Madison, Wisconsin

CITY OF MADISON

CITY ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
PLAN OF PROPOSED IMPROVEMENT

101 KING STREET – LUCILLE MADISON

CITY PROJECT NO. 11836
CITY CONTRACT NO. 8159
MUNIS NO. 11836

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SHEET NO.	L1	LANDSCAPE PLAN
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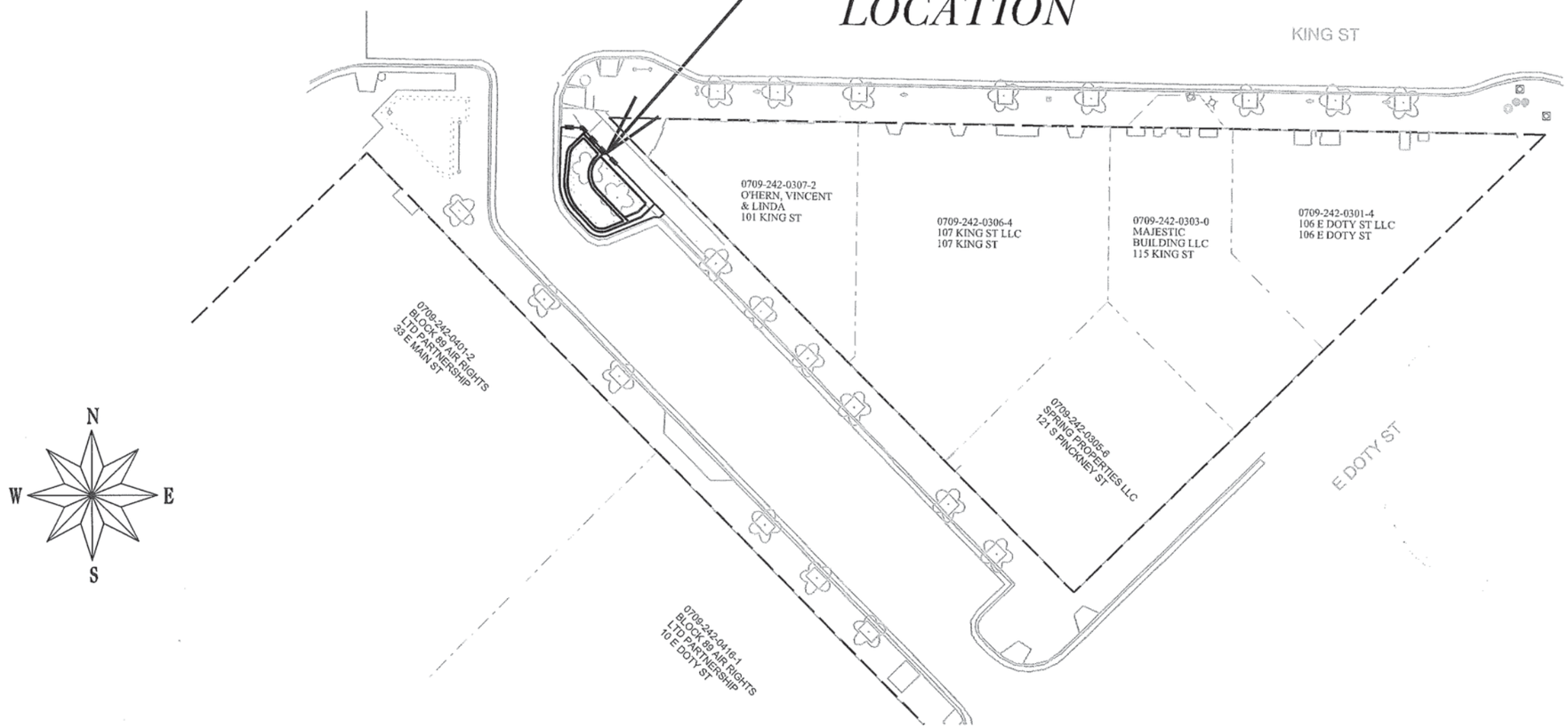


PUBLIC IMPROVEMENT PROJECT APPROVED

APRIL 10, 2018

BY THE COMMON COUNCIL OF MADISON, WISCONSIN

PUBLIC IMPROVEMENT DESIGN APPROVED BY:

