ARCHITECTURAL COMPATIBILITY GUIDE

MALMSTROM AIR FORCE BASE

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1.0 INTRODUCTION

Malmstrom Air Force Base lies on approximately 3,700 acres of wide, rolling plain just outside the city of Great Falls, Montana. In addition to the base proper, Malmstrom controls off-base sites and missile fields spread over an area of approximately 24,000 square miles.

Nearly 4,300 active duty personnel are assigned to Malmstrom. Another 1,100-plus civilian appropriated, non-appropriated and contract employees boost Malmstrom's total work force to more than 5,400. Active duty dependents and military retirees bring the base area population to approximately 11,100.

Malmstrom's primary mission is to support the Air Mobility Command and Air Combat Command in deterring war, large or small, using nuclear or conventional weapons through combat readiness. The 43d Air Refueling Wing carries out its worldwide air refueling mission with 21 KC-135R tanker aircraft. The 341st Missile Wing operates, maintains, and secures 200 Minuteman intercontinental ballistic missiles.

Historically, Malmstrom began as an Army air base established during World War II. Before Malmstrom existed, Great Falls Airport was drafted into the war effort as a national defense base. An Air Corps squadron was assigned to Great Falls, and funds were allocated to develop the airport for military use. Subsequently, the 7th Ferrying Group was assigned to the upgraded facility. Its mission was to establish an air route between Great Falls and Ladd Field, Fairbanks, Alaska, to facilitate aircraft and supply shipment to the Soviet Union in support of the U.S.-Soviet lend-lease agreement.

In May 1942 construction began on a new base six miles east of Great Falls, which was activated 15 December 1942. It was known as Great Falls Army Air Base, or simply "East Base," until 15 June 1956, when it was dedicated Malmstrom AFB in honor of Colonel Einar Axel Malmstrom. Col. Malmstrom died in a T-33 aircraft crash 11 miles from Great Falls on 21 August 1954. He had served in the U.S. armed forces for 23 years, most notably as a World War II combat pilot whose plane was shot down over France in 1944. Detained for one year in a POW camp in

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Barth, Germany, he was honored with a Bronze Star for heroism. At the time of his death he was serving as deputy wing commander at Great Falls.

Major construction at East Base took place during 1942-43. Initially, it consisted of four 8,850-ft. runways, connecting taxiways, a parking apron, two hangars, a control tower and an operations office. The base was assigned to 2nd Air Force, and under this command a number of bombardment groups trained for, and participated in, Allied bombing missions in Germany.

During 1943 construction of such amenities as a consolidated mess, a post exchange, a theater, and a 400-bed hospital was completed. At that time, East Base was turned over to the Air Service Command, which vacated the Great Falls Airport facility. The following year the base was again reassigned, this time to the Air Transport Command. By the end of 1944 Great Falls Army Air Base had shipped a total of 3,204 aircraft and 1.7 million pounds of cargo to the Russian allies. By September 1945 the total of aircraft processed had risen to more than 7,000.

When World War II ended, the lend-lease agreement with the Soviets also ceased. During the post-war years Great Falls saw numerous changes in commands and missions, in response to post-war political turmoil and the coming of the Cold War. In the 1950s the U.S. military emphasis was on deterrence, and Malmstrom's major mission shifted from air transport to strategic reconnaissance. A new $2 million runway and modernized facilities, in addition to its geographic advantages, made Malmstrom a logical choice as a new Strategic Air Command (SAC) base. By 1957, SAC's F-84 fighters and KB-29 reconnaissance planes were joined by the KC-97 tankers of the 4061st Air Refueling Wing. But the tankers were dropped once it became obvious that the support planes could not keep pace with the new B-52 Bomber.

In the 60s, Malmstrom became primarily important as the home of the 341st Missile Wing, its 200 Minuteman missiles scattered over 23,000 square miles of Montana countryside. Over the past 20 years the original missiles, now obsolete, have been replaced with Minuteman II's and III's.

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Although its role as a missile base has been primary for three decades, in recent years practice touch-and-goes are again a common sight above Malmstrom's flightline. In 1988 the 301st Air Refueling Wing with its fleet of KC-135s was assigned to Malmstrom, the first flying wing on base since 1961. When reorganization of the Air Force was announced in 1991, Malmstrom was reassigned from SAC to the Air Mobility Command (AMC). Under its new command the base continues its present missions, although the emphasis has shifted to world-wide readiness to deploy aircraft, troops and supplies, rather than deterrence at home.

As the Air Force has evolved from its pre-World War II origins, it has attempted, more or less successfully, to keep facility upgrades apace of technological advances. Malmstrom is a good example of a base that has paid attention to aesthetics as well as function when improving its facilities. Both new construction and renovation projects reflect the base's commitment to sound, pleasing architectural treatment. This is a trend that should continue, in keeping with AMC's commitment to excellence in all its facilities.

To guide future construction, an orderly and logical plan is necessary to maintain a unified environment that reflects a commitment to readiness, military strength, and the high quality of architectural standards at Malmstrom. The guidelines set forth in this document have been established so that from a visual perspective, both now and in the future, the base consistently fosters a sense of pride and conveys professionalism, and the feeling that Malmstrom AFB is a good place to live and work.

2.0 PURPOSE

The purpose of this guide is to promote clear and consistent communication between Malmstrom AFB as a client and design professionals -- whether they are in-house or outside -- regarding any type of design and construction on base.

This guide has been prepared under the precept that the base needs to have definitive architectural control over its buildings. The base civil engineering staff in particular is tasked with ensuring the overall look of the base reflects consistency of thought, and fosters the perception that Malmstrom AFB comprises a unified built environment. With that in mind, all additions, deletions or changes to existing facility exteriors or landscaping (including all Self-Help, SABER, RPMC, MCP, and NAF projects and SHARP EAGLE Team programs) must have prior review and approval by the base civil engineer's Architectural Compatibility Review Board and shall comply with the requirements in this guide.

Within this document, the design community will find criteria and parameters for base construction projects that conform to architectural compatibility standards, but allow a certain degree of creativity/flexibility. Although some materials and design themes have become standardized for Malmstrom AFB, the intent of this document is to provide a framework to guide the architectural expression of individual architects who design base structures.

The architectural compatibility guidelines presented herein have been developed through two separate activities: 1) examining and incorporating existing base architectural studies and materials standards; and 2) physically inspecting and photographing selected base buildings and functional areas, evaluating how the structures relate to each other and how they fit within a particular area.

This guide concerns itself with the base as a whole, as well as individual structures. Indeed, some specific recommendations have been included for architectural enhancements of particular buildings and functional areas. These recommendations referencing construction materials, landscaping and architectural themes are covered in more detail later in this guide.

The intent here is to ensure latitude for creativity and design expression within the design controls, avoiding fads, while recognizing good contemporary design values, construction techniques and materials. With that premise, this guide seeks to instill not repetition, but compatibility and consistency.

The *Commander's Guide to Facility Excellence* was one of the documents used to compile this guide. It included some key points that exemplify base-wide architectural compatibility, which are excerpted here:

- A new facility constructed out of context with the base's architectural theme, or at a site incompatible with the overall base comprehensive plan, is a "50-year mistake."
- Purge your base of unnecessary signs (and pavement markings).
- Don't allow a proliferation of small exterior storage sheds or trailers and temporary structures.
- When you have the opportunity to demolish old, worn-out buildings, do so.
- Eliminate visual "clutter" throughout the base. Put utility lines underground whenever possible.
- Good architectural or landscape screening of unattractive dumpsters, mechanical equipment, or storage areas can enhance appearance and help "tie together" your base architectural, color or landscaping theme.
- Your base needs to reflect a strong tie to the Air Mobility Command and at the same time identify with its own particular community and environment.
- Set high standards of quality, consistency, and compatibility, and enforce them throughout your Base Comprehensive plan.
- The (Base) Landscape Plan guides effective plant selection and placement throughout the base. Use only base-approved trees, shrubs, and grass to create pleasant and stimulating environments in which to work and live.
- The Base Sign Plan establishes consistent placement, format, size, color, material, and lettering standards. (Please refer to Sign Standards, SHARP EAGLE Memo #11).
- Architecturally blend physical security features into your building and site development improvements and design.
- Control colors throughout the base by using established color combinations (Please refer to Exterior Paint Color Plan Guidance, SHARP EAGLE Memo #9).
- Use concrete curbs and sidewalks to provide a neat appearance and prevent erosion.

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Other documents referenced in the preparation of this guide include:

AIR FORCE DOCUMENTS

ACG Supplement to the Base Comprehensive Plan, Dec 85
Airmen Communities Guide
Architectural Compatibility Bulletin, Dec 87
Criteria and Standards for Air Force Construction, Interim Draft Edition, AFR 88-15
Installation Design, AFM 88-43
Landscape Planning and Design, AFP 86-10
Sign Standards, AFP 88-40

AMC STANDARDS

Exterior Paint Color Plan Guidance (SHARP EAGLE Memo #9)
Sign Standards (SHARP EAGLE Memo #11)

BASE DOCUMENTS

Comprehensive Plan
Architectural Design Guide

3.0 EXECUTIVE SUMMARY

Architectural themes at Malmstrom AFB establish the framework to support new construction, renovation of existing structures, painting, and landscaping. As with any organization, however, people change. Commands change. Commanders and others get reassigned. But the buildings remain. The base must have a way of informing architects and designers that certain standards of construction materials and architectural styles are in place at the base, and must be adhered to when developing a base project. These guidelines and materials lists are incorporated into this document.

This guide will provide photographs of buildings/structures, along with analyses and recommendations for improving them based upon the standards of architectural compatibility established by the base. *Schematic perspective drawings that accompany the recommendations are illustrative only of an approach to implementing the recommendations of architectural compatibility, and are not to be construed as design solutions.* Also covered in this guide are design guidelines and architectural themes.

The following are some general architectural guidelines to observe when considering designing base structures.

- Use simple building shapes with facade proportions that are integrated with adjacent or like use facilities.
- Use clean simple details, such as soldier coursing brick or carefully placed reveals within walls.
- Use the visual rhythm created by fenestration design to compatibly relate buildings to each other.
- Buildings shall be designed for ease of maintenance and operability.
- If a building or structure within an area has characteristics that are incompatible with the area, then new construction shall not attempt to be compatible with that building or structure.
- New buildings shall be constructed of materials that are easily maintained.
- Any modifications designed for existing buildings must pay close attention to existing architecture within the immediate vicinity, not only of the building/structure in question, but of the buildings/structures in the particular area.
- Avoid introducing uncommon, trendy or different types of materials in the cantonment area of the base.

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- Avoid using bright accent color trim on doors.
- Limit use of ceramic or glazed tile accents on buildings.
- Use dark bronze tone color window and door trim, and clear or medium bronze tint glazing for new and renovated facilities. Avoid using gray or silver tint glazing.
- Select a roof shingle color and use it exclusively for non-MFH shingled buildings. Suggest "Oakwood" color by Certainteed or similar color. Use organic materials in preference to fiberglass.
- Utilitarian equipment, such as electrical transformers, air conditioning condensers, etc., shall be screened from view wherever possible by the use of brick, metal or wood fencing, or landscaping materials.
- All roof drainage shall be discharged into underground storm sewers where available.
- Utility lines shall be buried underground whenever possible.
- Signage must be professionally done and standardized in accordance with Sign Standards (SHARP EAGLE Memo #11).
- All new construction shall comply with Air Force Regulation 88-15, Uniform Building Code, or Uniform Federal Accessibility Standards, as applicable.

4.0 AREAS OVERVIEW

For the purpose of describing architectural compatibility, the base has been organized into five separate areas distinguished by the palette of existing construction materials applied on buildings in each one. (Area 5, Housing, is an exception. For construction materials in this area, please consult the Military Family Housing Community Guide for Malmstrom AFB.) A brief description of each of the four remaining areas follows:

AREA 1: OPERATIONAL/INDUSTRIAL

This area is located along the Southwest and Northeast edges of the base, and is adjacent to the flightline and runways. Buildings include operational, industrial, utility, warehouses and hangars. Building materials are mostly concrete block, concrete (painted) and metal siding. However, several recent projects represent an emergence of new design standards and materials. Among them are split-faced concrete masonry units, factory-finished metal siding and sloped standing seam metal roofing. Since most of these facilities are large, close attention to scale between them and adjacent structures must be carefully considered. Future structures in this area should continue to follow the style and standards being established by the Alert Crew Support facility (650), Aircraft Maintenance (1439), AGE shop addition (1447), Corrosion Control (1450), and the Heat Plant (82110).

AREA 2: ADMINISTRATIVE

The administrative core is located in the center of the base between the Operation/Industrial and Community areas. Generally, the architectural style is concrete block, concrete pilasters, and flat roofs, although a few of the buildings are pre-finished metal siding. At present new design standards with higher quality building materials are being incorporated in new facilities as well as the renovation and upgrading of existing structures. Brick, split-faced concrete block, sloped standing seam metal roofing and metal facias are among the new precedents being set in this functional area.

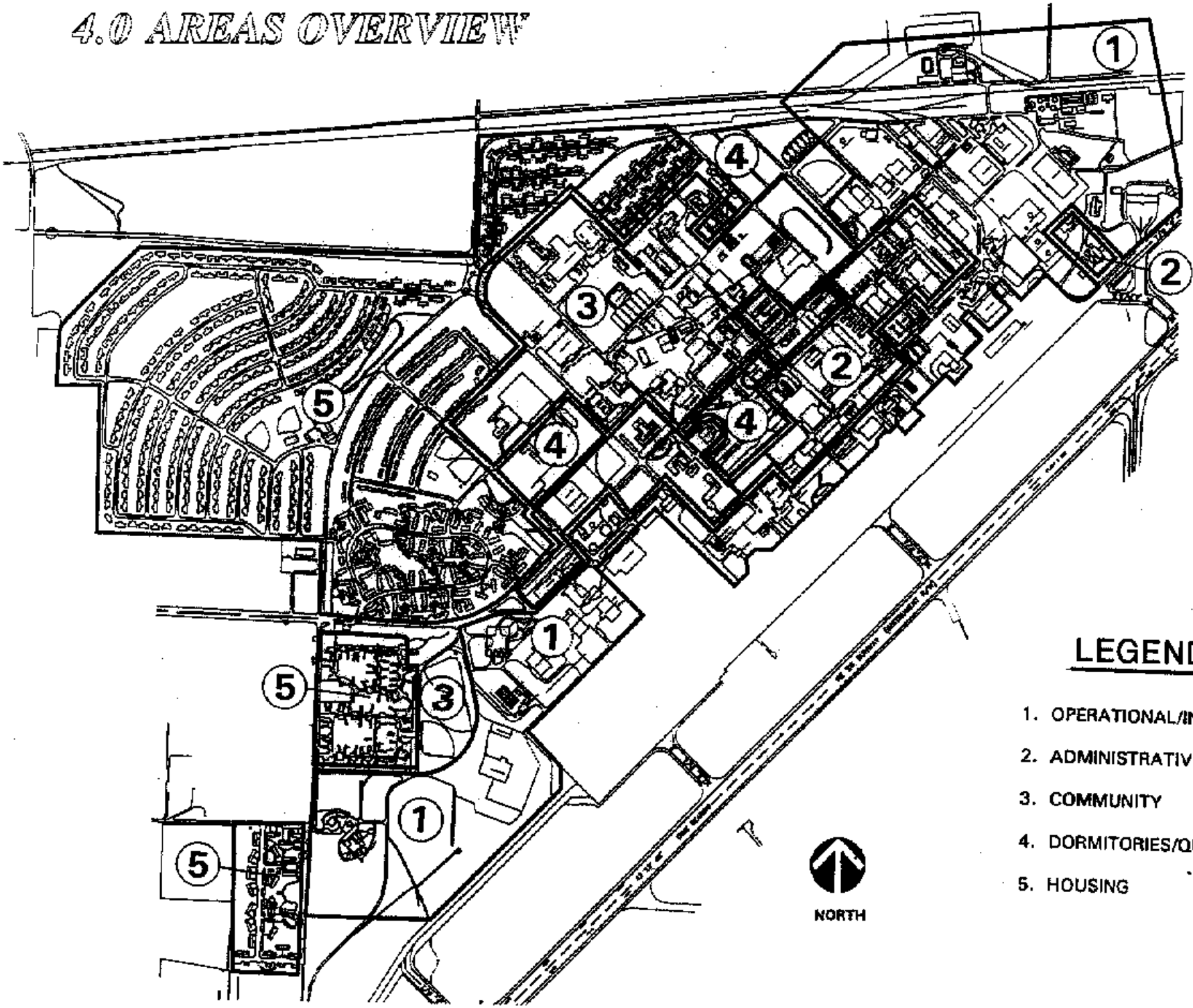
AREA 3: COMMUNITY

These buildings serving religious, dining, dormitory, medical and recreational functions are located near the center of the base. The prevailing architectural style has been concrete block, concrete pilaster strips and flat roofs. As with other areas of the base, there has been an emergence of new design styles and materials. Brick, concrete (precast, poured-in-place), and factory-finished metal cladding systems are being used to achieve a consistency of style and materials that define this functional area of the base. Elements of good design, relationship to site, materials, massing and form can be seen in the Commissary (1320) and the Clinic (2040). Designers of new facilities and base improvement projects in this area should apply those aspects of the Commissary and Clinic to their particular facilities.

AREA 4: DORMITORY/QUARTERS

Troop housing is predominantly provided by dormitory-type buildings constructed of concrete block and flat roofs. These dormitories are located in the central core of the installation where concrete and concrete block construction predominates. The scale of long, monotonous walls is a concern in these types of facilities. Efforts must be made to relieve the negative visual impact of these stark building facades. New standards in this area shall be acceptable factory-colored CMU, brick, stucco or lamina-protected exterior insulation systems and sloped, standing seam metal roofs.

4.0 AREAS OVERVIEW



LEGEND

1. OPERATIONAL/INDUSTRIAL
2. ADMINISTRATIVE
3. COMMUNITY
4. DORMITORIES/QUARTERS
5. HOUSING

4.1 CONSTRUCTION MATERIAL SPECIFICATIONS

Malmstrom Air Force Base is composed of five areas delineated by function. Each area shall be distinguished by its construction materials and color schemes. Architects or designers of new structures or renovations should respect the architectural integrity and construction materials already established in each area.

1. Operational/Industrial
2. Administrative
3. Community
4. Dormitories/Quarters
5. Housing (refer to Military Family Housing Community Plan)

***MATERIALS BY AREA** - These guidelines focus on future exterior building materials and color themes for each area, thus eliminating the existing unfocused building designs that have led to wide variations in building styles, materials, and colors. (Note: Existing materials in these areas may not be preferred for future construction. Please consult Base Civil Engineering for guidance in selecting appropriate construction materials.)*

Area 1:

A. OPERATIONS BUILDINGS

1. EXTERIOR WALLS:
   Concrete Masonry Units (CMU) as manufactured by Amcor, Inc., Idaho Falls, Idaho or Fagenstrom Company, Great Falls, MT, in split-face or fluted finish, manufactured using all white cement and carefully selected aggregates in order to produce an "Antique Linen" coloration that meets prior approval of the Base Civil Engineer (BCE).

2. ROOFING:
   Standing seam, anodized aluminum or steel with baked-on finish (with matching coil-stock flashings). Color: Federal Standard color No. 37056, except on buildings that have a pre-defined color scheme.

3. FENESTRATION:
   a. Windows: (Except residential) dark bronze anodized aluminum, thermal barrier, and factory seal dual glazed from the interior.
      Color: Fed. Std. No. 37056.
   b. Steel doors and frames: Provide steel doors and frames equal to Republic, painted to match Sherwin-Williams No. SW37056, except on buildings that have a pre-defined color scheme.

4. GUTTERS & DOWNSPOUTS, METAL COPINGS & FLASHING:
   Gutters, metal copings and flashing will be baked-on finish, gutters to match roof and/or fascia; downspouts to match walls.

B. WAREHOUSES, INDUSTRIAL, HANGARS
1. EXTERIOR WALLS:
   Metal Cladding. Color: Fed. Std. No. 23578, Antique Linen.

2. ROOFING:
   a. Standing seam, anodized aluminum or steel with baked-on finish (with matching coil-stock flashings).
      Color: Sherwin Williams No. SW37056.
   b. For roofing types other than those listed, consult with the BCE.
3. FENESTRATION:
   a. Windows: (Except residential) dark bronze anodized aluminum, thermal barrier, and factory seal dual glazed from the interior.
      Color: Fed. Std. No. 37056.
   b. Steel doors and frames: Provide steel doors and frames equal to Republic, painted to match Sherwin-Williams No. SW37056.

4. GUTTERS & DOWNSPOUTS, METAL COPINGS & FLASHING:
   Baked-on finish, gutters to match roof and/or fascia; downspouts to match walls.

Area 2:

ADMINISTRATIVE BUILDINGS:

1. EXTERIOR WALLS:
   a. Brick (preferred) as manufactured by Denver Brick Company, Castle Rock Co., or Hebron Supply Company, Billings, Mt., in matte or wire finish, and of the Denver Brick color "Desert Tan."
   b. CMU and concrete - CMU as manufactured by Amcor, Inc., Idaho Falls, Idaho, or Fagenstrom Company, Great Falls, MT, in split-face or fluted finish, manufactured using all white cement and carefully selected aggregates in order to produce an "Antique Linen" coloration that meets approval of the BCE.
   c. Concrete and precast concrete (lintels, copings, etc.) shall be integrally colored or stained to match building color scheme.

2. ROOFING:
   a. Standing seam, anodized aluminum or steel with baked-on finish (with matching coil-stock flashings). Color: Federal Standard Color No. 37056.
   b. Composition shingle roofing as manufactured and designed by Certainteed to meet high wind area requirements, with use of "T"-Lock (over 2-1/2" in 12), and 3-tab with extra mastic (under 2-1/2" in 12). Color: Oakwood.
   c. For roof types other than those mentioned above, consult with the BCE.

3. FENESTRATION:
   a. Windows: (Except residential) dark bronze anodized aluminum, thermal barrier, and factory seal dual glazed from the interior.
      Color: Fed. Std. No. 37056.
   b. Steel doors and frames: Provide steel doors and frames equal to Republic, painted to match Sherwin-Williams No. SW37056.

Area 2 :

4. GUTTERS & DOWNSPOUTS, METAL COPINGS & FLASHING:
   Baked-on finish, gutters to match roof and/or fascia; downspouts to match walls.

Area 3:

COMMUNITY BUILDINGS

1. EXTERIOR WALL:
   a. Brick (preferred) as manufactured by Denver Brick Co., Castle Rock, CO, or Hebron Brick Supply Company, Billings, MT, in matte or wire finish, and the Denver Brick color "Desert Tan."
   b. CMU as manufactured by Amcor, Inc., Idaho Falls, Idaho or Fagenstrom Company, Great Falls, MT, in split-face or fluted finish, manufactured using all white cement and carefully selected aggregates in order to produce an "Antique Linen" coloration approved by the BCE.

2. ROOFING:
   a. Standing seam, anodized aluminum or steel with baked-on finish (with matching coil-stock flashings). Color: Federal Standard Color No. 37056.
   b. Composition shingle roofing as manufactured and designed by Certainteed to meet high wind area requirements, with use of "T"-Lock (over 2-1/2" in 12), and 3-tab with extra mastic (under 2-1/2" in 12). Color: Oakwood.
   c. For roof types other than those mentioned above, consult with the BCE.

3. FENESTRATION:
   a. Windows: (Except residential) dark bronze anodized aluminum, thermal barrier, and factory seal dual glazed from the interior.
      Color: Fed. Std. No. 37056.
   b. Steel doors and frames: Provide steel doors and frames equal to Republic, painted to match Sherwin-Williams No. SW37056.

Area 3:

4. GUTTERS & DOWNSPOUTS, METAL COPINGS & FLASHING:
   Baked-on finish, gutters to match roof and/or fascia; downspouts to match walls.

