

# **BUILDING THE NEST:** DESIGNING FOR VETERAN HEALING



Figure 1

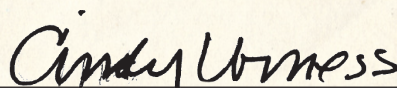


# BUILDING THE NEST: DESIGNING FOR VETERAN HEALING

A DESIGN THESIS SUBMITTED TO THE  
DEPARTMENT OF ARCHITECTURE AND LANDSCAPE ARCHITECTURE  
OF NORTH DAKOTA STATE UNIVERSITY

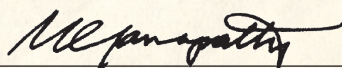
BY  
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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE  
DEGREE OF MASTERS OF ARCHITECTURE  
MAY 2019  
FARGO, ND



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# THESIS ABSTRACT

THE EAGLE'S HEALING NEST, LOCATED IN SAUK CENTRE, MN, SERVES AS A REFUGE FOR VETERANS AND ACTIVE DUTY MEMBERS WHERE THEY RECEIVE THE SUPPORT AND ASSISTANCE THEY NEED. COMING FROM ALL OVER THE COUNTRY, VETERANS MIGRATE TO THE NEST TO HEAL AND RESTORE HONOR, DIGNITY, AND PURPOSE IN THEIR LIVES.

AROUND 30% OF THE MEN AND WOMEN WHO HAVE SPENT TIME IN WAR ZONES EXPERIENCE POST-TRAUMATIC STRESS DISORDER, OR PTSD. MANY OF THE RESIDENTS AT THE EAGLE'S HEALING NEST ALSO SUFFER FROM THIS CONDITION. ARCHITECTURE CAN PLAY AN IMPORTANT ROLE IN THE TREATMENT AND HEALING OF THESE VETERANS. BY PROVIDING A RESTORATIVE AND RELAXING ENVIRONMENT THAT MINIMIZES PERCEIVED THREATS, ARCHITECTURE CAN CALM THE MIND OF THE VETERAN TO ALLOW FULL FOCUS ON THERAPY AND HEALING PRACTICES.

AN ARCHITECTURAL INTERVENTION AT THE EAGLE'S NEST WILL ADDRESS TWO FACETS OF VETERAN HEALING: THE TRANSITION AND RE-INTEGRATION INTO CIVILIAN LIFE AND THE DESIGN OF THERAPEUTIC SPACES FOR THE HEALING OF THE MIND. THIS WILL BE ACHIEVED THROUGH THE CONSTRUCTION OF A NEW THERAPY BUILDING AND THE RENOVATION OF THE EXISTING AUDITORIUM BUILT IN THE 1920S.

"EAGLE'S HEALING NEST'S MISSION IS TO PROVIDE ASSISTANCE WITH THE HEALING OF THE INVISIBLE WOUNDS OF WAR CARRIED BY OUR SERVICE MEN AND WOMEN... PAST, PRESENT, AND FUTURE."

-EAGLE'S HEALING NEST MISSION STATEMENT



# NARRATIVE

## BUILDING THE NEST: DESIGNING FOR VETERAN HEALING

DESIGNING SPACES FOR THE TREATMENT OF PTSD IS A RELATIVELY NEW IDEA. WHILE PTSD HAD BEEN DOCUMENTED UNDER DIFFERENT NAMES IN SOME OF THE EARLIEST STORIES AND WRITING, IT WAS ONLY FIRST DOCUMENTED UNDER ITS CURRENT NAME IN 1980 IN THE THIRD EDITION OF THE DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS (DSM-III). THE IDEA OF DESIGNING ARCHITECTURAL SPACES THOUGHTFULLY FOR PTSD PATIENTS IS EVEN NEWER. SINCE THE PASSAGE OF THE AMERICANS WITH DISABILITIES ACT (ADA) IN 1990, ARCHITECTS HAVE BEEN DESIGNING SPACES WITH EQUALITY FOR PEOPLE OF ALL PHYSICAL ABILITIES. HOWEVER, NO SUCH CODE OR DESIGN STANDARD EXISTS FOR DESIGNING SPACES FOR PEOPLE WITH MENTAL DISORDERS.

THE EAGLE'S HEALING NEST IN SAUK CENTRE IS A PLACE FOR VETERANS AND ACTIVE DUTY MEMBERS TO HEAL AND TRANSITION FROM MILITARY TO CIVILIAN LIFE. MOST OF THE RESIDENTS AT THE NEST ARE WORKING TO HEAL FROM PTSD AND THEIR MENTAL TRAUMA. THE NEST, AND ANY FACILITY THAT WORKS TO TREAT PTSD, SHOULD BE DESIGNED THOUGHTFULLY WITH THAT DISORDER IN MIND. A FEW GUIDELINES AND DESIGN IDEAS DO EXIST, BUT EXAMPLES FOR ARCHITECTURE ON WHICH THESE GUIDELINES HAVE BEEN APPLIED ARE HARD TO FIND. THE EAGLE'S HEALING NEST PROVIDES A UNIQUE OPPORTUNITY ON WHICH TO APPLY PTSD FOCUSED DESIGN. ALREADY REMOVED FROM THE INSTITUTIONAL DESIGN OF THE STANDARD VA FACILITY, THE EAGLE'S NEST CAN BECOME AN EXAMPLE OF ARCHITECTURAL DESIGN FOR PTSD AS MUCH AS IT IS ALREADY AN EXAMPLE OF AN ALTERNATIVE METHOD OF PTSD TREATMENT AND VETERAN CARE.

THIS THESIS WILL EXPLORE HOW CAN ARCHITECTURE BECOME A CONDUIT FOR THE TREATMENT OF PTSD, HOW SPACES CAN BE THOUGHTFULLY DESIGNED FOR VETERANS AND THOSE SUFFERING FROM SEVERE MENTAL TRAUMA, AND HOW A FACILITY CAN BE DESIGNED AND PROGRAMMED TO SUPPORT THE SUCCESSFUL TRANSITION OF VETERANS FROM MILITARY TO CIVILIAN LIFE.

# NARRATIVE

TO EXPLORE THIS THESIS TOPIC WILL REQUIRE KNOWLEDGE ON THE PSYCHOLOGY OF PTSD, COMMON TRIGGERS, AND HOW BUILT SPACES CAN AFFECT THE PSYCHOLOGY OF A VETERAN. LEARNING ABOUT HOW PROGRAMMATIC ELEMENTS CAN AFFECT HOW A VETERAN TRANSITIONS FROM MILITARY TO CIVILIAN LIFE WILL ALSO BE NECESSARY. HISTORICAL RESEARCH WILL BE AN IMPERATIVE. THIS WILL INVOLVE RESEARCHING THE HISTORY OF PTSD AND TREATMENT AND THE HISTORY OF THE SITE ITSELF. THERE SHOULD BE A COMPARISON OF THE FINAL DESIGN OF THIS PROJECT TO THE EXISTING SPACES OF THE EAGLE'S HEALING NEST.

# PROJECT TYPOLOGY

THE PRIMARY TYPOLOGY OF THIS PROJECT WILL BE A VETERAN REHABILITATION FACILITY. THE PURPOSE OF THE EAGLE'S HEALING NEST IS TO TREAT "THE INVISIBLE WOUNDS OF WAR." VETERANS AT THIS FACILITY ARE RECOVERING FROM MENTAL AND PHYSICAL TRAUMA, PARTICULARLY PTSD. SOME MAY HAVE CHEMICAL DEPENDENCY PROBLEMS AS WELL. SUCH A TYPOLOGY WILL INCLUDE ELEMENTS SUCH AS OFFICES, THERAPY ROOMS, AND COMMUNITY ROOMS/ GATHERING SPACES. IT WILL BE IMPORTANT FOR A REHABILITATION FACILITY LIKE THIS TO BE AS WARM AND COMFORTING AS POSSIBLE. FIRST AND FOREMOST, IT IS A HEALING FACILITY.

THERE WILL ALSO BE A COMMUNITY BUILDING IN THE FORM OF THE EXISTING AUDITORIUM. THIS WILL BE TRANSFORMED INTO A FLEXIBLE MAKERSPACE AS WELL AS A GALLERY, GATHERING SPACE, AND GYM.

AS STATED ABOVE, THERE WILL ALSO BE OFFICE AND ADMINISTRATIVE BUILDINGS ON THE CAMPUS. THESE WILL BE FOR THE PERMANENT WORKERS AND WELL AS THERAPIST AND OTHER PROFESSIONALS THAT TRAVEL TO THE SITE TO PROVIDE THERAPY AND OTHER SERVICES.

# TYPOLOGICAL RESEARCH (CASE STUDIES)



REHABILITATION CENTRE GROOT KLIMMENDAAL

FIGURE 2



MAGGIE'S OLDHAM

FIGURE 3



THE SIX DISABLED VETERANS HOUSING

FIGURE 4

# REHABILITATION CENTRE GROOT KLIMMENDAAL

ARCHITECTS: ARCHITECTENBUREAU KOEN VAN VELSEN BV

LOCATION: OUTSIDE ARNHEM, THE NETHERLANDS

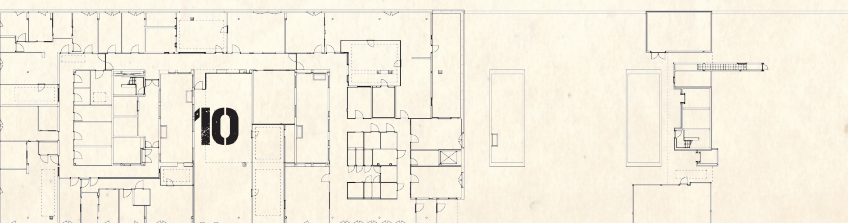
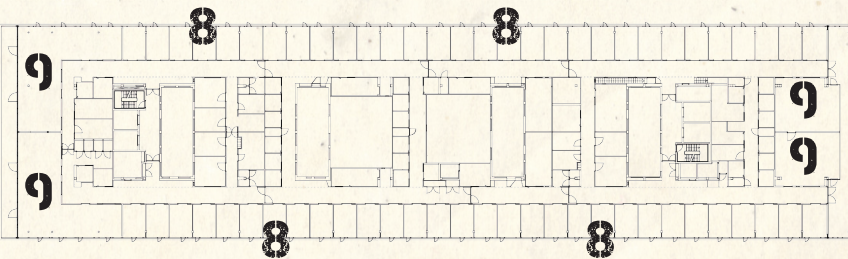
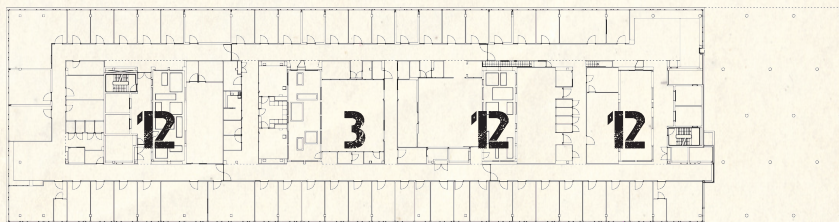
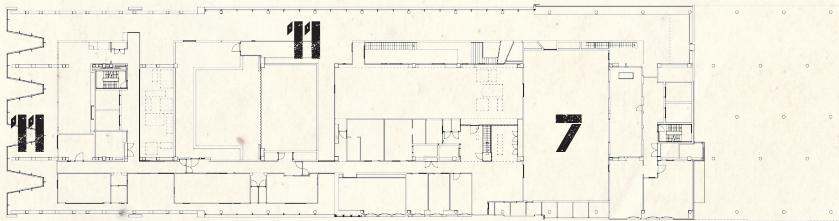
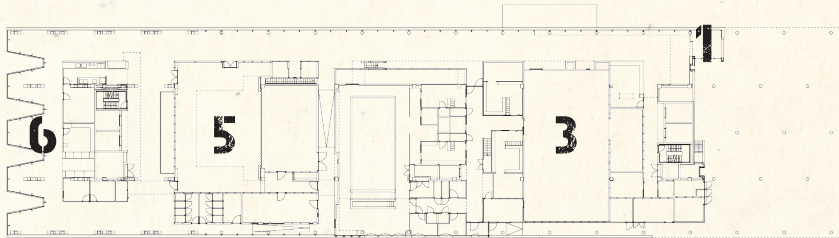
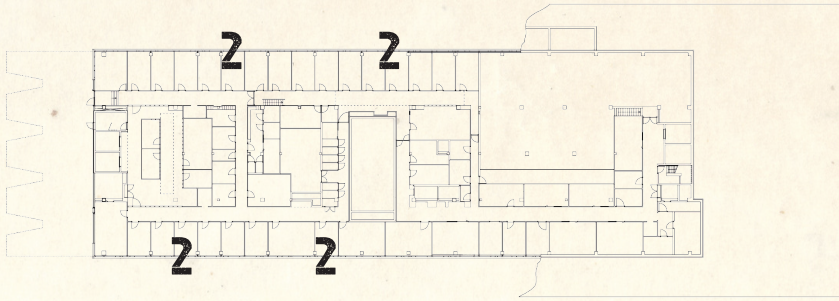
SIZE: 14,000 M<sup>2</sup>

BUILT ADJACENT TO A PUBLIC PARK, THIS MEDICAL FACILITY/ COMMUNITY CENTER ATTEMPTS TO BLUR THE BOUNDARY TO BETWEEN THE BUILT AND NATURAL ENVIRONMENT. THE BUILDING FEATURES A SMALL FOOTPRINT WITH UPPER FLOORS CANTILEVERING OUT. FLOOR TO CEILING GLAZING HELPS TO BRING THE OUTDOORS IN, WITH SMALLER PORTIONS OF THE FLOOR PLAN JUTTING OUT BETWEEN TREES TO FEEL AS THOUGH THEY ARE A PART OF THE FOREST (REHABILITATION CENTRE GROOT).

THE SURROUNDING NATURE IS A LARGE FOCUS OF THE DESIGN THROUGHOUT THE BUILDING. THIS ALLOWS THE USER EXPERIENCE THE NATURE AND REVITALIZE WHILST WALKING THROUGH THE SPACES (REHABILITATION CENTRE GROOT).



FIGURE 5

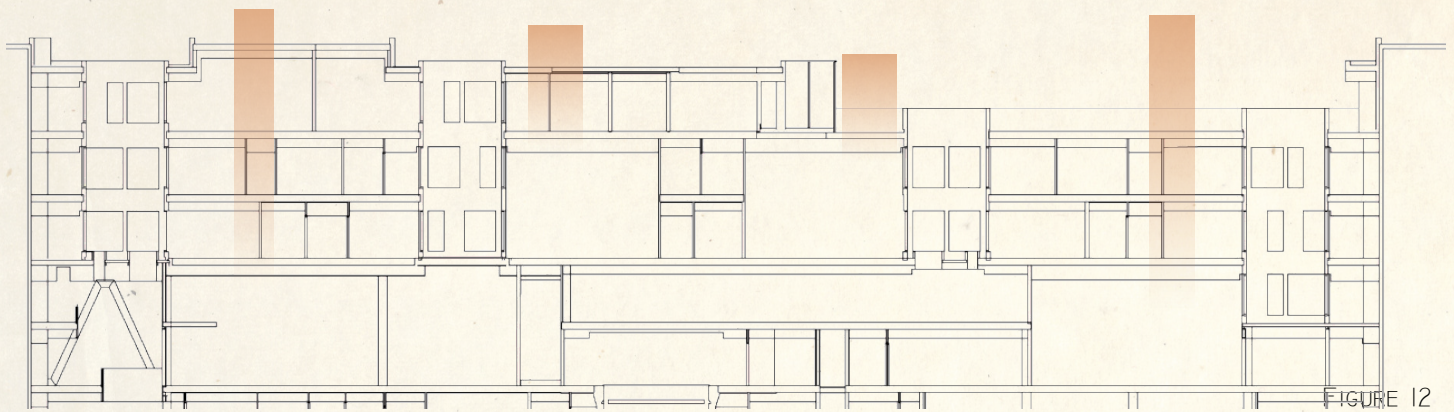


THE GROUND FLOOR IS DOUBLE-HEIGHT TO ACCOMMODATE ELEMENTS OF THE PROGRAM SUCH AS A SPORTS FACILITY, FITNESS CENTER, SWIMMING POOL, RESTAURANT, AND THEATER. PATIENTS USE THESE FACILITIES IN ADDITION TO FAMILY MEMBERS AND THE SURROUNDING COMMUNITY. IN THIS WAY, THE FACILITY PLACES BOTH THE PATIENT AND THE BUILDING AT THE CENTER OF THE COMMUNITY (REHABILITATION CENTRE GROOT).

THE PROGRAM OF THE BUILDING IS ARRANGED WITH DIFFERENT USED LOCATED ON DIFFERENT FLOORS. ON THE LOWEST FLOOR ARE THE OFFICES. THE ENTRY LEVEL INCLUDES THE MOST PUBLIC AREAS SUCH AS THE GYM, THEATER, AND RESTAURANT. THE NEXT FEW FLOORS ARE MOSTLY THE CLINICAL AREAS. ON THE VERY TOP LEVEL IS THE RONALD McDONALD HOUSE WITH ITS OWN IDENTITY (REHABILITATION CENTRE GROOT).

- 1. ENTRANCE
- 2. OFFICE
- 3. GYMNASIUM
- 4. SWIMMING POOL
- 5. THEATER
- 6. RESTAURANT
- 7. FITNESS CENTER
- 8. ROOM FOR PATIENT
- 9. LIVING ROOM
- 10. RONALD McDONALD HOUSE
- 11. VOID
- 12. PATIO

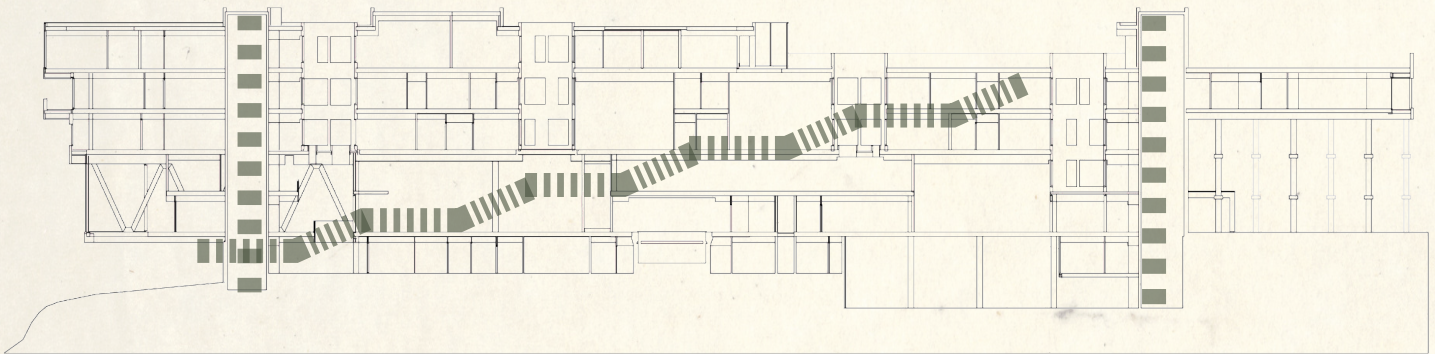
FIGURES 6-II



LIGHT WELLS/VOIDS

FIGURE 12

ELEMENTS OF THE PROGRAM IN NEED OF NATURAL LIGHTING ARE PLACED ALONG THE PERIMETER WITH WINDOWS OR ADJACENT TO THE LIGHT WELLS. THIS CREATES A WARMER, NATURAL ENVIRONMENT AND AIDS IN HEALING (REHABILITATION CENTRE GROOT).



VERTICAL CIRCULATION

FIGURE 13

THE FACILITY FEATURES A CONTINUOUS SHALLOW TIMBER STAIRCASE THAT RUNS THE FULL INTERNAL HEIGHT OF THE BUILDING AND PROMOTES A VISUAL CONNECTION BETWEEN A ROOF GARDEN AND THE SURROUNDING VALLEY. THIS STAIRCASE DIRECTLY CONNECTS ALL FLOORS AND ENABLES "A VARIETY OF ALTERNATIVE ROUTES ROAMING THE BUILDING AND THUS FORMS AN INVITATION TO UNDERTAKE PHYSICAL EXERCISE" (REHABILITATION CENTRE GROOT).



FIGURE 14



FIGURE 15

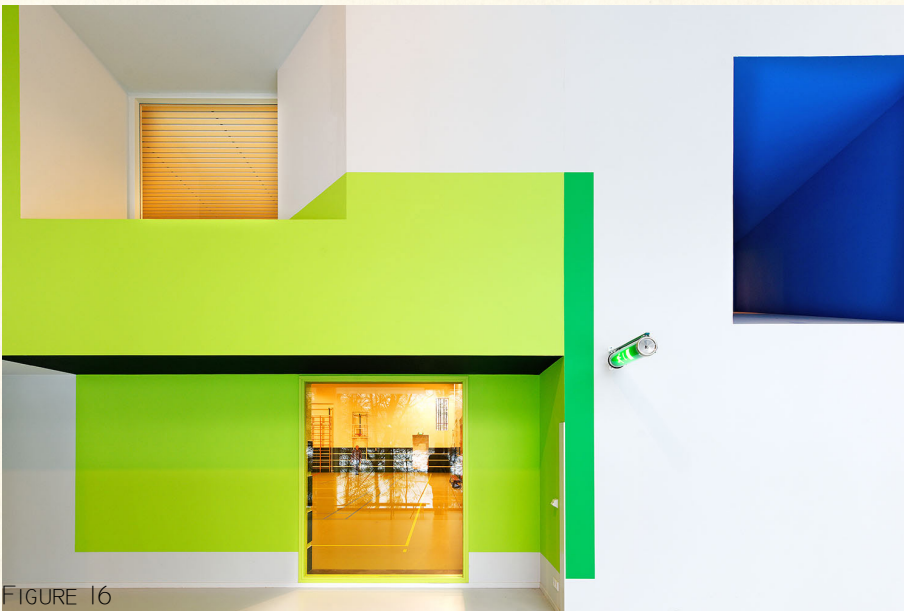


FIGURE 16



FIGURE 17

THE FACILITY MAKES USE OF STIMULATING COLORS TO CREATE A POSITIVE ENVIRONMENT THAT INCREASES PATIENT WELL-BEING AND BENEFITS PATIENT REHABILITATION. THE USE OF COLOR MAKES FOR A MORE INVITING COMMUNITY BUILDING RATHER THAN APPEARING AS A MEDICAL FACILITY. THE STIMULATING ENVIRONMENT IN COMBINATION WITH THE CIRCULATION CREATES A VARIETY OF ALTERNATIVE ROUTES THAT ENCOURAGE VISITORS TO ROAM THROUGHOUT THE BUILDING AND INCREASE PHYSICAL MOVEMENT. MOVEMENT AND EXERCISE THEN HAS A BENEFICIAL EFFECT ON THE REHABILITATION PROCESS. THE DESIGN INTENT OF THIS FACILITY WAS NOT TO "CREATE A CENTRE WITH THE APPEARANCE OF A HEALTH BUILDING, BUT A BUILDING AS A PART OF ITS SURROUNDINGS AND THE COMMUNITY" (REHABILITATION CENTRE GROOT).

REHABILITATION CENTRE GROOT KLIMMENDAAL "RADIATES SELF-CONFIDENCE AND SELF-CONTROL" (REHABILITATION CENTRE GROOT). THE BUILDING OFFERS ITS PATIENTS AND USERS A NATURAL HABITAT FOR ACTIVITY AND HEALING.

# MAGGIE'S OLDHAM

ARCHITECTS: DE RIJKE MARSH MORGAN ARCHITECTS

LOCATION: ROYAL OLDHAM HOSPITAL, OLDHAM, UK

SIZE: 260 M<sup>2</sup>

THIS FACILITY IS ONE OF MANY MAGGIE'S CENTRES THROUGHOUT THE UK AND ABROAD. THESE FACILITIES PROVIDE FREE PRACTICAL, EMOTIONAL, AND SOCIAL SUPPORT TO PEOPLE DIAGNOSED WITH CANCER AS WELL AS THEIR FAMILY AND FRIENDS (ABOUT MAGGIE'S). THEY ARE INTENDED TO BE VERY THERAPEUTIC PLACES THAT CHALLENGE THE IDEA OF THE TYPICAL INSTITUTIONAL, STERILE HOSPITAL. THE ARCHITECTURE OF MAGGIE'S CENTRES IS INTENDED TO "LIFT THE SPIRITS AND SET THE SCENE FOR PEOPLE TO DRAW ON STRENGTHS THEY MAY NOT HAVE REALIZED THEY HAD IN ORDER TO COPE" (DRMM).



FIGURE 18





FIGURE 19



FIGURE 20

THE RECTILINEAR SHAPE ALLOWS IT TO BETTER FIT IN WITHIN THE CONTEXT, A NEIGHBORHOOD CONTAINING A HISTORIC PORTION OF THE ROYAL OLDHAM HOSPITAL. THE INTERIOR PRESENTS MORE ORGANIC SHAPES TO GIVE A MORE NATURAL FEEL TO THE SPACE.

MOST OF THE OFFICES IN THE FACILITY ARE KEPT PRIVATE. HOWEVER, THE THERAPY SPACES SEEM TO HAVE BEEN DESIGNED TO BE FLEXIBLE. ONE SPACE FEATURES A HEAVY CURTAIN THAT CAN ENCLOSE THE SPACE FROM THE REST OF THE BUILDING WHILE STILL PROVIDING VIEWS OUTSIDE. ALL OTHER THERAPY OR GROUP SPACES HAVE SIGHT LINES TO GREENERY AND THE OUTDOORS.

THE SCALE OF MANY OF THESE SPACES SEEMS TO BE MORE RESIDENTIAL. NOT SEATING AREA IS LARGER THAN A TYPICAL LIVING ROOM. KITCHEN AND DINING AREAS ARE MORE REMINISCENT OF SUCH SPACES IN A HOUSE RATHER THAN A MEDICAL FACILITY. THIS MAKES THE SPACE MUCH MORE WARM AND INVITING, AS IT REMINDS VISITORS OF HOME.



FIGURE 21

MAGGIE'S OLDHAM IS SITUATED NEXT TO A HISTORIC PORTION OF THE ROYAL OLDHAM HOSPITAL, WHICH PRESENTS A CHALLENGE OF DESIGNING A MODERN FACILITY THAT RELATES TO ITS HISTORIC CONTEXT.

MAGGIE'S OLDHAM MEETS THIS CHALLENGE IN MANY WAYS. FIRST, THE BUILDING IS RAISED ON SLENDER COLUMNS. THIS KEEPS THE ENTRY LEVEL OF THE FACILITY AT THE SAME HEIGHT AS THE OLD HOSPITAL. RAISING THE SINGLE STORY BUILDING IN THIS WAY ALSO PROVIDED THE DESIGNERS WITH A UNIQUE OPPORTUNITY TO CREATE A WALKABLE GARDEN SPACE UNDERNEATH THE BUILDING, ALLOWING THE SMALL LOT TO BE ALMOST COMPLETELY GREEN AND PLANTED.

THE PROPORTIONS OF THE NEW BUILDING RELATE WELL TO LINES ON THE HISTORIC HOSPITAL. THIS CONNECTS THE TWO FACILITIES IN DESIGN.

THERE ALSO SEEMS TO BE A RELATIONSHIP WITH THE LENGTH OF THE BUILDING AND ITS PLACEMENT ON THE SITE IS RELATION TO THE OLD HOSPITAL. FOR EXAMPLE, THE BACK WALL (ON THE LEFT IN THIS IMAGE) SEEMS TO NEARLY LINE UP WITH THE END OF THE OLD HOSPITAL. SIMILARLY, THE STREET-FACING FACADE (ON THE RIGHT) SEEMS TO NEARLY LINE UP WITH ONE OF THE TOWERS ON THE OLD HOSPITAL. WHEN SHOWN AS AN ELEVATION OR SECTION, IT SEEMS THAT THE NEW FACILITY RELATES WELL TO THE OLD, HISTORIC HOSPITAL.



FIGURE 22

ACCORDING TO THE ARCHITECT, THE DESIGN OF THIS MAGGIE'S CENTER IS "LESS ABOUT FORM AND MORE ABOUT CONTENT. A SIMPLE YET SOPHISTICATED WOODEN BOX OF SURPRISES" (DRMM).

THROUGHOUT THE SPACE, IT IS CLEAR THAT THE FOCUS OF THE DESIGN IS THE INNER "OASIS" WHERE A TREE GROWS UP THROUGH THE BUILDING. THIS INNER COURTYARD FLOODS THE FACILITY WITH LIGHT AND GIVES BEAUTIFUL VIEWS OF THE GARDEN AND SKY.



FIGURE 23

TRULY UNIQUE IN THIS BUILDING IS THE USE OF WOOD. THIS WAS VERY INTENTIONAL AS "IN WOOD THERE IS HOPE, HUMANITY, SCALE AND WARMTH" (DRMM). THIS BUILDING IS THE FIRST EVER PERMANENTLY CONSTRUCTED USING SUSTAINABLE TULIPWOOD CROSS-LAMINATED TIMBER.

WOOD IS ALSO A MAJOR COMPONENT OF THE INSULATION, AS WOOD FIBER INSULATION WAS USED TO CREATE A "BREATHABLE, HEALTHY ENVIRONMENT" (DRMM). WINDOW FRAMES FEATURE AMERICAN WHITE OAK AND THE BUILDING IS CLAD IN A CUSTOM-FLUTED, THERMALLY MODIFIED TULIPWOOD.



FIGURE 24

THE USE OF WOOD WAS BROUGHT EVEN DOWN TO THE SMALLEST DETAILS, SUCH AS USING OAK RATHER THAN METAL DOOR HANDLES. THIS IS BECAUSE PEOPLE UNDERGOING CHEMOTHERAPY CAN SOMETIMES FEEL PAIN UPON TOUCHING COLD OBJECTS.

# THE SIX

## DISABLED VETERAN HOUSING

ARCHITECTS: BROOKS + SCARPA

LOCATION: LOS ANGELES, CA

SIZE: 40,000 FT<sup>2</sup>, 52 UNITS

THE SIX IS AN AFFORDABLE HOUSING PROJECT LOCATED IN THE MACARTHUR PARK AREA OF LOS ANGELES. THIS PROJECT IS INTENDED TO PROVIDE A HOME, SUPPORT SERVICES, AND REHABILITATION FOR DISABLED VETERANS IN THE AREA, MANY OF WHICH ARE HOMELESS (BROOKS + SCARPA).

THE FACILITY AIMS TO COMBAT THE STRUGGLE VETERANS FACE AS THEY RETURN TO CIVILIAN LIFE. THIS STRUGGLE IS BOTH PHYSICAL AND MENTAL. ACCORDING TO LAWRENCE SCARPA OF BROOKS + SCARPA, VETERANS "OFTEN CARRY WITH THEM THE TRAUMA OF WAR, AND SO INTEGRATING THEM BACK INTO SOCIETY IS ONE OF THE MAIN GOALS OF SKID ROW HOUSING TRUST" (THE SIX BY BROOKS + SCARPA).





FIGURE 26

INTENDING TO BE A COMFORTING SHELTER, THE SIX "BREAKS THE PRESCRIPTIVE MOLD OF THE TRADITIONAL SHELTER BY CREATING PUBLIC AND PRIVATE 'ZONES' IN WHICH PRIVATE SPACE IS DEEMPHASIZED, IN FAVOR OF LARGE PUBLIC AREAS" (BROOKS + SCARPA). THIS IS INTENDED TO CHANGE THE WAY TO RESIDENTS WILL LIVE IN THE SPACE. RATHER THAN A "RECLUSIVE, ISOLATING LAYOUT," THE BUILDING SHOULD PROVIDE A COMMUNITY-ORIENTED, INTERACTIVE SPACE.



FIGURE 27



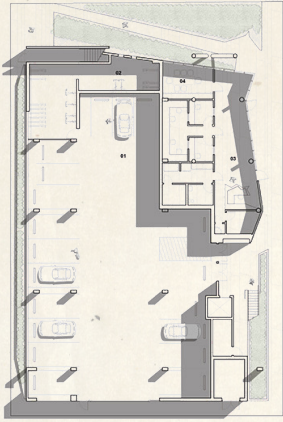
FIGURE 28

THE SIX EXCEEDS ENERGY EFFICIENCY STANDARDS THROUGH MULTIPLE PASSIVE DESIGN STRATEGIES SUCH AS SHAPING AND ORIENTING THE BUILDING WITH THOUGHT TO PREVAILING WINDS AND TO CONTROL SOLAR COOLING LOADS. THE SHAPE OF THE BUILDING WAS SPECIFICALLY DESIGNED TO INDUCE BUOYANCY FOR NATURAL VENTILATION AND WINDOWS ARE ORIENTED TO GATHER MAXIMUM DAYLIGHTING, WHILE SHADING ON SOUTH AND WEST FACING WINDOWS REDUCES SOLAR HEAT GAIN. THE BUILDING ALSO UTILIZED LOW FLOW FIXTURES AND CAREFUL STORM WATER MANAGEMENT SYSTEM WHICH ALLOWS RUNOFF TO FLOW DOWN THROUGH PLANTERS ON THE BOTTOM LEVEL.



FIGURE 29

ALL THE PASSIVE STRATEGIES INCORPORATED INTO THE FACILITY MAKE IT 50% MORE EFFICIENT THAN A CONVENTIONALLY DESIGNED STRUCTURE (BROOKS + SCARPA).



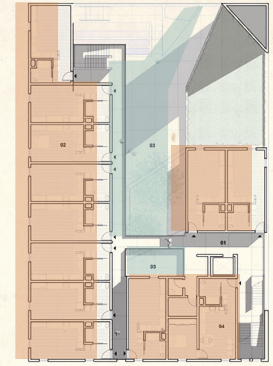
**FIRST FLOOR**

PARKING GARAGE  
 BICYCLE STORAGE  
 RECEPTION  
 CONFERENCE ROOM



**SECOND FLOOR**

COURTYARD  
 II-STUDIO UNITS  
 LAUNDRY ROOM  
 I-ONE BEDROOM UNIT  
 GATHERING SPACE



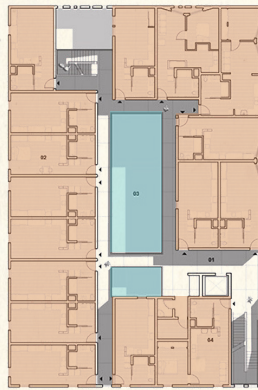
**THIRD FLOOR**

CIRCULATION SPACE  
 II-STUDIO UNITS  
 COURTYARD-OPEN  
 I-ONE BEDROOM UNIT  
 GREEN ROOF



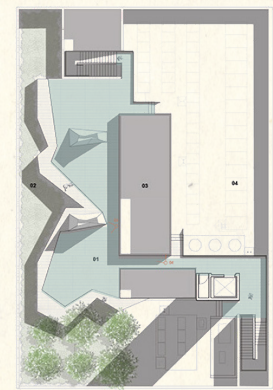
**FOURTH FLOOR**

CIRCULATION SPACE  
 II-STUDIO UNITS  
 COURTYARD-OPEN  
 I-ONE BEDROOM UNIT



**FIFTH FLOOR**

CIRCULATION SPACE  
 13-STUDIO UNITS  
 COURTYARD-OPEN  
 3-ONE BEDROOM UNIT



**ROOF**

ROOF DECK  
 ROOF PLANTER  
 COURTYARD-OPEN  
 PHOTOVOLTAIC ARRAY

FIGURES 30-35

**PRIVATE SPACES**

**COMMUNITY SPACES**

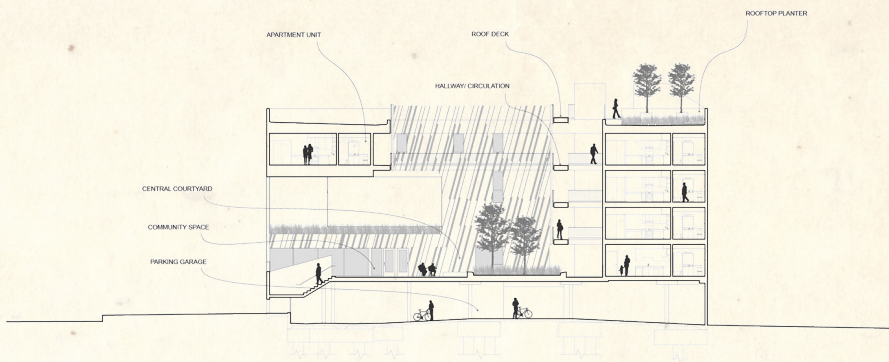
FIGURE 36

DESIGNED SPECIFICALLY FOR THE REHABILITATION OF DISABLED VETERANS, THE PROJECT INCLUDES MANY ACCESSIBILITY FEATURES. ALL FLOORS ARE WHEELCHAIR ACCESSIBLE. BRAILLE SIGNS AND LIGHT-EQUIPPED ALARM SYSTEMS IMPROVE ACCESSIBILITY FOR THE VISUALLY AND HEARING IMPAIRED (THE SIX BY BROOKS + SCARPA).

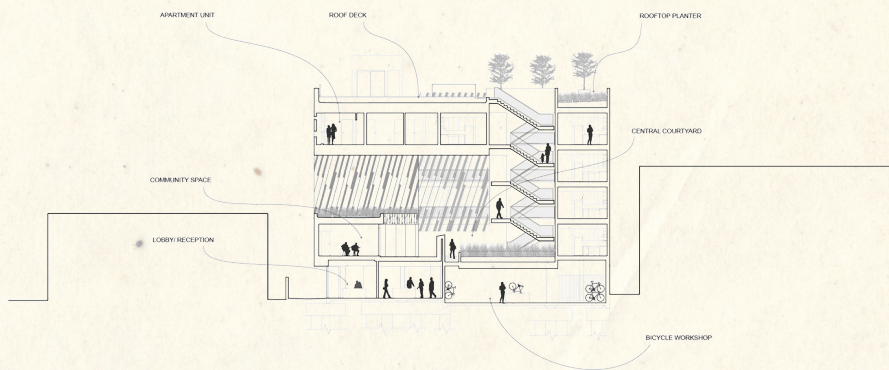
THE ELEVATED COURTYARD ON THE SECOND FLOOR HAS LARGE OPENINGS WITH GREEN ROOFS THAT HELP TO CONNECT THE SPACE TO THE LOWER LEVELS AND THE STREET, WHICH "ALLOWS TENANTS TO ENJOY A SECURED OPEN SPACE WHILE STILL CONNECTING TO THE LARGER COMMUNITY" (BROOKS+SCARPA).

THIS ELEVATED COURTYARD CAN BE SEEN THROUGH A LARGE OPENING ON THE FRONT-FACING FACADE. BECAUSE THE COURTYARD IS RAISED, IT DOESN'T OPEN TO STREET LEVEL "A DETAIL THAT, ALONG WITH THE OPEN CORRIDORS AND STAIRCASES THAT LINE THE PERIMETER OF THIS ATRIUM, AIMS TO STRIKE A BALANCE BETWEEN A SENSE OF OPENNESS AND SECURITY" (THE SIX BY BROOKS + SCARPA).

