

CHAPTER 9.0

ARCHITECTURAL DESIGN GUIDELINES

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9.1.0 INTRODUCTION

The Design Guidelines are a companion to the Master Plan and are meant to assist architects in understanding the design and planning characteristics which make the Virginia Tech Campus a special place. The purpose of these guidelines is to ensure consistently high design quality as the campus develops. Rather than restricting the freedom of individual designers, the Guidelines seek to enlist their help in extending and enhancing the underlying strengths of the campus. Identification of areas where planning, landscaping, and architectural design problems exist helps designers focus on the opportunities for remediation as well as the addition of new grace notes. Designers are encouraged to find the proper balance between individual expression and overall contextual conformity.

9.2.0 CAMPUS OVERVIEW - A HISTORICAL PERSPECTIVE

The planning and architectural design of the Virginia Tech Campus reflect the changing character of the institution over time. Future buildings will likewise be a reflection of Virginia Tech's character, its culture, architectural legacy, and contemporary technology. The brief history below is intended to help designers understand the planning and architecture of the campus in a historical context.

9.2.1 Early Campus Buildings

The earliest campus buildings, built between 1872 and 1905 for the Virginia Agricultural and Mechanical College, were simple, austere structures. Whether Greek Revival, Georgian, or Victorian, they shared a simplicity of massing, materials and fenestration. This simplicity reflected the practical character of the educational mission of Virginia Tech. For example, some buildings included foundries for training in the mechanical arts.



First Academic Building, circa 1878



Old Preston and Olin Building, 1860



YMCA, 1899



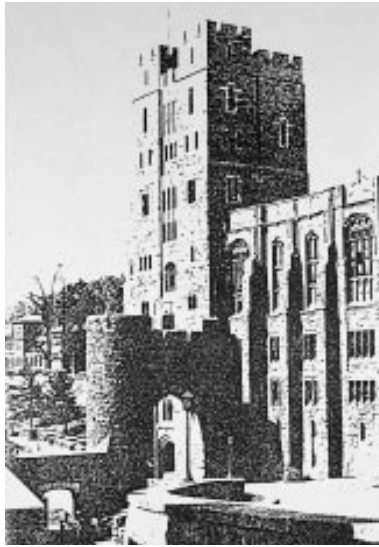
Price Hall, 1907



The Forge Shop, 1895



Lane Hall, 1888



West Point, 1919



Burruss Hall, 1936



Virginia Tech's architecture has traditionally reflected its changing institutional character. New development should continue this tradition.



*The Administration Building
"The Rock House", circa 1905*



The "Old Library" in Winter, 1905



World War Memorial Hall, 1926



Patton, 1929

9.2.2 Collegiate Gothic Buildings

Collegiate Gothic buildings began appearing on campus early in the twentieth century and continued until the mid 1960'. During this period, the Drill Field was sculpted and defined by a ring of Collegiate Gothic quadrangles built of Hokie Stone (locally quarried dolomitic limestone). This approach to campus planning and architectural design was extremely popular at the time as is evidenced by the similarity between buildings at West Point and Virginia Tech.

Collegiate Gothic buildings at Virginia Tech reflect the same austere quality of the earlier campus structures. While carved stone is used in architectural weatherings such as copings, scuppers, sills, jambs and watercourses, purely ornamental elements are infrequent. Architectural ornament allows buildings to be individualized and gain personality without sacrificing architectural continuity.

Massing

While massing and plan shape are typically simple, many Collegiate Gothic buildings gain individual identity through their roof-forms, roof-lines and silhouettes. Towers, dormers and chimneys allow buildings to have their own signature against the sky. Minor offsets in plan give character to these elements without sacrificing the functionality of the plan.



Newman Library, 1955



Signs are an important component of an ornamental program



Topical ornamental motifs add personality and character. They engage people and humanize buildings.



Heraldic bas relief

Ornament

Heraldic shields appear in a number of locations with some variations. Where more whimsical ornamental devices occur, they add a delightful note. At times they are topical in nature. Names carved into buildings add to the ornamental vocabulary. The particular style of their graphics can create an intriguing aesthetic dialogue across history and architectural styles.

Facades

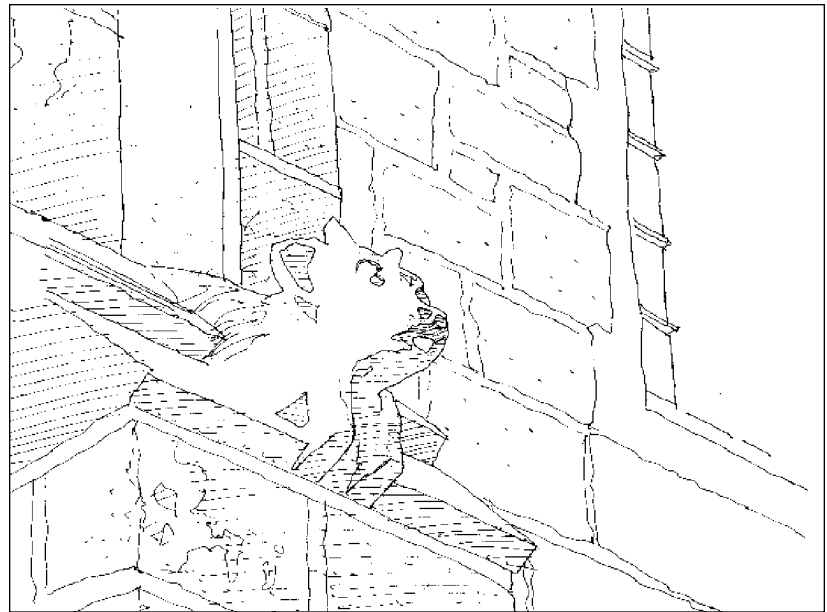
The facades of the Collegiate Gothic buildings are clearly ordered and regular. Simple rhythms of windows and buttresses and division into base, middle and top are the rule. Larger elements such as bays and great windows add accent and punctuation. In addition, they may depict an interior function by their prominence. Doorways and passageways are well articulated. Generally windows are vertical in proportion and inset several inches. Where grouped together into a horizontal assembly, the verticality is reestablished by intermittent stone jambs. Vertically proportioned panes of glass reinforce this effect. The carved stone surrounding these important elements is finely dressed and detailed (See sketch on page 128).



