

**City of Prosser, WA
601 7th Street
Prosser, WA 99350**

**CITY OF PROSSER, WASHINGTON
BOARD OF ADJUSTMENT
AGENDA
6:00 P.M.
May 5, 2016**

- 1. Call to Order by Chair**
- 2. Roll Call**
- 3. Public Hearing for a Variance for signs at 700 Wine Country Road**
ACTION: Approve or deny or make changes.
- 4. Adjournment**

Hearing Type: Quasi-Judicial

This is a quasi-judicial hearing. This means that the hearing must not only be fair but appear to be fair. If you have had any ex parte contact with the applicant or anyone, other than City Staff, then you must disclose that contact and the nature of that contact. In the event that you have already made up your mind regarding the subject of this hearing and cannot rely on the evidence presented to make that decision, then you must disclose that fact. In the event that conflicts would prevent a quorum from making a decision in this matter, then, under the doctrine of necessity, you would be able to hear this matter notwithstanding any conflicts. Do you have any conflicts? Does any member of the public believe that any member has a conflict?

Board of Adjustment Staff Report

Variance Sign Deviation Conditional Use Temporary Use Other

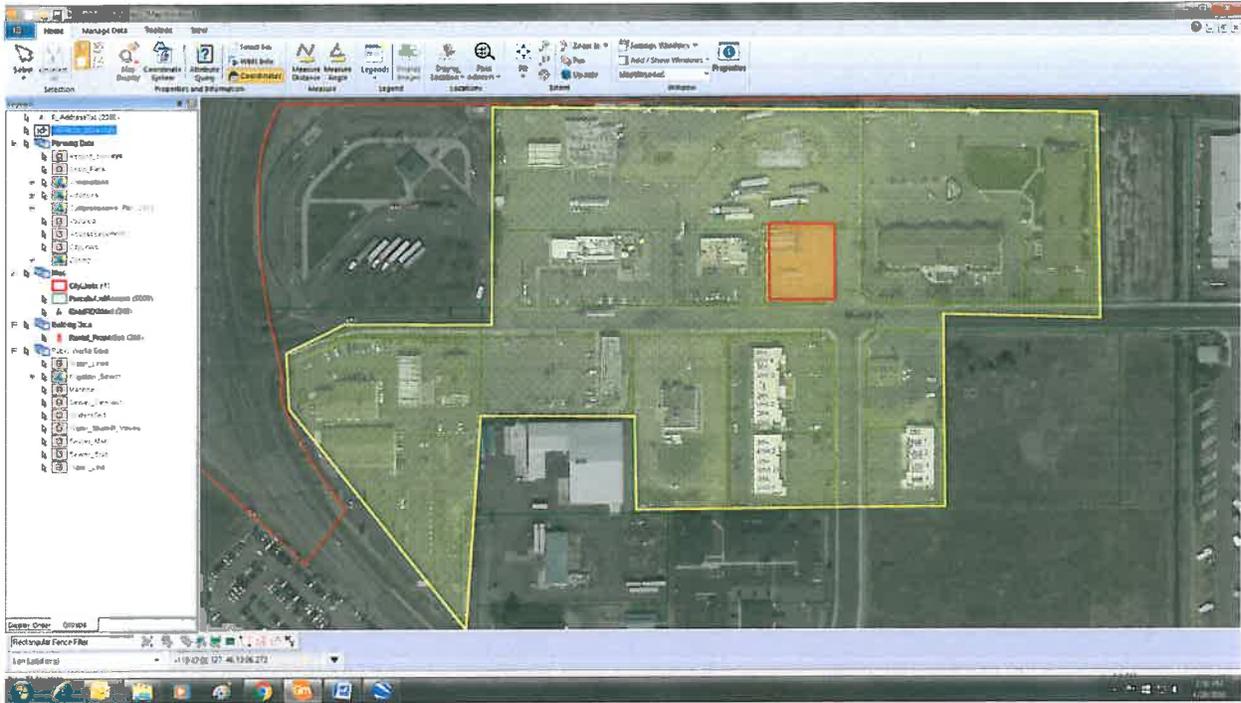
Meeting Date: May 5, 2016	Prepared by: Steve Zetz
Applicant: Loves Travel Stop	Location: 700 Wine Country Road

Description: Applicant is requesting a Variance under 18.75 for signage on a proposed development on 15.17 Acres.

Staff Findings: The proposed site has a lower elevation than other parcels in the freeway zone. The proposed site is located at the edge of the freeway zone. Both elevation and distance combined with a raised overpass create a need for additional height. There is compelling data that shows that the higher a sign the larger the sign needs to be to be visible to the traveling public. The applicant has requested a sign variance in order to advertise to truck traffic on both sides of the freeway (east and west bound lanes). Additional freestanding signs are necessary to move traffic within the footprint of the development due to its size.

Additional Findings: Staff has extensively reviewed the applicants request. On paper it has the initial appearance of being a substantial deviation from the current sign code however staff has done a land use comparison. The City of Prosser has not processed a large scale development near the freeway encompassing this many acres. Staff looked at developed commercial lands within the Freeway areas and discovered that the Variance request constitutes less signage than what is currently in place on existing developed lands. The reason for this is the smaller size of the developed parcels allowing for more signage. The intent of the Prosser Municipal Code is to limit the number of signs in order to maximize readability and impact while avoiding sign clutter. Staff recognizes that the applicant could subdivide their property into multiple parcels in order to achieve their square footage goal. This would result in an increase in freeway signs and clutter.

Recommendation: Staff believes that the best way to avoid visual blight is to limit the number of signs and agrees that a larger single sign is preferred to a subdivision of land and the installation of multiple signs. The size of the development is such that the granting of the additional signs in the request is necessary for internal movement and is still less than the overall signage currently in place on developed commercial lands nearby. A Short Plat application is currently pending for the hotel portion of the project. Staff recommends including the 2nd freeway sign for a height variance for the specific use of the hotel pending recording of a short plat.



Current Developed Commercial Area

Loves Proposed Development

Study Area: 15.06 Acres

Area: 15.17 Acres

Number of Freeway Signs: 6

Number of Freeway Signs: 2

Wall Signs and Freestanding Signs: 80

Wall Signs and Freestanding Signs: 41

Note: CAT Scale sign may not be required under WSDOT or USDOT rules.



**CITY OF PROSSER, WASHINGTON
NOTICE OF COMPLETE APPLICATION
NOTICE OF PUBLIC HEARING
Sign Variance**

Notice of Application posted April 20, 2016

Please take notice that the following land use application has been filed with the City of Prosser Washington and is available for public review:

Type of Application: Sign Variance

Date Filed: April 15, 2016

Notice of Complete Application Issued: April 15, 2016

Applicant: Loves Travel Centers/Holiday Inn

Location: 700 Wine Country Road and 680 Wine Country Road

Filed Pursuant to: Prosser Municipal Codes: Chapter 18.72 and Title 19

The applicant is requesting a sign variance for 700 and 680 Wine Country Road as follows:

- **Hi-Rise (Freeway) Sign** is allowed 70' OAH & 300 sq. ft.
 - Requests a Hi-Rise sign that is 103' OAH and 1133.45 sq. ft.
 - This represents a variance of 33' OAH and 833.45 sq. ft.
- **Street Sign** is allowed 24' OAH and 100 sq. ft.
 - Requests a Street Sign that is 24' OAH and 133.33 sq. ft.
 - This represents a variance of 33.33 sq. ft.
- **Directional Signs** are allowed to be 3' OAH and 4 sq. ft.
 - Requests directional signs that are 8' OAH and 32 sq. ft.
 - This represents a variance of 5' OAH and 28 sq. ft.
- **Cat Scale Structure** – Prosser Code only allows for 2 freestanding signs
 - Requests either to be allowed 3 freestanding “signs” or that the Cat Scale is recognized for its structural functionality of an overhead guide to weigh semis
 - This represents a variance of 3 freestanding signs or reclassification of the structure of the Cat Scale
- **Total Number of Signs Allowed is 4**
 - Request 40 signs on the Love’s property
 - This represents a variance of 36 signs

City of Prosser Contact: Steve Zetz, Prosser City Planner

The public is invited to comment on the application. The public comment period shall be **15-days and will begin April 20, 2016**. All public comments received on the Notice of Application must be received by the City of Prosser by **5:00 pm, May 5, 2016**. Comments may be mailed or personally delivered to The Prosser City Clerk, Prosser City Hall, 601 7th Street, Prosser, Washington, 99350 or sent by facsimile to (509) 786-3717. Comments should be in writing and be as specific as possible.

All available information for the proposed project may be viewed at The Prosser City Hall City Clerks Office 601 7th Street, Prosser WA 99350, between the hours of 8:00 am and 5:00 pm, Monday through Friday, excluding legal holidays.

City of Prosser NOTICE OF PUBLIC HEARING

Applicant: Loves Travel Center

Address: 700/680 WCR

Location of Project:

Applicable PMC: 18.72.110 and Title 19

Summary of Proposal: The applicant is requesting a sign variance for 700 Wine Country Road and for 680 Wine Country Road as follows:

- **Hi-Rise (Freeway) Sign** is allowed 70' OAH & 300 sq. ft.
 - Requests a Hi-Rise sign that is 103' OAH and 1133.45 sq. ft.
 - This represents a variance of 33' OAH and 833.45 sq. ft.
- **Street Sign** is allowed 24' OAH and 100 sq. ft.
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 - Request 40 signs on the Love’s property
 - This represents a variance of 36 signs

Contact Person : Steve Zetz
Prosser City Planner
(509) 786-2332

NOTICE IS HEREBY GIVEN by the undersigned City Clerk of the City of Prosser, Washington, that the Board of Adjustment will hold a Public Hearing on **May 5, 2016, at 6:00 p.m.** or as soon thereafter as possible, in the City Council Chambers, City Hall, 601 7th Street, Prosser, Washington, for the purpose of receiving public comment on a request for a sign variance. The City Hall Council Chambers is wheelchair accessible. American

with Disabilities Act (ADA) accommodations are available upon request to the City Clerk at least 2 days in advance by calling (509) 786-2332.

All available information and related documents for the application may be viewed at the City Clerk's Office, located at Prosser City Hall, 601 7th Street, Prosser, Washington, between the hours of 8:00 a.m. and 5:00 p.m. Monday through Friday, excluding legal holidays or may be viewed at www.cityofprosser.com. All interested persons may appear and provide testimony or provide written testimony at the public hearing or prior to the public hearing.

Written comments not received by April 28, 2016, at 10:00 a.m. will not be included in the Board of Adjustment Packet, but will be provided to the Board of Adjustment at the public hearing.

Any person may request a copy of the final decision in this matter.

A handwritten signature in black ink, reading "Rachel M. Shaw", is written over a solid horizontal line.

Rachel Shaw, City Clerk
City of Prosser

Published: Prosser Record Bulletin

Publish Date: April 20, 2016



LAND USE ZONING & PERMIT APPLICATION CITY OF PROSSER, WASHINGTON

APPLICANT'S NAME Effective Images, Alisa DePauw, project management company for Love's Travel Stops + Country Stores
PROJECT NAME Love's Travel Stop, Outdoor Signage

PARCEL INFORMATION (Include all parcel(s) information. Attach additional sheets, if necessary.)

Project Address: Not assigned, location = I-82 + Wine Country Rd, Exit 73
(Leave blank if not assigned)

Parcel Number (Property Tax Account Number): 1-3494-400-0002-001

Legal Description: please see enclosed

PROPERTY OWNER INFORMATION

Name: Love's Travel Stops + Country Stores

Address: 1600 N Pennsylvania City: Oklahoma City State: OK Zip: 73101

Phone: 405-751-9000 Cell Phone: 801-330-3886

Email: kym.vandyke@lves.com (email will not be used for transmittal of official findings)

OWNERS AUTHORIZED AGENT: Effective Images, Alisa DePauw

Address: 211 10th St SW City: Watertown State: SD Zip: 57201

Phone: 605-753-9700 Cell Phone: 605-868-2482

Email: adepauw@effective-images.net (email will not be used for transmittal of official findings)

PROJECT INFORMATION

- | | |
|--|--|
| <input type="checkbox"/> Site Review | <input type="checkbox"/> Conditional Use (requires Conditional Use form LUA-S1) |
| <input type="checkbox"/> Annexation | <input checked="" type="checkbox"/> Variance (requires Variance request form LUA-S2) |
| <input type="checkbox"/> Change of Zone | <input type="checkbox"/> Similar Use |
| <input type="checkbox"/> Accessory Dwelling Unit | <input type="checkbox"/> Encroachment |
| <input type="checkbox"/> Overlay Zone | <input type="checkbox"/> Adult Family Home |
| <input type="checkbox"/> Right-of-Way Use Permit | <input type="checkbox"/> Continuation and/or Minor Alteration of Non-Conforming Use |
| <input type="checkbox"/> Other | <input type="checkbox"/> SEPA |

PROJECT DESCRIPTION Outdoor Sign Variance request for Love's Travel Stop

City of Prosser
601 7th Street
Prosser WA 99350
(509) 786-2332

PLEASE ATTACH THE REQUIRED VICINITY MAP

ESTIMATED PROJECT VALUATION: \$ 407,935 (very preliminary & could vary \$150,000 + or -)

CONTRACTOR INFORMATION

Company Name: Hillis Outdoor Specialists Email: jhillis@bellsouth.net
 Contact Person: James Hillis or Stacey Hillis Contact Phone: 706-234-9994
 Address: 750 W Hermitage Rd City: Rome State: GA Zip: 30116
 Contractor's Registration No.: will advise if awarded project Expiration Date: n/a

I, the undersigned, do hereby certify that, to the best of my knowledge, the information on this application and other submitted information is true and correct. In addition, I understand that acceptance of this application and fees does not constitute submittal of a valid application until so informed by the City. I have attached, enclosed, or submitted the applicable fees for this application.

