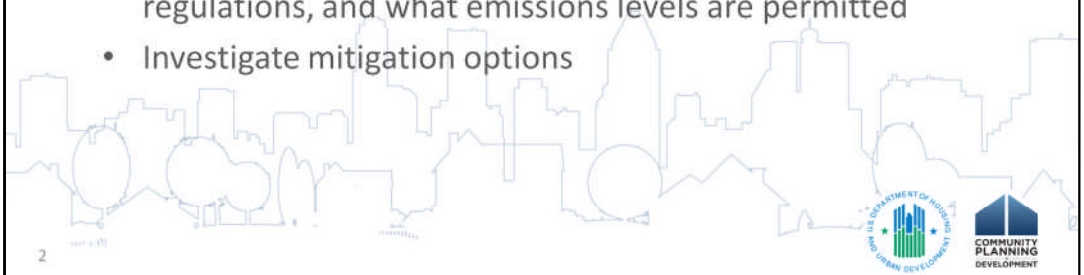
COMMUNITY PLANNING & DEVELOPMENT

Clean Air Act

Compliance

Learning Objectives

- Understand the basic history and structure of the Clean Air Act
- Recognize the types of projects that do and do not trigger CAA compliance, and when to hire a consultant
- Determine what locations are subject to CAA regulations, and what emissions levels are permitted
- Investigate mitigation options



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Air Quality Compliance

Takeaways

- Federal law, implemented by the states
- Very rare that compliance measures are required for HUD-assisted projects
- Very technical- best to use engineers/consultants

Our atmosphere is something we have taken for granted in the past, but, in the last forty years or so, scientists, elected officials, and the general public have begun to realize the effects of pollutants on the air we breathe. It is now recognized that pollutants such as sulfur dioxide, nitrous oxides, and particulates released into the atmosphere as a result of energy generation, industrial development, and increased use of motor vehicles, have serious heath and environmental consequences.

Clean Air Act Structure

- Regulations written by federal EPA, but **administered through state agencies**
- Each state has its own unique plan for meeting CAA goals, known as a **State Implementation Plan (SIP)**
- Become familiar with your area's SIP: locations, emissions levels and mitigation

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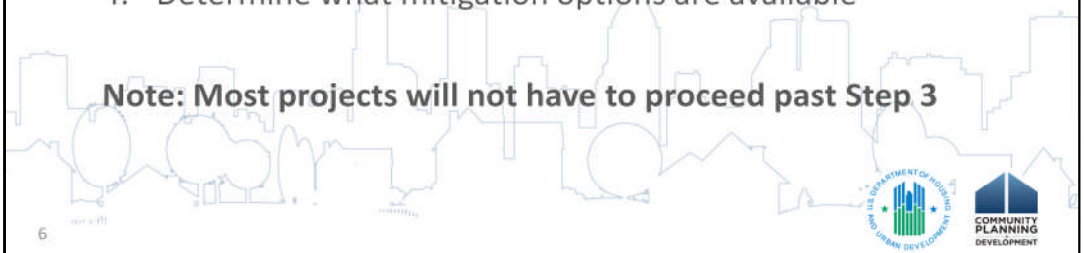
Clean air and air pollution have been public issues for centuries. In 1306 King Edward I of England issued a proclamation banning the use of sea coal in London due to the smoke it caused. Over the next few centuries, additional efforts were made in Great Britain to reduce the amount of smoke in the air. The first attempt to control air pollution in the United States occurred during the industrial revolution. The cities of Chicago and Cincinnati enacted clean air legislation in 1881. Subsequently, other cities, towns, and regions slowly began enforcing their own clean air policies.

4 Steps to CAA Compliance

1. Determine if the project review rises to Environmental Assessment level
2. Determine if the project is located in a non-attainment area for any of six pollutants
3. Determine if the project exceeds allowable emissions levels
4. Determine what mitigation options are available

Note: Most projects will not have to proceed past Step 3



Step #1

HUD-assisted projects that are exempt or categorically excluded (CATEX) will virtually never produce enough air pollution to trigger CAA mitigation measures…

…only projects that require an Environmental Assessment continue to Step #2.

