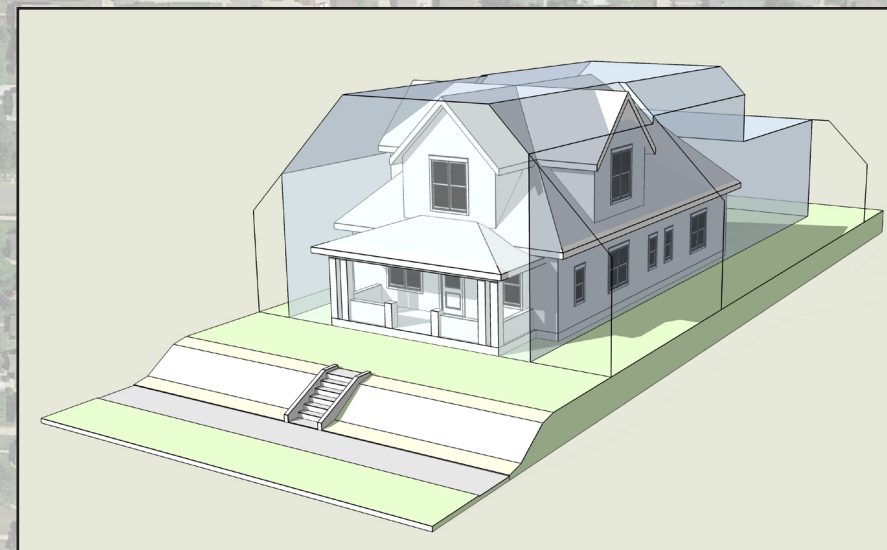


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A Preservation Overlay Zoning District Proposal for Harkness Heights

Council District One, Denver, Colorado



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Acknowledgments

Commissioned by the Councilperson Rafael Espinoza, Pel Ona Architects and Urbanists worked on this project between October 24 and December 20, 2018. The Pel Ona team was provided with the six rules developed by Berkeley-Regis United Neighbor's (BRUN's) Zoning Committee. The team was asked to analyze and revise these rules focusing only on Harkness Heights.

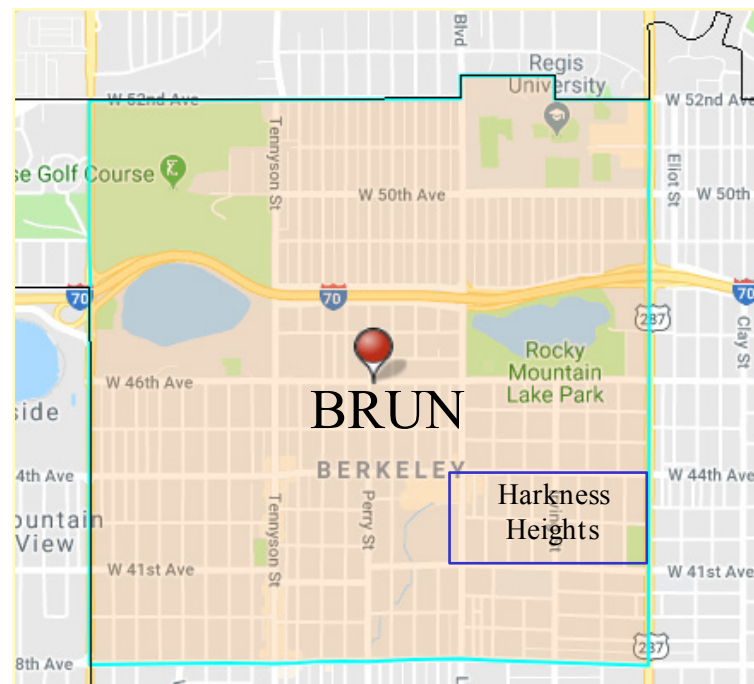
The team produced some initial ideas and shared them with Councilperson Espinoza on November 8, 2018. This was followed by two neighborhood meetings on November 15 and December 13 where the team presented their survey findings and overlay zoning proposals and, after some heated discussions, received valuable input to revise and arrive at what is presented in this document.

This project has been initiated, encouraged, supported with valuable input by Councilperson Espinoza. As the project team, we sincerely express our gratitude. He attended all the neighborhood meetings and resolved several challenging differences in opinions among the neighbors. His former aid Amanda Sandoval also attended all meetings, shared her experiences of living near the neighborhood and provided valuable input. Thank you Amanda.

This project was brought to Pel Ona via the CityCenter of the University of Colorado, Denver. Since Korkut, one of the principals of Pel Ona, teaches in the College of Architecture and Planning, City Center contacted Korkut as an expert in crafting zoning regulations. In order to provide a constructive linkage between practice and education, for this project, Pel Ona hired two graduate students as interns (Naomi Grunditz and Matthew Bossler) who were at the time taking Korkut's *Design Policy and Regulation* course. As the Pel Ona team, we express our gratitude to CityCenter, to Nolbert D. Chavez, director of CityCenter, and also to Jessi Zemetra, program manager. Thank you for connecting us with Councilperson Espinoza.

Above all, we should mention Tom Mobley, the president of Harkness Height Neighborhood Association, and Greg Sader. Their leadership made this project move forward. We also express our gratitude to all the residents who participated the meetings and provided valuable input. Last, but not least, thank you Laura Sprengelmeyer for hosting the meetings in your home.

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Key map of the Harkness Heights Neighborhood



Figure 1: A typical view from the sidewalk to the homes

Primary Objectives

Compared to other Northwest Denver neighborhoods, Harkness Heights demonstrates a more coherent character in terms of massing and scale. With a limited amount of diversity, the one and one-and-a-half story bungalow scale is dominant on almost all block faces. Similarly, setbacks, ample porches and houses located on the Denver hill, help to create an inviting and cozy neighborhood atmosphere.

These characteristics, together with neighbor's strong commitment to preservation, led the team to establish the following two objectives as guiding principles for this exploration.

- To encourage preservation or partial preservation instead of complete rebuilding
- To have new buildings enhance the character of the neighborhood

The team believes that many of the existing historic buildings are valuable assets for upcoming generations. Some of these buildings may need significant rebuilding that can make scraping and new construction more financially feasible. However, there are many homes in good shape. If larger houses are desired on lots where these buildings are located, the overlay should encourage keeping a significant portion of the building facing the street and incentivize expanding in a way as not to disturb the character.

All of the four components of the proposed overlay, as will be explained on the pages following, will follow these principles. Some of the components shall address issues beyond the building form such as street trees, fencing and retaining walls, which we believe are important elements in the preservation of the neighborhood's character.

Before we get into the components of the overlay proposal, it is important to substantiate our observations about the neighborhood character. In the following sections, the team will provide surveys about the building height, side and front setbacks, porch dimensions and overall home sizes. These systematic observations led to the crafting of the components.

Community Character: Building Height

The team surveyed Grove Street within the Harkness Heights neighborhood to understand and analyze the building height in terms of number of stories as the current zoning uses this method. The code defines a half story as habitable space where total gross floor area is less than 75% of the floor area below. The total gross floor area counted towards the percentage must have a floor-to-ceiling distance of at least 5 feet. See Denver Zoning Code Section 13.1.2.3.B.3 for more information. The image below presents the frequencies of one story, one-and-a-half story, two story and two-and-a-half story high buildings. Note that one story and one-and-a-half story buildings together make up 86% of the sample.



Figure 2: Frequencies of buildings with different heights along Grove Street. The sample set includes 49 properties.



Figure 3: 1 Story high examples



Figure 4: 1 1/2 Story high examples

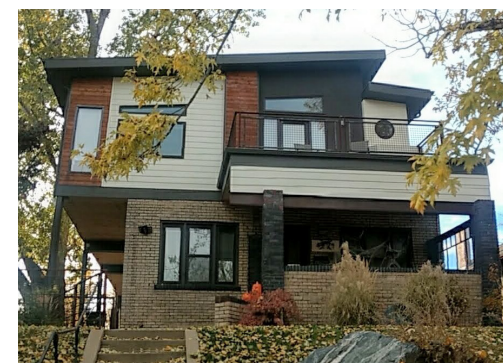


Figure 5: 2 Story high examples



Figure 6: 2 1/2 Story examples



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Community Character: Setbacks

Front Setback (Primary Street Setback) For Harkness Heights, the zoning currently requires a Block Sensitive Setback for the front yard. For this neighborhood, the Block Sensitive Setback is typically more restrictive than the 20' setback specified for the Urban House building form which is the only building form permitted within U-SU-C zoning district. To substantiate this, the team surveyed the average Block Sensitive Setback for ten randomly chosen block faces in Harkness Heights. Below these ten blocks and the average front setbacks are listed.