6/4/18
City Engineer — Date

SIDEWALK GRADES DESIGNED BY:

WISCONSIN
JOHN P. SAPP
44054
Janesville, WI
6-4-18
PROFESSIONAL ENGINEER

LANDSCAPING PLAN DESIGNED BY:

SEE INDIVIDUAL SHEETS

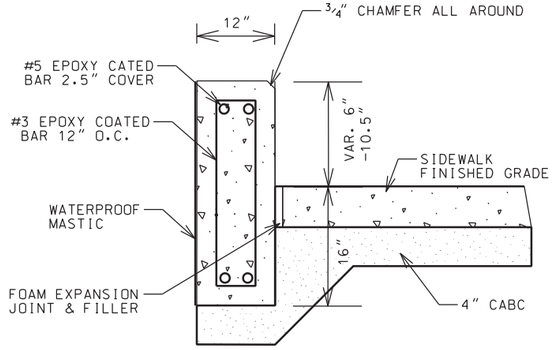
PLANTER WALL STRUCTURE DESIGNED BY:

SEE INDIVIDUAL SHEETS

PLOT SCALE: ____
PLOT NAME: ____
REV. DATE: ____
ORIGINATOR: CITY OF MADISON, STREETS DIVISION

FILE NAME: M:\DESIGN\Projects\11836\Streets\Design\11836EN-TitleSht.dgn

DATE: 6/4/2018



NOTE:
1. ALL VERTICAL AND HORIZONTAL CONCRETE EDGES AND EDGES AT EXPANSION JOINTS SHALL HAVE 3/4" CHAMFER.

2. ALL EXPANSION AND CONTRACTION JOINTS TO RECEIVE FELT STRIP. ALL EXPOSED EXPANSION JOINTS TO BE CAULKED.

CONCRETE PLANTER WALL SECTION DETAIL

SEE SHEET S-1 FOR STRUCTURAL PLANTER WALL SECTION DETAIL

REV. 2018 08-20 JPS:
MODIFIED A PORTION OF PLANTER WALL TO COINCIDE WITH THE STRUCTURAL ENGINEER'S DESIGN. SEE SHEET S-1 FOR STRUCTURAL DESIGN

S. PINCKNEY ST.

STA 1+34.07, LT 29.52'
913.21 BTM WL/ PC
914.05 TOP WL/ H=0.83'

STA 1+41.00, LT 29.54'
913.37 BTM WL/ PT
914.20 TOP WL/ H=0.83'

STA 1+46.91, LT 28.26'
913.50 BTM WL/ MC
914.17 TOP WL/ H=0.67'

STA 1+51.72, LT 24.61'
913.54 BTM WL/ PC
914.04 TOP WL/ H=0.50'

STA 1+29.44, LT 26.36'
913.09 BTM WL/ PT
913.92 TOP WL/ H=0.83'

R 5'

R 14'

KEEP WALL MONOLITHIC WITH STRUCTURAL WALL (NO EXPANSION JOINTS)

STA 1+34.23, LT 24.31'
914.15 HIGH POINT

STA 1+41.54, LT 24.32'
914.36 HIGH POINT

STA 1+49.08, LT 21.66'
914.50 HIGH POINT

R 7'

STA 1+56.69, LT 18.75'
913.58 BTM WL/ PT
914.08 TOP WL/ H=0.50'

STA 1+57.88, LT 15.52'
913.65 BTM WL/ PC
914.15 TOP WL/ H=0.50'

R 5'

STA 1+26.65, LT 19.31'
912.88 BTM WL/ WL CRNR
913.76 TOP WL/ H=0.88'

STA 1+41.55, LT 19.32'
913.17 BTM WL/ PC
913.76 TOP WL/ H=0.59'

STA 1+53.28, LT 14.86'
914.20 HIGH POINT

STA 1+24.99, LT 15.12'
912.76 TOOL BAND CRNR.