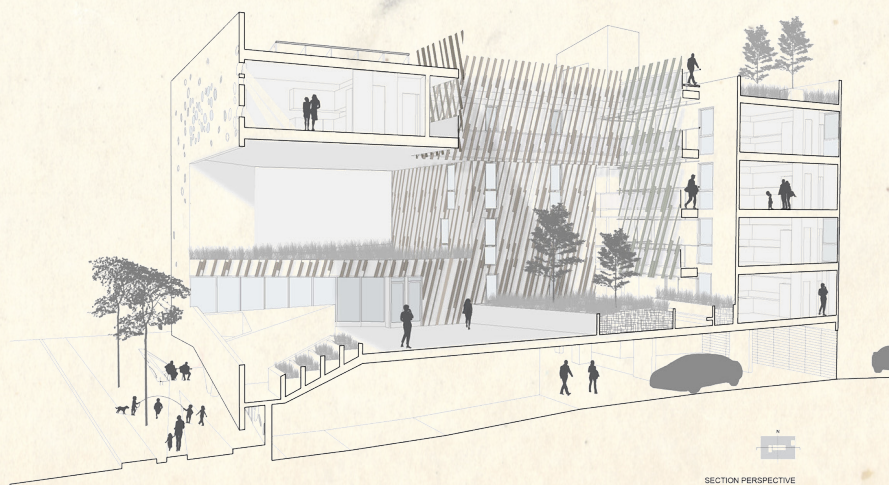
ANOTHER IMPORTANT ASPECT OF DESIGNING FOR VETERANS FOR THIS PROJECT WAS COMBATING INCLUSIVENESS. ACCORDING TO SCARPA, HE "TRIED TO CREATE SPACES WHERE RESIDENTS CAN TAKE PART IF THEY LIKE, OR THEY CAN SIT ON THE SIDELINES AND FEEL COMFORTABLE" (THE SIX BY BROOKS + SCARPA).



SECTION A-A  
0 4 8 12 FT



SECTION B-B  
0 4 8 12 FT



SECTION PERSPECTIVE  
0 4 8 12 FT

FIGURES 37-39

# CASE STUDY CONCLUSIONS

THESE CASE STUDIES WERE PRIMARILY BASED ON REHABILITATION AND THERAPY CENTERS. THESE TYPOLOGIES WILL HAVE SOME SIMILAR PROGRAMMATIC NEEDS TO A PROJECT AT THE EAGLE'S NEST, SUCH AS THERAPY SPACES, COMMUNITY ROOMS, GATHERING SPACES AND MORE. EVEN MORE IMPORTANT, THOUGH, IS THE DESIGN AND FEEL OF THE SPACE. ALL OF THESE TYPOLOGIES MUST BE DESIGNED IN A WAY TO ENCOURAGE HEALING BY CREATING A NURTURING ENVIRONMENT. THIS HAS BEEN VERY MUCH PROVEN IN THESE CASE STUDIES.

ONE OF THE MOST IMPORTANT AND PREVALENT FEATURES OF ALL THE CASE STUDIES WAS THE INTEGRATION WITH THE NATURAL ENVIRONMENT IN THE BUILDING. PARTICULARLY, MAGGIE'S OLDHAM AND THE SIX BOTH HAD INTERNAL COURTYARD AS A CENTRAL FOCUS AND UNIFYING FEATURE. THESE SPACES BECAME VERY VALUABLE IN THEIR ABILITY TO BRING PEOPLE TOGETHER AND TO CREATE A NATURAL, HEALING ENVIRONMENT. GROOT KLIMMENDAAL DID NOT HAVE A COURTYARD GARDEN, BUT APPLIED A SIMILAR CONCEPT THROUGH THE USE OF LIGHT WELLS THAT RAN VERTICALLY THROUGH MULTIPLE STORIES, NATURALLY LIGHTING MANY INTERIOR SPACES. THE FACILITY ALSO USED CANTILEVERING GLAZED MASSES THAT JUTTED OUT INTO THE FOREST AND BETWEEN TREES, GIVING THE FEELING THAT THE USER IS ACTUALLY OUTSIDE IN THE WOODS. ALL THE METHODS EFFECTIVELY BROUGHT THE OUTDOORS IN. THE EFFECT OF THIS IS THAT A REDESIGN AND EXPANSION OF THE EAGLE'S NEST CAMPUS MUST CREATE A CONNECTION WITH NATURE THAT DOES NOT CURRENTLY EXIST IN THE FACILITY.

ONE INTERESTING FOCUS OF MAGGIE'S OLDHAM AND GROOT KLIMMENDAAL IS THE USE OF COLOR AND MATERIALITY. MAGGIE'S HAS THE GREATEST FOCUS ON THE MATERIALS USED AND THEIR EFFECTS ON THE PSYCHOLOGY AND HEALING OF THE USERS. BY MAKING ALL HANDLES WOOD RATHER THAN METAL SO THEY ARE MORE COMFORTABLE FOR CANCER PATIENTS WAS A VERY THOUGHTFUL DETAIL. THE SIMPLE, BUT WARM, COLOR SCHEME MADE THE SPACE VERY COMFORTABLE AND RELAXING. GROOT KLIMMENDAAL USED COLOR IN A DIFFERENT WAY TO ENCOURAGE HEALING. BY USING BRIGHT COLORS, THE USERS ARE STIMULATED AND ENCOURAGED TO TRAVEL AND MOVE THROUGH THE SPACE; THIS MOVEMENT AND EXERCISE THEN ENCOURAGES HEALING AND RECOVERY. WHILE A VERY DIFFERENT APPROACH TO COLOR THAN USED BY THE ARCHITECT OF MAGGIE'S OLDHAM, BOTH CASE STUDIES PROVE THE IMPORTANCE OF COLOR IN A HEALING ENVIRONMENT AND THE DIFFERENT EFFECT SUCH COLORS CAN HAVE ON THE USERS OF THE SPACE.



# CASE STUDY CONCLUSIONS

A VERY INTERESTING IDEA BROUGHT UP BY THE SIX PROJECT IN LOS ANGELES WAS THE INTERACTION BETWEEN PUBLIC OR SHARED SPACES AND PRIVATE SPACE. HOW THESE SPACES ARE ARRANGED AND DESIGNED CAN HAVE A LARGE IMPACT ON VETERANS. SOME VETERANS, ESPECIALLY THOSE SUFFERING MENTAL DISORDERS, MAY TEND TOWARDS HABITS OF ISOLATION AND SECLUSION. THESE SPACES WERE DESIGNED SPECIFICALLY TO BRING THOSE PEOPLE OUT AND TO ENCOURAGE THEM TO SOCIALIZE. HUMAN INTERACTION AND SOCIALIZATION IS A VITAL ASPECT OF HEALING, ESPECIALLY MENTALLY. PARTICULARLY INTERESTING WAS THE THOUGHTFULNESS TO DIFFERENCE PERSONALITY TYPES. THE ARCHITECT KNEW THAT NOT ALL VETERANS WOULD BE EXTROVERTED AND ACTIVE AND MAY NOT WISH TO PARTAKE IN LARGE SOCIAL ACTIVITIES OR GATHERINGS. AS A RESULT, SPACES WERE PROVIDED FOR SUCH PEOPLE TO BE ABLE TO SIT ON THE SIDELINES AND STILL BE A PART OF THE ACTION, WITHOUT DIRECTLY PARTAKING IN IT.

THE BUILDINGS STUDIED ALL HAVE DIFFERENT APPROACHES TO SPACIAL AND FUNCTIONAL RELATIONSHIP, PARTLY INFLUENCED BY THE TYPOLOGY AND SIZE. MAGGIE'S OLDHAM IS DIFFICULT TO COMPARE BECAUSE IT IS SUCH A SMALL CENTER. HOWEVER, IT CAN BE IMPORTANT TO NOTE THAT THE BUILDING DOESN'T SEPARATE FUNCTIONS. THE OFFICES ARE DIRECTLY ACCESSIBLE FROM PUBLIC AND TREATMENT AREAS. THIS GIVES THE FACILITY MORE TRANSPARENCY AND EQUALITY. GROOT KLIMMENDAAL SEPARATED THE FUNCTIONS AND TYPOLOGIES MORE THAN THE OTHERS. WHILE THE FACILITY COMBINED BOTH COMMUNITY AREAS AND A REHABILITATION CENTER, THE FUNCTIONS ARE SEPARATED BY FLOORS. IT IS THROUGH THE USE OF CIRCULATION THAT THESE AREAS ARE CONNECTED, AS USERS OF THE SPACE ARE ENCOURAGED TO ROAM AND EXPLORE THE FACILITY. MATERIALITY CREATES A CONNECTION THAT DOES NOT EXIST PHYSICALLY. THE SIX PROJECT IS MAINLY A RESIDENTIAL BUILDING, THOUGH IT IS INTENDED TO AID REHABILITATION THROUGH ITS THOUGHTFUL DESIGN. EVEN SO, THE ARCHITECTURE STILL AIMS TO ENCOURAGE A CONNECTION BETWEEN SHARED AND PRIVATE SPACE WITH THE INTENTION OF BRINGING PEOPLE TOGETHER AND REDUCE ISOLATION.

# MAJOR PROJECT ELEMENTS

## RESIDENTIAL UNITS:

RESIDENTIAL UNITS WILL NEED TO BE PROVIDED IN THIS PROJECT. VETERANS RECEIVING TREATMENT AT THIS FACILITY LIVE AT THE FACILITY. THERE IS NO TIME LIMIT TO HOW LONG THEY MAY STAY. THEY ARE ENCOURAGED TO STAY AS LONG AS THEY NEED UNTIL THEY FEEL THEY ARE READY TO RETURN TO CIVILIAN LIFE. AS A RESULT, RESIDENTIAL UNITS MUST BE DESIGNED WITH LONG-TERM AND NEAR PERMANENT RESIDENTS IN MIND.

## OFFICE/ADMINISTRATION:

CURRENTLY, THERE ARE NINE PERMANENT STAFF MEMBERS ON THE CAMPUS. HOWEVER, CONSIDERATIONS MUST BE GIVEN TO THE PROFESSIONALS WHO COMMUTE TO THE CAMPUS TO PROVIDE THERAPY, TREATMENT, AND OTHER SERVICES. FLEXIBLE OFFICE SPACE FOR THESE PROFESSIONALS MUST ALSO BE INCLUDED TO GIVE THEM A PLACE TO WORK OR ORGANIZE.

## GROUP THERAPY ROOMS:

THERE WILL BE A NEED FOR LARGE FLEXIBLE ROOMS ON THE CAMPUS. THE EAGLE'S NEST SOMETIMES ORGANIZES LARGE GROUP THERAPY EVENTS SUCH AS PAINTING, DRAWING, OR OTHER ACTIVITIES. THESE REQUIRE LARGER, MORE FLEXIBLE SPACES. THERE WILL ALSO BE A NEED FOR GROUP THERAPY ROOMS FOR MORE TRADITIONAL THERAPY METHODS. THESE SPACES SHOULD HAVE AN ELEMENT OF PRIVACY.

## PRIVATE THERAPY ROOMS:

THE EAGLE'S NEST SHOULD ALSO INCLUDE SMALLER SPACES FOR PRIVATE THERAPY SESSIONS. THESE COULD BE MORE TRADITIONAL PRIVATE ROOMS; HOWEVER, THERE COULD ALSO BE AN OPPORTUNITY TO CREATE SMALL SPOTS FOR A COUPLE PEOPLE TO MEET AND TALK. THEY SHOULD FEEL PRIVATE, BUT PERHAPS LESS FORMAL THAN A THERAPY ROOM.

## COMMUNITY/GATHERING SPACES:

COMMON SPACES FOR THE RESIDENTS TO GATHER, RELAX, DO ACTIVITIES, ETC. THESE SPACES SHOULD BE FLEXIBLE WITH MOVABLE FURNITURE TO BE APPROPRIATE FOR MANY VARIED ACTIVITIES.

# MAJOR PROJECT ELEMENTS

## MAKER SPACE:

A POTENTIAL ADDITION TO THE PROGRAM OF THE FACILITY COULD BE A MAKER SPACE. A MAKER SPACE IS A PLACE WHERE PEOPLE CAN GATHER TO CREATE, INVENT, AND LEARN. THEY OFTEN INCLUDE 3D PRINTERS, SOFTWARE, ELECTRONICS, CRAFT AND HARDWARE SUPPLIES, TOOLS, AND MORE. THE ABILITY TO WORK WITH THEIR HANDS AND TO CREATE NEW ART OR PRODUCE NEW KNOWLEDGE COULD BE VERY THERAPEUTIC TO THE RESIDENTS OF THE EAGLE'S NEST. THIS SPACE COULD ALSO BECOME A CAREER RESOURCE CENTER, WHERE VETERANS CAN LEARN VALUABLE NEW SKILLS TO MAKE THEM GREAT CANDIDATES FOR EMPLOYMENT.

THIS SPACE COULD ALSO BE OPEN TO THE SURROUNDING COMMUNITY TO ALLOW THE RESIDENTS AND COMMUNITY TO CONNECT AND NOT BE ISOLATED FROM EACH OTHER. CURRENTLY, THE COMMUNITY HAS NO SUCH RESOURCE AND A SPACE LIKE THIS COULD BE A VALUABLE RESOURCE.

## HEALING GARDEN:

THE SITE OF THE EAGLE'S NEST PRESENTS AN EXCELLENT OPPORTUNITY TO CREATE A HEALING GARDEN. THE BUILDINGS ARE SPACED APART FROM EACH OTHER WITH GRASS SPACES BETWEEN THEM. A GARDEN COULD BE COMBINED WITH BETTER PATHS TO BUILDINGS WITH BETTER ACCESSIBILITY CONSIDERATION.

ACCESS TO NATURE IS INCREDIBLY IMPORTANT IN HEALING AND RECOVERY. HOUSING A PEACEFUL GARDEN TO RELAX IN AND APPRECIATE WOULD BE GREATLY BENEFICIAL TO THE VETERANS AT THE FACILITY. THERE COULD ALSO BE AN ALL-SEASON ELEMENT TO IT, POTENTIALLY IN THE FORM OF A GREENHOUSE OR BOTANICAL GARDEN.

LASTLY, THE GARDEN SHOULD PROVIDE MORE PRIVATE AREAS FOR CONVERSATION AND REFLECTION. THESE COULD ALSO BE USED FOR MORE INFORMAL THERAPY SESSIONS.

## PARKING

PARKING WILL NEED TO BE PROVIDED FOR THE AUDITORIUM AND OFFICES. BEYOND THAT, EXISTING PARKING IS SUFFICIENT.

## SERVICE AND LOADING PROVISIONS

# USER/CLIENT DESCRIPTION

## CURRENT STAFF:

MELONY BUTLER | CHAIR/DIRECTOR

CATHY POUNDS | CFO

JANE SPAUDE | OFFICE MANAGER/FUNDRAISING

HEATHER A. STEPHENS | EVENTS/FUNDRAISING

WENDY VAN RULER | OFFICE ASSISTANT

TOM ANDERSON | NATURAL HEALTH COORDINATOR

SAMANTHA HORN | LPN

CHRIS SENGER | PROJECT MANAGER

BRUCE SOBOTTA | MAINTENANCE/GROUNDS KEEPER

## BOARD OF DIRECTORS:

MELONY BUTLER | CHAIR/DIRECTOR

DIANNE GATES | VICE-CHAIR

TOM ANDERSON | BOARD MEMBER/ADMINISTRATOR

CATHY POUNDS | CFO

ANDREA WIERSGALLA | SECRETARY

## VETERANS:

THE MAIN CLIENTS OF THIS PROJECT WILL BE THE VETERANS LIVING AT THE FACILITY. THE FACILITY CAN CURRENTLY HOUSE 200 VETERANS (KUZ, 2015). WHILE THEY MAY SUFFER FROM PHYSICAL DISABILITIES, NEARLY ALL ARE HERE FOR MENTAL DISORDERS, PRIMARILY PTSD. THEY LIVE ON THE SITE FOR AS LONG AS THEY NEED UNTIL THEY FEEL PREPARED TO RETURN TO CIVILIAN LIFE. THESE VETERANS ARE BOTH MEN, AND MORE RECENTLY, WOMEN.

# THE PROJECT EMPHASIS

## HEALING:

THIS PROJECT SHOULD BE, ABOVE ALL ELSE, ABOUT THE HEALING OF VETERANS. THE PURPOSE OF THE EAGLE'S NEST IS TO HELP TREAT AND HEAL THE MENTAL TRAUMA SERVICE MEN AND WOMEN HAVE FACED. THE DESIGN OF EVERY SPACE SHOULD CONTRIBUTE TO THIS GOAL.

## TRANSITIONING:

AS PART OF THE PROCESS OF HEALING FOR THE VETERANS LIVING AT THE NEST, THE TRANSITION FROM MILITARY LIFE TO CIVILIAN LIFE IS AN IMPORTANT ASPECT THAT CANNOT BE OVERLOOKED. EVERY VETERAN AT THE NEST IS AT A DIFFERENT POINT IN THEIR HEALING PROCESS. SOME NEED SECLUSION AND PRIVACY WHILE OTHER NEED TO LEARN HOW TO RE-INTEGRATE INTO SOCIETY. THE ARCHITECTURAL DESIGN AND PROGRAMMING SHOULD AID THIS PROCESS.

# OF THE THESIS PROJECT

1. CREATE A SENSITIVE, HEALING ENVIRONMENT FOR VETERANS WHERE THEY CAN FEEL COMFORTABLE AND AT HOME. MY FIRST PRIORITY IN THIS PROJECT IS TO HELP PEOPLE. I WANT THESE VETERANS TO HAVE THE MOST COMFORTABLE PLACE THEY CAN SO THEY CAN HEAL AND RETURN SUCCESSFULLY TO CIVILIAN LIFE.
2. SUCCESSFULLY AND CREATIVELY REUSE THE HISTORIC BUILDINGS ON THE CAMPUS. THESE BUILDINGS ARE IMPORTANT TO THE HISTORY OF THE TOWN. I WANT THEM TO BE REUSED IN A CREATIVE MANNER RATHER THAN JUST OCCUPYING THE BUILDINGS IN THE EXISTING CONDITION. I BELIEVE IT'S IMPORTANT FOR BUILDINGS TO ADAPT TO A MODERN TIME AND PURPOSE. SIMILARLY TO HOW VETERANS MUST LEARN TO ADAPT TO CIVILIAN LIFE WITH TRAUMATIC MEMORIES AND DAMAGE, BUILDINGS SHOULD NOT FORGET THEIR PAST OR TRY TO GO BACK TO IT, THEY MUST INCORPORATE THAT PAST INTO A MODERN IDENTITY.
3. SUCCESSFULLY AID THE TRANSITION FROM MILITARY LIFE TO CIVILIAN THROUGH THE USE OF ARCHITECTURAL DESIGN AND PROGRAMMING TO AID THE HEALING PROCESS OF THE VETERANS.
4. CONNECT THE FACILITY TO THE SURROUNDING COMMUNITY. COMMUNITY IS A HUMAN NEED. I WILL STRIVE TO CREATE A CONNECTION BETWEEN THE VETERANS ON THE SITE AND THE SURROUNDING TOWN AND COMMUNITY.

# PLAN FOR PROCEEDING

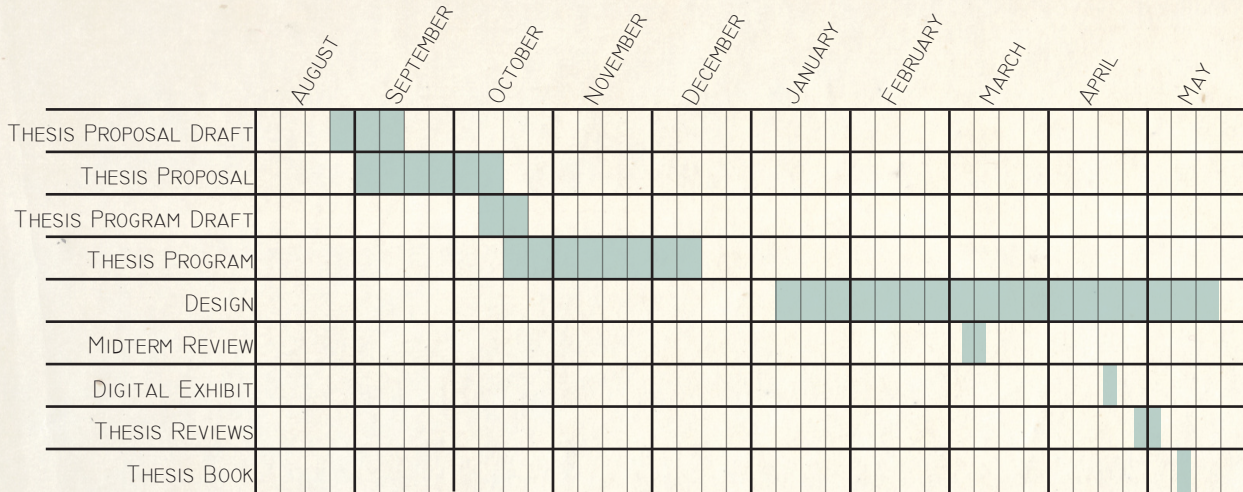


FIGURE 40

## DATES & DEADLINES

SEPTEMBER 13 <sup>TH</sup>	THESIS PROPOSAL DRAFT DUE
OCTOBER 11 <sup>TH</sup>	THESIS PROPOSAL DUE
OCTOBER 25 <sup>TH</sup>	THESIS PROGRAM DRAFT DUE
NOVEMBER 22 <sup>ND</sup> -23 <sup>RD</sup>	THANKSGIVING HOLIDAY
DECEMBER 12 <sup>TH</sup>	THESIS PROGRAM DUE
DECEMBER 17 <sup>TH</sup> -JANUARY 7 <sup>TH</sup>	CHRISTMAS BREAK
MARCH 4 <sup>TH</sup> -8 <sup>TH</sup>	MIDTERM THESIS REVIEW
MARCH 15 <sup>TH</sup>	THESIS PROGRAM DUE (FINAL EDITED)
APRIL 19 <sup>TH</sup>	DIGITAL EXHIBIT DUE
APRIL 22 <sup>ND</sup>	PHYSICAL EXHIBIT DUE
APRIL 23 <sup>RD</sup> -26 <sup>TH</sup>	ANNUAL THESIS EXHIBIT
APRIL 29 <sup>TH</sup> - MAY 2 <sup>ND</sup>	FINAL THESIS REVIEWS
MAY 6 <sup>TH</sup>	THESIS BOOK (DIGITAL) DUE
MAY 10 <sup>TH</sup>	THESIS BOOK DUE

# PLAN FOR PROCEEDING

## DEFINITION OF RESEARCH DIRECTION

THE EXISTING SITE AND THE HOME SCHOOL FOR GIRLS THAT USED TO BE HOUSED ON THE SITE WILL HAVE TO BE RESEARCHED TO GAIN AN UNDERSTANDING OF THE SITE'S HISTORICAL CONTEXT. THIS CAN BE DONE BY VISITING THE SAUK CENTRE HISTORICAL SOCIETY OR BY CONTACTING THE STEARNS COUNTY HISTORIC SOCIETY, WHERE MUCH OF THIS INFORMATION WILL BE HOUSED.

RESEARCH INTO THE PROGRAMMATIC ELEMENTS WILL LARGELY BE DONE THROUGH TYPOLOGICAL RESEARCH AND PERSONAL INTERVIEWS. BY STUDYING SIMILAR FACILITIES, A TYPICAL PROGRAM AND LAYOUT CAN BE DETERMINED. HOW THESE SPACES CONNECT AND INTERACT CAN ALSO BE ANALYZED. INTERVIEWING THE STAFF OF THE CURRENT EAGLE'S HEALING NEST STAFF AND FOUNDER, MELANIE BUTLER, WILL REVEAL THEIR CURRENT PROGRAM, AS WELL AS EXPANSION AND OTHER NEEDS.

## DESIGN METHODOLOGY

THE DIRECTION OF MY RESEARCH WILL BE LARGELY BASED ON MY UNIFYING IDEA OF REHABILITATION. QUANTITATIVE AND QUALITATIVE RESEARCH WILL BE GATHERED. RESEARCHING INTO INSTRUCTIVE TEXTS, PERIODICALS, CASE STUDIES, MEDICAL STUDIES IN ADDITION TO INTERVIEWS OF THE STAFF OF THE FACILITY AND SOME VETERAN RESIDENTS, THE RESEARCH AIMS TO WELL-ROUNDED AND INFORMATIVE. OF THE DATA COLLECTED BY THESE RESEARCH METHODS, THE HIGHEST PRIORITY WILL BE GIVEN TO THAT WHICH RELATES TO THE UNIFYING IDEA OF REHABILITATION.

THE DATA GATHERED FROM RESEARCH WILL BE IMPLEMENTED INTO THE FINAL DESIGN OF THE PROJECT. IT WILL PRESENT ITSELF IN MANY WAYS: PROGRAMMATIC DEVELOPMENT, PROGRAMMATIC ADJACENCIES, MATERIALITY, COLOR CHOICES, AS WELL AS IN THE FORM OF WRITTEN ANALYSIS.

## DOCUMENTATION

THE FINDINGS OF THIS RESEARCH PROJECT WILL BE PRESENTED IN A PHYSICAL DISPLAY (WITH PICTURES TO DOCUMENT THAT DISPLAY) AS WELL AS IN A FINAL THESIS BOOK. THESE ITEMS WILL BE STORED IN THE KALI JUBA WALD LIBRARY AT NDSU AS WELL AS IN A DIGITAL REPOSITORY TO BE ACCESSIBLE TO FUTURE RESEARCHERS AND INTERESTED PARTIES.

# RESULTS FROM RESEARCH

## VA HEALING ENVIRONMENT DESIGN GUIDELINES

THE VA HEALING ENVIRONMENT DESIGN GUIDELINES (VAHEDG) WAS CREATED BY THE VA, WITH CONSULTING FROM ALT ARCHITECTURE + RESEARCH ASSOCIATES LLC, TO "REINFORCE THE VA'S MISSION OF HEALING THE MIND, BODY, AND SPIRIT OF VETERANS AND THEIR FAMILIES" ("VA HEALING..."). A TEAM OF FOUR SUB-CONSULTANTS IN CONJUNCTION WITH 39 SUBJECT MATTER EXPERTS CONSISTING OF VETERANS, MEDICAL PROVIDERS, BEHAVIORAL HEALTH PROVIDERS, RESEARCHERS, ENGINEERS, AND MEDICAL PLANNERS WORK TOGETHER TO CREATE THIS DOCUMENT THAT'S SCOPE INCLUDES COMMON AREAS, OUTPATIENT CLINICS, AND INPATIENT CLINICS FOR OVER 150 VA MEDICAL CENTERS AND 1000 OUTPATIENT CLINICS. ACCORDING TO ALT ARCHITECTURE + RESEARCH ASSOCIATES, A HEALING ENVIRONMENT IS A

"SETTING AND ORGANIZATIONAL CULTURE THAT HAS CAREFULLY COORDINATED ARCHITECTURAL FEATURES DESIGNED AND MAINTAINED TO FACILITATE AND SUPPORT THE HEALING PROCESS. HEALING IS A COMPREHENSIVE EFFORT THAT REQUIRES EVERY AVAILABLE RESOURCE OF BODY, MIND, AND SPIRIT. A SUCCESSFUL HEALING ECOSYSTEM IS PROMOTED THROUGH THE COMBINATION OF THE FOLLOWING CRITICAL ELEMENTS: INTERDEPENDENCE, SUSTAINABILITY, SENSITIVITY TO NATURAL CYCLES, PARTNERSHIPS, AND DIVERSITY." ("VA HEALING...")

THE VA RECOGNIZES THE CHALLENGE FACED IN TRANSFORMING A MEDICAL MODEL, FOCUSED ONLY ON TREATING THE ILLNESS, TO A MORE HOLISTIC MODEL FOCUSED ON THE PATIENT'S COMPLETE SET OF HEALTH-RELATED NEEDS (GREEN ET AL., 2016). DESIGN WITHIN THE HEALTHCARE INDUSTRY SHOULD BE COMPREHENSIVE, RATHER THAN "REACTIVE, EPISODIC, INEFFICIENT AND IMPERSONAL."

LONG AFTER THE CONCLUSION OF A TRAUMATIC EVENT, THE PERSON AFFECTED EXPERIENCES SUFFERING THAT CONTINUES. THIS SUFFERING IS MORE THAN JUST STRESS, BUT RATHER A WOUND OR THE "PERSISTENT LOSS OF A PERSON'S ABILITY TO FUNCTION AS THEY NORMALLY WOULD." THESE PEOPLE DO NOT FEEL "WHOLE." THEY FEEL THAT SOMETHING INSIDE THEM IS MISSING OR LOST. TO HELP PEOPLE WOUNDED BY TRAUMA REQUIRES A FACILITY WHOSE "CAREFULLY COORDINATED ARCHITECTURAL FEATURES ARE DESIGNED AND MAINTAINED TO FACILITATE THE HEALING PROCESS." (GREEN ET AL., 2016)



# FROM RESEARCH

AN IMPORTANT OBSERVATION IN THIS GUIDE IS THE UNDERSTANDING THAT THE IMPACT OF A WELL DESIGNED HEALING ENVIRONMENT WILL STILL NOT BE AS EFFECTIVE AS TRADITIONAL TREATMENT METHODS, BUT RATHER CAN SERVE AS A CONDUIT FOR SUCH TREATMENT:

"THE SHORT-TERM IMPACT OF A HEALING ENVIRONMENT MAY NOT BE AS DRAMATIC AS THE IMPACT OF A HELPFUL THERAPY SESSION OR A POSITIVE SOCIAL INTERACTION, BUT HEALING ENVIRONMENTS ARE UNIQUELY IMPORTANT TO A VETERAN'S HEALING PROCESS. THEY PROVIDE STRUCTURE AND CONSISTENCY ... THEY ARE THERE TWENTY-FOUR HOURS A DAY, SEVEN DAYS A WEEK. IN ADDITION, VETERANS HAVE THE ABILITY TO PERSONALIZE THEIR ENVIRONMENTS, AND TO CHOOSE THEIR EXPERIENCES FROM AMONG AN ARRAY OF HEALING OPTIONS." (GREEN ET AL., 2016)

A HEALING ENVIRONMENT SHOULD WORK AS AN ECOSYSTEM, WITH EACH ROOM AND ADJACENT EXTERIOR COMPONENT CONTRIBUTING TO A DIFFERENT ASPECT OF HOLISTIC HEALING. DIFFERENTIATED SPACES SHOULD FORM "STRONG INTERRELATIONSHIPS THAT SUPPORT A CHANGING VARIETY OF HEALING ACTIVITIES RATHER THAN ISOLATED HEALING EVENTS SCATTERED THROUGHOUT THE FACILITY" (GREEN ET AL., 2016).

A SUCCESSFUL FACILITY SHOULD FACILITATE COLLABORATION AMONG VETERANS, FAMILY, HEALTHCARE PROVIDERS, STAFF, AND THE COMMUNITY. A HEALING ENVIRONMENT FOR A VETERAN IS EVEN MORE UNIQUE. THEIR RELATIONSHIPS WITH FAMILY, FRIENDS, AND SOCIETY HAS DRASTICALLY CHANGED, THEY HAVE BEEN EXPOSED TO DANGEROUS AND LIFE-THREATENING EVENTS DURING THEIR DAY-TO-DAY ROUTINE, AND THEY HAVE EXPERIENCED THE LOSS OF FRIENDS AND COMRADES. THEY ARE WOUNDED IN BODY, MIND, AND SPIRIT.

THE HEALING ENVIRONMENT DESIGN GUIDELINES LAYS OUT THE FOLLOWING CRITICAL ELEMENTS NECESSARY FOR A HEALING ENVIRONMENT TO SUPPORT A HEALING ECOSYSTEM:

INTERDEPENDENCE: A HEALING ENVIRONMENT SHOULD SUPPORT THE INTERDEPENDENCE OF VETERANS, HEALTHCARE PROVIDERS, STAFF, FAMILY, FRIENDS, AND COMMUNITY. COLLABORATE PROCESSES SHOULD BE PROMOTED WITHIN COMMUNAL HEALING SPACES SUCH AS COMMEMORATIVE SPACES, THERAPEUTIC GARDENS, SPIRITUAL SPACES, AND RITUAL SPACES.

# RESULTS FROM RESEARCH

**SUSTAINABILITY:** LONG TERM SUSTAINABILITY IS IMPORTANT AND REQUIRES LONG-TERM PLANNING AND INVOLVEMENT BY ALL COLLABORATORS AND SHAREHOLDERS. VETERANS, FAMILIES, HEALTHCARE PROVIDERS, AND STAFF SHOULD ALL BE INVOLVED IN THE PLANNING PROCESS.

**SENSITIVITY TO NATURAL CYCLES:** "NATURAL ECOSYSTEMS ADAPT TO CHANGES IN WEATHER AND SEASON. A HEALING ENVIRONMENT SIMILARLY OFFERS ADAPTABILITY AND OPTIONS BASED ON WEATHER, SEASONS, AND CYCLICAL CHANGE." THE HEALTH OF THE VETERANS IS ALWAYS CHANGING. AGING, THE PHASE OF THE AFFLICTION, THE SEASON, OR EVEN WEATHER CAN AFFECT THE HEALING OF THE VETERAN. AN ENVIRONMENT FOR HEALING SHOULD BE FLEXIBLE, ADAPTABLE, AND RESPONSIVE.

**PARTNERSHIPS:** HEALING CANNOT OCCUR IN ISOLATION AND SECLUSION; IT MUST OCCUR IN COMMUNITY. DESIGN CHARACTERISTIC THAT ARE CONDUCIVE TO RELATIONSHIP BUILDING CAN HELP TO FOSTER RELATIONSHIPS AND PARTNERSHIPS WITHIN A HEALING ENVIRONMENT.

**DIVERSITY:** IN ORDER FOR VETERANS, HEALTHCARE PROVIDERS, AND VETERANS' FAMILIES TO FORMULATE HEALING METHODS AND REGIMENS THAT ARE ADAPTIVE TO THE CONSTANT CHANGES OF A LONG-TERM HEALING PROCESS, A VARIETY OF SPATIAL COMPONENTS ARE NECESSARY. THEY MUST BE DIVERSE AND CONTIGUOUS IN ORDER TO CLARIFY TO INTEGRATED NATURE OF HEALING ACTIVITIES.

ACCORDING TO THE HEALING ENVIRONMENT DESIGN GUIDELINES, "A WELL-DESIGNED HEALING ENVIRONMENT IS ONE THAT ANTICIPATES THE NEEDS OF FOUR DISTINCT POPULATIONS: THE VETERANS WHO ARE TREATED THERE, THE FAMILY MEMBERS WHO VISIT, THE STAFF MEMBERS WHO WORK THERE, AND MEMBERS OF THE COMMUNITY WHO INTERACT WITH VETERANS AND HEALTHCARE PROVIDERS." SEVEN DESIGN PRINCIPLES ARE PRESENTED WITH THE GOAL OF REDUCING STRESS, RESTORING HEALTH, AND COPING WITH CHRONIC ILLNESS IN ALL USER GROUPS WITHIN A HEALING ENVIRONMENT. THESE DESIGN PRINCIPLES ARE: 1) PROVIDE A THERAPEUTIC ENVIRONMENT 2) CREATE A VETERAN-EMBRACING ENVIRONMENT 3) PROVIDE DIRECT CONNECTIONS TO NATURE 4) DESIGN SPACES AND STRUCTURES TO REFLECT REGION AND COMMUNITY 5) BE PATIENT-CENTERED 6) PROVIDE A SAFE AND SUPPORTIVE WORK ENVIRONMENT FOR VA STAFF AND 7) UTILIZE STATE-OF-THE-ART TECHNOLOGIES TO ENHANCE THE USER EXPERIENCE.

# RESULTS FROM RESEARCH

EACH OF THESE PRINCIPLES IS DESCRIBED IN FAR MORE DETAIL WITH STRATEGIES AND TACTICS PROVIDED FOR ACHIEVING EACH. THEN, THE GUIDELINES GO OVER EACH COMPONENT OF THE ARCHITECTURE, FROM THE MAIN ENTRANCE TO CONNECTIONS AND PATHWAYS, TO EXTERIOR COMPONENTS AND HOW EACH OF THESE CAN BE DESIGNED MOST EFFECTIVELY FOR VETERANS AND HEALING.

THE VA HEALING ENVIRONMENT DESIGN GUIDELINES WILL A USEFUL PIECE OF LITERATURE FOR THIS PROJECT. THIS SHOULD SERVE AS A TOOLKIT FOR THE DESIGN OF THIS PROJECT. DURING THE DESIGN OF ANY SPACE, THE HEALING SPACES DESIGN GUIDELINES CAN BE REFERENCED FOR SPECIFIC DESIGN ELEMENTS RECOMMENDED FOR THAT SPECIFIC SPACE. HOWEVER, THE SHORTFALL WITH THE APPLICABILITY OF THE DOCUMENT IS THAT IT IS SPECIFIED AND CREATED FOR THE DESIGN OF VA HOSPITALS AND FACILITIES. THE EAGLE'S HEALING NEST FOLLOWS A VERY DIFFERENT MODEL OF HEALING AND ARCHITECTURE. HOWEVER, THE DESIGN TACTICS AND METHODS FOR HEALING SHOULD BE DIRECTLY APPLICABLE, DESPITE THE DIFFERENCE IN TYPOLOGY.

## POSTTRAUMATIC UNDERSTANDING: THE CONNECTIONS BETWEEN POSTTRAUMATIC STRESS AND ARCHITECTURAL DESIGN

POSTTRAUMATIC UNDERSTANDING: THE CONNECTIONS BETWEEN POSTTRAUMATIC STRESS AND ARCHITECTURAL DESIGN DESCRIBES THE RESEARCH DONE BY MATTHEW FINN FOR THE PERKINS + WILL INNOVATION INCUBATOR IN THE SPRING OF 2013. THE GOAL OF THE RESEARCH WAS TO BETTER UNDERSTAND HOW ARCHITECTURE RELATES TO PHYSIOLOGICAL AND PSYCHOLOGICAL HEALTH, AND HOW DESIGN CAN HELP AND ADDRESS THE NEEDS OF PEOPLE WITH SPECIAL NEEDS (POSTTRAUMATIC UNDERSTANDING).

ACCORDING TO MATTHEW FINN IN POSTTRAUMATIC UNDERSTANDING, UNDER NORMAL CONDITIONS, SENSORY ORGANS SEND INFORMATION TO A PART OF THE BRAIN THAT FUNCTIONS AS A GATEKEEPER THAT ASSESSES INCOMING INFORMATION FOR EMOTIONAL SIGNIFICANCE. AFTER THIS, THE INFORMATION IS SENT ON FOR HIGHER-ORDER THINKING. THAT INFORMATION IS SORTED TO BE STORED IN EITHER SHORT-TERM OR LONG-TERM MEMORY. THIS PROCESS IS REFERRED TO AS A "LEARNING EVENT." INFORMATION THAT HAS UNDERGONE HIGHER-ORDER THINKING IS STORED AS AN "ASSOCIATED MEMORY" AND HAS KNOWN RELATIONSHIPS TO OTHER MEMORIES.

# RESULTS FROM RESEARCH

IN THE EVENT OF A HIGH-STRESS SITUATION, THE PROCESS OF HIGHER-ORDER THINKING IS BYPASSED AND THE AUTONOMIC NERVOUS SYSTEM (ANS) IS DIRECTLY ACTIVATED. THE ANS CAN ACTIVATE TWO EMERGENCY PATHWAYS: THE SYMPATHETIC AND PARASYMPATHETIC NERVOUS SYSTEMS, RESPONSIBLE FOR "FLIGHT OR FIGHT" OR "TONIC IMMOBILITY", RESPECTIVELY. INFORMATION THAT BYPASSES HIGHER-ORDER THINKING WHEN THE ANS IS ACTIVATED IS UNABLE TO BE STORED AMONG "ASSOCIATED" MEMORIES. THESE MEMORIES ARE "DISASSOCIATED" AND OFTEN FRAGMENTED AND MOSTLY NONVERBAL. THESE DISASSOCIATED MEMORIES SERVE AS A SURVIVAL TOOL AND ARE EASILY TRIGGERED BY SITUATIONS AND SENSATIONS ASSOCIATED WITH THE TRAUMA. ACCORDING TO FINN, "PTSD IS MARKED BY BIOLOGICAL CHANGES AS WELL AS PSYCHOLOGICAL SYMPTOMS FOLLOWING THE EXPERIENCE OR WITNESSING OF A LIFE-THREATENING EVEN, SUCH AS MILITARY COMBAT."