Step #2

Determine if your project is located in an area that has excessive levels of these 'criteria pollutants':

- Carbon monoxide
- Lead
- Sulfur oxides
- Nitrous oxides
- Ground-level ozone
- Particulate matter

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Attainment vs non-attainment

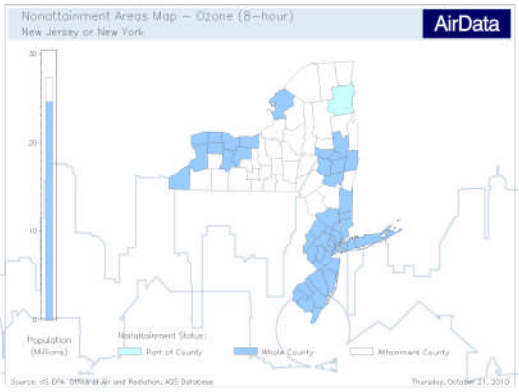
- Attainment refers to “clean air sites” – below national level of pollutants
- Non-attainment refers to “dirty air sites” – above national level of pollutants

-‘Attainment’ and ‘non-attainment’ status refers to a county that has total levels of certain pollutants (CO, Pb, NOx, SOx, particulates, and ground-level ozone) either below a nationally-defined level (attainment) or above that level (non-attainment). These total levels of pollution are called National Ambient Air Quality Standards (NAAQS) and are periodically updated by the EPA based on public health findings.

HUD Clean Air Act Compliance

Check the county or air-quality district of your project for each of these pollutants at

http://www.epa.gov/oaqps001/greenbk/index.html



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Step 3: Estimate emissions

- Become familiar with your local SIP- formal estimates may not be necessary
- If necessary - it is highly technical and should be completed by a qualified professional
- Compare estimated emissions to allowable levels in your area's SIP

New York State De minimis emission limits.	
Air contaminant	*De minimis emission limit (tons per year)*
Carbon monoxide	100
Nitrogen oxides	40
Sulfur dioxide	40
Particulates	25
Volatile organic compounds (for ozone nonattainment areas)	40
Lead	.6
Asbestos	0.007
Beryllium	0.0004
Mercury	0.1
Vinyl chloride	1
Fluorides	3
Sulfuric acid mist	7
Hydrogen sulfide	10
Total reduced sulfur	10
Reduced sulfur compounds	10

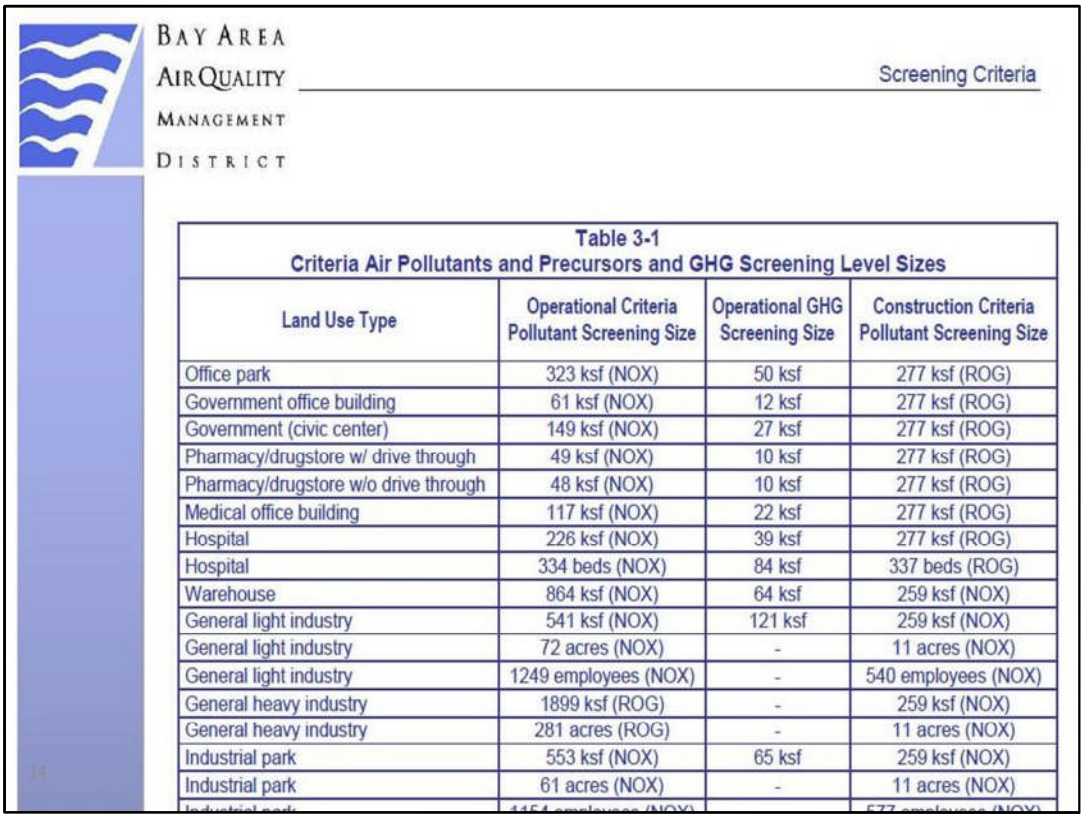
[12] http://www1.dec.state.ny.us/regs/4210.html#13984