Alvin DePrimo

Applicant Signature

Date

DocuSigned by:

J. T. Ross

Owner Signature

4/15/2016

Date

If the property owner is other than an individual such as a corporation, partnership or agency, please provide proof of signatory authorization.

SITE REVIEW

Application must include the following.

1. Critical Areas Worksheet
2. Proof of Legal Lot
3. Proof of ownership or authority
4. 25 year Storm Water Calculations stamped by an engineer
5. Site Plan Drawing which shows....
 - All existing and proposed lot lines.
 - The location of all existing structures to remain and the location of all proposed structures.
 - The location of all utilities proposed to be used.
 - The proposed number and location of water meters.
 - The location of all solid waste receptacle areas.
 - The method of handling storm water removal.
 - All easements and right-of-ways.
 - All off-street parking and loading areas.
 - All driveway locations.
 - All landscaping, outdoor lighting and fencing.
 - A north arrow.
 - Scale of drawing

Deposits are required at the time an application is submitted. You will still get a monthly bill for actual costs incurred. Your deposit will not be refunded until the project has closed.

SITE REVIEW	\$500.00 Deposit
VARIANCE	\$500.00 Deposit
SITE REVIEW	\$500.00 Deposit
SEPA	\$500.00 Deposit
ANNEXATION	\$500.00 Deposit
ZONE CHANGE	\$1000.00 Deposit
CONDITIONAL USE	\$500.00 Deposit

CITY USE ONLY

RECEIVED BY _____ DATE _____

APPROVED BY _____ DATE _____

RETURNED BY _____ DATE _____

REASON FOR APPLICATION RETURN _____



Project # _____
Deposit \$500 _____

LUA-S2

VARIANCE REQUEST

CITY OF PROSSER, WASHINGTON

Supplemental to Land Use application LUA-1

Applicant Name: Effective Images Date 3/14/14

Project Name Love's Travel Stop Outdoor Signage

Project Location I-82 at Wine Country Rd, Exit 73

Description of variances ① Additional OAH + sq. ft. to Hi-Rise (freeway sign)
② Additional Sq. ft. on the street sign ③ Additional OAH + sq. ft. on directional
signs ④ Consider "Cat Scale Sign as a 3rd free standing sign or
consider it a structure as it is a weight guide bar. ⑤ Additional
total signs on property totaling 40

INSTRUCTIONS

A variance may be approved when all of the following are found and explained in PMC 18.75.080 (see reverse). Please write your responses to the following conditions on a separate piece of paper and include with the application. Be as clear and accurate as possible to avoid misinterpretation of your request.

- A. Special privilege is not being granted, and why.
 - B. The variance is necessary because of special circumstances, and why.
 - C. The granting of the variance will not be materially detrimental to the public welfare, and why.
3. State Environmental Policy Act (SEPA) checklist is required if there is a change in density.



April 15, 2016

Effective Images
211 10th St. SW
Watertown, SD, 57201

City of Prosser
601 7th Street
Prosser, WA, 99350

RE: Love's Travel Stop Located at I-82 & Wind Country Road, Exit 73, Sign Variance Submission

We respectfully request the following sign code variances from your sign ordinance:

- **Hi-Rise (Freeway) Sign** is allowed 70' OAH & 300 sq. ft.
 - We respectfully request a Hi-Rise sign that is 103' OAH and 1133.45 sq. ft.
 - This represents a variance of 33' OAH and 833.45 sq. ft.
- **Street Sign** is allowed 24' OAH and 100 sq. ft.
 - We respectfully request a Street Sign that is 24' OAH and 133.33 sq. ft.
 - This represents a variance of 33.33 sq. ft.
- **Directional Signs** are allowed to be 3' OAH and 4 sq. ft.
 - We respectfully request directional signs that are 8' OAH and 32 sq. ft.
 - This represents a variance of 5' OAH and 28 sq. ft.
- **Cat Scale Structure** – Prosser Code only allows for 2 freestanding signs
 - We respectfully ask that we are either allowed 3 freestanding "signs" or that the Cat Scale is recognized for its structural functionality of an overhead guide to weigh semis
 - This represents a variance of 3 freestanding signs or reclassification of the structure of the Cat Scale
- **Total Number of Signs Allowed is 4**
 - We respectfully request 40 signs on the Love's property
 - This represents a variance of 36 signs

Please see below justification and reasoning that replies to Prosser Code 18.75.80 questions A., B., and C.

- **Hi-Rise (Freeway) Sign is allowed 70' OAH & 300 sq. ft.**
 - **We respectfully request a Hi-Rise sign that is 103' OAH and 1133.45 sq. ft.**
 - **This represents a variance of 33' OAH and 833.45 sq. ft.**
- **A.** The variance described above will not constitute a grant of special privilege that is inconsistent with other properties in the vicinity that have been allowed to erect signage that elevates safety concerns. It is imperative that the Hi-Rise sign be able to be seen from a distance due to several factors. One of the factors is that it takes a loaded 18-wheeler takes 40% longer to stop than a mid-sized vehicle. Therefore they must be given ample time to recognize the sign, then it becomes legible, after this point the semi driver still needs sufficient time to make legal, proper and safe lane changes to exit to the Love's facility.
- **B.** A significant factor in determining the Overall Height and sign square footage of a freestanding sign are buildings, trees, bridge abutments or railings that block vision. As stated above, the time it takes for a semi to make a safe ingress is much greater than a smaller vehicle. It is recommended that the truck traffic have their first glimpse of the sign beginning at least .06 miles away from the exit. Due to an underpass approaching, built up land adjacent to the road, curvature of the road and natural brush and tree cover a freestanding sign of 103' OAH + is required.
- **C.** As stated above granting the 33' OAH and 833.45 sq. ft. variance will not be materially detrimental to the public welfare or injurious to the properties in the surrounding zone as I have stated in A. and B. it actually creates a smoother and safer flow of traffic approaching the Love's Travel Stop from both directions along the interstate.
- **Street Sign is allowed 24' OAH and 100 sq. ft.**
 - **We respectfully request a Street Sign that is 24' OAH and 133.33 sq. ft.**
 - **This represents a variance of 33.33 sq. ft.**
- **A.** The variance will not constitute a grant of special privilege inconsistent with the limitation upon uses of other properties in the vicinity as we are staying within the sign code of OAH of 24' and the total square footage of 133.33 sq. ft. gives the local area traffic a sign that is visible from far enough away to prepare to enter the facility. It is not un - similar to most Truck/Travel Stops Street Sign size and is a part of what Love's knows to be a successful sign program that is attractive and not overpowering
- **B.** The variance of 33.33 sq. ft. is necessary because of special circumstances related to the size and shape of the parcel of land that the new Love's Travel stop will be constructed. Since the property fronts 2 different roads it is important to have an identification sign on both frontages that is legible for the majority of traffic that will patron the facility, semi-trucks

- C. The granting of a 33.33 sq. ft. variance on the street sign will not be materially detrimental to the public welfare or injurious to the property or improvement in the vicinity as its size is needed to help traffic flow safely in and out of the facility and area.
- **Directional Signs are allowed to be 3' OAH and 4 sq. ft.**
 - **We respectfully request directionals signs that are 8' OAH and 32 sq. ft.**
 - **This represents a variance of 5' OAH and 28 sq. ft.**
- A. The variance will not constitute a grant of special privilege inconsistent with the limitation upon uses of others properties in the vicinity and zone in which the property as the main purpose of the Directional signs are to safely direct traffic toward the appropriate entrance/exit, the current code restricts visibility, therefore possibly interfering with safe traffic flow into and out of the business.
- B. Due to the height and overall size of the type of vehicle that will patronize this business a directional sign that is 32 sq. ft. is required for sufficient time to move to correct areas with ample time for safe maneuvering. Strict enforcement of the current sign code would provide a hardship for drivers to be able to read the directional signs. The travel Stop will have separate areas for autos and trucks, if drivers aren't able to recognize this it could result in a traffic entering into the wrong area.
- C. The purpose of the larger directional sign size is to direct traffic flow and minimize accidents in the vicinity. This amendment will not impair the development of the adjacent commercial activities, properties or be detrimental to the public welfare. This request is to provide the minimum relief possible using the United States Sign Council guide lines for readability of signage.
- **Cat Scale Structure – Prosser Code only allows for 2 freestanding signs**
 - **We respectfully ask that we are either allowed 3 freestanding “signs” or that the Cat Scale is recognized for its structural functionality of an overhead guide to weigh semis**
 - **This represents a variance of 3 freestanding signs or reclassification of the structure of the Cat Scale**
- A. The Love's developments are equipped with a CAT Scale facility to provide Certified Weighing of large transportation vehicles. Facilities' such as this help protect the condition of the local and interstate highway systems by aiding truckers in observing proper legal weight limits to their vehicles. A CAT Scale structure is included with the sign package. The overhead cabinet and pole supports of this structure are integral, operational elements used to aid in aligning trucks as they mount the certified scales to provide a proper orientation and accurate weight measurements. The height of the structure is required to provide adequate clearance below the cabinet for over-height loads that frequent the use of the certified truck scales.
- B. The cabinet needs to be visible to drivers (above other truck traffic) when they entire the truck stop in route to the weigh facility so they can successfully negotiate the proper turns to

get onto the scale in an appropriate alignment. This helps in maintaining the least congestive traffic flow and minimizes recycling traffic created when drivers cannot negotiate the turns to get onto the scales the first pass through.

- **C. Improper alignment of a truck on the scale would result in an inaccurate certified weight.** Operation of over 1,400 scale facilities throughout the nation has shown that the overhead panel and support posts on either side of the panel are a valuable aid to drivers in properly aligning their truck on the scale. In addition to its use as an alignment guide, the structure is necessary to mount an intercom and closed circuit camera equipment to provide remote communications and visual monitoring of the vehicle and its driver by the Weigh Master from the fuel counter located in the Convenience Store.
- **Total Number of Signs Allowed is 4**
 - **We respectfully request 40 signs on the Love's property**
 - **This represents a variance of 36 signs**
- **A. The Variance will not constitute a grant of special privilege inconsistent with the property limitation upon uses of other properties in the vicinity and zone in which the property is located as it has a proven successful sign program that averages 40 different signs, however, one must consider the ample acreage and number of businesses located on property. There is the main Love's Travel Stop, a Carl's Jr. restaurant as well as a Tire Servicing Shop, all of which require signage to keep the facility traffic flowing smoothly and safely to the intended destination are the Travel Stop**
- **B. The variance requested due to the size of the facility, a proven attractive and successful sign program and the need to direct several types of patrons to several different locations on the property which all comes back to safety as the main concern**
- **C. The granting of this variance will not be materially detrimental to the public welfare or injurious and are specifically designed with the safety of the general public as the item of utmost concern**



April 15, 2016

Effective Images
211 10th St. SW
Watertown, SD, 57201

City of Prosser
601 7th Street
Prosser, WA, 99350

RE: Love's Travel Stop Located at I-82 & Wind Country Road, Exit 73, Sign Variance Submission

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Please see below justification and reasoning that replies to Prosser Code 18.75.80 questions A., B., and C.

