

June 10, 2014

PH: 801.254.3742 EMAIL: [info@sjc.utah.gov](mailto:info@sjc.utah.gov) FAX: 801.254.3393

David Simon

[REDACTED]  
Bountiful, Utah 84010

RE: GRAMA Record Request dated 06/05/2014

Dear Mr. Simon

I am responding to your GRAMA Record Request dated 06/05/2014 asking for:

- Information regarding building permits, certificates of occupancies, construction dates for the existing and past improvements, records of the installation or removal of USTs and ASTs, records of when the Property was connected to municipal water and/or sewer, and names of prior owners or tenants.
- Property Location: 1026 West South Jordan Parkway  
South Jordan, Utah 84095

**Approved – (76) pages of building and water records.**

Please send payment in the amount of  $.25 \times 76 = \$19.00$  to:

City of South Jordan  
1600 West Towne Center Dr.  
South Jordan, Utah 84095

Please let me know if you have any questions,

Sincerely,

Cindy Valdez, CMC  
Deputy City Recorder

CITY OF SOUTH JORDAN  
GRAMA Record Request  
Fax: 801-254-3393

The following form should be completely filled out and returned to the City Recorder's office. The City is allowed 10 business days in which to respond to your request. Presently, South Jordan City Charges .25¢ per page. The City may assess other fees for records compiled in a form other than that maintained. Research or Services Fee may be charged as provided by Utah Code 63G-2-203.

Requestor's Name: David Simon

Address: [REDACTED] City: Bountiful

State: UT Zip: 84010 Phone: [REDACTED] Fax: [REDACTED]

In accordance with the Governmental Records Access Management Act, I am seeking the following record(s) specifically described as:

**Property: 1026 West South Jordan Parkway, South Jordan, UT 84095**  
Information regarding building permits, certificates of occupancies, construction dates for the existing and past improvements, records of the installation or removal of USTs and ASTs, records of when the Property was connected to municipal water and/or sewer, and names of prior owners or tenants.

which I believe are collected, filed and/or used by the City of South Jordan, 1600 W. Towne Center Drive, South Jordan, Utah 84095 (801) 254-3742.

I would like to view/inspect the record(s).

I would like to receive a copy of the record(s) described above. I understand that the City charges a fee for copies of records and the copies will be provided subject to fees being paid. I authorize cost of up to \$ 25.00. If costs are greater than the amount I have specified, I further understand that the office will contact me and will not respond to a request for copies if I have not authorized adequate costs.

David B. Simon June 5, 2014  
Signature Date

CITY'S RESPONSE TO RECORD REQUEST - FOR OFFICE USE ONLY

APPROVED - Requestor notified on 6-10 2014

DENIED - Written denial sent on \_\_\_\_\_ 20\_\_\_\_

Requestor notified that this office does not maintain record; and, if known, was also notified of name and address of agency that does maintain record on \_\_\_\_\_ 20\_\_\_\_

Extension of time for extraordinary circumstances. Required notice sent \_\_\_\_\_ 20\_\_\_\_

COPY FEES: \$ 50.<sup>00</sup>. If waived, approved by: \_\_\_\_\_

Crista Valdez 6-10-14  
Signature Date



City of South Jordan

Building Division

1600 W Towne Center Drive
South Jordan, UT 84065
801-254-3742
http://www.southjordancity.org

Table with permit details: Permit # 43159, Project # 2012-16252, Permit Cat. Building Permit, Permit Type Electrical Only, Issue Date 11/7/2012

Construction Permit

Table with header: Address, Assessors Parcel No., Tract Parcel Map Number, Lot Number. Row 1: 1026 SOUTH JORDAN PKWY W, Apt. (10600 S)

Description of work.
ELECTRICAL ONLY-TEMP POWER FOR 3-D CAR WASH

Table with headers: Building Value, Occupancy, Construction, Units, Sprinkler, Square Feet, Garage Sq. Ft. Row 1: Sprinkler False

Table with headers: Current Owners, Address, Telephone, Email. Row 1: \* 3-D DEVELOPMENT & HOLDINGS, UT, 801-842-5550, X@X.COM

Table with headers: Contractor, Address, Telephone, Email. Row 1: \* BADHAM CONSTRUCTION, 125 N 640 W NORTH SALT LAKE UT 84054, (801)936-9700. Row 2: Lic. Information, 380913, Exp. Date: 11/30/2011

Table with headers: Applicant, Address, Telephone, Email. Row 1: \* BADHAM CONSTRUCTION, 125 N 640 W NORTH SALT LAKE UT 84054, (801)936-9700. Row 2: Lic. Information, 380913, Exp. Date: 11/30/2011

Table with headers: Fees, Fee Group, Fee Type Desc, Unit Cost, Quantity, Fee Amount, Payment Amount, Balance. Includes rows for Electrical Only, State Fee, and Totals.

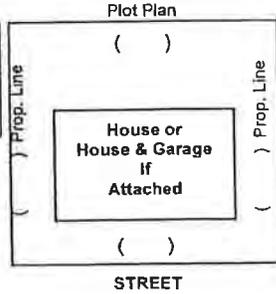
Table with headers: Receipt Summary, Receipt ID, Payment, Type, Paid By, LOGINID, Date Time. Includes row for receipt 10061 and a Totals row.

# BUILDING PERMIT APPLICATION *Temp Power*

BECOMES PERMIT WHEN SIGNED

SOUTH JORDAN CITY

*Date of Application <b>11-6-12</b>		Date Work Starts <b>ASAP</b>		Receipt No. <b>116252</b>		Date Issued		Permit Number	
*Proposed Use of Structure <b>Temp Const. Power / 3D car wash</b>				<b>BUILDING FEE SCHEDULE</b>					
*Bldg. Address <b>1026 West, South Jordan Parkway</b>				Square Ft. of Building		Valuation			
*E-Mail Address <b>badham@badhamconstructioninc.com</b>				<input type="checkbox"/> Rough Basement		Building Fees			
Assessors Parcel No.				<input type="checkbox"/> Finish Basement		Plan Check Fees			
*Lot #		*Block		Carport sq. ft.		Electrical Fees			
*Subd. Name & Number				Garage sq. ft.		Plumbing Fees			
*Property Location				Type of Bldg.		Occ. Group		Mechanical Fees	
<input type="checkbox"/> If metes and bounds see instructions				No. of Bldgs.		R. Value Walls		Roof	
*Total Property Area - In Acres or Sq. Ft.				No. of Stories		R		R	
*Owner of Property <b>3-D Development &amp; Holdings</b>				No. of Bedrooms				Subtotal	
Phone <b>801 842-5550</b>				No. of Dwellings				Water	
*Mailing Address <b>4200 Broadway, Phoenix Az 84054</b>				Type of Construction		<input type="checkbox"/> Frame <input type="checkbox"/> Brick Var.		Sewer	
City - Zip				<input type="checkbox"/> Brick <input type="checkbox"/> Block <input type="checkbox"/> Concrete <input type="checkbox"/> Steel				Storm Sewer	
*Business Name Address				Max. Occ. Load				Moving or Demo.	
Business Lic. No.				Fire Sprinkler <input type="checkbox"/> Yes <input type="checkbox"/> No				Temporary Conn.	
*Architect or Engineer <b>Nichols-Naylor Arch.</b>				Special Approvals		Required		Received	
Phone <b>801 487-3330</b>				Board of Adjustment		South Jordan Bldg. Dept.		Approved	
*General Contractor <b>Badham Const Inc.</b>				Health Dept.					
Phone <b>801 936-9700</b>				Fire Dept.					
*Business Address - City - Zip <b>125 N. 6400 W. USL, UT 84054</b>				Soil Report					
*State Lic. No. <b>330913-5501</b>				Water or Well Permit					
*Electrical Contractor - Temp Power <b>Temporary Power Services Inc.</b>				Traffic Engineer					
Phone <b>801 501-7730</b>				Flood Control					
*Business Address - City - Zip <b>PO Box 1816 Sandy, Ut. 84091</b>				Sewer or Septic Tank					
*State Lic. No. <b>641071-5501</b>				City Engineer (off site)					
*Plumbing Contractor <b>N/A</b>				Gas					
Phone				Comments:					
*Business Address - City - Zip				Land Use Cert.					
*State Lic. No.				Electrical Dept.					
*Mechanical Contractor <b>N/A</b>				HIBack C.G & S.					
Phone				Other					
*Business Address - City - Zip				Bond Required <input type="checkbox"/> Yes <input type="checkbox"/> No		Amount			
*State Lic. No.				This application does not become a permit until signed below.					
*Previous Usage of Land or Structure (Past 3 yrs.) <b>Vacant</b>				Plan Chk. OK by					
*Dwell. Units Now on Lot		*Assessory Bldgs. Now on Lot		Signature of Approval		Date			
*Type of Improvement / Kind of Const.				This permit becomes null and void if work or construction authorized is not commenced within 180 days, or if construction or work is suspended or abandoned for a period of 180 days at anytime after work is commenced. I hereby certify that I have read and examined this application and know the same to be true and correct. All provisions of laws and ordinances governing this type of work will be complied with whether specified herein or not the granting of a permit does not presume to give authority to violate or cancel the provisions of any other state or local law regulating construction or the performance of construction and that I make this statement under penalty of perjury.					
<input type="checkbox"/> Sign		<input type="checkbox"/> Build		<input type="checkbox"/> Remodel		<input type="checkbox"/> Addition			
<input type="checkbox"/> Repair		<input type="checkbox"/> Move		<input type="checkbox"/> Convert Use		<input type="checkbox"/> Demolish			
*No. of off-street parking spaces:				Signature of Contractor or Authorized Agent <b>David Badham</b>		Date <b>11-6-12</b>			
Covered		Uncovered		Signature of Owner (If Owner)		Date			
SUB-CHECK		Zone		Census Tract		Traffic Zone		Coordinate Ident. No.	
Disapproved		Sub-Ck. By		New S.L.U. Code No.		Old S.L.U. Code No.			
Approved		Date		Certificate of Occupancy					



Note: 24 Hours notice is required for all inspections

RMP Request # 5721655



**City of South Jordan**

**Building Division**

1600 W Towne Center Drive  
 South Jordan, UT 84065  
 801-254-3742  
 http://www.southjordancity.org

Permit #	43727
Project #	2012-16364
Permit Cat.	Building Permit
Permit Type	Commercial New
Issue Date	4/3/2013

**Construction Permit**

Address	Assessors Parcel No.	Tract Parcel Map Number	Lot Number
1026 SOUTH JORDAN PKWY W, Apt. (10600 S)			

**Description of work.**

CENTENNIAL CAR WASH MAX OCCUPANCY LOAD 22
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Building Value	Occupancy	Construction	Units	Sprinkler	Square Feet	Garage Sq. Ft.
\$855,000.00	Commercial	Type V B		False	5221.00	

Current Owners	Address	Telephone	Email
* 3-D DEVELOPMENT & HOLDINGS	UT	801-842-5550	X@X.COM

Contractor	Address	Telephone	Email
* BADHAM CONSTRUCTION	125 N 640 W NORTH SALT LAKE UT 84054	(801)936-9700	X@X.COM

Lic. Information	Address	Exp. Date
	380913	11/30/2013

Applicant	Address	Telephone	Email
* BADHAM CONSTRUCTION	125 N 640 W NORTH SALT LAKE UT 84054	(801)936-9700	X@X.COM

Lic. Information	Address	Exp. Date
	380913	11/30/2013

**Fees**

Fee Group	Fee Type Desc	Unit Cost	Quantity	Fee Amount	Payment Amount	Balance
Commercial/New				\$45,318.33	\$45,318.33	\$0.00
	State Fee	.01	6,812.25	\$68.12	\$68.12	\$0.00
	IMP ResSF: Offsite Cleaning	78.00	1.00	\$78.00	\$78.00	\$0.00
	IMP ResSF: Offsite Cleaning	78.00	1.00	\$78.00	\$78.00	\$0.00
	IMP ResSF: Construction Water	200.00	1.00	\$200.00	\$200.00	\$0.00
	IMP ResSF: Construction Water	200.00	1.00	\$200.00	\$200.00	\$0.00
	BLDG New PME Plan Check	.25	864.00	\$216.00	\$216.00	\$0.00
	Mechanical	262.00	1.00	\$262.00	\$262.00	\$0.00
	1" Water meter	281.00	1.00	\$281.00	\$281.00	\$0.00
	Plumbing	288.00	1.00	\$288.00	\$288.00	\$0.00
	Electrical	314.00	1.00	\$314.00	\$314.00	\$0.00
	2" Water Meter	2,250.00	1.00	\$2,250.00	\$2,250.00	\$0.00
	BLDG New Plan Check	.45	5,948.25	\$2,676.71	\$2,676.71	\$0.00
	IMP Comm Other: Public Safety	2,151.96	1.55	\$3,335.54	\$3,335.54	\$0.00
	IMP: 1" Culinary Water	5,324.00	1.00	\$5,324.00	\$5,324.00	\$0.00
	Valuation	.00	.00	\$5,948.25	\$5,948.25	\$0.00
	IMP Comm Other: Roadway	1,295.29	5,221.00	\$6,762.71	\$6,762.71	\$0.00
	IMP: 2" Culinary Water	17,036.00	1.00	\$17,036.00	\$17,036.00	\$0.00
<b>Totals</b>				<b>\$45,318.33</b>	<b>\$45,318.33</b>	<b>\$0.00</b>

**Receipt Summary**

Receipt ID	Payment	Type	Paid By	LOGINID	Date Time
10787	\$45,318.33	Check	3D DEVELOPMENT & HOLDINGS	jzaragoza	4/3/2013 11:48 AM
<b>Totals</b>	<b>\$45,318.33</b>				

**BUILDING PERMIT APPLICATION**

Print Form

Plan 8731

SOUTH JORDAN CITY

BECOMES PERMIT WHEN SIGNED

*Date of Application 11/8/12		Date Work Starts		Receipt No. 16364		Date Issued		Permit Number	
*Proposed Use of Structure Car Wash / Centennial				BUILDING FEE SCHEDULE					
*Bldg. Address 10240 W. South Jordan Pkwy				Square Ft. of Building 5221		Valuation 855,000			
*E-Mail Address rv55@richolsmay.com				Assessors Parcel No. 2714180003		<input type="checkbox"/> Rough Basement		Building Fees	
*Lot #				*Block		*Subd. Name & Number		<input type="checkbox"/> Finish Basement	
*Property Location				<input type="checkbox"/> If metes and bounds see instructions		Carport sq. ft.		Plan Check Fees	
*Total Property Area - In Acres or Sq. Ft. 47725				Total Bldg. Site Area Used		Garage sq. ft.		Electrical Fees 314.00	
*Owner of Property Jake Daham				Phone 842 5550		Type of Bldg. E.P.		Plumbing Fees 298.00	
*Mailing Address				City - Zip		Occ. Group M		Mechanical Fees 262.00	
*Business Name Address				Business Lic. No.		No. of Bldgs. 1		Subtotal	
*Architect or Engineer Russ Naylor				Phone 487-3330		No. of Stories 1		Water	
*General Contractor Brahman Const				Phone 936 9700		R. Value Walls Roof		Sewer	
*Business Address - City - Zip 125 No 640 W No Salt Lake				*State Lic. No. 8405A380913-5501		No. of Bedrooms		Storm Sewer	
*Electrical Contractor Zeus Electric				Phone		No. of Dwellings		Moving or Demo.	
*Business Address - City - Zip				*State Lic. No. 8079668		Type of Construction <input type="checkbox"/> Frame <input type="checkbox"/> Brick Var. <input type="checkbox"/> Brick <input type="checkbox"/> Block <input type="checkbox"/> Concrete <input type="checkbox"/> Steel		Temporary Conn.	
*Plumbing Contractor Southwest Plumbing				Phone		Max. Occ. Load 22		Re-inspection	
*Business Address - City - Zip				*State Lic. No. 333335		Fire Sprinkler <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		State Fee	
*Mechanical Contractor Salmon HVAC				Phone		Special Approvals		Required	
*Business Address - City - Zip				*State Lic. No. 7134147		Board of Adjustment		Received	
*Previous Usage of Land or Structure (Past 3 yrs.)						Health Dept.		Approved	
*Dwell. Units Now on Lot		*Assessory Bldgs. Now on Lot				Fire Dept. South Jordan Bldg Dept			
*Type of Improvement / Kind of Const. <input type="checkbox"/> Sign <input type="checkbox"/> Build <input type="checkbox"/> Remodel <input type="checkbox"/> Addition <input type="checkbox"/> Repair <input type="checkbox"/> Move <input type="checkbox"/> Convert Use <input type="checkbox"/> Demolish				Comments: 2" Water Meter 1" Landscape Meter 6" Sewer 4" Car Wash Sewer					
*No. of off-street parking spaces:				Covered		Uncovered			
SUB-CHECK				Zone cc		Zone Approved By [Signature]			
Disapproved / Approved 3/22/13				Date		Sub-Ck. By [Signature]			
Minimum Setbacks in Feet				Plot Plan					
Front		Side		Side		Rear			
A Per Site Plan				House or House & Garage If Attached					
Indicate Street If Corner Lot				STREET					
Indicate North									
Note: 24 Hours notice is required for all inspections									
Signature of Contractor or Authorized Agent		Date		Signature of Owner (if Owner)		Date			
Census Tract		Traffic Zone		Coordinate Ident. No.					
New S.L.U. Code No.		Old S.L.U. Code No.		Certificate of Occupancy					

Scott L. Osborne, Mayor  
Mark Seethaler, Council Member  
Chuck Newton, Council Member  
Brian Butters, Council Member  
Steve Barnes, Council Member  
Larry Short, Council Member

John H. Geilmann, City Manager



Date: 12/26/2012

PH: 801.254.3742 EMAIL: info@sjc.utah.gov FAX: 801.254.3393

Centennial Car Wash  
BUILDING DEPARTMENT  
PLAN REVIEW FOR PROJECT

CONTACT: Russ Naylor Architect 487-3330

PROJECT #16364 PLAN #8731

Plan reviewed by Boyd Hunting phone # 253-5203 ext. #1283 or FAX #253-5235  
[bhunting@sjc.utah.gov](mailto:bhunting@sjc.utah.gov).

NOTE: Plan reviews are not exhaustive and approval doesn't relieve the contractor and designer of the responsibility of full compliance with all applicable Building codes and ordinances.

NOTE: Must notify South Valley Water Reclamation Facility & the South Valley Sewer District and provide a letter from both that they are aware of project prior to issuance of a permit.

NOTE: Before the permit can be issued there must be provided a list of major contractors with state license #'s contact person and address, a general, electrical, mechanical, plumbing, and fire sprinkler if applicable. Need to provide a value for the project also.

NOTE: All issues with the planning and engineering departments must be resolved before building review and permit processing can take place.

NOTE: If applicable must provide fabricators certifications for all structural steel & decking, & roof truss fabrication.

NOTE: Must provide Name and contact person for all Special Inspections Contractors prior to permit approval this could include soils, concrete, steel, masonry, and med-gas inspections.

NOTE: All documents submitted to the city for this review are assumed to have the owner's final approval. Any changes to the documents or project prior to a resubmittal for rereview and preapproval, and work has started will be considered in the same light as building without a permit and will be subject to all fees and penalties for noncompliance including a stop work order. The project will then be required to be resubmitted in its entirety and the process will be started over from the beginning after all fees are paid. IBC Code section 107.4 Amended Documents

NOTE: On interior lighting COMM-check or equal recessed light fixture manufacturers specs must be used to calculate compliance with Energy code Sec. 505.1.1 & 505.1.2, compacted florescent bulbs wattage not acceptable. Any deviation of this after permit will require removal and correction at permit holders expense.

NOTE: Deferred submittals must comply with IBC code section 107.3.4.2 and have the Building Official's approval along with a firm date as to when that will be provided to the city. This date should be provided with the project documents at the time of first review. And that the date and deferred submittals will be subject to approval by the Building Official.

NOTE: Responses and comments to the plan review will need to be in **one complete** resubmittal addressing all comments.

NOTE: Project may require A.E.D. to comply with South Jordan City Ordinance municipal code 8.32 depending on occ.load of 150 persons or more or on occupancy category.



First In Design

1. Need to address inconsistency between structural pages S101, S-111 and A-1 @ office wall can't locate header that separates Customer and hall and office.
2. How will office wall with door be built and with what will it go to deck and how deflection will be dealt with.
3. On sheet A-9 Urinal not identified on fixture legend, also will need a urinal petition to be provided show that it will be compliant with IPC 310.5.
4. Room 105 states equipment above, what equipment and is there a platform or a mezzanine of some sort please provide details on how this is to be accomplished and access provided, supported and restrained in seismic event..
5. How will roof access be provided to the roof top equipment roof drains for service and maintenance, location of ladder and hatch shown but no details on ladder or hatch or orientation of hatch or curb please provide?
6. What is the wiring method proposed for this project, can't locate one?
7. Provide a lighting schedule and also identify emergency lighting or location, can't locate them on plans.
8. What is the reason for the question mark after the size of the branch duct dimension on the mechanical plan?
9. Provide a return air path from rooms with supply duct piped to them. (Office, rm. 104 storage 105 and restrooms)
10. How will unit heater be seismically restrained?
11. May be other comments when these have been addressed.

12 signed CONAM-check

13 Electrical in Tunnel & Exterior



# Memo

**To: Boyd Hunting**

**From: Russ Naylor**

**Date: February 11, 2013**

**Re: Centennial Carwash**

- 
- ✓ 1. Need to address inconsistency between structural pages S101, S-111 and A-1 @ office wall can't locate header that separates Customer and hall and office.  
**See attached structural comments.**
  - ✓ 2. How will office wall with door be built and with what will it go to deck and how deflection will be dealt with.  
**See attached structural comments.**
  - X 3. On sheet A-9 Urinal not identified on fixture legend, also will need a urinal petition to be provided show that it will be compliant with IPC 310.5.  
**The urinal has been added to the fixture legend on sheet A-9. A**
  - ✓ 4. Room 105 states equipment above, what equipment and is there a platform or a mezzanine of some sort please provide details on how this is to be accomplished and access provided, supported and restrained in seismic event.  
**The mezzanine has been removed from the project.**
  - ✓ 5. How will roof access be provided to the roof top equipment roof drains for service and maintenance, location of ladder and hatch shown but no details on ladder or hatch or orientation of hatch or curb please provide?  
**The hatch has been added. It is located in the carwash mechanical room. Any other access to other areas can be accomplished by stepping over parapet walls that do not exceed 48".**
  - ✓ 6. What is the wiring method proposed for this project, can't locate one?  
**See the attached electrical comments.**
  - ✓ 7. Provide a lighting schedule and also identify emergency lighting or location, can't locate them on plans.  
**See the attached electrical comments.**

- ✓ 8. What is the reason for the question mark after the size of the branch duct dimension on the mechanical plan?  
**See the attached mechanical comments.**
- ✓ 9. Provide a return air path from rooms with supply duct piped to them. (Office, rm. 104 storage 105 and restrooms)  
**See the attached mechanical comments.**
- ✓ 10. How will unit heater be seismically restrained?  
**See the attached mechanical comments.**
- ✓ 11. May be other comments when these have been addressed.



January 24, 2013

Adam Naylor  
Nichols Naylor Architects  
1155 E. Wilmington Ave. Suite 250  
Salt Lake City, Utah 84106

RE: Centennial Car Wash

Adam,

The following are responses to the review comments received from the city of South Jordan.

1. A header was added across the hall separating the office and customer service. See attached plan and details.
2. The interior wall and door in the office are both non-structural items and can therefore span to the underside of the joists. Deflection is of no concern because both the wall and header will not be taking any load.

I have attached the plans, details, and calculations that reflect the resolved comments.

Best regards,

A handwritten signature in black ink, appearing to read 'R. Mikesell'.

Ryan Mikesell  
Project Engineer  
BHB Consulting Engineers, PC

A handwritten signature in black ink, appearing to read 'S. Pettit'.

