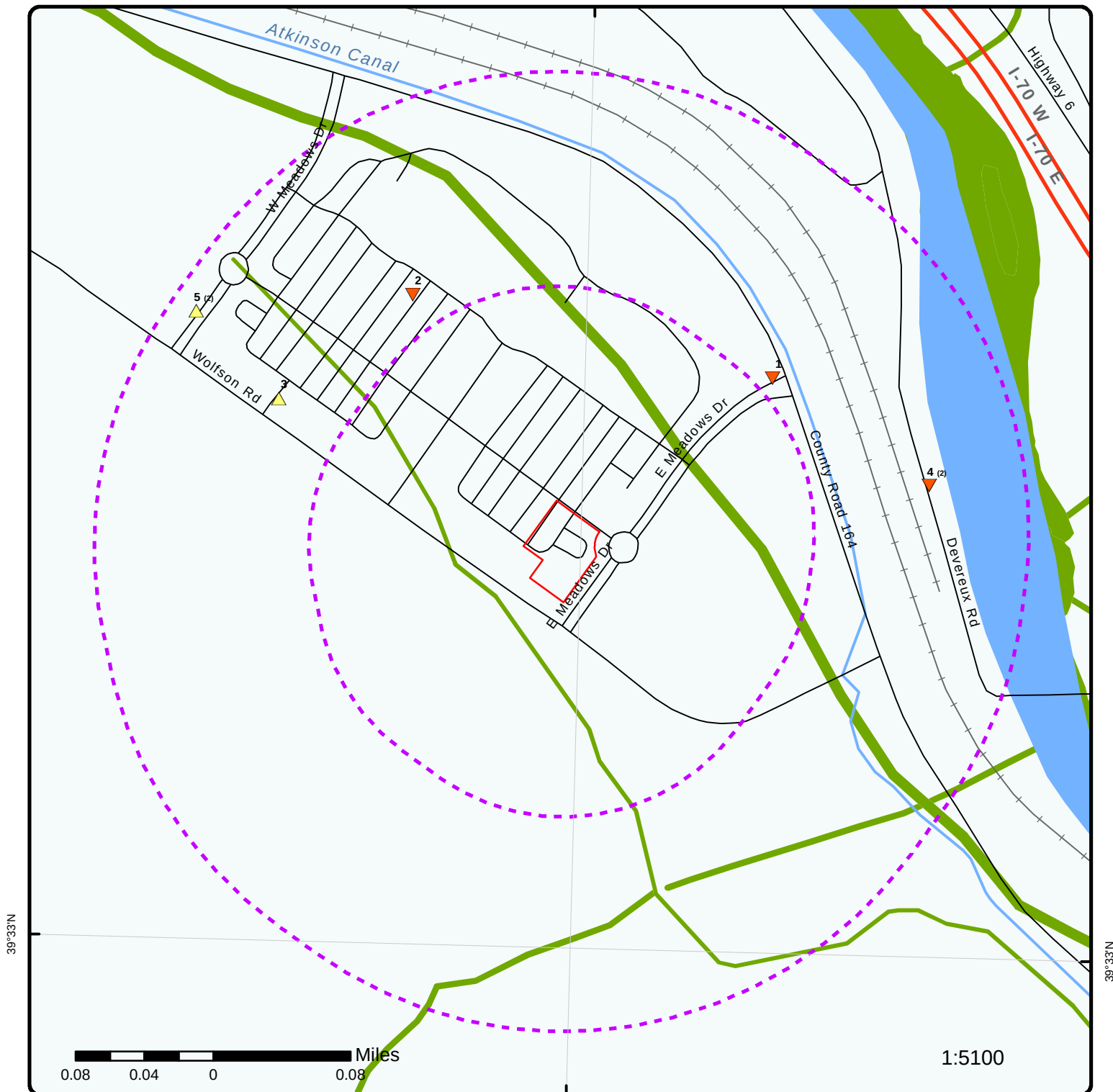


Map : 0.5 Mile Radius

Order Number: 20291000819

Address: 405 Wulfsohn Road, Glenwood Springs, CO





Map : 0.25 Mile Radius

Order Number: 20291000819

Address: 405 Wulfsohn Road, Glenwood Springs, CO



Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas: Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas: NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		



Aerial Year: 2018

Address: 405 Wulfsohn Road, Glenwood Springs, CO

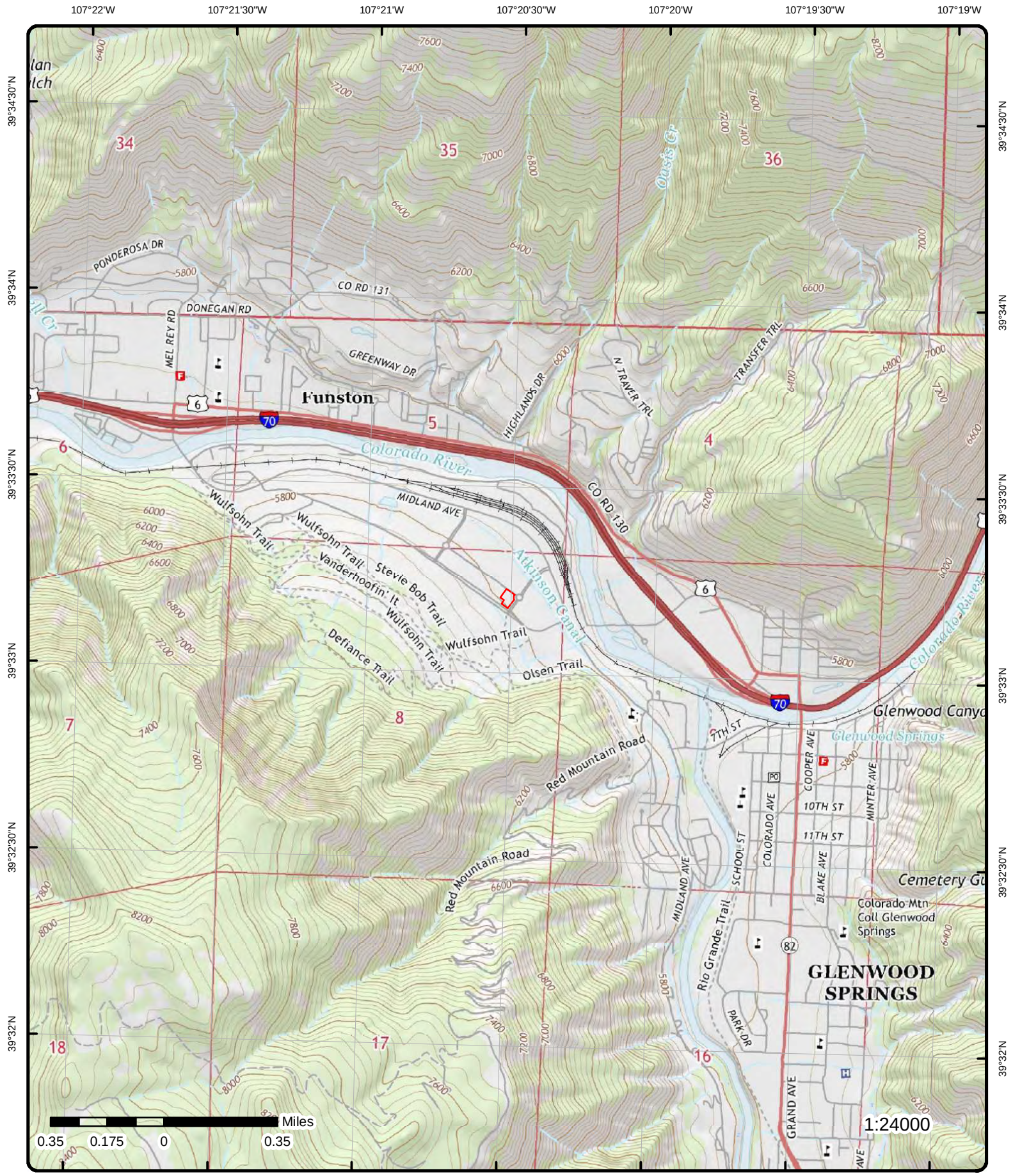
Source: ESRI World Imagery

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Order Number: 20291000819



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Topographic Map Year: 2016 Order Number: 20291000819

Address: 405 Wulfsohn Road, CO **ERIS** ENVIRONMENTAL RISK INFORMATION SERVICES

Quadrangle(s): Storm King Mountain, CO; Glenwood Springs, CO © ERIS Information Inc.

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	1 of 1	NE	0.13 / 712.67	5,743.02 / -49	PETCO STORE #1446 105 E MEADOWS DR GLENWOOD SPRINGS CO 81601	RCRA CESQG

EPA Handler ID: COR000232926
Gen Status Universe: Conditionally Exempt Small Quantity Generator
Contact Name: AMY PATTON
Contact Address: 654 , RICHLAND HILLS DR , , SAN ANTONIO , TX, 78245 , US
Contact Phone No and Ext: 210-201-9241
Contact Email: AMY.PATTON@PETCO.COM
Contact Country: US
County Name: GARFIELD
EPA Region: 08
Land Type: Private
Receive Date: 20140506

Violation/Evaluation Summary

Note: NO RECORDS: As of May 2020, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20140402
Handler Name: PETCO STORE #1446
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D002
Waste Code Description: CORROSIVE WASTE

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Hazardous Waste Code:	D005
Waste Code Description:	BARIUM
Hazardous Waste Code:	D007
Waste Code Description:	CHROMIUM
Hazardous Waste Code:	D008
Waste Code Description:	LEAD
Hazardous Waste Code:	D009
Waste Code Description:	MERCURY
Hazardous Waste Code:	D016
Waste Code Description:	2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)
Hazardous Waste Code:	D018
Waste Code Description:	BENZENE
Hazardous Waste Code:	D035
Waste Code Description:	METHYL ETHYL KETONE

Hazardous Waste Handler Details

Sequence No:	2
Receive Date:	20140506
Handler Name:	PETCO STORE #1446
Federal Waste Generator Code:	3
Generator Code Description:	Very Small Quantity Generator
Source Type:	Notification

Waste Code Details

Hazardous Waste Code:	D001
Waste Code Description:	IGNITABLE WASTE
Hazardous Waste Code:	D002
Waste Code Description:	CORROSIVE WASTE
Hazardous Waste Code:	D005
Waste Code Description:	BARIUM
Hazardous Waste Code:	D007
Waste Code Description:	CHROMIUM
Hazardous Waste Code:	D008
Waste Code Description:	LEAD
Hazardous Waste Code:	D009
Waste Code Description:	MERCURY
Hazardous Waste Code:	D016
Waste Code Description:	2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)
Hazardous Waste Code:	D018
Waste Code Description:	BENZENE
Hazardous Waste Code:	D035
Waste Code Description:	METHYL ETHYL KETONE

Owner/Operator Details

Owner/Operator Ind:	Current Owner	Street No:	850
Type:	Private	Street 1:	ENGLEWOOD PKWY STE 200
Name:	WEINGARTEN MILLER GLENWOOD LLC	Street 2:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Date Became Current:	20140402			City:	ENGLEWOOD	
Date Ended Current:				State:	CO	
Phone:				Country:	US	
Source Type:	Notification			Zip Code:	80110	
Owner/Operator Ind:	Current Operator			Street No:	105	
Type:	Private			Street 1:	E MEADOWS DR	
Name:	PETCO STORE #1446			Street 2:		
Date Became Current:	20140402			City:	GLENWOOD SPRINGS	
Date Ended Current:				State:	CO	
Phone:				Country:	US	
Source Type:	Notification			Zip Code:	81601	

Historical Handler Details

Receive Dt: 20140402
Generator Code Description: Very Small Quantity Generator
Handler Name: PETCO STORE #1446

2	1 of 1	NW	0.15 / 772.56	5,783.10 / -9	TARGET STORE T2029 110 W MEADOWS DR GLENWOOD SPRINGS CO 81601-9516	RCRA LQG
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EPA Handler ID: COR000212498
Gen Status Universe: Large Quantity Generator
Contact Name: STEVE MUSSER
Contact Address: P O BOX 111 , , MINNEAPOLIS , MN, 55440 , US
Contact Phone No and Ext: 800-587-2228
Contact Email: POC@TARGET.COM
Contact Country: US
County Name: GARFIELD
EPA Region: 08
Land Type: Private
Receive Date: 20200214

Violation/Evaluation Summary

Note: VIOLATION or UNDETERMINED: There are VIOLATION or UNDETERMINED details or records associated with this facility (EPA ID) in the Compliance Monitoring and Enforcement table dated May, 2020.

Violation Details

Citation:
Violation Short Description: Generators - Pre-transport
Violation Type: 262.C
Violation Determined Date: 20170719
Scheduled Compliance Date:
Return to Compliance: Documented
Actual Return to Compl: 20170821
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 175
Enforcement Type Description: COMPLIANCE ADVISORY
Enforcement Action Date: 20170719
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Violation Details

Citation:
Violation Short Description: Universal Waste - General
Violation Type: 273.A
Violation Determined Date: 20170719
Scheduled Compliance Date:
Return to Compliance: Documented
Actual Return to Compl: 20170821
Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 175
Enforcement Type Description: COMPLIANCE ADVISORY
Enforcement Action Date: 20170719
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: State
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Evaluation Details

Evaluation Start Date: 20170821
Evaluation Type Description: FOCUSED COMPLIANCE INSPECTION
Violation Short Description:
Return to Compliance Date:
Evaluation Agency: State

Evaluation Start Date: 20170719
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - Pre-transport
Return to Compliance Date: 20170821
Evaluation Agency: State

Evaluation Start Date: 20170719
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Universal Waste - General
Return to Compliance Date: 20170821
Evaluation Agency: State

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Sequence No:		1				
Receive Date:		20051017				
Handler Name:		TARGET #2029				
Federal Waste Generator Code:		3				
Generator Code Description:		Very Small Quantity Generator				
Source Type:		Notification				
 <u>Waste Code Details</u>						
Hazardous Waste Code:		D001				
Waste Code Description:		IGNITABLE WASTE				
Hazardous Waste Code:		D002				
Waste Code Description:		CORROSIVE WASTE				
 <u>Hazardous Waste Handler Details</u>						
Sequence No:		2				
Receive Date:		20160411				
Handler Name:		TARGET STORE T2029				
Federal Waste Generator Code:		1				
Generator Code Description:		Large Quantity Generator				
Source Type:		Notification				
 <u>Waste Code Details</u>						
Hazardous Waste Code:		D001				
Waste Code Description:		IGNITABLE WASTE				
Hazardous Waste Code:		D002				
Waste Code Description:		CORROSIVE WASTE				
Hazardous Waste Code:		D004				
Waste Code Description:		ARSENIC				
Hazardous Waste Code:		D005				
Waste Code Description:		BARIUM				
Hazardous Waste Code:		D006				
Waste Code Description:		CADMIUM				
Hazardous Waste Code:		D007				
Waste Code Description:		CHROMIUM				
Hazardous Waste Code:		D008				
Waste Code Description:		LEAD				
Hazardous Waste Code:		D009				
Waste Code Description:		MERCURY				
Hazardous Waste Code:		D010				
Waste Code Description:		SELENIUM				
Hazardous Waste Code:		D011				
Waste Code Description:		SILVER				
Hazardous Waste Code:		D016				
Waste Code Description:		2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)				
Hazardous Waste Code:		D018				
Waste Code Description:		BENZENE				
Hazardous Waste Code:		D024				
Waste Code Description:		M-CRESOL				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Hazardous Waste Code:		D026				
Waste Code Description:		CRESOL				
Hazardous Waste Code:		D035				
Waste Code Description:		METHYL ETHYL KETONE				
Hazardous Waste Code:		P075				
Waste Code Description:		NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-(S)-, & SALTS				
Hazardous Waste Code:		U002				
Waste Code Description:		2-PROPANONE (I) (OR) ACETONE (I)				
Hazardous Waste Code:		U035				
Waste Code Description:		BENZENE BUTANOIC ACID, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) CHLORAMBUCIL				
Hazardous Waste Code:		U044				
Waste Code Description:		CHLOROFORM (OR) METHANE, TRICHLORO-				
Hazardous Waste Code:		U058				
Waste Code Description:		2H-1,3,2-OXAZAPHOSPHORIN-2-AMINE, N,N-BIS(2-CHLOROETHYL)TETRAHYDRO-, 2-OXIDE (OR) CYCLOPHOSPHAMIDE				
Hazardous Waste Code:		U072				
Waste Code Description:		BENZENE, 1,4-DICHLORO- (OR) P-DICHLOROBENZENE				
Hazardous Waste Code:		U122				
Waste Code Description:		FORMALDEHYDE				
Hazardous Waste Code:		U129				
Waste Code Description:		CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE				
Hazardous Waste Code:		U150				
Waste Code Description:		L-PHENYLALANINE, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) MELPHALAN				
Hazardous Waste Code:		U154				
Waste Code Description:		METHANOL (I) (OR) METHYL ALCOHOL (I)				
Hazardous Waste Code:		U188				
Waste Code Description:		PHENOL				
Hazardous Waste Code:		U200				
Waste Code Description:		RESERPINE (OR) YOHIMBAN-16-CARBOXYLIC ACID, 11,17-DIMETHOXY-18-[(3,4,5-TRIMETHOXYBENZOYL) OXY]-, METHYL ESTER, (3BETA, 16BETA, 17ALPHA, 18BETA, 20ALPHA)-				
Hazardous Waste Code:		U201				
Waste Code Description:		1,3-BENZENEDIOL (OR) RESORCINOL				
Hazardous Waste Code:		U279				
Waste Code Description:		CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE				

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20180417
Handler Name: TARGET STORE T2029
Federal Waste Generator Code: 1
Generator Code Description: Large Quantity Generator
Source Type: Annual/Biennial Report update with Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D002

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Waste Code Description:		CORROSIVE WASTE				
Hazardous Waste Code:		D004				
Waste Code Description:		ARSENIC				
Hazardous Waste Code:		D005				
Waste Code Description:		BARIUM				
Hazardous Waste Code:		D006				
Waste Code Description:		CADMIUM				
Hazardous Waste Code:		D007				
Waste Code Description:		CHROMIUM				
Hazardous Waste Code:		D008				
Waste Code Description:		LEAD				
Hazardous Waste Code:		D009				
Waste Code Description:		MERCURY				
Hazardous Waste Code:		D010				
Waste Code Description:		SELENIUM				
Hazardous Waste Code:		D011				
Waste Code Description:		SILVER				
Hazardous Waste Code:		D016				
Waste Code Description:		2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)				
Hazardous Waste Code:		D018				
Waste Code Description:		BENZENE				
Hazardous Waste Code:		D024				
Waste Code Description:		M-CRESOL				
Hazardous Waste Code:		D026				
Waste Code Description:		CRESOL				
Hazardous Waste Code:		D027				
Waste Code Description:		1,4-DICHLOROBENZENE				
Hazardous Waste Code:		D035				
Waste Code Description:		METHYL ETHYL KETONE				
Hazardous Waste Code:		D039				
Waste Code Description:		TETRACHLOROETHYLENE				
Hazardous Waste Code:		P075				
Waste Code Description:		NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-(S)-, & SALTS				
Hazardous Waste Code:		U002				
Waste Code Description:		2-PROPANONE (I) (OR) ACETONE (I)				
Hazardous Waste Code:		U035				
Waste Code Description:		BENZENEBUTANOIC ACID, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) CHLORAMBUCIL				
Hazardous Waste Code:		U154				
Waste Code Description:		METHANOL (I) (OR) METHYL ALCOHOL (I)				
Hazardous Waste Code:		U188				
Waste Code Description:		PHENOL				
Hazardous Waste Code:		U279				
Waste Code Description:		CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE				

Hazardous Waste Handler Details

Sequence No: 2

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Receive Date:		20200214				
Handler Name:		TARGET STORE T2029				
Federal Waste Generator Code:		1				
Generator Code Description:		Large Quantity Generator				
Source Type:		Annual/Biennial Report update with Notification				
<u>Waste Code Details</u>						
Hazardous Waste Code:		D001				
Waste Code Description:		IGNITABLE WASTE				
Hazardous Waste Code:		D002				
Waste Code Description:		CORROSIVE WASTE				
Hazardous Waste Code:		D004				
Waste Code Description:		ARSENIC				
Hazardous Waste Code:		D005				
Waste Code Description:		BARIUM				
Hazardous Waste Code:		D006				
Waste Code Description:		CADMIUM				
Hazardous Waste Code:		D007				
Waste Code Description:		CHROMIUM				
Hazardous Waste Code:		D008				
Waste Code Description:		LEAD				
Hazardous Waste Code:		D009				
Waste Code Description:		MERCURY				
Hazardous Waste Code:		D010				
Waste Code Description:		SELENIUM				
Hazardous Waste Code:		D011				
Waste Code Description:		SILVER				
Hazardous Waste Code:		D016				
Waste Code Description:		2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)				
Hazardous Waste Code:		D018				
Waste Code Description:		BENZENE				
Hazardous Waste Code:		D027				
Waste Code Description:		1,4-DICHLOROBENZENE				
Hazardous Waste Code:		D035				
Waste Code Description:		METHYL ETHYL KETONE				
Hazardous Waste Code:		D039				
Waste Code Description:		TETRACHLOROETHYLENE				
Hazardous Waste Code:		P075				
Waste Code Description:		NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS				
Hazardous Waste Code:		U002				
Waste Code Description:		2-PROPANONE (I) (OR) ACETONE (I)				
Hazardous Waste Code:		U134				
Waste Code Description:		HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)				
Hazardous Waste Code:		U154				
Waste Code Description:		METHANOL (I) (OR) METHYL ALCOHOL (I)				
Hazardous Waste Code:		U188				
Waste Code Description:		PHENOL				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Hazardous Waste Code:		U279				
Waste Code Description:		CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE				
<u>Owner/Operator Details</u>						
Owner/Operator Ind:	Current Owner			Street No:		
Type:	Private			Street 1:	P O BOX 111	
Name:	TARGET CORPORATION			Street 2:		
Date Became Current:	20051005			City:	MINNEAPOLIS	
Date Ended Current:				State:	MN	
Phone:	800-587-2228			Country:	US	
Source Type:	Annual/Biennial Report update with Notification			Zip Code:	55440	
Owner/Operator Ind:	Current Operator			Street No:		
Type:	Private			Street 1:	P O BOX 111	
Name:	TARGET CORPORATION			Street 2:		
Date Became Current:	20051005			City:	MINNEAPOLIS	
Date Ended Current:				State:	MN	
Phone:	800-587-2228			Country:	US	
Source Type:	Annual/Biennial Report update with Notification			Zip Code:	55440	
Owner/Operator Ind:	Current Operator			Street No:	110	
Type:	Private			Street 1:	W MEADOWS DR	
Name:	TARGET STORE T2029			Street 2:		
Date Became Current:	20160411			City:	GLENWOOD SPRINGS	
Date Ended Current:				State:	CO	
Phone:	800-587-2228			Country:	US	
Source Type:	Notification			Zip Code:	81601-9516	
Owner/Operator Ind:	Current Owner			Street No:	33	
Type:	Private			Street 1:	S 6TH ST CC-3425	
Name:	TARGET CORP			Street 2:		
Date Became Current:	20051102			City:	MINNEAPOLIS	
Date Ended Current:				State:	MN	
Phone:				Country:	US	
Source Type:	Notification			Zip Code:	55402	
Owner/Operator Ind:	Previous Operator			Street No:	110	
Type:	Private			Street 1:	W MEADOWS DR	
Name:	TARGET #2029			Street 2:		
Date Became Current:	20051102			City:	GLENWOOD SPRINGS	
Date Ended Current:	20160411			State:	CO	
Phone:				Country:	US	
Source Type:	Notification			Zip Code:	81601-9516	
Owner/Operator Ind:	Current Operator			Street No:	110	
Type:	Private			Street 1:	W MEADOWS DR	
Name:	TARGET #2029			Street 2:		
Date Became Current:	20051102			City:	GLENWOOD SPRINGS	
Date Ended Current:				State:	CO	
Phone:				Country:	US	
Source Type:	Notification			Zip Code:	81601-9516	
Owner/Operator Ind:	Current Owner			Street No:		
Type:	Private			Street 1:	P O BOX 111	
Name:	TARGET CORPORATION			Street 2:		
Date Became Current:	20160411			City:	MINNEAPOLIS	
Date Ended Current:				State:	MN	
Phone:	800-587-2228			Country:	US	
Source Type:	Notification			Zip Code:	55440	
Owner/Operator Ind:	Previous Owner			Street No:	33	
Type:	Private			Street 1:	S 6TH ST CC-3425	
Name:	TARGET CORP			Street 2:		
Date Became Current:	20051102			City:	MINNEAPOLIS	
Date Ended Current:	20160411			State:	MN	
Phone:				Country:	US	
Source Type:	Notification			Zip Code:	55402	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Owner/Operator Ind:	Current Operator	Street No:	
Type:	Private	Street 1:	PO BOX 111
Name:	TARGET CORPORATION	Street 2:	
Date Became Current:	20051005	City:	MINNEAPOLIS
Date Ended Current:		State:	MN
Phone:	800-587-2228	Country:	US
Source Type:	Annual/Biennial Report update with Notification	Zip Code:	55440

Historical Handler Details

Receive Dt:	20180417
Generator Code Description:	Large Quantity Generator
Handler Name:	TARGET STORE T2029
Receive Dt:	20160411
Generator Code Description:	Large Quantity Generator
Handler Name:	TARGET STORE T2029
Receive Dt:	20051017
Generator Code Description:	Very Small Quantity Generator
Handler Name:	TARGET #2029

3	1 of 1	WNW	0.17 / 878.70	5,827.06 / 35	Target T2029 - Glenwood Springs, CO 110 W. Meadows Dr. Glenwood Springs CO 81601	ALT FUELS
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ID:	146646	CNG Dispenser No:	
Federal Agency ID:		CNG Fill Type Code:	
Federal Agency:		CNG Site Renew Src:	
Fed Agency Name:		CNG PSI:	
Status:	Open: The station is open.	CNG Storage Cap:	
Facility Type:		CNG Tot Compr Cap:	
Fuel Type Code:	ELEC: Electric	CNG Vehicle Class:	
Owner Type Desc:		LPG Nozzle Types:	
Expected Date:		LNG Site Renew Src:	
Dt Last Confirmed:	2020-06-22	LNG Vehicle Class:	
Open Date:		Hydrogen is Retail:	
Updated at:	2020-06-22 10:10:55 UTC	Hydrogen Pressures:	
BD Blends:		Hydrogen Standards:	
NG PSI:		Station Phone:	833-632-2778
NG Fill Type Code:		Latitude:	39.556128
NG Fill Type Desc:		Longitude:	-107.344827
NG Vehicle Class:			
NG Vehicle Class Desc:			
E85 Blender Pump:			
E85 Blender Pump Desc:			
E85 Other Ethanol Blends:			
EV Pricing:			
EV Pricing French:			
EV on Site Renewable Source:			
LPG Primary:			
LPG Primary Desc:			
Intersection Directions:			
Geocode Status Desc:	The location is from a real GPS readout at the station.		
Hydrogen Status Link:			

4	1 of 2	E	0.19 / 1,024.51	5,728.17 / -64	Envirotech 777 Deveroux Ln Glenwood Springs 81601 CO	LST
Facility ID:	17895	Facility Name(OPS):	Envirotech			
Facilty Name(COSTIS):	Envirotech	Address(OPS):	777 Deveroux Ln			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Address (COSTIS):	777 Deveroux Ln Glenwood Springs 81601	City(OPS):	Glenwood Springs
County (COSTIS):	Garfield	Zip Code(OPS):	81601
Facility Type(CDLE):	Non-Retail	County(OPS):	Garfield
Facilty Catgry(CDLE):	Other	State(OPS):	CO
Facility Type(OPS):	Non-Retail	Lat Long(OPS):	39.55465, -107.338196
Facilty Catgry(OPS):	Other		
Original Source:	Colorado Storage Tank Information System (COSTIS); Colorado Department of Labor and Employment (CDLE); Oil & Public Safety(OPS) Regulated Storage Tanks; OPS Petroleum Release Events in Colorado - I-25 N LUST 1; OPS Petroleum Release Events in Colorado - Petroleum Release Events		

Owner ID:	20293
Owner Name:	Smith; Gary

Events (CDLE-FOIA)

Event ID:	9927	Proj. Closure Date:	
Alt Event ID:		Category:	9
Status:	Closed	Sardonyx ID:	
UST Tank Count:		MTBE Classifica:	
AST Tank Count:	1	Sum of Reimbur Amt:	
Source of Release:		Reviewer Full Name:	Tina Sandoval
Cause of Release:		Logged On:	10/24/2005 9:31:27 AM
Confirm Rel Dt:	10/21/2005	Logged By:	tsandova
Site Name:	Envirotech		
Loc Addr:	777 Deveroux Ln		
Loc Addr2:			
Loc Addr3:			
Aka Name:			
Aka Loc Addr:			

Events (COSTIS-Online)

Event ID:	9927	Log Date:	10/24/2005 9:31:27 AM
Process Status Name:	Closed		
Site Name:	Envirotech		
Facility Name:			
Address:	777 Deveroux Ln Glenwood Springs CO 81601		
Loc Address:	777 Deveroux Ln Glenwood Springs 81601		
Loc City:	Glenwood Springs		
Loc County:	Garfield		

OPS Petroleum Release Events in Colorado - I-25 N LUST 1 (Jun 30, 2020)

Event ID:	9927	Zip:	81601
Status:	Closed	State:	CO
Release Date:	10/21/2005	County:	Garfield
Contact:	Technical Assistance Line	Latitude:	39.55465
Phone:	303-318-8547	Longitude:	-107.338196
City:	Glenwood Springs		
Site Name:	Envirotech		
Address:	777 Deveroux Ln		
Email:	cdle_ops_public_records_center@state.co.us		
Link to Database:	https://opus.cdle.state.co.us/OIS2000/event.asp?h_id=9927		

OPS Petroleum Release Events in Colorado - Petroleum Release Events (Jun 30, 2020)

Event ID:	9927	Phone:	303-318-8547
Status:	Closed	City:	Glenwood Springs
Release Date:	10/21/2005	Zip:	81601
Closure Date:	06/08/2006	State:	CO
NFA Type:	Tier I	County:	Garfield
Release Cause:		Latitude:	39.55465
Reimbursement Total:		Longitude:	-107.338196
Contact:	Technical Assistance Line	Latitude Longitude:	39.55465, -107.338196

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Release Source:

Site Name: Envirotech
Address: 777 Deveroux Ln
Email: cdle_ops_public_records_center@state.co.us
Link : https://opus.cdle.state.co.us/OIS2000/event.asp?h_id=9927

4	2 of 2	E	0.19 / 1,024.51	5,728.17 / -64	Envirotech 777 Deveroux Ln Glenwood Springs 81601 CO	AST
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Facility ID:	17895	Fac Name (COSTIS):	Envirotech
Facility Name (OPS):	Envirotech	Address (COSTIS):	777 Deveroux Ln Glenwood Springs 81601
Facility Type (OPS):	Non-Retail	Zip (COSTIS):	81601
Fac Category (OPS):	Other	County (COSTIS):	Garfield
Lat/Longitude (OPS):	39.55465, -107.338196	Fac Type (CDLE):	Non-Retail
Address (OPS):	777 Deveroux Ln	Fac Category (CDLE):	Other
City (OPS):	Glenwood Springs		
Zip Code (OPS):	81601		
County (OPS):	Garfield		
State (OPS):	CO		
Data Source(s):	Colorado Storage Tank Information System (COSTIS); Colorado Department of Labor and Employment (CDLE); Oil & Public Safety(OPS) Regulated Storage Tanks		

Facility Information (CDLE-FOIA)

Tank Type ID:	1	RMFD Inspector:	Murray Brown
Count of Tank Tag:	1	OCP Inspector:	Murray Brown
No. Dispensers:	0	Creation Date:	8/15/2005 12:58:00 PM
Comp Inspector:	Murray Brown	Owner ID:	20293
LPG Inspector:	Murray Brown		

Owner Information (CDLE-FOIA)

Contact Name:		State:	CO
City:	Greeley	Zip Code:	80634
County:	Weld		
Company Name:	Gary Smith		
Last Name:	Smith		
First Name:	Gary		
Middle Init:			
Address:	1140 38th Ave Ste #1		
Comment:	SECOND CONTACT IS ERIC NEEMAN		

AST Tanks (COSTIS-Online)

Tank ID:	39241	Owner ID:	20293
Tank Tag:	17895-1	Tank Owner:	
Tank Type Desc:	AST	County:	Garfield
Tank Count:	45350	Product Name:	
Capacity:	1000		
Facility Owner:	Gary Smith		
Facility Name Address:	Envirotech 777 Deveroux Ln Glenwood Springs 81601		

AST Tanks 1 (CDLE-FOIA)

Tank Tag:	17895-1	Product:	
Tank Type ID:	1	Tank Material:	
Tank Type:	AST	Tank Wall Type:	
Tank Status:	Permanently Closed	Piping System:	
Capacity:	1000	Piping Type:	
Install Date:		Piping Material:	
Date Closed:	6/8/2005	Piping Wall Type:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Overfill Preven:

AST Tanks 2 (CDLE-FOIA)

Alt Tank ID:		Line CP ID:	
Tank CP ID:		Anch Method Desc:	
Closure Meth ID:	2	LLD ID:	
Unregulated:	False	LLD Test Date:	
Last Used Date:	6/7/2005	Pipe Reld Meth1 ID:	
Del Prohib Date:		Pipe Reld Meth2 ID:	
Corr Prot Date:		Pipe Reldet Date:	
Spill Protected:	False	Backfill Mat Desc:	
Spl Container Size:	0	Bfill Drt Cover Amt:	0
Spl Protection Dt:		Concr Asph Inches:	0
Spl Container Mfg:		Manifold:	False
Spl Container Mdel:		Tm Name:	
CP Impcur Ins Dt:		Registration Date:	
Tank Reld Meth1 ID:		Compartment:	False
Tank Reld Meth2 ID:		Cpmet:	False
Tank Reldet Date:		Amended:	False
Tank Lining Date:		Invault:	False
CP Test Date:		Serial No:	
No Fee:	True	Category Desc:	Other

Oil & Public Safety Regulated Storage Tank Details

No of Tanks: 1

Oil & Public Safety Regulated Storage Tanks (COSTIS)

Tank Tag:	17895-1	Tank Material:	
Tank Status:	Permanently Closed	Tank Wall Type:	
Tank Type:	AST	Piping Type:	
Facility Type:	Non-Retail	Piping System:	
Installation Date:		Piping Material:	
Closure Date:	06/08/2005	Piping Wall Type:	
Capacity Gallons :	1000	City:	Glenwood Springs
Product:		County:	Garfield
Overfill Preven:			
Facility Name:	Envirotech		
Address:	777 Deveroux Ln		
Facility Category:	Other		

AST Owner (COSTIS-Online)

Owner ID:	20293	Address1:	1140 38th Ave Ste #1
First Name:	Gary	City:	Greeley
Middleinit:		State:	CO
Last Name:	Smith	County:	Weld
Full Name:	Smith, Gary	Zip Code:	80634

<u>5</u>	1 of 2	WNW	0.23 / 1,239.94	5,822.53 / 30	Lowes #1905 215 W Meadows Dr Glenwood Springs 81601 CO	AST
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Facility ID:	18586	Fac Name (COSTIS):	Lowes #1905
Facility Name (OPS):	Lowes #1905	Address (COSTIS):	215 W Meadows Dr Glenwood Springs 81601
Facility Type (OPS):	Emergency Generator	Zip (COSTIS):	81601
Fac Category (OPS):	Other	County (COSTIS):	Garfield
Lat/Longitude (OPS):	39.556575, -107.347139	Fac Type (CDLE):	Emergency Generator
Address (OPS):	215 W Meadows Dr	Fac Category (CDLE):	Other

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
City (OPS):		Glenwood Springs				
Zip Code (OPS):		81601				
County (OPS):		Garfield				
State (OPS):		CO				
Data Source(s):		Colorado Storage Tank Information System (COSTIS); Colorado Department of Labor and Employment (CDLE); Oil & Public Safety(OPS) Regulated Storage Tanks				

Facility Information (CDLE-FOIA)

Tank Type ID:	1	RMFD Inspector:	Murray Brown
Count of Tank Tag:	1	OCP Inspector:	Murray Brown
No. Dispensers:	0	Creation Date:	7/28/2008 1:18:56 PM
Comp Inspector:	Murray Brown	Owner ID:	21296
LPG Inspector:	Murray Brown		

Owner Information (CDLE-FOIA)

Contact Name:	Eric Shepherd- Compliance Mngr	State:	NC
City:	Mooreville	Zip Code:	28115
County:	Iredell		
Company Name:	Lowes Compliance RFS-92		
Last Name:	Lowes Compliance RFS-92		
First Name:			
Middle Init:			
Address:	1000 Lowes Blvd		
Comment:	MELISSA CALL ENERGY SYSTEM SUPERVISOR (RDR contact)facility aka Lowes Home Improvement Warehouse Inc.		

AST Tanks (COSTIS-Online)

Tank ID:	41431	Owner ID:	21296
Tank Tag:	'18586-1	Tank Owner:	
Tank Type Desc:	AST	County:	Garfield
Tank Count:	45350	Product Name:	Diesel
Capacity:	1500		
Facility Owner:	Lowes Compliance RFS-92		
Facility Name Address:	Lowes #1905 215 W Meadows Dr Glenwood Springs 81601		

AST Tanks 1 (CDLE-FOIA)

Tank Tag:	18586-1	Product:	Diesel
Tank Type ID:	1	Tank Material:	AST: UL142/Equiv.
Tank Type:	AST	Tank Wall Type:	Double-Walled
Tank Status:	Currently In Use	Piping System:	SS: Safe Suction
Capacity:	1500	Piping Type:	NONE: No piping
Install Date:	1/1/2009	Piping Material:	No Piping
Date Closed:		Piping Wall Type:	
Overfill Preven:	ULL: Alarm and Fill Tube Valve		

AST Tanks 2 (CDLE-FOIA)

Alt Tank ID:		Line CP ID:	
Tank CP ID:	19	Anch Method Desc:	
Closure Meth ID:		LLD ID:	3
Unregulated:	False	LLD Test Date:	
Last Used Date:		Pipe Reld Meth1 ID:	10
Del Prohib Date:		Pipe Reld Meth2 ID:	
Corr Prot Date:		Pipe Reldet Date:	
Spill Protected:	True	Backfill Mat Desc:	
Spl Container Size:	5	Bfill Drt Cover Amt:	0
Spl Protection Dt:		Concr Asph Inches:	0
Spl Container Mfg:		Manifold:	False
Spl Container Mdel:		Tm Name:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
CP Impcur Ins Dt:					Registration Date:	
Tank Reld Meth1 ID:	12				Compartment:	False
Tank Reld Meth2 ID:					Cpmet:	True
Tank Reldet Date:					Amended:	False
Tank Lining Date:					Invault:	False
CP Test Date:					Serial No:	
No Fee:	False				Category Desc:	Other

Oil & Public Safety Regulated Storage Tank Details

No of Tanks: 1

Oil & Public Safety Regulated Storage Tanks (COSTIS)

Tank Tag:	18586-1	Tank Material:	AST: UL142/Equiv.
Tank Status:	Currently In Use	Tank Wall Type:	Double-Walled
Tank Type:	AST	Piping Type:	NONE: No piping
Facility Type:	Emergency Generator	Piping System:	SS: Safe Suction
Installation Date:	01/01/2009	Piping Material:	No Piping
Closure Date:		Piping Wall Type:	
Capacity Gallons :	1500	City:	Glenwood Springs
Product:	Diesel	County:	Garfield
Overfill Preven:	ULL: Alarm and Fill Tube Valve		
Facility Name:	Lowes #1905		
Address:	215 W Meadows Dr		
Facility Category:	Other		

AST Owner (COSTIS-Online)

Owner ID:	21296	Address1:	1000 Lowes Blvd
First Name:		City:	Mooresville
Middleinit:		State:	NC
Last Name:	Lowes Compliance RFS-92	County:	Iredell
Full Name:		Zip Code:	28115

<u>5</u>	2 of 2	WNW	0.23 / 1,239.94	5,822.53 / 30	LOWES OF GLENWOOD SPRINGS CO #1905 215 W MEADOWS DR GLENWOOD SPRINGS CO 81601	RCRA SQG
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EPA Handler ID:	COR000247502
Gen Status Universe:	Small Quantity Generator
Contact Name:	BOBBI TENBORG
Contact Address:	1000 , LOWES BLVD MAIL STOP A3WLP , , MOORESVILLE , NC, 28117 , US
Contact Phone No and Ext:	704-758-2955
Contact Email:	BOBBI.L.TENBORG@LOWES.COM
Contact Country:	US
County Name:	GARFIELD
EPA Region:	08
Land Type:	Private
Receive Date:	20180729

Violation/Evaluation Summary

Note: NO VIOLATIONS: All of the compliance records associated with this facility (EPA ID) indicate NO VIOLATIONS; Compliance Monitoring and Enforcement table dated May, 2020.

Evaluation Details

Evaluation Start Date:	20190626
Evaluation Type Description:	FACILITY SELF DISCLOSURE
Violation Short Description:	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Return to Compliance Date:
Evaluation Agency: State

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20180729
Handler Name: LOWES OF GLENWOOD SPRINGS CO #1905
Federal Waste Generator Code: 2
Generator Code Description: Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D002
Waste Code Description: CORROSIVE WASTE

Hazardous Waste Code: D005
Waste Code Description: BARIUM

Hazardous Waste Code: D006
Waste Code Description: CADMIUM

Hazardous Waste Code: D007
Waste Code Description: CHROMIUM

Hazardous Waste Code: D008
Waste Code Description: LEAD

Hazardous Waste Code: D009
Waste Code Description: MERCURY

Hazardous Waste Code: D011
Waste Code Description: SILVER

Hazardous Waste Code: D016
Waste Code Description: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Hazardous Waste Code: D035
Waste Code Description: METHYL ETHYL KETONE

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Hazardous Waste Code:	U154
Waste Code Description:	METHANOL (I) (OR) METHYL ALCOHOL (I)

Owner/Operator Details

Owner/Operator Ind:	Current Operator	Street No:	215
Type:	Private	Street 1:	W MEADOWS DR
Name:	LOWES OF GLENWOOD SPRINGS CO #1905	Street 2:	
Date Became Current:	20180729	City:	GLENWOOD SPRINGS
Date Ended Current:		State:	CO
Phone:		Country:	US
Source Type:	Notification	Zip Code:	81601
Owner/Operator Ind:	Current Owner	Street No:	1605
Type:	Private	Street 1:	CURTIS BRIDGE RD
Name:	LOWES HOME CENTERS LLC	Street 2:	
Date Became Current:	20180729	City:	WILKESBORO
Date Ended Current:		State:	NC
Phone:	704-758-2955	Country:	US
Source Type:	Notification	Zip Code:	28697

6	1 of 1	NNE	0.32 / 1,706.51	5,706.98 / -85	Coca Cola Bottling Co 1220 Devereux Rd Glenwood Springs 81601 CO	LST
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Facility ID:	6956	Facility Name(OPS):	Coca Cola Bottling Co
Facilty Name(COSTIS):	Coca Cola Bottling Co	Address(OPS):	1220 Devereux Rd
Address (COSTIS):	1220 Devereux Rd Glenwood Springs 81601	City(OPS):	Glenwood Springs
County (COSTIS):	Garfield	Zip Code(OPS):	81601
Facility Type(CDLE):	Non-Retail	County(OPS):	Garfield
Facilty Catgry(CDLE):	Commercial/Industrial	State(OPS):	CO
Facility Type(OPS):	Non-Retail	Lat Long(OPS):	39.557969, -107.340409
Facilty Catgry(OPS):	Commercial/Industrial		
Original Source:	Colorado Storage Tank Information System (COSTIS); Colorado Department of Labor and Employment (CDLE); Oil & Public Safety(OPS) Regulated Storage Tanks; OPS Petroleum Release Events in Colorado - I-25 N LUST 1; OPS Petroleum Release Events in Colorado - Petroleum Release Events		
Owner ID:	1239		
Owner Name:	Coca Cola Bottling Co;		

Events (CDLE-FOIA)

Event ID:	7210	Proj. Closure Date:	
Alt Event ID:		Category:	5
Status:	Closed	Sardonyx ID:	
UST Tank Count:	4	MTBE Classifica:	
AST Tank Count:		Sum of Reimbur Amt:	
Source of Release:		Reviewer Full Name:	John Axelson
Cause of Release:		Logged On:	2/1/1999
Confirm Rel Dt:	1/28/1999	Logged By:	jaxelson
Site Name:	Coca Cola Bottling		
Loc Addr:	1220 Devereux Rd		
Loc Addr2:			
Loc Addr3:			
Aka Name:			
Aka Loc Addr:			

Events (COSTIS-Online)

Event ID:	7210	Log Date:	2/1/1999
Process Status Name:	Closed		
Site Name:	Coca Cola Bottling		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Facility Name:
Address: 1220 Devereux Rd Glenwood Springs CO 81601
Loc Address: 1220 Devereux Rd
Glenwood Springs 81601
Loc City: Glenwood Springs
Loc County: Garfield

OPS Petroleum Release Events in Colorado - I-25 N LUST 1 (Jun 30, 2020)

Event ID:	7210	Zip:	81601
Status:	Closed	State:	CO
Release Date:	01/28/1999	County:	Garfield
Contact:	Technical Assistance Line	Latitude:	39.557969
Phone:	303-318-8547	Longitude:	-107.340409
City:	Glenwood Springs		
Site Name:	Coca Cola Bottling		
Address:	1220 Devereux Rd		
Email:	cdle_ops_public_records_center@state.co.us		
Link to Database:	https://opus.cdle.state.co.us/OIS2000/event.asp?h_id=7210		

OPS Petroleum Release Events in Colorado - Petroleum Release Events (Jun 30, 2020)

Event ID:	7210	Phone:	303-318-8547
Status:	Closed	City:	Glenwood Springs
Release Date:	01/28/1999	Zip:	81601
Closure Date:	11/12/1999	State:	CO
NFA Type:	Tier I	County:	Garfield
Release Cause:		Latitude:	39.557969
Reimbursement Total:		Longitude:	-107.340409
Contact:	Technical Assistance Line	Latitude Longitude:	39.557969, -107.340409
Release Source:			
Site Name:	Coca Cola Bottling		
Address:	1220 Devereux Rd		
Email:	cdle_ops_public_records_center@state.co.us		
Link :	https://opus.cdle.state.co.us/OIS2000/event.asp?h_id=7210		

7	1 of 2	E	0.35 / 1,847.63	5,724.25 / -68	CDOT Glenwood 202 Centennial Glenwood Springs 81601 CO	LST
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Facility ID:	460	Facility Name(OPS):	CDOT Glenwood
Facility Name(COSTIS):	CDOT Glenwood	Address(OPS):	202 Centennial
Address (COSTIS):	202 Centennial Glenwood Springs 81601	City(OPS):	Glenwood Springs
County (COSTIS):	Garfield	Zip Code(OPS):	81601
Facility Type(CDLE):	Non-Retail	County(OPS):	Garfield
Facility Catgry(CDLE):	State/Local Government	State(OPS):	CO
Facility Type(OPS):	Non-Retail	Lat Long(OPS):	39.552707, -107.33554
Facility Catgry(OPS):	State/Local Government		
Original Source:	Colorado Storage Tank Information System (COSTIS); Colorado Department of Labor and Employment (CDLE); Oil & Public Safety(OPS) Regulated Storage Tanks; OPS Petroleum Release Events in Colorado - I-25 N LUST 1; OPS Petroleum Release Events in Colorado - Petroleum Release Events		
Owner ID:	1047		
Owner Name:			

Events (CDLE-FOIA)

Event ID:	9806	Proj. Closure Date:	
Alt Event ID:		Category:	15
Status:	Closed	Sardonyx ID:	
UST Tank Count:		MTBE Classifica:	
AST Tank Count:	2	Sum of Reimbur Amt:	
Source of Release:	Surface spill - customer error other	Reviewer Full Name:	Tim Kelley
Cause of Release:		Logged On:	6/10/2005 9:10:23 AM
Confirm Rel Dt:	6/7/2005	Logged By:	tkelley

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Site Name: CDOT Glenwood
Loc Addr: 202 Centennial
Loc Addr2:
Loc Addr3:
Aka Name:
Aka Loc Addr:

Events (COSTIS-Online)

Event ID:	9806	Log Date:	6/10/2005 9:10:23 AM
Process Status Name:	Closed		
Site Name:	CDOT Glenwood		
Facility Name:	CDOT Glenwood		
Address:	202 Centennial Glenwood Springs CO 81601		
Loc Address:	202 Centennial Glenwood Springs 81601		
Loc City:	Glenwood Springs		
Loc County:	Garfield		

OPS Petroleum Release Events in Colorado - I-25 N LUST 1 (Jun 30, 2020)

Event ID:	9806	Zip:	81601
Status:	Closed	State:	CO
Release Date:	06/07/2005	County:	Garfield
Contact:	Tim Kelley	Latitude:	39.552707
Phone:	303-318-8544	Longitude:	-107.33554
City:	Glenwood Springs		
Site Name:	CDOT Glenwood		
Address:	202 Centennial		
Email:	tim.kelley@state.co.us		
Link to Database:	https://opus.cdle.state.co.us/OIS2000/event.asp?h_id=9806		

OPS Petroleum Release Events in Colorado - Petroleum Release Events (Jun 30, 2020)

Event ID:	9806	Phone:	303-318-8544
Status:	Closed	City:	Glenwood Springs
Release Date:	06/07/2005	Zip:	81601
Closure Date:	05/18/2006	State:	CO
NFA Type:	Tier I	County:	Garfield
Release Cause:		Latitude:	39.552707
Reimbursement Total:		Longitude:	-107.33554
Contact:	Tim Kelley	Latitude Longitude:	39.552707, -107.33554
Release Source:			
Site Name:	CDOT Glenwood		
Address:	202 Centennial		
Email:	tim.kelley@state.co.us		
Link :	https://opus.cdle.state.co.us/OIS2000/event.asp?h_id=9806		

7	2 of 2	E	0.35 / 1,847.63	5,724.25 / -68	CDOT Glenwood Springs 202 Centennial St Glenwood Springs 81601 CO	LST
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Facility ID:	7564	Facility Name(OPS):	CDOT Glenwood Springs
Facly Name(COSTIS):	CDOT Glenwood Springs	Address(OPS):	202 Centennial St
Address (COSTIS):	202 Centennial St Glenwood Springs 81601	City(OPS):	Glenwood Springs
County (COSTIS):	Garfield	Zip Code(OPS):	81601
Facility Type(CDLE):	Non-Retail	County(OPS):	Garfield
Facly Catgry(CDLE):	State/Local Government	State(OPS):	CO
Facility Type(OPS):	Non-Retail	Lat Long(OPS):	39.552707, -107.33554
Facly Catgry(OPS):	State/Local Government		
Original Source:	Colorado Storage Tank Information System (COSTIS); Colorado Department of Labor and Employment (CDLE); Oil & Public Safety(OPS) Regulated Storage Tanks; OPS Petroleum Release Events in Colorado - I-25 N LUST 1; OPS Petroleum Release Events in Colorado - Petroleum Release Events		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Owner ID:	1047
Owner Name:	

Events (CDLE-FOIA)

Event ID:	784	Proj. Closure Date:	
Alt Event ID:	6378-1	Category:	15
Status:	Closed	Sardonyx ID:	
UST Tank Count:	4	MTBE Classifica:	
AST Tank Count:		Sum of Reimburs Amt:	
Source of Release:		Reviewer Full Name:	Joe'l Lambe
Cause of Release:		Logged On:	8/17/1992
Confirm Rel Dt:	8/17/1992	Logged By:	jlambe
Site Name:	CDOT Glenwood Springs		
Loc Addr:	202 Centennial St		
Loc Addr2:			
Loc Addr3:			
Aka Name:			
Aka Loc Addr:			

Events (COSTIS-Online)

Event ID:	784	Log Date:	8/17/1992
Process Status Name:	Closed		
Site Name:	CDOT Glenwood Springs		
Facility Name:			
Address:	202 Centennial St Glenwood Springs CO 81601		
Loc Address:	202 Centennial St Glenwood Springs 81601		
Loc City:	Glenwood Springs		
Loc County:	Garfield		

OPS Petroleum Release Events in Colorado - I-25 N LUST 1 (Jun 30, 2020)

Event ID:	784	Zip:	81601
Status:	Closed	State:	CO
Release Date:	08/17/1992	County:	Garfield
Contact:	Technical Assistance Line	Latitude:	39.552707
Phone:	303-318-8547	Longitude:	-107.33554
City:	Glenwood Springs		
Site Name:	CDOT Glenwood Springs		
Address:	202 Centennial St		
Email:	cdle_ops_public_records_center@state.co.us		
Link to Database:	https://opus.cdle.state.co.us/OIS2000/event.asp?h_id=784		

OPS Petroleum Release Events in Colorado - Petroleum Release Events (Jun 30, 2020)

Event ID:	784	Phone:	303-318-8547
Status:	Closed	City:	Glenwood Springs
Release Date:	08/17/1992	Zip:	81601
Closure Date:	05/03/2002	State:	CO
NFA Type:	Other/Unknown	County:	Garfield
Release Cause:		Latitude:	39.552707
Reimbursement Total:		Longitude:	-107.33554
Contact:	Technical Assistance Line	Latitude Longitude:	39.552707, -107.33554
Release Source:			
Site Name:	CDOT Glenwood Springs		
Address:	202 Centennial St		
Email:	cdle_ops_public_records_center@state.co.us		
Link :	https://opus.cdle.state.co.us/OIS2000/event.asp?h_id=784		

8	1 of 1	WNW	0.95 / 5,032.18	5,701.10 / -91	EIMCO COAL MACHINERY 2222 DEVERUEX RD GLENWOOD SPRINGS CO 81601-	RCRA CORRACTS
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Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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8702

EPA Handler ID: COD981544786
Gen Status Universe: No Report
Contact Name: DALE CRUSE
Contact Address: P.O BOX 844 , , GLENWOOD SPRINGS , CO, 81602 , US
Contact Phone No and Ext: 303-945-7836
Contact Email:
Contact Country: US
County Name: GARFIELD
EPA Region: 08
Land Type: Other
Receive Date: 20020913

Event/Area Details

Area Name: ENTIRE FACILITY
Event Code: CA160
Corrective Action Event Descri: INVESTIGATION SUPPLEMENTAL INFORMATION RECEIVED
Actual Date of Event: 19960627
Orig Sched Event Date:
New Sched Event Date:
Best Date: 19960627
Groundwater Release Indicator: Yes
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Area Name: ENTIRE FACILITY
Event Code: CA190
Corrective Action Event Descri: INVESTIGATION REPORT RECEIVED
Actual Date of Event: 19941011
Orig Sched Event Date:
New Sched Event Date:
Best Date: 19941011
Groundwater Release Indicator: Yes
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Area Name: ENTIRE FACILITY
Event Code: CA270
Corrective Action Event Descri: CMS WORKPLAN MODIFICATION REQ BY AGENCY
Actual Date of Event: 19930610
Orig Sched Event Date:
New Sched Event Date:
Best Date: 19930610
Groundwater Release Indicator: Yes
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Area Name: ENTIRE FACILITY
Event Code: CA300
Corrective Action Event Descri: CMS WORKPLAN APPROVED
Actual Date of Event: 19930610
Orig Sched Event Date:
New Sched Event Date:
Best Date: 19930610
Groundwater Release Indicator: Yes
Soil Release Indicator:
Air Release Indicator:
Surface Waste Release Ind:
Event Responsible Agency: S

