NPS Form 10-900
(Oct. 1990)

OMB No. 10024-0018

FINAL

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 How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an 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. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name **Woolery Stone Company**

other names/site number

2. Location

street & number 2295 W. Tapp Road ☐ N/A ☐ not for publication

city or town Bloomington ☐ N/A ☐ vicinity

state Indiana code IN county Monroe code 105 zip code 47403

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this ☒ 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 36CFR Part 60. In my opinion, the property ☒ meets ☐ does not meet the National Register criteria. I recommend that this property be considered significant ☐ nationally ☐ statewide ☒ locally. (☐ See continuation sheet for additional comments.)

Signature of certifying official/Title — Date 10·25·02

Indiana Department of Natural Resources

State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. (☐ See continuation sheet for additional comments.)

Signature of certifying official/Title — Date

State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that the property is: — Signature of the Keeper — Date of Action

☐ entered in the National Register.
☐ See continuation sheet.

☐ determined eligible for the National Register
☐ See continuation sheet.

☐ determined not eligible for the National Register

☐ removed from the National Register

☐ other, (explain:)

Woolery Stone Company
Name of Property

Monroe IN
County and State

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
- ☐ district
- ☒ site
- ☐ structure
- ☐ object

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

Contributing	Noncontributing	
5	0	buildings
1	0	sites
2	0	structures
3	0	objects
11	0	Total

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing.)

N/A

Number of contributing resources previously listed in the National Register

0

6. Function or Use

Historic Functions
(Enter categories from instructions)

INDUST/PROC/EXTR: Manufacturing Facility
INDUST/PROC/EXTR: Waterworks
COMMERCE/TRADE: Business

Current Functions
(Enter categories from instructions)

WORK IN PROGRESS

7. Description

Architectural Classification
(Enter categories from instructions)

MODERN: International Style
OTHER:

Materials
(Enter categories from instructions)

foundation: CONCRETE
walls: STONE: Limestone
METAL: Steel
roof: ASPHALT
other: WOOD
METAL

Narrative Description
(Describe the historic and current condition of the property on one or more continuation sheets.)

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.)

☒ **A** Property is associated with events that have made a significant contriibution to the broad patterns of our history.

☐ **B** Property is associated with the lives of persons significant in our past.

☐ **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.)

Property is:

☐ **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 of age or achieved significance within the past 50 years.

Areas of Significance
(Enter categories from instructions)

INDUSTRY
COMMERCE

Period of Significance
1928-1958

Significant Dates
1948
1952
1954

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

Cultural Affiliation
N/A

Architect/Builder
Unknown

Narrative Statement of Significance
(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographic References

Bibliography
(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

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 # _____

Primary location of additional data:

☐ State Historic Preservation Office

☐ Other State agency

☐ Federal agency

☒ Local government

☐ University

☒ Other

Name of repository:

Collection of R. A. Woolery, Jr.

Woolery Stone Company
Name of Property

Monroe IN
County and State

10. Geographical Data

Acreage of Property 28 acres

UTM References
(Place additional UTM references on a continuation sheet.)

	Zone	Easting	Northing
1	16	537850	4332350
2	16	538150	4332350
3	16	538160	4332220
4	16	538100	4332070

☒ See continuation sheet

Verbal Boundary Description
(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification
(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Eliza Steelwater, Ph.D.

organization _____ date 12-21-2001

street & number 4541 Stidd Lane telephone 812/ 334-1107

city or town Bloomington state IN zip code 47408

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **Sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white** photographs of the property.

Additional items
(Check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of SHPO or FPO.)

name Woolery Stone Co.; Robert A Woolery, Jr., President

street & number 905 East 1st Stree telephone _____

city or town Bloomington state IN zip code 47401

7. Narrative Description

SUMMARY

The site of the former Woolery Stone Company contains buildings, structures, and objects that historically housed and supported production, display, and sales of dimension limestone. The site's defining features are a grand-scale, all-metal mill building and its attached overhead tramway for traveling cranes. Other major features enumerated individually are a limestone-faced headquarters building, metal mill office, machine shop, and blacksmith shop, a limestone-built storage structure, and three sections of limestone wall displaying the firm's craftsmanship. The site is completed by various supporting features, notably a rerouted and dammed stream, with settling ponds, that supplied and cycled industrial water. The Woolery property includes approximately 28 acres of gently rising, partly cleared land at the northeast corner of Tapp Road and Weimer Road about 2.3 miles southwest of the county courthouse in Bloomington, Monroe County, Indiana. The area surrounding the nominated site contains several active and inactive quarries. The land was rural in character until recent partial development for residential and recreational uses.

The first building was placed on the property in 1928, and most development occurred 1948-1955. Construction would probably have been completed sooner if the Depression and World War II had not taken place shortly after the company established the site. Small, noncontributing additions were made to the mill between about 1955 and 1958. The site's appearance has changed little since the 1950s: minor structures and objects were moved or replaced, and a slough and ponds have been reworked repeatedly. In spite of broken windows and graffiti, buildings and other elements of the site retain enough integrity to qualify as a significant example of Monroe County limestone industry operations during the early to middle twentieth century.

SETTING

The western part of Perry Township, Monroe County, is situated directly above a major deposit of building-quality limestone known as Salem limestone (Fig. 1-7).[1,2] The deposit extends from Montgomery County about 40 miles west-northwest of Indianapolis, passes northwest to south

[1]Diana M. Hawes et al., *Monroe County Interim Report*, in the series *Indiana Historic Sites and Structures Inventory,* sponsored by the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology (Bloomington, Indiana: Bloomington Restorations, Inc., 1989), xiii. Also see Marion T. Jackson, ed., *The Natural Heritage of Indiana* (Bloomington: Indiana University Press, 1997).

[2]All figures for Sec. 7 are placed on numbered pages following text portion of Sec. 7.

through Monroe County, and continues south through Harrison County to the Ohio River. Salem limestone makes up a small but extremely valuable part of the extensive limestone bedrock formed by the shells of invertebrates in a shallow inland sea that covered much of the Midwest 30 million years ago.

Most of the Salem stone belt, up to 15 miles wide and 90 miles deep, lies a few feet beneath the surface in an extensive area of karst topography known as the Mitchell Plain. In Perry Township, Monroe County, this naturally hardwood-covered, rolling upland has elevations of about 700-850 feet. The surface is marked by springs, watercourses, and sinkholes with ground water at 6-10 feet. The Woolery site slopes from east to west (about 740-710 feet) and is drained by the Spring branch of Clear Creek, originally an intermittent stream, running north-south through the property near its western edge.

As in many parts of Monroe County, the neighborhood of Tapp and Weimer roads contains remnant landscapes of small farming, mostly pastures and cornfields with isolated buildings. But the scene is now dominated by water-filled quarry holes, occasional tall derricks, and piles of unused limestone shards and other industrial debris among the regrown woods. This landscape of extraction characterizes the vicinity of the Woolery site, which lies between a disused quarry to the north (once a supplier of Woolery's stone) and an active quarry to the south (formerly part of the Woolery property). Recent residential development has approached the property to within a few hundred feet on the west and north but is about one-half mile distant on the other slope of the hill to the east. To the immediate south, the presence of quarries limits other uses to a recreational trail along the former railroad spur.

ARCHITECTURAL CHARACTER AND PRESENT CONDITION

General Site Characteristics

An imposing metal mill building, exterior tramway, service buildings and structures, and a limestone-faced headquarters building are compactly laid out on 28 acres. Among numerous supporting structures on the site is a rerouted and dammed natural stream that supplied water for stone sawing and other non-potable uses. Virtually all elements are present that were needed to house production and sales of quarried building stone. Dredging, clearing of brush and debris, and moving of sheds and stone has taken place throughout the site's history, and not all features can be dated, but the site includes few if any structures inconsistent with the period of significance circa 1928-1955. The site's presence of lost grandeur derives from its industrial scale and materials, broken windowpanes and rust discoloration, tumbled limestone scrap, and isolated placement on open ground–characteristics common to historical sites of extraction in the

post-industrial era.[3]

Discussion of the site, below, proceeds west to east across the property. Appendix A-7 lists individually contributing resources to the site as enumerated in Item 5 above: five buildings, two structures, and three objects. Appendix A-7 also includes a site plan showing enumerated resources and other features included in the discussion below.[4]

The Creek, Dam, and Ponds

Water features located along the west side of the site have been manipulated or constructed to furnish a nonpotable water supply for limestone processing. Features include the creek with its bed moved, two dams, and a pond (all c. 1928). Remaining low-lying area of ponds and the two remaining pump houses cannot be dated but their appearance is in keeping with the site's functioning c. 1928-1958.

The south-flowing Spring branch of Clear Creek, with a typical width on-site of 15 feet, is dammed at a point about 200 feet south of the north boundary and 30 feet east of Weimer Road. (All measurements are estimated from site plan, Appendix A-7.) The fall of water over the poured-concrete dam is roughly 5 feet. Water falls through a notch in the walls of poured concrete. These walls are braced with an additional wall at an angle on the downstream side and with piled limestone quarry block and debris. Downstream, about 800 feet north of Tapp Road, another, smaller dam with two- to three-foot fall of water creates a reservoir pond for pumping toward the mill (photograph 2; all photographs Sec. 12 below) .

At its greatest extext, the oval ponded area is estimated at 60 feet across east-west and 120 feet across north-south. On the mown-grass west side of the pond, a small intermittent stream flows east under Weimer Road via a culvert and enters the pond. On the wooded east side, ten unmortared limestone steps with a bent, makeshift handrail form a near-ruined stair running down from a small stone platform to a pump shed. A remnant wood-framed shed, collapsing, stood on an above-ground mortared stone foundation in the water. The shed sheltered pumping equipment (removed). Jointed metal pipe and some fragments of metal framing lead from the

[3]See *National Register Bulletin: Guidelines for Identifying, Evaluating, and Documenting Historic Mining Properties* (U. S. Department of the Interior, National Park Service, 26 July 2001 and later), esp. Sec. IV, p. 7, feeling as an aspect of integrity. The discussion has some application to limestone processing sites since these tend to resemble mineral processing sites, sawmills, and other sites of extractive industry more than factories that produce goods. URL: http:// www.cr.nps.gov/ nr/publications/ bulletins/ mi4.htm.

[4]Appendixes (A-7, B-7, C-7) are placed at end of numbered pages in this document.

shed up the pond bank. This pond and pump shed can be seen from Weimer Road.

East of the creek and west of the main mill building is a partly wooded space about 300 feet wide (photograph 3). This band of low elevation and excavated ponds falls slightly toward the south and widens as it passes south of the mill building. The area is presently the site of clearing and excavation and contains four ponds, undated sheds or pump houses, and various remnants of water pipe. This feature has been dredged and reworked repeatedly beginning in early years. The northernmost pond, which may have been dry at times, has a stone-built pump shed with metal roof (photograph 1). The pond is grouped with two others at 40-50 feet apart, extending south from a point opposite the mill building's north end to the building's midpoint. Diameters of these naturalistically shaped ponds range upward from 60 feet. A fourth pond is L-shaped (present state; future state depicted on site plan). Near the pond's southwest corner is a small, enclosed, wood-framed shed sheathed in corrugated metal that formerly stood next to the road and served as a gatekeeper's station. The nearby, derelict concrete slab, extending into the pond, appears to have supported a pump shed. The L-shaped pond is located south and west of the mill building some 500 feet south of the other three ponds and 275 feet north of Tapp Road (photograph 4).

Principal Mill Building

From the exterior, the building gains its identity partly from its complex of shallow-pitched shed roofs (2/12 and 1/12) stepping down on either side of a central north-south oriented roof ridge. The building's asymmetrical mass is visually unified by its dominant lengthwise dimension, reinforced by the run of exterior tramway. The building mass also gains coherence from corrugated, galvanized sheathing alternating with rhythmic rows and bands of steel-sash windows on all sides. All siding and sash are partially rusted, and vandals have broken numerous glass panes.

In plan, the metal-built principal mill building is an irregular rectangle approximately 52 feet tall, 222 feet wide, and 555 feet long at its greatest dimensions. The southwest corner of the building lies at a point about 750 feet north of Tapp Road and 350 feet east of Weimer Road. The exterior portion of a tramway for traveling overhead crane, about 25 feet tall and 73 feet wide, extends some 200 feet beyond the south central section of the mill building (photograph 6). The rusted exterior tramway consists of a pair of steel rails each elevated about 20 feet on two-legged steel supports braced internally with metal webbing.

The building has four main sections each under a separate shed roof. (One section is complex and has several roofs, discussed below.) These building sections are of unequal size and proportions, each one having different dimensions of height, length, and width. Though irregular, the sections

are amassed similarly to the nave of a Romanesque cathedral, forming a long, high central hall flanked by one- to two-story side aisles. Major building sections shown in plan are labeled in Fig. 2-7 at end of Section 7 for convenience of discussion. Moving outward from a north-south center line, building sections are: West Hall (c. 1952-1955) and West Aisle (c. 1955) , East Hall (1952) and East Aisle (1928, 1948, 1952). The East Aisle has five separate parts built at three different dates. The mill building has two small, late additions, Southeast and North (both c. 1958). Enclosure of south wall of West Hall dates from the same period (c. 1955-1958).[5]

Size and proportions of panes in steel window sash can be roughly correlated with construction dates of sections of the mill building and adjacent service buildings. Appearance of sash was used in addition to interview data, mid-1950s photographs, visible joins in roof, and visible join in east tramway to help establish a sequence of construction dates. Different styles may have been available for sale simultaneously, but were evidently bought in batches corresponding to phased construction plans. Vertically oriented panes were used on sections of building dated 1928 (smaller panes) and 1948. Horizontally oriented panes are seen only on sections that have been given a date of c. 1952-1955. East and West halls have identical sash near the roofline, 3/5 lights with horizontally oriented panes. Lower wall of the East Hall is replaced by the East Aisle but also has this sash. (Adjacent service buildings c. 1952-1955 also have windows with horizontally oriented panes.) Vertical panes again appear in late additions c. 1955-1958. Two lower tiers of sash in the West Hall are five or four lights tall and six lights tall. Sash here and on south end of West Hall could be salvage or remainders from earlier construction.

The East and West halls are two shed-roofed units, one on either side of a shared center row of support pillars about 18 to 22 feet apart north-south. (Pillars form row D on plan view; see letters and numbers on measured drawings in Appendix B-7 for following discussion; also interior photographic views 23-26, 28-30, 32-35.) Each hall also has an outer row of pillars (rows C and E) that in turn forms part of the support of a side aisle, discussed below. East-west, the span between pillars is about 54 feet in the West Hall and 72 feet in the East Hall. Each center support pillar is made up of three steel I-beams and each side pillar is made up of two steel I-beams. The I-beams are cleated to each other in each pillar and separately bolted to a raised footing of mortared limestone blocks set in concrete to bedrock below.[6]

The pillars carry both the roof and the tramways for traveling cranes. Each compound pillar has

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[5]Historical development of the mill building's parts is discussed below at the end of Section 7.

[6]One footing is some 30 feet deep because it was positioned above a seam in the rock. R. A. Woolery interviews with Eliza Steelwater, 21 September 2001 and 8 October 2001, Bloomington, Indiana.

one I-beam rising to the roof; these I-beams are tied together at about mid-height by a horizontal I-beam running north-south. Pairs of roof-height beams are also cross-braced at intervals. Each of these I-beams supports one end of a heavily constructed, one-pitch, metal roof truss with W-and-vertical webbing and no gussets. The trusses carry metal rafters running north-south that in turn carry roofing panels of corrugated Transite.[7] The other one or two I-beams in each pillar support a larger, horizontal I-beam that in turn supports the overhead rail carrying a traveling crane. The lower edge of the horizontal I-beam is Y-braced to the vertical I-beam of the pillar. The upper edge of the rail is either ledged to accept the wheel of the crane or carries a special track. East and West halls are each traversed about 8-10 feet below the height of their outer wall by one of these pairs of crane rails. The tramway in the West Hall contains the apparatus of two traveling cranes–a heavy frame with paired cross rails, a traveling hook, and traveling operator's cage–one at either end of the tramway. (Photograph 37; another crane is no longer present.) Stairs at either end of the West Hall, and north end of the East Hall, lead up to the level of the cage (at C2, C22, E4). A fourth stair rises (at E17) in East Aisle #1 (1928) and exits upstairs near this end of the East tramway.

Both East and West halls are floored with a concrete slab that extends into the side aisles. The slab, presumably laid down piecemeal as the building was enlarged, maintains one interior level throughout most of the mill except where loading areas drop to ground level. (Appendix B-7, plan view of the mill, shows locations of loading docks at south, west, and north sides of West Hall, south and north sides of East Hall.) Visible edges of the flooring slab are supported by a continuous footing of limestone blocks. The north edge of the slab in the West Hall is supported by massive, unmortared quarry blocks. The south and west edges are coped by a low wall of sawed block.

The West Hall is longer under roof (about 455 feet) than the East Hall (360 feet) and extends beyond it on both south and north. The East Hall is taller than the West Hall at about 52 feet, with an offset of 3 to 4 feet at the roof ridge line containing a clerestory. The West and East halls share similarities in their truss roof design, system of support pillars, and identically sized units of steel window sash along the top of their long walls. The West Hall is surrounded on three sides of its projecting north end by a one-story addition (exterior photographic view 9). Its south end is enclosed and has a shed attached (exterior photographs 21, 22). The East Hall is enclosed at its north end, open on its south end to admit a partially exterior tramway (1948; photograph: 22 exterior, 23 and 29 interior). The West Hall has a larger area of window sash and smaller area of corrugated metal wall sheathing along its long wall than does the East Hall.

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[7] R. A. Woolery, Jr., interviews with Eliza Steelwater, 21 Sept 2001 and 8 Oct 2001, Bloomington, Indiana. Transite is a proprietary building board composed mainly of calcium silicate and Wollastonite.

The West Aisle (c. 1952-1955) is a well lighted, one-story, north-south oriented shed about 220 feet long, centered on the outer wall of the West Hall (exterior photographic views 7, 8; interior 36). The West Aisle has a narrow section 24 feet wide and a wide section 35 feet wide. The shed is supported by a metal post-and-beam system tied to each outer support pier in the outer row of piers of the West Hall (row C in Appendix B-7, discussed above). Partly self-supporting roofing, with intermediate north-south rafters, consists of interlocking metal panels with smooth side in, standing rib out. The interior floor is about five feet above exterior ground level. The wall of the wide section contains five loading doors (A13-18) opening overhead from interior floor level and one loading door (A12-13) opening from a ground-level interior loading bay. Human-scale, metal entry doors with an outer stair to ground level are at either end (A7-8 and 18A-B). Steel sash is grouped 5, 4, and 5 over 4 with vertical panes.

The East Aisle is made up of a row of north-south oriented sheds under separate roofs and includes the oldest areas of the mill (photographs 10, 20 for exterior; 27, 31 for interior). At the north end of the row is the newest (1952) part of this section, with the oldest part (1928) in the center and 1948 part at the south end. In all, these parts with different construction dates have five roofs. The two extra roofs were created when enclosing transitional spaces (1948) at either end of the original 1928 mill building.

East Aisle #5 (1952) a 1-1/2-story shed at ground level, about 210 feet long and 55 feet wide. Structurally, the East Aisle shed is similar to that of the West Aisle, metal post-and-beam tied to the outer support pier of the hall. However, the beams are cross-braced with light members, and the ceiling sheathing is Transite. Half the height of the east wall is of limestone block, somewhat redundant as support, built against the posts. Fenestration on this wall matches the upper story of the East Hall (above) to which this aisle is attached: spaced pairs of 3/5 operable windows with horizontally oriented panes separated by sections of corrugated metal sheathing. Limestone wall, sheathing, and fenestration wrap to match on north elevation. The east wall of East Aisle #5 contains two loading doors (F6-7 and F10-11) and two human-scale entry doors (F7, F9-10). The southeast entry door leads to adjoining service buildings, discussed below. The northeast entry door is surrounded on the exterior by a limestone-block vestibule with wood-framed closeable doors. This weather-protected exit is located on the side of the mill nearest the Administration Building, allowing access between mill and headquarters without passing through the service buildings. On support pier 14E at the south end of East Aisle #5 is a remnant of the air feed for a pneumatic carving tool. Surviving part of a canvas dust screen stretches between piers 11E and 14E at this end of the aisle.