STA 1+46.49, LT 17.28'
913.26 BTM WL/ MC
913.76 TOP WL/ H=0.50'

STA 1+48.55, LT 12.34'
913.26 BTM WL/ PT
913.76 TOP WL/ H=0.50'

STA 1+57.88, LT 10.15'
913.46 BTM WL/ WL CRNR.
913.96 TOP WL/ H=0.50'

STA 1+20.74, LT 8.98'
912.59 EX. FW/MATCH

STA 1+25.00, LT 9.01'
912.69 EX. FW/MATCH
BEGIN 2' WIDE TOOL BAND

STA 1+48.56, LT 10.13'
913.26 BTM WL/ WL CRNR.
913.76 TOP WL/ H=0.50'

STA 1+48.56, LT 9.14'
913.24 FW/MATCH EX.
BEGIN 1' WIDE TOOL BAND

STA 1+57.88, LT 9.14'
913.44 FW/MATCH EX.
END 1' WIDE TOOL BAND

KEEP WALL MONOLITHIC WITH STRUCTURAL WALL (NO EXPANSION JOINTS)

A

A

B

B

POB 1+02.90

POE 1+72.35

BUILDING

BUILDING

BUILDING

SCALE 1"=5'

101 KING STREET - LUCILLE MADISON
PROJECT NO. 11836

SHEET NO. P-1

PATIO PLANTER GRADING PLAN AND SECTION DETAILS

S. PINCKNEY ST. CITY OF MADISON

NOTES:
1. SEE SHEET D2 FOR PLANTER SECTION DETAILS A-A, B-B, & C-C

2. INSTALL ½" EXPANSION ALONG BACK OF CURB, FACE OF PLANTER WALL, AND PATIO SIDE OF TOOL BAND SHALL ALL HAVE ½" EXPANSION.

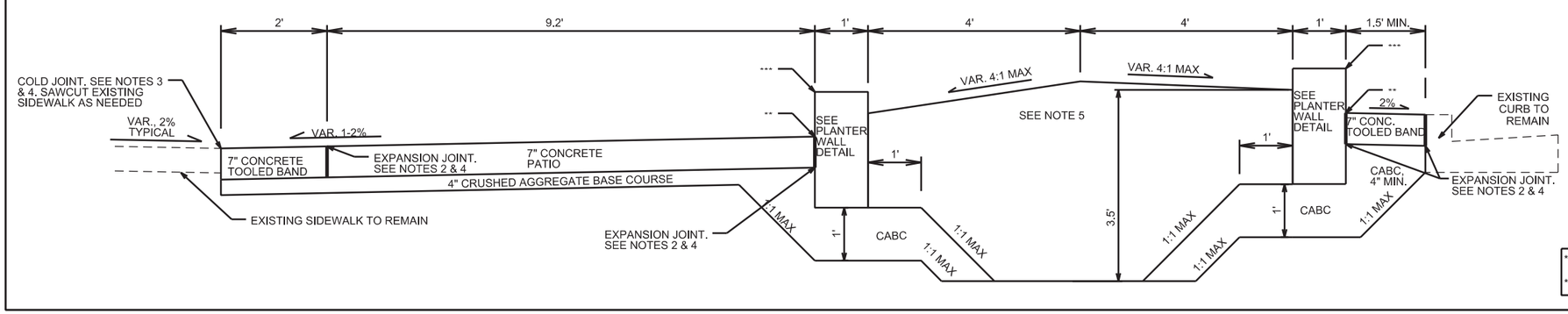
3. TOOL JOINT ON CURB AND SIDEWALK SIDE OF TOOL BAND, BUT DO NOT INSTALL EXPANSION.

4. ALL LONGITUDINAL AND TRANSVERSE JOINTS SHALL BE SEALED PER CITY OF MADISON STANDARD SPECIFICATION 404.3

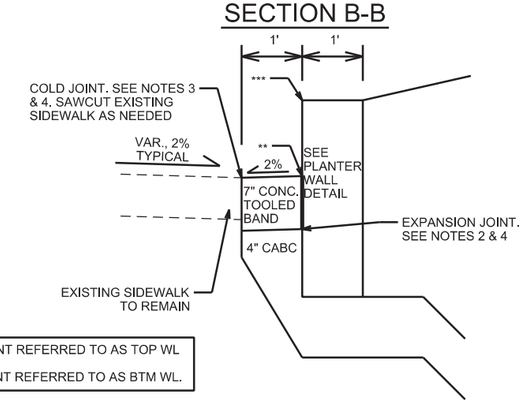
5. CLEAR AND GRUB ALL EXISTING TREES AND VEGATATION. REMOVE TOPSOIL. INSTALL 3.5' DEPTH TOPSOIL MIXTURE BACKFILL. USE A MIXTURE OF TOPSOIL, PEAT MOSS, AND SAND 1:1:1 BY VOLUME PER THE STATE OF WISCONSIN STANDARD SPECIFICATIONS 632.2.3.4. TOP OF BACKFILL SHALL BE 4" LOWER THAN TOP OF CURB.

