



STUDY SESSION MEMORANDUM

TO: Mayor and Members of City Council

FROM: Jane S. Brautigam, City Manager
Jim Robertson, Director for Planning + Sustainability (P+S)
Charles Ferro, Development Review Manager / Interim Comprehensive Planning Manager (P+S)
Karl Guiler, Senior Planner/Code Amendment Specialist (P+S)
Andrew Collins, Planner II/Code Amendment Specialist (P+S)

DATE: September 25, 2018

SUBJECT: Addressing the construction of large homes on large lots within the Residential-Estate (RE) and Residential-Rural (RR) zoning districts and other code changes considerations

Executive Summary

Addressing the construction of large homes on large lots in the RE and RR zoning districts

The purpose of this memorandum is to conduct a scoping session with the City Council to receive feedback on addressing large homes being constructed within the Residential – Estate (RE) and Residential – Rural (RR) zoning districts that may be incompatible with the existing neighborhood character. Staff is requesting feedback on the proposed purpose statement for the project as well as:

- i. What incentives may be appropriate to encourage developers to preserve and build more modest-sized homes in scale with the existing neighborhoods;
- ii. What incentives may be appropriate to encourage owners to subdivide a large lot and build two smaller homes in character with the neighborhood (also increasing housing supply);
- iii. What disincentives may be appropriate to discourage the demolition of an existing home in order to construct an incompatible large home, and
- iv. If zoning adjustments should be made to further limit residential building size and other bulk standards within these zoning districts to foster more compatible infill development (see questions 1 through 5 on page 2).

Existing form, bulk and intensity standards comprise a suite of regulations including building coverage, floor area ratio, side yard bulk-plane, side wall length, setbacks, and building height – many of which were adopted through the Compatible Infill Development project in 2008/2009, which was ultimately adopted by City Council on Oct. 6, 2009 (see this [link](#)). These regulations could be amended, or new development tools could be created, such as incentives or disincentives, to encourage the desired building compatibility with the continued infill development of these neighborhoods.

Proposed Land Use Code Change list

Staff has also attached the latest land use code change list which includes all the top land use code changes and the priority and status of each. Staff shared this list with City Council at the January 2018 retreat and has since updated it based on feedback from the council at the retreat. This list can be found in **Attachment A**. Staff is seeking any updated feedback on this list (see question 6 below).

Questions For Council:

1. Does City Council agree with the draft *Why* and *Purpose* statements?
2. What are City Council's goals for this project?
 - a. Does Council want to encourage the infill redevelopment of large lots into two or more houses through allowed subdivisions, rather than infill redevelopment of a single larger home?
 - b. Does Council wish to take specific measures to prevent or discourage the construction of houses above a certain size, regardless of lot size or compatibility with the neighborhood?
3. Is the preservation of the existing housing stock a priority in these districts?
4. Should city staff analyze adjusting the size and bulk compatibility standards (such as Floor Area Ratio) for the RE and RR districts?
5. Should city staff analyze incentives for the preservation, and/or disincentives for the demolition of existing housing in the RE and RR districts?
6. Does City Council have any comments or questions on the Land Use Code Change list?

Background

In April 2008, the Boulder City Council began the process of creating new development regulations for single-family neighborhoods termed the Compatible Infill Development project. The study and regulations sought *"to address the impact on existing established neighborhoods of new construction and additions that are incompatible in scale and bulk with the character of the neighborhood."* On October 6, 2009, the Council adopted [Ordinance 7684](#), implementing new form, bulk and intensity regulations that limited the bulk, mass, and scale of new residential development in the RE (Residential Estate), RR (Rural Residential), RL (Low Density Residential), and RMX-1 (Mixed Residential – 1) zoning districts. For example, prior to 2009 the Floor Area Ratio (FAR) in the RL-1 districts was 0.8 FAR and the remaining districts had no FAR standards in place. With the adoption of the ordinance, new FAR regulations were implemented for each of the residential districts of between .62 to .25 FAR depending on lot size. New lot coverage and bulk plane restrictions were also put in place.

