



July 21, 2023

Debbie Bickmire  
City of Aurora Planning Department  
15151 E. Alameda Parkway, Suite 2300  
Aurora, CO 80012

**Re: Third Submission Review – Green Valley Ranch Master Plan Amendment No 2 – Comprehensive Plan Amendment, Zoning Map Amendments and Master Plan Amendment**  
**Application Number:** DA-1662-25  
**Case Numbers:** 2002-1001-00; 2005-2018-01; 2005-2018-02; 2005-7006-02

Dear Ms. Bickmire,  
On behalf of Oakwood Homes and Terracina Design, we have reviewed the comments dated January 23, 2023. The following is a response to comments.

*Third Submission Review*

**PLANNING DEPARTMENT COMMENTS**

**1. Zoning and Land Use Comments**

- 1A. Submit separate legal descriptions and illustrations for the two areas being rezoned. These are required as attachments when the request is presented to the Planning and Zoning Commission. **RESPONSE: Separate exhibits provided for the rezone.**
- 1B. Rephrase the discussion to emphasize the positives of the proposed Comprehensive Plan Amendment and Rezones. For example, the request is to better align with the proposed residential uses. **RESPONSE: Noted. Narrative revised.**
- 1C. Provide more context for the locations of the areas being rezoned. **RESPONSE: Revised**

**2. Completeness and Clarity of the Application** **Tab #1 Letter of Introduction**

**Tab #1 Letter of Introduction**

- 2A. Revise the letter per the redline comments and remove some repetitive language. **RESPONSE: Letter of introduction updated.**

**Tab #3 Context Map**

- 2B. Revise the introduction so the Master Plan area is described consistently with the Letter of Introduction. **RESPONSE: introduction revised**
- 2C. The Master Plan is referenced as Green Valley and occasionally as Green Valley Ranch. Please revise to be consistent. **RESPONSE: Revised to Green Vally Ranch**
- 2D. Revise Tab 3.4 to change the zoning for Skydance to MU-A. **RESPONSE: Zoning Revised**
- 2E. Remove Parks and Open Space District (POS) from Tab 3.5 (the proposed zoning map). It is a land use, not a zone district. **RESPONSE: Removed**

**Tab #4 Site Analysis**

- 2F. Clarify the direction of flows in the Water Features section on Page 2. **RESPONSE: Revised**
- 2G. Is there an existing spring that feeds the pond located in the northeast quadrant of 48th Avenue and Picadilly Road? **RESPONSE: Water is drawn from an aquifer to assist with filling the ponds when necessary.**
- 2H. Specify what infrastructure needs to be brought to the site and from where. **RESPONSE: As part of any master plan, roads and utilities will have to be constructed in order for development to occur. Tibet Road will be extended north to 56<sup>th</sup>, 56<sup>th</sup> will be widened, Picadilly Road will be widened and 52<sup>nd</sup> Ave will be built. Utilities will be extended from the portion of Green Valley Ranch to the south.**
- 2I. See suggested edits in the redlines. **RESPONSE: Revised**

#### **Tab #6 Narrative**

- 2J. The entire Master Plan (MP) is included in this amendment, therefore, revise references that the area north of 52<sup>nd</sup> Avenue is being "added." It was included in the original MP approval and the land uses are being revised with this amendment. **RESPONSE: Revised**
- 2K. Revise Zoning Conformance to more specifically describe locations of current and proposed zone districts. See Tab 4 for recommendations. **RESPONSE: Language revised**
- 2L. Review the discussion about school requirements and see the comments from APS. Additional non-active adult residential is proposed in the Mixed-Use areas. **RESPONSE: School requirements will be met for all residential used within the mixed-use area per the UDO requirements.**
- 2M. Expand the discussion of item 6 to discuss the infrastructure being constructed by the developer prior to the City acceptance and maintenance. **RESPONSE: Revised**

#### **Tab #8 Land Use Map, Matrix and Standard Notes**

- 2N. Review the number of proposed dwelling units and make them consistent. **RESPONSE: Revised**
- 2O. Revise Open Space acreage so Form J and Form D match. **RESPONSE: Revised**
- 2P. Why are there two densities in the Land Use Summary? Add a footnote to explain. **RESPONSE: Revised**
- 2Q. What is "Collector" referenced for Planning Areas 19 and 21? **RESPONSE: Revised**
- 2R. Add "AA" to all active adult Planning Areas. **RESPONSE: Added**
- 2S. Round Planning Area acreage to tenths. **RESPONSE: Revised**

#### **Tab #9 Open Space, Circulation, and Neighborhood Plan**

- 2T. Ensure Planning Areas and associated acreage and density are consistent on the Overall Plan, the enlarged plans, and the Land Use Map in Tab 8. **RESPONSE: Revised**
- 2U. Review acreage totals to be consistent in Form J. **RESPONSE: Revised**

#### **Tab #10 Urban Design Standards**

- 2V. Repeat comment: Replace the font identified on the cover sheet. **RESPONSE: Font removed**



- 2W. Clarify residential from non-residential standards on the cover sheet. **RESPONSE: Revised**
- 2X. Revise item 7 for signage standards. As written, it doesn't make sense. **RESPONSE: Removed**
- 2Y. Clarify whether the active adult clubhouse will serve the active adult residential development north of 52nd Avenue **RESPONSE: Revised**
- 2Z. Revise sign description/reference(s) on Tab 10.4 and Tab 10.6 to be similar. **RESPONSE: Revised**
- 2AA. The lights illustrated in Tab 10.9 are not similar to what is actually being used for street lights in the current development. Update or include additional examples. **RESPONSE: Street light revised**
- 2BB. Include lighting standards and examples for non-residential development. **RESPONSE: Revised**
- 2CC. Address miscellaneous redline comments and questions. **RESPONSE: Redlines addressed**

#### **Tab #11 Landscape Standards**

- 2DD. The language was added to item 4 which stipulates the landscape requirements for curbside landscapes 6' in width or less. Per the recent Aurora Water ordinance restricting the use of turf, all curbside landscape will be required to use water-wise landscape that includes trees, shrubs, grasses, and native seed. Edit the statement per the redlines. **RESPONSE: Revised**

#### **Tab #12 Architecture Standards**

- 2EE. Remove "points" references from residential features. Points will be determined per the UDO checklist. **RESPONSE: Points references removed**
- 2FF. Add the requirement that street-side motor court homes must have doors oriented toward the street. Provide elevation(s) to demonstrate the street elevations. **RESPONSE: Language added**
- 2GG. Add "Building Orientation" for Commercial/Retail uses. Encourage building orientation toward the street without intervening in parking areas. Add a statement regarding limitations of drive-thru's adjacent to streets per the use-specific standards in the UDO. **RESPONSE: Language added**
- 2HH. Include building form variations, fenestration, changes in the building plane, roof line, etc.... and create a top middle and bottom using architectural features for Commercial/Office and Institutional uses. **RESPONSE: Added**
- 2II. Encourage Commercial/Office and Institutional uses to be oriented toward the street, use structured parking and discourage parking visible to the public streets. **RESPONSE: Added**

#### **REFERRAL COMMENTS FROM OTHER DEPARTMENTS AND AGENCIES**

##### **3. Civil Engineering** (Kristin Tanabe / 303-739-7306 / [ktanabe@auroragov.org](mailto:ktanabe@auroragov.org) / Comments in green) **Public Improvement Plan**

- 3A. The Master Plan Amendment will not be approved by Public Works until the Master Drainage Amendment is approved. **RESPONSE: Noted**
- 3B. Add language that states additional roadway improvements may be required for planning areas to meet life safety and traffic needs. This was supposed to be in the roadway section and not drainage improvements. **RESPONSE: Language added to roadway improvement section.**

**4. Traffic Engineering** (Carl Harline / 303-739-7336 / [charline@auroragov.org](mailto:charline@auroragov.org) / Comments in amber)  
**Traffic Impact Study**

- 4A. Check to make sure access point geometry (queuing, especially) at Ints 18/19/27 works with the close proximity of the Tibet/56th intersection. **RESPONSE: Intersections have been reviewed and revised as necessary within the latest TIS.**
- 4B. Figure 2 differs from the later Figures 9 and 10 respectively to the built access conditions but does match the other submitted documents for this plan update. Please update later Figures for consistency within the document. See the markup on Figure 11. **RESPONSE: Figures have been revised throughout the document for additional access points.**

**5. Public Art** (Roberta Bloom / 303-739-6747 / [rbloom@auroragov.org](mailto:rbloom@auroragov.org))

- 6A. Please add the planning area numbers or identifiers to the map in the Public Art Plan.  
**RESPONSE: Added**
- 6B. The timeline for Part 2 is very vague. Please be more specific.  
**RESPONSE: We anticipate public art to be constructed sometime in 2026 or as market demands. The commercial areas are harder to predict timing wise unfortunately.**

**6. PROS** (Michelle Teller / 303-739-7437 / [mteller@auroragov.org](mailto:mteller@auroragov.org) / Comments in purple)  
**Tab #8 Land Use Map**

- 6A. The land dedication should show the total inclusive of the community park. **RESPONSE: Revised**
- 6B. Update land dedication totals as noted in redlines. **RESPONSE: Dedication revised**

**Tab #9 Open Space**

- 6C. The floodplain allowance is not being interpreted correctly; you may count more floodplains as open space within your development should that be desirable and remove a pocket park in the active adult area as service is being met. PROS supports the design and addition of pocket parks as shown but note based on land dedication triggered is not a requirement. See clarification within Tab 9. **RESPONSE: Open Space dedication revised**

- As noted in Tab 8, it is requested that a portion of community cash in lieu be paid with the master plan amendment with the additional being paid at the time of the first plat. Please verify the cost per acre for the community park cash in lieu by connecting with Michelle Teller and Curtis Bish so that an invoice can be issued. You may use this number if a recent appraisal has been completed in the last six months. Real Property has also generated a number (\$177,673.00) based on the cost of city-purchased lands in the last year which may be utilized. **RESPONSE: Noted**

- See technical comments in Tab 8 and 9. Ensure numbers are consistent for both documents. **RESPONSE: Revised**

**7. E-470 Public Highway Authority** (Brandi Kemper / [bkemper@e-470.com](mailto:bkemper@e-470.com))

- 7A. Occupying space for utility work, access, and any construction within the E-470 ROW and MUE (multi-use easement) is subject to and will be in compliance with the E-470 Public Highway Authority Permit Manual, April 2008, as may be amended from time to time (the "Permit Manual") and will require an E-470 Construction or Access Permit. The administration fee is \$750.00 and \$75,000 per acre for construction. **RESPONSE: Noted**

- 7B. A permit will be required from E-470 for any encroachment or disturbance to E-470 ROW or MUE prior to construction. **RESPONSE: Noted**
- 7C. Here is a link to our permit: <https://www.e-470.com/Pages/WorkingWithUs/Permits.aspx> **RESPONSE: Noted**
- 7D. E-470 discourages residential uses adjacent to the roadway. **RESPONSE: Noted. The plan is to still have residential along E470 per previously approved master plans.**
- 7E. E-470 is not responsible for noise mitigation. **RESPONSE: Noted**
- 7F. E-470 will be widened to 4 lanes in each direction in the future. **RESPONSE: Noted**
- 7G. A 10' wide concrete regional trail will be constructed along the west side of E-470 in the future. Please coordinate with the City of Aurora, Adams County, and E-470 for trail improvements that may connect to the regional trail system. **RESPONSE: Noted**
- 7H. Additional comments will be issued as the design progresses. **RESPONSE: Noted**

**8. Aurora Public Schools (Joshua Hensley / [jdhensley@aurorak12.org](mailto:jdhensley@aurorak12.org) )**

- 8A. The third submittal of this development application includes residential land uses within the mixed-use planning areas located east of Tibet Road. The total school land requirement for the non-active adult portion of Green Valley Ranch East, including the planned housing in the mixed-use areas, is approximately 32 acres. The development plan includes an 18-acre P-8 school site. This school site is sufficient for the district to construct a P-8 school with the capacity to serve the Green Valley Ranch East community. Aurora Public Schools agreed to apply the school dedication required for the purposes of calculating cash-in-lieu of land as site plans are approved. The district will request cash-in-lieu of land when the balance of the obligation from approved site plans exceeds 18 acres. Cash-in-lieu of land is required to serve high school-age students at a district located outside of Green Valley Ranch. The land value for cash-in-lieu will be based on the market value of zoned land with infrastructure in place.

**AURORA PUBLIC SCHOOLS - STUDENT YIELD**  
1/19/2023

**GVRE - Master Plan Amndt NO 2 (DA-1662-25) - Non-Active Adult**

Dwelling Type	Units	Yield Ratio	Student Yield
SFD	1,662	0.7	1,163
MF-LOW	300	0.3	90
MF-HIGH	798	0.145	116
<b>TOTAL</b>	<b>2,760</b>		<b>1,369</b>

YIELD	ELEMENTARY		MIDDLE SCHOOL		K-8 TOTAL	HIGH SCHOOL		K-12
	RATIO	STUDENTS	RATIO	STUDENTS	STUDENTS	RATIO	STUDENTS	TOTAL
SF	0.34	565	0.16	266	831	0.2	332	1,163
MF-LOW	0.17	51	0.08	24	75	0.05	15	90
MF-HIGH	0.075	60	0.04	32	92	0.03	24	116
<b>TOTAL</b>		<b>676</b>		<b>322</b>	<b>998</b>		<b>371</b>	<b>1,369</b>

SCHOOL TYPE	STUDENT YIELD	ACRES PER CHILD	ACRES REQUIRED
ELEMENTARY	676	0.0175	11.8288
MIDDLE	322	0.025	8.0460
HIGH	371	0.032	11.8829
<b>TOTAL</b>	<b>1,369</b>		<b>31.7577</b>

**RESPONSE: It is understood that cash in lieu will have to be satisfied if additional residential occurs within the new land areas. At this time is unknown what the final land uses will be within the mixed**

use areas making it hard to predict how much if any cash in lieu will be required. When the balance of the 18.0 Ac obligation is exceeded, cash in lieu will be provided as necessary for each site plan.

END OF RESPONSES

## DEVELOPMENT APPLICATION

- Letter of Introduction
- Project Team



December 21, 2022

Debbie Bickmire  
City of Aurora  
Planning and Development Services Dept  
15151 E. Alameda Parkway, Suite 2300  
Aurora, CO 80012

**RE: Green Valley Master Plan Amendment 2**

Dear Ms. Bickmire,

On behalf of Oakwood Homes, we are pleased to submit our proposed Second Amendment to the Green Valley Master Plan (MP), Comprehensive Plan Amendment and Rezone for the City of Aurora's review.

The Green Valley MP (formerly Framework Development Plan) was approved in November of 2008 for 2,500 acres. The MP was amended in 2018 to modify the land uses and open space on 588 acres located west of E-470 (Amendment 1). Amendment 2 proposes modified planning areas and open space on the 301 acres located between Picadilly Road and E-470; and 56<sup>th</sup> Avenue and 52 Avenue. With this amendment, we are also revising the overall MP area to remove all of the Planning Areas located east of E-470. This Second Amendment revises the total MP area from approximately 2,500 acres to 884.1 acres.

This Amendment proposes to revise approximately 301 acres located north and east of Amendment 1. When combined with the approved Amendment 1 area, the total acreage is approximately 884 acres within this Master Plan. The intent of this amendment is to revise land use maps to include new areas as well as revise previous land use areas to better align with current site plans, and to provide The Urban Design, Landscape and Architectural Standards for Commercial/Retail/Mixed Use that were not included in the first Amendment as well. The primary intent of this amendment is to modify land uses within the 301 acres. located between 52nd Avenue and 56th Avenue,

This amendment includes modifications to the following:

- Existing Conditions
- Land Use, Open Space, Circulation and Neighborhood
- Revisions to Amendment 1 area to reflect current conditions
- Urban Design and Landscape Standards for Commercial **Revised** Mixed Use
- Public Art
- Commercial/Retail/Mixed Use & Multifamily Architectural standards
- Public Improvements Plan
- Master Drainage Report
- Master Utility Report
- Master Transportation Study

have also been updated to include standards for commercial, retail and mix use development.

The Landscape, Architecture and Urban Design Standards for residential are not changing with **Revised** amendment. The approved standards will apply.

Ranch

### Green Valley Master Plan Vision

a

Green Valley is envisioned as Comprehensive planned community integrated with places to live, learn and play. It is bounded by 56th Avenue and 38<sup>th</sup> Avenue to the north and south, and Picadilly Road and E-470 to the west and east respectively. The total site area of the proposed amendment encompasses approximately 884 acres. It will include an interconnected series of neighborhoods served by nearby Neighborhood Activity Centers, schools, parks, open space, and trails.

Further amenities to the City will include approximately 27.4 acres of neighborhood parks, and over 74.2 acres of dedicated open space, greenbelts, and trails. The site identifies the one Pre Kindergarten - 8th grade school, and one fire station site on a 5.8 acre site owned by the City of Aurora.

We are excited about the opportunity to continue work in this rapidly changing E-470 Corridor. It is our intent to provide the framework to expand upon the successful Green Valley Ranch master-planned community and create long lasting value, which is an important component in implementing the City of Aurora's future for this area.

Thank you for your assistance in processing and reviewing this application. We trust that you will find this application complete in its response to your previous comments. Please contact us at your earliest convenience if you have any questions or need additional information regarding this submittal. We look forward to your review of the enclosed materials.

Sincerely,

Layla Rosales



## PROJECT TEAM

### APPLICANT

Oakwood Homes  
4908 Tower Road  
Denver, CO 80249  
(303) 486-8500  
Contacts: Dave Carro

### CIVIL ENGINEERING/UTILITY ANALYSIS

Dewberry  
8100 East Maplewood Ave., Ste. 150  
Greenwood Village, Co 80111  
(720) 386-5601  
Contacts: Jason Margraf

### OWNERSHIP GROUP

Clayton Properties Group II Inc.  
4908 Tower Road  
Denver, CO 80249  
(303) 486-8500  
Contacts: Bruce Rau

### TRAFFIC

Felsburg Holt & Ullevig, Inc.  
6300 S. Syracuse Way  
Centennial, CO 80111  
(303) 721-1440  
Contact: Lyle Devries

### C and H Colorado Land Investments LLC.

10801 W. Charleston Blvd Ste. 170  
Las Vegas, NV 89135  
(719) 346-8661  
Contacts: Robert M Evans

### Green Valley Aurora LLC.

4606 Quatar Ct.  
Aurora, CO 80019  
(719) 346-8661  
Contacts: Robert M Evans

### LAND PLANNING:

Terracina Design  
10200 E. Girard Ave.  
Suite A-314  
Denver, CO 80231  
(303) 632-8867  
Contact: Layla Rosales

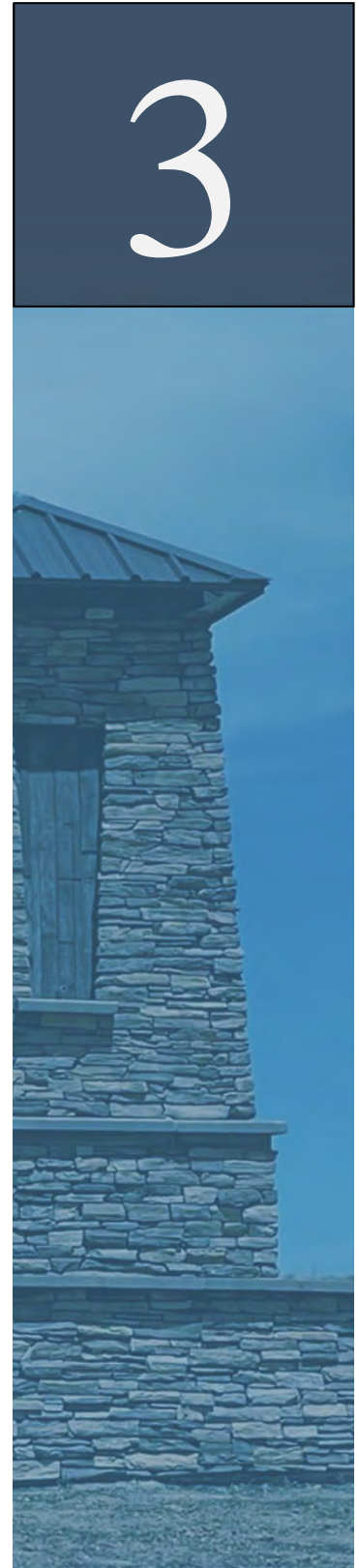
### LANDSCAPE ARCHITECTURE

Terracina Design  
10200 E. Girard Ave.  
Suite A-314  
Denver, CO 80231  
(303) 632-8867  
Contact: Layla Rosales

## CONTEXT MAP

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- Context Map Narrative 3.1
- Regional Location Map 3.2
- Context Map 3.3
- Existing Zoning Map 3.4
- Proposed Zoning Map 3.5



### 3.1 CONTEXT MAP

use language from Narrative to describe consistently.

The Green Valley MP (formerly Framework Development Plan) was approved in November of 2008 for 2,500 acres. The MP was amended in 2018 to modify the land uses and open space on 588 acres located west of E-470 (Amendment 1). Amendment 2 proposes modified planning areas and open space on the 301 acres located between Picadilly Road and E-470; and 56<sup>th</sup> Avenue and 52 Avenue. With this amendment, we are also revising the overall MP area to remove all of the Planning Areas located east of E-470. This Second Amendment revises the total MP area from approximately 2,500 acres to 884.1 acres.

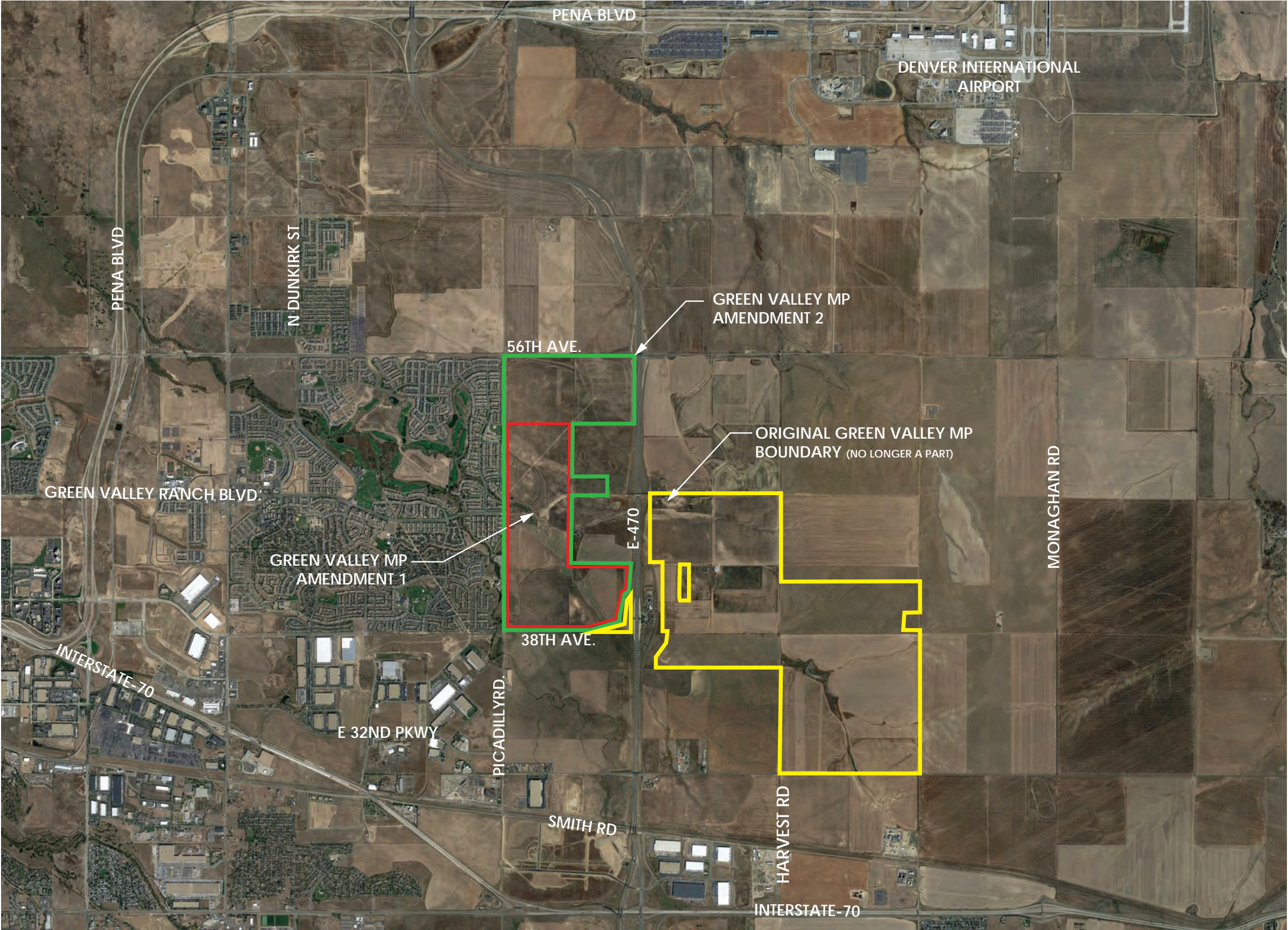
Green Valley Amendment 2 is an 884-acre portion of the approved 2,510 acre Green Valley MP. The Amendment 2 boundary is located between 56<sup>th</sup> Ave to the North, and 52<sup>nd</sup> Ave to the South, Picadilly Road to the West and E-470 to the East. The location of Amendment 2 in relation to the Green Valley MP can be found in Tabs 3.2 and 3.3, as well as Tab 4 – Site Analysis. 12.3 Acres of land west of E-470 and the area east of E-470 to be removed from Green Valley MP as represented on Tab 3.2




**Revised**  
sometimes Ranch is used, but not always. be consistent.

The terrain is consistent with the characteristics of the high plains prairie with rolling hills, shallow drainages and expansive views of the mountains to the west. The regional location of the site is shown on Tab 3.2.

The site **was** farmed for a number of years and contains little vegetation. **Revised** drainage channel crosses the site diagonally from southeast to northwest. A more detailed description of the site's characteristics may be found in Tab 4 – Site Analysis. The Context Map, Tab 3.3, shows existing uses, structures, streets, and parks and open space within ½ mile of the site's boundary.





-  GREEN VALLEY MP AMENDMENT 1 BOUNDARY
-  GREEN VALLEY MP AMENDMENT 2 BOUNDARY
-  ORIGINAL GREEN VALLEY MP BOUNDARY (NO LONGER A PART)

Sheet Title:

**REGIONAL LOCATION MAP**

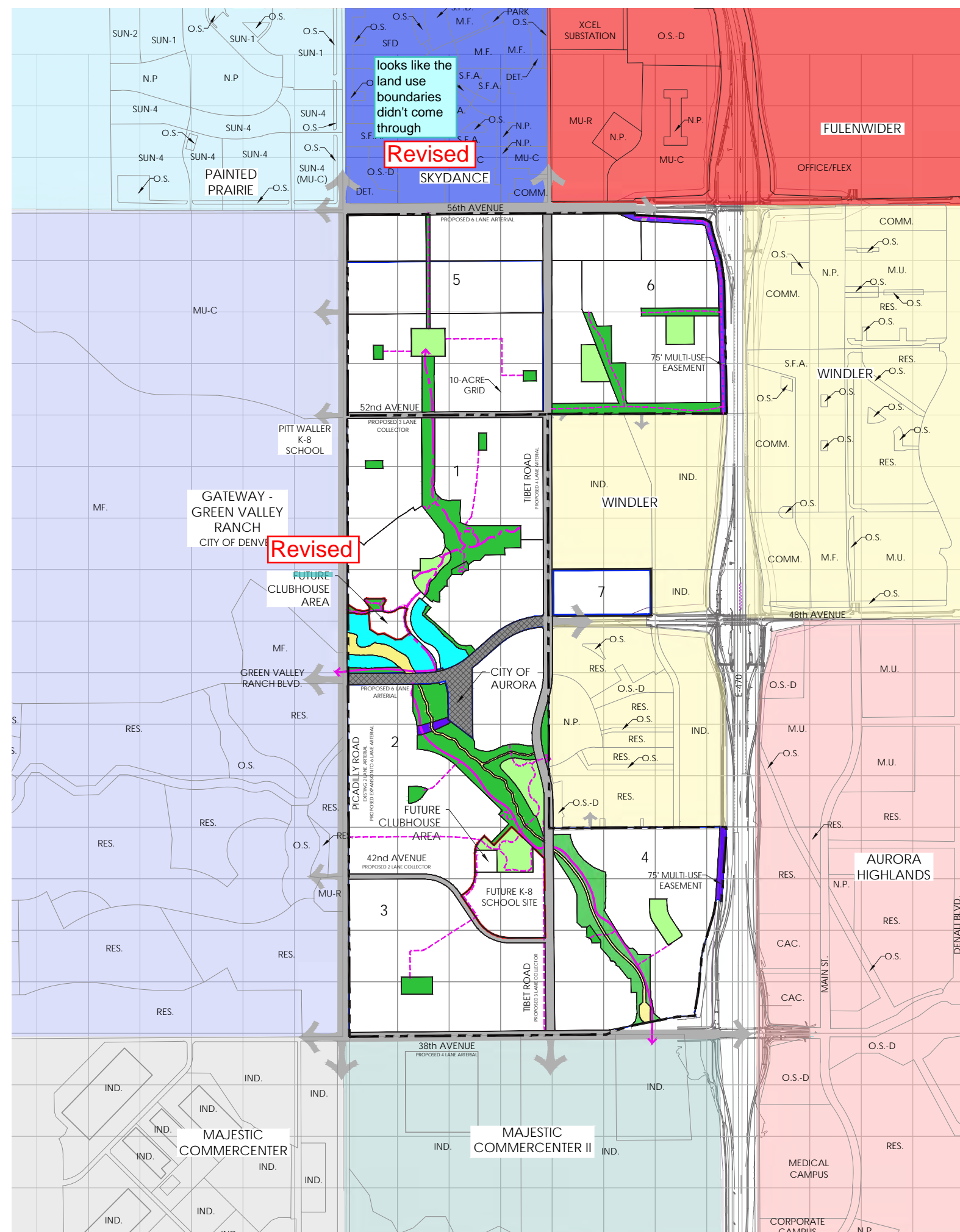
Context Maps  
Master Plan

Project Title:








**Green Valley Master Plan  
Amendment 2**  
Aurora, Colorado

**GREEN VALLEY RANCH**





## LEGEND

- 
- |   |  |
|---|--|
|  | COLLECTOR AND ARTERIALS<br>EXISTING AND PROPOSED |
|  | OPEN SPACE                                       |
|  | NEIGHBORHOOD PARK                                |
|  | DETENTION POND                                   |
|  | CHANNEL  |
|  | EASEMENT   |
|  | NEIGHBORHOOD BOUNDARY & NUMBER                   |
|  | REGIONAL TRAIL                                   |
|  | COMMUNITY TRAIL                                  |
|  | NEIGHBORHOOD TRAIL                               |
|  | NEIGHBORHOOD ACTIVITY CENTER BOUNDARY            |
|  | SITE BOUNDARY                                    |

NOTES:  
1. PROPOSED COLLECTOR ROADS SHOWN ARE CONCEPTUAL IN NATURE AND DEPICTED TO SHOW GENERAL INTENT. FINAL ALIGNMENT WILL BE REFLECTED IN FUTURE MP SUBMITTALS.



Sheet Title:

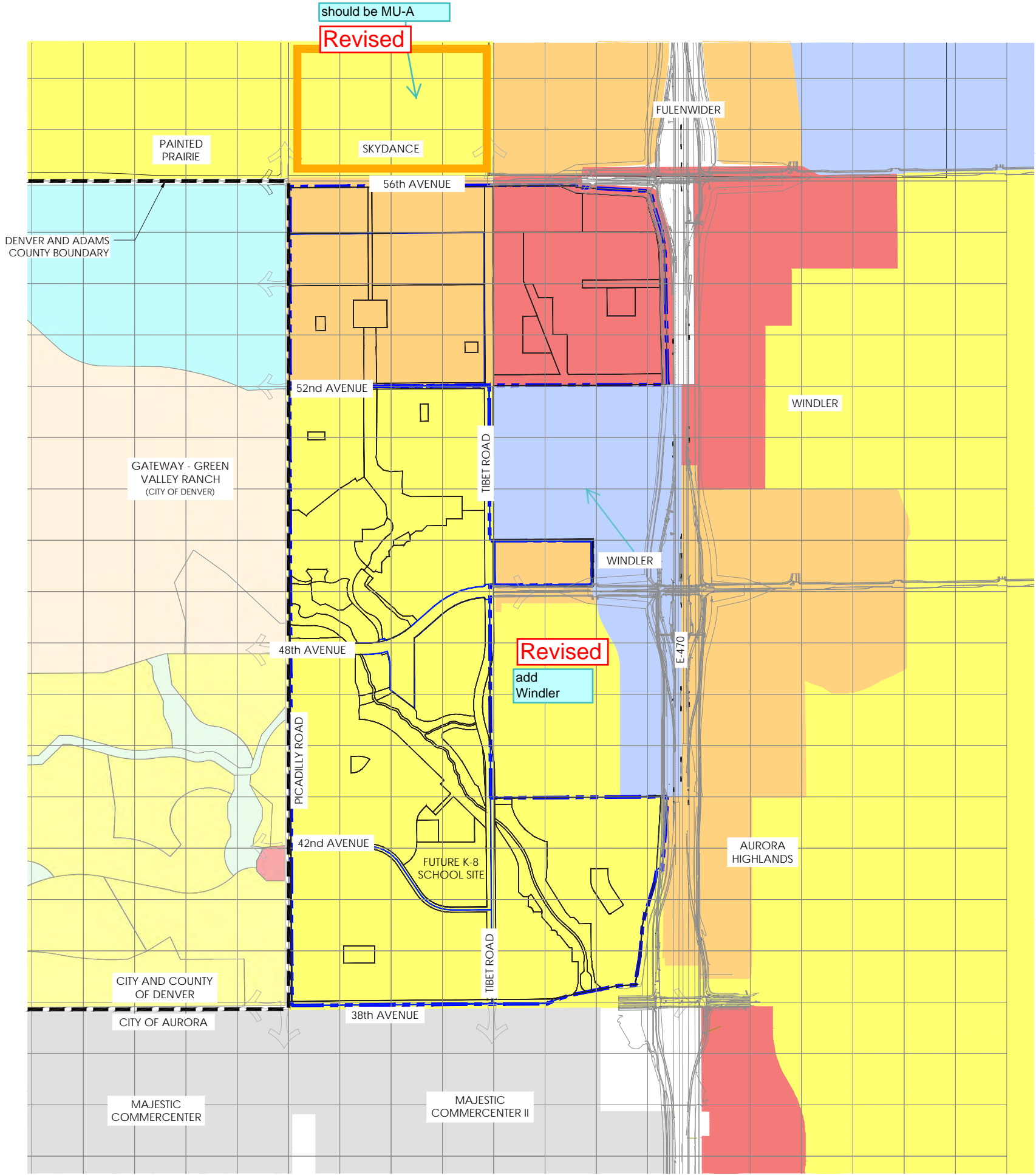
## CONTEXT MAP

# Context Maps Master Plan

Project Title:

# Green Valley Master Plan Amendment 2 Aurora, Colorado

**GREEN VALLEY**  
RANCH



**LEGEND**

- SITE BOUNDARY
- CITY & COUNTY BOUNDARY
- AIRPORT DISTRICT (AD)
- BUSINESS/TECH DISTRICT (I-1)
- PARKS AND OPEN SPACE DISTRICT (POS)
- MIXED USE AIRPORT (MU-A)
- MIXED USE REGIONAL DISTRICT (MU-R)
- MEDIUM DENSITY RESIDENTIAL DISTRICT (R-2)



Sheet Title:

**EXISTING ZONING MAP**

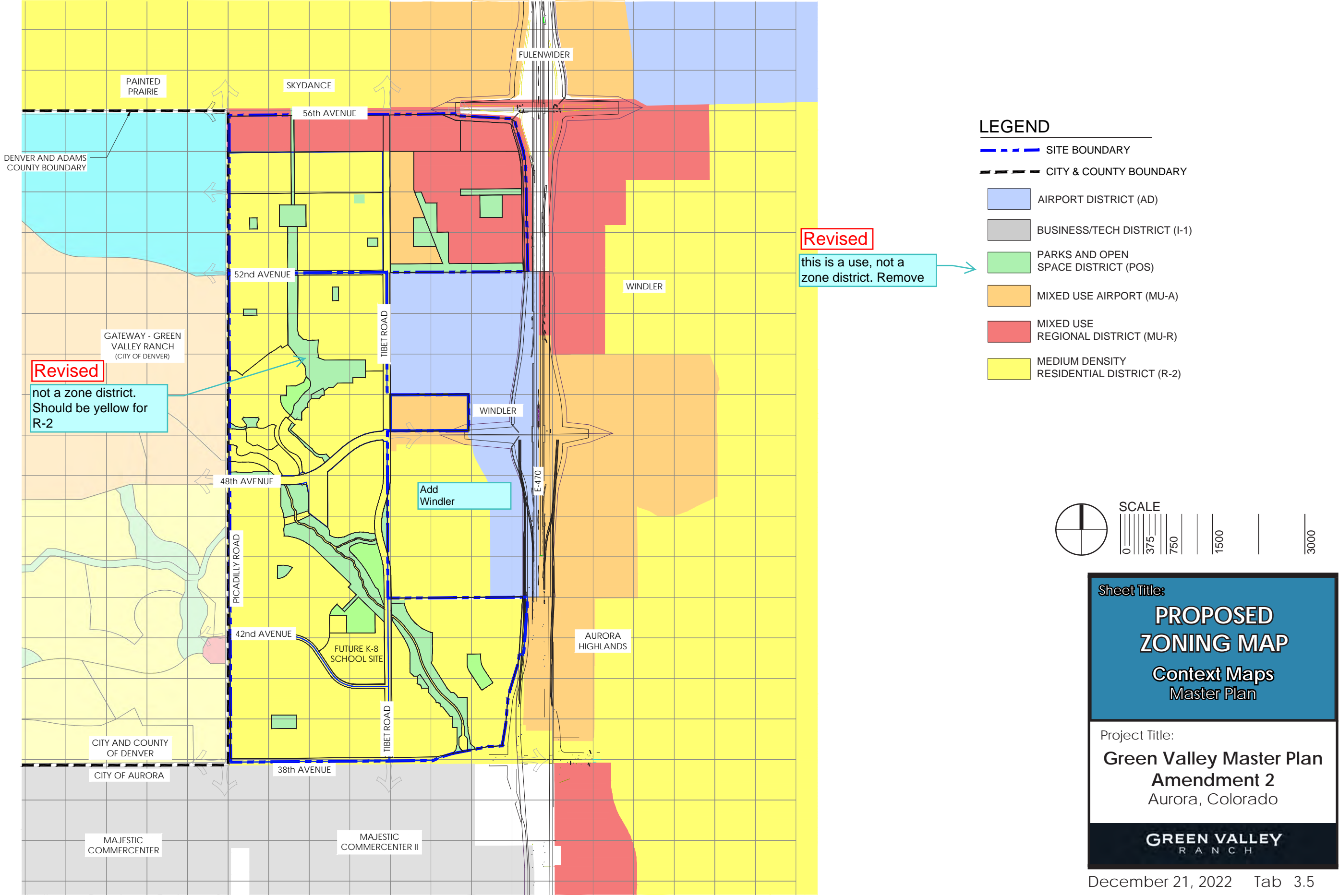
Context Maps Master Plan

Project Title:

**Green Valley Master Plan Amendment 2**

Aurora, Colorado

**GREEN VALLEY RANCH**

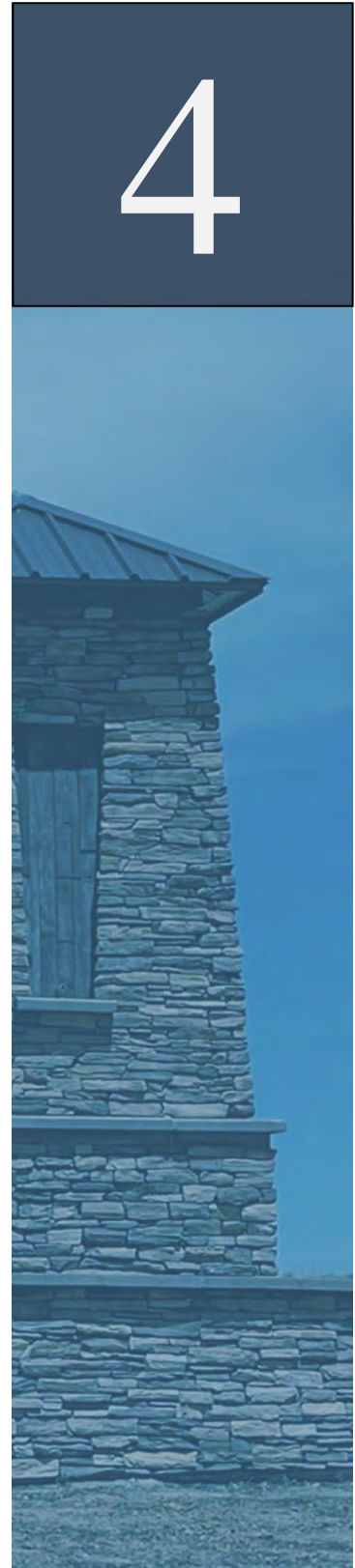




## SITE ANALYSIS

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- Form A 4.1
- Existing Easements Plan 4.2
- Waterbodies Map A 4.3
- Airport Noise Impact Map 4.4
- Soils Map A 4.5
- Boundaries Map 4.6
- Natural Features Map 4.7



## 4.1 Site Analysis Narrative: Form A

### 1. General Site Character

*Briefly describe the existing location and physical character of your site. What are its most important and distinguishing features?*

#### The Site

The Green Valley MP approved in 2008, consisted of a 2,510-acre piece of land located on either side of the E-470 Toll way between 56th Avenue on the north and 26th Avenue on the south, between Picadilly Road on the west to Powhaton Road on the east. The site is located three miles south of the Denver International Airport and one mile north of Interstate 70.

The proposed amendment to the Green Valley MP is for an 884-acre portion of the approved 2,510-acre Green Valley MP. The amendment area is located between 56<sup>th</sup> Ave to the North, and 38<sup>th</sup> Ave to the South, Picadilly road to the West and E-470 to the East. Refer to Tab 3.2 for the revised Green Valley MP map. The following analysis of the site describes the Green Valley MP. The remaining portions of the original Green Valley MP located East of E-470 are no longer part of the Green Valley MP and are now part of the neighboring Aurora Highlands MP.

#### Existing Land Use

Existing development within the Green Valley MP is located between 52<sup>nd</sup> Ave. to the north, 38<sup>th</sup> Ave to the south, Picadilly Road to the west and E-470 to the east. Green Valley to the south of 48<sup>th</sup> Ave consists of mainly single-family residential areas that contains a P-8 school. To the North of 48<sup>th</sup> Ave the site provides land uses for Active Adult residential areas. The pocket parks, neighborhood parks, and open spaces provide connection points and pedestrian corridors that enable access for residents throughout the site. This area of Green Valley is currently under construction.

#### Surrounding Land Uses

Surrounding land uses include Green Valley Ranch in the City and County of Denver to the west of Picadilly Rd. which encompasses single-family residences, parks, open space, a new public golf course, and a number of schools.

To the north of E. 56<sup>th</sup> Ave and west of Picadilly Rd., is located the Painted Prairie MP. North of 56<sup>th</sup> is Skydance and Fulenwider MP's. These three Master

Revised  
development

Revised  
site

are provided thought  
the entire MP area with

Revised

Revised

These

are also located north of 56th  
Avenue, located between  
Picadilly Rd. and E-470.

Revised

planned areas will include a mix of development that include residential, commercial, and mixed uses that sit north of the Green Valley MP along 56<sup>th</sup> Avenue. A fourteen acre, outparcel, owned by the City of Aurora, exists near the near the site on 48<sup>th</sup> Ave holding a lift station, and a future fire station. As we go around the

Revised

located south of 38<sup>th</sup>  
Avenue, where there is

Green Valley MP, located to the south of E. 38<sup>th</sup> Ave is the Majestic

Revised

Commercenter that contains one existing distribution center and one that is in

which will include  
industrial and residen  
development, as well

the build phase of that site. Located to the East of Tibet Road, south of 52<sup>nd</sup>

Avenue is the Windler MP where residential planning areas, industrial,

neighborhood parks and other open spaces are situated within the site. Within

the original portions of the Green Valley MP, located to the east of E-470 and

south of 48<sup>th</sup> Avenue is the Aurora Highlands Master Plan, which includes mixed

use, residential development, and other open spaces

and

The Context Map and Zoning Subarea Map, Tabs 3.2 and 3.3 show existing and planned land uses, zoning, streets, parks, and open space within ½ mile of the site's perimeter.

## Topography and Landform

The landform and topography consist of rolling hills, shallow drainages and grass-lined swales, and plowed fields. Elevations range between approximately 5410 ft. and 5470 ft. above mean sea level for a total relief of sixty feet.

Ten-foot contours are shown on Tab 4.3, "Waterbodies Map."

Slopes across the site are predominantly less than 4.99%. Slope analysis shows:

### % Site Area    % Slope

87.0	00-4.99
10.2	05-7.99
01.8	08-11.99
01.0	12-100.0

Revised

revised

is this north of 38th or  
48th?

#### A. Water Features

northwesterly

A drainage ditch runs from the southeast portion of the property and drains into Tributary T, an intermittent stream west of Picadilly Road that is tributary to First Creek

revised

Another minor drainage flows? east to west, south of 48<sup>th</sup> Avenue; this drainage also carries water intermittently.

These water bodies are shown on Tab 4.3, "Waterbodies Map."

## B. Floodplains

There are multiple Special Flood Hazard Areas (SFHA) on the site. Near 38th Avenue at Picadilly Road where First Creek crosses the southwest corner of T3S R66W S 24, the floodplain is classified as Zone AE - Areas of 100-year flood with Base Flow Elevation (BFE) and Zone A – Areas of 100-year flood without BFE. There is also FEMA regulated floodplain, classified as Zone AE, along Tributary T. The FEMA floodplain will be altered for First Creek. The Tributary T floodplain will be revised and enhanced through a naturalized channel design. Both floodplains are shown on the Waterbodies Map- Tab 4.3.

## C. Springs

No springs have been identified on the property.

isn't there a spring that has been tapped to maintain the pond at the AA clubhouse?

## D. Riparian Areas

revised

There are no true riparian zones along the drainage. There is no flowing water or springs along the drainage, and no channels have developed.

The understory is an overgrazed pasture with no bushes or willows.

## E. Water Table

The water table will be determined during further site analysis and assessment.

## Natural or Geologic Hazard Areas

The following generalized soil and geologic information was obtained from the Colorado Geological Survey and is shown on Tab 4.5 entitled "Soils Map."

### A. Soils

The soils found on the site include "Low Swell Potential" found along the site's drainages. This category includes several bedrock formations and many surficial deposits. The thickness of the surficial deposits may be variable, therefore, bedrock with a higher swell potential may locally be less than 10' below the surface. "Windblown Sand and Silt" is found on the balance of the site. Although this category has low swell potential, the upper 6" to 12" may locally have moderate swell potential. Windblown material may be subject to severe settlement or hydro compaction when water is allowed to saturate the deposits. The thickness of windblown material may be very variable; therefore, bedrock with higher swell potential may be locally less than 10' below the surface.

(Source: "Potentially Swelling Soil and Rock on the Front Range Urban Corridor, Colorado" Colorado Geological Survey, 1973, 1974.

## B. Geology

The Geologic Map of Colorado identifies the following on the site:

1. Tkdi - Denver Formation or lower part of Dawson Arkose on the Northeastern portion of the site which includes Arkasis sandstone, shale, mudstone, conglomerate, and local coal beds.
2. Qe - Eolian deposits on the southeastern portion of the site which includes dune sand and silt and Peoria Loess.

(Source: "Geologic Map of Colorado," Colorado Geological Survey, 1979).

No geologic hazards have been identified on the site to date.

## **Existing Vegetation and Black Forest Trees**

The Colorado Division of Wildlife provided the following generalized information regarding vegetation. This site is shown as containing Midgrass Prairie throughout the site area. This is shown on Tab 4.7, "Natural Features." (Source: "Gap Vegetation Classification for Adams, Arapahoe, and Denver Counties" Colorado Division of Wildlife, Sept. 1998).

The site is typical of Midgrass Prairie that has been farmed and grazed in the past. Trees are few and isolated in drainages. In the northwestern corner of Section 24, along the Tributary T drainage, some small Cottonwoods and Peach Willows may be found.

There are no understory plants and grasses are sparse. The site receives little moisture. No Ponderosa Pines, regulated by the Black Forest Tree Preservation Ordinance, exist on this site as it is north of the Black Forest limits, which is along Smoky Hill Road.

## **Existing Utilities**

An Alta Survey has been prepared and is included in Tab 14 which identifies existing easements on the site. Also See Tab 4.2 for more information.

## **Airport Overlay District**

The entire site is outside of the 60 LDN Noise Contour Line as shown on the E-470 Corridor Land Use Study. The active adult portion located from 48<sup>th</sup> Ave

to 56<sup>th</sup> Ave, falls within the Airport Influence District and Noise Impact Boundary Area established for the Denver International Airport by the City of Aurora. This would require air conditioning and noise insulation for 25dba for all residential uses. These boundaries are shown on Tab 4.6. This will also require compliance with height restrictions which do not intrude into the Federal Aviation Administration Part 77 Surfaces as well as conveyance of an aviation and hazard easement to the City and Airport for right-of-way for unobstructed passage of aircraft above the property which will waive any right or cause of action against the City and the airport arising from noise, vibrations, fumes, dust, fuel particles and other effects caused by aircraft and airport operations. The applicant will also be required to provide notice to prospective purchasers of being within the Airport Influence District.

### **Significant Views**

An on-site analysis was conducted to identify significant views. No significant views are located within the Master Plan boundary.

### **Vegetation / Drainage**

The topography gradually slopes down to the west from multiple high points that are located east along the Green Valley property boundary. These highpoints and slope directions are better shown on Tab 4.3. The slopes move from the south and east (higher) to the northwest (lower), eventually collecting into a main drainage known as Tributary T, an intermittent stream west of Picadilly Road that is tributary to First Creek. Past ditch and water control grading for farming has altered the natural drainage patterns of the property. The drainage areas from the plains to the east of the properties are not large enough to provide for water flow in the drainage ways, therefore, there are no defined channels and water flows ~~only~~ after a major storm. Most of the drainages are flat, and the slow water flow leaves no discernible channel. The sites do not have enough surface water flow to maintain wetlands along the drainage and on flatter bottom areas.

**Revised**

except





*Southeast corner of E. 38th Ave. and E-470 looking west towards Front Range*

### Existing Structures:

The Active Adult Clubhouse in Green Valley Ranch East located near Picadilly Road and 38<sup>th</sup> Ave is the only significant structure that has been constructed. individual homes have been constructed across the Green Valley MP along Picadilly Road from 38<sup>th</sup> Ave and 52<sup>nd</sup> Ave.

### Wildlife:

The site was historically farmed and grazed so there is limited habitat for wildlife; however, the following generalized wildlife habitat information was obtained from the Colorado Division of Wildlife:

The entire site is the overall range for goose, duck, pronghorn antelope, and mule deer and within the winter range for geese. The southeastern part of the site is also within the foraging range for geese. This information is shown on Tab 4.7 entitled "Natural Features."

(Source: "Natural Diversity Information Source - Significant Wildlife Habitat Maps - Adams, Arapahoe, and Denver Counties, Colorado." Colorado Division of Wildlife, September 1998).

### Wildlife Species:

Common wildlife species observed or expected on the property are typical open plains species. Raptors (northern harrier, red-tailed hawk, American kestrel) were observed on the site, but no active nests were observed or noted. No deer or pronghorn were observed and were not expected due to the open agricultural fields, lack of cover, and the barrier to migration from E-470. We evaluated the area up-gradient from Picadilly Road along Tributary T for potential federal or state listed sensitive species habitat. No



potential habitat exists on the properties for the Preble's meadow jumping mouse (*Zapus hudsonius preblei*), currently listed as threatened under the Endangered Species Act. Preble's jumping mouse requires habitat with perennial streams and a good cover of shrubs. As already stated, this type of habitat is not present on these properties. Also, no habitat for the Ute ladies-tresses orchid (*Spiranthes diluvialis*) was observed on the property. Farming practices have removed the native vegetation and wet meadow habitat normally associated with the orchid. We are recommending that no surveys for these species are needed due to lack of habitat.

The Colorado Division of Wildlife has mapped western portions of this property as Midgrass Prairie. This was probably one of the former types of vegetation present; however no native undisturbed midgrass or shortgrass prairie remains due to current and former land use. Some of the lower drainage swales could have supported midgrass prairie, however the upland slopes and broad ridges were most likely shortgrass prairie dominated by blue grama (*Bouteloua gracilis*), buffalo grass (*Buchloe dactyloides*), and other short grasses, and dryland forbs. We observed no undisturbed native prairie on any portion of the property.

There is the potential for restoration of midgrass and shortgrass prairie in some areas of the property, however most prairie soils have been disturbed and would require planting and maintenance.

The Colorado Division of Wildlife has mapped wildlife habitat for goose, duck pronghorn antelope (*Antilocapra americana*), and mule deer (*Odocoileus hemionus*) in portions of Section 13 and 24 west of E-470. At the present time there is a little goose and duck habitat due to lack of water and suitable vegetation. There is a lack of cover and forage for mule deer, and use of this property as habitat is limited. Pronghorn may have occupied some of the area in the past, but roads and increasing traffic also limit their current use of the property as habitat. Mule deer are still common on the Rocky Mountain Arsenal to the west and have been observed on the Green Valley **Revised** Golf Course west of Picadilly Road.

### Proposed Land Uses

The proposed MP area west of E-470 is within the R-2 zone district. The **area** additional acreage within the MP north of 52<sup>nd</sup> Ave and south of 56<sup>th</sup> Ave is **zoned** currently mixed-use MU-A and MU-R. A Zone Map Amendment is concurrently being proposed with this MP Amendment to rezone 78.8 acres from MU-A to R-2 and 28.3 acres of MU-R to MU-A.

between 52nd Avenue  
and 38th Avenue

(Medium Density  
Residential)

(Mixed Use-Airport)

(Mixed Use-Regional)

**Revised**

## 2. Site Assets

*Based on your site analysis, what are your site's most important physical assets and potential amenities? Consider location, relationship to existing and proposed transportation networks, scenic beauty, recreation potential, special natural resources, etc.*

- There are several, low-flow drainages that cross the site; these flow from the south and east to the northwest into Tributary T, an intermittent stream west of Picadilly Road.
- The landform and topography consist of rolling hills; there are no major ridge lines or major swales.
- The site has very few natural features, other than swales.

### Historical/Archeological

- The Colorado Historical Society Office of Archaeology and Historic Preservation conducted a search of the Colorado Inventory of Cultural Resources; several items have been inventoried on the site, but none were found have significant historic or archaeological value. The Colorado Historical Society search of the "Inventory of Cultural Resources" indicated this property was not eligible for designation as a historic site because of the severely dilapidated condition of the buildings and lack of unique architectural qualities.

### Existing Utilities

- There are CIG easements running from Tibet Road and 56<sup>th</sup> Avenue diagonally thru the site past 52<sup>nd</sup> Avenue. These are shown on the Existing Easement Exhibits.

existing water, sanitary sewer.... ie. utilities existing/extended from.....

language added  
regarding existing  
utilities

## 3. Site Restrictions

*Based on your site analysis, what are the physical restrictions and site characteristics that may pose a challenge to development? Consider location, nature of surrounding conditions, environmental pollution, lack of existing infrastructure, steep slopes, etc.*

- As indicated above, the site has few physical constraints, other than the existence of E- 470, the proposed and existing arterials, low-flow drainages across the site and various PSCO easements surrounding the property. The site is predominantly developable.

extended?

- Road and utilities infrastructure will need to be brought out to serve the site from the southwest at 52<sup>nd</sup> Avenue and Picadilly to the northeast at 56<sup>th</sup> Avenue and to the site boundary near E-470 as the project progresses in a phased manner. as 52<sup>nd</sup> Avenue will need to be constructed first to fluidly continue the project progression.
- Tibet Road will be constructed in a phased manner to connect Tibet Road from 38<sup>th</sup> Avenue to 56<sup>th</sup> Avenue.

### Existing/Planned Streets

- The E-470 Tollway is complete to the east of the site and includes an interchange at 56<sup>th</sup> Avenue, with an additional interchange planned at 48<sup>th</sup> Avenue, and 38<sup>th</sup> Avenue. Picadilly Road consists of a paved two-lane roadway but will ultimately be a 6-lane arterial. 48<sup>th</sup> Avenue, a proposed six lane arterial, and 38<sup>th</sup> Avenue, a proposed four lane arterial, are in various stages of construction between Picadilly Road and Tibet Road.
- 56<sup>th</sup> Avenue and Picadilly Road are being planned as six-lane Principal Arterials, and 38<sup>th</sup> is planned as a four-lane Minor Arterial consistent with the City of Aurora Northeast Area Transportation Study. The arterials will require improvements to City standards with development phasing as applied in accordance with this MP.
- 52<sup>nd</sup> Avenue is being planned as three-lane collector. Tibet Road is being planned as a three-lane collector between 38<sup>th</sup> Ave. and 48<sup>th</sup> Ave., a two-lane minor arterial between 48<sup>th</sup> Ave and 56<sup>th</sup> Ave. 42<sup>nd</sup> Avenue is being planned as a two-lane collector.

these 2 paragraphs duplicate a lot of info. Try to consolidate.

information combined

revised

constructed as

## 4. Design Response to Site Assets

*How does your proposed development plan take advantage of all the site assets identified by your analysis?*

- The Green Valley MP Amendment Land Use Plan was designed using the natural features and terrain as its foundation; it contains open space corridors along the primary natural features and drainages.

- The intermittent stream corridors/drainages will be preserved within an open space corridor and will be dedicated to the City of Aurora as Open Space. Numerous parks are planned along these open space corridors which connect to off-site open space areas South of 38<sup>th</sup> Avenue and east of Picadilly Road at First Creek and Tributary T.

## 5. Design Response to Site Challenges

*How does your development plan deal with the site's development constraints as identified above? Have you considered alternate strategies to deal with these problems? If so, why did you select the particular approach shown on your development plan?*

- As noted above, the plan was designed to preserve the natural features in Green Valley to the greatest extent possible.

### Highway and Airport Noise

Setbacks per code will be utilized along the edges of the E-470 Corridor. In residential areas, where acoustical studies indicate the need for noise mitigation, a fence, wall, or berm or combination thereof will be installed consistent with the City of Aurora requirements. As previously discussed, all development within the Noise Impact Boundary will be required to achieve an interior noise level reduction of twenty-five db in A-weighted levels. Noise reduction measures shall include central air conditioning or the equivalent.

### Grading

Grading will follow the natural contours to the extent possible and will be limited to the extent possible in the stream/drainage areas as any kind of structures will not be allowed over gas easements to keep these areas at a minimum for grading.

## 6. Development Impacts on Existing Site Conditions

*What are the impacts of your project on the existing character of the site and its immediate surroundings? What improvements will your development make? How have any impacts been mitigated? Consider impacts on environmental quality, aesthetic appearance, existing open space and natural features, physical infrastructure, etc.*

- The construction of the Green Valley MP will change the existing rural/agricultural character of the land to that of a master planned community. The impacts of this change will be mitigated by the

preservation of a generous amount of open space, parks, and trails, and the design of the community as a pedestrian-friendly development that has a combination of housing, park, and recreational uses.

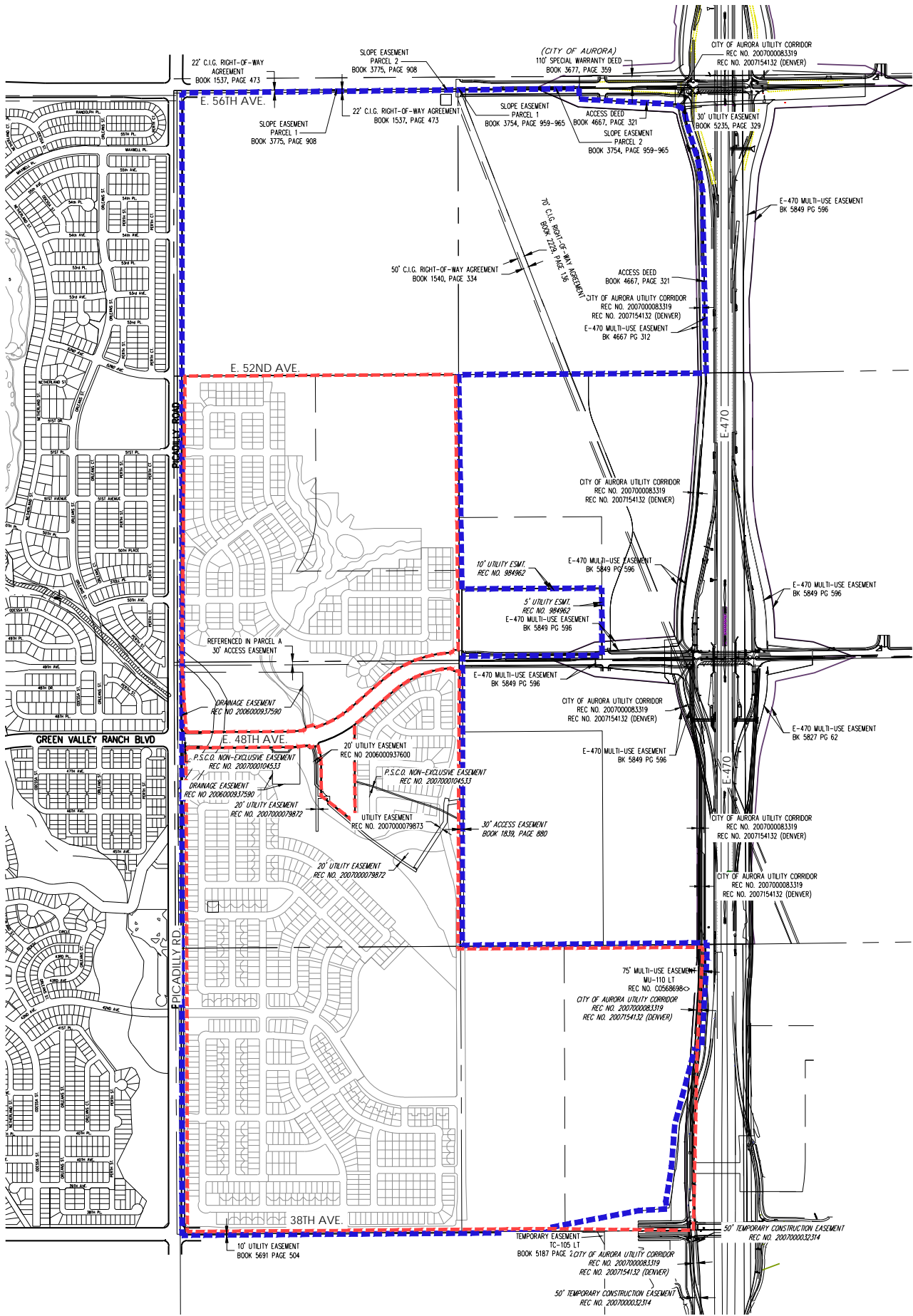
- Regarding infrastructure, the development of the Green Valley MP, which lies within the City of Aurora Water Zones 3 and 4, will occur in phases to meet demand. Water will be looped to service each phase of the project by connecting to the adjacent, existing water mains within 38<sup>th</sup> Avenue, in Picadilly Road, 56<sup>th</sup> Avenue, and 48<sup>th</sup> Avenue. Storm and sanitary networks will be extended within the community to service the phases and will connect to the existing infrastructure

for infrastructure, utilities?  
not sure what this is  
referencing.

- The Site is located within three separate tributaries as identified within the Green Valley Ranch East Master Utility Report. That Report created three basins to correspond with those tributaries, as follows: Basin 310-1 which is tributary to the Second Creek Lift Station approximately two miles downstream of the Site. Basin 310-2 which is tributary to the Painted Prairie Development, and Basins 310-3 and 310-4, which are tributary to the First Creek lift station within the Green Valley Ranch East subdivision. Due to serviceability issues within the Painted Prairie Development, Aurora Water has required downstream development within Sky Dance, Fulenwider, and High Point to accommodate the effluent from the 310-2 basin. It is understood that those downstream developments are aware of this requirement and will accommodate the proposed Green Valley MP Amendment effluent. Please refer to the Appendix for correspondence within Aurora Water on this topic. Consistent with this direction, Fulenwider has designed Phase 1 of the 20-inch sanitary trunk main from the Second Creek lift station north of Possum Gully running south towards E-470. Phase I is under construction at the time of this report. Phase 2 of this trunk main which extends from the terminus of Phase 1 west to the future intersection of 60<sup>th</sup> Avenue and Tibet Road is being processed with the city at the time of this report. Future Phases of this trunk main will be extended west under E-470 and along the 60<sup>th</sup> Avenue and Tibet Road alignments to the Tibet Road and 56<sup>th</sup> Avenue intersection. This extension(s) will occur by others as a portion of downstream development or Oakwood will endeavor to make this extension to service the proposed Green Valley MP parcel and will implement a reimbursement agreement or private development agreement to share the costs with those that benefit. Please see the additional discussion within the Sanitary System Plan section.

created or identified?





- GREEN VALLEY AMENDMENT 1 BOUNDARY
- GREEN VALLEY AMENDMENT 2 BOUNDARY



Sheet Title:

# EXISTING EASEMENTS PLAN

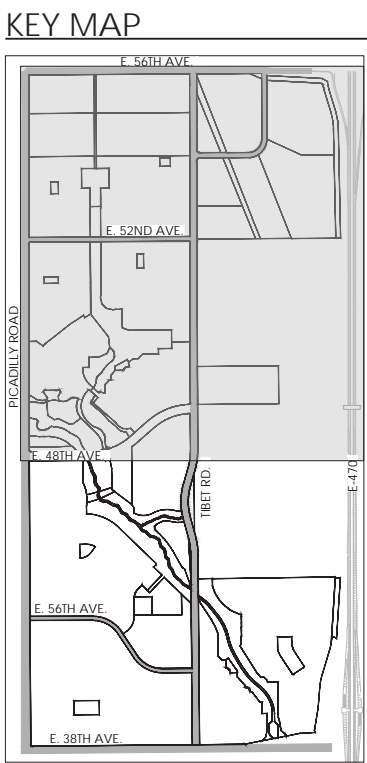
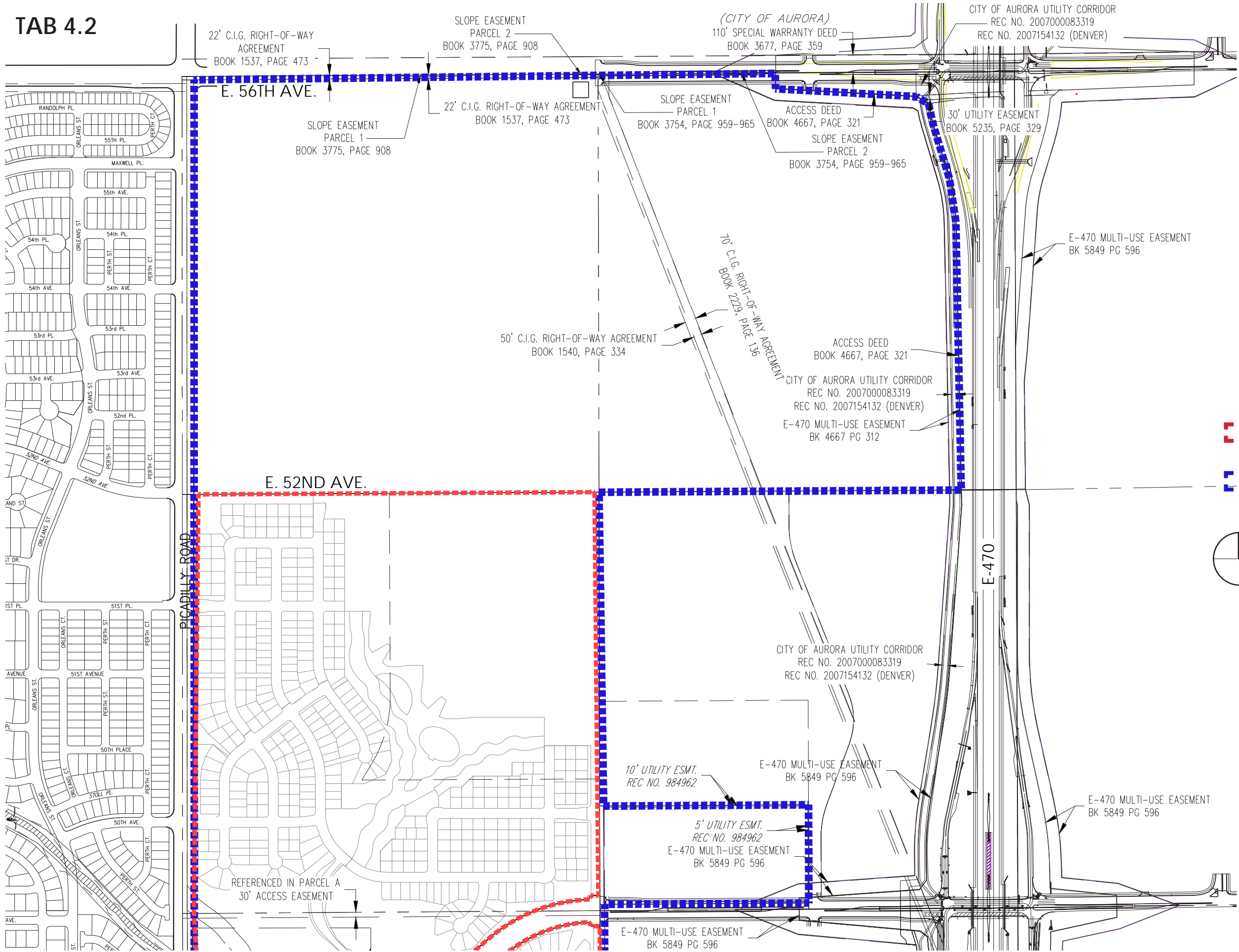
## Site Analysis Master Plan

Project Title:

### Green Valley Master Plan Amendment 2

Aurora, Colorado

GREEN VALLEY RANCH



- GREEN VALLEY AMENDMENT 1 BOUNDARY
- GREEN VALLEY AMENDMENT 2 BOUNDARY



Sheet Title:

# EXISTING EASEMENTS PLAN

Site Analysis Master Plan

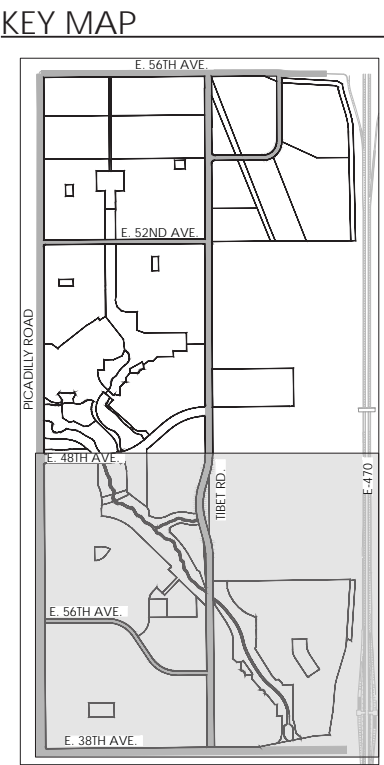
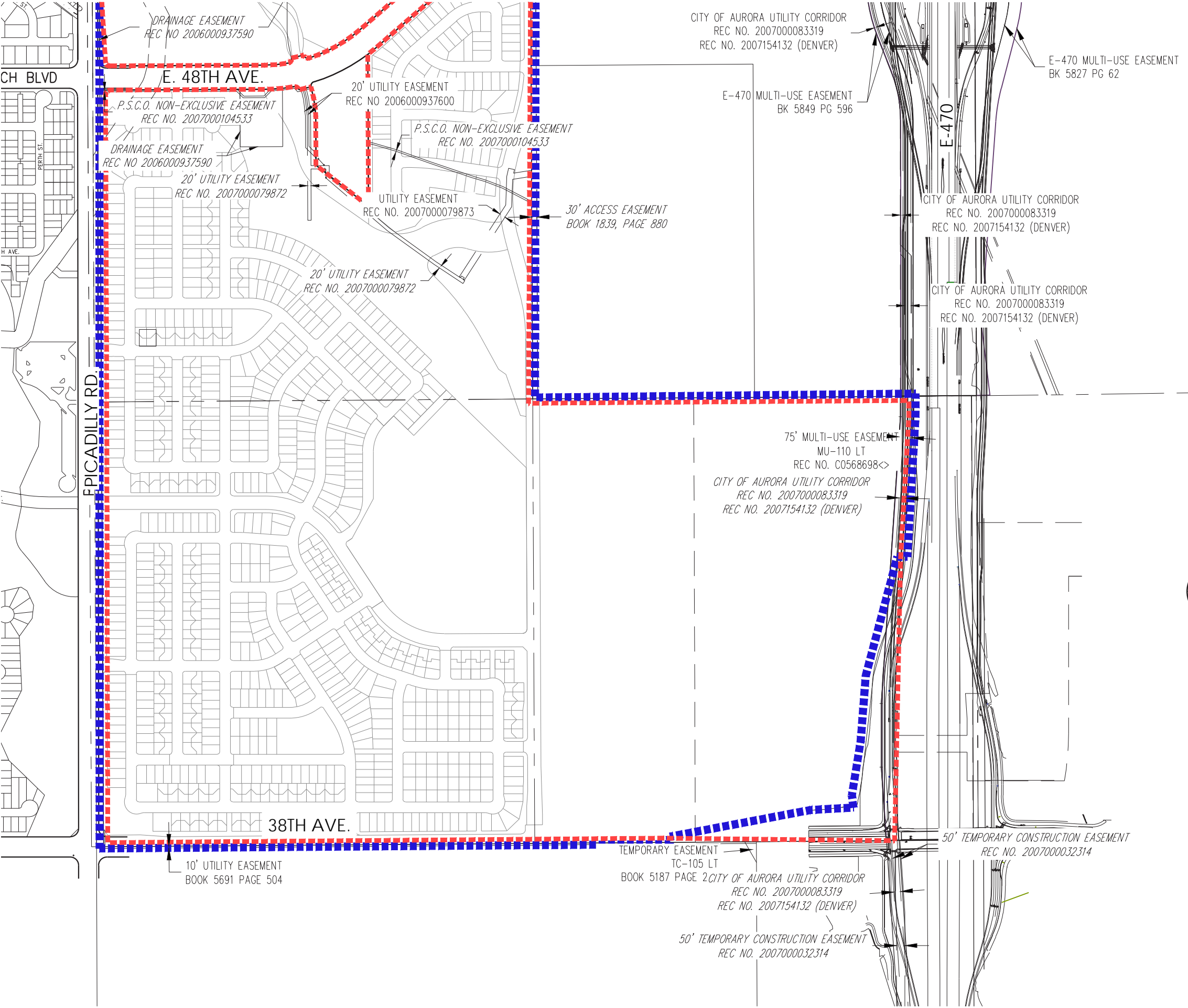
Project Title:



## Green Valley Master Plan Amendment 2

Aurora, Colorado

**GREEN VALLEY**  
RANCH





-  GREEN VALLEY AMENDMENT 1 BOUNDARY
-  GREEN VALLEY AMENDMENT 2 BOUNDARY



Sheet Title:

# EXISTING EASEMENTS PLAN

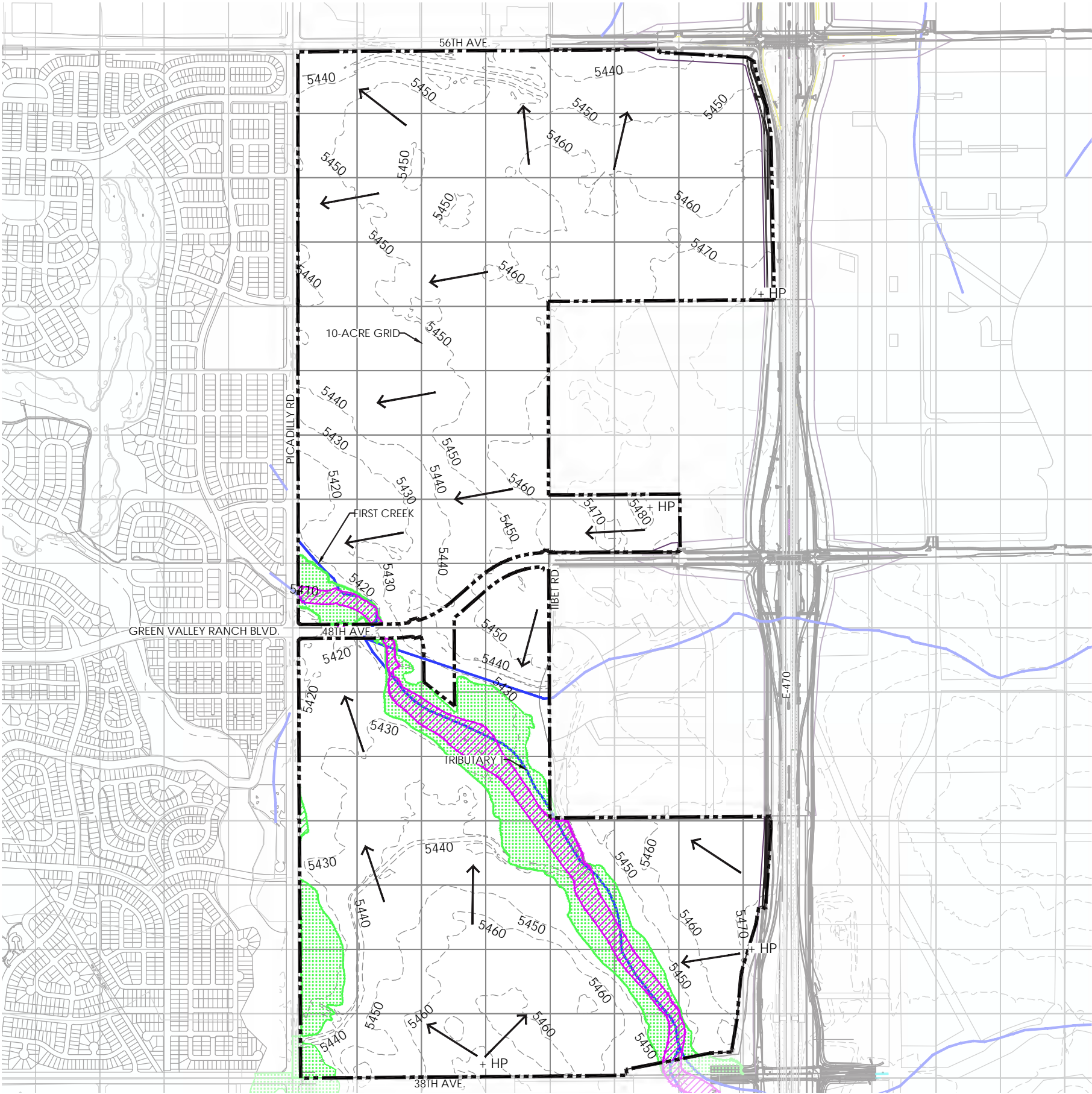
Site Analysis Master Plan

Project Title:

## Green Valley Master Plan Amendment 2

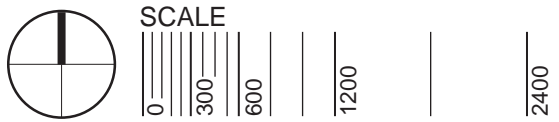
Aurora, Colorado

**GREEN VALLEY**  
RANCH



LEGEND

- INTERMITTENT STREAMS
- FLOODPLAIN
- FLOODWAY
- + HP HIGH POINT
- PROPERTY BOUNDARY
- SLOPE DIRECTION



Sheet Title:

**WATERBODIES MAP**

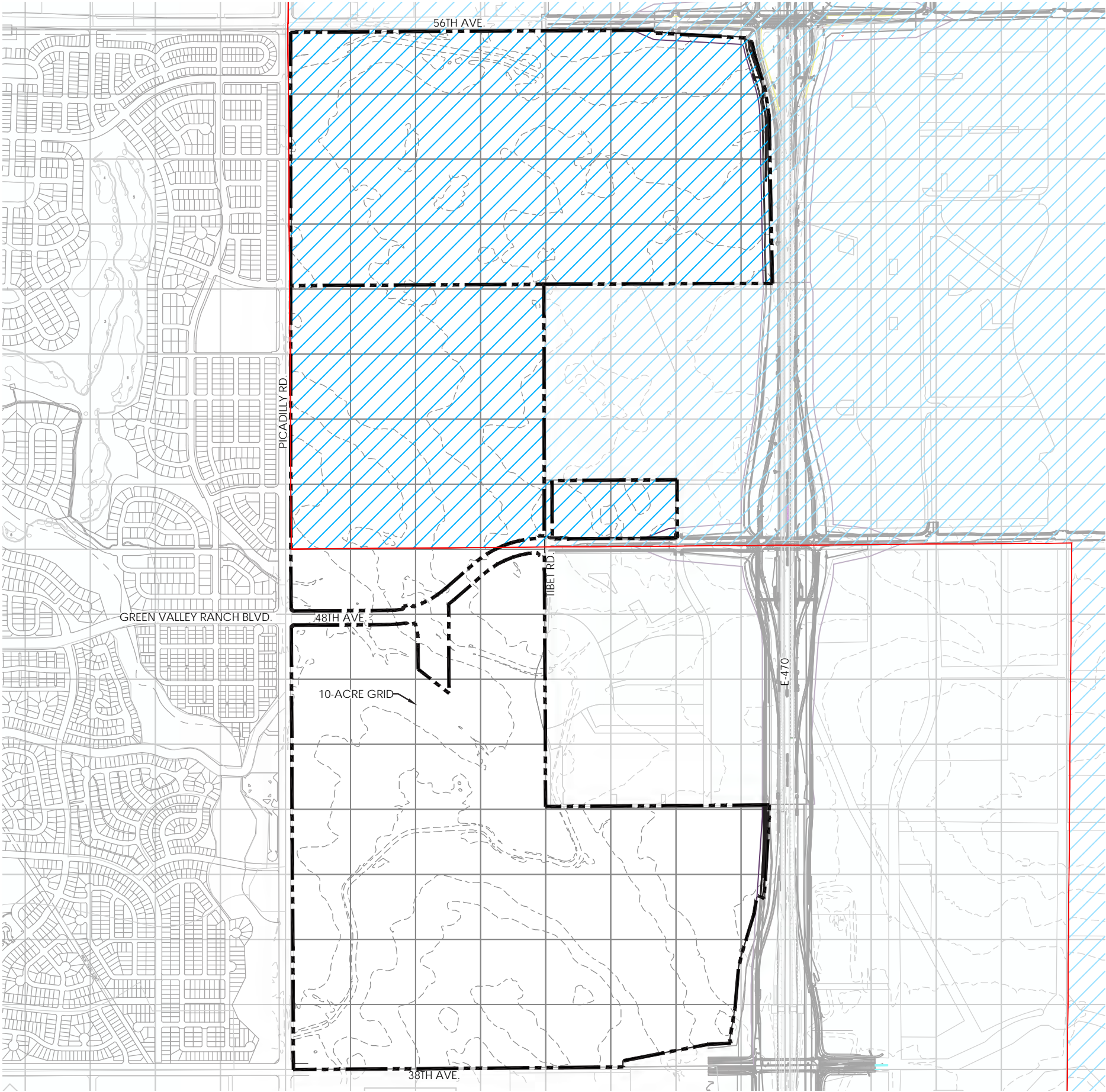
Site Analysis  
Master Plan

Project Title:



**Green Valley Master Plan  
Amendment 2**  
Aurora, Colorado

**GREEN VALLEY  
RANCH**





LEGEND

-  AIRPORT INFLUENCE AREA
-  PROPERTY BOUNDARY

\*Denver International Airport and Front Range Airport, Noise Exposure Contours, City of Aurora



Sheet Title:

**AIRPORT NOISE  
IMPACT MAP**

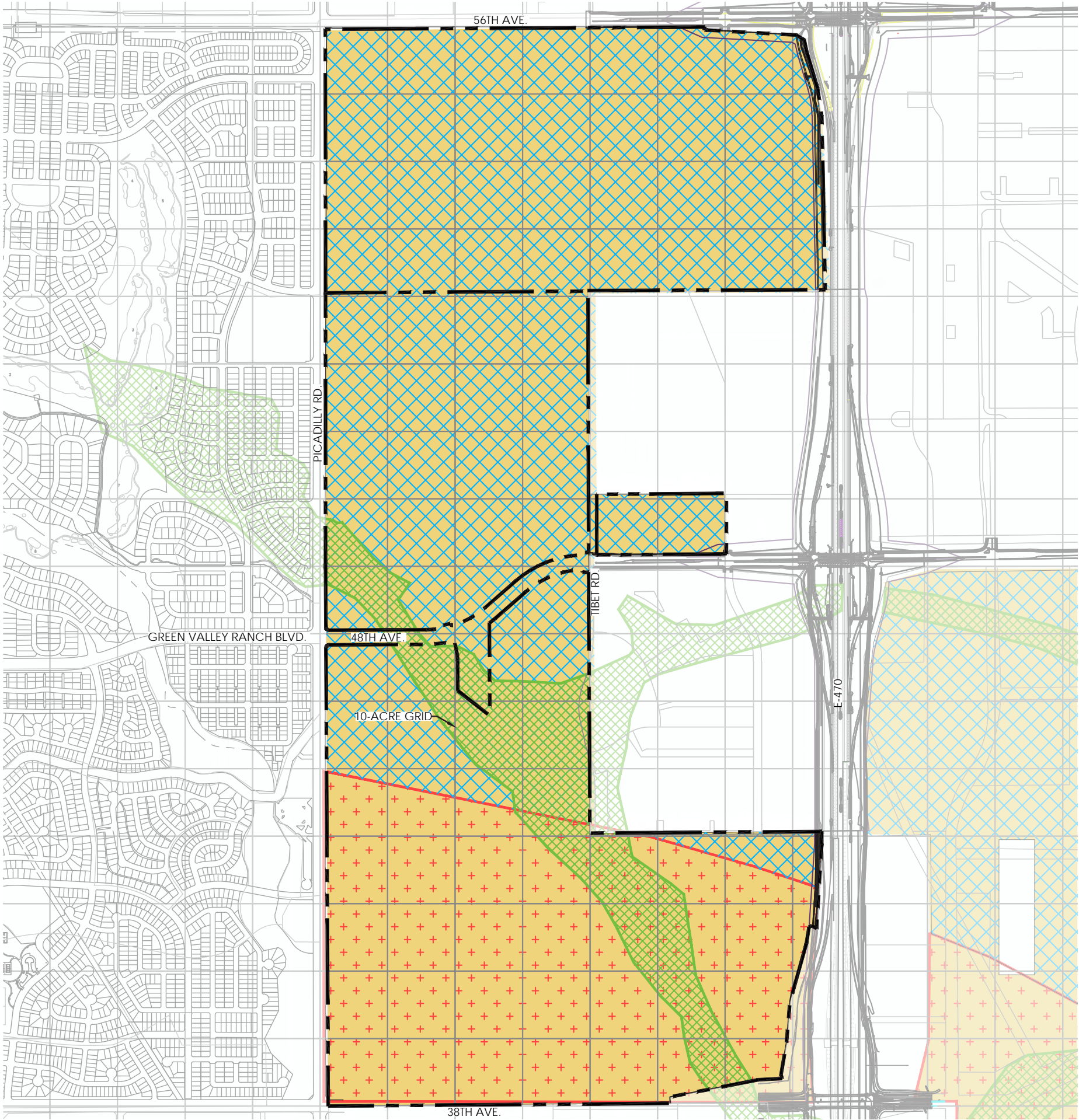
Site Analysis  
Master Plan

Project Title:

**Green Valley Master Plan  
Amendment 2**  
Aurora, Colorado

**GREEN VALLEY  
RANCH**





LEGEND

TKdi - DENVER FORMATION OR LOWER PART OF DAWSON ARKOSE -  
ARKOSIC SANDSTONE, SHALE, MUDSTONE, CONGLOMERATE, AND LOCAL COAL BEDS.

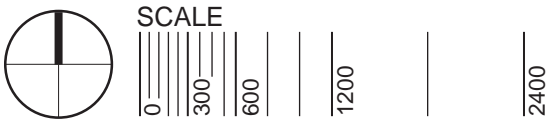
Qe - ELOIAN DEPOSITS - INCLUDES DUNE SAND AND SILT AND PEORIA LOESS

LOW SWELL POTENTIAL - THIS CATEGORY INCLUDES SEVERAL BEDROCK FORMATIONS AND MANY SURFICIAL DEPOSITS. THE THICKNESS OF THE SURFICIAL DEPOSITS MAY BE VARIABLE, THEREFORE, BEDROCK WITH A HIGHER SWELL POTENTIAL MAY LOCALLY BE LESS THAN 10' BELOW THE SURFACE.

WINDBLOWN SAND OR SILT -  
Although this material generally has low swell potential, the upper 6" to 12" may locally have moderate swell potential. Windblown material may be subject to severe settlement or hydrocompaction when water is allowed to saturate the deposits. The thickness of windblown material may be very variable, therefore bedrock with higher swell potential may be locally less than 10' below the surface.

SOURCE: GEOLOGIC MAP OF COLORADO, 1979 POTENTIALLY SWELLING SOIL AND ROCK IN THE FRONT RANGE URBAN CORRIDOR, COLORADO, 1973, 1974 COLORADO GEOLOGICAL SURVEY

NOTE: LOCATIONS OF GEOLOGIC HAZARDS ARE APPROXIMATE DUE TO THE VERY GENERAL NATURE OF THE SURVEYS. DETAILED, ON-SITE STUDIES WILL BE NECESSARY TO DETERMINE MORE ACCURATE HAZARD LOCATIONS.



Sheet Title:

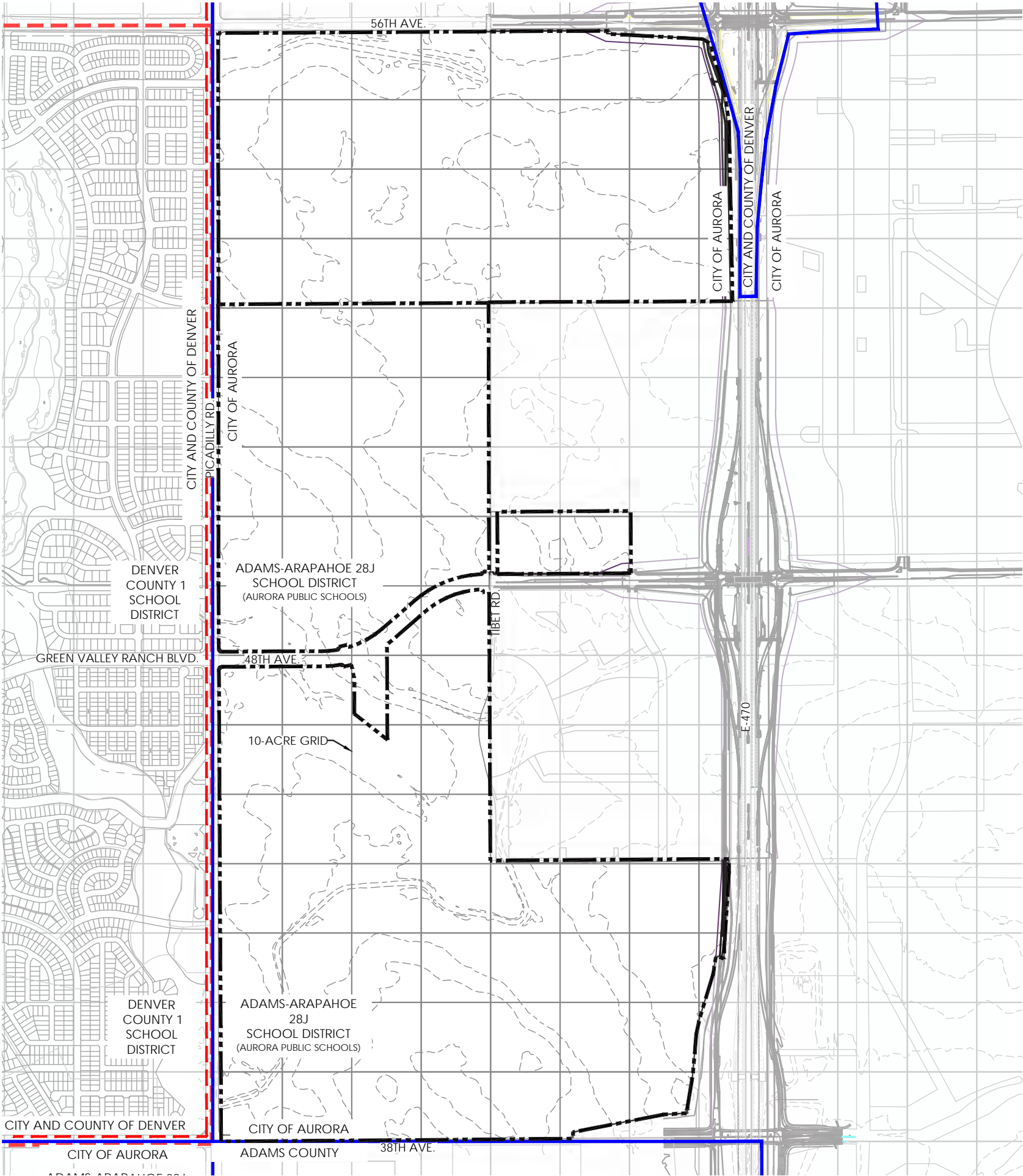
SOILS MAP

Site Analysis  
Master Plan

Project Title:

Green Valley Master Plan  
Amendment 2  
Aurora, Colorado

GREEN VALLEY  
RANCH



- LEGEND
- SCHOOL DISTRICT BOUNDARY
  - JURISDICTIONAL BOUNDARY
  - PROPERTY BOUNDARY



Sheet Title:

**BOUNDARIES MAP**

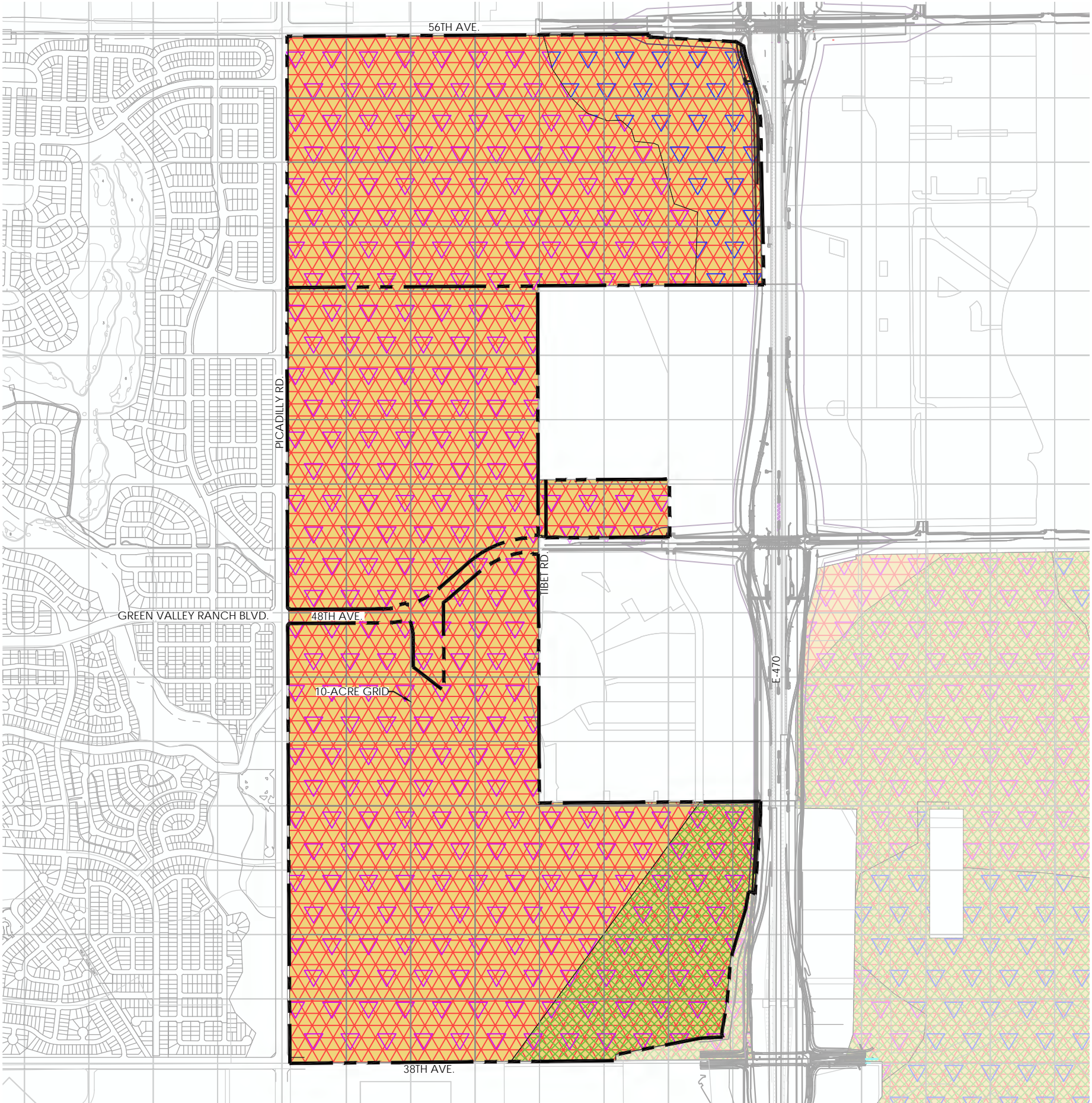
Site Analysis  
Master Plan

Project Title:

**Green Valley Master Plan  
Amendment 2**  
Aurora, Colorado

**GREEN VALLEY  
RANCH**





LEGEND

- OVERALL RANGE:  
Goose, Duck, Pronghorn Antelope and Mule Deer distribution
- WINTER RANGE:  
Goose
- FORAGING RANGE:  
Goose
- DRYLAND AGRICULTURE
- MIDGRASS PRAIRIE
- SIGNIFICANT VIEWS TO FRONT RANGE (NONE)

SOURCE: Natural Diversity information  
SOURCE - SIGNIFICANT WILDLIFE HABITAT MAPS - ADAMS, ARAPAHOE, AND DENVER COUNTIES, CO. COLORADO DIVISION OF WILDLIFE, SEPT. 1998



Sheet Title:

**NATURAL FEATURES**

Site Analysis  
Master Plan

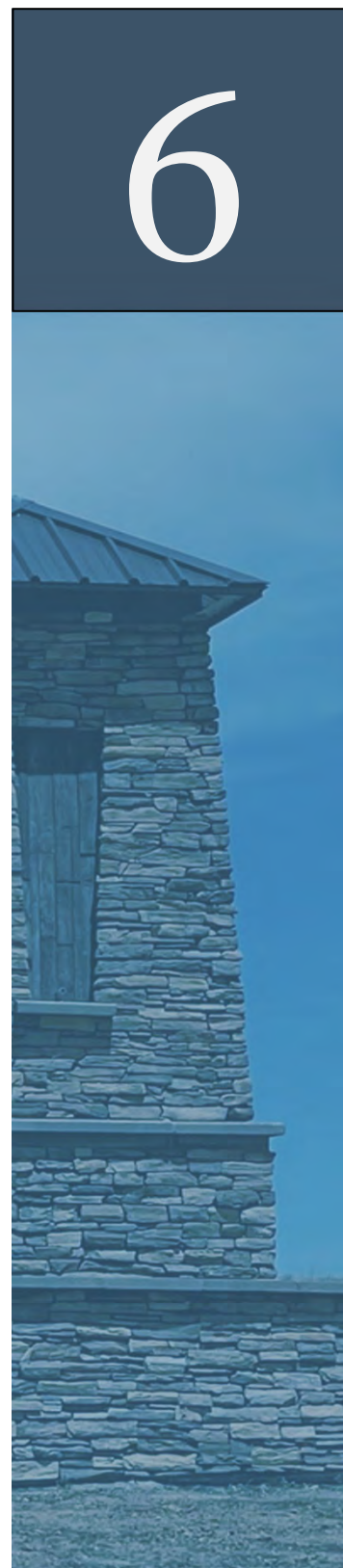
Project Title:

**Green Valley Master Plan  
Amendment 2**  
Aurora, Colorado

**GREEN VALLEY**  
RANCH

**FORM B – MP NARRATIVE**

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# Form B: MP Narrative

## 1. General Description of the MP

*Briefly describe the general character of your proposed MP. What will be the predominant land uses? What market segment is the proposed development designed to serve?*

In 2008 a 2,500 Ac. Master Plan (MP), formerly Framework Development Plan (FDP), for Green Valley was approved. This MP included a variety of uses including residential, commercial, mixed use and a variety of parks and open space throughout. The MP was amended for 588 west of E-470 known as Amendment 1 and received approval in 2018.

Amendment 1 modified planning areas and open space for the 588 acre area, however, there were no other changes made to the MP. The second amendment proposes to include 301 ac **Revised** and east of 52<sup>nd</sup> Ave. The Master Plan area is also being revised to **remove all of the area from the original MP approval located east** of E-470 and the area of the approved MP. 12.3 Acres west of E-470 and everything east of E-470 will be removed from the Green Valley MP and to be developed by separate Master Plans.

The proposed Green Valley MP Amendment is to revise the land uses for the 301 acres north and east of 52<sup>nd</sup> Avenue, **update** land use maps to include these new areas and to better align with current site plans, to remove the area east of E-470 from the MP, and amending the property boundary due to E-470 purchasing a portion of the property. The proposed amendment also includes Urban Design, Landscape and Architectural Standards for Commercial/Retail **uses.** **the addition of** are being added to this MP.

The Green Valley MP amendment proposes R-2 and Mixed Use zoning to **this paragraph doesn't have any context to location. Revise** part of this Amendment, the Active Adult neighborhood between 48<sup>th</sup> Ave and 52<sup>nd</sup> Ave is being expanded to the north. **Revised** this community is focused on the 55+ age group, while residential uses of 48<sup>th</sup> Ave are focused on all age groups. Adjacent to 56<sup>th</sup> Avenue and the active adult community will be commercial/retail uses to serve this community and other surrounding communities near E-470.

## 2. Defining Character of the MP

*Describe how your proposed MP will create a unique community with a definable character and special "sense of place". What facilities, amenities and special design features will set it apart in the marketplace from similar developments in your*

area?

Green Valley MP will be a unified community following the "Colorado" theme. This theme reflects the beauty of the Colorado foothills landscape and will have a more rustic character. Predominant architectural styles will include Classic, Contemporary, Homestead, and Victorian with materials complementing the surrounding area.

The architecture is not defined by neighborhood, but rather by a mix of product types. The residential areas throughout the development consist of a variety of housing types: single-family detached homes, motorcourts with single-family detached front-loaded single-family attached duplex homes, and multi-family homes. When mixed, these varying styles create diverse neighborhoods in both style and affordability. The primary landscape theme consists of large sweeping native areas that use landforms and native plantings indicative of the Colorado foothills. Large planting beds located along streets and trails will be made up of masses of grasses, shrubs, and trees to provide both seasonal interest and views into and out of the site. Landforms will be accentuated with the use of berming and rock outcroppings to create spaces for both wildlife and residents to enjoy.

Revised

residential?

multi-family has a very specific definition. Make sure this is accurate.

Revised

the first time City Corridor is referenced. Provide context

The commercial planning areas will include a variety of land uses, including office, institutional and retail. A component of the commercial development is a Main Street per the Mixed-Use Regional District (MU-R) Aurora standards. These main street standards are further described in Tab 10. Due to close proximity to E470 and the interchange at 56<sup>th</sup>, the commercial center is positioned to attract a variety of commercial uses which may include large scale retail, office or warehouse retail. The 'City Corridor' Placetype will focus on commercial activity including retail shops, restaurants, pedestrian spaces, and outdoor plazas. The vision for Main Street will be to create a high-quality public space for the Green Valley Ranch community. The commercial planning areas and Main Street will reflect the community 'Colorado' theme through architecture, signage, urban spaces, and site furnishings.

Revised

### 3. Zoning Conformance

this discussion is inaccurate. See Tab 4 for comments re: zoning

the entire GVRE MP is an amendment. reference zone districts by locations, ie. between streets, etc...

MP accurately reflect adopted zone district boundaries?