Gargoyle



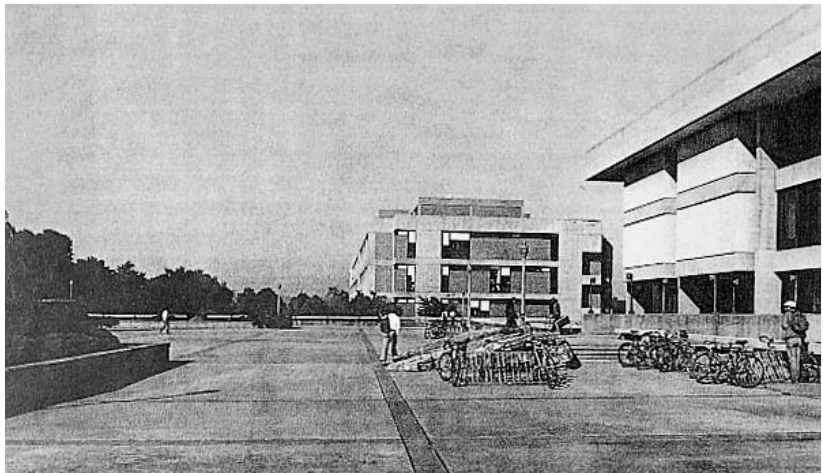
Gargoyle



Agriculture quad, cowgoyle



Hillcrest Hall, 1940. Overall massing, fenestration and limestone trim of Hillcrest unifies it with the Collegiate Gothic buildings on campus.



Cowgill Plaza prior to the construction of the G. Burke Johnston Student Center. When membership in the Corps of Cadets became optional, the buildings also "broke ranks" and dropped out of formation, no longer defining quadrangles.



Column base transitions into a thoughtful detail which weathers well and allows a graceful visual transition from the vertical column to the ground plane.



Passageways are finished, exterior vestibules.

Interior Passages / Portals

The interiors of passages through buildings which connect campus quadrangles have integrated seating ledges and wood beamed ceilings. The use of Hokie Stone with finely dressed limestone trim is typical of the Collegiate Gothic buildings. However, brick buildings such as Hillcrest illustrate the importance of overall massing, fenestration, and limestone trim, as defining stylistic elements which can provide unity with hokie stone Collegiate Gothic buildings.

9.2.3 Non-Collegiate Gothic Architecture and Planning

In the mid-1930s, brick buildings in the Georgian style were constructed along College Avenue near the older part of the campus. While different in style from the Collegiate Gothic, they are compatible with them. Means for shedding water and wall opening details are aesthetically and functionally refined. This mutually high level of resolution helps make buildings of both the Georgian and Collegiate Gothic styles compatible.

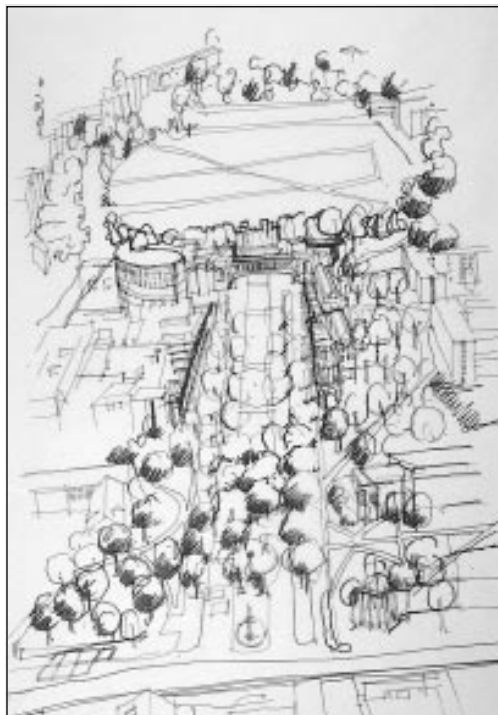
In 1964, membership in the Corps of Cadets became voluntary and, coincidentally, the traditional Collegiate Gothic style was replaced by a more “voluntary” planning and design approach. Buildings became more object-like in design and siting and the practice of defining campus quadrangles fell out of favor. Facades were less traditionally ordered. Their entries were not as clearly marked, and fenestration patterns were more abstract. Ornament and fine detail were no longer widely employed. Hokie stone was generally replaced by architectural concrete. The new McBryde Hall, although built with a significant amount of hokie stone, illustrates that stylistic and planning continuity derive from more than the use of similar materials. The lack of windows or doors, which provide a sense of scale, and the absence of the shaping of exterior space make this building non-contextual.



Original McBryde Hall, completed in 1917 defined exterior space. It had windows and elements which provided a sense of scale.



The Mall as it appeared in 1983 and generally today.



The Mall as envisioned formally, functionally, and symbolically reuniting the town and campus by "infilling" new facilities along its edges.



Extension Building (Sandy Hall), 1924



Residential quad completed in the early 1960's



Alumni Hall, 1935



New wing of Newman Library completed in 1981

In the early 1980s, a renewed interest in preservation and enhancement of the institution's architectural and planning traditions arose. The 1983 Master Plan manifests this change in attitude. The result has been the preservation, rather than the continued demolition of Collegiate Gothic structures. Concurrently the strategy of siting buildings to define campus open spaces was reestablished as an important planning principle. A new concern for energy conservation combined with these ideas to create atria joining old, recycled buildings with modern technologically sophisticated mates. Although detailing and ornament are not as finely developed as in the older Collegiate Gothic buildings, there has been great success in recapturing the spirit of the older structures and spaces.

The 1994 Master Plan continues the "Infill" approach of the 1983 plan and suggests areas, such as the Mall, where it can be further applied. The Design Guidelines seek to ensure that the buildings constructed as part of this effort reinforce this planning strategy.