LOVE'S SIGN PACKAGE - PROSSER, WA

		SIGN SQ. FT.
HI-RISE SIGN:	103' OAH	
	8' x 10' LED Heart	80.00
	9' x 22' Love's	198.00
	11' x 41' 6" Pricer	456.50
	16' 9" x 23' 9 - 13/16" Carl's Jr.	398.95
	TOTAL HI-RISE SQUARE FEET:	1133.45
STREET SIGN:	24' OAH	
	13' 4" x 10' Love's / Pricer / Carl's Jr.	133.33
	TOTAL STREET SIGN SQUARE FEET:	133.33
BUILDING SIGNS:		
FRONT ELEVATION:	66" x 83" Heart & 58" Love's Letters	131.08
	3' 6" x 10' Carl's Jr.	35.00
	4' x 5' Echo Heart	20.00
	TOTAL FRONT ELEVATION SQUARE FEET:	186.08
REAR ELEVATION:	3' 8' 7/8" Carl's Jr.	25.81
	4' x 5' Echo Heart	20.00
	TOTAL REAR ELEVATION SQUARE FEET:	45.81
SIDE ELEVATION:	3' 8' 7/8" Carl's Jr.	25.81
	TOTAL SIDE ELEVATION SQUARE FEET:	25.81
SIDE ELEVATION:	Panaflex Love's & Heart (18 3/4" x 7')	10.94
	TOTAL SIDE ELEVATION SQUARE FEET:	10.94
	TOTAL BUILDING SIGN SQUARE FEET:	242.83
TRUCK TIRE CARE SIGNS:		
ELEVATION #1:	6' 4" X 5' 4-1/2" Love's Truck Tire Care	34.05
	1' x 3'-1/2" Customer Entrance	3.04
	2' X 6' -1/2" Michelin	12.08
	2' X 6'-1/2" BF Goodrich	12.08
	2' X 6'-1/2" Yokohama	12.08
	2' X 6'-1/2" Bridgestone	12.08
	2' X 6'-1/2" Continental	12.08
	2' X 6'-1/2" Goodyear	12.08
	2' X 6'-1/2" Firestone	12.08
	TOTAL ELEVATION #1 SQUARE FEET:	121.65
ELEVATION #2:	6' 4" X 5' 4-1/2" Love's Truck Tire Care	34.05
	2' X 6' -1/2" Michelin	12.08
	2' X 6'-1/2" BF Goodrich	12.08
	2' X 6'-1/2" Yokohama	12.08
	2' X 6'-1/2" Bridgestone	12.08
	2' X 6'-1/2" Continental	12.08
	2' X 6'-1/2" Goodyear	12.08
	2' X 6'-1/2" Firestone	12.08
	TOTAL ELEVATION #2 SQUARE FEET:	118.61
	TOTAL TRUCK TIRE CARE BUILDING SIGN SQUARE FEET:	240.26
DIRECTIONAL SIGNS:	3' x 6' Directional	18.00
	4' x 8' Directional	32.00
	4' x 8' Directional	32.00
	3' x 2' Carl's Jr. Directional	6.00
	TOTAL DIRECTIONAL SQUARE FEET:	88.00
FUEL CANOPIES:		
GAS CANOPY:	2' 3-1/2" X 10' X 2-1/2" North Elevation	23.39
	2' 3-1/2" X 10' X 2-1/2" East Elevation	23.39
	2' 3-1/2" X 10' X 2-1/2" South Elevation	23.39
	2' 3-1/2" X 10' X 2-1/2" West Elevation	23.39
DIESEL CANOPY:	2' 3-1/2" X 10' X 2-1/2" North Elevation	23.39
	2' 3-1/2" X 10' X 2-1/2" East Elevation	23.39
	2' 3-1/2" X 10' X 2-1/2" South Elevation	23.39
	2' 3-1/2" X 10' X 2-1/2" West Elevation	23.39
	TOTAL SQUARE FEET FUEL CANOPY LOGO:	187.12
CAT SCALE SIGN:	5' 4-1/2" x 20' Cat Scale Sign	107.50
	2' x 3' Cat Scale Sign	6.00
	TOTAL CAT SCALE SQUARE FEET:	113.50
	TOTAL SQUARE FOOTAGE:	2138.49



effective images, inc.

211 10th Street SW Watertown, SD 57201 605.753.9700

DATE:	REVISION #:
*4/15/16	1 - 4/15/16 - CB
DRAWN BY:	-
CB	-

OVERALL HEIGHT: 103'
 TOTAL SQ. FT.: 1133.45

LOVE'S HI-RISE
 PROSSER, WA

8' X 10' LED HEART
 (80 SQ. FT.)

1' SEPARATION

9' X 22' LOVE'S
 (198 SQ. FT.)

4' SEPARATION

11' X 41' 6" PRICER
 BY SUNSHINE
 89" NUMERALS
 (456.5 SQ. FT.)

70' FROM BOTTOM
 OF PRICER TO GRADE



16' 9" x 23' 9 - 13/16"
 CARL'S JR
 (398.95 SQ. FT)

4' SEPARATION

LOVE'S, DIESEL & STAR ON CARL'S JR. INSTALLED TOWARDS INTERSTATE / HIGHWAY

LOCATION:	DATE:	DRAWING #:	REVISION #:	DRAWN BY:	 PHONE: 605.753.9700
PROSSER, WA	9/2/15	EI4159-0201	1(4/15/16)CB	CB	

OVERALL HEIGHT: 24'
 TOTAL SQ. FT.: 133.33

LOVE'S STREET SIGN
 PROSSER, WA

SIDE B
 NOT TO SCALE



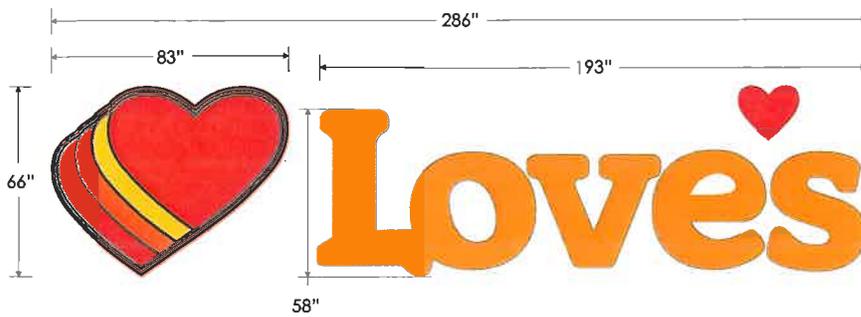
13' 4" X 10' LOVE'S / PRICER
 CARL'S JR

10' 8" TO BOTTOM OF
 CARL'S JR. TO GRADE

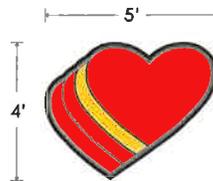
UNLEADED INSTALLED TOWARDS ROAD

LOCATION:	DATE:	DRAWING #:	REVISION #:	DRAWN BY:	 PHONE: 605.753.9700
PROSSER, WA	9/2/15	EI4159-0202	1(4/15/16)CB	CB	

LOVE'S BUILDING SIGNS



Qty (1) Front elevation
above Main Entrance
LED Illuminated
(131.08 Sq. ft.)



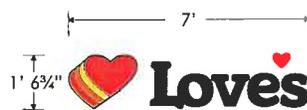
Qty (1) Front elevation
Qty (1) Side elevation
LED Illuminated
(20 Sq. ft. /sign)



Qty (1) Front elevation
LED Illuminated
(35 Sq. ft. /sign)



Qty (1) Rear elevation
Qty (1) Side elevation
LED Illuminated
(25.81 Sq. ft. /sign)



Qty (1) Rear elevation
Panaflex Logo
(10.94 Sq. ft.)

LOCATION:	DATE:	DRAWING #:	REVISION #:	SCALE:	DRAWN BY:	 PHONE: 605.753.9700
PROSSER, WA	9/2/15	EI4159-0203	1(3-21-16)CB	3/16" = 1'	CB	

LOVE'S TIRE SHOP SIGNS



6' 4" x 5' 4-1/2" Truck Tire Care
Qty (1) 1st elevation
Qty (1) 2nd elevation
Fluorescent Illumination
(34.05 sq. ft. / sign)



2' x 6' 1/2" Bridgestone Sign
Qty (1) 1st elevation
Qty (1) 2nd elevation
Fluorescent Illumination
(12.08 sq. ft / sign)



2' x 6' 1/2" Firestone Sign
Qty (1) 1st elevation
Qty (1) 2nd elevation
Fluorescent Illumination
(12.08 sq. ft / sign)



2' x 6' 1/2" Michelin Sign
Qty (1) 1st elevation
Qty (1) 2nd elevation
Fluorescent Illumination
(12.08 sq. ft / sign)



1' x 3' 1/2" Customer Entrance
Qty (1) 1st elevation
Fluorescent Illumination
(3.04 sq. ft)



2' x 6' 1/2" BFGoodrich Sign
Qty (1) 1st elevation
Qty (1) 2nd elevation
Fluorescent Illumination
(12.08 sq. ft / sign)



2' x 6' 1/2" Yokohama Sign
Qty (1) 1st elevation
Qty (1) 2nd elevation
Fluorescent Illumination
(12.08 sq. ft / sign)



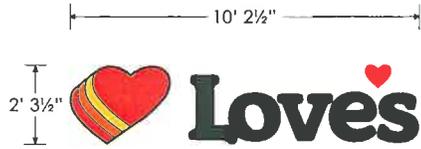
2' x 6' 1/2" Continental Sign
Qty (1) 1st elevation
Qty (1) 2nd elevation
Fluorescent Illumination
(12.08 sq. ft / sign)



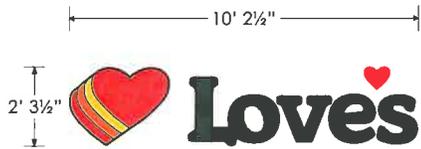
2' x 6' 1/2" Good Year Sign
Qty (1) 1st elevation
Qty (1) 2nd elevation
Fluorescent Illumination
(12.08 sq. ft / sign)

LOCATION:	DATE:	DRAWING #:	REVISION #:	SCALE:	DRAWN BY:	 PHONE: 605.753.9700
PROSSER, WA	9/2/15	EI4159-0204	0	3/8" = 1'	CB	

LOVE'S GAS CANOPY SIGNS



Qty (4) Gas Canopy
(23.39 Sq. ft./sign)

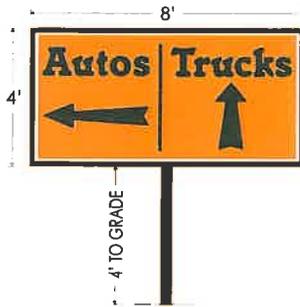


Qty (4) Diesel Canopy
(23.39 Sq. ft./sign)

LOCATION:	DATE:	DRAWING #:	REVISION #:	SCALE:	DRAWN BY:	 PHONE: 605.753.9700
PROSSER, WA	9/2/15	EI4159-0205	0	3/16" = 1'	CB	

LOVE'S DIRECTIONAL SIGNS

EAST SIDE

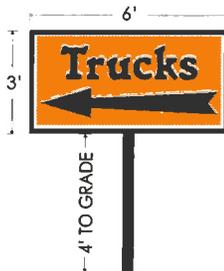


WEST SIDE

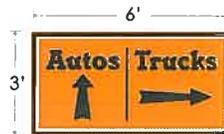


Directional Sign #1
at Main Entrance
LED Illuminated
(32 sq. ft.)

EAST SIDE



WEST SIDE



Directional Sign #2
at Auto Entrance
LED Illuminated
(18 sq. ft.)