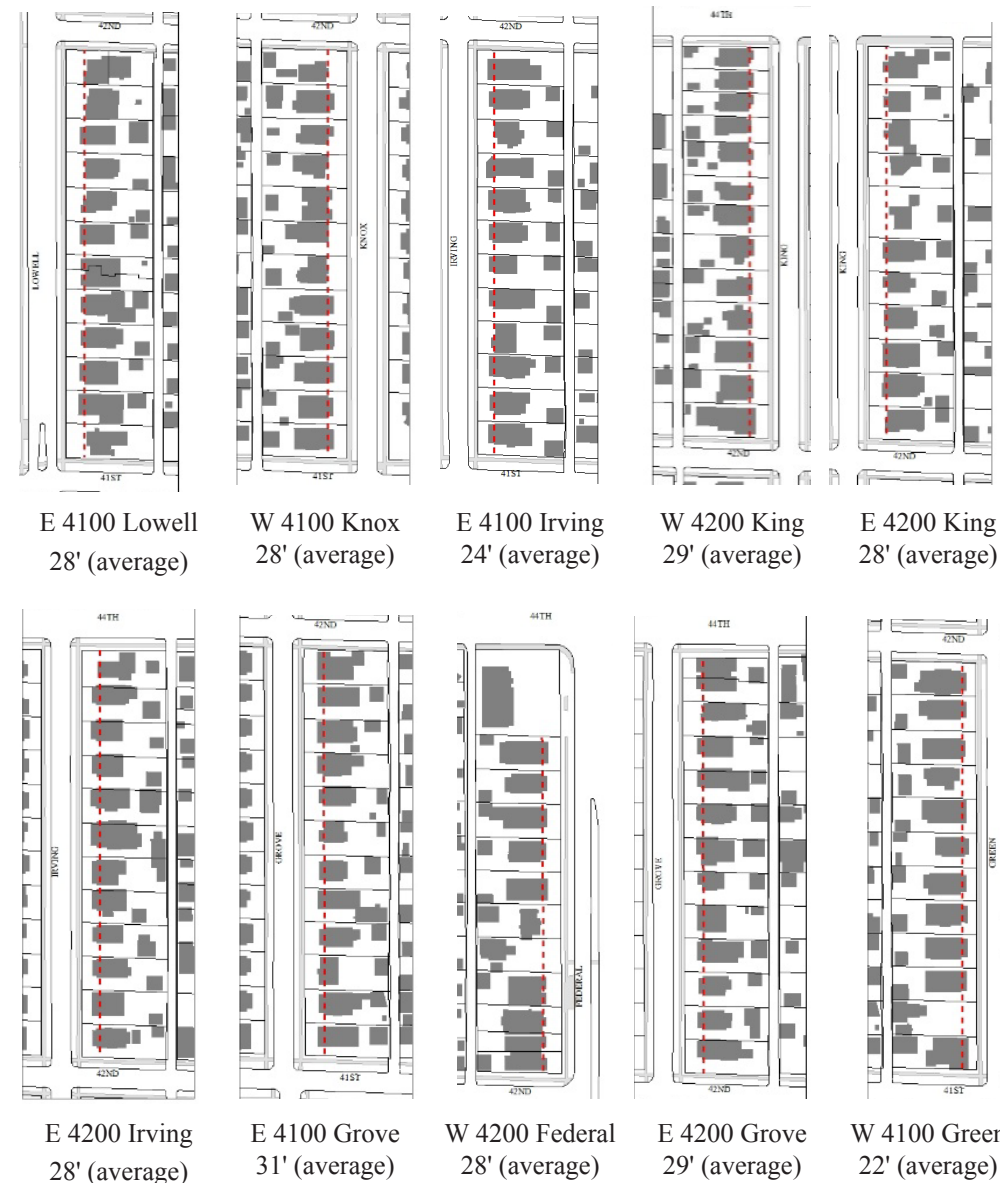


Figure 7: Typical Block Sensitive Setbacks at the Primary Street

Side Yard Setback Wide side yard setbacks are very common in Harkness Heights. The houses typically present to the street, and facades that are not too wide (28', 32') are typical. In the neighborhood meetings, the discrepancy between what is permitted by the Urban House building form and the existing side yard setbacks in the neighborhood was mentioned. That is the reason why the team conducted the survey that is presented below.

The survey was conducted for the 48 properties located on the East side of Grove Street and Irving Street. The table presented below shows the street averages as well as the overall averages for all 48 properties. The smaller side setback, which is typically the north side, are consistently around 5', whereas the larger side yard setback, which is typically on the south side, are around 14'.

BLOCK FACES	FACADE WIDTH	SIDE SETBACK (SMALLER)	SIDE SETBACK (LARGER)	SIDE SETBACKS (TOTAL)
Grove, E side	32'	5'	14'	19'
Irving, E side	29'	5'	14'	18'
Average (Existing)	30'	5'	14'	19'
Recommended	N/A	5' min	5' min	15' min

Table 1: Typical side yard setbacks at Grove and Irving. Note, all figures rounded to the nearest integer and this analysis includes duplexes.



Figure 8: In the above image are two typical bungalow style buildings with 26 ft to 30 ft wide front facades. On 50 ft wide lots, which are most typical in the neighborhood, these dimensions suggest around a total of 20 ft combined side yard setback (5 ft on the narrow side, 15 ft on the larger side).

Community Character: Front Porches

Another common characteristic of homes in Harkness Heights is the presence of well-sized front porches. In order to substantiate this observation, the team surveyed 49 homes on Grove Street. Out these 49 homes, only one home did not have a porch. Three homes had smaller porch/stoop areas. The remainder of homes had porches that were 105 s.f. all the way up to 304 s.f.. Removing the outliers, most porches fell between 128–206 s.f..

Porches are an important aspect of an active, neighborly social life. They also contribute to a consistent street face in Harkness Heights and create entrances that contribute to the single-story scale of the street face. Presented below are porch sizes in three categories and corresponding frequency in the form of percentages.

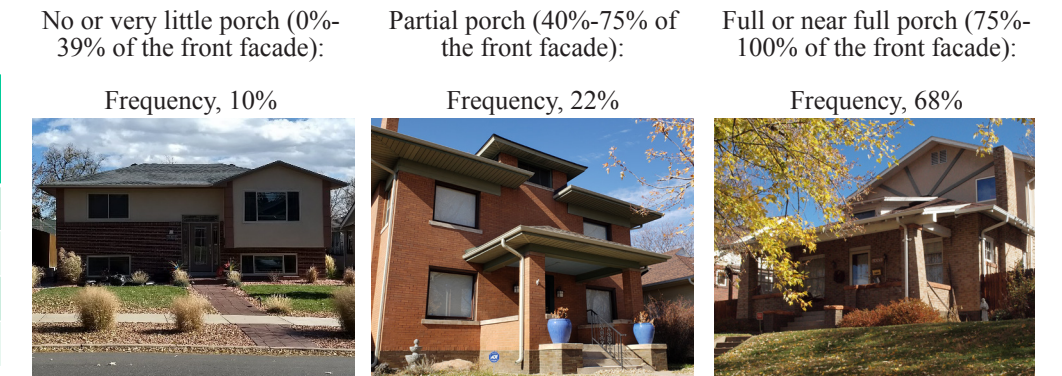
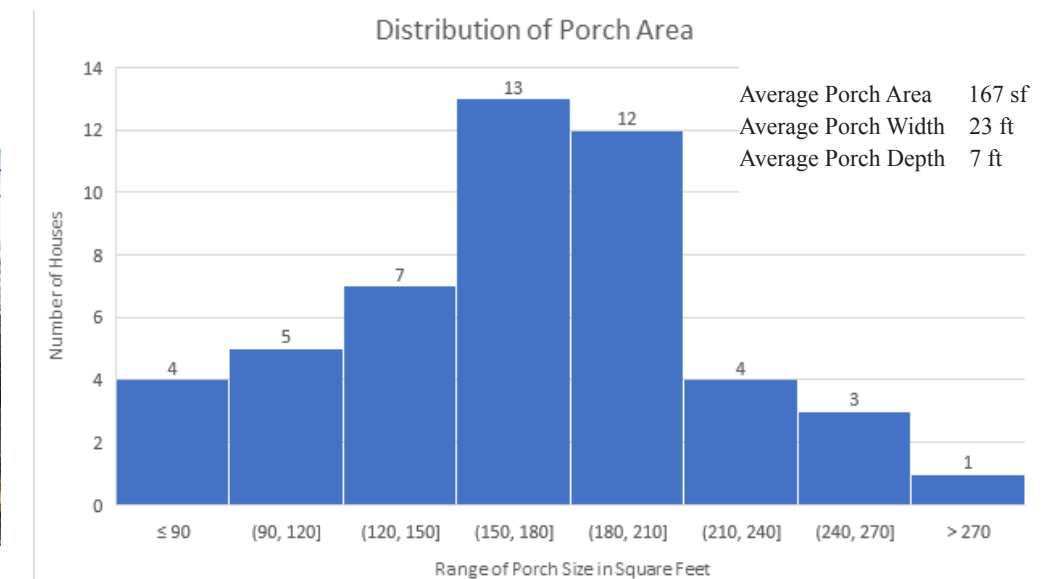


Figure 9: Typical porch sizes



Graph 1: Frequencies of porches in various size categories. The highest frequency for instance (the tallest bar shown) indicates that 13 porches out of 49 have a total square footage between 150 and 180 s.f. The graph also shows that only 4 porches out of 49 have a total square footage less than 90 s.f.

Community Character: Home Size

For home sizes, the team surveyed all of the 309 properties located in Harkness Heights. The average home size in the neighborhood is 1,369 s.f. However, Harkness Heights contains a large variety of sizes. The smallest existing home is only 346 s.f. (a rear unit on a half lot at 4241 N. Hooker St.). The two smallest homes on full lots are 4233 N. Knox Ct. (432 s.f.), built in 1912, and 4111 N. Julian St. (616 s.f.), built in 1923. The largest home is 4105 N Irving St. (2,980 s.f.) built in 1925. Like 4105 N. Irving, many of the largest homes in the Harkness Heights have been renovated and are potentially double the size of the original construction. City records, that the team utilized for the survey, do not record renovations as a separate item. The Year Built designation in the Assessor’s data simply indicates the effective oldest age of the structure (see Appendix A for a list of all 309 homes).



4169 N. King Street, built 1909, 2,484 s.f.



4200 N. King Street, built 1934, 1,824 s.f.



4128 N. Irving Street, built 1972, 1,080 s.f.

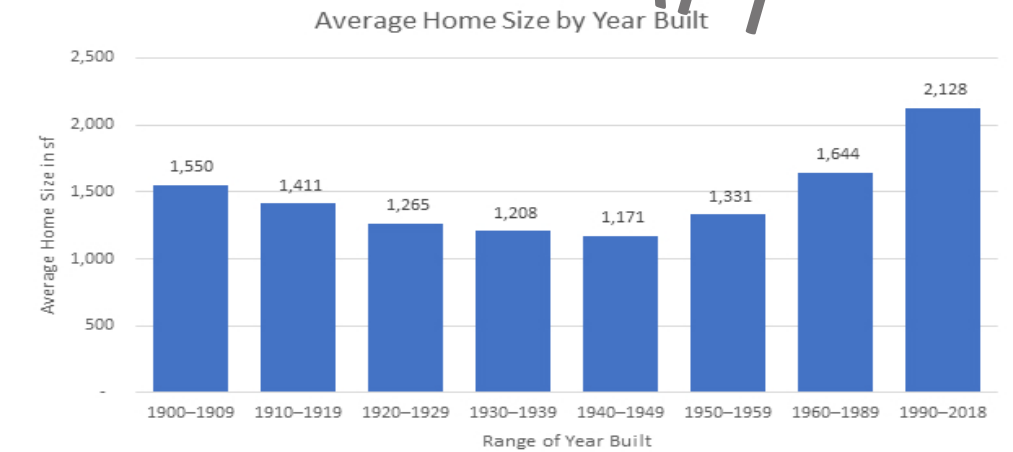
Figure 10: Examples of various home sizes in the neighborhood

Are Newer Buildings Larger? The short answer is yes. However, there are some important nuances. The chart presented on the right shows the average size of homes built in each decade. Note that there are only 11 homes out of 309 built after 1960, so those categories were expanded to include three decade ranges. The chart shows that average home size was at around 1,539 s.f. in the earliest days of the Harkness Heights. The range has a wide diversity of small and large houses, even in the early days. Home size dipped in during the Great Depression though World War II before rising dramatically. Though there are only five homes built after 1991, their average size is nearly double that of homes built between 1921-1950. Note that these numbers do not differentiate between original building size and renovations. However, it is clear that newer homes are, on the whole, some of the largest in Harkness Heights. The table below lists the 20 largest homes among all 309 properties. Note that there is no home larger than 3,000 s.f. in the entire Harkness Heights Neighborhood. The twentieth largest house has a floor area of just 2,235 s.f., which means the rest of the 289 homes have floor areas of less than 2,234 s.f. Note also that these numbers do not include the basements. Next, the team will look at the basement sizes.

