STAFF REPORT FOR PLANNING COMMISSION MEETING MARCH 31, 2010

FILE NO: SUP-10-014 **AGENDA ITEM: H-2**

STAFF AUTHOR: Jennifer Pruitt, Principal Planner

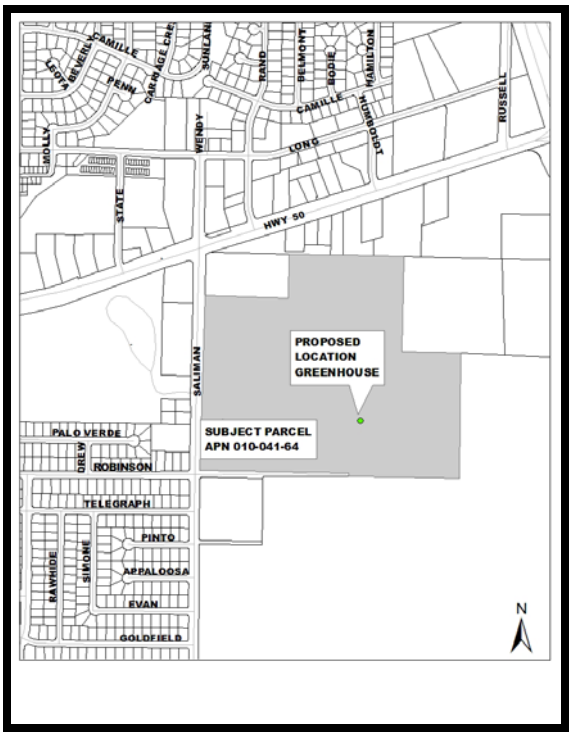
REQUEST: Approval of a Special Use Permit to allow a greenhouse project with vegetable and flower garden plots at the Carson City High School.

APPLICANT / OWNER: Mark Rotter, Manhard Consulting / Carson City School District

LOCATION: 1111 North Saliman Road

APN: 010-041-53

RECOMMENDED MOTION: "I move to approve SUP-10-014, a Special Use Permit application from Manhard Consulting, to allow a greenhouse project with vegetable and flower garden plots, on property zoned Public (P), located at 1111 North Saliman Road, Assessor's Parcel Number 010-041-53, based on seven findings and subject to the recommended conditions of approval contained in the staff report."



RECOMMENDED CONDITIONS OF APPROVAL:

The following shall be completed prior to commencement of the use:

1. The applicant must sign and return the Notice of Decision / conditions of approval within 10 days of receipt of notification. If the Notice of Decision is not signed and returned within 10 days, the item will be rescheduled for the next Planning Commission meeting for further consideration.

2. The applicant shall meet all the conditions of approval and commence the use (obtain and maintain a valid building permit) for which this permit is granted within twelve months of the date of final approval. A single, one-year extension of time may be granted if requested in writing to the Planning and Community Development Division thirty days prior to the one-year expiration date. Should this permit not be initiated within one year and no extension granted, the permit shall become null and void.

Conditions required to be incorporated into the proposed development plan.

3. All development shall be substantially in accordance with the development plans approved with this application, except as otherwise modified by the conditions of approval herein.

4. All lighting must be directed downward. The design of the light standards must include cutoffs and shields, if necessary, to prevent any spillover of light or glare on to adjacent properties.

5. All improvements shall conform to City standards and requirements.

6. A Sign Permit is required prior to the placement or erection of any sign, or to install or alter any electrical wiring or fixture. See the Planning and Community Development Division for information and standards. Development Standards, Division 4.

7. Provide color swatches of proposed exterior colors. Exterior building colors should blend with surrounding development and not cause abrupt changes. Primary building surfaces (excluding trim areas) should be muted or earth-tone in color.

8. Trash enclosures shall be designed to meet or exceed minimum size and location requirements as determined by the sanitation company and shall be located to provide unobstructed access to refuse vehicles. All trash, refuse or recycled material shall be stored in containers within its walled enclosure

The following shall be submitted or included as part of a building permit application:

9. The applicant shall obtain a building permit from the Carson City Building and Safety Division for the proposed construction.

10. The applicant shall submit a copy of the Notice of Decision / conditions of approval, signed by the applicant and owner.

11. Details of the proposed light standards must be submitted with the building permit.

12. Dust control measures must be employed during the construction period.

13. The applicant shall obtain a Certificate of Occupancy and/or final inspection and approval for all required improvements.

14. The construction drawings must show more detailed information on the water and sewer connections, and there may be a reduced pressure assembly required, if none is on the site.

15. A completed commercial water and sewer connection fee worksheet will be required with submittal of the building permit application. The connection fees will be payable upon issuance of the building permit. Contact the Engineering Division to obtain the most current version (October 2009) of the worksheet.

16. A fire flow analysis is required with building permit submittal. Fire Department will require a fire hydrant within 250 feet and 1500 gpm minimum flow.

17. The site is identified on the FEMA flood map as being in an AE Flood Plain. All pertinent flood plain information must be submitted with the application for permit. The proposed greenhouse and restrooms and any appurtenances will comply with CCMC 12.09 Flood Protection Ordinance and will mitigate their impacts by balancing the cut and fill areas. This will create a zero net impact to the flood plain. The required vertical datum is NAVD 1988.

18. Food Regulation: Produce grown in the greenhouse will be subject to all requirements in Nevada Administrative Code (NAC) 446, regarding food establishments. A "Certified Growers Certificate" will be required to be obtained from the Nevada Department of Agriculture in order to distribute food from this site.

19. Facility requirements: The building itself will be required to adhere to all school regulation requirements as stated in the Nevada Administrative Code (NAC) 444.

LEGAL REQUIREMENTS: CCMC 18.02.050 (Review); 18.02.080 (Special Use Permits) and 18.04.170 (Public Zoning District).

MASTER PLAN DESIGNATION: Public Quasi Public

ZONING DISTRICT: Public (P)

KEY ISSUES: Will the proposed greenhouse building be compatible with adjacent land uses and properties? Would the proposed greenhouse project cause material damage to surrounding properties? Is this an appropriate location for the proposed use?

SURROUNDING ZONING AND LAND USE INFORMATION

NORTH: General Commercial (GC) - Lutheran Church and retail stores
SOUTH: Single Family 1 Acre (SF1A) - LDS Church; and Agriculture (A) - Lompa Ranch
EAST: Agriculture (A) - Lompa Ranch
WEST: General Commercial (GC) - Retail store; Public Regional (PR) - Mills Park; Multi Family Apartments (MFA) - Apartments; and Residential Office (RO) - Apartments

SITE HISTORY

- The construction year-of-record for Carson City High School is 1970.

- On June 07, 1990 – the Board of Supervisors approved a Special Use Permit (U-89/90-25) for bleacher covers on this site; Planning Commission and staff had recommended approval.

- On December 17, 1990 – the Planning Commission approved a Special Use Permit (U-90/91-14) for several modular classroom buildings on this site; staff had recommended approval.

- On June 25, 1991 – the Planning Commission approved a Special Use Permit (U-90/91-39) for outdoor recreation and parking lot improvements on this site; staff had recommended approval.

- On August 27, 1991 – the Planning Commission approved a Special Use Permit (U-91/92-06) for modifications to parking areas, access roads, construction of playing fields and additions to existing facilities on this site; staff had recommended approval.

- On January 11, 1995 – the Planning Commission approved a Special Use Permit (U-94/95-22) for the construction of baseball field improvements, including field lights, a concession stand and restrooms on this site; staff had recommended approval.

- On January 07, 1998 – the Planning Commission approved a Special Use Permit (U-97/98-20) for the construction of a High Tech Center building on this site; staff had recommended approval.

- On February 25, 1998 – the Planning Commission approved a Special Use Permit (U-94/95-22A) for modification of dugouts and batting cages; staff had recommended approval.

- On June 29, 2005 – the Planning Commission approved a Special Use Permit (SUP-05-085) for the construction of a 10,800-square-foot storage and maintenance building; staff had recommended approval.

ENVIRONMENTAL INFORMATION

- FLOOD ZONE: AE Flood Plain.

- SLOPE/DRAINAGE: The site is nearly level; natural drainage tends to the south/east; the site has developed drainage facilities.

- SOILS: Nº 71: Urban Land.

- SEISMIC ZONE: Zone I (high shaking potential); no fault lies within 500 feet of the proposed location.

SITE DEVELOPMENT INFORMATION

1.	PARCEL AREA:	65.38 Acres
2.	PROJECT SITE AREA:	Approximately 34,000 square feet
3.	EXISTING LAND USE:	Secondary Educational Facility
4.	PROPOSED STRUCTURE –	
	BUILDING FOOTPRINT:	2,160 Square feet (sf) (70 feet by 30 feet)
	HEIGHT:	Approximately 16.1 feet
	FUTURE GREENHOUSE	1,800 sf (60 feet by 30 feet)
5.	REQUIRED SETBACKS:	Set according to the approval of a Special Use Permit
6.	PROVIDED SETBACKS:	Front: 1,100 feet Side/north: na Side/south: 390' Rear: na
7.	PARKING REQUIRED:	Four parking spaces
	PARKING PROPOSED:	Four parking spaces
	W/EXPANSION REQUIRED	Eight parking spaces
	W/EXPANSION PROPOSED	Nine parking spaces
8.	VARIANCES REQUESTED:	None

DISCUSSION:

A Special Use Permit is required by CCMC Section 18.04.170, which states that:

> *The Conditional Uses in the Public District which require a Special Use Permit are: Buildings and facilities owned, leased or operated by the city of Carson City, Carson City Unified School District or any other district, state of Nevada or the government of the United States*.
>
> *All public district development standards relative to lot area, setbacks, building height, landscaping, off-street parking and signs shall be based on requirements and conditions of the Special Use Permit.*

The intent of the Greenhouse Project (TGP) is to provide a teaching center for vocational and educational training in horticulture. The TGP includes a 2,160 - square-foot green house, required restroom facilities, trash enclosure and approximately 3,050 square feet of vegetable and flower garden plots, in addition to the relocation of an existing building on the site. The proposed project will also have minimal signage located at the southern entrance to the site. The Carson City High School (CHS) is centrally located with respect to other schools, making this site is particularly suitable for this type of project.

A greenhouse is a structure with a glass or plastic roof and frequently glass or plastic walls; it heats up because incoming solar radiation from the sun warms plants, soil, and other things inside the building faster than heat can escape the structure. Air warmed by the heat from hot interior surfaces is retained in the building by the roof and wall.

Greenhouses protect crops from too much heat or cold, shield plants from dust storms and blizzards, and help to keep out pests. Because greenhouses allow certain crops to be grown throughout the year, greenhouses are increasingly important in the food supply of many areas.

The TGP proposes to place the 72-foot by 30-foot greenhouse structure in the southeastern portion of the CHS campus, which will be surrounded by existing the sport fields, about 30 feet east of the tennis courts on site and west of the soccer field and an existing bus parking lot. The proposed project is over 1,200 feet east of the nearest residential properties, which are along Saliman Road. Access to the building is via an existing service drive to Robinson Street.

The greenhouse structure is designed of a lightweight steel galvanized structural frame, which will be covered with polyethylene material. The height of the proposed greenhouse structure is approximately 16 feet. The primary entrance of the greenhouse will be on the eastern elevation which depicts an open center with an access gate and fencing. The site plan indicates the expansion of the TGP project is projected to the east of the proposed greenhouse structure. The

applicant has incorporated future parking into to the plan provided to satisfy the parking required for the future expansion.

The hours of operation associated with the TGP is 40 hours per week, the applicant has noted that the hours will be adjusted accordingly considering the curriculum schedules. The project site will be secured with fencing and access gates; it is intended for the Greenhouse Manager, Assistant Manager and a CHS representative to have access keys to the project site.

The food generated for the TGP will be primarily supplied to local food banks, with a small portion being utilized by the CHS in its vocational culinary program. The flowers grown by the TGP will be sold at the Carson City Farmer's Market and provided for use in the flower baskets which attractively decorate the Carson City Downtown Core.

If the subject Special Use Permit is approved, the applicant has noted that the proposed project will take approximately, six months to become operational. The immediate benefit to the Carson City will be training of the students which will be responsible for the methods of raising food. The TGP is projected to provide 20 students selected to utilize work study positions. Per the applicant, all staff and volunteers associated with the project will be required to be fingerprinted and complete background checks as required by the Carson City School District.

In reviewing the information provided by the applicant and the required findings as identified below, the findings to grant approval of this Special Use Permit can be made. Therefore, it is recommended that the Planning Commission approve this Special Use Permit application, SUP-10-014.

PUBLIC COMMENTS: Public notices were mailed on March 12, 2010 notices were sent to 30 adjacent property owners within 300 feet of the subject site pursuant to the provisions of NRS and CCMC. Within the application submitted, the applicant has provided letters of support from, Richard Stokes, Superintendent of the Carson City School District, Joyce Buckingham, Executive Director of the Ron Wood Family Resource Center, Assemblywoman Bonnie Parnell of the Nevada Assembly, JoAnne Skelly of UNR Cooperative Extension, and three members of the general public. Any comments that are received after this report is complete will be submitted prior to or at the Planning Commission meeting, depending on their submittal date to the Planning Division.

OTHER CITY DEPARTMENT OR OUTSIDE AGENCY COMMENTS: The following comments were received from various city departments. Recommendations have been incorporated into the recommended conditions of approval, where applicable.

Building Division comments:

Miscellaneous improvements to the site, which constitute the following:

- Construction of a 30' x 72' (2,160 sf) greenhouse
- Relocate existing portable building
- Detached restroom building (size to be determined)

SUBMITTAL REQUIREMENTS:

In addition to the requirements outlined within the Carson City Building Division handout titled: *Commercial Submittal Requirements*, the following specific concerns shall be addressed.

1. This project requires application for a Building Permit, issued through the Carson City Building Division. This will necessitate a complete review of the project to verify compliance with all adopted construction codes and municipal ordinances applicable to the scope of the project.

2. The plans submitted for review shall comply with the prescriptive requirements found in the Carson City Building Division handout titled *Commercial Submittal Requirements: New Construction & Additions.* This handout may also be found online at: www.carson-city.nv.us/Index.aspx?page=181

COMMENTS APPLICABLE TO MPR PLAN SUBMITTAL:

General

3. Based on the information provided, the following would be applicable to this project:

- 2007 Northern Nevada Amendments* ('07 NNA)
- 2006 International Building Code ('06 IBC)
- 2006 International Fire Code ('06 IFC)
- 2006 Uniform Mechanical Code ('06 UMC)
- 2006 Uniform Plumbing Code ('06 UPC)
- 2005 National Electrical Code ('05 NEC)

- 2003 ICC/ANSI A117.1 (For accessible design)

* Carson City has adopted the 2007 Northern Nevada Amendments, which are available online at both the Carson City Building Division website and the Northern Nevada Chapter of the International Code Council (NNICC) at www.nnicc.org.

4. Care shall be given to address site accessibility. As a part of the submittal, please provide a separate plan sheet, independent of the other design sheets, which clearly show the ***Accessible Route / Exit Discharge Plan***. The *Accessible Route / Exit Discharge Plan* shall have the following minimum information from the accessible entrance of the facility to the public right of way. (*'06 IBC Section 1007, 1104.1 & ICC/ANSI A117.1-2003 Chapter 4 & 5*):

- Indicate accessible route surface
- Indicate accessible route slope
- Indicate accessible route width
- Indicate accessible route turn radius
- Indicate all accessible ramps, with a dimensioned cross section details indicating slope & guardrails (where applicable)
- Indicate the location and type of the detectable warning surface at curb ramps, island or cut-through medians (*ICC/ANSI A117.1-2003 Sections 406.13, 406.14 & 705*)
- Indicate all accessible parking, with signage
- Indicate location of all building and site accessible signage, with an elevation view to verify compliance with required text, height, etc.

NOTE: The *Accessible Route / Exit Discharge Plan* shall clearly show the accessible route from the accessible entrance of the facility to the accessible parking, accessible passenger load zones, public transportation stops, public streets and sidewalks – as applicable to the site. (*'06 IBC 1007.2, 1023.1, & 1104.1*)

5. As a part of the submittal, please provide a Utility Site Plan, which indicates the routing of all utilities associated with this project

6. In lieu of a complete Egress Plan, provide an Architectural Floor Plan, showing the bedding locations and the egress aisles throughout the greenhouse. The design shall show compliance with the requirements for egress and accessible egress. (*'06 IBC Chapters 10 & 11*)

7. As noted in item #1, above, a Building Permit will be required for the site development and construction of the greenhouse. The permit(s) shall be issued to the appropriately Nevada licensed contractor, or the entire project to a Nevada licensed General Contractor. (*NRS 624.031 & 624.3011 #2*)

8. Due to the type and size of the structure, a complete geotechnical analysis of the site for liquefaction will not be required. However, a review of the soil conditions shall be undertaken by the Engineer to determine site compatibility with the proposed structural design.

9. The architectural design of greenhouses shall comply with the *2006 International Building Code* (*'06 IBC*) general provisions for this type of structure, and the specific requirements outlined within *'06 IBC Appendix 'C'*.

10. To determine the total occupant load of the greenhouse, please use the Occupant Load Factor (OLF) of 1:300 gross found within *'06 IBC Table 1004.1.1* for "Agricultural Building".

11. The designer shall address the need for an onsite permanent restroom facility, in compliance with the *2006 International Building Code* (*'06 IBC*). Since a Group 'U' occupancy is not represented by the plumbing fixture table within the code (*'06 IBC Table 2902.1*). Please use the plumbing fixture count based on the requirements for a Group 'S-2' occupancy. In addition, based on an assumed occupant load of less then 16 (sixteen), the site need only have one (01) unisex accessible restroom for a maximum load of 15 (fifteen). (*'06 IBC 2902.1, Table 2902.1, & 2902.2 Exception #2*)

Parks and Recreation Department comments:

- No comments.

Engineering Division comments:

The Engineering Division has no preference or objection to the special use request. If the request is approved, then the following conditions of approval are recommended.

1. The construction drawings must show more detailed information on the water and sewer connections, and there may be a reduced pressure assembly required, if none is on the site.

2. A completed commercial water and sewer connection fee worksheet will be required with submittal of the building permit application. The connection fees will be payable upon issuance of the building permit. Contact the Engineering Division to obtain the most current version (October 2009) of the worksheet.

3. A fire flow analysis is required with building permit submittal. Fire department will require a fire hydrant within 250 feet and 1500 gpm minimum flow. Please verify this with Duane Lemons of the Carson City Fire Department.

4. The site is identified on the FEMA flood map as being in an AE Flood Plain. All pertinent flood plain information must be submitted with the application for permit. The proposed greenhouse and restrooms and any appurtenances will comply with CCMC 12.09 Flood Protection Ordinance and will mitigate their impacts by balancing the cut and fill areas. This will create a zero net impact to the flood plain. The required vertical datum is NAVD 1988.

Health Department comments:

1. Food Regulation: Produce grown in this greenhouse will be subject to all requirements in Nevada Administrative Code (NAC) 446, regarding food establishments. A "Certified Growers Certificate" will be required to be obtained from the Nevada Department of Agriculture in order to distribute food from this site.

2. Facility requirements: The building itself will be required to adhere to all school regulation requirements as stated in the Nevada Administrative Code (NAC) 444.

FINDINGS: Staff recommends approval of the Special Use Permit based the findings below, pursuant to CCMC 18.02.080 (Special Use Permits), subject to the recommended conditions of approval, and further substantiated by the applicant's written justification.

As herein described, the proposed project is consistent with the following applicable goals and policies (in italics) of the Master Plan in accordance with the seven findings (in bold) required for approval of a Special Use Permit:

1. The use will be consistent with the objectives of the Master Plan elements.

Goal 2: Promote better community design, appearance and recognition of Carson City as identified in the various design guidelines ordinances, the Visual Preference Survey, Capital City Focus, and Downtown Master Plan.

Policy 2.1 Promote developments designed to best utilize and maintain the land resources.

As the applicant has noted, one of the key attributes of western heritage is self-reliance. The TGP will instill the tradition of self-reliance in the residents and primary students of the TGP to learn how to grow food in an environmentally sustainable way. The student will receive a practical education in the plant propagation, cultivation, harvesting, marketing and distribution.

Policy 2.4 Protect and enhance the character of residential neighborhoods, open views and vistas, and property values.

The 2,160-square-foot greenhouse structure is proposed on the southeast side of the CHS campus. The proposed location is over 1,200 feet from the nearest residential property and would therefore not impact open views, vistas or property values.

This site was preferred by the personnel at the high school because the students will have direct access from their classrooms. The use of the site for this purpose will promote a sense of community and a more connected city.

2. The proposed use will not be detrimental to the use, peaceful enjoyment, economic value, or development of surrounding properties or the general neighborhood; and will cause no noise, vibrations, fumes, odors, dust, glare or physical activity.

During construction dust must be controlled and staff has recommended a condition of approval to this effect. Once complete, the proposed use should not create any objectionable noise, vibrations, odors, dust, glare or physical activity any more than the current use of the property does. Additionally, the nearest residential properties are located over 1,200 feet to the west of the greenhouse location.

The proposed project does involve uses that will take place outside, specifically the vegetable and flower beds, which will result in physical activity on site. It is not anticipated that the outside uses will be detrimental to the use, peaceful enjoyment, economic value, or development of surrounding properties or the general neighborhood.

3. The project will have little or no detrimental effect on vehicular or pedestrian traffic.

The proposed access is via a service drive to Robinson Street (stub), connecting to Saliman Road. The site is served by an adequate existing street network. Pedestrian movement would not be affected.

4. The project will not overburden existing public services and facilities, including schools, police and fire protection, water, sanitary sewer, public roads, storm drainage and other public improvements.

The proposed greenhouse structure will not require the extension or expansion of any other public services or facilities other than itself.

The TGP will have one sink and a separate rest room facility. The water usage will include water for the garden plots. This water usage per the applicant will be small and will not deplete the Carson City water supply. The applicant has provided an estimated water usage for the proposed project of approximately 4,065 gallons per day.

There are existing water lines that run throughout the subject parcel to serve the CHS. The TGP will extend the six inch water line to the east and connect to the propose greenhouse structure.

The subject area is served by an existing 18 inch sewer trunk main. The main has been analyzed with the sewer master plan prepared by Manhard Consulting.

5. The project meets the definition and specific standards set forth elsewhere in this Title 18 for such particular use and meets the purpose statement of that district.

Public uses, such as schools, are a primary purpose of the Public district – including split-zoned parcels. A school (and its accessories) is a conditional use in the Public zoning district. Upon approval of the Special Use Permit with the recommended conditions of approval, the proposed greenhouse project will be in conformance with the requirements of the Carson City Municipal Code and related Development Standards.

6. The project will not be detrimental to the public health, safety, convenience and welfare.

In addition to the issues addressed in this Special Use Permit, the proposed greenhouse structure would require a building permit, related reviews and inspections and will therefore not be detrimental to the public health, safety, convenience and welfare.

7. The project will not result in material damage or prejudice to other property in the vicinity.

As noted above, the distance to adjacent properties is measured in hundreds of feet. The impacts of the proposed project would hardly be noticeable and would not result in material damage or prejudice to adjacent residential, public or agricultural property in the vicinity.

Respectfully submitted,

PUBLIC WORKS, PLANNING DIVISION

Jennifer Pruitt

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Jennifer Pruitt, AICP, LEED AP
Principal Planner

Attachments:

- Application (SUP-10-014)
- Building Division comments
- Engineering Division comments
- Health Department
- Parks and Recreation Department

File # (Ex: MPR #07-111)	*SUP-10-014*
Brief Description	*Green House*
Project Address or APN	*APN #010-041-64*
Bldg Div Plans Examiner	*Kevin Gattis*
Review Date	*March 31, 2010*
Total Spent on Review	

BUILDING DIVISION COMMENTS:

SCOPE OF APPLICATION:

Miscellaneous improvements to the site, which constitute the following:

- Construction of a 30' x 72' (2,160-ft^2) greenhouse
- Relocate existing portable building
- Detached restroom building (Size to be determined)

SUBMITTAL REQUIREMENTS:

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   - Indicate accessible route slope
   - Indicate accessible route width
   - Indicate accessible route turn radius
   - Indicate all accessible ramps, with a dimensioned cross section details indicating slope & guardrails (where applicable)
   - Indicate the location and type of the detectable warning surface at curb ramps, island or cut-through medians (*ICC/ANSI A117.1-2003 Sections 406.13, 406.14 & 705*)
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   NOTE: The *Accessible Route / Exit Discharge Plan* shall clearly show the accessible route from the accessible entrance of the facility to the accessible parking, accessible passenger load zones, public transportation stops, public streets and sidewalks – as applicable to the site. (*'06 IBC 1007.2, 1023.1, & 1104.1*)

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6. In lieu of a complete Egress Plan, provide an Architectural Floor Plan, showing the bedding locations and the egress aisles throughout the greenhouse. The design shall show compliance with the requirements for egress and accessible egress. (*'06 IBC Chapters 10 & 11*)

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8. Due to the type and size of the structure, a complete geotechnical analysis of the site for liquefaction will not be required. However, a review of the soil conditions shall be undertaken by the Engineer to determine site compatibility with the proposed structural design.

