

# LAND USE APPLICATION

**CITY OF MADISON** 

FOR OFFICE USE ONLY: 215 Martin Luther King Jr. Blvd; Room LL-100 Amt. Paid \_\_\_ \_\_\_\_\_ Receipt No. \_\_\_ PO Box 2985; Madison, Wisconsin 53701-2985 Date Received \_\_\_\_\_ Phone: 608.266.4635 | Facsimile: 608.267.8739 Received By\_\_\_\_\_ Parcel No. All Land Use Applications should be filed with the Zoning Aldermanic District \_\_\_\_\_ Administrator at the above address. Zoning District • The following information is required for all applications for Plan Special Requirements Commission review except subdivisions or land divisions, which should be filed using the Subdivision Application. Review Required By: ☐ Urban Design Commission ☐ Plan Commission This form may also be completed online at: Common Council Other: www.cityofmadison.com/developmentcenter/landdevelopment Form Effective: February 21, 2013 10451 Old Sauk Road 1. Project Address: Project Title (if any): Blackhawk Water Tower 2. This is an application for (Check all that apply to your Land Use Application): Zoning Map Amendment from \_\_\_\_\_\_\_ to \_\_\_\_\_ ☐ Major Amendment to Approved PD-SIP Zoning Review of Alteration to Planned Development (By Plan Commission) ☐ Conditional Use, or Major Alteration to an Approved Conditional Use ☐ Demolition Permit Other Requests: Urban Design Commission Review/Approval 3. Applicant, Agent & Property Owner Information: Company: Madison Water Utility Pete Holmgren Applicant Name: 119 E. Olin Avenue Madison/Wisconsin 53713 City/State: Street Address: Zip: Telephone: (608) 261-5530 pholmgren@madisonwater.org Email: Fax: Company: Baxter and Woodman, Inc. Project Contact Person: Jerry Groth Madison/Wisconsin 2005 W. Beltline Hwy., Suite 201 53713 City/State: Street Address: Zip: Telephone: (608) 277-1230, x 3264 ggroth@baxterwoodman.com Email: Property Owner (if not applicant): Madison Water Utility 119 E. Olin Avenue Madison / WI 53713 Street Address: City/State: Zip:

### 4. Project Information:

Provide a brief description of the project and all proposed uses of the site:

Construction of a 1,000,000 gallon water tower of the composite style (steel tank on top of a concrete

pedestal). A 20' wide asphaltic access road and 16" watermain will be extended to the site. Approximately 1.5 acres of the 17 acres site will be disturbed by construction, with the balance of the site remaining as farmable land.

Development Schedule: Commencement

March / 2017

August / 2018

Completion Au

# 5. Required Submittal Information All Land Use applications are required to include the following: ✓ Project Plans including:\* Site Plans (fully dimensioned plans depicting project details including all lot lines and property setbacks to buildings; demolished/proposed/altered buildings; parking stalls, driveways, sidewalks, location of existing/proposed signage; HVAC/Utility location and screening details; useable open space; and other physical improvements on a property) Grading and Utility Plans (existing and proposed) Landscape Plan (including planting schedule depicting species name and planting size) Building Elevation Drawings (fully dimensioned drawings for all building sides, labeling primary exterior materials) Floor Plans (fully dimensioned plans including interior wall and room location) Provide collated project plan sets as follows: Seven (7) copies of a full-sized plan set drawn to a scale of 1 inch = 20 feet (folded or rolled and stapled) Twenty Five (25) copies of the plan set reduced to fit onto 11 X 17-inch paper (folded and stapled) One (1) copy of the plan set reduced to fit onto 8 ½ X 11-inch paper \* For projects requiring review by the Urban Design Commission, provide Fourteen (14) additional 11x17 copies of the plan set. In addition to the above information, all plan sets should also include: 1) Colored elevation drawings with shadow lines and a list of exterior building materials/colors; 2) Existing/proposed lighting with photometric plan & fixture cutsheet; and 3) Contextual site plan information including photographs and layout of adjacent buildings and structures. The applicant shall bring samples of exterior building materials and color scheme to the Urban Design Commission meeting. Ŀ

