United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, How to Complete the National Register of Historic Places Registration Form. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

1. Name of Property
   Historic name: Virginia Apple Storage Warehouse
   Other names/site number: VDHR File 138-5120
   Name of related multiple property listing: N/A
   (Enter "N/A" if property is not part of a multiple property listing)

2. Location
   Street & number: 1955 Valley Avenue
   City or town: Winchester
   State: VA
   County: Independent City
   Vicinity: N/A

3. State/Federal Agency Certification
   As the designated authority under the National Historic Preservation Act, as amended,
   I hereby certify that this X nomination ___ request for determination of eligibility meets
   the documentation standards for registering properties in the National Register of Historic
   Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.
   In my opinion, the property _X_ meets ___ does not meet the National Register Criteria. I
   recommend that this property be considered significant at the following
   level(s) of significance:
   ___ national ___ statewide ___ local
   Applicable National Register Criteria:
   x A ___ B ___ C ___ D

   Signature of certifying official/Title: Date
   Virginia Department of Historic Resources
   State or Federal agency/bureau or Tribal Government

   In my opinion, the property ___ meets ___ does not meet the National Register
   criteria.

   Signature of commenting official: Date
   Title: State or Federal agency/bureau
   or Tribal Government
4. National Park Service Certification

I hereby certify that this property is:

- __ entered in the National Register
- __ determined eligible for the National Register
- __ determined not eligible for the National Register
- __ removed from the National Register
- __ other (explain:) ____________________

Signature of the Keeper: ____________________ Date of Action: __________

5. Classification

Ownership of Property

(Check as many boxes as apply.)

Private: ☒

Public – Local: __

Public – State: __

Public – Federal: __

Category of Property

(Check only one box.)

Building(s): ☒

District: __

Site: __

Structure: __

Object: __
Virginia Apple Storage Warehouse       City of Winchester, VA
Name of Property     County and State

Number of Resources within Property
(Do not include previously listed resources in the count)

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Number of contributing resources previously listed in the National Register 0

6. Function or Use

Historic Functions
(Enter categories from instructions.)
COMMERCE/warehouse
INDUSTRY/PROCESSING/EXTRACTION
AGRICULTURE/SUBSISTENCE/Storage

Current Functions
(Enter categories from instructions.)
COMMERCE/warehouse
INDUSTRY/PROCESSING/EXTRACTION
The Virginia Apple Storage Warehouse is located at 1955 Valley Avenue in the city of Winchester, Virginia. Although originally there were additional detached packing buildings, employee cottages, and other small ancillary buildings, there are currently two buildings within the complex including the primary warehouse/office built in 1929, as well as a smaller controlled atmosphere building constructed in 1971. The primary warehouse is a large, five-story masonry building constructed with a reinforced concrete frame and clad in brick. The main block of the building is industrial in character with no discernable stylistic influences. The building was constructed by Virginia Apple Storage, Incorporated to store, package, and distribute apples, but was soon adapted for the production and sale of ice. During the mid-twentieth century, an Art Moderne-influenced office annex was appended to the front of the building. Soon thereafter, the original rear wing and a large, detached packing building were demolished and replaced by a wide, one-story concrete block packing annex attached to the rear of the warehouse. The detached controlled atmosphere building was built in 1971 at the rear of the property in the vicinity of the original, detached packing building. The controlled atmosphere building exhibits a Vernacular form seen on other contemporary cold storage facilities built throughout the region at this time. The structure is composed of poured concrete walls with exterior buttresses or “ribbing.” Although the complex and individual buildings have undergone alteration, addition, and routine maintenance, the property continues to retain an overall high level of historic integrity and reflects its historic character.
Narrative Description

Setting

The Virginia Apple Storage Warehouse complex is located at 1955 Valley Avenue in the city of Winchester, Virginia. The complex is situated on an irregularly shaped 7.688-acre parcel set on the west side of the road that is bound generally by the Winchester & Western Railroad corridor and Abrams Creek with additional commercial development beyond to the northeast, by residential development to the northwest and west, and commercial development to the south. Other industrial and commercial properties are set across Valley Avenue to the east. Historically, a spur of the railroad extended along the north side of the warehouse building before bending around a detached packing building to the rear, although that alignment has been removed and the corridor abandoned.

The primary warehouse and office building is set roughly 185-feet back from the road with a landscaped grassy yard to the front. This grassy yard is level and well-maintained, with shrubs and trees growing along the northern and western edges. A small grove of apple trees grows on the east side of the yard along the road. A paved circular driveway wraps around this yard with two entrances from Valley Avenue. Opposite the northern section of the driveway, a row of trees grows along the edge of the lot and provides a screen between the property and the railroad. Abrams Creek flows through the yard with short concrete bridges spanning it on both legs of the driveway. The portion of creek through the yard is mostly shallow with wetland grasses, although a slightly deeper section immediately abuts the driveway in front of the building. In this area, the creek is lined with concrete retaining walls with the remains of a small, unknown concrete structure on the west side. A short extension of the northern driveway leads along a loading dock on the northeast corner of the building but ends at an overgrown yard that extends further along the north side of the building. The southern length of the driveway opens to a parking lot that extends along a loading dock along the south side of the building. This parking lot continues as a driveway downhill past the rear of the building and the foundation of the original attached rear packing wing before it meets a large, paved staging area that extends along the rear of the main building. Set across the rear staging area from the main building is a detached controlled atmosphere building. A paved concrete pad extends along the south side of this building. The driveway then doglegs south and continues out of the property into the adjacent commercial property. While much of the property is either built or covered with a paved driveway and staging area, the northern edge of the parcel, where the railroad corridor historically ran, is now unimproved and wooded.

Exterior

The Virginia Apple Storage Warehouse is a large industrial building with no discernible style as originally constructed in 1929, although a mid-twentieth century office addition to the front reflects influences of the Art Modern style. The building is composed of the five-story main warehouse block, with an original one-story mechanical annex to the front, an early two-story office addition to the side of the mechanical annex, a one-story office entry block added in the
corner between the original mechanical block and office annex in the mid-twentieth century, and a large mid-twentieth century one-story rear wing. A one-story loading dock wraps completely around the front and both sides of the building.

The east elevation of the building serves as the primary façade of the building. Attached to this façade is the original one-story mechanical annex as well as the later office additions. Above the mechanical annex and other additions on the upper portion of the main warehouse wall is a painted sign identifying the building as, “Virginia Apple Storage, Inc.” The original mechanical annex is a partial-width, offset one-story, four-bay structure. This annex houses the cooling system for the warehouse, as well as an ice-making facility. The walls are composed of brick laid in a 5:1 American Bond and are topped by a flat roof with a wraparound parapet topped with terra cotta tiles. Affixed to the wall just below the parapet is a metal shed roof that shelters a concrete loading dock that extends along the front of the building. Three pairs of doors lead into the front of the mechanical annex. The main entrance into the mechanical wing consists of paired, metal doors, each with a four-light window in the upper half of the door. Two sets of windows are located in the center of the east elevation. The windows consist of three grouped, sixteen-light, fixed windows. Both the loading dock and roof wrap around the north side of the mechanical annex and continue along the east wall of the main warehouse block. The north side of the mechanical wing is pierced only by a single metal pedestrian door. The south wall of the mechanical wing is flanked by a two-story office addition added at an unknown date between the original construction in 1929 and 1938 when it is depicted on Sanborn maps. This two-story office projects slightly beyond the plane of the south wall of the main warehouse. Set in the front corner between the mechanical annex and the office addition is a slightly later entry block. This entry block is one-story in height and is built beneath the loading dock roof that wraps around the south wall. This entry introduced an Art Moderne influence to the building and features a rounded corner. The doorway is set on the rounded corner and is flanked by full-height panels of blonde brick laid in an all-header bond. The door is a paneled, wooden door with a three-light window in place of the upper panel. The doorway is flanked by paired two-over-one, double-hung sash windows to each side.