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Area Name:		ENTIRE FACILITY				
Event Code:		CA725YE				
Corrective Action Event Descri:		HUMAN EXPOSURES CONTROLLED DETERMINATION-YES, APPLICABLE AS OF THIS DATE				
Actual Date of Event:		20000501				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		20000501				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA999RM				
Corrective Action Event Descri:		CA PROCESS IS TERMINATED-REMEDIAL ACTIVITIES COMPLETE				
Actual Date of Event:		20000501				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		20000501				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SITE:GROUNDWATER				
Event Code:		CA450				
Corrective Action Event Descri:		CORRECTIVE MEASURES DESIGN APPROVED				
Actual Date of Event:		19930610				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19930610				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SWMU-SUMP				
Event Code:		CA500				
Corrective Action Event Descri:		CMI WORKPLAN APPROVED				
Actual Date of Event:		19930610				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19930610				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA100				
Corrective Action Event Descri:		INVESTIGATION IMPOSITION				
Actual Date of Event:		19910724				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19910724				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA150				
Corrective Action Event Descri:		INVESTIGATION WORKPLAN APPROVED				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Actual Date of Event:		19921124				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19921124				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA180				
Corrective Action Event Descr:		INVESTIGATION IMPLEMENTATION BEGUN				
Actual Date of Event:		19930413				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19930413				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA190				
Corrective Action Event Descr:		INVESTIGATION REPORT RECEIVED				
Actual Date of Event:		19950227				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19950227				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA190				
Corrective Action Event Descr:		INVESTIGATION REPORT RECEIVED				
Actual Date of Event:		19950530				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19950530				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA500				
Corrective Action Event Descr:		CMI WORKPLAN APPROVED				
Actual Date of Event:		19930610				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19930610				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA750YE				
Corrective Action Event Descr:		RELEASE TO GW CONTROLLED DETERMINATION-YES, APPLICABLE AS OF THIS DATE				
Actual Date of Event:		20000501				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		20000501				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Groundwater Release Indicator:	Yes					
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:	S					
Area Name:	ENTIRE FACILITY					
Event Code:	CA831AS					
Corrective Action Event Descri:	OTHER REPORT RECEIVED					
Actual Date of Event:						
Orig Sched Event Date:	19970213					
New Sched Event Date:						
Best Date:	19970213					
Groundwater Release Indicator:	Yes					
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:	S					
Area Name:	SITE:GROUNDWATER					
Event Code:	CA250					
Corrective Action Event Descri:	CMS IMPOSITION					
Actual Date of Event:	19930610					
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:	19930610					
Groundwater Release Indicator:	Yes					
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:	S					
Area Name:	SWMU-SUMP					
Event Code:	CA100					
Corrective Action Event Descri:	INVESTIGATION IMPOSITION					
Actual Date of Event:	19910724					
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:	19910724					
Groundwater Release Indicator:	Yes					
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:	S					
Area Name:	ENTIRE FACILITY					
Event Code:	CA010					
Corrective Action Event Descri:	RFA INITIATION					
Actual Date of Event:	19900907					
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:	19900907					
Groundwater Release Indicator:	Yes					
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:	S					
Area Name:	ENTIRE FACILITY					
Event Code:	CA155					
Corrective Action Event Descri:	INVESTIGATION SUPPLEMENTAL INFO REQ BY AGENCY					
Actual Date of Event:	19921124					
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:	19921124					
Groundwater Release Indicator:	Yes					
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA600SR				
Corrective Action Event Descr:		STABILIZATION/INTERIM MEASURES DECISION-PRIMARY MEAS IS SOURCE REMOVL &/OR TRT				
Actual Date of Event:		19931107				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19931107				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA725YE				
Corrective Action Event Descr:		HUMAN EXPOSURES CONTROLLED DETERMINATION-YES, APPLICABLE AS OF THIS DATE				
Actual Date of Event:		19950801				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19950801				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SITE:GROUNDWATER				
Event Code:		CA400				
Corrective Action Event Descr:		REMEDY DECISION				
Actual Date of Event:		19990520				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19990520				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SWMU-SUMP				
Event Code:		CA250				
Corrective Action Event Descr:		CMS IMPOSITION				
Actual Date of Event:		19930610				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19930610				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA050				
Corrective Action Event Descr:		RFA COMPLETED				
Actual Date of Event:		19900907				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19900907				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA190				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Corrective Action Event Descri:		INVESTIGATION REPORT RECEIVED				
Actual Date of Event:		19940627				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19940627				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA190				
Corrective Action Event Descri:		INVESTIGATION REPORT RECEIVED				
Actual Date of Event:		19940919				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19940919				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA260				
Corrective Action Event Descri:		CMS WORKPLAN RECEIVED				
Actual Date of Event:		19930608				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19930608				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA750YE				
Corrective Action Event Descri:		RELEASE TO GW CONTROLLED DETERMINATION-YES, APPLICABLE AS OF THIS DATE				
Actual Date of Event:		19950801				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19950801				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SITE:GROUNDWATER				
Event Code:		CA150				
Corrective Action Event Descri:		INVESTIGATION WORKPLAN APPROVED				
Actual Date of Event:		19921124				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19921124				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SITE:GROUNDWATER				
Event Code:		CA450				
Corrective Action Event Descri:		CORRECTIVE MEASURES DESIGN APPROVED				
Actual Date of Event:		19990520				
Orig Sched Event Date:						
New Sched Event Date:						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Best Date:		19990520				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SWMU-SUMP				
Event Code:		CA150				
Corrective Action Event Descri:		INVESTIGATION WORKPLAN APPROVED				
Actual Date of Event:		19921124				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19921124				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SWMU-SUMP				
Event Code:		CA999RM				
Corrective Action Event Descri:		CA PROCESS IS TERMINATED-REMEDIAL ACTIVITIES COMPLETE				
Actual Date of Event:		20000501				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		20000501				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA110				
Corrective Action Event Descri:		INVESTIGATION WORKPLAN RECEIVED				
Actual Date of Event:		19920701				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19920701				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA160				
Corrective Action Event Descri:		INVESTIGATION SUPPLEMENTAL INFORMATION RECEIVED				
Actual Date of Event:		19930122				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19930122				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA190				
Corrective Action Event Descri:		INVESTIGATION REPORT RECEIVED				
Actual Date of Event:		19960516				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19960516				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA190				
Corrective Action Event Descri:		INVESTIGATION REPORT RECEIVED				
Actual Date of Event:		19950227				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19950227				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA750YE				
Corrective Action Event Descri:		RELEASE TO GW CONTROLLED DETERMINATION-YES, APPLICABLE AS OF THIS DATE				
Actual Date of Event:		20000501				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		20000501				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SITE:GROUNDWATER				
Event Code:		CA100				
Corrective Action Event Descri:		INVESTIGATION IMPOSITION				
Actual Date of Event:		19910724				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19910724				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SITE:GROUNDWATER				
Event Code:		CA750YE				
Corrective Action Event Descri:		RELEASE TO GW CONTROLLED DETERMINATION-YES, APPLICABLE AS OF THIS DATE				
Actual Date of Event:		20000501				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		20000501				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SWMU-SUMP				
Event Code:		CA075LO				
Corrective Action Event Descri:		CA PRIORITIZATION-LOW CA PRIORITY				
Actual Date of Event:		19950811				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19950811				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Event Code:		CA190				
Corrective Action Event Descr:		INVESTIGATION REPORT RECEIVED				
Actual Date of Event:		19940919				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19940919				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA190				
Corrective Action Event Descr:		INVESTIGATION REPORT RECEIVED				
Actual Date of Event:		19940331				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19940331				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA190				
Corrective Action Event Descr:		INVESTIGATION REPORT RECEIVED				
Actual Date of Event:		19940627				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19940627				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA190				
Corrective Action Event Descr:		INVESTIGATION REPORT RECEIVED				
Actual Date of Event:		19960202				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19960202				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA250				
Corrective Action Event Descr:		CMS IMPOSITION				
Actual Date of Event:		19930610				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19930610				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA330				
Corrective Action Event Descr:		CMS IMPLEMENTATION BEGUN				
Actual Date of Event:		19931107				
Orig Sched Event Date:						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
New Sched Event Date:						
Best Date:		19931107				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SITE:GROUNDWATER				
Event Code:		CA300				
Corrective Action Event Descri:		CMS WORKPLAN APPROVED				
Actual Date of Event:		19990520				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19990520				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SITE:GROUNDWATER				
Event Code:		CA500				
Corrective Action Event Descri:		CMI WORKPLAN APPROVED				
Actual Date of Event:		19990520				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19990520				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SITE:GROUNDWATER				
Event Code:		CA550				
Corrective Action Event Descri:		REMEDY CONSTRUCTION				
Actual Date of Event:		20000421				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		20000421				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SWMU-SUMP				
Event Code:		CA450				
Corrective Action Event Descri:		CORRECTIVE MEASURES DESIGN APPROVED				
Actual Date of Event:		19930610				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19930610				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SWMU-SUMP				
Event Code:		CA999RM				
Corrective Action Event Descri:		CA PROCESS IS TERMINATED-REMEDIAL ACTIVITIES COMPLETE				
Actual Date of Event:		20000501				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		20000501				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA006AC				
Corrective Action Event Descri:		AREA OF CONCERN				
Actual Date of Event:		19900907				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19900907				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA155				
Corrective Action Event Descri:		INVESTIGATION SUPPLEMENTAL INFO REQ BY AGENCY				
Actual Date of Event:		19960531				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19960531				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA170				
Corrective Action Event Descri:		INVESTIGATION SUPPLEMENTAL INFO DEEMED SATISFACT				
Actual Date of Event:		19930302				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19930302				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA190				
Corrective Action Event Descri:		INVESTIGATION REPORT RECEIVED				
Actual Date of Event:		19941011				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19941011				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA190				
Corrective Action Event Descri:		INVESTIGATION REPORT RECEIVED				
Actual Date of Event:		19941121				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19941121				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Area Name:		ENTIRE FACILITY				
Event Code:		CA190				
Corrective Action Event Descri:		INVESTIGATION REPORT RECEIVED				
Actual Date of Event:		19950530				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19950530				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA200				
Corrective Action Event Descri:		INVESTIGATION COMPLETE				
Actual Date of Event:		19930610				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19930610				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA450				
Corrective Action Event Descri:		CORRECTIVE MEASURES DESIGN APPROVED				
Actual Date of Event:		19930610				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19930610				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA725YE				
Corrective Action Event Descri:		HUMAN EXPOSURES CONTROLLED DETERMINATION-YES, APPLICABLE AS OF THIS DATE				
Actual Date of Event:		20000501				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		20000501				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA834AS				
Corrective Action Event Descri:		OTHER REPORT APPROVED				
Actual Date of Event:						
Orig Sched Event Date:		19970620				
New Sched Event Date:						
Best Date:		19970620				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SITE:GROUNDWATER				
Event Code:		CA200				
Corrective Action Event Descri:		INVESTIGATION COMPLETE				
Actual Date of Event:		19930610				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19930610				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SITE:GROUNDWATER				
Event Code:		CA500				
Corrective Action Event Descr:		CMI WORKPLAN APPROVED				
Actual Date of Event:		19930610				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19930610				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SITE:GROUNDWATER				
Event Code:		CA999RM				
Corrective Action Event Descr:		CA PROCESS IS TERMINATED-REMEDIAL ACTIVITIES COMPLETE				
Actual Date of Event:		20000501				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		20000501				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SWMU-SUMP				
Event Code:		CA300				
Corrective Action Event Descr:		CMS WORKPLAN APPROVED				
Actual Date of Event:		19930610				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19930610				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA060				
Corrective Action Event Descr:		NOTICE OF CONTAMINATION				
Actual Date of Event:		19920526				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19920526				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA155				
Corrective Action Event Descr:		INVESTIGATION SUPPLEMENTAL INFO REQ BY AGENCY				
Actual Date of Event:		19960711				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19960711				
Groundwater Release Indicator:		Yes				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA190				
Corrective Action Event Descri:		INVESTIGATION REPORT RECEIVED				
Actual Date of Event:		19930608				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19930608				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA190				
Corrective Action Event Descri:		INVESTIGATION REPORT RECEIVED				
Actual Date of Event:		19940331				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19940331				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA190				
Corrective Action Event Descri:		INVESTIGATION REPORT RECEIVED				
Actual Date of Event:		19941121				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19941121				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		ENTIRE FACILITY				
Event Code:		CA225YE				
Corrective Action Event Descri:		STABILIZATION MEASURES EVALUATION-FACILITY IS AMENABLE TO STABILIZATION				
Actual Date of Event:		19950801				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19950801				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				
Area Name:		SITE:GROUNDWATER				
Event Code:		CA300				
Corrective Action Event Descri:		CMS WORKPLAN APPROVED				
Actual Date of Event:		19930610				
Orig Sched Event Date:						
New Sched Event Date:						
Best Date:		19930610				
Groundwater Release Indicator:		Yes				
Soil Release Indicator:						
Air Release Indicator:						
Surface Waste Release Ind:						
Event Responsible Agency:		S				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Area Name:	SITE:GROUNDWATER
Event Code:	CA725YE
Corrective Action Event Descr:	HUMAN EXPOSURES CONTROLLED DETERMINATION-YES, APPLICABLE AS OF THIS DATE
Actual Date of Event:	20000501
Orig Sched Event Date:	
New Sched Event Date:	
Best Date:	20000501
Groundwater Release Indicator:	Yes
Soil Release Indicator:	
Air Release Indicator:	
Surface Waste Release Ind:	
Event Responsible Agency:	S

Area Name:	SWMU-SUMP
Event Code:	CA200
Corrective Action Event Descr:	INVESTIGATION COMPLETE
Actual Date of Event:	19930610
Orig Sched Event Date:	
New Sched Event Date:	
Best Date:	19930610
Groundwater Release Indicator:	Yes
Soil Release Indicator:	
Air Release Indicator:	
Surface Waste Release Ind:	
Event Responsible Agency:	S

Violation/Evaluation Summary

Note:	VIOLATION or UNDETERMINED: There are VIOLATION or UNDETERMINED details or records associated with this facility (EPA ID) in the Compliance Monitoring and Enforcement table dated May, 2020.
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Violation Details

Citation:	
Violation Short Description:	Generators - General
Violation Type:	262.A
Violation Determined Date:	19920328
Scheduled Compliance Date:	19950415
Return to Compliance:	Observed
Actual Return to Compl:	19920508
Violation Responsible Agency:	State

Enforcement Details

Enforcement Type:	310
Enforcement Type Description:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date:	19920415
Enf Disposition Status:	
Disposition Status Date:	
Enforcement Lead Agency:	State
Proposed Penalty Amount:	17100
Final Amount:	17100
Paid Amount:	

Violation Details

Citation:	
Violation Short Description:	Generators - General
Violation Type:	262.A
Violation Determined Date:	19900907
Scheduled Compliance Date:	
Return to Compliance:	Observed
Actual Return to Compl:	19920415

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
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Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 210
 Enforcement Type Description: INITIAL 3008(A) COMPLIANCE
 Enforcement Action Date: 19910326
 Enf Disposition Status:
 Disposition Status Date:
 Enforcement Lead Agency: State
 Proposed Penalty Amount:
 Final Amount:
 Paid Amount:

Enforcement Type: 310
 Enforcement Type Description: FINAL 3008(A) COMPLIANCE ORDER
 Enforcement Action Date: 19910904
 Enf Disposition Status:
 Disposition Status Date:
 Enforcement Lead Agency: State
 Proposed Penalty Amount:
 Final Amount:
 Paid Amount:

Violation Details

Citation:
 Violation Short Description: Generators - General
 Violation Type: 262.A
 Violation Determined Date: 19880506
 Scheduled Compliance Date: 19880605
 Return to Compliance: Observed
 Actual Return to Compl: 19880605
 Violation Responsible Agency: State

Enforcement Details

Enforcement Type: 120
 Enforcement Type Description: WRITTEN INFORMAL
 Enforcement Action Date: 19880520
 Enf Disposition Status:
 Disposition Status Date:
 Enforcement Lead Agency: State
 Proposed Penalty Amount:
 Final Amount:
 Paid Amount:

Evaluation Details

Evaluation Start Date: 20000501
 Evaluation Type Description: FOCUSED COMPLIANCE INSPECTION
 Violation Short Description:
 Return to Compliance Date:
 Evaluation Agency: State

Evaluation Start Date: 19990520
 Evaluation Type Description: FOCUSED COMPLIANCE INSPECTION
 Violation Short Description:
 Return to Compliance Date:
 Evaluation Agency: State

Evaluation Start Date: 19971008
 Evaluation Type Description: CORRECTIVE ACTION COMPLIANCE EVALUATION
 Violation Short Description:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Return to Compliance Date:						
Evaluation Agency:		State				
Evaluation Start Date:		19970620				
Evaluation Type Description:		FOCUSED COMPLIANCE INSPECTION				
Violation Short Description:						
Return to Compliance Date:						
Evaluation Agency:		State				
Evaluation Start Date:		19960814				
Evaluation Type Description:		FOCUSED COMPLIANCE INSPECTION				
Violation Short Description:						
Return to Compliance Date:						
Evaluation Agency:		State				
Evaluation Start Date:		19960710				
Evaluation Type Description:		FOCUSED COMPLIANCE INSPECTION				
Violation Short Description:						
Return to Compliance Date:						
Evaluation Agency:		State				
Evaluation Start Date:		19960522				
Evaluation Type Description:		FOCUSED COMPLIANCE INSPECTION				
Violation Short Description:						
Return to Compliance Date:						
Evaluation Agency:		State				
Evaluation Start Date:		19960213				
Evaluation Type Description:		FOCUSED COMPLIANCE INSPECTION				
Violation Short Description:						
Return to Compliance Date:						
Evaluation Agency:		State				
Evaluation Start Date:		19950718				
Evaluation Type Description:		FOCUSED COMPLIANCE INSPECTION				
Violation Short Description:						
Return to Compliance Date:						
Evaluation Agency:		State				
Evaluation Start Date:		19950531				
Evaluation Type Description:		FOCUSED COMPLIANCE INSPECTION				
Violation Short Description:						
Return to Compliance Date:						
Evaluation Agency:		State				
Evaluation Start Date:		19950306				
Evaluation Type Description:		FOCUSED COMPLIANCE INSPECTION				
Violation Short Description:						
Return to Compliance Date:						
Evaluation Agency:		State				
Evaluation Start Date:		19941212				
Evaluation Type Description:		FOCUSED COMPLIANCE INSPECTION				
Violation Short Description:						
Return to Compliance Date:						
Evaluation Agency:		State				
Evaluation Start Date:		19940922				
Evaluation Type Description:		FOCUSED COMPLIANCE INSPECTION				
Violation Short Description:						
Return to Compliance Date:						
Evaluation Agency:		State				
Evaluation Start Date:		19940811				
Evaluation Type Description:		FOCUSED COMPLIANCE INSPECTION				
Violation Short Description:						
Return to Compliance Date:						
Evaluation Agency:		State				

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Evaluation Start Date:		19940421				
Evaluation Type Description:		FOCUSED COMPLIANCE INSPECTION				
Violation Short Description:						
Return to Compliance Date:						
Evaluation Agency:		State				
Evaluation Start Date:		19930609				
Evaluation Type Description:		CORRECTIVE ACTION COMPLIANCE EVALUATION				
Violation Short Description:						
Return to Compliance Date:						
Evaluation Agency:		State				
Evaluation Start Date:		19930209				
Evaluation Type Description:		CORRECTIVE ACTION COMPLIANCE EVALUATION				
Violation Short Description:						
Return to Compliance Date:						
Evaluation Agency:		State				
Evaluation Start Date:		19921124				
Evaluation Type Description:		CORRECTIVE ACTION COMPLIANCE EVALUATION				
Violation Short Description:						
Return to Compliance Date:						
Evaluation Agency:		State				
Evaluation Start Date:		19920505				
Evaluation Type Description:		NON-FINANCIAL RECORD REVIEW				
Violation Short Description:						
Return to Compliance Date:						
Evaluation Agency:		State				
Evaluation Start Date:		19920331				
Evaluation Type Description:		COMPLIANCE EVALUATION INSPECTION ON-SITE				
Violation Short Description:						
Return to Compliance Date:						
Evaluation Agency:		State				
Evaluation Start Date:		19910827				
Evaluation Type Description:		COMPLIANCE SCHEDULE EVALUATION				
Violation Short Description:						
Return to Compliance Date:						
Evaluation Agency:		State				
Evaluation Start Date:		19900907				
Evaluation Type Description:		COMPLIANCE EVALUATION INSPECTION ON-SITE				
Violation Short Description:		Generators - General				
Return to Compliance Date:		19920415				
Evaluation Agency:		State				
Evaluation Start Date:		19900907				
Evaluation Type Description:		COMPLIANCE EVALUATION INSPECTION ON-SITE				
Violation Short Description:		Generators - General				
Return to Compliance Date:		19920508				
Evaluation Agency:		State				
Evaluation Start Date:		19890811				
Evaluation Type Description:		FOCUSED COMPLIANCE INSPECTION				
Violation Short Description:		Generators - General				
Return to Compliance Date:		19920508				
Evaluation Agency:		State				
Evaluation Start Date:		19880506				
Evaluation Type Description:		NON-FINANCIAL RECORD REVIEW				
Violation Short Description:		Generators - General				
Return to Compliance Date:		19880605				
Evaluation Agency:		State				

Handler Summary

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Importer Activity:	No					
Mixed Waste Generator:	No					
Transporter Activity:	No					
Transfer Facility:	No					
Onsite Burner:	No					
Smelting, Melting and Refining:	No					
Underground Injection Control:	No					
Commercial TSD:	No					
Used Oil Transporter:	No					
Used Oil Transfer Facility:	No					
Used Oil Processor:	No					
Used Oil Refiner:	No					
Used Oil Burner:	No					
Used Oil Market Burner:	No					
Used Oil Spec Marketer:	No					

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19861113
Handler Name: EIMCO COAL MACHINERY
Federal Waste Generator Code: 1
Generator Code Description: Large Quantity Generator
Source Type: Notification

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 20020913
Handler Name: EIMCO COAL MACHINERY
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D000
Waste Code Description: DESCRIPTION

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Owner/Operator Details

Owner/Operator Ind:	Current Owner	Street No:	
Type:	Private	Street 1:	DATA NOT REQUESTED
Name:	BAKER INTERNATIONAL	Street 2:	
Date Became Current:	18000101	City:	DATA NOT REQUESTED
Date Ended Current:		State:	CO
Phone:	999-999-9999	Country:	
Source Type:	Notification	Zip Code:	99999

Historical Handler Details

Receive Dt: 19861113
Generator Code Description: Large Quantity Generator
Handler Name: EIMCO COAL MACHINERY

Unplottable Summary

Total: 0 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID
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No unplottable records were found that may be relevant for the search criteria.

Unplottable Report

No unplottable records were found that may be relevant for the search criteria.

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

Facility Response Plan:

FRP

List of facilities that have submitted Facility Response Plans (FRP) to EPA. Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit Facility Response Plans (FRPs). Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments.

Government Publication Date: Mar 26, 2020

National Priority List:

NPL

National Priorities List (Superfund)-NPL: EPA's (United States Environmental Protection Agency) list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action.

Government Publication Date: Jun 26, 2020

National Priority List - Proposed:

PROPOSED NPL

Includes sites proposed (by the EPA, the state, or concerned citizens) for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

Government Publication Date: Jun 26, 2020

Deleted NPL:

DELETED NPL

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Government Publication Date: Jun 26, 2020

SEMS List 8R Active Site Inventory:

SEMS

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

Government Publication Date: May 22, 2020

SEMS List 8R Archive Sites:

SEMS ARCHIVE

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Government Publication Date: May 22, 2020

Inventory of Open Dumps, June 1985:

ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

EPA Report on the Status of Open Dumps on Indian Lands:

IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

Comprehensive Environmental Response, Compensation and Liability Information System -

CERCLIS

CERCLIS:

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

CERCLIS - No Further Remedial Action Planned:

CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens:

CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action:

RCRA CORRACTS

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Jul 27, 2020

RCRA non-CORRACTS TSD Facilities:

RCRA TSD

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Government Publication Date: Jul 27, 2020

RCRA Generator List:

RCRA LQG

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Jul 27, 2020

RCRA Small Quantity Generators List:

RCRA SQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Jul 27, 2020

RCRA Conditionally Exempt and Very Small Quantity Generators List:

RCRA CESQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Conditionally Exempt and Very Small Quantity Generators (VSQG and CESQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG and CESQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Jul 27, 2020

RCRA Non-Generators:

RCRA NON GEN

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Jul 27, 2020

Federal Engineering Controls-ECs:

FED ENG

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Feb 26, 2020

Federal Institutional Controls- ICs:

FED INST

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

Government Publication Date: Feb 26, 2020

Emergency Response Notification System:

ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System:

ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System:

ERNS

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Nov 25, 2019

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database:

[FED BROWNFIELDS](#)

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Sep 3, 2019

FEMA Underground Storage Tank Listing:

[FEMA UST](#)

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Petroleum Refineries:

[REFN](#)

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Jul 10, 2020

Petroleum Product and Crude Oil Rail Terminals:

[BULK TERMINAL](#)

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Apr 28, 2020

LIEN on Property:

[SEMS LIEN](#)

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

Government Publication Date: May 22, 2020

Superfund Decision Documents:

[SUPERFUND ROD](#)

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

Government Publication Date: Jun 26, 2020

State

Delisted Superfund Sites:

[DELISTED SHWS](#)

Sites which once appeared on - but have since been removed from - the list of Superfund sites in Colorado made available by the Colorado Department of Public Health and Environment (CDPHE). In Colorado, the cleanup of Superfund sites is overseen by the CDPHE or the Environmental Protection Agency (EPA).

Government Publication Date: Aug 21, 2020

Superfund Sites:

[SHWS](#)

A list of Superfund sites in Colorado made available by the Colorado Department of Public Health and Environment (CDPHE). In Colorado, the cleanup of Superfund sites is overseen by the CDPHE or the Environmental Protection Agency (EPA). This list includes active Superfund sites, deleted sites, proposed sites, and natural resource damage sites.

Government Publication Date: Aug 21, 2020

Solid Waste Facilities and Landfills:

[SWF/LF](#)

The Colorado Department of Public Health and Environment (CDPHE) regulates the management and disposal of solid waste and landfill facilities.

Government Publication Date: May 1, 2020

Historical Solid Waste (Closed or Abandoned Landfills):

[HIST LF](#)

In the early 1980s the Hazardous Materials Waste Management Division of the Colorado Department of Public Health and Environment (CDPHE) conducted a survey of staff members and local agencies. The information gathered was compiled in 1984 for sites that were known or thought to have waste issues. The information is not complete and generally not very definitive or verifiable. This data became the Solid Waste Historical Data. The data is not maintained and has not been since the late 1980s.

Government Publication Date: 1984

Leaking Storage Tanks:

LST

A list of leaking storage tank locations from the Colorado Storage Tank Information System (COSTIS) database, including those which have applied for reimbursement from the Petroleum Storage Tank Fund. This list has been made available by the Colorado Department of Labor and Employment (CDLE).

Government Publication Date: Jun 30, 2020

Delisted Leaking Storage Tanks:

DELISTED LST

This database contains a list of leaking storage tank sites and their Funds for reimbursement of costs related to assessment and cleanup that were removed from the Colorado Department of Labor and Employment (CDLE) database.

Government Publication Date: Jun 30, 2020

Underground Storage Tanks:

UST

A list of underground storage tanks from the Colorado Storage Tank Information System (COSTIS) database. This database is made available by the Division of Oil and Public Safety of the Colorado Department of Labor and Employment (CDLE).

Government Publication Date: Jun 30, 2020

Aboveground Storage Tanks:

AST

A list of aboveground storage tanks from the Colorado Storage Tank Information System (COSTIS) database. This list is made available by the Division of Oil and Public Safety of the Colorado Department of Labor and Employment (CDLE).

Government Publication Date: Jun 30, 2020

Storage Tank Information System (COSTIS):

TANKS

The Department of Labor and Employment/Division of Oil and Public Safety manages the Colorado Storage Tank Information System (COSTIS) database that stores information on facilities with storage tanks. This database contains facilities with liquified petroleum gas, liquefied natural gas, and compressed natural gas tanks which are not classified as either USTs or ASTs.

Government Publication Date: Jun 30, 2020

Delisted Storage Tanks:

DTNK

This database contains a list of closed storage tank sites that were removed from the Division of Oil and Public Safety of the Colorado Department of Labor and Employment (CDLE) Tank Information System.

Government Publication Date: Jun 30, 2020

Environmental Covenants and Environmental Use Restrictions List:

AUL

The Colorado Department of Public Health and Environment (CDPHE) maintains a list of sites that have environmental covenants and use restrictions in place. Land use restrictions may be used to ensure the cleanup remedy adequately protects human health and the environment when a contaminated site is not cleaned up completely.

Government Publication Date: Aug 7, 2020

The Voluntary Cleanup and Redevelopment Program:

VCP

The Voluntary Cleanup and Redevelopment program of the Colorado Department of Public Health and Environment (CDPHE) was created in 1994 with the objective to facilitate the redevelopment and transfer of contaminated properties.

Government Publication Date: Aug 17, 2020

Brownfield Sites:

BROWNFIELDS

Brownfields Program sites found in the Colorado Environmental Records Search Interactive Map made available by the Colorado Department of Public Health and Environment (CDPHE). Sites which go untouched because of their real or perceived contamination can be rehabilitated using the CDPHE Brownfields Program.

Government Publication Date: Sep 9, 2020

Tribal

Leaking Underground Storage Tanks (LUSTs) on Indian Lands:

INDIAN LUST

LUSTs on Tribal/Indian Lands in Region 8, which includes Colorado.

Government Publication Date: Apr 14, 2020

Underground Storage Tanks (USTs) on Indian Lands:

INDIAN UST

USTs on Tribal/Indian Lands in Region 8, which includes Colorado.

Government Publication Date: Apr 14, 2020

Delisted Tribal Leaking Storage Tanks:

DELISTED ILST

Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.

Government Publication Date: Apr 14, 2020

Delisted Tribal Underground Storage Tanks:

DELISTED IUST

Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.

Government Publication Date: Apr 14, 2020

County

No County standard environmental record sources available for this State.

Additional Environmental Record Sources

Federal

PFOA/PFOS Contaminated Sites:

PFAS NPL

List of sites where PFOA or PFOS contaminants have been found in drinking water or soil. Made available by the Federal Environmental Protection Agency (EPA).

Government Publication Date: Jul 7, 2020

Facility Registry Service/Facility Index:

FINDS/FRS

The Facility Registry Service (FRS) is a centrally managed database that identifies facilities, sites, or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, and data collected from EPA's Central Data Exchange registrations and data management personnel. This list is made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Mar 25, 2020

Toxics Release Inventory (TRI) Program:

TRIS

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U. S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Feb 19, 2020

Perfluorinated Alkyl Substances (PFAS) Releases:

PFAS TRI

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a Per- or polyfluorinated alkyl substance (PFAS) included in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances. The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment.

Government Publication Date: Feb 19, 2020

Perfluorinated Alkyl Substances (PFAS) Water Quality:

PFAS WATER

The Water Quality Portal (WQP) is a cooperative service sponsored by the United States Geological Survey (USGS), the Environmental Protection Agency (EPA), and the National Water Quality Monitoring Council (NWQMC). This listing includes records from the Water Quality Portal where the characteristic (environmental measurement) is in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances.

Government Publication Date: Dec 20, 2019

Hazardous Materials Information Reporting System:

HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: Jan 8, 2020

National Clandestine Drug Labs:

NCDL

The U.S. Department of Justice ("the Department") provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Mar 19, 2020

Toxic Substances Control Act:

TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

Government Publication Date: Apr 11, 2019

Hist TSCA:

HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing:

FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing:

FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List:

PRP

Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.

Government Publication Date: Jul 29, 2020

State Coalition for Remediation of Drycleaners Listing:

SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS):

ICIS

The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.

Drycleaner Facilities:

[FED DRYCLEANERS](#)

A list of drycleaner facilities from the Integrated Compliance Information System (ICIS). The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: Jan 20, 2020

Delisted Drycleaner Facilities:

[DELISTED FED DRY](#)

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: Jan 20, 2020

Formerly Used Defense Sites:

[FUDS](#)

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

Government Publication Date: Jan 28, 2020

PHMSA Pipeline Safety Flagged Incidents:

[PIPELINE INCIDENT](#)

A list of flagged pipeline incidents made available by the U.S. Department of Transportation (US DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA regulations require incident and accident reports for five different pipeline system types.

Government Publication Date: Jul 7, 2020

Material Licensing Tracking System (MLTS):

[MLTS](#)

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: Oct 31, 2019

Historic Material Licensing Tracking System (MLTS) sites:

[HIST MLTS](#)

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File:

[MINES](#)

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

Government Publication Date: May 1, 2020

Alternative Fueling Stations:

[ALT FUELS](#)

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

Government Publication Date: Jun 22, 2020

Registered Pesticide Establishments:

[SSTS](#)

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: Mar 31, 2020

Polychlorinated Biphenyl (PCB) Notifiers:

[PCB](#)

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Oct 9, 2019

State

Spills:

[SPILLS](#)

A list of hazardous material spills and releases (including Meth Labs) that were reported to the Colorado Department of Public Health and Environment (CDPHE).

Government Publication Date: Jun 22, 2020

Colorado Oil and Gas Conservation Commission Spills:

[OG SPILLS](#)

A list of spills made available by the Colorado Oil and Gas Conservation Commission (COGCC).

Government Publication Date: Sep 8, 2020

Dry Cleaning Facilities:

[DRYCLEANERS](#)

A list of drycleaning facilities in Colorado that have submitted an Air Pollutant Emission Notice (APEN). This list was provided by the Department of Public Health & Environment.

Government Publication Date: Jun 20, 2020

Delisted Dry Cleaning Facilities:

[DELISTED DRYCLEANERS](#)

List of sites removed from the drycleaners database made available by the Department of Public Health & Environment.

Government Publication Date: Jun 20, 2020

Per- and Polyfluoroalkyl Substances (PFAS):

[PFAS](#)

A list of incidents that were reported to the Colorado Department of Public Health and Environment (CDPHE) where the release material is in the PFAS Master List of PFAS Substances made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Jun 22, 2020

Permitted Facilities Listing:

[NPDES](#)

A list of permitted facilities tracked by the Water Quality Control Division of the Department of Public Health & Environment (DPHE). This list is the state version of the NPDES (National Pollution Discharge Elimination System).

Government Publication Date: Jul 1, 2020

Tribal

No Tribal additional environmental record sources available for this State.

County

No County additional environmental record sources available for this State.

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

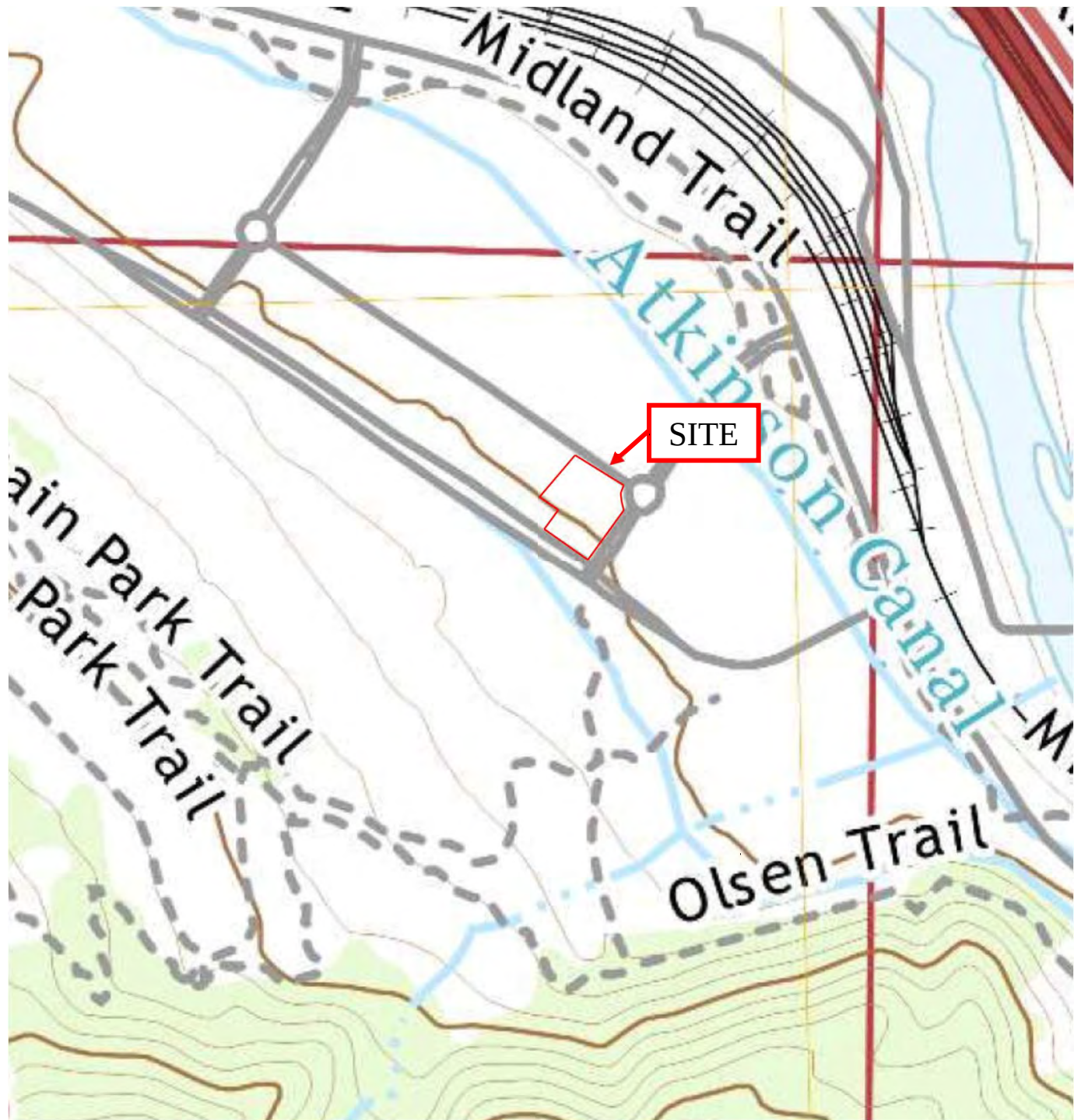
Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

12.5 Historical Research Documentation

12.5.1 Historical Topographic Maps



Source: United States Geological Survey Glenwood Springs, Colorado 7.5 Minute Quadrangle



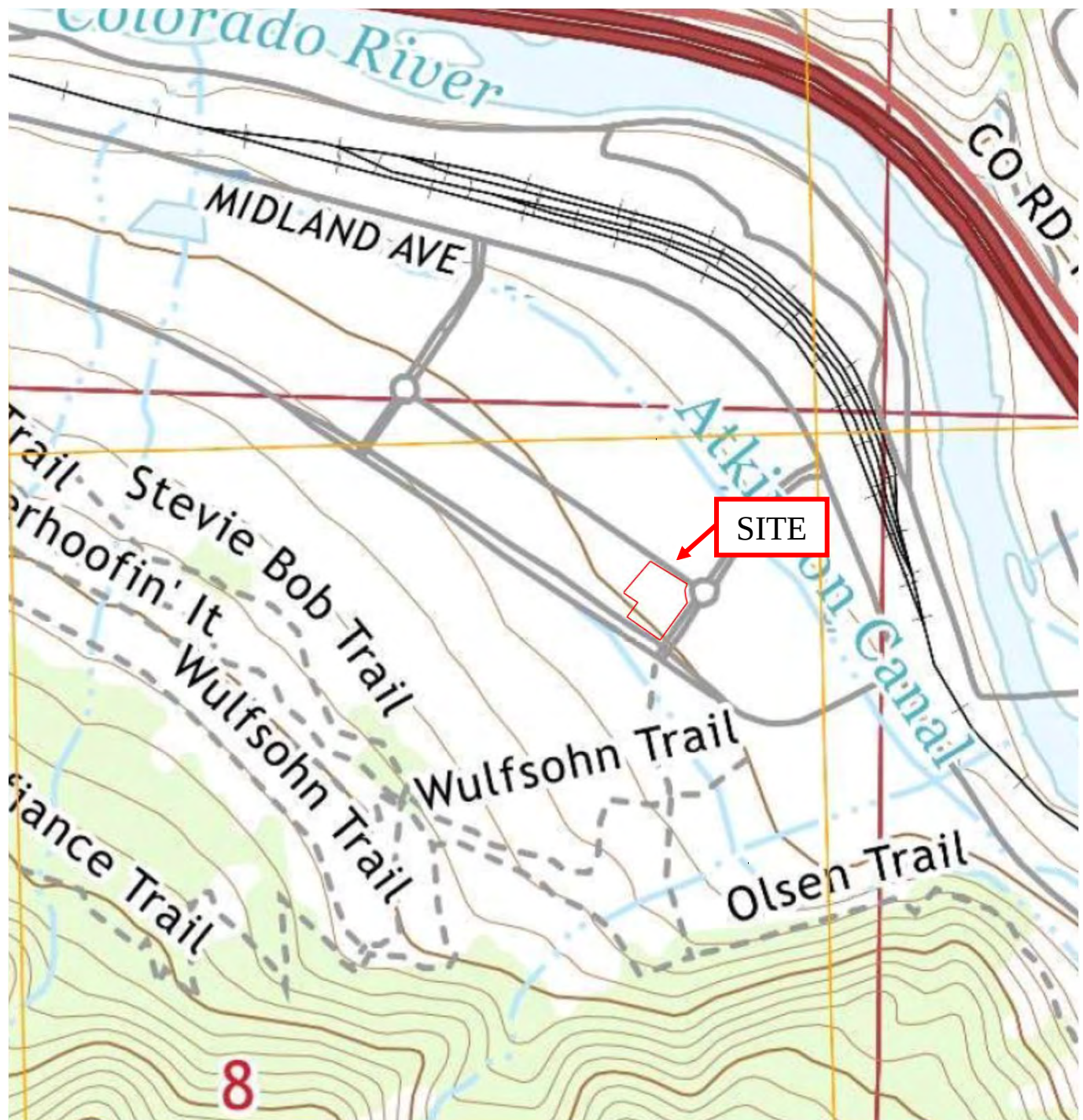
6395 Gunpark Drive, Unit W
Boulder, Colorado 80301
Phone: 720-459-7251 • Fax: 720-459-7298

2019 Topographic Map
Lot 8 Glenwood Meadows
Glenwood Springs, Colorado 81601

Work Order No.:
20-062C

Report Date:
September 2020

Drawn By:
MLT



Source: United States Geological Survey Glenwood Springs, Colorado 7.5 Minute Quadrangle



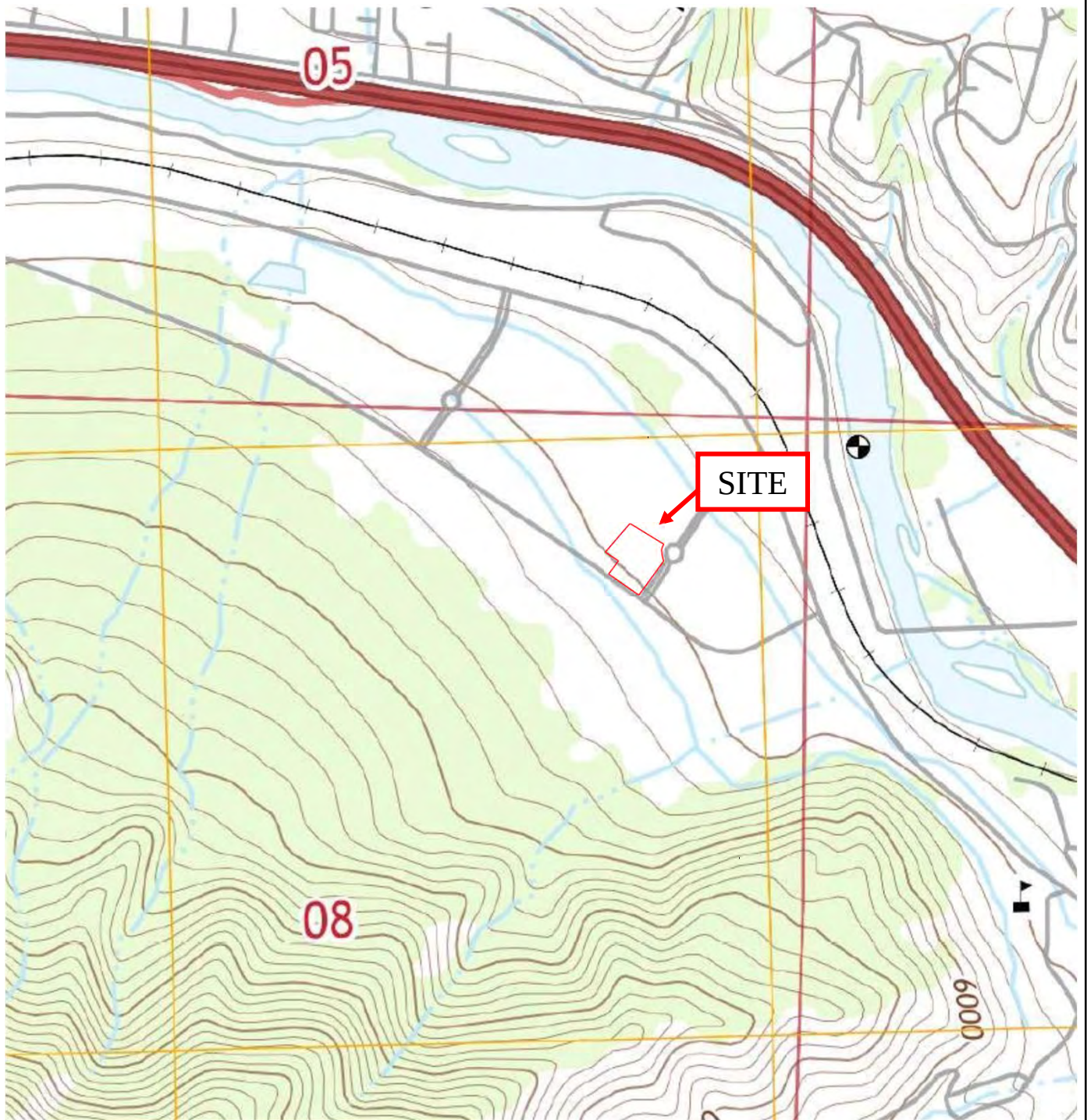
6395 Gunpark Drive, Unit W
Boulder, Colorado 80301
Phone: 720-459-7251 • Fax: 720-459-7298

2016 Topographic Map
Lot 8 Glenwood Meadows
Glenwood Springs, Colorado 81601

Work Order No.:
20-062C

Report Date:
September 2020

Drawn By:
MLT



Source: United States Geological Survey Glenwood Springs, Colorado 7.5 Minute Quadrangle



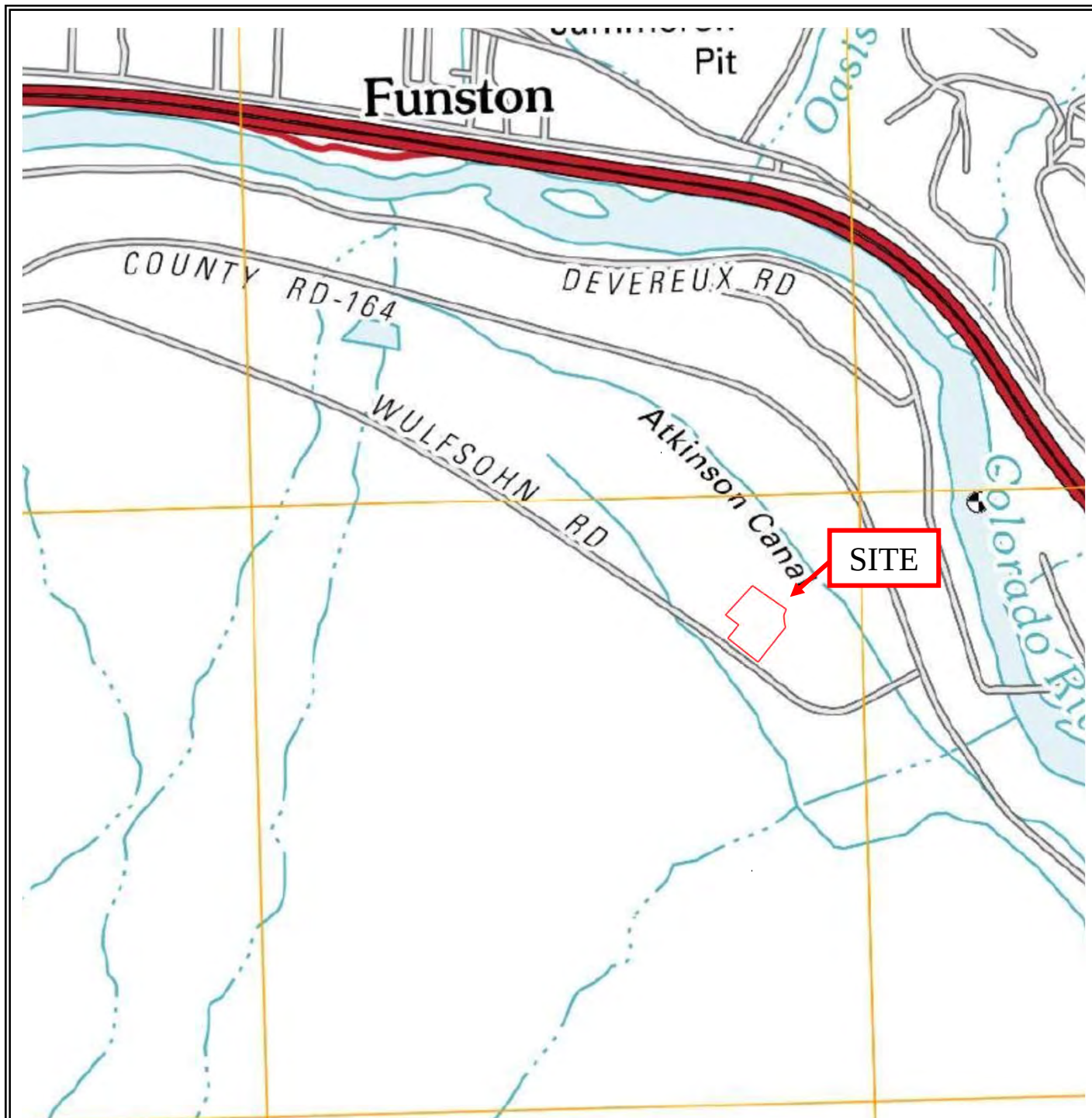
6395 Gunpark Drive, Unit W
Boulder, Colorado 80301
Phone: 720-459-7251 • Fax: 720-459-7298

2013 Topographic Map
Lot 8 Glenwood Meadows
Glenwood Springs, Colorado 81601

Work Order No.:
20-062C

Report Date:
September 2020

Drawn By:
MLT



Source: United States Geological Survey Glenwood Springs, Colorado 7.5 Minute Quadrangle



6395 Gunpark Drive, Unit W
Boulder, Colorado 80301
Phone: 720-459-7251 • Fax: 720-459-7298

2011 Topographic Map
Lot 8 Glenwood Meadows
Glenwood Springs, Colorado 81601

Work Order No.:
20-062C

Report Date:
September 2020

Drawn By:
MLT



Source: United States Geological Survey Glenwood Springs, Colorado 7.5 Minute Quadrangle



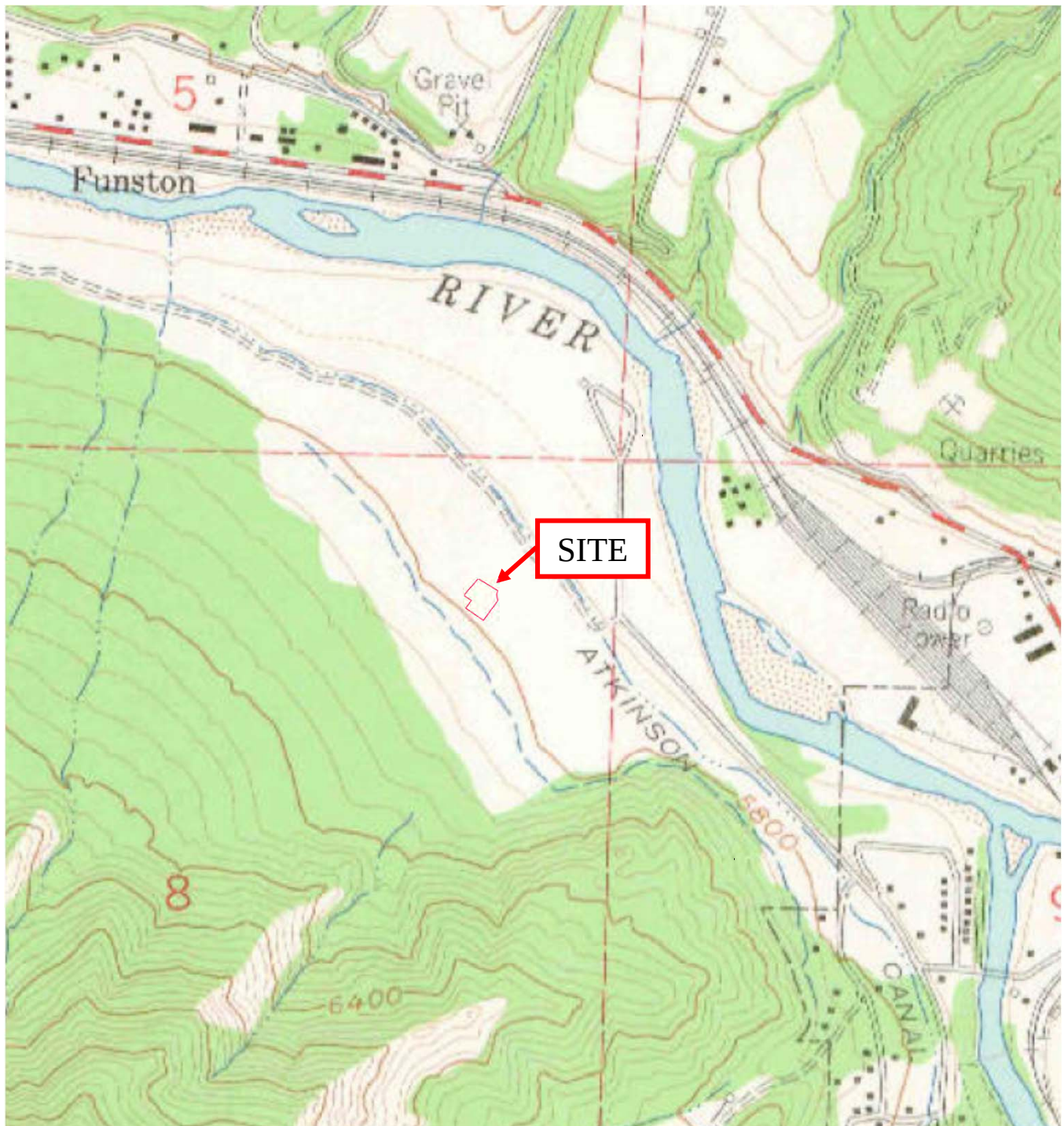
6395 Gunpark Drive, Unit W
Boulder, Colorado 80301
Phone: 720-459-7251 • Fax: 720-459-7298

1981 Topographic Map
Lot 8 Glenwood Meadows
Glenwood Springs, Colorado 81601

Work Order No.:
20-062C

Report Date:
September 2020

Drawn By:
MLT



Source: United States Geological Survey Glenwood Springs, Colorado 7.5 Minute Quadrangle



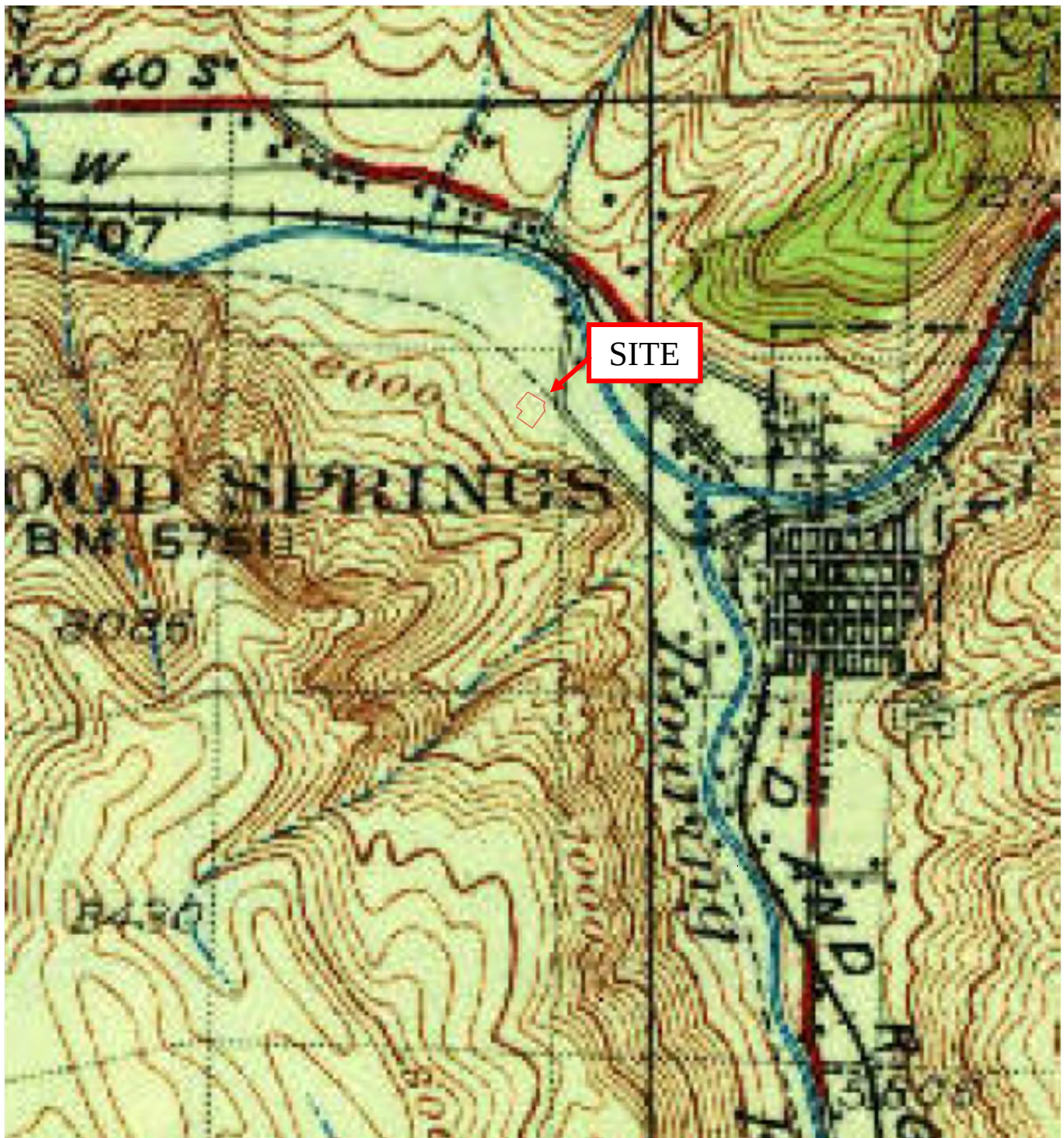
6395 Gunpark Drive, Unit W
Boulder, Colorado 80301
Phone: 720-459-7251 • Fax: 720-459-7298

1961 Topographic Map
Lot 8 Glenwood Meadows
Glenwood Springs, Colorado 81601

Work Order No.:
20-062C

Report Date:
September 2020

Drawn By:
MLT



Source: United States Geological Survey Glenwood Springs, Colorado 7.5 Minute Quadrangle



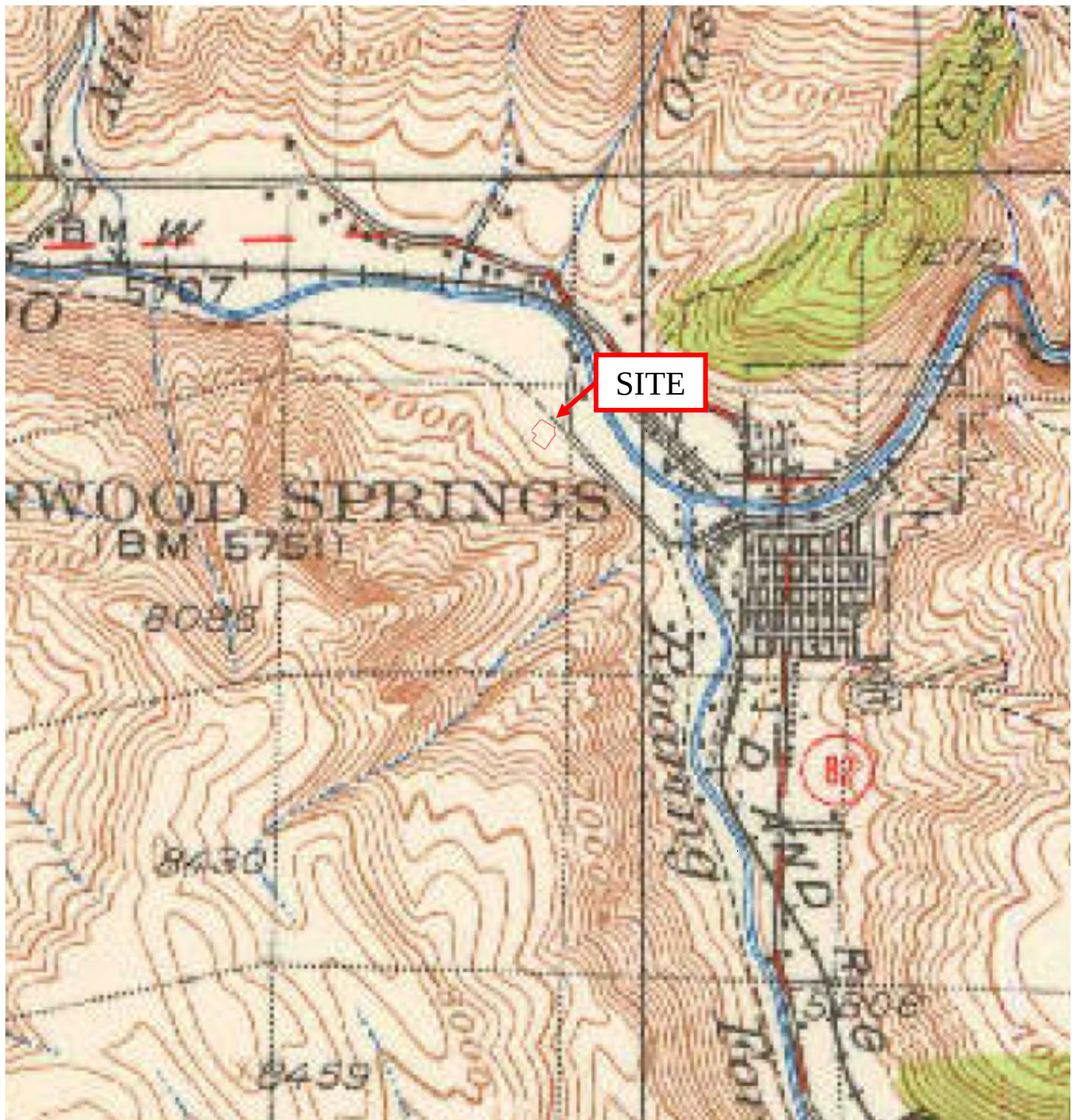
6395 Gunpark Drive, Unit W
Boulder, Colorado 80301
Phone: 720-459-7251 • Fax: 720-459-7298

1930 Topographic Map
Lot 8 Glenwood Meadows
Glenwood Springs, Colorado 81601

Work Order No.:
20-062C

Report Date:
September 2020

Drawn By:
MLT



Source: United States Geological Survey Glenwood Springs, Colorado 7.5 Minute Quadrangle