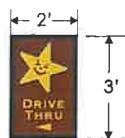
NORTH SIDE



SOUTH SIDE



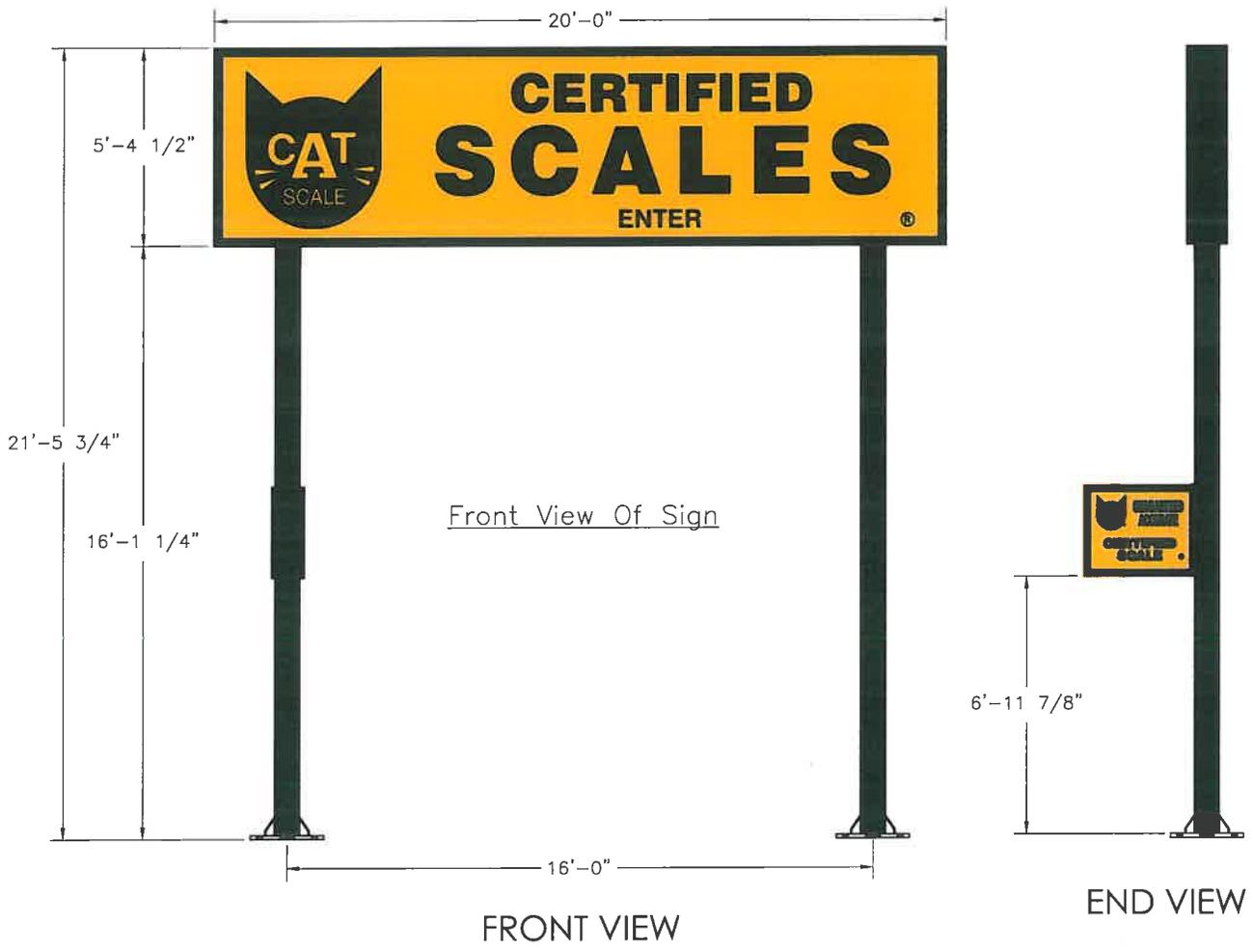
Directional Sign #3
at Truck Entrance
LED Illuminated
(32 sq. ft.)



Directional Sign #4
at Drive-thru entrance
LED Illuminated
(6 sq. ft.)

LOCATION:	DATE:	DRAWING #:	REVISION #:	SCALE:	DRAWN BY:	 PHONE: 605.753.9700
PROSSER, WA	9/2/15	EI4159-0206	3(4/15/16)CB	3/16" = 1'	CB	

CAT SCALE SIGNAGE

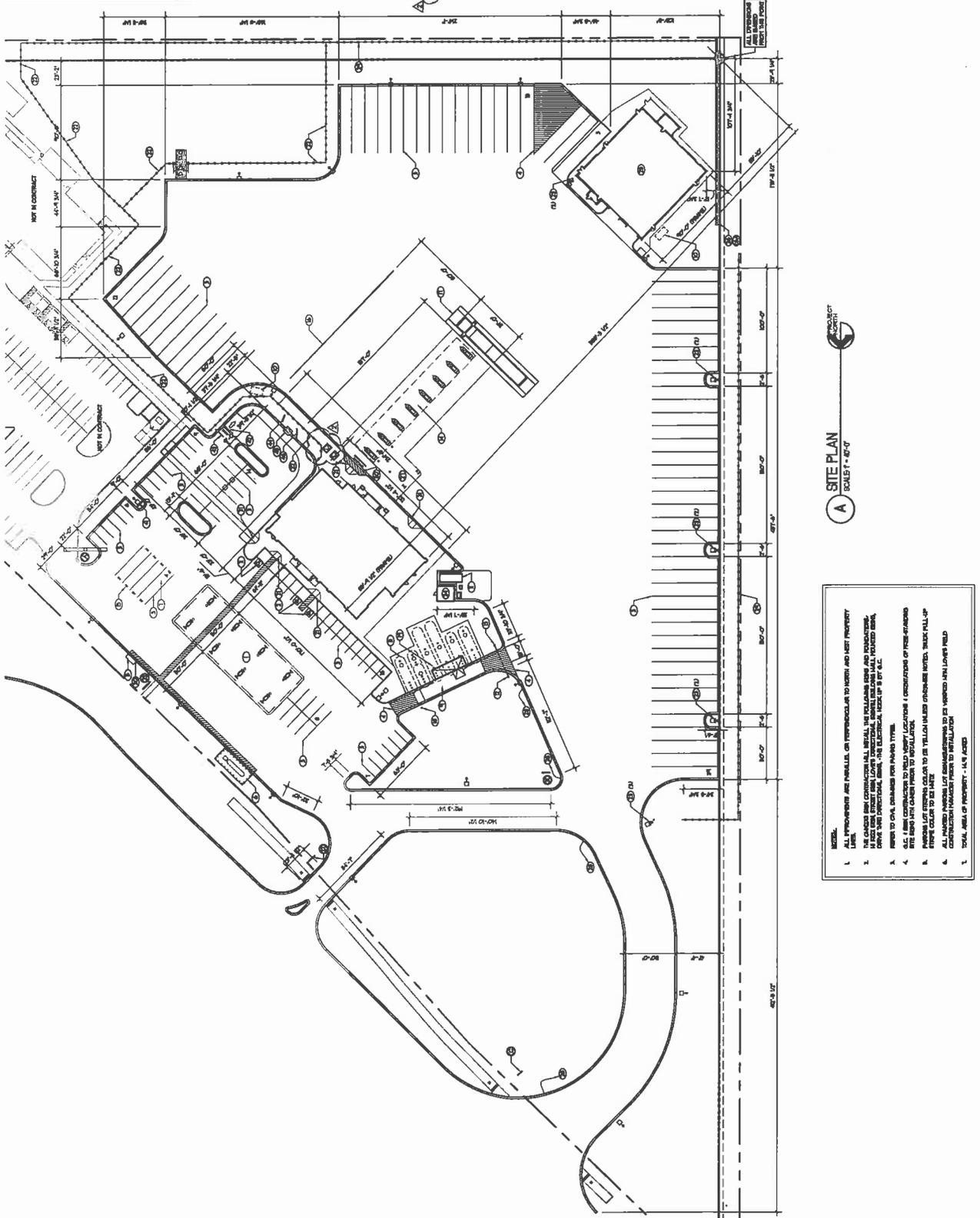


Qty (1) 5' 4 1/2" X 20' Cat Scale Sign
(107.50 sq. ft)

Qty (1) 2' x 3' Cat Scale Sign
(6 Sq. ft.)

LOCATION:	DATE:	DRAWING #:	REVISION #:	DRAWN BY:	 PHONE: 605.753.9700
PROSSER, WA	9/2/15	EI4159-0207	0	CB	

REVISED NOTES	DETAIL
1. 14" WIDE BENT BY OWNER	REV. 8/14/18 (R-1)
2. 8" WIDE BENT BY OWNER	REV. 8/14/18 (R-2)
3. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-3)
4. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-4)
5. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-5)
6. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-6)
7. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-7)
8. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-8)
9. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-9)
10. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-10)
11. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-11)
12. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-12)
13. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-13)
14. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-14)
15. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-15)
16. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-16)
17. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-17)
18. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-18)
19. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-19)
20. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-20)
21. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-21)
22. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-22)
23. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-23)
24. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-24)
25. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-25)
26. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-26)
27. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-27)
28. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-28)
29. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-29)
30. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-30)
31. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-31)
32. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-32)
33. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-33)
34. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-34)
35. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-35)
36. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-36)
37. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-37)
38. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-38)
39. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-39)
40. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-40)
41. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-41)
42. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-42)
43. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-43)
44. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-44)
45. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-45)
46. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-46)
47. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-47)
48. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-48)
49. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-49)
50. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-50)
51. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-51)
52. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-52)
53. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-53)
54. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-54)
55. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-55)
56. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-56)
57. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-57)
58. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-58)
59. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-59)
60. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-60)
61. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-61)
62. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-62)
63. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-63)
64. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-64)
65. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-65)
66. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-66)
67. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-67)
68. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-68)
69. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-69)
70. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-70)
71. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-71)
72. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-72)
73. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-73)
74. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-74)
75. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-75)
76. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-76)
77. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-77)
78. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-78)
79. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-79)
80. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-80)
81. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-81)
82. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-82)
83. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-83)
84. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-84)
85. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-85)
86. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-86)
87. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-87)
88. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-88)
89. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-89)
90. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-90)
91. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-91)
92. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-92)
93. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-93)
94. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-94)
95. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-95)
96. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-96)
97. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-97)
98. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-98)
99. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-99)
100. 4" WIDE BENT BY OWNER	REV. 8/14/18 (R-100)



A SITE PLAN
SCALE: 1" = 20'-0"

- NOTES:**
1. ALL IMPROVEMENTS AND MATERIALS, OR EQUIVALENTS TO THEM, AND BEST PRACTICES.
 2. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
 3. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
 4. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
 5. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
 6. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
 7. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
 8. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
 9. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
 10. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.



Pascal Aughtry & Associates, PC

1010 1st St
 Suite 100
 Portland, OR 97201
 (503) 253-2400
 Fax: (503) 253-2401
 www.pascal-aughtry.com



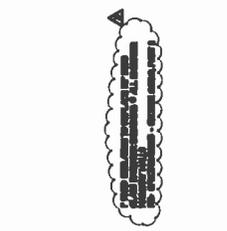
Love's
 A NEW TRAVEL STOP
 STORE NO. 681
 PROSSER, WA

NO.	DATE	DESCRIPTION
1	10.04.18	ISSUED FOR PERMITS
2	01.04.18	ISSUED FOR PERMITS
3	01.05.15	ISSUED FOR PERMITS

Project No. 18050002
 Sheet No. A-28
 Date: 01.05.18

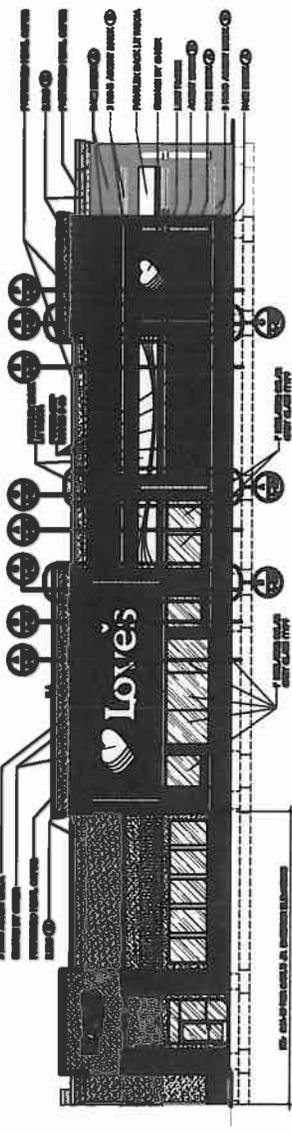
REVISIONS

NO.	DATE	DESCRIPTION
1	10.04.18	ISSUED FOR PERMITS
2	01.04.18	ISSUED FOR PERMITS
3	01.05.15	ISSUED FOR PERMITS

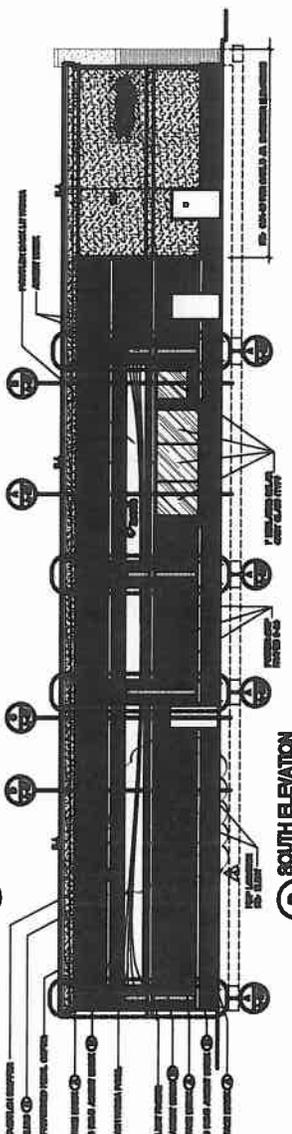


E BRICK EXP. JOINT
 SCALE: 1/4" = 1'-0"