The Green Valley MP Amendment area is within the R-2 zone district. The proposed Master Plan Amendment area is currently zoned Mixed Use Airport (MU-A) and Mixed Use Regional District (MU-R). A Zone Map Amendment is concurrently being proposed with this MP Amendment to rezone 78.8 Acres of MU-A north of 52<sup>nd</sup> Ave to R-2 zone designation in order to extend the

active adult community. We're also proposing to rezone 28.3 Acres of the current MU-R east of Tibet Road to MU-A. Refer to the Rezone exhibits that are provided as part of that submittal.

#### 4. Potential Regulatory Conflicts

*Are there any existing or potential conflicts between MP design ordinance requirements and the terms of any existing annexation agreements or agreements with other jurisdictions or interest groups? If so what are they and how you propose to resolve them?*

The Original Annexation Agreements include the following park and school dedication requirements:

Public Land Dedication - 6% of the area zoned for residential uses to be used for open space, and 2% of the area zoned for non-residential uses to be used for municipal purposes including fire facilities. School site dedications- up to 4% of the area zoned for residential uses. The following dedications were provided in Amendment 1:

##### Public Facilities

2% of non-residential acreage ( $149.7 \times 2\% = 3.0 \text{ Ac}$ )

- Land dedicated to city for future fire station along 48<sup>th</sup> Ave.

##### Schools

###### P-8 School:

614 Elementary School Students (.0175 acres/child) = 10.75 ac

289 Middle School Students (.025 acres/child) = 7.23 ac

Subtotal: 17.98 ac

- Amendment 1 included an 18.0 Ac school site
- No additional acreage required since additional residential is active adult

###### High School:

361 High School Students (.032 acres/child) = 11.565 ac

not accurate. Mixed Use will not be AA

Total Acres Required = 29.55 ac

###### Open Space:

6% of residential acreage ( $564 \text{ Ac} \times 6\% = 34 \text{ Ac}$ )

###### Green Valley Master Plan:

Neighborhood Park: (3 AC. Per 1000 Residents)

Required: 27.4 acres

Provided: 27.4 acres

Community Park: (1.1 AC. Per 1000 Residents)

Required: 10.0 acres

Provided: 6.6 acre cash-in-lieu payment made as part of amendment 1.

Remaining payment to be made by first residential plat of either PA45-48.

Open Space: (7.8 AC. Per 1000 Residents)

Required: 71.1 acres

Provided: 74.7 acres

## 5. Adjustments

*Does your current design require any ordinance waivers in order to be approved? If so, list each proposed waiver, and answer the following questions for each:*

- What are the specific site-related characteristics of your site that have led to the waiver request? (Do not include self-imposed hardships or constraints as a justification. Financial constraints may be considered, but only as they relate to unusual site conditions. Do not simply respond that meeting all development standards would be too costly.)*
- What design alternatives have you considered to avoid the waiver? Why weren't these alternatives chosen?*
- What measures have been taken to reduce the severity or extent of the proposed waiver?*
- What compensating increases in design standards have you proposed to mitigate the waiver's impact?*

There are no adjustments being requested in the MP.

## 6. Required City Facilities

*What additional city facilities or services will the City of Aurora have to provide in order for your MP to be implemented? What police, fire, and recreation facilities are required and where are they located (inside or outside your MP boundary.) To what extent will your development plan help to fund or construct these facilities?*

this paragraph should be preceded by what Developer is doing to extend services, build roads, etc.. for the community per the last sentence of the question.

- Revised**
- The City of Aurora will need to provide sewer and water services, police, fire, and library services. The City will also need to provide maintenance for public parks and public streets following dedication to the City. See Public Improvements Phasing Plan, Form J and the Development Agreement.
  - A summary of the proposed water and sewer service strategy is contained in Form A. For additional detail, please refer to the Master Utility Plan and the Development Agreement.
  - Picadilly Road, 56<sup>th</sup> Avenue and 48<sup>th</sup> Avenue are planned as six-lane Principal Arterials. 38<sup>th</sup> Avenue is planned as a four-lane Minor Arterial. 52<sup>nd</sup> Avenue, Tibet Road from 38<sup>th</sup> Ave to 48<sup>th</sup> Ave, and 38<sup>th</sup> Avenue are planned as three-lane collectors. 42<sup>nd</sup> Avenue is planned as a two-lane collector. Tibet Road from 48<sup>th</sup> Ave to 56<sup>th</sup> Ave is planned as a four-lane Minor Arterial. The arterials will require improvements based on City standards with development phasing. See Public Improvements Phasing Plan and the Development Agreement.

## 7. Vehicular Circulation

*Do your proposed arterial and collector roadways align with the arterials and collectors of adjacent properties? Do your roadway cross-sections match adjacent cross-sections? If not, explain why.*

- Revised**
- The east half of Picadilly road and all roads to the east are within Aurora.
- To the west of Picadilly. East half of Picadilly is in Aurora, all roadways are within the City and County of Denver, so road standards necessarily differ. Principal and Minor Arterials align to connect with the arterials to the north, south, east, and west. To the east, 48<sup>th</sup> Ave is aligned to connect with 48<sup>th</sup> Ave. in the approved Windler MP. Collectors in Aurora are spaced at half-mile intervals, but to the west in Denver, collectors are not spaced at the same interval. Due to the differences, the road alignments have been aligned to match existing roads within Denver.

See Street Cross Sections on Tab 10.14-10.15.

## 8. Pedestrian Circulation

*Do off-street trails on your site connect with those on adjacent properties? Do your cross sections match adjacent cross sections? If not, explain why.*

- Off-street trails within Green Valley MP are aligned to connect with trails to the west in Green Valley Ranch Denver, including the one along the First

Creek Drainage and along Tributary T near 48<sup>th</sup> Avenue. A community trail from the PA-16 open space will cross 52<sup>nd</sup> Ave via a grade separated crossing and extend north into PA-62 and the proposed active adult community. This will link the parks and amenities being provided to this community.

- Trail sections in Green Valley MP will be constructed to the City of Aurora standards and shall be constructed of concrete in the more urban areas of the community, and in the more natural areas, other materials, such as decomposed granite, may be proposed at the time of Site Plan review. Trails along drainage channels will be constructed according to maintenance road / trail standards of the Urban Drainage and Flood Control District and the P&OSD standards and will be a minimum of 10 feet wide. These trails shall both act as pedestrian trails and maintenance trails. Regional trails outside of the drainage ways will be ten (10) feet wide and community trails shall have a minimum width of eight (8) feet. Refer to the Open Space Plan for regional and community trail locations. Six (6) foot wide minimum neighborhood trails will also be incorporated into the trail network. These trail locations will be determined at Site Plan.
- The proposed Main Street in the commercial area will have a strong pedestrian connection across Tibet Road into the active adult community.

## **9. Protection of Natural Features, Resources and Sensitive Areas.**

*Describe how the development will be designed to protect, use or enhance natural resources and features. In particular, describe how the design of the development will respond to:*

- *Water features, such as floodplains, streams, and arroyos.*
  - Open space is planned along the drainage corridors. This open space becomes part of the open space/trail network that crosses the site linking neighborhoods to parks, a school, and activity centers.
- *Adjacent parks and public open space*
  - There are four (4) neighborhood parks within close proximity to the Open Space Corridor. This corridor begins south off-site from 38<sup>th</sup> Avenue and E-470 extending diagonally, towards 48<sup>th</sup> Avenue and

Picadilly Road, within Green Valley. Two other neighborhood parks are along open space corridors in the active adult community and connect up to this main Tributary T open space.

- *Historic or archeological sites*
  - A review of the records of The Colorado Historical Society Office of Archaeology and Historic Preservation "Inventory of Cultural Resources" identified a number of items inventoried on the site, but none were found have significant historic or archaeological value.
  - The majority of these sites occur within the site's drainage areas, which will be enhanced as open space/trail corridors.
- *Significant views of the Front Range and views from public parks and I-70 and E- 470 and other collector and arterial streets*
  - Views from public parks and other collector streets west will be protected at strategic points within the development. The use of topography and vegetation will frame scenic vistas.
- *Riparian wildlife habitat*
  - There are no true riparian zones along the drainage. There is no flowing water or springs along the drainage, and no channels have developed.
  - Tributary T just east of Picadilly Road in Section 24 has one old mature cottonwood along the drainage corridors. This is also not a true riparian zone since there is no flowing water except after a storm, and there is no definite channel. The understory is an overgrazed pasture with no brushes or willow.
- *The approximate topographic form of major ridgelines and swales*
  - There are no major ridgelines or swales. The drainages will be enhanced as a part of the planned community's open space/trail network.
- *Natural or geologic hazard areas, including unstable slopes and expansive soils*
  - No geologic hazard areas or expansive soils have been identified on the site.
- *Other natural features such as bluffs, ridges, steep slopes, stands of mature trees, rock outcroppings, or wetlands.*



- Slopes over 6% are primarily found in the drainage areas that will be preserved/ enhanced as open space. There are no bluffs, ridges, or rock outcroppings. There are a few mature trees in and around the drainage areas that will be preserved to the extent possible within the open space areas.

## 10. Neighborhood Concept

*Briefly describe the location of your individual neighborhoods. How have you defined the boundaries for each neighborhood? How are the architectural styles and other design features distributed among the neighborhoods? Are there any styles or other design standards that are restricted to specific areas?*

The Green Valley Master Plan will be unified community. The architecture is defined by a mix of product types, which vary by location and quantity throughout the entire development which is split into Active Adult north of 48<sup>th</sup> Ave and a more Traditional neighborhood south of 48<sup>th</sup> Ave. When mixed together, these varying types create diverse neighborhoods in both style and affordability.

## 11. Black Forest Ordinance

*Is the Black Forest Ordinance applicable to your site? If so where do the impacted areas show on your exhibits, and how will the requirements of the ordinance be carried out?*

- The Green Valley site is outside of the Black Forest Ordinance jurisdictional area.

## 12. Steep Slope Standards

*Does your development plan include building on areas with an existing slope of 6% or greater? If so, what standards and design strategies have you adopted to deal with drainage and aesthetic issues? Have you reviewed and considered our recommended steep slope design guidelines? If not, why?*

- Slopes over 6% are primarily located in the drainage areas that are enhanced as open space.

## 13. Consultations with Outside Jurisdictions and Agencies

*Have you consulted with representatives of your local school district, the*

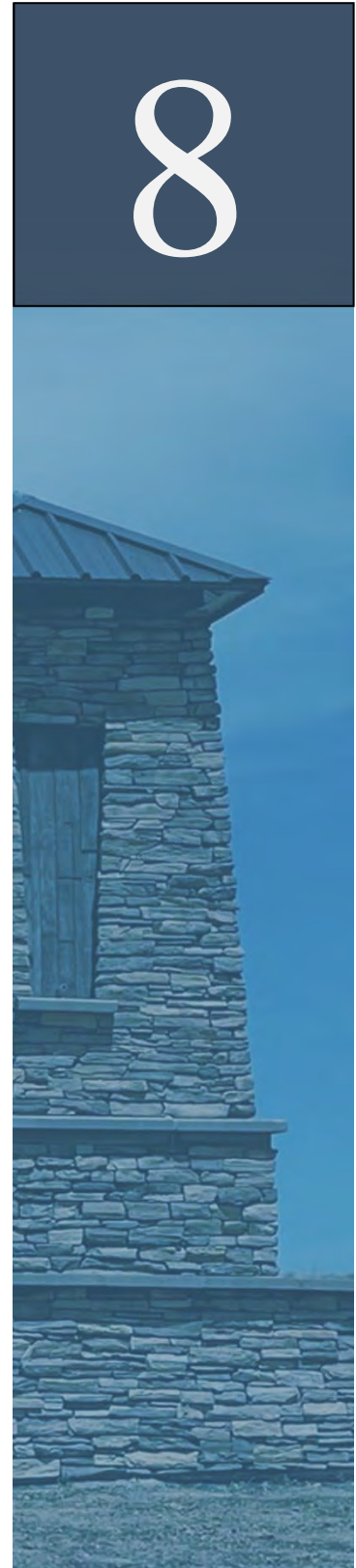
*Colorado Division of Wildlife, the Colorado Department of Public Health and Environment, or other applicable local, state or federal agencies? If so, list the dates, contact person, and results of your discussions. Include any letters you've received from these agencies as an appendix to your application.*

- A number of meetings have been held between representatives of the applicant and the Aurora Public Schools to reach agreement on servicing the Green Valley Master Plan.

## MP LAND USE MAP MATRIX AND STANDARD NOTES

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- Land Use Plan Narrative 8.1
- Land Use Summary 8.2
- 470-RMED Spreadsheet 8.3
- Land Use Plan 8.4
- Neighborhood Plan 8.5
- Fire Exhibit 8.6
- Standard MP Notes 8.7



## 8.1 Land Use Plan Narrative

The Master Plan for Green Valley consists of 884.1 acres. Proposed land use is Residential Medium Density, Multi-Family **Revised** Commercial/Retail and Mixed-Use.

4000 or 4001 ?

14 ?

A total of approximately 4,001 dwelling units are planned, ranging in density from 4.1 to 40.0 dwellings per acre. A broad range of housing types will be offered, including single-family detached homes, motorcourts with single-family detached homes, front loaded single-family attached duplex homes, and multi-family homes.

A total of 7 Neighborhood Parks on 27.4 acres, along with 8.2 acres of pocket parks and 74.2 gross acres of open space make up the parks and open space system that are interconnected by a network of trails along the Open Space Corridor and greenways that follow the drainage corridors. The public dedications and open space areas expressly provided for in this MP will satisfy all dedication and open space requirements applicable to the MP site.

With respect to school dedications, the total acreage allocated under this MP for that purpose equals approximately 18.0 acres. This school dedication plan has been designed with input from Aurora Public Schools (APS). One P-8 school is proposed to serve this development west of E-470.

The Land Use Plan (Tab 8.4) shows the configuration of these land uses. Acres, density, and total number of dwelling units are detailed in Tab 8.3, below. All lots size standards and setbacks will follow code unless specified during the site plan process.

## 8.2 Land Use Summary

### GREEN VALLEY MASTER PLAN

Revised

what does this mean? add footnote

1240 in Form D. Check

#### TOTAL PROJECT

LAND USE	ACRES	DENSITY	DU	% OF RES DU
Active Adult Residential	232.1	5.3	1241	31.0%
Single Family Residential	290.2	4.1/6.3	1662	41.5%
Mixed Use	118.8	9.2	1098	27.5%
Commercial	33.3			
<b>Sub Total</b>	674.4		4000	100.0%
Neighborhood Activity Center / Clubhouse	5.3			
P-8 School	18.0			
Neighborhood Parks	27.4			
Pocket Parks & Credited Open Space	74.2			
Non-Credited Open Space	12.3			
Detention	14.3			
Floodway Channel	7.7			
Easements	8.8			
Right of Way	41.8			
<b>Sub Total</b>	209.6			
<b>TOTAL</b>	884.1			

Active Adult Residential will contain a mix of standard, small, motorcourt (standard and small), and duplex (front-loaded) lots.

Single Family Residential will contain a mix of standard, small (front loaded), and motorcourt (standard and small) lots.

<sup>1</sup> Master Plan area includes development proposed in Amendments 1 and 2. Area east of E-470 has been permanently removed from the Master Plan

TAB 8.3

FORM D: MP Land Use Matrix							
A. LAND USE ITEM	B. PLANNING AREA MAP NUMBER	C. MAP AREA CODE	D. GROSS LAND AREA IN ACRES	E. LAND USE FORMULA	F. MAX POTENTIAL DENSITY BY CODE (in DU's)	G. ACTUAL PROPOSED MAXIMUM DENSITY (in DU's)	H. LAND USE DETAILS AND COMMENTS
1. Floodway Channel	PA-28	CHANNEL	3.4				Storm flow conveyance. Not Credited towards public land dedication requirement.
	PA-29	CHANNEL	2.0				Storm flow conveyance. Not Credited towards public land dedication requirement.
	PA-30	CHANNEL	2.3				Storm flow conveyance. Not Credited towards public land dedication requirement.
Subtotal			7.7				
2. Required Land Dedication Areas for Park, Schools, & Fire Stations	PA-10	CLUBHOUSE	3.5				Amenity Area and Pool
	PA-11	CLUBHOUSE	1.8				Amenity Area and Pool
	PA-12	SCHOOL-P-8	18.0				Public School P-8
	PA-13	NEIGHBORHOOD PARK	6.2	3.0 ACRES PER 1,000 RESIDENTS			6.2 AC net Credited toward neighborhood park requirement.
	PA-14	NEIGHBORHOOD PARK	5.7	3.0 ACRES PER 1,000 RESIDENTS			5.7 AC net Credited toward neighborhood park requirement.
	PA-15	NEIGHBORHOOD PARK	3.0	3.0 ACRES PER 1,000 RESIDENTS			3.0 AC net Credited toward neighborhood park requirement.
	PA-16	OS-D	18.1	7.8 ACRES PER 1,000 RESIDENTS			15.6 AC net Credited toward open space requirement.
	PA-17	OS-D(Corridor)	2.8	7.8 ACRES PER 1,000 RESIDENTS			2.4 AC net Credited toward open space requirement.
	PA-18	OS-D(Corridor)	1.7	7.8 ACRES PER 1,000 RESIDENTS			1.2 AC net Credited toward open space requirement.
	PA-19	OS-D (Collector)	3.8	7.8 ACRES PER 1,000 RESIDENTS			2.5 AC net Credited toward open space requirement.
	PA-20	OS-D(Corridor)	10.6	7.8 ACRES PER 1,000 RESIDENTS			9.0 AC net Credited toward open space requirement.
	PA-21	OS-D(Collector)	1.6	7.8 ACRES PER 1,000 RESIDENTS			1.6 AC net Credited toward open space requirement.
	PA-22	OS-D(Corridor)	3.9	7.8 ACRES PER 1,000 RESIDENTS			2.1 AC net Credited toward open space requirement.
	PA-23	OS-D(Corridor)	9.8	7.8 ACRES PER 1,000 RESIDENTS			7.7 AC net Credited toward open space requirement.
	PA-24	OS-D(Corridor)	6.5	7.8 ACRES PER 1,000 RESIDENTS			4.4 AC net Credited toward open space requirement.
	PA-25	DETENTION	5.4				0 AC net Credited toward open space requirement.
	PA-26	DETENTION	6.8				0 AC net Credited toward open space requirement.
	PA-27	DETENTION	2.1				0 AC net Credited toward open space requirement.
	PA-31	OS-POCKET PARK	0.5	7.8 ACRES PER 1,000 RESIDENTS			0.5 AC net Credited toward open space requirement.

What does "Collector mean?

Sheet Title:

LAND USE MATRIX

Land Use Map, Matrix and  
Standard Notes  
Master Plan

Project Title:

Green Valley Master Plan  
Amendment 2  
Aurora, Colorado

GREEN VALLEY  
RANCH



TAB 8.3

FORM D: MP Land Use Matrix							
A. LAND USE ITEM	B. PLANNING AREA MAP NUMBER	C. MAP AREA CODE	D. GROSS LAND AREA IN ACRES	E. LAND USE FORMULA	F. MAX POTENTIAL DENSITY BY CODE (in DU's)	G. ACTUAL PROPOSED MAXIMUM DENSITY (in DU's)	H. LAND USE DETAILS AND COMMENTS
2. Required Land Dedication Areas for Park, Schools, & Fire Stations	PA-32	OS-POCKET PARK	0.5	7.8 ACRES PER 1,000 RESIDENTS			0.5 AC net Credited toward open space requirement.
	PA-33	OS-D	0.8	7.8 ACRES PER 1,000 RESIDENTS			0.8 AC net Credited toward open space requirement.
	PA-34	OS-POCKET PARK	0.5	7.8 ACRES PER 1,000 RESIDENTS			0.5 AC net Credited toward open space requirement.
	PA-35	OS-D	0.4	7.8 ACRES PER 1,000 RESIDENTS			0.4 AC net Credited toward open space requirement.
	PA-36	OS-D	1.1	7.8 ACRES PER 1,000 RESIDENTS			1.1 AC net Credited toward open space requirement.
	PA-37	OS-D	1.0	7.8 ACRES PER 1,000 RESIDENTS			1.0 AC net Credited toward open space requirement.
	PA-38	OS-POCKET PARK	0.9	7.8 ACRES PER 1,000 RESIDENTS			0.9 AC net Credited toward open space requirement.
	PA-39	NEIGHBORHOOD PARK	3.0	3.0 ACRES PER 1,000 RESIDENTS			3.0 AC net Credited toward neighborhood park requirement.
	PA-40	OS-POCKET PARK	2.0	7.8 ACRES PER 1,000 RESIDENTS			2.0 AC net Credited toward open space requirement.
	PA-41	OS-POCKET PARK	0.5	7.8 ACRES PER 1,000 RESIDENTS			0.5 AC net Credited toward open space requirement.
	PA-42	EASEMENT (UTILITY)	0.5				0 AC net Credited toward open space requirement.
	PA-43	EASEMENT (UTILITY)	0.5				0 AC net Credited toward open space requirement.
	PA-44	EASEMENT (MULTI-USE)	1.7				0 AC net Credited toward open space requirement.
	PA-56	OS- POCKET PARK	0.5	7.8 ACRES PER 1,000 RESIDENTS			0.5 AC net Credited toward open space requirement.
	PA-57	OS- POCKET PARK	0.5	7.8 ACRES PER 1,000 RESIDENTS			0.5 AC net Credited toward open space requirement.
	PA-58	OS-D(Corridor)	1.7	7.8 ACRES PER 1,000 RESIDENTS			1.7 AC net Credited toward open space requirement.
	PA-59	OS-D(Corridor)	2.7	7.8 ACRES PER 1,000 RESIDENTS			2.7 AC net Credited toward neighborhood park requirement.
	PA-60	NEIGHBORHOOD PARK	3.5	7.8 ACRES PER 1,000 RESIDENTS			3.5 AC net Credited toward open space requirement.
	PA-61	OS-D(Corridor)	11.8	7.8 ACRES PER 1,000 RESIDENTS			11.8 AC net Credited toward open space requirement.
	PA-62	OS- POCKET PARK	2.3	7.8 ACRES PER 1,000 RESIDENTS			2.3 AC net Credited toward open space requirement.
	PA-63	NEIGHBORHOOD PARK	3.0	3.0 ACRES PER 1,000 RESIDENTS			3.0 AC net Credited toward neighborhood park requirement.
	PA-64	NEIGHBORHOOD PARK	3.0	3.0 ACRES PER 1,000 RESIDENTS			3.0 AC net Credited toward neighborhood park requirement.
	PA-65	EASEMENT (MULTI-USE)	6.1				0 AC net Credited toward open space requirement.
Subtotal			160.2				

revise map notation to match

Revised

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GREEN VALLEY  
RANCH

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FORM D: MP Land Use Matrix							
A. LAND USE ITEM	B. PLANNING AREA MAP NUMBER	C. MAP AREA CODE <div>Revised</div>	D. GROSS LAND AREA IN ACRES	E. LAND USE FORMULA	F. MAX POTENTIAL DENSITY BY CODE (in DU's)	G. ACTUAL PROPOSED MAXIMUM DENSITY (in DU's)	H. LAND USE DETAILS AND COMMENTS
3a. Development Areas Subzone: R-2 Subarea-C	PA-1	AA SFD STAND, SFD SMALL	30.2	5.2 DU/AC	241	157	Max. Potential Density is 8 DU/AC
	PA-2	AA SFD STAND, SFD SMALL, SFA DUPLEX	42.2	5.6 DU/AC	338	236	Max. Potential Density is 8 DU/AC
	PA-3	AA SFD STAND, SFD SMALL	30.0	5.0 DU/AC	240	150	Max. Potential Density is 8 DU/AC
	PA-4	AA SFD STAND, SFD SMALL	26.3	4.0 DU/AC	210	105	Max. Potential Density is 8 DU/AC
	PA-5	SFD STAND, SFD SMALL	26.4	4.1 DU/AC	211	108	Max. Potential Density is 8 DU/AC
	PA-6	SFD STAND, SFD SMALL	78.9	5.3 DU/AC	631	418	Max. Potential Density is 8 DU/AC
	PA-7	SFD STAND, SFD SMALL	91.9	5.9 DU/AC	735	542	Max. Potential Density is 8 DU/AC
	PA-8	SFD STAND, SFD SMALL	30.1	6.2 DU/AC	241	186	Max. Potential Density is 8 DU/AC
	PA-9	SFD STAND, SFD SMALL	62.9	6.5 DU/AC	503	408	Max. Potential Density is 8 DU/AC
	PA-45	AA SFD STAND, SFD SMALL, SFA DUPLEX	26.3	5.0 DU/AC	210	131	Max. Potential Density by code is 5 DU/AC
	PA-46	AA SFD STAND, SFD SMALL, SFA DUPLEX	39.0	5.0 DU/AC	312	195	Max. Potential Density by code is 5 DU/AC
		RIGHT-OF-WAY	41.8				
Subtotal			526.0				
3b. Development Areas Subzone: MU-A & MU-R	PA-47	AA SFD STAND, SFD SMALL, SFA DUPLEX	15.6	7.0 DU/AC	125	109	Max. Potential Density is 40 DU/AC
	PA-48	AA SFD STAND, SFD SMALL, SFA DUPLEX	22.5	7.0 DU/AC	180	157	Max. Potential Density is 40 DU/AC
	PA-49	MIXED USE	19.7	10.0 DU/AC	394	197	Max. Potential Density by Code is 40 DU/AC
	PA-50	MIXED USE	57.0	14.0 DU/AC	1026	798	Max. Potential Density by Code is 40 DU/AC
	PA-51	MIXED USE	15.3	0.0 DU/AC	275	0	Max. Potential Density by Code is 40 DU/AC
	PA-52	MIXED USE	9.6	0.0 DU/AC	173	0	Max. Potential Density by Code is 40 DU/AC
	PA-53	COMMERCIAL	19.6				
	PA-54	COMMERCIAL	13.7				
	PA-55	MIXED USE	17.2	6.0 DU/AC	310	103	Max. Potential Density by Code is 40 DU/AC
Subtotal			190.2				
SUB AREA TOTAL			884.1		6356	4000	

Sheet Title:

LAND USE MATRIX

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GREEN VALLEY  
RANCH

TAB 8.3

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A. LAND USE ITEM	B. PLANNING AREA MAP NUMBER	C. MAP AREA CODE	D. GROSS LAND AREA IN ACRES	E. LAND USE FORMULA	F. MAX POTENTIAL DENSITY BY CODE (in DU's)	G. ACTUAL PROPOSED MAXIMUM DENSITY (in DU's)	H. LAND USE DETAILS AND COMMENTS
4. Total Map Acreage (Sub-Area Total Above)			884.1				
5. Less 1/2 of Perimeter Streets Not Owned by Applicant			16.3				
6. Applicant's Acreage Listed in Application (Line 4 minus Line 5)			867.8				1240 (proposed) x 1.58 (persons) = 1959.2 I.E. 1960
7. Total Floodplain Acreage			7.7				
8. Total Adjusted Gross MP Acreage (Line 4 minus Line 7)			876.4				1961
9. Total Active Adult Planning Areas			232.1	1.58 PERSONS PER UNIT	1856	1240	1960 Estimated Residents
10. Total Single Family Planning Areas			290.2	2.65 PERSONS PER UNIT	2322	1662	4405 Estimated Residents
12. Total Mixed Use Planning Areas			118.8	2.5 PERSONS PER UNIT	2178	1098	2746 Estimated Residents
12. Total Residential			641.1		6356	4000	9111 Estimated Residents
13. Check for avg. residential density in subzone				5 DU's/AC TIMES LINE 8	4382	4000	
14. Small Lot Total				50% of TOTAL UNITS	3178	2000	
15. Check for maximum allowable number of multi-family units							
16. Total Retail Planning Areas			0.0				
17. Total Office Planning Areas			0.0				
18. Total Industrial Planning Areas			0.0				
19. Total Mixed Commercial Planning Areas			190.2				
20. Total Commercial			190.2				
21. Total Neighborhood Parks			27.4	3.0 AC / 1000 RESIDENTS			Required Land Dedication = 27.4 AC. Provided Land Dedication = 27.4 AC.
22. Total Community Parks			0.0	1.1 AC / 1000 RESIDENTS			Requirement of 10.0 AC will be met by applicant cash-in-lieu payment (6.6 AC. Cash-in-lieu payment made as part of Amendment 1) Remaining payment to be made by first residential plat of either PA45-48
23. Total other Credited Open Space including trail corridors, greenbelts, and special rec. sites			74.2	7.8 AC / 1000 RESIDENTS			Required Land Dedication = 71.1 AC. Provided Land Dedication = 74.2 AC.
24. Total Open Space			101.6				Required Land Dedication = 98.5 AC. Provided Land Dedication = 101.6 AC. Provided Cash-in-Lieu Payment = 10.0 AC.

101.8 in Form J

113.9 now

This should show the total as inclusive of the community park.  
Change to 108.4

Sheet Title:

LAND USE MATRIX

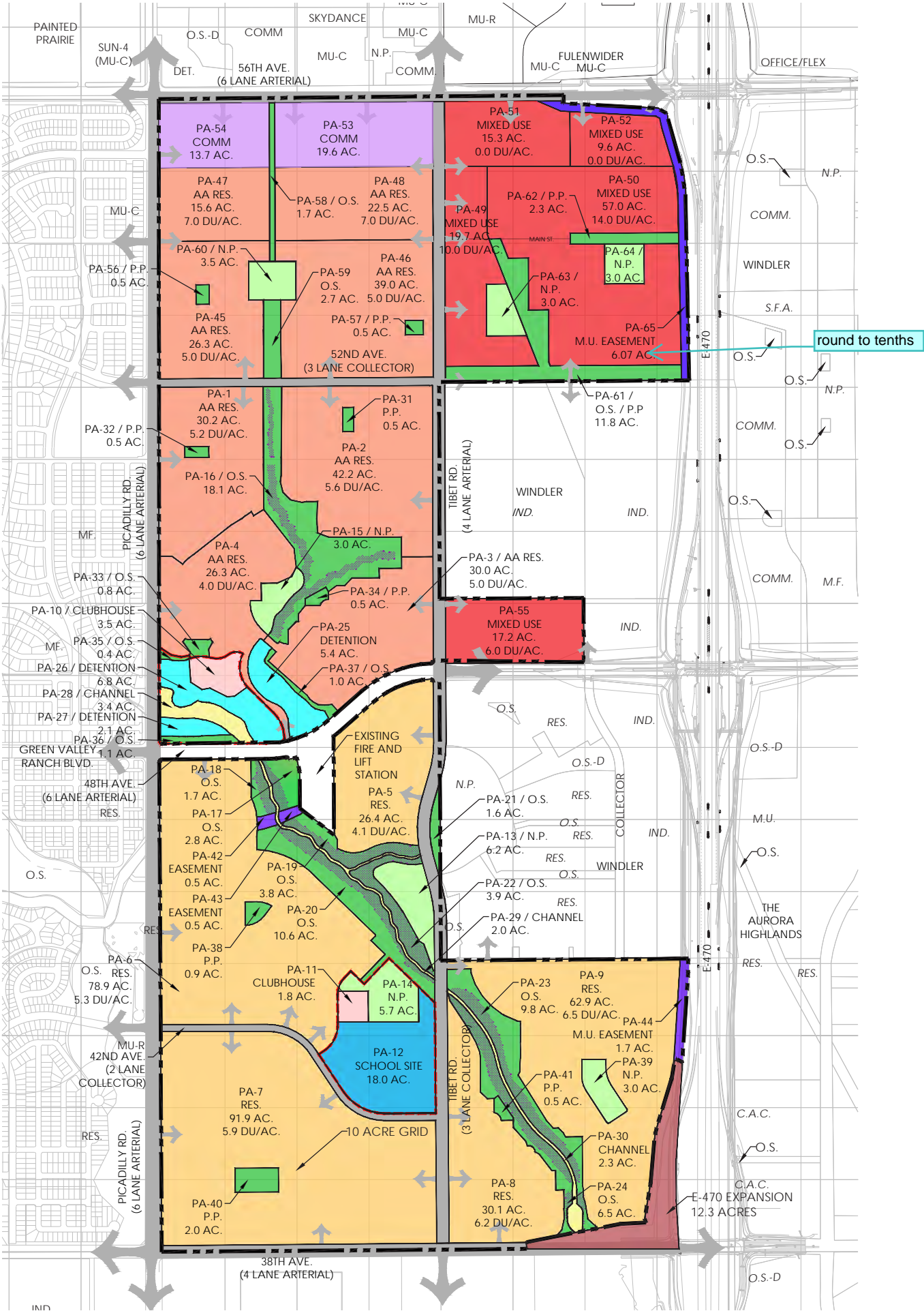
Land Use Map, Matrix and Standard Notes Master Plan

Project Title:

Green Valley Master Plan Amendment 2

Aurora, Colorado

GREEN VALLEY RANCH



LEGEND

SINGLE FAMILY RES.	SCHOOL SITE
ACTIVE ADULT RES.	ROAD RIGHT OF WAY
OPEN SPACE	EASEMENT
DETENTION POND	COMMERCIAL
FLOODWAY CHANNEL	MIXED USE
CLUBHOUSE	NAC BOUNDARY
NEIGHBORHOOD PARK	IND = INDUSTRIAL
100 YEAR FLOOD PLAIN	COMM. = COMMERCIAL
	C.A.C. = COMMUNITY ACTIVITY CENTER
	MU-C = MULTI USE COMMERCIAL

O.S. = OPEN SPACE  
N.P. = NEIGHBORHOOD PARK  
P.P. = POCKET PARK  
RES. = RESIDENTIAL  
M.F. = MULTI FAMILY  
S.F.A. = SINGLE FAMILY ATTACHED  
S.F.D. = SINGLE FAMILY DETACHED



Sheet Title:

**LAND USE PLAN  
OVERALL**

Land Use Map, Matrix and  
Standard Notes  
Master Plan

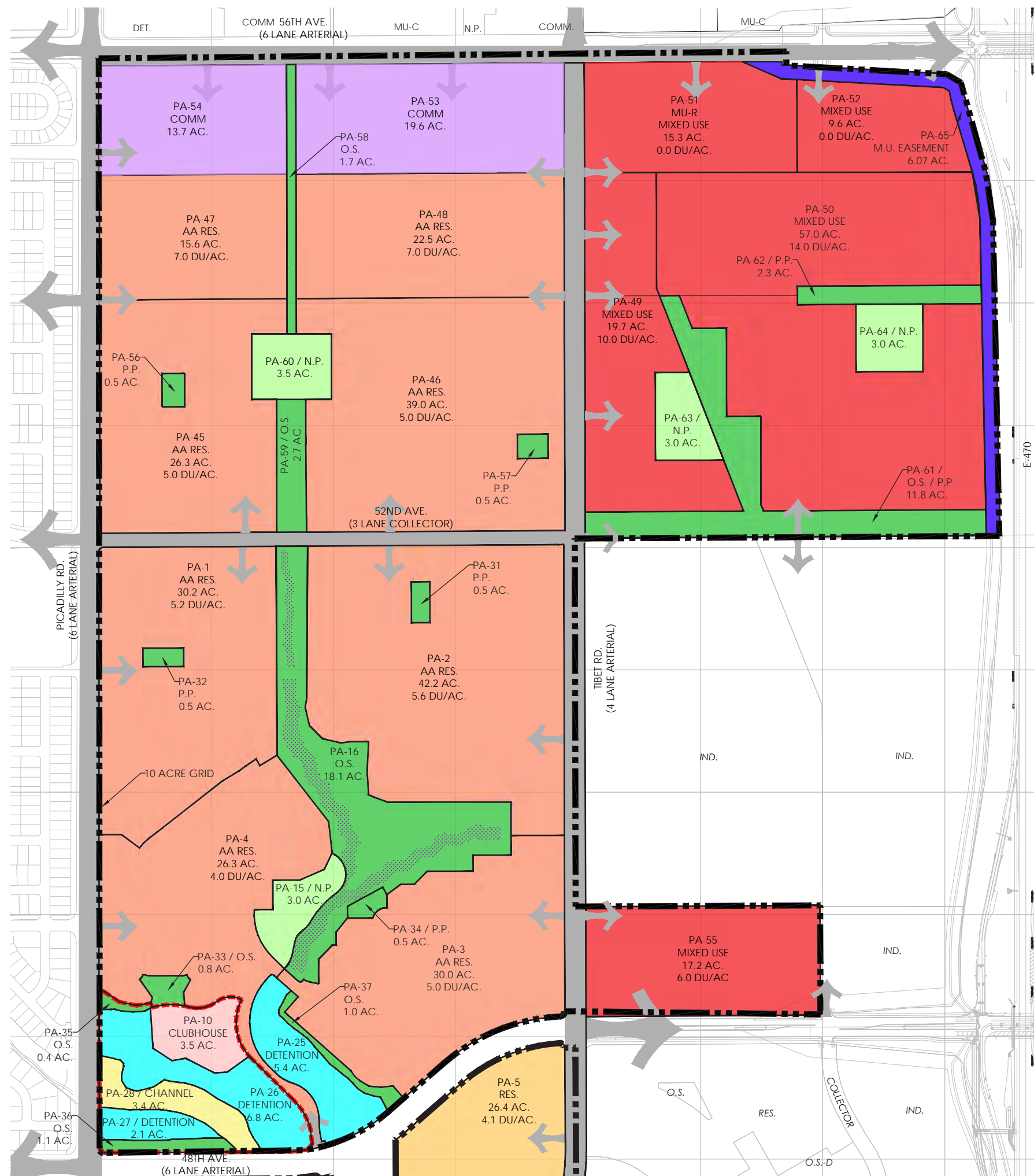
Project Title:

**Green Valley Master Plan  
Amendment 2**















Aurora, Colorado

**GREEN VALLEY  
RANCH**



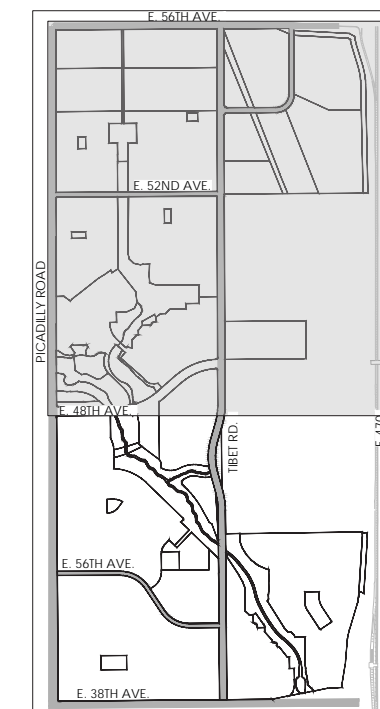


### LEGEND

- |   |                      |   |                   |
|---|----------------------|---|-------------------|
|  | SINGLE FAMILY RES.   |  | SCHOOL SITE       |
|  | ACTIVE ADULT RES.    |  | ROAD RIGHT OF WAY |
|  | OPEN SPACE           |  | EASEMENT          |
|  | DETENTION POND       |  | COMMERCIAL        |
|  | FLOODWAY CHANNEL     |  | MIXED USE         |
|  | CLUBHOUSE            |  | NAC BOUNDARY      |
|  | NEIGHBORHOOD PARK    | IND = INDUSTRIAL  |                   |
|  | 100 YEAR FLOOD PLAIN | COMM. = COMMERCIAL  |                   |
|   |                      | C.A.C. = COMMUNITY ACTIVITY CENTER  |                   |
|   |                      | MU-C = MULTI USE COMMERCIAL   |                   |

O.S. = OPEN SPACE  
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S.F.D. = SINGLE FAMILY DETACHED

### KEY MAP



Sheet Title:

**LAND USE PLAN**

**SHEET 1**

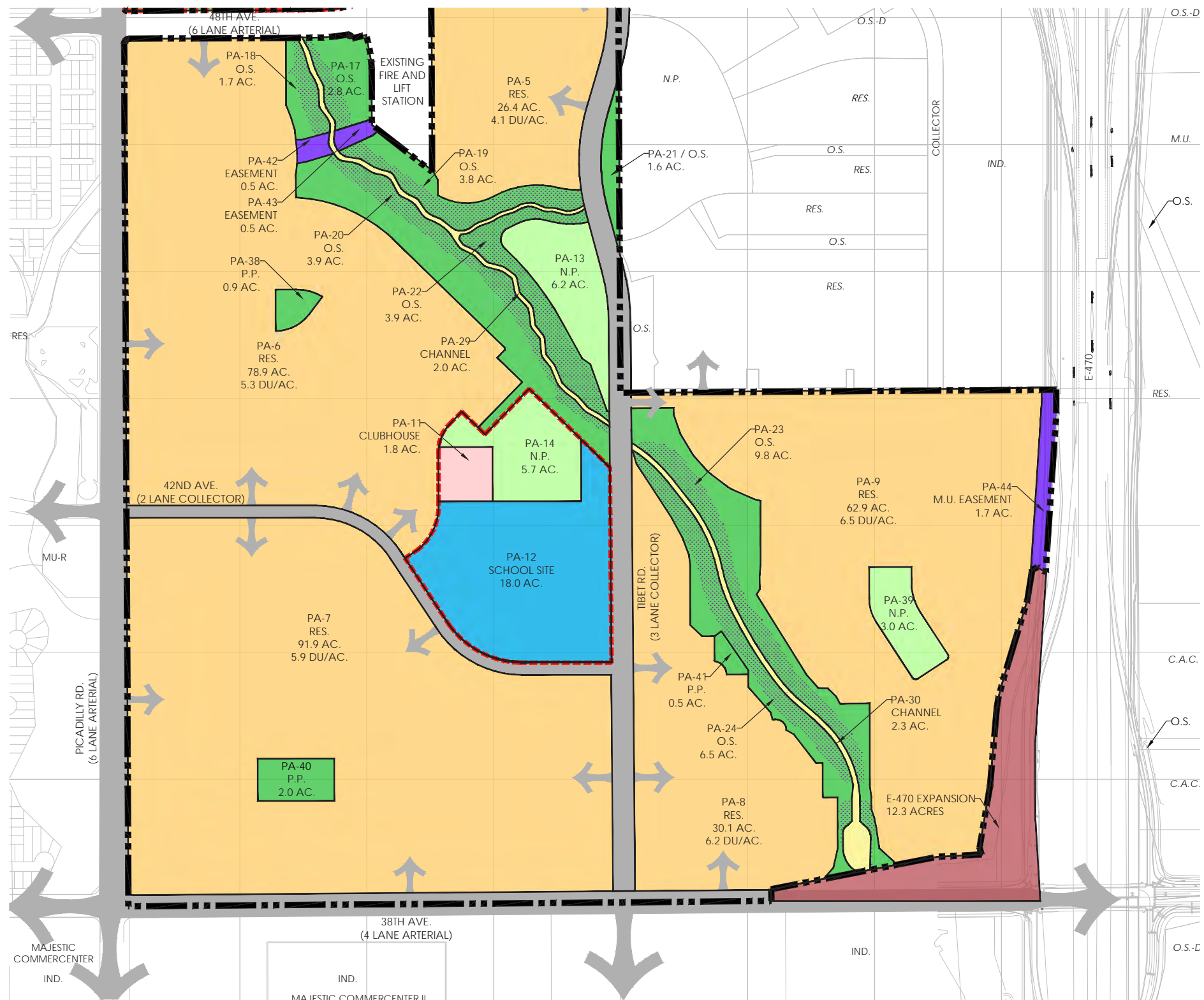
**Land Use Map, Matrix and**

**Standard Notes**

**Master Plan**

Project Title:  
**Green Valley Master Plan  
Amendment 2**  
Aurora, Colorado

**GREEN VALLEY**  
RANCH

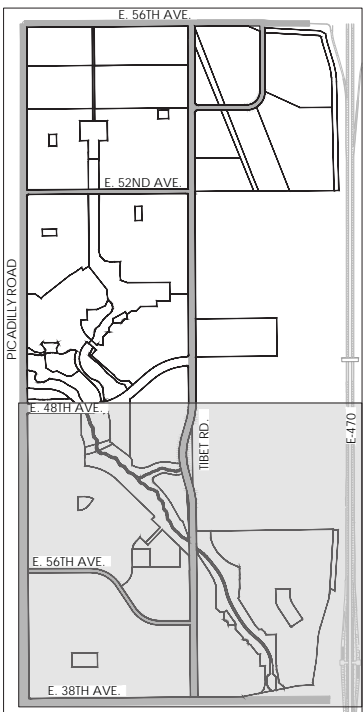



LEGEND

	SINGLE FAMILY RES.		SCHOOL SITE
	ACTIVE ADULT RES.		ROAD RIGHT OF WAY
	OPEN SPACE		EASEMENT
	DETENTION POND		COMMERCIAL
	FLOODWAY CHANNEL		MIXED USE
	CLUBHOUSE		NAC BOUNDARY
	NEIGHBORHOOD PARK		IND = INDUSTRIAL
	100 YEAR FLOOD PLAIN		COMM. = COMMERCIAL
			C.A.C. = COMMUNITY ACTIVITY CENTER
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S.F.D. = SINGLE FAMILY DETACHED

KEY MAP





SCALE  
0 150 300 600 1200

Sheet Title:

**LAND USE PLAN  
SHEET 2**

Land Use Map, Matrix and  
Standard Notes  
Master Plan

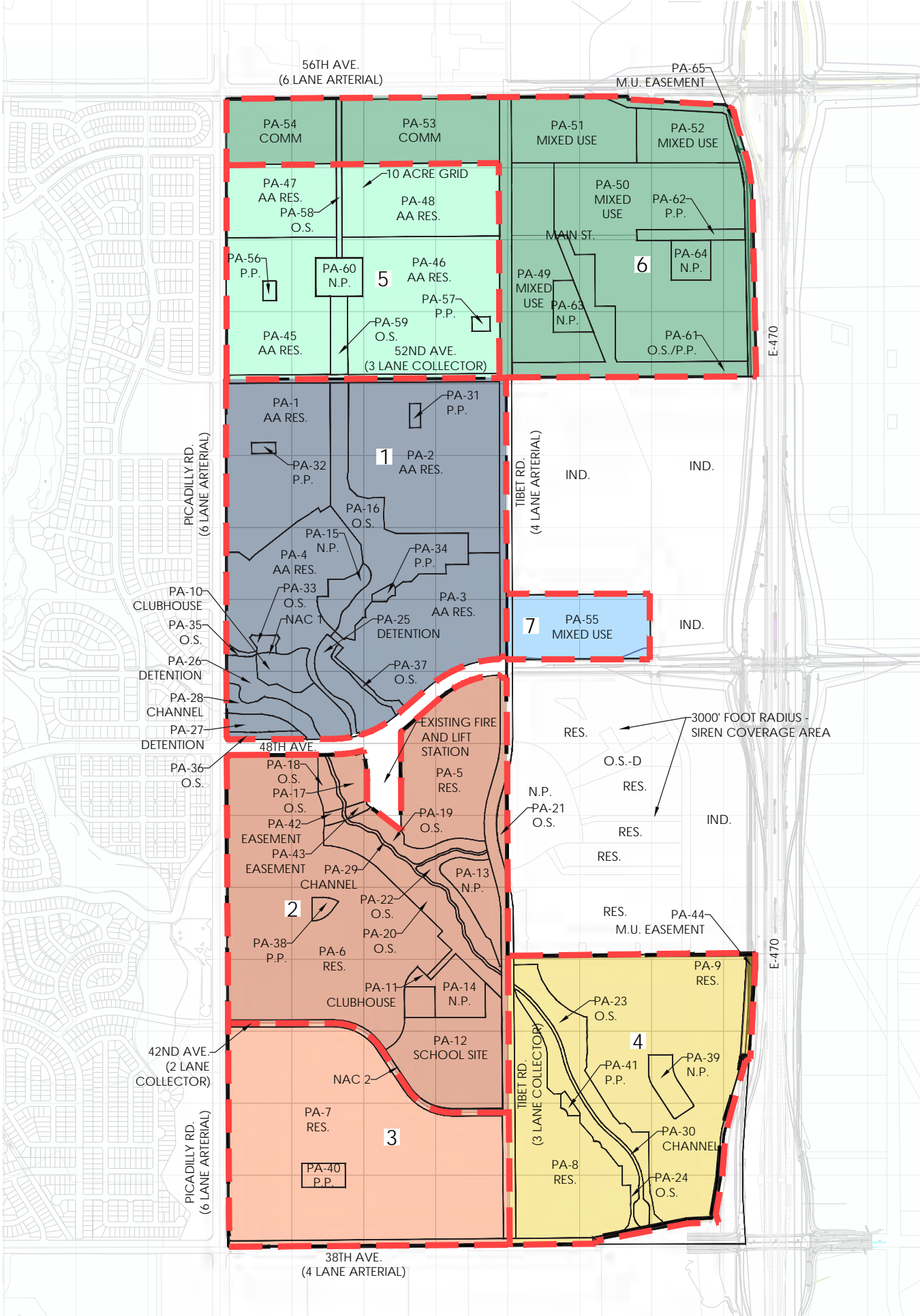
Project Title:

**Green Valley Master Plan  
Amendment 2**

Aurora, Colorado

**GREEN VALLEY  
RANCH**





LEGEND

NEIGHBORHOOD BOUNDARY

O.S. = OPEN SPACE  
N.P. = NEIGHBORHOOD PARK  
P.P. = POCKET PARK  
RES. = RESIDENTIAL  
IND. = INDUSTRIAL

Neighborhood	Size (AC)	North Boundary	South Boundary	East Boundary	West Boundary
1	180.7	52nd Ave	48th Ave	Tibet Road	Picadilly Road
2	174.7	48th Ave	42nd Ave	Tibet Road	Picadilly Road
3	101.8	42nd Ave	38th Ave	Tibet Road	Picadilly Road
4	115.1	44th Ave	38th Ave	E-470	Tibet Road
5	114.5	Neighborhood 6	52nd Ave	Tibet Road	Picadilly Road
6	171.3	56th Ave	Windler	E-470	Tibet/Picadilly Road
7	18.1	Windler	48th Ave	Windler	Tibet Road
Total	876.2				



Sheet Title:

**NEIGHBORHOOD  
DEFINITION PLAN**

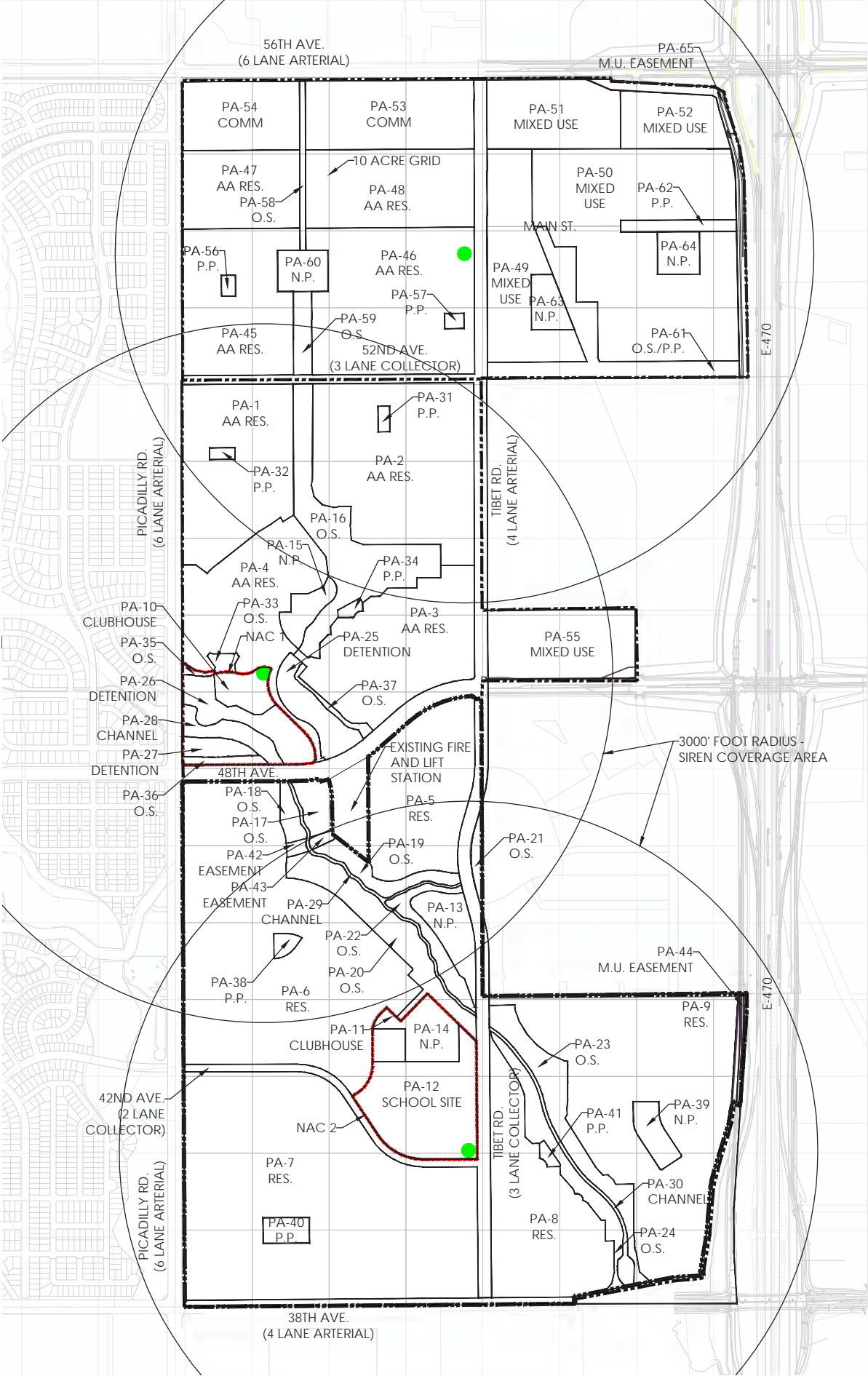
Land Use Map, Matrix and  
Standard Notes  
Master Plan

Project Title:

**Green Valley Master Plan  
Amendment 2**

Aurora, Colorado

**GREEN VALLEY  
RANCH**



LEGEND

- PROPOSED ENTRY POINT
- WHELEN ALERT SIREN TOWER LOCATION
- DEDICATED FIRE STATION
- PROPERTY LINE
- NEIGHBORHOOD ACTIVITY CENTER

O.S. = OPEN SPACE  
N.P. = NEIGHBORHOOD PARK  
P.P. = POCKET PARK  
RES. = RESIDENTIAL

STANDARD FIRE NOTES

1. In the event that a permanent fire station is not operational, the Aurora Fire Department may require that a temporary fire station be provided by the developer and/or annexing party. The property has been dedicated to the City and is no less than 1 ¼ acres with the location and dimensions such that optimal emergency response times can be achieved.
2. The City of Aurora requires that a permanent station be platted at the time of development approval. The property has been dedicated to the City and is no less than 1 ¼ acres with the location and dimensions such that optimal emergency response times can be achieved. Shared use sites (police, fire, etc) must be at least 8 acres in size and situated such that optimal emergency response times can be achieved. These sites shall be contiguous to collector streets.
3. Permanent or temporary fire stations: the exact placement of permanent or temporary fire stations will be determined and approved by the city of aurora's fire marshal to insure that coordinated coverage is provided within the city. For specific questions, the fire marshal can be reached through the fire department main switchboard, 303-326-8999, or 303-326-8986 (fax).
4. The FEMA requirement for outdoor emergency warning systems is a 60-70 foot monopole tower using an alert siren. The City of Aurora uses the Whelen Siren System. The land requirement for the tower is a 10' x 10' easement. Each siren covers approximately 3,000 radial feet at 70 db and is typically spaced one siren per square mile.
5. In newly annexed/developing areas of the city, sirens should be sited on every ½ section of ground (320 acres) or 6000 feet apart to provide edge to edge coverage.
6. The exact placement of sirens will be determined by the City of Aurora's Office of Emergency Management to insure that coordinated coverage is provided on a system wide basis. For specific questions, the Office of Emergency Management can be reached at 303-739-7636 (phone), 30-326-8986 (fax), or afd\_oem@auroragov.org.



Sheet Title:

**FIRE AND SAFETY  
EXHIBIT**

Land Use Map, Matrix and  
Standard Notes  
Master Plan

Project Title:

**Green Valley Master Plan  
Amendment 2**

Aurora, Colorado

**GREEN VALLEY  
RANCH**

## 8.7 Standard MP Notes

1. Traffic Signal Costs. Owner and/or developers are responsible for 100 percent of signal costs for interior intersections. Public Improvement Funding Agreement (PIFA) will dictate the payment and timing of signals at perimeter intersections.
2. Street Lights. Streetlights must be constructed along all public streets as required by City Code Section 126-236.
3. Archeological finds. The owner, developer and/or contractors will notify the City if archeological artifacts are uncovered during construction.
4. Parks. Neighborhood park sites shall not exceed 4:1 slopes.
5. Residential Density Reductions. The developer has the right to build at a lower residential density in any map area provided the City has determined that the use is permitted and compatible with surrounding land uses. A finding of compatibility will be determined at the time of CSP review. This reduction shall be considered an administrative MP amendment.
6. Master Drainage Plan. No subdivision shall be approved prior to the City's approval of the Master Drainage Plan. In the event of any plan conflicts with the MP, including, but not limited to, the size, location and regional detention ponds and/or drainage way locations, cross sections and widths, the Master Drainage Plan, as approved by the City, shall govern. Drainage ponds drop structures and other facilities are subject to preliminary plat or site plan review.
7. 404 Permit. The developer is responsible to comply with any requirements of the Army Corps of Engineers (if any) with regards to 404 permitting and wetlands mitigation.
8. Emergency Access. The developer shall provide two separate and approved points of paved emergency access and a looped water supply to each phase of the development as approved by the City. The developer shall provide emergency crossings that meet all city standards. The developer/applicant is required to provide all offsite roadways necessary to provide the two distinct points of access to the overall site.
9. The Master Utility Study, Master Drainage Study and Master Transportation Study are incorporated as a part of the MP. Final approval of these documents is required before acceptance of an application for the first within the project.

10. Landscaping Standards. Unless otherwise noted herein in a adjustment, the landscaping standards outlined in the UDO apply to this MP. Where the standards outlined in the UDO with standards within this MP, the more restrictive shall apply.
11. Future Amendments. Any future amendments to architecture, landscape architecture and other urban design standards and related drawings must demonstrate an equal or better quality than the approved MP standards.
12. MP Adjustments. Except for any adjustments listed below, this MP will be interpreted to mean that all standards contained in the MP will meet or exceed all city code requirements.
13. Major arterial medians to be publicly maintained shall be designed and constructed in accordance with P&OSD Public Median Standards. (These policies are pending completion.)
14. Major arterial medians to be privately maintained shall be designed and constructed in accordance with P&OSD Private Median Standards. (These policies are pending completion.)

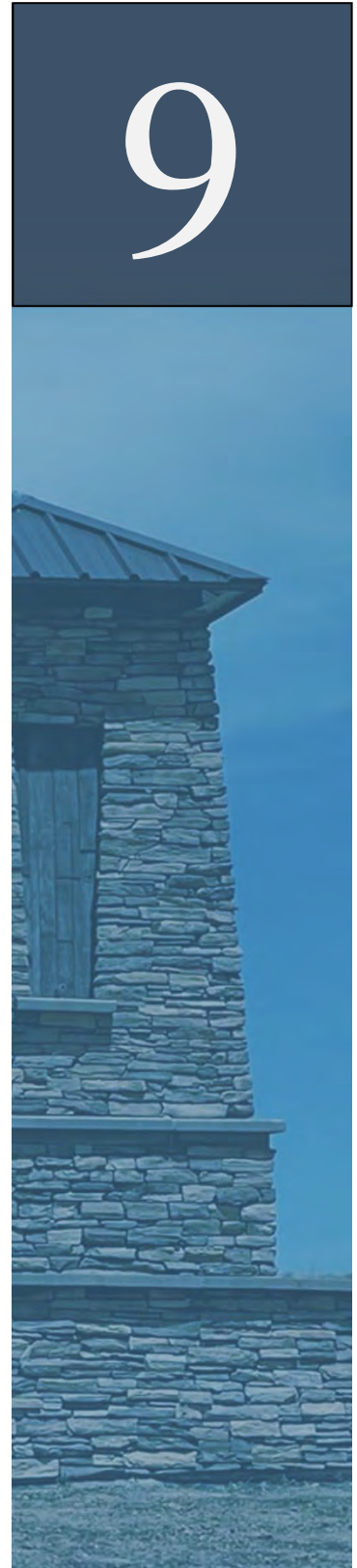


# 9

## MP OPEN SPACE, CIRCULATION, AND NEIGHBORHOOD PLAN

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- Open Space Narrative 9.1
- Form J 9.2
- OS Neighborhood Map 9.3



## 9.1 Open Space/ Circulation/ Neighborhood Map

Revised

Ranch?  
TYP

### 1. Open Space

The parks and open space system for Green Valley is extensive and includes 27.4 acres in 7 Neighborhood Parks and over 74.2 net gross acres of open space. The open space includes a 200 to 400 foot wide open space known as the Grand Park Corridor, runs northwest to southeast along the Tributary T Drainageway and connects all park, school, and NAC sites together. The Grand Park Corridor is scheduled for improvement with a trail system, benches, scenic overlooks, and landscaping. See Form J for further detail.

### 2. Connectivity

In concert with the Zone District requirements, all subdivisions and developments within Green Valley will be designed to create an integrated system of lots, streets, sidewalks, trails, and bikeways that provides for optimal movement of people, bicycles, and automobiles within the Green Valley community to and from adjacent streets, developments and uses.

### 3. Pedestrian and Bicycle Circulation System

The pedestrian circulation system at Green Valley consists of detached meandering pedestrian trails along the arterials and collectors, in addition to walks along local streets. All community facilities including parks, schools, the Grand Park Corridor, and the NAC's are connected to the trail system. This system is shown on the Open Space, Circulation, and Neighborhood Map.

The Green Valley MP encourages pedestrian and bicycle activity throughout the community by providing:

- 10 foot regional off-street trails leading through the Grand Park Corridor and its associated greenways that connect to Community and Neighborhood Activity Centers, parks, open space, schools, neighborhoods, and activity nodes. All regional trails will cross arterials at either a signalized intersection or a grade separated crossing. Signalized intersections may include Rectangular Rapid flashing Beacon (RRFB) signs. The potential of a grade separated crossing will be evaluated at time of Site Plan;
- 8-foot community detached trails along Minor Arterials.
- Landscaped tree lawns adjacent to a majority of the local streets will be provided.
- 6-foot neighborhood trails will be provided within each neighborhood.

#### 4. Primary Access

One principal Arterial 48<sup>th</sup> Avenue, traverses Green Valley in an east/west direction; this is **Revised** **planned** to eventually accommodate 6-lanes. 56<sup>th</sup> Avenue along the northern boundary is also a 6-lane arterial and will be the main thoroughfare for commercial/retail in this area. 38<sup>th</sup> Avenue is planned as a four-lane Minor Arterial. Along 52<sup>nd</sup> Avenue, a three-lane collector is planned.

In a North/South direction, Picadilly Road is planned as a six-lane Principal Arterial. East of Picadilly, a three-lane collector is planned along Tibet Road between 38<sup>th</sup> Ave. and 48<sup>th</sup> Ave. Tibet Rd. is a 4 lane arterial between 48<sup>th</sup> Ave. and 56<sup>th</sup> Ave.

In addition to these roadways, local roadways will serve the individual neighborhoods, designed to meet the City of Aurora Subdivision Ordinance.

Sidewalks are planned along all streets, and pedestrian/bicycle trails are planned along the Grand Park Corridor and all its associated greenways. These trails will be 10 feet wide, constructed of concrete or other materials determined at the SP level.

Tab 10.14-10.15, Street Standards, show the cross sections for these streets.

#### 5. Public Land Dedication Requirements

The City's parks/open space dedication requirements under the current City Code, when applied to the MP site, would require approximately 27.4 acres of neighborhood parks, 10.0 acres of community parks, and 71.1 acres of further open space/parks, resulting in an aggregate public land dedication requirement of approximately 111.6 acres. This proposed MP Amendment 2 does not reduce the amount of dedicated open space within the approved Green Valley MP Amendment 1 and is not meant to stand alone, but be a **Revised** **(PLD)** **dedication** of the overall approved Green Valley MP. Therefore, any public land dedication calculations should be inclusive of the entire MP area. Any PLD shortfalls for community park requirement will be provided with a cash in-lieu payment to the City accordance with City Code Section 147-48(b)(4).

Under this MP Amendment, the applicant will dedicate 27.4 acres for neighborhood parks, 10.0 acres Cash-In-Lieu payments for Community Parks, and another 71.1 acres to credited open space. As a part of the 71.1 acres the applicant will establish "pocket parks" within the development to minimize any gaps in service. These are further described hereinafter as contemplated in the approved MP.

Pocket Parks will be maintained through one or more metropolitan districts, which will be implemented at the Site Plan (SP) stage. Applicant will determine the improvements and amenities for the pocket parks based on the criteria outlined below. These pocket parks will enhance the recreational and open space amenities afforded to Green Valley, and the Parks and Open Space Department Dedication and Development Criteria specifically mandate open space credit for such pocket parks. The City will also derive economic benefit from the implementation of this system because the pocket parks will not be dedicated to the City, and accordingly the City will not have to absorb ongoing maintenance responsibilities with respect thereto (which responsibilities the City would bear for incremental neighborhood parks). From a policy standpoint, the desired land use utility to be derived from open space is realized, but the City does not have to bear the resulting economic burdens.



Pocket parks may range from one-half to 2.0 acres in size and generally serve as neighborhood focal points to supplement park and open space opportunities in close proximity to residents' homes. A minimum of one park will be at least three (2.0) acres. This park is intended to be a passive park space for unstructured recreational activity and contemplative use unless it will serve as a key site for a neighborhood where no other type of park or school is nearby and if projected recreational needs warrant supplemental park facilities.

Pocket parks will be typically located on a local street and be bordered by low intensity uses, including primarily residential lots. Open turf lawns suitable for informal play and games, landscaping, and site furniture such as benches, tables, trash receptacles and lighting will be the standard program for each site. Additional facilities that may be provided to augment pocket park opportunities may include, but not be limited to playgrounds, picnic pavilions, basketball courts and volleyball courts depending on the needs of the neighborhood being served by the park and the character of adjoining land uses. Other improvements may include features that are supportive of a theme for the neighborhood or the development, such as public art at an appropriate scale.

The final location, size and park program for each pocket park will be determined in the SP based, in part, on the overall design intent of the neighborhood, the relationship of the park land to other land use components of the development and recreation facility needs.

The pocket parks will be constructed, owned, and maintained by the Metropolitan Districts of Green Valley as indicated on Form J. The pocket park land acreage dedicated by each SP will be tracked to ensure that the dedication requirement in Form J is being sufficiently met with for the amendment area.

When the parks and open space dedications and credits outlined above for the proposed MP are totaled (as summarized in the Form J table), they produce an aggregate area of approximately 101.6 acres. The MP also integrates the parks, open space and trail system in a coherent fashion that will effectively serve the recreational needs of the Green Valley community as well as greater interests of the City.

## **6. Park and Recreational Improvement Requirements**

The applicable Metropolitan District(s) will be responsible for the improvement of parks within the MP Amendment as herein after set forth. The City will be responsible for maintenance of the parks upon dedication by the applicant / land owners (pocket parks will not be dedicated to the City.) The program elements for the parks to be improved by the applicable Metropolitan District(s) shall be limited to the list shown below. No further improvements will be required by the City. Refer to the Development Agreement for details on funding of the park improvements.

Applicant will construct pedestrian/bicycle/recreational trails provided for in the Open Space/Circulation/Neighborhood Map which is a part of this MP Amendment 1. The 10-foot regional trails will be dedicated to and maintained by one or more of the metropolitan districts unless determined otherwise. The 8-foot and 6-foot community and neighborhood trails will be dedicated to and

maintained by one or more of the metropolitan districts.

Neighborhood parks and the improvements therein (including irrigation) that are dedicated to and maintained by the city will be designed and constructed by the applicable Metropolitan districts(s). The following is a list of program elements that may be provided within a city neighborhood park in Green Valley. Additional items may be provided at the discretion of the applicable Metropolitan District(s).

Potential Play Features may include:

- Accessible Swings
- Accessible slides
- Sensory play equipment
- Separate play areas for ages 2-5- and 5–12-year-olds

Informal multi-purpose field

Loop trail system

Picnic pavilion with seating for 15 people

Picnic Tables

Grills

Benches (as needed)

Trash receptacles (as needed)

On street parking (no parking lot)

Landscaping with automatic irrigation system

Park sign

Neighborhood parks and the improvements therein (including irrigation) that are dedicated to and maintained by the city will be designed and constructed by the applicable Metropolitan districts(s). The following is a list of program elements that may be provided within a Metropolitan District neighborhood park. Additional items may be provided at the discretion of the applicable Metropolitan District(s).

Potential Play Features may include:

- Accessible Swings
- Accessible slides
- Sensory play equipment
- Separate play areas for ages 2-5- and 5–12-year-olds
- Bench Swings

Loop Trail System

Picnic Pavilion

Picnic Tables

Grills

Benches

Community Garden

Trash

Parking Lot

Landscape

Activity Systems

At the SP stage, the program elements shown above may be reduced in parks located adjacent to school sites in order to avoid duplication with equipment located on the school site.

9.2

Form J: Parks and Open Space Inventory and Phasing Approval					
A.	B.	C.	D.	E.	F.
Planning Area Designation (Or feature in an area)	Description and Inventory of Facilities	Total Acreage	Parks Dept. Credited Acreage	Final Ownership & Facility Funding	Phasing Plan and Trigger for Each Phase
PA-13	Neighborhood Park - Program elements that may be provided within a neighborhood park: Playground equipment for ages 2-5 and ages 5-12 (minimum 4000 sf), Informal multi-purpose field, Loop trail system, Picnic pavilion with seating for 15 people, Picnic Tables, Grills, Benches (as needed), Trash receptacles (as needed), On street parking (no parking lot), Landscaping with automatic irrigation system, Park sign, additional items may be provided at the discretion of the applicable Metropolitan District(s). Service area to include Planning Areas 5 and 6, which total 106.4 acres and 613 dwelling units. Conceptual design determined at CSP. The neighborhood park will benefit recreation by including facilities for contemplative recreation that include seating areas and enhanced landscape for gathering and passive recreation as well as open grass areas that offer scenic vistas to the west, benefit conservation by preserving land to establish an interconnected park and open space system, and benefit education thru the implementation of land management practices that support interpretation goals. Trail connections to the school will be provided.	6.2	6.2	Metro District to construct and the City of Aurora to own/maintain.	Dedication concurrent with adjacent planning area final plats. Construction shall be complete by the issuance of the 300th certificate of occupancy within Planning Areas 5 and 6 combined or within 6 months of completion of infrastructure including adjacent roads and water service extension to the site, whichever is later.
PA-14	Neighborhood Park - Program elements that may be provided within a neighborhood park: Playground equipment for ages 2-5 and ages 5-12 (minimum 4000 sf), Informal multi-purpose field, Loop trail system, Picnic pavilion with seating for 15 people, Picnic Tables, Grills, Benches (as needed), Trash receptacles (as needed), On street parking (no parking lot), Landscaping with automatic irrigation system, Park sign, additional items may be provided at the discretion of the applicable Metropolitan District(s). Service area to include Planning Area 7, which totals 90.9 acres and 572 dwelling units. Conceptual design determined at CSP. Other improvements may include features that are supportive of a theme for the neighborhood or the development, such as public art at an appropriate scale. Conceptual design determined at CSP. The neighborhood park will benefit recreation by providing trail connections to the school and facilities primarily oriented to active recreation, including athletic fields, sports courts, playgrounds, etc. that will coordinate well with the neighboring school, benefit conservation by fostering the concept of outdoor classrooms by setting aside natural areas for environmental study, and benefit education with the provision of signs for environmental education for self guided learning or programmatic tours.	5.7	5.7	Metro District to construct and the City of Aurora to own/maintain.	Dedication concurrent with adjacent planning area final plats. Construction of the park shall be phased. The first phase including all programmatic elements of the park, except the multi-purpose playfield and a section of the internal park trail loop, shall be complete by the issuance of the 300th C.O. within planning areas 6 and 7 combined or within 6 months of completion of infrastructure including adjacent roads and water service extension to the site, whichever is later. Construction of the multi-purpose playfield and completion of the looped trail for Phase 2 shall be complete within 6 months of approval of final civil construction drawings for Tributary T, which should include design for the drainageway and Tibet Road, adjacent to the park.
PA-15	Neighborhood Park - Program elements that may be provided within a neighborhood park: Loop Trail System, Picnic Pavilion, Picnic Tables, Grills, Benches, Community Garden, Trash, Parking Lot, Landscape, Activity Systems, additional items may be provided at the discretion of the applicable Metropolitan District(s). Service area to include Planning Areas 1-4, which total 137.0 acres and 793 dwelling units. Other improvements may include features that are supportive of a theme for the neighborhood or the development, such as public art at an appropriate scale. Conceptual design determined at CSP. The neighborhood park will benefit recreation by including facilities for contemplative recreation that include seating areas and enhanced landscape for gathering and passive recreation as well as trails throughout, benefit conservation by setting aside natural areas that have overlapping resources of value and interest for environmental study, and benefit education with the provision of signs for environmental education for self guided learning or programmatic tours.	3.0	3.0	Metro District to construct, own, and maintain.	Dedication concurrent with adjacent planning area final plat. Construction shall be complete by the issuance of the 400th certificate of occupancy within Planning Areas 1, 2, 3 and 4 combined or within 6 months of completion of infrastructure including adjacent roads and water service extension to the site, whichever is later.
PA-39	Neighborhood Park - Program elements that may be provided within a neighborhood park: Loop Trail System, Picnic Pavilion, Picnic Tables, Grills, Benches, Community Garden, Trash, Parking Lot, Landscape, Activity Systems, additional items may be provided at the discretion of the applicable Metropolitan District(s). Service area to include Planning Areas 1-4, which total 137.0 acres and 793 dwelling units. Other improvements may include features that are supportive of a theme for the neighborhood or the development, such as public art at an appropriate scale. Conceptual design determined at CSP. The neighborhood park will benefit recreation by including facilities for contemplative recreation that include seating areas and enhanced landscape for gathering and passive recreation as well as trails throughout, benefit conservation by setting aside natural areas that have overlapping resources of value and interest for environmental study, and benefit education with the provision of signs for environmental education for self guided learning or programmatic tours. Separate play areas to be provided for age groups 2-5 and 5-12 year olds.	3.0	3.0	Metro District to construct, own, and maintain.	Dedication concurrent with adjacent planning area final plat. Construction shall be complete by the issuance of the 300th C.O. within planning area 9 or within 6 months of completion of infrastructure including adjacent roads and water service extension to the site, whichever is later.
PA-60	Neighborhood Park - Program elements that may be provided within a neighborhood park: Loop Trail System, Picnic Pavilion, Picnic Tables, Grills, Benches, Community Garden, Trash, Parking Lot, Landscape, Activity Systems, additional items may be provided at the discretion of the applicable Metropolitan District(s). Service area to include Planning Areas 45-48, which total 103.5 acres and 593 dwelling units. Other improvements may include features that are supportive of a theme for the neighborhood or the development, such as public art at an appropriate scale. Conceptual design determined at SP. The neighborhood park will benefit recreation by including facilities for contemplative recreation that include seating areas and enhanced landscape for gathering and passive recreation as well as trails throughout, benefit conservation by setting aside natural areas that have overlapping resources of value and interest for environmental study, and benefit education with the provision of signs for environmental education for self guided learning or programmatic tours. Separate play areas to be provided for age groups 2-5 and 5-12 year olds.	3.5	3.5	Metro District to construct, own, and maintain.	Dedication concurrent with adjacent planning area final plat. Construction shall be complete by the issuance of the 400th certificate of occupancy within Planning Areas 45, 46, 47 and 48 combined or within 6 months of completion of infrastructure including adjacent roads and water service extension to the site, whichever is later.

Sheet Title:

FORM J

Open Space, Circulation & Neighborhood Plan Master Plan

Project Title:

Green Valley Master Plan Amendment 2  
Aurora, Colorado

GREEN VALLEY RANCH

PA-63, 64	Neighborhood Park - Program elements that may be provided within a neighborhood park: Loop Trail System, Picnic Pavilion, Picnic Tables, Grills, Benches, Community Garden, Trash, Parking Lot, Landscape, Activity Systems, additional items may be provided at the discretion of the applicable Metropolitan District(s). Service area to include Planning Areas 46,48-52, which total 163.1 acres and 1,284 dwelling units. Other improvements may include features that are supportive of a theme for the neighborhood or the development, such as public art at an appropriate scale. Conceptual design determined at SP. The neighborhood park will benefit recreation by including facilities for contemplative recreation that include seating areas and enhanced landscape for gathering and passive recreation as well as trails throughout, benefit conservation by setting aside natural areas that have overlapping resources of value and interest for environmental study, and benefit education with the provision of signs for environmental education for self guided learning or programmatic tours. Separate play areas to be provided for age groups 2-5 and 5-12 year olds.	6.0	6.0	Metro District to construct, own, and maintain.	Dedication concurrent with adjacent planning area final plat. Construction shall be complete by the issuance of the 400th certificate of occupancy within Planning Areas 49, 50, 51 and 52 combined or within 6 months of completion of infrastructure including adjacent roads and water service extension to the site, whichever is later.
PA 16, 33, 35-37, 58, 59, 61, 62 (Outside the 100 Year Floodplain)	Open Space in minimum 30' wide Corridors with minimum 6' trails, street furniture, shade structures, vista points, and outdoor art. These open spaces provide conservation benefits by preserving land to establish an interconnected park and open space system throughout the development and recreational benefits with the provision of trails and paths. Conceptual design determined at CSP. PA 59 will be required a 30' wide corridor and 6' wide trail Min. PA 58 will be required 30' wide corridor and 8' trail Min. PA 61 will provide a 30' minimum wide corridor with 8' trails. Activity nodes and parks will be provided along the trails.	34.8	34.8	Metro District to construct, own, and maintain.	Dedication concurrent with final plats adjacent to the site dedication. Improvements and landscaping to be completed with construction of associated drainage improvements.
PA 16 (Within the 100 Year Floodplain)	Open Space Corridor with trails, street furniture, shade structures, vista points, and outdoor art. These open spaces provide conservation benefits by preserving land to establish an interconnected park and open space system throughout the development and recreational benefits with the provision of trails and paths. Conceptual design determined at CSP.	5.0	2.5	Metro District to construct, own, and maintain.	Dedication concurrent with final plats adjacent to the site dedication. Improvements and landscaping to be completed with construction of associated drainage improvements.
PA: 17-20, 22-24 (Outside the 100 Year Floodplain)	Open Space in 200-400 foot wide Open Space Corridor with trails, site furnishings, shade structures, vista points, and outdoor art. These open spaces provide conservation benefits by preserving land to establish an interconnected park and open space system throughout the development and recreational benefits with the provision of trails and paths. Conceptual design determined at CSP.	19.8	19.8	Metro District to construct, own, and maintain.	Dedication concurrent with final plats adjacent to the site or approval of the CLOMR/LOMR and construction of drainage improvements, whichever is later. Improvements and landscaping to be completed with construction of associated drainage improvements.
PA: 17-20, 22-24 (Within the 100 Year Floodplain)	Open Space in 200-400 foot wide Open Space Corridor with trails, site furnishings, shade structures, vista points, and outdoor art. These open spaces provide conservation benefits by preserving land to establish an interconnected park and open space system throughout the development and recreational benefits with the provision of trails and paths. Conceptual design determined at CSP.	19.7	9.8	Metro District to construct, own, and maintain.	Dedication concurrent with final plats adjacent to the site or approval of the CLOMR/LOMR and construction of drainage improvements, whichever is later. Improvements and landscaping to be completed with construction of associated drainage improvements.
	Windler Homestead why is this classified as "Collector" in the Land Use Matrix (and PA-19 too)	1.6	1.6	City of Aurora to own and Windler to construct.	Dedication to be concurrent with dedication of adjacent open space by Windler under the Windler MP entitlements(AC37). Landscaping and maintenance by Windler as outlined in the Agreement Regarding Realignment of Tibet Street South of 48th Avenue, executed March 2004.
PA 31, 32, 34, 38, 40, 41, 56, 57	Pocket parks will be typically located on a local street and be bordered by low intensity uses, including primarily residential lots. Open turf lawns suitable for informal play and games, landscaping and site furniture such as benches, tables, trash receptacles and lighting will be the standard program for each site. Additional facilities that may be provided to augment pocket park opportunities may include but not be limited to playgrounds, picnic pavilions, basketball courts and volleyball courts depending on the needs of the neighborhood being served by the park and the character of adjoining land uses. Other improvements may include features that are supportive of a theme for the neighborhood or the development, such as public art at an appropriate scale. Conceptual design determined at CSP. The pocket parks will provide a combination of conservation, recreational, and educational benefits.	5.9	5.9	Metro District to construct, own, and maintain.	Metro District improvements complete prior to issuance of 50% of C.O.'s of residential units within the Filing in which the proposed pocket park is located.
Landscape Medians	Located in 6-Lane Arterials. Refer to Open Space / Circulation / Neighborhood Map for specific locations.	N/A	N/A	Metro District to construct and the City of Aurora to own/maintain.	Construction by Metro District per P&OSD Dedication & Development Criteria Manual. To be dedicated to the City for maintenance.
TOTAL		114.2	101.8		92.9 acres of neighborhood park and open space provided.
Director of Parks, Recreation, and Open Space Date:_____ Signature:_____					

This is okay with PROS. Just a point of clarification that you can count all of the floodplain in these areas; up to 50% of the TOTAL open space for the full development can be counted. Open space required for full FDP is 71.05 therefore up to 35.5 acres can be counted

Acreages revised to include all open space within floodplain

why is this classified as "Collector" in the Land Use Matrix (and PA-19 too)

Collector reference removed

should these 2 equal the totals of all the PA's? Check

should these 2 equal the totals of all the PA's? Check

We now include all the acreage inside the floodplain so we removed the separate line items for inside FP

This has already been dedicated to the city via the GVRE F16 Subdivision. City to Own and maintain, District to construct.

Add clarification that this is not PROS. (Can't recall but this was part of floodplain/stormwater dedication previously? Or right of way?)

101.6 in Form D  
now 113.9

Note updated

This should be updated to match Tab 8 with the 10 acres of community park cash in lieu with 1st plat as trigger (with 6.6 acres paid during amendment)

Sheet Title:

FORM J

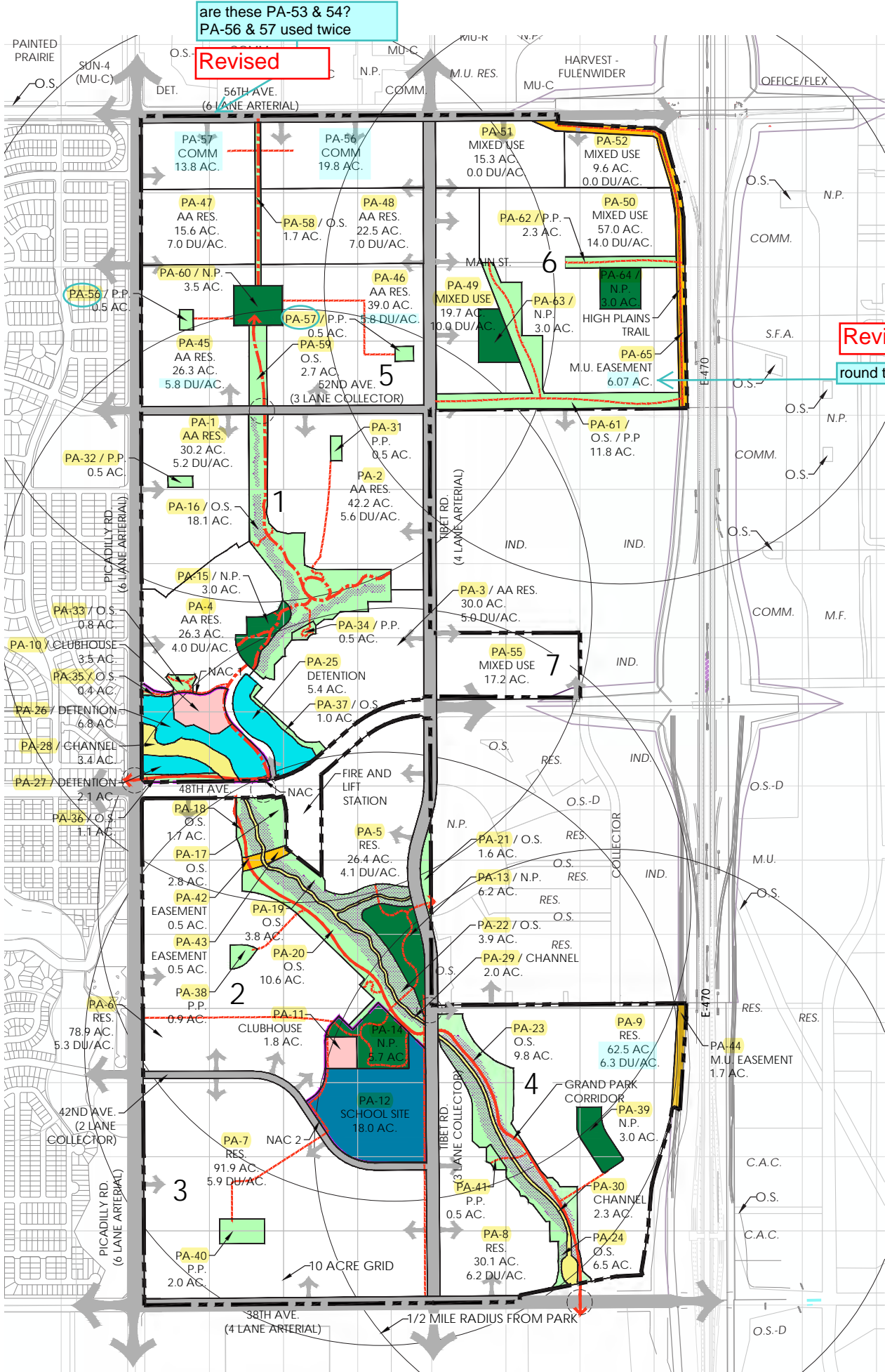
Open Space, Circulation & Neighborhood Plan Master Plan

Project Title:

Green Valley Master Plan Amendment 2  
Aurora, Colorado

GREEN VALLEY RANCH





Revised




















round to tenths

Revised

yellow = confirmed  
Teal = inconsistent info w/  
TAB 8

NOTE: Feasibility studies for potential grade separated regional trail crossings will be conducted during the corresponding SP.

- LEGEND**

  -  6 LANE ARTERIAL (144' ROW)
  -  4 LANE ARTERIAL (114' ROW)
  -  3 LANE COLLECTOR (80' ROW)
  -  2 LANE COLLECTOR (80' ROW)
  -  OPEN SPACE
  -  DETENTION POND
  -  CHANNEL
  -  EASEMENT
  -  CLUBHOUSE
  -  NEIGHBORHOOD PARK
  -  SCHOOL SITE
  -  100 YEAR FLOODPLAIN
  -  PROPOSED ENTRY POINT
  -  1 NEIGHBORHOOD BOUNDARY & NUMBER
  -  RIGHT OF WAY
  -  10' REGIONAL TRAIL
  -  8' COMMUNITY TRAIL
  -  6' NEIGHBORHOOD TRAIL
  -  POTENTIAL GRADE SEPARATED REGIONAL TRAIL CROSSING

O.S. = OPEN SPACE  
 N.P. = NEIGHBORHOOD PARK  
 P.P. = POCKET PARK  
 RES. = RESIDENTIAL  
 IND. = INDUSTRIAL  
 M.F. = MULTI FAMILY  
 COMM. = COMMERCIAL



Sheet Title:

**OPEN SPACE PLAN**

**OVERALL**

**Open Space, Circulation &  
Neighborhood Plan**

**Master Plan**

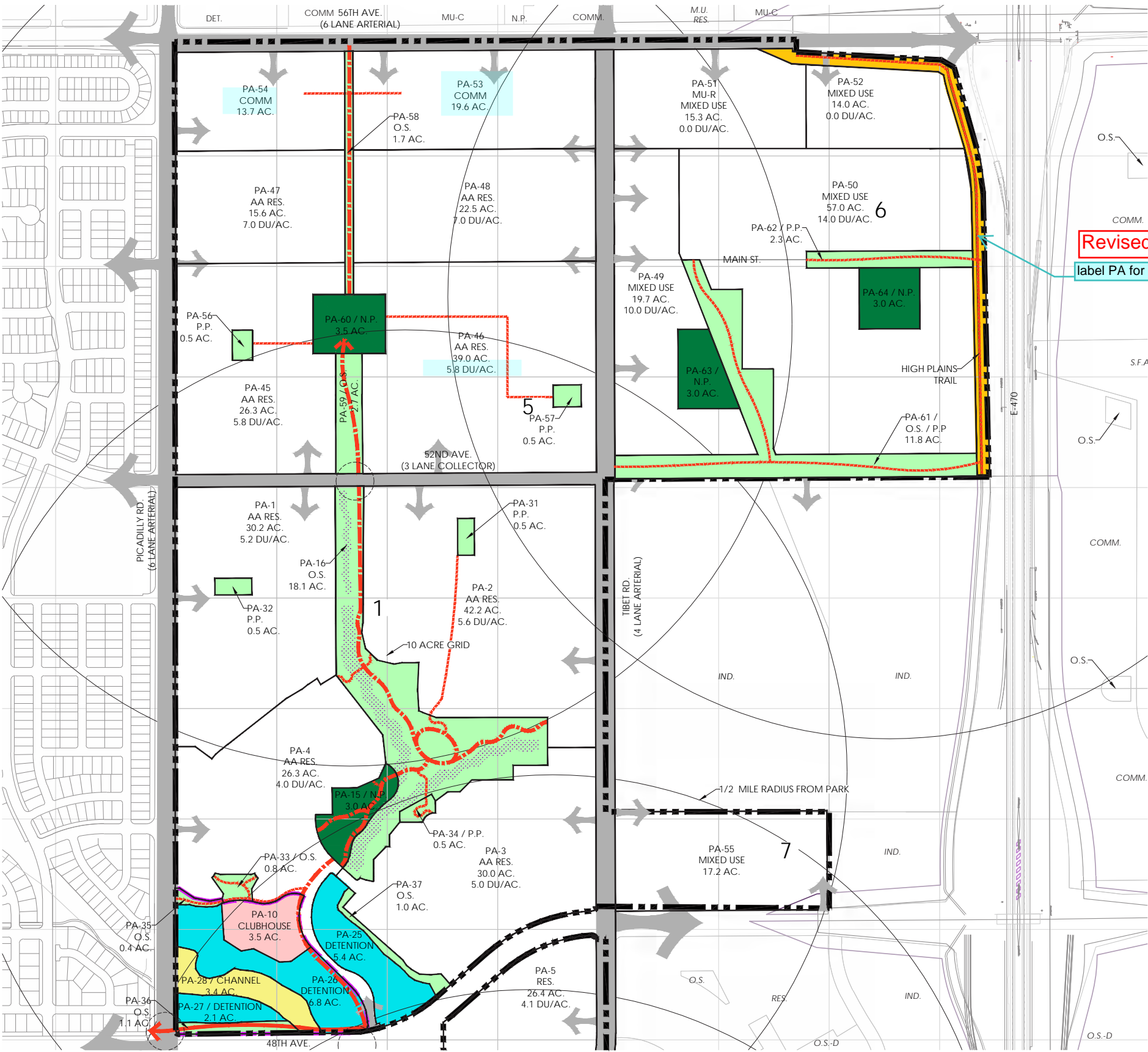
Project Title:

**Green Valley Master Plan  
Amendment 2**

Aurora, Colorado

**GREEN VALLEY**  
RANCH

TAB 9.3



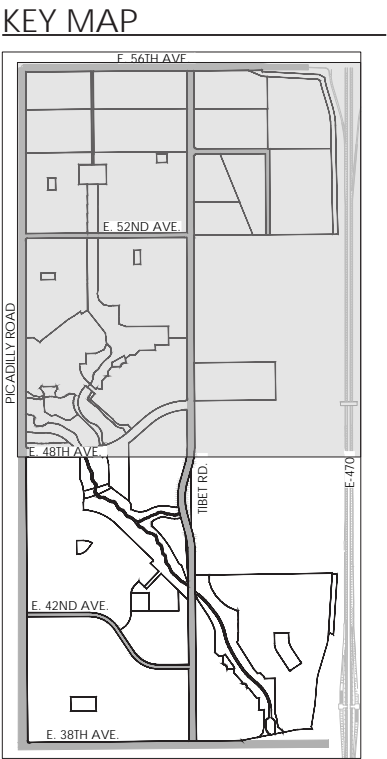
Revised

Revise enlarged maps and overall map to be consistent.

Revised

label PA for MUE

- LEGEND
- 6 LANE ARTERIAL (144' ROW)
  - 4 LANE ARTERIAL (114' ROW)
  - 3 LANE COLLECTOR (80' ROW)
  - 2 LANE COLLECTOR (80' ROW)
  - OPEN SPACE
  - DETENTION POND
  - CHANNEL
  - EASEMENT
  - CLUBHOUSE
  - NEIGHBORHOOD PARK
  - SCHOOL SITE
  - 100 YEAR FLOODPLAIN
  - PROPOSED ENTRY POINT
  - 1 NEIGHBORHOOD BOUNDARY & NUMBER
  - RIGHT OF WAY
  - 10' REGIONAL TRAIL
  - 8' COMMUNITY TRAIL
  - 6' NEIGHBORHOOD TRAIL
  - POTENTIAL GRADE SEPARATED REGIONAL TRAIL CROSSING
  - O.S. = OPEN SPACE
  - N.P. = NEIGHBORHOOD PARK
  - P.P. = POCKET PARK
  - RES. = RESIDENTIAL
  - IND. = INDUSTRIAL
  - M.F. = MULTI FAMILY
  - COMM. = COMMERCIAL



Sheet Title:

**OPEN SPACE PLAN**

**SHEET 1**

Open Space, Circulation & Neighborhood Plan Master Plan

Project Title:

**Green Valley Master Plan**

**Amendment 2**

Aurora, Colorado

**GREEN VALLEY**

RANCH

NOTE: Feasibility studies for potential grade separated regional trail crossings will be conducted during the corresponding SP submittals.

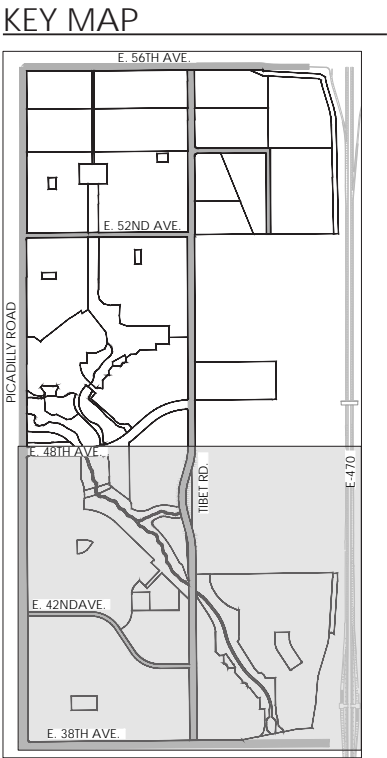


TAB 9.3



**LEGEND**

- 6 LANE ARTERIAL (144' ROW)
- 4 LANE ARTERIAL (114' ROW)
- 3 LANE COLLECTOR (80' ROW)
- 2 LANE COLLECTOR (80' ROW)
- OPEN SPACE
- DETENTION POND
- CHANNEL
- EASEMENT
- CLUBHOUSE
- NEIGHBORHOOD PARK
- SCHOOL SITE
- 100 YEAR FLOODPLAIN
- PROPOSED ENTRY POINT
- 1 NEIGHBORHOOD BOUNDARY & NUMBER
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- RES. = RESIDENTIAL
- IND. = INDUSTRIAL
- M.F. = MULTI FAMILY
- COMM. = COMMERCIAL



**Sheet Title:**  
**OPEN SPACE PLAN**  
**SHEET 2**  
**Open Space, Circulation & Neighborhood Plan**  
**Master Plan**

**Project Title:**  
**Green Valley Master Plan**  
**Amendment 2**  
**Aurora, Colorado**

**GREEN VALLEY**  
**RANCH**

NOTE: Feasibility studies for potential grade separated regional trail crossings will be conducted during the corresponding SP submittals.

repeat comment - replace  
this font

Adobe Acrobat



Cannot extract the embedded font 'JGDUGB+HelveticaNeue-Medium'. Some characters may not display or print correctly.

OK

## MP URBAN DESIGN

- Form F-1: Urban Design Standards Matrix 10.1-10.2
- Form F-2 Neighborhood Character Matrix 10.3
- Overall Monument Plan 10.4
- Primary Entry Monument 10.5
- Secondary and Tertiary Entry 10.6
- Gated Entries 10.7
- Walls and Fencing 10.8
- Lighting Standards 10.9
- Paving Standards 10.10
- Site Furnishings 10.11
- Specialty Structures 10.12
- Signage Standards 10.13
- Street Standards 10.14-10.15
- Commercial Design Standards 10.16
- Main Street Design 10.17
- Commercial Paving 10.18
- Commercial Plazas 10.19
- Commercial/Mixed Use Signage 10.20-10.21
- Office Signage 10.22
- Multi Family Signage 10.23
- Commercial Site Furnishings 10.24

clarify Residential vs.  
Non-Residential for  
each tab

# 10



TAB 10.1

Form F-1: Urban Design Standards Matrix

SPECIAL URBAN DESIGN FEATURE	BRIEF DESCRIPTION OF THE FEATURE			LOCATION IN APPLICATION PACKAGE
1. ENTRY MONUMENTATION	RESIDENTIAL			10.4, 10.5, 10.6
	THE PRIMARY FEATURES OF THE ENTRY MONUMENTATION WILL HELP TO PROVIDE COMMUNITY IDENTIFICATION, INCLUDING A TRAPEZOIDAL SHAPED COLUMN THAT WILL BE REPEATED THROUGHOUT THE PROJECT. WOODEN BEAMS AND PANELS IN THE MONUMENTATION WILL ALSO BE ESTABLISHED AS A RECURRING THEME. ALL ENTRY MONUMENTS WILL BE CONSTRUCTED OF STONE OR NATURAL LOOKING STONE VENEER; PRE-CAST CONCRETE OR LIMESTONE WILL BE USED FOR THE CAP AND TRIM PIECES; METAL ROOFS WILL CAP COLUMN AND TOWERS. PANELS WITHIN PARTS OF THE ENTRY FEATURES WILL BE MADE OF ACRYLIC PANELS TRIMMED IN METAL TO SUGGEST THE APPEARANCE OF LIGHTED GLASS PANES. SIGN LETTERING SHALL FOLLOW THE STANDARD LOGO STYLE SHOWN IN THE SIGNAGE STANDARDS.			
	COMMERCIAL/ RETAIL	MIXED-USE	OFFICE COMPLEX	
	THE MAJOR MONUMENTS LOCATED ALONG ARTERIAL AND COLLECTORS SHOULD BE THE PRIMARY SIGN FOR THE DEVELOPMENT. THESE SIGNS SHOULD KEEP WITH THE COLORADO THEME, BUT COULD BECOME CONTEMPORARY RUSTIC, ALLOWING BOLDER FONTS, COLORS AND MATERIALS. WITH THE ESTABLISHED TOWER, THE MAJOR SIGNS SHOULD COMPLEMENT THE VERTICAL COLUMN AND CURVILINEAR WALLS.			
	THE MINOR MONUMENTS AND SIGNS SHOULD BE SMALLER THAN THE MAJOR SIGN BUT LARGER THAN THE WAYFINDING AND BUILDING SIGNS. THEY SHOULD BE MULTI TENANT SIGNS WHERE APPLICABLE FOR NON-RESIDENTIAL USES, SHOPPING CENTERS, OR BUSINESS PARKS. THESE SIGNS ARE ALSO SIMPLIFIED FROM THE PRIMARY MONUMENTS. TYPICALLY, ONLY USING ONE OR TWO MATERIALS. THIS SIGN TYPE'S PURPOSE IS TO PROVIDE BUSINESS DIRECTION FOR VISITORS.			
2. RETAINING WALLS	RETAINING WALLS SHALL BE SPLIT FACE MASONRY BLOCK IN A VARIETY OF EARTH TONED COLORS THAT INTEGRATE RANDOM SIZES AND PATTERNS FOR INTEREST. RAILING OR BARRIER IS REQUIRED ON ALL WALLS GREATER THAN 30".			10.8
3. FENCE AND PRIVACY WALLS	FENCING ALONG LOTS ADJACENT TO OPEN SPACE AND DETENTION FACILITIES WILL BE THREE-RAIL OR OPEN RAIL WOOD FENCE. INTERNAL FENCING ALONG LOTS ADJACENT TO OTHER LOTS OR NEARBY ROADS WILL BE PRIVACY FENCING CONSISTING OF COMPOSITE WOOD WITH MASONRY COLUMNS, OR COMPOSITE WOOD WITHOUT COLUMNS. COLUMNS SHOULD BE PLACED AT LOT CORNERS AND USED IN HIGH VISIBILITY AREAS. ALONG ARTERIAL AND COLLECTOR ROADS COLUMNS SHOULD BE PLACED EVERY 60 FEET MIN.			10.8
4. LIGHTING STANDARDS	LIGHT FIXTURES INDICATIVE OF THE ARTS AND CRAFTS AND CRAFTSMAN STYLES FOUND WITHIN THE MONUMENTATION WILL BE THE STANDARD IN THE POCKET PARKS AND NACS. STREET LIGHTS IN PUBLIC RIGHT OF WAY WILL BE OWNED AND MAINTAINED BY THE CITY OF AURORA AND MUST MEET COA STANDARDS.			10.9
5. RESIDENTIAL PAVING STANDARDS	SCORED AND COLORED CONCRETE PAVING AREAS MAY BE USED AT THE NAC RECREATION CENTERS AS WELL AS THE PLAZA AREAS WITHIN THE POCKET PARKS. CONCRETE PAVERS OR STAMPED CONCRETE WILL BE USED IN ALL CARRIAGE HOUSE AND MOTOR COURT DRIVEWAYS AS A STANDARD TREATMENT. STANDARD PAVEMENT SHALL BE USED IN ALL PUBLIC RIGHT OF WAY			10.10
6. STREET FURNITURE STANDARDS	BENCHES AND TRASH RECEPTACLES WILL BE MADE OF WROUGHT IRON/METAL TO MATCH THE METAL DETAILING ON THE MONUMENTATION. BOLLARDS, WHERE NEEDED, ARE TO BE METAL. VARIATIONS IN COLOR MAY OCCUR PER AMENITY SPACE.			10.11 & 10.22

The design standards listed in this matrix implement the design themes of the MP and are intended to complement and exceed E-470 (or Northeast Plains) and other ordinance standards. Unless a waiver has been specifically requested and granted, if a conflict should exist between any specific provisions of this matrix and any other ordinance standards, the higher standards shall govern.

All the photos and illustrations referenced by this matrix are representative of the level of design quality required by this MP. Final designs to be submitted at the Site Plan level will not necessarily duplicate the exact illustrations, but will contain the same themes and concepts as shown, and will be at the same or higher level of design quality, extent, and detail.

