



**CITY OF HENDERSONVILLE**  
**ENVIRONMENTAL SUSTAINABILITY BOARD**  
Operations Center - Assembly Room | 305 Williams St. | Hendersonville NC  
28792

Thursday, January 20, 2022 – 3:00 PM



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## AGENDA

**1. CALL TO ORDER**

A. Roll Call - *Mary Ellen Kustin, Chairperson*

**2. APPROVAL OF AGENDA**

A. Consideration of Agenda - *Mary Ellen Kustin, Chairperson*

**3. APPROVAL OF MINUTES**

A. Approval of Minutes - *Gracie Erwin, Staff Liaison*

B. ESB Planning Sub Committee Meeting Minutes from December and Januarys meetings  
- *Gracie Erwin, Staff Liaison*

**4. APPROVAL OF MINUTES**

A. Guest Presentation from ADW Architects "Hendersonville Fire Station No. 1" - Presented  
by *Ashley Love, ADW Architects*

B. Mayors Monarch Pledge - *Mary Ellen Kustin, Boardmember*

<https://www.nwf.org/mayorsmonarchportal>

**5. OLD BUSINESS**

A. Bee City Updates- *Will Garvy, Boardperson and Liaison to Bullington Gardens*

B. Recycling Update- *Gray Jernigan, Boardmember*

C. Announcement - *Gray Jernigan, Boardmember*

D. Working to be Plastic Free Questionnaire, Survey for Department Heads - *Kelly Pahle, Boardmember*

E. Sustainability Planning update- *Caroline Beamer, Co chairperson*

**6. OLD BUSINESS**

A. Public Comment - *Time allotted 15 minutes*

**7. OLD BUSINESS**

A. Any old Business to readdress- *Mary Ellen Kustin, Boardchair*

**8. NEW BUSINESS**

**9. ADJOURNMENT**

*The City of Hendersonville is committed to providing accessible facilities, programs and services for all people in compliance with the Americans with Disabilities Act (ADA). Should you need assistance or an accommodation for this meeting please contact the City Clerk no later than 24 hours prior to the meeting at 697-3005.*



**CITY OF HENDERSONVILLE**  
**ENVIRONMENTAL SUSTAINABILITY BOARD**  
 Operations Center - Assembly Room | 305 Williams St. | Hendersonville NC  
 28792



Thursday, December 16, 2021 – 3:00 PM

## MINUTES

### 1. CALL TO ORDER

A. Roll Call -*Mary Ellen Kustin, Chairperson*

Roll Call by Mary Ellen Kustin.

### 2. CONSIDERATION OF AGENDA

A. Consideration of Agenda- *Mary Ellen Kustin, Chairperson*

### AGENDA ITEMS

2. Adoption of ESB minutes from Thursday November 18th, 2021- *Gracie Erwin, Staff Liaison*

### 3. SUB-COMMITTEE UPDATES

A. Sub Committee, Bee City Update- *Kim Bailey, Boardperson*

Establish new chair for Bee City

The City of Hendersonville has renewed their Bee City agreement on the terms that Bee City will be transferred to a non profit. This non profit is planned to be Bullington Gardens.

The city will transfer its funding usually allocated to Bee City (hosted under ESB) to Bullington Gardens. The goal is by February for everything to be official, and signed off on. This includes a contract between the City and Bullington Gardens. There will be a press release in February highlighting this partnership.

Kim Bailey, who has hosted a lot of work of Bee city states that this migration is much like the bees do. The bees swarm to a new hive when they have outgrown their current home.

ESB will need one member to serve on a leadership committee with Bullington Gardens. Will Garvy has volunteered to serve as this liaison.

Other updates: Dumpster improvements- the corral around dumpster was an eyesore. Now the support posts have been painted. The areas that need to be yellow for visibility have been painted. Black areas that need to be painted have yet to be completed.

The gardens are looking amazing. All the plants look very healthy and as they should during this time of year. A big thank you to the tree board for their work on this as well!

Hendersonville ESB is to be highlighted in the Xerces blog in March.