Scott Pettit, SE  
Principal  
BHB Consulting Engineers, PC





"Engineering Results"

**BHB Consulting Engineers**  
A Professional Corporation

2766 South Main Street  
Salt Lake City, Utah 84115  
Phone: 801.355.5655 Fax: 801.355.5650

Project:

Sheet:

Job:

Date: 1/24/2013

By:

**Wood Beam Design**

**INPUT:**

**Material Information:**

Allowable Strong Bending Fbx (psi): 900.00  
 Allowable Weak Bending Fby (psi): 900.00  
 Strong Elastic Modulus - Ex (ksi): 1,600.00  
 Weak Elastic Modulus - Ey(ksi): 1,600.00  
 Emin x (ksi): 580.00  
 Emin y (ksi): 580.00  
 DF grade: DF-L No.2  
 K<sub>T</sub>: 0.59  
 c: 0.80  
 Use Pre Determined  
 F<sub>v</sub> (psi): 180.00  
 F<sub>c-L</sub> (psi): 625.00  
 F<sub>c</sub> (psi): 1,350.00

**Beam Information:**

Beam Width (in): 4.50  
 Beam Depth(in): 7.25  
 Beam Length (ft): 4.50  
 Unbraced Length y (ft): 4.50  
 Effective Length y (ft): 9.27  
 Unbraced Length x (ft): 4.50  
 Ke: 1.00  
 Effective Length x (ft): 4.50  
 Bearing Length (in): 3

**Adjustment Factors:**

**Load Duration Factor-Cd:**

Gravity Loads: 1.15  
 Wind Loads: 1.60  
 Earthquake Loads: 1.60  
 Wet Service Factor - Cm: 1.00  
 Temperature Factor - Ct: 1.00  
 Repetitive Use Factor-Cr: 1.00  
 Size Factor Cf: 0.91  
 Flat use Factor - Cfu: 1.00  
 Bearing Area Factor - Cb: 1.13  
 Volume Factor applied to Fbx: 1.00  
 Cv applied to Fby: 1.00  
 Column Stab. Factor - Cp: 0.80  
 Beam Stability Factor C<sub>L Wind</sub>: 1.00  
 Beam Stability Factor C<sub>L Seismic</sub>: 1.00

**Loads to the strong direction of the beam:**

**Loads per Square Foot:**  
 Tributary Area (ft): 7.5  
 Snow Load (psf): 40.0  
 Live Load (psf): 0.0  
 Roof Dead Load (psf): 76.2

**Lateral Loads in the weak direction:**

Tributary Area (ft): 12.0  
 Wind-Out (psf): 20.1  
 Wind-In (psf): 20.1  
 Earthquake (psf) : 3.6  
 Out-of-plane DL (plf): 0.0  
 Out-of-plane SL (plf): 0.0  
 Out-of-plane LL (plf): 0.0

**Axial Loads to the Beam:**

Wind-Out (lbs): 0.0  
 Wind-In (lbs): 0.0  
 Earthquake (lbs) : 0.0  
 Sds (g): 0.86

**Axial Output to the Beam as a Column:**

FcE<sub>1</sub> (psi) - Euler Buckling Load: 2,025.13  
 FcE<sub>2</sub> (psi) - Euler Buckling Load: 3310.8333  
 FbE (psi) : 17475.73  
 Bearing Area (in<sup>2</sup>): 13.5  
 Section Modulus XX(in<sup>3</sup>): 39.42  
 Moment of Inertia XX (in<sup>4</sup>): 142.90  
 Section Modulus YY (in<sup>3</sup>): 24.47  
 Moment of Inertia YY (in<sup>4</sup>): 55.05

**Loads to the Individual Stud in the Wall/Jamb:**

**Concentric Loads per Lineal Foot:**

Snow Load (plf): 300.0  
 Live Load (plf): 0.0  
 Dead Load (plf): 571.5

**Lateral Loads on Beam:**

Wind-Out (plf): 241.2  
 Wind-In (plf): 241.2  
 Earthquake (plf) : 43.2

**OUTPUT:**

**Adjusted Allowable Stresses:**

Fbx' (psi): Gravity: 1,032 Fc' (psi): Gravity: 1,130  
 Wind: 2,875  
 Seismic: 2,875  
 Fby (psi): Gravity: 1,035 Fc-L (psi): Gravity: 703  
 Wind: 1,440  
 Seismic: 1,440 Fv' (psi): Gravity: 207

LOAD CASES:	fbx (psi)	fby (psi)	fc (psi)	Stress Ratios			Deflection Ratios
				Bending	Bearing And Shear	Combined	
Gravity Load Case:							Major Axis
DL + LL	440.35	0 00	0.00	0.43	0.14, 0.2	0.29	L/2342
DL + SL	671.50	0.00	0.00	0.65	0.21, 0.3	0.44	L/1536
DL + 0.75LL + 0.75SL	613.71	0.00	0.00	0.59	0.19, 0.27	0.40	L/1680
With Wind Forces:							
DL+WL(OUT)	440.35	299.42	0.00	0.63		0.55	
DL+WL(IN)	440.35	299.42	0.00	0.63		0.55	
DL+0.75(LL+WL(OUT)+SL)	613.71	224.57	0.00	0.75		0.69	
DL+0.75(LL+WL(IN)+SL)	613.71	224.57	0.00	0.75		0.69	
0.6DL+WL(OUT)	264.21	479.07	0.00	0.59		0.45	
0.6DL+WL(IN)	264.21	299.42	0.00	0.46		0.38	
With Earthquake Forces:							
(1.0+.14(Sds))DL+0.7EQ	493.37	37.54	0.00	0.50		0.49	
(1.0+.105(Sds))DL+0.75LL+0.525EQ+0.75SL	653.48	40.22	0.00	0.66		0.65	
(0.6-0.14(Sds))DL+0.7EQ	211.19	37.54	0.00	0.23		0.22	

Controlling Deflection Ratio: **L/1536**  
 Beam is okay for Design.

#REF!



**DC ENGINEERING, INC.**  
**CONSULTING ENGINEERS**

January 25, 2013

Project Name: Centennial Car Wash

Address: 1055 West and 10600 South, South Jordan, Utah

Reviewed by:

The following is the typed response for the mechanical electrical and plumbing review comments dated 01/21/2013

**Item #1**

*Comment: What is the wiring method proposed for this project, can't locate one?*

**Response:** Please see new General Note 20 on Sheet E1.0.

**Item #2**

*Comment: Provide a lighting schedule and also identify emergency lighting or location, can't locate them on plans.*

**Response:** Please see Luminaire Schedule on Sheet E1.0. All light fixtures labeled EM are emergency lights. T-4 is the exterior emergency light.

**Item #3**

*Comment: What is the reason for the question mark after the size of teh branch duct dimension on the mechanical plan?*

**Response:** The ? mark is an error. Should read DIA. for diameter. Please see corrected plan.

**Item #4**

*Comment: Provide a return air path from rooms with supply duct piped to them. (Office, rm. 104 storage 105 and restrooms.*

**Response:** In the office area the air is returned to the roof-top unit. In the wash tunnel, storage area and restrooms the air is exhausted out. Fresh air is made up from the penthouse and tempered with the unit heater.

**Item #5**

*Comment: How will unit heater be seismically restrained?*

**Response:** Please see new Unit Heater Detail showing cable for the seismic restraint.



16364  
43727

March 26, 2013

Mr. Ty Montalvo  
South Jordan City Hall  
1600 West Towne Center Drive  
South Jordan, Utah 84095

RE: Centennial Car Wash

Mr. Montalvo:

South Valley Water Reclamation Facility (SVWRF) has reviewed plans and other written documentation for the proposed new construction to house Centennial Car Wash located at 10483 South 1000 West in South Jordan, Utah. This is a tunnel car wash that has multiple water recycle pits.

Based on information submitted to SVWRF for review, the following will be required:

1. Centennial Car Wash has to apply for and receive a Discharge Permit from SVWRF for this business prior to discharging into the sewer system of the South Valley Sewer District. Forms for this use can be obtained by visiting [www.svwater.com](http://www.svwater.com) or by calling Lori at (801) 495-5465.
2. SVWRF will require that all drains, floor drains, trench drains, and sinks associated with the shop area be plumbed outside the building to pass through a 1,000 gallon oil/sand separator and then pass through a sampling manhole as per specifications on file at SVWRF. The oil/sand separator and sampling manhole must be inspected by SVWRF prior to backfilling. Inspections can be set up by calling (801) 495-5461 and speaking to Mr. DeLaun Fullmer.
3. All chemicals stored in containers larger than five gallons must be stored in a containment area that can contain 110% of the largest container in the containment area. No chemicals in containers larger than five gallons may be stored within 50 feet of a floor drain.

This project must be approved by South Valley Sewer District also. Please contact Mr. Michael Foerster at (801) 571-1166 to help you with this matter.

If you have any questions about this letter of requirement, feel free to contact me at (801) 495-5446.

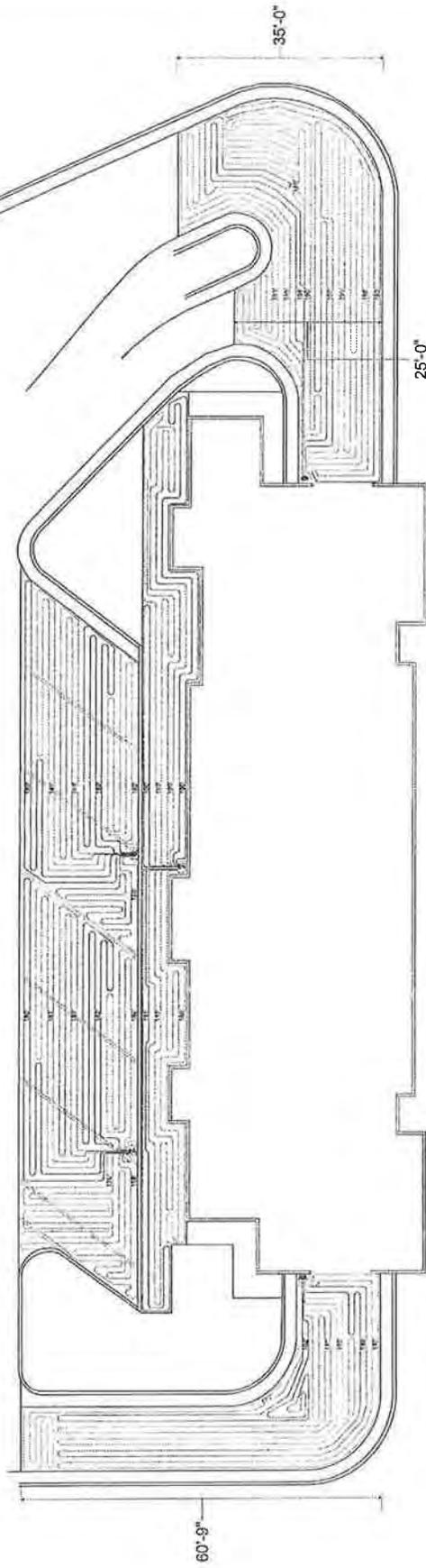
Spencer Parkinson

Pretreatment Director

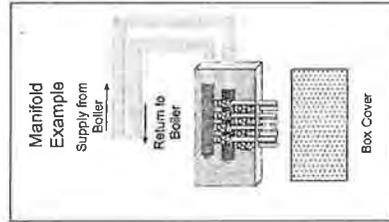
PC: Matthew Dadam (4293 Fortuna Way, Salt Lake City, Utah 84124)  
Michael Foerster (South Valley Sewer District)  
DeLaun Fullmer (SVWRF Pretreatment Inspector)  
Lori Gord (SVWRF Pretreatment Administrative Assistant)

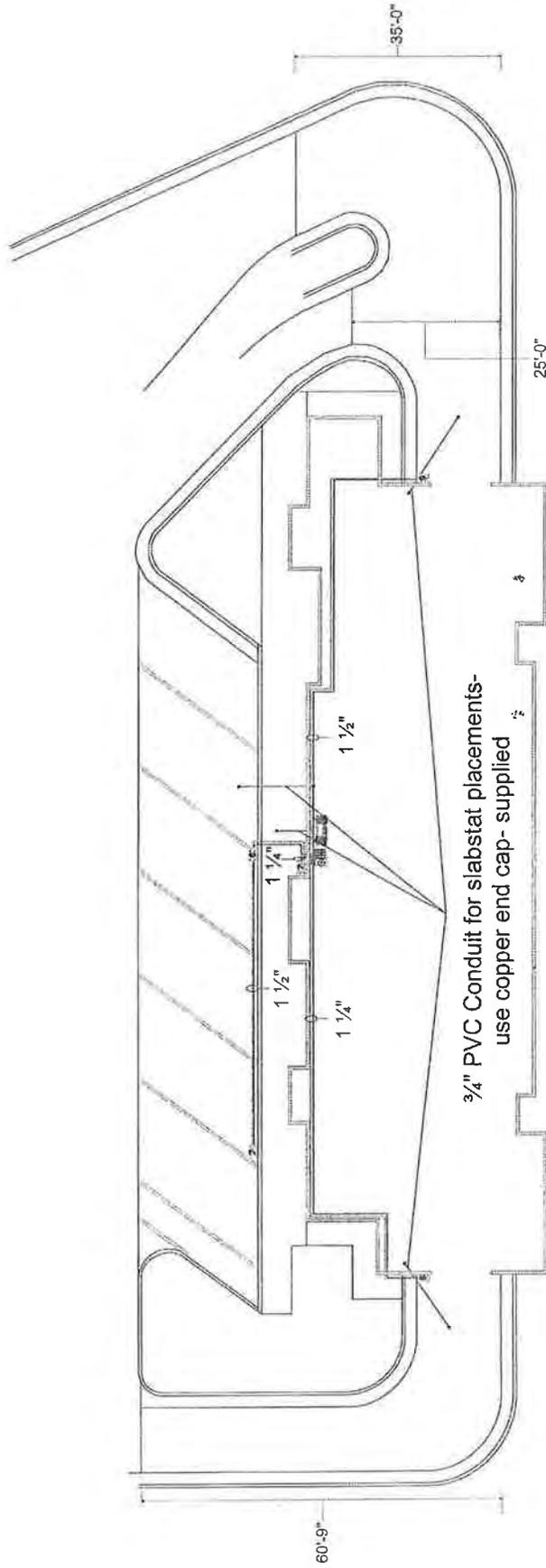
43727 #16364

car wash centennial car wash

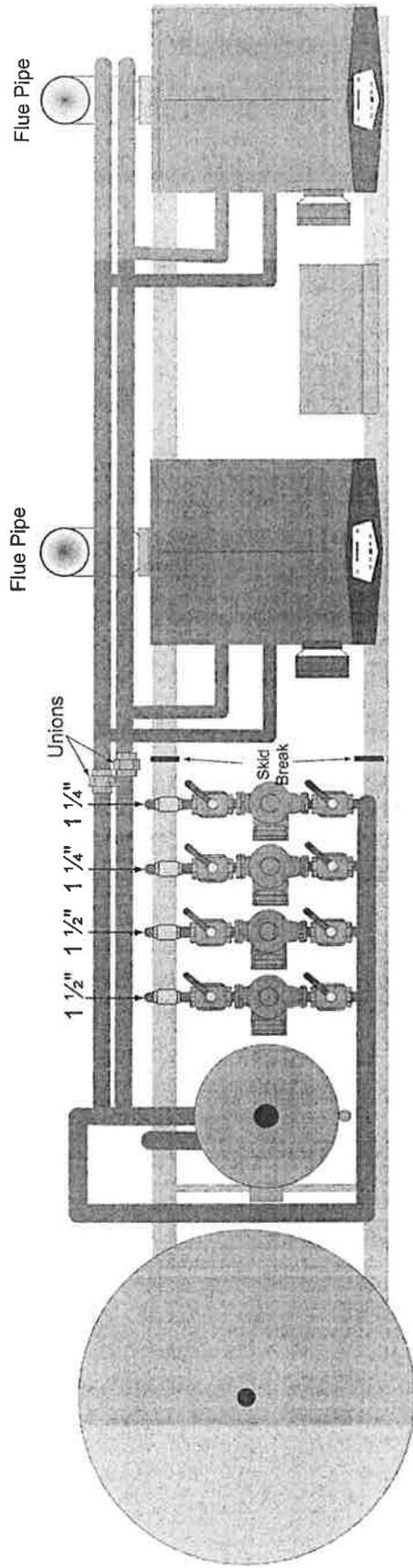


<p>Lengths may vary once on site - LAY TUBING BEFORE CUTTING FROM ROLL. BURY 2'-4" DEPTH.</p> <p>1.) Cul. Tube Rolls to lengths of:</p> <p>Lay 12" on Center - 6" from side walls, drains Piping from Boiler to manifolds supplied by others Type L Copper near boiler before zone pumps. May use PEX or Copper after zone pumps, OR meet local codes.</p>	<p>For:</p> <p><b>Premier Carwash Systems</b></p> <p>Carwash Boilers, Inc. 620 East Smith Rd W-26 Medina, OH 44135 888-316-8514</p>		<p>Project</p> <p>Centennial</p>	<p>DWG NO</p> <p>3628</p>	<p>REV</p> <p>1</p>
	<p><b>NOT RESPONSIBLE FOR SYSTEM OPERATION IF NOT INSTALLED AS SHOWN.</b></p> <p>Total Heater Area: 5,802 sq. ft. Design: 30 Degree C.E.T.R.A. @ 0 deg. F Boiler Pressure: 14.7 Boiler Load: 629,207 Btu/Hr Volume: XX gal approx. (Propylene Glycol &amp; H2O - 50/50 mix)</p>	<p>Eng.</p> <p>CJR</p>	<p>SCALE</p> <p>1/8" = 1'-0"</p>	<p>DATE</p> <p>12-13-12</p>	<p>SHEET</p> <p>1</p>





3/4" PVC Conduit for slabstat placements-  
use copper end cap- supplied



10'-10 1/2"



# City of South Jordan

Building and Safety Division

## *Certificate of Occupancy*

---

This certificate issued pursuant to the requirements of Section 109 of the Uniform Building Code certifying that at the time of issuance this structure was in compliance with the various ordinances of the City regulating building construction or use for the following address.

Building Address: **1026 SOUTH JORDAN PKWY W, Apt. (10600 S)**

Project Number: **2012-16364**

Permits: 43727

Commercial New

4/3/2013

Contractor Name: \* **BADHAM CONSTRUCTION**

Contractor Address **125 N 640 W NORTH SALT LAKE UT 84054**

Description: **CENTENNIAL CAR WASH(FAST AND FRIENDLY CAR WASH)  
MAX OCCUPANCY LOAD 22  
CO ISSUED 10/3/2013**

Occupancy Type: **Commercial**

Const. Type: **Type V B**

Square Feet:

APN: **2714180003**

Tract Number:

Lot Number:

Date: **10/3/2013**

Approved By: \_\_\_\_\_



Building Official

**This Certificate shall be posted in a conspicuous place on the premises and shall not be removed except by the Building Official.**

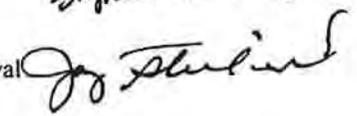
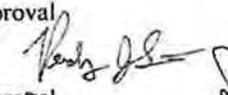
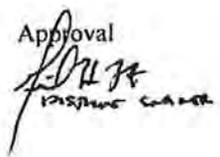
# SOUTH JORDAN CITY COMMERCIAL CHECKLIST

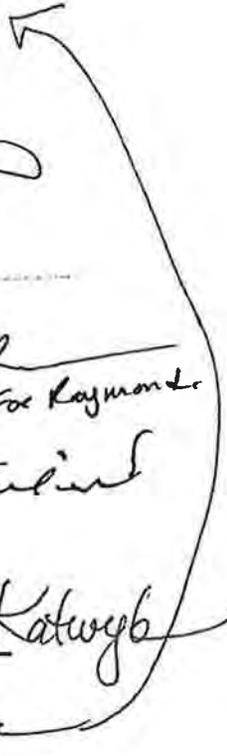
South Jordan City, or State, or other required agencies must approve this and site or portion thereof before occupancy is allowed. It is the responsibility of the General Contractor/Owner to obtain such approvals prior to final and or occupancy. Those agencies checked must visit the job site and determine compliance with their regulatory requirements. This checklist must be complete and signed by authorized personnel from such agencies and presented to the South Jordan City Building Inspector at final inspection and placed thereafter in the building permit records file.

***Failure to complete requirements and obtain necessary signatures will result in delayed final inspection and occupancy of the structure.***

NAME OF BUSINESS: *FIRST FRIENDLY CAR WASH* ADDRESS: *1026 W. South Jordan Parkway South Jordan, UT 84095*  
 OWNERS NAME: *MATT DADAM* ADDRESS: PHONE: *801-947-2652*  
 GENERAL CONTRACTOR: *BRYAN LAM* ADDRESS: *125 N 640 W* PHONE: *801-936-9900*  
 PERMIT # *43727* *North Salt Lake, UT 84054-0182*

**SOUTH JORDAN CITY DEPARTMENTS:**

Department	Date	Approval
<b>Community Development</b> Greg Schindler 254-3742 gschindler@sjc.utah.gov		Approval
<b>Fire Department</b> Dave Dansie 254-3742 ddansie@sjc.utah.gov	<i>9-25-13</i>	Approval 
<b>Engineering Department</b> Shane Greenwood 254-3742 sgreenwood@sjc.utah.gov	<i>9-30-13</i>	Approval 
<b>Public Services Department</b> Raymond Garrison 253-5230 rgarrison@sjc.utah.gov	<i>9-30-13</i>	Approval <i>Neil R signed for Raymond</i>
<b>Utility Billing</b> Joy Stirland 254-3742 jstirland@sjc.utah.gov	<i>9.25.13</i>	Approval 
<b>Business License</b> Ambra Katwyk 254-3742 akatwyk@sjc.utah.gov	<i>10/3/13</i>	Approval 
<b>State Elevator Inspector</b> 530-6870	<i>10/3/13</i>	Approval 
<b>State Boiler Inspector</b> 530-7605	<i>9-27-13</i>	Approval 
<b>South Valley Water Reclamation</b> 566-7711	<i>9-25-13</i>	Approval 
<b>Special Inspection Agency</b>		Approval
<b>Salt Lake Board of Health</b>		Approval
<b>South Valley Sewer District</b> Mike Foerster 571-1166 mikef@southvalley.dst.ut.us	<i>9/26/13</i>	Approval 



# 43727



May 29, 2013

Dave Badnam  
Badnam Construction Inc.  
North Salt Lake, Utah 84054

RE: Centennial Car Wash

Dave,

It was brought to my attention that there was an inconsistency with the design drawings supplied by BHB and the footing and foundation submittal in regards to the foundation wall on Grid C between Grids 5 and 6.7.

That wall does not need to be a 10 inch thick concrete wall, (CW-10A), as previously shown. An 8 inch wall, (CW-8A), is more than adequate for this area.

Best regards,

Scott M. Pettit  
Project Engineer, BHB Consulting Engineers, PC

SOUTH JORDAN CITY  
Building Division  
Reviewed for Code Compliance  
5-30-2013  
Date \_\_\_\_\_ By BH

CITY COPY

Scott M. Pettit, S.E.  
Principal, BHB Consulting Engineers, PC



# STRUCTURAL CALCULATIONS

20'x40.5' CANOPY

MVE #130096

**3D CAR WASH**  
**South Jordan, Utah**

APR 03 2013



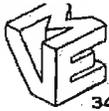
4-1-2013

Canopy Supplied by:

**Kustom Kanopies, Inc.**  
**2765 Midland Dr.**  
**Ogden, UT 84401**

Structural Design by:

 **MOUNTAIN VIEW**  
**ENGINEERING, INC.**  
345 North Main Brigham City Utah 84302



# MOUNTAIN VIEW ENGINEERING, INC.

345 North Main Brigham City Utah 84302  
Phone (435) 734-9700 Fax (435) 734-9519

Job: MVE #130096 Kustom Kanopies, Inc. #7411

Subject: 3D CAR WASH

Page: 1

Date: 04/01/13

By: CRH

Building Descr: **20'x40.5' CANOPY**  
Location: **South Jordan, Utah**

## CANOPY DESIGN CRITERIA

CODE: IBC 2009

### Dead and Live Loads:

Total Canopy Dead Load	<u>10</u> psf	Canopy Area	<u>810</u> ft <sup>2</sup>
Dead Load on Purlins	<u>5</u> psf	Mansard Roof Area	<u>0.0</u> ft <sup>2</sup>
Mansard Dead Load	<u>0</u> psf	Total Canopy Dead Load	<u>8.1</u> kips
Ground Snow Load	<u>43</u> psf	Max. Column Trib. Width	<u>10</u> ft
Roof Snow Load	<u>36.1</u> psf	Max. Column Trib. Length	<u>20.25</u> ft
Thermal Factor	<u>1.2</u>	Max. Column Trib. Area	<u>203</u> ft <sup>2</sup>
Importance Factor	<u>1.0</u>		
Exposure Factor	<u>1.0</u>		
Roof Live Load	<u>20</u> psf		
Live Load Reduction per IBC 1607.11.2.1			
At = 202.5 ft <sup>2</sup>	F = <u>0</u>		
R1 = <u>1.00</u>	R2 = <u>1.00</u>		
Reduced Live Load (Lr)	<u>20</u> psf		

Occupancy Category: II

### Seismic Forces:

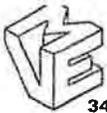
### Wind Forces:

Wind Speed (V3s)	<u>90</u> mph	Site Class	<u>D</u>		
Exposure	<u>C</u>	Seismic Design Category	<u>D</u>		
Importance Factor	<u>1.0</u>	S <sub>S</sub>	<u>1.311</u>	S <sub>DS</sub>	<u>0.874</u>
		S <sub>1</sub>	<u>0.538</u>	S <sub>D1</sub>	<u>0.583</u>
		Importance Factor	<u>1.0</u>		

The canopy is classified as cantilevered column system detailed to conform to the requirements of Ordinary Steel Moment Frames as per ASCE 7-05 Table 12.2-1 and has been designed using the Equivalent Lateral Force Procedure as per Section 12.8. Seismic overstrength factor ( $\Omega$ ) will be applied to the design of all components (conservative).

