

CITY OF CARMEL-BY-THE-SEA CLIMATE COMMITEE

Contact: 831.620.2000 www.ci.carmel.ca.us/carmel

All meetings are held in the City Council Chambers
East Side of Monte Verde Street
Between Ocean and 7th Avenues

REGULAR MEETING Thursday, November 19, 2020

3:30 PM

Governor Newsom's Executive Order N-29-20 has allowed local legislative bodies to hold public meetings via teleconference and to make public meetings accessible telephonically or otherwise electronically to all members of the public seeking to observe and to address the local legislative body. Also, see the Order by the Monterey County Public Health Officer issued March 17, 2020. The health and well-being of our residents is the top priority for the City of Carmel-by-the-Sea. To that end, this meeting will be held via teleconference and web-streamed on the City's website ONLY.

To attend via Teleconference; Dial in number 1 617-675-4444 PIN: 521 334 402 8704#. The public can also email comments to amartelet@ci.carmel.ca.us. Comments must be received 2 hours before the meeting in order to be provided to the committee. Comments received after that time and up to the beginning of the meeting will be added to the agenda and made part of the record.

CALL TO ORDER

PUBLIC APPEARANCES

Members of the public are entitled to speak on matters of municipal concern not on the agenda during Public Appearances. Each person's comments shall be limited to 3 minutes, or as otherwise established by the Committee. Matters not appearing on Committee's agenda will not receive action at this meeting but may be referred to staff for a future meeting. Persons are not required to give their names, but it is helpful for speakers to state their names so that they may be identified in the minutes of the meeting.

COMMITTEE MEMBER ANNOUNCEMENTS

ORDERS OF BUSINESS

Orders of Business are agenda items that require Committee discussion, debate, direction to staff, and/or action.

- 1. Receive a Presentation from the Monterey County Office of Emergency Services on the 2021 Update to the Multi-Jurisdictional Hazard Mitigation Plan
- 2. Receive a Presentation from Greg D'Ambrosio and David Shonman on Carmel's

- Coastal Processes and Lessons Learned from the Damage Caused by Previous Storms along the Carmel Coastline
- 3. Provide Updates on the Outreach to Community Organizations and Regional Partners Conducted to Date
- 4. Review, provide comments, and/or approve Hazard and Asset Summary Sheets of Carmel Area Wastewater District, American Institute of Architects, Monterey Fire, and City Forester Presentations

FUTURE AGENDA ITEMS

ADJOURNMENT

This agenda was posted at City Hall, Monte Verde Street between Ocean Avenue and 7th Avenue, outside the Park Branch Library, NE corner of Mission Street and 6th Avenue, the Carmel-by-the-Sea Post Office, 5th Avenue between Dolores Street and San Carlos Street, and the City's webpage http://www.ci.carmel.ca.us in accordance with applicable legal requirements.

SUPPLEMENTAL MATERIAL RECEIVED AFTER THE POSTING OF THE AGENDA

Any supplemental writings or documents distributed to a majority of the Climate Committee regarding any item on this agenda, received after the posting of the agenda will be available at the Public Works Department located on the east side of Junipero Street between Fourth and Fifth Avenues during normal business hours.

SPECIAL NOTICES TO PUBLIC

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the City Clerk's Office at 831-620-2000 at least 48 hours prior to the meeting to ensure that reasonable arrangements can be made to provide accessibility to the meeting (28CFR 35.102-35.104 ADA Title II).



CITY OF CARMEL-BY-THE-SEA Climate Committee Staff Report

November 19, 2020 ORDERS OF BUSINESS

TO: Climate Committee Members

SUBMITTED Agnes Martelet, Environmental Compliance Manager

BY:

SUBJECT: Provide Updates on the Outreach to Community Organizations and Regional Partners

Conducted to Date

RECOMMENDATION:

Each Committee member will provide an update on the outreach to community organizations and regional partners they have conducted over the past month, and any notable feedback they have received.