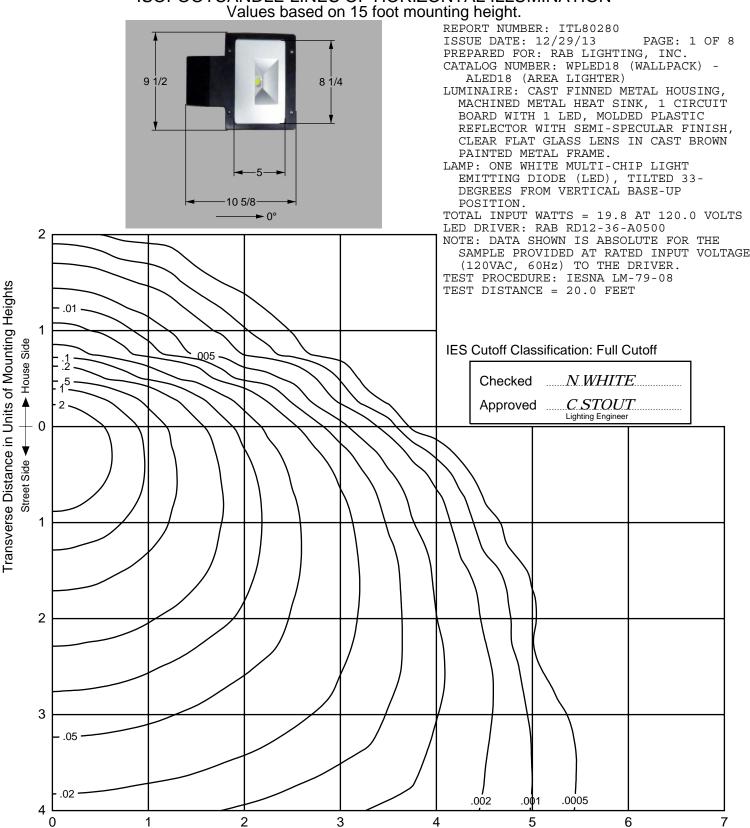
<b>V</b>	Letter of Intent: Provide one (1) Copy per Plan Set describing this application in detail including, but not limited to:
	<ul> <li>Project Team</li> <li>Existing Conditions</li> <li>Project Schedule</li> <li>Proposed Uses (and ft² of each)</li> <li>Hours of Operation</li> <li>Building Square Footage</li> <li>Number of Dwelling Units</li> <li>Estimated Project Cost</li> <li>Number of Construction &amp; Full-Time Equivalent Jobs Created</li> <li>Space Calculations</li> <li>Public Subsidy Requested</li> </ul>
	Filing Fee: Refer to the Land Use Application Instructions & Fee Schedule. Make checks payable to: City Treasurer.
<b>√</b>	<b>Electronic Submittal:</b> All applicants are required to submit copies of all items submitted in hard copy with their application as Adobe Acrobat PDF files on a non-returnable CD to be included with their application materials, or by e-mail to <a href="mailto:pcapplications@cityofmadison.com">pcapplications@cityofmadison.com</a> .
	Additional Information may be required, depending on application. Refer to the <u>Supplemental Submittal Requirements</u> .
6.	Applicant Declarations
	Pre-application Notification: The Zoning Code requires that the applicant notify the district alder and any nearby neighborhood and business associations in writing no later than 30 days prior to FILING this request. List the alderperson, neighborhood association(s), and business association(s) AND the dates you sent the notices: See attached
	→ If a waiver has been granted to this requirement, please attach any correspondence to this effect to this form.
<b>V</b>	<b>Pre-application Meeting with Staff:</b> Prior to preparation of this application, the applicant is required to discuss the proposed development and review process with Zoning and Planning Division staff; note staff persons and date.  *Planning Staff:
The	applicant attests that this form is accurately completed and all required materials are submitted:
	ne of Applicant Madison Water UE/IEg Relationship to Property:
	horizing Signature of Property Owner Date 8-3-16





4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA PHONE: (303) 442-1255 FAX: (970) 535-3114 E-MAIL: itl@itlboulder.com WEBSITE: www.itlboulder.com

# ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION



Longitudinal Distance in Units of Mounting Heights





INDEPENDENT TESTING LABORATORIES, INC. 4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255

• FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL80280 ISSUE DATE: 12/29/13 PAGE: 2 OF 8 PREPARED FOR: RAB LIGHTING, INC. CATALOG NUMBER: WPLED18 (WALLPACK) -

ALED18 (AREA LIGHTER)

LUMINAIRE: CAST FINNED METAL HOUSING, MACHINED METAL HEAT SINK, 1 CIRCUIT BOARD WITH 1 LED, MOLDED PLASTIC REFLECTOR WITH SEMI-SPECULAR FINISH, CLEAR FLAT GLASS LENS IN CAST BROWN PAINTED METAL FRAME.