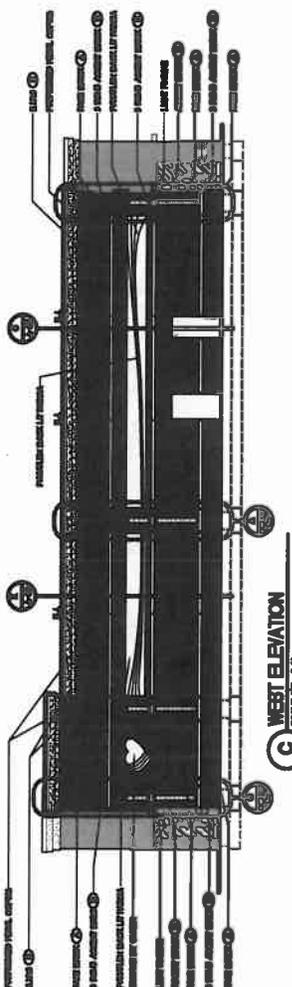
- 1. BRICKWORK - BRICKS BY "TEMPORARY" VENDOR - THIS WILL BE REPLACED BY PERMANENT VENDOR
- 2. BRICKWORK - BRICKS BY PERMANENT VENDOR - THIS WILL BE REPLACED BY PERMANENT VENDOR
- 3. BRICKWORK - BRICKS BY PERMANENT VENDOR - THIS WILL BE REPLACED BY PERMANENT VENDOR
- 4. BRICKWORK - BRICKS BY PERMANENT VENDOR - THIS WILL BE REPLACED BY PERMANENT VENDOR
- 5. BRICKWORK - BRICKS BY PERMANENT VENDOR - THIS WILL BE REPLACED BY PERMANENT VENDOR



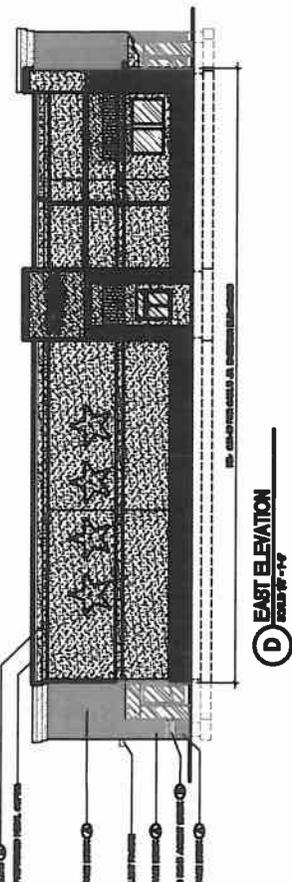
A NORTH ELEVATION
 SCALE: 1/4" = 1'-0"



B SOUTH ELEVATION
 SCALE: 1/4" = 1'-0"



C WEST ELEVATION
 SCALE: 1/4" = 1'-0"



D EAST ELEVATION
 SCALE: 1/4" = 1'-0"

1. BRICKWORK - BRICKS BY "TEMPORARY" VENDOR - THIS WILL BE REPLACED BY PERMANENT VENDOR



City of Prosser

Washington

AFFIDAVIT OF MAILING

The undersigned, being first duly sworn on oath deposes and says: That he is now and at all times herein mentioned is and was a citizen of the United States and resident of the State of Washington, over the age of eighteen years; and

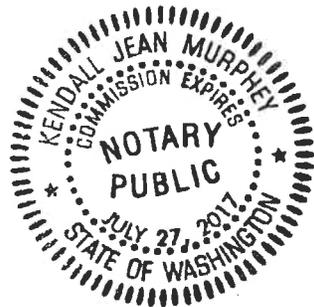
That on April 20th, 2014 I mailed a true copy of the attached notice to all interested parties as listed announcing See attachment.

Number of pages 23 X .15 = 3.45 X number of packets 28 = Total 96.60
Packets 23 X Postage .88⁴ = 20.24 + Total above = Final Total \$116.84

Ashli Dormaier
(Signature)

Ashli Dormaier
(Print)

SUBSCRIBED TO AND SWORN BEFORE ME THIS 21st DAY OF April, 2014.



Kendall Murphey
NOTARY PUBLIC in and for the State of Washington residing at Prosser, WA
My Commission Expires: July 27, 2017

Port of Benton
3250 Port of Benton Blvd
Richland, WA 99354

~~Paul Warden
Mayor~~

Burlington Northern Santa Fe
2454 Occidental Ave., Ste. 1A
Seattle, WA 98134

Benton County Planning
P.O. Box 910
Prosser, WA 99350

Benton PUD
250 N. Gap Rd.
Prosser, WA 99350

Benton County Public Works
P.O. Box 1001
Prosser, WA 99350

Cascade Natural Gas
701 S. First Ave.
Yakima WA. 98902

Charter Communications
1005 N. 16th Avenue
Yakima, WA 98902

~~Benton REA
rich@bentonrea.org~~

Century Link
409 S 5th
Sunnyside, WA 98944

Benton Franklin District Health
Environmental Health
7102 West Okanogan Place
Kennewick, WA 99336

Prosser School District
Attn: Ray Tolcacher
1126 Meade Ave Suite A
Prosser, WA 99350

Washington State DOT
South Central Region
2809 Rudkin Road
Union Gap, WA 98903-1648

Benton Clean Air Authority
526 South Claudefeller Rd.
Kennewick, WA 99336

Prosser Memorial Hospital
723 Memorial Street
Prosser, WA 99350

Washington State Department Of
Commerce.
P.O. Box 48300
Olympia, WA 98504-8300

Huibregtse, Louman Associates, Inc.
2803 River Road
Yakima, WA 98902

Sunnyside Valley Irrigation District
P.O. Box 239
Sunnyside, WA 98944

Prosser Economic Development
Association
1230 Bennett Avenue
Prosser, WA 99350

Benton PUD
P.O. Box 6270
Kennewick, WA 99336

Basin Disposal Inc.
P. O. Box 3850
Pasco WA 99302

~~EMAIL TO ECOLOGY
sepaunit@ecy.wa.gov~~

BETHEL CHURCH OF RICHLAND
WASHINGTON
600 SHOCKLEY RD
RICHLAND, WA 99352

CHRISTENSEN TERRY P
12709 N GAP RD
PROSSER, WA 99350

SYMONS GARY & THALIA MICHELLE
10218 N WHITTIER ST
SPOKANE, WA 99218

TZIB ROY & ELVIRA
791 WINE COUNTRY RD
PROSSER, WA 99350

POWELL DISTRIBUTING LP
PO BOX 98
GRANDVIEW, WA 98930

MERLOT SQUARE LLC
1191 PLATEAU DR
RICHLAND, WA 99352

GAP ROAD PROPERTIES LLC
58402 N GRIFFIN RD
GRANDVIEW, WA 98930

STATE OF WASHINGTON
2809 RUDKIN RD
UNION GAP, WA 98903

DENSHEL TOM & LINDA
PO BOX 912
PROSSER, WA 99350



10601 North Pennsylvania
P.O. Box 26210
Oklahoma City, OK 73126

April 14, 2016

City of Prosser
601 7th Street
Prosser, WA 99350

Re: # 681 Love's Travel Stop
700 Wine Country Rd.
Prosser, WA 99350

Dear City of Prosser:

Love's Travel Stops and County Stores, Inc. hereby states Effective Images and Hillis Outdoor Specialists have full expressed permission to apply for sign permits and install signage at the Love's owned property in Prosser, WA. In addition, the City of Prosser has Love's full consent to inspect signage at any point in the installation process. Please let me know if you have any questions.

Regards,

DocuSigned by:

J. T. Ross

1506B7B73D814F3...

J. T. Ross
Loves Travel Stops & Country Stores, Inc.
Vice President of Construction and Environmental Services
Office Phone: (405)463-8193



Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 2601 Meacham Boulevard
 Fort Worth, TX 76193

FILE COPY

Aeronautical Study No.
 2015-ANM-2011-OE

Issued Date: 07/31/2015

Alisa DePauw
 EFFECTIVE IMAGES
 211 10th Street SW
 WATERTOWN, SD 57201

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Sign Prosser WA Loves Hi Rise Structure
Location:	Prosser, WA
Latitude:	46-13-16.20N NAD 83
Longitude:	119-47-40.60W
Heights:	724 feet site elevation (SE) 125 feet above ground level (AGL) 849 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

This determination expires on 01/31/2017 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (310) 725-6591. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-ANM-2011-OE.

Signature Control No: 256967017-259290013
Tameria Burch
Technician

(DNE)

OVERALL HEIGHT: 103'
 TOTAL SQ. FT.: 1133.45

LOVE'S HI-RISE
 PROSSER, WA

8' X 10' LED HEART
 (80 SQ. FT.)

1' SEPARATION

9' X 22' LOVE'S
 (198 SQ. FT.)

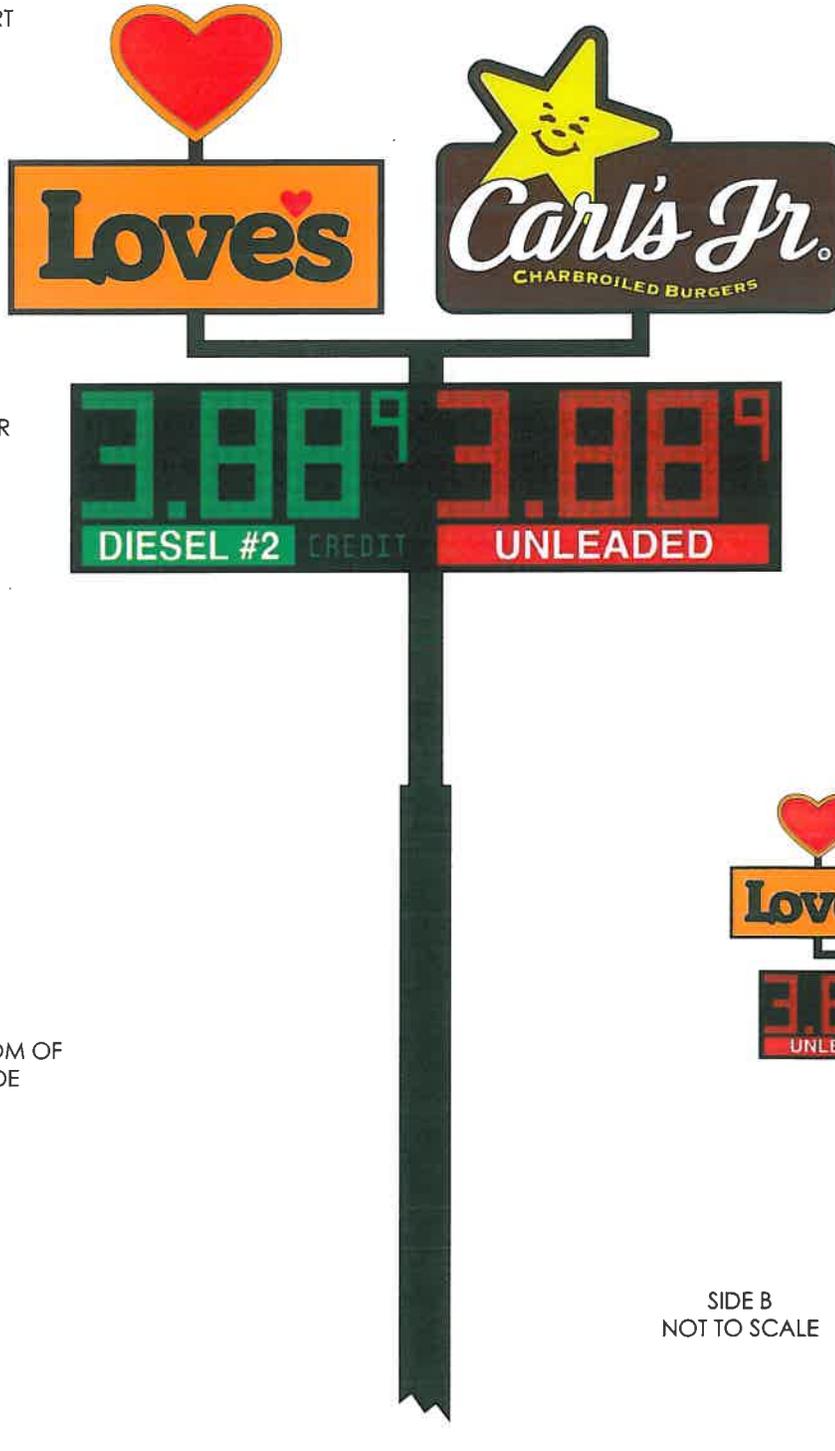
4' SEPARATION

11' X 41' 6" PRICER
 BY SUNSHINE
 89" NUMERALS
 (456.5 SQ. FT.)