9. The architectural design of greenhouses shall comply with the *2006 International Building Code* (*'06 IBC*) general provisions for this type of structure, and the specific requirements outlined within *'06 IBC Appendix 'C'*.

10. To determine the total occupant load of the greenhouse, please use the Occupant Load Factor (OLF) of 1:300 gross found within *'06 IBC Table 1004.1.1* for "Agricultural Building".

11. The designer shall address the need for an onsite permanent restroom facility, in compliance with the *2006 International Building Code* (*'06 IBC*). Since a Group 'U' occupancy is not represented by the plumbing fixture table within the code (*'06 IBC Table 2902.1*). Please use the plumbing fixture count based on the requirements for a Group 'S-2' occupancy. In addition, based on an assumed occupant load of less then 16 (sixteen), the site need only have one (01) unisex accessible restroom for a maximum load of 15 (fifteen). (*'06 IBC 2902.1, Table 2902.1, & 2902.2 Exception #2*)

Engineering Division
Planning Commission Report
File Number SUP 10-014

TO: Planning Commission

FROM Rory Hogen – City Engineer

DATE: March 4, 2010 **MEETING DATE:** March 31, 2010

SUBJECT TITLE:

Action to consider an application for a Special Use Permit from Mark Rotter, P.E. at Manhard Consulting on behalf of property owner Carson City School District for a greenhouse and restroom facilities at Carson High School on property zoned P located at 1111 N. Saliman Rd., APN 010-041-64.

RECOMMENDATION:

The Engineering Division has no preference or objection to the special use request. If the request is approved, then the following conditions of approval are recommended.

1. The construction drawings must show more detailed information on the water and sewer connections, and there may be a reduced pressure assembly required, if none is on the site.
2. A completed commercial water and sewer connection fee worksheet will be required with submittal of the building permit application. The connection fees will be payable upon issuance of the building permit. Contact the Engineering Division to obtain the most current version (October 2009) of the worksheet.
3. A fire flow analysis is required with building permit submittal. Fire department will require a fire hydrant within 250 feet and 1500 gpm minimum flow. Please verify this with Duane Lemons of the Carson City Fire Department.
4. The site is identified on the FEMA flood map as being in an AE Flood Plain. All pertinent flood plain information must be submitted with the application for permit. The proposed greenhouse and restrooms and any appurtenances will comply with CCMC 12.09 Flood Protection Ordinance and will mitigate their impacts by balancing the cut and fill areas. This will create a zero net impact to the flood plain. The required vertical datum is NAVD 1988.

DISCUSSION:

The Engineering Division has reviewed the conditions of approval within our areas of purview relative to adopted standards and practices and to the provisions of CCMC 18.02.080, Conditional Uses.

CCMC 18.02.080 (2a) - Adequate Plans
The information submitted by the applicant is adequate for this analysis.

CCMC 18.02.080 (5a) - Master Plan
The request is not in conflict with any Engineering Master Plans for streets or storm drainage.

CCMC 18.02.080 (5c) - Traffic/Pedestrians
The proposal will not impact traffic or pedestrian facilities.

CCMC 18.02.080 (5d) - Public Services
The proposal will impact existing public services. Please see note #2 above.

CARSON CITY, NEVADA

CONSOLIDATED MUNICIPALITY AND STATE CAPITAL

MEMORANDUM

TO: Lee Plemel, Planning Director
Jennifer Pruitt, Senior Planner (Hardcopy and Email)

FROM: Roger Moellendorf, Parks and Recreation Director
Vern L. Krahn, Park Planner

DATE: March 18, 2010

SUBJECT: Parks and Recreation Department's comments for the Wednesday, March 31, 2010, Planning Commission Meeting

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SUP-10-013	No Comments
SUP-10-014	No Comments

RECEIVED
MAR 18 2010
CARSON CITY
PLANNING DIVISION

Manhard CONSULTING LTD

Civil Engineers
Surveyors
Water Resources Engineers
Water & Wastewater Engineers
Construction Managers
Environmental Scientists
Landscape Architects
Planners

MEMO

To: **Jennifer Pruitt**

From: **Rebecca Bernier**

Date: **March 8, 2010**

Re: **Greenhouse Project Water Usage Estimate**

Fixtures:

Type of Fixture	Quantity	FU	Total
Lavatory Sink/Bathroom sink	2	2.5	5
Sink Wash	1	2	2
Water Closet/Toilet	2	2	4
Total			11
11 FU @ 15 gpd/FU =		165	gpd

Irrigation:

Greenhouse planted area (sf):		1,500
Outdoor garden plot area (sf):		5,000
Total Area		6,500
6,500 sf @ 1"/day =	3,900	gpd

Total Water Usage	**4,065**	**gpd**

From: Teresa Hayes
To: MPR Committee
Date: 03/08/2010 11:50 AM
Subject: Planning commission comments

SUP- 09-098

Carson City Health and Human Services has no comments regarding the project as described in the packet received. The applicant must meet all applicable codes and ordinances as they apply to this request.

SUP 10-013
Carson City Health and Human Services has no comments regarding the project as described in the packet received. The applicant must meet all applicable codes and ordinances as they apply to this request.

SUP 10-014
1) Food Regulation: Produce grown in this greenhouse will be subject to all requirements in Nevada Administrative Code (NAC) 446, regarding food establishments. A "Certified Growers Certificate" will be required to be obtained from the Nevada Department of Agriculture in order to distribute food from this site.
2) Facility requirements: The building itself will be required to adhere to all school regulation requirements as stated in the Nevada Administrative Code (NAC) 444.
Teresa Hayes, R.E.H.S.
Environmental Health Specialist II
Carson City Health and Human Services
900 E. Long St
Carson City, NV 89706
Phone: (775) 887-2190 ext 30227
Fax: (775) 887-2248

The Greenhouse Project

Application to the Carson City Planning Commission
For a Special Use Permit

The Greenhouse Project

The Carson City Arts and Culture Commission considered ways to improve the quality of life here. One member, Karen Abowd, noted that although the USDA classifies Carson City as an agricultural community, there is very little horticultural activity here. A growing awareness of hunger in our community as well as a growing interest in sustainability led to the formation of the concept of The Greenhouse Project ("TGP") in November, 2008.

TGP will provide a teaching center for vocational and educational training in horticulture. There are many valuable facets of this project . It will provide educational and vocational resources for students in high school and middle school. It will assist 20 students who qualify for the school lunch program based upon economic need with paid work study opportunities. It will demonstrate the efficiencies of solar power and sustainable horticulture techniques. It will provide a hub for the community of all ages to engage in a cooperative, healthy activity. The food generated by TGP will be primarily supplied to local food banks, with a relatively small portion being utilized by Carson High School ("CHS") in its vocational culinary program. The flowers grown by TGP will be sold at the Carson City Farmer's market and provided to the flower baskets which decorate the Downtown Core. It is anticipated that the people who learn practical horticultural skills through t TGP will apply those skills within their own neighborhoods. Gardening promotes a sense of community cooperation and land stewardship. Because people from various regions and cultures favor different herbs and vegetables, it has been noted that community gardening promotes cross-cultural (and cross generational) understanding.

To this end, an action group of over 35 members was formed and in February of 2009 a presentation was made to the Board of Supervisors about TGP. The presentation was well received. The primary focus since that time has been locating a suitable site for TGP.

FISH offered their property in Stewart, but State Lands determined TGP did not fit the historic criteria for that location. Carson Tahoe Hospital offered portions of the former hospital site, but concerns were raised about the compatibility of TGP with future, unknown, development of the property. The Boys and Girls Club offered property, but the site lacked adequate utilities and water. One site which was explored in depth was the Eagle Valley Middle School. However, the approval of TGP at that location was withheld in August 2009, as a result of a Town Hall meeting where residents expressed strong objections to a solar bus barn at Eagle Valley Middle School, a companion project advanced by the school district.

Kim Colard, the owner of the Anderson Ranch, contacted TGP to explore the possibility of incorporating TGP into the master plan for the Anderson Ranch. TGP was prospectively located near the Mountain Street Trailhead. Unfortunately, it was determined by the project planner that TGP would not be allowed at that location because it would detrimentally impact the desired residential density within the Anderson Ranch plan.

Fortunately, in late October, 2009, representatives of CCSD contacted TGP to offer a site at CHS. TGP was pleased with the offer because the Project has a substantial educational component and CCHS is centrally located. In order to protect TGP project from potential future budget reductions

within the School District, TGP suggested that it lease a site at CHS. A letter of intent was signed by CCSD and TGP, with CCSD reserving the right to specify the preferred site for TGP.

TGP originally hoped to utilize some of the eastern portion of the CHS campus because it is zoned Agriculture and no special use permit would be necessary. At an on- site meeting in February, 2010, personnel at CHS persuaded TGP to utilize slightly less than one acre within the campus because security for the facility and access for the students would be better at that interior location. The site is currently graded and graveled, and all utilities are available. The specific site to be utilized by TGP is buffered by other CHS uses, including the tennis court and the bus barn and athletic fields. A site plan was prepared by Mark Rotter of Manhard Consulting, who (along with many other professionals) is volunteering his services to TGP. This application for a special use permit follows.

Carson City School District

SUPERINTENDENT'S OFFICE

P. O. Box 603
1402 West King Street
Carson City, Nevada 89702

Telephone 775/283-2100
Fax 775/283-2090

February 11, 2010

Re: Letter of Support for the Greenhouse Project

To Whom It May Concern,

I have become acquainted with Karen Abowd over the past 4 months as she has worked to secure a location for The Greenhouse Project in Carson City. My purpose in writing this letter is to show my support for the project and invite you to consider the exceptional educational merits that this venue will provide for our District and community.

The Greenhouse Project is a community-minded venture that will provide food, flowers, and educational opportunities on a variety of levels. Of particular interest for Carson City School District, The Greenhouse Project will offer a unique academic setting that will offer opportunities associated with horticulture, biology, plant physiology, ecology, landscape design, culinary arts, and business education. In addition, The Greenhouse Project will incorporate green technologies that will introduce new and exciting energy alternatives such as photovoltaic panels and a wind turbine; both are destined to become an integral part of our future. What a great opportunity for our students to study the "real-life" applications of plant and physical science.

Carson City School District strongly supports the Greenhouse Project. We have partnered with the Greenhouse Project by providing a location on which to build the physical structure of the Greenhouse, the associated gardens and the alternative energy devices. The School District enthusiastically endorses the academic opportunities that will be a natural outcome of this program and encourage your support too.

Sincerely,
Richard Stokes
Superintendent

RON WOOD FAMILY RESOURCE CENTER

212 East Winnie Lane
Carson City, NV 89706
(775) 884-2269 - Phone
(775) 884-2730 - Fax
www.carson-family.org

To Promote
Healthy
Family
Relationships
Through
Education and Support
Services

February 16, 2010

Karen Abowd
President
The Greenhouse Project
Carson City, NV 89701

Dear Karen:

On behalf of the Ron Wood Family Resource Center, I am pleased to provide this letter of support for the Greenhouse Project here in Carson City.

The Greenhouse Project is a wonderful "green" project that will offer a variety of positive outcomes for the City of Carson. This worthwhile project will offer enough organic produce to assist Ron Wood Family Resource Center's efforts in providing wholesome, organic and locally-grown produce for families in need. Currently Ron Wood Family Resource Center feeds approximately 7000 people per month through our Community Essentials Food Bank. Our Food Bank is always struggling to offer produce to the community. Secondly, this project will offer many opportunities for youth to learn about horticulture and the valuable lesson of "giving back" to their community. The location of Carson High School lends itself to wonderful opportunities for youth in organic farming. Lastly, the production of flower baskets to beautify the downtown area is an intrinsic value to the City of Carson that benefits all of us!

TGP (The Greenhouse Project) has entered into a true collaboration with many non-profits and private sector businesses in Carson City. TGP is partnering with Builder's Association of Western Nevada and other private sector businesses that have extended a charitable hand to offset costs and to assist TGP in leveraging funds to assist in this venture.

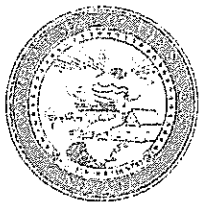
The mission of the Ron Wood Family Resource Center is to create a lasting community-wide cooperative effort between the private sector and governmental agencies to promote healthy family relationships through education and support services. We currently offer a vast array of services that range from basic needs assistance to parenting classes and after school programs. TGP is one of our partners and working with us to end childhood obesity as well as feed the hungry in our community.

It is with pleasure and conviction that I support the endeavors of The Greenhouse Project.

Sincerely,

Joyce Buckingham
Executive Director
Ron Wood Family Resource Center

BONNIE PARNELL
ASSEMBLYWOMAN
District No. 40



COMMITTEES:
Chairman
Education

Member
Corrections, Parole, and Probation
Health and Human Services
Judiciary

Nevada Assembly

SEVENTY-FIFTH SESSION

DISTRICT OFFICE:
804 Saratoga Way
Carson City, Nevada 89703-3656
Office: (775) 883-4234

LEGISLATIVE BUILDING:
401 South Carson Street
Carson City, Nevada 89701-4747
Office: (775) 684-8825
Fax No.: (775) 684-8533
www.leg.state.nv.us

February 9, 2010

Carson City Planning Commission

RE: Greenhouse Project

Dear Chairman Kimbrough and members of the Commission:

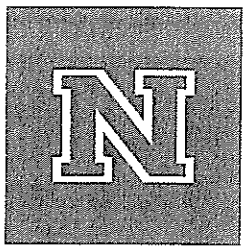
It is a pleasure to lend my support to the Greenhouse Project at Carson High School. This Project appears to be a win-win for the community and for the students at CHS.

As an advocate for expanding career and technical opportunities, I believe that this Project will enhance the curriculum offered at our high school. It also offers opportunities to explore "green" technology.

On a personal note, I think that the addition of the flower baskets have been a welcome addition to the look and feel of our downtown and would be thrilled to see the program continue.

Sincerely,

Assemblywoman Bonnie Parnell



University of Nevada
Cooperative Extension

February 8, 2010

To Whom It May Concern:

I fully support the Greenhouse Project to be located at Carson High School. This project will create a teaching and learning facility for students of all ages and for community members. Youth can learn how to grow their own food, how to work together, how to manage an enterprise, and develop landscape industry work skills. They can do in-service learning projects. Community members can volunteer in the Greenhouse building their skills in raising produce and flowers and working with youth.

I am committed to working with the Greenhouse Project team to develop research-based horticulture classes, to guide volunteers and students and to make the community greenhouse a success and to answer horticulture questions.

Please help us to make this outstanding community outreach project a success.

Sincerely,

JoAnne Skelly
Extension Educator, Carson City / Storey County

2621 Northgate, #15
Carson City, NV. 89706
887-2252
skellyj@unce.unr.edu

Gary A. Lyon
1801 Jefferson Drive
Carson City, NV 89706
(775) 841-1971

February 15, 2010

Carson City Board of Supervisors
201 North Carson Street
Carson City, NV 89701-4594

Dear Sir or Madam:

I am writing to express my support for the application you have received from The Greenhouse Project, and encourage you to continue the City's support of this program.

Mrs. Abowd and the members of the project have created a unique program that brings both beauty to our community, and the opportunity to expand education programs for Carson High School students that will directly benefit the community.

As both a private and social entrepreneurial effort The Greenhouse Project is an excellent example of how local entrepreneurs are the core of long-term economic growth and diversification, directly benefiting the community and making a positive environmental and social impact by expanding the availability of locally grown sustainable horticulture and agriculture while reducing fossil fuel consumption and helping maintain a high quality of life in our community.

Thank you for considering The Greenhouse Project application. Despite our current economic challenges I would encourage you to see The Greenhouse Project as a cornerstone to improving not only the aesthetics of Carson City, but also the vitality of our economy and education system; part of a "*thousand flowers of entrepreneurism*" that will improve the long-term economic and social capital of our community.

Sincerely,

Gary A. Lyon
(775) 841-1971

-W-

309 N. Iris Street
Carson City, Nevada 89703

February 9, 2010

Carson City Planning Commission
c/o Jennifer Pruitt
2621 Northgate Lane, Suite 62
Carson City, Nevada 89701

Dear Ms. Pruitt,

On behalf of the Westergard family I would like to extend our support of the Greenhouse Project in its efforts to improve our local food economy, the health and welfare of our community and in the greening of our city.

The Greenhouse Project began two years ago as an idea to place a few more flower baskets in downtown Carson City and was not only successful, but an inspiration. At a time when the economy might suggest we could not afford the luxury of flowers, nothing could have been further from the truth. The reality was we couldn't afford not to keep our heads high, celebrate our beautiful downtown and work extra hard to keep it clean, green and beautiful (such conditions remain true today).

As it turned out the Greenhouse Project has become a catalyst for community development. This project has and will continue to:

- stimulate social interaction
- encourage self-reliance
- beautify the campus
- produce nutritious food
- reduce family food budgets
- conserve resources
- create opportunity for recreation
- offer exercise
- offer therapy
- offer education
- reduce crime
- create green space at Carson High School
- create income opportunities and economic development
- provide opportunities for intergenerational and cross-cultural connections

Please seriously consider supporting this request. The Greenhouse Project is a key part of a growing effort to bring healthy nutritious food into our community, educate the next generation in self-sufficiency and bring physical and mental well being to all who interact with the Greenhouse Project in Carson City.

Sincerely,

The Westergard Family

Todd, Tammy, Brooks, Cloe & Keaton

RE: Greenhouse

From: **Gabowitz@aol.com**
Sent: Thu 2/11/10 6:38 AM
To: karenabowd@msn.com

Karen Abowd
President
The Greenhouse Project
karenabowd@msn.com

Dear Karen:

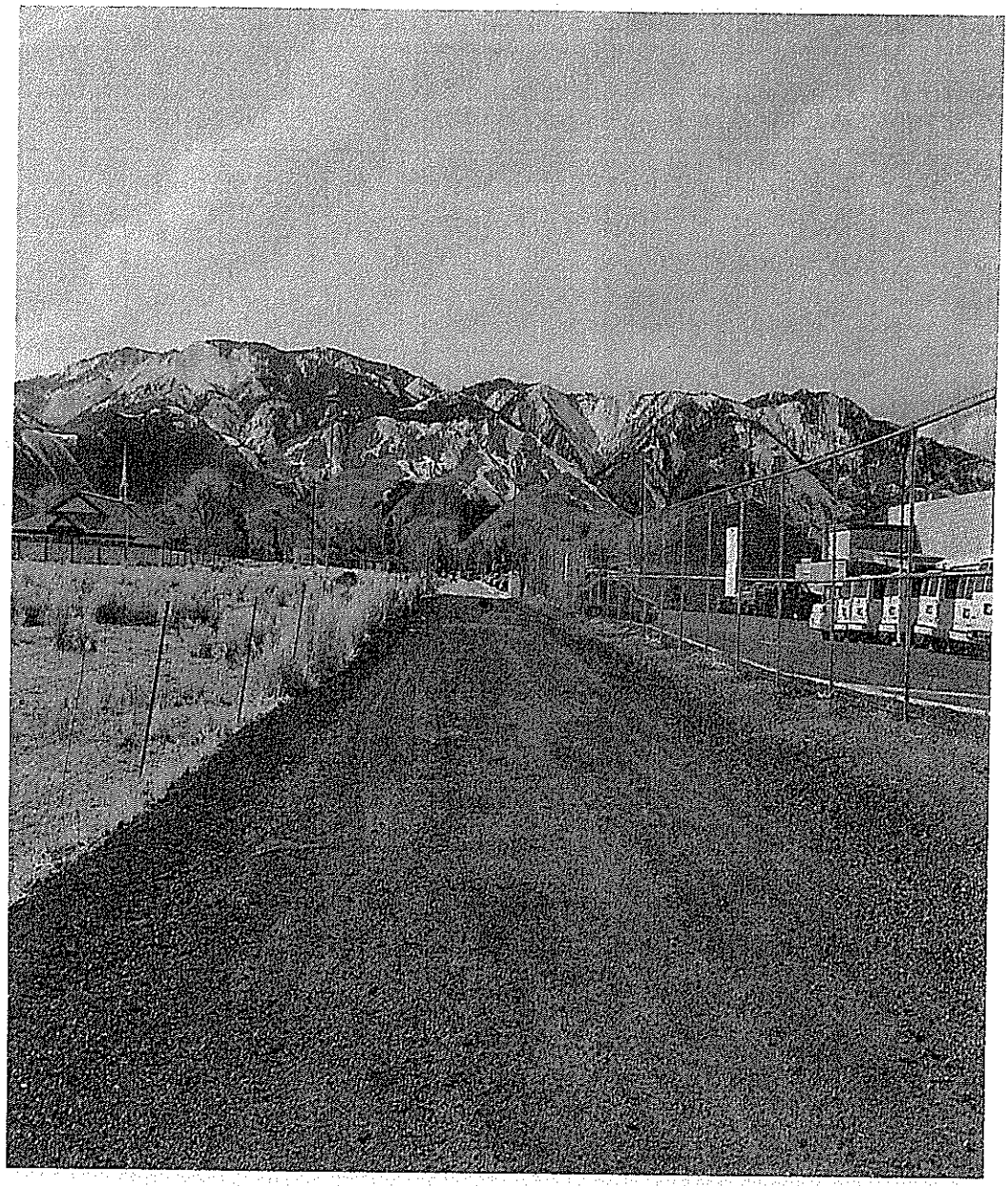
Thank you for all the hard work and enthusiasm you have put into our Greenhouse Project. I call it "our" project intentionally because it will uniquely serve our entire community by providing food and educational opportunities for many.

I am writing in support of locating the Greenhouse Project on the campus of Carson High School. This seems a sensible choice because of its immediate proximity to students and because of its central location with easy access for many.

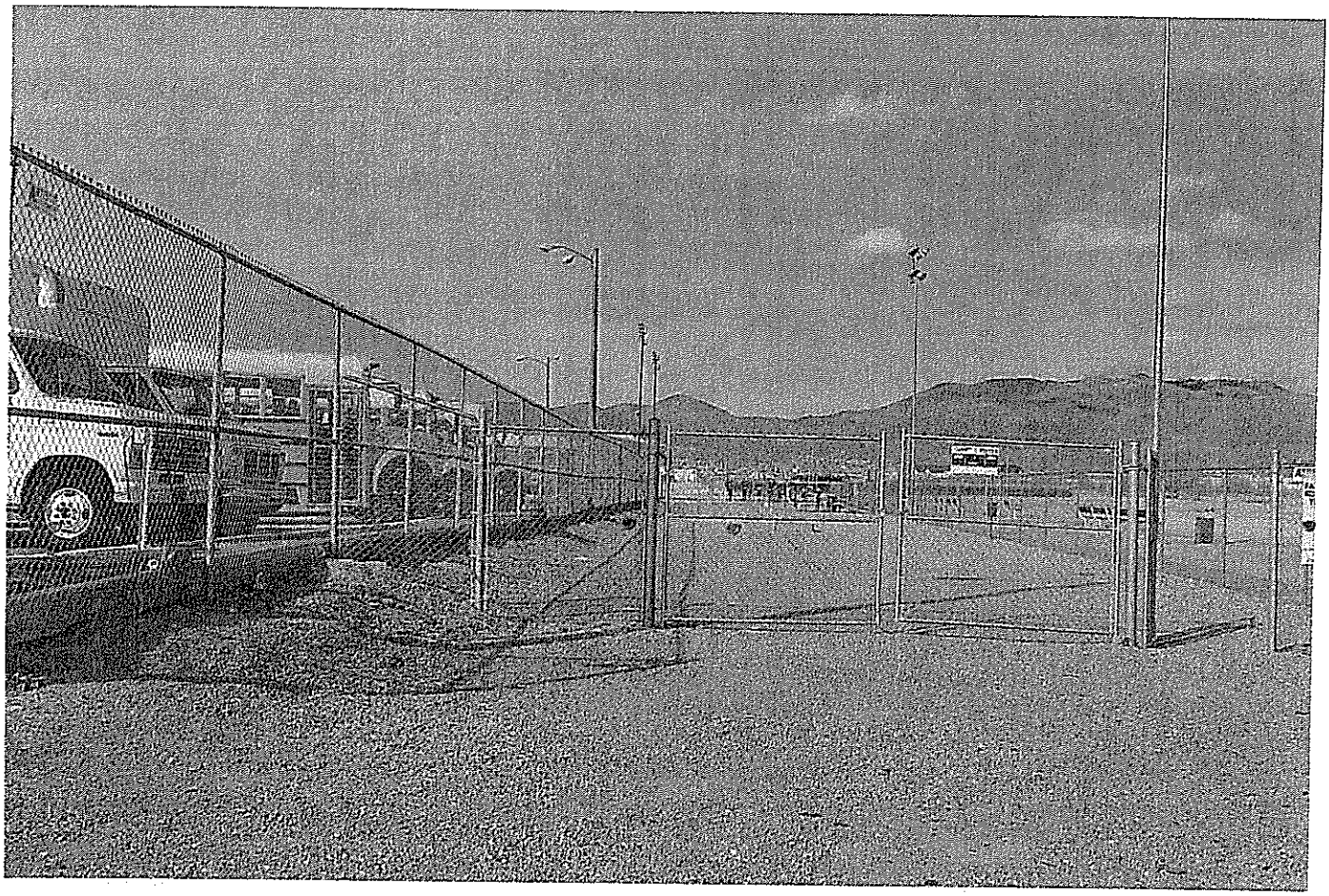
I wish you the best in launching this project soon. It will benefit many.

