DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 06/22/2005)

PROJECT TITLE: REDBURN TIRE
ZONE MAP/DRG. FILE #: M-16/D047
DRB#: —
EPC#: —
WORK ORDER#: —

LEGAL DESCRIPTION: LOT 1-B-1 AIRPORT INDUSTRIAL PARK
CITY ADDRESS: 2645 BAYLOR DRIVE SE

ENGINEERING FIRM: BRASHER + LORENZ
ADDRESS: 2201 SAN PEDRO NE
CITY, STATE: ABQ NM
CONTACT: D. LORENZ
PHONE: 888-6088
ZIP CODE: 87110

OWNER: REDBURN TIRE CO.
ADDRESS: 2645 BAYLOR DR SE
CITY, STATE: ABQ NM
CONTACT: —
PHONE: 344-2300
ZIP CODE: 87106

ARCHITECT: NONE
ADDRESS:
CITY, STATE:
CONTACT:
PHONE:
ZIP CODE:

SURVEYOR: BRASHER + LORENZ
ADDRESS: 2201 SAN PEDRO NE
CITY, STATE: ABQ NM
CONTACT: L. MARTINEZ
PHONE: 888-6088
ZIP CODE: 87110

CONTRACTOR: BAKER CONSTRUCTION
ADDRESS: PO BOX 92227
CITY, STATE: ABQ NM
CONTACT: M. BAKER
PHONE: 280.4750
ZIP CODE: 87199

TYPE OF SUBMITTAL:
- ____ DRAINAGE REPORT
- X DRAINAGE PLAN 1st SUBMITTAL
- ____ DRAINAGE PLAN RESUBMITTAL
- ____ CONCEPTUAL G & D PLAN
- ____ GRADING PLAN
- ____ EROSION CONTROL PLAN
- ____ ENGINEER'S CERT (HYDROLOGY)
- ____ CLOMR/LOMR
- ____ TRAFFIC CIRCULATION LAYOUT
- ____ ENGINEER'S CERT (TCL)
- ____ ENGINEER'S CERT (DRB SITE PLAN)
- ____ OTHER

CHECK TYPE OF APPROVAL SOUGHT:
- ____ SIA/FINANCIAL GUARANTEE RELEASE
- ____ PRELIMINARY PLAT APPROVAL
- ____ S. DEV. PLAN FOR SUB'D APPROVAL
- ____ S. DEV. FOR BLDG. PERMIT APPROVAL
- ____ SECTOR PLAN APPROVAL
- ____ FINAL PLAT APPROVAL
- ____ FOUNDATION PERMIT APPROVAL
- X BUILDING PERMIT APPROVAL
- ____ CERTIFICATE OF OCCUPANCY (PERM)
- ____ CERTIFICATE OF OCCUPANCY (TEMP)
- X GRADING PERMIT APPROVAL
- X PAVING PERMIT APPROVAL
- ____ WORK ORDER APPROVAL
- ____ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:
- ____ YES
- X NO
- ____ COPY PROVIDED

SUBMITTED BY: DENNIS LORENZ
DATE: 10.9.09

RECEIVED
OCT 9 2009
HYDROLOGY SECTION

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope to the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.

2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.

3. **Drainage Report:** Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.

CITY OF ALBUQUERQUE

November 2, 2009

Dennis A Lorenz, P.E.
Brasher & Lorenz
2201 San Pedro NE
Albuquerque, NM 87110

Re: Redburn Tire, Vehicle Access Ramp Grading and Drainage Plan
Engineer's Stamp date 10-30-09 (M16/D042)

Dear Mr. Lorenz,

Based upon the information provided in your submittal received 10-30-09, the above referenced plan is approved for Grading Permit and Paving Permit.

Upon completion of the project, provide an Engineer Certification for our files.

If you have any questions, you can contact me at 924-3695.