### CANOPY SPECIFICATIONS:

Length	<u>40.5</u> ft	Total Height of Canopy	<u>14.5</u> ft max.
Width	<u>20</u> ft	Number of Column Rows	<u>2</u>
Fascia Height	<u>2.5</u> ft	Number of Columns/Row	<u>2</u>
Canopy Clear Height	<u>12</u> ft		



# MOUNTAIN VIEW ENGINEERING, INC.

345 North Main Brigham City Utah 84302  
Phone (435) 734-9700 Fax (435) 734-9519

Job: MVE #130096 Kustom Kanopies, Inc. #7411  
Subject: 3D CAR WASH

Page: 2  
Date: 04/01/13  
By: CRH

Building Descr: **20'x40.5' CANOPY**  
Location: **South Jordan, Utah**

## ASCE 7-05 WIND FORCES (SECTION 6.5 ANALYTICAL PROCEDURE)

Open Building with Monoslope Roof (Section 6.5.13) with fascia panels as Parapets (Section 6.5.12.2.4)

Basic Wind Speed (V) =	90 mph	Gust Effect Factor (Section 6.5.8)
Exposure (Sect. 6.5.6.3) =	C	The canopy's fundamental natural frequency is greater than 1 Hz, and is therefore rigid as defined in Section 6.2. Therefore, as per Section 6.5.8.1, $G = \underline{0.85}$
Importance Factor =	1.00	
Canopy Clear Height =	12 ft	
Fascia Height =	2.5 ft	
Mean Roof Height =	12.333 ft	
Kd (Table 6-4) =	0.85	Note: Topographic effects need not be applied, therefore $K_{ht} = K_{pt} = 1.0$ .
Wind Profile Area (As) =	101.25 ft <sup>2</sup>	

### Velocity Pressure (Sect. 6.5.10, Table 6-3)

$\alpha$ (Table 6-2) =	9.5	$z_g$ (Table 6-2) =	900 ft
For Open Buildings:		For Parapets (Fascia Panels):	
$h =$	12.333 ft	$p =$	14.5 ft
$K_h = 2.01 (15/z_g)^2 / \alpha =$	0.849	$K_p = 2.01 (15/z_g)^2 / \alpha =$	0.849
$q_h = 0.00256 (K_h) (K_{ht}) (K_d) (V^2) (I)$		$q_p = 0.00256 (K_p) (K_{pt}) (K_d) (V^2) (I)$	
Therefore, $q_h =$	<u>14.96 psf</u>	Therefore, $q_p =$	<u>14.96 psf</u>

### Horizontal Forces (Section 6.5.12.2.4)

Top of Windward Fascia	$p_1 = 14.5$ ft	Top of Leeward Fascia	$p_2 = 14.5$ ft
Bottom of Windward Fascia	$z_1 = 12$ ft	Bottom of Leeward Fascia	$z_2 = 12.33$ ft
Windward Fascia Height	= 2.5 ft	Leeward Fascia Height	= 2.167 ft

Parapet Wind Pressure for MWFRS  $p_p = q_p G C_{pn}$   
 From Section 6.5.12.2.4, Windward  $G C_{pn} = 1.5$  Leeward  $G C_{pn} = -1.0$

Windward Parapet Pressure = 22.4 psf (i.e. towards fascia)  
 Leeward Parapet Pressure = -15.0 psf (i.e. away from fascia)

Canopy Length = 40.5 ft

**THEREFORE: Total Horizontal Force (F) = 3585.29 lbs = 3.59 kips**

For Fascia Design, Wind Pressure = 29.6 psf

### Wind Uplift (Figure 6-18A)

$B = 40.5$  ft  $L = 20$  ft  $\Theta = 0$  degrees

Load Case B, Clear Leeward or Windward Flow will control design (obstructions always < 50%).

From Figure 6-18A, Worst Case  $C_N = -1.1$  Therefore, Design Uplift Pressure = -13.99 psf



# MOUNTAIN VIEW ENGINEERING, INC.

345 North Main Brigham City Utah 84302  
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Job: MVE #130096 Kustom Kanopies, Inc. #7411  
Subject: 3D CAR WASH

Page: 3  
Date: 04/01/13  
By: CRH

**Building Descr: 20'x40.5' CANOPY**  
**Location: South Jordan, Utah**

## LATERAL ANALYSIS

### WIND (from page 2)

qp = 14.96 psf  
Total Base Shear (V) = 3.59 kip

### SEISMIC

SDS = 0.874      SDC = D  
R = 1.25      Ω = 1.25  
Cs = 0.87  
Seismic W = 13.95 kip  
Total Base Shear (V) = 12.19 kip

Wind Lateral Load at Column = 0.90 kip  
Seismic Lateral Load at Column = 3.05 kip  
Distance From Base = 13.75 ft

## PURLINS

Max. Purlin Trib. Width = 7 ft  
Purlin Trib. Width # 2 = 6.5 ft  
Purlin Trib. Width # 3 = NA ft  
Purlin Trib. Width # 4 = NA ft  
Left Cantilever = 13.67 ft  
1 Bay(s) @ 13.17 ft  
Right Cantilever = 13.67 ft  
D = 0.005 ksf      S = 0.0361 ksf  
Lr = 0.02 ksf      W = -0.014 ksf  
**From Page 6, Use W14x22**

## BEAMS

Left Cantilever = 5.315 ft  
1 Bay(s) @ 9.618 ft  
Right Cantilever = 5.315 ft  
Maximum Tributary Width = 20.25 ft  
P1 (D) = 1.16 kip      P2 (D) = 1.07 kip  
P1 (Lr) = 2.84 kip      P2 (Lr) = 2.63 kip  
P1 (S) = 5.12 kip      P2 (S) = 4.75 kip  
P1 (W) = -1.99 kip      P2 (W) = -1.84 kip  
P3 (D) = NA kip      P4 (D) = NA kip  
P3 (Lr) = NA kip      P4 (Lr) = NA kip  
P3 (S) = NA kip      P4 (S) = NA kip  
P3 (W) = NA kip      P4 (W) = NA kip  
**From Page 7, Use W8x18**

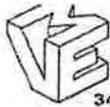
## COLUMNS

Column Specification: **HSS 8x8x1/4**  
Fy = 46 ksi  
Length = 13.75 ft  
Z = 21.9 in<sup>3</sup>  
Reduced Z for 4.75" Dia. Hole = 17.2 in<sup>3</sup>  
Max. Allowable Stress Ratio = **0.785**  
Max. D Reaction from Beam = 2 kip  
Max. Lr Reaction from Beam = 4.13 kip  
Reduced Lr Reaction = 4.13 kip  
Max. S Reaction from Beam = 7.32 kip  
Max. W Reaction from Beam = -3.24 kip  
Column Weight = 25.8 plf = 0.35 kip  
**From Page 8, the Column is OK.**

## FOOTINGS (per IBC 1807.3.2.2)

Vertical Bearing Pressure = 1500 psf  
Lateral Bearing Pressure = 200 pcf  
Max. Vertical Column Load = 9.67 kip  
Uplift at Column = -3.24 kip  
**Square Footing**  
Length = 3.5 ft  
Width = 3.5 ft  
Req. Depth (see page 9) = 5.125 ft  
Actual Depth = 6.5 ft  
q actual = 790 psf  
q (allowable) = 1500 psf **OK**  
Footing Weight = 15.24 kip  
FS Uplift = **4.70 >1.5 OK**  
**Optional Round Footing**  
Diameter = 3.5 ft  
Req. Depth (see page 10) = 5.75 ft  
Actual Depth = 7 ft  
q actual = 1006 psf  
q (allowable) = 1500 psf **OK**  
Footing Weight = 12.69 kip  
FS Uplift = **3.92 >1.5 OK**

Note: Full roof live loads are used for the design of the purlins and beams and reduced live loads are used for the design of all other members.



# MOUNTAIN VIEW ENGINEERING, INC.

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Job: MVE #130096 Kustom Kanopies, Inc. #7411  
Subject: 3D CAR WASH

Page: 4  
Date: 04/01/13  
By: CRH

**Building Descr: 20'x40.5' CANOPY**  
**Location: South Jordan, Utah**

Note: The column base plate, weld, and anchor rods are designed to resist the maximum moment that can be developed by the lateral force resisting system using FR moment connections, but using the **lesser** of  $R = 1$  or  $(1.1/1.5)R_y M_p$ , as required by AISC 341 Section 11.2a and Commentary.

### As per AISC 341 Section 11.2.a(2)

Reduced Column  $Z = 17.2 \text{ in}^3$   
 $M_p = F_y Z = 791.2 \text{ kin} = 65.93 \text{ kft}$   
 $R_y = 1.4 \quad (1.1/1.5)R_y M_p = 67.69 \text{ kft}$   
**\*\*R=1 CONTROLS\*\***

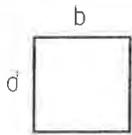
### COLUMN BASE PLATE

$F_y = 36 \text{ ksi}$   
Wind Shear at Base =  $0.90 \text{ kip}$   
Seismic Shear (R=1) =  $3.81 \text{ kip}$   
Wind Moment at Base =  $12.32 \text{ kft}$   
Seismic Moment (R=1) =  $52.38 \text{ kft}$

\*\*See Column section for axial loads.

**From Page 11, Use 1"x21"x21" Base Plate**

### COLUMN BASE PLATE WELD



$$S_{\text{weld}} = \frac{d}{3}(3b + d) \quad S_{\text{weld}} = \pi r^2$$

Sweld =  $85.33 \text{ in}^2$   
Max. Moment at Base =  $52.38 \text{ kft}$   
Max. Moment at Base =  $628.6 \text{ kin}$   
Weld Strength Required =  $\frac{628.6 \text{ kin}}{85.33 \text{ in}^2}$   
Weld Strength Required =  $7.366 \text{ k/in}$   
Base Plate Thickness =  $1 \text{ in}$   
Min. Weld Size (per AISC Table J2.4) =  $1/8"$   
**Use 6 /16 in fillet weld all around column**  
G.F. =  $8.352 \text{ k/in} > 7.366 \text{ k/in}$  **OK**

### ANCHOR RODS (ASTM F1554-36)

No. Rods per Connection =  $4$   
Diameter =  $1.25 \text{ in}$   
Mean Anchor Rod Spacing =  $16 \text{ in}$   
Number of Rods in Tension =  $2 \text{ in}$

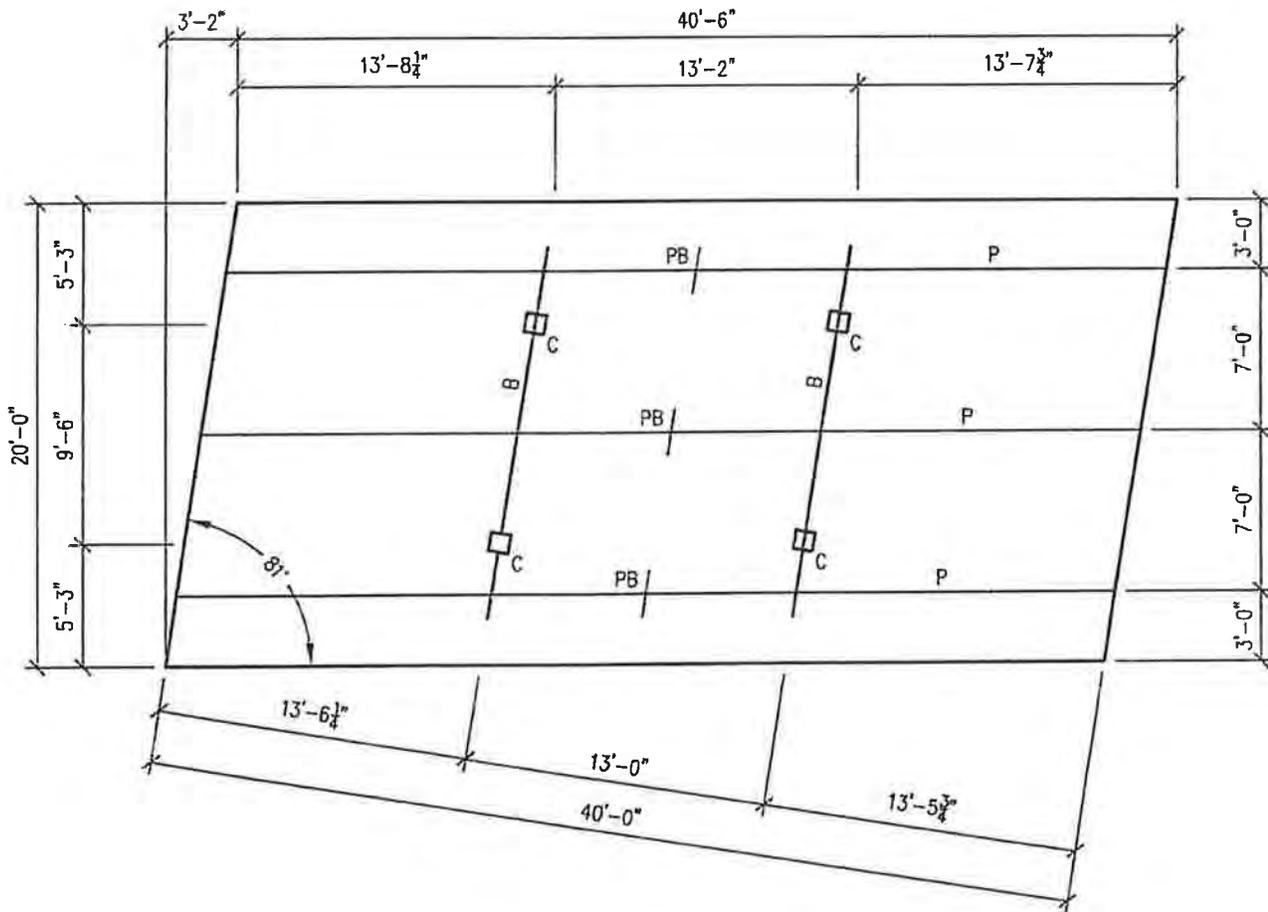
### LRFD FACTORED LOADS

(see Column Base Plate calculations)

	<u>P (kips)</u>	<u>V (kips)</u>	<u>M (kft)</u>	
1.	11.95	0.72	9.86	
2.	1.30	1.43	19.72	
3.	4.29	3.81	52.38	
4.	-3.06	1.43	19.72	
5.	2.12	3.81	52.38	<b>CONTROLS</b>

### ANCHOR DESIGN LOADS (Factored)

$N_u$  (on 2 anchors) =  $50.77 \text{ kip}$   
 $V_u$  (on 4 anchors) =  $3.81 \text{ kip}$   
**See Anchor Rod Design on Page 12.**



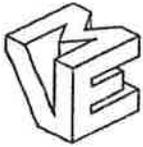
**KEY**

B = W8x18 BEAM

P = W14x22 PURLIN

C = HSS 8"x8"x1/4" COLUMN

PB = 1 1/2"x1 1/2"x16 GA. PURLIN BRACE



Mountain View Engineering, Inc.  
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6

**Steel Beam**

File = S:\130000-11130096-1\ORIGIN-11130096-1.EC6  
 ENERCALC, INC. 1983-2013, Build:6.13.2.27, Ver:6.13.2.27

Lic. #: KW-06005073

Licensee: MOUNTAIN VIEW ENGINEERING, INC.

Description: Purins

**CODE REFERENCES**

Calculations per AISC 360-05  
 Load Combination Set : 2009 IBC & ASCE 7-05

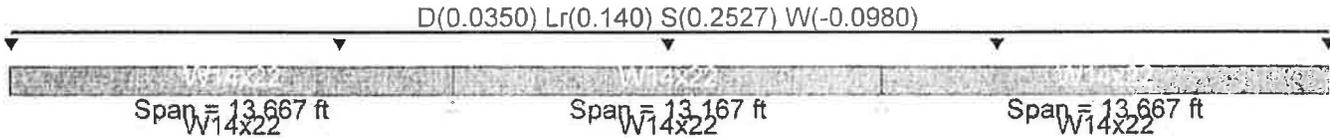
**Material Properties**

Analysis Method : Allowable Strength Design  
 Beam Bracing : Beam bracing is defined Beam-by-Beam  
 Bending Axis : Major Axis Bending  
 Load Combination 2009 IBC & ASCE 7-05

Fy : Steel Yield : 50.0 ksi  
 E : Modulus : 29,000.0 ksi

**Unbraced Lengths**

Span # 1, Defined Brace Spacing, First Brace at ft and spaced at 1.333 ft  
 Span # 2, Braced @ Mid Span  
 Span # 3, Defined Brace Spacing, First Brace at ft and spaced at 1.333 ft



**Applied Loads**

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads

Loads on all spans...

Uniform Load on ALL spans : D = 0.0050, Lr = 0.020, S = 0.03610, W = -0.0140 ksf, Tributary Width = 7.0 ft

**DESIGN SUMMARY**

**Design OK**

Maximum Bending Stress Ratio =	0.370 : 1	Maximum Shear Stress Ratio =	0.067 : 1
Section used for this span	W14x22	Section used for this span	W14x22
Ma : Applied	28.933 k-ft	Va : Applied	4.234 k
Mn / Omega : Allowable	78.238 k-ft	Vn/Omega : Allowable	63.020 k
Load Combination	+D+S+H	Load Combination	+D+S+H
Location of maximum on span	0.000ft	Location of maximum on span	13.167 ft
Span # where maximum occurs	Span # 2	Span # where maximum occurs	Span # 2
Maximum Deflection			
Max Downward L+Lr+S Deflection	0.870 in	Ratio =	376
Max Upward L+Lr+S Deflection	-0.127 in	Ratio =	1,245
Max Downward Total Deflection	1.549 in	Ratio =	212
Max Upward Total Deflection	-0.226 in	Ratio =	700

**Overall Maximum Deflections - Unfactored Loads**

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
D+Lr+S	1	1.5489	0.000		0.0000	0.000
	2	0.0000	0.000	D+Lr+S	-0.2257	6.667
D+Lr+S	3	1.5391	13.667		0.0000	6.667

**Vertical Reactions - Unfactored**

Support notation : Far left is #1

Values in KIPS

Load Combination	Support 1	Support 2	Support 3	Support 4
Overall MAXimum		9.109	9.109	
D Only		1.156	1.156	
Lr Only		2.835	2.835	
S Only		5.117	5.117	
Lr+S		7.952	7.952	
W Only		-1.985	-1.985	
D+Lr		3.991	3.991	
D+S		6.273	6.273	
D+W		-0.828	-0.828	
D+Lr+S		9.109	9.109	
D+Lr+W		2.007	2.007	



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**Steel Beam**

File = S:\130000-11130096-11\ORIGIN-11130096-1.EC6  
 ENERCALC, INC. 1983-2013, Build:6.13.2.27, Ver:6.13.2.27  
 Licensee: MOUNTAIN VIEW ENGINEERING, INC.

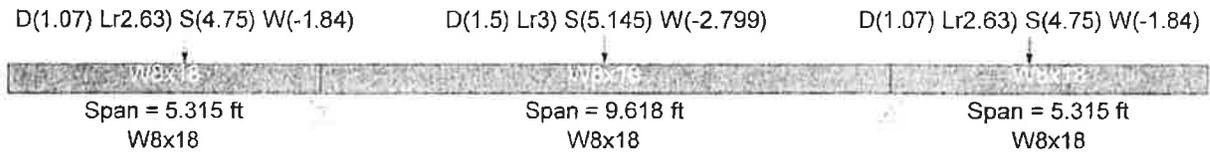
Lic. #: KW-06005073  
 Description: Beams

**CODE REFERENCES**

Calculations per AISC 360-05  
 Load Combination Set : 2009 IBC & ASCE 7-05

**Material Properties**

Analysis Method : Allowable Strength Design  
 Beam Bracing : Completely Unbraced  
 Bending Axis : Major Axis Bending  
 Load Combination 2009 IBC & ASCE 7-05  
 Fy : Steel Yield : 50.0 ksi  
 E : Modulus : 29,000.0 ksi



**Applied Loads**

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads  
 Load(s) for Span Number 1  
 Point Load : D = 1.070, Lr = 2.630, S = 4.750, W = -1.840 k @ 3.0 ft  
 Load(s) for Span Number 2  
 Point Load : D = 1.50, Lr = 3.0, S = 5.145, W = -2.799 k @ 4.809 ft  
 Load(s) for Span Number 3  
 Point Load : D = 1.070, Lr = 2.630, S = 4.750, W = -1.840 k @ 2.315 ft

**DESIGN SUMMARY**

**Design OK**

Maximum Bending Stress Ratio =	<b>0.337 : 1</b>	Maximum Shear Stress Ratio =	<b>0.158 : 1</b>
Section used for this span	<b>W8x18</b>	Section used for this span	<b>W8x18</b>
Ma : Applied	13.726 k-ft	Va : Applied	5.915 k
Mn / Omega : Allowable	40.734 k-ft	Vn/Omega : Allowable	37.444 k
Load Combination	+D+S+H	Load Combination	+D+S+H
Location of maximum on span	5.315ft	Location of maximum on span	9.618 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 2
Maximum Deflection			
Max Downward L+Lr+S Deflection	0.174 in	Ratio =	731
Max Upward L+Lr+S Deflection	-0.032 in	Ratio =	3,582
Max Downward Total Deflection	0.300 in	Ratio =	425
Max Upward Total Deflection	-0.050 in	Ratio =	2303

**Overall Maximum Deflections - Unfactored Loads**

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
D+Lr+S	1	0.3003	0.000		0.0000	0.000
	2	0.0000	0.000	D+Lr+S	-0.0501	3.409
D+Lr+S	3	0.2988	5.315		0.0000	3.409

**Vertical Reactions - Unfactored**

Support notation : Far left is #1

Values in KIPS

Load Combination	Support 1	Support 2	Support 3	Support 4
Overall MAXimum		13.454	13.454	
D Only		2.001	2.001	
Lr Only		4.130	4.130	
S Only		7.323	7.323	
Lr+S		11.453	11.453	
W Only		-3.240	-3.240	
D+Lr		6.131	6.131	
D+S		9.324	9.324	
D+W		-1.238	-1.238	
D+Lr+S		13.454	13.454	
D+Lr+W		2.892	2.892	



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**Steel Column**

Lic. #: KW-06005073

File #: M130000-1130000-INDRGIN-1113000-1 ECE  
 ENRICAL, INC. 1983-2013, Rev. 03.27, Ver. 13.2.27

Licensee: MOUNTAIN VIEW ENGINEERING, INC.

Description: Columns

**Code References**

Calculations per AISC 360-05  
 Load Combinations Used : 2009 IBC & ASCE 7-05

**General Information**

Steel Section Name :	HSS8x8x1/4	Overall Column Height	13.750 ft
Analysis Method :	Allowable Strength	Top & Bottom Fixity	Top Free, Bottom Fixed
Steel Stress Grade		Brace condition for deflection (buckling) along columns :	
Fy : Steel Yield	46.0 ksi	X-X (width) axis :	
E : Elastic Bending Modulus	29,000.0 ksi	Unbraced Length for X-X Axis buckling =	16.0 ft, K = 2.1
Load Combination :	2009 IBC & ASCE 7-05	Y-Y (depth) axis :	
		Unbraced Length for Y-Y Axis buckling =	18.0830 ft, K = 2.1

**Applied Loads**

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 354.639 lbs \* Dead Load Factor  
 AXIAL LOADS ...  
 Axial Load at 13.750 ft, D = 2.0, LR = 4.130, S = 7.320 k  
 BENDING LOADS ...  
 Lat. Point Load at 13.750 ft creating Mx-x, W = 0.90, E = 3.050 k

**DESIGN SUMMARY**

**Bending & Shear Check Results**

<b>PASS</b> Max. Axial+Bending Stress Ratio =	0.6883 : 1	Maximum SERVICE Load Reactions ...	
Load Combination	+D+0.70E+H	Top along X-X	0.0 k
Location of max above base	0.0 ft	Bottom along X-X	0.0 k
At maximum location values are ...		Top along Y-Y	0.0 k
Pa : Axial	2.355 k	Bottom along Y-Y	3.050 k
Pn / Omega : Allowable	50.994 k	Maximum SERVICE Load Deflections ...	
Ma-x : Applied	-29.356 k-ft	Along Y-Y	2.216 in at 13.750ft above base
Mn-x / Omega : Allowable	44.130 k-ft	for load combination :E Only	
Ma-y : Applied	0.0 k-ft	Along X-X	0.0 in at 0.0ft above base
Mn-y / Omega : Allowable	44.130 k-ft	for load combination :	
<b>PASS</b> Maximum Shear Stress Ratio =	0.03797 : 1		
Load Combination	+D+0.70E+H		
Location of max above base	0.0 ft		
At maximum location values are ...			
Va : Applied	2.135 k		
Vn / Omega : Allowable	56.229 k		

**Maximum Deflections for Load Combinations - Unfactored Loads**

Load Combination	Max. X-X Deflection	Distance	Max. Y-Y Deflection	Distance
D Only	0.0000 in	0.000 ft	0.000 in	0.000 ft
Lr Only	0.0000 in	0.000 ft	0.000 in	0.000 ft
S Only	0.0000 in	0.000 ft	0.000 in	0.000 ft
W Only	0.0000 in	0.000 ft	0.654 in	13.750 ft
E Only	0.0000 in	0.000 ft	2.216 in	13.750 ft
D+Lr	0.0000 in	0.000 ft	0.000 in	0.000 ft
D+S	0.0000 in	0.000 ft	0.000 in	0.000 ft
D+W	0.0000 in	0.000 ft	0.654 in	13.750 ft
D+Lr+S	0.0000 in	0.000 ft	0.000 in	0.000 ft
D+Lr+W	0.0000 in	0.000 ft	0.654 in	13.750 ft
D+E	0.0000 in	0.000 ft	2.216 in	13.750 ft
D+Lr+E	0.0000 in	0.000 ft	2.194 in	13.658 ft



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9

## Pole Footing Embedded in Soil

File = S:\130000~1\130096~1\ORIGIN~1\130096-1.EC6  
 ENERCALC, INC. 1983-2013, Build:6.13.2.27, Ver:6.13.2.27

Lic. #: KW-06005073

Licensee: MOUNTAIN VIEW ENGINEERING, INC.