The covered loading dock continues onto the south elevation of the building, around the slightly projecting two-story office mass as well as the main warehouse. The south wall of the office annex features two fifteen-light windows on the first and second stories. Several additional doors and openings pierce the lower wall of the main block along the loading dock, although the vast majority of the warehouse walls are blank panels of brick above the loading dock roof. A three-bay stair/elevator tower projects from the wall just off-center towards the rear. This tower, which is six stories in height, houses a stairwell and two elevators, including one to move freight between each floor of the warehouse and one specifically intended for apple barrels. On the tower’s exterior, each bay and story are divided by concrete bands. Fenestration on each floor of the south tower consists of an eight-over-four, double-hung sash window on the first five stories and two windows of the same design on the sixth story. A cluster of cellular phone antenna array are affixed to the top of this tower. Three sets of doors lead into the stairwell and elevators on the first story of the tower, one of which is a large freight door that leads into the freight elevator. The central door consists of a metal door with a four-light window, which leads into the stairwell. The central door is flanked by paired, metal doors to the east, which lead into a second elevator. Flanking the tower
to the west is a pair of metal doors that lead into the warehouse; the doors are accompanied by a device that seals them shut in order to maintain uniform temperature in the storage room on the other side. A single door of the same design is situated closer to the mechanical wing to the east of the tower. A frame shed was constructed in the space between the east elevation of the tower and the exterior wall of the warehouse. This storage space is accessed by a central, metal door on the east side.

The north side of the warehouse is similar to the south, although with fewer openings. The loading dock wraps around from the front and extends the full-depth of the north wall, although is interrupted by a projecting elevator tower. Whereas the loading docks along the front and south side of the building appear to have been built for trucks or vehicular access, the north dock was originally served by a rail spur that extended along that side of the building. Unlike the elevator tower on the south side, the north tower is only one bay wide, although is similarly divided by concrete bands. The north tower houses a single elevator, which is accessed by a doorway on the first story. A single eight-over-four, double-hung sash window is located on the sixth floor of the tower. Additional entrances into the warehouse flank the tower to the east and west.

The west (rear) of the building is simple in design. The five-story wall of the main warehouse is brick, interrupted only by a linear series of small window openings offset towards the north side. Attached to the lower portion of the rear is a large, one-story packing wing attached in the mid-twentieth century. Because the ground level of the rear of the building is lower than the front and sides, the roof of the one-story packing wing adjoins the main building just below the roofline of the loading dock.

The rear packing wing spans the entire width of the rear elevation of the warehouse and extends beyond the south wall. The wing replaced an original rear packing area that was demolished and replaced with the present wing over three phases beginning in the 1960s. The earliest section is the north end that was originally nearly full-width as built, although was later expanded further south beyond the south wall of the warehouse. A small, shorter one-story office area is attached to the rear wall of the northern section, and a similar mass is located within the interior of the rear wing on what would have originally been the exterior side of the north section.

The north section of the rear wing is one story in height and has a flat roof. Its structural framework is cast concrete framing with inset concrete panels. Two loading doors lead into the building on the west elevation. The small office block located along the rear wall of the rear wing north section is one story in height. It has a flat roof. The structural framework of the office is concrete block, which is painted white. On the west elevation, the main entrance consists of an off-centered door at the northern end of the building. The door is sheltered by a frame overhang. A window opening is located to the right of the door, which has been closed in. Fenestration consists of two-light, fixed windows. A frame shed was constructed along the south elevation. The south section of the rear wing was constructed later using concrete block. On the west elevation of the south section, an off-centered, metal door leads into the building. The door is flanked by a loading door on each side. Two loading doors are centered along the south elevation. The south and east elevations are painted white.
Overall, the exterior of the building and all subsequent additions are simple in design and ornamentation, reflective of its industrial, utilitarian function. However, the building does exhibit subtle embellishments, mainly on the front façade. Some decorative elements were included in the structural makeup of the building: the bricks are laid in a 5:1 American bond and the tops of the walls are parapeted and covered with terra cotta tiles. On the east elevation, the front sides of the loading dock are covered with vertical wood boards which extend from the deck to the ground. Additionally, a strip of concrete runs along the top edge of the windows and doors that are located on the mechanical wing. The front office is adorned with brick laid in a running bond on the sides and with brick laid with headers facing outward along the rounded corner. The latter portion of brick is tan in color, rather than red. On the north and south towers, the exterior is adorned with concrete bands that separate each story and bay. While the east elevation has additional ornamentation beyond the brickwork and parapeted walls, the remaining elevations are simple in design and do not feature additional decorative details.

**Interior**

The interior of the Virginia Apple Storage Warehouse is reflective of the building’s industrial use and is largely unfinished. The vast majority of the building’s interior was used for cold storage and therefore consists of large, open spaces that facilitate the movement and storage of bulk produce. The packing and distribution areas are similarly open and unornamented. The front of the building holds the mechanical equipment and office areas in which the interiors are laid out and finished accordingly.

In general, there is limited interior connectivity between the different areas, with most accessed only from the exterior so as to maintain a closed, controlled environment. The primary warehouse has five floors of cold storage space above an additional cold storage floor in the basement. These spaces are accessed by stairs and elevators in the exterior towers, but do not have interior stairwells or doors, and do not directly connect to either the mechanical or office wings, although there is an interior connection to the rear packing wing from the first floor.

Each of these floors within the warehouse area are completely open spaces, divided only by a grid of structural columns. The floors and ceilings of each level are exposed poured concrete and the exterior walls have a variety of treatments. Many are covered with panels of cork that were applied to assist with insulation, while others have more modern spray foam insulation. Some still have no covering and are exposed concrete frame. The cold storage rooms were cooled by an ammonia compression system, which consists of pipes and gutters that run along the ceilings. The system functioned by releasing ammonia gas from compressors located in the mechanical wing. The gas then runs through the pipes before being released into the cold storage rooms. As the ammonia gas cools, it takes away heat from the surrounding space. Ice also builds up on the pipes, furthering the cooling effect of the ammonia. Each floor has valves near the stairwell entrance, which control the output of ammonia into the building. The stairwell entrance to each floor is from the south stair/elevator tower and consists of a single air-lock metal doorway. Flanking the stairwell door on each floor is a small metal latched door for the adjacent barrel elevator that transported barrels to
each floor from the loading docks on the first floor. On the other side of the stairwell door is a larger opening for the freight elevator. A second freight elevator opening is set on the opposite (north) wall of each floor.

Attached to the east side of the warehouse block but connected only by a system of pipes and valves is the mechanical annex. The interior of the mechanical area consists of one primary room with a small office and storage room off to the side. The floor level of the mechanical room is sub-grade and stretches the full height of one story above creating a tall ceiling. The space is unfinished with concrete slab floor and exposed concrete framing and brick infill walls. The ceiling is also open with the concrete rafters and roof decking exposed. Set on the floor in half of the mechanical room are large compressors to pump ammonia throughout the warehouse cooling system. Beside the compressors in the other half of the mechanical room space is a large concrete vessel in which ice, as a by-product of the cooling system was formed and stored. Through this process, steel boxes are housed below the floor and are filled with water. The boxes are then submerged in below-freezing water before being covered with wooden planks. The ice could then be extracted as blocks and transferred to the loading dock outside using a crane and a small hatch in the wall.

The front office addition is the only finished area of the building. The one-story entry mass leads seamlessly into the two-story office block with rooms on both levels. which was constructed at the southeast corner of the warehouse. On the first story, the addition houses a central lobby, bathroom, closet, and private office. A carpeted stairwell leads up to the second story, which houses a meeting room. Other than the doors and windows, the majority of finishes and materials are modern replacements. The floors on the first floor are covered with vinyl tile and the second floor is carpeted. The bottom half of the walls are covered with painted beadboard with plaster above. In the second-floor meeting room, the walls are covered with wallpaper.

The interior of the rear packing wing is unfinished and utilitarian and is divided into two primary spaces due to the phased construction of this block. The two sections are separated by what was originally an exterior wall with a shorter one-story office mass attached on what would have originally been the exterior side wall of the first section of the rear wing. A large doorway next to this office block provides interior connection between the two sections of the rear wing. In general, the floors, walls, and ceilings throughout the entire rear wing are exposed structural materials. The floors are concrete slab, and the walls are concrete block. The ceilings are exposed metal truss rafters with corrugated metal decking above. At the northeast corner of the southern section, a pair of doors leads into the main warehouse. On the eastern wall of the north section, a door leads into the first floor of the main warehouse. The small office building that is located along the west elevation of the north section is connected to this section by a door along the west wall.

**Controlled Atmosphere Building (Contributing)**

The controlled atmosphere building, constructed in 1971, stands to the west (rear) of the primary warehouse. The building was constructed to maintain modern standards for temperature and air quality in the warehouse, as well as provide additional cold-storage space. It is a tall, one-story, building with a primarily rectangular form, although a small two-bay projection is set centrally on
the south side. The exterior walls are poured concrete with narrow buttresses or “ribbing.” It is set at-grade on a slab foundation and is topped by a flat roof with aluminum coping. Affixed to the upper portion of the south side is a cluster of piping that leads from compressors and pumps in the projecting bay into the interior. Two metal air-lock doors are spaced along the south side of the building to the east of the central bay and three are spaced to the west. Each of these doors lead into a series of large, interior storage rooms within the building. These rooms are unfinished and full-height. The projecting mechanical bay is the same height as the rest of the building but divided into two stories within. Access is provided by doors on the east side and an exterior metal stairwell. Four one-over-one-over-one, triple-hung windows are set on the south wall of the mechanical bay. The interior houses modern refrigeration machinery, which regulates the temperature, oxygen, and carbon dioxide levels inside.