Since that time, development has continued with the demolition of existing modest-sized houses in the RE and RR zoning districts, replaced by larger homes that, while conforming to the compatible infill standards,

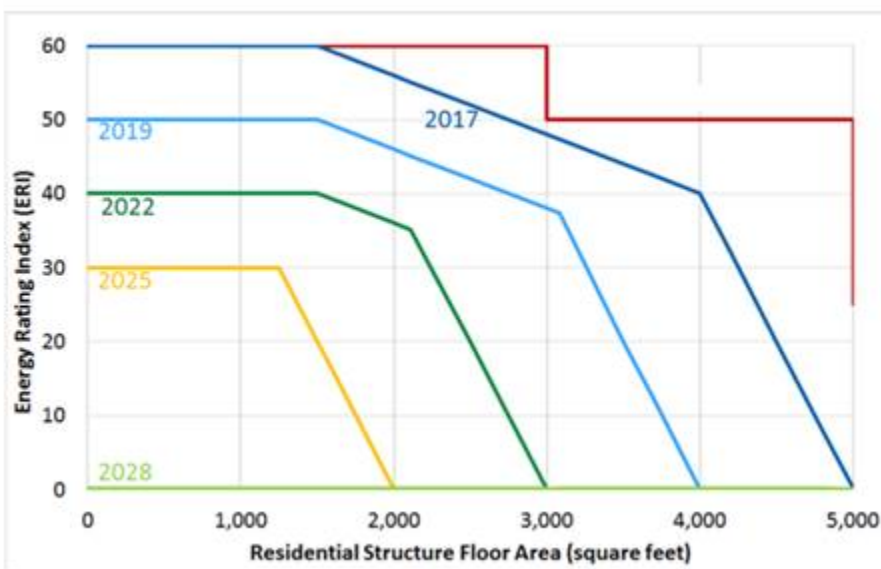
are perceived by some as incompatible with the older housing stock of the neighborhoods. This issue was identified by the Council at their retreat in January of 2018 for further study by staff.

Energy Regulations and Single-family Homes

The topic of energy code compliance has been raised with respect to large homes and whether additional energy regulations should apply to address house size. [The City of Boulder's Energy Conservation Code \(COBECC\)](#) was adopted in 2017, replacing the Green Points system. The COBECC is 30% more efficient than the 2012 International Energy Conservation Code (IECC). The long term strategy for the residential energy code is to get to Net Zero Energy (NZE) for all new homes by 2028. The COBECC requirements are square footage based that place more stringent standards on larger homes that consume more energy. The program uses a sliding scale Energy Rating Index (ERI) score to demonstrate compliance with the regulations. The ERI score is defined as a numerical score where 100 is equivalent to the 2006 energy code, and zero is equivalent to a Net Zero home. The lower an ERI score, the more energy efficient the home.

Today, residences must achieve an ERI score of 60 or lower, on a sliding scale depicted by the dark blue 2017 line in the *ERI Requirement's* chart below, and homes 5,000 SF and greater must achieve a Net Zero ERI score (an ERI score of zero). In 2019, the city will ratchet down the standards requiring all new residences to attain an ERI score of 50 or lower on a sliding scale, as depicted by the 2019 light blue line in the below chart. To get to an ERI score of 50, building materials and structures must be ultra-efficient with a higher insulation factor, for a wide variety of construction materials as well as for doors and windows. Also in 2019, residential structures of 4,000 SF or greater will be required to achieve Net Zero ERI score — typically achieved with the inclusion of additional solar panels and/or purchasing of solar/renewable energy from an off-site solar garden. The 2022, 2025, and 2028 lines in the below chart depict the gradual ratcheting down of the energy standards that is planned. In 2028 all new residential structures may be required to attain a Net Zero score.