At the south end of East Aisle #5 are small doors (inconspicuous in photograph 27) leading into a

transitional section. East Aisle #4 (c.1948) provides covered passage between East Aisle #5 and East Aisle #1. East Aisle #4 is about 44 feet long north-south under separate roof. It forms an L broadening from about the width of East Aisle #5 to about the width of East Aisle #1. Some of the framing in this section is of wood, covered by corrugated metal. Projecting from the east wall of #4 is the separate low roof of a half-basement. This room may have contained a water pump. On the exterior is a storage tank with a length of large-diameter pipe attached. On the interior, down-turning water pipe on the south wall leads below the main floor level south toward East Aisle #1, #2, and #3.

Visually, East Aisle #1, #2, and #3 are one space. However, they are separately roofed at different levels. The separate shed roof of East Aisle #1 (1928) creates a step up to two stories tall (exterior photographic view 20). East Aisle #1 is a rectangle about 55 feet wide by 68 feet long. The main roof of East Aisle #1 is supported by a post-and-beam, truss-and-rafter system similar to that of the later East and West halls. Roofing material is Transite. Posts on the west (inside) wall are the outer piers of the East Hall (E16-21); posts on the east (outside) wall are single I-beams (G16-21). On the west wall at pier E17 is a metal stair and landing to the east tramway. Below the stair, corrugated metal sheathing and a double-batten wood door screen the area from the East Hall. Outer walls are corrugated metal on metal studs to one-story height, below a band of 6/6 windows with distinctive, vertically oriented panes smaller than those of later sash. At about its midpoint on the east or long wall of East Aisle #1 are two small, projecting sheds, one half-height, each under a separate roof (east of G17-19). The taller shed may have housed a motor for the gang saws.

Four gang saw enclosures and adjacent concrete machine pads take up most of the remaining main space in East Aisle #1. These structures are located within E17-G17-G21-E21. Stalls for the gang saws rise from the floor to above head height and are open at both ends. They are constructed of poured concrete with metal reinforcement and horizontal grooves. Machine pads held massive wheels powered by an electric motor. Wheels drove each saw by means of a connecting rod or pitman, rocker arm, and other less visible parts. Each saw bay measures about 14 feet on center by 22 feet long. Floor rails leading from the East Hall into the bays mark the track of a stone cart that passed the stone under the saw blades. At each saw emplacement, a low coping joins with the base of the saw-bay walls to form a rectangular floor trough. Each floor trough slopes diagonally to a drain leading below floor level. In the basement below floor level (not inspected) are remnants of the pumping and waste-water removal system that led to and from the water-supply features west of the mill. A hatch with a wooden ladder also leads to this subfloor area.

South of East Aisle #1 is another transitional section, East Aisle #2, under a separate, slightly

lower shed roof than the two adjacent sections. East Aisle #2 is the same width as adjoining #1 (north) and #3 (south) and is about 29 feet long. East Aisle #2 and #3 are probably the same date of construction, 1948. A variant type of support structure begins here and continues to the end of East Aisle #3. From pillar E22 south to E29, the I-beam support pillars are composed of a single I-beam at the east or outer wall and have an extra I-beam at the inner wall. This I-beam shares a footing pad with, but is additional to, the two-pier set used in row E going north. The third I-beam carries the east-west truss in East Aisle #2 and #3. In #2, deep, east-west spanning trusses are gusseted. North-south rafters riding on these trusses are lightweight parallel chord trusses. In East Aisle #3, chords of the east-west trusses meet at outer edge where they are bolted to a flat gusset. Several of these trusses are supported partway across their span by single I-beam piers.

East Aisle #3 (moved to site in 1948) adjoins #2 on the south. It is about 56 feet wide (similar to preceding) and 110 feet long. Its roof is slightly higher than that of East Aisle #2. At the northern end of #3 are four parallel floor tracks, possibly the location of a stone cart below a diamond saw. To the south are four more gang-saw bays and machine pads (photograph 31). At the south end of East Aisle #3, built onto it via an east-west post-and-beam frame, is a one-story shed addition (c. 1958; foreground of photograph 31) with a standing-rib panel roof.

Near the mill are various small features including storage sheds. Various low limestone retaining walls support the slope of terrain. Six of these walls are marked W on site map in Appendix A-7, and three other wall sections with a decorative purpose are marked 8. Near the mill are also piles of limestone quarry block, probably representing stone that was not saleable after the firm closed. These and fragments of sawed or cut stone are probably not in the same position as historically. In all, less scattered debris may be found on the site than was there when the firm was operating.

Service Buildings

Located east of the principal mill building and connected to it by a short enclosed passageway is a cluster of three one- to two-story buildings and a large shed constructed c. 1952-1955. (See site plan, Appendix A-7, and exterior photographic views 10, 11 for arrangement). Each building and the shed structure, with interior concrete floors just above ground level, is structurally separate but connected to the next by a short enclosed passageway and steel entry doors. One story limestone block passageways have shed roofs sheathed with corrugated metal and occasional 2/2 lights.

Base walls of three of the connected buildings are of similarly scaled, sawed, random-length limestone block. Set on top of the block wall of each building, one- to 1-1/2-stories, is a prefabricated, one-room metal building. Structural system of metal roof varies. Walls are

interlocking, galvanized, standing-rib panels. Sash is various sizes and configurations of lights with horizontally oriented panes, similarly proportioned to panes in 1952 main-mill sash.

Closest to the mill building is the two-story mill office, approximately 20 by 45 feet. Its lower floor is stone and upper floor galvanized panels. On the east, an exterior metal stair with covered platforms and pipe handrail gives direct access to the upper floor. Oriented north-south, the mill office has a 3/12 gable roof. Walls meet at ridge rafter and are tied at header by joists running parallel to roof ridge and across span, cross-braced by light members. Sheathing is self-supporting panel system of galvanized metal in standing-rib panels. Rib turned to interior forms rafter (or stud). All doors are metal, windows 2/2 and 3/3 (w/operable hopper). The interior contains open office space on the first floor (photograph 12). A keyboard with labeled hooks is still attached to the west wall. Partitioned washroom (door labeled "TOILET") contains original sink, mirror, paper towel dispenser, broken toilet. Upstairs room is an uninsulated open space possibly used for storage.

The mill office has an entry door on the west and, on the east, connects to the technologically notable machine shop, a maintenance and repair unit about 40 by 60 feet, also north-south oriented with a gable roof. The interesting large-span roof of standing-rib panels meets at ridge rafter and is supported by lengthwise metal joists and crosswise metal collar beams (photograph 13). This collar ties together two lengths of reinforcing steel that run parallel to panel ribs. Configuration of the collar and angled joists, in section, has two shallow pitched segments and a flat center segment. Lengthwise metal joists are wrapped with straps tying down roof panels between each joint. This 1-1/2 story building has striking, large-paned 6/6 sash with two operable sections per unit on four sides. Gable ends have lights at peak. Exterior mounted sliding doors composed of metal panels (identical to sheathing) give access on east and west. Running the length of the east and west walls is a frame for a small overhead traveling crane that could position machinery to be worked on. Pairs of I-beam stanchions holding an I-beam cross rail are designed similarly to those of main mill building, but bolted to floor rather than separate footing.

On the north side of the machine shop a short passageway leads to the blacksmith shop, the northernmost of the four buildings. It is east-west oriented with a gable roof (photograph 14). Windows are 2/4 and 2/6 irregularly placed. Exterior mounted sliding doors of metal paneling are located on the north. Metal entry doors on the north and east have 3/1 lights above, vertically oriented. Metal entry door on the south is curiously low with a lighted upper half. Two forges placed in the room are about thigh height and 2-2-1/2 feet in diameter. The older, disused, is probably original or was moved to the building at construction c. 1952-1955. This forge is a crude pot-shaped metal fire container. Gas for lighting and firing solid fuel entered through a pipe in the bunghole on one side. The stone striking surface, bound with a metal top hoop, has a

center fire hole. A newer forge, of late date and in use at mill closing 1995, is a heavy metal cylinder with a deep metal rim around the striking surface. It has a metal hood and flue that exit through the roof.

The last connected structure, opening south from the machine shop via metal-framed sliding doors, is a limestone-walled, one-story storage shed fitted on the interior with shelves and brackets and containing a toilet enclosure. North-south shed roof is sheathed in corrugated metal carried on lengthwise rafters above crossing joists. There are a south entry door, small barred windows set above eye level, and vent openings near the roofline.

Administration Building

Constructed in 1954, the two-story Administration Building is an east-west oriented rectangle standing across the U-shaped gravel drive from the service buildings east of the mill. (See Administration Building plan and elevation drawings, Appendix C-7; exterior photographic views 15 and 16).) The building measures 36 by 106 feet at its greatest dimensions. A 16-foot wing or section at the west end is only 28 feet wide. The roof is flat or slightly shed-sloped with a plain-cornice parapet wall on three sides. The roof minimally overhangs on the east, apparently for drainage, and has a rain gutter. The structural roof (described as part of interior paragraph below) is a self-supporting concrete panel system with exterior weatherproofing. Wall construction is Waylite (cinder) block on a poured concrete foundation wall with a ground-floor slab. Exterior facing is limestone veneer in a variety representing the finishes produced in the mill. The Administration Building exterior displays late International Style influences in its flat roof, canopied entrance, ribbon windows, expanses of textured wall, and lack of decorative detail at door and windows. Overall, its vernacular proportions and details create a low-slung, horizontal emphasis. Its appearance has suffered more than that of other buildings from vandalism and theft of windows and interior detailing.

The building stands far back from the Tapp Road entrance near the east and north borders of the site. A limestone sidewalk and the site of the visitors' parking lot are located on the east side of the building (photograph 17). The east entry, at one story where the ground rises suddenly, cannot readily be seen from the circular gravel drive between administration and service buildings. The entry's five limestone stair treads are flanked by broad, low stone copings with round lower ends rising to a platform under a painted metal canopy. The canopy has tubular metal supports and its original, faded, sage-green paint on the fascia, white beneath on soffit. Original door (replaced) was aluminum-framed glass with a one- or two-light transom. Doorway is flanked by fluted limestone panels. The entry facade is vertically divided into two unequal parts. The larger, north area is veneered in large square panels with a chat-sawed finish

(achieved by sawing with unwashed, local sand as an abrasive). Toward the south, a smaller area is veneered with random-coursed ashlar with a split-face finish. This veneer, much used on houses beginning in the late 1940s, was perhaps Woolery's largest selling product. Also known as "broken face," it was created by scoring a large block and then driving in wedges.[8]

Two tiers of ribbon windows on the south wall are made up of window units with fluted wall veneer between. The veneer is a Woolery product, probably shaped in a planer, cut in one piece of varying widths according to window placement. The windows are irregularly placed as singles (on ends) and pairs, 2/2 double-hung wood sash. Most of the sash is now glassless and damaged, and remaining sash and frames have been removed to interior, openings boarded. Window courses are framed top and bottom by plain projecting bands matching the roof cornice. Wall surface above each band is squares as on entry side. Wrapping the south corners of the building are vertical panels of split-faced ashlar. (A similarly veneered chimney flue is visible above the top of the south wall.) The south and west walls of the projecting end wing on the west, 16 by 28 feet, are entirely faced in this veneer. The courses of the ribbon window repeat on the south wall of the end wing, with regularly spaced windows on the west elevation. The west end of the north elevation has a basement entry, irregularly placed windows, and a projecting limestone vestibule under low shed roof, constructed at the same time as the main building. An almost identical two-tiered ribbon window occupies the space symmetrical with its counterpart on the south wall. All stone surfaces on the north wall are sawed and smoothed random-coursed ashlar (inaccurately portrayed as split-face in the elevation drawing for the north wall). One of the finishes is shot-sawed, an effect of irregular long grooves created by using steel BBs in the saw instead of sand or other abrasives.

The structural ceiling system and the service systems are notable features of the building's design. Structural roof and first-floor ceiling/second-floor are Rapidex, a patented system manufactured in Indianapolis.[9] Its structural characteristics are not apparent when the panels are in place. With a textured external finish, each panel or brick about 8 by 16 inches has crosswise voids to hold pre-tensioned steel bars. When the blocks are fitted together in 16-inch rows across the span, leaving an inconspicuously grooved surface, the slightly cambered unit under compression became a self-supporting flat plane. Other voids in the unit function as heating ducts. A central air conditioning system has exposed ducts on both lower and upper floors. The basement contains modernized apparatus for all systems: two wells for drinking water, pumps, an

[8]The film *Breaking Away* (1979), in a scene filmed in the Woolery mill, depicts actor Paul Dooley driving the wedges for split-faced veneer.

[9]R. A. Woolery interview, 21 Sept 2001.

oil furnace and blower, and components of the central air conditioning.

The interior is utilitarian with touches of style. Floor surface on concrete (see below), formerly nine by nine inch asphalt tile, is now bare. Walls are exposed concrete block with wood-frame interior half-walled partitions upstairs (reception area for PBX operator; photograph 18) and downstairs (chief draftsman's office; photograph 19). Finishes are teak-stained plywood in keeping with the early modern styling. There are a few rounded, Streamlined-Moderne-influenced touches including interior sash trim and catches and wall registers for forced-air heat. Beyond the entry area, office space upstairs was divided into a few large rooms, mostly group working spaces and a restroom. Downstairs, via a flight toward the west end, the drafting and pattern-making area was open except for the partitioned chief draftsman's office and a restroom.

The vicinity of the Administration Building contains minor features (c. 1954): limestone sidewalk on the east side, cypress cooler and oil-storage tank on the north (at right of photograph 10). A second tank stands near the wall southwest of the building. Three other limestone walls, enumerated individually as objects in Sec. 5 above, display Woolery Company's craftsmanship (all marked with an 8 on map in Appendix A-7). The wall at the northeast corner of the building serves as a retaining wall but also incorporates two high-relief heads (c. 1940, moved onsite 1954) representing Indiana-born Wendell Willkie (1892-1944, Republican presidential nominee 1940) and Paul McNutt (1891-1955, Indiana governor 1933-1937). These carvings were made at the Woolery's original mill (see Sec. 8) and placed on display at an Indiana state fair following the Depression. Located between the Administration Building and the mill are two other sections of wall. These are purely decorative in blocks of various finishes and were also displayed at the fair.

DIMENSION LIMESTONE PRODUCTION IN INDIANA

Process and Locations of Production

Many variations in machinery, technique, and power source have been developed over the 175-year history of Indiana's industrial limestone production. However, the process as a set of steps can be described somewhat generically, beginning with in-the-ground stone and progressing to the product ready to be set in mortar or decoratively placed on a site.

To develop a quarry, a site must be chosen through experience, core sampling, and a large element of risk. The soil and weathered stone are removed down to bedrock. Cuts are then made into the bedrock, one or more "key blocks" pried loose, and a floor of the quarry sawed into very

large, squarish blocks.[10] On being loosened from the floor, the blocks are resawed somewhat smaller for transport. These blocks are then moved to the mill, where they are stored in an outdoor stacking yard or under roof. Guy derricks, used for manipulating blocks on site, were once a prominent feature of quarry and mill landscapes. Now blocks at the mill are hooked to indoor or outdoor overhead cranes. The cranes travel on paired rails elevated some 20 feet or more above floor level.

The blocks are transferred from the crane to a railed cart for the short distance to stations under roof. Circular saws with industrial diamonds embedded in replaceable teeth are available up to very large diameters to cut thicker blocks. The faster gang saws cut thinner blocks or slabs. Earlier gang saws had steel blades that cut with a slurry of water and an abrasive. Diamond-bladed saws are run with water only. After sawing, the water or slurry that has been used is recycled to a slough and/or ponds for settling. Thickness of the sawed stone is commonly two inches up to a foot. The stone slab that results from sawing is either a rough size for further finishing or a final product such as veneer slabs or pavers, which may be given a fairly smooth or specially textured surface. Alternatively, slabs may be finished by splitting with wedges, the popular "split face" of the late 1940s and on.

Fabrication (further finishing) may be carried out at a separate mill. If the sawmill also performs fabrication, however, sawed slabs are moved to planers. Some modern planers can dimension more than one side of the stone at a time. In a planer, the stone is fixed onto a bed, as large as four feet wide and 10 or more feet long, that moves back and forth under the scraper or cutting tool. A vertical stanchion holds the tool–flat, curved, or shovel shaped–which is chosen interchangeably and adjusted for depth of cut. Planer bits can create smooth, flat slabs, effects such as fluting, or high-relief moldings. Repeated passes of the moving bed achieve the final diameter and shape. On a similar principle, lathes turn a slab on its axis while a stationery bit cuts columns, balusters, and other cylinders. Stone companies may employ a blacksmith to forge custom tools. After planing or turning, a slab is cut to length by the circular saw called a jointer. If not packed and shipped at this point, the slab may be drilled for fittings, sanded, and/or carved by craftsmen using pneumatic hammers and chisels.[11]

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[10]For historical quarrying techniques, Joseph A. Batchelor, *An Economic History of the Indiana Oolitic Limestone Industry* (Bloomington IN: School of Business, Indiana University, 1944), esp. 39-47, and Scott R. Sanders, *Stone Country* (Bloomington: Indiana University Press, 1985), 27ff. Recently developed techniques are described and illustrated in Bill McDonald, *A Short History of Indiana Limestone* (Bedford IN: Lawrence County Tourism Commission, 1995), 50-52.

[11]R. A. Woolery interviews. Also see Batchelor, 239-242, for details of innovations 1919-1933.

Historical Appearance and Functioning of the Woolery Site

The Tapp Road site acquired its first building in 1928 and was expanded intensively between 1948 and about 1955. Based on the site's appearance and on interview data, it is likely that development was delayed by economic conditions between 1930 and 1945. In layout and scale, the site resembles corporate sites of the 1920s.[12]

The appearance of the site at specific dates is known only through interview data. The earliest and only available photographs of the mill building and other site features were made about 50 years ago for the firm's promotional brochure. The brochure is undated, but a logical time for its creation is 1954 or 1955. These dates place the photographs after the administration building was constructed (and its lawn established) but before certain final additions made to the mill building in the late 1950s. The brochure's photographs illustrated the firm's facilities.

Fig. 3-7, from the cover of the brochure, is a low-aerial overview of the Woolery facilities seen from the northeast. Weimer Road crosses diagonally at upper right of the photograph, and to left of the road on the same north-south orientation is the relocated stream, ponded area, and slough. The mill is the very large building at center right. Most of its bulk consists of the 1952 additions. The very much smaller 1948 and 1928 portions, squarish and lower-roofed, are positioned at the southeast corner of the mill's main bulk. A narrow corridor addition (1952) fills in the east side up to the mill's north end. The attached service buildings, plus miscellaneous sheds, a tank, and debris, are also in place next to this east facade of the mill. A one-story covered shipping enclosure would later be added at the northwest corner of the mill. Two sheds, one for packing (right) and one of unknown use (left, with gable roof), can be seen near the property's north boundary at lower right of photo.

At lower left of the photo, on the east side of the site, is the administration building. East-west oriented and flat-roofed, it separated from the mill by part of a gravel road circling the site. Water storage tank and cooling tower are in place near the building's northwest corner. Southwest of the administration building, and south of the mill, is the stone pile with derricks still in place at the far end (left center of photo). North of the stone pile and near the mill, the crossbar and operator's cab of the traveling overhead crane can just be seen passing along the exterior tramway.