**Integrity**

The Virginia Apple Storage facility retains a high degree of historical integrity in all aspects that allows the building and property as a whole to convey its significance. The warehouse continues to occupy its location on the west side of Valley Avenue. Further, the plant’s original loading docks, parking lots, and a variety of other features on the site remain in place today. These features contribute to the retention of the property’s internal setting. When the warehouse was constructed in 1929, it was located outside of the corporate limits of Winchester, southeast of the historic core of the city. Based on a 1938 Sanborn map, the facility was neighbored by six commercial buildings, a single-family dwelling, three apple packing buildings, and two industrial facilities, all of which were constructed during the early twentieth century. Today, modern residential and commercial infill is located around the Virginia Apple Storage facility along Valley Avenue and West Jubal Early Drive. Of those buildings present on the 1938 map, the historic dwelling, two commercial buildings, and one industrial facility remain in place. The commercial buildings retain their historic use, while the industrial facility has changed ownership. The plant, which was once owned by the O’Sullivan Rubber Company is now operated by O’Sullivan Films. While a spur of the Winchester & Western Railroad once ran alongside the rear packing wing to the north, it no longer remains in place. The main railroad line, however, still runs past the property along the northeastern edge of the lot. To the northwest, a modern subdivision has taken the place of what was historically an apple orchard. The historic Elm’s Inn and Cottages, which stood to the south of the warehouse along Valley Avenue, was demolished; a motel stands in its place today. As such, the larger, overall setting of the property has changed over time and has become increasingly suburbanized in an area of mixed residential, commercial, and industrial use.

The warehouse property retains its integrity of design, as the original warehouse form, massing, height, and setback has largely remained the same over time. A small office addition was added during the early-twentieth century. While the rear packing wing has been replaced and expanded over time, these changes occurred during the period of significance and reflect the evolution of the packing and shipping aspect of the business. The same is true of the front office addition that introduces an Art Moderne influence, reflecting a shift towards commercial optics during that period. The building also retains many of its original and historic materials on both the exterior and interior. The original brick cladding, industrial windows, sealed metal doors, and concrete
structural system remain intact. Additionally, few changes were made to interior of the warehouse over time. While the rear packing wing reflects more significant changes in terms of materials, its evolution is reflective of the shift from rail transportation to trucking during the mid-twentieth century, which relates to the facility’s overall historical significance. In terms of workmanship, the building reflects its utilitarian use and design, in that few stylistic details or examples of detailed workmanship are present. Nonetheless, the building’s American bond brickwork, parapeted outer walls topped with terra cotta tiles, and Art Moderne stylistic details on the front office have not been significantly altered.

These aspects of integrity help convey the property’s feeling as an early-twentieth century industrial facility. The retention of the Virginia Apple Storage facility’s historic character is notable and communicates the historic time period in which it was constructed. Further, the property’s continual use a cold storage facility conveys its association with the industrial history of Winchester and the growth of the Shenandoah Valley apple industry during the early twentieth century.

1 While the 1971 warehouse structure is located on the same 1955 Valley Avenue parcel as the 1929 warehouse, the 1971 structure is addressed as 1975 Valley Avenue.
8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- [x] A. Property is associated with events that have made a significant contribution to the broad patterns of our history.
- [ ] B. Property is associated with the lives of persons significant in our past.
- [x] C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- [ ] D. Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark “x” in all the boxes that apply.)

- [ ] A. Owned by a religious institution or used for religious purposes
- [ ] B. Removed from its original location
- [ ] C. A birthplace or grave
- [ ] D. A cemetery
- [ ] E. A reconstructed building, object, or structure
- [ ] F. A commemorative property
- [ ] G. Less than 50 years old or achieving significance within the past 50 years
Virginia Apple Storage Warehouse

Areas of Significance
(Enter categories from instructions.)

- INDUSTRY
- COMMERCE
- ARCHITECTURE
- ENGINEERING

Period of Significance
1929-1971

Significant Dates
1929
1930
1971

Significant Person
(Complete only if Criterion B is marked above.)
N/A

Cultural Affiliation
N/A

Architect/Builder
N/A
The Virginia Apple Storage Warehouse was constructed in 1929 by Virginia Apple Storage, Inc., a cold storage warehousing business established that year. The company was one of four major cold storage businesses in Winchester during the early-twentieth century. The facility, located at 1955 Valley Avenue on the south side of Winchester, Virginia, was constructed using state-of-the-art refrigeration technology developed at the turn of the century. Both the design of the building and the installation of a modern artificial refrigeration system were similar to that of the Winchester Cold Storage Company facility, the first and largest cold storage facility in the city. The architectural plans of engineer Van Rensselaer H. Greene, who specialized in the construction of cold storage buildings, inspired the design of buildings like the Virginia Apple Storage Warehouse. His technological designs were incorporated into its construction. In Winchester, the storage, packing, and distribution of apples in particular was an essential part of the city’s cold storage industry through the twentieth century. Over time, Virginia Apple Storage, Inc. diversified and began storing other kinds of frozen goods in order to compete with overseas apple storage companies. The company also produced and sold ice from the facility as a by-product of the cooling process. Today, the warehouse is no longer in operation as a cold-storage facility although portions of the building are still utilized for storage and other commercial purposes. The Virginia Apple Storage Warehouse is locally significant under Criterion A, in the areas of Commerce and Industry, for its association with the apple industry in Winchester and the evolution of cold storage techniques and facilities.

The property is also considered locally significant under Criterion C, in the areas of Architecture and Engineering, as a good example of an early-twentieth century cold storage warehouse in the region, few of which remain in use today. Further, the property exemplifies the incorporation of innovations in refrigeration technology developed during the early twentieth century. The building embodies the distinguishing characteristics of cold storage warehouses during this period, which utilized modern mechanical equipment and structural technology. The building was designed and engineered with the vital components needed to provide mass cold storage, including an efficient structural design, integrated fireproofing and insulation, advanced cooling equipment, and close proximity to transportation corridors. The building further characterizes the engineering developments made by the firm Van Rensselaer H. Greene, which greatly influenced the design of cold storage warehouses in the first-half of the twentieth century. Although not attributed directly to Greene, the building replicated the system Greene designed for a nearby facility just several years earlier. The building’s setting and design also reflect the industrialization of Winchester during the early twentieth century. The exterior and interior of the building both exhibit a high level of integrity. Due to its continued use and evolution throughout the twentieth century to maintain modern standards of cold storage and distribution, the period of significance extends from the building’s construction in 1929 until 1971 when the modern controlled atmosphere building was constructed.
Historical Background

During the 1730s, settlers moved into the Shenandoah Valley of Virginia and in 1744 Col. James Wood received a large land grant on which Fredericctown was founded. The name of the town would be changed to Winchester in 1752 when the Virginia General Assembly chartered the town.2 Winchester was the first town to be chartered west of the fall line.3

From its early stages of settlement and development, the town of Winchester became a major marketplace for farmers in Frederick County. While the surrounding area had a strong agricultural basis since the town’s beginning, apple farming did not become central to the history of Winchester until after the Civil War. However, apple farming did have a strong basis in the colony of Virginia as early as the mid-seventeenth century. In 1639, the Virginia General Assembly enacted a law that required those who had obtained a patent for at least one hundred acres of land to establish a garden and an orchard. By the 1650s, numerous apple orchards had been planted for the purpose of producing cider.

As settlers moved westward past the fall line during the mid-eighteenth century, orchards sprang up throughout the region. During the 1740s, patents issued by Lord Fairfax required leaseholders to cultivate their land and to plant fruit trees. Following Lord Fairfax’s direction, farmer John Massey planted one hundred apple trees in Frederick County in 1749. The growth of apples for cider was eventually followed by the growth of apples for eating, as those apples that were fit for eating were selected and bred at various cider orchards.4 During the nineteenth century, Dr. George Stephens developed the Newtown Pippins variety in the Shenandoah Valley.5

While apple orchards existed within Frederick County at this time, it was not until after the Civil War that apple farming became an important part of life in Winchester itself. Before the war, however, Winchester had already become a bustling town. Due to its road network, the town of Winchester served as the region’s primary market as early as the 1750s.6 By the nineteenth century, it had become one of the largest towns in western Virginia.7 In 1826, Winchester became linked to Baltimore through Harper’s Ferry following the creation of the Winchester & Potomac Railroad.8 This improved the Shenandoah Valley’s farming economy, as the area became better connected to a major port town.9 As a result, the town was a major producer of grain for the state.

