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August 23, 2021

Jason Pock  
Richmond American Homes of CO, Inc  
4350 S Monaco St, Suite 500  
Denver, CO 80237-3400

**COMMENT RESPONSE PREPARED BY CONSULTANT TEAM DECEMBER 30, 2021**

**Re: Initial Submission Review – Waterstone Site Plan No 4 – Site Plan and Plat**  
Application Number: **DA-1758-10**  
Case Numbers: **2021-4016-00**

Dear Mr. Pock:

Thank you for your initial submission, which we started to process on Monday, June 7, 2021. We have reviewed your plans and attached our comments along with this cover letter. The first section of our review highlights our major comments. The following sections contain more specific comments, including those received from other city departments and community members.

Since several important issues remain, you will need to make another submission. Please revise your previous work and send us a new submission on or before Monday, September 13, 2021.

Note that all our comments are numbered. When you resubmit, include a cover letter specifically responding to each item. The Planning Department reserves the right to reject any resubmissions that fail to address these items. If you have made any other changes to your documents other than those requested, be sure to also specifically list them in your letter.

Your estimated Administrative Decision date is tentatively set for Wednesday, October 13, 2021. Please remember that all abutter notices for public hearings must be sent and the site notices must be posted at least 10 days prior to the hearing date. These notifications are your responsibility and the lack of proper notification will cause the public hearing date to be postponed. It is important that you obtain an updated list of adjacent property owners from the county before the notices are sent out. Take all necessary steps to ensure an accurate list is obtained.

As always, if you have any comments or concerns, please let me know. I may be reached at (303) 739-7184 or [hlamboy@auroragov.org](mailto:hlamboy@auroragov.org).

Sincerely,

Heather L. Lamboy, AICP  
Planning Supervisor

cc: Mick Kittle, Plan West, 767 Santa Fe Dr, Denver, CO 80204  
Scott Campbell, Neighborhood Liaison  
Cesarina Dancy, ODA  
Filed: K:\\$DA\1758-10rev1.rtf



## *Initial Submission Review*

### **SUMMARY OF KEY COMMENTS FROM ALL DEPARTMENTS**

- Provide architectural elevations and a material sample board with the next submission.
- The proposed parks are not consistent with what is illustrated in the Master Plan.
- A Public Art Plan is required.
- Discussion is required with Public Works regarding the entry islands and conformance with the Master Plan Design Guidelines.
- Provide a letter from pipeline company (e.g. CIG), on company letter head that reflects their set back requirements from the easement line or actual underground pipe to the exterior wall of your proposed structure(s). The letter must be part of the site plan submittal package.

### **PLANNING DEPARTMENT COMMENTS**

#### **1. Community Questions, Comments and Concerns**

1A. Name: Lori McNeilley  
Address: 24400E Alameda Ave Aurora CO 80018  
Phone: 3035644540  
Email: starlingmcneilley@msn.com  
Comment:

There are three main concerns about this proposed plan:

- 1) The area is a flood zone.
- 2) The volume of residents between 6th Avenue and Jewell/Gun Club and Powhaton is already beyond the road structures.
- 3) The addition of more homes will take too much away from the views. We moved to this location to enjoy the openness. Please see that income is not worth that offer.

#### **Response:**

- 1) Thank you for your public comment. The Waterstone property is bisected by Coal Creek and its 100-year floodplain boundary. There is also a fluvial hazard zone documented in recent studies. The applicant and consultant team have worked closely with Mile High Flood District, the City of Aurora, and environmental consultants to include a 75' setback from the fluvial hazard boundary, which is beyond the 100-year floodplain. The design team has refined the lotting to remove residential structures from within the floodplain and 75' fluvial hazard zone setback.
- 2) We agree that traffic impacts require careful consideration and forward planning. Our application includes a Traffic Impact Study in response to the scope requested by the City of Aurora. The Traffic Impact Study was prepared by a third-party, licensed engineer. It will be reviewed by the City of Aurora's engineering team to determine what design criteria, roadway improvements or extensions, and mitigation efforts may be necessary.
- 3) Residential development of this Property is reasonable and appropriate. This Property was identified as an "Emerging Neighborhood" in the City's Comprehensive Plan. Additionally, the Property was annexed into the City of Aurora in 2006. At that time, it was zoned residential. The R-2, Residential Medium Density zone district established that single family residential is a Use by Right. Finally, our intent is to create a residential neighborhood which meets or exceeds the City's goals for future development, including the regional trail system, parks and open space.



## 2. Completeness and Clarity of the Application

- 2A. Since the neighborhood activity center (NAC) is no longer in the code, please relabel as a private park. Please also indicate whether the park meets the minimum size of 7 acres. The total acreage noted in the Master Plan is 10.68 acres.

**Response:** The combined private parks meet the minimum size of 7 acres while the overall open space acreage totals 12.05 acres.

- 2B. Please note the park in Planning Area 2 must be fully constructed prior to the 100<sup>th</sup> Certificate of Occupancy in Planning Area 1. Please add a note.

**Response:** Acknowledged. Note has been added to the plans.

- 2C. On Sheet 2, please enlarge the Site Plan notes.

**Response:** Site plan notes have been enlarged.

- 2D. Please provide a lot typical illustrating setbacks.

**Response:** Lot typicals are now included (interior/corner lot).

- 2E. What is the purpose of the empty box on Sheet 6?

**Response:** The land summary box is added to sheet 6. Printing error on previous submittal.

- 2F. Please reach out to ECCV and provide their comments with the next submission.

**Response:** ECCV review comments and coordination are in process.

- 2G. Please update the data table to look similar to the graphic to the right. Please refer to the Site Plan Manual if you need additional detail.

**Response:** Data table updated to reflect the example.

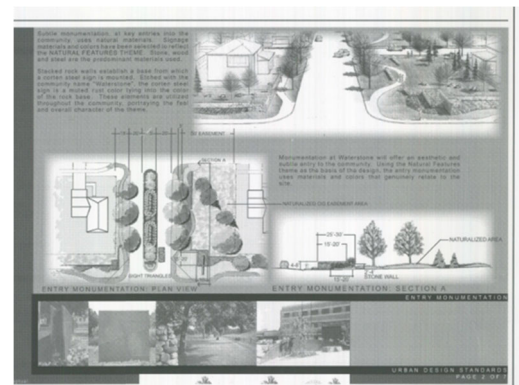
DATA TABLE	
LAND AREA WITHIN PROPERTY LINES	61.676 AC
NUMBER OF UNITS PROPOSED	270
NUMBER OF BUILDINGS PROPOSED	270
CONSTRUCTION TYPE (1-4)	270
OCCUPANCY CLASS (1-3)	270
NUMBER OF STORIES	1-3
MAXIMUM HEIGHT OF BUILDINGS	30' 0"
HARD SURFACE AREA	1,132 AC
OPEN SPACE	8,376 AC
LANDSCAPE AREA	12,508 AC
PAVED NATIVE GRASS (IF APPLICABLE)	N/A
PRESENT ZONING CLASSIFICATION	RESIDENTIAL
PERMITTED MAXIMUM SIGN AREA	36 SQ. FT. & 8' MAX HEIGHT
PROPOSED SIGN TYPE AND SQ. FT.	2 PER UNIT
PARKING SPACES REQUIRED	2 PER UNIT
PARKING SPACES PROVIDED	2 PER UNIT
HANDICAP SPACES REQUIRED	N/A
HANDICAP SPACES PROVIDED	N/A
LOT AREA	36,308 AC
WALKWAY AREA	1,300 AC
PUBLIC R.O.W. AREA	18,111 AC

PRELIM. PLAT 1 LOT SUMMARY	
STANDARD, LARGE ESTATE LOTS	145
SMALL LOTS	36
MOTOR COURT	89
OVERALL TOTAL	270

## Zoning and Land Use Comments

- 2H. A Public Art Plan must be developed for Waterstone, as noted in the Master Plan Public Improvement Plan. Please contact Roberta Bloom at [rbloom@auroragov.org](mailto:rbloom@auroragov.org) to begin the process.

**Response:** After diligent coordination with Roberta Bloom and Heather Lamboy, Plan West has initiated an Invitational Approach to commission local artist Chris Weed. Chris designed and crafted the Purple Cone Flower sculptures in Waterstone Filing 3. Continuing the flower theme makes sense as it ties the neighborhood together. For Filing 4, Chris will design and construct Black Eyed Susan sculptures, similar in material and height (13'-15'). Plan West prepared a Public Art Plan packet as well as a designated page in the Site Plan set to identify the location and general description of the Public Art Plan.



## 3. Streets and Pedestrian Issues

- 3A. Please provide more access points to the Coal Creek regional trail on the eastern side of the development.

**Response:** Multiple access points are now provided, east of the detention pond, where feasible, due to existing grades and floodplain.

- 3B. Please provide entry monumentation details. Refer to the Waterstone Urban Design Guidelines for additional information.

**Response:** Entry monument details are included with this second submittal.

## 4. Architectural and Urban Design Issues

- 4A. Please refer to the Urban Design Guidelines, many issues need to be addressed. Most importantly is the design of the NAC/private park. The FDP calls for a raised gathering areas, crusher fine walks, and connections to the trail network.

**Response:** The private parks design includes the required components: raised gathering areas, crusher fine walks, and connections to the trail network. Additional labels and a section have been added to clearly show the design of the raised gathering area.



- 4B. Refer to the Master Plan Design Guidelines for lighting and park benches. The proposed site furniture does not comply with Master Plan standards.  
**Response:** The park benches, waste receptacles, and picnic tables match the mission style depicted in the Master Plan. The I-beam bench has been included in the pocket park.
- 4C. There are very specific architectural styles permitted in the Master Plan, which include Craftsman, Country Farmhouse, Prairie Style, and Denver Cottage styles. There are specific design elements that are articulated in the Master Plan. Please provide elevations with the next submission.  
**Response:** Architectural elevations for all Richmond American Homes models are included with this submittal. There is also a materials and colors packet included with this submittal.
- 4D. Please illustrate where pedestrian bridges (referred to in the Master Plan) will be located and provide a detail on the plans.  
**Response:** The pedestrian bridge that crosses Coal Creek is part of the Waterstone Filing 3 approved plans. We worked with the Filing 3 civil engineer, Kiowa Engineering, to obtain the drawings and include the bridge location with the Filing 4 plans. The pedestrian bridge is shown as a reference only and is to be constructed by the Filing 3 development team.

**5. Landscaping Issues** (Kelly Bish / 303-739-7189 / [kbish@auroragov.org](mailto:kbish@auroragov.org) / Comments in bright teal)

*Site Plan*

*Sheet L.02*

- 5A. The UDO requires that the curbside landscapes contain a variety of plant materials that vary in height, color and width for visual interest throughout the year. The same plant material is being used on every street within this development. While it makes sense for both sides of a street to have the same general layout/aesthetic, a different aesthetic and plant palette should be provided on the remaining streets.  
**Response:** The curbside landscape has been updated to include a variety of plant material, rather than the same plant material on every block.
- 5B. What type of vegetative treatment is occurring between the property line and the fence?  
**Response:** The landscape plans show temporary irrigated native seed for majority of this area. Where the retaining wall is required, medium-sized cobble is proposed as there is not enough room for native seed.
- 5C. Would edger be needed between the shrub bed and rock mulch as the note on this sheet indicates that all shrub beds will be rock mulch.  
**Response:** Edger would not be needed between rock mulch and shrubs beds. This delineation has been removed.
- 5D. Provide the missing plant call-out.  
**Response:** Missing plant call-outs have been provided.

*Sheet L.03*

- 5E. The indicated plants would be too tall within the sight distance triangles.  
**Response:** Understood. Plant types within the sight distance triangles have been changed to those with small maximum heights.

*Sheet L.04*

- 5F. There are several groupings of street trees that do not have plant call-outs.  
**Response:** Missing plant call-outs have been provided.
- 5G. Although all the trees along the southern half of Harvest Road are labeled as London Plane, the last three tree symbols are representative of Oak trees and not London Plane.  
**Response:** Understood and corrected.
- 5H. The indicated plants would be too tall within the sight distance triangles.  
**Response:** Understood. Plant types within the sight distance triangles have been changed to those with small maximum heights.
- 5I. Harvest Road is being extended all the way to Alameda and so that needs to be included here along with the required curbside landscape i.e. street trees etc.  
**Response:** The Harvest Road extension to Alameda Road is now shown and provides design for the required curbside landscaping. Because it is 10' wide, a standard tree lawn design with sod is provided. The area between the Harvest Road ROW and the Waterstone Filing 4 property line is owned by a separate entity therefore no landscape improvements are proposed.





5J. Include the connector street to Harvest Road and the required landscaping.

**Response:** The connector street is now shown and includes the required landscaping.

*Sheet L.05*

5K. Provide missing plant labels.

**Response:** Missing plant call-outs have been provided.

*Sheet L.06*

5L. There are several groupings of street trees that do not have plant callouts.

**Response:** Missing plant call-outs have been provided.

*Sheet L.07*

5M. There is plant material that is too tall within the site triangles.

**Response:** Understood. Plant types within the sight distance triangles have been changed to those with small maximum heights.

*Sheet L.08*

5N. Provide the required perennials and not just a hatch.

**Response:** Perennial plants individually shown and identified, rather than using a hatch.

5O. Take the match lines off this enlargement. It is misleading as it makes it appear that this sheet should match to the listed ones while the scale is totally different, and they don't match.

**Response:** Match line removed to eliminate confusion.

*Sheet L.09*

5P. Include the actual perennials in the landscape plan.

**Response:** Perennial plants individually shown and identified, rather than using a hatch.

5Q. Take the match lines off this enlargement. It is misleading as it makes it appear that this sheet should match to the listed ones while the scale is totally different, and they don't match.

**Response:** Match line removed to eliminate confusion.

*Sheet L.16*

5R. Provide updated front yard landscape requirements per the examples given.

**Response:** Front yard landscape requirements updated.

## **6. Addressing (Phil Turner / 303-739-7357 / [pcturner@auroragov.org](mailto:pcturner@auroragov.org))**

6A. Please provide a digital .shp or .dwg file for addressing and other GIS mapping purposes. Include the parcel, street line, easement and building footprint layers at a minimum. Please ensure that the digital file provided in a NAD 83 feet, Stateplane, Central Colorado projection so it will display correctly within our GIS system. Please eliminate any line work outside of the target area. Please contact me if you need additional information about this digital file.

**Response:** A .dwg file is provided.

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

### **7. Civil Engineering (Kristin Tanabe / 303-739-7306 / [KTanabe@auroragov.org](mailto:KTanabe@auroragov.org) / Comments in green)**

7A. The Site Plan will not be approved by Public Works until the Preliminary Drainage Letter/Report is approved.

**Response:** Acknowledged.

*Sheet 2*

7B. Add the following notes:

- The approval of this document does not constitute final approval of grading, drainage, utility, public improvements and building plans. Construction plans must be reviewed and approved by the appropriate agency prior to the issuance of building permits.
- In locations where utility easements overlap drainage easements, only subsurface utilities shall be permitted within the portion of the utility easement that overlaps the drainage easement. Installation of above ground utilities within a drainage easement requires prior written approval by the City Engineer.



- The streetlight or pedestrian light installation within the public right-of-way shall be designed, funded, and constructed by the developer/owner. Ownership and maintenance of the street/pedestrian lights shall be the responsibility of the City of Aurora once they have been accepted. Streetlight and/or pedestrian photometrics plans shall be prepared and submitted to the City for review and approval and shall become a part of the approved civil construction plans for the project. An electrical plan showing site location of lights, electrical one line and grounding details shall be submitting to the Permit Center for review by the Building Department. The owner is responsible for obtaining an address for the meter(s) from the Planning Department. A Building Permit for the meter and a Public Inspections Permit for the streetlights are required. Certificate of occupancies will not be issued until the street and/or pedestrian lighting plans are approved, constructed, and initially accepted.

**Response:** Notes added to Site Plan set.

#### Sheet 4

- 7C. Maintenance access is required to the top of the outlet structure. Show/label drainage easement.  
**Response:** Maintenance access path has been reconfigured to access the bottom of the pond and the outlet structure.
- 7D. Dimension width.  
**Response:** Dimension added.
- 7E. Include FIRM panel and effective date.  
**Response:** FIRM info has been added to the plan.

#### Sheet 5

- 7F. Show/label maintenance access. Access is required to the pond bottom and the top of the outlet structure. Show/label drainage easement.  
**Response:** Access to the pond bottom has been revised and is now included from the intersection of streets J and H.

#### Sheet 6

- 7G. ROW is not shown on the plat. Indicate if it will be dedicated by plat or by separate document.  
**Response:** It's outside of the property boundaries so it will need to be dedicated by separate document.
- 7H. Remove entry islands. This criterion is changing in the Roadway Manual update. [Heather's note: The Master Plan requires entry islands. Additional discussion with Public Works will be required regarding this item.]  
**Response:** Entry islands have been removed.

#### Sheet 7

- 7I. Maintenance access is required to the top of the outlet structure. Show/label drainage easement.  
**Response:** Maintenance path has been revised to access the bottom of the pond and the structure,
- 7J. Label slopes in tracts. Min 2% slope for non-paved areas.  
**Response:** Slope labels have been added in the tracts.
- 7K. It is not recommended for streets to be sloped less than 0.8%.  
**Response:** Noted; where feasible the slopes have been kept to above 0.8%.

#### Sheet 8

- 7L. Maintenance access is required to the bottom of the pond and the top of the outlet structure. Show/label drainage easement.  
**Response:** Maintenance access has been provided as requested.
- 7M. It is not recommended for streets to be sloped less than 0.8%.  
**Response:** Noted; where feasible the slopes have been kept to above 0.8.
- 7N. Label slopes in tracts. Min 2% slope for non-paved areas.  
**Response:** Slope labels have been added in the tracts.
- 7O. Max 3:1 slope.  
**Response:** Noted; 4:1 maximum slopes are being used in the grading of this site.

#### Sheet 9

- 7P. 2% slope required for 200' at arterial intersections.  
**Response:** Slope labels have been added.
- 7Q. Label street slopes.



**Response:** Slope labels have been added.

- 7R. Label slopes in tracts. Min 2% slope for non-paved areas.

**Response:** Slope labels have been added.

Sheet 24

- 7S. Include light fixtures for street lighting. Street lighting in public ROW will be owned and maintained by the COA and must meet COA standards. Draft lighting standards can be provided upon request.

**Response:** Street light details have been added.

- 7T. Label "private" where redlined.

**Response:** Added.

**8. Traffic Engineering** (Brianna Medema / 303-739-7336 / [bmedema@auroragov.org](mailto:bmedema@auroragov.org) / Comments in amber)

- 8A. Add note: "THE DEVELOPER IS RESPONSIBLE FOR SIGNING AND STRIPING ALL PUBLIC STREETS. THE DEVELOPER IS REQUIRED TO PLACE TRAFFIC CONTROL, STREET NAME, AND GUIDE SIGNS ON ALL PUBLIC STREETS AND PRIVATE STREETS APPROACHING AN INTERSECTION WITH A PUBLIC STREET. SIGNS SHALL BE FURNISHED AND INSTALLED PER THE MOST CURRENT EDITIONS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND CITY STANDARDS AND SHOWN ON THE SIGNING AND STRIPING PLAN FOR THE DEVELOPMENT"

**Response:** Note has been added.

- 8B. Circled intersections indicate that the ramp layout needs to be modified.

**Response:** The ramp layouts have been revised where possible. The comment is noted, and we will continue coordinating with the City of Aurora to provide a final product that is acceptable,

- 8C. A T-intersections, the crossing of the major street must take place on the right of the minor street.

**Response:** Understood and updated.

- 8D. Edge-to-edge ramp alignment is required at a minimum.

**Response:** Understood and updated.

- 8E. Lot layouts will likely need to be reviewed for driveway placement after ramp reconfigurations.

**Response:** Acknowledged.

- 8F. Why does Street J not continue through the noted area?

**Response:** Street J has been revised.

- 8G. If Street A has closure for any reason, homes on the west side of the development would not have access, in the current configuration.

**Response:** Street A has been extended through the site to provide a second access.

- 8H. These crossing locations are unsafe due to poor visibility (along curve) and will need to be modified. Consider moving them north, to the midway point of Street E and Street F, and providing a tract for a walkway to cut directly between the streets. Provide crosswalk striping and signage. (Sheet 3)

**Response:** The crossing area has been revised.

- 8I. At T-intersections, remove ramps crossing to the left of the minor street. This is a non-standard crossing location. (typ.)

**Response:** Ramp has been removed.

- 8J. Standard crossing location is to the right of the minor street. Provide edge-to-edge alignment at a minimum.(typ.)

**Response:** Provided.

- 8K. Clearly show portions of sight triangle in roadway. Provide dimensions in compliance with COA TE-13 (typ.)

**Response:** Sight triangle has been updated for clarity.

- 8L. Advisory speed limit signage will be required for this curve condition. (typ.)

**Response:** The site layout was revised in this location.

- 8M. Object markers will be required along this curve condition (typ.)

**Response:** The site has been revised in this location.

- 8N. See comment on overall plan sheet regarding safety of these two crossings.

**Response:** This area has been revised.

- 8O. Show more of existing Harvest to confirm through lane alignment.



- Response:** More of the intersection is now shown in the plan.
- 8P. Provide double yellow striping where noted.  
**Response:** Double striping has been called out.
- 8Q. Provide storage and taper lengths for all turn lanes (typ.)  
**Response:** The taper lengths have been included on the plan.
- 8R. Move sight triangle back to stop location.  
**Response:** Relocated as requested.
- 8S. PY? (on landscape plan)  
**Response:** Plant labels have been updated to reflect current layout and consistency with plant schedule.
- 8T. Looks like an area is missing, please show connection of Street J to Harvest  
**Response:** All street connections are shown with this second submittal.
- 8U. Provide sight distance easements.  
**Response:** Sight distance triangles are shown at all required intersections.
- 8V. Provide Y shaped walkway connection by the play field.  
**Response:** A Y-shaped sidewalk is now provided by the play field.
- 8W. CKG falls within sight triangles in several locations, but does not meet maximum height requirements for plants within sight triangles. Please revise plant species in these locations.  
**Response:** Plant species revised to meet height requirements.
- 8X. Add note: "All proposed plants within the sight triangles must comply with the City of Aurora Roadway Specifications, Section 4.04.2.10"  
**Response:** Note added.