The 20 Largest Homes in Harkness Heights

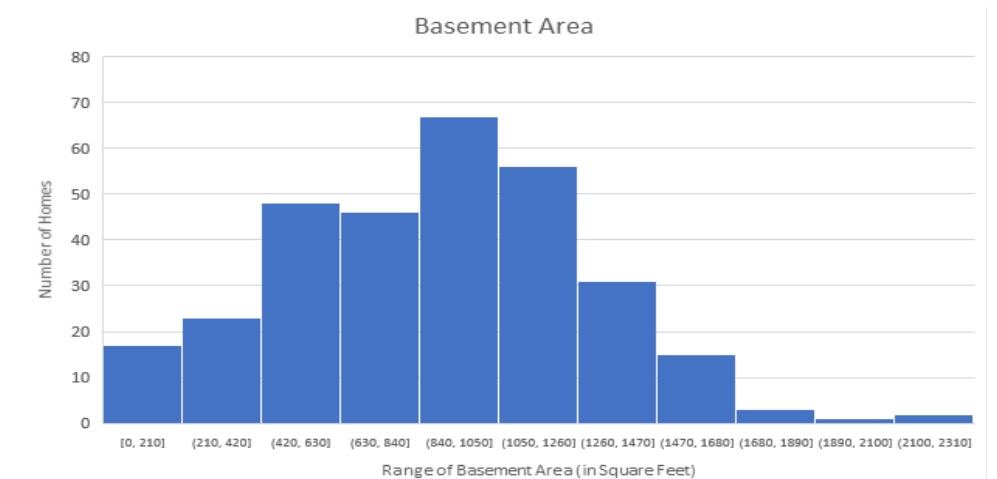
Rank	Address	Square Footage	Year Built
#20	4171 N IRVING ST	2,235 sf	1910
#19	4149 N IRVING ST	2,275 sf	1910
#18	3301 W 42ND AVE	2,284 sf	1959
#17	4185 N HOOKER ST	2,299 sf	1920
#16	4211 N HOOKER ST	2,302 sf	1908
#15	4235 N KING ST	2,302 sf	1908
#14	4224 N JULIAN ST	2,406 sf	2014
#13	4163 N HOOKER ST	2,414 sf	1961
#12	4169 N KING ST	2,484 sf	1909
#11	4221 N GROVE ST	2,489 sf	1924
#10	4175 N KING ST	2,498 sf	1903
#9	4228 N GROVE ST	2,520 sf	1911
#8	4251 N GROVE ST	2,567 sf	1910
#7	4204 N KNOX CT	2,612 sf	1919
#6	4223 N KNOX CT	2,624 sf	1912
#5	4121 N KNOX CT	2,650 sf	1907
#4	4205 N IRVING ST	2,682 sf	1902
#3	4255 N KING ST	2,685 sf	1910
#2	4136 N KING ST	2,784 sf	2014
#1	4105 N IRVING ST	2,980 sf	1925

Table 2: The 20 largest homes in Harkness Heights

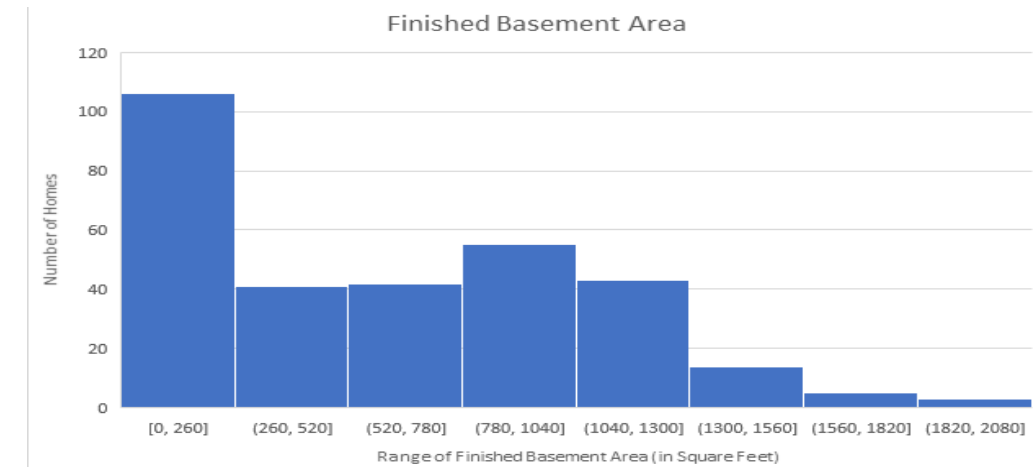


Graph 2: Square footage of homes based on the year constructed

Basement Size Many homes in Harkness Heights enjoy added square footage provided by basements. The average basement size is 891 s.f. (graph below), but basements can range all the way up to 2,197 s.f. of total basement. The finished size of basements is usually slightly smaller. The average finished basement size is only 584 s.f., but ranges all the way to 1,900 s.f..



Graph 3: Square footages of basements areas (unfinished)



Graph 4: Square footages of basements areas (finished)

Component 1: Harkness Heights Bungalow, A New Building Form

In light of the two primary objectives listed on page 3, the team crafted a new building form to replace the Urban House form, which is the only form permitted in the U-SU-C zone. Providing a more restrictive building envelope, or "the glass box" as the neighbors like to call it, is an effective way to preserve the scale and massing characteristics of the neighborhood. BRUN's proposed R3 suggests a more restrictive envelope and bulk for the front 65% of the lot. The team's proposal is to introduce a new building form called Harkness Heights Bungalow or H.H. Bungalow. The H.H. Bungalow is the working title because it implies that this building form may have a wider use than Harkness Heights and can be utilized in other Denver neighborhoods. This building form may be either applied as an overlay zone or used as the permitted building form in certain areas, including Harkness Heights, via re-zoning and re-mapping.

The H.H. Bungalow building form is defined by a more distinct bulk regulation, height limit, minimum side setbacks, maximum building size, porch requirement and permitted bulk encroachments. On the right, the Urban House building form is compared with the H.H. Bungalow.

Front, Middle, and Rear Zones: H.H. Bungalow proposes to further divide the Front Zone (65% in Urban House) into Front and Middle Zones (40% and 25% respectively). It applies a more restrictive bulk only to the Front Zone to protect the character of the block face. Meanwhile, it allows a more permissive bulk in the Middle Zone and thus provides flexible renovation possibilities. This will encourage preservation of the existing homes.

Height: As mentioned previously, one and one-and-a-half story heights are common in Harkness Heights (see Figure 2 - Figure 6 on page 3). The H.H. Bungalow therefore, restricts the height on the Front Zone to one-and-a-half stories maximum. The team believes that restricting the number of stories, rather than the maximum height in feet, is a much more effective way to protect the scale. One-and-a-half stories as defined by Denver's code, is actually a two-story building with the second story being smaller (maximum 75% of the floor area below). Figure 13 shows a typical Harkness Heights building in the proposed the H.H. Bungalow building envelope. In order to protect the dominant scale, the team considered applying further bulk restrictions or additional second story setback in the form of percentages. The team decided not to propose this restriction because (a) the H.H. Bungalow requires a covered porch which will have an important role in protecting the scale and (b) to keep the rules simple so that their administration can be practical.

DENVER ZONING (U-SU-C) REQUIREMENTS

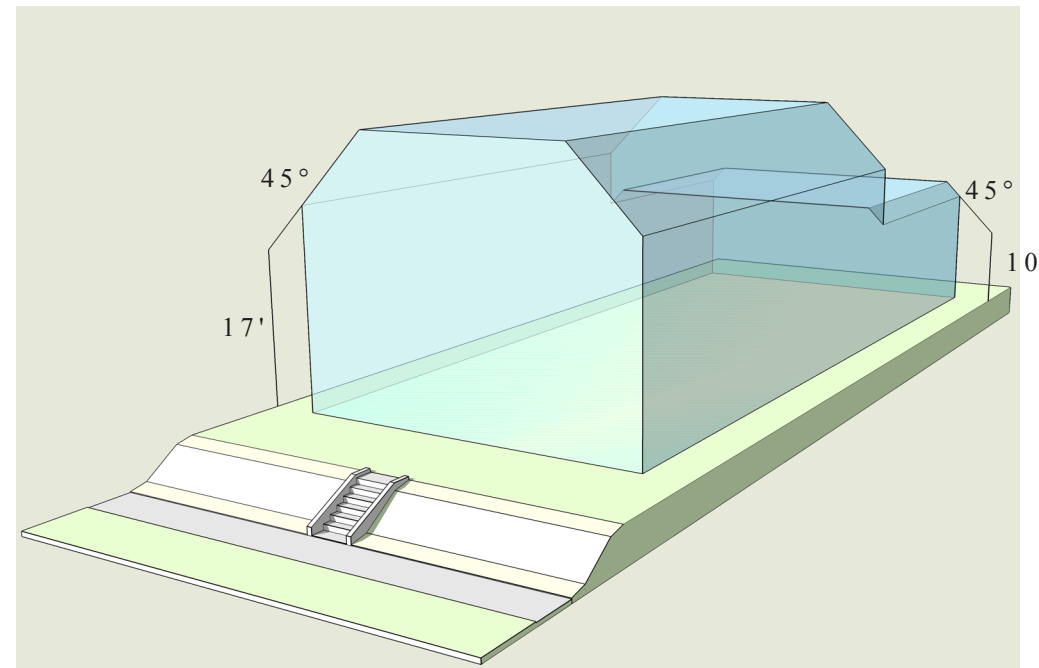


Figure 11: The building envelope required by Urban House building form. Shown in a 50'x125' lot with a Denver hill which is typical in the neighborhood.

	Front zone (65 %)	Rear zone (35 %)
Height:	2.5 stories	1 story
Bulk plane:	30' / 17' / 45°	17' / 10' / 45°
Side setback:	3' min., total of 10'	
Front setback:	20' min. / Block Sensitive Setback	
Rear setback:	12' min. (from the alley)	
Lot coverage:	37.5 % max.	