6395 Gunpark Drive, Unit W
Boulder, Colorado 80301
Phone: 720-459-7251 • Fax: 720-459-7298

1927 Topographic Map
Lot 8 Glenwood Meadows
Glenwood Springs, Colorado 81601

Work Order No.:
20-062C

Report Date:
September 2020

Drawn By:
MLT

12.5.2 Fire Insurance Maps (NOT USED)

12.5.3 Aerial Photographs



6395 Gunpark Drive, Unit W
Boulder, Colorado 80301
Phone: 720-459-7251 • Website: www.aec-env.com

2017 Aerial Photograph
Lot 8 Glenwood Meadows
Glenwood Springs, Colorado 81601

Work Order No.:
20-062C

Report Date:
September 2020

Drawn By:
MLT



6395 Gunpark Drive, Unit W
Boulder, Colorado 80301
Phone: 720-459-7251 • Website: www.aec-env.com

2015 Aerial Photograph
Lot 8 Glenwood Meadows
Glenwood Springs, Colorado 81601

Work Order No.:
20-062C

Report Date:
September 2020

Drawn By:
MLT



6395 Gunpark Drive, Unit W
Boulder, Colorado 80301

Phone: 720-459-7251 • Website: www.aec-env.com

2011 Aerial Photograph
Lot 8 Glenwood Meadows
Glenwood Springs, Colorado 81601

Work Order No.:
20-062C

Report Date:
September 2020

Drawn By:
MLT



6395 Gunpark Drive, Unit W
Boulder, Colorado 80301

Phone: 720-459-7251 • Website: www.aec-env.com

2005 Aerial Photograph
Lot 8 Glenwood Meadows
Glenwood Springs, Colorado 81601

Work Order No.:
20-062C

Report Date:
September 2020

Drawn By:
MLT



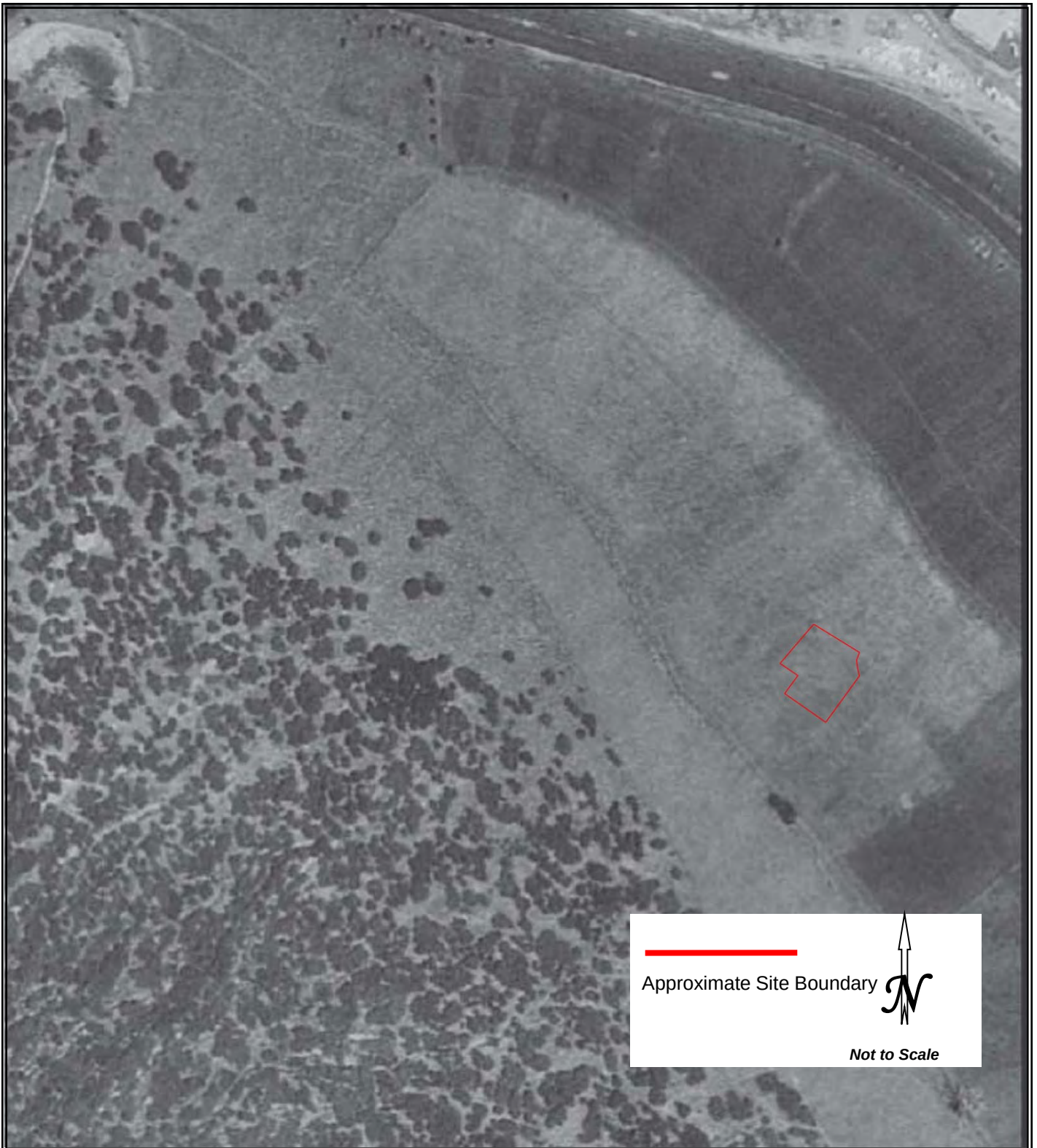
6395 Gunpark Drive, Unit W
Boulder, Colorado 80301
Phone: 720-459-7251 • Website: www.aec-env.com

2002 Aerial Photograph
Lot 8 Glenwood Meadows
Glenwood Springs, Colorado 81601

Work Order No.:
20-062C

Report Date:
September 2020

Drawn By:
MLT



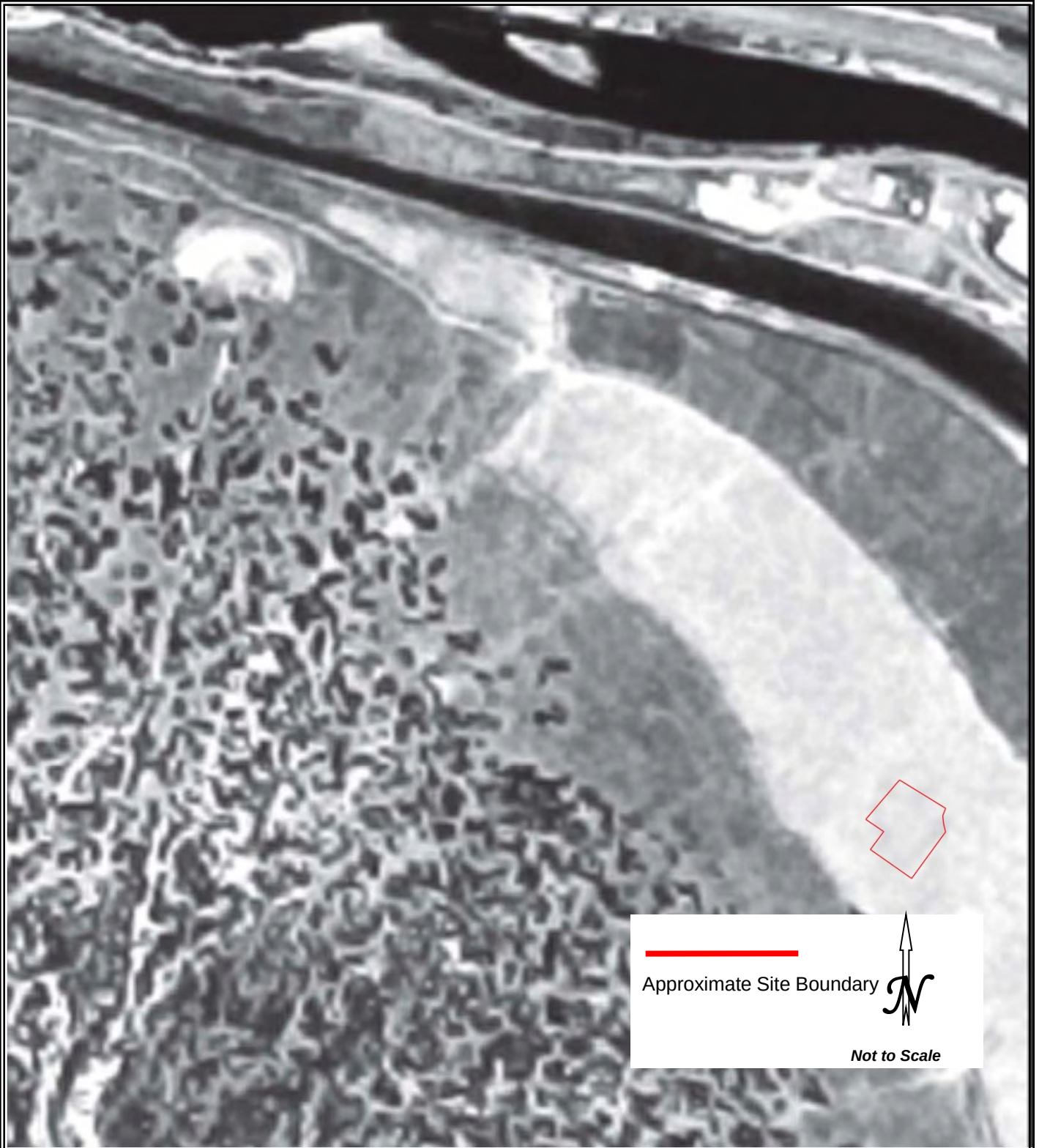
6395 Gunpark Drive, Unit W
Boulder, Colorado 80301
Phone: 720-459-7251 • Website: www.aec-env.com

1993 Aerial Photograph
Lot 8 Glenwood Meadows
Glenwood Springs, Colorado 81601

Work Order No.:
20-062C

Report Date:
September 2020

Drawn By:
MLT



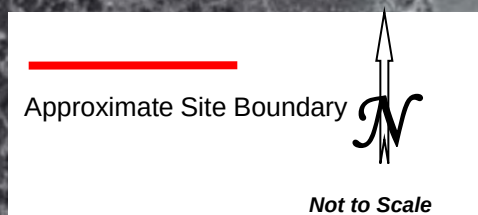
6395 Gunpark Drive, Unit W
 Boulder, Colorado 80301
 Phone: 720-459-7251 • Website: www.aec-env.com

1989 Aerial Photograph
 Lot 8 Glenwood Meadows
 Glenwood Springs, Colorado 81601

Work Order No.:
 20-062C

Report Date:
 September 2020

Drawn By:
 MLT



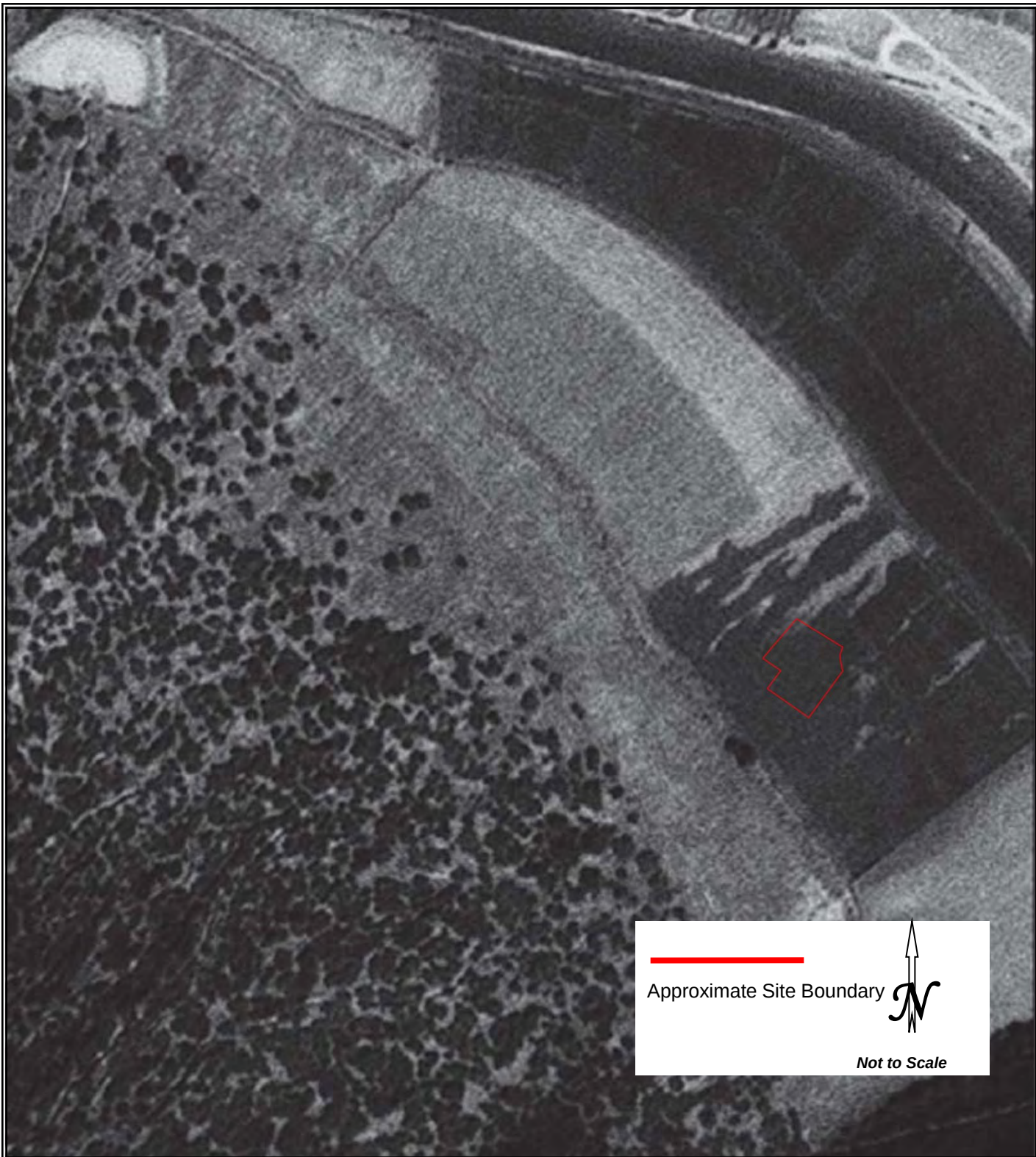
6395 Gunpark Drive, Unit W
Boulder, Colorado 80301
Phone: 720-459-7251 • Website: www.aec-env.com

1983 Aerial Photograph
Lot 8 Glenwood Meadows
Glenwood Springs, Colorado 81601

Work Order No.:
20-062C

Report Date:
September 2020

Drawn By:
MLT



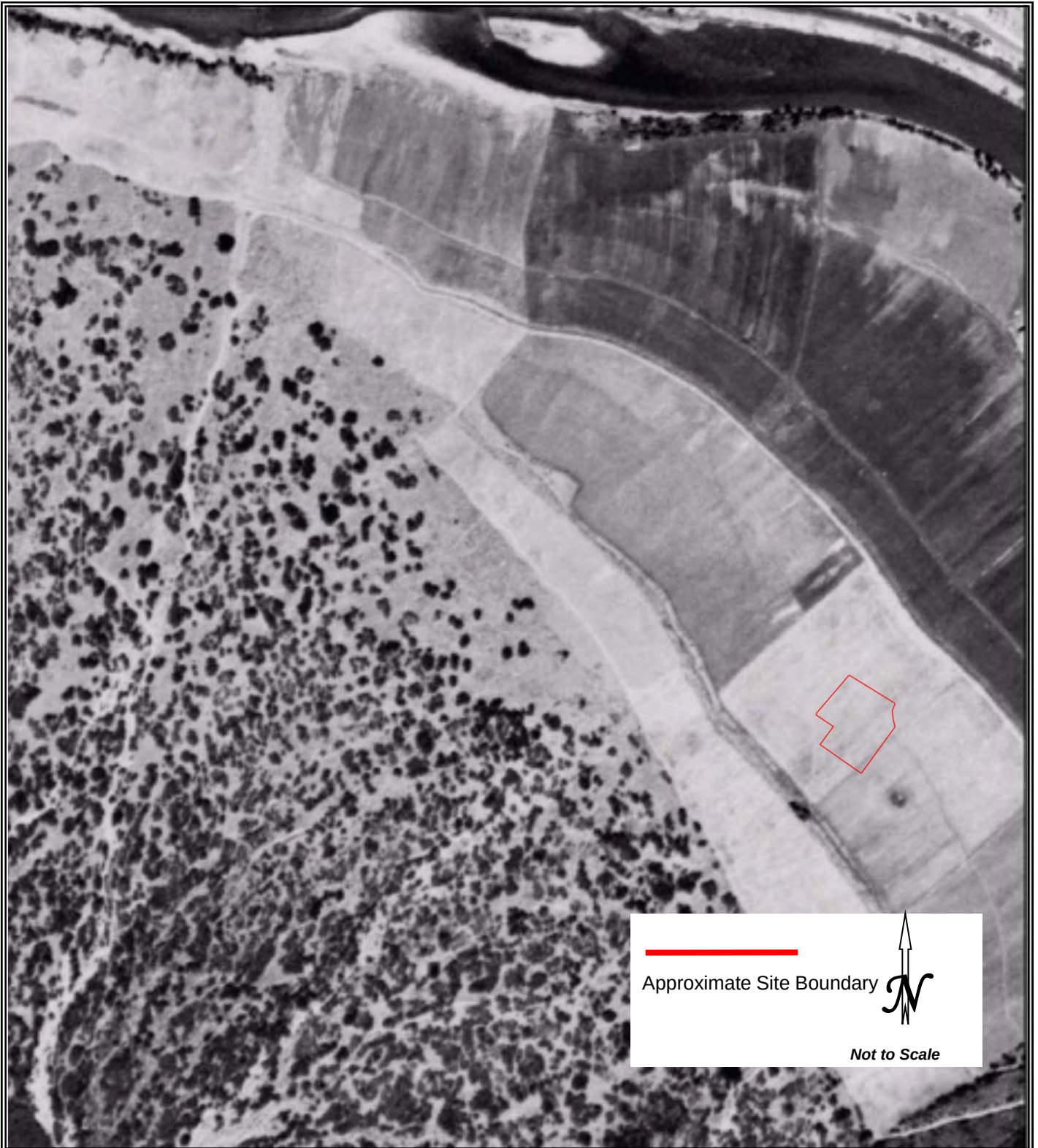
6395 Gunpark Drive, Unit W
 Boulder, Colorado 80301
 Phone: 720-459-7251 • Website: www.aec-env.com

1979 Aerial Photograph
 Lot 8 Glenwood Meadows
 Glenwood Springs, Colorado 81601

Work Order No.:
 20-062C

Report Date:
 September 2020

Drawn By:
 MLT



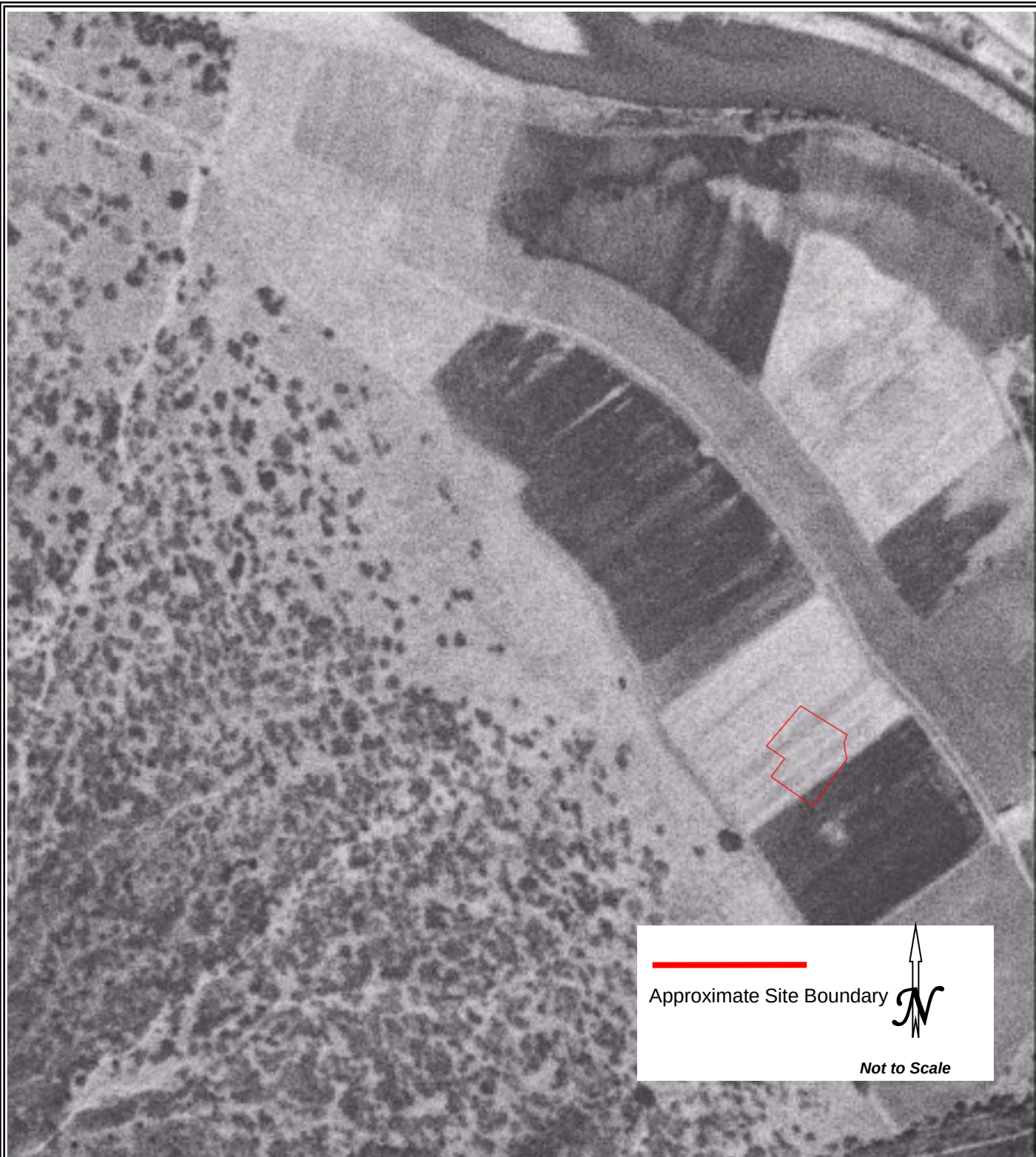
6395 Gunpark Drive, Unit W
 Boulder, Colorado 80301
 Phone: 720-459-7251 • Website: www.aec-env.com

1960 Aerial Photograph
 Lot 8 Glenwood Meadows
 Glenwood Springs, Colorado 81601

Work Order No.:
 20-062C

Report Date:
 September 2020

Drawn By:
 MLT



Approximate Site Boundary

Not to Scale



6395 Gunpark Drive, Unit W
 Boulder, Colorado 80301
 Phone: 720-459-7251 • Website: www.aec-env.com

1955 Aerial Photograph
 Lot 8 Glenwood Meadows
 Glenwood Springs, Colorado 81601

Work Order No.:
 20-062C

Report Date:
 September 2020

Drawn By:
 MLT






Approximate Site Boundary

Not to Scale



6395 Gunpark Drive, Unit W
 Boulder, Colorado 80301
 Phone: 720-459-7251 • Website: www.aec-env.com

1945 Aerial Photograph
 Lot 8 Glenwood Meadows
 Glenwood Springs, Colorado 81601

Work Order No.:
 20-062C

Report Date:
 September 2020

Drawn By:
 MLT

12.5.4 City Directories (NOT USED)

12.6 Interviews/Telecommunications/FOIA Responses

Advantage Environmental Consultants, LLC

ENVIRONMENTAL DUE DILIGENCE SPECIALISTS

Phase I ESA Due Diligence Environmental Questionnaire – Owner Representative

Subject Property: Lot 8, Glenwood Meadows, Glenwood Springs, CO

Completed by: ___Anthony Rodriguez_____

Company/Title: ___Stoneleigh Companies, Analyst_____

Date: ___9/14/2020_____

1.) How long have you owned the property and can you give a quick explanation of its uses during this period? [Under contract to purchase the referenced subject property](#)

2.) Are you aware of any current or historic petroleum underground storage tanks (USTs) or above ground storage tanks (ASTs) on the subject property? [No](#)

3.) Are you aware of any environmental cleanup liens that are filed or recorded against the subject property? [No](#)

4.) Are you aware of any activity and land use limitations that are in place on the property that have been filed or recorded in a registry? [No](#)

5.) Are you aware of any specialized knowledge or experience related to the property or nearby properties that is pertinent to potential adverse environmental conditions? [No](#)

6.) Are you aware of commonly known or reasonably obtainable information that would help us to identify conditions indicative of releases or threatened releases of hazardous wastes/materials at the property? Such information includes knowledge of specific chemicals that are present or were once present on the property, spills or other chemicals releases that may have occurred, or environmental cleanups that have been conducted on the subject property. [No](#)

7.) Based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence or likely presence of contamination at the subject property?
[No](#)



8.) Do you have knowledge what occupied the property prior to your ownership? [Vacant land](#)

9.) Are there any prior environmental reports (Phase I ESAs, Phase II ESAs) available for review?
[Yes](#)

Thanks for taking the time to complete this questionnaire. Please email document to mtorstenson@aec-env.com

 **Advantage Environmental Consultants, LLC**

6395 Gunpark Drive, Unit W | Boulder, CO | 80301

Office: 720-459-7251

Cell: 410-320-0804

mtorstenson@aec-env.com | www.aec-env.com



12.7 Supporting Documentation/Prior Reports

6-8-06 15

Phase I Environmental Site Assessment

Glenwood Meadows Shopping Center
Midland Avenue
Glenwood Springs, CO

Prepared For

Miller Weingarten Realty

and

**Goldman Sachs Commercial
Mortgage Capital, L.P.**

Project BL-06-01019A
June 8, 2006

Braun Intertec Corporation

June 8, 2006

Project BL-06-01019A

Mr. Art Belz
Miller Weingarten Realty
850 Englewood Parkway
Englewood, CO 80110

Re: Phase I Environmental Site Assessment Update
Glenwood Meadows Shopping Center
Midland Avenue
Glenwood Springs, CO

Dear Mr. Belz:

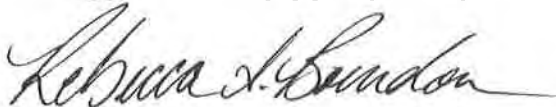
In accordance with your written authorization, we conducted a Phase I environmental site assessment (ESA Update) of the above-referenced property. The objective of the Phase I ESA Update was to evaluate the property for indications of recognized environmental conditions. As provided in the March 23, 2006 Phase I ESA of the Site, this Phase I ESA Update was conducted in accordance with the ASTM Practice E 1527-00 standard and in general accordance with the Goldman Sachs Commercial Mortgage Capital, L.P. Phase I ESA Scope of Services dated May 6, 1998.

Please refer to the attached report for the scope, methods and conclusions of our assessment.

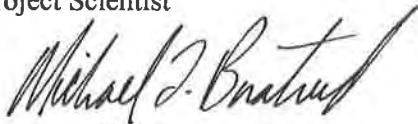
We appreciate the opportunity to provide our professional services to you for this project. If you have any questions regarding this letter or the attached report, please call Rebecca Bourdon at 952.995.2488 or Dan Holte at 952.995.2460.

Sincerely,

BRAUN INTERTEC CORPORATION



Rebecca A. Bourdon, PG
Project Scientist



For: Daniel R. Holte, PG
Principal Scientist

Attachment:
Phase I Environmental Site Assessment Update Report

PH I ESA Update - Glenwood Meadows

Table of Contents

Executive Summary	A
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- A: Site Location Map
- B: Site Sketch
- C: Environmental Data Resources (EDR) Report
- D: Site Photographs
- E: Previous Environmental Investigations

Executive Summary

Braun Intertec performed a Phase I environmental site assessment update (Phase I ESA Update) of Glenwood Meadows Shopping Center No. 11 located on Midland Avenue in Glenwood Springs, Colorado (Site) in general conformance with the scope and limitations of ASTM Practice E 1527-00 and in general accordance with the Goldman Sachs Commercial Mortgage Capital, L.P. Phase I ESA Scope of Services dated May 6, 1998.

At the time of this assessment, the Site consisted of an approximately 250-acre developed lot. A total of 17 retail buildings (some of them multi-tenant) were either existing on the Site or under construction. Sixteen of the tenant spaces were occupied at the time of the Site reconnaissance and consisted of the following retailers:

- Lowe's (unattached)
- Vitamin Cottage and Marble Slab restaurant (attached to Target)
- Pier 1, Gart Sports, Bed Bath and Beyond (BBB), and Petco (Gart Sports complex - attached)
- Chili's Grill & Bar (unattached)
- Regis Salon, Great Clips, Magoo's Italian Bar & Grill, Moe's Southwest Grill, Quizno's, Smoothie King, Red Mountain Wine and Spirits (located in multi-tenant market buildings)

Please note that Target is an anchor-owned development, and not included as part of the defined "Site" throughout this report.

Our research has revealed that the Site and surrounding area have been rural in nature. According to our research, the Site and surrounding area were historically utilized as a ranch for livestock grazing. The Site was occupied by Glenwood Meadows Shopping Center at the time of this assessment.

This assessment has revealed no indications of recognized environmental conditions in connection with the Site.

A. Introduction

A.1. Purpose

Braun Intertec received authorization from Mr. Art Belz of Miller Weingarten Realty (User) to conduct a Phase I environmental site assessment (ESA Update) of Glenwood Meadows Shopping Center located on Midland Avenue in Glenwood Springs, Colorado (Site). Please note that Target is an anchor-owned development, and not included as part of the defined "Site" throughout this report. Although the Target space was accessed as part of this Phase I ESA, the Target building and portion of the land on which the Target building sits is not part of the Site.

This report is for the use and benefit of, and may be relied upon by Goldman Sachs Commercial Mortgage Capital, L.P.; Goldman Sachs & Co.; Goldman Sachs Mortgage Company or any of its affiliates and the agents and advisors, initial and subsequent holders from time to time of any debt and/or debt securities secured, directly and indirectly, by any participation interest in any such debt, and indenture trustee, servicer or other agent acting on behalf of such holders of such debt and/or debt securities; any rating agencies; and the institutional provider(s) from time to time of any liquidity facility or credit support for such financings, and their respective successors and assigns. Our work was directed by a contract with Miller Weingarten Realty and in accordance with our Scope of Services and Braun Intertec General Conditions, which are a part of that contract. Please note that our contract with Miller Weingarten Realty contains a limitation of our total liability. Such limitation also applies to all those receiving this permission.

In addition, this report or a reference to this report, may be included or quoted in any offering circular, registration statement, prospectus or sales brochure (in either electronic or hard copy format) in connection with a securitization or transaction involving such debt and or debt securities.

According to the User, this Phase I ESA Update has been prepared in association with the addition of a new tenant to the property.

The purpose of this Phase I ESA Update was to evaluate the Site for indications of "recognized environmental conditions," as defined by ASTM Practice E 1527-00 as: "The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property. The term includes hazardous substances or petroleum products even under conditions of storage and use in compliance with local and state regulations. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of regulatory governmental agencies."

A.2. Scope of Services

The services provided for this project consisted of the following:

- A description of the Site location, current use and improvements and surrounding area
- A general description of the topography, soils, geology and groundwater flow direction at the Site
- A review of reasonably ascertainable and practically reviewable regulatory information published by state and federal agencies, health, and/or environmental agencies
- A review of the history of the Site, including aerial photographs, fire insurance maps, directories, and other readily available Site development data
- A reconnaissance and environmental review of the Site, including an assessment of the Site for indications of hazardous materials, petroleum products, polychlorinated biphenyls (PCBs), wells, storage tanks, solid waste disposal, pits and sumps, and utilities
- An area reconnaissance, including a brief review of adjacent property uses and any pertinent environmental information noted in the Site vicinity
- Interviews with current owners and/or occupants of the property
- Interviews with local government officials or agencies having jurisdiction over hazardous waste disposal or other environmental matters in the area of the Site
- Preparing a written report of our methods and conclusions

Additionally, as provided in the March 2006 Phase I ESA of the Site, this Phase I ESA Update also was conducted in general accordance with the Goldman Sachs Commercial Mortgage Capital, L.P. Phase I ESA Scope of Services dated May 6, 1998.

A.3. Assessment Limitations

The findings and conclusions presented in this report are based on the procedures described in the ASTM Practice E 1527-00, informal discussions with various agencies, available literature cited in this report, conditions noted at the time of our Phase I ESA Update, and our interpretation of the information obtained as part of this Phase I ESA Update. Our findings and conclusions are limited to the specific project and properties described in this report and by the accuracy and completeness of the information provided by others.

An environmental site assessment cannot wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with a property within reasonable limits of time and cost.

In performing its services, Braun Intertec used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession practicing in the same locality. No other warranty is made or intended.

No intentional deviations from the ASTM Practice E 1527-00 were made in the completion of this Phase I ESA Update for the Site.

The Scope of Services for this project did not include the completion of soil borings, the installation of groundwater monitoring wells, or the collection of soil or groundwater samples. Also, the Scope of Services for this project did not include collecting or analyzing samples from the Site for the presence of asbestos, PCBs, lead-based paint, lead in drinking water, radon or urea formaldehyde.

Braun Intertec did not review property tax files, recorded land-title records or zoning land-use records to document the first developed use of the Site. Past experience has indicated that these historical sources are not sufficiently useful.

B. Site Description

B.1. Site Location

The Site addresses include the following:

- Lowe's, 215 West Meadows Drive
- Vitamin Cottage, Unit B, 100 West Meadows Drive
- Petco #1466, 105 East Meadows Drive
- Gart Sports #122, 125 East Meadows Drive
- Bed Bath & Beyond, 115 East Meadows Drive
- Pier 1 Imports #1539, 135 East Meadows Drive
- Marble Slab #438, 150 West Meadows Drive
- Chili's Grill & Bar #1136, 400 West Meadows Drive
- Regis Salon, Unit E, 10 Market Street
- Great Clips, Unit D, 20 Market Street,
- Magoo's Italian Bar & Grill, Unit A, 30 Market Street
- Moe's Southwest Grill, Unit A, 35 Market Street
- Quizno's, Unit B, 40 Market Street
- Smoothie King, Unit A, 45 Market Street
- Red Mountain Wine and Spirits, Unit D, 45 Market Street

The Site is generally bound by Midland Avenue to the north, Wulfsohn Avenue to the south, with the newly constructed East and West Meadows Drives traversing the property from north to south and within Section 5, Township 6 North, Range 89 West, in the city of Glenwood Springs, Garfield County, Colorado. A Site location map and Site sketch are attached in Appendices A and B, respectively.

B.2. Site and Vicinity Characteristics

At the time of this assessment, the Site consisted of an approximately 250-acre developed lot. A total of 17 retail buildings (some of them multi-tenant) were either existing on the Site or under construction. Sixteen of the tenant spaces were occupied at the time of the Site reconnaissance and consisted of the following retailers:

- Lowe's (unattached)
- Vitamin Cottage and Marble Slab restaurant (attached to Target)
- Pier 1, Gart Sports, Bed Bath and Beyond (BBB), and Petco (Gart Sports complex - attached)
- Chili's Grill & Bar (unattached)
- Regis Salon, Great Clips, Magoo's Italian Bar & Grill, Moe's Southwest Grill, Quizno's, Smoothie King, Red Mountain Wine and Spirits (located in multi-tenant market buildings)

Please note that Target is an anchor-owned development, and not included as part of the defined "Site" throughout this report. Although the Target space was accessed as part of this Phase I ESA, the Target building and portion of the land on which the Target building sits is not part of the Site.

The Lowe's facility was a 1-level, approximately 130,000-square-foot, slab-on-grade building and the Target facility was a 1-level, approximately 125,000-square-foot, slab-on-grade building. The Gart Sports complex retail facility consisted of a single-story, approximate 85,000-square-foot, slab-on-grade building. The nine remaining unattached facilities consisted of single-story, slab-on-grade buildings ranging in size from approximately 1,200 square feet to 6,900 square feet. Paved parking and landscaped areas were located across the Glenwood Meadows shopping complex. The Lowe's building was located on the west portion of the Site and the Target and Gart Sports complex buildings were located on the north portion of the Site, and the remaining buildings were located in the central portion of the Site. The easternmost planned buildings were not present at the time of the Site reconnaissance, however, the easternmost portion of the Site was graded and prepared for development. The construction materials noted stored on that portion of the Site during the March 2006 Phase I ESA were not noted at the time of this Phase I ESA Update Site reconnaissance.

The Site was bordered on the north by Midland Avenue with railroad tracks, Coors Distributing, Midwest Drywall Company, Inc./Electrical Outfitters, Big John Ace Hardware, a power substation and Envirotech located beyond; on the south by undeveloped pasture land with mountains beyond; on the

east by the City of Glenwood Springs Community Center with undeveloped property beyond; and on the west by vacant, graded, parcels with a Park-and-Ride parking lot and Roaring Fork Transportation Center/City Municipal property beyond. The Site is located in an industrial and commercial area within the city of Glenwood Springs.

B.3. Environmental Liens and Additional Information

No information regarding chain-of-title ownership history, environmental liens recorded against the Site (if any), or specialized environmental knowledge or experience that may reveal indications of recognized environmental conditions associated with the Site, was provided to us by the User.

C. Records Review

C.1. Physical Setting Information

According to the United States Geological Survey (U.S.G.S) 7.5-minute topographic map series, Glenwood Springs, Colorado quadrangle, the Site is located at an average elevation of 5,740 feet above mean sea level. The Site lies in the Colorado River valley immediately west of Glenwood Springs downtown region. The majority of the Site is slightly to moderately sloped to the north with landscaped retaining walls in areas of grade change.

The Site lies within the western flank of the Southern Rocky Mountains physiographic province located within the Rocky Mountain System. The majority of the Site is underlain by Quaternary alluvium. This alluvium was deposited over the past 2 million years by the nearby Colorado River. Rocks comprising the surrounding cliffs include Mississippian Leadville Limestone (massive gray rock); contorted gypsum-bearing Pennsylvanian shales, Triassic redbeds; and the Maroon Formation (USGS, 1979). The predominant soil types at the Site include Jerry-Lamphier Cochetopa, which is described as deep, well-drained, moderately sloping to steep soils on mountains and fans; and Morvel-Villa Grove, which is described as deep, well-drained, moderately sloping to moderately steep soils on mesas, mountainsides, and alluvial fans (Soil Conservation Service).

In western Colorado, groundwater is extracted from the following aquifers: Valley fill alluvial deposits, Green River Formation, Mesa Verde group, Dakota sandstone, Entrada sandstone, Glen Canyon group, Wingate sandstone, Leadville limestone, pre-Mississippian-age rocks, and Precambrian crystalline rocks. With the exception of Valley fill deposits, the ability to produce water from any of the aforementioned aquifers is dependent on several geological factors, the most critical being structure. Throughout much of western Colorado, the rocks have been subjected to complex deformation processes that directly affect the hydrogeologic conditions. Therefore, it is quite possible for groundwater to occur under artesian or flowing artesian conditions locally within the same aquifer. Surficial groundwater, if present, likely flows northeast toward the Colorado River (Colorado Geological Survey).

The Site-specific groundwater flow direction was not determined through direct measurement during this Phase I ESA Update. Additional field investigation, beyond the Scope of Services of this Phase I ESA Update, would be required to determine this information.

C.2. Regulatory Information

We obtained regulatory information pertaining to the Site and surrounding area from Environmental Data Resources, Inc. (EDR). The EDR regulatory information report is a compilation and summary of current federal and state regulatory lists and databases and is attached in Appendix C.

The objective of the regulatory information review is to evaluate whether the Site or nearby properties are listed as having a past or present record of actual or potential environmental hazards that are under investigation or may have an adverse impact on the Site.

C.2.a. Federal Database Records

The EDR report included a compilation of the following United States Environmental Protection Agency (USEPA) databases and lists of verified and potential hazardous-waste problem facilities located at, adjacent to, or within ASTM Standard Search Distances from the Site:

- USEPA National Priorities List (NPL). The NPL is the USEPA's national listing of uncontrolled or abandoned hazardous waste facilities identified for priority remedial actions under the Superfund Program.
- USEPA Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). The CERCLIS is the USEPA's national listing of actual and potential hazardous waste facilities.
- USEPA CERCLIS-No Further Remedial Action Planned (CERC-NFRAP). Database of archived designated Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) facilities, that to the best of the USEPA's knowledge, has had an assessment completed and a determination has been made that no further steps will be taken to list a facility on the NPL.
- USEPA Corrective Action Report (CORRACTS). CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.
- USEPA Resource Conservation and Recovery Information System Treatment, Storage, and Disposal Facilities (RCRIS-TSD). The RCRIS-TSD is a listing of facilities that are required to register their hazardous waste activity under the Resource Conservation and Recovery Act (RCRA).

- USEPA Resource Conservation and Recovery Information System Large- and Small-Quantity Generators of hazardous waste (RCRA-GEN).
- USEPA Emergency Response Notification System (ERNS). The ERNS is the USEPA's national listing of releases of oil and hazardous substances reported to the USEPA, U.S. Coast Guard, the National Response Center and the Department of Transportation.

We also reviewed the EDR Orphan Sites, which is a compilation of facilities from the above federal databases that could not be specifically located due to a lack of suitable information. Please note that information provided by EDR is limited for these facilities. Therefore, the potential impact to the Site from facilities listed on the EDR Orphan Sites cannot always be determined based on the available information.

Table 1 contains a summary of the findings.

Table 1. Federal Database Records

Database	Site	Search Distance (Miles)	< 1/8	1/8-1/4	1/4-1/2	1/2-1	Total Listed
NPL	0	1	0	0	0	0	0
CERCLIS	0	1/2	0	0	0		0
CERC-NFRAP	0	1/4	0	0			0
CORRACTS	0	1	0	0	1	0	1
RCRIS-TSD	0	1/2	0	0	0		0
RCRA-GEN	0	Site and adjoining properties	0				0
ERNS	0	Site					0

According to the EDR report, the Site was not listed on any of the ASTM or EDR Supplemental federal databases.

According to the EDR report, the following CORRACTS facility was listed within 1/2 mile of the Site:

- Eimco Coal Machinery at 2222 Devereux Road, is located approximately 1/2 mile east-southeast of the Site and across the Colorado River from the Site. The most recent activity at this facility was May of 2000 and information provided in the database listing indicates that the Corrective Action process was terminated, remedial activities were completed, and a Certification of Remedy Completion or Construction Completion was issued. Based on the location of this facility relative to the Site, it is unlikely that groundwater contamination associated with this facility (if groundwater contamination exists) would have an adverse impact on the groundwater beneath the Site.

According to the EDR report, no additional facilities were listed on any of the ASTM federal databases within the ASTM specified search distances.

C.2.b. State Database Records

The State Database Records report summarized the State of Colorado databases and lists. EDR evaluated the following State Database Records for current listings of verified and potential problem facilities located on, adjacent to, or within ASTM Standard search distances from the Site:

- Solid Waste Facilities/Landfill Sites (SWLF). The MPCA's database listing of permitted solid waste disposal facilities.
- Voluntary Cleanup Program (VCP). The VCP list is the Colorado Department of Public Health and Environment's (CDPHE) registry of properties at which a voluntary cleanup program has been or is being conducted. The CDPHE staff provides permitting and assistance in review of the investigation and any necessary remedial activities. A number of these properties have been investigated and cleaned up or found not to require any cleanup work.
- Leaking Underground Storage Tank Incident Reports (LUST). LUST records contain an inventory of reported leaking underground storage tank incidents.
- Registered Underground Storage Tanks (UST). USTs are regulated under Subtitle I of the RCRA and must be registered with the state department responsible for administering the UST program.
- Colorado Emergency Response Notification System (CO ERNS). Database listing of spills reported to the CDHPE. The data includes information regarding initial cause, initial source, material spilled, and quantity.

We also reviewed the EDR Orphan Sites, which is a compilation of facilities from the above state databases that could not be specifically located due to a lack of suitable information. Please note that information provided by EDR is limited for these facilities. Therefore, the potential impact to the Site from facilities listed on the EDR Orphan Sites cannot always be determined based on the available information.

Table 2 contains a summary of the findings.

Table 2. State Database Records

Database	Site	Search Distance (Miles)	<1/8	1/8-1/4	1/4-1/2	1/2-1	Total Listed
SWLF	0	1/2	0	0	0		0
VCP	0	1/2	0	0	0		0
LUST	0	1/2	0	0	3		3
UST	0	Site and adjoining properties	0				0
CO ERNS (Spills)	0	Site					0

According to the EDR report, the Site was not listed on any of the ASTM or EDR Supplemental state databases.

According to the EDR report, the following LUST facilities were located within 1/2 mile of the Site:

- Glenwood Springs Section (CDPHE Event ID #6363), at Devereux Road and Devereux Lane; located approximately 1/4 mile southeast of the Site. According to the database listing, the LUST incident status is closed for this event.
- CDOT Glenwood Springs, (CDPHE Event ID #784), at 202 Centennial Street, located approximately 1/2 mile east-southeast of the Site. According to the database listing, the LUST incident status is closed for this event. Additionally, four closed USTs were listed at this facility.
- Eimco Coal Machinery/Glenwood Industrial, LLC Site at 2222 Devereux Road, is located approximately 1/2 mile east-southeast of the Site and across the Colorado River from the Site. According to the database listing, the LUST incident status is closed for this event.

Based on the location of the three “closed” LUST facilities relative to the Site in the anticipated down-gradient direction, it is unlikely that groundwater impacts associated with these facilities (if any remain) would have an adverse impact on the Site.

According to the EDR report, no additional facilities were listed on any of the ASTM state databases within the ASTM specified search distances.

C.3. City of Glenwood Springs

We contacted Mr. Ron Biggers, Glenwood Springs Fire Marshall, for information regarding the Site. According to Mr. Biggers, no new information was available pertaining to the Site since the time of the March 2006 Phase I ESA. As stated in the March 2006 Phase I ESA, no records of USTs, emergency

responses, fires, or other environmental issues are on record for the Site with the exception of the "Coal Seam Fire" of 2002, which burned across the Site, prior to the existing development. The Coal Seam Fire did not originate on the Site, but traversed it and the surrounding region.

C.4. Historical-Use Information

The objective of the historical-use information review is to develop a history of the previous uses of the Site and surrounding area, in order to help identify the likelihood of past uses having led to recognized environmental conditions in connection with the property. We consulted only those historical sources that were readily available and practically reviewable and were likely to be useful to develop a history of the previous uses of the Site and surrounding area within the time and cost constraints of this Phase I ESA Update.

C.4.a. Fire Insurance Maps

Fire insurance maps are produced by private fire insurance map companies and indicate uses of property at specified dates. The information noted on the maps includes uses of individual structures, locations of fuel and/or chemical storage tanks, and storage of other potentially toxic substances.

According to EDR and our research, no historic fire insurance map coverage is available for the Site.

C.4.b. City Directory Information

We retained EDR to obtain city directory information pertaining to the Site and surrounding area. Because the Site addresses (on Market Street and Meadows Drive) did not exist until recently, no city directories were available for review.

C.4.c. Aerial Photographs

We obtained aerial photographs of the Site dated 1960, 1983, 1993, and 1999 from HIG. Copies of aerial photographs are attached in Appendix E of the previous Phase I ESA prepared by Braun Intertec in December 2003.

1960

The Site was depicted as undeveloped agricultural land. A farm access road was depicted traversing northwest-southeast on the Site. Surrounding properties are depicted as agricultural land in each direction from the Site.

1983

No significant changes were noted at the Site or surrounding area, with the exception of the railroad and industrial properties depicted adjacent to the north of the Site.

1993

No significant changes were noted at the Site or surrounding area, with the exception of additional development of the railroad and industrial properties depicted adjacent to the north of the Site.

1999

No significant changes were noted at the Site or surrounding area.

No land uses such as dumping or landfilling were apparent on or adjacent to the Site on the aerial photographs reviewed.

C.5 Previous Environmental Investigations

The following previous environmental investigations were reviewed as part of the December 2003 Phase I ESA and are provided in Appendix F:

- *Phase I Environmental Site Assessment; Glenwood Meadows; Glenwood Springs, Colorado;* Braun Intertec; dated March 23, 2006.
- *Phase I Environmental Site Assessment; Proposed Target; Midland Avenue; Glenwood Springs, Colorado;* Braun Intertec; dated December 3, 2003.
- *Geotechnical Analysis Summary;* conducted by High Country Engineering; dated September 17, 2001.
- *Glenwood Meadows Development Project Wildlife Species and Habitat Assessment;* conducted by J.F. Sato and Associates in February 2000.
- *Geologic and Preliminary Geotechnical Investigation Glenwood Meadows;* conducted by CTL/Thompson, Inc. in February 2000.
- *Phase I Environmental Site Assessment; Wulfsohn Ranch; Glenwood Springs, Colorado;* Western Technologies, Inc.; dated June 5, 1996.
- *Wetland Investigation;* Professional Wetlands Consulting, Inc.; July 8, 1996.

No recognized environmental conditions were identified in connection with the Site in the review of the aforementioned documents.

D. Information from Site Reconnaissance and Interviews

A Site reconnaissance was conducted by a Braun Intertec environmental scientist (Rebecca Bourdon) on May 22, 2006. We obtained information regarding the Site from the each respective manager on-duty or store representative for the Site tenants.

D.1. Known Current and Past Uses of the Site and Adjoining Properties

At the time of this assessment, the Site consisted of an approximately 250-acre developed lot. A total of 17 retail buildings (some of them multi-tenant) were either existing on the Site or under construction. Sixteen of the tenant spaces were occupied at the time of the Site reconnaissance and consisted of the following retailers:

- Lowe's (unattached)
- Vitamin Cottage and Marble Slab restaurant (attached to Target)
- Pier 1, Gart Sports, Bed Bath and Beyond (BBB), and Petco (Gart Sports complex - attached)
- Chili's Grill & Bar (unattached)
- Regis Salon, Great Clips, Magoo's Italian Bar & Grill, Moe's Southwest Grill, Quizno's, Smoothie King, Red Mountain Wine and Spirits (located in multi-tenant market buildings)

The Lowe's facility was a 1-level, approximately 130,000-square-foot, slab-on-grade building and the Target facility was a 1-level, approximately 125,000-square-foot, slab-on-grade building. The Gart Sports complex retail facility consisted of a single-story, approximate 85,000-square-foot, slab-on-grade building. The nine remaining unattached facilities consisted of single-story, slab-on-grade buildings ranging in size from approximately 1,200 square feet to 6,900 square feet. Paved parking and landscaped areas were located across the Glenwood Meadows shopping complex. The Lowe's building was located on the west portion of the Site and the Target and Gart Sports complex buildings were located on the north portion of the Site, and the remaining buildings were located in the central portion of the Site. The easternmost planned buildings were not present at the time of the Site reconnaissance, however, the easternmost portion of the Site was graded and prepared for development. The construction materials noted stored on that portion of the Site during the March 2006 Phase I ESA were not noted at the time of this Phase I ESA Update Site reconnaissance.

The Site was bordered on the north by Midland Avenue with railroad tracks, Coors Distributing, Midwest Drywall Company, Inc./Electrical Outfitters, Big John Ace Hardware, a power substation, and Envirotech located beyond; on the south by undeveloped pasture land with mountains beyond; on the east by the City of Glenwood Springs Community Center with undeveloped property beyond; and on the west by vacant, graded, parcels with a Park-and-Ride parking lot and Roaring Fork Transportation Center/City Municipal property beyond. The Site is located in an industrial and commercial area within the city of Glenwood Springs.

Our research has revealed that the Site and surrounding area have been rural in nature. According to our research, the Site and surrounding area were historically utilized as a ranch for livestock grazing and cultivated agricultural land. The Site was occupied by Glenwood Meadows Shopping Center at the time of this assessment. According to the existing tenant representatives, the structures they occupied were significantly completed in May 2005 and each took possession of their respective spaces between early October and late November 2005, with the exception of Great Clips, who took possession in February 2006. A Site sketch and Site photographs are included as Appendix B and D, respectively.

D.2. Site Layout

During the reconnaissance, the Site topography appeared to be gently sloping to the north, toward the Colorado River. Recently completed grading work was noted on the eastern-most edge of the Glenwood Meadows retail area during this Phase I ESA Update Site visit.

Drainage on the Site appeared to be toward storm water catch basins located in the paved parking areas and in the adjacent streets. Paved parking/driveway surfaces were located throughout the Glenwood Meadows Shopping Center.

D.3. Hazardous Substances and Petroleum Products

No indications of spills or leaks of hazardous substances or petroleum products were noted on the Site at the time of our reconnaissance with the exception of minor staining on concrete surfaces that were not compromised. Retail displays of household-sized cleaners, petroleum-based products, pesticides, herbicides, and fertilizers were noted in the Lowe's and Target facilities. Spill kits were located in multiple locations within these tenant spaces in the event of spills or leaks of these products. According to the tenant representatives, corporate-established training programs for small hazardous materials spill response were in-place and this training was provided to their employees. Additionally, storage of household sized, up to 5-gallon-sized, cleaners were noted in the janitor's closet of each tenant space.

Drums noted on the Lowe's property at the time of the Site reconnaissance were located within the secured hazardous materials storage area located on the west exterior side of the building, with the exception of two polyethylene drums labeled Euco Diamond Hard (liquid densifier) located near the loading dock that were of unknown origin to the manager on duty. According to the previous Phase I ESA manager interview, the drums are filled with fluids and waste materials brought onto the Site by customers (i.e., returned equipment containing fluids requiring disposal). No staining or cracked flooring was noted in the vicinity of the hazardous materials storage area on the Lowe's property.

Three 55-gallon metal drums containing used cooking grease/oil were noted on the north exterior of the Chili's property, within the garbage enclosure. Staining was noted in the vicinity of the drums; however, the used grease is cooking grade and did not appear to present an environmental issue. According to the manager on duty, the grease drums are disposed of approximately every three months, or as needed, by a vendor contracted by Chili's.

According to the Site tenant representatives, Material Safety Data Sheets (MSDSs) were maintained in various locations within each tenant space, where applicable. Additionally, MSDSs were noted in various locations within the tenant spaces during the Site reconnaissance.

Cargo lifts noted in the loading docks of various tenant spaces were either operated by electric-powered air bags or were spring loaded. Forklifts noted throughout the tenant spaces used hydraulics, but were electrically powered. No leakage or staining was noted on any of the forklifts at the time of the Site reconnaissance. Numerous cardboard and trash compactors were noted on the Site; however, no oil staining was noted in the vicinity of the compactors at the time of the Site reconnaissance.

D.4. Storage Tanks

No underground or aboveground storage tanks were noted or reported on the Site by the interviewees at the time of the Site reconnaissance, with the exception of one 1,100-gallon diesel aboveground storage tank (AST), noted on the west side of the Lowe's building, within a generator/transformer enclosure. The diesel AST labels indicated a secondary containment unit was built into the unit as a whole. No staining, leaking, or cracked pavement was noted in the vicinity of the AST.

Pressurized tanks were noted on the west exterior of the Lowe's building, within a caged unit, secured to the paved surface below. One carbon dioxide pressurized tank was noted in the restaurant portion of the Target building. Additionally, air compressors noted in the buildings did not appear to have recently leaked as no new indications of staining or leakage were noted at the time of this Site reconnaissance.

D.5. Potential PCB-Containing Equipment

Numerous transformers were noted throughout the Site; a total of 13 utility-owned (City of Glenwood Springs) pad-mounted transformers were noted on the common areas (i.e., parking lots, landscaped areas). The remaining transformers were floor mounted and noted in each of the tenant spaces, with the exception of the Petco, Pier 1, and Great Clips facilities. A "non-PCB" label was adhered to each of the exterior transformers. No staining or signs of leaks were noted in the vicinity of the transformers on the Site and each appeared to be in good condition.

D.6. Indications of Solid Waste Disposal

No indications of the uncontrolled disposal of solid waste or dumping were noted on the Site. Solid wastes generated at the Site are disposed in dumpsters serviced by local waste haulers contracted separately by each of the tenants (e.g., Discovery cardboard recycling, Waste Management, and Rocky Mountain Disposal).

Solid wastes typical of a construction project were noted on the areas of the Site undergoing building construction at the time of the Site reconnaissance. None of these wastes appeared to represent an environmental concern and the contractors on the Site appeared to be diligent in removing excess construction debris.

D.7. Potable Water Sources and Sanitary/Wastewater Discharges

The Site is connected to municipal water and sewer utilities. No disposal/discharge pits, surface impoundments or lagoons were noted at the Site. Retention ponds were noted along the north property boundary, receiving discharge runoff water from the Site. No sheen was noted on the retention pond water.

Floor drains were noted throughout each tenant space at the time of the Site reconnaissance in the restrooms and in kitchen areas. According to each tenant representative, the floor drains all discharge to the sanitary sewer and no oil/water separators, sand traps, or flame traps were noted on the Site. However, one sub-grade grease trap was noted in the restaurant area of the Target building. The grease trap was not accessible for visual inspection at the time of the Site reconnaissance; however, the manager on duty was instructed to contact the Braun Intertec representative upon their access of it. At the time of this report, a response has not been received. The grease trap appeared to be only partially filled and was reportedly pumped out and cleaned once every six months.

According to the tenants interviewed at the time of the Site reconnaissance, no water wells exist on the Site. Additionally, no indications of monitoring or drinking water wells above grade were noted on the Site.

According to the City of Glenwood Springs Red Mountain Water Treatment Plant representative, the concentration of lead in the municipal drinking water supply is below the State of Colorado-established drinking water standard of 0.015 milligrams per Liter (mg/L) dissolved lead.

D.8. Other Utilities

Each building on the Site is heated by a rooftop-mounted natural gas-fired, forced-air furnace and cooled by a rooftop-mounted electric air-conditioning unit. The utility providers varied by tenant, but were generally provided by the City of Glenwood Springs, Xcel Energy, and/or Kinder Morgan, or a combination thereof.

D.9. Wetlands Information

In general accordance with the Goldman Sachs Commercial Mortgage Capital, L.P. Phase I ESA Scope of Services, dated May 6, 1998, Section 2.2, paragraph (f), wetlands information for the Site was provided in the EDR report. According to the EDR report, the Site is located within a designated Federal Wetlands area. For specific information pertaining to the wetland issues on this Site, please refer to the Wetland Delineation report dated, June 1996, which was prepared by Professional Wetlands Consulting, Inc. (the Site is referred to as Wulfsohn Ranch in this report, which is included in Appendix E). It should be noted that the EDR report and NEPA report obtained for the 2003 Phase I ESA did not identify wetlands on the Site.

D.10. NEPA Information

A National Environmental Policy Act (NEPA) report, providing information pertaining to endangered species and archaeological sites, was provided in the Phase I ESA Update performed by Braun Intertec in December 2003. Additionally, a Wildlife Species and Habitat Assessment was performed for the Glenwood Meadows Development Project in February 2000 and was reviewed as part of the December 2003 Phase I ESA of the Site. The 2003 Phase I ESA found no sites of archeological significance were located on the Site and no threatened or endangered plant or animal species would be significantly adversely affected by the development of the Site. These reports are attached in Appendix E - Previous Environmental Investigations for further information.

D.11. Radon Gas

Radon is a naturally occurring radioactive gas found in soils and rocks as a result of the natural decay or breakdown of native uranium and radium. Radon is a colorless and odorless gas that can accumulate once inside an enclosed space, such as a basement. Based on information from the Colorado Geological Survey provided in the previous 2003 Phase I ESA prepared by Braun Intertec, radon gas levels are considered low to moderate for structures tested in the area of the Site.

Additionally, according to the EPA's Radon informational website, Garfield county is located within a Zone 1 designation for radon, which is defined as follows, "Zone 1 counties have a predicted average indoor radon screening level greater than 4 pCi/L (pico curies per liter) (red zones)." However, due to the lack of basements or other sub-grade levels in the buildings located on the Site, radon is not anticipated to adversely affect the Site buildings.