LEGEND:
- = SAWCUT
- = HIGH POINT RIDGE IN PLANTER
- = 7" CONCRETE TOOLED BAND. WIDTH IS EITHER 2' ADJACENT TO PATIO OR 1' ADJACENT TO WALL
- = 1' WIDE REINFORCED PLANTER WALL. A PORTION SHALL BE MONOLITHIC WITH STRUCTURAL WALL WITH NO EXPANSION JOINTS. SEE NOTES ON PLAN SEE DETAIL THIS SHEET.
- =1' WIDE REINFORCED STRUCTURAL PLANTER WALL. WALL SHALL BE MONOLITHIC WITH NO EXPANSION JOINTS. SEE DETAIL ON SHEET S-1

SECTION A-A



SECTION B-B



*** = POINT REFERRED TO AS TOP WL

** = POINT REFERRED TO AS BTM WL.

PLOT SCALE:
PLOT NAME:
REV. DATE:
ORIGINATOR: CITY OF MADISON_STREETS DIVISION

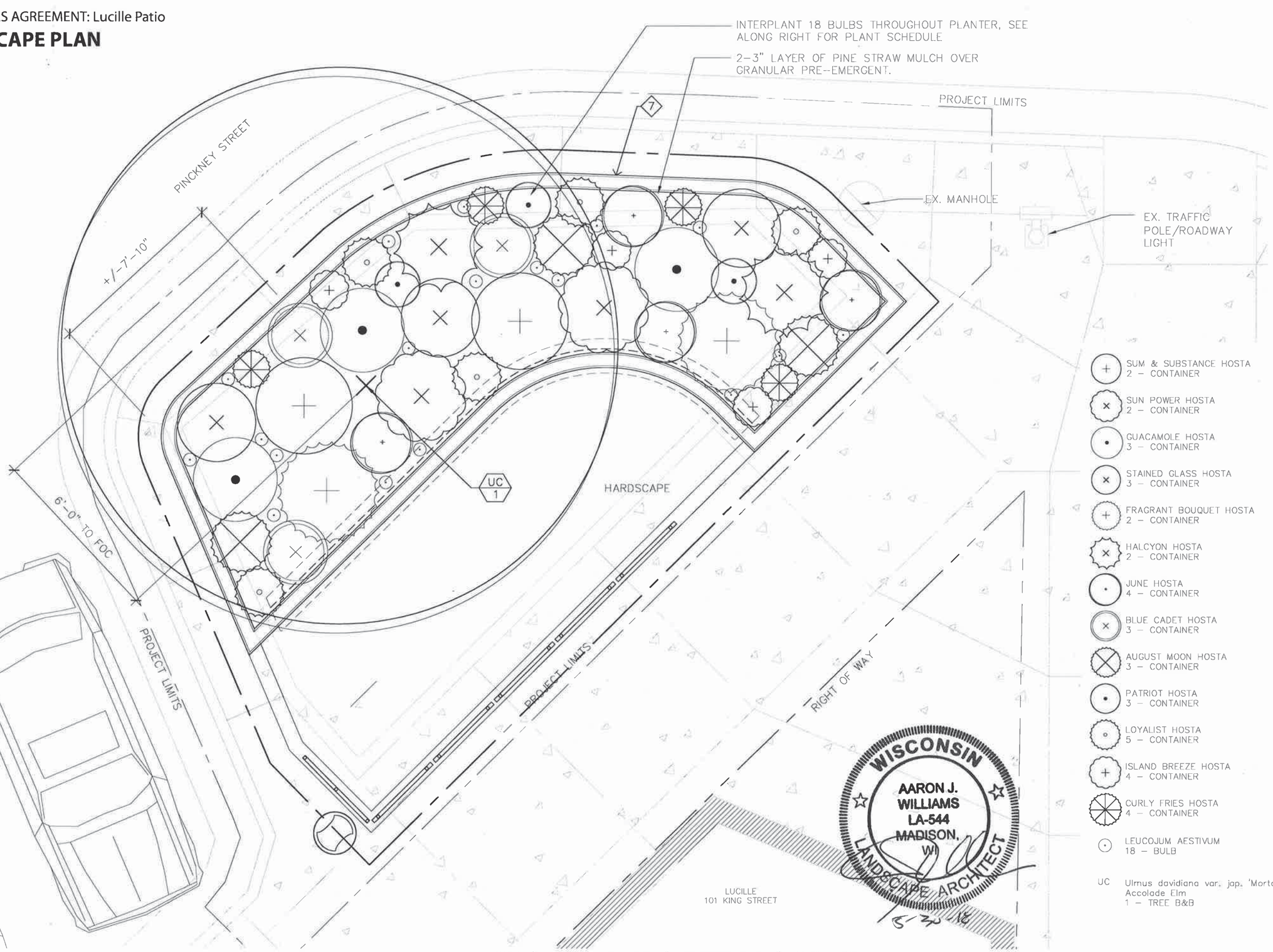
FILE NAME: M:\DESIGN\Projects\11836\Streets\Design\11836EN-Plan##.dgn