Regards,

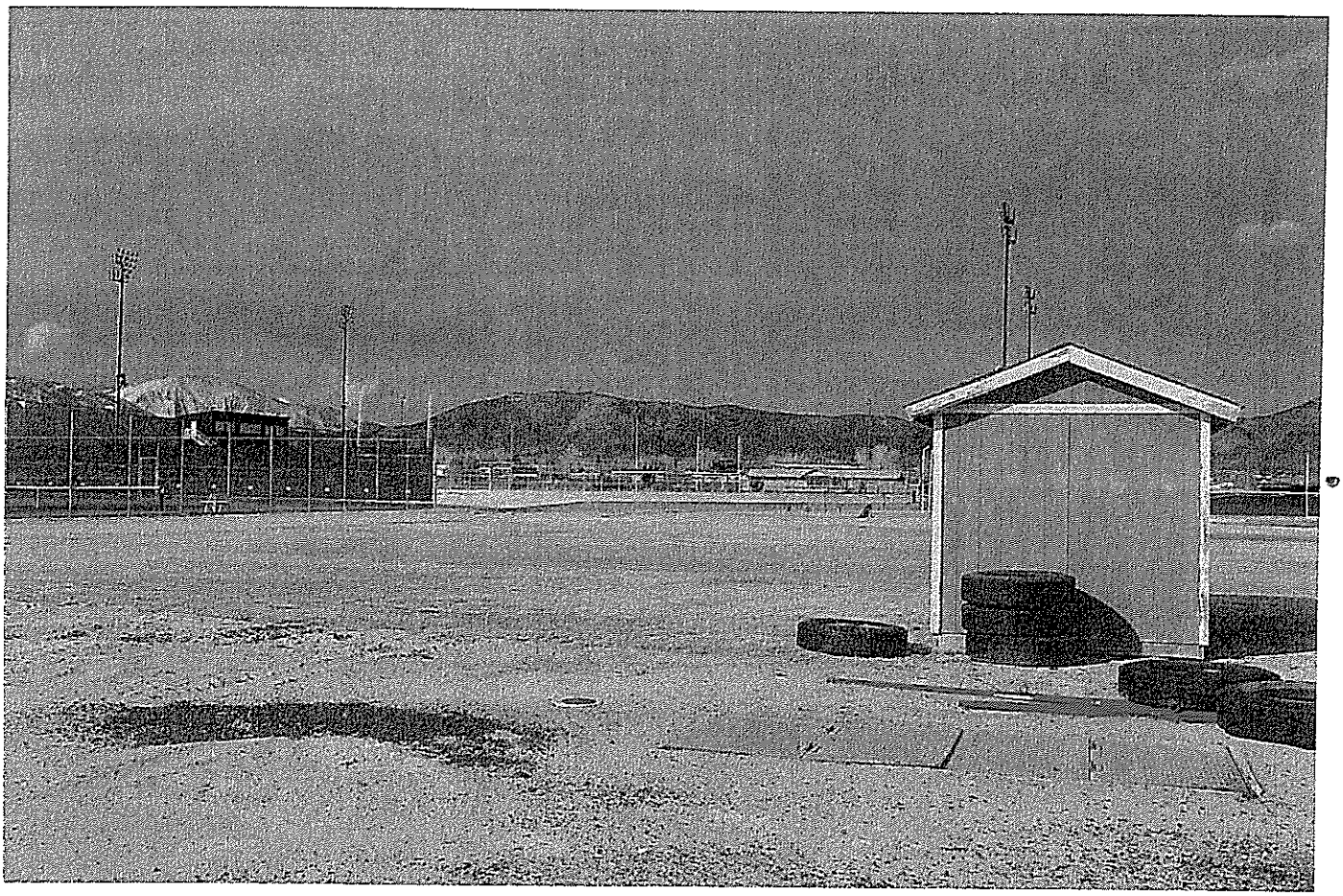
Pam Graber
312 Tahoe Drive
Carson City, NV 89703
775 883 2345
775 220 4151



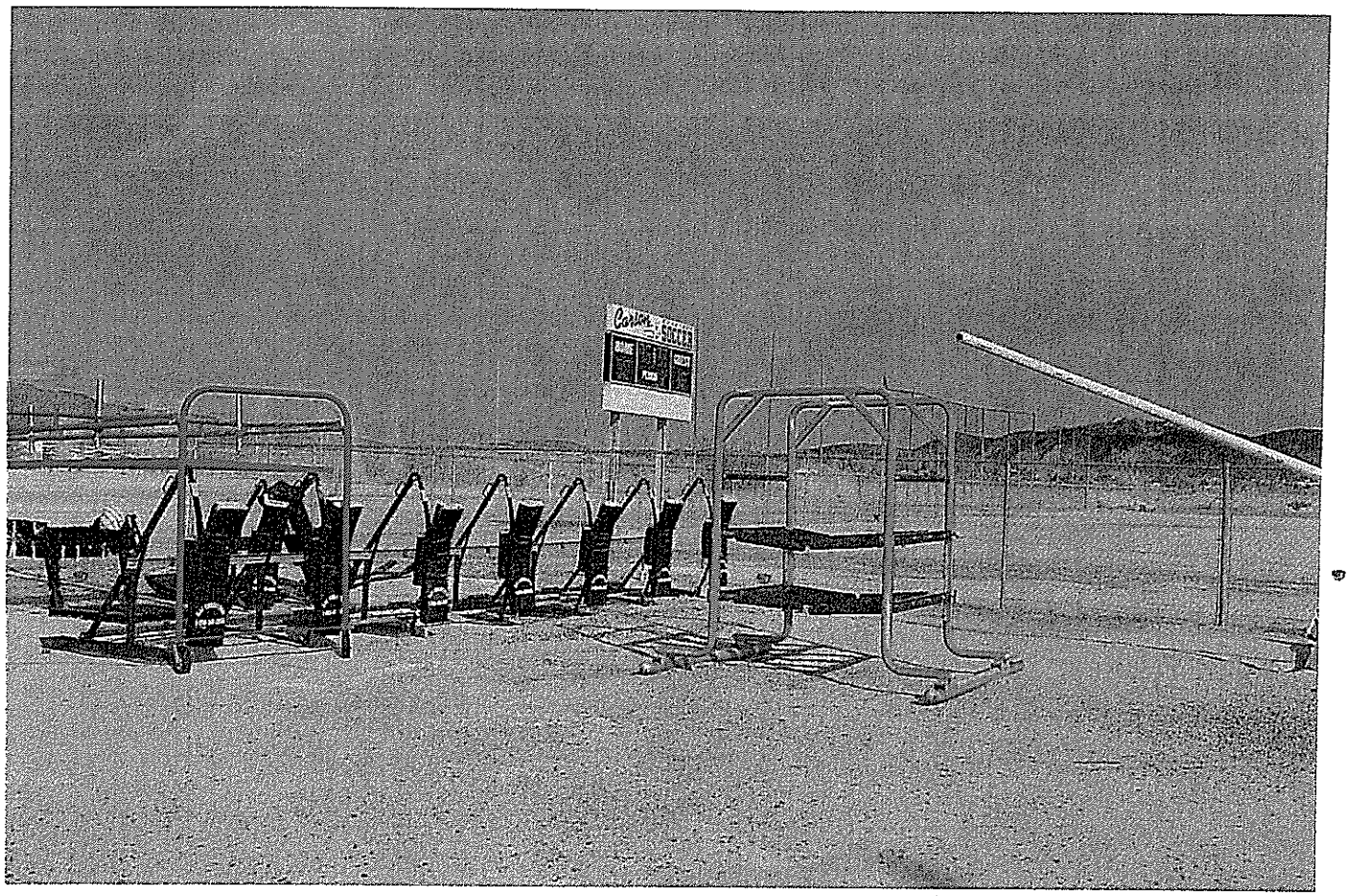
Looking west on Robinson from entrance to TGP site



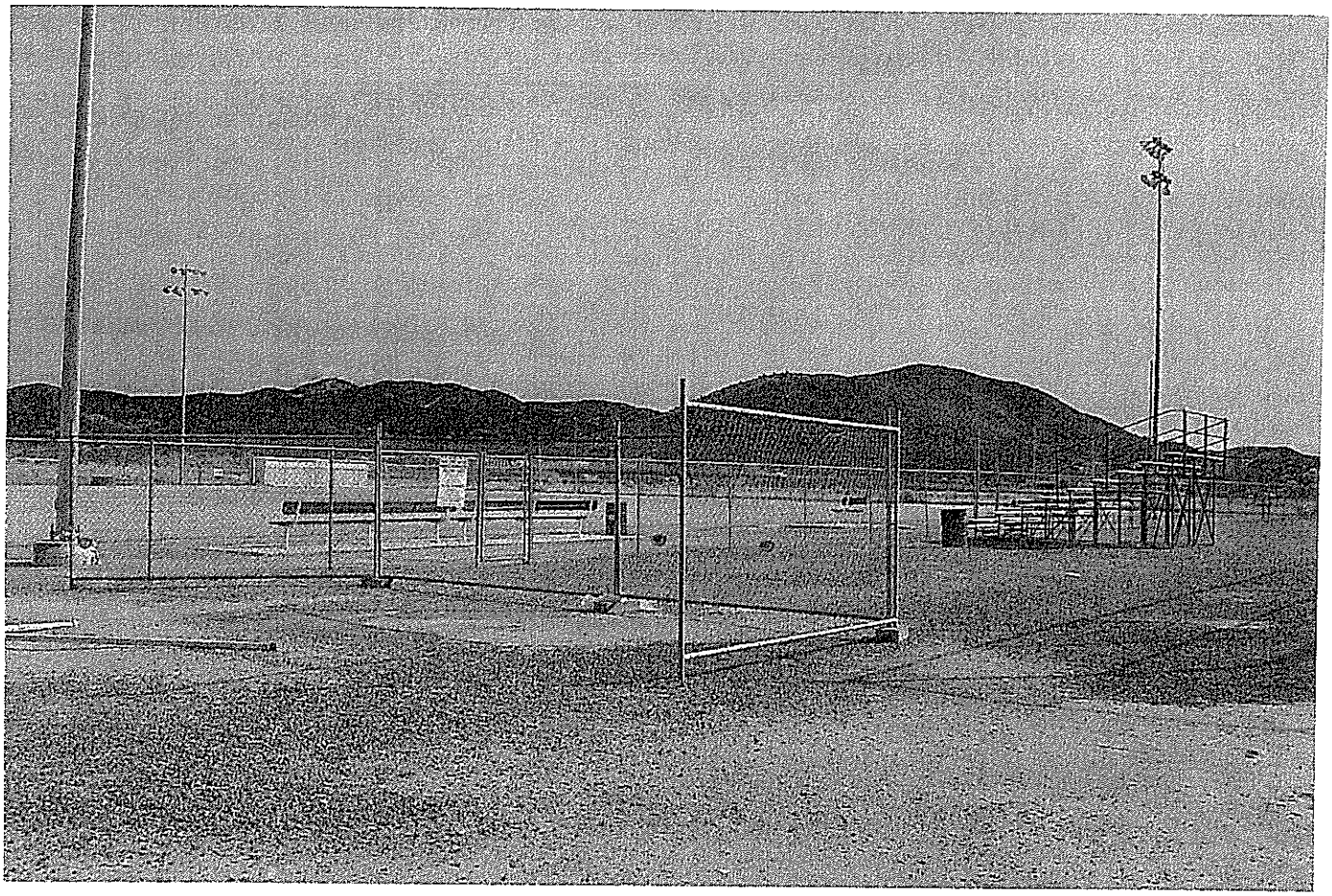
Looking north from Robinson to entrance to TGP site



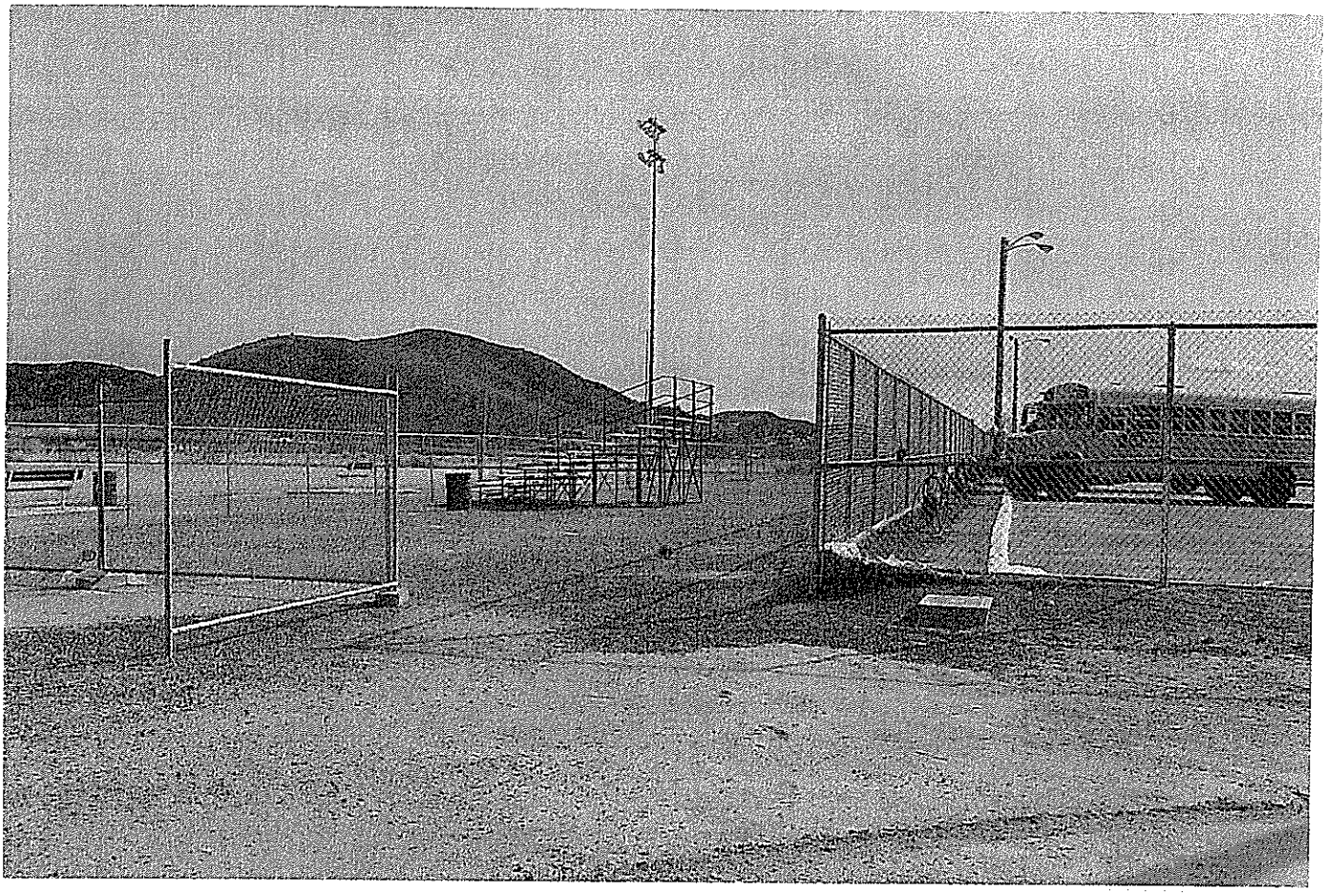
View to the north from future greenhouse location



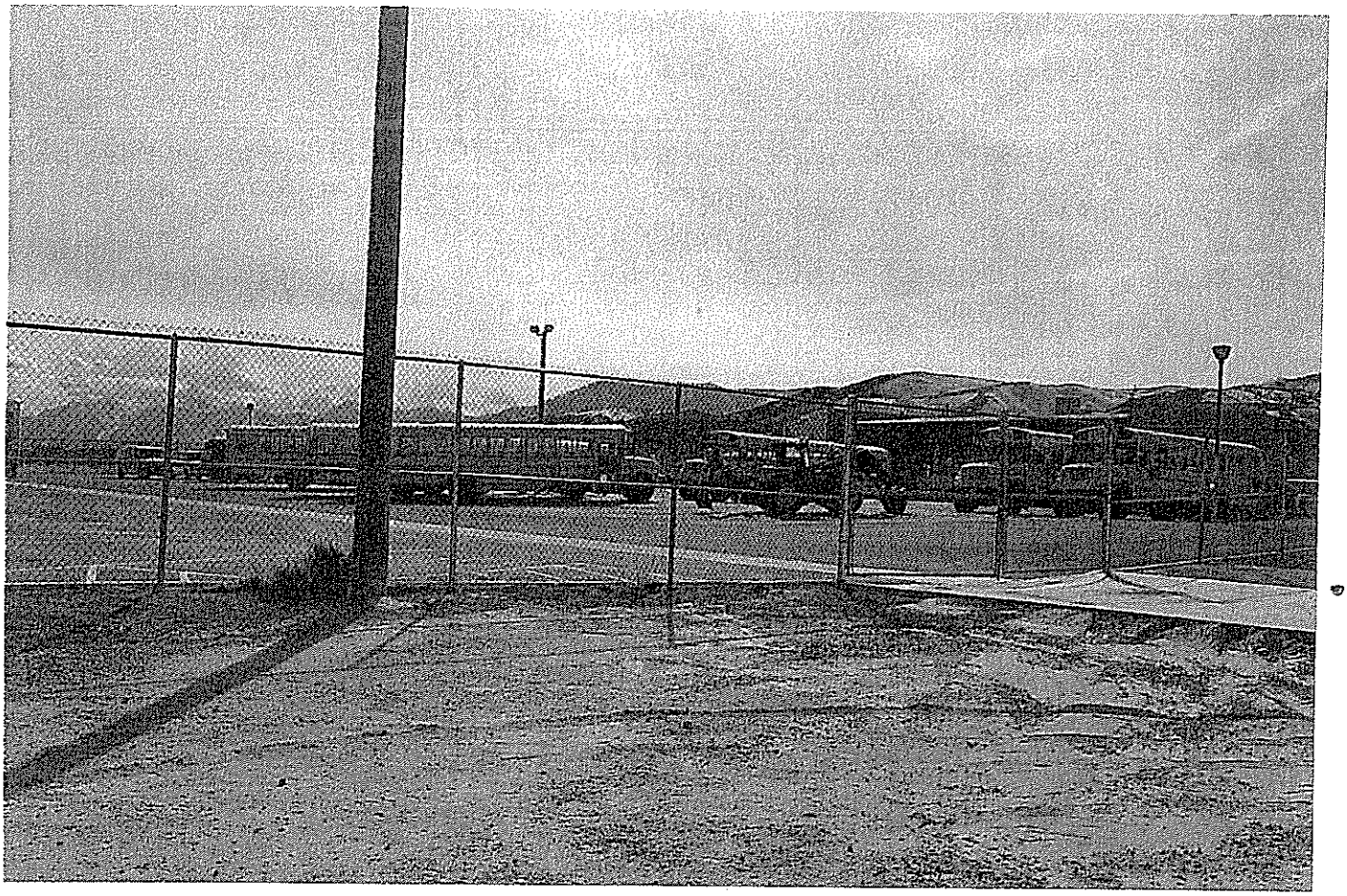
Looking N.E. from TGP site



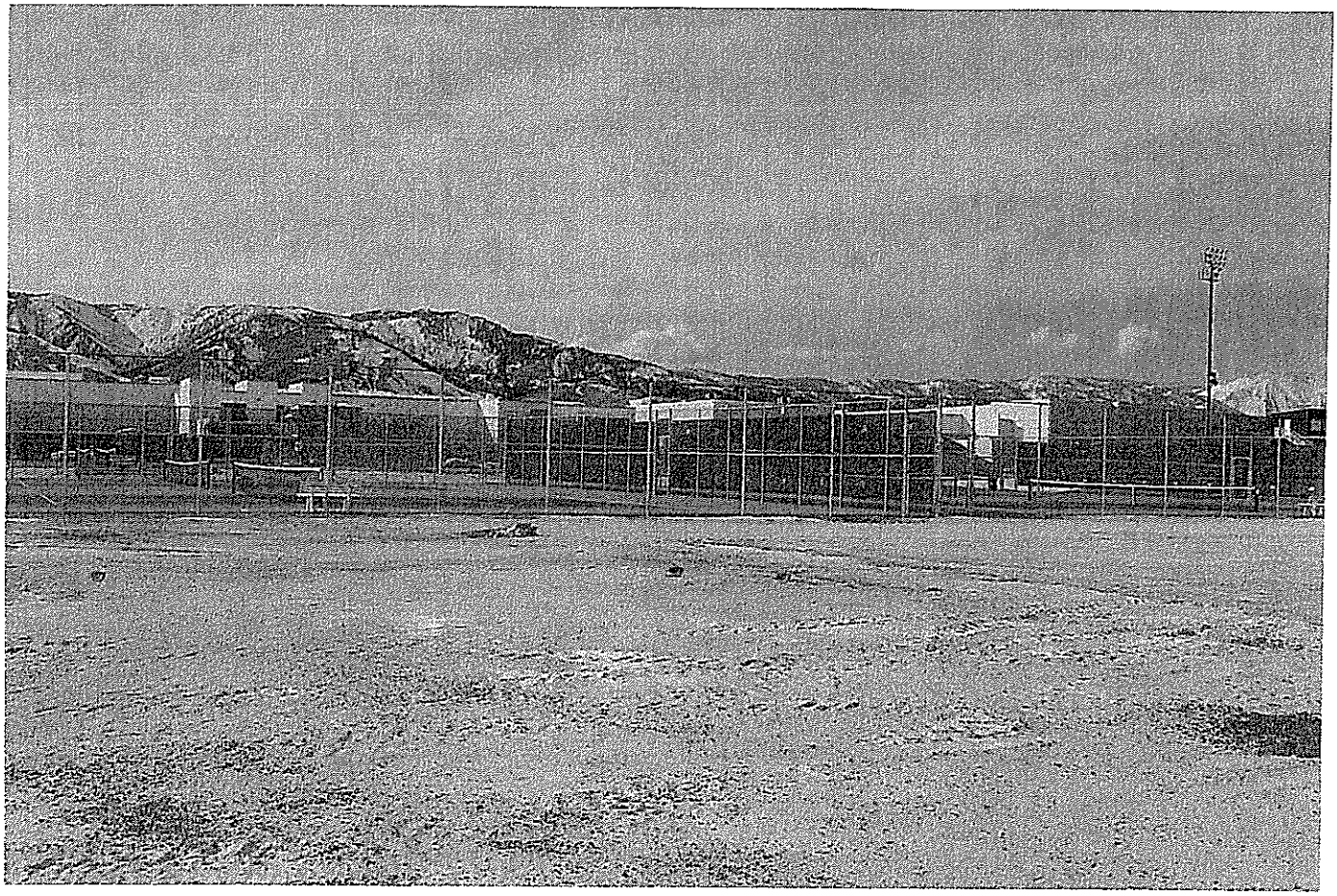
Looking S.E. from TGP site



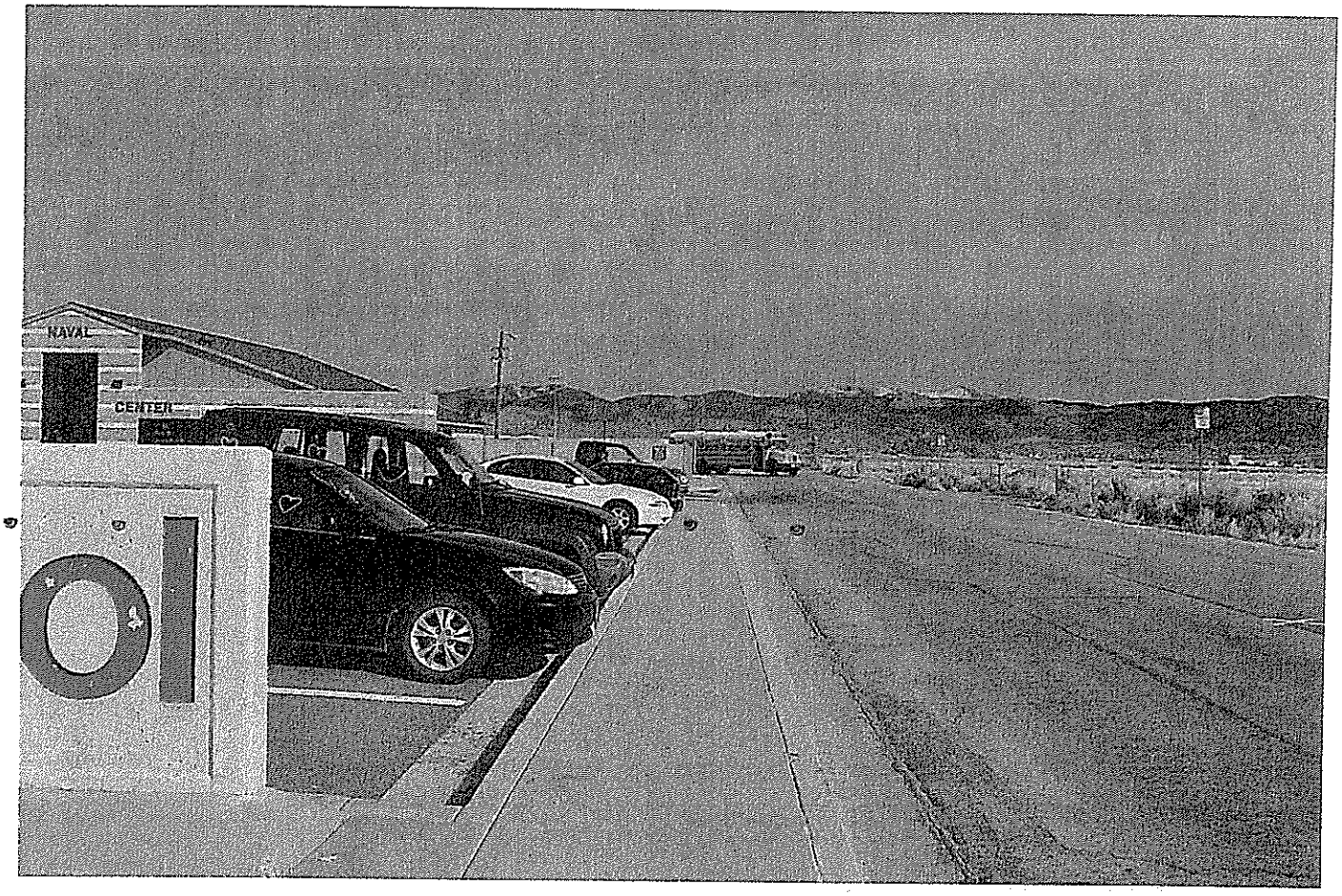
View from approximate location of greenhouse south towards TGP Entrance and plant bed area (viewing stand to be removed)



Looking S.W. from approximate site of greenhouse



View to the west, and slightly north from the future greenhouse location



Robinson street – bus pulling out of bus barn to the west of TGP site

Carson City Planning Division
2621 Northgate Lane, Suite 62 • Carson City NV 89706
Phone: (775) 887-2180 • E-mail: plandept@ci.carson-city.nv.us

FOR OFFICE USE ONLY:

CCMC 18.02

FILE # SUP - 10 -

SPECIAL USE PERMIT

FEE: $2,450.00 MAJOR
$2,200.00 MINOR (Residential zoning districts)
+ noticing fee and CD containing application digital data (all to be submitted once the application is deemed complete by staff)

Carson City School District C/O Richard Stokes, Superintendent
PROPERTY OWNER

1402 W. King Street Carson City, NV 89703
MAILING ADDRESS, CITY, STATE, ZIP

775-283-2000 775-283-2090
PHONE # **FAX #**

Name of Person to Whom All Correspondence Should Be Sent

Mark Rotter, Manhard Consulting
APPLICANT/AGENT

3470 Executive Pointe Way, suite 12 Carson City Nevada 89706
MAILING ADDRESS, CITY, STATE ZIP

775-882-5630 775-885-7282
PHONE # **FAX #**

MRotter@Manhard.com
E-MAIL ADDRESS

SUBMITTAL PACKET

- ☐ 6 Completed Application Packets (1 Original + 5 Copies) including:
- ☐ Application Form
- ☐ Site Plan
- ☐ Building Elevation Drawings and Floor Plans
- ☐ Proposal Questionnaire With Both Questions and Answers Given
- ☐ Applicant's Acknowledgment Statement
- ☐ Documentation of Taxes Paid-to-Date (1 copy)
- ☐ Project Impact Reports (Engineering) (4 copies)

Application Reviewed and Received By:

Submittal Deadline: See attached PC application submittal schedule.
Note: Submittals must be of sufficient clarity and detail such that all departments are able to determine if they can support the request. Additional information may be required.