16' 9" X 23' 9"-13/16"
 CARL'S JR
 (398.95 SQ. FT.)

4' SEPARATION

70' FROM BOTTOM OF
 PRICER TO GRADE



SIDE B
 NOT TO SCALE

NOTE: LOVE'S & DIESEL INSTALLED TOWARDS INTERSTATE / HIGHWAY

LOCATION:	DATE:	DRAWING #:	REVISION #:	DRAWN BY:	 PHONE: 605.753.9700
PROSSER, WA	6/30/15	EI4156-3001	0	CB	

**WESTBOUND
0.1 MILES FROM EXIT**



**WESTBOUND
AT EXIT**



**WESTBOUND
0.4 MILES FROM EXIT**



**WESTBOUND
0.3 MILES FROM EXIT**



**WESTBOUND
0.2 MILES FROM EXIT**



**EASTBOUND
AT EXIT**



**WESTBOUND
0.6 MILES FROM EXIT**



**WESTBOUND
0.5 MILES FROM EXIT**



**EASTBOUND
0.3 MILES FROM EXIT**



**EASTBOUND
0.2 MILES FROM EXIT**



**EASTBOUND
0.1 MILES FROM EXIT**



**EASTBOUND
0.6 MILES FROM EXIT**

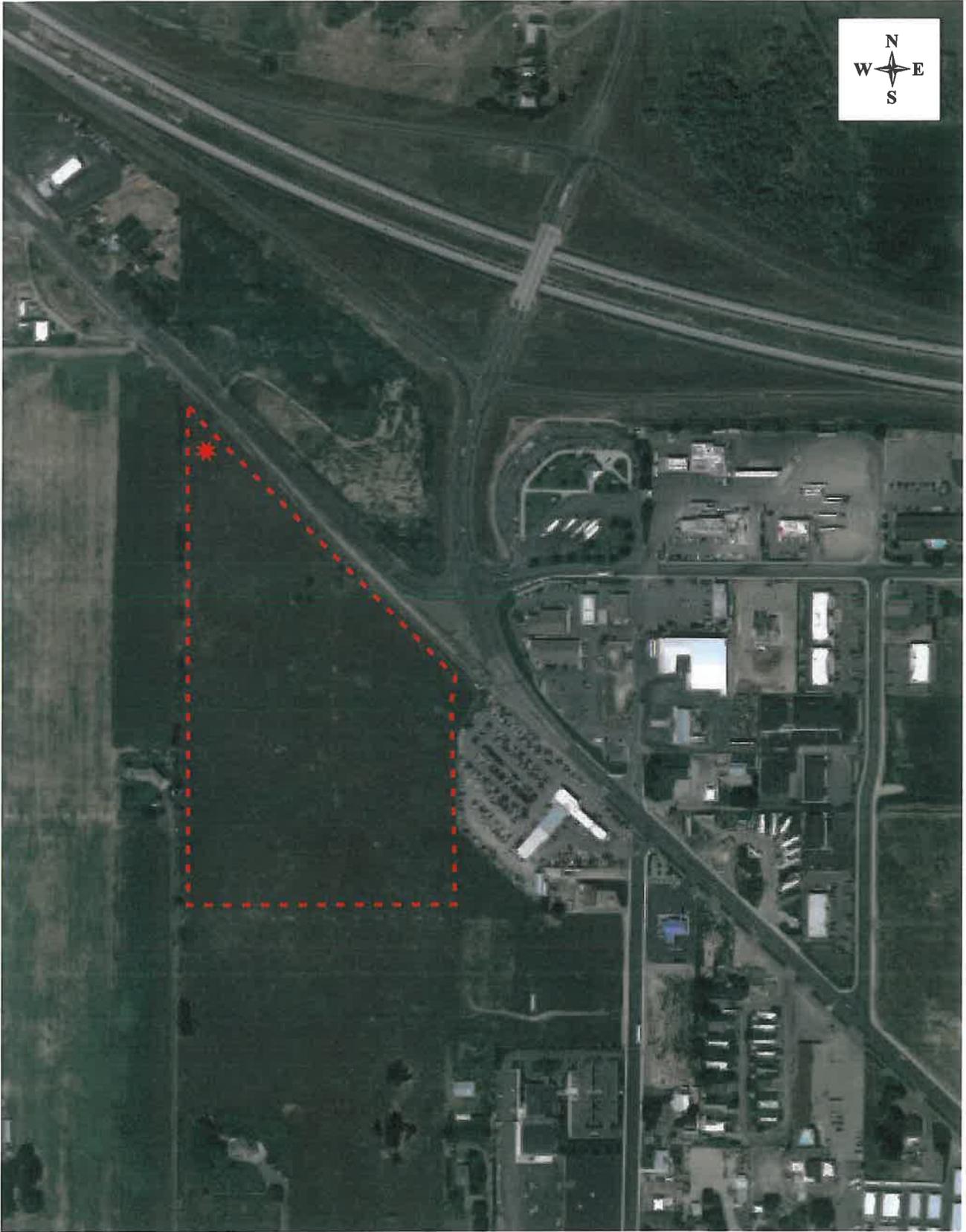


**EASTBOUND
0.5 MILES FROM EXIT**



**EASTBOUND
0.4 MILES FROM EXIT**





 = BLIMP



Sign
Legibility
Rules
Of
Thumb

UNITED
STATES
SIGN
COUNCIL

SIGN LEGIBILITY

By Andrew Bertucci, United States Sign Council

Since 1996, the United States Sign Council (USSC) and its research arm, the United States Sign Council Foundation (USSCF) have funded an extensive array of studies into the legibility of on-premise signs and the manner in which motorists react to these signs in various roadside environments. Because of these ground breaking studies, it is now possible to determine, with a degree of certainty, the size of letters as well as the size of signs necessary to ensure motorist legibility. Most of this work has been synthesized in the current USSC publication entitled *USSC Best Practices Standards for On-Premise Signs*, which details methods for ascertaining sign size, legibility, and height for on-premise signs that are directly in view of a motorist approaching the sign. In addition, a study completed in 2006 and entitled *On-Premise Signs, Determination of Parallel Sign Legibility and Letter Heights* now provides similar methods for ascertaining legibility factors for signs not directly in view, such as wall mount building signs usually parallel to a motorist's viewpoint.

The USSC Best Practices Standards and the parallel sign study offer relatively detailed analysis of the legibility factors involved with on-premise signs, and certainly should be utilized whenever such analysis is warranted. A number of equally useful generalizations, or time-saving rules-of-thumb based on the studies, however, can be applied to arrive at results which reflect legibility values which can be used as a general average applicable to most conditions. These are detailed below.



On Premise Sign Legibility Simplified Rules Of Thumb

How Motorists React To Signs In The Roadside Environment

Detecting and reading a roadside on-premise sign by a motorist involves a complex series of sequentially occurring events, both mental and physical. They include message detection and processing, intervals of eye and/or head movement alternating between the sign and the road environment, and finally, active maneuvering of the vehicle (such as lane changes, deceleration, and turning into a destination) as required in response to the stimulus provided by the sign.

Complicating this process is the dynamic of the viewing task, itself, involving the detection of a sign through the relatively constricted view provided by the windshield of a rapidly moving vehicle, with the distance between the motorist and the sign quickly diminishing. At 40 miles per hour, for example, the rate at which the viewing distance decreases is 58

feet per second, and at 60 miles per hour, it becomes an impressive 88 feet per second. Further complicating the process is the relative position of the sign to the eye of the motorist, whether directly in his/her field of view (perpendicular orientation), or off to the side and turned essentially parallel to the motorist's field of view (parallel orientation).

Research has now been able to quantify the viewing process and set a viewing time frame or viewing window of opportunity for both types of sign orientation. In the case of signs perpendicular to the motorist, this time frame is measured as Viewer Reaction Time (VRT), or the time frame necessary for a motorist traveling at a specific rate of speed to detect, read, and react to a sign within his/her direct field of vision with an appropriate driving maneuver. The driving maneuver itself can entail a number of mental and physical reactions, usually involving signaling, lane changes, acceleration and/or deceleration, and finally, a turn into the site of the sign.

In the case of signs parallel to the motorist's view, detecting and reading a sign is generally restricted to quick sideways glances as the sign is approached and the angle of view becomes more constricted. Because of this, the VRT involving these signs is, at best, necessarily compromised. Compensation for this reduction in the time frame involved in detecting and reading parallel signs is made through increases in letter height and size designed to facilitate rapid glance legibility. It must be understood however, that the parallel orientation will always present legibility problems, and in many cases, even if the sign is detected and read, sufficient time for a motorist to complete a driving maneuver in response to the sign may not be available.

Perpendicular Signs

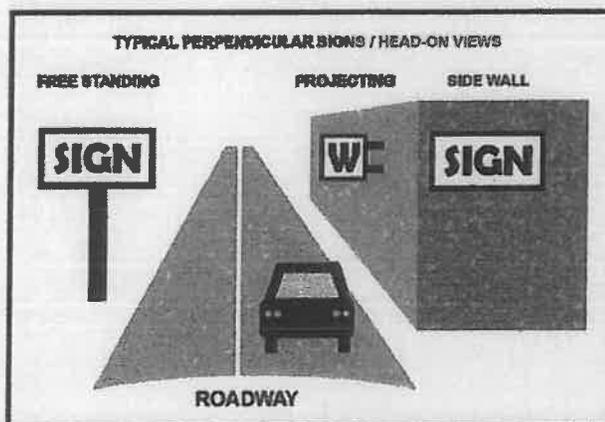


Figure 1. Perpendicular Sign Types

Perpendicular signs include most free standing signs, projecting signs, and, in some cases, flat wall signs placed on building walls that directly face on-coming traffic. (see figure 1). These signs are generally placed close to property lines and fall into the motorist's so-called "cone of vision", which is a view down the road encompassing ten degrees to the right or left of the eye, or twenty degrees total view angle. Signs falling within this cone can usually be viewed comfortably without excessive eye or head movement, and generally can be kept in the motorist's line-of-sight from the time they are first detected until they are passed. (see figure 2, cone of vision).

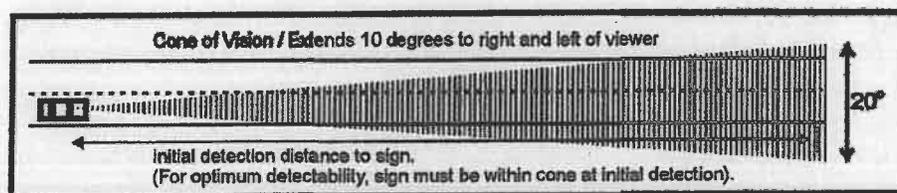


Figure 2. Cone of Vision

Because of this relatively constant view window, perpendicular signs can be designed and sized to provide for viewing time sufficient to allow for adequate detection, reading, and driving maneuvers. The key to providing adequate viewing time is an understanding of Viewer Reaction Time and Viewer Reaction Distance, and how these factors can be computed to provide for adequate letter heights and sign sizes under varied traffic conditions and vehicle speeds.

Viewer Reaction Time / Viewer Reaction Distance

Viewer Reaction Time is simply the time necessary for a motorist to detect, read, and react to the message displayed on an approaching on-premise sign that lies within his or her cone of vision. The USSC Guideline Standards offer precise mathematical procedures for calculating VRT for specific signs with specific copy located in varied locations of increasing traffic complexity and speed.

As a rule-of-thumb for average usage with signs displaying six words of copy (or 30 letters) or less however, VRT for vehicles traveling under 35 miles per hour in simple two to three lane environments can be estimated at eight (8) seconds; for vehicles traveling over 35 miles per hour in more complex four to five lane environments, at ten (10) seconds; and for vehicles traveling over 35 mph in high speed multi-lane environments at eleven to twelve (11-12) seconds.

These values include a maneuvering time of 4 seconds in the simple environment, 5 seconds in the complex environment, and 6 seconds in the high speed multi-lane environment. Although most roadside on-premise sign installations require a motorist to make the driving maneuver before the sign is passed and thus require the full VRT value, occasionally the maneuver can safely be made after the sign location has been passed. Where this is the case, the driving maneuver time of either 4, 5, or 6 seconds should not be included in computing Viewer Reaction Time.

Once VRT is ascertained, Viewer Reaction Distance for a given sign location, or the distance in feet which a vehicle travels during the VRT interval, can be calculated. It is necessary to know this distance because it determines the size of the letters and the size of the sign necessary for legibility to take place over that distance. It represents, in lineal feet, the distance between the motorist and the sign from the moment he or she has first detected it, and it rapidly diminishes as the motorist closes the distance at speed.