The economic growth of Winchester was halted by the outbreak of the Civil War in 1861. During the war, Winchester was the site of numerous battles. The town also changed hands over seventy times. After four years of stagnation and destruction, the town of Winchester was forced to rebuild amidst the collapse of the southern economy. While farmers continued producing grain, competition with the Great Plains region ultimately led Frederick County to diversify its economy into fruit production. Many farmers in and around Winchester began planting apple orchards...
during the postwar era. Over time, the area became one of the leading producers of apples in the state.

As the market for apple production grew, businesses related to the production of apples sprang up in Winchester during the late nineteenth and early twentieth century, including the Winchester Cold Storage Company in 1917. Winchester’s road network and its access to a major railroad facilitated the success of the apple industry in town. As the company expanded during the 1920s, the Winchester Cold Storage Company soon became the largest apple warehouse in the world. Other companies such as the National Fruit Product Company, which opened in Winchester in 1918, produced fruit byproducts. In 1929, Virginia Apple Storage, Inc. was established and began construction of their cold storage facility on Valley Avenue that year.

During the 1920s, Frederick County produced over one million bushels of apples each year, making it the largest producer of apples in Virginia. The success of apple-related businesses in Winchester during the early twentieth century carried over into the social atmosphere of the town. In celebration of the apple industry’s success, the first Winchester Apple Blossom Festival was held in 1924, a tradition which continues to this day. Following the rise of the apple industry in Winchester, the city has earned the nickname, “Apple Capital of the World.”

**Criterion A: Commerce and Industry. Significance for its Association with Virginia Apple Storage, Inc. and the Apple Industry in Winchester**

Established in 1929, Virginia Apple Storage, Inc. was one of four major cold storage businesses in Winchester during the early twentieth century, along with the Winchester Cold Storage Company, Old Mill Storage, and the C.L. Robinson Ice and Cold Storage Company. The rise of cold storage facilities in the city occurred in connection with the industrialization of the city as a whole. All four businesses were centered around the growing apple industry in Frederick County during this time. Farmers from across the country utilized these facilities for the storage of their crops, which in turn led Winchester to become the center of fruit processing on the east coast.

The first apple cold storage plant to open in Winchester was the C.L. Robinson Ice and Cold Storage Company in 1905 on North Market Street. While successful, it was World War I that lead to massive growth of the cold storage industry and the need for more facilities. The rise of modern cold storage facilities in Winchester was fostered by the start of the First World War in 1914. While the war brought on a period of thrift and stagnation to various industries, the demand for produce increased. This included apples in particular resulting in the need for effective cold storage facilities and apple-related businesses increased in Winchester both during and after the war.

The C.L. Robinson Ice and Cold Storage responded with the construction of a new fireproof cold storage building in 1916, increasing the plant’s storage capacity to 180,000 barrels. The following year, they were joined by a new company, the Winchester Cold Storage Company that constructed a state-of-the-art facility on North Loudoun Street. With the construction of these cold storage plants, Winchester became linked to new markets all over the country as these facilities
received shipments from as far as the west coast. By the time that the Winchester Cold Storage opened in 1917, local farmers were selling to overseas markets.

When the Winchester Cold Storage Company facility was built in 1917, the *Winchester Star* predicted that the Winchester Cold Storage Company would “be one of the most up-to-date industries in the valley and will be equipped with every modern device to facilitate the handling and care of fruit.” One of the paramount features of the building was a cooling system designed by engineer Van Rensselaer H. Greene of New York City, who specialized in the design of refrigerating plants. The *Winchester Star* boasted that the plant had a refrigeration system that “is entirely new in this section of the country” and was an example of the community’s success in “managing their various business enterprises.”

Although immediately successful at preventing rot, improvements were made to the plant and refrigeration system over the following years. Managers of the plant consulted with the U.S. Department of Agriculture with hopes of enlarging the company’s ventilation system. The *Winchester Star* reported that the owners kept “in touch with modern methods, so that the new storage will maintain its present position of having one of the best and most improved cold storage buildings and equipments [sic] in the United States.” In April of 1919, the company reported that, with the improvements, the temperature in the facility’s cold storage rooms had not deviated by more than one degree since January.

In connection with the success of the apple growing and apple storage business, the local community began to celebrate apple farming as a major part of life in Winchester. Other apple-related businesses in Winchester, such as the National Fruit Products company established in 1915, thrived. Due to the large supply of apples in Winchester, representatives of the Heinz Preserving Company visited the city in 1917, looking at a possible site to build a new vinegar plant there. The plant was later constructed on the opposite side of Valley Avenue from the Virginia Apple Storage facility.

In 1929, the Virginia Apple Storage, Inc., was founded to capitalize upon the growth of the apple industry and expand the cold storage capabilities in Winchester. In the design of the new facility, the company and its founder, Llewellyn “Lou” Jackson, looked to the nearby Winchester Cold Storage complex and the success it had enjoyed over the previous decade. During that period, the refrigeration system designed by Van Rensselaer H. Greene had become the standard for cold storage facilities. Consequently, Virginia Apple Storage was quick to employ the technology in its plant.

The facility was originally situated on a 28-acre tract of land at the southern end of Winchester. Its location was driven by proximity to regional transportation networks, including Valley Avenue (U.S. 11) and the recently-built Winchester & Western Railroad. Valley Avenue, which was known as Valley Pike at the time of the facility’s construction, was the primary north-south highway in the region and connected Winchester to other communities and farms throughout the lower Shenandoah Valley. The Winchester & Western Railroad was a spur line of the Baltimore & Ohio Railroad that connected Winchester to Wardensville, West Virginia. Construction of the
railroad spur began in 1919 and was completed in 1921. The line provided passenger service between the two cities until 1928.\textsuperscript{32}

The Virginia Apple Storage facility was one of the first of its size to be constructed at the city’s outskirts and to tap into both the road and rail networks. Proximity to the highway allowed for trucks to easily come and go from the complex without having to navigate the more congested streets in town. It was also constructed along the railroad to access the larger commercial network it provided. As such, a small spur of the Winchester & Western Railroad was constructed alongside the Virginia Apple Storage Warehouse to allow the delivery and shipment of goods directly to and from the complex.\textsuperscript{33}

At the time of its completion in 1930, the Virginia Apple Storage Warehouse was a 111,000-square foot building capable of storing 325,000 bushels of apples, making it the second largest apple warehouse at the time.\textsuperscript{34} It was refrigerated using an ammonia compression system, similar to that used and heralded by the Winchester Cold Storage Company. Through this system, ammonia compressors released ammonia gas into the storage rooms through pipes that ran along the ceilings from the mechanical wing. As the ammonia gas cooled, it took away heat from the surrounding space. Ice also built up on the pipes, providing additional cooling.

When shipments arrived by rail to the warehouse, the apples were placed in barrels, which were then moved to the upper floors of the storage warehouse by an integral barrel elevator. Once inside of the warehouse, the apples were stored by type.\textsuperscript{35} Space inside of the warehouse was rented out to growers. The type of apples stored at the warehouse was not limited to local varieties. Rather, growers from across the United States paid to store their apples in Winchester’s cold storage facilities. Many kinds of apples were stored at the Virginia Apple Warehouse, including Red Delicious, Golden Delicious, Rome, Gala, Winesap, York, and Stayman apples.\textsuperscript{36}

Ice produced in the warehouse’s ice-making facility was used to keep apples cold while in route to their destination. The large blocks of ice were also used to cool the floors of the storage rooms. However, the company produced more ice than it could practically use. The company began selling the surplus ice commercially soon after it had begun storage operations. Artificial refrigeration systems were not readily available for domestic use at the time. Further, purchasing ice that had been harvested from frozen bodies of water proved ineffective in the South.\textsuperscript{37} As such, the sale of commercially produced ice from cold storage facilities allowed individuals in the area to have access to readily-available ice. Early on, Virginia Apple Storage had a fleet of twelve ice-delivery trucks that delivered ice to customers within the local community. The fleet delivered an average of fifteen tons of ice each day.\textsuperscript{38} By the 1960s, however, the demand for ice declined as refrigerators intended for domestic use increased in popularity. Nonetheless, ice was available for purchase at the warehouse into the 1970s.