Project's Assessor Parcel Number(s):	Street Address	ZIP Code
010-041-64	1111 N. Saliman Road	89701

Project's Master Plan Designation	Project's Current Zoning	Nearest Major Cross Street(s)
Public/Quasi Public	P	Robinson/Saliman

Briefly describe your proposed project: (Use additional sheets or attachments if necessary). In addition to the brief description of your project and proposed use, provide additional page(s) to show a more detailed summary of your project and proposal. In accordance with Carson City Municipal Code (CCMC) Section: 18.04.170, or Development Standards, Division ____, Section ____, a request to allow as a conditional use is as follows:

A greenhouse and vegetable/flower garden plots within the campus of Carson City High School, upon land owned by the Carson City School District to be leased to The Greenhouse Project. Please see the attached sheets and documents for a more detailed description.

PROPERTY OWNER'S AFFIDAVIT

I, _____, being duly deposed, do hereby affirm that I am the record owner of the subject property, and that I have knowledge of, and I agree to, the filing of this application.

Signature _____ Address _____ Date _____

Use additional page(s) if necessary for other names.

STATE OF NEVADA)
COUNTY)

On _____, 2____, _____,
personally appeared before me, a notary public, personally known (or proved) to me to be the person whose name is subscribed to the foregoing document and who acknowledged to me that he/she executed the foregoing document.

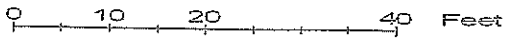
_____
Notary Public

NOTE: If your project is located within the historic district, airport area, or downtown area, it may need to be scheduled before the Historic Resources Commission, the Airport Authority, and/or the Redevelopment Authority Citizens Committee prior to being scheduled for review by the Planning Commission. Planning personnel can help you make the above determination.

SITE PLAN CHECKLIST

The site plan shall be drawn on quality paper (minimum size of 8.5 inches by 11 inches) at an appropriate scale or dimension to depict the parcel. Any site plan larger than 8.5 inches by 11 inches must be folded. The site plan shall include the following information:

1. Show a north point arrow and plot plan scale. A bar scale is preferred because when the drawings are reduced, it will still show an accurate scale. A bar scale could appear like this for a project that has a scale of one inch equals 20 feet on the original plot plan:



2. Vicinity map must be shown on the plot plan. This is a map, not to scale, that you would provide a visitor unfamiliar with the area as directions to get to your property. It will show adjacent streets.

3. Title block in lower right-hand corner including:
   (a) Applicant's name, mailing address, and daytime phone number (including area code).
   (b) The name, mailing address, and daytime phone number of the person preparing the plot plan, if different from applicant.
   (c) The name, mailing address, and daytime phone number of the record owner of the subject property, if different from applicant.
   (d) Assessor Parcel Number(s) (APN) and address (location, if no address) of the subject property.
   (e) Project title and permit request. (Example: Variance, Special Use Permit).

4. Property lines of the subject property with dimensions indicated.

5. All existing and proposed structures shall be shown, including:
   (a) Distances from property lines indicated by dimensions.
   (b) Distances between buildings shall be indicated on the plot plan.
   (c) Clearly label existing and proposed structures and uses, and show dimensions.
   (d) Square footage of all existing and proposed structures.
   (e) If a commercial or multi-family project, show all elevations and submit roof plans showing all proposed roof equipment and means of screening from view along with plans for trash receptacle screening and loading/unloading area location and design.
   (f) Elevations of any proposed structures/additions.

6. Project access:
   (a) Show the location of proposed street access and all existing accesses of neighboring properties including across the street.
   (b) Show adjoining street names.
   (c) Show all curb cuts with dimension.

7. Show the Assessor Parcel Number(s) of adjoining parcels.

8. Show all existing and proposed parking, landscape islands and traffic aisles, with dimensions.

9. Show location of existing and proposed utilities and drainage facilities, and indicate whether overhead or underground. Show the location of any septic lines/fields.

10. If specific landscape areas are required or provided, show with dimensions.

11. Show location of all proposed amenities, such as gazebos, retaining walls, retention areas, etc.

12. PROJECT IMPACT REPORTS - Provide **four** copies of documentation regarding project impacts related to traffic, drainage, water, and sewer, including supportive calculations and/or reports required per the Carson City Development Standards Divisions 12,14 and 15.

Submit 6 copies of the entire application and site plans, including the original, or a very clear, high quality reproduction that may be used for generating additional copies. If 6 large blueprints are submitted, one 8.5 inch by 11 inch plan must also be submitted.

The Greenhouse Project

Question 1. How will the proposed development further and be in keeping with, and not contrary to, the goals of the Master Plan Elements?

Answer: This project is unique, and its deep resonance with the goals of the Master Plan is not adequately expressed in the Master Plan Policy Checklist. Each of the themes in the Carson City Master Plan is an outgrowth of the underlying vision stated at the beginning of the plan:

Carson City is a community which recognizes the importance of protecting and enhancing its unique western heritage and distinct character; the scenic and environmental quality of its dramatic natural surroundings; and the quality of life of its residents. It is a city which takes great pride in its role as Nevada's state capital and strives to offer its residents a balanced community with a diverse range of housing, employment, educational, shopping and recreational opportunities; and a vital community which provides financial and social support for quality of life programs. Carson City Master Plan 2.1

One of the key attributes of western heritage is self-reliance. The Greenhouse Project will instill the tradition of self-reliance in the residents, primarily students, who use the facility to learn how to grow food in an environmentally sustainable way. The students will receive a practical education in plant propagation, cultivation, harvesting, marketing and distribution. They will also learn about nutrition and the rewards of civic engagement. The food which they produce will be used in the school culinary program and local food banks. The flowers which are produced at the facility will be sold at the Carson City Farmer's market and used in the flower baskets on Carson Street, in the Downtown Center.

The Greenhouse and Gardens will *provide a balanced land use pattern* by promoting water and energy conservation. The facilities will be constructed to provide a permissible use of a portion of the high school property that is within a floodway, and therefore otherwise of limited utility. The site is an infill site within the high school campus. All utilities exist at the site and this project will use solar power, to promote energy conservation.

A very important aspect of this site (as opposed to other sites that were evaluated) is that it is located in the center of Carson City, in a location which is accessible to all of its residents. While the Project is not a traditional park, gardening is a multi-generational recreational activity. Our Master Plan "seeks to continue to provide a diverse range of ... recreational opportunities to include facilities and programming for all ages..." Master Plan 2.4. This Project will provide *an equitable distribution of recreational opportunities.*

The *economic vitality* of the community will be enhanced by training students in marketable skills and nutrition. The flowers which are grown will enhance the farmer's market and promote the revitalization of the downtown core. In addition to enhancing the high school campus aesthetically , it is anticipated that participants in the Project will apply the gardening skills they have learned to their own gardens, thereby promoting *livable neighborhoods and activity centers.*

This site was preferred by the personnel at the high school because the students can easily access the site on foot from their classrooms. The use of the site for this purpose will promote a sense of community and a more *connected city.*

Question 2. Will the effect of the proposed development be detrimental to the immediate vicinity? To the general neighborhood?

A. Adjoining Land Uses.

This site is surrounded by Carson City High School. To the north of the High School, along Highway 50, the land is commercially zoned and master planned. To the west of CCHS, there is Mills Park (zoned P and master planned for parks and recreation) and a medium density residential area. To the south is the Lompa Ranch which is zoned agriculturel and master planned for mixed residential use and the LDS church, which is zoned P and master planned for mixed residential use. To the east is the Lompa Ranch, which is zoned agriculture and master planned for mixed commercial use.

While each of the land uses described above neighbor the high school campus, they are not adjacent to the Project site, which is surrounded by the High School campus. Within the high school campus, the Project site is surrounded by the tennis courts to the west, the outdoor fields to the north and west and the bus barn to the south. There will be no neighboring private landowners adjacent to the greenhouse facilities and gardens.

B. No Negative Impact on Neighborhood.

The greenhouse will be constructed from material that does not generate glare, and the Project will not generate noise dust or similar nuisance which could disturb the neighbors. The physical activity will be less than the other physical activity undertaken outside on the high school grounds. The solar panels are shown on the site plan. They will be free standing on the ground facing south and will be less than eight feet tall.

The project will involve uses outside of the greenhouse building. As is shown on the site plan, there will be many vegetable and flower beds which will be tended to by Project participants. It is not anticipated that dust will be generated by the minimal construction which will be undertaken. In the event that dust is generated appropriate dust management procedures will be utilized.

Photographs of the proposed greenhouse structure and specifications are included in the submittal package. To our knowledge, no greenhouse of similar size exists in Carson City. However, the greenhouse is substantially smaller in size (2,160 s.f.) than many of the other buildings on the high school campus as well as the neighboring LDS Church.

C. Project Will not be Detrimental to Neighbor's Use and Enjoyment of their Property.

This project will not be detrimental to the use, peaceful enjoyment or development of the surrounding properties or the general neighborhood. Physically, the project involves minimal construction, most of the site will be used for access and gardening plots. The first phase of the Project will be the assembly and activation of the greenhouse itself. The intention is to undertake this phase during the summer months. Thereafter the exterior irrigation and plant beds will be completed.

The activity generated by the Project will be quiet, day time activity six or seven days per week. The majority of people using the facility will already be present on site as high school students. Additionally, there will be two employees (one part time) and community and student volunteers who will access the Project by driving east on Robinson Street from North Saliman.

D. Impacts on Pedestrian and Vehicular Access.

The intersection of Robinson and Saliman is controlled by stop signs in each of the four directions of travel. From that intersection, Robinson Street goes westerly, terminating at the approximate entrance to the project site. It is estimated that the Project will generate less than 30 trips

per day, even during peak usage. Many of the students accessing the site will do so from the high school campus, where they will be already present as students. Other student participants in the educational/vocational programs sponsored by the Project may come from elementary and middle schools. The School District's Bus Barn is located adjacent to the Project site.

This site was designated by the personnel at the high school because it is hoped to provide safe and convenient access to the students. Traffic will not substantially increase and no additional walkways and traffic lights will be needed.

E. Short and Long Range Benefit to the People of Carson City.

Upon approval of the Special Use Permit, it is anticipated that it will take less than six months until the greenhouse will become operational. The immediate benefit to the people of Carson City will be in training its students responsible methods to raise food. The project is projected to provide 20 students who are pre-qualified as LMI paid work/study positions. All staff and volunteers will be required to be fingerprinted and to satisfactorily complete a criminal background check as is required of all employees and volunteers who work around school age children in our district.

Within a growing season, the Project will provide food for the school culinary program (10%) and local food banks (90%). Educational programs put on by the Project will be available to those who live in Carson City who have a desire to learn how to grow their own vegetables and ornamental flowers.

The Project will provide cut flowers for the flower basket program in the Downtown Core.

Question 3. Has sufficient consideration been exercised by the applicant in adapting the project to existing improvements in the vicinity?

A. How will your project affect the school district? Will your project add to the student population or will it provide a service to the student population? How will your project affect the Sheriff's Office?

This project is located on the existing Carson City High School and will benefit the students.

B. If your project will result in the covering of land area with paving or a compacted surface, how will drainage be accomplished?

Currently, water drains to the east. With this project the drainage patterns will be maintained. Water will be picked up in a new catch basin and conveyed to the existing storm drain main running to the east directly north of the project site.

C. Are the water supplies serving your project adequate to meet your needs without degrading supply quality to others in the area? Is there adequate water pressure? Are the lines in need of replacement?

The Greenhouse's plumbing consists of one sink and a separate rest room facility. The water usage will include water for the garden plots. This water usage will be small and will not deplete the water supply. There are existing water lines that run throughout the parcel to service the High School and several fire hydrants. With this project we will extend the 6" water line to the east and connect it to the building.

The project site is located within the 4880 water zone, the rough elevation of our site is 4640, which indicates approximately 100 psi static pressure. With this pressure, our small demand of approximately 10 gpm will not impact the system.

D. Is there adequate capacity in the sewage disposal trunk line that you will connect to in order to serve your project, or is your site on a septic system?

This project will generate a small amount of sewage from the drain in the one sink and a few employees. This area is serviced by an 18" Sewer Trunk main. This main has been analyzed with the sewer master plan prepared by Manhard Consulting. The sewer model shows this line has capacity for this project.

E. What kind of road improvements are proposed or needed to accommodate your project?

Since this project is located on the school property, only an access road to the Greenhouse from Robinson is proposed.

F. Indicate the source of the information that you are providing to support your conclusions and statements made in this packet.

Information, conclusions and statements are by private engineer.

G. If outdoor lighting is to be a part of the project, please indicate how it will be shielded from adjoining property and the type of lighting provided.

No outdoor lighting is expected. The high school has outdoor lighting in place.

H. Describe the proposed landscaping, including screening and arterial landscape areas (if required by the zoning code). Include a site plan with existing and proposed landscaping shown on the plan which complies with City Ordinance requirements.

This project includes a large amount of garden plots as part of the operations, no other landscaping is provided.

I. Provide a parking plan for your project. If you are requesting approval for off-site parking within 300 feet, provide site plans showing (1) parking on your site, (2) parking on the off-site parking lot), and (3) how much of the off-site parking area is required for any business other than your own. Design and dimensions of parking stalls, landscape islands, and traffic aisles must be provided.

This project required four parking spaces, one of which needs to be handicap accessible. The parking is shown on the site plan.

ACKNOWLEDGMENT OF APPLICANT

I certify that the forgoing statements are true and correct to the best of my knowledge and belief. I agree to fully comply with all conditions as established by the Planning Commission. I am aware that this permit becomes null and void if the use is not initiated within one year of the date of the Planning Commission's approval; and I understand this permit may be revoked for violation of any of the conditions of approval. I further understand that approval of this application does not exempt me from all the City Code requirements.

_____ _____

Applicant Date

SPECIAL USE PERMIT APPLICATION QUESTIONNAIRE

PLEASE TYPE OR PRINT IN BLACK INK ON SEPARATE SHEETS. ATTACH TO YOUR APPLICATION.

State law requires that the Planning Commission, and possibly the Board of Supervisors, consider and support the questions below with facts in the record. These are called "FINDINGS". Since staff's recommendation is based on the adequacy of your findings, you need to complete and attach the Proposal Questionnaire with as much detail as possible to ensure that there is adequate information supporting your proposal.

The questionnaire lists the findings in the exact language found in the Carson City Municipal Code (CCMC), then follows this with a series of questions seeking information to support the findings.

(On an attached sheet, list each question, read the explanation, then write your answer in your own words.)

Answer the questions as completely as possible so that you provide the Commission and possibly the Board with details that they will need to consider your project. If the question does not apply to your situation, explain why. BEFORE A SPECIAL USE PERMIT CAN BE GRANTED, FINDINGS FROM A PREPONDERANCE OF EVIDENCE MUST INDICATE THAT THE FACTS SUPPORTING THE PROPOSED REQUEST ARE INCORPORATED INTO YOUR APPLICATION.

GENERAL REVIEW OF PERMITS

Source: CCMC 18.02.080. (1) The Planning Commission, and possibly the Board of Supervisors, in reviewing and judging the merit of a proposal for a special use permit shall direct its considerations to, and find that in addition to other standards in this title, the following conditions and standards are met:

Question 1. How will the proposed development further and be in keeping with, and not contrary to, the goals of the Master Plan Elements?

Explanation

A. Turn to the Master Plan Policy Checklist. The Master Plan Policy Checklist for Special Use Permits and Major Project Reviews address five items that appear in the Carson City Master Plan. Each theme looks at how a proposed development can help achieve the goals of the Carson City Master Plan. Address each theme; a check indicates that the proposed development meets the applicable Master Plan Policy. In your own words provide written support of the policy statement. You may want to acquire a free CD or purchase a paper copy of the Master Plan from the Planning Division, or review the copy in the Planning Office or in the reference section of the Ormsby Public Library on Roop Street, or use our website at www.carson-city.nv.us.

Question 2. Will the effect of the proposed development be detrimental to the immediate vicinity? To the general neighborhood?

Explanation

A. Describe the general types of land uses and zoning designations adjoining your property (for example: North: two houses, Single-Family 12,000 zoning; East: restaurant, Retail Commercial zoning; West: undeveloped lot, Retail Commercial zoning; South: apartment complex, Retail Commercial zoning).

B. Explain why your project is similar to existing development in the neighborhood, and why it will not hurt property values or cause problems, such as noise, dust, odors, vibration, fumes, glare, or physical activity, etc. with neighboring property owners. Will the project involve any uses that are not contained within a building? If yes, please describe. If not, state that all uses will be within a building. Explain how construction-generated dust (if any) will be controlled. Have other properties in your area obtained approval of a similar request? How will your project differ in appearance from your neighbors? Your response should consider the proposed physical appearance of your proposal, as well as comparing your use to others in the area.

C. Provide a statement explaining how your project will not be detrimental to the use, peaceful enjoyment or development of surrounding properties and the general neighborhood.

D. Consider the pedestrian and vehicular traffic that currently exists on the road serving your project. What impact will your development have when it is successfully operating? Will vehicles be making left turns? Will additional walkways and traffic lights be needed? Will you be causing traffic to substantially increase

in the area? What will be the emergency vehicle response time? State how you have arrived at your conclusions. What City department have you contacted in researching your proposal? Explain the effect of your project with the existing traffic in the area.

E. Explain any short-range and long-range benefit to the people of Carson City that will occur if your project is approved.

Question 3. Has sufficient consideration been exercised by the applicant in adapting the project to existing improvements in the vicinity?

Explanation

A. How will your project affect the school district? Will your project add to the student population or will it provide a service to the student population? How will your project affect the Sheriff's Office?

B. If your project will result in the covering of land area with paving or a compacted surface, how will drainage be accommodated? Talk to Engineering for the required information.

C. Are the water supplies serving your project adequate to meet your needs without degrading supply and quality to others in the area? Is there adequate water pressure? Are the lines in need of replacement? Is your project served by a well? Talk to Public Works for the required information.

D. Is there adequate capacity in the sewage disposal trunk line that you will connect to in order to serve your project, or is your site on a septic system? Please contact Public Works for the required information.

E. What kind of road improvements are proposed or needed to accommodate your project? Have you spoken to Public Works or Regional Transportation regarding road improvements?

F. Indicate the source of the information that you are providing to support your conclusions and statements made in this packet (private engineer, Public Works, Regional Transportation, title report, or other sources).

G. If outdoor lighting is to be a part of the project, please indicate how it will be shielded from adjoining property and the type of lighting (wattage/height/placement) provided.

H. Describe the proposed landscaping, including screening and arterial landscape areas (if required by the zoning code). Include a site plan with existing and proposed landscaping shown on the plan which complies with City ordinance requirements.

I. Provide a parking plan for your project. If you are requesting approval for off-site parking within 300 feet, provide site plans showing (1) parking on your site, (2) parking on the off-site parking lot, and (3) how much of the off-site parking area is required for any business other than your own. Design and dimensions of parking stalls, landscape islands, and traffic aisles must be provided.

If there is any other information that would provide a clearer picture of your proposal that you would like to add for presentation to the Planning Commission, please be sure to include this information.

Please type the following signed statement at the end of your application questionnaire.

Master Plan Policy Checklist

Special Use Permit, Major Project Review & Administrative Permits

PURPOSE

The purpose of a development checklist is to provide a list of questions that address whether a development proposal is in conformance with the goals and objectives of the 2006 Carson City Master Plan that are related to non-residential and multi-family residential development. This checklist is designed for developers, staff, and decision-makers and is intended to be used as a guide only.

Development Name: The Greenhouse Project

Reviewed By: _____

Date of Review: _____

DEVELOPMENT CHECKLIST

The following five themes are those themes that appear in the Carson City Master Plan and which reflect the community's vision at a broad policy level. Each theme looks at how a proposed development can help achieve the goals of the Carson City Master Plan. A check mark indicates that the proposed development meets the applicable Master Plan policy. The Policy Number is indicated at the end of each policy statement summary. Refer to the Comprehensive Master Plan for complete policy language.

CHAPTER 3: A BALANCED LAND USE PATTERN

The Carson City Master Plan seeks to establish a balance of land uses within the community by providing employment opportunities, a diverse choice of housing, recreational opportunities, and retail services.

Is or does the proposed development:

- ☐ Meet the provisions of the Growth Management Ordinance (1.1d, Municipal Code 18.12)?
- ☒ Use sustainable building materials and construction techniques to promote water and energy conservation (1.1e, f)?
- ☐ Located in a priority infill development area (1.2a)?
- ☐ Provide pathway connections and easements consistent with the adopted Unified Pathways Master Plan and maintain access to adjacent public lands (1.4a)?
- ☐ Protect existing site features, as appropriate, including mature trees or other character-defining features (1.4c)?

- ☐ At adjacent county boundaries or adjacent to public lands, coordinated with the applicable agency with regards to compatibility, access and amenities (1.5a, b)?
- ☐ In identified Mixed-Use areas, promote mixed-use development patterns as appropriate for the surrounding context consistent with the land use descriptions of the applicable Mixed-Use designation, and meet the intent of the Mixed-Use Evaluation Criteria (2.1b, 2.2b, 2.3b, Land Use Districts, Appendix C)?
- ☐ Meet adopted standards (e.g. setbacks) for transitions between non-residential and residential zoning districts (2.1d)?
- ☒ Protect environmentally sensitive areas through proper setbacks, dedication, or other mechanisms (3.1b)?
- ☒ Sited outside the primary floodplain and away from geologic hazard areas or follows the required setbacks or other mitigation measures (3.3d, e)?
- ☒ Provide for levels of services (i.e. water, sewer, road improvements, sidewalks, etc.) consistent with the Land Use designation and adequate for the proposed development (Land Use table descriptions)?
- ☐ If located within an identified Specific Plan Area (SPA), meet the applicable policies of that SPA (Land Use Map, Chapter 8)?