Screening Criteria

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Table 3-1
Criteria Air Pollutants and Precursors and GHG Screening Level Sizes

Land Use Type	Operational Criteria Pollutant Screening Size	Operational GHG Screening Size	Construction Criteria Pollutant Screening Size
Single-family	325 du (NOX)	56 du	114 du (ROG)
Apartment, low-rise	451 du (ROG)	78 du	240 du (ROG)
Apartment, mid-rise	494 du (ROG)	87 du	240 du (ROG)
Apartment, high-rise	510 du (ROG)	91 du	249 du (ROG)
Condo/townhouse, general	451 du (ROG)	78 du	240 du (ROG)
Condo/townhouse, high-rise	511 du (ROG)	92 du	252 du (ROG)
Mobile home park	450 du (ROG)	82 du	114 du (ROG)
Retirement community	487 du (ROG)	94 du	114 du (ROG)
Congregate care facility	657 du (ROG)	143 du	240 du (ROG)
Day-care center	53 ksf (NOX)	11 ksf	277 ksf (ROG)
Elementary school	271 ksf (NOX)	44 ksf	277 ksf (ROG)
Elementary school	2747 students (ROG)	-	3904 students (ROG)
Junior high school	285 ksf (NOX)	-	277 ksf (ROG)
Junior high school	2460 students (NOX)	46 ksf	3261 students (ROG)
High school	311 ksf (NOX)	49 ksf	277 ksf (ROG)
High school	2390 students (NOX)	-	3012 students (ROG)