Area 4:

DORMITORIES AND QUARTERS

1. EXTERIOR WALL:
   a. CMU (preferred) as manufactured by Amcor, Inc., Idaho Falls, Idaho or Fagenstrom Company, Great Falls, MT, in split-face or fluted finish, manufactured using all white cement and carefully selected aggregates in order to produce an "Antique Linen" coloration approved by the BCE.
   b. Lamina-protected Exterior Insulated Finish System (EIFS).
   c. Stucco.
   d. Brick: as manufactured by Denver Brick Co., Castle Rock, CO, or Hebron Brick Supply Company, Billings, MT, in matte or wire finish, and the Denver Brick color "Desert Tan."

2. ROOFING:
   a. Standing seam, anodized aluminum or steel with baked-on finish (with matching coil-stock flashings). Color: Federal Standard Color No. 37056.
   b. Composition shingle roofing as manufactured and designed by Certainteed to meet high wind area requirements, with use of "T"-Lock (over 2-1/2" in 12), and 3-tab with extra mastic (under 2-1/2" in 12). Color: Oakwood.
   c. For roof types other than those mentioned above, consult with the BCE.

3. FENESTRATION:
   a. Windows: (Except residential) dark bronze anodized aluminum, thermal barrier, and factory seal dual glazed from the interior.
      Color: Fed. Std. No. 37056.

AREA 4:

3. FENESTRATION:

   b. Steel doors and frames: Provide steel doors and frames equal to Republic, painted to match Sherwin-Williams No. SW37056.

4. GUTTERS & DOWNSPOUTS, METAL COPINGS & FLASHING:

   Baked-on finish, gutters to match roof and/or fascia; downspouts to match walls.

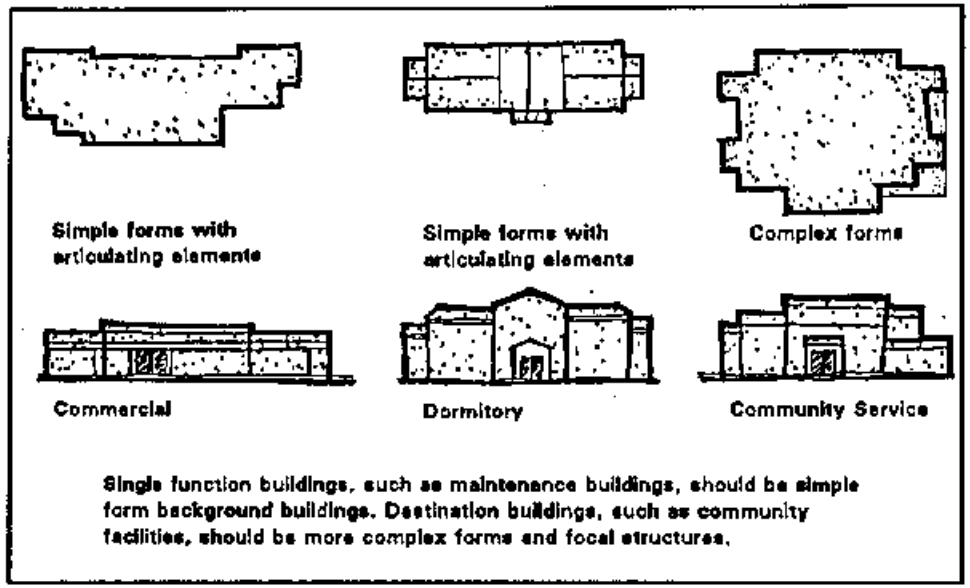
4.2 ARCHITECTURAL GUIDELINES

CRITERIA AND CONSIDERATIONS

The following criteria and principles should be considered in order to achieve architectural compatibility for Malmstrom AFB.

MASSING AND FORM

- Massing and form play a major role in establishing the character and scale of a structure. While a controlled palette of colors and materials are used to create visual continuity across the base, massing and form are valuable tools which should be used to contribute visual interest and identity to individual buildings.
- Use massing and form from existing buildings as cues for new structures. Relate the height, footprint and proportions of new buildings to adjacent structures and the prevailing scale of adjacent open areas, as well.



Massing and Form

BUILDING FORM

Building footprint and profile shall be representative of its function and present an identifiable building environment hierarchy.

ADMINISTRATIVE, COMMUNITY SERVICES AND COMMERCIAL BUILDINGS

- For administrative, community services, and commercial buildings, give articulated, more complex form.
- Use entries as a focal point.
- Provide soffits or roof overhangs to add horizontal shadow lines.
- Emphasize one portion of building to create a hierarchy.

DORMITORIES

- Vary massing and forms to provide a more human scale.
- Provide a base to the buildings to strengthen the relationship with the ground.
- Use pitched standing seam metal roofs for new construction and renovated facilities.
- Use entries and stair towers to provide human scale.

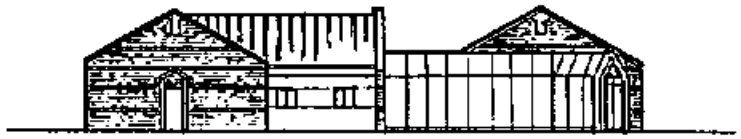
RECREATIONAL BUILDINGS

- Articulate recreation buildings which are substantially larger than adjacent buildings as a series of smaller masses or components to create a building facade which is within the Campus context.
- Provide scale objects to soften building mass (i.e., porticos, arcades, piers, stairs).
- Raise or lower a section of a long facade.
- Offset a section of a long flat facade.

BUILDING EXPANSIONS

- Building expansions shall be designed to strengthen existing plazas or focal points.
- New additions shall emphasize the original building shape and forms, and use materials and colors that are designated in the construction materials section of this guide.
- Repeating existing forms shall be used for commercial and recreation buildings if future expansion is required.

Dormitory
Simple form with articulating elements; two-story with Dutch hip roof; projected entry; paired windows (w/h 2 to 5); one accent band per floor.



Community Services
Complex form; one- or two-story with pitched roof; projected entry; grouped windows.

Commercial
Complex form; one-story horizontal; pitched roof; recessed or projected entry; one accent band per building.

Facade Articulation

FACADE ARTICULATION

A facade's surface is articulated primarily with entrances, windows, and decorative detailing. The shapes, size, scale and proportions of these elements on the facade can be altered or manipulated to establish systems of rhythmic or hierarchical fenestration. These facade systems cause buildings to either relate to or contrast with, the facade articulation patterns of the surrounding built environment.

Relate the scale and proportion of building elements to their use, surrounding context, and human perception.

- The administrative building elements shall have larger than human scale.
- The community services, dormitory, commercial, and recreation building elements shall have human scale.

ENTRANCES

A building's entrance is the most important and highly used facade element, and shall be well-defined. The main entrance to the building shall do more than provide an access to its interior. It shall relate to the size and proportion of other facade elements around it, be visually attractive and inviting, as well as provide human scale. Consideration shall be given to environmental concerns, such as wind, weather, and snow accumulation.

For administrative buildings, the main entry element shall be projected as a hierarchically significant building element.

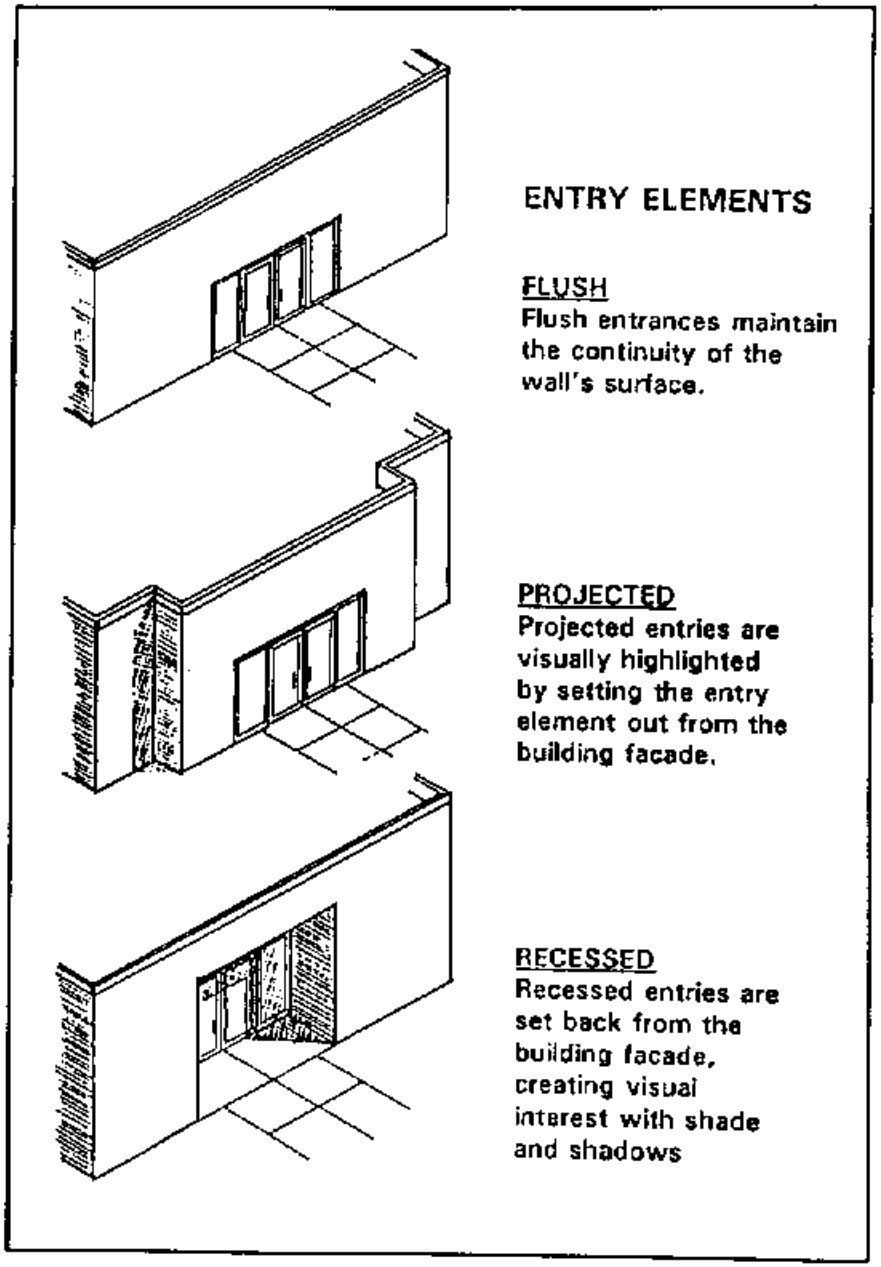
- The main entry height, fascia depth and fascia overhand shall match the building entry facade.

For recreation buildings the main entry element shall be projected, recessed or flush.

- The entry element shall be one to two stories high with a pitched roof.
- Brick or stucco detailing or brick belt coursing may be used to match the building facade.

For dormitories, the entry element shall be recessed or flush.

- The entry element shall be one story high and shall have a pitched roof.
- The canopy shall be rectangular in shape and shall have a minimum dimension of 4'-0" projected from face of building.
- Brick detailing, belt coursing, or stucco detailing may be used to match the building facade.
- Consideration should be given to locating entrances on a southern exposure, since the northern exposures tend to freeze and remain frozen during winter months.



ENTRANCES (Continued)

For commercial buildings, the main entry element shall be projected, recessed or flush.

- Brick detailing, belt coursing, soffit and fascia used on a facade shall match the existing building.

WINDOWS

Windows play a major role as an articulating element on a building's facade. The sizes, shape, and operational style of windows used on a building's facade can help express the character and function of the facility. Patterns of windows can range from a series of punched openings on a solid wall to an all-glass facade articulated by an open frame. Window patterns can help define buildings of different land use areas and increase continuity throughout.

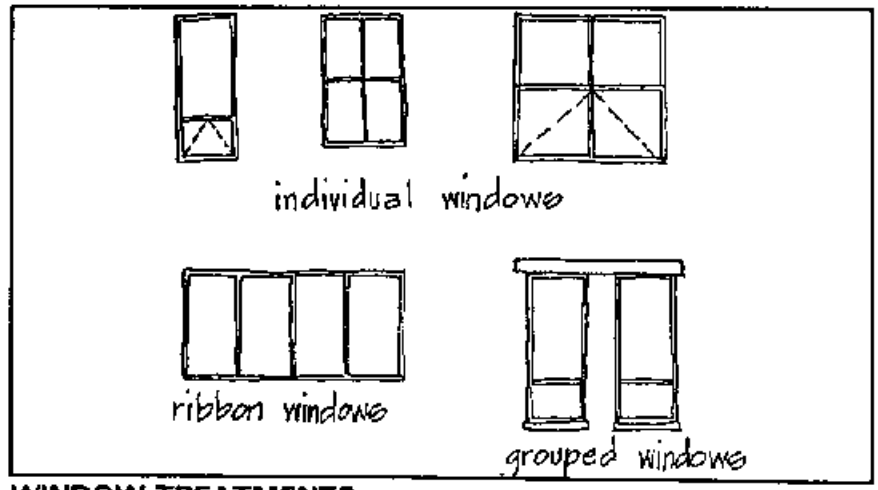
Use consistent shape of windows for buildings to enhance the unified architectural theme. Window units shall not be stacked vertically on the same floor, except where room height exceeds 12'-0". Triangular, circle-top, oval, oblong, or other odd shape windows shall not be permitted. More than two window patterns per building shall not be permitted. Minimize glass area where possible for energy conservation, but maintain required natural light and ventilation.

- For administrative buildings, individual or grouped windows (maximum three windows per opening) shall be used. As an exception, glass curtain wall can be used at entry vestibules and lobbies.
- For community services buildings, individual or grouped windows (maximum three windows per opening) shall be used. As an exception, glass curtain wall can be used at entry and vestibules. For entertainment buildings ribbon windows may be used.
- For dorms, use individual, grouped, or bay windows.
- For recreation buildings, use individual or ribbon windows.

FENESTRATION

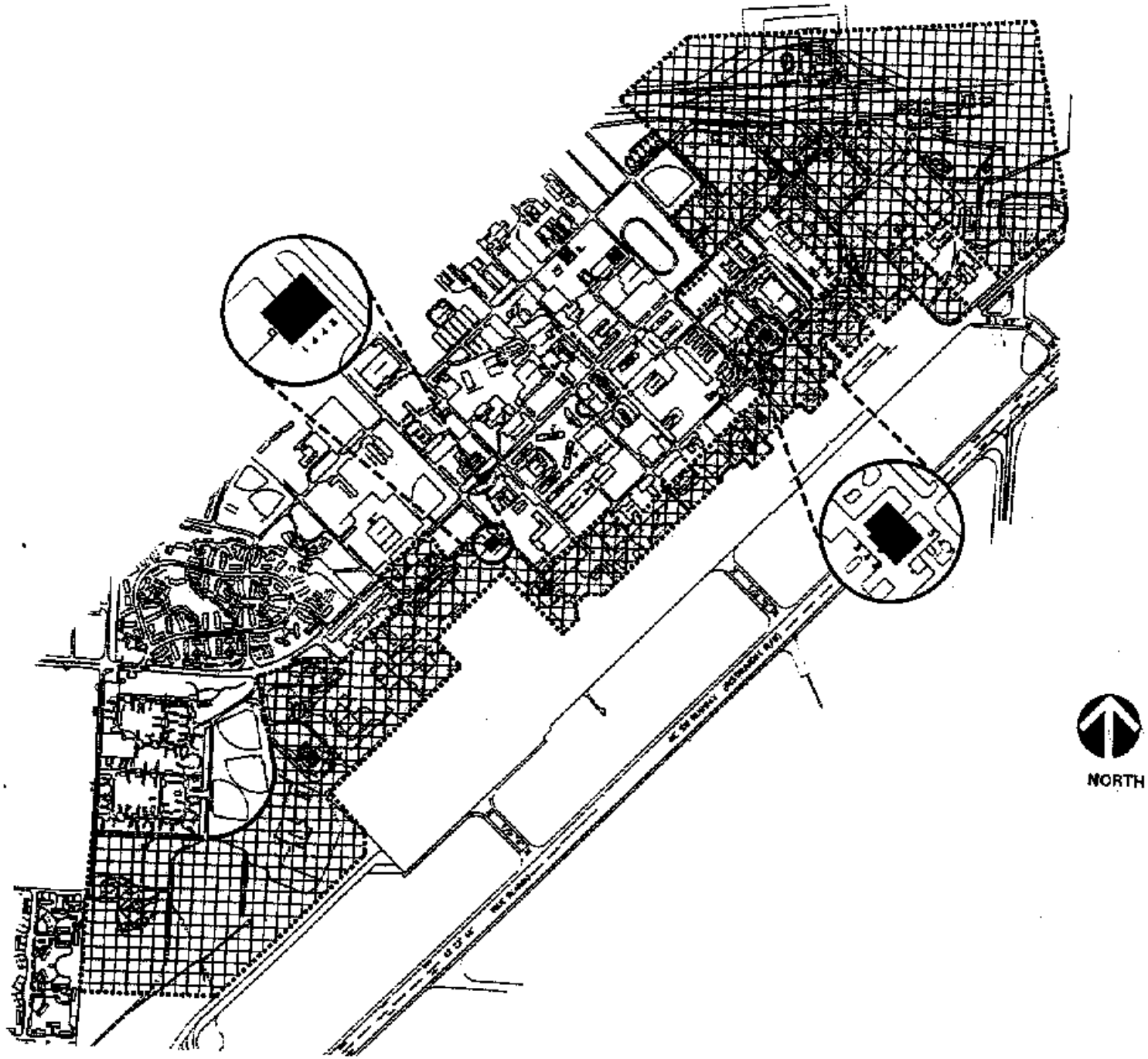
Openings and cavities create texture and shadow patterns, as well as interrupt the continuity of a form's surfaces. Along with the doors and windows, a facade's character shall be articulated by decorative detailing and by contrasting the texture of a facade's surface together with its color. Use consistent facade detailing throughout the building to enhance the unified architectural theme.

- Use of rowlock or soldier course brick details at head/sill of the windows and doors shall be permitted.
- Special brick and stucco details such as quoins or cornices shall not be permitted.



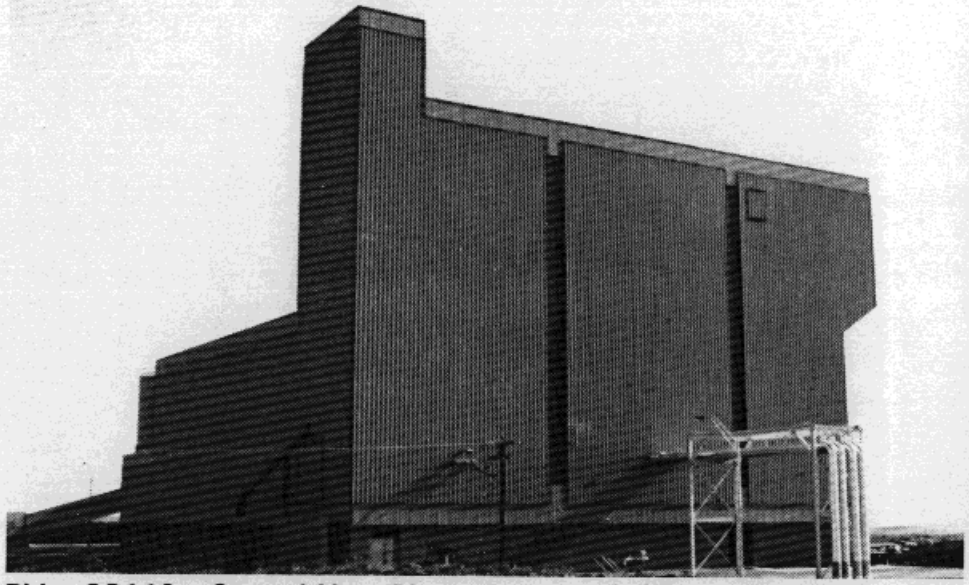
WINDOW TREATMENTS

4.3.1 - OPERATIONAL/INDUSTRIAL - AREA #1



4.3.1 - OPERATIONAL/INDUSTRIAL - AREA #1

The recent construction of new facilities and the upgrading of some existing structures have helped develop this area of large hangar buildings and operational facilities into an aesthetically pleasing and harmonious group of buildings. The use of consistent building materials and paint colors demonstrates a dedicated effort to achieve an overall theme that would be both complementary and compatible with base standards. However, land around these facilities is devoid of natural vegetation in the form of trees and shrubs. There is also a lack of outdoor amenities for area personnel.



Bldg. 82110 - Central Heat Plant uses metal siding with varied fluting sizes to create an interesting facade on a large building.