Sincerely,

Curtis A. Cherne, P.E.
Senior Engineer, Planning Dept.
Development and Building Services

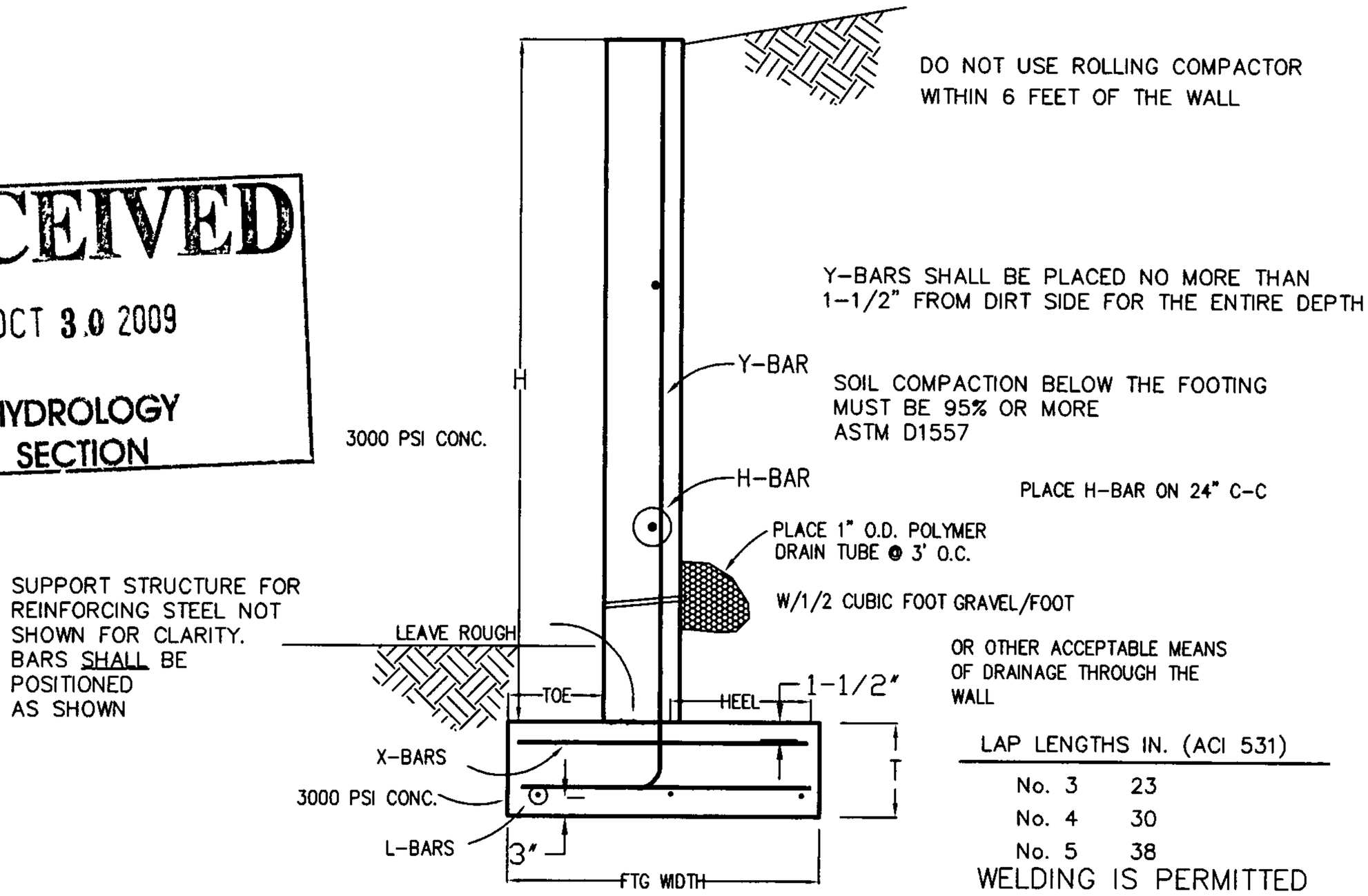
C: file

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov



LAP LENGTHS IN. (ACI 531)

No. 3	23
No. 4	30
No. 5	38

WELDING IS PERMITTED

CONC. RETAINING WALL

N.T.S.
60 ksi Steel

HEIGHT (H)		FTG. THICK (T)		TOE (in.)	HEEL	Y-Bar	X-Bar	L-Bar		H-Bar	WALL THICKNESS	FIBER-LBS/YD	FTG WIDTH	
2'		10"		3"	0'-3"	#3@48"	#3@48"	2-#4		8"	3	1'-2"		
3'		10"		3"	0'-9"	#3@37"	#3@37"	2-#4,	#3@2'	8"	3.5	1'-8"		
4'		10"		3"	1'-2"	#4@33"	#3@33"	2-#5	#3@2'	8"	4	2'-1"		
5'		10"		3"	1'-6"	#4@19"	#3@19"	2-#5		8"	4	2'-6"		

* SUBSTITUTE STRUCTURAL FIBER FOR REBAR

REDBURN TIRE Co.