Sheet Title:

URBAN DESIGN STANDARDS MATRIX

Urban Design Standards Master Plan

Project Title:

Green Valley Master Plan Amendment 2

Aurora, Colorado

GREEN VALLEY RANCH

TAB 10.2

Form F-1: Urban Design Standards Matrix

Revised

doesn't make sense

SPECIAL URBAN DESIGN FEATURE	BRIEF DESCRIPTION OF THE FEATURE	LOCATION IN APPLICATION PACKAGE
7. SIGNAGE STANDARDS	STANDARDIZED TYPE FACE, LOGO, AND A SERIES OF THEMATIC COLORS SHALL BE USED PROGRAM THROUGHOUT THE COMMUNITY'S SIGNAGE. WITHIN COMMERCIAL DEVELOPMENTS, SIGNAGE STANDARDS SHOULD HAVE A HIERARCHY OF COLORS AND FONT TYPES, FROM THE MAIN MONUMENT TO THE BUILDING SIGNS.	10.13
8. SPECIAL NEIGHBORHOOD CONCEPTS	THIS DEVELOPMENT IS CENTERED AROUND THE GRAND PARK CORRIDOR WHICH MOVES THROUGH MOST OF THE AREA. A SERIES OF OPEN SPACES AND TRAILS WILL ALLOW RESIDENTS ACCESS TO THE ENTIRE DEVELOPMENT WITHOUT THE USE OF AUTOMOBILES. ALONG THIS CORRIDOR WILL BE NEIGHBORHOOD PARKS, SCHOOLS, OPEN SPACE, CLUBHOUSES, POCKET PARKS, AND A VARIETY OF AMENITIES.	
9. SPECIAL FACILITIES AND STRUCTURES SUCH AS CLUBHOUSES AND RECREATIONAL FACILITIES	THIS MP INCLUDES A CLUBHOUSE LOCATED IN THE ACTIVE ADULT COMMUNITY THAT IS AVAILABLE TO RESIDENTS LIVING WITHIN THAT GATED COMMUNITY. A SECOND CLUBHOUSE WILL BE LOCATED FURTHER SOUTH AND BE OPEN TO ALL RESIDENTS OF Green Valley MP.	10.12
10. STREET STANDARDS	60' LOCAL, 64' LOCAL, 80' COLLECTOR, 80' MAIN STREET, 110' FOUR LANE MINOR ARTERIAL, 116' MINOR ARTERIAL WITH RAISED MEDIAN, 144' ROW SIX LANE ARTERIAL, AND 168' ROW SIX LANE ARTERIAL FOR 56TH, WITH RAISED MEDIAN PER CITY OF AURORA STANDARDS.	10.14 &10.15
11. COMMERCIAL STANDARDS	ALONG WITH DESIGN STANDARDS FOR COMMERCIAL PARCELS, THE MAIN FEATURE OF THE GREEN VALLEY EAST COMMERCIAL DEVELOPMENT WILL BE THE MAIN STREET DISTRICT. MAIN STREET EAST WEST, WILL PROVIDE A CITY CORRIDOR FOR THE NEW DEVELOPMENT. THIS DISTRICT WILL FOCUS ON A PEDESTRIAN EXPERIENCE WITH RETAIL, RESTAURANTS, OFFICE SPACES, AND OUTDOOR GATHERING PLAZAS. ALONG THE ROADSIDE ZONE, PROGRAMMED SHARED SPACES ALONG THE STREET WILL CREATE A SENSE OF COMMUNITY	10.16 & 10.17

The design standards listed in this matrix implement the design themes of the MP and are intended to complement and exceed E-470 (or Northeast Plains) and other ordinance standards. Unless a waiver has been specifically requested and granted, if a conflict should exist between any specific provisions of this matrix and any other ordinance standards, the higher standards shall govern.

All the photos and illustrations referenced by this matrix are representative of the level of design quality required by this MP. Final designs to be submitted at the Site Plan level will not necessarily duplicate the exact illustrations, but will contain the same themes and concepts as shown, and will be at the same or higher level of design quality, extent, and detail.

Sheet Title:

URBAN DESIGN STANDARDS MATRIX

Urban Design Standards Master Plan

Project Title:

Green Valley Master Plan Amendment 2

Aurora, Colorado

GREEN VALLEY RANCH



Form F-2: Neighborhood Character Matrix

DISTINGUISHING CHARACTERISTICS			
URBAN DESIGN	FEATURES	LANDSCAPE	ARCHITECTURE
<p><b>NAC 1</b> will include a clubhouse complex overlooking a large open space area. This complex includes a pool and may include other amenities such as pickle ball courts, event lawns, outdoor terraces, pergolas, outdoor fire pits. This complex will serve residents living north of 48<sup>th</sup> Avenue and south of 52<sup>nd</sup> Avenue.</p> <p><b>NAC 2</b> will contain a school site and neighborhood park. This complex will serve residents south of 48<sup>th</sup> Avenue and north of 38<sup>th</sup> Avenue.</p>	<p>Each NAC shall contain a public plaza or outdoor meeting area clearly visible from an adjacent street and at least two of the following:</p> <ol style="list-style-type: none"><li>1. Civic/cultural facilities</li><li>2. Clubhouse and recreational facilities</li><li>3. Parks and open space</li><li>4. Public uses or facilities</li><li>5. Schools, elementary or secondary</li></ol>	<p>The primary landscape theme throughout the development is known as the "Colorado" theme. This consists of large sweeping native areas that use land forms and native plantings that is indicative of the Colorado foothills. Large planting beds located along streets and trails will be made up of masses of grasses, shrubs, and trees to provide both seasonal interest and views into and out of the site. Land forms will be accentuated with the use of berming and rock outcroppings to create spaces for both wildlife and residents to enjoy.</p>	<p>The architecture is not defined by neighborhood, but rather by a mix of product types. The residential areas throughout the development consist of five varying types: single family detached, single family attached (duplex), alley loaded single family, Carriage House, and Bungalow. When mixed together, these varying styles create diverse neighborhoods in both style and affordability. The architecture for the clubhouses will be included in a future site plan submittal.</p>

Sheet Title:

NEIGHBORHOOD  
CHARACTER MATRIX

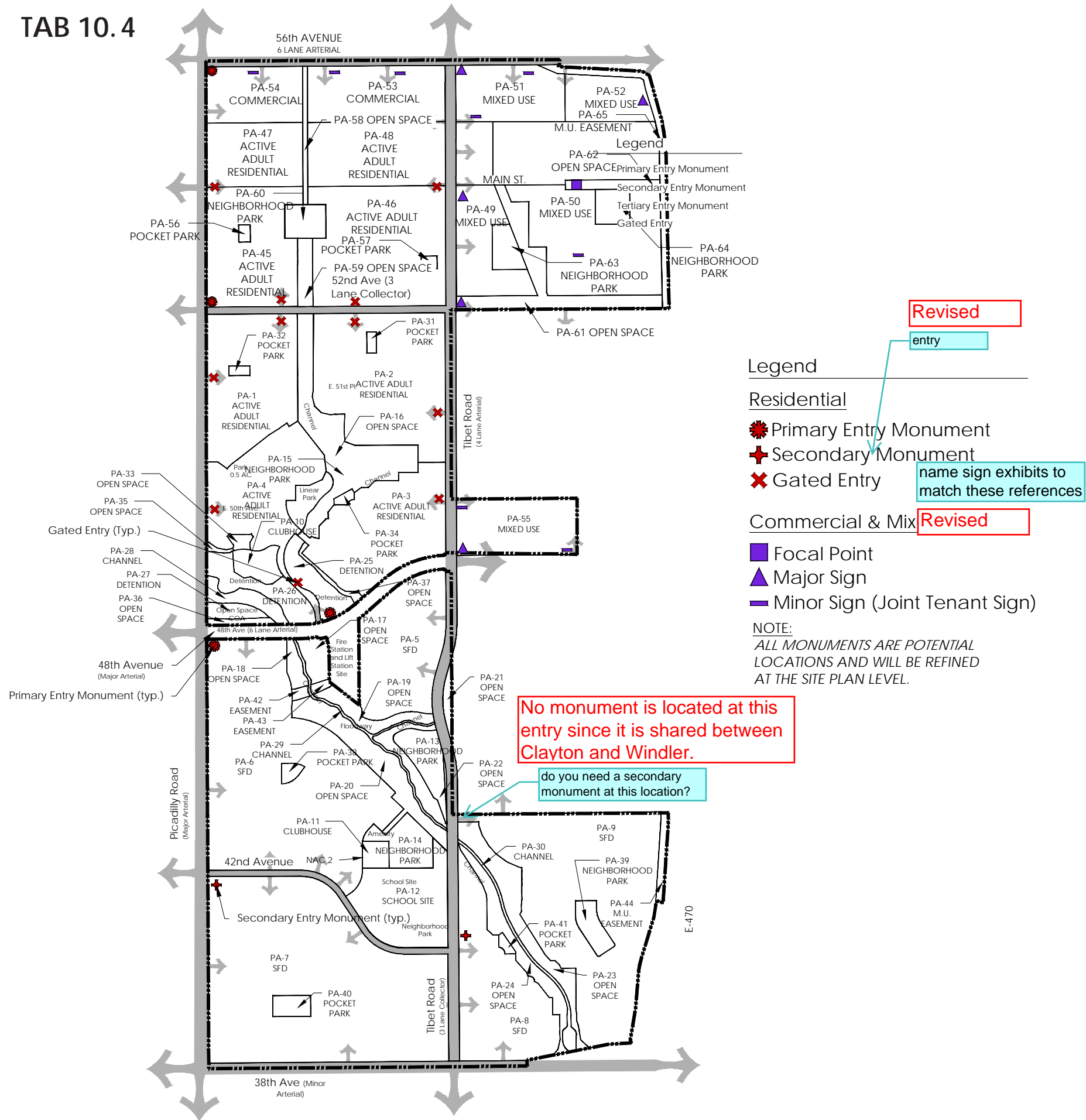
Urban Design Standards  
Master Plan

Project Title:

Green Valley Master Plan  
Amendment 2  
Aurora, Colorado

GREEN VALLEY  
RANCH

## TAB 10.4



## GENERAL NOTES

Primary residential entry monuments will be located along arterial roads such as Picadilly Road, 48th Avenue, 56th Avenue, and Tibet Road to distinguish primary points of interest within the development. Secondary entry monuments will be located at collector streets and minor arterials such as Tibet Road and 42nd Avenue to identify the main points of entry into neighborhoods within the development. Parks may also utilize secondary entry monuments as identification signs. Locations of tertiary monuments will be located at the Site Plan level. Gated entries will be used to enclose the active adult neighborhood and will be located at all vehicular access points surrounding this neighborhoods.

Commercial and Mixed Use Monuments may include a major gateway, featured focal points or minor monuments celebrating the Main Street District and surrounding commercial developments. For the minor tenant signs it is recommended to use joint signage.

All locations will be submitted within separate Site Plan's.

These monuments will complement the existing Green Valley monuments and towers, focusing on the Colorado theme. Additional commercial signage or monuments will continue to complement the family of monument walls, materials, and lettering styles. All locations will be submitted within separate Site Plan's.

Sheet Title:

## OVERALL MONUMENT PLAN

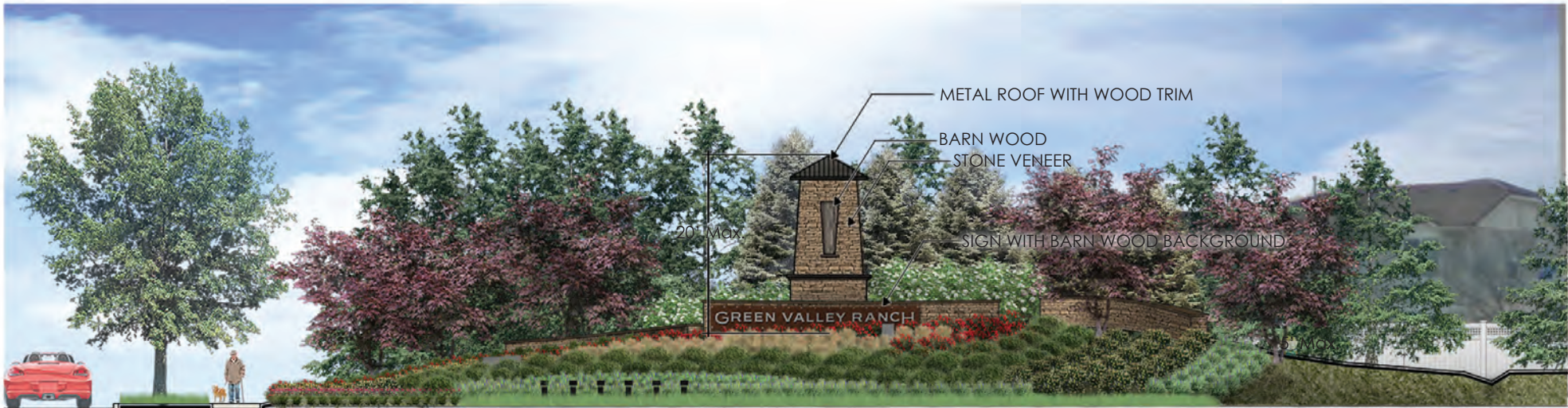
# Urban Design Standards Master Plan

Project Title:

# Green Valley Master Plan Amendment 2 Aurora, Colorado

**GREEN VALLEY**  
RANCH





Primary Entry Monument Elevation  
(Residential)

**GENERAL NOTES**

The primary residential entry monument will consist of a series of stone walls with a sign face and a separate vertical stone monument. Both the wall, sign face, and vertical monument should utilize similar stone, metal, and barn wood materials.

The sign face shall be a maximum of 96 square feet. Sign dimensions to be specified in corresponding Site Plan, not to exceed city code.



Primary Entry Monument Plan View  
(Residential)

Note: These images are not representative of the actual proposed architectural structures in Green Valley Amendment 2 and are solely a reference to material and style.

Revised  
Residential?

Sheet Title:  
**PRIMARY ENTRY MONUMENT**  
Urban Design Standards  
Master Plan

Project Title:  
**Green Valley Master Plan  
Amendment 2**  
Aurora, Colorado

**GREEN VALLEY**  
RANCH





The secondary entry monument will utilize similar stone materials to the primary entry monument. A hanging sign will be fashioned to a horizontal wooden beam to identify the location. It will be located at collector streets and minor arterials such as Tibet Road and 42nd Avenue to identify the main points of entry into neighborhoods within the development. Parks may also utilize secondary entry monuments as identification signs.



Tertiary entry monuments will utilize similar stone materials to the primary and secondary entry monument. Tertiary monuments will have no signage. Locations of tertiary monuments will be located in the SP.

GENERAL NOTES

The secondary and tertiary residential entry monuments should resemble the Colorado theme by utilizing similar forms and materials to the primary entry monument. Secondary or tertiary entry monuments should be placed based upon hierarchy of points of interest.

Secondary and tertiary entry monument shall not exceed 8' in height.

Sign area and dimensions to be specified in corresponding Site Plan, not to exceed city code.

Revised  
Residential?

Sheet Title:  
**SECONDARY &  
TERTIARY ENTRY**  
Urban Design Standards  
Master Plan

Project Title:  
**Green Valley Master Plan  
Amendment 2**  
Aurora, Colorado

**GREEN VALLEY  
RANCH**

Note: These images are not representative of the actual proposed architectural structures in Green Valley Amendment 2 and are solely a reference to material and style.



GATED ENTRY ELEVATION

The gated entry monument may utilize similar stone materials to the primary entry monument and may also utilize black metal components. Gated entries will be used to enclose the active adult neighborhood and will be located at all vehicular access points surrounding this neighborhood.



CHARACTER IMAGES

Note: These images are not representative of the actual proposed architectural structures in Green Valley Amendment 2 and are solely a reference to material and style.



Stone Gate House



Stone Gate House



Stone Gate House



Stone Column



Wooden Entry Marker



Horizontal Wooden Material



Black Metal Gate

Revised

Residential?

Sheet Title:

**GATED ENTRIES**

Urban Design Standards  
Master Plan

Project Title:

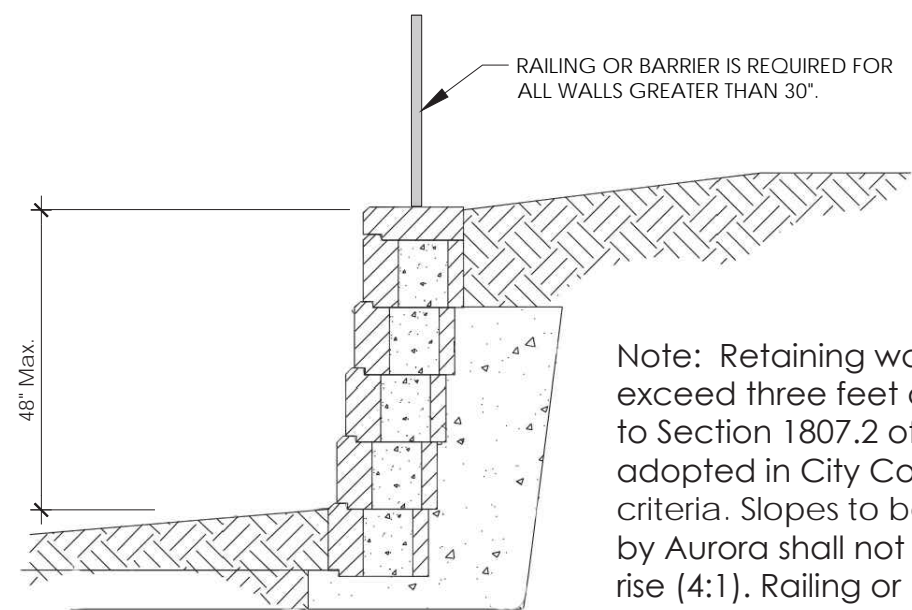
**Green Valley Master Plan  
Amendment 2**  
Aurora, Colorado

**GREEN VALLEY  
RANCH**

this is pretty large. It is not specified what location or type this would be considered.

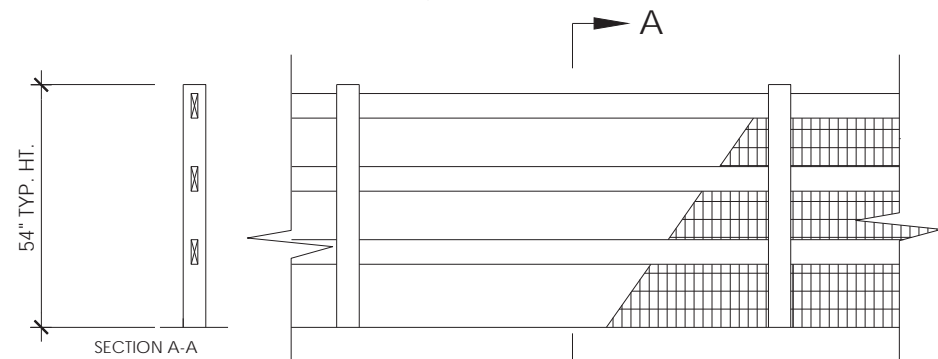
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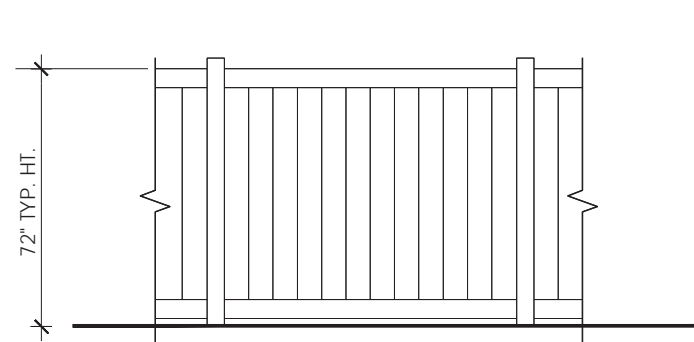


Note: Retaining walls shall be required whenever slopes exceed three feet of run to one foot in rise (3:1). Refer to Section 1807.2 of the International Building Code, as adopted in City Code Section 22-131, for additional design criteria. Slopes to be re-vegetated and to be maintained by Aurora shall not exceed four feet of run to one foot of rise (4:1). Railing or barrier is required for all walls greater than 30".

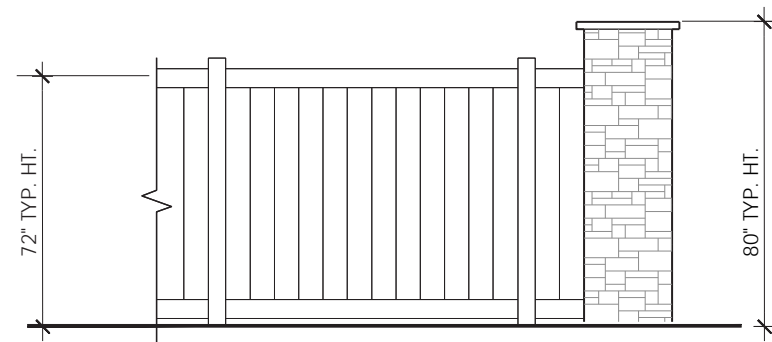
Modular Block Retaining Wall



Open Rail Fence



Typical Privacy Fence



Privacy Fence with Stone Column

GENERAL NOTES

Walls and fencing throughout the development will further embrace the Colorado theme and accent other built structures on the site.

Fencing will have a sense of openness where desirable landscape features and beneficial views will enhance the quality of the development. Privacy fencing, in contrast, will provide the opportunity for privacy while framing vistas to the landscape. Fencing along local roads and interior lots should be made of composite material or wood and utilize earth tone colors. Fencing along arterial and collector roads should be made of composite material and utilize earth tone colors. Along arterial and collector roads columns should be placed every 60 feet. Open rail fencing will be used along open space areas.

Walls will utilize local and on-site materials when possible to create parallels between the built and native environment. Where retention on site is necessary, modular block walls will be utilized. On-site boulders will also be used throughout planting beds and for soil retention.

Revised

Residential?

Sheet Title:

WALLS & FENCING

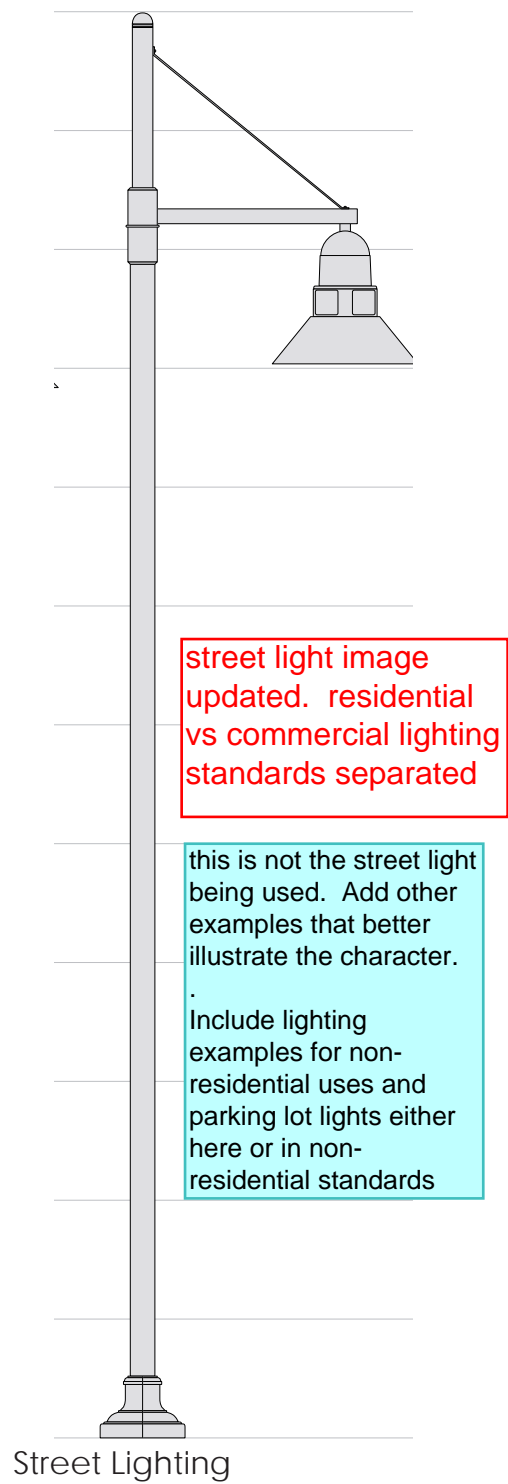
Urban Design Standards  
Master Plan

Project Title:

Green Valley Master Plan  
Amendment 2  
Aurora, Colorado

GREEN VALLEY  
RANCH

Note: These images are not representative of actual proposed architectural structures in Green Valley and are solely a reference to material and style.



Street Lighting



Bollard Lighting



Accent Lighting



Accent Lighting



Mounted Lighting

GENERAL NOTES

Lighting will occur within right-of-ways, near shared sidewalks, trails, and at entry monuments located throughout the development. The goal of lighting is to assure safety and encourage circulation between amenities within the area. Lighting shall also accent other built and natural structures within the site to embrace the Colorado theme. Lighting will include a mixture of street pole lighting, bollard lighting, and accent lighting for entry features, landscape, and other important elements.

Sidewalks, internal pedestrian paths, and bicycle paths shall be lit with full cutoff fixtures no more than 16 feet tall and providing consistent illumination of at least one foot-candle on the walking surface. On-site streets and parking areas shall be lit with full cutoff type fixtures no more than 25 feet tall. Fixtures should be of the downcast type. Street lights in public right of way will be owned and maintained by the City of Aurora and must meet COA standards.

Revised

Residential?

Sheet Title:  
**LIGHTING STANDARDS**  
Urban Design Standards Master Plan

Project Title:  
**Green Valley Master Plan Amendment 2**  
Aurora, Colorado

**GREEN VALLEY RANCH**

Note: These images are not representative of actual proposed lighting fixtures in Green Valley and are solely a reference to material and style.





Carriage House/Bungalow Pavers



Brushed and Scored Concrete

**MOTOR COURT PAVING**

Paving within motor court clusters should utilize concrete pavers, or scored concrete paving to embrace a more pedestrian scale within the cluster. Asphalt is not permitted. This paving should also meet standards for fire truck access into the clusters.

**TRAIL PAVING**

Trails shall utilize a brushed concrete surface to be optimal for all proposed recreational uses in the development. Trails within parks may also utilize decomposed granite for more passive trail types.

**CLUBHOUSE PAVING ENHANCEMENT**

Decorative pavers or scored/colored concrete are encouraged to bring additional visual interest to areas which may be most utilized by the community.



Concrete Trail Paving



Stone Clubhouse Pavers



Decomposed Granite Trail Paving



Stamped Concrete Clubhouse Pavers

Note: These images are not representative of actual proposed Paving in Green Valley and are solely a reference to material and style.

Sheet Title:

RESIDENTIAL PAVING  
STANDARDS

Urban Design Standards  
Master Plan

Project Title:

Green Valley Master Plan  
Amendment 2  
Aurora, Colorado

GREEN VALLEY  
RANCH





Metal Bench



Metal Bench



Trash Receptacle



Trash Receptacle



Metal Bike Rack



Metal Bike Rack

**GENERAL NOTES**

Site elements throughout Green Valley will be selected to include like material and forms. In general, site furnishings such as benches, bike racks and trash cans will all utilize powder coated steel as the main material. Green Valley's site furnishings will include horizontal forms to embrace the Colorado theme.

**BENCHES**

Benches should be located along open space trails, sidewalks within the right-of-way, parks and clubhouse locations. Benches may vary in size from 4'-6' length.

**TRASH RECEPTACLES**

Trash receptacles should be located at points of interest such as parks, clubhouse locations, and trail head locations.

**BIKE RACKS**

Bike Racks should be located at all parks and clubhouse locations to enhance bicycle usability.

Note: These images are not representative of actual site furnishings in Green Valley and are solely a reference to material and style.

Sheet Title:

**RESIDENTIAL SITE  
FURNISHINGS**

Urban Design Standards  
Master Plan

Project Title:

**Green Valley Master Plan  
Amendment 2**  
Aurora, Colorado

**GREEN VALLEY  
RANCH**





Playground Components



Playground Components



Solo Spinners



Climbing Boulder



Pavilion



Shade Structure

**PLAYGROUND COMPONENTS**

Playground equipment should abide by Green Valley's Colorado theme. Colors and structures will be selected to accent its surrounding landscape. Pre-manufactured playground equipment shall be selected for pocket parks, neighborhood parks, and neighborhood activity centers where specified. Playground colors should be consistent throughout all play structures and vary in form to add visual interest. The landscape architect shall approve color samples prior to construction. All play equipment within the community shall be owned and maintained by the Metropolitan District.

**PAVILIONS**

Pavilions varying in size may be provided in pocket parks, neighborhood parks, and other community gathering spaces. The pavilion structures may be designed and composed with treated timber or metal materials to accent the Colorado theme. Colors shall be complimentary to those chosen for site furnishings.

**PARK SHADE STRUCTURES**

Shade structures should be provided near selected site amenities throughout Green Valley. Structures may be custom built to utilize similar treated timber and iron materials as the pavilions. Colors shall be complimentary colors to those chosen for site furnishings.

Note: These images are not representative of actual proposed structures in Green Valley and are solely a reference to material and style.

Sheet Title:

**RESIDENTIAL SPECIALTY  
STRUCTURES**  
Urban Design Standards  
Master Plan

Project Title:

**Green Valley Master Plan  
Amendment 2**  
Aurora, Colorado

**GREEN VALLEY  
RANCH**





Trail Signage

Note: These images are not representative of actual proposed signage in Green Valley and are solely a reference to material and style.



Secondary Entry Marker



Tertiary Entry Marker

**GENERAL NOTES**

Green Valley shall have consistently themed signage to identify with the Colorado theme. Signage should appear on local street intersections, beginnings of pedestrian trails and NAC entries. All signage shall conform to local code regulations.

**LOCAL STREET SIGNAGE**

All local street signage shall comply with the Manual for Uniform Traffic Control Devices (MUTCD). Material for these signs is to be powder coated metal; detailing on the top and bottom of post will be encouraged for additional interest. The nameplates are to be metal.

**TRAIL HEAD SIGNS**

Trail head markers should delineate the destination and length of trail. Markers will be composed of 6"x6" cedar posts with metal signage. The ownership and maintenance of all trail head signage shall be the responsibility of the Metro District.

Sheet revised to only include trail head signs. Other images from previous version had monuments.

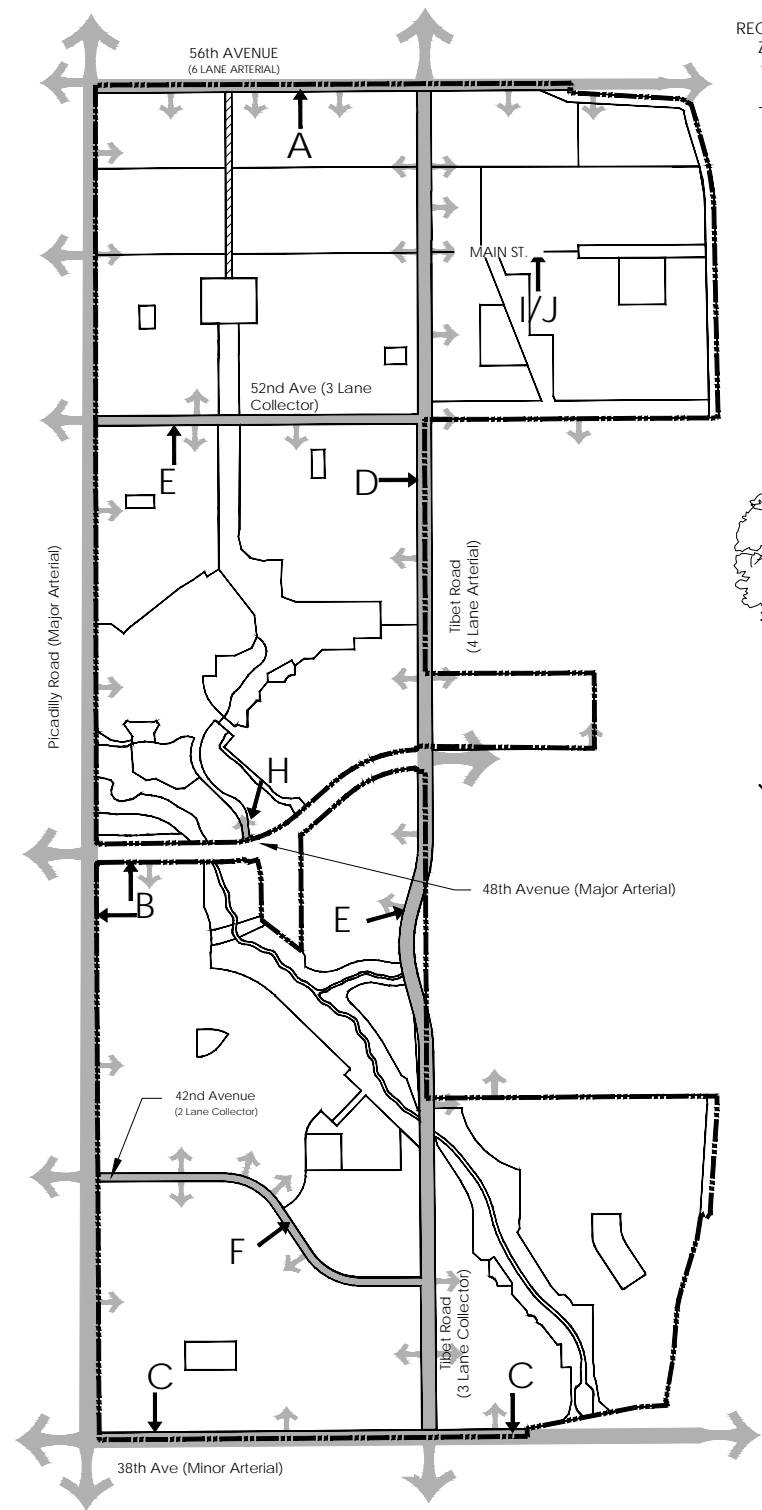
isn't this more applicable with 10.7 ?

**RESIDENTIAL SIGNAGE STANDARDS**

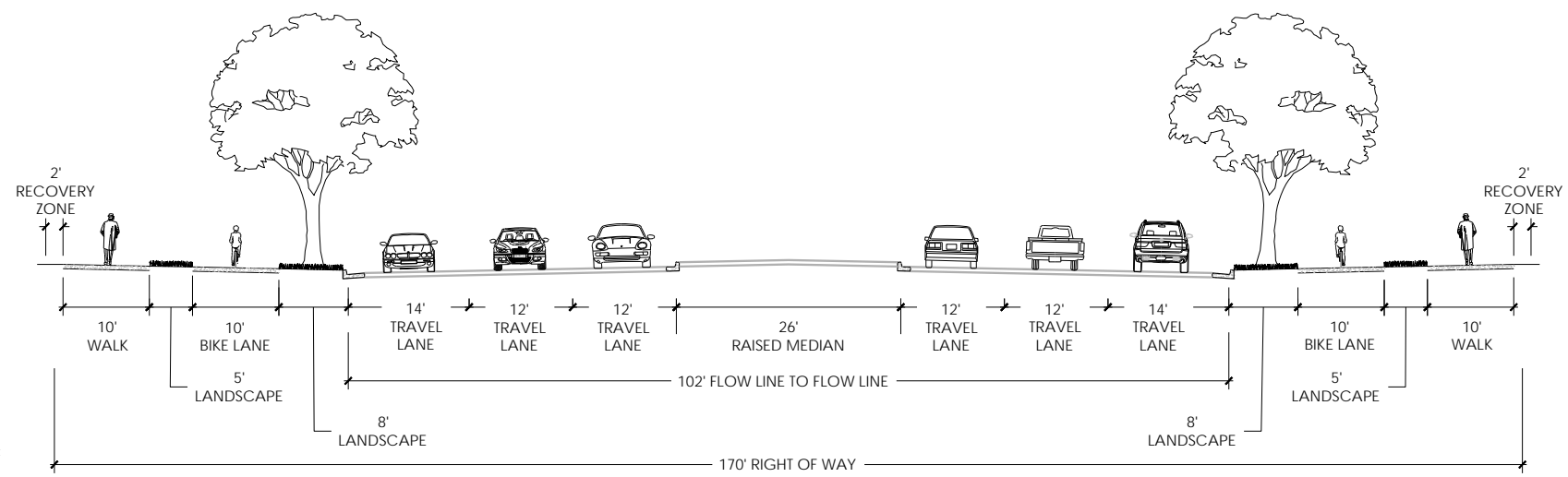
Urban Design Standards  
Master Plan

Project Title:  
**Green Valley Master Plan  
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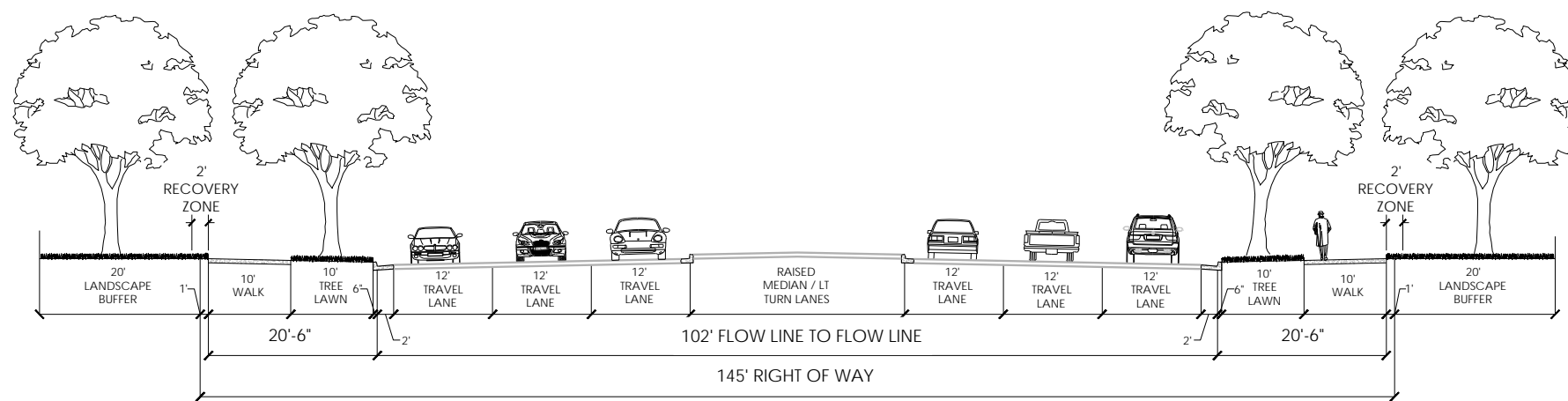
**GREEN VALLEY**  
RANCH



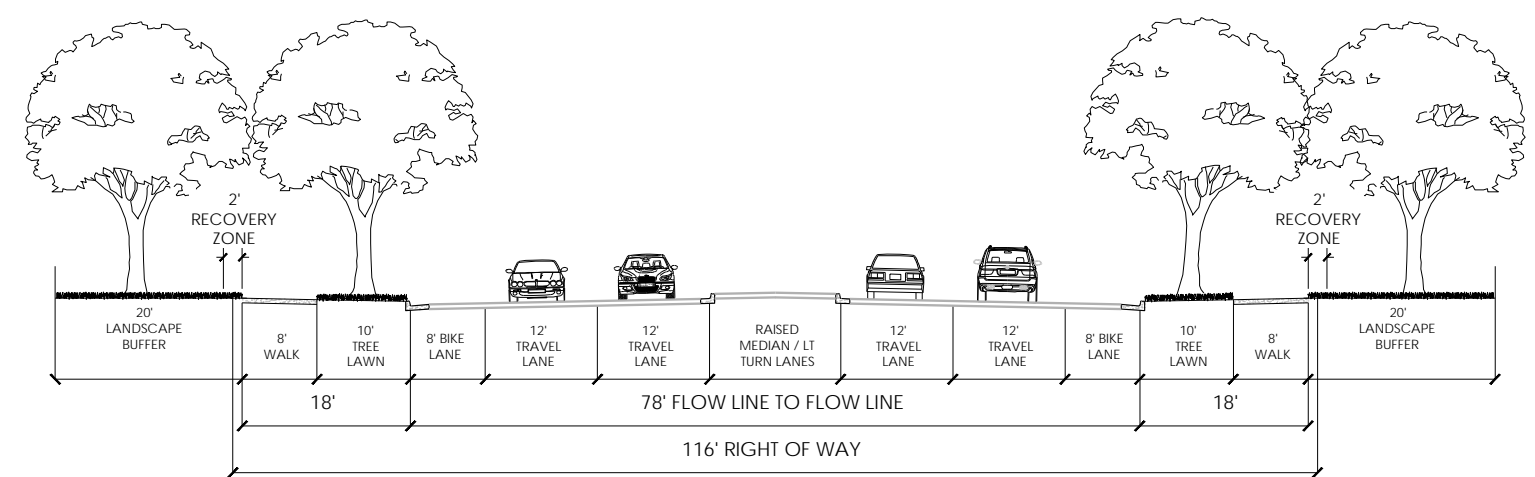
Street Key Map



A. MAJOR SIX LANE ARTERIAL W/ PROTECTED BIKE LANES



B. MAJOR SIX LANE ARTERIAL



C. MINOR FOUR LANE ARTERIAL (RAISED MEDIAN)

**STREET INFORMATION**

**MAJOR ARTERIAL ROADWAY (6 LANE W/ PROTECTED BIKE LANES):**

All six lane arterials within and adjacent to Green Valley will meet City of Aurora Street Standards.

**MAJOR ARTERIAL ROADWAY (6 LANE):**

All six lane arterials within and adjacent to Green Valley will meet City of Aurora Street Standards.

**MINOR ARTERIAL ROADWAY (4 LANE):**

All four lane arterials adjacent to Green Valley will meet City of Aurora Street Standards.

Sheet Title:

# STREET STANDARDS

Urban Design Standards  
Master Plan

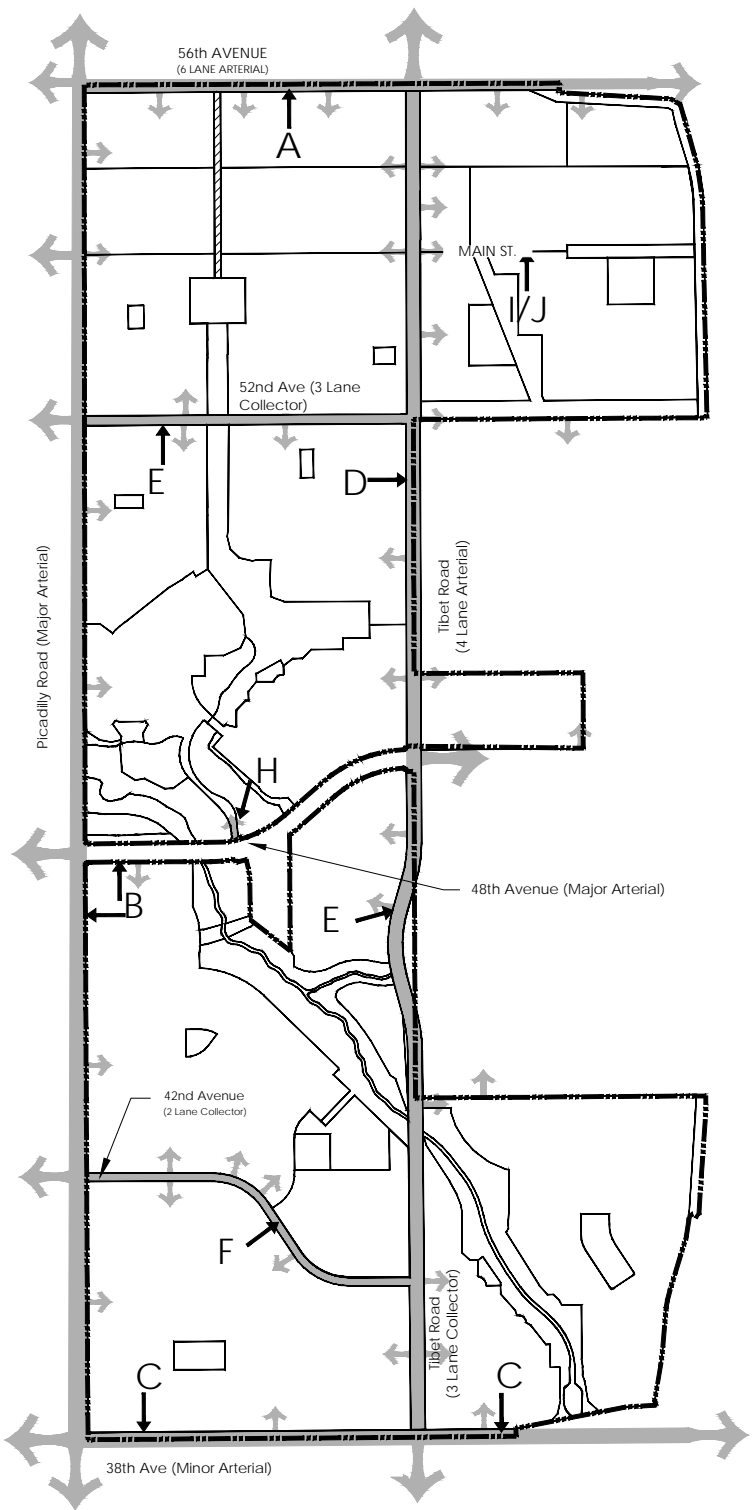
Project Title:

## Green Valley Master Plan Amendment 2

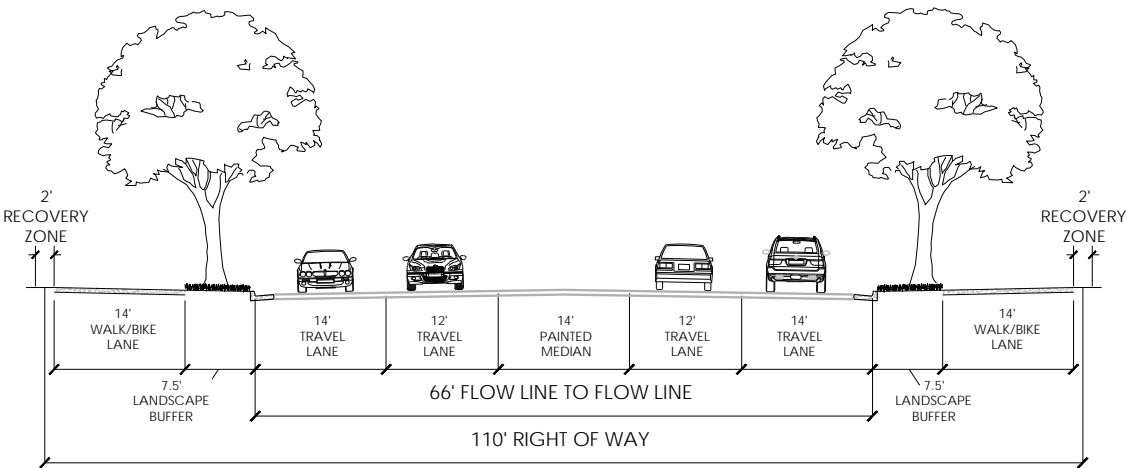
Aurora, Colorado

**GREEN VALLEY**  
RANCH

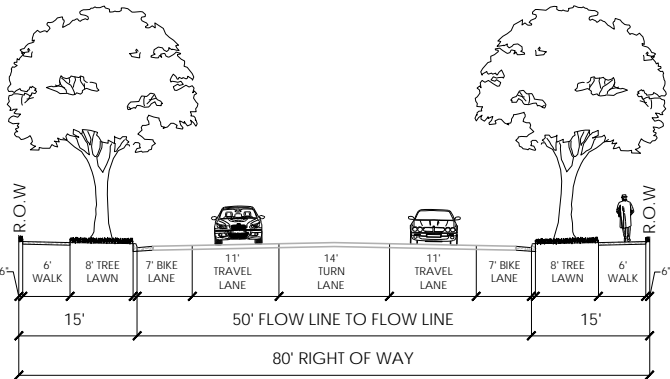




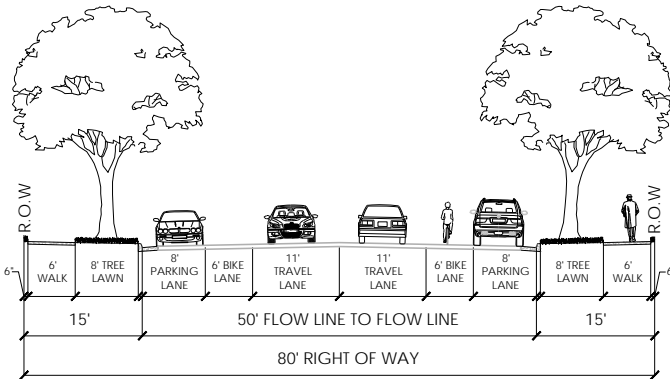
Street Key Map



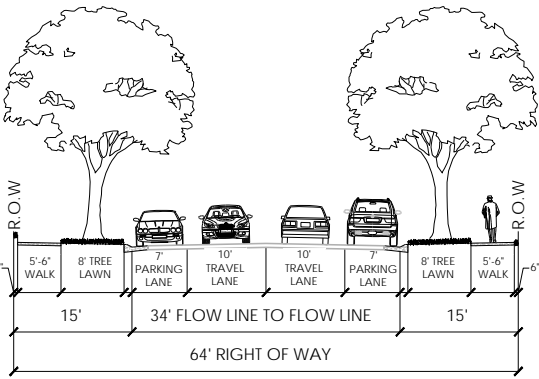
D. MINOR FOUR LANE ARTERIAL (PAINTED MEDIAN)



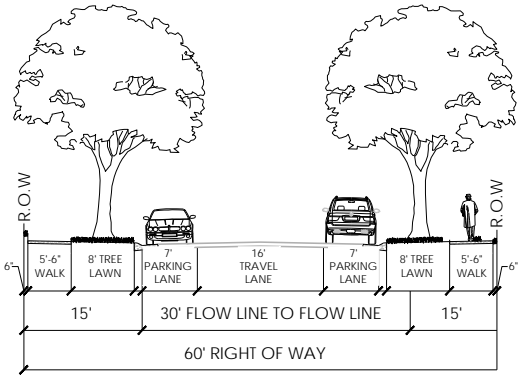
E. THREE LANE COLLECTOR



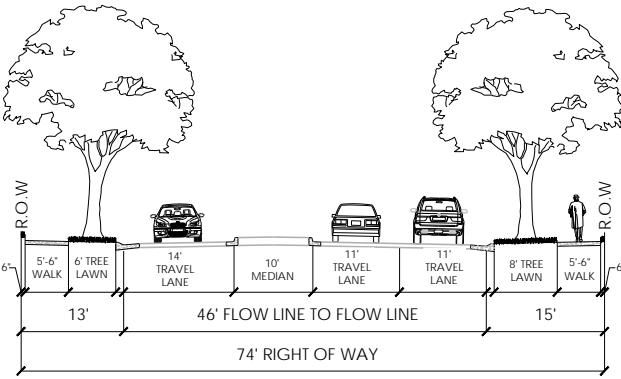
F. TWO LANE COLLECTOR



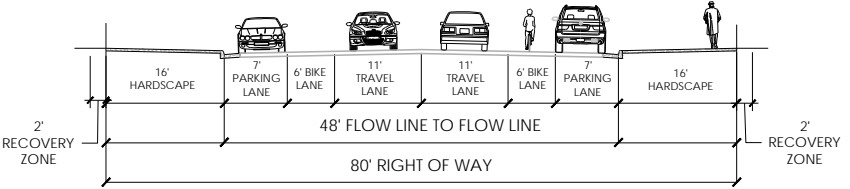
G. LOCAL STREET #1



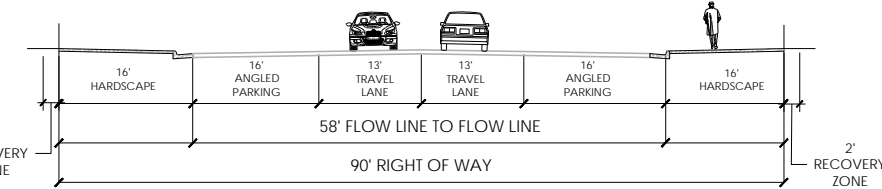
G.1. LOCAL STREET #2



H. LOCAL STREET #1 INTERSECTION W/ ARTERIAL  
Note: License Agreement required for median island in right of way



I. MAIN STREET PARALLEL PARKING - 2 LANES



J. MAIN STREET ALIGNED PARKING - 2 LANES

**STREET INFORMATION**

**COLLECTOR (3 LANE):**

All three lane collectors within and adjacent to Green Valley will meet City of Aurora Street Standards.

**COLLECTOR (2 LANE):**

All two lane collectors within Green Valley will meet City of Aurora Street Standards.

**LOCAL ROADWAYS:**

All local roadways within Green Valley will meet City of Aurora Street Standards.

**ENTRYWAY (LOCAL-ARTERIAL INTERSECTION):**

The primary entrance to the active adult neighborhood to Green Valley will contain a series of large medians with separated drive aisles. The drive lanes should meander to slow traffic and create views.

Sheet Title:

**STREET STANDARDS**

**Urban Design Standards  
Master Plan**

Project Title:

**Green Valley Master Plan  
Amendment 2  
Aurora, Colorado**

**GREEN VALLEY  
RANCH**



TAB 10.16



OPEN PLAZAS AT MIXED USE BUILDINGS



PEDESTRIAN CONNECTIONS - BUSINESS PARK WITH WIDE CORRIDORS AND COFFEE SHOPS



OPEN TURF AREAS FOR OUTDOOR ACTIVITIES



CENTRALIZED OUTDOOR 'MEETING SPACE'

Commercial Design Standards

The Green Valley MP commercial architecture, materials and outdoor spaces will be designed to identify with the Colorado theme. With commercial areas adjacent to active adult residential and multi-family residential, pedestrian nodes and connections are encouraged to promote walkability. Commercial developments shall tie into the surrounding community by using complementary themes. They will blend into the neighborhoods by using appropriately scaled buildings. Commercial retail, Office complexes, medical campuses and light industrial should all include outdoor open spaces to enhance the visitors and employees experience. Small lunch nodes, large plazas that could host larger events, or promenades. Street and building signage should be consistent with the overall development theme and site. And site furnishings should promote uses such as outdoor offices and lunch breaks within business offices. Retail, Office, Medical and Institutional furnishings shall be specific to the individual commercial use.

Materials

Preferred materials:

- Stone (Rustic natural or concrete veneer)
- Brick (warm colors, tans and browns)
- Concrete (precast and PIP)
- Metal (i.e. Corten)
- Contemporary colors or materials that contrast with the surrounding spaces

Prohibited materials include:

- White stone or brick veneer
- Red brick veneer or pavers



BUILDING CAMPUS WITH LANDSCAPE AND DECORATIVE HARDSCAPE



INDOOR/ OUTDOOR CONNECTIONS



AMPHITHEATER GATHERING AREAS



ACTIVATED PARK SPACES

Note: These images are not representative of actual commercial designs in Green Valley and are solely a reference to conceptual design standards.

Sheet Title:

**COMMERCIAL  
DESIGN STANDARDS**  
Urban Design Standards  
Master Plan

Project Title:

**Green Valley Master Plan  
Amendment 2**  
Aurora, Colorado

**GREEN VALLEY  
RANCH**



TAB 10.17

LEGEND

- 1

MAIN STREET (EAST TO WEST)
- 2

ADJACENT PARKING LOTS
- 3

CONNECTING LOCAL/BOUNDARY ROAD
- 4

PARALLEL STREET PARKING
- 5

PARKING LOT PLAZA - SPACE FOR EVENTS WITH VENDORS AND FOOD TRUCKS
- 6

BIKE LANES
- 7

OUTDOOR COMMON AREA
- 8

OUTDOOR CAFE/ DINING
- 9

STRING LIGHTING AT MAIN STREET
- 10

ACTIVATED ALLEYS TO PARKING LOTS
- 11

PEDESTRIAN PLAZA
- 12

FOCAL POINT ARCHITECTURAL ELEMENT
- 13

PUBLIC PLAZA
- 14

BUILDING STREET FRONTAGE (AWNING, ENHANCED LANDSCAPE AND STREET FURNISHINGS
- 15

MAIN STREET BUILDINGS
- 16

PEDESTRIAN WALK
- 17

SITE VIEWS TO E-470
- 18

PUBLIC ART/PLAY AREA



Note: These images and graphics are not representative of actual proposed main street design in Green Valley Ranch and are solely a reference to conceptual design standards.



PLAZA AND ALLEY CONNECTIONS



CENTRALIZED MAIN STREET INTERSECTION



PEDESTRIAN WALKS ACTIVATED WITH SITE FURNISHINGS



TYPICAL MAIN STREET SECTION - BUILDING RELATIONSHIPS WITH PEDESTRIAN CORRIDOR AND VEHICULAR PARKING

Main Street Design Standards

The Main Street District will be more urban in nature by providing enhanced building and street design within the community. These centralized streets will focus on the pedestrian experience by providing a walkable main street, outdoor common area, and a public plaza. The streets will also be bicycle friendly with bike lanes on both sides of the street and plenty of bike parking. By creating a unique experience, retail, restaurants, office and commercial will flourish by providing goods and services to the local community. Main Street will become a destination by hosting community events within the public plaza or common areas<sup>1</sup>. The area will also be visible from adjacent communities and E-470.

1. Alignment with residential pedestrian corridor is encouraged

Sheet Title:

MAIN STREET

Urban Design Standards

Master Plan

Project Title:

Green Valley Master Plan

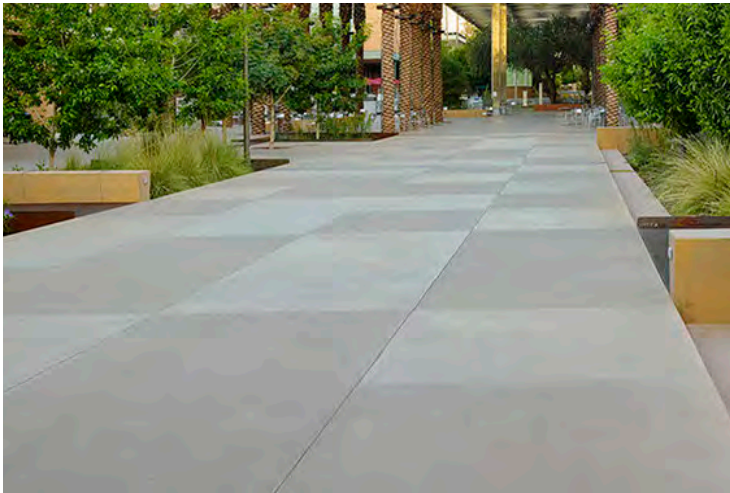
Amendment 2

Aurora, Colorado

GREEN VALLEY

RANCH





CONCRETE WITH PATTERNS AND TEXTURES



PLANK PRECAST CONCRETE PAVERS - RUNNING BOND PATTERN



SYNTHETIC TURF



NATURAL STONE



CRUSHER FINES



RECAST CONCRETE PAVERS - HERRINGBONE OR BASKET WEAVE FIELD WITH SOLDIER COURSE BORDER

**COMMERCIAL PAVING**

Paving within the commercial development should relate directly to the building architecture. There are many possibilities of what could be developed in the new Green Valley Ranch commercial spaces. Paving in this area could be simple for the main walkways and then enhanced at plazas, parks, seating areas or building courtyards. Paving should bring interest to the site and contribute to the overall design themes.

**MAIN STREET PAVING**

The Main Street paving materials, patterns, and colors should represent an overall design theme for the street. The materials at street corners, intersections, raised pedestrian cross walks, and common areas should be consistent. Pavers will not be included in ROW or in an accessible route. At plazas, courtyards, or alley way connections a sense of identity should be incorporated by the changing of colors or materials. This could relate directly to the site furniture or art installations. Paving material could also be enhanced at building entries and restaurant outdoor seating spaces.

**OFFICE COMPLEX PAVING**

The paving material and patterns should directly relate to the office complex architecture. Continuing with the theme of Colorado, paving could be a natural gray concrete with different finishes or a field of warm tan and brawn pavers. Office complexes could include small seating areas to host lunches or breaks. The paving in these areas is encouraged to be more rustic or materials that contrast with the primary walk. If plank pavers are to be used, it is preferred that they are a minimum of 6" wide and used in a running bond pattern. Materials that are NOT encouraged to use are red color pavers. Standard 4"x8" pavers should reflect natural tan and browns and be designed as a herringbone or basket weave pattern.

Note: Pavers are not allowed in ROW or accesible route



'WOOD' PLANK PAVERS

Note: These images are not representative of actual proposed Paving in Green Valley Ranch and are solely a reference to material and style.

Sheet Title:

**COMMERCIAL PAVING**

Urban Design Standards Master Plan

Project Title:

**Green Valley Master Plan Amendment 2**

Aurora, Colorado

**GREEN VALLEY RANCH**





PLAZAS WITH SEATING AND FIRE PITS



OPEN PLAZAS FOR COMMUNITY EVENTS

Main Street Outdoor Spaces and Public Plaza

Outdoor common areas and central plazas will enhance the Main Street Corridor. While focusing on the walkability of main street, these high activity spaces will provide outdoor seating for pedestrian users. By activating areas in front of, between, and behind buildings, the Main Street will create memorable experiences for visitors of all ages. Areas in front of buildings should encourage restaurants and retail to create café seating that tie into the overall Main Street character. The spaces between buildings that connect parking lots to Main Street could create entry ways. A memorable experience with lighting, unconventional seating, bright colors, or local art. And areas behind buildings, which still serve as entries to some buildings and include parking lots, should be considered as an extended outdoor space. With enlarged parking islands, spaces for white tent sales, events or food trucks could be created.

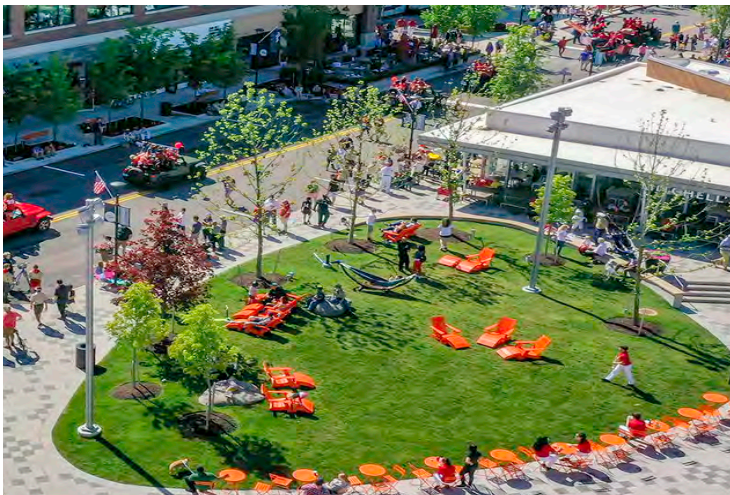


PEDESTRIAN CONNECTIONS BETWEEN OUTDOOR SPACES, RESTAURANTS AND RETAIL.



CENTRALIZED PLAZA SURROUNDED BY BUILDINGS

The Public Plaza should be at the center of Main Street, located at an intersection to take advantage of centralized views and focal points. The high visibility plaza should create space for large community events as well as intimate seating enclaves. A well-developed plaza could add many benefits to adjacent buildings. It could create a frontage to surrounding restaurants with shaded arcades, a courtyard approach to a mixed-use facility, or a centralized space to relax after a day of shopping. The plaza could be home to smaller kiosks offering boutique pop-ups, coffee, or ice cream. It could also have shade structures, fun seating opportunities, play pieces, public art, fountains, or a stage for local events. The main goal of the plaza is to create a memorable adventure for visitors of all ages, so they continue to return to Main Street. Additional public plazas may be incorporated into other commercial development areas.



PLAZAS SHOULD ENCOURAGE MANY ACTIVITIES INCLUDING PLAY AND LOUNGING.



SPACES BETWEEN BUILDINGS SHOULD BE ACTIVATED WITH FURNISHINGS, LIGHTING AND LANDSCAPE.



PARKING LOTS COULD BE DESIGNED WITH USABLE SPACES FOR MARKETS OR FOOD TRUCK EVENTS.

Note: These images are not representative of actual proposed plazas in Green Valley and are solely a reference to conceptual design standards.

Sheet Title:

**COMMERCIAL PLAZAS**

Urban Design Standards Master Plan

Project Title:

**Green Valley Master Plan Amendment 2**

Aurora, Colorado

**GREEN VALLEY RANCH**





TRADITIONAL STREET ARCHWAY



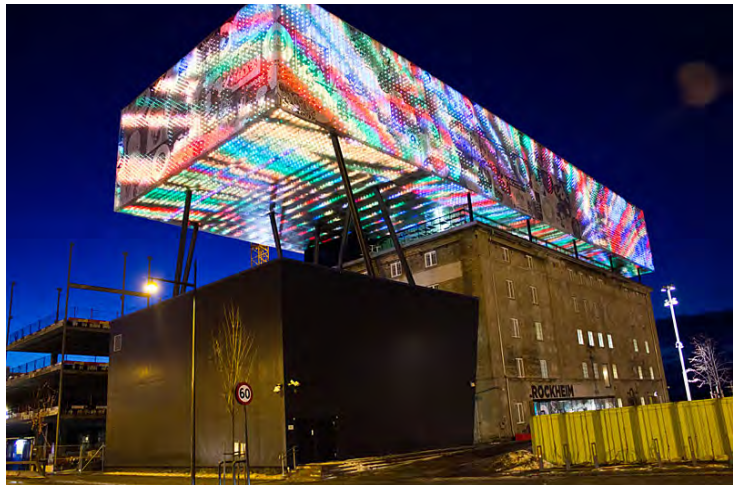
LIGHTING SCULPTURE



CONTEMPORARY SIDING

Commercial and Mixed Use Signage - Focal Point

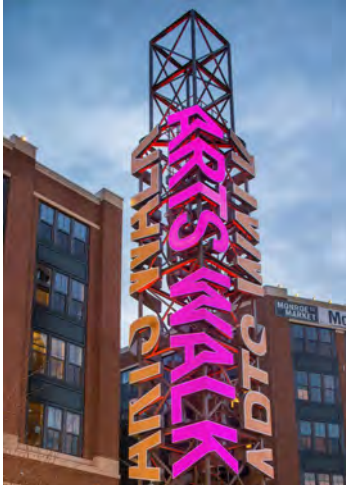
The Green Valley Ranch Focal Point should be about identifying the development. The focal point should celebrate the community and draws in visitors. It is about place making where the focal point has the ability to become the 'celebrity' of the site. Depending on where, what and when it is incorporated into the project, it could be a large public art installation at the Main Street terminus, a large building facing E-470 with bright colors and lighting, or a large tower. The overall goal is to create a focal point that attracts people, becomes a landmark, or even a well known post on social media. The focal point does not necessarily need to match with the community Colorado theme. It should stand out from the surrounding architecture and materials.



ENHANCED ARCHITECTURE WITH LIGHTING



VERTICAL TOWERS WITH BRIGHT COLORS AND LIGHTING OPTIONS



CONTEMPORARY BUILDING FACADE TO CONTRAST THE COLORADO THEME



DECORATIVE WATER TANK WITH SIGNAGE



BRIGHTLY LIT SIGNS TO ATTRACT VISITORS



VERTICAL SCULPTURES TO BRING INTEREST INTO A SITE

Note: These images are not representative of actual proposed focal point designs in Green Valley and are solely a reference to conceptual design standards.

Sheet Title:

**COMMERCIAL/MIXED USE  
SIGNAGE**

Urban Design Standards  
Master Plan

Project Title:

**Green Valley Master Plan  
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RANCH**





BUILDING MURALS



ADDITIONAL BRANDING AND SIGN LOCATIONS



IDENTIFICATION SIGN FOR COMMERCIAL / MIXED USE DISTRICT



VERTICAL MAJOR SIGNS WITH MULTI TENANT SIGN INCORPORATED



RETAIL SIGNS ALONG MAIN STREET

Commercial and Mixed Use Signage - Major and Minor Signs

The Green Valley Ranch Commercial signage program should have a consistent theme throughout the development. All way finding signage should have a variety of signs and hierarchy. Main Street signage should have a distinctive feel and look for the district. The signage family should have a variety of way finding signs, business signs and interactive signs for visitors.

The two main signs to consider are the Major and Minor signs. The Major signs should reflect the Colorado theme and have the development/ shopping center name. These are to be located along arterial and collector streets. The minor signs should be part of the overall signage family incorporating materials and fonts. They will indicate the shop names, typically shown as multi tenant signs.



BUSINESS OR SHOPPING CENTER WITH A MINOR SIGN AND OVERALL WAY FINDING SIGN.



INTERACTIVE DESTINATION SIGN - SHOULD BE COLORFUL AND DRAW ATTENTION FROM USERS

Sheet Title:

**COMMERCIAL/MIXED USE SIGNAGE**

Urban Design Standards Master Plan

Project Title:

**Green Valley Master Plan Amendment 2**

Aurora, Colorado

**GREEN VALLEY RANCH**

Note: These images are not representative of actual proposed signage designs in Green Valley and are solely a reference to conceptual design standards.





OFFICE / BUSINESS CENTER GATEWAY MONUMENT - SIGN USES A VARIATION OF MATERIALS AND VERTICAL FORMS



OFFICE / BUSINESS CENTER GATEWAY MONUMENT - SIGN USES A VARIATION OF MATERIALS AND HORIZONTAL FORMS

**Office Signage - Major and Minor Signs**

The Green Valley Ranch Office signage program should have a consistent theme throughout the development. All way finding signage should have a variety of signs and hierarchy including a Major (Primary) Sign, tenant signs, directionals, and addressing. It is highly recommended that the developing entity implement a signage program for the Office/ Business Park. The overall theme, materials and font styles should be complementary to the Green Valley Ranch theme, using natural materials such as stone, rock, or metal. The developer could also choose to use interactive digital kiosk if there is a demand for technology uses.

An Office/ Business Park site plan accompanied with a signage program will contribute to the ultimate placemaking for the park by providing accent colors, the feeling of security, or built elements.



OFFICE / BUSINESS CENTER GATEWAY MONUMENT - SIGN USES A VARIATION OF MATERIALS AND HORIZONTAL FORMS



TENANT SIGNS AS A MINOR SIGN



TENANT SIGN AS A MAJOR SIGN



CREATE A FAMILY OF REQUIRED SIGNAGE FOR IDENTIFICATION, ADDRESSING, TENANT NAMES, ETC. USE SIMILAR FONTS, SHAPES, FORMS, AND BRANDING LOGOS/ COLORS.

Note: These images are not representative of actual proposed signage designs in Green Valley and are solely a reference to conceptual design standards.

Sheet Title:  
**OFFICE  
SIGNAGE**  
**Urban Design Standards  
Master Plan**

Project Title:  
**Green Valley Master Plan  
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Aurora, Colorado

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RANCH**





TRADITIONAL APARTMENT BLADE WALL AND SIGN



DIRECTIONAL SIGNS SHOULD BE PROVIDED FOR PEDESTRIAN AND VEHICULAR CIRCULATION.

Multi Family Signage - Major and Minor Signs

The Green Valley Ranch Multi Family signage program should have a complementary theme to the overall Green Valley Ranch theme. It is recommended that signage for multi family be brighter in color and more contemporary with materials and font styles. The multi family monument and signage should reflect the style and character of the architecture and brand.

It is highly recommended that the developing entity implement a signage program for the development. This could include the overall branding, primary and secondary monuments, directory, wayfinding, etc. Multi Family signage programs could also include placemaking signs for amenity spaces, trails or parks.



MONUMENT WITH CREATIVE AND COLORFUL SIGN ELEMENTS



CREATE A FAMILY OF WAYFINDING SIGNAGE FOR IDENTIFICATION AND ADDRESSING, ETC. USE SIMILAR FONTS, SHAPES, FORMS, AND BRANDING LOGOS/ COLORS.



METAL BLADE WALL



PROVIDE CLEAR DIRECTIONAL SIGNS FOR LEASING OFFICE AND PARKING



UNIT NUMBER, LEVELS OR OTHER IDENTIFICATION SIGNS SHOULD BE HIGHLY VISIBLE FOR USERS AND CONSISTENT WITH OVERALL SIGNAGE PROGRAM.

Note: These images are not representative of actual proposed signage designs in Green Valley and are solely a reference to conceptual design standards.

Sheet Title:

**MULTI FAMILY SIGNAGE**

Urban Design Standards Master Plan

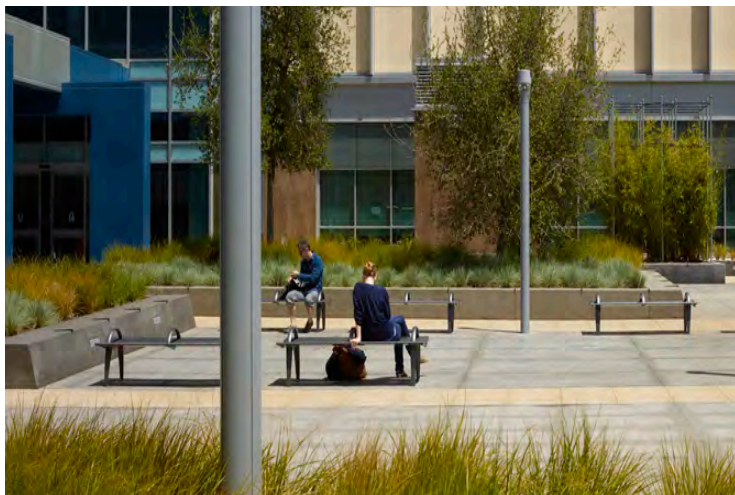
Project Title:

**Green Valley Master Plan Amendment 2**

Aurora, Colorado

**GREEN VALLEY RANCH**





Note: These images are not representative of actual proposed street furnishings design in Green Valley and are solely a reference to conceptual design standards.

Site Furnishings

Main Street furnishing should be consistent with the overall district theme. Throughout the different areas on Main Street, furnishings are encouraged to provide different experiences. From the walkable main street, to common areas, to the main plaza, site furnishings should be creative and functional for all. Furnishing designs should use the element of lighting, metal, wood, and bright colors to enhance spaces at all times of the day.

Site furnishings for other commercial development areas including business parks, medical or 'large box' office will support the community theme. These furnishings should be appropriate for the intended use of the space.

Sheet Title:

**COMMERCIAL SITE FURNISHINGS**

Urban Design Standards  
Master Plan

Project Title:

**Green Valley Master Plan  
Amendment 2**  
Aurora, Colorado

**GREEN VALLEY**  
RANCH



## MP ARCHITECTURAL STANDARDS

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- Form H 12.1
- Single Family - Craftsman 12.2
- Single Family - Classic 12.3
- Single Family - Homestead 12.4
- Single Family - Victorian 12.5
- Carriage House Elevations 12.6
- Carriage House Design Styles 12.7
- Duplex Elevations 12.8 - 12.9
- Bungalow Elevations 12.10 – 12.11
- Multi Family 12.12
- Commercial 12.13
- Commercial Office 12.14
- Institutional 12.15

# 12





12.1 Form H Architectural Design Standards Matrix

Architectural Design Standard	Brief Description of the Feature	Location of the Standards in Application Package
<b>Residential Design Single Family Detached</b>		
Residential Architectural Styles	Craftsman	Page 12.2
Residential Materials Palette	Siding with Masonry	Page 12.2
Residential Color Palette	Earth Tone Colors	
Residential Architectural Features	See Menu Items	Page 12.2
Residential Architectural Styles	Classic	Page 12.3
Residential Materials Palette	Siding with Masonry	Page 12.3
Residential Color Palette	Earth Tone Colors	
Residential Architectural Features	See Menu Items	Page 12.3
Residential Architectural Styles	Homestead	Page 12.4
Residential Materials Palette	Siding with Masonry	Page 12.4
Residential Color Palette	Earth Tone Colors	
Residential Architectural Features	See Menu Items	Page 12.4
Residential Architectural Styles	Victorian	Page 12.5
Residential Materials Palette	Siding with Masonry	Page 12.5
Residential Color Palette	Earth Tone Colors	
Residential Architectural Features	See Menu Items	Page 12.5
<b>Residential Design Carriage House</b>		
Residential Architectural Styles	Contemporary Craftsman	Page 12.6
Residential Color Palette	Earth Tone Colors	
Residential Architectural Features	See Menu Items	Page 12.7
<b>Residential Design Duplex</b>		
Residential Architectural Styles	Contemporary Craftsman	Page 12.8-12.9
Residential Color Palette	Earth Tone Colors	
Residential Architectural Features	See Menu Items	Page 12.8-12.9
<b>Residential Design Bungalow</b>		
Residential Architectural Styles	Contemporary Craftsman	Page 12.10-12.11
Residential Color Palette	Earth Tone Colors	
Residential Architectural Features	See Menu Items	Page 12.10-12.11
<b>Multi Family Residential Design</b>		
Residential Architectural Styles		Page 12.12
Residential Color Palette		
Residential Architectural Features		Page 12.12
<b>Commercial Design</b>		
Commercial Retail		Page 12.13
Commercial Office		Page 12.14
Institutional		Page 12.15

Sheet Title:

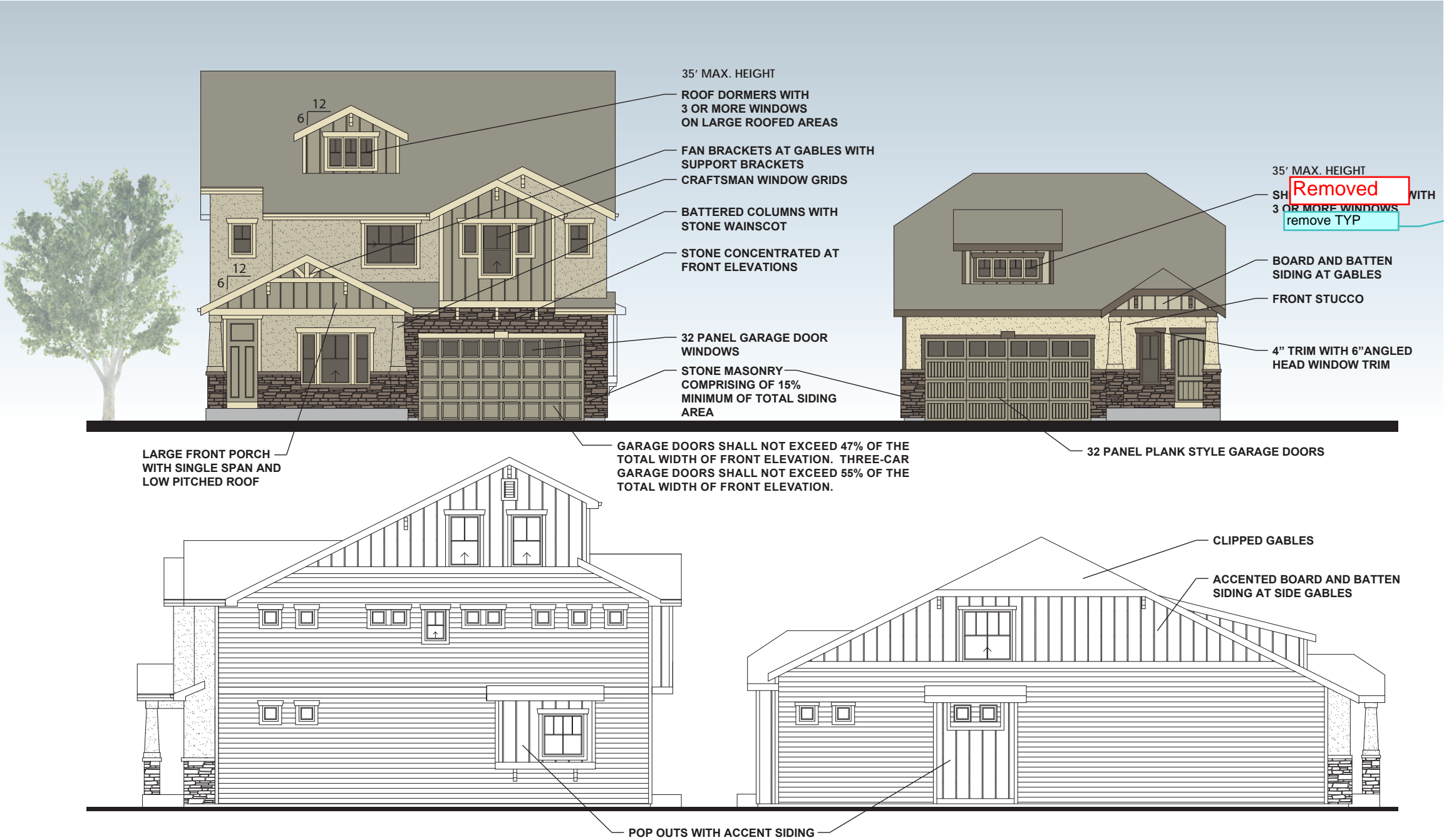
FORM H

Architectural Standards  
Master Plan

Project Title:

Green Valley Master Plan  
Amendment 2  
Aurora, Colorado

GREEN VALLEY  
RANCH



**Menu of Architectural Features**

- Architecture will comply with current city building and design standards. Features of this style shall include (7) of the following style criteria:
- Craftsman style window grids on 75% of windows
  - Shed or gabled low pitch roof dormers with 3 or more windows
  - Plank Style shutters in fronts windows and windows facing open space or streets (~~2 Aurora points for 2 shuttered windows~~)
  - 32 panel plank style garage doors with windows
  - Stone masonry comprising 15% of the sided areas focused on the front elevation
  - Front Stucco and stucco accents to total 30% of all masonry (total percentage with stone)
  - Board and Batten in gables and pop outs with a separate color than the body color
  - Fan style brackets at larger front and rear gables that face streets and opens space supported by small brackets. Small support brackets on all other gables.
  - 4" wide trim around windows with 6" head trim and angled shoulders
  - Large front porch with single span low pitched roof
  - Tapered stone wainscot columns
  - Rectangular vents on prominent larger gables
  - Clipped Gables
  - Low pitched roofs of 6:12 pitch

remove any points reference. Per Note, elevations will be required to meet code and required points per code schedule.

**Removed SINGLE FAMILY CRAFTSMAN DESIGN STYLES**

**Architectural Standards Master Plan**

Project Title:

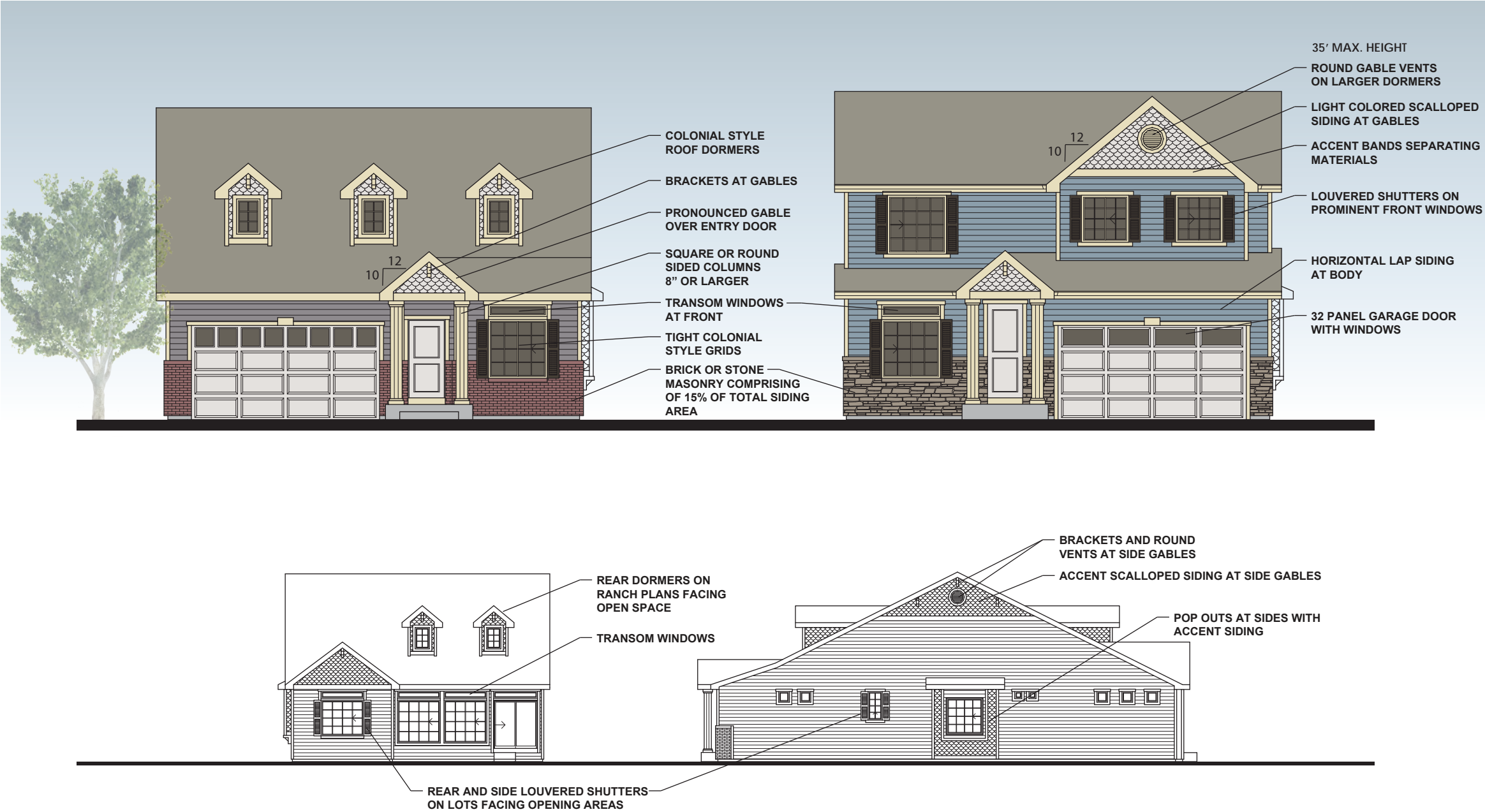
**Green Valley Master Plan Amendment 2**

Aurora, Colorado

**GREEN VALLEY RANCH**

- NOTE:
1. THESE ELEVATIONS ARE CONCEPTUAL IN NATURE TO DEMONSTRATE THE ARCHITECTURAL STYLES. ADDITIONAL MODELS AND DETAILS WILL BE PROVIDED WITH MASTER ARCHITECTURE REVIEW.
  2. 15% MASONRY PROVIDED. CALCULATIONS TO BE PROVIDED WITH MASTER ARCHITECTURE REVIEW AT TIME OF BUILDING PERMIT.
  3. SITE PLAN SHALL COMPLY WITH ALL APPLICABLE CITY CODES FOR LANDSCAPING, SETBACKS GARAGE ORIENTATION AND NON-REPETITIVE DESIGN.
  4. ARCHITECTURAL DESIGN SHALL COMPLY WITH ALL APPLICABLE CITY CODES AND ADOPTED STANDARDS FOR ELEVATION MATERIALS, WINDOWS AND PROMINENCE OF GARAGE DOORS.
  5. MAXIMUM GARAGE PERCENTAGE ON THE FRONT FACADE DOES NOT APPLY IF GARAGES FACE THE MOTOR COURT.





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**Menu of Architectural Features**

Architecture will comply with current city building and design standards. Features of this style shall include (7) of the following style criteria:

- Classic Style tight window grids on 75% of windows
- Colonial style roof dormers with windows
- Decorative louvered shutters in front windows and windows facing open space or streets
- 32 panel garage doors with windows
- 2 panel entry door
- Brick or Stone masonry comprising 15% of the sided areas focused on the front elevation
- 4" wide trim around windows and doors with 1" shoulders at trim above
- Classical prominent covered entry porch of 50 sf minimum
- 8" diameter minimum square or round sided columns
- Round gable vents on prominent larger gables.
- Small brackets on gables without vents
- Gables with a separate lighter color than the body color and an accent band separating colors
  - o Scalloped Siding in gables (2 Aurora Points) or
  - o Horizontal siding in gables (no additional Aurora points)
- Medium pitched 10:12 roofs

Sheet Title:

**SINGLE FAMILY  
CLASSIC DESIGN STYLES**

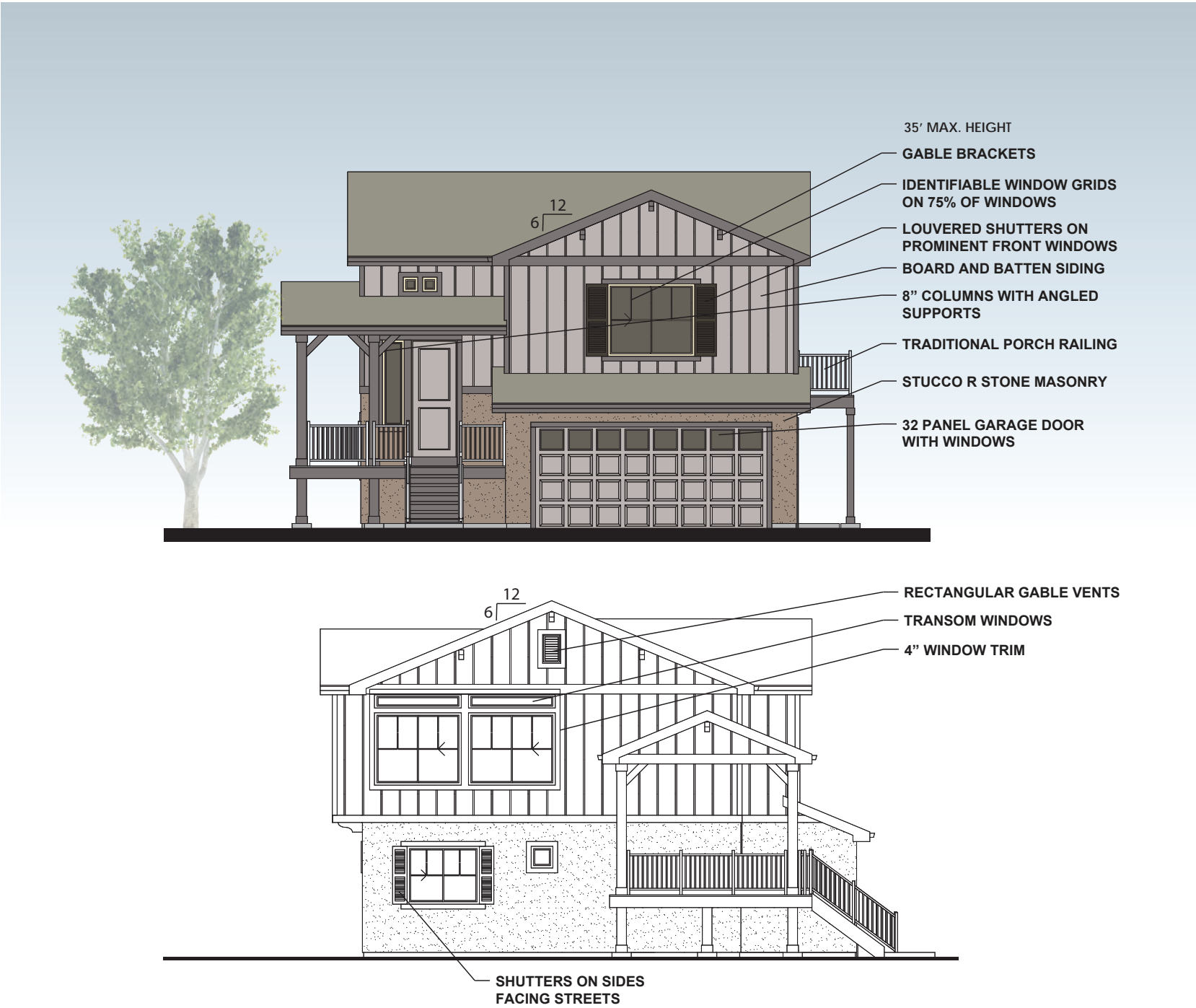
**Architectural Standards  
Master Plan**

Project Title:

**Green Valley Master Plan  
Amendment 2  
Aurora, Colorado**

**GREEN VALLEY  
RANCH**

TAB 12.4



- NOTE:
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  4. ARCHITECTURAL DESIGN SHALL COMPLY WITH ALL APPLICABLE CITY CODES AND ADOPTED STANDARDS FOR ELEVATION MATERIALS, WINDOWS AND PROMINENCE OF GARAGE DOORS.
  5. MAXIMUM GARAGE PERCENTAGES ON THE FRONT FACADE DOES NOT APPLY IF GARAGES FACE THE MOTOR COURT.

**Menu of Architectural Features**

Architecture will comply with current city building and design standards. Features of this style shall include (7) of the following style criteria:

- Window grids on 75% of windows
- Shed Roof Dormers with windows
- Decorative louvered shutters in fronts windows and windows facing open space or streets
- 32 panel garage doors with windows
- 2 panel entry door
- Stone or Stucco masonry comprising 15% of the sided areas
- Board and Batten siding
- Decorative brackets on all gables
- 4" wide trim around windows and doors
- 8" columns with angled supports
- Rectangular gable vents on prominent larger side gables
- Low pitched roofs of 6:12 pitch

Sheet Title:

**SINGLE FAMILY  
HOMESTEAD DESIGN STYLES**

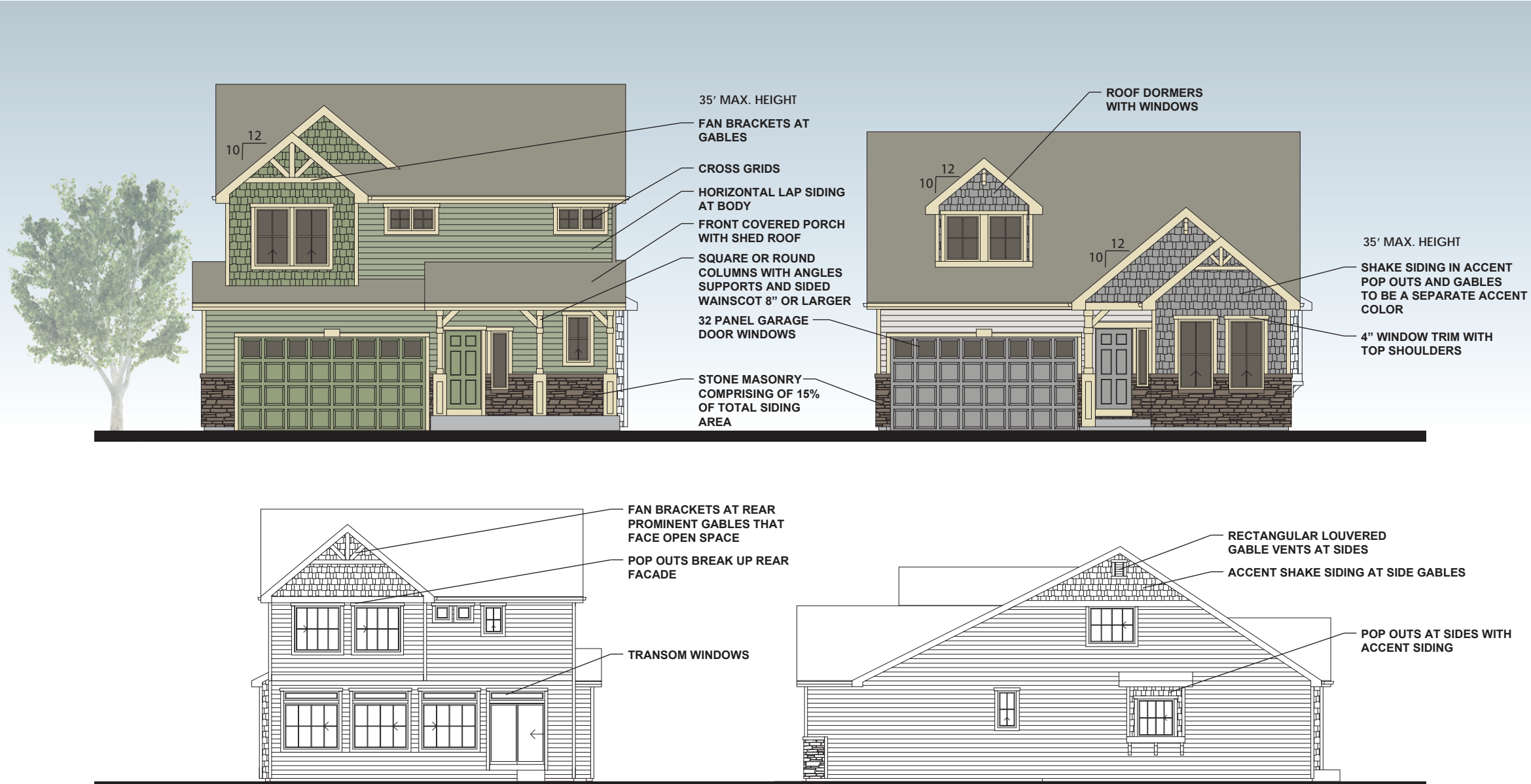
**Architectural Standards  
Master Plan**

Project Title:

**Green Valley Master Plan  
Amendment 2**  
Aurora, Colorado

**GREEN VALLEY  
RANCH**





**Menu of Architectural Features**

Architecture will comply with current city building and design standards. Features of this style shall include (7) of the following style criteria:

- Cross style window grids on 75% of windows
- Steep pitched roof dormers with windows
- Decorative louvered shutters in fronts windows and windows facing open space or streets
- 32 panel garage doors with windows
- Stone masonry comprising 15% of the sided areas focused on the front elevation
- Shake Siding in gables with a different accent color than the body color
- Fan style brackets in prominent larger front and rear gables that face streets and open space. Decorative brackets on all gables without fan brackets
- 4" wide trim around windows with 1" shoulders at trim above window
- Larger front porch area with lower pitched shed roof above
- 8" round or square columns with sided wainscot and angled brackets
- Rectangular vents on side gables
- Steep pitch roof of 10:12 to 12:12 pitch

**NOTE:**

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Sheet Title:

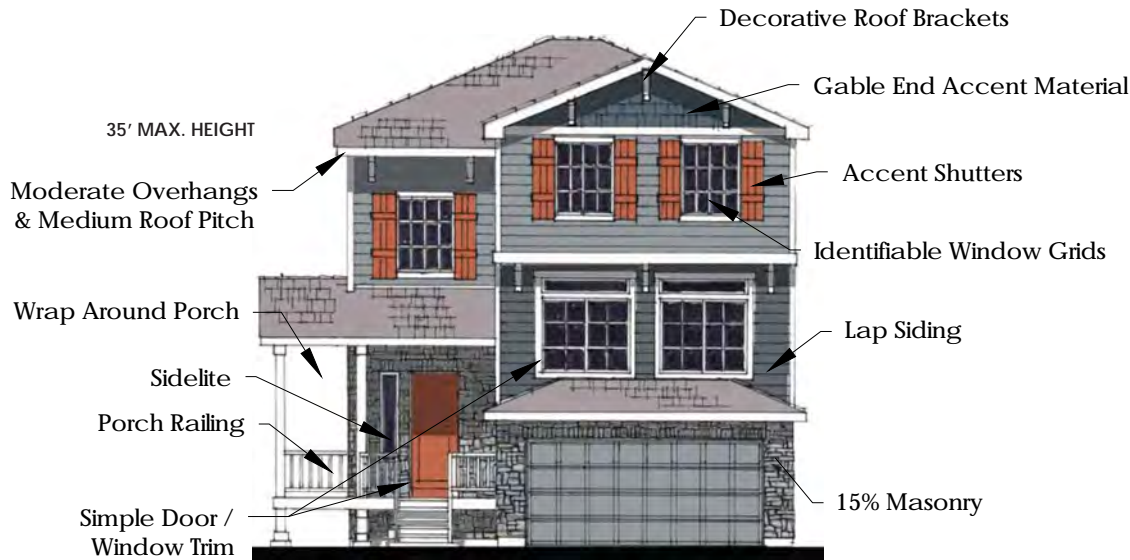
**SINGLE FAMILY  
VICTORIAN DESIGN STYLES**

**Architectural Standards  
Master Plan**

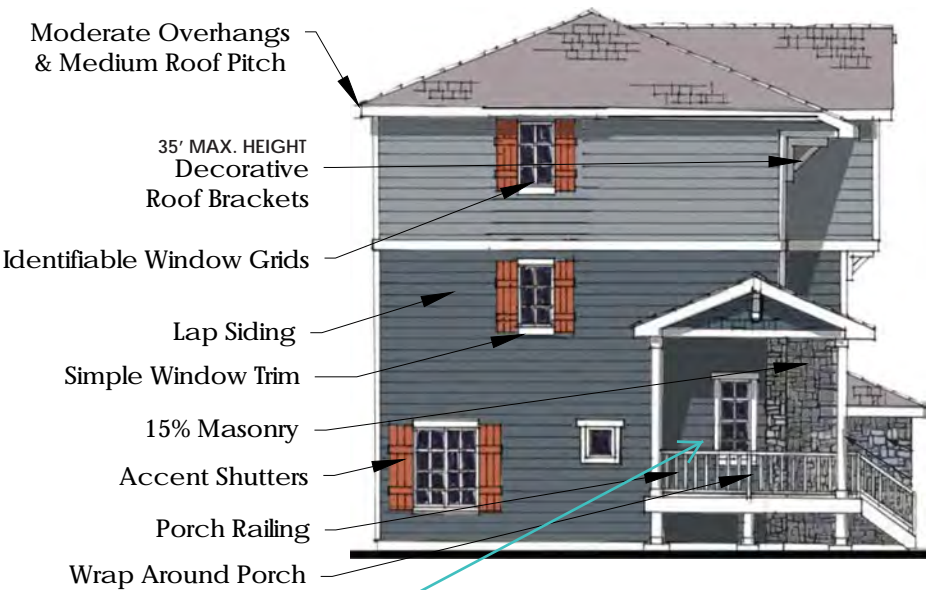
Project Title:

**Green Valley Master Plan  
Amendment 2  
Aurora, Colorado**

**GREEN VALLEY  
RANCH**



3 STORY FRONT ELEVATION B  
CARRIAGE HOUSE



3 STORY SIDE ON STREET ELEVATION B  
CARRIAGE HOUSE

Revised

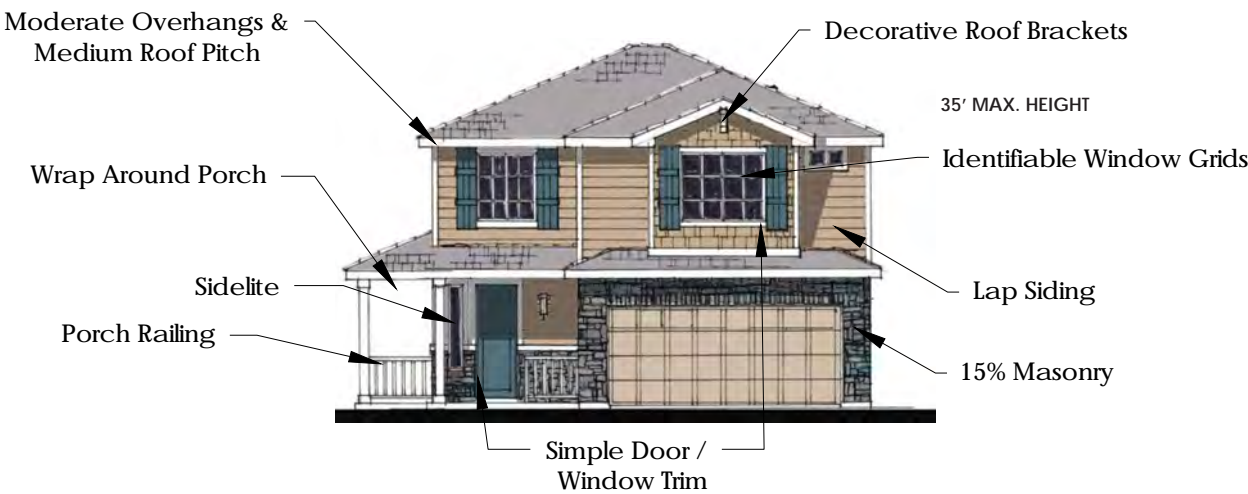
Revise. doors are required to face street for front motor court lots.

THE CARRIAGE HOUSE STYLE IS INTENDED TO COMPLIMENT THE SURROUNDING ARCHITECTURE OF GREEN VALLEY RANCH. THE STYLE IS CHARACTERIZED BY HORIZONTAL LAP SIDING, GABLE END ACCENTS, EXPOSED RAFTERS AND BEAMS, COVERED PORCHES, AND ARTICULATED WINDOW ACCENTS. MASONRY MUST BE INCORPORATED TO ACCENTUATE THE FRONT FACADE. THE HIP ROOF FORMS ARE BROKEN UP WITH GABLE ACCENTS THAT INCLUDE DECORATIVE ROOF BRACKETS AND ARE TREATED WITH MATERIAL DIFFERENT FROM THE MAIN BODY OF THE HOUSE TO ADD CHARACTER TO THE FACADE. COVERED PORCHES ARE INTEGRATED INTO THE FRONT FACADE TO ACCENTUATE THE ENTRY. WRAP AROUND PORCHES ARE PROVIDED ON HOMES ADJACENT TO THE STREET TO PROVIDE AN ARTICULATED SIDE ON STREET ELEVATION. THE WINDOWS INCLUDE IDENTIFIABLE WINDOW GRIDS AND SHUTTERS. EACH HOME INCLUDES ONE SIDE ELEVATION THAT IS A PRIVACY SIDE. THIS ELEVATION IS SIMPLE WITH FEW WINDOWS IN ORDER TO PROVIDE PRIVACY FROM THE ADJACENT NEIGHBOR'S YARD.