CONCERNS:

- ***Large expanses of open parking lots are devoid of landscaping.***
- ***Dumpsters, mechanical and electrical equipment are not sufficiently screened.***
- ***Above-ground steam piping is visually unattractive.***
- ***Chain-link fencing and open storage yards are visually unappealing.***

RECOMMENDATIONS:

- ***Develop unused space between buildings; introduce plantings into the area and provide personnel with an outdoor place to relax and enjoy lunch.***
- ***Chain-link fencing should be avoided except for security purposes. Install metal fencing (shadow box style), or masonry screen wall outside chain link to conceal storage yards. (See pgs. 51-53.)***

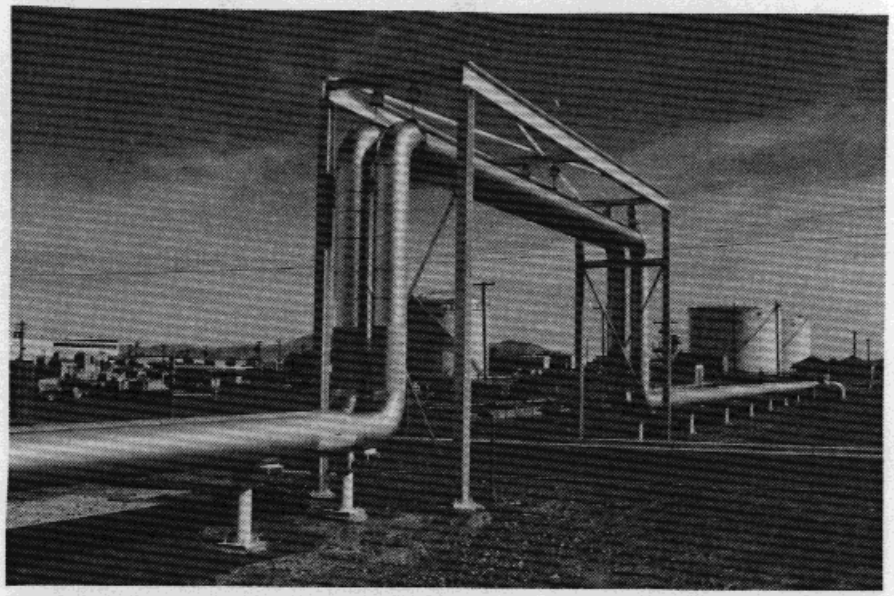
Bldg. 220, Base Facility Improvement Center

4.3.1 - OPERATIONAL/INDUSTRIAL - AREA #1

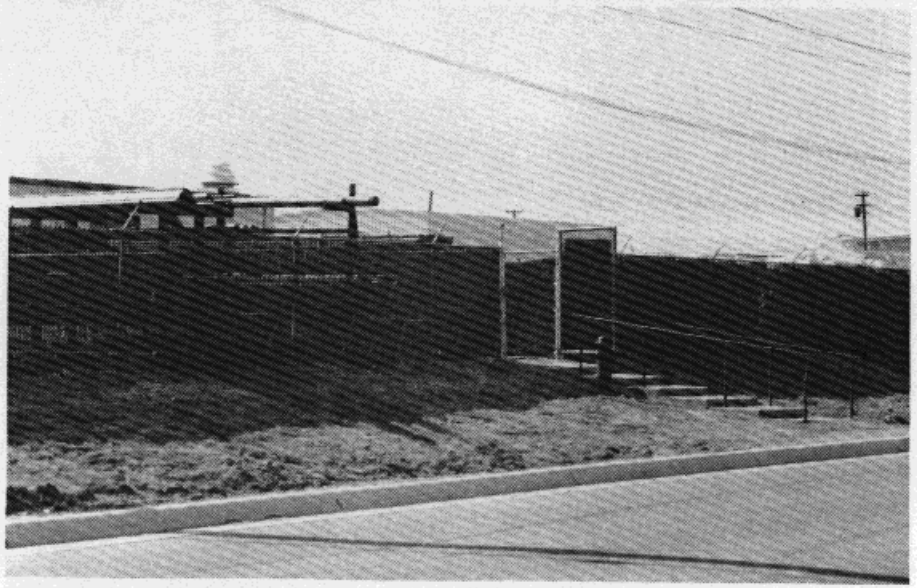
RECOMMENDATIONS:

(Continued)

- ***Low-level steam lines can be concealed by planting dense shrubbery in front of the piping.***
- ***In parking lots use planting islands to break up the large expanses of paving, to add scale, provide shade and to soften the visual impact of the parked cars.***
- ***Add plantings around the bases of buildings to visually soften the impact of the building masses with the ground plane.***



Unsightly overhead steam piping

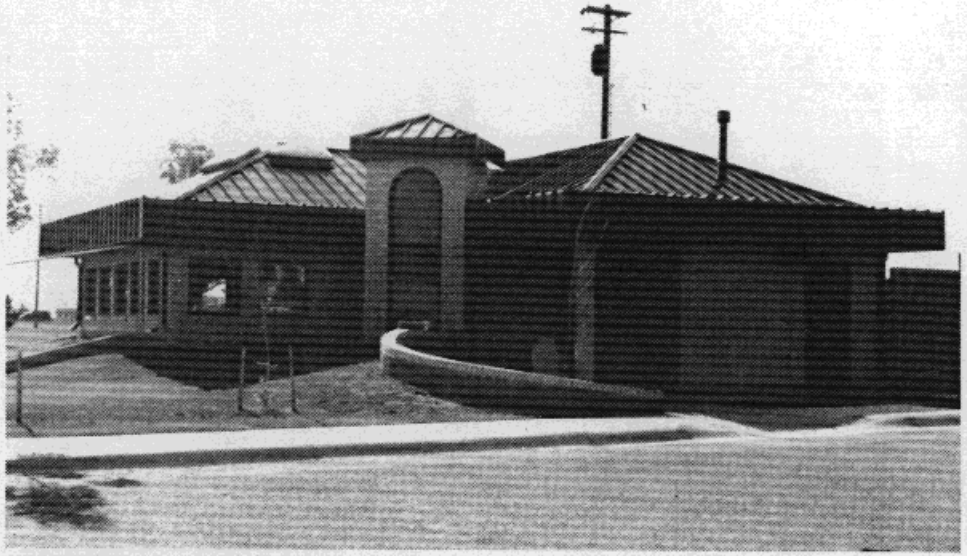


Chain link fencing with slat material used for screening should be avoided

4.3.1 - OPERATIONAL/INDUSTRIAL - AREA #1

MAIN GATE AREA

The Visitor's Center - Bldg. 192, located at the main entrance to the base, is the first building other than the gatehouse that visitors see when they enter the base. These structures give the base an appropriate "sense of entry," as well as harmoniously employ building materials and colors that embody the architectural styling the base hopes to consistently emulate. The level of finish and selection of materials for these buildings represent an example for future base design and construction projects.



Bldg. 192 - Visitor's Center

Bldg. 194 - Main Gatehouse

4.3.1 - OPERATIONAL/INDUSTRIAL - AREA #1

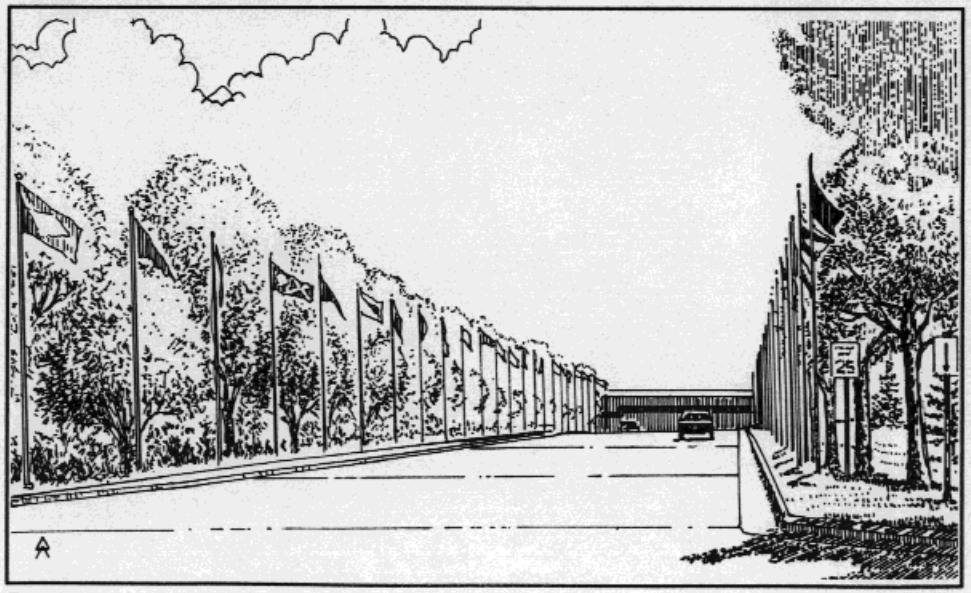
CONCERNS:

- ***The wood fencing on the north side of Goddard Drive is visually unattractive and detracts from the overall positive appearance of the Main Gate.***

RECOMMENDATIONS:

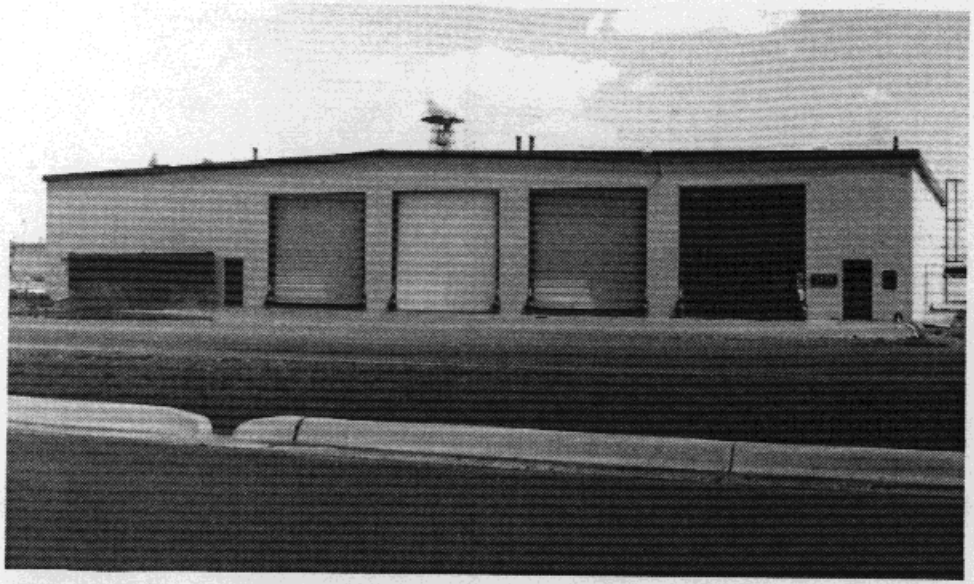
- ***Use dense evergreens combined with deciduous plant materials indigenous to the area to provide visual interest and screening.***

Goddard Drive looking northeast

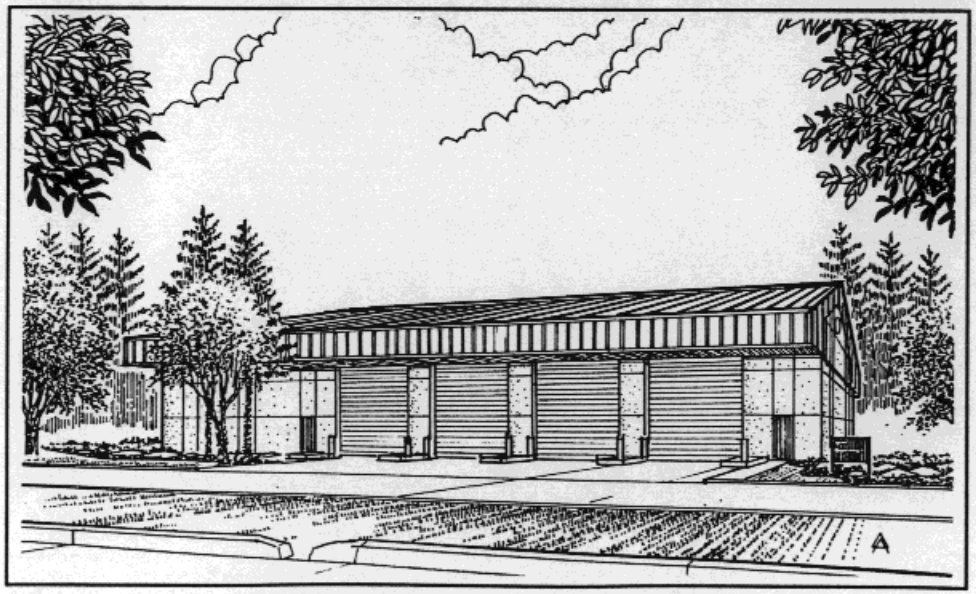


Perspective sketch showing added landscaping along Goddard Drive

4.3.1 - OPERATIONAL/INDUSTRIAL - AREA #1



Bldg. 1448 - looking southeast along 1st Avenue North



Perspective sketch of improvements to Bldg. 1448

BLDG. 1448 - TRANSPORTATION TRUCK, TRACTOR MAINTENANCE FACILITY

This maintenance facility is housed in a one-story concrete block building with a low sloped roof.

CONCERNS:

- ***Landscaping around base of building is lacking.***
- ***Concrete block exterior is incompatible with surrounding buildings.***
- ***Entry development is inadequate.***

RECOMMENDATIONS:

- ***Add a new pitched, standing seam metal roof.***
- ***Upgrade building appearance with planting around base of building to visually soften the impact of the building and ground plane.***
- ***Reclad exterior with EIFS system to make it more compatible with surrounding buildings.***
- ***Provide building identification signage.***

4.3.1 - OPERATIONAL/INDUSTRIAL - AREA #1

BLDG. 548 - SOCIAL ACTIONS

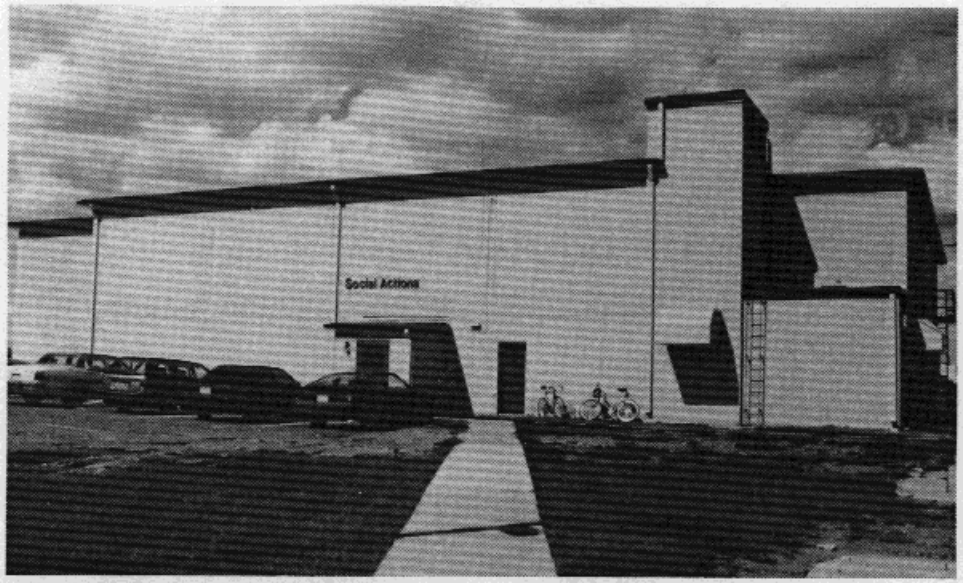
Bldg. 548 is a two-story structure with a low, sloped roof. The exterior finish is stucco.

CONCERNS:

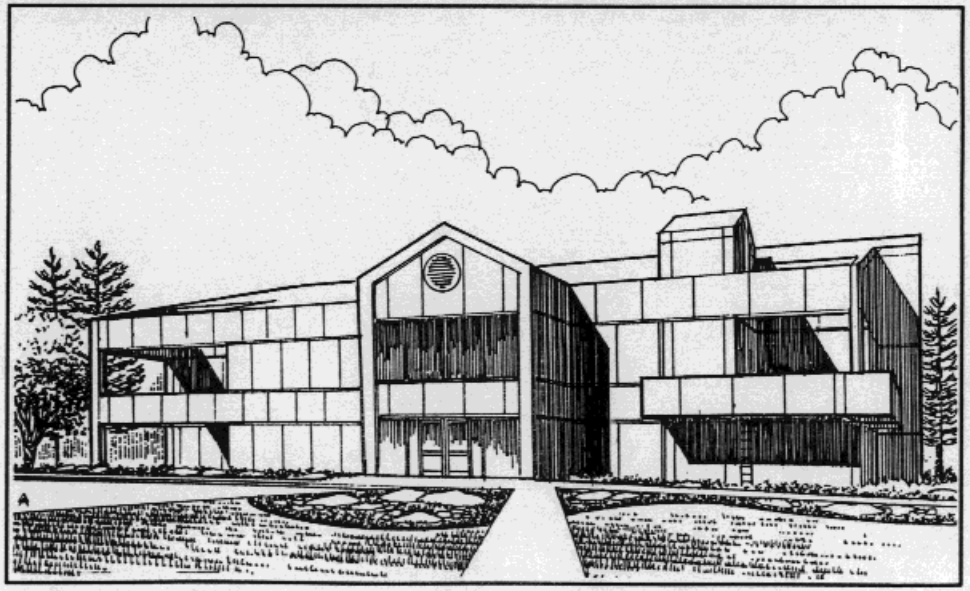
- ***No detailed primary entrance exists.***
- ***Landscaping is not developed.***
- ***Parking lot is unscreened and paving extends to face of building.***
- ***Building exterior is incompatible with surrounding facilities.***
- ***Open exterior exit stairs become hazardous in inclement weather.***

RECOMMENDATIONS:

- ***Add a gabled, standing seam metal roof.***
- ***Provide landscaping to visually enhance the building appearance.***
- ***Exterior stair should be protected to prevent the accumulation of snow and ice.***
- ***Provide an entry feature to highlight the main entrance.***
- ***Upgrade existing facade with EIFS system to be more compatible with surrounding buildings.***
- ***Use berming and small trees to screen parking lot from view.***

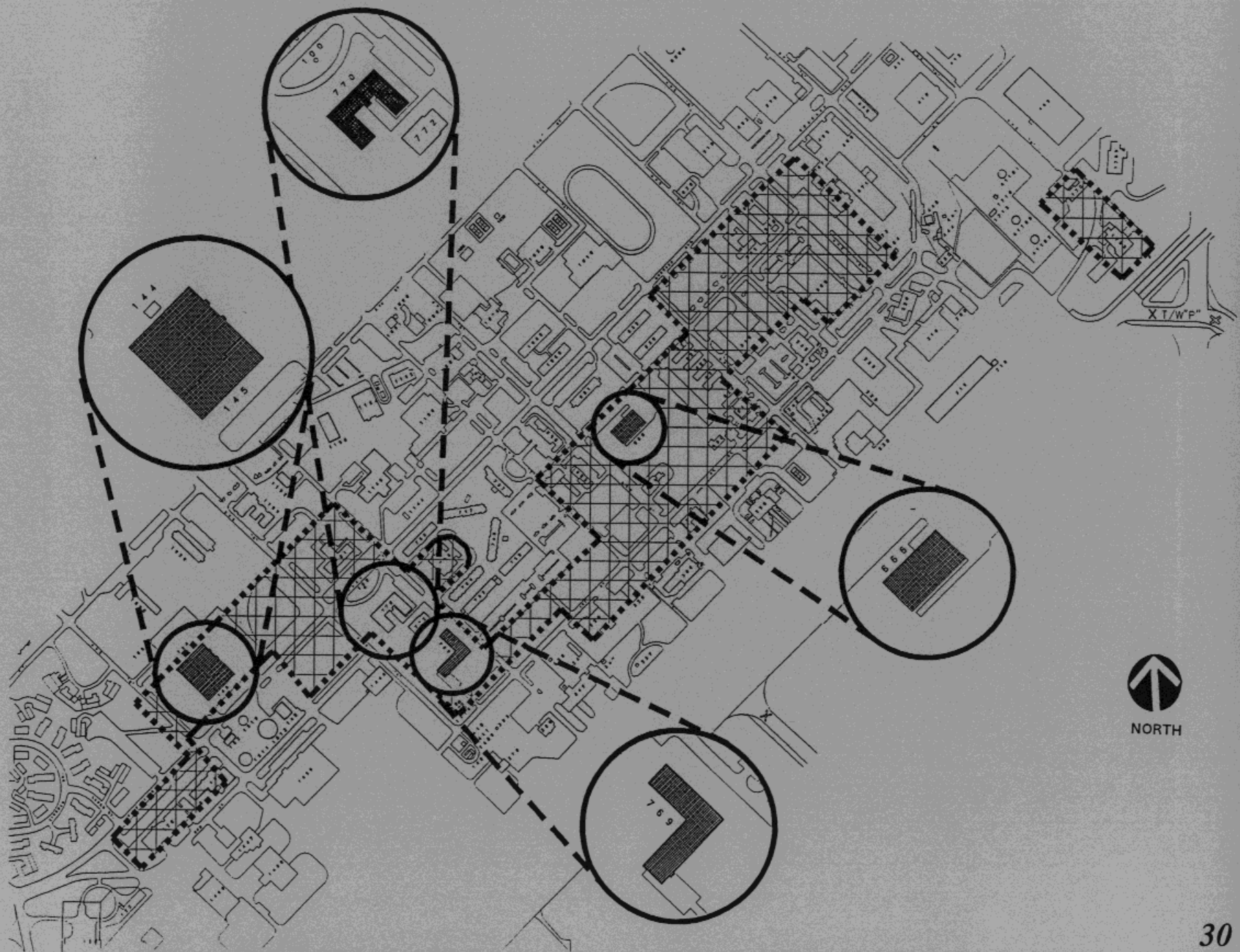


Bldg. 548 - Social Actions, looking Northeast



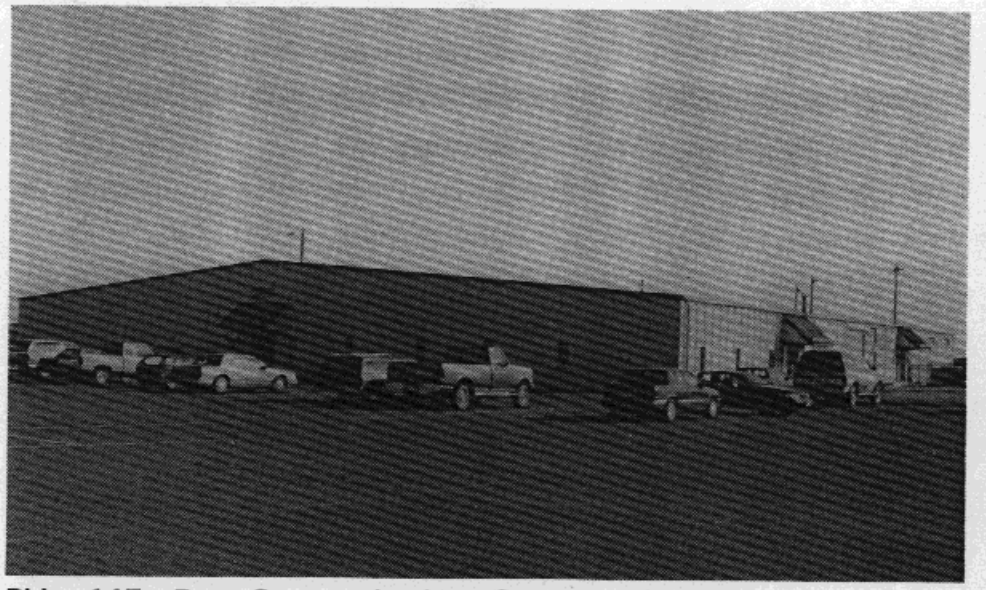
Perspective sketch showing exterior improvements to Bldg. 548

4.3.2 - ADMINISTRATIVE - AREA #2



4.3.2 - ADMINISTRATIVE - AREA #2

Bldg. 145, the Base Communications and Computer Center, is a large, single-story, pre-engineered, metal-clad building. The metal cladding is not a "standard" for this area of the base and therefore renders this building incompatible with surrounding facilities.