#### *Traffic Impact Study*

- 8Y. Provide CDOT SHAC auxiliary lane warrant analysis at study intersections.  
**Response:** All auxiliary lane warrant analyses conform to the state access code and/or COA requirements.
- 8Z. Provide COVID adjustment for existing counts.  
**Response:** There are no pre-COVID counts to compare. Moreover, any adjustment would be insignificant because the movement volumes are very low – less than 300 vph for the entire intersection. Generally, 2021 counts are normal or considered as the new normal.
- 8AA. Provide queuing summary table.  
**Response:** Queuing table provided.
- 8BB. Provide site circulation plan show intersection control at internal intersections.  
**Response:** All internal intersections will be stop-sign controlled per the MUTCD standards.
- 8CC. Provide traffic signal warrants for the intersection of Harvest and Alameda.  
**Response:** Warrants 1 and 2 are the only warrants applicable in this case. These are based on actual counts not projected. Generally, 200 homes are required to meet a volume warrant. This project will contain 163 homes.
- 8DD. Provide discussion and diagram of pedestrian circulation and safety.  
**Response:** The site plan shows sidewalks on all frontages with ADA ramps on all corners per the Local Type 1 cross-section.
- 8EE. Concerns exist at the southern crossings of Street E and Street F. Please provide discussion and recommendations on mitigation measures such as crossing relocation, signage and striping, RFBs, etc.  
**Response:** No mitigation measures are necessary until warranted by actual conditions.
- 8FF. Street A is uncontrolled for its entire length, provide a recommendation for locations of pedestrian bump-outs for pedestrian safety and traffic calming.  
**Response:** These are Local Type 1 street sections. They are narrow and low volume. Bump outs are not necessary.
- 8GG. Provide updated site plan.  
**Response:** Updated site plan has been included.
- 8HH. Provide page number (x of y)  
**Response:** Not necessary on cover page.
- 8II. Provide date on engineer stamp.



**Response:** Stamp is provided to indicate PE status as required by TIS Guidelines. This is a study is not a set of construction drawings.

8JJ. Correct acronym to state “DEN”

**Response:** Corrected.

8KK. Please review the Harvest Road statement accuracy with NEATS diagram.

**Response:** Statement is accurate.

8LL. This statement is not supported. Have you compared the 2021 counts with pre-COVID counts? The city still requires a COVID adjustment. Please provide this.

**Response:** There are no pre-COVID counts. 2021 counts are generally normal or are the new normal.

8MM. Please state the spacing between the two accesses, and reference compliance with the City's minimum of 300' spacing along arterials.

**Response:** The accesses are spaced at 300 feet.

8NN. This street section (southernmost street) is not illustrated in the Site Plan.

**Response:** All internal streets are Local Type 1.

8OO. If Street A has closure for any reason, homes on the west side of the development would not have access, in the current configuration. Please provide explanation/discussion.

**Response:** An emergency access to the west has been included in the new site plan.

8PP. Provide an updated, higher resolution site plan. Consider adding the overall site plan sheet to appendix.

**Response:** A site plan is included in the appendix.

8QQ. Provide land use code in the Land Use and Trip Generation table.

**Response:** The land use code was added.

8RR. Provide separate assignment figures for the 2025 and 2040 scenarios, since Harvest does not connect to the south in 2025.

**Response:** The volumes shown are sufficient to indicate no connection to the south.

8SS. Please provide distribution information, shown as percentages, in a separate figure. Provide figures for both 2020 and 2025.

**Response:** Added in revised study.

8TT. Provide detail on how these numbers were developed into AM and PM peak volumes.

**Response:** The standard conversion is 10 percent of the daily volume for the PM peak hour and 8 percent for the AM peak hour.

8UU. COA TIS guidelines have a specific standard regarding LOS F at minor movements of unsignalized intersections (must have a viable alternate route).

**Response:** No LOS F is reported.

8VV. Provide queuing summary table for all turning movements at study intersections. Provide recommended storage lengths.

**Response:** Recommended storage lengths are provided.

8WW. Provide LOS for all turning movements.

**Response:** The critical movement is the worst LOS. All others are higher.

8XX. Please revise the traffic calming section. The city can preemptively require traffic calming during development design review.

**Response:** Section has been revised.

8YY. This is not correct, the HOA would still need city approval.

**Response:** Section has been revised.

## **9. Fire / Life Safety** (William Polk / 303-739-7371 / [wpolk@auroragov.org](mailto:wpolk@auroragov.org) / Comments in blue)

9A. Provide a site “Data Block” that reflects the following:

1. Number of buildings, square footage of each building and the gross square footage of all buildings on site.
2. IRC Construction Type of structure(s).
3. Indicate if structures are fire sprinkled or non-fire sprinkled. (Note: This information is needed to determine the number of fire hydrants required to support this site.)
4. Maximum Building Height.

**Response:** Additional site data added.





- 9B. Will this site be phased? If so, provide a phasing plan. A phasing plan must be provided with the Planning Departments site plan and Public Works Departments civil plan submittal. The phasing plan must illustrate each phase and provide a narrative that describes how the phasing will implement the required two points of access and a looped water supply at all times during the phased construction. Also, make sure to incorporate COA Water and Public Works phasing requirements into the phasing plan.

**Response:** If the site is planned to be phased by the builder, a phasing plan will be submitted with the next submittal.

- 9C. Will this site be gated? If this site is a gated then the installation of any gating system will require a City of Aurora licensed contractor to obtain a building permit through the Aurora Building Division prior to the start of any work. This would be considered a structural, life safety and electrical review within the Building Division that is conducted on behalf of the Fire Chief. If gated, provide sections for the automatic and manual gates.

**Response:** The community will not be gated except for the Fire Lane access. A detail of the Fire Lane swing gate with knox box is provided in the Site Plan set.

*Sheet 2*

- 9D. Replace note 2 with the following: ALL BUILDING ADDRESS NUMBERS SHALL COMPLY WITH THE AURORA CITY CODE, SECTION 126, ARTICLE VII -NUMBERING OF BUILDINGS.

**Response:** Note replaced.

- 9E. "SIGNAGE AND STRIPING" package shall be included for approval with the Site Plan, and shall include fire lane and handicapped parking signs, sign details, handicapped parking stall details, and locations for all. Sign package shall include all signs as required by other City of Aurora departments. See example of fire lane signs.

**Response:** Signing and striping have been added to the site plan.

- 9F. Provide a fire lane section. Fire lane must meet COA fire lane minimum requirements.

**Response:** Fire Lane section has been added.

*Sheet 3*

- 9G. Provide a double swing gate at both ends of the fire lane easement as shown below.

**Response:** Swing gate detail has been added.

- 9H. See notes addressing the fire lane easement requirements.

**Response:** Acknowledged.

- 9I. Any gating system used for emergency response will require a separate building permit prior to installation. A license agreement through Real Property (Public Works) is also needed to account for the encroachment into the dedicated easement.

**Response:** Acknowledged.

- 9J. Call out the gating system. The gate label must include width, operating mechanism, Knox hardware, automatic/manual, etc., details. Example 23' manual Swinging Gate with approved, Knox Box hardware.

**Response:** A detail of the Fire Lane swing gate with knox box is provided in the Site Plan set.

- 9K. Revise emergency access to "fire lane".

**Response:** Label has been revised.

- 9L. Developments of one- or two-family dwelling where the number of dwelling units exceeds 30 shall be provided with two separate and approved fire apparatus access roads. Fire lane easements shall be designed and maintained to support the imposed loads of fire apparatus (85,000 pounds) and shall be surfaced so as to provide for all-weather driving capabilities (typically meaning asphalt and concrete). The fire lane must be in compliance with Public Works standards.

**Response:** Comment noted.

- 9M. This pavement and sidewalk section needs to reflect a note stating that it will support the 85,000 lb. weight limit of the adjacent 23' fire lane easement. This note must also be shown on the civil plans.

**Response:** This note has been added to the fire lane notes.

- 9N. Provide a letter from pipe line company (e.g. CIG), on company letter head that reflects their set back requirements from the easement line or actual underground pipe to the exterior wall of your proposed structure(s). The letter must be part of the site plan submittal package.

**Response:** Acknowledged. We are currently talking with Garry Zieske at Kinder Morgan regarding the CIG gas lines on-site. A signed encroachment stipulation letter will be provided with the next submittal.

*Sheet 4*

- 9O. Provide an illustration showing how the edge of the fire lane easement be physically delineated to provide visual demarcation of the emergency access lane in the winter months.  
**Response:** Acknowledged; the illustration will be included with the fire lane design.
- 9P. Provide a legend showing symbols. Please include new and existing fire hydrants, mail kiosk locations, fire lane signs, fire lane connection signs, etc.  
**Response:** Acknowledged; the fire lane markings will be included with the fire lane design.
- 9Q. The fire lane shall be marked along the entire length with signs and edge delineation.  
**Response:** Acknowledged; the fire lane markings will be included with the fire lane design.
- 9R. See fire lane comments on Sheet 3.  
**Response:** Notes have been address as required.

*Sheet 5*

- 9S. Provide a letter from pipeline company (e.g. CIG), on company letter head that reflects their set back requirements from the easement line or actual underground pipe to the exterior wall of your proposed structure(s). The letter must be part of the site plan submittal package.  
**Response:** Acknowledged. We are currently talking with Garry Zieske at Kinder Morgan regarding the CIG gas lines on-site. A signed encroachment stipulation letter will be provided with the next submittal.
- 9T. Fire hydrants shall be placed on average 500'; on each side of the Harvest street and be arranged on an alternating basis.  
**Response:** FH have been relocated.

*Sheet 6*

- 9U. Show the location of all existing and proposed water mains and fire hydrants within or abutting this site within 400'. Existing hydrants located outside the plan area can utilize a fire hydrant symbol with an arrow pointing in the direction of the existing hydrant and distance of the hydrant from the nearest property line of the site.  
**Response:** Location of the watermain has been added to the plans.

*Sheet 17*

- 9V. Please work with the Planning Dept. to identify any addressing needs for this project.  
**Response:** Understood.

*Sheet 24*

- 9W. If mail kiosks are being proposed, has the USPS been contacted to determine if the proposed mail kiosk locations are acceptable?  
**Response:** Due to the park location(s) shifting from the previous submittal, we want to have another review to confirm park location and amenity placement is acceptable by the City before contacting USPS. In recent experience with this request, USPS has provided a prompt response and approval.

*Comments from Ryan Nelson, Fire Department*

- 9X. Ensure this note is correct: "All crossings or encroachments into easements and right-of-way owned by the City of Aurora (City) identified as being privately-owned and maintained herein are acknowledged by the undersigned as being subject to City's use and occupancy of said easements or rights-of-way. The undersigned, its successors and assigns, further agrees to remove, repair, replace, relocate, modify, or otherwise adjust said crossings or encroachments upon request from the City and at no expense to the City. The City reserves the right to make full use of the easements and rights-of-way as may be necessary or convenient and the City retains all rights to operate, maintain, install, repair, remove or relocate any City facilities located within said easements and rights-of-way at any time and in such a manner as it deems necessary or convenient."  
**Response:** Correct.
- 9Y. Is Harvest Mile a publicly dedicated road?  
**Response:** Yes, Harvest Road is public.
- 9Z. There is a duplicate label on Sheet 3.  
**Response:** Duplicate removed.
- 9AA. Label the emergency access road name.  
**Response:** Labeled as provided.



*Plat*  
*Sheet 2*

9BB. Show the fire lane easement within the plat. The width of the fire lane shall be included.

**Response:** Added.

**10. Aurora Water** (Steven Dekoski / 303-739-7490 / [sdekoski@auroragov.org](mailto:sdekoski@auroragov.org) / Comments in red)

*Sheet 3*

10A. Show the waterline utility easement and connection from filing 3.

**Response:** Utility easement has been added.

*Sheet 7*

10B. Possible conflict with the proposed storm line and existing manhole. The existing manhole must be outside of the emergency overflow. Maintenance vehicle access is required to all manholes. Vehicle maintenance access is also required to the top of the outlet structure.

**Response:** The outfall pipe has been modified to avoid the possible conflict.

10C. Manholes can't be in the curb and gutter or drain pans. (typ).

**Response:** The site has been revised to avoid this conflict.

10D. License agreements are required for the encroachments into the utility easements.

**Response:** Noted; license agreement will be provided with final design.

*Sheet 8*

10E. 16' Utility easement required for public sanitary main.

**Response:** Noted - easement has been provided.

10F. 12" sanitary main extending from filing 3. Show the water line extension from filing 3 too.

**Response:** The water line has been added to the plans.

10G. Include directional flow arrows on the sanitary mains. (typ)

**Response:** Directional flow arrows have been added to the sanitary lines.

10H. Conflict with curb and gutter and sanitary manholes.

**Response:** Site has been revised to eliminate the conflict.

*Sheet 9*

10I. This site plan and civil plans must be referred to ECCV for work across their easements and water main.

**Response:** Coordination with ECCV is ongoing for this design.

10J. Provide a letter granting permission to work in the gas easements. (typ)

**Response:** The coordination is ongoing, and letter will be provided with the final product.

*Sheet 10*

10K. The 12" water line stub in filing 3 must be extended across Coal Creek to serve filing 4. Show water line in the utility easement.

**Response:** Water line has been extended.

*Sheet 16*

10L. No trees are permitted in utility easements. (typ)

**Response:** Understood. All trees removed from easements.

**11. Aurora Water / Revenue** (Diana Porter / [dsporter@auroragov.org](mailto:dsporter@auroragov.org) / Comments in red)

11A. Storm Drainage Development Fees due 61.51 Acres x \$1,242.00 = \$76,395.42

**Response:** Understood.

11B. Commercial users with meters one and one-half inches and smaller with landscaped areas not served by a separate irrigation system shall be charged an outdoor fee based upon the total landscaped area.

**Response:** Acknowledged.

**12. Forestry** (Rebecca Lamphear / 303-739-7178 / [rlamphea@auroragov.org](mailto:rlamphea@auroragov.org) / Comments in purple)

*Site Plan*

12A. Identify trees on the tree mitigation sheet.

**Response:** Trees now identified on the mitigation sheet by numbering in correspondence with the Tree Mitigation Report.

12B. Include grading on the tree mitigation sheet.



**Response:** Existing and proposed grading now shown on mitigation sheet.

- 12C. Will be achieving tree mitigation by planting back on site. On the landscape plan show a symbol indicating trees that are specific to tree mitigation. Tree mitigation is always above and beyond the Landscape Code.

**Response:** Understood. A special symbol is used for tree mitigation efforts. Only one tree is being removed, therefore one replacement tree for mitigation efforts.

- 12D. Any trees that are preserved on the site during construction activities shall follow the standard details for Tree Protection per the current Parks, Recreation & Open Space Dedication and Development Criteria manual. The Tree Protection notes shall be included on the plan. The link for the manual can be found at: <https://auroraver2.hosted.civicleve.com/cms/One.aspx?portalId=16242704&pageId=16529352>

**Response:** Notes added.

**13. PROS** (Doug Hintzman / 303-739-7147 / [dhintzma@auroragov.org](mailto:dhintzma@auroragov.org) / Comments in mauve)

- 13A. Do not remove the noted trees from the open space tract.

**Response:** Acknowledged. With the plan and grading refinement, now only one tree is being removed. That tree is a sickly Siberian Elm valued at \$300.

- 13B. For locations near open space, reference the PROS standard detail; this detail is different than our standard.

**Response:** The fence detail has been updated per the standard provided in the PROS manual.

- 13C. Include the PROS standard detail T-1.0 and T-1.1 for the regional trail and any trail on City/PROS property.

**Response:** PROS standard trail detail added where applicable.

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

- 14A. In your pre-app response under parks you referenced public art locations in the trails, parks and open space. Please submit a public art plan showing these locations

**Response:** After diligent coordination with Roberta Bloom and Heather Lamboy, Plan West has initiated an Invitational Approach to commission local artist Chris Weed. Chris designed and crafted the Purple Cone Flower sculptures in Waterstone Filing 3. Continuing the flower theme makes sense as it ties the neighborhood together. For Filing 4, Chris will design and construct Black Eyed Susan sculptures, similar in material and height (13'-15'). Plan West prepared a Public Art Plan packet as well as a designated page in the Site Plan set to identify the location and general description of the Public Art Plan.

**15. Real Property** (Maurice Brooks / 303-739-7294 / [mbrooks@auroragov.org](mailto:mbrooks@auroragov.org) / Comments in magenta)

- 15A. 1.6.H. Basis of Bearing Statements. 2. Composition. The basis of bearing statement shall state the method used to derive the bearing (i.e., assumed, astronomic, geodetic, grid, reference to recorded or deposited survey, etc.) and the bearing between fully described monuments (i.e., monument material, diameter, length (if set), cap size and material, cap markings/stampings, etc.) at each end of a single line. When the monuments at each end of the reference line are fully described on the plat, they need only be referenced in the "Basis of Bearings" statement. A land survey plat shall show the graphic and mathematical relationship between the basis of bearing and the survey.

Edit to say "said" where noted.

**Response:** Revised.

- 15B. Graphics shows 46°49'42"

**Response:** Revised.

- 15C. Which vicinity map scale is correct?

**Response:** Vicinity map scale is 1"=800'.

- 15D. Add "W a distance of" where noted.

**Response:** Revised.

- 15E. Add the following note: All crossings or encroachments into easements and right-of-way owned by the City of Aurora (City) identified as being privately-owned and maintained herein are acknowledged by the undersigned as being subject to City's use and occupancy of said easements or rights-of-way. The undersigned, its successors and assigns, further agrees to remove, repair, replace, relocate, modify, or



otherwise adjust said crossings or encroachments upon request from the City and at no expense to the City. The City reserves the right to make full use of the easements and rights-of-way as may be necessary or convenient and the City retains all rights to operate, maintain, install, repair, remove or relocate any City facilities located within said easements and rights-of-way at any time and in such a manner as it deems necessary or convenient. Architectural features (i.e. bay windows, fireplaces, roof overhang, gutters, eaves, foundation, footings, cantilevered walls, etc.) are not allowed to encroach into any easement or fire lane.

**Response:** Added.

15F. Is Harvest a public dedicated road?

**Response:** Yes, Harvest Road is public.

15G. There is a duplicated reference on Sheet 3 – see redline.

**Response:** Duplicate has been removed.

15H. Label easements where noted.

**Response:** Labeled as requested.

15I. Extend easement lines outside the platted boundary.

**Response:** Easement lines have been extended.

15J. Add hatching to the legend.

**Response:** Hatching has been added to the legend.

15K. Does the EVA have to be in an easement?

**Response:** Yes, the EVA is an existing 20' easement adjacent to the Noreen and Starkman properties. Where the 23' Emergency Access Road is proposed adjacent to the Biloxi property, this would not be within an easement.

15L. On Sheet 4 and 5, is the indicated area sight distance as the legend indicates?

**Response:** No, the legend and hatch have been updated.

15M. Be sure to match the plat for utility and other easements.

**Response:** Acknowledged.

15N. Please clarify the area indicated on Sheet 5.

**Response:** Please clarify this comment.

**16. Xcel Energy** (Donna George / 303-571-3306 / [donna.l.george@xcelenergy.com](mailto:donna.l.george@xcelenergy.com))

16A. Additional easements may need to be acquired by separate document (such as transformers). Please see attached letter.

**Response:** Acknowledged.

**17. Southeast Metro Stormwater Authority** (Tiffany Clark /303-858-8844)

17A. Please see the attached letter, which focuses on the stormwater discharge points between the two jurisdictions as well as the floodplain.

**Response:** Comment response letter attached.

**18. Mile High Flood District** (Mark Schutte /303-455-6277)

18A. Please see the attached letter, which provides detailed comments regarding the Coal Creek corridor.

**Response:** Comment response letter attached.

**19. Arapahoe Planning Division** (Terri Maulik / (720-874-6650 / [referrals@arapahoegov.com](mailto:referrals@arapahoegov.com))

19A. Thank you for the opportunity to review and comment on this project. The Arapahoe County Planning Division has no comments; however, other departments and/or divisions may submit comments.

**Response:** Thank you.

**20. Aurora Public Schools** (Josh Hensley / [jdhensely@aurorak12.org](mailto:jdhensely@aurorak12.org))

20A. In accordance with Section 4.3.18 of the Unified Development Ordinance, the school land dedication requirement for the 175 residential units proposed as part of Waterstone Site Plan Number 4 is 2.8613 acres. Aurora Public Schools will accept cash-in-lieu of land for this obligation valued at market value of zoned land with infrastructure in place. Cash-in-lieu is due prior to plat approval. Please let me know if you have





any questions.

**Response:** Understood. The applicant and team will work directly with APS to obtain the value of the 2.8613 acres of land and pay the cash-in-lieu prior to plat approval.



December 23, 2021

Heather L. Lamboy, AICP  
Planning Supervisor  
City of Aurora, Planning Division  
15151 E Alameda Parkway, Suite 2300  
Aurora, CO 80012

Re: Waterstone Filing No. 4 Design Review Comments from Arapahoe County

To whom it may concern:

Please accept this letter in response to the June 23, 2021 referral review comments from Arapahoe County on Waterstone Filing No. 4.

1. Please ensure the variance request for pond freeboard does not negatively impact downstream properties.

Response: The variance request has been withdrawn.

2. Section D.1.b notes no current developments near or downstream of project site. There are existing homes in Arapahoe County to the west and north of this proposed development that may be impacted by the development.

Response: The existing homes north of the project site are uphill of the project site; they will not be adversely affected. The flows the west of the project site total 5.7 CFS in the 100-year event and are mitigated by a proposed low tailwater basin to be designed in conformance with USDCM 9.3.2.2.