D.12. Asbestos

A visual assessment for damaged, potentially asbestos-containing material (ACM) was performed as part of this Phase I ESA Update. Construction of the buildings on the Site began in May 2005 and continued through the time of this Phase I ESA Update Site reconnaissance. The buildings were constructed of pre-cast concrete and concrete block exterior walls, with metal framing, typical retail interior finishes, and metal roofing support systems, all of which appeared to be in good condition at the time of the Site reconnaissance. Due to the age of the structures and the building materials' condition, no damaged potential ACM was noted during the Site reconnaissance. In our opinion, assessment of these materials would be recommended in the event of future renovation or demolition.

D.13. Lead-Based Paint

Based on the commercial use of the Site, a visual assessment for potential areas of lead-based paint was not performed as part of this Phase I ESA Update.

D.14. Moisture Intrusion/Mold

A visual assessment for moisture intrusion/mold was performed as part of this Phase I ESA Update. No areas of moisture intrusion or evidence of suspect fungal growth was noted in the buildings on the Site at the time of the Site reconnaissance. It should be noted that building and other Site improvement construction was on-going at the time of the Site visit and therefore, not all future tenant-occupied spaces were accessed.

E. Findings

The following environmental conditions regarding the Site were noted:

- Information regarding the Site was available back to 1960. The information indicates that the Site was developed at that time as ranch land.

- Based on regulatory information, the Site is located in an area of known petroleum and non-petroleum groundwater impacts from facilities located in the down-gradient direction relative to the Site and each facility has been issued closure by the CDPHE.
- The Site was substantially developed with a new shopping center complex at the time of this assessment. Construction was underway on the remaining portions of the Site.
- Minor areas of oil/water condensate staining were noted in the vicinity of an air compressor in the Target building during the Site reconnaissance, however, no new staining was noted since the time of the March 2006 Phase I ESA.

F. Opinions

F.1 Recognized Environmental Conditions

A “recognized environmental condition,” as defined by ASTM Practice E 1527-00 is “The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property. The term includes hazardous substances or petroleum products even under conditions of storage and use in compliance with local and state regulations.”

This assessment identified no recognized environmental conditions in connection with the Site.

F.2 Historical Recognized Environmental Conditions

Historical Recognized Environmental Conditions are conditions that were or would have been considered to be Recognized Environmental Conditions in the past but because of further information or a change of conditions are no longer considered Recognized Environmental Conditions. This assessment identified no historical recognized environmental conditions in connection with the Site.

F.3 De Minimis Conditions

A *de minimis* condition is a condition that generally does not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of regulatory governmental agencies.

The past uses of the Site for cultivated farmland/pastureland and the current use as a retail center, in our opinion, appear to represent a *de minimis* condition at the Site.

The government database records identified several facilities in the surrounding area. Based on factors that include the regulatory status, the distances of the facilities from the Site, and the locations of the facilities relative to the estimated direction of groundwater flow, the database listings in the surrounding area appear to represent *de minimis* conditions.

The oil/water condensate staining noted in the vicinity of the air compressor in the Target space appeared to represent a *de minimis* condition, due to the lack of compromised concrete flooring below it.

G. Conclusions

We have performed this Phase I ESA Update of the Site in general conformance with the scope and limitations of ASTM Practice E 1527-00. Any exceptions to, or deletions from, this practice are described in Section A.3. of this report.

This assessment has revealed no indications of recognized environmental conditions in connection with the Site.

H. Recommendations

Based on the current use of the property, we do not recommend additional environmental investigation regarding the Site.

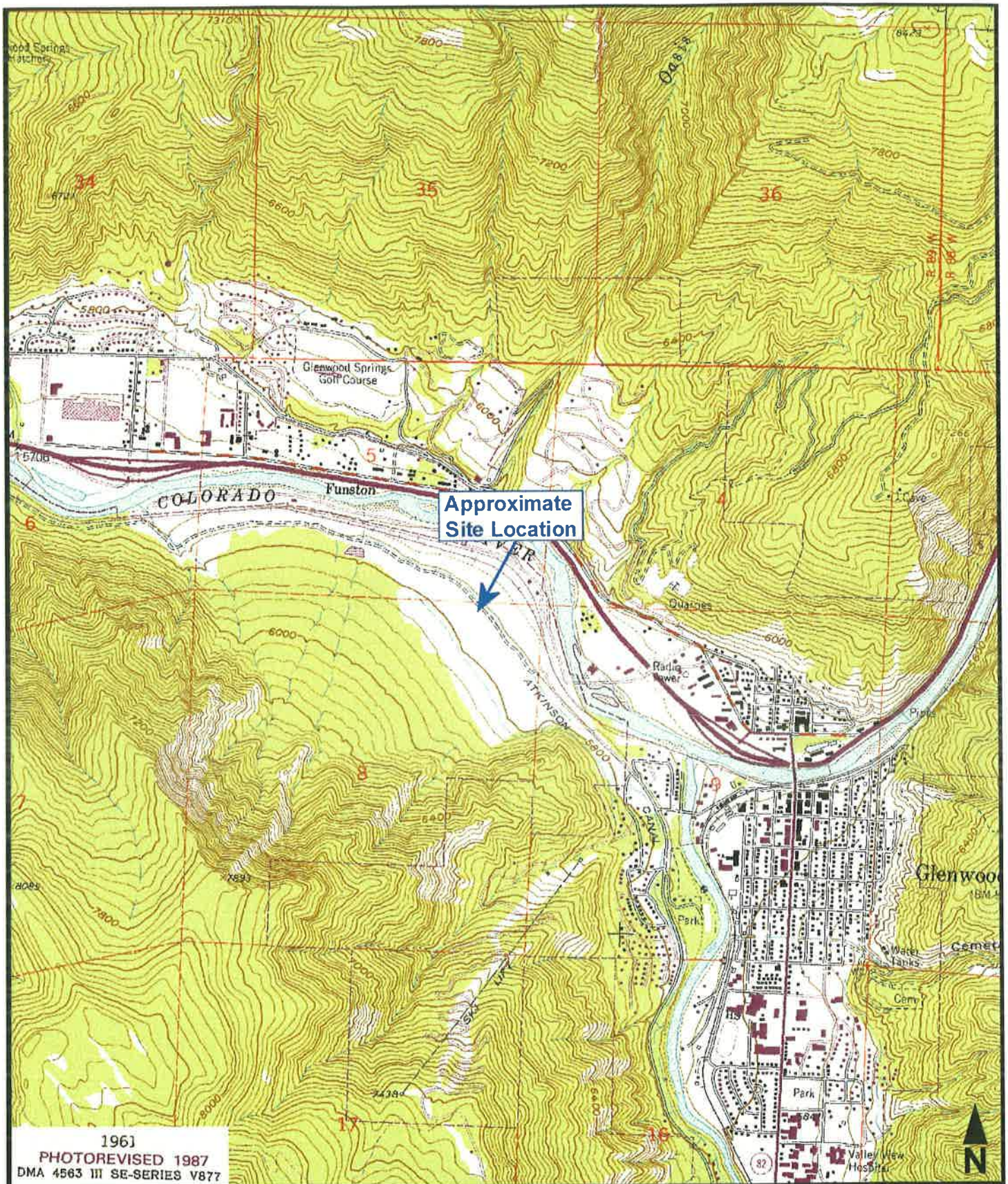
I. Qualifications of Environmental Professionals

A Braun Intertec Statement of Qualifications for this Phase I ESA Update project will be provided to the User upon request.

I. References

Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, 2000, Annual Book of ASTM Standards, Vol. 11.04, E 1527-00.

Appendix A
Site Location Map



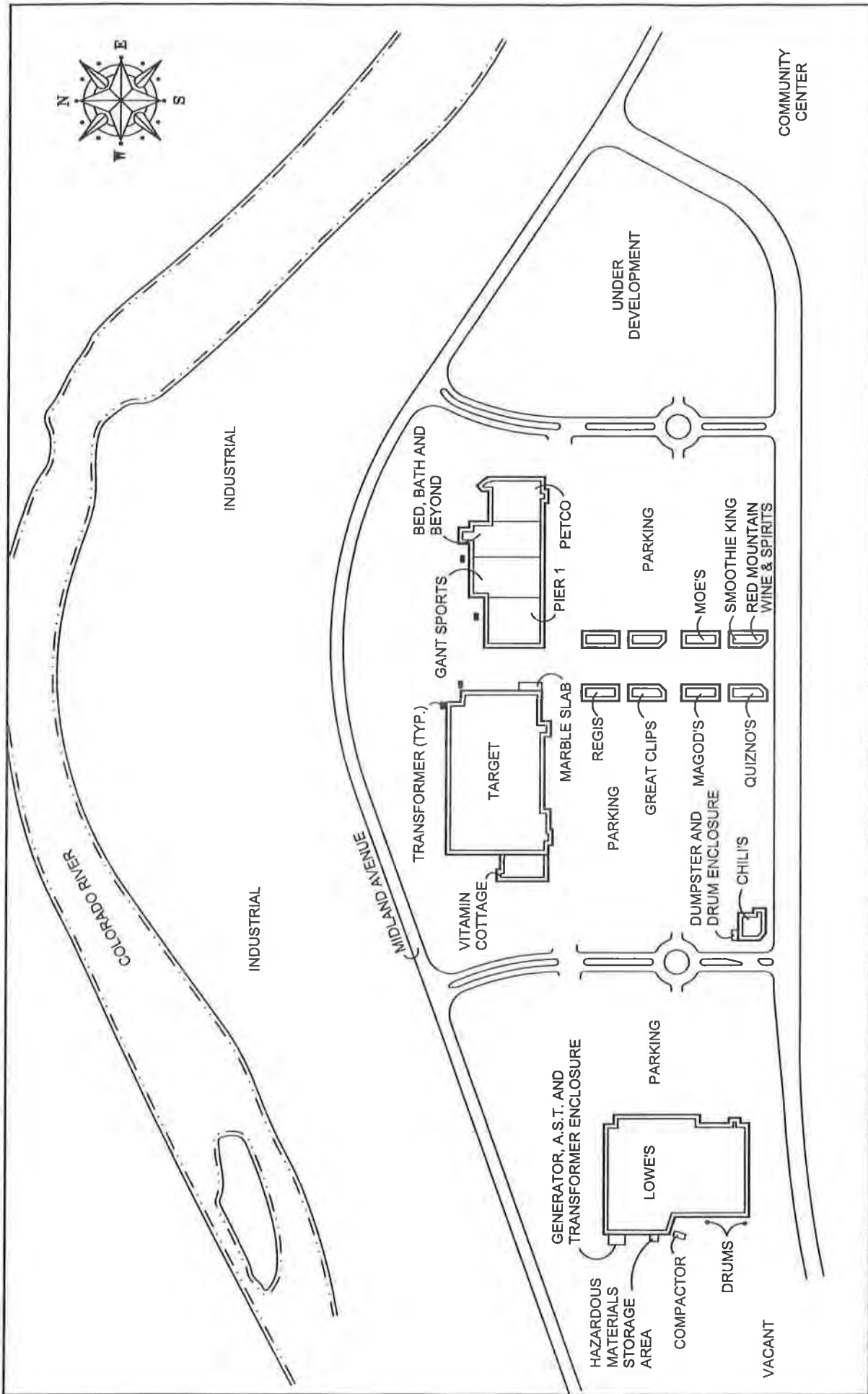
BRAUN
INTERTEC

Site Location Map
Phase I Environmental Site Assessment
Glenwood Meadows Shopping Center
Midland Avenue
Glenwood Springs, Colorado

USGS TOPOGRAPHIC MAP Glenwood Springs, CO	
DATE:	3/8/2006
JOB NO:	BL-06-01019
SCALE:	1 : 24,000
DRAWN BY:	DRS
FIGURE NO:	1

Appendix B

Site Sketch



BRAUN
INTERTEC

SITE SKETCH
PHASE I ENVIRONMENTAL SITE ASSESSMENT UPDATE
GLENWOOD MEADOWS SHOPPING CENTER
MIDLAND AVENUE - GLENWOOD SPRINGS, COLORADO

FIGURE NO.		INT	DATE
2		DRAWN BY: JAG	3-21-06
		APP'D BY: RB	6-9-06
		JOB NO. BL0601019A	
		DWG. NO. BL0601019	SHEET OF 1
		SCALE NONE	1

Appendix C

Environmental Data Resources (EDR) Report



EDR® Environmental
Data Resources Inc

The EDR Radius Map™ Report

**Glen Meadows Shopping Center
Midland Avenue
Glenwood Springs, CO 81601**

Inquiry Number: 1678030.1s

May 17, 2006

The Standard in Environmental Risk Management Information

**440 Wheelers Farms Road
Milford, Connecticut 06461**

Nationwide Customer Service

**Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com**

FORM NULL-CAR

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Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	6
Orphan Summary	12
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

GeoCheck - Not Requested

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

MIDLAND AVENUE
GLENWOOD SPRINGS, CO 81601

COORDINATES

Latitude (North):	39.555300 - 39° 33' 19.1"
Longitude (West):	107.342300 - 107° 20' 32.3"
Universal Transverse Mercator:	Zone 13
UTM X (Meters):	298755.1
UTM Y (Meters):	4380813.0
Elevation:	5768 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	39107-E3 GLENWOOD SPRINGS, CO
Most Recent Revision:	1987

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

FEDERAL RECORDS

NPL.....	National Priority List
Proposed NPL.....	Proposed National Priority List Sites
Delisted NPL.....	National Priority List Deletions
NPL RECOVERY.....	Federal Superfund Liens
CERCLIS.....	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP.....	CERCLIS No Further Remedial Action Planned
RCRA-TSDF.....	Resource Conservation and Recovery Act Information
RCRA-LQG.....	Resource Conservation and Recovery Act Information
RCRA-SQG.....	Resource Conservation and Recovery Act Information

EXECUTIVE SUMMARY

ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
US BROWNFIELDS	A Listing of Brownfields Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
ODI	Open Dump Inventory
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
MINES	Mines Master Index File
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System

STATE AND LOCAL RECORDS

SHWS	This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.
METHANE SITE	Methane Site Investigations - Jefferson County 1980
SWF/LF	Solid Waste Sites & Facilities
Methane Investigation	Methane Gas & Swamp Findings
HISTORICAL LANDFILL	Historical Landfill List
CO TRUST	Lust Trust Sites
UST	Underground Storage Tank Database
AST	Aboveground Tank List
CO ERNS	Spills Database
AUL	Environmental Real Covenants List
VCP	Voluntary Cleanup & Redevelopment Act Application Tracking Report
DRYCLEANERS	Drycleaner Facilities
CDL	Meth Lab Locations
UMTRA	Uranium Mill Tailings Sites

TRIBAL RECORDS

INDIAN RESERV	Indian Reservations
INDIAN LUST	Leaking Underground Storage Tanks on Indian Land
INDIAN UST	Underground Storage Tanks on Indian Land

EDR PROPRIETARY RECORDS

Manufactured Gas Plants... EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

FEDERAL RECORDS

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 03/15/2006 has revealed that there is 1 CORRACTS site within approximately 1 mile of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Dist / Dir</u>	<u>Map ID</u>	<u>Page</u>
<i>EIMCO COAL MACHINERY</i>	<i>2222 DEVERUEX ROAD</i>	<i>1/4 - 1/2ESE</i>	<i>A3</i>	<i>7</i>

STATE AND LOCAL RECORDS

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Health's Leaking Underground Storage Tank List.

A review of the LUST list, as provided by EDR, and dated 04/04/2006 has revealed that there are 3 LUST sites within approximately 0.5 miles of the target property.

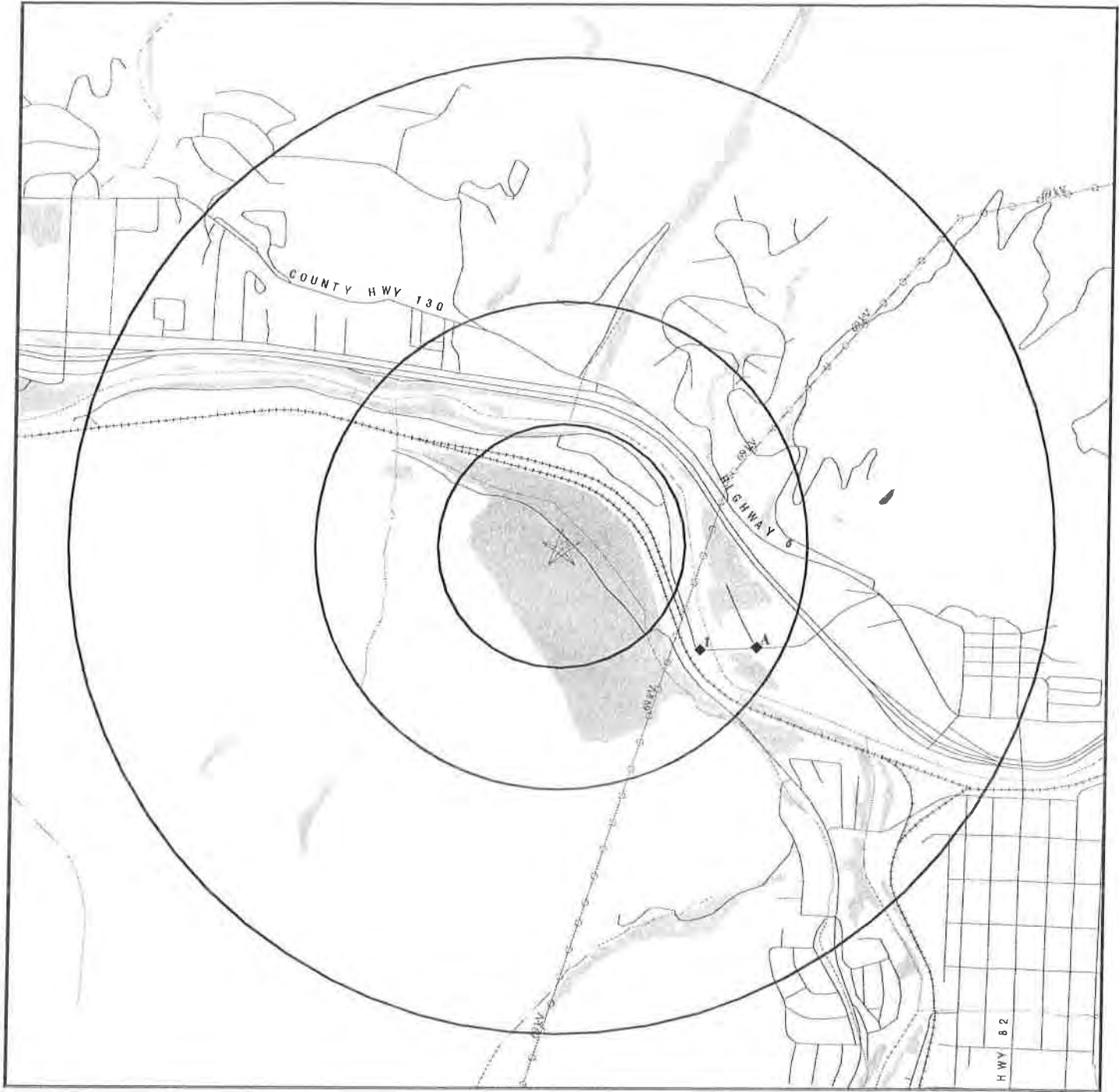
<u>Lower Elevation</u>	<u>Address</u>	<u>Dist / Dir</u>	<u>Map ID</u>	<u>Page</u>
GLENWOOD SPRINGS SECTION Status: Closed	DEVEREUX RD / DEVEREU	1/4 - 1/2 SE	1	6
<i>CDOT GLENWOOD SPRINGS</i> Status: Closed Status: Open	<i>202 CENTENNIAL ST</i>	<i>1/4 - 1/2ESE</i>	<i>A2</i>	<i>6</i>
EIMCO / GLENWOOD INDUSTRIAL LL Status: Closed	2222 DEVERUEX RD	1/4 - 1/2ESE	A4	11

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

<u>Site Name</u>	<u>Database(s)</u>
CACALOCO COMPOST FACILITY	SWF/LF
CANYON CLNRS	DRYCLEANERS
BFI INGELHART BUILDING	LUST
REY MOTORS INC	LUST, UST
TOMAHAWK TRUCK STOP	LUST, UST, AST, CO TRUST
SECURITY LEASING INC PROPERTY	LUST, CO TRUST
HOLY CROSS ELECTRIC ASSOC INC	LUST
ORRISON DISTRIBUTING	LUST, UST
THUNDER RIVER MARKET	LUST, UST
1172 AIRPORT CENTER	LUST, CO ERNS
BROWNING-FERRIS INDUSTRIES	UST
UPS GLENWOOD SPRINGS CENTER	UST
THE DRY DOCK	AST
RENT-X	AST
GARCO GLENWOOD SHOP	AST
AMERIGAS	AST
ROBO CAR WASH	AST
WILLIAMS ENERGY PLANT	AST
BIG JOHNS BUILDING AND HOME CENTER	AST
JIMS DOXOL GAS & APPLIANCES	AST
MUNICIPAL OPERATIONS CENTER	AST
KN ENERGY INC-ROCKY MTN NATURAL GAS D	RCRA-SQG, FINDS
NELSON'S AUTO BODY INC	RCRA-SQG, FINDS

OVERVIEW MAP - 1678030.1s



- * Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites

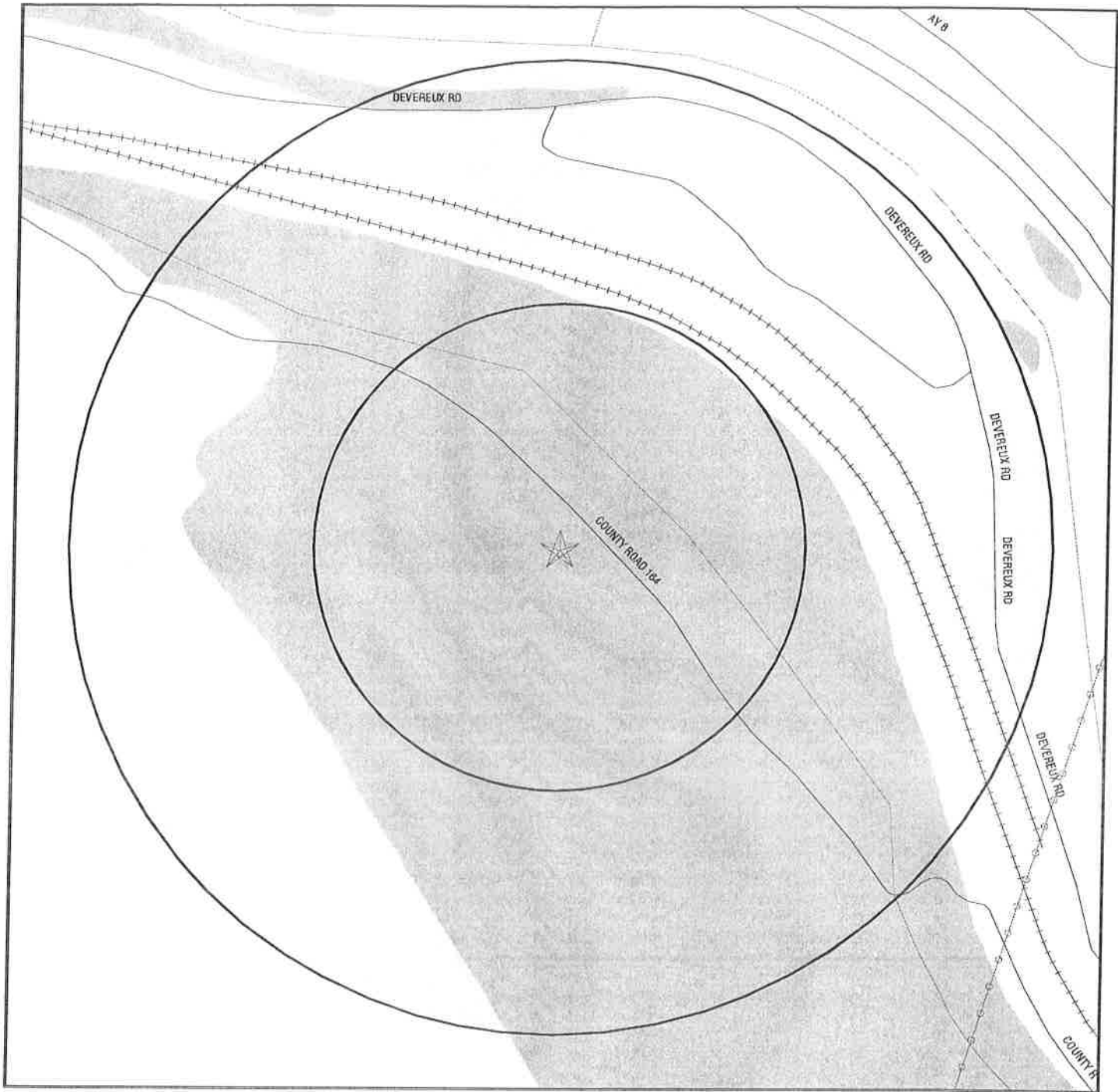
- Indian Reservations BIA
- ~ Power transmission lines
- ~ Oil & Gas pipelines
- National Wetland Inventory
- State Wetlands

SITE NAME: Glen Meadows Shopping Center
 ADDRESS: Midland Avenue
 Glenwood Springs CO 81601
 LAT/LONG: 39.5553 / 107.3423

CLIENT: Braun Intertec Corporation
 CONTACT: Rebecca Bourdon
 INQUIRY #: 1678030.1s
 DATE: May 17, 2006

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DETAIL MAP - 1678030.1s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- ✱ Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites

- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- National Wetland Inventory
- State Wetlands

SITE NAME: Glen Meadows Shopping Center
 ADDRESS: Midland Avenue
 Glenwood Springs CO 81601
 LAT/LONG: 39.5553 / 107.3423

CLIENT: Braun Intertec Corporation
 CONTACT: Rebecca Bourdon
 INQUIRY #: 1678030.1s
 DATE: May 17, 2006

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<u>FEDERAL RECORDS</u>								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
NPL RECOVERY	TP		NR	NR	NR	NR	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.500	0	0	0	NR	NR	0
CORRACTS		1.000	0	0	1	0	NR	1
RCRA TSD		0.500	0	0	0	NR	NR	0
RCRA Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRA Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
ERNS	TP		NR	NR	NR	NR	NR	0
HMIRS	TP		NR	NR	NR	NR	NR	0
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
<u>STATE AND LOCAL RECORDS</u>								
State Haz. Waste		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Methane Site	TP		NR	NR	NR	NR	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
Methane Investigation	TP		NR	NR	NR	NR	NR	0
Historical Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	3	NR	NR	3
CO TRUST		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0
AST		0.250	0	0	NR	NR	NR	0
CO ERNS	TP		NR	NR	NR	NR	NR	0
AUL		0.500	0	0	0	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0
DRYCLEANERS		0.250	0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UMTRA		0.500	0	0	0	NR	NR	0
<u>TRIBAL RECORDS</u>								
INDIAN RESERV		1.000	0	0	0	0	NR	0
INDIAN LUST		0.500	0	0	0	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
<u>EDR PROPRIETARY RECORDS</u>								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

N/A = This State does not maintain a SHWS list. See the Federal CERCLIS list.

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

1
SE
1/4-1/2
1873 ft.
GLENWOOD SPRINGS SECTION
DEVEREUX RD / DEVEREUX LN
GLENWOOD SPRINGS, CO 81601

LUST **S105567815**
N/A

Relative:
Lower

LUST:

Log Date: 02/26/98
Event ID: 6363

Actual:
5723 ft.

Facility Addr 2: RAILROAD GLENWOOD SPRINGS CO 81601
Status: Closed

A2
ESE
1/4-1/2
2372 ft.
CDOT GLENWOOD SPRINGS
202 CENTENNIAL ST
GLENWOOD SPRINGS, CO 81601

LUST **U003806853**
UST **N/A**

Relative:
Lower

Site 1 of 3 in cluster A

LUST:

Log Date: 08/17/92
Event ID: 784
Facility Addr 2: 202 CENTENNIAL ST GLENWOOD SPRINGS CO 81601
Status: Closed

Actual:
5727 ft.

Log Date: 06/10/05
Event ID: 9806
Facility Addr 2: 202 CENTENNIAL ST GLENWOOD SPRINGS CO 81601
Status: Open

UST:

Facility ID: 7564
Owner Name: CDOT
Owner Address: 606 S 9TH ST
GRAND JUNCTION, CO 81501
Owner ID: 1047
Tank ID: 19911
Tank Count: 23026
Tank Tag: '7564-1
Tank Type: UST
Facility Status: CLOSED
Tank Owner: Not reported
Tank Capacity: 10000
Tank Chemical: 4 - Diesel

Facility ID: 7564
Owner Name: CDOT
Owner Address: 606 S 9TH ST
GRAND JUNCTION, CO 81501
Owner ID: 1047
Tank ID: 19912
Tank Count: 23026
Tank Tag: '7564-2
Tank Type: UST
Facility Status: CLOSED
Tank Owner: Not reported
Tank Capacity: 10000
Tank Chemical: Gasoline

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

CDOT GLENWOOD SPRINGS (Continued)

EDR ID Number
EPA ID Number

Database(s)

U003806853

Facility ID: 7564
Owner Name: CDOT
Owner Address: 606 S 9TH ST
GRAND JUNCTION, CO 81501
Owner ID: 1047
Tank ID: 19913
Tank Count: 23026
Tank Tag: '7564-3
Tank Type: UST
Facility Status: CLOSED
Tank Owner: Not reported
Tank Capacity: 6000
Tank Chemical: Gasoline

Facility ID: 7564
Owner Name: CDOT
Owner Address: 606 S 9TH ST
GRAND JUNCTION, CO 81501
Owner ID: 1047
Tank ID: 19914
Tank Count: 23026
Tank Tag: '7564-4
Tank Type: UST
Facility Status: CLOSED
Tank Owner: Not reported
Tank Capacity: 1000
Tank Chemical: 6 - Used Oil (Waste Oil)

A3
ESE
1/4-1/2
2454 ft.
EIMCO COAL MACHINERY
2222 DEVERUEX ROAD
GLENWOOD SPRINGS, CO 81601

RCRA-SQG 1000210929
FINDS COD981544786
CORRACTS

Relative:
Lower

Site 2 of 3 in cluster A

CORRACTS Data:

Actual:
5730 ft.

EPA Id: COD981544786
Region: 08
Area Name: SITE:GROUNDWATER
Actual Date: 04/21/2000
Corrective Action: CA550 - Certification Of Remedy Completion Or Construction Completion
2002 NAICS Title: Not reported

EPA Id: COD981544786
Region: 08
Area Name: ENTIRE FACILITY
Actual Date: 05/01/2000
Corrective Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
2002 NAICS Title: Not reported

EPA Id: COD981544786
Region: 08
Area Name: SITE:GROUNDWATER
Actual Date: 05/01/2000
Corrective Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
2002 NAICS Title: Not reported

Map ID
Direction
Distance
Distance (ft.)
Elevation Site

MAP FINDINGS

Database(s) EDR ID Number
EPA ID Number

EIMCO COAL MACHINERY (Continued)

1000210929

EPA Id: COD981544786
Region: 08
Area Name: ENTIRE FACILITY
Actual Date: 05/01/2000
Corrective Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
2002 NAICS Title: Not reported

EPA Id: COD981544786
Region: 08
Area Name: ENTIRE FACILITY
Actual Date: 05/01/2000
Corrective Action: CA999RM - Corrective Action Process Terminated, Remedial Activities Completed
2002 NAICS Title: Not reported

[Click this hyperlink](#) while viewing on your computer to access
35 additional CORRACTS record(s) in the EDR Site Report.

RCRAInfo Corrective Action Summary:

Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

Event Date: 05/01/2000

Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

Event Date: 05/01/2000

Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Event Date: 05/01/2000

Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Event Date: 05/01/2000

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

EIMCO COAL MACHINERY (Continued)

EDR ID Number
EPA ID Number

Database(s)

1000210929

Event: Corrective Action Process Terminated, Remedial Activities Completed
Event Date: 05/01/2000

Event: Corrective Action Process Terminated, Remedial Activities Completed
Event Date: 05/01/2000

Event: Certification Of Remedy Completion Or Construction Completion
Event Date: 04/21/2000

Event: CMS Workplan Approved
Event Date: 05/20/1999

Event: Date For Remedy Selection (CM Imposed)
Event Date: 05/20/1999

Event: CMI Workplan Approved
Event Date: 05/20/1999

Event: Corrective Measures Design Approved
Event Date: 05/20/1999

Event: CA Prioritization, Facility or area was assigned a low corrective action priority.
Event Date: 08/11/1995

Event: Stabilization Measures Evaluation, This facility is amenable to stabilization activity based on the status of corrective action work at the facility, technical factors, the degree of risk, timing considerations and administrative considerations.
Event Date: 08/01/1995

Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.
Event Date: 08/01/1995

Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.
Event Date: 08/01/1995

Event: Stabilization Measures Implemented, Primary measure is source removal and/or treatment (e.g., soil or waste excavation, in-situ soil treatment, off-site treatment).
Event Date: 11/07/1993

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

EIMCO COAL MACHINERY (Continued)

EDR ID Number
EPA ID Number

Database(s)

1000210929

Event: RFI Approved
Event Date: 06/10/1993

Event: CMS Workplan Approved
Event Date: 06/10/1993

Event: CMI Workplan Approved
Event Date: 06/10/1993

Event: Corrective Measures Design Approved
Event Date: 06/10/1993

Event: RFI Workplan Approved
Event Date: 11/24/1992

Event: Notice of Contamination
Event Date: 05/26/1992

Event: RFI Imposition
Event Date: 07/24/1991

Event: CA006AC
Event Date: 09/07/1990

Event: RFA Completed
Event Date: 09/07/1990

RCRAInfo:

Owner: BAKER INTERNATIONAL
(999) 999-9999
EPA ID: COD981544786
Contact: Not reported

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: Violations exist

Regulation Violated: Not reported
Area of Violation: GENERATOR-OTHER REQUIREMENTS
Date Violation Determined: 03/28/1992
Actual Date Achieved Compliance: 05/08/1992

Enforcement Action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 04/15/1992
Penalty Type: Proposed Monetary Penalty

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 09/07/1990
Actual Date Achieved Compliance: 04/15/1992

Enforcement Action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 09/04/1991
Penalty Type: Not reported

Enforcement Action: INITIAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 03/26/1991
Penalty Type: Not reported

Regulation Violated: Not reported
Area of Violation: GENERATOR-ALL REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 05/06/1988
Actual Date Achieved Compliance: 06/05/1988

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

EIMCO COAL MACHINERY (Continued)

EDR ID Number
EPA ID Number

Database(s)

1000210929

Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 05/20/1988
Penalty Type: Not reported

Penalty Summary:

<u>Penalty Description</u>	<u>Penalty Date</u>	<u>Penalty Amount</u>	<u>Lead Agency</u>
Final Monetary Penalty	4/15/1992	17100	STATE
Proposed Monetary Penalty	4/15/1992	17100	STATE

There are 3 violation record(s) reported at this site:

<u>Evaluation</u>	<u>Area of Violation</u>	<u>Date of Compliance</u>
Compliance Evaluation Inspection	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19920415
	GENERATOR-OTHER REQUIREMENTS	19920508
Other Evaluation	GENERATOR-OTHER REQUIREMENTS	19920508
Non-Financial Record Review	GENERATOR-ALL REQUIREMENTS (OVERSIGHT)	19880605

FINDS:

Other Pertinent Environmental Activity Identified at Site:
ECOREGION MAP
RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

**A4
ESE
1/4-1/2
2454 ft.**

**EIMCO / GLENWOOD INDUSTRIAL LLC SITE
2222 DEVERUEX RD
GLENWOOD SPRINGS, CO 81601**

**LUST S105567102
N/A**

Site 3 of 3 in cluster A

**Relative:
Lower**

**Actual:
5730 ft.**

LUST:
Log Date: 06/07/00
Event ID: 8234
Facility Addr 2: 2222 DEVEREAUX RD GLENWOOD SPRINGS CO 81601
Status: **Closed**

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
DELTA	1004679605	KN ENERGY INC-ROCKY MTN NATURAL GAS D	580 HWY 92	81601	RCRA-SQG, FINDS
GARFIELD	S106913318	CANYON CLNRS	3772 HWY 82	81601	DRYCLEANERS
GLENWOOD SPRINGS	A100288739	THE DRY DOCK	44761 HWY 6	81601	AST
GLENWOOD SPRINGS	A100288840	RENT-X	51537 HWY 6 & 24	81601	AST
GLENWOOD SPRINGS	S107554854	BFI INGELHART BUILDING	50633 HWY 6 / 24	81601	LUST
GLENWOOD SPRINGS	U003241279	REY MOTORS INC	51457 HWY 6 & 24	81601	LUST, UST
GLENWOOD SPRINGS	U003241456	TOMAHAWK TRUCK STOP	51171 HWY 6 & 24	81601	LUST, UST, AST, CO TRUST
GLENWOOD SPRINGS	U003400929	BROWNING-FERRIS INDUSTRIES	50633 HWY 6 & 24	81601	UST
GLENWOOD SPRINGS	1004679157	NELSON'S AUTO BODY INC	6776 HWY 82	81601	RCRA-SQG, FINDS
GLENWOOD SPRINGS	A100268695	GARCO GLENWOOD SHOP	7300 HWY 82	81601	AST
GLENWOOD SPRINGS	A100289060	AMERIGAS	7833 HWY 82	81601	AST
GLENWOOD SPRINGS	A100289256	ROBO CAR WASH	HWY 82	81601	AST
GLENWOOD SPRINGS	A100289257	WILLIAMS ENERGY PLANT	HWY 82	81601	AST
GLENWOOD SPRINGS	S102720211	SECURITY LEASING INC PROPERTY	3766 HWY 82	81601	LUST, CO TRUST
GLENWOOD SPRINGS	S104318348	HOLY CROSS ELECTRIC ASSOC INC	3799 HWY 82	81601	LUST
GLENWOOD SPRINGS	U003241162	ORRISON DISTRIBUTING	4919 HWY 82	81601	LUST, UST
GLENWOOD SPRINGS	U003241449	THUNDER RIVER MARKET	6818 HWY 82	81601	LUST, UST
GLENWOOD SPRINGS	S104300590	CACALOCO COMPOST FACILITY	1172 AIRPORT CENTER	81601	LUST, CO ERNS
GLENWOOD SPRINGS	S103485585	BIG JOHNS BUILDING AND HOME CENTER	1250 COUNTY ROAD 134 @SOUTH CANYON LANDFILL	81601	SWF/LF
GLENWOOD SPRINGS	A100288103	JIMS DOXOL GAS & APPLIANCES	1210 DEVEREUX RD	81601	AST
GLENWOOD SPRINGS	A100288199	UPS GLENWOOD SPRINGS CENTER	1504 E HWY 40	81601	AST
GLENWOOD SPRINGS	U003120152	MUNICIPAL OPERATIONS CENTER	0771 MORAND DR	81601	UST
GLENWOOD SPRINGS	A100209180		2301 WULFSOHN RD	81601	AST

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 02/24/2006	Source: EPA
Date Data Arrived at EDR: 03/01/2006	Telephone: N/A
Date Made Active in Reports: 03/31/2006	Last EDR Contact: 05/05/2006
Number of Days to Update: 30	Next Scheduled EDR Contact: 07/31/2006
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 8
Telephone: 303-312-6774

EPA Region 4
Telephone 404-562-8033

Proposed NPL: Proposed National Priority List Sites

Date of Government Version: 02/24/2006	Source: EPA
Date Data Arrived at EDR: 03/01/2006	Telephone: N/A
Date Made Active in Reports: 03/31/2006	Last EDR Contact: 05/05/2006
Number of Days to Update: 30	Next Scheduled EDR Contact: 07/31/2006
	Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 02/24/2006	Source: EPA
Date Data Arrived at EDR: 03/01/2006	Telephone: N/A
Date Made Active in Reports: 03/31/2006	Last EDR Contact: 05/05/2006
Number of Days to Update: 30	Next Scheduled EDR Contact: 07/31/2006
	Data Release Frequency: Quarterly

NPL RECOVERY: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 03/06/2006
Number of Days to Update: 56	Next Scheduled EDR Contact: 05/22/2006
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 02/01/2006	Source: EPA
Date Data Arrived at EDR: 03/21/2006	Telephone: 703-413-0223
Date Made Active in Reports: 04/13/2006	Last EDR Contact: 03/21/2006
Number of Days to Update: 23	Next Scheduled EDR Contact: 06/19/2006
	Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 02/01/2006	Source: EPA
Date Data Arrived at EDR: 03/21/2006	Telephone: 703-413-0223
Date Made Active in Reports: 04/13/2006	Last EDR Contact: 03/21/2006
Number of Days to Update: 23	Next Scheduled EDR Contact: 06/19/2006
	Data Release Frequency: Quarterly

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/15/2006	Source: EPA
Date Data Arrived at EDR: 03/17/2006	Telephone: 800-424-9346
Date Made Active in Reports: 04/13/2006	Last EDR Contact: 03/06/2006
Number of Days to Update: 27	Next Scheduled EDR Contact: 06/05/2006
	Data Release Frequency: Quarterly

RCRA: Resource Conservation and Recovery Act Information

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 02/21/2006	Source: EPA
Date Data Arrived at EDR: 03/01/2006	Telephone: 800-424-9346
Date Made Active in Reports: 03/31/2006	Last EDR Contact: 04/27/2006
Number of Days to Update: 30	Next Scheduled EDR Contact: 06/26/2006
	Data Release Frequency: Quarterly

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2005	Source: National Response Center, United States Coast Guard
Date Data Arrived at EDR: 01/12/2006	Telephone: 202-260-2342
Date Made Active in Reports: 02/21/2006	Last EDR Contact: 04/26/2006
Number of Days to Update: 40	Next Scheduled EDR Contact: 07/24/2006
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2005	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 01/16/2006	Telephone: 202-366-4555
Date Made Active in Reports: 02/21/2006	Last EDR Contact: 04/14/2006
Number of Days to Update: 36	Next Scheduled EDR Contact: 07/17/2006
	Data Release Frequency: Annually

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/02/2005	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/12/2005	Telephone: 703-603-8905
Date Made Active in Reports: 10/06/2005	Last EDR Contact: 03/03/2006
Number of Days to Update: 55	Next Scheduled EDR Contact: 07/03/2006
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 01/10/2005	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/11/2005	Telephone: 703-603-8905
Date Made Active in Reports: 04/06/2005	Last EDR Contact: 03/03/2006
Number of Days to Update: 54	Next Scheduled EDR Contact: 07/03/2006
	Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2004	Source: USGS
Date Data Arrived at EDR: 02/08/2005	Telephone: 703-692-8801
Date Made Active in Reports: 08/04/2005	Last EDR Contact: 05/12/2006
Number of Days to Update: 177	Next Scheduled EDR Contact: 08/07/2006
	Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/05/2005	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 01/19/2006	Telephone: 202-528-4285
Date Made Active in Reports: 02/21/2006	Last EDR Contact: 04/03/2006
Number of Days to Update: 33	Next Scheduled EDR Contact: 07/03/2006
	Data Release Frequency: Varies

US BROWNFIELDS: A Listing of Brownfields Sites

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 11/29/2005
Date Data Arrived at EDR: 12/05/2005
Date Made Active in Reports: 01/30/2006
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/13/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Semi-Annually

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/14/2004
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 04/25/2005
Number of Days to Update: 69

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/13/2006
Next Scheduled EDR Contact: 07/24/2006
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/07/2005
Date Data Arrived at EDR: 01/06/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 46

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 11/04/2005
Date Data Arrived at EDR: 11/28/2005
Date Made Active in Reports: 01/30/2006
Number of Days to Update: 63

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 03/20/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2003

Date Data Arrived at EDR: 07/13/2005

Date Made Active in Reports: 08/17/2005

Number of Days to Update: 35

Source: EPA

Telephone: 202-566-0250

Last EDR Contact: 03/21/2006

Next Scheduled EDR Contact: 06/19/2006

Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002

Date Data Arrived at EDR: 04/27/2004

Date Made Active in Reports: 05/21/2004

Number of Days to Update: 24

Source: EPA

Telephone: 202-260-5521

Last EDR Contact: 04/12/2006

Next Scheduled EDR Contact: 07/17/2006

Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/17/2006

Date Data Arrived at EDR: 01/24/2006

Date Made Active in Reports: 02/27/2006

Number of Days to Update: 34

Source: EPA/Office of Prevention, Pesticides and Toxic Substances

Telephone: 202-566-1667

Last EDR Contact: 03/20/2006

Next Scheduled EDR Contact: 06/19/2006

Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

Date of Government Version: 01/17/2006

Date Data Arrived at EDR: 01/24/2006

Date Made Active in Reports: 02/27/2006

Number of Days to Update: 34

Source: EPA

Telephone: 202-566-1667

Last EDR Contact: 03/20/2006

Next Scheduled EDR Contact: 06/19/2006

Data Release Frequency: Quarterly

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2003

Date Data Arrived at EDR: 01/03/2005

Date Made Active in Reports: 01/25/2005

Number of Days to Update: 22

Source: EPA

Telephone: 202-564-4203

Last EDR Contact: 03/06/2006

Next Scheduled EDR Contact: 07/17/2006

Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 02/13/2006

Date Data Arrived at EDR: 04/21/2006

Date Made Active in Reports: 05/11/2006

Number of Days to Update: 20

Source: Environmental Protection Agency

Telephone: 202-564-5088

Last EDR Contact: 04/11/2006

Next Scheduled EDR Contact: 07/17/2006

Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 12/27/2005	Source: EPA
Date Data Arrived at EDR: 02/08/2006	Telephone: 202-566-0500
Date Made Active in Reports: 02/27/2006	Last EDR Contact: 05/08/2006
Number of Days to Update: 19	Next Scheduled EDR Contact: 08/07/2006
	Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 02/10/2006	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 02/16/2006	Telephone: 301-415-7169
Date Made Active in Reports: 03/31/2006	Last EDR Contact: 04/03/2006
Number of Days to Update: 43	Next Scheduled EDR Contact: 07/03/2006
	Data Release Frequency: Quarterly

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 11/08/2005	Source: Department of Labor, Mine Safety and Health Administration
Date Data Arrived at EDR: 12/27/2005	Telephone: 303-231-5959
Date Made Active in Reports: 01/30/2006	Last EDR Contact: 03/29/2006
Number of Days to Update: 34	Next Scheduled EDR Contact: 06/26/2006
	Data Release Frequency: Semi-Annually

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 01/09/2006	Source: EPA
Date Data Arrived at EDR: 01/16/2006	Telephone: N/A
Date Made Active in Reports: 02/21/2006	Last EDR Contact: 04/03/2006
Number of Days to Update: 36	Next Scheduled EDR Contact: 07/03/2006
	Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 03/06/2006
Number of Days to Update: 35	Next Scheduled EDR Contact: 06/05/2006
	Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 06/17/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 48

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 03/17/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Biennially

STATE AND LOCAL RECORDS

SHWS: This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: Department of Public Health & Environment
Telephone: 303-692-3300
Last EDR Contact: 03/20/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: N/A

METHANE SITE: Methane Site Investigations - Jefferson County 1980

The objectives of the study are to define as closely as possible the boundaries of methane producing solid waste landfills.

Date of Government Version: 12/31/1980
Date Data Arrived at EDR: 02/13/1995
Date Made Active in Reports: 04/04/1995
Number of Days to Update: 50

Source: Jefferson County Health Department
Telephone: 303-239-7175
Last EDR Contact: 01/27/1995
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWF/LF: Solid Waste Sites & Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/13/2005
Date Data Arrived at EDR: 12/21/2005
Date Made Active in Reports: 01/16/2006
Number of Days to Update: 26

Source: Department of Public Health & Environment
Telephone: 303-692-3300
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 06/05/2006
Data Release Frequency: Annually

METHANE INVESTIGATION: Methane Gas & Swamp Findings

The primary objective of this study was to assess methane gas related hazards at selected landfill sites in Colorado. These sites were selected by the Colorado Department of Health following evaluation of responses received from County and Municipal agencies about completed and existing landfills within their jurisdiction.

Date of Government Version: 03/15/1979
Date Data Arrived at EDR: 02/13/1995
Date Made Active in Reports: 04/04/1995
Number of Days to Update: 50

Source: Department of Health
Telephone: 303-640-3335
Last EDR Contact: 01/27/1995
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HISTORICAL LANDFILL: Historical Landfill List
Abandoned/Inactive Landfills.

Date of Government Version: 01/31/1993
Date Data Arrived at EDR: 04/24/1994
Date Made Active in Reports: 05/30/1994
Number of Days to Update: 36

Source: Department of Public Health & Environment
Telephone: 303-692-3300
Last EDR Contact: 09/05/1996
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST: Leaking Underground Storage Tank List

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 04/04/2006
Date Data Arrived at EDR: 04/05/2006
Date Made Active in Reports: 04/24/2006
Number of Days to Update: 19

Source: Department of Labor and Employment, Oil Inspection Section
Telephone: 303-318-8521
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Quarterly

TRUST: Lust Trust Sites

The listing tracks the reimbursement of costs approved and paid to eligible applicants.

Date of Government Version: 01/23/2006
Date Data Arrived at EDR: 01/24/2006
Date Made Active in Reports: 02/28/2006
Number of Days to Update: 35

Source: Department of Labor and Employment, Oil Inspection Section
Telephone: 303-318-8521
Last EDR Contact: 04/27/2006
Next Scheduled EDR Contact: 07/24/2006
Data Release Frequency: Varies

UST: Underground Storage Tank Database

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 04/04/2006
Date Data Arrived at EDR: 04/05/2006
Date Made Active in Reports: 05/05/2006
Number of Days to Update: 30

Source: Department of Labor and Employment, Oil Inspection Section
Telephone: 303-318-8521
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Quarterly

AST: Aboveground Tank List

Aboveground storage tank locations.

Date of Government Version: 04/04/2006
Date Data Arrived at EDR: 04/05/2006
Date Made Active in Reports: 05/05/2006
Number of Days to Update: 30

Source: Department of Labor and Employment, Oil Inspection Section
Telephone: 303-318-8521
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Semi-Annually

CO ERNS: Spills Database

State reported spills.

Date of Government Version: 02/14/2006
Date Data Arrived at EDR: 02/15/2006
Date Made Active in Reports: 02/28/2006
Number of Days to Update: 13

Source: Department of Public Health and Environmental
Telephone: 303-692-2000
Last EDR Contact: 05/01/2006
Next Scheduled EDR Contact: 07/31/2006
Data Release Frequency: Quarterly

AUL: Environmental Real Covenants List

Activity and use limitations include both engineering controls and institutional controls. The Colorado Department of Public Health and Environment to approve requests to restrict the future use of a property using an enforceable agreement called an environmental real covenant. When a contaminated site is not cleaned up completely, land use restrictions may be used to ensure that the selected cleanup remedy is adequately protective of human health and the environment.

Date of Government Version: 02/28/2006
Date Data Arrived at EDR: 02/28/2006
Date Made Active in Reports: 03/24/2006
Number of Days to Update: 24

Source: Department of Public Health & Environment
Telephone: 303-692-3331
Last EDR Contact: 02/27/2006
Next Scheduled EDR Contact: 05/29/2006
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

VCP: Voluntary Cleanup & Redevelopment Act Application Tracking Report

The Voluntary Cleanup and Redevelopment Act is intended to permit and encourage voluntary cleanups by providing a method to determine clean-up responsibilities in planning the reuse of property. The VCRA was intended for sites which were not covered by existing regulatory programs.

Date of Government Version: 01/09/2006
Date Data Arrived at EDR: 02/07/2006
Date Made Active in Reports: 02/28/2006
Number of Days to Update: 21

Source: Department of Public Health and Environmental
Telephone: 303-692-3331
Last EDR Contact: 04/28/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Semi-Annually

DRYCLEANERS: Drycleaner Facilities

A listing of drycleaning facilities.

Date of Government Version: 04/14/2006
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 04/24/2006
Number of Days to Update: 10

Source: Department of Public Health & Environment
Telephone: 303-692-3213
Last EDR Contact: 04/11/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Varies

CDL: Meth Lab Locations

Meth lab locations that were reported to the Department of Public Health & Environment.

Date of Government Version: 02/14/2006
Date Data Arrived at EDR: 02/15/2006
Date Made Active in Reports: 02/28/2006
Number of Days to Update: 13

Source: Department of Public Health and Environment
Telephone: 303-692-3023
Last EDR Contact: 05/01/2006
Next Scheduled EDR Contact: 07/31/2006
Data Release Frequency: Quarterly

UMTRA: Uranium Mill Tailings Sites

There were nine uranium mill tailings sites in Colorado designated for cleanup under the federal Uranium Mill Tailings Radiation Control Act. These nine sites, known commonly as UMTRA sites, were remediated jointly by the State of Colorado and the U.S. Department of Energy during the late 1980's and early 1990's. Mill tailings were removed from 8 of the mill sites and relocated in engineered disposal cells. A disposal cell is designed to encapsulate the material, reduce radon emanation, and prevent the movement of water through the material. At one site, Maybell, CO, the tailings were stabilized in-place at the mill site. After remediation of the tailings was completed, the State and DOE began to investigate the residual impacts to groundwater at the mill sites. The groundwater phase of the UMTRA program is on-going.

Date of Government Version: 06/30/2003
Date Data Arrived at EDR: 05/26/2004
Date Made Active in Reports: 06/24/2004
Number of Days to Update: 29

Source: Department of Public Health & Environment
Telephone: 970-248-7164
Last EDR Contact: 03/24/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Varies

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/08/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 177

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 05/12/2006
Next Scheduled EDR Contact: 08/07/2006
Data Release Frequency: Semi-Annually

INDIAN LUST: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 02/23/2006
Date Data Arrived at EDR: 02/27/2006
Date Made Active in Reports: 03/24/2006
Number of Days to Update: 25

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 02/20/2006
Next Scheduled EDR Contact: 05/22/2006
Data Release Frequency: Varies

INDIAN UST: Underground Storage Tanks on Indian Land Underground storage tank locations on Indian land.

Date of Government Version: 02/23/2006
Date Data Arrived at EDR: 02/24/2006
Date Made Active in Reports: 03/24/2006
Number of Days to Update: 28

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 02/20/2006
Next Scheduled EDR Contact: 05/22/2006
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

COUNTY RECORDS

ADAMS COUNTY:

Summary Report on Methane Gas Hazards and Surveys Conducted on Domestic and Demolition Landfills in Adams County

As of May 8, 1978, all known landfills or dumping sites in the Adams County area have been surveyed

Date of Government Version: 05/08/1978
Date Data Arrived at EDR: 02/16/1995
Date Made Active in Reports: 04/04/1995
Number of Days to Update: 47

Source: Tri-County Health Department
Telephone: 303-761-1340
Last EDR Contact: 01/27/1995
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

ARAPAHOE COUNTY:

A Survey of Landfills in Arapahoe County

A survey of Arapahoe County was conducted from August through November, 1977, of all open and closed landfills and dumpsites in the county. Each of the sites found was classified as domestic or demolition.

Date of Government Version: 12/31/1978
Date Data Arrived at EDR: 02/16/1995
Date Made Active in Reports: 04/04/1995
Number of Days to Update: 47

Source: Tri-County Health Department
Telephone: 303-761-1340
Last EDR Contact: 01/27/1995
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

BOULDER COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Old Landfill Sites

Date of Government Version: 05/01/1986
Date Data Arrived at EDR: 11/14/1995
Date Made Active in Reports: 12/07/1995
Number of Days to Update: 23

Source: Boulder County Health Department
Telephone: 303-441-1182
Last EDR Contact: 01/30/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DENVER COUNTY:

Landfills in Denver County

Date of Government Version: 12/01/1994
Date Data Arrived at EDR: 12/28/1994
Date Made Active in Reports: 01/31/1995
Number of Days to Update: 34

Source: City and County of Denver
Telephone: 303-436-7300
Last EDR Contact: 12/18/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DOUGLAS COUNTY:

Douglas County Landfill Key

Date of Government Version: 06/12/1991
Date Data Arrived at EDR: 02/16/1995
Date Made Active in Reports: 04/04/1995
Number of Days to Update: 47

Source: Tri-County Health Department
Telephone: 303-761-1340
Last EDR Contact: 01/27/1995
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

PUEBLO COUNTY:

Designated Disposal & Landfill Sites

Only inert materials. Asphalt, cement, dirt & rock unless otherwise specified. These sites are no longer active.

Date of Government Version: 04/30/1990
Date Data Arrived at EDR: 11/16/1995
Date Made Active in Reports: 12/07/1995
Number of Days to Update: 21

Source: Pueblo City-County Health Department
Telephone: 719-583-4300
Last EDR Contact: 11/13/1995
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

TRI COUNTY:

Tri-County Area Solid Waste Facilities List (Adams, Arapahoe and Douglas Counties)

Closed Domestic Landfills in Adams County, Closed Domestic Landfills in Arapahoe County, Closed Demolition Landfills in Arapahoe County, Closed Domestic Landfills in Douglas County.

Date of Government Version: 10/15/1983
Date Data Arrived at EDR: 02/16/1995
Date Made Active in Reports: 04/04/1995
Number of Days to Update: 47

Source: Tri-County Health Department
Telephone: 303-761-1340
Last EDR Contact: 01/27/1995
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

WELD COUNTY:

Solid Waste Facilities in Weld County

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/01/2006
Date Data Arrived at EDR: 03/27/2006
Date Made Active in Reports: 04/24/2006
Number of Days to Update: 28

Source: Weld County Department of Public Health
Telephone: 970-304-6415
Last EDR Contact: 03/08/2006
Next Scheduled EDR Contact: 06/05/2006
Data Release Frequency: No Update Planned

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/17/2006
Date Made Active in Reports: 04/07/2006
Number of Days to Update: 49

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 03/13/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/01/2006
Date Made Active in Reports: 04/20/2006
Number of Days to Update: 50

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 03/01/2006
Next Scheduled EDR Contact: 05/29/2006
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 05/02/2006
Number of Days to Update: 46

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/17/2006
Next Scheduled EDR Contact: 07/10/2006
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data

Source: PennWell Corporation
Telephone: (800) 823-6277

This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Daycare Listing

Source: Department of Human Services

Telephone: 303-866-5958

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Riparian Vegetation Data

Source: Division of Wildlife

Telephone: 970-416-3360

STREET AND ADDRESS INFORMATION

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Appendix D
Site Photographs



Photograph #: 1
 Date: May 22, 2006
 Direction: Facing east southeast
 Subject: View of the Site.

BL-06-01019A

BRAUN
INTERTEC



Photograph #: 2
 Date: May 22, 2006
 Direction: Facing south
 Subject: View of the parking lot and site buildings.

BL-06-01019A

BRAUN
INTERTEC



Photograph #: 3
 Date: May 22, 2006
 Direction: Facing west
 Subject: View of the Lowe's building and parking area.

BL-06-01019A

BRAUN
INTERTEC



Photograph #: 4
 Date: May 22, 2006
 Direction: Facing northwest
 Subject: View of the multi-tenant buildings.

BL-06-01019A

BRAUN
INTERTEC



Photograph #: 5
 Date: May 22, 2006
 Direction: Facing southeast
 Subject: View of the multi-tenant buildings.

BL-06-01019A

BRAUN
INTERTEC



Photograph #: 6
 Date: May 22, 2006
 Direction: Facing southwest
 Subject: View of the multi-tenant buildings.