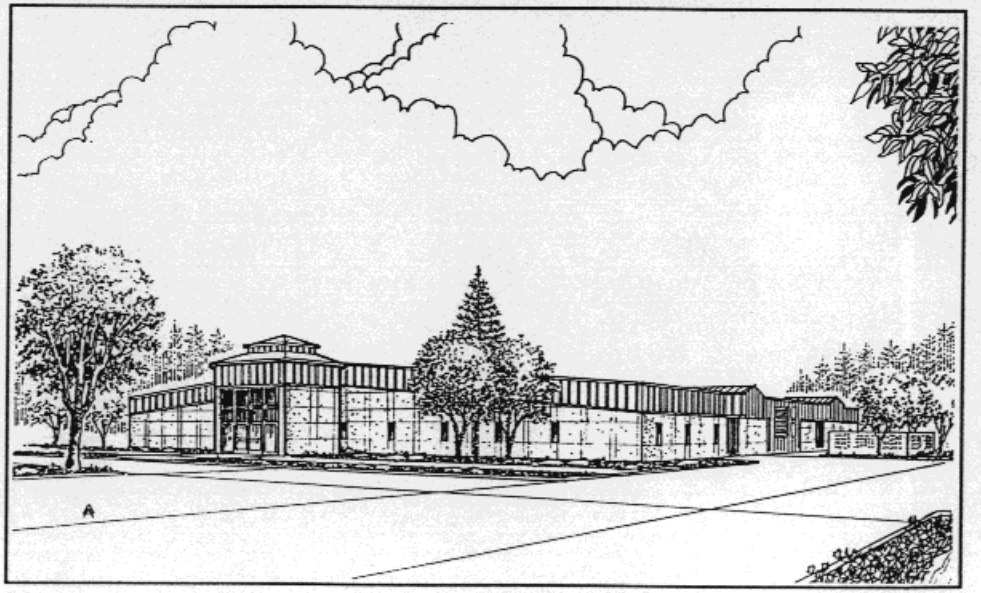
Bldg. 145 - Base Communications Computer Center

CONCERNS:

- ***Parking lot pavement extends to face of building.***
- ***Building has poorly defined entrance and identification signage of inconsistent design.***
- ***An expansive, barren parking lot dominates the visual setting and presents unattractive views from Goddard Drive.***
- ***Sparsity of landscaping creates a visually harsh environment.***
- ***At-grade mechanical equipment is visually prominent.***

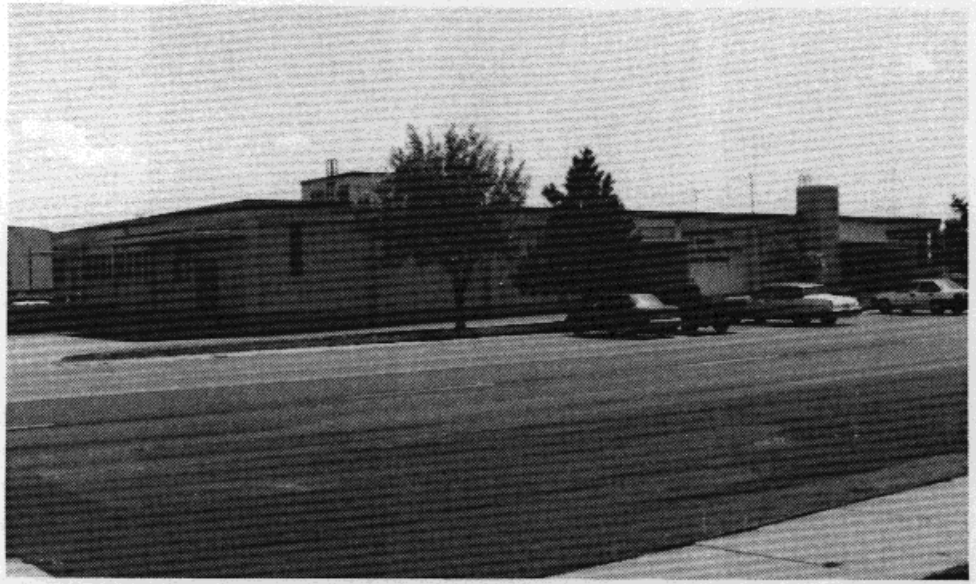
RECOMMENDATIONS:

- ***Design an entry feature to highlight entrance with a coordinated signing system to direct visitors.***
- ***Redesign parking area to provide a clear and convenient circulation pattern with planted islands with large deciduous trees for scale, shade and visual relief.***
- ***Provide screens of appropriate design and materials for mechanical equipment/dumpster areas.***
- ***Reclad building exterior with an EIFS system that will unify the structure with other buildings in the area and also confer an image of permanence.***
- ***Add a pitched, dark bronze standing seam metal roof with standing seam fascia.***

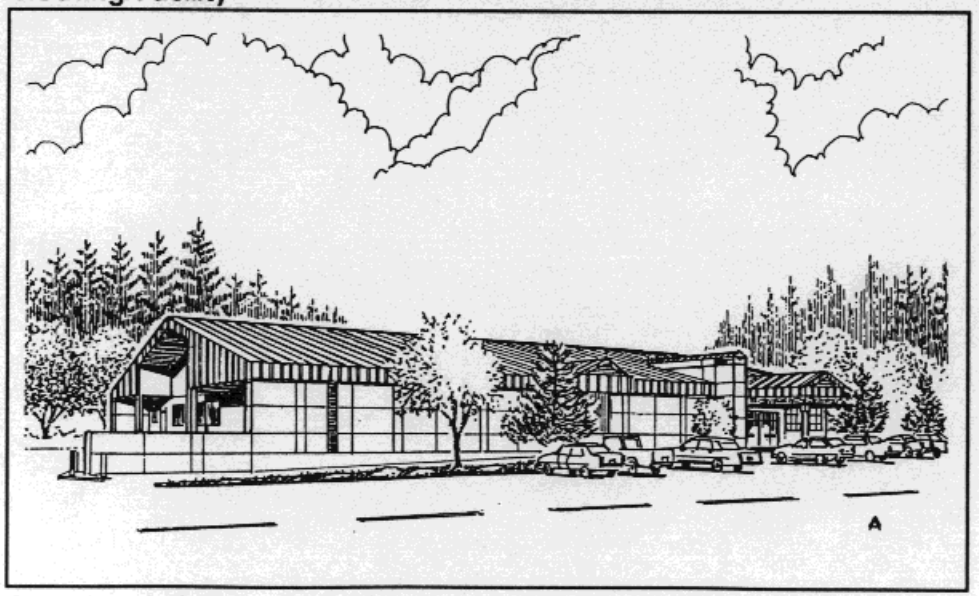


Perspective sketch of an upgraded Bldg. 145

4.3.2 - ADMINISTRATIVE - AREA #2



Bldg. 666, Visual Information Service Center, Base Banking and Military Clothing Facility



An upgraded Bldg. 666 with sloped, standing seam metal roof

BLDG 666 - VISUAL INFORMATION SERVICE CENTER,BASE BANK, MILITARY CLOTHING FACILITY

Bldg. 666 is a one-story, concrete block building with a flat roof.

CONCERNS:

- ***Building entry lacks definition.***
- ***Landscaping is deficient.***
- ***Roof is flat, leaving mechanical "doghouse" visible.***
- ***Loading dock has no guard rail.***
- ***Trash dumpsters are unscreened.***
- ***Building exterior is incompatible with surrounding building.***

RECOMMENDATIONS:

- ***Provide a new gabled, standing seam metal roof.***
- ***Reclad concrete block exterior with EIFS and replace windows with bronze tinted glazing in dark bronze anodized frames.***
- ***Redesign facade to highlight building entry.***
- ***Screen trash dumpsters, mechanical equipment and service areas from view, using berming, plantings and compatible screen walls.***
- ***Provide safety railings at loading dock that conform to OSHA guidelines.***
- ***Develop landscaping around perimeter to visually enhance building.***

4.3.2 - ADMINISTRATIVE - AREA #2

BLDG. 769 - MISSILE TRAINING AND EVALUATION CENTER

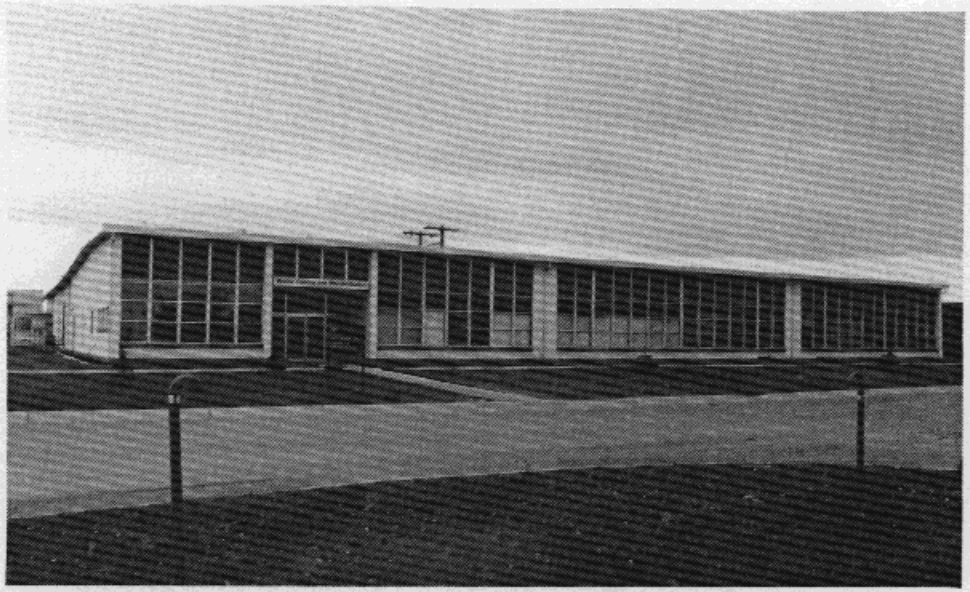
Bldg. 769 is a concrete block structure with a low sloped roof. The entire front facade is glass curtain wall.

CONCERNS:

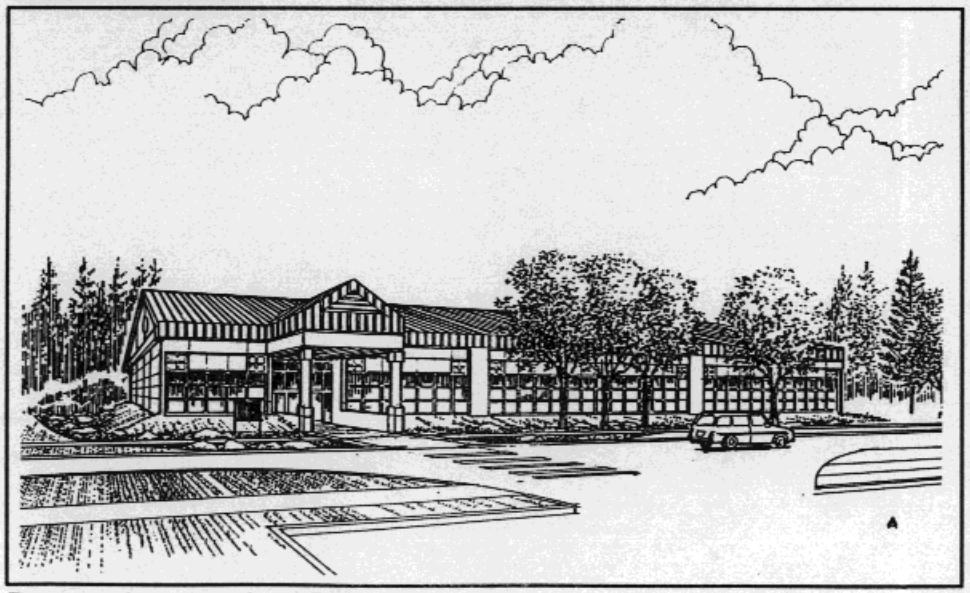
- ***Building is experiencing water problems because of ground slope.***
- ***Building entry is poorly defined.***
- ***Landscaping is deficient.***
- ***Building exterior is not compatible with newer facilities in the area.***

RECOMMENDATIONS:

- ***Reclad concrete block exterior with EIFS and replace window wall with bronze tinted glazing in dark bronze anodized frames.***
- ***Add a gabled, standing seam metal roof with matching fascia.***
- ***Use berming and plantings around perimeter of building to promote positive water drainage and to enhance building's appearance.***
- ***An entry feature is needed to highlight entry.***

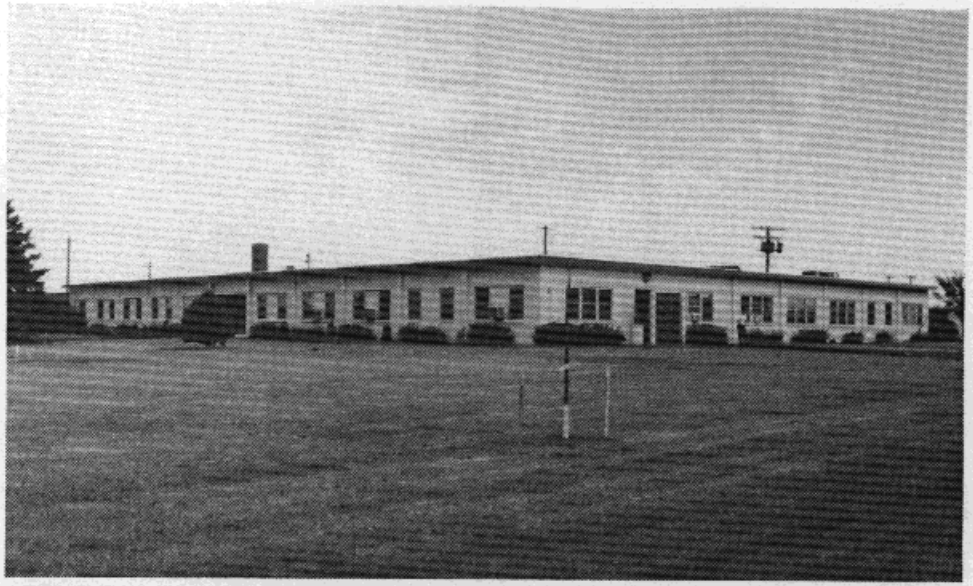


Bldg. 769, 341st Wing Operations Missile Training and Evaluation Center

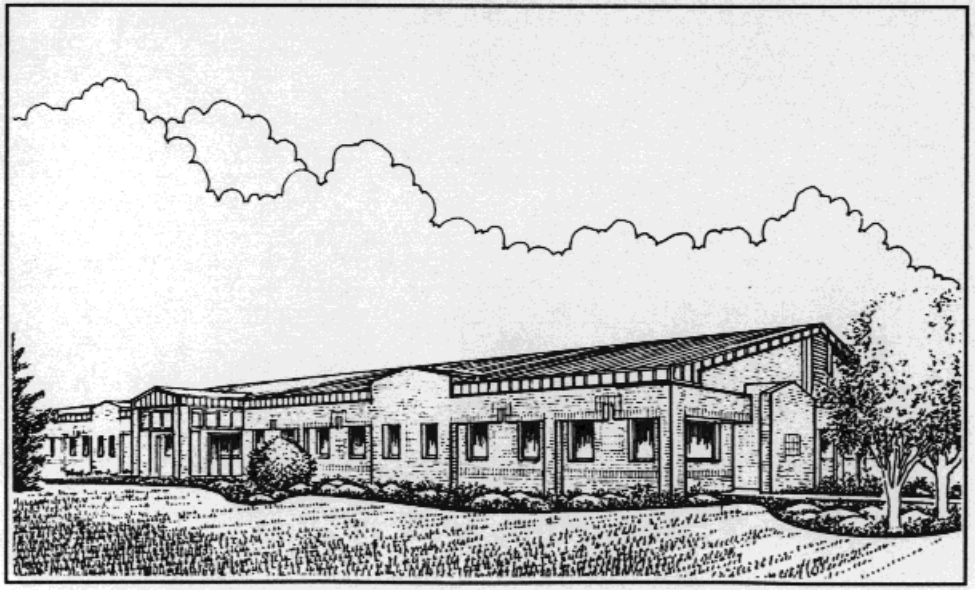


Perspective sketch of Bldg. 769, showing a new standing seam metal roof and berming with landscaping

4.3.2 - ADMINISTRATIVE - AREA #2



Bldg. 770 - Legal Services



Perspective sketch of improvements to Bldg. 770

BLDG. 770 - LEGAL SERVICES

Bldg. 770 is a single-story concrete block structure with a flat roof. The glazing is clear in an aluminum frame.

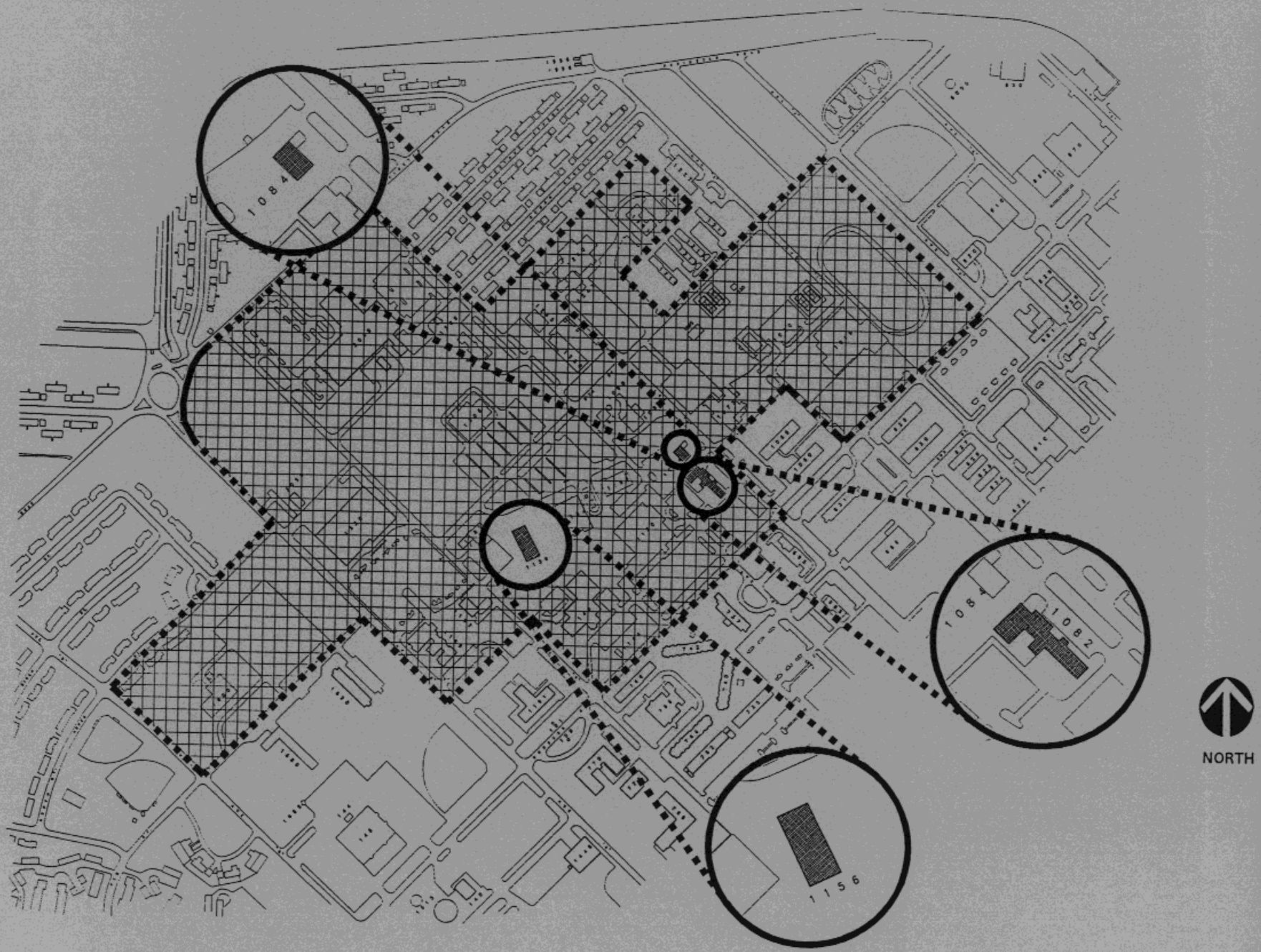
CONCERNS:

- ***Built-up flat roofs require excessive maintenance.***
- ***The main entry into the facility lacks definition.***
- ***Plantings at entry drive and drop-off area are sparse.***
- ***Unnecessary parking is located in the drop-off area.***

RECOMMENDATIONS:

- ***Add a gabled, standing seam metal roof with matching fascia.***
- ***Redesign facade to make main entry a focal point.***
- ***Informal plantings in the center island of the driveway would add visual interest.***
- ***Eliminate parking in the drop-off area.***
- ***Reclad exterior with brick to match brick on Bldg. 1191.***
- ***Replace existing windows with bronze tinted glazing in anodized aluminum framing.***

4.3.3 - COMMUNITY - AREA #3



4.3.3 - COMMUNITY - AREA #3

BLDG. 1084 - POST OFFICE

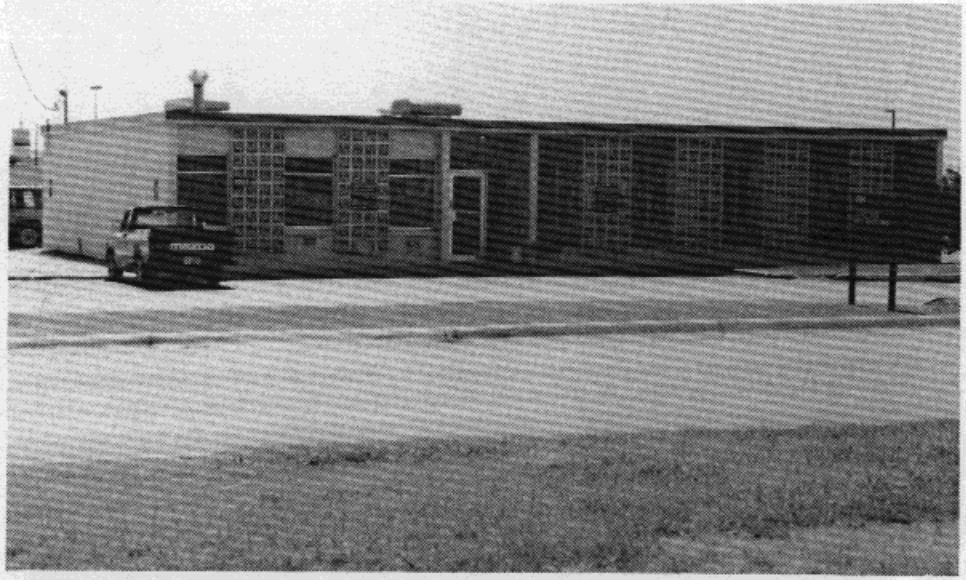
A one-story concrete block building with a flat roof, the Post Office building's exterior appearance is incompatible with nearby Community Area facilities, such as the Commissary, base clinic, etc.

CONCERNS:

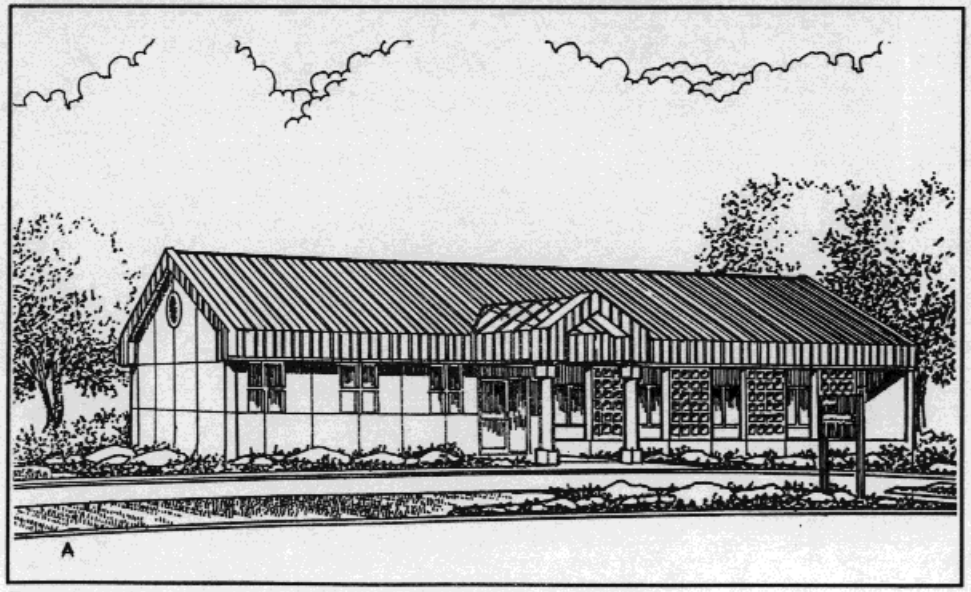
- ***Building roof is flat.***
- ***Landscaping is deficient.***
- ***Parking lot paving is in poor condition.***
- ***The building entry lacks definition.***
- ***Trash dumpsters are unscreened.***

RECOMMENDATIONS:

- ***Relocate roof-top equipment and provide a new pitched, standing seam metal roof.***
- ***Reclad concrete block exterior with EIFS and replace windows with bronze tinted glazing in dark bronze anodized frames.***
- ***Use plantings and screen walls of compatible materials to screen from view trash dumpsters and mechanical equipment.***
- ***Use plants around perimeter of building to soften the effect of the building and the ground plane.***

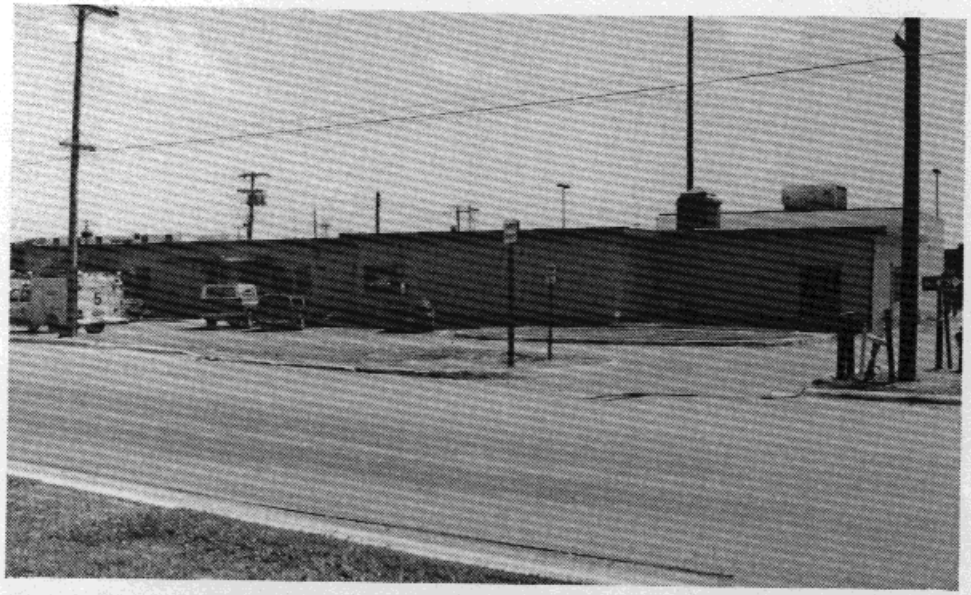


Bldg. 1084 - Post Office, as viewed from 75th Street North

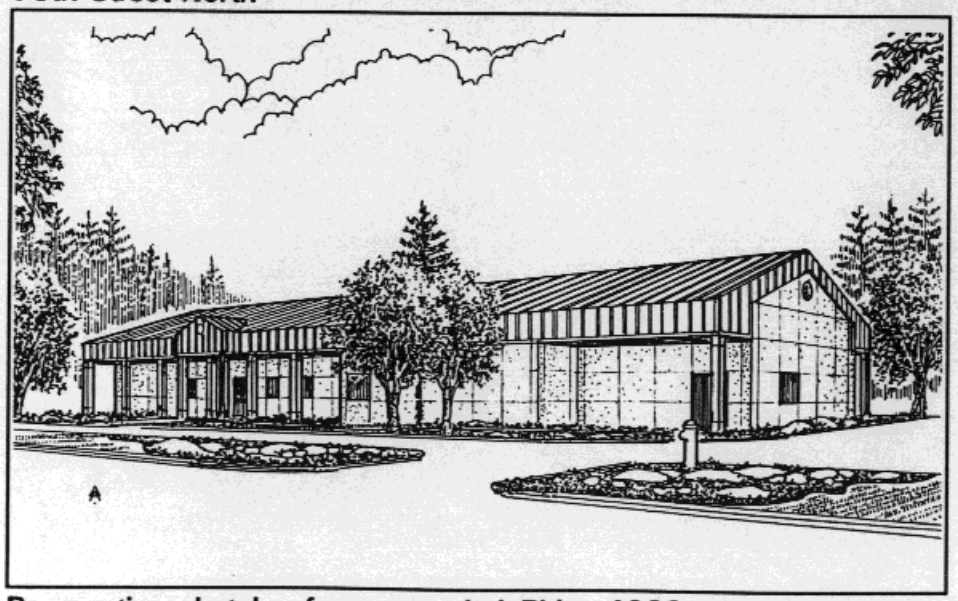


Perspective sketch of Post Office improvements

4.3.3 - COMMUNITY - AREA #3



Bldg. 1082, 43rd CS Customer Service Center, as viewed from 75th Street North



Perspective sketch of an upgraded Bldg. 1082, showing standing seam metal roof and detailing

BLDG. 1082 - CUSTOMER SERVICE CENTER

Bldg. 1082 is a one-story concrete block structure with a flat roof.