In 1940, the Virginia Apple Storage made a notable improvement to the warehouse’s interior, which allowed the company to diversify in terms of the types of materials it stored. According to the \textit{Blue Ridge Herald}, a “new fireproof, vermin proof and burglar proof cold storage vault” was added to the warehouse. The controlled temperature inside of the vault was best for the storage of...
fur garments, according to the company. Customers could store their furs in the vault in order to protect their “substantial investments.” Early on, Virginia Apple Storage was not solely known for apple storage, but also the storage of non-food items as well. Other food products were occasionally stored inside of the Virginia Apple Storage Warehouse. According to a 1954 advertisement placed in the *Winchester Evening Star*, local deer hunters could store their game inside of the warehouse. However, apples continued to serve at the company’s main source of business into the late twentieth century.

While the main core of the warehouse contained cold storage space, packing and shipping was carried out in a rear wing built along the railroad spur. The rear wing, devoted to packing and shipping, was leased to local farmers that managed the movement of apples out of the facility. In contrast to larger enterprises such as Winchester Cold Storage, the relatively smaller size of the Virginia Apple Storage enabled the company to work more readily with smaller, associated industries such as packing companies. These arrangements and ongoing relationships with the various individuals and companies that leased the building’s rear packing wing through the mid-twentieth century provided an important link between Virginia Apple Storage and the local community.

The earliest known lessee of the Virginia Apple Storage packing wing was local apple farmer, Fred Glaize, Jr. The rear wing was known as the Glaize Apple Packing House, according to a 1947 photograph of the facility. Once apples were packed, they were moved onto rail cars for transport. By the early 1950s, Edward W. Barr began leasing the packing wing. Advertisements for the E.W. Barr Packing House appeared in local newspapers as late as 1955. He also operated a packing house at the Winchester Cold Storage facility. When Barr retired from the apple packing business, Virginia Apple Storage sought to lease the packing wing to another company. In July of 1960, American National Growers, Inc., negotiated a lease with Virginia Apple Storage for use of their rear packing wing. That same year, the original wing was remodeled. Eventually, the packing wing was leased to the Winchester Apple Growers’ Association, who continued to oversee packing and shipping operations.

Around the same time that the company began leasing its packing wing to local farmers, company leaders also became involved in educational efforts. In 1951, the Business Industry Education Day program was started, which allowed students to learn more about industrial jobs and the operation of businesses within their community. The Virginia Apple Storage facility was among those establishments toured by school children as a part of this program. Other examples of community engagement carried out by Virginia Apple Storage was its participation in local parades and fairs. The company often entered a parade float in the Winchester Apple Blossom Festival.

Improvements made to refrigeration systems during the 1960s allowed for better control of temperature and atmospheric conditions within cold storage facilities. The ammonia compression system of the early twentieth century remained in use but was improved upon during this time. While the system within the original warehouse was retrofitted, Virginia Apple Storage, Inc. increased their capacity through construction of a detached controlled atmosphere building that incorporated modern cooling equipment coupled with improved construction techniques. The
mechanical room inside of this building contained ammonia tanks and additional mechanical equipment that better regulated the temperature, oxygen, and carbon dioxide inside of the warehouse that was built of reinforced concrete walls with exterior ribbing.

Unfortunately, almost as soon as this building was completed, the regional apple industry in Virginia slowed in the 1970s as overseas markets began to outcompete smaller local businesses like the Virginia Apple Storage, Inc. Over time, the company was forced to diversify as regional growers began to lose out to larger companies in Washington state and in China. The loss of local apple orchards to development as well as the consolidation of major food retailers only worsened prospects for the company. During the late twentieth century, the company began to store other goods such as plants, meat, and chemicals. Additionally, advertisements spread the word about the company’s aging facility for beef and game, lockers for meat storage, and quick-freeze facility. The plant continues to store apples today, although apple storage claims a much smaller portion of their business than in the first three decades of its operation.

The Virginia Apple Storage Warehouse began to serve new needs as the regional apple industry declined during the late twentieth century. In 1982, the company donated space inside of the warehouse to the Blue Ridge Area Food Bank for a period of three months. The organization reached out to local food stores and food processing companies to collect surplus food for the local community. In 2004, a group of artists in Winchester also reached out to Virginia Apple Storage to store their artwork there, which consisted of a collection of fiberglass apples that are displayed around Winchester today.

As Winchester’s apple industry continue to decline through the late twentieth century, the rural landscape outside of the city’s core also began to change. More and more commercial and residential development began to appear within the vicinity of the Virginia Apple Storage facility over time. The change was largely prompted by the construction of a multimillion-dollar residential development, known as Meadow Branch. Plans for the one-thousand-home neighborhood were introduced to the city in 1989, which included a twenty-year-long timeline. The neighborhood was constructed roughly one mile north of the Virginia Apple Storage property. With new residential growth came additional commercial growth and an overall decline in industry, including the capabilities of the Virginia Apple Storage complex.

While originally located on 29.757 acres, the Virginia Apple Storage Warehouse property was later reduced to 13.993 acres. In 2004, the Winchester Star reported that plans were in place for the development of the Park Place subdivision on what was once part of Virginia Apple Storage property. The neighborhood is located to the north and west of the warehouse property today.

Today, only two of the four original cold storage companies in Winchester remain in operation today, including the Winchester Cold Storage Company and Virginia Apple Storage, Inc. In 1972, the Old Mill Storage company closed after filing for bankruptcy. Four years later, the C.L. Robinson Ice and Cold Storage Company purchased Zeropack, a company that had been leasing the historic plant since 1932. Zeropack later went out of business in 1998. In 2011, the Winchester Cold Storage Company rebranded itself as WCS Logistics following major changes to
how the company’s storage space is used. Nonetheless, the company continues in operation. Today, Virginia Apple Storage, Inc. no longer stores apples in bulk, but continues to operate the 1929 warehouse as a general-purpose cold storage facility.

As such, Virginia Apple Storage, Inc. is one of few historic businesses of its kind in Winchester today. While the cold storage business has experienced many changes in modern times, it contributed to the industrialization and growth of Winchester throughout the early-to-mid-twentieth century. Through the use of artificial refrigeration systems developed at the turn of the century, cold storage facilities such as Virginia Apple Storage revolutionized the production of apples and apply byproducts, allowing Winchester to become the center of the apple industry in Virginia. Due to its role as a major cold storage facility and its association with the apple industry in Winchester during the early-to-mid-twentieth century, the Virginia Apple Storage Warehouse is significant under Criterion A.

**Criterion C: Architecture and Engineering. Significance for its Representation of an Early-Twentieth Century Cold Storage Building**

*Implementation of Modern Refrigeration Technology*

The creation of climate-controlled, bulk cold storage was made possible by improvements in refrigeration around the turn of the twentieth century. These improvements, coupled with expansion of transportation systems allowed perishable goods to be transported farther and stored for longer periods of time. Until the late nineteenth century, produce and other foods were transported by rail in freight carts and stored in buildings with no system of artificial cooling. As a result, a significant portion of each crop was lost to rot before getting to market.

Prior to the development of cold storage facilities, produce storage houses were cooled through the use of passive systems. Storage houses utilized ice and were constructed with well-insulated walls and good ventilation which slowed decay, but only for a limited period of time. These storage facilities were classified as “common storage.” Later storage houses that were cooled using artificial refrigeration became known as “cold storage.” Common storage buildings were less effective in the South, where humidity and heat limited growers’ ability to store produce for long periods of time. Further, access to natural sources of ice was limited in warmer climates.

An example of a common storage building from the early-twentieth century was a storage house owned by Charles Green in Maine. Built in 1903, the building had a large cellar. The granite cellar walls were lined with bricks, and the exterior walls were covered with paper and then with clapboard siding. Two layers of studding were used to create an air pocket in the walls. Additionally, two floors separated the upper and lower rooms. Each room had double doors and windows with interior shutters. The purpose of the additional layers of cladding, studding, and flooring was to produce a well-insulated space. Storage houses similar to this were commonplace prior to the advent of modern refrigeration.
During the late-nineteenth century, early refrigeration machines that relied on liquid gas were developed. In 1870, German engineer, Carl Paul Gottfried Linde, published groundbreaking work on refrigeration technology. He developed a vapor-compression machine that used ether as a refrigerant. By 1877, he had switched to an ammonia-based system due to ammonia’s durability. Ammonia absorption and compression systems soon became the dominant form of refrigeration. In 1881, an engineer in Chicago secured rights to manufacture Linde’s system in the United States. Linde later formed the Linde Air Products Company in New York in 1907.