It is calculated by first converting travel speed in miles per hour (MPH) to feet per second (FPS) by using the multiplier 1.47, and then multiplying the feet per second by the Viewer Reaction Time. For example, a vehicle traveling at sixty miles per hour covers eighty-eight feet per second ($60 \times 1.47 = 88$). Eighty-eight feet per second times a Viewer Reaction Time of ten seconds equals eight hundred eighty feet (880) of Viewer Reaction Distance. The computation can be expressed also as this equation:

$$\mathbf{VRD = (MPH) (VRT) 1.47}$$

Determining Letter Height and Sign Size

The overall legibility of a sign is essentially determined by the height, color, and font characteristics of the letters making up its message component. To this end, the USSC has, through extensive research, developed standard legibility indices for typical letter types and color combinations (see table 1, USSC Standard Legibility Index).

The Legibility Index (LI) is a numerical value representing the distance in feet at which a sign may be read for every inch of capital letter height. For example, a sign with a Legibility Index of 30 means that it should be legible at 30 feet with one inch capital letters, or legible at 300 feet with ten inch capital letters. The USSC Standard Legibility Index also reflects the 15 percent increase in letter height required when all upper case letters (all caps) are used instead of more legible upper and lower case letters with initial caps.

Table 1. The USSC Standard Legibility Index

ILLUMINATION	LETTER STYLE	LETTER COLOR	Background COLOR	LEGIBILITY INDEX	
				Upper & Lower Case	ALL CAPS
External	Helvetica	Black	White	29	25
External	Helvetica	Yellow	Green	26	22
External	Helvetica	White	Black	26	22
External	Clarendon	Black	White	28	24
External	Clarendon	Yellow	Green	31	26
External	Clarendon	White	Black	24	20
Internal Translucent	Helvetica	Black	White	29	25
Internal Translucent	Helvetica	Yellow	Green	37	31
Internal Translucent	Clarendon	Black	White	31	26
Internal Translucent	Clarendon	Yellow	Green	37	31
Internal Opaque	Helvetica	White	Black	34	29
Internal Opaque	Helvetica	Yellow	Green	37	31
Internal Opaque	Clarendon	White	Black	36	30
Internal Opaque	Clarendon	Yellow	Green	37	28
Neon	Helvetica	Red	Black	29	25
Neon	Helvetica	White	Black	38	32

Illumination Variations:

External light source

Internal light source with fully translucent background

Internal light source with translucent letters and opaque background

Exposed neon tube

To use the Legibility Index table to determine letter height for any given viewing distance, select the combination of font style, illumination, letter color, and background color that most closely approximates those features on the sign being evaluated. Then, divide the viewing distance (Viewer Reaction Distance) in feet by the appropriate Legibility Index value. The

result is the letter height in inches for the initial capital letter in upper and lower case configurations, or for every letter in an all caps configuration. For example, if the Viewer Reaction Distance is 600 feet, and the Legibility Index is 30, the capital letter height would be 20 inches ($600/30 = 20$).

VRD (in feet) / LI = Letter Height (in inches)

The Legibility Index rule-of-thumb...30

In addition to the use of the Legibility Index chart, a simpler, rule-of-thumb Legibility Index of 30 is frequently used as an average to address most legibility requirements. Although generally acceptable, it should be understood that this is an average only, and it may fall short of meeting the legibility needs of any specific sign or environment. The USSC On-Premise Sign Standards provides a much more precise means of establishing this requirement, particularly for complex environments, and should be used whenever such precision is warranted.

Sign Copy Area and Negative Space – Computing Sign Size

The computation of overall sign size is of vital concern to anyone involved in designing or building on-premise signs, since it relates directly to both sign cost as well as to adherence to local building and zoning ordinances. It is for this reason that USSC has devoted so much research resources into developing methods for computing adequate sign sizes for varied environments, and into providing the industry with the means to compute the size of signs necessary to adequately transmit communicative messages to motorists traveling at different rates of speed. The use of the Legibility Index is the vital first step in this process, but there is frequently more involved than just letter height, especially in perpendicular signs involving the use of background panels. Clearly, in these instances, an understanding of how sign copy area and negative space interact to bring about optimum viewer legibility is critical.

In instances in which only letters comprise the total sign, such as channel letters on building walls, however, the computation of total sign size in square feet is relatively simple. In the case of these types of individual letter signs, overall size is frequently considered as the product of the height of the letters times the length of the line of letters. For example, if capital letter height is two feet, and the line of letters measures thirty feet horizontally, sign size would be calculated at sixty square feet ($2 \times 30 = 60$). There is an important exception to this mode of calculation in which only the space actually taken up by the letters themselves in square feet, and not the space between letters, is considered. In these cases, overall size becomes simply the sum of all the individual letter areas, and is generally a fairer method of computation when the letters and or/symbols

are spread out over a large area of building wall. In any event, for individual letter signs, it is essentially the height of the letters which is the prime determinant of overall sign size, and as we observed above, this can be calculated with some precision through use of the Legibility Index.

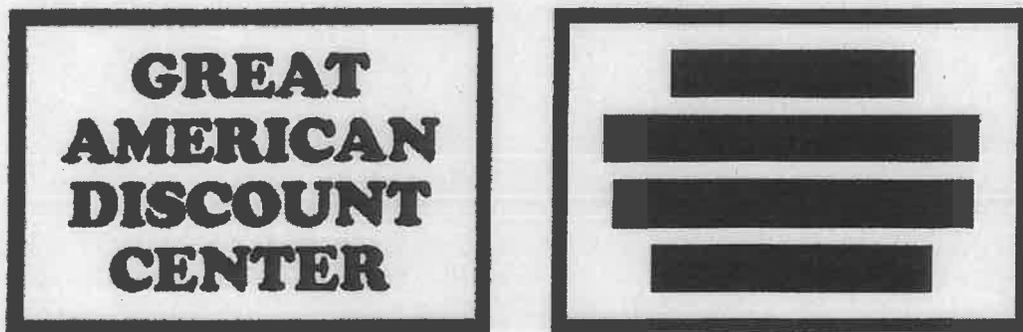
In this context, there is also another useful rule of thumb which can be used to give a working approximation of how much horizontal length a given number of letters would require once the letter height is established by simply multiplying capital letter height by the number of letters. For average fonts, this rule of thumb takes into account the space between letters in a line (usually $1/3$ the width of an individual letter and referenced as letterspace) and can give a surprisingly close determination of the actual length of the line of letters.

In the case of signs utilizing background areas, however, computation of the amount of space occupied by the lettering, also called copy area, is only the first step in computing overall sign size. Of equal importance in signs of this type is the amount of negative space surrounding the letters or copy area. It is this negative space which provides the background for the letters, makes legibility possible, and which must be accounted for in any computation to determine overall sign size.

Copy Area

The copy area of a sign is that portion of the sign face encompassing the lettering and the space between the letters (letterspace), as well as any symbols, illustrations, or other graphic elements. It is a critical component of effective sign design because it establishes the relationship between the message and the negative space necessary to provide the sign with reasonable legibility over distance.

Figure 3. Copy Area

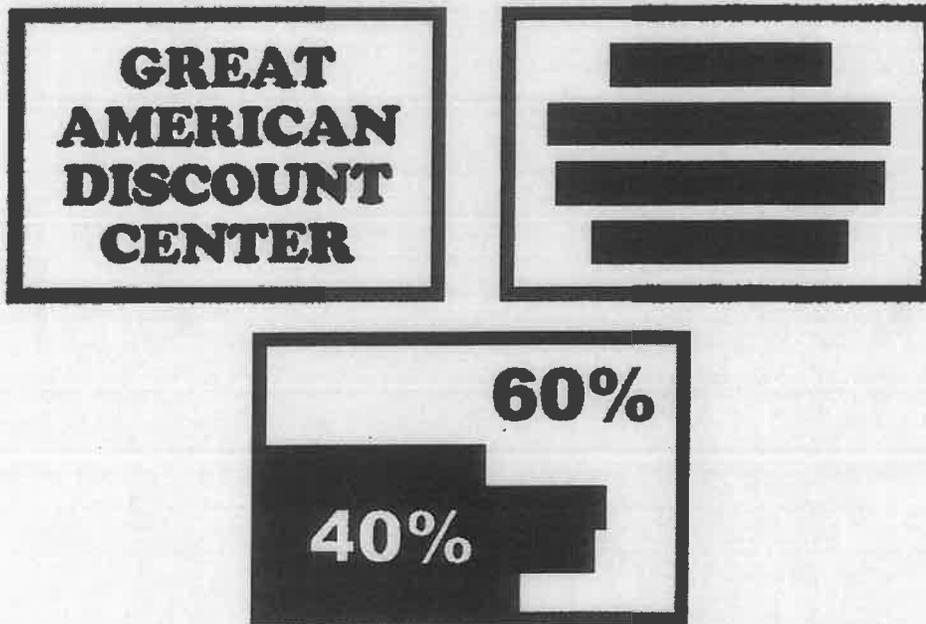


The illustration on the left depicts a typical on-premise sign face; while the one on the right, with black rectangles covering the copy area, affords a visual of the message layout

Negative Space

Negative space is the open space surrounding the copy area of a sign. It is essential to legibility, particularly in signs in which the copy is displayed within a background panel. Negative space ideally should not be less than 60 percent of the sign or background area. This requirement for a 40/60 relationship between the copy area and negative space is the minimum USSC standard. It is intended only to establish a measurable baseline for the negative space component of a sign, such that a reasonable expectation of legibility will exist.

Figure 4. Relationship Between Copy Area And Negative Space



The bottom sign panel illustrates how the aggregate copy area comprises 40 percent of the total sign panel area, with the remaining 60 percent forming the negative space area.

DETERMINING SIGN SIZE – Calculation Methodology

The size of a sign is determined by the size and length of the message and the time required to read and understand it. It can be calculated once the numerical values of the five size determinants –Viewer Reaction Time, Viewer Reaction Distance, Letter Height, Copy Area, and Negative Space – have been established.

The step-by-step process to determine sign size, which is explained below, is useful not only as a calculation method, but also as a means of understanding the elements involved in the calculation.

Area of Sign / Computation Process:

1. Determine speed of travel (MPH) in feet per second (FPS): $(\text{MPH} \times 1.47)$.
2. Determine Viewer Reaction Time (VRT).
3. Determine Viewer Reaction Distance $(\text{VRT} \times \text{FPS})$.
4. Determine Letter Height in inches by reference to the Legibility Index (LI): (VRD/LI) .
5. Determine Single Letter Area in square inches (square the letter height to obtain area occupied by single letter and its adjoining letterspace).
6. Determine Single Letter Area in square feet: $\text{Single Letter Area in square inches}/144$.
7. Determine Copy Area (Single Letter Area in square feet \times total number of letters plus area of any symbols in square feet).
8. Determine Negative Space Area at 60% of Sign Area $(\text{Copy Area} \times 1.5)$.
9. Add Copy Area to Negative Space Area.
10. Result is Area of Sign in square feet.

Computation Process / Calculation Example



Figure 5. Calculation Example Sign

Location: Complex Driving Environment

Posted Traffic Speed of 40 MPH

Sign Background: White

Sign Copy: 23 Letters, Upper & Lower Case

Clarendon Style, Black

Internally Illuminated, Translucent Face

1. Determine speed of travel in feet per second; $40 \text{ MPH} \times 1.47 = 59 \text{ FPS}$
2. Determine Viewer Reaction Time – Complex Environment
 - Detection and Message Scan..... 5 seconds
 - Maneuver..... 5 seconds
 - Total Viewer Reaction Time = 10 seconds VRT
3. Determine Viewer Reaction Distance; $59 \text{ (FPS)} \times 10 \text{ (VRT)} = 590 \text{ feet}$
4. Determine Letter Height in inches - Refer to Legibility Index, Table 1
 - Black Clarendon letters on White background = Index of 31
 - $590 \text{ (VRD)} / 31 \text{ (LI)} = 19 \text{ inch letter height}$
5. Determine Single Letter Area in square inches
 - $19 \times 19 = 361 \text{ square inches, single letter area}$
6. Determine Single Letter Area in square feet
 - $361 / 144 = 2.5 \text{ square feet, single letter area}$
7. Determine Copy Area; single letter area (sq. ft.) x number of letters
 - $2.5 \times 23 = 57.5 \text{ square feet, copy area}$
8. Determine Negative Space @ 60% of sign area
 - $57.5 \times 1.5 = 86.25 \text{ square feet, negative space}$
9. Add Copy Area to Negative Space
 - $57.5 + 86.25 = 143.75 \text{ square feet}$
10. Result is Area of Sign, 144 square feet

Area of Sign – Equation / Specific Usage

In addition to the computation method above, the USSC has developed an algebraic equation to determine the Area (A_{sign}) for signs containing letters only, which will provide the same result but will simplify the process. The equation allows for insertion of all of the size determinants, except for Negative Space, which is fixed at the standard 40/60 ratios. (Note: If numbers are rounded off in the computation process, a very slight difference in result may occur between the computation process and the equation).

$$A_{\text{sign}} = \frac{3n}{80} \left[\frac{(\text{VRT})(\text{MPH})}{\text{LI}} \right]^2$$

Fixed Value:

40/60 ratio, letters/negative space

Variable Values:

Number of Letters (n)

Viewer Reaction Time (VRT)

Miles Per Hour (MPH)

Legibility Index (LI)

Here's how to work the equation:

Start with the first portion of the equation which is three times the number of letters divided by 80. Three times 23 letters is 69; when divided by 80 the result is .8625. Keep this number ready for later use. Compute the second part of the equation in brackets by multiplying VRT (Viewer Reaction Time), which is 10 by the MPH (miles per hour), which is 40. The multiplication product is 400. Divide 400 by the LI (Legibility Index), which is 31, and the result is 12.90. Square the 12.90 by multiplying it by itself (12.90 x 12.90) for a product of 166. Finally, multiply the 166 by the .8625 obtained from the first part of the equation, and the resulting square footage is 143.