CHAPTER 4: EQUITABLE DISTRIBUTION OF RECREATIONAL OPPORTUNITIES

The Carson City Master Plan seeks to continue providing a diverse range of park and recreational opportunities to include facilities and programming for all ages and varying interests to serve both existing and future neighborhoods.

Is or does the proposed development:

- ☐ Provide park facilities commensurate with the demand created and consistent with the City's adopted standards (4.1b)?
- ☐ Consistent with the Open Space Master Plan and Carson River Master Plan (4.3a)?

CHAPTER 5: ECONOMIC VITALITY

The Carson City Master Plan seeks to maintain its strong diversified economic base by promoting principles which focus on retaining and enhancing the strong employment base, include a broader range of retail services in targeted areas, and include the roles of technology, tourism, recreational amenities, and other economic strengths vital to a successful community.

Is or does the proposed development:

- ☐ Encourage a citywide housing mix consistent with the labor force and non-labor force populations (5.1i)
- ☐ Encourage the development of regional retail centers (5.2a)
- ☐ Encourage reuse or redevelopment of underused retail spaces (5.2b)?
- ☐ Support heritage tourism activities, particularly those associated with historic resources, cultural institutions and the State Capitol (5.4a)?
- ☐ Promote revitalization of the Downtown core (5.6a)?

- ☐ Incorporate additional housing in and around Downtown, including lofts, condominiums, duplexes, live-work units (5.6c)?

CHAPTER 6: LIVABLE NEIGHBORHOODS AND ACTIVITY CENTERS

The Carson City Master Plan seeks to promote safe, attractive and diverse neighborhoods, compact mixed-use activity centers, and a vibrant, pedestrian-friendly Downtown.

Is or does the proposed development:

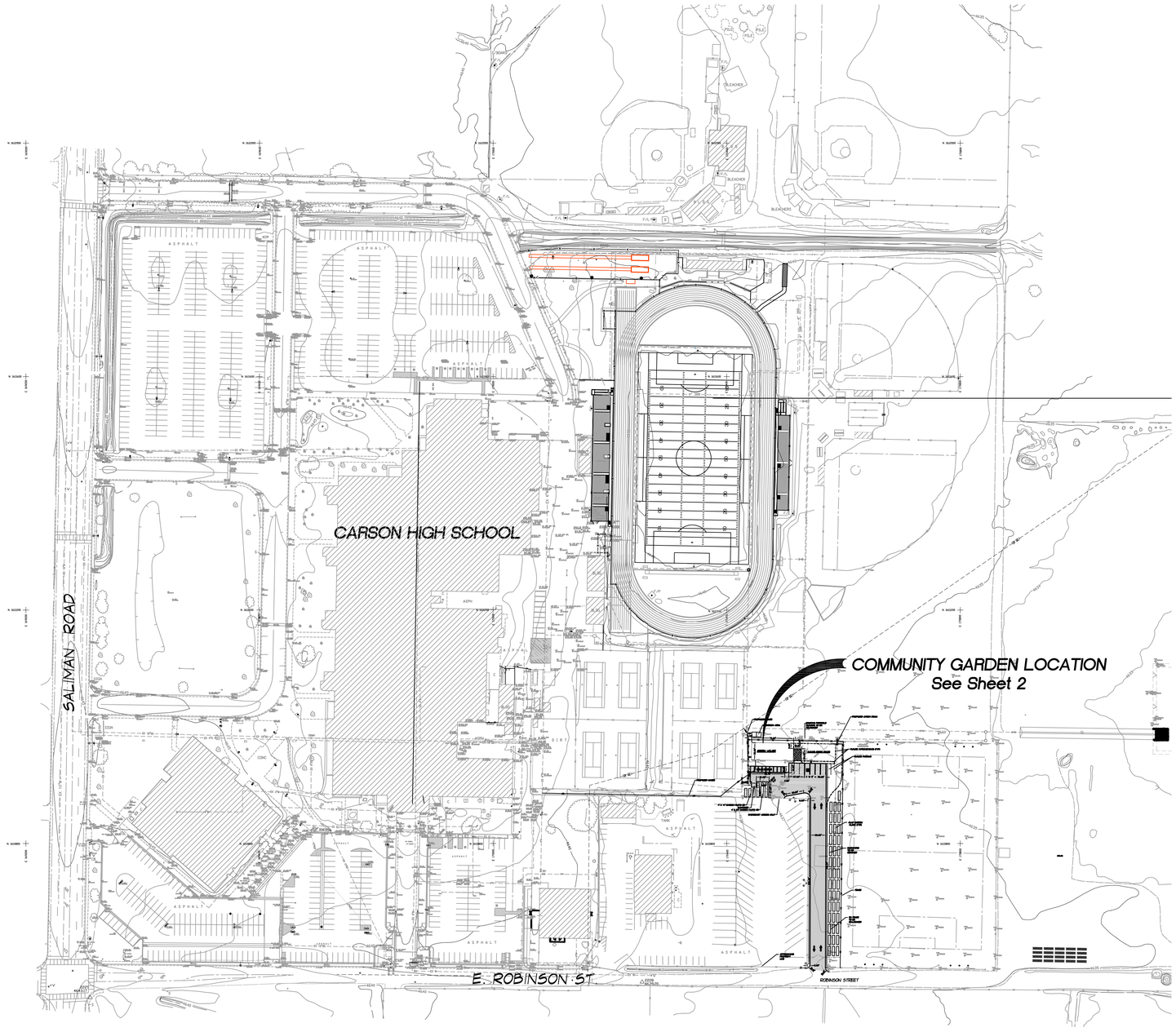
- ☒ Use durable, long-lasting building materials (6.1a)?
- ☒ Promote variety and visual interest through the incorporation of varied building styles and colors, garage orientation and other features (6.1b)?
- ☐ Provide variety and visual interest through the incorporation of well-articulated building facades, clearly identified entrances and pedestrian connections, landscaping and other features consistent with the Development Standards (6.1c)?
- ☐ Provide appropriate height, density and setback transitions and connectivity to surrounding development to ensure compatibility with surrounding development for infill projects or adjacent to existing rural neighborhoods (6.2a, 9.3b 9.4a)?
- ☐ If located in an identified Mixed-Use Activity Center area, contain the appropriate mix, size and density of land uses consistent with the Mixed-Use district policies (7.1a, b)?
- ☐ If located Downtown:
  - o Integrate an appropriate mix and density of uses (8.1a, e)?
  - o Include buildings at the appropriate scale for the applicable Downtown Character Area (8.1b)?
  - o Incorporate appropriate public spaces, plazas and other amenities (8.1d)?
- ☐ Incorporate a mix of housing models and densities appropriate for the project location and size (9.1a)?

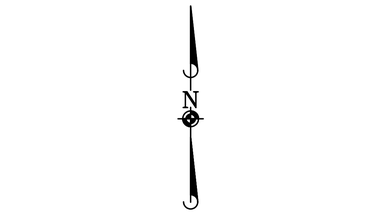
CHAPTER 7: A CONNECTED CITY

The Carson City Master Plan seeks promote a sense of community by linking its many neighborhoods, employment areas, activity centers, parks, recreational amenities and schools with an extensive system of interconnected roadways, multi-use pathways, bicycle facilities, and sidewalks.

Is or does the proposed development:

- ☐ Promote transit-supportive development patterns (e.g. mixed-use, pedestrian-oriented, higher density) along major travel corridors to facilitate future transit (11.2b)?
- ☐ Maintain and enhance roadway connections and networks consistent with the Transportation Master Plan (11.2c)?
- ☐ Provide appropriate pathways through the development and to surrounding lands, including parks and public lands, consistent with the Unified Pathways Master Plan (12.1a, c)?





DRAWN BY CHECK BY

REVISIONS

DATE

Manhard CONSULTING LTD
5176 Executive Pointe Way, Suite 12, Carson City, NV 89706 tel (775) 885-5000 fax (775) 885-7388 www.manhard.com
Civil Engineers • Water Resource Engineers • Surveyors • Water & Wastewater Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

THE GREENHOUSE PROJECT - SPECIAL USE PERMIT

CARSON CITY, NEVADA

SITE PLAN

PROJ. MGR.:	MAR
PROJ. ASSOC.:	RCB
DRAWN BY:	MB
CHECKED BY:	MAR
DATE:	FEB 2010
SCALE:	1" = 30'

SHEET 1 OF 2

KACCN

PRELIMINARY

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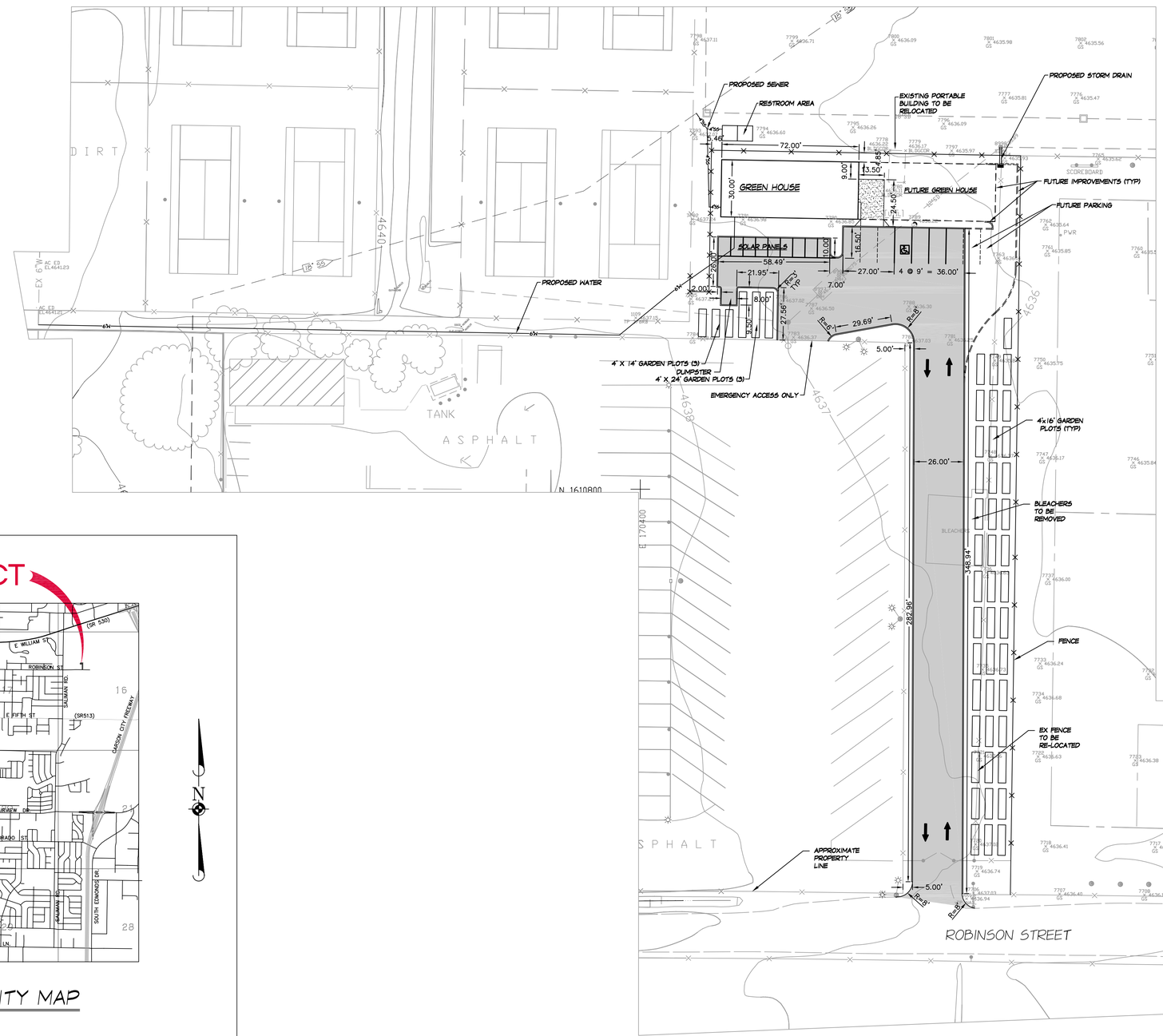
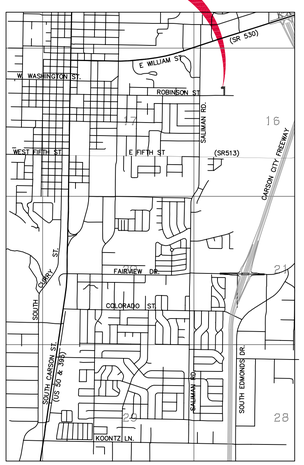


GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

PROJECT



VICINITY MAP

PROPERTY OWENR:

CARSON CITY SCHOOL DISTRICT
c/o RICHARD STOKES, SUPERINTENDENT
1402 W. KING STREET
CARSON CITY, NV 89703
(775) 283-2000

PREPARED BY:

MANHARD CONSULTING LTD.
3476 EXECUTIVE POINTE WAY, STE. 12
CARSON CITY, NV 89706
(775) 882-5630

PROJECT SPECIFICS

APN: 010-041-64
PROJECT ADDRESS: 1111 N. SALIMAN ROAD
EXISTING ZONING: PUBLIC/QUASI PUBLIC
EXISTING MASTER PLAN DESIGNATION: P

NOTES:

1. PROPOSED SITE IS LOCATED WITHIN FEMA ZONE "AE".
2. THERE ARE NO EARTHQUAKE FAULTS ON THIS SITE.
3. THERE ARE NO SLOPES GREATER THAN 15% ON THIS SITE.
4. ALL STRIPED PARKING STALLS ARE 9' x 18.5'.

PARKING RATIO

REQUIRED: 1 SPACE/500 S.F. = 4 SPACES
SPACES FOR HANDICAP= 1 SPACE

DATE	REVISIONS	DRAWN BY	CHECK BY

Manhard CONSULTING LTD
3476 Executive Pointe Way, Suite 12, Carson City, NV 89706 tel: (775) 882-5630 fax: (775) 882-7366 www.manhard.com
Civil Engineers · Water Resource Engineers · Surveyors · Water & Wastewater Engineers
Construction Managers · Environmental Scientists · Landscape Architects · Planners

THE GREENHOUSE PROJECT - SPECIAL USE PERMIT

CARSON CITY, NEVADA

SITE PLAN

PROJ. MGR.:	MAR
PROJ. ASSOC.:	RCB
DRAWN BY:	MB
CHECKED BY:	MAR
DATE:	FEB 2010
SCALE:	1"=30'

SHEET 2 OF 2

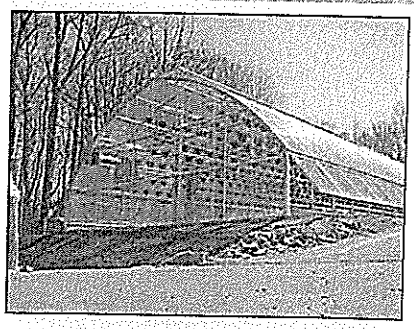
KACCN

PRELIMINARY

February 18, 2010 - 10:42 Dwn Name: P:\Kaccn\data\Civil\Preliminary\SUP.dwg Updated By: cthomas

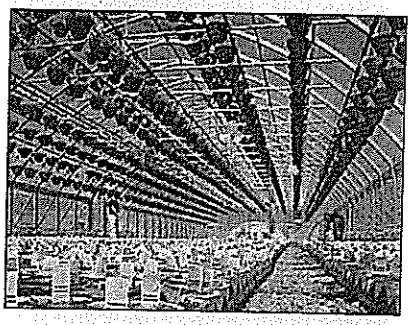
Commercial Growing Structures
COLD FRAMES
RANGER SERIES 2000
SUPER STAR SERIES 3000
SUPER STAR SERIES 3600
FREE AIR SERIES 4000
FREE AIR SERIES 5000
ARCH SERIES 6500
GABLE SERIES 7500
Schools and Institutions
Retail Garden Center Structures
Conley's Hobby Houses
Fresh Air Vents
Ventilation Equipment
Benches
Shade & Heat Retention System
Entry Doors
Carts
Glazing
Conley's Advantage
Company Profile
Manuals & Printable Materials
Terms & Provisions
Financing
Contact Us
Home

RANGER SERIES 2000



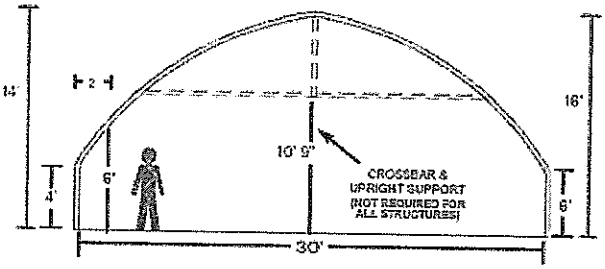
Outstanding features

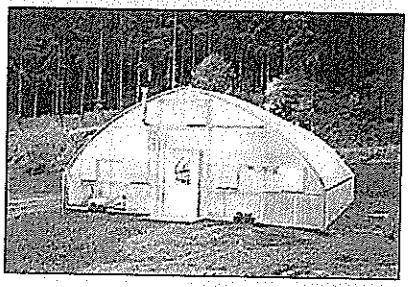
- ROLL-FORM arches, legs, and purlins insure unmatched structural integrity.
- Gothic Arch design is engineered to reduce roof snow build-up and provide maximum headroom.
- Engineered to meet the stringent standards of the International Building Codes.



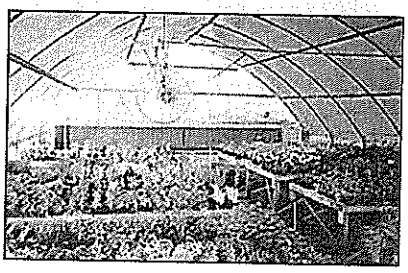
Value

- ROLL-FORM components are engineered to be stronger than conventional greenhouse components.
- Components are shipped pre-punched and cut to length, simplifying the installation.
- ROLL-FORM components nest one onto the other during shipment, substantially reducing freight rates.



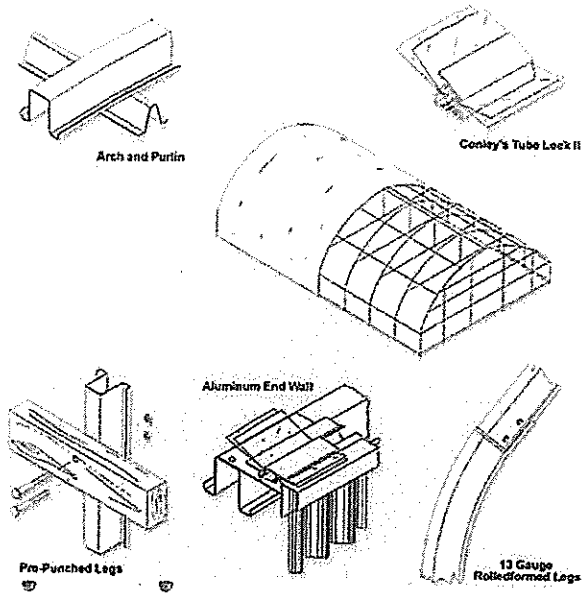


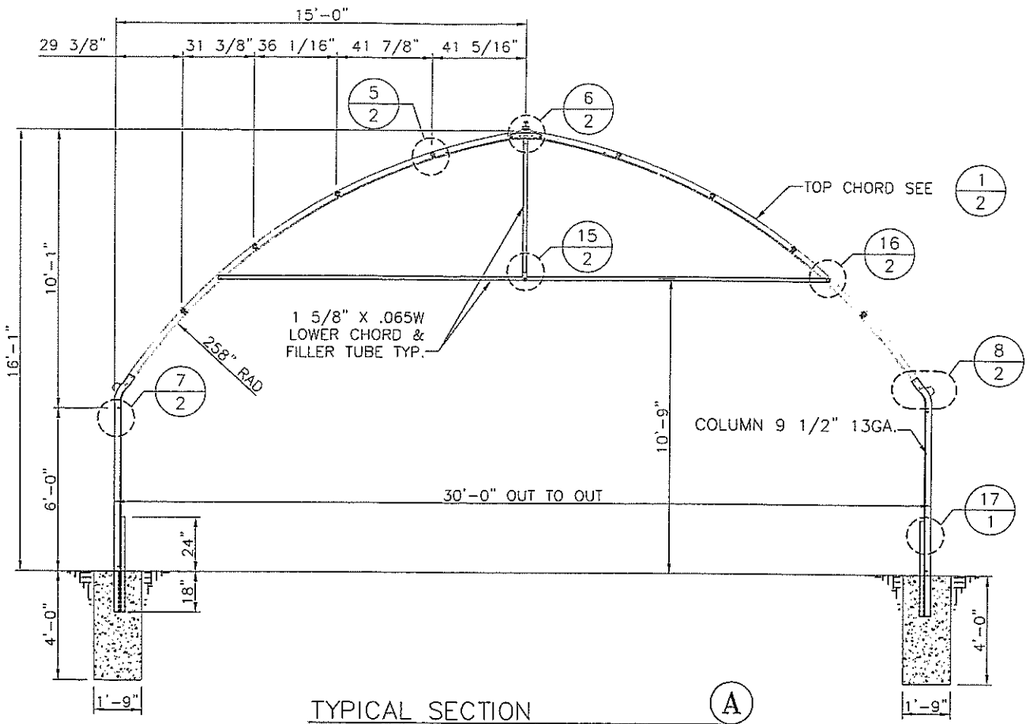
Whether starting out or in an expansion mode, the versatility of the RANGER SERIES 2000 offers a natural no-nonsense solution for obtaining maximum productivity while reducing capitol investments. The RANGER SERIES 2000 is equally at home as a growing area or sophisticated retail center.
It can be covered with polyethylene, shade cloth, or rigid coverings including polycarbonates. Almost 60 years of experience go into each RANGER SERIES 2000 fabricated. Every detail has been field tested and refined to guarantee complete customer satisfaction.



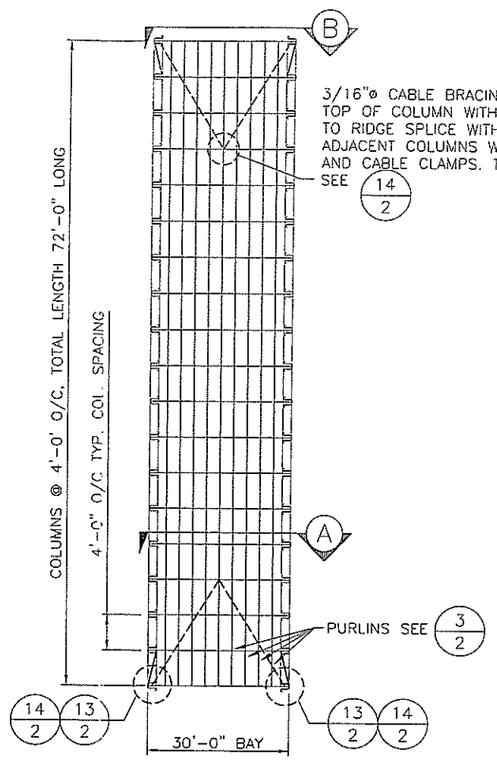
This structure is engineered to meet stringent International Building Code (IBC) specifications.

Specifications

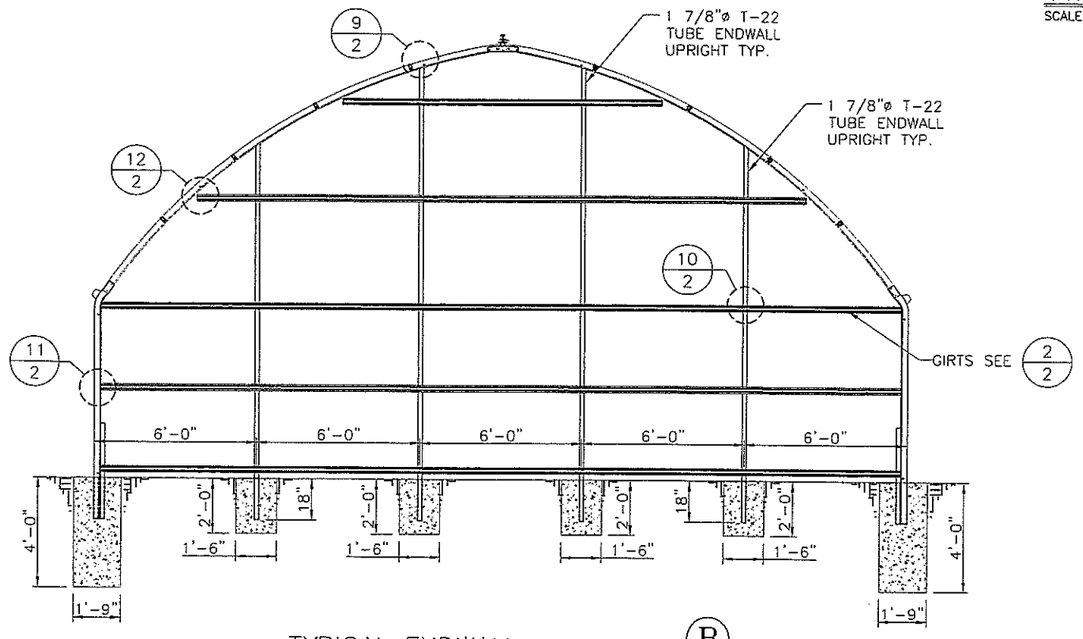




TYPICAL SECTION (A)
SCALE: 3/8" = 1'



TYPICAL PLAN VIEW
SCALE: NTS



TYPICAL ENDWALL (B)
SCALE: 3/8" = 1'

BUILDING SPECIFICATIONS:

THIS STRUCTURE HAS BEEN DESIGNED AND DETAILED FOR THE LOADS AND CONDITIONS SHOWN ON THESE DRAWINGS. ANY ALTERATIONS TO THE STRUCTURAL SYSTEM OR REMOVAL OF ANY COMPONENT PARTS OR THE ADDITION OF OTHER CONSTRUCTION MATERIALS OR LOADS MUST BE DONE UNDER THE ADVICE AND DIRECTION OF A REGISTERED ARCHITECT, CIVIL OR STRUCTURAL ENGINEER. CONLEY'S MANUFACTURING & SALES WILL ASSUME NO RESPONSIBILITY FOR ANY LOADS NOT INDICATED.