BACKGROUND/SUMMARY:

On February 20, 2020, the Climate Committee started assembling the list of community organizations and regional partners to engage. Included in this process, the Committee assigned outreach leads for each organization.

At the July 16, 2020 Climate Committee meeting, members agreed to start conducting outreach to community organizations and regional partners about the City's project. The updated outreach list is included in Attachment 1. The updated Climate Committee presentation schedule is included in Attachment 2.

FISCAL IMPACT:

N/A

ATTACHMENTS:

Attachment 1: Community Organizations and Regional Partners
Attachment 2: Updated Climate Committee Presentation Schedule

Community Organizations and Regional Partners to Engage

City of Carmel-by-the-Sea Climate Project

November 2020

	ORGANIZATION	Topic (s)	Contact Persons	Committee Lead	Present to	Hear from	Contacted?
	Utilities						
1*	Carmel Area Wastewater District	Sewer system Wastewater Treatment Facility	Barbara Buikema, Daryl Lauer	Jeff Baron, Agnes Martelet		X	Y
2	Central Coast Community Energy (was Monterey Bay Community Power)	Energy supply	Dan Bertoldi (dbertoldi@mbcommunitypower.org) J.R. Killigrew (jkilligrew@mbcommunitypower.org)	Evan Kort, Agnes Martelet		Х	Y
3	Cal Am	Water supply		Michael LePage		Х	
4	Monterey Peninsula Water Management District	Water supply	Stephanie Locke	Michael LePage		Х	Y
5	GreenWaste Recovery	Waste management and recycling	Jim Moresco	Carrie Theis, Agnes Martelet			
6	Monterey Regional Waste Management District	Waste management and recycling	Tim Flanagan	Carrie Theis		Х	Y
7	PG&E	Energy supply	Gina Arnold Teri Vetere	Carrie Theis, Jeff Baron		Х	Y
	Professional Organizations						
1	California AIA	Built environment resilience	Libby Barnes	John Hill		X	Υ
2	Chamber of Commerce	Local business, tourism	Jenny McMurdo	Carrie Theis	Х		Υ
3	Monterey County Association of Realtors	Sea Level Rise Wildfire risk	Ben Beasley	Scott Lonergan, LaNette Zimmerman	Х		Y
4	MCCVB	Visitors		Carrie Theis			
5	Visit Carmel	Visitors / local business	Amy Herzog	Carrie Theis			
6	Sunset Center	Resilience	Christine Sandin	LaNette Zimmerman			
	Local Community Groups						

Attachment 1

	ORGANIZATION	Tonic (c)	Contact Persons	Committee Lead	Present	Hear	Contacted?
	ORGANIZATION	Topic (s)	Contact Persons	Committee Lead	to	from	Contacted?
1	Carmel Residents	Community resilience	Fred Bologna	Jeff Baron	X		Υ
	Association	Climate action	Nancy Twomey				
2	Carmel Rotary Club	Community resilience	Susan Prest	Carrie Theis, Jeff	X		Y
		Climate action		Baron			
3	Carmel Lions Club	Community resilience	Heidy Mozingo	Carrie Theis	X		
		Climate action					
4	Friends of Carmel Forest	Urban forest	Ramie Allard	Scott Lonergan	X		
5	Friends of MTNP	Wildfire risk	Skip Lloyd	Scott Lonergan	X		Υ
		Sensitive habitats					
6	Del Monte Forest	Wildfire risk		Scott Lonergan			Υ
	Conservancy						
7	Landwatch	Transportation, housing	Mike DeLapa	Jeff Baron		Х	Υ
8	Sustainable Carmel	Climate action	Ellen Gannon	Agnes Martelet	Х		
9	Church auxiliaries	Community resilience		LaNette			Υ
				Zimmerman			
10	Heritage Society	Community resilience	Karl Iverson	Michael LePage			
11	Forest Theater Guild	Community resilience	Steven Moore	LaNette			
				Zimmerman,			
				Carrie Theis			
12	PacRep	Community resilience	Steven Moore	LaNette			
				Zimmerman,			
				Carrie Theis			
13	Carmel Women's Club	Community resilience	Nancy Twomey	Jeff Baron			
		Climate action					
	City Departments						
1	Police	Emergency preparedness Transportation	Paul Tomasi	Agnes Martelet			Y
2	Fire	Emergency preparedness	Carmyn Priew, Sichel Young	John Hill		Χ	Υ
3	Forestry Division (PW)	Urban forest	Sara Davis	Agnes Martelet		Χ	Υ
	, , , ,	Sensitive habitats					
4	Library	Historic events	Katie O'Connell	Evan Kort			Υ
	City Commissions						
1	Forest & Beach Commission	Sea Level Rise		Scott Lonergan	Х		
		Urban forest					
		Sensitive habitats					
		Climate action					