BL-06-01019A

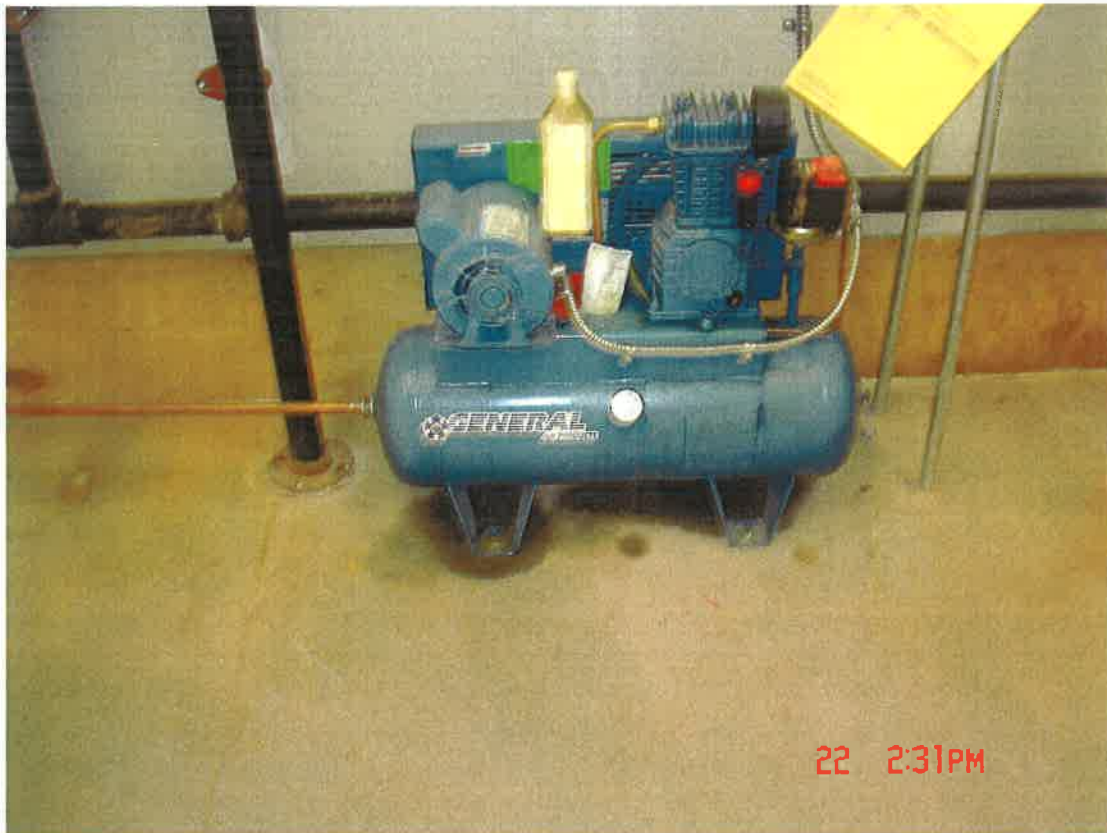
BRAUN
INTERTEC



Photograph #: 7
 Date: May 22, 2006
 Direction: Facing east
 Subject: View of the remaining construction debris.

BL-06-01019A

BRAUN
 INTERTEC



Photograph #: 8
 Date: May 22, 2006
 Direction: N/A
 Subject: View of the air compressor in the Target building with minor staining.

BL-06-01019A

BRAUN
 INTERTEC



Photograph #: 9
 Date: May 22, 2006
 Direction: N/A
 Subject: View of the Chili's grease drums.

BL-06-01019A

BRAUN
 INTERTEC



Photograph #: 9
 Date: May 22, 2006
 Direction: Facing east
 Subject: View of the area under development on the east portion of the Site.

BL-06-01019A

BRAUN
 INTERTEC

Appendix E
Previous Environmental

Phase I Environmental Site Assessment

Glenwood Meadows Shopping Center
Midland Avenue
Glenwood Springs, CO

Prepared For

Miller Weingarten Realty

and

**Goldman Sachs Commercial
Mortgage Capital, L.P.**

Project BL-06-01019
March 23, 2006

Braun Intertec Corporation

March 23, 2006

Project BL-06-01019

Mr. Scott Goldammer
Miller Weingarten Realty
850 Englewood Parkway
Englewood, CO 80110

Re: Phase I Environmental Site Assessment
Glenwood Meadows Shopping Center
Midland Avenue
Glenwood Springs, CO

Dear Mr. Goldammer:

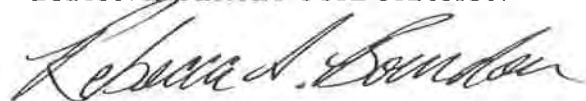
In accordance with your written authorization, we conducted a Phase I environmental site assessment (ESA) of the above-referenced property. The objective of the Phase I ESA was to evaluate the property for indications of recognized environmental conditions. As discussed in a phone conversation with Ms. Debbie Daniel of ATC Associates and Mr. Parker Bailey of Goldman Sachs Commercial Mortgage Capital on March 2, 2006, the Phase I ESA was conducted in accordance with the ASTM Practice E 1527-00 standard and in general accordance with the Goldman Sachs Commercial Mortgage Capital, L.P. Phase I ESA Scope of Services dated May 6, 1998.

Please refer to the attached report for the scope, methods and conclusions of our assessment.

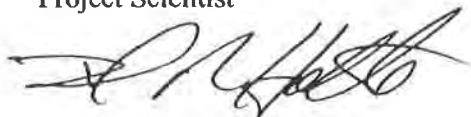
We appreciate the opportunity to provide our professional services to you for this project. If you have any questions regarding this letter or the attached report, please call Rebecca Bourdon at 952.995.2488 or Dan Holte at 952.995.2460.

Sincerely,

BRAUN INTERTEC CORPORATION



Rebecca A. Bourdon, GIT
Project Scientist



Daniel R. Holte, PG
Principal Scientist

Attachment:
Phase I Environmental Site Assessment Report

PH I ESA - Glenwood Meadows

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- D: Site Photographs**
- E: Previous Environmental Investigations**

Executive Summary

Braun Intertec performed a Phase I environmental site assessment of Glenwood Meadows Shopping Center No. 11 located on Midland Avenue in Glenwood Springs, Colorado (Site) in general conformance with the scope and limitations of ASTM Practice E 1527-00 and in general accordance with the Goldman Sachs Commercial Mortgage Capital, L.P. Phase I ESA Scope of Services dated May 6, 1998.

At the time of this assessment, the Site consisted of an approximately 250-acre developed lot. A total of 17 retail buildings were either existing on the Site or under construction. Eight of the tenant spaces were occupied at the time of the Site reconnaissance and consisted of the following retailers:

- Lowe's (unattached)
- Target (attached to future grocery store and Marble Slab restaurant)
- Pier 1, Gart Sports, Bed Bath and Beyond (BBB), and Petco (Gart Sports complex - attached)
- Great Clips (unattached)
- Chili's (unattached)

The Lowe's facility was a 1-level, approximately 130,000-square-foot, slab-on-grade building and the Target facility was a 1-level, approximately 125,000-square-foot, slab-on-grade building. The Gart Sports complex retail facility consisted of a single-story, approximate 85,000-square-foot, slab-on-grade building. The remaining facilities consisted of single-story, slab-on-grade buildings ranging in size from approximately 1,200 square feet to 6,900 square feet. Paved parking and landscaped areas were located across the Glenwood Meadows shopping complex. The Lowe's building was located on the west portion of the Site and the Target and Gart Sports complex buildings were located on the north portion of the Site, and the remaining buildings were located in the central portion of the Site. The easternmost planned buildings were not present at the time of the Site reconnaissance, however, the easternmost portion of the Site was graded and prepared for development with construction staging materials stored on it.

Our research has revealed that the Site and surrounding area have been rural in nature. According to our research, the Site and surrounding area were historically utilized as a ranch for livestock grazing. The Site was occupied by Glenwood Meadows Shopping Center at the time of this assessment.

This assessment has revealed no indications of recognized environmental conditions in connection with the Site.

A. Introduction

A.1. Purpose

Braun Intertec received authorization from Mr. Scott Goldammer of Miller Weingarten Realty (User) to conduct a Phase I environmental site assessment (ESA) of Glenwood Meadows Shopping Center located on Midland Avenue in Glenwood Springs, Colorado (Site).

This report is for the use and benefit of, and may be relied upon by Goldman Sachs Commercial Mortgage Capital, L.P.; Goldman Sachs & Co.; Goldman Sachs Mortgage Company or any of its affiliates and the agents and advisors, initial and subsequent holders from time to time of any debt and/or debt securities secured, directly and indirectly, by any participation interest in any such debt, and indenture trustee, servicer or other agent acting on behalf of such holders of such debt and/or debt securities; any rating agencies; and the institutional provider(s) from time to time of any liquidity facility or credit support for such financings, and their respective successors and assigns. Our work was directed by a contract with Miller Weingarten Realty and in accordance with our Scope of Services and Braun Intertec General Conditions, which are a part of that contract. Please note that our contract with Miller Weingarten Realty contains a limitation of our total liability. Such limitation also applies to all those receiving this permission.

In addition, this report or a reference to this report, may be included or quoted in any offering circular, registration statement, prospectus or sales brochure (in either electronic or hard copy format) in connection with a securitization or transaction involving such debt and or debt securities.

According to the User, this Phase I ESA has been prepared in association with the refinance of the property.

The purpose of this Phase I ESA was to evaluate the Site for indications of “recognized environmental conditions,” as defined by ASTM Practice E 1527-00 as: “The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property. The term includes hazardous substances or petroleum products even under conditions of storage and use in compliance with local and state regulations. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of regulatory governmental agencies.”

A.2. Scope of Services

The services provided for this project consisted of the following:

- A description of the Site location, current use and improvements and surrounding area
- A general description of the topography, soils, geology and groundwater flow direction at the Site
- A review of reasonably ascertainable and practically reviewable regulatory information published by state and federal agencies, health, and/or environmental agencies
- A review of the history of the Site, including aerial photographs, fire insurance maps, directories, and other readily available Site development data
- A reconnaissance and environmental review of the Site, including an assessment of the Site for indications of hazardous materials, petroleum products, polychlorinated biphenyls (PCBs), wells, storage tanks, solid waste disposal, pits and sumps, and utilities
- An area reconnaissance, including a brief review of adjacent property uses and any pertinent environmental information noted in the Site vicinity
- Interviews with current owners and/or occupants of the property
- Interviews with local government officials or agencies having jurisdiction over hazardous waste disposal or other environmental matters in the area of the Site
- Preparing a written report of our methods and conclusions

Additionally, as discussed in a phone conversation with Ms. Debbie Daniel of ATC Associates and Mr. Parker Bailey of Goldman Sachs Commercial Mortgage Capital on March 2, 2006, the Phase I ESA was conducted in general accordance with the Goldman Sachs Commercial Mortgage Capital, L.P. Phase I ESA Scope of Services dated May 6, 1998.

A.3. Assessment Limitations

The findings and conclusions presented in this report are based on the procedures described in the ASTM Practice E 1527-00, informal discussions with various agencies, available literature cited in this report, conditions noted at the time of our Phase I ESA, and our interpretation of the information obtained as part of this Phase I ESA. Our findings and conclusions are limited to the specific project and properties described in this report and by the accuracy and completeness of the information provided by others.

An environmental site assessment cannot wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with a property within reasonable limits of time and cost.

In performing its services, Braun Intertec used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession practicing in the same locality. No other warranty is made or intended.

No intentional deviations from the ASTM Practice E 1527-00 were made in the completion of this Phase I ESA for the Site. Snow cover on the Site at the time of the Site walkthrough impeded visual evaluation of the ground surface.

The Scope of Services for this project did not include the completion of soil borings, the installation of groundwater monitoring wells, or the collection of soil or groundwater samples. Also, the Scope of Services for this project did not include collecting or analyzing samples from the Site for the presence of asbestos, PCBs, lead-based paint, lead in drinking water, radon or urea formaldehyde.

Braun Intertec did not review property tax files, recorded land-title records or zoning land-use records to document the first developed use of the Site. Past experience has indicated that these historical sources are not sufficiently useful.

B. Site Description

B.1. Site Location

The Site addresses include the following:

- Lowe's, 215 West Meadows Drive
- Target, 110 West Meadows Drive
- Petco #1466, 105 East Meadows Drive
- Gart Sports #122, 125 East Meadows Drive
- Bed Bath & Beyond, 115 East Meadows Drive
- Pier 1 Imports #1539, 135 East Meadows Drive
- Chili's Grill & Bar #1136, 400 West Meadows Drive
- Great Clips, 20 Market Street, Unit D
- Marble Slab #438, 150 West Meadows Drive

The site is generally bound by Midland Avenue to the north, Wulfsohn Avenue to the south, with the newly constructed East and West Meadows Drives traversing the property from north to south and within Section 5, Township 6 North, Range 89 West, in the city of Glenwood Springs, Garfield County, Colorado. A Site location map and Site sketch are attached in Appendices A and B, respectively.

B.2. Site and Vicinity Characteristics

At the time of this assessment, the Site consisted of an approximately 250-acre developed lot. A total of 17 retail buildings were either existing on the Site or under construction. Eight of the tenant spaces were occupied at the time of the Site reconnaissance and consisted of the following retailers:

- Lowe's (unattached)
- Target (attached to future grocery store and Marble Slab restaurant)
- Pier 1, Gart Sports, Bed Bath and Beyond (BBB), and Petco (Gart Sports complex - attached)
- Great Clips (unattached)
- Chili's (unattached)

The Lowe's facility was a 1-level, approximately 130,000-square-foot, slab-on-grade building and the Target facility was a 1-level, approximately 125,000-square-foot, slab-on-grade building. The Gart Sports complex retail facility consisted of a single-story, approximate 85,000-square-foot, slab-on-grade building. The remaining facilities consisted of single-story, slab-on-grade buildings ranging in size from approximately 1,200 square feet to 6,900 square feet. Paved parking and landscaped areas were located across the Glenwood Meadows shopping complex. The Lowe's building was located on the west portion of the Site and the Target and Gart Sports complex buildings were located on the north portion of the Site, and the remaining buildings were located in the central portion of the Site. The easternmost planned buildings were not present at the time of the Site reconnaissance, however, the easternmost portion of the Site was graded and prepared for development with construction staging materials stored on it.

The Site was bordered on the north by Midland Avenue with railroad tracks, Coors Distributing, Midwest Drywall Company, Inc./Electrical Outfitters, Big John Ace Hardware, a power substation and Envirotech located beyond; on the south by undeveloped pasture land with mountains beyond; on the east by the City of Glenwood Springs Community Center with undeveloped property beyond; and on the west by vacant, graded, parcels with a Park-and-Ride parking lot and Roaring Fork Transportation Center/City Municipal property beyond. The Site is located in an industrial and commercial area within the city of Glenwood Springs.

B.3. Environmental Liens and Additional Information

No information regarding chain-of-title ownership history, environmental liens recorded against the Site (if any), or specialized environmental knowledge or experience that may reveal indications of recognized environmental conditions associated with the Site, was provided to us by the User.

C. Records Review

C.1. Physical Setting Information

According to the United States Geological Survey (U.S.G.S) 7.5-minute topographic map series, Glenwood Springs, Colorado quadrangle, the Site is located at an average elevation of 5,740 feet above mean sea level. The Site lies in the Colorado River valley immediately west of Glenwood Springs downtown region. The majority of the Site is slightly to moderately sloped to the north with landscaped retaining walls in areas of grade change.

The Site lies within the western flank of the Southern Rocky Mountains physiographic province located within the Rocky Mountain System. The majority of the Site is underlain by Quaternary alluvium. This alluvium was deposited over the past 2 million years by the nearby Colorado River. Rocks comprising the surrounding cliffs include Mississippian Leadville Limestone (massive gray rock); contorted gypsum-bearing Pennsylvanian shales, Triassic redbeds; and the Maroon Formation (USGS, 1979). The predominant soil types at the Site include Jerry-Lamphier Cochetopa, which is described as deep, well-drained, moderately sloping to steep soils on mountains and fans; and Morvel-Villa Grove, which is described as deep, well-drained, moderately sloping to moderately steep soils on mesas, mountainsides, and alluvial fans (Soil Conservation Service).

In western Colorado, groundwater is extracted from the following aquifers: Valley fill alluvial deposits, Green River Formation, Mesa Verde group, Dakota sandstone, Entrada sandstone, Glen Canyon group, Wingate sandstone, Leadville limestone, pre-Mississippian-age rocks, Precambrian crystalline rocks. With the exception of Valley fill deposits, the ability to produce water from any of the aforementioned aquifers is dependent on several geological factors, the most critical being structure. Throughout much of western Colorado, the rocks have been subjected to complex deformation processes that directly affect the hydrogeologic conditions. Therefore, it is quite possible for groundwater to occur under artesian or flowing artesian conditions locally within the same aquifer. Surficial groundwater, if present, likely flows northeast toward the Colorado River (Colorado Geological Survey).

The Site-specific groundwater flow direction was not determined through direct measurement during this Phase I ESA. Additional field investigation, beyond the Scope of Services of this Phase I ESA, would be required to determine this information.

C.2. Regulatory Information

We obtained regulatory information pertaining to the Site and surrounding area from Environmental Data Resources, Inc. (EDR). The EDR regulatory information report is a compilation and summary of current federal and state regulatory lists and databases and is attached in Appendix C.

The objective of the regulatory information review is to evaluate whether the Site or nearby properties are listed as having a past or present record of actual or potential environmental hazards that are under investigation or may have an adverse impact on the Site.

C.2.a. Federal Database Records

The EDR report included a compilation of the following United States Environmental Protection Agency (USEPA) databases and lists of verified and potential hazardous-waste problem facilities located at, adjacent to, or within ASTM Standard Search Distances from the Site:

- USEPA National Priorities List (NPL). The NPL is the USEPA's national listing of uncontrolled or abandoned hazardous waste facilities identified for priority remedial actions under the Superfund Program.
- USEPA Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). The CERCLIS is the USEPA's national listing of actual and potential hazardous waste facilities.
- USEPA CERCLIS-No Further Remedial Action Planned (CERC-NFRAP). Database of archived designated Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) facilities, that to the best of the USEPA's knowledge, has had an assessment completed and a determination has been made that no further steps will be taken to list a facility on the NPL.
- USEPA Corrective Action Report (CORRACTS). CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.
- USEPA Resource Conservation and Recovery Information System Treatment, Storage, and Disposal Facilities (RCRIS-TSD). The RCRIS-TSD is a listing of facilities that are required to register their hazardous waste activity under the Resource Conservation and Recovery Act (RCRA).
- USEPA Resource Conservation and Recovery Information System Large- and Small-Quantity Generators of hazardous waste (RCRA-GEN).
- USEPA Emergency Response Notification System (ERNS). The ERNS is the USEPA's national listing of releases of oil and hazardous substances reported to the USEPA, U.S. Coast Guard, the National Response Center and the Department of Transportation.

We also reviewed the EDR Orphan Sites, which is a compilation of facilities from the above federal databases that could not be specifically located due to a lack of suitable information. Please note that

information provided by EDR is limited for these facilities. Therefore, the potential impact to the Site from facilities listed on the EDR Orphan Sites cannot always be determined based on the available information.

Table 1 contains a summary of the findings.

Table 1. Federal Database Records

Database	Site	Search Distance (Miles)	< 1/8	1/8-1/4	1/4-1/2	1/2-1	Total Listed
NPL	0	1	0	0	0	0	0
CERCLIS	0	1/2	0	0	0		0
CERC-NFRAP	0	1/4	0	0			0
CORRACTS	0	1	0	0	1	0	1
RCRIS-TSD	0	1/2	0	0	0		0
RCRA-GEN	0	Site and adjoining properties	0				0
ERNS	0	Site					0

According to the EDR report, the Site was not listed on any of the ASTM or EDR Supplemental federal databases.

According to the EDR report, the following CORRACTS facility was listed within 1/2 mile of the Site:

- Eimco Coal Machinery at 2222 Devereux Road, is located approximately 1/2 mile east-southeast of the Site and across the Colorado River from the Site. The most recent activity at this facility was May of 2000 and information provided in the database listing indicates that the Corrective Action process was terminated, remedial activities were completed, and a Certification of Remedy Completion or Construction Completion was issued. Based on the location of this facility relative to the Site, it is unlikely that groundwater contamination associated with this facility (if groundwater contamination exists) would have an adverse impact on the groundwater beneath the Site.

According to the EDR report, no additional facilities were listed on any of the ASTM federal databases within the ASTM specified search distances.

C.2.b. State Database Records

The State Database Records report summarized the State of Colorado databases and lists. EDR evaluated the following State Database Records for current listings of verified and potential problem facilities located on, adjacent to, or within ASTM Standard search distances from the Site:

- Solid Waste Facilities/Landfill Sites (SWLF). The MPCA's database listing of permitted solid waste disposal facilities.

- **Voluntary Cleanup Program (VCP).** The VCP list is the Colorado Department of Public Health and Environment's (CDPHE) registry of properties at which a voluntary cleanup program has been or is being conducted. The CDPHE staff provides permitting and assistance in review of the investigation and any necessary remedial activities. A number of these properties have been investigated and cleaned up or found not to require any cleanup work.
- **Leaking Underground Storage Tank Incident Reports (LUST).** LUST records contain an inventory of reported leaking underground storage tank incidents.
- **Registered Underground Storage Tanks (UST).** USTs are regulated under Subtitle I of the RCRA and must be registered with the state department responsible for administering the UST program.
- **Colorado Emergency Response Notification System (CO ERNS).** Database listing of spills reported to the CDHPE. The data includes information regarding initial cause, initial source, material spilled, and quantity.

We also reviewed the EDR Orphan Sites, which is a compilation of facilities from the above state databases that could not be specifically located due to a lack of suitable information. Please note that information provided by EDR is limited for these facilities. Therefore, the potential impact to the Site from facilities listed on the EDR Orphan Sites cannot always be determined based on the available information.

Table 2 contains a summary of the findings.

Table 2. State Database Records

Database	Site	Search Distance (Miles)	<1/8	1/8-1/4	1/4-1/2	1/2-1	Total Listed
SWLF	0	1/2	0	0	0		0
VCP	0	1/2	0	0	0		0
LUST	0	1/2	0	0	3		3
UST	0	Site and adjoining properties	0				0
CO ERNS (Spills)	0	Site					0

According to the EDR report, the Site was not listed on any of the ASTM or EDR Supplemental state databases.

According to the EDR report, the following LUST facilities were located within 1/2 mile of the Site:

- Glenwood Springs Section (CDPHE Event ID #6363), at Devereux Road and Devereux Lane; located approximately 1/4 mile southeast of the Site. According to the database listing, the LUST incident status is closed for this event.
- CDOT Glenwood Springs, (CDPHE Event ID #784), at 202 Centennial Street, located approximately 1/2 mile east-southeast of the Site. According to the database listing, the LUST incident status is closed for this event. Additionally, four closed USTs were listed at this facility.
- Eimco Coal Machinery/Glenwood Industrial, LLC Site at 2222 Devereux Road, is located approximately 1/2 mile east-southeast of the Site and across the Colorado River from the Site. According to the database listing, the LUST incident status is closed for this event.

Based on the location of the three “closed” LUST facilities relative to the Site in the anticipated down-gradient direction, it is unlikely that groundwater impacts associated with these facilities (if any remain) would have an adverse impact on the Site.

According to the EDR report, no additional facilities were listed on any of the ASTM state databases within the ASTM specified search distances.

C.3. City of Glenwood Springs

We contacted Mr. Ron Biggers, Glenwood Springs fire marshal, for information regarding the Site. According to Mr. Biggers, no records of USTs, emergency responses, fires, or other environmental issues are on record for the Site with the exception of the “Coal Seam Fire” of 2002, which burned across the Site, prior to the existing development. The Coal Seam Fire did not originate on the Site, but traversed it and the surrounding region.

C.4. Historical-Use Information

The objective of the historical-use information review is to develop a history of the previous uses of the Site and surrounding area, in order to help identify the likelihood of past uses having led to recognized environmental conditions in connection with the property. We consulted only those historical sources that were readily available and practically reviewable and were likely to be useful to develop a history of the previous uses of the Site and surrounding area within the time and cost constraints of this Phase I ESA.

C.4.a. Fire Insurance Maps

Fire insurance maps are produced by private fire insurance map companies and indicate uses of property at specified dates. The information noted on the maps includes uses of individual structures, locations of fuel and/or chemical storage tanks, and storage of other potentially toxic substances.

According to EDR and our research, no historic fire insurance map coverage is available for the Site.

C.4.b. City Directory Information

We retained EDR to obtain city directory information pertaining to the Site and surrounding area. Because the Site addresses (on Market Street and Meadows Drive) did not exist until recently, no city directories were available for review.

C.4.c. Aerial Photographs

We obtained aerial photographs of the Site dated 1960, 1983, 1993, and 1999 from HIG. Copies of aerial photographs are attached in Appendix E of the previous Phase I ESA prepared by Braun Intertec in December 2003.

1960

The Site was depicted as undeveloped agricultural land. A farm access road was depicted traversing northwest-southeast on the Site. Surrounding properties are depicted as agricultural land in each direction from the Site.

1983

No significant changes were noted at the Site or surrounding area, with the exception of the railroad and industrial properties depicted adjacent to the north of the Site.

1993

No significant changes were noted at the Site or surrounding area, with the exception of additional development of the railroad and industrial properties depicted adjacent to the north of the Site.

1999

No significant changes were noted at the Site or surrounding area.

No land uses such as dumping or landfilling were apparent on or adjacent to the Site on the aerial photographs reviewed.

C.5 Previous Environmental Investigations

The following previous environmental investigations were reviewed as part of the December 2003 Phase I ESA and are provided in Appendix E:

- *Phase I Environmental Site Assessment, Proposed Target, Midland Avenue, Glenwood Springs, Colorado*; Braun Intertec, dated December 3, 2003.
- *Geotechnical Analysis Summary*, conducted by High Country Engineering, dated September 17, 2001.
- *Glenwood Meadows Development Project Wildlife Species and Habitat Assessment*, conducted by J.F. Sato and Associates in February 2000.
- *Geologic and Preliminary Geotechnical Investigation Glenwood Meadows*, conducted by CTL/Thompson, Inc. in February 2000.
- *Phase I Environmental Site Assessment, Wulfsohn Ranch, Glenwood Springs, Colorado*; Western Technologies, Inc., dated June 5, 1996.
- *Wetland Investigation*, Professional Wetlands Consulting, Inc. July 8, 1996.

No recognized environmental conditions were identified in connection with the Site in the review of the aforementioned documents.

D. Information from Site Reconnaissance and Interviews

A Site reconnaissance was conducted by a Braun Intertec environmental scientist (Rebecca Bourdon) on March 21, 2006. We obtained information regarding the Site from the following individuals:

- Mr. Terry Dorchak, Miller Weingarten Realty (Site property manager)
- Mr. Mike Van Orden (Lowe's)
- Mr. Mike Newton (Target)
- Ms. Evie Hamilton (Pier 1)
- Mr. Tobie McMurdie (Gart Sports)
- Ms. Chelsie Osterberg (BBB)
- Ms. Jess Shaw (Petco)

D.1. Known Current and Past Uses of the Site and Adjoining Properties

At the time of this assessment, the Site consisted of an approximately 250-acre developed lot. A total of 17 retail buildings were either located on the Site. Eight of the tenant spaces were occupied at the time of the Site reconnaissance and consisted of the following retailers:

- Lowe's (unattached)
- Target (attached to future grocery store and Marble Slab restaurant)
- Pier 1, Gart Sports, Bed Bath and Beyond (BBB), and Petco (Gart Sports complex - attached)
- Great Clips (unattached)
- Chili's (unattached)

The Lowe's facility was a 1-level, approximately 130,000-square-foot, slab-on-grade building and the Target facility was a 1-level, approximately 125,000-square-foot, slab-on-grade building. The Gart Sports complex retail facility consisted of a single-story, approximate 85,000-square-foot, slab-on-grade building. The nine remaining unattached facilities consisted of single-story, slab-on-grade buildings ranging in size from approximately 1,200 square feet to 6,900 square feet. Paved parking and landscaped areas were located across the Glenwood Meadows shopping complex. The Lowe's building was located on the west portion of the Site and the Target and Gart Sports complex buildings were located on the north portion of the Site, and the remaining buildings were located in the central portion of the Site. The easternmost planned buildings were not present at the time of the Site reconnaissance, however, the easternmost portion of the Site was graded and prepared for development with construction staging materials stored on it.

The Site was bordered on the north by Midland Avenue with railroad tracks, Coors Distributing, Midwest Drywall Company, Inc./Electrical Outfitters, Big John Ace Hardware, a power substation, and Envirotech located beyond; on the south by undeveloped pasture land with mountains beyond; on the east by the City of Glenwood Springs Community Center with undeveloped property beyond; and on the west by vacant, graded, parcels with a Park-and-Ride parking lot and Roaring Fork Transportation Center/City Municipal property beyond. The Site is located in an industrial and commercial area within the city of Glenwood Springs.

Our research has revealed that the Site and surrounding area have been rural in nature. According to our research, the Site and surrounding area were historically utilized as a ranch for livestock grazing and cultivated agricultural land. The Site was occupied by Glenwood Meadows Shopping Center at the time of this assessment. According to the existing tenant representatives, the structures they occupied were significantly completed in May 2005 and each took possession of their respective spaces between early October and late November 2005, with the exception of Great Clips, who took possession in February 2006. A Site sketch and Site photographs are included as Appendix B and D, respectively.

D.2. Site Layout

During the reconnaissance, the Site topography appeared to be gently sloping to the north, toward the Colorado River. Drainage on the Site appeared to be toward storm water catch basins located in the paved parking areas and in the adjacent streets. Paved parking/driveway surfaces were located throughout the Glenwood Meadows Shopping Center.

D.3. Hazardous Substances and Petroleum Products

No indications of spills or leaks of hazardous substances or petroleum products were noted on the Site at the time of our reconnaissance with the exception of minor staining on concrete surfaces that were not compromised. Retail displays of household-sized cleaners, petroleum-based products, pesticides, herbicides, and fertilizers were noted in the Lowe's and Target facilities. Spill kits were located in multiple locations within these tenant spaces in the event of spills or leaks of these products. According to the tenant representatives, corporate-established training programs for small hazardous materials spill response were in-place and this training was provided to their employees. Additionally, storage of household sized up to 5-gallon-sized cleaners were noted in the janitor's closet of each tenant space.

A total of 13 drums were noted on the Lowe's property at the time of the Site reconnaissance. All drums were located within the secured hazardous materials storage area located on the west exterior side of the building, with the exception of two polyethylene drums labeled Euco Diamond Hard (liquid densifier) located near the loading dock that were of unknown origin to the manager on duty. According to the manager on duty, these drums had been recently left there as he had not been aware of them prior to the Site reconnaissance performed for this Phase I ESA, but he indicated he would have them moved to the hazardous materials storage area and disposed off-site at an authorized facility. All of the drums located within the hazardous materials storage area were empty with the exception of one waste materials metal 55-gallon drum. According to the manager, the drums are filled with fluids and waste materials brought onto the Site by customers (i.e., returned equipment containing fluids requiring disposal). No staining or cracked flooring was noted in the vicinity of the hazardous materials storage area on the Lowe's property.

Three 55-gallon metal drums containing used cooking grease/oil were noted on the north exterior of the Chili's property, within the garbage enclosure. Staining was noted in the vicinity of the drums; however, the used grease is cooking grade and did not appear to present an environmental issue. According to the manager on duty, the grease drums are disposed of approximately every three months, or as needed, by a vendor contracted by Chili's.

According to the Site tenant representatives, Material Safety Data Sheets (MSDSs) were maintained in various locations within each tenant space, where applicable. Additionally, MSDSs were noted in various locations within the tenant spaces during the Site reconnaissance.

Cargo lifts noted in the loading docks of various tenant spaces were either operated by electric-powered air bags or were spring loaded. Forklifts noted throughout the tenant spaces used hydraulics, but were electrically powered. No leakage or staining was noted on any of the forklifts at the time of the Site reconnaissance. Numerous cardboard and trash compactors were noted on the Site; however, no oil staining was noted in the vicinity of the compactors at the time of the Site reconnaissance.

D.4. Storage Tanks

No underground or aboveground storage tanks were noted or reported on the Site by the interviewees at the time of the Site reconnaissance, with the exception of one 1,100-gallon diesel aboveground storage tank (AST), noted on the west side of the Lowe's building, within a generator/transformer enclosure. The diesel AST labels indicated a secondary containment unit was built into the unit as a whole. No staining, leaking, or cracked pavement was noted in the vicinity of the AST.

A total of 18 propane pressurized tanks were noted on the west exterior of the Lowe's building, within a caged unit, secured to the paved surface below. One carbon dioxide pressurized tank was noted in the restaurant portion of the Target building. Additionally, one air compressor was noted in each of the Lowe's, Target, and Chili's buildings. Minor oil/water staining was noted in the vicinity of the air compressor in the Target building, however, the staining was located on concrete that did not appear to have been cracked, pitted, or otherwise compromised.

D.5. Potential PCB-Containing Equipment

Numerous transformers were noted throughout the Site; a total of 13 utility-owned (City of Glenwood Springs) pad-mounted transformers were noted on the common areas (i.e., parking lots, landscaped areas). The remaining transformers were floor mounted and noted in each of the tenant spaces, with the exception of the Petco, Pier 1, and Great Clips facilities. A "non-PCB" label was adhered to each of the exterior transformers. No staining or signs of leaks were noted in the vicinity of the transformers on the Site and each appeared to be in good condition.

D.6. Indications of Solid Waste Disposal

No indications of the uncontrolled disposal of solid waste or dumping were noted on the Site. Solid wastes generated at the Site are disposed in dumpsters serviced by local waste haulers contracted separately by each of the tenants (e.g., Discovery cardboard recycling, Waste Management, and Rocky Mountain Disposal).

Solid wastes typical of a construction project were noted on the areas of the Site undergoing building construction at the time of the Site reconnaissance. None of these wastes appeared to represent an environmental concern and the contractors on the Site appeared to be diligent in removing excess construction debris.

D.7. Potable Water Sources and Sanitary/Wastewater Discharges

The Site is connected to municipal water and sewer utilities. No disposal/discharge pits, surface impoundments or lagoons were noted at the Site. Retention ponds were noted along the north property boundary, receiving discharge runoff water from the Site. No sheen was noted on the retention pond water; however, the water appeared sediment-laden due to a recent precipitation event. No vegetation had been planted around the ponds at the time of the Site reconnaissance.

Floor drains were noted throughout each tenant space at the time of the Site reconnaissance in the restrooms and in kitchen areas. According to each tenant representative, the floor drains all discharge to the sanitary sewer and no oil/water separators, sand traps, or flame traps were noted on the Site. However, one sub-grade grease trap was noted in the restaurant area of the Target building. The grease trap was visually inspected and generally appeared to be in good, new, condition. The grease trap appeared to be only partially filled and was reportedly pumped out and cleaned once every six months.

According to the tenants interviewed at the time of the Site reconnaissance, no water wells exist on the Site. Additionally, no indications of monitoring or drinking water wells above grade were noted on the Site.

According to the City of Glenwood Springs Red Mountain Water Treatment Plant representative, the concentration of lead in the municipal drinking water supply is below the State of Colorado-established drinking water standard of 0.015 milligrams per Liter (mg/L) dissolved lead.

D.8. Other Utilities

Each building on the Site is heated by a rooftop-mounted natural gas-fired, forced-air furnace and cooled by a rooftop-mounted electric air-conditioning unit. The utility providers varied by tenant, but were generally provided by the City of Glenwood Springs, Xcel Energy, and/or Kinder Morgan, or a combination thereof.

D.9. Wetlands Information

In general accordance with the Goldman Sachs Commercial Mortgage Capital, L.P. Phase I ESA Scope of Services, dated May 6, 1998, Section 2.2, paragraph (f), wetlands information for the Site was provided in the EDR report. According to the EDR report, the Site is located within a designated Federal Wetlands area. For specific information pertaining to the wetland issues on this Site, please refer to the Wetland Delineation report dated, June 1996, which was prepared by Professional Wetlands Consulting, Inc. (the Site is referred to as Wulfsohn Ranch in this report, which is included in Appendix E). It should be noted that the EDR report and NEPA report obtained for the 2003 Phase I ESA did not identify wetlands on the Site.

D.10. NEPA Information

A National Environmental Policy Act (NEPA) report, providing information pertaining to endangered species and archaeological sites, was provided in the Phase I ESA performed by Braun Intertec in December 2003. Additionally, a Wildlife Species and Habitat Assessment was performed for the Glenwood Meadows Development Project in February 2000 and was reviewed as part of the December 2003 Phase I ESA of the Site. The 2003 Phase I ESA found no sites of archeological significance were located on the Site and no threatened or endangered plant or animal species would be significantly adversely affected by the development of the Site. These reports are attached in Appendix E - Previous Environmental Investigations for further information.

D.11. Radon Gas

Radon is a naturally occurring radioactive gas found in soils and rocks as a result of the natural decay or breakdown of native uranium and radium. Radon is a colorless and odorless gas that can accumulate once inside an enclosed space, such as a basement. Based on information from the Colorado Geological Survey provided in the previous 2003 Phase I ESA prepared by Braun Intertec, radon gas levels are considered low to moderate for structures tested in the area of the Site.

Additionally, according to the EPA's Radon informational website, Garfield county is located within a Zone 1 designation for radon, which is defined as follows, "Zone 1 counties have a predicted average indoor radon screening level greater than 4 pCi/L (pico curies per liter) (red zones)." However, due to the lack of basements or other sub-grade levels in the buildings located on the Site, radon is not anticipated to adversely affect the Site buildings.

D.12. Asbestos

A visual assessment for damaged, potentially asbestos-containing material (ACM) was performed as part of this Phase I ESA. Construction of the buildings on the Site began in May 2005 and continued through the time of the Site reconnaissance. The buildings were constructed of pre-cast concrete and concrete block exterior walls, with metal framing, typical retail interior finishes, and metal roofing support systems, all of which appeared to be in good condition at the time of the Site reconnaissance. Due to the age of the structures and the building materials' condition, no damaged potential ACM was noted during the Site reconnaissance. In our opinion, assessment of these materials would be recommended in the event of future renovation or demolition.

D.13. Lead-Based Paint

Based on the commercial use of the Site, a visual assessment for potential areas of lead-based paint was not performed as part of this Phase I ESA.

D.14. Moisture Intrusion/Mold

A visual assessment for moisture intrusion/mold was performed as part of this Phase I ESA. No areas of moisture intrusion or evidence of suspect fungal growth was noted in the buildings on the Site at the time of the Site reconnaissance. It should be noted that building and other Site improvement construction was on-going at the time of the Site visit and therefore, not all future tenant-occupied spaces were accessed.

E. Findings

The following environmental conditions regarding the Site were noted:

- Information regarding the Site was available back to 1930. The information indicates that the Site was developed at that time as ranch land.
- Based on regulatory information, the Site is located in an area of known petroleum and non-petroleum groundwater impacts from facilities located in the down-gradient direction relative to the Site and each facility has been issued closure by the CDPHE.
- The Site was substantially developed with a new shopping center complex at the time of this assessment. Construction was underway on the remaining portions of the Site.
- Minor areas of oil/water condensate staining were noted in the vicinity of an air compressor in the Target building during the Site reconnaissance.

E. Opinions

F.1 Recognized Environmental Conditions

A “recognized environmental condition,” as defined by ASTM Practice E 1527-00 is “The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property. The term includes hazardous substances or petroleum products even under conditions of storage and use in compliance with local and state regulations.”

This assessment identified no recognized environmental conditions in connection with the Site.

F.2 Historical Recognized Environmental Conditions

Historical Recognized Environmental Conditions are conditions that were or would have been considered to be Recognized Environmental Conditions in the past but because of further information or a change of conditions are no longer considered Recognized Environmental Conditions. This assessment identified no historical recognized environmental conditions in connection with the Site.

F.3 De Minimis Conditions

A *de minimis* condition is a condition that generally does not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of regulatory governmental agencies.

The past uses of the Site for cultivated farmland/pastureland and the current use as a retail center, in our opinion, appear to represent a *de minimis* condition at the Site.

The government database records identified several facilities in the surrounding area. Based on factors that include the regulatory status, the distances of the facilities from the Site, and the locations of the facilities relative to the estimated direction of groundwater flow, the database listings in the surrounding area appear to represent *de minimis* conditions.

The oil/water condensate staining noted in the vicinity of the air compressor in the Target space appeared to represent a *de minimis* condition, due to the lack of compromised concrete flooring below it.

G. Conclusions

We have performed this Phase I ESA of the Site in general conformance with the scope and limitations of ASTM Practice E 1527-00. Any exceptions to, or deletions from, this practice are described in Section A.3. of this report.

This assessment has revealed no indications of recognized environmental conditions in connection with the Site.

H. Recommendations

Based on the current use of the property, we do not recommend additional environmental investigation regarding the Site at this time with the exception that:

- Property management representatives should request that the Target building tenant collect the condensate from the air compressor, provide secondary containment to the air compressor, and/or monitor the air compressor for additional oil/water staining and maintaining good housekeeping practices in the vicinity.

I. Qualifications of Environmental Professionals

A Braun Intertec Statement of Qualifications for this Phase I ESA project will be provided to the User upon request.

I. References

Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, 2000, Annual Book of ASTM Standards, Vol. 11.04, E 1527-00.

Appendix A
Site Location Map



**PHASE I
ENVIRONMENTAL SITE ASSESSMENT**

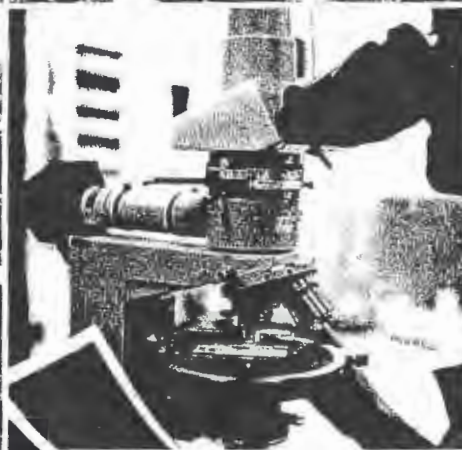
**WULFSOHN RANCH PROPERTY
GARFIELD COUNTY, COLORADO**

WT REF. NO. 3186JC077



Prepared For:

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**Western
Technologies
Inc.**

**The Quality People
Since 1955**

**PHASE I
ENVIRONMENTAL SITE ASSESSMENT
WULFSOHN RANCH PROPERTY
GARFIELD COUNTY, COLORADO**

**PROJECT NO. 3186JC077
DATE: JUNE 5, 1996**

PREPARED FOR:

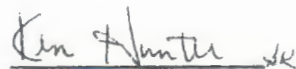
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EXECUTIVE SUMMARY

Western Technologies Inc. (WT) conducted a Phase I Environmental Site Assessment (ESA) at the 436-acre Unocal Wulfsohn Ranch property, located in Garfield County, Colorado. The ESA is based on a site visit to the property, interviews with persons knowledgeable about the property, a historical aerial photograph review, a regulatory records review, and a review of site ownership/use history.

WT concludes that no recognized environmental conditions have been identified for the subject property and no further environmental studies related to this scope of work are necessary at this time.



**PHASE I
ENVIRONMENTAL SITE ASSESSMENT
WULFSOHN RANCH PROPERTY
GARFIELD COUNTY, COLORADO**

1.0 INTRODUCTION

1.1 PROJECT AUTHORIZATION: This report presents the results of a Phase I ESA conducted for Unocal. The subject property is the 436-acre Wulfsohn Ranch property, located in Garfield County, Colorado (please refer to Plate 1, Vicinity Map). WT was retained by Mr. Gary Parks, Senior Property Supervisor, Unocal, to conduct the assessment. This report of findings completes the scope of services.

1.2 PROJECT OBJECTIVE AND SCOPE OF SERVICES: The objective of this ESA was to observe current site conditions, and evaluate the potential for hazardous or toxic substance contamination. The ESA focused on past and present uses of the subject property and sites within the American Society for Testing Materials (ASTM) specified distances from the property. The report discusses the presence of materials which could contribute to potential environmental liability due to past and current activities on or adjacent to the subject property, and the presence of any hazardous materials on the property.

The scope of work for the project included the following activities:

- Review of VISTA Site Assessment Report of regulatory agency databases covering the areas occupied by the property and sites within search distances specified by ASTM Standard Practice E 1527;
- Evaluation of the physical setting of the property and study area;
- Description of current and past uses of the property;
- Reconnaissance of the property during a site visit;
- Reconnaissance of adjoining sites within ASTM-specified distances, during a site visit;
- Review of a 50-year Chain-of-Title report provided by Land Title Guarantee Company;
- Interviews with persons knowledgeable of the site history and usage;
- Evaluation of the information developed through the assessment tasks; and,
- Presentation of this report.



1.3 METHODOLOGY AND LIMITING CONDITIONS: In general, and to the extent described elsewhere in this report, WT initiated this ESA through systematic review and observation of current conditions at the subject property and adjoining sites. As part of this approach, WT personnel conducted visual and physical reviews of the property and made observations regarding its condition and uses. WT observed accesses onto the property, such as roads, utility easements, railroads, pathways or other discernable access points leading into the property from it's periphery. WT also reviewed the areas adjoining the subject property to the extent that these areas were visible from the property or from public thoroughfares. The observations made during the WT review of the property and adjoining areas included the following features:

- Geologic, hydrogeologic, hydrologic, and topographic features;
- Site drainage characteristics including washes, canals, basins, culverts, and dry wells;
- Physical improvements including buildings, roads, and parking lots;
- Septic systems;
- Aboveground storage tanks (ASTs);
- Evidence of underground storage tanks (USTs) including fuel pumps, pump islands, vent pipes, and inspection ports;
- Electrical or hydraulic equipment;
- Groundwater wells;
- Material and waste storage areas including storage containers;
- Environmental indicators such as odors, stressed vegetation, staining or corrosion on soil or paved areas;
- Oil sheens, films, or coatings on standing water;
- Solid wastes on the ground surface, in solid waste containers, or within open excavations;
- Non-natural filling or surface grading including mounding and depressions; and,
- Ponds, pits, lagoons, sumps and drains, and excavations.

No conditions limiting the site investigation procedure were encountered during the site visit.

2.0 ENVIRONMENTAL SETTING

2.1 SITE LOCATION: The subject property is an undeveloped parcel of land consisting of 436.27 acres, more or less, located within portions of sections 5, 6, 8, 9, Township 6 South, Range 89 West; Garfield County, Colorado (please refer to Plate 1, Vicinity Map). The property is located approximately 1 mile northwest of downtown Glenwood Springs, Colorado.



The subject property is located immediately west of the city limits of Glenwood Springs. Two parcels of the property were separated from the main body of the ranch during recent construction of the extension of Midland Avenue. The "West Parcel" consists of 5.75 acres of land and the "East Parcel" consists of 4.20 acres. Both parcels are located on the north side of the Midland Avenue extension. The property is bounded to the north by private lands (Denver & Rio Grande Railroad); to the east by the City of Glenwood Springs (City; Yampah Mountain H.S., residential); and to the south and west by private land and public lands administered by the Bureau of Land Management (BLM).

The only potential for environmental concern indicated by the setting was the fact that the subject property is virtually unpatrolled and not entirely "secure". The subject property can currently be accessed from the southeast via a locked gate. Future access will be from the new extension of Midland Avenue (under construction). In addition, a direct access from the Midland Avenue extension to the "West Parcel" will be provided. Access to the "East Parcel" from Midland Avenue is provided by an existing private road which is part of the property (Plate 2).

2.2 TOPOGRAPHY/DRAINAGE: The property is located in west-central Colorado. The elevation of the property ranges from a high of approximately 6,760 feet above mean sea level (msl) in the southern edge of the western property line, to a low of approximately 5,710 feet msl in the northern edge of the "Western Parcel" of the property, according to the Glenwood Springs, Colorado, 1961 (photorevised 1987) U.S. Geological Survey 7.5-minute topographic sheet. The subject property lies in the Colorado River valley immediately west of Glenwood Springs. The northeast 1/3 of the property is relatively flat and grass-covered. The middle section and majority of the property is slightly to moderately sloped and grass/sagebrush/tree - covered. The southern boundary of the property is steeply sloped and either barren or covered with sagebrush and/or trees (please refer to site photographs; Appendix A).

Several natural drainages exist on the property trending generally north-northeast toward the Colorado River. The local surface drainage is also north-northeast toward the Colorado River. The regional gradient is generally west along the Colorado River. Two retention ponds were observed on the subject property for the watering of livestock. The first pond was only damp and was located .4 mile from the southeast access point. The second pond (main retention pond) contained water and was located immediately south of center of the northern property line. Several irrigation ditches (including the Atkinson Canal) trending generally NW-SE were observed, but none contained water.



The Garfield County (County) Municipal Building located in Glenwood Springs, Colorado, maintains a variety of databases of environmental significance. The National Flood Insurance Program's Flood Insurance Rate Map (FIRM) of the County dated January 3, 1986 indicated that the "West Parcel" was in "Zone C" (area of minimal flooding), and the remainder of the property was located in "Zone D" (area of undetermined, but possible flood hazards). Mr. Mark Bean, County Building and Planning Department Director, stated that the subject property was in an area zoned for Agricultural/Residential/Rural Density (A/R/RD) with a minimum 2-acre lot size. Mr. Gary Parks, Unocal Senior Property Supervisor stated in his report titled, "Unocal Roaring Fork Ranches - Colorado", dated February 9, 1996, that the "West Parcel" has been annexed to the City and is zoned C-1 Limited Commercial.

2.3 REGIONAL GEOLOGY: The subject property lies within the western flank of the Southern Rocky Mountains geomorphic province located within the Rocky Mountain System. The Southern Rocky Mountains Province terminates just west of the property at the Grand Hogback, where the Colorado Plateaus Province commences. The Glenwood Springs Hot Springs, for which the City is famous, flow 123 degree fahrenheit water at the rate of 2,500 gallons per minute from Pennsylvanian shales. The hot water rises rapidly from considerable depth through broken and shattered rocks along a fault zone near the Colorado River.

The majority of the property (low-lying) is underlain by modern (Quaternary) alluvium. This alluvium was deposited over the past 2 million years by the nearby Colorado River. Rocks comprising the surrounding cliffs include: Mississippian Leadville Limestone (massive gray rock); contorted gypsum-bearing Pennsylvanian shales, Triassic redbeds (lower slopes on the southern boundary); and the Maroon Formation, which comprises "Red Mountain", on the southern boundary of the property.

Because of the large areal extent of the subject property, two different series of soils have been identified. The soils types are summarized below in Table 1.



Table 1. Soil Description

SOIL TYPE	DESCRIPTION	SHRINK/SWELL POTENTIAL	CORROSION RISK	
			Uncoated Steel	Concrete
Jerry-Lamphier-Cochetopa. 12 to 50% slopes - 15 to 50% slopes - 9 to 50% slopes.	Deep, well-drained, moderately sloping to steep soils on mountains and fans.	low-high	high	low
Morval-Villa Grove. 3 to 12% slopes - 15 to 30% slopes.	Deep, well-drained, moderately sloping to moderately steep soils on mesas, mountainsides, and alluvial fans.	low-moderate	high-moderate	low

2.4 REGIONAL HYDROGEOLOGY: In western Colorado, groundwater is extracted from the following aquifers: Valley fill alluvial deposits, Green River Formation, Mesa Verde group, Dakota sandstone, Entrada sandstone, Glen Canyon group, Wingate sandstone, Leadville limestone, pre-Mississippian age rocks, Precambrian crystalline rocks. With the exception of Valley fill deposits, the ability to produce water from any of the aforementioned aquifers is dependent on several geological factors, the most critical being structure. Throughout much of western Colorado, the rocks have been subjected to complex deformation processes that directly affect the hydrogeologic conditions. Therefore, it is quite possible for groundwater to occur under artesian or flowing artesian conditions locally within the same aquifer.

An example of how local geologic conditions effect water quality of the surface waters in the Colorado River Basin is evident in the Piceance Creek structural basin where the Green River Formation is exposed. Large quantities of water exist in varying degrees of quality. Groundwater produced from the upper member is typically of high quality while water produced from the lower member is typically of poor quality with total dissolved solids (TDS) content as high as 63,000 milligrams per liter (mg/l). Groundwater discharge has a deleterious effect on surface water quality in the Piceance Creek Basin. Near the headwaters of Piceance Creek, the water is a predominantly calcium, magnesium, bicarbonate type. However, at the mouth of the creek, the water is a sodium bicarbonate type and the TDS showed an increase from 600 mg/l to 2,000 mg/l.



However, the single geologic factor having the most impact on water quality in western Colorado are the many mineral springs found throughout the area. These springs add over 528,000 tons of dissolved minerals annually to the western Colorado rivers. The waters produced by these springs are generally a sodium chloride type, but some are sodium bicarbonate or sulfur in type. Depth to groundwater beneath the subject property is unknown.

3.0 SITE CONDITIONS

Information in this section is based solely on: a site visit to the property on April 23, 1996; interviews with persons knowledgeable of the subject property; and any specific references included in the following subsections. A Site Plan is provided as Plate 2. Photodocumentation of site conditions at the time of WT's site visit is provided as Appendix A.

3.1 CURRENT LAND USE: The subject property was rural and undeveloped, and was utilized exclusively for agricultural purposes (primarily cattle pasture and raising hay). Site improvements included fencing, two catch basins, an irrigation system of ditches/canals, and roads. Much of the property consisted of rugged terrain which was not easily accessible (please refer to Plate 2 for areas visited by car and on foot). No staining of soils or stressed vegetation were observed during the site visit.

3.2 BUILDINGS: No buildings were observed on the subject property.

3.3 UTILITIES: The City of Glenwood Springs maintains underground electrical utilities which are located in the corral area of the property and service an irrigation pump. In addition, two pole-mounted transformers were located along the north property line fence near the southeast corner of the property. However, the transformers are scheduled to be removed in a month and replaced by new pad-mounted transformers as part of the Midland Avenue extension. No other utilities were observed on the subject property, however, several downed utility poles were noted.

3.4 ELECTRICAL TRANSFORMERS AND OTHER POTENTIAL PCB SOURCES: Some older transformers, capacitors, generators, fluorescent light ballasts, and other electrical equipment may contain polychlorinated biphenyls (PCBs) in the dielectric fluid. PCBs are suspected carcinogens and were banned from manufacture by the 1976 Toxic Substance Control Act. Transformer oils are classified in one of three categories:

- Non-PCB - containing less than 50 parts per million (ppm) of PCBs.

- PCB-contaminated - containing between 50 and 500 ppm of PCBs. Transformers which have not been tested are assumed by federal regulations to be PCB-contaminated.
- PCB transformer - containing more than 500 ppm of PCBs. All PCB transformers were to have been removed from the public domain by October 1990.

The property was surveyed for the presence of potential PCB sources and two pole-mounted transformers were observed 3-feet north of the of the north property line fence near the southeast corner of the property. Mr. Ken George of the City was contacted on May 23, 1996 regarding the condition of the two transformers. Mr. George responded to WT that the transformers have never been tested for PCBs. However, the transformers are scheduled to be removed in a month and replaced by new pad-mounted transformers as part of the Midland Avenue extension. The existing transformers showed no indications of leakage.

3.5 ABOVEGROUND STORAGE TANKS: AST registration is not generally required unless the tank contains hazardous waste/materials or requires a flammable contents permit from the local fire department.

No ASTs or surface indications of former ASTs were noted on the subject property during the site visit. The Assistant Fire Chief noted that the City does not require local ranches and farms to register ASTs, and he was not aware that any ASTs were ever located on the subject property.

3.6 UNDERGROUND STORAGE TANKS: Underground storage tanks (USTs) are tanks that store regulated substances and have at least 10 percent of their volume (including contents of associated pipe systems), underground. Surface evidence of former UST locations would include pump islands, cut-off pipes, vent pipes, and asphalt patches. No surface evidence of existing or former USTs was noted on the subject property.

3.7 HAZARDOUS MATERIAL STORAGE AREAS: Hazardous materials, if present, should be stored in such a manner as to contain any potential leaks, spills or other discharges. Proper storage would also include container integrity, secondary containment capacity of 110 percent of the total volume or the largest container, whichever is greater, and storage of volatile chemicals in properly vented fireproof room or cabinet. All containers of hazardous materials should be properly labelled and Material Safety Data Sheets should be present at the facility for all hazardous materials. Records of waste disposal should be maintained at the facility. All ignitable and reactive wastes should be stored at least 50 feet inside the property boundary.

No hazardous materials were observed on the subject property during the site reconnaissance.

3.8 WASTE INDICATORS: Waste indicators would include: stressed vegetation; spillage/leakage of hazardous substances; staining of soil or other permeable surfaces; leachate or waste seeps; waste materials; disposal areas; construction/demolition debris; drums, barrels or containers which presently or could have formerly contained hazardous substances; unusual odors; and surface water discoloration, odor, sheen or free floating product. No waste indicators were observed on the subject property.

3.9 WASTEWATER/EFFLUENT DISCHARGES: Wastewater/effluent discharge would include: existing or former oil/water separators, sumps, dry wells, catch basins, injection wells, groundwater/wastewater treatment systems, septic tanks, leach fields, floor drains, compressor blowdown and exterior pipe discharges.

Two catch basins were observed on the subject property located adjacent to the access road. The catch basins had no indication of surface water discoloration, odor, sheen or free floating product.

3.10 RADON GAS: Radon is a naturally occurring radioactive gas. It is odorless, tasteless and invisible. Several years of research, based on the medical records of uranium mine workers, have shown a correlation between exposure to elevated radon concentrations and subsequent irradiation of lung tissues which can result in lung cancer. Because radon occurs as a gas, the pathway for exposure is via inhalation. Radon, itself, is an inert gas and does not interact with the body. It is the radioactive decay products of radon ("radon daughters") which are retained as solids and actually irradiate the lungs.

Radon is one of several materials produced through the natural decay of uranium to stable lead. As a gas, radon escapes from the soil and becomes airborne. Thus, the potential exists for radon to accumulate to concentrations above the remedial action level of 4.0 picocuries per liter (pCi/l) in structures throughout the United States.

Geologic materials that contain above average levels of uranium are potential sources of radon gas that can seep into homes and buildings and accumulate in elevated concentrations. Radon can be found in high concentrations in soils and rocks containing uranium, such as granite, shale, phosphate and pitchblende. Locations of these materials are highly unpredictable. Elevated levels of radon may also be found in soils contaminated with certain types of industrial wastes, such as the by-products from uranium or phosphate mining.



According to a publication from the Colorado Geological Survey, Department of Natural Resources, entitled "Results of the 1987-88 EPA Supported Radon Study in Colorado", radon gas levels are considered low to moderate for structures tested in the area of the subject property according to the following categories: Geological Area, County, and Zip Code. In all three categories the average reading was below the state average of 5.60 pCi/l. However, two of the three categories were above the remedial action level of 4.0 pCi/l.

Table 2. Radon Study Results

CATEGORY	# OF SAMPLES	AVG. PCI/L	≥0<4	≥4<10	≥10<20	≥20
			PERCENTAGE IN EACH RANGE			
Geological Area (Older Complex Sediments)	109	3.60	60.55	35.78	3.67	0.00
County (Garfield)	64	4.12	59.38	35.94	3.13	1.56
Zip Code (81601)	16	5.04	56.25	37.50	0.00	6.25

4.0 OFF-SITE RECONNAISSANCE

An off-site reconnaissance was performed by WT on April 24, 1996. The reconnaissance consisted of a survey of adjoining properties, and nearby land uses which could have an adverse environmental impact on the Site. The Site is bordered by the following streets, properties, and/or land uses.

The Site is located adjacent to the I-70 corridor of Glenwood Springs, Colorado. The developed portion of the Site is currently utilized exclusively for agricultural purposes, i.e. cattle pasture and raising hay.

- The Site is bounded on the north by private lands (Denver & Rio Grande Railroad).
- The Site is bounded on the east by the City of Glenwood Springs (Yampah Mountain H.S./residential)
- The Site is bounded on the south and west by private land (ski area), and public lands administered by the BLM.