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Screening Criteria

Table 3-1
Criteria Air Pollutants and Precursors and GHG Screening Level Sizes

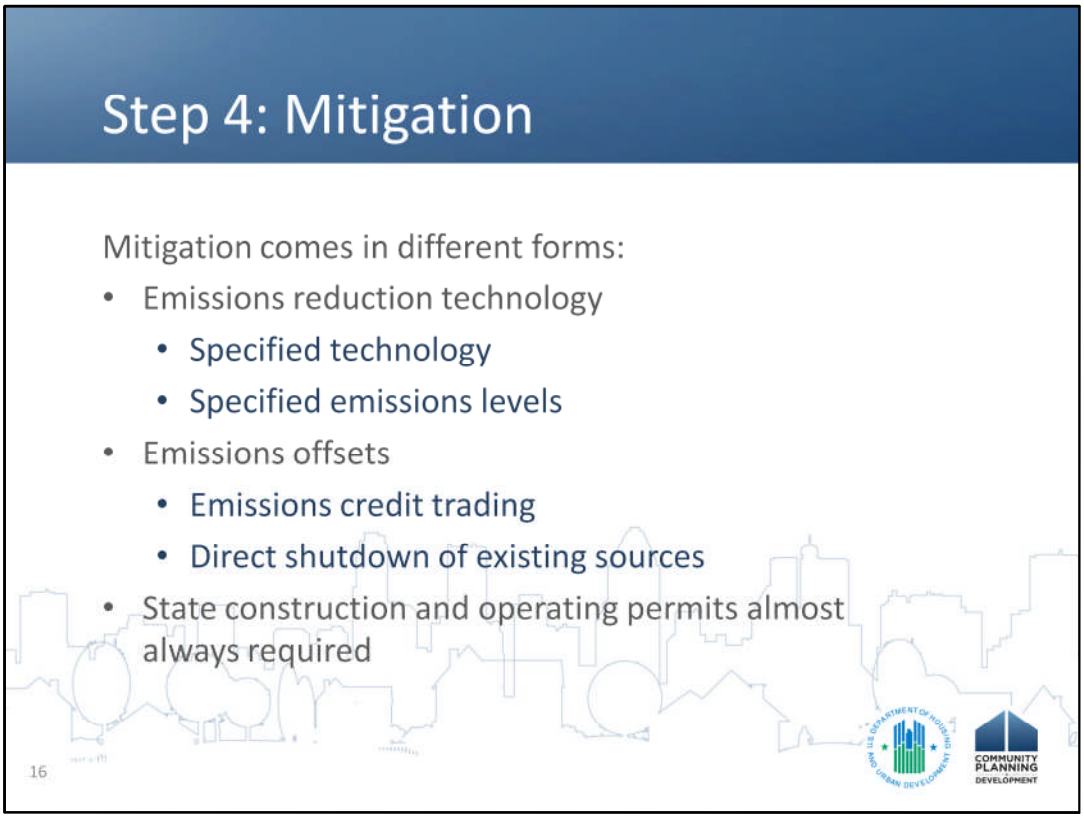
Land Use Type	Operational Criteria Pollutant Screening Size	Operational GHG Screening Size	Construction Criteria Pollutant Screening Size
Office park	323 ksf (NOX)	50 ksf	277 ksf (ROG)
Government office building	61 ksf (NOX)	12 ksf	277 ksf (ROG)
Government (civic center)	149 ksf (NOX)	27 ksf	277 ksf (ROG)
Pharmacy/drugstore w/ drive through	49 ksf (NOX)	10 ksf	277 ksf (ROG)
Pharmacy/drugstore w/o drive through	48 ksf (NOX)	10 ksf	277 ksf (ROG)
Medical office building	117 ksf (NOX)	22 ksf	277 ksf (ROG)
Hospital	226 ksf (NOX)	39 ksf	277 ksf (ROG)
Hospital	334 beds (NOX)	84 ksf	337 beds (ROG)
Warehouse	864 ksf (NOX)	64 ksf	259 ksf (NOX)
General light industry	541 ksf (NOX)	121 ksf	259 ksf (NOX)
General light industry	72 acres (NOX)	-	11 acres (NOX)
General light industry	1249 employees (NOX)	-	540 employees (NOX)
General heavy industry	1899 ksf (ROG)	-	259 ksf (NOX)
General heavy industry	281 acres (ROG)	-	11 acres (NOX)
Industrial park	553 ksf (NOX)	65 ksf	259 ksf (NOX)
Industrial park	61 acres (NOX)	-	11 acres (NOX)