BINGHAM ENGINEERING
6344 Belcher NE
Albuquerque, New Mexico 87109
505 797 4699

WALLACE L. BINGHAM
NEW MEXICO
7281
REGISTERED PROFESSIONAL ENGINEER
10.21.09

REDBURN TIRE

CONCRETE RET. WALL

Height	5.00	8 "	WALL
Width	2.50	10 "	FOOTING
	0	0 '	KEY
	0.0	6.0 "	GDN WALL

VOL CONC /FT

60		0.124
30		0.08
	TOT.	0.202

INPUT DATA

		X WIDTH	Y HEIGHT
	Bearing Cap.	1500	
	SURCHARGE	0	
	TOE	0.25	0.84
	HEEL	1.58	0.84
	KEY		0
	WALL Th	0.67	
	TOE BURY	0.66	0 66
5	HEIGHT	N/A	5.00
0	GWALL	0.5	0.00
	FROST		1.5
	STEEL	60	KSI
	FROST	1.5	

PARAMETERS

	H	F	Ka	g	BASE	TAN(PHI)	Kp	Hp
RETAINED SOIL	5.84	30	0 33	0.12	2.50	0.577	3.00	0.39

WALL HT

1/2 KERN
0.42

STABILITY

	AREA SURCHARGE	WIDTH	HEIGHT	WIND-PSF AREA	UN WT
					0.150
OVER WALL LOADING	2	0 50	0 00	0.00	0.150
HEEL LOAD (SOIL)	3	1.58	5.00	7.90	0 120
wind on g-wall		1 00	0.00	16.38	
STEM	6	0.67	5.00	3.35	0.150
FOOTING	7	2.50	0 84	2.10	0.150
TOE SOIL	8	0 25	0 66	0.17	0.120
KEY	9	0.00	0.00	0.00	0 150
VERTICAL SOIL COMP					

Ph

FORCE	ARM	MOMENT	vol
	0.84	0 00	
0 00	0.59	0.00	
0.95	1.71	1.62	
0.00	5.00	0.00	
0.50	0.59	0 29	
0.32	1 25	0.39	
0.02	0.13	0.00	
0.00	2.00	0.00	
0.13	2.50	0 33	
0.687	-1.95	-1.33	
1 92		1.31	

dia

3	
4	
5	
6	
7	
8	
9	

OVERTURNING 2.0 RESULTANT 0.68 FEET FROM TOE

0.57 ECCENTRICITY 0 15 OUTSIDE KERN

MAX SOIL PRESSURE
Qtoe 0 85 K/SF OK max comp. stress 203 psi
Qheel 0 68
Qtoe side face 0.807 Qheel side face 0.697

SLIDING
SHEAR AVAILABLE ALONG BASE
1 11 K
SHEAR 8 GOOD 25 max
PASSIVE FORCE AT TOE - WITH SHEAR KEY
0.41 K
TOTAL RESISTANCE TO LATERAL EARTH PRESSURE
1.51 K

FACTOR OF SAFETY= 2 22 OK

STRUCTURAL DESIGN OF STEM

	H	W	1 7*Ph (1.4*wind	ARM	M	As/ft	WT./FT.
	5.00	0 67	1.16	1.95	2.26	0.125	2.1

FOOTING REINF.

	MOMENT	As Req/f	As per cell			
TOE	0.807	0.035	0.024			0 19045
HEEL	0.697	0.031	0 021			0 3031
LONGITUDINAL(total)		0.605				2.05608

BAR #	bar area	SPACING
3	0.110	10.6
4	0.196	18.9
5	0.307	29 5
6	0.442	42.5
7	0 601	57 8
8	0 785	75.5
9	0.994	95 6

REDBURN TIRE

CONCRETE RET. WALL

Height	4.00	8 "	WALL
Width	2.08	10 "	FOOTING
	0	0 '	KEY
	0.0	6.0 "	GDN WALL

VOL CONC./FT

48		0.099
25		0.06
	TOT	0 164

INPUT DATA		X WIDTH	Y HEIGHT
	Bearing Cap.	1500	
	SURCHARGE	0	
	TOE	0.25	0.84
	HEEL	1.16	0.84
	KEY		0
	WALL Th	0.67	
	TOE BURY	0.66	0.66
4	HEIGHT	N/A	4.00
0	GWALL	0.5	0.00
	FROST		1.5
	STEEL	60	KSI
	FROST	1.5	