H.H. BUNGALOW A NEW BUILDING FORM

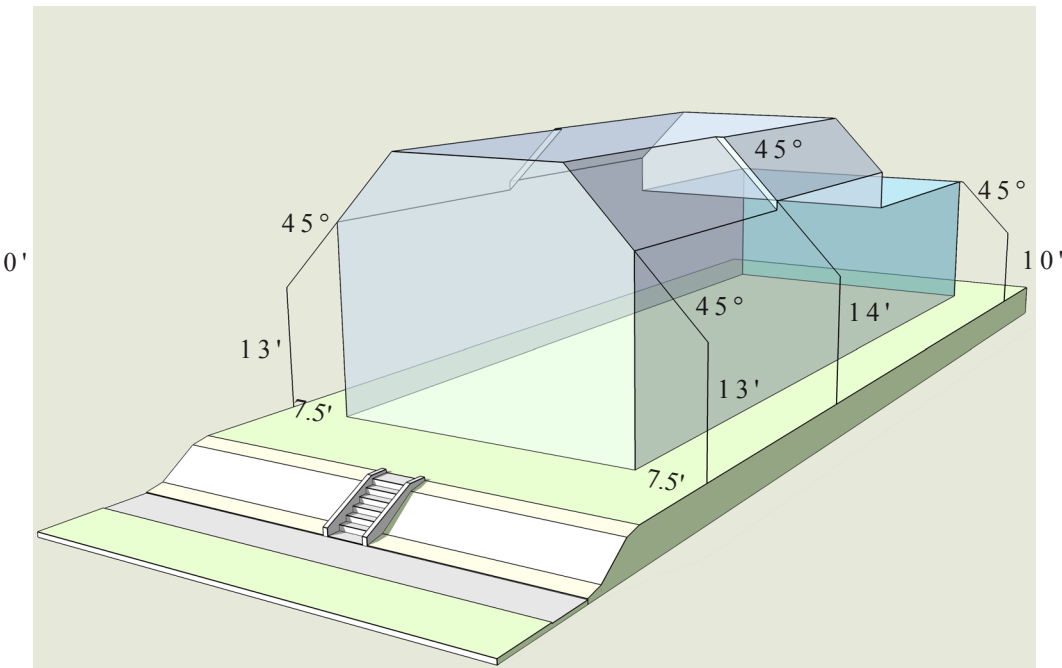


Figure 12: The building envelope proposed by the H.H. Bungalow building form. Shown in a 50'x125' lot with a Denver hill which is typical in the neighborhood.

	Front zone (40 %)	Middle zone (25 %)	Rear zone (35 %)
Height:	1.5 stories	2 stories	1 story
Bulk plane:	28' / 13' / 45°	28' / 14' / 45°	17' / 10' / 45°
Side setback	for lots with width of 45 feet or wider:		
	5' min. total of 15'	5' min. total of 15'	5' min. total of 15'
	for lots with width of less than 45 feet:		
	3' min. total of 10'	3' min. total of 10'	3' min. total of 10'
Front setback:	20' min. / Block Sensitive Setback		
Rear setback:	12' min. (from the alley)		
Lot coverage:	37.5 % max.		
Maximum building size (excl. basement and garage):	3000 s.f.		

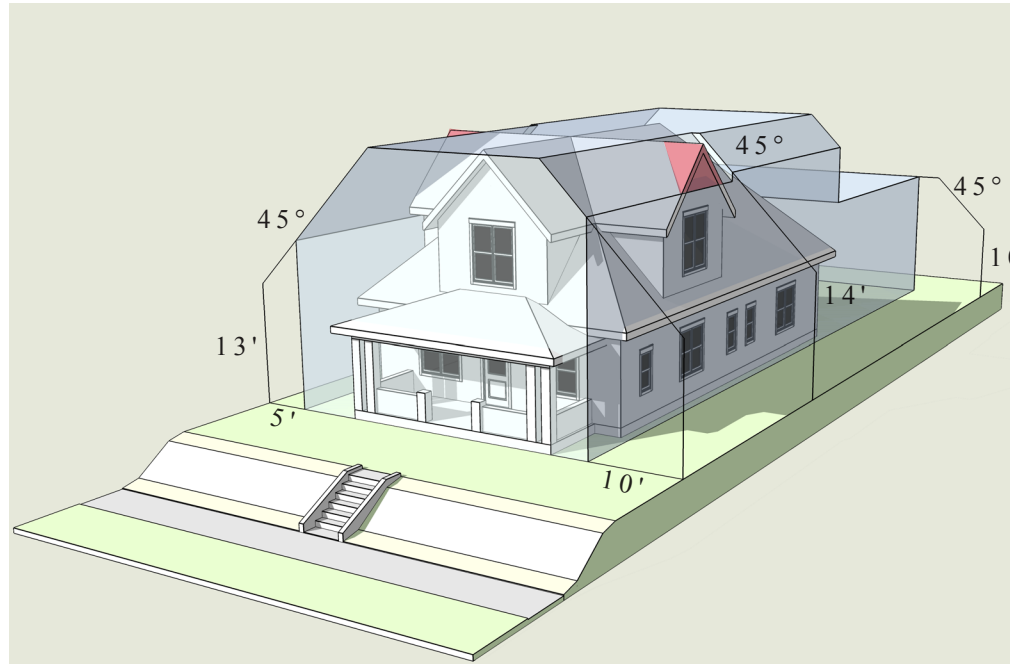


Figure 13: A typical Harkness Heights home placed in the building envelope proposed by the H.H. Bungalow building form. Shown in a 50'x125' lot with a Denver hill which is typical in the neighborhood.

Side Setbacks: As mentioned previously, smaller building fronts with ample side setbacks are common in Harkness Heights (see Table 1 and Figure 8 on page 4). The most frequent lot size is 50' x 125'. On these lots, having a building front width between 28' and 32' means that the side setbacks shall have a total of 18' to 22'. The team believes that a total of 18' may be too restrictive for future development. Adding approximately 10% wiggle room to this number suggests a side setback of a total of 15', which is what the H.H. Bungalow requires. This requirement applies to the front, middle and rear zones. Also, this requirement would be too restrictive if it was to be applied to narrow lots. That is the reason why the H.H. Bungalow applies this setback requirement only to lots that have 45' or greater widths.

Building Size: Limiting the building size is the most controversial of all other regulation components proposed in this document. However, the team believes, it is most effective method of preservation for the neighborhood character. Our analysis shows that currently Urban House allows a building with 6,070 s.f. of total floor area, not including the basement, on a 50' x 125'

	No Garage (Ground floor is max lot coverage) s.f.	<15' Separation between garage and house (garage is fully subtracted from lot coverage 400 s.f. assumed) s.f.	15' Separation between garage and house (50% of garage is subtracted from lot coverage 200 s.f. of 400 s.f. garage assumed) s.f.
Urban House 30'x125' Lot	3163	2666	2897
H.H. Bungalow 30'x125' Lot	2361	1902	2095
Urban House 50'x125' Lot	6070	5343	5870
H.H. Bungalow 50'x125' Lot	4008	3608	3808

Table 3: Maximum total square footages (not including the garage) permitted by the Urban House and the H.H. Bungalow on a 30'x125' lot and a 50'x125' lot.

lot (see table 3 above). The H.H. Bungalow in spite of all the additional restrictions, still allows a building with 4,008 s.f. of total floor area. Compared with the typical square footages in the neighborhood we have reviewed on page 5, these sizes are very large. Taking the risk of simplifying the matter too much, we propose the following metaphor: We have a basket of fruit; plums, tangerines, small apples. Then we introduce a water melon. It just doesn't fit in the basket. To clarify, in principle the team sees no problem with a block face of tangerines and water melons. However, that is not the character of Harkness Heights, nor is it the character desired by the neighbors. This is the kind of transformation the neighbors would like to avoid the most. In light of the analysis provided on page 5, the team suggests adopting a maximum size of 3,000 s.f. floor area, not including the basement. The team believes that this number is still effective in preserving the neighborhood's character.

Porch requirement: Presence of covered porches is another character defining element in Harkness Heights. BRUN proposes to require a minimum size, by asking for a minimum 6' depth and a minimum 8' width or 40% of the width, whichever is wider, of the unit's front facade. The team's survey of the existing porches (see figure 9 and graph 1 on page 4) convinced the team to require larger porch sizes. Only 10% of the surveyed houses have porches with widths that are 40% of the width of the unit or narrower. A porch that is 8' wide and 6' deep has a total floor area of 48 s.f., whereas the average porch size among the surveyed properties is 167 s.f. (see graph 1 on page 4). The team proposes:

H.H. Bungalow Porch Requirement:

Minimum depth: 6 feet
Minimum size: 120 square feet

120 s.f. with 8' depth provides a 15' wide porch (8' depth is encouraged because according to the current zoning regulations the porch is permitted to encroach into the front yard setback up to 8 feet). The team believes that a 15' wide porch provides enough presence along the sidewalk.

Another important characteristic of the porches in Harkness Heights is that they are almost exclusively one story. This is the reason why the team has introduced a new term the H.H. Bungalow and defined it by revising the porch definition that is currently in Article 13 of the code.

H.H. Bungalow Porch (revising the porch definition)

A one ~~or two~~ story covered structure attached to a building providing access to the building. A porch ~~may be covered and~~ must be at least 50% open on each side, except for sides abutting a facade or required fire wall. If a porch is not covered, it is distinguished from a patio by enclosure of the porch on all open sides by low walls or railings, except where pedestrian access is provided to access the porch. **A porch floor elevation is required to be within 42 inches of the base plane and cannot be lower than the base plane elevation. A porch should have enough enclosure to encourage use.**

The reason for requiring the porch elevation to be placed within 42 inches of the base plane elevation, and not below it, is that the team was made aware of a practice that has been observed in Highland Neighborhood. Some developers have removed the Denver hill in the front, a few feet shy of the building corners. This way, the building corners still touch the ground on a higher elevation to keep the base plane at this high elevation. However, this exposes the walk-out basement to the sidewalk, making the building look taller. If this practice happened on a 50' wide lot with a 30' building face, approximately 26' of the Denver hill would be removed. This would not fit the character of Harkness Heights. Thus, the proposed porch requirement guarantees approximately an additional 15' of preservation of the Denver hill. The team is aware of the fact that applying a porch requirement to lots with existing structures may create non-conformity including some cases where compliance may be difficult. The team trusts the discretion of the Zoning Administrator in enforcing the porch requirement in a flexible and reasonable way.

Component 1: Harkness Heights Bungalow, A New Building Form

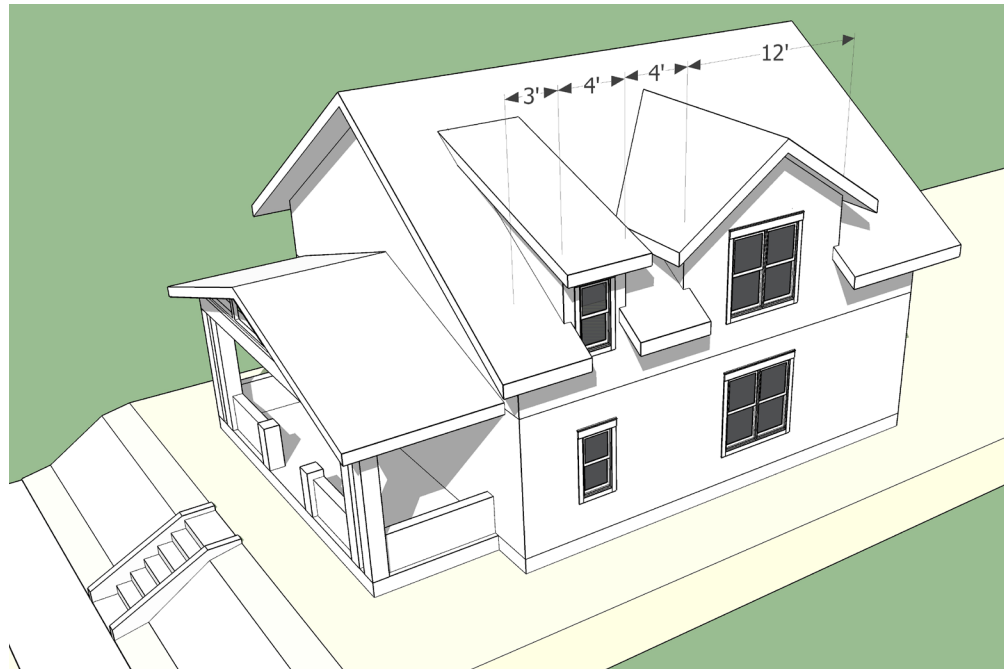


Figure 14: Typical bungalow with a shed and gable dormer showing the dimensional standards.