CONCERNS:

- ***Parking and circulation around the facility are inefficient and chaotic.***
- ***Roof is flat and rooftop equipment is visible.***
- ***Concrete building exterior is incompatible with other buildings in the area.***
- ***Landscaping around base of building is lacking.***

RECOMMENDATIONS:

- ***Add new gabled, standing seam metal roof with metal fascia.***
- ***Redesign building entry to become a visual focal point.***
- ***Plant evergreens, combined with deciduous plant materials, to provide visual interest and soften the areas around base of building.***
- ***Eliminate parking in front of building and relocate to rear parking lot.***
- ***Provide sidewalks to aid in pedestrian circulation from parking lot.***

4.3.3 - COMMUNITY - AREA #3

BLDG. 1154 - THEATER

This concrete block structure is located in the heart of the Community Area.

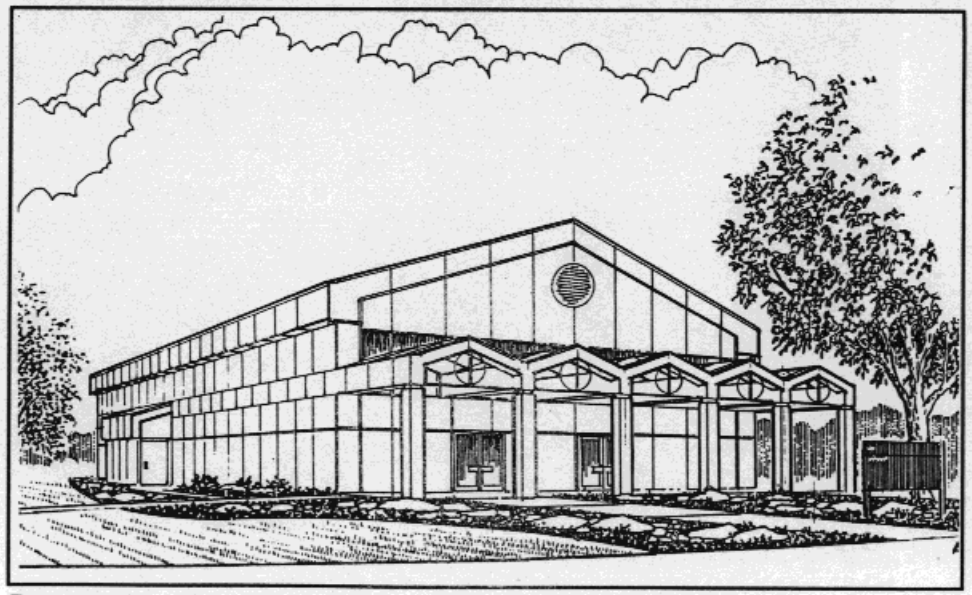
CONCERNS:

- ***Landscaping is deficient.***
- ***Concrete block exterior is in conflict with surrounding community building facades.***
- ***Theater entrance should be enhanced.***
- ***No walkway lighting is provided for night illumination.***

RECOMMENDATIONS:

- ***Plant evergreens, combined with deciduous plant materials, to provide visual interest and soften the areas around base of building.***
- ***Redesign front facade to highlight entrance.***
- ***Provide pedestrian-scaled walkway lighting that is compatible with base standards.***
- ***Reclad exterior with EIFS and add pitched, standing seam metal roof with standing seam metal fascia.***

Bldg. 1154 - Theater, looking south



Perspective sketch showing improvements to Theater

4.3.3 - COMMUNITY - AREA #3

Within the central core of the base are buildings serving administrative, training, dining, shopping, dormitory, recreational and religious functions. To a limited degree these buildings help to establish a "sense of community." However, within this central core of the installation, little evidence exists of design and planning directed toward human factors. The spaces adjoining and separating buildings in this area could conceivably provide pleasant, appealing human scale space.

Aerial view of the existing central core of the base

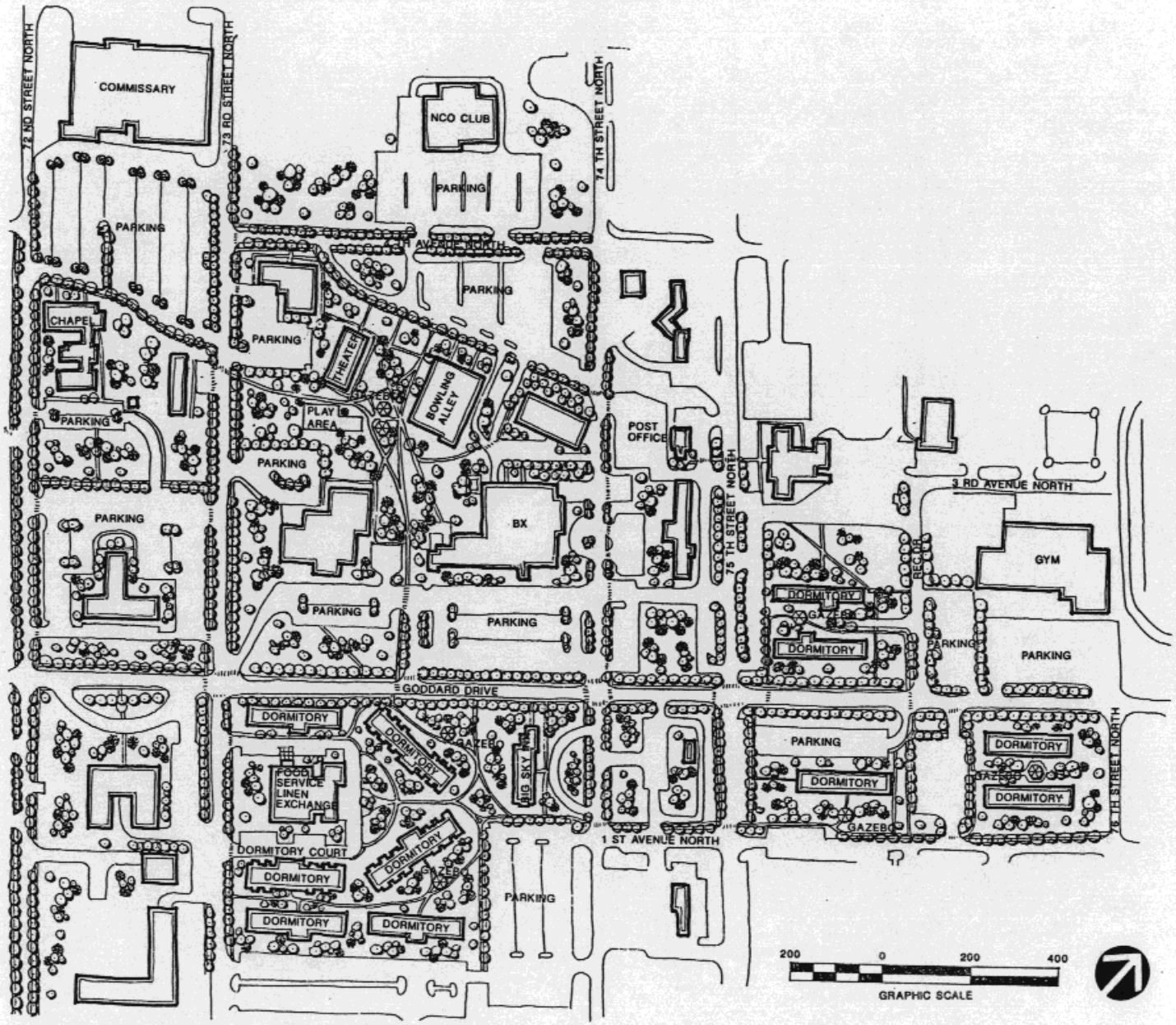
CONCERNS:

- ***Pedestrian links to the community services area, the NCO Club, and outdoor recreational facilities are minimal and poorly defined.***
- ***Numerous parking lots subdivide the complex, creating auto/pedestrian conflicts and reducing opportunities for areas dedicated to pedestrians and green space.***
- ***Pedestrian amenities such as outdoor seating, drinking fountains and pavilions are lacking.***
- ***Walkway lighting is insufficient.***
- ***Screening of parking lots from adjacent roads and buildings is nonexistent.***

RECOMMENDATIONS:

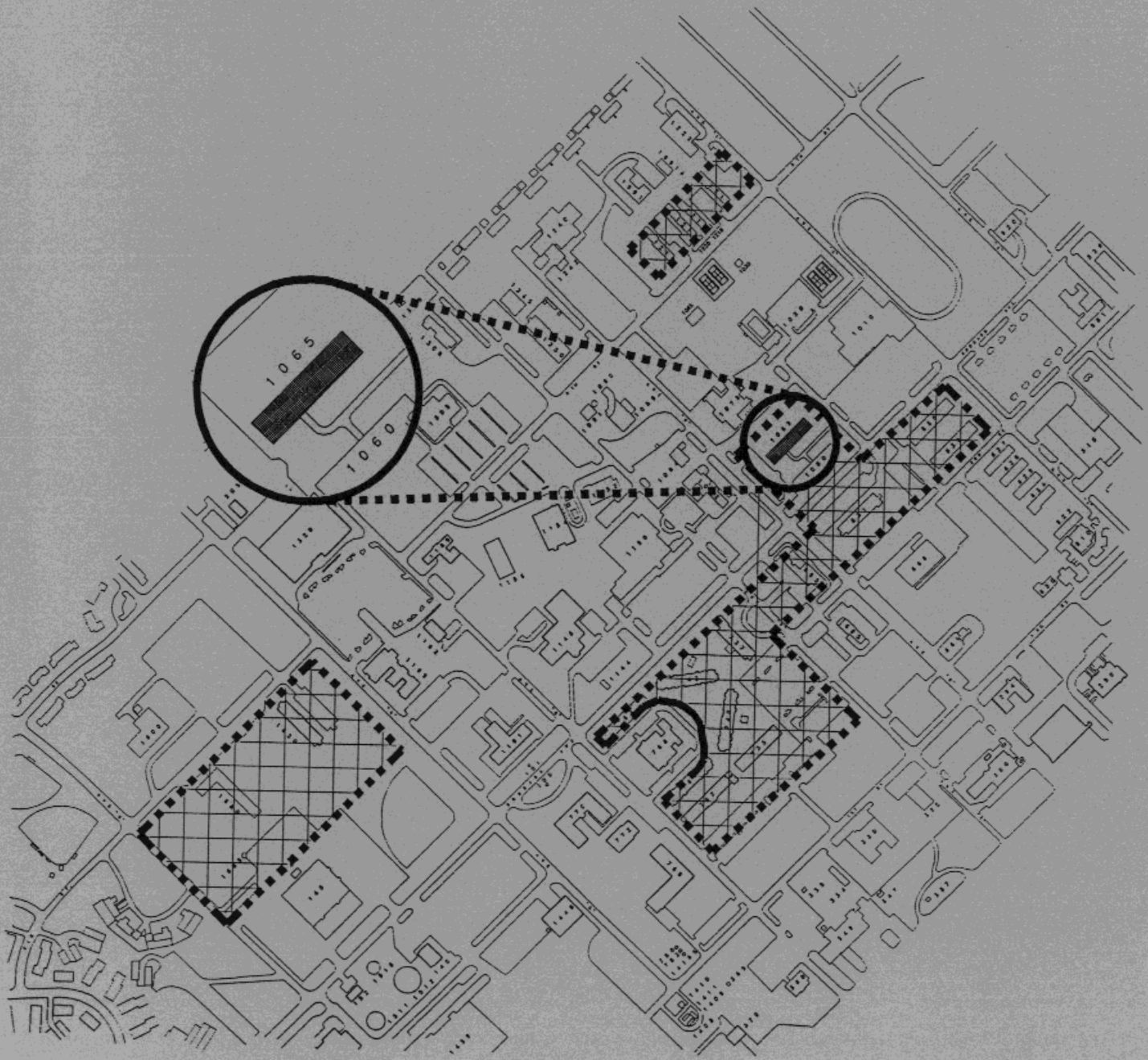
- ***Create a meandering, free-flowing walkway system to link all areas within the complex.***
- ***Install pedestrian amenities along walkways such as seating areas with trash receptacles.***
- ***Include pedestrian-scaled walkway lighting that is compatible with base standards.***
- ***Use earth berms with deciduous trees between parking areas and the street for visual screening and shade.***

4.3.3 - COMMUNITY - AREA #3



CIRCULATION PLAN SKETCH FOR COMMUNITY AREA OF BASE

4.3.4 - DORMITORIES/QUARTERS - AREA #4



NORTH

4.3.4 - DORMITORIES/QUARTERS - AREA #4

BLDG. 1065 - DORMITORY

This three-story concrete block building is typical of troop housing at most military installations.

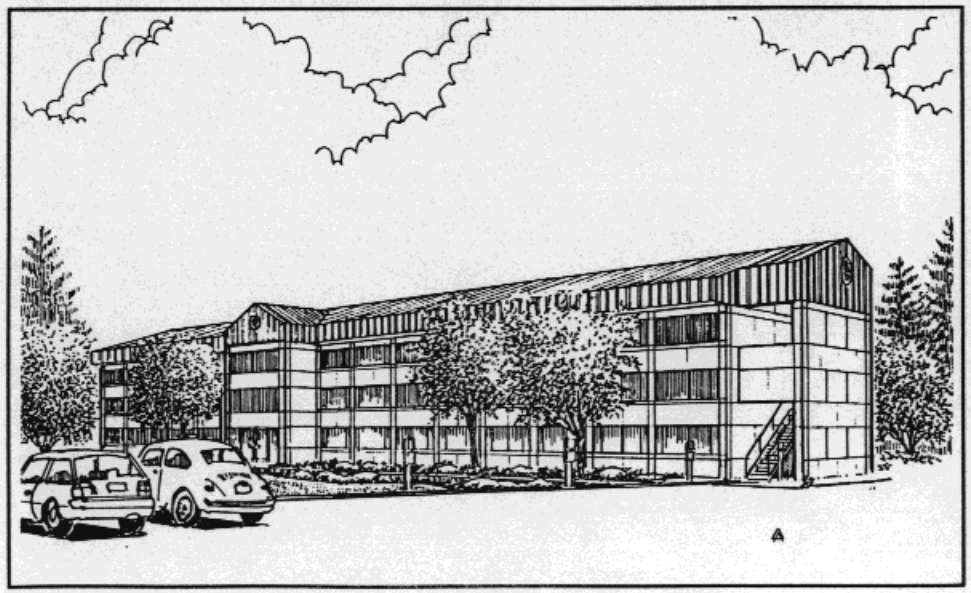
CONCERNS:

- ***Open exterior stairs become hazardous in inclement weather.***
- ***The lack of plantings, particularly around the base of the building, creates a stark appearance.***
- ***Parking lot is clearly visible from adjacent road.***
- ***Recreation and pedestrian amenities are lacking in and around open spaces near dorms.***

RECOMMENDATIONS:

- ***Add plantings around the base of the building to visually soften the effects of the building mass with the ground plane.***
- ***Exterior stairs should be protected to prevent the accumulation of snow and ice.***
- ***Provide a convenient recreational area or pavilion with facilities appropriate to resident needs.***
- ***Use berming and medium height trees to provide screening of parking lot from adjacent road.***

Bldg. 1065 - Dormitory, looking east from 75th Street North



Perspective sketch of improvements to Bldg. 1065

4.3.4 - DORMITORIES/QUARTERS - AREA #4

Bldg. 630 - Dormitory

Common ground between buildings in the dormitory court area

Located in the central core of the base, the unaccompanied housing area consists primarily of three-story block quarters. These dormitories are grouped together with open common ground between buildings. Most of the structures have been renovated. Flat roofs have been covered with gabled, standing seam metal roofs with matching fascia. The exterior stairs have been covered and new tinted glazing in anodized aluminum frames have replaced old windows. Upgrading of unrenovated dormitories should be compatible with Bldg. 630.

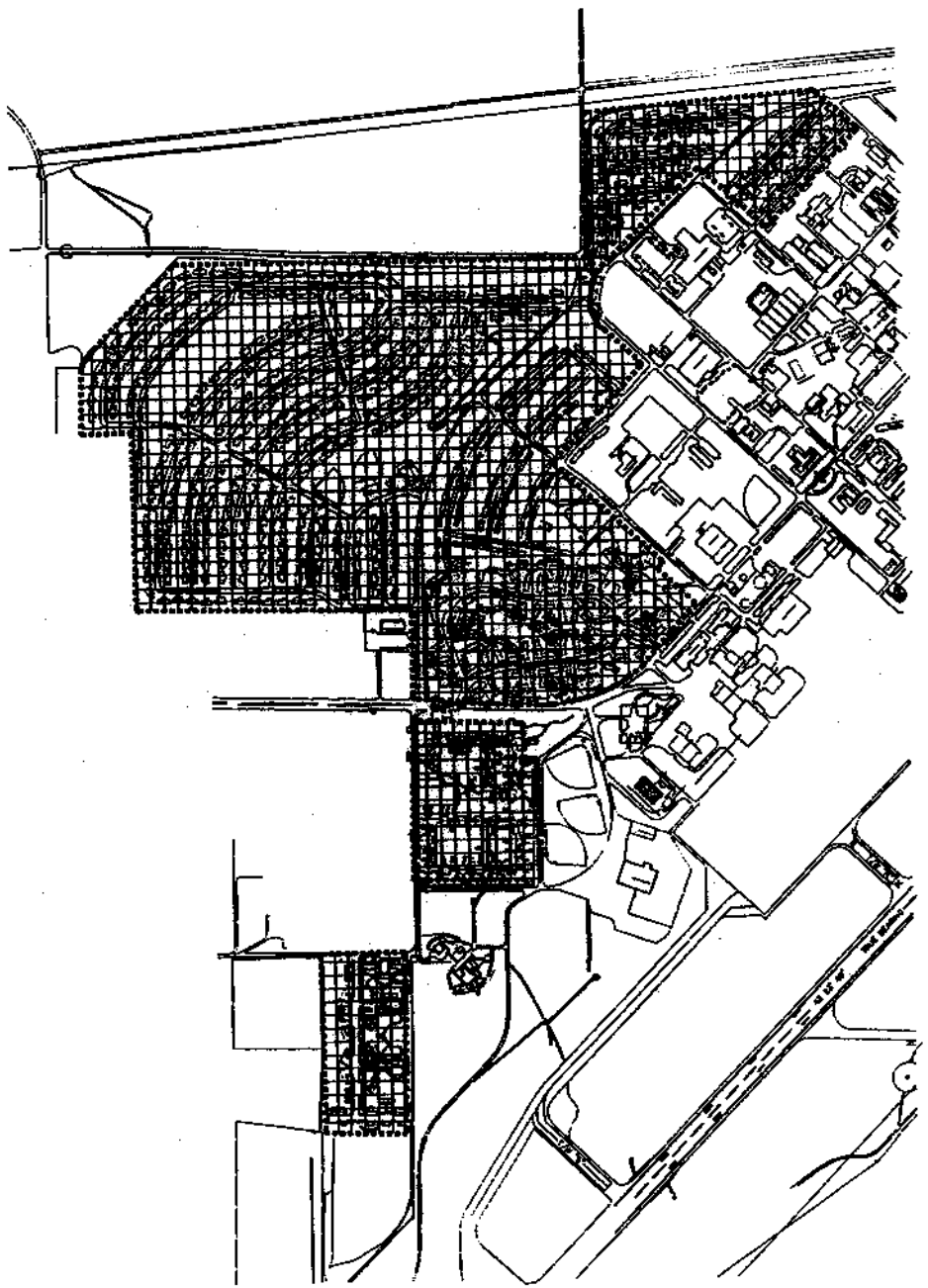
CONCERNS:

- ***Parking lots are clearly visible from adjacent roads and buildings.***
- ***The sparsity of landscaping, particularly around the base of the building, creates a stark appearance.***
- ***Lighting fixtures are inconsistent.***
- ***Unpainted split-face concrete block is inconsistent with base standards regarding color.***

RECOMMENDATIONS:

- ***Use earth berms with street trees between parking areas for visual screening.***
- ***Add plantings around the base of the building to visually soften the impact of the building mass with the ground plane.***
- ***Add base standard lighting fixtures along streets and walkways.***
- ***In keeping with the character of the dorm complex, paint concrete block to match base standard color.***

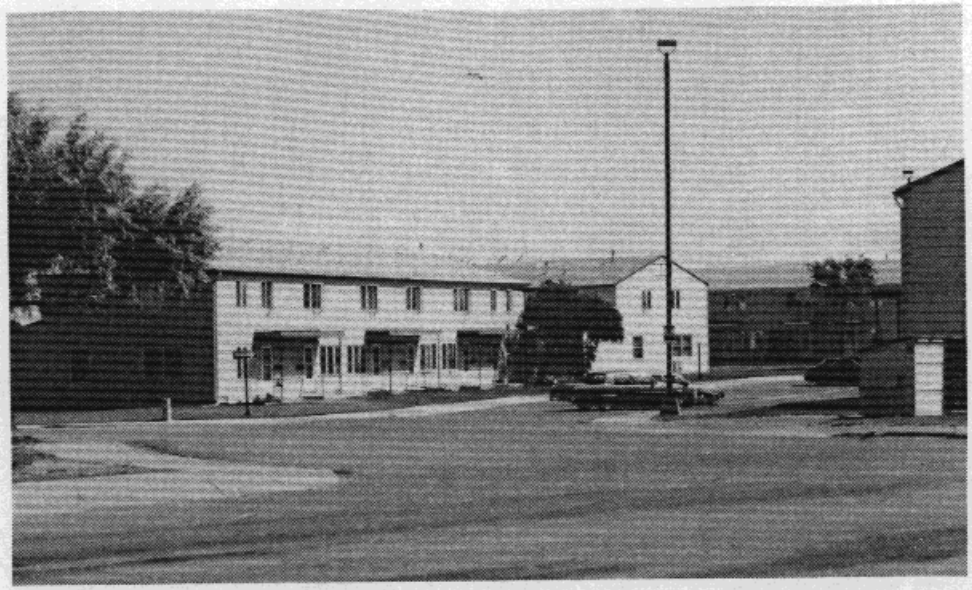
4.3.5 - HOUSING - AREA #5



NORTH

4.3.5 - HOUSING - AREA #5

The Family Housing Area primarily provides housing units for families living on base. Located in an area separate from the main base operations, the Family Housing Area has most of the characteristics of a typical suburban community. Malmstrom AFB is in the process of an analysis that will result in a "Military Family Housing Community Plan" that will serve as a guide for bringing the entire housing area up to contemporary standards.