Description: Footing Embedment Depth

### Code References

Calculations per  
 Load Combinations Used: 2009 IBC & ASCE 7-05

### General Information

Pole Footing Shape Rectangular  
 Footing Width ..... 42.0 in  
 Calculate Min. Depth for Allowable Pressures  
 Lateral Restraint at Ground Surface  
 Allow Passive ..... 200.0 pcf  
 Max Passive ..... 1,500.0 pcf

### Controlling Values

Governing Load Combination: +D+0.70E+H  
 Lateral Load 2.135 k  
 Moment 29.356 k-ft

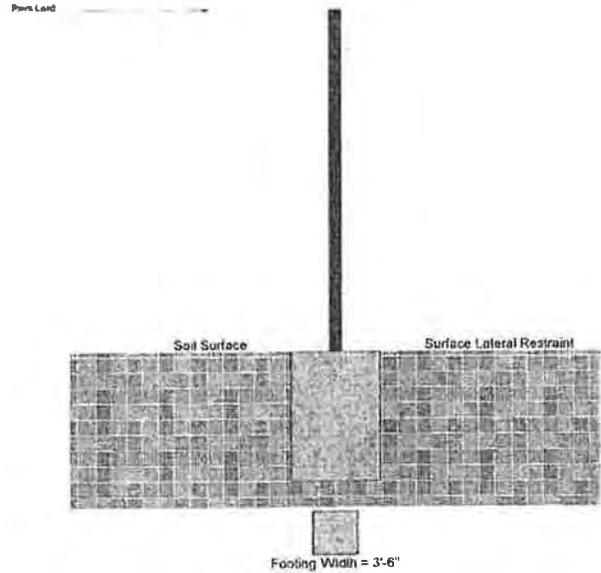
Restraint @ Ground Surface

### Pressure at Depth

Actual **962.53** psf  
 Allowable **1,025.0** psf  
 Surface Restraint Force 14,307.1 lbs

**Minimum Required Depth 5.125 ft**

Footing Base Area 12.250 ft<sup>2</sup>  
 Maximum Soil Pressure 0.7894 ksf

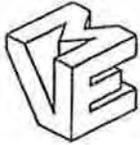


### Applied Loads

Lateral Concentrated Load	Lateral Distributed Load	Applied Moment	Vertical Load
D: Dead Load k	k/ft	k-ft	2.350 k
Lr: Roof Live k	k/ft	k-ft	4.130 k
L: Live k	k/ft	k-ft	k
S: Snow k	k/ft	k-ft	7.320 k
W: Wind 0.90 k	k/ft	k-ft	k
E: Earthquake 3.050 k	k/ft	k-ft	k
H: Lateral Earth k	k/ft	k-ft	k
Load distance above ground surface 13.750 ft	TOP of Load above ground surface ft		
	BOTTOM of Load above ground surface ft		

### Load Combination Results

Load Combination	Forces @ Ground Surface		Required Depth - (ft)	Pressure at Depth		Soil Increase Factor
	Loads - (k)	Moments - (ft-k)		Actual - (psf)	Allow - (psf)	
+D+Lr+H	0.000	0.000	0.13	0.0	25.0	1.000
+D+S+H	0.000	0.000	0.13	0.0	25.0	1.000
+D+0.750Lr+0.750L+H	0.000	0.000	0.13	0.0	25.0	1.000
+D+0.750L+0.750S+H	0.000	0.000	0.13	0.0	25.0	1.000
+D+W+H	0.900	12.375	3.88	709.7	775.0	1.000
+D+0.70E+H	2.135	29.356	5.13	962.5	1,025.0	1.000
+D+0.750Lr+0.750L+0.750W+H	0.675	9.281	3.50	652.5	700.0	1.000
+D+0.750L+0.750S+0.750W+H	0.675	9.281	3.50	652.5	700.0	1.000
+D+0.750Lr+0.750L+0.5250E+H	1.601	22.017	4.63	886.4	925.0	1.000



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1b

## Pole Footing Embedded in Soil

File = S:\130000-11130096-1\ORIGIN-11130096-1.E06  
 ENERCALC, INC. 1983-2013, Build:5.13.2.27, Ver:6.13.2.27

Lic. #: KW-96005073

Licensee: MOUNTAIN VIEW ENGINEERING, INC.

Description: Footing Embedment Depth

### Code References

Calculations per  
 Load Combinations Used: 2009 IBC & ASCE 7-05

### General Information

Pole Footing Shape Circular  
 Footing Diameter ..... 42.0 in  
 Calculate Min. Depth for Allowable Pressures  
 Lateral Restraint at Ground Surface  
 Allow Passive ..... 200.0 pcf  
 Max Passive ..... 1,500.0 psf

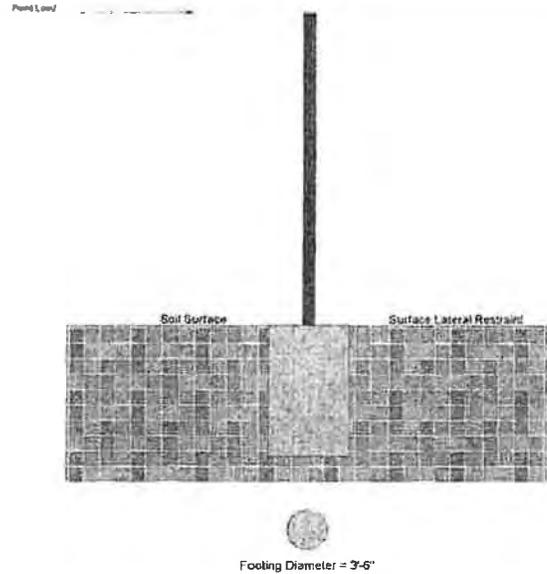
### Controlling Values

Governing Load Combination: +D+0.70E+H  
 Lateral Load 2.135 k  
 Moment 29.356 k-ft  
 Restraint @ Ground Surface

Pressure at Depth  
 Actual 1,078.17 psf  
 Allowable 1,150.0 psf  
 Surface Retraint Force 12,984.1 lbs

**Minimum Required Depth 5.750 ft**

Footing Base Area 9.621 ft<sup>2</sup>  
 Maximum Soil Pressure 1.005 ksf



### Applied Loads

Lateral Concentrated Load		Lateral Distributed Load		Applied Moment		Vertical Load	
D : Dead Load	k		k/ft		k-ft		2.350 k
Lr : Roof Live	k		k/ft		k-ft		4.130 k
L : Live	k		k/ft		k-ft		k
S : Snow	k		k/ft		k-ft		7.320 k
W : Wind	0.90 k		k/ft		k-ft		k
E : Earthquake	3.050 k		k/ft		k-ft		k
H : Lateral Earth	k		k/ft		k-ft		k
Load distance above ground surface	13.750 ft	TOP of Load above ground surface	ft				
		BOTTOM of Load above ground surface	ft				

### Load Combination Results

Load Combination	Forces @ Ground Surface		Required Depth - (ft)	Pressure at Depth		Soil Increase Factor
	Loads - (k)	Moments - (ft-k)		Actual - (psf)	Allow - (psf)	
+D+Lr+H	0.000	0.000	0.13	0.0	25.0	1.000
+D+S+H	0.000	0.000	0.13	0.0	25.0	1.000
+D+0.750Lr+0.750L+H	0.000	0.000	0.13	0.0	25.0	1.000
+D+0.750L+0.750S+H	0.000	0.000	0.13	0.0	25.0	1.000
+D+W+H	0.900	12.375	4.25	831.9	850.0	1.000
+D+0.70E+H	2.135	29.356	5.75	1,078.2	1,150.0	1.000
+D+0.750Lr+0.750L+0.750W+H	0.675	9.281	3.88	750.6	775.0	1.000
+D+0.750L+0.750S+0.750W+H	0.675	9.281	3.88	750.6	775.0	1.000
+D+0.750Lr+0.750L+0.5250E+H	1.601	22.017	5.13	1,017.9	1,025.0	1.000



**MOUNTAIN VIEW  
ENGINEERING, INC.**

345 North Main Brigham City Utah 84302  
Phone (435) 734-9700 Fax (435) 734-9519

Job: MVE #130096 Kustom Kanopies, Inc. #7411  
Subject: 3D CAR WASH

Page: 11  
Date: 04/01/13  
By: CRH

**Building Descr: 20'x40.5' CANOPY**  
**Location: South Jordan, Utah**

**BASEPLATE CALCULATIONS**

**COLUMN BASE REACTIONS**

	<u>Axial (P, kips)</u>	<u>Shear (V, kips)</u>	<u>Moment (M, kip*ft)</u>
Dead Load (D)	2.35	0	0
Roof Live Load (Lr)	4.13	0	0
Snow Load (S)	7.32	0	0
Wind Load (W)	-3.24	0.90	12.32
Seismic Load (E, ult)	0	3.81	52.38

**ASCE 7-05 LOAD COMBINATIONS (LRFD)**

	<u>P (kips)</u>	<u>V (kips)</u>	<u>M (kip*ft)</u>
1. 1.2D + 1.6(Lr or S) + 0.8W	1. 11.95	0.72	9.86
2. 1.2D + 1.6W + 0.5(Lr or S)	2. 1.30	1.43	19.72
3. 1.2D + 1.0E + 0.2S	3. 4.29	3.81	52.38
4. 0.9D + 1.6W	4. -3.06	1.43	19.72
5. 0.9D + 1.0E	5. 2.12	3.81	52.38

**CONTROLS**

**CONTROLLING LOADS**

P = 2.12 kips  
V = 3.81 kips  
M = 52.38 kipft

Anchor Rod Diameter = 1.25 in  
Total Number of Anchor Rods = 4  
Number of Anchor Rods in Tension = 2  
Number of Anchor Rods in Shear = 4  
For Baseplate, Fy = 36 ksi  
For F1554-36 Anchors, Futa = 58 ksi

A<sub>SE</sub> = 0.969 in<sup>2</sup>  
SDC = D  
f<sub>c</sub> = 5000 psi (for grout)

Baseplate Dimensions: N = 21 in B = 21 in

Anchor Rows: 2 anchors @ d = 16 in  
0 anchors @ d = 0 in  
0 anchors @ d = 0 in

d' = 16 in

Distance of Anchors from Plate Edge = 2.5 in

Tension on Each Anchor = 19.64 kips  
Shear on Each Anchor = 0.95 kips

From AISC 13th Edition: Φ<sub>B</sub> = 0.9

Column Outside Dimension = 8 in  
Side Bending Moment Arm = 4 in  
Side Bending Moment in Plate = 157.15 kip\*in  
Bending Plane (W<sub>plate</sub>) = 21 in

Round or Square? square  
Corner Bending Moment Arm = 5.66 in  
Corner Bending Moment in Plate = 111.12 kip\*in  
Bending Plane (W<sub>plate</sub>) = 18.385 in

Plate Thickness Required =  $\left( \frac{4 * M}{F_y * W_{plate} * \Phi_B} \right)^{0.5} = \underline{0.961}$  inches Use 1 inch thick plate

**THEREFORE, 1 in. x 21 in. x 21 in. BASEPLATE IS OK**



Description: **20'x40.5' CANOPY**  
Location: **South Jordan, Utah**

**ANCHOR ROD GROUP CHECK (per ACI 318 Appendix D, headed anchors)**

Tensile Force on Anchors ( $N_U$ ) =	50.77	kips
Shear Force on Anchors ( $V_U$ ) =	3.81	kips
Seismic Design Category =	D	
Number of Anchors (n) =	4	
Number of Anchors in Tension (n) =	2	
Anchor Diameter ( $d_o$ ) =	1.25	in $A_{SE} = 0.969$ in <sup>2</sup>
Anchor Spacing Perpendicular to Load ( $s_1$ ) =	16	in
Anchor Spacing Parallel to Load ( $s_2$ ) =	16	in
Spacing of outer Anchors ( $s_o$ ) =	16	in
Embedment Depth ( $h_{EF}$ ) =	25	in
Yield Strength of Anchors ( $F_y$ ) =	36	ksi
Tensile Strength of Anchors ( $F_{uta}$ ) =	58	ksi
Edge Distance in Load Direction ( $c_{a1}$ ) =	11.417	in
Edge Distance Perpendicular to Load ( $c_{a2}$ ) =	11.417	in
Concrete Strength ( $f_c$ ) =	2500	psi
Axial Eccentricity ( $e'_N$ ) =	8	in
Shear Eccentricity ( $e'_V$ ) =	0	in

**Steel Strength of Anchors in Tension**

$N_{sa} = nA_{SE}F_{uta} = 112.40$  kips

**Concrete Breakout Strength of Anchors in Tension**

$A_{Nc} = 1385.44$  in<sup>2</sup>  $A_{Nco} = 9h_{ef}^2 = 5625$  in<sup>2</sup>

$\Psi_{ec,N} = 1/(1+2e'_N/3h_{EF}) \leq 1.0$	$\Psi_{ec,N} = 0.824$
$c_{a(min)} < 1.5h_{EF}$ ? YES	$\Psi_{ed,N} = 0.791$
Cracking at Service Loads ? YES	$\Psi_{c,N} = 1.000$
Headed anchors used, therefore	$\Psi_{cp,N} = 1.000$
$h_{EF} \geq 11$ in. ? YES	$k_C = 16$
	$X = 1.66667$

$N_b = k_C f_c^{0.5} h_{EF}^X = 171.00$  kips

$N_{cbg} = \frac{A_{Nc}}{A_{Nco}} \Psi_{ec,N} \Psi_{ed,N} \Psi_{c,N} \Psi_{cp,N} N_b = 27.47$  kips

Anchor rods are tied into the footings with rebar cages, so concrete breakout will be limited by the tensile strength of the rebar verticals in the cage.

Number of Verticals = 10 Size of rebar = # 4  
Tensile strength of the reinforcement = 120 kips (ULT)

Therefore,  $N_{CBG} = 120.00$  kips

**Pullout Strength of Anchors in Tension**

$A_{BRG} = 1.817$  in<sup>2</sup>

$N_P = 8A_{BRG}f_C = 36.34$  kips

Cracking at Service Loads? YES  $\Psi_{c,P} = 1$

$N_{PN}(\text{group}) = n\Psi_{c,P}N_P = 72.68$  kips

**Side-face Blowout of Anchors in Tension**

$c_{a1} < 0.4 h_{EF}$ ?	NO	<b>SIDE-FACE BLOWOUT</b>
$s_1 < 6c_{a1}$ ?	YES	<b>WILL NOT CONTROL</b>
$c_{a2} < 3c_{a1}$ ?	YES	$R = 0.5$
$N_{sb} = 160c_{a1}A_{BRG} \Psi_{c,N}^{0.5} \Psi_{c,R}^{0.5}$		$= 61.56$ kips

Therefore,  $N_{sbg} = (1+s_o/6c_{a1})N_{sb} = 75.94$  kips

**Concrete Breakout Strength of Anchors in Shear**

$A_{Vc} = 586.566$  in<sup>2</sup>  $A_{Vco} = 4.5(c_{a1})^2 = 586.566$  in<sup>2</sup>

$\Psi_{ec,V} = 1/(1+2e'_V/3c_{a1}) \leq 1.0$	$\Psi_{ec,V} = 1.000$
$c_{a2} \geq 1.5c_{a1}$ ?	NO $\Psi_{ed,V} = 0.900$
Cracking at Service Loads ?	YES $\Psi_{c,V} = 1.200$

$V_b = 7(L_n/d_n)^{0.2} d_n^{0.5} f_c^{0.5} c_{a1}^{1.5} = 22.88$  kips

$V_{cbg} = \frac{A_{Vc}}{A_{Vco}} \Psi_{ec,V} \Psi_{ed,V} \Psi_{c,V} V_b = 24.71$  kips

Therefore,  $V_{CBG} = 24.71$  kips

**Steel Strength of Anchors in Shear**

Built-up grout pads used? YES

$V_S = 0.6nA_{SE}F_{uta} = 107.91$  kips

**Concrete Pryout Strength of Anchors in Shear**

$h_{EF} = 25$  in Therefore,  $k_{CP} = 2$

$V_{CPG} = k_{CP}N_{CBG} = 54.94$  kips

**ANCHOR ROD GROUP CAPACITY**

Tensile Strength Reduction Factor ( $\Phi$ ) = 0.75

Shear Strength Reduction Factor ( $\Phi$ ) = 0.75

**ALLOW. TENSION ( $\Phi N_N$ ) = 54.51 kips > 50.8 kips **OK****

**ALLOW. SHEAR ( $\Phi V_N$ ) = 18.53 kips > 3.81 kips **OK****

**CHECK SHEAR/TENSION INTERACTION**

$N_{UA} > 0.2\Phi N_N$  ? YES

**UNITY CHECK REQUIRED**

$V_{UA} > 0.2\Phi V_N$  ? YES

$\frac{N_{UA}}{\Phi N_N} + \frac{V_{UA}}{\Phi V_N} = 1.14 < 1.20$  **OK**



#16364

COMcheck Software Version 3.9.1

# Envelope Compliance Certificate

2009 IECC

CITY COPY

## Section 1: Project Information

Project Type: **New Construction**  
Project Title : Centennial Car Wash

Construction Site:  
1055 West 10600 South  
South Jordan, UT

Owner/Agent:  
Jake Dadum  
UT

Designer/Contractor:  
NICHOLS NAYLOR ARCHITECTS  
1155 E WILMINGTON AVE SUITE 105  
SALT LAKE CITY, UT 84106  
(801)487-3330

## Section 2: General Information

Building Location (for weather data): **Salt Lake City, Utah**  
Climate Zone: **5b**  
Building Type for Envelope Requirements: **Non-Residential**  
Vertical Glazing / Wall Area Pct.: **13%**

Activity Type(s)	Floor Area
Office	353
Warehouse	1347
Automotive Facility	3632

## Section 3: Requirements Checklist

Envelope **PASSES**: Design 2% better than code.

### Climate-Specific Requirements:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor <sup>(a)</sup>
Roof 1: Attic Roof with Wood Joists	1797	30.0	0.0	0.034	0.027
Floor 1: Slab-On-Grade:Unheated	1797	---	---	---	---
Exterior Wall 1: Wood-Framed, 16" o.c.	1596	19.0	0.0	0.067	0.064
Window 1: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.65, PF 0.38	364	---	---	0.350	0.550
Door 1: Insulated Metal, Swinging	132	---	---	0.091	0.700
Exterior Wall 2: Concrete Block:8", Partially Grouted, Cells Empty,Medium Density , Furring: Wood	1240	8.0	0.0	0.105	0.090
Door 2: Uninsulated Single-Layer Metal, Non-Swinging	48	---	---	1.200	0.500

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

### Air Leakage, Component Certification, and Vapor Retarder Requirements:

- 1. All joints and penetrations are caulked, gasketed or covered with a moisture vapor-permeable wrapping material installed in accordance with the manufacturer's installation instructions.
- 2. Windows, doors, and skylights certified as meeting leakage requirements.
- 3. Component R-values & U-factors labeled as certified.
- 4. No roof insulation is installed on a suspended ceiling with removable ceiling panels.
- 5. 'Other' components have supporting documentation for proposed U-Factors.
- 6. Insulation installed according to manufacturer's instructions, in substantial contact with the surface being insulated, and in a manner that achieves the rated R-value without compressing the insulation.

- 7. Stair, elevator shaft vents, and other outdoor air intake and exhaust openings in the building envelope are equipped with motorized dampers.
- 8. Cargo doors and loading dock doors are weather sealed.
- 9. Recessed lighting fixtures installed in the building envelope are Type IC rated as meeting ASTM E283, are sealed with gasket or caulk.
- 10. Building entrance doors have a vestibule equipped with self-closing devices.
  - Exceptions:*
    - Building entrances with revolving doors.
    - Doors not intended to be used as a building entrance.
    - Doors that open directly from a space less than 3000 sq. ft. in area.
    - Doors used primarily to facilitate vehicular movement or materials handling and adjacent personnel doors.
    - Doors opening directly from a sleeping/dwelling unit.

## Section 4: Compliance Statement

*Compliance Statement:* The proposed envelope design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed envelope system has been designed to meet the 2009 IECC requirements in COMcheck Version 3.9.1 and to comply with the mandatory requirements in the Requirements Checklist.

---

Name - Title

Signature

Date



COMcheck Software Version 3.9.1  
**Exterior Lighting Compliance  
 Certificate**

**2009 IECC**

**Section 1: Project Information**

Project Type: **New Construction**  
 Project Title : Centennial Car Wash  
 Exterior Lighting Zone: **2 (Residential mixed use area)**

Construction Site:  
 1055 West 10600 South  
 South Jordan, UT

Owner/Agent:  
 Jake Dadum  
 UT

Designer/Contractor:  
 NICHOLS NAYLOR ARCHITECTS  
 1155 E WILMINGTON AVE SUITE 105  
 SALT LAKE CITY, UT 84106  
 (801)487-3330

**Section 2: Exterior Lighting Area/Surface Power Calculation**

A Exterior Area/Surface	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B x C)	F Proposed Watts
Free standing/attached sales canopy	720 ft2	0.6	Yes	432	750
Parking area	24336 ft2	0.06	Yes	1460	1600
Illuminated area of facade wall or surface	2448 ft2	0.1	No	245	350
Total Tradable Watts* =				1892	2350
Total Allowed Watts =				2137	
Total Allowed Supplemental Watts** =				600	

\* Wattage tradeoffs are only allowed between tradable areas/surfaces.

\*\* A supplemental allowance equal to 600 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

**Section 3: Exterior Lighting Fixture Schedule**

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Free standing/attached sales canopy (720 ft2): Tradable Wattage				
HID 1: Metal Halide 250W / Pulse start	1	3	250	750
Parking area (24336 ft2): Tradable Wattage				
HID 2: Metal Halide 400W / Pulse start	1	4	400	1600
Illuminated area of facade wall or surface (2448 ft2): Non-tradable Wattage				
HID 3: Metal Halide 50W / Pulse start	1	7	50	350
Total Tradable Proposed Watts =				2350

**Section 4: Requirements Checklist**

**Lighting Wattage:**

1. Within each non-tradable area/surface, total proposed watts must be less than or equal to total allowed watts. Across all tradable areas/surfaces, total proposed watts must be less than or equal to total allowed watts.

**Compliance:** Passes using supplemental allowance watts.

**Controls, Switching, and Wiring:**

- 2. All exemption claims are associated with fixtures that have a control device independent of the control of the nonexempt lighting.
- 3. Lighting not designated for dusk-to-dawn operation is controlled by either a photosensor (with time switch), or an astronomical time switch.
- 4. Lighting designated for dusk-to-dawn operation is controlled by an astronomical time switch or photosensor.
- 5. All time switches are capable of retaining programming and the time setting during loss of power for a period of at least 10 hours.

**Exterior Lighting Efficacy:**

- 6. All exterior building grounds luminaires that operate at greater than 100W have minimum efficacy of 60 lumen/watt.

*Exceptions:*

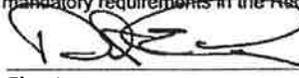
- Lighting that has been claimed as exempt and is identified as such in Section 3 table above.
- Lighting that is specifically designated as required by a health or life safety statute, ordinance, or regulation.
- Emergency lighting that is automatically off during normal building operation.
- Lighting that is controlled by motion sensor.

**Section 5: Compliance Statement**

*Compliance Statement:* The proposed exterior lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2009 IECC requirements in COMcheck Version 3.9.1 and to comply with the mandatory requirements in the Requirements Checklist.

DAVID E. CRAIG PERM

Name - Title



Signature

1-29-13

Date



COMcheck Software Version 3.9.1

# Mechanical Compliance Certificate

2009 IECC

## Section 1: Project Information

Project Type: **New Construction**  
Project Title : Centennial Car Wash

Construction Site:  
1055 West 10600 South  
South Jordan, UT

Owner/Agent:  
Jake Dadum  
UT

Designer/Contractor:  
NICHOLS NAYLOR ARCHITECTS  
1155 E WILMINGTON AVE SUITE 105  
SALT LAKE CITY, UT 84106  
(801)487-3330

## Section 2: General Information

Building Location (for weather data): **Salt Lake City, Utah**  
Climate Zone: **5b**

## Section 3: Mechanical Systems List

### Quantity System Type & Description

- |   |  |
|---|--|
| 1 | HVAC System 1 (Single Zone) :<br>Heating: 1 each - Central Furnace, Gas, Capacity = 50 kBtu/h, Efficiency = 80.00% Et<br>Cooling: 1 each - Rooftop Package Unit, Capacity = 23 kBtu/h, Efficiency = 13.00 SEER, Air-Cooled Condenser |
| 1 | HVAC System 2 (Unknown) :<br>Heating: 1 each - Unit Heater, Gas, Capacity = 400 kBtu/h, Efficiency = 80.00% Ec   |
| 1 | Water Heater 1: Electric Instantaneous Water Heater, Capacity: 5 gallons w/ Heat Trace Tape Installed  |

## Section 4: Requirements Checklist

### Requirements Specific To: HVAC System 1 :

- 1. Equipment minimum efficiency: Central Furnace (Gas): 80.00 % Et (or 78% AFUE)
- 2. Equipment minimum efficiency: Rooftop Package Unit: 13.00 SEER

### Requirements Specific To: HVAC System 2 :

- 1. Equipment minimum efficiency: Unit Heater (Gas): 80.00 % Ec

### Requirements Specific To: Water Heater 1 :

- 1. Water heating equipment meets minimum efficiency requirements: No efficiency requirements for electric instantaneous water heater.
- 2. First 8 ft of outlet piping is insulated
- 3. All heat traced or externally heated piping insulated
- 4. Automatic time control of heat tapes and recirculating systems present

### Generic Requirements: Must be met by all systems to which the requirement is applicable:

- 1. Plant equipment and system capacity no greater than needed to meet loads  
*Exception(s):*
  - Standby equipment automatically off when primary system is operating
  - Multiple units controlled to sequence operation as a function of load
- 2. Minimum one temperature control device per system
- 3. Minimum one humidity control device per installed humidification/dehumidification system
- 4. Load calculations per ASHRAE/ACCA Standard 183.
- 5. Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup

Exception(s):

- Continuously operating zones
- 2 kW demand or less, submit calculations
- 6. Outside-air source for ventilation; system capable of reducing OSA to required minimum
- 7. R-5 supply and return air duct insulation in unconditioned spaces  
R-8 supply and return air duct insulation outside the building  
R-8 insulation between ducts and the building exterior when ducts are part of a building assembly

Exception(s):

- Ducts located within equipment
- Ducts with interior and exterior temperature difference not exceeding 15°F.
- 8. Mechanical fasteners and sealants used to connect ducts and air distribution equipment
- 9. Ducts sealed - longitudinal seams on rigid ducts; transverse seams on all ducts; UL 181A or 181B tapes and mastics

Exception(s):

- Continuously welded and locking-type longitudinal joints and seams on ducts operating at static pressures less than 2 inches w.g. pressure classification
- 10. Hot water pipe insulation: 1.5 in. for pipes <=1.5 in. and 2 in. for pipes >1.5 in.  
Chilled water/refrigerant/brine pipe insulation: 1.5 in. for pipes <=1.5 in. and 1.5 in. for pipes >1.5 in.  
Steam pipe insulation: 1.5 in. for pipes <=1.5 in. and 3 in. for pipes >1.5 in.