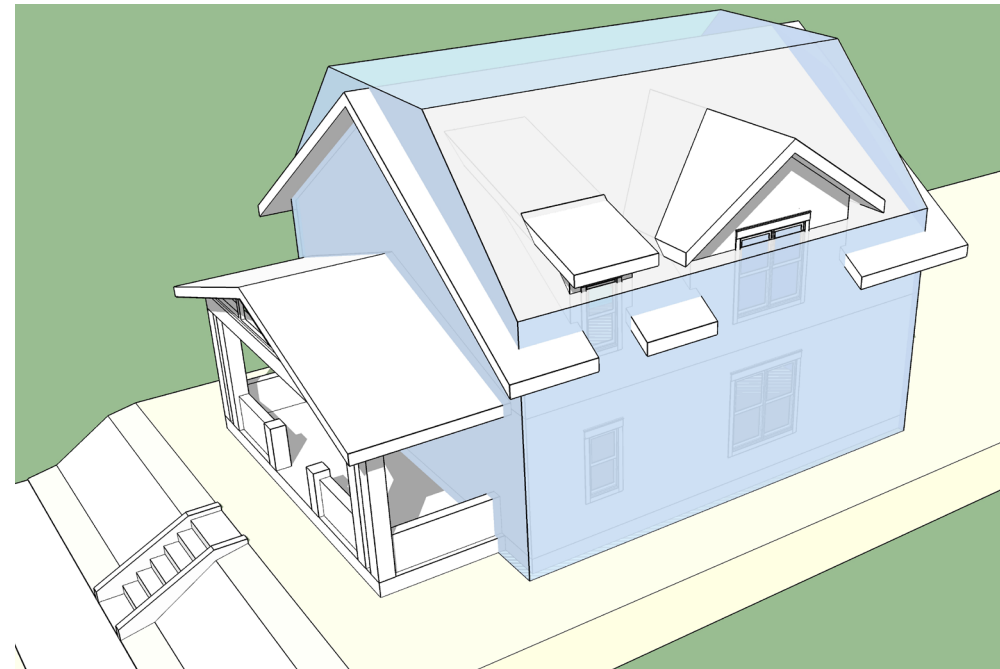


Figure 15: The above image shows how the dormers encroach into the bulk plane

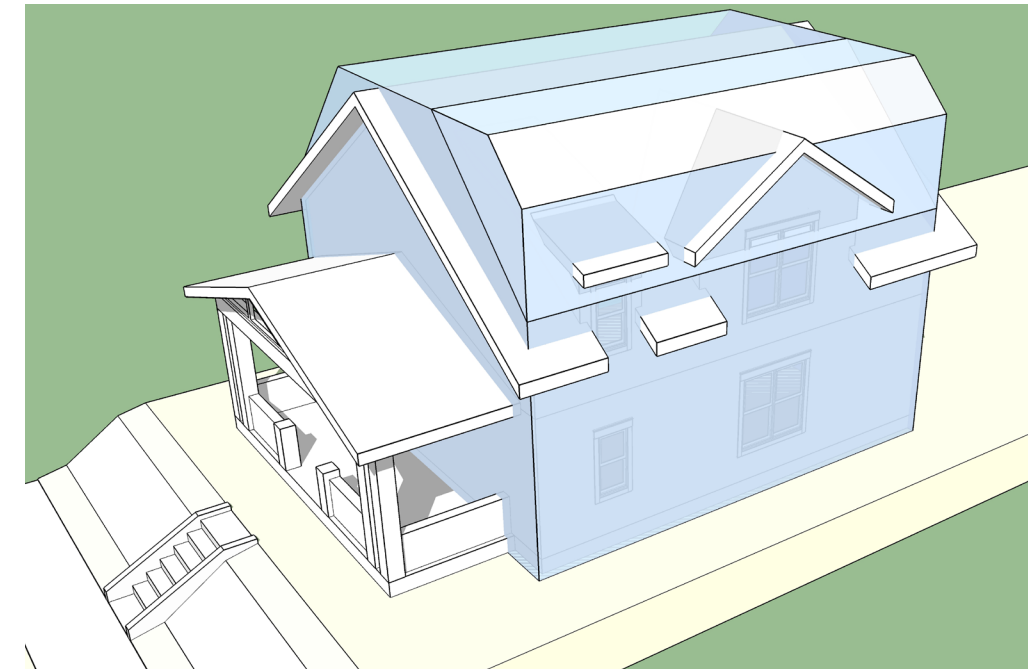


Figure 16: The above image shows the additional "glass box" created by the permitted encroachment zone of 6' measured vertically.

Finished Floor Requirement To encourage basements and protect the dominant scale of the neighborhood, the team recommends that the elevation of the ground level finished floor be raised above the base plane.

Finished Floor: 60% of the ground level finished floor must be **12-36 inches** above the base plane.

Dormer and Gable End Encroachments In order for the H.H. Bungalow's more restrictive bulk plane to allow reasonable architectural plans on the second floors, dormers and gable ends should be permitted to encroach into the bulk plane. In order to simplify the rule, the team incorporated the dimensional standards in the following definition of a dormer.

Dormer, is a building element containing windows that projects from a principal roof with a maximum width of **12 feet**, a minimum width of **4 feet**, a separation from a building corner of at least **3 feet**, and a separation from any adjacent dormer of at least **4 feet**. A dormer roof may be gable, hip, or shed (with **4 to 12 slope** minimum), but cannot be flat or reverse sloped.

This definition is similar to definitions adopted in other districts. In addition to the dormers, gable ends should be permitted to encroach into the bulk plane. Gables that are parallel to the street are a common feature in Harkness Heights. Figure 13 on page 7 shows a gable end encroaching into the bulk plane (the section highlighted in red). Permitting some encroachment would make this gable end conforming. In Article 13 of the code, the term "gable" is defined as the upper portion of a sidewall that comes to a triangular point at the ridge of a sloping roof.

Now that the terms gable and dormer are defined, the team can provide the following regulation.

Encroachment Rule: Dormers and gable ends are permitted to encroach into the bulk plane up to **6 feet** measured vertically. In no case dormers are allowed to be higher than the ridge of the major roof that they are projected from. Total length of encroaching dormers (measured at the intersection line) cannot exceed **50%** of length of side wall.

Component 2: Rooftop Decks

The team was informed both by Councilperson, Espinoza, and by the current residents, that there is a strong sentiment to not allow rooftop decks, balconies, terraces and upper story porches because these may take away from the privacy of the backyard. BRUN proposes two options: not allowing rooftop decks at all or allowing only certain kinds. The consensus in the neighborhood meetings was to not allow rooftop decks at all. Thus, the team revised the language proposed by BRUN in order to prevent rooftop decks:

Any unenclosed deck, patio, terrace, porch, exterior balcony, or similar unenclosed building element located on the roof of the **first, second, or third story** ~~or on the roof of any story above the second story~~ of a structure shall be prohibited.



Figure 17: A view to the sidewalk with mature street trees located on the tree lawns. A consistent row of street trees that are close to the traffic flow slows down the traffic, creates a comfortable sidewalk for walking, and prevents formation of heat islands on the streets.

Component 3: Street Trees

Maintaining a consistent row of street trees located on the tree lawn close to the traffic flow is important not only to preserve the neighborhood character but also to slow down the vehicular traffic, create a comfortable sidewalk for walking, and prevent formation of heat islands on the streets. Currently, the street tree canopy provides an appealing walking experience on most of the sidewalks in Harkness Heights. However, the fact that trees were missing, especially in front of a few newly constructed buildings, convinced the team that adopting a street tree requirement that is contingent to each building permit is a good idea. The team discussed BRUN's suggestion of requiring a tree on the front yard and decided that the better place for street trees is the tree lawn, located within the street right-of-way. In addition to the three reasons mentioned above; calming the traffic, providing a canopy for the pedestrians on the sidewalk, and preventing heat islands, we have observed that in Harkness Heights the view to the front porch from the sidewalk is visually not obstructed. This visual connection encourages neighborly interaction.

The team discussed if it would be problematic to require trees to be planted and maintained, not on the private lot, but within the street right of way. After reviewing the following language that is currently in the code and having a conversation with the current City Forester, Rob Davis, the team decided to require planting a tree and maintaining it within the tree lawn along the street frontage.

Sec. 57-19.

Planting, maintaining, replacing, and removing of trees on public property.

Through the development and permitting process, the city forester may require the planting of trees on the public right-of-way or other public places in the city. The city forester shall establish rules and regulations for the planting, replacing, and maintaining of trees on any public right-of-way or other public place in the city and it shall be unlawful for any person to plant trees upon any public right-of-way or other public place in the city except as prescribed in such rules and regulations. ...

(Ord. No. 121-02, § 1, 2-19-02; Ord. No. 325-08, § 1, 6-23-08; Ord. No. 1017-17, § 1, 10-16-2017)

Another issue about the street tree requirement is spacing. Desired street tree spacing is usually somewhere around 35' to 40' on center. The 50' frontage, that is most common in Harkness Heights, suggests a problem: requiring one tree would result in too spread out spacing or requiring two trees would end up with too tight of spacing (around 25' on center). Furthermore, the spacing in some existing situations may not be equal. The evaluation of the existing trees' health suggests one more challenge. In order to address all of these challenges, the team decided to require a tree for every 40' of frontage (this

means two required trees for a lot with of 50'), but leave the final decision to the City Forester's discretion. Thus, we crafted the tree requirement with the following language:

At least one deciduous street tree with large canopy (approved by the City Forester) shall be planted and maintained for each 40 feet of lot frontage.

Trees shall be planted on the tree lawn within the street right-of-way, unless otherwise is instructed by the City Forester.

City Forester may reduce or waive this requirement depending on the spacing and the condition of the existing trees.



Figure 18: A map of the half blocks facing Grove Street with the tree canopy highlighted to analyze the current condition of the street trees.

Component 4: Privacy Fences and Retaining Walls

After observing a few problematic cases where tall walls were located within the front yard along the street, the team decided to address privacy fences and retaining walls. Privacy fences, when constructed within the front yard, blocks the previously mentioned visual connection between the front yard and the sidewalk, and presents an uninviting or unfriendly face of the house to the public.