City of Boulder ECC Energy Rating Index (ERI) Requirements for New Residential Buildings:



The above chart illustrates the long term plan for homes under the COBECC. The 2017 line (dark blue) illustrates that homes greater than 5,000 SF are required to be Net Zero now. In 2019, homes 4,000 SF

and greater will need to be Net Zero. The ERI score requirements are a sliding scale such that a home that's 4,999 SF today still must perform at nearly Net Zero levels. For reference, most homes achieving an ERI <40 are employing solar to achieve the score. The redline depicts the energy code requirements prior to 2017.

The City updates the Energy Conservation Code typically every three years and will be working on updates to the COBECC in 2019/2020 including producing a cost-effectiveness study with a consultant, and potentially regulating the “embodied energy” of construction materials - the energy expenditure associated with the manufacturing and transporting of a given material – which could further encourage modest-sized homes. Boulder County has a similar [smart code program](#) in place and currently requires all homes over 5,000 square feet to be Net Zero. The Large Lot/Large Home study is in alignment with the COBECC current and future standards as the study is considering ways to further reduce home square footage, bulk, and massing to be in scale with its context (rather than increasing permitted homes’ square footages). Reducing a structure’s size inherently brings more energy efficiency, all other factors being equal. In addition, smaller homes require less materials, construction, and transportation fuel costs, reducing associated energy that is expended during the construction process.

RE and RR Zoning

The RE and RR zoning districts are the lowest density residential zoning districts within the city, outside of the Agricultural (A) zoning district. The RR and RE districts’ zoning purpose is collectively stated as, *“Single-family detached residential dwelling units at low to very low residential densities”*. (Section 9-5-2(c)(1)(A), B.R.C. 1981). The RE and RR zoning districts are predominantly found in North Boulder, generally on properties north of Iris Avenue and east of 26th Street. The RE and RR districts are also found in East Boulder near Cherryvale Road, and in the Park East and Fraser Meadows neighborhoods. A small portion of the southwest University Hill area, east of 6th Street, is also zoned RE. See **Attachment B** for a map depicting the locations of the RR and RE zoning districts.

The average size of existing parcels is approximately 16,940 square feet in the RE district; 37,360 square feet in the RR-1 district; and 23,025 square feet in the RR-2 district. Based on a preliminary analysis, new single family home sizes have tended to range from approximately 2,500 square feet upwards of 8,000 square feet of total floor area. Many homes have been constructed well within their respective FAR limits, while other homes have maximized their FAR, particularly those homes on larger lots (30,000 square and larger) which allow up to a .25 FAR.

The Form and Bulk Standards, as well as the Intensity Standards for the RR and RE districts is shown in the table below.

Form, Bulk and Intensity Standards

| Zoning Districts | Lot Size Min. | Setbacks | Height Max. | Floor Area Ratio Max. | Building Coverage Max. |
|------------------------|---------------|--|--|--|---|
| RR-1 Residential Rural | 30,000 SF | Front: 25' Side: 15' combined side: 40' Rear: 25' | 3 stories and 35' Side Yard Bulk Plane: 12' up at the side property lines, then 45 degree angle | For all principal and accessory buildings on a lot. Sliding scale dependent on lot size: Lots 10,001 SF to 22,500 SF: (lot size x 0.122) + 2,880 Lots > 22,500 SF: 0.25 15,000 SF lot: .314 FAR 30,000 SF lot: .25 FAR | For all principal and accessory buildings on a lot. Sliding scale dependent on lot size: Lots 10,001 SF to 22,500 SF: (lot size x 0.116) + 1,890 Lots > 22,500 SF: 0.20 15,000 SF lot: 3,630 SF 30,000 SF lot: 6,000 SF |
| RR-2 Residential Rural | 30,000 SF | Front: 25' Side: 10' combined side: 25' Rear: 25' | | | |
| RE Residential Estate | 15,000 SF | | | | |

Additional Standards

Side Yard Walls: Within twenty feet of each side yard property line, the cumulative length of any walls that exceed a height of fourteen feet shall not exceed forty feet in length. (See Figure 7-14.) The remaining walls on each side yard property line shall meet the following standards:

- (1) Any portion of the wall that exceeds a height of fourteen feet shall be set back at least fourteen feet from the side property line or the wall shall not exceed fourteen feet height.