The above overview of the campus is no substitute for designers studying the campus personally. Enough time ought to be spent on campus to observe and understand the special character and spirit of the place. In addition, earlier Master Plans, especially the 1983 Master Plan, and books such as *Tech Triumph* are valuable tools for a greater understanding of the campus.



The Court D'Honneur and redefined Mall, follow and extend the Collegiate Gothic campus planning tradition.



Proposed Library Bridge helps define the Court D'Honneur and provides an axial terminus in scale with the length of the Mall.



Eggleston Quad, 1937 – Traditional definition of outdoor space on the Virginia Tech Campus.

9.3.0 GENERAL ARCHITECTURAL DESIGN RECOMMENDATIONS

The architectural expression of future campus buildings is a natural extension of the Master Plan. The general observations and recommendations below are therefore intended to ensure that individual buildings reinforce planning principles as well as result in attractive and durable buildings.

9.3.1 Definition of Exterior Spaces

New structures are to be placed to help define outdoor campus spaces. Their locations and massing, as illustrated in the Master Plan, express this intention. While specific program requirements will necessitate adjustments to these parameters, the space-making intentions of the Master Plan are to be honored. A precinct plan, developed during the concept design phase of each project, will help maintain a focus on campus master planning issues such as spatial definition, circulation, building entries, and ground level uses.

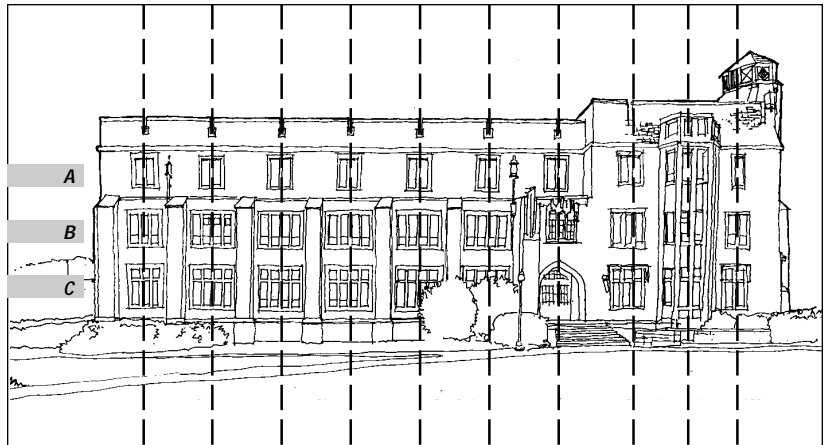
The location of entries, arcades, and ground level internal activities can do much to animate campus spaces. The plan illustrates key locations for entries and portals (See Figure III-4). Where possible, these functions should be incorporated into the building's design. Spaces should be activated with the addition or relocation of entry points. Designers are to consider how views into or from a building will create a connection between the new building and outdoor areas. A window frame can be thought of as a frame for a vignette of campus life, or as a frame for a view of a building's internal life.



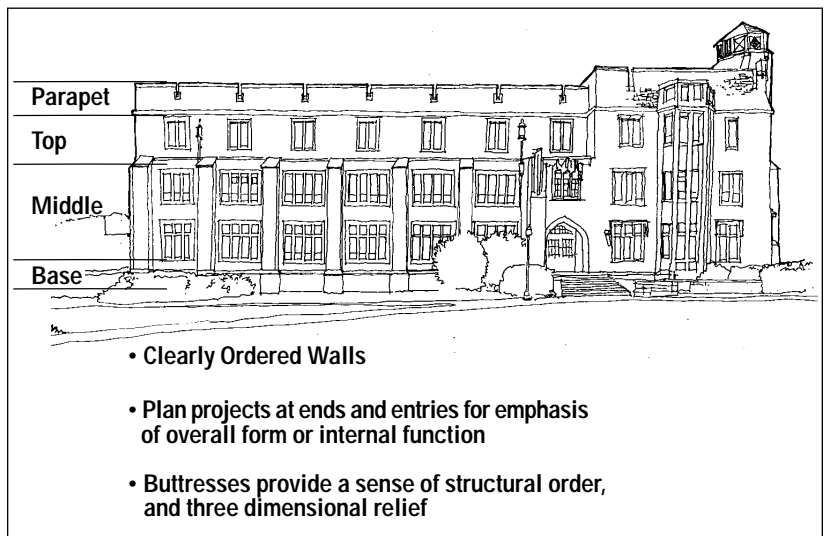
View through entry portal



Portals frame views of important spaces and emphasize connections within the campus.



Holden Hall has simple massing and simple, regular fenestration with vertical hierarchy.





Holden Hall, 1940



Roofline features, Holden Hall



Cast stone and patterned brick are economical means for producing contemporary roof line ornament. Republic Place, Washington, D.C.



Sloped roofs, dormers, chimneys and pediments can be composed into strong visual compositions, creating memorable architecture.

9.3.2 Massing

While many of the buildings on campus are simple in their overall massing, there is wide use of smaller scale individual elements such as bay projections and porches. These elements are used to suggest special internal functions, draw attention to important areas like entrances, and provide visual and compositional balance. These elements help to provide the visual and psychological cues necessary for an understandable architecture. Their inclusion in new designs is encouraged. Simple massing allows constrained budgets to be focused on higher quality materials and careful detailing. The traditional buildings on campus exemplify how richness can be achieved through the use of durable materials and fine detail within the context of simple massing.

Roof forms, roof lines and silhouette

Sloped roofs, parapets, and dormers are all extant on the campus. When successful, they are integral elements of the design and provide individual character to a particular building. Sloped roofs provide the opportunity for individualizing a building that is simple in plan and elevation. Executed in slate or standing seam metal, sloped roofs are attractive in appearance and durable. Asphalt shingles, which have a shorter life span, and a less formal appearance, are rarely appropriate for campus use. If traditional forms of construction such as these are to be used, they should be carefully reviewed. The choice of color, size, and pattern of roof tiles are important design decisions. Standing seam metal roofs allow for a similar range of options including material, color, patterning, and method of seaming. Other details, such as snow clips, ridge and valley flashing, and vents are all essential elements and should be consciously evaluated.