Documentation required in the Environmental Review Record

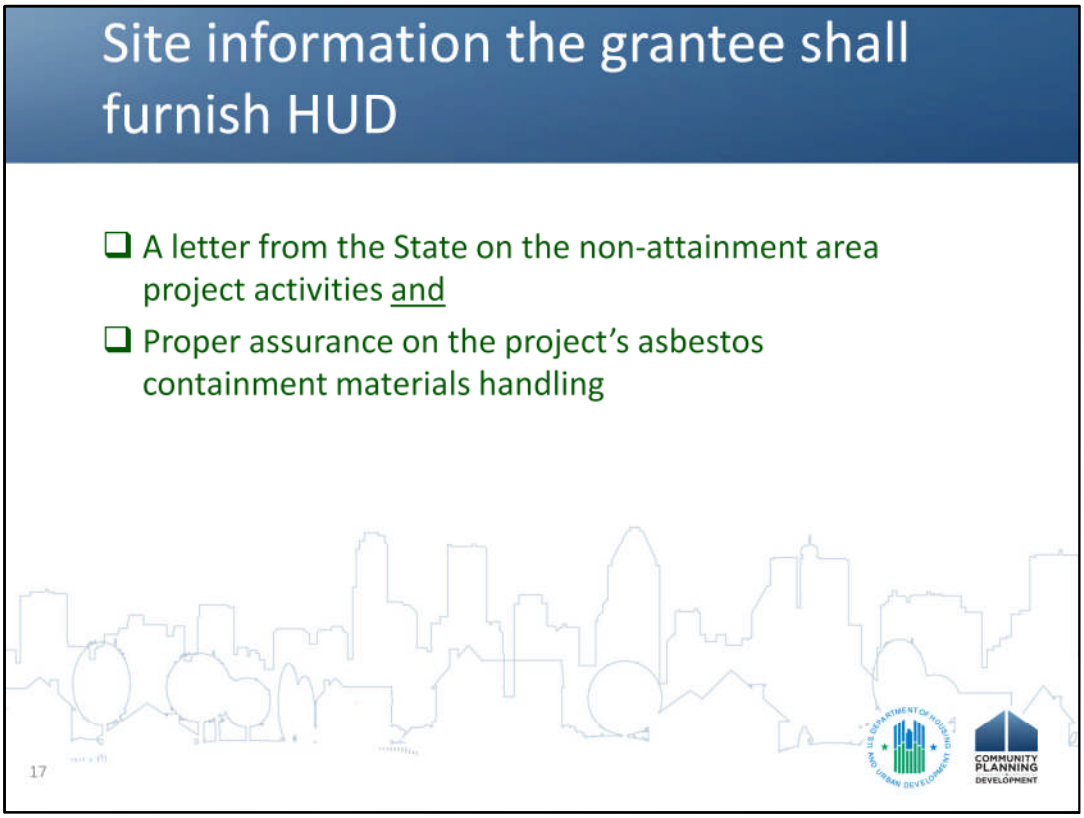
- ❑ The proposed project is not a facility that contributes to air pollution; or
- ❑ Sites are located within NAAQS "attainment" areas; or

all activities in "non-attainment" areas conform with SIP; or

- ❑ All activities within "non-attainment" areas have been designed/modified to conform with SIP requirements



These are too numerous to list here. States will typically indicate the level of technology required (Maximum Available Control Technology, Lowest Achievable Emissions Rate, etc) and define those terms either through absolute numerical emissions standards or through comparative standards vis-à-vis other intra-industry polluters. EPA and many states maintain clearinghouses where one can find example of specific technologies that have been recently deployed, and statistics on the efficacy of those technologies. Emissions offsets as a route to compliance. In practice, this generally applies to producers that are replacing existing sources of pollution while building a new plant. For instance, an energy company might purchase and shut down several existing coal-fired power plants and replace them with a new, more efficient version.



1. *stating that all project activities located within "nonattainment" areas conform with State Implementation Plan requirements; this is only required if the project requires mitigation and exceeds the emissions levels allowed by the state.*
2. *that all project asbestos containing materials will be handled and disposed of by certified professionals in accordance with applicable USEPA and state requirements. (Submit follow-up documentation when work is completed.)*

Case Study #1: The Miraflores Concept Plan

- Project objective is to provide 336 units of a range of housing types on an urban infill site.
  - Provide 110 rental units for seniors
  - Provide 222 market-rate attached units, in a combination of townhouses and single story residences, and 4 single-family homes