Attachment 1

	ORGANIZATION	Topic (s)	Contact Persons	Committee Lead	Present	Hear	Contacted?
	ONGANIZATION	Topic (3)	Contact i cisons	committee Lead	to	from	Contacteu.
2	Planning Commission	Built environment		Michael LePage	X		
-		resilience		Whender Let age			
		Climate action					
3	City Traffic Safety	Transportation		Agnes Martelet			Y
	Committee	Transportation		, ignes ivial telet			
	Federal / State / Regional Ag	encies					
1	AMBAG	Climate Action	Elisabeth Bertrand	Agnes Martelet	Х	Х	Y
		Transportation					
2	USGS	Sea Level Rise	Patrick Barnard	Agnes Martelet	Х	Х	Υ
3	CalFire	Wildfire risk and resilience	John Reynolds	John Hill	Х		Υ
		Urban forest management	,				
4	CA Department of Insurance	Wildfire risk / home	Ricardo Laura	John Hill			Υ
		insurability					
5	Fire Safe Council for	Michael Emmett		John Hill			Υ
	Monterey County						
6	California Coastal	Sea Level Rise		Jeff Baron / Agnes		Х	
	Commission			Martelet			
7	IRWMP Group	Water supply		Michael LePage			
		Watershed / storm water		_			
		projects					
8	Monterey County (OES)	Resilience planning	Kelsey Scanlon	Agnes Martelet		Х	Υ
9	Monterey County	Sustainability	Ashley Paulsworth	Agnes Martelet		X	Υ
		Climate Action					
10	Monterey Bay National	Marine Sanctuary impacts	Karen Grimmer	Agnes Martelet			Υ
	Marine Sanctuary (NOAA)	Carmel Beach					
11	Transportation Agency of	Transportation		Jeff Baron			
	Monterey County						
12	MST	Transportation		Jeff Baron		Х	
13	US Navy / Coast Guard	Coastal impacts		Carrie Theis			
	Educational Groups						
1	Carmel High School	Internships	Ellen Gannon	LaNette			Υ
	Environmental Club	Climate Action partnership		Zimmerman,			
		/ Green Schools		Scott Lonergan			
2	Stevenson, York, Santa	Climate Action partnership		LaNette			Υ
	Catalina	/ Green Schools		Zimmerman,			
				Scott Lonergan			