A big big thank you also goes to John Connet for helping ESB continue and allowing it to move forward in a new home!

B. Recycling subcommittee update- *Gray Jernigan, Boardmember*

Working to be Plastic Free questionnaire- *Kelly Pahle, Boardmember*

Update from Gray- Window clings look great. All 13 early adopters got their clings, and info is live on website.

Goal to survey city (on boarding idea) in regards to sustainability plan. Make suggestions to reduce single use plastics.

Update from Gerri for recycling- Gracie to introduce her, Mary Ellen to Jamie from downtown events via email.

Kelly is in the process of getting a plastics review questionnaire together.

C. Sustainability Planning update- *Caroline Beamer, Co chairperson*

Highlights of initial subcommittee meeting on 12/14/21

9 people were in attendance at the subcommittee update, and Matthew Manley provided great input. There will be two meetings in January.

They have narrowed down subjects of interests into five different "buckets"

-Energy

-Waste Management

-Water Quality

-Development

-Air Quality



D. City Council Update- *Lyndsey Simpson, Councilwoman*

none

**PUBLIC COMMENT**

5. Public Comment- *Allotted 15 minutes*

No Public Comment

**DISCUSSION ITEMS**

none

**NEW BUSINESS**

none

**ADJOURNMENT**

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ESB Sustainability Plan Sub – Committee  
 Meeting Minutes  
 12/14/21 time 4-5PM  
 City Operations Center  
 305 Williams Street

Attendance: Caroline Beamer – Chair

Neil Brown, David Lee, Lynne Williams, Will Garvey, Lyndsey Simpson, Ann Twiggs, Matthew Manley from City Planning, Gray Jernigan and Mary Ellen Kustin

At this initial meeting of the sub-committee, it was determined that regular meetings would be held once a month on the 4<sup>th</sup> Thursday at 4PM. Some discussion as to whether we would ever meet out “in the field.” No determination was made but it was pointed out that any meeting of 3 or more Board members triggered a public meeting notice. Because there is a lot of planning needed to organize the sub-committee actions, it was also agreed that a special meeting would be held on January 13<sup>th</sup> at 4PM at the Operations Center.

Lyndsey Simpson, City Council Member to the ESB shared her thoughts about the direction of the sub-committee. Overall, we need to provide the City Council with an outline of sustainability ideas and goals with suggestions for implementation and, ultimately, inclusion in the City’s Comprehensive Plan. She requested that an outline of the plan be ready for her to present at the City Council March 2022 retreat.

We discussed having 5 “buckets” with a two-pronged approach – municipal actions and incentivizing community support.

Five Buckets suggested:

- 1) Energy: solar, power agreements, etc.
- 2) Transportation – EV use by City, bike lanes, walkability, increase public transportation
- 3) Waste Management – composting, decrease plastics, etc.
- 4) Water (quality and quantity) – floodplain protection, storm sewer improvements, etc.
- 5) Land and Management and Conservation – important to strike a balance between sustainability and development as growth is inevitable.

We discussed using guidelines in the Boone, NC Department of Sustainability Toolkit and the recently announced State of North Carolina sustainability plan. It was agreed that we would ask for a Sustainability staff position to help implement the plan. Gray will research appropriate salary to present to the City.

Members should e-mail Caroline Beamer as to which “bucket” they’d like to work on.

Meeting ended at 5PM.

submitted by Ann Twiggs

## ESB SUSTAINABILITY PLANNING SUBCOMMITTEE SPECIAL MEETING MINUTES

Thursday January 13, 2022 from 4:00 p.m. to 6:00 p.m. in the City Operations Assembly Room located at 305 Williams Street, Hendersonville NC

### ESB Committee Members

#### *Present:*

Mary Ellen Kustin (acting chair in Caroline Beamer's absence)

Lyndsey Simpson (HVL Council Member)

Lynne Williams

Ann Twiggs

Will Garvey

Neil Brown

Glenn Lange (visiting Tree Board Member)

#### *Joined Remotely:*

Gray Jernigan

The group discussed "bucket" ideas submitted to Will Garvey for compilation.

