Site Design and Development Feasibility Report

New Hope Housing - Avenue J
Houston, TX 77011

Brewer Engineering Project # 12599
February 21, 2019
February 25, 2019

Emily Abeln
New Hope Housing, Inc.
1117 Texas Avenue
Houston, TX 77002

Re: New Hope Housing - Avenue J
Site Design and Development Feasibility Report
Houston, TX 77011

Dear Ms. Abeln,

This Site Design and Development Feasibility Report for New Hope Housing- Avenue J is prepared in accordance with current TDHCA criteria.

“All persons who have a property interest in this report hereby acknowledge that the Department may publish the full report on the Department’s website, release the report in response to a request for public information and make other use of the report as authorized by law”

Please let me know if you have any questions, or how I can be of further assistance.

Very truly yours,

Brewer Engineering
TBPE F-2136

William M. Langford, PE
P.E. SERIAL NO. 53170

Civil Engineering Services  13430 NW Freeway, Suite 350  Houston, Texas  77040  TBPE F-2136  www.Brewer-Eng.com
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EXECUTIVE SUMMARY

1. PROJECT OVERVIEW

The purpose of this report is to provide an assessment of existing site conditions and development requirements for the proposed New Hope Housing-Avenue J project located within the City of Houston (COH) in Harris County, Texas. This report has been prepared in accordance with 2019 Uniform Multifamily Rules.

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The proposed project, New Hope Housing-Avenue J, is a 5-story residential-use building with 100 units. All units will have common amenities.

The project site is a 1.376 acre tract, Lots 1 thru 12, Block 12, Engel Addition, according to the Map of Plat thereof recorded in volume 462, page 18 of the deed records of Harris County. The property is commonly known as 323 Avenue J, Houston, Texas 77011 and is also identified by HCAD Account Number 0130960120001.

The property is located within the block bound by Avenue I on the south, Edgewood Street on the west, Avenue J on the north, and Engel Street on the east. The land is currently vacant.

The majority of the parcel is located in unshaded Zone ‘X’ (areas determined to be outside the 0.2% annual chance floodplain) according to Flood Insurance Rate Map 48201C0880M, dated January 06, 2017 (refer to Appendix E). A portion of the property at the north is within the Special Flood Hazard Area of the City of Houston (COH) as defined in Chapter 19 of the COH code of ordinance (shaded Zone ‘X’ areas determined to be inside the 0.2% annual chance floodplain).

The Effective Flood Insurance Study (EFIS) that was utilized to establish floodplains and special flood hazard areas shown on the FEMA Map Panels only addresses the risk of flooding due to the primary drainage channel capacity being exceeded. The EFIS does not address the risk of flooding due to inadequate drainage infrastructure (lateral swales, storm sewers), overland sheet flow or very extreme storm events. Flooding may occur on property that lies outside of the Special Flood Hazard Areas as defined either by FEMA or the COH. Some consideration and evaluation of these factors should be incorporated into the design of the project.

Entitlement of New Hope Housing – Avenue J will require site plan approval by the City of Houston (COH) Planning Department. A pre-submittal meeting must be scheduled with Planning and Development staff members, where questions can be asked and feedback can be given by the planning staff. Once the site plan is approved a site/building permit application and plans can be submitted for review and approval. The initial review by COH of plans for site/building permit can take up 4-6 weeks. Subsequent reviews can take up to 2-3 weeks. Preliminary and Final Plat must be submitted and approved by the Planning Commission. The Plat must be recorded prior to issuance of a permit, unless a variance is obtained by the planning department. Connections to public utilities will require public plans be approved through COH Department of Public Works & Engineering (PWE). Initial review of public plans can take up to 4-6 weeks. Subsequent review can take up to 2-3 weeks.

All required utilities are located in the public R.O.W. of Avenue I, Edgewood Street, Avenue J and Engel Street. Reference GIMS Utility Maps in Appendix F.
2. **DUE DILIGENCE STATEMENT**

This report was compiled from information obtained in a site visit, examination of record construction documents, field survey and e-mail/phone conversations with municipal and agency staff members, and internet research.

3. **PROPERTY IDENTIFICATION NUMBER**

The subject property is on file in the official records of Harris County Tax Assessor-Collector’s office, Account Number 0130960120001.