Fig. 4-7 is a closer view of the mill's south end seen from the southwest. The west additions to the mill were in place (left of photo). However, the southwest corner of the mill was not yet

[12]Sec. 8 below contains a discussion and comparison of historical sites of production in Monroe County.

enclosed with sash, sheathing, and loading doors. The crossbar of the second traveling crane can be seen in the open doorway of the mill's west section. The first, exterior tramway, stone yard, and derricks take up the rest of the picture moving right.

Fig. 5-7 is an interior view of the mill looking south from the West Hall. Camera is at northwest corner of mill building. In the foreground is the ground-level floor of the loading area and the edge of the raised interior floor. The one-story north end addition (c. 1955-1958) would show at right foreground of photo if it had been completed. Enclosure of the south wall would show at south end of this hall (distant point in photo), but photo shows an unobstructed exterior except for the presence of the traveling crane. (Compare photo in Sec. 12.) Most of the space in the West Hall at this time was used for storing completed orders (foreground) and rough blocks (background). Shed at midpoint in center row of columns (at center of photo) may have contained a diamond saw.

Fig. 6-7, south exterior elevation of the Administration Building, displays some of the mill's stone finishes as incorporated into the facing of the wall. Note prominence of split-faced veneer (ends of building.)

Fig. 7-7, ground-floor drafting room in the administration building. (Compare photo in Section 12.) Chief draftsman's office is outside photo frame at right. Note exposed air conditioning duct at ceiling on right.

The Woolery Property as a Site of Production

Fig. 8-7 shows the relationship of built forms and the operations they housed c. 1928-1958 on the Woolerys' Tapp Road site. The diagram, reading from left to right, is a set of boxes schematically representing buildings and other built features of the site. Inside each box is a brief description of tasks that took place at that point and remaining structural details associated with the tasks. The boxes are connected by arrows to indicate the direction of the work process as stone arrived on site and passed through the mill, tools and parts were made and maintained, and work orders were developed and processed, accompanied by drawings and patterns for fabrication.

When the Woolery site was opened in 1928 the Woolerys modified the creek on the property (box at left of Fig. 2-7) and added a pumping system to provide water for operating stone saws. The creek was moved west of its former bed and dammed in two places. The ponded water behind the lower dam was pumped and piped in several stages. Initially, water went to the mill only, but some water ultimately reached a storage tank at the top of the hill (now off-site to the

east). Inside the mill building at saw stations (box second from left in Fig. 2-7), an elaborate system lifted and spread the water, feeding a spray of either water alone or water and an abrasive to the stone saws. Used water and slurry were gathered in drains under the saws and returned to a slough and/or settling ponds. These were located between mill and creek where the creek bed had originally been.[13]

A railroad spur (since removed) served the mill. South of the building, a stockpile held limestone blocks brought up from the quarry (now off-site) by railroad. A steel derrick and a wooden derrick (since removed) rotated, lifted, and lowered to manipulate stone from rail car to pile and pile to mill. In the mill, blocks were lowered onto railed carts for their trip of a few feet to the saws. After sawing, slabs were again moved by cart and derrick and loaded back onto a railroad car. Until 1952, fabrication of the slabs was carried out at the Woolerys' other site, discussed in Section 8 below.

The mill building of 1928 occupied less than 7,000 square feet, or about nine percent of its present area, on the east side of the now-expanded building. The building contained four steel-bladed gang saws in stationery bays, one diamond-toothed saw on a stand, and the water-supply components described above. A steam-powered generator produced DC electricity for the mill as late as 1936, but AC was purchased from the city supplier.

The size of the building was doubled in 1948 by adding a moved building onto the south end of the 1928 building. The 1948 addition housed four more gang saws in bays and a circular diamond saw (1913, moved from other Woolery site) that traveled over the stone being cut. The 1948 tramway that is still present in and south of the East Hall would have been a completely exterior feature (located at E14 and extending beyond E29 on site plan, Appendix B-7).

In 1952, the Woolerys began their greatest expansion of production on the Tapp Road site. Charles Woolery "drew every plan" for additions to the existing mill building and also designed the administration building (1954).[14] A very large section of the mill (East Hall, 1952), with a shed roof sloping east, was added at the west side of the original 1928 building. The existing tramway was extended all the way to the north end of this new interior (E3-11). The large new west portion of the mill (West Hall), which has a west-sloping roof and includes a second

[13]R. A. Woolery, Jr., provided the information in following paragraphs.

[14]R. A. Woolery interviews. Mr. Woolery (21 Sept 2001) described the administration building as "my uncle's dream." All of Charles Woolery's plans, kept in an office in the mill, were destroyed during a robbery and fire in the late 1990s.

tramway, was probably built between 1952 and 1955. Covered loading areas at north and south ends of the mill's west section (c. 1955-1958) were two of the last additions completed. Around this time, the south wall of the West Hall was enclosed with glass and loading doors, and the south end of West Aisle appears to have been stepped back slightly.

The East and West halls, functioning as one open room, included space and equipment for fabrication, stone storage, and packing. Five planing machines may have been the first equipment added, with four of these brought from Woolery Company's original site. Planers and other surfacing machines were placed in the northeast part of the building. Additional diamond saws were placed between the center columns below the roof ridge. Hand cutting, sanding, and any other finishing took place in the north portion of the mill, as evidenced by remnants of the air system. The southwest portion was for storage of blocks and ready-to-ship stone, mostly split-face.

Between 1952 and 1954, a connecting complex of small service buildings was placed adjoining the east facade of the mill. These buildings and their functions are represented by the three boxes to right of mill in Fig. 2-7. Besides a storage shed (not shown in Fig. 2-7), the buildings housed blacksmith shop, mill office, and machine shop. The blacksmith forged equipment parts and tools. Maintenance and repair of motors was carried out in the machine shop. The mill office processed work orders and stored zinc (later plastic) templates or patterns used in planing and cutting stone. Each piece of cut stone had a number and its own paper ticket listing dimensions, grade of stone, and number of shop drawing (Fig. 9-7). The number for each stone was chalked or painted in lampblack on the piece, ready to be used after shipping by the mason on the construction site.

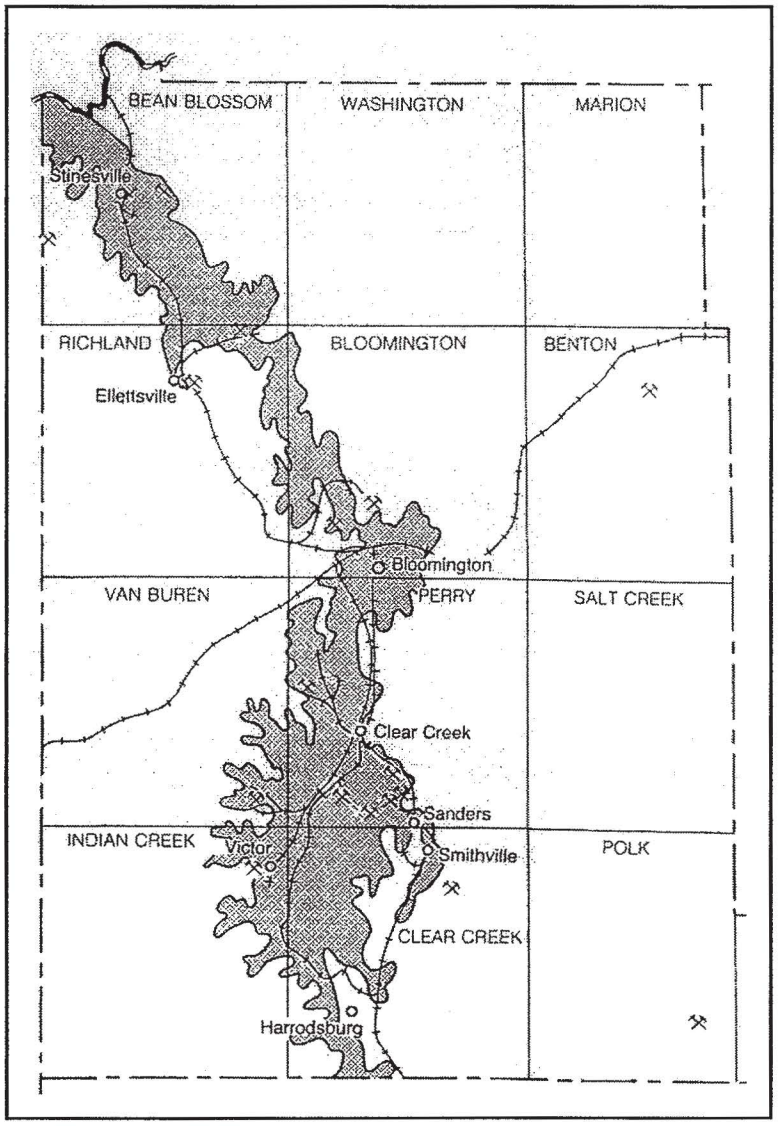


Fig. 1-7. Salem limestone deposit with rail lines and quarry locations in Monroe County, 1937. Reproduced from Hawes et al, Fig. 5.

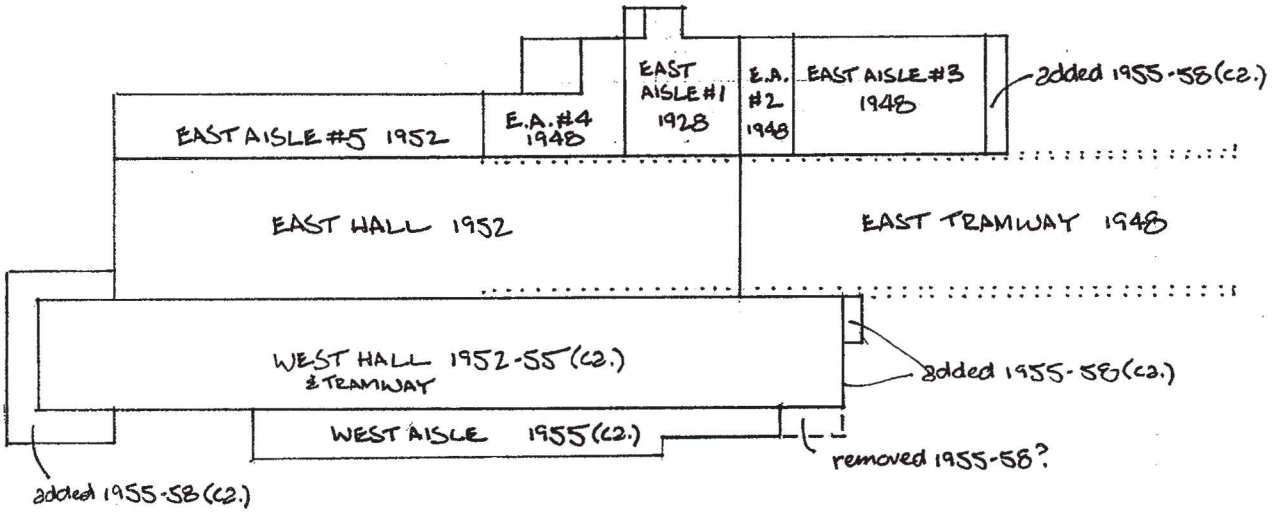


FIG. 2-7 PRINCIPAL MILL BUILDING SHOWING SEPARATELY CONSTRUCTED UNITS.

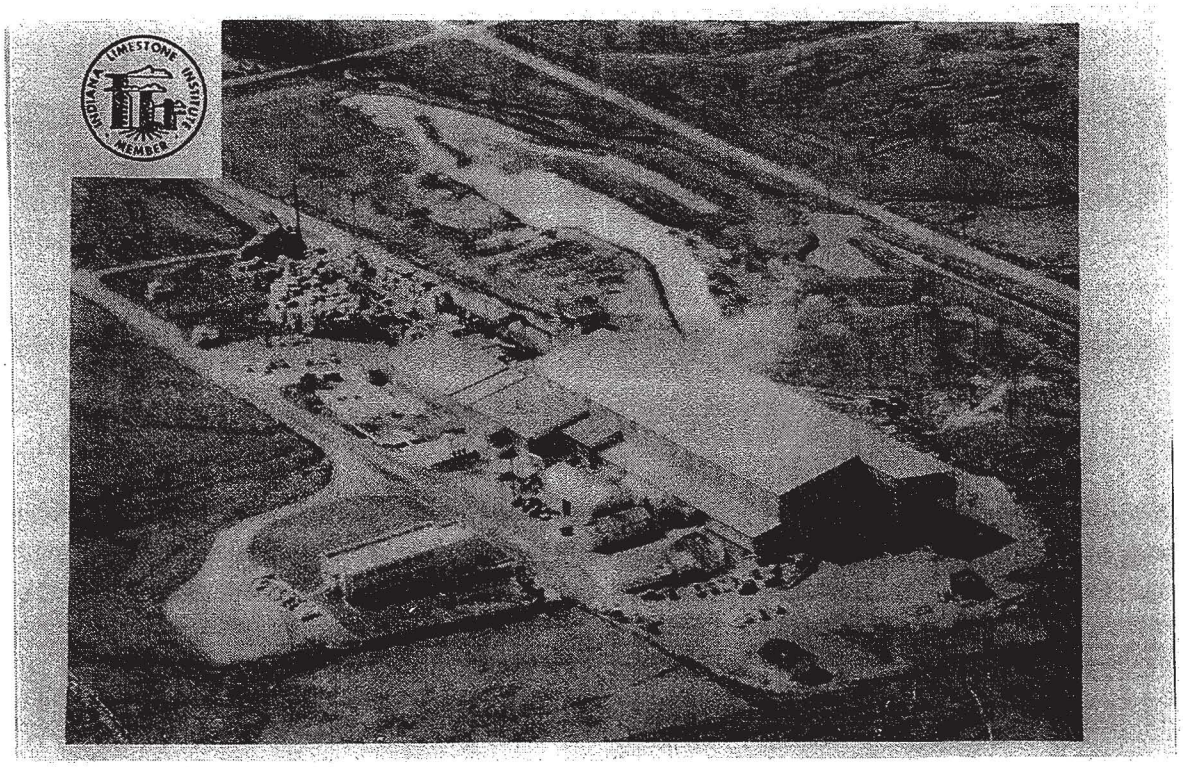


Fig. 3-7. Overview of site c. 1954-1955, bird's-eye view from northeast.
Source: Woolery promotional booklet in the collection of R. A. Woolery, Jr., Bloomington, Indiana.

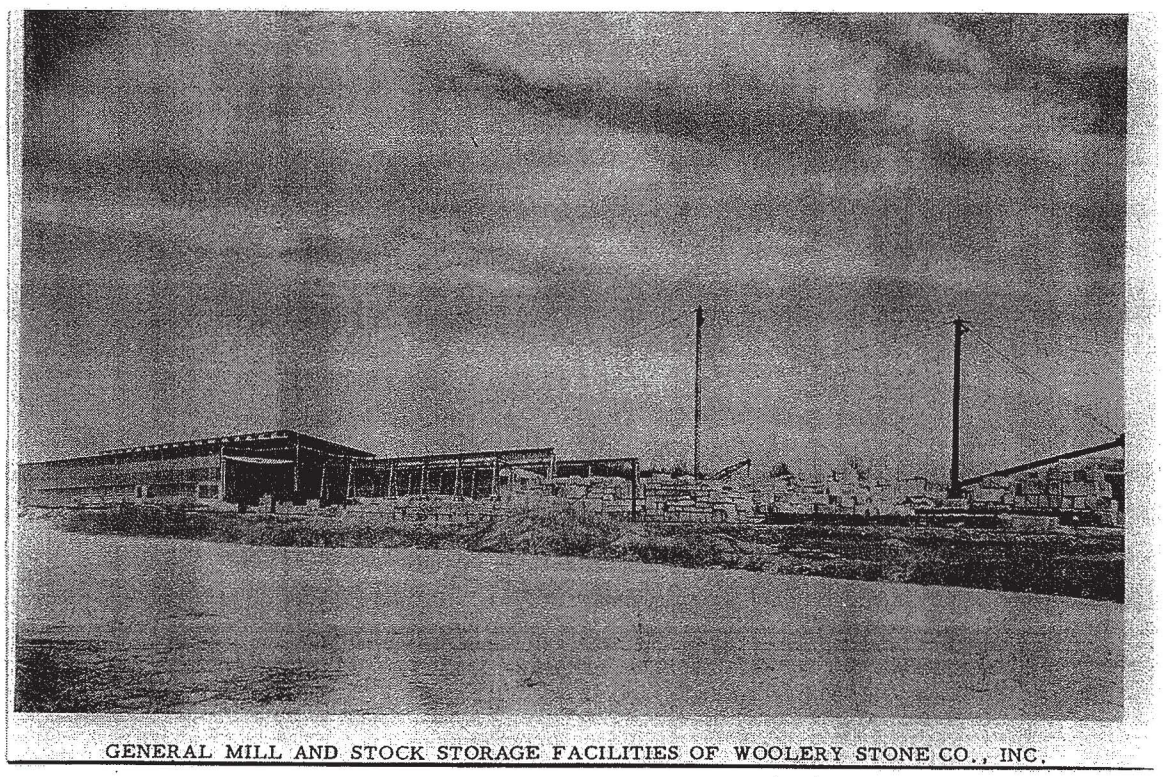


Fig. 4-7. South end of mill building, tramway, derricks, and stack pile.
Source: Woolery promotional booklet in the collection of R. A. Woolery, Jr., Bloomington, Indiana.

Fig 5-7. Interior of mill from northwest corner.
Source: Woolery promotional booklet in the collection of R. A. Woolery, Jr., Bloomington, Indiana.

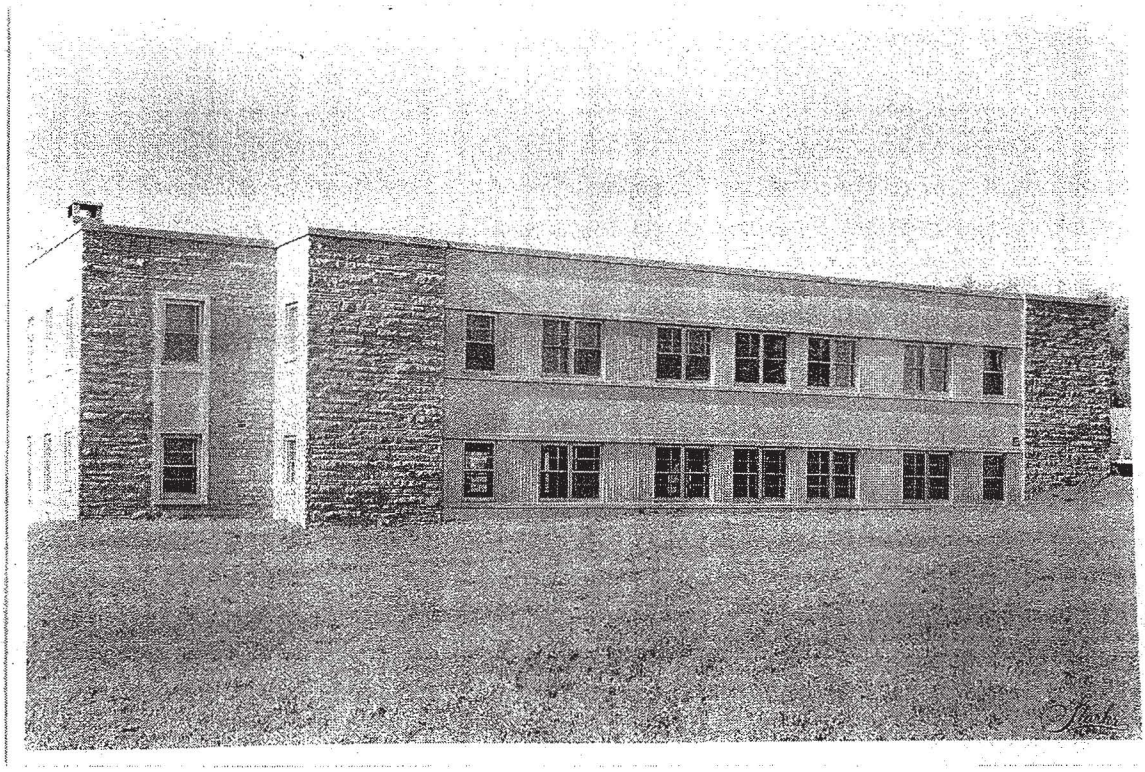


Fig. 6-7. Exterior south elevation of administration building showing display of stone finishes.
Source: Woolery promotional booklet in the collection of R. A. Woolery, Jr., Bloomington, Indiana.