3. The emergency access proposed across 505 S Biloxi will requires an access easement and County GESC permits. Include the access easement information on the Site Plan.

Response: Comment noted. Easement information has been added to the Site Plan.

4. County may consider a MOU with Aurora, SEMSWA and County to coordinate GESC permitting and inspections.

Response: Comment noted.

5. If the emergency access is also proposed across 23457 E Exposition Ave will need coordination with the landowner, GESC permits and an access easement. This proposed access will cross a floodplain within Unincorporated Arapahoe County that requires Floodplain permits and impact statements. Please contact Staff to coordinate this proposed access road if you have not yet done so. 6. Please continue coordination with Mile High Flood District on the outfall to Coal Creek.

Response: Comment noted. Coordination for floodplain permits is ongoing.

Please feel free to contact us if you have any questions or require clarification on the above responses. Thank you for your time reviewing these documents.

Respectfully,



Charlie Stroup  
Civil Designer, Innovative Land Consultants  
12071 Tejon St., Suite 470  
Westminster, CO 80234



December 23, 2021

Brendan Felipe  
East Cherry Creek Valley Water and Sanitation District  
6201 S Gun Club Rd,  
Aurora, CO 80016

Re: Waterstone Filing No. 4 Design Review Comments

Dear Brendan Felipe:

Please accept this letter in response to the October 15, 2021 referral review comments on Waterstone Filing No. 4.

1. An Overlap Agreement will need to be executed between ECCV and the developer for any improvements located in the ECCV 30' easement where ECCV's 48" Northern Water Line is located in Harvest Road. ECCV's legal council will prepare the agreement.

Response: The proposed location of Harvest Road ROW has shifted east. This agreement may no longer be necessary.

2. The construction plans will need to be submitted to ECCV for review. Be sure to include all valves and blowoffs along ECCV's 48" water line on the plans and how they will be adjusted, if needed.

Response: Comment noted. ECCV will be afforded the opportunity to review the construction documents.

3. The amount of fill over the water line needs to be minimized and will be reviewed with the construction plans. A minimum of 4.5' of cover is required with a maximum of 10' of fill from the top of the water line.

Response: Comment noted. A note will be included on the construction documents.

4. ECCV is concerned with the proximity of the light poles on the west side of the road to the 48" water line. Pursuant to ECCV's easement, no structures are to be in the easement. Please provided the distance between the light poles and the 48" water line.

Response: The proposed location of Harvest Road ROW has shifted east. There are no proposed structures within the ECCV easement.

5. Please add the existing 48" water line to the typical roadway section and call out the dimension from the back of curb to the water line. The minimum distance from the back of curb to the 48" water line is 7'. That provides 5' from the back of curb to the edge of 48" water line for future maintenance. Or it needs to be located in the street a minimum of 7' from the flowline.

Response: The proposed location of Harvest Road ROW has shifted east. The existing 48" water line is now 65' outside ROW; it has not been included in the roadway section.

6. Fire hydrants and storm drain inlets will need to be a minimum of 10' from the edge of the existing 48" water line.

Response: The proposed location of Harvest Road ROW has shifted east. There are no fire hydrants or storm drain inlets within the ECCV easement.

7. No trees are allowed in ECCV's 30' easement.

Response: (Plan West) Acknowledged. Any trees previously shown in the ECCV easement have been relocated.

8. Sheet C.06: Please add ECCV's 48" water line to the plan sheet.

Response: Waterline has been added to plan.

9. Sheet C.06: Please call out ECCV's 30' water easement in both views.

Response: Easement labels have been added to the plan.

10. Sheet L.04 and L.05: Please add and call out ECCV's 30' easement and existing 48" water line.

Response: (Plan West) Labels added to each sheet to identify the ECCV easement and existing water line.

Please feel free to contact us if you have any questions or require clarification on the above responses. Thank you for your time reviewing these documents.

Respectfully,



Charlie Stroup  
Civil Designer, Innovative Land Consultants  
12071 Tejon St., Suite 470  
Westminster, CO 80234





December 23, 2021

Mark Schutte, PE, CFM  
Project Engineer, Sand Creek  
Mile High Flood District  
2480 W 26<sup>th</sup> Ave, Suite 156-B  
Denver, CO 80211

Re: Waterstone Filing No. 4 Design Review Comments (RSN 1548778)

Dear Mark Schutte:

Please accept this letter in response to the June 23, 2021 referral review comments from MHFD on Waterstone Filing No. 4.

- 1) MHFD completed a Fluvial Hazard Zone (FHZ) study of Sand Creek/Coal Creek in 2020. Please review the information provided on the general data viewer as it relates to your site. More information can be provided by MHFD as a discussion around these concerns would likely be helpful.
  - a. The Active Stream Corridor and Fluvial Hazard Buffer impact the site footprint of Filing 4.
  - b. This project site is adjacent to a reach of Coal Creek that is prone to active incision, widening, and lateral migration, which is generally pushing the channel to the north and east (toward Filing 4).
  - c. A recommendation from the FHZ study to reduce the fluvial hazard potential in this location suggested a channel realignment to help prevent uncontrolled channel movement. However, due to Waterstone Filings 1 and 2, this realignment is not possible.

Response: Comment noted. August 2020 FHZ will be integrated into the next submittal.

- 2) Two WQ and detention basins are planned for this development, both placed on top of and adjacent to steep, tall cut banks. There is some concern about the failure of these banks that may compromise the proposed detention basins.
  - a. A variance is requested for removing the 1-foot pond freeboard requirement below the emergency spillway crest. Due to the concerns regarding the designed detention basins, MHFD would not recommend that this freeboard requirement be waived.

Response: The variance request has been withdrawn.

- 3) There are several properties, as well as stretches of local roads, that are immediately adjacent to the steep, tall cut banks along Coal Creek. These locations are potentially hazardous and should be reconsidered in reference to these hazards.

Response: The site has been revised. Lots near the steep banks have been removed.

- 4) It is difficult to understand the full extent of the proximity of the development to Coal Creek without showing contours past the property line. Please provide more topographic information outside the project boundary.

Response: Existing contours have been extended to show more of the surrounding area.

- 5) The referenced MDP (Sand Creek – Colfax to Yale) from 2013 indicates there are stabilization concerns through this reach of Coal Creek. The intent of the proposed improvements is meant to stabilize the reach. Please help us to understand how these concerns are being addressed.

Response: Integration of the August 2020 FHZ into the design is ongoing. Further discussion of stabilization of Coal Creek will be included with the next submittal.

- 6) The design and function of the detention ponds, outfalls and spillways will be reviewed further once the above questions have been addressed.

Response: Comment noted.

Please feel free to contact us if you have any questions or require clarification on the above responses. Thank you for your time reviewing these documents.

Respectfully,



Charlie Stroup  
Civil Designer, Innovative Land Consultants  
12071 Tejon St., Suite 470  
Westminster, CO 80234



December 23, 2021

Tiffany Clark, PE, CFM  
Southeast Metro Stormwater Authority  
7437 South Fairplay Street,  
Centennial, CO 80112-4486

Re: Waterstone Filing No. 4  
SEMSWA Case No. DPR21-00041/D21-00059

Dear Tiffany Clark:

Please accept this letter in response to the June 23, 2021 referral review comments on Waterstone Filing No. 4.

1. SEMSWA has only reviewed the referred documents in regard to the interface between the proposed project and the adjacent unincorporated Arapahoe County properties. Our review and comments focus on the stormwater discharge points between the two jurisdictions and the adjacent floodplain.

Response: Comment Noted.

2. SEMSWA did not receive a Drainage Report to review. Please provide prior to or during the next review.

Response: A drainage report accompanies all Preliminary Drainage Plans. Please coordinate with City of Aurora if you are missing these documents.

3. The Emergency Access Road is partially within Arapahoe County as well as the floodplain. SEMSWA and Arapahoe County will need to review and approve the work within Unincorporated Arapahoe County. This work will also require a SEMSWA/Arapahoe County Floodplain Permit. For GESC control measures, SEMSWA and Unincorporated Arapahoe County will likely be comfortable entering into a jurisdictional control letter, please reach out to further discuss.

Response: Comment noted.

4. SEMSWA has the following comments on the Site Plan:

Response: Please see responses to plan comments on the appended letter.

Please feel free to contact us if you have any questions or require clarification on the above responses. Thank you for your time reviewing these documents.

Respectfully,

A handwritten signature in blue ink, appearing to read 'C. Stroup', with a stylized flourish at the end.

Charlie Stroup  
Civil Designer, Innovative Land Consultants  
12071 Tejon St., Suite 470  
Westminster, CO 80234



12071 Tejon Street, Suite 470  
Westminster, CO 80234  
303.421.4224  
www.innovativelandinc.com

1st Submittal Samantha  
Keeven, HR  
Greenskeeven@hrgreen.com

Arapahoe County comments if any will be forwarded to you next week. Please address their comments prior to resubmittal

Arapahoe County Comments have been addressed in a separate response letter.

## Primary Drainage Report

### Waterstone Filing No. 4

Aurora, Colorado

SEMSWA comments have been uploaded. If you cannot access the comments, please contact Tina York (tyork@hrgreen.com). Please address their comments prior to resubmittal

SEMSWA comments have been addressed in a separate response letter.

Project No. 1002-95

Below are comments from MHFD dated 6/23. Please address these comments prior to resubmittal: Please contact Mark Schutte (303.455.6277) with any questions. This letter is in response to the request for our comments concerning the referenced project. We have reviewed this proposal only as it relates to maintenance eligibility of major drainage features, in this case:- Impacts to Coal Creek-Pipe outfalls and emergency spillways from Pond A and Pond B. We have the following comments to offer: 1) MHFD completed a Fluvial Hazard Zone (FHZ) study of Sand Creek/Coal Creek in 2020. Please review the information provided on the general data viewer as it relates to your site. More information can be provided by MHFD as a discussion around these concerns would likely be helpful. a. The Active Stream Corridor and Fluvial Hazard Buffer impact the site footprint of Filing 4. b. This project site is adjacent to a reach of Coal Creek that is prone to active incision, widening, and lateral migration, which is generally pushing the channel to the north and east (toward Filing 4). c. A recommendation from the FHZ study to reduce the fluvial hazard potential in this location suggested a channel realignment to help prevent uncontrolled channel movement. However, due to Waterstone Filings 1 and 2, this realignment is not possible. 2) Two WQ and detention basins are planned for this development, both placed on top of and adjacent to steep, tall cut banks. There is some concern about the failure of these banks that may compromise the proposed detention basins. a. A variance is requested for removing the 1-foot pond freeboard requirement below the emergency spillway crest. Due to the concerns regarding the designed detention basins, MHFD would not recommend that this freeboard requirement be waived. 3) There are several properties, as well as stretches of local roads, that are immediately adjacent to the steep, tall cut banks along Coal Creek. These locations are potentially hazardous and should be reconsidered in reference to these hazards. 4) It is difficult to understand the full extent of the proximity of the development to Coal Creek without showing contours past the property line. Please provide more topographic information outside the project boundary. 5) The referenced MDP (Sand Creek – Colfax to Yale) from 2013 indicates there are stabilization concerns through this reach of Coal Creek. The intent of the proposed improvements is meant to stabilize the reach. Please help us to understand how these concerns are being addressed. 6) The design and function of the detention ponds, outfalls and spillways will be reviewed further once the above questions have been addressed.

MHFD comments have been addressed in a separate response letter.



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## A. Introduction

### 1. Location

#### a. Adjacent Streets, Subdivision Name, Lot and Block, Site Plan Name

The Waterstone project site is located in the southern half of northeast quarter Section 18, Township 4 South, Range 65 West of the 6<sup>th</sup> Principal Meridian, City of Aurora, County of Arapahoe, State of Colorado. See Figure A, below, for a vicinity map representation of this project location.

#### b. Vicinity Map

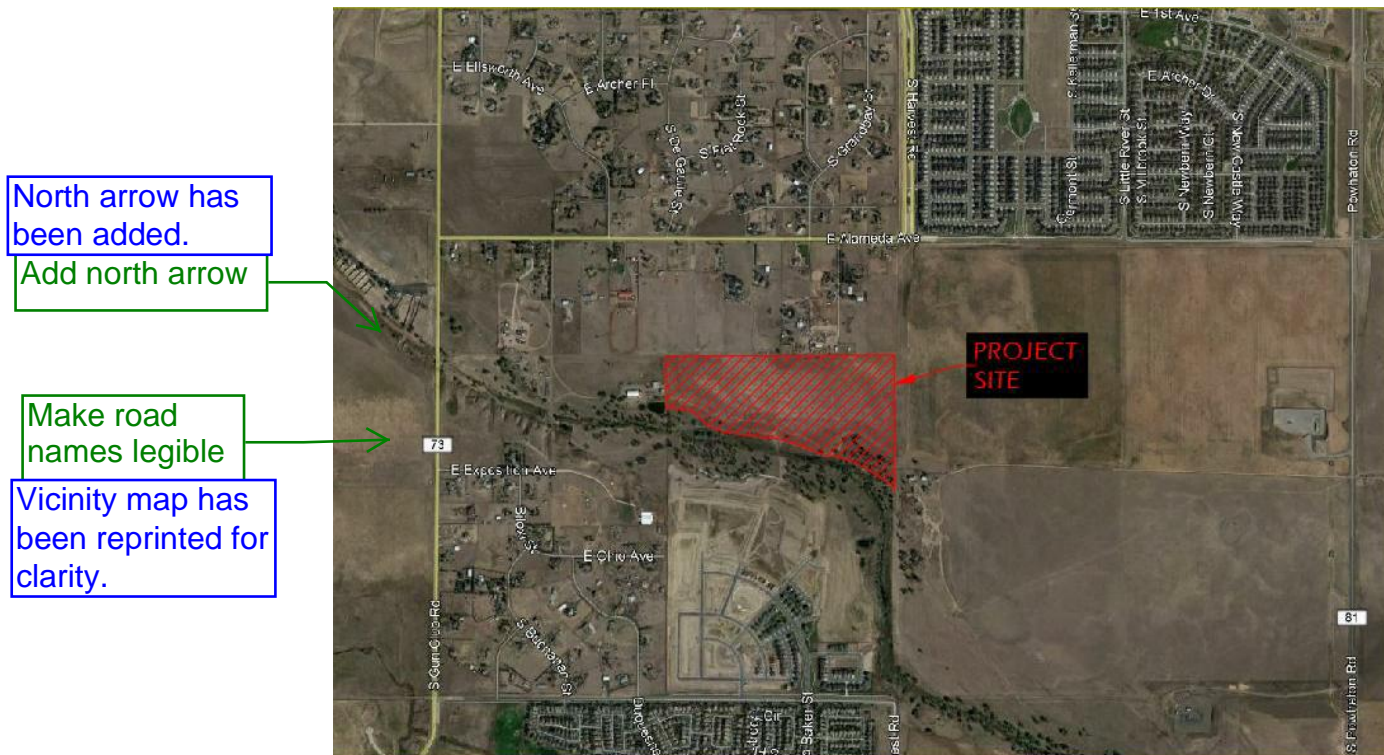


Figure A – Vicinity Map

#### c. Surrounding Developments

The site is approximately 61.5 acres of land which is bound by Coal Creek to the south; located directly south of Coal Creek are Murphy Creek Estates. On the west side, the site is bound by a parcel of land belonging to Grazing / Materials Yard. The northern edge of the site is bound by individual parcels of Single-Family Residential properties. To the east the site is bound by proposed Harvest Road right of way and beyond the proposed portion of Harvest Road, is a parcel of land indicated for Dry Farm.

The site is located approximately 1.3 miles to the east of the E-470 Highway Authority Toll Road and approximately 0.35 miles south of Alameda Avenue.

## 2. Proposed Development

### a. Property description

The existing site generally slopes and drains to the west with portions of the site draining to the south. The site is predominantly covered by native vegetation. The southern edge of the site borders Coal Creek.

According to the NRCS soil survey map, the soils on the eastern portion of the site as well as the southern edge of the site adjacent to Coal Creek are Sandy Alluvial Land (map unit symbol Su); these soils fall into Hydrologic Soil Group A. Small portions of the site along the northern and eastern boundaries consist of Nunn-Bresser-Ascalon complex, 0 to 3 percent slopes (map unit symbol NrB); these soils fall into Hydrologic Soil Group B and comprise a total of 1.1 acres of the project area. Similarly, there are small areas along the northern and eastern boundaries of the site that consist of Bresser-Truckton sandy loams, 5 to 20 percent slopes (map unit symbol BvE); these soils fall into Hydrologic Soil Group B and comprise a total of 3.2 acres of the project site. The northwest portion of the project site consists of Nunn loam, 1 to 3 percent slopes (map unit symbol NIB); these soils fall into Hydrologic Soil Group C. The western portion of the site consists of Loamy alluvial land that falls into Hydrologic Soil Group B. Refer to the NRCS Hydrologic Soil Report located in Appendix C of this report.

### b. Type of Development

Project improvements include the construction of 10 detached units, grading activities, and supporting infrastructure. The project area is approximately 61.5 acres and includes two (2) water quality and 100-year detention ponds. Pond A is located at the western edge of the property; Pond B is located along the northern edge of the project site north of Coal Creek.

### c. Requested Variances

Variance request for constructing cross-pan in lieu of inlets at intersection of the streets: At the location where street H intersects street J a pan is proposed instead of the inlets as required by City of Aurora standards. This variance is requested as the extension of the storm system to this location was not possible due to the conflict with the existing gas line that is running just west of this location. The proposed design of the cross pan will ensure that this location will have surface drainage to the west without interference with the gas line. The flows from this location will be collected in the proposed storm system to the west, after the flows pass over the location of the gas line.

Variance request for pond freeboard above 100-year design flood. Due to the nature of the existing site elevation and proximity to the channel a variance is requested to set the emergency spill way out

State the overall percent impervious for the site

Site Overall Imp. 38% has been added.

Provide a numbered list of the variances requested

List has been itemized.

This variance is not granted. Please provide the required freeboard.

Pond freeboard variance request is withdrawn.

### b. Major Drainageways

Coal Creek runs through the southernmost portion of the site, which is within a FEMA-regulated floodplain as shown on the FEMA FIRM 08005C0204K, dated December 17, 2010. Please find the FIRM with site location included in Appendix C.

## 2. Drainage Patterns Through Property

The site is located within the Coal Creek Watershed and contains a portion of Coal Creek along its southern property. The southernmost portion of site drains directly into Coal Creek. The remainder of the site sheet flows overland in a westerly direction to Coal Creek at an approximate 1.8% overall slope.

According to FEMA FIRM 08005C0204K (see Appendix C), dated December 17, 2010, the southernmost portion of the site, comprised of Coal Creek, is designated Floodway Zone AE; no work will be performed in this area. The northwestern portion of the site is designated 0.2 Percent Annual Chance Flood Hazard Zone X. The remainder of the project site and contributory off-site areas are designated Area of Minimal Flood Hazard Zone X.

## 3. Outfalls Downstream from Property

Runoff from the majority of the site generally sheet flows west and ultimately outfalls to Coal Creek. The southern portion of the site outfalls directly into Coal Creek as the creek passes through the site. Runoff from the contributory areas east of the project site generally sheet flow west-southwest and outfall to Coal Creek. See Figure B-12-A from the *Sand Creek (Colfax to Yale) Major Drainageway Plan* in Appendix C.

## C. Design Criteria

### 1. List of References

- ◆ *City of Aurora Storm Drainage Design and Technical Criteria*, City of Aurora, October 11, 2010
- ◆ *Urban Drainage and Flood Control District (UDFCD) Urban Storm Drainage Criteria Manual (USDCM)*, Volumes 1, 2, & 3, current version<sup>1</sup>
- ◆ *National Resources Conservation Service (NRCS) Web Soil Survey*, United States Department of Agriculture, site visited May 25, 2021
- ◆ *Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM)*, Community-Panel Number 08005C0204K, effective December 17, 2010
- ◆ *Sand Creek (Colfax to Yale) Major Drainageway Plan*, prepared by Matrix Design Group, Inc. and dated August, 2012<sup>3</sup>



Add CLOMR, adjacent subdivision approved drainage reports, fluvial hazard zone study

List of references has been updated.

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<sup>1</sup> Urban Drainage and Flood Control District is now known as Mile High Flood District; *UDFCD Urban Storm Drainage Criteria Manual* has not yet been updated to reflect this change.

### 3. Hydraulic Criteria

#### a. References

The *City of Aurora Storm Drainage Design and Technical Criteria* dated October 11, 2010 was used as a guide for all hydraulic calculations.

#### b. Design Storm Frequencies

Calculations will be performed for both the 2-year and 100-year storm events. Per *City of Aurora Storm Drainage Design and Technical Criteria*. Sizing of the storm system pipes and inlets will be performed in accordance with this manual and shall be included with the final drainage report.

#### c. Water surface profile method

Water surface profiles will be calculated using StormCAD v8i, developed by Bentley Systems, in the Final Drainage Report. The headloss coefficients in the storm sewer model will be calculated using the technical paper *Modeling Hydraulic and Energy Gradients in Storm Sewers: A Comparison of Computation Methods*, prepared by AMEC Earth & Environmental, Inc. for UDFCD. The paper supplies suggested coefficients to use with StormCAD to replicate HGL results from UD-Sewer. Storm system hydraulic grade lines will be included in the Final Drainage Report.

#### d. Major Drainageways

As previously discussed, Coal Creek flows through the southern portion of the site. The creek lies within the 100-year floodplain, and no work will be performed in this area.

Outfalls will be in floodplain. Please update statement.

### D. Drainage Plan

#### 1. General Concept

##### a. Conveyance of Off-site Drainage; Proposed Downstream Outfall

~~The two offsite basins that will be created by the proposed site work are the basins created by the construction of the proposed Harvest Road.~~

Text has been updated.