Exception(s):

- Piping within HVAC equipment.
- Fluid temperatures between 55 and 105°F.
- Fluid not heated or cooled with renewable energy.
- Piping within room fan-coil (with AHR440 rating) and unit ventilators (with AHR1840 rating).
- Runouts <4 ft in length.

- 11. Operation and maintenance manual provided to building owner

- 12. Thermostatic controls have 5°F deadband

Exception(s):

- Thermostats requiring manual changeover between heating and cooling
- Special occupancy or special applications where wide temperature ranges are not acceptable and are approved by the authority having jurisdiction.

- 13. Balancing devices provided in accordance with IMC (2006) 603.17

- 14. Demand control ventilation (DCV) present for high design occupancy areas (>40 person/1000 ft<sup>2</sup> in spaces >500 ft<sup>2</sup>) and served by systems with any one of 1) an air-side economizer, 2) automatic modulating control of the outdoor air damper, or 3) a design outdoor airflow greater than 3000 cfm.

Exception(s):

- Systems with heat recovery.
- Multiple-zone systems without DDC of individual zones communicating with a central control panel.
- Systems with a design outdoor airflow less than 1200 cfm.
- Spaces where the supply airflow rate minus any makeup or outgoing transfer air requirement is less than 1200 cfm.

- 15. Motorized, automatic shutoff dampers required on exhaust and outdoor air supply openings

Exception(s):

- Gravity dampers acceptable in buildings <3 stories
- Gravity dampers acceptable in systems with outside or exhaust air flow rates less than 300 cfm where dampers are interlocked with fan

- 16. Automatic controls for freeze protection systems present

- 17. Exhaust air heat recovery included for systems 5,000 cfm or greater with more than 70% outside air fraction or specifically exempted

Exception(s):

- Hazardous exhaust systems, commercial kitchen and clothes dryer exhaust systems that the International Mechanical Code prohibits the use of energy recovery systems.
- Systems serving spaces that are heated and not cooled to less than 60°F.
- Where more than 60 percent of the outdoor heating energy is provided from site-recovered or site solar energy.
- Heating systems in climates with less than 3600 HDD.
- Cooling systems in climates with a 1 percent cooling design wet-bulb temperature less than 64°F.
- Systems requiring dehumidification that employ energy recovery in series with the cooling coil.
- Laboratory fume hood exhaust systems that have either a variable air volume system capable of reducing exhaust and makeup air volume to 50 percent or less of design values or, a separate make up air supply meeting the following makeup air requirements:  
a) at least 75 percent of exhaust flow rate, b) heated to no more than 2°F below room setpoint temperature, c) cooled to no lower than 3°F above room setpoint temperature, d) no humidification added, e) no simultaneous heating and cooling.





COMcheck Software Version 3.9.1

# Mechanical Requirements Description

## 2009 IECC

The following list provides more detailed descriptions of the requirements in Section 4 of the Mechanical Compliance Certificate:

### Requirements Specific To: HVAC System 1 :

1. The specified heating and/or cooling equipment is covered by the ASHRAE 90.1 Code and must meet the following minimum efficiency:  
Central Furnace (Gas): 80.00 % Et (or 78% AFUE)
2. The specified heating and/or cooling equipment is covered by the ASHRAE 90.1 Code and must meet the following minimum efficiency:  
Rooftop Package Unit: 13.00 SEER

### Requirements Specific To: HVAC System 2 :

1. The specified heating and/or cooling equipment is covered by the ASHRAE 90.1 Code and must meet the following minimum efficiency:  
Unit Heater (Gas): 80.00 % Ec

### Requirements Specific To: Water Heater 1 :

1. Water heating equipment used solely for heating potable water, pool heaters, and hot water storage tanks must meet the following minimum efficiency: No efficiency requirements for electric instantaneous water heater.
2. Insulation must be provided for the first 8 ft of outlet piping for a constant temperature nonrecirculating storage system and for the inlet pipe between the storage tank and a heat trap in a storage system.
3. Insulation must be provided for pipes that are externally heated (such as heat trace or impedance heating).
4. Systems designed to maintain usage temperatures in hot water pipes, such as recirculating hot water systems or heat trace, must be equipped with automatic time switches or other controls that can be set to switch off the temperature maintenance system during extended periods when hot water is not required.

### Generic Requirements: Must be met by all systems to which the requirement is applicable:

1. All equipment and systems must be sized to be no greater than needed to meet calculated loads. A single piece of equipment providing both heating and cooling must satisfy this provision for one function with the capacity for the other function as small as possible, within available equipment options.

#### Exception(s):

- The equipment and/or system capacity may be greater than calculated loads for standby purposes. Standby equipment must be automatically controlled to be off when the primary equipment and/or system is operating.
  - Multiple units of the same equipment type whose combined capacities exceed the calculated load are allowed if they are provided with controls to sequence operation of the units as the load increases or decreases.
2. Each heating or cooling system serving a single zone must have its own temperature control device.
  3. Each humidification system must have its own humidity control device.
  4. Design heating and cooling loads for the building must be determined using procedures in the ASHRAE Handbook of Fundamentals or an approved equivalent calculation procedure.
  5. The system or zone control must be a programmable thermostat or other automatic control meeting the following criteria:
    - a) capable of setting back temperature to 55°F during heating and setting up to 85°F during cooling,
    - b) capable of automatically setting back or shutting down systems during unoccupied hours using 7 different day schedules,
    - c) have an accessible 2-hour occupant override,
    - d) have a battery back-up capable of maintaining programmed settings for at least 10 hours without power.

#### Exception(s):

- A setback or shutoff control is not required on thermostats that control systems serving areas that operate continuously.
  - A setback or shutoff control is not required on systems with total energy demand of 2 kW (6,826 Btu/h) or less.
6. The system must supply outside ventilation air as required by Chapter 4 of the International Mechanical Code. If the ventilation system is designed to supply outdoor-air quantities exceeding minimum required levels, the system must be capable of reducing outdoor-air flow to the minimum required levels.
  7. Air ducts must be insulated to the following levels:
    - a) Supply and return air ducts for conditioned air located in unconditioned spaces (spaces neither heated nor cooled) must be insulated with a minimum of R-5. Unconditioned spaces include attics, crawl spaces, unheated basements, and unheated garages.
    - b) Supply and return air ducts and plenums must be insulated to a minimum of R-8 when located outside the building.
    - c) When ducts are located within exterior components (e.g., floors or roofs), minimum R-8 insulation is required only between the duct and the building exterior.

#### Exception(s):

- Duct insulation is not required on ducts located within equipment.

- Duct insulation is not required when the design temperature difference between the interior and exterior of the duct or plenum does not exceed 15°F.
8. Mechanical fasteners and seals, mastics, or gaskets must be used when connecting ducts to fans and other air distribution equipment, including multiple-zone terminal units.
  9. All joints, longitudinal and transverse seams, and connections in ductwork must be securely sealed using weldments; mechanical fasteners with seals, gaskets, or mastics; mesh and mastic sealing systems; or tapes. Tapes and mastics must be listed and labeled in accordance with UL 181A and shall be marked '181A-P' for pressure sensitive tape, '181A-M' for mastic or '181A-H' for heat-sensitive tape. Tapes and mastics used to seal flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked '181B-FX' for pressure-sensitive tape or '181B-M' for mastic. Unlisted duct tape is not permitted as a sealant on any metal ducts.  
Exception(s):
    - Continuously welded and locking-type longitudinal joints and seams on ducts operating at static pressures less than 2 inches w.g. pressure classification.
  10. All pipes serving space-conditioning systems must be insulated as follows:
    - Hot water piping for heating systems:
      - 1 1/2 in. for pipes <= 1 1/2-in. nominal diameter,
      - 2 in. for pipes > 1 1/2-in. nominal diameter.
    - Chilled water, refrigerant, and brine piping systems:
      - 1 1/2 in. insulation for pipes <= 1 1/2-in. nominal diameter,
      - 1 1/2 in. insulation for pipes > 1 1/2-in. nominal diameter.
    - Steam piping:
      - 1 1/2 in. insulation for pipes <= 1 1/2-in. nominal diameter,
      - 3 in. insulation for pipes > 1 1/2-in. nominal diameter.
 Exception(s):
    - Pipe insulation is not required for factory-installed piping within HVAC equipment.
    - Pipe insulation is not required for piping that conveys fluids having a design operating temperature range between 55°F and 105°F.
    - Pipe insulation is not required for piping that conveys fluids that have not been heated or cooled through the use of fossil fuels or electric power.
    - Piping within room fan-coil (with AHRI440 rating) and unit ventilators (with AHRI840 rating).
    - Pipe insulation is not required for runout piping not exceeding 4 ft in length and 1 in. in diameter between the control valve and HVAC coil.
  11. Operation and maintenance documentation must be provided to the owner that includes at least the following information:
    - a) equipment capacity (input and output) and required maintenance actions
    - b) equipment operation and maintenance manuals
    - c) HVAC system control maintenance and calibration information, including wiring diagrams, schematics, and control sequence descriptions; desired or field-determined set points must be permanently recorded on control drawings, at control devices, or, for digital control systems, in programming comments
    - d) complete narrative of how each system is intended to operate.
  12. Thermostats controlling both heating and cooling must be capable of maintaining a 5°F deadband (a range of temperature where no heating or cooling is provided).  
Exception(s):
    - Deadband capability is not required if the thermostat does not have automatic changeover capability between heating and cooling.
    - Special occupancy or special applications where wide temperature ranges are not acceptable and are approved by the authority having jurisdiction.
  13. Balancing devices provided in accordance with IMC (2006) 603.17.
  14. Demand control ventilation (DCV) required for high design occupancy areas (>40 person/1000 ft<sup>2</sup> in spaces >500 ft<sup>2</sup>) and served by systems with any one of 1) an air-side economizer, 2) automatic modulating control of the outdoor air damper, or 3) a design outdoor airflow greater than 3000 cfm.  
Exception(s):
    - Systems with heat recovery.
    - Multiple-zone systems without DDC of individual zones communicating with a central control panel.
    - Systems with a design outdoor airflow less than 1200 cfm.
    - Spaces where the supply airflow rate minus any makeup or outgoing transfer air requirement is less than 1200 cfm.
  15. Outdoor air supply and exhaust systems must have motorized dampers that automatically shut when the systems or spaces served are not in use. Dampers must be capable of automatically shutting off during preoccupancy building warm-up, cool-down, and setback, except when ventilation reduces energy costs (e.g., night purge) or when ventilation must be supplied to meet code requirements. Both outdoor air supply and exhaust air dampers must have a maximum leakage rate of 3 cfm/ft<sup>2</sup> at 1.0 in w.g. when tested in accordance with AMCA Standard 500.  
Exception(s):
    - Gravity (non-motorized) dampers are acceptable in buildings less than three stories in height.

- Systems with a design outside air intake or exhaust capacity of 300 cfm (140 L/s) or less that are equipped with motor operated dampers that open and close when the unit is energized and de-energized, respectively.
16. All freeze protection systems, including self-regulating heat tracing, must include automatic controls capable of shutting off the systems when outside air temperatures are above 40°F or when the conditions of the protected fluid will prevent freezing. Snow- and ice-melting systems must include automatic controls capable of shutting off the systems when the pavement temperature is above 50°F and no precipitation is falling, and an automatic or manual control that will allow shutoff when the outdoor temperature is above 40°F.
17. Individual fan systems with a design supply air capacity of 5000 cfm or greater and minimum outside air supply of 70 percent or greater of the supply air capacity must have an energy recovery system with at least a 50 percent effectiveness. Where cooling with outdoor air is required there is a means to bypass or control the energy recovery system to permit cooling with outdoor air.
- Exception(s):
- Hazardous exhaust systems, commercial kitchen and clothes dryer exhaust systems that the International Mechanical Code prohibits the use of energy recovery systems.
  - Systems serving spaces that are heated and not cooled to less than 60°F.
  - Where more than 60 percent of the outdoor heating energy is provided from site-recovered or site solar energy.
  - Heating systems in climates with less than 3600 HDD.
  - Cooling systems in climates with a 1 percent cooling design wet-bulb temperature less than 64°F.
  - Systems requiring dehumidification that employ energy recovery in series with the cooling coil.
  - Laboratory fume hood exhaust systems that have either a variable air volume system capable of reducing exhaust and makeup air volume to 50 percent or less of design values or, a separate make up air supply meeting the following makeup air requirements: a) at least 75 percent of exhaust flow rate, b) heated to no more than 2°F below room setpoint temperature, c) cooled to no lower than 3°F above room setpoint temperature, d) no humidification added, e) no simultaneous heating and cooling.



**City of South Jordan**  
**Building Division**  
 1600 W Towne Center Drive  
 South Jordan, UT 84055  
 801-254-3742  
<http://www.southjordancity.org>

<b>Permit #</b>	43727
<b>Project #</b>	2012-16364
<b>Permit Cat.</b>	Building Permit
<b>Permit Type</b>	Commercial New
<b>Issue Date</b>	4/3/2013

## Construction Permit

Address	Assessor's Parcel No.	Tract Parcel Map Number	Lot Number
1026 SOUTH JORDAN PKWY W, Apt. (10600 S)			

**Description of work.**  
 CENTENNIAL CAR WASH  
 MAX OCCUPANCY LOAD 22

Building Value	Occupancy	Construction	Units	Sprinkler	Square Feet	Garage Sq. Ft.
\$855,000.00	Commercial	Type V B		False	5221.00	

Current Owners	Address	Telephone	Email
* 3-D DEVELOPMENT & HOLDINGS	UT	801-842-5550	X@X.COM

Contractor	Address	Telephone	Email
* BADHAM CONSTRUCTION	125 N 640 W NORTH SALT LAKE UT 84054	(801)936-9700	X@X.COM
<b>Lic. Information</b>	380913	Exp. Date: 11/30/2013	

Applicant	Address	Telephone	Email
* BADHAM CONSTRUCTION	125 N 640 W NORTH SALT LAKE UT 84054	(801)936-9700	X@X.COM
<b>Lic. Information</b>	380913	Exp. Date: 11/30/2013	

Fees						
Fee Group	Fee Type Desc	Unit Cost	Quantity	Fee Amount	Payment Amount	Balance
Commercial/New				\$45,318.33	\$45,318.33	\$0.00
	State Fee	.01	6,812.25	\$68.12	\$68.12	\$0.00
	IMP ResSF: Offsite Cleaning	78.00	1.00	\$78.00	\$78.00	\$0.00
	IMP ResSF: Offsite Cleaning	78.00	1.00	\$78.00	\$78.00	\$0.00
	IMP ResSF: Construction Water	200.00	1.00	\$200.00	\$200.00	\$0.00
	IMP ResSF: Construction Water	200.00	1.00	\$200.00	\$200.00	\$0.00
	BLDG New PME Plan Check	.25	864.00	\$216.00	\$216.00	\$0.00
	Mechanical	262.00	1.00	\$262.00	\$262.00	\$0.00
	1" Water meter	281.00	1.00	\$281.00	\$281.00	\$0.00
	Plumbing	288.00	1.00	\$288.00	\$288.00	\$0.00
	Electrical	314.00	1.00	\$314.00	\$314.00	\$0.00
	2" Water Meter	2,250.00	1.00	\$2,250.00	\$2,250.00	\$0.00
	BLDG New Plan Check	45	5,948.25	\$2,676.71	\$2,676.71	\$0.00
	IMP Comm Other: Public Safety	2,151.96	1.55	\$3,335.54	\$3,335.54	\$0.00
	IMP: 1" Culinary Water	5,324.00	1.00	\$5,324.00	\$5,324.00	\$0.00
	Valuation	.00	.00	\$5,948.25	\$5,948.25	\$0.00
	IMP Comm Other: Roadway	1,295.29	5,221.00	\$6,762.71	\$6,762.71	\$0.00
	IMP: 2" Culinary Water	17,036.00	1.00	\$17,036.00	\$17,036.00	\$0.00
<b>Totals</b>				<b>\$45,318.33</b>	<b>\$45,318.33</b>	<b>\$0.00</b>

Receipt Summary						
Receipt ID	Payment	Type	Paid By	LOGINID	Date Time	
10787	\$45,318.33	Check	3D DEVELOPMENT & HOLDINGS	jzarogoza	4/3/2013 11:48 AM	
<b>Totals</b>	<b>\$45,318.33</b>					

**BUILDING PERMIT APPLICATION**  
BECOMES PERMIT WHEN SIGNED

Print Form

Plan 8731

SOUTH JORDAN CITY

*Date of Application 11/8/12	Date Work Starts	Receipt No. 16364	Date Issued	Permit Number
---------------------------------	------------------	----------------------	-------------	---------------

\*Proposed Use of Structure  
Car Wash / Centennial

**BUILDING FEE SCHEDULE**

\*Bldg. Address  
10210 W. South Jordan Pkwy

Square Ft. of Building 5221  Valuation 855,000

\*E-Mail Address rvss@nicholsnaylor.com  
Assessors Parcel No. 2714180003

Rough Basement Building Fees  
 Finish Basement Plan Check Fees

\*Lot # \*Block \*Subd. Name & Number

Carport sq. ft. Electrical Fees 314 00  
Garage sq. ft. Plumbing Fees 298 00

\*Property Location  \*If metes and bounds see instructions

Type of Bldg. P R Occ. Group M  
No. of Bldgs. 1 R. Value Walls Roof

\*Total Property Area - In Acres or Sq. Ft. 47725  
Total Bldg. Site Area Used

No. of Stories 1  
No. of Bedrooms  
No. of Dwellings

\*Owner of Property Mike Daham  
Phone 842 5550  
City - Zip

Mechanical Fees 262 00  
Subtotal  
Water  
Sewer

\*Mailing Address  
City - Zip

Storm Sewer  
Moving or Demo.  
Temporary Conn.  
Re-inspection  
State Fee

\*Business Name Address  
Business Lic. No.

Type of Construction  
 Frame  Brick Var.  
 Brick  Block  Concrete  Steel  
Max. Occ. Load 22

\*Architect or Engineer Russ Naylor  
Phone 487-3330

Fire Sprinkler  Yes  No  
Total 45318.33

\*General Contractor Badham Const  
Phone 936 9700

Special Approvals  
Board of Adjustment  
Health Dept.  
Fire Dept. South Jordan Bldg Dept  
Soil Report

\*Business Address - City - Zip 125 No 640 W No Salt Lake Bldg SA 386913-550  
State Lic. No. 386913-550  
Phone

Water or Well Permit  
Traffic Engineer DEC 07 2012  
Flood Control

\*Electrical Contractor Zeus Electric  
State Lic. No. 86791668  
Phone

Sewer or Septic Tank  
City Engineer (off site)  
Gas

\*Plumbing Contractor Southwest Plumbing  
Phone

Comments: 2" Water Meter  
1" Landscape Meter  
6" Sewer  
4" Car Wash Sewer

\*Business Address - City - Zip  
State Lic. No. 333335  
Phone

Land Use Cert.  
Electrical Dept.  
HiBack C.G & S.  
Other

\*Mechanical Contractor Salmon HVAC  
State Lic. No. 7134147  
Phone

Bond Required  Yes  No Amount

\*Business Address - City - Zip  
State Lic. No. 7134147  
Phone

This application does not become a permit until signed below.

\*Previous Usage of Land or Structure (Past 3 yrs.)

Plan Chk. OK by [Signature]

\*Dwell. Units Now on Lot \*Assessory Bldgs. Now on Lot

Signature of Approval [Signature] Date 2-19-2013

\*Type of Improvement / Kind of Const  
 Sign  Build  Remodel  Addition  
 Repair  Move  Convert Use  Demolish

This permit becomes null and void if work or construction authorized is not commenced within 180 days, or if construction or work is suspended or abandoned for a period of 180 days at anytime after work is commenced. I hereby certify that I have read and examined this application and know the same to be true and correct. All provisions of laws and ordinances governing this type of work will be complied with whether specified herein or not the granting of a permit does not presume to give authority to violate or cancel the provisions of any other state or local law regulating construction or the performance of construction and that I make this statement under penalty of perjury.

\*No. of off-street parking spaces: Covered Uncovered

Signature of Contractor or Authorized Agent \_\_\_\_\_ Date \_\_\_\_\_

SUB-CHECK Zone cc Zone Approved By [Signature]

Signature of Owner (If Owner) \_\_\_\_\_ Date \_\_\_\_\_

Disapproved / Approved 3/22/13 Date Sub-Ck. By [Signature]

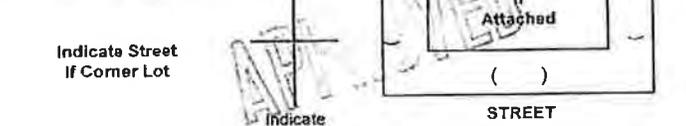
Census Tract Traffic Zone Coordinate Ident. No.

Minimum Setbacks in Feet  
Front Side Side Rear

New S.L.U. Code No. Old S.L.U. Code No.

As Per Site Plan

Certificate of Occupancy



Note: 24 Hours notice is required for all inspections

Scott L. Osborne, Mayor  
Mark Seethaler, Council Member  
Chuck Newton, Council Member  
Brian Butters, Council Member  
Steve Barnes, Council Member  
Larry Short, Council Member

John H. Geilmann, City Manager



Date: 12/26/2012

PH: 801.254.3742 EMAIL: info@sjc.utah.gov FAX: 801.254.3393

Centennial Car Wash  
BUILDING DEPARTMENT  
PLAN REVIEW FOR PROJECT

CONTACT: Russ Naylor Architect 487-3330

PROJECT #16364 PLAN #8731

Plan reviewed by Boyd Hunting phone # 253-5203 ext. #1283 or FAX #253-5235

[bhunting@sjc.utah.gov](mailto:bhunting@sjc.utah.gov).

NOTE: Plan reviews are not exhaustive and approval doesn't relieve the contractor and designer of the responsibility of full compliance with all applicable Building codes and ordinances.

NOTE: Must notify South Valley Water Reclamation Facility & the South Valley Sewer District and provide a letter from both that they are aware of project prior to issuance of a permit.

NOTE: Before the permit can be issued there must be provided a list of major contractors with state license #'s contact person and address, a general, electrical, mechanical, plumbing, and fire sprinkler if applicable. Need to provide a value for the project also.

NOTE: All issues with the planning and engineering departments must be resolved before building review and permit processing can take place.

NOTE: If applicable must provide fabricators certifications for all structural steel & decking, & roof truss fabrication.

NOTE: Must provide Name and contact person for all Special Inspections Contractors prior to permit approval this could include soils, concrete, steel, masonry, and med-gas inspections.

NOTE: All documents submitted to the city for this review are assumed to have the owner's final approval. Any changes to the documents or project prior to a resubmittal for rereview and preapproval, and work has started will be considered in the same light as building without a permit and will be subject to all fees and penalties for noncompliance including a stop work order. The project will then be required to be resubmitted in its entirety and the process will be started over from the beginning after all fees are paid. IBC Code section 107.4 Amended Documents

NOTE: On interior lighting COMM-check or equal recessed light fixture manufacturers specs must be used to calculate compliance with Energy code Sec. 505.1.1 & 505.1.2, compacted florescent bulbs wattage not acceptable. Any deviation of this after permit will require removal and correction at permit holders expense.

NOTE: Deferred submittals must comply with IBC code section 107.3.4.2 and have the Building Official's approval along with a firm date as to when that will be provided to the city. This date should be provided with the project documents at the time of first review. And that the date and deferred submittals will be subject to approval by the Building Official.

NOTE: Responses and comments to the plan review will need to be in **one complete** resubmittal addressing all comments.

NOTE: Project may require A.E.D. to comply with South Jordan City Ordinance municipal code 8.32 depending on occ.load of 150 persons or more or on occupancy category.