IN ORDER TO FULLY CONSIDER HOW TO DESIGN ACCOMMODATING POSTTRAUMATIC STRESS IN VETERANS, IT IS GOOD TO EXAMINE THE PSYCHOLOGICAL FACTORS ASSOCIATED WITH MILITARY SERVICE. EVERY SOLDIER COMPLETES EXTENSIVE TRAINING DURING THEIR TIME IN SERVICE. THIS TRAINING REPROGRAMS THE WAY THE SOLDIER THINKS TO TEACH THEM TO REMAIN CONSTANTLY AWARE AND ALERT IN DANGEROUS SITUATIONS. MATTHEW FINN'S STUDY FOCUSES ON THE TRAINING EXPERIENCED BY THE UNITED STATES MARINE CORP., SPECIFICALLY MILITARY OPERATIONS & URBAN TERRAIN (MOUT). THIS TRAINING COVERS INDOOR AND OUTDOOR URBAN WARFARE. THE CHOICE OF THIS TYPE OF WARFARE WAS MADE DUE TO ITS SIMILARITY TO THE BUILT ENVIRONMENT A SOLDIER WILL EXPERIENCE UPON RETURNING HOME AFTER SERVICE.

ONE ASPECT OF TRAINING AND MILITARY LIFE THAT IS MOST PREVALENT IS THE TEAM. THE UNITED STATES MARINE CORP. TRAINS AND OPERATES IN GROUPS CALLED FIRE TEAMS. THESE INCLUDE A LEADER, WITH THREE OTHERS THAT ARE TYPICALLY COMPLEMENTARY EQUIPPED, SUCH AS A MACHINE GUN, RIFLE, AND SUPPORT. SQUADS AND PLATOONS ARE LARGER GROUPS MADE UP OF SEVERAL FIRE TEAM MODULES WITH AN ADDITIONAL SQUAD OR PLATOON LEADER. THESE TEAMS ARE TRAINED TO WORK ABSOLUTELY SEAMLESSLY AND TO TRUST AND DEPEND ON ONE ANOTHER.

# RESULTS FROM RESEARCH

THEY WORK AS A TEAM, BREAKING UP THE WHOLE OF THE URBAN ENVIRONMENT INTO PORTIONS THAT EACH MONITOR INDIVIDUALLY. THE GROUP WORKS AS A WHOLE, ALMOST AS ONE BEING. ACCORDING TO FINN,

"THROUGH EXTENSIVE PRACTICE, MEMBERS LEARN TO INTUITIVELY COVER WHAT THEIR TEAMMATES ARE NOT, EXECUTING A HIGHLY SOPHISTICATED SERIES OF MOVEMENTS BASED ON THEIR PRACTICE AND ON-THE-GO REACTIONS TO THE OPPOSITION. THE WORST SCENARIO A MARINE CAN EXPERIENCE IN A COMBAT SITUATION IS TO BE ALONE" (FINN, 2013).

THIS CREATES AN IMMENSE BOND BETWEEN THESE TEAMMATES. THEY TRUST EACH OTHER WITH, AND ARE RESPONSIBLE FOR, EACH OTHER'S LIVES. ACCORDING TO FINN, THIS RELATIONSHIP CAN ACTUALLY SET A POTENTIALLY PROBLEMATIC PRECEDENT RELATIVE TO LEAVING ACTIVE DUTY, AS "WITHIN THE COMPREHENSIVE TRAINING REQUIRED TO REACH THIS LEVEL OF TRUST AND COMPETENCY, THERE GROWS A STRONG DISTINCTION BETWEEN THOSE YOU TRUST TO DO NO HARM, AND THOSE YOU TRUST TO PROTECT."

ANOTHER PREVALENT ASPECT OF MILITARY LIFE IS THE CHRONIC STRESS OF CAMOUFLAGED DANGERS. SOLDIERS ARE OFTEN FACED WITH THE THREAT OF BOOBY TRAPS AND HIDDEN IMPROVISED EXPLOSIVE DEVICES (IED) WHILE PATROLLING AND MAINTAINING SECURITY IN A MOSTLY SAFE NEIGHBORHOOD. THESE IEDS ARE OFTEN HIDDEN IN PLAIN SIGHT, SUCH AS IN CURBSIDE GARBAGE BAGS OR BURIED UNDER PAVEMENT IN THE ROAD. THESE DEVICES CAN BE SET OFF BY SENSORS OR REMOTELY AND MAY BE NEARLY INVISIBLE TO THE EYE. MATTE-FINISH TRIPWIRES MAY BE USED IN DARK DOORWAYS OR LASER GARAGE DOOR SENSORS MAY BE CONVERTED INTO IED DETONATORS. THESE DEVICES COULD BE LITERALLY INVISIBLE TO THE HUMAN EYE.

THE SOLDIER MUST BE ON A CONSTANT ALERT FOR THESE IED DEVICES AND BOOBY TRAPS. AFTER YEARS OF ACTIVE DUTY, WATCHFULNESS AND VIGILANCE ARE HABITS FORCED BY THE NEED TO PROTECT THE SOLDIER AND HIS OR HER COMRADES. ACCORDING TO FINN, "THIS ALTERED STATE OF AWARENESS TRANSCENDS MERELY LOOKING FOR HAZARDS, IT IS ALL-ENCOMPASSING. A STRANGE SOUND, A PARTICULAR SMALL, OR AN EXPRESSION ON ANOTHER PERSON'S FACE COULD BE THE FRACTION-OF-A-SECOND EARLY WARNING NEEDED TO SURVIVE" (FINN, 8).

# RESULTS FROM RESEARCH

THIS CONSTANT NEED TO BE AWARE OF POTENTIAL DANGERS DOES NOT GO AWAY WHEN THE SOLDIER RETURNS TO CIVILIAN LIFE, MAKING SUCH A TRANSITION A STRUGGLE TO ADAPT. SOLDIERS ARE FREQUENTLY IN SITUATIONS IN WHICH THE POSSIBILITY OF EXPERIENCING A TRAUMATIC EVENT IS LIKELY. THIS FREQUENT EXPERIENCE CAN LEAD TO A CONDITION CALLED CHRONIC STRESS AND THE BRAIN IS FORCED TO CONSTANTLY COPE WITH THE STRESSES OF A HYPOTHETICAL EVENT. WHEN A TRAUMATIC EVENT DOES ACTUALLY OCCUR, THE BRAIN IS LESS LIKELY TO HAVE ENOUGH RESOURCES LEFT TO COPE AS IT WAS CONSTANTLY USING COPING METHODS IN ANTICIPATION OF THE ACTUAL EVENT.

IN ORDER TO TRY TO BETTER UNDERSTAND HOW PTSD IS ACQUIRED FROM MILITARY COMBAT, THE AUTHOR, MATTHEW FINN, PARTNERED WITH MARINE CORP. VETERAN CPL. CLINT McMAHAN FOR HAND-ON IMMERSIVE SIMULATED TRAINING AT THE SAFETY WOLF PAINTBALL FACILITY. HIS TRAINING TOOK PLACE OVER TWO DAYS. AT THE END, OF HIS TRAINING, FINN CONCLUDED HIS EXPERIENCES:

"THE INTENT OF THIS TRAINING WAS TO GET MY MIND IN A PLACE WHERE I COULD, JUST FOR A MINUTE, MAKE SELF-OBSERVATIONS ABOUT CODE-SWITCHING AND INCORRECTLY ASSOCIATING MEMORIES WITH A PRESENT CONTEXT...THIS EXPERIENCE HELPED ME UNDERSTAND THE HUMAN COMPONENT OF THIS CONDITION. IT FURTHER UNDERSCORES THE VALUE AND MEANING OF THIS PROJECT AND HAS ALLOWED ME TO BETTER UNDERSTAND THE DEPTH OF SACRIFICE OUR VETERANS MAKE."

WE CANNOT DESIGN AN ENVIRONMENT FREE OF TRIGGERS; HOWEVER, WE CAN DESIGN AN ENVIRONMENT IN WHICH THE NUMBERS OF POSSIBILITIES FOR A VETERAN TO FIND TRIGGERS RELEVANT TO THEIR SITUATION ARE REDUCED. THE SPACES DESIGNED BY ARCHITECTS AND INTERIOR DESIGNERS CAN CONTRIBUTE TO THE HEALING OF PTSD BY REDUCING THE STRESS AND EFFORT REQUIRED TO NAVIGATE A SPACE, ALLOWING MORE COGNITIVE RESOURCES AVAILABLE FOR UNDERGOING PSYCHOTHERAPY. IN ADDITION, REDUCING THE COMPLEXITY OF A SPACE CAN AID A VETERAN IN IDENTIFYING THE TRIGGER OF THEIR SYMPTOMS ALLOWING HIM OR HER TO RE-ASSOCIATE WITH A PRESENT, SAFE CONTEXT.

# RESULTS FROM RESEARCH

ONE OF THE MOST USEFUL ASPECTS OF THIS LITERATURE IS THE STUDY OF SYSTEMATIC OBSERVATION. THE AUTHOR PRESENTS THIS STUDY AS A SERIES OF PHOTOS AND DIAGRAMS THAT ILLUSTRATE THE PROCESS A SOLDIER WILL EXPERIENCE WHILE ENTERING AND ASSESSING AN UNSECURED SPACE OF UNKNOWN LAYOUT. IN THE TIME PERIOD OF JUST A COUPLE SECONDS, THE SOLDIER WILL LEARN THE LAYOUT OF THE ROOM, ASSESS FOR IMMEDIATE THREATS, AND ESTABLISH A DOMINANT POSITION. THIS METHOD OF OBSERVATION AND DIAGRAMMING CAN BE APPLIED TO RESEARCH ON OTHER SPACES, SUCH AS THOSE EXISTING AT, OR DESIGNED FOR, THE EAGLE'S HEALING NEST. BY USING THE SYSTEMATIC OBSERVATION METHOD, A ROOM CAN BE ANALYZED FOR POTENTIAL THREATS. BASED ON THE CONCLUSIONS OF MATTHEW FINN, THE LESS STRESS AND EFFORT REQUIRED TO NAVIGATE A SPACE (THE LESS MOVES IT TAKES TO ANALYZE A ROOM) THE MORE COGNITIVE RESOURCES WILL BE AVAILABLE FOR THERAPY.

ANOTHER VERY IMPORTANT CONCLUSION TO DRAW FROM THIS READING IS THE IMPORTANCE OF COMRADERY TO THE ACTIVE DUTY SOLDIER. THESE MEN AND WOMEN MUST COMPLETELY TRUST AND RELY ON ONE ANOTHER TO PROTECT EACH OTHER. HOWEVER, WHEN SOLDIERS RETURN HOME OR IF A TEAM MEMBER DIES, THAT BOND IS SHATTERED. THIS CAN PROVE TO BE PARTICULARLY DAMAGING FOR VETERANS SUFFERING FROM MENTAL TRAUMA WHO NEED COMPANIONSHIP AND COMMUNITY RATHER THAN ISOLATION.

## INVESTIGATING ARCHITECTURE AND SPACE DESIGN CONSIDERATIONS FOR POST-TRAUMATIC STRESS DISORDER (PTSD) PATIENTS

IN THIS STUDY, FIVE VETERANS WERE INTERVIEWED AND ASKED QUESTIONS REGARDING THEIR PERSONAL EXPERIENCES WITH VARIOUS ARCHITECTURAL SPACES AS WELL AS THE PERCEIVED EFFECTS THESE SPACES HAD ON THE VETERANS, WITH A FOCUS ON THE EFFECTS ON ELEMENTS ON THEIR MENTAL WELL-BEING, PTSD TRIGGERS IN PARTICULAR. THE PARTICIPANTS WERE ASKED ABOUT THEIR THOUGHTS REGARDING DOOR, ROOM, BUILDING, AND HALLWAY DESIGN THAT COULD TRIGGER "PTSD HYPER-AROUSAL SYMPTOMS." THEY WERE ALSO SURVEYED REGARDING THEIR PERSONAL LIVING SPACES AND THEIR EFFECTS ON THEIR MENTAL HEALTH AS WELL AS AN IDEAL DESIGN OF LIVING AND SOCIAL SPACES.

# RESULTS FROM RESEARCH

THREE QUESTIONS WERE ASKED IN THE STRUCTURED INTERVIEW:

1. CAN YOU THINK OF ANYTHING ABOUT THE DESIGN OF BUILDINGS, ROOMS, DOORS, HALLWAYS THAT RESULT IN A PTSD TRIGGER?
2. WHAT DO YOU THINK AN IDEAL LIVING AREA FOR PTSD PATIENTS SHOULD LOOK LIKE?
3. WHAT ABOUT SOCIAL AREAS?

THE RESULTS FROM THESE INTERVIEWS WERE ORGANIZED INTO THREE MAIN CATEGORIES: 1) GENERAL SPACE DESIGN CONSIDERATIONS, 2) CONSIDERATIONS FOR PRIVATE LIVING SPACES, AND 3) CONSIDERATIONS FOR PUBLIC SPACES.

RESULTS OF THE INTERVIEWS REVEALED A FEW GENERAL DESIGN CONSIDERATIONS THAT SHOULD BE FOLLOWED WHEN DESIGNING FOR PTSD PATIENTS. ONE SUCH CONSIDERATION IS DESIGNING WITH A SIMILARITY TO MILITARY ARCHITECTURE WAS COMFORTABLE TO THE VETERANS. THE PLACES SHOULD BE DESIGNED ACCORDING TO A CORE LOGIC (NUMBERING SYSTEM, BULKHEAD NUMBERS, MILITARY STANDARDS FOR NUMBERING, ETC.). ORGANIZATION AND FAMILIARITY IN LAYOUTS WERE COMFORTABLE. PRIVACY IS ALSO VERY IMPORTANT AS WELL AS SITUATIONAL AWARENESS OF SURROUNDINGS AND PEOPLE. VETERANS ALSO PREFER TO LIVE WITH PEOPLE WHO ARE GOING THROUGH SIMILAR TROUBLES WITH SIMILAR THOUGHTS AND ROUTINES. THESE PEERS CAN PROVIDE A MORE SUPPORTIVE ENVIRONMENT.

THERE WERE ALSO MANY EMERGING THEMES REGARDING THE DESIGN OF PRIVATE LIVING SPACES. VETERANS TENDED TO PREFER OPEN SPACES, WITH LITTLE FURNITURE CLUTTER THAT CAN MAKE THEM FEEL CRAMPED. SOMETIMES VETERANS FOUND DIFFERENCES FROM A MILITARY CAMP LIFESTYLE VERY COMFY OR CALMING. FOR EXAMPLE, ROUND LAYOUTS OR THE COLOR GREEN WERE CALMING IN CONTRAST TO RIGID, SQUARE, BROWN MILITARY CAMPS. THE POTENTIAL PRESENCE OF THREATS AFFECTED SOME OF THE OPINIONS REGARDING SPACES. FOR EXAMPLE SOME OF THE VETERANS PREFERRED LIVING AREAS WITH AT LEAST TWO EXITS AND A LOW NUMBER OF WINDOWS. THE VETERANS INTERVIEWED ALSO SHOWED A STRONG PREFERENCE TOWARDS PRIVACY. THEY DISLIKED THEIR RESIDENCES BEING VISIBLE TO NEIGHBORS OR TO THE PUBLIC. SHADING OF WINDOWS AND DOORS HELPS TO IMPROVE PRIVACY AND VETERANS APPRECIATED HAVING THEIR "OWN COMFORT BUBBLE" FOR RELAXATION, EXERCISE, AND TRAINING.



# RESULTS FROM RESEARCH

WHEN IT COMES TO PUBLIC SPACES, AWARENESS OF THE SURROUNDINGS IS VERY IMPORTANT TO VETERANS. THEY PREFERRED TO AVOID SPACES WHERE THEY COULD NOT KEEP AN EYE ON OTHER PEOPLE'S MOVEMENTS AND INTENTIONS. THEY ALSO PREFERRED SPACES THAT DID NOT TRAP OR HINDER THE MOVEMENT OF PEOPLE AND FOUND THAT MAPS AND LAYOUT DIAGRAMS, WHEN STUDIED, WERE VERY COMFORTING BECAUSE THEY HELPED THE VETERANS FAMILIARIZE THEMSELVES WITH THEIR SURROUNDINGS. MUCH OF THE PREFERENCES OF THE VETERANS IS RELATED TO THEIR NEED OF CONSTANT AWARENESS OF THEIR SURROUNDINGS, AS EXEMPLIFIED IN THIS STATEMENT BY ONE OF THE INTERVIEWED VETERANS:

"...I DON'T LIKE WALLS AND STUFF I CAN'T SEE, I DON'T LIKE CORNERS, LIKE I CAN'T SEE AROUND THAT CORNER SO I DON'T WANT TO GO AROUND THAT CORNER, BECAUSE I DON'T KNOW WHAT'S THERE SO MAYBE IF YOU HAD THOSE MIRRORS WHERE YOU COULD SEE DOWN THAT HALLWAY, IT HAS TO DO WITH A LOT OF THE UNKNOWN."

THE PREFERENCE OF SPACES DISPLAYED BY THE VETERANS IS INFLUENCED BY THEIR ROLES IN THE MILITARY. FOR EXAMPLE, SNIPERS PREFERRED SMALLER, MORE CONFINED SPACES, WHILE MOST OTHERS PREFERRED OPEN SPACES. ONE OF THE MOST COMMON REPEATING FACTORS WAS EXITS. THE VETERANS NEEDED TO KNOW WHERE THE EXIT WAS AT ALL TIMES. THAT DID NOT MEAN THEY ALWAYS HAD TO HAVE IT IN SITE, BUT THEY MAY HAVE FOUND IT EARLIER OR SAW IT ON A MAP. THEY JUST HAD TO KNOW WHERE ALL EXITS AND ENTRANCES WERE LOCATED.

WHEN DESIGNING FOR VETERANS, THERE IS A CAREFUL BALANCE THAT MUST BE ACHIEVED. THOUGHTFUL DECISIONS MUST BE MADE REGARDING VISIBILITY, PRIVACY, AND WAYFINDING. SPACES MUST BE VISUALLY SAFE, BUT ALSO HAVE PRIVACY SO THAT THE VETERAN'S SENSES ARE NOT OVERWHELMED. THE FINDINGS OF THIS STUDY SUGGEST A CLEAR PATTERN OF DESIGN GUIDELINES FOR PRIVATE AND PUBLIC SPACES. MANY OF THESE FINDINGS COINCIDE WITH OTHER, SIMILAR WORKS OF RESEARCH; HOWEVER, THE SAMPLE SIZE FOR THIS STUDY IS VERY SMALL AND NOT COMPREHENSIVE. THE RESULTS OF THIS STUDY ARE VERY NONETHELESS, VERY INFORMATIVE FOR THE DESIGN OF LIVING SPACES AND PUBLIC SPACES FOR THOSE PEOPLE SUFFERING FROM SEVERE MENTAL TRAUMA.

# RESULTS FROM RESEARCH

## CONCLUSION

THESE EXAMPLES OF LITERATURE ON DESIGNING FOR VETERANS AND PTSD ARE ALL VERY APPLICABLE TO THIS PROJECT. THE "VA HEALING ENVIRONMENT DESIGN GUIDELINES" AND THE STUDY, "INVESTIGATING ARCHITECTURE AND SPACE DESIGN CONSIDERATIONS", ARE BOTH VERY SIMILAR DOCUMENTS IN THAT THEY BOTH PRESENT A SET OF DESIGN GUIDELINES FOR ARCHITECTS AND INTERIOR DESIGNER TO FOLLOW WHEN DESIGNING SPACES FOR VETERANS AND THOSE SUFFERING FROM PTSD. MANY OF THESE SUGGESTIONS AND GUIDELINES OVERLAP, STRENGTHENING THEIR VALIDITY. THE OVERLAPPING CONCLUSIONS WITHIN BOTH PIECES OF LITERATURE HELPS TO BOLSTER THOSE FOUND WITHIN "INVESTIGATING ARCHITECTURE AND SPACE DESIGN CONSIDERATIONS" DESPITE THE VERY SMALL SAMPLE SIZE OF INTERVIEWED VETERANS. THESE CONCLUSIONS WILL HELP TO AID THE TRANSITION OF VETERANS FROM A MILITARY TO CIVILIAN LIFESTYLE AT THE EAGLE'S HEALING NEST. THIS INCLUDES HOW PRIVATE AND PUBLIC SPACES ARE DESIGNED WHICH IS A VERY IMPORTANT FACTOR OF DESIGN AT THE NEST AS ONE GOAL IS TO BRING IN MORE COMMUNITY.

THE VA HEALING ENVIRONMENT DESIGN GUIDELINES ARE FAR MORE EXTENSIVE THAN "INVESTIGATING ARCHITECTURE AND SPACE DESIGN CONSIDERATIONS" THIS DOCUMENT WILL SERVE AS A TOOLKIT FOR A DESIGN AT THE EAGLE'S HEALING NEST. THE FOCUS OF THIS DOCUMENT IS SPECIFIC TO VA HOSPITALS AND FACILITIES, A TYPOLOGY THAT DOES NOT MATCH THAT EAGLE'S HEALING NEST, AS THE NEST IS SEEN AS A VERY DIFFERENT MODEL TO VETERAN TREATMENT THAN TYPICAL VA FACILITIES.

THE RESEARCH DONE IN POSTTRAUMATIC UNDERSTANDING IS VERY DIFFERENT THAN IN THE OTHER TWO DOCUMENTS, BUT EQUALLY AS VALUABLE. THIS STUDY WAS DONE TO UNDERSTAND THE STATE OF MIND OF THE VETERAN PERSONALLY, RATHER THAN RECEIVING IT SECONDHAND. ONE VERY USEFUL IDEA THE AUTHOR DISCUSSED WAS THE STUDY OF SYSTEMATIC OBSERVATION. THIS METHOD OF DIAGRAMMING AND ILLUSTRATING HOW A SPACE IS ASSESSED BY A VETERAN CAN BE APPLIED TO OTHER DESIGN TO DETERMINE HOW THAT SPACE MAY CONTAIN PERCEIVED THREATS. THIS CAN BE USED TO ANALYZE THE SUCCESS OR FAILURE OF A DESIGN, ESPECIALLY IN HEALING SPACES. BASED ON THE AUTHOR'S CONCLUSIONS, THE LESS STRESS AND EFFORT IS REQUIRED IN ANALYZING A SPACE, THE MORE COGNITIVE RESOURCES WILL BE AVAILABLE FOR THERAPY AND HEALING.

# RESULTS FROM RESEARCH

ANOTHER VERY IMPORTANT TOPIC DISCUSSED BY MATTHEW FINN IN POSTTRAUMATIC UNDERSTANDING IS THE IMPORTANCE OF THE RELATIONSHIPS AND CAMARADERIE IN THE LIFE OF AN ACTIVE DUTY SOLDIER. WHEN SOLDIERS LEAVE ACTIVE DUTY, THEY LEAVE THOSE PEOPLE WHO THEY HAVE COME TO DEPEND ON. THE VETERANS CAN EXPERIENCE AN EVEN GREATER LOSS IF THAT COMRADE WAS KILLED IN FRONT OF THEM. THIS PLACES AN EVEN GREATER IMPERATIVE ON DESIGNING AN ENVIRONMENT IN WHICH THE VETERANS CAN FORM RELATIONSHIPS AND BOND. WHILE THE NEST IS ALREADY A PLACE WITH THAT FOCUS, THE ARCHITECTURE CAN DO MORE TO FOSTER THOSE RELATIONSHIPS. THIS TOPIC IS ALSO MENTIONED AS PART OF THE DESIGN GUIDELINES LAID OUT IN VA HEALING ENVIRONMENT DESIGN GUIDELINES. THIS ALSO STRESSES THE IMPORTANCE OF FOSTERING RELATIONSHIPS. THIS CREATES AN IMPERATIVE WITHIN THE DESIGN OF ANY ARCHITECTURE AT THE EAGLE'S HEALING NEST TO FOSTER THE GROWTH OF RELATIONSHIPS AND BRING IN THE COMMUNITY TO REDUCE SECLUSION AND ISOLATION OF THE VETERANS.

REVIEWING THE LITERATURE HAS PROVEN THE IMPORTANCE OF THIS THESIS AND SUPPORTS THE DESIGN AND RENOVATION OF ARCHITECTURE AT THE EAGLE'S HEALING NEST TO CREATE A BETTER HEALING ENVIRONMENT FOR THE VETERANS LIVING THERE. THESE DOCUMENTS HAVE GIVEN VALUABLE INSIGHT INTO PROGRAMMATIC ELEMENTS THAT SHOULD BE INCLUDED IN THE DESIGN AS WELL AS DESIGN GUIDELINES AND PRACTICES THAT SHOULD BE INTEGRATED INTO THE DESIGN.



# PROJECT JUSTIFICATION

STARTING THIS PROJECT, I WANTED TO DO A PROJECT BASED AROUND HISTORIC PRESERVATION/ADAPTIVE REUSE. I ALSO WANTED TO TRULY CARE ABOUT THE PROJECT I WAS GOING TO EXPLORE. I WANTED TO BRING SOMETHING IMPORTANT TO MY COMMUNITY AND TO HELP PEOPLE. WHILE TRYING TO COME UP WITH IDEAS, I WAS REMINDED ABOUT THE EAGLE'S HEALING NEST IN SAUK CENTRE. THE MAJORITY OF MY FAMILY IS ALL IN SAUK CENTRE, SO IT IS A TOWN AND COMMUNITY THAT IS VERY IMPORTANT TO ME. ALSO, AS THE NEST'S PURPOSE IS TO HEAL VETERANS AND SERVICE MEMBERS "FROM THE INVISIBLE WOUNDS OF WAR," I KNEW THAT THIS WAS A PROJECT I COULD BE PASSIONATE ABOUT.

MY FAMILY HAS A HISTORY OF MILITARY SERVICE, INCLUDING MY FATHER, GRANDFATHERS, AND COUSIN. WHILE THESE MEN HAVE SHOWN NO (OUTWARD) SIGNS OF PTSD (TO ME), I KNOW THAT THEY HAVE MANY EXPERIENCES THAT I CAN HARDLY IMAGINE, ESPECIALLY THOSE THAT ACTUALLY EXPERIENCED COMBAT. AS A SOCIETY, WE ARE NEW AT RECOGNIZING MENTAL DISORDERS, THOUGH PTSD HAS EXISTED IN MANY FORMS THROUGHOUT HISTORY. NEARLY 8% OF AMERICANS WILL EXPERIENCE PTSD IN THEIR LIFETIME. PTSD CAN RESULT FROM A VARIETY OF CAUSES INCLUDING ABUSE, ASSAULT, NATURAL DISASTER, RAPE, OR WARFARE. IT IS ESTIMATED THAT 30% OF THOSE WHO SPEND TIME IN WAR ZONES WILL SUFFER FROM PTSD. AFTER RETURNING HOME FROM MILITARY COMBAT ZONES, MANY MEN AND WOMEN REQUIRE TREATMENT OF THEIR TRAUMA TO BE ABLE TO SUCCESSFULLY RETURN TO CIVILIAN LIFE. MANY OF THE FACILITIES THAT WILL PROVIDE THIS TREATMENT ARE NOT DESIGNED IN A WAY TO IMPROVE HEALING. OFTEN COLD OR CLINICAL, THESE SPACES CAN BE BETTER DESIGNED TO CONTRIBUTE TO THE HEALING OF THE VETERAN.

THE EAGLE'S NEST IS AN IMPORTANT EXAMPLE OF AN ALTERNATIVE FORM OF VETERAN CARE. UNAFFILIATED WITH THE VA, THIS FACILITY RELIES ENTIRELY ON DONATIONS TO TREAT VETERANS. AS A RESULT, THE FACILITY HAS MORE FLEXIBILITY WITHOUT GOVERNMENT REGULATIONS AND THE LOOSER CONTROLS OFTEN MEAN MORE COMPREHENSIVE TREATMENT FOR THE VETERANS. MANY OF THE VETERANS LIVING AT THE NEST HAVE UNFAVORABLE VIEW OF THE VA SYSTEM. ACCORDING TO MELONY BUTLER "THERE WAS FAILURE OF THE GOVERNMENT KEEPING THEIR PROMISES, FAILURE IN THE VA SYSTEM, FEAR IN THE VA SYSTEM, BUT WHERE [THE VETERANS] ALWAYS FELT AT PEACE WAS WITH EACH OTHER, AND IT DIDN'T MATTER HOW UGLY IT WAS, THEY WOULD STILL REACH OUT TO SOMEONE ELSE THAT THEY SERVED WITH."

# PROJECT JUSTIFICATION

VETERANS REACHING OUT TO OTHER VETERANS IS A CRUCIAL IDEA TO THE PHILOSOPHY OF THE NEST, AS MANY OF THE VETS HAVE BECOME DISILLUSIONED WITH TRADITIONAL THERAPY. ACCORDING TO ONE VET LIVING AT THE NEST, "I TRIED DOING OUTSIDE COUNSELING, AND MY BIGGEST THING WAS 'YOU WENT TO SCHOOL SO YOU CAN LEARN HOW TO DEAL WITH PEOPLE LIKE ME, BUT YOU'VE NEVER BEEN IN A COMBAT ZONE, YOU'VE NEVER BEEN SHOT AT, YOU'VE NEVER HELD YOUR BUDDY DYING IN YOUR ARMS. HOW ARE YOU SUPPOSED TO TEACH ME HOW TO FEEL ABOUT THAT? YOU DON'T UNDERSTAND.'" THE VETS TALKING TO EACH OTHER EVERY MORNING, SHARING THEIR STORIES, AND FORMING RELATIONSHIPS IS ESSENTIAL TO THE HEALING OF THE VETS. THE NEST IS A PLACE TO DO THIS. "THE NEST OPERATED ON THE BELIEF THAT VETS KNOW BEST WHAT VETS NEED."

WHILE I CAN NEVER UNDERSTAND WHAT THESE MEN AND WOMEN HAVE GONE THROUGH WITHOUT EXPERIENCING IT MYSELF, I FEEL GREAT SYMPATHY FOR THOSE THAT HAVE EXPERIENCED SEVERE MENTAL TRAUMA IN DEFENSE OF OUR COUNTRY AND FREEDOM. I WOULD LIKE TO SERVE THESE MEN AND WOMEN WHO HAVE DONE SO MUCH FOR ME IN ONE OF THE FEW WAYS I CAN: ARCHITECTURE.

AT THIS POINT IN MY ACADEMIC AND PROFESSIONAL DEVELOPMENT, I FEEL THAT THIS PROJECT IS IMPORTANT AS AN EXPLORATION OF FURTHER ELEMENTS OF ARCHITECTURE. THROUGHOUT MY ACADEMIC CAREER, WE HAVE LEARNED ABOUT IMPORTANT ELEMENTS OF ARCHITECTURE SUCH AS FORM, STRUCTURE, PROGRAMMING, ETC. HOWEVER, I WANT TO FURTHER STUDY HOW ARCHITECTURE CAN ACTUALLY HELP A GROUP OF PEOPLE. WHILE ARCHITECTURE CAN IN NO WAY CURE PTSD, THE DESIGN OF A SPACE CAN OFFER A CALMING AND HEALING ATMOSPHERE WHERE THE ACTUAL TREATMENT CAN TAKE PLACE. THE PROGRAMMING AND ELEMENTS OF THE DESIGN CAN ALSO AID IN A VETERAN'S TRANSITION INTO CIVILIAN LIFE. I KNEW I WANTED MY THESIS PROJECT TO WORK TOWARDS ACTUALLY HELPING PEOPLE. IN ADDITION, I WANTED TO TRULY CARE ABOUT THE PROJECT I WAS WORKING ON. BY CHOOSING A PROJECT IN MY HOME TOWN, I AM VERY INVESTED IN THE COMMUNITY AND HAVE AN UNDERSTANDING OF THE SURROUNDINGS THAT I CAN APPLY TO MY PROJECT.

# PROJECT JUSTIFICATION

THIS PROJECT WILL BE A FOUNDATION ON WHICH I WILL BUILD MANY NEW SKILLS. UNLIKE OTHER PAST RESEARCH PROJECTS OR PAPERS, THIS IS ONE THAT REQUIRES MORE ANALYSIS AND APPLICATION OF EXISTING INFORMATION TO BRING FORWARD NEW KNOWLEDGE ON A PROJECT THAT HAS NO EASILY APPLICABLE KNOWLEDGE BASE OR CASE STUDIES. I WILL ALSO LEARN MORE ABOUT DESIGNING NEW (TO ME) TYPOLOGIES, ESPECIALLY HEALING ENVIRONMENTS, A TYPOLOGY I HAVE NOT YET EXPLORED BUT AM VERY INTERESTED IN. BY DESIGNING A SPACE SPECIFIC TO PTSD, I WILL HAVE TO DO A LOT OF RESEARCH INTO THE SPECIFIC DISORDER AND HOW ARCHITECTURE CAN AFFECT THAT MENTAL DISORDER. IN ADDITION, I WILL ALSO LEARN A LOT ABOUT WORKING WITH AN EXISTING SITE, CONDITION, AND CONTEXT. LEARNING TO DESIGN THOUGHTFULLY WITH THE EXISTING FEATURES AND CONTEXT WILL BE A VALUABLE SKILL TO LEARN. THIS WILL ALSO TEACH ME FLEXIBILITY AND ADAPTABILITY IN MY DESIGN IDEAS AND PROCESS. ALL OF THE SKILLS AND KNOWLEDGE I WILL BUILDING DURING THIS PROCESS MAKES THIS PROJECT A VERY IMPORTANT ACADEMIC EXERCISE FOR ME AT THIS TIME.

THE IMPORTANCE OF THIS PROJECT TO THE PROFESSION LIES IN A LACK OF PTSD FOCUSED DESIGN. AS MY RESEARCH PROGRESSES, I HAVE NOT FOUND MANY CASE STUDIES DESIGNED THOUGHTFULLY FOR PTSD, ESPECIALLY THOSE SPECIFICALLY MEANT FOR PTSD TREATMENT AND REHABILITATION. WE HAVE MANY DESIGN CODES AND STANDARDS FOR PEOPLE WITH PHYSICAL DISABILITIES BUT NOT MANY FOR THOSE WITH MENTAL DISORDERS. RESEARCH HAS BEEN DONE ON DESIGN FEATURES THAT ARE COMFORTING AND NON-THREATENING FOR THOSE SUFFERING FROM PTSD, NOT MANY OF THOSE FEATURES HAVE BEEN APPLIED AND INTEGRATED INTO REAL DESIGN. MY PROJECT WILL BE AN EXAMPLE FOR SUCH AN IMPLEMENTATION.

ONE OF THE LARGEST CHALLENGES OF A PROJECT LIKE MINE WOULD BE THE FUNDING. THE EAGLE'S HEALING NEST IS FUNDED ENTIRELY BY OUTSIDE DONATIONS AND NEARLY ALL OF THESE DONATIONS ARE SPENT ON NECESSITIES OR SAVED FOR MONTHS DURING WHICH THE NEST IS SHORT ON MONEY. A PROJECT LIKE THIS WOULD REQUIRE EXTENSIVE PROMOTION AND MARKETING TO BRING TO PUBLIC ATTENTION, HOPEFULLY GENERATING PUBLIC INTEREST AND DONATIONS. THE COMMUNITY OF SAUK CENTRE CARES ABOUT THE VETERANS BUT IS LARGELY UNAWARE OF WHAT IS ACTUALLY HAPPENING AT THE NEST.

# PROJECT JUSTIFICATION

TO HELP JUSTIFY THE EXPENSE OF THE PROJECT, COSTS CAN BE SAVED DURING CONSTRUCTION TO DECREASE THE FINANCIAL BURDEN ON THE NEST. CURRENTLY, ALL RENOVATION AND BUILDING PROJECTS ON THE SITE ARE COMPLETED BY THE VETERANS THEMSELVES. THEY SERVE AS THE CONTRACTORS, ELECTRICIANS, STONEMASONS, AND PLUMBERS. BY LEARNING MORE ABOUT THE SKILLS THE VETS HAVE ONSITE, THE PROJECT COULD UTILIZE OR EVEN FEATURE THOSE SKILLS. ADDITIONALLY, I HOPE TO BRING SOMETHING TO THE SITE THAT DRAWS IN THE SURROUNDING COMMUNITY. THIS WOULD BENEFIT THE VETERANS BY INCLUDING THEM MORE IN THE COMMUNITY WHILE ALSO BRINGING THE NEST MORE INTO THE PUBLIC LIGHT. INCREASING PUBLIC KNOWLEDGE OF THE NEST CAN POTENTIALLY BRING IN POTENTIAL DONORS IN THE FUTURE.

MORE THAN ANY MONETARY RETURNS, MY WORK AT THE EAGLE'S NEST WILL HAVE MANY INTANGIBLE RETURNS. THE GOAL IS TO HELP THE VETERANS RECOVER FROM THEIR MENTAL TRAUMA AND TO AID SUCH AN IMPORTANT ORGANIZATION AS THE EAGLE'S NEST. I HOPE TO HELP THESE INDIVIDUALS BE ABLE TO SUCCESSFULLY RETURN TO CIVILIAN LIFE AND BRING THEM COMMUNITY RATHER THAN SECLUSION. WHILE ARCHITECTURE CANNOT HEAL THEM, I CAN DESIGN A SPACE THAT SERVES AS A CONDUIT FOR HEALING.

THE EAGLE'S HEALING NEST IS AN OUTSTANDING EXAMPLE OF A HEALING AND RECOVERY CENTER FOR VETERANS. IT PROVIDES AN IMPORTANT ALTERNATIVE TO THE STANDARD INSTITUTIONALIZED VA HOSPITAL. IT IS A UNIQUE SITE AND MODEL OF PTSD TREATMENT. WITHOUT MY INTERVENTION, THE EAGLE'S NEST WILL CONTINUE TO OPERATE AS THEY HAVE. THEY WILL CONTINUE TO HEAL VETERANS ALL OVER THE COUNTRY. HOWEVER, I WANT TO FURTHER THEIR MISSION. I WANT TO GIVE THEM WHAT THEY DON'T THINK THEY CAN HAVE OR WHAT SEEMS LIKE A FAR-FETCHED DREAM WITH THEIR RELIANCE ON DONATIONS. I WANT TO SPREAD THEIR MESSAGE AND EXPAND THEIR IDEAS TO SHOW THEM A FUTURE FOR THEIR FACILITY THAT THEY MAY NOT THINK IT POSSIBLE. AND ALL OF THIS, I WANT TO DO FOR THE VETS AND FOR THEIR SERVICE TO ALL OF US.





# HISTORICAL, SOCIAL, CULTURAL CONTEXT

WHILE THE TERM POSTTRAUMATIC STRESS DISORDER (PTSD) ONLY FIRST APPEARED IN 1980 IN THE THIRD EDITION OF THE DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS, WRITTEN EVIDENCE OF THE EFFECTS OF DEATH ON HUMAN PSYCHOLOGY HAS EXISTED IN SOME OF MANKIND'S EARLIEST LITERATURE. IN THE TALE OF GILGAMESH, WRITTEN IN ANCIENT MESOPOTAMIA, GILGAMESH LOSES HIS FRIEND, ENKIDU. IN ADDITION TO SYMPTOMS OF GRIEF, GILGAMESH ALSO EXPERIENCES A PANIC AFTER REALIZING HE TOO MUST DIE (CROCC & CROCC, 2000).