~~There offsite area located to the east of Harvest Road and represented as Basin OS1. The flows from this location currently enter the site and flow overland into the Coal Creek. In the future conditions the constructed Harvest Road will direct these flows to flow south along the road and these flows will end up in the Coal Creek where they currently end up.~~

The offsite Basin OS2 is the basin that will be created north east of the proposed development by the construction of Harvest road. Currently this basin flows to the existing low point where the flows pond and then continue to flow west into the property located north of the proposed site. With the proposed development of Harvest

Road a culvert is proposed in the same location of the existing low point to carry these flows under the road. The existing flows will continue to flow west from this culvert, as they currently do.

b. Coordination with Surrounding Developments

There are no current developments next to or adjacent to the project site. The proposed drainage design will provide for all current flows to continue in the same manner and the flows will end up in the same ultimate release point as before the site development.

c. Detention Ponding/ Water Quality & Maintenance Responsibilities

Detention and Water Quality ponds are proposed on site to provide water quality and detention for this project site. The proposed ponds will be private and shall be maintained privately.

2. Specific Details

a. Basin Discussion

The proposed site consists of Basins A, B, C, and D.

Basin A consists of all on-site drainage area tributary to the onsite water quality and detention Pond A. Runoff from Basin A will be routed to Storm Systems A1 and A2 via swales and/or curb & gutter. Basin A proposed inlets internal to the project site. Storm Sewer System A1 and A2 outfall to Pond A.

Basin A7 consists of the back of the proposed lots and is located along the northern property line on the northwest corner of the site. As the proposed topography of the basin ties into the existing property line grades the elevation of this basin is set too low to be captured in the proposed ponds. The proposed ditch along the north of the site will continue to flow west in the general direction of the site pattern and the flows from this ditch will be conveyed in the proposed culvert directly into the Coal Creek. This is the portion of the site that produce flows that can not be included in the water quality pond, due to the fact that the proposed collection ditch will be lower than in elevation.

Basin B consists of all on-site drainage area tributary to the onsite water quality and detention Pond B. Runoff from Basin B will be routed to Storm System B1 via swales and/or curb & gutter to proposed inlets internal to the project site. Storm Sewer System B1 outfalls to Pond B.

Basin C consists of all on-site drainage area tributary to Coal Creek. These areas cannot be captured for conveyance to either pond, and are comprised of the back halves of SFR lots and open space.

Basins OS are representative of the offsite basins and are included as part of the calculations pertinent to the design of the proposed Harvest Road

Water quality must be provided for all of Harvest Road (including drainage areas HOS1 and HOS2). The 100-yr may pass through.



The proposed storm sewer system will be sized to capture and convey the 2-year storm event. The overall storm conveyance system will be sized for the 100-year storm event. Total basin runoff is shown in the following table provided here.

Basin Runoff Calculations - Direct Runoff												
										Project No.:	1002-95	
										4-Jun-21		
Basin ID	Total Area (Ac.)	Imp (%)	Tc (min)	Runoff Coeff.								
				C <sub>2</sub>	C <sub>5</sub>	C <sub>100</sub>	I <sub>2</sub>	I <sub>5</sub>	I <sub>100</sub>	Q <sub>2</sub>	Q <sub>100</sub>	
Developed												
A1	2.66	34%	16.9	0.37	0.41	0.52	2.10	2.96	5.72	2.08	7.86	
A2	1.89	37%	17.3	0.36	0.40	0.53	2.08	2.93	5.66	1.42	5.73	
A3	0.51	57%	9.5	0.52	0.56	0.67	2.71	3.82	7.38	0.72	2.53	
A4	1.20	56%	11.8	0.51	0.55	0.66	2.48	3.49	6.76	1.53	5.39	
A5	1.21	56%	12.4	0.51	0.55	0.66	2.42	3.41	6.60	1.50	5.31	
A6	3.16	57%	18.1	0.53	0.56	0.67	2.03	2.86	5.53	3.39	11.72	
A7	1.86	36%	17.8	0.37	0.41	0.55	2.05	2.88	5.58	1.40	5.66	
A8	2.10	55%	16.3	0.50	0.54	0.65	2.14	3.01	5.82	2.25	7.92	
A9	2.62	53%	14.0	0.48	0.52	0.64	2.30	3.24	6.27	2.91	10.51	
A10	2.55	52%	13.8	0.48	0.51	0.63	2.31	3.25	6.30	2.81	10.10	
A11	0.66	56%	9.7	0.52	0.55	0.66	2.68	3.77	7.30	0.93	3.18	
A12	2.47	52%	13.1	0.48	0.52	0.63	2.37	3.34	6.46	2.82	10.07	
A13	0.79	65%	7.2	0.60	0.63	0.70	2.98	4.20	8.13	1.43	4.54	
A14	1.96	28%	11.9	0.33	0.35	0.42	2.47	3.48	6.73	1.61	5.59	
B1	13.42	31%	16.4	0.35	0.37	0.51	2.13	3.00	5.81	9.96	39.77	
B2	3.84	54%	14.5	0.50	0.53	0.65	2.26	3.18	6.16	4.31	15.43	
B3	2.90	59%	13.8	0.54	0.58	0.68	2.32	3.26	6.31	3.65	12.40	
B4	2.0						3.37		6.53	1.30	4.94	
C1	15.2						3.37		6.53	3.71	20.21	
C2	0.4						4.68		9.06	0.35	1.34	
OS1	9.1						3.09		5.98	4.89	16.08	
OS2	39.3										48.38	
Pond A	27.2										72.87	
Pond B	34.2						2.71	5.24	22.46		84.28	
Discussion has been added to section D.2.a of the report.												
HA	48.94	4%	57.4	0.23	0.25	0.32	1.02	1.44	2.78	17.23	42.99	
HC	12.57	2%	18.1	0.17	0.18	0.22	2.15	3.03	5.00	0.75	18.47	
HOS1	9.18	2%	15.4	0.15	0.16	0.20	2.19	3.09	5.98	4.54	10.98	
HOS2	39.38	2%	18.8	0.15	0.16	0.20	1.99	2.80	5.42	17.65	42.68	
Intensity = $\frac{28.5}{(10 + T_c)^{0.786}}$										2 Year P <sub>1</sub> =	0.98	inches
										5 Year P <sub>1</sub> =	1.38	inches
										100 Year P <sub>1</sub> =	2.67	inches

Basin C boundary shifts north due to construction of Street J. The shift incorporates more area comprised of type C soil. The resultant increase in imperviousness increases runoff flowrates. In the most current design, difference in flows in approximately 2.7 cfs.

Discussion has been added to section D.2.a of the report.

Flows to the creek are greater in proposed. Please address this.



b. TOD / Urban Center Development Interception of Downstream Runoff

Not applicable.

Describe design criteria of the basins.

c. Detention Pond Location and Outfall

Text has been added.

The detention for this project is provided by two full-spectrum detention ponds. Pond A is located in the southwestern corner of the site and collects all A basins. Pond B is located along the southern property line in the central portion of the site. Pond B collects all B basins. Both ponds are proposed to empty into the Coal Creek located along the property.

Discuss how the emergency overflow depths were calculated

d. Emergency Overflow Paths

The emergency overflows are proposed to be located at the detention ponds. The emergency overflow shall be located at the Coal Creek located along the property and shall be set at the peak developed flow seen in each pond. The emergency overflow is proposed to be set above the 100 year detention volume WSE. Due to the elevations of the site the proposed emergency spillways are proposed within the first foot of the freeboard above the calculated detention volume. The ponds still will provide a foot of freeboard over the WSE of the emergency spillway all around the site. City of Aurora SDDTC.

Text has been added to the report to refer to hydraulic calcs for emergency overflow paths included in Appendix B.

e. Solutions to Problems Encountered

Not applicable.

This variance is not granted. Please provide the required freeboard.

f. Proposed Permanent BMPs

The proposed on-site ponds, located in the southwest corner and along the southern portion of the site, will provide permanent water quality treatment as an extended detention basin with a target 40-hour drain time per the MHFD-Detention spreadsheet.

This variance request is withdrawn.

g. Phasing of Construction and Provisions for Drainage

The proposed improvements will all be constructed in one phase.

h. Open Channel Concepts

The existing creek within the southern property of the site shall remain untouched and will continue to flow in its current pattern and direction. All proposed work north of the creek will be designed to drain into the proposed storm detention ponds

This statement is not true because basins A7 and C1 do not drain to the ponds.

i. Stabilization Requirements for Roadside Ditches

Not applicable.

j. Compliance with Approved Outfall Systems Plan

As the site is located inside the Coal Creek, Basin C1 is the on-site portion of existing Coal Creek.

Basin A7 will be mitigated by a Low Tailwater Basin designed to conform to USDCM 9.3.2.2 (volume 2). Report text has been updated.

- k. Additional Information  
Not applicable.

State street flow depth criteria. Calculations will be required with the Final Drainage Report.

Discussion of street flow calcs has been added. Final depths will be provided with the FDR.

## E. Conclusions

### 1. Compliance with Standards

This Preliminary Drainage Report is in conformance with *City of Aurora Storm Drainage Design and Technical Criteria* and *Urban Drainage and Flood Control District Storm Drainage Criteria Manuals*.

### 2. Summary of Concept

#### a. Degree of Protection to Existing Site

This site is designed to emulate historic conditions in phase. Runoff from this site generally sheet flows to the Creek drainageway. Runoff from the site will continue to empty into the same drainageway as it does currently. The proposed detention ponds will be sized to capture developed runoff from the entire site and release the flows at their historic rates or allowable release rates per City of Aurora criteria, whichever is less.

with the exception of the variances described in A.2.C

Text has been added.

#### b. Measures Taken to Provide Adequate On-site Drainage and Water Quality

All on-site developed basins, except basin A7 as d previously, will be routed to the proposed detention ponds for quality treatment and detention to historic rates. The proposed ponds are sized to accept runoff from all onsite basins to allow for further development of the site.

and C1

Text has been added.

#### c. Effect of Proposed Development

The proposed site drainage patterns are in conformance with the existing topography and surrounding developments. There is no expected negative impact to the surrounding developments or Coal Creek.

Compare existing and proposed flows reaching the property to the west (1950 Chambers Rd) and the Creek just downstream of Detention Pond A's outfall

Comparison of flows will be discussed in the next submittal. Coordination with the Aug 2020 FHZ is ongoing.

## F. List of References

- ◆ *City of Aurora Storm Drainage Design and Technical Criteria*, City of Aurora, October 11, 2010
- ◆ *Urban Drainage and Flood Control District (UDFCD) Urban Storm Drainage Criteria Manual (USDCM)*, Volumes 1, 2, & 3, current version<sup>1</sup>
- ◆ *National Resources Conservation Service (NRCS) Web Soil Survey*, United States Department of Agriculture, site visited May 25, 2021
- ◆ *Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM)*, Community-Panel Number 08005C0204K, effective December 17, 2010
- ◆ *Sand Creek (Colfax to Yale) Major Drainageway Plan*, prepared by Matrix Design Group, Inc. and dated August, 2012<sup>3</sup>



Include nearby developments (such as Murphy Creek Estates south of Cole Creek) and their COA Engineering Approval Number

References section  
has been updated.

---

<sup>1</sup> Urban Drainage and Flood Control District is now known as Mile High Flood District; *UDFCD Urban Storm Drainage Criteria Manual* has not yet been updated to reflect this change.

## Storage Volume Calculations (Type C & D soils)

Project: Waterstone  
Note: Pond A

Date: 6/1/2021  
By: CWS

### Site Information:

Area: 27.25 acre  
Percent Impervious: 47 %

10-Yr Release Rate: 0.30 cfs/ac  
100-Yr Release Rate: 1.00 cfs/ac  
 $Q_{10A}$ : 8.18 cfs       $Q_{100A}$ : 27.25 cfs

Water Quality:       $WQCV = a (0.91i^3 - 1.19i^2 + .78i) * 1.2$       20% increase in vol for sedimentation

a: 1 (based on drain time)  
I: 0.470 Percent Impervious

WQCV: 0.238 watershed in.  
WQCV: 0.540 ac-ft  
WQCV: 23,527 cf

EURV:       $EURV = 1.20I^{1.08}$   
  
I: 0.470  
EURV: 0.531 watershed in.  
EURV: 1.206 ac-ft  
EURV: 52,519 cf

Use MHFD  
Detention Basin  
Design Worksheet  
for final design.

100 Year Detention:  $V_{100} = K_{100}A$   
  
 $K_{100} = (1.78I - 0.002I^2 - 3.56) / 900$   
  
I: 47  
 $K_{100}$ : 0.084  
  
 $V_{100}$ : 2.291 ac-ft  
 $V_{100}$ : 99,817 cf  
 $V_{100} + 1/2 \text{ EURV}$ : 126,077 cf  
 $V_{100} + 1/2 \text{ EURV}$ : 2.894 ac-ft

City of Aurora requires this  
method for 100-year detention  
volume calcs. MHFD Worksheet  
will be used for final design of  
outlet structure.

## Storage Volume Calculations (Type C & D soils)

Project: Waterstone F4  
Note: Pond B

Date: 6/1/2021  
By: CWS

### Site Information:

Area: 34.26 acre  
Percent Impervious: 25 %

10-Yr Release Rate: 0.30 cfs/ac  
100-Yr Release Rate: 1.00 cfs/ac  
 $Q_{10A}$ : 10.28 cfs       $Q_{100A}$ : 34.26 cfs

Water Quality:       $WQCV = a (0.91i^3 - 1.19i^2 + .78i) * 1.2$       20% increase in vol for sedimentation

a: 1 (based on drain time)  
I: 0.250 Percent Impervious

WQCV: 0.162 watershed in.  
WQCV: 0.462 ac-ft  
WQCV: 20,124 cf

EURV:       $EURV = 1.20I^{1.08}$   
  
I: 0.250  
EURV: 0.269 watershed in.  
EURV: 0.767 ac-ft  
EURV: 33,393 cf

Use MHFD  
Detention Basin  
Design Worksheet  
for final design.

100 Year Detention:  $V_{100} = K_{100}A$

$$K_{100} = (1.78I - 0.002I^2 - 3.56) / 900$$

I: 25  
 $K_{100}$ : 0.044

$V_{100}$ : 1.511 ac-ft  
 $V_{100}$ : 65,813 cf  
 $V_{100} + 1/2 \text{ EURV}$ : 82,510 cf  
 $V_{100} + 1/2 \text{ EURV}$ : 1.894 ac-ft

City of Aurora requires this  
method for 100-year detention  
volume calcs. MHFD Worksheet  
will be used for final design of  
outlet structure.

## APPENDIX C

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### Referenced Information

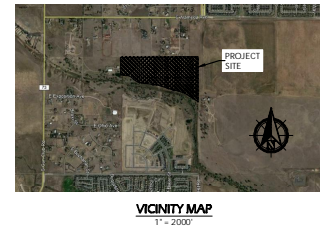
Include FAA map with approx. project location identified to show if special drain time requirements are necessary.

Annotated FAA map has been added to appendix C.

LEGEND	
	Property Line
	Right of Way Line
	Centerline
	Easement Line
	Lot Line
	Site Line
	Sight Distance Line
	100-VR W.S.E.
	Retaining Wall
	Hydrologic Soil Group
	Delineation
	Drainage Basin Delineation
	Prop. Asphalt Pavement
	Prop. Asphalt Mill & Overlay
	Prop. Concrete Pavement
	Prop. Concrete Walk
	Ex. Concrete Walk
	Ex. Asphalt Pavement
	Sight Distance Area
	Enhanced Driveway Concrete
	Enhanced Walk Section
	Subsidence Area
	Sanitary Sewer Line
	Water Line
	Storm Sewer Line
	Solid Underdrain & Cleanout
	Sanitary Service Line
	Water Service Line
	Ex. Sanitary Line
	Ex. Water Line
	Ex. Storm Sewer Line
	Ex. Fiber Optic Line
	Ex. Underground Electric
	Ex. Gas Line
	Ex. Underground Cable TV
	Ex. Underground Telephone
	Sanitary Sewer Manhole
	Fire Hydrant
	Thrust Block
	Water Valve
	Water Meter
	Storm Manhole
	Ex. Sanitary Sewer Manhole
	Ex. Water Valve
	Ex. Fire Hydrant
	Ex. Storm Manhole
	Ex. Street Light
	Prop. Street Light
	Stop Sign
	Proposed Major Contour
	Proposed Minor Contour
	Existing Major Contour
	Existing Minor Contour

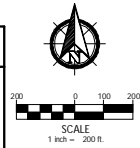


Calculated Historic Runoff Rates				
Basin ID	Total Area (Ac.)	Tc (min)	Peak Flow (cfs)	
HA	48.94	57.4	17.23	42.99
HC	12.37	18.1	6.73	16.41
HOS1	9.16	15.4	4.54	10.98
HOS2	39.38	18.8	17.65	42.68



CITY OF AURORA PLAN REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH CITY OF AURORA DESIGN CRITERIA AND THE CITY CODE. THE CITY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN OF DIMENSIONS AND ELEVATIONS WHICH SHALL BE CONFIRMED AND CORRELATED AT THE JOB SITE. THE CITY OF AURORA THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

Approved For One Year From This Date	
City Engineer	Date
Water Department	Date



12071 Noyen Street, Suite 670  
Westminster, CO 80234  
303.421.4224  
www.innovativelandinc.com

Rev.	Exc. Date	Revision Type
1		
2		
3		
4		
5		
6		

Date: June 4, 2021  
 Sheet: 1 of 2  
 Job No.: 1009.95  
 Vert. Scale: N/A  
 Designed By: XHL  
 Prepared By: CWS  
 Approved By: TRH

Waterstone Filing No. 4  
City of Aurora, Colorado  
Drainage Plan  
Historic Drainage

NOT FOR CONSTRUCTION

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

Sheet: 1





12071 Noyen Street, Suite 100  
Westminster, CO 80234  
303.421.4224  
www.innovativeland.com

Rev.	Rev. Date	Revision Type
1		
2		
3		
4		
5		
6		

Drawn By: XHL  
Designed By: CWS  
Prepared By: CWS  
Checked By: JBN  
Date: June 4, 2021  
Sheet: 2 of 2  
Job No.: 1000-95  
Ver. Scale: N/A

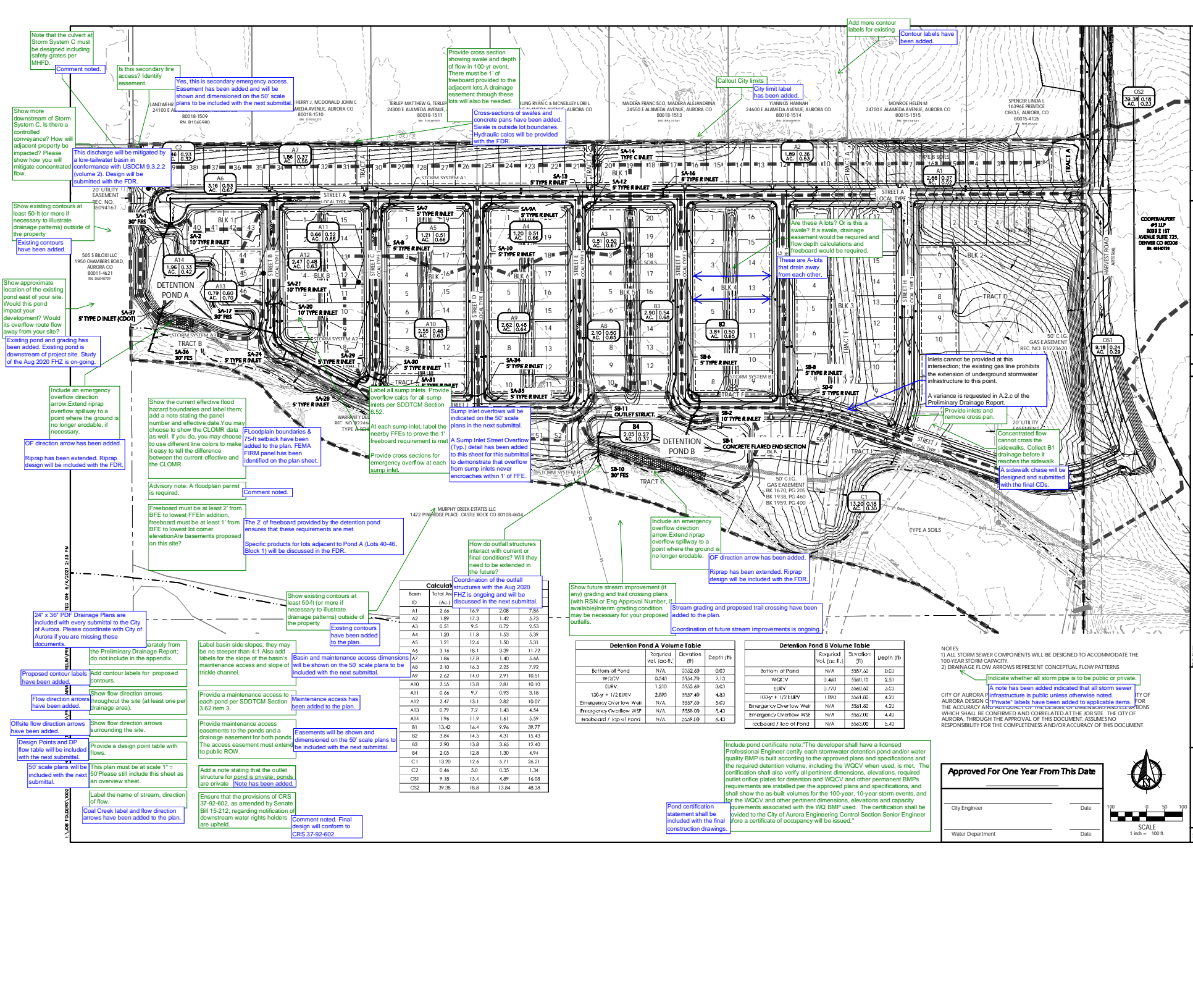
Waterstone Filing No. 4  
City of Aurora, Colorado  
Drainage Plan  
Preliminary Drainage Plan

NOT FOR CONSTRUCTION

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

100 0 50 100  
SCALE  
1 inch = 100 ft.