4. **MILLAGE RATES FOR ALL TAXING JURISDICTIONS**

2018 tax rates, per $100 of assessed value, for applicable taxing authorities based on rates published by Harris County Appraisal District are as follows:

- **Houston ISD**: 1.206700
- **Harris County**: 0.418580
- **Harris County Flood Control District**: 0.028770
- **Port of Houston Authority**: 0.011550
- **Harris County Hospital District**: 0.171080
- **Harris County Education Department**: 0.005190
- **Houston Community College**: 0.100263
- **City of Houston**: 0.588310
- **East End District**: 0.150000

5. **ZONING REQUIREMENTS**

There are no zoning designations for this site. Site plan approval will need to be obtained by the COH to ensure that the proposed development is acceptable, and to ensure that all rules and regulations are met. Site plan approval process generally takes 2-4 weeks.

<table>
<thead>
<tr>
<th>Dimensional Standard</th>
<th>Multi-family Development Requirements</th>
<th>New Hope Housing-Avenue J</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Line</td>
<td>10 feet (all sides)</td>
<td>10 feet</td>
<td>Compliant</td>
</tr>
<tr>
<td>Parking</td>
<td>SEC 26-492 Parking Spaces by Classifications</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class 2a: Residential (Apartment House) = 1.333 spaces for each one bedroom apartment and 1.666 spaces for each two bedroom apartment = (1.333 * 50) + (1.666 * 50) = 150 spaces</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class 1: Office) = 2.75 spaces for every 1,000 SF of UFA = (600*(1/1,000)) * 2.75 = 1.65 = 2 spaces</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>152 spaces required -10% bike allowance = 152 - (152 * 0.10) = 137 spaces required</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

137 spaces provided | Compliant
6. **SUBDIVISION PLAT**

Based on the City of Houston 2017 Major Thoroughfare and Freeway Plan (MFTP), none of the adjacent streets are classified as major thoroughfares.

Based on current site plan a replat will be required to eliminate the existing lot lines. We anticipate that there will be a 5 feet R.O.W. dedication for all the adjacent streets with a 10-foot Building Setback (the current R.O.W. width for all the adjacent streets is 50 feet). Any requirement for additional Road R.O.W. dedication will be addressed during the platting procedure and confirmed by planning section. The platting process will take approximately 2 to 3 months.

7. **LOCAL DESIGN REQUIREMENTS / DEVELOPMENT ORDINANCES**

To determine availability of water and sewer utility capacity, a Water and Wastewater Capacity Reservation Application (WWCRA) must be submitted through the COH Permitting Center website. The application is to be submitted by the current property owner (or the owner’s authorized representative). Once approved, two letters, one for each utility, will be sent to the owner. These letters will indicate required impact fees, points of connection for utilities, and other design requirements for final building permit approval. It currently takes 4 to 6 weeks to receive letters after submittal of the WWCRA request.

Points of connection to the public system for water and sewer are determined by the COH but can sometimes be negotiated if there is a good reason to prefer a different point of connection. The civil engineer will evaluate the connection points and negotiate these with the COH if necessary.

**Water**

Record drawings show an existing 8-inch water line along the west side of Engel Street, an 8-inch water line along the south side of Avenue I, and a 6-inch water line along the west side of Edgewood Street. Connection(s) will likely be made to either of the 8-inch water lines. A fire line will be needed to serve fire sprinkler system for proposed building. A separate connection will be needed for irrigation.

**Wastewater**

Record drawings show an existing 8-inch sanitary sewer line under the paving in center of Edgewood Street, an existing 8-inch sanitary sewer line under the paving in center of Avenue J and an existing 8-inch sanitary sewer line along the east side of Engel Street (under the paving). Connection(s) could be made to any of these sewer lines.

**Drainage**

On-site storm water detention will be required. The City of Houston requires that all impervious cover be mitigated at a storage rate of 0.5 Acre-Feet per acre. Detention will likely be achieved primarily in underground structures.

A Storm Water Quality (SWQ) management plan and permit will be required. A new SWQ feature will be required to treat the storm water discharge to the public storm sewer system.

The entire site will be disturbed and the site drainage will be completely renovated by the proposed development project.

It appears that the site is currently draining (mainly by sheet flow) from south to north. The elevations of the track drop approximately 6-7 feet from Avenue I down to Avenue J.

Record drawings show the public inlets located at the northwest corner of the subject property on Avenue J and at the northeast corner on Engel St.
Record drawings also show and existing 78-inch storm sewer line that encroaches the Norwest corner of subject property. The title report and boundary survey show no evidence of an existing drainage easement. It appears that the 78-inch line would be in a prescriptive easement. This should be verified with the City of Houston.