PARAMETERS

	H	F	Ka	g	BASE	TAN(PHI)	Kp	Hp
RETAINED SOIL	4.84	30	0 33	0.12	2.08	0.577	3.00	0.27

WALL HT

1/2 KERN
0.35

STABILITY

	AREA SURCHARGE	WIDTH	HEIGHT	WIND-PSF AREA	UN WT	FORCE	ARM	MOMENT	vol
					0.150		0.84	0.00	
OVER WALL LOADING	2	0 50	0.00	0.00	0.150	0 00	0.59	0 00	
HEEL LOAD (SOIL)	3	1 16	4.00	4.64	0 120	0.56	1.50	0 84	
wind on g-wall		1 00	0 00	16.38		0.00	1.00	0.00	
STEM	6	0 67	4 00	2 68	0 150	0.40	0.59	0.24	
FOOTING	7	2.08	0.84	1.75	0.150	0.26	1.04	0.27	
TOE SOIL	8	0 25	0 66	0.17	0.120	0.02	0 13	0.00	
KEY	9	0.00	0 00	0 00	0.150	0.00	2.00	0.00	
VERTICAL SOIL COMP						0 09	2 08	0.19	
	Ph					0.469	-1.61	-0 76	
						1.33		0.78	

dia

3	0 375
4	"
5	0 507
6	"
7	0 681
8	"
9	0 994

OVERTURNING 2.0 RESULTANT 0.58 FEET FROM TOE

0.46 ECCENTRICITY 0.31 OUTSIDE KERN

MAX SOIL PRESSURE
Qtoe 0 71 K/SF OK max comp. stress 116 psi
Qheel 0 57
Qtoe side face 0.665 Qheel side face 0.587

SLIDING
SHEAR 5 GOOD 25 max
SHEAR AVAILABLE ALONG BASE
0 77 K
PASSIVE FORCE AT TOE - WITH SHEAR KEY
0.41 K
TOTAL RESISTANCE TO LATERAL EARTH PRESSURE
1 17 K

FACTOR OF SAFETY= 2 50 OK

STRUCTURAL DESIGN OF STEM

	H	W	1.7*Ph +1.4*wind	ARM	M	As/ft	WT./FT.
	4.00	0 67	0.80	1 61	1.28	0.071	1 0

FOOTING REINF.

	MOMENT	As Req/f	As per cell		
TOE	0.665	0.029	0.020		0.15691
HEEL	0 587	0.026	0.017		0.21818
LONGITUDINAL(total)		0.503			1.71066

BAR #	bar area	SPACING
3	0 110	18.7
4	0.196	33 2
5	0.307	51 8
6	0.442	74.6
7	0.601	101.6
8	0.785	132.7
9	0.994	167.9

REDBURN TIRE

CONCRETE RET. WALL

Height	3.00	8 "	WALL
Width	1.67	10 "	FOOTING
	0	0 '	KEY
	0.0	6.0 "	GDN WALL

VOL CONC./FT

36		0.074
20		0 05
	TOT.	0.126

INPUT DATA

		X WIDTH	Y HEIGHT
	Bearing Cap.	1500	
	SURCHARGE	0	.
	TOE	0.25	0.84
	HEEL	0 75	0.84
	KEY	0	0
	WALL Th	0.67	
	TOE BURY	0.66	0.66
3	HEIGHT	N/A	3.00
0	GWALL	0.5	0.00
	FROST		1 5
	STEEL	60	KSI
	FROST	1.5	

PARAMETERS

	H	F	Ka	g	BASE	TAN(PHI)	Kp	Hp
RETAINED SOIL	3 84	30	0 33	0.12	1.67	0.577	3.00	0 17

WALL HT

1/2 KERN
0 28

STABILITY

	AREA SURCHARGE	WIDTH	HEIGHT	WIND-PSF AREA	UN WT
					0 150
OVER WALL LOADING	2	0.50	0.00	0 00	0.150
HEEL LOAD (SOIL)	3	0.75	3 00	2.25	0 120
wind on g-wall		1 00	0.00	16 38	
STEM	6	0.67	3.00	2.01	0.150
FOOTING	7	1 67	0.84	1 40	0.150
TOE SOIL	8	0.25	0 66	0.17	0 120
KEY	9	0.00	0 00	0.00	0.150
VERTICAL SOIL COMP					