Sheet: 2





# WATERSTONE - FILING NO. 4

A PARCEL OF LAND LOCATED IN THE EAST HALF OF SECTION 18, TOWNSHIP 4 SOUTH, RANGE 65  
WEST OF THE SIXTH PRINCIPAL MERIDIAN; CITY OF AURORA, COUNTY OF ARAPAHOE, STATE OF COLORADO  
COVER SHEET ( 00 OF 25)

## SIGNATURE BLOCK

### Waterstone Site Plan

#### LEGAL DESCRIPTION:

A PARCEL OF LAND LOCATED IN THE EAST HALF OF SECTION 18, TOWNSHIP 4 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN; CITY OF AURORA, COUNTY OF ARAPAHOE, STATE OF COLORADO; BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:  
BEGINNING AT THE NORTHEAST CORNER OF THE SOUTH HALF OF THE NORTHEAST QUARTER OF SAID SECTION 18, AS MONUMENTED BY A 3-1/4" ALUMINUM CAP, STAMPED PLS 36850, 2004, WHENCE THE EAST QUARTER CORNER OF SAID SECTION 18, AS MONUMENTED BY A 3-1/4" ALUMINUM CAP, STAMPED PLS 36850, 2004 BEARS S 00°12'27" E, A DISTANCE OF 1,325.70 FEET WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;  
THENCE ALONG THE EAST LINE OF THE SOUTH HALF OF THE NORTHEAST QUARTER OF SAID SECTION 18, S 00°12'27" E, A DISTANCE OF 1325.70 FEET TO THE EAST QUARTER CORNER OF SAID SECTION 18;  
THENCE ALONG THE EAST LINE OF THE SOUTHEAST QUARTER OF SAID SECTION 18, S 00°14'55" E, A DISTANCE OF 237.00 FEET;  
THENCE N 36°29'11" W, A DISTANCE OF 84.53 FEET;  
THENCE N 58°15'00" W, A DISTANCE OF 480.00 FEET;  
THENCE N 73°00'00" W, A DISTANCE OF 195.00 FEET;  
THENCE N 79°00'00" W, A DISTANCE OF 220.00 FEET;  
THENCE N 69°15'00" W, A DISTANCE OF 360.00 FEET;  
THENCE N 74°45'00" W, A DISTANCE OF 225.00 FEET;  
THENCE S 70°00'00" W, A DISTANCE OF 30.00 FEET;  
THENCE N 82°00'00" W, A DISTANCE OF 495.00 FEET TO A POINT ON A CURVE;  
THENCE ALONG THE ARC OF A NON-TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 520.00 FEET, A CENTRAL ANGLE OF 46°49'41" AND AN ARC LENGTH OF 425.00 FEET, THE CHORD OF WHICH BEARS N 59°45'05" W, A DISTANCE OF 413.27 FEET TO A POINT ON A CURVE;  
THENCE ALONG THE ARC OF A NON-TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 320.00 FEET, A CENTRAL ANGLE OF 34°01'10" AND AN ARC LENGTH OF 190.00 FEET, THE CHORD OF WHICH BEARS N 69°59'25" W, A DISTANCE OF 187.22 FEET;  
THENCE N 87°00'00" W, A DISTANCE OF 190.00 FEET TO THE WEST LINE OF THE SOUTH HALF OF THE NORTHEAST QUARTER OF SECTION 18;  
THENCE ALONG THE WEST LINE OF THE SOUTH HALF OF THE NORTHEAST QUARTER OF SAID SECTION 18, N 00°27'39" W a distance of 601.38 FEET TO THE NORTHWEST CORNER OF THE SOUTH HALF OF THE NORTHEAST QUARTER OF SECTION 18;  
THENCE ALONG THE NORTH LINE OF THE SOUTH HALF OF THE NORTHEAST QUARTER OF SAID SECTION 18, N 89°41'33" E, A DISTANCE OF 2654.68 FEET TO THE POINT OF BEGINNING;

THIS SITE PLAN AND ANY AMENDMENTS HERETO, UPON APPROVAL BY THE CITY OF AURORA AND RECORDING, SHALL BE BINDING UPON THE APPLICANTS THEREFORE, THEIR SUCCESSORS AND ASSIGNS. THIS PLAN SHALL LIMIT AND CONTROL THE ISSUANCE AND VALIDITY OF ALL BUILDING PERMITS, AND SHALL RESTRICT AND LIMIT THE CONSTRUCTION, LOCATION, USE, OCCUPANCY AND OPERATION OF ALL LAND AND STRUCTURES WITHIN THIS PLAN TO ALL CONDITIONS, REQUIREMENTS, LOCATIONS AND LIMITATIONS SET FORTH HEREIN. ABANDONMENT, WITHDRAWAL OR AMENDMENT OR THIS PLAN MAY BE PERMITTED ONLY UPON APPROVAL OF THE CITY OF AURORA.

IN WITNESS THEREOF, HARVEST AND JEWELL, LLC HAS CAUSED THESE PRESENTS TO BE EXECUTED THIS

\_\_\_\_ DAY OF \_\_\_\_\_ AD. \_\_\_\_\_.

BY: \_\_\_\_\_.

(PRINCIPALS OR OWNERS)

CORPORATE SEAL

STATE OF COLORADO )SS

COUNTY OF )SS

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS \_\_\_\_ DAY OF \_\_\_\_\_ AD,

BY \_\_\_\_\_.

(PRINCIPALS OR OWNERS)

WITNESS MY HAND AND OFFICIAL SEAL

\_\_\_\_\_  
(NOTARY PUBLIC)

NOTARY SEAL

MY COMMISSION EXPIRES: \_\_\_\_\_ NOTARY BUSINESS ADDRESS: \_\_\_\_\_

LANDSCAPE SHEETS NOT FOR CONSTRUCTION

## TECHNICAL DATA

### CLASSIFICATION

R-2 (Medium Density Residential)

### LAND AREA WITHIN PROPERTY LINES

61.5 Acres

### NUMBER OF LOTS (BUILDINGS)

175 Single Family Dwellings

### TOTAL LOT AREA

22.75 AC (991,069 SF)

### LOT SIZE

MIN. 50' x 104'

### PARKS REQUIRED

1 NAC & 1 Pocket Park

### PARKS PROVIDED

1 NAC & 1 Pocket Park

### REQUIRED NUMBER OF SIGNS

1 - Monument Location Per FDP

### PROPOSED NUMBER OF SIGNS

2 - Primary and Secondary

### PARKING REQUIRED

(2 Spaces per Dwelling Unit)

Space per 5 Dwelling Units

### PARKING PROVIDED

Spaces in Garage/Driveway

Provide a site "Data Block" that reflects the following:

Number of buildings, square footage of each building and the gross square footage of all buildings on site.  
IRC Construction Type of structure(s).  
Indicate if structures are fire sprinkled or non-fire sprinkled. (Note: This information is needed to determine the number of fire hydrants required to support this site.)  
Maximum Building Height.

## CITY OF AURORA APPROVALS

PLANNING DIRECTOR: \_\_\_\_\_ DATE: \_\_\_\_\_

PLANNING COMMISSION: \_\_\_\_\_ DATE: \_\_\_\_\_

(CHAIRPERSON)

CITY COUNCIL: \_\_\_\_\_

(MAYOR)

CITY ATTORNEY: \_\_\_\_\_

(ATTORNEY)

ATTEST: \_\_\_\_\_

(CITY CLERK)

DATABASE APPROVAL DATE: \_\_\_\_\_

Will this site be phased? If so, provide a phasing plan. A phasing plan must be provided with the Planning Departments site plan and Public Works Departments civil plan submittal. The phasing plan must illustrate each phase and provide a narrative that describes how the phasing will implement the required two points of access and a looped water supply at all times during the phased construction. Also, make sure to incorporate COA Water and Public Works phasing requirements into the phasing plan.

Will this site be gated? If this site is a gated then the installation of any gating system will require a City of Aurora licensed contractor to obtain a building permit through the Aurora Building Division prior to the start of any work. This would be considered a structural, life safety and electrical review within the Building Division that is conducted on behalf of the Fire Chief. If gated, provide sections for the automatic and manual gates.

## RECORDER'S CERTIFICATE

ACCEPTED FOR FILING IN THE OFFICE OF THE CLERK AND RECORDER OF \_\_\_\_\_

COLORADO AT \_\_\_\_ O'CLOCK \_\_\_\_ M, THIS \_\_\_\_ DAY OF \_\_\_\_\_ AD, \_\_\_\_\_.

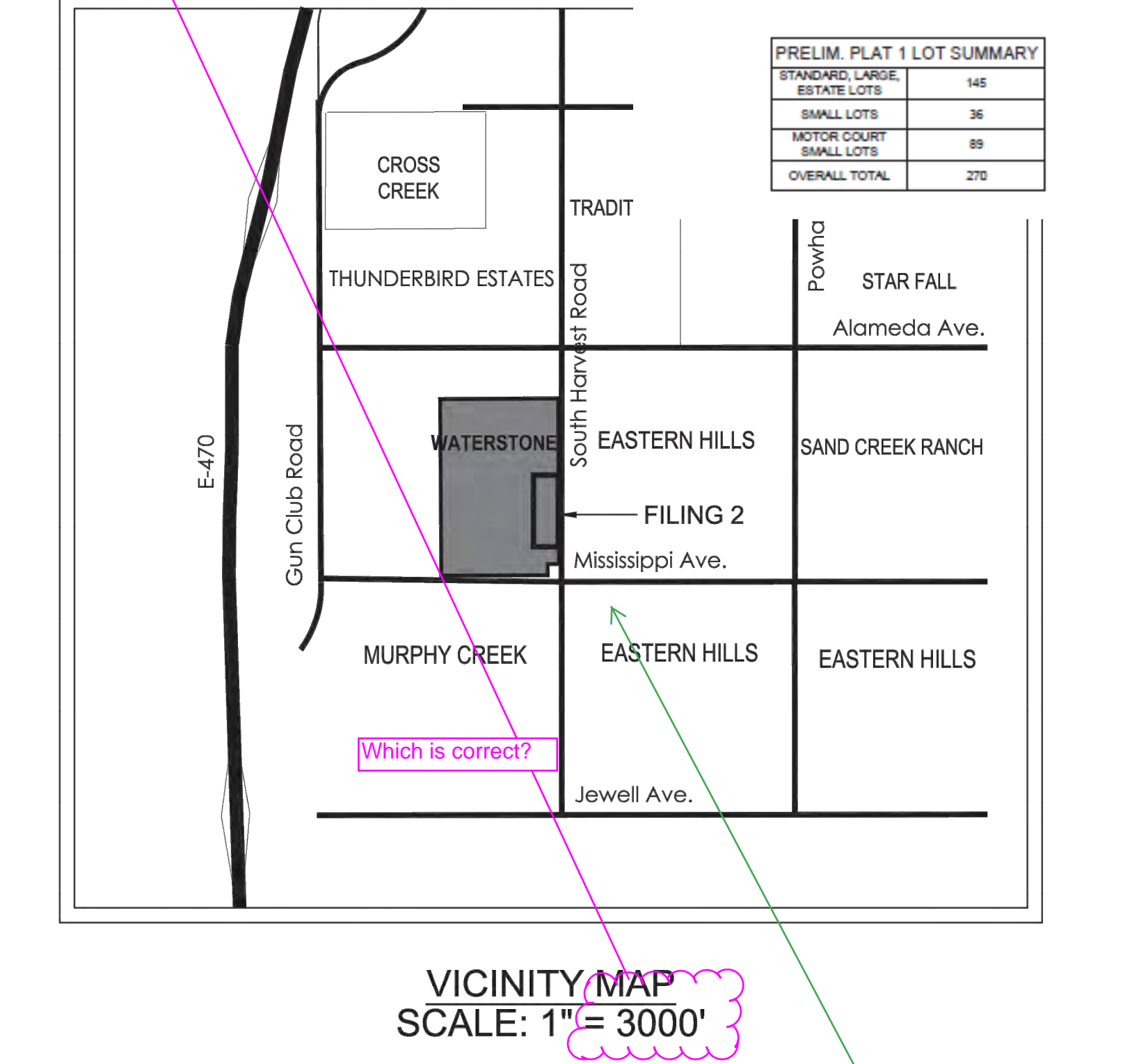
CLERK AND RECORDER: \_\_\_\_\_ DEPUTY: \_\_\_\_\_

The site plan will not be approved by public works until the preliminary drainage letter/report is approved

Add  
-permitted density  
-proposed density  
-acreages of parks  
-since NACs no longer exist, label as private park

VICINITY MAP

Scale: 1" = 2,000'



VICINITY MAP  
SCALE: 1" = 3000'

Reduce area of map to only include streets within 1/2 mile of the site

DATA TABLE	
LAND AREA WITHIN PROPERTY LINES	61.676 AC
NUMBER OF UNITS PROPOSED	270
NUMBER OF BUILDINGS PROPOSED	270
CONSTRUCTION TYPE (I-B)	
OCCUPANCY CLASS (R-3)	
NUMBER OF STORIES	1-3
MAXIMUM HEIGHT OF BUILDINGS	38'-0"
HARD SURFACE AREA	1,192 AC
OPEN SPACE	8,379 AC
LANDSCAPE AREA	12,100 AC
PHASED NATIVE GRASS (IF APPLICABLE)	N/A
PRESENT ZONING CLASSIFICATION	R-2 SUBAREA C, RESIDENTIAL
PERMITTED MAXIMUM SIGN AREA	36,500 SF, 8.5' MAX HEIGHT / 2 PER ENTRANCE
PROPOSED SIGN TYPE AND SQ. FT.	NEIGHBORHOOD DISTRICT IDENTIFICATION
PARKING SPACES REQUIRED	2 PER UNIT
PARKING SPACES PROVIDED	2 PER UNIT
GARAGE/DRIVEWAYS PROVIDED	N/A
HANDICAP SPACES REQUIRED	N/A
HANDICAP SPACES PROVIDED	N/A
LOT AREA	36,000 AC
TRACT AREA	3,888 AC
PUBLIC R.O.W. AREA	15,111 AC

PRELIM. PLAT 1 LOT SUMMARY	
STANDARD LARGE ESTATE LOTS	145
SMALL LOTS	36
MOTOR COURT SMALL LOTS	89
OVERALL TOTAL	270

OWNER / CLIENT  
RICHMOND AMERICAN HOMES  
4350 S. MONACO ST  
DENVER, CO 80237  
(303) 775-1100

ENGINEER  
INNOVATIVE LAND CONSULTANTS, INC.  
10000 E. 11TH AVE #100  
WESTMINSTER, CO 80204  
(303) 421-4224

SITE PLAN

WATERSTONE FILING NO. 4

Aurora, Colorado

ISSUE RECORD

SUBMITTAL #1	6/14/2021	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

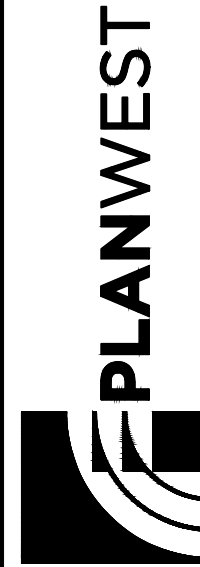
PROJECT INFORMATION

PROJECT #:	2020-17	_____	_____
DRAWN BY:	AH	_____	_____
CHECKED BY:	MK	_____	_____

COVER

0.00

01 OF 25



PLANNING  
SITE DESIGN  
ENTITLEMENTS  
LANDSCAPE ARCHITECTURE

767 Santa Fe Drive  
Denver, CO 80204  
303-741-1411  
planwest.com

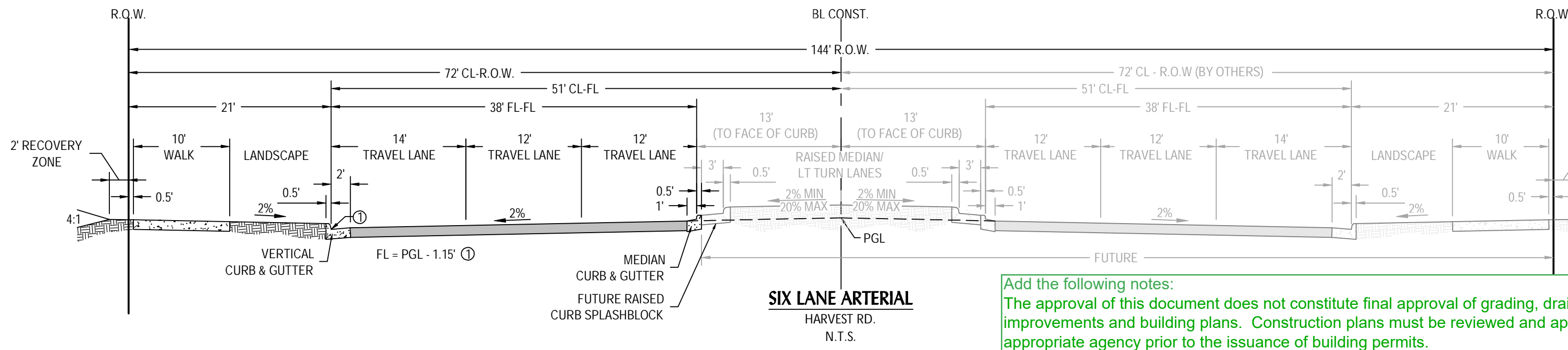
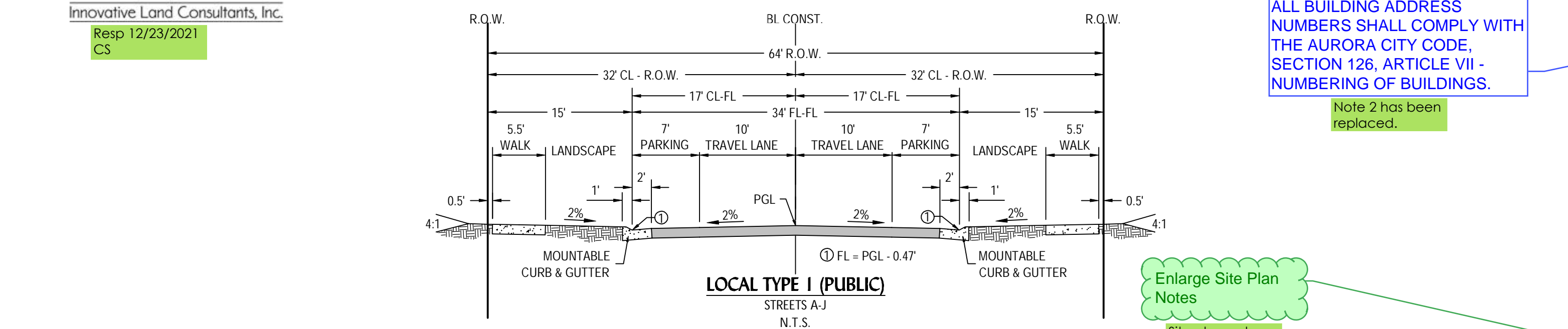


## GENERAL ABBREVIATIONS

A.E.	ACCESS EASEMENT
A.U.E.	ACCESS & UTILITY EASEMENT
BL CONST	BLOCK
CE	CURB EXTENSION
CL	CENTERLINE
CT	CURB TRANSITION
CWN	CROWN
DBO	DESIGN BY OTHERS
DC	MEDIAN CURB & MEDIAN
D.E.	DRAINAGE EASEMENT
D.U.E.	DRAINAGE & UTILITY EASEMENT
EOP	EDGE OF PAVEMENT
FES	FLARED END SECTION
FG	FINISHED GROUND AT BOTTOM WALL
FGT	FINISHED GROUND AT TOP WALL
FH	FIRE HYDRANT
FL	FLOWLINE
FV	FIELD VERIFY
G	FINISHED GROUND
G.E.	GAS EASEMENT
HP	HIGH POINT
LL	LOT LINE
LP	LOW POINT
LS	LANDSCAPE
MC	MOUNTABLE CURB & GUTTER
MH	MANHOLE
MSE	MECHANICALLY STABILIZED EARTH
P	PAVEMENT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCR	POINT OF CURB RETURN
PGL	PROFILE GRADE LINE
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
R.O.W.	RIGHT OF WAY
RN	RECORDING NUMBER
SB	SETBACK
S.E.	SANITARY EASEMENT
SEC	SECTION LINE
SL	SANITARY LINE
SS	SANITARY SERVICE
SW	SIDEWALK
SW.E.	SIDEWALK EASEMENT
TB	THRUST BLOCK
TC	TOP OF CURB
TOP	TOP OF FOUNDATION
TR.E.	TRAFFIC EASEMENT
U.E.	UTILITY EASEMENT
VC	VERTICAL CURB & GUTTER
W.E.	WATER EASEMENT
WL	WATER LINE
WS	WATER SERVICE
W.S.W.	WATER SURFACE ELEVATION
WV	WATER VALVE

## LEGEND

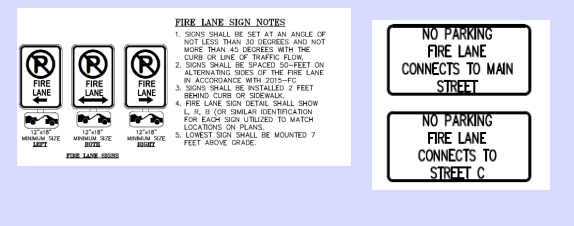
---	Property Line
---	Right of Way Line
---	Centerline
---	Easement Line
---	Lot Line
---	Site Line
---	Sight Distance Line
---	100-YR W.S.E.
---	Retaining Wall
---	Prop. Asphalt Pavement
---	Prop. Asphalt Mill & Overlay
---	Prop. Concrete Pavement
---	Prop. Concrete Walk
---	Ex. Concrete Walk
---	Ex. Asphalt Pavement
---	Sight Distance Area
---	Sanitary Sewer Line
---	Water Line
---	Storm Sewer Line
---	Ex. Sanitary Line
---	Ex. Water Line
---	Ex. Storm Sewer Line
---	Ex. Fiber Optic Line
---	Sanitary Service Line
---	Water Service Line
---	Sanitary Sewer Manhole
---	Fire Hydrant
---	Thrust Block
---	Water Valve
---	Storm Manhole
---	Ex. Sanitary Sewer Manhole
---	Ex. Water Valve
---	Ex. Fire Hydrant
---	Ex. Storm Manhole
---	Ex. Street Light
---	Prop. Street Light
---	Stop Sign
---	Proposed Major Contour
---	Proposed Minor Contour
---	Existing Major Contour
---	Existing Minor Contour



Provide a fire lane section. Fire lane must meet COA fire lane minimum requirements.

