URS

PROJECT: **Cline Avenue Mainline Seg 1 Girder 1** CALCS BY: TSP DATE: 12/4/08

SCRIPTION: **Service Stress Check** CHECKED BY: DATE:

FILE: D:\Cline Ave_tsp\Orig Ab with increased Vc AASHTO\Segment1\Rating Gdr 1\[Service Stresses.xls]Service Stresses (t=00)

Forces Sheet: D:\Cline Ave_tsp\Orig Ab with increased Vc AASHTO\Segment1\Rating Gdr 1\[Forces.xls]

Rating Truck: **HL-93** LL Factor: **Inventory**

γ_{DC}= **1.00**

γ_{DW}= **1.00** Allowable Compression: -3000 psi

γ_{EL}= **1.00** Allowable Tension: 212 psi

γ_{R+S}= **1.00**

γ_{TU}= **1.00** Concrete Strength, f'_c: **5000 psi**

γ_{TG}= **0.50**

γ_{LL}= **1.00** **compression (Ser I)**

γ_{LL}= **0.80** **tension (Ser III)**

Element	Node	DC		DW		Primary PT		Secondary PT		PT Losses (t=00)		Sec PT Losses (t=00)		Creep & Shrinkage		Uniform Temp (Pos)	
		F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)
1	1	0	0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.3	-0.2	0.0
1	2	0.5	-1.1	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.3	-0.2	0.0
2	2	0.5	-1.1	0.0	-0.2	-278.9	-493.4	0.0	0.0	22.7	40.1	0.0	0.0	1.8	0.6	-0.4	-0.1
2	3	-5.0	11.0	-0.7	1.4	-271.6	-509.3	-2.6	5.7	22.1	41.5	0.0	0.0	1.9	0.6	-0.4	0.0
3	3	-5.0	11.0	-0.8	1.4	-271.6	-509.3	-2.6	5.7	22.1	41.5	0.0	0.0	2.9	0.9	-0.6	-0.1
3	4	-66.0	144.5	-9.0	19.2	-182.8	-711.6	-38.8	84.0	15.1	58.8	0.0	0.0	3.7	1.2	-0.9	0.4
4	4	-65.9	144.2	-9.2	19.3	-182.8	-711.6	-39.1	84.5	15.1	58.7	0.0	0.0	10.0	-0.3	-2.4	0.8
4	5	-95.7	209.2	-13.3	27.9	-128.2	-837.9	-69.3	149.2	10.6	69.5	0.0	0.0	10.2	-0.3	-2.6	1.2
5	5	-95.3	208.5	-13.4	28.0	-128.2	-837.9	-70.0	150.8	10.6	69.4	0.0	0.0	15.1	-1.8	-3.5	1.4
5	6	-106.0	231.1	-14.8	31.0	-89.1	-929.3	-100.3	215.4	7.4	77.5	0.0	0.0	15.0	-1.8	-3.8	1.9
6	6	-105.6	230.3	-15.0	31.1	-89.1	-929.3	-101.0	217.0	7.4	77.4	0.0	0.0	20.3	-3.5	-4.5	2.0
6	7	-96.8	209.8	-13.7	28.3	-65.2	-988.2	-131.2	281.6	5.5	83.4	0.0	0.0	20.1	-3.5	-4.7	2.5
7	7	-96.5	209.0	-13.8	28.4	-65.2	-988.2	-132.0	283.2	5.5	83.3	0.0	0.0	25.8	-5.2	-5.2	2.6
7	8	-68.3	145.5	-9.9	20.0	-57.6	-1012.3	-162.2	347.9	4.9	86.8	0.0	0.0	25.5	-5.2	-5.4	3.0
8	8	-67.9	144.7	-10.0	20.1	-57.6	-1012.3	-162.9	349.5	4.9	86.7	0.0	0.0	31.6	-7.0	-5.8	3.1
8	9	-20.3	38.5	-3.4	5.9	-66.8	-1001.4	-193.3	414.8	5.8	87.3	0.0	0.0	31.4	-7.2	-6.1	3.6
9	9	-20.0	37.7	-3.4	6.0	-66.8	-1001.4	-194.0	416.3	5.8	87.2	0.0	0.0	37.7	-9.0	-6.4	3.7
9	10	46.9	-110.5	5.9	-13.9	-92.6	-954.2	-224.4	482.4	8.2	84.3	0.0	0.0	37.5	-9.4	-6.6	4.2
10	10	47.2	-111.3	6.0	-14.0	-92.6	-954.2	-225.1	484.0	8.2	84.2	0.0	0.0	44.0	-11.2	-6.9	4.2
10	11	133.4	-300.9	17.9	-39.8	-135.6	-870.2	-255.7	551.0	12.0	77.0	0.0	0.0	44.0	-11.8	-7.1	4.7
11	11	133.7	-301.6	18.0	-39.8	-135.6	-870.2	-256.2	552.2	12.0	77.0	0.0	0.0	47.7	-13.0	-7.2	4.7
11	12	200.2	-447.2	27.3	-59.9	-173.4	-794.1	-276.1	596.4	15.2	69.7	0.0	0.0	47.8	-13.6	-7.4	5.1
12	12	198.9	-449.5	27.1	-60.2	-172.3	-793.1	-276.3	598.2	15.2	69.5	0.0	0.0	51.1	-14.7	-7.5	5.1
12	13	296.2	-582.3	40.5	-79.2	-253.0	-548.1	-291.7	561.2	20.2	43.7	0.0	0.0	51.0	-13.8	-7.6	4.8
13	13	296.8	-582.7	40.7	-79.2	-253.2	-548.3	-292.3	562.3	20.1	43.5	0.0	0.0	56.2	-15.3	-7.7	4.8

URS

PROJECT: **Cline Avenue**
SCRIPTION: **Service Stre**
FILE: D:\Cline Ave_

Forces Sheet:
Rating Truck:
γ_{DC}=
γ_{DW}=
γ_{EL}=
γ_{R+S}=
γ_{TU}=
γ_{TG}=
γ_{LL}=
γ_{LL}=

Element	Node	Uniform Temp (Neg)		Temp Gradient (Pos)		Temp Gradient (Neg)		LL HL-93 (Max)		LL HL-93 (Min)		Service Max		Service Min		Rating Factor RF	
		F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)
1	1	0.2	0.0	-0.1	0.1	0.0	0.0	-1.5	3.2	1.9	-4.0	2.7	2.9	-0.8	-3.7	111.2	66.4
1	2	0.2	0.0	-0.1	0.1	0.0	0.0	-1.6	3.5	7.2	-15.6	7.3	1.9	-0.6	-16.6	29.5	61.1
2	2	0.4	0.1	-0.2	0.3	0.0	-0.1	-3.1	6.7	8.3	-17.9	-246.9	-448.4	-257.5	-472.1	56.3	99.6
2	3	0.4	0.0	-1.5	3.1	0.3	-0.6	-5.3	11.7	6.0	-13.2	-250.6	-438.2	-262.4	-462.6	78.1	56.6
3	3	0.6	0.1	-1.6	3.2	0.3	-0.6	-6.2	13.7	6.8	-14.6	-248.8	-436.1	-262.6	-463.8	68.8	48.3
3	4	0.8	-0.4	-19.2	41.2	3.8	-8.2	-67.4	147.9	20.9	-45.8	-258.4	-264.6	-355.7	-454.2	23.5	4.2
4	4	2.2	-0.7	-19.6	41.4	3.9	-8.3	-64.6	146.9	20.5	-45.6	-251.4	-266.2	-348.7	-455.7	23.6	4.3
4	5	2.3	-1.1	-34.3	72.7	6.9	-14.5	-106.5	239.4	37.2	-82.2	-250.2	-153.3	-412.0	-473.0	13.4	2.5
5	5	3.2	-1.3	-34.6	72.9	6.9	-14.6	-104.8	238.8	36.9	-82.1	-245.0	-154.1	-406.8	-473.7	13.4	2.5
5	6	3.3	-1.7	-49.2	104.1	9.8	-20.8	-136.0	308.0	53.8	-118.9	-236.6	-75.8	-452.2	-507.1	9.3	1.9
6	6	4.0	-1.8	-49.5	104.2	9.9	-20.8	-134.7	307.4	53.5	-118.9	-231.3	-77.0	-447.0	-508.1	9.3	1.9
6	7	4.1	-2.2	-64.1	135.3	12.8	-27.1	-154.2	350.4	70.4	-155.8	-214.5	-38.1	-472.3	-560.2	7.1	1.7
7	7	4.6	-2.3	-64.3	135.4	12.9	-27.1	-153.4	350.1	70.1	-155.7	-209.1	-39.1	-467.0	-561.1	7.0	1.7
7	8	4.8	-2.7	-78.8	166.4	15.8	-33.3	-162.4	369.7	87.1	-192.9	-185.2	-35.3	-474.8	-629.6	5.6	1.7
8	8	5.2	-2.8	-79.0	166.4	15.8	-33.3	-162.2	369.6	86.7	-192.8	-179.4	-36.3	-469.4	-630.6	5.5	1.7
8	9	5.4	-3.2	-93.4	197.5	18.7	-39.5	-161.9	368.4	103.9	-230.4	-148.7	-65.0	-461.3	-715.5	4.5	1.8
9	9	5.7	-3.3	-93.6	197.5	18.7	-39.5	-162.3	368.5	119.1	-260.2	-130.4	-66.0	-456.2	-746.5	3.9	1.8
9	10	5.9	-3.7	-108.0	228.8	21.6	-45.8	-153.3	348.6	138.9	-303.3	-90.7	-123.8	-432.4	-851.2	3.2	2.0
10	10	6.1	-3.8	-108.1	228.8	21.6	-45.8	-154.6	349.1	138.7	-303.0	-84.4	-124.6	-427.9	-852.2	3.1	2.0
10	11	6.3	-4.2	-122.4	260.3	24.5	-52.1	-139.8	317.1	158.8	-346.8	-38.4	-206.2	-392.1	-971.8	2.6	2.3
11	11	6.4	-4.2	-122.5	260.3	24.5	-52.1	-141.0	317.8	158.8	-346.9	-34.7	-206.3	-389.9	-972.6	2.6	2.3
11	12	6.6	-4.5	-131.8	281.0	26.4	-56.2	-126.9	286.9	172.0	-375.8	-1.6	-273.6	-359.2	-1057.1	2.2	2.7
12	12	6.7	-4.5	-131.6	281.2	26.3	-56.2	-128.3	286.8	172.0	-375.7	1.1	-274.7	-357.9	-1058.1	2.2	2.7
12	13	6.7	-4.2	-138.7	263.6	27.7	-52.7	-104.8	204.1	182.8	-352.8	30.0	-318.6	-318.6	-1001.9	2.0	3.6
13	13	6.9	-4.3	-138.8	263.5	27.8	-52.7	-105.1	204.4	182.8	-352.6	35.3	-319.6	-313.9	-1003.0	2.0	3.6