Neil Brown made a motion to adopt the minutes from the Dec. 14, 2021 Subcommittee meeting.

Will Garvey seconded the motion.

All voted "Aye."

The subcommittee members did not take any other votes or discuss ESB funds.

Action item: Caroline Beamer or Mary Ellen Kustin will work to get the upcoming Jan. 27 4pm subcommittee meeting noticed on the HVL website.

## **Agenda** **Special Meeting of Environmental Sustainability Committee** **January 13, 2022** **4pm**

- I. Introductions of new attendees
- II. Approval of Minutes of previous meeting

### III. Presentation and discussion of Filling the Buckets

A. Five minute 'elevator pitches' of each person's ideas. Please, one bucket at a time so other committee members can add to the idea or comment.

About Comments... If other committee members have explored the same idea please piggy back at this point. Comment time is limited to five minutes. We will return to the discussion at the next meeting or decide as a group whether to devote more time then and there. Time limits are necessary, so please do not feel offended. Ideas that appear to have group support will be noted for further discussion and exploration.

B. If elevator pitch presentations cannot be finished by 5:30pm, they will continue at next committee meeting, picking up where we leave off.

### IV. New Business

**NEXT MEETING: Thurs. Jan. 27 at 4pm (Caroline or Mary Ellen will work to get it noticed on the HVL website)**

### V. Adjourn



# Hendersonville Fire Station No. 1

ENVIRONMENTAL REVIEW BOARD MEETING | JANUARY 20, 2022

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HENDERSONVILLE, NC

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SITE SUSTAINABILITY

**Construction Activity Pollution Prevention**

An Erosion & Sediment Control Plan will be created to control run-off during construction.  
Tree Protection will be implemented for existing trees scheduled to be saved.

**Site Assessment**

The site being used for this replacement station is a brownfield site as the current Fire Station No. 1 resides on this site. The existing station will be demolished and debris recycled to the greatest extent possible prior to the construction of the new station.

**Access to Quality Transit**

The site is located less than 1/4 mile to 4 bus stops that the Apple County Public Transit serves.

**Bicycle Facilities**

Bike racks will be provided if required by planning. Locker room with showers is provided for staff for changing.

**Rainwater Management**

With the redevelopment of the existing site, the amount of impervious area is not likely to increase from its previous state. Rainwater collection may be utilized for irrigation and truckwashing (alternate). Pervious pavers may also be used in lieu of asphalt to increase pervious area (alternate).

**Heat Island Reduction**

A white roofing membrane with a high solar reflectance index (SRI) will be installed on the roof. The membrane reflects the sun's radiant heat, thereby minimizing the impact on the microclimate.  
The light color of the concrete paving utilized at the apparatus bays will provide a high solar reflectance index (SRI), reflecting the sun's radiant heat, thereby minimizing the impact on the microclimate. In areas where asphalt paving is utilized, new trees adjacent to paved areas will provide shade over areas of dark-colored paving.

**Light Pollution Reduction**

Exterior lighting will be primarily down-lighting and cut-off fixtures to minimize light pollution beyond the site boundary. Occupancy and Vacancy sensors will be used to shut-off interior lights when not in use.



**Commissioning of Building Energy Systems**

Systems will be commissioned as required for commercial buildings over 10,000 sf per the NCSECC.

**Optimize Energy Performance**

Energy performance will be optimized using three strategies. The first is using a high efficiency building envelope with low solar heat gain glazing exceeding the code minimum performance requirements. Where provided, the Exterior Awnings will aid in minimizing solar heat gain into the building through the fenestration. The second strategy is a high-efficiency hybrid heat pump HVAC system to condition the building. This system uses variable speed motors in high efficiency heat pumps, with SEER Rating of 18, for cooling and heating. When temperatures approach freezing, the heat pumps will be supplemented with gas furnaces to maintain occupant comfort. The third strategy is the use of LED lighting with occupancy and vacancy sensor controls and dimming, where appropriate, throughout the facility to minimize the energy used for lighting.