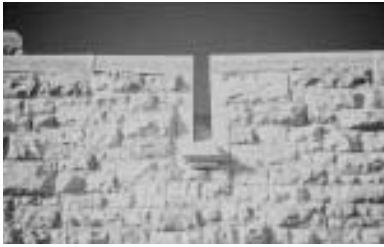
Payne Hall, 1993



- Turrets, dormers, pediments, and chimneys create distinctive silhouettes and add personality. They can identify the building, a place and an interior function.
- Ornament provides further enhancement of critical architectural elements
- Special windows, ornamental features, stairs, ramps, and walls announce and enhance entries.
- Bay projections can suggest internal functions and help create a larger order to the facade.



- Finished stone trim enhances weathering, and emphasizes key elevation orders, elements, and rhythms



Traditional parapet detail in carved stone



Traditionally ordered wall



Contemporary parapet details can be accomplished with cast ornament

Where parapets occur on the campus, they are most successful when trimmed in stone. A full range of design and detailing possibilities may be considered for copings. The specific slope of a roof, whether it is hipped or gable-ended, and the incorporation of both functional and ornamental details, such as scuppers and gargoyles, add character and individuality to a building. These traditional details also improve the weathering of a building and its appearance over time. Where copings are used and simplified to express their modernity, a consideration of their traditional function is beneficial. Dormers provide a lively accent along the tops of several existing buildings on campus. They provide a sense of the life within a building not unlike bay projections. Whether co-planar with the wall below, or set within a sloping roof, they must be well detailed. These details include side elevations, roofs and intersections with the main roof.

9.3.3 Facades

The traditional buildings on the campus have simply ordered and well articulated facades. Clearly delineated bases, middles and tops are the rule. In many cases, facades are symmetrical with the central and end bays pulled forward and emphasized with towers, pediments, or raised parapets. Bays and giant order windows help organize the facades and, in some cases, indicate special interior spaces. Doors with carved surrounds, stairways, and wing walls clearly mark entries and often project several feet beyond the main facade. Windows are regularly placed both vertically and horizontally. Their sizes sometime vary from floor to floor to create a sense of hierarchy and order. They are generally vertically proportioned singly or through intermittent mullions, when arranged into horizontal groups. Their finished stone surrounds (heads, jambs and sills) give a finely crafted quality to the buildings and allow for metal or wood window frames to meet the otherwise rough, crack-faced hokie stone. This finer finishing of materials at openings in the facade reveals an intelligent understanding and sensitivity to the reality of construction and the nature of materials.



Traditional carved stone figurative ornament. Reflecting the craft of its time, it embellishes a functional rain shedding cap along a buttress.



Contemporary laser cut steel figurative ornament is economical and reflective of contemporary technology. The donkeys and elephants embellish anchorage points for canopy cables. The subject matter reflects the particular interests of the building's occupants in Washington, D.C.



Traditional stone detailing organizes the effects of weathering to enhance architectural expression.



Ornament gains intensity at points of greater importance; especially entrances.

9.3.4 Architectural Details

Architectural details play an important role in the development of campus architecture. Buttresses, water courses, belt (string) courses, and copings help order these facades both horizontally and vertically. These elements increase the play of light and shadow on the facades. Many also enhance the buildings' weathering capabilities. In fact, the term 'weathering' is a traditional name for elements such as sills, copings and other water-shedding architectural details. These architectural elements have evolved over centuries and are profoundly sophisticated. They shed water effectively due to their geometry. They also create shadow lines, highlights, and ridges, which help visually organize the facade. Their functional purpose may also direct the inevitable and unavoidable residue of the weathering process into patterns which attractively reinforce the architectural order of the facade. Ironically, this type of low-tech traditional response to the natural environment is often a better technological solution than a 'high-tech' reliance on chemically exotic caulking. Caulk joints that are part of an assembly which has no geometric method for shedding water have no effective alternative should the sealant fail.

9.3.5 Ornament

Ornament arranged into a coherent, topical and idiosyncratic program can enhance and elevate a building's design. It can speak to people on a symbolic and emotional level and help provide the Vitruvian "delight" so often missing. Architectural ornament exists on the campus but not in great quantity. Where it exists, it provides the type of individuality and expressiveness which make a campus memorable and unique. Heraldic shields, plant and animal imagery, and graphic designs can be integrated into an ornamental program in any traditional or contemporary building. The creative use of unadorned construction elements can also produce a type of abstract ornament. Employing new methods for the production of ornament can suggest the eloquent advancement of technology. The use of scientific knowledge to invent methods – technologies – whereby ornament becomes feasible within the constraints of contemporary resources comes close to defining the very mission of Virginia Tech. This invention is therefore an important and meaningful aspect of campus architecture. The existing ornamental programs on campus provide a basis upon which to start. However, future programs should be more ambitious in fulfilling Virginia Tech's aspirations.



Hillcrest Hall is compatible with the Collegiate Gothic core campus as a result of its massing, roof forms, silhouette, fenestration and detailing. Its brick represents an acceptable variation and ties it to the other brick buildings on campus.



Traditional Virginia Tech Collegiate Gothic building.



Masonry detailing



Contemporary hokie stone wall with openings trimmed in finished limestone



Hokie stone



Masonry bonding patterns and lighting fixtures provide detailing and ornamental opportunities at a corporate headquarters. Shady Grove, Maryland.

9.3.6 Masonry

Hokie stone, brick and architectural concrete are the dominant building materials on campus. Their use generally follows a clear pattern. The Drill Field and its surrounding quadrangles are hokie stone. The buildings surrounding the inner Collegiate Gothic core along the Mall, College Avenue, and the west side of West Campus Drive are brick. Architectural poured-in-place and pre-cast concrete mixed with brick occur along the north edge of campus and in parts of south campus. This pattern of materials helps give each precinct its own character. Continuing this pattern of material-use can make sense to the extent it reinforces the planning structure of the campus, and informs the campus scale.