URS

PROJECT: **Cline Avenue Mainline Seg 1 Girder 1** CALCS BY: TSP DATE: 12/4/08

SCRIPTION: **Service Stress Check** CHECKED BY: DATE:

FILE: D:\Cline Ave_tsp\Orig Ab with increased Vc AASHTO\Segment1\Rating Gdr 1\[Service Stresses.xls]Service Stresses (t=00)

Forces Sheet: D:\Cline Ave_tsp\Orig Ab with increased Vc AASHTO\Segment1\Rating Gdr 1\[Forces.xls]

Rating Truck: **HL-93** LL Factor: **Inventory**

γ_{DC}= **1.00**

γ_{DW}= **1.00** Allowable Compression: -3000 psi

γ_{EL}= **1.00** Allowable Tension: 212 psi

γ_{R+S}= **1.00**

γ_{TU}= **1.00** Concrete Strength, f'_c: **5000 psi**

γ_{TG}= **0.50**

γ_{LL}= **1.00** **compression (Ser I)**

γ_{LL}= **0.80** **tension (Ser III)**

Element	Node	DC		DW		Primary PT		Secondary PT		PT Losses (t=00)		Sec PT Losses (t=00)		Creep & Shrinkage		Uniform Temp (Pos)	
		F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)
13	14	408.7	-719.9	55.8	-97.8	-429.9	-561.7	-310.5	538.9	39.6	53.5	0.0	0.0	56.2	-15.1	-7.8	4.6
14	14	409.1	-720.2	56.0	-97.8	-430.2	-562.1	-311.1	539.9	39.4	53.2	0.0	0.0	61.4	-16.4	-8.0	4.6
14	15	545.9	-861.6	72.5	-117.0	-600.1	-239.2	-329.0	527.5	49.0	19.8	0.0	0.0	61.3	-16.3	-8.0	4.5
15	15	547.9	-860.2	72.9	-116.8	-602.3	-241.4	-329.8	528.1	48.9	19.7	0.0	0.0	67.0	-17.6	-8.2	4.5
15	16	731.4	-1136.0	93.5	-151.2	-775.3	-11.0	-353.8	571.3	56.5	0.8	0.0	0.0	67.0	-18.4	-8.3	4.8
16	16	731.5	-1136.3	93.5	-151.4	-775.3	-11.0	-354.2	571.9	56.5	0.8	0.0	0.0	67.8	-18.8	-8.3	4.8
16	17	794.1	-1232.6	101.6	-164.5	-805.3	10.7	-362.5	585.9	55.9	-0.8	0.0	0.0	68.9	-20.8	-8.4	5.0
17	17	794.1	-1232.8	101.6	-164.7	-805.3	10.7	-362.7	586.2	55.9	-0.8	0.0	0.0	69.7	-21.1	-8.4	5.0
17	18	722.1	-1121.1	92.1	-149.2	-806.1	3.6	-360.2	582.0	59.7	-0.3	0.0	0.0	69.3	-20.6	-8.1	4.6
18	18	722.3	-1121.4	92.2	-149.4	-806.1	3.6	-360.6	582.6	59.6	-0.3	0.0	0.0	70.1	-21.0	-8.1	4.6
18	19	509.0	-793.3	66.4	-107.3	-751.2	-105.3	-354.2	570.3	62.9	8.8	0.0	0.0	69.7	-20.3	-7.4	3.3
19	19	508.0	-794.9	66.1	-107.3	-750.6	-104.6	-354.7	571.2	62.9	8.8	0.0	0.0	75.4	-21.5	-7.4	3.4
19	20	318.7	-532.1	43.0	-73.2	-618.2	-351.9	-352.8	594.1	53.3	30.4	0.0	0.0	75.4	-21.7	-6.7	2.2
20	20	318.8	-532.6	42.8	-73.1	-618.2	-351.7	-353.3	595.0	53.4	30.4	0.0	0.0	80.6	-22.9	-6.7	2.2
20	21	150.6	-272.5	21.3	-38.7	-468.3	-656.9	-351.5	621.4	39.9	55.9	0.0	0.0	80.5	-23.0	-5.9	0.9
21	21	150.7	-273.0	21.1	-38.6	-468.3	-656.8	-352.0	622.3	39.9	56.0	0.0	0.0	85.3	-24.1	-5.9	0.9
21	22	0.9	-8.5	1.3	-3.8	-328.9	-974.8	-350.2	653.6	27.3	80.7	0.0	0.0	85.0	-24.2	-5.1	-0.6
22	22	1.1	-9.0	1.1	-3.6	-328.8	-974.7	-350.7	654.7	27.3	80.8	0.0	0.0	89.4	-25.3	-5.1	-0.6
22	23	-133.6	268.5	-16.9	31.9	-196.3	-1317.9	-349.4	693.1	15.8	105.3	0.0	0.0	89.0	-25.3	-4.2	-2.4
23	23	-133.5	268.0	-17.1	32.0	-196.2	-1317.8	-349.9	694.1	15.8	105.4	0.0	0.0	93.1	-26.4	-4.2	-2.4
23	24	-256.3	570.2	-33.4	68.8	-68.4	-1701.3	-349.8	742.8	5.3	130.5	0.0	0.0	92.5	-26.4	-3.3	-4.5
24	24	-255.1	570.7	-33.4	69.0	-69.4	-1702.2	-350.4	743.8	5.3	130.5	0.0	0.0	96.3	-27.5	-3.3	-4.5
24	25	-356.0	805.1	-46.5	96.2	22.4	-1901.4	-340.3	718.4	-1.6	135.6	0.0	0.0	95.2	-25.0	-2.4	-6.3
25	25	-355.7	804.6	-46.6	96.3	22.4	-1901.4	-340.7	719.5	-1.6	135.6	0.0	0.0	98.8	-26.0	-2.4	-6.3

URS

PROJECT: **Cline Avenue**
SCRIPTION: **Service Stre**
FILE: D:\Cline Ave_

Forces Sheet:
Rating Truck:
γ_{DC}=
γ_{DW}=
γ_{EL}=
γ_{R+S}=
γ_{TU}=
γ_{TG}=
γ_{LL}=
γ_{LL}=

Element	Node	Uniform Temp (Neg)		Temp Gradient (Pos)		Temp Gradient (Neg)		LL HL-93 (Max)		LL HL-93 (Min)		Service Max		Service Min		Rating Factor RF	
		F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)
13	14	7.0	-4.1	-147.1	252.3	29.4	-50.5	-80.1	141.2	196.1	-340.5	-1.5	-558.4	-341.6	-1172.0	2.1	6.5
14	14	7.1	-4.1	-147.2	252.3	29.4	-50.5	-81.0	141.5	196.0	-340.3	3.2	-559.5	-338.0	-1173.1	2.1	6.5
14	15	7.1	-4.0	-155.4	246.2	31.1	-49.2	-62.4	99.9	214.2	-339.8	-6.4	-479.3	-348.5	-1055.2	2.0	7.9
15	15	7.2	-4.0	-155.6	246.1	31.1	-49.2	-62.4	100.2	214.1	-339.6	-1.4	-480.5	-343.8	-1056.4	2.0	7.9
15	16	7.4	-4.3	-166.6	265.9	33.3	-53.2	-60.2	96.2	242.5	-384.6	37.4	-529.8	-332.5	-1160.0	1.7	8.7
16	16	7.4	-4.3	-166.5	265.8	33.3	-53.2	-60.0	95.9	242.8	-385.2	38.1	-530.4	-331.8	-1160.9	1.7	8.7
16	17	7.4	-4.4	-169.9	271.3	34.0	-54.3	-61.1	97.4	254.5	-403.7	80.7	-603.5	-301.8	-1257.4	1.5	9.4
17	17	7.4	-4.4	-169.8	271.2	34.0	-54.2	-61.1	97.3	254.4	-403.5	81.2	-604.1	-301.1	-1257.5	1.5	9.4
17	18	7.2	-4.1	-170.1	271.6	34.0	-54.3	-57.9	92.2	235.0	-372.8	-10.9	-491.4	-374.2	-1109.7	1.9	8.6
18	18	7.2	-4.1	-170.1	271.5	34.0	-54.3	-57.9	92.1	234.9	-372.6	-10.4	-491.9	-373.6	-1109.8	1.9	8.6
18	19	6.6	-3.0	-169.9	270.2	34.0	-54.0	-50.1	79.8	181.2	-287.4	-228.8	-244.9	-539.9	-764.5	3.4	6.7
19	19	6.6	-3.0	-169.9	270.3	34.0	-54.1	-49.7	79.6	181.6	-288.1	-224.0	-246.1	-535.0	-766.5	3.4	6.8
19	20	5.9	-2.0	-171.9	286.0	34.4	-57.2	-57.0	96.4	138.5	-231.6	-346.7	-132.1	-630.3	-616.6	5.0	4.6
20	20	5.9	-2.0	-171.9	286.1	34.4	-57.2	-56.3	96.2	139.1	-232.6	-341.5	-132.7	-624.9	-618.1	5.0	4.6
20	21	5.3	-0.8	-174.0	304.0	34.8	-60.8	-73.3	130.0	101.6	-179.9	-423.5	-56.9	-693.7	-524.9	7.3	3.1
21	21	5.3	-0.8	-174.0	304.0	34.8	-60.8	-71.8	129.5	102.1	-180.9	-418.9	-57.7	-688.0	-526.3	7.2	3.1
21	22	4.5	0.5	-176.1	324.9	35.2	-65.0	-95.9	183.4	69.7	-131.5	-486.7	32.7	-753.7	-441.6	11.0	2.0
22	22	4.5	0.5	-176.1	325.0	35.2	-65.0	-94.3	182.9	70.3	-132.6	-482.3	32.2	-748.1	-442.8	10.9	2.0
22	23	3.8	2.1	-178.5	350.1	35.7	-70.0	-118.7	245.1	47.6	-105.6	-531.7	128.8	-803.6	-387.4	16.6	1.3
23	23	3.7	2.1	-178.5	350.1	35.7	-70.0	-117.1	244.5	48.0	-105.8	-527.9	128.1	-798.4	-387.9	16.4	1.3
23	24	2.9	4.0	-181.5	381.2	36.3	-76.2	-141.7	317.6	41.7	-94.2	-555.7	**233.3**	-845.9	-352.2	19.4	0.9
24	24	2.9	4.0	-181.6	381.2	36.3	-76.2	-140.1	317.2	42.1	-94.2	-552.0	**232.7**	-840.9	-352.5	19.1	0.9
24	25	2.1	5.6	-179.4	374.6	35.9	-74.9	-161.9	363.9	41.4	-90.7	-573.6	**312.9**	-880.8	-305.6	20.0	0.7
25	25	2.1	5.6	-179.4	374.7	35.9	-74.9	-163.4	361.4	41.5	-90.8	-570.2	**310.7**	-878.9	-306.0	19.9	0.7