Nonstandard Lots or Parcels:

A nonstandard lot is any lot that does not conform to the minimum lot area requirements of Section 9-8-1, "Schedule of Intensity Standards," B.R.C. 1981 or lot frontage along a public street as required by 9-12-12, "Standards for Lots and Public Improvements," B.R.C. 1981 unless otherwise approved as part of a planned unit review or Site Review (Section 9-116, "Definitions," B.R.C. 1981). The maximum height for a principal building or structure on a nonstandard lot in the RE zoning district will range from twenty-five feet for a building or structure on a lot which is at or below one-half the minimum lot size of the zoning district up to thirty-five feet for a building or structure on a lot which meets or exceeds the minimum lot size. In RR-1 and RR-2 districts, the maximum height for a principal building or structure on a nonstandard lot shall range from twenty-five feet for a building on a lot which is at or below one-fourth the minimum lot size up to thirty-five feet for a building or structure on a lot which meets or exceeds the minimum lot size. The permitted heights shall be computed as follows in the table below.

Nonstandard Lots or Parcels Maximum Height:

| <i>Zoning District</i> | <i>Minimum Lot Size (Square Feet)</i> | <i>Formula</i> |
|------------------------|---------------------------------------|--|
| RE | 15,000 | Height = (lot size - 7,500) × .001333 + 25 |
| RR-1; RR-2 | 30,000 | Height = (lot size - 7,500) × .000444 + 25 |

Draft “Why” Statement

Boulder's *Engagement Strategic Framework* establishes best practices to effectively engage the public; this includes clearly defining the problem by communicating the “why” as we undertake planning studies. The Draft “Why” Statement is as follows: The 2009 Compatible Infill Development ordinance successfully created new regulations, such as floor area and building coverage standards, that brought many infill single-family developments more in-line with the residential neighborhoods’ existing character. Since then we’ve seen the development that those regulations have borne, and the community and Council have recently expressed that within certain neighborhoods (corresponding to the RE and RR zoning districts), infill single-family development may still be too large and out of character with the existing more modest-sized housing stock.

Draft Project Purpose Statement

Consistent with newly updated [Boulder Valley Comprehensive Plan \(BVCP\) policies](#) (see below), staff will update the Land Use Code to amend regulations to ensure that single-family infill development within the RE and RR zoning districts is compatible with the bulk, massing, and scale of the existing single-family housing in those districts, and to create regulations that discourage the loss of existing housing stock within those districts.

2.10 Preservation & Support for Residential Neighborhoods

The city will work with neighborhoods to protect and enhance neighborhood character and livability and preserve the relative affordability of existing housing stock. The city will also work with neighborhoods to identify areas for additional housing, libraries, recreation centers, parks, open space or small retail uses that could be integrated into and supportive of neighborhoods. The city will seek appropriate building scale and compatible character in new development or redevelopment, appropriately sized and sensitively designed streets and desired public facilities and mixed commercial uses. The city will also encourage neighborhood schools and safe routes to school.

2.33 Sensitive Infill & Redevelopment

With little vacant land remaining in the city, most new development will occur through redevelopment in mixed-use centers that tend to be the areas of greatest change. The city will gear subcommunity and area planning and other efforts toward defining the acceptable amount of infill and redevelopment and standards and performance measures for design quality to avoid or adequately mitigate negative impacts and enhance the benefits of infill and redevelopment to the community and individual neighborhoods. The city will also develop tools, such as neighborhood design guidelines, to promote sensitive infill and redevelopment.