LAMP: ONE WHITE MULTI-CHIP LIGHT EMITTING DIODE (LED), TILTED 33-DEGREES FROM VERTICAL BASE-UP POSITION.

TOTAL INPUT WATTS = 19.8 AT 120.0 VOLTS LED DRIVER: RAB RD12-36-A0500 NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE

30°

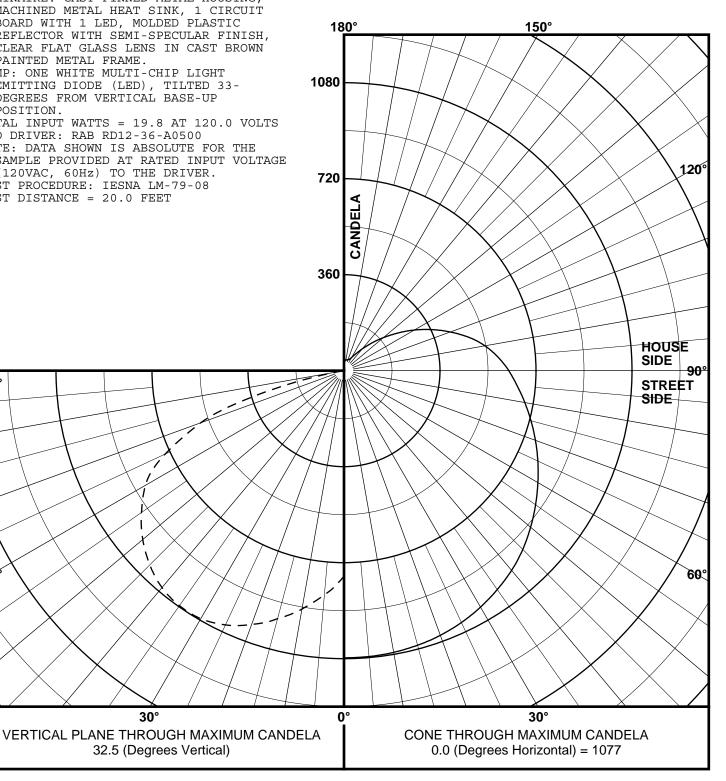
32.5 (Degrees Vertical)

(120VAC, 60Hz) TO THE DRIVER. TEST PROCEDURE: IESNA LM-79-08 TEST DISTANCE = 20.0 FEET

90°

60°

### MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA







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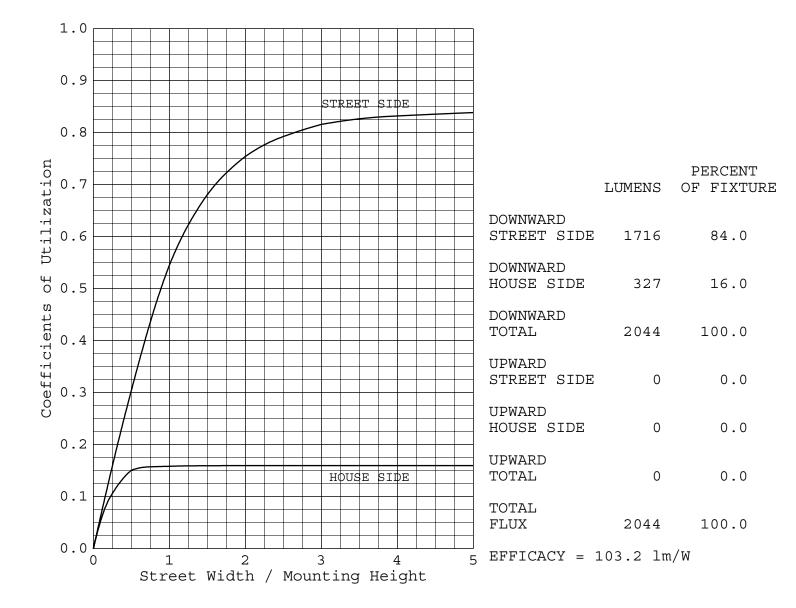
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COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



ALL CANDELA AND LUMENS IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY. THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE LUMEN OUTPUT OF THIS LUMINAIRE SAMPLE.