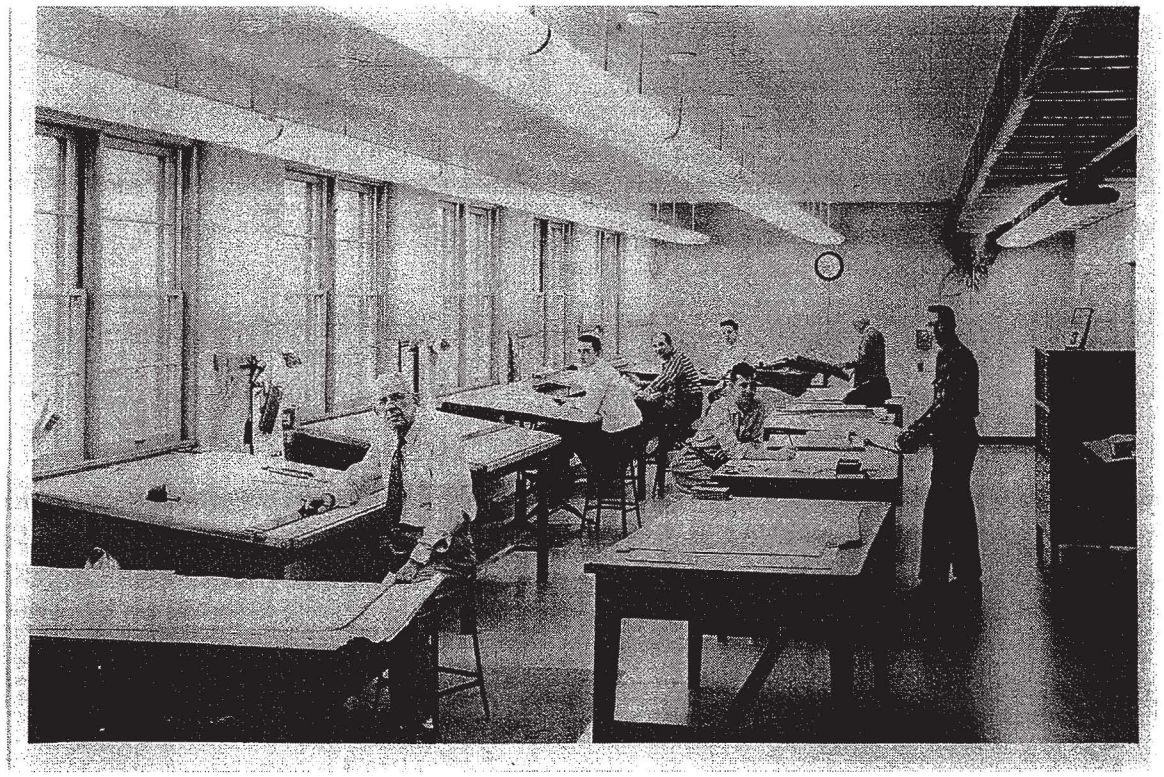
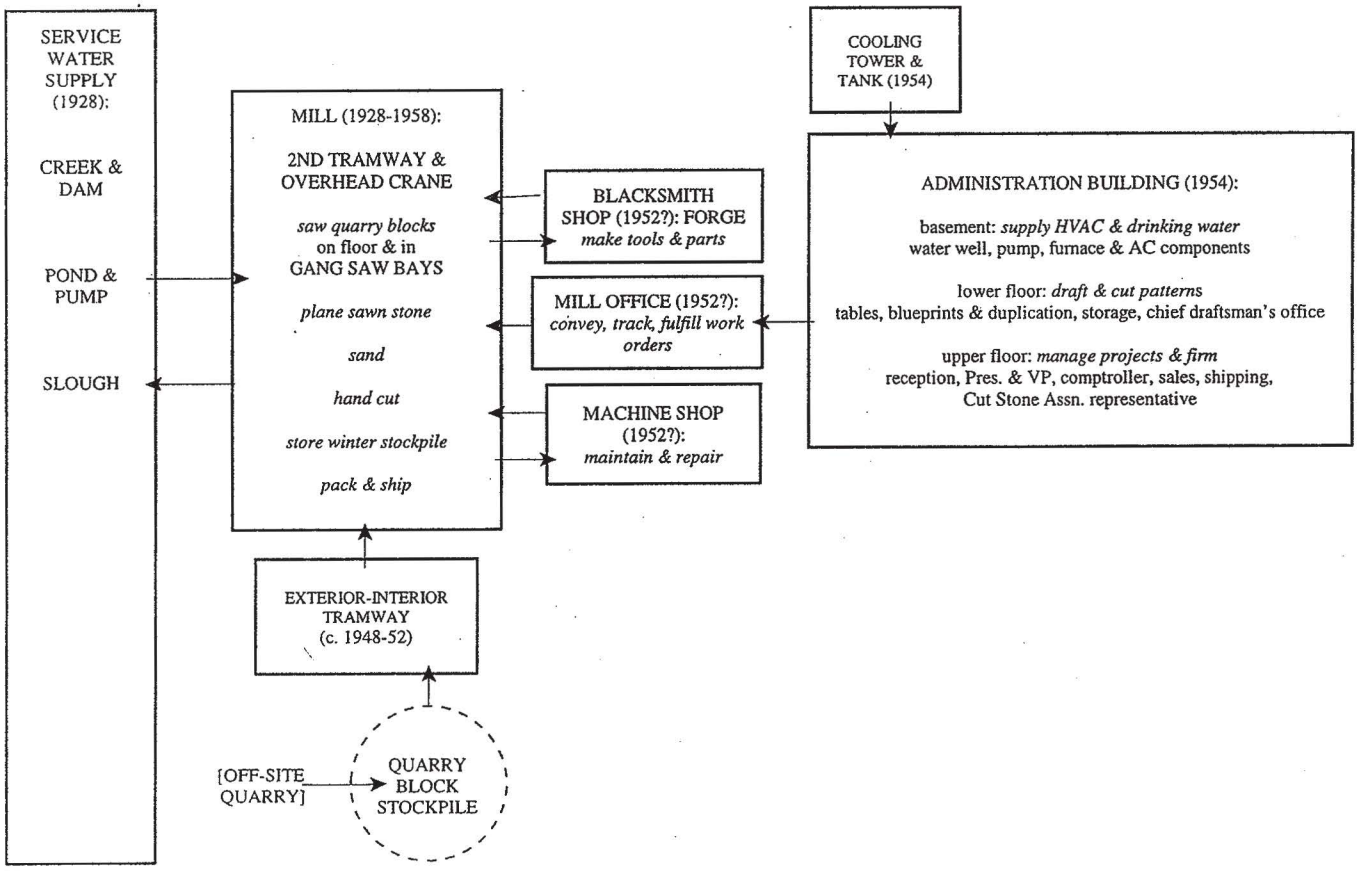


Fig. 7-7. Drafting room, ground floor of the administration building.
Source: Woolery promotional booklet in the collection of R. A. Woolery, Jr., Bloomington, Indiana.

Fig. 8-7. Built structures and the production process on the Woolery Stone Company site: engineering, fabrication, and business management.

Note: Schematic; not a building footprint or scale drawing.



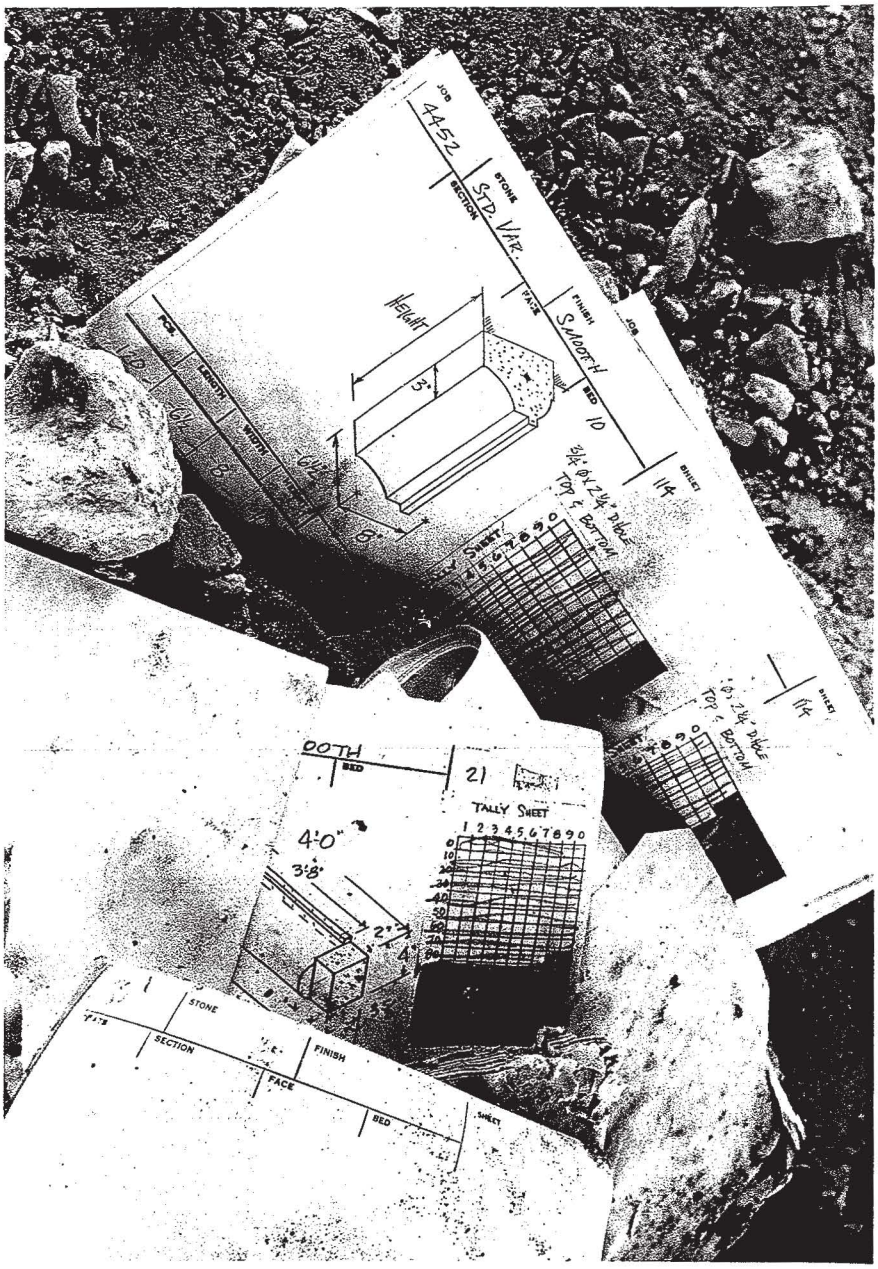


Fig. 9-7. A Woolery shop ticket, date unknown.
Photograph by Sean-Paul Luchin; reproduced courtesy Mr. Luchin.

8. Narrative Statement of Significance

SUMMARY

The former Woolery Stone Company mill and headquarters on about 28 acres make up one of the few remaining historical building ensembles created by the limestone industry in Monroe County, Indiana. The Woolery ensemble is significant under Criterion A in the categories of industry and commerce. Long-term use and development of the site demonstrate the viability of a medium-sized, locally based, family-held corporation during the industry's late-mature historical period, 1920s through 1950s. Important dates for the Woolery site include 1928, 1948, 1952, and 1954, when major building elements were put in place. Criteria Consideration G applies to the site in that its administration building (1954) and minor elements of the mill and service buildings (1955-1958) are slightly less than 50 years old. However, the significance of site operations is older than 50 years, dating to the technology, design, and layout of the 1920s through 1940s. Having established the site in 1928, the Woolery firm could not accumulate substantial development capital until after the Depression and World War II, which consumed the years 1930-1945. The site was completed 1948-1955 as resources became available.

In establishing significance, several aspects of the site can be emphasized: Systematic layout of the site and development of a grand-scale mill building and headquarters were a design response to rationalized production and business methods introduced into the Monroe County limestone industry during the 1910s and 1920s. Fixed features dating to 1928 (such as creek dam, overhead tramway, gang-saw bays, all still in place) remained in use, illustrating the slow rate of change in industry technology over a 30-year period. Floor plan of the mill's last addition demonstrates a major change that did occur, transportation of stone to and from the mill by truck instead of rail.

The site was maintained with little remodeling until its abandonment. Though vandalized, it retains integrity through the presence of key aspects of limestone processing, namely, water supply, on-site transport and sawing of quarry blocks, fabrication and shipping of final product, fabrication and maintenance of tools and parts, drafting and execution of patterns for cutting stone, and business and project management. These processes closely integrate locations on the site where they took place. Undated features such as packing and storage sheds, and reworked features such as ponds, retain their ability to illustrate the historical operations of the firm.

Overall, the site as a cultural landscape expresses a time-specific mixture of family and corporate pride. From the 1920s to 1950s, the Woolerys applied newer business practices and achieved quarry-to-building-site production at a single location. Later, most family firms were forced to specialize, scale back operations or, like the Woolery Company in 1995, close their doors.

HISTORICAL BACKGROUND, PREHISTORY TO 1928

"The importance of the stone industry to the history of Monroe County and its built environment cannot be overstated," runs the introduction to the county report on historic sites and structures.[1] Effects were not apparent at an early date but developed some 80 years after European-American settlement of the area. Though the limestone industry was established first in Monroe County, circa 1826, the stone districts in and near Bedford (Lawrence County) multiplied more quickly during the 1800s. By the end of the nineteenth century, however, the impact of the stone industry could be seen in townships throughout the western half of Monroe County. Effects on the landscape took the form of quarry digging, mill construction, and housing booms as workers came to live near stone enterprises. Economic prosperity led to accelerated public building, including the present Monroe County Courthouse (1907), several buildings on the post-1884 Indiana University campus, and numerous schools. The Indiana limestone industry continued to supply more than half the nation's dimension limestone, but U. S. production declined after about 1970.

Monroe County was organized two years after Indiana statehood in 1816. Earliest known inhabitants in the general area would have been Native Americans from one of the Mound Builder cultures, sedentary farmers and extensive traders who occupied the Mississippi and Ohio valleys and were succeeded by members of the Miami, Delaware, and Potawatomi groups. But Indiana was also part of the Old Northwest passed from French to British, then American, control at the end of the Revolutionary War. Once Native American resistance was crushed at the battles of Fallen Timbers (1794) and Tippecanoe (1811), eternally land-hungry Americans poured into the Northwest Territory, settling Indiana beginning in the south. In the limestone hills of the well-watered south, new arrivals established a pattern of small-scale, mixed farming and closely spaced settlements. Numerous creeks provided power for sawmills and grist mills, and a few of these waterways could be navigated seasonally by flatboat as far as the Ohio River and through to the Mississippi. Limestone deposits on or near the surface in southern Indiana provided an incidental resource for building.

Even before statehood, settlers were collecting loose stone and using it for bridge piers, grave markers, and sills. Cut stone is first known to have been used in building the second Monroe County Courthouse (1826; demolished 1906). The first known quarry, begun near Stinesville, Monroe County, was operated by Richard Gilbert beginning in 1827. Gilbert's success led to the

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[1]Diana M. Hawes et al., *Monroe County Interim Report, Indiana Historic Sites and Structures Inventory* (Bloomington IN: Bloomington Restorations, Inc., 1989), xv-xvii; xvii for quotation. The following three paragraphs are based on this report and on Bill McDonald, *A Short History of Indiana Limestone* (Bedford IN: Lawrence County Tourism Commission, 1995), 6-13.

opening of other quarries in Monroe and Lawrence counties. Roughly dressed quarry blocks, drilled by hand and blasted loose with gunpowder, were lifted by mule- and horse-drawn hoists. There were no stone mills; rather, high-wheeled oxcarts carried the blocks directly to construction sites. Here workers hand-sawed and hand-finished the stone and set it in place.

Transportation by oxcart limited quarried limestone to local markets. Within less than 40 years after statehood, however, the advent of the New Albany and Salem Railroad (Monroe County, 1854) set the stage for profitable production. Initial uses of quarried stone were ballast for the rail line and lime for mortaring stone trestle supports. The primitive equipment of early days meant that the major expense of stone production was land for a quarry, and this low investment cost drew entrepreneurs to Monroe and Lawrence counties. The stone company of pioneering English immigrant John Matthews opened north of Ellettsville in 1862 and was followed by 15 other quarries in Monroe County alone by 1868. Quarries were typically located on land parcels previously established as small farms.

Even before Matthews brought steam power and machine channeling into the industry (1875), the Chicago fire of 1871 and Boston fire of 1872 created new markets for Indiana limestone. Urbanization, architectural fashions, fear of fire, and the competitive displays of corporate capitalists solidified the trend toward stone construction. During this same period, the state of Indiana began systematically to promote its limestone industry. Marketed through stone yards in big cities, Indiana's Salem limestone began to find increasing acceptance in competition with Niagra limestone from Illinois and Ohio, other types of limestone from Alabama, Kansas, Missouri, Minnesota, and Wisconsin, and sandstone from Ohio, Connecticut, Massachusetts, New Jersey, New York, and Nova Scotia.[2]

Among big projects during this decade, in 1878, contracts for both the Chicago City Hall and the Indiana State Capitol were awarded to limestone companies in Bedford, Lawrence County, Indiana. The Fifth Avenue townhouse of William K. Vanderbilt (1879, Richard M. Hunt, architect) contained 25 railroad carloads of stone from the "Blue Hole" quarry of Nathan Hall in Bedford. Facilitating large projects, contractors' construction equipment steadily improved: platform elevators, hod hoists, and steam derricks in the late 1870s, steam hoists circa 1880, electric hoists and steel derricks, 1890, and pneumatic riveters, 1898. Power excavating shovels, developed earlier, came into general use during the 1880s.[3]

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[2]McDonald, 12-15; Joseph A. Batchelor, *An Economic History of the Indiana Oolitic Limestone Industry* (Bloomington IN: School of Business, Indiana University, 1944), 23-33.

[3]Batchelor, 17-23, 29-30. Architect Hunt would use Indiana limestone circa 1890-1895 in the construction of several Newport, Rhode Island, "cottages" and the Vanderbilt estate at Asheville, North Carolina.

As skyscrapers began to be built, replacement of structural (dimension) stone with steel framing and stone facing did not appear to affect the limestone industry's prosperity. The industry initially overcame a setback around 1883 caused by increasing production of Portland cement and competition from brick and terra cotta. Indiana's limestone production in cubic feet appears to have increased steadily after 1877 and nearly doubled between 1885 and 1887. After recovery from labor disputes and the recession of 1893, Indiana limestone accounted for 26.9 percent of the value of U. S. production by 1899. It was to fall below that percentage only once, during the early years of World War II.[4]

The popularity of Indiana limestone led to a scramble to open new quarries. The number in operation increased from 30 in 1889 to 40 in 1890 and 50 in 1893. Second only to the presence of good building stone, location of quarries was dependent on railroad connections. The Bedford area in Lawrence county had the most railroad lines, and the most active quarry districts, through the 1890s. Several railroad lines were built over the legal objections of the Monon [Railroad] Company, and limestone producers of the 1890s made frequent accusations of discrimination in freight rates, building of switches, and supply of cars. The fact that limestone shipments continued to increase in spite of high shipping rates is a testimony to low production costs in the industry.[5]

Falling production costs during the 1890s came about in part through spectacular technological advances between 1870 and 1900. Tools that came into use in Indiana in this remarkable era are still used in the 2000s. Quarries acquired steam-powered channelers, drills, wire saws, and derricks; mills acquired gang saws, traveling overhead cranes, planers and jointers, diamond saws, and turning lathes.