Fire lane section has been added.

"SIGNAGE AND STRIPING" package shall be included for approval with the Site Plan, and shall include fire lane and handicapped parking signs, sign details, handicapped parking stall details, and locations for all. Sign package shall include all signs as required by other City of Aurora departments. See example of fire lane signs.



Signing and striping have been added to the site plan.

Add a note stating that the park in Planning Area 2 must be fully constructed prior to the 100th Certificate of Occupancy in Planning Area 1.

Note has been added.

Replace note 2 with the following:  
ALL BUILDING ADDRESS NUMBERS SHALL COMPLY WITH THE AURORA CITY CODE SECTION 126, ARTICLE VII - NUMBERING OF BUILDINGS.

Note 2 has been replaced.

Enlarge Site Plan Notes

Site plan notes have been enlarged.

Add the following notes:

The approval of this document does not constitute final approval of grading, drainage, utility, public improvements and building plans. Construction plans must be reviewed and approved by the appropriate agency prior to the issuance of building permits.

In locations where utility easements overlap drainage easements, only subsurface utilities shall be permitted within the portion of the utility easement that overlaps the drainage easement. Installation of above ground utilities within a drainage easement requires prior written approval by the City Engineer

The streetlight or pedestrian light installation within the public right-of-way shall be designed, funded, and constructed by the developer/owner. Ownership and maintenance of the street/pedestrian lights shall be the responsibility of the City of Aurora once they have been accepted. Street light and/or pedestrian photometrics plans shall be prepared and submitted to the City for review and approval and shall become a part of the approved civil construction plans for the project. An electrical plan showing site location of lights, electrical one line and grounding details shall be submitting to the Permit Center for review by the Building Department. The owner is responsible for obtaining an address for the meter(s) from the Planning Department. A Building Permit for the meter and a Public Inspections Permit for the street lights are required. Certificate of occupancies will not be issued until the street and/or pedestrian lighting plans are approved, constructed, and initially accepted.

Notes have been added.

Note 7 has been removed.

Remove note 7.

## SITE PLAN NOTES:

- THE DEVELOPER, OWNER AND ASSIGNS ARE RESPONSIBLE FOR COMPLYING WITH THE FEDERALLY MANDATED REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA).
- ALL BUILDING ADDRESS NUMBERS SHALL COMPLY WITH CITY CODE OF THE CITY OF AURORA - VOLUME II - CHAPTER 136 - ARTICLE VII - SECTION 126-271 THROUGH 126-282.
- THE APPLICANT HAS THE OBLIGATION TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA).
- ACCESSIBLE EXTERIOR ROUTES SHALL BE PROVIDED FROM PUBLIC TRANSPORTATION STOPS, ACCESSIBLE PARKING AND ACCESSIBLE PASSENGER LOADING ZONES AND PUBLIC SIDEWALKS TO 60% OF THE ACCESSIBLE BUILDING ENTRANCE THEY SERVE. THE ACCESSIBLE ROUTE BETWEEN ACCESSIBLE PARKING AND ACCESSIBLE BUILDING ENTRANCES SHALL BE THE MOST PRACTICAL DIRECT ROUTE. THE ACCESSIBLE ROUTE MUST BE LOCATED WITHIN A SIDEWALK. NO SLOPE ALONG THIS ROUTE MAY EXCEED 1:20 WITHOUT PROVIDING A RAMP WITH A MAXIMUM SLOPE OF 1:12 AND HANDRAILS. CROSSWALKS ALONG THIS ROUTE SHALL BE WIDE ENOUGH TO WHOLLY CONTAIN THE CURB RAMP WITH A MINIMUM WIDTH OF 36' AND SHALL BE PAINTED WITH WHITE STRIPES. THE CITY OF AURORA ENFORCES HANDICAPPED ACCESSIBILITY REQUIREMENTS BASED ON THE 2015 INTERNATIONAL BUILDING CODE, CHAPTER 11, AND THE ICC A117.1-2009.
- EMERGENCY INGRESS AND EGRESS - RIGHT-OF-WAY FOR INGRESS AND EGRESS FOR SERVICE AND EMERGENCY VEHICLES IS GRANTED OVER, AND ACROSS, ON AND THROUGH ANY AND ALL PRIVATE ROADS AND WAYS NOW OR HEREAFTER ESTABLISHED ON THE DESCRIBED PROPERTY, AND THE SAME ARE HEREBY DESIGNATED AS "SERVICE/EMERGENCY AND UTILITY EASEMENTS" AND SHALL BE POSTED "NO PARKING - FIRE LANE". THE DEVELOPER, HIS SUCCESSORS AND ASSIGNS, INCLUDING THE HOMEOWNERS OR MERCHANTS ASSOCIATION SHALL BE RESPONSIBLE FOR INSTALLATION, MAINTENANCE AND REPLACEMENT OF ALL FIRE LANE SIGNS.
- THE 2015 INTERNATIONAL FIRE CODE, SECTION 510, REQUIRES ALL BUILDINGS TO BE ASSESSED FOR ADEQUATE EMERGENCY RESPONDER RADIO COVERAGE (ERRC). AT THE TIME THE STRUCTURE IS AT FINAL FRAME AND FINAL ELECTRICAL INSPECTIONS, THE GENERAL CONTRACTOR (GC) WILL BE REQUIRED TO HIRE AN APPROVED AND QUALIFIED INDEPENDENT 3RD PARTY TO ASSESS THE RADIO FREQUENCY LEVELS WITHIN THE STRUCTURE. ONCE COMPLETED, THE 3RD PARTY WILL PROVIDE THE RESULTS OF THE TEST TO BOTH THE GC AND THE AURORA BUILDING DIVISION AS TO WHETHER THE STRUCTURE PASSED OR FAILED THE PRELIMINARY RADIO SURVEILLANCE. A STRUCTURE THAT HAS PASSED THIS SURVEILLANCE REQUIRES NO FURTHER ACTION BY THE GC. A FAILED RADIO SURVEILLANCE WILL REQUIRE A LICENSED CONTRACTOR TO SUBMIT PLANS TO THE AURORA BUILDING DIVISION TO OBTAIN A BUILDING PERMIT FOR THE INSTALLATION OF AN ERRC SYSTEM PRIOR TO INSTALLATION. THIS ASSESSMENT AND INSTALLATION IS AT THE OWNER OR DEVELOPERS EXPENSE. FUTURE INTERIOR OR EXTERIOR MODIFICATIONS TO THE STRUCTURE AFTER THE ORIGINAL CERTIFICATE OF OCCUPANCY IS ISSUED WILL REQUIRE A REASSESSMENT FOR ADEQUATE RADIO FREQUENCY COVERAGE.
- THE SITE PLAN COVER SHEET MUST REFLECT AN "IMPLEMENTATION PLAN" FOR ALL MULTI-FAMILY PROJECTS, PER HOUSE BILL 03-1221, SECTION 9-5-106. THE BUILDER OF ANY PROJECT REGULATED BY THIS ARTICLE SHALL CREATE AN IMPLEMENTATION PLAN THAT GUARANTEES THE TIMELY AND EVENLY PHASED DELIVERY OF THE REQUIRED NUMBER OF ACCESSIBLE UNITS. SUCH PLAN SHALL CLEARLY SPECIFY THE NUMBER AND TYPE OF UNITS REQUIRED AND THE ORDER IN WHICH THEY ARE TO BE COMPLETED. SUCH IMPLEMENTATION PLAN SHALL BE SUBJECT TO APPROVAL BY THE ENTITY WITH ENFORCEMENT AUTHORITY IN SUCH PROJECTS JURISDICTION. THE IMPLEMENTATION PLAN SHALL NOT BE APPROVED IF MORE THAN THIRTY PERCENT OF THE PROJECT IS INTENDED TO BE COMPLETED WITHOUT PROVIDING A PORTION OF ACCESSIBLE UNITS REQUIRED BY SECTION 9-5-105 EXCEPT THAT, IF AN UNDUE HARDSHIP CAN BE DEMONSTRATED, OR OTHER GUARANTEES PROVIDED ARE DEEMED SUFFICIENT, THE JURISDICTION HAVING RESPONSIBILITY FOR ENFORCEMENT MAY GRANT EXCEPTIONS TO THIS REQUIREMENT. THE IMPLEMENTATION PLAN SHALL BE APPROVED BY THE GOVERNMENTAL UNIT RESPONSIBLE FOR ENFORCEMENT BEFORE A BUILDING PERMIT IS ISSUED.

Notes have been added.

Please work with planning to address missing standard notes.

Comment noted.

Add note:

"THE DEVELOPER IS RESPONSIBLE FOR SIGNING AND STRIPING ALL PUBLIC STREETS. THE DEVELOPER IS REQUIRED TO PLACE TRAFFIC CONTROL, STREET NAME, AND GUIDE SIGNS ON ALL PUBLIC STREETS AND PRIVATE STREETS APPROACHING AN INTERSECTION WITH A PUBLIC STREET. SIGNS SHALL BE FURNISHED AND INSTALLED PER THE MOST CURRENT EDITIONS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND CITY STANDARDS AND SHOWN ON THE SIGNING AND STRIPING PLAN FOR THE DEVELOPMENT"

Notes have been added.

## PROJECT BENCHMARK:

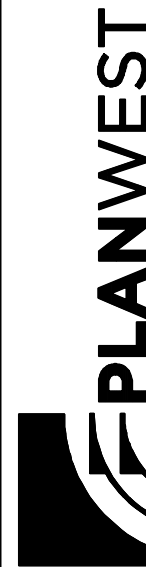
CITY OF AURORA BENCHMARK 4S6518SW001 (AKA M095) BEING A 3" BRASS CAP ATOP 30" STEEL PIPE IN CONCRETE LOCATE AT THE NORTH RIGHT OF WAY FENCE ON EAST MISSISSIPPI AVE. AT THE MOST NORTHERLY FENCE AT THE JOG IN FENCES AND IN THE VICINITY OF THE 1/4 LINE FOR SECTIONS 18 AND 19 TOWNSHIP 4 SOUTH, RANGE 65 WEST.

ELEVATION = 5603.652 (NAVD88)

TRACT SUMMARY					
	USE	OWNED	MAINT.	SQ. FT.	ACRES
TRACT A	OPEN SPACE	METRO DISTRICT	HOA	59,902	1.38
TRACT B	DETENTION	METRO DISTRICT	HOA	112,915	2.59
TRACT C	OPEN SPACE	METRO DISTRICT	HOA	104,833	2.41
TRACT D	OPEN SPACE	METRO DISTRICT	HOA	240,672	5.53
TRACT E	OPEN SPACE	METRO DISTRICT	HOA	39,575	0.91
TRACT F	OPEN SPACE	METRO DISTRICT	HOA	2,262	0.05
TRACT G	DETENTION	METRO DISTRICT	HOA	132,706	3.05
TRACT H	OPEN SPACE	METRO DISTRICT	HOA	1,763	0.04
TRACT I	OPEN SPACE	METRO DISTRICT	HOA	352,946	8.10
TRACT J	OPEN SPACE	METRO DISTRICT	HOA	5,365	0.12
TRACT K	OPEN SPACE	METRO DISTRICT	HOA	6,000	0.14
TOTAL AREA				1,058,940	24.31

Provide a lot typical that includes setbacks

Lot typical has been added.



PLANNING  
SITE DESIGN  
ENTITLEMENTS  
LANDSCAPE ARCHITECTURE

OWNER / CLIENT  
RICHMOND AMERICAN HOMES  
DENVER, CO 80202  
303.773.1100

ENGINEER

INNOVATIVE LAND CONSULTANTS, INC.  
12071 TECON STREET, SUITE 470  
DENVER, CO 80231  
303.421.4425

## SITE PLAN

## WATERSTONE FILING NO. 4

AURORA, CO

## ISSUE RECORD

SUBMITTAL # 1 6/3/21

## PROJECT INFORMATION

PROJECT #: 1002-05

ECM

TRH

DRAWN BY:

CHECKED BY:

## NOTES &amp; LEGEND

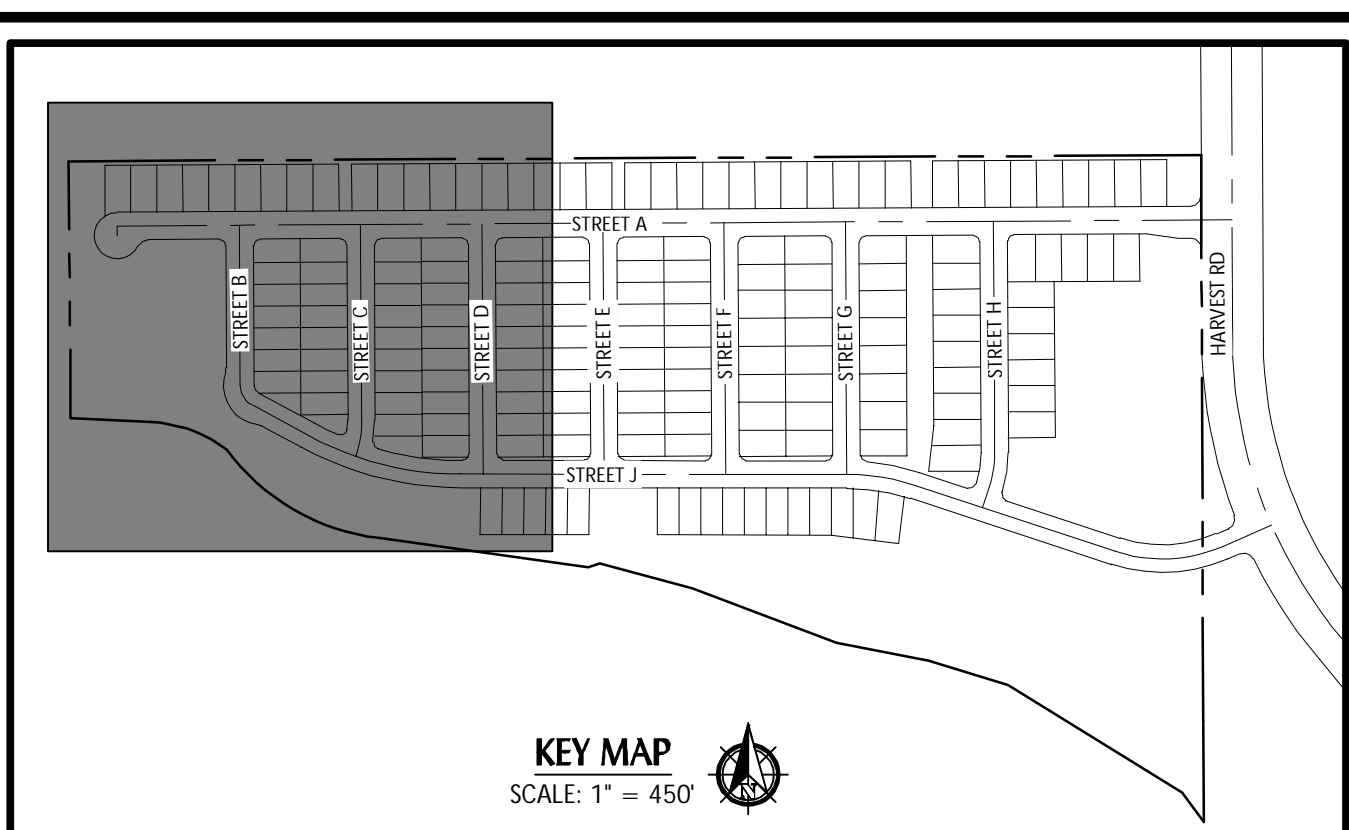
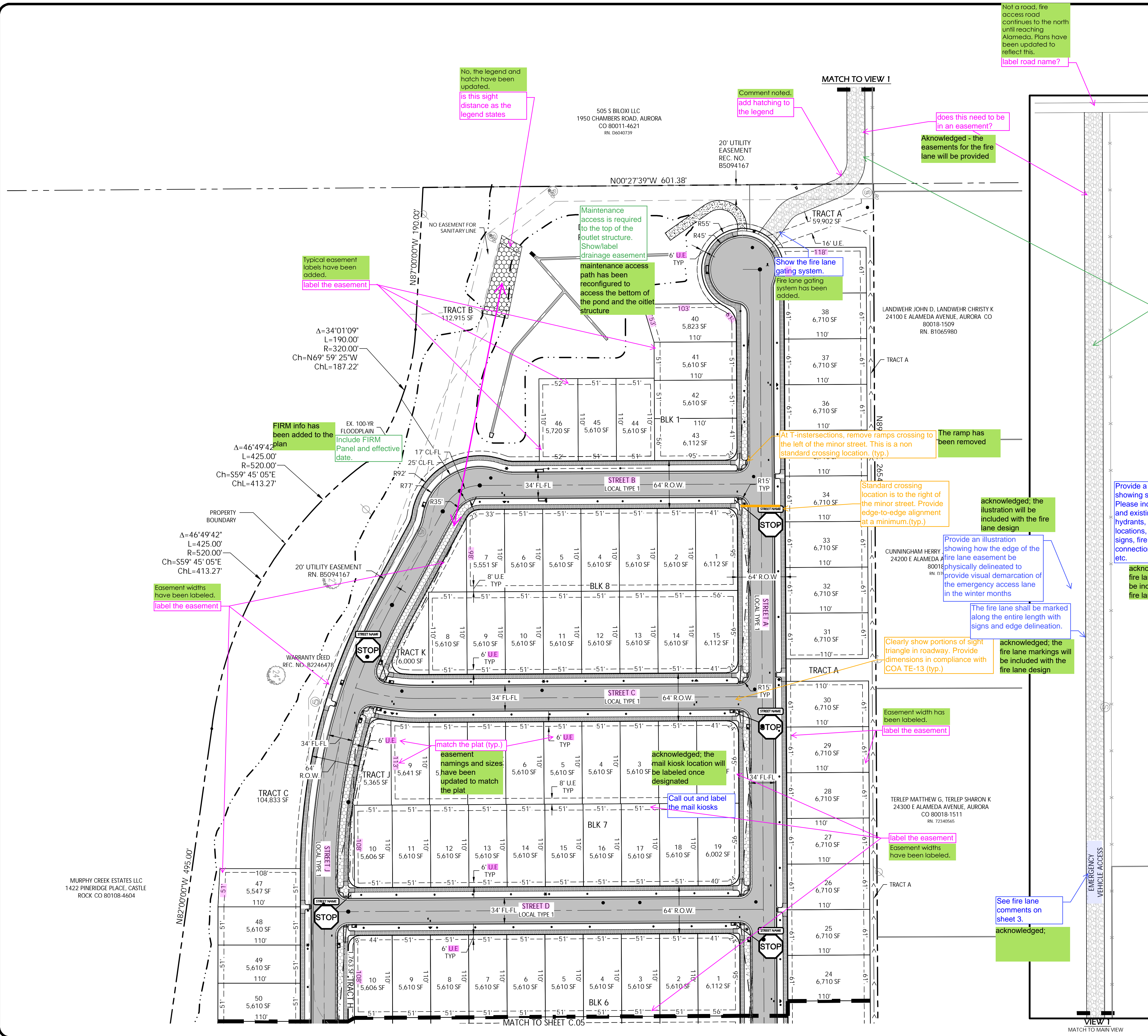
C.02

02 OF 25









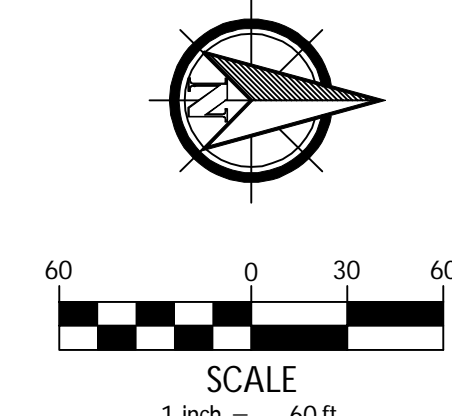
**SITE PLAN NOTES**

- SEE SHEET C.02 FOR LEGEND, TYPICAL STREET SECTIONS, GENERAL AND ABBREVIATIONS.
- SIGNS SHALL BE FURNISHED AND INSTALLED PER THE MOST CURRENT EDITIONS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND CITY STANDARDS, AND SHOWN ON THE SIGNING AND STRIPING PLAN FOR THE DEVELOPMENT.
- THE DEVELOPER IS RESPONSIBLE FOR SIGNING AND STRIPING ALL PUBLIC STREETS AND IS REQUIRED TO PLACE TRAFFIC CONTROL, STREET NAME, AND GUIDE SIGNS ON ALL PUBLIC STREETS AND PRIVATE STREETS APPROACHING AN INTERSECTION WITH A PUBLIC STREET.
- PEDESTRIAN CROSSING SIGNAGE SHALL INCLUDE RECTANGULAR RAPID FLASH BEACONS (RRFP).
- STREET LIGHT LOCATIONS ARE CONCEPTUAL. FINAL STREET LIGHT LOCATIONS SHALL BE DETERMINED BY PHOTOMETRIC ANALYSIS SUBMITTED WITH THE STREET LIGHTING PLANS IN THE CIVIL PLAN SUBMITTAL.