THE FIRST WRITTEN ACCOUNT OF CHRONIC MENTAL SYMPTOMS CAUSED BY FEAR EXPERIENCED ON A BATTLEFIELD IS RECORDED IN THE ACCOUNT OF THE BATTLE OF MARATHON BY HERODOTUS (490 BC). AFTER WITNESSING THE DEATH OF A COMRADE, EPIZELUS WAS STRICKEN WITH BLINDNESS, THOUGH WITH NO PHYSICAL WOUND OF HIS OWN: "EPIZELUS, THE SON OF CUPHAGORAS, AN ATHENIAN, WAS IN THE THICK OF THE FRAY, AND BEHAVING HIMSELF AS A BRAVE MAN SHOULD, WHEN SUDDENLY HE WAS STRICKEN WITH BLINDNESS, WITHOUT BLOW OF SWORD OR DART; AND THIS BLINDNESS CONTINUED THENCEFORTH DURING THE WHOLE OF HIS AFTER LIFE" (BARAN, 2010).

THERE ARE MANY MORE MENTIONS OF THE SYMPTOMS ASSOCIATED WITH PTSD THROUGHOUT WRITTEN HISTORY. HIPPOCRATES MENTIONED FRIGHTENING BATTLE SCENES IN HIS WRITINGS AS DOES LUCRETIUS' POEM DE RERUM, WRITTEN IN 50 BC. IN 1388, JEAN FROISSART NARRATED THE CASE OF PIERRE DE BEAM WHO COULD NOT SLEEP NEAR HIS WIFE OR CHILDREN DUE TO HIS HABIT OF WAKING UP AND FIGHTING INVISIBLE ENEMIES WITH HIS SWORD.

## NOSTALGIA

THE TERM "NOSTALGIA" WAS FIRST DESCRIBED BY SWISS PHYSICIAN DR. JOHANNES HOFER TO DESCRIBE CASES OF HOMESICKNESS THAT AFFLICTED SWISS TROOPS IN 1678. IT WAS AROUND THE SAME TIME THAT GERMAN AND FRENCH DOCTORS DIAGNOSED SOLDIERS WITH "HEIMWEH" AND "MALADIE DU PAYS" (BOTH MEANING HOMESICKNESS) AS THESE DOCTORS BELIEVED SYMPTOMS DISPLAYED BY THE SOLDIERS CAME RESULTED FORM A LONGING TO RETURN HOME. SIMILARLY, SPANISH DOCTORS CALLED IT "ESTAR ROTO" MEANING, "TO BE BROKEN." (BARAN, 2010)

# HISTORICAL, SOCIAL, CULTURAL CONTEXT

IN 1761, AUSTRIAN PHYSICIAN JOSEF LEOPOLD AUENBRUGGER DESCRIBED "THE PLIGHT OF TRAUMA-STRICKEN SOLDIERS":

"WHEN YOUNG MEN WHO ARE STILL GROWING ARE FORCED TO ENTER MILITARY SERVICE AND THUS LOSE ALL HOPE OF RETURNING SAFE AND SOUND TO THEIR BELOVED HOMELAND, THEY BECOME SAD, TACITURN, LISTLESS, SOLITARY, MUSING, FULL OF SIGHS AND MOANS. FINALLY, THESE CEASE TO PAY ATTENTION AND BECOME INDIFFERENT TO EVERYTHING... THIS DISEASE IS CALLED NOSTALGIA." (BARAN, 2010)

## VENT DU BOULET

DURING THE FRENCH REVOLUTIONARY WARS (1792-1800) AND THE NAPOLEONIC WARS (1800-1815), ARMY PHYSICIANS DESCRIBED SOLDIERS THAT COLLAPSED INTO A STUPOR AFTER CLOSE ENCOUNTERS WITH CANNONBALLS AND SHELLS, DESPITE RECEIVING NO PHYSICAL DAMAGE. THIS LED THEM TO DESCRIBE THE "VENT DU BOULET" SYNDROME. SOLDIERS DIAGNOSED WITH THIS SYNDROME EXPERIENCED INTENSE FEAR BY THE SOUND OF THE WIND OF PASSAGE OF A CANNONBALL." (CROCQ & CROCQ, 2000).

## CARDIORESPIRATORY NEUROSIS/ IDIOTISM

IN HIS TREATISE, NOSOGRAPHIE PHILOSOPHIQUE (1798), PSYCHIATRIST PINEL WROTE ABOUT THE PHILOSOPHER PASCAL WHO, AFTER NEARLY DROWNING IN THE SEINE, EXPERIENCED REPEATING DREAMS OF A PRECIPICE ON HIS LEFT SIDE. AS TIME WENT ON, HE BECAME MORE "APPREHENSIVE, SCRUPULOUS, WITHDRAWN, AND DEPRESSIVE" (CROCQ & CROCQ, 2000). PINEL ALSO WORKED WITH MANY PATIENTS SHOCKED BY THE EVENTS AND WARS OF THE FRENCH REVOLUTION. BASED ON THESE PATIENTS, HE WROTE THE "FIRST PRECISE DESCRIPTIONS OF WAR NEUROSES," WHICH HE CALLED "CARDIORESPIRATORY NEUROSIS" AND "ACUTE STUPOROUS POSTTRAUMATIC STATES," WHICH HE CALLED "IDIOTISM." (CROCQ & CROCQ, 2000). IT WAS NOT UNTIL 1907, THAT THE GERMAN PHYSICIAN, HONIGMAN, COINED THE TERM "WAR NEUROSIS" FOR WHAT WAS HISTORICALLY CALLED "COMBAT HYSTERIA" AND "COMBAT NEURASTHENIA." HE ALSO STRESSED THE SIMILARITY BETWEEN COMBAT CASES AND CASES OF MENTAL SYMPTOMS OF THE SURVIVORS OF "SPECTACULAR RAILWAY DISASTERS."

# HISTORICAL, SOCIAL, CULTURAL CONTEXT

## THE CIVIL WAR

IN THE 1860S, THE PSYCHIATRIC CONDITION KNOWN AS NOSTALGIA BECAME THE SECOND MOST COMMON DIAGNOSIS MADE BY UNION DOCTORS AS THOUSANDS OF SOLDIERS WERE STRICKEN. OTHER TERMS FOR THE CONDITION WERE ALSO COINED DURING THIS TIME INCLUDING "SOLDIER'S HEART" AND "EXHAUSTED HEART." THESE NAMES ATTEMPTED TO DESCRIBE THE EXPERIENCES OF "EMOTIONALLY DISTRAUGHT" SOLDIERS WHOSE SYMPTOMS INCLUDED SUDDEN MOOD CHANGES, HEART PALPITATIONS, SELF-INFLICTED INJURIES, PARALYSIS, TREMORS, AND A LONGING TO RETURN HOME. AUTHOR AMBROSE BIERCE WAS A UNION SOLDIER WHO FOUGHT IN THE BATTLE OF SHILOH, A VIOLENT TWO-DAY BATTLE IN WHICH OVER 23,000 MEN DIED. AFTER THE WAR, BIERCE WROTE THAT HE WAS PLAGUED "BY VISIONS OF THE DEAD AND DYING" FOR MANY YEARS. AUTHOR WILLIAM DEAN HOWELLS ALSO DESCRIBED THE CHANGES IN UNION GENERAL AND FUTURE U.S. PRESIDENT JAMES GARFIELD:

"AT THE SIGHT OF THESE DEAD MEN WHOM OTHER MEN HAD KILLED, SOMETHING WENT OUT OF HIM, THE HABIT OF A LIFETIME, THAT NEVER CAME BACK AGAIN: THE SENSE OF THE SACREDNESS OF LIFE AND THE IMPOSSIBILITY OF DESTROYING IT." (BARAN, 2010)

## WWI AND SHELL SHOCK

WWI PLAYED A LARGE ROLE IN ADVANCING THE KNOWLEDGE OF PSYCHOTRAUMATOLOGY. WWI WAS ONE OF THE FIRST MODERN WARS FOUGHT WITH MASSIVE INDUSTRIAL MEANS. THE MENTAL TRAUMA OF WWI SOLDIERS APPEARS IN MANY AUTOBIOGRAPHIES BY ENGLISH, GERMAN, AND FRENCH AUTHORS SUCH AS ROBERT GRAVES, ERNST JUNGER, OR HENRI BARBUSSE. PHYSICIANS DURING THE WAR REPORTED MANY CASES OF "BATTLE HYPNOSIS" FOLLOWING MILITARY ACTIONS, AND THE GERMAN PSYCHIATRIST ROBERT GAUPP REPORTED THE FOLLOWING IN 1917:

"THE BIG ARTILLERY BATTLES FILLED OUR HOSPITALS WITH A LARGE NUMBER OF UNSCATHED SOLDIERS AND OFFICERS PRESENTING WITH MENTAL DISTURBANCES. FROM THEN ON, THAT NUMBER GREW AT A CONSTANTLY INCREASING RATE... NOW, PSYCHIATRIC PATIENTS MAKE UP BY FAR THE LARGEST CATEGORY IN OUR ARMED FORCES. THE MAIN CAUSES ARE THE FRIGHT AND ANXIETY BROUGHT ABOUT BY THE EXPLOSION OF ENEMY SHELLS AND MINES, AND SEEING MAIMED OR DEAD COMRADES. THE RESULTING SYMPTOMS ARE STATES OF SUDDEN MUTENESS, DEAFNESS, GENERAL TREMOR, INABILITY TO STAND OR WALK, EPISODES OF LOSS OF CONSCIOUSNESS, AND CONVULSIONS." (CROCC & CROCC, 2000)

# HISTORICAL, SOCIAL, CULTURAL CONTEXT

IN 1915, FRENCH PSYCHIATRIST REGIS, REVIEWED 88 CASES OF MENTAL DISORDER. HE HELD A SIMILAR OPINION REGARDING THE TRAUMATIC AND DAMAGING ROLE OF WITNESSING THE GRISLY DEATH OF COMRADES: "20% ONLY PRESENTED WITH A PHYSICAL WOUND, BUT IN ALL CASES FRIGHT, EMOTIONAL SHOCK, AND SEEING MAIMED COMRADES HAD BEEN A MAJOR FACTOR" (CROCQ & CROCQ, 2000).

WHILE IT IS NOT KNOWN WHEN PRECISELY THE TERM SHELL SHOCK BEGAN TO BE USED, PATIENTS SHOWING MENTAL TRAUMA RESULTING FROM COMBAT STRESS WERE DIAGNOSED WITH THE DISORDER IN THE BRITISH MILITARY. THE FIRST MENTION OF SHELL SHOCK MAY BE A STORY PUBLISHED IN THE TIMES ON THE SIXTH OF FEBRUARY, 1915, COVERING THE ARRANGEMENT TO SEND SOLDIERS SUFFERING FROM "SHOCK" TO BE TREATED IN SPECIAL WARDS AT THE NATIONAL HOSPITAL IN QUEEN SQUARE. AROUND THE SAME TIME, SHELL SHOCK WAS USED BY CHARLES MYERS IN AN ARTICLE TO DESCRIBE SOLDIERS SUFFERING FROM "LOSS OF MEMORY, VISION, SMELL, AND TASTE" (CROCQ & CROCQ, 2000).

WWII

WITH THE START OF WWII CAME THE CONCEPT OF "TOTAL WAR," WITH THE SYSTEMATIC TARGETING OF CIVILIAN POPULATIONS, AS EXEMPLIFIED BY THE MILLIONS OF DEATHS CAUSED BY THE HOLOCAUST, THE AIR RAIDS ON CITIES TO BREAK THE MORALE OF CIVILIAN POPULATIONS, AND THE ATOMIC BOMBS DROPPED OVER HIROSHIMA AND NAGASAKI (CROCQ & CROCQ, 2000). DURING THIS TIME, PSYCHIATRISTS WERE OFTEN VIEWED AS USELESS. THIS ATTITUDE IS EVIDENT BY A MEMORANDUM ADDRESSED BY WINSTON CHURCHILL TO THE LORD PRESIDENT OF THE COUNCIL IN DECEMBER, 1942, IN THE FOLLOWING TERMS:

"I AM SURE IT WOULD BE SENSIBLE TO RESTRICT AS MUCH AS POSSIBLE THE WORK OF THESE GENTLEMEN [PSYCHOLOGISTS AND PSYCHIATRISTS]. IT IS VERY WRONG TO DISTURB LARGE NUMBERS OF HEALTHY NORMAL MEN AND WOMEN BY ASKING THE KIND OF ODD QUESTIONS IN WHICH THE PSYCHIATRISTS SPECIALIZE." (CROCQ & CROCQ, 2000)

# HISTORICAL, SOCIAL, CULTURAL CONTEXT

THE DIAGNOSIS AND TREATMENT OF COMBAT TRAUMA WAS LARGELY IGNORED DURING EARLY WWII, AND THE LESSONS OF WWI WERE LARGELY FORGOTTEN. MANY AMERICAN PLANNERS DURING WWII BELIEVED THAT POTENTIAL PSYCHIATRIC CASUALTIES COULD BE SCREENED OUT PRIOR TO CONSCRIPTION. AS A RESULT, NO PSYCHIATRISTS WERE ASSIGNED TO COMBAT DIVISIONS NOR WERE THERE ANY PROVISIONS FOR PSYCHIATRIC TREATMENT UNITS. HOWEVER, IN 1941, ABRAM KARDINER WROTE BASED HIS EXPERIENCE WITH WWII SOLDIERS THAT "THE REAL LESSON OF WWI AND THE CHRONIC CASES WAS THAT THIS SYNDROME MUST BE TREATED IMMEDIATELY TO PREVENT CONSOLIDATION OF THE NEUROSIS INTO ITS CHRONIC AND OFTEN INTRACTABLE FORMS" (CROCC & CROCC, 2000). IN THEIR BOOK MEN UNDER STRESS, AMERICAN PSYCHIATRISTS GRINKER AND SPIEGEL DISTINGUISHED "ACUTE REACTIONS TO COMBAT FROM DELAYED REACTIONS AFTER COMBAT." THE LATTER INCLUDED "WAR NEUROSES," DESIGNATED BY THE EUPHEMISM "OPERATIONAL FATIGUE" SYNDROME IN THE AIR FORCE. OTHER CHRONIC CONSEQUENCES OF COMBAT INCLUDED PASSIVE-DEPENDENT STATES, PSYCHOSOMATIC STATES, GUILT AND DEPRESSION, AGGRESSIVE AND HOSTILE REACTIONS, AND PSYCHOTIC-LIKE STATES. (CROCC & CROCC, 2000).

## THE VIETNAM WAR

IT IS ESTIMATED THAT 700,000 VIETNAM VETERANS, ALMOST A QUARTER OF ALL SOLDIERS SENT TO VIETNAM FROM 1964 TO 1973, HAVE REQUIRED SOME SORT OF PSYCHOLOGICAL HELP (CROCC & CROCC, 2000). AFTER THE END OF THE VIETNAM WAR, THE PHRASE "POST-VIETNAM SYNDROME" WAS USED BY THE MEDIA TO DESCRIBE THE PSYCHOLOGICAL STRUGGLES OF RETURNING SOLDIERS. IN A 1972 NEW YORK TIMES ARTICLE, A PHYSICIAN WROTE THAT VICTIMS OF THIS "POST-VIETNAM SYNDROME" EXPERIENCED "GROWING APATHY, CYNICISM, ALIENATION, DEPRESSION, MISTRUST AND EXPECTATION OF BETRAYAL, AS WELL AS AN INABILITY TO CONCENTRATE, INSOMNIA, NIGHTMARES, RESTLESSNESS, UPROOTEDNESS, AND IMPATIENCE WITH ALMOST ANY JOB OR COURSE OF STUDY" (BARAN, 2010). IT WAS FIVE YEARS AFTER THE WAR, IN 1980, THAT POSTTRAUMATIC STRESS DISORDER BECAME A RECOGNIZED PSYCHIATRIC DISORDER. THESE VETERANS WERE THE FIRST TO BE INFORMED ABOUT, ASSESSED FOR, AND TREATED FOR PTSD ("FOUR DECADES LATER...").

# HISTORICAL, SOCIAL, CULTURAL CONTEXT

## PSYCHOLOGY OF PTSD

WITH MODERN MEDICINE, SOCIETY NOW HAS A BETTER UNDERSTANDING OF WHAT ACTUALLY CAUSES PTSD. ACCORDING TO MATTHEW FINN IN POSTTRAUMATIC UNDERSTANDING, UNDER NORMAL CONDITIONS, SENSORY ORGANS SEND INFORMATION TO A PART OF THE BRAIN THAT FUNCTIONS AS A GATEKEEPER THAT ASSESSES INCOMING INFORMATION FOR EMOTIONAL SIGNIFICANCE. AFTER THIS, THE INFORMATION IS SENT ON FOR HIGHER-ORDER THINKING. THAT INFORMATION IS SORTED TO BE STORED IN EITHER SHORT-TERM OR LONG-TERM MEMORY. THIS PROCESS IS REFERRED TO AS A "LEARNING EVENT." INFORMATION THAT HAS UNDERGONE HIGHER-ORDER THINKING IS STORED AS AN "ASSOCIATED MEMORY" AND HAS KNOWN RELATIONSHIPS TO OTHER MEMORIES (FINN, 2013).

IN THE EVENT OF A HIGH-STRESS SITUATION, THE PROCESS OF HIGHER-ORDER THINKING IS BYPASSED AND THE AUTONOMIC NERVOUS SYSTEM (ANS) IS DIRECTLY ACTIVATED. THE ANS CAN ACTIVATE TWO EMERGENCY PATHWAYS: THE SYMPATHETIC AND PARASYMPATHETIC NERVOUS SYSTEMS, RESPONSIBLE FOR "FLIGHT OR FIGHT" OR "TONIC IMMOBILITY", RESPECTIVELY. INFORMATION THAT BYPASSES HIGHER-ORDER THINKING WHEN THE ANS IS ACTIVATED IS UNABLE TO BE STORED AMONG "ASSOCIATED" MEMORIES. THESE MEMORIES ARE "DISASSOCIATED" AND OFTEN FRAGMENTED AND MOSTLY NONVERBAL. THESE DISASSOCIATED MEMORIES SERVE AS A SURVIVAL TOOL AND ARE EASILY TRIGGERED BY SITUATIONS AND SENSATIONS ASSOCIATED WITH THE TRAUMA. ACCORDING TO FINN, "PTSD IS MARKED BY BIOLOGICAL CHANGES AS WELL AS PSYCHOLOGICAL SYMPTOMS FOLLOWING THE EXPERIENCE OR WITNESSING OF A LIFE-THREATENING EVEN, SUCH AS MILITARY COMBAT" (FINN, 2013).

## PTSD TREATMENT

TRAUMA THERAPY INVOLVES A THREE PHASE TREATMENT PROTOCOL. PHASE I INVOLVES ACHIEVING PATIENT SAFETY, REDUCING SYMPTOMS, AND INCREASING COMPETENCIES. THIS IS A SKILLS BUILDING PHASE USED TO ACHIEVE OUTCOMES OF IMPROVING EMOTION REGULATION, INCREASING DISTRESS TOLERANCE, MINDFULNESS, INTERPERSONAL EFFECTIVENESS, COGNITIVE RESTRUCTURING, BEHAVIORAL CHANGES, AND RELAXATION. PHASE II INVOLVES THE REVIEW AND REAPPRAISAL OF TRAUMA MEMORIES. THIS PHASE INVOLVES MANY DIFFERENT TECHNIQUES BUT ALL REQUIRE THE PATIENT TO BE ABLE TO TOLERATE THE DISCOMFORT OF REVIEWING AND RELIVING THE TRAUMATIC MEMORIES. THE ABILITY TO DO THIS VARIES FROM INDIVIDUAL TO INDIVIDUAL. PHASE III INVOLVES CONSOLIDATING THE GAINS. IN THIS PHASE, THE THERAPIST HELPS THE PATIENT APPLY THEIR NEWS SKILLS AND UNDERSTANDING OF THEMSELVES AND THEIR TRAUMATIC MEMORIES.

# HISTORICAL, SOCIAL, CULTURAL CONTEXT

THERE ARE SEVERAL METHODS OF EXPLORING ONE'S TRAUMA. TWO OF THE MAIN METHODS INCLUDE EXPOSURE THERAPY AND REPROCESSING (EMDR). EXPOSURE THERAPY INVOLVES THE INDIVIDUAL TALKING THROUGH THEIR TRAUMATIC MEMORY OVER AND OVER UNTIL IT IS NO LONGER TRIGGERING. THIS CAN BE DONE ALL AT ONCE (CALLED "FLOODING") OR GRADUALLY OVER TIME ("DESENSITIZATION"). THIS CAN ALSO BE DONE VERBALLY, OR WITH IMAGES OR OTHER FORMS OF ART. REPROCESSING (EMDR) INVOLVES AN INDIVIDUAL TO REPROCESSES MEMORIES AND EVENTS. THIS MEANS THAN AN INDIVIDUAL "ACCESSES THE RELEVANT MEMORY AND USES DUAL AWARENESS WITH BILATERAL STIMULATION AND IMAGES, THOUGHTS, EMOTIONS AND BODY SENSATIONS TO MOVE THROUGH THE TRAUMATIC EXPERIENCES THAT AREN'T RESOLVED" (STAGGS, 2018). COGNITIVE PROCESSING THERAPIES SUCH AS EXPOSURE THERAPY ARE FAIRLY READILY AVAILABLE TO VETERANS THROUGH THE VA; HOWEVER, REPROCESSING, OR EDMR, IS GENERALLY NOT AS READILY AVAILABLE FOR VETERANS THROUGH THE VA.

## DEPARTMENT OF VETERANS AFFAIRS AND THE EAGLE'S HEALING NEST

THE VA REMAINS ONE OF THE MAIN RESOURCES FOR USE BY VETERANS. THE VA STATES THEIR MISSION AS "TO PROVIDE VETERANS THE WORLD-CLASS BENEFITS AND SERVICES THEY HAVE EARNED ... AND TO DO SO BY ADHERING TO THE HIGHEST STANDARDS OF COMPASSIONS, COMMITMENT, EXCELLENCE, PROFESSIONALISM, INTEGRITY, ACCOUNTABILITY, AND STEWARDSHIP ("ABOUT VA"). HOWEVER, MANY VETERANS EXPRESS FRUSTRATION WITH WORKING WITH THE VA, INCLUDING LONG WAIT TIMES, OVERCROWDING, AND LACK OF UNDERSTANDING. THE VA HAS FACED MANY CONTROVERSIES RECENTLY. FREQUENTLY, VETERANS ARE KEPT WAITING AT LEAST A MONTH TO RECEIVE CARE OR VETERANS ARE TURNED AWAY FROM TREATMENT DUE TO LACK OF SPACE. MANY OF THE VETERANS AT THE EAGLE'S HEALING NEST IN SAUK CENTRE SHARE SUCH FRUSTRATIONS WITH THE VA. MOST RESIDENTS AT THE NEST ARE THERE BECAUSE THE VA FAILED THEM IN SOME WAY. ACCORDING TO THE FOUNDER, MELONY BUTLER, "THERE WAS FAILURE OF THE GOVERNMENT KEEPING THEIR PROMISES, FAILURE IN THE VA SYSTEM, FEAR IN THE VA SYSTEM, BUT WHERE [THE VETERANS] ALWAYS FELT AT PEACE WAS WITH EACH OTHER, AND IT DIDN'T MATTER HOW UGLY IT WAS, THEY WOULD STILL REACH OUT TO SOMEONE ELSE THAT THEY SERVED WITH." MELONY FOUNDED THE NEST AFTER HER OWN SON WAS TURNED AWAY FROM TREATMENT FOR HIS PTSD BECAUSE THERE WAS NO MORE ROOM.



# HISTORICAL, SOCIAL, CULTURAL CONTEXT

## SAUK CENTRE HOME SCHOOL FOR GIRLS

WHEN MELONY DECIDED TO OPEN THE EAGLE'S NEST, SHE CHOSE THE SIGHT OF THE SAUK CENTRE HOME SCHOOL FOR GIRLS. THIS WAS A SCHOOL ESTABLISHED IN 1907 FOR GIRLS WHO HAD BEEN DECLARED DELINQUENT AND COMMITTED BY THE COURTS. HERE THEY WERE CARED FOR, TRAINED, AND EDUCATED. THE SCHOOL WAS OPENED IN 1911 AND INCLUDED AN ADMINISTRATION BUILDING, HOSPITAL, CHAPEL, PUMPING PLANT, FARM BUILDING, AND COTTAGES TO HOUSE 160 GIRLS. THE OLD DORMS FOR THE GIRLS NOW SERVE AS RESIDENTIAL UNITS FOR THE VETERANS AND THE ORIGINAL HOME SCHOOL HAS NOW SERVES AS A REFUGE FOR OVER 200 VETERANS.

THE EAGLE'S NEST UTILIZES MANY OF THE PTSD TREATMENT METHODS DISCUSSED EARLIER. THE NEST PROVIDES A LARGE VARIETY OF THERAPIES AS ALL SERVICES ARE DONATED BY PROFESSIONALS. THIS ALLOWS FOR SOME MORE EXPERIMENTAL THERAPY METHODS THAN MAY BE ACCEPTED IN A VA FACILITY. THE VETERANS LIVING AT THE NEST ARE FROM ALL OVER THE COUNTRY, NOT JUST THE SURROUNDING AREA. THEY ARE ALSO OF WIDELY VARYING AGES, FROM WWII VETS TO ACTIVE DUTY MEMBERS. THE SITE OF THE NEST OFFERS A PEACEFUL RESPITE FOR TRAUMATIZED VETERANS.

## SAUK CENTRE

THE CITY OF SAUK CENTRE, MN HAS A POPULATION OF 4,342 PEOPLE. THE MEDIAN AGE IS 36 AND MEDIAN HOUSEHOLD INCOME IS \$43,783. THE POVERTY RATE IN SAUK CENTRE IS AT 11%. THE POPULATION IS MOSTLY CAUCASIAN AT 91%, THEN 7.6% HISPANIC, AND 1.4% AFRICAN AMERICAN. THE ECONOMY IN SAUK CENTRE MOSTLY SPECIALIZES IN AGRICULTURE, FORESTRY, FISHING, HUNTING, MANUFACTURING, AND RETAIL TRADE. THE LARGEST INDUSTRIES ARE RETAIL AND MANUFACTURING.

# THE SITE

THE EAGLE'S HEALING NEST IS LOCATED ON THE HISTORIC CAMPUS OF THE SAUK CENTRE HOME SCHOOL FOR GIRLS. THIS WAS A SCHOOL ESTABLISHED IN 1907 FOR GIRLS WHO HAD BEEN DECLARED DELINQUENT AND COMMITTED BY THE COURTS. HERE THEY WERE CARED FOR, TRAINED, AND EDUCATED. THE SCHOOL WAS OPENED IN 1911 AND INCLUDED AN ADMINISTRATION BUILDING, HOSPITAL, CHAPEL, PUMPING PLANT, FARM BUILDING, AND COTTAGES TO HOUSE 160 GIRLS. ENTERING GIRLS WERE ALL 8-16 YEARS OF AGE AND REMAINED UNTIL THEY REACHED 21 OR WERE DISCHARGED. THE GIRLS RECEIVED COMMON SCHOOL EDUCATION AND INSTRUCTION IN SEWING, COOKING, LAUNDERING, GENERAL HOUSEWORK SKILLS, AND FARMING. IN 1951, AN ADDITIONAL TEMPORARY RESIDENCE WAS ADDED FOR THE CARE OF SEVERELY RETARDED CHILDREN AND BECAME THE SAUK CENTRE HOME SCHOOL FOR CHILDREN. THIS OCCUPIED THREE COTTAGES ON THE SITE. IN 1967, THE SCHOOL CHANGED ITS NAME TO THE MINNESOTA HOME SCHOOL AND EXPANDED TO INCLUDE SOME DELINQUENT BOYS IN ITS PROGRAMS. THE SCHOOL BECAME THE MINNESOTA CORRECTIONAL FACILITY IN 1979 SERVING AS A "RECEPTION, DIAGNOSTIC, AND TREATMENT CENTER FOR MALE AND FEMALE JUVENILE OFFENDERS BETWEEN THE AGES OF TWELVE AND EIGHTEEN YEARS FROM THE WESTERN REGION OF THE STATE." ON JULY 1, 1999, THE SCHOOL WAS CLOSED AND ALL RESIDENTS WERE TRANSFERRED TO OTHER FACILITIES.



FIGURE 41  
58

# THE SITE

IN 2012, MELONY BUTLER FOUNDED THE RESIDENTIAL VETERANS' CAMPUS ON THE GROUNDS OF THE SAUK CENTRE HOME SCHOOL FOR GIRLS. SHE DID THIS AFTER THERE WAS NO ROOM FOR HER SON, WHO WAS SUFFERING FROM PTSD, AT A VA FACILITY. HER GOAL WAS TO CREATE A REFUGE WHERE FORMER SERVICE MEMBERS "OF ANY ERA COULD LIVE FOR AS LONG AS THEY WANTED WHILE SEARCHING FOR PURPOSE AND PEACE." SINCE THE NEST'S FOUNDING, IT HAS WELCOMED MORE THAN 200 VETERANS.

THE SITE LOCATION IS SAUK CENTRE COULD BE AN ASSET. THE TOWN IS LOCATED AT THE CROSSROADS OF INTERSTATE 94 AND HIGHWAY 71. IT IS A PASSING THROUGH POINT FOR MANY PEOPLE ON THEIR WAY NORTH TO LAKES AND WOODS. HOWEVER, THE EAGLE'S NEST IS LOCATED ON THE FRINGES OF THE TOWN, KEEPING IT SOMEWHAT ISOLATED. WHILE THIS MAY HAVE BEEN APPROPRIATE FOR THE ORIGINAL HOME SCHOOL, I BELIEVE THE NEST SHOULD OFFER A BETTER CONNECTION FOR THE RESIDENTS TO THE SURROUNDING COMMUNITY.

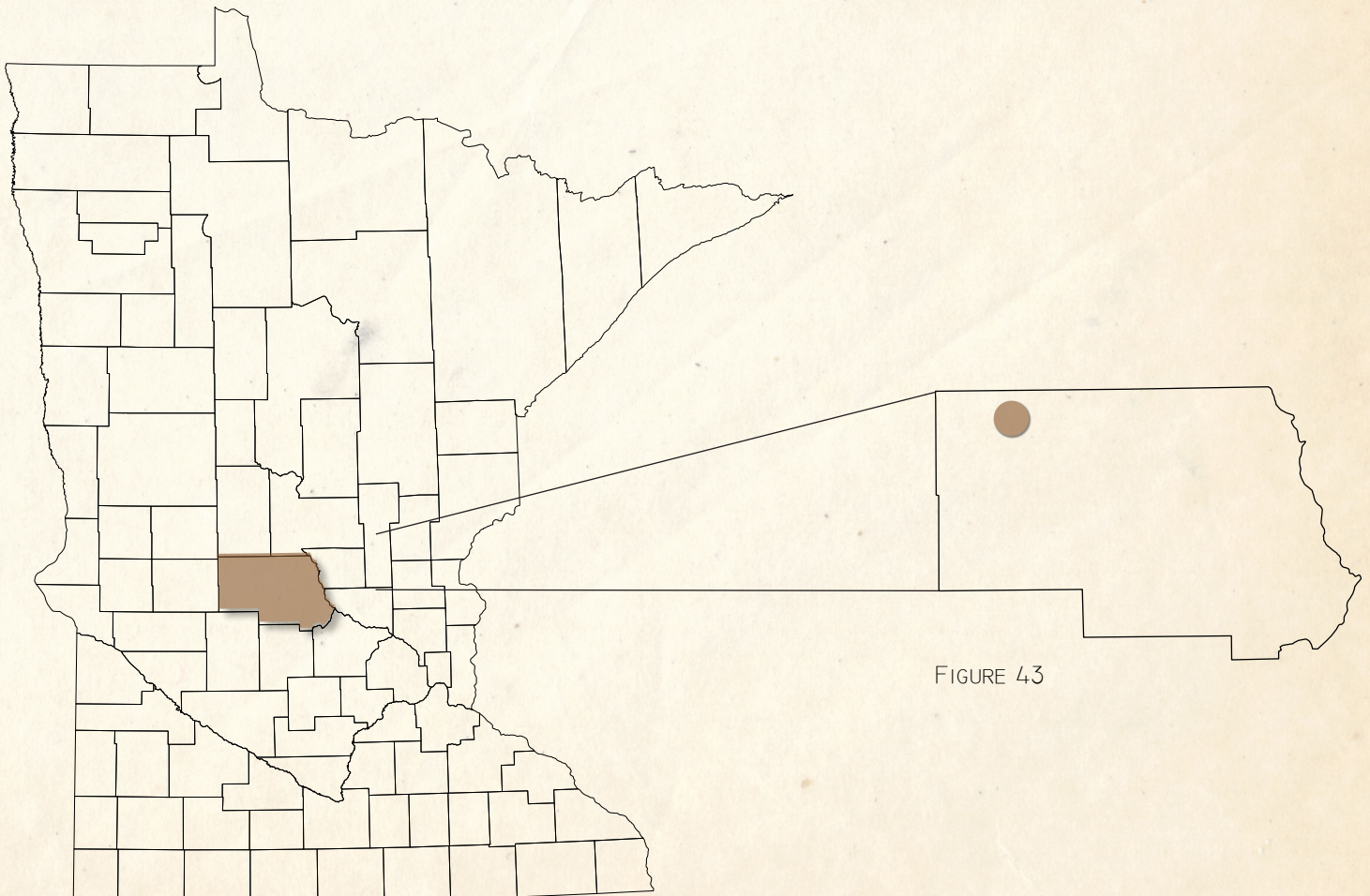


FIGURE 42

FIGURE 43

# THE SITE



FIGURE 44



FIGURE 45

# TRAFFIC ANALYSIS

VEHICULAR TRAFFIC ON THE SITE IS MINIMAL. THE DRIVEWAY TO THE NEST IS OFF OF MN HIGHWAY 71 WHICH CAN BE A VERY BUSY ROAD. HOWEVER, THE NEST IS REMOVED FAR ENOUGH FROM THE ROAD THAT IT HAS LITTLE EFFECT ON THE SITE. ONLY VISITORS AND SOME STAFF DRIVE AROUND THE SITE, BUT THIS IS INFREQUENT.

MOST COMMON TRAFFIC ON THE SITE IS PEDESTRIAN. WHILE THERE ARE NEVER A LOT OF PEOPLE WALKING AROUND AT ANY TIME, THERE ARE ALWAYS A FEW OF THE VETERANS MILLING AROUND. THEY FOLLOW THE ROADS AND WALKWAYS EQUALLY.

THE LACK OF TRAFFIC MAKES THE SITE A VERY PEACEFUL, QUIET PLACE. THIS IS ABSOLUTELY IMPORTANT TO MAINTAIN FOR THE HEALTH OF THE VETERANS ON THE SITE. AS THIS PROJECT PROPOSES BRINGING IN THE COMMUNITY TO THE NEST MORE, SUCH A BUILDING SHOULD BE PLACE STRATEGICALLY AS TO NOT DISTURB THE PEACE ON THE REST OF THE SITE.

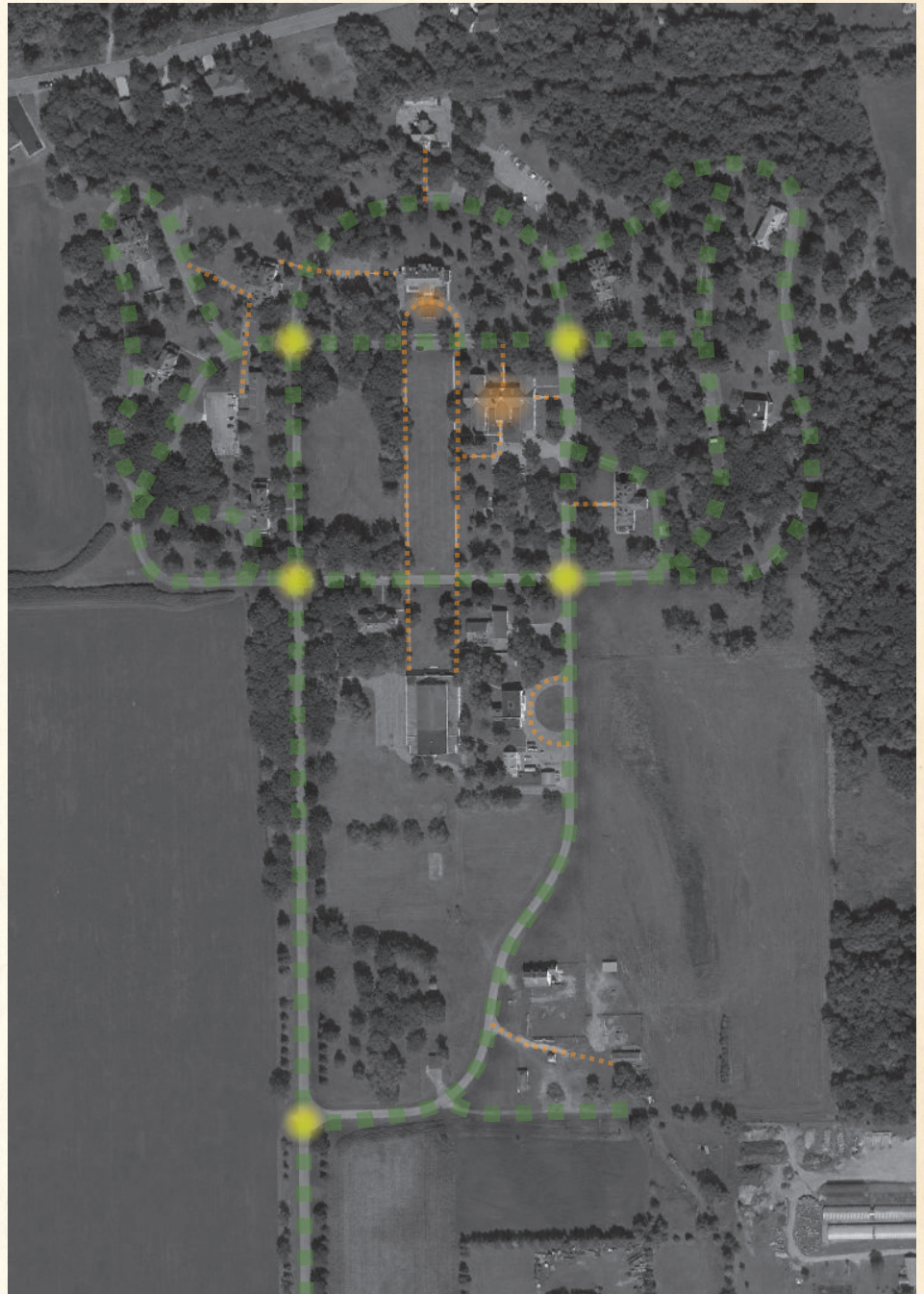
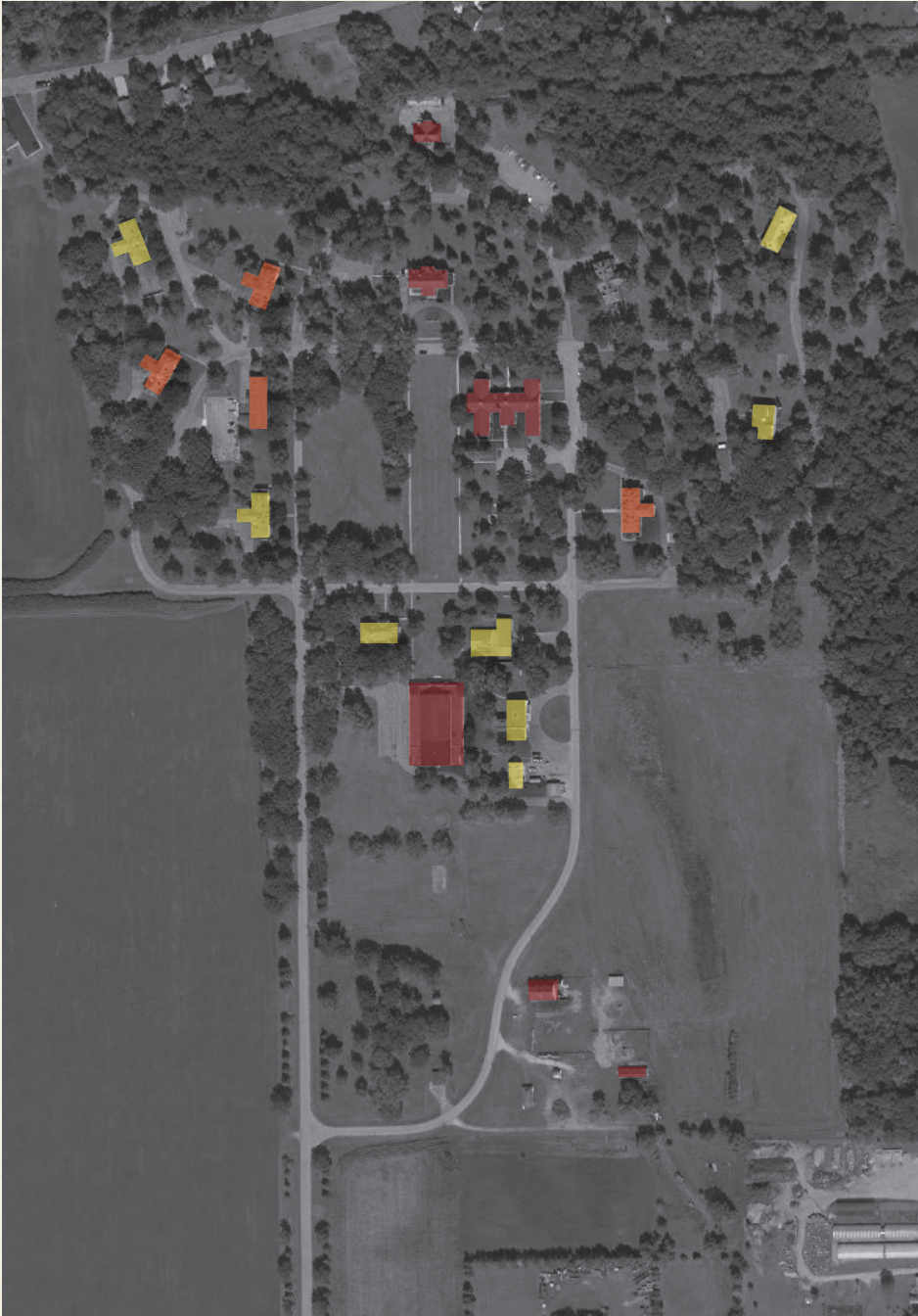


FIGURE 46



# EXISTING BUILDING ANALYSIS



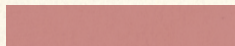
THE SAUK CENTRE HOME SCHOOL FOR GIRLS HAD MANY BUILDINGS ON THE SITE INCLUDING NUMEROUS DORMS, THE HEADMISTRESS' HOUSE, AN AUDITORIUM, A BARN, AND OTHER SUPPORTIVE BUILDINGS.