THIS METAL BUILDING IS DESIGNED WITH CONLEY'S MANUFACTURING & SALES DESIGN PRACTICES WHICH ARE BASED ON PERTINENT PROCEDURES AND RECOMMENDATIONS OF THE FOLLOWING ORGANIZATIONS AND CODES, AND ARE ACCEPTED PRACTICES IN THE LOW RISE METAL AND AGRICULTURAL BUILDING INDUSTRY.

AMERICAN INSTITUTE OF STEEL CONSTRUCTION:
"STEEL CONSTRUCTION MANUAL" 13TH EDITION.
1996 A.I.S.C. (M.B.M.A.) "SERVICEABILITY" STANDARDS WILL BE USED FOR THIS DESIGN.

AMERICAN IRON AND STEEL INSTITUTE:
2007 EDITION: NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS.

INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS:
"INTERNATIONAL BUILDING CODE" 2006 EDITION

AMERICAN WELDING SOCIETY:
"STRUCTURAL WELDING CODE" A.W.S D1.1-02

METAL BUILDING MANUFACTURER'S ASSOCIATION:
"METAL BUILDING SYSTEMS MANUAL" 1996

CONCRETE NOTES:

1. ALL CONCRETE SHALL WITHSTAND 2500 LBS. PER SQUARE INCH ULTIMATE COMPRESSIVE STRESS AT 28 DAYS.

2. CONTRACTOR SHALL INFORM CONLEY'S MANUFACTURING & SALES OF ANY DISCREPANCIES, OMISSIONS, OR ERRORS ON THE PLANS BEFORE BEGINNING CONSTRUCTION, OTHERWISE, IT SHALL BE DONE AS INTENDED BY THE ENGINEER.

3. THE ENGINEER AND/OR CONLEY'S MANUFACTURING & SALES ASSUMES NO RESPONSIBILITY FOR CONSTRUCTION SUPERVISION OR DEVIATION FROM THESE PLANS WITHOUT PRIOR WRITTEN APPROVAL.

4. ALL CONSTRUCTION SHALL COMPLY WITH THE I.B.C. LATEST EDITION AS AMENDED BY THE LOCAL AGENCY HAVING JURISDICTION.

5. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS ON DRAWINGS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.

6. ANY ENGINEERING DESIGN PROVIDED BY OTHERS MUST BE SUBMITTED FOR REVIEW AND SHALL BEAR THE STAMP AND SIGNATURE OF A REGISTERED ENGINEER.

7. ALL PLUMBING, ELECTRICAL OR MISCELLANEOUS STUB OUT SHALL BE A MINIMUM OF NINE (9) INCHES CLEAR OF THE OUTSIDE CONCRETE IN ORDER TO CLEAR THE WALLS.

8. FOOTINGS SHALL BE CENTERED ON THE CENTERLINE OF THE COLUMN ABOVE UNLESS OTHERWISE NOTED.

9. ALL FOOTINGS SHALL BEAR AGAINST FIRM NATURAL UNDISTURBED SOIL OR CERTIFIED COMPACTED FILL. SOIL BEARING PRESSURE EQUAL TO 1500 PSF.

10. THE MINIMUM REQUIREMENTS AND LOCAL FROST LINE REQUIREMENTS MAY SUPERSEDE THE DESIGN CALL OUTS. CONTACT THE LOCAL BUILDING DEPARTMENT FOR MINIMUM DEPTH REQUIREMENTS.

* BUILDINGS WITH SNOW LOADS ARE DESIGNED AS HEATED BUILDINGS

STEEL NOTES:

1. ALL CONSTRUCTION TO COMPLY WITH THE LATEST EDITION OF THE I.B.C. AND A.I.S.C.

2. ALL MACHINE BOLTS TO COMPLY WITH A.S.T.M. A-307*. HOLES SHALL BE BOLT DIAMETER PLUS 1/16". (* UNLESS OTHERWISE NOTED)

3. ALL HOT ROLLED OR COLD ROLLED SHEETS AND STRIPS USED IN THE FABRICATION OF COLD FORMED STRUCTURAL MEMBERS SHALL HAVE A MINIMUM YIELD STRENGTH OF 55 K.S.I.

4. LIGHT GAGE - COLD FORMED STRUCTURAL STEEL MEMBERS SHALL CONFORM TO A.S.T.M. SPEC. A-500 GRADE "D" (Fy=50 K.S.I.), UNLESS OTHERWISE NOTED.

5. ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

6. ROUND TUBES SHALL CONFORM TO A.S.T.M. SPEC. A-500 GRADE "C" (Fy=46K.S.I.).

7. CABLES SHALL BE OF AIRCRAFT TYPE CABLE WITH THE FOLLOWING BREAKING STRENGTHS: 1/8"ø = 1,700 LBS., 3/16"ø =4,200 LBS., 1/4"ø = 7,000 LBS.

NOV 20 2009

PROFESSIONAL ENGINEER-STATE OF NEVADA
JANOS BOROS
No. 14515
CIVIL

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NCMA NATIONAL CONCRETE MASONRY ASSOCIATION

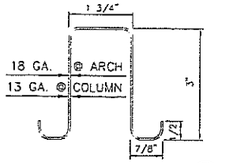
CONLEY'S
GREENHOUSE MANUFACTURING & SALES
454 WILSON BLVD. PUTNAM, CT. 06260
(800) 827-0981 FAX (860) 928-0774
SERVING AGRICULTURE SINCE 1946

DATE	10-21-09
SCALE	NOTED
JOB NO	43770
DRAWN BY	AGM
APPROVED	

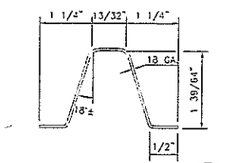
TITLE: 30'-0" RANGER SERIES (2000)
JOB NAME: ARTS AND CULTURE COMMISSION

ENGINEER 22785-09
LOADING 30GS-100-3SEC
DRAWING NO. DE380108A
DRAWING SET DE380108A DE380109A
SHEET 1 OF 2

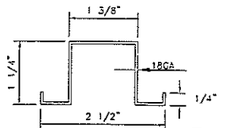
10-21-09(U:)\ENGINEER\2000 SERIES\DE380108A.DWG



ARCH / COLUMN (1)
SCALE: NTS



GIRT (2)
SCALE: NTS



PURLIN (3)
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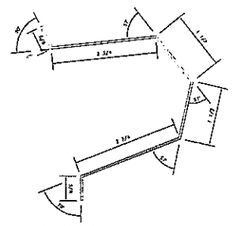

EAVE PURLIN (4)
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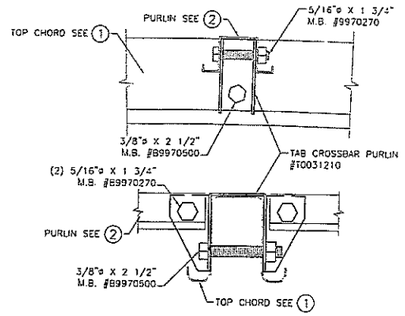
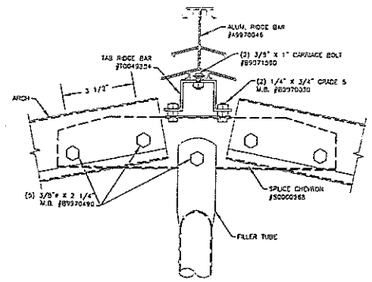
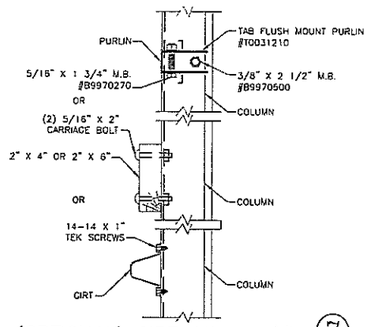


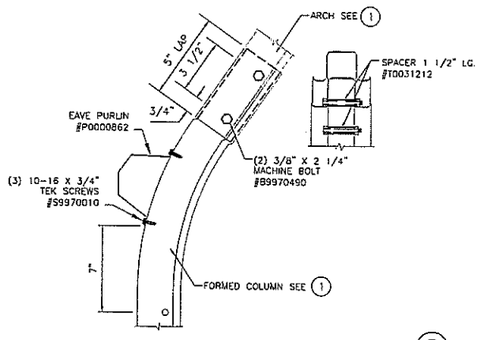
PURLIN TO TOP CHORD CONN. (5)
SCALE: NTS



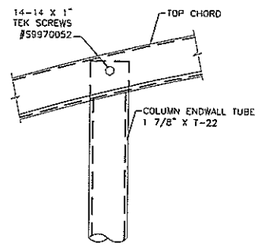
SPLICE CHEVRON CONNECTION (6)
SCALE: NTS



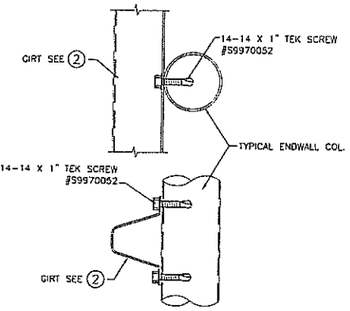
(OPTIONAL) GIRT AT COLUMN (7)
SCALE: NTS



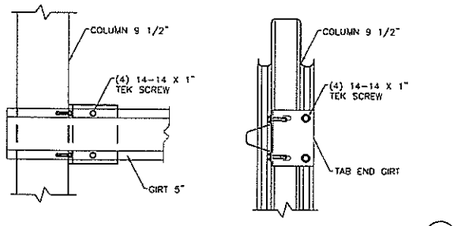
COLUMN CONN. TO ARCH (8)
SCALE: NTS



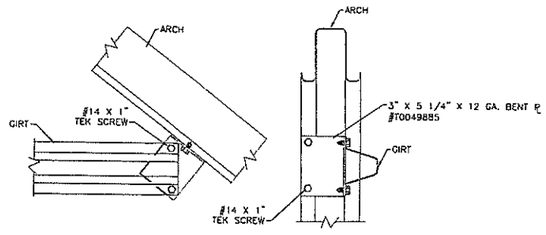
UPRIGHT @ TOP CHORD CONN. (9)
SCALE: NTS



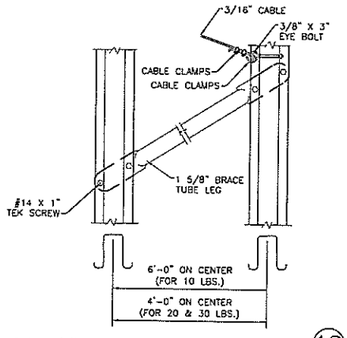
ENDWALL GIRT CONN. (10)
SCALE: NTS



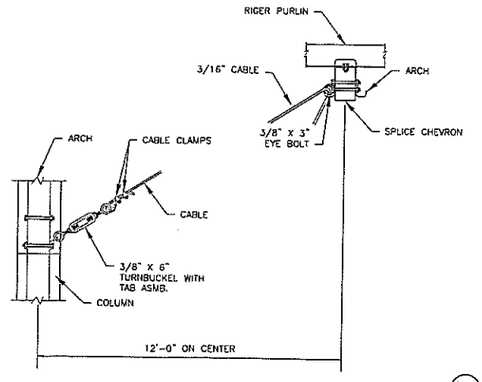
TAB END GIRT TO COLUMN CONNECTION (11)
SCALE: NTS



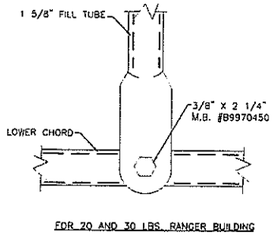
GIRT CONN. AT ARCH (12)
SCALE: NTS



COLUMN BRACING (13)
SCALE: NTS

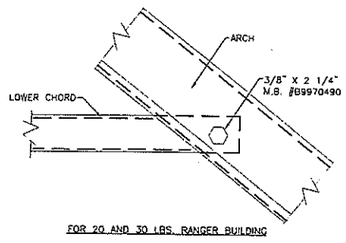


CABLE BRACING @ RIDGE (14)
SCALE: NTS



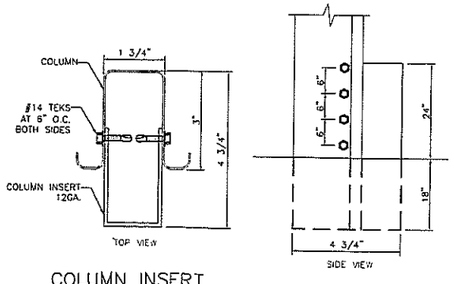
FOR 20 AND 30 LBS. RANGER BUILDING

FILL TUBE @ LOWER CHORD CONN. (15)
SCALE: NTS



FOR 20 AND 30 LBS. RANGER BUILDING

LOWER CHORD @ ARCH CONN. (16)
SCALE: NTS



COLUMN INSERT (17)
SCALE: NTS

NOV 20 2009

PROFESSIONAL ENGINEER STATE OF NEVADA
JANOS BOROS
CIVIL
No. 14515

12-8-2009

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CONLEY'S
GREENHOUSE MANUFACTURING & SALES
4544 MISSION BLVD. MONTCLAIR, CA 91763
(800) 827-0081 FAX (909) 628-3774
SERVING AGRICULTURE SINCE 1946

DATE 10-21-09
SCALE NOTED
JOB NO 43770
DRAWN BY ACM
APPROVED

TITLE DETAIL
JOB NAME ARTS AND CULTURE COMMISSION

ENGINEER 22785-09
LOADING 30GS-100-3SEC
DRAWING NO. DE380109A
DRAWING SET DE380108A DE380109A
SHEET 2 OF 2

10-21-09(U)\ENGINEED\2000 SERIES\DE380109A.DWG

ZJS ENGINEERING SERVICES INC.
14189 FOOTHILL BLVD, STE. 101
FONTANA, CALIFORNIA 92335
PHONE : (909) 823 4150 FAX: (909) 823 4153

STRUCTURAL CALCULATIONS

CUSTOMER : Arts and Culture Commission <Conley>

DATE : November 20, 2009

JOB NUMBER : 22785-09

CONTENTS :

30'-0" Ranger 2000

NOV 2 0 2009

PROFESSIONAL ENGINEER-STATE OF NEVADA
JANOS BOROS
CIVIL
No. 14515

Expires 12-31-2010

Designed By: *Janos Boros P.E.*	Z.J.S.ENGINEERING SERVICES INC. 14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	*Job #* 22785-09 *Date* 11-20-2009
Reference: Arts and Culture Commission <Conley> *Description:* 30'-0" Ranger 2000		

DUPLEX PRINTING

Designed By: Janos Boros P.E.	Z.J.S.ENGINEERING SERVICES INC. 14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Job # 22785-09 Date 11-20-2009
Reference: Arts and Culture Commission <Conley> Description: 30'-0" Ranger 2000		

DESIGN CRITERIA

This building was designed using the criteria listed below. Capacity for loads greater than these or for load combinations other than shown below specifically neither intended nor implied.

1. BASIC LOADS

1.1. Dead Load

$p_{DL} = 2.5 \ \frac{lb}{ft^2}$

1.2. Live Load

Refer To Section 1607 of 2006 IBC

$p_g = 30. \ \frac{lb}{ft^2}$ **Ground Snow Load**

$I_{SN} = 0.8$ *Table 7-4 ASCE-7 for Catagory I Per Table 1604.5 Of IBC 2006*

$C_e = 0.9$ *Table 7-2 ASCE-7: Mostly Exposed*

$C_t = 1.1$ *Table 7-3 ASCE-7: Agricultural Building*

$p_f = 0.7 \ C_e \ C_t \ I_{SN} \ p_g = 14.28 \ \frac{lb}{ft^2}$ **Flat Roof Snow**

0.476

$p_{LL} = 20 \ \frac{lb}{ft^2}$ **Not Reduced, 20 psf Snow is OK!**

1.3. Wind Load

Per ASCE 7 *adopted by* Section 1609.1.1. Of 2006 IBC

LOW-RISE BUILDING *per* Section 6.2

1. mean roof height *h* less than or equal to 60 ft; and
2. mean roof height *h* does not exceed least horizontal dimension.

$q_h = 0.00256 \ K_h \ K_{zt} \ K_d \ V^2 \ I = 16.09 \ \frac{lb}{ft^2}$ (6-15) of ASCE 7-05

V = 100 mph - 3s Gust

h = 12.0 ft. - Mean Heigth Of Roof

Designed By: Janos Boros P.E.	Z.J.S.ENGINEERING SERVICES INC. 14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	*Job #* 22785-09 *Date* 11-20-2009
Reference: Arts and Culture Commission <Conley> *Description:* 30'-0" Ranger 2000		

K_h = 0.85 - *Per* Table 6-3 *for exposure C* of ASCE 7-05

K_{zt} = 1.0 - Topographic Factor *per* Figure 6.4 of ASCE 7-05

K_d = 0.85 - Directionality Factor *per* Table 6-4 of ASCE 7-05

I = 0.87 - Importance Factor *per* Table 6-1 *for* Category I

G = 0.85 - Gust Effect Factor Per *Section 6.5.8.1*

GC_{pi} = ± 0.18 - Inter. Pressure Coeff. *per* Figure 6-5 of ASCE 7-05 *for* Enclosed Buildings

Pressure Coefficient on Main Wind-Forced Resisting Systems

Transversal Direction :

GC_{pf} = 0.56 (windward wall) - Product Of Ext. Pressure Coeff. And Gust Effect Per *Figure 6-4.*

$0.3 \le r = 0.34 \le 0.6$ Rise-to-span ratio On Arched Roofs Per *Table 6-8.*

$C_p = 2.75r - 0.7 = 0.24$ (windward 1/4 Roof) Ext. Press. Coeff. Per *Table 6-8*

$C_p = -0.7 - r = -1.04$ (center 1/2 Roof) Ext. Press. Coeff. Per *Table 6-8*

$C_p = -0.5$ (leeward 1/4 Roof) Ext. Press. Coeff. Per *Table 6-8*

GC_{pf} = -0.37 (leeward wall) Poduct Of Ext. Pressure Coeff. And Gust Effect Per *Figure 6-4.*

Longitudinal Direction (CASE B) :

$\theta = 0^\circ$

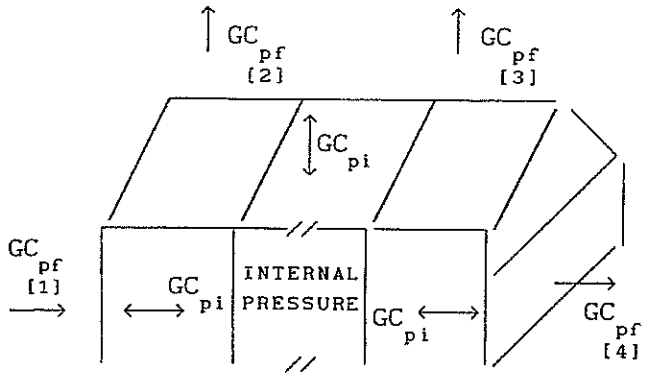
GC_{pf} = 0.40 [1] (windward wall) - External Pressure Coefficients *per* Figure 6-10

GC_{pf} = -0.69 [2] (windward roof) - External Pressure Coefficients *per* Figure 6-10

GC_{pf} = -0.37 [3] (leeward roof) - External Pressure Coefficients *per* Figure 6-10

GC_{pf} = -0.29 [4] (leeward wall) - External Pressure Coefficients *per* Figure 6-10

Designed By: Janos Boros P.E.	Z.J.S.ENGINEERING SERVICES INC. 14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	*Job #* 22785-09 *Date* 11-20-2009
Reference: Arts and Culture Commission <Conley> *Description:* 30'-0" Ranger 2000		



1.4. Seismic Load

Note : According to Section 1613.1 of 2006 IBC :

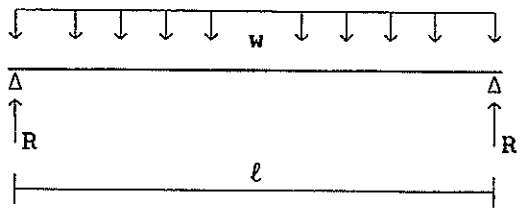
Exceptions:

3. Agricultural storage structures intended only for incidental human occupancy.

2. Check Girts

Simple Span Condition

w	-	Uniform Load
$M_{MAX.}$	-	Max. Moment
$S_{RQ.}$	-	Required Section Modulus



$E = 29.\ 10^3$ ksi - Modulus Of Elasticity Of Steel
$Fy = 55.0$ ksi - Yield Stress

Use: 1.6" x 18 GA
Material : Steel , ASTM A446

MA = 3.02 kip-in - Allowable bending Moment, *See Appendix*
b = 3.0 ft. [Spacing Of The Girt, Critical]

Designed By: Janos Boros P.E.	Z.J.S.ENGINEERING SERVICES INC. 14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Job # 22785-09 Date 11-20-2009
Reference: Arts and Culture Commission <Conley> Description: 30'-0" Ranger 2000		

ℓ = 6.0 ft [Span Between Two Supports , Critical]

Effective wind areas :

$A_{EFF} = b\,\ell = 18.00\ ft^2$ or $A_{EFF} = \frac{\ell}{3}\,\ell = 12.00\ ft^2$

$A_{EFF} = 18.00\ ft^2$ *Controls !* $\longrightarrow GC_p = 1.3$ - *Refer to* Figure 6-11B

$q_h\,(GC_p + GC_{pi}) = 23.81\ \frac{lb.}{ft^2}$ - max. wind pressure

$w_{WL} = \left[(GC_p + GC_{pi})\, q_h \right] b = 71.4\ \frac{lb.}{ft.}$

$R_{WL} = \frac{w_{WL}\,\ell}{2} = 0.21$ kips

$M_{WL} = \frac{w_{WL}\,\ell^2}{8} = 3.85$ kip-in. < 1.33 MA = 4.01 kip-in

Stress Increase Due To Wind Load

3. CHECK FRAME *4' o.c. See Figure 1.*

M I C R O S A F E --- STRUCTURAL ANALYSIS BY FINITE ELEMENTS
Version: SAFE2STA (2-D) Rel. 4.0 11/20/2009 13:39:58

Input data file : 22785R.INP
Output data file : WORK.OUT

SIZE OF THE STRUCTURE

Number of nodes	:	18
Number of materials	:	5
Number of beams	:	19
Number of beam end releases	:	4
Number of plates	:	0
Number of fasteners	:	0
Number of primary loadcases	:	4
Number of superposition loadcases	:	3
Number of restrained degrees of freedom	:	6

NODE COORDINATES

Designed By: Janos Boros P.E.	Z.J.S.ENGINEERING SERVICES INC. 14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	*Job #* 22785-09 *Date* 11-20-2009
Reference: Arts and Culture Commission <Conley> *Description:* 30'-0" Ranger 2000		

NODE COORDINATES

Node	Coordinate X	Coordinate Y
1	.00000	24.00000
2	.00000	60.00000
3	11.00000	72.00000
4	28.00000	90.00000
5	59.00000	117.00000
11	301.00000	117.00000
12	332.00000	90.00000
13	349.00000	72.00000
14	360.00000	60.00000
15	360.00000	24.00000
16	270.00000	137.00000
17	225.00000	161.00000
18	180.00000	168.00000
19	135.00000	161.00000
20	90.00000	137.00000
21	180.00000	117.00000
22	.00000	-12.00000
23	360.00000	-12.00000

MATERIAL PROPERTIES

Code	Young's modulus	Poisson's ratio	Specific weight
1	29000000.	.300000	.000
2	29000000.	.300000	.000
3	29000000.	.300000	.000
4	29000000.	.300000	.000
5	29000000.	.300000	.000