First in Design

1. Need to address inconsistency between structural pages S101, S-111 and A-1 @ office wall can't locate header that separates Customer and hall and office.
2. How will office wall with door be built and with what will it go to deck and how deflection will be dealt with.
3. On sheet A-9 Urinal not identified on fixture legend, also will need a urinal petition to be provided show that it will be compliant with IPC 310.5.
4. Room 105 states equipment above, what equipment and is there a platform or a mezzanine of some sort please provide details on how this is to be accomplished and access provided, supported and restrained in seismic event..
5. How will roof access be provided to the roof top equipment roof drains for service and maintenance, location of ladder and hatch shown but no details on ladder or hatch or orientation of hatch or curb please provide?
6. What is the wiring method proposed for this project, can't locate one?
7. Provide a lighting schedule and also identify emergency lighting or location, can't locate them on plans.
8. What is the reason for the question mark after the size of the branch duct dimension on the mechanical plan?
9. Provide a return air path from rooms with supply duct piped to them. (Office, rm. 104 storage 105 and restrooms)
10. How will unit heater be seismically restrained?
11. May be other comments when these have been addressed.

12 Signed CONAM-check K

13 Electrical in Tunnel & Exterior



# Memo

**To: Boyd Hunting**

**From: Russ Naylor**

**Date: February 11, 2013**

**Re: Centennial Carwash**

- 
- ✓ 1. Need to address inconsistency between structural pages S101, S-111 and A-1 @ office wall can't locate header that separates Customer and hall and office.  
**See attached structural comments.**
  - ✓ 2. How will office wall with door be built and with what will it go to deck and how deflection will be dealt with.  
**See attached structural comments.**
  - X 3. On sheet A-9 Urinal not identified on fixture legend, also will need a urinal petition to be provided show that it will be compliant with IPC 310.5.  
**The urinal has been added to the fixture legend on sheet A-9. A**
  - ✓ 4. Room 105 states equipment above, what equipment and is there a platform or a mezzanine of some sort please provide details on how this is to be accomplished and access provided, supported and restrained in seismic event.  
**The mezzanine has been removed from the project.**
  - ✓ 5. How will roof access be provided to the roof top equipment roof drains for service and maintenance, location of ladder and hatch shown but no details on ladder or hatch or orientation of hatch or curb please provide?  
**The hatch has been added. It is located in the carwash mechanical room. Any other access to other areas can be accomplished by stepping over parapet walls that do not exceed 48".**
  - ✓ 6. What is the wiring method proposed for this project, can't locate one?  
**See the attached electrical comments.**
  - ✓ 7. Provide a lighting schedule and also identify emergency lighting or location, can't locate them on plans.  
**See the attached electrical comments.**

- ✓ 8. What is the reason for the question mark after the size of the branch duct dimension on the mechanical plan?  
**See the attached mechanical comments.**
- ✓ 9. Provide a return air path from rooms with supply duct piped to them. (Office, rm. 104 storage 105 and restrooms)  
**See the attached mechanical comments.**
- ✓ 10. How will unit heater be seismically restrained?  
**See the attached mechanical comments.**
- ✓ 11. May be other comments when these have been addressed.



*"Engineering Results"*  
**BHB Consulting Engineers**  
*A Professional Corporation*

2766 South Main Street  
 Salt Lake City, Utah 84115  
 Phone: 801.355.5656 Fax: 801.355.5950

Project:

Sheet:

Job:

Date: 1/24/2013

By:

**Wood Beam Design**

**INPUT:**

**Material Information:**

Allowable Strong Bending Fbx (psi):	900.00
Allowable Weak Bending Fby (psi):	900.00
Strong Elastic Modulus - Ex (ksi):	1,600.00
Weak Elastic Modulus - Ey(ksi):	1,600.00
Emin x (ksi):	580.00
Emin y (ksi):	580.00
Beam Type: Dimensional Lumber	K <sub>r</sub> : 0.59
DF grade: DF-L No.2	c: 0.80
Use Pre Determined	F <sub>v</sub> (psi): 180.00
	F <sub>c⊥</sub> (psi): 625.00
	F <sub>c</sub> (psi): 1,350.00

**Beam Information:**

Beam Width (in):	4.50
Beam Depth(in):	7.25
Beam Length (ft):	4.50
Unbraced Length y (ft):	4.50
Effective Length y (ft):	9.27
Unbraced Length x (ft):	4.50
Ke:	1.00
Effective Length x (ft):	4.50
Bearing Length (in):	3

**Adjustment Factors:**

**Load Duration Factor-Cd:**

Gravity Loads:	1.15
Wind Loads:	1.60
Earthquake Loads:	1.60
Wet Service Factor - Cm:	1.00
Temperature Factor - Ct:	1.00
Repetitive Use Factor-Cr:	1.00
Size Factor Cf:	0.91
Flat use Factor - Cfu:	1.00
Bearing Area Factor - Cb:	1.13
Volume Factor applied to Fbx:	1.00
Cv applied to Fby:	1.00
Column Stab. Factor - Cp:	0.80
Beam Stability Factor C <sub>L Wind</sub> :	1.00
Beam Stability Factor C <sub>L Seismic</sub> :	1.00

**Loads to the strong direction of the beam:**

**Loads per Square Foot:**

Tributary Area (ft):	7.5
Snow Load (psf):	40.0
Live Load (psf):	0.0
Roof Dead Load (psf):	76.2

**Lateral Loads in the weak direction:**

Tributary Area (ft):	12.0
Wind-Out (psf):	20.1
Wind-In (psf):	20.1
Earthquake (psf):	3.6
Out-of-plane DL (plf):	0.0
Out-of-plane SL (plf):	0.0
Out-of-plane LL (plf):	0.0

**Axial Loads to the Beam:**

Wind-Out (lbs):	0.0
Wind-In (lbs):	0.0
Earthquake (lbs):	0.0
Sds (g):	0.86

**Axial Output to the Beam as a Column:**

FCE <sub>1</sub> (psi) - Euler Buckling Load:	2,025.13
FCE <sub>2</sub> (psi) - Euler Buckling Load:	3310.8333
FbE (psi):	17475.73

**Loads to the individual Stud in the Wall/Jamb:**

**Concentric Loads per Lineal Foot:**

Snow Load (plf):	300.0
Live Load (plf):	0.0
Dead Load (plf):	571.5

**Lateral Loads on Beam:**

Wind-Out (plf):	241.2
Wind-In (plf):	241.2
Earthquake (plf):	43.2

Bearing Area (in <sup>2</sup> ):	13.5
Section Modulus XX (in <sup>3</sup> ):	39.42
Moment of Inertia XX (in <sup>4</sup> ):	142.90
Section Modulus YY (in <sup>3</sup> ):	24.47
Moment of Inertia YY (in <sup>4</sup> ):	55.05

**OUTPUT:**

**Adjusted Allowable Stresses:**

Fbx' (psi):	Gravity: 1,032	Fc' (psi):	Gravity: 1,130
			Wind: 2,875
			Seismic: 2,875
Fby' (psi):	Gravity: 1,035	F <sub>c⊥</sub> ' (psi):	Gravity: 703
	Wind: 1,440		
	Seismic: 1,440	F <sub>v</sub> ' (psi):	Gravity: 207

LOAD CASES:	fbx (psi)	fby (psi)	fc (psi)	Stress Ratios			Deflection Ratios	
				Bending	Bearing And Shear	Combined		
Gravity Load Case:	DL + LL	440.35	0.00	0.00	0.43	0.14, 0.2	0.29	L/2342
	DL + SL	671.50	0.00	0.00	0.65	0.21, 0.3	0.44	L/1536
	DL + 0.75LL + 0.75SL	613.71	0.00	0.00	0.59	0.19, 0.27	0.40	L/1680
With Wind Forces:	DL+WL(OUT)	440.35	299.42	0.00	0.63		0.55	
	DL+WL(IN)	440.35	299.42	0.00	0.63		0.55	
	DL+0.75(LL+WL(OUT))+SL	613.71	224.57	0.00	0.75		0.69	
	DL+0.75(LL+WL(IN))+SL	613.71	224.57	0.00	0.75		0.69	
	0.6DL+WL(OUT)	264.21	479.07	0.00	0.59		0.45	
	0.6DL+WL(IN)	264.21	299.42	0.00	0.46		0.38	
With Earthquake Forces:	(1.0+0.14(Sds))DL+0.7EQ	493.37	37.54	0.00	0.50		0.49	
	(1.0+0.105(Sds))DL+0.75LL+0.525EQ+0.75SL	653.48	40.22	0.00	0.66		0.65	
	(0.6-0.14(Sds))DL+0.7EQ	211.19	37.54	0.00	0.23		0.22	

Controlling Deflection Ratio: L/1536  
 Beam is okay for Design.

#REF!



**DC ENGINEERING, INC.**  
**CONSULTING ENGINEERS**

January 25, 2013

Project Name: Centennial Car Wash

Address: 1055 West and 10600 South, South Jordan, Utah

Reviewed by:

The following is the typed response for the mechanical electrical and plumbing review comments dated 01/21/2013

**Item #1**

*Comment: What is the wiring method proposed for this project, can't locate one?*

**Response:** Please see new General Note 20 on Sheet E1.0.

**Item #2**

*Comment: Provide a lighting schedule and also identify emergency lighting or location, can't locate them on plans.*

**Response:** Please see Luminaire Schedule on Sheet E1.0. All light fixtures labeled EM are emergency lights. T-4 is the exterior emergency light.

**Item #3**

*Comment: What is the reason for the question mark after the size of teh branch duct dimension on the mechanical plan?*

**Response:** The ? mark is an error. Should read DIA. for diameter. Please see corrected plan.

**Item #4**

*Comment: Provide a return air path from rooms with supply duct piped to them. (Office, rm. 104 storage 105 and restrooms.*

**Response:** In the office area the air is returned to the roof-top unit. In the wash tunnel, storage area and restrooms the air is exhausted out. Fresh air is made up from the penthouse and tempered with the unit heater.

**Item #5**

*Comment: How will unit heater be seismically restrained?*

**Response:** Please see new Unit Heater Detail showing cable for the seismic restraint.



January 24, 2013

Adam Naylor  
Nichols Naylor Architects  
1155 E. Wilmington Ave. Suite 250  
Salt Lake City, Utah 84106

RE: Centennial Car Wash

Adam,

The following are responses to the review comments received from the city of South Jordan.

1. A header was added across the hall separating the office and customer service. See attached plan and details.
2. The interior wall and door in the office are both non-structural items and can therefore span to the underside of the joists. Deflection is of no concern because both the wall and header will not be taking any load.

I have attached the plans, details, and calculations that reflect the resolved comments.

Best regards,

A handwritten signature in black ink, appearing to read 'R. Mikesell'.

Ryan Mikesell  
Project Engineer  
BHB Consulting Engineers, PC

A handwritten signature in black ink, appearing to read 'S. Pettit'.

Scott Pettit, SE  
Principal  
BHB Consulting Engineers, PC





16364  
43727

March 26, 2013

Mr. Ty Montalvo  
South Jordan City Hall  
1600 West Towne Center Drive  
South Jordan, Utah 84095

RE: Centennial Car Wash

Mr. Montalvo:

South Valley Water Reclamation Facility (SVWRF) has reviewed plans and other written documentation for the proposed new construction to house Centennial Car Wash located at 10483 South 1000 West in South Jordan, Utah. This is a tunnel car wash that has multiple water recycle pits.

Based on information submitted to SVWRF for review, the following will be required:

1. Centennial Car Wash has to apply for and receive a Discharge Permit from SVWRF for this business prior to discharging into the sewer system of the South Valley Sewer District. Forms for this use can be obtained by visiting [www.svwater.com](http://www.svwater.com) or by calling Lori at (801) 495-5465.
2. SVWRF will require that all drains, floor drains, trench drains, and sinks associated with the shop area be plumbed outside the building to pass through a 1,000 gallon oil/sand separator and then pass through a sampling manhole as per specifications on file at SVWRF. The oil/sand separator and sampling manhole must be inspected by SVWRF prior to backfilling. Inspections can be set up by calling (801) 495-5461 and speaking to Mr. DeLaun Fullmer.
3. All chemicals stored in containers larger than five gallons must be stored in a containment area that can contain 110% of the largest container in the containment area. No chemicals in containers larger than five gallons may be stored within 50 feet of a floor drain.

This project must be approved by South Valley Sewer District also. Please contact Mr. Michael Foerster at (801) 571-1166 to help you with this matter.

If you have any questions about this letter of requirement, feel free to contact me at (801) 495-5446.

Spencer Parkinson

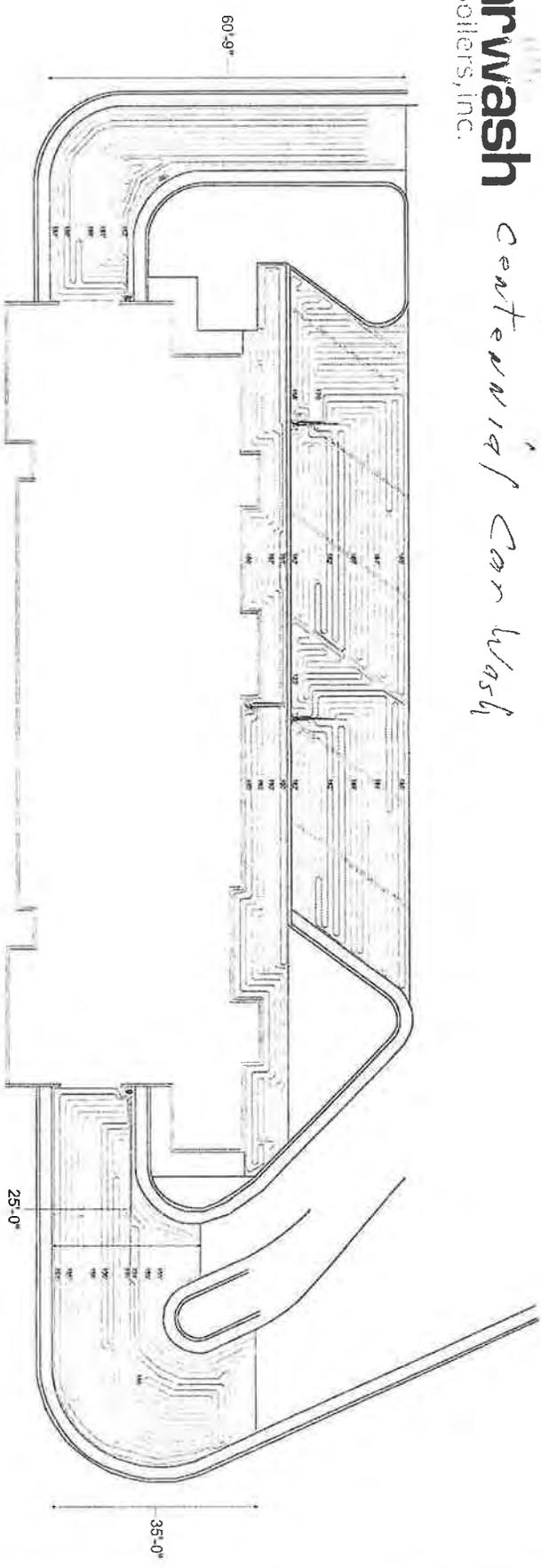
Pretreatment Director

PC: Matthew Dadam (4293 Fortuna Way, Salt Lake City, Utah 84124)  
Michael Foerster (South Valley Sewer District)  
DeLaun Fullmer (SVWRF Pretreatment Inspector)  
Lori Gord (SVWRF Pretreatment Administrative Assistant)

43127 #16364

# carwash *Centennial Car Wash*

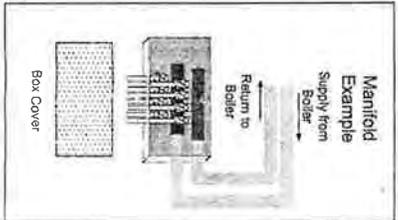
Boilers, Inc.

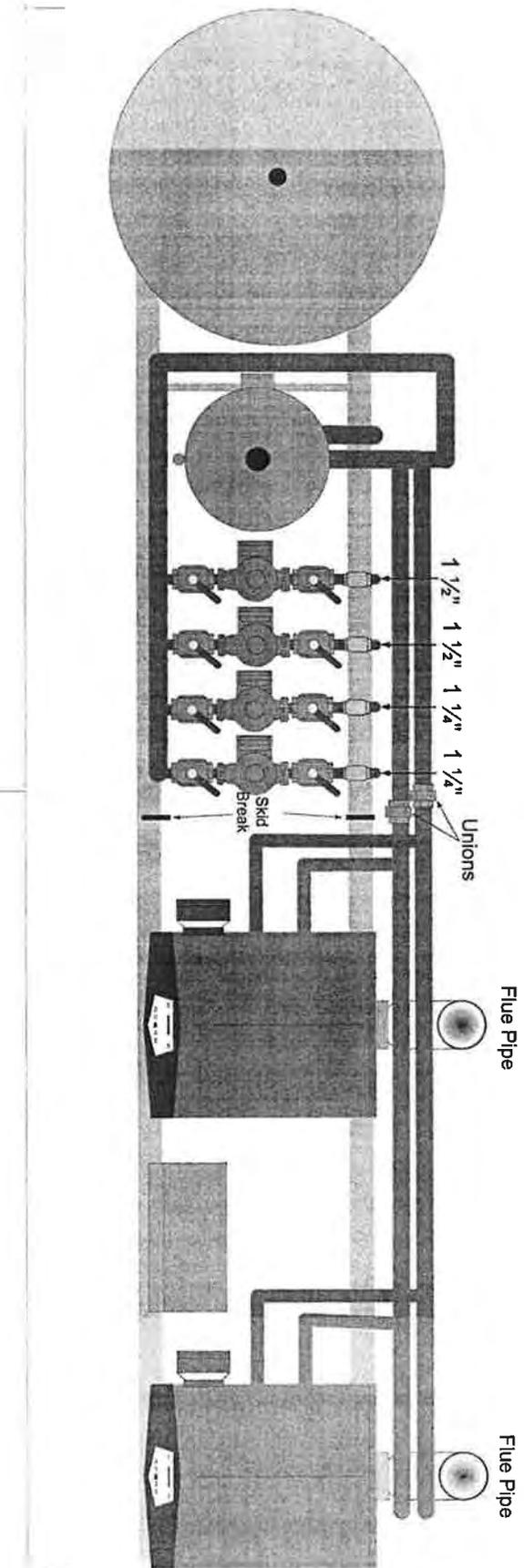


For:  
**Premier Carwash Systems**

Carwash Boilers, Inc.  
620 East Smith Rd W-26  
Medina, OH 44256  
888-316-5514

<p>Lengths may vary once on site - LAY TUBING BEFORE CUTTING FROM ROLL. BURY 2'-4" DEPTH. Cut Tube Rolls to lengths of: 12'</p> <p>Lay 12' on Center - 6' from side walls. Admits Piping from Boiler to manifolds supplied by others. Type L Copper near boiler before zone pumps. May use PEX or Copper after zone pumps. OR, meet local codes.</p>		<p>Project: Centennial</p>		<p>DWG NO: 3928</p>		<p>REV: 1</p>	
<p>NOT RESPONSIBLE FOR SYSTEM OPERATION IF NOT INSTALLED AS SHOWN.</p>		<p>Eng: CJR</p>		<p>DATE: 12-13-12</p>		<p>SHEET: 1</p>	
<p>Total Heated Area: 5,892 sq. ft. Project: 30 Degree Delta T @ 0 deg F Boiler: 150,000 BTU/hr Boiler: 150,000 BTU/hr Volume: XX gal approx. (Hygiene Expect 8 H2O-50 90 min)</p>		<p>SCALE: 1/8" = 1'-0"</p>		<p>DATE: 12-13-12</p>		<p>SHEET: 1</p>	





10'-10 1/2"

Permit #	44436
Project #	2015-17264
Permit Ck.	Building Permit
Permit Type	SPN
Issue Date	07/27/2015

### Construction Permit

Address: **4026 SOUTH JOSEPH DRIVE W**      Assessor's Parcel No.: **271418003**      Tract Parcel Map Number:      Lot Number:

Description of work: **REMODEL & RENOVATE CHURCH**

Building Value: **\$15,000.00**      Occupancy: **SPN**      Construction:      Unit:      Sprinkler:      Equest Feed:      Garage Sq. Ft.:

Current Owner	Address	Telephone	Email
* 30 DEVELOPMENT & HOLDINGS, LLC	4000 E BROADWAY RD PHOENIX AZ 85040		X@X.COM
Contractor	Address	Telephone	Email
* ALBERT ELECTRIC SIGN	1222 S 900 W SLC UT 84143	801-972-5533	A@X.COM
LiC Information	3-7-599	Exp. Date: 11/30/2013	
Applicant	Address	Telephone	Email
* ALBERT ELECTRIC SIGN	1222 S 900 W SLC UT 84143	801-972-5533	X@X.COM
LiC Information	3-7-599	Exp. Date: 11/30/2013	

Fee Group	Fee Type Desc	Unit Cost	Quantity	Fee Amount	Payment Amount	Balance
SPN	Site Fee	01	03.140	\$3.31	\$3.31	\$1.00
	Electric	27.35	1.00	\$27.25	\$27.25	\$0.00
	Plant Sign Permit	67.00	1.00	\$67.00	\$67.00	\$0.00
	EIDOC Address Plan Check	35	304.15	\$108.48	\$108.48	\$0.00
	VALADON	00	00	\$0.00	\$0.00	\$0.00
<b>Totals</b>				<b>\$208.16</b>	<b>\$208.16</b>	<b>\$0.00</b>

Receipt Summary	Receipt ID	Payment	Type	Paid By	LOGINID	Date Time
	11829	\$208.16	Credit Card	ALBERT MARIANO & BENFAL	smark	08/27/2015 3:34 PM
<b>Totals</b>		<b>\$208.16</b>				

**DULUTH PERMIT APPLICATION**  
**BECOMES PERMIT WHEN SIGNED**

Date of Application: 7-23-13      Draft Work Sheet: ASAP      Receipt No.: 17284      SOUTH JORDAN CITY      Permit Number: Plan # 9536

Proposed Use of Structure: **FAST AND FRIENDLY CAR WASH (Center lot (C-1.5))**      Building Fee Schedule      Valuation: 15,000

Tring Address: 4055 W 10900 S      Assessor's Parcel No.: 211488003      Parcel No.: 211488003

Address Certificate No.:      Subd Name & Number:      City - Zip:      Business Name Address:      Business Lic. No.:      Phone:

Property Location:      Total Property Area - In Acres or Sq. Ft.:      Phone:      \*Architect or Engineer:      Phone:

\*General Contractor: **ALLED ELECTRIC SIGN**      Phone: 801-972-5503

\*Business Address - City - Zip: 1920 S 900 W      State Lic. No.: 375809      City/Cc. Lic. No.:      Phone:

\*Business Address - City - Zip:      State Lic. No.:      City/Cc. Lic. No.:      Phone:

\*Business Address - City - Zip:      State Lic. No.:      City/Cc. Lic. No.:      Phone:

\*Business Address - City - Zip:      State Lic. No.:      City/Cc. Lic. No.:      Phone:

\*Business Address - City - Zip:      State Lic. No.:      City/Cc. Lic. No.:      Phone:

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\*Business Address - City - Zip:      State Lic. No.:      City/Cc. Lic. No.:      Phone:

\*Business Address - City - Zip:      State Lic. No.:      City/Cc. Lic. No.:      Phone:

\*Business Address - City - Zip:      State Lic. No.:      City/Cc. Lic. No.:      Phone:

\*Business Address - City - Zip:      State Lic. No.:      City/Cc. Lic. No.:      Phone:

\*Business Address - City - Zip:      State Lic. No.:      City/Cc. Lic. No.:      Phone:



Minimum setbacks in feet:  
 Front:      Side:      Rear:      Height of Garage:      Attached:      STREET

Note: 24 Hours notice is required for all inspections

Signature of Contractor or Authorized Agent: *[Signature]*      Date: 7-23-13

Signature of Owner (if Owner):      Date:      Traffic Zone:      Conditional Ident. No.:

Signature of Planning Dept. Use:      Date:      New S.L.U. Code No.:      Old S.L.U. Code No.:

Certificate of Occupancy

# Building Project Inspection History/ Report



**City of South Jordan**  
 Building Division  
 1800 W Tower Center Drive  
 South Jordan, UT 84095  
<http://www.southjordancity.org>

**Project #: 2013-17284**  
 Address: 1026 SOUTH JORDAN PKWY W  
**Project Description: WALL & MONUMENT SIGN/FAST AND FRIENDLY CAR WASH (PERMITTED UNDER CENTENNIAL CAR WASH)**

## Inspection

Schedule ID	Permit ID	Map Sched Desc	Inspector	Group	Date	Time
10399	4438		Yveslan, Kent	Building	02/20/13	12:00 AM

## Tasks

Inspection Type	Date	Time	Take / Results	Comments
Reinforcer Ground	02/20/13	12:00 AM	None / Approved	

## Inspection

Schedule ID	Permit ID	Map Sched Desc	Inspector	Group	Date	Time
10425	4438		Henry, Jim	Building	02/20/13	12:00 AM

## Tasks

Inspection Type	Date	Time	Take / Results	Comments
Foundation/Wall Ground	02/20/13	12:00 AM	None / Approved	

# CKR Engineers, Inc.

Consulting Structural Engineers

July 16, 2013

Cade Bradley  
Allied Electric Sign and Awning  
1852 N. Parkway Court  
Springville, Utah

File: 13317

Re: Fast and Friendly Car Wash Monument Sign  
1055 West 10600 South  
South Jordan, Utah

Dear Cade:

At your request, we have evaluated the adequacy of the monument sign foundation and pole shown in the attached sketch. We have used a 115 mph wind speed with exposure B in our calculations.

The foundation size and reinforcement shown are sufficient to support the sign under design loads. The 6 in. diameter Schedule 80 pipe is likewise sufficient.