**Renewable Energy Production**

Building will be constructed for the future addition of photovoltaic (PV) panels on the roof.

**Refrigerant Management**

There will be zero use of CFC (chlorofluorocarbon) based refrigerants in the HVAC system. CFC's are harmful to the atmosphere.

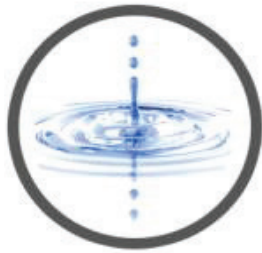


ENERGY CONSERVATION & PERFORMANCE





MATERIALS & RESOURCES



WATER EFFICIENCY

**Outdoor Water Use Reduction**

This project will utilize drought tolerant and naturalized plants that can survive on this region's natural rainfall quantities and will require little irrigation once established. Potentially, a rainwater collection system will be used in providing non-potable water for additional irrigation.

**Storage & Collection of Recyclables**

Exterior area provided for roll-up container for waste & recyclables. City to verify recycling program within building and City.

**Construction and Demolition Waste Management**

Recycling construction waste to the greatest extent possible - typically done through co-mingled collection. CMaR to verify co-mingled collection for waste during construction.

**Recycled Content**

The building materials will have a total recycled content in excess of 10%.

**Regional Materials**

Over 10% of the construction materials will come from resources within 500 miles of the project.





Indoor Air Quality Performance & Thermal Comfort

The fire station is mechanically ventilated and conditioned. The HVAC system is a high-efficiency system that provides outside air in accordance with the requirements of ASHRAE 62.1. In addition, the HVAC systems are zoned and controlled to maximize occupant comfort in accordance with ASHRAE 55.

Environmental Tobacco Smoke Control

No smoking is allowed in the building. Signage will be provided around the fire station to alert the public.

Construction IAQ Management Plan - During Construction

Contractor provides an indoor air quality management plan to reduce indoor air quality problems resulting from construction and promote the comfort and well-being of construction workers and later, building occupants. This typically includes wrapping the ends of ducts, protecting absorptive materials stored on-site from moisture damage, and using certain HVAC filtration media. CMAA to verify.

Low-Emitting Materials

The adhesives and sealants used will have low-VOC (volatile organic compound) content.  
The paints and coatings used will have low-VOC content.  
Finishes used will meet third-party certification requirements.  
No urea-formaldehyde will be used in the composite wood installed on-site.

Controllability of Systems - Lighting

Lighting throughout the building will be zoned for the various space usages with all controls accessible to the building

Controllability of Systems - Thermal Comfort

The building will be zoned to maximize thermal comfort by combining zones with similar usage and thermal exposure. Each zone is conditioned by its own HVAC unit with a user controllable thermostat located in the zone.

Daylighting

Most spaces that are regularly occupied will have access to daylight through windows. Sunshades will be provided to diffuse the daylight, reduce glare, and reduce heat gain.

Indoor Chemical and Pollutant Source Control

Providing walk-off mats at main entryways and using bi-polar ionization with the HVAC systems (alternate).

This project has been overseen, designed, and developed by several LEED Accredited Professionals.



INDOOR ENVIRONMENTAL QUALITY



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**Mattern & Craig**  
ENGINEERS-SURVEYORS