BEAM DATA

Beam	I	J	Length	Area	M. Inertia	Material
1	2	1	36.000	.8600	1.03000	3 HAT 13 ga
2	3	2	16.279	.8600	1.03000	3 HAT 13 ga
3	4	3	24.759	.4700	.59000	3 HAT 18 ga
4	5	4	41.110	.4700	.59000	3 HAT 18 ga
11	11	12	41.110	.4700	.59000	3 HAT 18 ga
12	12	13	24.759	.4700	.59000	3 HAT 18 ga
13	13	14	16.279	.8600	1.03000	3 HAT 13 ga
14	14	15	36.000	.8600	1.03000	3 HAT 13 ga
15	16	11	36.892	.4700	.59000	3 HAT 18 ga
16	17	16	51.000	.4700	.59000	3 HAT 18 ga
17	18	17	45.541	.4700	.59000	3 HAT 18 ga

Designed By:	Z.J.S.ENGINEERING SERVICES INC.	Job # 22785-09
Janos Boros P.E.	14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Date 11-20-2009
Reference: Arts and Culture Commission <Conley> Description: 30'-0" Ranger 2000		

18	19	18	45.541	.4700	.59000	3 HAT 18 ga
19	20	19	51.000	.4700	.59000	3 HAT 18 ga
20	20	5	36.892	.4700	.59000	3 HAT 18 ga
21	21	5	121.000	.3000	.09000	1-5/8 dia .065
22	21	18	51.000	.3000	.09000	1-5/8 dia .065
23	21	11	121.000	.3000	.09000	1-5/8 dia .065
24	22	1	36.000	1.1000	3.00000	3 HAT 13 ga w/ Insert
25	23	15	36.000	1.1000	3.00000	3 HAT 13 ga w/ Insert

PRIMARY LOADCASES

Loadcase name : DEAD LOAD
Loadcase number : 1
Number of loaded nodes : 0
Number of loaded beams : 12
Number of loaded plates : 0
Gravity loads factor : .00000

BEAM LOADS

Beam	Loading direction	End Distributed Loads	
2	Global Y axis	-.83300	-.83300
3	Global Y axis	-.83300	-.83300
4	Global Y axis	-.83300	-.83300
20	Global Y axis	-.83300	-.83300
19	Global Y axis	-.83300	-.83300
18	Global Y axis	-.83300	-.83300
17	Global Y axis	-.83300	-.83300
16	Global Y axis	-.83300	-.83300
15	Global Y axis	-.83300	-.83300
11	Global Y axis	-.83300	-.83300
12	Global Y axis	-.83300	-.83300
13	Global Y axis	-.83300	-.83300

Loadcase name : LIVE LOAD
Loadcase number : 2
Number of loaded nodes : 0
Number of loaded beams : 12
Number of loaded plates : 0
Gravity loads factor : .00000

Designed By:	Z.J.S.ENGINEERING SERVICES INC.	Job # 22785-09
Janos Boros P.E.	14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Date 11-20-2009

Reference: Arts and Culture Commission <Conley>
Description: 30'-0" Ranger 2000

BEAM LOADS

Beam	Loading direction	End Distributed Loads	
2	Global Y axis	-6.66000	-6.66000
3	Global Y axis	-6.66000	-6.66000
4	Global Y axis	-6.66000	-6.66000
20	Global Y axis	-6.66000	-6.66000
19	Global Y axis	-6.66000	-6.66000
18	Global Y axis	-6.66000	-6.66000
17	Global Y axis	-6.66000	-6.66000
16	Global Y axis	-6.66000	-6.66000
15	Global Y axis	-6.66000	-6.66000
11	Global Y axis	-6.66000	-6.66000
12	Global Y axis	-6.66000	-6.66000
13	Global Y axis	-6.66000	-6.66000

Loadcase name : WIND LOAD
Loadcase number : 3
Number of loaded nodes : 0
Number of loaded beams : 14
Number of loaded plates : 0
Gravity loads factor : .00000

BEAM LOADS

Beam	Loading direction	End Distributed Loads	
1	Local Y axis	3.96000	3.96000
2	Local Y axis	2.03000	2.03000
3	Local Y axis	2.03000	2.03000
4	Local Y axis	2.03000	2.03000
20	Local Y axis	2.03000	2.03000
19	Local Y axis	3.77000	3.77000
18	Local Y axis	3.77000	3.77000
17	Local Y axis	3.77000	3.77000
16	Local Y axis	3.77000	3.77000
15	Local Y axis	1.28000	1.28000
11	Local Y axis	1.28000	1.28000
12	Local Y axis	1.28000	1.28000
13	Local Y axis	1.28000	1.28000
14	Local Y axis	1.01000	1.01000

Loadcase name : WIND LOAD
Loadcase number : 4
Number of loaded nodes : 0
Number of loaded beams : 14
Number of loaded plates : 0
Gravity loads factor : .00000

Designed By:	Z.J.S.ENGINEERING SERVICES INC.	Job # 22785-09
Janos Boros P.E.	14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Date 11-20-2009
Reference: Arts and Culture Commission <Conley> Description: 30'-0" Ranger 2000		

BEAM LOADS

Beam	Loading direction	End Distributed Loads	
1	Local Y axis	2.03000	2.03000
2	Local Y axis	.10000	.10000
3	Local Y axis	.10000	.10000
4	Local Y axis	.10000	.10000
20	Local Y axis	.10000	.10000
19	Local Y axis	5.68000	5.68000
18	Local Y axis	5.68000	5.68000
17	Local Y axis	5.68000	5.68000
16	Local Y axis	5.68000	5.68000
15	Local Y axis	3.21000	3.21000
11	Local Y axis	3.21000	3.21000
12	Local Y axis	3.21000	3.21000
13	Local Y axis	3.21000	3.21000
14	Local Y axis	2.94000	2.94000

SUPERPOSITION LOADCASES

Loadcase name : DEAD LOAD + LIVE LOAD
Loadcase number : 5
Number of superpositions : 2

LOADCASE	Superposition factor
1	1.00
2	1.00

Loadcase name : DEAD LOAD + WIND LOAD+GCPi
Loadcase number : 6
Number of superpositions : 2

LOADCASE	Superposition factor
1	1.00
3	1.00

Loadcase name : DEAD LOAD + WIND LOAD-GCPi
Loadcase number : 7
Number of superpositions : 2

LOADCASE	Superposition factor
1	1.00
4	1.00

Designed By:	Z.J.S.ENGINEERING SERVICES INC.	Job # 22785-09
Janos Boros P.E.	14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Date 11-20-2009
Reference: Arts and Culture Commission <Conley> Description: 30'-0" Ranger 2000		

MOVEMENT RESTRAINTS

Node	Type of restraint	Restraint
22	Translation along X axis	.00000
22	Translation along Y axis	.00000
23	Translation along X axis	.00000
23	Translation along Y axis	.00000
22	Rotation about Z axis	.00000
23	Rotation about Z axis	.00000

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RESULTS FOR LOADCASE 5 : DEAD LOAD + LIVE LOAD

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BEAM LOADS AND STRESSES

PX1 Or PX2 Axial Load At The Ends Of The Member
SX1 Or SX2 Axial Stress At The Ends Of The Member
+ : Tension , - : Compression
SH1 Or SH2 Shear At The Ends Of The Member
BM1 Or BM2 Bending Moment At The Ends Of The Member

Beam	I	J	PX1	SX1	PX2	SX2
1	2	1	-1615.	-1878.	-1615.	-1878.
2	3	2	-1700.	-1977.	-1790.	-2081.
3	4	3	-1560.	-3318.	-1694.	-3605.
4	5	4	-1325.	-2820.	-1527.	-3250.
11	11	12	-1325.	-2820.	-1527.	-3250.
12	12	13	-1560.	-3318.	-1694.	-3605.
13	13	14	-1700.	-1977.	-1790.	-2081.
14	14	15	-1615.	-1878.	-1615.	-1878.
15	16	11	-1530.	-3254.	-1679.	-3573.
16	17	16	-1355.	-2883.	-1535.	-3265.
17	18	17	-1337.	-2845.	-1390.	-2957.
18	19	18	-1390.	-2957.	-1337.	-2845.
19	20	19	-1535.	-3265.	-1355.	-2883.
20	20	5	-1530.	-3254.	-1679.	-3573.
21	21	5	467.	1555.	467.	1555.
22	21	18	1.	4.	1.	4.
23	21	11	467.	1555.	467.	1555.
24	22	1	-1615.	-1468.	-1615.	-1468.
25	23	15	-1615.	-1468.	-1615.	-1468.

Designed By: Janos Boros P.E.	Z.J.S.ENGINEERING SERVICES INC. 14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	*Job #* 22785-09 *Date* 11-20-2009
Reference: Arts and Culture Commission <Conley> *Description:* 30'-0" Ranger 2000		

Beam	I	J	SH1	SH2	BM1	BM2
1	2	1	887.	887.	20273.	-11642.
2	3	2	-356.	-438.	13814.	20273.
3	4	3	-253.	-381.	5961.	13814.
4	5	4	-172.	-404.	-5872.	5961.
11	11	12	172.	404.	5872.	-5961.
12	12	13	253.	381.	-5961.	-13814.
13	13	14	356.	438.	-13814.	-20273.
14	14	15	-887.	-887.	-20273.	11642.
15	16	11	-125.	107.	5536.	5872.
16	17	16	-335.	2.	-2959.	5536.
17	18	17	-207.	130.	-4726.	-2959.
18	19	18	-130.	207.	-2959.	-4726.
19	20	19	-2.	335.	5536.	-2959.
20	20	5	125.	-107.	-5536.	-5872.
21	21	5	1.	1.	71.	0.
22	21	18	0.	0.	0.	0.
23	21	11	-1.	-1.	-71.	0.
24	22	1	887.	887.	43557.	11642.
25	23	15	-887.	-887.	-43557.	-11642.

Type of beam :3 HAT 18 ga

Maximum Stress - Compression [fa] : -3318. At Beam : 3
Maximum Bending Moment [M] : 5961. At Beam : 3

Type of beam :3 HAT 13 ga

Maximum Stress - Compression [fa] : -1977. At Beam : 2
Maximum Bending Moment [M] : 20273. At Beam : 1

Type of beam :1-5/8 dia .065

Maximum Stress - Tension [ft] : 1555. At Beam : 21
Maximum Bending Moment [M] : 71. At Beam : 21

Type of beam :1-5/8 dia .065

Maximum Stress - Tension [ft] : 1555. At Beam : 23
Maximum Bending Moment [M] : -71. At Beam : 23

Type of beam :3 HAT 13 ga w/ Insert

Maximum Stress - Compression [fa] : -1468. At Beam : 24
Maximum Bending Moment [M] : 43557. At Beam : 24

Designed By:	Z.J.S.ENGINEERING SERVICES INC.	Job # 22785-09
Janos Boros P.E.	14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Date 11-20-2009
Reference: Arts and Culture Commission <Conley> Description: 30'-0" Ranger 2000		

13	13	14	-158.	-169.	3867.	6527.
14	14	15	-18.	-54.	6527.	7812.
15	16	11	36.	14.	-4966.	-5887.
16	17	16	153.	-2.	-1120.	-4966.
17	18	17	122.	-12.	1394.	-1120.
18	19	18	98.	-36.	2798.	1394.
19	20	19	79.	-76.	2871.	2798.
20	20	5	38.	-63.	-2871.	-2397.
21	21	5	-0.	-0.	-13.	0.
22	21	18	0.	0.	0.	0.
23	21	11	0.	0.	13.	0.
24	22	1	-380.	-380.	-25805.	-12128.
25	23	15	-54.	-54.	-9752.	-7812.

Type of beam :3 HAT 18 ga

Maximum Stress - Tension	[ft] :	1088.	At Beam :	18
Maximum Bending Moment	[M] :	-5887.	At Beam :	11

Type of beam :3 HAT 13 ga

Maximum Stress - Tension	[ft] :	269.	At Beam :	14
Maximum Bending Moment	[M] :	6527.	At Beam :	14

Type of beam :1-5/8 dia .065

Maximum Stress - Compression	[fa] :	-1062.	At Beam :	21
Maximum Bending Moment	[M] :	-13.	At Beam :	21

Type of beam :1-5/8 dia .065

Maximum Stress - Compression	[fa] :	-1062.	At Beam :	23
Maximum Bending Moment	[M] :	13.	At Beam :	23

Type of beam :3 HAT 13 ga w/ Insert

Maximum Stress - Tension	[ft] :	210.	At Beam :	25
Maximum Bending Moment	[M] :	-25805.	At Beam :	24

NODE INTERNAL FORCES AND REACTIONS

Node	FX	FY	MZ
22	-380. Reaction	-21. Reaction	25805.
23	-54. Reaction	-231. Reaction	9752.

Designed By:	Z.J.S.ENGINEERING SERVICES INC.	Job # 22785-09
Janos Boros P.E.	14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Date 11-20-2009
Reference: Arts and Culture Commission <Conley> Description: 30'-0" Ranger 2000		

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RESULTS FOR LOADCASE 7 : DEAD LOAD + WIND LOAD-GCPi

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BEAM LOADS AND STRESSES

PX1 Or PX2 Axial Load At The Ends Of The Member
SX1 Or SX2 Axial Stress At The Ends Of The Member
+ : Tension , - : Compression
SH1 Or SH2 Shear At The Ends Of The Member
BM1 Or BM2 Bending Moment At The Ends Of The Member

Beam	I	J	PX1	SX1	PX2	SX2
1	2	1	366.	426.	366.	426.
2	3	2	562.	653.	552.	642.
3	4	3	577.	1229.	562.	1197.
4	5	4	600.	1276.	577.	1228.
11	11	12	560.	1191.	537.	1143.
12	12	13	556.	1184.	541.	1152.
13	13	14	545.	634.	535.	622.
14	14	15	577.	671.	577.	671.
15	16	11	790.	1682.	774.	1646.
16	17	16	812.	1727.	792.	1685.
17	18	17	850.	1808.	844.	1796.
18	19	18	857.	1824.	863.	1837.
19	20	19	833.	1772.	853.	1814.
20	20	5	838.	1782.	821.	1747.
21	21	5	-281.	-938.	-281.	-938.
22	21	18	-0.	-2.	-0.	-2.
23	21	11	-281.	-938.	-281.	-938.
24	22	1	366.	333.	366.	333.
25	23	15	577.	525.	577.	525.

Beam	I	J	SH1	SH2	BM1	BM2
1	2	1	-417.	-490.	-2380.	13950.
2	3	2	-49.	-60.	-3270.	-2380.
3	4	3	-24.	-41.	-4076.	-3270.
4	5	4	62.	32.	-2143.	-4076.
11	11	12	-117.	-223.	-6140.	858.
12	12	13	-170.	-235.	858.	5875.
13	13	14	-227.	-270.	5875.	9925.
14	14	15	162.	56.	9925.	5990.
15	16	11	49.	-44.	-6047.	-6140.
16	17	16	235.	-17.	-477.	-6047.
17	18	17	176.	-45.	2502.	-477.
18	19	18	131.	-90.	3441.	2502.
19	20	19	94.	-158.	1790.	3441.

Designed By:	Z.J.S.ENGINEERING SERVICES INC.	Job # 22785-09
Janos Boros P.E.	14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Date 11-20-2009
Reference: Arts and Culture Commission <Conley> Description: 30'-0" Ranger 2000		

Type Of Member : 1-5/8 dia .065

Load Case Name : DEAD LOAD + LIVE LOAD
Maximum Stress - Tension [ft] :1555.000
Maximum Stress - Compression [fa] :0.000
Maximum Bending Moment [M] :71.000
Load Case Name : DEAD LOAD + WIND LOAD+GCPi
Maximum Stress - Tension [ft] :0.000
Maximum Stress - Compression [fa] :-1062.000
Maximum Bending Moment [M] :13.000
Load Case Name : DEAD LOAD + WIND LOAD-GCPi
Maximum Stress - Tension [ft] :0.000
Maximum Stress - Compression [fa] :-938.000
Maximum Bending Moment [M] :29.000

Type Of Member : 3 HAT 13 ga w/ Insert

Load Case Name : DEAD LOAD + LIVE LOAD
Maximum Stress - Tension [ft] :0.000
Maximum Stress - Compression [fa] :-1468.000
Maximum Bending Moment [M] :43557.000
Load Case Name : DEAD LOAD + WIND LOAD+GCPi
Maximum Stress - Tension [ft] :210.000
Maximum Stress - Compression [fa] :0.000
Maximum Bending Moment [M] :25805.000
Load Case Name : DEAD LOAD + WIND LOAD-GCPi
Maximum Stress - Tension [ft] :525.000
Maximum Stress - Compression [fa] :0.000
Maximum Bending Moment [M] :31596.000

4. Check Foundation

$p_s = 1500 \frac{Lb}{Ft^2}$ [Min. Soil Pressure]

$\gamma_c = 150 \frac{Lb}{Ft^3}$ [Specific Weight Of Concrete]

$f'_c = 2500 \frac{Lb}{in^2}$ [Compressive Strength Of The Concrete]

$p_L = 175 \frac{Lb}{Ft^2}$ [Min. Lateral Bearing Pressure]

$p_F = 130 \frac{Lb}{Ft^2}$ [Min. Lateral Sliding Resistance]

Designed By: Janos Boros P.E.	Z.J.S.ENGINEERING SERVICES INC. 14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Job # 22785-09 Date 11-20-2009
Reference: Arts and Culture Commission <Conley> Description: 30'-0" Ranger 2000		

4.1 Typical

Use : 1 Ft. - 9 In. Dia. x 4 Ft. - 0 In. Deep *Concrete Footing*

D = 4.00 Ft [Depth Of The Footing]
r = 0.88 Ft [Radius Of The Footing
A = $r^2 \pi$ = 2.41 $Ft.^2$ [Area Of The Bottom Of The Footing]

4.1.1. Vertical Down

$P_{VERT. DOWN}$ = 1.61 kips

$$p_s = 1500 \frac{Lb}{Ft^2} > \frac{P_{VERT. DOWN}}{A} = 671 \frac{Lb}{Ft^2} \quad OK$$

4.1.2. Vertical Up

$P_{VERT. UP}$ = 0.57 kips

$P_{WEIGTH FOOTING}$ = A D γ_c = 1.44 kips

Safety = 3 *Stress Increase Due To Wind Or Seismic*

$$P_{FRICT.} = (\frac{1}{3})(2 r \pi) \frac{1.33 \; P_s}{6} D = 2.44 \text{ kips}$$

Refer To Section 1808.2.8.4 & 1808.2.8.5.

$P_{TOTAL RESISTING}$ = 3.89 kips

$$Safety = \frac{P_{TOTAL RESISTING}}{P_{VERT. UP}} = 6.82 \quad OK$$

Designed By:	Z.J.S.ENGINEERING SERVICES INC.	Job # 22785-09
Janos Boros P.E.	14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Date 11-20-2009
Reference: Arts and Culture Commission <Conley> Description: 30'-0" Ranger 2000		

4.1.3. Horizontal

$P_{HORIZ.}$ = 0.88 kips

$P_{LATERAL\ BEARING} = (2\ r\ D)\ \frac{p_L\ D}{2}$ = 1.40 kips

→ *Refer To Table No. 18-I-A*

$P_{SLIDING\ RESIST.} = p_F\ A$ = 0.31 kips

→ *Refer To Table No. 18-I-A*

$P_{TOTAL\ RESISTING}$ = 1.71 kips

$Safety = \frac{P_{TOTAL\ RESISTING}}{P_{VERT.\ UP}}$ = 1.95 OK

Check For Lateral Load Per Section 1805.7.2.1.

Use : 1 ft - 9 in Dia. x 4 ft - 0 in Deep Round Footing

b = 1.75 ft - *Diameter Of The Footing*

d = 4.00 ft - *Depth Of The Pile*

pa = 175 $\frac{lb/ft^2}{ft\ of\ Depth}$ - *Per Table 1804.2*

Per Section 1804.3.1.

$S_3 = (2)(pa)\ d$ = 1400 $\frac{lb}{ft^2}$

$S_1 = \frac{S_3}{3}$ = 467 psf

M_{MAX} = 43.55 kip-in - *Maximum Moment At The Base, See Page 13 Of The Calculations*

h = 12.00 ft - *Distance In Feet From Ground Surface To Point Of Application Of "P"*

Designed By:	Z.J.S.ENGINEERING SERVICES INC.	Job # 22785-09
Janos Boros P.E.	14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Date 11-20-2009
Reference: Arts and Culture Commission <Conley> Description: 30'-0" Ranger 2000		

$$P = \frac{M_{MAX}}{h} = 302 \text{ lb} \quad - \textit{Applied Lateral Force In Pounds}$$

$$A = \frac{2.34\ P}{S_1\ b} = 0.87$$

$$d = 4.00 \text{ ft} > \frac{A}{2}\left[\ 1 + \sqrt{1 + \frac{4.36\ h}{A}}\ \right] = 3.83 \text{ ft} \quad \text{OK}$$

Check Concrete For Reinforcement :

f'_c = 2500 psf - *Specified Compressive Strength Of Concrete*

f_t - *Allowable Tensile Strength Of Concrete Without Reinforcement*

S - *Section Modulus Of Footing*

$$S = \frac{\pi\ b^3}{32} = 909.20 \text{ in}^2$$

$$f_t = 1.6\sqrt{f'_c} = 80.0 \text{ psi} > \frac{P\ h}{S} = 47.9 \text{ psi} \quad \text{OK}$$

Designed By: Janos Boros P.E.	Z.J.S.ENGINEERING SERVICES INC. 14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	*Job #* 22785-09 *Date* 11-20-2009
Reference: Arts and Culture Commission <Conley> *Description:* 30'-0" Ranger 2000		

Appendix

Section Properities For 1.6 IN HAT X 18 GA

(1986 AISI, 55.0 KSI STEEL; IX FOR DEFL., SX FOR STRESS)

DEPTH	= 1.6000 IN	THICKNESS	= 0.0500 IN
BOTTOM FLANGE	= 0.5000 IN	TOP FLANGE	= 0.6500 IN
WEB ANGLE	= 75.0000 IN	INSIDE RADIUS	= 0.0600 IN
BOTTOM LIP	= 0.5000 IN	BOTTOM LIP ANGLE	= 90.0000 DEG

X-X AXIS EFFECTIVE PROPERTIES - LOAD DETERMINATION
TOP IN COMPRESSION

	L	Y	LY	LY2	IO
BOTTOM FLANGE	0.4233	0.0250	0.0106	0.0003	0.0000
BOTTOM WEB CORNER	0.1112	0.0473	0.0053	0.0002	0.0000
FULL WEB OR WEB B1	1.5031	0.8000	1.2025	0.9620	0.2640
TOP WEB CORNER	0.1112	1.5527	0.1727	0.2682	0.0000
TOP FLANGE	0.4965	1.5750	0.7820	1.2317	0.0000
TOP WEB CORNER	0.1112	1.5527	0.1727	0.2682	0.0000
FULL WEB OR WEB B1	1.5031	0.8000	1.2025	0.9620	0.2640
BOTTOM WEB CORNER	0.1112	0.0473	0.0053	0.0002	0.0000
BOTTOM FLANGE	0.4233	0.0250	0.0106	0.0003	0.0000
SUM	4.7942		3.5641	3.6931	0.5282

YBAR = 0.7434 IN

X-X AXIS EFFECTIVE PROPERTIES - DEFLECTION DETERMINATION
TOP IN COMPRESSION

	L	Y	LY	LY2	IO
BOTTOM FLANGE	0.4233	0.0250	0.0003	0.0003	0.0000
BOTTOM WEB CORNER	0.1112	0.0473	0.0053	0.0002	0.0000
FULL WEB OR WEB B1	1.5031	0.8000	1.2025	0.9620	0.2640
TOP WEB CORNER	0.1112	1.5527	0.1727	0.2682	0.0000
TOP FLANGE	0.4965	1.5750	0.7820	1.2317	0.0000
TOP WEB CORNER	0.1112	1.5527	0.1727	0.2682	0.0000
FULL WEB OR WEB B1	1.5031	0.8000	1.2025	0.9620	0.2640
BOTTOM WEB CORNER	0.1112	0.0473	0.0053	0.0002	0.0000
BOTTOM FLANGE	0.4233	0.0250	0.0106	0.0003	0.0000
SUM	4.7942		3.5416	3.6931	0.5282

YBAR = 0.7434 IN

Designed By:	Z.J.S.ENGINEERING SERVICES INC.	Job # 22785-09
Janos Boros P.E.	14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Date 11-20-2009
Reference: Arts and Culture Commission <Conley> Description: 30'-0" Ranger 2000		

Appendix

X-X AXIS EFFECTIVE PROPERTIES - LOAD DETERMINATION
BOTTOM IN COMPRESSION

	L	Y	LY	LY2	IO
BOTTOM FLANGE	0.4233	0.0250	0.0106	0.0003	0.0000
BOTTOM WEB CORNER	0.1112	0.0473	0.0053	0.0002	0.0000
FULL WEB OR WEB B1	1.5031	0.8000	1.2025	0.9620	0.2640
TOP WEB CORNER	0.1112	1.5527	0.1727	0.2682	0.0000
TOP FLANGE	0.4965	1.5750	0.7820	1.2317	0.0000
TOP WEB CORNER	0.1112	1.5527	0.1727	0.2682	0.0000
FULL WEB OR WEB B1	1.5031	0.8000	1.2025	0.9620	0.2640
BOTTOM WEB CORNER	0.1112	0.0473	0.0053	0.0002	0.0000
BOTTOM FLANGE	0.4233	0.0250	0.0106	0.0003	0.0000
SUM	4.7942		3.5641	3.6931	0.5282