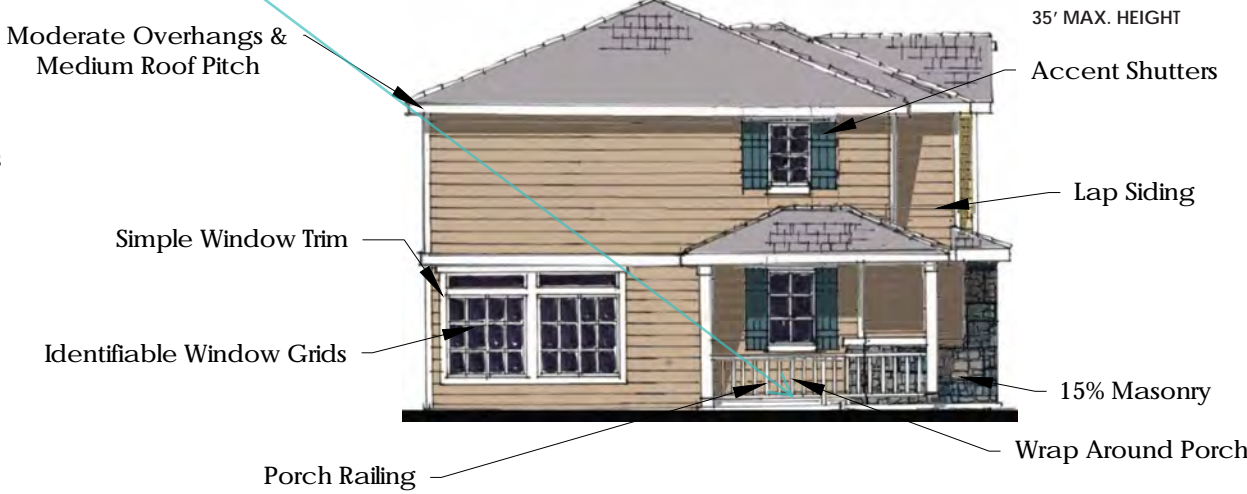
THE COLORS ARE PRIMARILY EARTH TONED WITH ACCENT COLORS TO EMPHASIZE THE UPPER STORY AND ARCHITECTURAL FEATURES.

include requirement that the front door is required on the street facing facade for front motor court lots

Revised



2 STORY FRONT ELEVATION B  
CARRIAGE HOUSE



2 STORY SIDE ON STREET ELEVATION B  
CARRIAGE HOUSE

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Sheet Title:  
**CARRIAGE HOUSE ELEVATIONS**  
Architectural Standards  
Master Plan

Project Title:  
**Green Valley Master Plan  
Amendment 2**  
Aurora, Colorado

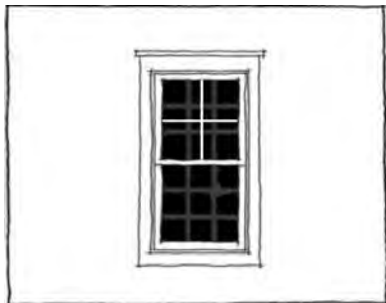
**GREEN VALLEY**  
RANCH



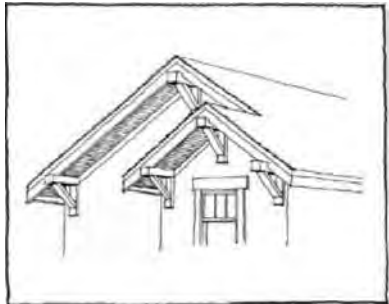
TAB 12.7



1. Moderate Roof Overhangs  
& Medium Roof Pitches



2. Window Grids



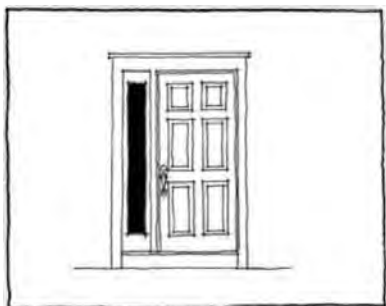
3. Decorative Brackets



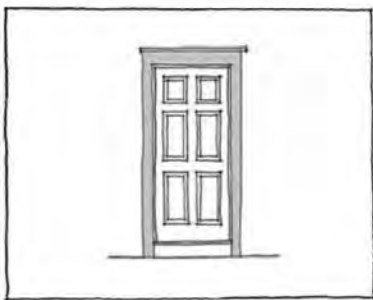
4. Gable End Accent Material



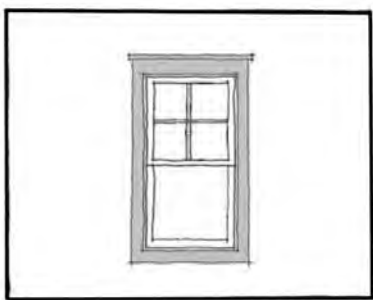
5. Accent Shutters



6. Sidelites



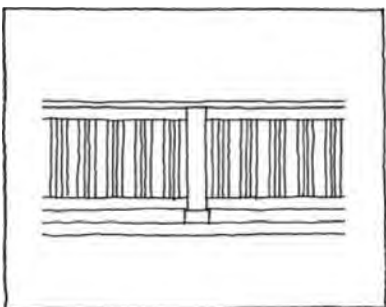
7. Simple Door Trim



8. Simple Window Trim



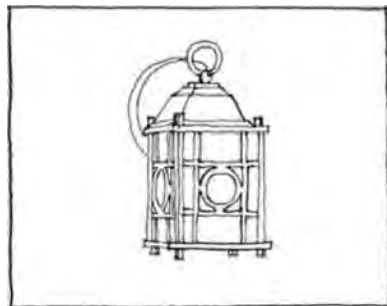
9. Square Porch Columns



10. Porch Railing



11. Wrap Around Porch



12. Contemporary Light Fixture



13. Lap Siding

**Menu of Architectural Features**

**Overall Design:** The gabled roof massing will be based on the characteristics of the Contemporary Craftsman style seen in detached homes. Exterior materials will be siding and masonry. Architecture will comply with current city building and design standards. Features of this style shall include (10) of the following style criteria:

**Design Features**

1. Moderate main roof overhangs: 12" measured horizontally.
2. Identifiable window grids.
3. Gable ends with decorative brackets.
4. Gable end accent material.
5. Accent shutters.
6. Sidelite at entry door.
7. Simple exterior door trim.
8. Simple exterior window trim.
9. Square porch columns.
10. Pickets at porch railing.
11. Wrap around porch.
12. Accurate exterior light fixtures.
13. Lap Siding with corner trim.
14. Masonry shall comply with Section 146-1302(G)1.

Sheet Title:

**CARRIAGE HOUSE  
DESIGN STYLES**

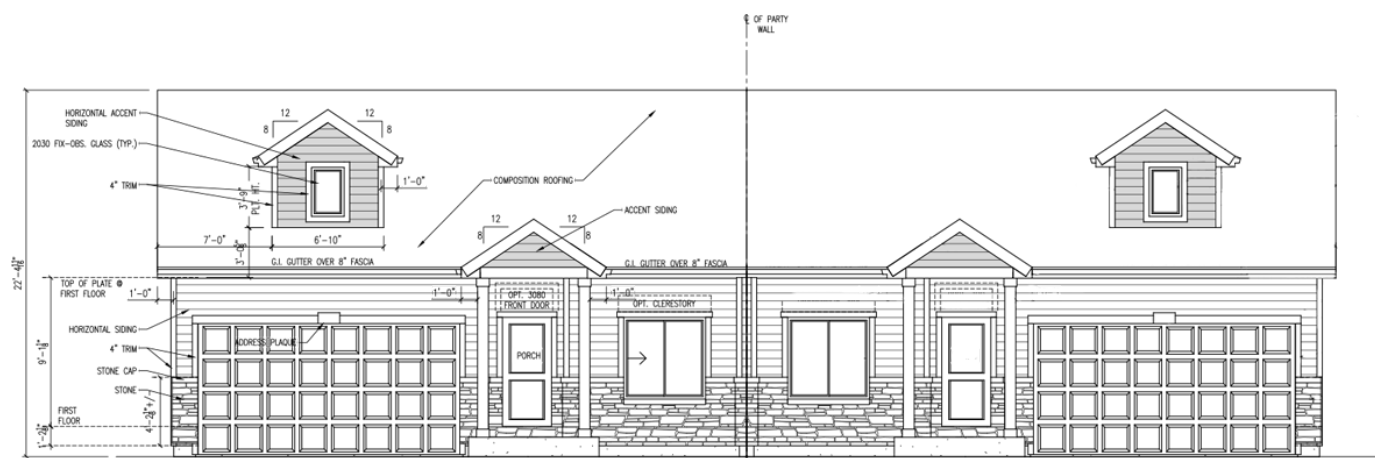
**Architectural Standards  
Master Plan**

Project Title:

**Green Valley Master Plan  
Amendment 2**  
Aurora, Colorado

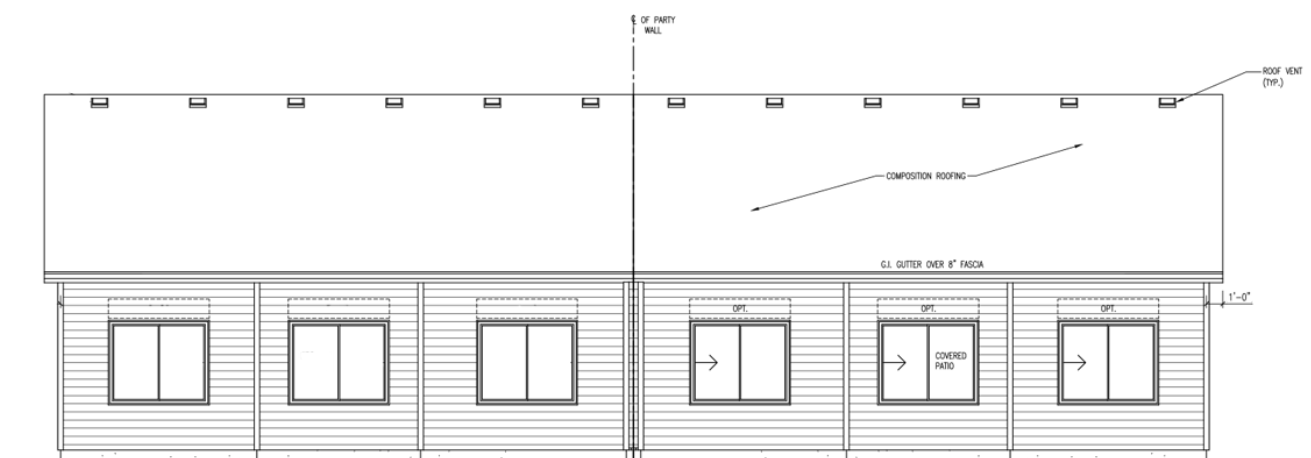
**GREEN VALLEY  
RANCH**

MODEL 1901 - ELEVATION



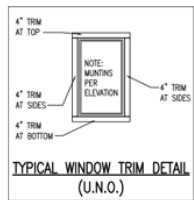
FRONT ELEVATION - UNIT A

FRONT ELEVATION - UNIT B



REAR ELEVATION - UNIT B

REAR ELEVATION - UNIT A



NOTE:  
J-CHANNEL WINDOWS & DOORS TYP.  
AT SIDES AND REAR U.N.O.

NOTE: SHADED AREAS  
INDICATE ACCENT COLORS  
8" BAND AND TRIM TO BE  
A SEPERATE 3RD COLOR

NOTE:  
REFER TO ROOF PLAN FOR DOWNSPOUT LOCATIONS  
\*CONTINUOUS SOFFIT VENTS AT TRUSS OR  
RAFTER BAYS ADJACENT TO LIVING SPACE  
\*DOWNSPOUTS TO HAVE 48" ADJ. EXTENDERS TYP.

NOTE:

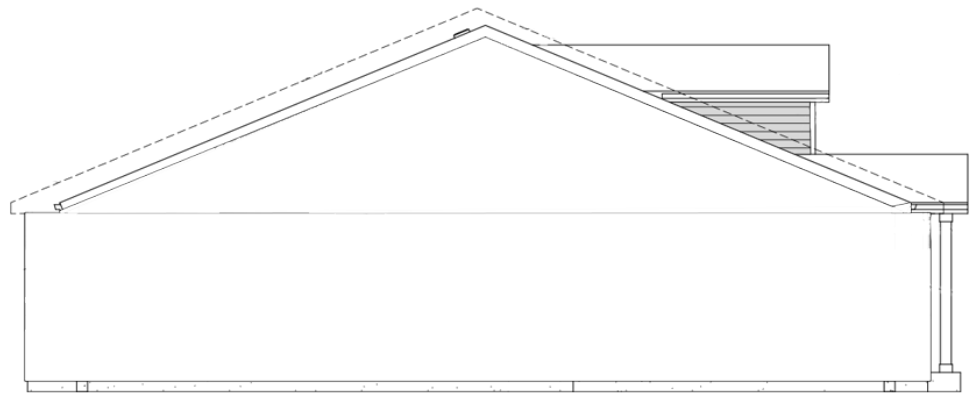
1. THESE ELEVATIONS ARE CONCEPTUAL IN NATURE TO DEMONSTRATE THE ARCHITECTURAL STYLES. ADDITIONAL MODELS AND DETAILS WILL BE PROVIDED WITH MASTER ARCHITECTURE REVIEW.
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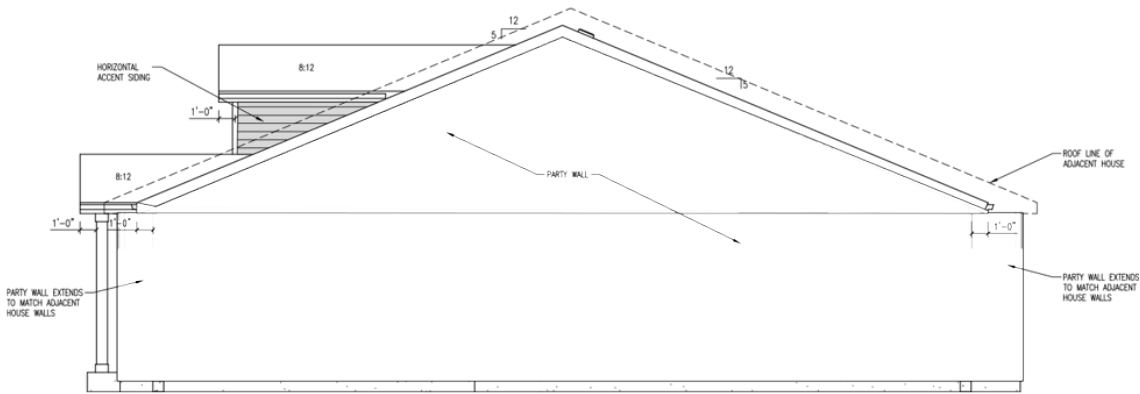
SIDE ELEVATION - UNIT A



SIDE ELEVATION - UNIT B



PARTY WALL ELEVATION - UNIT B



PARTY WALL ELEVATION - UNIT A

Sheet Title:

DUPLEX ELEVATIONS

Architectural Standards  
Master Plan

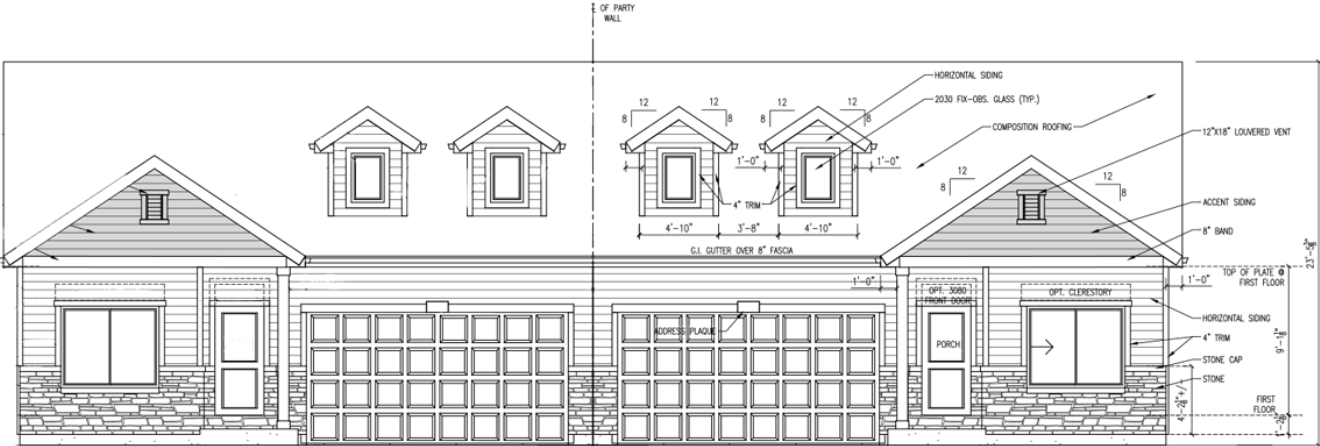
Project Title:

Green Valley Master Plan  
Amendment 2  
Aurora, Colorado

GREEN VALLEY  
RANCH

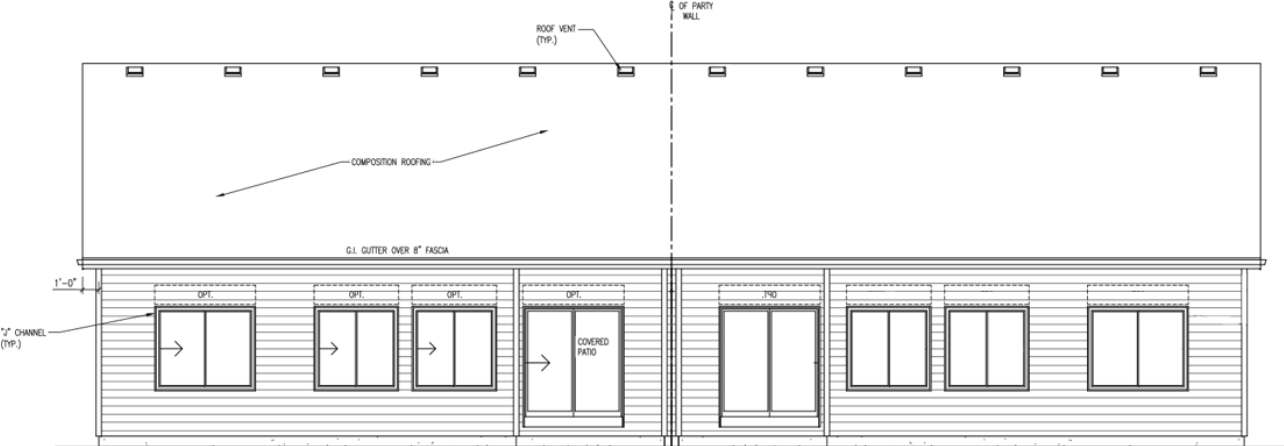


MODEL 1902 - ELEVATION



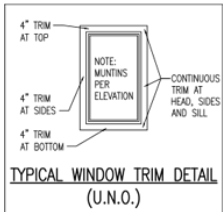
FRONT ELEVATION - UNIT A

FRONT ELEVATION - UNIT B



REAR ELEVATION - UNIT B

REAR ELEVATION - UNIT A



NOTE:  
J-CHANNEL WINDOWS & DOORS TYP.  
AT SIDES AND REAR U.N.O.

NOTE: SHADED AREAS  
INDICATE ACCENT COLORS  
8" BAND AND TRIM TO BE  
A SEPERATE 3RD COLOR

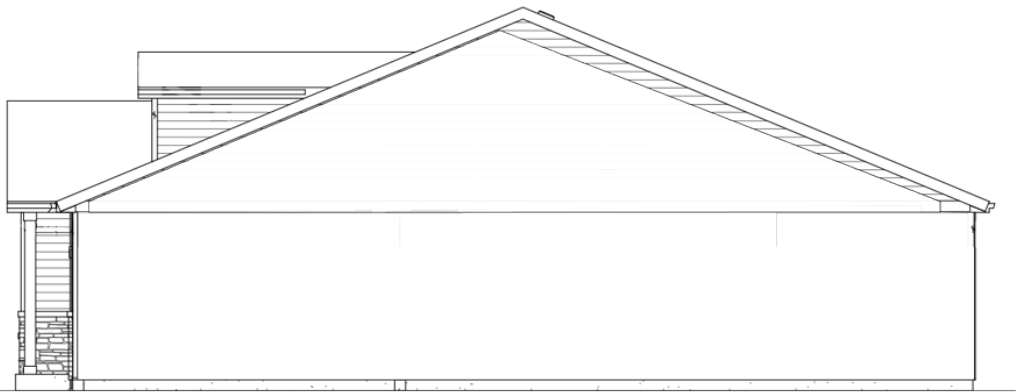
NOTE:  
REFER TO ROOF PLAN FOR DOWNSPOUT LOCATIONS  
\*CONTINUOUS SOFFIT VENTS AT TRUSS OR  
RAFTER BAYS ADJACENT TO LIVING SPACE  
\*DOWNSPOUTS TO HAVE 48" ADJ. EXTENDERS TYP.



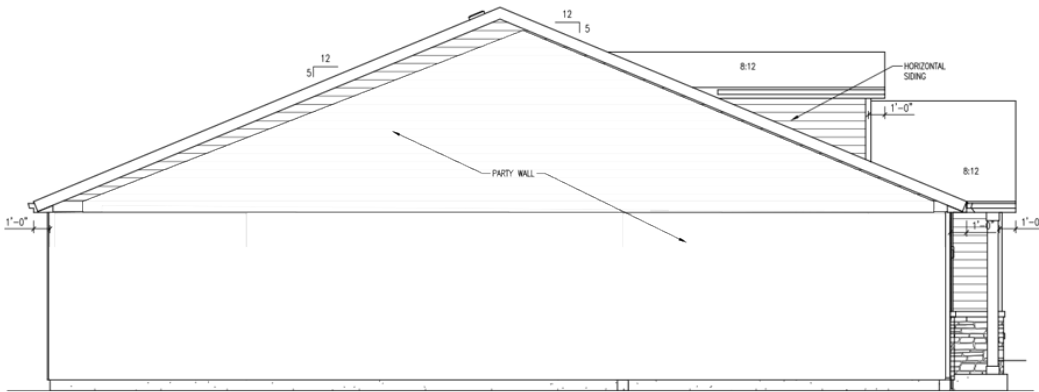
SIDE ELEVATION - UNIT A



SIDE ELEVATION - UNIT B



PARTY WALL ELEVATION - UNIT B



PARTY WALL ELEVATION - UNIT A

NOTE:

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Sheet Title:

DUPLEX ELEVATIONS

Architectural Standards  
Master Plan

Project Title:

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Aurora, Colorado

GREEN VALLEY  
RANCH

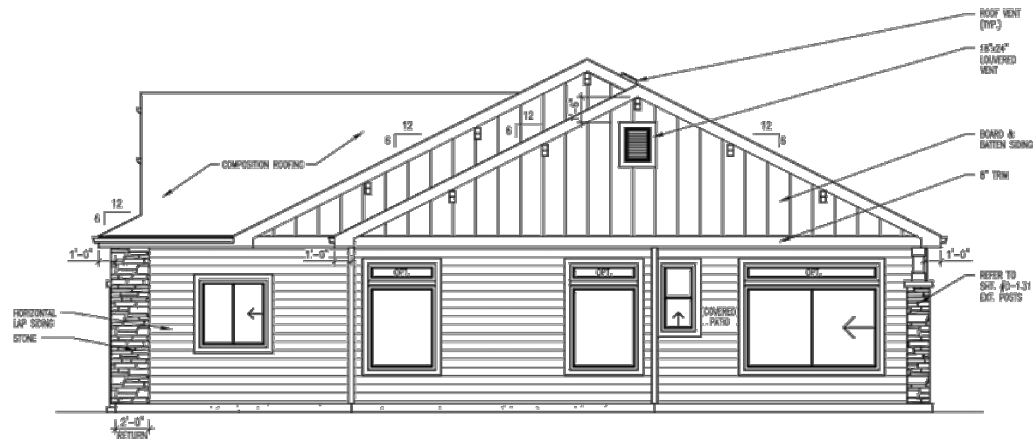
Revised

Bungalow Elevations (on Motor Courts)

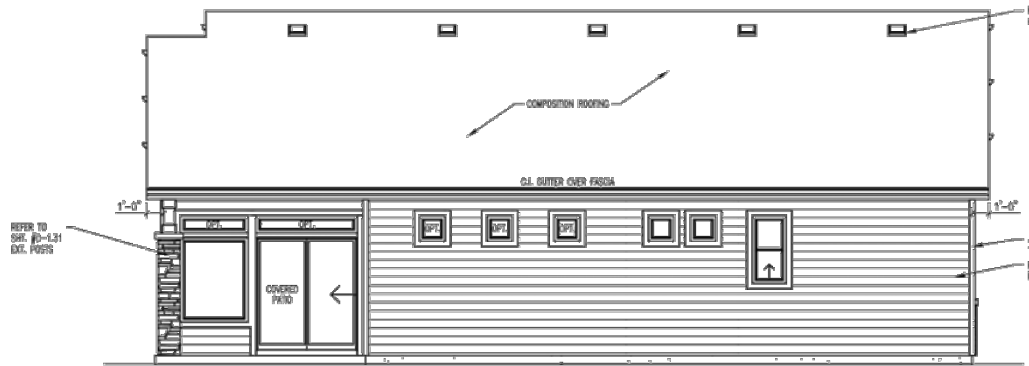
- NOTE:
1. THESE ELEVATIONS ARE CONCEPTUAL IN NATURE TO DEMONSTRATE THE ARCHITECTURAL STYLES. ADDITIONAL MODELS AND DETAILS WILL BE PROVIDED WITH MASTER ARCHITECTURE REVIEW.
  2. 15% MASONRY PROVIDED. CALCULATIONS TO BE PROVIDED WITH MASTER ARCHITECTURE REVIEW AT TIME OF BUILDING PERMIT.
  3. SITE PLAN SHALL COMPLY WITH ALL APPLICABLE CITY CODES FOR LANDSCAPING, SETBACKS GARAGE ORIENTATION AND NON-REPETITIVE DESIGN.
  4. ARCHITECTURAL DESIGN SHALL COMPLY WITH ALL APPLICABLE CITY CODES AND ADOPTED STANDARDS FOR ELEVATION MATERIALS, WINDOWS AND PROMINENCE OF GARAGE DOORS.
  5. MAXIMUM GARAGE PERCENTAGES ON THE FRONT FACADE DOES NOT APPLY IF GARAGES FACE THE MOTOR COURT.

Revised

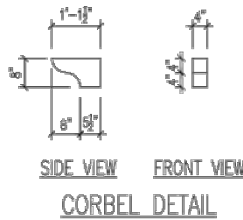
include requirement that the front door is required on the street facing facade for front motor court lots



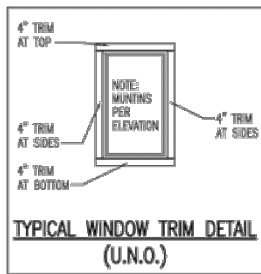
RIGHT SIDE ELEVATION



REAR ELEVATION

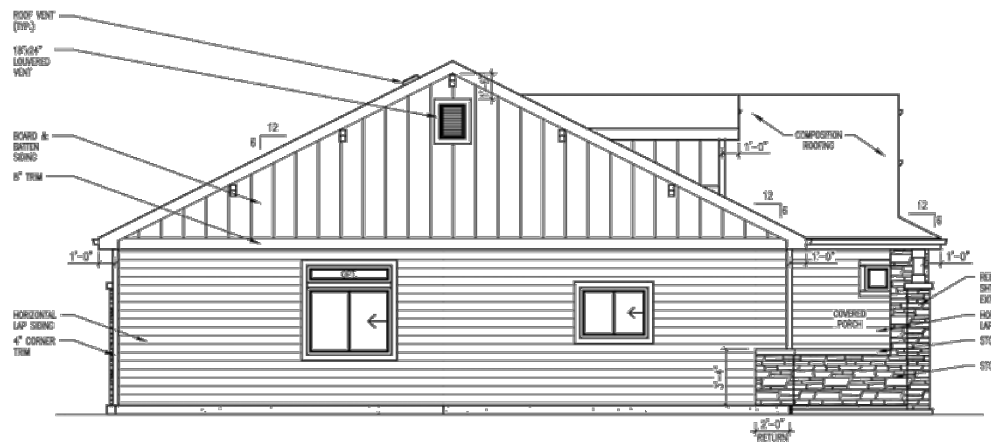


SIDE VIEW FRONT VIEW  
CORBEL DETAIL

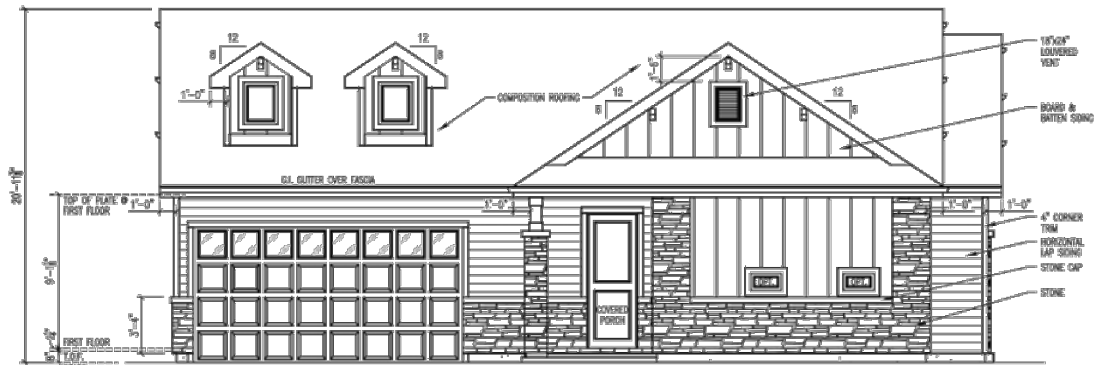


TYPICAL WINDOW TRIM DETAIL  
(U.N.O.)

NOTE:  
\*REFER TO ROOF PLAN FOR DOWNSPOUT LOCATIONS  
\*CONTINUOUS SOFFIT VENTS AT TRUSS OR RAFTER BAYS ADJACENT TO LIVING SPACE  
\*DOWNSPOUTS TO HAVE 48" ADJ. EXTENDERS TYP.



LEFT SIDE ELEVATION



FRONT ELEVATION

# Model 401 Elevation A

REAR UNIT

include an elevation for a FRONT UNIT

Revised

Sheet Title:

BUNGALOW  
ELEVATIONS

Architectural Standards  
Master Plan

Project Title:

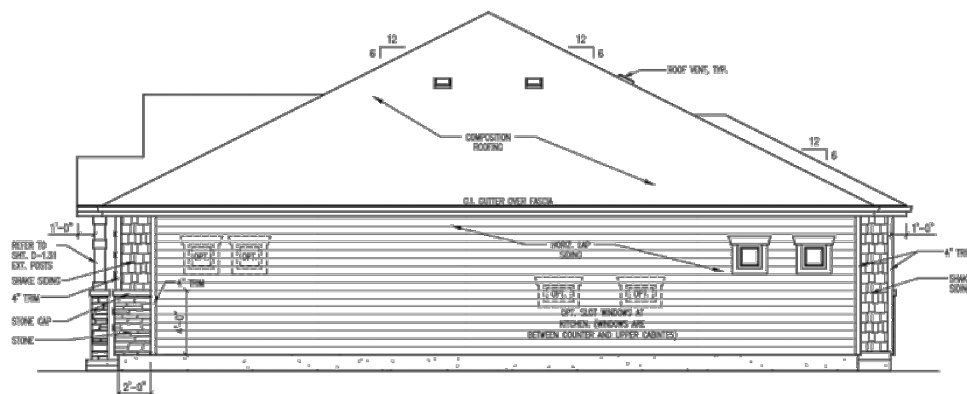
Green Valley Master Plan  
Amendment 2  
Aurora, Colorado

GREEN VALLEY  
RANCH



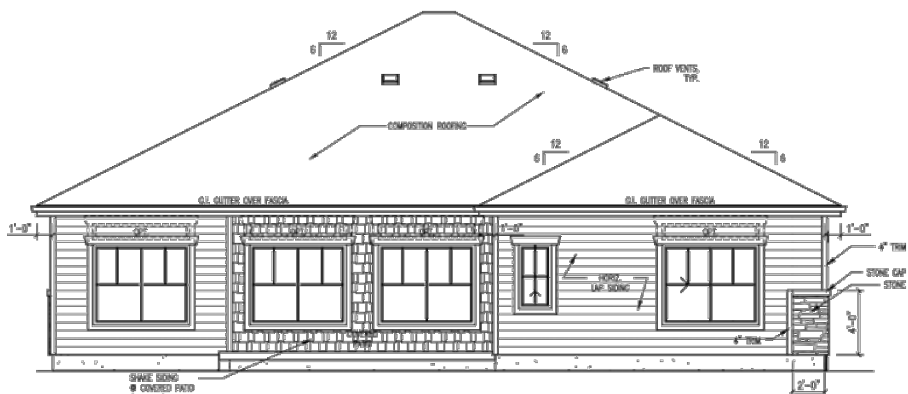
Revised

Bungalow Elevations (on Motor Courts)

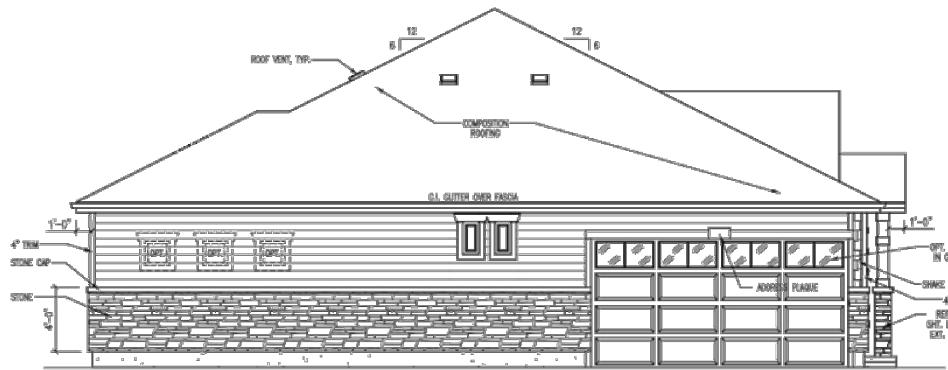
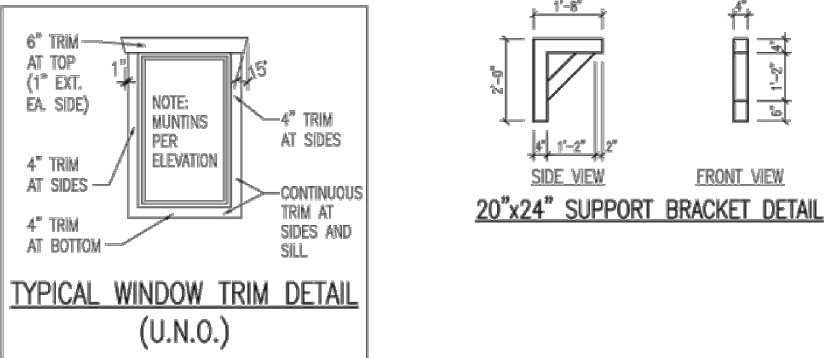


RIGHT SIDE ELEVATION

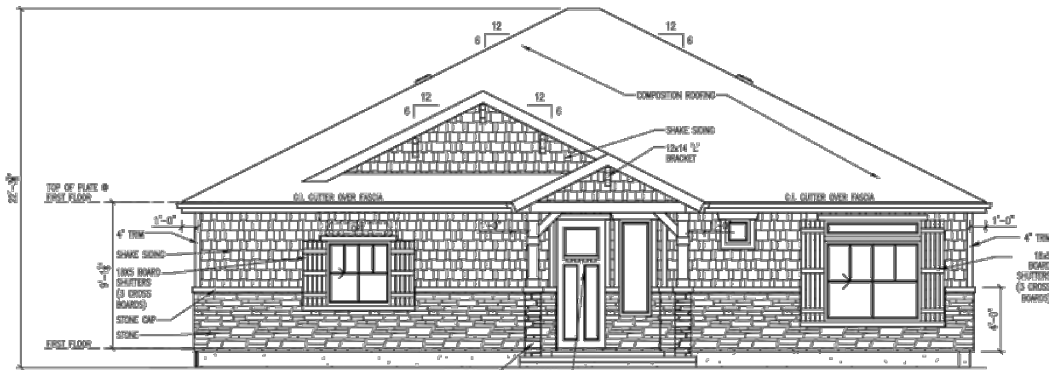
NOTE:  
\*REFER TO ROOF PLAN FOR DOWNSPOUT LOCATIONS  
\*CONTINUOUS SOFFIT VENTS AT TRUSS OR RAFTER BAYS ADJACENT TO LIVING SPACE  
\*DOWNSPOUTS TO HAVE 48" ADJ. EXTENDERS TYP.



REAR ELEVATION



LEFT SIDE ELEVATION



FRONT ELEVATION

Revised

include requirement that the front door is required on the street facing facade for front motor court lots

- NOTE:
1. THESE ELEVATIONS ARE CONCEPTUAL IN NATURE TO DEMONSTRATE THE ARCHITECTURAL STYLES. ADDITIONAL MODELS AND DETAILS WILL BE PROVIDED WITH MASTER ARCHITECTURE REVIEW.
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  5. MAXIMUM GARAGE PERCENTAGE ON THE FRONT FACADE MAXIMUM GARAGE PERCENTAGES ON THE FRONT FACADE DOES NOT APPLY IF GARAGES FACE THE MOTOR COURT.

Model 402 Elevation A  
REAR UNIT

Sheet Title:  
**BUNGALOW  
ELEVATIONS**  
Architectural Standards  
Master Plan

Project Title:  
**Green Valley Master Plan  
Amendment 2**  
Aurora, Colorado

**GREEN VALLEY  
RANCH**





**DESIGN INTENT**

Multifamily Architecture Design Guidelines will be provided at time of development site application submittal.

The multifamily architectural style should be selected to complement and support the overall Colorado theme within Green Valley following the broad prairie environment.

Elevations of a multi-family building visible from streets or common open space shall display a similar level of quality and architectural detailing. Depending on its location within the project, multi-family architecture could be used as a transitional zone between two different products or us to buffer adjacent uses. The majority of a building’s architectural features and treatments shall be used on these visible elevations.

**ARCHITECTURAL FEATURES**

Building Facades can vary depending on the community location, from traditional to urban townhomes.

**ROOF AND BUILDING FORM**

Architectural design shall comply with all applicable city codes and adopted standards for elevation materials, windows and prominence of garage doors.

**MATERIALS**

Use of distinct variations in materials between individual buildings primary building materials.

**COLOR PALETTE**

A use of distinct color between individual buildings to create variation.

Sheet Title:

**MULTI FAMILY**

**Architectural Standards**  
Master Plan

Project Title:

**Green Valley Master Plan**  
**Amendment 2**  
Aurora, Colorado

**GREEN VALLEY**  
RANCH





**DESIGN INTENT**

The commercial architecture should be complementary to the overall Colorado theme of Green Valley MP. Commercial buildings should also encourage the indoor outdoor lifestyle by incorporating outdoor patio spaces, roll up doors, or street facing windows. When possible, This may include seating areas, employee lunch zones or depending on the building use, small plazas with firepits and creative urban seating that hold various floor heights that mimic Green Valleys grading contours.

The commercial areas may include a variety of shops, optimal commercial usage through the usage of seamless vehicular access. This especially should be considered when planning for the Main Street district as this will also attract others from surrounding communities as the destination retail center.

**ARCHITECTURAL FEATURES**

Main facade elements of Green Valley are transparency, color, and massing. To create night time interests, surfaces and internally lit transparent components will be key for a light element within the area.

**ROOF AND BUILDING FORM**

Rooftop vents and equipment shall match the dominant colors and textures of the adjacent building materials. Buildings may be clustered to create centralized gathering spaces and shared use areas.

**MATERIALS**

Commercial architectural materials will be provided at time of site plan submittal. Masonry materials including integral colored and textured materials are encourage.

**COLOR PALETTE**

Accents of primary and secondary colors may be imposed on a primary field of natural colors and textures. Color is encouraged as a form giving element for feature components.

**Revised**

- Building Orientation
- Encourage building orientation toward the street without intervening parking areas.
  - add statement about drive-thrus per UDO not to be street side.



Sheet Title:

**COMMERCIAL  
RETAIL**

**Architectural Standards  
Master Plan**

Project Title:

**Green Valley Master Plan  
Amendment 2**

Aurora, Colorado

**GREEN VALLEY  
RANCH**





**DESIGN INTENT**

Business parks and office buildings should be complementary to the overall Colorado theme of Green Valley MP and surrounding developments. This architecture type could be used to transition from the main street into light industrial or residential areas.

Pedestrian circulation and corridors should provide linkage along the commercial district. Open space programs for visitors and employees will reinforce the public spaces and streets. The vision for architecture should compliment surrounding land uses while following a sustainable aspect in nature through durable materials.

**ARCHITECTURAL FEATURES**

Main facade elements of Green Valley are transparency, color, and massing. To create night time **Revised** surfaces and internally lit transparent components will be key for

include fenestration, variations in building plane and roof lines. Create top, middle bottom features.... see UDO for intent

**ROOF AND BUILDING FORM**

The discussion below is only about utilities

Massing and articulation of buildings to surround service functions are integral as venting or other commercial building equipment shall be blended and covered with architectural grilles.

**MATERIALS**

Commercial architectural materials will be provided at time of site plan submittal. At the same time durable materials such as masonry materials, painted colored and textured materials shall be integrated as well as inclusions of troweled and painted products may be considered to create variation.

**COLOR PALETTE**

Accents of primary and secondary colors may be imposed on a primary field of natural colors and textures. Color is encouraged as a form giving element for feature components.

**Revised**

Building Orientation  
Encourage building orientation toward street, structured parking or parking in rear of building



Sheet Title:

**COMMERCIAL  
OFFICE**

**Architectural Standards  
Master Plan**

Project Title:

**Green Valley Master Plan  
Amendment 2  
Aurora, Colorado**

**GREEN VALLEY  
RANCH**





**DESIGN INTENT**

Medical and institutional architecture should be influenced by its surroundings including existing developments. The large mass buildings should take advantage of the views to the mountains. The campuses should be oriented into an interior plaza or courtyard to provide outdoor space for visitors and employees.

**ARCHITECTURAL FEATURES**

Main facade elements of Green Valley architecture are transparency, color, and massing. To create night time interests, surfaces and internally lit transparent components will be key for a light element within the area.

include fenestration, variations in building plane and roof lines. Create top, middle bottom features..... see UDO for intent

**ROOF AND BUILDING FORM**

Massing and articulation of building forms are integral as venting or other commercial building equipment shall be blended and covered with architectural grilles.

**MATERIALS**

Commercial architectural materials will be provided at time of site plan  
**Revised** Masonry materials, including colored and textured materials are encouraged. Inclusions of troweled and painted products may be considered to create variation.

**COLOR PALETTE**

Accents of primary and secondary colors may be imposed on a primary field of natural colors and textures. Color is encouraged as a form giving element for feature components.

**Revised**

**Building Orientation**  
Encourage building orientation toward street, structured parking or parking in rear of building

Sheet Title:

**INSTITUTIONAL**

**Architectural Standards**  
Master Plan

Project Title:

**Green Valley Master Plan**  
**Amendment 2**  
Aurora, Colorado

**GREEN VALLEY**  
RANCH



The master plan will not be approved by public works until the master drainage amendment is approved.

Understood

# PUBLIC IMPROVEMENT PLAN

## GREEN VALLEY MASTER PLAN AMENDMENT 2

DECEMBER 22, 2021

MARCH 1, 2022

MAY 24, 2022

DECEMBER 19, 2022



PREPARED FOR  
Oakwood Homes  
4908 Tower Rd  
Denver, CO 80249  
Contact: David Carro  
303.486.8500

PREPARED BY  
Dewberry  
8100 E. Maplewood Ave  
Suite 150  
Greenwood Village, CO 80111  
Phone: 303-368-5601  
Contact: Jason D. Margraf, PE

Job No. 50145755

CITY OF AURORA APPROVAL BLOCK	
_____ City Engineer	_____ Date
_____ Aurora Water Department	_____ Date
_____ Aurora Fire Department	_____ Date



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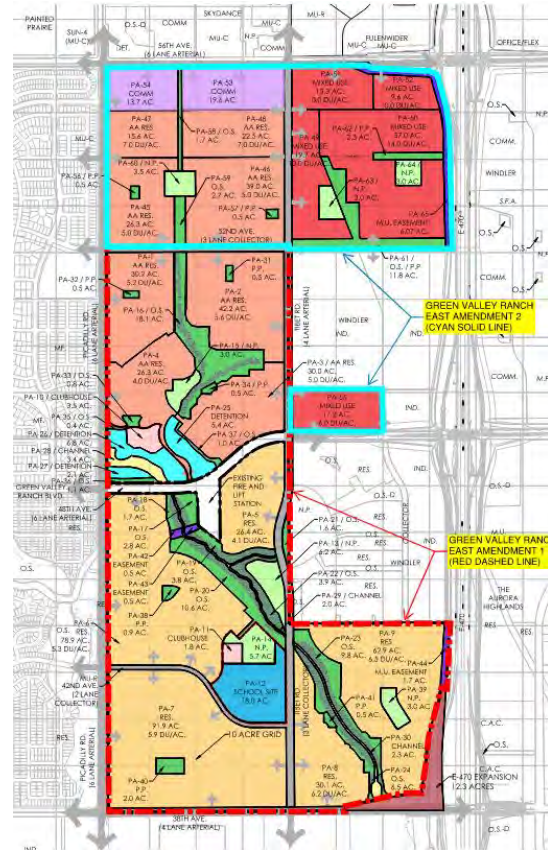
## APPENDIX A - SUPPORTING DOCUMENTS

### Public Improvements Plan Sheets

# A. INTRODUCTION

The purpose of this report is to provide the City of Aurora with a guide for the anticipated planned land use and intended public infrastructure improvements for the proposed Green Valley Master Plan Amendment 2 Development. This narrative provides a description of the overall project and infrastructure within each identified planning area of the development consisting of a variety of single-family attached and detached residential homes, mixed-use, and commercial land uses within the proposed development. Green Valley Master Plan Amendment 2 will be referred to as “Site”, “Parcel”, or “Project” within the body of this Report.

The Site is an extension of the Green Valley Ranch East (GVRE) development generally located north of 38<sup>th</sup> Avenue, west of E-470 and the Windler Development, south of 52<sup>nd</sup> Avenue and east of Picadilly Road. An overall exhibit, which is an elaboration of Tab 8.4 of the Master Plan document depicting the GVRE development (Amendment 1) within the red dash line and this Project (Green Valley Ranch East Amendment 2) within the cyan solid line, is provided within the Appendix of this report for reference with a snippet located to the right. A Public Improvement Plan (PIP) was completed as a portion of the Master Planning process for Amendment 1 and is included within the Appendix for reference and to outline the requirement of the planning areas within the Amendment 1 PIP. The regional improvements within the Amendment 1 PIP anticipated portions of the Site, specifically the portions of PA45 and PA46 sanitary and drainage outfalls. Additionally, Amendment 1 evaluated the potential for a lift station within the Amendment 2 Site, which is discussed within the Master Utility Report. Most of the planning areas within Amendment 1 are constructed, under construction, or in-process with the City of Aurora at the time of this report and the infrastructure requirements with those planning areas are assumed to be existing. Discussion has been provided within the Planning Areas for this Site (Amendment 2) to this effect, stating at the time of the development of the Planning Areas within Amendment 2, should any assumed existing infrastructure not be existing and is needed for the development of the specific Planning Areas herein, the Site Planning Area would be responsible for the development of the infrastructure.



## 1. Amendment 2 Project Location

The Project is generally located at the southeast corner of the Picadilly Road and 56th Avenue intersection and is bound by 56th Avenue to the north, Picadilly Road to the west, E-470 to the east and the Green Valley Ranch East and Windler Developments to the south. The Site is located within the North Half of Section 13, Township 3 South, Range 66 West of the 6th Principal Meridian in the City of Aurora, County of Adams, State of Colorado. The approximate latitude and longitude are 39°, 47' 11" North and 104°, 43' 37" West. Please refer to the Vicinity Map for additional information on the location of Amendment 2.





Additionally, an exhibit, which outlines the Amendment 1 and 2 locations as an elaboration of Tab 8.4 is provided within the Appendix of this report for reference.

The Site is in an area of active development and project entitlement, although much of the surrounding area is currently undeveloped, former pastureland. The adjacent projects that are actively being developed include Painted Prairie located north and west of the Site and Amendment 1 of the Green Valley Ranch East south of the Site. Entitlements are in-process for three developments: Sky Dance to the north, Fulenwider to the north, and Windler to the south and east. Entitlements and construction are on-going within the Amendment 1 area of Green Valley Ranch East development. The Green Valley Ranch development within Denver, west of the Site, is existing.

## 2. Proposed Development

The Project comprises approximately 289.1 acres within the parcel of ground north of E. 52<sup>nd</sup> Avenue and approximately 18.5 acres within the Brandenburg parcel, as Amendment 2 an extension of the Green Valley Ranch East development. The Project consists of a mix of proposed uses including residential, mixed-use, and commercial with associated amenities, parks and open spaces. Arterial, Collector, and local roadways to support the Site will be developed to support the individual planning areas and the ultimate full build out condition. Additionally, on- and off-Site water, sanitary, and stormwater utilities will be installed, as required, to service the development but are subject to modification as planning areas are developed.

Depending on the growth demands and infrastructure needs, construction of the planning areas may be combined or delayed, as needed to meet market conditions. The precise timing of the development of the planning areas within Amendment 2 will be determined by market demands, with supporting infrastructure as outlined within this Public Improvements Plan and in accordance with the requirements of City of Aurora Life Safety Division and the Traffic Study for this project. Specific improvements will be further defined in a subsequent Contextual Site Plan (CSP) for each phase of the development. Each planning area will have two distinct, approved points of access to ensure emergency vehicles can access the planned area. Water mains and associated fire hydrants will also be installed to provide sufficient fire flows to each planned area. Figure 2 provides the Project concept plan within the Amendment 2 area and delineates the Project planning areas and major roadway network.



Figure 2- Green Valley Master Plan Amendment 2 Concept Plan

# B. OVERALL INFRASTRUCTURE

## 1. Description

The Property is currently undeveloped and has historically been utilized for agricultural purposes. The proposed development of the Parcel will occur with a mix of uses including residential, multi-family, and commercial with associated amenities, parks and open spaces. The Project has been divided into Planning Areas (PAs), as presented herein to identify the areas and uses planned within the different portions of the Site and to identify the infrastructure required to service the phased development. Planning areas 45 to 48 are residential use, while PAs 49 to 52 are for mixed-use, and lastly PAs 53 and 54 are commercial. Civil infrastructure will be developed to support the Project in the form of roadways, water distribution system, sanitary sewer system and storm sewer system. All roadway and utility alignments (water, sanitary sewer, and storm sewer) are shown for illustrative purposes to identify the required infrastructure but are subject to change as Planning Areas are developed. Final roadway and utility alignments will be determined by subsequent Site Plan applications and Construction Document submittals. Each planning area shall have two points of access, sufficient roadways to provide emergency vehicle access, sufficient fire hydrants to provide adequate coverage for the proposed use, a looped water main feed from an Aurora Water system, and a sanitary sewer outfall. All planning areas are serviced by off-site regional water quality and detention facilities and subsequent Preliminary and Final Drainage Reports will validate the tributary basins to ensure the proposed designs meet the assumed basin characteristics.

## 2. Roadway Improvements

The Site is bound by existing arterial and collector roadways along the west, north, east and a portion of the southern property boundaries. The existing roadway improvements support the initial phases of the Site development. Roadway improvement triggers have been outlined within the individual Planning Area discussions in the body of this report. Roadway improvements will be consistent with the City of Aurora approved Traffic Impact Study (TIS) and are generally described, as follows, for the surrounding major roadways. Proposed roadway sections are anticipated to be constructed in conjunction with demands to meet traffic volumes and safety from the Project. Traffic signals are anticipated at various locations along the proposed roadway network consistent with TIS. The signals will not be installed until signal warrants are met, as required by the City of Aurora. In lieu of construction with individual site plans, traffic signals will be funded in accordance with the requirements within a PIFA agreement between the Developer and the City of Aurora, which was in process at the time of this report. In the event a PIFA is not reached, the improvements to Picadilly Road and 56<sup>th</sup> Avenue will occur with the development of the directly adjacent planning area or via ARTA. In the event roadway improvements are completed with the directly adjacent planning area, those improvements will extend the length of the planning area.

The west ½ section of Picadilly Road is existing from 52<sup>nd</sup> Avenue to 56<sup>th</sup> Avenue along the western boundary of the Site. The east ½ of Picadilly Road, along with median and landscape improvements, will be completed with this Project. The construction of the east ½ section of Picadilly Road shall occur in accordance with the requirements within the PIFA agreement between the Developer and the City of Aurora or consistent with the scenarios outlined above.

The north ½ section of 56<sup>th</sup> Avenue is existing from Picadilly Road to E-470 along the northern boundary of the Site. The south ½ of 56<sup>th</sup> Avenue, along with median and landscape improvements, will be completed with this Project. The construction of the south ½ section of 56<sup>th</sup> Avenue shall occur in accordance with the requirements within the PIFA agreement between the Developer and the City of Aurora or consistent with the scenarios outlined above.

E-470 is existing to the east of the Site and no improvements to this roadway or the associated interchanges, ramps, bridges, traffic signals, or supporting utilities are required as a portion of this Project.

The south ½ section of 52<sup>nd</sup> Avenue from Picadilly Road to Tibet Road is considered as existing for the purposes of this report. This portion of 52<sup>nd</sup> Avenue is in design and under the City review and approval process at the time of this report. The Green Valley Ranch East subdivision to the south (Amendment 1) of the Site is responsible for the



development of the southern ½ section of this collector and landscaping. The north ½ section of 52<sup>nd</sup> Avenue is not reached. 52<sup>nd</sup> Avenue is not anticipated to be extended.

Add language that states additional roadway improvements may be required for planning areas to meet life safety and traffic needs. This was supposed to be in the roadway section and not drainage improvements

improvements, as well as within the PIFA. In the event a PIFA is required,

### 3. Drainage Improvements

Language added accordingly

The Site is divided into three major basins; Blue Grama Draw a portion of the First Creek Watershed, the First Creek Tributary T Watershed, and the Second Creek Watershed. A ridgeline separates the basins at the high point located near the center of the Site, and the ridgeline extends to the approximate midpoint of the northern and western Site boundaries. The existing drainage improvements within the First Creek Tributary T watershed support the initial phases of the Site development, while downstream, regional improvements are required within the Blue Grama Draw (First Creek) and Second Creek watersheds. Drainage improvement triggers have been outlined within the individual Planning Area discussions within the body of this report. Drainage improvements will be consistent with the City of Aurora approved Master Drainage Report (MDR) and are generally described, as follows, for the three watersheds.

#### **Blue Grama Draw (First Creek) Watershed**

The northwest portion of the Site is tributary to Blue Grama Draw a portion of the First Creek watershed and this area comprises approximately 65.1 acres. Runoff from this watershed drains to the northwest corner of the parcel where it collects and flows north to the Moffit parcel and then west along East 56<sup>th</sup> Avenue to the Painted Prairie development, to ultimately outfall into First Creek through the Blue Grama Draw. A Regional Pond (Pond 840) is anticipated within the Moffit parcel (Sky Dance) and will attenuate and treat the developed flows from this Site as detailed within the First Creek MDP. In the event the downstream, regional Pond 840 is not existing at the time of development of the Planning Areas within this watershed, a temporary detention pond will be developed within the Site to attenuate runoff until Pond 840 has been developed. The temporary pond will be removed upon the completion of Pond 840.

#### **First Creek Tributary T Watershed**

The southwest portion of the Site is part of the First Creek Tributary T Watershed comprising approximately 115.6 acres. Runoff from this part of the Site drains to the southern boundary of the parcel where it collects and flows south through the box culvert within 52<sup>nd</sup> Avenue and into Green Valley Ranch East and Regional Detention Pond 8503C for attenuation, before ultimately outfalling to First Creek Tributary T. Regional Pond 8503C is existing and was sized to support the Site. For the purposes of this report, the downstream, drainage conveyance improvements that support this watershed within Green Valley Ranch East are considered existing since they are either existing, under construction, or within the design and approval process with the City of Aurora.

#### **Second Creek Watershed**

The Site area that is considered within the Second Creek Watershed is first tributary to Possum Gully, which is a left bank tributary to Second Creek and consists of approximately 108.2 acres. Runoff from this portion of the Site flows to the northern boundary, across 56<sup>th</sup> Avenue, into Possum Gully, and ultimately into Second Creek. There is a Regional Pond, Pond S-215 planned downstream of the Site as part of Second Creek MDP, which was anticipated to attenuate developed runoff from the Site. In the event the downstream, regional Pond S-215 is not existing at the time of development of the Planning Areas within this watershed, a temporary detention pond will be developed within the Site to attenuate runoff until Pond S-215 has been developed. The temporary pond will be removed upon the completion of Pond S-215.

### 4. Water Improvements

The Site will be serviced by Aurora Water utilities and a Master Utility Report (MUR) has been generated to outline the demands to service the Site and associated modeling to meet the City of Aurora requirements. The Project is located within Aurora Water pressure zone 3 with a static head of 5720 feet. There are existing water mains within the adjacent arterial roadways. A 24-inch steel water main is within 56<sup>th</sup> Avenue and a 24-inch PVC water main is

within Picadilly Road adjacent to the Site. A 16-inch PVC main and a 12-inch PVC main located within 52<sup>nd</sup> Avenue and Tibet Road, respectively, are being developed as a portion of the Green Valley Ranch East development (Amendment 1) and are considered existing for the purposes of this report and the MUR. No off-Site water system improvements are required to service the Site, beyond the connections to the existing water mains.

## 5. Sanitary Sewer Improvements

The Site (Amendment 2) is located within three separate tributaries as previously identified within the Green Valley Ranch East (Amendment 1) Master Utility Report. That Report created three basins to correspond with those tributaries, as follows: Basin 310-1 which is tributary to the Second Creek Lift Station approximately two miles downstream of the Site. Basin 310-2 which is tributary to the Painted Prairie Development and Basin 310-3 which is tributary to the First Creek lift station within the Green Valley Ranch East subdivision. Due to serviceability issues within the Painted Prairie Development, Aurora Water has required downstream development within Sky Dance, Fullenwider and High Point to accommodate the effluent from both Basin 310-1 and 310-2. Subsequently, Phase 1 of the sanitary trunk main from the Second Creek lift station up Possum Gully to the E-470 has been constructed and is existing. Meetings between the developments tributary to this sanitary trunk main have occurred and Phase 2 of the sanitary trunk main generally described as beginning at the Phase 1 terminus east of E-470 to the intersection of the future Tibet Road and 60<sup>th</sup> Avenue intersection is under design and in process with the City of Aurora. Future phases of this trunk main to service this Site are anticipated and ultimately required to service portions of the Project. That future phase is generally described as extending from the Phase 2 terminus at 60th Avenue and Tibet Road south to the Tibet Road and 56th Avenue intersection. This extension(s) will occur, by others, as a portion of downstream development or by the Site, if easements or rights-of-way are dedicated by downstream, off-site developments. The timing extension of this sanitary trunk main to the Tibet Road and 56th Avenue intersection has yet to be determined. In the event this system is not available at the time of the Site development and consistent with Option 2 discussed within the Master Utility Report, the areas tributary to the Second Creek lift station may be lifted, via a temporary lift station within the Site to the gravity sanitary sewer system within Tibet Road at the Green Valley Ranch East boundary until such time as the downstream improvements are available. The Green Valley Ranch East (Amendment 1) Master Utility Study anticipated this potential temporary condition. In the event the Green Valley Master Plan Amendment 2 developer constructs the downstream sanitary trunk main to complete the connection to existing improvements, reimbursement for the Possum Gully gravity, transmission main (Option 1) will be requested under the guidelines of the City of Aurora Municipal Code.

As a portion of the Green Valley Ranch East (Amendment 1) development two sanitary sewer connection points are planned for the Site. The first is an 8-inch sanitary sewer stub at the general location of the Green Valley Ranch East Filing No. 5 roadway connection to 52nd Avenue. The second is a 10-inch sanitary sewer main is being designed within Tibet Road and will be available for connection at the Tibet Road and 52nd Avenue intersection.

## 6. Parks and Open Space

The parks and open space required to support the Site development is identified within the Green Valley Master Plan Amendment 2 Master Plan with the associated triggers identified within the planning areas discussions below. Additionally, please refer to Form J for specific requirements for each park and open space amenity. The Site's zoning requires a walkable main street and outdoor plazas and common areas within the Commercial planning areas. The main street location and street section are identified herein and will be developed with the appropriate Planning Area as outlined within the Planning Areas discussions below. The outdoor plazas and common areas will be created with the commercial parcels as a portion of the subsequent Site Plans.

The First Creek Trail is intended to continue north from Tributary T within the Green Valley Ranch (Amendment 1) development area to the Project via pedestrian crossing of 52<sup>nd</sup> Avenue. The Site will extend the First Creek Trail at 52<sup>nd</sup> Avenue north to 56<sup>th</sup> Avenue through planning areas 58, 59, and 60. This extension will occur through the open space and greenways within those planning areas as an 8-foot-wide trail within a minimum 30-foot off-street corridor and developed as a portion of the adjacent Planning Areas.



# C. PLANNING AREA 45

## 1. Land Development

Planning Area (PA) 45 is generally located in the southwest corner of the Site and is north of 52<sup>nd</sup> Avenue and east of Picadilly Road. The PA consists of active adult residential and will offer a variety of single-family detached product types and associated infrastructure within the 26.3 acres.

Planning Area 45		
AREA DESCRIPTION	DENSITY (DU/AC)	GROSS LAND AREA (AC)
RESIDENTIAL	5.0	26.3

It is assumed the following infrastructure is existing prior to the development of this Planning Area: the south ½ section of 52<sup>nd</sup> Avenue from Picadilly Road to Tibet Road and the associated 16" water main, the west ½ section of Picadilly Road along the PA boundary, the 8" sanitary sewer connection point within Green Valley Ranch East Filing No. 5, Regional Detention Pond 8503, the box culvert to convey drainage south under 52<sup>nd</sup> Avenue to the open channel within the green space within Green Valley Ranch East at the eastern PA boundary. In the event the assumed infrastructure isn't completed at the time of the development of the PA, the portion of those improvements to service the PA will be completed with the respective Planning Area.

## 2. Roadway Improvements

The existing roadway improvements will support the development of Planning Area 45 via local road access points off 52<sup>nd</sup> Avenue and off Picadilly Road at 54<sup>th</sup> Avenue. The construction of the east ½ section of Picadilly Road shall be in accordance with the PIFA agreement or in the event a PIFA is not completed, it will be developed by ARTA or the directly adjacent improvements will be completed with the Planning Area. The north ½ section of 52<sup>nd</sup> Avenue will be developed from the Picadilly Road connection east to the western boundary of this Planning Area.

## 3. Drainage Improvements

The Planning Area drainage will be conveyed from northwest to southeast to the outfall at the existing box culvert under 52<sup>nd</sup> Avenue generally located south of PA-59, developed as a portion of the Green Valley Ranch East (Amendment 1) development. The open channel within the open space in Planning Area 59 to the east of PA-45 will be developed prior to or concurrent with PA-45 to convey developed runoff to the box culvert within 52<sup>nd</sup> Avenue. All water quality and detention for this PA will occur downstream and off-site within the existing regional facilities within Green Valley Ranch East.

## 4. Water Improvements

Local roadway water main within the Planning Area will provide two points of connection and associated looping. Aurora Water currently does not allow for connections to existing, large PVC mains and therefore, a connection to the main within Picadilly Road is not anticipated. A minimum of two points of connection to service the Planning Area will occur from the mains within 52<sup>nd</sup> Avenue, Picadilly Road, or via the adjacent Planning Areas.

## 5. Sanitary Sewer Improvements

Sanitary sewer main within PA-45 will outfall to the existing sanitary main stub from within Green Valley Ranch East Filing No 5.

## 6. Parks and Open Space

The pocket park identified as PA-56 will be developed as a portion of this Planning Area and will be constructed prior

to the last certificate of occupancy within PA-45. The open space identified as PA-59 will be developed prior to or concurrent with the 1<sup>st</sup> certificate of occupancy within PA-45 and PA-46 with landscaping completed prior to the 50% certificate of occupancy of the two planning areas. The neighborhood park identified at PA-60 will be developed prior to the last certificate of occupancy within the residential Planning Areas of PA-45 and PA-46.

## D. PLANNING AREA 46

### 1. Land Development

Planning Area (PA) 46 is generally located in the south-central portion of the Site and is north of 52<sup>nd</sup> Avenue and east of Planning Area 45 and west of Tibet Road. The PA consists of active adult residential and will provide a variety of single-family detached product types and associated infrastructure within the 39.0 acres.

Planning Area 46		
AREA DESCRIPTION	DENSITY (DU/AC)	GROSS LAND AREA (AC)
RESIDENTIAL	5.0	39.0

It is assumed the following infrastructure is existing prior to the development of this Planning Area; the south ½ section of 52<sup>nd</sup> Avenue from Picadilly Road to Tibet Road and the associated 16" water main, the west ½ section of Picadilly Road along the PA boundary, the 8" sanitary sewer connection point within Green Valley Ranch East Filing No. 5, Regional Detention Pond 8503, the box culvert to convey drainage south under 52<sup>nd</sup> Avenue to the open channel within the green space within Green Valley Ranch East at the western PA boundary. In the event the assumed infrastructure isn't completed at the time of the development of the PA, the portion of those improvements to service the PA will be completed with the respective Planning Area.

### 2. Roadway Improvements

The existing roadway improvements will support the development of Planning Area 46 via local road access point(s) off 52<sup>nd</sup> Avenue. Tibet Road will be extended from the intersection of 52<sup>nd</sup> Avenue to the northern most entry to PA-46 directly adjacent to the Planning Area consisting of the western ½ section if the development of this Planning Area precedes the development of PA-49 or shall be the eastern ½ section if the western ½ section was developed with PA-49 prior to the development of this Planning Area. The north ½ section of 52<sup>nd</sup> Avenue will be developed from the western Planning Area boundary, east to the Tibet Road intersection.

### 3. Drainage Improvements

The Planning Area drainage will be conveyed from northeast to southwest to the outfall at the existing box culvert under 52<sup>nd</sup> Avenue, developed as a portion of the Green Valley Ranch East development. The open channel within the open space in Planning Area 59 to the west of PA-46 will be developed prior to or concurrent with PA-46 to convey developed runoff to the box culvert within 52<sup>nd</sup> Avenue. All water quality and detention for this PA will occur downstream and off-site within the existing regional facilities within Green Valley Ranch East.

### 4. Water Improvements

Local roadway water main within the Planning Area will provide two points of connection and associated looping. A minimum of two points of connection to service the Planning Area will occur from the mains within 52<sup>nd</sup> Avenue, Tibet Road, or via the adjacent Planning Areas.

### 5. Sanitary Sewer Improvements

Sanitary sewer main within PA-46 will outfall to the existing sanitary main connection from within Green Valley Ranch East Filing No. 5.



## 6. Parks and Open Space

The pocket park identified as PA-57 will be developed as a portion of this Planning Area and will be constructed prior to the last certificate of occupancy within PA-46. The open space identified as PA-59 will be developed prior to or concurrent with the 1<sup>st</sup> certificate of occupancy within PA-45 and PA-46 with landscaping completed prior to the 50% certificate of occupancy of the two planning areas. The neighborhood park identified at PA-60 will be developed prior to the last certificate of occupancy within the residential Planning Areas of PA-45 and PA-46.

# E. PLANNING AREA 47

## 1. Land Development

Planning Area (PA) 47 is generally located in the west and central portion of the Site and is north of 54<sup>th</sup> Avenue and east of Picadilly Road. The PA consists of active adult residential and will include a variety of single-family attached and detached product types and associated infrastructure within the 15.6 acres.

Planning Area 47		
AREA DESCRIPTION	DENSITY (DU/AC)	GROSS LAND AREA (AC)
RESIDENTIAL	7.0	15.6

It is assumed the following infrastructure is existing prior to the development of this Planning Area; the south ½ section of 52<sup>nd</sup> Avenue from Picadilly Road to Tibet Road and the associated 16" water main, and the west ½ section of Picadilly Road from 52<sup>nd</sup> Avenue to 56<sup>th</sup> Avenue. In the event the assumed infrastructure isn't completed at the time of the development of the PA, the portion of those improvements to service the PA will be completed with the respective Planning Area.

## 2. Roadway Improvements

The existing roadway improvements will support the development of Planning Area 47 via local road access point(s) off Picadilly Road and/or a connection to either 52<sup>nd</sup> Avenue or Tibet Road through the adjacent Planning Areas. In the event PA-47 develops prior to PA-45 or PA-48 and a connection to 52<sup>nd</sup> or Tibet Road is required for a secondary access, the connection can be temporary and for emergency vehicles only provided all emergency access requirements are met. The construction of the east ½ section of Picadilly Road shall occur in accordance with the requirements within the PIFA or in the event a PIFA is not completed, it will be developed by ARTA, or the directly adjacent improvements will be completed with the Planning Area.

## 3. Drainage Improvements

The Planning Area drainage will be conveyed from southeast to northwest to the conveyance under 56<sup>th</sup> Avenue to the off-site, regional detention pond identified as Pond 840 located at the northeast corner of the Picadilly Road and 56<sup>th</sup> Avenue intersection. The piped conveyance under 56<sup>th</sup> Avenue shall convey developed runoff to Pond 840 and will be extended prior to or concurrent with this Planning Area. In the event off-site Pond 840 isn't constructed by others prior to this Planning Area's development, a temporary detention pond generally located at the southeast corner of the Picadilly Road and 56<sup>th</sup> Avenue intersection within Planning Area 54 will be constructed. This temporary pond, if required, will be removed with the development of Regional Pond 840.

## 4. Water Improvements

Local roadway water main within the Planning Area will provide two points of connection and associated looping. Aurora Water currently does not allow for connections to existing, large PVC mains and therefore, a connection to the main within Picadilly Road is not anticipated. A minimum of two points of connection to service the Planning Area will occur via the adjacent Planning Areas or should the City of Aurora allow, from the main within Picadilly Road.

## 5. Sanitary Sewer Improvements

Sanitary sewer main within PA-47 will outfall through the adjacent Planning Areas north to the intersection of 56<sup>th</sup> Avenue and Tibet Road. Two options have been identified to service this Planning Area. The preferred option is to connect to the off-site 10" sanitary sewer main to be extended by developments north of the Project to the intersection of 56<sup>th</sup> Avenue and Tibet Road. This off-site sanitary sewer main is anticipated to run north along the Tibet Road alignment and then north and east across E-470, down Possum Gully to the Second Creek Lift station. In the event the off-site gravity system is unavailable at the time of the development of this Planning Area, an alternative option to construct a package lift station generally located within Planning Area 53 at the southwest corner of the intersection of 56<sup>th</sup> Avenue and Tibet Road will occur. Effluent will then be pumped south along the Tibet Road alignment to the gravity main within Tibet Road at the intersection of 52<sup>nd</sup> Avenue.

Additionally, PA-47 was analyzed for two potential on-site service options, either north through the commercial planning areas or east through the residential planning area to the main within Tibet Road. Either service option is viable and will be selected at the time of the development of this PA.

## 6. Parks and Open Space

The open space and trail within PA-58 will be developed prior to the final certificate of occupancy within PA-47 and PA-48.

# F. PLANNING AREA 48

## 1. Land Development

Planning Area (PA) 48 is generally located in the west and central portion of the Site and is north of 54<sup>th</sup> Avenue and west of Tibet Road. The PA consists of active adult residential and is anticipated to have a variety of single-family attached and detached product types and associated infrastructure within the 22.5 acres.

Planning Area 48		
AREA DESCRIPTION	DENSITY (DU/AC)	GROSS LAND AREA (AC)
RESIDENTIAL	7.0	22.5

It is assumed the following infrastructure is existing prior to the development of this Planning Area; the south ½ section of 52<sup>nd</sup> Avenue from Picadilly Road to Tibet Road and the associated 16" water main, the west ½ section of Picadilly Road from 52<sup>nd</sup> Avenue to 56<sup>th</sup> Avenue, and the north ½ section of 56<sup>th</sup> Avenue from Picadilly Road to E-470. In the event the assumed infrastructure isn't completed at the time of the development of the PA, the portion of those improvements to service the PA will be completed with the respective Planning Area.

## 2. Roadway Improvements

The existing roadway improvements will support the development of Planning Area 48 via local road access point(s) off Picadilly Road and connection to 52<sup>nd</sup> Avenue through the adjacent Planning Areas, in the event the adjacent planning areas develop prior. The western ½ section of Tibet Road will be developed along the eastern boundary of the Planning Area and shall either connect to 56<sup>th</sup> Avenue north or to 52<sup>nd</sup> Avenue to the south if a secondary point of connection is not already established via an adjacent planning area. The construction of the east ½ section of Picadilly Road shall occur in accordance with the requirements within the PIFA agreement between the Developer and the City of Aurora or in the event a PIFA is not completed, it will be developed by ARTA, or the directly adjacent improvements will be completed with the Planning Area.



### 3. Drainage Improvements

The Planning Area drainage is split between the Blue Grama Draw and Tributary T major basins and therefore, will be conveyed both north and south. The portion draining north will be conveyed under 56<sup>th</sup> Avenue to the off-site, regional detention pond identified as Pond 840 located at the northeast corner of the Picadilly Road and 56<sup>th</sup> Avenue intersection. The piped conveyance under 56<sup>th</sup> Avenue will convey developed runoff to Pond 840 and will be extended prior to or concurrent with this Planning Area. In the event off-site Pond 840 isn't constructed by others prior to this Planning Area's development, a temporary detention pond generally located at the southeast corner of the Picadilly Road and 56<sup>th</sup> Avenue intersection within Planning Area 54 will be constructed. This temporary pond, if required, will be removed with the development of Regional Pond 840. The portion of the Planning Area draining south will be conveyed to the drainage improvements within the open space of PA-59, under 52nd Avenue via the existing box culvert, and ultimately to Regional Pond 8503-C within the Green Valley Ranch East subdivision.

### 4. Water Improvements

Local roadway water main within the Planning Area will provide two points of connection and associated looping. A minimum of two points of connection to service the Planning Area will occur from the mains within 52<sup>nd</sup> Avenue, Tibet Road, or via the adjacent Planning Areas.

### 5. Sanitary Sewer Improvements

Sanitary sewer main within PA-48 will outfall through the adjacent Planning Areas north to the intersection of 56<sup>th</sup> Avenue and Tibet Road. Two options have been identified to service this Planning Area. The preferred option is to connect to the off-site 10" sanitary sewer main to be extended by developments north of the Project to the intersection of 56<sup>th</sup> Avenue and Tibet Road. This off-site sanitary sewer main is anticipated to run north along the Tibet Road alignment and then north and east across E-470, down Possum Gully to the Second Creek Lift station. In the event the off-site gravity system is unavailable at the time of the development of this Planning Area, an alternative option to construct a package lift station generally located within Planning Area 53 at the southwest corner of the intersection of 56<sup>th</sup> Avenue and Tibet Road will occur. Effluent will then be pumped south along the Tibet Road alignment to the gravity main within Tibet Road at the intersection of 52<sup>nd</sup> Avenue.

Additionally, PA-48 was analyzed for two potential on-site service options, either north through the commercial planning areas or east through the residential planning area to the main within Tibet Road. Either service option is viable and will be selected at the time of the development of this PA.

### 6. Parks and Open Space

The open space and trail within PA-58 will be developed prior to the final certificate of occupancy within PA-47 and PA-48.

## G. PLANNING AREA 49

### 1. Land Development

Planning Area (PA) 49 is generally located in the east central portion of the Site and is north of the Windler Development and east of Tibet Road. The PA consists of mixed-use development and associated infrastructure within the 19.7 acres.

Planning Area 49		
AREA DESCRIPTION	DENSITY (DU/AC)	GROSS LAND AREA (AC)
MIXED-USE	10.0	19.7

It is assumed the following infrastructure is existing prior to the development of this Planning Area; the south ½ section of 52<sup>nd</sup> Avenue from Picadilly Road to Tibet Road and the associated 16" water main, the north ½ section of 56<sup>th</sup> Avenue from Picadilly Road to E-470, and the western ½ section of Tibet Road south of 52<sup>nd</sup> Avenue with the associated 12" water and 10" sanitary sewer mains. In the event the assumed infrastructure isn't completed at the time of the development of the PA, the portion of those improvements to service the PA will be completed with the respective Planning Area.

## **2. Roadway Improvements**

The existing roadway improvements will support the development of Planning Area 49. The directly adjacent, eastern ½ section of Tibet Road will be developed along the Planning Area boundary. PA-49 will develop the full width of the Main Street section within the Planning Area boundary.

## **3. Drainage Improvements**

The Planning Area drainage will be conveyed from northeast to southwest to the intersection of 52<sup>nd</sup> Avenue and Tibet Road and will be conveyed via storm sewer within either 52<sup>nd</sup> Avenue or Tibet and conveyed through Green Valley Ranch East Planning Area PA-2 for discharge into the storm system network within that development. At the time of this report, Green Valley Ranch East PA-2 was not being processed and therefore, specifics of this conveyance were not known. However, the conveyance obligation was identified within the Green Valley Ranch East Amendment 1 Master Drainage Report. All water quality and detention for this PA will occur downstream and off-site within the existing regional facilities within Green Valley Ranch East.

## **4. Water Improvements**

Water mains within the Planning Area will provide two points of connection and associated looping. A minimum of two points of connection to service the Planning Area will occur from the main within Tibet Road directly west of the Planning Area, or via the adjacent Planning Areas.

## **5. Sanitary Sewer Improvements**

Approximately 35% of the sanitary sewer main within PA-49 will outfall to the existing 10" sanitary main extended to the 52<sup>nd</sup> Avenue and Tibet Road intersection as a portion of the Green Valley Ranch East Amendment 1 development, consistent with the Amendment 1 Master Utility Report. The remaining 65% of the sanitary sewer main within PA-49 will outfall to a main within Tibet Road and flow north to the intersection of 56<sup>th</sup> Avenue and Tibet Road. Two options have been identified to service this Planning Area. The preferred option is to connect to the off-site 10" sanitary sewer main to be extended by developments north of the Project to the intersection of 56<sup>th</sup> Avenue and Tibet Road. This off-site sanitary sewer main is anticipated to run north along the Tibet Road alignment and then north and east across E-470, down Possum Gully to the Second Creek Lift station. In the event the off-site gravity system is unavailable at the time of the development of this Planning Area, an alternative option to construct a package lift station generally located within Planning Area 53 at the southwest corner of the intersection of 56<sup>th</sup> Avenue and Tibet Road will occur. Effluent will then be pumped south along the Tibet Road alignment to the gravity main within Tibet Road at the intersection of 52<sup>nd</sup> Avenue.

## **6. Parks and Open Space**

The neighborhood park identified as PA-63 will be developed as part of this Planning Area and will be constructed prior to the last certificate of occupancy within PA-49. The open space/pocket park identified as PA-61 will be developed prior to or concurrent with the 1<sup>st</sup> certificate of occupancy within PA-49 and PA-50 with landscaping completed prior to the 50% certificate of occupancy of the two mixed-use planning areas.



# H. PLANNING AREA 50

## 1. Land Development

Planning Area (PA) 50 is generally located in the east central portion of the Site, is east of Planning Area 49, and is south of Planning Areas 51 & 52. The PA consists of mixed uses and associated infrastructure within the 57.0 acres.

Planning Area 50		
AREA DESCRIPTION	DENSITY (DU/AC)	GROSS LAND AREA (AC)
MIXED-USE	14.0	57.0

It is assumed the following infrastructure is existing prior to the development of this Planning Area; the south ½ section of 52<sup>nd</sup> Avenue from Picadilly Road to Tibet Road and the associated 16" water main, the north ½ section of 56<sup>th</sup> Avenue from Picadilly Road to E-470, and the western ½ section of Tibet Road south of 52<sup>nd</sup> Avenue with the associated 12" water and 10" sanitary sewer mains. In the event the assumed infrastructure isn't completed at the time of the development of the PA, the portion of those improvements to service the PA will be completed with the respective Planning Area.

## 2. Roadway Improvements

The existing roadway improvements will support the development of Planning Area 50. The directly adjacent eastern ½ section of Tibet Road will be developed along the boundary of PA-49. The Tibet Road improvements will extend from 52<sup>nd</sup> Avenue north to 56<sup>th</sup> Avenue, if not developed, either in whole or in part, by preceding Planning Areas. PA-50 will develop internal movements from Tibet Road bisecting one or more of the following: PA-49, PA-51, PA-52.

## 3. Drainage Improvements

The Planning Area is located within the Second Creek Watershed and drainage will be conveyed from south to north to the conveyance under 56<sup>th</sup> Avenue to the off-site, regional detention pond identified as Pond S-215 located downstream within Possum Gully within the Fulenwider development. The piped conveyance under 56<sup>th</sup> Avenue to convey developed runoff to Pond S-215 will be extended prior to or concurrent with this Planning Area. In the event off-site Pond S-215 isn't constructed by others prior to this Planning Area's development, a temporary detention pond generally located at directly south of 56<sup>th</sup> Avenue within Planning Area 51 will be constructed. This temporary pond, if required, will be removed with the development of Regional Pond S-215.

## 4. Water Improvements

Water mains within the Planning Area will provide two points of connection and associated looping. A minimum of two points of connection to service the Planning Area will occur from the mains within Tibet Road, Main Street, or via the adjacent Planning Areas.

## 5. Sanitary Sewer Improvements

The sanitary sewer main within PA-50 will outfall to the north through the mixed-use area PA-52 before flowing west through PA-51 extended to Tibet Road where it will outfall to a main within Tibet Road and flow north to the intersection of 56<sup>th</sup> Avenue and Tibet Road. Two options have been identified to service this Planning Area. The preferred option is to connect to the off-site 10" sanitary sewer main to be extended by developments north of the Project to the intersection of 56<sup>th</sup> Avenue and Tibet Road. This off-site sanitary sewer main is anticipated to run north along the Tibet Road alignment and then north and east across E-470, down Possum Gully to the Second Creek Lift station. In the event the off-site gravity system is unavailable at the time of the development of this Planning Area, an alternative option to construct a package lift station generally located within Planning Area 53 at the southwest corner

of the intersection of 56<sup>th</sup> Avenue and Tibet Road will occur. Effluent will then be pumped south along the Tibet Road alignment to the gravity main within Tibet Road at the intersection of 52<sup>nd</sup> Avenue.

## 6. Parks and Open Space

The pocket park and neighborhood park identified as PA-62 and PA-64 respectively will be developed as part of this Planning Area and will be constructed prior to the last certificate of occupancy within PA-50. The open space/pocket park identified as PA-61 will be developed prior to or concurrent with the 1<sup>st</sup> certificate of occupancy within PA-49 and PA-50 with landscaping completed prior to the 50% certificate of occupancy of the two planning areas. The municipal utility easement identified as PA-65 will be developed prior to the last certificate of occupancy within the mixed-use Planning Areas of PA-50 and PA-52.

# I. PLANNING AREA 51

## 1. Land Development

Planning Area (PA) 51 is generally located in the north central portion of the Site and is southeast of the intersection of Tibet Road and 56<sup>th</sup> Avenue. The PA consists of mixed-uses and associated infrastructure within the 15.3 acres.

Planning Area 51		
AREA DESCRIPTION	DENSITY (DU/AC)	GROSS LAND AREA (AC)
MIXED-USE	0.0	15.3

It is assumed the following infrastructure is existing prior to the development of this Planning Area; the south ½ section of 52<sup>nd</sup> Avenue from Picadilly Road to Tibet Road and the associated 16" water main, the west ½ section of Picadilly Road from 52<sup>nd</sup> Avenue to 56<sup>th</sup> Avenue, the north ½ section of 56<sup>th</sup> Avenue from Picadilly Road to E-470, and the western ½ section of Tibet Road south of 52<sup>nd</sup> Avenue with the associated 12" water and 10" sanitary sewer mains. In the event the assumed infrastructure isn't completed at the time of the development of the PA, the portion of those improvements to service the PA will be completed with the respective Planning Area.

## 2. Roadway Improvements

The existing roadway improvements will support the development of Planning Area 51. PA-51 will develop the east ½ section of Tibet Road directly adjacent to the PA boundary. Direct access points to 56<sup>th</sup> Avenue may occur, if supported by the Project's Traffic Impact Study. The construction of the south ½ section of 56<sup>th</sup> Avenue shall occur in accordance with the requirements within the PIFA agreement between the Developer and the City of Aurora or in the event a PIFA is not completed, it will be developed by ARTA, or the directly adjacent improvements will be completed with the Planning Area.

## 3. Drainage Improvements

The Planning Area is located within the Second Creek Watershed and drainage will be conveyed from south to north to the conveyance under 56<sup>th</sup> Avenue to the off-site, regional detention pond identified as Pond S-215 located downstream within Possum Gully within the Fulenwider development. The piped conveyance under 56<sup>th</sup> Avenue to convey developed runoff to Pond S-215 will be extended prior to or concurrent with this Planning Area. In the event the off-site Pond S-215 isn't constructed by others prior to this Planning Area's development, a temporary detention pond generally located at directly south of 56<sup>th</sup> Avenue within Planning Area 51 will be constructed. This temporary pond, if required, will be removed with the development of Regional Pond S-215.



## 4. Water Improvements

Water mains within the Planning Area will provide two points of connection and associated looping. A minimum of two points of connection to service the Planning Area will occur from the mains within 56<sup>th</sup> Ave, Tibet Road, or via the adjacent Planning Areas.

## 5. Sanitary Sewer Improvements

Sanitary sewer main within PA-51 will outfall to a main within the planning area and will flow from east to west to the intersection of 56<sup>th</sup> Avenue and Tibet Road. Two options have been identified to service this Planning Area. The preferred option is to connect to the off-site 10" sanitary sewer main to be extended by developments to the north and east to the intersection of 56<sup>th</sup> Avenue and Tibet Road. This sanitary sewer main is anticipated to run north along the Tibet Road alignment and then north and east across E-470, down Possum Gully to the Second Creek Lift station. In the event the off-site gravity system is unavailable at the time of the development of this Planning Area, an alternative option to construct a package lift station generally located within Planning Area 53 at the southwest corner of the intersection of 56<sup>th</sup> Avenue and Tibet Road will occur. Effluent will then be pumped south along the Tibet Road alignment to the gravity main within Tibet Road in the Green Valley Ranch East subdivision, as identified within that developments Master Utility Study.

## 6. Parks and Open Space

No Parks or Open Space has been identified as required to support this Planning Area.

# J. PLANNING AREA 52

## 1. Land Development

Planning Area (PA) 52 is generally located in the northeast portion of the Site and is south of 56<sup>th</sup> Avenue and west of E-470. The PA consists of mixed-uses and associated infrastructure within the 9.6 acres.

Planning Area 52		
AREA DESCRIPTION	DENSITY (DU/AC)	GROSS LAND AREA (AC)
MIXED-USE	.0.0	9.6

It is assumed that the following infrastructure is existing prior to the development of this Planning Area; the south ½ section of 52<sup>nd</sup> Avenue from Picadilly Road to Tibet Road and the associated 16" water main, the west ½ section of Picadilly Road from 52<sup>nd</sup> Avenue to 56<sup>th</sup> Avenue, the north ½ section of 56<sup>th</sup> Avenue from Picadilly Road to E-470, and the western ½ section of Tibet Road south of 52<sup>nd</sup> Avenue with the associated 12" water and 10" sanitary sewer mains. In the event the assumed infrastructure isn't completed at the time of the development of the PA, the portion of those improvements to service the PA will be completed with the respective Planning Area.

## 2. Roadway Improvements

The existing roadway improvements will support the development of Planning Area 52. PA-52 will construct an access to 56<sup>th</sup> Avenue and shall provide for a connection to Main Street at the southwest corner of the planning area. Should PA-52 develop prior to the adjacent planning areas and if determined required by Life Safety, a second access to Tibet Road, if not already existing at the time of the development of the planning area will occur. The construction of the south ½ section of 56<sup>th</sup> Avenue shall occur in accordance with the requirements within the PIFA agreement between the Developer and the City of Aurora or in the event a PIFA is not completed, it will be developed by ARTA, or the directly adjacent improvements will be completed with the Planning Area.

3. Drainage Improvements

The Planning Area is located within the Second Creek Watershed and drainage will be conveyed from south to north to the conveyance under 56<sup>th</sup> Avenue to the off-site, regional detention pond identified as Pond S-215 located downstream within Possum Gully within the Fulenwider development. The piped conveyance under 56<sup>th</sup> Avenue to convey developed runoff to Pond S-215 will be extended prior to or concurrent with this Planning Area. In the event off-site Pond S-215 isn't constructed by others prior to this Planning Area's development, a temporary detention pond generally located at directly south of 56<sup>th</sup> Avenue within Planning Area 51 will be constructed. This temporary pond, if required, will be removed with the development of Regional Pond S-215.

4. Water Improvements

Water mains within the Planning Area will provide two points of connection and associated looping. A minimum of two points of connection to service the Planning Area will occur from the mains within 56<sup>th</sup> Avenue, Tibet Road, or via the adjacent Planning Areas.

5. Sanitary Sewer Improvements

Sanitary sewer main within PA-52 will outfall to a main within the planning area and will flow north and west to the intersection of 56<sup>th</sup> Avenue and Tibet Road. Two options have been identified to service this Planning Area. The preferred option is to connect to the off-site 10" sanitary sewer main to be extended by developments to the north and east to the intersection of 56<sup>th</sup> Avenue and Tibet Road. This sanitary sewer main is anticipated to run north along the Tibet Road alignment and then north and east across E-470, down Possum Gully to the Second Creek Lift station. In the event the off-site gravity system is unavailable at the time of the development of this Planning Area, an alternative option to construct a package lift station generally located within Planning Area 53 at the southwest corner of the intersection of 56<sup>th</sup> Avenue and Tibet Road will occur. Effluent will then be pumped south along the Tibet Road alignment to the gravity main within Tibet Road in the Green Valley Ranch East subdivision, as identified within that developments Master Utility Study.

6. Parks and Open Space

The municipal utility easement identified as PA-65 will be developed prior to the last certificate of occupancy within the mixed-use Planning Areas of PA-50 and PA-52.

K. PLANNING AREA 53

1. Land Development

Planning Area (PA) 53 is generally located in the north central portion of the Site and is southwest of the 56<sup>th</sup> Avenue and Tibet Road intersection. The PA consists of commercial uses and associated infrastructure within the 19.6 acres.

Planning Area 53		
AREA DESCRIPTION	DENSITY (DU/AC)	GROSS LAND AREA (AC)
COMMERCIAL	N/A	19.6

It is assumed that the following infrastructure is existing prior to the development of this Planning Area; the south ½ section of 52<sup>nd</sup> Avenue from Picadilly Road to Tibet Road and the associated 16" water main, the west ½ section of Picadilly Road from 52<sup>nd</sup> Avenue to 56<sup>th</sup> Avenue, the north ½ section of 56<sup>th</sup> Avenue from Picadilly Road to E-470, and the western ½ section of Tibet Road south of 52<sup>nd</sup> Avenue with the associated 12" water and 10" sanitary sewer mains. In the event the assumed infrastructure isn't completed at the time of the development of the PA, the portion of those improvements to service the PA will be completed with the respective Planning Area.

## 2. Roadway Improvements

The existing roadway improvements will support the development of Planning Area 53. The west ½ section of Tibet Road will be developed along the directly adjacent boundary of the Planning Area. Access to 56<sup>th</sup> Avenue from the Planning Area is anticipated so long as they are consistent with the approved TIA and will provide the second access point(s) to the PA. The construction of the south ½ section of 56<sup>th</sup> Avenue shall occur in accordance with the requirements within the PIFA agreement between the Developer and the City of Aurora or in the event a PIFA is not completed, it will be developed by ARTA, or the directly adjacent improvements will be completed with the Planning Area.

## 3. Drainage Improvements

The Planning Area drainage is split between the Blue Grama Draw and Second Creek watersheds and therefore, will be conveyed both east and west. The portion draining west will be conveyed under 56<sup>th</sup> Avenue to the off-site, regional detention pond identified as Pond 840 located at the northeast corner of the Picadilly Road and 56<sup>th</sup> Avenue intersection. The piped conveyance under 56<sup>th</sup> Avenue will convey developed runoff to Pond 840 and will be extended prior to or concurrent with this Planning Area. In the event off-site Pond 840 isn't constructed by others prior to this Planning Area's development, a temporary detention pond generally located at the southeast corner of the Picadilly Road and 56<sup>th</sup> Avenue intersection within Planning Area 54 will be constructed. This temporary pond, if required, will be removed with the development of Regional Pond 840. The portion of the Planning Area draining east is within the Second Creek Watershed and drainage will be conveyed under 56<sup>th</sup> Avenue to the off-site, regional detention pond identified as Pond S-215 located downstream within Possum Gully within the Fulenwider development. The piped conveyance under 56<sup>th</sup> Avenue to convey developed runoff to Pond S-215 will be extended prior to or concurrent with this Planning Area. In the event off-site Pond S-215 is not constructed by others prior to this Planning Area's development, a temporary detention pond generally located at directly south of 56<sup>th</sup> Avenue within Planning Area 51 will be constructed. This temporary pond, if required, will be removed with the development of Regional Pond S-215.

## 4. Water Improvements

Water mains within the Planning Area will provide two points of connection and associated looping. A minimum of two points of connection to service the Planning Area will occur from the mains within Tibet Road, 56<sup>th</sup> Avenue, or via the adjacent Planning Areas.

## 5. Sanitary Sewer Improvements

Sanitary sewer main within PA-53 will flow north and east to the intersection of 56<sup>th</sup> Avenue and Tibet Road. Two options have been identified to service this Planning Area. The preferred option is to connect to the off-site 10" sanitary sewer main to be extended by developments to the north and east to the intersection of 56<sup>th</sup> Avenue and Tibet Road. This sanitary sewer main is anticipated to run north along the Tibet Road alignment and then north and east across E-470, down Possum Gully to the Second Creek Lift station. In the event the off-site gravity system is unavailable at the time of the development of this Planning Area, an alternative option to construct a package lift station generally located within Planning Area 53 at the southwest corner of the intersection of 56<sup>th</sup> Avenue and Tibet Road will occur. Effluent will then be pumped south along the Tibet Road alignment to the gravity main within Tibet Road in the Green Valley Ranch East subdivision, as identified within that developments Master Utility Study.

## 6. Parks and Open Space

The open space and trail within PA-58 along this PA boundary will be developed prior to the first certificate of occupancy within PA-53.



# L. PLANNING AREA 54

## 1. Land Development

Planning Area (PA) 54 is in the northwest portion of the Site and is southwest of the 56<sup>th</sup> Avenue and Picadilly Road intersection. The PA consists of commercial uses and associated infrastructure within the 13.7 acres.

Planning Area 54		
AREA DESCRIPTION	DENSITY (DU/AC)	GROSS LAND AREA (AC)
COMMERCIAL	N/A	13.7

It is assumed that the following infrastructure is existing prior to the development of this Planning Area; the south ½ section of 52<sup>nd</sup> Avenue from Picadilly Road to Tibet Road and the associated 16" water main, the west ½ section of Picadilly Road from 52<sup>nd</sup> Avenue to 56<sup>th</sup> Avenue, the north ½ section of 56<sup>th</sup> Avenue from Picadilly Road to E-470, and the western ½ section of Tibet Road south of 52<sup>nd</sup> Avenue with the associated 12" water and 10" sanitary sewer mains. In the event the assumed infrastructure isn't completed at the time of the development of the PA, the portion of those improvements to service the PA will be completed with the respective Planning Area.

## 2. Roadway Improvements

The existing roadway improvements will support the development of Planning Area 54. Access to this Planning Area will be via 56<sup>th</sup> Avenue and Picadilly Road at the locations and movements specified within the approved Traffic Impact Study. The construction of the south ½ section of 56<sup>th</sup> Avenue and the east ½ section of Picadilly Road shall occur in accordance with the requirements within the PIFA agreement between the Developer and the City of Aurora or in the event a PIFA is not completed, it will be developed by ARTA, or the directly adjacent improvements will be completed with the Planning Area.

## 3. Drainage Improvements

The Planning Area drainage is located within the Blue Grama Draw major basin and will be conveyed to the northwest corner of the Site. The Planning Area will be conveyed under 56<sup>th</sup> Avenue to the off-site, regional detention pond identified as Pond 840 located at the northeast corner of the Picadilly Road and 56<sup>th</sup> Avenue intersection. The piped conveyance under 56<sup>th</sup> Avenue to convey developed runoff to Pond 840 will be extended prior to or concurrent with this Planning Area. In the event off-site Pond 840 isn't constructed by others prior to this Planning Area's development, a temporary detention pond generally located at the southeast corner of the Picadilly Road and 56<sup>th</sup> Avenue intersection within this Planning Area will be constructed. This temporary pond, if required, will be removed with the development of Regional Pond 840.

## 4. Water Improvements

Water mains within the Planning Area will provide two points of connection and associated looping. A minimum of two points of connection to service the Planning Area will occur from the mains within 56<sup>th</sup> Avenue or via the adjacent Planning Areas, or within Picadilly Road if allowed by Aurora Water.

## 5. Sanitary Sewer Improvements

Sanitary sewer main within PA-54 will flow east to a main within PA-53 and to the intersection of 56<sup>th</sup> Avenue and Tibet Road. Two options have been identified to service this Planning Area. The preferred option is to connect to the off-site 10" sanitary sewer main to be extended by developments to the north and east to the intersection of 56<sup>th</sup> Avenue and Tibet Road. This sanitary sewer main is anticipated to run north along the Tibet Road alignment and then north and east across E-470, down Possum Gully to the Second Creek Lift station. In the event the off-site gravity system is unavailable at the time of the development of this Planning Area, an alternative option to construct a

package lift station generally located within Planning Area 56 at the southwest corner of the intersection of 56<sup>th</sup> Avenue and Tibet Road will occur. Effluent will then be pumped south along the Tibet Road alignment to the gravity main within Tibet Road in the Green Valley Ranch East subdivision, as identified within that developments Master Utility Study.

Additionally, PA-54 was analyzed for two potential service options for the residential PA-47 to the south. Specifically, PA-47 will either be serviced to the north through PA-54 or east through the residential planning area to the sewer main within Tibet Road. Either service option is viable and will be selected at the time of the development of this PA.

## 6. Parks and Open Space

The open space and trail within PA-58 along this PA boundary will be developed prior to the first certificate of occupancy within PA-54.

# M. PLANNING AREA 55

## 1. Land Development

Planning Area (PA) 55 is Brandenburg Parcel south of the main Site and is northeast of the 48<sup>th</sup> Avenue and Tibet Road intersection. The PA consists of mixed uses and associated infrastructure within the 17.2 acres.

Planning Area 54		
AREA DESCRIPTION	DENSITY (DU/AC)	GROSS LAND AREA (AC)
MIXED-USE	N/A	17.2

It is assumed that the following infrastructure is existing prior to the development of this Planning Area; the south ½ section of 48<sup>th</sup> Avenue from Picadilly Road to E-470 and the associated 16" water main, the west ½ section of Tibet Road from 52<sup>nd</sup> Avenue to 48<sup>th</sup> Avenue and 8" water main stub and 8" sanitary sewer main stub. In the event the assumed infrastructure isn't completed at the time of the development of the PA, the portion of those improvements to service the PA will be completed with the respective Planning Area.

## 2. Roadway Improvements

The existing roadway improvements will support the development of Planning Area 55. Access to this Planning Area will be via 48<sup>th</sup> Avenue and Tibet Road at the locations and movements specified within the approved Traffic Impact Study. The construction of the north ½ section of 48<sup>th</sup> Avenue and the east ½ section of Tibet Road will be developed along the Planning Area boundary.

## 3. Drainage Improvements

The Planning Area drainage is located within the First Creek Tributary T major basin and will be conveyed to the southwest corner of the Site. The Planning Area will be conveyed under 48<sup>th</sup> Avenue through Green Valley Ranch East to the off-site, regional detention pond identified as Pond 8503C. The piped conveyance under 48<sup>th</sup> Avenue to convey developed runoff to Pond 8503C will be extended prior to or concurrent with this Planning Area.

## 4. Water Improvements

Water mains within the Planning Area will provide two points of connection and associated looping. A minimum of two points of connection to service the Planning Area will occur from the mains within 48<sup>th</sup> Avenue or Tibet Road.

## 5. Sanitary Sewer Improvements

The sanitary sewer within PA-55 will flow west to a main within Tibet Road and to the intersection of 48<sup>th</sup> Avenue and Tibet Road.

## 6. Parks and Open Space

No Parks or Open Space has been identified as required to support this Planning Area.