Hendersonville  
Fire Station 1

851 North Main Street  
Hendersonville, NC  
28792

80% DESIGN DEVELOPMENT  
DRAWINGS  
SITE LAYOUT

DATE: Dec. 22 2021  
PROJECT NO: 4186C

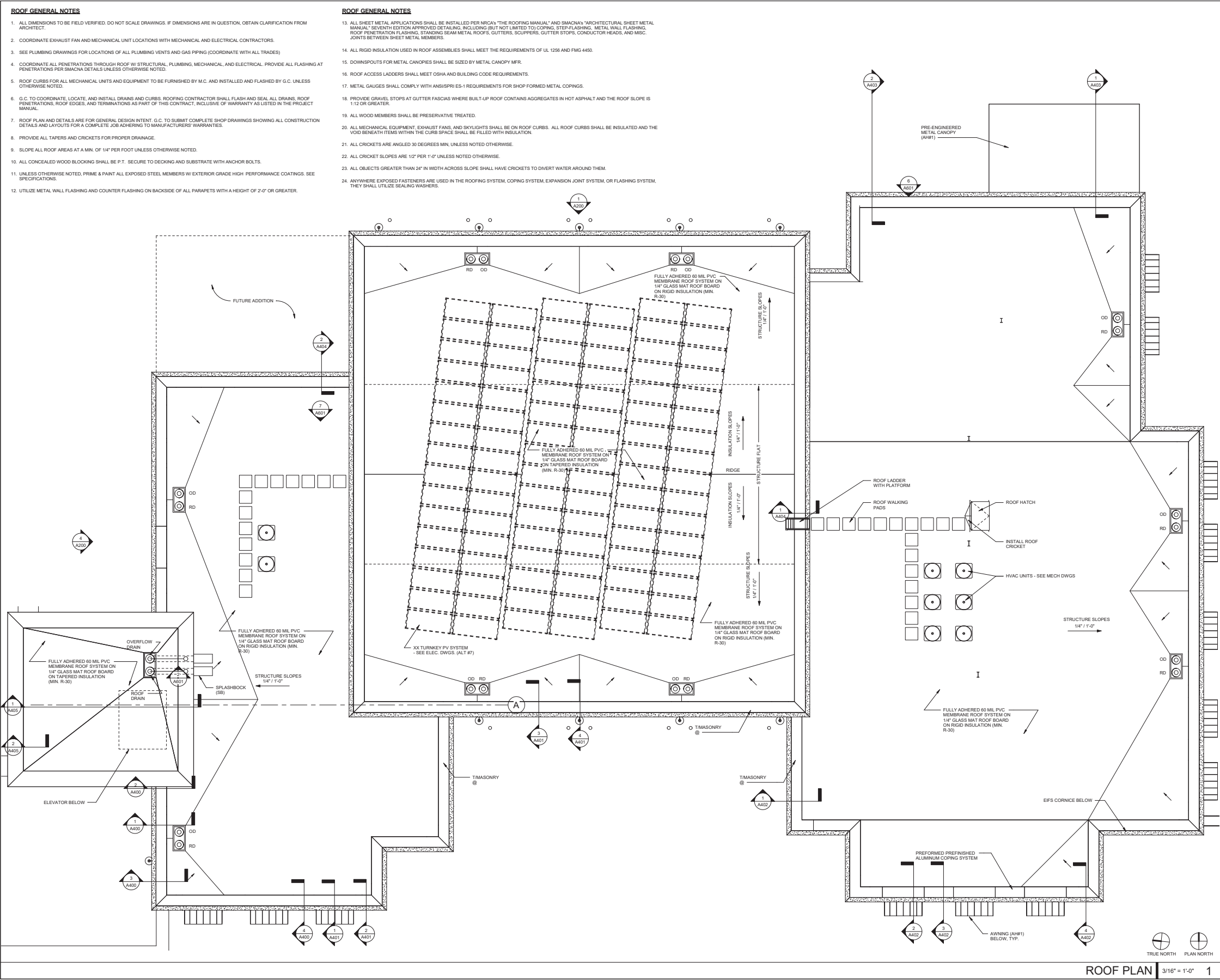
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NO:	DATE:	DESCRIPTION:

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SHEET NUMBER

# C300







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**HENDERSONVILLE  
FIRE STATION NO. 1**

HENDERSONVILLE, NC

**100% DESIGN DEVELOPMENT**

**ROOF PLAN**

DATE: 12-22-21  
PROJECT NO: 21024

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SHEET NUMBER

**A110**













Hendersonville Fire Station No. 1 | Hendersonville, N.C.  
Environmental Review Board Meeting - January 2022

























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Dear Department Head,

The City of Hendersonville believes environmental sustainability is critical to preserving our community for generations, and our City Council's focus is on protecting resources and the beautiful area we call home. We, the Environmental and Sustainability Board ("ESB"), are in the process of creating a sustainability plan for the city. The Mayor has already taken the first step by signing the *Working to be Plastic Free* pledge.