What resulted from this period of innovation was the creation of the country’s first “cold chain,” a process in which various industries and actions became linked in a system to transport perishable food from production to consumption. New uses for refrigeration were found in many different industries at this time as the technology became more accessible and more diverse in its application. The ammonia compression technology coincidentally produced ice as a by-product, which could then be used to keep perishable goods cold during transport before arriving at cold storage facilities. As a result, ice manufacturing became intertwined with the cold storage business.

The rise of the cold storage warehousing business took hold as mechanisms for refrigeration improved. Initially, cold storage facilities were usually located in larger cities or in areas closer to major markets. The first cold storage building cooled by mechanical refrigeration opened in Boston in 1881. Growers could send their goods to a refrigerating house in the city, where spaces were then rented out by the facility’s owner. The operators of cold storage facilities ensured a uniform temperature that would prevent each buyer’s crop from rotting. Ammonia-based systems became the dominant form of refrigeration used in such facilities. These systems required the use of pipe coils placed along the walls and ceilings. As the liquid ammonia evaporated, it took heat away from the surrounding space.

By the twentieth century, the market for cold storage facilities expanded from major commercial markets to smaller cities and towns as well. In 1904, there were 620 cold storage warehouses in the United States. By 1925, the number rose to over 1,700. These facilities not only provided bulk cold storage for local agriculture, but most of them also produced and sold the ice produced as a by-product, thus making home cold storage more available during a period when household refrigerators were not largely available.

A number of companies opened in Winchester during this period, including the C.L. Robinson Ice and Cold Storage, followed by the Winchester Cold Storage Company. While the C.L. Robinson Company focused on the production of commercial ice, the Winchester Cold Storage Company’s primary business was the mass storage of apples, which had become one of the primary crops in the region.

In terms of the impact that modern refrigeration had on the apple industry in particular, the use of cold-storage facilities for apple storage led to greater success in the transport and sale of a fresh product. A major outcome of cold storage was the extension of apple growing from a seasonal to a year-round endeavor. In 1903, the U.S. Department of Agriculture reported that cold storage
could be credited for creating “more steady markets and uniform prices” and “a more stable fruit business.” Between 1898 and 1902 alone, the number of barrels of fruit stored in cold storage facilities rose from 800,000 to 2,978,000.

When the Winchester Cold Storage Company opened in 1917, it was the largest facility of its kind. To provide the most state-of-the-art cooling technology, the company hired noted refrigeration engineer Van Rensselaer Greene to design its system. The system that the firm designed relied upon ammonia compressors with an extensive network of pipes placed throughout the building. The ammonia pipes were capable of cooling massive interior spaces. An advertisement listed in the *Shenandoah Herald* in 1923 noted that the company’s building had “the most improved type of refrigeration” and could store 300,000 barrels of apples.

The design was so effective and received such praise from newspapers, that in 1923 the Terminal Refrigerating and Warehouse Company in Washington, D.C. employed Van Rensselaer Greene to install a similar system in their new facility. While the Van Rensselaer Greene firm published various works, was a frequent contributor to trade and scientific journals on refrigeration, and was nationally influential in the field of refrigeration engineering, the D.C. and Winchester warehouses were the only two projects completed by the firm.

While not directly attributed to the Van Rensselaer Greene firm, the Virginia Apple Storage Warehouse replicated Greene’s refrigeration system employed at the nearby Winchester Cold Storage facility.

*Design of the Virginia Apple Storage Warehouse*

Although the 1929 Virginia Apple Storage Warehouse appears as a typical, early-twentieth century industrial building, the design and construction incorporate a variety of features and components that made it one of the most modern cold storage facilities for its time. The basic characteristics of cold storage warehouses have remained the same over time. According to a 1956 pamphlet on the design of cold storage warehouses, the “walls, floors, and ceilings of cold-storage warehouses or of small private cold rooms” were to be “of sturdy, tight construction” in order to maintain a constant temperature inside of the storage rooms. These buildings consisted of “a structure within an envelope of insulating and moisture-proofing material.” The buildings were frequently clad in brick to further insulate the interior. This allowed the interiors to retain a constant temperature, while also limiting the likelihood of fire. The interiors were typically “divided into a number of rooms that are maintained at a pre-determined temperature by use of adequate refrigeration equipment.” As refrigeration technology and transportation have changed over time, additional aspects of cold storage buildings have changed.

Twentieth century cold storage buildings can be typified by their overall arrangement; early cold storage warehouses of the early twentieth century were arranged vertically while those built during the mid-to-late-twentieth century were arranged horizontally. Generally, early cold storage buildings had multiple stories and were designed to freeze and store a certain type of product. By
the 1950s, cold storage warehouses had largely been reduced to a single story and were intended to store a variety of products.  

The Virginia Apple Storage Warehouse reflects these aspects of early-twentieth century cold storage buildings through its design and construction. In terms of form, the building is five stories tall, each of which is connected by multiple freight and barrel elevators. The barrel elevator is oval-shaped and uses a pulley-system to pull barrels up and down. Most multistory cold storage warehouses consisted of a basement and three to twelve floors, depending on the size and specific needs of a given business. The main reasons behind the multistory design of such buildings included the high cost of land within densely-populated towns, typical construction techniques of the time period, low cost of labor, and limited refrigeration transportation facilities. At the time of its construction in 1929, the Virginia Apple Storage building was constructed on a 28-acre lot. In order to use space more effectively, the construction of a multistory building was likely the most practical and affordable option.

Further, the construction of most multistory warehouses preceded the development of power lift trucks. According to the 1956 pamphlet, the average height of storage rooms within early warehouses was between ten to twelve feet, with piling heights of seven-and-a-half to ten feet. This allowed boxes to be stacked by hand. In the Virginia Apple Storage building, the height of the ceilings in storage rooms does not exceed ten feet. As forklifts came into use during the 1920s, pallets were often times sized based on the spacing of the columns and doorways within a specific building. As a result, the method of unloading boxes into these early warehouses evolved to integrate the use of forklifts.

As for structure, the building has a reinforced concrete structural system clad with brick. The roof and floors were also made of concrete. Between the brick curtain walls and the concrete structural system underneath, a layer of 12-inch tile was added between the brick facing and concrete structure to better insulate the storage rooms. Additional interior insulation was added by the adhesion of cork panels to the exterior walls.

Two additional features of the building that contributed to the cooling of the storage rooms were the location of machinery and the design of the exterior doors. The ammonia tanks and ice-making machinery used to cool the building were housed in a separate wing of the building to limit interference with the temperature of the storage rooms. Further, by housing this machinery in a separate wing, more storage space was available inside of the warehouse. Ice available for transport into town could also be loaded onto trucks from the loading dock along the front of the wing. To further insulate the interior, the exterior doors installed in the building were especially thick and were accompanied by large latches keep air from moving in and out.

In terms of the design of the building’s exterior, the facility’s proximity to the railroad was carefully considered. A railroad spur was constructed alongside the warehouse to make the transportation of goods easier. The facility’s packing wing was constructed in an arched shape that mirrored the shape of the railroad spur. The packing wing was built alongside the spur so that apples ready for transport could be moved out of the wing and onto train cars with greater
efficiency. Barrels being transported into the main warehouse for storage were unloaded from train cars and moved by truck to the loading docks, which extended along each side of the building. The area around the warehouse was paved to provide large staging areas.

As focus shifted from rail transport to trucking during the mid-to-late-twentieth century, the way in which the outside space was used changed drastically. In 1960, the packing wing was remodeled and enlarged.95 The northernmost section of the wing was removed, as goods were no longer being transported by rail. Rather, additional loading doors were added along the renovated packing wing. The main loading area shifted from the north elevation of the packing wing to the south. This provided tractor trailers with better access from the road. Boxes were loaded directly into the trucks from the loading area.

Little emphasis was placed on the embellishment of both the exterior and interior of the warehouse. As the building had a solely utilitarian function, more focus was placed on its layout. However, the use of Art Moderne stylistic details on the front office reflects a shift in the company’s priorities over time. The office was constructed sometime after the building’s initial construction, which suggests that the company’s leaders were initially devoted to getting their business off of the ground.96 Their focus likely shifted to business optics as competition increased and as, perhaps, meetings with prospective clients increased. The use of additional embellishment on the office likely served to reinforce its function as an outward-facing, public space.