LAND SUMMARY			
	SO. FT.	ACRES	%
LOT AREA	1,084,971	24.91	40.5%
ROADWAY AREA	535,567	12.29	20.0%
OPEN SPACE AREA (TRACTS A - K)	1,058,940	24.31	39.5%
TOTAL AREA	2,679,478	61.51	100%
TOTAL LOTS		174	

TRACT SUMMARY					
	USE	OWNED	MAINT.	SO. FT.	ACRES
TRACT A	OPEN SPACE	METRO DISTRICT	HOA	59,902	1.38
TRACT B	DETENTION	METRO DISTRICT	HOA	112,915	2.59
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TOTAL AREA				1,058,940	24.31

**PROJECT BENCHMARK:**  
CITY OF AURORA BENCHMARK 4S6518SW001 (AKA M-095) BEING A 3" BRASS CAP ATOP 30" STEEL PIPE IN CONCRETE LOCATE AT THE NORTH RIGHT OF WAY FENCE ON EAST MISSISSIPPI AVE. AT THE MOST NORTHERLY FENCE AT THE JOG IN FENCES AND IN THE VICINITY OF THE 1/4 LINE FOR SECTIONS 18 AND 19 TOWNSHIP 4 SOUTH, RANGE 65 WEST.  
ELEVATION = 5603.652 (NAVD88)



757 Santa Fe Drive  
Denver, CO 80204  
303-741-1411  
planwest.com

OWNER / CLIENT

RICHMOND AMERICAN HOMES  
DENVER, CO 80040  
303-773-1100

ENGINEER

INNOVATIVE LAND CONSULTANTS, INC.  
12071 TECON STREET, SUITE 470  
DENVER, CO 80242  
303-421-4425

SITE PLAN

WATERSTONE FILING NO. 4

AURORA, CO

ISSUE RECORD

SUBMITTAL # 1 6/3/21

PROJECT INFORMATION

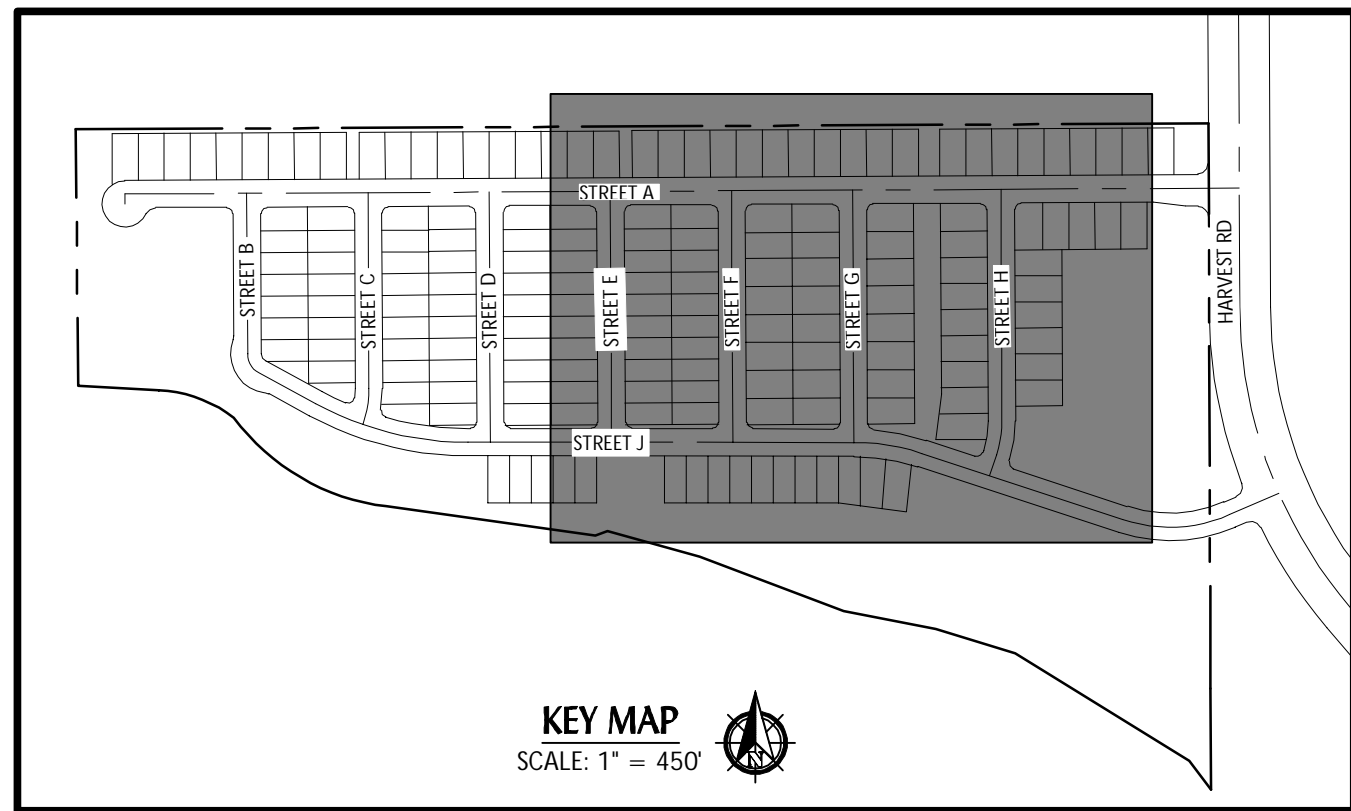
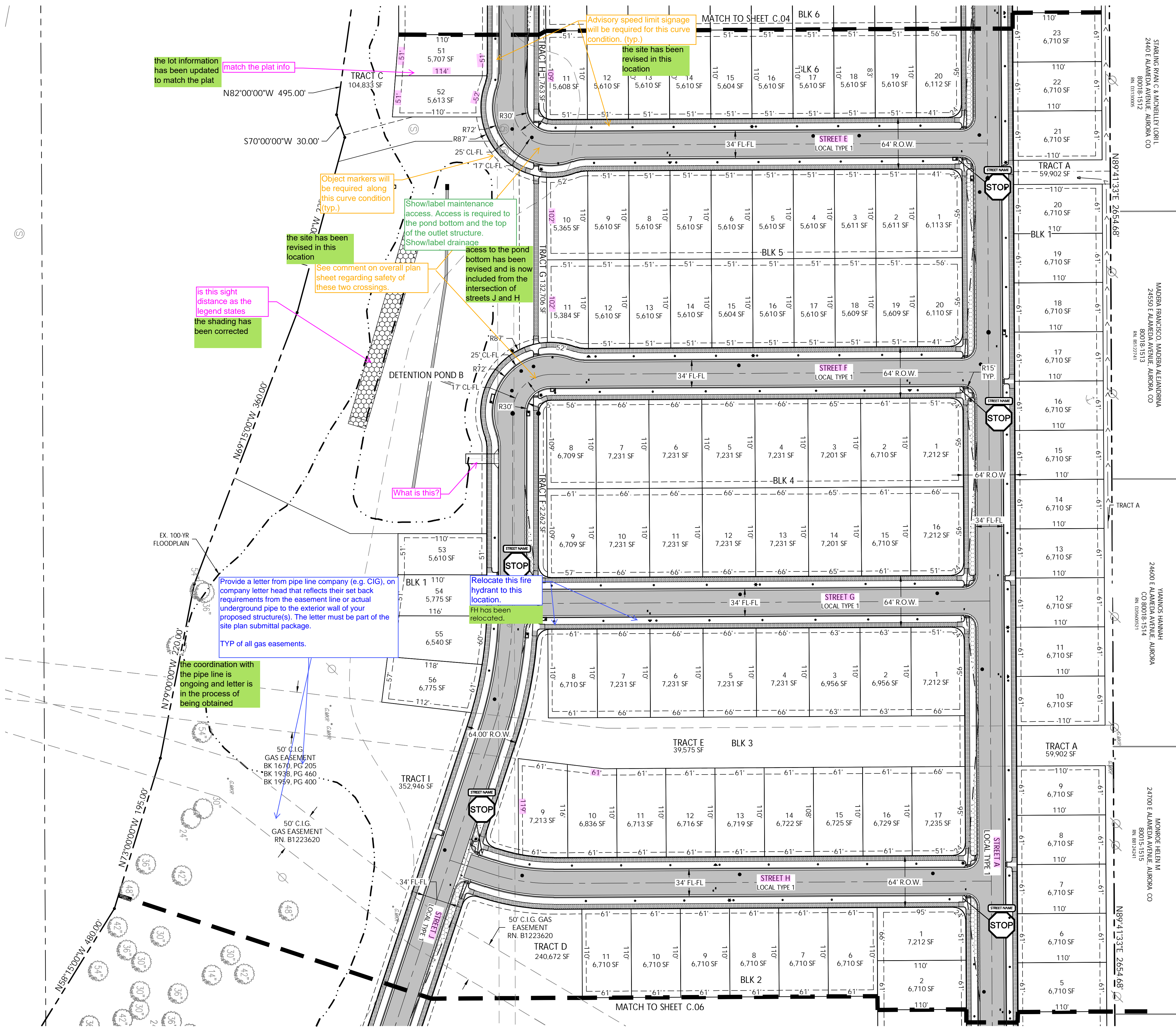
PROJECT #: 1002-95  
DRAWN BY: EOM  
CHECKED BY: TRH

SITE PLAN

C.04

04 OF 25





**SITE PLAN NOTES**

- SEE SHEET C.02 FOR LEGEND, TYPICAL STREET SECTIONS, GENERAL AND ABBREVIATIONS.
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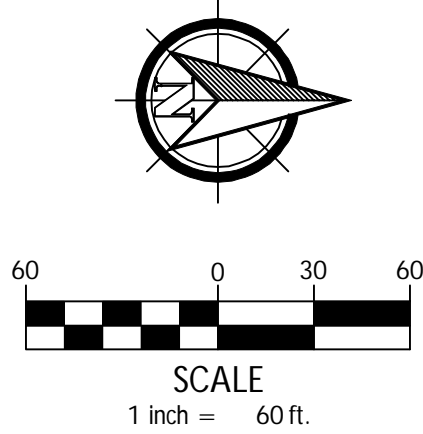
LAND SUMMARY			
	SQ. FT.	ACRES	%
LOT AREA	1,084,971	24.91	40.5%
ROADWAY AREA	535,567	12.29	20.0%
OPEN SPACE AREA (TRACTS A - K)	1,058,940	24.31	39.5%
TOTAL AREA	2,679,478	61.51	100%
TOTAL LOTS		174	

TRACT SUMMARY					
	USE	OWNED	MAINT.	SO. FT.	ACRES
TRACT A	OPEN SPACE	METRO DISTRICT	HOA	59,902	1.38
TRACT B	DETENTION	METRO DISTRICT	HOA	112,915	2.59
TRACT C	OPEN SPACE	METRO DISTRICT	HOA	104,833	2.41
TRACT D	OPEN SPACE	METRO DISTRICT	HOA	240,672	5.53
TRACT E	OPEN SPACE	METRO DISTRICT	HOA	39,575	0.91
TRACT F	OPEN SPACE	METRO DISTRICT	HOA	2,262	0.05
TRACT G	DETENTION	METRO DISTRICT	HOA	132,706	3.05
TRACT H	OPEN SPACE	METRO DISTRICT	HOA	1,763	0.04
TRACT I	OPEN SPACE	METRO DISTRICT	HOA	352,946	8.10
TRACT J	OPEN SPACE	METRO DISTRICT	HOA	5,365	0.12
TRACT K	OPEN SPACE	METRO DISTRICT	HOA	6,000	0.14
TOTAL AREA				1,058,940	24.31

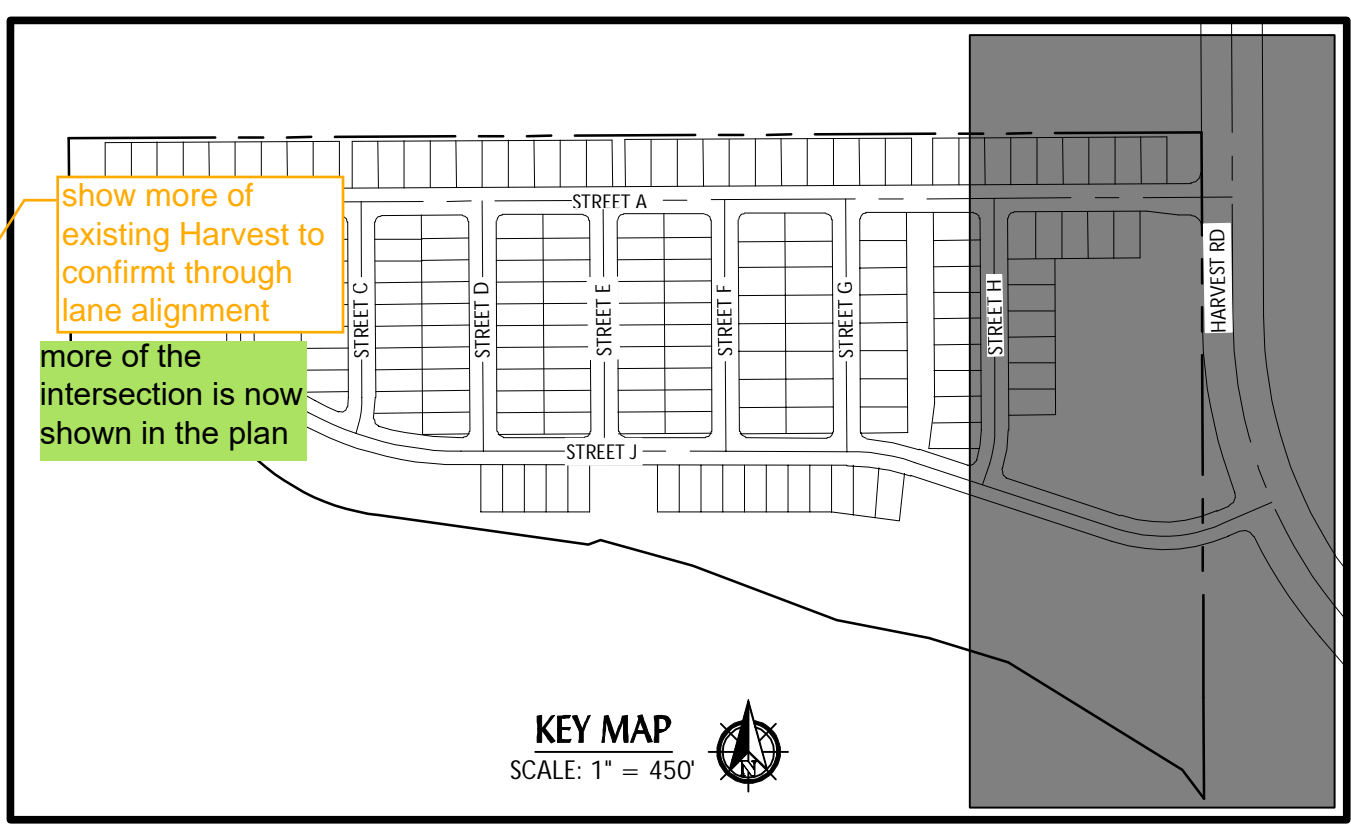
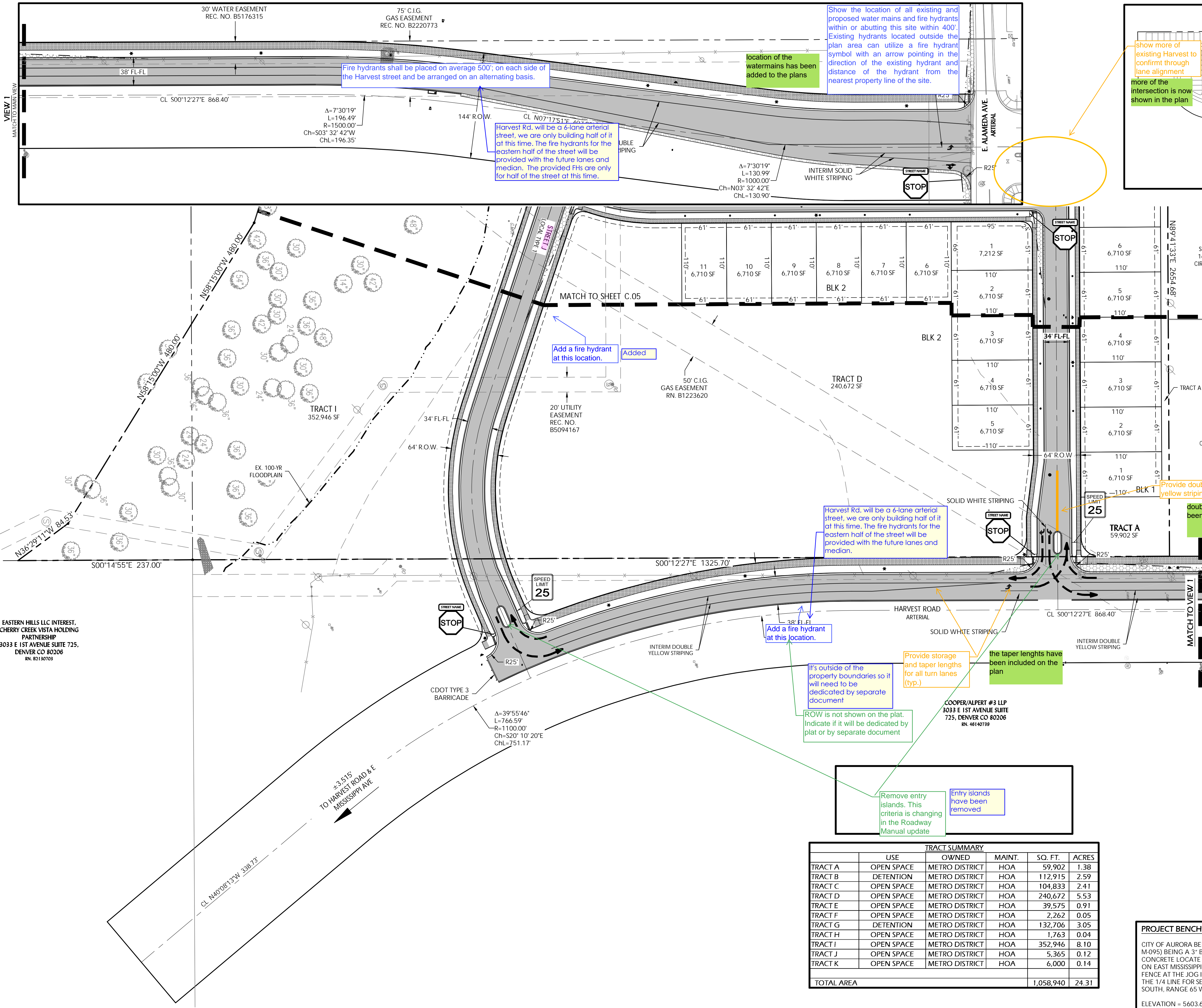
**PROJECT BENCHMARK:**

CITY OF AURORA BENCHMARK 456518SW001 (AKA M-095) BEING A 3" BRASS CAP ATOP 30" STEEL PIPE IN CONCRETE LOCATE AT THE NORTH RIGHT OF WAY FENCE ON EAST MISSISSIPPI AVE. AT THE MOST NORTHERLY FENCE AT THE JOG IN FENCES AND IN THE VICINITY OF THE 1/4 LINE FOR SECTIONS 18 AND 19 TOWNSHIP 4 SOUTH, RANGE 65 WEST.

