

# Wood-Fired Cooking Challenge

Aqua Riva Restaurant Experience  
Vancouver, Canada



# Wood-Fired Rotisserie & Pizza Oven



# Existing Control

Horizontal  
Discharge

1 Odor Unit & Fan

2 Ecology Units

4000 cfm

1000 cfm





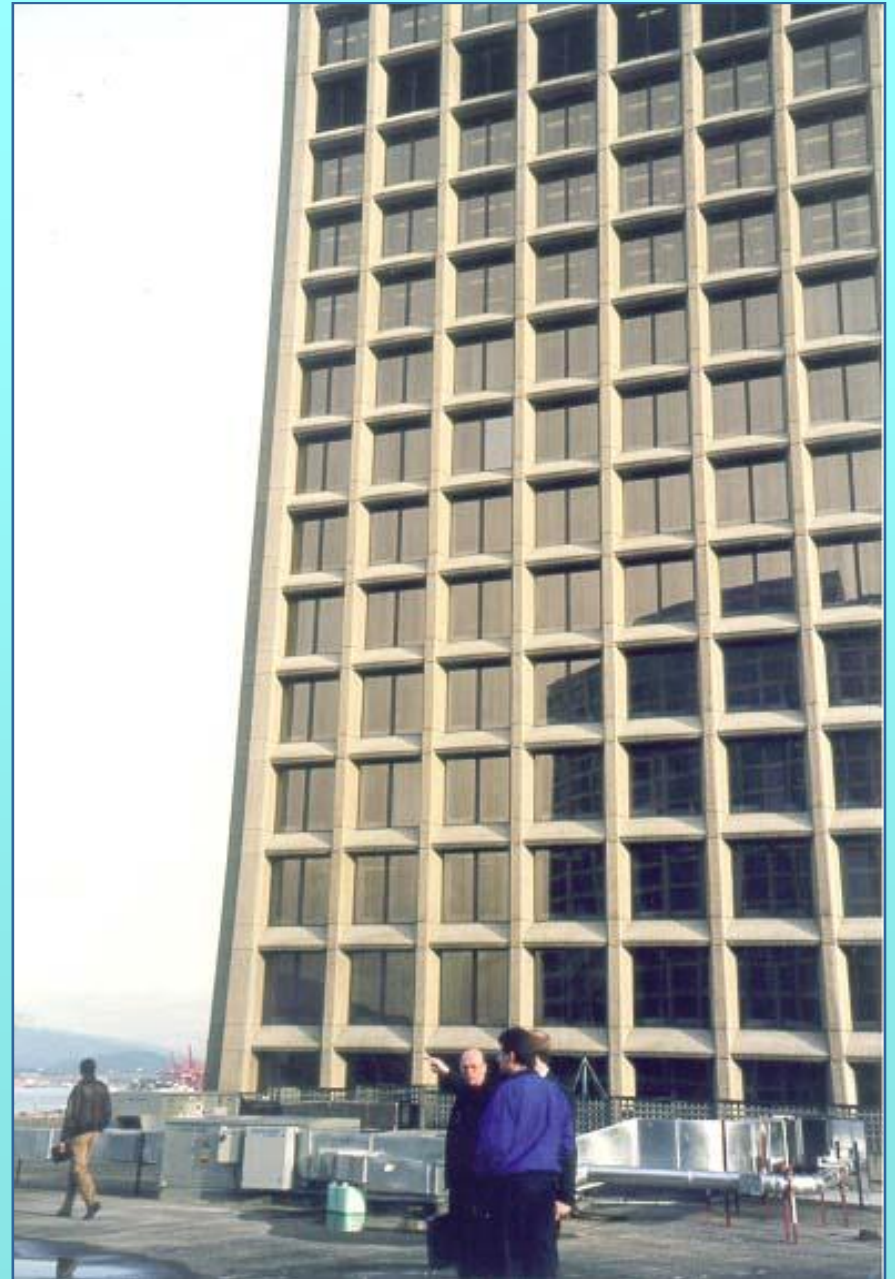
# Maintenance

**\$45,000+ per year:**

- prefilters (3 days)
- bag filters (weekly)
- hepa filters (2 weeks)
- odor spray (\$10K)