	ORGANIZATION	Topic (s)	Contact Persons	Committee Lead	Present	Hear	Contacted?
		ι οριε (3)	Contact i cisons	Committee Lead	to	from	Contacted.
3	Youth Center	Climate Action partnership		LaNette		_	
		/ Green Schools		Zimmerman,			
		,		Scott Lonergan			
4	CSUMB	Internships		LaNette			Υ
		Climate Action partnership		Zimmerman,			
		/ Green Schools		Scott Lonergan			
5	MPCC	Internships		LaNette			
		Climate Action partnership		Zimmerman,			
		/ Green Schools		Scott Lonergan			
6	MIISS	Climate Action partnership		LaNette			Y
		/ Green Schools		Zimmerman,			
				Scott Lonergan			
7	NPS	Climate Action partnership	Ann E. Rondeau (ret.) (pao@nps.edu)	LaNette			
		/ Green Schools		Zimmerman,			
				Scott Lonergan			
	Regional Non-Profit Organiza	tions					
1	Monterey Bay Aquarium	Marine Sanctuary impacts		Carrie Theis			
		Climate Action Support					
2	Ecology Action	Climate Action Support	Kirsten Liske	Agnes Martelet			
	Other Stakeholders						
1	Pebble Beach Company	Bluffs / Seawalls / Beach		Jeff Baron / Carrie	Х		
		Regional transportation		Theis			
		Emergency response					
2	Principals Involved in 1983	Bluffs / Seawalls / Beach	Greg D'Ambrosio (past Assistant City	Evan Kort, Scott		Х	Υ
	response; authors of the		Administrator); David Shonman	Lonergan			
	CBTS Shoreline		(Coastal Biologist)				
	Management Plan						
3	Cities with similar			Jeff Baron / Carrie			
	challenges (e.g. PG,			Theis			
	Monterey, Seaside, Pacifica,						
	Del Mar, Malibu, Dana						
	Point, Imperial Beach)						

^{*}Grey italics denote presentations that have already occurred

Climate Committee

Presentation Schedule

11/19/2020

Climate Committee Meeting Date	Presenters
10/15/2020	Sara Davis – Forestry Science and Adapting Carmel's
	Urban Forest to Climate Change
	Monterey Fire – Defensible Space Inspection Program,
	community resilience to wildfires
11/19/2020	Monterey County Office of Emergency Services
	(confirmed) – Multi-jurisdictional Hazard Mitigation Plan
	Greg D'Ambrosio, David Shonman – Carmel coastal
	processes and damage caused by previous storms
12/17/2020	United States Geological Survey (confirmed) – CosMos
	Modeling of Sea Level Rise and storm impacts on Carmel coast
	Carmel Public Works (confirmed) – Storm Drain Master
	Plan and readiness of drainage system for climate change
1/21/2021	Monterey Regional Waste Management District
	(confirmed)
	PG&E (pending confirmation) – Power grid resilience
	Monterey Peninsula Water Management District
	(confirmed) – Water supply resilience
2/18/2021	Association of Monterey Bay Area Governments (pending
	confirmation) – results of 2018 greenhouse gas inventory
	Central Coast Community Energy (was Monterey Bay
	Community Power, pending confirmation) – Central Coast
	Community Energy's climate action efforts and new
	procurement policy, and how that will affect our Climate
	Action Plan

Not yet on the schedule

- PG&E
- Landwatch
- California Coastal Commission
- Monterey-Salinas Transit
- Monterey Bay Sanctuary



CITY OF CARMEL-BY-THE-SEA Climate Committee Staff Report

November 19, 2020 ORDERS OF BUSINESS

TO: Climate Committee Members

SUBMITTED Agnes Martelet, Environmental Compliance Manager

BY:

SUBJECT:

Review, provide comments, and/or approve Hazard and Asset Summary Sheets of Carmel

Area Wastewater District, American Institute of Architects, Monterey Fire, and City

Forester Presentations

RECOMMENDATION:

Review, provide comments, and/or approve the hazard and asset summary sheets prepared by Committee members to summarize presentations received at the September 17, 2020 and October 15, 2020 Climate Committee meetings.

BACKGROUND/SUMMARY:

At the September and October Climate Committee meetings, the Committee heard presentations on several different topics associated with City assets and Climate Change hazards, including:

- A presentation from the Carmel Area Wastewater District on the wastewater treatment facility's vulnerability to storms and sea level rise.
- A presentation from the American Institute of Architects on designing homes for fire resilience.
- A presentation from the Monterey Fire Department on Community Wildfire Preparedness.
- A presentation from the City Forester on Carmel's Urban Forest and adapting to Climate Change.

