HIT THE NAIL ON THE HEAD

Housing and EA Requirements. Session 1 Presented by:

- Sara Jensen, Environmental Specialist, Office of Housing;
- Jacob Levine, Environmental Specialist, Office of Housing;
- Greg Adams, HUD Review Appraiser, SE Region Multifamily Production, Atlanta;
- Moderated by Angelique Cruz, Partner Engineering and Science, Inc.

Climate Risk for Environmental Assessments

- Executive Order 14008- Tackling the Climate Crisis at Home
- CEQ NEPA updates- restoration of ‘cumulative effects’
- OEE e-guide update and April webinar

Climate EA Factor- Housing Implementation

Not retroactive, transition period expected Dec. 1

Only applies to Environmental Assessments

Climate EA Factor- Housing Implementation

Requires report of current risk from FEMA's National Risk Index

- Address any risks labeled 'Very High' or 'Relatively High'
- Explain why census-tract rating does not apply to project site

Must consider future risk

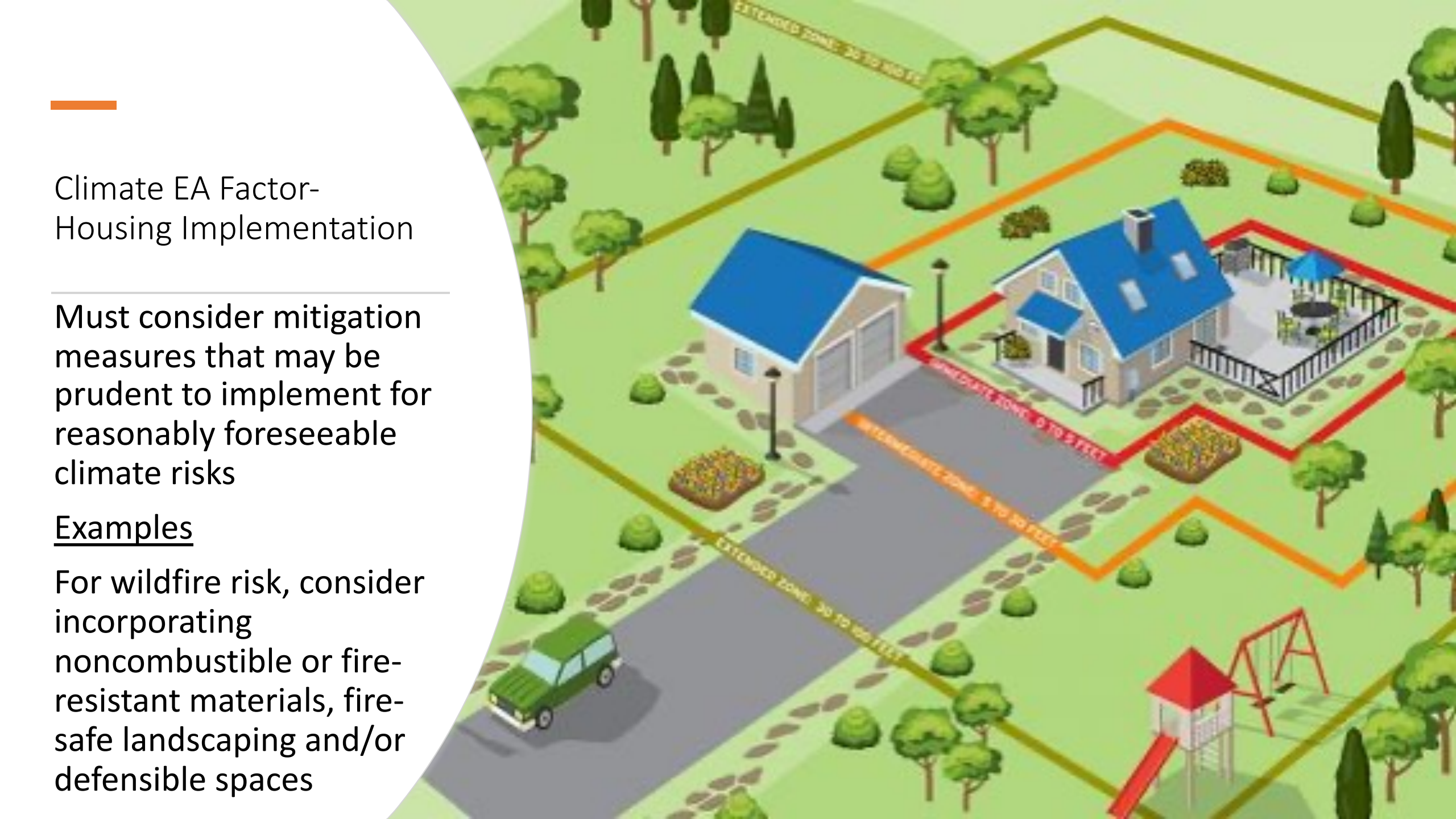
- Reasoned analysis, reasonably foreseeable
- May use online tools like Risk Factor, Climate Explorer, NOAA Sea Level Rise Viewer
- HUD will also accept equivalent reports from other sources