Where areas of different material-use interface, an evaluation must be made as to which materials or what blend of materials ought to be employed. Johnston Student Center and Hancock Hall illustrate the use of hokie stone buildings in an area of material-use interface. The insertion of these stone buildings effectively bridges between the two areas, creating a quadrangle and transforming Cowgill into a positive accent.

Hokie stone should continue the tradition of having split-faced units in a random ashlar pattern with flush mortar joints. Smooth limestone is used most appropriately for trim and ornament. Brickwork requires careful attention to unit size, texture and color. In addition, bonding pattern, mortar color, and joint striking, are important considerations. The incorporation of stone trim, accents, and ornamental elements in brick masonry campus buildings is encouraged.

Poured-in-place concrete, pre-cast concrete, and cast stone can be aesthetically acceptable and cost-effective substitutes for limestone. They can be formed with textures and patterns which reflect their own particular character or which resemble traditional carved stone elements. In the case of the Bookstore, the poured-in-place concrete parapet is compatible with the nearby limestone trimmed-parapets. Its board forming provides a means to attractively organize weathering patterns and marks a particular architectural period – Brutalist.



Contemporary example of architectural detailing achieved with cast stone. George Washington University, Loudoun County, Virginia.



The entry and doors above are not compatible with Virginia Tech's architectural tradition in style or quality.



Traditional buildings on campus celebrate their entries. The doors themselves have strength and character.



Traditional ganged windows.

9.3.7 Roofing

Roofing materials need to be of equally high quality. Sloped roofs, as previously stated, should be slate, high quality artificial slate, or tern-coated stainless steel. Flat roofs need to be evaluated for their visual appearance to the degree they are visible from above or can be utilized as terraces. In these cases, roofing pavers and ballast stone need to be reviewed for their aesthetic appearance. Careful consideration needs to be given to organizing and screening rooftop mechanical equipment.



Bay emphasizes entry

9.3.8 Doors

Doors and door hardware are important as they are constant points of contact between people and buildings. They denote much about the character and durability of a building. They also provide an opportunity to personalize a building and welcome users in a gracious manner. Wood, metal, and glass can all be used acceptably on the Virginia Tech Campus. Combinations may occur where inner and outer doors form a vestibule. Attention should be given to visibility through doors for safety and convenience.

9.3.9 Windows

Windows should be of high quality wood or metal. Profiles and mullions should respond to the small scale and delicate quality of the traditional casements. Window glass should appear as clear as possible within good energy management requirements.

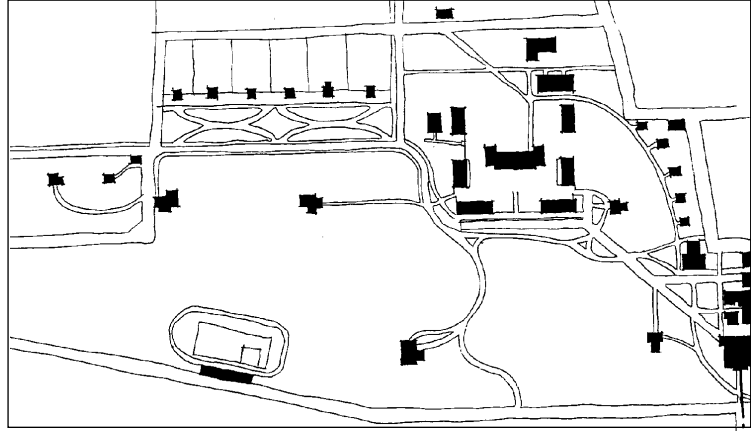
9.3.10 Color

The coloration of the campus is dominated by the color of the hokie stone. Red brick, grey roofs, and light limestone and concrete complete a muted palette. While landscape materials provide colorful accents, more is needed. Window trim, which in the past was painted light grey to match the weathered hokie stone, provides an opportunity to add colorful architectural accents (There is an ongoing program to paint grey window trim dark brown – matching other exterior metal such as lamp posts). Red, blue, and green, when mixed with sufficient grey or black, can provide contrast in value and hue with the stone and brick. In fact, the trim color will bring out colors in the basic materials which are not otherwise noticeable. Black can also be considered as a possible trim color where sharp contrast is desired. This stronger approach to trim, and even door color, is more true to the traditional architectural styles on campus.

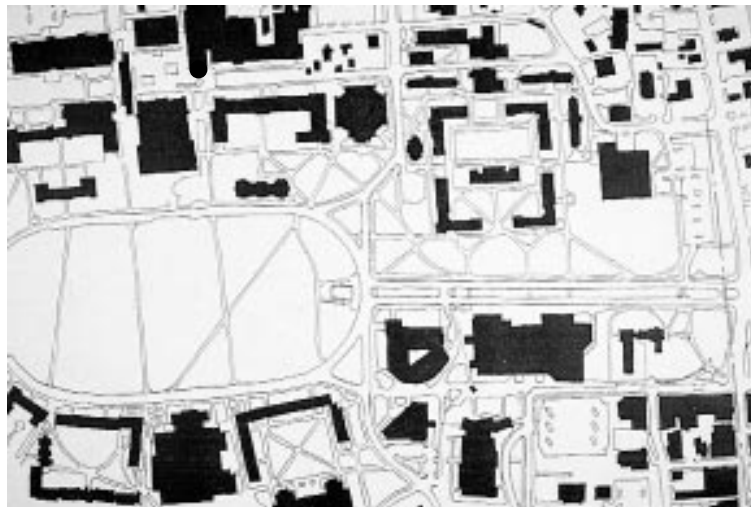


Profiled aluminum extrusions allow economical and maintainable modern windows of a traditional nature. George Washington University, Loudoun County, Virginia.

Plans of the Mall area over time



Past



Present



Future



Virginia Tech was historically integral to the heart of Blacksburg and the focus of Main Street (Preston and Olin Building).



1994-This focus is currently lacking.