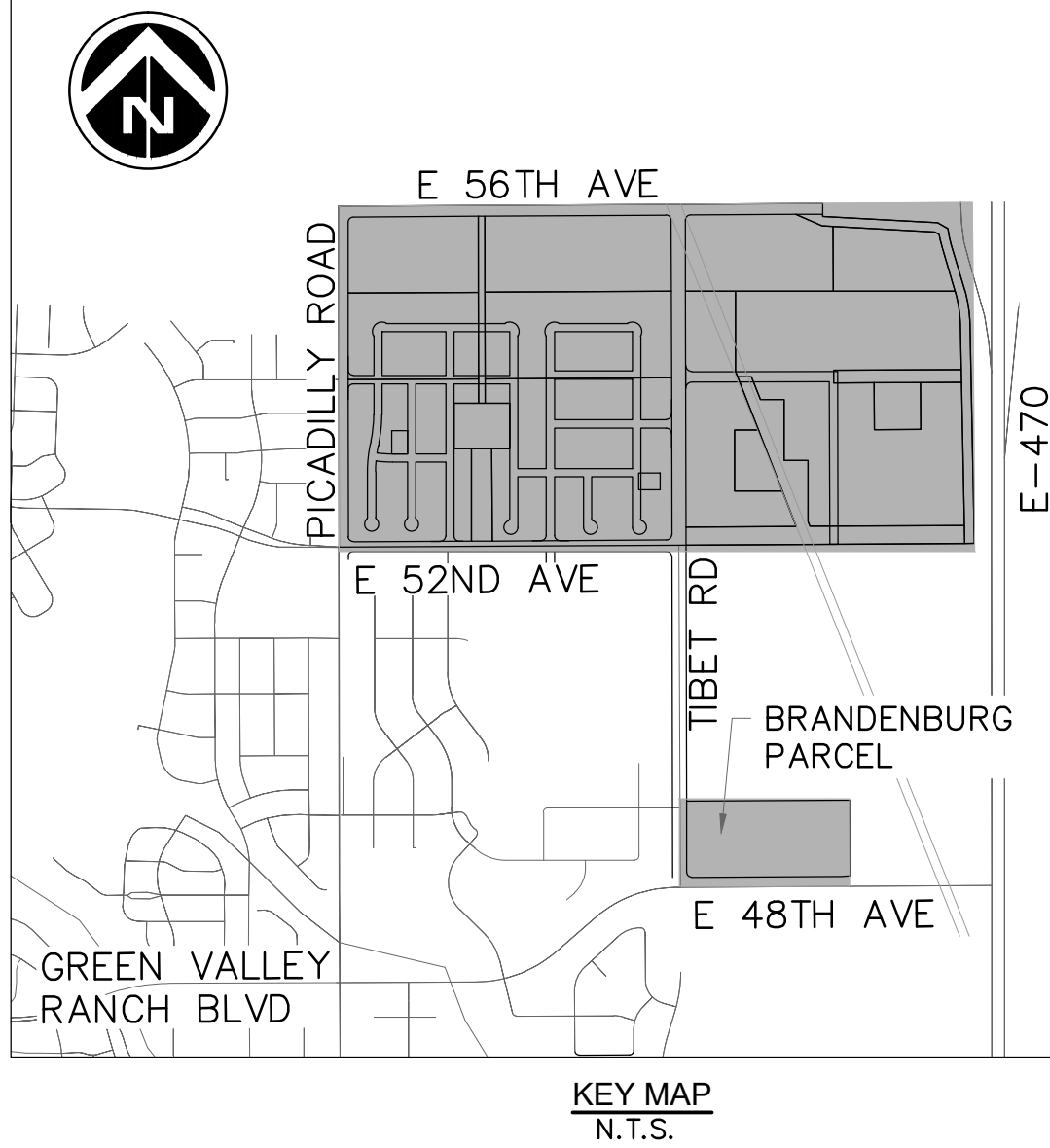
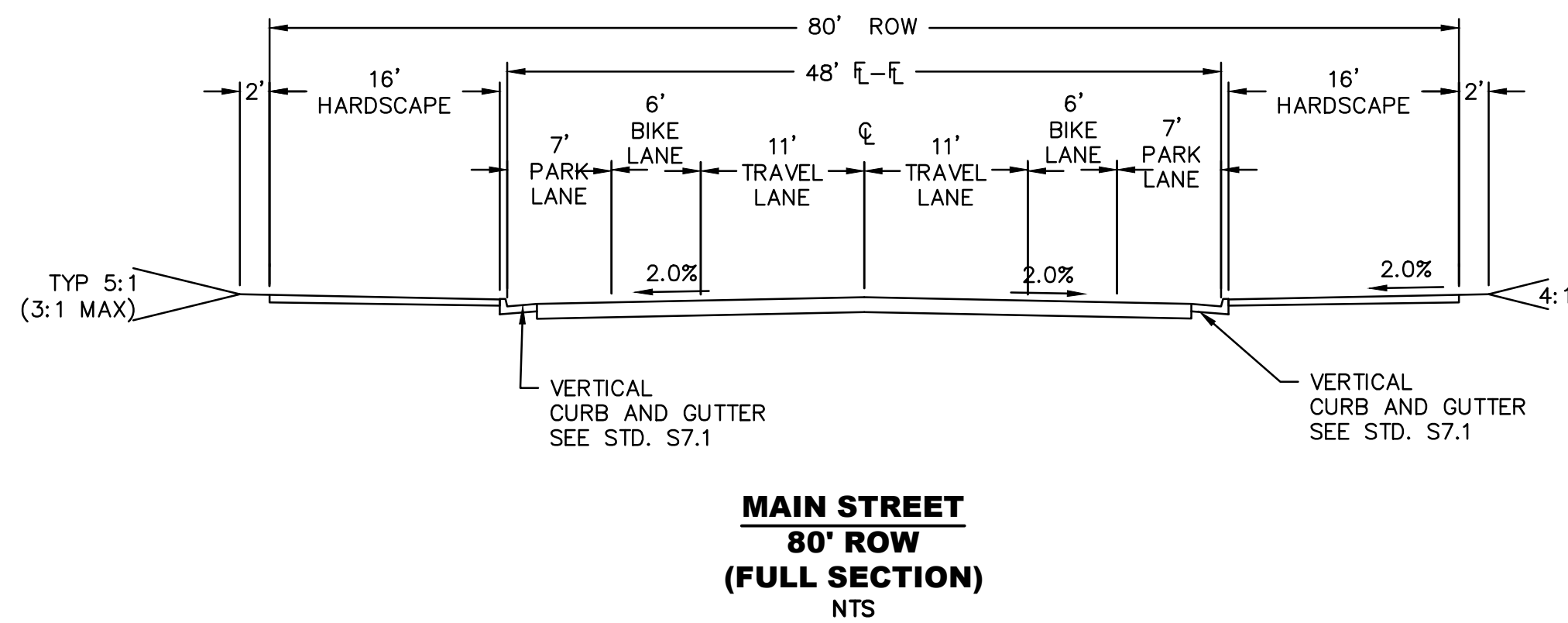
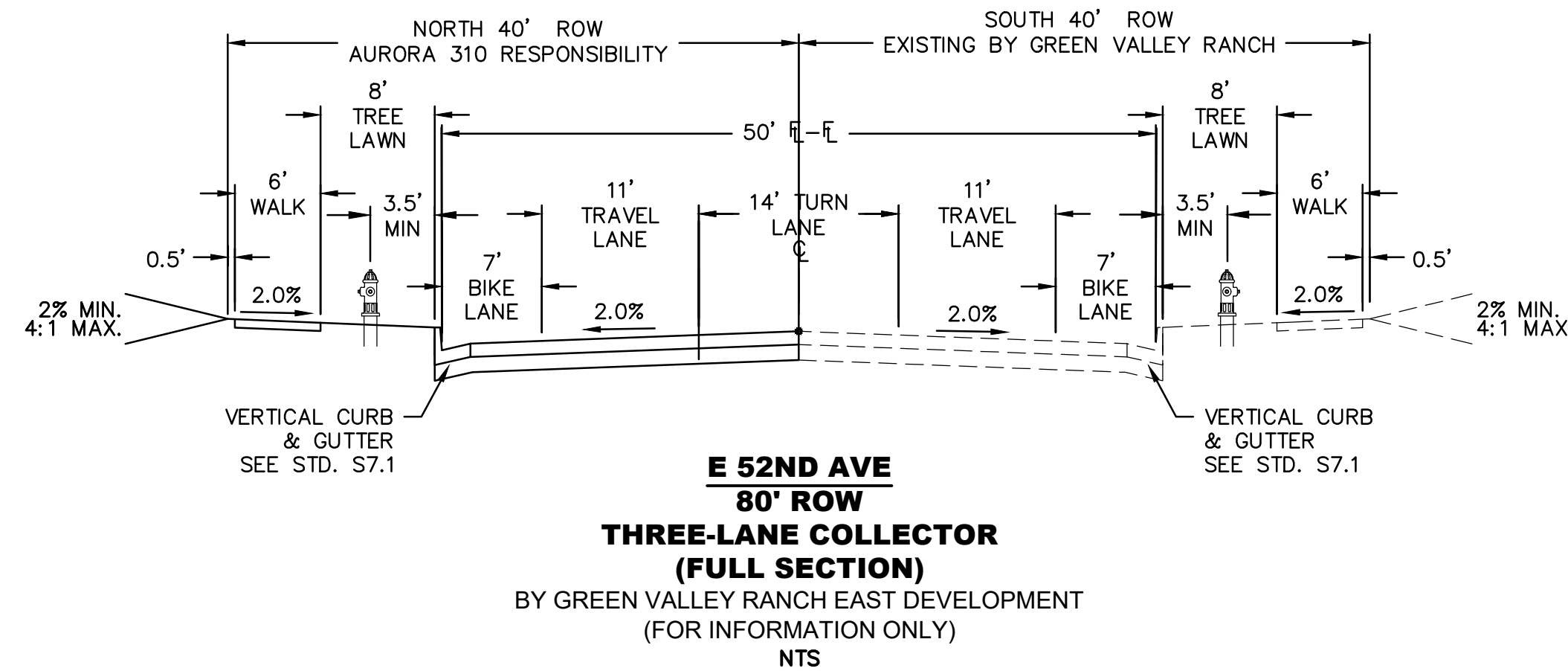
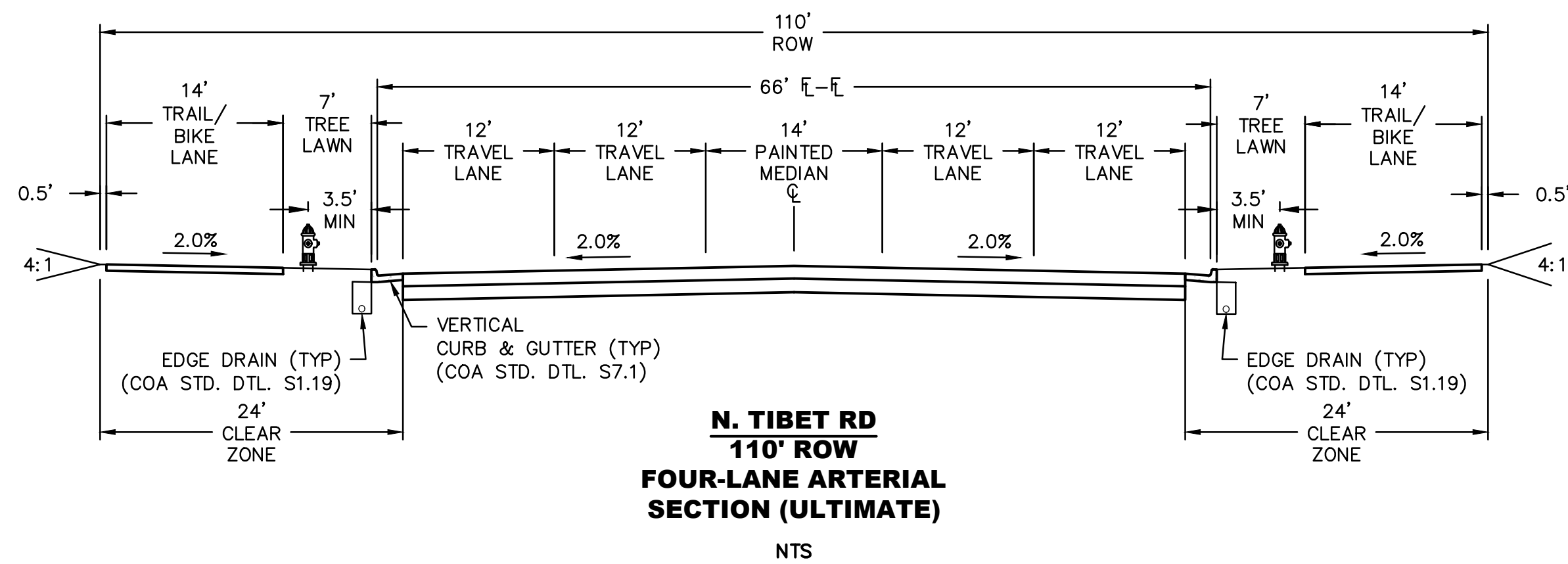
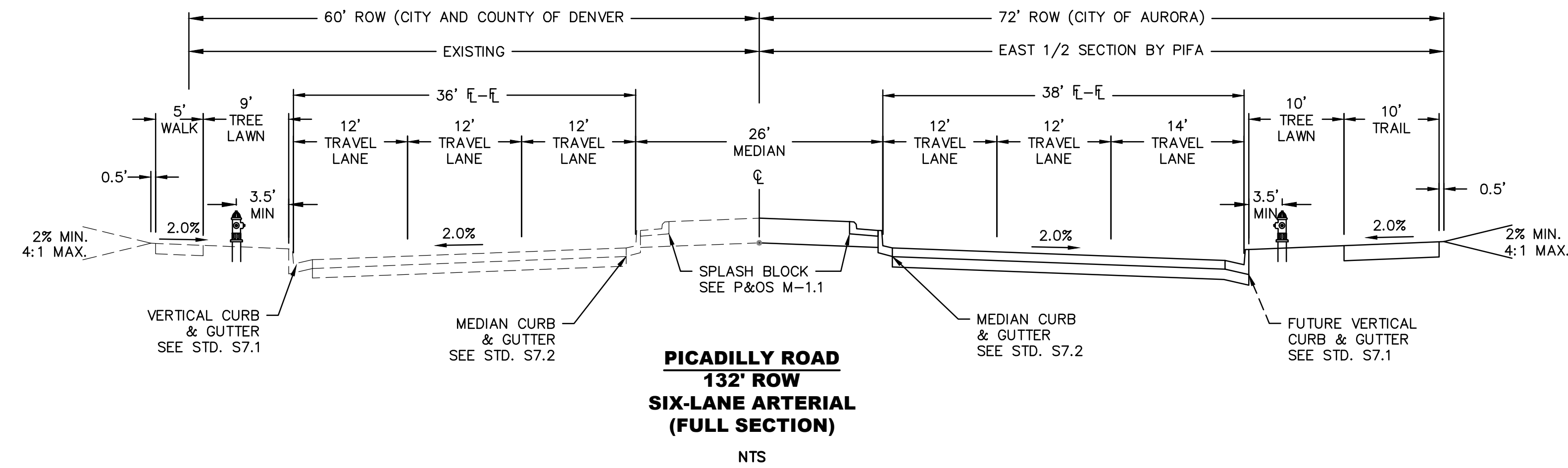
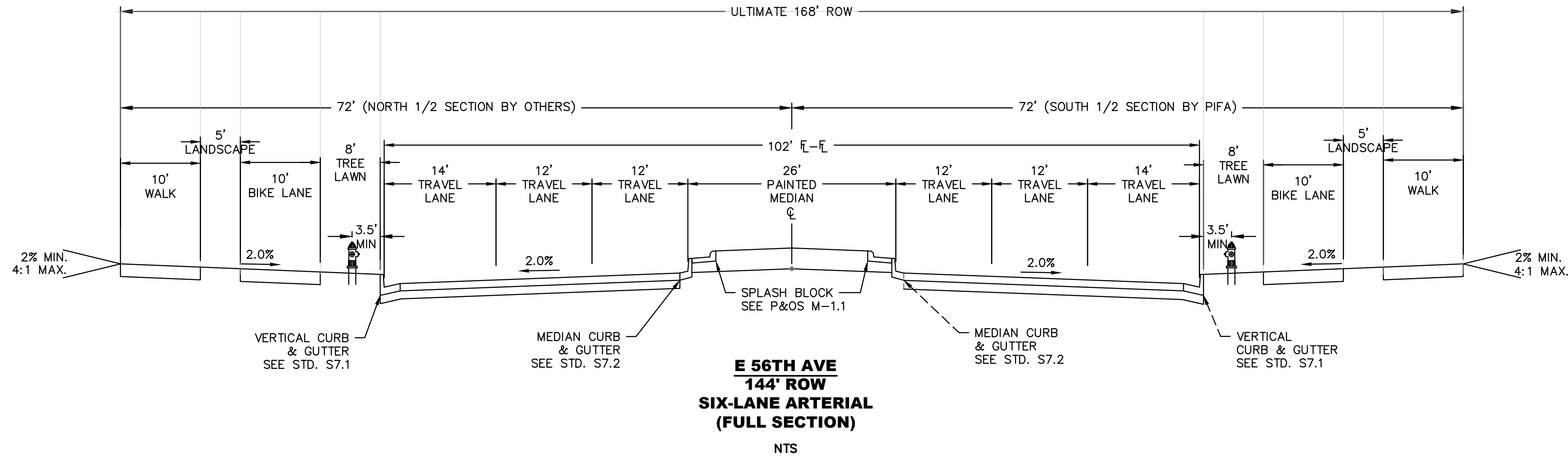
# N. REFERENCES

The following documents, reports, and plans were referenced during the generation of this Public Improvements Plan (PIP).

- 1) *Green Valley Master Plan Amendment 2 Master Plan and support reports, December 2021*
- 2) *Green Valley – Amendment 1 Public Improvement Plan, Revised September 2018, Prepared by: Calibre Engineering, Inc.*
- 3) Windler Master Plan Public Improvements Plan, October 2021, Prepared by: Olsson
- 4) City of Aurora Roadway Design & Construction Specifications, October 2016
- 5) Aurora Water, Water, Sanitary Sewer & Storm Drainage Infrastructure Standards and Specification, September 2019



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**GREEN VALLEY MASTER PLAN AMENDMENT 2**  
**PUBLIC IMPROVEMENT PLAN**  
**TYPICAL STREET SECTIONS**

**Client Name**  
OAKWOOD HOMES  
18655 GREEN VALLEY  
RANCH BLVD  
DENVER, CO 80249  
Tel: 303-486-8734  
Contact: DAVID CARRO

No.	Date	Description
3	12/22/2022	THIRD SUBMITTAL
2	5/24/2022	SECOND SUBMITTAL
1	12/22/2021	FIRST SUBMITTAL

**PRELIMINARY**  
**NOT FOR**  
**CONSTRUCTION**

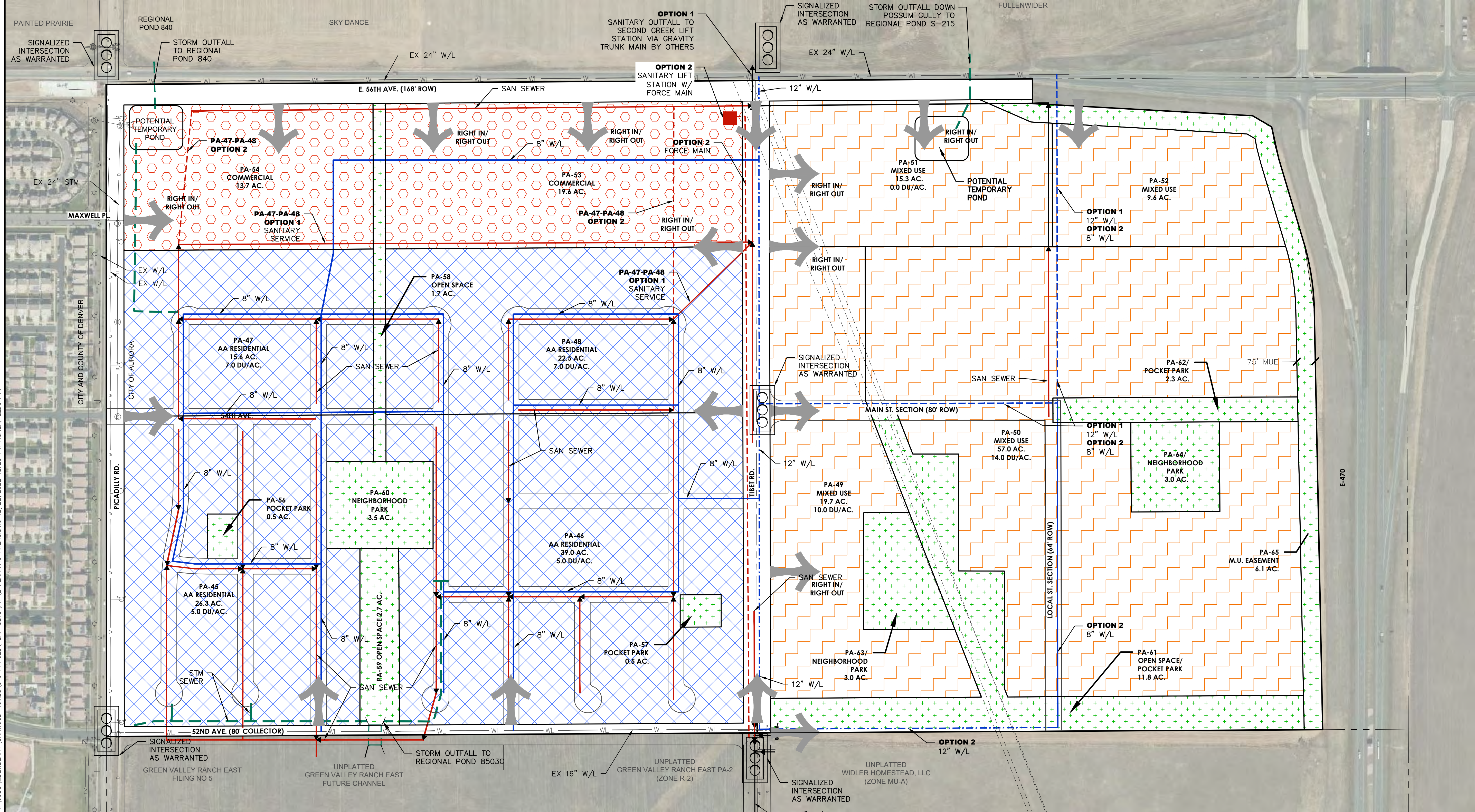
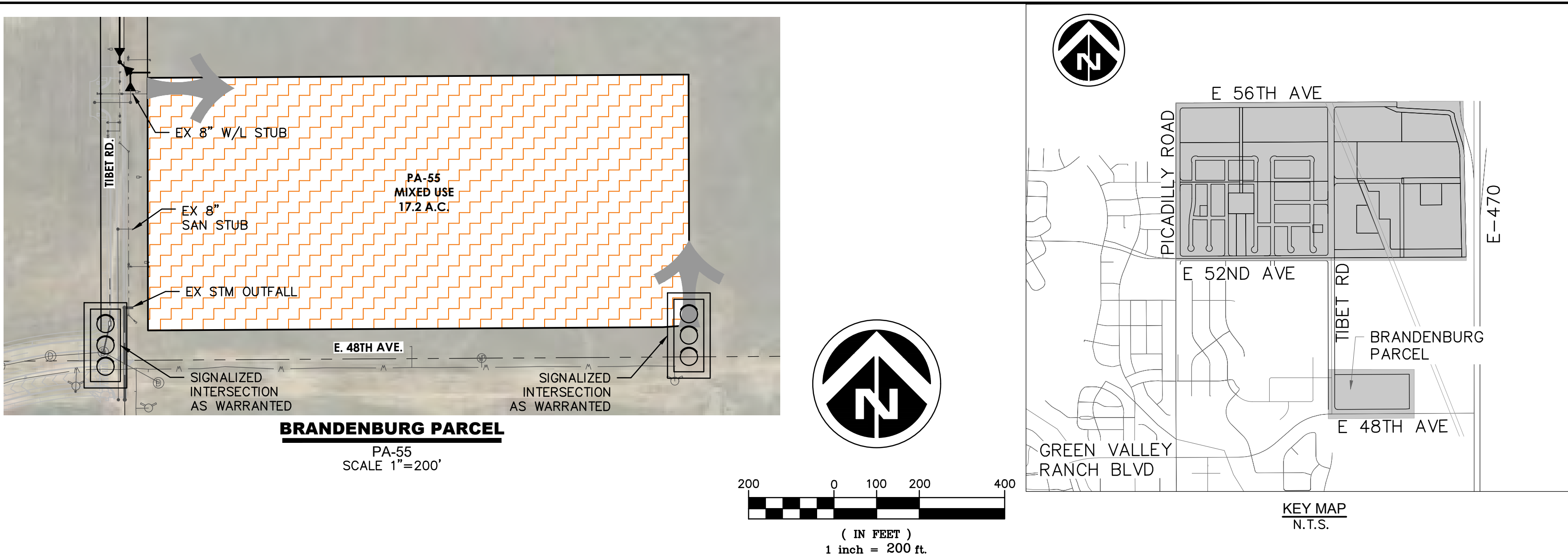
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50145755  
**Designed By:**  
JDM  
**Checked By:**  
JDM  
**Sheet Number:**  
1

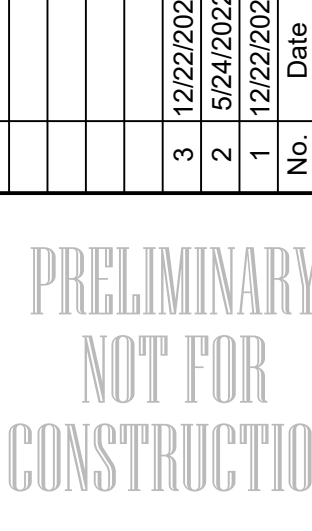
**Dewberry**  
Dewberry Engineers Inc.  
8100 East Maplewood Avenue, Suite 150  
Greenwood Village, CO 80111  
Contact: Jason D. Margraf, PE  
Email: jsmargraf@dewberry.com



**NOTES:**

1. ALL ON-SITE ROADWAYS AND UTILITY LOCATIONS DEPICTED ARE FOR ILLUSTRATIVE PURPOSES. SUBSEQUENT SITE PLAN SUBMITTALS WILL DETERMINE THE FINAL PLACEMENT OF INFRASTRUCTURE.
2. PLANNING AREA PHASING WILL OCCUR TO MEET MARKET DEMANDS. PHASING SHALL NOT BE LIMITED, HOWEVER; EACH PHASE SHALL PROVIDE A LOOPED WATER SUPPLY, TWO SEPARATE AND APPROVED POINTS OF ACCESS, SANITARY SERVICE AND ACCOMMODATION FOR DRAINAGE CONVEYANCE TO OFF-SITE REGIONAL ATTENUATION. FURTHERMORE, THE LOOPED WATER SUPPLY AND TWO POINTS OF ACCESS SHALL BE ACCOUNTED FOR IN THE OVERALL DEVELOPMENT AND EACH INDIVIDUAL PHASE OF THE PROJECT. AS SUCH, EACH INDIVIDUAL SITE PLAN MUST IDENTIFY PHASING REQUIREMENTS TO INCLUDE ADJACENT INFRASTRUCTURE NEEDS TO MEET MINIMUM WATER SUPPLY AND ACCESS REQUIREMENTS.
3. PICADILLY ROAD AND 56TH AVENUE ARE SUBJECT TO THE PIFA AGREEMENT. TRIGGERS AND FUNDING MECHANISMS FOR THESE TWO ROADWAYS SHALL BE IN ACCORDANCE WITH THE EXECUTED AGREEMENT.
4. NO OFF-SITE INFRASTRUCTURE, BEYOND WHAT IS DEPICTED WITHIN THIS PIF, OR THAT IS ALREADY EXISTING, IS REQUIRED FOR THE DEVELOPMENT OF THE AMENDMENT 2 PLANNING AREAS.
5. DEVELOPMENT ACCESS POINTS DEPICTED HEREIN, ARE CONCEPTUAL AND MAY CHANGE OR INCREASE IN NUMBER TO SERVICE THE DEVELOPMENT, SO LONG AS THE SHIFTED AND/OR INCREASED ACCESS POINTS MEET CITY OF AURORA SPACING REQUIREMENTS AND ARE SUPPORTED BY A TRAFFIC IMPACT ANALYSIS.
6. REFER TO THE MASTER UTILITY REPORT FOR SPECIFICS OF UTILITY OPTIONS PRESENTED HEREIN.

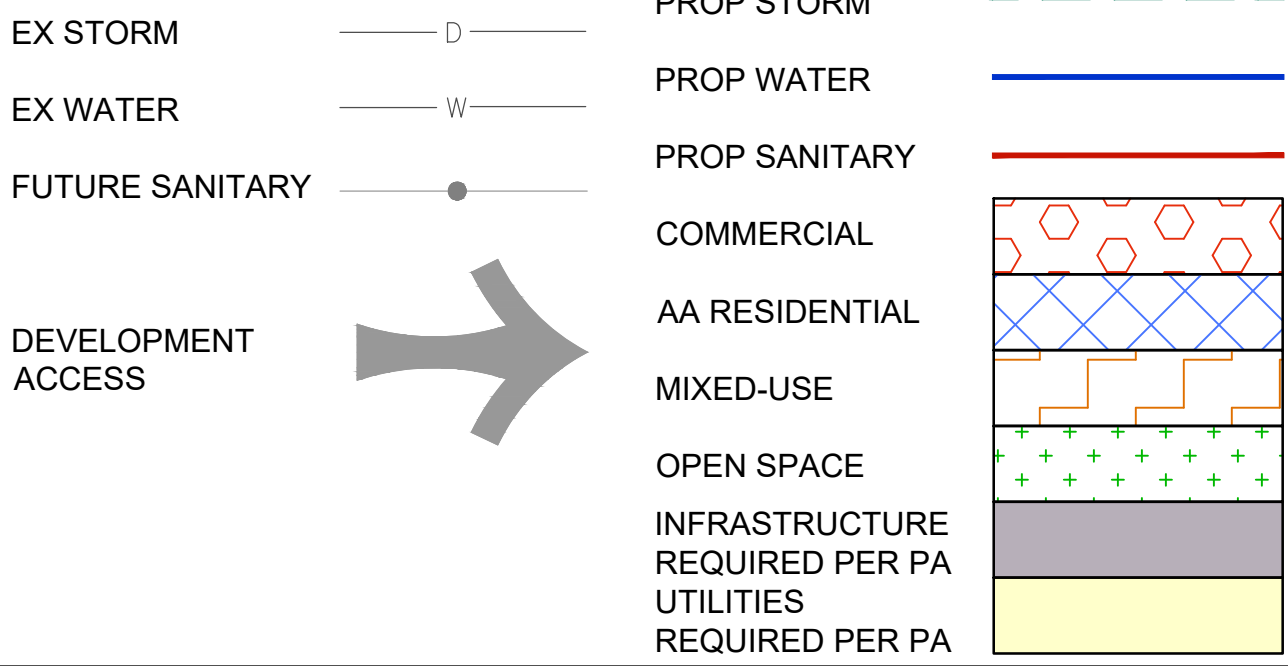


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<b>Project Number:</b> 50145755						<b>Designed By:</b> JDM <b>Drawn By:</b> JTM					
<b>Checked By:</b> JDM						<b>SHEET NUMBER:</b> 2					
No.	Date	Description	<b>Client Name</b>			<b>GREEN VALLEY MASTER PLAN AMENDMENT 2 PUBLIC IMPROVEMENT PLAN</b>			<b>Dewberry® Dewberry Engineers Inc. 8100 East Maplewood Avenue, Suite 150 Greenwood Village, CO 80111 303.368.5601 Contact: Jason D. Margraf, PE Email: jmargin@Dewberry.com</b>		
3	12/22/2022	THIRD SUBMITTAL	OAKWOOD HOMES			PLANNING AREAS					
2	5/24/2022	SECOND SUBMITTAL	RANCH BLVD								
1	12/22/2021	FIRST SUBMITTAL	18655 GREEN VALLEY								
<b>DOCUMENT AMENDMENTS</b>			Tel: 303-486-8734								
			Contact: DAVID CARRO								



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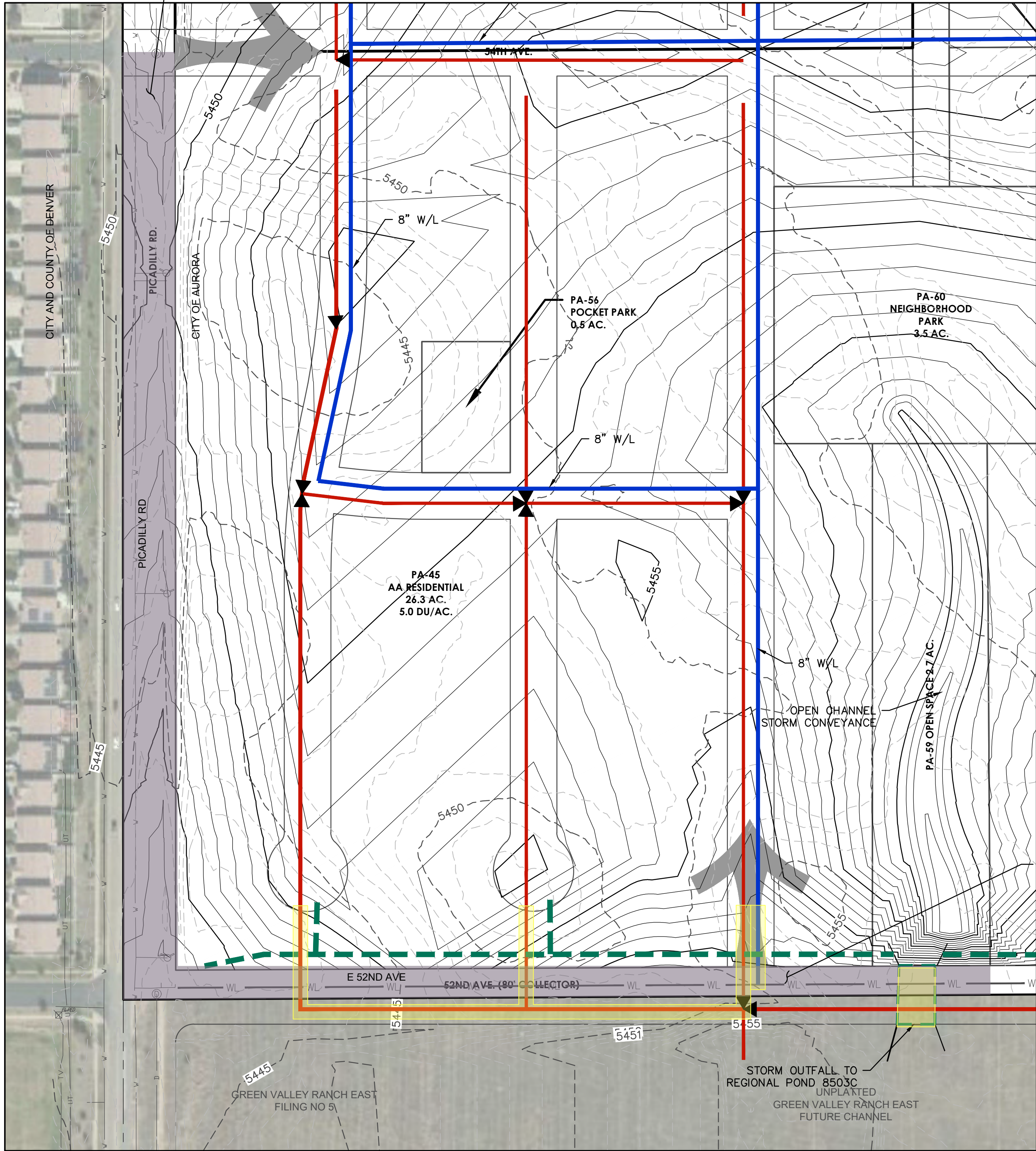
**LEGEND**



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- PICADILLY ROAD AND 56TH AVENUE ARE SUBJECT TO THE PIFA AGREEMENT. TRIGGERS AND FUNDING MECHANISMS FOR THESE TWO ROADWAYS SHALL BE IN ACCORDANCE WITH THE EXECUTED AGREEMENT.
- NO OFF-SITE INFRASTRUCTURE, BEYOND WHAT IS DEPICTED WITHIN THIS PIP OR THAT IS ALREADY EXISTING, IS REQUIRED FOR THE DEVELOPMENT OF THE AMENDMENT 2 PLANNING AREAS.
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- REFER TO THE MASTER UTILITY REPORT FOR SPECIFICS OF UTILITY OPTIONS PRESENTED HEREIN.

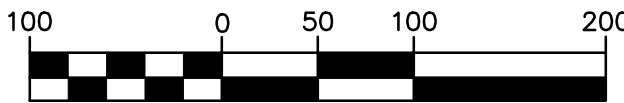
THE EAST 1/2 SECTION OF E PICADILLY RD ALONG THE PA BOUNDARY SHALL OCCUR IN ACCORDANCE WITH THE REQUIREMENTS WITHIN THE PIFA AGREEMENT



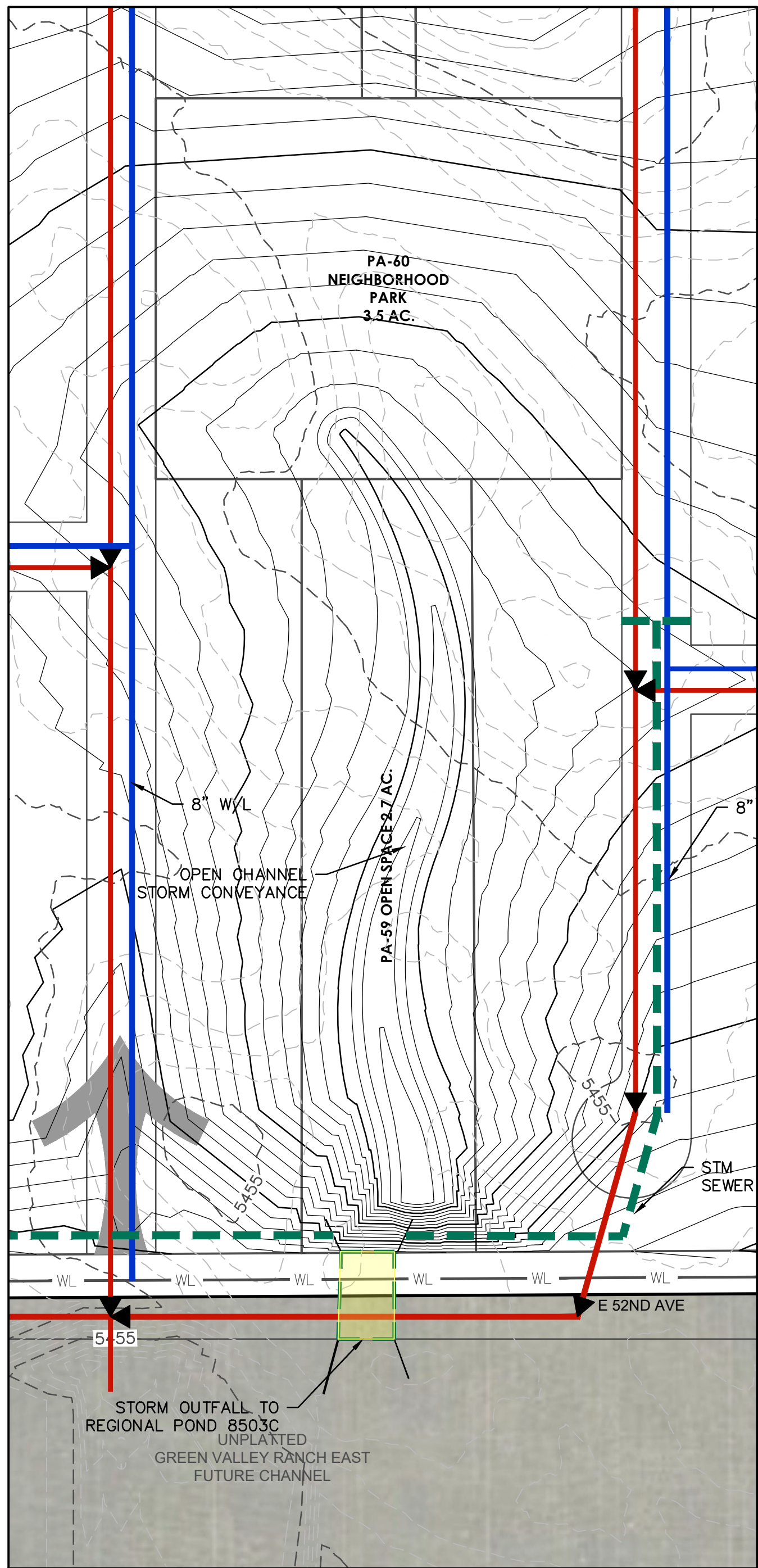
**PA-45**

AA RESIDENTIAL  
SCALE 1"=100'

THE NORTH 1/2 SECTION OF E 52ND AVE ALONG THE PA BOUNDARY

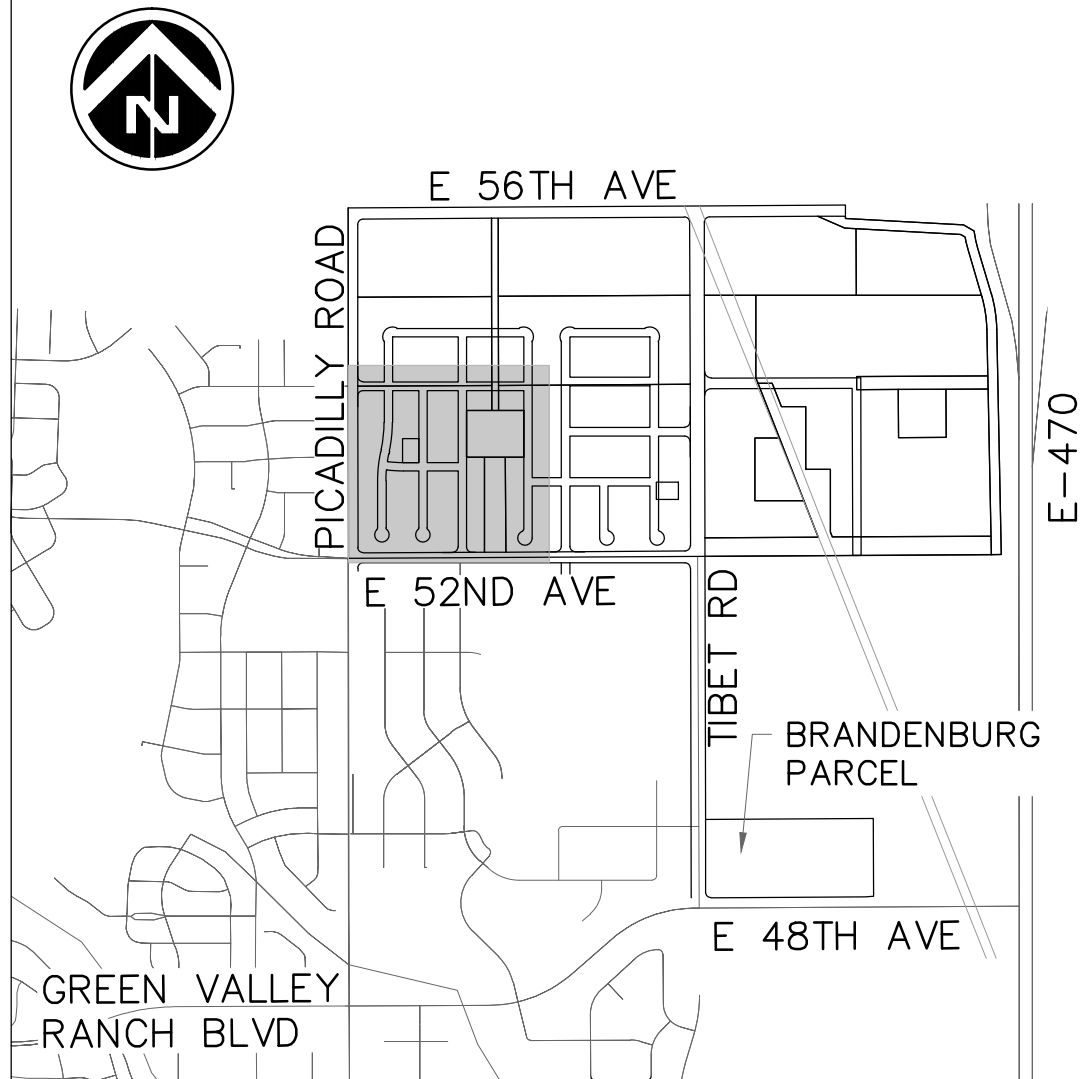


( IN FEET )  
1 inch = 100 ft.



**PA-59 & PA-60**

OPEN SPACE & NEIGHBORHOOD PARK  
SCALE 1"=100'



KEY MAP  
N.T.S.

Project Number:  
50145755

Designed By:  
JDM JTM

Checked By:  
JDM

Sheet Number:  
3

**Client Name**

OAKWOOD HOMES  
18655 GREEN VALLEY  
RANCH BLVD  
DENVER, CO 80249  
Tel: 303-486-8734  
Contact: DAVID CARRO

**GREEN VALLEY MASTER PLAN AMENDMENT 2**

**PUBLIC IMPROVEMENT PLAN**

**PLANNING AREA DETAILS**

**Dewberry**

Dewberry Engineers Inc.  
8100 East Maplewood Avenue, Suite 150  
Greenwood Village, CO 80111  
303.368.5601  
Contact: Jason D. Margraf, PE  
Email: jsmargraf@dewberry.com

PRELIMINARY  
NOT FOR  
CONSTRUCTION

DOCUMENT AMENDMENTS

No.	Date	Description
3	12/22/2022	THIRD SUBMITTAL
2	5/24/2022	SECOND SUBMITTAL
1	12/22/2021	FIRST SUBMITTAL

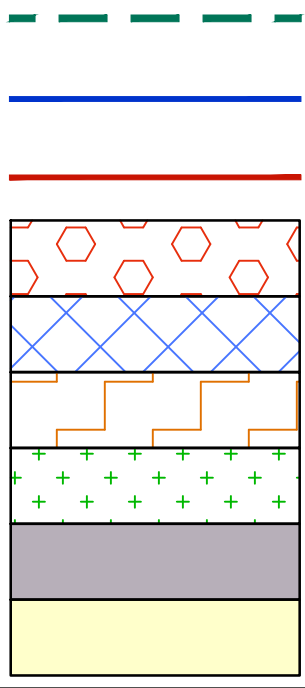


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LEGEND

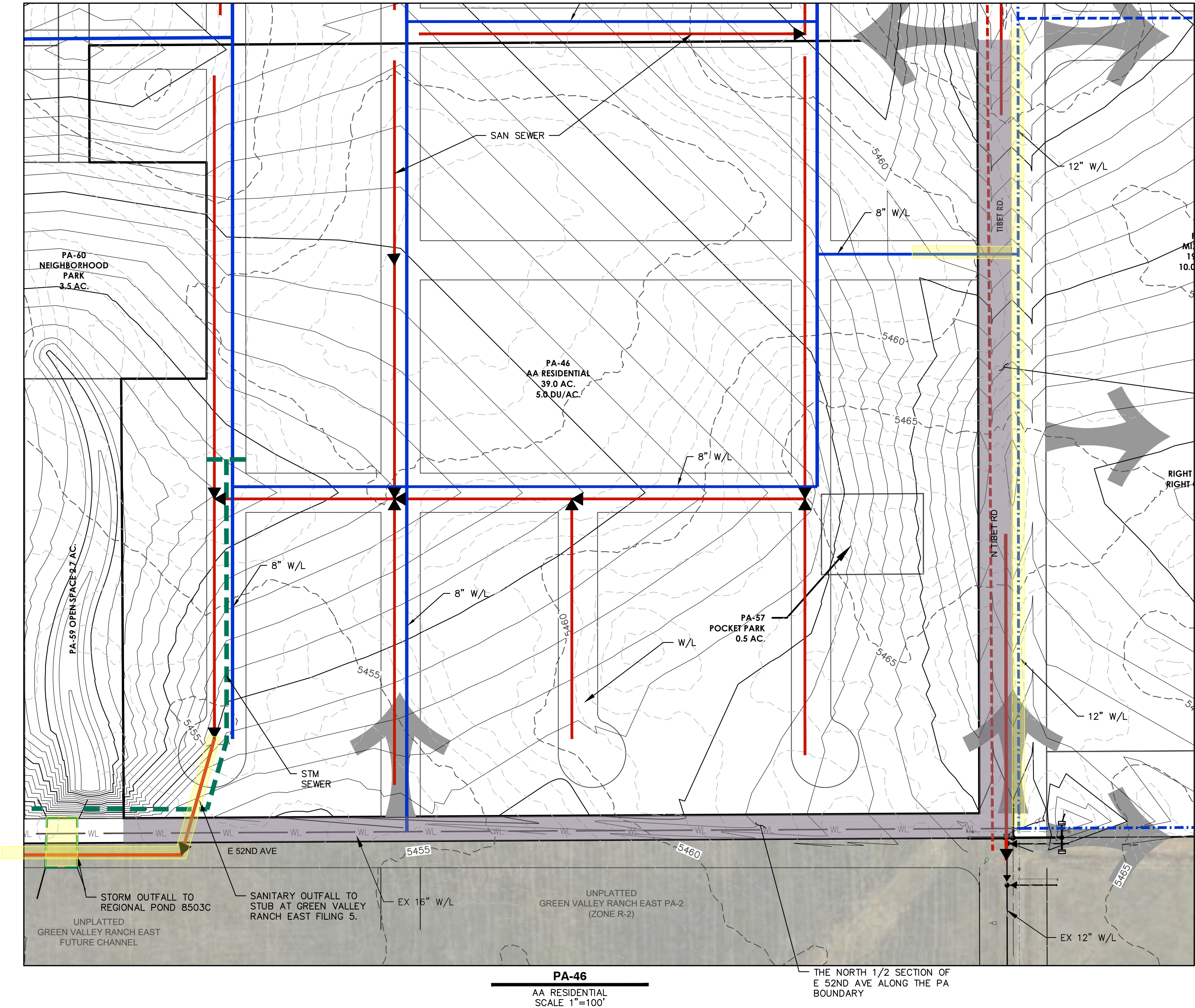
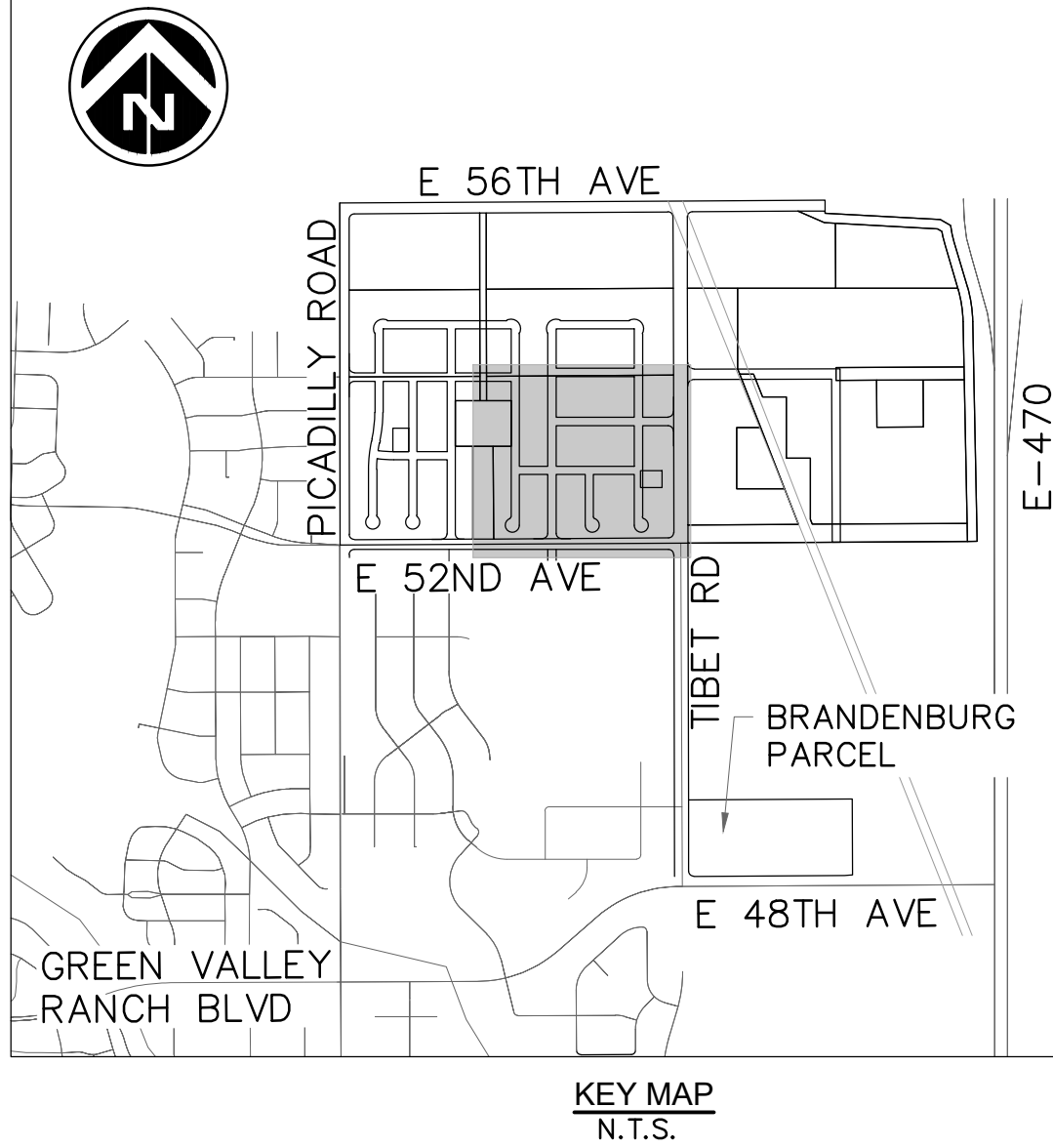
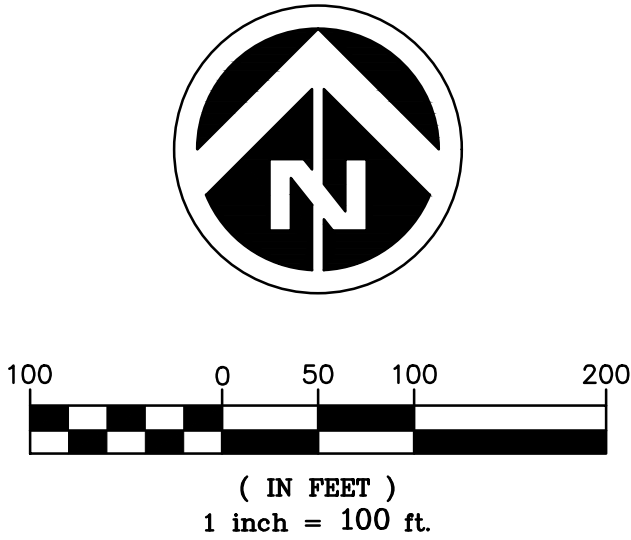
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EX WATER — W —  
FUTURE SANITARY — ● —  
DEVELOPMENT ACCESS →

PROP STORM — — — — —  
PROP WATER — — — — —  
PROP SANITARY — — — — —  
COMMERCIAL  
AA RESIDENTIAL  
MIXED-USE  
OPEN SPACE  
INFRASTRUCTURE REQUIRED PER PA  
UTILITIES REQUIRED PER PA



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THE WEST 1/2 SECTION  
OF N TIBET RD ALONG  
THE PA BOUNDARY

THE NORTH 1/2 SECTION OF  
E 52ND AVE ALONG THE PA  
BOUNDARY

Project Number: 50145755  
Designed By: JDM  
Checked By: JDM  
Sheet Number: 4

PRELIMINARY  
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18655 GREEN VALLEY  
RANCH BLVD  
DENVER, CO 80249  
Tel: 303-486-8734  
Contact: DAVID CARRO

GREEN VALLEY MASTER PLAN AMENDMENT 2  
PUBLIC IMPROVEMENT PLAN  
PLANNING AREA DETAILS

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Greenwood Village, CO 80111  
303.368.5601  
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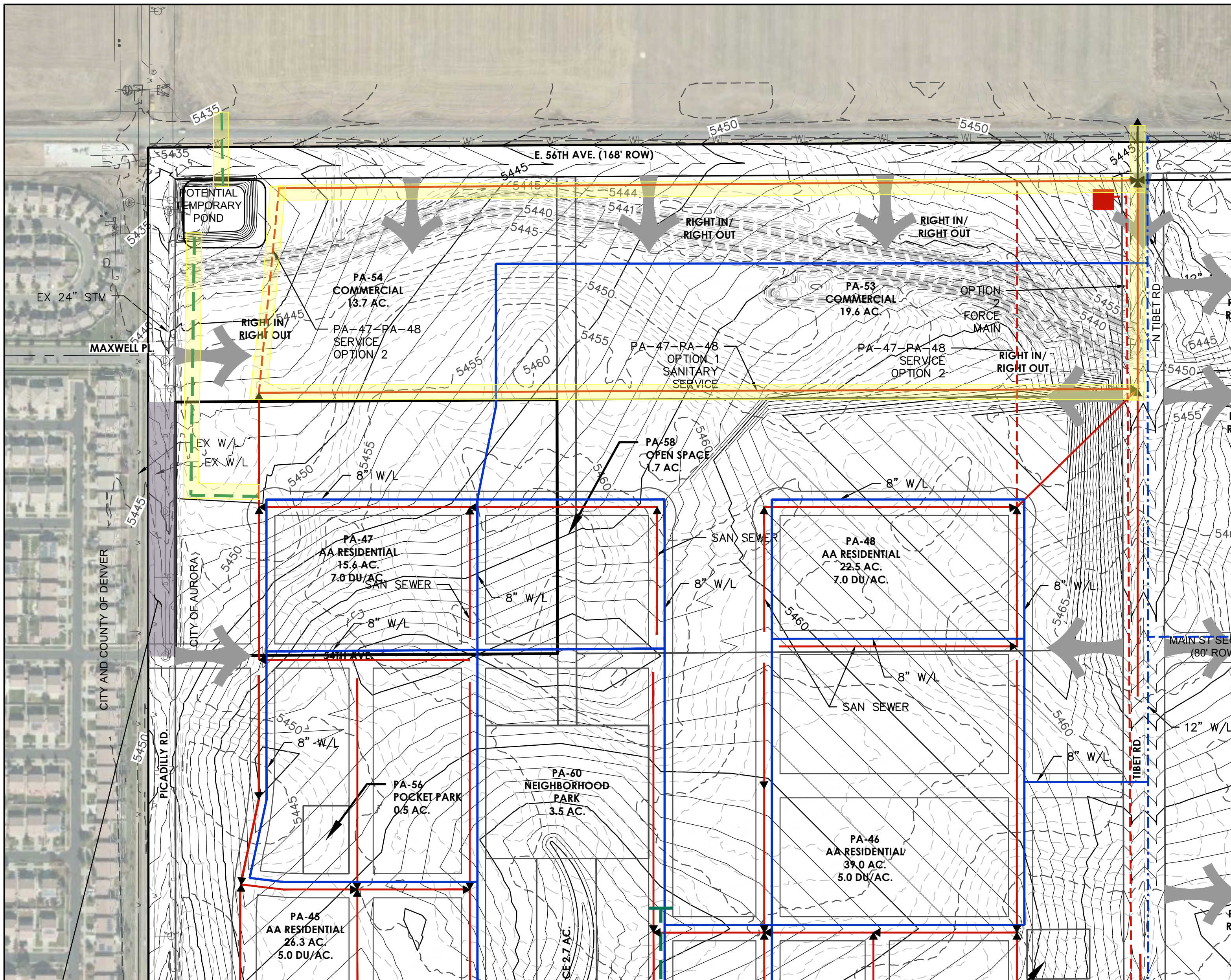
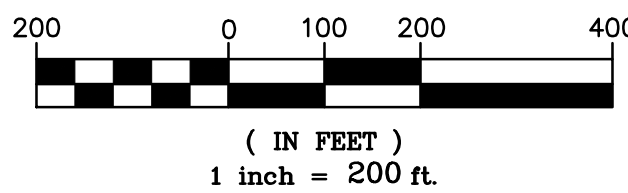
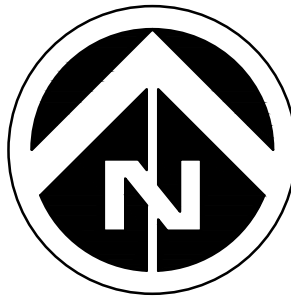
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#### LEGEND

EX STORM	D	PROP STORM	---
EX WATER	W	PROP WATER	---
FUTURE SANITARY	●	PROP SANITARY	---
DEVELOPMENT ACCESS	➔	COMMERCIAL	▨
		AA RESIDENTIAL	▨
		MIXED-USE	▨
		OPEN SPACE	▨
		INFRASTRUCTURE REQUIRED PER PA UTILITIES	▨
		REQUIRED PER PA	▨

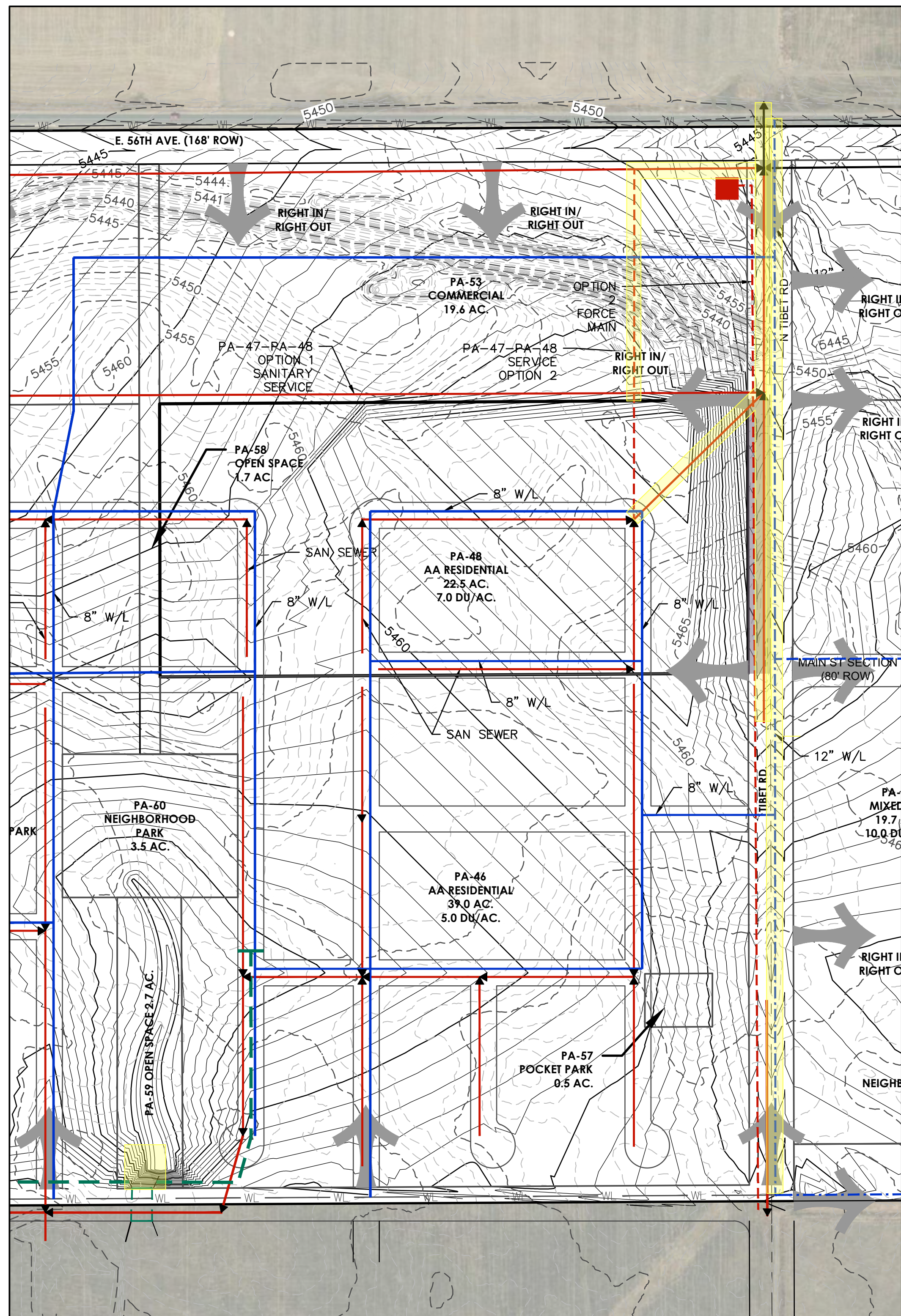
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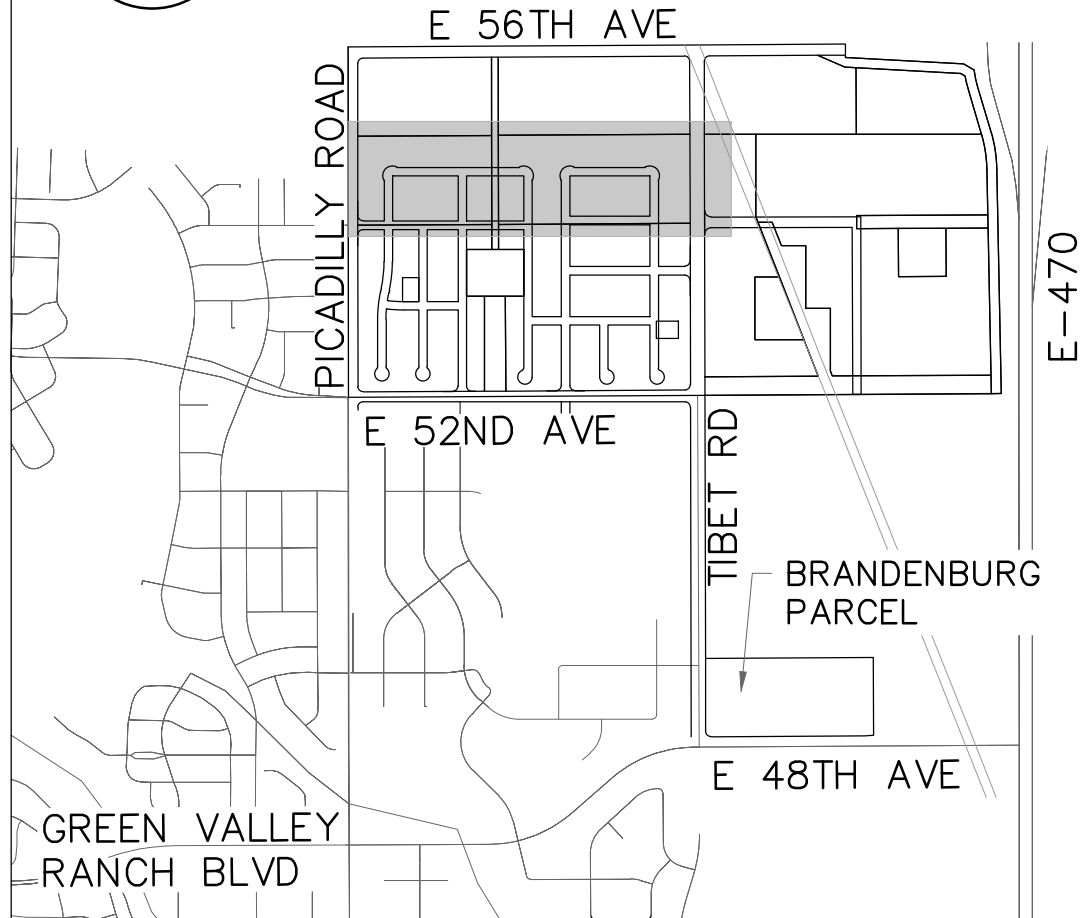


THE EAST 1/2 SECTION OF PICADILLY RD ALONG THE PA BOUNDARY SHALL OCCUR IN ACCORDANCE WITH THE REQUIREMENTS WITHIN THE PIFA AGREEMENT

PA-47  
AA RESIDENTIAL  
SCALE 1"=200'



PA-48  
AA RESIDENTIAL  
SCALE 1"=200'



KEY MAP  
N.T.S.

THE WEST 1/2 SECTION OF TIBET RD ALONG THE PA BOUNDARY

## GREEN VALLEY MASTER PLAN AMENDMENT 2 PUBLIC IMPROVEMENT PLAN

**Client Name**  
OAKWOOD HOMES  
18655 GREEN VALLEY  
RANCH BLVD  
DENVER, CO 80249  
Tel: 303-486-8734  
Contact: DAVID CARRO

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JDM  
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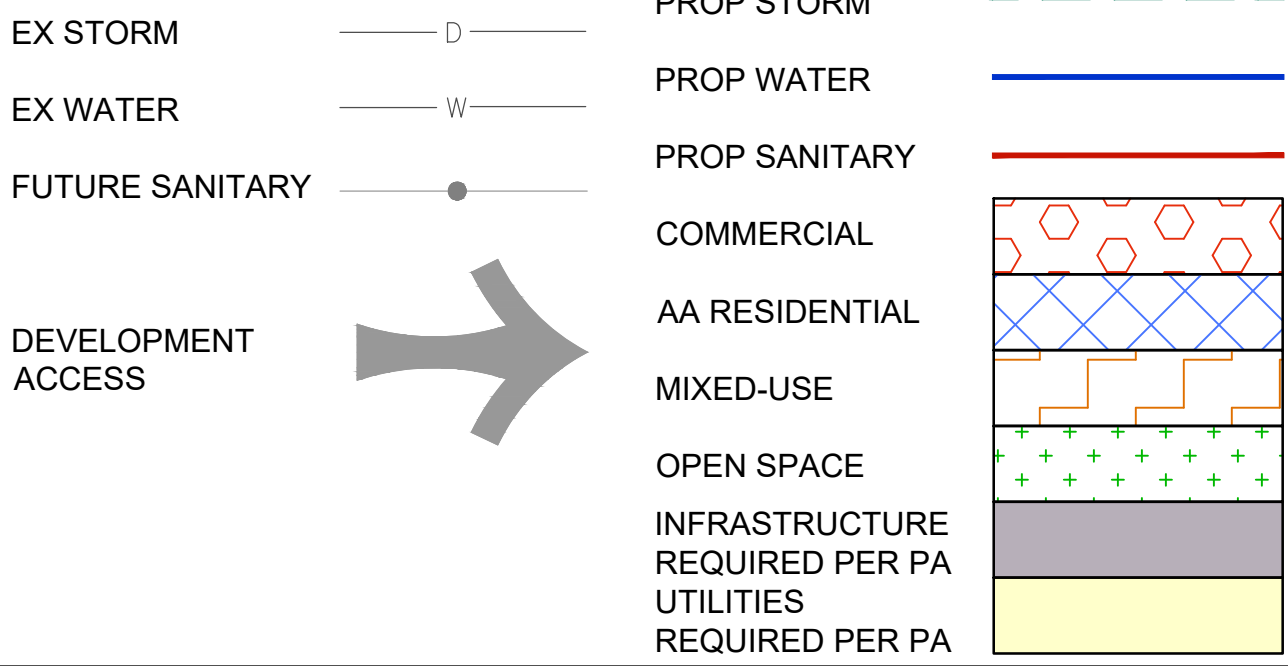
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## PLANNING AREA DETAILS



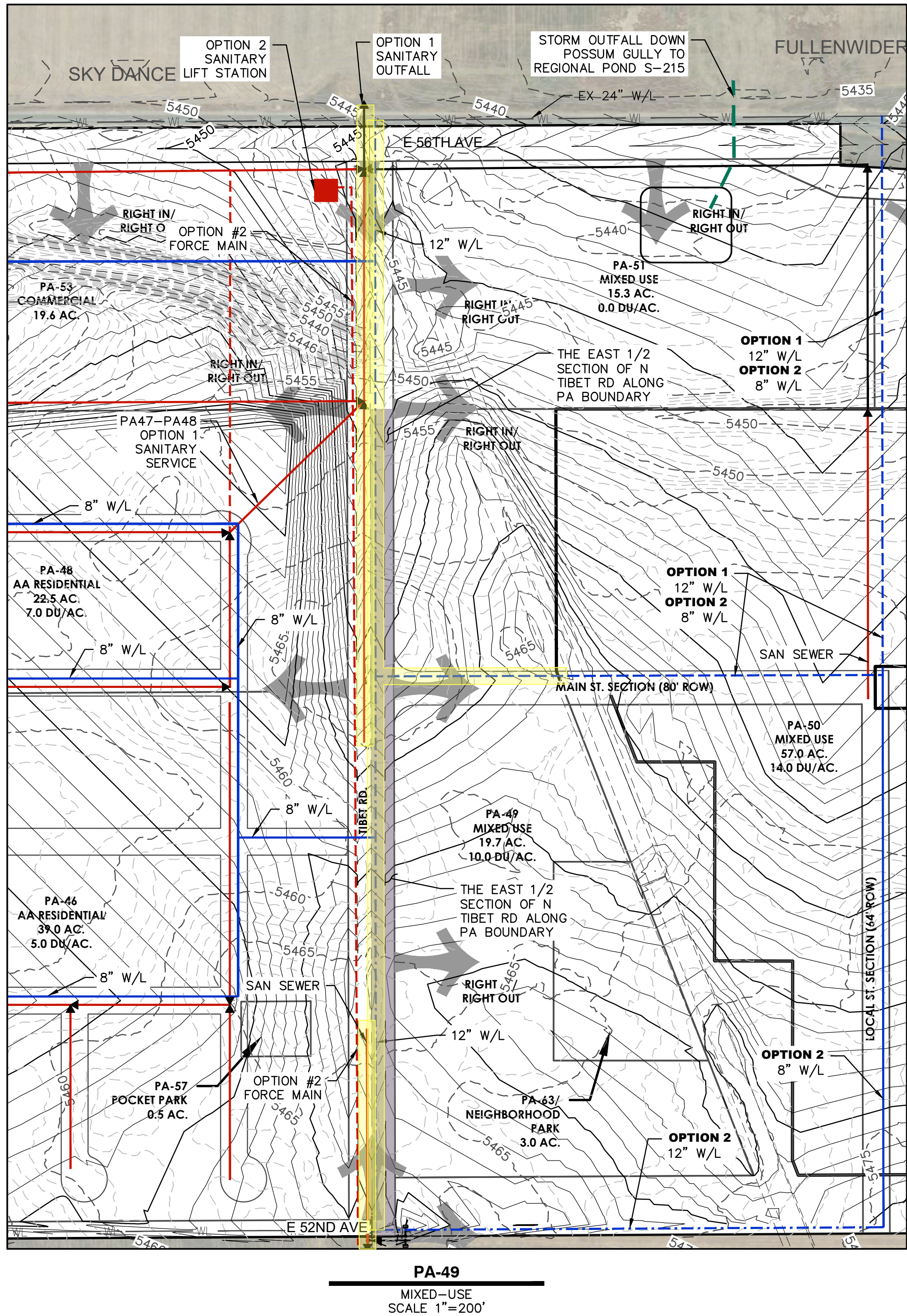
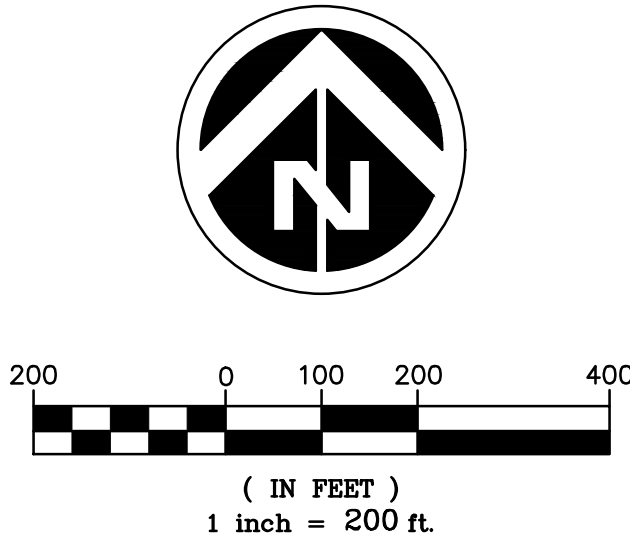
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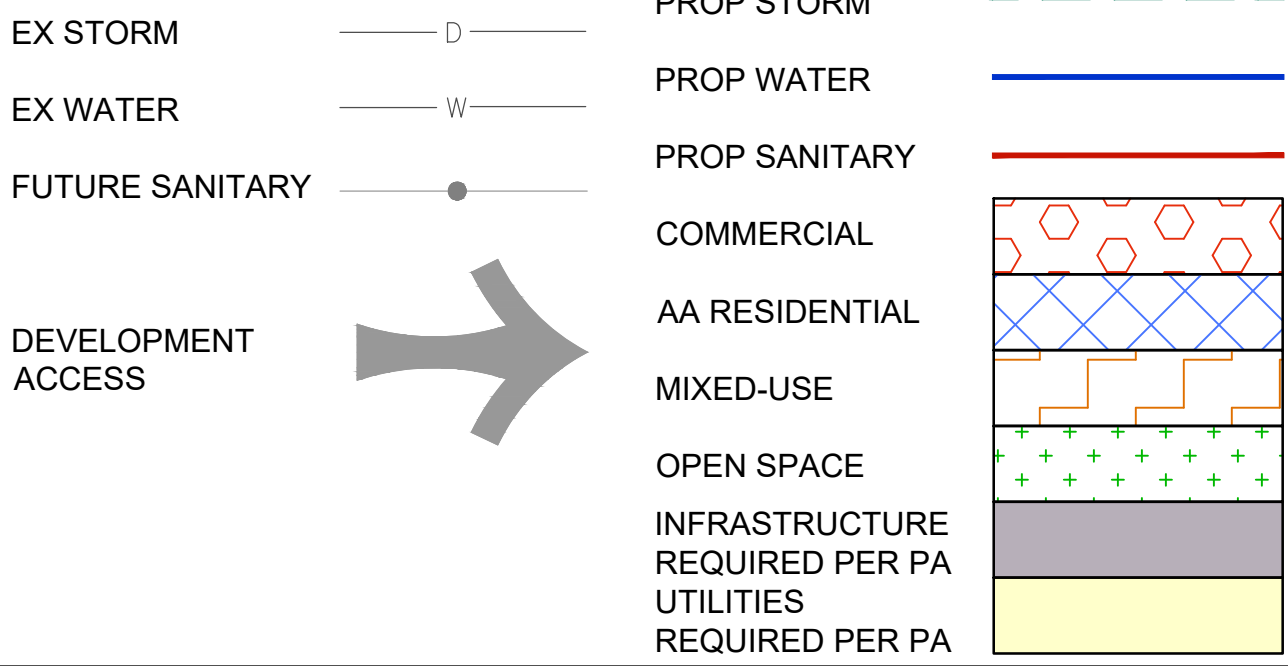
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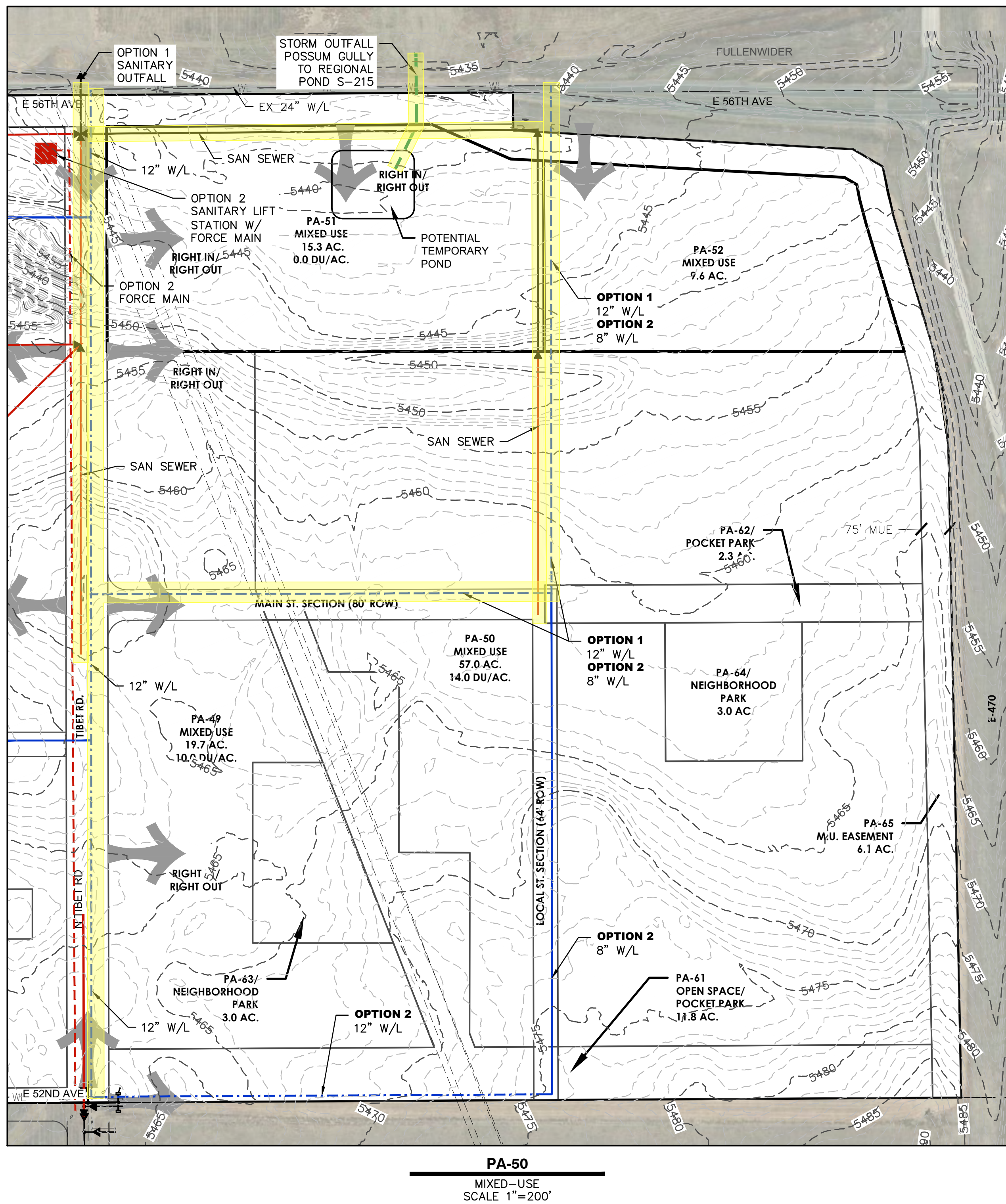
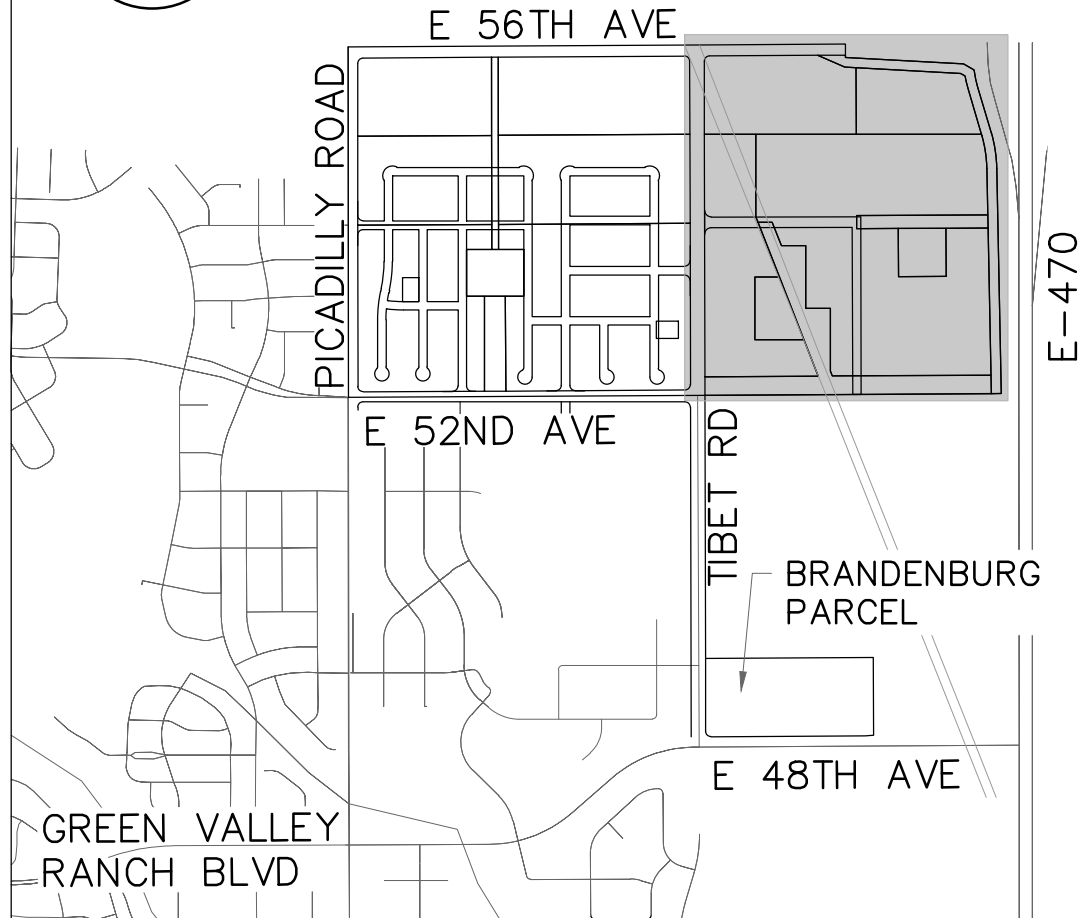
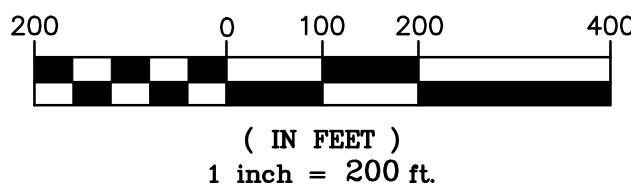
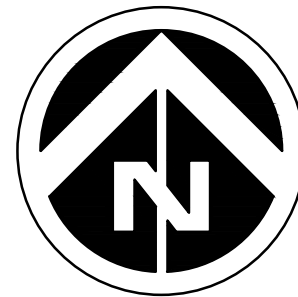
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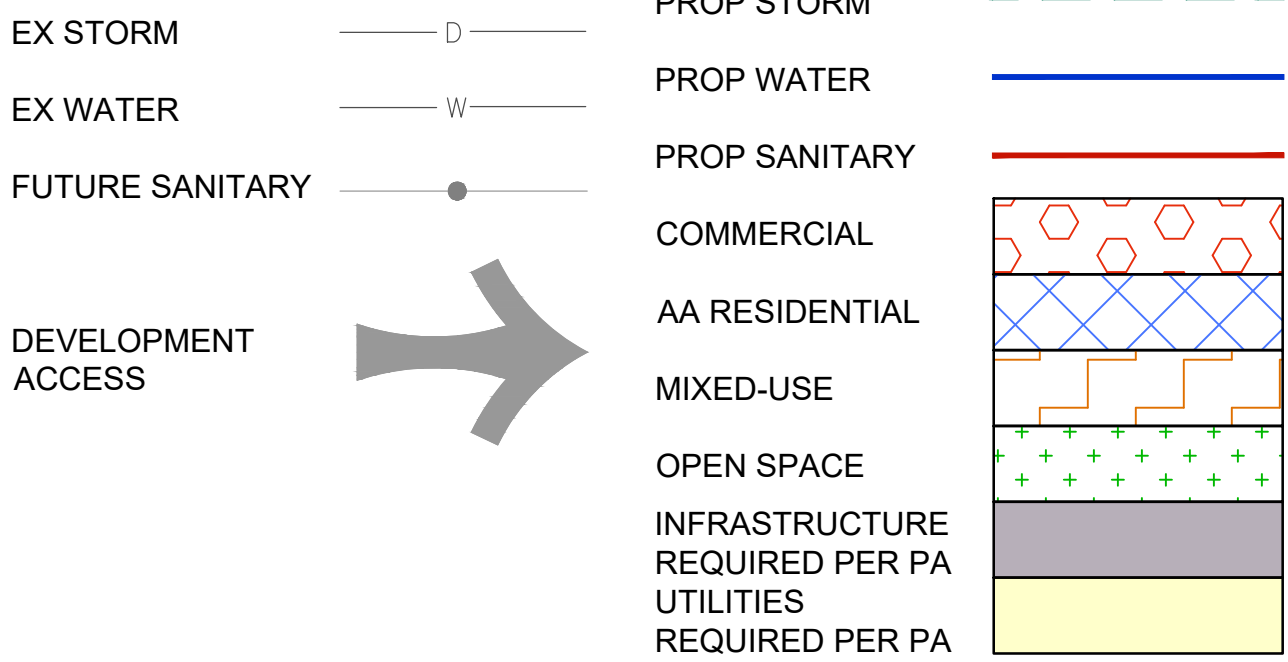
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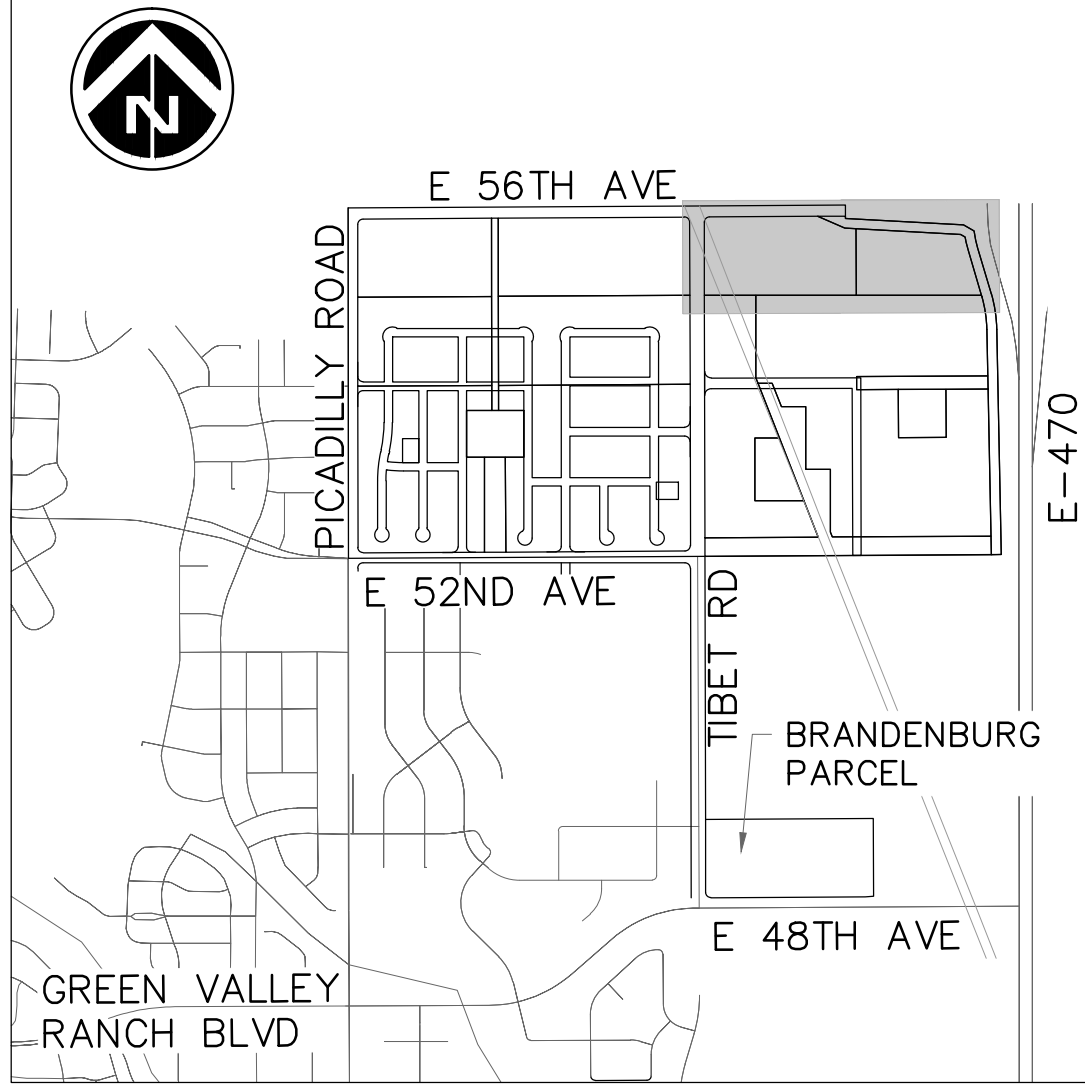
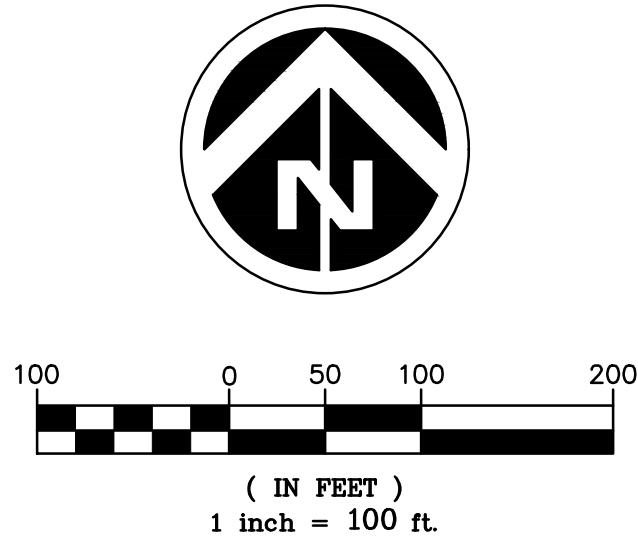
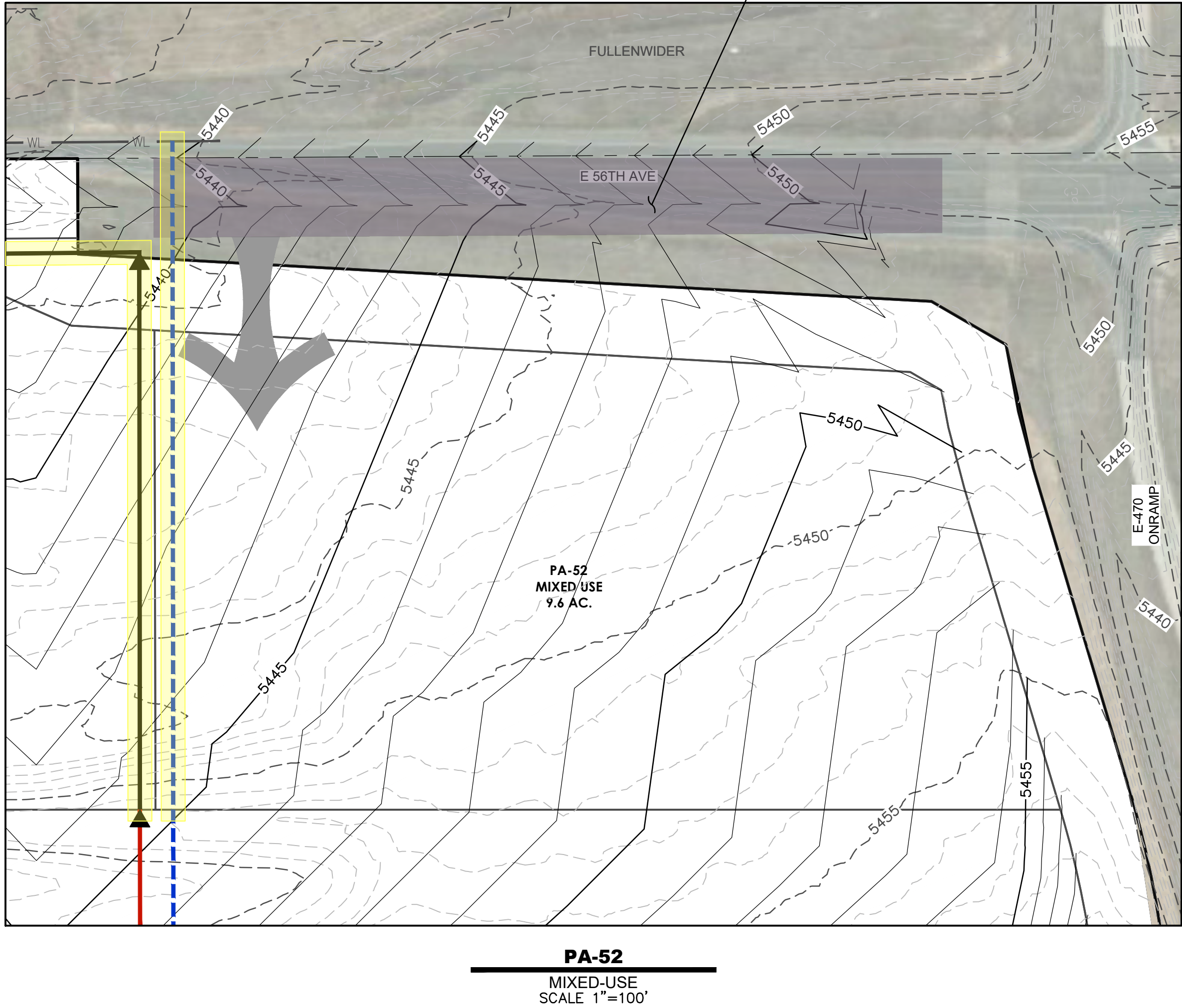
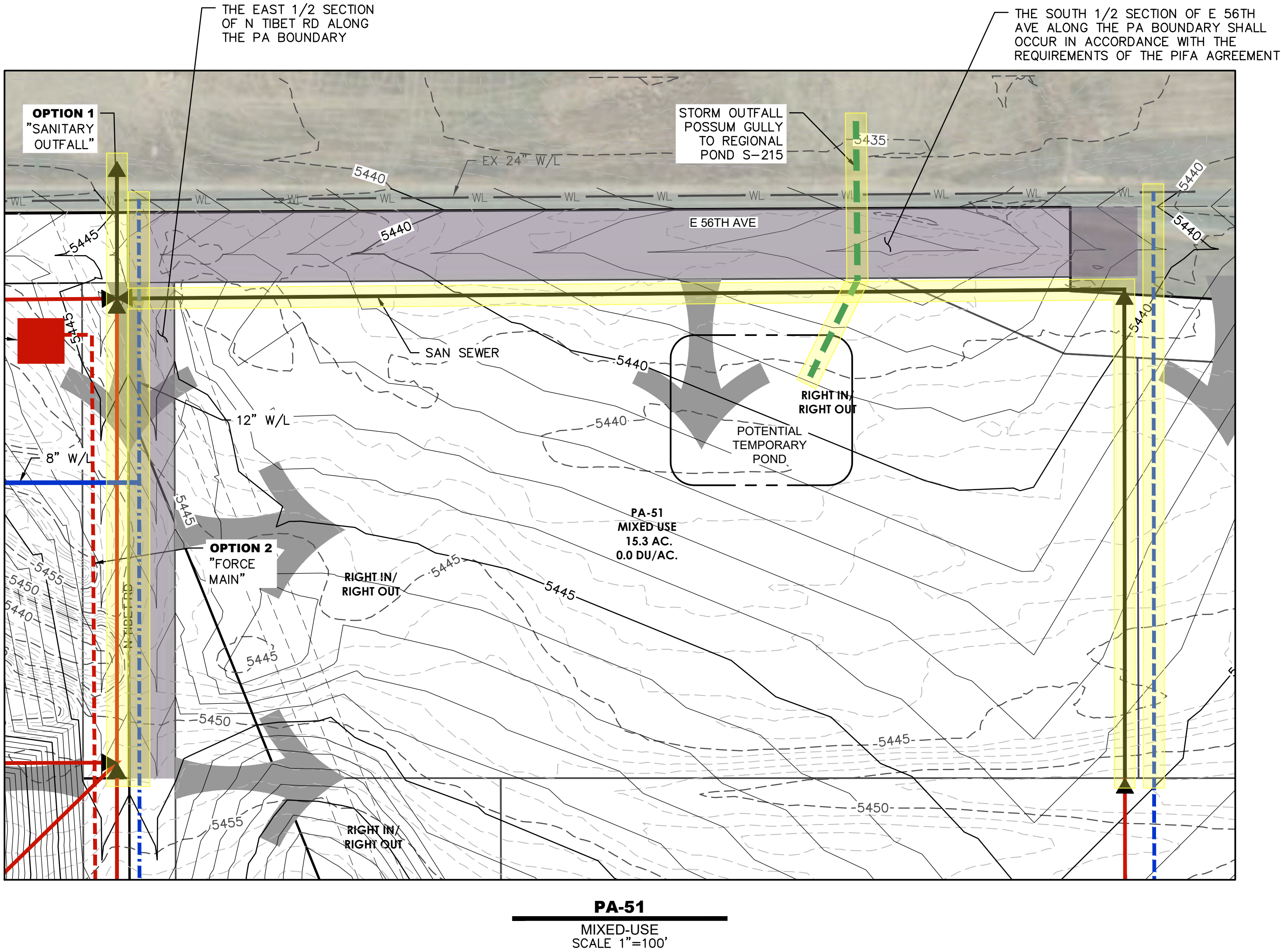
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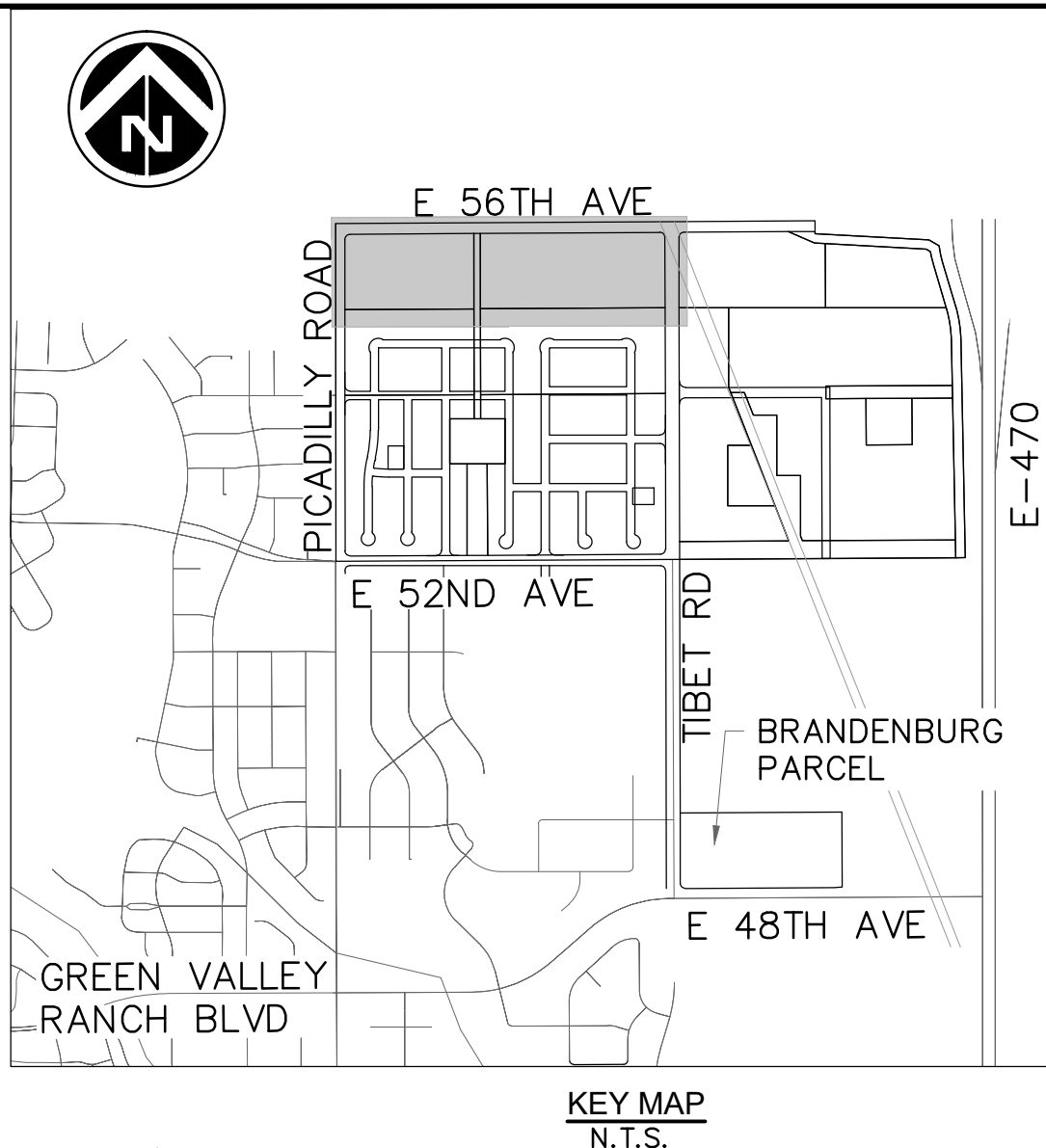
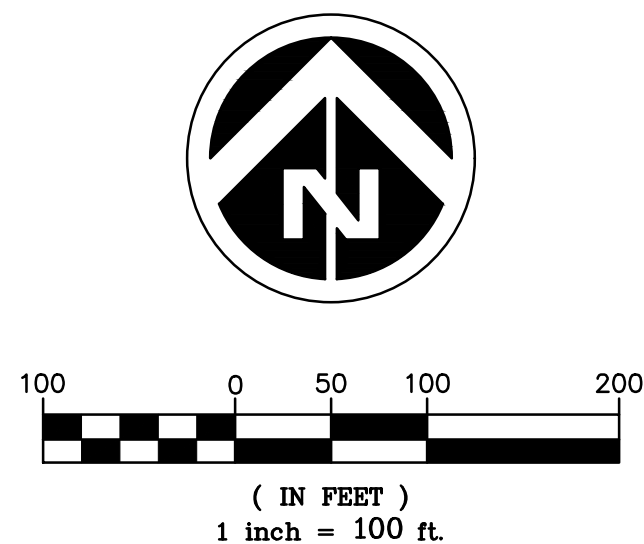
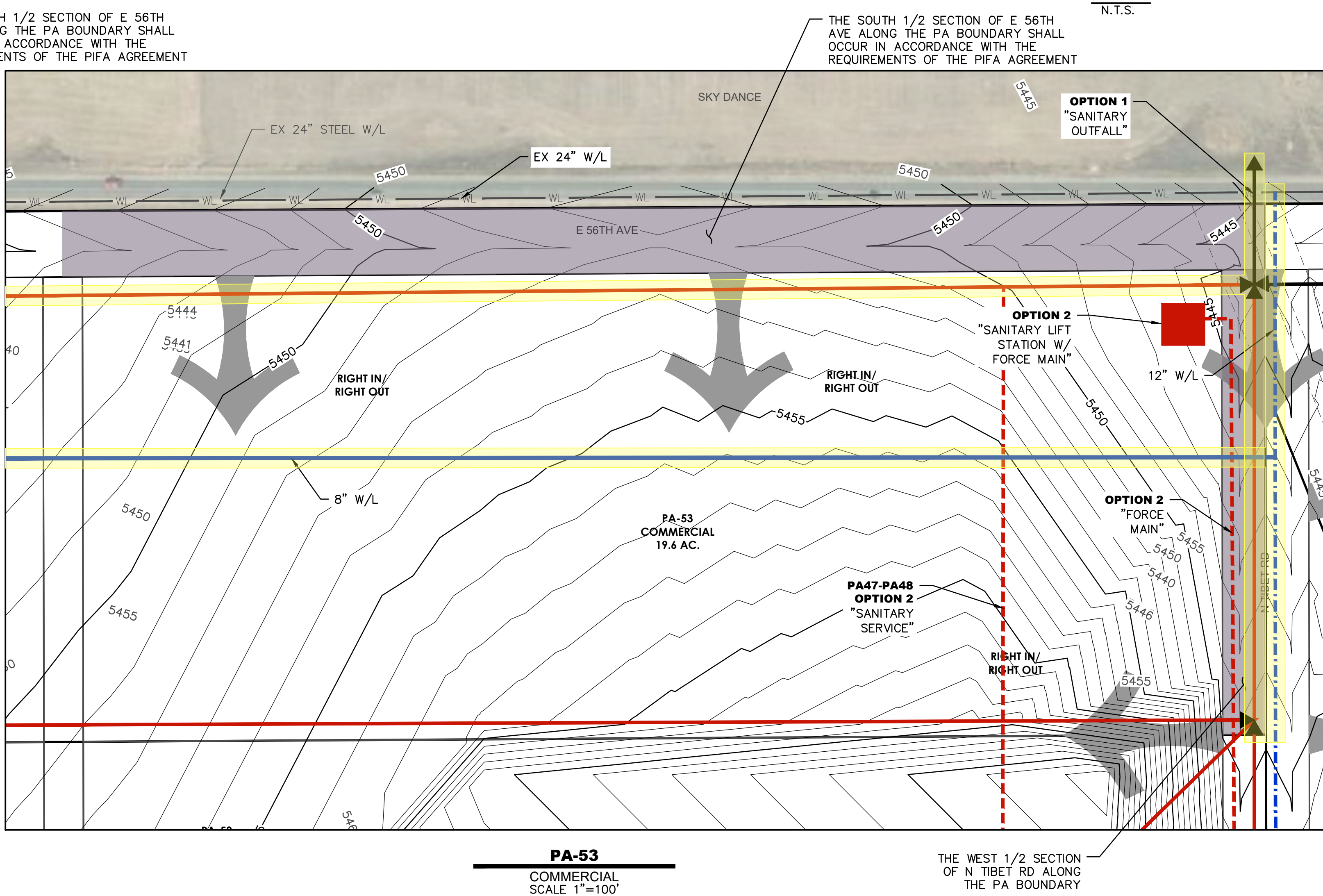
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## **GREEN VALLEY MASTER PLAN AMENDMENT 2 PUBLIC IMPROVEMENT PLAN**

**Client Name**  
OAKWOOD HOMES  
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RANCH BLVD  
DENVER, CO 80249  
Tel: 303-486-8734  
Contact: DAVID CARRO

[illegible]

PRELIMINARY  
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## **APPENDIX – Green Valley Amendment 1 PIP**

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## **GREEN VALLEY – AMENDMENT 1**

### **PUBLIC IMPROVEMENT PLAN**

**MAY 2017**

**REVISED OCTOBER 2017**

**REVISED DECEMBER 2017**

**REVISED MAY 2018**

**REVISED SEPTEMBER 2018**

**For:**

Oakwood Homes  
4908 Tower Road  
Denver, CO 80249  
Contact: Bruce Rau  
303.486.8556

**Prepared by:**

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**Revised by:**

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303.339.5392



**GREEN VALLEY – AMENDMENT 1**  
**PUBLIC IMPROVEMENT PLAN**

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**APPENDICES**

- A. Maps and Exhibits

# GREEN VALLEY – AMENDMENT 1

## PUBLIC IMPROVEMENT PLAN

### SCOPE

The purpose of this Master Land Use / Public Improvement Report is to discuss relevant issues regarding infrastructure planning for Green Valley – Amendment 1 development. More specifically, this report will discuss with each identified planning areas the required roadway, storm drainage, water and sanitary sewer infrastructure necessary to facilitate them as standalone developments.