Climate EA Factor- Housing Implementation

Must consider mitigation measures that may be prudent to implement for reasonably foreseeable climate risks

<u>Examples</u>

For wildfire risk, consider incorporating noncombustible or fire-resistant materials, fire-safe landscaping and/or defensible spaces



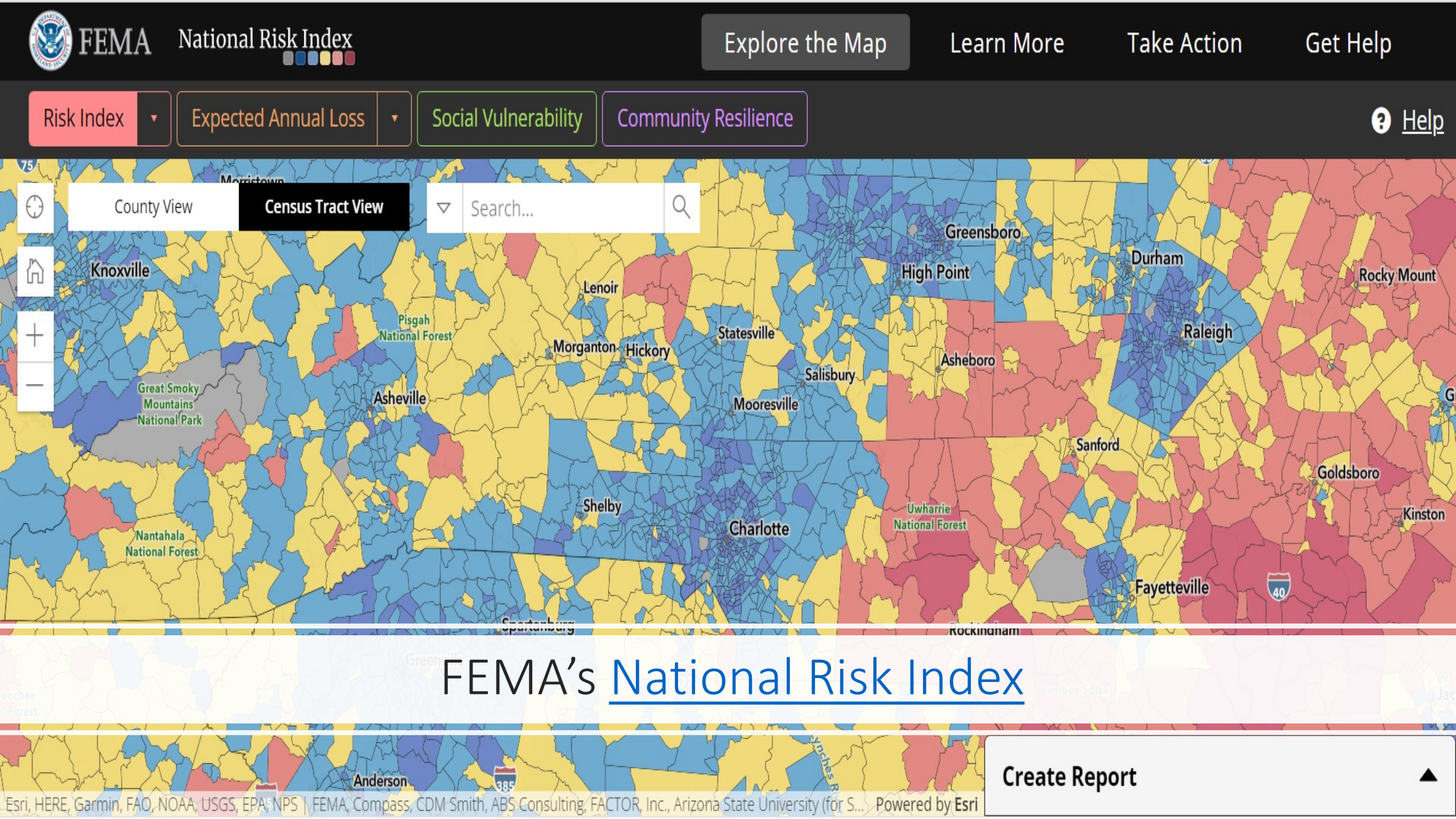
Climate Change Implementation Continued….