DATE: 8/20/2018

PLOT SCALE: 5.0000 sf / In.

DEVELOPERS AGREEMENT: Lucille Patio

LANDSCAPE PLAN



AWLA | awilliams@aw-la.com | +1 608 469 1724 | Madison, Wisconsin

DEVELOPERS AGREEMENT

May 30, 2018

LUCILLE PATIO
MADISON, WI

TABLE 1806.2
PRESUMPTIVE LOAD-BEARING VALUES

CLASS OF MATERIALS	VERTICAL FOUNDATION PRESSURE (psf)	LATERAL BEARING PRESSURE (psf/ft below natural grade)	LATERAL SLIDING RESISTANCE	
			Coefficient of friction[a]	Cohesion (psf)[b]
1. Crystalline bedrock	12,000	1,200	0.70	—
2. Sedimentary and foliated rock	4,000	400	0.35	—
3. Sandy gravel and/or gravel (GW and GP)	3,000	200	0.35	—
4. Sand, silty sand, clayey sand, silty gravel and clayey gravel (SW, SP, SM, SC, GM and GC)	2,000	150	0.25	—
5. Clay, sandy clay, silty clay, clayey silt, silt and sandy silt (CL, ML, MH and CH)	1,500	100	—	130

For SI: 1 pound per square foot = 0.0479kPa, 1 pound per square foot per foot = 0.157 kPa/m.

a. Coefficient to be multiplied by the dead load.
b. Cohesion value to be multiplied by the contact area, as limited by Section 1806.3.2.

USE 300 PSF

1806.3 Lateral load resistance.

Where the presumptive values of Table 1806.2 are used to determine resistance to lateral loads, the calculations shall be in accordance with Sections 1806.3.1 through 1806.3.4.

1806.3.1 Combined resistance.

The total resistance to lateral loads shall be permitted to be determined by combining the values derived from the lateral bearing pressure and the lateral sliding resistance specified in Table 1806.2.

1806.3.2 Lateral sliding resistance limit.

For clay, sandy clay, silty clay, clayey silt, silt and sandy silt, in no case shall the lateral sliding resistance exceed one-half the dead load.

1806.3.3 Increase for depth.

The lateral bearing pressures specified in Table 1806.2 shall be permitted to be increased by the tabular value for each additional foot (305 mm) of depth to a maximum of 15 times the tabular value.

1806.3.4 Increase for poles.

Isolated poles for uses such as flagpoles or signs and poles used to support buildings that are not adversely affected by a 1/2-inch (12.7 mm) motion at the ground surface due to short-term lateral loads shall be permitted to be designed using lateral bearing pressures equal to two times the tabular values.

1607.8 Loads on handrails, guards, grab bars, seats and vehicle barriers.

Handrails, *guards*, grab bars, accessible seats, accessible benches and vehicle barriers shall be designed and constructed for the structural loading conditions set forth in this section.