URS

PROJECT: **Cline Avenue Mainline Seg 1 Girder 1** CALCS BY: TSP DATE: 12/4/08

SCRIPTION: **Service Stress Check** CHECKED BY: DATE:

FILE: D:\Cline Ave_tsp\Orig Ab with increased Vc AASHTO\Segment1\Rating Gdr 1\[Service Stresses.xls]Service Stresses (t=00)

Forces Sheet: D:\Cline Ave_tsp\Orig Ab with increased Vc AASHTO\Segment1\Rating Gdr 1\[Forces.xls]

Rating Truck: **HL-93** LL Factor: **Inventory**

γ_{DC}= **1.00**

γ_{DW}= **1.00** Allowable Compression: -3000 psi

γ_{EL}= **1.00** Allowable Tension: 212 psi

γ_{R+S}= **1.00**

γ_{TU}= **1.00** Concrete Strength, f'_c: **5000 psi**

γ_{TG}= **0.50**

γ_{LL}= **1.00** **compression (Ser I)**

γ_{LL}= **0.80** **tension (Ser III)**

Element	Node	DC		DW		Primary PT		Secondary PT		PT Losses (t=00)		Sec PT Losses (t=00)		Creep & Shrinkage		Uniform Temp (Pos)	
		F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)
25	26	-438.2	999.7	-56.9	117.5	96.8	-2063.2	-330.6	695.1	-6.4	136.9	0.0	0.0	97.6	-23.3	-1.5	-8.1
26	26	-437.9	999.1	-57.0	117.6	96.8	-2063.2	-331.1	696.1	-6.4	136.8	0.0	0.0	101.0	-24.2	-1.5	-8.2
26	27	-501.6	1152.4	-64.6	133.1	153.8	-2188.6	-321.1	673.0	-9.6	136.0	0.0	0.0	99.7	-21.3	-0.6	-10.0
27	27	-501.3	1151.8	-64.7	133.2	153.8	-2188.6	-321.6	674.0	-9.6	136.0	0.0	0.0	103.0	-22.2	-0.5	-10.0
27	28	-545.5	1261.0	-69.7	143.3	194.0	-2279.4	-311.9	652.2	-11.5	134.9	0.0	0.0	101.6	-19.2	0.3	-11.8
28	28	-545.2	1260.3	-69.7	143.3	194.0	-2279.4	-312.3	653.2	-11.5	134.8	0.0	0.0	104.7	-20.0	0.4	-11.8
28	29	-569.5	1323.1	-72.1	148.1	217.7	-2336.6	-303.0	632.9	-12.6	134.8	0.0	0.0	103.2	-16.9	1.3	-13.6
29	29	-569.1	1322.4	-72.2	148.2	217.7	-2336.5	-303.4	633.8	-12.6	134.8	0.0	0.0	106.3	-17.7	1.3	-13.6
29	30	-573.0	1337.2	-72.0	147.8	224.9	-2360.8	-294.4	614.9	-13.0	136.7	0.0	0.0	104.7	-14.6	2.2	-15.5
30	30	-572.7	1336.5	-72.0	147.8	224.9	-2360.8	-294.8	615.7	-13.0	136.6	0.0	0.0	106.7	-15.0	2.2	-15.5
30	31	-562.2	1315.8	-70.2	144.1	219.7	-2358.4	-288.3	602.5	-13.0	139.5	0.0	0.0	105.6	-12.7	2.9	-16.9
31	31	-561.8	1315.1	-70.3	144.1	219.7	-2358.4	-288.7	603.2	-13.0	139.6	0.0	0.0	107.5	-13.2	2.9	-16.9
31	32	-529.6	1244.3	-65.6	134.6	197.9	-2325.2	-280.3	586.5	-12.3	144.7	0.0	0.0	105.9	-10.1	3.8	-18.8
32	32	-529.2	1243.4	-65.7	134.6	197.9	-2325.2	-280.7	587.3	-12.3	144.7	0.0	0.0	108.8	-10.7	3.9	-18.8
32	33	-476.5	1123.8	-58.4	119.8	158.5	-2256.1	-272.5	571.6	-10.6	150.0	0.0	0.0	107.2	-7.7	4.8	-20.8
33	33	-476.1	1122.9	-58.4	119.7	158.5	-2256.1	-272.9	572.5	-10.6	150.1	0.0	0.0	110.1	-8.3	4.9	-20.8
33	34	-403.1	955.6	-48.5	99.3	100.8	-2149.5	-264.8	557.6	-7.2	153.9	0.0	0.0	108.5	-5.4	5.8	-22.8
34	34	-402.7	954.7	-48.5	99.3	100.8	-2149.5	-265.2	558.4	-7.2	153.9	0.0	0.0	111.4	-6.0	5.9	-22.8
34	35	-310.1	741.5	-35.8	73.1	23.6	-2002.7	-257.2	544.0	-1.8	154.0	0.0	0.0	109.9	-3.2	6.8	-24.9
35	35	-309.7	740.4	-35.8	73.0	23.6	-2002.8	-257.5	544.8	-1.8	154.0	0.0	0.0	112.9	-3.8	6.9	-24.9
35	36	-198.1	483.5	-20.4	40.7	-73.9	-1812.4	-249.5	530.7	6.0	148.2	0.0	0.0	111.3	-1.1	7.8	-27.1
36	36	-198.8	481.1	-20.4	40.4	-72.6	-1811.2	-249.9	531.4	6.0	148.1	0.0	0.0	114.5	-1.8	7.9	-27.1
36	37	-66.9	156.4	-2.2	1.6	-214.5	-1387.5	-233.8	457.7	17.8	114.4	0.0	0.0	113.1	-0.2	8.4	-25.9
37	37	-66.3	155.6	-2.0	1.5	-214.6	-1387.6	-234.1	458.3	17.8	114.2	0.0	0.0	116.6	-0.9	8.4	-25.9

URS

PROJECT: **Cline Avenue**
SCRIPTION: **Service Stre**
FILE: D:\Cline Ave_

Forces Sheet:
Rating Truck:
γ_{DC}=
γ_{DW}=
γ_{EL}=
γ_{R+S}=
γ_{TU}=
γ_{TG}=
γ_{LL}=
γ_{LL}=

Element	Node	Uniform Temp (Neg)		Temp Gradient (Pos)		Temp Gradient (Neg)		LL HL-93 (Max)		LL HL-93 (Min)		Service Max		Service Min		Rating Factor RF	
		F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)
25	26	1.3	7.2	-177.1	368.2	35.4	-73.6	-187.9	415.7	44.2	-96.1	-583.3	**386.6**	-915.7	-278.3	19.0	0.6
26	26	1.3	7.2	-177.2	368.3	35.4	-73.7	-187.7	415.7	44.4	-96.2	-580.1	**386.1**	-912.4	-279.1	18.8	0.6
26	27	0.5	8.8	-174.8	362.1	35.0	-72.4	-208.1	459.8	47.2	-102.2	-587.6	**442.3**	-939.5	-263.8	17.9	0.5
27	27	0.5	8.9	-174.8	362.2	35.0	-72.4	-208.0	459.8	47.3	-102.3	-584.6	**442.0**	-936.3	-264.3	17.8	0.5
27	28	-0.3	10.5	-172.5	356.5	34.5	-71.3	-223.4	493.8	51.1	-111.1	-584.6	**476.6**	-953.0	-265.8	16.6	0.5
28	28	-0.3	10.5	-172.5	356.5	34.5	-71.3	-223.3	493.8	51.5	-111.3	-581.2	**476.0**	-949.9	-266.6	16.4	0.5
28	29	-1.1	12.1	-170.3	351.3	34.1	-70.3	-234.4	517.6	58.8	-129.1	-570.9	**487.2**	-957.0	-292.5	14.3	0.5
29	29	-1.2	12.1	-170.3	351.3	34.1	-70.3	-234.1	517.4	58.7	-129.1	-568.0	**486.7**	-953.8	-292.9	14.3	0.5
29	30	-2.0	13.7	-168.1	346.6	33.6	-69.3	-240.3	530.8	68.3	-150.1	-549.2	**472.8**	-949.2	-339.1	12.1	0.5
30	30	-2.0	13.8	-168.1	346.6	33.6	-69.3	-240.3	530.9	68.2	-150.1	-547.3	**472.6**	-947.3	-339.5	12.1	0.5
30	31	-2.6	15.0	-166.5	343.4	33.3	-68.7	-241.7	533.9	75.3	-165.7	-528.6	**444.6**	-936.0	-386.2	10.8	0.6
31	31	-2.6	15.0	-166.5	343.4	33.3	-68.7	-241.7	533.9	75.2	-165.7	-526.9	**444.2**	-934.2	-386.6	10.8	0.6
31	32	-3.4	16.7	-164.4	339.5	32.9	-67.9	-239.9	529.6	85.0	-186.9	-495.8	**384.9**	-909.5	-464.9	9.3	0.7
32	32	-3.5	16.7	-164.4	339.5	32.9	-67.9	-239.7	529.5	84.9	-186.9	-492.9	**384.2**	-906.6	-465.6	9.3	0.7
32	33	-4.3	18.5	-162.4	335.9	32.5	-67.2	-233.1	514.4	94.7	-208.4	-455.5	**299.4**	-870.9	-561.4	8.0	0.8
33	33	-4.3	18.5	-162.4	335.9	32.5	-67.2	-233.0	514.3	94.5	-208.4	-452.7	**298.7**	-867.9	-562.0	8.0	0.8
33	34	-5.2	20.3	-160.3	332.6	32.1	-66.5	-221.5	489.1	104.6	-230.4	-408.8	189.4	-821.2	-675.0	6.9	1.0
34	34	-5.2	20.3	-160.3	332.6	32.1	-66.5	-221.5	488.8	104.4	-230.3	-405.9	188.4	-818.3	-675.6	6.9	1.0
34	35	-6.1	22.1	-158.1	329.4	31.6	-65.9	-205.6	453.3	114.7	-252.8	-357.0	56.1	-762.2	-804.0	6.0	1.3
35	35	-6.1	22.2	-158.1	329.4	31.6	-65.9	-205.4	453.2	114.4	-252.6	-354.1	55.1	-758.9	-804.9	5.9	1.3
35	36	-7.0	24.1	-155.8	326.2	31.2	-65.2	-185.3	409.0	125.6	-277.4	-300.7	-96.0	-694.8	-947.5	5.1	1.8
36	36	-7.0	24.1	-155.8	326.1	31.2	-65.2	-185.4	408.7	125.1	-277.5	-297.6	-97.9	-691.5	-949.2	5.1	1.8
36	37	-7.5	23.0	-148.3	285.6	29.7	-57.1	-156.8	316.6	133.7	-270.3	-256.3	-238.5	-625.0	-982.4	4.5	2.4
37	37	-7.5	23.0	-148.4	285.6	29.7	-57.1	-156.7	316.7	155.3	-309.2	-235.1	-239.7	-621.0	-1022.6	3.9	2.4