- For heat risk, consider using multi-pane and/or low-e coated windows, window shading, cool roofs, or enhanced roof and wall insulation

- For flood risk, consider additional measures to reduce floodwater such as permeable pavement, green roof, bioswales, dry wells

Climate EA Factor-Housing Implementation

- For energy efficiency, note any benefits like Green MIP, transit oriented development, or electric vehicle charging.
- Multifamily does not have energy benchmarking requirements specific Greenhouse Gas Emissions benchmarks for EAs



FEMA's National Risk Index

Print Report
Download Data

Summary
Risk Index
Expected Annual Loss
Social Vulnerability
Community Resilience
About the National Risk Index
How to Take Action

National Risk Index

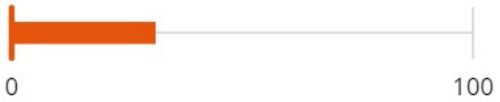
August 22, 2022

Census tract 37007920200, Anson County, North Carolina

Summary

Risk Index is **Relatively High** — Score **28.66**

Expected Annual Loss is **Relatively High** — Score **31.31**



Social Vulnerability is **Relatively Low** — Score **30.19**

Print Report
Download Data

Summary
Risk Index
Expected Annual Loss
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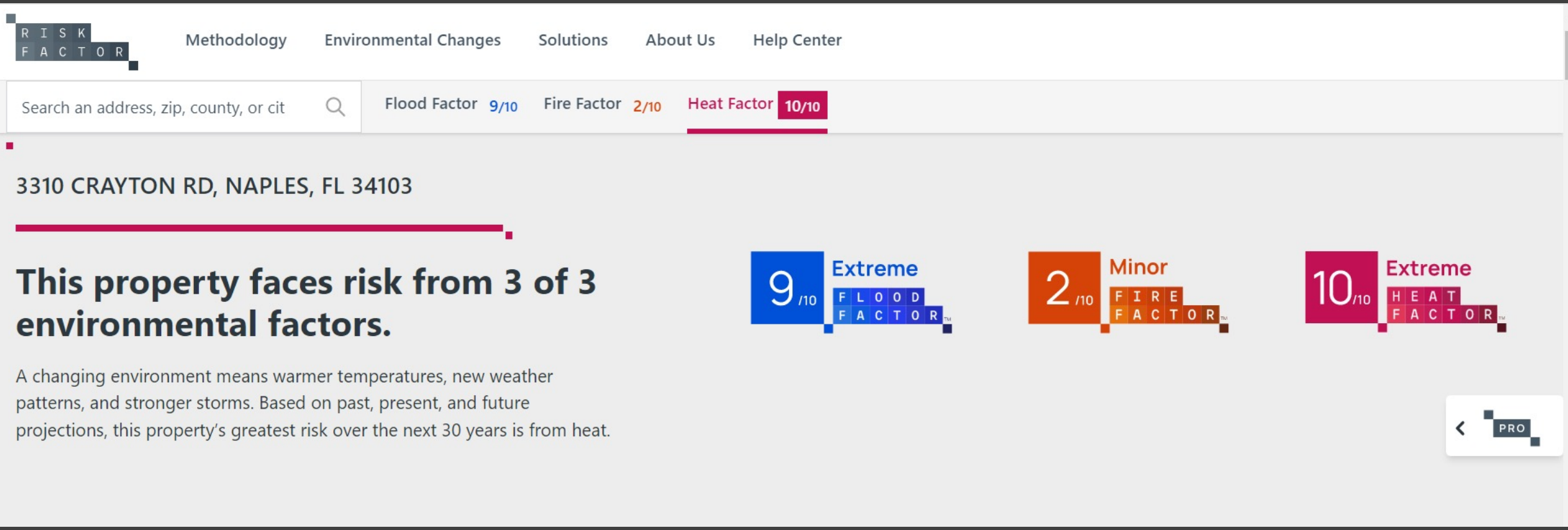
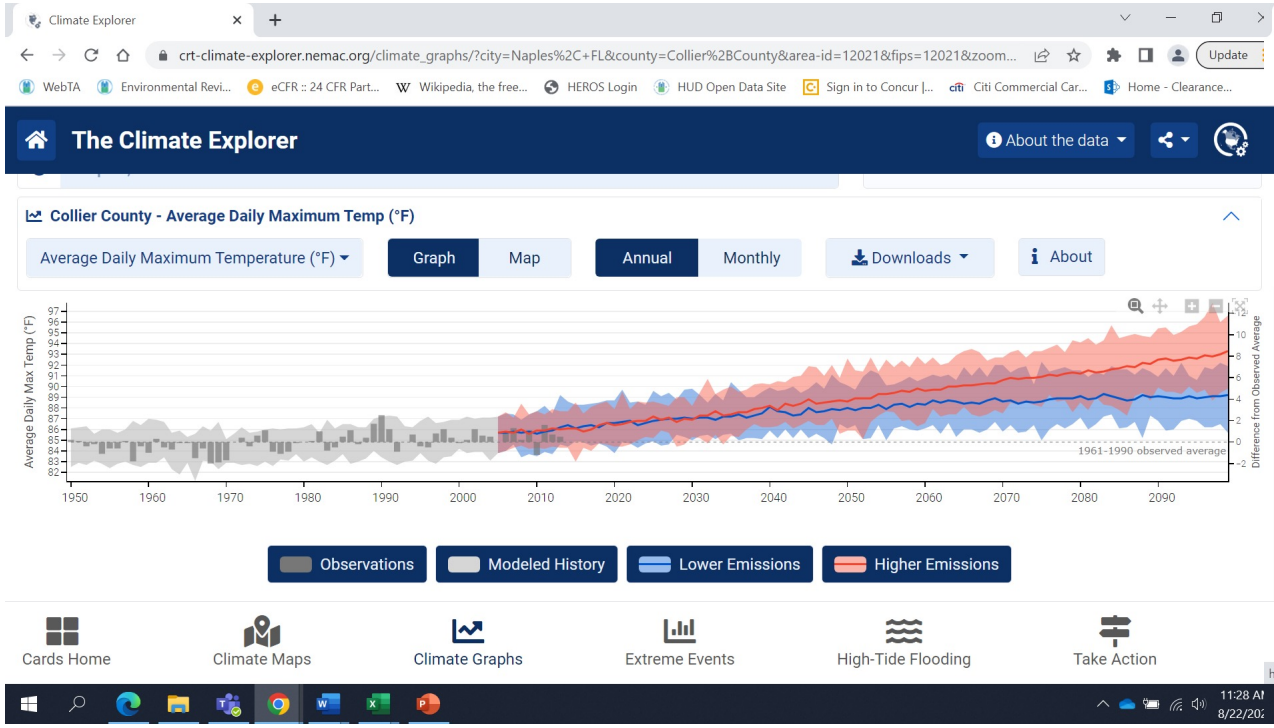
Community Resilience
About the National Risk Index
How to Take Action

