

Fertilizer Plant Regulations

Research and Recommendations



City Council Public Works Committee
April 12, 2022

Background

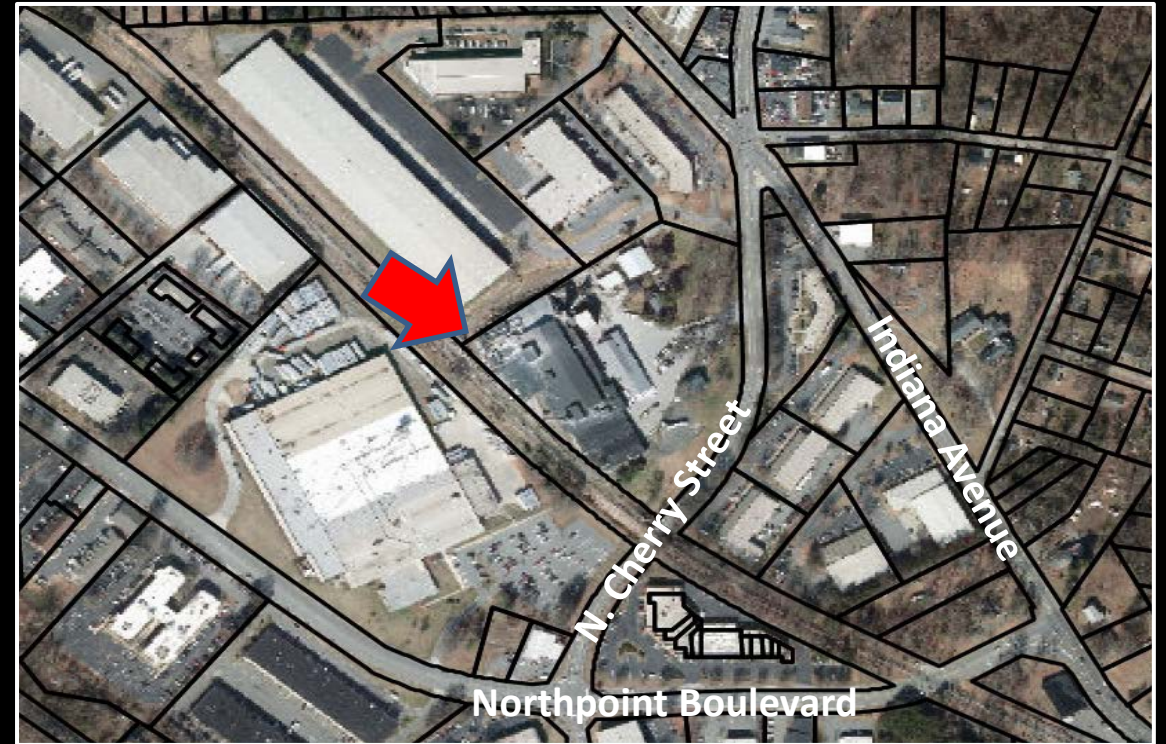


- The major fire at the Winston Weaver plant in early 2022 led to staff assessing the City's current land use regulations for such facilities.
- Staff has researched how NC peer cities address fertilizer plants through zoning restrictions and other requirements.
- Peer cities include Charlotte, Durham, Fayetteville, Greensboro, and Raleigh.

Winston Weaver Plant Zoning History



Winston Weaver Plant, 1951



Winston Weaver Plant, 2018

Winston Weaver Plant Zoning History

- 1939: Plant constructed and opened in Forsyth County in January 1940. State does not allow counties to have zoning authority at that time.
- 1964: Winston Weaver plant annexed by Winston-Salem and industrial zoning for the property is first established.
- 1967: Zoning adopted in Forsyth County, though Forsyth County had authority to establish zoning as early as 1947 through special City/County legislation. All counties granted zoning authority by the State in 1959.

Fertilizer Plant Zoning Classification in Unified Development Ordinances (UDO)

- Fertilizer plants classified as chemical manufacturing based on North American Industrial Classification System (NAICS).
- Chemical manufacturing is one of 13 uses classified as “Manufacturing C,” which is only allowed in the most intensive General Industrial (GI) zoning district.
- Any use involving manufacture of hazardous materials prohibited within 1 mile of Salem Lake by watershed protection regulations.

Peer City Fertilizer Plant Zoning Restrictions

- Fertilizer plants only allowed in a community's heaviest Industrial district.
- Classified as some form of chemical or high impact/hazardous manufacturing.
- Additional Use Restrictions:
 - Special Use Permit Approval (Durham & Greensboro)
 - Enhanced Setbacks from Residential, ranging from 300 to 1,500 feet (Charlotte, Durham, Fayetteville, & Greensboro)
 - Perimeter Security Wall/Fence (Durham & Greensboro)
 - Hazardous Materials Management Plan (Durham & Fayetteville)
 - Water Supply Watershed Restrictions (Winston-Salem, Greensboro, Durham, & Fayetteville)

Peer City Fertilizer Plant Zoning Restrictions

Zoning Ordinance Requirements Affecting Fertilizer Manufacturing

City	Allowed Only in Heavy Industrial District	Special Use Permit Approval	Enhanced Setbacks from Residential (ft.)	Security Fencing/ Wall Required (height-ft.)	Hazardous Materials Management Plan Required	Water Supply Watershed Restrictions
Winston-Salem	Yes	No	No	No	No	Prohibited within 1 mile of source
Charlotte	Yes	No	300	No	No	Not Found
Durham	Yes	Yes	1,500	8	Yes	Spill Containment Plan Approval
Fayetteville	Yes	No	1,000	No	Yes	Spill Containment Plan Approval
Greensboro	Yes	Yes	500	8	No	Prohibited within 1/2 mile of source
Raleigh	Yes	No	No	No	No	Not Found

Other Possible Fertilizer Plant Restrictions

Minimum Site Size: Establish additional use restrictions and minimum site size for fertilizer plants, as Winston-Salem does for hazardous waste management facilities:

- Minimum site size of 10 acres;
- 200 foot setback from any property line; and
- 1/4 mile (1,320 foot) setback from residential or institutional zoning districts

Use Separation: Require fertilizer plants to have a minimum distance separation from large places of assembly, particularly schools and universities.

Recommendations

1. Various options exist for enhancing UDO regulations regarding chemical manufacturing facilities, should Council determine such options are warranted through the UDO text amendment process:
 - Requiring Elected Body Special Use Permit approval
 - Requiring a minimum site size
 - Enhancing setbacks and buffering from residential districts
 - Adding a spacing requirement from schools and universities
 - Requiring a perimeter security wall/fence
 - Requiring submission of a hazardous materials management plan for review by local Fire/EMS agencies as part of site plan approval

Recommendations

2. Coordination with building and fire code officials in preparation of a UDO text amendment. Current building/fire codes have regulations that will further lessen impacts of fertilizer plant facilities through:
 - Limits on amount of product store on-site,
 - Requirements on how the product is stored, and
 - Sprinklers and other fire suppression systems

Building and fire code experts can provide more detailed information on how such provisions would be addressed in the construction of a new facility.