By the 1950s, the multistory cold storage building had become obsolete due to changes in refrigeration and building technologies, transportation, and the frozen food industry. By the mid-twentieth century, handling equipment had improved, and the cost of product handling increased. As a result, one-story cold storage warehouses emerged.97 The benefits of a multistory building were quickly outweighed by rising costs and the comparatively slow movement of products. Also during this time, the demand for frozen foods increased. New warehouses were designed to store different types of products rather than a specific type of product, such as apples. The location of such warehouses shifted outside of cities to take advantage of larger transportation facilities and cheaper land.98

Although on a smaller scale, the rear controlled climate building constructed the Virginia Apple Storage property in 1971 reflects this pattern. The building is just one story in height, although it has soaring ceilings that allow for mechanical stacking of a large quantity of goods. The annex increased the overall storage capacity at the facility, while incorporating modern technology and limiting construction costs.

**Conclusion**

The Virginia Apple Storage, Inc., warehouse played an important role in the development of Winchester as an industrial town as well as the development of modern refrigeration at the turn of the century. The building was similar to other cold storage facilities constructed during the early-twentieth century. During its construction, builders incorporated state-of-the-art refrigeration technology, which subsequently dictated aspects of the building’s design. These aspects reflect the
impact that the Van Rensselaer H. Greene architectural firm had on the design of refrigerated industrial buildings.

Throughout the twentieth century, the building and property evolved to meet changing needs in cold storage and distribution, which is reflected through alterations made to the building and the addition of an annex in 1971. By the late-twentieth century, the Virginia Apple Storage shifted its focus away from apples and began storing a greater variety of products in order to keep up with changing consumer needs and demands. Today, the building is still used as a storage facility, but for a variety of goods and materials. However, the building retains many features from its early days as an apple storage warehouse. As such, the property is considered significant for its associations to commerce and industry of Winchester, as well as its representation of advances in cold storage architecture and engineering.
Virginia Apple Storage Warehouse
Name of Property

City of Winchester, VA
County and State

Historic Maps and Images

1938 Sanborn Map, depicting Virginia Apple Storage, Inc. on Valley Avenue.
Shenandoah Valley Apple Cider and Vinegar Co. along the Railroad at 601 Fairmont Avenue, Winchester, c.1926. Source: Library of Virginia.
Virginia Apple Storage Warehouse
Name of Property

City of Winchester, VA
County and State

Aerial Photograph of Winchester Cold Storage Company Facility on North Loudoun Street, circa 1930s. Source: Stewart Bell Jr. Archives.
Virginia Apple Storage Warehouse

Name of Property

City of Winchester, VA

County and State

Virginia Apple Storage Float at the Winchester Apple Blossom Festival, circa 1950s. Source: Stewart Bell Jr. Archives.

Notes: Section 8

2 Timothy A. Youmans, Email correspondence, 26 April 2022.


8 Ibid.


11 Ibid.


14 “Apples Fill Storage Space in Valley,” *Richmond Times-Dispatch*, October 30, 1940. The Old Mill Storage facility had been located directly across from the Virginia Apple Storage Warehouse complex at 2024 Valley Avenue. It was demolished in December of 1995. Youmans, Email.

15 Youmans, “Industrian Heritage.”


17 C.L. Robinson Ice and Cold Storage Records Collection, Stewart Bell Jr. Archives, Handley Regional Library, Winchester, Virginia.


21 *The Winchester Star*, October 22, 1921. In October of 1921, the Winchester Cold Storage received a shipment of apples from Oregon. Other records of shipments to Winchester’s cold storage facilities from various areas in the United States can be found in local newspapers from Winchester and Richmond.

23 The Winchester Star, April 26, 1917.

24 “Fruit Received at New Storage,” The Winchester Star, September 20, 1917.

25 Ibid.

26 “Temperature in New Storage is Uniform,” The Winchester Star, April 7, 1919.

27 Youmans, “Industrian Heritage.”


30 “Charters,” Richmond Times-Dispatch, April 9, 1929.


33 Sanborn Map Company, Winchester, Virginia, 1927-1947, Sheet 31, accessed April 2022, Library of Virginia. Based on the 1938 map of Winchester, only two industrial properties were located within the vicinity of the Virginia Apple Storage facility, the O’Sullivan Rubber Company and the H.J. Heinz Company Vinegar Plant. The warehouse was also neighbored by three apple packing buildings, one dwelling, and six commercial buildings.


35 Ibid.

36 Ibid., 5.

37 Ibid., 175.


42 Ibid.

43 “33,000 Bushels Of Apples Still On Storage Here,” Winchester Evening Star, June 19, 1951, 1.

Virginia Apple Storage Warehouse
Name of Property

Virginia Department of Historic Resources, “Preliminary Information Form for Individual Properties.”


“‘Blue Goose’ In Large Apple Packing Deal At Winchester,” *Hagerstown Daily Mail*, July 11, 1960, 1.

Virginia Department of Historic Resources, “Preliminary Information Form for Individual Properties.”


While the Virginia Apple Storage company entered many parade floats in local fairs, one example was at Winchester’s annual fair in 1946; Alex Preston, “3-Mile Parade Marks Close of Winchester Annual Apple Festival,” *Washington Evening Star*, May 4, 1946, 12.


Virginia Apple Storage Warehouse
Name of Property


66 Ibid., 175.

67 The following information about Charles Green’s common storage house was obtained from: F.A. Waugh, *The American Apple Orchard* (New York: Orange Judd Company, 1917), 173-74.


69 Ibid., 66-67.


71 Gantz., 68-69.

72 Ibid., 71-72.


74 Waugh, 177.


76 Ibid.

77 Powell et al., 13.


81 Waugh, 175, 180.

82 Powell et al., 9.

83 Ibid., 12.


86 Ibid., 24.

87 Ibid.

Section 8 page 36
Virginia Apple Storage Warehouse
City of Winchester, VA
Name of Property
County and State

88 Ibid, 7.


93 Ibid, 11.


95 “‘Blue Goose’ In Large Apple Packing Deal At Winchester,” *Hagerstown Daily Mail*, July 11, 1960, 1.

96 Sanborn Map Company, *Winchester, Virginia, 1927-1947, Sheet 31*, accessed April 2022, Library of Virginia. The office addition was present on a 1938 map of Winchester, but was not present when the building was first completed in 1930.


98 Ibid.
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*Richmond Times-Dispatch.* “Winchester Storage Company to Build An Additional Unit.” January 14, 1929.

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*Shenandoah Herald.* “Storage Space.” October 5, 1923.

____. September 25, 1925.


Virginia Apple Storage Warehouse
Name of Property

_. “Attention Fruit Growers.” August 21, 1951.
_. “Schools Close Early Tomorrow For First B.I.E. Day Tours.” November 6, 1951.
_. “Notice to Deer Hunters.” November 17, 1954.

_. June 26, 1917.
_. “Fruit Received at New Storage.” September 20, 1917.
_. “Temperature in New Storage is Uniform.” April 7, 1919.
_. October 22, 1921.
_. “Trustee’s Sale.” April 14, 1972.


_. Email Correspondence. 26 April 2022.
Virginia Apple Storage Warehouse
Name of Property

City of Winchester, VA
County and State

Previous documentation on file (NPS):

____ preliminary determination of individual listing (36 CFR 67) has been requested
____ previously listed in the National Register
____ previously determined eligible by the National Register
____ designated a National Historic Landmark
____ recorded by Historic American Buildings Survey # __________
____ recorded by Historic American Engineering Record # __________
____ recorded by Historic American Landscape Survey # __________

Primary location of additional data:

____ State Historic Preservation Office
____ Other State agency
____ Federal agency
____ Local government
____ University
____ Other

Name of repository: ____________________________

Historic Resources Survey Number (if assigned): _DHR #138-5120__________

10. Geographical Data

Acreage of Property ___7.688________

Use either the UTM system or latitude/longitude coordinates

Latitude/Longitude Coordinates
Datum if other than WGS84: __________
(enter coordinates to 6 decimal places)
1. Latitude: 39.166287  Longitude: -78.182423

Or

UTM References
Datum (indicated on USGS map):

☐ NAD 1927  or  ☐ NAD 1983

1. Zone:  Easting:  Northing:

2. Zone:  Easting:  Northing:
Virginia Apple Storage Warehouse

Name of Property

3. Zone: Easting: Northing:

4. Zone: Easting: Northing:

Verbal Boundary Description (Describe the boundaries of the property.)
The Virginia Apple Storage Warehouse is located at 1955 Valley Avenue in Winchester, Virginia. It is identified by the City of Winchester as Tax Map #251-01--5. The true and correct historic boundaries are shown on the attached Location Map and Sketch Map.