Reestablishing this focus with a strong, memorable structure will improve the urban design of Blacksburg and mark the historical and ceremonial entry to Virginia Tech.

9.4.0 MALL COMMENTARY: AN ILLUSTRATION OF THE DESIGN GUIDELINES

A key element of the 1994 Master Plan is further development of the Mall. In its current condition, this area has little spatial definition, represents a rupture in the ring of quadrangles surrounding the Drill Field, and fails to connect the campus to the town of Blacksburg along Main Street. It also fails to fully establish the formal, ceremonial gateway to campus originally promised by this planning strategy. The 1994 Master Plan envisions four actions to improve the Mall: 1) construction of a Creative Arts Center; 2) construction of buildings along the north edge of the Mall; 3) construction of a pergola along the north facade of the Squires Student Center; and, 4) construction of a Library addition spanning the Mall. Each of these actions is described below .

9.4.1 Creative Arts Center

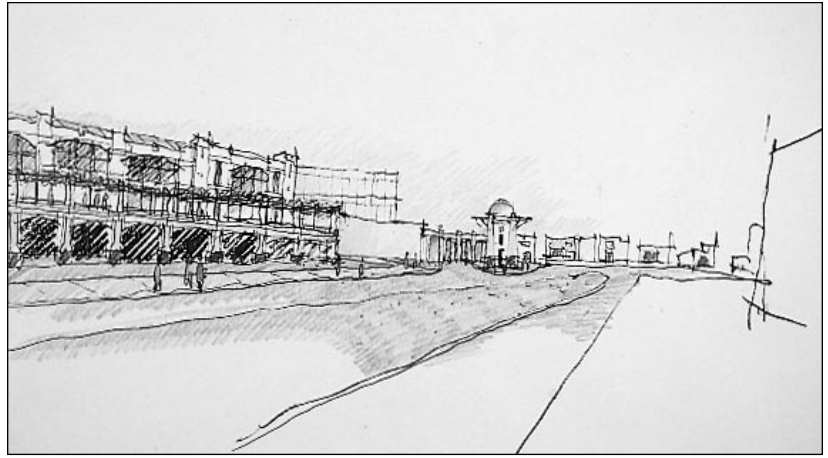
The Master Plan envisions locating a Creative Arts Center on the Mall which will include a performing arts theatre, art studios, an art museum and a parking garage. As part of an effort to reestablish Virginia Tech's historic architectural presence in downtown Blacksburg, it is proposed that the art museum incorporate a tower landmark element on the corner of the Mall and Main Street. The tower element will serve to mark a critical point of entry into the campus in a manner recalling the original axial relationship between Main Street and the Preston and Olin Building on the Virginia Tech campus (The Preston and Olin Building was demolished in the 1930s to allow for the extension of Main Street to the north).

Building Dimensions

To effectively establish a focal point on Main Street, the proposed tower element of the art museum should be 40'-50' in diameter and about 50' in height. It should be monumental in scale and illuminated at night as an icon of the University. As part of an Arts building, it will also suggest the broader academic sweep of today's Virginia Tech.

Materials and Expression

A mixture of hokie stone and brick on the tower element could be an appropriate palette of materials at this interface between 'town and gown'. As a statement of Virginia Tech's educational mission in engineering and the sciences, it would also be appropriate for the tower element to integrate an expression of technology .



View of the proposed 'Rampart' buildings and the Creative Arts Center tower element.



The proposed 'Rampart' buildings allow for dining or other public functions to be adjacent to a ground floor arcade. A similar arcade is proposed for the Squires Student Center.



Lover's Lane could be redefined along the north face of the 'Rampart' buildings and the south edge of the Upper Quad.



A tower element such as that on Holden Hall could define the east end of the Rampart buildings.

9.4.2 Mall Buildings (north side)

The creation of a mixed-use, linear building opposite the Squires Student Center and at the base of the Upper Quad is proposed to improve the spatial definition of the Mall. A stair on axis with the entrance to Lane Hall is envisioned as a way to reinforce the cross axial relationship between Lane Hall and Squires. The base of this four or five story building could accommodate food services or other public functions which provide life to Mall. The upper levels, set back to create a south facing terrace, could accommodate many uses ranging from dormitory to classroom to faculty offices. The northern face of the building would be three or four stories high due to grade changes, and could be used to help redefine historic Lovers' Lane.

Materials and Expression

The base of this building should be hokie stone with limestone trim. The upper stories may be a mix of hokie stone, brick, and limestone trim to foster a transition between the predominant brick of this precinct and the hokie stone of the Drill Field. If one material dominates, brick could be used to keep the Drill Field's clarity and definition. An active cornice line, dormers and towers are encouraged. A sloping slate roof is also acceptable. A major tower at the east end could help create an accent along the Mall, generate a special room internally, and place a marker where the historic diagonal path to the Upper Quad crosses the Mall.

9.4.3 Squires Pergola

The construction of a pergola along the length of Squires could provide this building with a unified and formal facade and reinforce the character of a ceremonial gateway drive. It could be utilized to screen existing discordant uses such as the loading docks on either end of Squires, perhaps with gates, and provide a more rhythmic fenestration, and massing to the facade. It could also function as a shading device and provide seating for informal conversations and outdoor dining. As a front porch to the building, it could create a more inviting image for the building.

Materials and Expression

The columns of the pergola, if built of hokie stone, should match the stone arcade of the new buildings proposed for the north side of the Mall. Likewise, the current brick exterior of Squires would reflect the upper brick portions of the building proposed for the north side of the Mall. At approximately 16' in height, these columns could incorporate commemorative inscriptions and ornament providing opportunities for recognizing graduating classes, groups, and/or individuals. The cross members should be of properly proportioned durable wood, metal, or fine precast concrete. They should provide reasonable shade, support for vines, and visual weight.



View of the Mall looking east toward Main Street.



View of the Proposed Reading Room looking east.



Alumni Gate, built 1914, removed 1936.



Window tracery frames campus views.