All construction work within COH right of way or easements will require a public plan set, separate from the building permit plan set. Public plans will need to be submitted for review to COH Department of Public Works & Engineering (PWE) for all new connections to public utilities. Initial review of public plans can take up to 4-6 weeks. Subsequent reviews can take up to 2-3 weeks. Once reviewed and all comments are addressed and final plans will need to be approved by all departments during a walk-through procedure held by PWE every Thursday at COH Permitting Center at 1002 Washington Street, Houston, TX 77002

- Sewer tap(s) will be off-site in COH right of way
- Water tap(s) will be off-site in COH right of way.
- Storm sewer connection(s) will be off-site in COH right of way.

On-site private facility plans will be reviewed by the COH Permit Department. Refer to website (https://www.municode.com/library/tx/houston) for City of Houston Code of Ordinances.

**Dry Utilities**

CenterPoint Energy (800-332-7143) is the electric infrastructure service provider and gas service provider for this area. Electric service to the building would come from the power lines along Edgewood Street, Engel Street or Avenue J. There are multiple telephone service providers for this area. A full list of these providers can be found on Public Utility Commission of Texas website, www.puc.texas.gov.

8. **FIRE DEPARTMENT REQUIREMENTS**

Fire protection codes for multi-family developments can be found under Chapter 42 (Section 42-233) of City of Houston Code of Ordinances, the 2012 International Building Code, and the 2012 International Fire Code (with amendments).

9. **SITE INGRESS AND EGRESS REQUIREMENTS**

There are two driveways proposed to serve the New Hope Housing-Avenue J project. One driveway is proposed on Edgewood Street near the north end of the site. The second driveway is proposed on Engel Street near the north end of the site. The two driveways will allow turns in both directions. A COH form ‘A’, “Access Management Data Summary”, will need to be submitted to COH before or during site plan approval to ensure that driveways will be allowed as shown.
10. BUILDING CODES AND LOCAL ORDINANCES

The City of Houston has adopted the following building codes, local design ordinances, and the amendments (2018):

<table>
<thead>
<tr>
<th>Code</th>
<th>Publisher</th>
<th>Effective Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012 International Residential Code (with Houston Amendments)</td>
<td>ICC</td>
<td>February 1, 2016</td>
</tr>
<tr>
<td>2012 International Building Code (with Houston Amendments)</td>
<td>ICC</td>
<td>February 1, 2016</td>
</tr>
<tr>
<td>2012 International Fire Code (with Houston Amendments)</td>
<td>ICC</td>
<td>February 1, 2016</td>
</tr>
<tr>
<td>2012 Uniform Mechanical Code (with Houston Amendments)</td>
<td>IAPMO</td>
<td>February 1, 2016</td>
</tr>
<tr>
<td>2012 Uniform Plumbing Code (with Houston Amendments)</td>
<td>IAPMO</td>
<td>February 1, 2016</td>
</tr>
<tr>
<td>2017 National Electrical Code (State Mandated)</td>
<td>NFPA</td>
<td>September 15, 2017</td>
</tr>
<tr>
<td>Sign Code</td>
<td>COH</td>
<td></td>
</tr>
<tr>
<td>2015 International Energy Conservation Code (with Houston Amendments)</td>
<td>ICC</td>
<td>October 24, 2016*</td>
</tr>
<tr>
<td>For One and Two-Family Dwellings and Multi-Family 3 stories or less.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015 International Energy Conservation Code (with Houston Amendments)</td>
<td>ICC</td>
<td>December 9, 2016*</td>
</tr>
<tr>
<td>For Commercial Structures, including Residential Structures more than 3 stories</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASHRAE 90.1-2013(with Houston Amendments)</td>
<td>ASHRAE</td>
<td>December 9, 2016*</td>
</tr>
<tr>
<td>For Commercial Structures, including Residential Structures more than 3 stories</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012 Code Word - various sections interpreted</td>
<td>COH</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* The enforcement of Chapter 11 of the 2015 International Residential Code became mandatory by state law effective September 1, 2016.
* The enforcement of the 2015 IECC-Commercial Provisions became mandatory by state law effective November 1, 2016.
Current Code Amendments:

**CONSTRUCTION CODE**

**Building**
- 2012 IBC Houston Amendments-Print 2  
  09/01/2018
- 2012 IBC Houston Amendments  
  02/01/2016

**Residential**
- 2012 IBC Houston Amendments  
  02/01/2016

**Electrical**
The 2017 National Electrical Code (NEC) became mandatory by state law effective September 15, 2017. The Houston Administrative provisions to the NEC are currently awaiting review by City Council.

**Mechanical**
- 2012 UMC Houston Amendments  
  02/01/2016

**Plumbing**
- 2012 UPC Houston Amendments  
  02/01/2016

**Fire**
- 2012 IFC Houston Amendments  
  02/01/2016
- LSH Standards

  NOTE: The LSH Standards are currently being reviewed for update to the 2012 Houston Adopted Construction Code.