7.07 Preserve Existing Housing Stock

The city and county, recognizing the value of their existing housing stock, will encourage its preservation and rehabilitation through land use policies and regulations. Special efforts will be made to preserve and rehabilitate existing housing serving low-, moderate- and middle-income households. Special efforts will also be made to preserve and rehabilitate existing housing serving low-, moderate- and middle-income households and to promote a net gain in affordable and middle-income housing.

Next Steps – Staff will develop a Community Engagement Plan and project timeline and come back to Council for further input.

Attachments

- A- Proposed Changes to the Land Use Code (dated Aug. 13, 2018)
- B- RE and RR Zoning Districts Map

PROPOSED CHANGES TO THE LAND USE CODE - Revised August 13, 2018

| # | Number, Project Title & Status | Type/ Topic | Code Section(s) | Code Section Title | Problem Statement / Suggested Change | complexity, resources | Source/ Date Added | Status |
|---|---|---|-----------------------------|---|---|--|--|--|
| 1 | Building Height with Affordable Housing Community Benefit | Building Height, Affordable Housing Benefit | 9-2-14, and possibly others | Site Review | A 2015 ordinance extended in 2017 allows requests in select areas of the city (e.g., downtown, 28 th Street business area, the Hill etc.) or under special circumstances (e.g., where topography creates a hardship to add upper floors, if 40 percent of the floor area is allotted to permanently affordable housing). That extended ordinance expires in July 2018. The ordinance can be viewed here . This code change will extend the validity of the height restrictions within the original 2015 ordinance either permanently or to a date specified and will not involve a change to the locations where height modifications may be requested (i.e., Appendix J). Issues related to community benefit, design and view protection have been deferred to the enhanced community benefit project discussed below. | (Easy if existing ordinance stays in place as is) | BVCP Update and Action Plan, late 2017 | Completed on June 19, 2018. Focus shifted to item 3 below. |
| 2 | ADU/OAU Standard Clarifications | Housing Diversity and Affordability | 9-6-3 | Specific Use Standards – Residential Uses | Prepare incremental Code changes to allow ADUs/OAUs in appropriate locations in the city accomplishing BVCP and housing goals by changes such as: (1) Simplify current regulations; (2) Modifying the saturation requirement; (3) Providing flexibility in size limits; (4) Removing or modifying the parking requirement; (5) exploring location specific implementation, and 6) considering more zoning districts to permit ADUs/OAUs. | Moderate to Complex | BVCP Update and Action Plan, late 2017 | In progress; City Council to consider on Aug. 29, 2018 |
| 3 | Enhanced Community Benefits in Site Review Criteria and Land Use Code | Enhanced Community Benefits | 9-2-14; 9-2-19 | Site Review, Rezoning | Update the Site Review criteria (and potentially other parts of the code like rezoning or design standards) to achieve the following: <ul style="list-style-type: none"> Develop regulations and incentives so that new development provides benefits to the community beyond those otherwise required by the underlying zoning for land use or zoning district changes that result in increases in height, density or intensity of development beyond what is permitted by underlying zoning; Develop a scope of work that includes reference to BVCP Policy 1.11 and the benefits identified therein, addresses technical and economic analysis, and includes a process for community outreach and collaboration; Develop regulations to ensure that when additional height, density or intensity is provided through changes to zoning or variances to zoning requirements, a larger proportion of the additional development potential for the residential use will be permanently affordable housing or a commensurate community benefit; Clarify the intent of the Site Review criteria with respect to energy conservation in light of the adopted building code changes to enhance energy standards, In a phased approach, consider new resiliency criteria that would better address construction in areas with high wildfire risk, flooding risk and in areas that have high groundwater, and Also, identify other areas of the code that may need to be updated to reinforce the city's commitment to energy conservation. Areas to consider are the rezoning criteria and potentially new design standards for larger buildings. | Complex | BVCP Update and Action Plan, late 2017 | In progress; completion uncertain; targeted completion in 2018/2019; City Council study session on Aug. 28, 2018 |
| 4 | Long-term (Phase II) Parking Code changes | Parking | 9-9-6 | Parking standards | Consideration of a comprehensive update to the parking regulations including but not limited to parking maximums, parking by land use, automatic parking reductions, more unbundled parking requirements, special parking requirements along transit corridors, shared parking requirements, zoning or design related requirements for EV charging stations. These new regulations should be linked to an updated and more effective Transportation Demand Management (TDM) system and process. Processed as part of the Access Management and Parking Strategy (AMPS). Current requirements for parking as a principal use to undergo Use Review approval and parking requirements for one-bedroom units should be reconsidered. | Complex | AMPS | In progress; public outreach and best practices research; targeted completion in 2018/2019 |
| 5 | Addressing large homes on large lots/Incentivize or require more modest sized homes in rural | Use/Intensity/ Subdivision | 9-6, 9-8, 9-12 | Use Standards, Intensity Standards, Subdivision | City Council and the community have expressed concerns about the size of homes on large lots in estate and rural residential zones and a desire to see more cottage or modest sized homes in these areas. This code change would explore potential infill options that require more modest sized homes, zoning limitations on building size beyond current form and bulk regulations and/or incentives for smaller homes. Solutions may enable additional residential | Complex | Post-retreat discussions 2018 | In progress; seeking feedback from City Council |