9.4.4 Library

The construction of a gateway arch spanning the Mall from the northern end of the Library to a new academic/library wing on the south side of the Mall is proposed. This structure would delineate a ceremonial entry to the inner Collegiate Gothic core of the Virginia Tech Campus and serve as a bridge connecting the mid-level of the Library to the higher topographic elevations of the Upper Quad. The span of the bridge is envisioned as a great reading room providing a "window" to the Mall, Drill Field, and the War Memorial in the distance. Further, it could provide a covered drop-off and pick-up area below, and would locate a 24-hour activity at the very heart of the campus.

In conjunction with the War Memorial, the Library Bridge would help architecturally express Virginia Tech's mission to foster a commitment to service (the Memorial) and the rigorous academic preparation which contributes value to that service (the Library). The Library Bridge would provide a vista to the Mall from the east framing views of the Memorial and the Virginia landscape beyond. This spatial gateway and frame would be reminiscent of the passageways connecting the quadrangles and the Drill Field. As a grand gateway, the Library Bridge would define the Mall as a ceremonial entry to the campus. It would also frame a Court d' Honneur defined by the existing library, the proposed north wing of the library, and the War Memorial. At 32 feet in height, the War Memorial could more effectively command this newly defined space which is approximately 320 feet wide in the east/west direction. The Mall, at 1,200 feet in length, is an overwhelming expanse relative to the height of the War Memorial. The Library Bridge would provide a terminus more in scale with this length.

The architectural design of this key building is critical and will require careful study. The following recommendations provide a starting point.

Building Dimensions

The bridge should span the Mall from curb to curb, about 98 feet. It should be no more than 60 feet wide, have a clearance in the center of 22 feet, and 14 feet at its spring points.

Interior Reading Room

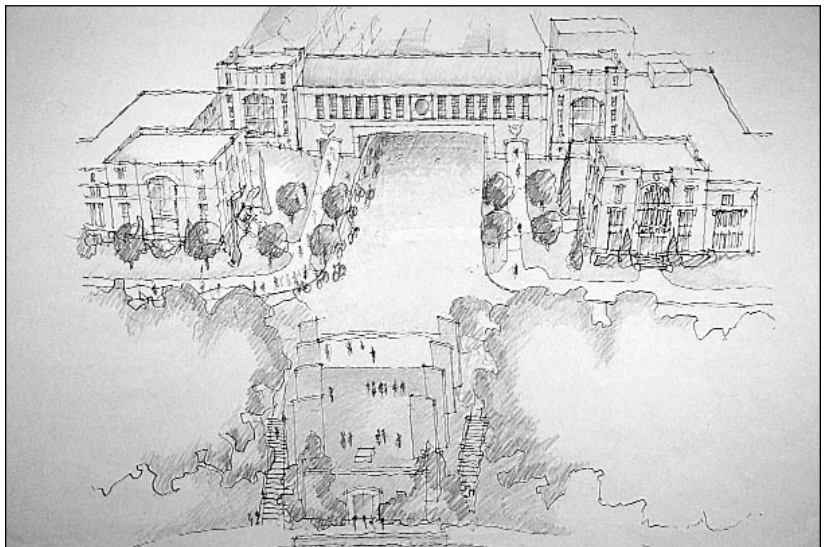
The mass of the bridge should be directly related to the size of the interior reading room. This room should have a minimum ceiling height of 14 feet at its edges, and perhaps a barrel-vaulted shape in its East/West section; adding another 8 feet in height to the space. It is important that this room have a compelling and memorable character that enhances its symbolic location and stirring views. The campus once had a 'great hall' in the old library. This room can replace that lost asset.



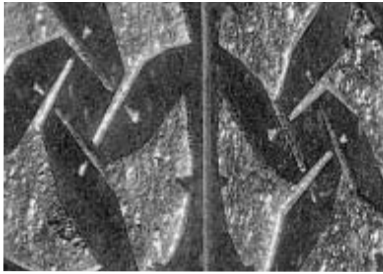
Reading Room in old library (destroyed by fire).



Traditional Virginia Tech ornament and detail.



View of Court D'Honneur with proposed Reading Room/Bridge.



Modern ornament achieved by sand blasting. Office Building, Pennsylvania Avenue, Washington, D.C.



Reinterpretation of traditional architectural elements ties past to present. George Washington University, Loudoun County, Virginia.



Contemporary ornament and detail achieved with cast stone on an office building. Pennsylvania Avenue, Washington, D.C.

Materials

The exterior of the Library Bridge should be predominantly hokie stone with limestone trim. The underside of the span must be developed with the same care as the other campus passageways. Coffering in plaster, tile finish, or wood detail should all be considered. The roof should be a standing seam metal of grey color.

Details

The exterior should incorporate refined architectural details and an ornamental program.

Design Expression

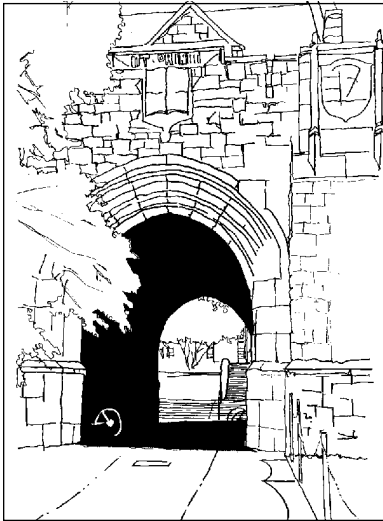
The greatest challenge may be in expressing the modernity of the structure. This may be accomplished through the careful revelation of concrete or steel structural systems. Perhaps the side walls of the Library Bridge are beams, with the top and bottom of the central window expressed as compression and tension connections respectively. A savvy and sophisticated merging of program, technology, and aesthetics is required. These three characteristics parallel the Vitruvian ideals of 'commodity, firmness, and delight'.