We have identified the following issues with the current regulations:

1. The maximum 4 feet low fence height (10.5.5.2) and the maximum 4 feet height for a retaining wall (10.5.6.2) are too permissive for Harkness Heights. We suggest maximum 3 feet for both.
2. When multiple retaining walls need to be employed as terraces, the code requires a 4 feet separation between the retaining walls (10.5.6.2) but it does not require a separation between the retaining wall and a fence or a garden wall. It allows locating a 4 feet tall garden wall or fence on top of a 4 feet tall retaining wall, which can potentially result in an 8 feet tall wall along the sidewalk. This may cause a problem, especially in Harkness Heights because there are many houses located on Denver hills.
3. The 50% transparency requirement for tall fences (10.5.5.1.C.2) may not be desirable if the fence is to be used as a privacy fence. We suggest not to enforce this for residential properties.
4. The current code identifies the zones where low and tall fences are allowed on a lot by using the reference "at or behind primary street facing primary structure facade." This reference becomes problematic when the house footprint has curves or angles. Not that we haven't observed any such conditions in the neighborhood, nevertheless it would be prudent to simplify the code for future conditions. Thus, we suggest using the setback line as reference instead of the building face.

In the light of these diagnoses, and also after receiving neighbors' input, the team has crafted the following language.

Low fence or garden wall means maximum 4 feet tall. High fence or garden wall (for privacy) means maximum 6 feet tall.

Tall fences shall have a minimum of a **2 feet setback from the front setback line** (which is either 20 feet or the block sensitive setback) on interior lots and on the interior side of the corner lots; a minimum of **15 feet setback from the front setback line**, on the street side of the corner lots.

When provided, retaining walls within front and side yards facing any street, shall be built to a **maximum height of 3 feet** and successive walls may be built provided that they are **separated by at least 3 feet**. However, this standard shall not apply to limit the height or require terracing when one or more Retaining Walls are used as an integral part of a below-grade window well or other basement egress area that is allowed by this Code to encroach into the Primary Street Setback area (revised from 10.5.6.2.A Retaining Wall Standards)

When a garden wall or a fence needs to be located near any retaining wall, there shall be a **minimum 3 feet separation** between the retaining wall and the fence or the garden wall.

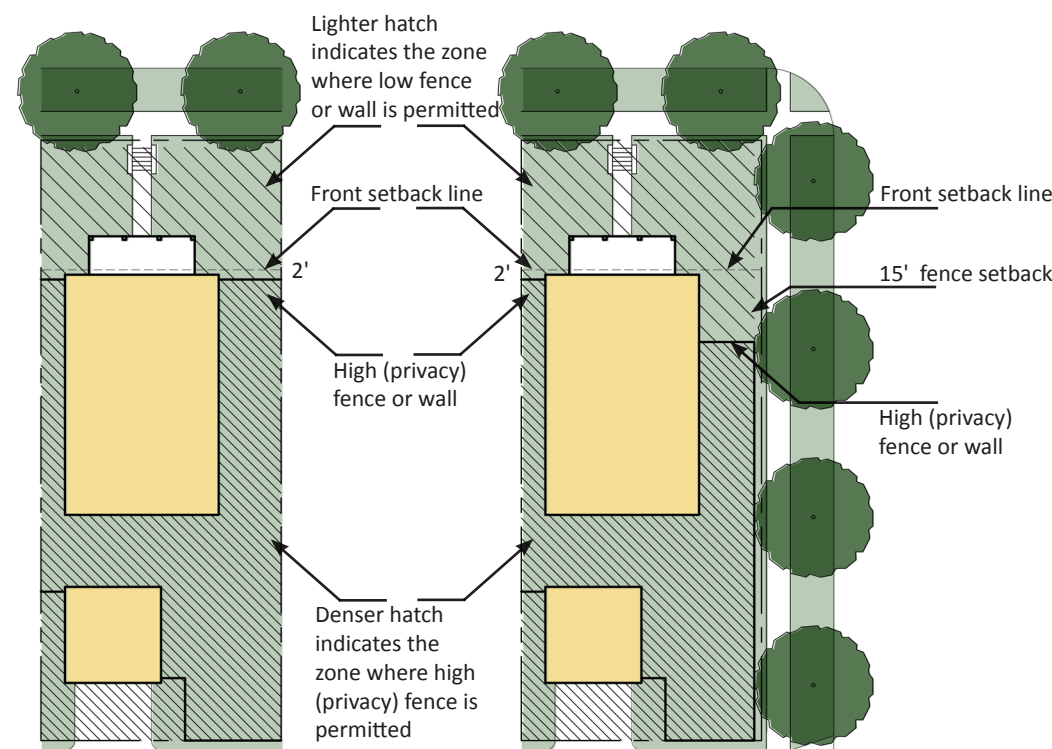


Figure 19: Lot diagrams showing where the low and high fences permitted. Shown are 50' x 125' lots with detached garages.

Figure 19 (below) shows the zones in which these setbacks apply. Note that the low fences or walls can take place within both of the hatched zones, whereas the tall fence or wall can only take place within the course hatched zone. Figure 20 (below) shows a condition of two retaining walls and a low fence with the maximum heights and minimum separations.

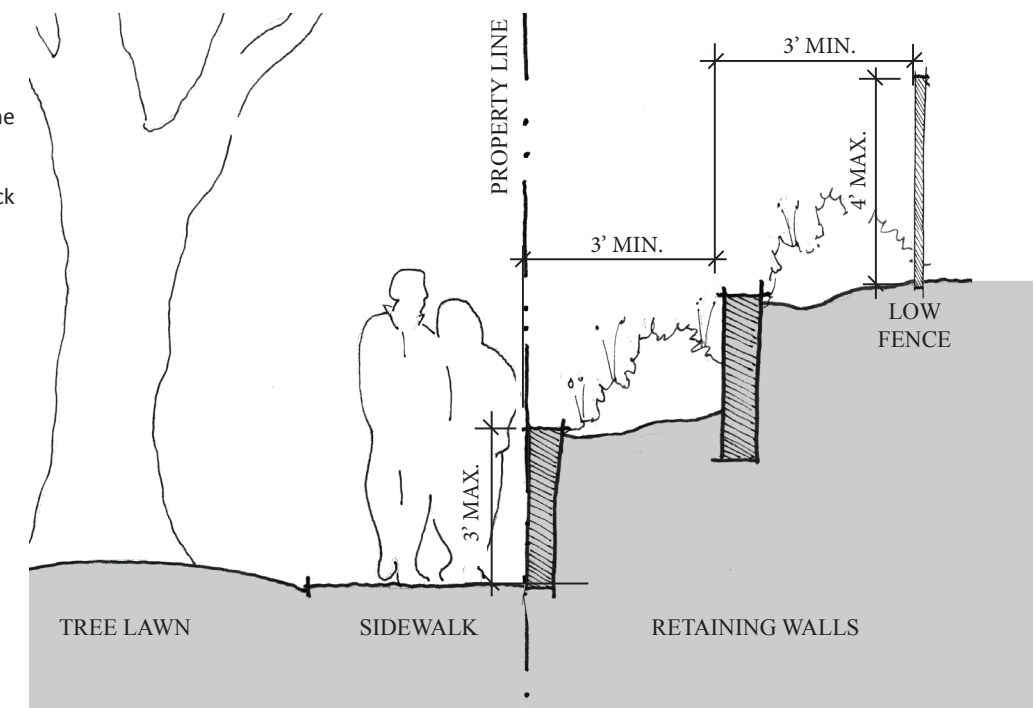
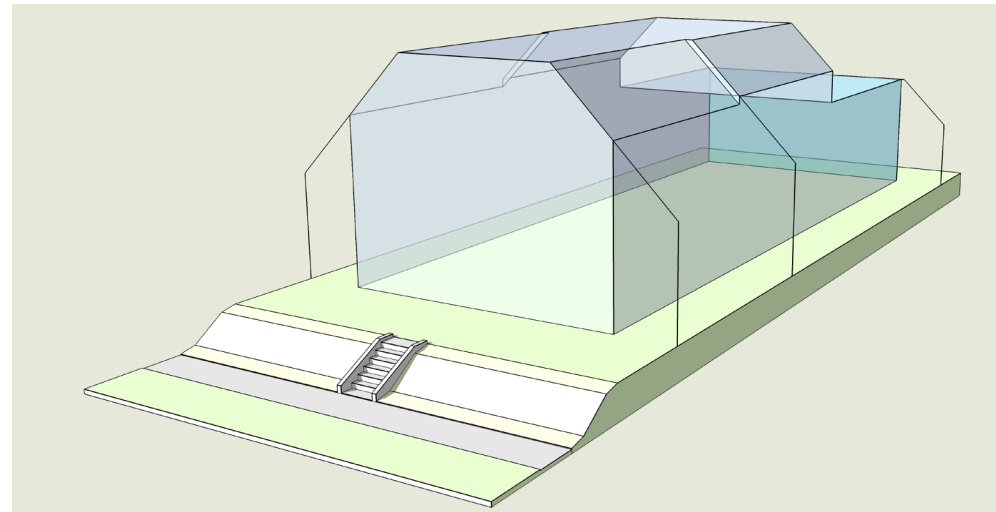


Figure 20: A diagrammatic section that shows two retaining walls and a low fence and the required separations in between each.

Summary of the Proposed Regulations

The proposed components in this document can be adopted as one overlay district or separate overlay districts. Some of the components may have larger applications than others that are more specific to Harkness Heights. This is why, the team believes, before the decision about the grouping of the components has been reached, a study should be done about where else in Denver applying these components may be useful.

COMPONENT 1: H.H. BUNGALOW BUILDING FORM



Three zones:
Front (40%), Middle (25%), Rear (35%)

Height:
1.5 stories on the front zone, 2 stories in the middle zone, 1 story in the rear zone

Bulk:
28'/13'/ 45° on the front zone, 28'/14'/45° in the middle zone

Side setback:
In the front, middle and rear zones of the lots with frontage of 45' or larger: 5' min., total of 15'

Building size:
3000 s.f. max. (excluding the basement).

Porch:
Depth: 6' min, Size: 120 s.f. min.

Ground level finished floor:
60% of the ground level finished floor 12"-36" above the base plane

Encroachments into the bulk:
Dormers and gable ends: 6' max. measured vertically

COMPONENT 2: ROOFTOP DECKS

No rooftop decks, patios, terraces, porches, exterior balconies, or similar unenclosed building elements on upper floors.

COMPONENT 3: STREET TREE REQUIREMENT

1 deciduous street tree for each 40 feet of lot frontage.

On the tree lawns within the street right-of-way

City Forester may reduce or waive this requirement depending on the spacing and the condition of the existing trees.

COMPONENT 4: PRIVACY FENCES AND RETAINING WALLS

Low fence or garden wall height:
4' max.

Tall (privacy) fence or garden wall height:
6' max.

Setbacks on interior lots and the interior side on corner lots:
2' min. from the front setback line

Setbacks on the street side of corner lots:
15' min. from the front setback line

Retaining wall height:
3' max.

Required separation between retaining walls
3' min.

Required separation between retaining walls and fences or garden walls
3' min.