### A. INTRODUCTION

#### 1. Location

- The Green Valley – Amendment 1 development is located in northeastern Aurora, Colorado. The site is east of Picadilly Road, west E-470, north of 38th Avenue, and south of 52nd Avenue with the regional detention improvements north 48th Avenue. The site is within Sections 13 and 24, Township 3 south, Range 66 west of the Sixth Principal Meridian, City of Aurora, Adams County Colorado. The existing Green Valley Ranch residential development is to the west of Picadilly Road (located within the City and County of Denver). Portions of the proposed Windler and The Aurora Highlands proposed developments are to the east and south of the site.



# **GREEN VALLEY – AMENDMENT 1**

## **PUBLIC IMPROVEMENT PLAN**

### **2. Proposed Development**

- The proposed Framework Development Plan (FDP) for Green Valley – Amendment No. 1 development consists of approximately +/- 583.6 total acres. The site is surrounded by the existing Green Valley Ranch residential developments to the west (located within the City and County of Denver). E-470 Airport Corporate, Distribution, and I-70 Corridor uses to the north. Light industrial uses are permitted to the south, and I-70 Corridor uses are permitted to the east. West of the site are the GVRE, Windler and Majestic Commercenter developments
- Green Valley – Amendment 1 is a mixed use planned development consisting of a variety of proposed land uses that include: residential housing options, school, parks and open space. The predominant land use will be a variety of residential dwelling units. With an average gross density of approximately 5.5 dwelling units per acre, this equates to roughly 2,500 units or +/- 6,900 residents. Housing varieties include single-family detached, single-family attached, and multi-family options.

## **B. GENERAL PARAMETERS**

### **1. Land Development**

- Green Valley – Amendment 1 has been split into several distinct planning areas based on market analysis and development opportunities. As such the planning areas noted herein were analyzed to determine the minimum required infrastructure necessary to support them. However, the actual sequential development of this project shall be determined by market demands. Furthermore, dependent upon market needs, identified planning areas may be combined or partially skipped as needed.
- Roadway and utility alignments (water, sanitary sewer, storm drainage) are shown for illustrative purposes to identify required infrastructure but are subject to change as planning areas are developed. Final roadway and utility alignments will be determined by subsequent CSP and construction document submittals.
- Each planning area shall at a minimum have:
  - Two points of access into the property.
  - Sufficient roadways to assure emergency vehicle access.
  - Sufficient fire hydrants to provide adequate fire flows.
  - Sufficient looped water main system connected to COA water system.
  - Sanitary outfalls to connect into COA sewer interceptor mains.
- Water quality treatment shall be provided to any developed areas prior to release to adjoining waterways.

### **2. Roadway Improvements**

- The proposed arterial and collector roadways align with the arterial and collector roadways of adjacent properties. Currently E-470, 48th Avenue, and Picadilly Road are adjacent or internal to the site.
- It is anticipated that roadway sections shall be constructed as necessary to accommodate traffic volumes and movement requirements as well as to satisfy Life



# GREEN VALLEY – AMENDMENT 1

## PUBLIC IMPROVEMENT PLAN

Safety requirements. Intersections may require full sections and proper transitions to adequately handle the ultimate traffic volumes and traffic movements. The remaining roadway and utility infrastructure shall be completed as future planning areas are developed. Development and Fire/Life Safety may require segments to be constructed out of phasing order.

- Perimeter roadway improvements and associated infrastructure is required for the proposed development. As set forth in the Public Infrastructure Funding Agreement (PIFA) (the “Agreement”) between the Developer (Oakwood Homes), the Metropolitan District (the District), and the City of Aurora (the City), together referred to as the “Parties”, the improvements will be constructed in the following twelve segments:

Segment	Description and Location of Roadway Improvement	Trigger Event
Segment A	North 1/2 of 48th Ave - Picadilly Road to Rome Street	Collection of the 74th Impact Fee
Segment B	South 1/2 of 48th Ave - Picadilly Road to Rome Street	Collection of the 148th Impact Fee
Segment C	S. 1/2 of 52nd Ave - Picadilly Road to East Boundary of PA-1	Collection of the 240th Impact Fee
Segment D	48th Ave - Rome Street to Tibet Road	Collection of the 460th Impact Fee
Segment E	East 1/2 of Picadilly Road - 48th Ave to 42nd Ave	Collection of the 616th Impact Fee
Segment F	East 1/2 of Picadilly Road - 52nd Ave to 48th Ave	Collection of the 824th Impact Fee
Segment G	Tibet Road - South boundary of PA-2 to Tributary T Crossing	Collection of the 1126th Impact Fee
Segment H	East 1/2 of Picadilly Road - 42nd Ave to 38th Ave	Collection of the 1253rd Impact Fee
Segment I	38th Ave - Picadilly Road East to Tibet Road	Collection of the 1497th Impact Fee
Segment J	52nd Ave -West Boundary of PA-2 to Tibet Road	Collection of the 1606th Impact Fee
Segment K	Tibet Road - 52nd Ave to South Boundary of PA-2	Collection of the 1738th Impact Fee
Segment L	Tibet Road - Tributary T Crossing South to 38th Ave	Collection of the 1922nd Impact Fee
Segment M	38th Ave - Tibet Road East to E-470	Collection of the 2111th Impact Fee or Last platted area within the FDP boundary, whichever comes first

# **GREEN VALLEY – AMENDMENT 1**

## **PUBLIC IMPROVEMENT PLAN**

- To fund the cost of the work, the District will impose an impact fee on homebuilders constructing single-family residences in the proposed development in the amount agreed upon by the Parties base upon an approved cost estimate of the work. The impact fee will be due at the time a homebuilder applies for a building permit, and the District will collect such impact fee as a condition to the issuance of a building permit in the property.
- The impact fee is calculated by dividing the cost estimate by the number of single-family platted lots (or preliminary platted lots if final plats are not recorded). The district will assess the impact fees for each succeeding year by dividing the cost estimate for the remaining work for such year and the District's estimate out of pocket costs by the number of single-family lots in the property for which a building permit has not been issued.
- The District will deposit impact fees upon receipt, shall hold such impact fees in escrow, and release escrow funds to pay the cost of the work at the Triggering Events listed below. The constructing party shall commence construction of a segment of the work upon occurrence of a Triggering Event provided that a determination by the City that life safety, traffic counts, or other considerations does not warrant construction of a segment earlier than the Triggering Event.

### **3. Drainage Improvements**

- The Green Valley – Amendment 1 development lies within the First Creek watershed. In general, historic drainage patterns consist of poorly defined drainages that traverse the agricultural fields in direction towards 48<sup>th</sup> Ave and Picadilly. The development of Green Valley – Amendment 1 will require public and private drainage improvements for the safe collection and conveyance of stormwater runoff. All public drainage improvements will meet the requirements of the City of Aurora and UDFCD as directed. Runoff within the proposed development will initially be carried in the streets. The street conveyance will be supplemented with storm systems where street flow capacities are exceeded. Storm sewer networks along with open channel drainageways will convey runoff to water quality and detention facilities. Flow from the site will ultimately reach Tributary T.
- Offsite flow will be conveyed through the site via the main branch of Tributary T.
- Responsibility for construction of improvements to the drainageways will be apportioned between the City of Aurora and the developer. The developer assumes the responsibility for earthwork, erosion protection and revegetation associated with the stream channelization required for the adequate drainage, control, and conveyance of stormwater to the detention facilities and/or receiving waters. The City of Aurora is responsible for the construction of grade control structures in channels with tributary areas greater than 160 acres. The need for grade control structures will be determined with preliminary design. The developer is responsible for the construction of the grade control structures in the channel with the City providing agreed upon reimbursements.

# **GREEN VALLEY – AMENDMENT 1**

## **PUBLIC IMPROVEMENT PLAN**

- Adequate drainage infrastructure/outfalls to Master Planned drainage improvements shall be provided within each Development Phase or Group.

### **4. Water Improvements**

- The Green Valley – Amendment 1 development will be served by the City of Aurora (COA) water system with the proposed development integrating into Pressure Zone 3. Pressures generally increase towards the northwest boundary and reduce towards the southeast boundary of the proposed project area.
- Existing Water Facilities: Water transmission to the proposed development area is currently conveyed by means of two 24" waterlines:
  - N Picadilly Road Water Transmission Line  
24" waterline which extends from the east-west 24" ductile iron pipe (DIP) water transmission line along the I-70 Interstate corridor. The existing waterline proceeds north at Picadilly Road transitioning to polyvinyl chloride (PVC) pipe at approximately 26th Avenue. The 24" PVC water transmission line continues north to 64th Ave. before proceeding west to serve the High Point, Single Tree, and The Meadows at Dunkirk subdivisions.
  - E 48th Avenue Water Transmission Line  
24" PVC water line which branches off the Picadilly Road water transmission line at 48th Avenue and proceeds east to Harvest Road before continuing north to 56th Avenue. The 24" water transmission line then proceeds east along 56th Avenue for approximately 2,000' before terminating at Jackson Gap Street.
- Each planning area shall be required to provide an internal looped water network per city criteria during their respective CSP submittals.

### **5. Sanitary Sewer Improvements**

- The Green Valley – Amendment 1 development will be served by the City of Aurora (COA) sanitary sewer system. COA has anticipated growth and development in this area and constructed the First Creek Lift Station and approximately 9,750 linear feet of 36" PVC sanitary sewer line. The lift station is located off Rome Street approximately 600' south of 48th Avenue. The 36" sanitary sewer line proceeds east from the lift station in a dedicated easement and terminates at 48th Avenue approximately 1,180' west of Harvest Road.
- Green Valley – Amendment 1 lies within the First Creek watershed.
- The capacity of the First Creek Lift Station will be considered for phasing and layout of the proposed internal sanitary sewer system including any outfall lines to existing COA interceptor mainlines.
- Suitable outfall mains shall extend from each Development Group Area and connect into COA sanitary sewer system. Interior sewer mains shall extend to Development Area limits to provide service connections for future development areas.



## GREEN VALLEY – AMENDMENT 1

### PUBLIC IMPROVEMENT PLAN

#### 6. Parks and Open Space

- The parks and open space planning areas referenced herein are shown on the Framework Development Plan (FDP) entitled 'Green Valley - Amendment No. 1'.
- The phasing and appropriate triggers have been included herein within each individual Planning Area Group.

### C. PLANNING AREAS – GROUP A



#### 1. Land Development

The land development within Planning Areas – Group A incorporates approximately 82 acres.

# GREEN VALLEY – AMENDMENT 1

## PUBLIC IMPROVEMENT PLAN

Land uses described below:

Planning Areas - Group A		
Planning Area	Area Code	Gross Land Area (AC)
PA-4	Active Adult Residential	28.1
*PA-6	Single Family Residential	22.5
PA-11	Clubhouse	3.5
PA-25	Detention	6.1
PA-26	Detention	8.0
PA-27	Detention	3.8
PA-29	Channel	1.7
*PA-30	Channel	7.9
<b>Total</b>		<b>81.6</b>

\*PA-6 is also represented in Planning Areas B & C

\*PA-30 is also represented in Planning Areas B, C, and D

## 2. Roadway Improvements

- The following roadways are required to support the planned development located within Planning Areas – Group A:
  - North outer two lanes of 48<sup>th</sup> Avenue from Picadilly Road about 1,305 LF east to the access road for PA-4 (Rome St.) including 1 - left turn lane at Picadilly Road and provide interim landscape median (Segment A Trigger).
  - South outer two lanes of 48<sup>th</sup> Avenue from Picadilly Road east to PA-17 Open Space including 1 – left turn lane at Rome Street (Segment A Trigger).

## 3. Drainage Improvements

- The following drainage improvements shall be required to support the development of Planning Areas – Group A:
  - Regional Detention Pond 8503 occupying planning areas PA-26, and PA-27.
  - Tributary T Channel improvements from the existing 48<sup>th</sup> Ave box culvert to the southeast spanning Planning Areas PA-28 (PA-29), and a portion of PA-29 (PA-30).
  - Internal Storm Sewer System within developed area of PA-4 and PA-6.
  - Water quality ponds within developed area of PA-28 and PA-20.

## 4. Water Improvements

- The following water improvements shall be required to support the development of Planning Areas – Group A:
  - Water Main interior to PA-6 to create a looped connection from the existing 24-inch Transmission line located in Picadilly Road to the existing 24inch Transmission line in 48<sup>th</sup> Avenue.

# **GREEN VALLEY – AMENDMENT 1**

## **PUBLIC IMPROVEMENT PLAN**

- Water Main interior to PA-4 to create a looped connection from the existing 24-inch Transmission line located in Picadilly Road to the existing 24-inch Transmission line in 48<sup>th</sup> Avenue.
- Internally looping of water mains along planned local streets.

### **5. Sanitary Sewer Improvements**

- The following sanitary improvements shall be required to support the developments of Planning Areas – Group A:
  - Sewer Main is anticipated to be installed from the First Creek Lift Station north through PA-4. This sewer main will service the basin area tributary to Tributary T drainage way including the Green Valley – Amendment 1 development north of 48<sup>th</sup> Avenue, west of Tibet Road and east of Picadilly Road.
  - A 30-inch interceptor line is anticipated to be installed by others running north along Picadilly Road and east through PA-6 to the First Creek Lift Station. It is anticipated that this interceptor line will service the area south of 48<sup>th</sup> Avenue, east of Picadilly Road, north of 38<sup>th</sup> Avenue, and west of the Tributary T drainage way.
  - Sewer main is anticipated to extend southeast parallel to and on the east side of Tributary T within PA-6 to PA-14 Neighborhood Park.

### **6. Parks and Open Space**

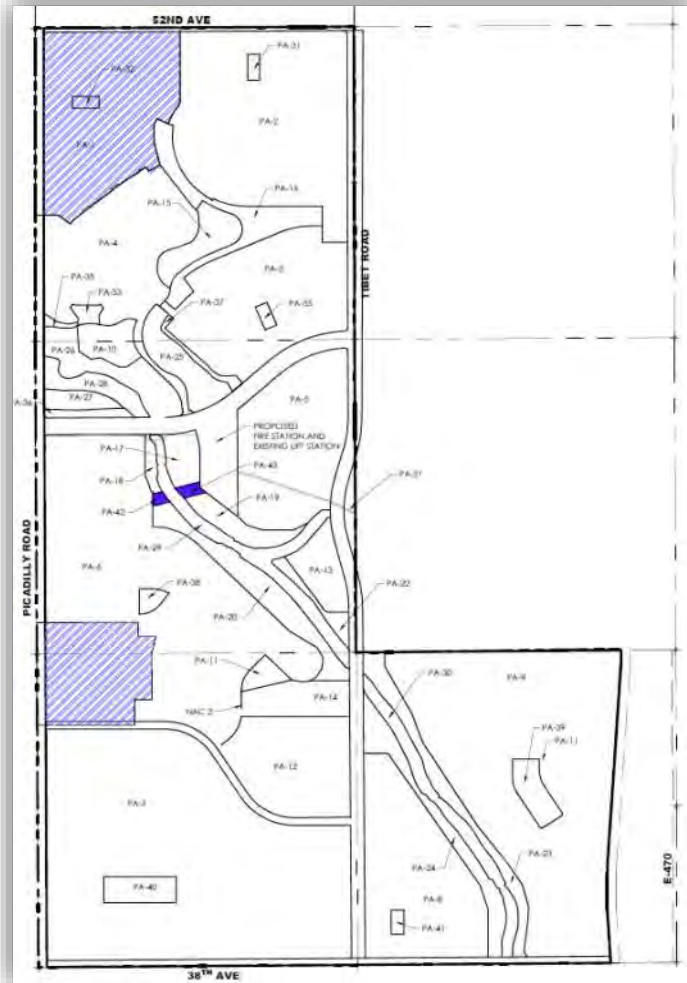
- The following parks and open space shall be required to support the development of Planning Areas – Group A.
  - PA-33 Open space 0.8 ac.
  - PA-38 Pocket Park 0.9 ac.
  - PA-26 Detention Pond 6.8 ac.
  - PA-27 Detention Pond 2.1 ac.
  - PA-28 Channel 3.4 ac.



# GREEN VALLEY – AMENDMENT 1

## PUBLIC IMPROVEMENT PLAN

### D. PLANNING AREAS – GROUP B



#### 1. Land Development

The land development within Planning Areas - Group B incorporates approximately 74 acres.  
Land uses described below:

Planning Areas - Group B		
Planning Area	Area Code	Gross Land Area (AC)
PA-1	Active Adult Residential	33.2
*PA-6	Single Family Residential	32.4
*PA-30	Channel	7.9
	<b>Total</b>	<b>73.5</b>

\*PA-6 is also represented in Planning Areas A & C

\*PA-30 is also represented in Planning Areas A, C, and D

# **GREEN VALLEY – AMENDMENT 1**

## **PUBLIC IMPROVEMENT PLAN**

- The development within Planning Areas - Group B assumes the following infrastructure to be constructed prior to the commencement of the above listed planning areas.
  - 30-inch interceptor line installed by others running north along Picadilly Road and east through PA-6 to the First Creek Lift Station.
  - Sewer Main installed from the First Creek Lift Station north through PA-4.
  - Regional Detention Pond 8503.
  - Tributary T channel improvements from 48<sup>th</sup> Avenue south to the interceptor crossing.
  - Parks and Open Space.

### **2. Roadway Improvements**

- The following roadways shall be required to support the development Planning Areas – Group B:
  - 52<sup>nd</sup> Avenue whole street section (3-Lane Collector) from Picadilly Road east adjacent to PA-1 (Segment 2 Trigger).
  - 42<sup>nd</sup> Avenue whole street section (2-Lane Collector) from Picadilly Road east adjacent to PA-6.

### **3. Drainage Improvements**

- The following drainage improvements shall be required to support the development of Planning Areas – Group B:
  - Tributary T Channel improvements from the interceptor crossing to the outfall of the proposed planning areas.
  - Water Quality ponds within developed area of PA- 6 before discharging into the Tributary T channel.
  - Internal Storm Sewer System within development area of PA-1 and PA-6.

### **4. Water Improvements**

- The following water improvements shall be required to support the development of Planning Areas – Group B.
  - Water Main along 52<sup>nd</sup> Avenue from Picadilly Road east adjacent to PA-1 and internally looped to proposed water main along 51<sup>st</sup>. Ave.
  - Water Main along 51<sup>st</sup> Avenue from Picadilly Road east interior to PA-1.
  - Water Main along 44<sup>th</sup> Avenue from Picadilly Road east interior to PA-6 and internally looped to proposed water main along 42<sup>nd</sup>. Ave.
  - Water Main along 42<sup>nd</sup> Avenue from Picadilly Road east adjacent to PA-6.

# GREEN VALLEY – AMENDMENT 1

## PUBLIC IMPROVEMENT PLAN

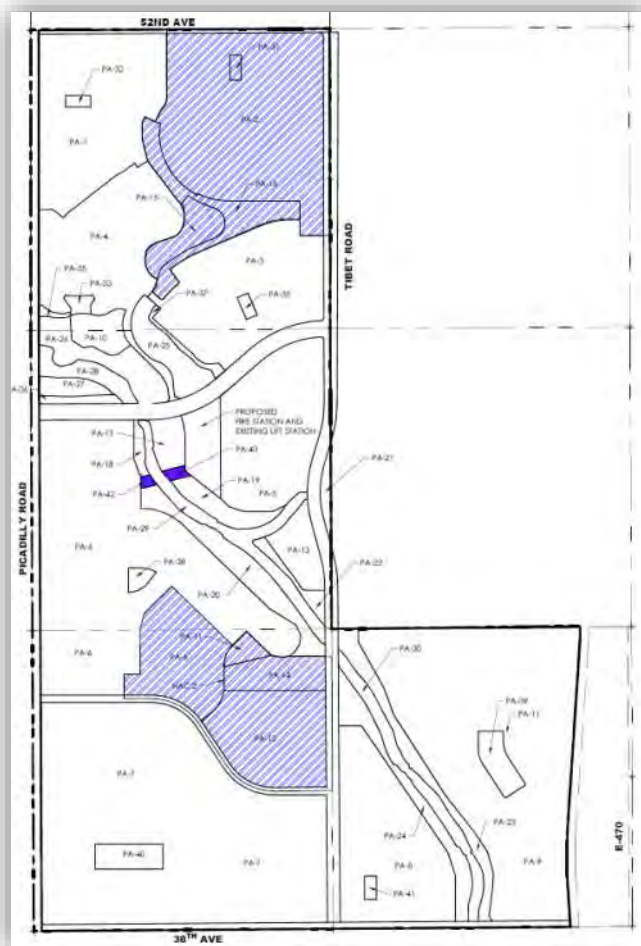
### 5. Sanitary Sewer Improvements

- The following sanitary improvements shall be required to support the developments of Planning Areas – Group B:
  - Extension of the Sewer Main north through PA-1 providing a connection for the future development to the north at the intersection of Picadilly Road and 52<sup>nd</sup> Avenue.
  - Extension of the Sewer Main south and west of Tributary T channel through the planned development within PA-6.

### 6. Parks and Open Space

- The following parks and open space shall be required to support the development of Planning Areas – Group B.
  - PA-32 Pocket Park 0.5 ac.
  - Portion of PA-29 Channel +/- 1.1 ac.

## E. PLANNING AREAS – GROUP C





# GREEN VALLEY – AMENDMENT 1

## PUBLIC IMPROVEMENT PLAN

### 1. Land Development

The land development within Planning Areas – Group C incorporates approximately 96 acres.  
Land uses described below:

Planning Areas - Group C		
Planning Area	Area Code	Gross Land Area (AC)
PA-2	Active Adult Residential	47.9
*PA-6	Single Family Residential	26.4
PA-16	Open Space	6.1
PA-17	Open Space	3.5
PA-18	Open Space	0.6
PA-28	Channel	3.2
*PA-30	Channel	7.9
	<b>Total</b>	<b>95.6</b>

\*PA-6 is also represented in Planning Areas A & B

\*PA-30 is also represented in Planning Areas A, B, and D

- The development within Planning Areas – Group C assumes the following infrastructure to be constructed prior to the commencement of the above listed planning areas.
  - South half of 52<sup>nd</sup> Avenue from Picadilly Road east to PA-2 (Segment C Trigger).
  - North half of 48<sup>th</sup> Avenue from Picadilly Road east to PA-4 and north along PA-4 to the proposed development connection (Segment A Trigger).
  - Internal roadway connection through PA-6 connecting into 48<sup>th</sup> Avenue to provide a secondary access.
  - 42<sup>nd</sup> Avenue from Picadilly Road east to the proposed development connection.
  - Regional Detention Pond 8503.
  - Tributary T channel improvements from 48<sup>th</sup> Ave to the outfall of Planning Areas Group B.
  - Sewer Main installed from the First Creek Lift Station north through PA-4.
  - Sewer Main installed from the First Creek Lift Station south to the proposed development connection.
  - Water Main installed from Picadilly east along 52<sup>nd</sup> Avenue, 51<sup>st</sup> Avenue, 50<sup>th</sup> Avenue, 44<sup>th</sup> Avenue, and 42<sup>nd</sup> Avenue connecting to the proposed developments.
  - PA-15, PA-16, and PA-31 Parks and Open Space.

### 2. Roadway Improvements

- The following roadways shall be required to support the development of Planning Areas – Group C:
  - 42<sup>nd</sup> Avenue whole street section (2-Lane Collector) adjacent to PA-6.

# **GREEN VALLEY – AMENDMENT 1**

## **PUBLIC IMPROVEMENT PLAN**

### **3. Drainage Improvements**

- The following drainage improvements shall be required to support the development of Planning Areas – Group C:
  - Proposed Culvert crossing under 52<sup>nd</sup> Avenue at the shared boundary of PA-1 and PA-2.
  - Proposed Culvert crossing under Tibet Road at the shared boundary of PA-2 and PA-3.
  - Channel improvements throughout PA-16 (PA-28).
  - Tributary T channel continuation from Planning Areas Group B – part of PA-29 Channel to the confluence channel merger.
  - Detention Pond completion within PA-25.
  - Water Quality ponds within developed area of PA- 6 before discharging into the Tributary T channel.

### **4. Water Improvements**

- The following water improvements shall be required to support the development of Planning Areas – Group C.
  - Water Main system connecting and looping the 52<sup>nd</sup> Avenue main to the Tibet Road main internal to PA-2.
  - Water Main system connecting and looping the 44<sup>th</sup> Avenue main to the 42<sup>nd</sup> Avenue main internal to PA-6.

### **5. Sanitary Sewer Improvements**

- The following sanitary improvements shall be required to support the developments of Planning Areas – Group C:
  - Extension of the Sewer Main south and west of Tributary T channel through the planned development within PA-6 terminating at PA-15 Park.
  - Extension of sewer main north and east within PA-16 Open space and PA-17 Open Space to Tibet Road.

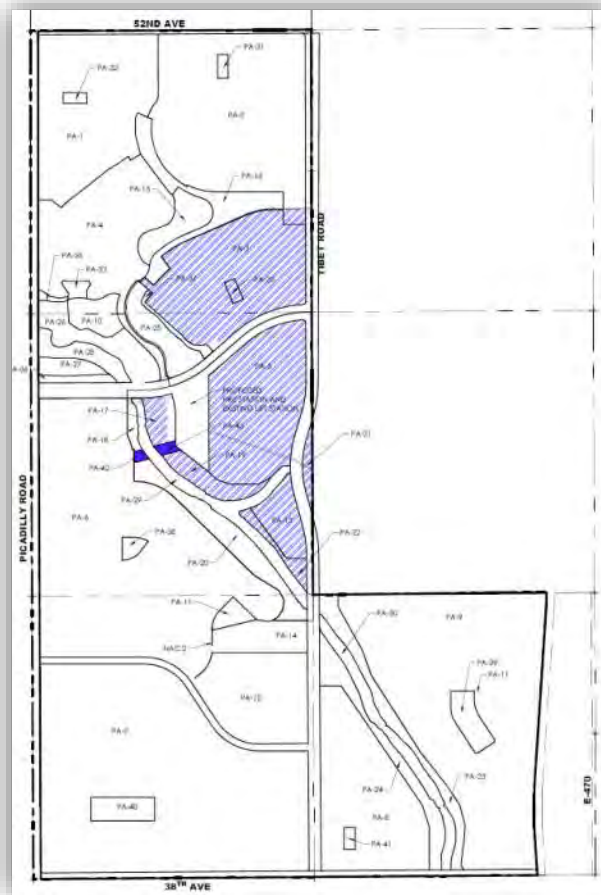
### **6. Parks and Open Space**

- The following parks and open space shall be required to support the development of Planning Areas – Group C.
  - PA-31 Pocket Park 0.5 ac.
  - PA-16 Open Space 8.1 ac.
  - PA-11 Clubhouse 1.5 Ac.
  - PA-15 Neighborhood Park 4.5 ac.
  - PA-14 Neighborhood Park 5.8 Ac.
  - Portion of PA-29 Channel +/- 1.7 ac.

# GREEN VALLEY – AMENDMENT 1

## PUBLIC IMPROVEMENT PLAN

### F. PLANNING AREAS – GROUP D



#### 1. Land Development

The land development within Planning Areas – Group D incorporates approximately 106 acres.

Land uses described below:

Planning Areas - Group D		
Planning Area	Area Code	Gross Land Area (AC)
PA-3	Active Adult Residential	47.9
PA-5	Single Family Residential	26.4
PA-14	Park	5.0
PA-19	Open Space	5.5
PA-20	Open Space	9.4
PA-21	Open Space	1.6
PA-22	Open Space	2.3
*PA-30	Channel	7.9
<b>Total</b>		<b>106.0</b>

\*PA-30 is also represented in Planning Areas A, B, and C



# **GREEN VALLEY – AMENDMENT 1**

## **PUBLIC IMPROVEMENT PLAN**

- The development within Planning Areas – Group D assumes the following infrastructure to be constructed prior to the commencement of the above listed planning areas.
  - North half of 48<sup>th</sup> Avenue from Picadilly Road east to PA-4 (Segment A Trigger).
  - A secondary access developed on the north side of 48<sup>th</sup> Avenue as well as on the south side of 48<sup>th</sup> Avenue connecting the planned development to Picadilly Road creating a secondary access for PA-3 and PA-5.
  - Sewer Main installed from the First Creek Lift Station north through PA-4.
  - Regional Detention Pond 8503.
  - Tributary T channel improvements from 48<sup>th</sup> Avenue to the confluence merger.
  - Parks and Open Space.

### **2. Roadway Improvements**

- The following roadways shall be required to support the development of Planning Areas – Group D:
  - 48<sup>th</sup> Avenue whole street section from PA-17 east to Tibet Road (Segment D Trigger).
  - Tibet Road from the shared boundary of PA-2 and PA-3 south to the Tributary T channel crossing (Segment G Trigger).

### **3. Drainage Improvements**

- The following drainage improvements shall be required to support the development of Planning Areas – Group D:
  - Tributary T channel improvements from the confluence channel merger to Tibet Road.
  - Proposed Culvert crossing under Tibet Road at the shared boundary of PA-5 and PA-29 Channel.
  - Proposed Culvert crossing under Tibet Road at the Tributary T crossing connecting PA-29 and PA-30 channels.
  - Water Quality ponds within PA-19 Open Space and PA-20 Open Space before discharging into the Tributary T channel, respectively.

### **4. Water Improvements**

- The following water improvements shall be required to support the development of Planning Areas – Group D:
  - Water Main along the development of Tibet Road from the shared boundary of PA-2 and PA-3 south to the Tributary T channel crossing.

# **GREEN VALLEY – AMENDMENT 1**

## **PUBLIC IMPROVEMENT PLAN**

- Internal water main connecting and looping through PA-5 from 48<sup>th</sup>. Ave. south and east to Tibet Road.

### **5. Sanitary Sewer Improvements**

- The following sanitary improvements shall be required to support the developments of Planning Areas – Group D:
  - Sanitary Sewer Main connecting from the existing 36" main within PA-13 Neighborhood Park south east to Tibet Road continuing along the Tibet Road alignment south to the Tributary T channel crossing.

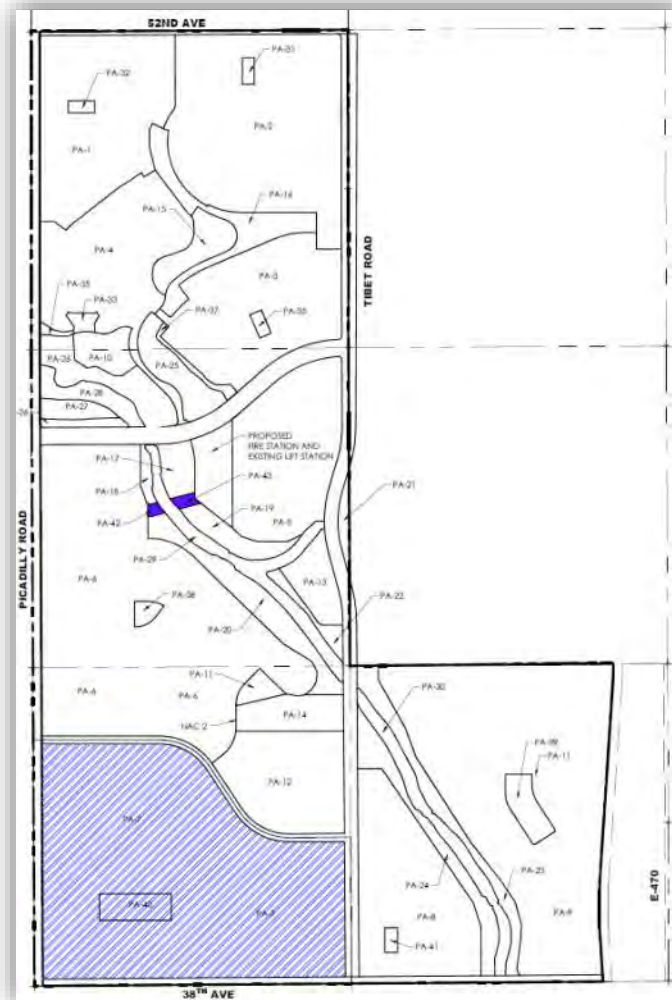
### **6. Parks and Open Space**

- The following parks and open space shall be required to support the development of Planning Areas – Group D.
  - PA-34 Pocket Park 0.5 ac.
  - PA-25 Detention Pond 5.4 ac.
  - PA-37 Open Space 1.0 ac.
  - Portion of PA-29 Channel +/- 4.8 ac

# GREEN VALLEY – AMENDMENT 1

## PUBLIC IMPROVEMENT PLAN

### G. PLANNING AREAS – GROUP E



#### 1. Land Development

The land development within Planning Areas – Group E incorporates approximately 120 acres.

Land uses described below:

Planning Areas - Group E		
Planning Area	Area Code	Gross Land Area (AC)
PA-7	Single Family Residential	95.7
PA-12	Clubhouse	1.5
PA-13	School Site	16.7
PA-15	Park	6.0
	<b>Total</b>	<b>119.9</b>



# **GREEN VALLEY – AMENDMENT 1**

## **PUBLIC IMPROVEMENT PLAN**

- The development within Planning Areas - E assumes the following infrastructure to be constructed prior to the commencement of the above listed planning areas.
  - 42<sup>nd</sup> Avenue from Picadilly east to the shared boundary of PA-6 and PA-13 School Site.
  - Regional Detention Pond 8503.
  - Tributary T channel improvements west of Tibet Road
  - Sewer Main installed from the First Creek Lift Station south to the proposed development connection.
  - 30inch interceptor line installed by others running north along Picadilly Road and east through PA-6 to the First Creek Lift Station.

### **2. Roadway Improvements**

- The following roadways shall be required to support the development of Planning Areas – Group E:
  - North half of 38<sup>th</sup> Avenue street section (4-Lane Arterial) from Picadilly Road east to Tibet Road (Segment I Trigger).
  - 42<sup>nd</sup> Avenue whole street section (2-Lane Collector) from the shared boundary of PA-6 and PA-12 School Site east to Tibet Road.
  - Tibet Road whole street section (3-Lane Collector) for the Tributary T channel crossing south to 38<sup>th</sup> avenue (Segment L Trigger).

### **3. Drainage Improvements**

- The following drainage improvements shall be required to support the development of Planning Areas – Group E:
  - Water Quality ponds within PA-12 School Site before discharging into the Tributary T channel.
  - Water Quality ponds within PA-7 before discharging into the First Creek channel.

### **4. Water Improvements**

- The following water improvements shall be required to support the development of Planning Areas – Group E.
  - Water Main along the development within 42<sup>nd</sup> Avenue.
  - Water Main along the development within Tibet Road.
  - Water Main along the development within 38<sup>th</sup> Avenue.
  - Internal connection and looping from 42nd. Ave., Tibet Road and 38th. Ave. through Planning Areas - Group E.

# **GREEN VALLEY – AMENDMENT 1**

## **PUBLIC IMPROVEMENT PLAN**

### **5. Sanitary Sewer Improvements**

- The following sanitary improvements shall be required to support the developments of Planning Areas – Group E:
  - Internal sewer basins tributary to the First Creek watershed will connect to the Picadilly Road interceptor line (by others).
  - Internal sewer basins tributary to the Tributary T watershed will connect to the sewer main running parallel too and on the west side of Tributary T drainage channel.
  - A local sanitary sewer main will need to extend south along Tibet Road to 42nd. Avenue.

### **6. Parks and Open Space**

- The following parks and open space shall be required to support the development of Planning Areas – Group E.
  - PA-14 Neighborhood Park 3.0 ac. Triggered with 300<sup>th</sup>. building permit within PA-7.
  - PA-40 Pocket Park 3.0 ac.

# GREEN VALLEY – AMENDMENT 1

## PUBLIC IMPROVEMENT PLAN

### H. PLANNING AREAS – GROUP F



#### 1. Land Development

The land development within Planning Areas – Group F incorporates approximately 120 acres.

Land uses described below:

Planning Areas - Group F		
Planning Area	Area Code	Gross Land Area (AC)
PA-8	Single Family Residential	32.7
PA-9	Single Family Residential	76.3
PA-23	Open Space	5.3
PA-24	Open Space	5.5
<b>Total</b>		<b>119.8</b>



# **GREEN VALLEY – AMENDMENT 1**

## **PUBLIC IMPROVEMENT PLAN**

- The development within Planning Areas – Group F assumes the following infrastructure to be constructed prior to the commencement of the above listed planning areas.
  - Regional Detention Pond 8503.
  - Tributary T channel improvements east of Tibet Road.
  - North half of 38th Avenue street section from Tibet Road east to E-470 (Segment M Trigger).
  - 42nd Avenue connection from Picadilly Road east to the Tibet Road.
  - Tibet Road whole street section from 38th Avenue north to the Tributary T channel crossing (Segment L Trigger).
  - Water mains along 38th Avenue, 42nd Avenue, and Tibet Road.
  - Sanitary main connection from the existing 36" sewer main south through PA-14 and PA-22 connection to the proposed development.
  - Sanitary main connection from the First Creek Lift Station running parallel too and on the west side of Tributary T drainage channel through PA-14 Neighborhood Park and southeast across Tibet Road to the proposed development.

### **2. Roadway Improvements**

- The following roadways shall be required to support the development of Planning Areas – Group F:
  - East half-section (6-Lane Arterial) of Picadilly Road from 38th Avenue to 42nd Avenue. (Segments H Trigger)
  - North half of 38th Avenue street section from Tibet Road east to E-470 (Segment M Trigger).
  - Tibet Road whole street section from 38<sup>th</sup>. Avenue to south boundary of PA-20 Tributary T crossing (Segment L Trigger).

### **3. Drainage Improvements**

- The following drainage improvements shall be required to support the development of Planning Areas – Group F:
  - Water Quality ponds within the planned development PA-30 before discharging into the Tributary T channel.

### **4. Water Improvements**

- The following water improvements shall be required to support the development of Planning Areas – Group F.
  - Water Main connection from 38th Avenue and Tibet Road east within 38th. Ave. to the existing 12" Water Main running north-south parallel to E-470.
  - Internal connection and looping of water mains from 38th. Ave. and Tibet Road.

# **GREEN VALLEY – AMENDMENT 1**

## **PUBLIC IMPROVEMENT PLAN**

### **5. Sanitary Sewer Improvements**

- The following sanitary improvements shall be required to support the developments of Planning Areas – Group F:
  - Extension of the Sewer Main north and east of the Tributary T channel through the planned development within PA-9.
  - Extension of the Sewer Main south and west of Tributary T channel through the planned development within PA-8.

### **6. Parks and Open Space**

- The following parks and open space shall be required to support the development of Planning Areas – Group F.
  - PA-23 and 24 Open Space 13.0 ac.
  - PA-39 Neighborhood Park 0.5 ac.
  - PA-30 Channel 6.2 ac.
  - PA-41 Pocket Park 0.5 Ac.

## **I. LIST OF REFERENCES**


- A. *Master Drainage Report for Green Valley Ranch East* by Calibre Engineering, April 2017, Latest Revision December 2017, COA No. 218019PD 2017 – 3032, 97 S, 98S – T.
- B. *Master Utility Report for Green Valley Ranch East* by Calibre Engineering, April 2017, Latest Revision December 2017, COA Approved September 2018.
- C. *Green Valley Ranch East Transportation Analysis* by Felsburg Holt & Ullevig, FHU Reference No. 117073-01 dated September 2017, COA Approved August 2018.
- D. *Green Valley Ranch East Active Adult Residential Traffic Impact Study* by Felsburg Holt & Ullevig, FHU Reference No. 116-375 dated September 2017.





## CULVERT CROSSINGS

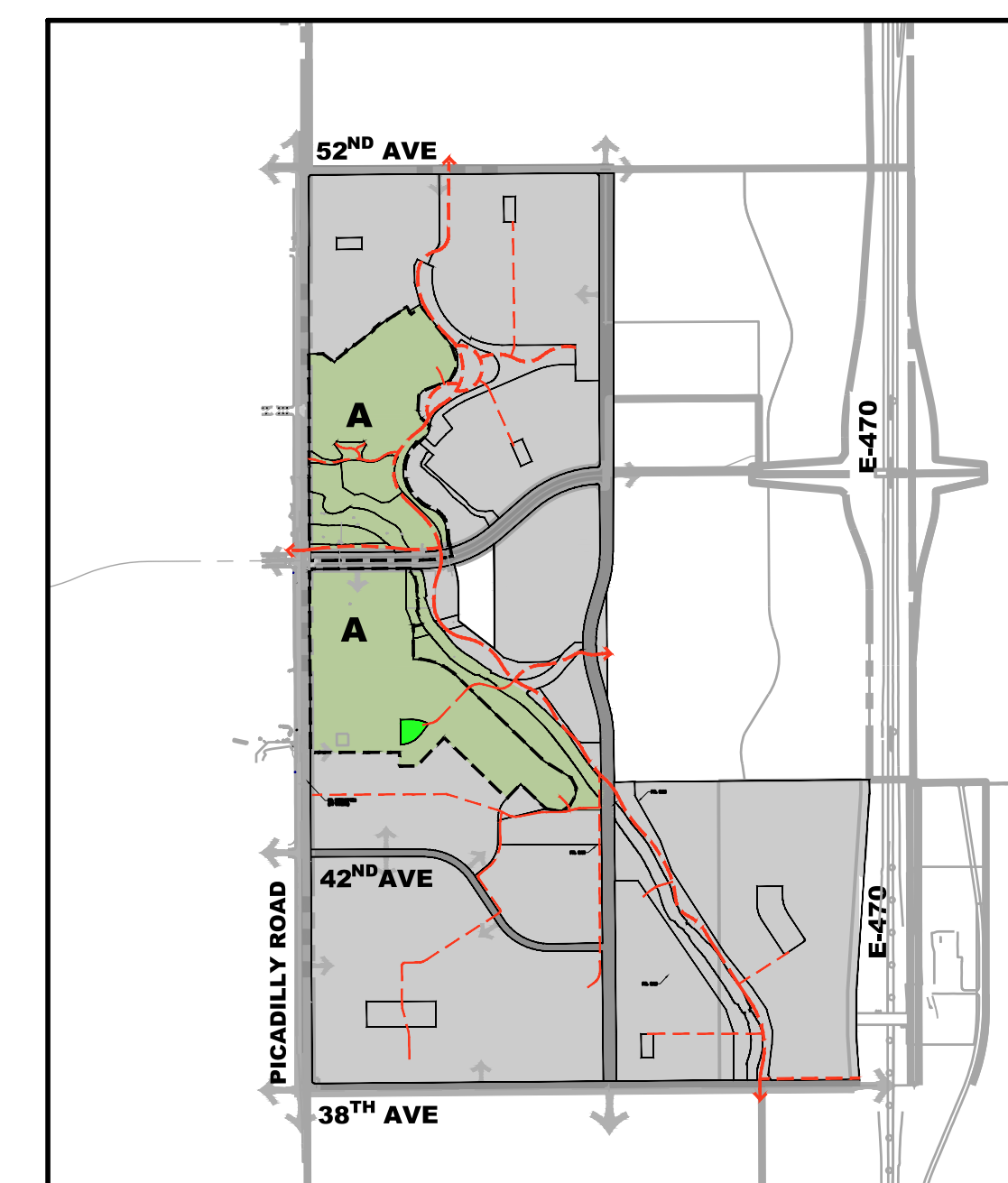
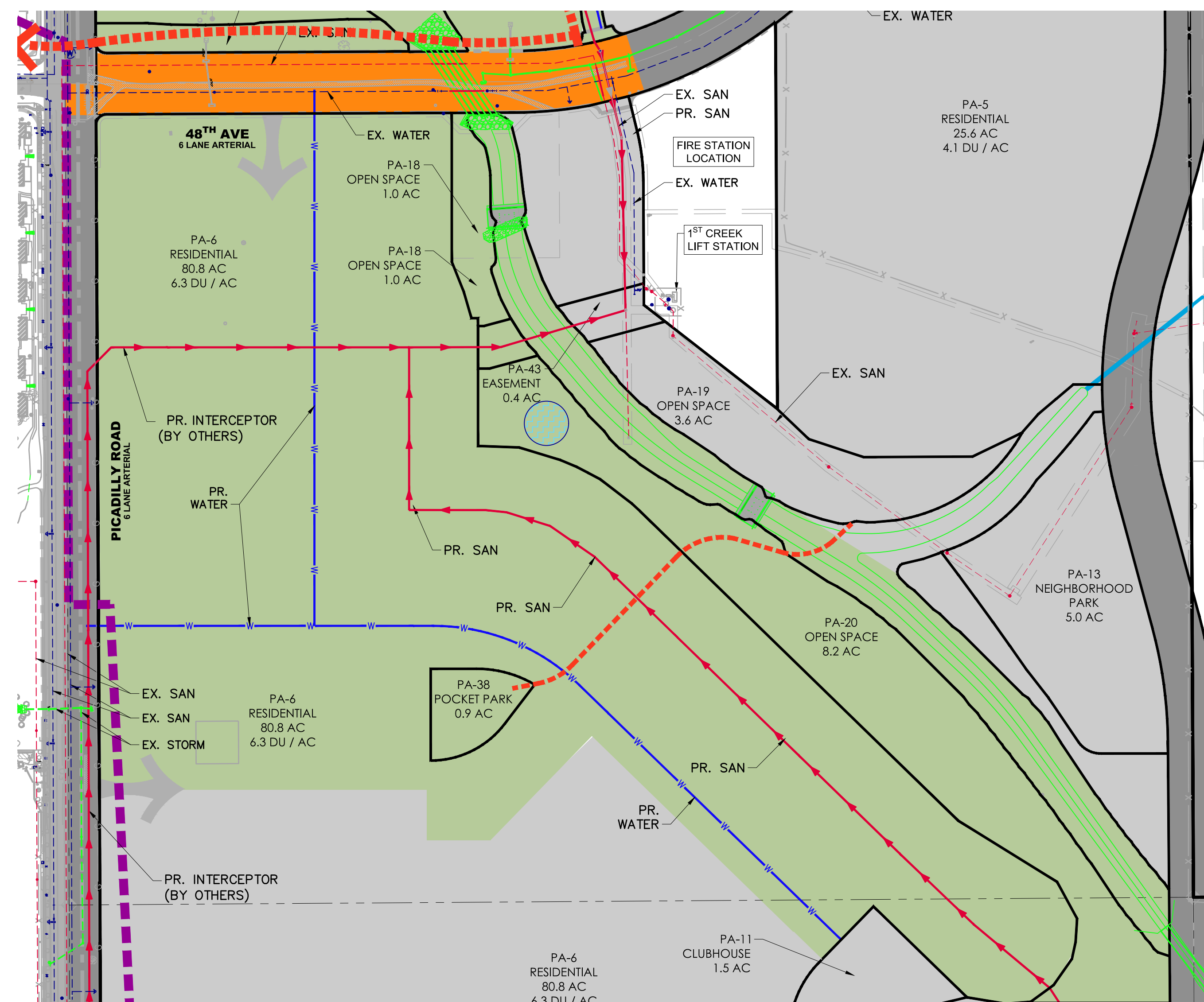
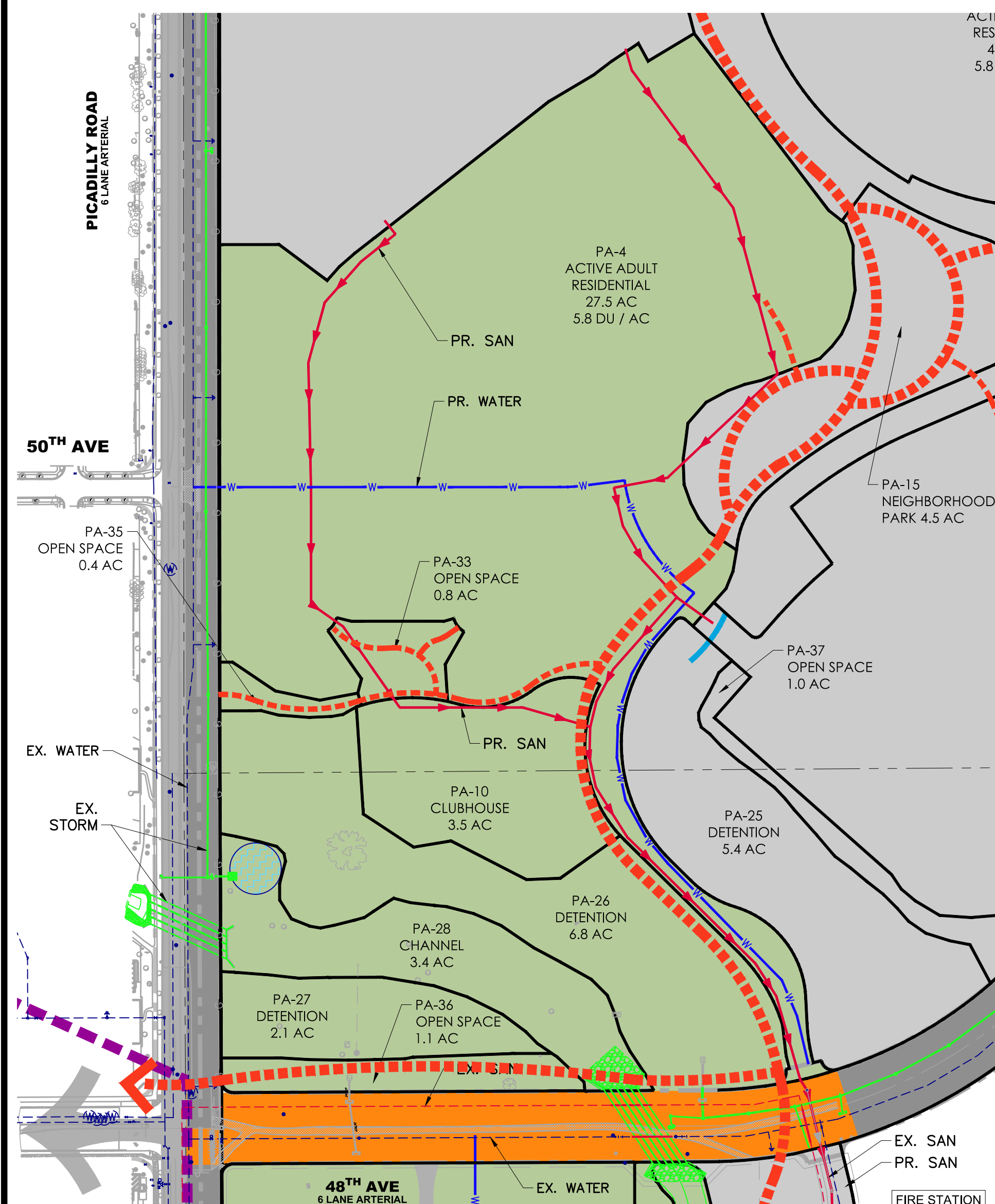


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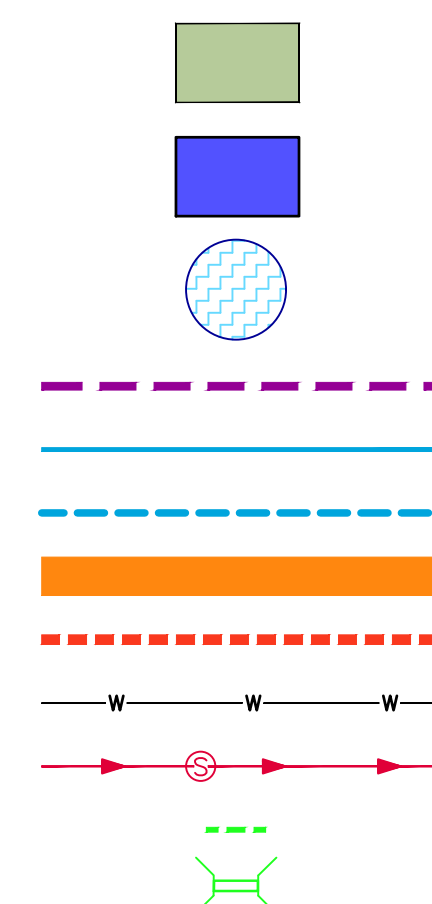
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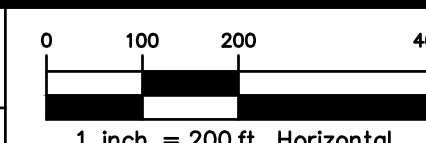


## LEGEND

- PROPOSED PLANNING AREA GROUP
- ON-SITE REGIONAL PONDS  
(SEE DRAINAGE REPORT)
- ON-SITE WQ PONDS  
(SEE DRAINAGE REPORT)
- DRAINAGE BASINS
- ON-SITE OPEN CHANNEL
- OFF-SITE OPEN CHANNEL
- ROADWAY IMPROVEMENTS
- OVERALL TRAIL SYSTEM
- WATER MAINS
- SANITARY SEWER MAINS
- STORM SEWER MAINS
- CULVERT CROSSINGS

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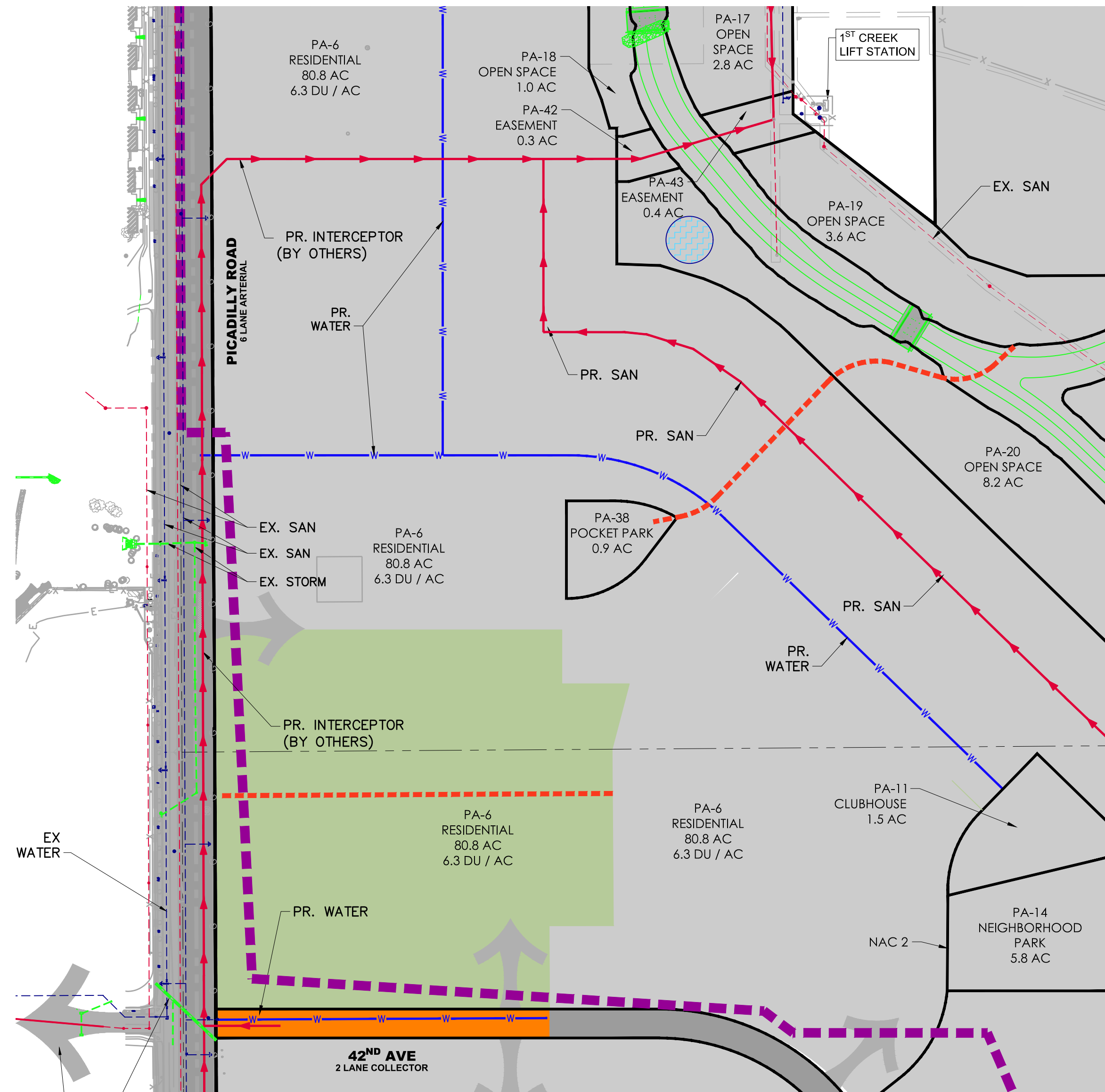
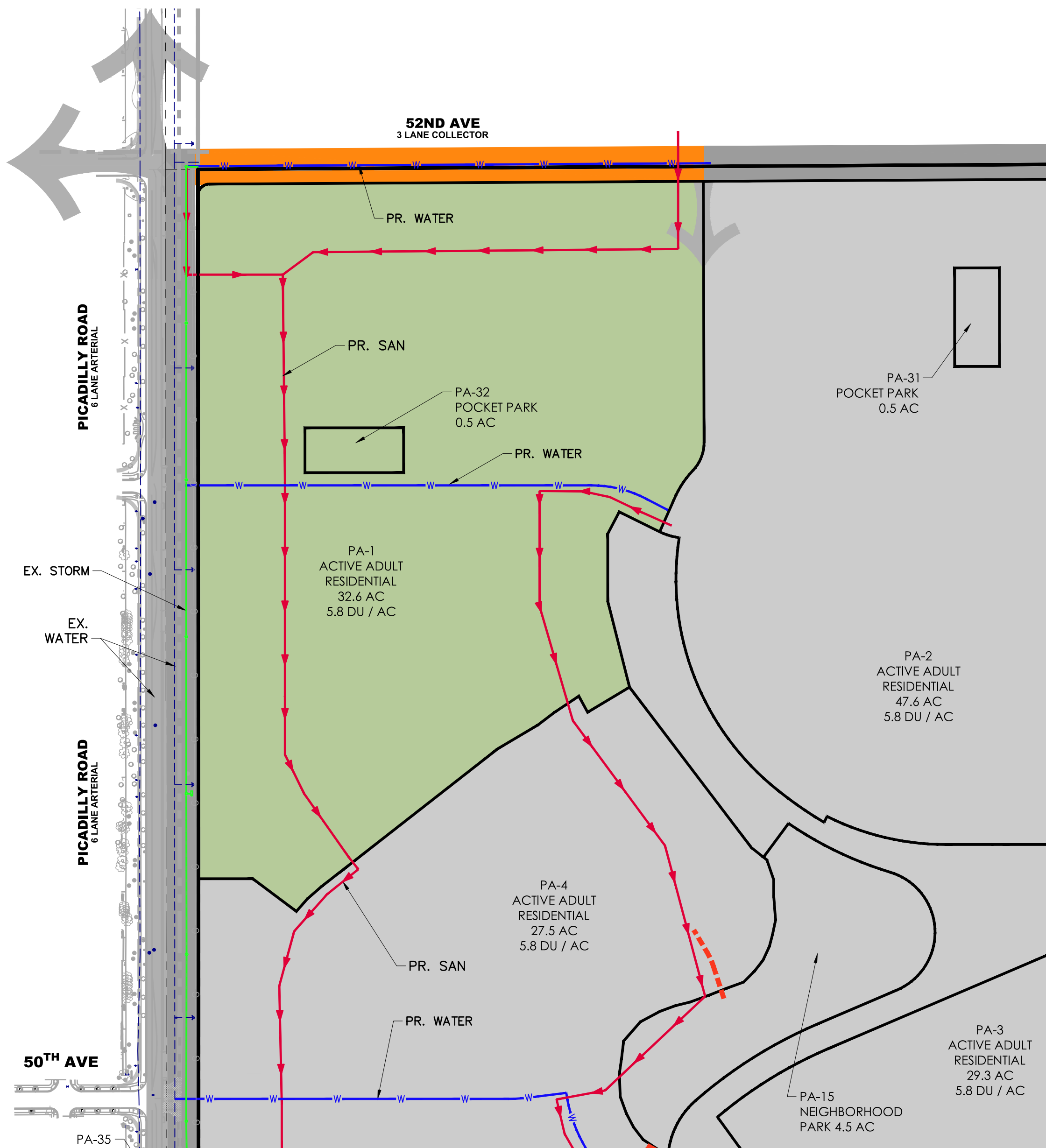
# GREEN VALLEY - AMENDMENT 1

## AURORA COLORADO

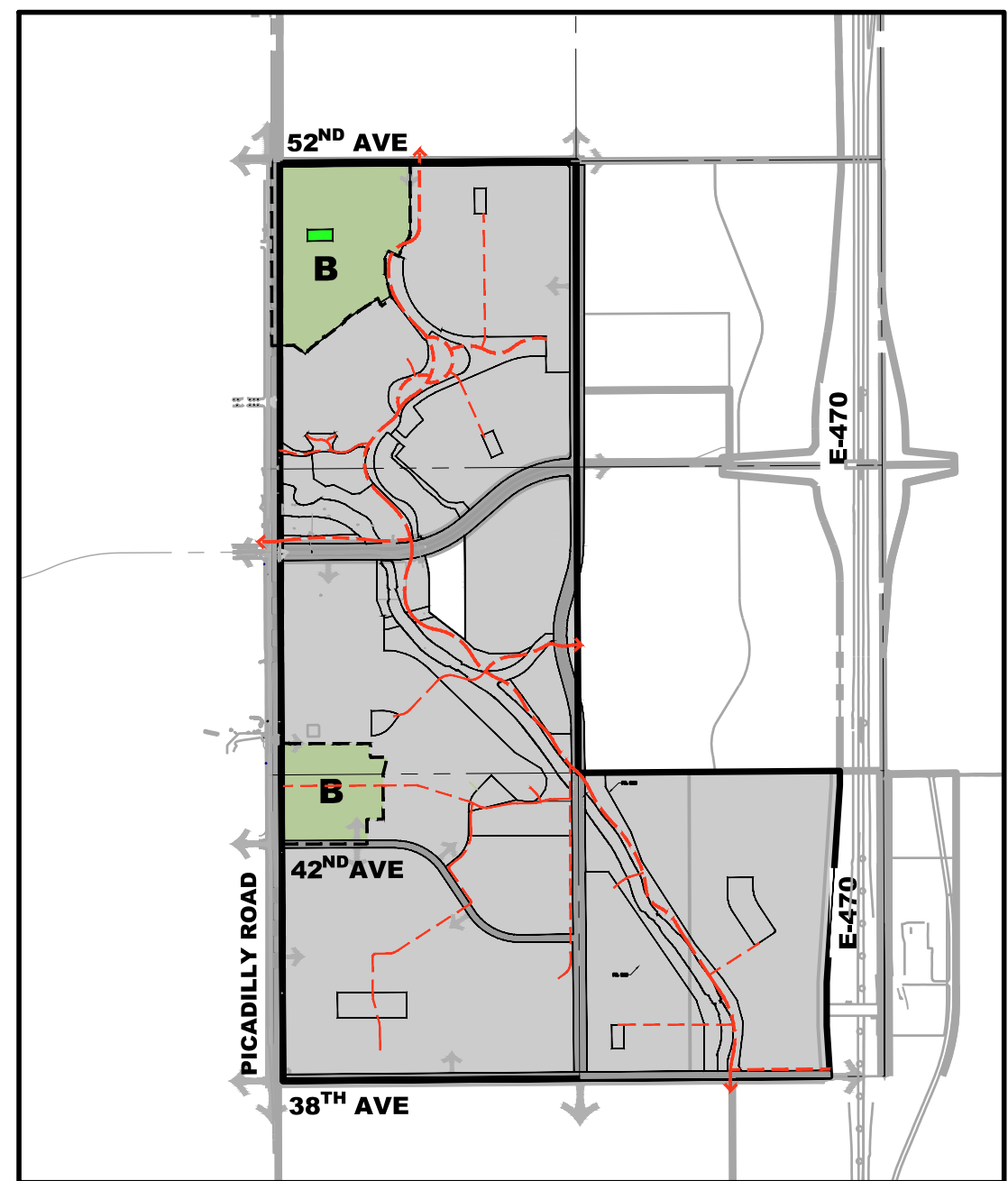
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## PLANNING AREA - GROUP B



### KEPMAP



### LEGEND

PROPOSED PLANNING AREA GROUP



ON-SITE REGIONAL PONDS  
(SEE DRAINAGE REPORT)



ON-SITE WQ PONDS  
(SEE DRAINAGE REPORT)



DRAINAGE BASINS



ON-SITE OPEN CHANNEL



OFF-SITE OPEN CHANNEL



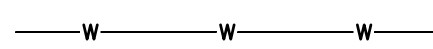
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OVERALL TRAIL SYSTEM



WATER MAINS



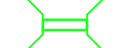
SANITARY SEWER MAINS



STORM SEWER MAINS



CULVERT CROSSINGS



DATE	REVISION	DESCRIPTION


Drawing Name X-PIP Exhibits-PA.dwg
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Prepared For CITY OF AURORA

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Drafter ETG
Checked TAJ

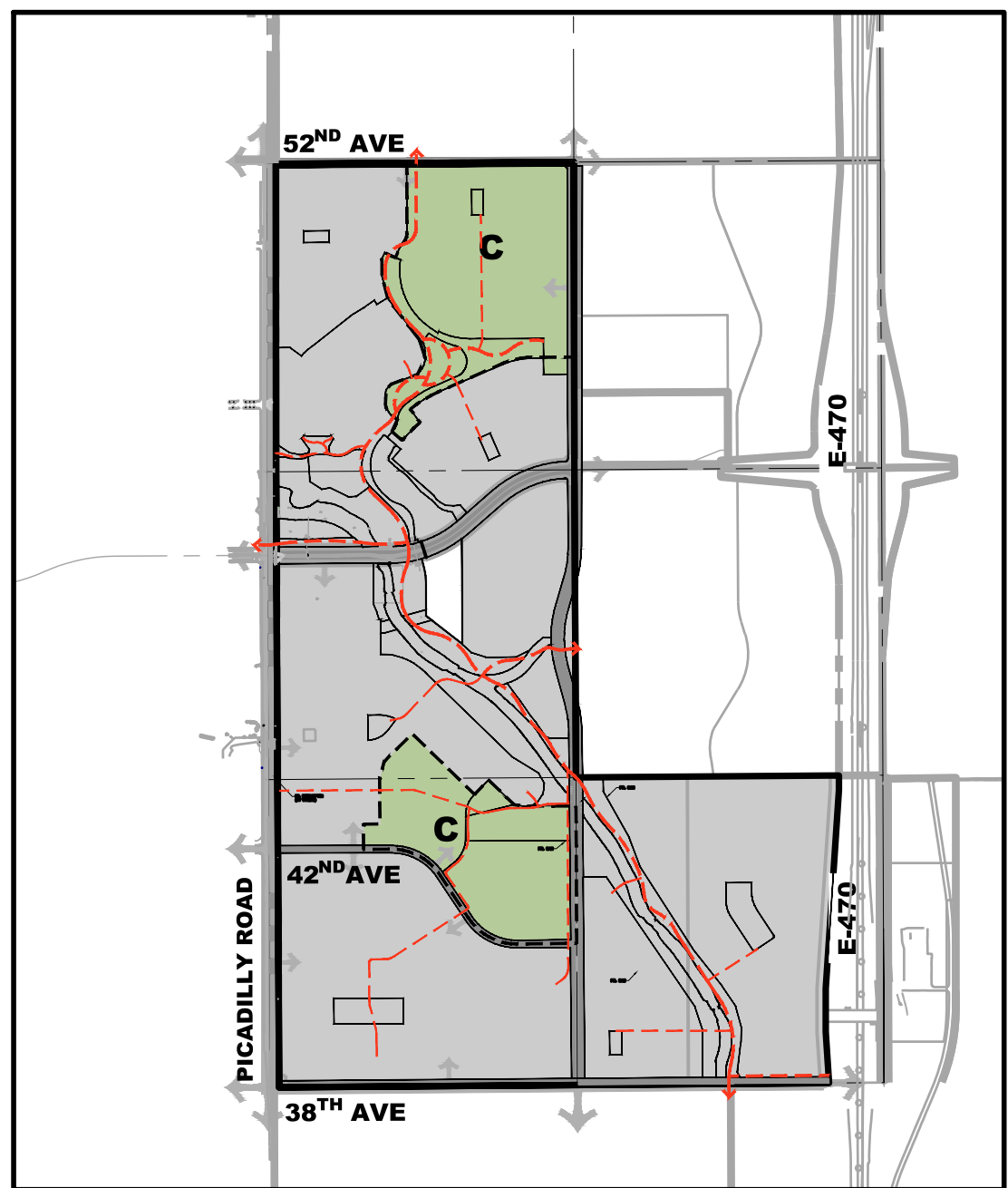
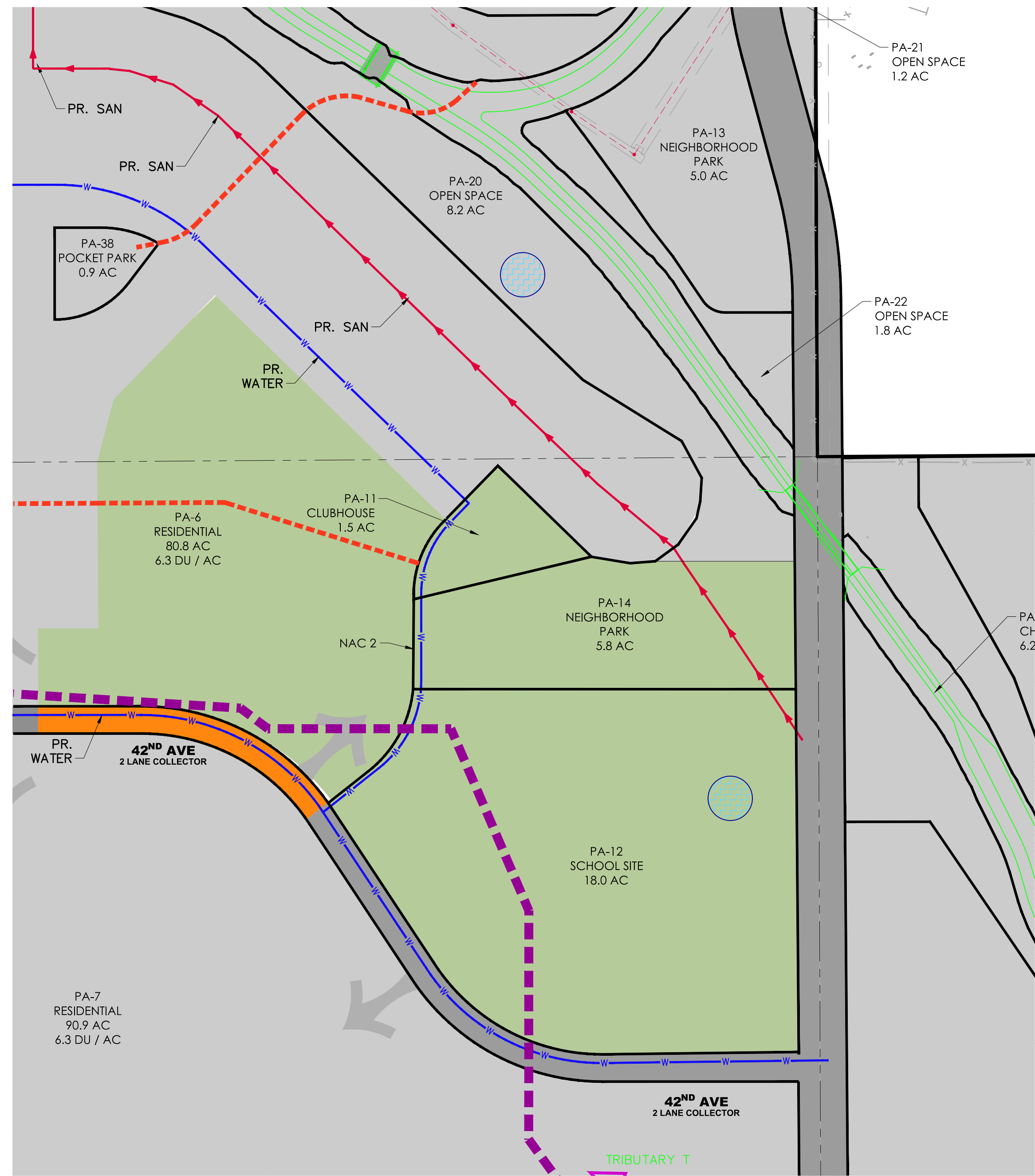
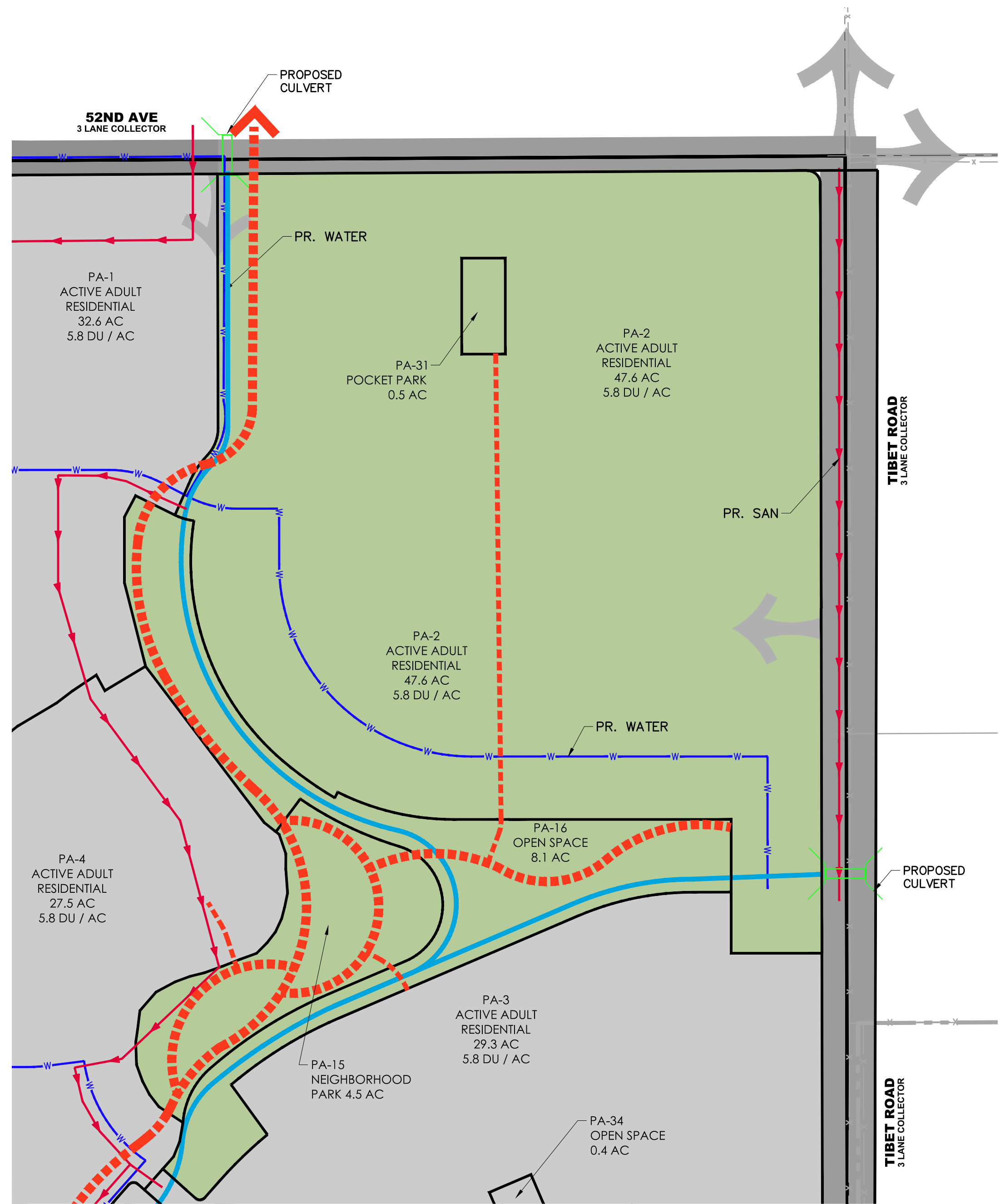
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Calibre Engineering, Inc. 9090 South Ridgeline Boulevard, Suite 105 Highlands Ranch, CO 80129 (303) 730-0434 www.calibre-engineering.com Construction Management Civil Engineering Surveying

## GREEN VALLEY - AMENDMENT 1 PUBLIC IMPROVEMENTS PLANS PLANNING AREAS - GROUP B

Sheet <b>PA-B</b> Date DECEMBER 20, 2017	3 of 7
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KEP MAP



LEGEND

PROPOSED PLANNING AREA GROUP



ON-SITE REGIONAL PONDS  
(SEE DRAINAGE REPORT)



ON-SITE WQ PONDS  
(SEE DRAINAGE REPORT)



DRAINAGE BASINS



ON-SITE OPEN CHANNEL



OFF-SITE OPEN CHANNEL



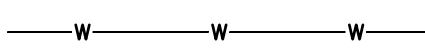
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OVERALL TRAIL SYSTEM



WATER MAINS



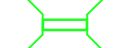
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STORM SEWER MAINS



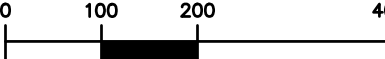
CULVERT CROSSINGS



## PLANNING AREA - GROUP C

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Prepared For	PUBLIC IMPROVEMENT PLANS

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EAP	ETG	TAJ

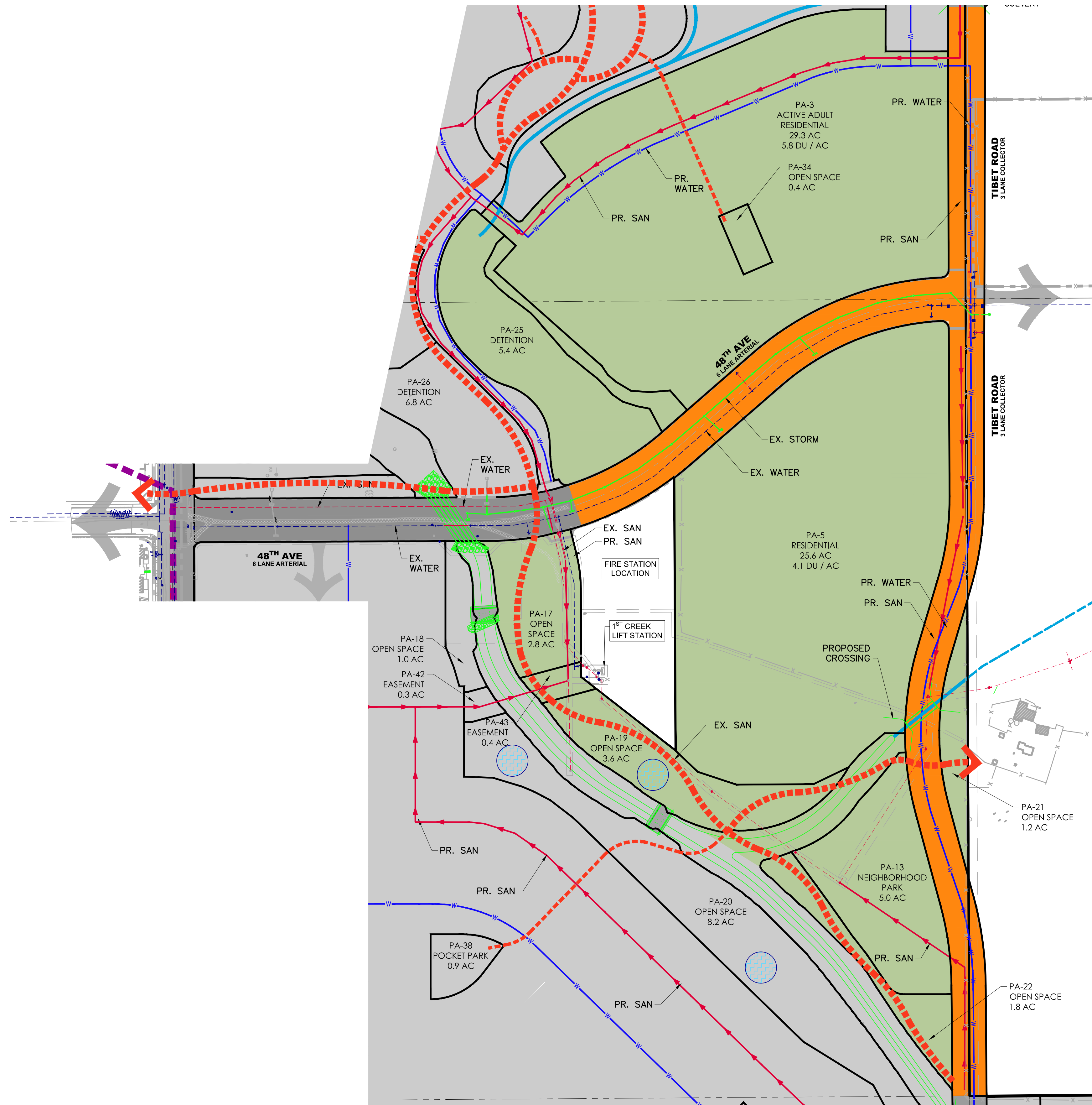
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## GREEN VALLEY - AMENDMENT 1 PUBLIC IMPROVEMENT PLANS PLANNING AREAS - GROUP C

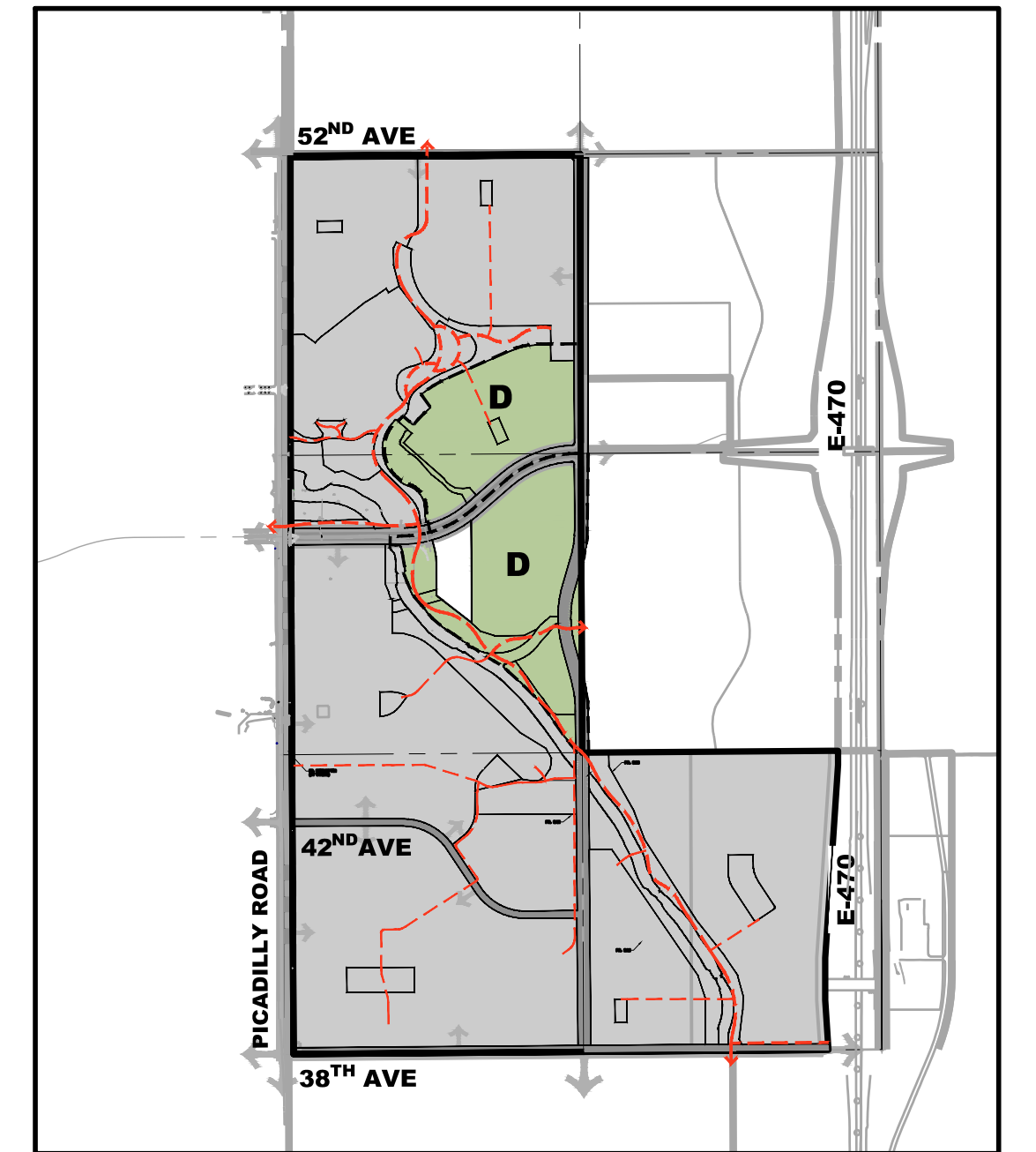
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PA-C	of 7
Date	DECEMBER 20, 2017



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**PLANNING AREA - GROUP D**



**KEPMAP**



**LEGEND**

- PROPOSED PLANNING AREA GROUP
- ON-SITE REGIONAL PONDS (SEE DRAINAGE REPORT)
- ON-SITE WQ PONDS (SEE DRAINAGE REPORT)
- DRAINAGE BASINS
- ON-SITE OPEN CHANNEL
- OFF-SITE OPEN CHANNEL
- ROADWAY IMPROVEMENTS
- OVERALL TRAIL SYSTEM
- WATER MAINS
- SANITARY SEWER MAINS
- STORM SEWER MAINS
- CULVERT CROSSINGS

DATE	REVISION	DESCRIPTION


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Job Number Oakwood GVRE DD				
Prepared For CITY OF AURORA				

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**GREEN VALLEY - AMENDMENT 1**  
**PUBLIC IMPROVEMENT PLANS**  
**PLANNING AREAS - GROUP D**

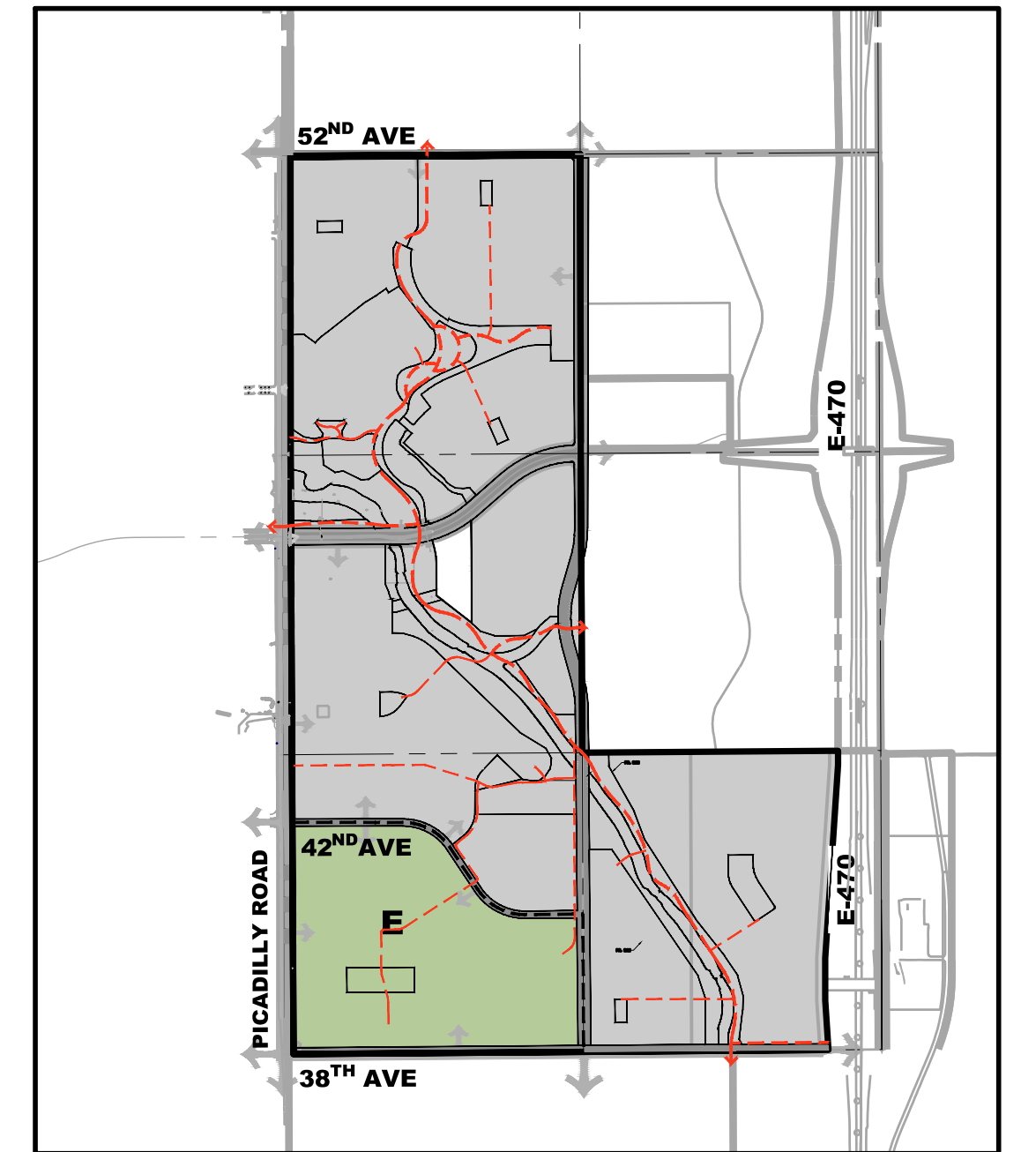
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**PA-D**  
Date  
DECEMBER 20, 2017  
5 of 7



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PLANNING AREA - GROUP E



KEPMAP



LEGEND

- PROPOSED PLANNING AREA GROUP
- ON-SITE REGIONAL PONDS (SEE DRAINAGE REPORT)
- ON-SITE WQ PONDS (SEE DRAINAGE REPORT)
- DRAINAGE BASINS
- ON-SITE OPEN CHANNEL
- OFF-SITE OPEN CHANNEL
- ROADWAY IMPROVEMENTS
- OVERALL TRAIL SYSTEM
- WATER MAINS
- SANITARY SEWER MAINS
- STORM SEWER MAINS
- CULVERT CROSSINGS

DATE	REVISION	DESCRIPTION


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	Drafter ETG
	Checked TAJ



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GREEN VALLEY - AMENDMENT 1

PUBLIC IMPROVEMENT PLANS

PLANNING AREAS - GROUP E

Sheet

PA-E

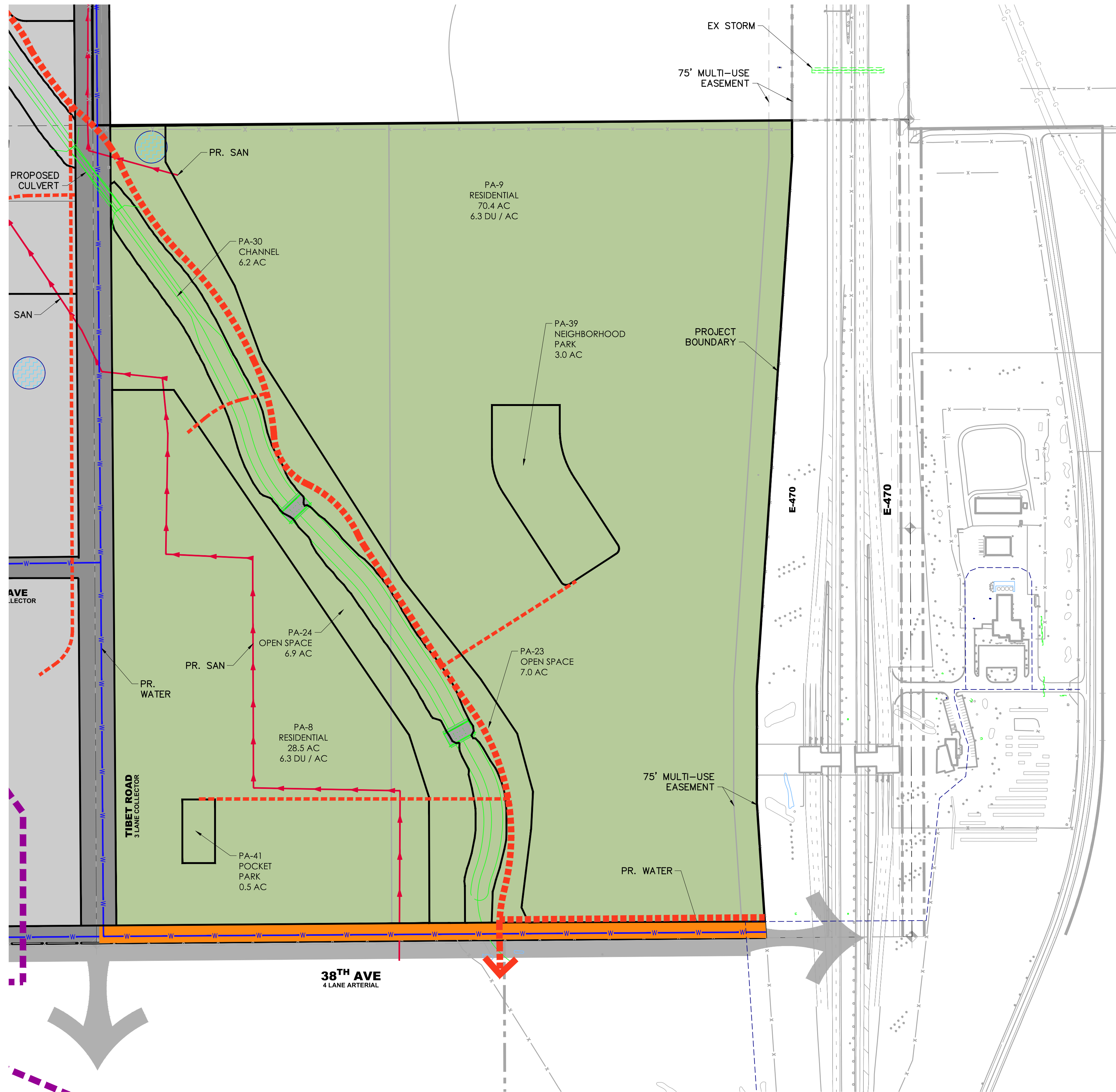
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DECEMBER 20, 2017

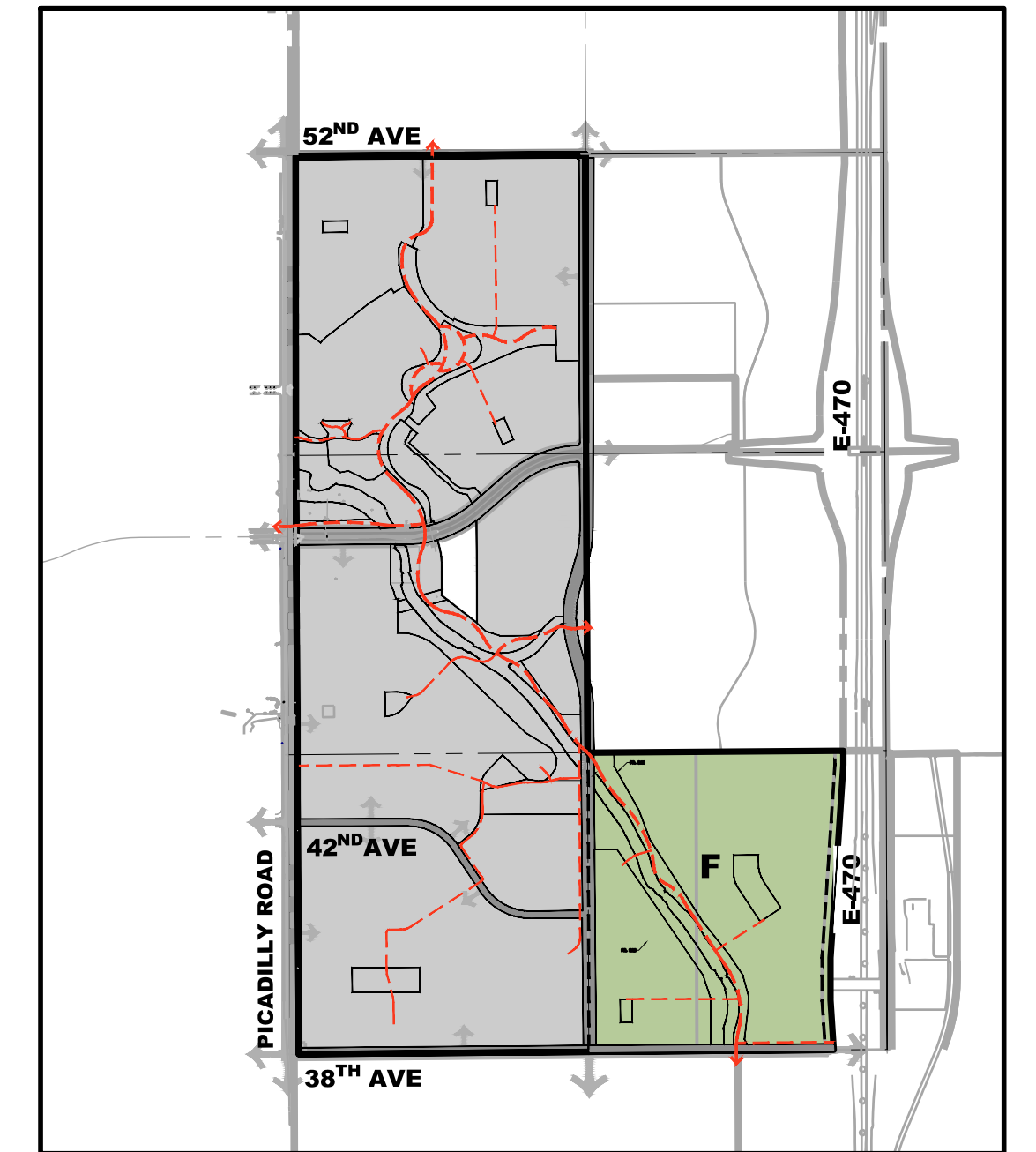
6 of 7



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## PLANNING AREA - GROUP F



### KEPMAP



### LEGEND

PROPOSED PLANNING AREA GROUP	
ON-SITE REGIONAL PONDS (SEE DRAINAGE REPORT)	
ON-SITE WQ PONDS (SEE DRAINAGE REPORT)	
DRAINAGE BASINS	
ON-SITE OPEN CHANNEL	
OFF-SITE OPEN CHANNEL	
ROADWAY IMPROVEMENTS	
OVERALL TRAIL SYSTEM	
WATER MAINS	
SANITARY SEWER MAINS	
STORM SEWER MAINS	
CULVERT CROSSINGS	

DATE	REVISION	DESCRIPTION

Drawing Name X-PIP Exhibits-PA.dwg	0 100 200 400
Job Number Oakwood GVRE DD	1 inch = 200 ft. Horizontal
Prepared For CITY OF AURORA	Designer EAP
	Drafter ETG
	Checked TAJ

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## GREEN VALLEY - AMENDMENT 1 PUBLIC IMPROVEMENT PLANS PLANNING AREAS - GROUP F

Please provide CUHP and SWMM complete input & output reports in the appendix.

Please contact Michelle January at mjanuary@bhinc.com with any questions on the comment.

Please note: A comment labeled "TYP" indicates that the comment needs to be addressed on all sheets where a similar condition occurs.

Acknowledged

The following outside agencies are referrals on this project and have been listed below. If there is ever any outside correspondence between engineer and referral agency please copy me at mjanuary@bhinc.com. Provide response letters on the next submittal to each outside agency comment letter. Do not resubmit until all referral agency comments have been received and addressed. Please let me know if you have issues accessing these comments. Outside Agencies: Mile High Flood District (aka UDFCD) | submittals@udfcd.org | (303) 455-6277 DEN Drainage & Utilities (Catherine Rafferty) | catherine.rafferty@flydenver.com | (303) 342-4461 DEN Roads and Transportation (Irene St. Martin) | irene.st.martin@flydenver.com | (303) 342-4429 DEN USDA (Ben Massey) | benjamin.j.massey@usda.gov | (303) 957-8280 DEN Utilities (Matthew Love) | matthew.love@flydenver.com | (303) 342-4875 DEN Roads & Transportation (Jason Wennen) | jason.wennen@flydenver.com | (303) 342-4478 DEN Planning (Lisa Nguyen) | lisa.nguyen@flydenver.com | (303) 342-4105 DEN Planning (Elise Brenninkmeyer) | elise.brenninkmeyer@flydenver.com | (303) 342-2549 DEN Planning (Jonathan Moore) | jonathan.w.moore@usda.gov | (720) 355-4080

Acknowledged

MASTER PLAN  
GREEN VALLEY  
AMENDMENT 4

Discussion of this FAA requirement is provided within Section C.2. Hydrologic Criteria

Please make sure everything consistent between the plan and the report.

DECEMBER 23, 2022

Comments from DEN (1/11/2023): Same comment as on 6/3/2022. Please update with the most current FAA Advisory Circular 150/5200-33c.

Yellow highlighted comments indicate previous review comments not being addressed in this submittal.

Additional discussion of temp ponds has been provided

Please clarify if temp pond A and C will be constructed in Option 2.

Acknowledged

This MDP contains significant comments, a lot of previous review comments are not being addressed and is missing information. Future reviews may result in new comments. Please schedule a meeting with us prior to your next submittal.

PREPARED FOR  
Oakwood Homes  
4908 Tower Rd  
Denver, CO 80249  
Contact: David Carro  
303.486.8500

JOB NO. 50145755

PREPARED BY  
Dewberry  
8100 E. Maplewood Ave  
Suite 150  
Greenwood Village, CO 80120  
Contact: Jason D. Margraf, PE  
Phone: 720-386-4325

Engineer response to previous review comments indicated "revised". Please clarify in the response about what are being revised. How did you revise it (typ.)

Responses have more clarification

ONE YEAR FROM THIS DATE	
_____	_____
CITY ENGINEER	DATE
_____	_____
WATER DEPARTMENT	DATE



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1st review comment:  
Why maps for wind  
and water soil  
erodibility group  
maps?

Removed  
extraneous  
sheets



# A. INTRODUCTION

Last sentence deleted, PDR added

Combine these 2 sentences. Delete the last sentence and add PDR in the 1st sentence.

Add "Preliminary Drainage Report".

Preliminary Drainage Report added

The purpose of this report is to provide a guide to the City of Aurora (COA), the Mile High Flood District (MHFD) and Oakwood Homes (Developer), for the planning, design and construction of drainage facilities for the Green Valley Master Plan Amendment 4 project. This master plan is conceptual and subject to change in the Final Drainage Report. This report provides a comprehensive description of the project, analysis methodology utilized, and design criteria used for the associated drainage facilities. This report adheres to the requirements of the City of Aurora Storm Drainage Design and Technical Criteria Manual (City of Aurora, October 11, 2010). The Green Valley Master Plan Amendment 4 development will be referred to as "Site", "Parcel", "Project", and "Green Valley Master Plan Amendment 4" within the body of this Report. ~~This report is conceptual in nature and subject to change in the Preliminary Drainage Report and Final Drainage Report phases.~~

Delete this sentence.