Multi-family housing units

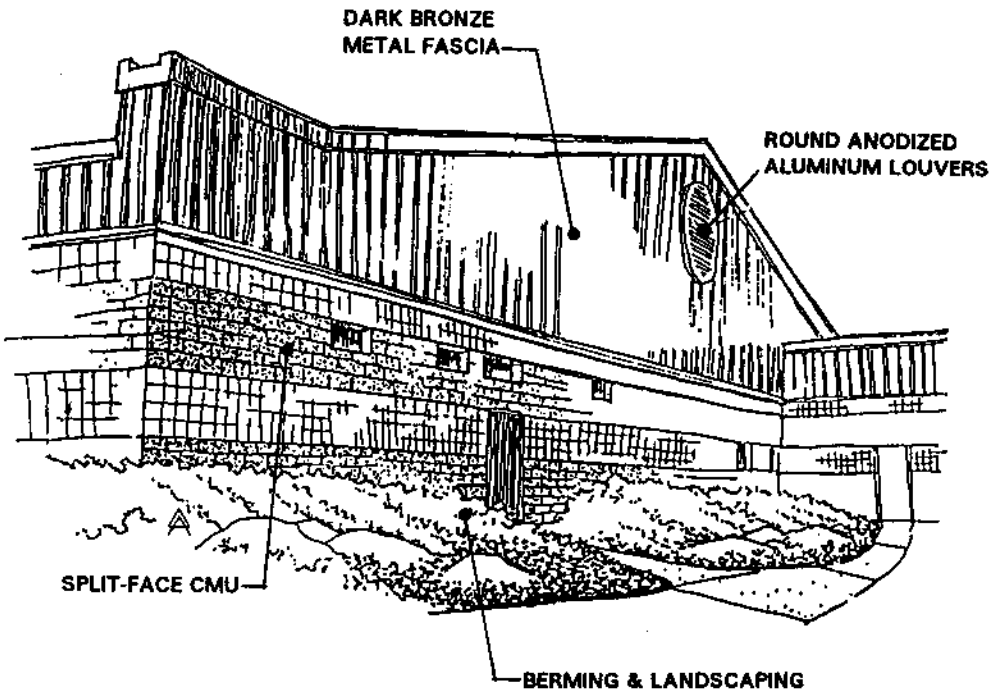
Single family housing unit

5.0 DESIGN GUIDELINES

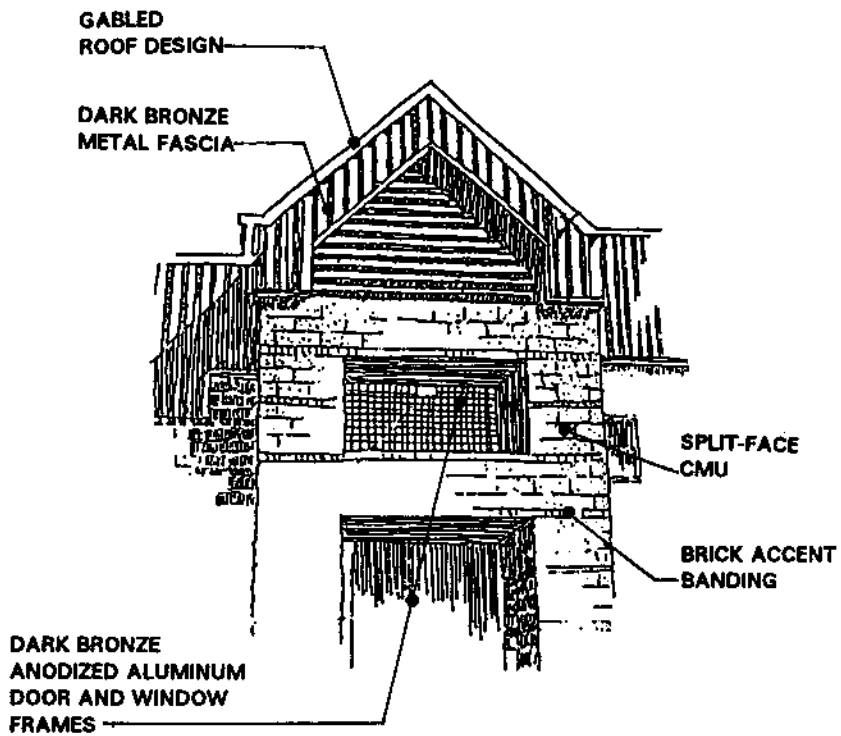
The following sections provide specific recommendations and offer guidance for designing base structures concerning:

- Representative Detailing
- Representative Examples of Compatibility
- Landscape Architecture
- Architectural Themes
  - Screening
  - Signage
  - Parking Lots
  - Pavilions/Storage Sheds
  - Exterior Lighting
  - Bus Stops
  - Miscellaneous Concerns

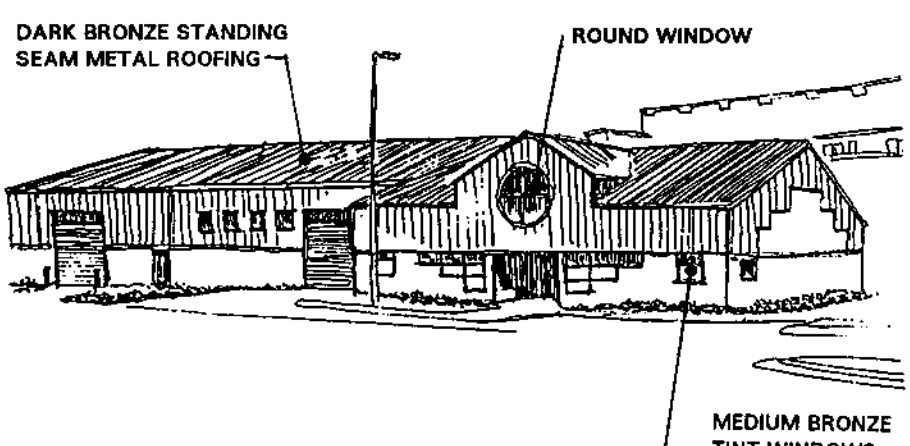
5.1 REPRESENTATIVE DETAILING



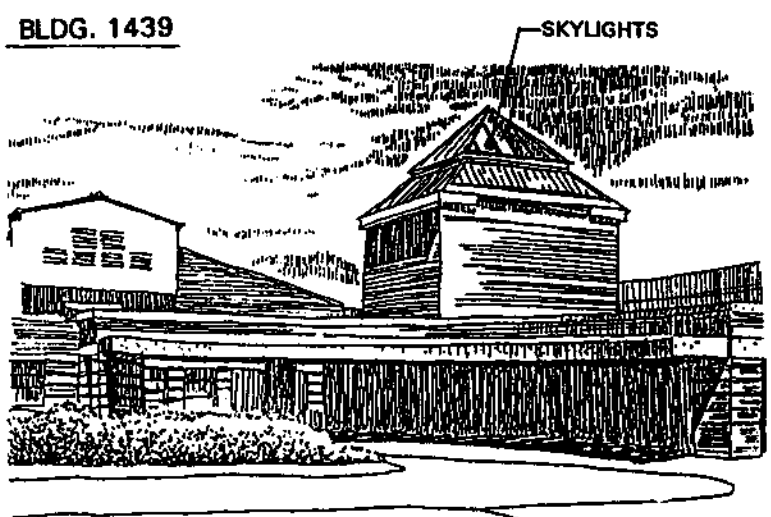
BLDG. 330



BLDG. 1439



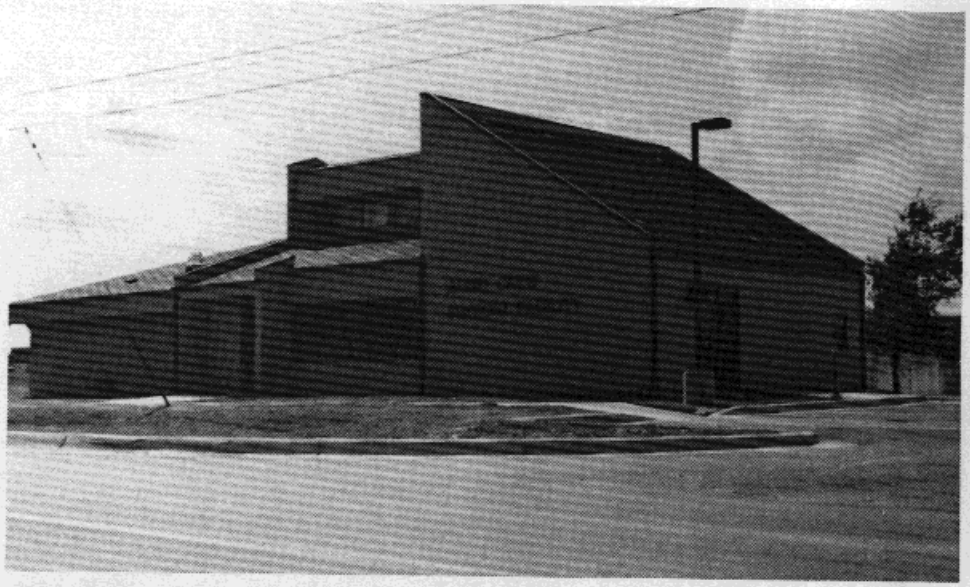
BLDG. 220



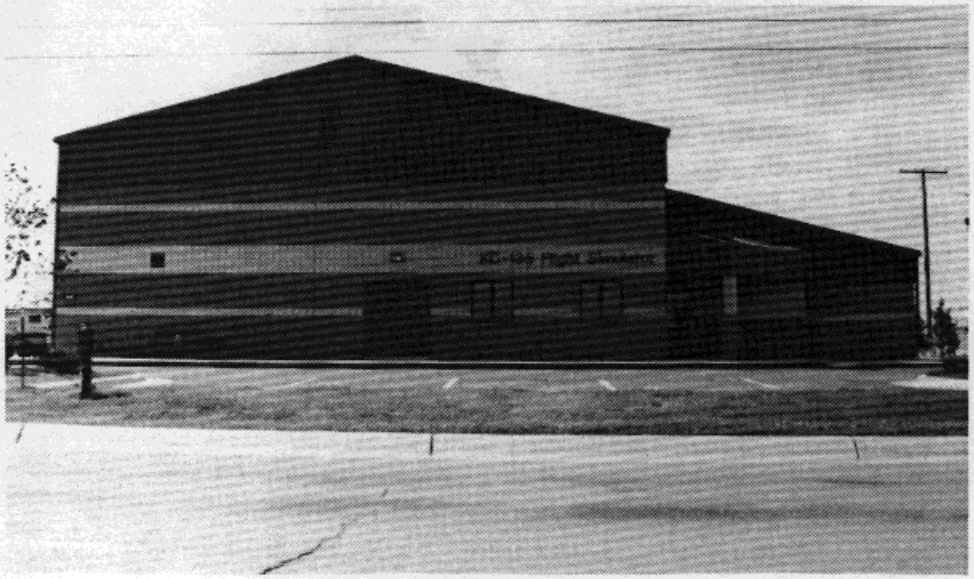
BLDG. 2040

5.2 REPRESENTATIVE EXAMPLES OF COMPATIBILITY

Bldg. 330 - Precision Measurement Equipment Laboratory



Bldg. 650 - Alert Crew Support Facility

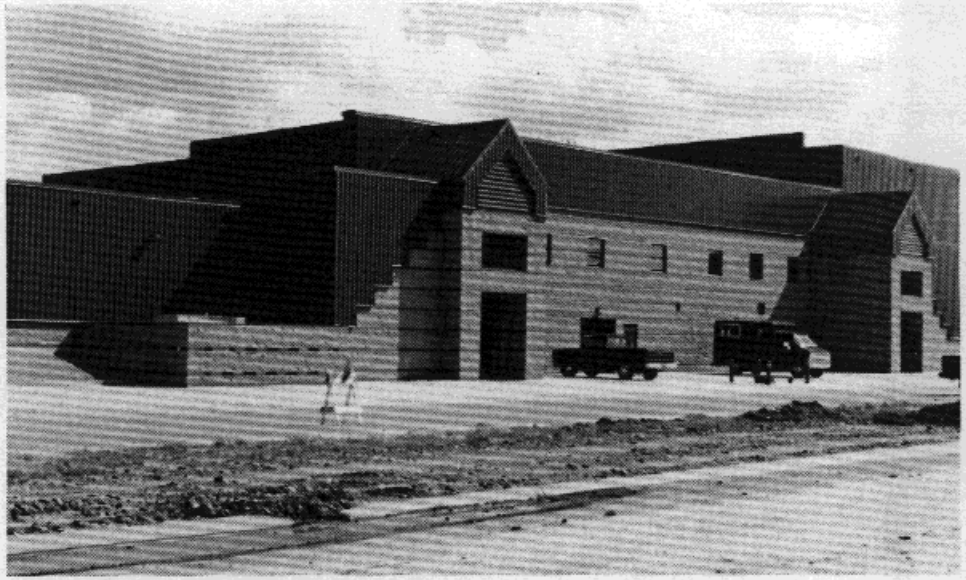


Bldg. 610 - KC-135 Flight Simulator - Textured concrete block, sloped roof and detailing make this building compatible with surrounding structures

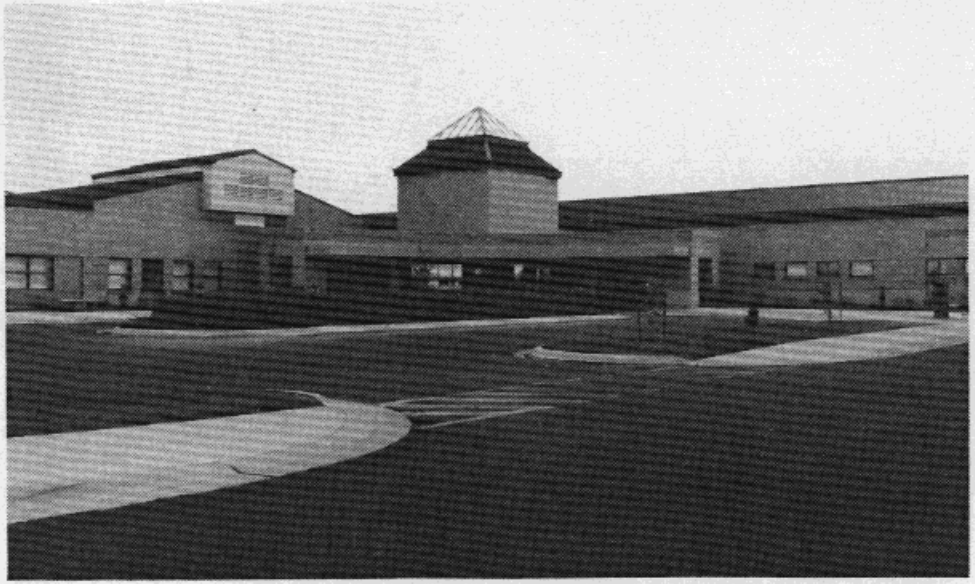
Bldg. 1320 - Commissary - Sloped roof, similar detailing, and stucco exterior finish help the Commissary harmonize with surrounding buildings

5.2 REPRESENTATIVE EXAMPLES OF COMPATIBILITY

Bldg. 2040 - Clinic - as viewed looking northwest



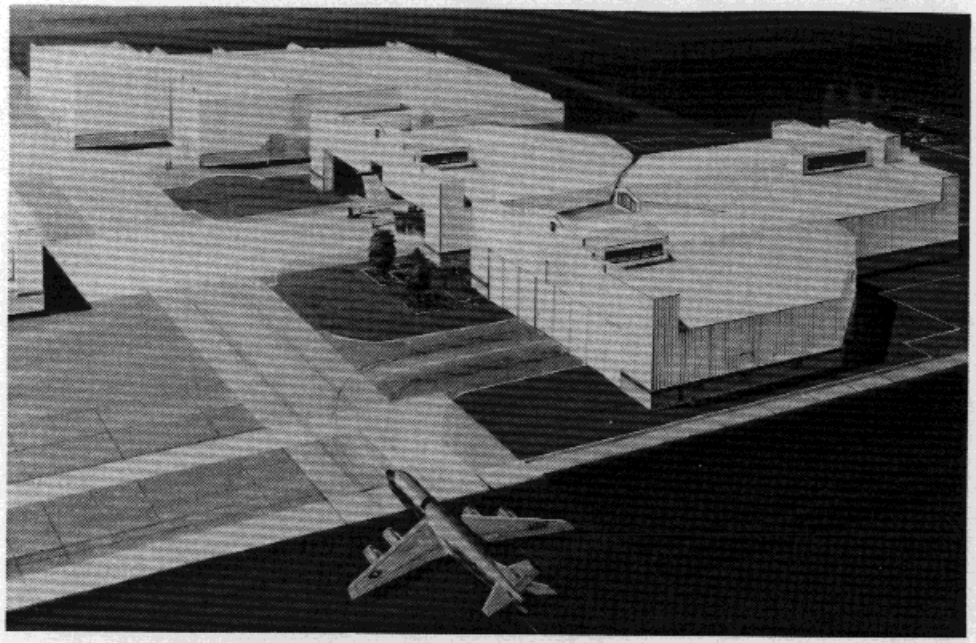
Bldg. 1439 - Maintenance Shop



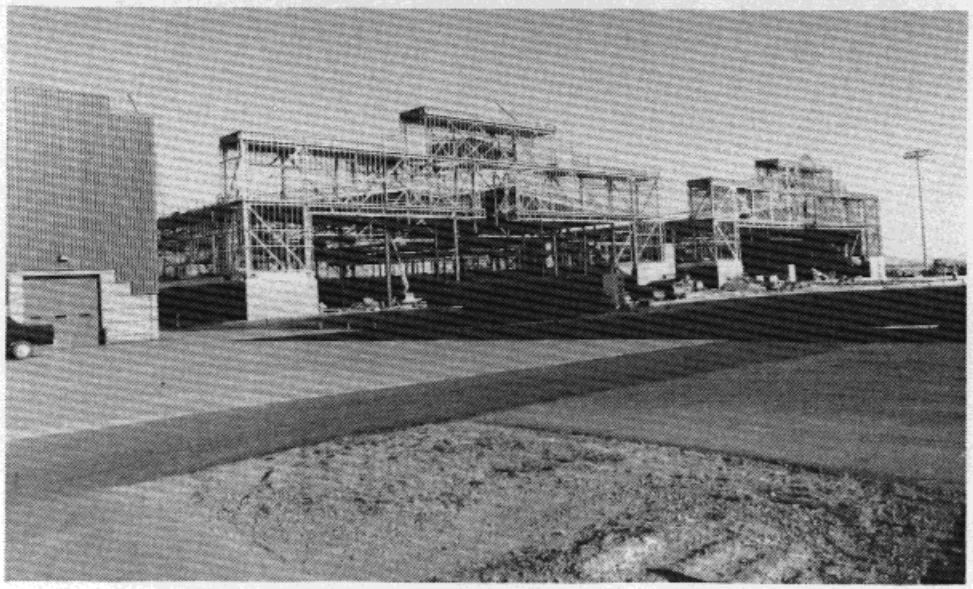
Bldg. 2040 - view of Clinic from Clinic Court

One of the easiest and most inexpensive ways to enhance base buildings and bring about compatibility is through landscaping. The base clinic (above and below, left) illustrates effective use of landscaping to enhance the visual appeal of the building. Landscaping efforts must include irrigation systems (see Section 5.3).

5.2 REPRESENTATIVE EXAMPLES OF COMPATIBILITY



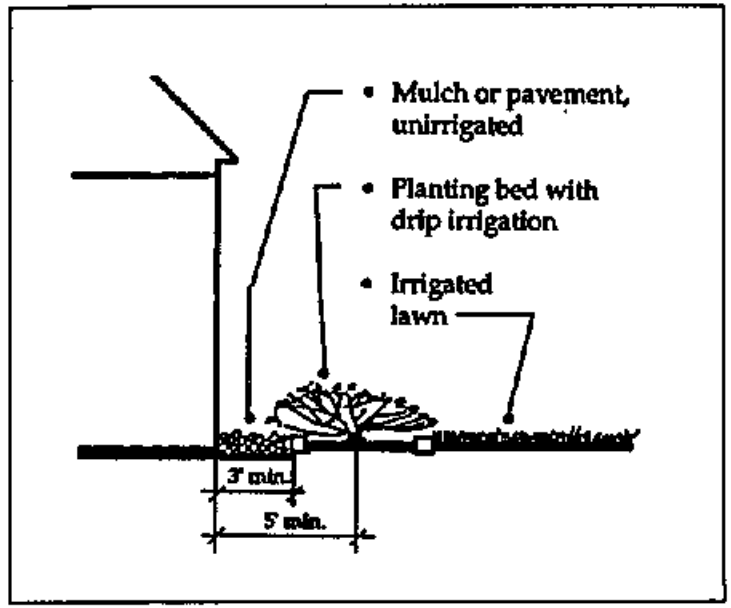
Artist's rendering of new three-bay hangar



New three-bay hangar under construction

5.3 LANDSCAPE ARCHITECTURE

When designing landscape architecture, A/Es shall first consult with the Natural Resources Specialist for approval of the selection of plant materials that are appropriate to the area. (See "List of Approved Plants" that follows.) Landscape architects need to understand that maintenance of landscape materials will be minimal. Trees and shrubbery should be planted a sufficient distance apart from each other, and from buildings, sidewalks and streets to allow for adequate growth. Also, trees should be planted in clumps and clusters rather than extensive soldiering. Mature landscaping materials should either be trimmed or selectively replanted. The principal criterion governing selection of specific plants for Malmstrom is the degree to which they are adaptable to on-site conditions; e.g., soil types, groundwater pH, wind exposure, sun exposure, precipitation levels, as well as resistance to local diseases.



Typical foundation planting scheme

Major objectives of landscape architecture are:

- to unify the base
- to keep design simple with low--or no–maintenance in mind
- to provide shaded areas where people congregate near building entrances
- to break up large expanses of parking lots with median plantings, and to screen the view of parked cars from major thoroughfares
- to plant trees and shrubbery at sufficient distances from each other and from buildings, sidewalks, etc.
- to select only plants approved for use on base
- to use selected plantings to screen visual clutter or unattractive facility elements.
- to include irrigation systems as new landscaping projects are undertaken. Drip or sprinkler systems must be installed to ensure survivability of plantings.
- to design irrigation to provide positive drainage (taking ample precautions to avoid low spots which do not drain properly).
- to ascertain that no underground irrigation is installed before finish grading is in approved condition, drained away from foundation.