Boundary Justification (Explain why the boundaries were selected.)
The boundary includes the remaining 13.993 acres of the 29.757-acre property purchased by Virginia Apple Storage, Inc. in 1929. The facility was originally situated on the outskirts of the city. The property was divided during the early twenty-first century. The Virginia Apple Storage Warehouse is situated on the current parcel and the historic boundary is drawn to encompass the extant resources and their historic setting.

11. Form Prepared By

name/title: Madelyn Shiflett, Dara A. Friedberg, and Robert J. Taylor, Jr.
organization: Dutton + Associates, LLC
street & number: 1115 Crowder Drive
city or town: Midlothian state: VA zip code: 23113
telephone: 804-897-1960
date: May 2022

Additional Documentation

Submit the following items with the completed form:

• Maps: A USGS map or equivalent (7.5 or 15 minute series) indicating the property's location.

• Sketch map for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.

• Additional items: (Check with the SHPO, TPO, or FPO for any additional items.)

Photographs

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels (minimum), 3000x2000 preferred, at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo
Virginia Apple Storage Warehouse

Name of Property: Virginia Apple Storage Warehouse
City or Vicinity: Winchester  
County: Independent City
State: VA

Photographer: Robert J. Taylor, Jr.

Date Photographed: July 21, 2021

Photo Log

Name of Property: Virginia Apple Storage Warehouse
City or Vicinity: Winchester  
County: Independent City
State: VA

Photographer: Robert J. Taylor, Jr.

Photo 1 of 37: Virginia Apple Storage Warehouse
Front oblique, view northwest
Date Photographed: July 21, 2021

Photo 2 of 37: Virginia Apple Storage Warehouse
Rear oblique, view northeast
Date Photographed: July 21, 2021

Photo 3 of 37: Virginia Apple Storage Warehouse
Front facade, view west
Date Photographed: July 21, 2021

Photo 4 of 37: Virginia Apple Storage Warehouse
South elevation, view north
Date Photographed: July 21, 2021

Photo 5 of 37: Virginia Apple Storage Warehouse
West elevation, view east
Date Photographed: July 21, 2021

Photo 6 of 37: Virginia Apple Storage Warehouse
North elevation, view south
Date Photographed: July 21, 2021

Photo 7 of 37: Virginia Apple Storage Warehouse
South oblique, view northwest
Date Photographed: July 21, 2021

Photo 8 of 37: Virginia Apple Storage Warehouse
Office block on rear wing, view northeast
Date Photographed: July 21, 2021

Photo 9 of 37: Virginia Apple Storage Warehouse
Cellular equipment storage on roof, view northwest
Date Photographed: July 21, 2021
Virginia Apple Storage Warehouse

Photo 10 of 37: Virginia Apple Storage Warehouse
   South stair/elevator tower penthouse, view south
   Date Photographed: July 21, 2021

Photo 11 of 37: Virginia Apple Storage Warehouse
   Front office addition, view northwest
   Date Photographed: July 21, 2021

Photo 12 of 37: Virginia Apple Storage Warehouse
   Detail of main entrance, view west
   Date Photographed: July 21, 2021

Photo 13 of 37: Virginia Apple Storage Warehouse
   Detail of loading dock, view east
   Date Photographed: July 21, 2021

Photo 14 of 37: Virginia Apple Storage Warehouse
   Detail of doors on south elevation, view north
   Date Photographed: July 21, 2021

Photo 15 of 37: Virginia Apple Storage Warehouse
   Ice block cutter, view west
   Date Photographed: July 21, 2021

Photo 16 of 37: Virginia Apple Storage Warehouse
   Representative cold storage floor
   Date Photographed: July 21, 2021

Photo 17 of 37: Virginia Apple Storage Warehouse
   Ammonia pipes and gutters in cold storage area
   Date Photographed: July 21, 2021

Photo 18 of 37: Virginia Apple Storage Warehouse
   Detail of elevator shaft
   Date Photographed: July 21, 2021

Photo 19 of 37: Virginia Apple Storage Warehouse
   Detail of ammonia pipes in storage room
   Date Photographed: July 21, 2021

Photo 20 of 37: Virginia Apple Storage Warehouse
   Representative cold storage area on first floor
Virginia Apple Storage Warehouse
Name of Property

Date Photographed: July 21, 2021

Photo 21 of 37: Virginia Apple Storage Warehouse
Stairwell and barrel elevator doors
Date Photographed: July 21, 2021

Photo 22 of 37: Virginia Apple Storage Warehouse
View of cold storage area
Date Photographed: July 21, 2021

Photo 23 of 37: Virginia Apple Storage Warehouse
Detail of stairwell
Date Photographed: July 21, 2021

Photo 24 of 37: Virginia Apple Storage Warehouse
Detail of ice making facility in mechanical wing
Date Photographed: July 21, 2021

Photo 25 of 37: Virginia Apple Storage Warehouse
Detail of ice boxes in floor of mechanical wing
Date Photographed: July 21, 2021

Photo 26 of 37: Virginia Apple Storage Warehouse
Ice block transfer bucket
Date Photographed: July 21, 2021

Photo 27 of 37: Virginia Apple Storage Warehouse
Ice hatch from mechanical room to loading dock
Date Photographed: July 21, 2021

Photo 28 of 37: Virginia Apple Storage Warehouse
Detail of ammonia compressors in mechanical wing
Date Photographed: July 21, 2021

Photo 29 of 37: Virginia Apple Storage Warehouse
Office area within interior of rear wing
Date Photographed: July 21, 2021

Photo 30 of 37: Virginia Apple Storage Warehouse
Interior of northern section of rear wing
Date Photographed: July 21, 2021

Photo 31 of 37: Virginia Apple Storage Warehouse
Interior of northern section of rear wing from main warehouse

Sections 9-end page 46
Virginia Apple Storage Warehouse
Name of Property

Date Photographed: July 21, 2021

Photo 32 of 37: Virginia Apple Storage Warehouse
  Detail of stairwell in front office
  Date Photographed: July 21, 2021

Photo 33 of 37: Virginia Apple Storage Warehouse
  Meeting room in second floor of office block
  Date Photographed: July 21, 2021

Photo 34 of 37: Virginia Apple Storage Warehouse
  Detail of front office
  Date Photographed: July 21, 2021

Photo 35 of 37: Controlled Atmosphere Building
  Front oblique, view northwest
  Date Photographed: July 21, 2021

Photo 36 of 37: Controlled Atmosphere Building
  Detail of storage room
  Date Photographed: July 21, 2021

Photo 37 of 37: Controlled Atmosphere Building
  Compressor in controlled atmosphere building
  Date Photographed: July 21, 2021

Paperwork Reduction Act Statement: This information is being collected for nominations to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 460 et seq.). We may not conduct or sponsor and you are not required to respond to a collection of information unless it displays a currently valid OMB control number.

Estimated Burden Statement: Public reporting burden for each response using this form is estimated to be between the Tier 1 and Tier 4 levels with the estimate of the time for each tier as follows:

- Tier 1 – 60-100 hours
- Tier 2 – 120 hours
- Tier 3 – 230 hours
- Tier 4 – 280 hours

The above estimates include time for reviewing instructions, gathering and maintaining data, and preparing and transmitting nominations. Send comments regarding these estimates or any other aspect of the requirement(s) to the Service Information Collection Clearance Officer, National Park Service, 1201 Oakridge Drive Fort Collins, CO 80525.
DISCLAIMER: Records of the Virginia Department of Historic Resources (DHR) have been gathered over many years from a variety of sources and the representation depicted is a cumulative view of field observations over time and may not reflect current ground conditions. The map is for general information purposes and is not intended for engineering, legal or other site-specific uses. Map may contain errors and is provided "as-is". More information is available in the DHR Archives located at DHR’s Richmond office.

Notice if AE sites: Locations of archaeological sites may be sensitive the National Historic Preservation Act (NHPA), and the Archaeological Resources Protection Act (ARPA) and Code of Virginia §2.2-3705.7 (10). Release of precise locations may threaten archaeological sites and historic resources.
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LOCATION MAP

Virginia Apple Storage Warehouse, Winchester, Virginia, 2021

VDHR# 138-5120

Latitude: 39.166287   Longitude: -78.182423
SKETCH MAP
Virginia Apple Storage Warehouse, Winchester, Virginia, 2021
VDHR# 138-5120

- Historic Boundary
- 1929 Warehouse
- ca. 1950s Rear Wing
- 1971 Controlled Atmosphere Building
- Chemical Plant (demolished)
Virginia Apple Storage Warehouse, City of Winchester, Virginia
VDHR# 138-5120
Photo Key

Interior Photos: Photo #s 15-30, 32-33

Virginia Apple Storage Warehouse Property Boundary
Photo Direction