URS

PROJECT: **Cline Avenue Mainline Seg 1 Girder 1** CALCS BY: TSP DATE: 12/4/08

SCRIPTION: **Service Stress Check** CHECKED BY: DATE:

FILE: D:\Cline Ave_tsp\Orig Ab with increased Vc AASHTO\Segment1\Rating Gdr 1\[Service Stresses.xls]Service Stresses (t=00)

Forces Sheet: D:\Cline Ave_tsp\Orig Ab with increased Vc AASHTO\Segment1\Rating Gdr 1\[Forces.xls]

Rating Truck: **HL-93** LL Factor: **Inventory**

γ_{DC}= **1.00**

γ_{DW}= **1.00** Allowable Compression: -3000 psi

γ_{EL}= **1.00** Allowable Tension: 212 psi

γ_{R+S}= **1.00**

γ_{TU}= **1.00** Concrete Strength, f'_c: **5000 psi**

γ_{TG}= **0.50**

γ_{LL}= **1.00** **compression (Ser I)**

γ_{LL}= **0.80** **tension (Ser III)**

Element	Node	DC		DW		Primary PT		Secondary PT		PT Losses (t=00)		Sec PT Losses (t=00)		Creep & Shrinkage		Uniform Temp (Pos)	
		F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)
37	38	75.9	-132.9	17.8	-34.5	-705.4	-1428.8	-220.0	401.0	73.7	147.2	0.0	0.0	114.2	-1.1	9.1	-25.0
38	38	76.5	-133.6	18.0	-34.6	-705.6	-1429.2	-220.3	401.6	73.6	146.9	0.0	0.0	117.6	-1.8	9.1	-25.0
38	39	241.0	-403.4	39.0	-69.1	-1083.0	-727.9	-209.5	354.7	107.5	73.0	0.0	0.0	115.5	0.0	9.6	-24.5
39	39	241.5	-404.1	39.2	-69.3	-1083.2	-728.2	-209.8	355.2	107.3	72.8	0.0	0.0	118.6	-0.6	9.6	-24.5
39	40	421.5	-668.3	61.8	-102.7	-1315.0	-351.3	-198.1	316.7	128.8	36.3	0.0	0.0	117.0	0.0	10.2	-24.0
40	40	422.1	-668.8	62.1	-102.8	-1315.1	-351.5	-198.4	317.1	128.6	36.2	0.0	0.0	119.8	-0.5	10.2	-24.0
40	41	623.1	-932.7	86.4	-135.6	-1482.1	-87.6	-187.0	284.0	141.4	9.1	0.0	0.0	118.4	-0.1	10.8	-23.7
41	41	625.0	-931.8	86.7	-135.6	-1483.0	-88.5	-187.1	284.5	141.1	9.0	0.0	0.0	121.0	-0.6	10.9	-23.7
41	42	856.6	-1274.9	113.9	-178.5	-1562.7	27.0	-178.2	271.9	136.5	-2.3	0.0	0.0	119.9	0.7	11.6	-24.9
42	42	856.9	-1275.2	113.9	-178.5	-1562.7	27.0	-178.4	272.1	136.5	-2.3	0.0	0.0	120.0	0.9	11.6	-24.9
42	43	936.4	-1392.6	124.1	-194.4	-1566.3	34.7	-175.7	268.2	130.7	-2.9	0.0	0.0	120.7	-0.2	11.9	-25.2
43	43	936.5	-1392.8	124.1	-194.3	-1566.3	34.7	-175.8	268.3	130.7	-2.9	0.0	0.0	120.9	-0.1	11.9	-25.2
43	44	864.5	-1284.1	114.5	-179.4	-1566.2	30.7	-178.7	272.9	135.7	-2.7	0.0	0.0	119.6	1.8	11.0	-23.9
44	44	864.7	-1284.4	114.5	-179.3	-1566.2	30.7	-178.9	273.2	135.7	-2.7	0.0	0.0	119.9	1.9	11.0	-23.9
44	45	653.3	-967.3	89.2	-139.5	-1532.4	-32.8	-188.0	287.6	145.1	3.0	0.0	0.0	117.5	5.7	8.4	-19.7
45	45	652.3	-969.1	88.8	-139.5	-1531.9	-32.2	-188.2	287.8	145.1	3.0	0.0	0.0	120.2	5.3	8.5	-19.8
45	46	467.2	-735.5	66.5	-110.5	-1443.8	-203.5	-199.2	323.4	143.7	20.2	0.0	0.0	117.9	10.9	5.9	-16.7
46	46	467.4	-736.1	66.2	-110.3	-1443.7	-203.4	-199.4	323.7	143.7	20.2	0.0	0.0	120.3	10.6	6.0	-16.7
46	47	303.3	-511.6	45.9	-81.3	-1254.5	-513.4	-212.1	366.9	126.6	50.8	0.0	0.0	118.1	16.7	3.4	-13.2
47	47	303.5	-512.2	45.6	-81.1	-1254.3	-513.2	-212.3	367.2	126.6	50.8	0.0	0.0	120.0	16.5	3.5	-13.2
47	48	156.5	-295.9	27.1	-51.7	-906.3	-1163.4	-228.3	419.5	92.8	118.8	0.0	0.0	118.2	23.1	0.8	-9.1
48	48	156.7	-296.5	26.8	-51.5	-906.1	-1163.0	-228.5	419.9	92.9	118.8	0.0	0.0	119.7	22.9	0.9	-9.1
48	49	34.2	-80.6	9.5	-21.5	-437.1	-1056.7	-244.2	486.5	33.2	80.1	0.0	0.0	117.5	33.2	-2.0	-4.3
49	49	34.4	-81.3	9.3	-21.4	-437.0	-1056.6	-244.4	486.9	33.2	80.2	0.0	0.0	118.9	33.0	-1.9	-4.3

URS

PROJECT: **Cline Avenue**
SCRIPTION: **Service Stre**
FILE: D:\Cline Ave_

Forces Sheet:
Rating Truck:
γ_{DC}=
γ_{DW}=
γ_{EL}=
γ_{R+S}=
γ_{TU}=
γ_{TG}=
γ_{LL}=
γ_{LL}=