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Picture of Miraflores site

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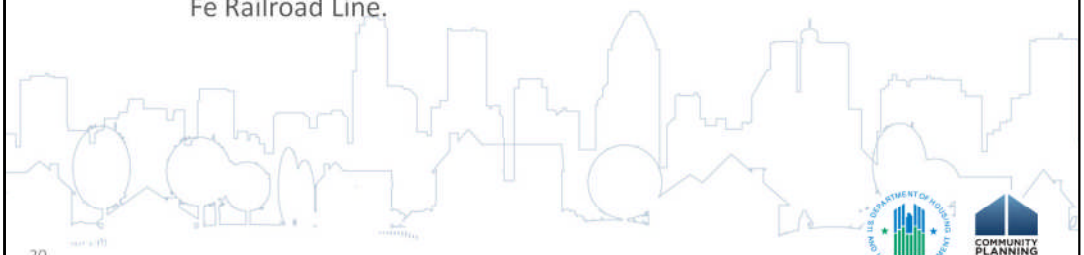
Case Study #1: The Miraflores Concept Plan

- Physical Setting/Existing conditions.
  - Irregular, L-shaped 14 acre property comprised of three major parcels
  - There is significant overgrowth and debris on the site. Traffic from I-80 can be heard through the property.
  - The project site is bounded on the north by the BART tracks and a roadbed berm of the old Atchinson, Topeka and Santa Fe Railroad Line.



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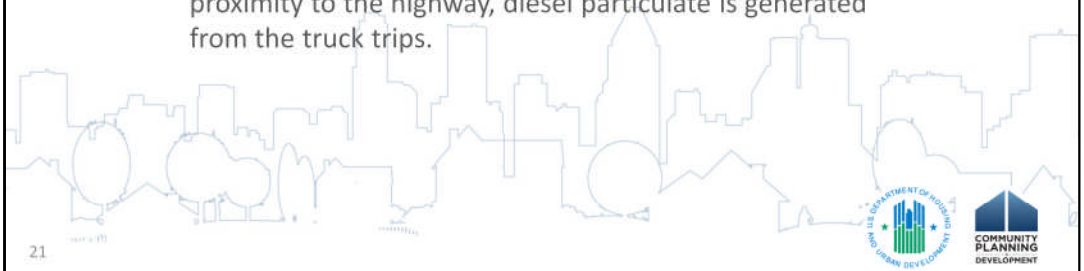
Case Study #1: The Miraflores Concept Plan

- Air compliance issues:
  - EPA designated the entire Bay area as non-attainment for the 24 hr PM 2.5 NAAQS.
  - Toxic air contaminants (TAC) found in low concentrations, even near the highway in lieu of diesel particulates and benzene.
  - No major stationary sources of TAC but in lieu of its proximity to the highway, diesel particulate is generated from the truck trips.