	FORCE	ARM	MOMENT	vol
		0.84	0.00	
	0.00	0.59	0.00	
	0.27	1.30	0 35	
	0.00	3.00	0.00	
	0.30	0 59	0.18	
	0 21	0.84	0 18	
	0.02	0 13	0.00	
	0.00	2.00	0.00	
	0 06	1 67	0.09	
Ph	0 295	-1.28	-0.38	
	0.86		0 42	

dia

3	[illegible]
4	[illegible]
5	[illegible]
6	[illegible]
7	[illegible]
8	
9	[illegible]

OVERTURNING 2.1 RESULTANT 0.49 FEET FROM TOE

0.34 ECCENTRICITY 0 07 OUTSIDE KERN

MAX SOIL PRESSURE
Qtoe 0.57 K/SF OK max comp. stress 58 psi
Qheel 0 46
Qtoe side face 0.525 Qheel side face 0.477

SLIDING
SHEAR AVAILABLE ALONG BASE
0 50 K
SHEAR 3 GOOD 25 max
PASSIVE FORCE AT TOE - WITH SHEAR KEY
0.41 K
TOTAL RESISTANCE TO LATERAL EARTH PRESSURE
0 90 K

FACTOR OF SAFETY= 3.05 OK

STRUCTURAL DESIGN OF STEM

	H	W	1.7*Ph +1.4*wind	ARM	M	As/ft	Wt./FT.
	3.00	0.67	0.50	1.28	0 64	0 035	0.4

FOOTING REINF

	MOMENT	As Req/f	As per cell
TOE	0.525	0.023	0.015
HEEL	0.477	0.021	0.014
LONGITUDINAL(total)		0.404	

0 1238
0.1482
1.37346

BAR #	bar area	SPACING
3	0.110	37 4
4	0 196	66 4
5	0.307	103 8
6	0.442	149 4
7	0.601	203.4
8	0.785	265.7
9	0.994	336.3

REDBURN TIRE

CONCRETE RET. WALL

Height	2.00	8 "	WALL
Width	1.17	10 "	FOOTING
	0	0 '	KEY
	0.0	6.0 "	GDN WALL

VOL CONC./FT

24		0.05
14		0.04
	TOT.	0.086

INPUT DATA

		X WIDTH	Y HEIGHT
Bearing Cap.		1500	
	SURCHARGE	0	
	TOE	0.25	0.84
	HEEL	0.25	0.84
	KEY	0	0
	WALL Th	0.67	
	TOE BURY	0.66	0.66
2	HEIGHT	N/A	2.00
0	GWALL	0.5	0.00
	FROST		1.5
	STEEL	60	KSI
	FROST	1.5	

PARAMETERS

	H	F	Ka	g	BASE	TAN(PHI)	Kp	Hp
RETAINED SOIL	2.84	30	0 33	0.12	1.17	0.577	3.00	0.09

WALL HT

1/2 KERN
0.20

STABILITY

	AREA SURCHARGE	WIDTH	HEIGHT	WIND-PSF AREA	UN WT	FORCE	ARM	MOMENT	vol
					0.150		0.84	0 00	
OVER WALL LOADING	2	0 50	0.00	0.00	0.150	0.00	0 59	0.00	
HEEL LOAD (SOIL)	3	0.25	2.00	0.50	0 120	0.06	1.05	0 06	
wind on g-wall		1.00	0.00	16 38		0.00	2.00	0.00	
STEM	6	0.67	2.00	1 34	0 150	0.20	0 59	0.12	
FOOTING	7	1.17	0.84	0.98	0.150	0 15	0.59	0.09	
TOE SOIL	8	0.25	0 66	0 17	0 120	0.02	0 13	0.00	
KEY	9	0.00	0.00	0.00	0.150	0.00	2.00	0.00	
VERTICAL SOIL COMP						0.03	1.17	0.04	
	Ph					0 161	-0.95	-0.15	
						0.46		0.15	

dia

3	[illegible]
4	0 1[illegible]
5	[illegible]
6	0 1[illegible]
7	[illegible]
8	[illegible]
9	[illegible]