Element	Node	Uniform Temp (Neg)		Temp Gradient (Pos)		Temp Gradient (Neg)		LL HL-93 (Max)		LL HL-93 (Min)		Service Max		Service Min		Rating Factor RF	
		F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)
37	38	-8.1	22.2	-142.1	253.8	28.4	-50.8	-130.7	243.2	167.3	-307.0	-486.7	-705.4	-853.7	-1406.5	5.2	4.8
38	38	-8.1	22.2	-142.1	253.8	28.4	-50.8	-130.5	243.2	167.1	-306.6	-483.2	-707.0	-849.9	-1407.7	5.2	4.8
38	39	-8.5	21.8	-134.6	228.5	26.9	-45.7	-107.1	185.7	182.8	-311.9	-620.2	-488.1	-972.4	-1132.0	5.6	4.8
39	39	-8.6	21.8	-134.7	228.4	26.9	-45.7	-107.7	185.9	182.6	-311.4	-617.3	-489.5	-970.1	-1133.0	5.5	4.8
39	40	-9.0	21.3	-128.9	206.9	25.8	-41.4	-88.5	142.7	203.0	-324.4	-598.5	-530.4	-946.0	-1138.4	5.0	6.2
40	40	-9.1	21.4	-128.9	206.9	25.8	-41.4	-88.9	142.8	202.8	-324.1	-595.6	-531.2	-943.4	-1139.1	5.0	6.2
40	41	-9.6	21.0	-123.7	188.6	24.7	-37.7	-75.5	113.3	235.8	-355.4	-488.0	-657.0	-846.8	-1260.9	4.0	8.7
41	41	-9.7	21.0	-123.8	188.6	24.8	-37.7	-75.7	113.4	235.2	-354.5	-484.8	-657.0	-843.6	-1260.1	4.0	8.7
41	42	-10.3	22.1	-120.2	183.6	24.0	-36.7	-78.3	116.8	282.9	-426.4	-264.1	-948.8	-662.7	-1625.8	2.7	10.9
42	42	-10.4	22.1	-120.2	183.6	24.0	-36.7	-78.3	116.8	282.8	-426.2	-264.0	-948.7	-662.6	-1625.5	2.7	10.9
42	43	-10.6	22.4	-118.6	181.2	23.7	-36.2	-79.8	119.1	303.4	-457.3	-163.6	-1078.9	-579.8	-1787.8	2.2	11.8
43	43	-10.6	22.4	-118.6	181.2	23.7	-36.2	-79.8	119.2	303.5	-457.3	-163.4	-1078.7	-579.6	-1787.7	2.2	11.8
43	44	-9.8	21.3	-120.2	183.7	24.0	-36.7	-75.8	113.1	282.4	-425.5	-261.7	-957.2	-656.3	-1628.6	2.7	11.3
44	44	-9.8	21.3	-120.2	183.8	24.0	-36.8	-75.8	113.3	282.6	-425.8	-261.2	-956.8	-656.0	-1628.7	2.7	11.3
44	45	-7.4	17.5	-123.8	188.9	24.8	-37.8	-65.3	98.0	224.5	-338.4	-514.9	-653.0	-849.9	-1220.3	4.2	9.8
45	45	-7.5	17.6	-123.7	188.9	24.7	-37.8	-65.0	97.9	225.0	-339.1	-512.9	-654.3	-848.1	-1222.5	4.2	9.9
45	46	-5.2	14.8	-128.9	207.5	25.8	-41.5	-71.3	114.5	182.3	-291.4	-683.1	-484.9	-988.7	-1023.9	5.9	7.1
46	46	-5.3	14.9	-128.8	207.6	25.8	-41.5	-70.6	114.3	182.5	-291.6	-680.6	-485.2	-985.8	-1024.4	5.9	7.1
46	47	-3.0	11.7	-134.9	229.9	27.0	-46.0	-87.2	145.9	160.2	-273.3	-727.6	-428.5	-1030.4	-981.4	6.9	5.4
47	47	-3.1	11.8	-134.8	229.9	27.0	-46.0	-85.6	145.4	160.6	-274.0	-725.4	-428.9	-1027.0	-982.2	6.8	5.4
47	48	-0.7	8.1	-142.4	256.5	28.5	-51.3	-109.7	199.6	143.1	-262.7	-610.5	-653.6	-921.6	-1247.1	6.7	5.3
48	48	-0.8	8.1	-142.4	256.5	28.5	-51.3	-108.1	199.0	143.4	-263.0	-608.6	-653.9	-918.6	-1247.2	6.7	5.4
48	49	1.8	3.8	-149.3	289.9	29.9	-58.0	-132.1	262.5	130.5	-259.8	-365.8	-200.3	-695.7	-852.1	5.4	2.6
49	49	1.6	3.8	-149.2	289.9	29.8	-58.0	-130.5	262.2	130.7	-260.2	-364.5	-200.7	-692.6	-852.7	5.4	2.6

URS

PROJECT: **Cline Avenue Mainline Seg 1 Girder 1** CALCS BY: TSP DATE: 12/4/08

SCRIPTION: **Service Stress Check** CHECKED BY: DATE:

FILE: D:\Cline Ave_tsp\Orig Ab with increased Vc AASHTO\Segment1\Rating Gdr 1\[Service Stresses.xls]Service Stresses (t=00)

Forces Sheet: D:\Cline Ave_tsp\Orig Ab with increased Vc AASHTO\Segment1\Rating Gdr 1\[Forces.xls]

Rating Truck: **HL-93** LL Factor: **Inventory**

γ_{DC}= **1.00**

γ_{DW}= **1.00** Allowable Compression: -3000 psi

γ_{EL}= **1.00** Allowable Tension: 212 psi

γ_{R+S}= **1.00**

γ_{TU}= **1.00** Concrete Strength, f'_c: **5000 psi**

γ_{TG}= **0.50**

γ_{LL}= **1.00** **compression (Ser I)**

γ_{LL}= **0.80** **tension (Ser III)**

Element	Node	DC		DW		Primary PT		Secondary PT		PT Losses (t=00)		Sec PT Losses (t=00)		Creep & Shrinkage		Uniform Temp (Pos)	
		F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)
49	50	-72.7	142.7	-6.2	10.2	-317.5	-1430.3	-263.3	573.2	24.5	109.9	0.0	0.0	115.4	44.8	-4.9	1.7
50	50	-71.4	143.1	-6.3	10.4	-318.7	-1431.4	-263.4	573.7	24.5	109.9	0.0	0.0	117.0	44.7	-4.7	1.8
50	51	-159.7	338.0	-19.5	38.6	-231.2	-1627.3	-274.0	594.9	17.3	122.0	0.0	0.0	114.0	51.2	-7.8	8.3
51	51	-159.4	337.3	-19.6	38.7	-231.2	-1627.2	-274.2	595.2	17.3	121.9	0.0	0.0	115.6	51.0	-7.7	8.2
51	52	-228.4	491.8	-30.2	60.8	-157.0	-1793.6	-284.8	615.9	11.5	131.2	0.0	0.0	112.4	57.8	-10.7	14.6
52	52	-228.1	491.2	-30.3	60.9	-157.0	-1793.6	-285.0	616.2	11.5	131.2	0.0	0.0	114.0	57.6	-10.6	14.6
52	53	-277.8	605.2	-38.1	77.1	-96.3	-1930.7	-295.4	636.7	6.9	138.3	0.0	0.0	110.6	64.9	-13.6	20.9
53	53	-277.5	604.5	-38.1	77.1	-96.3	-1930.7	-295.6	636.9	6.9	138.3	0.0	0.0	112.2	64.7	-13.5	20.9
53	54	-308.0	677.5	-43.2	87.6	-49.1	-2038.9	-306.0	657.2	3.5	144.2	0.0	0.0	108.6	72.5	-16.5	27.1
54	54	-307.7	676.9	-43.2	87.6	-49.1	-2038.9	-306.2	657.4	3.5	144.2	0.0	0.0	110.2	72.3	-16.4	27.1
54	55	-318.2	706.5	-45.5	92.3	-17.7	-2112.5	-315.8	676.1	1.2	148.7	0.0	0.0	106.4	80.2	-19.3	33.2
55	55	-317.9	705.8	-45.5	92.3	-17.7	-2112.5	-316.0	676.3	1.2	148.8	0.0	0.0	107.7	80.1	-19.2	33.1
55	56	-309.2	692.0	-45.1	91.2	-6.7	-2139.3	-322.7	688.8	0.5	151.1	0.0	0.0	104.3	86.7	-21.7	38.3
56	56	-308.9	691.3	-45.1	91.2	-6.7	-2139.3	-322.8	689.0	0.5	151.2	0.0	0.0	105.6	86.6	-21.6	38.3
56	57	-280.1	633.2	-42.0	84.6	-10.8	-2133.3	-329.2	700.6	0.8	152.5	0.0	0.0	101.8	93.7	-24.2	43.7
57	57	-279.7	632.5	-42.1	84.6	-10.8	-2133.4	-329.3	700.7	0.8	152.7	0.0	0.0	103.3	93.7	-24.1	43.7
57	58	-231.4	530.7	-36.3	72.5	-32.5	-2085.9	-334.2	709.2	2.4	151.9	0.0	0.0	99.6	100.2	-26.6	48.8
58	58	-231.1	529.9	-36.3	72.5	-32.5	-2085.9	-334.2	709.3	2.4	152.1	0.0	0.0	101.1	100.2	-26.5	48.8
58	59	-164.7	387.1	-28.1	55.3	-71.7	-1998.9	-337.3	714.1	5.3	148.7	0.0	0.0	97.5	106.1	-28.7	53.5
59	59	-164.4	386.3	-28.1	55.2	-71.7	-1998.8	-337.3	714.2	5.3	148.9	0.0	0.0	98.9	106.0	-28.6	53.5
59	60	-82.0	207.6	-17.7	33.4	-126.4	-1877.2	-338.8	715.9	9.6	142.7	0.0	0.0	95.5	111.1	-30.6	57.6
60	60	-81.7	206.8	-17.7	33.3	-126.4	-1877.1	-338.8	716.0	9.6	142.9	0.0	0.0	97.0	111.1	-30.5	57.6
60	61	14.3	-2.3	-5.3	7.5	-195.1	-1723.5	-338.8	714.8	15.1	133.3	0.0	0.0	93.9	115.3	-32.2	61.3
61	61	14.5	-3.1	-5.3	7.4	-195.1	-1723.5	-338.8	714.8	15.1	133.4	0.0	0.0	95.4	115.3	-32.1	61.3

URS

PROJECT: **Cline Avenue**
SCRIPTION: **Service Stre**
FILE: D:\Cline Ave_

Forces Sheet:
Rating Truck:
γ_{DC}=
γ_{DW}=
γ_{EL}=
γ_{R+S}=
γ_{TU}=
γ_{TG}=
γ_{LL}=
γ_{LL}=