# Still a Problem

Complaints from  
adjacent office  
tenants about wood  
smoke odors



# Even Bigger Problem

Odor complaints from downstairs tenant



# Options under Consideration

- Replace hoods
- Replace Ecology package with:
  - Electrostatic Filter (ESP)
  - Potassium Permanganate Pellets
- Estimated retrofit cost: \$240,000
- Estimated maintenance cost: \$40,000/yr  
(based on manufacturer figures)
- *Frying Pan to Fire?*

# Strategy Adopted

- Collaborative effort - stop the finger pointing!
- Worked with the mechanical consultant, Reid Crowther, originally hired to solve problem and the reps of existing equipment
- Modified the existing system from the inside out!



# Side Panels Improved Capture



# Back of Rotisserie Hood



# Side Curtain Retrofit



Damper Air Flow



# Pizza Oven Hood

Draft style hood - open front & back





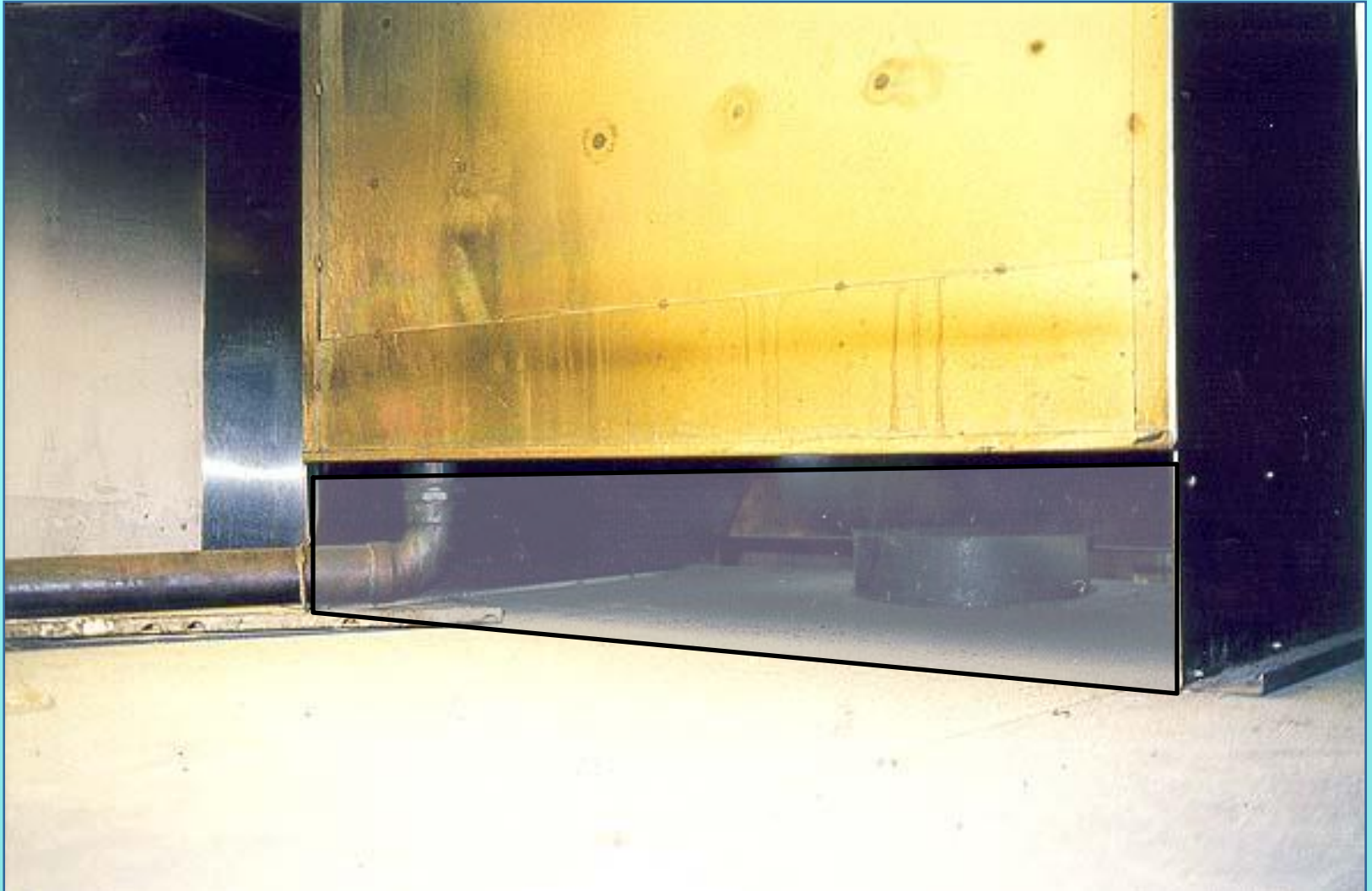
# Inside of Pizza Oven Hood - Yuk!