Our sustainability plan is not intended to be a cure-all for Hendersonville's climate needs but may serve as the next step towards policy and behavioral changes that increase the City and its employee's awareness of climate change, and how daily tasks impact the bigger picture.

We request your assistance in our efforts and ask that you please complete the attached survey by XX/XX/2022. The purpose of this survey is to learn more about the functions and daily tasks of your department so that we may gauge how the city is currently performing. This will help us know what steps to propose and recommendations to make for town-wide and department-specific policy with the goal being to implement more sustainable practices for our city.

Sincerely,

The Environmental and Sustainability Board

# City of Hendersonville Sustainability Pulse Survey

Name of Department:

## Section 1: Plastics Use

*The definition of single-use plastic is any plastic item that is used once and then thrown in the trash (ie plastic office supplies, straws, plastic trash bags, cutlery, water/soda bottles, food containers/wraps, etc).*

1. Does your department use single-use plastic? If so, what forms of single-use plastic are being used?
  
2. What is your department's general thoughts on reducing and banning single-use plastics?
  - a. It would have little effect - we are already single-use plastic free
  - b. We support the banning and reducing of certain plastics
  - c. We support banning some, but not others (please explain why)
  - d. We do not support the banning or reducing of plastics (please explain why)
  
3. How would reducing or banning single-use plastics impact your department's daily tasks/functions?
  
4. What most prevents your department from being able to go plastic free?

5. **Is there a recycling container or composting container in your building? If so, is the waste generated by your department separated into recycling and non-recycling categories?**
6. **Please estimate the percentage of your department's trash that is recycled.**
7. **What current actions are being taken by your department to limit your department's plastic consumption?** (*ex – using recyclable or compostable products during department events*)
8. **Is your department being provided the resources it needs to accomplish the City's goal of being single-use plastic free?**

## **Section 2: Fleet Vehicles**

1. **Does your department operate a fleet of vehicles? If yes, please describe your fleet in questions 2 – 5 below. If no, skip to section 3.**
2. **Cars:**
  - a. How many?
  - b. Efficiency — what is the average miles per gallon? (Estimate is fine)
  - c. What fuel type do these vehicles use? (Please be specific)
  - d. How many total miles do these vehicles drive annually? (Estimate is fine)

**3. Pickup trucks**

- a. How many?
- b. Efficiency — what is the average miles per gallon? (Estimate is fine)
- c. What fuel type do these vehicles use? (Please be specific)
- d. How many **total miles do these vehicles drive annually? (Estimate is fine)**

**4. Larger-than-pickup trucks**

- a. How many?
- b. Efficiency — what is the average miles per gallon? (Estimate is fine)
- c. What fuel type do these vehicles use? (Please be specific)
- d. How many total miles do these vehicles drive annually? (Estimate is fine)

**5. Other Vehicles**

- a. How many?
- b. Efficiency — what is the average miles per gallon? (Estimate is fine)
- c. What fuel type do these vehicles use? (Please be specific)
- d. How many total miles do these vehicles drive annually? (Estimate is fine)



### **Section 3: Employee's**

- 1. How many employees are in your department?**
- 2. Please tell us about your employee's commute to work:**
  - a. What percentage work from home/remote? How often are they allowed to work from home?
  - b. Do any regularly walk or bike to work?
  - c. Do any regularly carpool?
  - d. Do any use public transportation?
  - e. For those who drive personal vehicles, what is the average distance of commute?

### **Section 4: Water Usage**

- 1. How many gallons of potable city water does your department use annually?**
- 2. How many gallons of repurposed grey water does your department use annually?**

### **Section 5: Electricity Usage**

- 1. How many kWh of electricity does your department use annually?**
- 2. What sources of electricity does your department use? Roughly what percentage of each source?**

## Section 6: Other

**Any other thoughts, ideas, or concerns you would like to share with the ESB, please note below. We would love to hear any additional feedback or ideas you have that will further the goal of creating a more sustainable community!**