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APPENDICES:

Appendix A: Existing home and porch sizes 25

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Appendix A: Existing home and porch sizes

SITE_NBR	SITE_NAME	SITE_MODE	AREA_ABG	BSMT_AREA	FBSMT_SQFT	CCYRBLT
3501	41ST AVE	AVE	1442	0	0	1954
3301	42ND AVE	AVE	2284	1327	1327	1959
3470	42ND AVE	AVE	1560	1560	1250	1989
3501	42ND AVE	AVE	1573	1573	1400	1963
4203	FEDERAL BLVD	BLVD	1128	524	0	1922
4205	FEDERAL BLVD	BLVD	1128	524	0	1922
4231	FEDERAL BLVD	BLVD	1004	414	351	1922
4235	FEDERAL BLVD	BLVD	888	888	700	1946
4243	FEDERAL BLVD	BLVD	1248	1248	998	1919
4253	FEDERAL BLVD	BLVD	1232	1232	1150	1928
4261	FEDERAL BLVD	BLVD	1804	1514	1383	1912
4267	FEDERAL BLVD	BLVD	1234	617	500	1912
4277	FEDERAL BLVD	BLVD	1839	1539	1381	1925
4135	GREEN CT	CT	1318	1318	1318	1922
4200	GREEN CT	CT	1204	1204	1204	1929
4211	GREEN CT	CT	1678	1570	1570	1924
4212	GREEN CT	CT	1298	1298	1258	1915
4220	GREEN CT	CT	1022	1022	0	1911
4221	GREEN CT	CT	1628	624	0	1905
4226	GREEN CT	CT	1228	742	625	1925
4229	GREEN CT	CT	973	973	485	1929
4235	GREEN CT	CT	992	525	0	1924
4236	GREEN CT	CT	1400	1000	960	1925
4240	GREEN CT	CT	1020	1020	860	1923
4245	GREEN CT	CT	1015	525	210	1924
4253	GREEN CT	CT	1064	125	0	1923
4254	GREEN CT	CT	1528	389	0	1908
4257	GREEN CT	CT	1159	403	0	1905
4260	GREEN CT	CT	941	941	700	1925
4268	GREEN CT	CT	1484	486	386	1908
4271	GREEN CT	CT	930	930	0	1910
4276	GREEN CT	CT	2071	967	639	1910
4277	GREEN CT	CT	1384	553	0	1907
4281	GREEN CT	CT	1312	660	0	1908
4288	GREEN CT	CT	1150	1150	1000	1921
4292	GREEN CT	CT	1354	1402	1262	1922
4295	GREEN CT	CT	1690	1690	1500	1925
4135	GROVE ST	ST	1163	644	0	1912
4150	GROVE ST	ST	767	767	500	1912
4174	GROVE ST	ST	1738	915	700	1915
4184	GROVE ST	ST	1232	1151	597	1922
4200	GROVE ST	ST	1230	1317	1253	1910
4205	GROVE ST	ST	1375	725	0	1913
4212	GROVE ST	ST	1570	496	0	1913
4215	GROVE ST	ST	979	979	223	1931
4220	GROVE ST	ST	1570	598	240	1913

SITE_NBR	SITE_NAME	SITE_MODE	AREA_ABG	BSMT_AREA	FBSMT_SQFT	CCYRBLT
4221	GROVE ST	ST	2489	1017	900	1924
4228	GROVE ST	ST	2520	706	0	1911
4229	GROVE ST	ST	950	622	299	1915
4235	GROVE ST	ST	1292	1292	650	1922
4236	GROVE ST	ST	1175	547	123	1914
4244	GROVE ST	ST	1203	753	675	1927
4245	GROVE ST	ST	1252	745	0	1922
4250	GROVE ST	ST	1411	756	650	1916
4251	GROVE ST	ST	2567	931	931	1910
4258	GROVE ST	ST	1009	533	0	1910
4261	GROVE ST	ST	1067	600	0	1912
4266	GROVE ST	ST	1672	1672	885	1910
4269	GROVE ST	ST	1097	1097	800	1915
4276	GROVE ST	ST	2100	1200	0	1925
4277	GROVE ST	ST	1149	683	445	1912
4282	GROVE ST	ST	1278	775	775	1909
4285	GROVE ST	ST	1294	688	413	1909
4296	GROVE ST	ST	987	859	396	1922
4297	GROVE ST	ST	1171	1171	1000	1926
4298	GROVE ST	ST	987	859	815	1922
4101	HOOKE ST	ST	1673	1526	1300	1949
4110	HOOKE ST	ST	969	669	669	1922
4115	HOOKE ST	ST	976	976	789	1953
4120	HOOKE ST	ST	1118	1118	0	1923
4121	HOOKE ST	ST	1962	981	981	1912
4128	HOOKE ST	ST	2004	840	420	1910
4131	HOOKE ST	ST	1213	1213	787	1922
4135	HOOKE ST	ST	1126	679	300	1922
4138	HOOKE ST	ST	1337	818	491	1912
4144	HOOKE ST	ST	1720	449	307	1912
4145	HOOKE ST	ST	1190	1190	1190	1926
4149	HOOKE ST	ST	1497	1497	1198	1923
4150	HOOKE ST	ST	1441	846	786	1912
4160	HOOKE ST	ST	997	997	312	1927
4162	HOOKE ST	ST	889	889	750	1921
4163	HOOKE ST	ST	2414	1401	1401	1961
4169	HOOKE ST	ST	1661	1184	1184	1940
4175	HOOKE ST	ST	1182	172	0	1909
4182	HOOKE ST	ST	1050	750	0	1922
4185	HOOKE ST	ST	2299	2197	1900	1920
4186	HOOKE ST	ST	1523	1420	1127	1928
4194	HOOKE ST	ST	1796	898	637	1914
4200	HOOKE ST	ST	2040	1020	900	1914
4211	HOOKE ST	ST	2302	1702	1492	1908
4220	HOOKE ST	ST	1193	581	581	1908
4225	HOOKE ST	ST	1024	1024	0	1920
4228	HOOKE ST	ST	1114	960	960	1941

SITE_NBR	SITE_NAME	SITE_MODE	AREA_ABG	BSMT_AREA	FBSMT_SQFT	CCYRBLT
4233	HOOKE ST	ST	970	349	320	1912
4236	HOOKE ST	ST	1428	641	500	1906
4241	HOOKE ST	ST	1406	1406	0	1921
4241	HOOKE ST	ST	346	0	0	1924
4244	HOOKE ST	ST	1019	400	0	1910
4247	HOOKE ST	ST	1330	1330	1200	1920
4250	HOOKE ST	ST	910	242	200	1910
4253	HOOKE ST	ST	1574	1574	1574	1922
4260	HOOKE ST	ST	1064	1064	1064	1922
4261	HOOKE ST	ST	1492	1237	495	1916
4270	HOOKE ST	ST	1247	836	333	1911
4274	HOOKE ST	ST	1485	505	353	1914
4275	HOOKE ST	ST	1258	1258	900	1936
4279	HOOKE ST	ST	968	968	750	1911
4283	HOOKE ST	ST	1111	943	895	1922
4284	HOOKE ST	ST	1185	406	0	1908
4285	HOOKE ST	ST	943	943	895	1922
4100	IRVING ST	ST	1467	1442	1442	1922
4105	IRVING ST	ST	2980	1403	1397	1925
4110	IRVING ST	ST	1184	1087	1000	1921
4111	IRVING ST	ST	1291	1291	1097	1925
4120	IRVING ST	ST	1148	1324	800	1915
4121	IRVING ST	ST	1159	681	622	1922
4128	IRVING ST	ST	1080	1080	900	1972
4129	IRVING ST	ST	1126	664	0	1922
4136	IRVING ST	ST	1352	953	0	1912
4137	IRVING ST	ST	1095	969	895	1929
4145	IRVING ST	ST	1633	738	0	1909
4146	IRVING ST	ST	1067	767	600	1924
4149	IRVING ST	ST	2275	870	870	1910
4154	IRVING ST	ST	961	591	0	1915
4160	IRVING ST	ST	1293	1293	1100	1910
4161	IRVING ST	ST	1306	605	605	1910
4164	IRVING ST	ST	2197	664	485	1902
4171	IRVING ST	ST	2235	1643	1300	1910
4172	IRVING ST	ST	1103	1210	1100	1948
4177	IRVING ST	ST	1349	1349	1282	1925
4180	IRVING ST	ST	1200	449	314	1910
4185	IRVING ST	ST	1527	1021	921	1956
4191	IRVING ST	ST	1680	1680	1593	1922
4194	IRVING ST	ST	1429	966	650	1923
4200	IRVING ST	ST	937	485	0	1915
4205	IRVING ST	ST	2682	878	318	1902
4210	IRVING ST	ST	1120	1120	1000	1915
4218	IRVING ST	ST	1048	600	600	1916
4221	IRVING ST	ST	1732	458	92	1909
4230	IRVING ST	ST	888	888	0	1922

* 309 residential properties listed in the Harkness Heights subdivision. The dataset comes from a City Assessor and is available at <https://www.denvergov.org/opendata/dataset/city-and-county-of-denver-real-property-residential-characteristics>
 **City records do not record renovations
 ***Year Built designation in the Assessor's data simply indicates the effective oldest age of the structure

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SITE_NBR	SITE_NAME	SITE_MODE	AREA_ABG	BSMT_AREA	FBSMT_SQFT	CCYRBLT
4236	IRVING	ST	1238	1238	1238	1925
4239	IRVING	ST	1562	1447	999	1922
4244	IRVING	ST	2092	686	0	1905
4245	IRVING	ST	970	781	82	1908
4250	IRVING	ST	1983	1983	1750	1920
4253	IRVING	ST	888	244	0	1910
4257	IRVING	ST	979	555	87	1916
4258	IRVING	ST	1249	1249	1249	1927
4264	IRVING	ST	1484	1012	1000	1922
4265	IRVING	ST	1633	1092	1092	1911
4270	IRVING	ST	1008	1008	0	1923
4277	IRVING	ST	1257	1257	600	1921
4279	IRVING	ST	1239	1100	0	1910
4284	IRVING	ST	1027	1014	200	1914
4295	IRVING	ST	988	988	850	1937
4100	JULIAN	ST	957	566	0	1911
4105	JULIAN	ST	1085	0	0	1975
4110	JULIAN	ST	973	498	498	1911
4111	JULIAN	ST	616	0	0	1923
4118	JULIAN	ST	1120	562	500	1911
4119	JULIAN	ST	913	421	0	1909
4127	JULIAN	ST	2095	356	11	1924
4128	JULIAN	ST	1617	1185	1185	1929
4136	JULIAN	ST	1703	603	0	1930
4141	JULIAN	ST	1135	1135	900	1952
4142	JULIAN	ST	1684	972	0	1908
4150	JULIAN	ST	939	403	0	1911
4151	JULIAN	ST	1070	885	750	1910
4160	JULIAN	ST	1250	1250	1150	1923
4161	JULIAN	ST	1616	731	548	1910
4167	JULIAN	ST	1321	1230	1097	1906
4170	JULIAN	ST	1896	981	400	1929
4176	JULIAN	ST	1451	210	0	1906
4177	JULIAN	ST	1712	1150	0	1906
4184	JULIAN	ST	1042	1042	938	1930
4185	JULIAN	ST	1175	1175	1075	1923
4189	JULIAN	ST	1541	455	0	1905
4194	JULIAN	ST	1585	1585	1585	1923
4200	JULIAN	ST	1268	1268	1268	1955
4203	JULIAN	ST	1908	1823	1823	1919
4212	JULIAN	ST	1568	1568	384	1919
4221	JULIAN	ST	1741	660	0	1912
4224	JULIAN	ST	2406	1203	1000	2014
4229	JULIAN	ST	1327	1111	173	1908
4230	JULIAN	ST	1008	573	0	1908
4236	JULIAN	ST	1122	1014	963	1922
4237	JULIAN	ST	1938	780	700	1909