# Back of Hood



# Closed Off Back





# Improved Capture

Hinged panel (access for cleaning)





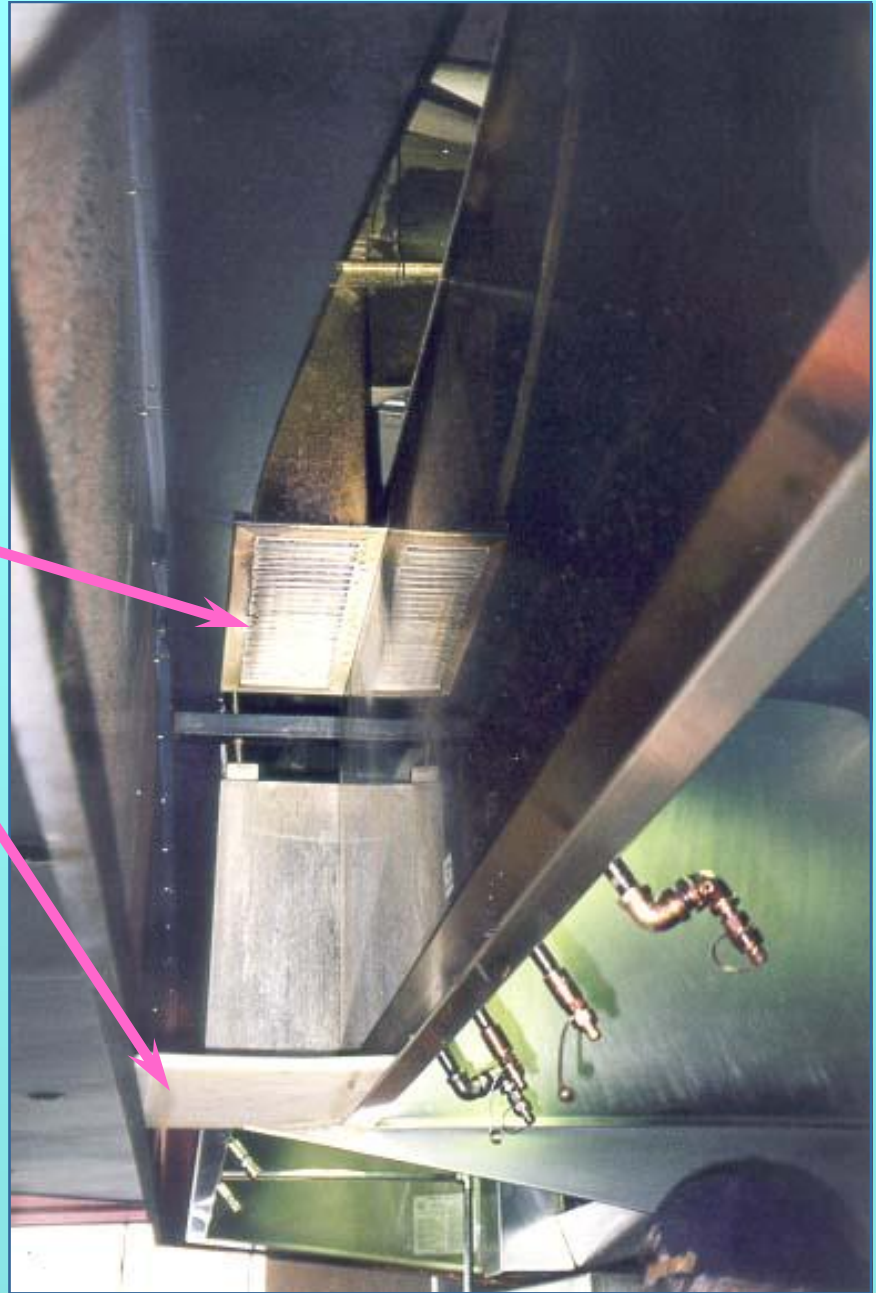
# No 4-Way Diffuser



# History!



**Nasty Makeup  
Air Grille  
Location and  