Element	Node	Uniform Temp (Neg)		Temp Gradient (Pos)		Temp Gradient (Neg)		LL HL-93 (Max)		LL HL-93 (Min)		Service Max		Service Min		Rating Factor RF	
		F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)
49	50	4.3	-1.6	-157.5	332.7	31.5	-66.5	-159.8	353.7	124.8	-272.7	-399.9	-98.5	-763.3	-857.1	5.9	1.9
50	50	4.2	-1.6	-157.4	332.8	31.5	-66.6	-159.3	354.0	106.3	-236.2	-413.3	-98.2	-761.0	-820.7	6.9	1.9
50	51	6.9	-7.3	-160.4	337.2	32.1	-67.4	-187.0	414.4	103.7	-231.3	-447.2	25.8	-828.1	-754.9	7.4	1.4
51	51	6.8	-7.3	-160.3	337.3	32.1	-67.5	-186.5	414.2	103.9	-231.4	-445.5	25.1	-825.9	-755.6	7.3	1.5
51	52	9.5	-13.0	-163.0	341.4	32.6	-68.3	-210.8	467.1	103.1	-229.4	-468.2	122.9	-879.5	-712.7	7.6	1.2
52	52	9.4	-13.0	-163.0	341.4	32.6	-68.3	-210.6	467.1	103.2	-229.5	-466.6	122.5	-877.6	-713.2	7.6	1.2
52	53	12.1	-18.6	-165.5	345.4	33.1	-69.1	-230.5	510.1	102.6	-227.9	-479.4	193.2	-917.0	-689.6	7.7	1.0
53	53	12.0	-18.6	-165.5	345.4	33.1	-69.1	-230.4	510.1	102.7	-228.0	-477.7	192.5	-915.1	-690.4	7.7	1.0
53	54	14.7	-24.1	-167.8	349.4	33.6	-69.9	-245.5	543.0	103.7	-228.0	-479.7	**236.3**	-940.1	-687.0	7.7	1.0
54	54	14.6	-24.1	-167.8	349.4	33.6	-69.9	-245.4	543.1	103.9	-228.1	-478.0	**235.8**	-938.2	-687.7	7.6	1.0
54	55	17.2	-29.5	-169.7	352.6	33.9	-70.5	-255.7	565.1	105.6	-232.4	-471.0	**252.9**	-949.5	-705.9	7.5	0.9
55	55	17.1	-29.5	-169.6	352.6	33.9	-70.5	-255.5	564.9	106.1	-232.6	-469.3	**252.1**	-947.7	-706.6	7.4	0.9
55	56	19.3	-34.0	-170.3	353.4	34.1	-70.7	-259.5	572.8	113.0	-249.9	-452.2	**243.7**	-945.3	-748.8	6.9	0.9
56	56	19.2	-34.0	-170.3	353.4	34.1	-70.7	-259.4	572.8	112.9	-249.9	-450.8	**243.2**	-943.6	-749.3	6.9	0.9
56	57	21.6	-38.9	-170.3	353.2	34.1	-70.6	-258.5	569.9	122.1	-269.7	-423.2	207.5	-927.4	-812.6	6.2	1.0
57	57	21.5	-38.9	-170.3	353.2	34.1	-70.6	-258.5	569.9	122.1	-269.7	-421.6	207.0	-925.6	-813.1	6.2	1.0
57	58	23.6	-43.4	-169.6	351.5	33.9	-70.3	-252.5	555.6	130.6	-287.6	-387.4	147.6	-896.3	-887.6	5.6	1.1
58	58	23.5	-43.4	-169.6	351.5	33.9	-70.3	-252.2	555.5	130.6	-287.6	-385.7	147.1	-894.1	-888.1	5.6	1.1
58	59	25.5	-47.5	-167.9	348.0	33.6	-69.6	-241.3	529.6	138.2	-303.5	-346.1	63.6	-853.0	-973.4	5.0	1.3
59	59	25.4	-47.5	-167.9	348.0	33.6	-69.6	-241.2	529.6	138.1	-303.4	-344.6	63.0	-851.1	-973.9	5.0	1.3
59	60	27.2	-51.2	-165.4	343.0	33.1	-68.6	-225.5	493.5	145.0	-317.4	-300.1	-42.6	-798.6	-1069.4	4.5	1.5
60	60	27.1	-51.2	-165.4	343.0	33.1	-68.6	-225.6	493.5	144.8	-317.3	-298.5	-43.1	-796.8	-1069.8	4.5	1.5
60	61	28.6	-54.5	-162.3	336.6	32.5	-67.3	-205.9	450.0	151.0	-329.6	-250.3	-165.3	-735.2	-1172.7	4.1	1.8
61	61	28.5	-54.4	-162.3	336.5	32.5	-67.3	-205.9	449.8	177.3	-382.0	-227.6	-166.3	-733.4	-1225.8	3.5	1.8

URS

PROJECT: **Cline Avenue Mainline Seg 1 Girder 1** CALCS BY: TSP DATE: 12/4/08

SCRIPTION: **Service Stress Check** CHECKED BY: DATE:

FILE: D:\Cline Ave_tsp\Orig Ab with increased Vc AASHTO\Segment1\Rating Gdr 1\[Service Stresses.xls]Service Stresses (t=00)

Forces Sheet: D:\Cline Ave_tsp\Orig Ab with increased Vc AASHTO\Segment1\Rating Gdr 1\[Forces.xls]

Rating Truck: **HL-93** LL Factor: **Inventory**

γ_{DC}= **1.00**

γ_{DW}= **1.00** Allowable Compression: -3000 psi

γ_{EL}= **1.00** Allowable Tension: 212 psi

γ_{R+S}= **1.00**

γ_{TU}= **1.00** Concrete Strength, f'_c: **5000 psi**

γ_{TG}= **0.50**

γ_{LL}= **1.00** **compression (Ser I)**

γ_{LL}= **0.80** **tension (Ser III)**

Element	Node	DC		DW		Primary PT		Secondary PT		PT Losses (t=00)		Sec PT Losses (t=00)		Creep & Shrinkage		Uniform Temp (Pos)	
		F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)
61	62	121.6	-236.4	8.6	-21.9	-276.5	-1540.2	-337.0	710.0	21.6	120.2	0.0	0.0	92.6	118.4	-33.5	64.3
62	62	121.9	-237.2	8.7	-22.0	-276.5	-1540.1	-337.0	710.0	21.6	120.3	0.0	0.0	94.2	118.3	-33.4	64.3
62	63	237.4	-488.0	23.9	-53.9	-368.1	-1333.3	-333.7	702.2	28.7	103.8	0.0	0.0	91.7	120.3	-34.5	66.7
63	63	237.6	-488.8	24.0	-54.0	-368.0	-1333.3	-333.7	702.2	28.7	103.8	0.0	0.0	93.5	120.2	-34.4	66.7
63	64	358.9	-750.5	40.0	-87.6	-467.8	-1107.0	-328.7	691.0	35.8	84.7	0.0	0.0	91.4	121.0	-35.2	68.5
64	64	357.0	-753.4	39.9	-88.1	-465.9	-1105.1	-328.6	691.0	35.8	84.7	0.0	0.0	93.4	120.7	-35.1	68.5
64	65	465.0	-897.6	54.4	-107.9	-586.2	-753.3	-311.2	594.9	42.0	54.0	0.0	0.0	93.8	104.8	-34.5	61.3
65	65	465.3	-898.1	54.6	-108.0	-586.2	-753.3	-311.2	594.8	42.0	53.9	0.0	0.0	96.1	104.4	-34.4	61.2
65	66	576.0	-1019.9	68.5	-124.5	-1086.9	-713.1	-296.5	520.7	95.8	63.0	0.0	0.0	94.4	90.6	-33.7	55.5
66	66	576.2	-1020.3	68.8	-124.7	-1086.8	-713.1	-296.4	520.6	95.8	63.0	0.0	0.0	96.8	90.2	-33.6	55.5
66	67	696.3	-1132.8	81.6	-138.5	-1358.7	-224.9	-284.2	462.2	114.4	19.1	0.0	0.0	95.0	80.9	-32.7	50.7
67	67	696.4	-1133.2	81.9	-138.7	-1358.5	-224.7	-284.2	462.1	114.5	19.1	0.0	0.0	97.0	80.6	-32.5	50.7
67	68	813.5	-1235.1	94.8	-150.3	-1509.8	3.6	-271.8	413.8	122.4	0.2	0.0	0.0	96.5	71.9	-31.9	46.6
68	68	813.5	-1235.5	95.1	-150.5	-1509.7	3.7	-271.7	413.7	122.6	0.2	0.0	0.0	98.2	71.6	-31.7	46.5
68	69	931.7	-1328.5	107.7	-160.3	-1582.2	124.5	-260.1	373.0	121.2	-9.2	0.0	0.0	98.1	63.7	-31.1	43.0
69	69	934.0	-1326.5	108.1	-160.2	-1583.4	123.2	-260.1	372.8	121.3	-9.3	0.0	0.0	99.6	63.5	-30.9	43.0
69	70	1063.3	-1503.2	121.6	-179.5	-1610.0	175.9	-251.9	360.2	113.5	-12.4	0.0	0.0	99.1	61.3	-30.7	42.5
70	70	1066.6	-1500.1	121.9	-179.3	-1610.6	175.4	-252.0	360.0	113.3	-12.4	0.0	0.0	99.3	60.9	-30.6	42.5
70	71	1127.1	-1584.7	128.7	-189.2	-1614.5	178.1	-253.7	362.6	109.3	-12.1	0.0	0.0	98.8	61.5	-30.9	42.8
71	71	1195.6	-1712.5	133.3	-197.7	-1614.5	178.1	-376.6	598.2	112.8	-12.5	0.0	0.0	101.2	57.5	-2.4	-13.4
71	72	1129.6	-1618.7	125.9	-187.0	-1616.6	175.3	-374.9	595.8	117.7	-12.8	0.0	0.0	102.3	55.8	-2.3	-13.5
72	72	1126.3	-1622.6	125.6	-187.4	-1616.1	175.9	-375.0	596.2	117.8	-12.8	0.0	0.0	102.6	55.3	-2.3	-13.5
72	73	981.3	-1422.1	110.4	-165.5	-1600.5	113.2	-391.9	623.3	128.1	-9.0	0.0	0.0	102.0	59.0	-1.5	-15.0
73	73	980.0	-1424.2	110.1	-165.6	-1599.6	114.2	-392.2	623.8	127.7	-8.9	0.0	0.0	103.3	58.9	-1.1	-15.1

URS

PROJECT: **Cline Avenue**
SCRIPTION: **Service Stre**
FILE: D:\Cline Ave_

Forces Sheet:
Rating Truck:
γ_{DC}=
γ_{DW}=
γ_{EL}=
γ_{R+S}=
γ_{TU}=
γ_{TG}=
γ_{LL}=
γ_{LL}=