At the October 15, 2020 Climate Committee meeting, Committee members reviewed a template summary sheet for recording information gathered during the presentation. Committee members used this template to create summary sheets for the four presentations. The four summary sheets are included as Attachments 1 through 4.

FISCAL IMPACT:

None.

ATTACHMENTS:

Attachment 1 - Hazard and Asset Summary Sheet for Wastewater Treatment Facility

Attachment 2 - Hazard and Asset Summary Sheet for the AIA's Designing for Fire Presentation

Attachment 3 - Hazard and Asset Summary Sheet for Community Wildfire Preparedness

Attachment 4 - Hazard and Asset Summary Sheet for the Urban Forest



Hazard and Asset Summary Sheet for Wastewater Treatment Facility and Associated Underground Infrastructure

September 17, 2020

TO: Climate Committee Members

SUBMITTED BY: Jeff Baron, Councilmember

SUMMARY

Asset: Wastewater treatment facility and associated underground infrastructure (CAWD)

Hazards: Sea level rise, Stronger Storms, More variable rainfall

Version: 2

General Comments and Outlook: The Carmel Area Wastewater District treatment facility (and underground infrastructure) will be under increasing environmental pressure as sea level rises and storms (and hence rainfall drainage down the Carmel River watershed) increase in intensity. CAWD's prediction is that the facility will need to be relocated by 2062, which is approximately 40 years in the future. The long term options for the facility seem to be

- 1. Retreat up the valley
- 2. Pump to Monterey One Water

Identified Issues:

- Both long term projects are said to be expensive, in the neighborhood of \$100,000,000.
- It will take a significant amount of time to make the decision as to which path to take.
- The value (cost) of the current facility (which may have to be abandoned) is approximately \$200.000,000
- The lagoon situation will become increasingly precarious as time passes.

Outstanding Issues:

- Do not understand (yet) an overrun scenario if the move is not completed in time. What are the consequences and/or costs if the plant is flooded during an extreme weather event?
- Of lesser visibility but still important are possible mitigation measures required for the CAWD underground and pumping infrastructures, particularly along the coastline.

Possible Committee Comments or Actions for Final Report

- The committee could/should recommend that the Carmel City Council pass a resolution on this topic, ensuring that the city monitors the transition towards a relocated plant, and perhaps has formal, written input into this process. The resolution might:
 - Document the asset and the various hazards
 - Assign staff/council personnel as liaisons to CAWD, with an eye towards resolution of this asset's vulnerability
 - Urge CAWD to take specific actions

REFERENCES

Attachment 1

- The CAWD Sea Level Rise Study can found at https://www.cawd.org/2018-sea-level-rise-study
- The CAWD presentation to the Committee: https://ci.carmel.ca.us/sites/main/files/file-attachments/ccc_presentation_v3.pptx?1600365293
- Recording of the September 17, 2020 Meeting at which CAWD presented: https://drive.google.com/file/d/1PZK0tP8b2jB_XoTtBJLPcXmLVEI9kY1Z/view

HISTORY

- Version 1 presented at Committee meeting on 10/15/2020
- Version 2 presented at Committee meeting on 11/19/2020.



Hazard and Asset Summary Sheet for the A.I.A.'s Designing for Fire Presentation

September 17, 2020

TO: Climate Committee Members

SUBMITTED BY: John Hill, Committee Member

SUMMARY

Asset: Public and Private Property, Public Safety

Hazards: Fire and Wildfire damage due to accumulated dry fuel & increasing wind and weather events.