Immediately north of the Midland Avenue extension and railroad tracks exists an industrial area. The industrial area consists of: a state highway department facility, a storage area for the railroad, a hardware store/lumber yard, a "Coca Cola" facility, a "Coors" facility, an electrical substation, an auto repair facility, and a building materials facility. Several ASTs were noted in the adjoining industrial area. The Assistant City Fire Chief explained to WT on April 23, 1996 that the ASTs contained magnesium chloride and were utilized by the state highway department for "ice melt". In addition, WT observed an apparent fuel AST at the same facility. Due to access problems, the off-site ASTs could not be closely inspected for integrity or spillage/leakage.

5.0 REGULATORY RECORDS REVIEW

This section is based solely on information provided by VISTA Information Solutions, Inc. (Vista) of San Diego, California. Because of the large areal extent and rural location of the subject property, the most practical, cost effective, computerized records search was based on the postal zip code (81601) of the nearest town, Glenwood Springs, Colorado. Sources of information may include: commercially available and proprietary regulatory databases, regulatory agency files, personal interviews, and telephone interviews. In some of the following subsections, the words up-gradient, cross-gradient and down-gradient refer to the presumed groundwater flow direction in relation to the subject property. These determinations are based subjectively on regional hydrogeologic information, topographic maps and local site conditions. A copy of the Federal/State regulatory agency records search report provided by Vista is included as Appendix B. This records search exceeded ASTM standards.

5.1 FEDERAL: The following subsections detail Vista's findings based on a review of various federal databases.

5.1.1 CERCLIS Database: Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) sites are potential hazardous waste sites which have been evaluated by the EPA for a release or threatened release of hazardous substances into the environment.

According to the December, 1995 database, one site was identified within the zip code area. However, CERCLIS facilities were within a one-half mile radius of the property.

5.1.2 FINDS Database: The Facility Index System (FINDS) is a compilation of any site which the EPA has investigated, reviewed, or been notified of in connection with its various regulatory programs.

According to the December, 1995 database, 83 sites were identified within the zip code in the FINDS records search. No further information is available from FINDS.

5.1.3 NPL Database: The National Priorities List (NPL) is the EPA's database of uncontrolled or abandoned hazardous waste sites that have been identified for priority remedial action.

According to the September, 1995 database, no NPL sites were identified within the zip code area.

5.1.4 RCRA Database: The Resource Conservation and Recovery Act (RCRA) database lists facilities that have notified the EPA of hazardous waste activity. The notifiers may engage in the generation of hazardous wastes. Generators are listed as either large, small or conditionally exempt generators. Large quantity (Code 1) generators produce at least 1000 kg/month of non-acutely hazardous waste or 1 kg/month of acutely hazardous waste. Small quantity (Code 2) generators produce 100-1000 kg/month of non-acutely hazardous waste. Conditionally exempt generators (Code 3) are those which generate less than 100 kg/month of non-acutely hazardous waste. "Non-regulated" indicates that the facility filed a notification and/or a permit application, but claims not to generate, transport, treat, store or dispose of hazardous waste; or the facility falls into other specified categories of non-regulated under RCRA. The EPA also maintains a list of facilities on which treatment, storage, and/or disposal (TSD) takes place, as defined and regulated by RCRA.

According to the February, 1996 RCRA database, 33 sites were identified within the zip code area. The search of the RCRA database did not list the subject property. No adjoining properties were listed as RCRA-regulated facilities. No RCRA regulated treatment, storage or disposal (TSD) facilities were listed within a distance of one mile from the property.

5.1.5 ERNS Database: The Emergency Response Notification System (ERNS) is a listing compiled by the EPA of reported releases to the air, soil and/or water of hazardous and/or unidentified substances. This listing provides a limited amount of information on the type of material involved, the cause of the release, and damages or injuries associated with the release. The ERNS database also lists the agencies notified, the responsible party, and the reporter of the release.

A review of Vista's ERNS database dated September, 1993 identified 5 sites within the zip code area, but did not list the property.

5.2 STATE OF COLORADO: The following subsection details WT's findings based on a review of Vista's various Colorado State Government (Colorado) databases.

5.2.1 Registered UST Database: Under Subtitle of the 1984 RCRA Amendments, owners of underground storage tanks that contain regulated substances were required to notify (register with) the designated state agency of the existence of the tank(s) by May 8, 1986. The Colorado Division of Labor, Oil Inspection Section maintains a database of registered USTs with hazardous contents, for the State of Colorado. The minimum ASTM search distance for state registered UST sites includes the subject property and adjoining properties.



The search of the registered UST database (dated December, 1995) did not list the subject property, but did list 49 sites within the zip code area. Two sites were listed adjacent to the subject property:

- Coca Cola Bottling Company; 1220 Devereux Road; cross-gradient
- R.M. Natural Gas Operations; 1320 Devereux Road; cross-gradient

5.2.2 Storage Tank Remedial Section Databases: The CDPH&E Storage Tank Remedial Section maintains two databases of leaking underground storage tanks (LUST): LUST "Trust Funds" (dated August, 1995); and Location of Reported LUSTs (dated December, 1995). The first database lists LUST sites which completed cleanup activities. These sites may still have contamination present, however, the CDPH&E has granted "closure" for the site. The second database lists sites which are presently undergoing remediation, are in the process of determining the extent of contamination, or which have just been identified as having a release. The minimum ASTM search distance for LUST sites is one-half mile.

The subject property was not listed as a LUST site. Ten sites were listed within the zip code area, however based on the report provided by VISTA, none of the sites appeared to be within a one-half mile radius from the subject property.

5.2.3 Solid Waste Facility Database: The CDPH&E maintains listings of solid waste facilities, and transfer stations located within the State.

The Solid Waste Database (dated February, 1995) did not list any landfill, solid waste facilities or transfer stations within a one-half mile radius of the property.

6.0 OWNERSHIP/USE HISTORY

6.1 INTERVIEWS: Mr. Norm Chandler who resides at 5960 County Road 109, Carbondale, Colorado, was interviewed on April 24, 1996. Mr. Chandler stated that he has been harvesting hay and grazing livestock at the subject property for approximately the last two years, and to the best of his knowledge, the current land use is consistent with the past use of the property. The only herbicides and/or pesticides used on the property that he is aware of was herbicide "24D" for weed control in the irrigation ditches. There are no utilities at the property, because there are no buildings. Mr. Chandler was not aware of any hazardous material storage/dumping that took place at the property. There are presently no ASTs or USTs located on the subject property and there never has been to the best of Mr. Chandler's knowledge. Mr. Chandler stated that no incidents of environmental significance are known to have impacted the subject property.



Mr. Guy Meyer is the Community Service Coordinator for Garfield County and is the County environmental representative. Mr. Meyer was contacted on May 23, 1996 regarding the environmental condition of the subject property. Mr. Meyer stated that the County has really only been keeping environmental records since the early 1990's, and he knows of no incidents of environmental significance to have impacted the subject property.

6.2 TOPOGRAPHIC MAPS: The Glenwood Springs, Colorado, 1961 (photorevised 1987) U.S. Geological Survey 7.5-minute topographic sheet was reviewed. This topographic map provided a limited amount of site-specific information for the subject property. The topographic map did not identify any structures on the subject property. The railroad right-of-way is located immediately north of the property, and the City airport is located approximately 3 miles southeast and upgradient of the property. The map did not identify any other facilities of potential environmental concern at or around the property.

6.3 HISTORICAL AERIAL PHOTOGRAPHS: Aerial photographs dated 1968, 1978, 1982, and 1988 were reviewed at the U.S. Department of Agriculture, Soil Conservation Service office in Glenwood Springs, Colorado, on April 22, 1996. The purpose of the review was to determine and assess the nature of previous activities on the subject property and adjacent properties. A brief summary of the aerial photograph review is as follows:

The earliest available photograph depicting the subject property (1968; Scale: 1" = 660') shows the entire property as a vacant lot. The upper 2/3 of the property (SW portion) is undeveloped and vegetated by a juniper cover. The lower 1/3 of the property (NE portion) is developed for agricultural use; i.e. the vegetation appears non-native. A catch basin is visible in the central portion of the property, just south of the northern property line. A second catch basin, possibly dry, is also visible. The railroad is visible just north of the property. A development is visible just southeast of the property. The City of Glenwood Springs is visible to the east of the property.

The photograph dated 1978 (Scale: 1" = 660') shows the entire subject property. Changes since the previous photograph include the addition of a building, AST, and an access road leading up a ski area which borders the property to the southeast. Interstate Highway 70 (I-70) is located immediately north of the Colorado River (and the property) and appears to be complete. There is increased residential development north of the property (across I-70).

The photograph dated 1982 (Scale: 1" = 1,000') shows the entire subject property. The property boundaries have been marked on the photograph. Development in the area surrounding the property has increased since the previous photograph.



The most recent available photograph dated 1988 (Scale: 1" = 660') shows the entire subject property. Structures are visible immediately south of the railroad tracks. Two irrigation ditches are visible on the northern (developed) portion of the property running parallel to the Colorado River. Development in the area surrounding the property has increased since the previous photograph.

The review of aerial photographs provided no visual surface evidence of gross environmental concern on the subject property or adjoining properties.

6.4 TITLE HISTORY: A 50-year (plus) Chain-of-Title search was performed by Land Title Guarantee Company, Glenwood Springs, Colorado for the subject property. The research covered all title changes including: Land Contracts, Leases, Deed Restrictions, Easements, Fee Ownerships, Leases and other encumbrances. A review of the Chain-of-Title indicated the following past ownership of the property.

Julius Wulfsohn conveyed the property to The Wulfsohn Mercantile Company in the form of a Warranty Deed on September 26, 1923.

The Wulfsohn Mercantile Company conveyed the property in a Warranty Deed to Mollie and Sophie Wulfsohn on December 30, 1940.

Mollie and Sophie Wulfsohn conveyed the property in a Warranty Deed as Joint Tenants to Mollie and Sophie Wulfsohn on July 28, 1949.

The Wulfsons conveyed to J.V. Rose and J.F. Gregory a Quit Claim Deed dated October 27, 1949, and a Warranty Deed dated August 2, 1949.

J.V. Rose and J.F. Gregory conveyed the property in a Warranty Deed dated April 6, 1953 to Brinkley B. Brown.

Brinkley B. Brown conveyed the property in a Warranty Deed dated July 30, 1955 to the Glenwood Hot Springs Company.

The Glenwood Hot Springs Company conveyed the property in a Warranty Deed dated January 4, 1957 to Union Oil Company of California.



Exceptions included: a tract of land previously conveyed to the Colorado Department of Highways in deed recorded September 22, 1967; and, a tract of land conveyed to the City in deed recorded October 7, 1994.

A review of the title history revealed no previous property ownerships which would indicate any potential for contamination of the property. The property has undergone several historical changes of ownership since it was first developed in 1923. Please refer to Appendix C for the Chain-of-Title Report.

7.0 SUMMARY OF FINDINGS

Based on the site visit, the off-site reconnaissance, interviews, the regulatory records review, and a review of ownership/use history, WT reiterates the following:

- The subject property is not identified as a CERCLIS, NPL, RCRA notifier/TSD, NMED UST/LUST, or ERNS site. Two UST sites were listed adjacent to the subject property.
- No surface indications of USTs were observed or reported on the subject property. No LUST sites were reported within one-half mile of the subject property.
- The property was surveyed for the presence of potential PCB sources. The pole-mounted transformers noted on the property line are scheduled to be removed in a month showed no indications of leakage.
- According to the Vista Solid Waste Facility database, no current or former landfills or illegal open dumps are located on or within one-half mile of the subject property.
- Depth to groundwater beneath the subject property is unknown. The local surface drainage is NNE toward the Colorado River. The regional gradient is generally west along the Colorado River.
- Insufficient data exists to adequately characterize groundwater quality beneath the subject property.



- No aboveground storage tanks (ASTs) or surface indications of former ASTs were noted on the subject property. ASTs were observed on adjacent lands. A fuel AST and several magnesium chloride ASTS were located at the state highway department facility.
- No hazardous materials were noted on the subject property during the site visit.
- The subject property was generally well maintained and had a clean appearance. No unusual odors were noted on the subject property during the site visit. No other waste indicators were observed.
- No surface evidence of any of the wastewater/effluent discharges was noted on the subject property during the site visit.
- Radon gas levels are considered low to moderate for structures tested in the area of the subject property according to the following categories: Geological Area, County, and Zip Code. In all three categories the average reading was below the state average of 5.60 pCi/l. However, two of the three categories were above the remedial action level of 4.0 pCi/l.
- No RCRA TSD or NPL sites were identified on or within a distance of one mile from the subject property.
- No CERCLIS sites were identified on or within a distance of one-half mile from the subject property.
- A review of the EPA ERNS database of records did not identify any release incidents on or within a distance of one-eighth mile from the subject property.
- The FIRM map for the County dated January 3, 1986 indicated that the "West Parcel" was in "Zone C" (area of minimal flooding), and the remainder of the property was located in "Zone D" (area of undetermined, but possible flood hazards). The subject property was in an area zoned for A/R/RD.



8.0 CONCLUSIONS AND RECOMMENDATIONS

Western Technologies, Inc., has performed a Phase I Environmental Site Assessment of the subject property in an effort to conform with the scope and limitations of ASTM Practice E1527.

This assessment has not revealed evidence of any recognized environmental conditions in connection with the subject property.

No further assessment activities are indicated at this time.

9.0 LIMITATIONS

9.1 GENERAL: The scope of this Phase I Environmental Site Assessment is limited to: observations made during the site visit; observations made during the off-site reconnaissance; interviews with knowledgeable persons, with public agency personnel; reviews of readily available published and unpublished reports, literature, and aerial photographs. As a result, these conclusions are based on information supplied by others, and interpretations made by qualified personnel. Any conclusions and/or recommendations made in this report are subject to modification if subsequent information is obtained by WT.

The focus of this Environmental Site Assessment was to assess the potential for hazardous or toxic substance contamination resulting from previous and current uses of the subject and adjacent properties. As a result, this assessment does not address the presence of the following conditions unless they were the express concerns of contacted personnel, report and literature authors, or the work scope.

- Naturally occurring toxic or hazardous substances in the subsurface soils, rocks, and water.
- Toxicity of substances common in current habitable environments, such as stored household products, building materials, and consumables.
- Contaminants or contaminant concentrations that are not currently regulated but may be regulated under future standards.



It is impossible to predict events that may occur after the site visit, such as illegal disposal, accidental spillage, or the inaccuracy of the published or unpublished reports, literature, or documents referenced herein. There is not assessment thorough enough to completely exclude the presence of hazardous substances at any site. Therefore, if none are identified as part of a limited scope of work, such a conclusion should not be construed as a guaranteed absence of such materials. It is merely the result of the assessment.

Project services have been completed in agreement with our understanding with Unocal Corporation. This document and the information contained herein have been prepared for the use of Unocal Corporation and their assigned parties.

This Phase I Environmental Site Assessment was completed by an environmental specialist under a limited scope of work in accordance with the work agreement. This report provides opinions of WT concerning recognized environmental conditions at the subject property. It is possible, despite the use of reasonable care and interpretation, that WT may have failed to identify regulatory violations or the presence of hazardous substances, underground storage tanks, or other obscured or subsurface areas of potential environmental concern. WT assumes no responsibility for conditions that were not specifically evaluated or conditions that were not generally recognized as environmentally unacceptable at the time this report was prepared.

9.2 EXCEPTIONS TO AND DELETIONS FROM ASTM PRACTICE E1527:

- Report format is different and adapted to individual locale.
- Credentials of the environmental assessors (resumes) and of the company (Statement of Qualifications) have not been included with the report but are available upon request.



12.8 Qualifications of the Environmental Professionals



ENVIRONMENTAL AND ENGINEERING DUE DILIGENCE SPECIALISTS

David F. Svrjcek
Branch Manager
Denver, Colorado Regional Office

EDUCATION

- ⊕ B.S. Marketing, University of Maryland – College Park, 1992

**PROFESSIONAL
REGISTRATIONS, LICENSES, AND CERTIFICATIONS**

- ⊕ Environmental Professional as defined in 40 CFR 312.10
- ⊕ EPA AHERA Asbestos Building Inspector
- ⊕ 16-Hour Radon Measurement Operators Course, WRTC
- ⊕ 24-Hour Mold Inspector Training
- ⊕ Lead in Drinking Water Training

**PROFESSIONAL
SUMMARY**

Mr. Svrjcek is the Branch Manager of Advantage Environmental Consultants, LLC's Denver Regional Office in Boulder, Colorado and has been with AEC since June 2002. Mr. Svrjcek has 20 years of experience in the environmental consulting field. He has interacted with industry management, developers, banks, general contractors, legal counsel, and regulatory agencies on a diverse range of local, state, and federal regulatory and environmental issues. His experience in environmental consulting ranges from staff scientist to senior project manager and includes environmental regulatory issues for FCC Wireless Telecommunications Industry; Environmental Assessments for Housing and Urban Development and local Housing Authorities; Phase I Environmental Site Assessments (ESAs); Phase II subsurface investigations; groundwater monitoring well installations and sampling; mold surveys, and Industrial Hygiene services including asbestos surveys. As branch manager, Mr. Svrjcek is responsible for client/development/management, project management and technical-related tasks of projects.

Phase I Environmental Site Assessments (ESAs)

Meets the Phase I ESA Environmental Professional Standards as defined in 40 CFR 312. Twenty years of experience conducting, preparing, and reviewing over 600 environmental site inspections and technical reports of Phase I ESAs and Transaction Screens for state and county governments, various commercial lending institutions, insurance companies, REITS, property managers, telecommunication carriers, non-profit agencies, construction managers, and real estate developers. Mr. Svrjcek has conducted Phase I ESAs and

related environmental services in Colorado, New Mexico, Minnesota, Texas, Maryland, Virginia, West Virginia, the District of Columbia, Delaware, New Jersey, New York, and North Carolina.

Comprehensive Hazardous Materials Demolition Surveys

Experience conducting and preparing Asbestos-Containing Building Material (ACBM) Surveys and associated reports for facilities located in Colorado, New Mexico, Maryland, Virginia, and the District of Columbia. Experience managing large-scale projects involving initial asbestos surveys, assistance with abatement specifications/bid documents, turnkey abatement oversight, and implementation of Operations and Maintenance (O&M) Programs.

National/Regional Account Management/ FCC Wireless Regulatory and NEPA Compliance

Fifteen years of experience performing technical review of approximately 2,500 Federal Communication Commission NEPA assessments and screenings for wireless telecommunications carriers including T-Mobile, Verizon Wireless, and AT&T, as well as several regional tower builders. Experience includes account management, project coordination, technical review, and management oversight of all environmental engineering services and federal compliance (i.e., FCC NEPA compliance, Phase I ESAs, Asbestos and Lead-Based Paint testing, subsurface investigations, cultural resources, and geotechnical engineering). Maintained close client contact to ensure program implementation and client satisfaction. Implemented various internal programs to monitor quality and cost issues. Account management experience also includes managing large projects involving building owners, regulatory officials, subcontractors, and other professionals.

PROFESSIONAL EXPERIENCE

Managed numerous Phase I and Phase II due diligence studies and hazardous materials surveys of abandoned schools located in Washington, D.C. prior to redevelopment. The schools were being assessed to evaluate feasibility for conversion into charter schools and to establish budgetary abatement/remediation costs. Laboratory results from the hazardous materials surveys verified that significant quantities of asbestos and lead-based paint were present in the buildings. In addition, the Phase I ESA identified the presence of underground storage tanks on the property. Subsurface investigations using a Geoprobe were performed at both properties in the area adjacent to the suspected USTs.

Oversaw and managed all environmental services for a portfolio of seven District of Columbia recreational center facilities that were proposed for complete redevelopment and/or significant renovations. Scope of work performed typically included a Phase I ESA and a Hazardous Materials Survey. Properties generally included approximate 6,000 square-foot recreational centers, swimming pools, and adjacent playground areas. Most of the facilities were constructed from approximately 1928 to 1950. Since AEC was working for the construction management firm responsible for redevelopment, soil excavation, as well as identifying any lead and asbestos issues was of primary concern to the client. Based on AEC's historical review and site visit, AEC identified additional environmental concerns for one of the facilities due to leaking underground storage tanks on adjacent parcels.

Served as Project Manager for the assessment and evaluation of environmental liability as part of property refinancing of an approximate 10-acre shopping center in New Carrollton, Maryland. The site was impacted with chlorinated solvents and was taken through the MDE's Voluntary Cleanup Program (VCP). Performed pilot studies including soil vapor extraction studies prior to designing/implementing an on-site remediation system.

National program management of wireless telecommunications sites for T-Mobile Northeast, LLC. (or related turnkey consultants) for their expansion throughout D.C., Maryland, West Virginia, Pennsylvania, New York, and Virginia. The scope of work for these sites included the following services: Phase I ESAs, FCC NEPA Checklist reports, cultural resources, asbestos and lead-based paint testing (for building collocation sites), and photo simulations. Working with various district, state and Federal agencies including the State Historic Preservation Office, National Park Service, and the United States Fish and Wildlife Service to comply with all applicable federal requirements. Mr. Svrjcek has managed approximately 2,000 sites for T-Mobile since 2000.

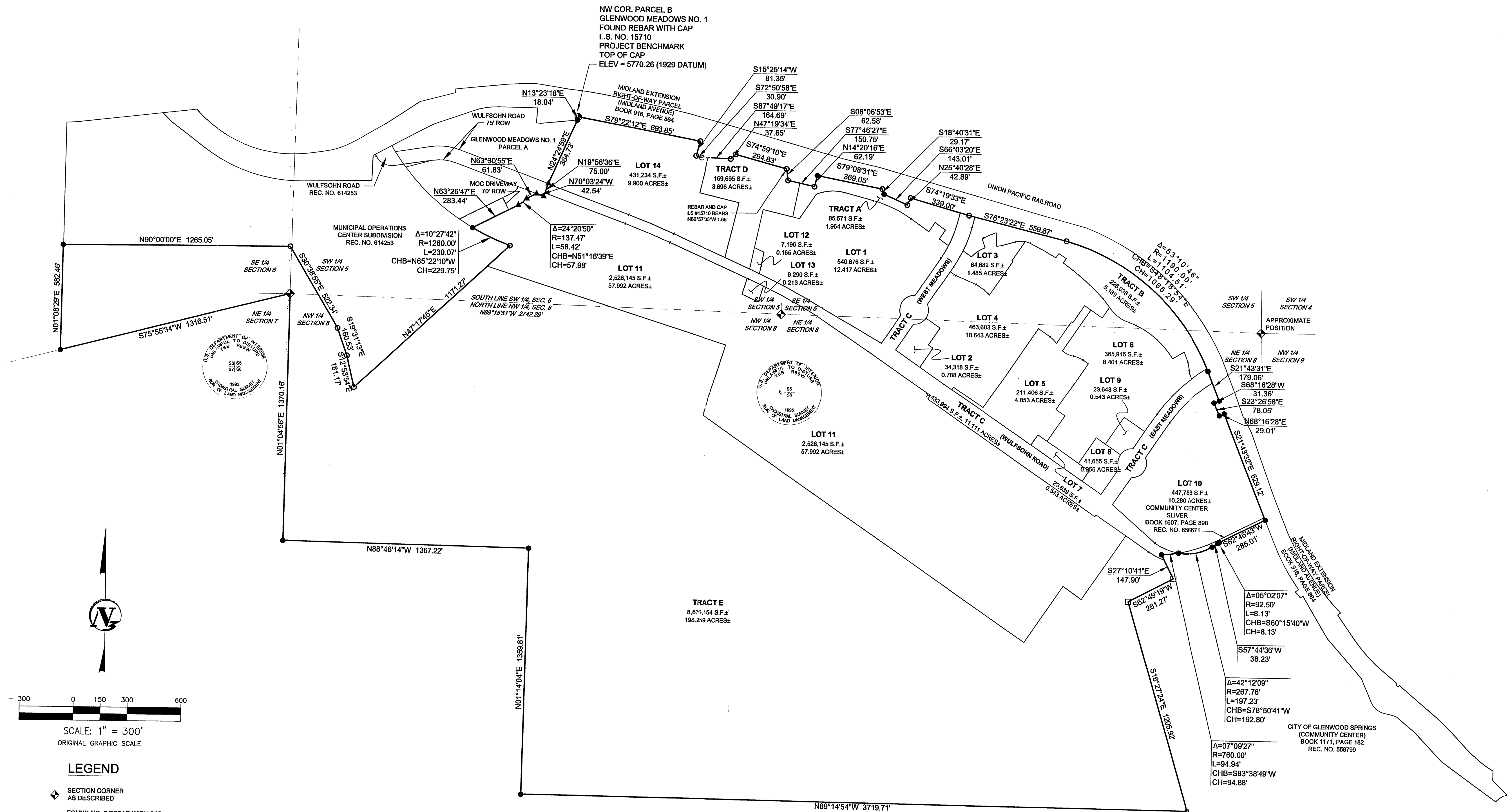
Managed the environmental review process for approximately 200 proposed telecommunication installation sites for AT&T Wireless Services, Inc. through a contract with Bechtel Telecommunications. The telecommunications expansion included the states of Maryland, Virginia, District of Columbia, Pennsylvania, and West Virginia. The scope of work for these sites typically included the following services: Phase I ESAs, FCC NEPA Checklist reports, asbestos and lead-based paint testing (for building collocation sites), photo simulations, and when necessary, Environmental Assessments. Worked with various local, state, and Federal agencies including the State Historic Preservation Office, National Park Service, the United States Fish and Wildlife Service, and numerous county wildlife and planning agencies to comply with all applicable federal NEPA requirements.

Client manager for a large-scale HOPE VI revitalization project that included the demolition of 1,107 existing public housing units and the construction of 555 residential units. This project involved coordination with numerous private and public agencies including: Housing and Urban Development, the District of Columbia Housing and Community Development, the District of Columbia Housing Authority, the District of Columbia Department of Consumer and Regulatory Affairs, Historic Preservation Division, as well as various private contractors. The scope of work included the completion of Environmental Assessments (as required by the National Environmental Protection Act), Phase I ESAs, hazardous material surveys, underground storage tank removals, preparation of abatement specifications, and the completion of a Comprehensive Site Assessment (CSA) and Corrective Action Plan (CAP) for a former gasoline filling station parcel.

Assisted a private investor with the acquisition of an abandoned 5.6-acre automobile dealership property located in New Jersey. The assessment was used to assist the client with a purchase price for the property and to work out an indemnification agreement with the current owner. Work included a Phase I ESA, subsurface soil and groundwater investigation, and magnetic remote sensing for USTs and groundwater monitoring well installations. The preliminary field investigation discovered two suspected abandoned USTs on the site, which were confirmed during the magnetic sensing activities. Environmental impact was determined to exist on the property associated with the former USTs and the former operation of hydraulic lifts. Additional activities included performance of a Comprehensive Site Characterization using Geoprobe soil and groundwater sampling coupled with the installation of groundwater monitoring wells and the development of a Remedial Action Plan. Based on the preliminary sampling results, the client was able to negotiate a significantly reduced purchase price.

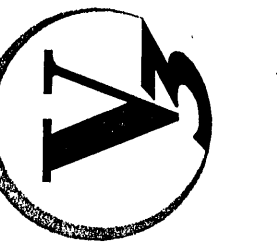
GLENWOOD MEADOWS NO. 2

A RESUBDIVISION OF PARCEL B, GLENWOOD MEADOWS NO. 1,
BEING A PARCEL OF LAND LOCATED IN SECTIONS 5, 6, 8 & 9, TOWNSHIP 6 SOUTH, RANGE 89 WEST,
OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF GLENWOOD SPRINGS, COUNTY OF GARFIELD, STATE OF COLORADO



- LEGEND**
- SECTION CORNER AS DESCRIBED
 - FOUND NO. 5 REBAR WITH CAP LS NO. 15710
 - FOUND NO. 5 REBAR WITH CAP LS NO. 19598
 - MONUMENTS AS DESCRIBED ON PLAT OF GLENWOOD MEADOWS NO. 1
 - SET NO. 5 REBAR WITH CAP LS 25961

Engineers
Scientists
Surveyors



REVISIONS

NO.	DATE	DESCRIPTION
1	5/4/2004	REVISED PER CITY COMMENTS
2	6/11/2004	REVISED PER CITY COMMENTS
3	6/16/2004	REVISED PER CITY COMMENTS
4	7/10/2004	REVISED PER COMMENTS
5	7/15/2004	REVISED PER COMMENTS
6	7/22/2004	REVISED PER COMMENTS

SEAL:

DESIGNED BY: D02049

FILE NAME: D02049-PLAT

DATE: 08/05/03

SCALE: 1"=300'

PROJ. MANAGER: GB

CHECKED BY: SEH

DRAWN BY: SEH

PROJ. NO.: D02049

FILE NAME: D02049-PLAT

DATE: 08/05/03

SCALE: 1"=300'

PROJ. MANAGER: GB

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CHECKED BY: SEH

DRAWN BY: SEH

PROJ. NO.: D02049

FILE NAME: D02049-PLAT

DATE: 08/05/03

SCALE: 1"=300'

PROJ. MANAGER: GB

CHECKED BY: SEH

DRAWN BY: SEH

PROJ. NO.: D02049

FILE NAME: D02049-PLAT

DATE: 08/05/03

SCALE: 1"=300'

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DATE: 08/05/03

SCALE: 1"=300'

PROJ. MANAGER: GB

CHECKED BY: SEH

DRAWN BY: SEH

PROJ. NO.: D02049

FILE NAME: D02049-PLAT

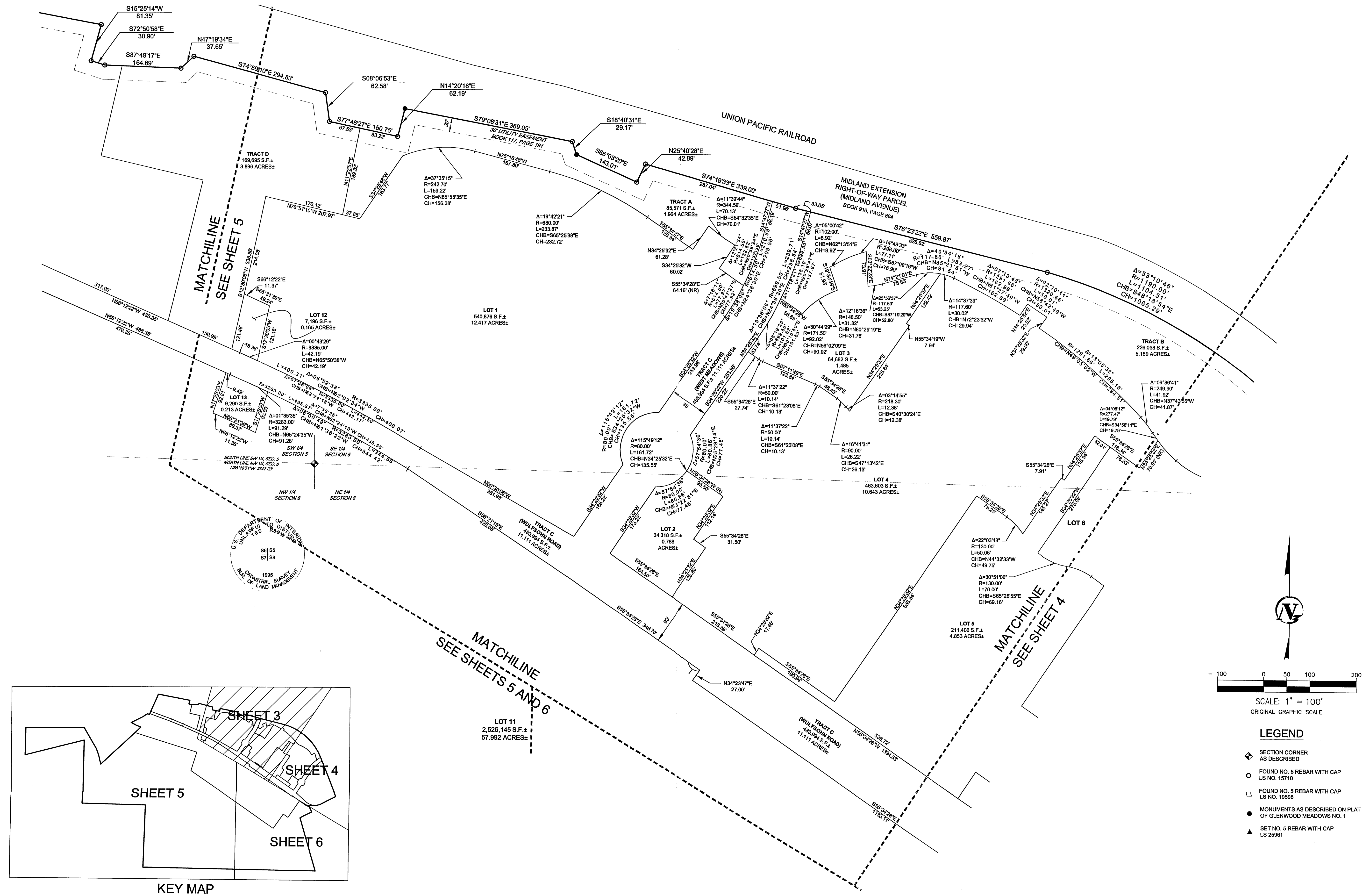
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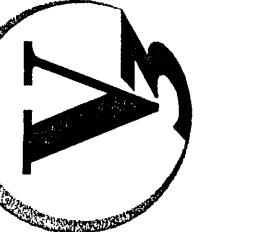
PROJ. MANAGER: GB

GLENWOOD MEADOWS NO. 2

A RESUBDIVISION OF PARCEL B, GLENWOOD MEADOWS NO. 1,
BEING A PARCEL OF LAND LOCATED IN SECTIONS 5, 6, 8 & 9, TOWNSHIP 6 SOUTH, RANGE 89 WEST,
OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF GLENWOOD SPRINGS, COUNTY OF GARFIELD, STATE OF COLORADO



Engineers
Scientists
Surveyors



REVISIONS	
NO.	DATE
1	5/4/2004
2	6/11/2004
3	6/16/2004
4	7/9/2004
5	7/15/2004
6	7/28/2004

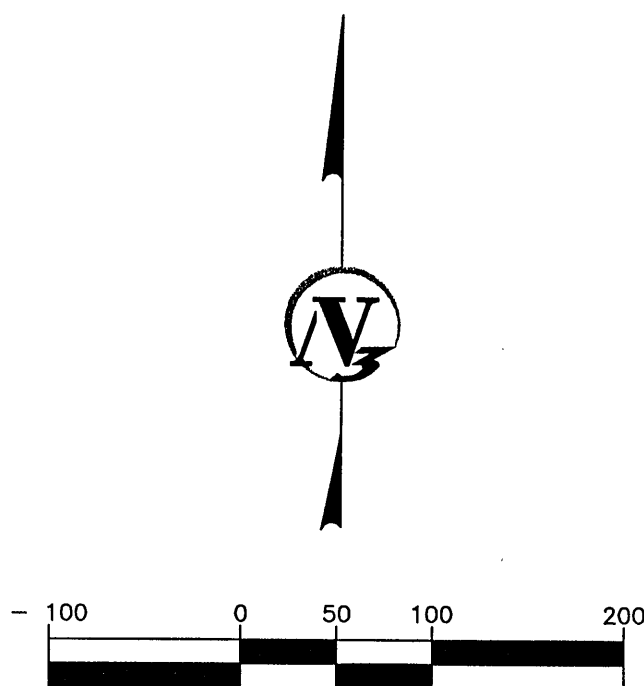
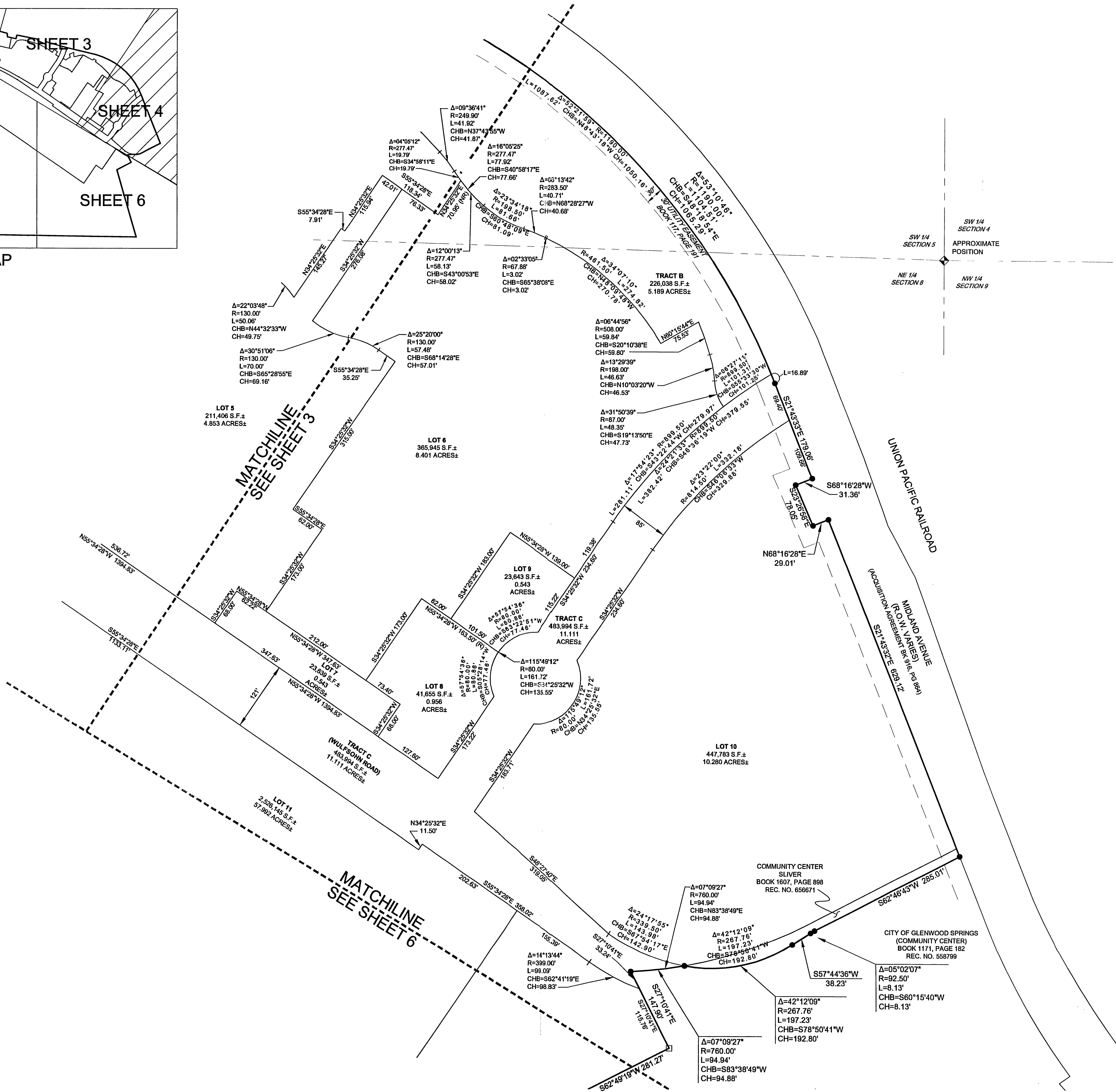
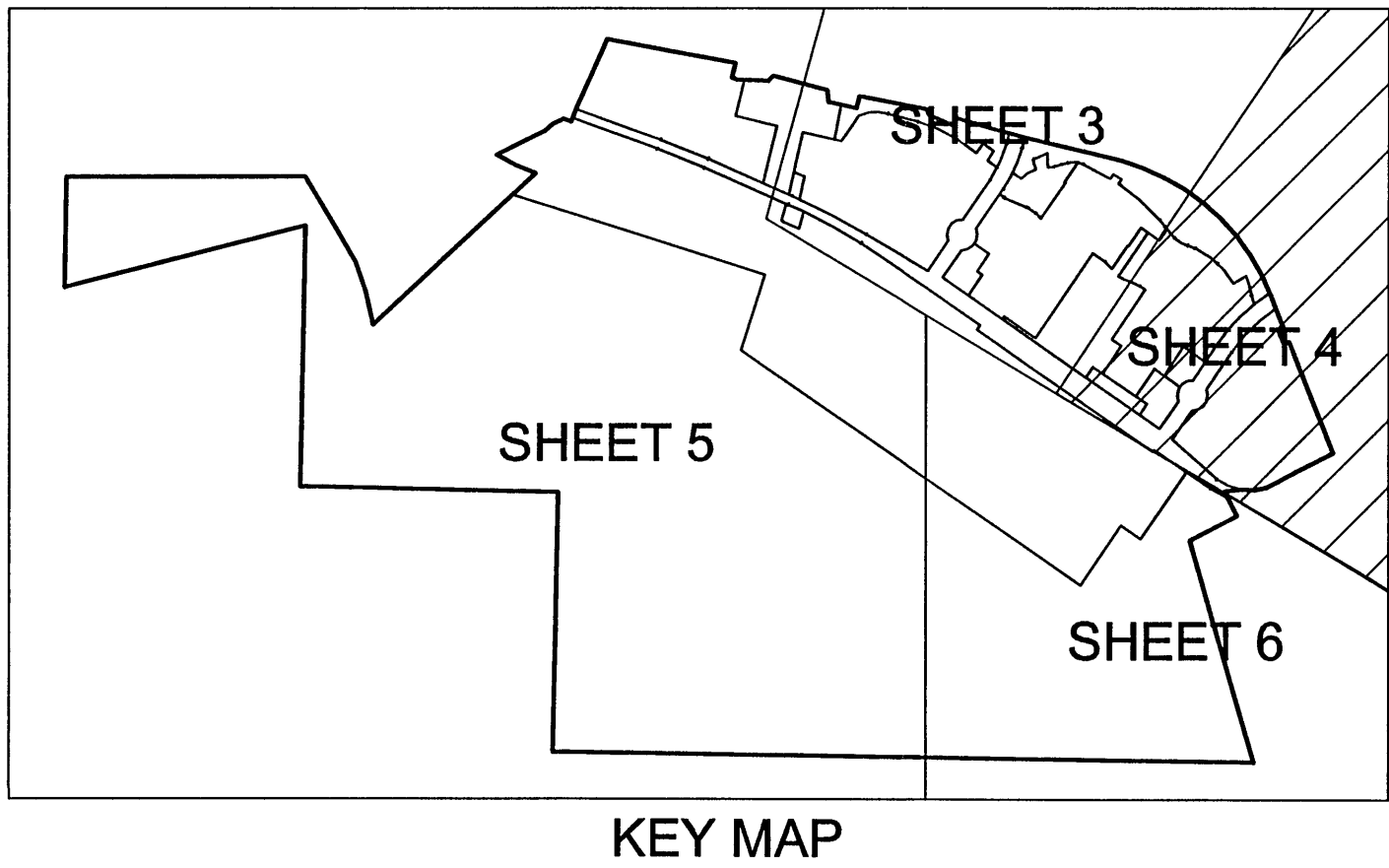
DESIGNED BY:	SEAL:
D02049	
FILE NAME:	SEH
02049FFLAT	
DATE:	GB
08/05/03	
SCALE:	1"=100'

FINAL PLAT
GLENWOOD MEADOWS NO. 2
GLENWOOD SPRINGS, COLORADO

DRAWING NO.
3 OF 8

GLENWOOD MEADOWS NO. 2

A RESUBDIVISION OF PARCEL B, GLENWOOD MEADOWS NO. 1,
BEING A PARCEL OF LAND LOCATED IN SECTIONS 5, 6, 8 & 9, TOWNSHIP 6 SOUTH, RANGE 89 WEST,
OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF GLENWOOD SPRINGS, COUNTY OF GARFIELD, STATE OF COLORADO



SCALE: 1" = 100'
ORIGINAL GRAPHIC SCALE

LEGEND

- SECTION CORNER AS DESCRIBED
- FOUND NO. 5 REBAR WITH CAP
LS NO. 15710
- FOUND NO. 5 REBAR WITH CAP
LS NO. 19598
- MONUMENTS AS DESCRIBED ON PLAT
OF GLENWOOD MEADOWS NO. 1
- SET NO. 6 REBAR WITH CAP
LS 25961

FINAL PLAT

GLENWOOD MEADOWS NO. 2

GLENWOOD SPRINGS

DRAWING NO.

4 OF 8

REVISIONS

NO.	DATE	DESCRIPTION
1	5/4/2004	REVISED PER CITY COMMENTS
2	8/11/2004	REVISED PER CITY COMMENTS
3	8/16/2004	REVISED PER CITY COMMENTS
4	7/6/2004	REVISED PER CITY COMMENTS
5	7/15/2004	REVISED PER CITY COMMENTS
6	7/28/2004	REVISED PER CITY COMMENTS

SEAL:

DESIGNED BY:	D02049
DRAWN BY:	SEH
CHECKED BY:	08/05/03
PROJECT MANAGER:	GB

PROJ. NO.:
FILE NAME:
DATE:
SCALE:

02049PLAT
08/05/03
1"=100'

COLORADO

GLENWOOD SPRINGS

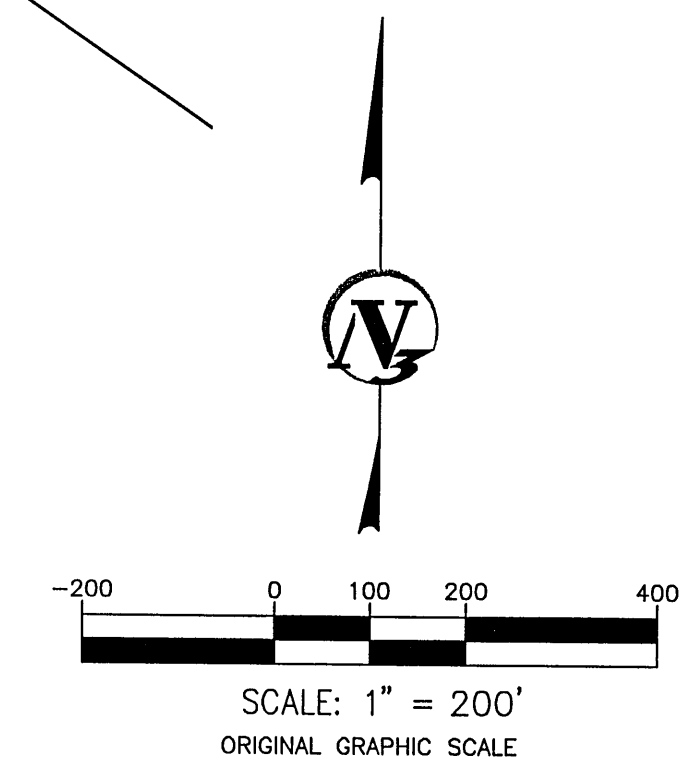
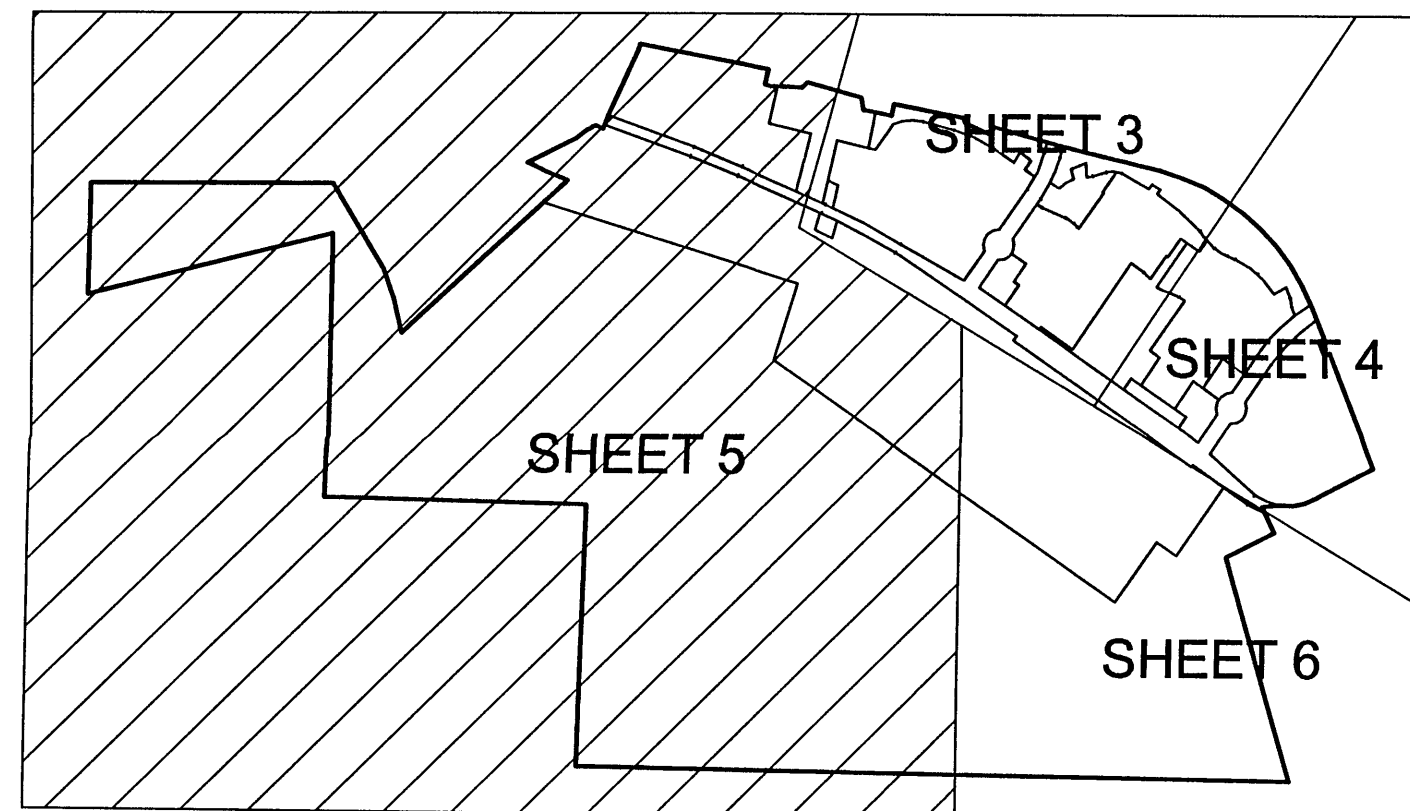
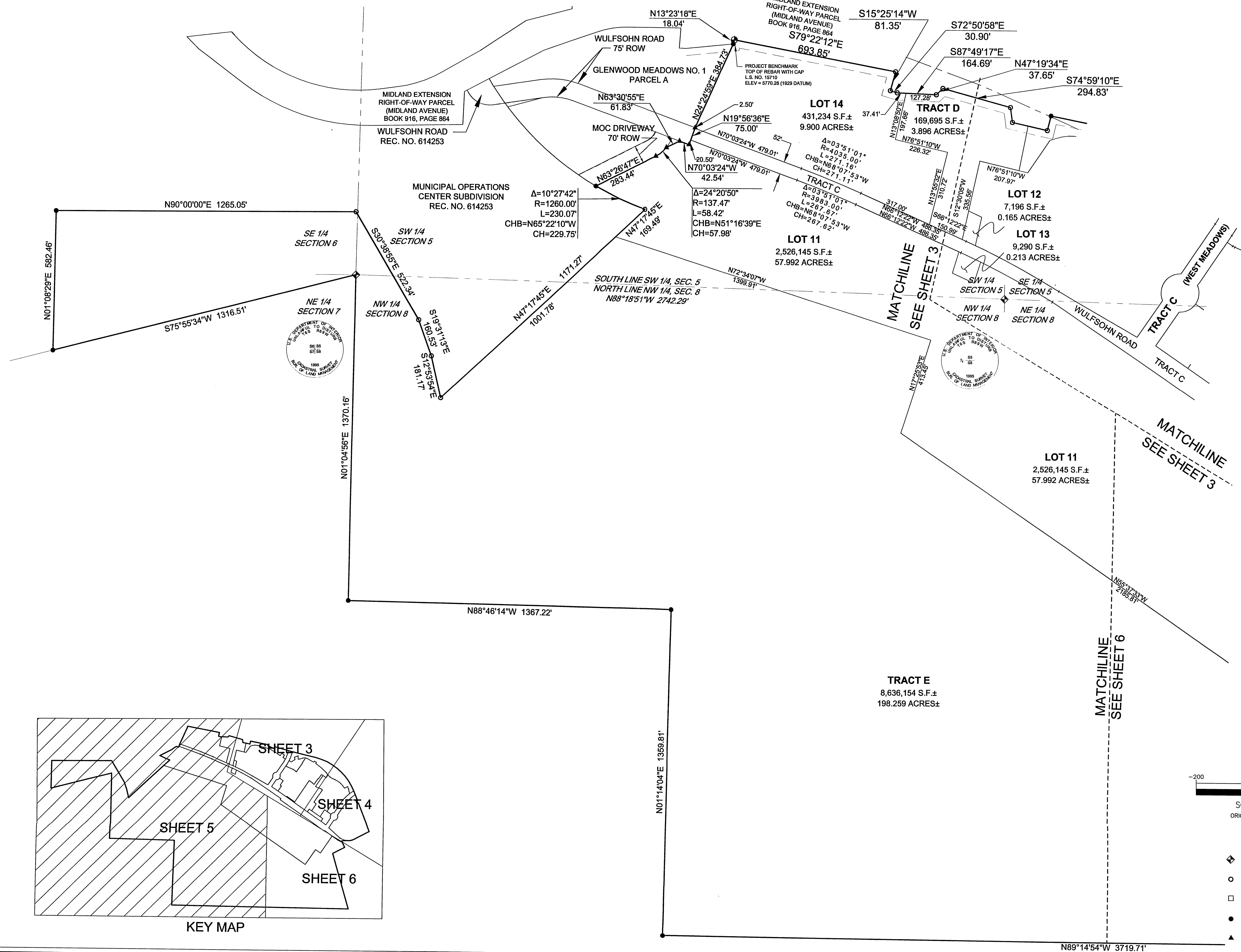
4 OF 8

Engineers
Scientists
Surveyors

200 Union Boulevard, Suite 200
Glenwood, CO 81728
303.989.6588 voice
303.989.6592 fax
V3consultants.com

GLENWOOD MEADOWS NO. 2

A RESUBDIVISION OF PARCEL B, GLENWOOD MEADOWS NO. 1,
BEING A PARCEL OF LAND LOCATED IN SECTIONS 5, 6, 8 & 9, TOWNSHIP 6 SOUTH, RANGE 89 WEST,
OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF GLENWOOD SPRINGS, COUNTY OF GARFIELD, STATE OF COLORADO



LEGEND

- SECTION CORNER AS DESCRIBED
- FOUND NO. 5 REBAR WITH CAP LS NO. 15710
- FOUND NO. 5 REBAR WITH CAP LS NO. 15598
- MONUMENTS AS DESCRIBED ON PLAT OF GLENWOOD MEADOWS NO. 1
- SET NO. 5 REBAR WITH CAP LS 25961

FINAL PLAT

GLENWOOD MEADOWS NO. 2

GLENWOOD SPRINGS

COLORADO

DRAWING NO.