Element	Node	Uniform Temp (Neg)		Temp Gradient (Pos)		Temp Gradient (Neg)		LL HL-93 (Max)		LL HL-93 (Min)		Service Max		Service Min		Rating Factor RF	
		F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)
61	62	29.8	-57.2	-158.3	328.5	31.7	-65.7	-184.7	402.5	186.6	-400.4	-174.2	-299.4	-666.5	-1340.4	3.1	2.3
62	62	29.7	-57.1	-158.3	328.4	31.7	-65.7	-184.6	402.4	186.5	-400.0	-172.4	-300.3	-664.3	-1340.7	3.1	2.3
62	63	30.7	-59.3	-153.7	319.0	30.7	-63.8	-162.8	354.0	195.6	-417.6	-117.6	-439.5	-594.3	-1457.7	2.7	2.8
63	63	30.6	-59.3	-153.7	318.9	30.7	-63.8	-162.7	353.9	195.4	-417.1	-115.6	-440.6	-591.9	-1458.2	2.7	2.8
63	64	31.3	-60.9	-148.4	308.0	29.7	-61.6	-140.5	305.1	204.6	-434.3	-60.6	-581.8	-520.3	-1574.4	2.3	3.6
64	64	31.2	-60.9	-148.4	308.0	29.7	-61.6	-140.6	304.9	204.4	-433.8	-58.8	-583.8	-518.3	-1575.7	2.3	3.6
64	65	30.7	-54.5	-137.8	260.2	27.6	-52.0	-115.3	225.0	206.6	-395.7	-32.4	-633.7	-460.9	-1481.3	2.2	4.8
65	65	30.5	-54.4	-137.8	260.1	27.6	-52.0	-115.0	225.2	206.4	-395.3	-30.0	-634.9	-457.7	-1482.0	2.2	4.8
65	66	30.0	-49.4	-128.2	223.6	25.6	-44.7	-94.5	169.9	211.5	-370.3	-336.7	-880.0	-741.0	-1625.3	3.6	7.4
66	66	29.8	-49.3	-128.2	223.5	25.6	-44.7	-94.9	170.1	211.3	-369.9	-334.0	-881.0	-738.2	-1625.9	3.6	7.4
66	67	29.0	-45.1	-118.7	194.3	23.7	-38.9	-78.6	130.3	218.4	-353.1	-440.0	-681.9	-826.3	-1351.7	4.0	7.9
67	67	28.9	-45.0	-118.7	194.2	23.7	-38.8	-79.0	130.5	218.2	-352.8	-437.6	-682.6	-823.8	-1352.0	4.0	7.9
67	68	28.3	-41.4	-111.0	170.3	22.2	-34.1	-65.6	101.0	227.1	-342.0	-433.3	-683.4	-807.4	-1296.4	3.8	9.9
68	68	28.2	-41.4	-111.0	170.3	22.2	-34.1	-65.9	101.2	226.9	-341.8	-431.2	-684.2	-805.1	-1297.1	3.8	9.9
68	69	27.7	-38.3	-104.3	150.5	20.9	-30.1	-57.8	82.3	235.9	-333.3	-356.7	-752.7	-724.7	-1323.5	3.4	12.7
69	69	27.5	-38.2	-104.3	150.5	20.9	-30.1	-57.9	82.3	236.6	-334.2	-353.3	-752.4	-721.5	-1324.0	3.4	12.7
69	70	27.3	-37.8	-99.2	142.6	19.8	-28.5	-57.9	81.5	260.9	-367.1	-218.5	-918.7	-602.6	-1516.9	2.7	14.9
70	70	27.2	-37.7	-99.2	142.5	19.8	-28.5	-58.0	81.4	260.4	-366.3	-216.1	-916.6	-599.7	-1513.8	2.6	14.9
70	71	27.4	-38.0	-98.6	141.8	19.7	-28.4	-59.2	83.1	270.5	-380.6	-150.7	-1003.6	-543.7	-1616.6	2.3	15.6
71	71	2.2	11.9	-93.8	132.4	18.8	-26.5	-77.1	116.3	299.9	-421.9	-196.7	-917.8	-574.6	-1537.5	2.4	10.7
71	72	2.1	12.0	-94.5	133.4	18.9	-26.7	-74.9	113.1	285.5	-401.8	-276.1	-822.4	-640.5	-1420.3	2.7	10.1
72	72	2.0	12.0	-94.5	133.4	18.9	-26.7	-74.8	113.3	286.0	-402.5	-278.6	-826.1	-643.2	-1424.8	2.7	10.2
72	73	1.3	13.3	-100.1	141.7	20.0	-28.3	-72.4	110.5	254.8	-360.1	-455.5	-628.6	-794.6	-1190.4	3.6	8.6
73	73	1.0	13.4	-100.0	141.8	20.0	-28.4	-72.6	110.5	255.3	-360.7	-455.5	-629.1	-794.4	-1191.8	3.6	8.6

URS

PROJECT: **Cline Avenue Mainline Seg 1 Girder 1** CALCS BY: TSP DATE: 12/4/08

SCRIPTION: **Service Stress Check** CHECKED BY: DATE:

FILE: D:\Cline Ave_tsp\Orig Ab with increased Vc AASHTO\Segment1\Rating Gdr 1\[Service Stresses.xls]Service Stresses (t=00)

Forces Sheet: D:\Cline Ave_tsp\Orig Ab with increased Vc AASHTO\Segment1\Rating Gdr 1\[Forces.xls]

Rating Truck: **HL-93** LL Factor: **Inventory**

γ_{DC}= **1.00**

γ_{DW}= **1.00** Allowable Compression: -3000 psi

γ_{EL}= **1.00** Allowable Tension: 212 psi

γ_{R+S}= **1.00**

γ_{TU}= **1.00** Concrete Strength, f'_c: **5000 psi**

γ_{TG}= **0.50**

γ_{LL}= **1.00** **compression (Ser I)**

γ_{LL}= **0.80** **tension (Ser III)**

Element	Node	DC		DW		Primary PT		Secondary PT		PT Losses (t=00)		Sec PT Losses (t=00)		Creep & Shrinkage		Uniform Temp (Pos)	
		F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)
73	74	839.0	-1281.4	95.3	-149.8	-1533.4	-27.5	-413.2	684.6	129.9	2.5	0.0	0.0	102.7	66.6	-0.1	-17.5
74	74	839.5	-1281.6	95.1	-149.7	-1533.6	-27.6	-413.6	685.2	129.6	2.4	0.0	0.0	103.6	66.5	0.3	-17.6
74	75	696.5	-1124.1	79.6	-131.2	-1390.9	-274.9	-436.3	754.0	120.8	23.7	0.0	0.0	103.2	75.0	1.4	-20.5
75	75	697.0	-1124.4	79.3	-131.0	-1391.2	-275.1	-436.7	754.6	120.7	23.7	0.0	0.0	103.9	75.1	1.8	-20.6
75	76	555.2	-952.1	63.1	-109.5	-1172.5	-678.9	-461.9	832.5	101.5	58.9	0.0	0.0	103.4	84.7	3.0	-23.8
76	76	555.6	-952.4	62.9	-109.3	-1172.7	-679.1	-462.3	833.1	101.4	58.9	0.0	0.0	103.8	84.8	3.4	-23.9
76	77	412.7	-764.4	45.5	-84.4	-826.2	-890.3	-487.4	922.4	64.6	69.6	0.0	0.0	103.2	97.3	4.7	-27.8
77	77	413.1	-764.7	45.3	-84.2	-826.4	-890.4	-487.7	923.1	77.9	83.9	0.0	0.0	103.6	97.4	5.1	-27.9
77	78	269.7	-555.9	27.2	-55.5	-675.6	-1267.3	-513.3	1026.4	64.5	120.7	0.0	0.0	101.9	112.1	6.5	-32.4
78	78	270.0	-556.3	27.1	-55.3	-675.7	-1267.3	-513.6	1027.1	64.6	120.8	0.0	0.0	102.1	112.2	6.9	-32.5
78	79	126.4	-320.0	8.4	-22.5	-514.6	-1712.6	-540.8	1148.8	49.8	165.1	0.0	0.0	99.6	130.6	8.4	-37.8
79	79	126.7	-320.4	8.4	-22.3	-514.7	-1712.7	-541.1	1149.5	49.8	165.1	0.0	0.0	99.6	130.8	8.8	-37.9
79	80	-16.8	-49.7	-10.5	15.3	-342.5	-2245.3	-570.2	1295.0	33.8	219.8	0.0	0.0	96.2	153.8	10.5	-44.3
80	80	-14.9	-48.7	-10.4	15.7	-344.3	-2246.8	-570.6	1295.6	33.7	219.5	0.0	0.0	96.0	154.1	10.8	-44.4
80	81	-154.2	242.9	-28.6	53.0	-201.9	-2583.4	-581.8	1319.1	19.5	248.4	0.0	0.0	94.1	162.9	12.0	-46.8
81	81	-153.8	242.4	-28.6	53.2	-202.0	-2583.4	-582.1	1319.7	19.4	247.9	0.0	0.0	93.8	163.2	12.3	-46.9
81	82	-282.6	514.9	-45.2	87.0	-69.7	-2894.8	-590.2	1336.1	6.6	272.7	0.0	0.0	91.7	171.7	13.3	-49.1
82	82	-282.3	514.4	-45.2	87.1	-69.8	-2894.9	-590.5	1336.7	6.6	272.1	0.0	0.0	91.2	172.1	13.6	-49.2
82	83	-398.3	762.4	-60.0	116.9	49.8	-3175.9	-595.9	1346.9	-4.6	292.8	0.0	0.0	88.9	180.5	14.6	-51.2
83	83	-397.9	761.8	-59.9	117.0	49.8	-3175.9	-596.2	1347.5	-4.6	292.1	0.0	0.0	88.3	180.9	14.8	-51.3
83	84	-499.1	980.4	-72.5	142.0	154.1	-3421.0	-598.7	1351.5	-13.9	309.0	0.0	0.0	85.9	188.8	15.7	-53.1
84	84	-498.6	979.8	-72.4	142.0	154.0	-3421.0	-599.0	1352.0	-13.9	308.3	0.0	0.0	85.2	189.3	15.9	-53.1
84	85	-582.4	1163.4	-82.4	161.8	239.6	-3622.6	-598.3	1348.8	-21.2	321.1	0.0	0.0	82.8	196.4	16.7	-54.7
85	85	-581.9	1162.7	-82.3	161.8	239.6	-3622.6	-598.5	1349.3	-21.2	320.5	0.0	0.0	82.0	196.9	16.9	-54.7

URS

PROJECT: **Cline Avenue**
SCRIPTION: **Service Stre**
FILE: D:\Cline Ave_

Forces Sheet:
Rating Truck:
γ_{DC}=
γ_{DW}=
γ_{EL}=
γ_{R+S}=
γ_{TU}=
γ_{TG}=
γ_{LL}=
γ_{LL}=