The overall sign cabinet zones are shown on the enclosed sign sketch. These calculations do not include the structure within the cabinet.

Please call if you have questions.

Sincerely,



Chad Kohler, S.E.



Reviewed by:



Daniel D. Goodrich, S.E.

# Sign Pole & Foundation Design

Project: Faith and Friendly Car Wash  
 Location: South Jordan, UT  
 Job #: 13317

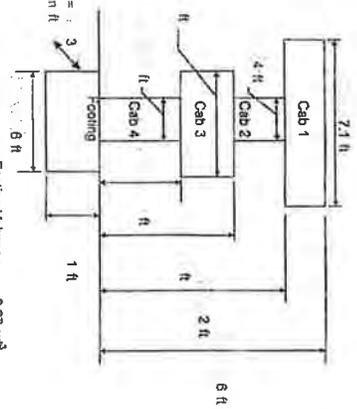
ASCE 7-10 Wind Chapter 26

$V = 115$  Mph  
 $K_d = 0.85$  Table 26.6-1  
 $Exp = B$  Section 26.7.3  
 Sign Top Height = 6 (ft)  
 $K_z = 0.57$  Table 27.3-1

$K_{zt} = 1$  Figure 26.6-1  
 $G = 0.85$  Section 26.9.1  
 $q_s = 18.5$  (psf) - LRFD - Eqn (27.3-1)  
 $q_u = 10.3$  (psf) - ASD - Eqn (27.3-1)

Soil Passive Pres = 150 pcf  
 Pole  $F_y = 42$  ksi  
 Pole  $E = 29000$  ksi  
 Pole = PIPEREX  
 Only round sections are currently supported

Footing Length = 3 ft  
 Perpendicular to sign ft  
 Footing Volume = 0.67 yd<sup>3</sup>



Cabinet	B		S		h		Els	s/h	Year	Area	C <sub>r</sub>	F <sub>o</sub> -E-20	Force	Moment	Fib
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft <sup>2</sup> )									
1	7.1	4	2	6	1.76	0.67	28.4	1.6	2.0	1.6	2.0	359	0.1	0.2	0.0
2	4	2	2	2.00	1.00	1.1	1.4	98	0	0	0	0	0	0.0	0.0
3	0	0	0	0.00	0.00	0	2	0	0	0	0	0	0	0.0	0.0
4	0	0	0	0.00	0.00	0	2	0	0	0	0	0	0	0.0	0.0
															2.2

## Pole Analysis (ASD)

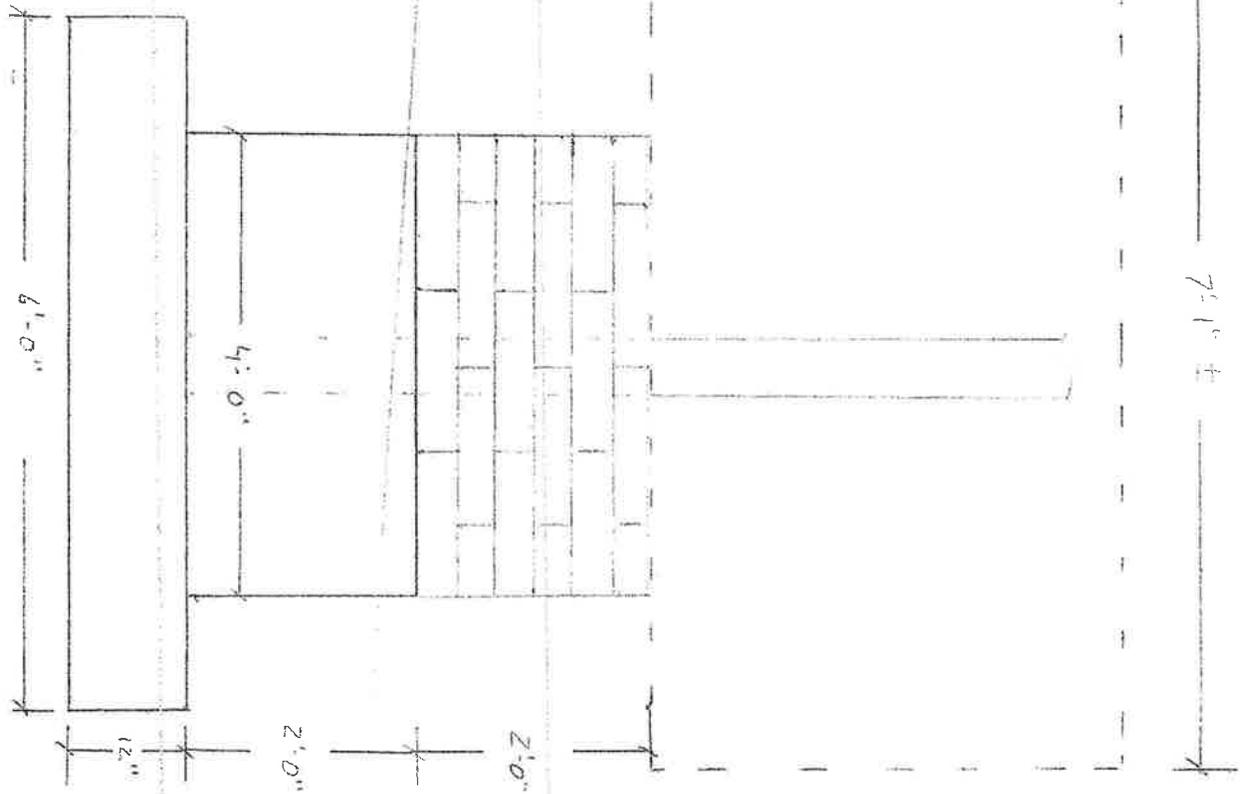
Assume Pole extends up to bottom of Cab 1

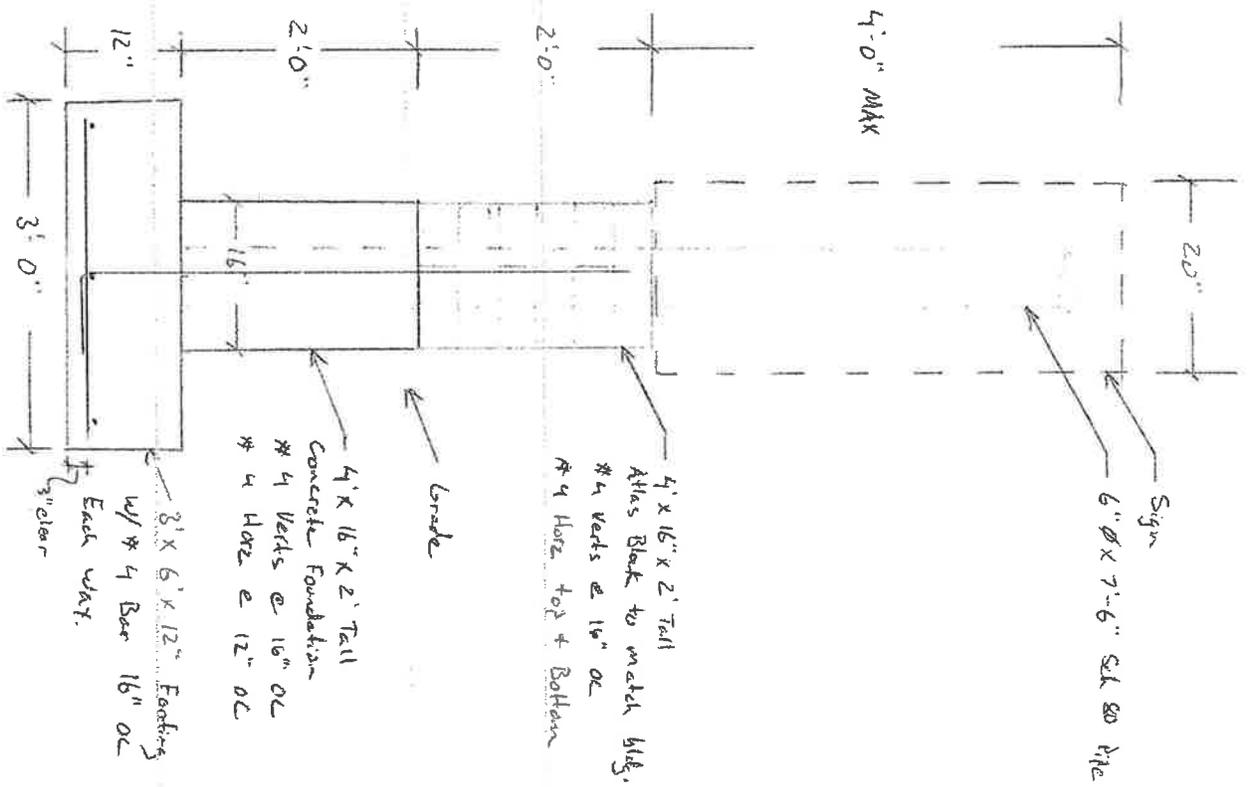
Cabinet	Cab WT	Cab WT	Pole Section Properties	Column Capacity
1	10.0	284	A = 8.4 in <sup>2</sup> I = 40.5 in <sup>4</sup> S = 12.2 in <sup>3</sup> Z = 16.6 in <sup>3</sup> I = 2.19 in D/I = 15.3 K = 2.1 L = 6 ft E/F <sub>y</sub> = 690.46	KL/r = 69.04 *** F <sub>a</sub> = 60.05 ksi Q = 1 F <sub>u</sub> = 31.34 ksi Q <sub>s</sub> = Q <sub>c</sub> = 1.87 Q <sub>s</sub> *P <sub>in</sub> = 157.84 kips Q <sub>s</sub> *M <sub>in</sub> = 34.79 k-ft Unity = 0.051 Deflection at Top = 0.02 in 0.025 * L = 1.8 in
2	28.6	226		
3	28.6	0		
4	28.6	0		

\*\*\* KL/r > 200 is permitted, but not recommended.

## Footing Analysis (ASD)

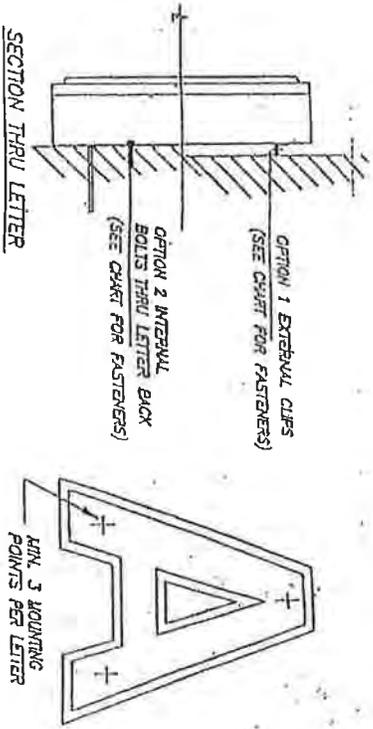
Ingnore top 6" of soil for passive resistance on side of footing  
 Fig Wt = 2700 lbs  
 Total Wt = 3212 lbs  
 Passive = 225 lbs  
 OTM = 2.2 k-ft  
 RTM = 4.9 k-ft  
 a = -0.83 ft  
 b = 0.50 ft  
 k = 178 psf  
 Max Bearing Pressure = 178 psf  
 Passive soil resistance on side of footing  
 Must be 1.5 times OTM





# LETTER ATTACHMENT TO BUILDING

ALLIED ELECTRIC SIGN AND AVANCE



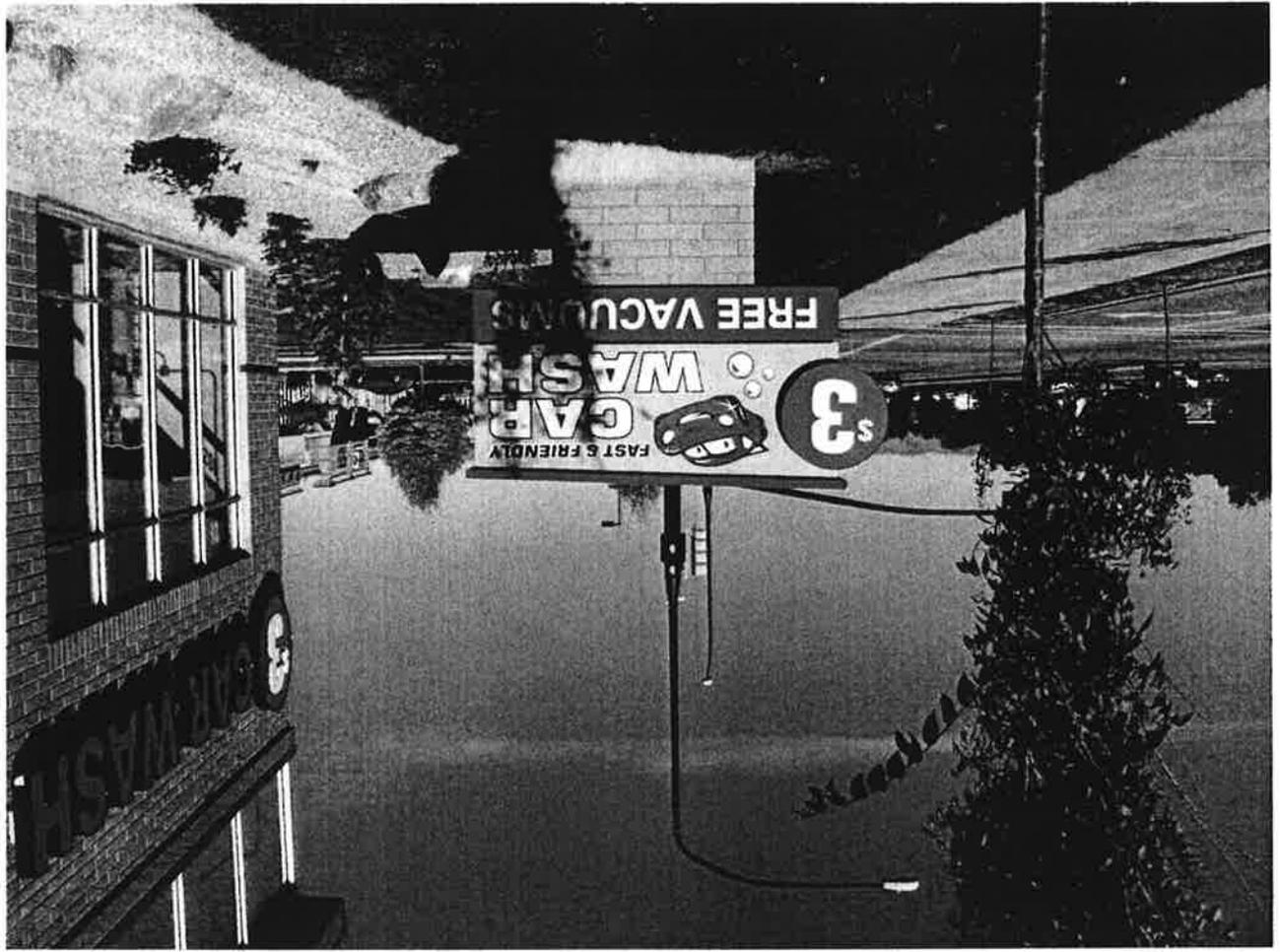
LETTER SIZE HEIGHT	LAG BOLTS INTO WOOD STUDS		TOGGLE BOLTS W/ALUMINUM W/ALUMINUM BOARD		H.L.T. INTO CONCRETE		H.L.T. INTO CONCRETE		H.L.T. INTO CONCRETE		H.L.T. INTO CONCRETE		H.L.T. INTO CONCRETE		H.L.T. INTO CONCRETE			
	NUMBER	EMB	NUMBER	EMB	NUMBER	EMB	NUMBER	EMB	NUMBER	EMB	NUMBER	EMB	NUMBER	EMB	NUMBER	EMB		
UP TO 18"	THREE 1/4"	1"	THREE 3/8"	1/2"	THREE 3/8"	1/2"	THREE 1/4"	1 1/8"	THREE 1/4"	1"	THREE 1/4"	1 1/8"	THREE 1/4"	1"	3	#8	3	#6
19" TO 30"	THREE 1/4"	1"	THREE 3/8"	1/2"	THREE 3/8"	1/2"	THREE 1/4"	1 1/8"	THREE 1/4"	1"	THREE 1/4"	1 1/8"	THREE 1/4"	1"	4	#10	4	#10
31" TO 48"	THREE 1/4"	1"	FIVE 9/16"	1/2"	THREE 3/8"	1/2"	THREE 3/8"	1 3/8"	THREE 1/4"	1"	THREE 1/4"	1 1/8"	THREE 1/4"	1"	5	#10	7	#10
49" TO 60"	FOUR 1/4"	1"	SIXEN 3/8"	1/2"	FOUR 3/8"	1/2"	FOUR 3/8"	1 3/4"	THREE 1/4"	1"	THREE 1/4"	1 1/8"	THREE 1/4"	1"	7	#12	9	#12
61" TO 96"	FIVE 1/4"	2"	FOURTEEN 1/2"	1/2"	SIX 1/4"	1 3/4"	FOUR 1/4"	2"	FIVE 1/4"	1"	THREE 1/4"	1 1/8"	THREE 1/4"	1"	15	#12	18	#12

**NOTES:**

- 1) Doug Fir/Larch wood (G=0.49 or greater) no end grain placement
- 2) Fm=1500 psi masonry, anchors in grouted cells
- 3) Fc=2000 psi concrete
- 4) Fm=1500 psi masonry, anchors in hollow cells @ 8" O/C min. spacing
- 5) Install all H.L.T. and Powers products according to manufacturer recommendations and specifications
- 6) 105 MPH Wind, Exposure C, up to 50' tall building
- 7) Embedments shown are the minimum actual depths into the specified material
- 8) This chart is valid for one year from the date sealed by engineer
- 9) Toggle bolts are Powers Fasteners, or equal, through 1/2" min plywood, OSB or drywall
- 10) IBC 2012 and ASCE 7-10 codes