ALL OF THESE BUILDINGS STILL STAND ON THE SITE AND ARE STILL IN GOOD STRUCTURAL CONDITION, DESPITE SOME DISREPAIR. THE EAGLE'S HEALING NEST HAS ALREADY RENOVATED MANY OF THE BUILDINGS, THOUGH MANY STILL REMAIN EMPTY. MOST OF THE EMPTY BUILDINGS ARE OLD DORMS WHICH WILL BE CONVERTED TO RESIDENTIAL UNITS FOR THE VETERANS. MANY OF THE OTHER EMPTY BUILDINGS ARE EXTENSIVELY BEING USED FOR THE MANY STORAGE NEEDS OF THE NEST.

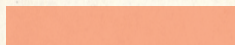
THE BUILDING WITH THE MOST POTENTIAL FOR A PROJECT IS THE AUDITORIUM, SEEN AS THE LARGEST RED RECTANGLE ON THE MAP. THIS BUILDING CURRENTLY HAS A FEW WORKSHOP AREAS, BUT IS LARGELY UNDERUTILIZED OR USED FOR STORAGE.

FIGURE 47

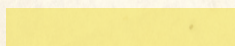
MIXED USE BUILDING



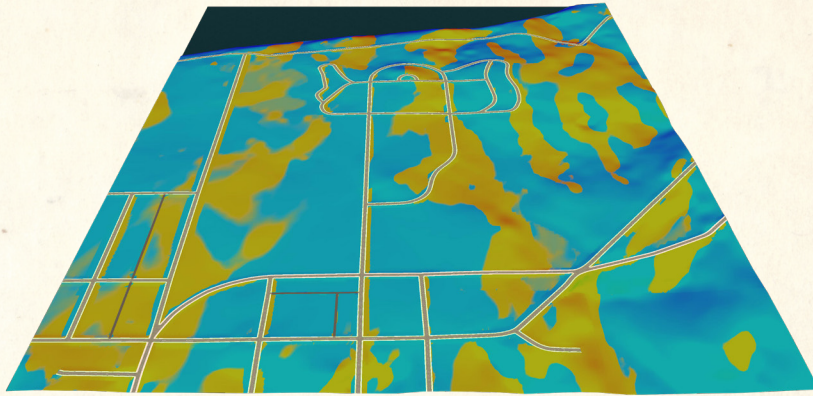
EXISTING RESIDENTIAL BUILDING



EXISTING EMPTY BUILDING/STORAGE



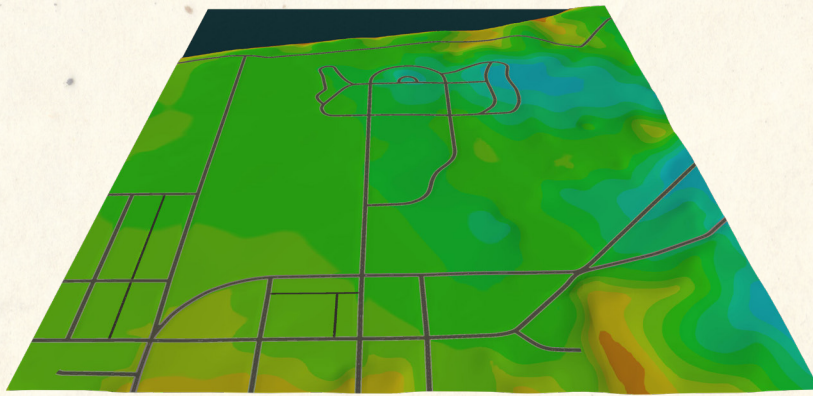
# TOPOGRAPHIC ANALYSIS



ASPECT MAP

FIGURE 48

THE ASPECT OF A SITE SHOWS WHICH DIRECTION A SLOPE IS FACING. THIS WILL STRONGLY AFFECT THE SOLAR RADIATION ON A SITE AND THE WATER FLOW. THIS SITE IS VERY FLAT AND SOLAR RADIATION WILL REMAIN LARGELY CONSISTENT. HOWEVER, THE ASPECT MAP IS USEFUL IN SHOWING THE DIRECTIONS OF WATER FLOW.



ELEVATION MAP

FIGURE 49

THE ELEVATION OF THE SITE IS VERY FLAT. MOST OF THE SITE SITS AT AN ELEVATION OF 384, WITH A COUPLE HIGH POINTS BETWEEN 391 AND 392. THE LOWEST POINT ON THE SITE IS AT 383. ACCORDING TO ONE OF THE RESIDENTS OF THE NEST, ONE OF THE LOW POINTS WAS EXCAVATED TO CREATE THE HILL THAT THE HEADMISTRESS' HOUSE SAT ON BECAUSE SHE REQUIRED THAT HER HOUSE SAT ON A HILL, DESPITE THE FLATNESS OF THE SITE.



SLOPE MAP

FIGURE 50

AT NO POINT ON THE SITE DOES THE SLOPE EXCEED 5%, MAKING THE ENTIRE SITE SUITABLE BUILDING AND ACTIVITIES.

# CLIMATE ANALYSIS

TEMPERATURE (°F)

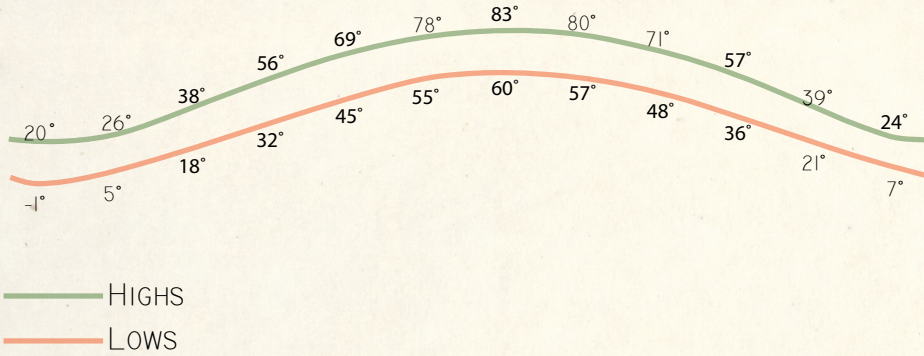


FIGURE 51

RAINFALL (IN)



FIGURE 52

SNOWFALL (IN)



FIGURE 53

DAYLIGHT

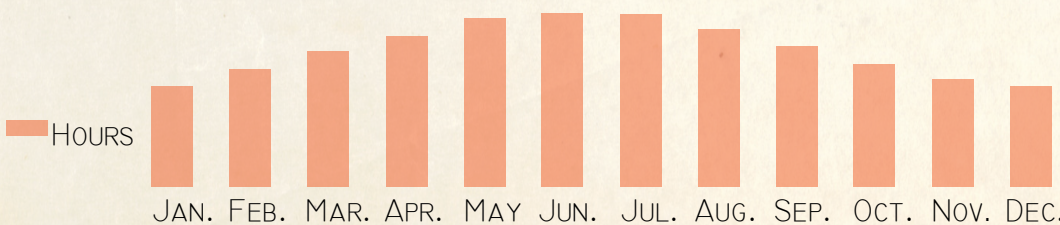


FIGURE 54



# SOLAR ANALYSIS

SAUK CENTRE  
45.7375 N, 94.9525 W

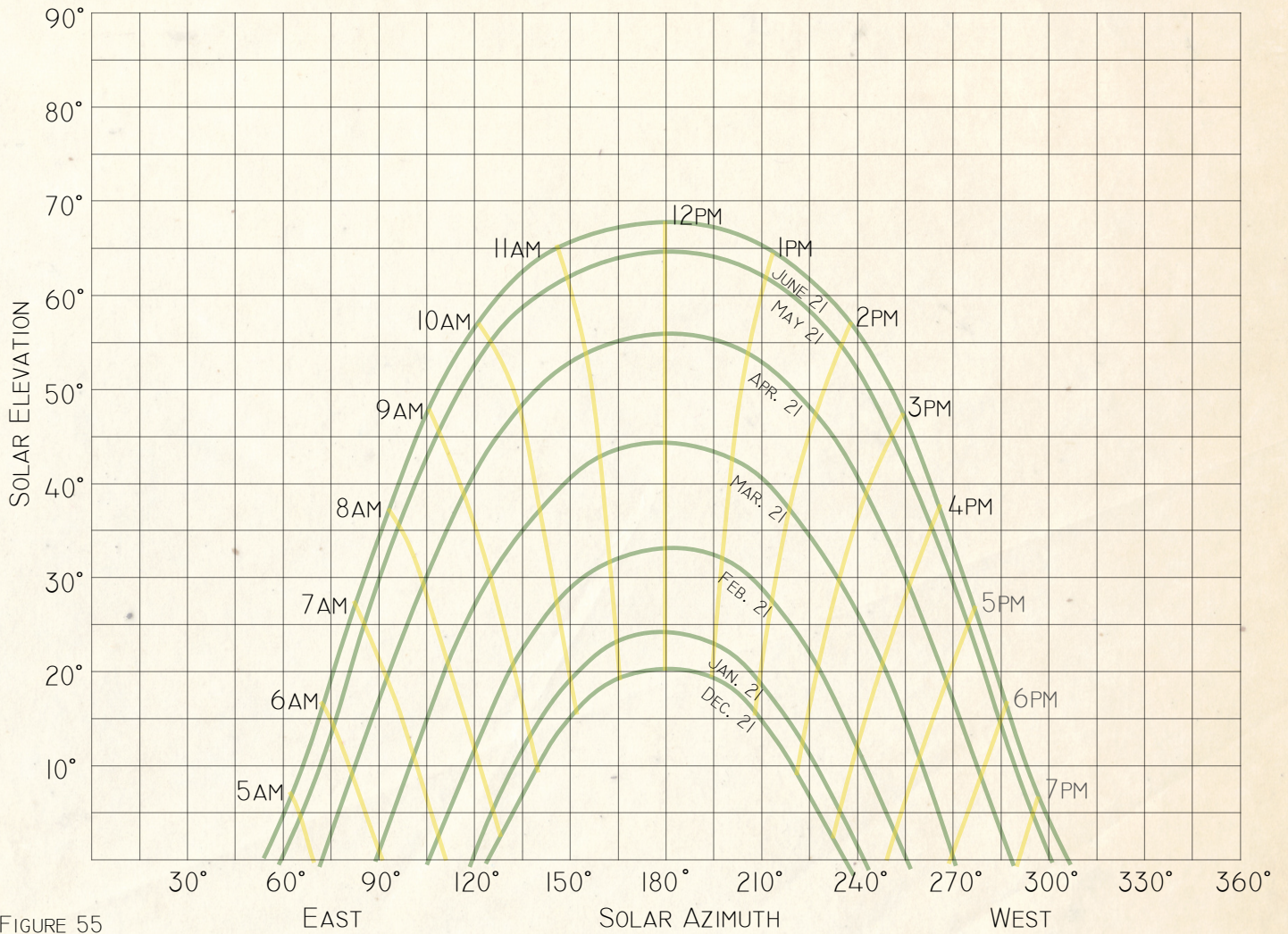


FIGURE 55

SUMMER SUN

WINTER SUN

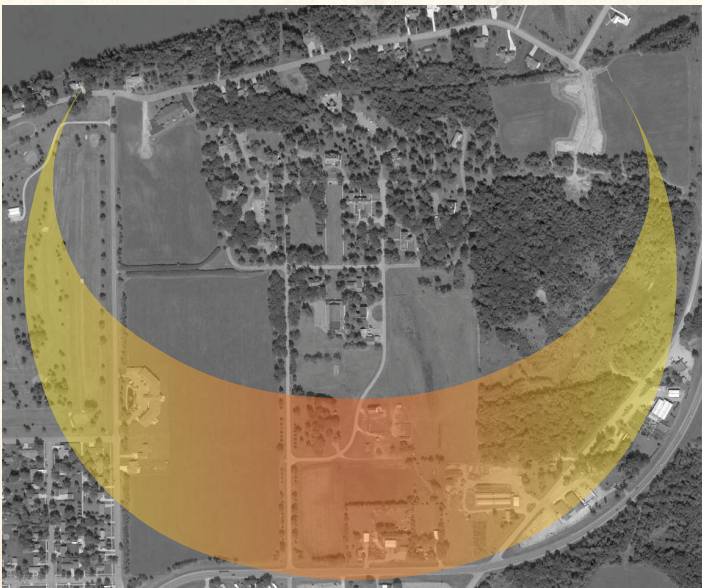


FIGURE 56

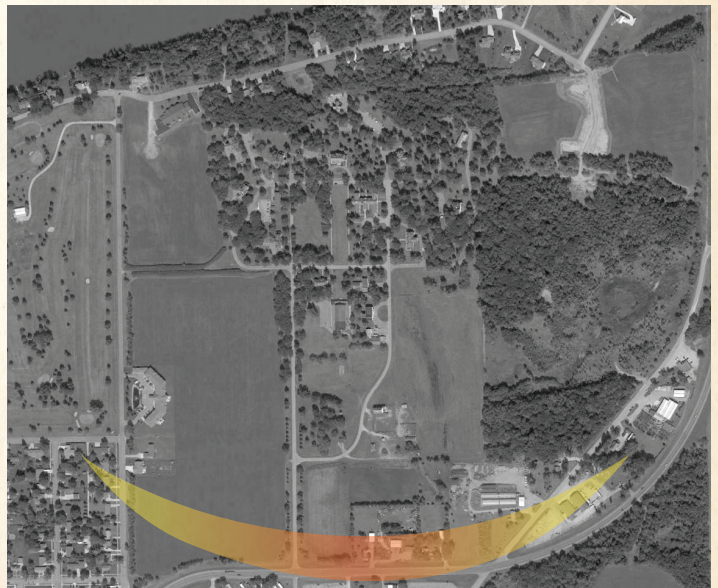


FIGURE 57

# WIND ANALYSIS

ALL YEAR

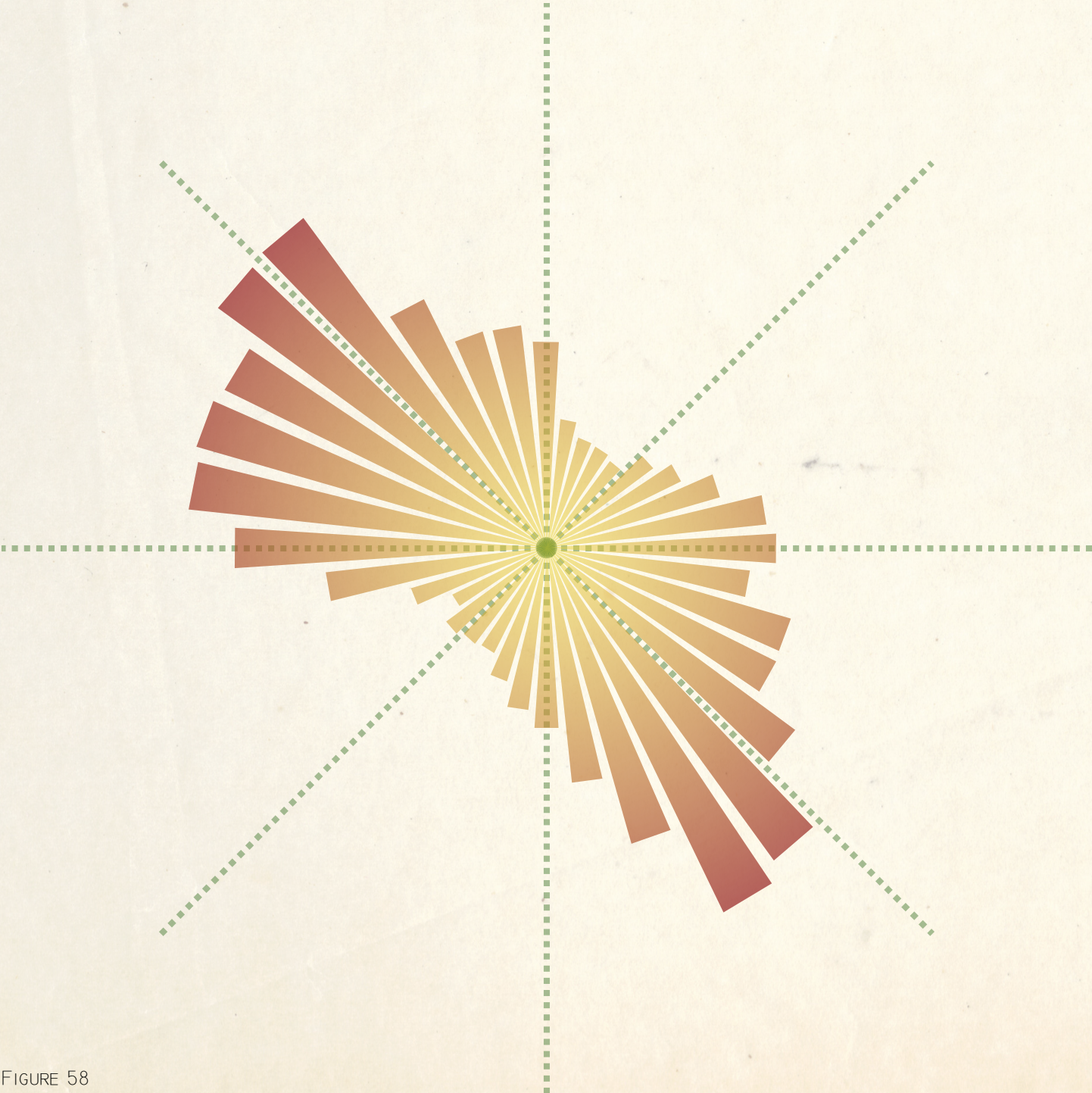


FIGURE 58  
66

# WIND ANALYSIS

MARCH

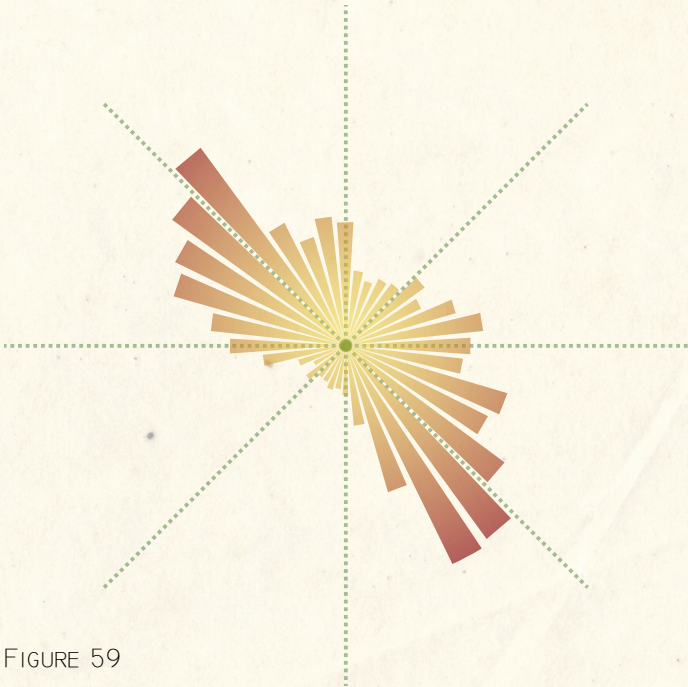


FIGURE 59

JUNE

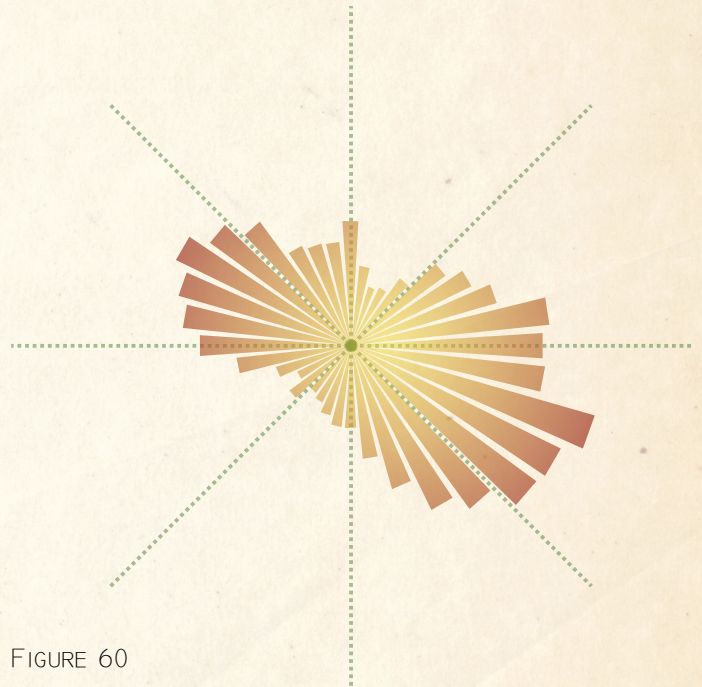


FIGURE 60

SEPTEMBER

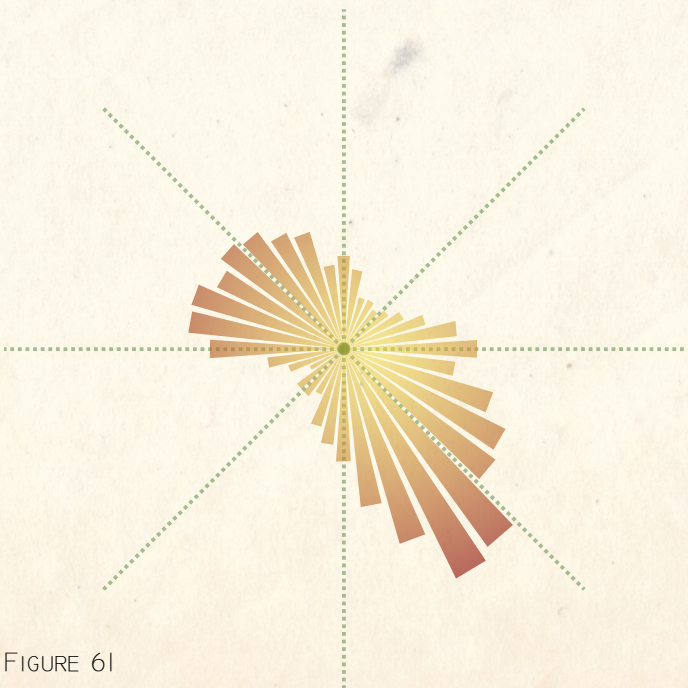


FIGURE 61

DECEMBER

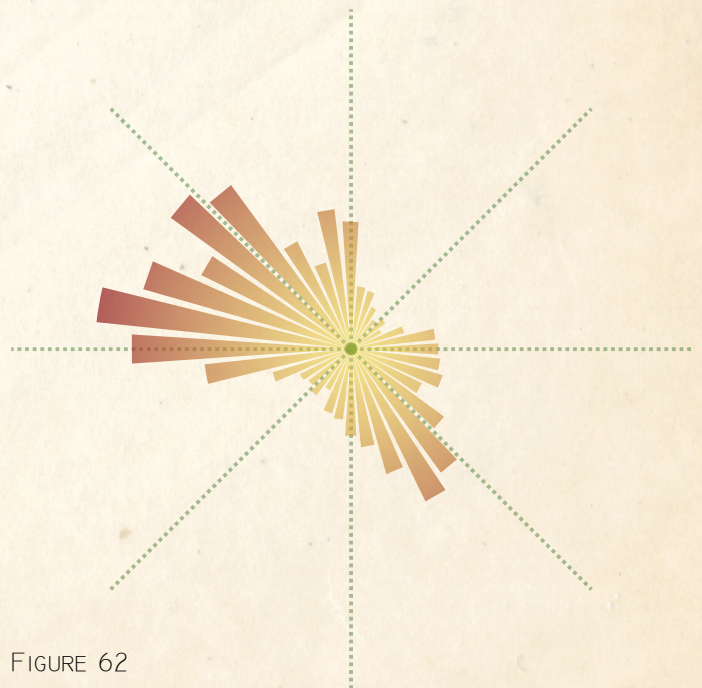


FIGURE 62

# SOIL CLASSIFICATION

- D67A  
HUBBARD LOAMY SAND  
0-2% SLOPES
- D67B  
HUBBARD LOAMY SAND  
1-6% SLOPES
- D67C  
HUBBARD LOAMY SAND  
2-12% SLOPES
- 69B  
FEDJI LOAMY SAND  
2-6% SLOPES
- 261  
ISAN-ISAN,  
FREQUENTLY PONDED  
COMPLEX  
0-2% SLOPES
- 32B  
NEBISH LOAM  
1-8% SLOPES
- 544  
CATHRO MUCK  
OCCASIONALLY PONDED  
0-1% SLOPES

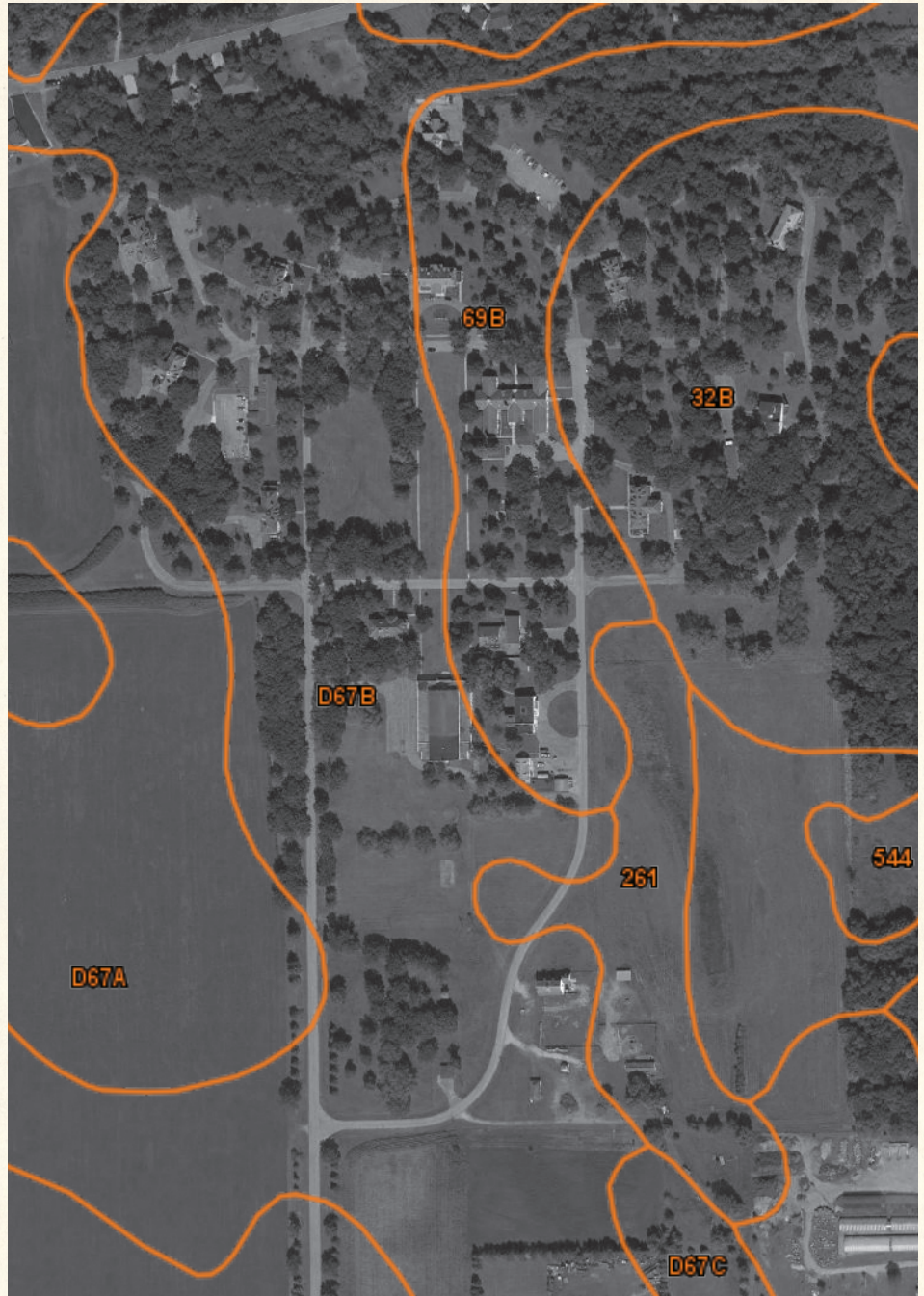


FIGURE 63

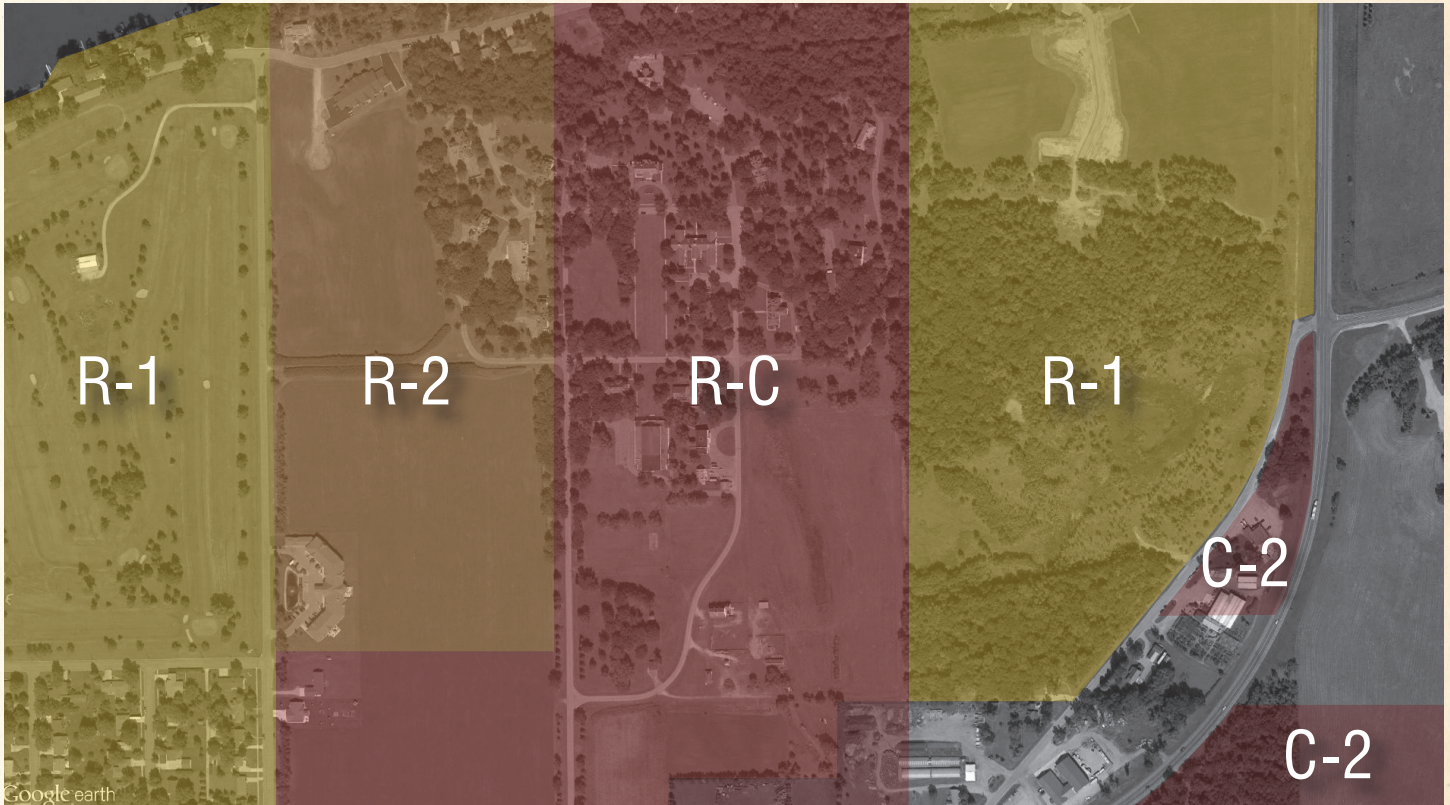


FIGURE 64

THE SITE OF THE EAGLE'S HEALING NEST COVERS 3 DIFFERENT ZONING AREAS: MAINLY R-2 AND R-C, WITH A SMALL FORESTED SECTION ON R-1.

THIS ZONING DOES LIMIT WHAT CAN BE BUILT ON THE SITE, WITH VERY FEW TYPOLOGIES PERMITTED. HOWEVER, EVEN THE CURRENT TYPOLOGY OF THE EAGLE'S NEST WOULD BE PUSHING THE LIMITS OF WHAT WOULD BE ALLOWED. THIS WOULD FALL UNDER THEIR CU (CONDITIONAL-USE) CATEGORIES. THERE ARE MANY TYPOLOGIES THAT COULD BE ALLOWED UNDER CU.

# SITE RECONNAISSANCE



# SITE RECONNAISSANCE



FIGURE 66



01

FIGURE 67



02

FIGURE 68



03

FIGURE 69



04

FIGURE 70





05  
FIGURE 71



06  
FIGURE 72



07  
FIGURE 73



08  
FIGURE 74



09  
FIGURE 75



10

FIGURE 76



11

FIGURE 77



12

FIGURE 78



13

FIGURE 79



14

FIGURE 80



15

FIGURE 81



16

FIGURE 82



17

FIGURE 83



FIGURE 84



FIGURE 85



FIGURE 86



FIGURE 87



22

FIGURE 88



23

FIGURE 89



24

FIGURE 90



25

FIGURE 91



**26**  
FIGURE 92



**27**  
FIGURE 93



**28**  
FIGURE 94



**29**  
FIGURE 95



30

FIGURE 96



31

FIGURE 97



32

FIGURE 98



33

FIGURE 99



FIGURE 100



FIGURE 101



FIGURE 102



FIGURE 103





38

FIGURE 104



39

FIGURE 105



40

FIGURE 106



41

FIGURE 107



42

FIGURE 108



43

FIGURE 109



44

FIGURE 110



45

FIGURE 111



46

FIGURE 112



47

FIGURE 113



48

FIGURE 114



49

FIGURE 115



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FIGURE II6



51

FIGURE II7



52

FIGURE II8



53

FIGURE II9

# PERFORMANCE CRITERIA

## PERFORMANCE MEASURE

THERE WILL BE THREE MAIN AREAS OF PERFORMANCE WITHIN THIS DESIGN. FIRST WILL BE THE HEALING ASPECTS AND SPACES OF THE DESIGN. I WANT TO MEASURE THE NUMBERS OF POTENTIAL "THREATS" THAT CAN BE FOUND WITHIN THE SPACES AND THE AMOUNT OF MOVES IT WOULD TAKE A VETERAN TO FULLY ASSESS A SPACE OR ROOM FOR POTENTIAL THREATS. THE DESIGN OF THE SPACES SHOULD HAVE A CALMING PSYCHOLOGICAL EFFECT AND SHOULD NOT GIVE A CHAOTIC APPEARANCE.

SECONDLY, THERE WILL BE A FOCUS ON THE ASPECTS OF THE DESIGN WHICH WILL IMPROVE THE TRANSITION OF THE VETERANS FROM A MILITARY LIFESTYLE TO A CIVILIAN LIFESTYLE. THIS SHOULD ALSO TAKE THEM FROM SECLUSION TO COMMUNITY INTEGRATION. MOSTLY, THIS WILL INVOLVE ANALYZING THE PUBLIC AND PRIVATE SPACES ON THE SITE AND PROVING THAT THE DESIGN OF THE THESIS PROVIDES A TRANSITION FROM PRIVATE TO PUBLIC WITHOUT SACRIFICING THE PRIVACY OF THE VETERANS WHO REQUIRE IT. THE DESIGN SHOULD ALSO MAKE A POINT TO PRESERVE AND DISPLAY THE IMPORTANT FEATURES OF ANY EXISTING BUILDINGS THAT WILL BE RENOVATED.