1607.8.1 Handrails and guards.

Handrails and *guards* shall be designed to resist a linear load of 50 pounds per linear foot (plf) (0.73 kN/m) in accordance with Section 4.5.1 of ASCE 7. Glass handrail assemblies and *guards* shall also comply with Section 2407.

Exceptions:

1. For one- and two-family dwellings, only the single concentrated load required by Section 1607.8.1.1 shall be applied.
2. In Group I-3, F, H and S occupancies, for areas that are not accessible to the general public and that have an occupant load less than 50, the minimum load shall be 20 pounds per foot (0.29 kN/m).

1607.8.1.1 Concentrated load.

Handrails and guards shall be designed to resist a concentrated load of 200 pounds (0.89 kN) in accordance with Section 4.5.1 of ASCE 7.

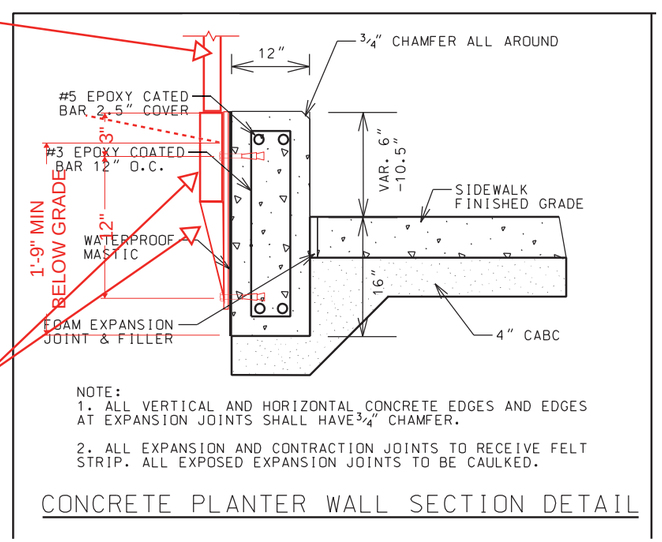
1607.8.1.2 Intermediate rails.

Intermediate rails (all those except the handrail), balusters and panel fillers shall be designed to resist a concentrated load of 50 pounds (0.22 kN) in accordance with Section 4.5.1 of ASCE 7.

DESIGN FOR 200 LBS CONCENTRATED LOAD

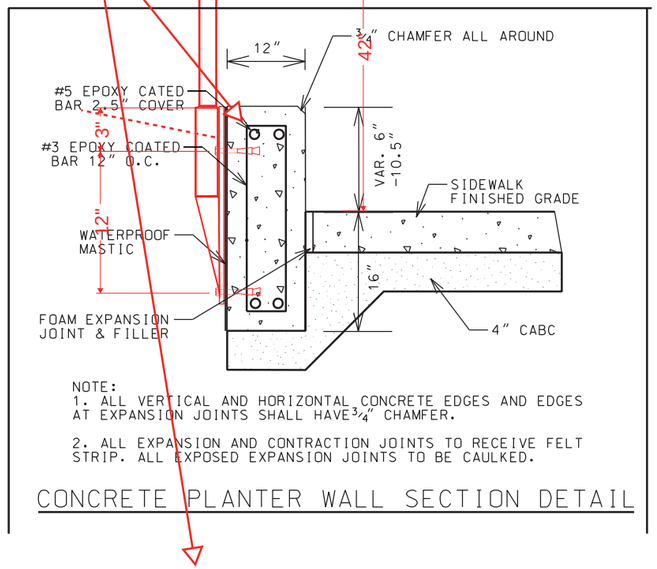
HSS2X2X1/8 POST

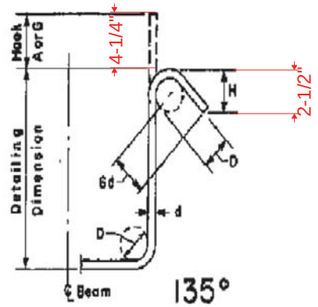
SLEEVE AND STIFFENER WITH 1/4" PLATE MATERIAL



NOTE - STIRRUP TO BE CLOSED WITH 135 DEGREE BEND

P=1000 lbs (conserv)