SITE_NBR	SITE_NAME	SITE_MODE	AREA_ABG	BSMT_AREA	FBSMT_SQFT	CCYRBLT
4243	JULIAN	ST	792	792	650	1922
4244	JULIAN	ST	1110	741	0	1910
4250	JULIAN	ST	1184	1184	881	1924
4253	JULIAN	ST	1363	1363	400	1923
4260	JULIAN	ST	1997	943	0	1910
4261	JULIAN	ST	1481	1101	1101	1927
4268	JULIAN	ST	1916	962	765	1914
4269	JULIAN	ST	1909	1175	1116	1920
4276	JULIAN	ST	1453	789	675	1922
4281	JULIAN	ST	2072	1347	1347	1908
4283	JULIAN	ST	889	700	700	1916
4284	JULIAN	ST	1047	1047	947	1923
4291	JULIAN	ST	880	465	465	1922
4102	KING	ST	1410	1410	1137	1926
4115	KING	ST	1104	1080	0	1925
4116	KING	ST	1378	978	929	1918
4121	KING	ST	1115	0	0	1908
4122	KING	ST	1287	976	850	1918
4126	KING	ST	1085	430	400	1921
4127	KING	ST	1390	1390	1390	1925
4135	KING	ST	1092	484	0	1923
4136	KING	ST	2784	1402	1200	2014
4140	KING	ST	2154	1034	982	1970
4145	KING	ST	1425	1425	1425	1925
4152	KING	ST	1363	1254	0	1912
4155	KING	ST	1084	692	0	1908
4160	KING	ST	850	850	750	1924
4161	KING	ST	1560	372	0	1917
4169	KING	ST	2484	1146	581	1909
4170	KING	ST	962	648	550	1912
4175	KING	ST	2498	1558	0	1903
4176	KING	ST	1015	482	0	1914
4177	KING	ST	2058	887	157	1912
4182	KING	ST	981	964	864	1911
4195	KING	ST	1107	1057	1057	1940
4200	KING	ST	1824	1177	1177	1934
4213	KING	ST	1765	1171	1171	1916
4214	KING	ST	1218	1148	818	1923
4220	KING	ST	1402	1315	672	1923
4223	KING	ST	1260	1260	882	1927
4230	KING	ST	1986	526	426	1910
4231	KING	ST	1142	529	0	1907
4235	KING	ST	2302	373	200	1908
4236	KING	ST	1747	732	732	1906
4242	KING	ST	1452	414	0	1910
4245	KING	ST	1116	1007	400	1923
4250	KING	ST	852	852	804	1948

SITE_NBR	SITE_NAME	SITE_MODE	AREA_ABG	BSMT_AREA	FBSMT_SQFT	CCYRBLT
4255	KING	ST	2685	917	0	1910
4259	KING	ST	938	106	0	1909
4264	KING	ST	1776	0	0	2011
4271	KING	ST	960	240	0	1909
4272	KING	ST	985	461	230	1925
4275	KING	ST	1984	968	616	1909
4279	KING	ST	933	411	214	1911
4280	KING	ST	783	381	0	1925
4285	KING	ST	933	304	225	1908
4290	KING	ST	1173	1173	1073	1925
4291	KING	ST	933	371	0	1908
4100	KNOX	CT	1972	1572	1085	1928
4105	KNOX	CT	1288	1288	900	1928
4111	KNOX	CT	1068	486	486	1916
4120	KNOX	CT	1073	748	616	1925
4121	KNOX	CT	2650	416	0	1907
4127	KNOX	CT	1102	1102	1102	1922
4128	KNOX	CT	1168	712	712	1914
4135	KNOX	CT	1210	988	666	1925
4140	KNOX	CT	1215	1106	0	1910
4142	KNOX	CT	1410	306	0	1906
4143	KNOX	CT	1648	453	0	1910
4150	KNOX	CT	1563	1152	1100	1920
4153	KNOX	CT	1799	495	350	1911
4160	KNOX	CT	1229	1021	881	1909
4166	KNOX	CT	1432	412	0	1910
4171	KNOX	CT	1048	1017	971	1939
4175	KNOX	CT	1423	150	0	1906
4176	KNOX	CT	1848	276	0	1907
4180	KNOX	CT	1242	1242	300	1928
4185	KNOX	CT	1274	1274	1274	1910
4190	KNOX	CT	1203	685	0	1954
4195	KNOX	CT	1103	1045	950	1937
4204	KNOX	CT	2612	2138	1888	1919
4205	KNOX	CT	1373	1373	228	1913
4208	KNOX	CT	1100	1100	1045	1936
4213	KNOX	CT	1316	1316	1184	1921
4222	KNOX	CT	1214	1214	804	1917
4223	KNOX	CT	2624	1142	912	1912
4229	KNOX	CT	1802	824	650	1912
4230	KNOX	CT	929	929	817	1930
4232	KNOX	CT	1082	563	0	1922
4233	KNOX	CT	432	0	0	1912
4242	KNOX	CT	1564	0	0	1956
4245	KNOX	CT	1464	1397	1317	1922
4252	KNOX	CT	1125	1125	186	1923
4255	KNOX	CT	2016	959	0	1912

* 309 residential properties listed in the Harkness Heights subdivision. The dataset comes from a City Assessor and is available at <https://www.denvergov.org/opendata/dataset/city-and-county-of-denver-real-property-residential-characteristics>
 **City records do not record renovations
 ***Year Built designation in the Assessor's data simply indicates the effective oldest age of the structure

SITE_NBR	SITE_NAME	SITE_MODE	AREA_ABG	BSMT_AREA	FBSMT_SQFT	CCYRBLT
4260	KNOX	CT	1394	816	800	1929
4265	KNOX	CT	0	0	0	
4270	KNOX	CT	1218	1218	0	1929
4271	KNOX	CT	1031	0	0	1949
4275	KNOX	CT	1577	503	400	1911
4280	KNOX	CT	1164	1164	1014	1928
4284	KNOX	CT	816	816	444	1929
4290	KNOX	CT	1632	816	775	1929
4295	KNOX	CT	1118	1118	1118	1948
4126	LOWELL	BLVD	1267	580	480	1919
4130	LOWELL	BLVD	994	566	300	1910
4136	LOWELL	BLVD	1780	559	400	1910
4140	LOWELL	BLVD	904	401	381	1924
4144	LOWELL	BLVD	946	685	651	1924
4150	LOWELL	BLVD	964	964	750	1918
4156	LOWELL	BLVD	1041	997	0	1932
4162	LOWELL	BLVD	908	515	0	1912
4176	LOWELL	BLVD	966	966	852	1925
4190	LOWELL	BLVD	957	957	860	1954
4194	LOWELL	BLVD	957	957	800	1954
4200	LOWELL	BLVD	1161	1161	1161	1948
4212	LOWELL	BLVD	840	840	598	1924
4220	LOWELL	BLVD	1332	807	807	1937
4230	LOWELL	BLVD	1351	1351	1200	1937
4236	LOWELL	BLVD	1838	0	0	2011
4238	LOWELL	BLVD	1838	0	0	2011
4244	LOWELL	BLVD	962	553	135	1924
4252	LOWELL	BLVD	1008	1008	504	1926

ADDRESS	PORCH WIDTH	PORCH DEPTH	PORCH AREA	HOME FAÇADE WIDTH
4120 GROVE ST	0	0	0	0
4297 GROVE ST	7	2	14	38
4282 GROVE ST	10	4	40	26
4245 GROVE ST	11	5	55	36
4135 GROVE ST	21	5	105	27
4244 GROVE ST	18	6	108	29
4285 GROVE ST	17	7	119	45
4150 GROVE ST	17	7	119	34
4121 GROVE ST	20	6	120	30
4158 GROVE ST	21	6	126	30
4212 GROVE ST	23	6	138	29
4220 GROVE ST	23	6	138	28
4221 GROVE ST	20	7	140	36
4128 GROVE ST	24	6	144	29
4266 GROVE ST	25	6	150	30
4157 GROVE ST	25	6	150	31
4134 GROVE ST	19	8	152	28
4250 GROVE ST	26	6	156	42
4184 GROVE ST	20	8	160	28
4144 GROVE ST	27	6	162	32
4276 GROVE ST	24	7	168	31
4228 GROVE ST	28	6	168	36
4298 GROVE ST	21	8	168	25
4296 GROVE ST	21	8	168	25
4261 GROVE ST	24	7	168	30
4258 GROVE ST	24	7	168	29
4175 GROVE ST	24	7	168	28
4200 GROVE ST	25	7	175	30
4269 GROVE ST	20	9	180	34
4229 GROVE ST	26	7	182	30
4277 GROVE ST	27	7	189	36
4185 GROVE ST	24	8	192	28
4165 GROVE ST	24	8	192	30
4113 GROVE ST	24	8	192	31
4215 GROVE ST	24	8	192	28
4145 GROVE ST	24	8	192	29
4235 GROVE ST	28	7	196	31
4190 GROVE ST	25	8	200	41
4195 GROVE ST	29	7	203	36
4168 GROVE ST	26	8	208	34
4205 GROVE ST	26	8	208	34
4112 GROVE ST	28	8	224	32
4174 GROVE ST	33	7	231	34
4153 GROVE ST	26	9	234	31
4104 GROVE ST	30	8	240	30
4251 GROVE ST	35	7	245	39
4127 GROVE ST	28	9	252	32
4236 GROVE ST	37	7	259	41
4103 GROVE ST	38	8	304	38
All data				Minus Outliers
Avg. Porch_Area			166.57	Avg. Porch_Area
Median Porch_Area			168.00	Median Porch_Area
Median Porch_Width			24.00	Median Porch_Width
Avg. Porch_Width			23.41	Avg. Porch_Width
Avg. Porch_Depth			6.82	Avg. Porch_Depth
Median Porch_Depth			7.00	Median Porch_Depth
St. Dev of porch are:			59.18	39.090

* Porch data is a sample 49 homes on Grove Street