9.5.0 THE DESIGN CHALLENGE

The above description of the Mall development is meant to illustrate the broad latitude afforded designers within this Master Plan's vision for Virginia Tech. The value of an individual's freedom and creativity is a foundation of our society. Writing for the Washington Post, E. J. Dionne, Jr., described how this spirit of individual freedom is exemplified in American cultural heroes such as Humphrey Bogart:

"Bogart's enduring strength lies in the fact that he resolved the essential tension in the American character between a passionate individualism and a powerful but unsentimental devotion to community. Bogart could give himself to others, even to abstract ideals, while remaining his own man, a risk taker. He could say, as Sam Spade put it, 'I don't mind a reasonable amount of trouble.'"

We also value individual sacrifice and commitment to the common good. Virginia Tech's founding, as a Land Grant College, is a manifestation of both these values. The purpose of the Design Guidelines is to help individual designers express their creativity within the framework of serving the common good.



Traditional Virginia Tech archway

9.6.0 GENERAL RECOMMENDATIONS SUMMARY

9.6.1 Design Character

- Buildings should extend and enhance the underlying planning and architectural strengths of the campus.
- New buildings should balance individual expression with contextual sensitivity.
- New buildings should reflect the character of Virginia Tech as an institution with a rich past, vibrant present, and promising future.
- Program, site, and budget parameters should all be addressed in an integrated fashion.

9.6.2 Planning

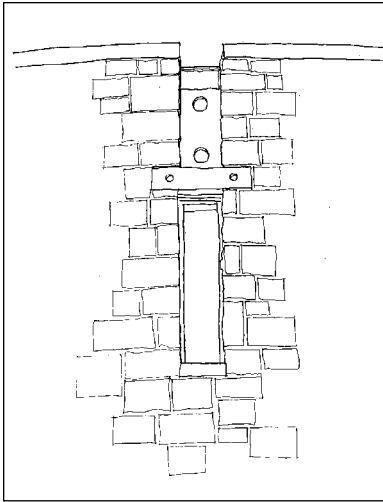
- Buildings should be sited to reinforce and enhance the spatial structure of the campus and its circulation patterns.
- Building entries should be clear and coordinated with circulation patterns and landscaping elements.
- Ground level uses should consider the harmony of interior and exterior activities.

9.6.3 Massing

- Massing should be simple.
- Buildings should be tall enough to define adjoining spaces. This will require a minimum 3-story or 45 feet high building.
- Bays, porches, towers, and other minor adjustments to massing are encouraged.

9.6.4 Roof Forms, Roof Lines and Silhouette

- Well developed and articulated roof lines are encouraged.
- Sloped roofs and flat roofs are both acceptable.
- Sloped roofs should be of high quality self finished metal or slate.
- Flat roofs should have carefully selected aggregate or pavers if visible. Visible roofscapes must be as carefully designed as any other exterior surface of the building.
- It will be necessary for designers to explain all aspects of their design selection including material, color, patterning, and other details.



Contemporary architectural detail executed in cast stone.

- Parapets should be well articulated and trimmed with cut stone. Profiles, scuppers, and other ornamental devices are acceptable and encouraged.
- Dormers and pediments are also acceptable and encouraged as are cupolas, chimneys, and other traditional roofing embellishments. Their intersection with the main roof must be well detailed and will receive careful scrutiny. These elements should not be viewed purely as ornamental elements without functional attributes.

9.6.5 Facades

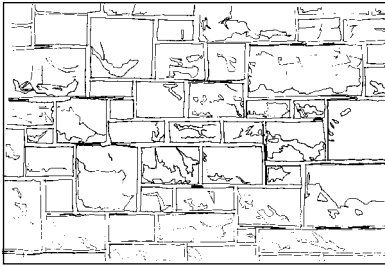
- Facades should be simple and well ordered.
- General fenestration patterns should be regular. Some vertical hierarchy is appropriate. Window surrounds should be cut stone. Window openings should be subdivided to create a vertical proportion where they form horizontal groupings.
- The use of bays, giant order elements, or special accents to provide a large overall order is acceptable and encouraged.
- Special detailing ornament and materials at significant locations are acceptable and encouraged.
- Window frames and glass should be set back approximately 6". Sills and heads should be detailed to shed water and alleviate the possibility of unattractive weathering patterns.

9.6.6 Architectural Details

- Buttresses, coping, string courses, and other traditional architectural details are acceptable and encouraged.
- The joining of dissimilar materials must be resolved carefully and will be rigorously reviewed.
- Where possible, caulk joints should be placed in less visible locations such as inside corners or reveals.

9.6.7 Ornament

- The campus currently has minimal ornament reflective of its lengthy history. Future buildings should have well developed ornamental programs appropriate to a University with such a broad contemporary mission.
- Heraldry, plant, animal, and geometric motifs are all acceptable and encouraged in a coordinated program.
- Building identification integrated into building facades are key elements of an ornamental program.



Traditional Virginia Tech random stone masonry.

- The use of new technologies to economically produce ornamental elements is acceptable and encouraged.
- The creative use of masonry patterning is also acceptable as an ornamental strategy.

9.6.8 Masonry

- Material selection should be made to reinforce existing campus patterns.
- Hokie stone with split face random units and natural color mortar should be used in buildings within the quadrangles surrounding the Drill Field. The drill marks these stones contain should also be retained as a design element. Cut limestone trim should be utilized. Outside this inner core, a mix of hokie stone and reddish brick, or brick with limestone trim may be considered.
- Masonry design must comprehensively consider unit size, texture, color, hording pattern, mortar and striking. These design choices will be rigorously reviewed.
- Precast concrete, poured-in-place concrete, and cast stone may be proposed as alternatives to limestone trim.

9.6.9 Roofing

- See 9.6.4

9.6.10 Exterior Doors

- Wood, metal, and glass doors are all acceptable.
- Doors should have a quality and character appropriate to the overall facade.
- Vision panels, reveals, and carving are appropriate and encouraged.

9.6.11 Color

- Color choices for brick must be coordinated with the existing campus and reinforce the overall campus design.
- Paint colors on campus are currently subdued. More contrast and hue are encouraged.
- Colors should help "bring out" the various tones in the hokie stone and plant materials on campus.
- Deep red, blue, and green, with grey may be considered. Black and dark brown are also acceptable.