LASTLY, THERE SHOULD BE A FOCUS ON THE FEASIBILITY OF THE THESIS PROJECT. THE FINANCIAL SITUATION OF THE EAGLE'S NEST IS NOT ONE THAT CURRENTLY CAN ACCOMMODATE NEW CONSTRUCTION OR LARGE-SCALE RENOVATION. THIS PROJECT SHOULD AT LEAST FOCUS ON SOME PARTS OF THE DESIGN THAT CAN MAKE IT A MORE FEASIBLE AND AFFORDABLE PROJECT. THIS WILL REQUIRE RESEARCHING INTO THE KNOWLEDGE BASE OF THE VETERANS REGARDING BUILDING AND CONSTRUCTION. THE FINAL DESIGN SHOULD BOTH UTILIZE AND FEATURES THOSE SKILLS OF THE VETS. THE THESIS SHOULD ALSO BE ABLE TO PROVE THAT BRINGING IN THE SURROUNDING COMMUNITY, AND PROVIDING CERTAIN SERVICES, MAY BRING IN MORE DONATIONS AND FUNDING.

# PERFORMANCE CRITERIA

## PERFORMANCE MEASURE ANALYSIS:

### HEALING

COUNTING THREATS: TO MEASURE THE NUMBER OF POTENTIAL "THREATS" THAT CAN BE FOUND WITHIN THE SPACES OF THIS THESIS WILL MOST LIKELY BE DONE THROUGH A PLAN ANALYSIS. FOLLOWING THE METHODS OF MATTHEW FINN IN POSTTRAUMATIC UNDERSTANDING, A DIAGRAMMATIC ANALYSIS OF ASSESSMENT OF THE THERAPY ROOMS SHOULD BE DONE. SUCCESS OF THESE SPACES WILL DEPEND ON HOW MANY MOVES IT TAKES TO FULLY ASSESS THE SPACE.

CALMING DESIGN: THIS IS A MORE DIFFICULT FACTOR TO MEASURE AS IT IS VERY OBJECTIVE. WHILE THERE ARE SOME STUDIES ON THE PSYCHOLOGY OF CERTAIN COLORS OR MATERIALS THAT COULD BE CITED, FURTHER PROOF OF THE CALMING EFFECT WILL REQUIRE THE OPINION OF THE OBSERVER. BY SHOWING IMAGES OF CURRENT THERAPY SPACES AT THE NEST, AND COMPARING THEM TO RENDERINGS OF DESIGNED THERAPY SPACES WITHIN THIS THESIS PROJECT, THE VIEWER CAN DEVELOP THEIR OWN OPINIONS REGARDING THE SUCCESS OF THE CALMING DESIGN.

NEXT TO
NEAR TO
NO CONTACT REQUIRED

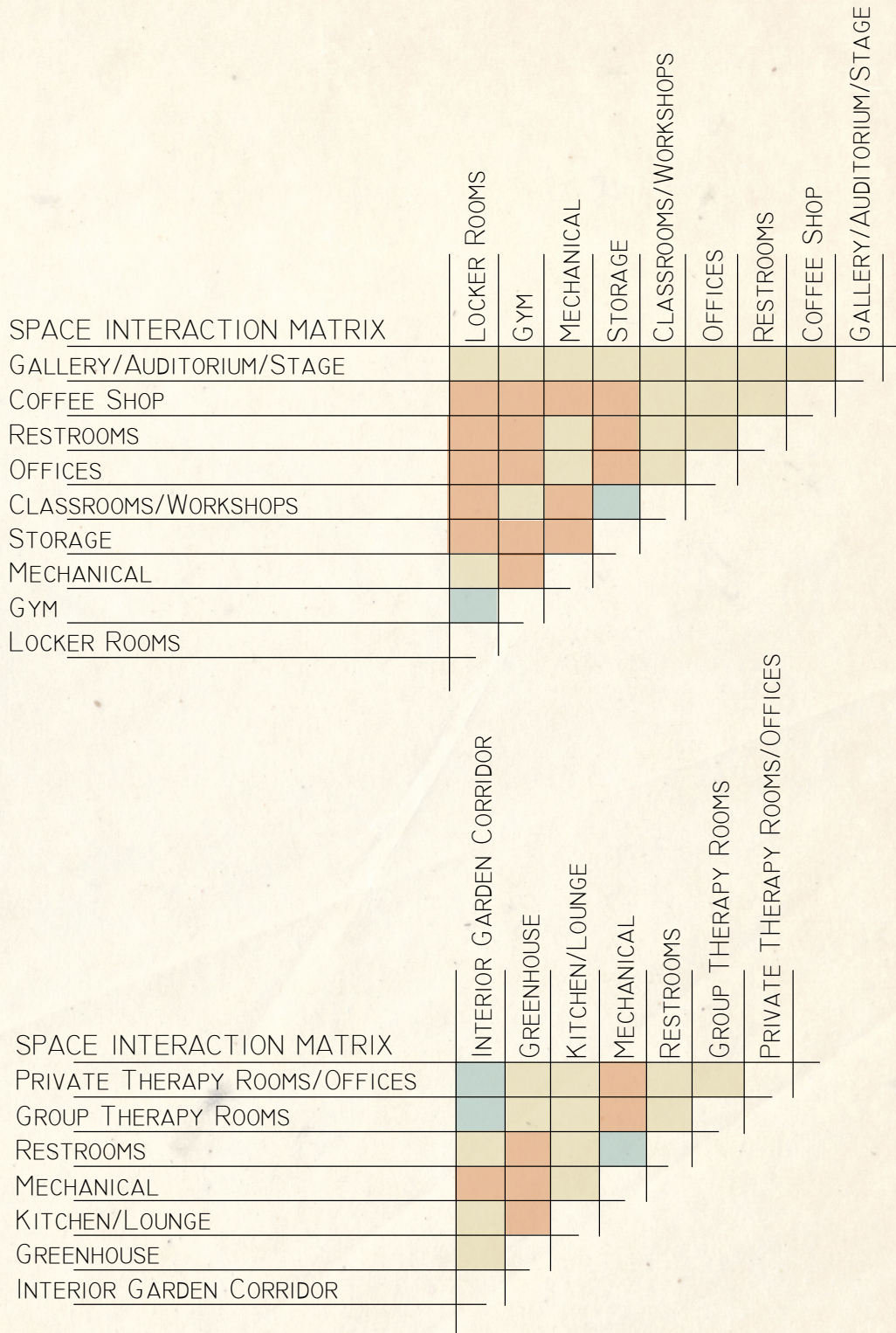


FIGURE 120

# PERFORMANCE CRITERIA

## PERFORMANCE MEASURE ANALYSIS:

### TRANSITION

**PUBLIC VS PRIVATE SPACE/INTEGRATION:** THIS FACTOR CAN BE ANALYZED BY EXAMINING THE SITE AND FLOOR PLANS. THIS ANALYSIS SHOULD SHOW THE DIFFERENCES AND SEPARATION BETWEEN PUBLIC AND PRIVATE SPACE, THE TRANSITIONS, AND THE BARRIERS PRESERVING PRIVACY FROM PUBLIC AREAS. THE INTEGRATION OF THE PUBLIC WITHIN THE EAGLE'S NEST CAN MOSTLY BE ASSESSED BY EXAMINING THE PROGRAM AND WHEN/HOW OFTEN PUBLIC SPACES WILL BE USED.

**PRESERVED FEATURES:** THE DESIGN OF THIS THESIS PROJECT SHOULD WORK TO PRESERVE SOME OF THE ORIGINAL FEATURES AND HISTORY OF THE SITE. THIS IS NOT SOMETHING TO BE MEASURED, BUT SHOWN THROUGH DETAILS, DRAWINGS, AND RENDERINGS.

### FEASIBILITY

**BUILDING AND CONSTRUCTION KNOWLEDGE ONSITE:** IT IS IMPORTANT THAT THE VETERANS ARE INVOLVED IN THE BUILDING PROCESS OF THIS THESIS DESIGN. THE VETERANS DO ALL THE BUILDING AND RENOVATION WORK ON THE SITE. EVALUATING SKILLS THAT THE VETERANS POSSESS WILL BE CRUCIAL. A SUCCESSFUL DESIGN SHOULD INCORPORATE AND FEATURES THE SKILLS THAT THE VETERANS HAVE.

**FUNDING POTENTIAL:** THIS THESIS WILL JUSTIFY THE COST OF CONSTRUCTION BY PROVING THAT BRINGING IN THE COMMUNITY AND PROVIDING A SERVICE TO THE COMMUNITY WILL SPREAD THE MESSAGE OF THE NEST FATHER AND BRING IN MORE DONATIONS. TO PROVE THIS WILL REQUIRE CASE STUDIES ON PROJECTS THAT HAVE BROUGHT IN ADDITIONAL FUNDING TO THE FACILITY. SUCCESS WILL DEPEND ON THE FINDING OF THESE CASE STUDIES.



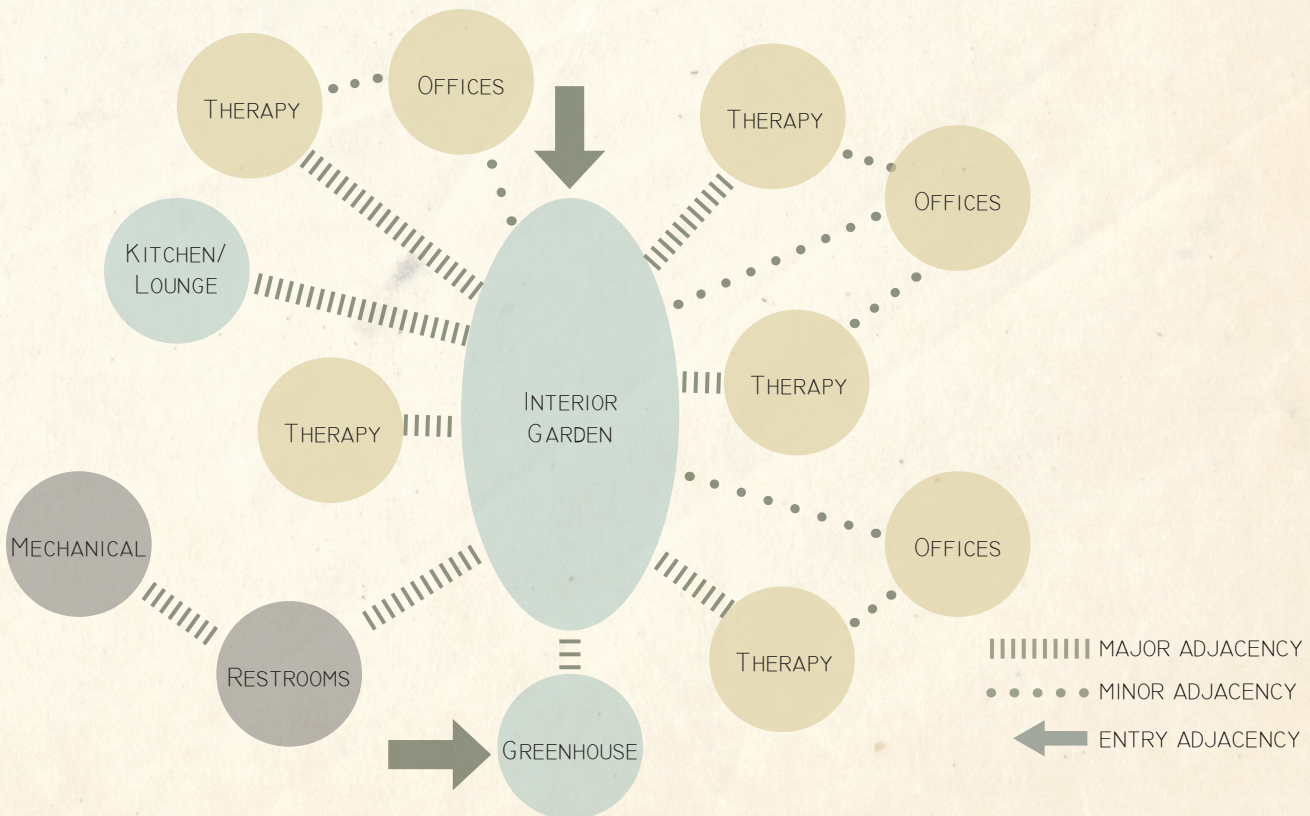
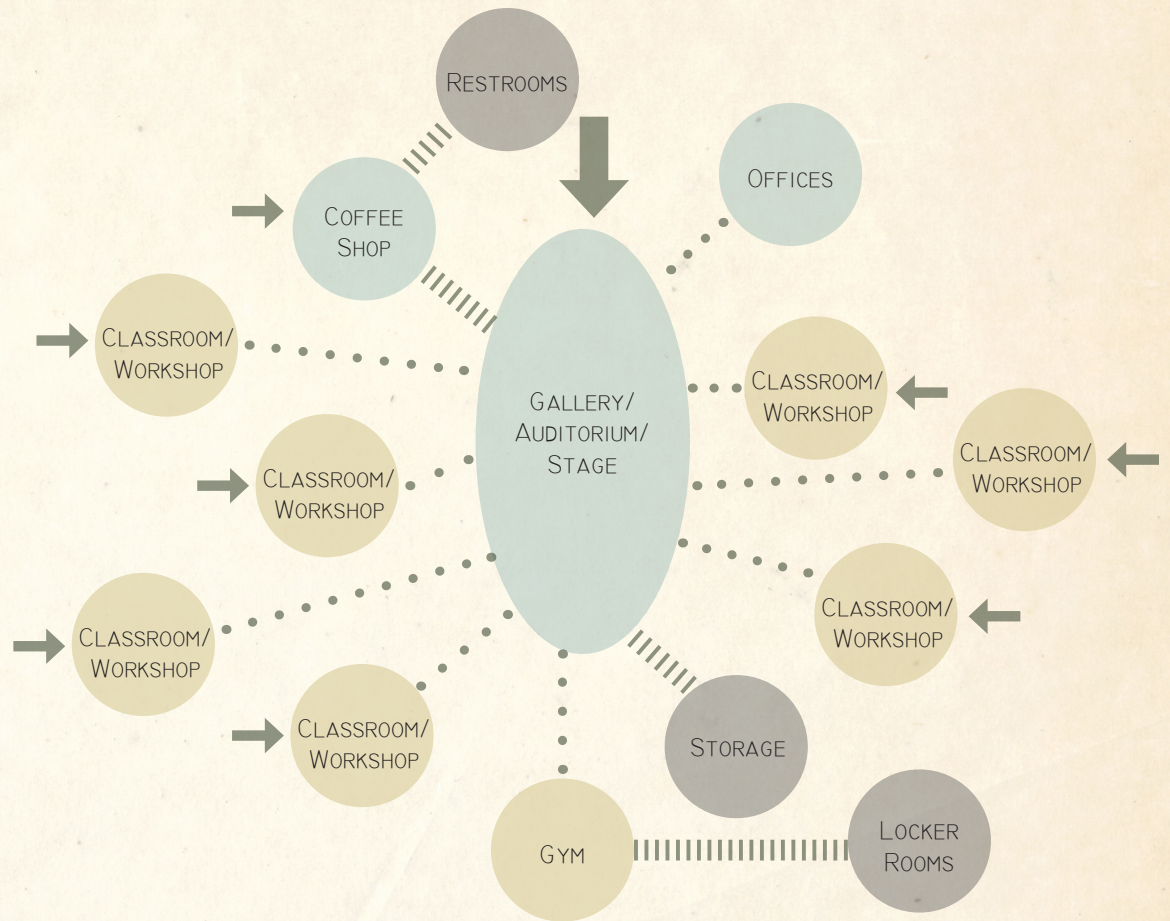


FIGURE 121

# MASTER PLAN

## **FIRST SCHOOL BUILDING**

THIS BUILDING IS CURRENTLY UNOCCUPIED. THIS WILL BE RENOVATED /RESTORED TO BE USED AS OFFICES FOR EMPLOYEES AND VOLUNTEERS. THIS WILL HELP KEEP VISITORS ON THE PUBLIC (SOUTH) PART OF THE SITE.

## **RESIDENTIAL BUILDINGS - OCCUPIED**

THESE ARE OLD DORMITORIES THAT HAVE BEEN RESTORED AND ARE OCCUPIED BY THE VETERANS. THESE BUILDINGS ONLY REQUIRE MINIMAL FINISH UPGRADES AS WELL AS ADA/ACCESSIBILITY UPGRADES.

## **EMPTY DORMITORIES**

THESE ARE OLD DORMITORIES THAT ARE CURRENTLY EMPTY. THESE REQUIRE RENOVATION TO BE USED AS RESIDENTIAL UNITS FOR THE GUYS AS WELL AS ACCESSIBILITY UPGRADES.

## **RENOVATED/RESTORED BUILDINGS**

THESE BUILDINGS INCLUDE THE CHAPEL, HEADMISTRESS' HOUSE, AND THE EXISTING THERAPY/COMMONS BUILDING. THESE BUILDINGS REQUIRE NO CHANGES.

## **STORAGE/UTILITY BUILDINGS**

THESE BUILDINGS ARE CURRENTLY USED FOR STORAGE AND UTILITY PURPOSES. THEY WILL NOT CHANGE AS THE SITE REQUIRES LARGE AMOUNTS OF STORAGE.

## **MAIN INTERVENTIONS**

THESE BUILDINGS INCLUDE A RENOVATED AUDITORIUM AND A NEW THERAPY BUILDING. THESE WILL BE THE FOCUS OF THIS THESIS.

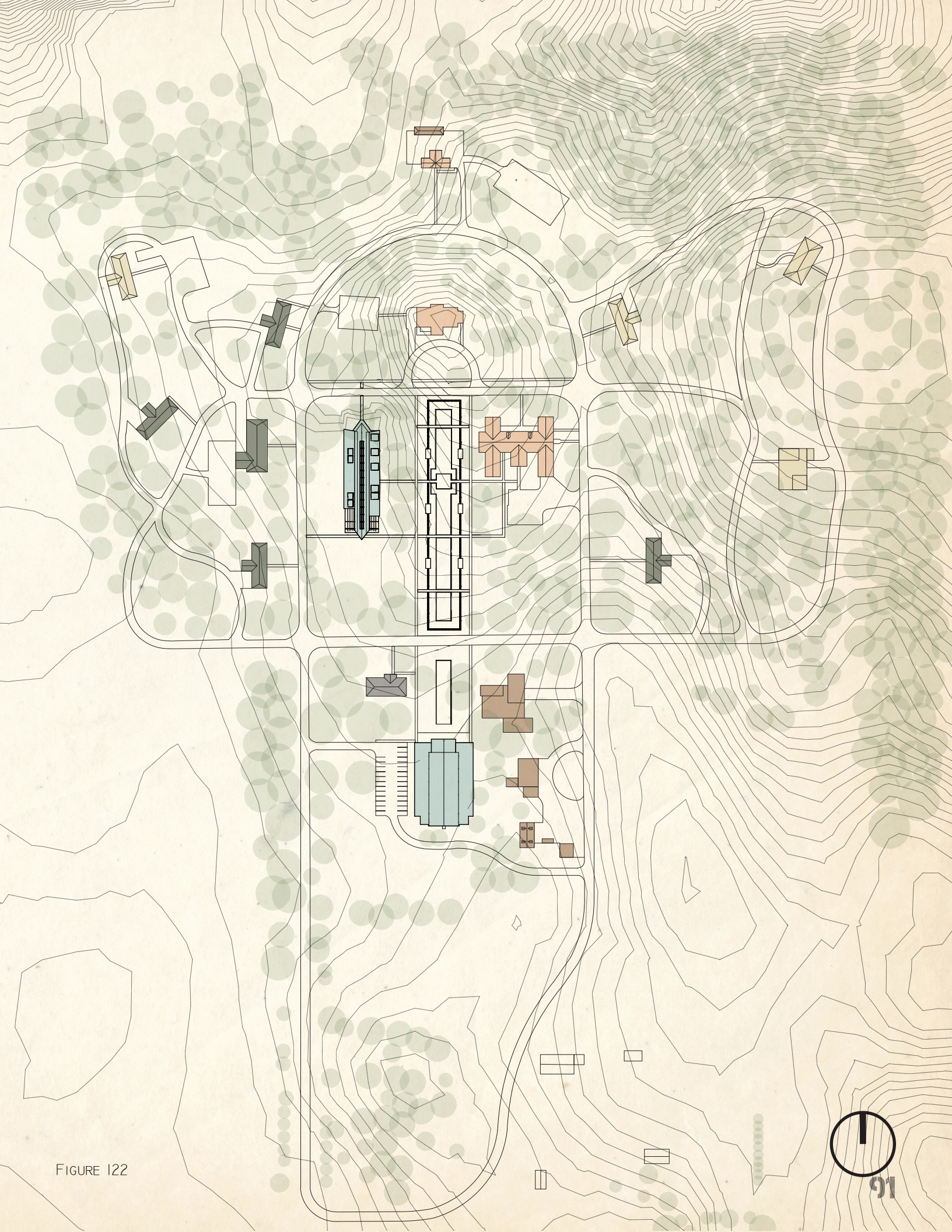


FIGURE 122

# FINAL DESIGN COMPONENTS

THIS PROJECT CONTAINS TWO MAIN ASPECTS OF VETERAN HEALING:  
THE INTERNAL AND THE EXTERNAL.

## EXTERNAL HEALING

THE EXTERNAL SIDE OF HEALING INVOLVES THE TRANSITION OF THE VETERAN FROM A MILITARY TO A CIVILIAN LIFESTYLE. THIS IS AIMED TO PREPARE THEM TO RE-INTEGRATE BACK INTO SOCIETY. THIS ALSO INVOLVES TRAINING AND THE INCLUSION OF CAREER RESOURCES SO VETERANS CAN LEARN VALUABLE SKILLS TO FIND JOBS AND SUPPORT THEMSELVES. THIS ASPECT OF HEALING WILL BE INCLUDED IN A RENOVATION OF THE ORIGINAL AUDITORIUM ON THE SITE.

## INTERNAL HEALING

THE INTERNAL SIDE OF VETERAN HEALING IS WITHIN THE MIND. THIS INVOLVES THE THERAPY THAT WILL TAKE PLACE ON THE SITE FOR THE HEALING OF PTSD. VETERANS MUST LEARN TO COPE WITH THEIR MENTAL AND PHYSICAL WAR WOUNDS THROUGH THERAPY. THIS ASPECT OF HEALING WILL BE EXEMPLIFIED THROUGH THE NEW THERAPY BUILDING ON THE SITE.

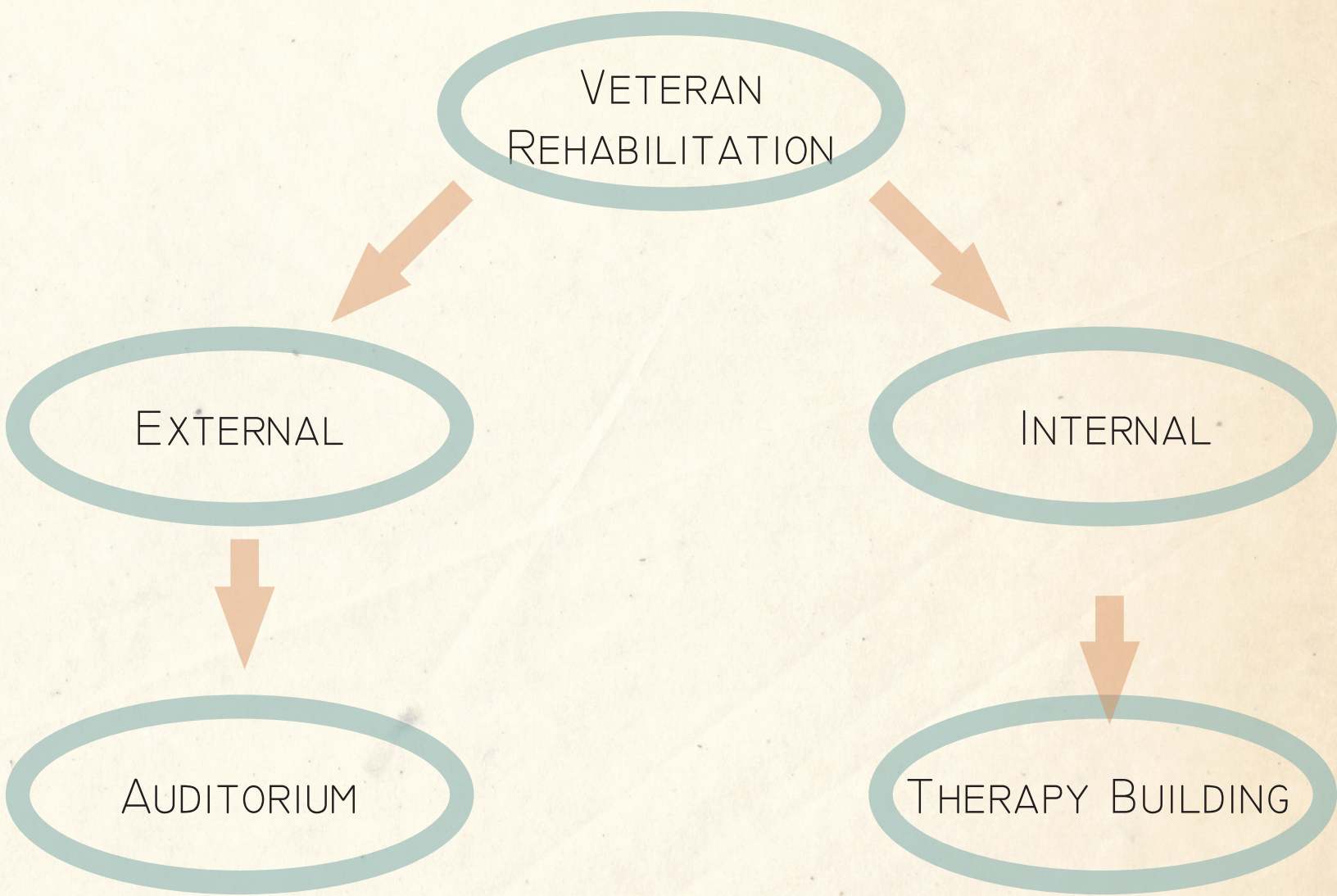


FIGURE 123

# EXISTING AUDITORIUM

THE EXISTING AUDITORIUM FEATURES MANY OF ITS ORIGINAL DETAILS, THOUGH OF VARYING CONDITIONS. THE NORTH ELEVATION WILL REQUIRE REDESIGN, AS THE CURRENT ENTRY IS IN BAD SHAPE AND IS VERY DARK. THIS SHOULD BE MADE BRIGHTER AND MORE INVITING FOR BOTH THE VETS AND THE SURROUNDING COMMUNITY.

MANY DETAILS ON THE BUILDING SHOULD BE KEPT AND RESTORED. THESE INCLUDE THE ORIGINAL COLUMNS, ORIGINAL WINDOWS, DOORS AND DECORATIVE FEATURES.



FIGURE 124



FIGURE 125



FIGURE 126

# EXISTING AUDITORIUM



FIGURE 127

THE INTERIOR OF THE AUDITORIUM REQUIRES A LOT OF WORK BUT MANY OF THE ORIGINAL DETAILS ARE RESTORABLE. THESE INCLUDE THE ORIGINAL WOODWORK, WOOD FLOORS, AND CEILING IN THE MAIN AUDITORIUM AREA.

RENOVATION OF THE CLASSROOMS AREAS WILL REQUIRE FINISH UPGRADES AND REMOVING THE DROP CEILINGS THAT BLOCK THE WINDOWS.



FIGURE 128



FIGURE 129

# EXISTING AUDITORIUM

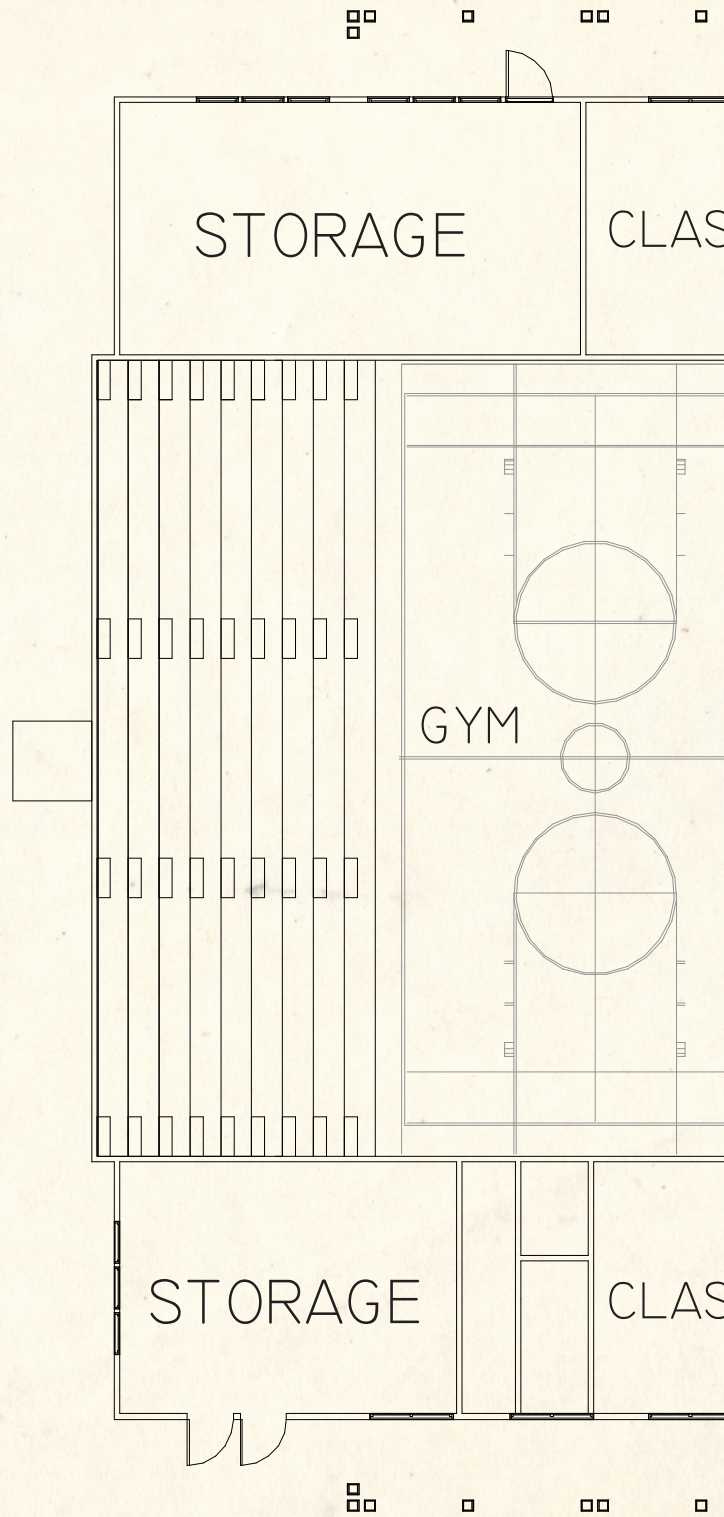
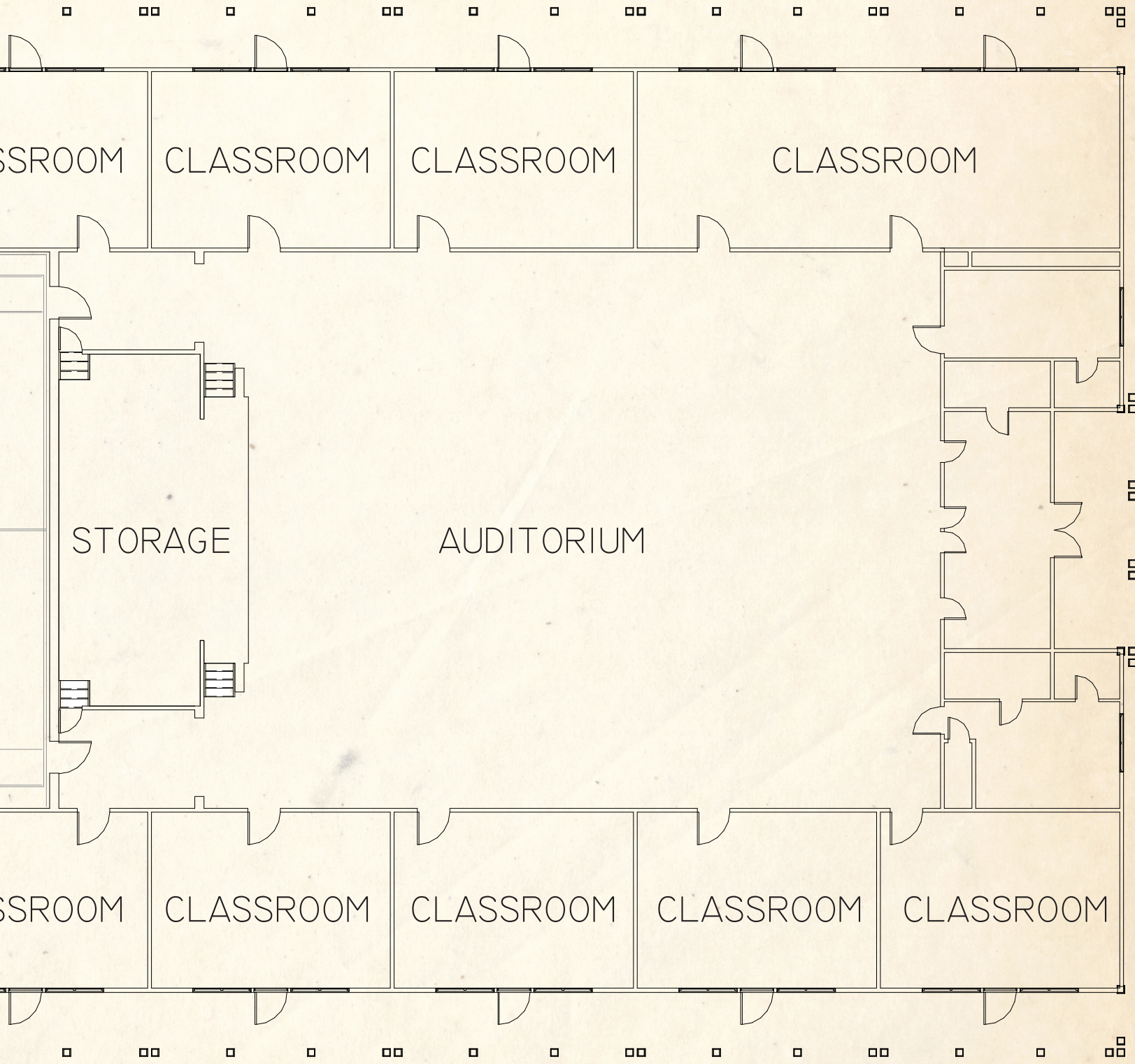


FIGURE 130





# AUDITORIUM RENOVATION

THE RENOVATION OF THE AUDITORIUM AIMS TO TURN IT INTO A FLEXIBLE MAKERSPACE AND LEARNING CENTER. THE PERIMETER CLASSROOMS WILL BE TURNED INTO FLEXIBLE CLASSROOMS AND WORKSHOPS INCLUDING AN OFFICE SPACE AND A COFFEE SHOP. THE INTERIOR AUDITORIUM WILL BE TRANSFORMED INTO A GALLERY WITH MOVABLE WALLS SO THE SPACE MAY STILL BE USED FOR EVENTS. THE GYM WILL BE KEPT AS A GYM WITH RENOVATIONS TO ALLOW EQUIPMENT. LOCKER ROOMS WILL BE ADDED ADJACENT TO THE GYM.