As important as power equipment itself was the shift from steam to electricity during the 1890s. With steam, each piece or cluster of equipment, even each water pump, required its own steam engine. Unlike steam, electricity came from a central source and could be turned on and off as needed. At first quarries and mills generated their own power using steam boilers. Although most companies continued using their own power until the early 1920s, a steam-powered generating plant had opened in Bedford in 1912 and the company had run electrical transmission lines to

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[4]The United States Geological Survey began to compile volume and value of limestone production by states only in 1894. Batchelor uses a piecework of Indiana sources to obtain a trend between 1877 and 1894 (Batchelor, Table 3; Sherman N. Shewmaker, Quarry Quest, Appendix I). Shewmaker manuscript prepared for the Indiana Council for Social Studies, April 27, 1991, in the collection of the Indiana Room, Monroe County Public Library, Bloomington, Indiana.

[5] Batchelor, Table 4, pages 36-45 and 116-119 for this and following paragraphs.

Oolitic, Bloomington, and Ellettsville by 1914.

As early as 1886, the Bedford Steam Stone Works, using 140 cutters and carvers, produced ready-to-set stone for the first big job on which no rough stone left the mill: the New Orleans Cotton Exchange building. As power and power equipment made large operations practical, Indiana quarry owners increasingly installed cut stone plants or mills near their quarries instead of leaving finish operations to be carried out at city stone yards. The trade journal *Stone* in 1889 cited Indiana quarry owners and managers on the several advantages of installing a cut stone plant near a quarry. In an urban stone yard, only a small plant could be installed. The larger quarryside plant would provide economies of scale and justify enough mechanization to save on labor costs. Further, railroad freight was saved by not shipping stone that would become waste after cutting, and freight rates at the time were the same for rough or finished stone. Last, stone cutters in cities who opposed installation of machinery in fabricating plants could be circumvented by moving to a quarry district.

Between 1896 and 1918, twenty-five new stone mills as well as thirty-eight quarries opened. In Monroe County at the turn of the century, existing settlements such as Stinesville, Smithville, and Clear Creek burgeoned and new ones came into being. Sanders (Clear Creek Township) and Victor (Indian Creek Township) sprang up south of Bloomington. Increased production offset the decrease in number of workers required for any given operation, and the stone industry began recruiting labor. In earlier years most workers had been local farmers. But workers from other counties and states began to be attracted, and foreign workers from Ireland, Italy, Hungary, and elsewhere were imported beginning in 1882. Only the skilled cutters were able to form unions, which were local rather than nationally affiliated in early years. Unions, more active in Lawrence than in Monroe county, were able to raise wages at times but were beset by internal rivalries and, in the long run, did not prevail in issues such as the introduction of the planer and other power tools. Pneumatic cutters and carvers, for example, introduced around 1907, were used widely by 1914 over union objections.[6]

A majority of limestone firms circa 1890 were promoted and financed principally by non-local investors. Both outside and local investors capitalized, in some cases, through public offerings of stock and of mortgage bonds, leaving the firms vulnerable to a downturn. A shakedown following the depression of 1893 ended with fewer and larger firms in existence. However, in the years up to World War I, opportunity still existed for experienced managers, backed by local

[6]Batchelor, 45-47; 120ff; Hawes, xvi.

investors, to become independent operators on an initially small scale.[7]

Such was the case of Henry Alexander Woolery (1859-1933) and his eldest son Charles Clark Woolery (1886-1975). In 1910, Henry Woolery was an entrepreneur and superintendent of the Mathers-Sanders (Indiana) Stone Company, working with Charles Woolery, when the two began the firm of H. A. Woolery and Son (later, Woolery and Sons). Among Woolery's backers may have been J. D. and William N. Showers, whose furniture factory was a leading Bloomington-based industry with a national presence. Two others sons, Ralph and Robert, joined the Woolery firm as they came of age while a third son, Burton, was killed in World War I. A daughter, Ruth, married into the Bybee and later Hoadley families, and her sons helped form or run limestone operations under these names.[8] Compared to most other firms of any size, the limestone company the Woolerys founded remained in business for a remarkably long period, 85 years, under one family's ownership and management.

From 1910 to 1912, Henry and Charles Woolery worked from the Mathers Mill, contracting cut stone jobs with limestone purchased from Mathers and others. On 5 March 1912, the Woolerys purchased the 40-acre farm of John L. Dillman that was located south of Dillman Road and west of new State Road 37. The small farm site had no quarry, and in 1917 the Woolerys opened a quarry on lease from the Sudbury family. Stone from this quarry was shipped south by rail to be sawn and fabricated in a small mill building, steel framed with wood cladding, placed on the Dillman Road site. The purchase price of the Dillman land was $1500, which was $50 less than Woolery paid the following year for his first diamond saw. Other equipment was a planer and an overhead crane. In 1921, the firm expanded its equipment to include nine planers, three diamond saws, two overhead cranes, and maintenance equipment. Although the Tapp Road site was developed beginning in 1928, Dillman Road was to remain the Woolery company's headquarters until 1954, when the administration building was added to the Tapp Road site.

The year 1913, when Woolery set up on Dillman Road, saw the greatest number of cut stone mills to date (43) in Lawrence and Monroe Counties. This number partly reflected the expansion of operations in Monroe County. Already by 1906, nearly all of Monroe County's limestone districts had been established. The chief stimulus was competition among railroad lines like the Monon, which increased rail connectivity to further their own investment in limestone

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[7]Batchelor, 47-54.

[8]For this paragraph and following discussion: Robert A. Woolery, Jr., interviews with Eliza Steelwater, 21 September 2001 and 8 October 2001, Bloomington, Indiana. As shown by H. A. Woolery's ledger covering business investments 1893-1915 (collection of R. A. Woolery, Jr.), the Showers Brothers had previously gone partners with Woolery and another investor, W. A. Gabe, to buy 43 lots in the present-day Prospect Hill neighborhood, Bloomington.

production. Also, during a period of labor unrest 1912-1916, Monroe County operators obtained a temporary gain in percentage of production over Lawrence County operators. These conditions provided a window of opportunity for new firms in Monroe County such as Woolery and Son.[9]

In the industry at large, sales dropped during the 'teens. In combating this trend, producers continued banding together to form trade and promotional organizations as they had begun to do around 1900. Producer groups lobbied for government orders, opposed union restrictions, and tried to obtain favorable shipping rates and standardize prices. Woolery may or may not have participated in collective efforts during these years. But the course that the firm set for itself as late as the 1950s shows that the family's thinking was influenced by systematic business practices–careful record keeping and plant layout, attention to efficiency of operations–introduced around the time Henry and Charles Woolery first went into business around 1910.

At first the Tapp Road acreage housed only a quarry and sawmill (1928). The Woolerys did not begin expansion until 1948, and the expansion was substantially completed only around 1954 after headquarters were moved from Dillman Road to a new building on the Tapp Road site. However, the scale, layout, and design of the Tapp Road mill and headquarters resembled the features of Monroe County limestone corporations dating back to the 1920s. Woolery Company's final main mill building was immense at approximately 550 feet long, and the limestone-faced headquarters were carefully designed and adorned with samples of Woolery craftsmanship.

Many of the design decisions were made by Charles A. Woolery, son and partner of the firm's founder, and it is likely that the site grew according to Charles Woolery's goals and plans as they developed over two decades or more. Charles (b. 1886) matured during the 1920s and assumed the firm's leadership around 1930. However, the arrival of the Depression in 1930, followed by World War II, meant that Charles would have had difficulty putting his ideas into effect before the mid-1940s. Only at this date, when business finally accelerated after its long slump, was the firm able to begin accumulating the capital to expand–a process that required approximately ten years to complete.

THE WOOLERY MILL IN COMPARISON TO OTHER REMAINING SITES

In November of 1927, Henry and Charles Woolery purchased land parcels extending north and south of Tapp Road. These parcels were purchased from John Wylie and Matthew H. Kennedy

[9]Batchelor, tables 13 and 16 for Monroe County production. The extent of Woolery's sales is not known before 1922, when a surviving cut-stone order book (collection of R. A. Woolery, Jr.) began to be kept.

and their wives for a total of $60,000.[10] Part of the purchase appears to have been sold after a few years, but 240 acres became the Woolerys' second, simultaneously operating site.

The Tapp Road area was undeveloped except for quarries and a few houses.[11] North of Tapp, Weimer Road bordered the site on the west. A north-south branch of Clear Creek, which the Woolerys rerouted nearer the edge of the property, ran and still runs between Weimer Road and the site of the mill building. The creek was dammed to create a pond, from which a pump sent water to the mill to aid in sawing stone. The creek's former bed was then used as a slough and settling ponds to receive the used service water. In 1928 the first, small mill building was constructed over a system of underground pipes (some still in place near their gang-saw stations) leading to and from the creek. The Tapp Road parcel was located just south of the Sudbury quarry from which the Woolerys had already been shipping stone to their Dillman Road mill. A railroad spur from the Monon line, serving several nearby quarries, entered the Tapp Road property from the south.

Besides the Woolery site, at least eight mill sites in Monroe County retain historical built elements of their operation. Appendix A-8 lists these sites, including the Woolery Stone Company's Tapp Road site.[12] The sites are located near quarries and date from about 1870 to 1930 with later historical modifications to the 1950s. Historically, although good building stone was widely distributed, site development tended to follow railroad connections. Earliest remaining sites are north of Ellettsville and in north-central Bloomington. Next oldest are sites in Victor (eight miles south-southwest of Bloomington), then sites in Sanders (east of Victor) and Hunter Valley (northwest or Ellettsville side of Bloomington). The Maple Hill and Woolery sites are in a late-developed pocket located north of Sanders and Victor.

Taken together, the sites illustrate most milestones in development of the county's limestone industry from establishment of a national market circa 1870, through initial introduction of power equipment (1875-1890s) and conversion from steam to electricity (1897-1914) to introduction of the truck and tractor for moving stone (1930s-1950s). Throughout this long period, there were several cycles of overexpansion followed by consolidation, and a long-term

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[10]Deed transfer records of Perry Township, Monroe County, in the Recorder's Office, Bloomington. Recorded on February 1, 1928, in Deed Book 79, pages 171 and 173.

[11]To the southeast is the outstanding Borland House (Federal style, 1845, Perry Township; Monroe County Historic Sites and Structures Inventory #35020), occupied for many years by the superintendent of the nearby Furst Quarry.

[12]Appendixes (A-8, B-8) are placed at end of numbered pages in this document following appendixes to Sec. 7.

trend toward corporate structure and rationalized production methods. Internal changes tended to appear later in Monroe County than in Lawrence County, but nationwide market changes were experienced by producers in both counties at about the same time.

Processing plants listed in Appendix A-8 were sited adjacent to quarries, which as in the Woolery case may later have been sold or exhausted. Like the Woolery site, any site of limestone processing that retains historical significance may include ponds or sloughs, pumps and special piping, steam boilers, electrical transformers and other apparatus, storage tanks, one or more large functional buildings for stone processing and support activities, packing sheds, elements of an overhead tramway, and an office or administration building. Functional elements were sometimes acquired from other sites, sometimes recycled to other locations or uses. Most remaining buildings are steel-framed. Large, wood-framed buildings may have been common before the 1890s; if so, nearly all have burned or been dismantled. Derricks, once more commonly used than tramways for moving stone on the mill site, are rarely to be seen today even if the mill is still being used for limestone processing.[13]

Each site that survives, provisionally dated in Appendix A-8, is an accretion over a somewhat different time period. The processing of limestone originated outdoors and until the 1890s was conducted seasonally at quarryside and on construction sites. Other operations grew from urban stoneyards. Overhead traveling cranes in early years were often placed entirely outdoors, next to a saw shed. At most sites, roof and walls were added to shelter the finishing of stone only as equipment was developed that required protection, and/or it was realized that work could be carried out more of the time under shelter from rain and in a heated enclosure. The business office was simple. Water and power, more recently furnished by outside utility companies (see above), were for many years obtained on site.

Until the 1920s in Monroe County, integrated mill operations that did both sawing and finishing were unusual. However, corporate investment and mergers created an example of what could be accomplished. Small to medium sized family operations, as they became more formally organized, appeared to shape their sites to conform with the corporate style. This trend can be seen most clearly in the carefully designed, stone-faced administration buildings created on extant sites from the 1920s to1950s and beyond (Appendix A-8). More administration buildings than mill buildings have survived in historical condition.

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[13]See *National Register Bulletin: Guidelines for Identifying, Evaluating, and Documenting Historic Mining Properties* (U. S. Department of the Interior, National Park Service, 26 July 2001 and later) for a discussion of property types (p. III-4, 7), significance (IV-5), and integrity (IV-5, 6, 7) in mining sites. The discussion has some application to limestone processing sites since these tend to resemble mineral processing sites, sawmills, and other sites of extractive industry more than factories that produce goods. URL: http://www.cr.nps.gov/nr/publications/bulletins/mintro.htm.

In general, grand-scale mill buildings tended to be associated with operations circa 1905-1930 that represented extensive investment and took a corporate form. The comprehensive mill enclosure at its most developed included three characteristics: great size, all-steel construction, and the format of gable-roofed main unit with shed extension.[14]

No surviving mill in Monroe County fully meets this description, and it is not clear how many even carried out both sawing and finishing on one site. The Indian Hill mill building (c. 1900; now deteriorating), which appears to be of about the same length as the Woolery mill building, is a simple rectangle, steel framed but clapboard sided. The two-story Fluck mill building (1931), with a gable-and-shed roof, is only 200-300 feet long. It is mostly sided in galvanized steel, but its most visible facade is a stepped-parapet end wall of limestone, Mission Revival in influence. Most other remaining mills (such as Central Oolitic, Empire, Victor Oolitic, and Hoadley) were compiled of several smaller, spatially separate, steel-framed buildings, or simply sheds left partly or completely open on the sides. Stone was sawed under cover but moved around the site via an exterior traveling crane.

A mill building at Maple Hill (1920s) approaches the gable-roofed, all-steel type. The 2-1/2 story building, nearer the road of two mill buildings, is smaller than Indian Hill or Woolery and has an outdoor tramway at the rear. Yet a touch of formal organization can be seen in the centering and alignment of small, gable entry wing with gable-roofed main section. The design, facing the mill's entry road like Fluck's limestone gable-end, seem intended as a presentation of the company's image.

The 260-by-551-foot Woolery mill building, approximately 52 feet tall, can be contrasted with other remaining Monroe County mills in that it achieved grand scale, all-steel construction, and a single enclosure for comprehensive operations. In proportions, materials, and appearance of the roofline at a distance, the Woolery building bears a general similarity to photographed grand-scale examples with gable roof circa 1905-1930. However, unlike many others, the building was created from shed-roofed segments, beginning with a quite small unit and building up to its present size over a 30-year period.

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[14]Clay W. Stuckey, Gazetteer of Limestone Mills of Owen, Monroe, and Lawrence Counties to 1950 (1989), and The Origins of the Indiana Limestone Company (1990), reproduces numerous period photographs mostly held in private collections. Most of the mill buildings shown have been demolished or recladded in newer types of metal sheeting. A now-demolished example of the grand-scale mill was the Tribune Mill (1916), Bloomington, about 660 feet long, which furnished stone for the Chicago Tribune building. Built by J. Hoadley and Sons, the mill later became a part of the Indiana Limestone Company conglomerate. It was located east of the Morton Street railroad yards between Grimes Lane and Hillside Avenue. Photocopies of both of Stuckey's manuscripts are archived in the Monroe County Public Library, Bloomington.

The Woolery building is similar to other comprehensive, all-steel enclosures for mill operations in that these did not usually provide a single, open interior space of operations. Judging from photographs, many large mill enclosures were made up of a main building, usually gable-roofed with or without clerestory, plus a parallel, shed-roofed extension. The whole enclosure could have been constructed at once or the gable ends extended over time. The width of the main unit was probably determined structurally by the strength of steel trusses and the need to maintain a minimum wall height. Construction was not necessarily innovative, since steel elements including braced I-beam posts, unitary roof trusses, steel window sash, and galvanized cladding had been used in mill construction since the nineteenth century.[15]

However, the compound building design met a technological challenge, that of enclosing an extensive operation under continuous cover while providing some separation of tasks. The gable-roofed unit created an enclosure of any desired length with a two-story wall height to accommodate one or more cranes carrying quarry blocks. The attached, shed-roofed portion of the mill enclosure provided an accessible space, lower-roofed for heating economy, that could be partly shielded from the main interior. This secondary portion was suitable for use by a line of gang saws and other saws whose blades were fed with a spray of water and abrasives. Sawed material could then be moved under roof to the main room for finishing and packing, after which the crane moved the unit to the end of the mill from which it would be shipped.

THE WOOLERY STONE COMPANY AND ITS SITE AFTER 1928

When Henry and Charles Woolery established the Tapp Road site in 1928, sales within the Indiana limestone industry had reached an all-time historical peak. High volume was related to the record nationwide building boom in progress. But the share of all building-stone orders that went to Indiana limestone also increased as trade organizations, especially the Indiana Limestone Quarrymen's Association, engaged in their most vigorous efforts historically to promote Indiana limestone to consumers. During this period, freight rates stabilized and the power of unions was broken. Following the industry's trend, Woolery's cut stone sales were strong in these years.[16]

Sales records for cut stone show that Woolery's cut stone during the 1920s went to a wide variety

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[15]Joseph Hudnut, "A History of Iron and Steel Construction in Architecture," George Howe, "The Development of Metal as a Structural Element in Architecture," F. H. Frankland, "The Engineering Aspects of Steel in Structures," in Carl W. Blegen, ed., *Studies in the Arts and Architecture* (Philadelphia: University of Pennsylvania Press, 1941).

[16]The surviving Woolery order book in the collection of R. A. Woolery, Jr., includes no record of orders for sawed, semi-finished stone, although slabs were an important part of the firm's sales. See Shewmaker, Appendix I, for industry-wide production totals, and Batchelor, 357-359, for general trends.

of public and private projects, including educational facilities, hospitals, residences, business and retail premises, office buildings, and fraternal organizations. Out-of-state orders constituted the majority of these orders and would continue to be important throughout the firm's existence. From 1922 to 1930, Woolery's largest private order may have been for the Goodyear Tire and Rubber building (1929) in Rockmart, Georgia, which received 13,218 feet, or approximately 17 rail carloads, of cut stone. An important public client was the Ohio State University, to which Woolery shipped 27 orders for cut stone during the 1920s. Typically for these years, Woolery's relationship with one contractor brought about a number of the orders.[17]

In the industry at large after 1925, although volume was growing, profitability declined. As had happened in previous business cycles, profitability quickly led to the establishment of new firms and the expansion of existing firms like Woolery. For a while, industry leaders acted together to maintain a price level, but threats of government action and competition from synthetic stone led to falling limestone prices. Twenty-four firms in the Indiana limestone industry, not including Woolery, responded by engineering a merger of record scope in 1926 to form Indiana Limestone Company (ILCO). Ironically, ten of the firms who had sold out simply returned to business in competition with ILCO. These firms were able to use their profit from the merger to purchase new equipment, placing themselves in a stronger position than before and undermining the new conglomerate. Five cut-stone producers from elsewhere established Indiana mills. Overcapacity remained as large a problem as before the merger. The housing boom had already slowed, and limestone firms had begun cutting prices, even before the start of the Depression in 1930.[18]

The Woolery company's policy in selling cut stone was not to pursue local bids or attempt to break into the established markets of Chicago and Detroit. Sawed slabs were sold through local stone dealers in these cities and elsewhere. Woolery's cut-stone orders during the 1920s and 1930s came preponderantly from Ohio and Pennsylvania. Woolery had about six orders of over 10,000 cubic feet during the 1930s. The U. S. Post Office and Courthouse in Fargo, North Dakota, for examples, required 19,553 cubic feet of Woolery's cut stone (Appendix B-8).