  **Draft 2018 LSH Standards**

  NOTE: Updates are to become effective on October 18, 2018.

**Residential Energy**

  **Note:** The enforcement of Chapter 11 of the 2015 International Residential Code became mandatory by state law effective September 1, 2016.

- 2015 IECC Amendments (Residential Provisions)  
  10/24/2016

**Commercial Energy**

  **Note:** The 2015 IECC-Commercial Provisions became effective November 1, 2016 per state law.

- 2015 IECC Amendments (Commercial Provisions)  
  12/09/2016
- ASHRAE 90.1-2013 Amendments  
  12/09/2016
11. ATYPICAL ITEMS

The following items will impact project costs but are mentioned here because they are not typical for all projects. These costs have been included in Project construction estimates.

   a) Approximately 1,100 LF of retaining wall (along the property line).
   b) Compensating Volume for Mitigation due to a portion of the development site being located in the 500-YR floodplain.
   c) Underground Detention Vault.

Estimated costs for these items are identified in the site work cost estimates prepared for this project.

12. ENTITLEMENT SUMMARY

This section presents the applicable entitlement and site development permitting process that will affect the project.

   a) Zoning: The COH does not have a zoning ordinance. A development site plan review will need to be submitted to the Planning & Development Department to assure the plan complies with all building setbacks and use requirements.

   b) Platting: The subject site will most probably require a Class 2 Subdivision Plat (Replat). Submittal for Preliminary and Final approval can be made at the same time. The final approval normally will include City Planning comments and conditions which must be resolved prior to submitting the Original Plat Mylar for recordation. The process typically takes 45 to 75 days.

   c) Civil Engineering Onsite Private Facilities Construction Plans: Site Construction plans can be submitted to the Permit Department for review and permit separately, or with the building permit drawings. The permit submittal can be processed concurrently with the Platting process however the plat must be recorded prior to receiving the site permit, unless a variance is granted by Planning Department and Building Permit Official.

   d) Civil Engineering Public Plans for Utility Connections: Construction plans for connections to Public Water, Sanitary Sewer, and Drainage systems in the Public ROW and public easements must be submitted to the Department of Public Works and Engineering for review and approval. The review and approval process normally takes 60 to 75 days.

   e) Building Permit: The building permit drawings can be submitted to the Permit Department for review and permit issuance separately, or with the Site Permit construction drawings. The review and approval process can run concurrently with the platting process, but a Building Permit will not be issued until the Plat is recorded, unless a variance is granted by Planning Department and Building Permit Official. Review process can take 60 to 75 days or longer. Site permit will need to be approved prior to building permit if submitted separately.
13. IMPACT, SITE DEVELOPMENT PERMIT, BUILDING PERMIT AND OTHER FEES

This section presents a summary of the estimated applicable fees that will affect the proposed project:

Plat Fees: Application Class 2 = $873.83, Recording Fee = $306.56, Total = $1,180.39

Development Plat Review Fee (Affordable Housing, Up to 3 reviews) = $279.96

Capacity Reservation Application Fee = $84.40

The City of Houston Utility Analysis section details the method for calculating water and wastewater impact fees. The estimated impact fee computed for this project is:

A). Apartment with washer/dryer (0.4762 SU/Unit) x 100 = 47.62 SU

Water impact Fee = $706.83 per SU or 47.62 x $706.83 = $33,659.24

Sewer impact Fee = $1,199.11 per SU or 47.62 x $1,199.11 = $57,101.62

Building Permit Fee (assume $25,000,000 construction cost) = $51,488.74

(Based on the 2019 Building Permit Fee Schedule published by City of Houston Building Code Enforcement department)
Appendix A

Survey
Appendix B

Preliminary Site Plan
Appendix C

Preliminary Drainage Map
Appendix D

Site Map
Appendix E

FEMA Map
Appendix G

GIMS Utility Maps
SUBJECT PROPERTY

CITY OF HOUSTON
Department of Public Works and Engineering
Geographic Information & Management System (GIMS)

DISCLAIMER: THIS MAP REPRESENTS THE BEST INFORMATION AVAILABLE TO THE CITY.
THE CITY DOES NOT WARRANT ITS ACCURACY OR COMPLETENESS.
FIELD VERIFICATIONS SHOULD BE DONE AS NECESSARY.
CITY OF HOUSTON
Department of Public Works and Engineering
Geographic Information & Management System (GIMS)

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WASTEWATER