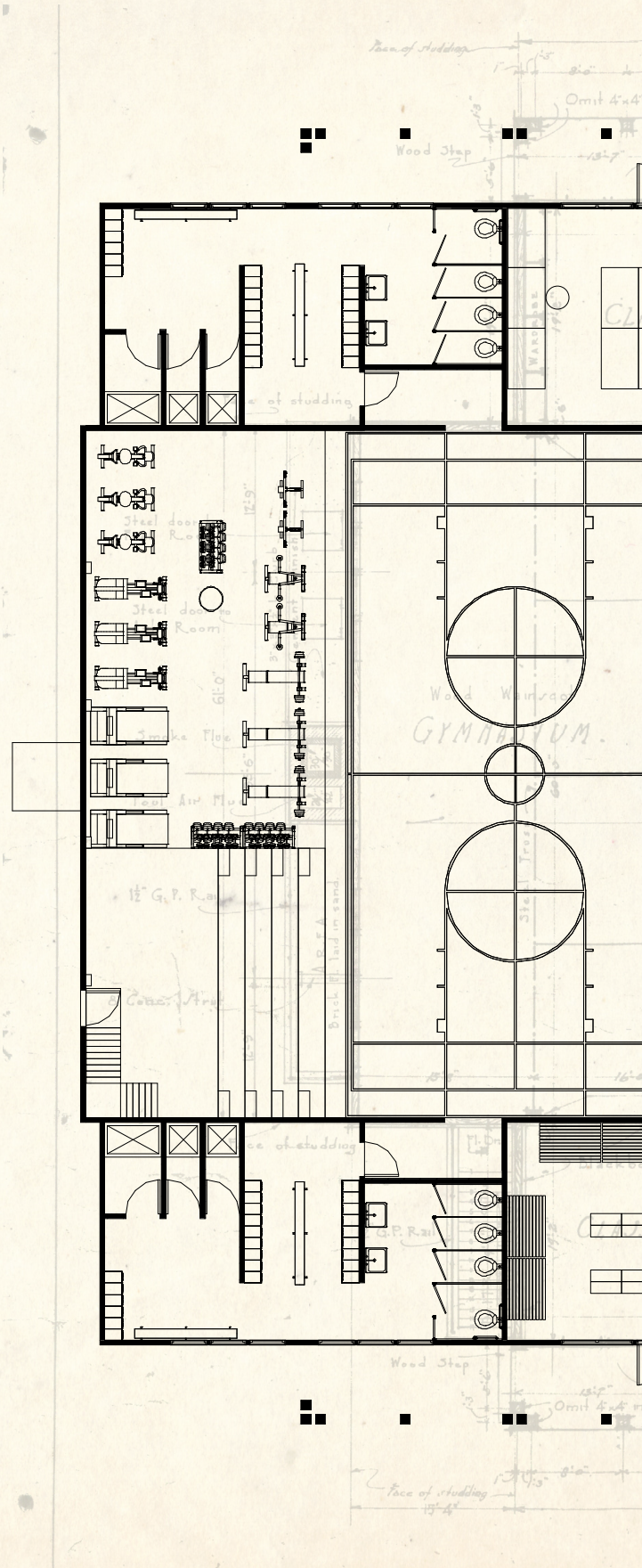


FIGURE 131



# AUDITORIUM RENOVATION

FLEXIBLE OFFICE SPACE

SCHOOL I  
HOME SCHOOL

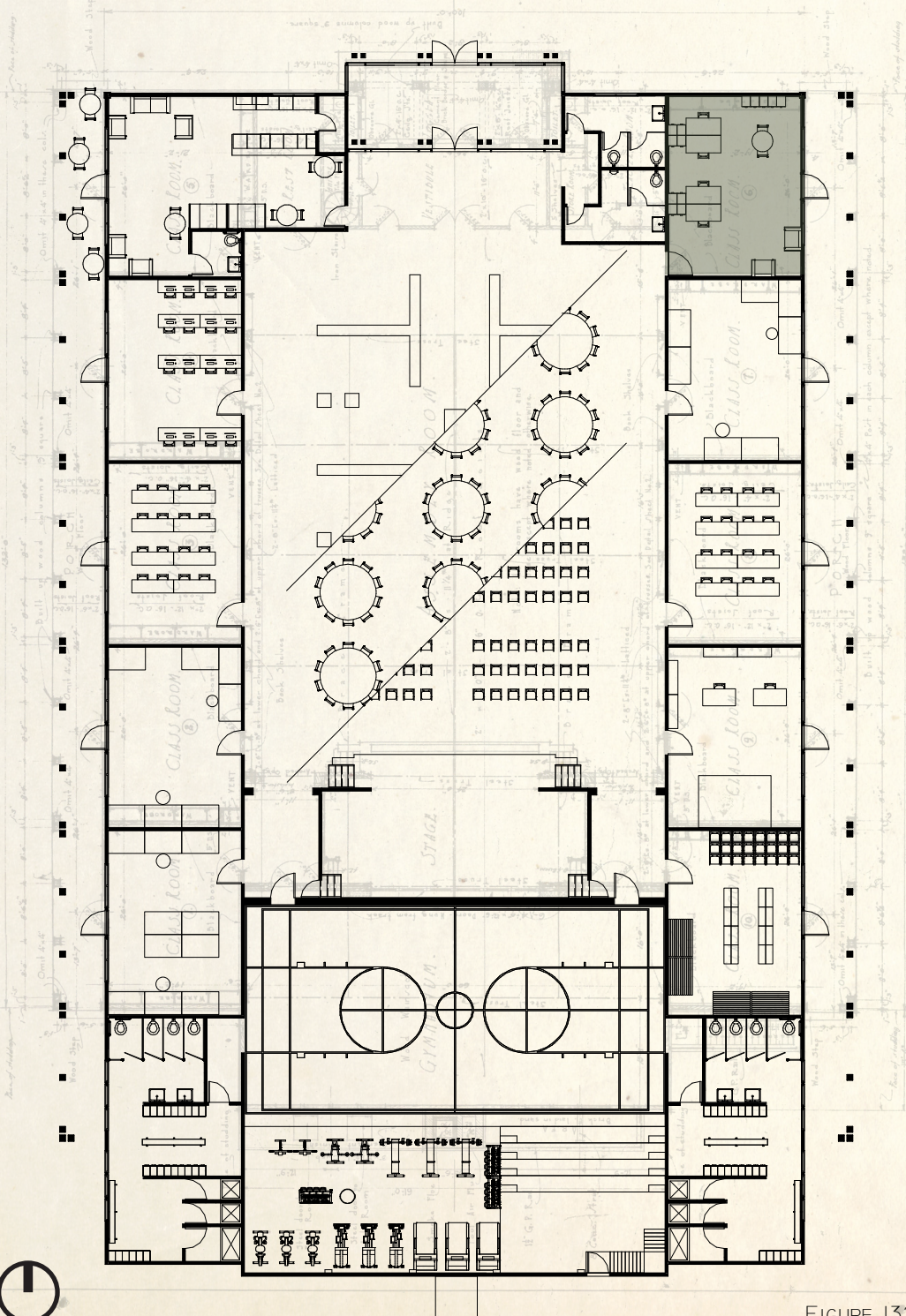


FIGURE 132



FIGURE 133

# AUDITORIUM RENOVATION

COFFEE SHOP

SCHOOL I  
HOME SCHOOL

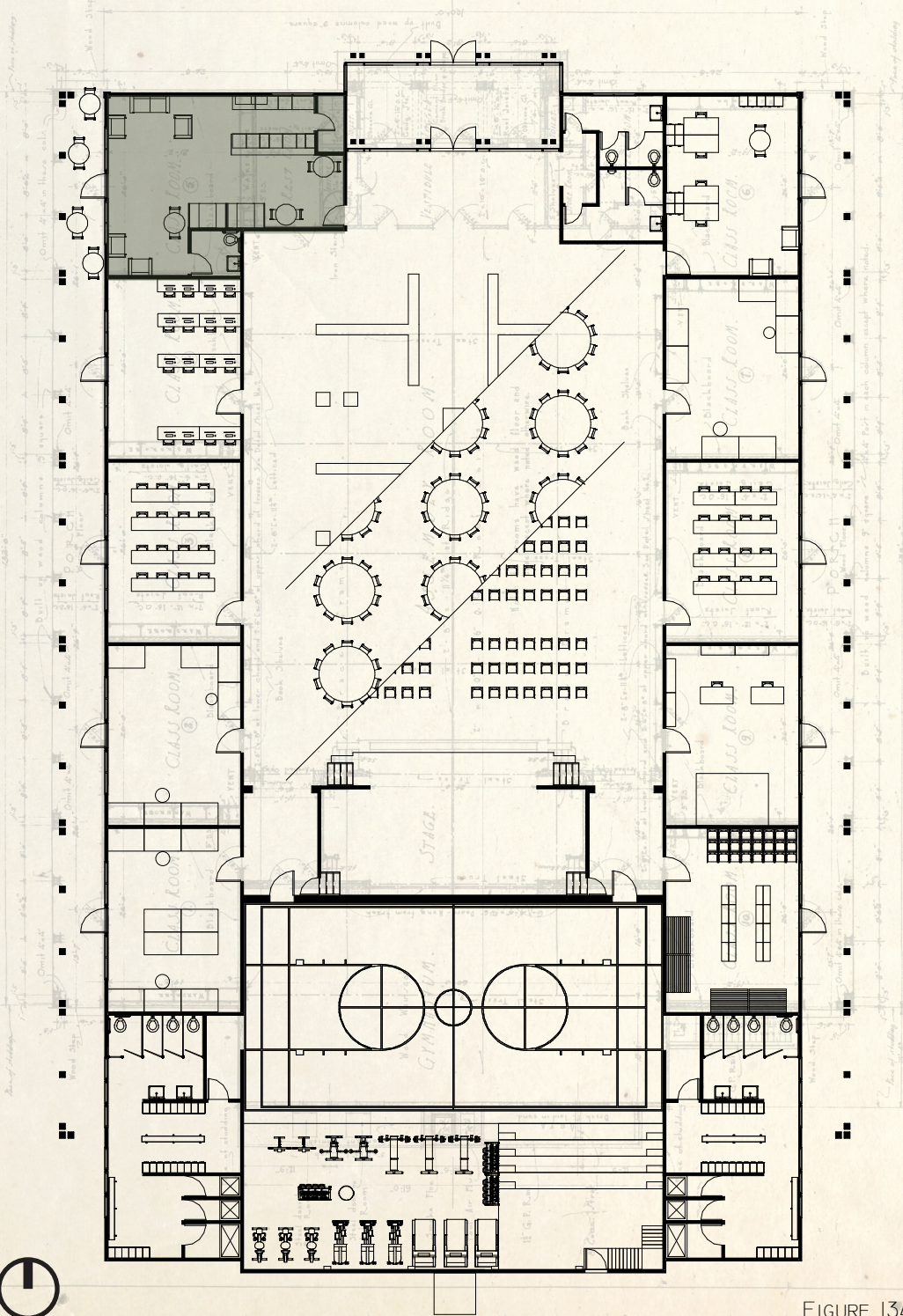


FIGURE 134



FIGURE 135

# AUDITORIUM RENOVATION

GYM

SCHOOL I  
HOME SCHOOL

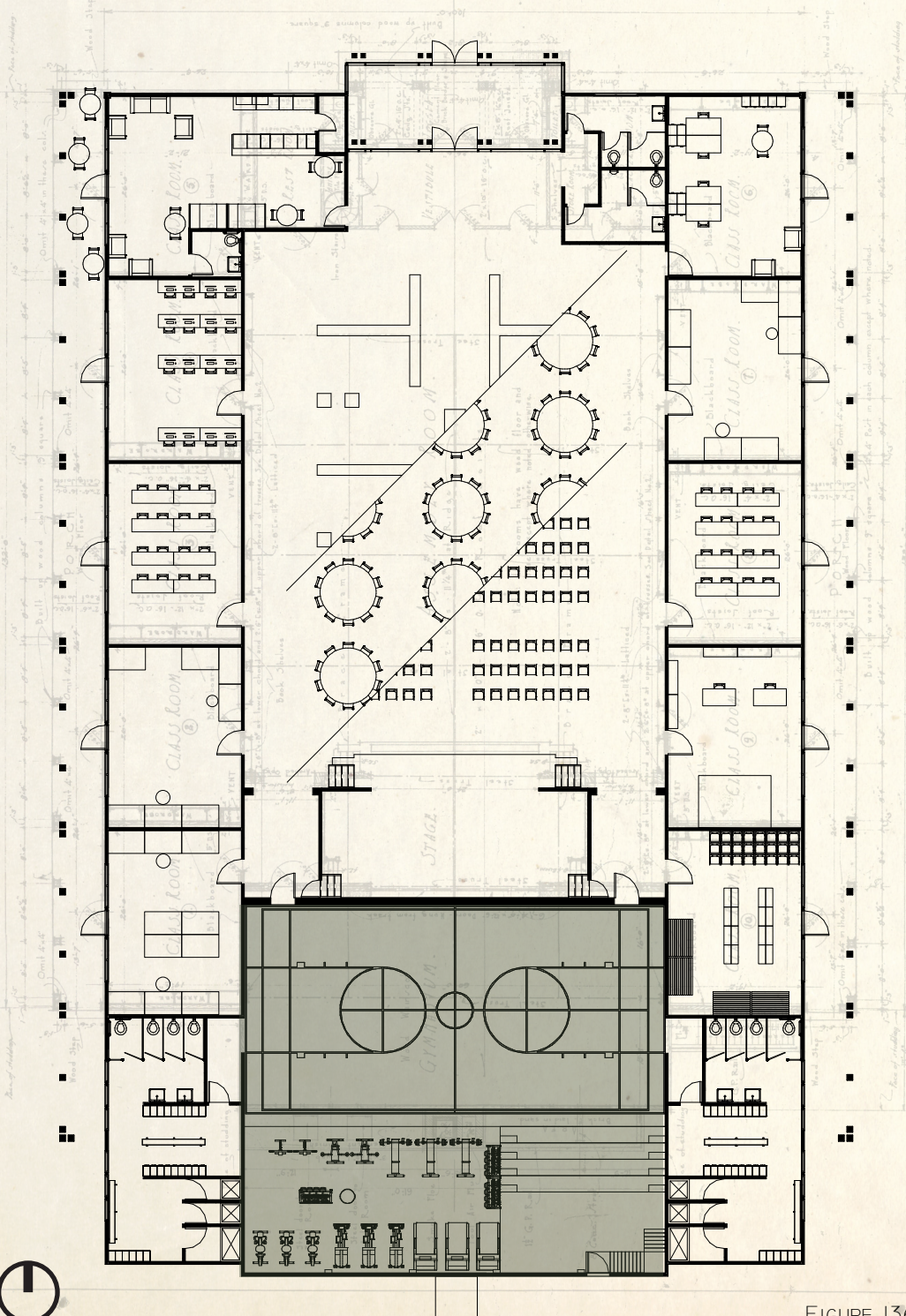


FIGURE 136



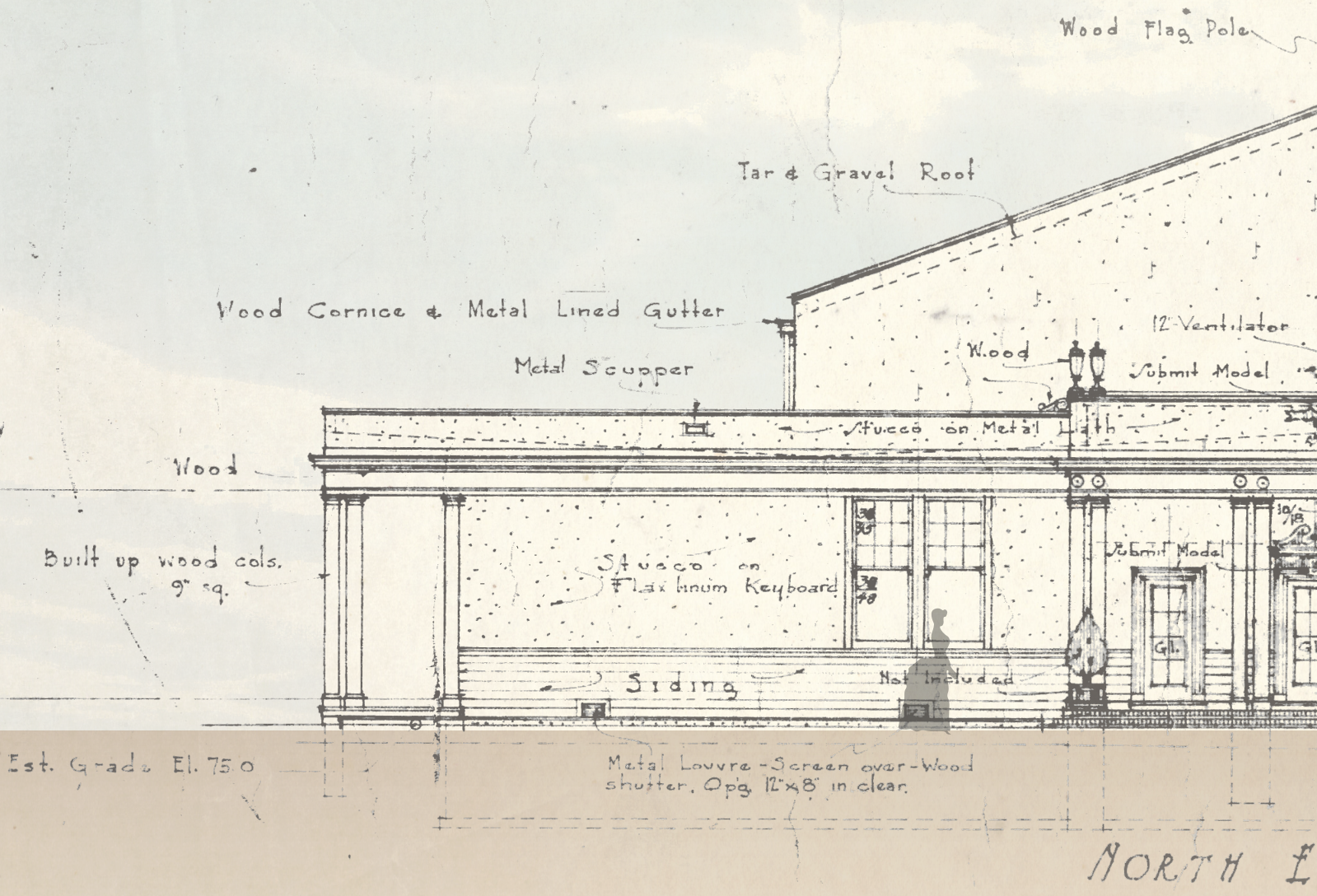


FIGURE 137

# AUDITORIUM RENOVATION

## MAIN ENTRY - NORTH

THE REDESIGN OF THE ENTRY TO THE AUDITORIUM TAKES CARE THE HONOR THE ORIGINAL DETAILS WHILE BRINGING IN MORE LIGHT AND MAKING IT MORE INVITING. THE NEW COLUMNS FOLLOW THE LINES AND STYLE OF THE ORIGINAL COLUMNS AND ARE PLACES TWO NEXT TO EACH OTHER. THE MULLIONS ON THE GLASS FOLLOW THE MUNTINS OF THE ORIGINAL WINDOWS ON THE BUILDING.





ELEVATION.

# NEW THERAPY BUILDING

## PROCESS

WHEN DESIGNING THE NEW THERAPY BUILDING, THERE WERE ASPECTS TO THE DESIGN THAT WERE VERY IMPORTANT. FROM THE START, IT WAS ALWAYS IMPORTANT TO HAVE AN INTERNAL GARDEN CORRIDOR WITH A WATER FEATURE RUNNING ALONG IT. LETTING IN A LOT OF NATURAL LIGHT WAS ALSO VERY IMPORTANT WITH THERAPY ROOMS THAT DIFFUSED THE NATURAL LIGHT.

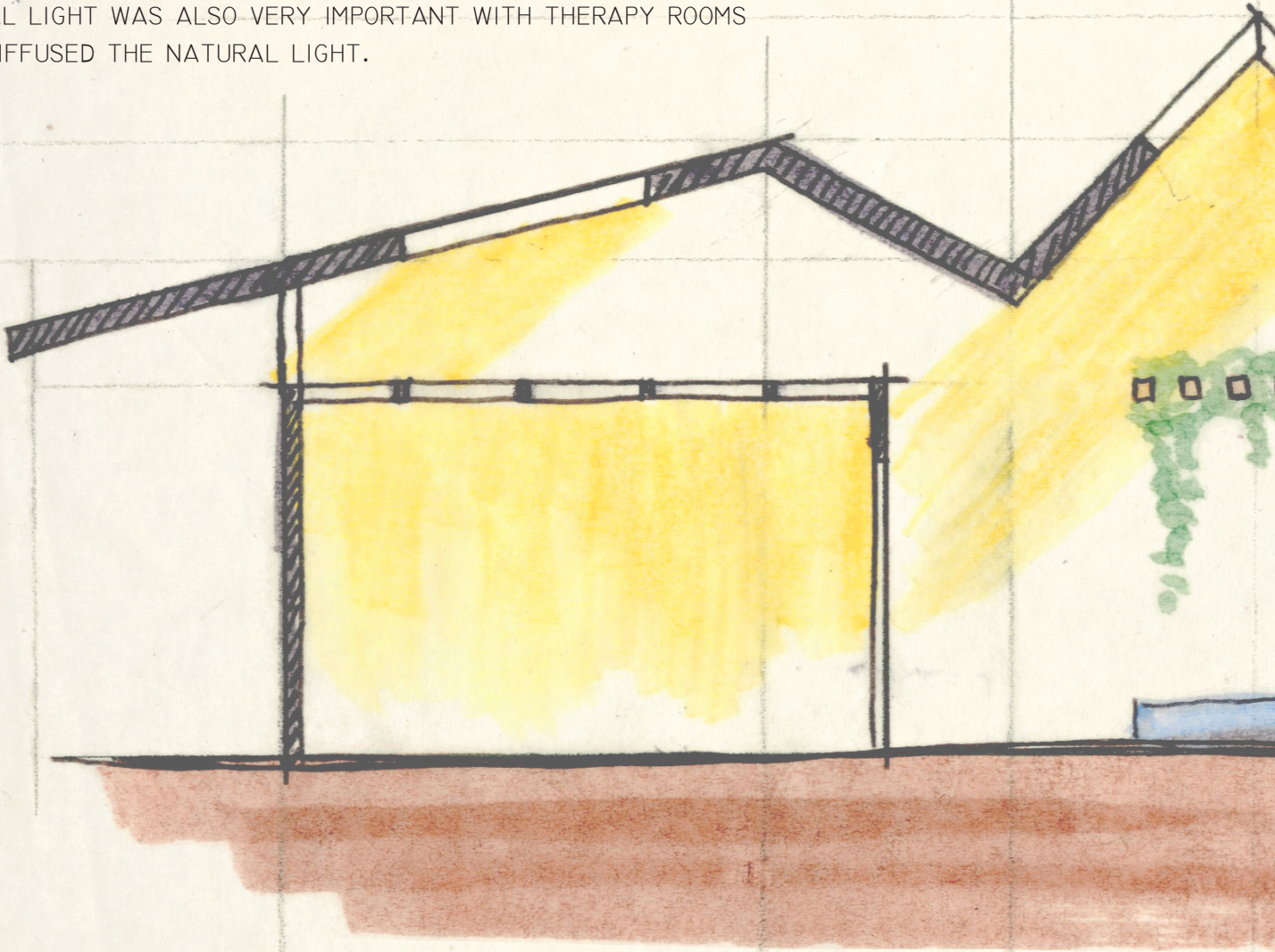
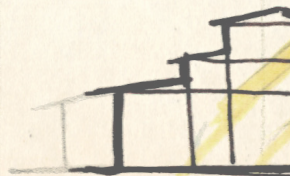
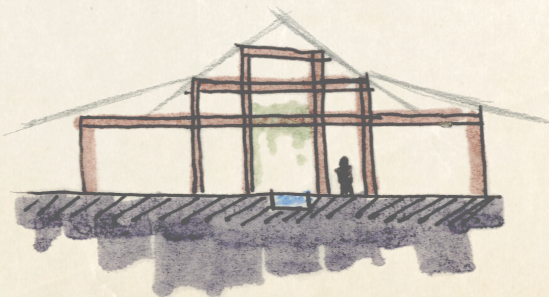
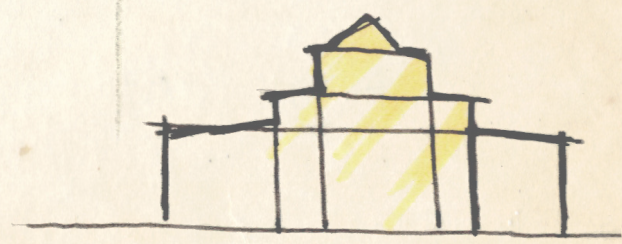
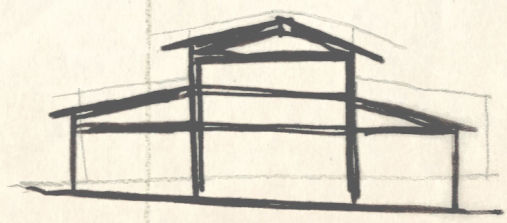
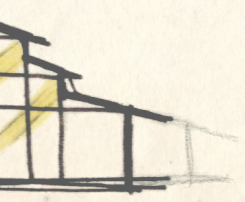
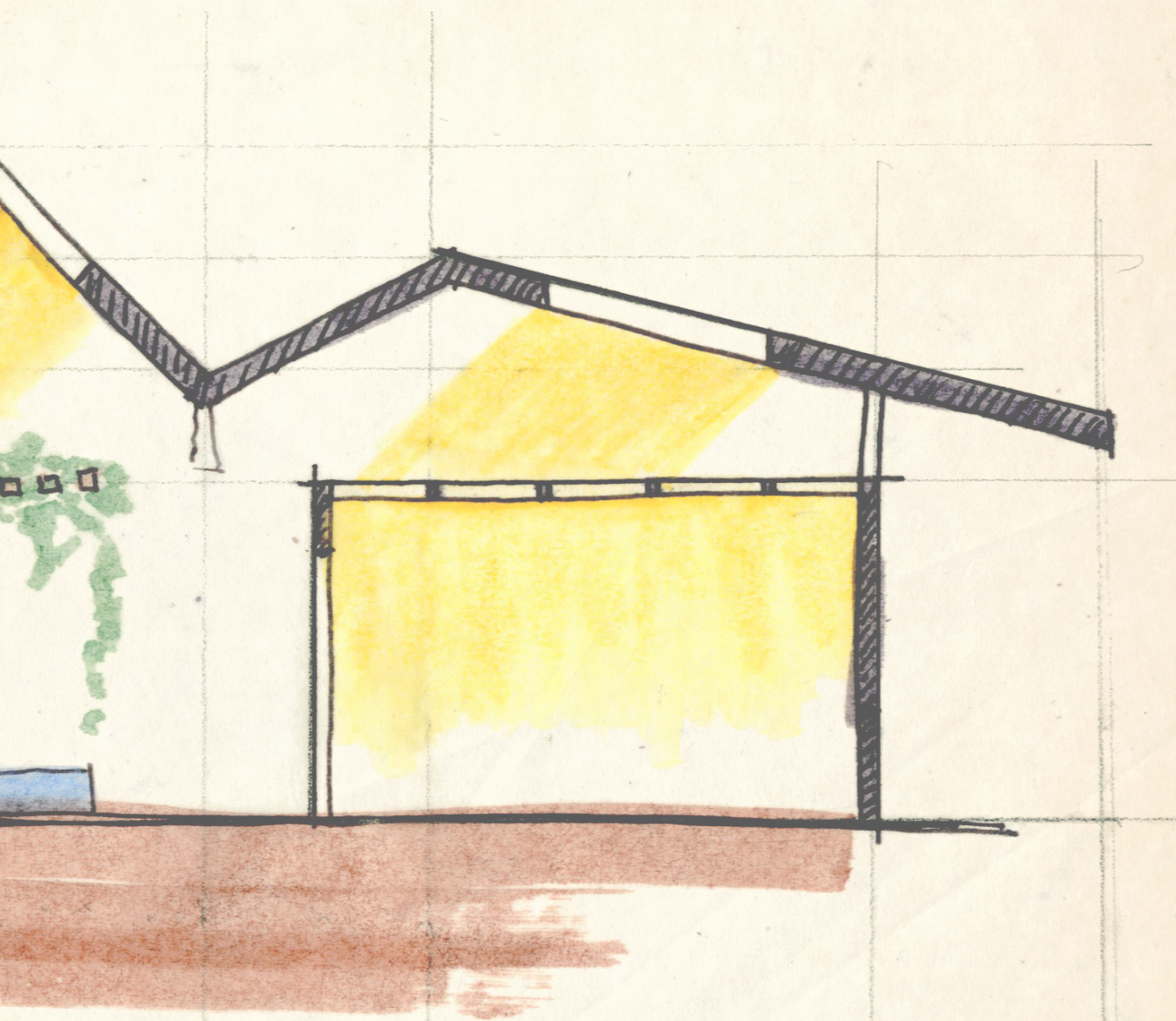


FIGURE 139





# NEW THERAPY BUILDING

FLOOR PLAN

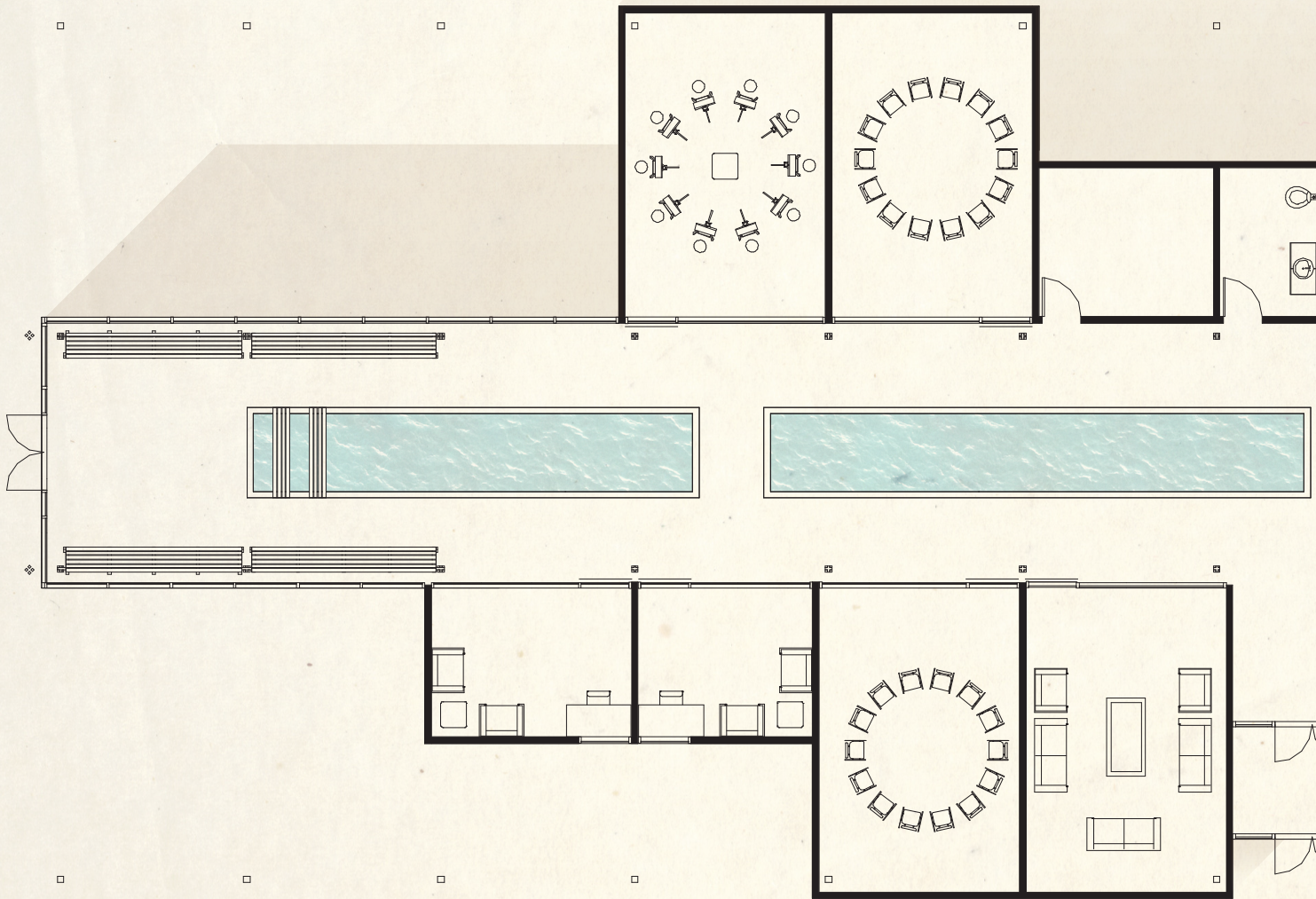


FIGURE 140



# NEW THERAPY BUILDING

GARDEN CORRIDOR



FIGURE 141





FIGURE 142

# THERAPY BUILDING

## THERAPY SPACES

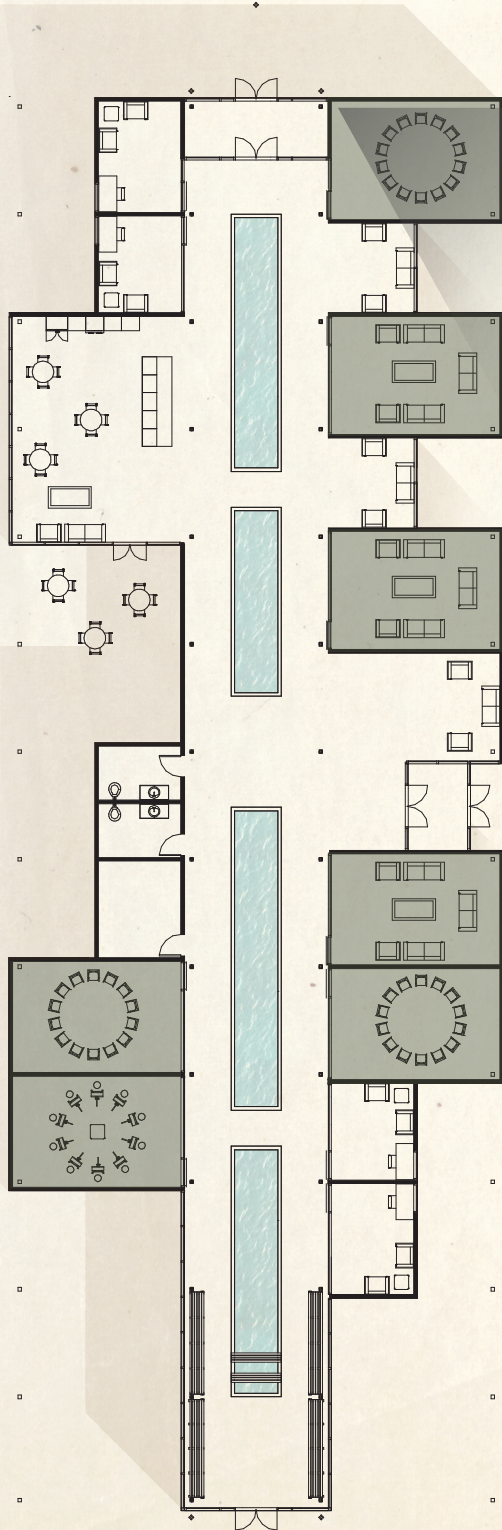


FIGURE 143



FIGURE 144

# NEW THERAPY BUILDING

KITCHEN/LOUNGE

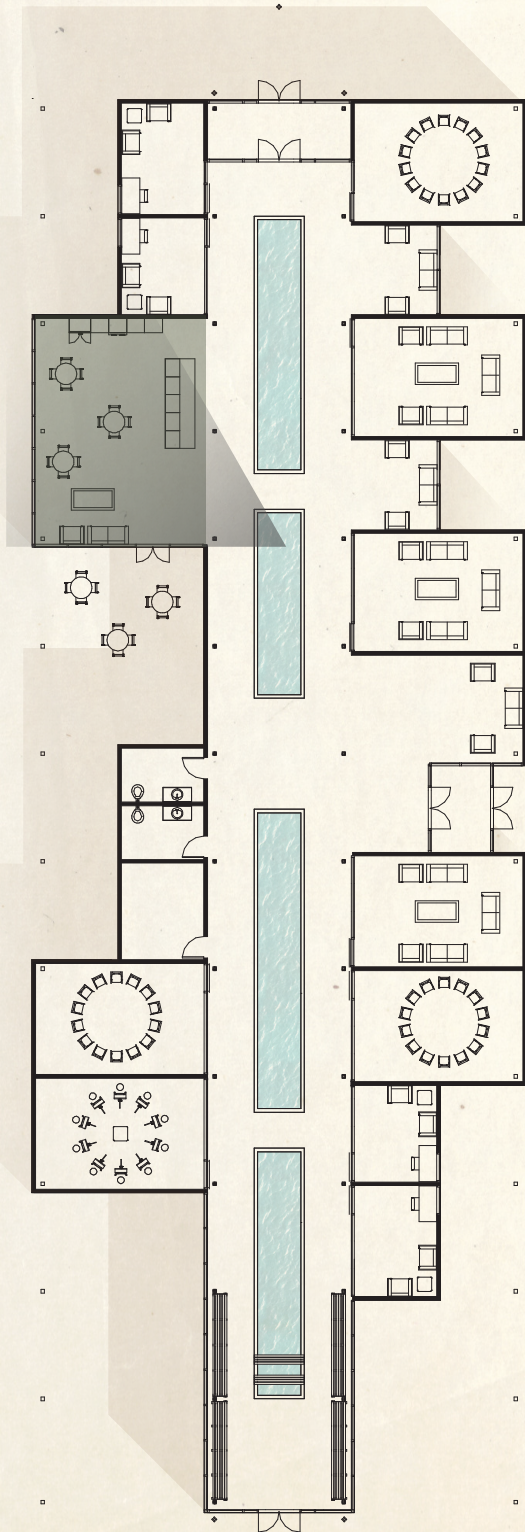


FIGURE 145



FIGURE 146

# NEW THERAPY BUILDING

EXTERIOR

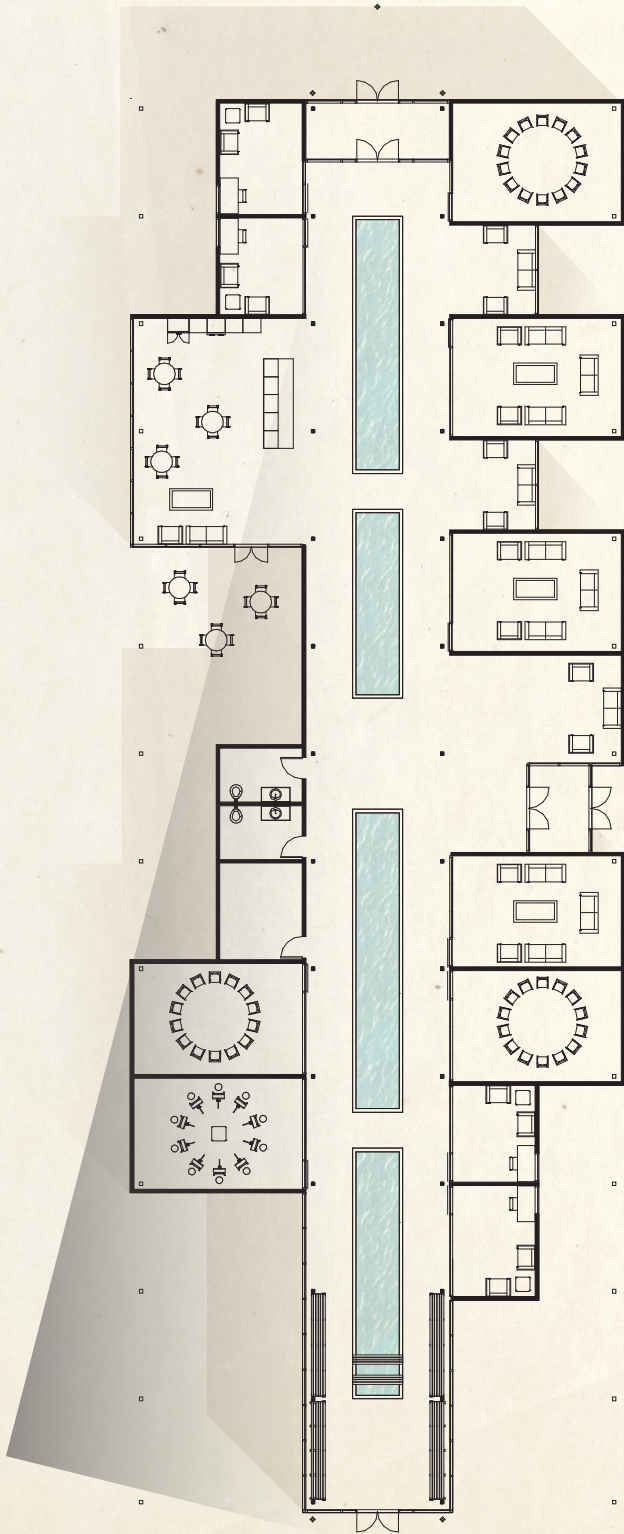


FIGURE 147



FIGURE 148

# NEW THERAPY BUILDING

GREENHOUSE

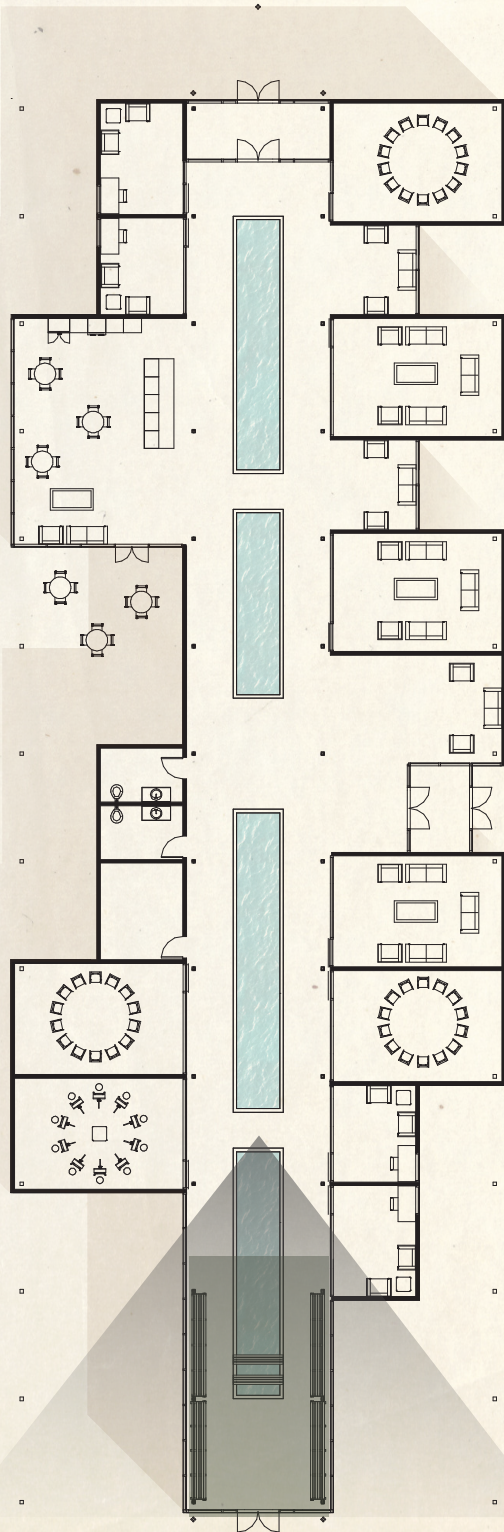


FIGURE 149





FIGURE 150

# DESIGNING FOR PTSD

## THERAPY SPACES DESIGNED FOR MINIMAL THREATS

INTERIOR POND

SHADED DOORS AND WINDOWS

BIOPHILIC DESIGN AND CONNECTION TO NATURE

WARM, NATURAL MATERIALS

LOGICAL LAYOUT

THE MOST IMPORTANT ASPECT TO DESIGNING FOR PTSD WAS THE DESIGN OF THE THERAPY SPACES. THESE SPACES NEEDED TO BE DESIGN TO HAVE ABSOLUTELY MINIMAL PERCEIVED "THREATS" SO THAT VETERANS CAN FULLY RELAX WITHIN THEM TO ALLOW THEM TO FOCUS ON THEIR THERAPY SESSIONS. A SPECIALIZED CEILING STRUCTURES DIFFUSES NATURAL LIGHT FROM SKYLIGHTS ABOVE. THIS CREATES AN EVEN LIGHT ENVIRONMENT SO THERE ARE NO HARSH SHADOWS OR DARK CORNERS.