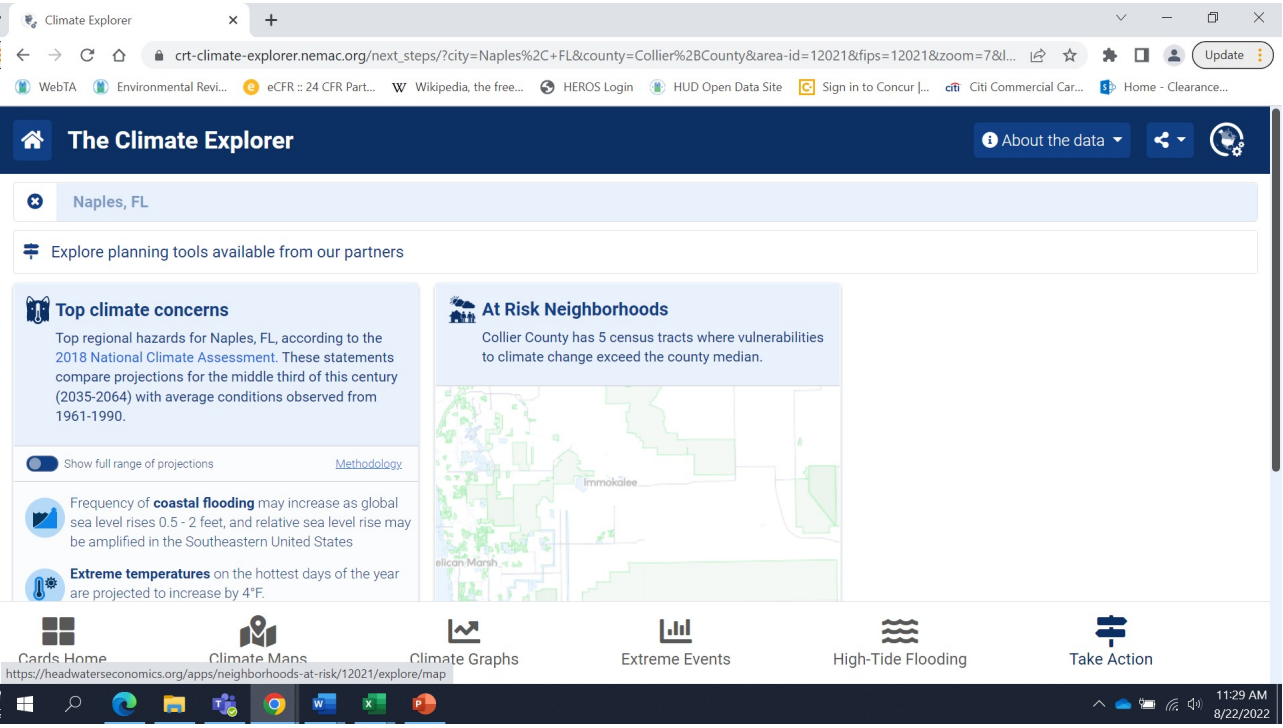
Drought	Relatively High	24.89	0	100
Earthquake	Very Low	5.41	0	100
Hail	Relatively Moderate	14.68	0	100
Heat Wave	Relatively Moderate	20.36	0	100
Hurricane	Relatively Moderate	27.63	0	100
Ice Storm	Relatively Moderate	23.97	0	100
Landslide	Relatively Moderate	5.46	0	100
Lightning	Relatively Moderate	20.78	0	100
Riverine Flooding	Relatively High	24.63	0	100
Strong Wind	Relatively Moderate	22.36	0	100
Tornado	Relatively Moderate	31.27	0	100
Tsunami	Not Applicable	--		
Volcanic Activity	Not Applicable	--		