| # | Number, Project Title & Status | Type/ Topic | Code Section(s) | Code Section Title | Problem Statement / Suggested Change | complexity, resources | Source/ Date Added | Status |
|----|---|--|------------------|---|--|-----------------------|--|---|
| | residential or estate residential areas | | | Standards | density or may just result in restrictions on house size without increasing density. This project would require significant public input in different impacted areas of the city. | | | |
| 6 | Use Table and other code changes, requested by Planning Board | Use Table | 9-6-1 | Schedule of Permitted Uses | Some of the use table standards do not achieve desired development outcomes or are outdated or inconsistent with the intent of the BVCP and land use designations. Planning Board has discussed some targeted use table changes and presented the interest in other code changes in the 2017-year end letter. Some examples are reviewing the use tables and consider allowing more non-residential uses that would be acceptable to neighborhoods in residential zones to encourage 15-minute neighborhoods. Several years ago, the Economic Sustainability Strategy (ESS) identified some barriers to home occupations based on the current regulations, which may or may not still need attention. Finally, some of the changes desired in North Boulder, such as live work housing, may be addressed on this list. | Complex | Planning Board | In progress; Targeted completion in 2019/2020 |
| 7 | Useable Open Space updates | Open Space in Developments | 9-9-11 | Useable Open Space | <p>In development review projects, some flaws in the open space regulations have been identified by staff with respect to the quality of the spaces or how open space is calculated. This code change would make the following amendments to the open space regulations for development sites to improve quality and application of the standards:</p> <ul style="list-style-type: none"> Revise open space standards to be more firm related to counting wetlands and drainage detention areas as these are areas that not typical useable by residents. Align open space standards with engineering water quality standards; Provide more specificity and prescriptive standards for open space on by-right projects in regard to decks, hardscape areas to make clear what counts as open space and to ensure that areas are functional; Provide more flexibility to meet open space in DT and BMS zones where it may be difficult to provide 15 to 20% of a lot as open space based on lotting patterns and neighborhood typologies. Some examples may be allowance of roof top decks to count in full (current regs. limit the percentage of above grade open space to count) or reduce the percentage required under certain conditions, and <p>Add a setback for subterranean garages and make it clear in the definition of “landscape setbacks” that subterranean garage may not encroach without Site Review. Currently, subterranean garages are not required to be setback from a property line like above-grade structures. This is problematic because subterranean garage under or near tree lawns greatly impact the size and health of street trees.</p> <p>Open space regulations should also be updated to encourage fee simple townhomes, have a minimum dimension requirement for roof decks/porches (e.g., 7.5 feet) and close any loopholes that permit double counting.</p> | Complex | Planning staff raised this issue following review of projects where the open space regs were considered not as effective as they could be in encouraging appropriate, well-designed open spaces in projects. | In progress; targeted completion in 2018/2019 |
| 8 | Require off-site affordable housing to complete Site Review or Off-site Affordable Housing Design Review | housing | 9-2-14 & 9-13-8 | Site Review & Off-site Inclusionary Housing Options | Clarify that if a sending site is required to complete a site review the receiving site must also complete site review, if a specified minimum number of units would be built; add the Off-site Affordable Housing Design Review process for those sites not required to undergo site review | | | Underway through June 2018 |
| 9 | Rehabilitated affordable housing construction standards | housing | New – 9-2 & 9-13 | Rehabilitation Review | Require rehabilitated affordable housing to meet a select set of standards | | | |
| 10 | Amend Boulder Valley Regional Center (BVRC) - | Housing Affordability & Jobs/Housing Balance | varies | BR-1 and BC-2 uses, form and bulk stnds, and | Explore how to allow and incentivize additional diverse housing types in the BVRC (BR-1 & BC-2 zones) while addressing other community priorities such as high quality urban design and walkable places. Code amendments may address standards in these districts such as parking, open space, connections, mixed-use, mobility, community | Complex | BVCP Update and Action Plan – mid-term timing | Targeted completion in 2019/2020 |