LIST OF APPROVED PLANTS FOR MALMSTROM AIR FORCE BASE

CANOPY AND SHADE TREES

Botanical Name	*Common Name*
Fraxinus pennsylvanica	Native Green Ash
Fraxinus pennsylvanica 'Marshalls Seedless'	Marshalls Seedless Ash
Tilia americana 'Redmond'	Redmond Linden
Tilia cordata	Littleleaf Linden

DECIDUOUS SHRUBS

Berberis thunbergii	Japanese Barberry
Cornus sericea	Red Twig Dogwood
Potentilla fruticosa	Potentialla
Rhus trilobata	Fragrant Sumac
Syringa x chinensis 'Rotho'	Chinese Lilac
Syringa lanciniata x S. vulgaris hybrids	Cutleaf Lilac
Syringa meyeri	Meyer Lilac
Syringa oblata var. dilatata 'Korean'	Early Lilac Early Lilac
Syringa x prestoniae	Preston Lilac

ORNAMENTAL TREES OR LARGE SHRUBS

Botanical Name	*Common Name*
Acer ginnala	Amur Maple
Cornus florida	Flowering Dogwood
Malus sp.	Flowering Crabapple (non-fruit bearing var.)
Prunus padus var. commutatus	May Day Tree
Rhus typhina	Staghorn Sumac
Syringa vulgaris	Common Lilac

LARGE ORNAMENTAL TREES

Pinus ponderosa var. scopulorum	Ponderosa Pine
Pinus sylvestris	Scotch Pine
Juniperus scopulorum	Rocky Mountain Juniper
Picea pungens var. glauca	Colorado Blue Spruce
Picea glauca var. densata	Black Hills Spruce
Larix siberica	Siberian Larch
Populus tremuloides	Quaking Aspen

EVERGREEN SHRUBS

Botanical Name	*Common Name*
Pinus mugho 'Compacta'	Dwarf Mugho Pine
Juniperus chinensis 'Pfitzeriana'	Phitzer Juniper
Juniperus sabina	Savin Juniper
Juniperus horizontalis 'Plumosa'	Creeping Juniper
Juniperus horizontalis 'Douglasii'	Creeping Juniper
Juniperus horizontalis 'Wiltoni'	Creeping Juniper

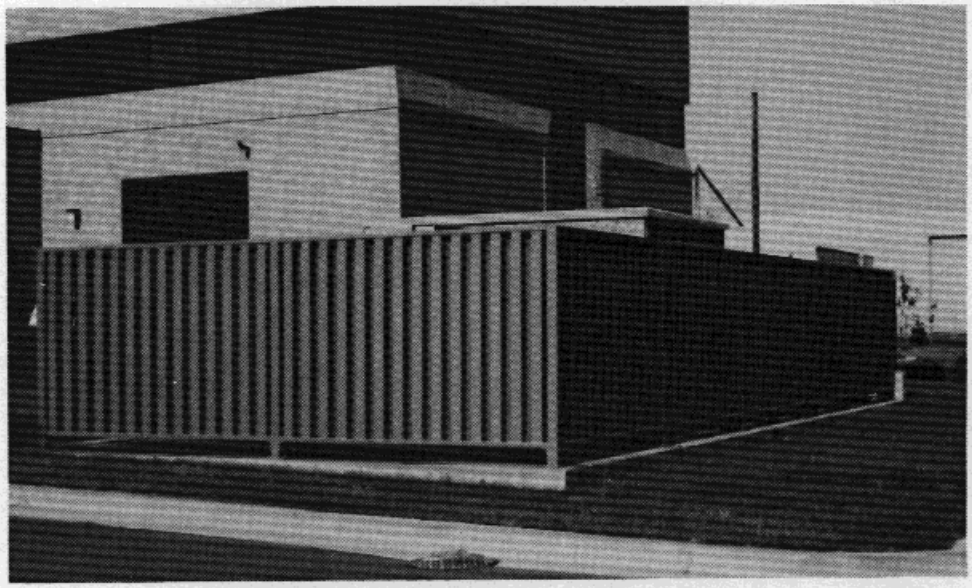
VINES

Parthenocissus qinquefolia	Virginia Creeper
Clematis jackmanii	Jackman Clematis

GRASS

Botanical Name	*Common Name*
Agropyron cristatum	Fairway Crested Wheatgrass
Agropyron smithii	Western Wheatgrass
Bromis inermis var. Manchar	Brome Grass
Dactylis glomerata var. Chinook	Orchard Grass
Onobrychis viciaefoila var. Eski	Sainfoin
Poa pratensis	Kentucky Bluegrass
	Dryland Grass (Treasure State Seed Co.)

5.4.1 SCREENING



Example of a metal screening fence

Screening walls and fencing should be of appropriate design and materials to fulfill their function while instilling harmony with the character and appearance of their setting.

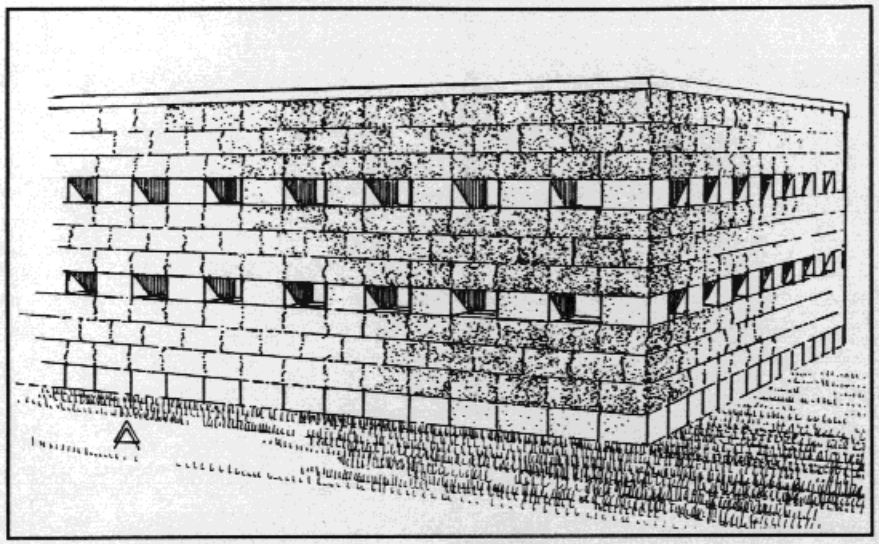
CONCERNS

- ***Visual clutter is created primarily by on-grade mechanical units, electrical transformers, trash dumpsters, above-ground storage tanks, portable storage sheds, and heating system steam pipes.***

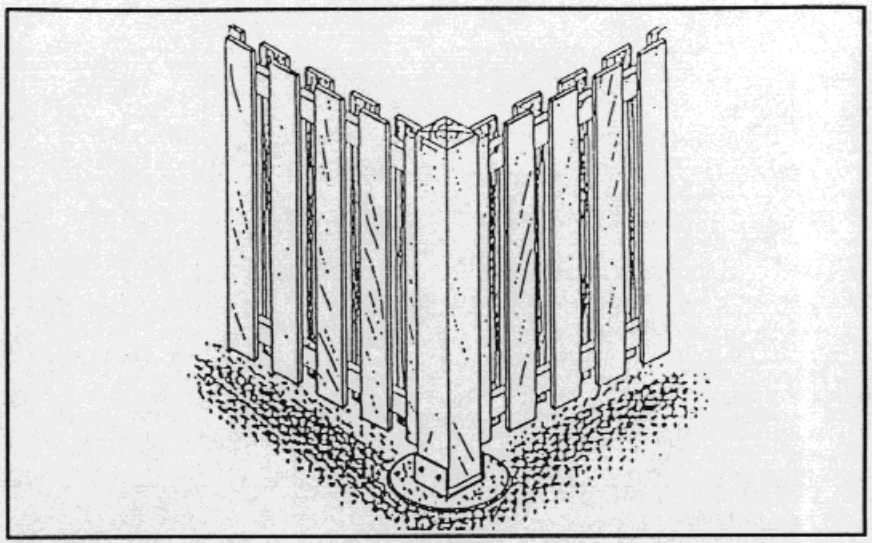
RECOMMENDATIONS

- ***Wood or masonry screen walls and fencing are generally the most compatible and harmonious materials to use in the residential housing areas.***
- ***Split face CMU, brick, or a combination brick corner post with wood (shadow box style) fencing should be used at non-residential structures. Brick should be of a type and color to match adjacent or surrounding structures.***
- ***Trash containers and on-grade mechanical elements should be screened effectively with opaque fences or walls of appropriate design and materials compatible with the architectural character of the installation.***
- ***Anodized aluminum or steel (painted to match adjacent building) with shadow box-style planking should be used in industrial and warehouse areas.***
- ***Earth berms and plant materials are preferable to either walls or fencing when screening parking lots, loading and storage areas, or similar functions from view.***
- ***No split rail or chain-link fencing should be allowed (except as required for physical security) unless approved by the BCE.***
- ***Avoid using chain-link fencing with wood or vinyl inserts.***
- ***As new projects are undertaken, existing exposed valve stations will be screened when they are adjacent to, or encroach upon, the project.***

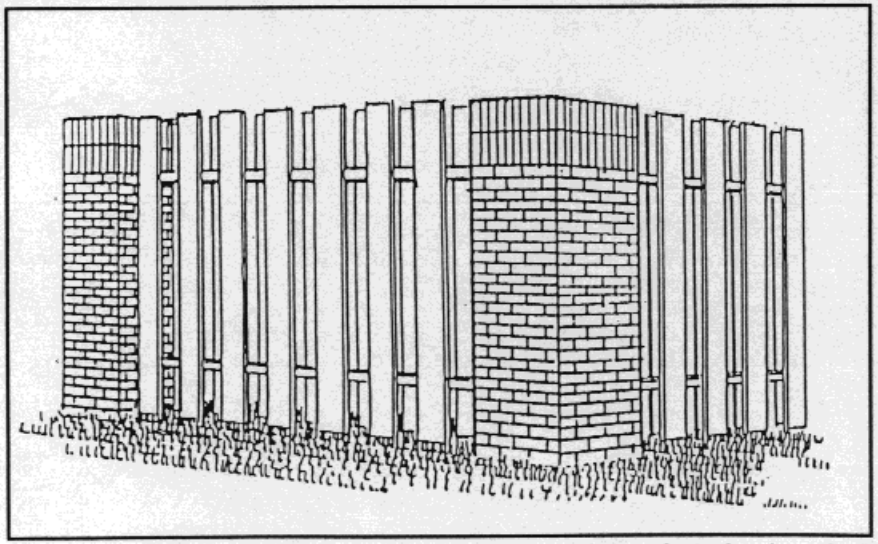
5.4.1 SCREENING



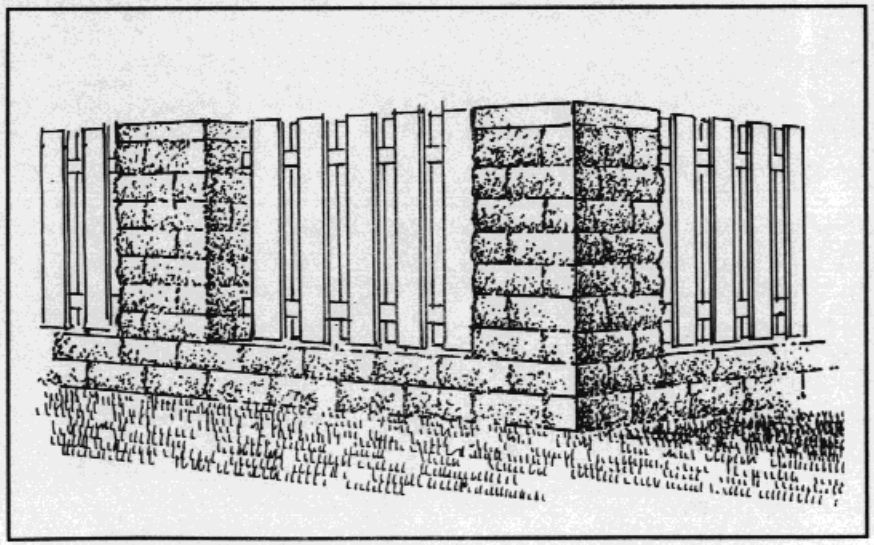
Textured concrete block screening fence



Shadow box style wooden (cedar) screening fence for residential uses only



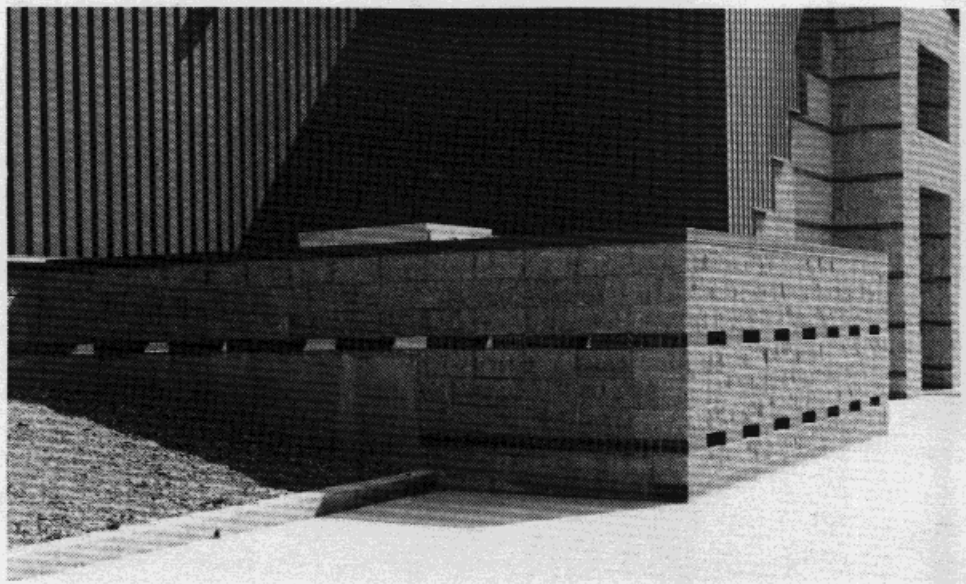
Brick pilasters with wood or metal fencing featuring shadow box styling



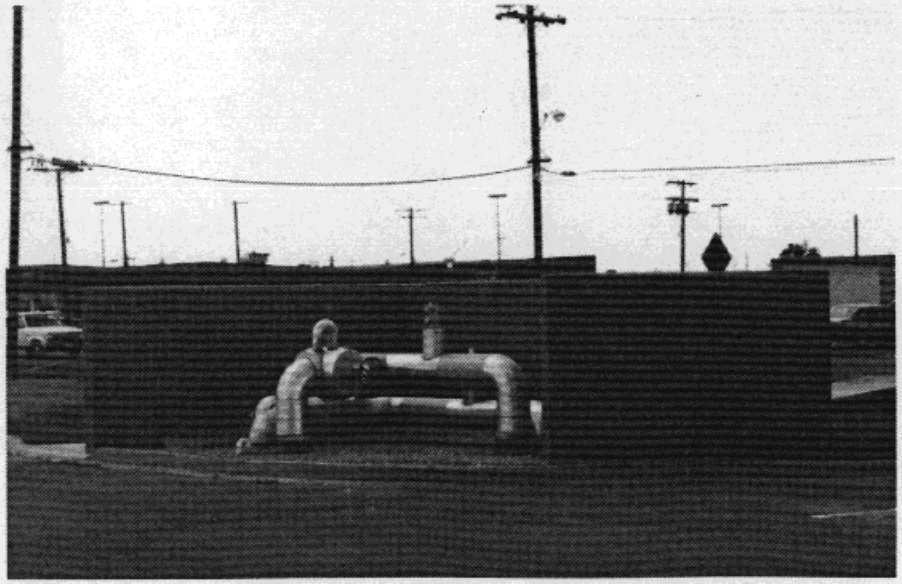
Textured concrete block pilasters with wood shadow box style fencing

5.4.1 SCREENING

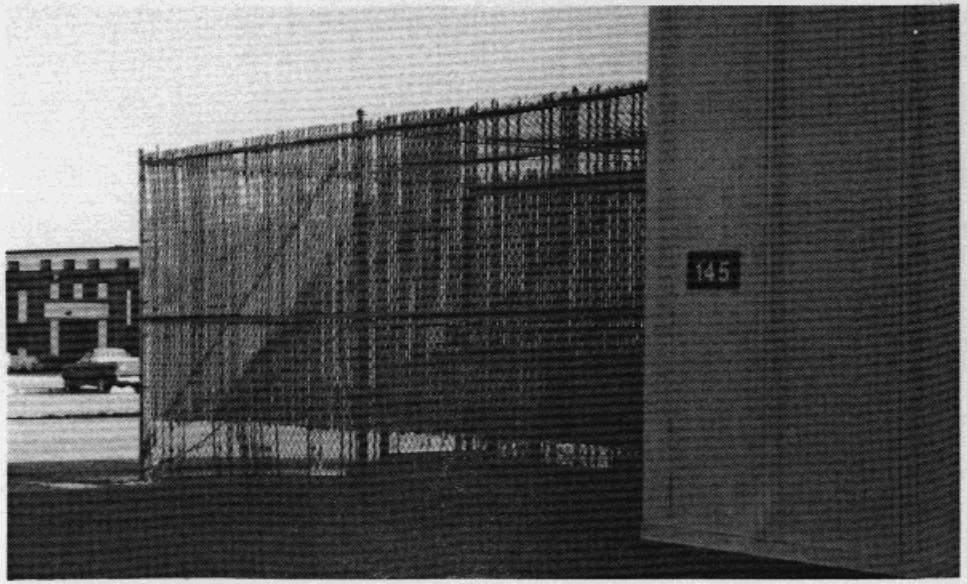
The screen wall pictured at upper right is a very good example of screening that is compatible with its building environment. Using the same block as the building, and metal trim, it represents the level of finish and selection of materials that the base should emulate for future design projects.



Textured concrete block screen wall at Bldg. 1439



Concrete block wall screening steam piping valves



Chain-link fencing with inserted slat material is an inappropriate and unattractive visual screen.

5.4.2 SIGNAGE

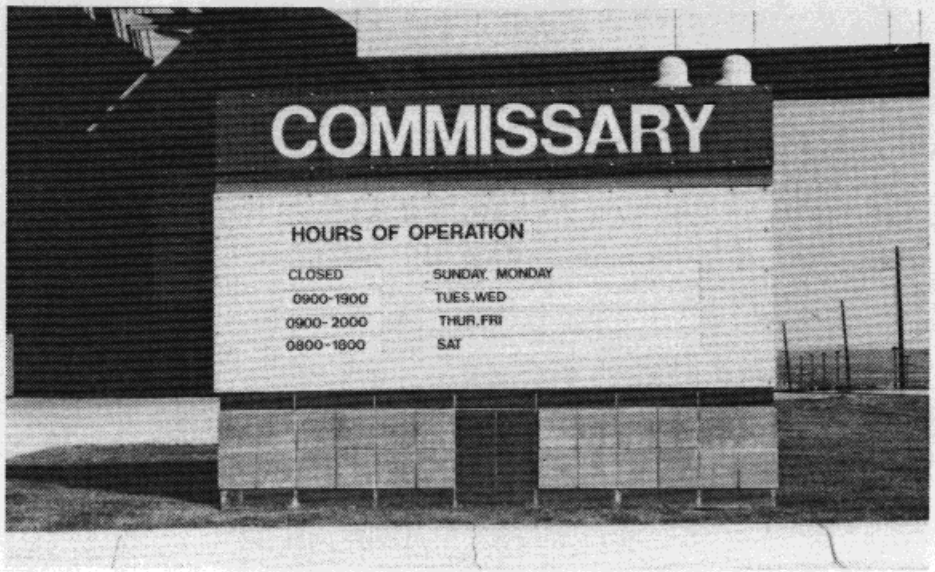
RECOMMENDATIONS:

- *Continue to use a consistent base-wide signage system in accordance with Sign Standards (SHARP EAGLE Memo #11). Older signs not in compliance with this regulation should be replaced.*
- *Convert from building-mounted to free-standing signs to identify buildings as new tenants are assigned.*
- *Provide building numbers only on facility walls.*
- *Continue the use of brown and white signs. Phase in the AMC emblem and white border by geographic areas in an orderly, consistent and complete manner. Also, continue to use brown-colored backgrounds and sign posts for free-standing signs.*
- *Use uniform size for numbers as much as possible, but adapt to size and scale of use.*
- *All signage must be professionally done. Signs having a homemade look must be avoided or removed.*

5.4.2 SIGNAGE

The directional sign pictured above displays base standard dark brown background with white block-style lettering

Avoid the use of supergraphics and stripes which "create" features frequently at odds with their natural or built-up context. Pictured above is an example.



The sign above is efficient in design and does not overload the intended user with unnecessary information.

Signs mounted on buildings are to be avoided.

5.4.2 SIGNAGE

These signs employ good use of base standard sign principles.

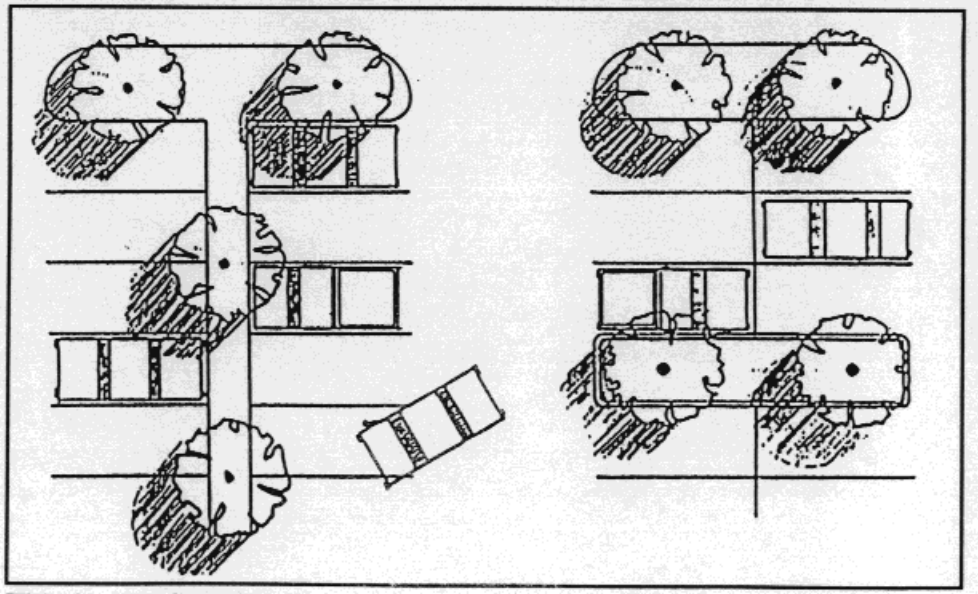
5.4.3 PARKING LOTS

Parking is one of the most space-consuming land uses on a military installation and typically dominates the landscape setting facilities. It usually is one of the most visually disruptive elements within an installation. While the provision of convenient parking facilities is essential, appropriate site planning and design treatments can be used to minimize their negative visual impact. Appropriate berming and landscaping also can serve to shield the view of parked cars. Other general recommendations for improving parking areas follow.

Large expanse of visually unpleasant parking lot near Bldg. 1448

RECOMMENDATIONS

- ***Locate parking areas convenient to building entrances.***
- ***Avoid dead-end parking lots.***
- ***Provide the opportunity for vehicular/pedestrian separation in large parking lots.***
- ***Use trees, shrubs and islands to aid in circulation and to visually screen parking areas from adjacent facilities or other parking bays.***
- ***Limit the number of reserved parking spaces base-wide.***
- ***Do not allow landscaping to impair safe vehicle operation.***
- ***Do not permit "bumper blocks."***
- ***Install concrete curbing around all paving areas to provide borders.***



This illustration shows how trees can be planted on parking lots.