TORSION ON BEAM

Tu = 1.6(1000)(3.5') = 5600 FT-LBS
Vu = 1.6(1000)/2 = 800 LBS
bw = 12"
d = 24"-4" = 20"
ph = 6+6+18+18 = 48
Aoh = 0.85*Ao = 0.85*108 = 91.8 IN^2
Vc = 2(f'c)^1/2 bw*d = 26290 LBS
PHI = 0.65

[(Vu/bw*d)^2+(Tu*ph/1.7 Aoh^2)^2]^1/2 <= PHI (Vc/bw*d)+8(f'c)^1/2

19.1 <= 356 THEREFORE OK FOR TORSION

SEE BEAM CALC ON FOLLOWING PAGES

101 KING STREET - LUCILLE MADISON S-1
PROJ. NO. 11836 PLANTER WALL STRUCTURE

Printed: 14 AUG 2018, 8:44AM

Concrete Beam

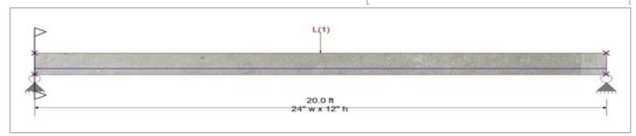
File = D:___TRB~1__ECHE~1\WLA\lucille site.ec6
Software copyright ENERCALC, INC. 1983-2018, Build:10.18.7.31
Lic. # : KW-06010406 Licensee : Echelon Structures
Description : Beam span

CODE REFERENCES

Calculations per ACI 318-11, IBC 2012, CBC 2013, ASCE 7-10
Load Combination Set : IBC 2018

Material Properties

f'c	=	3.0 ksi	ϕ Phi Values	Flexure :	0.90
fr = f'c^1/2 * 7.50	=	410.792 psi		Shear :	0.750
ψ Density	=	145.0 pcf	β 1	=	0.850
λ LtWt Factor	=	1.0			
Elastic Modulus	=	3,122.0 ksi	Fy - Stirrups		40.0 ksi
fy - Main Rebar	=	60.0 ksi	E - Stirrups	=	29,000.0 ksi
E - Main Rebar	=	29,000.0 ksi	Stirrup Bar Size #		3
			Number of Resisting Legs Per Stirrup	=	2



Cross Section & Reinforcing Details

Rectangular Section, Width = 24.0 in, Height = 12.0 in
Span #1 Reinforcing....
2-#5 at 3.0 in from Bottom, from 0.0 to 20.0 ft in this span

Applied Loads

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

Point Load : L = 1.0 k @ 10.0 ft, (people load)

DESIGN SUMMARY

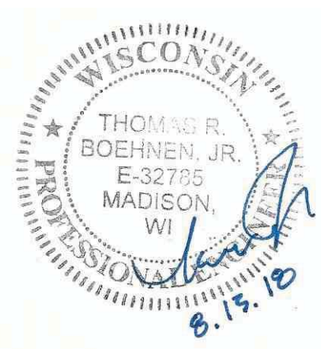
Design OK

Maximum Bending Stress Ratio	=	0.329 : 1	Maximum Deflection		
Section used for this span		Typical Section	Max Downward Transient Deflection	0.027 in	Ratio = 8994 >=360
Mu : Applied		7.985 k-ft	Max Upward Transient Deflection	0.000 in	Ratio = 0 <360.0
Mn * Phi : Allowable		24.262 k-ft	Max Downward Total Deflection	0.000 in	Ratio = 999 <180.0
Location of maximum on span		9.982 ft	Max Upward Total Deflection	0.000 in	Ratio = 999 <180.0
Span # where maximum occurs		Span # 1			

Vertical Reactions

Support notation : Far left is #1

Load Combination	Support 1	Support 2
Overall MAXimum	0.500	0.500
Overall MINimum	0.375	0.375
+D+H		
+D+L+H	0.500	0.500
+D+Lr+H		
+D+S+H		
+D+0.750Lr+0.750L+H	0.375	0.375
+D+0.750L+0.750S+H	0.375	0.375
+D+0.60W+H		
+D+0.70E+H		
+D+0.750Lr+0.750L+0.450W+H	0.375	0.375
+D+0.750L+0.750S+0.450W+H	0.375	0.375
+D+0.750L+0.750S+0.5250E+H	0.375	0.375



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