Sentence deleted

## 1. Project Location

The Site is tributary to three major basins; Blue Grama Draw (a tributary to First Creek), First Creek Tributary T, and Second Creek within the City of Aurora. The Site is bounded on the north by East 56<sup>th</sup> Avenue; along the south by East 52<sup>nd</sup> Avenue and the future Windler development; along the west by Piccadilly Road; and along the east by E-470.

The entire Project is located within the City of Aurora and is approximately 289.1 acres in size. The Project is further described as being located within the north ½ of Section 13, Township 3 South, Range 66 West of the Sixth Principal Meridian, City of Aurora, County of Adams, and State of Colorado. The approximate latitude and longitude are 39°, 47' 11" North and 104°, 43' 37" West. A Vicinity Map has been provided as Figure 1 to depict the Project and the surrounding area. Additionally, the property is located approximately 3 miles south of the Denver International Airport. Due to current FAA design criteria, this proximity ultimately influences the proposed regional pond designs servicing the Site within the adjacent developments. Please refer to the Design Criteria section of this Report for more information.

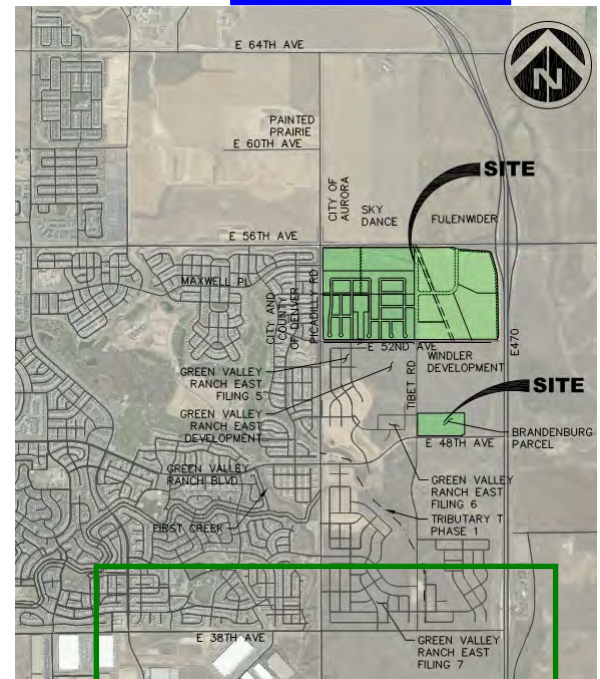


Figure 1- Vicinity Map

The existing conditions for the Site are generally described as historic farmland. The existing conditions are estimated to be 2% impervious based on these land uses. The proposed and future tributary basin improvements are calculated to yield a weighted imperviousness of approximately 61.2% based upon the concept presented within Figure 2. According to the *FEMA Flood Insurance Rate Map (FIRM) No. 08005C0061L*, dated February 17, 2017 (Reference 3), the Site is a Zone X – Areas of Minimal Flood Hazard. A copy of the FIRM Panel can be found within Appendix A of this report for reference.

A brief discussion of roadways has been included

Previous review comment: ID what roadways will be improved, full section of 1/2 of roadway.

## 2. Proposed Development

The Green Valley Master Plan Amendment 4 Master Plan is a mixed-use development consisting of residential parcels with proposed single-family homes, multi-family homes, commercial parcels, community parks, open and associated amenities; See Figure 1 – Vicinity Map for the two parcels that generate the Green Valley Master Plan Amendment 4 project. Those two parcels consist of the approximately 289.1 acre parcel north of Green Valley Ranch East and the Windler Developments and the Brandenburg parcel, which is approximately 18 acres and located at the northeast corner of the Tibet Road and 48<sup>th</sup> Avenue intersection; See Figure 2 – Concept Plan. ~~southerly Brandenburg parcel is included within tributary Basin 581 as identified within the Green Valley – Amendment 1 Master Drainage Report and subsequent Amendments (GVRE Prior Studies).~~ We have reviewed assumptions therein and note that the anticipated uses for the Brandenburg parcel is a 50/50 mix of residential commercial with a resultant, anticipated composite imperviousness (Comp I) of 60%. The information within

Correct. That is the drainage area for the north, and the drainage area for the south is listed in the second portion of this sentence. A total acreage has also been added

The text has been updated to correct the basin to 520

ewberry

This parcel was removed from Basin 581 in GVRE DR Amendment #3 (EDN 220095). Please revise and update accordingly.

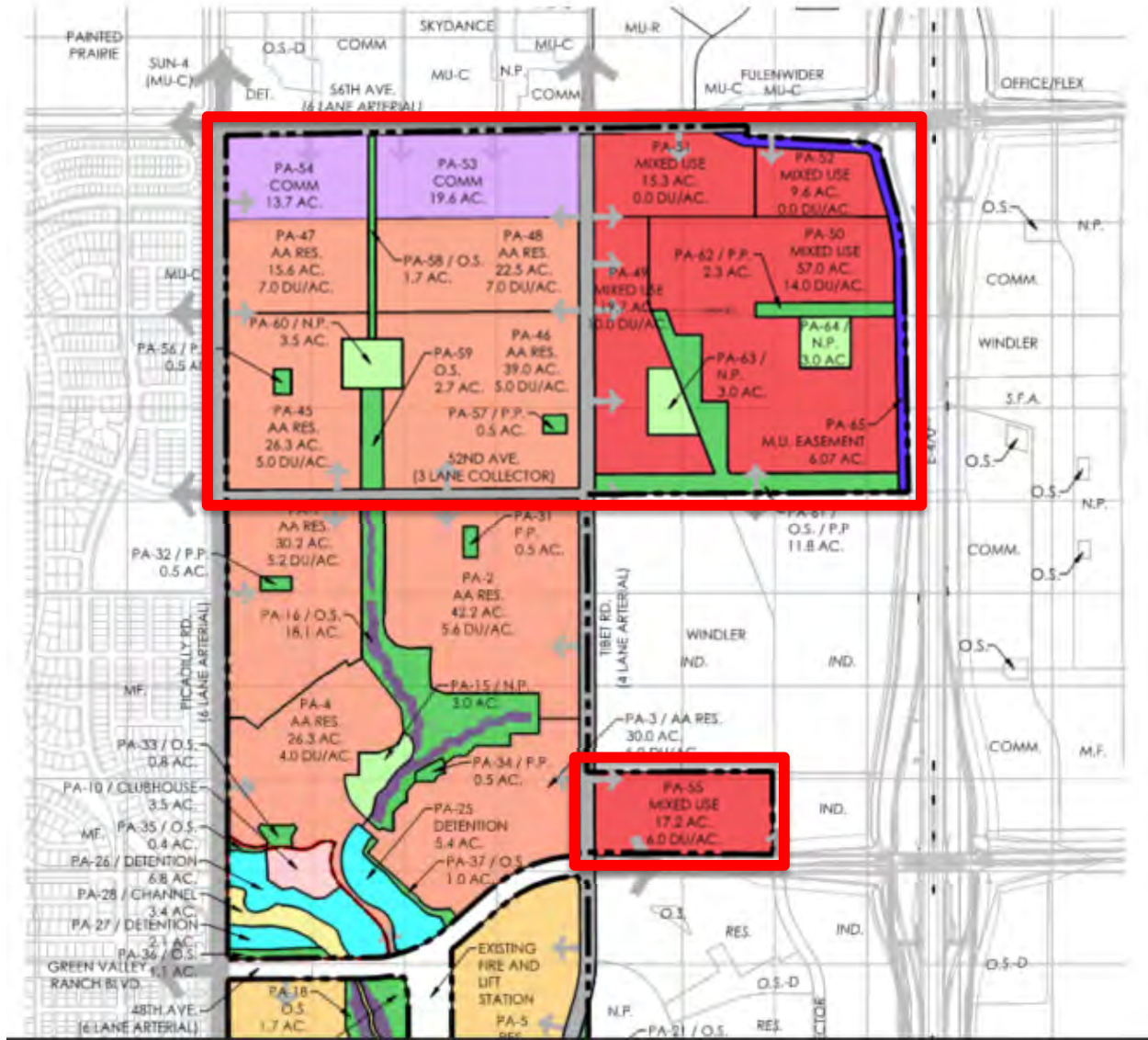
GREEN

This drainage area is only for the north rectangle, SE corner of E 56th Ave & Picadilly Road, it doesn't include the south rectangle area, NE corner of E 48th Ave & Tibet Road . Please revise and update accordingly.

That is GVRE MD Amendment #3 (EDN 220095). So the Brandenburg Parcel is flowing south of 48th Ave, not north then west of Tibet Road.

GVRE Prior Studies does not delineate how land use within the Basin 581 is modeled, just the map was incorrect and was fixed in Amendment #3 by Calibre Engineering, Inc. However, the overall Comp I for Basin 581 is 54%. Given the Basin 581 map being generally consistent with the prior studies, it is reasonable to assume that Basin 581 will have lower composite impervious values that will offset the Basin 581 overall basin. Of note, Green Valley – Amendment 2 Master Drainage Report by Calibre Engineering, Inc., March 2020 (COA# 220095) corrected the map to depict the Brandenburg Parcel to be within the Tributary T watershed (not the Unnamed Tributary), which corrected the map to match the approved modeling.

That is correct. This is what was previously modeled, just the map was incorrect, which was fixed in Amendment #3 by Calibre



**Figure 2- Green Valley Master Plan Amendment 2 Concept Plan**

## B. HISTORIC DRAINAGE

## 1. Description of Property

The Site comprises an area of approximately 289.1 acres and is located approximately 3 miles south of the airport. The Parcel and surrounding areas are predominantly farms and open fields but are anticipated to develop into mixed



uses such as single-family homes, multifamily housing, and commercial office spaces as growth continues in the area. As development occurs, it is anticipated that developers will provide stormwater detention and/or water quality for each individual site or utilize regional detention facilities farther downstream wherein developed detention is already planned, in conjunction with the City of Aurora and as outlined within the regional master plans for the area. Referenced and applicable master plans include First Creek (Upstream of Buckley Road) Major Drainageway Plan by Moser & Associates, Second Creek (Upstream of Denver International Airport) Major Drainageway Plan by Olsson Associates and Matrix Design Group, and Green Valley – Amendment 2 Master Drainage Report by Calibre Engineering, Inc.

and 3  
'and 3' has been added

The Site is divided into three major basins: Blue Grama Draw (a portion of the First Creek), First Creek Tributary T Watershed, and the Second Creek Watershed. An existing ridgeline separates the basins at the high point located near the center of the Site, and the ridgeline extends to the approximate midpoint of the north and west Site boundaries, which will be generally followed with the development of the Site.

Soils at the Site consist of primarily sandy loams, loams, and loamy sands as shown in the National Resources Conservation Service (NRCS) Web Soil Survey in Appendix A (USDA, 2017). Refer to Table 1 for more information regarding the soil classifications and hydrologic soil groups.

ID	NAME	HYDROLOGIC SOIL GROUP	ACRES	PERCENT OF AREA
ASB	ASCALON SANDY LOAM, 0 TO 3 PERCENT SLOPES	B	26.5	9.2%
AVC	ASCALON-VONA SANDY LOAMS, 1 TO 5 PERCENT SLOPES	B	21.9	7.6%
PIB	PLATNER LOAM, 0 TO 3 PERCENT SLOPES	C	46.8	16.2%
TTB	TRUCKTON LOAMY SAND, 0 TO 3 PERCENT SLOPES	A	81.2	28.1%
TTD	TRUCKTON LOAMY SAND, 3 TO 9 PERCENT SLOPES	A	112.7	39.0%

Based on the soil classifications, the on-Site and tributary off-Site areas have soils within Hydrologic Soil Groups (HSG) A, B, and C. Type 'A' soils are identified as having low runoff potential and high infiltration rates. Type 'B' soils are identified as having medium runoff, moderate infiltration rates and a moderate erosion hazard. Type 'C' soils are identified as having low infiltration rates when thoroughly wetted, moderate runoff, and moderate to severe erosion hazard.

No portion of the Site or off-Site area is located within a 100-year floodplain as determined by the FEMA Flood Insurance Rate Map for the area. Refer to Appendix A for the FEMA map (map panel number 08005C0061L) illustrating the location of the Site.

## 2. Overall Basin Description

The Site is divided into three major basins; 20% of the Site is tributary to Blue Grama Draw (a portion of the First Creek) Watershed, 31% of the Site is tributary to the First Creek Tributary T Watershed, and 49% of the Site is tributary to the Second Creek Watershed.

### Blue Grama Draw (a portion of the First Creek) Watershed

The northwest portion of the Site is tributary to Blue Grama Draw, which is a portion of the First Creek watershed. This area's existing conditions comprise approximately 65.1 acres, delineated as Basin A in the existing conditions map. Runoff from basin drains to the northwest corner of the parcel where it collects and flows north and west to the Moffit parcel and then along East 56<sup>th</sup> Avenue to the First Creek through the Blue Grama Draw. A Regional Pond is planned for the developed flows from this Site as detailed within the First Creek Tributary T Watershed Drainage Way Plan.

Discussion was added to provide context to the Brandenburg parcel

### First Creek Tributary T Watershed

You also need to include the drainage area from the south rectangle, NE corner of E 48th Ave & Tibet Road in the discussion of First Creek Trib T Watershed (typ.)

The southwest portion of the Site is part of the First Creek Tributary T watershed. This area's existing conditions comprise approximately 115.7 acres, delineated as Basin B in the existing conditions map. Runoff from this basin drains to the southern boundary of the parcel where it collects and flows south through Green Valley Ranch East and Region Detention Pond 8503C, with an ultimate outfall to First Creek Tributary T.

### Second Creek Watershed

The northeast portion of the Site is within the Second Creek Watershed. It flows directly to Possum Gully and then to Second Creek. This area's existing conditions comprise 108.3 acres, delineated as Basin C in the existing conditions map. Runoff from this basin flows to the northern boundary, across 56<sup>th</sup> Avenue, into Possum Gully, and ultimately into Second Creek. There is a Regional Pond, Pond PG2 planned within the Site as part of Second Creek MDP, which is anticipated to attenuate developed runoff from the Site.

## C. DESIGN CRITERIA

### 1. List of References

The *City of Aurora Storm Drainage Design and Technical Criteria Manual (SDDTC)* and the *Mile-High Flood District (MHFD), Urban Storm Drainage Criteria Manuals (USDCM)* (References 1 and 2, respectively) were the major technical references used for this report. Additionally, the *Flood Insurance Rate Map No. 08005C0063L* (Reference 3) was utilized to understand the regulatory floodplains existing on Site. Referenced and applicable master plans include First Creek (Upstream of Buckley Road) Major Drainageway Plan by Moser & Associates and Second Creek Major Drainageway Plan by RESPEC. The original Master Drainage Report for the site was completed by Stantec Consulting, Inc. in March 2006. (Reference 7). This report was superseded by Green Valley –Master Drainage Report Addendum by Stantec Consulting, Inc. in September 2008 (Reference 8). This Addendum revised the detention concept for the area by increasing the allowable discharge for the proposed ponds. Green Valley – Amendment 1 Master Drainage Report by Calibre Engineering, Inc. in January 2018 (Reference 9) further amended the MDR to change the limits associated with the report by removing the Aurora Highlands development. Finally, Green Valley – Amendment 2 Master Drainage Report by Calibre Engineering, Inc. in March 2020 (Reference 10) further amended the MDR by utilizing more refined basin delineation, revising the regional detention pond scheme, and proposing a geomorphic design for Tributary T.

### 2. Hydrologic Criteria

Hydrologic criteria and calculations are in conformance with Section 5.0 of the City of Aurora's Drainage Criteria Manual (City of Aurora, October 11, 2010). The Colorado Urban Hydrograph Procedure (CUHP) is an acceptable



method for calculating peak flows and runoff volumes according to the Urban Storm Drainage Criteria Manual (USDCM) for basins up to 3,000 acres (Urban Drainage and Flood Control District, 2016).

The Colorado Urban Hydrograph Procedure (CUHP) version 2.0.0 was used to determine existing and proposed peak runoff rates for Site drainage areas. The storm hydrographs developed by CUHP for each sub-catchments are used as the 'inflows' for the routing analysis performed using the Environmental Protection Agency (EPA) Stormwater Management Model (SWMM). EPA SWMM version 5.1.012 was used to determine peak discharge rates at each node and the required volume for each proposed pond.

Due to the Site's proximity to the Denver International Airport (DIA), the FAA design criteria per FAA Advisory Circular 150/5200-33B Hazardous Wildlife Attractants On or Near Airports is applicable. This requires detention ponds to drain within 48 hours. It is assumed that off-Site, Regional ponds servicing the Site will be, or were designed to provide water quality and the 10-year and 100-year design volumes for those events and drain within 48 hours. Any temporary detention and water quality facilities required to service the Site due to downstream phasing will meet this requirement. Those temporary pond volume(s), if applicable, will be the 100-year volume as calculated by the EPA-SWMM model plus the water quality capture volume as determined by the UD-Detention workbook,  $V_{Total} = V_{100-SWMM} + \frac{1}{2} WQCVUD-DET$ .

For this report, the design frequencies analyzed were the 2-year (minor), and the 100-year (major) storm events. The 1-hour rainfall depths from NOAA 14 are identified in Table 2 below.

Please also provide 1 hour rainfall depth for 5- to 50- year, which were used in the MHFD detention pond spreadsheet calculations (typ.)

1 hour rainfall depths for 5- to 50- year storms were added

TABLE 2 – 1 HOUR POINT RAINFALL DEPTHS, NOAA 14

STORM EVENT	1-HOUR RAINFALL DEPTH
2-YEAR	0.85
100-YEAR	2.49

Provide both CUHP and SWMM output report in the Appendix?

CUHP and SWMM outputs are reported in the Appendix

characteristics were developed and used for the computation of peak flow rates evaluation. CUHP and SWMM model inputs are presented within Appendix B. The

and methodology follow the City of Aurora and MHFD Criteria outlined in References 1 and 2, respectively.

### 3. Hydraulic Criteria

The hydraulic criteria and calculations used for this analysis conform to Section 6.0 Hydraulic Criteria of the City of Aurora's Drainage Criteria Manual (City of Aurora, October 11, 2010) and the UDFCD Drainage Criteria Manuals (Urban Drainage and Flood Control District, 2016).

Off-site and downstream regional drainage infrastructure is planned to received runoff from this site. This includes the existing Region Detention Pond 8503C for the First Creek Watershed and then two planned ponds for Blue Grama Draw and Second Creek; namely Pond 840 and Pond PG2 respectively. As it relates to these three ponds, two options or design constraints are contemplated, as follows.

#### Option 1 – Temporary Pond Not Required

- Presumes that Ponds 840 **WILL** be constructed in advance of the residential and commercial development within these individual tributary basins.
- This option recognizes and confirms that runoff has been anticipated within the master planned confirmed and accounted for within design of P the downstream Regional pond 816 does. This developers, City, and MHFD as Pond 840 unde will be triggered.

Additional discussion has been added reflecting the basin designators and the temp pond condition

st Creek) watershed d 65.6% Comp I are water quality, although the downstream incomplete, Option 2

Please clearly explain in the report what is the status for downstream of basin A, B and C. If temp pond is required or not, how is the discharge from these onsite basin to be conveyed to downstream regional ponds.

Include the south rectangle area, NE corner of E 48th Ave & Tibet Road in the discussion of this report (typ.)

Please mention drainage basin area and % of imperviousness of basin C from 2nd Creek Watershed in the discussion of this paragraph.

Discussion has been included for the Brandenburg Parcel

This option recognizes and confirms that runoff from the Second Creek watershed has been anticipated within the master planned Pond PG2, which will be constructed on-Site with the proposed improvements. This project's design team will work with the downstream developers, City, and MHFD as Pond PG2 undergoes design and construction.

- This option recognizes and confirms that runoff from First Creek Tributary within the previously constructed Pond 8503C. This site's 89.6 acres and accounted for within design of Pond 8503C.

Since the Pond is located on site, the release rate from the Pond was discussed as the Comp I is less of a concern, just the amount of water leaving the site

#### Option 2 – Temporary Ponds Required

1. This option recognizes and confirms that runoff from First Creek Tributary T watershed has been anticipated within the previously constructed Pond 8503C. This sites 89.6 acres and 44.9% Comp I are confirmed and accounted for within design of Pond 8503C. This pond was designed within Green Valley Ranch East Development Plans, Calibre Engineering, Inc., June, 2019 (COA #217031).

Please clarify. Temp pond C will be constructed onsite?

There is no temp pond for Pond PG2. The temporary note 5 has been moved in front of the PG2 pond discussion

ALL NOT be constructed in advance of the residential and commercial individual tributary basins and therefore, construction of a corresponding d.

(Dance) Parcel is not complete, then a temporary on-Site pond will be designed, constructed, and later removed once the regional pond is in place.

4. This option recognizes and confirms that runoff from the Second Creek watershed has been anticipated within the master planned Pond PG2, which will be constructed on-Site with the proposed improvements. This project's design team will work with the downstream developers, City, and MHFD as Pond PG2 undergoes design and construction.
5. Temporary pond calculations are provided within this report and assume the full tributary development in advance of the downstream pond, however; phasing of the temporary pond may occur with updated volumes provided within subsequent Preliminary and Final Drainage Report.
6. On-site ponds will meet Urban Drainage and City of Aurora, FAA requirements for water quality and 100-year design while draining in 48 hours. The total pond volume provides sufficient capacity for: Water Quality Capture Volume (WQCV), Excess Urban Runoff Volume (EURV), and detention for the 100-year storm event under proposed conditions.
7. Sheet flow routed directly to the ponds is modeled in EPA SWMM as a dummy conduit with a Manning's roughness coefficient of 0.05. Detention ponds are modeled as a storage node with tabular storage and rating curves. Curves for the ponds are determined per the UDFCD UD-Detention Workbook version 4.00. Refer to Appendix B for calculated pond sizes as determined by the UD-Detention workbook.

Existing conditions were modeled for the 2-year and 100-year flood event using a free outfall for each watershed, totaling three (3) outfalls. Future conditions were modeled yielding important results for two alternate conditions: A) to provide peak flow rates to the outfall locations to the downstream regional facilities and B) to determine the potential sizing of the temporary facilities on-Site, should the downstream regional facilities not be completed at the time of development within the tributary. Any temporary ponds proposed will be removed with the development of the downstream facilities. All on-site ponds will meet Urban Drainage and City of Aurora, FAA requirements for water quality and 100-year (full spectrum detention) design while draining in 48 hours. The total pond volume provides sufficient capacity for: Water Quality Capture Volume (WQCV), Excess Urban Runoff Volume (EURV), and detention for the 100-year storm event under proposed conditions. Sheet flow routed directly to the ponds is modeled in EPA SWMM as a dummy conduit with a Manning's roughness coefficient of 0.05. Detention ponds are modeled as a storage node with tabular storage and rating curves. Curves for the ponds are determined per the UDFCD UD-Detention Workbook version 4.00. Refer to Appendix B for calculated pond sizes as determined by the UD-Detention workbook.

The temporary pond calculations within this Report assume the full tributary development in advance of the downstream ponds, however; phasing of the temporary ponds may occur with volume provided within subsequent Preliminary and Final Drainage Report. An amendment to this report may be required if flows are not ultimately routed to pond 840.



Previous review comment: Please state that the site is within the DIA influence zone and the ponds must drain within 48 hours. State that the water quality drain time will not be less than 24 hours and the total drain time no greater than 48 hours.

Sentences added into the Variances required point

#### Variances Required

1. One variance will be required in order to meet the FAA requirements for 10-year and 100-year design draining in 48 hours.

## D. DRAINAGE PLAN

This sentence conflicts with Option 2, item No. 4 in previous sheet.

### 1. General Concept

This proposed drainage plan analyzes the proposed development and runoff is generally anticipated to flow overland to the storm sewer system. The storm sewer system will either discharge to the Blue Grama Draw and Possum Gully (Second Creek) for conveyance to future, regional detention facilities. The storm sewer system within the Tributary T, First Creek tributary will discharge to an open channel for conveyance under 56<sup>th</sup> Avenue and into the drainage channel system within Green Valley Ranch East. In the event the downstream, regional detention ponds within the Blue Grama Draw (Pond 840) and/or Possum Gully (Pond PG2) are not completed at the time of development within the Site's tributary areas to those facilities, the Project will construct an on-Site, temporary detention pond (identified as either Pond A and Pond C) for First Creek and Second Creek (Basin A and Basin C, respectively). First Creek Tributary T watershed (Basin B) has a proposed regional pond (8503C) and will collect developed flows from Basin B. Refer to Table 4 for a summary of potential pond volumes. Generally, drainage patterns will follow historic patterns and impacts to the major basin delineation will be minimized. This Master Drainage Report utilizes concept, mass grading to estimate the anticipated runoff. Minor adjustments to the grading presented herein may occur with the advancement of the individual site plans so long as the intent and the release rates presented herein are maintained for the three major basins.

Revised to clarify that Pond A may be temporary, while Pond PG2 is on-site and permanent

Table 4 has been corrected to table 5

### 2. Specific Details

There is no basin maps, Pond A & C provided in Appendix B.

Basin map is now shown

As indicated previously, the Site is located within three major watersheds of First Creek) Watershed (Basin A), the First Creek Tributary T Watershed (Basin B), and the Second Creek Watershed (Basin C). As shown by the basin map in Appendix B, two (2) temporary on-Site ponds (Pond A and Pond C) are proposed to provide detention before routing further downstream. These temporary detention ponds are sized to match historic runoff flow rates. The ponds will be located near the low-lying points on-Site. To prevent spending unnecessary capital, it is hopeful that downstream regional ponds and infrastructure will be constructed prior to the residential or commercial development within these individual tributary basins and therefore, construction of these temporary ponds will not occur. Refer to Appendices for applicable inputs to the CUHP and EPA SWMM models. First Creek Tributary T watershed (Basin B) has a proposed regional pond (8503C) and will collect developed flows from Basin B. All proposed detention ponds have a 1-foot minimum freeboard requirement from the 100-year water surface elevation to the spillway crest. City of Aurora considers the required pond volume to be 100yr+1/2EURV for full spectrum ponds, 100yr+1.2WQCV for detention and water quality ponds. The MHFD requirement is 1-foot minimum freeboard from the 100-year water surface elevation over the emergency weir up to the top of embankment. All pond release rates will be designed per COA 6.33 or as permitted by the previous master plans. Discharge point will be coordinated with adjacent property owners as the design progresses. The specific drainage basin details pertaining to the Site are provided below.

#### Basin A: First Creek

The proposed layout for Basin A is broken into 4 sub-basins (A1-A4) and corresponds to the portion of the Site tributary to Blue Grama Draw and First Creek. It has a total contributing area of 66.2 acres. It was modeled with a composite imperviousness of 65.6% in the proposed condition. On-site runoff will be conveyed via overland flow, curb and gutter, and storm sewer to the proposed E. 56<sup>th</sup> Avenue crossing for attenuation within regional Pond 840. These flows will outfall ultimately into First Creek from Design Point A at the outfall of temporary Pond A. If Pond 840 is constructed and therefore the temporary Pond A is not required, the discharge into Pond 840 would be the inflow hydrograph shown going into the temporary Pond A. See Tables 3 – 5 below for details of the proposed pond volume, flows, and tributary area. The proposed design of the pond is in conformance with the associated

There is no sub basin A4 shown on the MDP, only A1 to A3.

Revised to (A1-A3)

Revised to A1

Plan shows 8 sub-basins (B1 to B8) (typ.)

Revised to B1-B8

Major Drainage

Please double check if these are still correct with the change of total sub basins.

Updated accordingly

### Basin B: First Creek Tributary T

The proposed layout for Basin B is broken into 6 sub-basins (B1-B6) and corresponds to the southwestern portion of the Site tributary to First Creek Tributary T. It has a total contributing area of 89.6 acres. It was modeled with a composite imperviousness of 44.9% in the proposed condition. Runoff in the proposed condition will be conveyed via overland flow, curb and gutter and storm sewer to the proposed open space tract between Sub-Basin B4 and B5. This runoff will flow through a reinforce concrete box culvert under East 52<sup>nd</sup> Avenue into the proposed North Channel at Design Point B as a part of the ongoing East Green Valley Ranch development to the south. Sub-basin B6 does not discharge to design point B but does enter along Piccadilly. These flows will outfall into Regional Detention Pond 8505C and ultimately to Second Creek. See Tables 3 – 5 below for details of the proposed pond volume, flows, and tributary area. The proposed design of the pond is in conformance with the associated Major Drainage Plan.

Updated to reflect Design Point B\_Out

Revised to C1-C7

Specify which Design Point B.

Plan shows 7 sub-basins (C1 to C7) (typ.)

Revised to be northeastern

### Basin C: Second Creek

The proposed layout for Basin C is broken into 4 sub-basins (C1-C4) and corresponds to the southwestern portion of the Site tributary to Possum Gully and ultimately to Second Creek. It has a total contributing area of 139.7 acres. It was modeled with a composite imperviousness of 83.2% in the proposed condition. Runoff in the proposed condition will be conveyed via overland flow, curb and gutter and storm sewer to the proposed regional Pond PG2. Pond PG2 will outfall to a proposed E. 56<sup>th</sup> Avenue crossing. See Tables 3 – 5 below for details of the proposed pond volume, flows, and tributary area. The proposed design of the pond is in conformance with the associated Major Drainage Plan.

Please specify if it is Second Creek Drainage study and provide excerpts in the appendix.

Clarified it is 2nd Creek study by RESPEC, 2019

northeastern.

This value is different than what is shown in Table 3. Please double check, revise and update accordingly.

Revised to match the table

Possum Gully, with slopes primarily between 1 and 3% and a bottom width of 15:1 and 35:1 side slopes, a 25-foot depth, and longitudinal slope of 1.5% (Second Creek (Upstream of Denver International Airport) Major Drainage Plan, September 2011). According to the 2016 High Point MDR and the 2011 Second Creek MDP, Possum Gully is in good condition with no signs of erosion. The need for grade control structures will be assessed once the conceptual plan provided herein has been preliminarily approved. All work within Possum Gully is anticipated to be by others and is beyond the scope of the development of the Site.

### Summary of Flows

A map that illustrates these sub-basins designations, acreages, and directions of flow is included in the Appendix of this report. Also included within the Appendix are applicable supporting documentation, calculations, and tabular summary of CUHP and SWMM inputs and results. Tables 3 – 6 below contain a summary of hydrologic parameters and calculated flows at critical design points within the Site for the 2-year and 100-year storm events.

Previous review comment: Include peak flows from RESPEC study at the boundary.

Peak flow is stated

Please list this in the Reference section of this report

This was an erroneous reference



Please specify which MDP and provide excerpts in the appendix to support these.

MDPs specified

There is about 4AC different from exist/ MDP area to proposed area. Please explain where this 4 AC will be discharging.

The difference is due to E-470 widening project from I-70 to 104th Ave which differs from earlier reports

Include the south rectangle area, NE corner of E 48th Ave & Tibet Road analysis in the table of comparison.

Brandenburg Parcel added

First Creek Drainageway MDP shows this is 68 AC. Please clarify in the report if your intention is to exceed the previously approved anticipated area of 68 AC.

21 AC is from basin 503 on 1st Creek Report

Plan shows 8 sub-basins (B1 to B8) (typ.)

Revised to B1-B8

TABLE 3- WEIGHTED COMPOSITE IMPERVIOUSNESS

	EXISTING AREA (AC)	MDP AREA (AC)	PROPOSED AREA (AC)	HISTORIC COMPOSITE IMPERVIOUSNESS (%)	MDP COMPOSITE IMPERVIOUSNESS (%)
A - FIRST CREEK	65.1	55	56.2	2.0	76
B - FIRST CREEK TRIBUTARY T	115.7	89	89.6	2.0	54
C - SECOND CREEK	108.3	145	139.7	2.0	70
TOTAL WEIGHTED COMPOSITE IMPERVIOUSNESS	289.1	289	285.5	2.0	-

Provide calculation for the proposed composite % imperviousness.

Added to Appendix

A3. There is no A4 shown on MDP

Revised to A1-A3

TABLE 4 - SUMMARY OF FLOWS LEAVING SITE

	TRIBUTARY BASINS	DESCRIPTION	MDP FLOWS		EXISTING CONDITION		PROPOSED CONDITION	
			2-YEAR (CFS)	100-YEAR (CFS)	2-YEAR (CFS)	100-YEAR (CFS)	2-YEAR	100-YEAR
A	A1-A4	FIRST CREEK	-	-	0	-	-	-
B	B1-B6	FIRST CREEK TRIBUTARY T	-	257	0	52	24	122
	C1-C7	SECOND CREEK	89.3	368.8	1	129	2	104

Added to Appendix

Provide excerpts in the appendix to support the Q2 (exist & proposed).

There are multiple columns added

Add a column to show Q2 and Q100 with temp pond A & C provided onsite.

\*Ultimate condition flows are shown; does not account for temporary Pond A

There are multiple columns added

Provide a column for Q100 in without pond.

TABLE 5 - POTENTIAL TEMPORARY POND VOLUME FOR PROPOSED CONDITION

POND	WATER QUALITY CAPTURE VOLUME (AF)	100-YR DETENTION VOLUME (AF)	TOTAL VOLUME (AF)	OWNERSHIP
A	1.2	6.7	7.3	REGIONAL

There are multiple columns added

Please also provide another column to list the Q100 outflow of ponds A & C.

TABLE 6 - REGIONAL POND VOLUME FOR PROPOSED CONDITION

POND	WATER QUALITY CAPTURE VOLUME (AF)	100-YR DETENTION VOLUME (AF)	TOTAL VOLUME (AF)	OWNERSHIP
		17.3	18.9	REGIONAL

Please also include temp pond C in the discussion of this report?

The figures in the 'MDP flows' column are proportional to the acreage of this Site in proportion to the respective tributaries and flows for 2nd's Hydrology & 1st's MDP

This is now permanent Pond PG2. Revised throughout

Ponds will be located within a proposed drainage easement within the City's SDC Manual, which would be vacated to allow for development once the downstream, regional facilities

were constructed. Ownership (private) and maintenance of the temporary on-Site ponds has been determined based on City criteria and is provided in Table 5. Further discussion and coordination with the City on this matter will be ongoing, should the temporary pond be required. Maintenance access will be provided by access roads within the temporary pond drainage easements designed per City criteria. As shown in Tables 5 and 6, each of the outfall culverts from the proposed temporary ponds will traverse an arterial roadway and will therefore be drainageway public improvements. These culverts have been included and identified in the FDP and PIP documents for the development. Enhanced stormwater quality for each of the proposed on-Site temporary ponds, if needed, will be provided by the Water Quality Capture Volume (WQCV) that has been incorporated into the total pond volumes.

## E. CONCLUSION

### 1. Compliance with Standards

The drainage plan provided in this report is in general compliance with the *City of Aurora Storm Drainage Design and Technical Criteria Manual* and the *Mile High Flood District, Urban Storm Drainage Criteria Manuals* (References 1 and 2, respectively), and FAA regulations. This proposed drainage plan provides recommended drainage systems that control flows to be consistent with First Creek (Upstream of Buckley Road) Major Drainageway Plan (Moser & Associates, August 2010) and Second Creek Major Drainageway Plan (RESPEC, January 2019). Additionally, design for the potential temporary detention pond has been provided, which will be implemented should the downstream, regional detention ponds not be completed at the time of development within the associated tributary.

### 2. Summary of Concept

The recommended drainage plan for the Green Valley Master Plan Amendment 4 development include the following main components: one (1) temporary on-Site detention pond (Pond A) for basins draining to First Creek (Basin A) until downstream detention and improvements are in place, one regional detention pond (Pond PG2) for basins draining to Second Creek – Possum Gully (Basin C), and routing of Basin B to Region Detention Pond 8503 C and ultimately First Creek Tributary T through the ongoing East Green Valley Ranch development. The proposed plan will provide water quality and mitigate flooding impacts to the Site and downstream properties. Dewberry Engineers looks forward to future collaboration with the City of Aurora and MHFD on development of the proposed Green Valley Master Plan Amendment 4 Development.

This statement is in conflict with Sec D, Drainage Plan, sub-section 2 - Specific Details of this report. It mentioned about 2 temp on site ponds (Pond A and C) are proposed to provide detention before routing further downstream.

Pond C is now permanent Pond PG2. Revised throughout



## G. REFERENCES

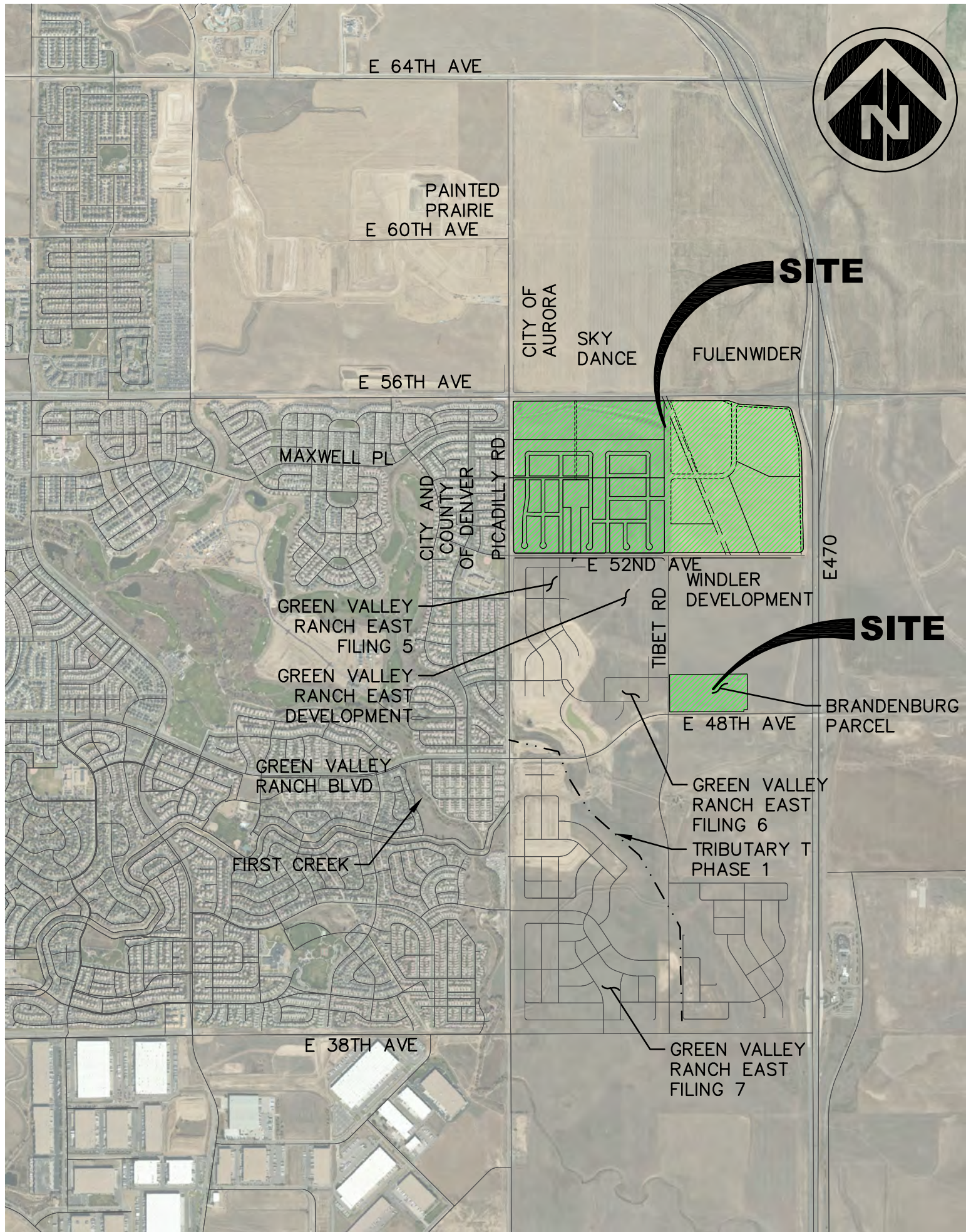
1. *The City of Aurora Storm Drainage Design and Technical Criteria*, City of Aurora; Revised, 2010.
2. *Urban Storm Drainage Criteria Manuals, Volumes 1, 2, and 3*, Mile High Flood District; August 2018.
3. *Flood Insurance Rate Map (FIRM) Map No. 08005C0061L*, National Flood Insurance Program, Federal Emergency Management Agency (FEMA), February 17, 2017.
4. *Custom Soil Resource Report for Adams County Area, Parts of Adams and Denver Counties, Colorado*, Natural Resources Conservation Service (NRCS), May 2020.
5. *First Creek (Upstream of Buckley Road) Major Drainageway Plan*, Moser & Associates, August 2010
6. *Second Creek Major Drainageway Plan*, RESPEC, January 2019
7. *Master Drainage Report for Green Valley Ranch East*, Stantec Consulting, Inc., March 2006 (COA# 206069)
8. *Green Valley –Master Drainage Report Addendum*, Stantec Consulting, Inc., September 2008 (COA# 208106)
9. *Green Valley – Amendment 1 Master Drainage Report*, Calibre Engineering, Inc., January 2018 (COA# 218019)
10. *Green Valley – Amendment 2 Master Drainage Report*, Calibre Engineering, Inc., March 2020 (COA# 220095)
11. *Green Valley Ranch East Regional Drainage Improvement Plans*, Calibre Engineering, Inc., June, 2019 (COA #217031)

What about the GVRE - Amendment 3 MDR, Calibre Engineering, Inc., August 2021 (EDN 220095)?

Added to references list

## **APPENDIX A – FIGURES AND SUPPORTING DOCUMENTS**



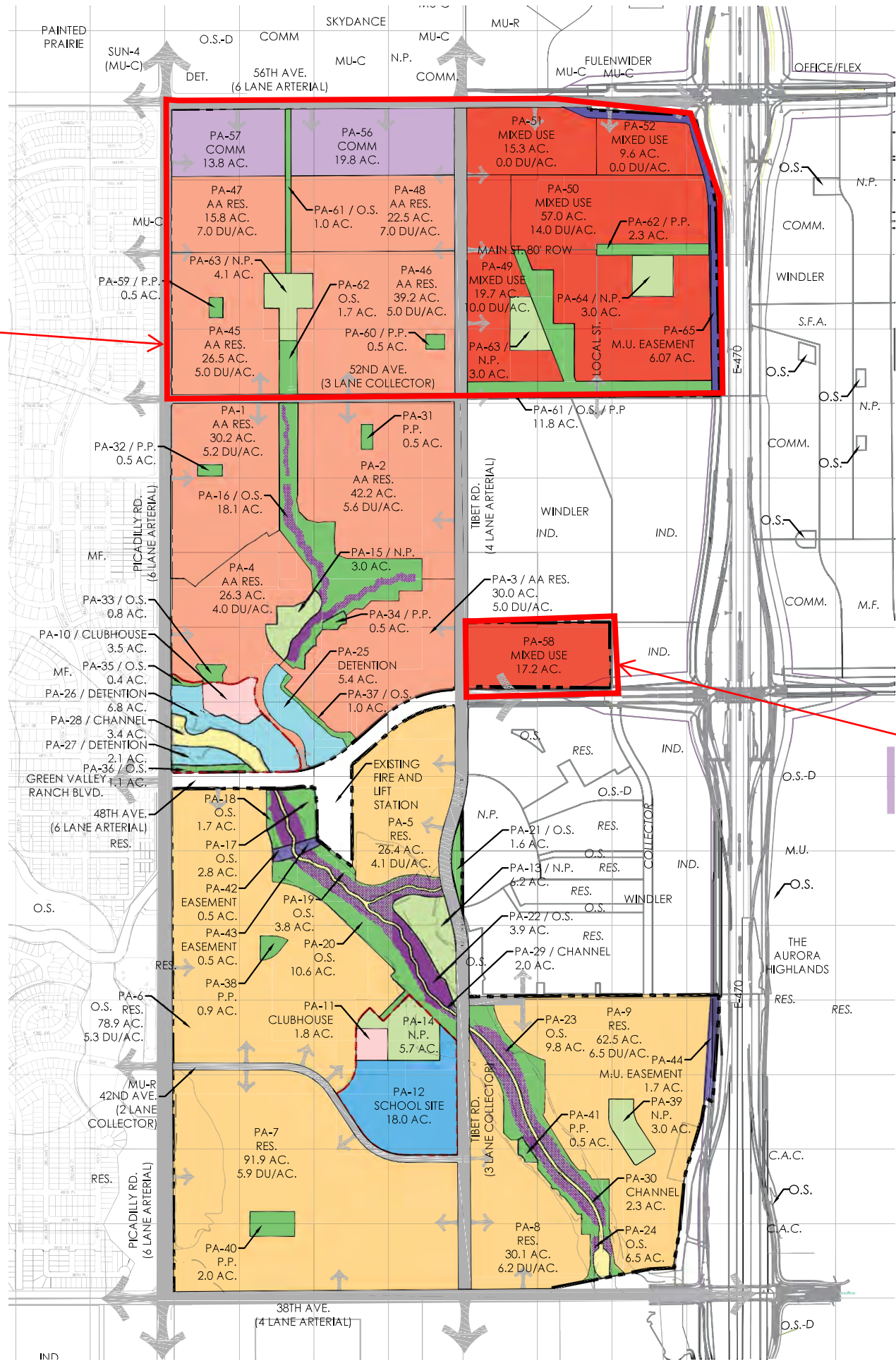


**VICINITY MAP**

SCALE: 1"=2000'



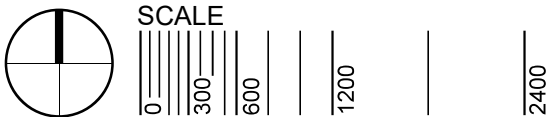
PROJECT AREA



LEGEND

- |                      |                                    |
|----------------------|------------------------------------|
| SINGLE FAMILY RES.   | SCHOOL SITE                        |
| ACTIVE ADULT RES.    | ROAD RIGHT OF WAY                  |
| OPEN SPACE           | EASEMENT                           |
| DETENTION POND       | COMMERCIAL                         |
| FLOODWAY CHANNEL     | MIXED USE                          |
| CLUBHOUSE            | NAC BOUNDARY                       |
| NEIGHBORHOOD PARK    | IND = INDUSTRIAL                   |
| 100 YEAR FLOOD PLAIN | COMM. = COMMERCIAL                 |
|                      | C.A.C. = COMMUNITY ACTIVITY CENTER |
|                      | MU-C = MULTI USE COMMERCIAL        |
- O.S. = OPEN SPACE  
N.P. = NEIGHBORHOOD PARK  
P.P. = POCKET PARK  
RES. = RESIDENTIAL  
M.F. = MULTI FAMILY  
S.F.A. = SINGLE FAMILY ATTACHED  
S.F.D. = SINGLE FAMILY DETACHED

PROJECT AREA



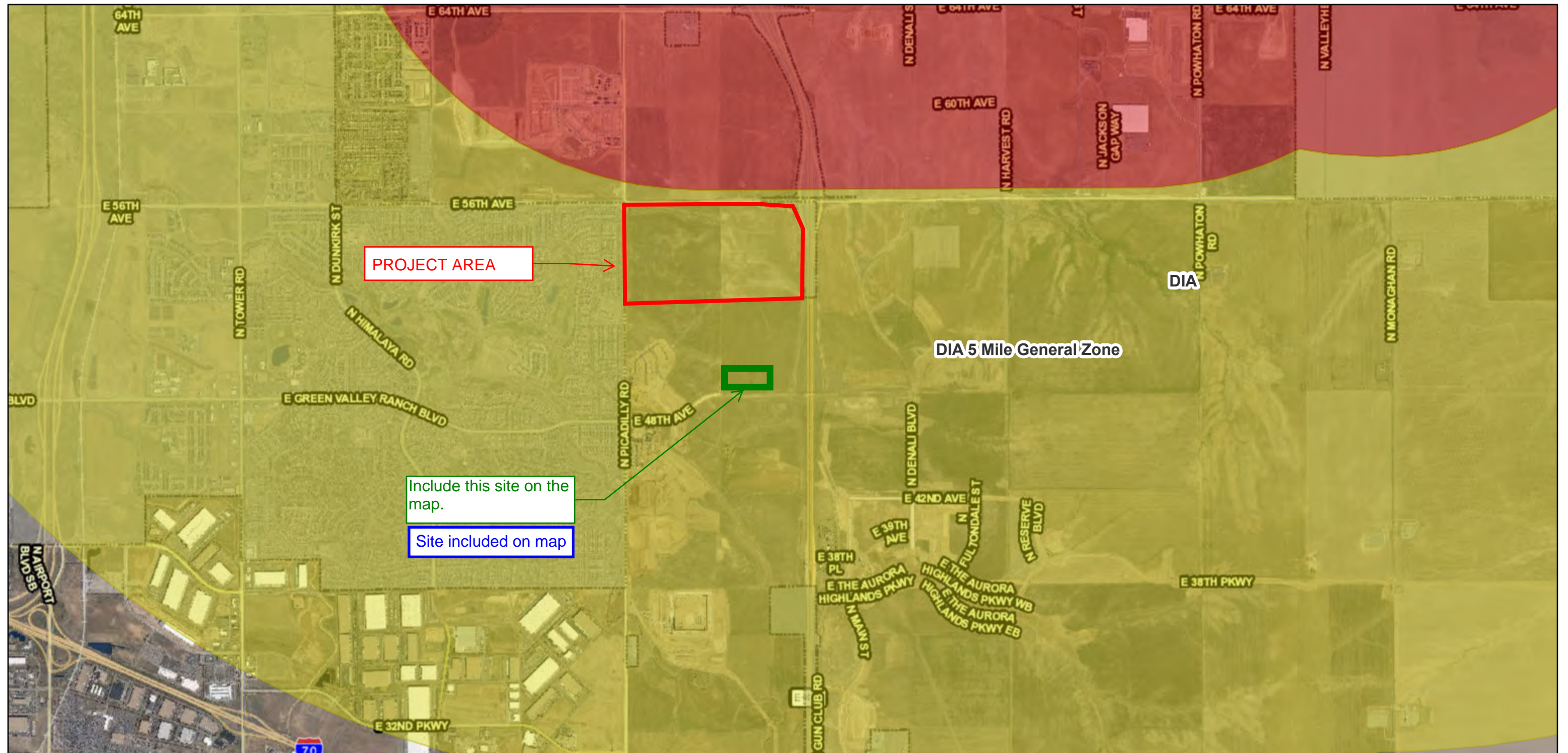
Sheet Title:  
**LAND USE PLAN  
OVERALL**  
Land Use Map, Matrix and  
Standard Notes  
Master Plan

Project Title:  
**Green Valley Master Plan  
Amendment 2**  
Aurora, Colorado

**GREEN VALLEY  
RANCH**



# Aurora 310



5/20/2022, 8:39:38 AM

## DIA - Airport Detention Pond Buffers

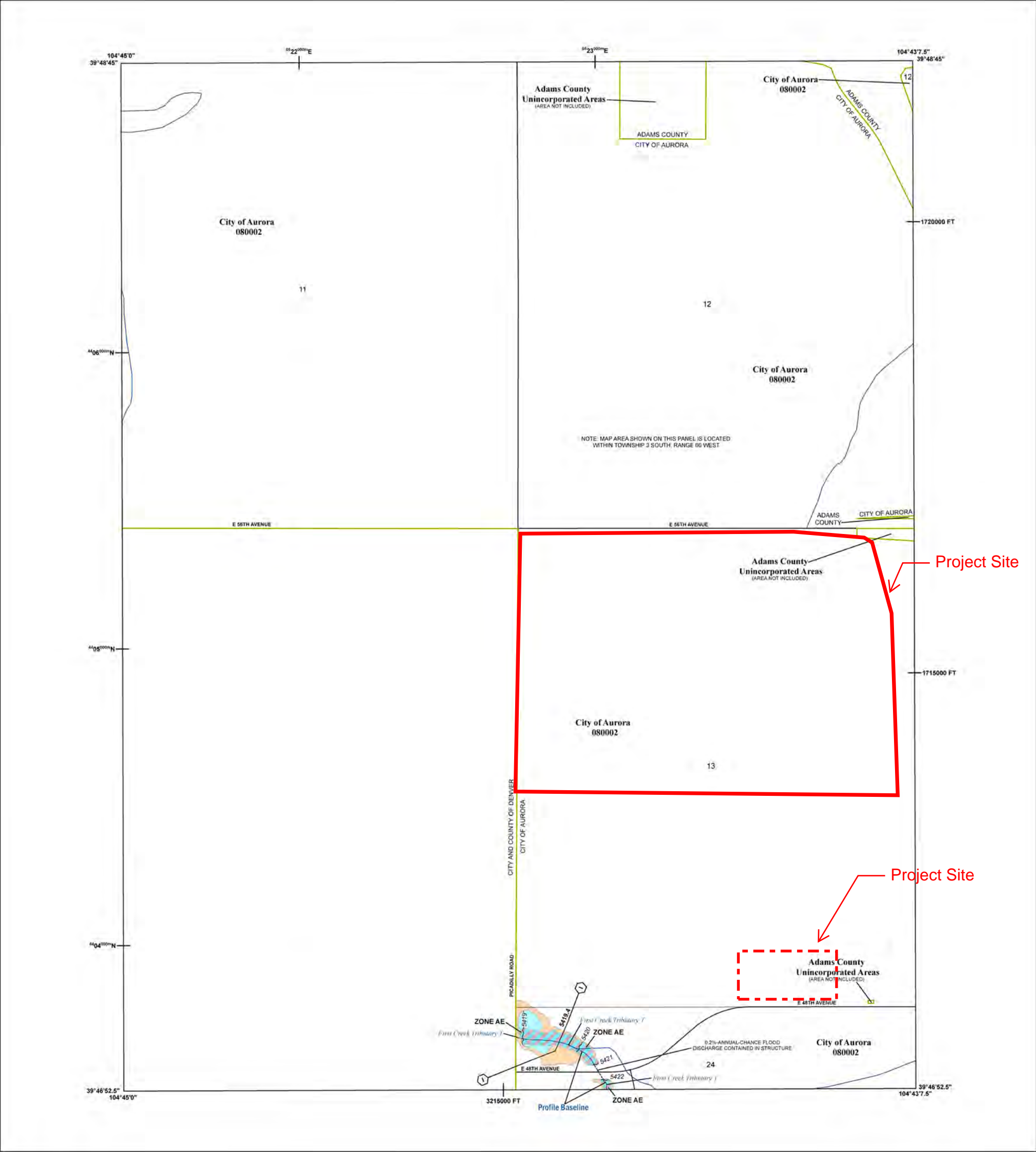
 10,000 Foot Critical Zone

 5 Mile General Zone

### Airport Detention Pond Label

1:32,000





FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP  
THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING  
DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT  
[HTTP://MSC.FEMA.GOV](http://MSC.FEMA.GOV)

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) Zones AE, A99
	With BFE or Depth Zones AE, AO, AH, VE, AR
OTHER AREAS OF FLOOD HAZARD	Regulatory Floodway
	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X Area with Reduced Flood Risk due to Levee See Notes, Zone X
OTHER AREAS	NO SCREEN Areas of Minimal Flood Hazard Zone X
	Area of Undetermined Flood Hazard Zone X
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer Accredited or Provisionally Accredited Levee, Dike, or Floodwall
	Non-accredited Levee, Dike, or Floodwall
	Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
OTHER FEATURES	Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

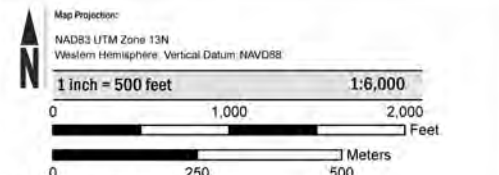
For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

Communities acquiring land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Map Service Center at the number listed above.

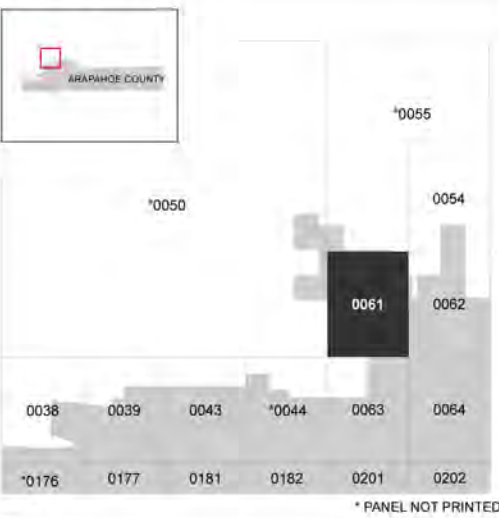
For community and countywide map dates refer to the Flood Insurance Study report for this jurisdiction. To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6629.

Base map information shown on this FIRM was provided by the Arapahoe County and Cities of Aurora and Littleton GIS Dept. The coordinate system used for production of the digital FIRM is Universal Transverse Mercator, Zone 13N, referenced to the North American Datum of 1983 and the GRS 1980 spheroid, Western Hemisphere.

SCALE



PANEL LOCATOR



National Flood Insurance Program

**NATIONAL FLOOD INSURANCE PROGRAM**  
FLOOD INSURANCE RATE MAP

**ARAPAHOE COUNTY, COLORADO**  
And Incorporated Areas

PANEL 61 OF 725

Panel Contains:  
COMMUNITY NUMBER PANEL SUFFIX  
AURORA, CITY OF 080002 0061 L

VERSION NUMBER  
2.3.3.2

MAP NUMBER  
08005C0061L

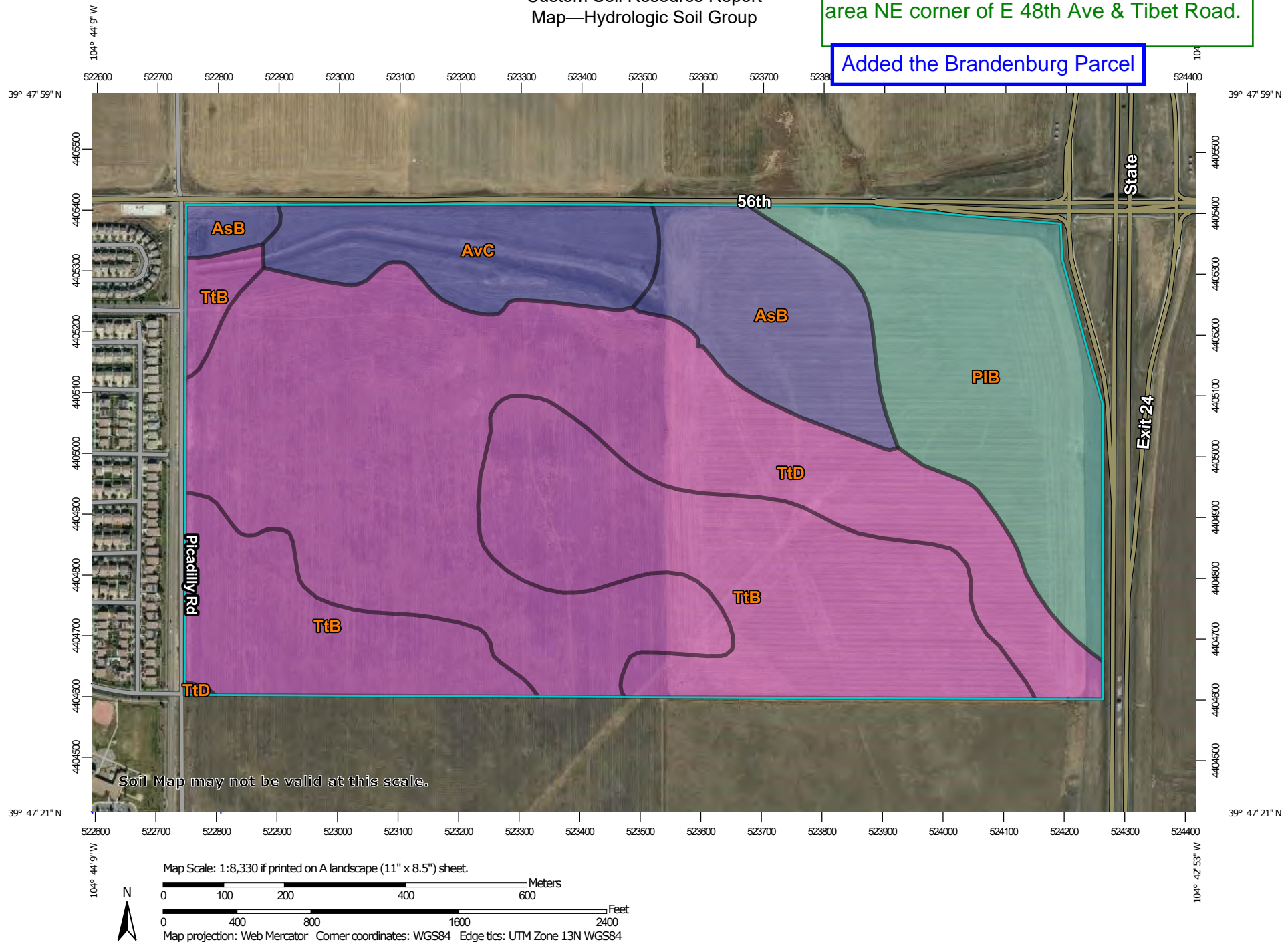
MAP REVISED  
FEBRUARY 17, 2017



# Custom Soil Resource Report Map—Hydrologic Soil Group


Please also provide the Hydrologic Soil Group analysis for the "south" rectangle area NE corner of E 48th Ave & Tibet Road.

Added the Brandenburg Parcel










## 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 1:20,000.

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: Adams County Area, Parts of Adams and Denver Counties, Colorado  
 Survey Area Data: Version 18, Aug 31, 2021

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

Date(s) aerial images were photographed: Oct 3, 2018—Dec 4, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background



## MAP LEGEND

## MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

**Table—Hydrologic Soil Group**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AsB	Ascalon sandy loam, 0 to 3 percent slopes	B	27.1	9.1%
AvC	Ascalon-Vona sandy loams, 1 to 5 percent slopes	B	22.9	7.6%
PIB	Platner loam, 0 to 3 percent slopes	C	48.6	16.2%
TtB	Truckton loamy sand, 0 to 3 percent slopes	A	84.1	28.1%
TtD	Truckton loamy sand, 3 to 9 percent slopes	A	116.8	39.0%
<b>Totals for Area of Interest</b>			<b>299.4</b>	<b>100.0%</b>

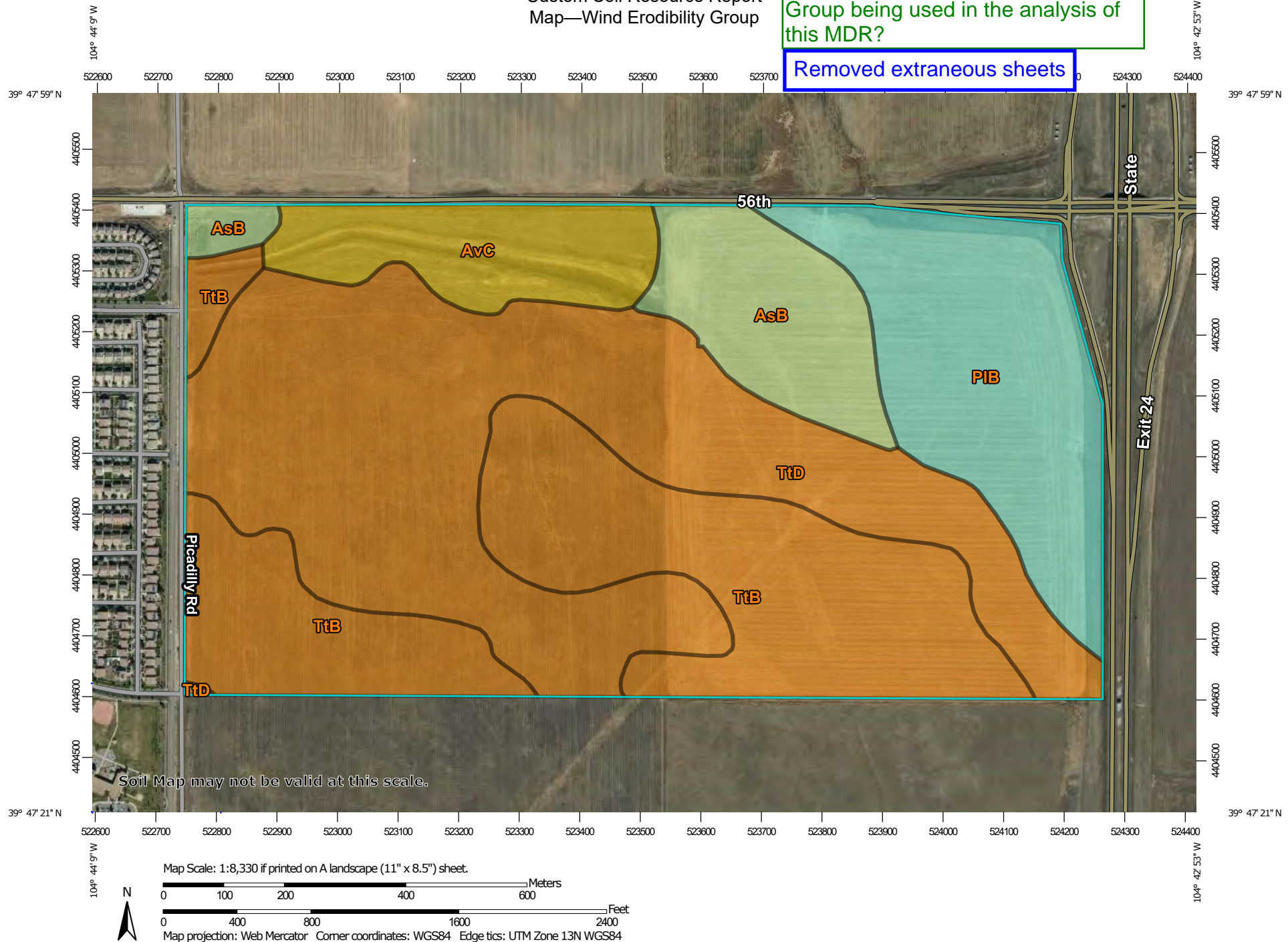
**Rating Options—Hydrologic Soil Group***Aggregation Method: Dominant Condition**Component Percent Cutoff: None Specified**Tie-break Rule: Higher*



Custom Soil Resource Report  
Map—Wind Erodibility Group

Are data from this Wind Erodibility  
Group being used in the analysis of  
this MDR?


Removed extraneous sheets



## Custom Soil Resource Report





### MAP LEGEND

#### Area of Interest (AOI)











 Area of Interest (AOI)

#### Soils

##### Soil Rating Polygons

- |   |                            |
|---|----------------------------|
|  | 1                          |
|  | 2                          |
|  | 3                          |
|  | 4                          |
|  | 4L                         |
|  | 5                          |
|  | 6                          |
|  | 7                          |
|  | 8                          |
|  | Not rated or not available |


##### Soil Rating Lines

- |   |                            |
|---|----------------------------|
|    | 1                          |
|    | 2                          |
|    | 3                          |
|  | 4                          |
|  | 4L                         |
|  | 5                          |
|  | 6                          |
|  | 7                          |
|  | 8                          |
|  | Not rated or not available |






##### Soil Rating Points

- |   |                            |
|---|----------------------------|
|  | 1                          |
|  | 2                          |
|  | 3                          |
|  | 4                          |
|  | 4L                         |
|  | 5                          |
|  | 6                          |
|  | 7                          |
|  | 8                          |
|  | 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 1:20,000.

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)

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Soil Survey Area: Adams County Area, Parts of Adams and Denver Counties, Colorado  
Survey Area Data: Version 18, Aug 31, 2021

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

Date(s) aerial images were photographed: Oct 3, 2018—Dec 4, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background



## MAP LEGEND

## MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

**Table—Wind Erodibility Group**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AsB	Ascalon sandy loam, 0 to 3 percent slopes	4L	27.1	9.1%
AvC	Ascalon-Vona sandy loams, 1 to 5 percent slopes	3	22.9	7.6%
PIB	Platner loam, 0 to 3 percent slopes	5	48.6	16.2%
TtB	Truckton loamy sand, 0 to 3 percent slopes	2	84.1	28.1%
TtD	Truckton loamy sand, 3 to 9 percent slopes	2	116.8	39.0%
<b>Totals for Area of Interest</b>			<b>299.4</b>	<b>100.0%</b>

**Rating Options—Wind Erodibility Group**

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Lower

**Soil Qualities and Features**

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

**Hydrologic Soil Group**

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.




# Custom Soil Resource Report Soil Map



# Custom Soil Resource Report


## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)


### Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

### Special Point Features

 Blowout

 Borrow Pit


 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot


 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water


 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole


 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot


 Other

 Special Line Features

### 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 1:20,000.

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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.

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Date(s) aerial images were photographed: Oct 3, 2018—Dec 4, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background



## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AsB	Ascalon sandy loam, 0 to 3 percent slopes	27.1	9.1%
AvC	Ascalon-Vona sandy loams, 1 to 5 percent slopes	22.9	7.6%
PIB	Platner loam, 0 to 3 percent slopes	48.6	16.2%
TtB	Truckton loamy sand, 0 to 3 percent slopes	84.1	28.1%
TtD	Truckton loamy sand, 3 to 9 percent slopes	116.8	39.0%
<b>Totals for Area of Interest</b>		<b>299.4</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

## Custom Soil Resource Report

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.



## MAP LEGEND

## MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



**NOAA Atlas 14, Volume 8, Version 2**  
**Location name: Aurora, Colorado, USA\***  
**Latitude: 39.7946°, Longitude: -104.725°**  
**Elevation: 5468.93 ft\*\***

\* source: ESRI Maps

\*\* source: USGS



**POINT PRECIPITATION FREQUENCY ESTIMATES**

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffrey Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

[PF\\_tabular](#) | [PF\\_graphical](#) | [Maps & aeriels](#)

**PF tabular**

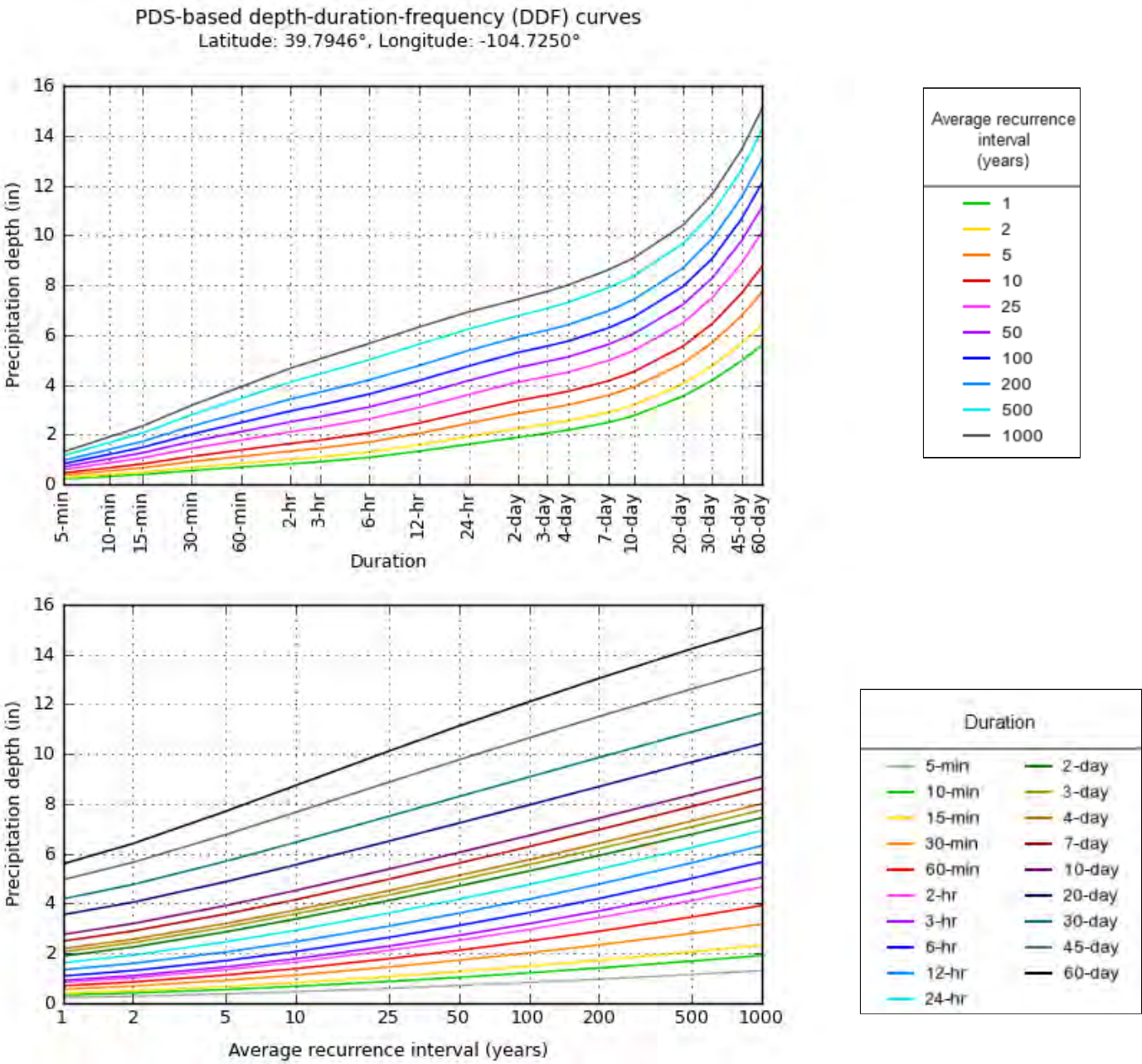
<b>PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)<sup>1</sup></b>										
<b>Duration</b>	<b>Average recurrence interval (years)</b>									
	<b>1</b>	<b>2</b>	<b>5</b>	<b>10</b>	<b>25</b>	<b>50</b>	<b>100</b>	<b>200</b>	<b>500</b>	<b>1000</b>
<b>5-min</b>	<b>0.226</b> (0.181-0.285)	<b>0.279</b> (0.223-0.351)	<b>0.374</b> (0.298-0.472)	<b>0.462</b> (0.365-0.585)	<b>0.596</b> (0.461-0.795)	<b>0.709</b> (0.533-0.953)	<b>0.831</b> (0.602-1.14)	<b>0.964</b> (0.669-1.36)	<b>1.15</b> (0.769-1.67)	<b>1.31</b> (0.845-1.90)
<b>10-min</b>	<b>0.332</b> (0.265-0.417)	<b>0.409</b> (0.326-0.514)	<b>0.548</b> (0.436-0.692)	<b>0.677</b> (0.535-0.857)	<b>0.872</b> (0.674-1.16)	<b>1.04</b> (0.780-1.40)	<b>1.22</b> (0.882-1.67)	<b>1.41</b> (0.980-1.99)	<b>1.69</b> (1.13-2.44)	<b>1.91</b> (1.24-2.78)
<b>15-min</b>	<b>0.404</b> (0.323-0.508)	<b>0.498</b> (0.398-0.627)	<b>0.669</b> (0.532-0.843)	<b>0.825</b> (0.652-1.05)	<b>1.06</b> (0.822-1.42)	<b>1.27</b> (0.951-1.70)	<b>1.48</b> (1.08-2.04)	<b>1.72</b> (1.20-2.43)	<b>2.06</b> (1.37-2.98)	<b>2.33</b> (1.51-3.39)
<b>30-min</b>	<b>0.561</b> (0.448-0.705)	<b>0.687</b> (0.548-0.864)	<b>0.916</b> (0.728-1.16)	<b>1.13</b> (0.891-1.43)	<b>1.45</b> (1.12-1.93)	<b>1.72</b> (1.29-2.32)	<b>2.02</b> (1.46-2.78)	<b>2.34</b> (1.63-3.30)	<b>2.80</b> (1.87-4.04)	<b>3.17</b> (2.05-4.61)
<b>60-min</b>	<b>0.698</b> (0.557-0.877)	<b>0.850</b> (0.678-1.07)	<b>1.13</b> (0.898-1.42)	<b>1.39</b> (1.10-1.76)	<b>1.78</b> (1.38-2.38)	<b>2.12</b> (1.59-2.85)	<b>2.49</b> (1.80-3.42)	<b>2.88</b> (2.01-4.07)	<b>3.46</b> (2.31-5.00)	<b>3.92</b> (2.54-5.70)
<b>2-hr</b>	<b>0.834</b> (0.671-1.04)	<b>1.01</b> (0.814-1.26)	<b>1.34</b> (1.07-1.68)	<b>1.65</b> (1.31-2.07)	<b>2.12</b> (1.65-2.81)	<b>2.52</b> (1.91-3.36)	<b>2.95</b> (2.16-4.03)	<b>3.43</b> (2.40-4.80)	<b>4.11</b> (2.77-5.89)	<b>4.67</b> (3.05-6.72)
<b>3-hr</b>	<b>0.913</b> (0.737-1.13)	<b>1.10</b> (0.891-1.37)	<b>1.46</b> (1.17-1.81)	<b>1.78</b> (1.43-2.23)	<b>2.29</b> (1.79-3.02)	<b>2.72</b> (2.07-3.61)	<b>3.19</b> (2.34-4.33)	<b>3.70</b> (2.61-5.14)	<b>4.43</b> (3.00-6.32)	<b>5.04</b> (3.30-7.20)
<b>6-hr</b>	<b>1.09</b> (0.886-1.34)	<b>1.31</b> (1.06-1.61)	<b>1.71</b> (1.38-2.11)	<b>2.07</b> (1.67-2.57)	<b>2.64</b> (2.08-3.44)	<b>3.12</b> (2.39-4.09)	<b>3.63</b> (2.69-4.88)	<b>4.20</b> (2.98-5.77)	<b>5.01</b> (3.41-7.05)	<b>5.66</b> (3.74-8.02)
<b>12-hr</b>	<b>1.34</b> (1.10-1.63)	<b>1.60</b> (1.31-1.95)	<b>2.05</b> (1.67-2.51)	<b>2.47</b> (2.00-3.03)	<b>3.09</b> (2.45-3.98)	<b>3.61</b> (2.79-4.69)	<b>4.17</b> (3.11-5.53)	<b>4.77</b> (3.41-6.49)	<b>5.63</b> (3.87-7.84)	<b>6.32</b> (4.22-8.86)
<b>24-hr</b>	<b>1.62</b> (1.34-1.96)	<b>1.93</b> (1.59-2.34)	<b>2.46</b> (2.02-2.99)	<b>2.93</b> (2.39-3.57)	<b>3.61</b> (2.87-4.58)	<b>4.17</b> (3.23-5.34)	<b>4.75</b> (3.56-6.23)	<b>5.38</b> (3.87-7.21)	<b>6.24</b> (4.32-8.58)	<b>6.93</b> (4.66-9.61)
<b>2-day</b>	<b>1.89</b> (1.57-2.27)	<b>2.25</b> (1.87-2.71)	<b>2.86</b> (2.37-3.44)	<b>3.38</b> (2.78-4.08)	<b>4.11</b> (3.28-5.14)	<b>4.70</b> (3.66-5.94)	<b>5.30</b> (4.00-6.85)	<b>5.92</b> (4.29-7.84)	<b>6.77</b> (4.72-9.19)	<b>7.43</b> (5.05-10.2)
<b>3-day</b>	<b>2.06</b> (1.72-2.46)	<b>2.43</b> (2.02-2.90)	<b>3.05</b> (2.54-3.66)	<b>3.58</b> (2.96-4.31)	<b>4.34</b> (3.48-5.39)	<b>4.94</b> (3.87-6.21)	<b>5.56</b> (4.21-7.14)	<b>6.20</b> (4.51-8.16)	<b>7.07</b> (4.96-9.54)	<b>7.75</b> (5.29-10.6)
<b>4-day</b>	<b>2.19</b> (1.83-2.60)	<b>2.56</b> (2.14-3.05)	<b>3.20</b> (2.66-3.82)	<b>3.74</b> (3.10-4.48)	<b>4.51</b> (3.62-5.58)	<b>5.12</b> (4.02-6.41)	<b>5.75</b> (4.37-7.36)	<b>6.41</b> (4.68-8.40)	<b>7.30</b> (5.14-9.81)	<b>8.00</b> (5.49-10.9)
<b>7-day</b>	<b>2.49</b> (2.09-2.94)	<b>2.90</b> (2.43-3.43)	<b>3.58</b> (3.00-4.24)	<b>4.15</b> (3.46-4.94)	<b>4.97</b> (4.02-6.10)	<b>5.62</b> (4.44-6.97)	<b>6.28</b> (4.80-7.96)	<b>6.96</b> (5.12-9.04)	<b>7.89</b> (5.59-10.5)	<b>8.60</b> (5.94-11.6)
<b>10-day</b>	<b>2.76</b> (2.33-3.25)	<b>3.19</b> (2.69-3.76)	<b>3.91</b> (3.29-4.62)	<b>4.52</b> (3.78-5.36)	<b>5.37</b> (4.36-6.55)	<b>6.04</b> (4.79-7.46)	<b>6.72</b> (5.16-8.48)	<b>7.42</b> (5.48-9.58)	<b>8.36</b> (5.95-11.1)	<b>9.09</b> (6.31-12.2)
<b>20-day</b>	<b>3.55</b> (3.02-4.14)	<b>4.05</b> (3.44-4.73)	<b>4.87</b> (4.13-5.70)	<b>5.55</b> (4.68-6.52)	<b>6.49</b> (5.30-7.83)	<b>7.22</b> (5.77-8.81)	<b>7.95</b> (6.15-9.91)	<b>8.69</b> (6.47-11.1)	<b>9.67</b> (6.94-12.6)	<b>10.4</b> (7.29-13.8)
<b>30-day</b>	<b>4.18</b> (3.58-4.86)	<b>4.76</b> (4.07-5.53)	<b>5.69</b> (4.84-6.63)	<b>6.45</b> (5.47-7.54)	<b>7.49</b> (6.14-8.96)	<b>8.29</b> (6.65-10.0)	<b>9.07</b> (7.05-11.2)	<b>9.86</b> (7.37-12.5)	<b>10.9</b> (7.84-14.1)	<b>11.6</b> (8.20-15.4)
<b>45-day</b>	<b>4.95</b> (4.25-5.72)	<b>5.65</b> (4.85-6.53)	<b>6.76</b> (5.78-7.83)	<b>7.66</b> (6.52-8.90)	<b>8.86</b> (7.28-10.5)	<b>9.76</b> (7.86-11.7)	<b>10.6</b> (8.30-13.1)	<b>11.5</b> (8.63-14.5)	<b>12.6</b> (9.13-16.2)	<b>13.4</b> (9.50-17.6)
<b>60-day</b>	<b>5.58</b> (4.81-6.42)	<b>6.40</b> (5.51-7.37)	<b>7.70</b> (6.60-8.88)	<b>8.73</b> (7.45-10.1)	<b>10.1</b> (8.32-11.9)	<b>11.1</b> (8.97-13.3)	<b>12.1</b> (9.45-14.8)	<b>13.0</b> (9.81-16.3)	<b>14.2</b> (10.3-18.2)	<b>15.1</b> (10.7-19.7)

<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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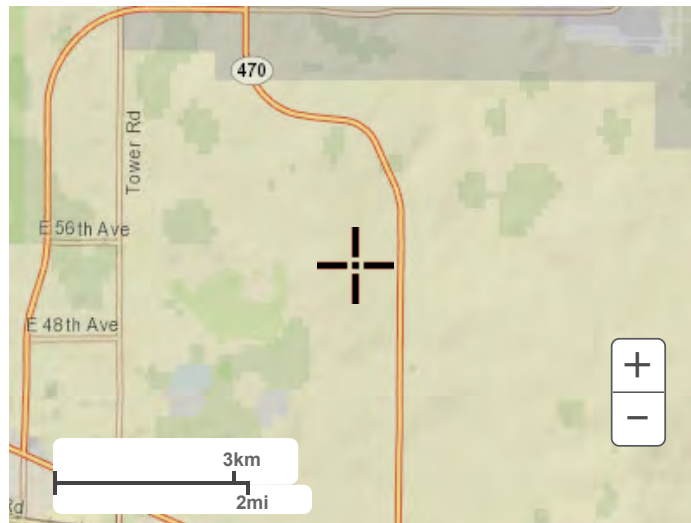
**PF graphical**



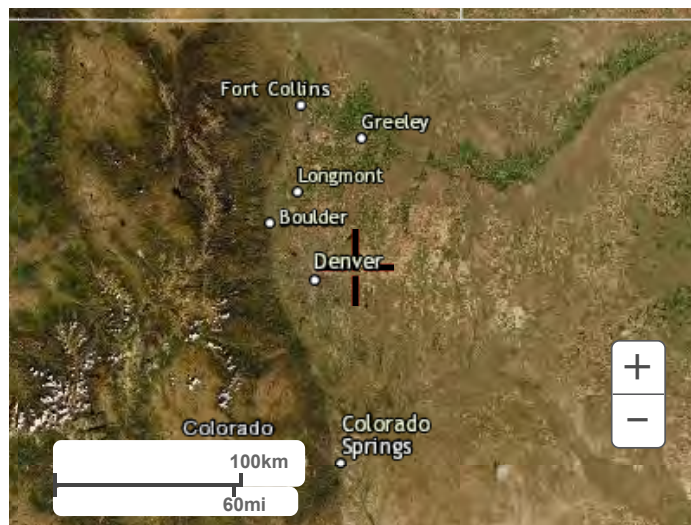


**Maps & aerials**

**Small scale terrain**

**Large scale terrain****Large scale map****Large scale aerial**





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## **APPENDIX B – HYDROLOGIC COMPUTATIONS**



## CUHP SUBCATCHMENTS

Columns with this color heading are for required user-input  
 Columns with this color heading are for optional override values  
 Columns with this color heading are for program-calculated values

								Maximum Depression Storage (Watershed inches)		Horton's Infiltration Parameters			DCIA
Subcatchment Name	EPA SWMM Target Node	Raingage	Area (mi <sup>2</sup> )	Length to Centroid (mi)	Length (mi)	Slope (ft/ft)	Percent Imperviousness	Pervious	Impervious	Initial Rate (in/hr)	Decay Coefficient (1/seconds)	Final Rate (in/hr)	Level 0, 1, or 2
A1	A1 100-YR		0.065646	0.174463	0.423641	0.009352544	72.91	0.4	0.1	4.798	0.001144356	0.8384	0
A2	A2 100-YR		0.018441	0.103306	0.216793	0.015052412	44.06	0.4	0.1	5	0.0007	1	0
A3	A3 100-YR		0.003934	0.051742	0.083513	0.033564	45	0.4	0.1	5	0.0007	1	0
B1	B1 100-YR		0.021965	0.122207	0.244008	0.002941719	26.58	0.4	0.1	5	0.0007	1	0
B2	B2 100-YR		0.030985	0.138399	0.258649	0.011789114	45	0.4	0.1	5	0.0007	1	0
B3	B3 100-YR		0.025418	0.166126	0.291849	0.010954191	45	0.4	0.1	5	0.0007	1	0
B4	B4 100-YR		0.009275	0.042677	0.117763	0.013300339	45	0.4	0.1	5	0.0007	1	0
B5	B5 100-YR		0.014517	0.04494	0.168772	0.013331595	45	0.4	0.1	5	0.0007	1	0
B6	B6 100-YR		0.00765	0.091485	0.220436	0.015697197	45	0.4	0.1	5	0.0007	1	0
B7	B7 100-YR		0.012939	0.066368	0.159544	0.00771612	75.68	0.4	0.1	5	0.0007	1	0
B8	B8 100-YR		0.017288	0.14121	0.238587	0.003953199	45	0.4	0.1	5	0.0007	1	0
C1	C1 100-YR		0.043657	0.138088	0.283967	0.017647697	72.7	0.4	0.1	4.323	0.001677967	0.6289	0
C2	C2 100-YR		0.048373	0.209633	0.37255	0.014702114	72.6	0.4	0.1	3.021	0.001797214	0.5023	0
C3	C3 100-YR		0.009531	0.160103	0.270409	0.0144282	85	0.4	0.1	4.884	0.000955213	0.9072	0
C4	C4 100-YR		0.022253	0.164209	0.314512	0.007141896	64.3	0.4	0.1	5	0.0007	1	0
C5	C5 100-YR		0.020403	0.106101	0.260179	0.019166583	80.5	0.4	0.1	5	0.0007	1	0
C6	C6 100-YR		0.046816	0.209777	0.355447	0.019038128	60	0.4	0.1	4.387	0.001037241	0.8467	0
C7	C7 100-YR		0.02728	0.119094	0.342988	0.011463428	72.5	0.4	0.1	4.725	0.001305438	0.7798	0

Please specify if this is with or without pond (typ).

This sheet shows inflows and not pond dependent outflows

Summary of Unit Hydrograph Parameters and Calculated Results (Version 2.0.0)

Catchment Name/ID	User Comment for Catchment	Unit Hydrograph Parameters and Results									Excess Precip.		Storm Hydrograph			
		CT	Cp	W50 (min.)	W50 Before Peak	W75 (min.)	W75 Before Peak	Time to Peak (min.)	Peak (cfs)	Volume (c.f)	Excess (inches)	Excess (c.f.)	Time to Peak (min.)	Peak Flow (cfs)	Total Volume (c.f.)	Runoff per Unit Area (cfs/acre)
A1		0.080	0.182	18.1	4.03	9.4	2.85	6.7	109	152,509	0.57	86,400	30.0	29	85,970	0.69
A2		0.093	0.081	23.8	2.98	12.4	2.11	5.0	23	42,842	0.30	12,996	30.0	3	12,806	0.30
A3		0.092	0.041	17.5	2.05	9.1	1.45	3.4	7	9,139	0.31	2,848	30.0	1	2,714	0.36
B1		0.108	0.065	58.3	4.42	30.3	3.12	7.4	11	51,029	0.12	6,052	45.0	1	6,041	0.06
B2		0.092	0.104	24.6	3.45	12.8	2.44	5.8	38	71,984	0.31	22,429	30.0	6	22,296	0.30
B3		0.092	0.095	31.6	3.80	16.4	2.69	6.3	24	59,051	0.31	18,399	35.0	4	18,316	0.25
B4		0.092	0.060	16.0	2.24	8.3	1.58	3.7	17	21,548	0.31	6,714	30.0	2	6,412	0.39
B5		0.092	0.074	15.9	2.40	8.3	1.70	4.0	27	33,726	0.31	10,508	30.0	4	10,095	0.39
B6		0.092	0.055	32.7	2.89	17.0	2.04	4.8	7	17,772	0.31	5,538	35.0	1	5,470	0.24
B7		0.079	0.089	15.1	2.53	7.9	1.79	4.2	26	30,060	0.59	17,782	30.0	6	17,080	0.77
B8		0.092	0.080	40.3	3.97	21.0	2.80	6.6	13	40,163	0.31	12,514	40.0	2	12,477	0.21
C1		0.080	0.152	13.8	3.10	7.2	2.19	5.2	95	101,424	0.57	58,291	30.0	23	56,906	0.82
C2		0.080	0.159	19.0	3.83	9.9	2.70	6.4	76	112,380	0.58	65,487	30.0	21	65,151	0.69
C3		0.076	0.080	27.5	3.18	14.3	2.25	5.3	10	22,142	0.68	15,006	35.0	4	14,882	0.59
C4		0.083	0.107	28.7	3.86	14.9	2.73	6.4	23	51,698	0.49	25,349	35.0	6	25,262	0.42
C5		0.077	0.111	15.1	2.79	7.9	1.97	4.6	40	47,400	0.64	30,135	30.0	11	29,264	0.84
C6		0.085	0.146	20.4	3.78	10.6	2.67	6.3	69	108,763	0.45	49,292	30.0	15	48,983	0.50
C7		0.080	0.123	19.3	3.32	10.0	2.34	5.5	42	63,377	0.56	35,671	30.0	11	35,368	0.65



Please specify if this is with or without pond (typ).

This sheet shows inflows and not pond dependent outflows

**Summary of Unit Hydrograph Parameters and Calculated Results (Version 2.0.0)**

Catchment Name/ID	User Comment for Catchment	Unit Hydrograph Parameters and Results									Excess Precip.		Storm Hydrograph			
		CT	Cp	W50 (min.)	W50 Before Peak	W75 (min.)	W75 Before Peak	Time to Peak (min.)	Peak (cfs)	Volume (c.f)	Excess (inches)	Excess (c.f.)	Time to Peak (min.)	Peak Flow (cfs)	Total Volume (c.f.)	Runoff per Unit Area (cfs/acre)
A1		0.080	0.183	17.9	4.02	9.3	2.84	6.7	110	152,509	2.13	325,518	35.0	115	323,830	2.73
A2		0.092	0.082	23.2	2.97	12.1	2.10	4.9	24	42,842	1.34	57,617	35.0	18	56,695	1.54
A3		0.092	0.042	17.1	2.05	8.9	1.45	3.4	7	9,139	1.37	12,485	35.0	5	11,883	1.88
B1		0.106	0.065	57.3	4.36	29.8	3.08	7.3	12	51,029	0.93	47,705	45.0	8	47,629	0.60
B2		0.092	0.105	24.0	3.44	12.5	2.43	5.7	39	71,984	1.37	98,336	40.0	31	97,685	1.54
B3		0.092	0.096	30.9	3.78	16.0	2.67	6.3	25	59,051	1.37	80,668	40.0	21	80,333	1.31
B4		0.092	0.061	15.6	2.23	8.1	1.58	3.7	18	21,548	1.37	29,436	35.0	12	28,030	1.99
B5		0.092	0.075	15.5	2.39	8.1	1.69	4.0	28	33,726	1.37	46,072	35.0	19	44,149	2.01
B6		0.092	0.056	31.9	2.87	16.6	2.03	4.8	7	17,772	1.37	24,278	40.0	6	23,991	1.26
B7		0.079	0.089	15.0	2.53	7.8	1.79	4.2	26	30,060	2.07	62,113	35.0	23	59,586	2.81
B8		0.092	0.081	39.4	3.95	20.5	2.79	6.6	13	40,163	1.37	54,866	45.0	12	54,722	1.08
C1		0.079	0.152	13.6	3.09	7.1	2.19	5.2	96	101,424	2.24	227,117	35.0	92	221,261	3.28
C2		0.079	0.160	18.9	3.82	9.8	2.70	6.4	77	112,380	2.30	258,369	35.0	87	257,043	2.82
C3		0.076	0.080	27.4	3.18	14.2	2.24	5.3	10	22,142	2.33	51,504	40.0	13	51,087	2.17
C4		0.083	0.108	28.4	3.85	14.8	2.72	6.4	23	51,698	1.81	93,429	40.0	25	93,106	1.73
C5		0.077	0.111	15.1	2.78	7.8	1.97	4.6	41	47,400	2.18	103,188	35.0	39	100,121	2.96
C6		0.084	0.147	20.0	3.76	10.4	2.66	6.3	70	108,763	1.89	205,456	35.0	69	204,045	2.29
C7		0.080	0.123	19.1	3.31	9.9	2.34	5.5	43	63,377	2.16	137,079	35.0	46	135,919	2.64

# 100-YEAR PROPOSED CONDITION

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.013)

WARNING 04: minimum elevation drop used for Conduit 10

\*\*\*\*\*

Element Count

\*\*\*\*\*

Number of rain gages ..... 0  
Number of subcatchments ... 0  
Number of nodes ..... 26  
Number of links ..... 22  
Number of pollutants ..... 0  
Number of land uses ..... 0

\*\*\*\*\*

Node Summary

\*\*\*\*\*

Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
1	JUNCTION	5447.00	5.00	0.0	
17	JUNCTION	5445.00	4.00	0.0	
18	JUNCTION	5448.25	4.00	0.0	
A1	JUNCTION	5457.47	4.00	0.0	
A2	JUNCTION	5462.00	4.00	0.0	
A3	JUNCTION	5461.50	4.00	0.0	
B1	JUNCTION	5442.00	5.00	0.0	
B2	JUNCTION	5464.35	0.00	0.0	
B3	JUNCTION	5465.13	4.00	0.0	
B4	JUNCTION	5461.54	4.00	0.0	
B5	JUNCTION	5461.54	4.00	0.0	
B6	JUNCTION	5461.54	0.00	0.0	
B7	JUNCTION	5471.63	4.00	0.0	
B8	JUNCTION	5459.62	4.00	0.0	
C1	JUNCTION	5453.08	4.00	0.0	
C2	JUNCTION	5465.99	0.00	0.0	
C3	JUNCTION	5464.25	4.00	0.0	
C4	JUNCTION	5471.63	4.00	0.0	
C5	JUNCTION	5476.80	4.00	0.0	
C6	JUNCTION	5486.20	4.00	0.0	
C7	JUNCTION	5466.04	0.00	0.0	
A_OUT	OUTFALL	5434.00	0.00	0.0	
B_OUT	OUTFALL	5442.00	4.00	0.0	
C_OUT	OUTFALL	54.36	0.00	0.0	
POND_A	STORAGE	5436.55	6.00	0.0	
POND_PG2	STORAGE	5438.43	7.00	0.0	

\*\*\*\*\*

Link Summary

\*\*\*\*\*

Name	From Node	To Node	Type	Length	%Slope	Roughness
1	18	1	CONDUIT	200.0	0.6250	0.0100
10	B1	B_OUT	CONDUIT	1288.4	0.0001	0.0100
13	C1	POND_PG2	CONDUIT	400.0	3.6650	0.0100
15	A1	POND_A	CONDUIT	400.0	5.2372	0.0100
16	A2	A1	CONDUIT	935.0	0.4845	0.0100
18	C4	C3	CONDUIT	1427.8	0.5169	0.0100
19	C3	17	CONDUIT	400.0	4.8181	0.0100
20	C7	17	CONDUIT	400.0	5.2673	0.0100

21	C5	C1	CONDUIT	1370.0	1.7316	0.0100
22	C6	C1	CONDUIT	1370.0	2.4182	0.0100
23	C2	POND_PG2	CONDUIT	400.0	6.9064	0.0100
24	17	POND_PG2	CONDUIT	990.0	0.6637	0.0100
25	B7	B3	CONDUIT	1541.0	0.4218	0.0100
26	B3	18	CONDUIT	1541.0	1.0955	0.0100
27	B2	18	CONDUIT	1365.7	1.1790	0.0100
28	B8	1	CONDUIT	780.0	1.6182	0.0100
29	B4	1	CONDUIT	220.0	6.6236	0.0100
30	B5	B_OUT	CONDUIT	600.0	3.2584	0.0100
32	1	B1	CONDUIT	800.0	0.6250	0.0350
6	A3	A1	CONDUIT	1300.0	0.3100	0.0100
14	POND_PG2	C_OUT	OUTLET			
17	POND_A	A_OUT	OUTLET			

\*\*\*\*\*  
Cross Section Summary  
\*\*\*\*\*

Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
1	CIRCULAR	4.00	12.57	1.00	4.00	1	147.63
10	DUMMY	0.00	0.00	0.00	0.00	1	0.00
13	DUMMY	0.00	0.00	0.00	0.00	1	0.00
15	DUMMY	0.00	0.00	0.00	0.00	1	0.00
16	CIRCULAR	4.00	12.57	1.00	4.00	1	129.98
18	CIRCULAR	4.00	12.57	1.00	4.00	1	134.26
19	DUMMY	0.00	0.00	0.00	0.00	1	0.00
20	DUMMY	0.00	0.00	0.00	0.00	1	0.00
21	CIRCULAR	4.00	12.57	1.00	4.00	1	245.73
22	CIRCULAR	4.00	12.57	1.00	4.00	1	290.39
23	DUMMY	0.00	0.00	0.00	0.00	1	0.00
24	CIRCULAR	4.00	12.57	1.00	4.00	1	152.12
25	CIRCULAR	4.00	12.57	1.00	4.00	1	121.28
26	DUMMY	0.00	0.00	0.00	0.00	1	0.00
27	DUMMY	0.00	0.00	0.00	0.00	1	0.00
28	CIRCULAR	4.00	12.57	1.00	4.00	1	237.54
29	CIRCULAR	4.00	12.57	1.00	4.00	1	480.59
30	CIRCULAR	4.00	12.57	1.00	4.00	1	337.08
32	TRAPEZOIDAL	5.00	75.00	3.11	20.00	1	535.98
6	CIRCULAR	4.00	12.57	1.00	4.00	1	103.97

\*\*\*\*\*  
NOTE: The summary statistics displayed in this report are  
based on results found at every computational time step,  
not just on results from each reporting time step.  
\*\*\*\*\*

\*\*\*\*\*  
Analysis Options  
\*\*\*\*\*

Flow Units ..... CFS  
Process Models:  
  Rainfall/Runoff ..... NO  
  RDII ..... NO  
  Snowmelt ..... NO  
  Groundwater ..... NO  
  Flow Routing ..... YES  
  Ponding Allowed ..... NO  
  Water Quality ..... NO  
Flow Routing Method ..... KINWAVE



Starting Date ..... 01/01/2005 00:00:00  
 Ending Date ..... 01/02/2005 06:00:00  
 Antecedent Dry Days ..... 0.0  
 Report Time Step ..... 00:15:00  
 Routing Time Step ..... 30.00 sec

	Volume acre-feet	Volume 10 <sup>6</sup> gal
Flow Routing Continuity		
Dry Weather Inflow .....	0.000	0.000
Wet Weather Inflow .....	0.000	0.000
Groundwater Inflow .....	0.000	0.000
RDII Inflow .....	0.000	0.000
External Inflow .....	43.412	14.147
External Outflow .....	32.466	10.579
Flooding Loss .....	0.000	0.000
Evaporation Loss .....	0.000	0.000
Exfiltration Loss .....	0.000	0.000
Initial Stored Volume ....	0.000	0.000
Final Stored Volume .....	10.858	3.538
Continuity Error (%) .....	0.204	

Highest Flow Instability Indexes  
 All links are stable.

Routing Time Step Summary

Minimum Time Step	:	30.00 sec
Average Time Step	:	30.00 sec
Maximum Time Step	:	30.00 sec
Percent in Steady State	:	0.00
Average Iterations per Step	:	1.07
Percent Not Converging	:	0.00

Node Depth Summary

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Time of Max Occurrence days hr:min	Reported Max Depth Feet
1	JUNCTION	0.09	2.00	5449.00	0 00:40	1.94
17	JUNCTION	0.10	2.09	5447.09	0 00:39	2.04
18	JUNCTION	0.09	2.00	5450.25	0 00:40	1.94
A1	JUNCTION	0.05	1.01	5458.48	0 00:41	0.99
A2	JUNCTION	0.05	1.01	5463.01	0 00:35	0.98
A3	JUNCTION	0.02	0.58	5462.08	0 00:35	0.54
B1	JUNCTION	0.08	1.88	5443.88	0 00:42	1.86
B2	JUNCTION	0.00	0.00	5464.35	0 00:00	0.00
B3	JUNCTION	0.05	1.17	5466.30	0 00:38	1.11
B4	JUNCTION	0.02	0.43	5461.97	0 00:35	0.39
B5	JUNCTION	0.02	0.64	5462.18	0 00:35	0.58
B6	JUNCTION	0.00	0.00	5461.54	0 00:00	0.00
B7	JUNCTION	0.05	1.19	5472.82	0 00:35	1.09
B8	JUNCTION	0.04	0.61	5460.23	0 00:45	0.61

C1	JUNCTION	0.06	1.32	5454.40	0	00:37	1.28
C2	JUNCTION	0.00	0.00	5465.99	0	00:00	0.00
C3	JUNCTION	0.06	1.15	5465.40	0	00:43	1.15
C4	JUNCTION	0.06	1.16	5472.79	0	00:40	1.14
C5	JUNCTION	0.04	1.07	5477.87	0	00:35	0.98
C6	JUNCTION	0.06	1.32	5487.52	0	00:35	1.27
C7	JUNCTION	0.00	0.00	5466.04	0	00:00	0.00
A_OUT	OUTFALL	0.00	0.00	5434.00	0	00:00	0.00
B_OUT	OUTFALL	0.02	0.64	5442.64	0	00:36	0.58
C_OUT	OUTFALL	0.00	0.00	54.36	0	00:00	0.00
POND_A	STORAGE	2.92	4.71	5441.26	0	01:33	4.70
POND_PG2	STORAGE	5.57	6.73	5445.16	0	01:24	6.72

\*\*\*\*\*  
Node Inflow Summary  
\*\*\*\*\*

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Time of Max Occurrence days hr:min	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
1	JUNCTION	0.00	96.63	0 00:40	0	2.39	0.0
17	JUNCTION	0.00	81.65	0 00:39	0	2.09	0.0
18	JUNCTION	0.00	74.00	0 00:40	0	1.77	0.0
A1	JUNCTION	114.67	135.62	0 00:36	2.42	2.93	0.0
A2	JUNCTION	18.20	18.20	0 00:35	0.424	0.424	-0.0
A3	JUNCTION	4.73	4.73	0 00:35	0.0889	0.0889	0.0
B1	JUNCTION	8.48	104.65	0 00:42	0.356	2.75	0.0
B2	JUNCTION	30.62	30.62	0 00:40	0.731	0.731	0.0
B3	JUNCTION	21.24	43.40	0 00:40	0.601	1.04	0.0
B4	JUNCTION	11.82	11.82	0 00:35	0.21	0.21	0.0
B5	JUNCTION	18.72	18.72	0 00:35	0.33	0.33	0.0
B6	JUNCTION	6.16	6.16	0 00:40	0.179	0.179	0.0
B7	JUNCTION	23.24	23.24	0 00:35	0.446	0.446	0.0
B8	JUNCTION	12.00	12.00	0 00:45	0.409	0.409	0.0
C1	JUNCTION	91.58	196.29	0 00:36	1.66	3.92	0.0
C2	JUNCTION	87.32	87.32	0 00:35	1.92	1.92	0.0
C3	JUNCTION	13.21	37.37	0 00:42	0.382	1.08	0.0
C4	JUNCTION	24.61	24.61	0 00:40	0.696	0.696	0.0
C5	JUNCTION	38.71	38.71	0 00:35	0.749	0.749	0.0
C6	JUNCTION	68.56	68.56	0 00:35	1.53	1.53	0.0
C7	JUNCTION	46.02	46.02	0 00:35	1.02	1.02	0.0
A_OUT	OUTFALL	0.00	25.92	0 01:33	0	2.2	0.0
B_OUT	OUTFALL	0.00	121.67	0 00:41	0	3.08	0.0
C_OUT	OUTFALL	0.00	104.10	0 01:24	0	5.12	0.0
POND_A	STORAGE	0.00	135.62	0 00:36	0	2.93	0.0
POND_PG2	STORAGE	0.00	362.19	0 00:37	0	7.93	0.0

\*\*\*\*\*  
Node Flooding Summary  
\*\*\*\*\*

No nodes were flooded.