5.4.4 PAVILIONS/STORAGE SHEDS

PAVILIONS

Pavilions, such as the one pictured at right, help create focal points and park-like settings that offer personnel an outdoor place for relaxation, eating and recreation. Future pavilions on base should follow this standard design.

STORAGE SHEDS

- Acquisition and installation of portable buildings on Malmstrom AFB are subject to the approval of the Facilities Board. The Architectural Review Board will review all such proposals and provide recommendations based on the user request and recommendations by the Base Civil Engineer.
- Portable building site, architectural design and structural adequacy shall be subject to the approval of the Base Civil Engineer.
- Portable buildings shall be constructed of durable materials and of attractive design. Color of the item shall be the same as the facility that it is intended to serve, or other approved color. Acceptable design requires gable roofs or roofs with adequate slopes.
- Portable buildings sites shall be as unobtrusive as reasonably possible. Portable buildings must be always well maintained and in satisfactory repair. PBs shall be removed from the base and properly disposed of by the user when inspection by the BCE identifies lack of serviceability or inadequate management.

Typical pavilion design for Malmstrom AFB

Storage shed design recommended for Malmstrom AFB. Brick, CMU, or stucco may be used.

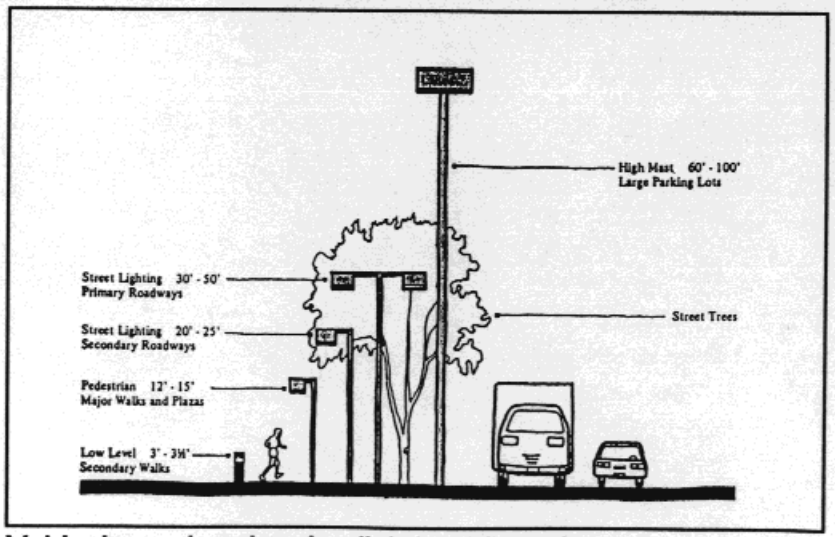
5.4.5 EXTERIOR LIGHTING

Lighting should be related to the functions and scale of activities it serves. Lighting design should vary with the volume and type of traffic and with the visual character of development. Street and pedestrian lighting should be coordinated with other elements of the landscape, such as signage, landscape planting, paving materials and bus shelters. In some cases, outdoor lighting of buildings is used to highlight or accent a building at night. In general, this type of lighting should be avoided, except where building security is essential or where special effects are needed. The base Architectural Review Board should be consulted for exterior lighting of a building.

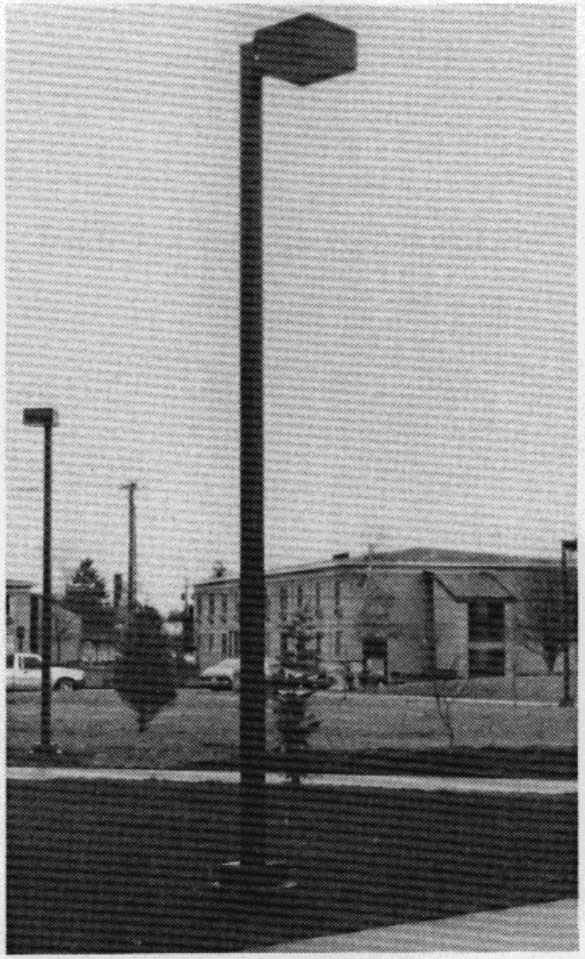
WALKWAY AND PLAZA LIGHTING

This type of lighting is provided by fixtures mounted at an average height of 12 ft. to 15 ft. and is used to light primary pedestrian walkways and plazas.
Specifications:

- ***Rectangular (Shoe box) luminaires equal to Holophane Somerset, Kim Cat. #EKG501 or approved equal***
- ***150-watt high pressure sodium lamps***
- ***1/2 foot candle minimum maintained***
- ***Square tapered anodized dark bronze finish pole.***



Vehicular and pedestrian lighting hierarchy

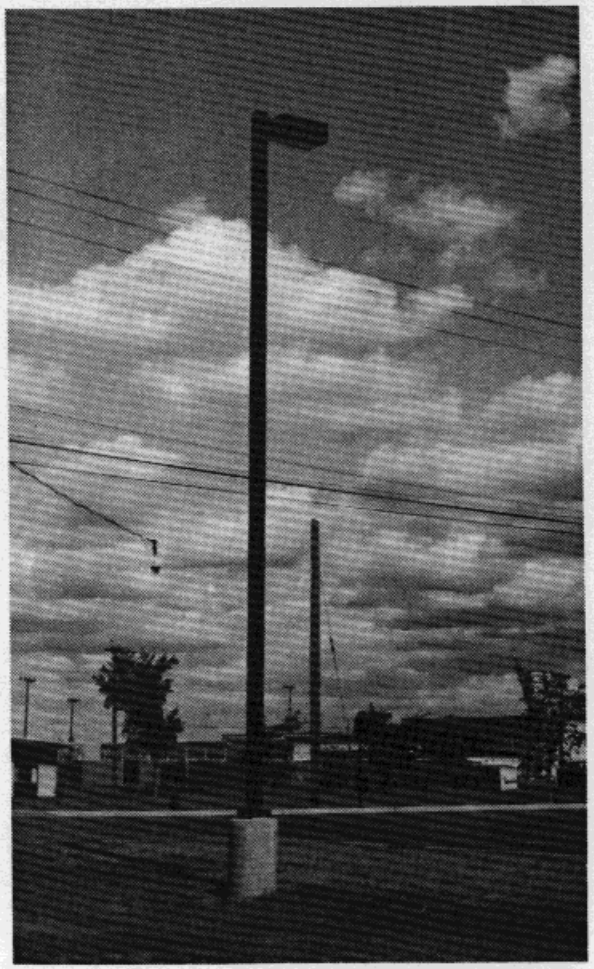


Typical walkway, parking and plaza lighting standard. See also *Airmen Communities* guide, photo p. 12.

5.4.5 EXTERIOR LIGHTING

PARKING AND RECREATIONAL LIGHTING

This type of lighting is provided by fixtures mounted at an average height of between 20 and 30 ft. and is used in large recreational areas and parking lots. Specifications:



Typical roadway lighting standard

- ***Rectangular (shoe box) luminaires equal to Holophane Parklane/Flat Door Kim Cat. #5SQ or approved equal***
- ***400 watt high pressure sodium lamp at 1/2 foot candle minimum maintained.***
- ***Square tapered anodized dark bronze finish pole.***

ROADWAY LIGHTING

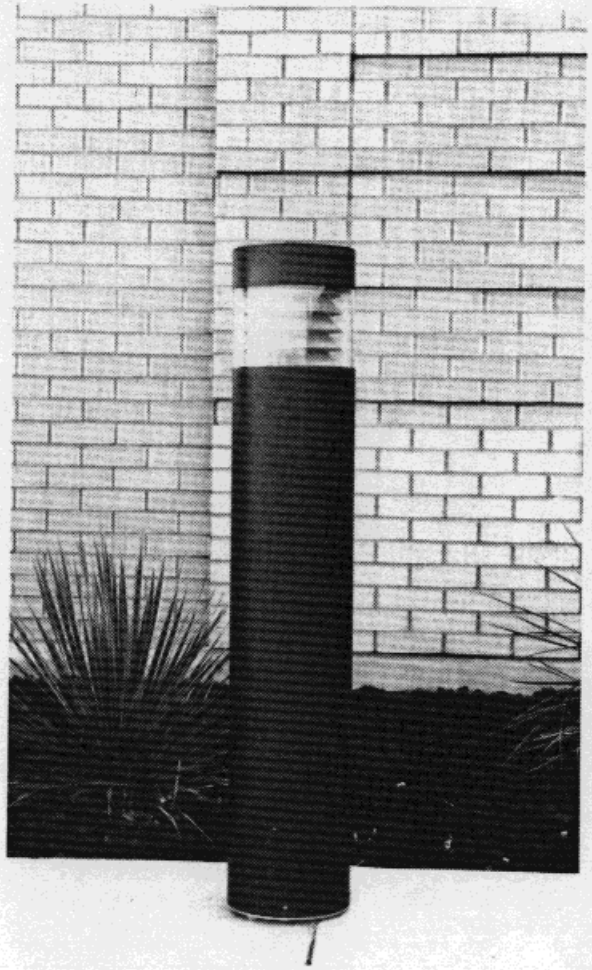
This type of lighting is provided by fixtures mounted at average heights of between 30 and 50 feet and will typically be used in roadway applications. Specifications:

- ***Standard highway luminaire equal to Holophane Vector or approved equal.***
- ***400 watt high pressure sodium lamp at 1 foot candle minimum maintained.***
- ***Round tapered dark bronze break-away pole.***
- ***Consult with Base Electrical Engineer for further application of base standard guide specs.***

5.4.5 EXTERIOR LIGHTING

LOW LEVEL LIGHTING

This type of lighting is provided by fixtures mounted at heights below eye-level and typically will be used for special pedestrian walkway areas such as at stairways or along secondary pathways. It is characterized by very finite light patterns with low wattage capabilities. Light sources are either incandescent or fluorescent. These fixtures are easily maintained but are susceptible to vandalism.

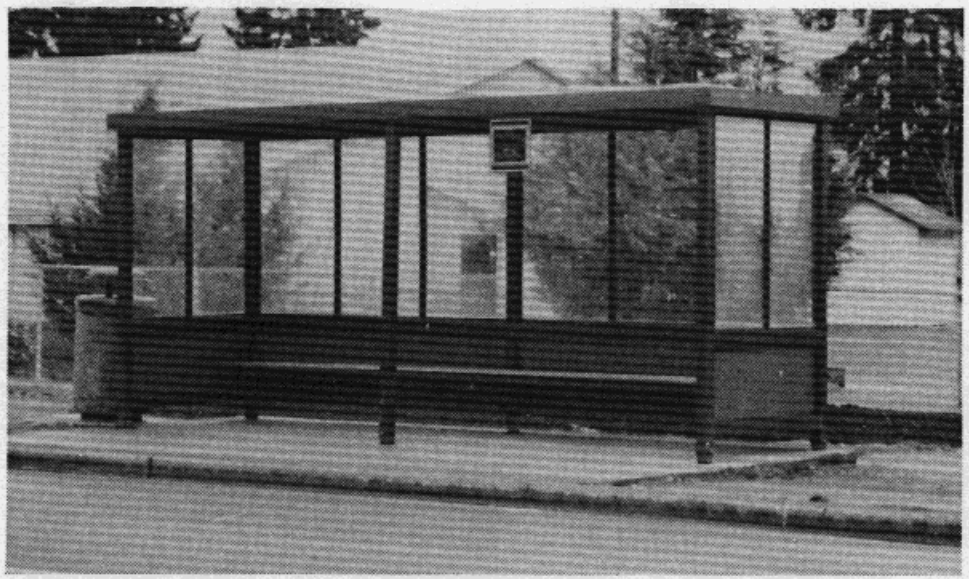


Typical low level lighting fixture to be used at Malmstrom

5.4.6 BUS STOPS

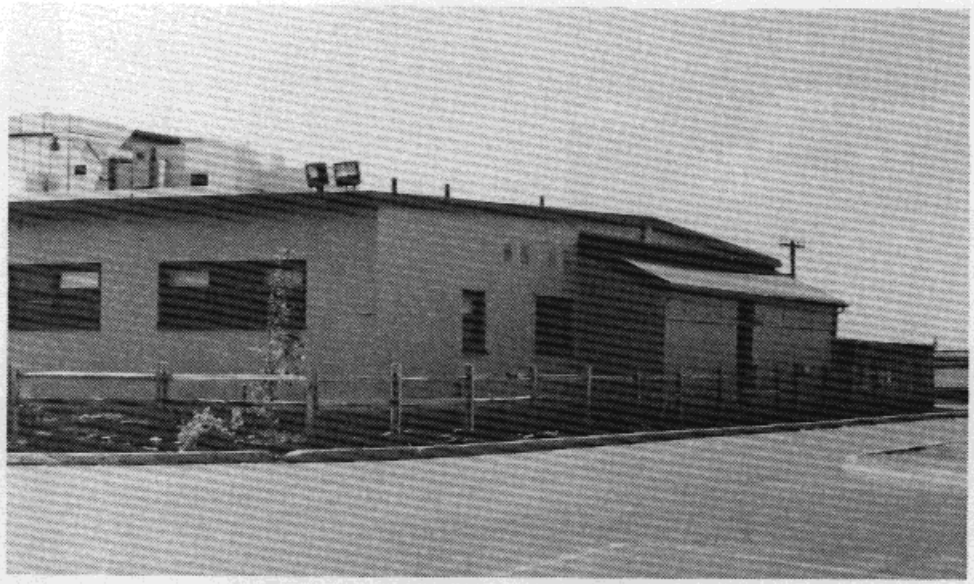
RECOMMENDATIONS:

- ***Bus shelter designs should be simple, unobtrusive, consistent and harmonious with the architectural character of the installation in terms of their form, scale, materials and details.***
- ***Outdoor seating should be provided near the bus shelter for waiting during pleasant weather.***
- ***Bus shelters should have a minimum size of 5′ x 8′. Minimum height inside should be 6′-6" from the ground to the underside of the protective roof.***
- ***Minimum set-back from curb should be 3′-6".***
- ***Waiting areas around bus shelters should have hard-surfaced paving that adequately drains to prevent puddles.***
- ***Provide nighttime illumination for safety and security.***
- ***Waiting area should be protected on three sides from wind and rain.***

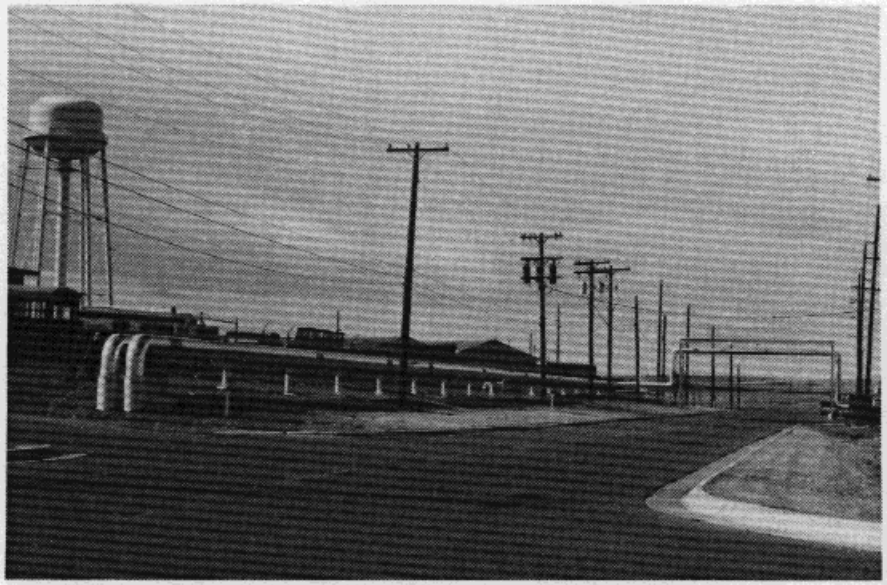


Typical bus shelter to be used at Malmstrom

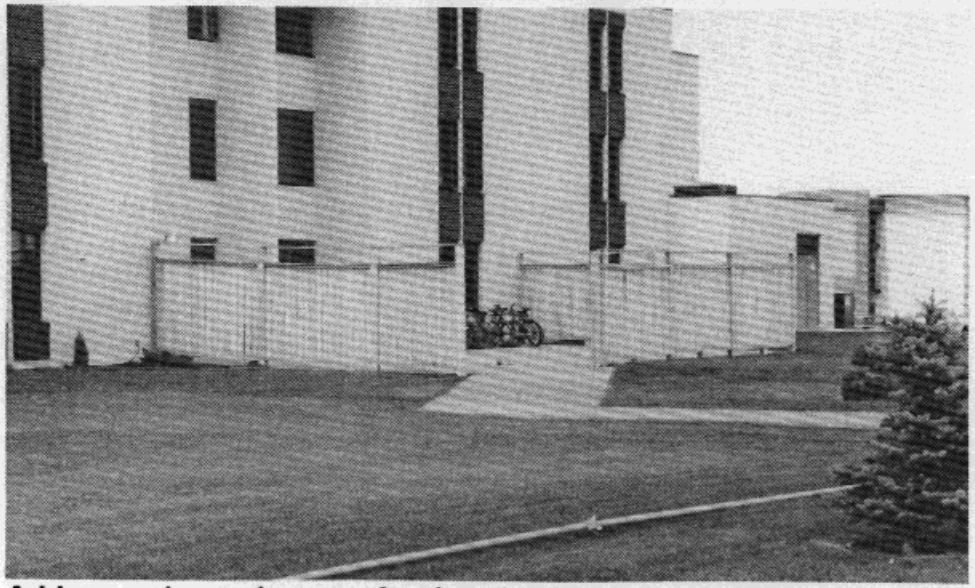
5.4.7 MISCELLANEOUS CONCERNS



Split-rail fencing is not compatible with building and does not meet base standards



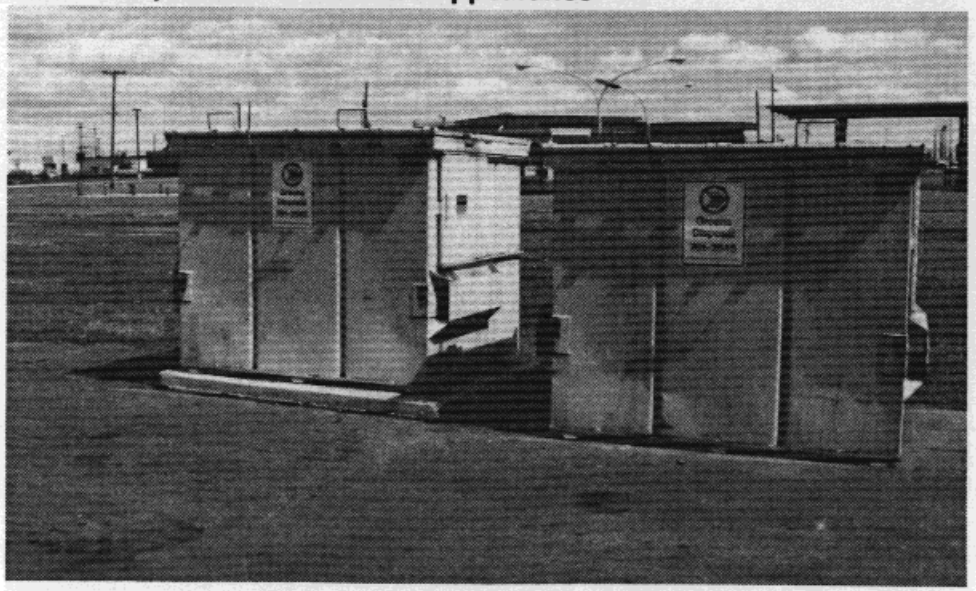
Visually unattractive above-ground steam piping



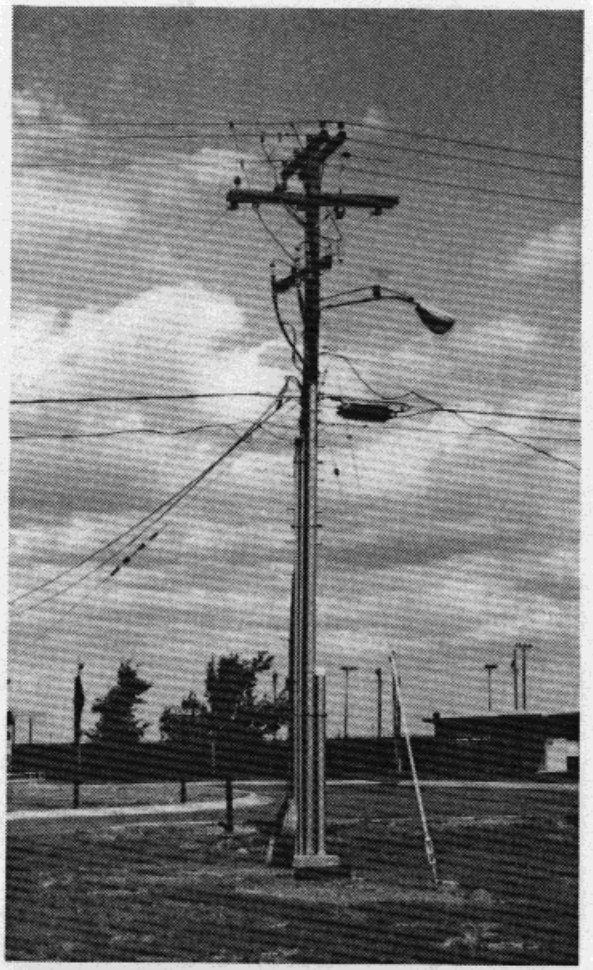
Add-on patios and screen fencing should be constructed with materials that are compatible with the adjacent structure.

5.4.7 MISCELLANEOUS CONCERNS

Streetscape planting along major collector routes will visually enhance the base appearance



Unscreened trash dumpsters and storage buildings



Locating roadway lighting and overhead utilities on one pole is unsightly and should be avoided. Locate utilities underground whenever possible.

6.0 SUMMARY

This guide has endeavored to provide pertinent, fundamental guidelines an architect or designer needs to begin design of a base construction project.

By providing an overview of the base, analyses and recommendations for existing buildings, architectural themes, and lists of construction and landscaping materials, the basic architectural concerns of the base have been made apparent. If applied consistently, the guidelines and recommendations just presented will help the base to enhance and maintain a unified, functional climate everyone can enjoy and take comfort in no matter how long or short the stay. Designers of future projects will be challenged to build upon these established guidelines to create structures that respect the base standards of architectural compatibility.

The process for designing and building base structures should not be viewed as forbidding or restrictive. Although anyone proposing alterations to the built environment is asked to complete and submit all the required documentation to the Base Civil Engineer when considering a design, this is a necessary step to inform base personnel of a designer's intent. All design proposals must be approved by the base Architectural Compatibility Review Board. Nonetheless, the design process should be approached positively as a means to enhance and maintain a coherent built environment.

When the principles of architectural compatibility are successfully applied, the result is a comfortable, aesthetically pleasing environment in which to live and work.

Prepared by

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