OVERTURNING 2.0 RESULTANT 0.33 FEET FROM TOE

0 25 ECCENTRICITY 0.06 OUTSIDE KERN

MAX SOIL PRESSURE
Qtoe 0.43 K/SF OK
Qheel 0 35

max comp. stress 23 psi

Qtoe side face 0.386 Qheel side face 0.368

SLIDING
SHEAR AVAILABLE ALONG BASE
0 27 K

SHEAR 2 GOOD 25 max

PASSIVE FORCE AT TOE - WITH SHEAR KEY
0 41 K

TOTAL RESISTANCE TO LATERAL EARTH PRESSURE
0 67 K

FACTOR OF SAFETY= 4.15 OK

STRUCTURAL DESIGN OF STEM

	H	W	1 /*Ph +1.4*wind	ARM	M	As/ft	WT./FT.
	2.00	0.67	0 27	0.95	0.26	0.014	0.1

FOOTING REINF

	MOMENT	As Req/f	As per cell	
TOE	0 380	0.017	0.011	0.0912
HEEL	0.368	0.016	0.011	0.08692
LONGITUDINAL(total)		0.283		0.96224

BAR #	bar area	SPACING
3	0.110	92.4
4	0.196	164.2
5	0 307	256.5
6	0.442	369.4
7	0.601	502.8
8	0.785	656.7
9	0.994	831.2

REDBURN TIRE

CONCRETE RET. WALL

Height	1.00	8 "	WALL
Width	1.17	10 "	FOOTING
	0	0 '	KEY
	0.0	6.0 "	GDN WALL

VOL CONC /FT

12		0.025
14		0.04
	TOT.	0.061

INPUT DATA		X WIDTH	Y HEIGHT
	Bearing Cap.	1500	
	SURCHARGE	0	
	TOE	0.25	0.84
	HEEL	0.25	0.84
	KEY	0	0
	WALL Th	0.67	
	TOE BURY	0.66	0.66
1	HEIGHT	N/A	1.00
0	GWALL	0.5	0.00
	FROST		1.5
	STEEL	60	KSI
	FROST	1.5	

PARAMETERS

	H	F	Ka	g	BASE	TAN(PHI)	Kp	Hp	
RETAINED SOIL	1 84	30	0 33	0.12	1.17	0.577	3.00	0.04	WALL HT

1/2 KERN
0.20

STABILITY

	AREA SURCHARGE	WIDTH	HEIGHT	WIND-PSF AREA	UN WT
					0 150
OVER WALL LOADING	2	0.50	0.00	0.00	0 150
HEEL LOAD (SOIL)	3	0.25	1.00	0 25	0.120
wind on g-wall		1.00	0.00	16.38	
STEM	6	0.67	1.00	0 67	0 150
FOOTING	7	1.17	0.84	0.98	0.150
TOE SOIL	8	0 25	0.66	0.17	0.120
KEY	9	0.00	0.00	0.00	0.150
VERTICAL SOIL COMP					

	FORCE	ARM	MOMENT	vol
		0.84	0.00	
	0.00	0.59	0 00	
	0 03	1.05	0.03	
	0.00	1 00	0 00	
	0.10	0.59	0.06	
	0.15	0.59	0.09	
	0.02	0 13	0.00	
	0 00	2.00	0.00	
	0.01	1.17	0 02	
0.068		-0.61	-0.04	
	0 31		0 15	

dia	
3	[illegible]
4	0 [illegible]
5	[illegible]
6	0 [illegible]
7	[illegible]01
8	[illegible]
9	[illegible]54

OVERTURNING 4.7 RESULTANT 0.49 FEET FROM TOE

0.09 ECCENTRICITY 0.10 INSIDE KERN

MAX SOIL PRESSURE
Qtoe 0 28 K/SF OK max comp stress 6 psi
Qheel 0.25
Qtoe side face 0.264 Qheel side face 0.259

SLIDING
SHEAR AVAILABLE ALONG BASE
0.18 K
SHEAR J GOOD 25 max
PASSIVE FORCE AT TOE - WITH SHEAR KEY
0.41 K
TOTAL RESISTANCE TO LATERAL EARTH PRESSURE
0 58 K

FACTOR OF SAFETY= 8 63 OK

STRUCTURAL DESIGN OF STEM

H	W	1.7*Ph +1.4*wind	ARM	M	As/ft	WT /FT.
1.00	0 67	0.12	0.61	0.07	0.004	0.0

FOOTING REINF.

	MOMENT	As Req/f	As per cell	
TOE	0 264	0.012	0.008	0.06232
HEEL	0.259	0.011	0.008	0.06125
LONGITUDINAL(total)		0.283		0.96224

BAR #	bar area	SPACING
3	0.110	339.6
4	0 196	603.7
5	0.307	943.3
6	0.442	1358.4
7	0.601	1848 9
8	0.785	2414 9
9	0.994	3056 4