Area of Sign – Equation / Broad Usage

To allow for a broader scientific evaluation of sign size and satisfy the minimal legibility requirements across a full range of reaction times and speed zones, USSC has also developed a second more simplified equation shown below. This formula fixes the average sign size determinants, leaving only Viewer Reaction Time (VRT) and the speed of travel (MPH) as the sole variables. It can be used effectively as a broad rule-of-thumb to ascertain the general size of signs necessary to adequately and safely convey roadside information to motorists traveling at a given rate of speed as well as to establish size parameters for signs across an entire community and/or road system. Table 2 below provides a handy look-up reference of the use of the equation.

$$A_{\text{sign}} = \frac{[(\text{VRT}) (\text{MPH})]^2}{800}$$

Fixed Values:

30 Letters

Legibility Index (LI) of 30

40/60 ratio, letters/negative space

Variable Values:

Viewer Reaction Time (VRT)

Miles Per Hour (MPH)

Here's how to work the equation,
assuming Viewer Reaction Time of 10 seconds and speed at 50 miles per hour:

Compute the values in the brackets by multiplying the VRT (Viewer Reaction Time) of 10 seconds by the MPH (miles per Hour), which is 50. The multiplication product is 500. Square the 500 by multiplying it by itself (500 x 500) for a product of 250,000. Divide 250,000 by 800 for the resulting square footage of 312.

Table 2. Freestanding Sign Sizes

Freestanding Sign Size in Square Feet

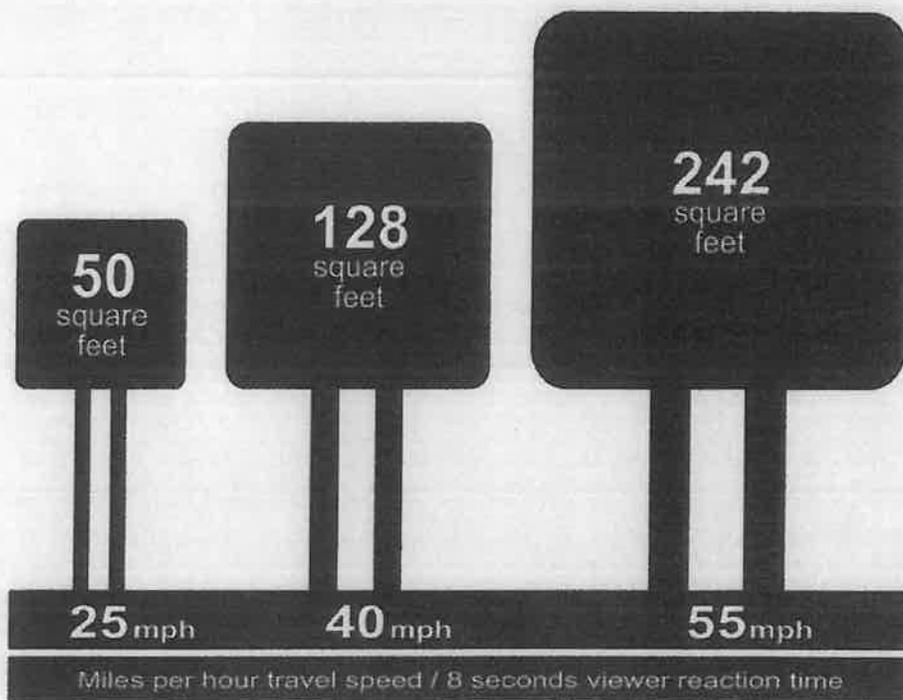
Sign Size (Square Feet) = $[(VRT)(MPH)]^2 / 800$

VRT = Viewer Reaction Time MPH = Miles Per Hour

VRT varies with roadside complexity:

simple or 2 lane = 8 seconds / complex or 4 lane = 10 seconds / multi lane = 11 seconds

MPH	Road Complexity	VRT	Sign Size
25	simple / 2 lane	8	50
25	complex / 4 lane	10	78
30	simple / 2 lane	8	72
30	complex / 4 lane	10	112
35	simple / 2 lane	8	98
35	complex / 4 lane	10	153
40	simple / 2 lane	8	128
40	complex / 4 lane	10	200
45	simple / 2 lane	8	162
45	complex / 4 lane	10	253
50	simple / 2 lane	8	200
50	complex / 4 lane	10	312
55	complex / 4 lane	10	378
60	complex / 4 lane	10	450
65	multi lane	11	639
70	multi lane	11	741
75	multi lane	11	850



Average sign size related to speed of travel and reaction time

Illustration from *Street Graphics and the Law*,
American Planning Association, 2004

Parallel Signs

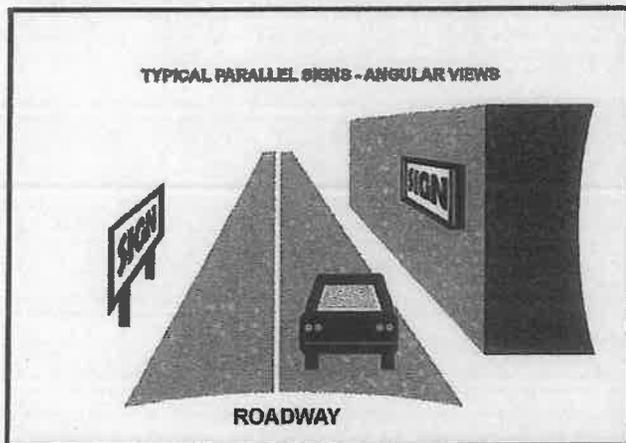


Figure 6. Parallel Sign Types

Everyday experience teaches us that parallel signs are more difficult to read than perpendicular signs simply because their orientation to the eye of any observer is at an acute angle. Now USSC research has corroborated this subjective impression with scientific evidence, and has made it possible to construct a mathematical model and attendant equations to account for the size increases necessary to allow parallel oriented signs to achieve at least some measure of the legibility quotient of perpendicular signs in a motorist oriented environment.

Parallel signs are harder to read because their orientation, or tilt, with respect to the driver makes it impossible to see the sign face at certain distances and offsets. When the driver can see the sign face, the content is often foreshortened and distorted. The driver must get close to the sign in order to increase the viewing angle to the point where the sign becomes legible. However, as drivers approach the sign, the time they have to read it gets shorter, while the sign moves further into their peripheral vision.

This condition places parallel signs at a threefold disadvantage relative to perpendicular signs. First, they are inherently more difficult to read because of the foreshortening of the message content caused by the angle of view. Second, because they become legible only after the angle of view exceeds 30 degrees, the time frame during which legibility can take place is compressed, and third, because they are usually placed back from the roadside well outside a driver's cone of vision, they are viewed by drivers only during short sideway glance durations, usually measured in fractions of seconds.

In many cases, their orientation causes not only severely compromised legibility compared to perpendicular signs, but results in the sign not being seen at all. In the USSC study, *Real World On-Premise Sign Visibility*, in which people were asked to drive through typical suburban shopping areas and locate specific signs, perpendicular signs were almost never missed while the subjects drove past 30 percent of the parallel signs, even though the parallel signs were two and three times larger than the perpendicular signs and the drivers were actively looking for them.

Parallel signs, therefore, must be read using a series of very quick glances at large visual angles during small windows of opportunity. Because of this, letter heights developed for perpendicular signs, where drivers have more time and can take longer straight ahead glances, cannot provide for adequate parallel sign legibility.

As we have noted in the case of perpendicular signs, the minimum distance at which a sign must become legible is a function of the time it takes to read the sign and the decisions and maneuvers required to comply with the sign. This is the Viewer Reaction time (VRT), which when combined with the speed of travel, becomes the Viewer Reaction Distance (VRD). Given the VRD, a perpendicular sign's letter height can be calculated using the Legibility Index.

The legibility of parallel signs, however, depends not on a driver's line of sight to a sign down the road, but rather when the sign becomes visible to the driver at a sight angle sufficient to allow at least some glance legibility to take place. A significant amount of research has now determined that this angle should be no less than 30 degrees to the driver's line of sight, and it is the visual restriction imposed by this angle, along with the number of lanes of travel, and the sign's offset from the curb, which determines the Maximum Available Legibility Distance, (or MALD) for a given parallel sign

While traversing this distance, however, a driver cannot be expected to register much more than a few quick glances at the sign without adversely affecting his/her view of the road. Thus it is essential to optimize reading speed for parallel signs in order to minimize the duration and frequency of glances that drivers must make to read the sign. Research has shown that reading speed increases to its maximum as letters are enlarged by a factor of three, and then tends to level off; and to ensure adequate letter height for parallel signs, a multiplier of three is used in the mathematical model to determine the letter heights and the legibility index for parallel signs.

Using this multiplier of three as a benchmark or rule of thumb, the Legibility Index for parallel signs falls to 10, instead of the Legibility Index of 30 we have shown as a rule of thumb for perpendicular signs. Thus a

parallel sign with a MALD of 500 feet, for example, would require a capital letter size of 50" (500/10=50). Conversely, a perpendicular sign at the same location, but directly viewable 500 feet down the road, would require a capital letter size of 17" (500/30=17)

Equations and Lookup Table

The following equations can be used to determine appropriate letter heights for parallel mounted signs given the number of lanes of travel and the lateral offset of the sign from the curb. Equation #1 uses an average LI of 10, while Equation #2 allows users to input the LI that most closely matches their sign conditions from the USSC Legibility Index table (Table 1) and applies the three times threshold constant to that LI. A parallel sign letter height lookup table is also provided for typical roadway cross-sections and lateral sign offsets (Table 3).

When using the equations or the lookup table always use the maximum number of lanes on the primary target road.

Parallel Letter Height Model Equations

Equation #1: $LH = (LN \times 10 + LO) / 5$

Equation #2: $LH = (LN \times 10 + LO) / (LI / 6)$

where:

LH is letter height in inches.

LN is the number of lanes of traffic.

LO is the lateral offset from curb in feet.

LI is the legibility index from Table 1

Examples of how to work the equations

2-Lane Roadway
 Lateral offset is 37 feet from the curb.
 User does not know the letter style.

Equation #1: $LH = (LN \times 10 + LO) / 5$

$LH = (2 \times 10 + 37) / 5$

$LH = 57 / 5$

$LH = 11.4$ inches

Same scenario, but user knows the sign is: Externally Illuminated,
 Helvetica, all Caps, Light Letters on Dark Background
 (USSC LI = 22 ft/in)

Equation #2: $LH = (LN \times 10 + LO) / (LI / 6)$

$LH = (2 \times 10 + 37) / (22 / 6)$

$LH = 57 / 3.67$

$LH = 15.5$ inches

Table 3. Parallel sign letter height lookup table.

Offset from Curb (ft)	Letter Height in Inches				
	Number of Lanes				
	1	2	3	4	5
10	4	6	8	10	12
20	6	8	10	12	14
40	10	12	14	16	18
60	14	16	18	20	22
80	18	20	22	24	26
100	22	24	26	28	30
125	27	29	31	33	35
150	32	34	36	38	40
175	37	39	41	43	45
200	42	44	46	48	50
225	47	49	51	53	55
250	52	54	56	58	60
275	57	59	61	63	65
300	62	64	66	68	70
325	67	69	71	73	75
350	72	74	76	78	80
375	77	79	81	83	85
400	82	84	86	88	90