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### FLUX DISTRIBUTION BY SOLID ANGLE

# (PER IESNA TM-15-11, LUMINAIRE CLASSIFICATION SYSTEM FOR OUTDOOR LUMINAIRES)

	LUMENS	PERCENT OF FIXTURE	BUG ZONE RATINGS	
FORWARD LIGHT FL ( 0- 30) FM ( 30- 60) FH ( 60- 80) FVH( 80- 90)	929.8	18.4 45.5 19.9	G0 G0	
BACK LIGHT BL ( 0- 30) BM ( 30- 60) BH ( 60- 80) BVH( 80- 90)			B1 B0 B0 G0	
UPLIGHT UL ( 90-100) UH (100-180)	0. 0.0 0.0	0.0 0.0 0.0	U0 U0	
TRAPPED LIGHT	0.	0.0		
TOTAL FLUX	2044.	100.0		

BACKLIGHT, UPLIGHT, AND GLARE (BUG) RATINGS (PER ADDENDUM A FOR IESNA TM-15-11)

BUG RATING: B1 U0 G0





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REPORT NUMBER: ITL80280 PAGE: 5 OF 8

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### CANDELA TABULATION

	STREET	SIDE 0.0	5.0	15.0	LA' 25.0	TERAL 35.0	ANGLE 45.0	55.0	65.0	75.0	85.0	90.0
			3.0		23.0	33.0		33.0	03.0	73.0	03.0	50.0
	180.0	0.	0.	0.	0.	0.		0.	0.	0.	0.	0.
	175.0	0.	0.	0. 0.	0. 0.	0. 0.		0.	0.	0. 0.	0. 0.	0.
	165.0 155.0	0. 0.	0. 0.	0.	0.	0.		0. 0.	0. 0.	0.	0.	0. 0.
	145.0	0.	0.	0.	0.	0.		0.	0.	0.	0.	0.
	135.0	0.	0.	0.	0.	0.		0.	0.	0.	0.	0.
	125.0	0.	0.	0.	0.	0.		0.	0.	0.	0.	0.
	115.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	105.0	0.	0.	0.	0.	0.		0.	0.	0.	0.	0.
	95.0	0.	0.	0.	0.	0.		0.	0.	0.	0.	0.
	92.5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	90.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	87.5 85.0	1. 2.	1. 2.	1. 2.	1. 3.	1. 2.	1. 2.	1. 2.	0. 1.	0. 1.	0. 0.	0. 0.
V	82.5	2. 5.	4. 6.	2. 5.	3. 6.	2. 6.		2. 7.	3.	1.	1.	1.
Ĕ	80.0	21.	19.	25.	49.	89.		70.	11.	3.	1.	1.
R	77.5	141.	136.	151.	182.	229.		203.	87.	22.	3.	1.
Т	75.0	296.	298.	307.	338.	370.		292.	197.	90.	23.	5.
I	72.5	456.	456.	461.	474.	464.		365.	263.	170.	70.	29.
С	70.0	572.	571.	568.	558.	557.		449.	325.	219.	117.	66.
A	67.5	655.	654.	653.	650.	643.		511.	392.	274.	163.	109.
L	65.0	740.	739.	736.	729.	706.		558.	444.	328.	212.	154.
7\	62.5 60.0	811. 860.	810. 857.	803. 846.	785. 825.	752. 793.		603. 641.	486. 523.	371. 410.	257. 300.	200. 244.
A N	57.5	895.	893.	883.	863.	831.		674.	523. 557.	410.	338.	244.
G	55.0	927.	926.	916.	898.	864.		704.	589.	480.	377.	330.
Ĺ	52.5	958.	957.	947.	930.	894.		731.	620.	513.	415.	369.
E	50.0	985.	984.	975.	960.	921.		756.	651.	547.	450.	406.
	47.5	1009.	1008.	1000.	985.	944.	872.	780.	678.	578.	484.	443.
	45.0	1030.	1029.	1022.	1006.	963.		802.	704.	608.	517.	477.
	42.5	1048.	1047.	1040.	1023.	978.		822.	728.	636.	547.	507.
	40.0	1062.	1061.	1054.	1034.	989.		841.	750.	662.	576.	538.
	37.5 35.0	1071. 1076.	1071. 1075.	1062. 1066.	1040. 1043.	996. 1002.		857. 868.	770. 788.	686. 707.	604. 629.	567. 593.
	32.5<<	1076.	1075.	1066.	1043.	1002.		877.	802.	707.	652.	618.
	30.0		1070.					884.	814.	742.	673.	641.
	25.0	1052.		1040.		984.		887.	829.	768.	709.	682.
	20.0	1013.		1003.	985.	958.		880.	833.	784.	737.	715.
	15.0	963.	963.	956.	943.	921.		863.	828.	792.	757.	740.
	10.0	908.	905.	901.	890.	876.		838.	816.	792.	769.	757.
	5.0	844.	840.	839.	832.	826.		808.	797.	786.	774.	768.
	0.0	771.	771.	771.	771.	771.	771.	771.	771.	771.	771.	771.
			г Ог <b>м</b>	7\	(1) VID 12.	т 7\						
		F LIAIN	E OF M	WYTMOM	CANDE.	ΠΨ						