| # | Number, Project Title & Status | Type/ Topic | Code Section(s) | Code Section Title | Problem Statement / Suggested Change | complexity, resources | Source/ Date Added | Status |
|----|---|--|------------------|---|--|-----------------------|---|----------------------------------|
| | | | | intensity stnds, | benefits and building scale for each zoning district. Amendments may include revisions to the BVRC design guidelines or potential for form-based plans and codes. | | | |
| 11 | Amend Industrial Areas (IG) | Housing Affordability & Jobs/Housing Balance | 9-6-3(f); varies | Residential Development in Industrial Zoning, Possibly IG uses, form and bulk stnds, and intensity stnds, | <p>The city will include the public and stakeholders in a process to analyze and modify industrial zone regulations to consider the following code changes to implement policies in the BVCP and necessary changes identified in the Economic Sustainability Strategy (ESS):</p> <ul style="list-style-type: none"> • Create new criteria to encourage residential and retail infill in IG zoning districts in appropriate locations and by public amenities (e.g., bike paths etc.), while not driving out existing industrial uses; • Reevaluate contiguity requirements and encourage residential development in locations near services, retail and transit; • Maintain existing allowed industrial uses, but work with stakeholders on making updates to use definitions in the land use code that is somewhat antiquated in uses found in industrial areas; • Allow additional limited retail and foster redevelopment into walkable mixed-use “industrial districts”. Address other standards for the IG district such as shared parking and open space, and • Consider modifying review procedures for any residential project in an IG zone (e.g., Site Review). | Complex | BVCP Update and Action Plan - mid-term timing | Targeted completion in 2019/2020 |
| 12 | New Comprehensive Design Standards | Building design | 9-9 | Development Standards | Some in the community have expressed dissatisfaction with the design of buildings built within the community. In response, the city has started the Design Excellence initiative to address this concern. The city will investigate whether new design requirements adopted for Boulder Junction’s Form Based Code (FBC) may be effective in other areas of the city to either be implemented for by-right projects or through Site Review. This project includes an analysis of whether form based coding or other prescriptive design standards should apply to the downtown zoning districts (DT) or the Business Main Street (BMS) zoning district to better implement the intended character of those areas. Furthermore, new design regulations related to building design beyond the FBC standards may be suggested by staff, the Design Advisory Board (DAB) or other review bodies. The goal of this is to create great projects. | Complex | Suggested as a follow up option after the adoption of the FBC | Targeted completion in 2019/2020 |