Of 24 cut-stone producers operating in Indiana in 1934, Woolery sold the seventh highest volume.[19] Still, for the cut-stone branch of the firm's operation at least, volume declined to as

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[17]Appendix B-8 at the end of this section presents a sample of Woolery's cut-stone orders, mostly the largest ones, during the 1920s to 1950s.

[18]Batchelor 359ff; also see Stuckey, Origins of the Indiana Limestone Company. Stuckey (p. v) states that the 24 merging companies could themselves be described as the product of mergers among 70 companies.

[19]Batchelor, Table 54.

low as one-third of average volume for the 1920s. Because of lower volume, unprofitably low prices, or both, it is probable that the firm's income was dropping similarly to that of most other producers.

After about 1930, private-sector construction was curtailed. Orders already placed, and a federal-government building program begun just before the Depression, meant that most companies continued to do some business into the early 1930s. Federal and some state construction programs later in the decade supplied a growing share of all construction, rising from 21.6 percent during 1925-1929 to 43.6 percent during 1933-1938. However, the desire of each local area to promote its own building industry led to political objections to the use of limestone from other regions.The effects of the Depression on either the industry as a whole or Woolery Company in particular are somewhat unclear, partly because government statistics were compiled by types of sale rather than firm by firm. But declining employment, dependence on public assistance, and mortgage foreclosures among limestone workers in Monroe and Lawrence counties were among the highest nationwide between about 1934 and 1938.[20]

In 1933, Henry A. Woolery died. The firm stabilized its business position by reorganizing as the Woolery Stone Company, a closely held corporation instead of a proprietorship, with stock sold only to family members. Henry's eldest son Charles, cofounder of the original Woolery and Son, became corporation president. Charles's brothers Ralph and Robert were also officers. The firm closed its quarry in 1937 but continued operations through the remainder of the 1930s to early 1940s at both the Dillman Road plant and the small site on Tapp Road.

Woolery obtained a few war-related orders, including the 1941 Studebaker Aircraft Engine Plant, South Bend, and Naval Ordnance Plant, Indianapolis. At a time when other mills closed, relocated, or were sold, the Woolery mill was temporarily placed in service producing truck parts for the defense industry. By the late 1940s, Henry Woolery's grandsons Max Woolery, Robert Woolery, Jr., and Jack Rogers were entering the firm. They participated in a strong postwar recovery for Woolery and the industry at large.

The post-World-War-II years presented the first positive economic climate since Charles Woolery had become president of the firm in 1933. He had had 15 years as top administrator to observe architectural and business trends, but was necessarily limited in his actions under the difficult conditions of the 1930s through early 1940s. The improvements that took place on the Tapp Road site between 1948 and about 1958 may have been studied for years. They appear to

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[20]Batchelor, 297-308, 323-324, and Table 43. Batchelor presents two tables, 35 and 57, with conflicting totals for the number of quarries and mills operating 1931-1933.

have been part of a cohesive planning effort that was carried out as quickly as postwar materials shortages and the firm's finances allowed. Details of the additions to the site show that the firm not only sought room for greater total production but also was responsive to current trends.

In business terms, keeping current meant remaining competitive through ever more cost-effective operations at a time when the work force had become unionized and labor costs were rising. Types of stone in demand were also changing. Architecturally, vernacular applications of the International Style for institutional buildings became widespread after World War II. Equally simplified Ranch and Minimal Traditional styles led the postwar housing boom, and strip ashlar in various finishes became one of the staples of limestone production. At the same time, continuity of appearance within existing college campuses and certain other private institutions maintained a level of demand for traditional wall finishes and carved details.[21]

Under Charles Woolery's direction, the size of the principal mill building on Tapp Road doubled and redoubled. The first addition was effected by buying a steel mill building from the defunct firm of Sare-Hoadley in 1948 and attaching the building to their existing mill on its south side. The new plant provided space for twice as many gang-saw stations. These saws produced various decorative finishes that were in demand for relieving the plainness of modern veneered-stone buildings. A traveling overhead crane could move stone to all points along the now-300-foot long production line. Quarry blocks were stored at the south end of the tramway. At the end of processing, unusable residues were either dumped back into exhausted quarry holes or shipped by rail to a "dust mill" across from Black Lumber in Bloomington to be crushed into agricultural lime.

Charles Woolery drew the plans for the next two building sections himself (1952, c. 1952-1955) and designed the administration building (1954). Roofing most of the tramway and more fully enclosing the saw area, the mill building's 1952 addition mostly housed planers and surfacers that both produced finishes and prepared the stone for any carving that would be done. Economically, the new arrangements placed the firm's operations entirely on one site, allowing the Dillman Road site to be closed in 1953. Placing all stages of processing under one roof as well as on one site saved time and money, allowed for winter storage of the stockpile, and facilitated a nearly year-around operation.[22]

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[21] McDonald, 42-47 and figures 41-43.

[22] Dates of construction, mostly provided by R. A. Woolery, are believed reliable but cannot be confirmed by potentially helpful records. Tax duplicates, or annual record of payment, may exist from the property's historical period but cannot be examined until a later date when accessible storage has been arranged. (Source: Jim Fielder, Monroe County Recorder, interview with Eliza Steelwater on 12 Dec 2001, Bloomington.)

The final historic addition, the west hall of the mill (c. 1952-1955), was the culmination of this one-site approach. The west addition was served by a second traveling crane. Loading bays on the west and north oriented production more fully to the use of front-end loaders and trucks: the firm owned three semis and had room for four. At its peak the firm was a union shop of 48 employees including millworkers and foreman, overhead crane operators ("traveler runners"), stone cutters, carvers or sculptors, hookers and car blockers who attached the stone to the crane hoist and then lowered it onto trucks and railroad cars. The large amount of space in the finished mill that was devoted to producing and storing split-faced stone testifies to the product's importance after World War II.

Production in the mill was supported and directed by activities in adjacent outbuildings (c. 1952-1955) and the administration building (1954). Outbuildings housed mill records, a machine shop where mechanics maintained mill equipment, and a smithy, whose forges are still in place, where the blacksmith custom-made planer bits as well as pneumatic tools that became the property of the carvers. The administration building devoted the ground floor to a chief draftsman's office and space for five other draftsmen and their drawings and mill patterns. The upstairs floor contained a reception area with PBX operator and office space for a sales manager, estimator, president, vice-president, comptroller, and shipping clerk. To provide service water to the administration building, water from the mill was pumped and routed uphill to a storage tank at the top of the hill (now offsite). Water wells in the basement sometimes ran dry, and another storage tank was placed next to the AC cooling tower.

Like the expanded sections of the mill building, the Administration Building was Charles Woolery's conception over a period of time before construction.[23] The building appears to be positioned and styled primarily for knowledgeable members of the stone industry. For "stone men," the building and its surroundings make an articulate statement of the company's capacities and outlook at the end of World War II.. Corporate headquarters that embodied the company's image were a tradition in the limestone industry going back to the 1920s. In this earlier decade, when limestone was a prized material for grand buildings in historical-revival architectural styles, administration buildings were also given a traditional appearance. Consistent with its later date of construction, however, the Woolery administration building technically and architecturally expressed Charles Woolery's vision of postwar modernity. Construction was based on Waylite cinder block structural walls and a Rapidex structural ceiling of concrete

[23] R. A. Woolery, Jr., interview of 21 Sept 2001.

modules with embedded, pre-stressed steel.[24] Electricity and heating oil was purchased, but all water came from on site. A cypress tower and storage tank advertised the building's central air conditioning system.

Architecturally, the administration building's vernacular style is accented on the exterior with International Style references including the flat roof, parapet walls with coping, window bands, asymmetrical entry and east facades, and entry canopy on metal-pipe supports. The limestone wall facings, however, clearly relate to a principal limestone product of the 1940s and on, split-face or sawn random ashlar strips used extensively as a finish for small buildings. Woolery's design also presented the firm's cut stone craftsmanship in fluted window bands and two high-relief carved heads on the retaining wall north of the administration building. However, pride of place was given to the newly popular veneers.

Charles Woolery died in 1975, and Robert A. Woolery, Jr., his nephew, became president. Based on partial records, the Woolery Stone Company had had two of its three best decades (after the 1920s) during the 1950s and 1960s. The firm reaped the benefits of its earlier modernization, larger capacity, and emphasis on split-faced and sawn ashlar. A drop in cut-stone orders during the 1970s probably related to the industry-wide decline of these orders by 60 percent between 1960 and 1975 as glass-walled architecture dominated fashion. But the most important loss came in the 1980s, when Indiana limestone sales began to suffer from European competition (see figure at end of Sec. 8, below).

European producers made inroads on the U. S. market in part by promoting veneers thinner than Indiana's 2-inch standard.[25] The mild level of protectionism that had been established within the Indiana industry could not help in meeting competition from outside the United States. The Woolery Company's machines, which sawed slabs down to 2-1/2 inches, had now become old-fashioned, and the firm had striven to cover all phases of production. In order to achieve greater efficiency, most Indiana firms retrenched from comprehensive production to specializing in only one phase of processing. Woolery Stone Company continued to operate until 1993, and the son of R. A. Woolery, Jr., operated two saws on the premises for two more years with his father's unsalaried help until the firm closed its doors permanently in 1995. Most equipment and stone was sold at auction.

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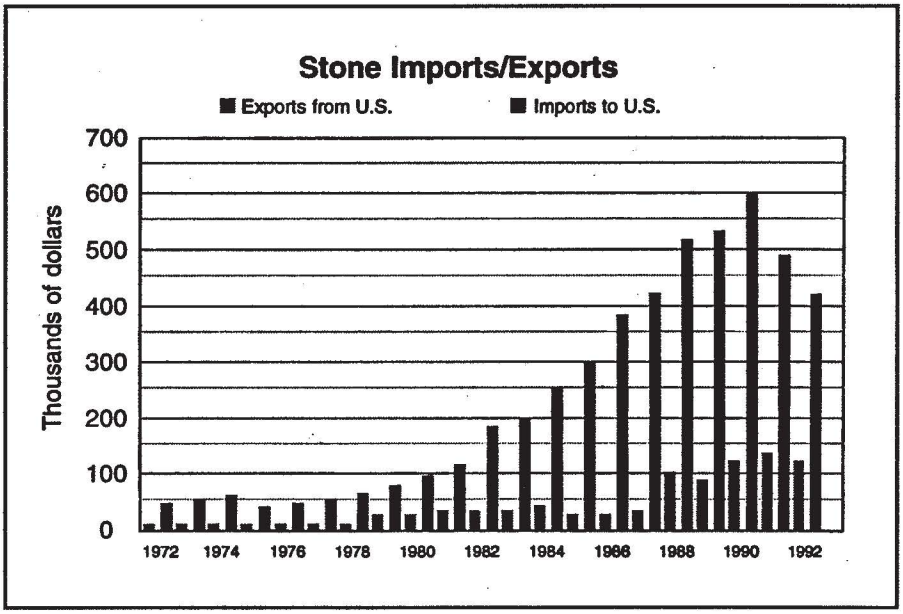
[24] The company was also able to manufacture ingeniously designed prestressed limestone beams, for example, for the overhead component of a large suncreen. Small limestone blocks were epoxied together and drilled for two steel bars. Before insertion, the bars were stretched with hydraulic machines, creating an enhanced span capacity.

[25] McDonald, 48-59 for industry conditions 1970s-1990s. Imports had affected U. S. granite and marble producers much earlier, beginning after World War II.



Import and export of limestone between 1972 and 1992. Imports to the U. S. grew sixfold while exports remained almost static. Reproduced from McDonald (1989), Figure 46.

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Clay W. Stuckey, The Origins of the Indiana Limestone Company. Manuscript dated 1990. Photocopy archived in the Monroe County Public Library, Bloomington IN.

R. A. Woolery, Jr., interviews with Eliza Steelwater, 21 Sept and 8 Oct 2001, Bloomington IN.

Verbal Boundary Description

Two adjacent parcels totaling approximately 27.80 acres forming part of the Southeast Quarter of Section 7, Township 8 North, Range 1 West, Monroe County, Indiana, bounded as follows:

1. Commencing at a 5/8-inch rebar stamped Smith Quillman & Associates found at the Southwest corner of the Southeast Quarter of said section; thence SOUTH 88 degrees 44 minutes 52 seconds EAST, 487.25 feet along the South line of said section; thence NORTH 00 degrees 44 minutes 14 seconds WEST 1667.19 feet; thence SOUTH 88 degrees 02 minutes 02 seconds EAST, 651.79 feet to the point of beginning; thence continuing SOUTH 88 degrees 02 minutes EAST, 320.74 feet then SOUTH 02 degrees 41 minutes 57 seconds WEST, 389.34 feet; thence SOUTH 51 degrees 31 minutes 39 seconds WEST, 109.12 feet, then SOUTH 00 degrees 47 minutes 03 seconds WEST, 347.95 feet; thence SOUTH 75 degrees 15 minutes 06 seconds WEST, 147.13 feet; thence NORTH 02 degrees 29 minutes 42 seconds 144.43 feet; thence NORTH 13 degrees 07 minutes 49 seconds 187.48 feet; thence NORTH 02 degrees 16 minutes 13 seconds WEST, 526.71 feet to the point of beginning, containing 4.54 acres, more or less.

2. Commencing at a 5/8-inch rebar stamped Smith Quillman & Associates found at the Southwest corner of the Southeast Quarter of said section; thence SOUTH 88 degrees 44 minutes 52 seconds EAST, 487.25 feet along the South line of said section; thence NORTH 00 degrees 44 minutes 14 seconds WEST 1667.19 feet; thence SOUTH 88 degrees 02 minutes 02 seconds EAST, 651.79 feet; then SOUTH 02 degrees 16 minutes 13 seconds EAST, 526.71 feet; thence SOUTH 13 degrees 07 minutes 49 seconds EAST, 187.48 feet; thence SOUTH 02 degrees 29 minutes 42 seconds EAST, 144.43 feet; then SOUTH 02 degrees 29 minutes 25 seconds EAST, 61.53 feet to a nontangent curve to the left having a radius of 270.00 feet and a chord bearing and distance of SOUTH 37 degrees 21 minutes 57 seconds WEST, 318.27 feet; thence southwesterly along said curve through a central angle of 72 degrees 13 minutes 38 seconds, a distance of 340.36 feet; thence SOUTH 01 degree 14 minutes 02 seconds WEST, 486.86 feet to the South line of said Section 7; thence NORTH 88 degrees 44 minutes 52 seconds WEST along said South line, 498.68 feet to the point of beginning, containing 23.26 acres, more or less.

Boundary Justification

The boundaries described above enclose a compact area including almost all buildings, structures, and objects pertaining to the mill and business headquarters of the Woolery Stone Company. One historical structure, a water storage tank roughly 250 feet distant from the nearest building, is excluded from the site. Quarries leased or owned by Woolery are not considered in this nomination. The present boundaries represent two parcels under one ownership.

APPENDIX A-8. EXTANT HISTORICAL SITES OF LIMESTONE MILLING IN MONROE COUNTY, INDIANA

EARLIEST EXTANT FEATURE	OUT OF SERVICE	HISTORICAL COMPANY NAME & LOCATION (followed by latest or current name, if different)	SELECTED HISTORICAL STRUCTURES REMAINING Monroe County Sites & Structures Inventory #s where available	LOCATION BY STONE DISTRICT
1870	in service	Matthews (Bybee) Matthews Drive, north end of Mt. Tabor Rd, Ellettsville (Richland Township)	owner's home (1870)company store (1874), 2 admin bldgs (1920 & 1927) #16001-#16005 NB. Mill bldgs new or altered.	Ellettsville
1888-1892	unknown	Central Oolitic (Fell Iron & Metal) west side Rogers St north of 9th St (Bloomington Township)	mill shed (1888-1892), ruins of tramway (1920s)	Bloomington
1900	1977	Indian Hill west side of Victor Pike south of Tramway Road (Perry Township)	main mill bldg (c. 1900)); admin bldg (1924; #35061)	Victor
1910	in service	Victor Oolitic Victor Pike south of Milton Road (Indian Creek Township)	grouped sheds and quonset huts (var. dates); admin bldg (1975); offsite railroad trestle (c. 1910); owner's home (1935); workers' homes (var. dates) #46001-#46010	Victor
1904	before 1989	Empire (Good Earth Compost) end of Empire Mill Road, branches east from old S. R. 37 (Perry Township)	main mill shed (1904) and exterior tramway (1920s)	Sanders
1923 or 1928	in service	B. G. Hoadley S. R. 46 west of new S. R. 37 (Bloomington Township)	tramway & main milling shed (1923 or 1928); admin bldg (c. 1930)	Hunter Valley
1920s	in service	Maple Hill (C & H Stone)) NE of intersection, Fullerton Pike & Rockport Rd (Perry Township)	probably 1920s: main mill bldg; possible second bldg at rear of property; blacksmith shop; small guard station	[no district]
1928	*1995*	*Woolery* *north side of Tapp Rd east of Weimer Rd* *(Perry Township)*	*main mill bldg (1928-58); tramway (1948); blacksmith and machine shops (1952); post-historical admin bldg (1954).*	*[no district]*
1931	recently in service	Fluck Cut Stone north side of Fluck Mill Rd east of Victor Pike (Clear Creek Township)	main mill bldg (1931); post-historical admin bldg (1950s-60s)	Victor

Source of dates: Clay Stuckey, Gazetteer of Limestone Mills (1989); Hawes et al (1989).
Quarries are not noted. Other standing sites are excluded from table because historical structures are absent or heavily altered.

APPENDIX B-8. SELECTED ORDERS FROM WOOLERY CO. FOR CUT STONE
Contractor, architect, listed where known. Quantity of order in cubic feet.

1922-1930

Indiana

Apartment Hotel, West Lafayette (Varsity Realty Corp (A. E. Kemmer, Lafayette, 1928) 1,521

Morton Grade School,West Lafayette (A. E. Kemmer, Lafayette, 1929) 2,546

Southwest Grade School, Bloomington (Mustard-Curry Co, 1930) c. 4,500

Elm Ridge Cemetery Mausoleum, Muncie (A. M. Abbott Co., Muncie, 1930) 4,808

Other States

Hospital Building, Rutherford State Tuberculosis Sanitarium, Beckley, WV (1928) 4,679

St. Mary's of the Springs College, Columbus, OH (Charles J. Lang Co., 1928-1929)
Liberal Arts Bldg 7,106
dormitory and chapel 4,182-9, 1,025-3
2 statues, 43-6
unspecified 583

U. S. Post Office and Court House, Fargo, ND (Field-Martin Co., Minneapolis, 1929) 19,553

Goodyear Tire and Rubber Co., Rockmart, GA (A. K. Adams and Co, Atlanta, 1929) 13,218

U. S. Post Office and Courthouse, Scranton, PA (N. P. Severin Co., Chicago, 1930) 10,311

York Cty Home for the Poor, Stoneybrook, PA (G. W. Birchall and Sons, York, 1930) 14,166

1931-1940

Indiana

U. S. Post Office, Decatur (Anderson & Co., Chicago, 1931) 3,189-2

Muscatatuck Colony, Butlerville, orders 1936-1939, including 17 buildings in 1939 (Patrick Warren Constr. Co., Chicago) 12,523-0

Other States

State Reformatory for Men, Howard, RI (A. F. Smiley Const., Pawtucket, 1932) 5,770-5)

U. S. Public Health Service Bldg., Washington, DC (Wills, Taylor and Mafera Corp, New York, NY, 1932) 14,355-6

Rundell Memorial Bldg., Rochester, NY (Hunkin Conkey Constr., Cleveland, 1934) 30,000

Science Bldg., Augustana College, Rock Island, IL (Lind Constr., Chicago, 1934) 4,137

Bedford County Courthouse, Shelbyville, TN (Foster and Creighton Co., Nashville, 1935) 8,715

Kenfield Housing Project, Buffalo, NY (Fleisher Engineering and Constr, 1936) 17,903

Municipal Zoo gateway, Columbus, OH (*Columbus Dispatch*, A. C. Johnson, Sr., Publisher, 1940) 229-4

1941-1950

Indiana

Studebaker Aircraft Engine Plant, South Bend (Consolidated Constr, Chicago, 1941) 3,816

Naval Ordnance Plant, Indianapolis (The Austin Co., Indianapolis, 1941) 8,804-10

Men's Student Union Group, A, B, C, D, E, Indiana University (Burns and James, Indianapolis, Arch, J. L. Simmons Co, Bloomington, 1947),15,700. Continuation, 1949, 14,300.