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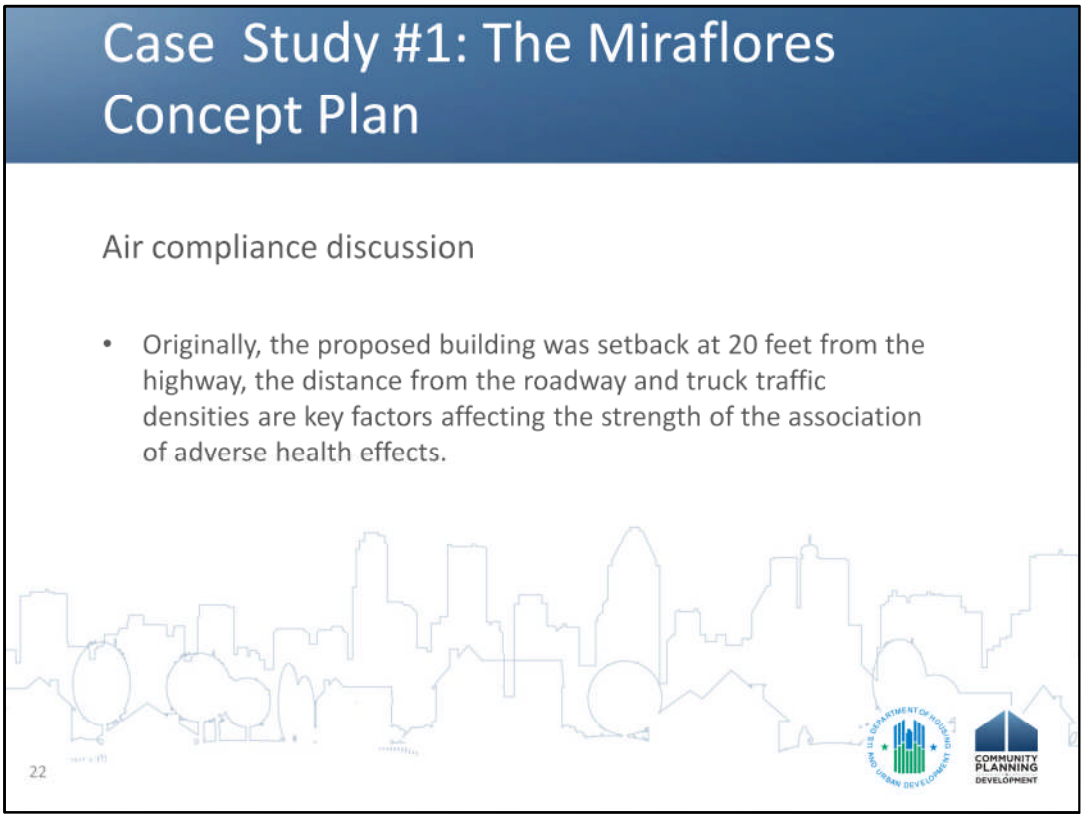
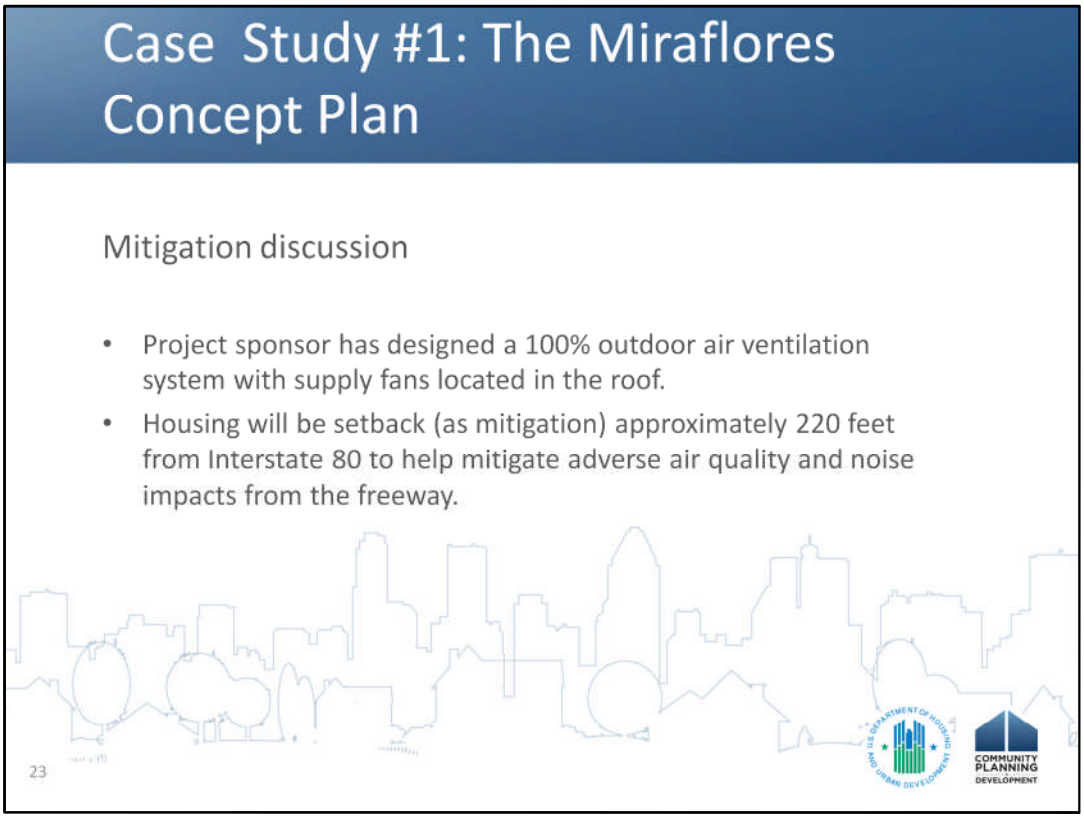


There are three carcinogenic toxic air contaminants from motor vehicle traffic, such as diesel, benzene and 1,3 butadiene.