Chef “Fix”**

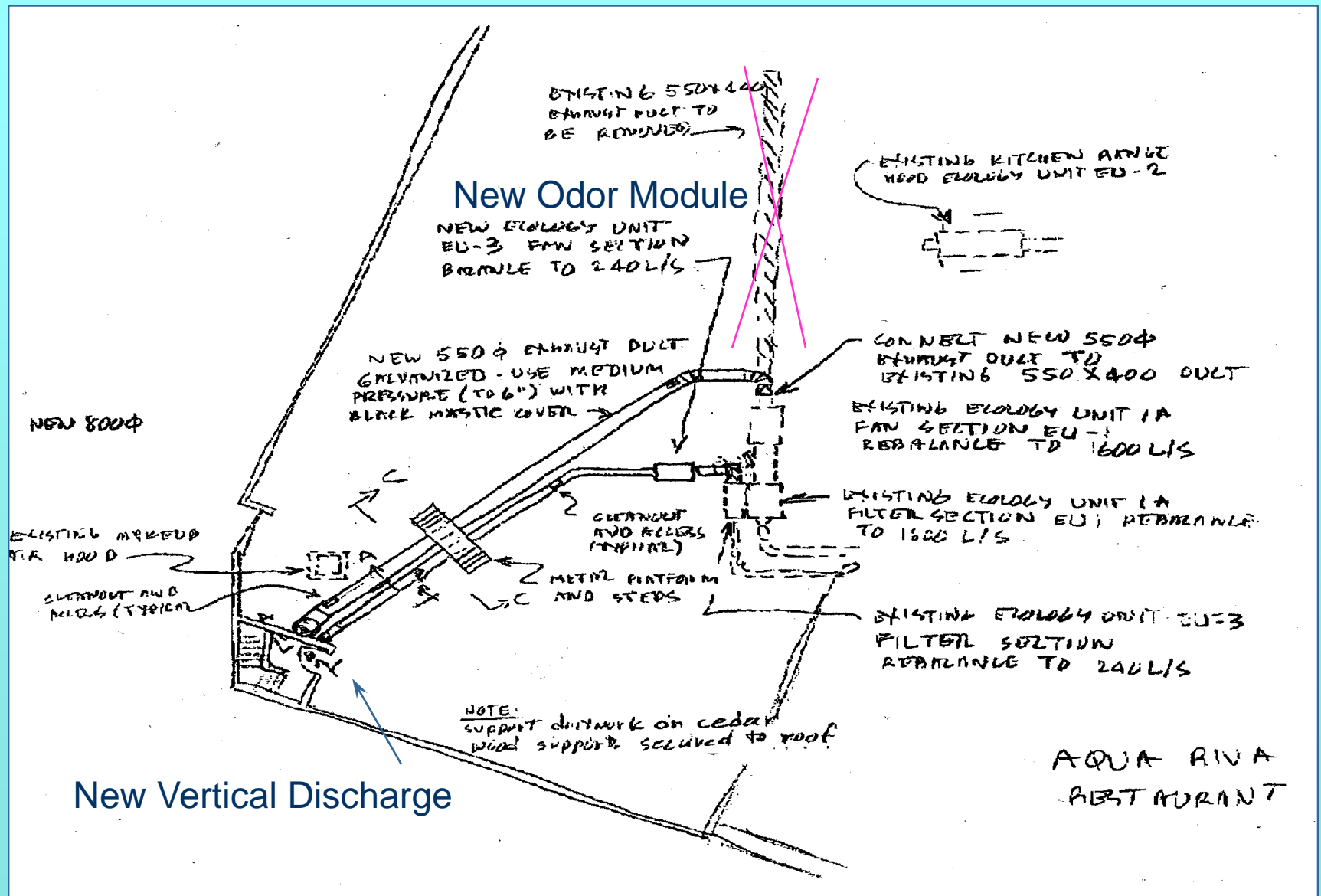


# Blocked Grille & Enclosed Plenum



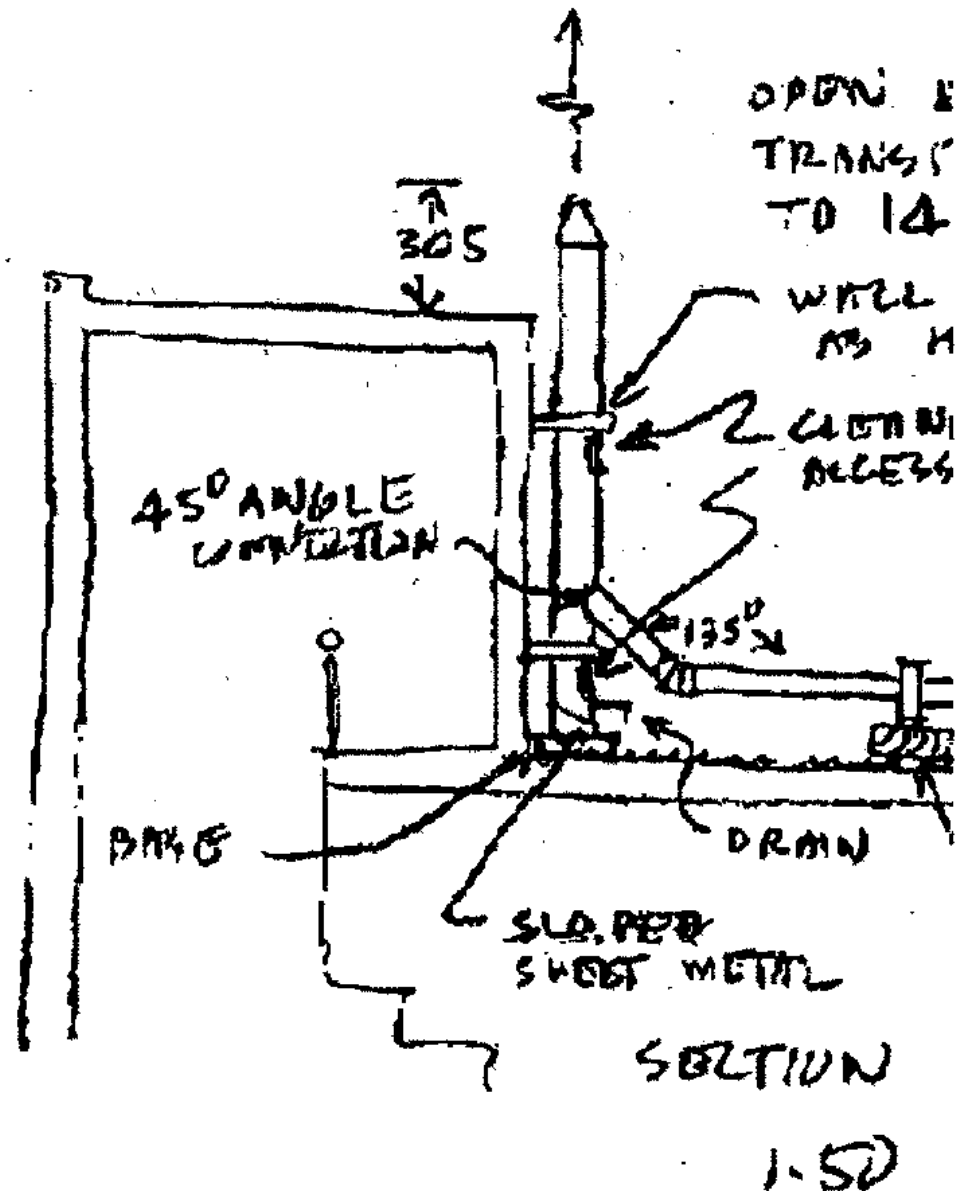


# Rooftop Re-Design (Aqua Riva napkin!)



# Re-Design

High-Velocity  
Vertical  
Discharge



# The Outcome

- Building management non-committal - filter costs still too high!
- But no call backs!
- And the chef remembered the consultant from California that helped solve their hood problems!
- *Sometimes you get lucky!*