CONE OF MAXIMUM CANDELA





THE LIGHT CENTER OF THE INDUSTRY SINCE 1955 4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA
PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL80280 PAGE: 6 OF 8

ISSUE DATE: 12/29/13

PREPARED FOR: RAB LIGHTING, INC.

CANDELA TABULATION

	HOUSE	SIDE			LAT	'ERAL	ANGLE				
		95.0 1	L05.0 1	15.0 1	25.0 1	35.0	145.0	155.0	165.0	175.0	180.0
			•	•			•				
	180.0	0.	0.	0.	0.	0.					
	175.0	0.	0.	0.	0.	0.					
	165.0	0.	0.	0.	0.	0.					
	155.0 145.0	0.	0. 0.	0. 0.	0. 0.	0. 0.					
	135.0	0. 0.	0.	0.	0.	0.					
	125.0	0.	0.	0.	0.	0.					
	115.0	0.	0.	0.	0.	0.					
	105.0	0.	0.	0.	0.	0.					
	95.0	0.	0.	0.	0.	0.					
	92.5	0.	0.	0.	0.	0.					
	90.0	0.	0.	0.	0.	0.					
	87.5	0.	0.	0.	0.	0.					
	85.0	0.	0.	0.	0.	0.					
V	82.5	1.	0.	0.	0.	0.					
Ε	80.0	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
R	77.5	1.	1.	1.	0.	0.			0.	0.	0.
Τ	75.0	2.	1.	1.	1.	0.		0.			0.
I	72.5	5.	2.	1.	1.	1.					
С	70.0	24.	3.	2.	1.	1.					
Α	67.5	56.	5.	3.	2.	1.					
L	65.0	98.	7.	4.	3.	2.					
_	62.5	140.	19.	6.	4.	3.					
A	60.0	184.	44.	7.	6.	5.					
N	57.5	227.	77.	9.	8.	6.					
G	55.0	270. 312.	115.	12. 23.	10.	8.					
L E	52.5 50.0	312. 352.	155. 197.	49.	12. 14.	11. 13.					
ഥ	47.5	390.	240.	85.	14.	16.					
	45.0	426.	283.	127.	26.	19.					
	42.5	461.	326.	173.	51.	25.					
	40.0	494.	368.	220.	92.	31.					
	37.5	525.	408.	268.	140.	52.	35.				29.
	35.0	554.	447.	316.	193.	94.	45.				
	32.5<<		484.	364.	246.	146.	77.				
	30.0	606.	518.	409.	300.						
	25.0	653.	580.	494.	404.	322.				147.	144.
	20.0	690.	636.	569.	501.	439.	380.	338.	305.	292.	288.
	15.0	721.	682.	635.	588.	543.					
	10.0	745.	719.	691.	662.	635.					
	5.0	762.	749.	735.	723.	711.					
	0.0	771.	771.	771.	771.	771.	771.	771.	771.	771.	771.

CONE OF MAXIMUM CANDELA





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PREPARED FOR: RAB LIGHTING, INC.

5-DEGREE	
	SUMMARY
0 - 5	18
5- 10	54
10- 15	87
15- 20	115
20- 25 25- 30	138
25- 30 30- 35	155 167
35- 40	177
30 - 35 35 - 40 40 - 45 45 - 50	182
45- 50	183
50- 55	178
55- 60	170
60- 65	155 130
65- 70	130
70 - 75 75 - 80	92
75- 80 80- 85	39 4
85- 90	0
90- 95	0
95-100	Ō
100-105	0
105-110	0
110-115	0
115-120	0
120-125	0 0
125-130 130-135	0
135-140	0
140-145	0
145-150	0
150-155	0
155-160	0
160-165	0 0 0
165-170	0
170-175	
175-180	0

10-DEGREE	
ZONAL LUMEN	
0- 10	72
0-20	275
0- 30	568
0 - 40	911
0- 50	1276
0- 60	1624
0 - 70	1909
0-80	2039
0- 90	2044
0-100	2044
0-110	2044
0-120	2044
0-130	2044
0-140	2044
0-150	2044
0-160	2044
0-170	2044
0-180	2044
0 100	2011





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ADDRESS: 170 LUDLOW AVE

NORTHVALE, NJ 07647

THIS ITL REPORT WITH THE USE OF THE NVLAP LOGO SHALL NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST, OR ANY AGENCY OF THE FEDERAL GOVERNMENT.