Element	Node	Uniform Temp (Neg)		Temp Gradient (Pos)		Temp Gradient (Neg)		LL HL-93 (Max)		LL HL-93 (Min)		Service Max		Service Min		Rating Factor RF	
		F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)
73	74	0.1	15.6	-106.9	158.2	21.4	-31.6	-73.8	116.2	226.6	-335.3	-587.6	-517.3	-907.1	-1073.6	4.5	7.3
74	74	-0.2	15.7	-106.8	158.3	21.4	-31.7	-73.6	116.0	227.1	-336.0	-586.7	-517.2	-906.6	-1074.3	4.5	7.3
74	75	-1.2	18.2	-114.4	177.0	22.9	-35.4	-81.4	133.4	197.8	-307.5	-656.0	-464.1	-966.9	-1023.2	5.4	6.1
75	75	-1.6	18.3	-114.3	177.1	22.9	-35.4	-81.0	133.2	198.4	-308.4	-655.0	-463.7	-966.8	-1023.8	5.4	6.1
75	76	-2.7	21.2	-122.8	198.4	24.6	-39.7	-91.9	158.2	174.9	-286.9	-656.0	-517.4	-967.2	-1095.0	6.0	5.6
76	76	-3.0	21.3	-122.7	198.5	24.5	-39.7	-91.3	158.1	175.1	-287.3	-655.6	-517.0	-967.0	-1095.1	6.0	5.6
76	77	-4.2	24.7	-131.3	222.8	26.3	-44.6	-103.4	187.8	163.4	-284.2	-539.0	-363.5	-860.9	-984.1	5.6	4.1
77	77	-4.5	24.8	-131.2	222.8	26.2	-44.6	-102.8	187.9	163.6	-284.6	-525.1	-348.4	-847.1	-969.7	5.5	4.0
77	78	-5.8	28.8	-139.9	250.8	28.0	-50.2	-119.4	226.5	152.4	-282.4	-583.2	-284.1	-920.8	-959.4	6.2	3.2
78	78	-6.1	28.9	-139.8	250.9	28.0	-50.2	-119.3	226.6	152.6	-282.7	-582.5	-283.2	-920.8	-959.1	6.2	3.2
78	79	-7.5	33.6	-149.0	283.6	29.8	-56.7	-140.6	282.1	143.1	-284.4	-633.4	-209.5	-993.8	-961.2	6.9	2.5
79	79	-7.8	33.7	-148.9	283.6	29.8	-56.7	-140.4	282.5	143.5	-285.1	-632.8	-208.5	-994.0	-961.4	6.9	2.5
79	80	-9.3	39.4	-158.5	322.3	31.7	-64.5	-165.1	355.0	135.5	-290.8	-675.3	-126.6	-1063.7	-978.5	7.5	2.0
80	80	-9.6	39.5	-158.5	322.3	31.7	-64.5	-164.4	355.6	116.4	-254.8	-690.7	-125.5	-1063.8	-942.1	8.8	1.9
80	81	-10.6	41.6	-163.5	331.2	32.7	-66.2	-185.9	400.6	105.8	-231.5	-739.9	-29.4	-1131.2	-868.5	10.0	1.6
81	81	-10.9	41.7	-163.4	331.2	32.7	-66.2	-185.7	400.6	106.2	-231.6	-739.7	-29.2	-1131.6	-868.6	10.0	1.6
81	82	-11.9	43.7	-167.6	338.2	33.5	-67.6	-208.3	445.6	98.5	-211.1	-780.6	56.9	-1193.4	-806.4	11.1	1.3
82	82	-12.1	43.7	-167.6	338.2	33.5	-67.6	-208.1	445.6	98.8	-211.2	-780.6	56.8	-1194.0	-806.7	11.0	1.3
82	83	-13.0	45.5	-171.0	343.6	34.2	-68.7	-233.1	495.8	95.7	-200.5	-811.8	137.5	-1251.7	-762.5	11.7	1.2
83	83	-13.2	45.6	-170.9	343.6	34.2	-68.7	-232.9	495.8	95.9	-200.5	-811.9	137.4	-1252.1	-762.8	11.7	1.2
83	84	-14.0	47.2	-173.5	347.6	34.7	-69.5	-258.3	549.1	96.0	-198.6	-834.4	211.0	-1303.3	-735.8	11.9	1.0
84	84	-14.2	47.2	-173.5	347.6	34.7	-69.5	-258.0	549.3	96.0	-198.6	-834.7	210.8	-1303.7	-736.1	11.9	1.0
84	85	-14.9	48.6	-175.2	349.8	35.0	-70.0	-279.8	597.1	96.0	-198.6	-850.9	**270.1**	-1344.2	-719.4	12.1	0.9
85	85	-15.0	48.7	-175.1	349.8	35.0	-70.0	-279.4	596.8	96.0	-198.6	-851.1	**269.6**	-1344.3	-719.7	12.1	0.9

URS

PROJECT: **Cline Avenue Mainline Seg 1 Girder 1** CALCS BY: TSP DATE: 12/4/08

SCRIPTION: **Service Stress Check** CHECKED BY: DATE:

FILE: D:\Cline Ave_tsp\Orig Ab with increased Vc AASHTO\Segment1\Rating Gdr 1\[Service Stresses.xls]Service Stresses (t=00)

Forces Sheet: D:\Cline Ave_tsp\Orig Ab with increased Vc AASHTO\Segment1\Rating Gdr 1\[Forces.xls]

Rating Truck: **HL-93** LL Factor: **Inventory**

γ_{DC}= **1.00**

γ_{DW}= **1.00** Allowable Compression: -3000 psi

γ_{EL}= **1.00** Allowable Tension: 212 psi

γ_{R+S}= **1.00**

γ_{TU}= **1.00** Concrete Strength, f'_c: **5000 psi**

γ_{TG}= **0.50**

γ_{LL}= **1.00** **compression (Ser I)**

γ_{LL}= **0.80** **tension (Ser III)**

Element	Node	DC		DW		Primary PT		Secondary PT		PT Losses (t=00)		Sec PT Losses (t=00)		Creep & Shrinkage		Uniform Temp (Pos)	
		F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)
85	86	-646.8	1307.8	-89.6	176.2	305.8	-3780.4	-595.0	1340.4	-26.7	330.1	0.0	0.0	79.6	203.2	17.6	-56.1
86	86	-646.4	1307.0	-89.6	176.2	305.8	-3780.4	-595.2	1340.8	-26.7	329.6	0.0	0.0	78.7	203.8	17.7	-56.1
86	87	-690.9	1410.0	-94.1	184.9	351.4	-3892.2	-589.1	1326.4	-30.4	336.5	0.0	0.0	76.4	209.2	18.3	-57.3
87	87	-690.6	1409.4	-94.1	184.9	351.3	-3892.2	-589.2	1326.7	-30.4	336.3	0.0	0.0	75.9	209.6	18.3	-57.3
87	88	-703.2	1440.1	-95.1	187.0	364.9	-3927.1	-586.1	1319.6	-31.5	338.7	0.0	0.0	75.0	211.7	18.6	-57.8
88	88	-702.9	1439.5	-95.1	187.0	364.8	-3927.1	-586.2	1319.9	-31.5	338.8	0.0	0.0	74.5	212.1	18.6	-57.8
88	89	-714.4	1472.7	-95.2	187.1	373.5	-3955.4	-574.4	1293.8	-32.2	340.3	0.0	0.0	72.8	214.9	19.0	-58.5
89	89	-713.9	1471.8	-95.2	187.1	373.5	-3955.5	-574.6	1294.1	-32.2	340.6	0.0	0.0	71.7	215.6	19.0	-58.5
89	90	-702.7	1456.3	-92.4	181.4	358.7	-3930.3	-560.1	1262.6	-31.0	339.3	0.0	0.0	70.3	217.1	19.2	-58.9
90	90	-702.2	1455.3	-92.4	181.3	358.7	-3930.3	-560.2	1262.8	-31.0	339.9	0.0	0.0	69.2	217.9	19.2	-58.9

URS

PROJECT: **Cline Avenue**
SCRIPTION: **Service Stre**
FILE: D:\Cline Ave_

Forces Sheet:
Rating Truck:
γ_{DC}=
γ_{DW}=
γ_{EL}=
γ_{R+S}=
γ_{TU}=
γ_{TG}=
γ_{LL}=
γ_{LL}=

Element	Node	Uniform Temp (Neg)		Temp Gradient (Pos)		Temp Gradient (Neg)		LL HL-93 (Max)		LL HL-93 (Min)		Service Max		Service Min		Rating Factor RF	
		F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)	F_t (psi)	F_b (psi)
85	86	-15.6	49.9	-176.1	350.8	35.2	-70.2	-297.1	635.8	95.7	-197.9	-860.9	**311.2**	-1373.5	-711.8	12.2	0.8
86	86	-15.7	49.9	-176.0	350.8	35.2	-70.2	-296.6	635.5	95.7	-197.9	-861.5	**310.7**	-1373.7	-712.1	12.2	0.8
86	87	-16.3	50.9	-176.2	350.5	35.2	-70.1	-309.4	663.9	95.3	-197.0	-864.6	**332.1**	-1390.5	-714.6	12.3	0.8
87	87	-16.3	50.9	-176.2	350.5	35.2	-70.1	-309.3	663.9	95.3	-197.1	-865.0	**332.0**	-1390.8	-714.8	12.3	0.8
87	88	-16.5	51.4	-176.2	350.2	35.2	-70.0	-313.5	672.9	96.0	-198.6	-863.0	**334.8**	-1394.1	-721.4	12.2	0.8
88	88	-16.5	51.4	-176.2	350.2	35.2	-70.0	-313.4	672.8	96.1	-198.7	-863.3	**334.9**	-1394.4	-721.3	12.2	0.8
88	89	-16.9	52.0	-174.9	347.3	35.0	-69.5	-318.0	682.5	104.0	-214.7	-850.2	**325.1**	-1392.3	-754.6	11.2	0.8
89	89	-16.9	52.0	-174.8	347.3	35.0	-69.5	-317.8	682.4	103.9	-214.6	-851.1	**325.3**	-1392.8	-754.2	11.2	0.8
89	90	-17.1	52.4	-172.7	343.2	34.5	-68.6	-316.8	679.4	112.1	-232.5	-831.1	**293.9**	-1377.5	-799.3	10.3	0.9
90	90	-17.1	52.4	-172.7	343.2	34.5	-68.6	-316.6	679.4	112.0	-232.5	-831.9	**294.4**	-1378.0	-798.8	**10.3**	**0.9**