RISK FACTOR
Methodology
Environmental Changes
Solutions
About Us
Help Center
Search an address, zip, county, or cit
Flood Factor 9/10
Fire Factor 2/10
Heat Factor 10/10
3310 CRAYTON RD, NAPLES, FL 34103
This property faces risk from 3 of 3 environmental factors.
A changing environment means warmer temperatures, new weather patterns, and stronger storms. Based on past, present, and future projections, this property's greatest risk over the next 30 years is from heat.
9/10 Extreme FLOOD FACTOR
2/10 Minor FIRE FACTOR
10/10 Extreme HEAT FACTOR
PRO

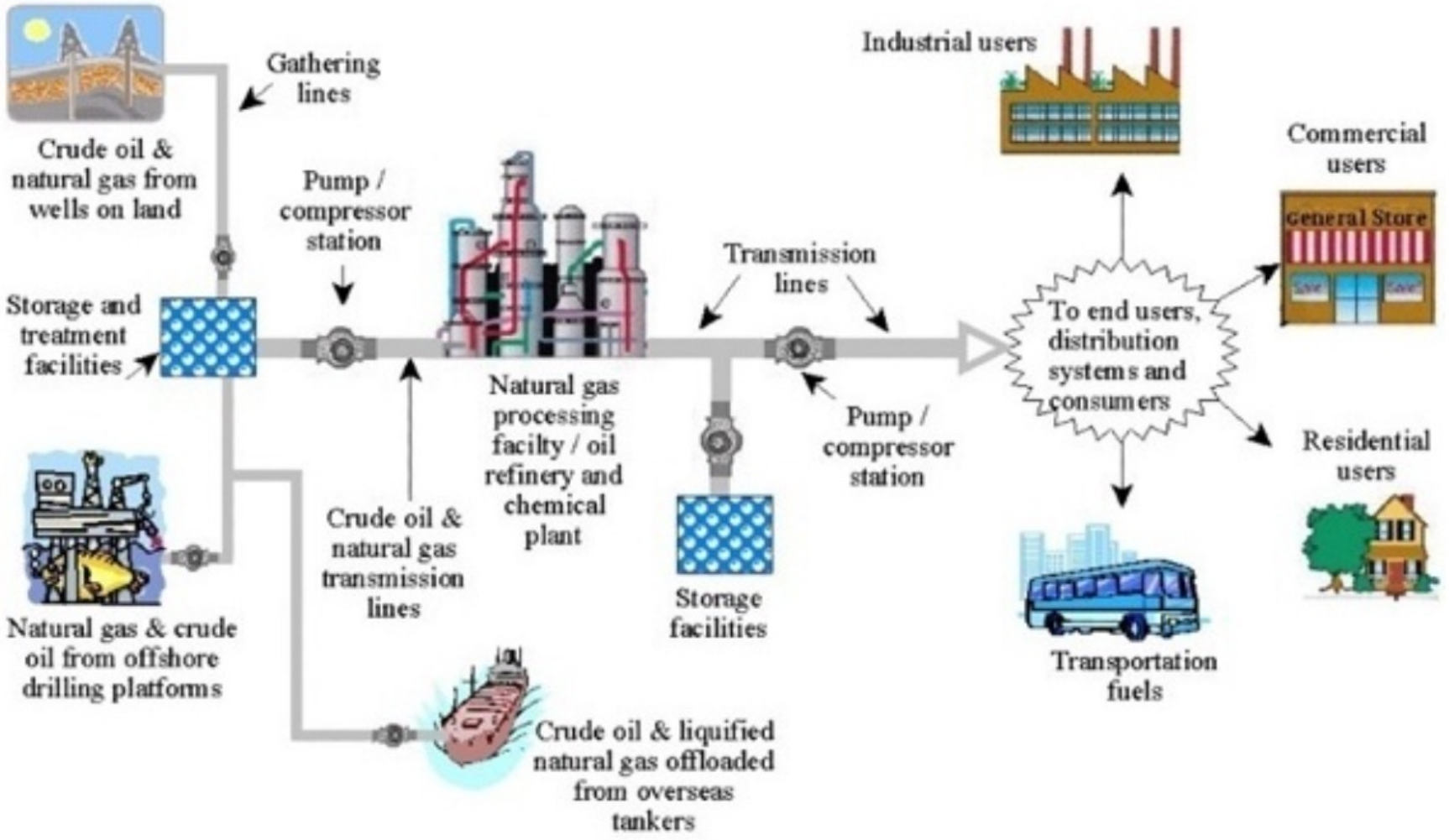
[Risk Factor]