In addition, the system will have MERV air filters (remove 90% of ambient PM 2.5 from outdoor air). The City as Successor Agency is working on completing the clean-up of the site. The abatement and demolition work has been completed, including the moving of the historic structures to be preserved. We've also fully entitled an 80-unit low income senior housing development on a portion of the site. The City has also received a Prop 84 urban greening project grant to establish the green belt which includes daylighting a portion of Baxter Creek.

Case Study #2: 6th and Oak Apartments, Oakland

Physical Setting/Existing conditions

- Project site located at the northern corner of the intersection of 6th and Oak streets in Oakland. Interstate 880 passes by the project site parallel to and on the opposite side of 6th street.
- Air quality requires that qualified air quality consultants prepare a Health Risk Assessment to develop measures to achieve acceptable interior air quality

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CHINATOWN
7TH ST
OAK ST
6TH ST
NB OAK OFFRP ST
FALLON ST
NB I880
SB I880
880
614
125
121
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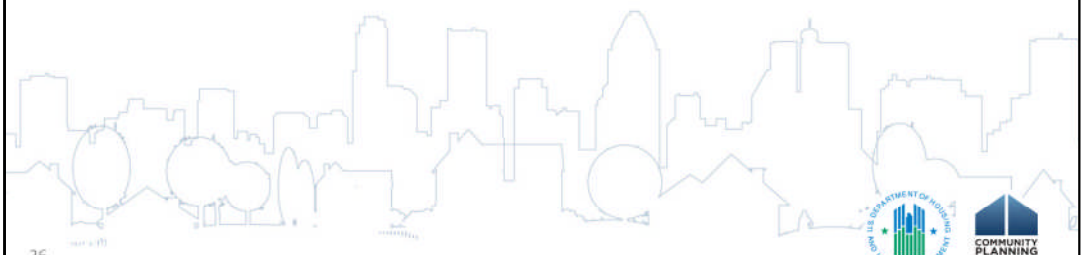
COMMUNITY PLANNING DEVELOPMENT

Case Study #2: 6th and Oak Apartments, Oakland

Air compliance issues:

- Potential exposure from emissions from the adjacent freeway, exposing residents to vehicle emissions, including toxic air contaminants (diesel emissions).



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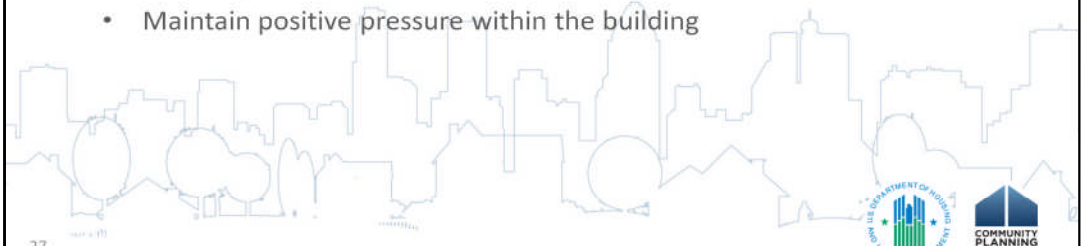
Case Study #2: 6th and Oak Apartments, Oakland

Mitigation discussion:

- No sensitive receptors near entry or exits of the proposed project site
- No sensitive receptor in the same building with hazardous materials.
- Install, operate and maintain and HVAC system, MERV 13.
- Maintain positive pressure within the building



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Case Study #2: 6th and Oak Apartments, Oakland

Mitigation discussion:

- Maintain one air exchange per hour of fresh outside air
- Maintain four air exchanges per hour of re-circulated air.
- If building is not positively pressurized, maintain 0.25 air exchanges per hour.
- Maintain, repair or replace an HV system and the filter.

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Questions?

Points of Contact

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