\*\*\*\*\*  
Storage Volume Summary  
\*\*\*\*\*

Previous review comment:  
Adjust page format to landscape  
to illustrate all output (typ.)

Pages are now landscape

Storage Unit	Average Volume 1000 ft3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 ft3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maxi Outf
POND_A	141.293	33	0	0	300.923	71	0 01:33	25
POND_PG2	481.929	58	0	0	758.992	92	0 01:24	104

Pages are now  
landscape

\*\*\*\*\*  
Outfall Loading Summary  
\*\*\*\*\*

Outfall Node	Flow Freq Pcnt	Avg Flow CFS	Max Flow CFS	Total Volume 10^6 gal
A_OUT	99.42	2.74	25.92	2.199
B_OUT	25.39	15.02	121.67	3.081
C_OUT	99.42	6.38	104.10	5.120
System	74.74	24.13	104.10	10.399

\*\*\*\*\*  
Link Flow Summary  
\*\*\*\*\*

Link	Type	Maximum  Flow  CFS	Time of Max Occurrence days hr:min	Maximum  Veloc  ft/sec	Max/ Full Flow	Max/ Full Depth
1	CONDUIT	73.98	0 00:40	11.75	0.50	0.50
10	DUMMY	104.65	0 00:42			
13	DUMMY	196.29	0 00:36			
15	DUMMY	135.62	0 00:36			
16	CONDUIT	18.12	0 00:41	7.31	0.14	0.25
18	CONDUIT	24.34	0 00:43	8.13	0.18	0.29
19	DUMMY	37.37	0 00:42			
20	DUMMY	46.02	0 00:35			
21	CONDUIT	38.28	0 00:36	14.27	0.16	0.27
22	CONDUIT	68.27	0 00:37	18.90	0.24	0.33
23	DUMMY	87.32	0 00:35			
24	CONDUIT	81.61	0 00:41	12.33	0.54	0.52
25	CONDUIT	22.52	0 00:38	7.44	0.19	0.29
26	DUMMY	43.40	0 00:40			
27	DUMMY	30.62	0 00:40			
28	CONDUIT	12.00	0 00:46	9.91	0.05	0.15
29	CONDUIT	11.79	0 00:36	16.13	0.02	0.11
30	CONDUIT	18.64	0 00:36	14.45	0.06	0.16
32	CONDUIT	96.43	0 00:42	4.34	0.18	0.38
6	CONDUIT	4.49	0 00:41	4.21	0.04	0.14
14	DUMMY	104.10	0 01:24			
17	DUMMY	25.92	0 01:33			

\*\*\*\*\*  
Conduit Surcharge Summary  
\*\*\*\*\*

No conduits were surcharged.



Analysis begun on: Thu Dec 15 21:16:12 2022  
Analysis ended on: Thu Dec 15 21:16:14 2022  
Total elapsed time: 00:00:02

# 100-YEAR PROPOSED WITHOUT PONDS

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)

WARNING 04: minimum elevation drop used for Conduit 10  
WARNING 08: elevation drop exceeds length for Conduit 14

\*\*\*\*\*

## Element Count

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Number of rain gages ..... 0  
Number of subcatchments ... 0  
Number of nodes ..... 26  
Number of links ..... 22  
Number of pollutants ..... 0  
Number of land uses ..... 0

\*\*\*\*\*

## Node Summary

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Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
1	JUNCTION	5447.00	5.00	0.0	
17	JUNCTION	5445.00	4.00	0.0	
18	JUNCTION	5448.25	4.00	0.0	
A1	JUNCTION	5457.47	4.00	0.0	
A2	JUNCTION	5462.00	4.00	0.0	
A3	JUNCTION	5461.50	4.00	0.0	
B1	JUNCTION	5442.00	5.00	0.0	
B2	JUNCTION	5464.35	0.00	0.0	
B3	JUNCTION	5465.13	4.00	0.0	
B4	JUNCTION	5461.54	4.00	0.0	
B5	JUNCTION	5461.54	4.00	0.0	
B6	JUNCTION	5461.54	0.00	0.0	
B7	JUNCTION	5471.63	4.00	0.0	
B8	JUNCTION	5459.62	4.00	0.0	
C1	JUNCTION	5453.08	4.00	0.0	
C2	JUNCTION	5465.99	0.00	0.0	
C3	JUNCTION	5464.25	4.00	0.0	
C4	JUNCTION	5471.63	4.00	0.0	
C5	JUNCTION	5476.80	4.00	0.0	
C6	JUNCTION	5486.20	4.00	0.0	
C7	JUNCTION	5466.04	0.00	0.0	
POND_A	JUNCTION	5436.55	6.00	0.0	
POND_C	JUNCTION	5438.43	5.00	0.0	
A_OUT	OUTFALL	5434.00	0.00	0.0	
B_OUT	OUTFALL	5442.00	4.00	0.0	
C_OUT	OUTFALL	54.36	1.00	0.0	

\*\*\*\*\*

## Link Summary

\*\*\*\*\*

Name	From Node	To Node	Type	Length	%Slope	Roughness
1	18	1	CONDUIT	200.0	0.6250	0.0100
10	B1	B_OUT	CONDUIT	1288.4	0.0001	0.0100
13	C1	POND_C	CONDUIT	400.0	3.6650	0.0100
14	POND_C	C_OUT	CONDUIT	400.0	1346.0175	0.0100
15	A1	POND_A	CONDUIT	400.0	5.2372	0.0100
16	A2	A1	CONDUIT	935.0	0.4845	0.0100
17	POND_A	A_OUT	CONDUIT	400.0	0.6375	0.0100

18	C4	C3	CONDUIT	1427.8	0.5169	0.0100
19	C3	17	CONDUIT	400.0	4.8181	0.0100
20	C7	17	CONDUIT	400.0	5.2673	0.0100
21	C5	C1	CONDUIT	1370.0	1.7316	0.0100
22	C6	C1	CONDUIT	1370.0	2.4182	0.0100
23	C2	POND_C	CONDUIT	400.0	6.9064	0.0100
24	17	POND_C	CONDUIT	990.0	0.6637	0.0100
25	B7	B3	CONDUIT	1541.0	0.4218	0.0100
26	B3	18	CONDUIT	1541.0	1.0955	0.0100
27	B2	18	CONDUIT	1365.7	1.1790	0.0100
28	B8	1	CONDUIT	780.0	1.6182	0.0100
29	B4	1	CONDUIT	220.0	6.6236	0.0100
30	B5	B_OUT	CONDUIT	600.0	3.2584	0.0100
32	1	B1	CONDUIT	800.0	0.6250	0.0350
6	A3	A1	CONDUIT	1300.0	0.3100	0.0100

\*\*\*\*\*  
Cross Section Summary  
\*\*\*\*\*

Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
1	CIRCULAR	4.00	12.57	1.00	4.00	1	147.63
10	DUMMY	0.00	0.00	0.00	0.00	1	0.00
13	DUMMY	0.00	0.00	0.00	0.00	1	0.00
14	CIRCULAR	1.00	0.79	0.25	1.00	1	169.93
15	DUMMY	0.00	0.00	0.00	0.00	1	0.00
16	CIRCULAR	4.00	12.57	1.00	4.00	1	129.98
17	DUMMY	0.00	0.00	0.00	0.00	1	0.00
18	CIRCULAR	4.00	12.57	1.00	4.00	1	134.26
19	DUMMY	0.00	0.00	0.00	0.00	1	0.00
20	DUMMY	0.00	0.00	0.00	0.00	1	0.00
21	CIRCULAR	4.00	12.57	1.00	4.00	1	245.73
22	CIRCULAR	4.00	12.57	1.00	4.00	1	290.39
23	DUMMY	0.00	0.00	0.00	0.00	1	0.00
24	CIRCULAR	4.00	12.57	1.00	4.00	1	152.12
25	CIRCULAR	4.00	12.57	1.00	4.00	1	121.28
26	DUMMY	0.00	0.00	0.00	0.00	1	0.00
27	DUMMY	0.00	0.00	0.00	0.00	1	0.00
28	CIRCULAR	4.00	12.57	1.00	4.00	1	237.54
29	CIRCULAR	4.00	12.57	1.00	4.00	1	480.59
30	CIRCULAR	4.00	12.57	1.00	4.00	1	337.08
32	TRAPEZOIDAL	5.00	75.00	3.11	20.00	1	535.98
6	CIRCULAR	4.00	12.57	1.00	4.00	1	103.97

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NOTE: The summary statistics displayed in this report are  
based on results found at every computational time step,  
not just on results from each reporting time step.  
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#### Analysis Options

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Flow Units ..... CFS

#### Process Models:

Rainfall/Runoff ..... NO  
RDII ..... NO  
Snowmelt ..... NO  
Groundwater ..... NO  
Flow Routing ..... YES



Ponding Allowed ..... NO  
 Water Quality ..... NO  
 Flow Routing Method ..... KINWAVE  
 Starting Date ..... 01/01/2005 00:00:00  
 Ending Date ..... 01/02/2005 06:00:00  
 Antecedent Dry Days ..... 0.0  
 Report Time Step ..... 00:15:00  
 Routing Time Step ..... 30.00 sec

	Volume acre-feet	Volume 10 <sup>6</sup> gal
Flow Routing Continuity		
Dry Weather Inflow .....	0.000	0.000
Wet Weather Inflow .....	0.000	0.000
Groundwater Inflow .....	0.000	0.000
RDII Inflow .....	0.000	0.000
External Inflow .....	43.412	14.147
External Outflow .....	36.923	12.032
Flooding Loss .....	6.453	2.103
Evaporation Loss .....	0.000	0.000
Exfiltration Loss .....	0.000	0.000
Initial Stored Volume ....	0.000	0.000
Final Stored Volume .....	0.000	0.000
Continuity Error (%) .....	0.084	

\*\*\*\*\*  
 Highest Flow Instability Indexes  
 \*\*\*\*\*  
 All links are stable.

\*\*\*\*\*  
 Routing Time Step Summary  
 \*\*\*\*\*

Minimum Time Step	:	30.00 sec
Average Time Step	:	30.00 sec
Maximum Time Step	:	30.00 sec
Percent in Steady State	:	0.00
Average Iterations per Step	:	1.07
Percent Not Converging	:	0.00

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 Node Depth Summary  
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Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Time of Max Occurrence days hr:min	Reported Max Depth Feet
1	JUNCTION	0.09	2.00	5449.00	0 00:40	1.94
17	JUNCTION	0.10	2.09	5447.09	0 00:39	2.04
18	JUNCTION	0.09	2.00	5450.25	0 00:40	1.94
A1	JUNCTION	0.05	1.01	5458.48	0 00:41	0.99
A2	JUNCTION	0.05	1.01	5463.01	0 00:35	0.98
A3	JUNCTION	0.02	0.58	5462.08	0 00:35	0.54
B1	JUNCTION	0.08	1.88	5443.88	0 00:42	1.85
B2	JUNCTION	0.00	0.00	5464.35	0 00:00	0.00
B3	JUNCTION	0.05	1.17	5466.30	0 00:38	1.11
B4	JUNCTION	0.02	0.43	5461.97	0 00:35	0.39
B5	JUNCTION	0.02	0.64	5462.18	0 00:35	0.58

B6	JUNCTION	0.00	0.00	5461.54	0	00:00	0.00
B7	JUNCTION	0.05	1.19	5472.82	0	00:35	1.09
B8	JUNCTION	0.04	0.61	5460.23	0	00:45	0.61
C1	JUNCTION	0.06	1.32	5454.40	0	00:37	1.28
C2	JUNCTION	0.00	0.00	5465.99	0	00:00	0.00
C3	JUNCTION	0.06	1.15	5465.40	0	00:43	1.15
C4	JUNCTION	0.06	1.16	5472.79	0	00:40	1.14
C5	JUNCTION	0.04	1.07	5477.87	0	00:35	0.98
C6	JUNCTION	0.06	1.32	5487.52	0	00:35	1.27
C7	JUNCTION	0.00	0.00	5466.04	0	00:00	0.00
POND_A	JUNCTION	0.00	0.00	5436.55	0	00:00	0.00
POND_C	JUNCTION	0.18	5.00	5443.43	0	00:27	5.00
A_OUT	OUTFALL	0.00	0.00	5434.00	0	00:00	0.00
B_OUT	OUTFALL	0.02	0.64	5442.64	0	00:36	0.58
C_OUT	OUTFALL	0.05	1.00	55.36	0	00:28	1.00

\*\*\*\*\*  
Node Inflow Summary  
\*\*\*\*\*

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Time of Max Occurrence days hr:min	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Fl Balanc Err Perce
1	JUNCTION	0.00	96.73	0 00:40	0	2.39	0.0
17	JUNCTION	0.00	81.75	0 00:39	0	2.09	0.0
18	JUNCTION	0.00	74.06	0 00:40	0	1.77	-0.0
A1	JUNCTION	114.67	135.63	0 00:36	2.42	2.93	0.0
A2	JUNCTION	18.20	18.20	0 00:35	0.424	0.424	0.0
A3	JUNCTION	4.73	4.73	0 00:35	0.0889	0.0889	0.0
B1	JUNCTION	8.48	104.78	0 00:42	0.356	2.75	0.0
B2	JUNCTION	30.62	30.62	0 00:40	0.731	0.731	0.0
B3	JUNCTION	21.24	43.46	0 00:39	0.601	1.04	0.0
B4	JUNCTION	11.82	11.82	0 00:35	0.21	0.21	0.0
B5	JUNCTION	18.72	18.72	0 00:35	0.33	0.33	0.0
B6	JUNCTION	6.16	6.16	0 00:40	0.179	0.179	0.0
B7	JUNCTION	23.24	23.24	0 00:35	0.446		0.0
B8	JUNCTION	12.00	12.00	0 00:45	0.409		0.0
C1	JUNCTION	91.58	196.19	0 00:36	1.66		0.0
C2	JUNCTION	87.32	87.32	0 00:35	1.92		0.0
C3	JUNCTION	13.21	37.37	0 00:42	0.382	1.08	0.0
C4	JUNCTION	24.61	24.61	0 00:40	0.696	0.696	0.0
C5	JUNCTION	38.71	38.71	0 00:35	0.749	0.749	0.0
C6	JUNCTION	68.56	68.56	0 00:35	1.53	1.53	0.0
C7	JUNCTION	46.02	46.02	0 00:35	1.02	1.02	0.0
POND_A	JUNCTION	0.00	135.63	0 00:36	0	2.93	0.0
POND_C	JUNCTION	0.00	362.08	0 00:37	0	7.93	0.0
A_OUT	OUTFALL	0.00	135.63	0 00:36	0	2.93	0.0
B_OUT	OUTFALL	0.00	121.80	0 00:41	0	3.08	0.0
C_OUT	OUTFALL	0.00	183.11	0 01:09	0	5.84	0.0

RESPONSE:  
Pages are now  
landscape

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Node Flooding Summary  
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Flooding refers to all water that overflows a node, whether it ponds or not.

Hours	Maximum Rate	Time of Max Occurrence	Total Flood Volume	Maximum Ponded Volume
-------	-----------------	---------------------------	--------------------------	-----------------------------

Node	Flooded	CFS	days hr:min	10^6 gal	1000 ft3
POND_C	0.74	192.09	0 00:37	2.103	0.000

\*\*\*\*\*  
 Outfall Loading Summary  
 \*\*\*\*\*

Outfall Node	Flow Freq Pcnt	Avg Flow CFS	Max Flow CFS	Total Volume 10^6 gal
A_OUT	13.64	26.63	135.63	2.934
B_OUT	25.39	15.02	121.80	3.081
C_OUT	16.83	42.92	183.11	5.837
System	18.62	84.57	425.07	11.852

\*\*\*\*\*  
 Link Flow Summary  
 \*\*\*\*\*

Link	Type	Maximum  Flow  CFS	Time of Max Occurrence days hr:min	Maximum  Veloc  ft/sec	Max/ Full Flow	Max/ Full Depth
1	CONDUIT	74.06	0 00:40	11.76	0.50	0.50
10	DUMMY	104.78	0 00:42			
13	DUMMY	196.19	0 00:36			
14	CONDUIT	183.11	0 01:09	>50.00	1.08	1.00
15	DUMMY	135.63	0 00:36			
16	CONDUIT	18.12	0 00:41	7.32	0.14	0.25
17	DUMMY	135.63	0 00:36			
18	CONDUIT	24.34	0 00:43	8.13	0.18	0.29
19	DUMMY	37.37	0 00:42			
20	DUMMY	46.02	0 00:35			
21	CONDUIT	38.10	0 00:37	14.26	0.16	0.27
22	CONDUIT	68.27	0 00:37	18.90	0.24	0.33
23	DUMMY	87.32	0 00:35			
24	CONDUIT	81.67	0 00:40	12.34	0.54	0.52
25	CONDUIT	22.71	0 00:38	7.46	0.19	0.29
26	DUMMY	43.46	0 00:39			
27	DUMMY	30.62	0 00:40			
28	CONDUIT	12.00	0 00:46	9.91	0.05	0.15
29	CONDUIT	11.79	0 00:36	16.13	0.02	0.11
30	CONDUIT	18.61	0 00:36	14.44	0.06	0.16
32	CONDUIT	96.56	0 00:42	4.34	0.18	0.38
6	CONDUIT	4.53	0 00:41	4.23	0.04	0.14

\*\*\*\*\*  
 Conduit Surcharge Summary  
 \*\*\*\*\*

Conduit	----- Both Ends	Hours Full Upstream	----- Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
14	0.73	0.73	0.73	0.73	0.73



Analysis begun on: Wed Dec 21 18:17:29 2022  
Analysis ended on: Wed Dec 21 18:17:30 2022  
Total elapsed time: 00:00:01

Provide a title that matches with the project name (typ.)

Title updated

## AURORA 310 PROPOSED SWMM SCHEMATIC

01/01/2005 00:15:00

Increase size of ID label, so it will be legitimate if print out.

increased label sizes

If node B6 is flowing to offsite (bypass), please remove it from the SWMM model.

Node B6 was removed

Why is this basin disconnected?

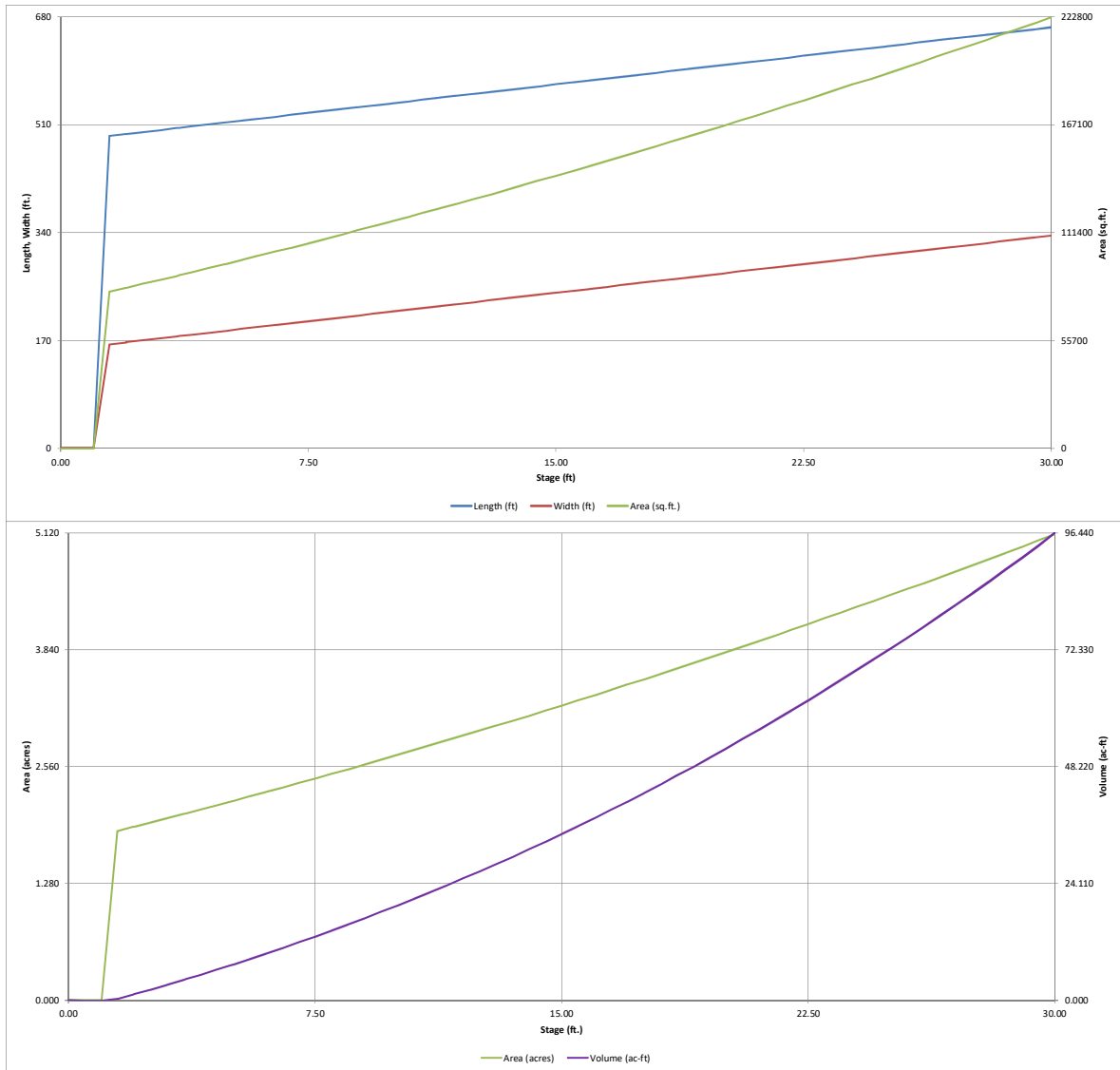
RESPONSE: This basin connects to Trib T offsite with the current conceptual grading

## MHFD-Detention, Version 4.00 (December 2019)



# DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.00 (December 2019)



# DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.00 (December 2019)

Project: **AURORA 310**

Basin ID: **C (Pond PG2)**

Pond C.

The pond for Basin C is called PG2

Added soil area map and calcs

% of soil type A, B & C shown here are different than what are shown on Table 1 for the entire project. If % of soil type shown here are for Sub basins C only, please provide Websoil map to support these information.

NOAA Atlas 14 shows this is 1.78 in.

NOAA Atlas 14 shows this is 2.12 in.

Correct: These values are based off DIA which is built into MHFD's worksheet. The depths used in the worksheet are more conservative than NOAA values



## Input Information

Selected BMP Type =	<b>EDB</b>	
Watershed Area =	139.68	acres
Watershed Length =	3,508	ft
Watershed Length to Centroid =	1,573	ft
Watershed Slope =	0.015	ft/ft
Watershed Imperviousness =	70.30%	percent
Percentage Hydrologic Soil Group A =	44.0%	percent
Percentage Hydrologic Soil Group B =	21.0%	percent
Percentage Hydrologic Soil Groups C/D =	35.0%	percent
Target WQCV Drain Time =	40.0	hours
Location for 1-hr Rainfall Depths =	D.I.A.	

After providing required inputs above, clicking 1-hour rainfall depths, click "Run CUHP" to generate runoff hydrographs using the embedded Colorado Urban Hydrograph Procedure.

Water Quality Capture Volume (WQCV) =	3.217	acre-feet
Excess Urban Runoff Volume (EURV) =	11.087	acre-feet
2-yr Runoff Volume (P1 = 1.85 in.) =	6.326	acres
5-yr Runoff Volume (P1 = 1.13 in.) =	8.909	acres
10-yr Runoff Volume (P1 = 1.39 in.) =	11.413	acres
25-yr Runoff Volume (P1 = 1.8 in.) =	16.494	acres
50-yr Runoff Volume (P1 = 2.15 in.) =	20.598	acres
100-yr Runoff Volume (P1 = 2.53 in.) =	25.570	acres
500-yr Runoff Volume (P1 = 3.55 in.) =	38.045	acres
Approximate 5-yr Detention Volume =	5.945	acre-feet
Approximate 5-yr Detention Volume =	8.449	acre-feet
Approximate 10-yr Detention Volume =	10.629	acre-feet
Approximate 25-yr Detention Volume =	13.514	acre-feet
Approximate 50-yr Detention Volume =	15.233	acre-feet
Approximate 100-yr Detention Volume =	17.315	acre-feet

## Optional User Overrides

	acre-feet
	acre-feet
	inches
	inches
	inches
	inches
	inches
	inches

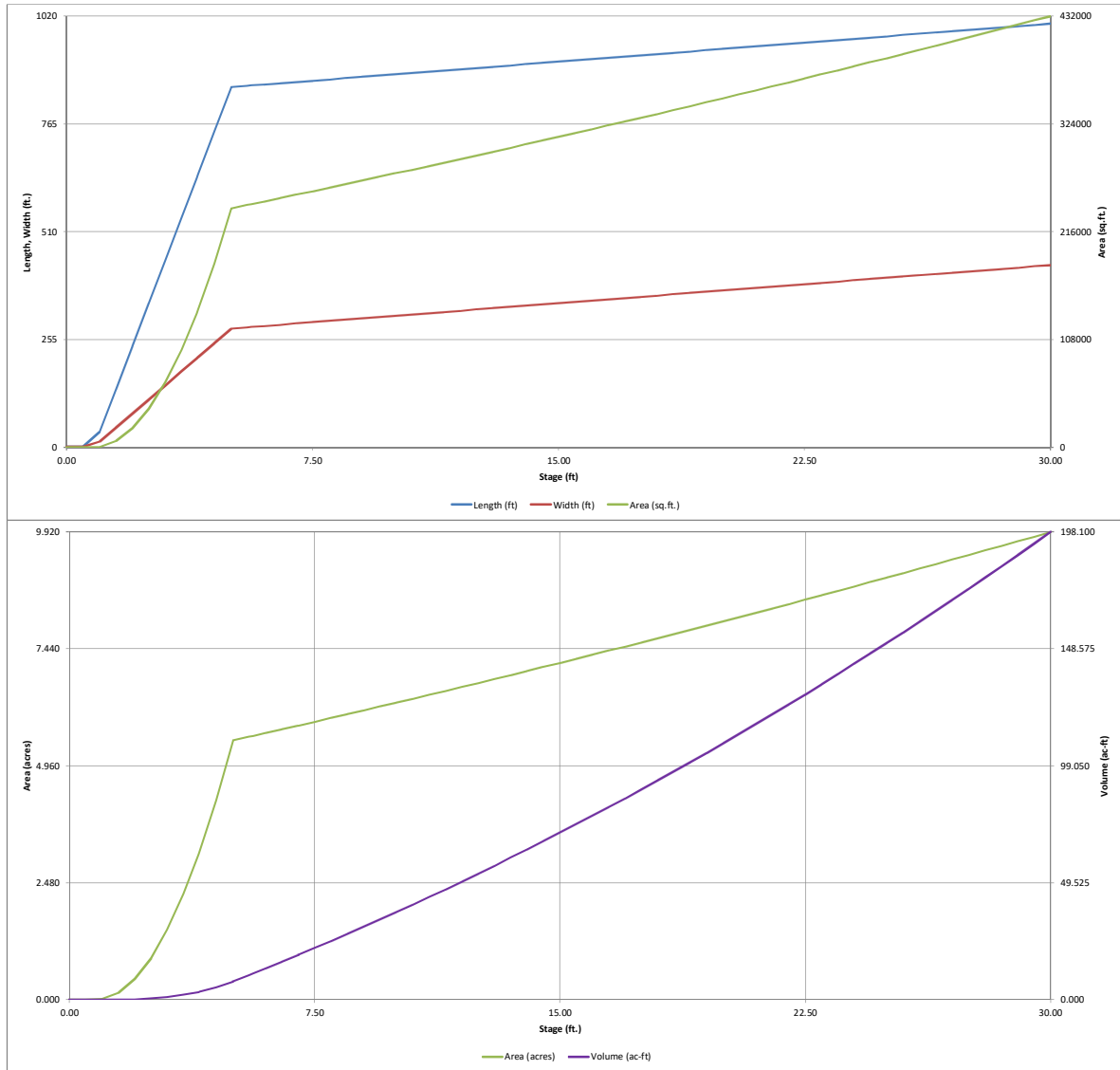
## Basin Geometry

Zone 1 Volume (WQCV) =	3.217	acre-feet
Zone 2 Volume (EURV - Zone 1) =	7.870	acre-feet
1 / 2 WQCV - Zones 1 & 2 =	7.836	acre-feet
Total Detention Basin Volume =	18.923	acre-feet
Initial Surge Volume (ISV) =	1	ft <sup>3</sup>
Initial Surge Depth (ISD) =	0.33	ft
Detention Depth (H <sub>total</sub> ) =	7.00	ft
Depth of Trickle Channel (H <sub>tr</sub> ) =	0.50	ft
Slope of Trickle Channel (S <sub>tr</sub> ) =	0.005	ft/ft
Slope of Main Basin Sides (S <sub>main</sub> ) =	3	H:V
Length-to-Width Ratio (R <sub>L/W</sub> ) =	3	
Initial Surge Area (A <sub>ISV</sub> ) =	3	ft <sup>2</sup>
Surcharge Volume Length (L <sub>SV</sub> ) =	1.7	ft
Surcharge Volume Width (W <sub>SV</sub> ) =	1.7	ft
Depth of Basin Floor (H <sub>floor</sub> ) =	4.19	ft
Length of Basin Floor (L <sub>floor</sub> ) =	852.3	ft
Width of Basin Floor (W <sub>floor</sub> ) =	281.1	ft
Area of Basin Floor (A <sub>floor</sub> ) =	239,562	ft <sup>2</sup>
Volume of Basin Floor (V <sub>floor</sub> ) =	335,783	ft <sup>3</sup>
Depth of Main Basin (H <sub>main</sub> ) =	1.98	ft
Length of Main Basin (L <sub>main</sub> ) =	864.2	ft
Width of Main Basin (W <sub>main</sub> ) =	293.0	ft
Area of Main Basin (A <sub>main</sub> ) =	253,168	ft <sup>2</sup>
Volume of Main Basin (V <sub>main</sub> ) =	487,741	ft <sup>3</sup>
Calculated Total Basin Volume (V <sub>total</sub> ) =	<b>18,906</b>	acre-feet

Depth Increment =	0.50	ft							
Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft <sup>2</sup> )	Optional Override Area (ft <sup>2</sup> )	Area (acre)	Volume (ft <sup>3</sup> )	Volume (ac-ft)
Top of Micropool	0.00		1.7	1.7	3		0.000		
ISV	0.33		1.7	1.7	3		0.000	1	0.000
	0.50		1.7	1.7	3		0.000	2	0.000
	1.00		36.3	13.1	474		0.011	32	0.001
	1.50		137.8	46.4	6,393		0.147	1,467	0.034
	2.00		239.3	79.7	19,078		0.438	7,552	0.173
	2.50		340.8	113.1	38,530		0.885	21,673	0.498
	3.00		442.3	146.4	64,749		1.486	47,210	1.084
	3.50		543.8	179.7	97,734		2.244	87,549	2.010
Zone 1 (WQCV)	3.96		637.1	210.4	134,057		3.078	140,642	3.229
	4.00		645.3	213.1	137,486		3.156	146,072	3.353
	4.50		746.8	246.4	184,005		4.224	226,163	5.192
	5.00		848.3	279.7	237,290		5.447	331,205	7.603
Floor	5.02		852.3	281.1	239,562		5.500	335,973	7.713
	5.50		855.2	284.0	242,835		5.575	451,748	10.371
Zone 2 (EURV)	5.63		856.0	284.7	243,724		5.595	483,375	11.097
	6.00		858.2	287.0	246,261		5.653	574,022	13.178
	6.50		861.2	290.0	249,706		5.732	698,013	16.024
	7.00		864.2	293.0	253,168		5.812	823,730	18.910
3 (100+1/2WQCV)	7.01		864.3	293.0	253,238		5.814	826,262	18.968
	7.50		867.2	296.0	256,649		5.892	951,184	21.836
	8.00		870.2	299.0	260,147		5.972	1,080,382	24.802
	8.50		873.2	302.0	263,664		6.053	1,211,334	27.808
	9.00		876.2	305.0	267,198		6.134	1,344,049	30.855
	9.50		879.2	308.0	270,750		6.216	1,478,535	33.942
	10.00		882.2	311.0	274,321		6.298	1,614,802	37.071
	10.50		885.2	314.0	277,909		6.380	1,752,859	40.240
	11.00		888.2	317.0	281,516		6.463	1,892,714	43.451
	11.50		891.2	320.0	285,140		6.546	2,034,377	46.703
	12.00		894.2	323.0	288,783		6.630	2,177,857	49.997
	12.50		897.2	326.0	292,443		6.714	2,323,163	53.332
	13.00		900.2	329.0	296,121		6.798	2,470,303	56.710
	13.50		903.2	332.0	299,818		6.883	2,619,288	60.131
	14.00		906.2	335.0	303,532		6.968	2,770,124	63.593
	14.50		909.2	338.0	307,265		7.054	2,922,823	67.099
	15.00		912.2	341.0	311,015		7.140	3,077,392	70.647
	15.50		915.2	344.0	314,784		7.226	3,233,841	74.239
	16.00		918.2	347.0	318,570		7.313	3,392,179	77.874
	16.50		921.2	350.0	322,374		7.401	3,552,414	81.552
	17.00		924.2	353.0	326,197		7.488	3,714,556	85.274
	17.50		927.2	356.0	330,037		7.577	3,878,614	89.041
	18.00		930.2	359.0	333,896		7.665	4,044,597	92.851
	18.50		933.2	362.0	337,772		7.754	4,212,513	96.706
	19.00		936.2	365.0	341,667		7.844	4,382,372	100.605
	19.50		939.2	368.0	345,579		7.933	4,554,182	104.550
	20.00		942.2	371.0	349,510		8.024	4,727,954	108.539
	20.50		945.2	374.0	353,458		8.114	4,903,695	112.573
	21.00		948.2	377.0	357,424		8.205	5,081,415	116.653
	21.50		951.2	380.0	361,409		8.297	5,261,122	120.779
	22.00		954.2	383.0	365,411		8.389	5,442,827	124.950
	22.50		957.2	386.0	369,432		8.481	5,626,537	129.168
	23.00		960.2	389.0	373,470		8.574	5,812,261	133.431
	23.50		963.2	392.0	377,527		8.667	6,000,010	137.741
	24.00		966.2	395.0	381,601		8.760	6,189,791	142.098
	24.50		969.2	398.0	385,693		8.854	6,381,614	146.502
	25.00		972.2	401.0	389,804		8.949	6,575,487	150.952
	25.50		975.2	404.0	393,932		9.043	6,771,421	155.450
	26.00		978.2	407.0	398,079		9.139	6,969,423	159.996
	26.50		981.2	410.0	402,243		9.234	7,169,503	164.589
	27.00		984.2	413.0	406,426		9.330	7,371,669	169.230
	27.50		987.2	416.0	410,626		9.427	7,575,931	173.919
	28.00		990.2	419.0	414,844		9.524	7,782,298	178.657
	28.50		993.2	422.0	419,081		9.621	7,990,779	183.443
	29.00		996.2	425.0	423,335		9.718	8,201,382	188.278
	29.50		999.2	428.0	427,608		9.817	8,414,117	193.162
	30.00		1,002.2	431.0	431,898		9.915	8,628,993	198.094

# DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.00 (December 2019)

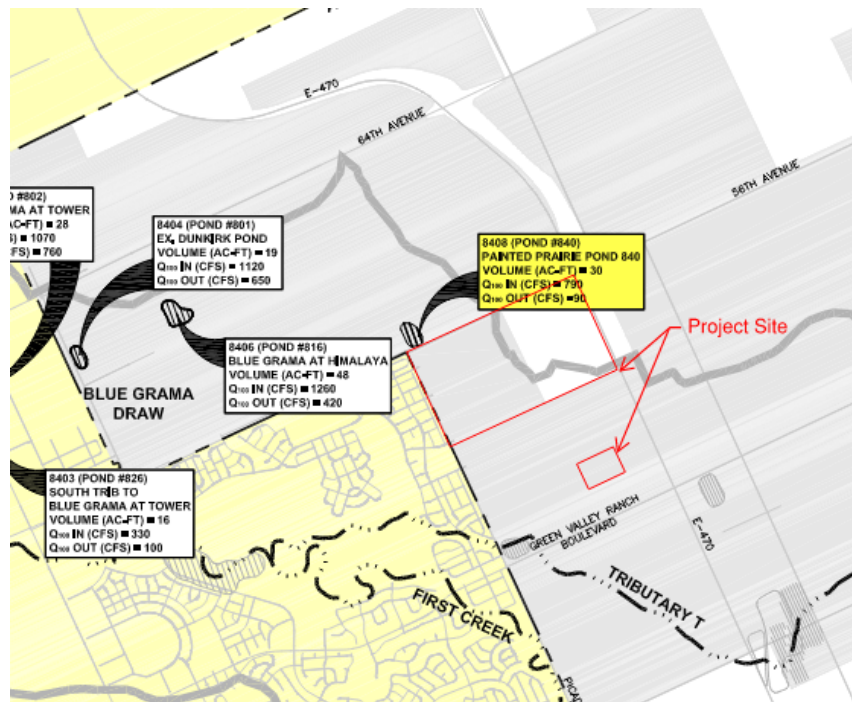




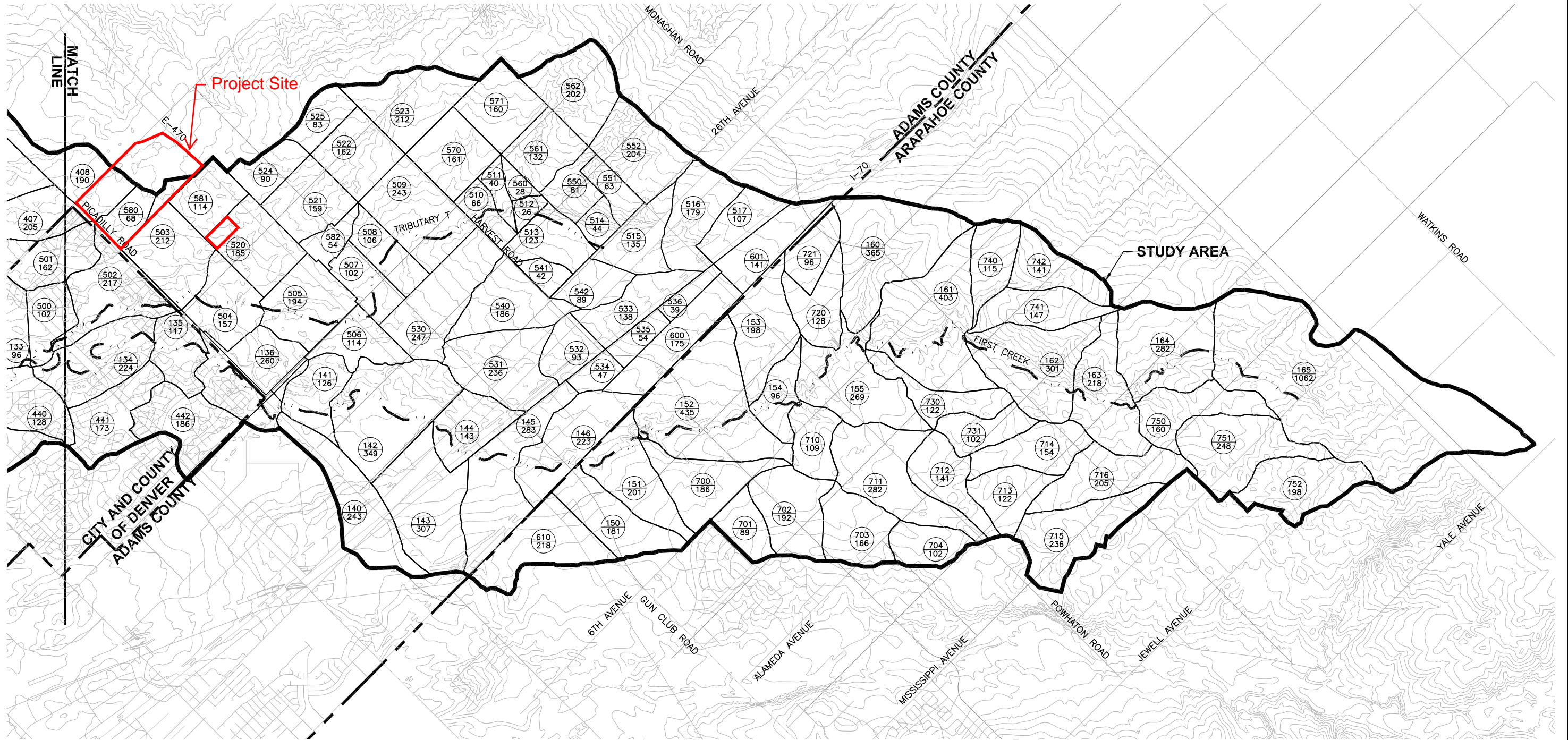
## APPENDIX C – REFERENCE MATERIAL

Previous review comment: Where is Pond 840, and include reference materials illustrating this offsite pond and the future connection.

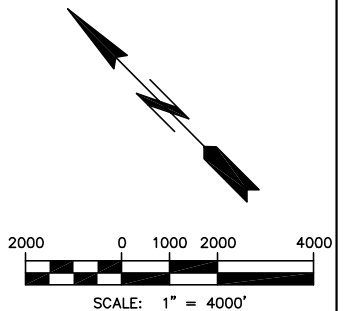
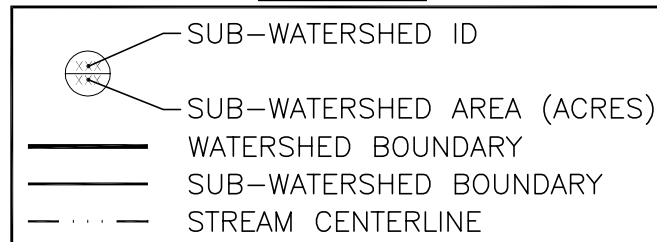
Added excerpts from 2009 Moser study and highlighted Pond 840



NAME: Z:\UDFCD PLANNING\Upper First Creek\CAD\_UFC\DWG\Alt Rpt\Fig 3-1 - SubWatershed Map.dwg  
PLOT DATE: Oct 05, 2009 3:52pm



### LEGEND



**MOSER**  
& associates  
ENGINEERING

720 S. COLORADO BLVD.  
SUITE 410 S  
DENVER, CO 80246  
PHONE: 303-757-3655  
FAX: 303-300-1635

DESIGNED	AGC	DATE	5/28/09
DRAWN	AGC	DATE	5/28/09
CHECKED	TLP	DATE	7/10/09
REVISED		DATE	

CITY AND COUNTY OF DENVER  
CITY OF AURORA  
URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

FIRST CREEK (UPPER)  
MAJOR DRAINAGEWAY  
PLANNING STUDY

SUB-WATERSHED  
BOUNDARIES

FIGURE 3-2

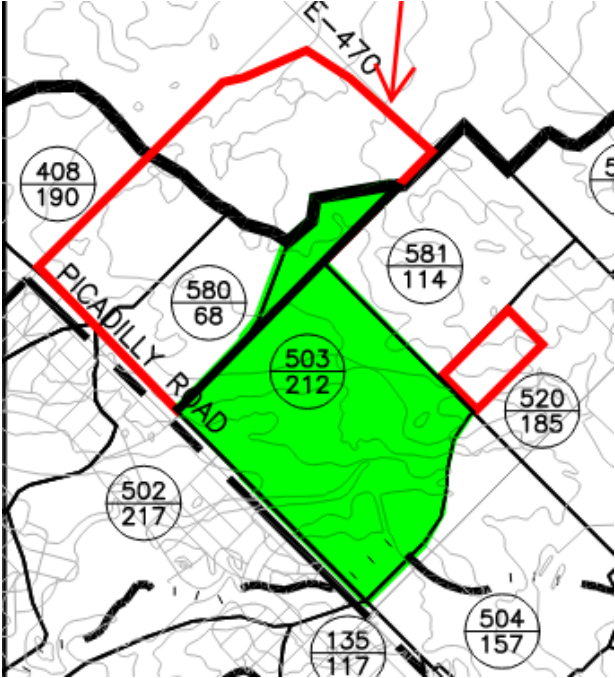


Continued? This is the 1st sheet of the table.

This is an excerpt from study by Moser, 2009

Table 3.3-2(continued)  
CUHP Subwatershed Characteristics

Subwatershed	Area (sq. mi.)	Distance to Centroid (miles)	Length (miles)	Slope (ft./ft.)	Percent Imperviousness		Depression Storage		Horton's Infiltration Parameters		
					Existing	Future	Pervious (inches)	Impervious (inches)	Initial Rate (in/hr)	Horton's Decay Coefficient (1/seconds)	Final Rate (in/hr)
231	0.24	0.46	0.90	0.009	52.32	62.87	0.35	0.10	3.96	0.0018	0.56
232	0.23	0.44	0.59	0.007	44.36	55.70	0.35	0.10	3.04	0.0018	0.50
240	0.26	0.64	0.76	0.004	47.72	65.36	0.35	0.10	3.84	0.0018	0.56
241	0.15	0.28	0.64	0.014	35.58	51.70	0.35	0.10	4.17	0.0018	0.58
250	0.26	0.36	0.75	0.010	16.67	39.15	0.35	0.10	4.35	0.0018	0.59
251	0.35	0.47	0.85	0.014	2.00	2.09	0.35	0.10	3.57	0.0018	0.54
260	0.85	0.72	1.63	0.009	2.74	6.63	0.35	0.10	3.27	0.0018	0.52
261	0.49	0.53	1.17	0.016	2.00	2.00	0.35	0.10	4.00	0.0018	0.56
300	0.49	0.78	1.04	0.013	2.00	2.00	0.35	0.10	3.70	0.0016	0.60
301	0.69	0.93	1.67	0.014	2.00	2.00	0.35	0.10	3.90	0.0018	0.56
302	0.30	0.27	0.70	0.005	2.00	2.00	0.35	0.10	3.73	0.0017	0.58
303	0.61	0.68	1.31	0.011	2.00	2.00	0.35	0.10	3.31	0.0018	0.52
304	0.47	0.85	1.04	0.007	2.00	2.00	0.35	0.10	3.50	0.0017	0.52
310	0.37	0.72	1.29	0.009	2.00	2.00	0.35	0.10	4.01	0.0018	0.57
311	0.23	0.44	0.81	0.008	2.00	2.00	0.35	0.10	3.83	0.0018	0.56
312	0.14	0.47	0.70	0.006	2.00	2.00	0.35	0.10	3.42	0.0018	0.53
313	0.14	0.23	0.47	0.009	2.00	4.00	0.35	0.10	3.30	0.0018	0.51
314	0.36	0.46	1.08	0.006	2.00	2.00	0.35	0.10	3.36	0.0018	0.52
315	0.14	0.72	1.10	0.008	2.00	7.00	0.35	0.10	3.69	0.0018	0.55
320	0.35	0.81	1.21	0.008	2.00	2.00	0.35	0.10	3.52	0.0018	0.53
321	0.18	0.49	0.86	0.005	2.00	17.00	0.35	0.10	4.33	0.0017	0.58
330	0.27	0.57	1.02	0.009	2.00	2.00	0.35	0.10	4.13	0.0018	0.58
331	0.88	0.49	1.14	0.007	2.00	2.00	0.35	0.10	4.14	0.0018	0.58
400	0.22	0.34	0.65	0.010	2.00	64.00	0.35	0.10	4.51	0.0018	0.61
401	0.42	0.25	0.84	0.009	2.48	71.67	0.35	0.10	4.50	0.0017	0.62
402	0.34	0.21	0.85	0.014	14.81	57.04	0.35	0.10	4.43	0.0017	0.61
403	0.23	1.46	1.16	0.012	62.44	51.96	0.35	0.10	4.51	0.0018	0.61
404	0.17	0.36	0.64	0.013	44.69	50.22	0.35	0.10	4.50	0.0017	0.63
405	0.35	0.49	1.06	0.013	34.53	53.01	0.35	0.10	4.50	0.0018	0.60
406	0.38	0.63	1.36	0.010	2.00	54.98	0.35	0.10	3.42	0.0018	0.53
407	0.32	0.82	1.30	0.011	6.22	54.23	0.35	0.10	4.41	0.0018	0.59
408	0.30	0.41	1.02	0.010	2.00	75.92	0.35	0.10	9.99	0.0018	0.57
410	0.22	0.27	0.58	0.006	2.00	16.00	0.35	0.10	4.50	0.0018	0.60
411	0.20	0.21	0.97	0.006	2.00	32.00	0.35	0.10	4.05	0.0018	0.57
412	0.19	0.52	0.54	0.006	2.00	79.46	0.35	0.10	4.50	0.0018	0.60
413	0.14	0.32	0.72	0.013	2.00	63.32	0.35	0.10	4.50	0.0018	0.60
440	0.20	0.27	0.47	0.025	50.00	50.02	0.35	0.10	4.68	0.0014	0.74
441	0.27	0.35	0.79	0.006	49.99	49.99	0.35	0.10	4.68	0.0014	0.74
442	0.29	0.41	0.77	0.014	50.00	50.00	0.35	0.10	4.66	0.0014	0.73
500	0.16	0.40	0.64	0.016	50.00	50.00	0.35	0.10	4.64	0.0015	0.71
501	0.25	0.17	0.66	0.007	38.67	50.99	0.35	0.10	4.50	0.0018	0.60
502	0.31	0.40	1.03	0.014	46.93	50.00	0.35	0.10	4.54	0.0017	0.63
503	0.25	0.26	0.60	0.009	2.00	59.58	0.35	0.10	4.44	0.0018	0.60
504	0.38	0.24	1.15	0.009	2.00	69.85	0.35	0.10	4.21	0.0017	0.62
505	0.19	0.22	0.37	0.010	2.00	54.96	0.40	0.10	4.16	0.0018	0.59
506	0.16	0.34	0.72	0.020	2.00	62.39	0.35	0.10	3.80	0.0018	0.55
507	0.17	0.24	0.75	0.020	2.00	50.01	0.35	0.10	3.41	0.0018	0.53
508	0.38	0.41	0.91	0.020	2.00	50.10	0.35	0.10	3.68	0.0018	0.55
509	0.25	0.27	0.64	0.020	2.00	50.00	0.35	0.10	3.63	0.0017	0.53
510	0.27	0.27	0.72	0.020	2.00	55.00	0.35	0.10	3.69	0.0018	0.54



Approx 18 acres of 503 is included in Basin B

Please explain why is sub basin 503 being circled here? Your project sites are not within sub basin 503.



**Table 3.3-2 (continued)**  
**CUHP Subwatershed Characteristics**

Subwatershed	Area (sq. mi.)	Distance to Centroid (miles)	Length (miles)	Slope (ft./ft.)	Percent Imperviousness		Depression Storage		Horton's Infiltration Parameters		
					Existing	Future	Pervious (inches)	Impervious (inches)	Initial Rate (in/hr)	Horton's Decay Coefficient (1/seconds)	Final Rate (in/hr)
511	0.22	0.40	0.80	0.022	5.00	76.96	0.40	0.10	3.41	0.0018	0.53
512	0.29	0.45	0.85	0.018	11.69	79.15	0.40	0.10	3.01	0.0018	0.50
513	0.16	0.42	0.80	0.014	2.00	78.77	0.40	0.10	3.00	0.0018	0.50
520	0.47	0.40	1.03	0.011	2.00	60.91	0.35	0.10	4.50	0.0018	0.60
521	0.18	0.37	0.77	0.020	2.00	77.76	0.35	0.10	4.49	0.0018	0.60
530	0.29	0.31	0.84	0.020	2.00	69.33	0.35	0.10	3.97	0.0018	0.56
531	0.27	0.20	0.66	0.020	2.00	84.57	0.35	0.10	3.86	0.0018	0.56
532	0.14	0.46	0.63	0.020	2.00	84.21	0.40	0.10	4.03	0.0018	0.57
533	0.38	0.24	0.65	0.017	2.00	49.89	0.37	0.10	3.27	0.0018	0.52
534	0.32	0.33	0.85	0.016	2.00	44.25	0.40	0.10	3.23	0.0018	0.52
540	0.39	0.55	1.10	0.015	2.00	54.13	0.40	0.10	3.19	0.0018	0.51
541	0.42	0.64	1.12	0.008	2.00	72.59	0.40	0.10	3.32	0.0018	0.52
542	0.22	0.24	0.50	0.011	17.11	80.00	0.40	0.10	3.01	0.0018	0.50
543	0.37	0.37	1.09	0.012	10.77	80.00	0.40	0.10	3.00	0.0018	0.50
550	0.30	0.62	1.14	0.015	2.00	58.74	0.40	0.10	3.07	0.0018	0.50
551	0.21	0.08	0.69	0.017	2.00	70.40	0.38	0.10	3.01	0.0018	0.50
560	0.25	0.41	0.70	0.020	2.00	59.95	0.35	0.10	3.00	0.0018	0.50
561	0.26	0.46	0.59	0.020	2.00	59.71	0.35	0.10	3.06	0.0018	0.50
570	0.21	0.36	0.72	0.020	2.00	50.09	0.35	0.10	3.71	0.0018	0.55
571	0.31	0.28	0.59	0.024	2.00	78.74	0.40	0.10	3.58	0.0018	0.54
580	0.23	0.28	0.72	0.020	2.00	53.97	0.35	0.10	3.73	0.0018	0.55
581	0.34	0.28	0.69	0.026	2.00	78.24	0.40	0.10	3.58	0.0018	0.54
600	0.27	0.69	1.30	0.012	17.19	79.86	0.40	0.10	3.00	0.0018	0.50
601	0.24	0.38	1.00	0.008	2.05	79.27	0.40	0.10	3.00	0.0018	0.50
610	0.34	0.27	0.83	0.011	2.00	66.02	0.40	0.10	3.09	0.0018	0.51
700	0.29	0.71	1.28	0.012	4.70	81.85	0.40	0.10	3.01	0.0018	0.50
701	0.14	0.38	0.64	0.012	14.30	53.80	0.40	0.10	3.32	0.0018	0.52
702	0.30	0.38	0.93	0.010	38.86	46.77	0.40	0.10	3.06	0.0018	0.50
703	0.26	0.30	0.80	0.012	38.42	47.25	0.40	0.10	3.15	0.0018	0.51
704	0.16	0.36	0.68	0.011	2.00	54.92	0.40	0.10	3.39	0.0018	0.53
710	0.17	0.32	0.64	0.015	41.28	49.27	0.40	0.10	3.58	0.0018	0.54
711	0.44	0.59	1.76	0.008	31.48	51.17	0.40	0.10	3.38	0.0018	0.53
712	0.22	0.34	0.91	0.008	3.39	52.87	0.40	0.10	3.54	0.0018	0.54
713	0.19	0.49	0.83	0.008	2.00	55.00	0.40	0.10	3.44	0.0018	0.53
714	0.24	0.64	1.00	0.010	2.00	54.92	0.40	0.10	3.90	0.0018	0.56
715	0.37	0.47	1.13	0.011	2.00	55.00	0.40	0.10	3.76	0.0018	0.55
716	0.32	0.64	1.47	0.012	2.00	55.00	0.40	0.10	3.33	0.0018	0.52
717	0.18	0.38	0.76	0.015	2.00	54.85	0.40	0.10	3.62	0.0018	0.54
720	0.20	0.31	0.87	0.017	5.36	55.00	0.40	0.10	3.40	0.0018	0.53
721	0.15	0.36	0.68	0.015	8.73	55.10	0.40	0.10	3.11	0.0018	0.51
730	0.19	0.71	1.28	0.012	2.00	51.63	0.40	0.10	3.63	0.0018	0.54
731	0.16	0.38	1.61	0.014	2.00	52.96	0.40	0.10	3.59	0.0018	0.54
740	0.18	0.42	0.85	0.018	2.00	54.50	0.40	0.10	3.00	0.0018	0.50
741	0.23	0.47	0.90	0.019	2.00	54.18	0.40	0.10	3.01	0.0018	0.50
742	0.22	0.34	0.57	0.021	2.00	52.72	0.40	0.10	3.00	0.0018	0.50
750	0.25	0.45	1.14	0.018	2.00	47.24	0.40	0.10	3.73	0.0018	0.55
751	0.39	0.57	1.23	0.019	2.00	47.70	0.40	0.10	3.69	0.0018	0.55
752	0.31	0.43	0.95	0.018	2.00	38.20	0.40	0.10	4.36	0.0018	0.59



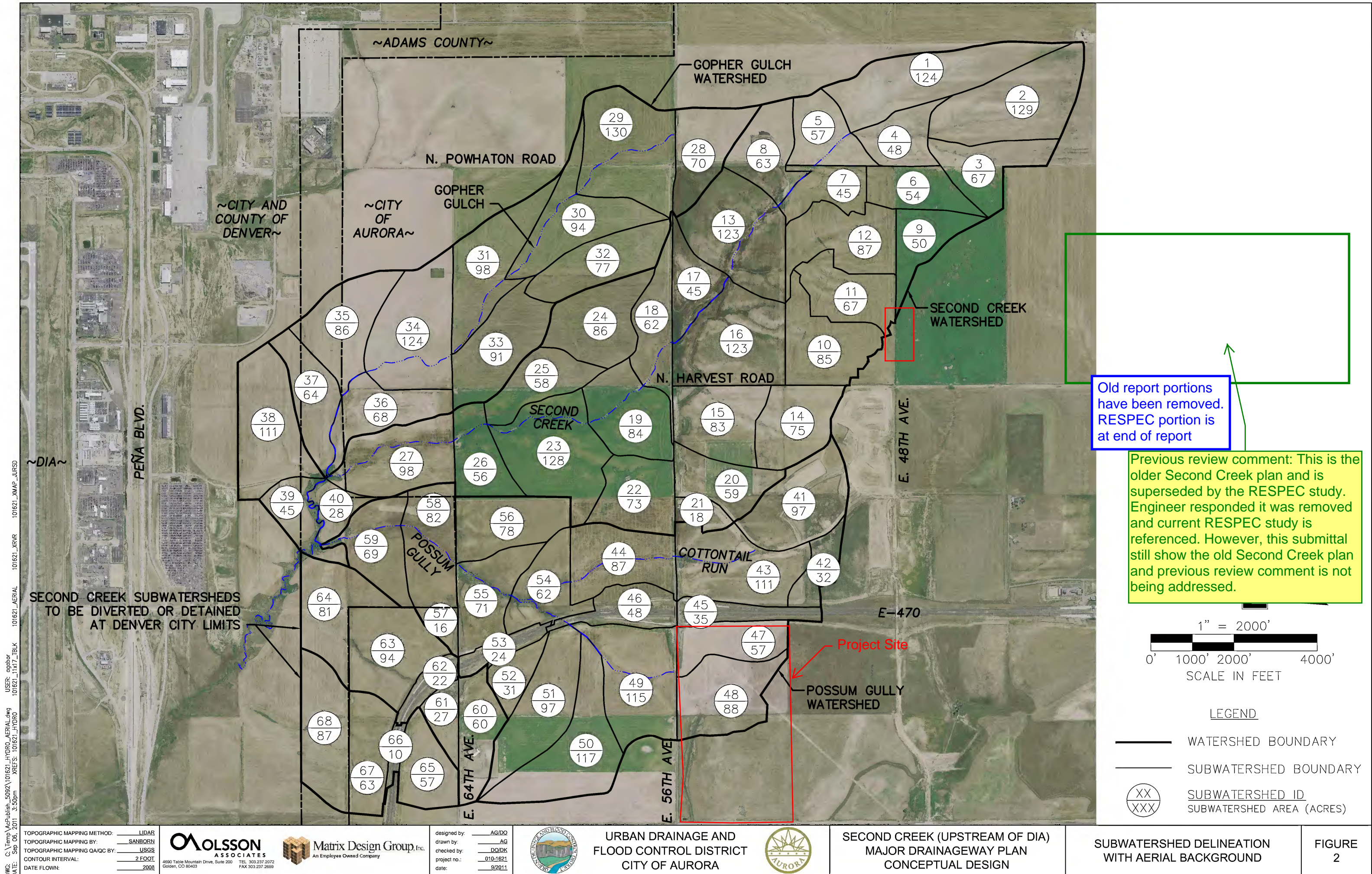




Table B-2 - CUHP 2005 Input Parameters

Basin	Area	Area	Existing Distance to Centroid	Existing Length	Future Distance to Centroid	Future Length	Existing Weighted Slope	Future Weighted Slope	Existing Imperviousness	Future Imperviousness	Existing Avg. Max. Depression Storage on Pervious	Future Avg. Max. Depression Storage on Pervious	Avg. Max. Depression Storage on Impervious	Initial Infiltration Rate (fi)	Horton's Decay Rate (a)	Final Infiltration Rate (fo)
	acres	mi <sup>2</sup>	mi	mi	mi	mi	ft/ft	ft/ft	%	%	in	in	in	in/hr	1/second	in/hr
1	124	0.1944	0.5549	1.1725	0.5549	1.1725	0.0260	0.0260	2	80	0.4	0.35	0.1	3.31	0.0018	0.52
2	129	0.2019	0.3799	0.9631	0.3799	0.9631	0.0279	0.0279	2	80	0.4	0.35	0.1	3.71	0.0018	0.55
3	67	0.1040	0.3195	0.6502	0.3195	0.6502	0.0268	0.0268	2	67	0.4	0.35	0.1	3.65	0.0018	0.54
4	48	0.0742	0.2239	0.5203	0.2239	0.5203	0.0254	0.0254	2	80	0.4	0.35	0.1	3.32	0.0018	0.52
5	57	0.0890	0.1638	0.4580	0.1638	0.4580	0.0216	0.0216	2	80	0.4	0.35	0.1	3.54	0.0018	0.54
6	54	0.0836	0.2786	0.6481	0.2786	0.6481	0.0210	0.0250	2	60	0.4	0.35	0.07	3.48	0.0018	0.53
7	45	0.0702	0.2403	0.4852	0.2706	0.5027	0.0243	0.0243	2	59	0.4	0.35	0.1	3.28	0.0018	0.52
8	63	0.0988	0.2723	0.7826	0.2723	0.7826	0.0165	0.0165	2	79	0.4	0.35	0.1	3.73	0.0018	0.55
9	50	0.0782	0.2992	0.5123	0.2992	0.5123	0.0130	0.0230	2	47	0.4	0.35	0.05	3.00	0.0018	0.50
10	85	0.1331	0.2521	0.4053	0.5619	0.8644	0.0354	0.0200	2	41	0.4	0.35	0.05	3.08	0.0018	0.51
11	67	0.1044	0.2280	0.4862	0.3769	0.8277	0.0352	0.0230	2	43	0.4	0.35	0.05	3.58	0.0018	0.54
12	87	0.1365	0.2951	0.5847	0.2778	0.7706	0.0283	0.0200	2	46	0.4	0.35	0.05	3.42	0.0018	0.53
13	123	0.1929	0.2148	0.6462	0.2148	0.6462	0.0180	0.0180	2	80	0.4	0.35	0.1	3.61	0.0018	0.54
14	75	0.1176	0.2068	0.3720	0.2068	0.3720	0.0403	0.0241	2	45	0.4	0.35	0.1	3.33	0.0018	0.52
15	83	0.1299	0.3625	0.5864	0.3625	0.5864	0.0259	0.0261	2	44	0.4	0.35	0.1	3.00	0.0018	0.50
16	123	0.1925	0.3701	0.6627	0.3701	0.6627	0.0231	0.0231	2	80	0.4	0.35	0.1	3.15	0.0018	0.51
17	45	0.0706	0.2801	0.6544	0.2801	0.6544	0.0224	0.0224	2	80	0.4	0.35	0.1	3.47	0.0018	0.53
18	62	0.0971	0.2019	0.8369	0.2019	0.8369	0.0201	0.0201	2	81	0.4	0.35	0.1	3.18	0.0018	0.51
19	84	0.1314	0.1697	0.4585	0.1697	0.4585	0.0223	0.0223	2	93	0.4	0.35	0.1	3.16	0.0018	0.51
20	59	0.0929	0.2341	0.5008	0.2381	0.4847	0.0279	0.0250	2	49	0.4	0.35	0.1	3.00	0.0018	0.50
21	18	0.0286	0.1386	0.2678	0.1201	0.2932	0.0268	0.0268	2	95	0.4	0.35	0.1	3.00	0.0018	0.50
22	73	0.1134	0.1841	0.4883	0.1841	0.4883	0.0168	0.0168	2	95	0.4	0.35	0.1	3.00	0.0018	0.50
23	128	0.1996	0.3362	0.8612	0.3362	0.8612	0.0152	0.0152	2	95	0.4	0.35	0.1	3.00	0.0018	0.50
24	86	0.1347	0.3292	0.6807	0.3292	0.6807	0.0217	0.0217	2	80	0.4	0.35	0.1	3.00	0.0018	0.50
25	58	0.0913	0.3606	0.6481	0.3606	0.6481	0.0158	0.0158	2	86	0.4	0.35	0.1	3.00	0.0018	0.50
26	56	0.0879	0.3214	0.5331	0.3214	0.5331	0.0158	0.0158	2	95	0.4	0.35	0.1	3.00	0.0018	0.50
27	98	0.1533	0.2602	0.7765	0.2602	0.7765	0.0115	0.0115	2	91	0.4	0.35	0.1	3.00	0.0018	0.50
28	70	0.1088	0.2455	0.4595	0.2455	0.4595	0.0156	0.0156	2	80	0.4	0.35	0.1	3.79	0.0018	0.55
29	130	0.2030	0.3220	0.6735	0.3220	0.6735	0.0150	0.0150	2	80	0.4	0.35	0.1	3.99	0.0018	0.57
30	94	0.1463	0.5258	0.9360	0.5258	0.9360	0.0193	0.0193	2	80	0.4	0.35	0.1	3.19	0.0018	0.51
31	98	0.1538	0.6066	1.0411	0.6066	1.0411	0.0128	0.0128	2	80	0.4	0.35	0.1	3.00	0.0018	0.50
32	77	0.1208	0.3816	0.7610	0.3816	0.7610	0.0236	0.0236	2	80	0.4	0.35	0.1	3.06	0.0018	0.50
33	91	0.1417	0.2564	0.5545	0.2564	0.5545	0.0131	0.0131	2	81	0.4	0.35	0.1	3.00	0.0018	0.50
34	124	0.1942	0.2369	0.9409	0.2369	0.9409	0.0097	0.0097	2	80	0.4	0.35	0.1	3.00	0.0018	0.50
35	86	0.1339	0.3059	0.7004	0.3059	0.7004	0.0154	0.0154	2	47	0.4	0.35	0.1	3.00	0.0018	0.50
36	68	0.1060	0.5803	0.9127	0.5803	0.9127	0.0121	0.0121	2	80	0.4	0.35	0.1	3.00	0.0018	0.50
37	64	0.0993	0.5028	0.7970	0.5028	0.7970	0.0152	0.0152	2	25	0.4	0.35	0.1	3.00	0.0018	0.50
38	111	0.1734	0.3722	0.7129	0.3722	0.7129	0.0176	0.0176	2	85	0.4	0.4	0.1	3.01	0.0018	0.50
39	45	0.0707	0.3792	0.8481	0.3792	0.8481	0.0041	0.0041	2	46	0.4	0.35	0.1	3.77	0.0018	0.55
40	28	0.0435	0.2540	0.6044	0.2540	0.6044	0.0073	0.0073	2	19	0.4	0.35	0.1	3.00	0.0018	0.50
41	97	0.1511	0.2131	0.6360	0.2511	0.6720	0.0246	0.0183	2	49	0.4	0.35	0.1	3.03	0.0018	0.50
42	32	0.0499	0.2055	0.5032	0.2055	0.5032	0.0143	0.0143	2	95	0.4	0.35	0.1	3.08	0.0018	0.51
43	111	0.1735	0.2928	0.6267	0.2928	0.6267	0.0197	0.0197	2	88	0.4	0.35	0.1	3.00	0.0018	0.50
44	87	0.1352	0.2739	0.7011	0.2739	0.7011	0.0157	0.0157	2	89	0.4	0.35	0.1	3.00	0.0018	0.50
45	35	0.0551	0.3377	0.7220	0.3377	0.7220	0.0164	0.0164	58	58	0.4	0.35	0.1	3.23	0.0018	0.52
46	48	0.0757	0.2661	0.5650	0.2661	0.5650	0.0031	0.0031	39	39	0.4	0.35	0.1	3.00	0.0018	0.50
47	57	0.0889	0.3195	0.5960	0.3195	0.5960	0.0146	0.0146	2	86	0.4	0.35	0.1	3.39	0.0018	0.53
48	88	0.1375	0.3877	0.6242	0.3877	0.6242	0.0137	0.0137	2	86	0.4	0.35	0.1	4.31	0.0018	0.59
49	113	0.1793	0.2933	0.7341	0.2933	0.7341	0.0133	0.0133	2	85	0.4	0.35	0.1	3.10	0.0018	0.51
50	117	0.1823	0.8093	1.1765	0.8093	1.1765	0.0146	0.0146	2	85	0.4	0.35	0.1	3.00	0.0018	0.50
51	97	0.1512	0.4847	0.9487	0.4847	0.9487	0.0208	0.0208	2	85	0.4	0.35	0.1	3.00	0.0018	0.50
52	31	0.0479	0.2430	0.4479	0.2430	0.4479	0.0228	0.0228	2	85	0.4	0.35	0.1	3.00	0.0018	0.50
53	24	0.0370	0.2322	0.4583	0.2322	0.4583	0.0149	0.0149	50	50	0.4	0.35	0.1	3.00	0.0018	0.50
54	62	0.0976	0.2114	0.5146	0.2114	0.5146	0.0213	0.0213	2	85	0.4	0.35	0.1	3.00	0.0018	0.50
55	71	0.1111	0.1922	0.5078	0.1922	0.5078	0.0241	0.0241	2	85	0.4	0.35	0.1	3.00	0.0018	0.50
56	78	0.1222	0.4699	0.7953	0.4699	0.7953	0.0184	0.0184	2	85	0.4	0.35	0.1	3.00	0.0018	0.50
57	16	0.0255	0.1000	0.2739	0.1000	0.2739	0.0228	0.0228	2	85	0.4	0.35	0.1	3.00	0.0018	0.50
58	82	0.1274	0.1691	0.5163	0.1691	0.5163	0.0152	0.0152	2	86	0.4	0.35	0.1	3.00	0.0018	0.50
59	69	0.1081	0.2172	0.5850	0.2172	0.5850	0.0205	0.0205	2	81	0.4	0.35	0.1	3.00	0.0018	0.50
60	60	0.0934	0.3057	0.6182	0.1672	0.6723	0.0237	0.0220	2	85	0.4	0.35	0.1	3.00	0.0018	0.50



Table B-2 - CUHP 2005 Input Parameters

Basin	Area	Area	Existing Distance to Centroid	Existing Length	Future Distance to Centroid	Future Length	Existing Weighted Slope	Future Weighted Slope	Existing Imperviousness	Future Imperviousness	Existing Avg. Max. Depression Storage on Pervious	Future Avg. Max. Depression Storage on Pervious	Avg. Max. Depression Storage on Impervious	Initial Infiltration Rate (fi)	Horton's Decay Rate (a)	Final Infiltration Rate (fo)
	acres	mi <sup>2</sup>	mi	mi	mi	mi	ft/ft	ft/ft	%	%	in	in	in	in/hr	1/second	in/hr
61	27	0.0417	0.1686	0.4282	0.1686	0.4282	0.0256	0.0256	2	85	0.4	0.35	0.1	3.00	0.0018	0.50
62	22	0.0343	0.0470	0.2593	0.0470	0.2593	0.0010	0.0010	44	44	0.4	0.35	0.1	3.00	0.0018	0.50
63	94	0.1476	0.2494	0.5366	0.2494	0.5366	0.0221	0.0230	2	85	0.4	0.35	0.1	3.00	0.0018	0.50
64	81	0.1271	0.1564	0.4786	0.1564	0.4786	0.0267	0.0267	2	18	0.4	0.35	0.1	3.00	0.0018	0.50
65	57	0.0885	0.4419	0.6091	0.4419	0.6091	0.0237	0.0237	2	85	0.4	0.35	0.1	3.00	0.0018	0.50
66	10	0.0151	0.0831	0.2644	0.0831	0.2644	0.0030	0.0030	52	52	0.4	0.35	0.1	3.00	0.0018	0.50
67	63	0.0985	0.1928	0.2299	0.2473	0.6551	0.0214	0.0214	2	93	0.4	0.35	0.1	3.00	0.0018	0.50
68	87	0.1355	0.0150	0.4214	0.0150	0.4214	0.0242	0.0242	2	2	0.4	0.35	0.1	3.00	0.0018	0.50





























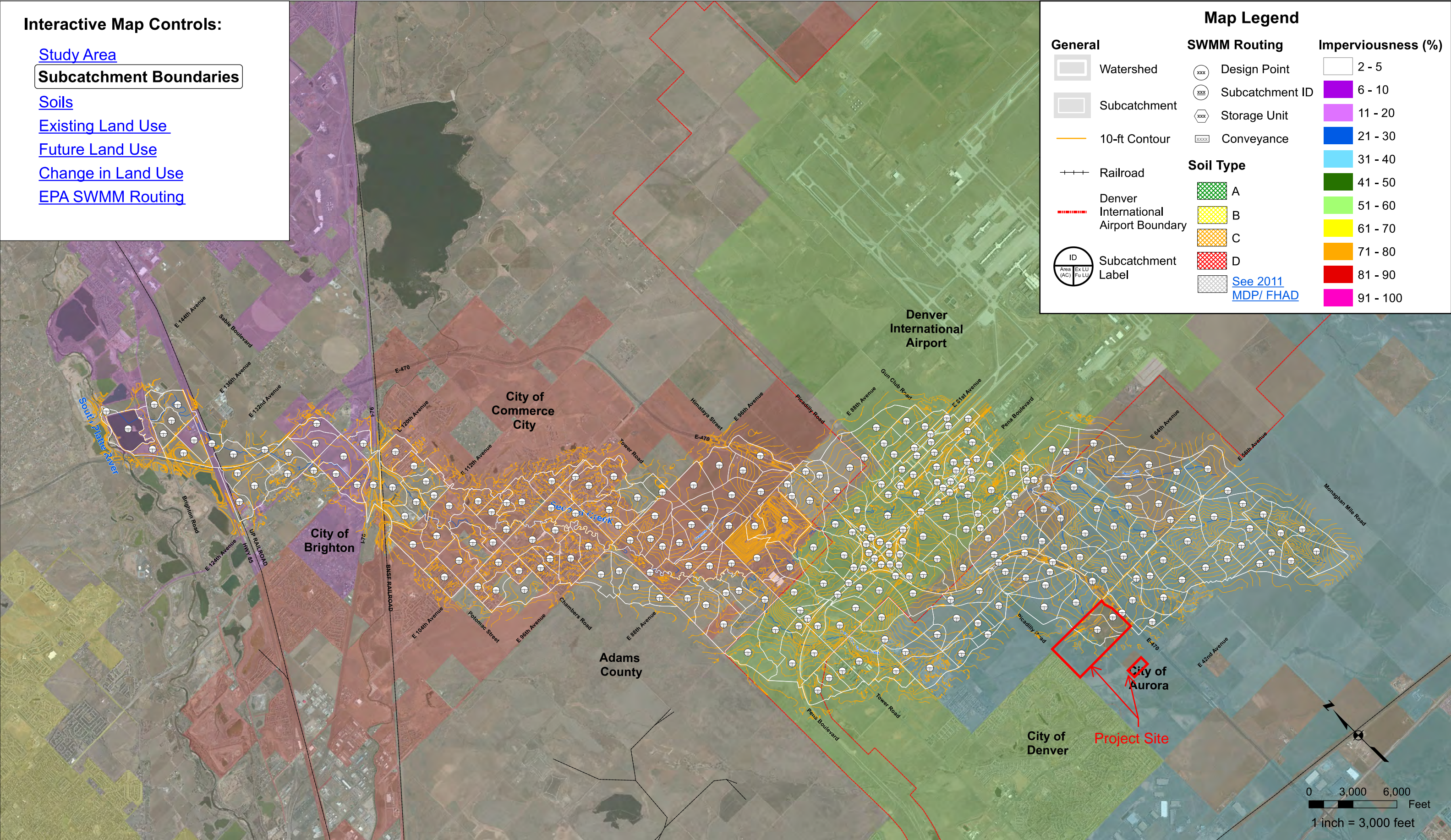
# Interactive Map Controls:

- [Study Area](#)
- [Subcatchment Boundaries](#)
- [Soils](#)
- [Existing Land Use](#)
- [Future Land Use](#)
- [Change in Land Use](#)
- [EPA SWMM Routing](#)

## EPA SWMM Routing

### Map Legend

General	SWMM Routing	Imperviousness (%)
 Watershed	 Design Point	 2 - 5
 Subcatchment	 Subcatchment ID	 6 - 10
 10-ft Contour	 Storage Unit	 11 - 20
 Railroad	 Conveyance	 21 - 30
 Denver International Airport Boundary	<b>Soil Type</b>	 31 - 40
 Subcatchment Label	 A	 41 - 50
	 B	 51 - 60
	 C	 61 - 70
	 D	 71 - 80
		 81 - 90
	<a href="#">See 2011 MDP/ FHAD</a>	 91 - 100



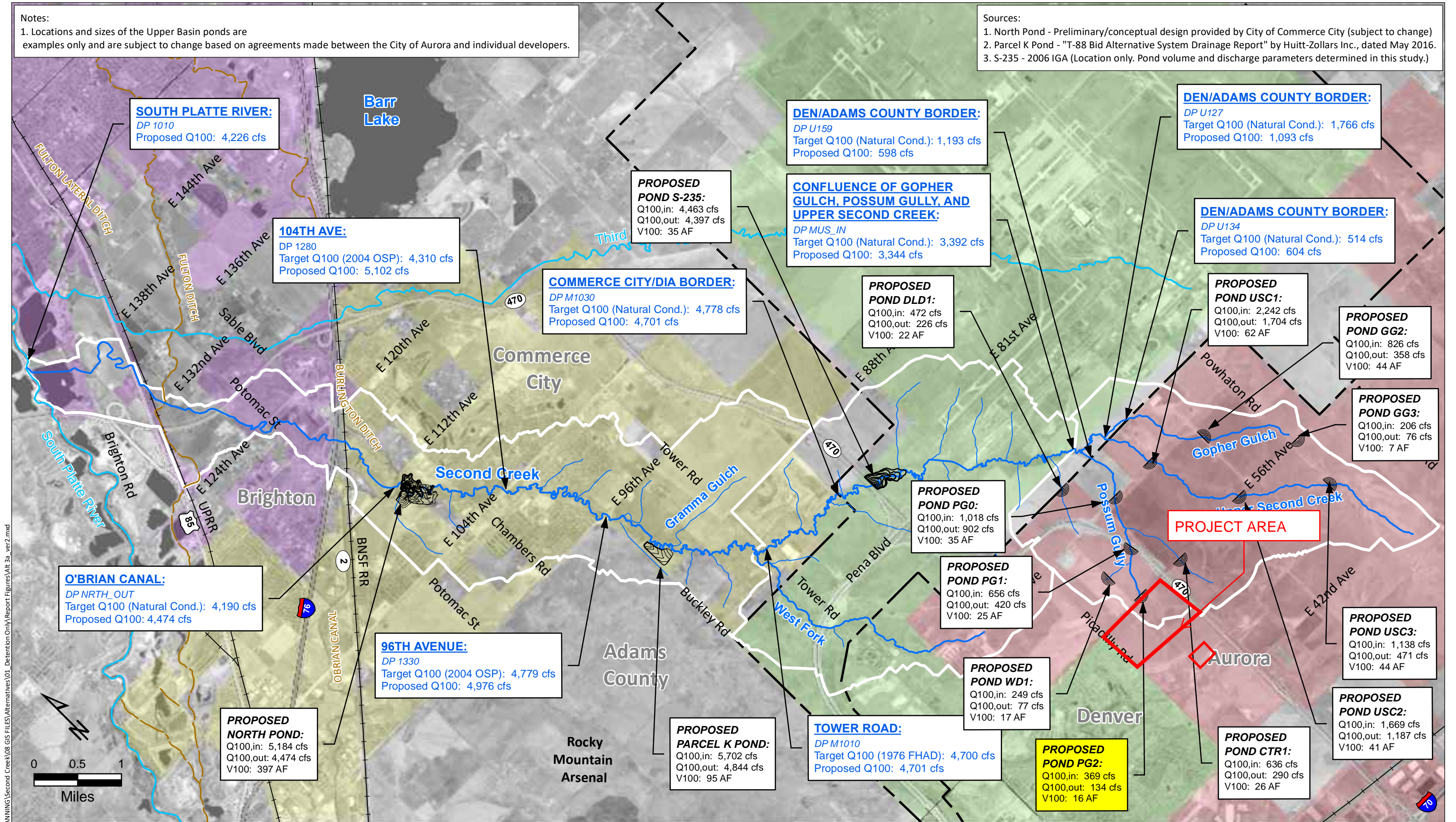


Design Point	Drainage Area		2-Year			5-Year			10-Year			25-Year			50-Year			100-Year			500-Year		
			Existing	Future	Natural	Existing	Future	Natural	Existing	Future	Natural	Existing	Future	Natural	Existing	Future	Natural	Existing	Future	Natural	Existing	Future	Natural
	(acres)	(sq. mi)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
U142	31.9	0.05	0.2	17.9	0.2	1.5	25.6	1.5	5.7	33.9	5.7	15.8	51.6	15.8	22.3	63.7	22.3	30.5	77.6	30.5	48.8	111.0	48.8
U143	239.7	0.37	1.2	123.8	1.2	11.9	185.0	11.9	49.4	253.4	49.4	146.5	407.7	146.5	209.2	514.1	209.2	288.4	636.4	288.4	466.8	933.1	466.8
U144	326.2	0.51	1.3	155.2	1.3	13.6	232.9	13.6	59.0	316.2	59.0	181.6	514.5	181.6	262.4	648.5	262.4	368.1	808.2	368.1	599.9	1189.5	599.9
U145	35.3	0.06	12.5	12.5	0.2	18.2	18.2	1.1	24.8	24.8	4.4	40.2	40.2	13.1	50.2	50.2	18.5	62.5	62.5	26.0	90.7	90.7	42.0
U146	48.4	0.08	8.7	10.0	0.2	14.1	15.7	1.8	21.2	22.2	6.4	28.4	41.1	18.0	40.6	52.7	25.4	62.1	66.0	25.6	84.5	88.5	57.2
U147	56.9	0.09	0.4	30.3	0.4	1.9	43.1	1.9	8.8	57.2	8.8	27.0	88.9	27.0	38.1	110.2	38.1	52.6	134.7	52.6	85.0	193.9	85.0
U148	88.0	0.14	0.5	59.0	0.5	1.0	81.2	1.0	10.1	104.1	10.1	39.9	156.9	39.9	58.1	192.6	58.1	81.5	234.1	81.5	133.5	333.2	133.5
U148T	144.9	0.23	0.9	89.3	0.9	2.9	124.3	2.9	18.9	161.3	18.9	67.0	245.8	67.0	96.2	302.9	96.2	134.1	368.8	134.1	218.5	527.0	218.5
U149	508.5	0.79	14.0	273.8	2.2	31.6	385.7	15.8	83.1	496.3	66.2	230.8	757.1	209.8	326.3	932.5	302.3	455.5	1140.5	427.5	734.8	1638.1	697.9
U150	116.7	0.18	0.5	69.0	0.5	4.0	94.6	4.0	14.1	118.1	14.1	39.8	171.6	39.8	56.6	207.7	56.6	79.2	249.4	79.2	127.8	349.6	127.8
U151	96.7	0.15	0.6	66.7	0.6	4.6	92.7	4.6	16.0	117.5	16.0	44.3	170.8	44.3	62.4	208.1	62.4	86.1	250.1	86.1	137.9	352.5	137.9
U152	30.7	0.05	0.2	23.5	0.2	1.7	32.9	1.7	6.0	41.8	6.0	16.3	59.4	16.3	22.9	72.5	22.9	31.1	87.2	31.1	49.7	123.1	49.7
U153	23.7	0.04	7.6	7.6	0.2	11.6	11.6	1.1	16.4	16.4	3.8	27.2	27.2	10.6	34.6	34.6	14.9	42.7	42.7	20.4	62.9	62.9	32.7
U153T	611.3	0.96	30.1	311.1	2.7	57.6	440.1	20.2	122.3	569.8	81.3	302.5	875.9	252.2	420.1	1128.7	362.4	578.7	1324.7	512.0	921.9	1906.7	834.0
U154	999.9	1.56	29.7	472.7	3.5	63.4	688.6	32.1	180.2	911.4	145.0	505.3	1450.0	458.2	719.6	1855.5	664.2	1006.4	2242.5	940.3	1626.6	3268.6	1536.5
U155	71.1	0.11	0.8	66.5	0.8	6.0	93.1	6.0	20.3	119.4	20.3	53.3	168.8	53.3	74.9	206.4	74.9	101.2	251.9	101.2	160.6	355.2	160.6
U156	78.2	0.12	0.5	55.3	0.5	3.6	76.4	3.6	12.7	96.1	12.7	34.9	138.8	34.9	49.3	168.5	49.3	68.0	202.0	68.0	108.9	283.9	108.9
U157	16.3	0.03	0.2	11.3	0.2	1.3	16.3	1.3	4.3	21.9	4.3	11.4	32.5	11.4	15.9	40.4	15.9	21.7	49.8	21.7	34.4	71.5	34.4
U157T	1165.5	1.82	27.8	536.5	3.4	68.9	784.4	36.0	201.9	1035.6	165.2	572.3	1647.7	522.8	820.5	2116.3	762.9	1153.9	2556.9	1085.0	1876.9	3735.4	1782.7
U158	1247.0	1.95	26.4	532.0	3.3	70.0	784.2	36.9	209.9	1045.3	171.6	599.6	1685.6	548.2	865.1	2155.3	805.2	1221.7	2641.3	1150.2	1999.4	3876.0	1902.4
U159	1316.2	2.06	24.7	521.1	3.1	69.6	773.4	36.9	214.2	1040.2	174.7	616.4	1699.4	563.5	893.7	2179.1	832.1	1266.7	2694.9	1193.4	2085.2	3959.4	1985.7
U159T	4450.5	6.95	31.1	981.2	0.0	54.5	1542.5	8.5	165.4	2113.9	114.8	1503.9	4375.3	1462.4	2316.3	5640.3	2268.9	3442.0	7347.9	3391.6	6014.6	11159.1	5944.2
U160	59.8	0.09	0.5	22.2	0.5	3.6	34.0	3.6	12.2	48.6	12.2	33.1	80.8	33.1	46.5	102.8	46.5	63.0	127.6	63.0	100.9	187.7	100.9
U161	86.5	0.14	0.7	32.8	0.7	5.2	50.2	5.2	18.0	71.5	18.0	48.8	118.9	48.8	68.6	151.2	68.6	93.2	187.8	93.2	148.9	276.1	148.9
U162	108.5	0.17	7.4	39.9	0.8	15.0	61.4	6.5	32.4	87.9	22.7	73.9	147.1	61.6	100.6	187.4	86.6	133.8	233.2	117.7	209.0	343.3	188.0
U163	203.0	0.32	6.9	87.1	1.0	19.4	130.5	10.1	51.4	180.0	40.3	132.9	297.3	118.0	185.6	377.4	168.6	251.6	471.8	232.3	400.8	697.4	375.5
U164	284.3	0.44	6.1	83.8	1.0	20.7	132.8	11.7	63.9	198.9	52.7	180.3	357.6	164.4	257.0	463.4	238.0	355.5	591.0	334.4	574.6	891.3	545.8
U165	56.7	0.09	0.4	34.6	0.4	2.8	48.8	2.8	9.7	63.0	9.7	26.8	94.4	26.8	37.8	115.9	37.8	51.6	140.3	51.6	82.7	199.4	82.7
U166	66.3	0.10	3.5	37.7	0.4	7.2	53.6	3.2	15.8	69.8	11.2	36.7	105.5	31.0	50.1	129.9	43.6	67.3	157.6	59.6	105.6	224.8	95.6
U167	129.4	0.20	2.3	66.2	0.9	7.0	92.7	6.7	22.7	120.5	22.7	64.8	174.1	58.5	94.6	218.2	85.9	136.4	272.4	126.4	225.4	409.5	211.3
U168	216.1	0.34	2.5	48.2	2.5	18.5	77.6	18.5	71.4	126.6	71.4	153.3	251.6	153.3	218.8	338.3	218.8	294.6	437.4	294.6	462.0	686.3	462.2



Notes:  
1. Locations and sizes of the Upper Basin ponds are examples only and are subject to change based on agreements made between the City of Aurora and individual developers.

Sources:  
1. North Pond - Preliminary/conceptual design provided by City of Commerce City (subject to change)  
2. Parcel K Pond - "T-88 Bid Alternative System Drainage Report" by Huitt-Zollars Inc., dated May 2016.  
3. S-235 - 2006 IGA (Location only. Pond volume and discharge parameters determined in this study.)



Document Path: Z:\UDFCD PLANNING\Second Creek\GIS FILES\Alternatives\01\_Detention Only\Report Figures\Alt 3a\_ver2.mxd









## GREEN VALLEY RANCH EAST

### EPA SWMM ROUTING RESULTS - EXISTING CONDITION 100-YR EVENT - NODE INFLOW

DATE: 3/7/2019

Node	Type	Maximum Lateral Inflow (CFS)	Maximum Total Inflow (CFS)	Day of Maximum Inflow	Hour of Maximum Inflow	Lateral Inflow Vol (10 <sup>6</sup> gal)	Total Inflow Volume (10 <sup>6</sup> gal)	Flow Balance Error Percent
510	JUNCTION	160.08	160.08	0	0:40	3.08	3.08	0
511	JUNCTION	87.56	87.56	0	0:40	1.87	1.87	0
512	JUNCTION	53.2	53.2	0	0:40	1.21	1.21	0
513	JUNCTION	188.33	188.33	0	0:50	5.34	5.34	0
514	JUNCTION	123.38	123.38	0	0:35	1.81	1.81	0
515	JUNCTION	210.91	210.91	0	0:45	5.43	5.43	0
516	JUNCTION	239.12	239.12	0	0:50	7.32	7.32	0
517	JUNCTION	134.58	134.58	0	0:55	4.55	4.55	0
520	JUNCTION	295.89	295.89	0	0:45	7.57	7.57	0
521	JUNCTION	335.8	335.8	0	0:40	6.49	6.49	0
522	JUNCTION	247.68	247.68	0	0:45	6.38	6.38	0
523	JUNCTION	328.61	328.61	0	0:45	8.23	8.23	0
524	JUNCTION	109.62	109.62	0	0:55	3.45	3.45	0
525	JUNCTION	170.24	170.24	0	0:40	3.55	3.55	0
530	JUNCTION	299.49	299.49	0	1:00	11.1	11.1	0
531	JUNCTION	240.65	240.65	0	1:00	9.82	9.82	0
532	JUNCTION	127.44	127.44	0	0:50	3.91	3.91	0
533	JUNCTION	163.64	163.64	0	0:55	5.65	5.65	0
534	JUNCTION	107.78	107.78	0	0:40	2.24	2.24	0
535	JUNCTION	118.42	118.42	0	0:40	2.29	2.29	0
536	JUNCTION	53.6	53.6	0	0:50	1.66	1.66	0
540	JUNCTION	208.66	208.66	0	1:00	8.07	8.07	0
541	JUNCTION	90.51	90.51	0	0:40	1.86	1.86	0
542	JUNCTION	141.7	141.7	0	0:45	3.78	3.78	0
550	JUNCTION	146.89	146.89	0	0:45	3.34	3.34	0
551	JUNCTION	109.3	109.3	0	0:45	2.6	2.6	0
552	JUNCTION	352.72	352.72	0	0:45	8.31	8.31	0
560	JUNCTION	61.98	61.98	0	0:40	1.31	1.31	0
561	JUNCTION	211.87	211.87	0	0:45	5.54	5.54	0
562	JUNCTION	351.04	351.04	0	0:45	7.95	7.95	0
570	JUNCTION	267.58	267.58	0	0:50	7.46	7.46	0
571	JUNCTION	254.52	254.52	0	0:45	6.79	6.79	0
580	JUNCTION	135.7	135.7	0	0:40	2.69	2.69	0





## GREEN VALLEY RANCH EAST

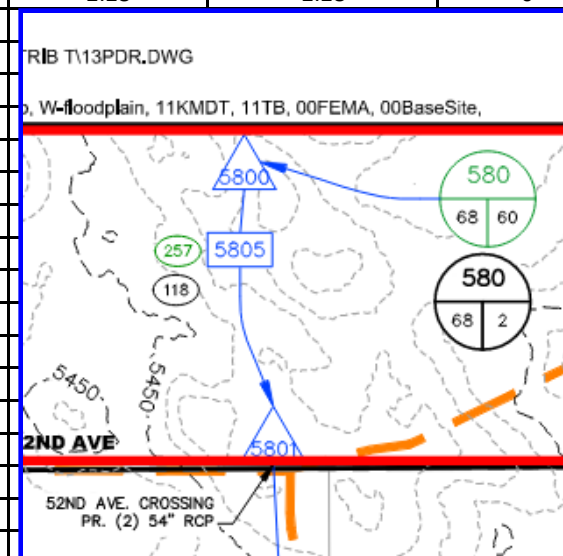
### EPA SWMM ROUTING RESULTS - EXISTING CONDITION 100-YR EVENT - NODE INFLOW

DATE: 3/7/2019

Previous review comment: Where is Design Point 5801 flows?

As seen a couple pages earlier (snipped below) all of 580 goes to DP 5801. See also previous page. Similarly 581 goes to DP 5810

Node	Type	Maximum Lateral Inflow (CFS)	Maximum Total Inflow (CFS)	Day of Maximum Inflow	Hour of Maximum Inflow	Lateral Inflow Vol (10 <sup>6</sup> gal)	Total Inflow Volume (10 <sup>6</sup> gal)	Flow Balance Error Percent
581	JUNCTION	162.81	162.81	0	0:50	4.49	4.49	0
582	JUNCTION	100.29	100.29	0	0:45	2.28	2.28	0
600	JUNCTION	177.06	177.06	0	1:00			
601	JUNCTION	175.82	175.82	0	1:00			
610	JUNCTION	332.51	332.51	0	0:50			
700	JUNCTION	169.73	169.73	0	1:05			
701	JUNCTION	110.88	110.88	0	0:50			
702	JUNCTION	553.76	553.76	0	0:40			
703	JUNCTION	515.63	515.63	0	0:40			
704	JUNCTION	123.45	123.45	0	0:55			
710	JUNCTION	346.29	346.29	0	0:40			
711	JUNCTION	448.12	448.12	0	0:50			
712	JUNCTION	161.49	161.49	0	0:55			
713	JUNCTION	121.87	121.87	0	1:00			
714	JUNCTION	143.75	143.75	0	1:05			
715	JUNCTION	257.97	257.97	0	1:00			
716	JUNCTION	186.45	186.45	0	1:10			
720	JUNCTION	170.49	170.49	0	0:50			
721	JUNCTION	119.69	119.69	0	0:50			
730	JUNCTION	96.36	96.36	0	1:10	4.93	4.93	0
731	JUNCTION	91.4	91.4	0	1:05	4.17	4.17	0
740	JUNCTION	141.63	141.63	0	0:55	4.9	4.9	0
741	JUNCTION	187.06	187.06	0	0:55	6.26	6.26	0
742	JUNCTION	235.16	235.16	0	0:45	5.99	5.99	0
750	JUNCTION	185.02	185.02	0	0:55	6.44	6.44	0
751	JUNCTION	275.12	275.12	0	1:00	10.1	10.1	0
752	JUNCTION	245.27	245.27	0	0:55	7.64	7.64	0
1000	JUNCTION	0	6228.82	0	2:55	0	1.23E+03	0
1010	JUNCTION	0	6130.42	0	2:47	0	1.22E+03	0
1020	JUNCTION	0	6088.82	0	2:44	0	1.21E+03	0
1030	JUNCTION	0	5809.93	0	2:45	0	1.10E+03	0
1040	JUNCTION	0	5807.04	0	2:39	0	1.10E+03	0
1100	JUNCTION	0	5378.85	0	2:37	0	1.06E+03	0



*MHFD-Detention, Version 4.04 (February 2021)*

**Basin ID: FIRST CREEK POND 840a - IMP 82%**



### Drain Time Too Short

## Optional User Overrides

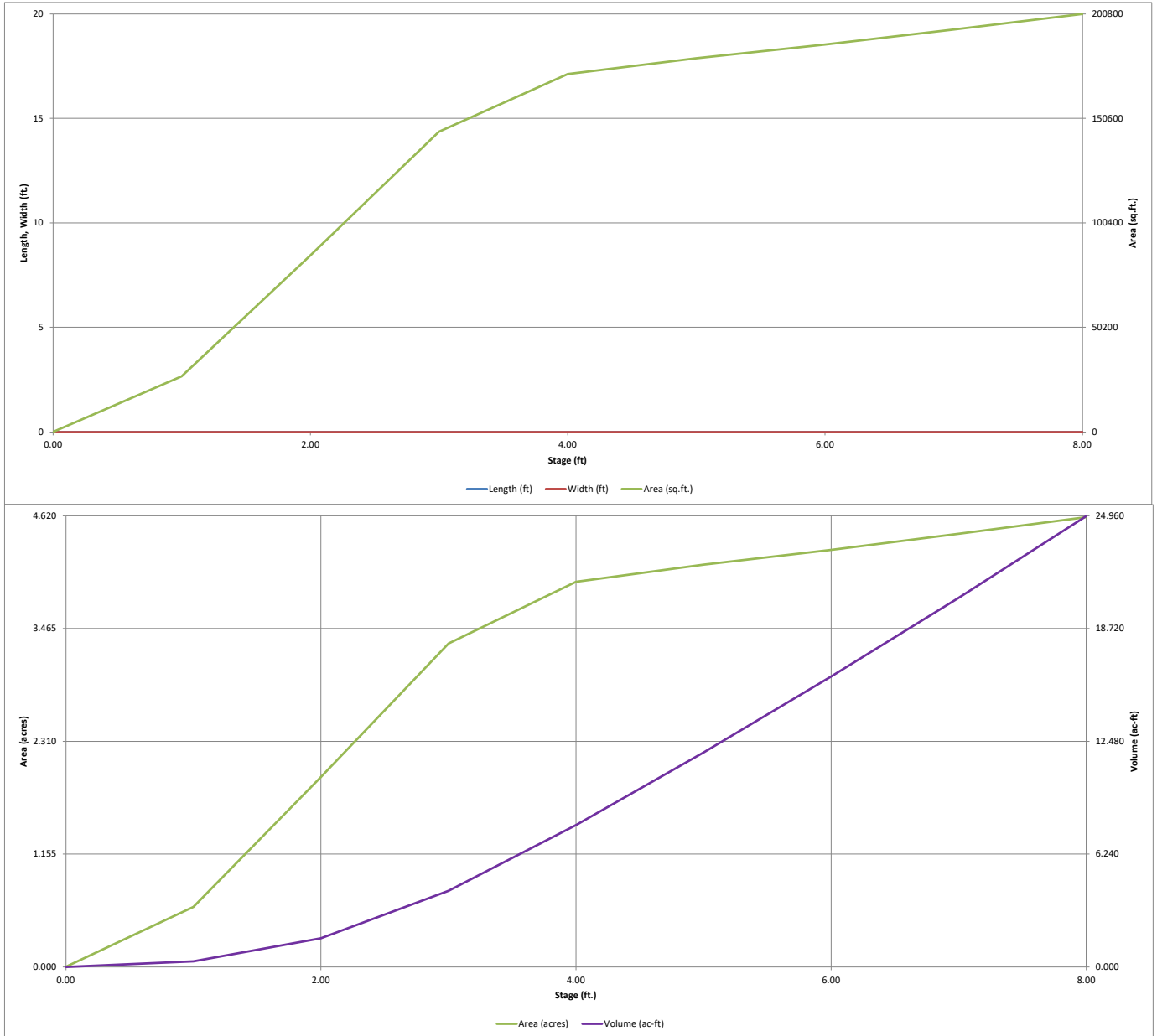
2.330	acre-feet
7.424	acre-feet
0.85	inches
1.13	inches
1.39	inches
1.78	inches
2.12	inches
2.49	inches
3.46	inches

100-YR VOLUME  
DETERMINED BY SWMM

[illegible]

# DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.04 (February 2021)





# GREEN VALLEY RANCH EAST

## Pond 8503C Worksheet



DATE: 3/8/2019

### Calibre Design Values for SWMM

Event		Stage /		Pond	Notes		Event		Stage /	Pond	Notes
Stage	Elevation	Depth	Area	Storage <sup>1</sup>			Stage	Elevation	Depth	Release <sup>2</sup>	
(ft)	(ft)	(ft)	(ft2)	(ac-ft)			(ft)	(ft)	(ft)	(cfs)	
	5416.75	0.00	0.0	0.0	Stage-Storage			5416.75	0	0.0	Stage-Discharge
	5417.00	0.25	1369.0	0.0	Values used for			5419.24	2.49	186.0	Values used for
	5417.50	0.75	4495.4	0.0	SWMM node			5419.98	3.23	251.0	SWMM node
	5418.00	1.25	15699.6	0.2	8503Cstor			5420.56	3.81	274.0	8503Cdis
	5418.50	1.75	36735.3	0.5				5422.16	5.41	489.0	
	5419.00	2.25	67849.0	1.1				5423.01	6.26	624.0	
	5419.50	2.75	105371.0	2.1				5423.22	6.47	665.0	
	5420.00	3.25	144817.0	3.5							
10-Year	5420.50	3.75	179874.0	5.4							
	5421.00	4.25	205989.0	7.6							
	5421.50	4.75	223651.0	10.0							
	5422.00	5.25	234293.0	12.7							
	5422.50	5.75	238775.0	15.4							
100-Year	5423.00	6.25	243292.0	18.1							
	5423.50	6.75	248145.0	21.0							
EM Overflow	5424.00	7.25	252722.0	23.8							
	5424.50	7.75	257161.0	26.8							
	5425.00	8.25	261627.0	29.7							
	5425.10	8.35	262527.0	30.35							
	5425.20	8.45	263429.0	30.95							
	5425.30	8.55	264333.0	31.56							
SWMM Output Storage Volume 8503C_IN <sup>2</sup>							SWMM Output Maximum Outflow 8503C_DIS				
10-Year	5420.55	3.80	243260	5.58			10-Year	5420.56	3.81	274	1
100-Year	5423.01	6.26	791769	18.2			100-Year	5423.00	6.25	623	1

The following HY8 and Flowmaster weir calculations show how each point on the Pond C discharge curve were created. The tailwater elevation for the Consplan culvert is the WSE from Pond B for that particular storm. That tailwater is used to calculate the culvert headwater elevation which then becomes the tailwater elevation for the discharge weir.

Notes:

1. The pond storage volume is pasted in from the UD Detention worksheet.
2. The volume is taken from the routed SWMM model and the elevation is interpolated from the calculated volume.

Notes:

1. The WSE for each event is interpolated from the routed SWMM pond release rate and the discharge curve above. This is compared to the volume interpolated elevation.
2. The discharge curve is based on submerged weir calculations from the Pond C Weir sheet.