Climate Explorer





Pipelines


Gathering lines
Crude oil & natural gas from wells on land
Pump / compressor station
Storage and treatment facilities
Natural gas processing facilty / oil refinery and chemical plant
Transmission lines
Pump / compressor station
Industrial users
Commercial users
General Store
To end users, distribution systems and consumers
Residential users
Transportation fuels
Storage facilities
Crude oil & natural gas transmission lines
Natural gas & crude oil from offshore drilling platforms
Crude oil & liquified natural gas offloaded from overseas tankers

Pipelines

1. **Flowlines -** Move product from the wellhead to nearby storage tanks, transmission compressor stations, or processing plant booster stations; **Narrow pipes**

2. **Gathering Lines -** Collect product from multiple flowlines and move it to centralized points, such as processing facilities, tanks, etc.; **Medium size steel pipes** (usually under 18" diameter)

3. **Transmission Pipelines -** Carry product across long distances and occasionally across interstate boundaries; **Large steel pipes** (usually 2" to 42") that are federally regulated.

4. **Distribution Pipelines -** Also known as "mains," are the middle step between high pressure transmission lines and low-pressure service lines. Distribution pipelines operate at an intermediate pressure; **Small to medium sized pipes** (2" to 24" in diameter)

5. **Service Pipelines -** Connect to a meter that delivers natural gas to individual customers; **Narrow pipes** (usually less than 2" diameter)

Pipeline Policy

9.6.19.A

For **all projects** the easement of a high-pressure pipeline must at least 10 feet away from structures, ancillary facilities, common areas, parking areas or like related improvements. This does not apply to distribution lines supplying only the facility itself.

9.6.19.B

For new **construction projects and rehabilitation projects where residential density is increased**, must also assess the Potential Impact Radius (PIR) of above-ground and below-ground high pressure pipelines within a mile of the property. This includes onsite or immediately adjacent pipelines.