5 OF 8

REVISIONS

NO.	DATE	DESCRIPTION
1	5/4/2004	REVISED PER CITY COMMENTS
2	6/11/2004	REVISED PER CITY COMMENTS
3	6/16/2004	REVISED PER CITY COMMENTS
4	7/03/2004	REVISED PER COMMENTS
5	7/15/2004	REVISED PER COMMENTS
6	7/28/2004	REVISED PER COMMENTS

SEAL:

DESIGNED BY:

DRAWN BY:

CHECKED BY:

PROJ. MANAGER:

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1"=200'

02049FFPLAT

08/05/03

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CHECKED BY:

PROJ. MANAGER:

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08/05/03

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08/05/03

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08/05/03

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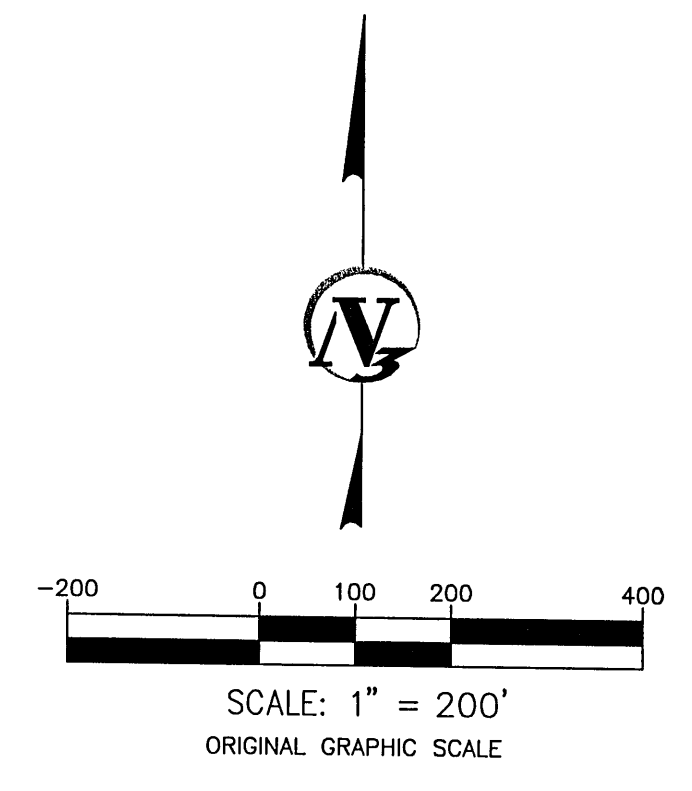
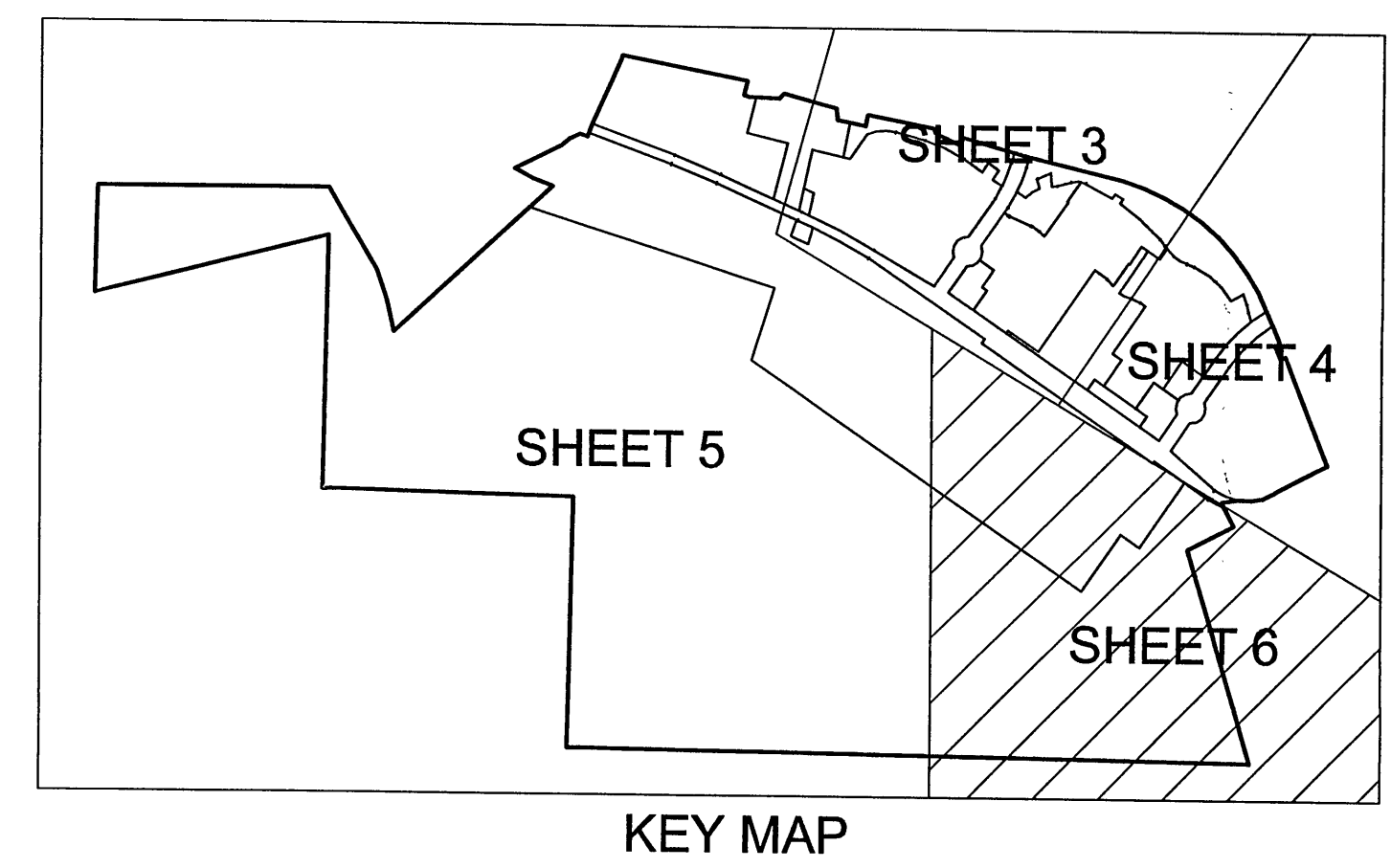
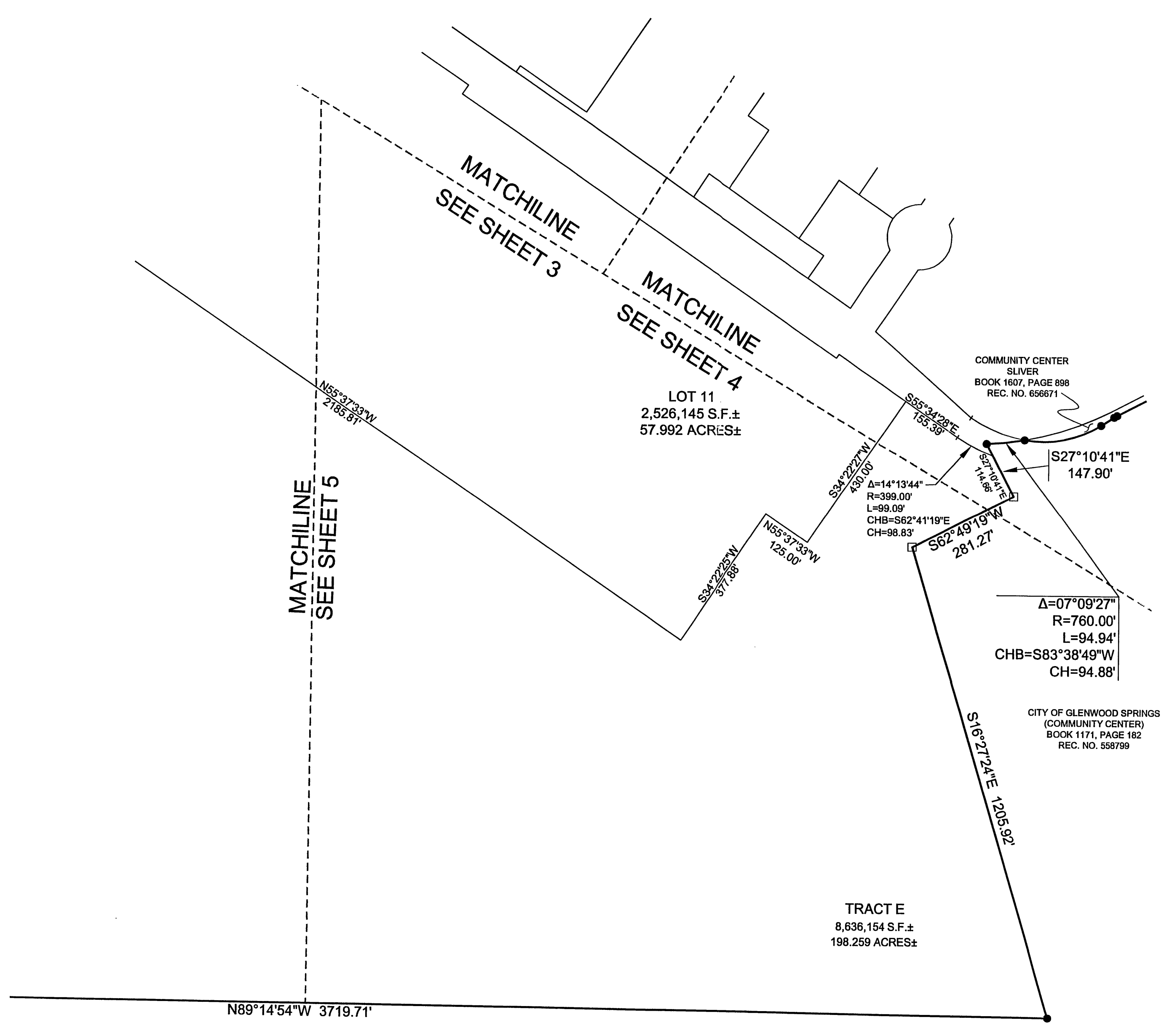
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CHECKED BY:

PROJ. MANAGER:

GLENWOOD MEADOWS NO. 2

A RESUBDIVISION OF PARCEL B, GLENWOOD MEADOWS NO. 1,
BEING A PARCEL OF LAND LOCATED IN SECTIONS 5, 6, 8 & 9, TOWNSHIP 6 SOUTH, RANGE 89 WEST,
OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF GLENWOOD SPRINGS, COUNTY OF GARFIELD, STATE OF COLORADO



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303.868.9522 fax
v3consultants.com

REVISIONS		
NO.	DATE	DESCRIPTION
1	5/4/2004	REVISED PER CITY COMMENTS
2	6/11/2004	REVISED PER CITY COMMENTS
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5	7/15/2004	REVISED PER CITY COMMENTS
6	7/28/2004	REVISED PER CITY COMMENTS

DESIGNED BY:	SEAL:	FILE NAME:	DRAWN BY:	CHECKED BY:	PROJ. MANAGER:
D02049		02049FFLAT	SEH	08/05/03	GB

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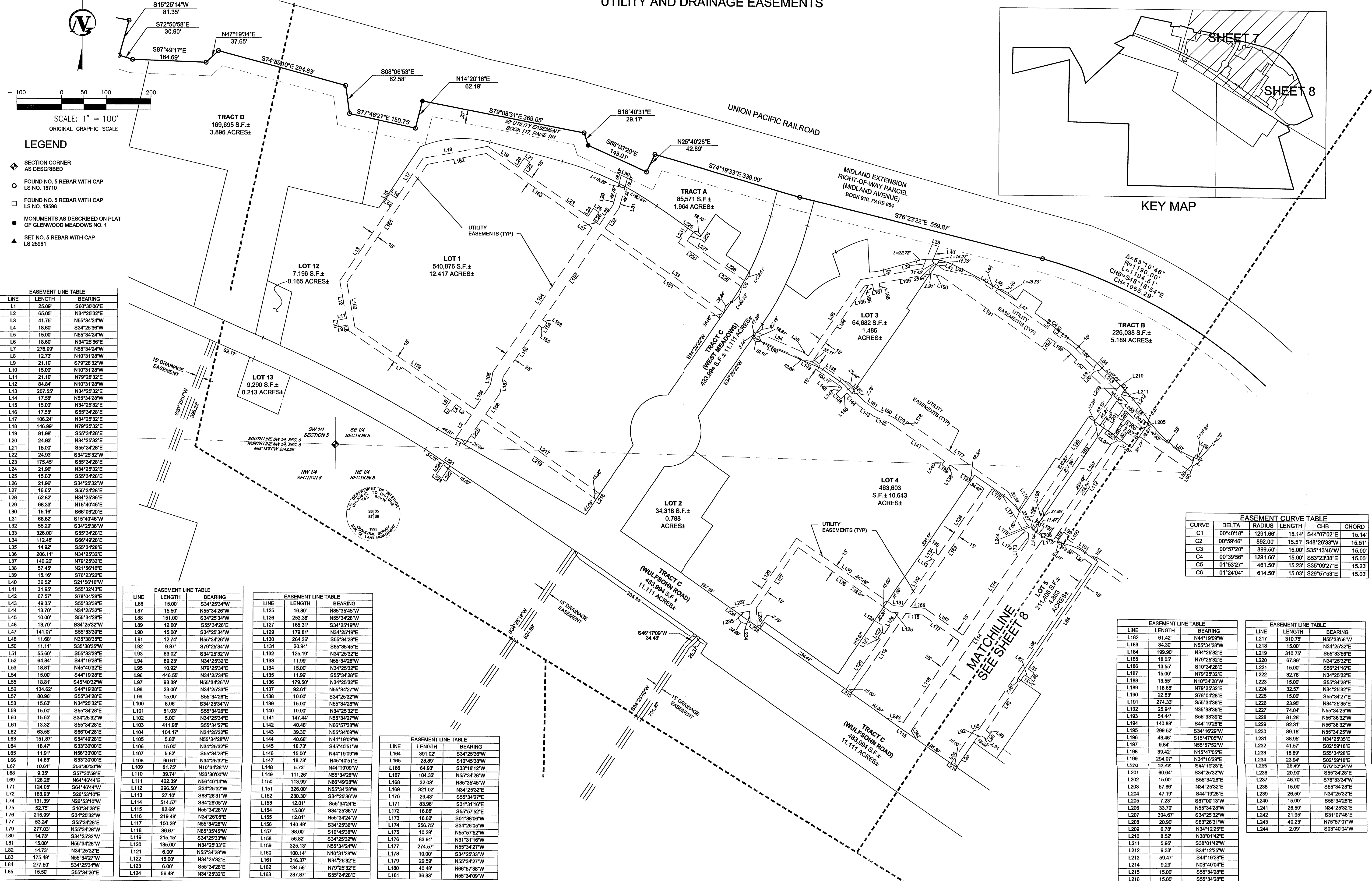
FINAL PLAT
GLENWOOD MEADOWS NO. 2
GLENWOOD SPRINGS COLORADO

DRAWING NO.
6 OF 8

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GLENWOOD MEADOWS NO. 2

A RESUBDIVISION OF PARCEL B, GLENWOOD MEADOWS NO. 1,
BEING A PARCEL OF LAND LOCATED IN SECTIONS 5, 6, 8 & 9, TOWNSHIP 6 SOUTH, RANGE 89 WEST,
OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF GLENWOOD SPRINGS, COUNTY OF GARFIELD, STATE OF COLORADO
UTILITY AND DRAINAGE EASEMENTS



- LEGEND**
- SECTION CORNER AS DESCRIBED
 - FOUND NO. 5 REBAR WITH CAP LS NO. 15710
 - FOUND NO. 5 REBAR WITH CAP LS NO. 19598
 - MONUMENTS AS DESCRIBED ON PLAT OF GLENWOOD MEADOWS NO. 1
 - SET NO. 5 REBAR WITH CAP LS 25961

EASEMENT LINE TABLE		
LINE	LENGTH	BEARING
L1	25.00'	S80°30'00"E
L2	65.00'	N34°25'32"E
L3	41.75'	N55°34'24"W
L4	18.60'	S34°25'36"W
L5	15.00'	N55°34'24"W
L6	18.60'	N34°25'36"E
L7	276.89'	N55°34'24"W
L8	12.75'	N10°31'28"W
L9	21.10'	S79°28'32"W
L10	15.00'	N10°31'28"W
L11	21.10'	N78°28'32"E
L12	84.84'	N10°31'28"W
L13	207.55'	N34°25'32"E
L14	17.50'	N55°34'28"W
L15	15.00'	N34°25'32"E
L16	17.50'	S55°34'28"E
L17	106.24'	N34°25'32"E
L18	146.89'	N79°25'32"E
L19	81.98'	S55°34'28"E
L20	24.93'	N34°25'32"E
L21	15.00'	S55°34'28"E
L22	24.93'	S34°25'32"W
L23	175.45'	S55°34'28"E
L24	21.96'	N34°25'32"E
L25	15.00'	S55°34'28"E
L26	21.96'	S34°25'32"W
L27	16.65'	S55°34'28"E
L28	52.82'	N34°25'36"E
L29	68.33'	N15°40'46"E
L30	15.16'	S66°03'20"E
L31	68.62'	S15°40'46"W
L32	55.29'	S34°25'36"W
L33	328.00'	S55°34'28"E
L34	112.48'	S66°49'28"E
L35	14.92'	S55°34'28"E
L36	206.11'	N34°25'32"E
L37	140.29'	N79°25'32"E
L38	57.45'	N21°56'16"E
L39	15.16'	S78°23'22"E
L40	36.52'	S21°56'16"W
L41	31.95'	S55°32'43"E
L42	67.57'	S78°04'28"E
L43	49.35'	S55°33'39"E
L44	13.70'	N34°25'32"E
L45	10.00'	S55°34'28"W
L46	13.70'	S34°25'32"W
L47	141.07'	S55°33'39"E
L48	11.68'	N35°38'35"E
L49	11.11'	S35°38'35"W
L50	55.60'	S55°33'39"E
L51	64.84'	S44°19'28"E
L52	18.81'	N45°40'32"E
L53	15.00'	S44°19'28"E
L54	15.00'	S44°19'28"E
L55	18.81'	S45°40'32"W
L56	134.62'	S44°19'28"E
L57	80.96'	S55°34'28"E
L58	15.63'	N34°25'32"E
L59	15.00'	S55°34'28"E
L60	15.63'	S34°25'32"W
L61	13.32'	S55°34'28"E
L62	63.55'	S66°04'28"E
L63	151.87'	S54°49'28"E
L64	16.47'	S33°30'00"E
L65	11.91'	N56°30'00"E
L66	14.83'	S33°30'00"W
L67	10.61'	S56°30'00"W
L68	9.35'	S57°30'59"E
L69	126.28'	N64°48'44"E
L70	124.05'	S64°48'44"W
L71	183.93'	S26°53'10"E
L72	183.93'	S26°53'10"W
L73	131.39'	N26°53'10"W
L74	52.75'	S10°34'28"W
L75	215.99'	S34°25'32"W
L76	53.24'	N55°34'28"W
L77	277.03'	N55°34'28"W
L78	14.73'	S34°25'32"W
L79	15.00'	N55°34'28"W
L80	14.73'	N34°25'32"E
L81	175.48'	N55°34'27"W
L82	277.50'	S34°25'34"W
L83	15.50'	S55°34'28"E

EASEMENT LINE TABLE		
LINE	LENGTH	BEARING
L86	15.00'	S34°25'34"W
L87	13.70'	N55°34'28"W
L88	151.00'	S34°25'34"W
L89	12.00'	S55°34'28"E
L90	15.00'	S34°25'34"W
L91	12.74'	N55°34'28"W
L92	9.87'	S79°25'34"W
L93	83.02'	S34°25'32"W
L94	88.23'	N34°25'32"E
L95	10.92'	N79°25'34"E
L96	446.55'	N34°25'34"E
L97	93.39'	N55°34'28"W
L98	23.06'	N34°25'33"E
L99	15.00'	S55°34'28"E
L100	8.06'	S34°25'34"W
L101	81.03'	S55°34'28"E
L102	5.00'	N34°25'34"E
L103	411.88'	S55°34'27"E
L104	104.17'	N34°25'32"E
L105	5.82'	N55°34'28"W
L106	15.00'	N34°25'32"E
L107	5.82'	S55°34'28"E
L108	90.61'	N34°25'32"E
L109	81.75'	N10°34'28"W
L110	39.74'	N33°30'00"W
L111	422.39'	N56°40'14"W
L112	296.50'	S34°25'32"W
L113	27.10'	S34°25'31"W
L114	514.57'	S34°26'05"W
L115	82.69'	N55°34'28"W
L116	219.49'	N34°26'05"E
L117	100.29'	S55°34'28"W
L118	36.67'	N55°34'28"W
L119	215.19'	S34°25'33"W
L120	135.00'	N34°25'33"E
L121	6.00'	N55°34'28"W
L122	15.00'	N34°25'32"E
L123	6.00'	S55°34'28"E
L124	56.48'	N34°25'32"E

EASEMENT LINE TABLE		
LINE	LENGTH	BEARING
L125	15.30'	N85°35'45"W
L126	253.38'	N55°34'28"W
L127	165.31'	S34°25'19"W
L128	179.81'	N34°25'19"E
L129	20.94'	S85°35'45"E
L130	264.36'	S55°34'28"E
L131	11.99'	N55°34'28"W
L132	125.19'	N34°25'32"E
L133	11.99'	N55°34'28"W
L134	15.00'	N34°25'32"E
L135	11.99'	S55°34'28"E
L136	179.50'	N34°25'32"E
L137	92.61'	N55°34'27"W
L138	10.00'	S34°25'32"W
L139	15.00'	N55°34'28"W
L140	10.00'	N34°25'32"E
L141	147.44'	N55°34'27"W
L142	40.48'	N66°57'38"W
L143	39.30'	N55°34'09"W
L144	40.68'	N44°19'09"W
L145	18.73'	S45°40'51"W
L146	15.00'	N44°19'09"W
L147	18.73'	N45°40'51"E
L148	5.73'	N44°19'09"W
L149	111.26'	N55°34'28"W
L150	113.99'	N66°49'28"W
L151	326.00'	N55°34'28"W
L152	230.30'	S34°25'38"W
L153	12.01'	S55°34'24"E
L154	15.00'	S34°25'36"W
L155	12.01'	N55°34'24"W
L156	140.49'	S34°25'36"W
L157	38.00'	S10°45'38"W
L158	56.82'	S34°25'32"W
L159	325.13'	N55°34'24"W
L160	100.14'	N10°31'28"W
L161	316.37'	N34°25'32"E
L162	134.56'	N79°25'32"E
L163	287.87'	S55°34'28"E

EASEMENT LINE TABLE		
LINE	LENGTH	BEARING
L164	391.02'	S34°25'36"W
L165	28.89'	S10°45'38"W
L166	64.83'	S33°16'12"W
L167	104.32'	N55°34'28"W
L168	32.03'	N85°35'45"E
L169	321.02'	N34°25'32"E
L170	29.43'	S55°34'27"E
L171	83.96'	S31°11'16"E
L172	16.89'	S55°57'52"E
L173	16.82'	S01°38'06"W
L174	256.75'	S34°26'05"W
L175	10.29'	N55°57'52"W
L176	83.91'	N31°11'16"W
L177	274.57'	N55°34'27"W
L178	10.00'	S34°25'33"W
L179	29.59'	N55°34'27"W
L180	40.48'	N66°57'38"W
L181	36.33'	N55°34'09"W

EASEMENT CURVE TABLE				
CURVE	DELTA	RADIUS	LENGTH	CHORD
C1	00°40'18"	1291.66'	15.14'	S44°07'02"E 15.14'
C2	00°59'46"	892.00'	15.51'	S48°26'33"W 15.51'
C3	00°57'20"	899.50'	15.00'	S35°13'46"W 15.00'
C4	00°39'56"	1291.66'	15.00'	S53°23'38"E 15.00'
C5	01°53'27"	461.50'	15.23'	S35°09'27"E 15.23'
C6	01°24'04"	614.50'	15.03'	S29°57'53"E 15.03'

EASEMENT LINE TABLE		
LINE	LENGTH	BEARING
L182	61.42'	N44°19'09"W
L183	84.30'	N55°34'28"W
L184	199.90'	N34°25'32"E
L185	18.05'	N79°25'32"E
L186	13.55'	S10°34'28"E
L187	15.00'	N79°25'32"E
L188	13.55'	N10°34'28"W
L189	118.68'	N79°25'32"E
L190	22.83'	S78°04'28"E
L191	274.33'	S55°34'36"E
L192	25.94'	N35°38'35"E
L193	54.44'	S55°33'39"E
L194	140.88'	S44°19'28"E
L195	299.52'	S34°16'29"W
L196	43.46'	S15°47'05"W
L197	9.84'	N55°57'52"W
L198	39.42'	N15°47'05"E
L199	294.07'	N34°16'29"E
L200	22.43'	S44°19'28"W
L201	60.64'	S34°25'32"W
L202	15.00'	S55°34'28"E
L203	57.66'	N34°25'32"E
L204	47.19'	N34°25'32"E
L205	7.23'	S87°00'13"W
L206	33.79'	N55°34'28"W
L207	304.67'	S34°25'32"W
L208	20.90'	S55°34'28"E
L209	6.79'	N34°12'25"E
L210	8.52'	N38°01'42"E
L211	5.95'	S38°01'42"W
L212	9.33'	S34°12'25"W
L213	59.47'	S44°19'28"E
L214	9.29'	N03°40'04"E
L215	15.00'	S55°34'28"E
L216	15.00'	S55°34'28"E

EASEMENT LINE TABLE		
LINE	LENGTH	BEARING
L217	310.75'	N55°33'56"W
L218	15.00'	N34°25'32"E
L219	310.75'	S55°33'56"E
L220	67.85'	N34°25'32"E
L221	15.00'	S56°21'16"E
L222	32.78'	N34°25'32"E
L223	15.00'	S55°34'28"E
L224	32.57'	N34°25'32"E
L225	15.00'	S55°34'27"E
L226	23.95'	N34°25'35"E
L227	74.04'	N55°34'25"W
L228	81.28'	N56°36'32"W
L229	82.31'	N56°36'32"W
L230	89.18'	N55°34'25"W
L231	38.95'	N34°25'35"E
L232	41.57'	S02°59'16"E
L233	18.89'	S55°34'28"E
L234	23.94'	S02°59'16"E
L235	26.49'	S78°33'34"W
L236	20.90'	S55°34'28"E
L237	46.79'	S78°33'34"W
L238	15.00'	S55°34'28"E
L239	26.50'	N34°25'32"E
L240	15.00'	S55°34'28"E
L241	26.50'	N34°25'32"E
L242	21.95'	S31°07'46"E
L243	40.23'	N75°57'07"W
L244	2.09'	S03°40'04"W

REVISIONS	
NO.	DESCRIPTION
1	REVISED PER CITY COMMENTS
2	REVISED PER CITY COMMENTS
3	REVISED PER CITY COMMENTS
4	REVISED PER CITY COMMENTS
5	REVISED PER CITY COMMENTS
6	REVISED PER CITY COMMENTS

DESIGNED BY:	D02049
DRAWN BY:	SEH
CHECKED BY:	08/05/03
SCALE:	1"=100'
PROJECT NO.:	02049FLAT
FILE NAME:	02049FLAT
DATE:	08/05/03
PROJECT MANAGER:	GB

FINAL PLAT

GLENWOOD MEADOWS NO. 2

7 OF 8

GLENWOOD SPRINGS, COLORADO

** THIS DOCUMENT IS THE PROPERTY OF V3 CONSULTANTS AND NO PART HEREIN SHALL BE USED EXCEPT FOR THIS SPECIFIC PROJECT WITHOUT THE WRITTEN CONSENT OF V3 CONSULTANTS. **

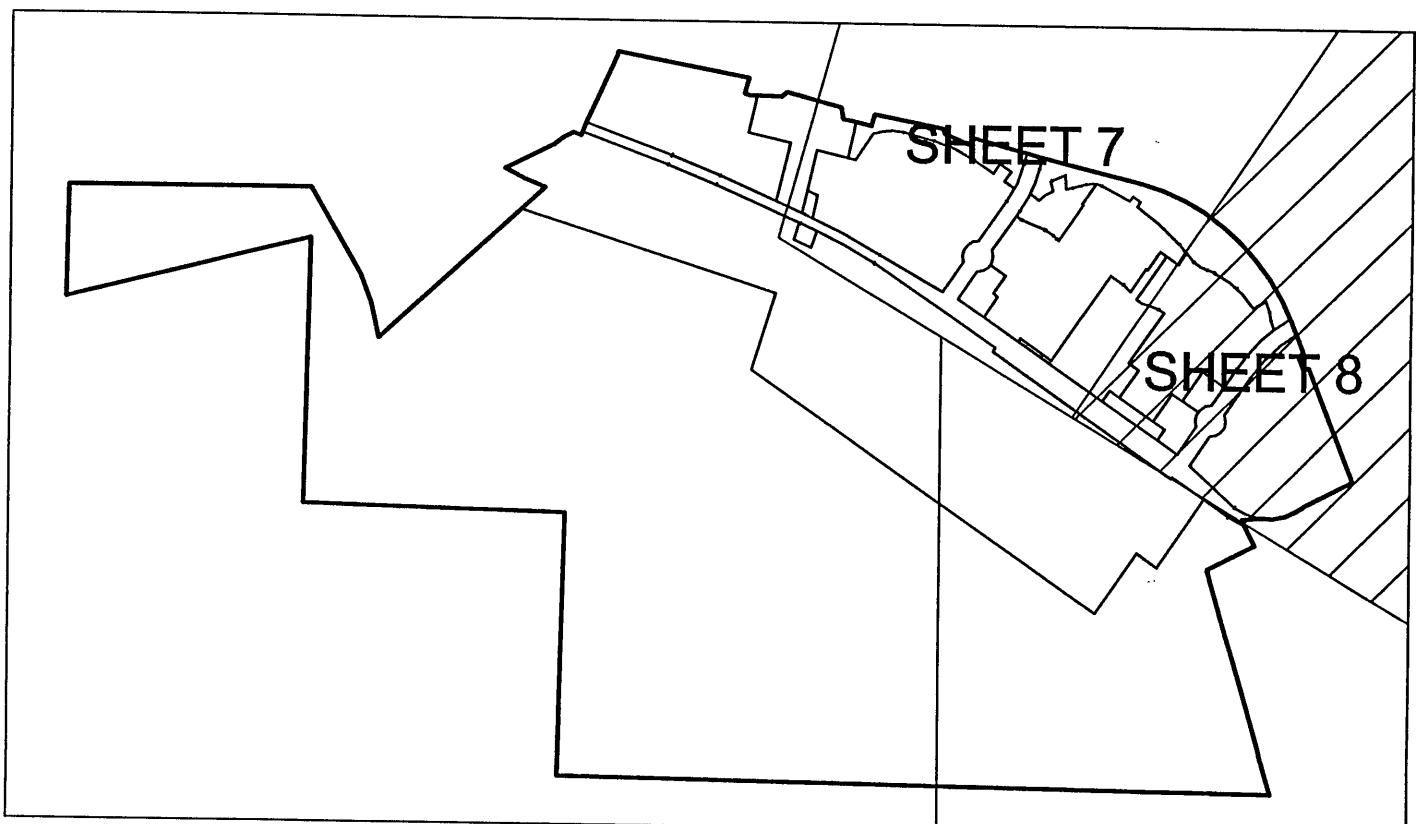
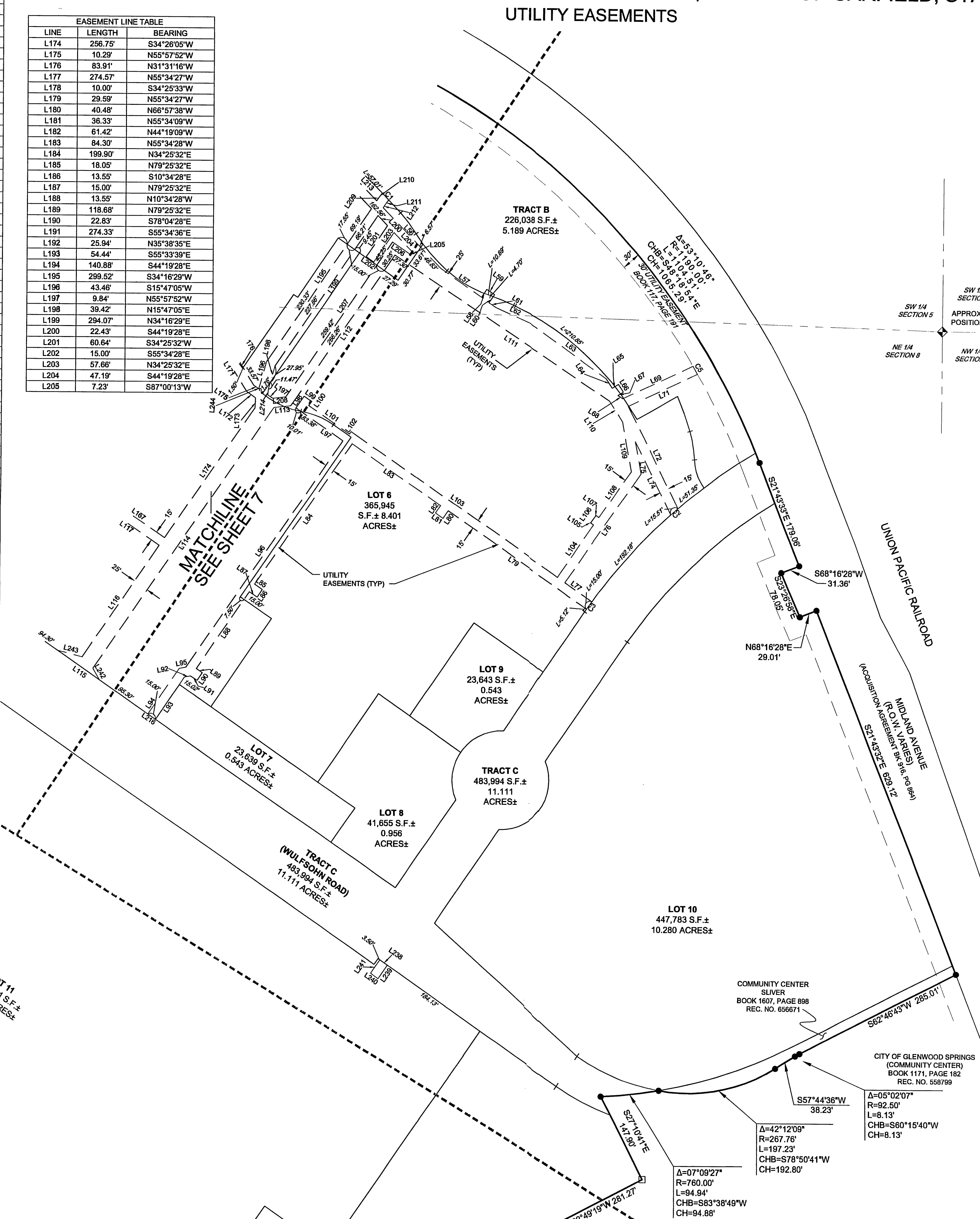
GLENWOOD MEADOWS NO. 2

A RESUBDIVISION OF PARCEL B, GLENWOOD MEADOWS NO. 1,
BEING A PARCEL OF LAND LOCATED IN SECTIONS 5, 6, 7, 8 & 9, TOWNSHIP 6 SOUTH, RANGE 89 WEST,
OF THE SIXTH PRINCIPAL MERIDIAN, CITY OF GLENWOOD SPRINGS, COUNTY OF GARFIELD, STATE OF COLORADO

EASEMENT LINE TABLE		
LINE	LENGTH	BEARING
L1	25.09'	S60°30'06"E
L2	65.05'	N34°25'32"E
L3	41.75'	N55°34'24"W
L4	18.60'	S34°25'36"W
L5	15.00'	N55°34'24"W
L6	18.60'	N34°25'36"E
L7	276.99'	N55°34'24"W
L8	12.73'	N10°31'28"W
L9	21.10'	S79°28'32"W
L10	15.00'	N10°31'28"W
L11	21.10'	N79°28'32"E
L12	84.84'	N10°31'28"W
L13	207.55'	N34°25'32"E
L14	17.58'	N55°34'28"W
L15	15.00'	N34°25'32"E
L16	17.58'	S55°34'28"E
L17	106.24'	N34°25'32"E
L18	146.99'	N79°25'32"E
L19	81.98'	S55°34'28"E
L20	24.93'	N34°25'32"E
L21	15.00'	S55°34'28"E
L22	24.93'	S34°25'32"W
L23	175.45'	S55°34'28"E
L24	21.96'	N34°25'32"E
L25	15.00'	S55°34'28"E
L26	21.96'	S34°25'32"W
L27	16.65'	S55°34'28"E
L28	52.82'	N34°25'36"E
L29	68.33'	N15°40'46"E
L30	15.16'	S66°03'20"E
L31	68.62'	S15°40'48"W
L32	55.29'	S34°25'38"W
L33	375.53'	S55°34'28"E
L34	148.65'	S66°49'28"E
L35	14.92'	S55°34'28"E
L36	206.11'	N34°25'32"E
L37	140.20'	N79°25'32"E
L38	57.45'	S76°23'22"E
L39	15.16'	S76°23'22"E
L40	36.52'	S21°56'16"W
L41	31.95'	S55°32'43"E
L42	67.57'	S78°04'28"E
L43	49.35'	S55°33'39"E
L44	13.70'	N34°25'32"E
L45	10.00'	S55°34'28"E
L46	13.70'	S34°25'32"W
L47	141.07'	S55°33'39"E
L48	11.68'	N35°38'35"E
L49	11.11'	S35°38'35"W
L50	55.80'	S55°33'39"E
L51	84.84'	S45°40'32"E
L52	18.81'	N45°40'32"E
L53	15.00'	S44°19'28"E
L54	18.81'	S45°40'32"W
L55	134.62'	S44°19'28"E
L56	80.96'	S55°34'28"E
L57	15.63'	N34°25'32"E
L58	15.00'	S55°34'28"E
L59	15.63'	S34°25'32"W
L60	13.32'	S55°34'28"E
L61	63.55'	S66°04'28"E
L62	151.87'	S54°49'28"E
L63	18.47'	S33°30'00"E
L64	11.91'	N56°30'00"E
L65	14.83'	S33°30'00"E
L66	10.61'	S56°30'00"W
L67	9.35'	S57°30'59"E
L68	126.28'	N64°46'44"E
L69	124.05'	S64°46'44"W
L70	183.93'	S26°53'10"E
L71	131.39'	N26°53'10"W
L72	52.75'	S10°34'28"E
L73	215.99'	S34°25'32"W
L74	53.24'	S55°34'28"E
L75	277.04'	N55°34'28"W
L76	14.73'	S34°25'32"W
L77	15.00'	N55°34'28"W
L78	14.73'	N34°25'32"E
L79	175.48'	N55°34'27"W
L80	277.50'	S34°25'34"W
L81	15.00'	S55°34'26"E
L82	15.00'	S34°25'34"W
L83	15.00'	N55°34'26"W
L84	15.00'	S34°25'34"W
L85	15.00'	S55°34'26"E
L86	15.00'	S34°25'34"W
L87	15.00'	N55°34'26"W
L88	151.00'	S34°25'34"W
L89	12.00'	S55°34'26"E
L90	15.00'	S34°25'34"W
L91	12.74'	N55°34'28"W
L92	9.87'	S79°25'34"W
L93	83.02'	S34°25'32"W
L94	89.23'	N34°25'32"E
L95	10.92'	N79°25'34"E
L96	446.55'	N34°25'34"E
L97	93.39'	N55°34'26"W
L98	23.06'	N34°25'33"E
L99	15.00'	S55°34'26"E
L100	6.06'	S34°25'34"W
L101	81.03'	S55°34'26"E
L102	5.00'	N34°25'34"E
L103	411.98'	S55°34'27"E
L104	104.17'	N34°25'32"E
L105	5.82'	N55°34'28"W
L106	15.00'	N34°25'32"E
L107	5.82'	S55°34'28"E
L108	90.61'	N34°25'32"E
L109	81.75'	N10°34'28"W
L110	39.74'	N33°30'00"W
L111	422.39'	N56°40'14"W

EASEMENT LINE TABLE		
LINE	LENGTH	BEARING
L112	296.50'	S34°25'32"W
L113	27.10'	S83°26'31"W
L114	514.57'	S34°26'05"W
L115	82.69'	N55°34'28"W
L116	219.49'	N34°26'05"E
L117	100.29'	N55°34'28"W
L118	36.67'	N85°35'45"W
L119	215.15'	S34°25'33"W
L120	135.00'	N34°25'33"E
L121	6.00'	N55°34'28"W
L122	15.00'	N34°25'32"E
L123	6.00'	S55°34'28"E
L124	56.48'	N34°25'32"E
L125	16.30'	N85°36'46"W
L126	253.38'	N55°34'28"W
L127	165.31'	S34°25'19"W
L128	179.81'	N34°25'19"E
L129	264.36'	S55°34'28"E
L130	20.94'	S85°35'45"E
L131	125.19'	N34°25'32"E
L132	11.99'	N55°34'28"W
L133	15.00'	N34°25'32"E
L134	11.99'	S55°34'28"E
L135	179.50'	N34°25'32"E
L136	92.61'	N55°34'27"W
L137	10.00'	S34°25'32"W
L138	10.00'	N55°34'28"W
L139	10.00'	N34°25'32"E
L140	147.44'	N55°34'27"W
L141	40.48'	N66°57'38"W
L142	39.30'	N55°34'09"W
L143	40.68'	N44°19'09"W
L144	18.73'	S45°40'51"W
L145	15.00'	N44°19'09"W
L146	18.73'	N45°40'51"E
L147	5.73'	N44°19'09"W
L148	111.26'	N55°34'28"W
L149	148.65'	N66°49'28"W
L150	377.00'	N55°34'28"W
L151	230.30'	S34°25'36"W
L152	12.01'	S55°34'24"E
L153	15.00'	S34°25'36"W
L154	12.01'	N55°34'24"W
L155	140.49'	S34°25'36"W
L156	38.00'	S10°45'38"W
L157	56.82'	S34°25'32"W
L158	325.13'	N55°34'24"W
L159	100.14'	N10°31'28"W
L160	316.37'	N34°25'32"E
L161	134.56'	N79°25'32"E
L162	287.87'	S55°34'28"E
L163	391.02'	S34°25'38"W
L164	28.89'	S10°45'38"W
L165	64.93'	S33°18'12"W
L166	104.32'	N55°34'28"W
L167	32.03'	N85°35'45"W
L168	321.02'	N34°25'32"E
L169	29.43'	S55°34'27"E
L170	83.96'	S31°31'16"E
L171	16.88'	S55°57'52"E
L172	16.82'	S01°38'06"W

EASEMENT LINE TABLE		
LINE	LENGTH	BEARING
L174	256.75'	S34°26'05"W
L175	10.29'	N55°57'52"W
L176	83.91'	N31°31'16"W
L177	274.57'	N55°34'27"W
L178	10.00'	S34°25'33"W
L179	29.59'	N55°34'27"W
L180	40.48'	N66°57'38"W
L181	36.33'	N55°34'09"W
L182	61.42'	N44°19'09"W
L183	84.30'	N55°34'28"W
L184	199.90'	N34°25'32"E
L185	18.05'	N79°25'32"E
L186	13.55'	S10°34'28"E
L187	15.00'	N79°25'32"E
L188	13.55'	N10°34'28"W
L189	118.68'	N79°25'32"E
L190	22.83'	S78°04'28"E
L191	274.33'	S55°34'36"E
L192	25.94'	N35°38'35"E
L193	54.44'	S55°33'39"E
L194	140.88'	S44°19'28"E
L195	299.52'	S34°16'29"W
L196	43.46'	S15°47'05"W
L197	9.84'	N55°57'52"W
L198	39.42'	N15°47'05"E
L199	294.07'	N34°16'29"E
L200	22.43'	S44°19'28"E
L201	60.64'	S34°25'32"W
L202	15.00'	S55°34'28"E
L203	57.66'	N34°25'32"E
L204	47.19'	S44°19'28"E
L205	7.23'	S87°00'13"W



KEY MAP

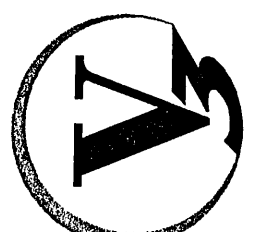
SCALE: 1" = 100'
ORIGINAL GRAPHIC SCALE

NOTE: ALL EASEMENT TIES
ARE ITALICIZED ON THIS SHEET

EASEMENT LINE TABLE		
LINE	LENGTH	BEARING
L206	33.79'	N55°34'28"W
L207	304.67'	S34°25'32"W
L208	20.90'	S83°26'31"W
L209	6.78'	N34°12'25"E
L210	8.52'	N38°01'42"E
L211	5.95'	S38°01'42"W
L212	9.33'	S34°12'25"W
L213	59.47'	S44°19'28"E
L214	9.29'	N03°40'04"E
L215	15.00'	S55°34'28"E
L216	15.00'	S55°34'28"E
L217	310.75'	N55°33'56"W
L218	15.00'	N34°25'32"E
L219	310.75'	S55°33'56"E
L220	67.89'	N34°25'32"E
L221	15.00'	S55°34'28"E
L222	32.78'	N34°25'32"E
L223	15.00'	S55°34'28"E
L224	32.57'	N34°25'32"E
L225	15.00'	S55°34'27"E
L226	23.95'	N34°25'35"E
L227	74.04'	N55°34'25"W
L228	81.28'	N56°36'32"W
L229	82.31'	N56°36'32"W
L230	89.18'	N55°34'25"W
L231	38.95'	N34°25'35"E
L232	41.57'	S02°59'18"E
L233	18.89'	S55°34'28"E
L234	23.94'	S02°59'18"E
L235	26.49'	S78°33'34"W
L236	20.90'	S55°34'28"E
L237	46.70'	S78°33'34"W
L238	15.00'	S55°34'28"E
L239	26.50'	N34°25'32"E
L240	15.00'	S55°34'28"E
L241	26.50'	N34°25'32"E
L242	21.95'	S31°07'46"E
L243	40.23'	N75°57'07"W
L244	2.09'	S03°40'04"W

EASEMENT CURVE TABLE				
CURVE	DELTA	RADIUS	LENGTH	CHORD
C1	00°40'18"	1291.66'	15.14'	S44°07'02"E 15.14'
C2	00°59'46"	892.00'	15.51'	S49°26'33"W 15.51'
C3	00°57'20"	899.50'	15.00'	S35°13'46"W 15.00'
C4	00°39'56"	1291.66'	15.00'	S53°23'38"E 15.00'
C5	00°44'39"	1160.00'	15.06'	S30°29'03"E 15.06'
C6	01°24'04"	614.50'	15.03'	S29°57'53"W 15.03'

Engineers
Scientists
Surveyors



REVISIONS	
NO.	DATE
1	5/4/2004
2	6/11/2004
3	6/16/2004
4	7/9/2004
5	7/15/2004
6	7/28/2004

DESIGNED BY:	D02049
DRAWN BY:	SEH
CHECKED BY:	08/05/03
SCALE:	1"=100'

FINAL PLAT
GLENWOOD MEADOWS NO. 2
GLENWOOD SPRINGS, COLORADO

Date: 2/12/2021 Author: BRIGID IRISH Project: Phase 4	Manifest
Comments: RVC CONSTRUCTION CONTINUATION FROM PHASE 3 PARKING AND SIDEWALK CLOSURE WULFSOHN RD. GLENWOOD SPRINGS MUTCD TA-1 TA-28	6 x W20-1 road work ahead 4 x W20-7a flagger 3 x W20-7b be prepared to stop 1 x R9-11(L) Sidewalk Closed Ahead, Cross Here R9-11(L) 1 x R9-11(R) Sidewalk Closed Ahead, Cross Here R9-11(R)



LOT 8, GLENWOOD MEADOWS NO. 2
LOCATED IN THE NORTHEAST QUARTER OF SECTION 8,
TOWNSHIP 6 SOUTH, RANGE 89 WEST OF THE SIXTH PRINCIPAL MERIDIAN,
CITY OF GLENWOOD SPRINGS, COUNTY OF GARFIELD, STATE OF COLORADO

PER LAND TITLE GUARANTEE COMPANY COMMITMENT ORDER NO. ABS63014270-2, WITH AN EFFECTIVE DATE OF 6/30/2020 AT 5:00 P.M.

LOT 8, GLENWOOD MEADOWS NO. 2, ACCORDING TO THE PLAT THEREOF RECORDED AUGUST 9, 2004 UNDER RECEPTION NO. 657439, COUNTY OF GARFIELD, STATE OF COLORADO.

BEARINGS SHOWN HEREON ARE GRID BEARINGS DERIVED FROM RTK FAST STATIC GPS OBSERVATIONS AND ARE BASED UPON THE COLORADO COORDINATE SYSTEM OF 1983 CENTRAL ZONE (NAD 83, 1992), ALONG THE SOUTHWESTERLY LINE OF LOT 8, GLENWOOD MEADOWS NO. 2, WHICH BEARS NORTH 55°33'44" WEST, BETWEEN THE MONUMENTS SHOWN HEREIN.

LAND TITLE GUARANTEE COMPANY COMMITMENT ORDER NO. ABS63014270-2, WITH AN EFFECTIVE DATE OF JUNE 30, 2020 AT 5:00 P.M. WAS RELIED UPON FOR RECORD INFORMATION REGARDING RIGHTS-OF-WAY, EASEMENTS AND ENCUMBRANCES. THIS SURVEY DOES NOT REPRESENT A TITLE SEARCH BY AZTEC CONSULTANTS, INC. TO DETERMINE OWNERSHIP, RIGHTS-OF-WAY, EASEMENTS OR OTHER MATTERS OF PUBLIC RECORD.

NOTE: THE WORD "AFFECTS" AS USED BELOW, IS HEREBY DEFINED AS: "A DETERMINATION THAT THE PROPERTY OR INTERESTS DESCRIBED, WITHIN THE ITEMS LISTED AMONG THE SCHEDULE B - SECTION 2 PROVIDED, FALLS WITHIN OR TOUCHES THE SUBJECT PROPERTY".

ITEM NUMBERS BELOW REFER TO THOSE ITEMS AS LISTED IN SCHEDULE B - SECTION 2 OF SAID TITLE COMMITMENT.

ITEM NUMBERS 1-8 ARE STANDARD EXCEPTIONS NOT TO BE ADDRESSED AS A PART OF THIS SURVEY.

-
- DONEGAN RD.
- Soccer Field Rd.
- 1-70
- DONEGAN RD.
- HWY 6 FRONTAGE RD.
- MIDLAND AVE.
- WULFSOHN RD.
- 6TH ST.
- 8TH ST.
- GRAND AVE.
- 1-70
- NORTH
- NOT TO SCALE
- SITE

24. TERMS, CONDITIONS AND PROVISIONS OF ZONING VARIANCE RECORDED NOVEMBER 04, 2005 IN BOOK 1637 AT PAGE 319.
AFFECTS THE SUBJECT PROPERTY, BUT IS NOT A PLOTTABLE ITEM.
25. TERMS, CONDITIONS AND PROVISIONS OF ORDER OF EXCLUSION RECORDED FEBRUARY 03, 2005 IN BOOK 1660 AT PAGE 430.
AFFECTS THE SUBJECT PROPERTY, BUT IS NOT A PLOTTABLE ITEM.
26. TERMS, CONDITIONS AND PROVISIONS OF AGREEMENT RECORDED JUNE 13, 2005 IN BOOK 1696 AT PAGE 618.
AFFECTS THE SUBJECT PROPERTY, BUT IS NOT A PLOTTABLE ITEM.
27. TERMS, CONDITIONS AND PROVISIONS OF MEMORANDUM OF LEASE RECORDED JUNE 16, 2005 AT RECEPTION NO. 676369.
AFFECTS THE SUBJECT PROPERTY, BUT IS NOT A PLOTTABLE ITEM.
28. TERMS, CONDITIONS AND PROVISIONS OF MEMORANDUM OF SHOPPING CENTER LEASE RECORDED AUGUST 04, 2005 AT RECEPTION NO. 679538.
AFFECTS THE SUBJECT PROPERTY, BUT IS NOT A PLOTTABLE ITEM.
29. TERMS, CONDITIONS AND PROVISIONS OF MEMORANDUM OF LEASE RECORDED AUGUST 26, 2005 AT RECEPTION NO. 681017.
AFFECTS THE SUBJECT PROPERTY, BUT IS NOT A PLOTTABLE ITEM.
30. TERMS, CONDITIONS AND PROVISIONS OF EASEMENT DEED RECORDED NOVEMBER 17, 2005 IN BOOK 1746 AT PAGE 862.
DOES NOT AFFECT THE SUBJECT PROPERTY.
31. TERMS, CONDITIONS AND PROVISIONS OF LEASE RECORDED MAY 15, 2006 IN BOOK 1800 AT PAGE 72.
AFFECTS THE SUBJECT PROPERTY, BUT IS NOT A PLOTTABLE ITEM.
32. TERMS, CONDITIONS AND PROVISIONS OF MEMORANDUM OF LEASE RECORDED OCTOBER 29, 2008 AT RECEPTION NO. 757895.
AFFECTS THE SUBJECT PROPERTY, BUT IS NOT A PLOTTABLE ITEM.
33. TERMS, CONDITIONS AND PROVISIONS OF MEMORANDUM OF LEASE RECORDED JUNE 29, 2012 AT RECEPTION NO. 820743.
AFFECTS THE SUBJECT PROPERTY, BUT IS NOT A PLOTTABLE ITEM.
34. TERMS, CONDITIONS AND PROVISIONS OF MEMORANDUM OF LEASE RECORDED DECEMBER 01, 2015 AT RECEPTION NO. 870930.
AFFECTS THE SUBJECT PROPERTY, BUT IS NOT A PLOTTABLE ITEM.

THE SURVEYED PROPERTY SHOWN HEREIN LIES WITHIN FLOOD ZONE C - AREAS OF MINIMAL FLOODING, PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP (FIRM) NO. 080205 1432 B, WITH A REVISED DATE OF JANUARY 3, 1986. DETERMINATION OF FLOOD ZONE CLASSIFICATION IS DEPICTED BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY.

1. THE FIELD WORK FOR THIS SURVEY WAS PERFORMED BY AN AZTEC CONSULTANTS, INC. SURVEY CREW AND COMPLETED ON SEPTEMBER 9, 2020.
2. PER C.R.S. 38-51-106, "ALL LINEAL UNITS DEPICTED ON THIS LAND SURVEY PLAT ARE U.S. SURVEY FEET. ONE METER EQUALS 39.37/12 U.S. SURVEY FEET, EXACTLY ACCORDING TO THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY."
3. AS TO TABLE A ITEM NO. 2: SUBJECT PROPERTY ADDRESS IS 405 EAST MEADOWS DRIVE, GLENWOOD SPRINGS, CO 81601.
4. AS TO TABLE A ITEM NO. 4: THE SURVEYED PARCEL CONTAINS A TOTAL OF 0.956 ACRES OR 41,655 SQUARE FEET, MORE OR LESS.
5. AS TO TABLE A ITEM NO. 11: THIS SURVEY DOES NOT CERTIFY TO SUBSURFACE FEATURES, IMPROVEMENTS, UTILITIES OR BURIED LINES OF ANY TYPE, LOCATION DEPICTED HEREON ARE DERIVED FROM FIELD SURVEY OF UTILITY FLAGGING / PAINT MARKING, PERFORMED BY AZTEC CONSULTANTS, INC. ON SEPTEMBER 9, 2020.
6. AS TO TABLE A ITEM NO. 16: THERE WAS NO OBSERVED EVIDENCE OF CURRENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS AT THE TIME OF THIS SURVEY.
7. THE PROPERTY HAS DIRECT PHYSICAL ACCESS TO EAST MEADOWS DRIVE A DEDICATED PUBLIC STREET.
8. THE PROPERTY DESCRIBED HEREON IS THE SAME AS THE PROPERTY DESCRIBED IN LAND TITLE GUARANTEE COMPANY COMMITMENT NO. ABS63014270-2, WITH AN EFFECTIVE DATE OF JUNE 30, 2020 AND THAT ALL EASEMENTS, COVENANTS AND RESTRICTIONS REFERENCED IN SAID TITLE COMMITMENT OR APPARENT FROM A PHYSICAL INSPECTION OF THE SITE OR OTHERWISE KNOWN TO ME HAVE BEEN PLOTTED HEREON OR OTHERWISE NOTED AS TO THEIR EFFECT ON THE SUBJECT PROPERTY
9. THE ACCOMPANYING SURVEY WAS MADE ON THE GROUND AND CORRECTLY SHOWS THE LOCATION OF ALL BUILDINGS, STRUCTURES AND OTHER IMPROVEMENTS SITUATED ON THE ABOVE PREMISES; THERE ARE NO VISIBLE ENCROACHMENTS ON THE SUBJECT PROPERTY OR UPON ADJACENT LAND ABUTTING SAID PROPERTY EXCEPT AS SHOWN HEREON AND WAS MADE IN ACCORDANCE WITH LAWS AND/OR MINIMUM STANDARDS OF THE STATE OF COLORADO.
10. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR ACCESSORY COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE 18-4-508, C.R.S.

TO: STONELEIGH COMPANIES, LLC
WMG MEADOWS LLC
LAND TITLE GUARANTEE COMPANY
OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1-4, 8, 11, 13, 14, 16 AND 20 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON SEPTEMBER 8, 2020.

DATE OF PLAT OR MAP: 9/28/2020

BRADY J. MOORHEAD, PLS NO. 38668
COLORADO LICENSED PROFESSIONAL LAND SURVEYOR
FOR AND ON BEHALF OF AZTEC CONSULTANTS, INC.

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.

NOTICE: PER THE STATE OF COLORADO BOARD OF LICENSURE FOR ARCHITECTS, PROFESSIONAL ENGINEERS, AND PROFESSIONAL LAND SURVEYORS RULE 1.6.B.2 THE WORD "CERTIFY" AS USED HEREON MEANS AN EXPRESSION OF PROFESSIONAL OPINION AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EXPRESSED OR IMPLIED. THE SURVEY REPRESENTED HEREON HAS BEEN PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH APPLICABLE STANDARDS OF PRACTICE AND IS BASED UPON MY KNOWLEDGE, INFORMATION AND BELIEF.

THIS ALTA WAS FILED FOR RECORD IN THE OFFICE OF THE COUNTY CLERK AND RECORDER OF

GARFIELD COUNTY AT ____M. ON THE ____ DAY OF _____, 20____

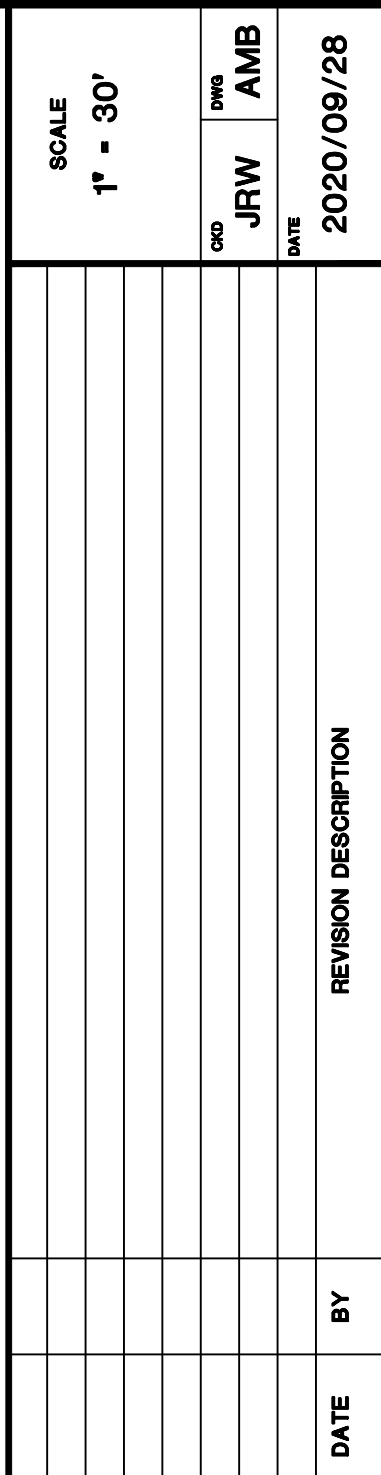
RECEPTION NO. _____

GARFIELD COUNTY CLERK AND RECORDER

BY: _____
DEPUTY

Packet Page 696

LOT 8, GLENWOOD MEADOWS NO. 2
LOCATED IN THE NORTHEAST QUARTER OF SECTION 8,
TOWNSHIP 6 SOUTH, RANGE 89 WEST OF THE SIXTH PRINCIPAL MERIDIAN,
CITY OF GLENWOOD SPRINGS, COUNTY OF GARFIELD, STATE OF COLORADO



**300 East Mineral Ave., Suite 1
Littleton, Colorado 80122
Phone: (303) 713-1898
Fax: (303) 713-1897
www.aztecconsultants.com**



AZTEC
CONSULTANTS, INC.

ALTA/NSPS LAND TITLE SURVEY
GLENWOOD MEADOWS 2, LOT 8
GLENWOOD SPRINGS, COLORADO

PREPARED FOR
STONELEIGH COMPANIES, LLC
760 W. MAIN STREET, SUITE 140, BARRINGTON, IL 60010

SHEET
TWO
OF 2 SHEETS
162020-01
JOB NO.

FOR REVIEW

FOR AND ON BEHALF OF
AZTEC CONSULTANTS, INC

Engineering
Department
Jessica Bowser,
Asst. City Engineer

Date: June 4, 2021

To: Community Development

Re: Lofts Phase IV Development Permit

Please see the following engineering comments for the Lofts Phase IV Development. These comments are not inclusive of comments from other departments, including Public Works, Building, etc. It is up to the applicant to verify that the appropriate reviews have been completed by these departments. City of Glenwood Springs Engineering reserves the right to make additional comments throughout the application process, especially if significant modifications are made. It is in the applicant's best interest to address all comments holistically to reduce the number of reviews necessary for approvals.

Engineering will not review a revised submittal until the applicant provides a written response to these comments.

Traffic Study:

1. The Traffic Study proposes the retail space to be a fast-casual restaurant. This development is proposing a parking reduction for the residential (reduction of 6 space) with 30 retail spaces (OK per code).
 - a. Is there a loading space for deliveries to the restaurant? It seems that whether this is retail, office space, or a restaurant, there will be a need for delivery space. Access is limited in the parking area and it would be preferable that this be outside of a drive aisle.
2. Consider a 4-way stop at East Meadows Drive/Wulfsohn Road? Wide intersection – many people fun the stop on East Meadows Drive and other intersections (W Meadows and the retail street, which is not a City street) have 4-way.

Development Application Comments:

1. Fire has brought up some concerns responding to a rescue call on a balcony or upper floor at Lofts III that was not considered in the prior application. Please work with the fire department to provide an AutoTurn analysis for a response to Phase IV and III. It may be necessary to alter a landscape island to accommodate safe movements.
2. Note only – no response necessary: The proposed retail pad is over an existing storm manhole and new Storm is proposed within this pad as well. This will limit the buildable area for this pad.
3. Sheet A.1 conflicts with the other site plans.

Comments to be addressed prior to Grading Permit Approval:

4. A [Grading Permit](#) shall be submitted along with the following documentation:
 - a. No work for this project will be allowed to commence until **all** work easements (temporary or permanent), on or off site, are in place for the development of property.
 - b. Final Stamped Reports (Geotechnical, Drainage, Traffic Geologic Hazards, etc).
 - i. A letter should be provided that shows Kumar & Associates has reviewed the final grading plan and supports the final design.
 - c. Final Stamped Construction Documents.
 - d. The Stormwater Management Plan, along with any applicable approved state permits, including a [Construction Stormwater Discharges Permit](#) or [Dewatering Permit](#).
5. Any additional permitting necessary for the project should be submitted, including Building and/or Right of Way Permits.
 - a. Cuts into the roundabout on East Meadows will need to be coordinated with the City so appropriate noticing for any closures can be coordinated with the public.

Comments to be addressed prior to Certificate of Occupancy:

6. The City will require a maintenance plan and agreement with the development for the detention and debris system/s. If the system/s are not being maintained properly and having a negative effect on downstream facilities, the City will need access to perform the maintenance and back charge the facility owner. See Community Development for further information.
7. All drainage, retaining walls, and/or other site improvements require a stamped certification letter from the engineer of record that verifies that all improvements were constructed per plan.
8. Record drawings (As-Builts) will be required to be submitted to the City along with electronic drawings (CAD) as described in the Engineering Standards.
 - a. Any approved Licenses to Encroach may require amending if the as-built conditions vary from the approved licensing locations.
 - b. Utility Easements shall be recorded for any City of Glenwood Springs main lines, Hydrants, or Transformers not in the City right of way.