St. Francis Convent, B, D, and E buildings, Mishawaka (D. A. Bohlen and Son, Arch., Sollit Const. Co., South Bend, 1949) 4,302

Motor Truck Engineering Bldg., Ft. Wayne (Ragner-Benson, Chicago, 1950) 5,900

Advent Episcopal Church, Indianapolis, (Mr. Leon Joyce, Indianapolis, 1950) 3,556

Other States

School for Vocational and Adult Education, Kenosha, WI (W. F. McCaughey and R. A. Peterson, Arch.; Geo. Sollitt Constr., Chicago, 1947) 4,692

Kesher Israel Synagogue, Harrisburg, PA (W. F. Keiser Co., Harrisburg, 1948) 6,000

Our Lady of Peace Hospital, Louisville, KY (Fred Elswick, Arch., F. W. Owens Co, 1948) 5,250

Library, University of MS, Oxford (Walker Bros. Stone Co., Bloomington IN, 1949) 5,624

Hardin County Courthouse, Savannah, TN (Daniel Constr, Birmingham, 1950) 6,850

1951-1960

Indiana

RCA Addition, Bloomington (F. A. Wilhelm, Indianapolis, 1953) 2,606

Student Health Center, Purdue University (J. L. Simmons Co, Indianapolis, 1959) 2,867

Other States

Science Building, Va. Military Institute, Lexington (Chas. W. Barger & Son, Lexington, 1951) 7,310

Peninsular Life Ins. Co., Office Bldg, Jacksonville, FL (Monon Stone Co., Bloomington, IN,

1952) 8,357

Clay County Courthouse, Moorhead, MN (Meinecke-Johnson Co., Fargo, ND, 1953) 4,167

Library, Univ. of Richmond, VA (Claiborne and Taylor, 1954) 11,563

Monastery, Mother of God Dominican Nuns, West Springfield, MA (Daniel O'Connell's Sons, Holyoke, 1954) 21,250

First Presbyterian Church, Ann Arbor, MI (A. Z. Shimina and Sons, 1955) 3,362

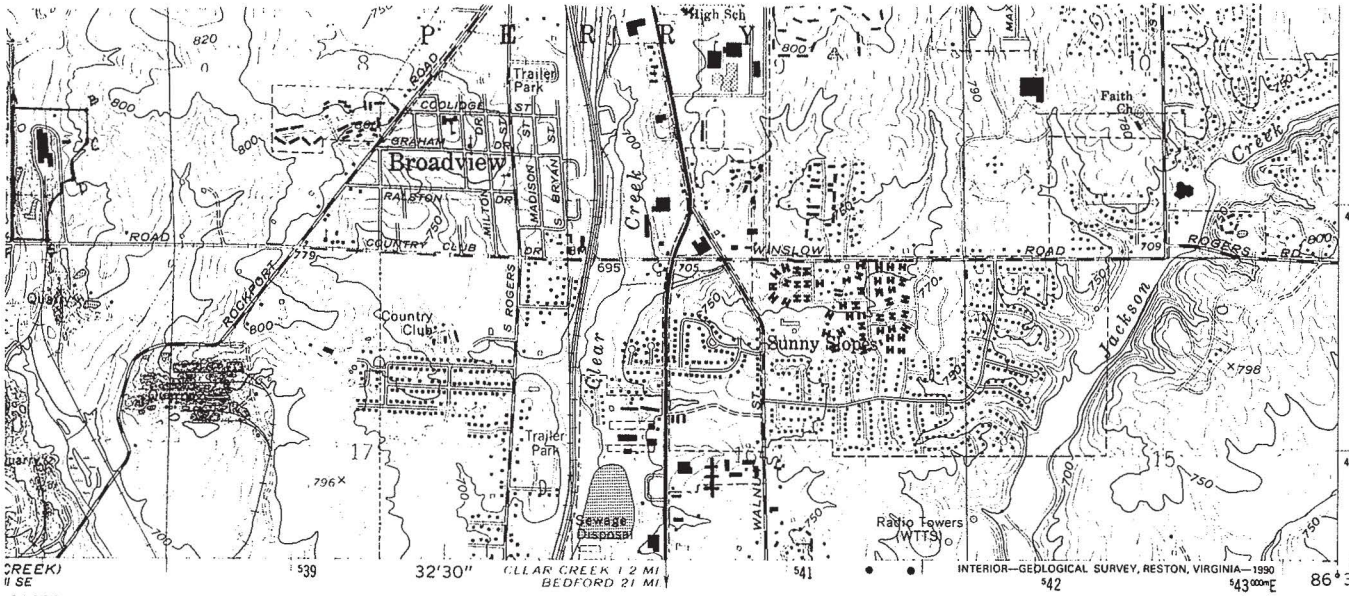
Phi Beta Kappa Memorial Hall, College of William and Mary, Williamsburg, VA (Corde and Starke, Richmond, 1956) 3,929

Research Hospital,, Kansas City (Swenson Const. Co. 1959) 35,539

Chester Fritz Library, U. North Dakota, Grand Forks (Johnson-Gillanders Co., 1960) 4,000

1980s

School of Public Affairs, Indiana University (Ellerbee Assoc, Arch, Hughes Masonry, Crestwood, KY, 1980) 8,827



WOOLERY STONE CO.
BLOOMINGTON
MONROE COUNTY
INDIANA

A 16 [illegible]
B 16 [illegible]
C 16 [illegible]
D 16 [illegible]
E 16 [illegible]
F 16 [illegible]

(CREEK)
II SE

CELLAR CREEK 1 2 MI
BEDFORD 21 MI

INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1990

(ALLENS CREEK)
3762 III SW

:24 000

1 MILE
0 4000 5000 6000 7000 FEET
1 KILOMETER

IVAL 10 FEET
ITICAL DATUM OF 1929

IAL MAP ACCURACY STANDARDS
EOLOGICAL SURVEY
IR RESTON, VIRGINIA 22092
IESOURCES, INDIANAPOLIS, INDIANA 46204
AND SYMBOLS IS AVAILABLE ON REQUEST

ROAD CLASSIFICATION

Heavy-duty	Light-duty
Medium-duty	Unimproved dirt
State Route	

QUADRANGLE LOCATION

Revisions shown in purple and woodland compiled in cooperation with State of Indiana agencies from aerial photographs taken 1987 and other sources. This information not field checked
Map edited 1990

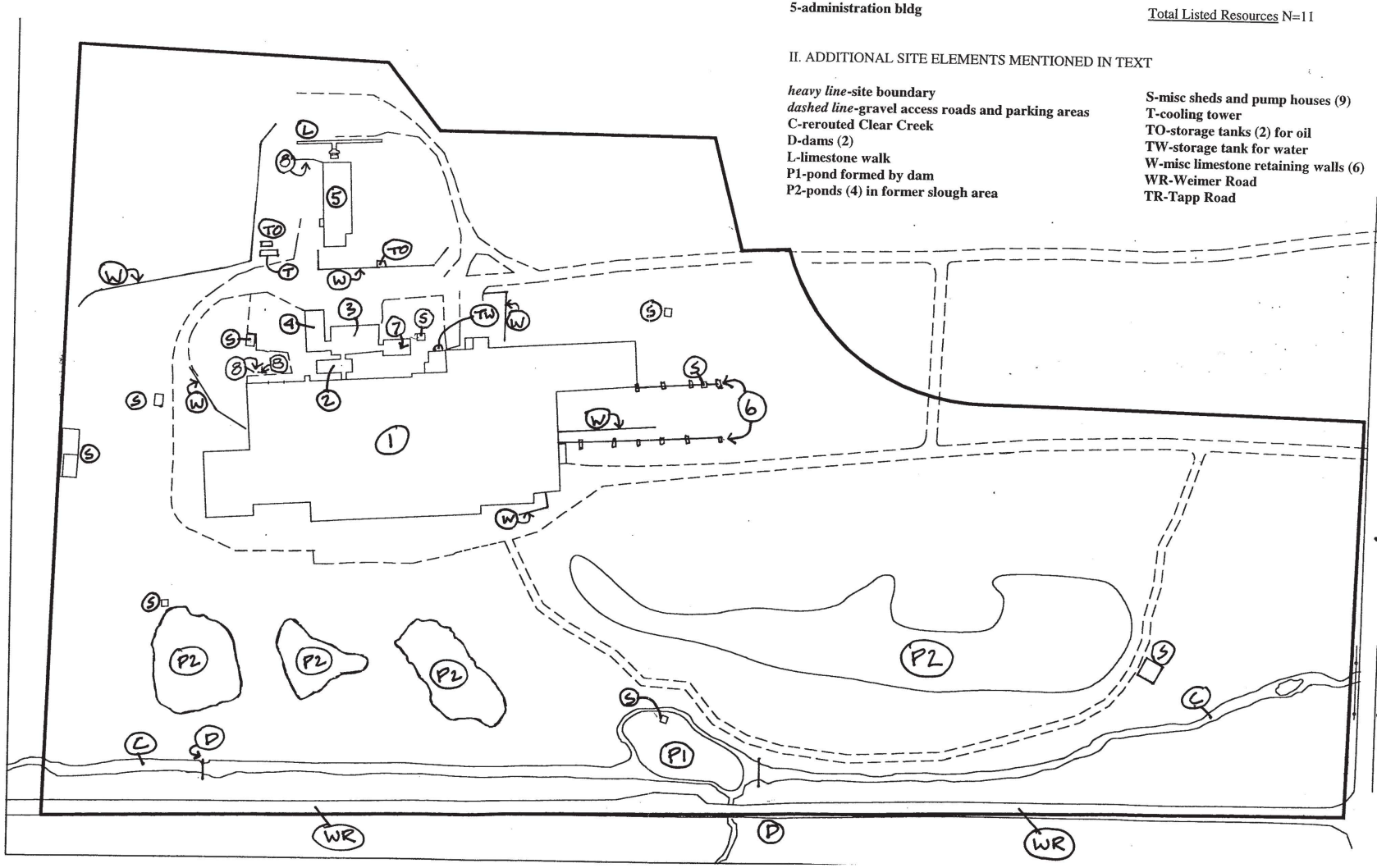
BLOOMINGTON, IND.

39086-B5-TF-024

1966
PHOTOREVISED 1990
DMA 3662 II NE-SERIES V851

APPENDIX A-7. SITE MAP

adapted from Bledsoe, Tapp & Riggert:
As-Built Survey, November 16, 2001



KEY: all labeled items (in boldface below) are shown on map

I. RESOURCES LISTED IN ITEM 5 AS CONTRIBUTING TO SITE'S SIGNIFICANCE

site (N=1)

buildings (N=5)
1-principal mill
2-mill office
3-machine shop
4-blacksmith shop
5-administration bldg

structures (N=2)
6-East Hall tramway
7-large limestone storage shed

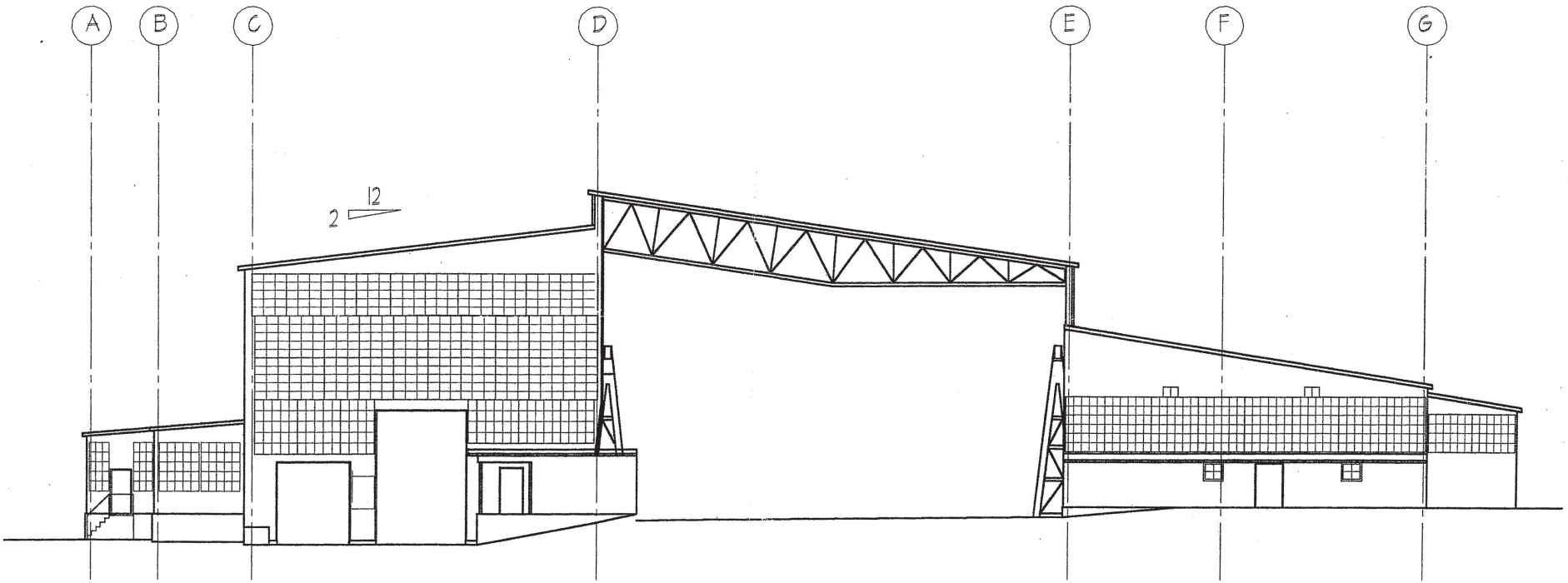
objects (N=3)
8-limestone display walls (3)

Total Listed Resources N=11

II. ADDITIONAL SITE ELEMENTS MENTIONED IN TEXT

***heavy line*-site boundary**
***dashed line*-gravel access roads and parking areas**
C-rerouted Clear Creek
D-dams (2)
L-limestone walk
P1-pond formed by dam
P2-ponds (4) in former slough area
S-misc sheds and pump houses (9)
T-cooling tower
TO-storage tanks (2) for oil
TW-storage tank for water
W-misc limestone retaining walls (6)
WR-Weimer Road
TR-Tapp Road

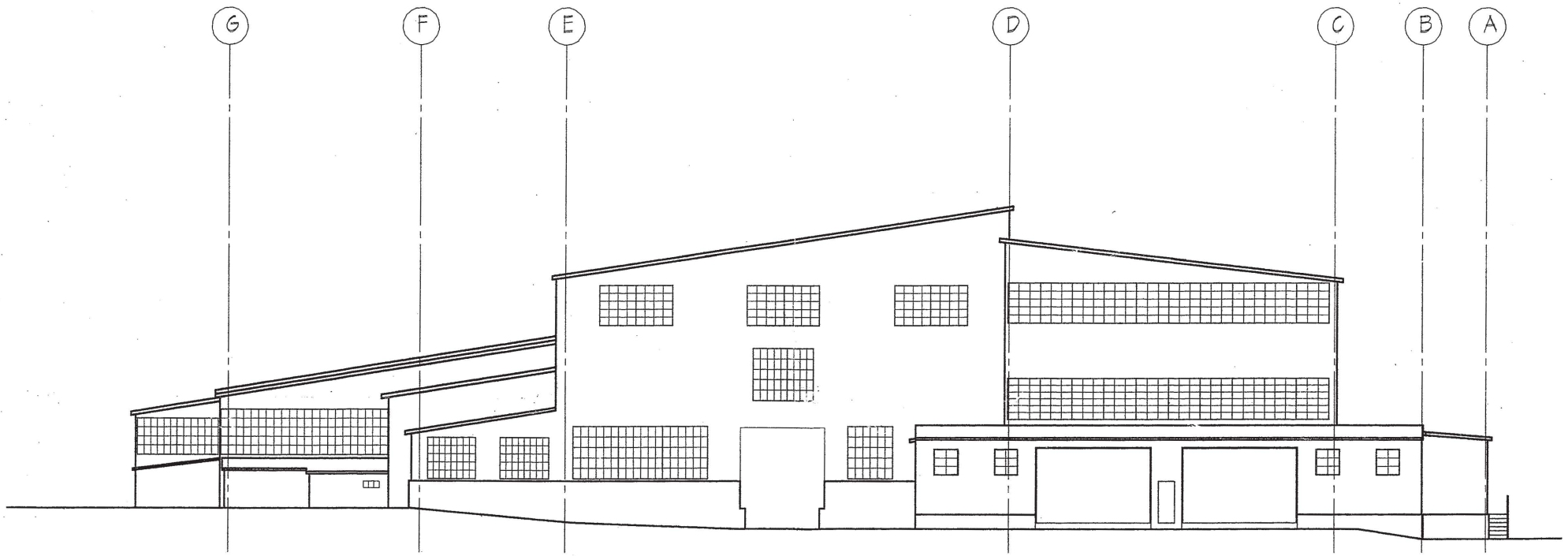
APPENDIX A-7
WOOLERY STONE CO. - MONROE-INDIANA



FRONT ELEVATION

1/16" = 12"

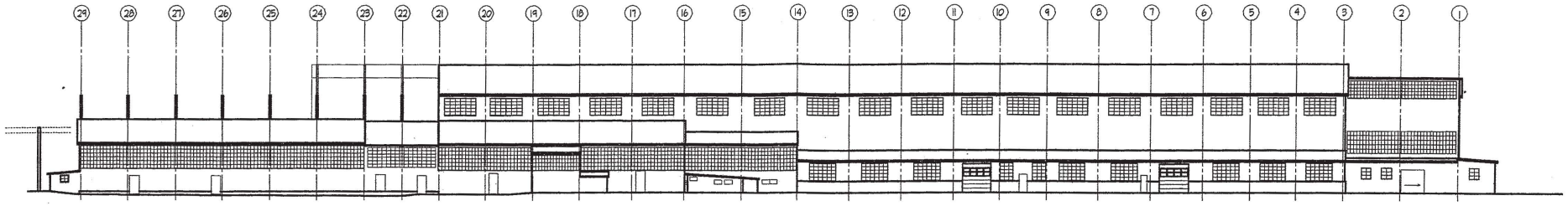
APPENDIX B-7
WOOLERY STONE CO.
MONROE - INDIANA