Pipeline Fact Sheet Updates

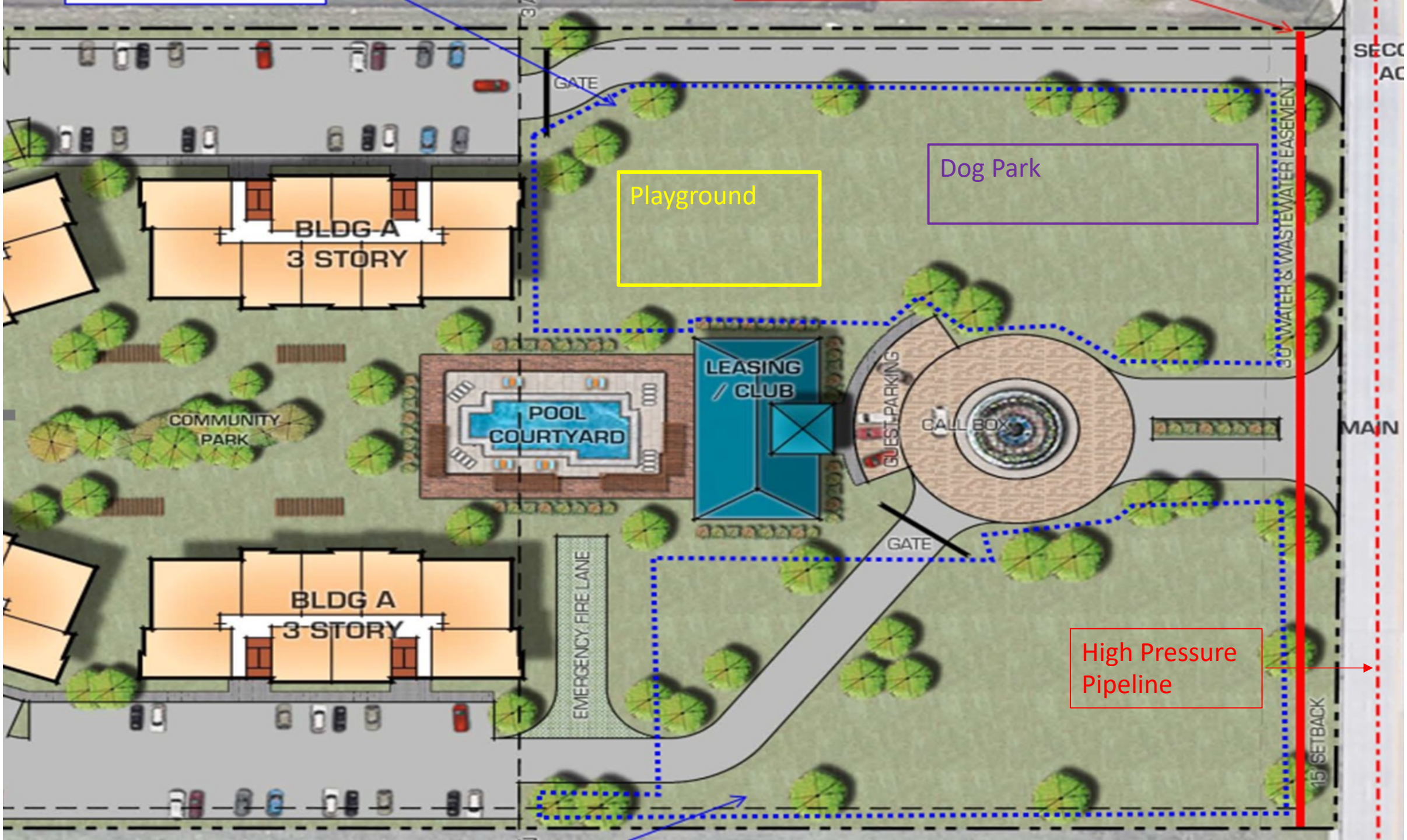
- https://files.hudexchange.info/resources/documents/Acceptable-Separation-Distance-Fall-Hazards-and-Pipelines-Fact-Sheet.pdf

- Reverse engineering for pipeline information

- The engineering report should include:
  - Distance from pipeline to project site.
  - The pipeline's most recent inspection report (see question 12 for how to obtain).
  - Conditions of the specific pipeline segment such as corrosion, damage, defects, deferred maintenance and historical incidents such as leaks or releases.
  - Pipeline depth or pipeline aboveground exposure.
  - Type of soil in soil column from pipeline to project from Geotech survey or USDA soil survey map.

Pipeline Fact Sheet Updates

- For **buildings and structures**, HUD will accept an engineering report that determines:
  - underground pipeline depth of three or more feet
  - soil overburden between the project and pipeline has a high bearing capacity
  - the pipeline segment has passed its most recent inspection report with no unresolved violations.
- For **outdoor ancillary facilities or common areas**, HUD will accept an engineering report that determines:
  - an underground pipeline depth of six or more feet
  - soil overburden between the project and pipeline has a high bearing capacity
  - the pipeline segment has passed its most recent inspection report with no unresolved violations.
- If the above conditions do not apply, the engineering report must discuss whether other existing barriers such as roads built to Federal DoT standards, topography, walls or buildings provide mitigation or whether the project must add additional mitigation to protect residents from thermal radiation.
- No buildings, structures, ancillary facilities, common areas, parking areas or like related improvements may be within 10 feet of the easement of a pressurized pipeline as per 9.6.19.A.


GATE
Playground
Dog Park
BLDG A
3 STORY
LEASING
/ CLUB
POOL
COURTYARD
COMMUNITY
PARK
GUEST PARKING
CALL BOX
30' WATER & WASTEWATER EASEMENT
MAIN
GATE
BLDG A
3 STORY
EMERGENCY FIRE LANE
High Pressure
Pipeline
15' SETBACK