THE LOFTS AT RED MOUNTAIN - PHASE 4

MAJOR SITE/ARCHITECTURAL PLAN

LOT 8, GLENWOOD MEADOWS NO. 2

LOCATED IN THE NORTHEAST QUARTER OF SECTION 8, TOWNSHIP 6 SOUTH, RANGE 89 WEST OF THE SIXTH PRINCIPAL MERIDIAN,
CITY OF GLENWOOD SPRINGS, COUNTY OF GARFIELD, STATE OF COLORADO.

PROJECT TEAM

DEVELOPER

Stoneleigh Companies, LLC
760 W. Main St., Suite 140
Barrington, Illinois 60010
Phone: 224.770.4600
Contact: Anthony Rodriguez

DEVELOPER

Realty Capital Management
909 Lake Carolyn Pkwy, Suite 150
Irving, Texas 75039
Phone: 469.533.4100
Contact: Bob Moore

ARCHITECT

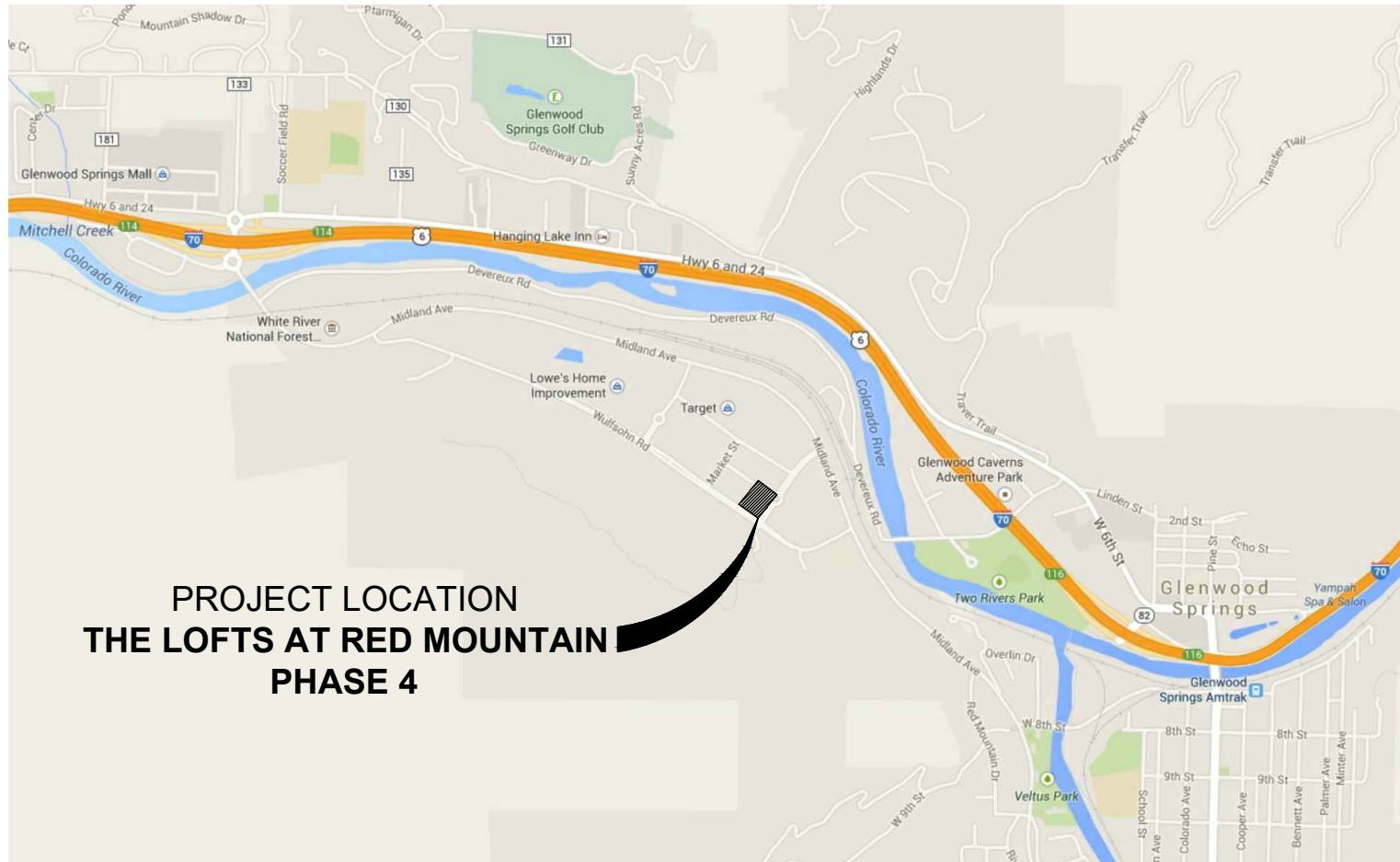
KCB Architecture
2033 Dan Drive
Layton, Utah 84040
Phone: 801.593.9338
Contact: Keith Bennett

CIVIL ENGINEER

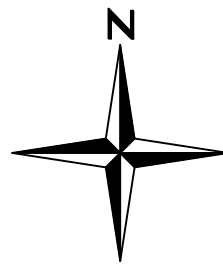
Redland
1500 W. Canal Ct.
Littleton, Colorado 80120
Phone: 720.283.6783
Contact: Mark Cevaal, P.E.
Email: mcevaal@redland.com

LANDSCAPE ARCHITECT

Redland
1500 W. Canal Ct.
Littleton, Colorado 80120
Phone: 720.283.6783
Contact: Brice Bradley, PLA, CLARB
Email: bbradley@redland.com



VICINITY MAP
1" = 2000'



Sheet List Table	
Sheet Number	Sheet Title
C0	COVER SHEET
C1	SITE PLAN
C2	PRELIMINARY GRADING PLAN
L1	PRELIMINARY LANDSCAPE PLAN
A1.0	PARKING SITE
A1.1	SITE WULFSON RD LEVEL
A2.0	PARKING LEVEL
A2.1	MAINFL
A2.2	2NDFL
A2.3	3RDFL
A2.4	4THFL
A3.1	ELEVATIONS
A3.2	ELEVATIONS
A3.3	SITE SECTION
A4.1	UNITS
A4.2	UNITS

PROJECT SUMMARY DESCRIPTION						
LOT SIZE INFORMATION	AREA	SQUARE FT.		LOT COVERAGE	EXISTING (SQ FT & %)	PROPOSED (SQ FT & %)
	0.956 AC.	41,655			0 0%	12,683 30.4%
LIMITS OF DISTURBANCE		PROPOSED (SQ. FT. & %)		AVERAGE SLOPE WITHIN LIMITS OF DISTURBANCE	PERCENTAGE %	
		29,745 100%			8.70 %	
PARKING SPACES PARKING REQUIRED: 36 UNITS AT 1.7 SPACES/UNITS = 62 SPACES	GARAGE			BICYCLE PARKING	EXISTING # SPACES	PROPOSED # SPACES
	2 (ACCESSIBLE)	17 (REGULAR)			0	10 (GARAGE)
	OFF-SITE WULFSON RD			NON-RESIDENTIAL USES	TYPE OF USE(S)	GROSS FLOOR AREA (SQ. FT.)
	3 (ACCESSIBLE)	18 (REGULAR)			NONE	0
	AT-GRADE PARKING			TOTAL LANDSCAPED AREA	EXISTING (SQ FT & %)	PROPOSED (SQ FT & %)
	0	22 (REGULAR)			15,900 38%	11,225 27%
	TOTAL			TOTAL IMPERVIOUS AREA	EXISTING (SQ FT & %)	PROPOSED (SQ FT & %)
	5 (ACCESSIBLE)	57 (REGULAR)			3,005 13%	20,085 87%
RESIDENTIAL UNITS	# EXISTING UNITS	# PROPOSED UNITS		OTHER		
	0	36				
	OPEN SPACE *	EXISTING (SQ FT & %)	PROPOSED (SQ FT & %)			
	0	0				
BUILDING HEIGHT (SEE BUILDING ELEVATIONS)	EXISTING	PROPOSED (MAXIMUM)				
	0	58' - 2"				
SNOW STORAGE	REQUIRED (SQ FT)	PROPOSED (SQ FT)				
	0	265				

BASIS OF BEARINGS

BEARINGS SHOWN HEREON ARE GRID BEARINGS DERIVED FROM RTK FAST STATIC GPS OBSERVATIONS AND ARE BASED UPON THE COLORADO COORDINATE SYSTEM OF 1983 CENTRAL ZONE (NAD 83, 1992), ALONG THE SOUTHWESTERLY LINE OF LOT 7, GLENWOOD MEADOWS NO. 2, WHICH BEARS NORTH 55° 33' 44" WEST, BETWEEN THE MONUMENTS SHOWN HEREIN.

BENCHMARK

GLENWOOD SPRINGS BENCHMARK #199 BEING A CHISELED SQUARE ON A HEADWALL OF A PEDESTRIAN TUNNEL LOCATED IN THE SOUTH CORNER OF THE INTERSECTION OF WULFSON ROAD AND MIDLAND AVENUE.

ELEVATION = 5761.63 (NAVD 88)

GEOLOGICAL HAZARDS DISCLOSURE

THIS PROPERTY IS SUBJECT TO GEOLOGIC HAZARDS PER THE ADOPTED MAPPING BY THE CITY OF GLENWOOD SPRINGS. HAZARDS TO NOTE ARE SEVERE HYDRO COMPACTIVE SOILS AND SEVERE ANCIENT DEBRIS FLOW, MUD FLOW AND LANDSLIDE DEPOSITS. ADDITIONAL INFORMATION REGARDING GEOLOGICAL HAZARDS AT THIS SITE CAN BE FOUND IN THE GEOTECHNICAL ENGINEERING STUDY, PROPOSED LOFTS AT RED MOUNTAIN PHASE 3 BUILDING, PROJECT NO. 19-7-521, DATED OCTOBER 10, 2019, PREPARED BY KUMAR & ASSOCIATES. A FINAL GEOLOGIC HAZARD REPORT WILL BE SUBMITTED UPON APPLICATION OF A BUILDING PERMIT.

FEMA FLOODPLAIN STATEMENT

THE SITE LIES WITHIN FEMA FLOOD ZONE D, ACCORDING TO FEMA MAP NO. 0802051432B, JANUARY 3, 1986. ZONE D IS DESCRIBED AS AREAS OF UNDETERMINED, BUT POSSIBLE, FLOOD HAZARDS.

I:\2012\2013 - Glenwood Meadows\CADD\Sheet\Sub1\2013.12 - Cover Sheet.dwg, tab: COVER SHEET, Jun 18, 2021 - 7:48am, mcevaal

* OFFSITE PUBLIC OPEN SPACE IMPROVEMENTS HAVE BEEN PROVIDED BY THE GLENWOOD MEADOWS DEVELOPMENT



THE LOFTS AT RED MOUNTAIN
PHASE 4

COVER SHEET

SHEET

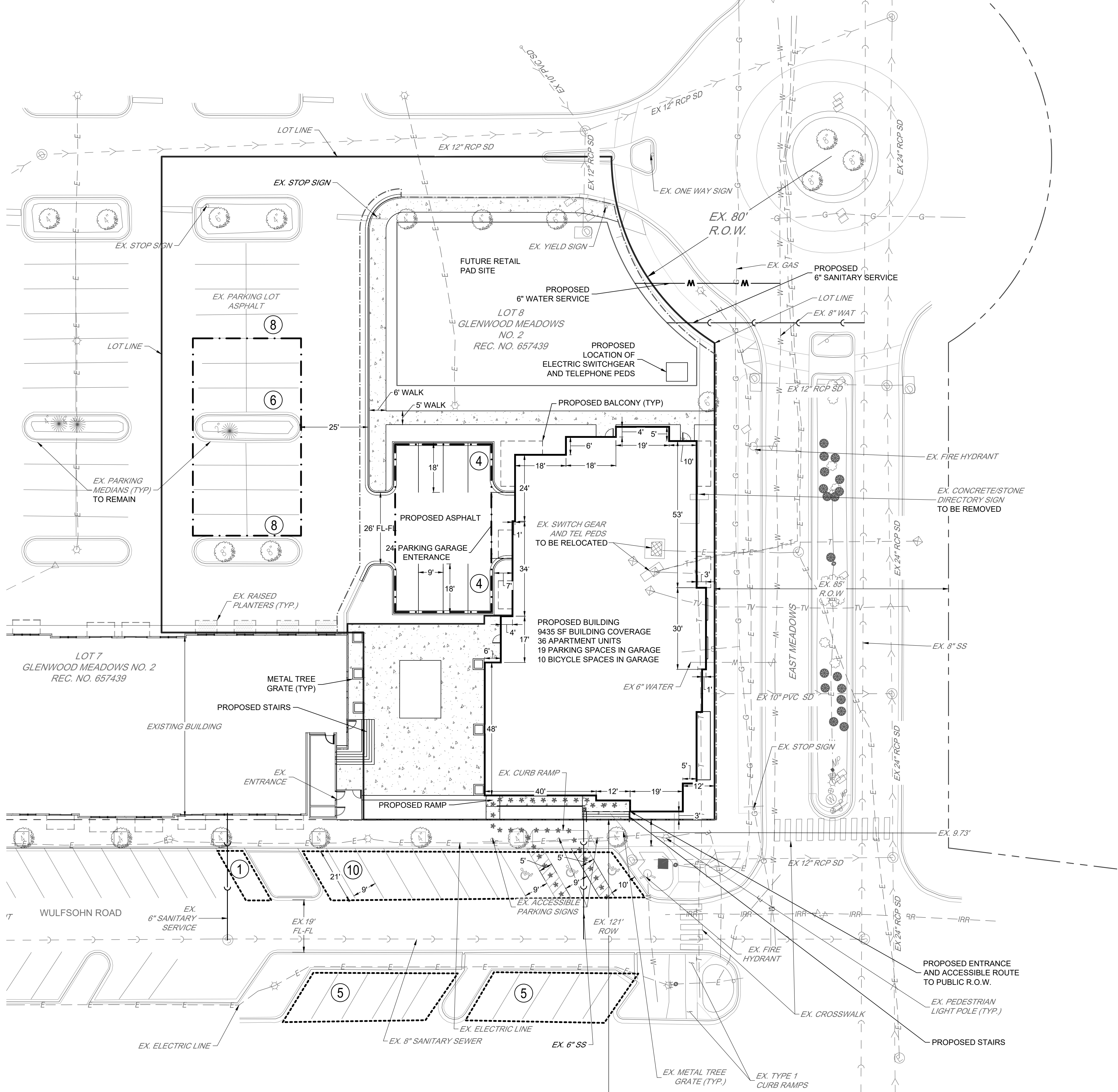
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THE LOFTS AT RED MOUNTAIN - PHASE 4
MAJOR SITE/ARCHITECTURAL PLAN

LOT 8, GLENWOOD MEADOWS NO. 2

LOCATED IN THE NORTHEAST QUARTER OF SECTION 8, TOWNSHIP 6 SOUTH, RANGE 89 WEST OF THE SIXTH PRINCIPAL MERIDIAN,
CITY OF GLENWOOD SPRINGS, COUNTY OF GARFIELD, STATE OF COLORADO.



PROPOSED LEGEND

---	PROPERTY LINE
---	R.O.W.
---	LOT LINE
---	SETBACK
---	EASEMENT
---	ROAD CENTERLINE
---	CURB AND GUTTER
---	SIDEWALK
---	LIMITS OF CONSTRUCTION / SAWCUT
---	SANITARY SEWER

EXISTING LEGEND

---	PROPERTY LINE
---	R.O.W.
---	LOT LINE
---	EASEMENT LINE
---	SECTION LINE
---	ROAD CENTERLINE
---	EDGE OF PAVEMENT
---	CURB AND GUTTER
---	FENCE
---	WATER LINE
---	RAW WATER LINE
---	IRRIGATION LINE
---	SANITARY SEWER
---	STORM SEWER
---	ELECTRIC LINE
---	GAS LINE
---	TELEPHONE LINE
---	FIBER OPTICS LINE
---	OVERHEAD ELECTRIC LINE
---	CABLE TELEVISION

BICYCLE PARKING SUMMARY

BICYCLE PARKING SPACES: 10 SPACES IN GARAGE

PARKING SUMMARY PHASE 4

PARKING REQUIRED:
36 UNITS AT 1.7 SPACES/UNIT = 62 SPACES

PARKING PROVIDED:
GARAGE: 17 REGULAR; 2 ACCESSIBLE
OFF-SITE WULFSOHN RD: 18 REGULAR; 3 ACCESSIBLE
AT GRADE PARKING: 22 REGULAR

TOTAL: 57 REGULAR; 5 ACCESSIBLE = 62 TOTAL SPACES

DESIGNATES OFF-SITE PARKING
SPACE ALLOCATED TO THE
LOFTS AT RED MOUNTAIN PHASE 4

DESIGNATES AT-GRADE PARKING
SPACE ALLOCATED TO THE
LOFTS AT RED MOUNTAIN PHASE 4

NOTE:

- TRASH DUMPSTER LOCATION WILL BE IN GARAGE.
- ACCESS AND DRAINAGE EASEMENTS FOR THE BENEFIT OF LOT 8 ARE DESCRIBED IN THE EASEMENT CONDITIONS AND RESTRICTIONS AGREEMENT FOUND AT BOOK 1611 PAGE 606.

DEVELOPER

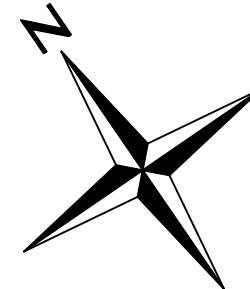
Stoneleigh Companies, LLC
760 W. Main St., Suite 140
Barrington, Illinois 60010
Phone: 224.770.4600
Contact: Josh Wohlreich

DEVELOPER

Realty Capital Management
909 Lake Carolyn Pkwy, Suite 150
Irving, Texas 75039
Phone: 469.533.4100



Know what's below.
Call before you dig.



0 10 20 40
SCALE: 1" = 20'

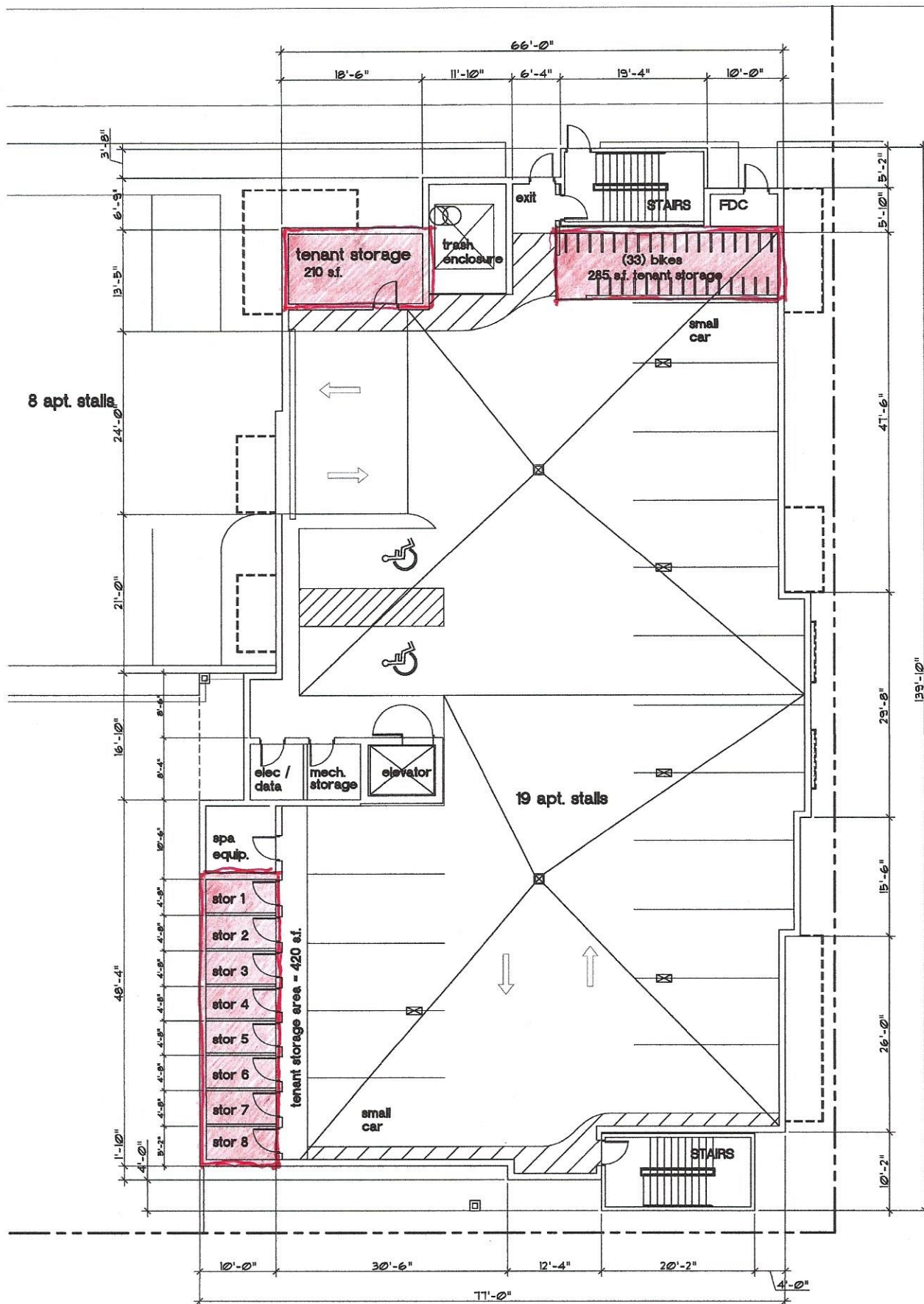
THE LOFTS AT RED MOUNTAIN
PHASE 4

SITE PLAN

SHEET

C1

Redland
WHERE GREAT PLACES BEGIN
720.283.6793 Office
720.283.6793 Cell
Littleton, Colorado 80120
REDLAND.COM

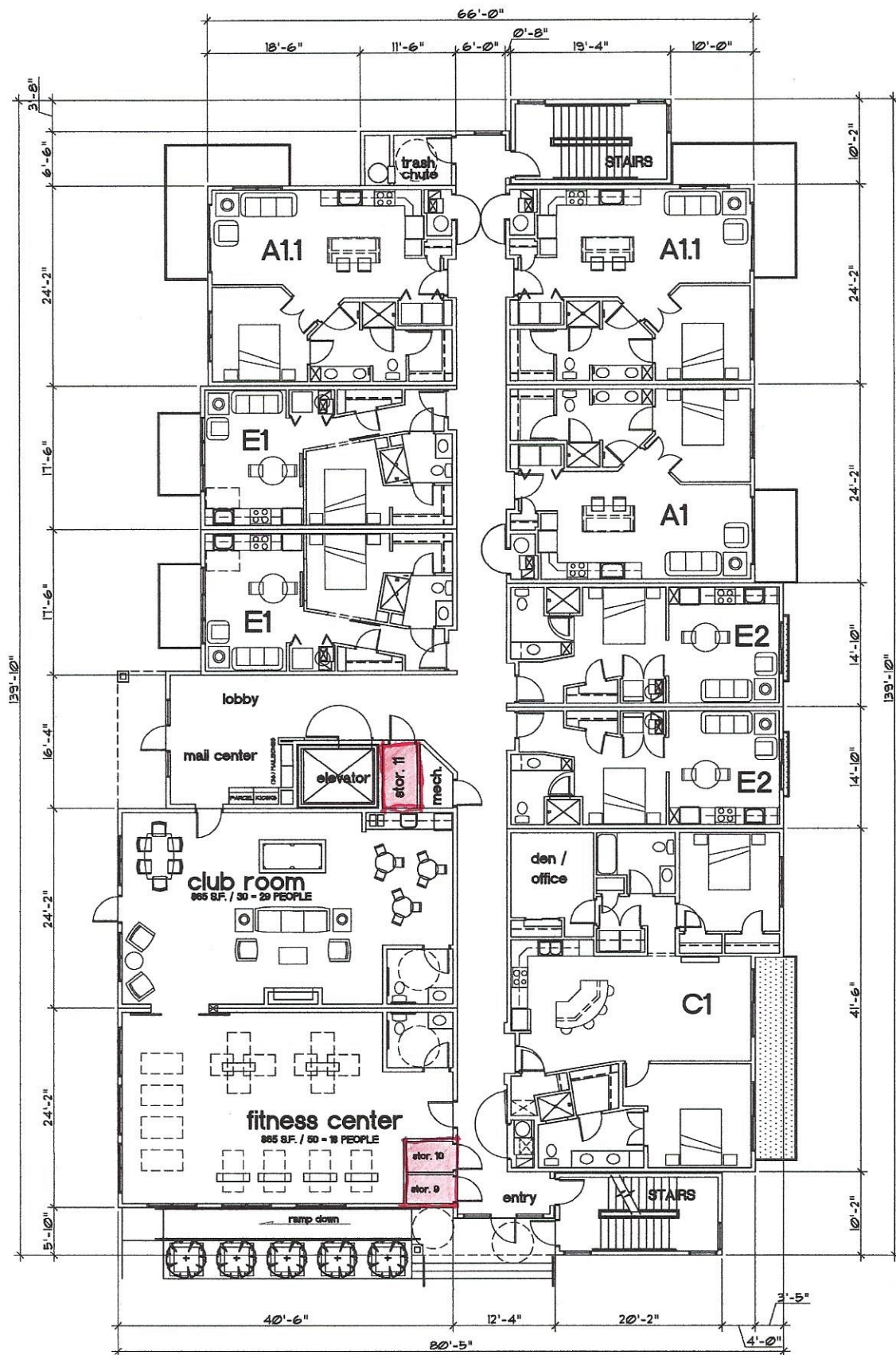


STORAGE THIS FLOOR:
915 S.F.

TOTAL TENANT
STORAGE: 1,315 S.F.

FLOOR PLAN - PARKING LEVEL

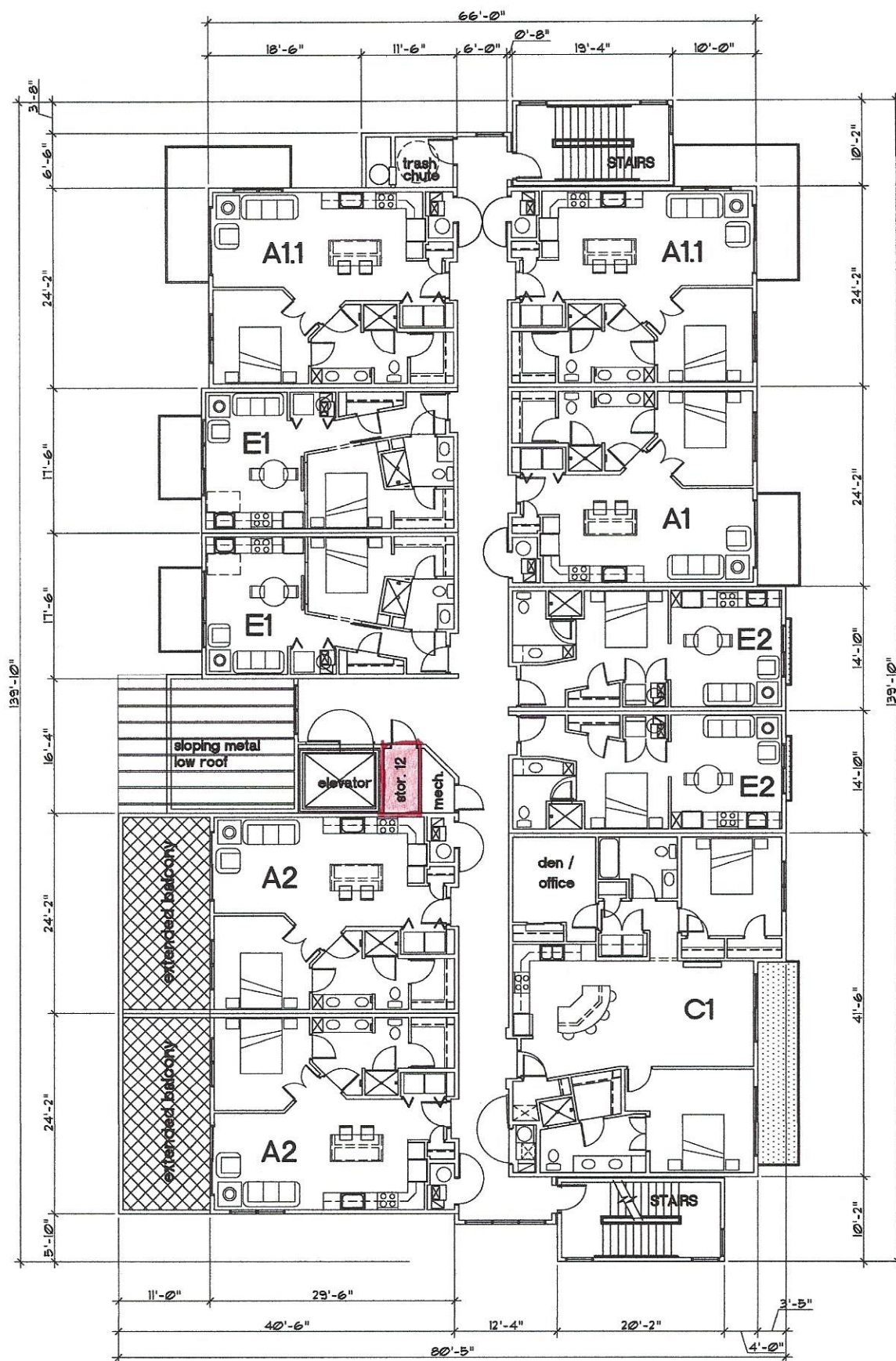
SCALE: 1/8" = 1'-0"



UNIT MIX THIS FLOOR:	
A1	1 UNIT
A1.1	2 UNITS
E1	2 UNITS
E2	2 UNITS
C1	1 UNIT
TOTAL:	8 UNITS
STORAGE THIS FLOOR:	
105 S.F.	

FLOOR PLAN - MAIN LEVEL (STREET LEVEL)

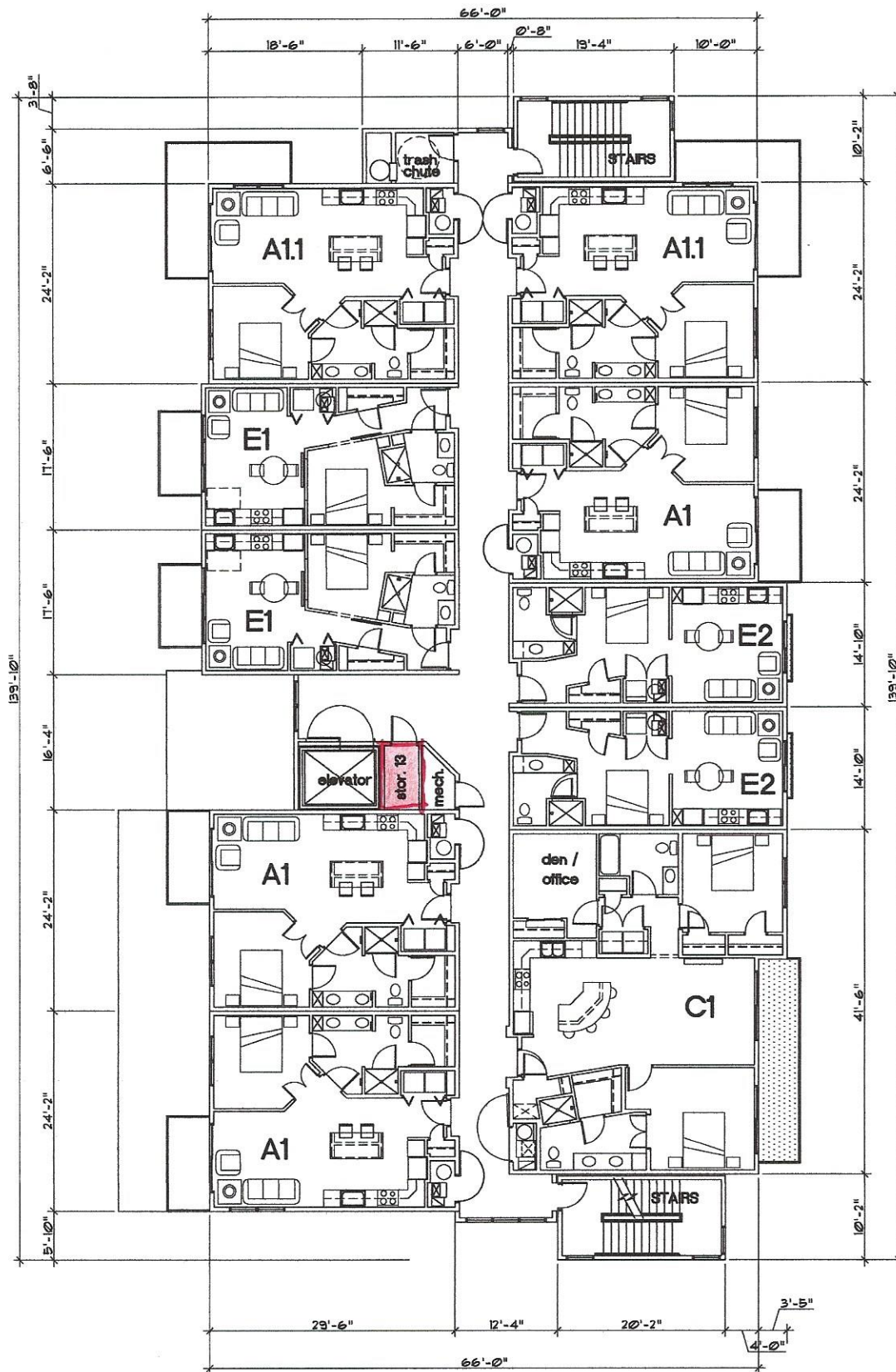
SCALE: 1/8" = 1'-0"



UNIT MIX THIS FLOOR:	
A1	1 UNIT
A1.1	2 UNITS
A2	2 UNITS
E1	2 UNITS
E2	2 UNITS
C1	1 UNIT
TOTAL:	10 UNITS
STORAGE THIS FLOOR:	
45 SF.	

FLOOR PLAN - 2ND LEVEL

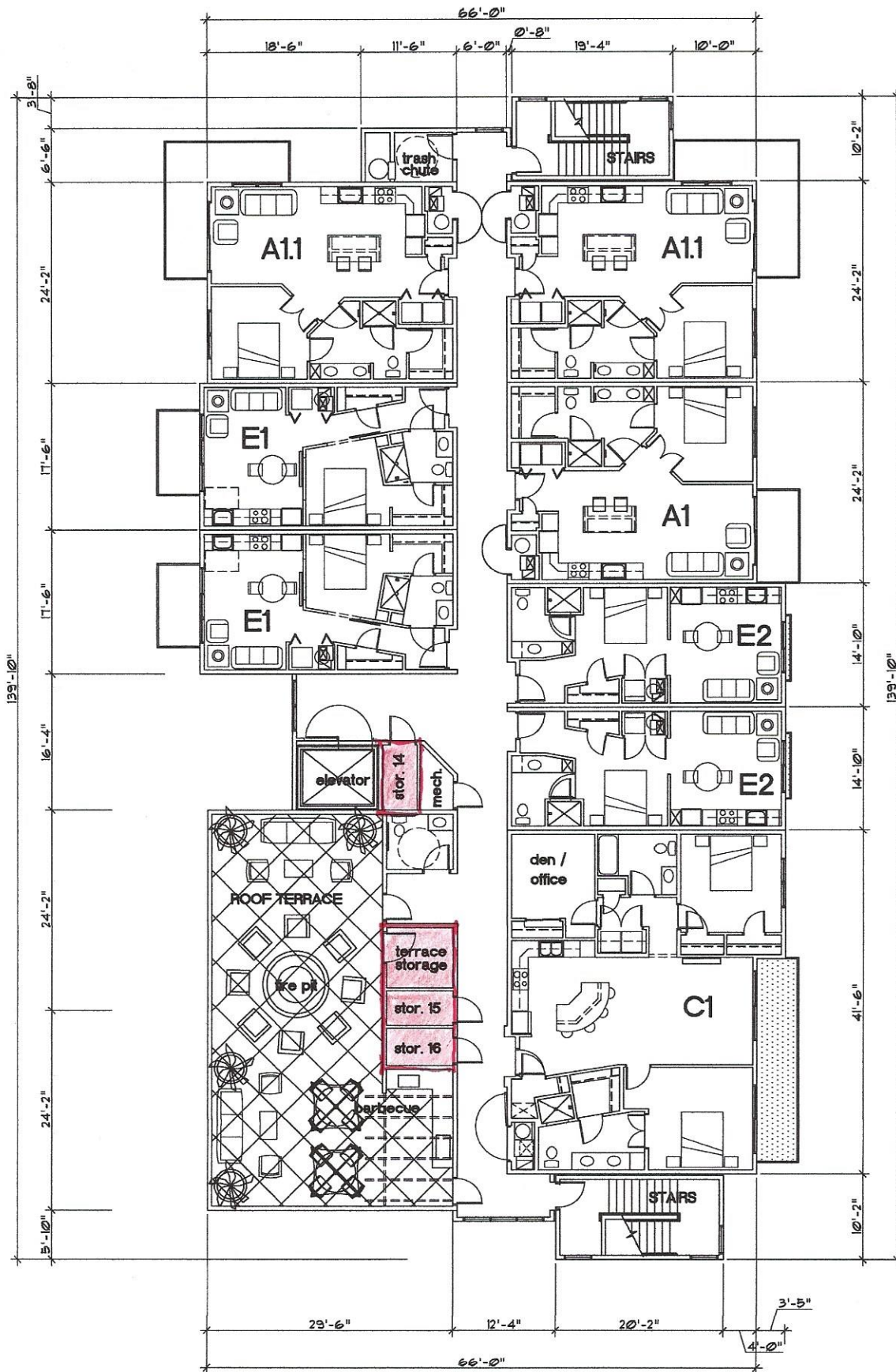
SCALE: 1/8" = 1'-0"



UNIT MIX THIS FLOOR:	
A1	3 UNIT
A1.1	2 UNITS
E1	2 UNITS
E2	2 UNITS
C1	1 UNIT
TOTAL:	10 UNITS
STORAGE THIS FLOOR:	
45 S.F.	

FLOOR PLAN - 3RD LEVEL

SCALE: 1/8" = 1'-0"



UNIT MIX THIS FLOOR:	
A1	1 UNIT
A1.1	2 UNITS
E1	2 UNITS
E2	2 UNITS
C1	1 UNIT
TOTAL:	8 UNITS
STORAGE THIS FLOOR:	
205 S.F.	

FLOOR PLAN - 4TH LEVEL

SCALE: 1/8" = 1'-0"



Planning and Zoning Commission Report

Date: July 27, 2021

To: Planning and Zoning Commission

From:

Subject: Planning File 18-21 - Consideration of Planning and Zoning Commission by-laws

REQUEST	Review and update Planning & Zoning Commission By-laws
APPLICANT	NA
OWNER	NA
LOCATION	NA
ZONE	NA
SURROUNDING LAND USES	NA
LOT SIZE	NA

ACTION ITEMS

Consideration of Planning and Zoning Commission by-laws.

BACKGROUND

Attached are a copy of the Commission's current by-laws. The document needs to be updated to ensure that they accurately reflect current processes and procedures.

PROJECT SUMMARY

NA

REVIEW CRITERIA AND STAFF ANALYSIS

NA

REVIEWING AGENCY COMMENTS

NA

ACTION ITEMS & STAFF RECOMMENDATIONS

Staff requests that the Planning & Zoning Commission adopt the updated bylaws with changes suggested at the previous meeting.

Suggested Findings:

NA

RULES, REGULATIONS AND PROCEDURES

GLENWOOD SPRINGS PLANNING AND ZONING COMMISSION

The Glenwood Springs Planning and Zoning Commission ("Commission") was created by ordinance pursuant to the authority provided in the Home Rule Charter (Section 7.1). Section 020.020.030 (L) sets forth the powers and duties of this Commission. The purpose of these Rules, Regulations and Procedures ("Rules") is to provide an orderly set of rules and procedures for the Commission to carry out the functions set forth in the Municipal Code.

I. MEETINGS.

- A. Time Limit. Meetings shall not continue past 11:00 p.m. No agenda item shall be taken up after 10:00 p.m., unless approved by a unanimous vote of the Commission. When the agenda is being prepared, the Community Development Director shall consult with the Chairperson to ensure that the agenda conforms to this rule.
- B. Regular Meetings. The Commission shall meet once a month on the Tuesday which is three weeks before the second City Council meeting of the following month. Meetings shall be held in the City Council Chambers unless the Commission deems it necessary to use other facilities. Meetings shall commence at 6:00 p.m. In the event that the proposed number of agenda items appears to require two meetings to complete such business, two meetings shall be scheduled at the discretion of the Community Development Director, upon consultation with the Chairperson and such other members of the Commission necessary to ensure a quorum at such additional meeting.
- C. Continuation of Regular Meeting. In the event that an agenda item scheduled for the regular meeting has not been taken up due to the provisions of I.(A) above, the Commission shall have the option of meeting on the following evening commencing at 6:00 p.m. or continuing such agenda item until a regular meeting or at a special meeting. Agenda items may be continued as addressed in the Glenwood Springs Municipal Code.
- D. Work Sessions. The Commission may meet once a month for a work session. Work sessions shall generally be held one week before the regular meeting date, unless another date has been designated by the staff based on room availability. All work sessions shall be held in the City Council Chambers unless the Commission deems it necessary to use other facilities. Work sessions shall commence at 6:30 p.m. and shall not extend past 8:30 p.m. unless approved by a unanimous vote of the Commission.

- E. Special Meetings. Special meetings are discouraged. A special meeting shall be held only in those circumstances in which there is a matter of pressing business which requires action by the Commission prior to the next regular meeting. Prior to calling a special meeting, the Chairperson shall consult with the Community Development Director and such other members of the Commission which are necessary to form a quorum. The decision to call a special meeting shall be at the sole discretion of the Chairperson. Such meeting shall be called upon twenty-four hours notice.
- F. Notice. In the event that a special meeting is called, all notices required by the Municipal Code shall be followed. In the event that a continued regular meeting is held, all notices published in compliance with the Municipal Code shall be deemed automatically continued until the date of the continued regular meeting.

II MEMBERSHIP/OFFICERS.

A. Election of Officers.

1. Chairperson. The Commission, at its regular meeting in February shall elect a Chairperson who shall serve in such capacity for a twelve month period. In the event a Chairperson vacates the Commission, for whatever reason, the Vice-Chairperson shall act in the role of Chairperson to serve out the Chairperson's term.
2. Vice-Chairperson. The Commission, at its regular meeting in February, shall elect a Vice-Chairperson who shall serve in such capacity for a twelve month period. In the event a Vice-Chairperson vacates the Commission, for whatever reason, the Commission shall elect a Vice-Chairperson at its next regular meeting.
3. Election of Chairperson in the event of absence of the Chairperson and Vice-Chairperson. In the event the Chairperson and Vice-Chairperson are both absent from any meeting, any members of the Commission present shall vote to elect a Chairperson to preside over such meeting.
4. Recording Secretary. The Recording Secretary shall be a non-elected position and shall be a member of the Community Development Department, or shall be designated by the Community Development Director.

- B. Duties of Officers. The duties and powers of the officers of the Commission shall be as follows:

1. Chairperson.
 - (a) Preside at all meeting of the Commission.
 - (b) Call special meetings in conformance with Rules I.(F).
 - (c) Sign all documents of the Commission.
 - (d) Oversee compliance with all rules set forth herein and Municipal Code provisions pertinent to the actions of the Commission.
2. Vice-Chairperson. During the absence, disability, or disqualification of the Chairperson, the Vice-Chairperson shall exercise or perform all duties and be subject to all the responsibility of the Chairperson.
3. Recording Secretary.
 - (a) Keep the minutes of all meetings of the Commission by recording such meetings by cassette tape.
 - (b) Prepare summaries of such meetings.
 - (c) Arrange for a verbatim transcription upon written request. A fee for the actual cost of such verbatim transcription may be charged.
 - (d) Prepare the agenda upon consultation with the Chairperson and Community Development Director.
 - (e) Act as the official custodian of all Commission records.
 - (f) Publish notices of appeals and City actions as required by the Municipal Code.

III QUORUM.

A quorum shall be met if at least four (4) members of the Commission are present for any meeting. The Commission shall not act on any matter unless there is at least a quorum of its members present.

IV **ALTERNATE.**

A Commissioner appointed as an alternate shall be authorized to participate in a meeting when substituting for an absent member. An alternate may attend any meeting of the Commission. An alternate shall not be authorized to participate in a meeting when not substituting for an absent member, except in cases where the alternate is speaking as a citizen on his own behalf and not as a representative of the Commission. Alternate members shall be required to participate in work sessions.

V. **DEADLINE FOR AGENDA.**

The deadline for filing applications or other items on an agenda shall be twenty-one (21) days prior to the public hearing, unless otherwise provided by the Municipal Code. Requests for continuances of any application for a particular agenda shall be filed with the Community Development Director no later than fifteen (15) days preceding the meeting so that the printed agenda will reflect the requested continuance. In the event a request for continuance is not made in a timely manner in strict compliance with these Rules, an application must be presented at the meeting.

VI **CORRESPONDENCE/APPLICATIONS.**

All correspondence or any application shall be addressed to the "Planning and Zoning Commission, Attention: Chairperson," and shall be filed with the Recording Secretary.

VII **PROCEDURE FOR PUBLIC HEARINGS.**

The following procedure shall normally be followed. It may be re-arranged by the Chairperson upon consultation with the Community Development Director, if necessary, for the expeditious conduct of business:

- A. Community Development Director, or designated representative, shall present the staff report and make recommendations.
- B. Commission members may ask questions regarding the staff presentation, report and recommendations.
- C. Applicant or applicant's representative shall make their presentation.
- D. Commission members may ask questions pertaining to the applicant's presentation.
- E. Comments shall be taken from the public.

- F. Applicant makes rebuttal of any points not previously covered. Public may respond to rebuttal only. The Chairperson shall limit the time for applicant and public to make such rebuttal.
- G. The public hearing is then closed. No further statements may be made by anyone who is not a Commissioner, subject to clarification questions directed to staff by the Commissioners (see "J" below).
- H. A Commissioner makes a motion on the application per the actions allowed in the Glenwood Springs Municipal Code.
- I. Discussion among Commissioners on the findings for the public hearing.
- J. Discussion among Commissioners on the motion. Commissioners may ask clarification questions of staff. No one from the public is allowed to make further statements or provide additional evidence.
- K. The Chairperson shall call for the vote when discussion ends.
- L. A vote is then taken.
- M. A majority vote is necessary to carry any motion.

VIII CONFLICT OF INTEREST.

Any member who shall feel that he or she has a conflict of interest on any matter that is on the agenda shall voluntarily excuse himself or herself, temporarily vacate the Commission seat, and refrain from discussing and voting on said matter. Commissioners who have business or financial interest that would stand to profit from a decision should absent themselves from the hearing.

IX RULES TO ENSURE FAIRNESS FOR PUBLIC HEARINGS.

The Commission intends to provide the following to anyone involved in a public hearing before the Commission:

- A. adequate notice;
- B. An impartial tribunal;
- C. an opportunity to present, hear and rebut evidence; and
- D. A decision based upon the law and upon evidence presented at the hearing.

In order to insure that these precepts are followed:

1. Commissioners shall never discuss any item with anyone who is to come before the Commission at a public hearing; however, the Commission is authorized to make a site visit with staff prior to the hearing. The site visit is subject to open meeting laws. In the event a site visit is taken, the Chairperson shall report on the record of what the Commission saw and did on the site visit.
2. Commissioners shall never comment on the pros and cons of an agenda item until all evidence and testimony have been presented and the public hearing is closed;
3. In the event many people wish to speak on a particular item, the Chairperson shall ration speaking time so that all may be heard in a timely manner;
4. Speakers who represent groups present at the hearing shall be given more time than individuals expressing their own views;
5. Individuals who persist in interrupting the proceedings shall be asked to leave the hearing room. A member of the Police Department shall be requested to remove anyone persisting in unruly or disruptive behavior;
6. Due to the tape recording of the proceedings, all Commissioners and speakers shall speak clearly and directly into the microphones to ensure a clear record; all speakers shall identify themselves and state their home or business address and the group they represent, if any.
7. Individuals wishing to be part of the record must be at the podium or at a microphone prior to speaking;
8. Written materials offered to the Commission shall be handed to the Recording Secretary. The materials shall then be circulated to the Commissioners;
9. No cross-examination of a witness or speaker shall be allowed. In the event a person wishes to ask a question of a witness or speaker, such question shall be addressed to the Chairperson, who may then address such witness or speaker with the question;
10. The strict rules of evidence shall not be followed;
11. No speaker shall be subject to harassment or embarrassment during the hearing;

12. The Chairperson shall determine whether offered testimony is material or relevant to the hearing;
13. The Commission shall give offered evidence whatever weight is deemed worthy by the Commission;
14. Commissioners shall base their vote only upon evidence presented during the hearing;
15. Commissioners serving as alternates who are not filling in for another absent Commissioner shall not ask questions, comment or participate in a public hearing; unless the alternate member clearly states they are speaking as a citizen and not as a representative of the Planning Commission.
16. Commissioners shall not vote on minutes of a meeting at which they were not present;
17. A Commissioner who has not participated in a hearing on an item that is continued, may not participate in discussion of the item at a future meeting unless the Commissioner has listened to the audio recording of the item from the original meeting and also has fully reviewed all written evidence presented at the previous meeting on that agenda item.
18. Commissioners and alternate members that wish to speak on items taken up by the Planning Commission, City Council or other City Boards and Commissions, shall identify himself/herself as a member of the Planning Commission and shall preface their remarks by stating they are speaking on their own behalf, not as a representative of the Planning Commission as a whole.

X. **AMENDMENT OF RULES.**

These rules may be amended from time to time upon the majority vote of the full Commission.

XI **AVAILABILITY OF RULES.**

The Recording Secretary shall see to it that anyone who requests a copy of these Rules shall have them provided at the cost of copying said Rules.

RULES, REGULATIONS AND PROCEDURES

GLENWOOD SPRINGS PLANNING AND ZONING COMMISSION

The Glenwood Springs Planning and Zoning Commission ("Commission") was created by ordinance pursuant to the authority provided in the home rule charter section 7.1 section 020. 020. 030 parentheses LM parentheses set forth the power and duties of this Commission the purpose of these rules, regulations and procedures in parentheses rules is to provide an orderly set of rules and procedures for the Commission to carry out the function set forth in the municipal code.

I. MEETINGS.

- A. **Time Limit.** Meeting shall not continue past 11:00 PM. No agenda item shall be taken up after 10:00 PM., ~~unless approved by the unanimous vote of the Commission when the agenda is being prepared, the Community Development Director shall consult with the Chairperson to ensure that the agenda conforms to this rule.~~
- B. **Regular Meetings.** The Commission shall meet once a month on the fourth Tuesday ~~which is 3 weeks before the second City Council meeting of the following month.~~ Meeting shall be held in the City Council Chambers unless the Commission deems it necessary to use other facilities. Meetings shall commence at 6:00 PM. In the event that the proposed number of agenda items appears to require two meetings to complete such business, two meetings shall be scheduled at the discretion of the Community Development Director, upon ~~constant~~ consultation with the Chairperson and such other members of the Commission necessary to ensure a quorum at such additional meeting.
- C. **Continuation of Regular Meeting.** In the event that an agenda item scheduled for the regular meeting has not been taken up due to the provisions of I. (A) above, the Commission shall have the option of ~~meeting on the following evening commencing at 6:00 PM or~~ continuing such agenda item until a regular meeting or ~~at~~ a special meeting. Agenda items may be continued as addressed in the Glenwood Springs Municipal Code.
- D. **Work Sessions.** The Commission may meet once a month for a work session. Work sessions shall generally be held one week before the regular meeting date, unless another date has been designated by the staff based on room availability. All work session shall be in the City Council chambers unless the Commission deems it necessary to use other facilities. Work session shall commence at 6:030 PM and shall not extend past 8:030 PM unless approved by a unanimous vote of the Commission.

- E. **Special Meetings.** Special meetings are discouraged. A special meeting shall be held only in those circumstances in which there is a matter of pressing business which requires action by the Commission part to the next regular meeting prior to calling a special meeting the chairperson shall consult with the community development director and such other members of the Commission which are necessary to form a quorum. The decision to call a special meeting shall be at the sole discretion of the chairperson. Such meeting shall be called ~~upon~~ with no less than twenty-four hours notice.
- F. **Notice.** In the event that a special meeting is called, all notices required by the municipal code shall be followed. In the event that a continued regular meeting is held, all notices published in compliance with the Municipal Code shall be deemed automatically continued until the date of the continued regular meeting.

II **MEMBERSHIP/OFFICERS**

A. **Election of Officers.**

1. **Chairperson.** The Commission, at its regular meeting in February shall elect a Chairperson who shall serve in such capacity for a twelve month period. In the event of a Chairperson vacates the Commission, for whatever reason, the Vice-Chairperson shall act in the role of Chairperson to serve out the Chairperson's term.
2. **Vice-Chairperson.** The Commission, at its regular meeting in February, shall elect the Vice-Chairperson who shall serve in such capacity for a twelve month period. In the event a Vice-Chairperson vacates the Commission, for whatever reason, the Commission shall elect a Vice-Chairperson at its next regular meeting.
3. **Election of chairperson in the event of absence of the chairperson and vice chairperson.** In the event the Chairperson and Vice-Chairperson are both absent from any meeting any members of the Commission present shall vote to elect a Chairperson to preside over such meeting.
4. **Recording secretary.** The Recording Secretary shall be a non-elected position and shall be a member of the Community Development Department or shall be designated by the Community Development Director.

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- (a) Preside at all meetings of the Commission.
- (b) Call special meetings in conformance with Rules I. (~~FE~~).

- (c) Sign all documents of the Commission.
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 - (b) Prepare summaries of such meetings.
 - (c) Arrange for a ~~verb 8:00 AM~~verbal transcription upon written request, if the recording for the meeting has not been purged per the Colorado retention schedule. A fee for the actual cost of such verbatim transcription may be charged.
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member, except in cases where the alternate is speaking as a citizen on his own behalf and not as a representative of the Commission. Alternate member shall be ~~required~~ allowed to participate in work sessions.

V **DEADLINE FOR AGENDA.**

The deadline for filling applications or other items on an agenda shall be eight weeks ~~twenty-one (21) days~~ prior to the public hearing, unless otherwise provided by the Municipal Code. Requests for continuance of any application for a particular agenda shall be filed with the Community Development Director as soon as is practicable with the goal of having those changes reflected on ~~no later than fifteen (15) days preceding the meeting so that~~ the printed agenda ~~will reflect the requested continuance~~. In the event a request for continuance is not made in a timely manner in strict compliance with these Rules, an application for continuance ~~may~~ must be presented by the applicant at the meeting.

VI **CORRESPONDENCE/APPLICATIONS.**

All correspondence or any application shall be provided to the Planning Commission addressed to the "Planning and Zoning Commission, Attention: Chairperson" ~~and shall be filed with the Recording Secretary.~~

VII **PROCEDURE FOR PUBLIC HEARINGS.**

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- D. Commission members may ask questions pertaining to the applicant's presentation.
- E. Comments shall be taken from the public.

- F. Applicant makes rebuttal of any points not previously covered. Public may respond to rebuttal only. The Chairperson shall limit the time for applicant in public to make such rebuttal.
- G. The public hearing is then closed. No further statements may be made by anyone who is not a Commissioner, subject to clarification questions directed to staff by the commissioners (see "J" below).
- H. A Commissioner makes a motion on the application per the actions allowed in the Glenwood Springs Municipal Code.
- I. Discussion among Commissioners on the findings for the public hearing.
- J. Discussion among Commissioners on the motion. Commissioners may ask clarification questions of staff. No one from the public is allowed to make further statements or provide additional evidence.
- K. The Chairperson shall call for the vote when discussion ends.
- L. A vote is then taken.
- M. A majority vote is necessary to carry any motion.

VIII **CONFLICT OF INTEREST.**

Any member who shall feel that he or she has a conflict of interest on any matter that is on the agenda shall voluntarily excuse himself or herself, temporarily vacate the Commission seat, and refrain from discussing and voting on said matter. Commissioners who have business or financial interest that would stand to profit from a decision should absent themselves from the hearing.

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3. In the event many people wish to speak on a particular item, the chairperson shall ration speaking time so that all may be heard in a timely matter.
4. Speakers who represent groups at the hearing shall be given more time than individuals expressing their own views;
5. Individuals who persist in interrupting the proceedings shall be asked to leave the hearing room a member of the Police Department shall be requested to remove anyone persisting in unruly or disruptive behavior;
6. Due to the tape recording of the proceedings, all Commissioners and speaker shall speak clearly and directly into the microphones to ensure at clear record; All speakers shall identify themselves and state their home or business address and the group they represent, if any.
7. Individuals wishing to be part of the record must be at the podium or at the microphone prior to speaking;
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9. No cross examination of a witness or speaker shall be allowed. In the event a person wishes to ask a question of a witness or speaker, such questions shall be addressed to the Chairperson, who may then address such witness or speaker with the question;
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11. No Speaker shall be subject to harassment or embarrassment during the hearing;
12. The Chairperson shall determine whether offered testimony is material or relevant to the hearing.
13. The Commissioners shall give offered evidence whatever weight is deemed worthy by the Commission;
14. Commissioners shall base their vote only upon evidence presented during the hearing;
15. Commissioners serving as alternates who are not filling in for another absent Commissioner shall not ask questions, comment or participate in a public hearing; unless the alternate member clearly states they are speaking as a citizen and not as a representative of the Planning Commission.
16. Commissioners shall not vote on minutes of a meeting at which they were not present;
17. A Commissioner who has not participated in a hearing on an item that is continued, may not participate in discussion of the item at a future meeting unless the Commissioner has listened to the audio recording of the item from the original meeting and also has fully reviewed all written evidence presented at the previous meeting on that agenda item.
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X **AMENDMENT OF RULES.**

These rules may be amended from time to time upon the majority vote of the full Commission.

XI **AVAILABILITY OF RULES.**

The Recording Secretary shall see to whether anyone who requests a copy of these rules shall have them provided at the cost of copying said rules.



Planning and Zoning Commission Report

Date: July 27, 2021

To: Planning and Zoning Commission

From: Trent Hyatt, Senior Planner

Subject: Planning File 60-20 - Request to Continue Major Site/Architectural Plan Review application for the construction of 300-unit multi-family development in 14 separate buildings in Glenwood Meadows to the August 24, 2021 Planning and Zoning Commission meeting.

REQUEST	Major Site/Architectural Plan Review for the construction of 300 multi-family residential apartment units in 14 separate buildings
APPLICANT	BLD Group
OWNER	Glenwood Meadows, LLC
LOCATION	Lots 11 C-B and 11 C-C of Glenwood Meadows Subdivision No. 6, adjacent to Flat Top View Drive and Wulfsohn Road (PIN: 2185-081-41-002 and 2185-081-41-003)
ZONE	Residential High Density (RH) District
SURROUNDING LAND USES	North: Mixed residential/commercial South: Vacant East: Multi-family residential West: Vacant
LOT SIZE	Approximately 27.929 acres

ACTION ITEMS

Consideration of a continuation request to the August 24, 2021 Planning and Zoning Commission Meeting.

BACKGROUND

The applicant has requested a continuation of the project to allow more time to thoroughly address staff comments before Planning and Zoning Commission review.

Public notice was provided by the applicant for the July 27, 2021 meeting necessitating the continuation request.

PROJECT SUMMARY

REVIEW CRITERIA AND STAFF ANALYSIS

REVIEWING AGENCY COMMENTS

ACTION ITEMS & STAFF RECOMMENDATIONS

Staff recommends continuing this item until the August 24, 2021 regularly scheduled meeting.

Suggested Findings:

NA