THE SIMPLE DESIGN OF THE ROOMS ALSO PREVENTS ANY HIDDEN CORNERS. WHEN ENTERING THE ROOM, THE VETERAN CAN FULLY ASSESS IT FOR DANGERS WITHOUT HAVING THE CHECK OUT ADDITIONAL CORNERS OR DOORWAYS. WINDOWS ARE ONE OF THE GREATEST AND MOST COMMON THREATS TO VETERANS. IN RESPONSE, THE THERAPY FEATURE NO EXTERNAL WINDOWS. THE DOORS TO THE ROOMS ARE SLIDING DOOR SO THERE IS NOT NEED TO INSET THEM FROM THE CORRIDOR WHICH WOULD CREATE HIDDEN CORNERS.

TO KEEP THE ROOM FROM FEELING TOO ENCLOSED, THE WALLS TO THE CORRIDOR ARE LAMINATED GLASS WITH NATURAL MATERIALS SUCH AS GRASS LAMINATED WITHIN. THIS PROVIDES A SENSE OF OPENNESS WHILE MAINTAINING PRIVACY.

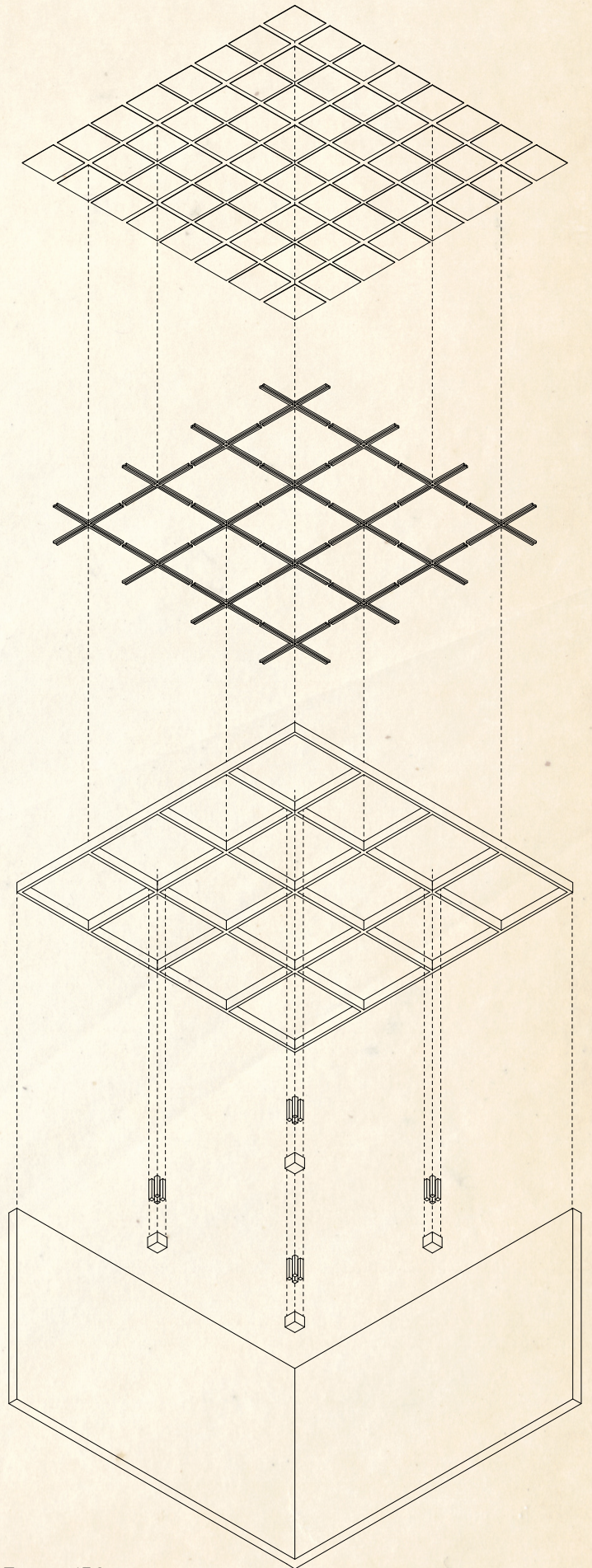
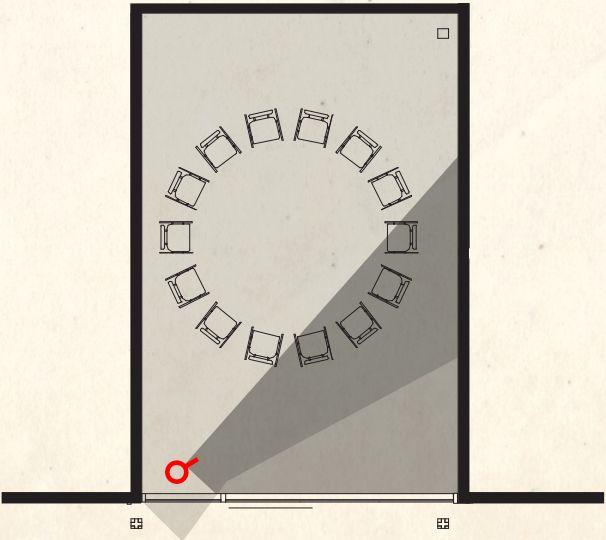
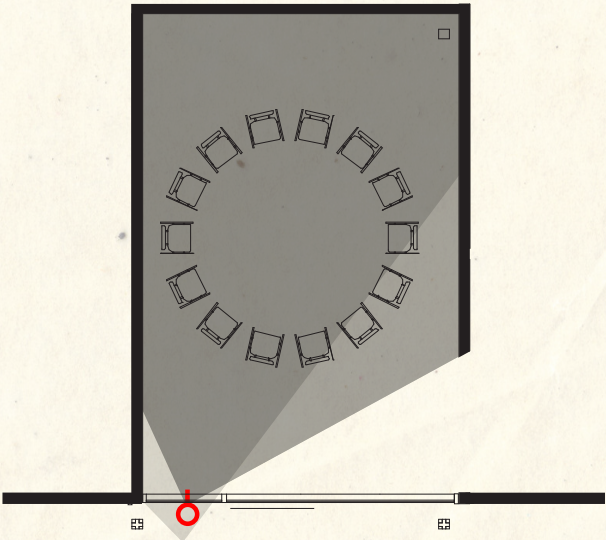
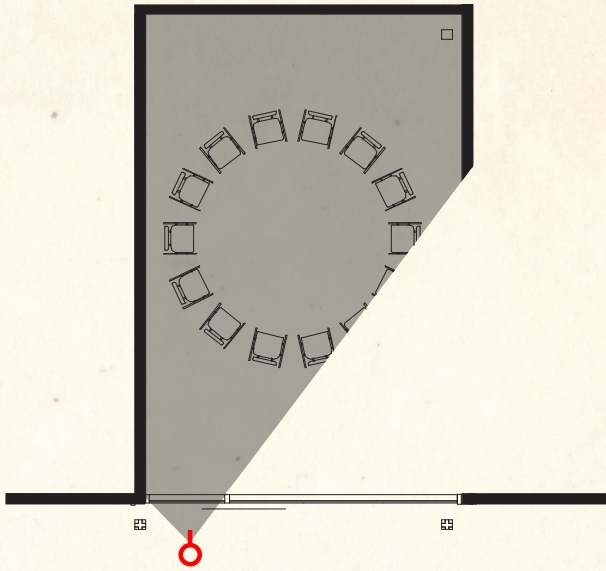


FIGURE 151

FIGURE 152

# DESIGNING FOR PTSD

THERAPY SPACES DESIGNED FOR MINIMAL THREATS

## INTERIOR POND

SHADED DOORS AND WINDOWS

BIOPHILIC DESIGN AND CONNECTION TO NATURE

WARM, NATURAL MATERIALS

LOGICAL LAYOUT

THE INTERIOR GARDEN CORRIDOR FEATURES A LINEAR POND RUNNING ALONG ITS LENGTH WITH BREAKS FOR CIRCULATION. THIS POND IS IMPORTANT TO HEALING AS WATER IS A VERY HEALING ELEMENT. ALSO, THE CIRCULATING WATER WILL CREATE A WHITE NOISE TO HELP KEEP ANY VETS FROM BECOMING STARTLED FROM ANY SUDDEN NOISES.

THE POND WOULD FEATURE SOME PLANTS, ROCKS, AND PERHAPS EVEN FISH TO MAKE IT A LIVELY, AND CONSTANTLY CHANGING ELEMENT.

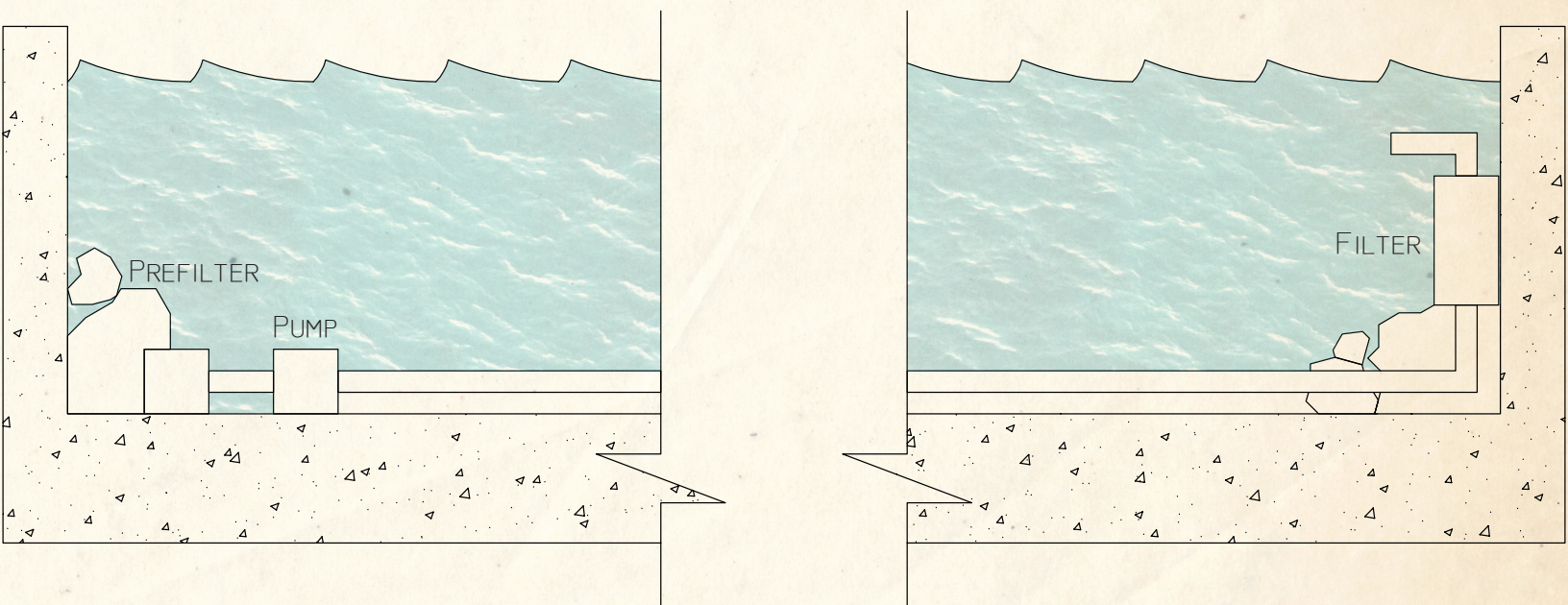


FIGURE I53

# DESIGNING FOR PTSD

THERAPY SPACES DESIGNED FOR MINIMAL THREATS

INTERIOR POND

SHADED DOORS AND WINDOWS

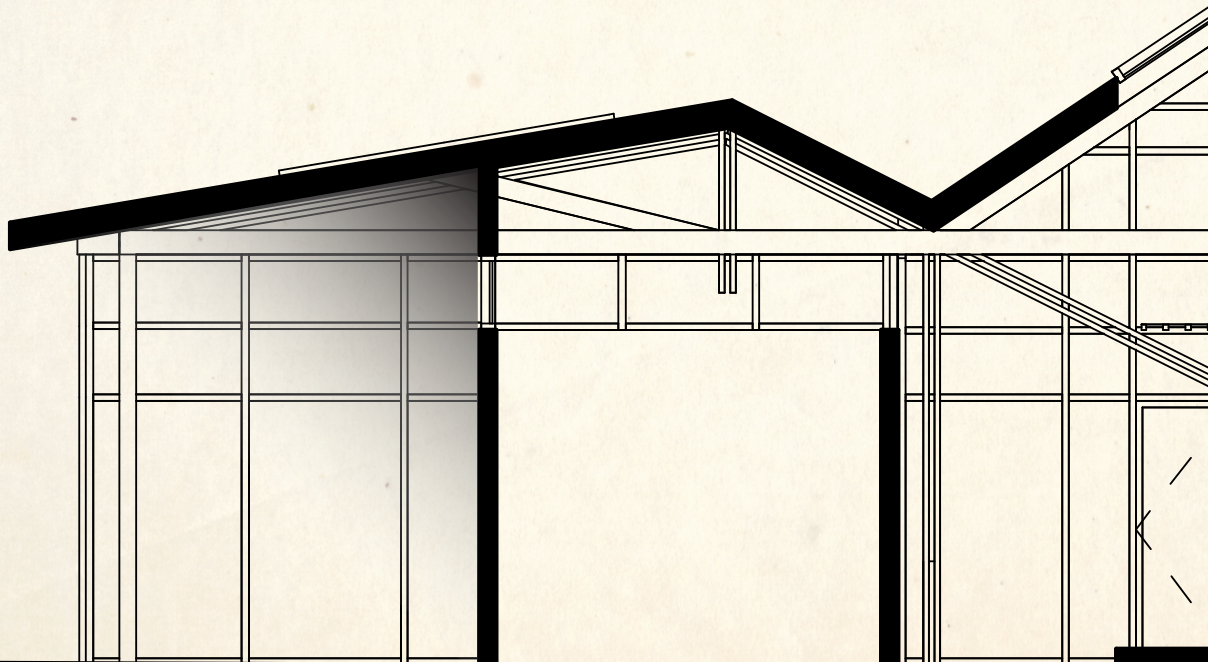
BIOPHILIC DESIGN AND CONNECTION TO NATURE

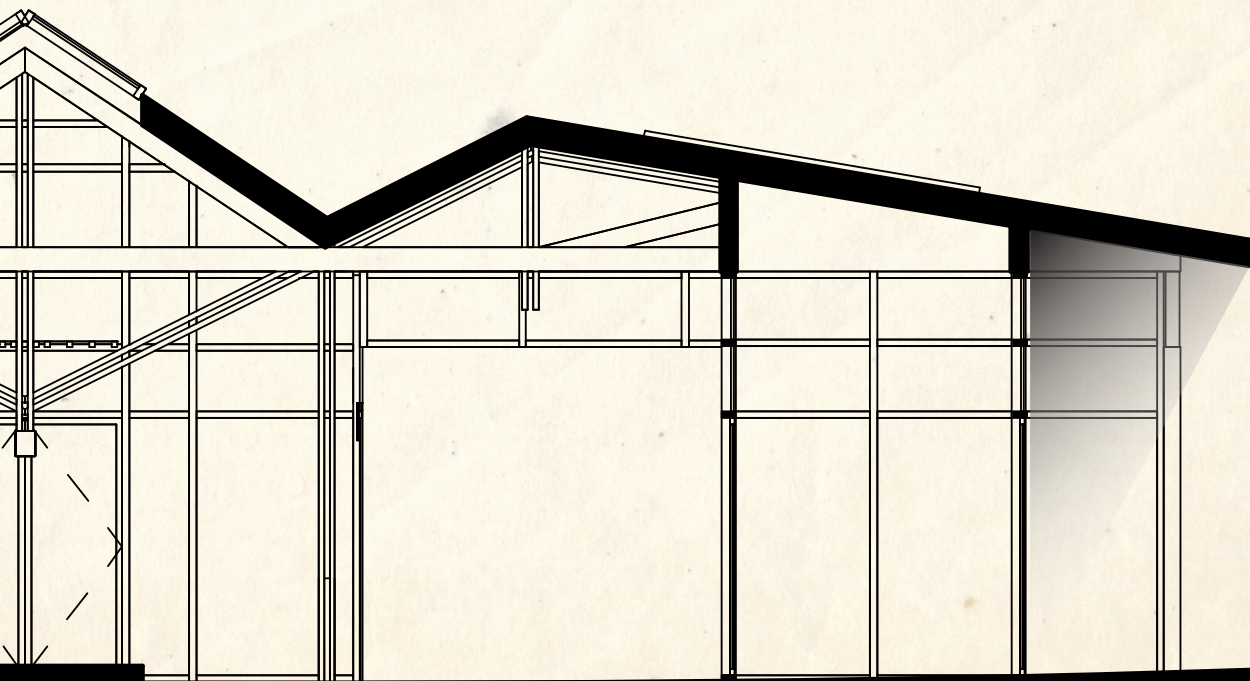
WARM, NATURAL MATERIALS

LOGICAL LAYOUT

TO PRESERVE THE PRIVACY OF VETERANS WITHIN THE BUILDING, IT WAS VERY IMPORTANT TO SHADE THE DOORS AND WINDOWS. THIS WAS ALSO IMPORTANT TO EVEN OUT LIGHT LEVELS.

WINDOWS ARE CONSIDERED ONE OF THE LARGEST THREATS TO VETERANS, PARTIALLY BECAUSE IT CAN BE SUCH A RISKY ELEMENT TO ANALYZE FOR THREATS. TO ASSESS THE WINDOWS, ESPECIALLY A BRIGHT ONE, CAN BLIND THE VETERAN TO A DARKER INTERIOR IF THEIR EYES ADJUST. BY SHADING THE DOORS AND WINDOWS, THE LIGHT LEVEL WILL BE MUCH LESS CONTRASTED TO EYES WILL NOT HAVE TO ADJUST AS MUCH TO LOOK OUT.





# DESIGNING FOR PTSD

THERAPY SPACES DESIGNED FOR MINIMAL THREATS

INTERIOR POND

SHADED DOORS AND WINDOWS

BIOPHILIC DESIGN AND CONNECTION TO NATURE

WARM, NATURAL MATERIALS

LOGICAL LAYOUT

AN IMPORTANT ASPECT TO DESIGNING FOR HEALING IS THE INCLUSION OF BIOPHILIC DESIGN. WORKING WITH PLANTS AND WITH NATURE IS VERY THERAPEUTIC. THE THERAPY BUILDING INCLUDES A SMALL, INTIMATE GREENHOUSE SPACE ADJACENT TO AN EXTERIOR GARDENING AREA.

THE CENTRAL CORRIDOR OF THE BUILDING IS A GARDEN CORRIDOR WITH PLANTS AND CREATE A NATURAL ENVIRONMENT THAT IS MORE CONTROLLED TO REDUCE THREATS.

THE BUTTERFLY ROOF ON THE BUILDING ALSO SERVES TO COLLECT RAINWATER FOR USE OF GARDENING. GUTTERS RUN IN THE VALLEYS OF THE ROOF AS WELL AS ALONG THE PERIMETER TO COLLECT WATER IN CISTERNS FOR GARDENING AND FARMING PURPOSES.





FIGURE 155

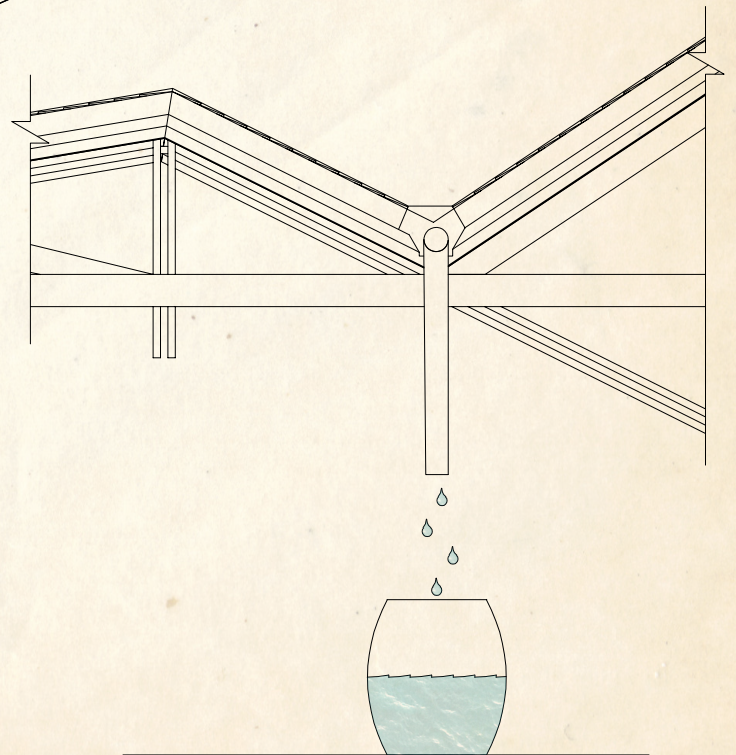


FIGURE 156

# DESIGNING FOR PTSD

THERAPY SPACES DESIGNED FOR MINIMAL THREATS

INTERIOR POND

SHADED DOORS AND WINDOWS

BIOPHILIC DESIGN AND CONNECTION TO NATURE

WARM, NATURAL MATERIALS

LOGICAL LAYOUT

THE NEW THERAPY BUILDING INCLUDES MANY WARM AND NATURAL MATERIALS TO AID HEALING. RATHER THAN TYPICAL ALUMINUM MULLIONS, THEY WILL BE WOOD. WOOD IS THE MAIN MATERIAL IN THE STRUCTURE AND AS AN EXTERIOR MATERIAL AS WELL. THIS MAKES THE ENTIRE BUILDING WARMER, MORE INVITING, AND MORE TACTILE.

THE LAMINATED GLASS USED IN THE THERAPY ROOMS FEATURES NATURAL GRASSES AND OTHER NATURAL MATERIALS. THESE NATURAL MATERIALS CAN BE SPECIFIC TO NATURAL MATERIALS FOUND IN THE ENVIRONMENT SURROUNDING SAUK CENTRE AND SAUK LAKE.

FIGURE 157



FIGURE 158



# DESIGNING FOR PTSD

THERAPY SPACES DESIGNED FOR MINIMAL THREATS

INTERIOR POND

SHADED DOORS AND WINDOWS

BIOPHILIC DESIGN AND CONNECTION TO NATURE

WARM, NATURAL MATERIALS

## LOGICAL LAYOUT

ANOTHER VERY IMPORTANT ASPECT FOR DESIGNING FOR VETERANS IS CREATING A BUILDING WITH A LOGICAL LAYOUT. IT IS CRUCIAL FOR VETERANS TO KNOW WHERE THEY ARE AT, WHERE THEY ARE GOING, AND WHERE ESCAPE ROUTES ARE LOCATED.

THIS BUILDING IS ORGANIZED WITH A MAIN INTERIOR CORRIDOR RUNNING ALONG THE ENTIRE LENGTH OF THE BUILDING. ALL THERAPY ROOMS AND OTHER SPACES ARE LOCATED DIRECTLY OFF OF THIS MAIN CORRIDOR. ESCAPES ARE LOCATED AT EITHER END WITH A DOORWAY HALFWAY THROUGH AS WELL.

UPON ENTERING THE BUILDING, THE VETERANS WILL BE ABLE TO INSTANTLY AND FULLY UNDERSTAND THE BUILDING, IT LAYOUT, AND ITS ORGANIZATION.

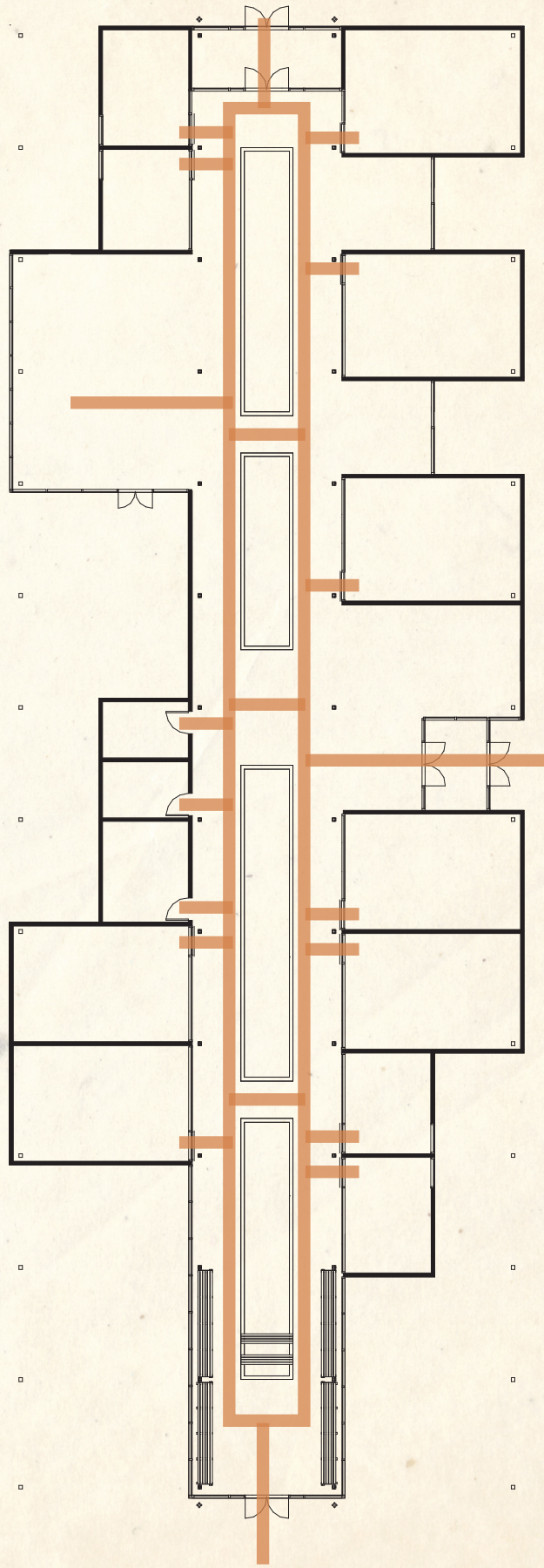


FIGURE 159

# NEW THERAPY BUILDING

## STRUCTURE

THE STRUCTURE OF THE THERAPY BUILDING IS MEANT TO BE EASILY BUILD-ABLE. CURRENTLY, THE VETERANS LIVING AT THE NEST DO ALL OF THE RENOVATION AND CONSTRUCTION WORK ON THE SITE. THIS SAVES MONEY AND GIVES THE VETS MEANINGFUL PROJECTS TO COMPLETE AND KEEPS THEM BUSY.

THE TRUSSES SUPPORTING THE BUTTERFLY ROOF ARE MEANT TO COMPLEMENT THAT TRADITION. THEY ARE CONSTRUCTED OF SMALLER PIECES THAT CAN BE ASSEMBLED ON SITE FOR EASY CONSTRUCTION AND THAT SAVE COST. HAVING A TRUSS THAT WAS BUILT OFF-SITE AND HAD TO BE TRUCKED IN AND CRANED INTO PLACE WAS SPECIFICALLY AVOIDED.

THE PIECES THAT MAKE UP EACH TRUSS ARE STANDARD SIZES OF LUMBER THAN CAN BE EASILY PURCHASED FROM MANY LOCATIONS. THIS WAS DONE IN AN ATTEMPT TO SAVE COST. THE REST OF THE CONSTRUCTION OF THE BUILDING IS LIGHT WOOD FRAMING FOR EASY CONSTRUCTION FOR THE VETS. BY CONSTRUCTING THE BUILDING THEMSELVES, THEY WILL TAKE GREAT PRIDE IN IT.

BEYOND THE TRUSSES AND THE BUILDING, MULTIPLE OTHER BUILD-ABLE PROJECTS WERE INCLUDED THROUGHOUT THE DESIGN. THESE INCLUDE THE CEILING STRUCTURES IN THE THERAPY ROOMS AND THE SHELVES IN THE GREENHOUSE.

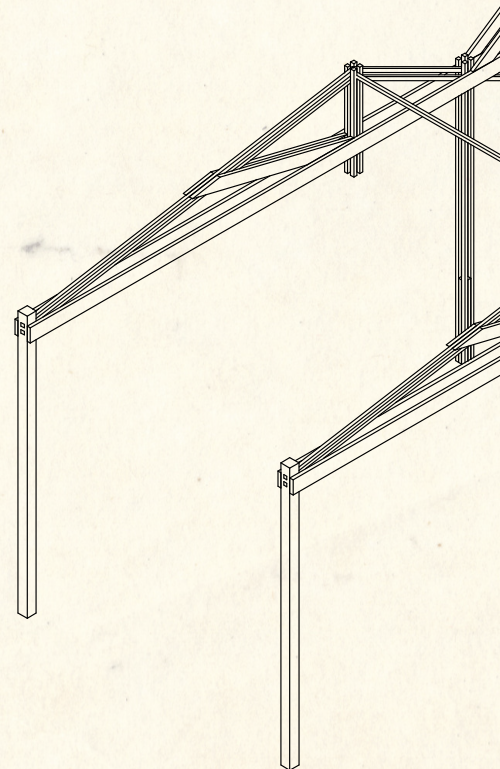
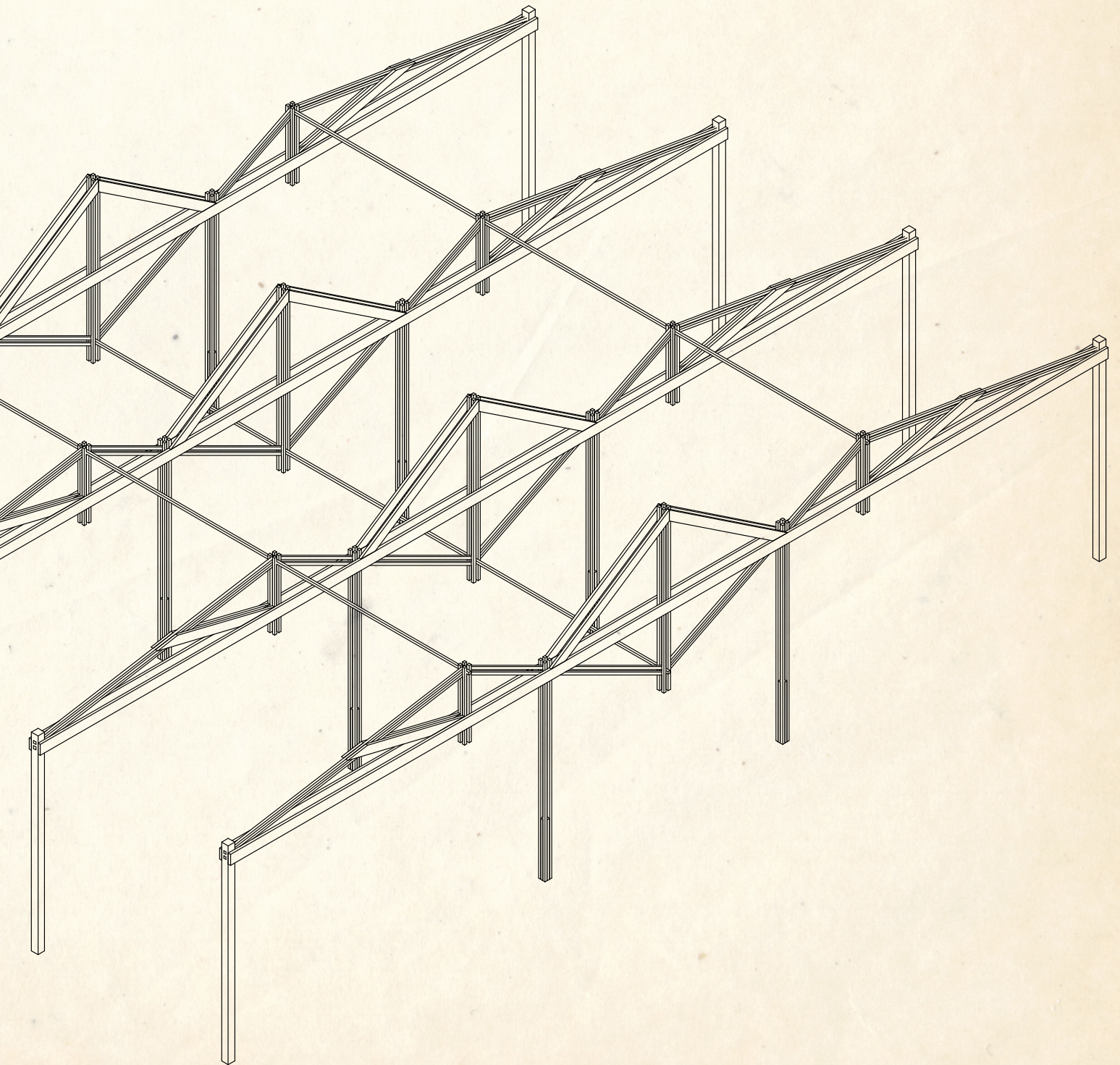


FIGURE 160



# NEW THERAPY BUILDING

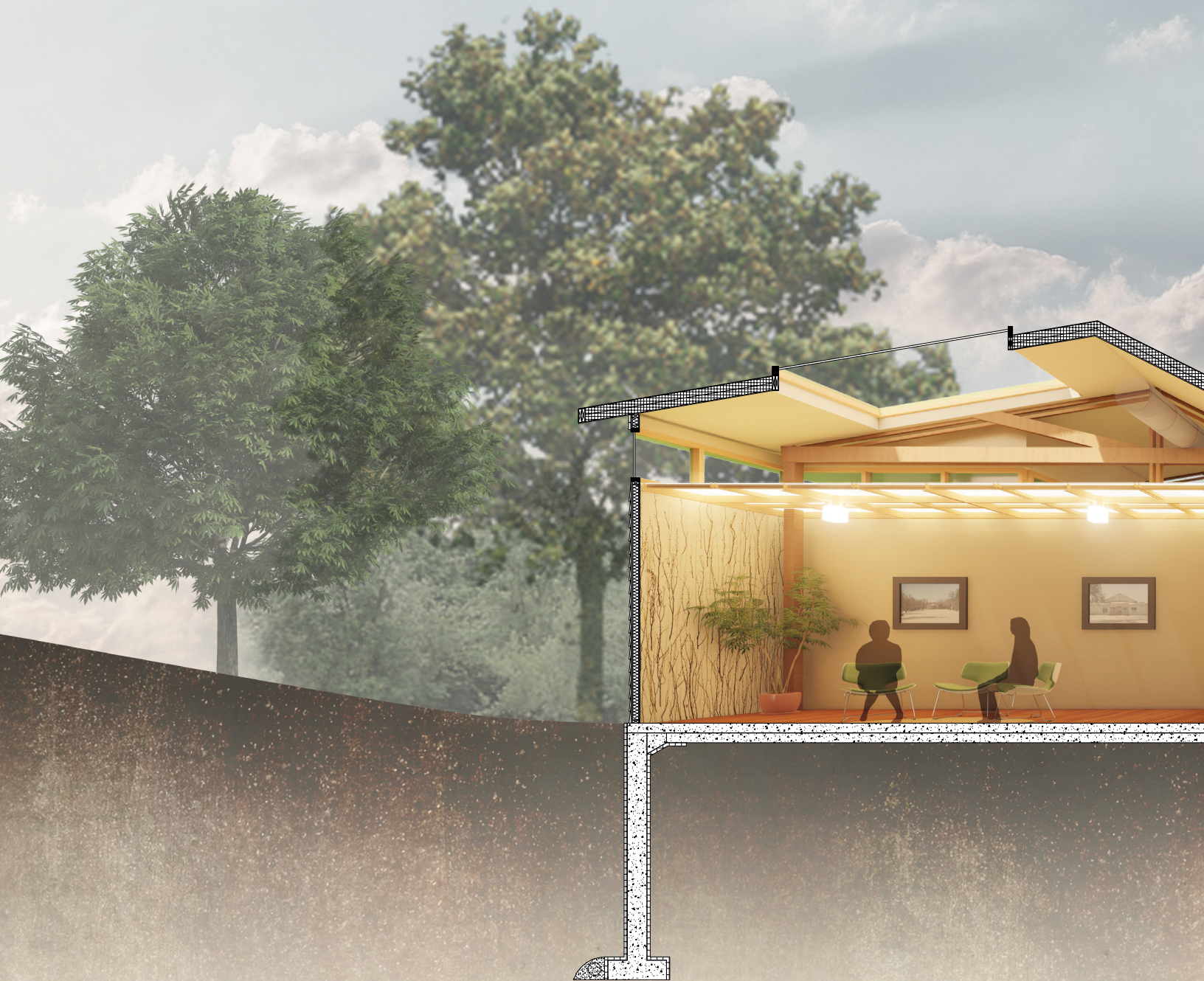


FIGURE 161  
136









FIGURE 163



FIGURE 164



FIGURE 165



FIGURE 166



FIGURE 167

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# PREVIOUS STUDIO EXPERIENCE

## SECOND YEAR STUDIO

### FALL 2015

INSTRUCTOR: CINDY URNESS  
PROJECT: FALLING LEAVES, TEA HOUSE  
MOORHEAD, MN

### SPRING 2016

INSTRUCTOR: RON RAMSAY  
PROJECT: ARCHITECTURE FOR THE BIRDS, BIRD HOUSE  
FARGO, ND  
PROJECT: RED RIVER ALTERNATIVE SCHOOL  
FARGO, ND  
PROJECT: EARL'S OVERLOOK, SMALL DWELLING  
MARFA, TX

## THIRD YEAR STUDIO

### FALL 2016

INSTRUCTOR: REGIN SCHWAEN  
PROJECT: OSCAR-ZERO VISITORS CENTER  
COOPERSTOWN, ND  
PROJECT: BELVEDERE AT THE PLAINS, PALM GARDEN  
FARGO, ND

### SPRING 2017

INSTRUCTOR: MARK BARNHOUSE  
PROJECT: SANFORD SAME-DAY SURGERY CENTER  
FARGO, ND  
PROJECT: APPAREO SYSTEMS, PRODUCTION FACILITY  
FARGO, ND

## FOURTH YEAR STUDIO

### FALL 2017

INSTRUCTOR: BAKR ALY AHMED  
PROJECT: 200 FOLSOM STREET, HIGH RISE  
SAN FRANCISCO, CA

### SPRING 2018

INSTRUCTOR: PAUL GLEYE  
PROJECT: BRUSSELS REDEVELOPMENT, MIXED-USE  
BRUSSELS, BELGIUM

## FIFTH YEAR STUDIO

### FALL 2018

INSTRUCTOR: MARK BARNHOUSE  
PROJECT: JACOB OTTE WETLAND RESEARCH CENTER  
ULEN, MN

# ABOUT THE AUTHOR



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