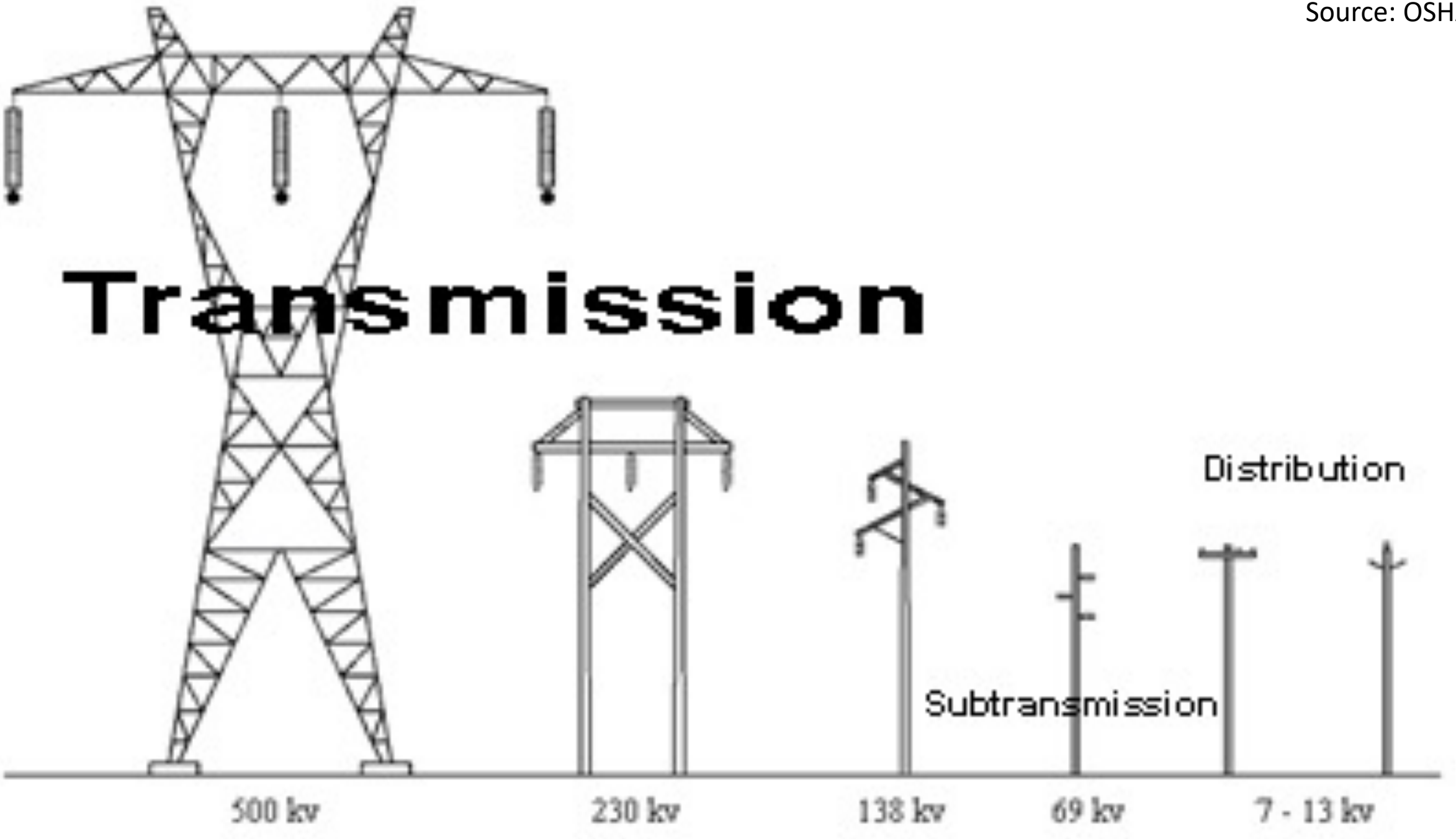

Fall Hazards

Fall Hazards- Easement Restrictions

- No buildings, ancillary facilities, structures or common areas **within easement** of high-voltage transmission lines.

- Voltage classifications vary between sources, so focus on ‘transmission.’ These lines carry power long distances from generating stations.

Source: OSHA


Transmission
Distribution
Subtransmission
500 kv
230 kv
138 kv
69 kv
7 - 13 kv

Fall Hazards

- Sub transmission lines carry stepped-down voltages to and between regional substations. Fall hazard analysis required; case by base easement restriction.
- Local service lines and poles are excluded from this section.

Fall Hazards

- Determine maximum fall distance, and if necessary engineered fall distance. (Licensed engineer required)

- New construction must be outside of engineered fall distance

Fall Hazards

- Exception: for monopoles with no seams or welds, HUD accepts a structural engineer certification of compliance and good condition

Fall Hazards- Existing Buildings and Facilities

For existing buildings, HUD will consider a P.E. report that includes:

Tower condition and specifications	Recent maintenance	Pictures, including foundation	Assessment of risk and mitigation

HUD will determine if the report supports an exception to fall distance requirements.

Exceptions are not Waivers

The exceptions for monopoles and existing facilities are determined by HUD as routine parts of environmental reviews.

If the engineer report supports approval, no additional steps are necessary for MAP Guide compliance.

Waivers of MAP Guide requirements are rare and should not be confused for the exceptions described here

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Questions??

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Session Break – Return in 10 minutes