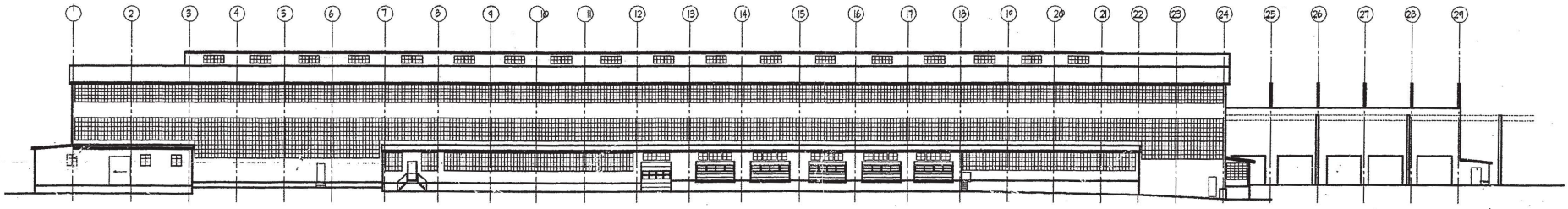
BACK ELEVATION

$\frac{3}{16}" = 12"$

APPENDIX B-7
WOOLERY STONE CO.
MONROE - INDIANA



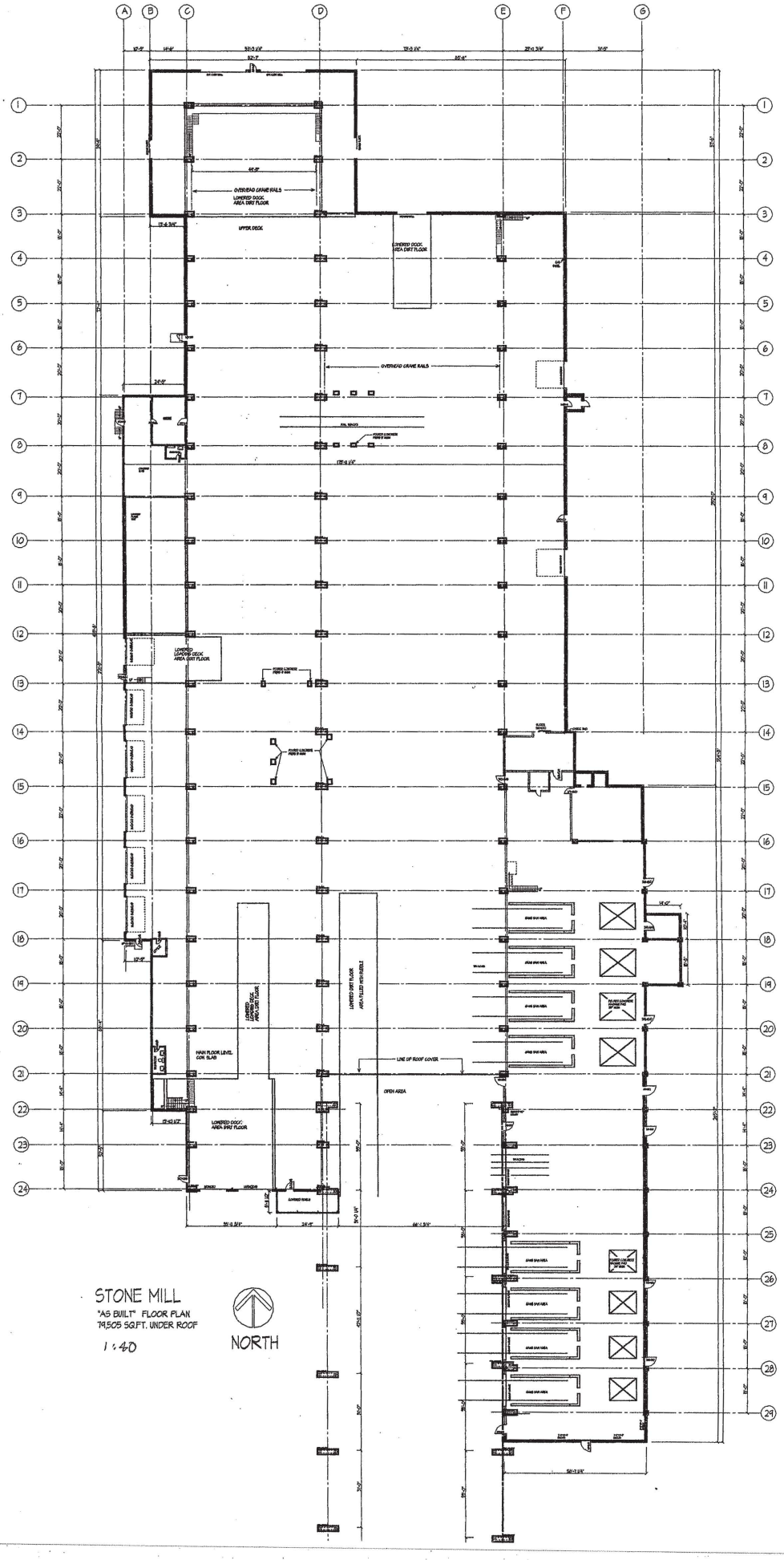
RIGHT ELEVATION



LEFT ELEVATION

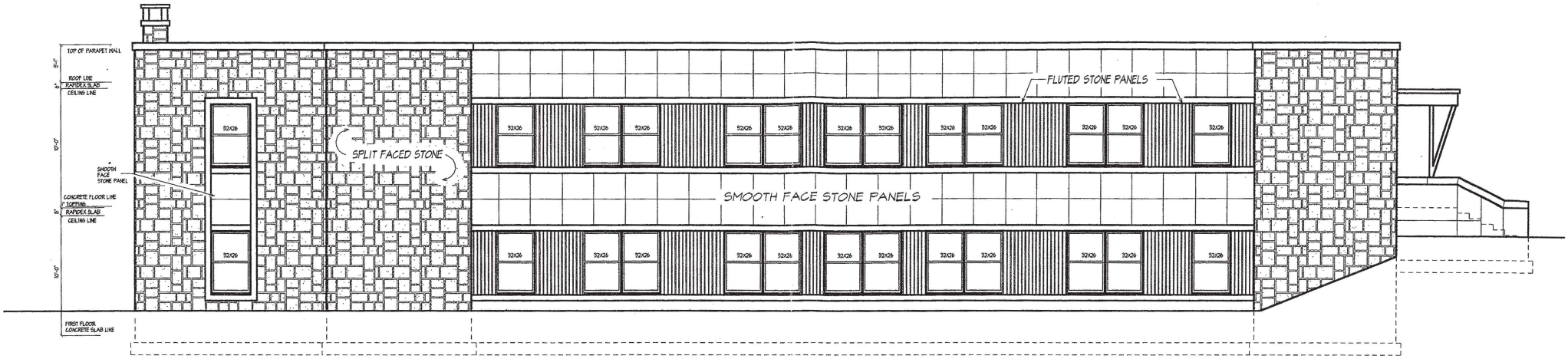
1 TO 40

APPENDIX B-7 page 3 of 4
WOOLERY STONE CO.
MONROE - INDIANA



APPENDIX B-7
WOOLERY STONE CO.
MONROE-INDIANA

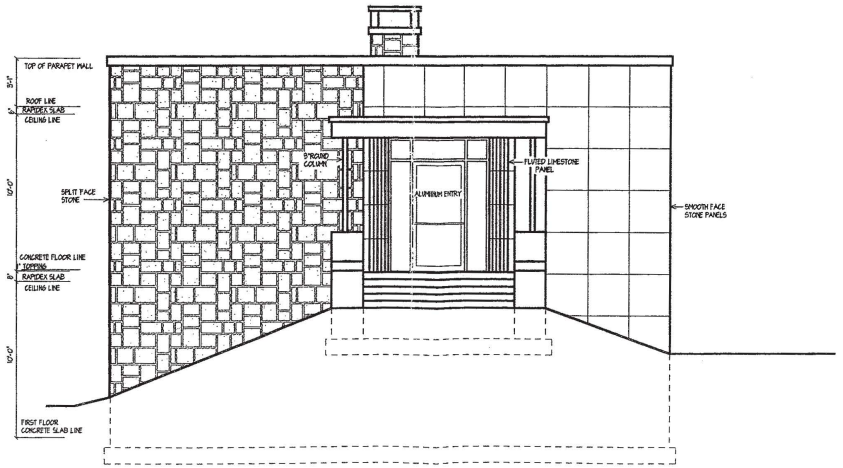
PAGE 4 OF 4



LEFT SIDE ELEVATION

~~SCALE: 1/4" = 1'-0"~~

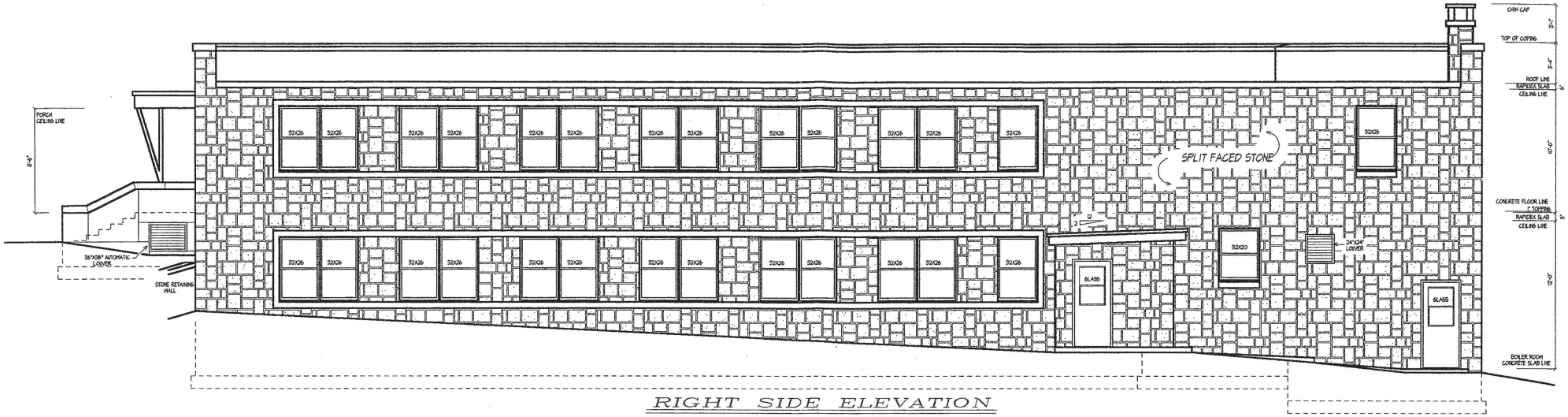
approx. scale 1"=10'



FRONT ELEVATION

~~SCALE: 1/4" = 1'-0"~~

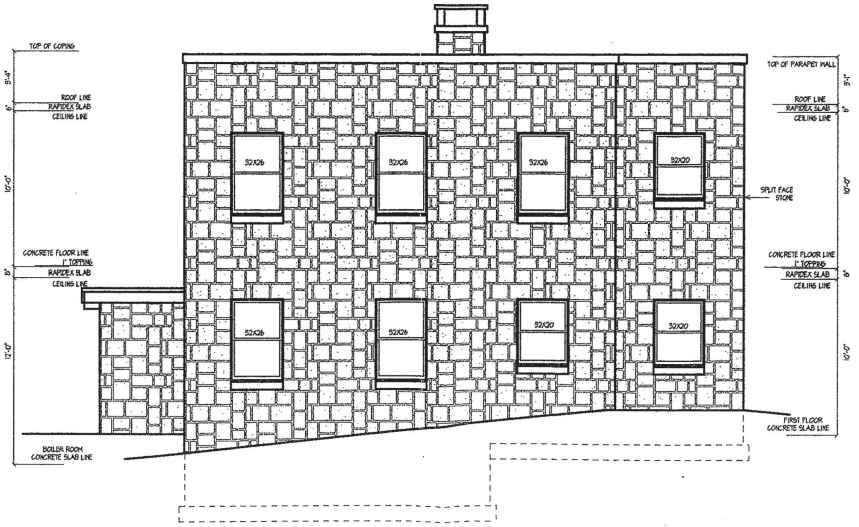
APPENDIX C-7
WOOLERY STONE CO.
MONROE - INDIANA



RIGHT SIDE ELEVATION

SCALE 1/4" = 1'-0"

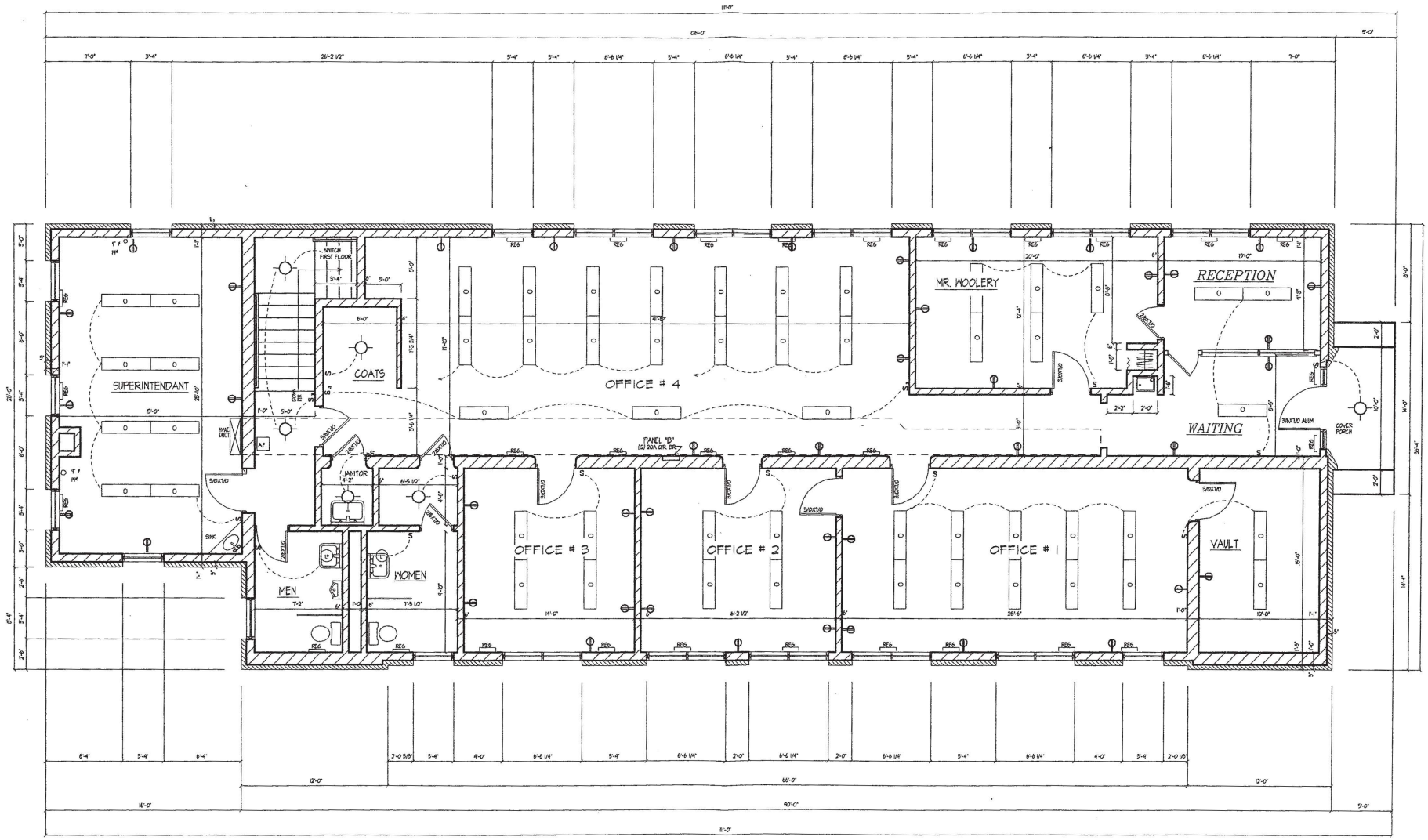
approx. scale 1-¼" = 10'



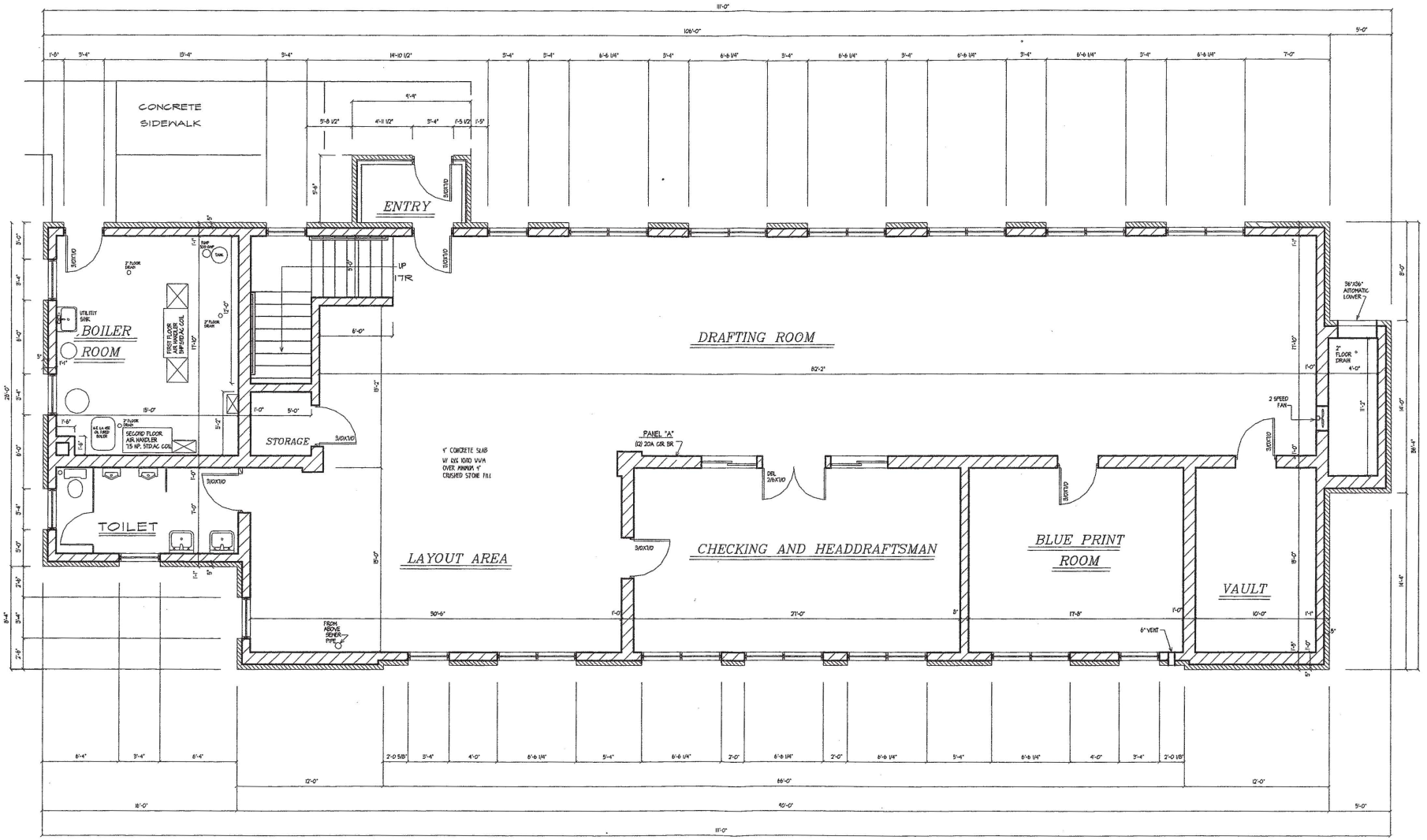
BACK ELEVATION

SCALE 1/4" = 1'-0"

APPENDIX C-7 page 2 of 4
WOOLERY STONE CO.
MONROE - INDIANA



APPENDIX C-7
WOOLERY STONE CO.
MONROE - INDIANA



APPENDIX C-7
WOOLERY STONE CO.
MONROE - INDIANA