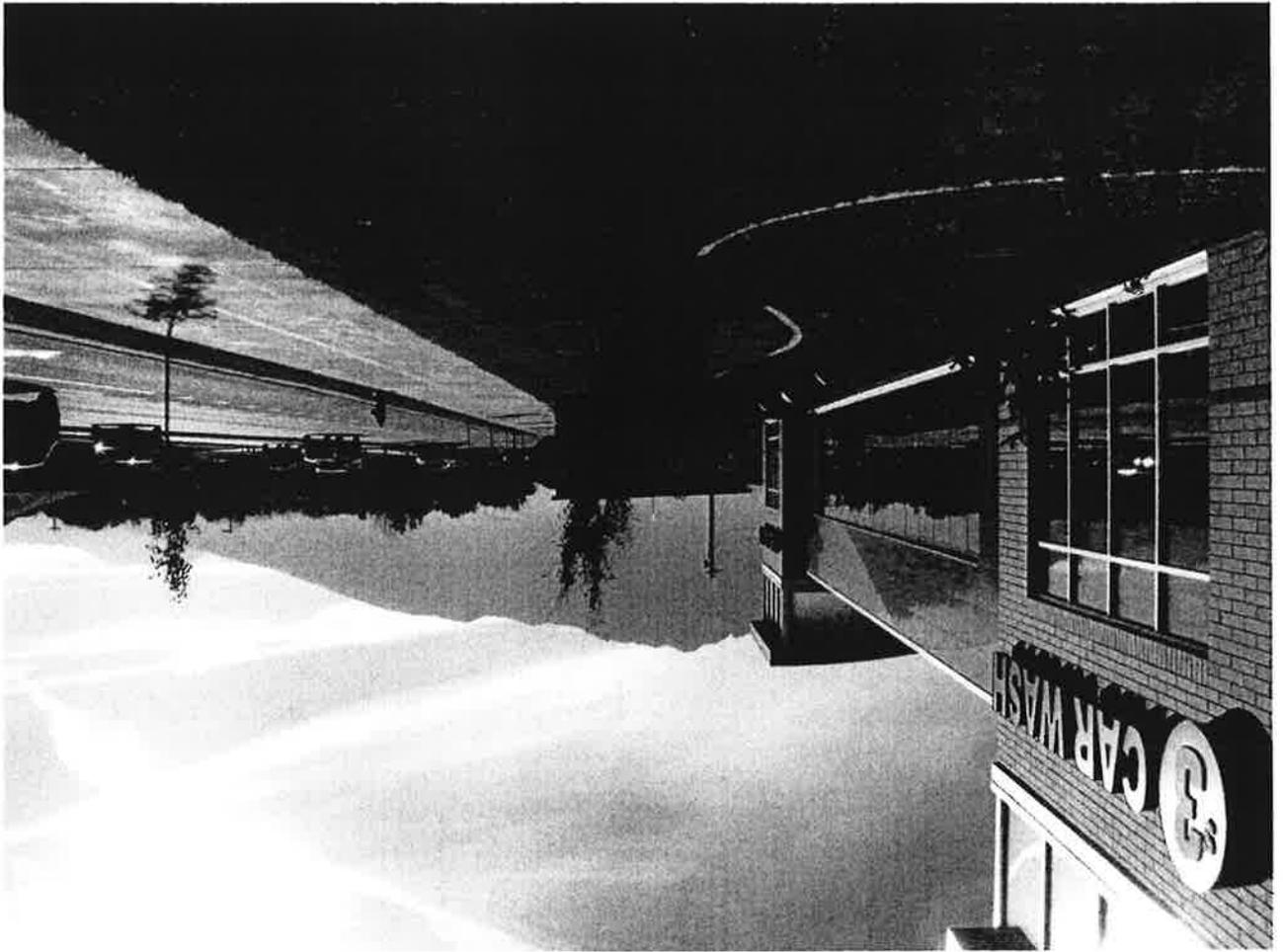
REVISION: JULY 2013

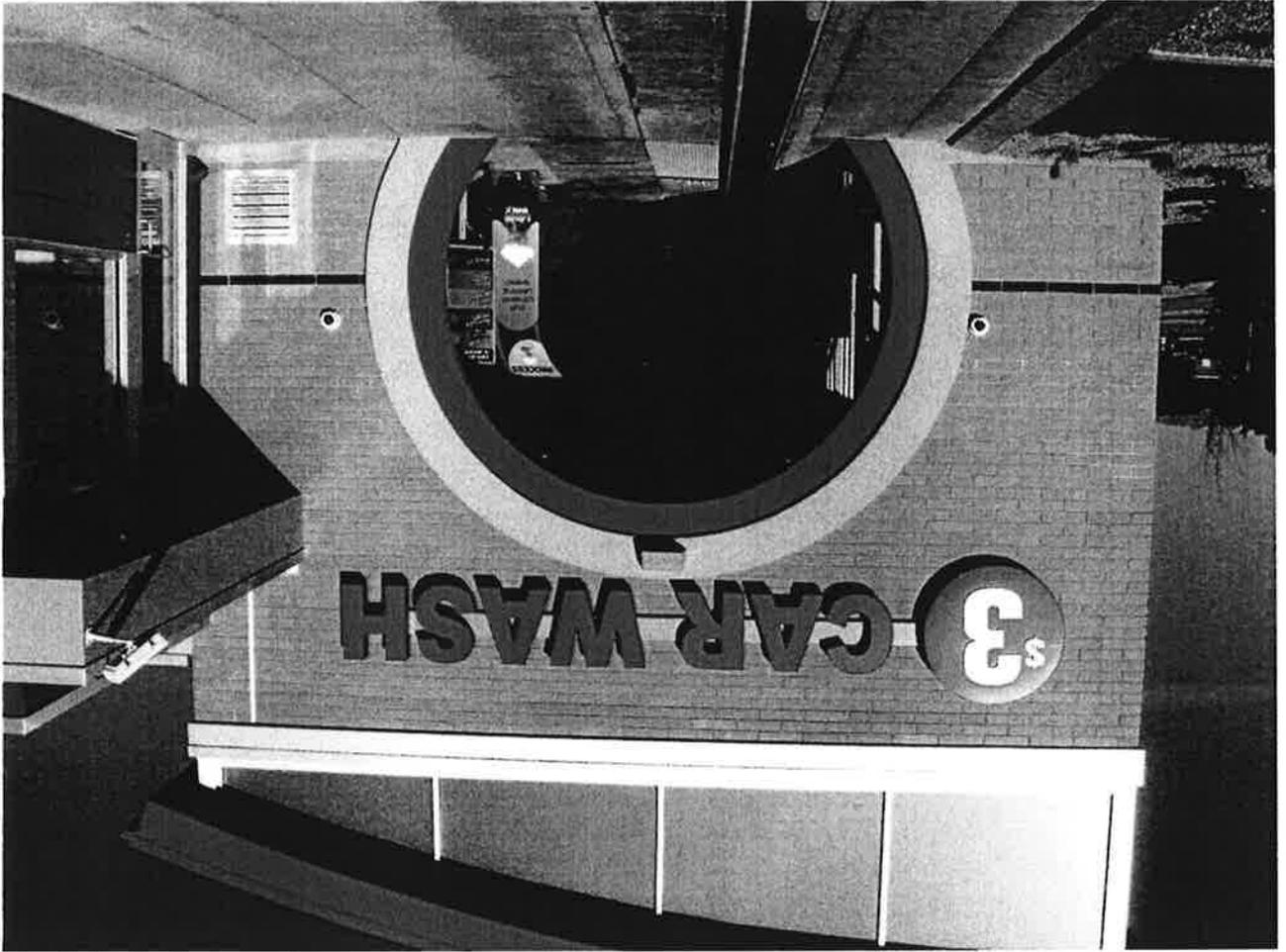


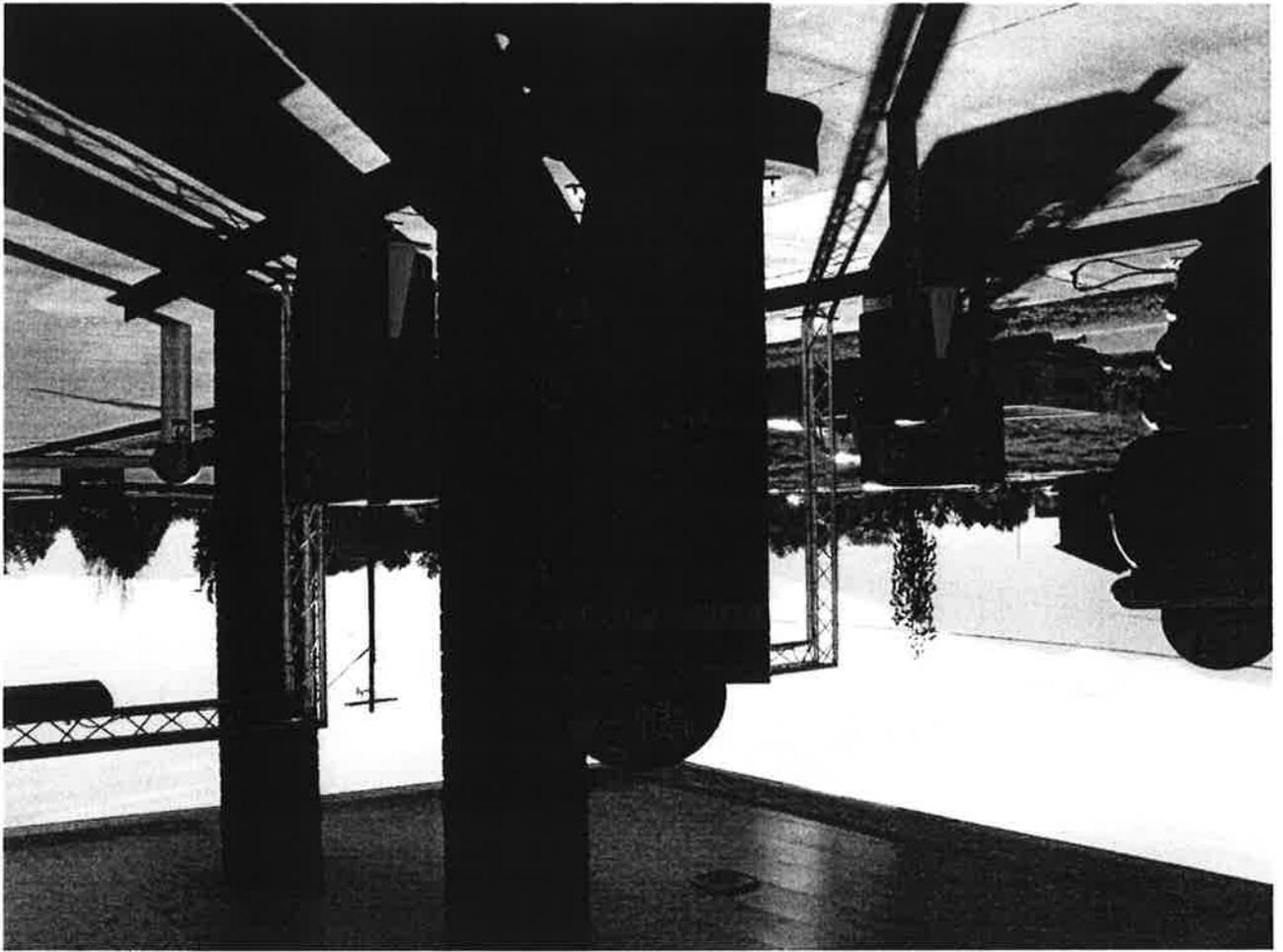




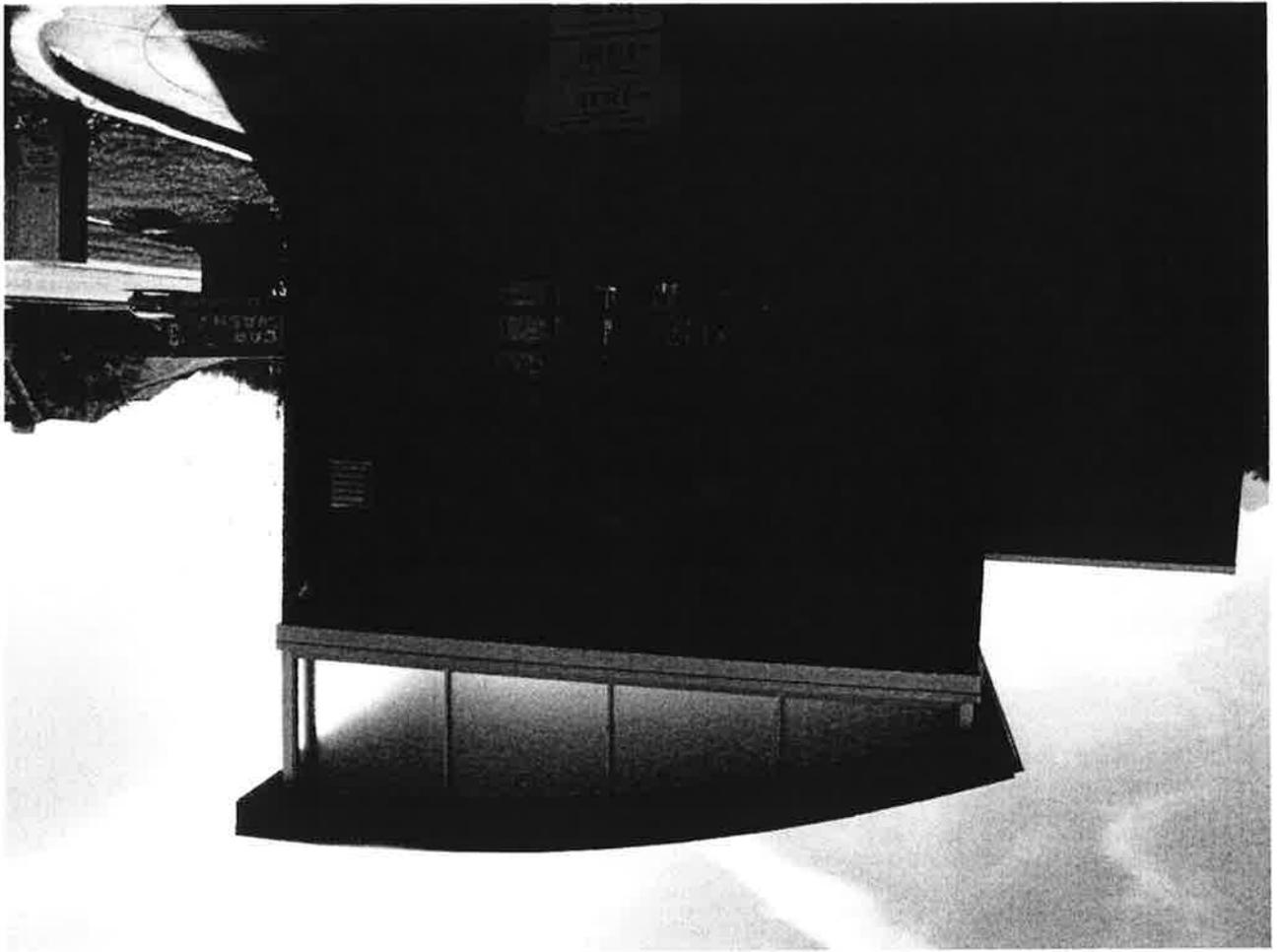














**FAST & FRIENDLY CAR WASH - CHANNEL LETTERS**

SIGNAGE = 51.5 SQ.FT.

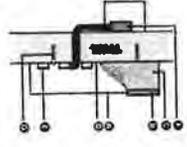
**MANUFACTURE AND INSTALL (2) SETS OF CHANNEL LETTERS EAST/WEST ELEVATION**

- ① FACES: 3/16" TRANS RED SG PLEX WITH APPLIED (\$3) PAN FORMED FACE
  - ② TRIM: 1" BLACK TRIM/CAP
  - ③ RETURNS: .040 ALUMINUM 5" DEEP PAINTED P1
  - ④ BACKS: .063 ALUMINUM STOCK COLOR
  - ⑤ ILLUMINATION: WHITE CAO LEDS
  - ⑥ POWER SUPPLY: REMOTE HOUSED IN POWER SUPPLY BOX
  - ⑦ FLUSH MOUNTED TO FASCIA (SEE ATTACHMENT DETAIL)
- 120V SERVICE SUPPLIED BY OTHERS

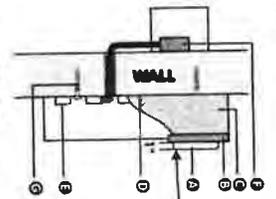
**PAINT SCHEDULE**

P1: BLACK

TYPICAL SECTION VIEW NTS

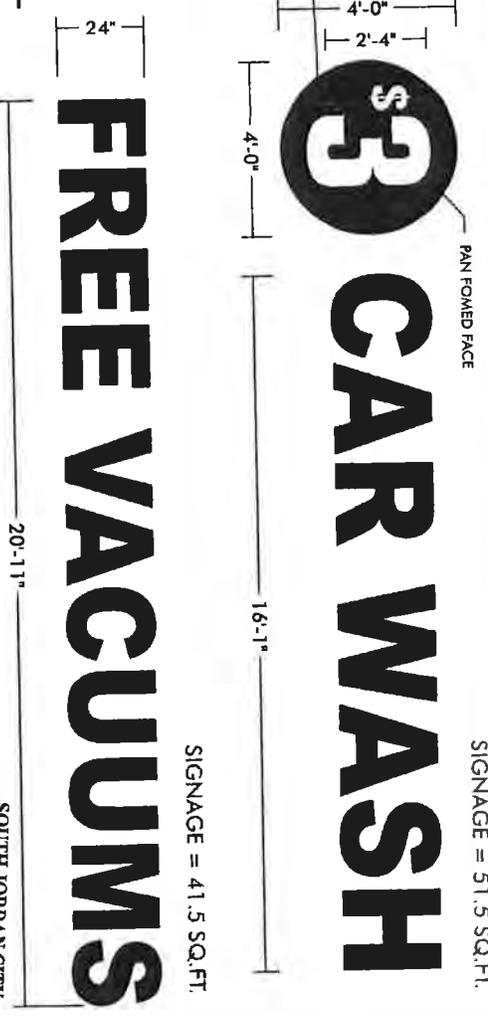


PAN FORMED FACES NTS



**PROPOSED LAYOUT**

SCALE: 3/8" = 1'-0"



**FREE VACUUMS**

SOUTH JORDAN CITY  
Planning Division  
Reviewed for Code Compliance  
Date: *3/27/13* By: *W. W.*

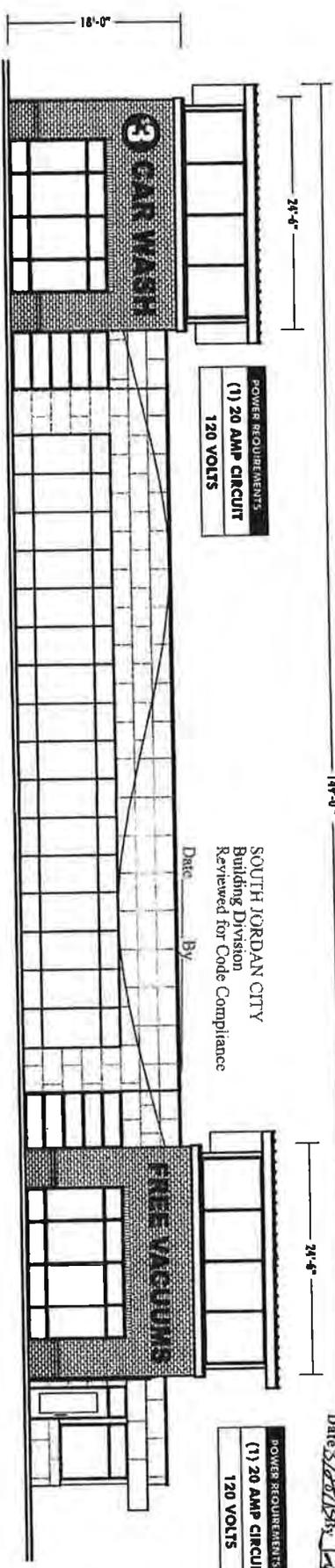
POWER REQUIREMENTS:  
(1) 20 AMP CIRCUIT  
120 VOLTS

SOUTH JORDAN CITY  
Building Division  
Reviewed for Code Compliance  
Date: \_\_\_\_\_ By: \_\_\_\_\_

POWER REQUIREMENTS:  
(1) 20 AMP CIRCUIT  
120 VOLTS

**SOUTH ELEVATION**

SCALE: 3/32" = 1'-0"



**ALLIED ELECTRIC SIGN**  
*Signs that build businesses!*

UTAH COUNTY  
1867 W. Parkway Court  
South Jordan, UT 84095  
(801) 589-1665  
WWW.ALLIEDSIGN.COM

Client: Fast & Friendly Car Wash  
Address: 1025 West 10600 South  
South Jordan, Utah  
Date: 06-19-2013

SALES APPROVAL:  
Designer: Richard  
Sales: Code

OGDEN: 2924 Pennsylvania Avenue • (801) 521-4612



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**FAST & FRIENDLY CAR WASH - CHANNEL LETTERS**

SIGNAGE = 51.5 SQ. FT.

**MANUFACTURE AND INSTALL (2) SETS OF CHANNEL LETTERS**

**EAST/WEST ELEVATION**

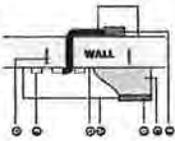
- Ⓐ FACES: 3/16" TRANS RED SG PLEX WITH APPLIED
- (S3) PAN FORMED FACE
- Ⓑ TRIM: 1" BLACK TRIMCAP
- Ⓒ RETURNS: .040 ALUMINUM 5" DEEP PAINTED P1
- Ⓓ BACKS: .063 ALUMINUM STOCK COLOR
- Ⓔ ILLUMINATION: WHITE CAO LEDS
- Ⓕ POWER SUPPLY: REMOTE HOUSED IN POWER SUPPLY BOX
- Ⓖ FLUSH MOUNTED TO FASCIA (SEE ATTACHMENT DETAIL)

120V SERVICE SUPPLIED BY OTHERS

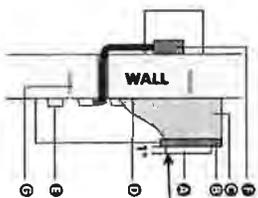
**PAINT SCHEDULE**

AS PER THE MANUFACTURER'S RECOMMENDATION

P1: BLACK



TYPICAL SECTION VIEW  
NTS



PAN FORMED FACES  
NTS

PROPOSED LAYOUT  
SCALE: 3/8"=1'0"

**S3 CAR WASH**

PAN FORMED FACE

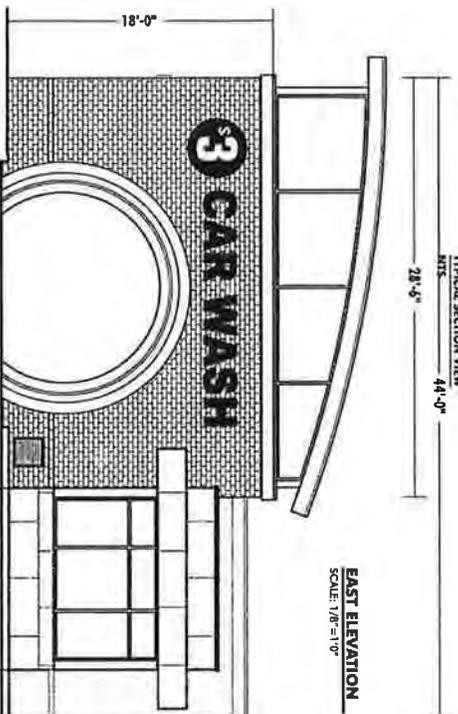
SIGNAGE = 41.5 SQ. FT.

SOUTH JORDAN CITY

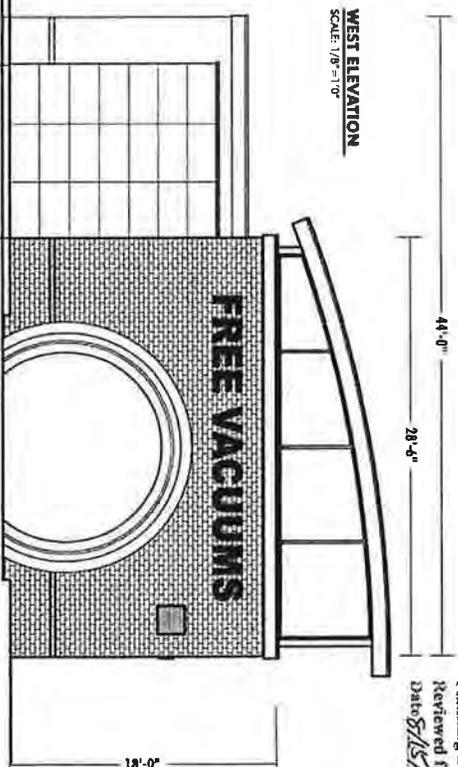
Planning Division

Reviewed for Code Compliance

Date: 8/15/13 By: Jake



EAST ELEVATION  
SCALE: 1/8"=1'0"



WEST ELEVATION  
SCALE: 1/8"=1'0"

Utah Contractors: 375809-5501 • Nevada: 60486 • Colorado: 233778 • Idaho: RCE-29969

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**ALLIED ELECTRIC SIGN**  
*Handing*

*Signs that build businesses!*

UTAH COUNTY  
1837 N Potlowsky Court  
Springdale, UT 84643  
801-387-6445  
WWW.ALLIED-SIGN.COM

SALT LAKE CITY: 1920 S 900 W, SLC, UT 84104 • (801) 972-5503

OGDEN: 2924 Pennsylvania Avenue • (801) 621-4612

**DRAWING STEPS**  
 CONCEPT  
 SIZING  
 PERMIT/LANDMARK  
 PRODUCTION

**DRAWING REVIEW**  
Production Review

Client: Fast & Friendly Car Wash  
Address: 1055 West 10600 South  
South Jordan, Utah  
Date: 06-19-2013

SALES APPROVAL:  
Designer: Richard  
Sales: Code

CUSTOMER APPROVAL:



# FAST & FRIENDLY CAR WASH - MONUMENT SIGN

## MANUFACTURE AND INSTALL (1) D/S MONUMENT SIGN

- ① FACES: .090 ALUMINUM PAINTED P2, ROUTED AND BACKED WITH 3/16" TRANS WHITE SG PLEX WITH V1 APPLIED
- ② MAIN SIGN BODY: ALL ALUMINUM CONSTRUCTION PAINTED P1, P2
- ③ CHANNEL LETTER: ALL ALUMINUM, .090 CONSTRUCTION WITH V2 APPLIED
- ④ REVEAL: 2" ALL ALUMINUM CONSTRUCTION PAINTED P3
- ⑤ TOP CAP: 2" ALL ALUMINUM CONSTRUCTION PAINTED P1
- ⑥ ILLUMINATION: VERTICAL TT2 LAMPING
- ⑦ MOW PAD: CONC. 3" ABOVE FIN. GRADE
- ⑧ BRICK: 4"x8"x8" INTERSTATE BRICK "PLATINUM (BY OTHERS)
- ⑨ SUPPORT/EMBEDMENT: TBD (SEE ENGINEERING FOR SPECS)

SIGNAGE = 26 SQ. FT.

- ELECTRICAL: CLIENT/LANDLORD'S ELECTRICIAN TO PROVIDE PRIMARY POWER WITHIN 5 FEET OF PROJECT.
- DISCONNECT SWITCH AT SIGN

### VINYL SCHEDULE

- P1: PTM CARDINAL RED
- P2: PTM BUILDING
- P3: PTM DK. BLUE

### VINYL SCHEDULE

- V1: 3M FULL COLOR PRINT
- V2: 3M CARDINAL 230-53



SOUTH JORDAN CITY  
 Planning Division  
 Reviewed for Code Compliance  
 Date: 05/19/2013 By: [Signature]

Page 3 of 3

### PROPOSED LAYOUT

SCALE: 3/4" = 1'-0"



**ALLIED ELECTRIC SIGN**  
*Aluminum*

*Signs that build business!*

UTAH COUNTY  
 1832 N. Rosewood Court  
 Springdale, UT 84622  
 P: 801.599.5345  
 WWW.ALLIED-SIGN.COM

DRAWING STEPS  
 CONCEPT  
 ESTIMATING  
 PERMIT/LANDLORD  
 PRODUCTION

DESIGNER: Richard  
 SALES: Code  
 DATE: 05-19-2013

CLIENT: Fast & Friendly Car Wash  
 ADDRESS: 1055 West 10600 South  
 SOUTH JORDAN, UTAH  
 DATE: 05-19-2013

SALES APPROVAL:  
 SALES: Code  
 DATE: 05-19-2013

CUSTOMER APPROVAL:

SALT LAKE CITY: 1920 S 900 W, SLC, UT 84104 • (801) 972-5503 OGDEN: 2924 Pennsylvania Avenue • (801) 621-4612



VECTOR ARTWORK REQUIRED  
 PRIOR TO FABRICATION

# Work Orders Details

**09619W**

**Name**  
**Issue** Utility Account Request  
**Stop Date Actual** 5/9/2013  
**Start Date Actual** 5/9/2013

**Address** 1026 SOUTH JORDAN  
**Status** Complete BARKWAY  
**Activity** UAR - New Application  
**Total Cost Actual** \$23.74

**Details** COMMERCIAL METER SET  
 1" METER FOR LANDSCAPE

**Notes** Meter #: 44821507  
 Transponder #: 11 46568741

**Labor (Actual)**

Start Date	Name	Activity	Total Usage	Cost
5/9/2013	Shaun Cahoon	UAR - New Application	0.50	\$13.24
			<b>Labor Cost</b>	<b>\$13.24</b>

**Equipment (Actual)**

Start Date	ID	Activity	Total Usage	Cost
5/9/2013	TRK-11	UAR - New Application	0.50	\$10.50
			<b>Equipment Cost</b>	<b>\$10.50</b>

**Material (Actual)**

Start Date	ID	Activity	Total Usage	Cost
5/9/2013	Transponder	UAR - New Application	1.00 ea	\$0.00
5/9/2013	Meter 1"	UAR - New Application	1.00 ea	\$0.00
			<b>Material Cost</b>	<b>\$0.00</b>

**Other (Actual)**

Start Date	Notes	Activity	Cost
			<b>Other Cost</b>
			<b>\$0.00</b>

# Work Orders Details

**09530W**

<p><b>Name</b></p> <p><b>Issue</b> Water Tie-In</p> <p><b>Stop Date Actual</b> 5/3/2013</p> <p><b>Start Date Actual</b> 5/3/2013</p>	<p><b>Address</b> 1026 SOUTH JORDAN BARKWAY</p> <p><b>Status</b> Complete</p> <p><b>Activity</b> Inspect</p> <p><b>Total Cost Actual</b> \$21.14</p>
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<p><b>Details</b> He wants to do 2 Hotaps tomorrow at 10:00 AM at the new car wash being built at this location.</p>	<p><b>Notes</b> Watch hot taps.</p>
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**Labor (Actual)**

Start Date	Name	Activity	Total Hours	Cost
5/3/2013	Rawlins Thacker	Inspect	0.50	\$9.14
<b>Labor Cost</b>				<b>\$9.14</b>

**Equipment (Actual)**

Start Date	ID	Activity	Total Usage	Cost
5/3/2013	TRK-10	Inspect	0.50	\$12.00
<b>Equipment Cost</b>				<b>\$12.00</b>

**Material (Actual)**

Start Date	ID	Activity	Quantity	Cost
<b>Material Cost</b>				<b>\$0.00</b>

**Other (Actual)**

Start Date	Notes	Activity	Cost
<b>Other Cost</b>			<b>\$0.00</b>

## Work Orders Details

**09618W**

**Name**  
**Issue** Utility Account Request  
**Stop Date Actual** 5/9/2013  
**Start Date Actual** 5/9/2013

**Address** 1026 SOUTH JORDAN  
**Status** Complete BARKWAY  
**Activity** UAR - New Application  
**Total Cost Actual** \$809.99

**Details** COMMERCIAL METER SET  
 2" METER FOR BUILDING

**Notes** Meter #: 44930597  
 Transponder #: 11 46566514

**Labor (Actual)**

Start Date	Name	Activity	Quantity	Cost
5/9/2013	Shaun Cahoon	UAR - New Application	0.50	\$13.24
			<b>Labor Cost</b>	<b>\$13.24</b>

**Equipment (Actual)**

Start Date	ID	Activity	Quantity	Cost
5/9/2013	TRK-11	UAR - New Application	0.50	\$10.50
			<b>Equipment Cost</b>	<b>\$10.50</b>

**Material (Actual)**

Start Date	ID	Activity	Quantity	Cost
5/9/2013	Transponder	UAR - New Application	1.00 ea	\$0.00
			<b>Material Cost</b>	<b>\$0.00</b>

**Other (Actual)**

Start Date	Notes	Activity	Cost
5/9/2013	2" meter for building	UAR - New Application	\$786.25
		<b>Other Cost</b>	<b>\$786.25</b>