Version: 1

General Comments and Outlook: The Monterey Bay Chapter of the American Institute of Architect's Committee on the Environment (COTE) explores the way design responds to climate change as the severity of fires and wildfires in California continues to increase in intensity and occurrence. Fire is an essential component of our ecology, so in order to thrive our ecology must burn. Designers and the jurisdictions that oversee them should consider how fire affects property, and how to incorporate those factors without sacrificing the design, habitat, and the program. An integrated approach to fire resilience in the landscape along with hardening structures against fire are ways to mitigate fire impact on lives and property.

Identified Issues:

- Healthy, biodiverse sites are more fire resistant due to reduced fuel volume, native vegetation, avoiding erosion, and preserving trees, shrubs and watershed to create habitats.
- California had low intensity fires until the logging of old growth forests, grazing, introduction of invasive grasses, indigenous burning replaced by fire suppression, and urban sprawl invading wildlands.
- We now live where California needs to burn, in Wildland Urban Interface (WUI) zones.
- We can control fire resiliency by creating defensible space with Fire Defense Zones around structures, an ignition zone (5 feet), a defense zone (30 feet) and reduced fuel zone (100 feet)
- Fuel is affected by the height and placement of plants & their chemical content. Pine forests and Oak woodlands are resilient but dead material and limbed branches in the understory must be maintained.
- Fire retardant plants, trees, and ground covers can absorb heat and fire without burning, trap embers, reduce wind speed, and slow the travel of a fire.
- 9 out of 10 structures lost are due to low intensity ground fire and embers in the 5-foot zone around them. Combustible materials such as decks, wood chips, and plant material should not be located within 5 feet of, nor attached to the structure.
- Vents and windows are the most vulnerable areas in a house, gaps in vent screening should be no more than 1/8" maximum and plants should not be located near or below windows.

Remaining Issues to be understood:

Maintenance or abatement status in reducing fuel levels in the City of Carmel by the Sea

Possible actions to be recommended in the committee's Final Report

• Carmel City Council should consider monitoring the level of fire hazards within the community. Resolutions and/or Ordinances could include:

- o Documenting existing hazards.
- City Forester consider fire retardant trees and plants in City controlled areas and for tree replacement requirements for private property.
- Updating City Planning guidelines to reflect or not conflict with WUI building requirements in the Very High Fire Hazard Severity (VHFHS) Zone.

REFERENCES

• The A.I.A. Designing for Fire Presentation http://youtu.be/MWslhXidZnc

History

Version 1 presented at committee meeting on 11/19/2020



Hazard and Asset Summary Sheet for Community Wildfire Preparedness

October 15, 2020

TO: Climate Committee Members

SUBMITTED BY: John Hill, Committee Member

SUMMARY

Asset: Public and Private Property, Public Safety

Hazards: Local Fires and Wildfire damage due to accumulated dry fuel & increasing wind and weather events.

Version: 1

General Comments and Outlook: Community wildfire preparedness is supported by Monterey Fire's Defensible Space Inspection Program and coordination with surrounding fire prevention organizations to limit fire and wildfire risk through planning, prevention, and mitigation. Monterey Fire and Carmel Public Works have working relationships with the Pebble Beach Services District for fire mitigation in Pescadero Canyon, and partner with the Friends of Mission Trail Nature Preserve for fuel reduction in Mission Trail Nature Preserve. CalFire's Fire & Resource Assessment Program (FRAP) and Fire Hazard Severity Zone (FHSZ) maps are available on line, along with information on forest assessment, fire severity zones, defensible space, and hardening a home or structure against fire. Monterey Fire personnel have inspected and graded all Carmel parcels as pass, pending, or fail. Grading criteria is evolving as knowledge on fire spread is developed. Current criteria is based on dry fuel accumulation, spark arrestors, overhanging tree limbs, etc.

Identified Issues:

- A healthy forest that balances fuel suppression with environmental and ecological needs in our protected landscapes is very important.
- Some northern and eastern areas within City limits are within the Very High Fire Hazard Severity Zone.
- Some areas within the City limits and adjacent communities have accumulated fuel levels as well as overhead infrastructure (i.e. Mission Trail Park) that present fire and wildfire risks.
- The City's Building Department has adopted the California Building Code requirements in the Very High Fire Hazard Zone but the City's planning guidelines currently do not address them or may be in conflict with them.