YBAR = 0.7434

X-X AXIS EFFECTIVE PROPERTIES - DEFLECTION DETERMINATION
BOTTOM IN COMPRESSION

	L	Y	LY	LY2	IO
BOTTOM FLANGE	0.4233	0.0250	0.0106	0.0003	0.0000
BOTTOM WEB CORNER	0.1112	0.0473	0.0053	0.0002	0.0000
FULL WEB OR WEB B1	1.5031	0.8000	1.2025	0.9620	0.2640
TOP WEB CORNER	0.1112	1.5527	0.1727	0.2682	0.0000
TOP FLANGE	0.4965	1.5750	0.7820	1.2317	0.0000
TOP WEB CORNER	0.1112	1.5527	0.1727	0.2682	0.0000
FULL WEB OR WEB B1	1.5031	0.8000	1.2025	0.9620	0.2640
BOTTOM WEB CORNER	0.1112	0.0473	0.0053	0.0002	0.0000
BOTTOM FLANGE	0.4233	0.0250	0.0106	0.0003	0.0000
SUM	4.7942		3.5641	3.6931	0.5282

YBAR = 0.7434 IN

Designed By: Janos Boros P.E.	Z.J.S.ENGINEERING SERVICES INC. 14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	*Job #* 22785-09 *Date* 11-20-2009
Reference: Arts and Culture Commission <Conley> *Description:* 30'-0" Ranger 2000		

APPENDIX

Y-Y AXIS PROPERTIES (GROSS SECTION)

	L	X	LX	LX2	IO
BOTTOM FLANGE	0.4233	-1.0175	-0.4307	0.4382	0.0063
BOTTOM WEB CORNER	0.1112	-0.7578	-0.0843	0.0639	0.0001
FULL WEB OR WEB B1	1.5031	-0.5396	-0.8110	0.4376	0.0190
TOP WEB CORNER	0.1112	-0.2964	-0.0330	0.0098	0.0001
TOP FLANGE	0.4965	0.0000	0.0000	0.0000	0.0102
TOP WEB CORNER	0.1112	0.2964	0.0330	0.0098	0.0001
FULL WEB OR WEB B1	1.5031	0.5396	0.8110	0.4376	0.0190
BOTTOM WEB CORNER	0.1112	0.7578	0.0843	0.0639	0.0001
BOTTOM FLANGE	0.4233	1.0175	0.4307	0.4382	0.0063
SUM	4.7942		0.0000	1.8989	0.0611

XBAR = 0.0000 IN

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*****************************************************************************
*            Section Properities For 1.6 IN HAT X 18 GA                     *
*        (1986 AISI, 55.0 KSI STEEL; IX FOR DEFL., SX FOR STREES)           *
*                                                                           *
*                                                                           *
*  DEPTH          =  1.6000 IN          THICKNESS        =  0.0500 IN      *
*  BOTTOM FLANGE  =  0.5000 IN          TOP FLANGE       =  0.6500 IN      *
*  WEB ANGLE      = 75.000 DEG          INSIDE RADIUS    =  0.0600 IN      *
*  BOTTOM LIP     =  0.0000 IN          BOTTOM LIP ANGLE = 90.000 DEG      *
*                                                                           *
*  IXTC = 0.0786 IN4      SXTC = 0.0917 IN3      MATC =   3.02 KIP-IN      *
*  IXBC = 0.0786 IN4      SXBC = 0.1057 IN3      MABC =   5.48 KIP-IN      *
*                                                                           *
*  IY   = 0.0980 IN4      SY   = 0.0781          RY   =  0.6394 IN         *
*                                                                           *
*  AREA = 0.2397 IN2      WT   = 0.8150 PLF      AEFF =  0.2397 IN2        *
*  VA   = 1.6534 KIP      RX   = 0.5726 IN       J    =  0.0002 IN4        *
*                                                                           *
*                                                                           *
*                                          BEARING LENGTH (IN)              *
*                                    1        2        3        4           *
* ALLOW. END BEARING (KIPS)       0.7756   0.9049   1.0342   1.1634         *
* ALLOW. INT. BEARING (KIPS)      2.0368   2.2869   2.5370   2.7871         *
*                                                                           *
*****************************************************************************
```

Designed By:	Z.J.S.ENGINEERING SERVICES INC.	Job # 22785-09
Janos Boros P.E.	14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Date 11-20-2009
Reference: Arts and Culture Commission <Conley> Description: 30'-0" Ranger 2000		

Appendix

Section Properities For 3 IN HAT X 18 GA

(1986 AISI, 50.0 KSI STEEL; IX FOR DEFL., SX FOR STRESS)

DEPTH	= 3.0000 IN	THICKNESS	= 0.0480 IN
BOTTOM FLANGE	= 0.8800 IN	TOP FLANGE	= 1.7500 IN
WEB ANGLE	= 90.0000 IN	INSIDE RADIUS	= 0.1000 IN
BOTTOM LIP	= 0.5000 IN	BOTTOM LIP ANGLE	= 90.0000 DEG

X-X AXIS EFFECTIVE PROPERTIES - LOAD DETERMINATION
TOP IN COMPRESSION

	L	Y	LY	LY2	IO
BOTTOM LIP	0.3520	0.3240	0.1140	0.0369	0.0036
BOTTOM LIP CORNER	0.1947	0.0690	0.0134	0.0009	0.0003
BOTTOM FLANGE	0.5840	0.0240	0.0140	0.0003	0.0000
BOTTOM WEB CORNER	0.1947	0.0690	0.0134	0.0009	0.0003
FULL WEB OR WEB B1	2.7040	1.5000	4.0560	6.0840	1.6476
TOP WEB CORNER	0.1947	2.9310	0.5708	1.6729	0.0003
TOP FLANGE	1.4376	2.9760	4.2783	12.7322	0.0000
TOP WEB CORNER	0.1947	2.9310	0.5708	1.6729	0.0003
FULL WEB OR WEB B1	2.7040	1.5000	4.0560	6.0840	1.6476
BOTTOM WEB CORNER	0.1947	0.0690	0.0134	0.0009	0.0003
BOTTOM FLANGE	0.5840	0.0240	0.0140	0.0003	0.0000
BOTTOM LIP CORNER	0.1947	0.0690	0.0134	0.0009	0.0003
BOTTOM LIP	0.3520	0.3240	0.1140	0.0369	0.0036
SUM	9.8861		13.8147	28.3244	3.3041

YBAR = 1.4001 IN

Designed By: Janos Boros P.E.	Z.J.S.ENGINEERING SERVICES INC. 14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	*Job #* 22785-09 *Date* 11-20-2009
Reference: Arts and Culture Commission <Conley> *Description:* 30'-0" Ranger 2000		

X-X AXIS EFFECTIVE PROPERTIES - DEFLECTION DETERMINATION
TOP IN COMPRESSION

	L	Y	LY	LY2	IO
BOTTOM LIP	0.3520	0.3240	0.1140	0.0369	0.0036
BOTTOM LIP CORNER	0.1947	0.0690	0.0134	0.0009	0.0003
BOTTOM FLANGE	0.5840	0.0240	0.0140	0.0003	0.0000
BOTTOM WEB CORNER	0.1947	0.0690	0.0134	0.0009	0.0003
FULL WEB OR WEB B1	2.7040	1.5000	4.0560	6.0840	1.6476
TOP WEB CORNER	0.1947	2.9310	0.5708	1.6729	0.0003
TOP FLANGE	1.4540	2.9760	4.3271	12.8775	0.0000
TOP WEB CORNER	0.1947	2.9310	0.5708	1.6729	0.0003
FULL WEB OR WEB B1	2.7040	1.5000	4.0560	6.0840	1.6476
BOTTOM WEB CORNER	0.1947	0.0690	0.0134	0.0009	0.0003
BOTTOM FLANGE	0.5840	0.0240	0.0140	0.0003	0.0000
BOTTOM LIP CORNER	0.1947	0.0690	0.0134	0.0009	0.0003
BOTTOM LIP	0.3520	0.3240	0.1140	0.0369	0.0036
SUM	9.9025		13.8905	28.4696	3.3041

YBAR = 1.4027 IN

X-X AXIS EFFECTIVE PROPERTIES - LOAD DETERMINATION
BOTTOM IN COMPRESSION

	L	Y	LY	LY2	IO
BOTTOM LIP	0.3520	0.3240	0.1140	0.0369	0.0036
BOTTOM LIP CORNER	0.1947	0.0690	0.0134	0.0009	0.0003
BOTTOM FLANGE	0.5840	0.0240	0.0140	0.0003	0.0000
BOTTOM WEB CORNER	0.1947	0.0690	0.0134	0.0009	0.0003
FULL WEB OR WEB B1	2.7040	1.5000	4.0560	6.0840	1.6476
TOP WEB CORNER	0.1947	2.9310	0.5708	1.6729	0.0003
TOP FLANGE	1.4540	2.9760	4.3271	12.8775	0.0000
TOP WEB CORNER	0.1947	2.9310	0.5729	1.6729	0.0003
FULL WEB OR WEB B1	2.7040	1.5000	4.0560	6.0840	1.6476
BOTTOM WEB CORNER	0.1947	0.0690	0.0134	0.0009	0.0003
BOTTOM FLANGE	0.5840	0.0240	0.0140	0.0003	0.0000
BOTTOM LIP CORNER	0.1947	0.0690	0.0134	0.0009	0.0003
BOTTOM LIP	0.3520	0.3240	0.1140	0.0369	0.0036
SUM	9.9025		13.8905	28.4696	3.3041

YBAR = 1.4027

Designed By:	Z.J.S.ENGINEERING SERVICES INC. 14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Job # 22785-09
Janos Boros P.E.		Date 11-20-2009
Reference: Arts and Culture Commission <Conley> Description: 30'-0" Ranger 2000		

X-X AXIS EFFECTIVE PROPERTIES - DEFLECTION DETERMINATION
BOTTOM IN COMPRESSION

	L	Y	LY	LY2	IO
BOTTOM LIP	0.3520	0.3240	0.1140	0.0369	0.0036
BOTTOM LIP CORNER	0.1947	0.0690	0.0134	0.0009	0.0003
BOTTOM FLANGE	0.5840	0.0240	0.0140	0.0003	0.0000
BOTTOM WEB CORNER	0.1947	0.0690	0.0134	0.0009	0.0003
FULL WEB OR WEB B1	2.7040	1.5000	4.0560	6.0840	1.6476
TOP WEB CORNER	0.1947	2.9310	0.5708	1.6729	0.0003
TOP FLANGE	1.4540	2.9760	4.3271	12.8775	0.0000
TOP WEB CORNER	0.1947	2.9310	0.5708	1.6729	0.0003
FULL WEB OR WEB B1	2.7040	1.5000	4.0560	6.0840	1.6476
BOTTOM WEB CORNER	0.1947	0.0690	0.0134	0.0009	0.0003
BOTTOM FLANGE	0.5840	0.0240	0.0140	0.0003	0.0000
BOTTOM LIP CORNER	0.1947	0.0690	0.0134	0.0009	0.0003
BOTTOM LIP	0.3520	0.3240	0.1140	0.0369	0.0036
SUM	9.9025		13.8905	28.4696	3.3041

YBAR = 1.4027 IN

Y-Y AXIS PROPERTIES (GROSS SECTION)

	L	X	LX	LX2	IO
BOTTOM LIP	0.3520	-1.6831	-0.5924	0.9971	0.0000
BOTTOM LIP CORNER	0.1947	-1.6379	-0.3190	0.5225	0.0003
BOTTOM FLANGE	0.5840	-1.2670	-0.7399	0.9375	0.0166
BOTTOM WEB CORNER	0.1947	-0.8961	-0.1745	0.1564	0.0003
FULL WEB OR WEB B1	2.7040	-0.8510	-2.3011	1.9582	0.0000
TOP WEB CORNER	0.1947	-0.8059	-0.1569	0.1265	0.0003
TOP FLANGE	1.4540	0.0000	0.0000	0.0000	0.2562
TOP WEB CORNER	0.1947	0.8059	0.1569	0.1265	0.0003
FULL WEB OR WEB B1	2.7040	0.8510	2.3011	1.9582	0.0000
BOTTOM WEB CORNER	0.1947	0.8961	0.1745	0.1564	0.0003
BOTTOM FLANGE	0.5840	1.2670	0.7399	0.9375	0.0166
BOTTOM LIP CORNER	0.1947	1.6379	0.3190	0.5225	0.0003
BOTTOM LIP	0.3520	1.6831	0.5924	0.9971	0.0000
SUM	9.9025		-0.0000	9.3963	0.2911

XBAR = -0.0000 IN

Designed By: Janos Boros P.E.	Z.J.S.ENGINEERING SERVICES INC. 14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	*Job #* 22785-09 *Date* 11-20-2009
Reference: Arts and Culture Commission <Conley> *Description:* 30'-0" Ranger 2000		

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*****************************************************************************
*            Section Properities For 3 IN HAT X 18 GA                       *
*        (1986 AISI, 50.0 KSI STEEL; IX FOR DEFL., SX FOR STREES)           *
*                                                                           *
*                                                                           *
*  DEPTH          =  3.0000 IN          THICKNESS       =  0.0480 IN       *
*  BOTTOM FLANGE  =  0.8800 IN          TOP FLANGE      =  1.7500 IN       *
*  WEB ANGLE      = 90.000 DEG          INSIDE RADIUS   =  0.1000 IN       *
*  BOTTOM LIP     =  0.5000 IN          BOTTOM LIP ANGLE = 90.000 DEG      *
*                                                                           *
*  IXTC = 0.5899 IN4      SXTC = 0.3675 IN3      MATC =  12.10 KIP-IN       *
*  IXBC = 0.5899 IN4      SXBC = 0.4205 IN3      MABC =  13.85 KIP-IN       *
*                                                                           *
*  IY   = 0.4650 IN4      SY   = 0.2724          RY   =  0.9891 IN          *
*                                                                           *
*  AREA = 0.4753 IN2      WT   = 1.6161 PLF      AEFF =  0.4745 IN2         *
*  VA   = 2.5771 KIP      RX   = 1.1140 IN       J    =  0.0004 IN4         *
*                                                                           *
*                                          BEARING LENGTH (IN)              *
*                                    1        2        3        4           *
* ALLOW. END BEARING (KIPS)       0.6580   0.7715   0.8850   0.9984         *
* ALLOW. INT. BEARING (KIPS)      1.8850   2.1249   2.3648   2.6047         *
*                                                                           *
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Designed By:	Z.J.S.ENGINEERING SERVICES INC.	Job # 22785-09
Janos Boros P.E.	14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Date 11-20-2009
Reference: Arts and Culture Commission <Conley> Description: 30'-0" Ranger 2000		

Appendix

Section Properities For 3 IN HAT X 13 GA

(1986 AISI, 55.0 KSI STEEL; IX FOR DEFL., SX FOR STRESS)

DEPTH	= 3.0000 IN	THICKNESS	= 0.0900 IN
BOTTOM FLANGE	= 0.8750 IN	TOP FLANGE	= 1.7500 IN
WEB ANGLE	= 90.0000 IN	INSIDE RADIUS	= 0.0900 IN
BOTTOM LIP	= 0.5000 IN	BOTTOM LIP ANGLE	= 90.0000 DEG

X-X AXIS EFFECTIVE PROPERTIES - LOAD DETERMINATION
TOP IN COMPRESSION

	L	Y	LY	LY2	IO
BOTTOM LIP	0.3200	0.3400	0.1088	0.0370	0.0027
BOTTOM LIP CORNER	0.2120	0.0940	0.0199	0.0019	0.0004
BOTTOM FLANGE	0.5150	0.0450	0.0232	0.0010	0.0000
BOTTOM WEB CORNER	0.2120	0.0940	0.0199	0.0019	0.0004
FULL WEB OR WEB B1	2.6400	1.5000	3.9600	5.9400	1.5333
TOP WEB CORNER	0.2120	2.9060	0.6161	1.7904	0.0004
TOP FLANGE	1.3900	2.9550	4.1075	12.1375	0.0000
TOP WEB CORNER	0.2120	2.9060	0.6161	1.7904	0.0004
FULL WEB OR WEB B1	2.6400	1.5000	3.9600	5.9400	1.5333
BOTTOM WEB CORNER	0.2120	0.0940	0.0199	0.0019	0.0004
BOTTOM FLANGE	0.5150	0.0450	0.0232	0.0010	0.0000
BOTTOM LIP CORNER	0.2120	0.0940	0.0199	0.0019	0.0004
BOTTOM LIP	0.3200	0.3400	0.1088	0.0370	0.0027
SUM	9.6121		13.6034	27.6819	3.0743

YBAR = 1.4152 IN

Designed By:	Z.J.S.ENGINEERING SERVICES INC.	Job # 22785-09
Janos Boros P.E.	14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Date 11-20-2009
Reference: Arts and Culture Commission <Conley>		
Description: 30'-0" Ranger 2000		

X-X AXIS EFFECTIVE PROPERTIES - DEFLECTION DETERMINATION
TOP IN COMPRESSION

	L	Y	LY	LY2	IO
BOTTOM LIP	0.3200	0.3400	0.1088	0.0370	0.0027
BOTTOM LIP CORNER	0.2120	0.0940	0.0199	0.0019	0.0004
BOTTOM FLANGE	0.5150	0.0450	0.0232	0.0010	0.0000
BOTTOM WEB CORNER	0.2120	0.0940	0.0199	0.0019	0.0004
FULL WEB OR WEB B1	2.6400	1.5000	3.9600	5.9400	1.5333
TOP WEB CORNER	0.2120	2.9060	0.6161	1.7904	0.0004
TOP FLANGE	1.3900	2.9550	4.1075	12.1375	0.0000
TOP WEB CORNER	0.2120	2.9060	0.6161	1.7904	0.0004
FULL WEB OR WEB B1	2.6400	1.5000	3.9600	5.9400	1.5333
BOTTOM WEB CORNER	0.2120	0.0940	0.0199	0.0019	0.0004
BOTTOM FLANGE	0.5150	0.0450	0.0232	0.0010	0.0000
BOTTOM LIP CORNER	0.2120	0.0940	0.0199	0.0019	0.0004
BOTTOM LIP	0.3200	0.3400	0.1088	0.0370	0.0027
SUM	9.6121		13.6034	27.6819	3.0743

YBAR = 1.4152 IN

Designed By:	Z.J.S.ENGINEERING SERVICES INC. 14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Job # 22785-09
Janos Boros P.E.		Date 11-20-2009
Reference: Arts and Culture Commission <Conley> Description: 30'-0" Ranger 2000		

Appendix

X-X AXIS EFFECTIVE PROPERTIES - LOAD DETERMINATION
BOTTOM IN COMPRESSION

	L	Y	LY	LY2	IO
BOTTOM LIP	0.3200	0.3400	0.1088	0.0370	0.0027
BOTTOM LIP CORNER	0.2120	0.0940	0.0199	0.0019	0.0004
BOTTOM FLANGE	0.5150	0.0450	0.0232	0.0010	0.0000
BOTTOM WEB CORNER	0.2120	0.0940	0.0199	0.0019	0.0004
FULL WEB OR WEB B1	2.6400	1.5000	3.9600	5.9400	1.5333
TOP WEB CORNER	0.2120	2.9060	0.6161	1.7904	0.0004
TOP FLANGE	1.3900	2.9550	4.1075	12.1375	0.0000
TOP WEB CORNER	0.2120	2.9060	0.6161	1.7904	0.0004
FULL WEB OR WEB B1	2.6400	1.5000	3.9600	1.9400	1.5333
BOTTOM WEB CORNER	0.2120	0.0940	0.0199	0.0019	0.0004
BOTTOM FLANGE	0.5150	0.0450	0.0232	0.0010	0.0000
BOTTOM LIP CORNER	0.2120	0.0940	0.0199	0.0019	0.0004
BOTTOM LIP	0.3200	0.3400	0.1088	0.0370	0.0027
SUM	9.6121		13.6034	27.6819	3.0743

YBAR = 1.4152

X-X AXIS EFFECTIVE PROPERTIES - DEFLECTION DETERMINATION
BOTTOM IN COMPRESSION

	L	Y	LY	LY2	IO
BOTTOM LIP	0.3200	0.3400	0.1088	0.0370	0.0027
BOTTOM LIP CORNER	0.2120	0.0940	0.0199	0.0019	0.0004
BOTTOM FLANGE	0.5150	0.0450	0.0232	0.0010	0.0000
BOTTOM WEB CORNER	0.2120	0.0940	0.0199	0.0019	0.0004
FULL WEB OR WEB B1	2.6400	1.5000	3.9600	5.9400	1.5333
TOP WEB CORNER	0.2120	2.9060	0.6161	1.7704	0.0004
TOP FLANGE	1.3900	2.9550	4.1075	12.1375	0.0000
TOP WEB CORNER	0.2120	2.9060	0.6161	1.7904	0.0004
FULL WEB OR WEB B1	2.6400	1.5000	3.9600	4.9400	1.5333
BOTTOM WEB CORNER	0.2120	0.0940	0.0199	0.0019	0.0004
BOTTOM FLANGE	0.5150	0.0450	0.0232	0.0010	0.0000
BOTTOM LIP CORNER	0.2120	0.0940	0.0199	0.0019	0.0004
BOTTOM LIP	0.3200	0.3400	0.1088	0.0370	0.0027
SUM	9.6121		13.6034	27.6819	3.0743

YBAR = 1.4152 IN

Designed By: Janos Boros P.E.	Z.J.S.ENGINEERING SERVICES INC. 14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	*Job #* 22785-09 *Date* 11-20-2009
Reference: Arts and Culture Commission <Conley> *Description:* 30'-0" Ranger 2000		

1996 AISI Specification ASD

SECTION DESIGNATION: 3" HAT section with Insert

INPUT PROPERTIES:

Web Height =	4.750 in	Steel Thickness =	0.0890 in
Top Flange =	1.750 in	Inside Corner Radius =	0.0765 in
Bottom Flange =	1.750 in	Yield Stress, Fy =	50.0 ksi
		Fy With Cold-Work, Fya =	57.1 ksi

OUTPUT PROPERTIES:

Effective Section Properties, Strong Axis

Neutral Axis from Top Fiber (Ycg)	2.3750 in
Moment of Inertia for Deflection (Ixx)	3.0056 in^4
Section Modulus (Sxx)	1.2655 in^3
Allowable Bending Moment (Ma)	3603.22 Ft-Lb

Gross Section Properties of Full Section, Strong Axis

Neutral Axis from Top Fiber (Ycg)	2.3750 in
Moment of Inertia (Ixx)	3.0056 in^4
Cross Sectional Area (A)	1.1068 in^2
Radius of Gyration (Rx)	1.6479 in

Section Properties, Weak Axis

Gross Moment of Inertia (Iyy)	0.6268 in^4
Radius of Gyration (Ry)	0.7525 in

Other Section Property Data

Member Weight per Foot of Length	3.7663 lb/ft
Allowable Shear Force in Web (Unpunched)	14748 lb
Allowable Shear Force in Web (Punched)	4479 lb
Pao for use in Interaction Equation C5-2	19514 lb

Designed By:	Z.J.S.ENGINEERING SERVICES INC. 14189 Foothill Blvd, Ste. 101 Fontana, CA 92335	Job # 22785-09
Janos Boros P.E.		Date 11-20-2009
Reference: Arts and Culture Commission <Conley> Description: 30'-0" Ranger 2000		

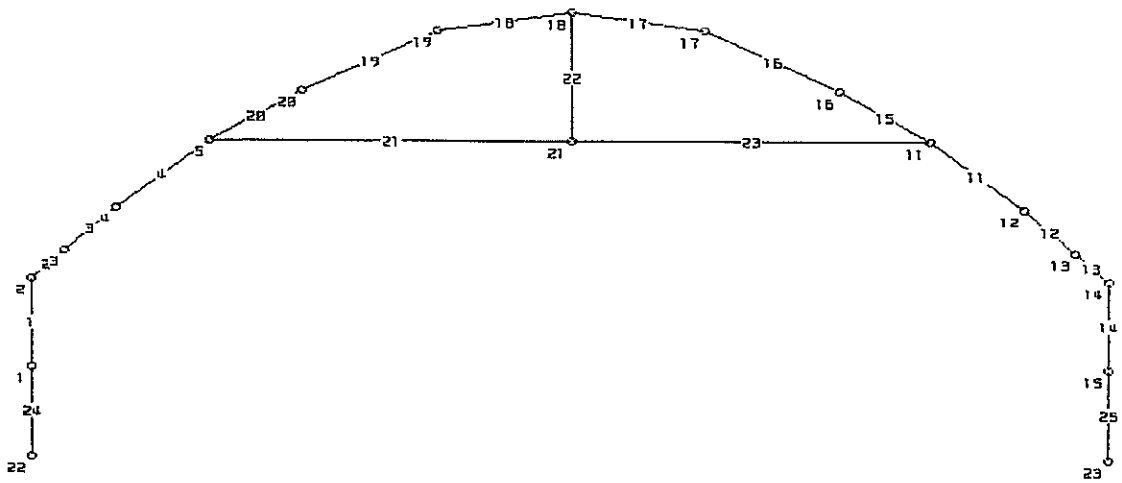

Figure 1.