ELEVATION = 5603.652 (NAVD88)



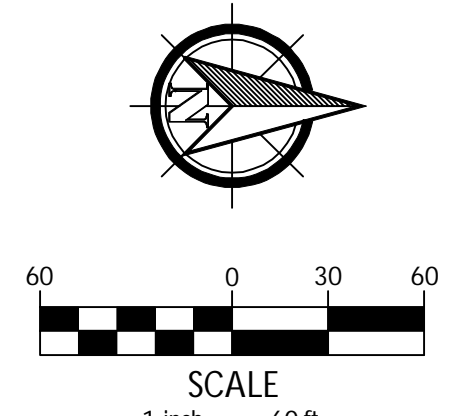




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TOTAL AREA				1,058,940	24.31

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ELEVATION = 5603.652 (NAVD88)



757 Santa Fe Drive  
Denver, CO 80204  
303-745-1411  
planwest.com

PLANNING  
SITE DESIGN  
ENTITLEMENTS  
LANDSCAPE ARCHITECTURE

OWNER / CLIENT  
RICHMOND AMERICAN HOMES  
16396 PRENTICE CIRCLE, AURORA, CO  
80015-4126  
RN 80145669

ENGINEER  
INNOVATIVE LAND CONSULTANTS, INC.  
12071 TECON STREET, SUITE 470  
DENVER, COLORADO 80224  
303-421-4225

SITE PLAN

**WATERSTONE FILING NO. 4**

AURORA, CO

ISSUE RECORD

SUBMITTAL # 1	6/3/21

PROJECT INFORMATION

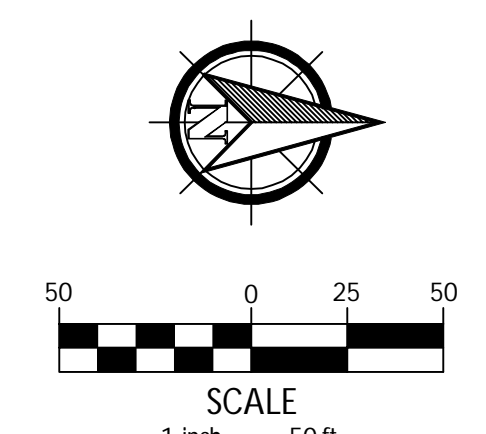
PROJECT #:	1002-95
DRAWN BY:	ECM
CHECKED BY:	TRH

SITE PLAN

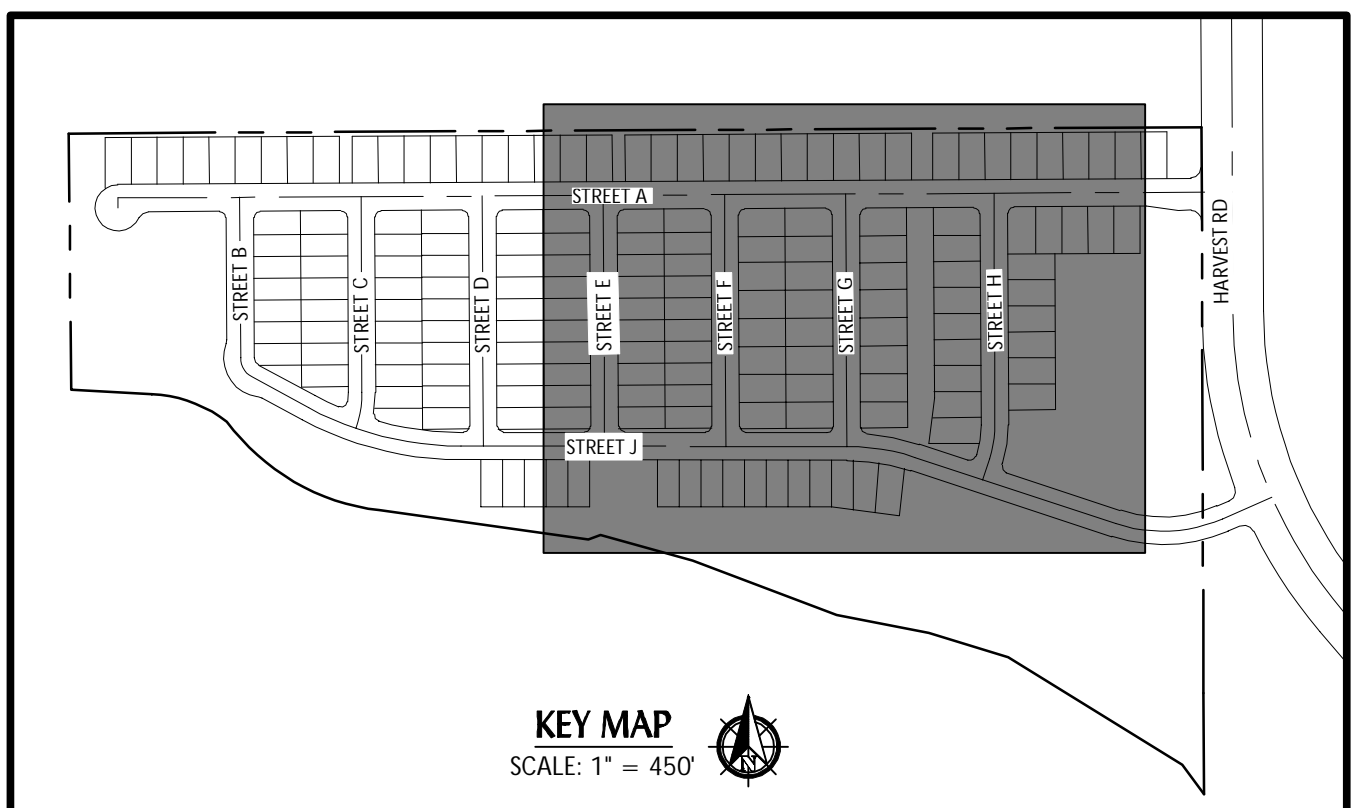
**C.06**

06 OF 25



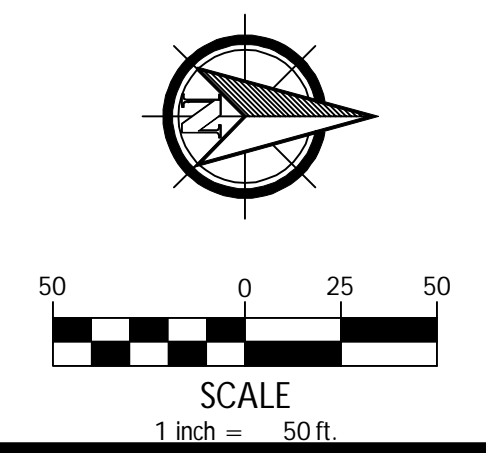






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CITY OF AURORA BENCHMARK 456518SW001 (AKA M-095) BEING A 3" BRASS CAP ATOP 30" STEEL PIPE IN CONCRETE LOCATE AT THE NORTH RIGHT OF WAY FENCE ON EAST MISSISSIPPI AVE. AT THE MOST NORTHERLY FENCE AT THE JOG IN FENCES AND IN THE VICINITY OF THE 1/4 LINE FOR SECTIONS 18 AND 19 TOWNSHIP 4 SOUTH, RANGE 65 WEST.  
ELEVATION = 5603.652 (NAVD88)



**SITE PLAN**

**WATERSTONE FILING NO. 4**

**AURORA, CO**

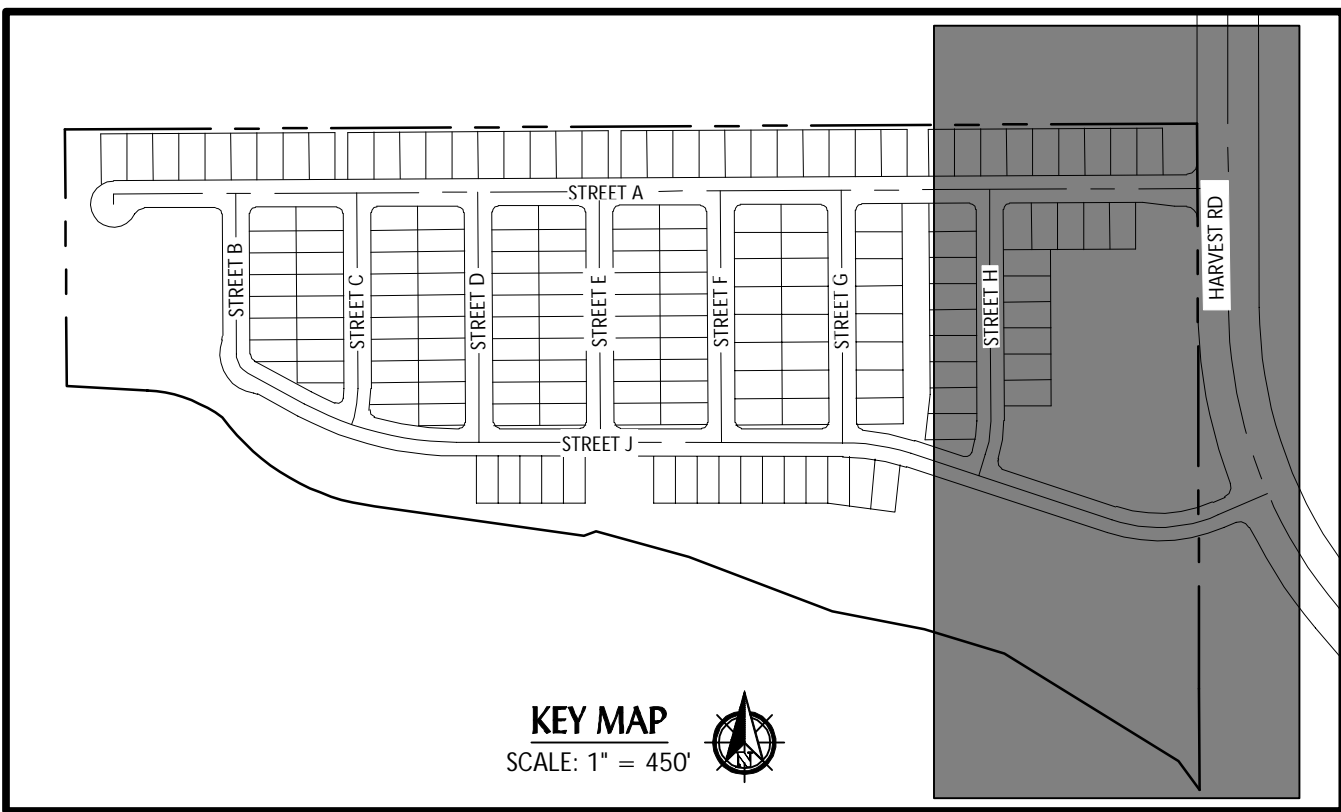
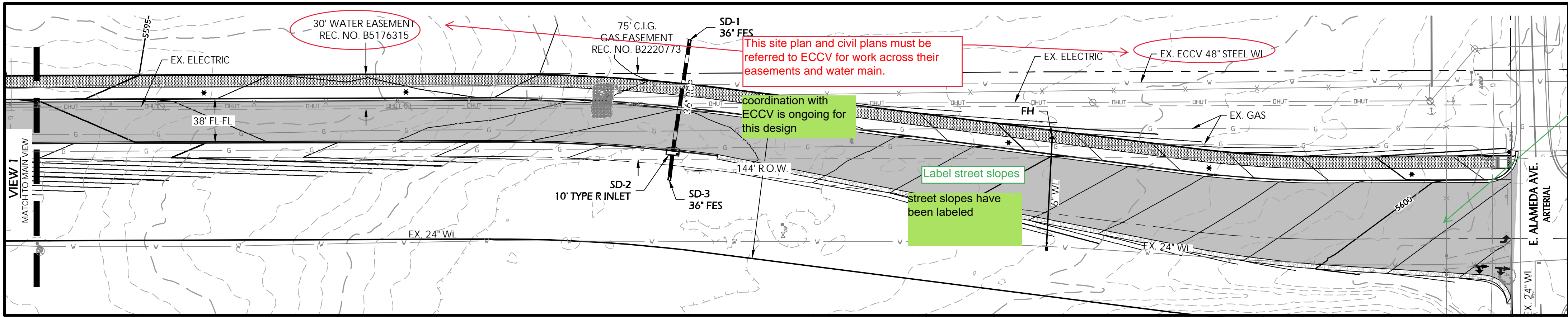
**ISSUE RECORD**

SUBMITTAL # 1	6/3/21

**PROJECT INFORMATION**

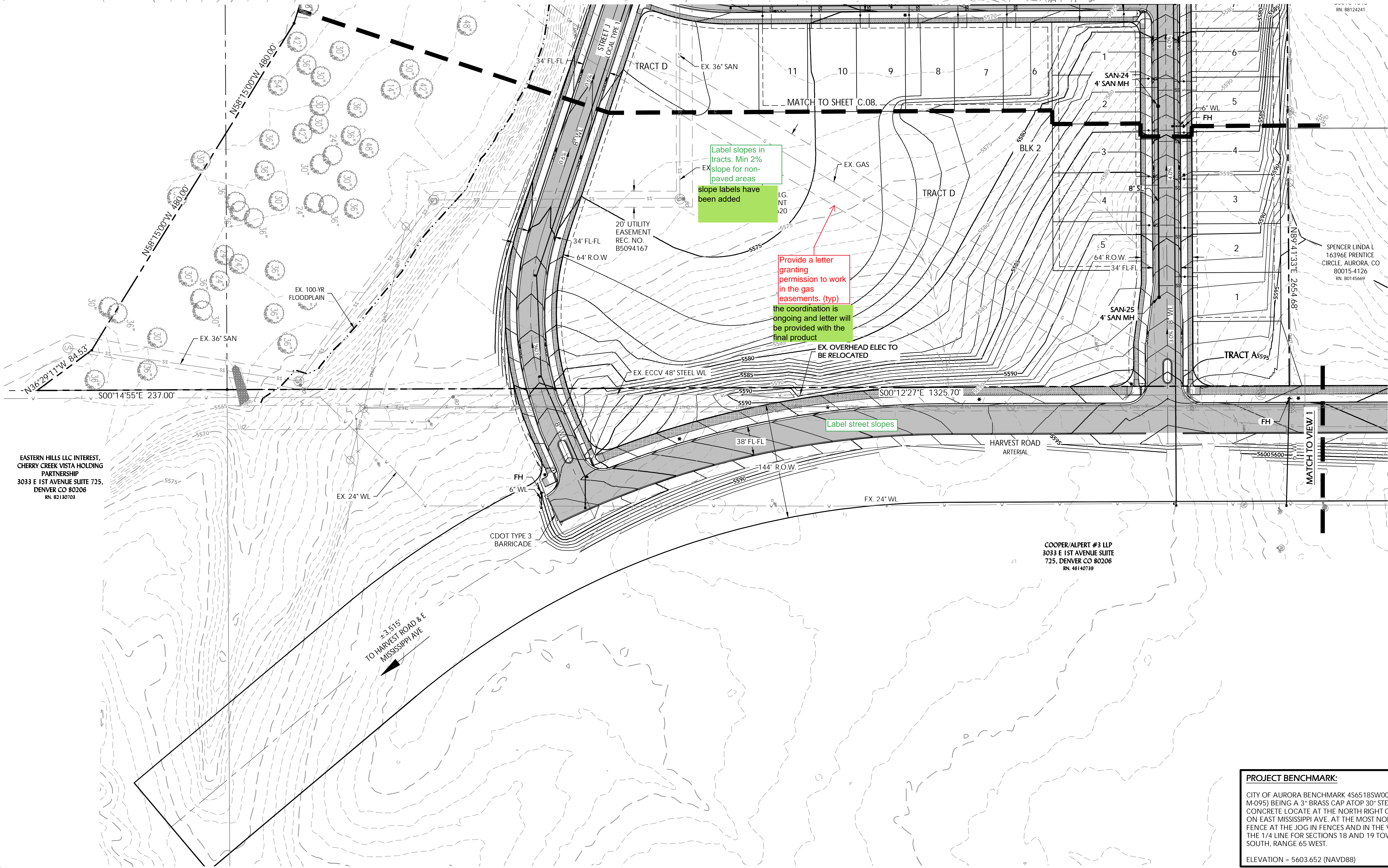
PROJECT #:	1002-95
DRAWN BY:	ECM
CHECKED BY:	TRH



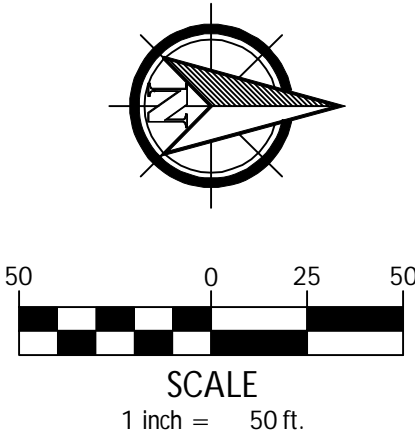


SITE PLAN NOTES

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ELEVATION = 5603.652 (NAVD88)



OWNER / CLIENT  
RICHMOND AMERICAN HOMES  
DENVER, CO 80206  
303.775.1100

SITE PLAN

ISSUE RECORD  
SUBMITTAL # 1  
6/3/21

PROJECT INFORMATION  
PROJECT #: 1002-95  
EOM  
TRH  
DRAWN BY:  
CHECKED BY:

GRADING & UTILITY PLAN

C.09

09

OF

25

PLANWEST

ENGINEER  
INNOVATIVE LAND CONSULTANTS, INC.  
12071 TEJON STREET, SUITE 470  
DENVER, CO 80224  
303.741.1411  
planwest.com

767 Santa Fe Drive  
Denver, CO 80204  
303-741-1411  
planwest.com

LANDSCAPE ARCHITECTURE







# WATERSTONE SUBDIVISION FILING NO. 4

SITUATED IN THE EAST HALF OF SECTION 18, TOWNSHIP 4 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN,  
CITY OF AURORA, COUNTY OF ARAPAHOE, STATE OF COLORADO.

Provide complete monument description (i.e., #6 Rebar with 3 1/4" Aluminum Cap stamped: "Aztec Consultants Inc. T4S R65W N 1/16 Sec 18 2004 PLS 6580")  
1.6.H. Basis of Bearings/Statements.  
2. Composition. The basis of bearing statement shall state the method used to derive the bearing (i.e., assumed, astronomic, geodetic, grid, reference to recorded or deposited survey, etc.) and the bearing between fully described monuments (i.e., monument material, diameter, length (if set), cap size and material, cap markings/stampings, etc.) at each end of a single line. When the monuments at each end of the reference line are fully described on the plat, they need only be referenced to in the "Basis of Bearings" statement. A land survey plat shall show the graphic and mathematical relationship between the basis of bearings and the survey.

Need to set at least 1 P.O.L. Monument 38-51-105. Monumentation of subdivisions.  
(c) Monuments shall be set no more than fourteen hundred feet apart along any straight boundary line, at all angle points, at the beginning, end, and points of change of direction or change of radius of any curved boundaries defined by circular arcs, and at the beginning and end of any spiral curve.

are these C.I.G. easement lines ending here? If not, extend the line north - and add label

lines make this appear to be a separate lot maybe label this as "Tract A"

label this C.I.G. easement

POINT OF BEGINNING  
NE COR. OF THE S 1/2 OF THE NE 1/4 OF SECTION 18, T4S, R65W, 6TH P.M., FOUND 3-1/4" ALUMINUM CAP STAMPED "PLS 20668 2006" FLUSH (REFERRED TO AS AN ALUMINUM CAP STAMPED "PLS 36850" IN THE TITLE COMMITMENT)

B-2 Item #22  
Show access to existing public road (see ALTA survey General Note #10)  
NW 1/4, SEC. 17, T.4S., R.65W., SIXTH P.M.

B-2 Item #22  
Show access to existing public road (see ALTA survey General Note #10)

B&D between E 1/4 & SE 1/4 corner of Section 18.

FOR REVIEW

FOR AND ON BEHALF OF  
AZTEC CONSULTANTS, INC.

DATE OF PREPARATION: 05-18-2021

SCALE: 1" = 100'

SHEET 4 OF 4

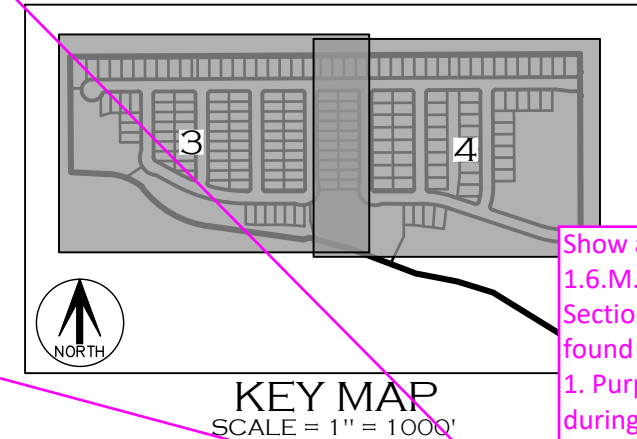
**AzTEC**  
CONSULTANTS, INC.  
300 East Mineral Ave., Suite 1  
Littleton, Colorado 80122  
Phone: (303) 713-1898  
Fax: (303) 713-1897  
www.aztecconsultants.com

AzTec Proj. No.: 21420-12 Drawn By: AMB

**DEVELOPER**  
**RICHMOND AMERICAN HOMES**  
4350 S. MONACO STREET  
DENVER, CO  
(720)-943-6475

**LEGEND**  
○ SET NO. 5 REBAR WITH 1-1/4" YELLOW PLASTIC CAP STAMPED "AZTEC LS 379333"  
● FOUND NO. 5 REBAR WITH 1-1/4" ORANGE PLASTIC CAP STAMPED "PLS 35585"  
◆ FOUND SECTION CORNER AS SHOWN HEREON

include abbreviations and line types in legend.  
Section lines  
Easement lines  
Subdivision boundary lines  
Lot lines, etc.



Show and fully describe control monument for East line of the SE/4.  
1.6.M. Description of Monuments.  
Section 38-51-106(1)(f), C.R.S., requires professional land surveyors to provide "a description of all monuments, both found or set, that mark the boundaries of the property and of all control monuments used in conducting a survey."  
1. Purpose. The purpose of this statute is to identify the physical attributes of the monuments and caps set or found during the original survey and subsequent retracement surveys.  
2. Acceptable description of monuments. Description of monuments found or set should include, but not be limited to the physical attributes and size of the monument, and the physical attributes and size of the cap.

Provide length of set monuments. (typical)  
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Section 38-51-106(1)(f), C.R.S., requires professional land surveyors to provide "a description of all monuments, both found or set, that mark the boundaries of the property and of all control monuments used in conducting a survey."  
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Move B&D to western side of the aliquot line

Move B&D to easterly side of subdivision

Found? what material of pipe? any other stamping on the cap?

are these easement lines ending here? If not, extend the line north - and add label

What are these lines?

NW COR. OF THE S 1/2 OF THE NORTHEAST 1/4 SEC. 18, T4S, R65W, 6TH P.M., 2-1/2" PIPE WITH A 2-1/2" BRASS CAP STAMPED "LS 9632 1986" FLUSH

NW 1/4, SEC. 18, T.4S., R.65W., SIXTH P.M.

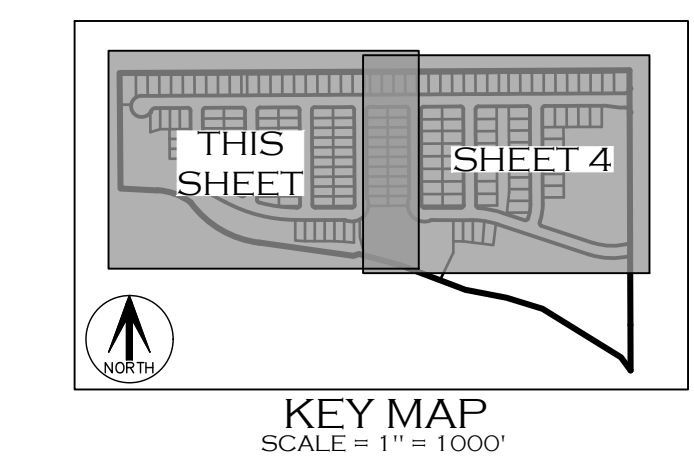
NW 1/4 COR. SEC. 18, T4S, R65W, 6TH P.M., 2-1/2" PIPE WITH A 2-1/2" BRASS CAP STAMPED "LS 9632 1986" FLUSH

add north arrow, but so close & ratio (typical)

Provide length of set monuments. (typical)  
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SITUATED IN THE EAST HALF OF SECTION 18, TOWNSHIP 4 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN,  
CITY OF AURORA, COUNTY OF ARAPAHOE, STATE OF COLORADO.



DATE OF PREPARATION:	05-18-2021
SCALE:	1" = 60'
S H E E T   3   O F   4	



# WATERSTONE SUBDIVISION FILING NO. 4

SITUATED IN THE EAST HALF OF SECTION 18, TOWNSHIP 4 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN,  
CITY OF AURORA, COUNTY OF ARAPAHOE, STATE OF COLORADO.