Remaining Issues to be understood:

- Maintenance or abatement status in reducing fuel levels in the City of Carmel by the Sea (and adjacent communities which could threaten Carmel) in a wildfire, i.e. Del Monte forest in Pebble Beach, Monterey Regional Park District property east of Highway 1, etc.
- Extent of existing and problematic overhead Infrastructure in the City.

Possible actions to be recommended in the committee's Final Report

- Carmel City Council consider updating the Safety Element of the General Plan to address fire hazards when the City updates the Housing Element in 2023, and monitors the level of fire hazards within and surrounding the community. Resolutions and/or Ordinances could include:
 - Documenting the various existing hazards.
 - o Assign staff/council personnel as liaisons to Monterey Fire and CalFire (Cypress Fire District).
 - o Assist Monterey Fire in its current efforts in inspecting and identifying fire risks.
 - Update City Planning guidelines to reflect or not conflict with current California codes (CBC Chapter 7 & CRC R337) in the Very High Fire Hazard Severity (VHFHS) Zone.

REFERENCES

- Fire and Resource Assessment Program (FRAP) <u>ResilientCA.org</u>
- Monterey Fire Defensible Space Inspection Program <u>mry.maps.arcgis.com</u>, <u>monterey.org/fire</u>
- CalFire Defensible Space/Home Hardening <u>readyforwildfire.org</u>
- CalFire Fire Severity Zone Viewer gis.data.ca.gov
- Wildland Urban Interface (WUI) frap.fire.ca.gov
- Every Building's Wildfire Risk in Monterey County <u>defensibleapp.com</u>

History

Version 1 presented at committee meeting on 11/19/2020



Hazard and Asset Summary Sheet for the Urban Forest

October 15, 2020

TO: Climate Committee Members

SUBMITTED BY: Scott Lonergan, Committee Member

SUMMARY

Asset: Urban Forest

Hazards: Stronger Storms & Wind, More Variable Rainfall, Increased Temperature, Wildfires

Version: 1

General Comments and Outlook:

- Carmel-by-the-Sea's upper canopy trees impart a distinctive ambiance and identify to the City, and
 provide several climate adaptation benefits including reducing urban heat island effect, capturing
 stormwater runoff, improved air quality, and sequestering carbon
- Increased transpiration and water demand, coupled with less consistent water availability as a result of fewer, larger storms, and reduced fog, is increasing tree stress
- Tree species selection and density is a 50 to 100-year decision with implications for 1) tree resilience and ecology, 2) aesthetics, and 3) safety and maintenance cost

Identified Issues:

• Our urban forest lacks age and species diversity and is currently showing signs of stress.

Remaining Issues to be Understood:

 Urban forest consideration as part of Action Plan e.g. carbon capture, walkability and desirability of the environment

Possible actions to be recommended in the committee's Final Report

 Update the CBTS Forest Management Plan, including a public process to determine tree canopy species and density objectives, and a process for ongoing monitoring and plan review.

REFERENCES

- CBTS Forest Management Plan: https://ci.carmel.ca.us/sites/main/files/file-attachments/forest-management-plan-0.pdf?1510272614
- Sara Davis, City Forester 15-Oct-2020 Climate Change Committee presentation video: https://carmel.novusagenda.com/agendapublic/VODPreview.aspx?meetingVideoID=898ec714-3a25-42a8-ae8f-2441cf4c1440&index=329
- Canopy.org including the 16-Jul-2020 Resilient Trees for a New Climate webinar, including presentations from Igor Lacan, and Dave Muffly: https://canopy.org/more-trees-please/

History

- Version 1 presented at committee meeting on 11/19/2020
- Sent for comments to Sara Davis (City Forester) on 11/10/2020