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PHONE: (303)442-1255 FAX: (970)535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL80283 Page 1 of 4

DATE:

12/31/13

PREPARED FOR: RAB LIGHTING, INC.

CATALOG NUMBER: WPLED18 (WALLPACK) - ALED18 (AREA LIGHTER)

ADDRESS: 170 LUDLOW AVE

NORTHVALE, NJ 07647

CAST FINNED METAL HOUSING, MACHINED METAL HEAT SINK, 1 CIRCUIT BOARD WITH 1 LED, MOLDED PLASTIC REFLECTOR WITH SEMI-SPECULAR FINISH, LUMINAIRE:

CLEAR FLAT GLASS LENS IN CAST BROWN PAINTED METAL FRAME.

TAMP: ONE WHITE MULTI-CHIP LIGHT EMITTING DIODE (LED), TILTED 33-DEGREES

FROM VERTICAL BASE-UP POSITION.

RAB RD12-36-A0500 DRIVER:

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT

VOLTAGE (120.0 AND 277.0 VAC, 60Hz) TO THE LED DRIVER.

Calibration Due:

INSTRUMENTS: Associated Power Technologies APT5010 AC Power Source N/A

Yokogawa WT210 Digital Power Meter #6 10/31/14 Ocean Optics QE65000 Spectroradiometer 10/17/14 ITL 1.5m Diameter Integrating Sphere S15-2, 4PI Geometry 10/17/14

OBJECT OF TEST: Measure the Total Radiant Flux\*, Spectral Power Distribution (SPD),

Correlated Color Temperature (CCT), Color Rendering Indices (CRIa,1-14), Chromaticity Coordinates (x,y; u'v'), ANSI C78.377 Duv, and electrical data including ANSI C82.77-2002 Power Factor (PF) and Total Harmonic Distortion (THD) to the test sample. Report Off-State Power. Measure electrical data including Total Harmonic Distortion (THD) at maximum

rated voltage.

The test sample was provided by the customer and had an unknown number of operating hours. The test sample was mounted inside the integrating PROCEDURE:

sphere and allowed to stabilize. After stabilization occurred, measurements were taken. In order to measure mean performance, multiple data sets were recorded and averaged. Readings were taken with the test sample operating at 120.0 VAC input. Electrical data was also recorded

at maximum nominal rated input voltage (277.0 VAC). All testing performed in a 25 +/-1 degree Celsius free air ambient and in

accordance with IESNA LM-79-08. All data are traceable to the National Institute of Standards and Technology. Off-State Power was reported

with no voltage applied to the sample.

\*NOTE:

Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even when these effects are compensated for, are likely to have a greater variation in results compared to the flux output calculated from a goniophotometric exploration since

these artifacts do not affect the goniophotometric results.

RESULTS: (continued subsequent pages)

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N THOMAS Checked P O'CONNORApproved ... SPHERE LAB SUPERVISOR





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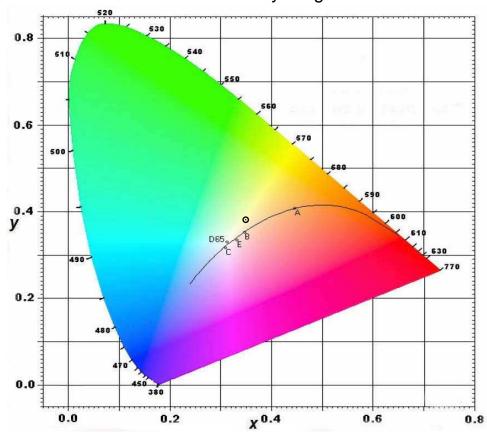
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# **CIE Chromaticity Diagram**







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**RESULTS:** 

SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.3491
Chromaticity Ordinate y	0.3809
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2032
Chromaticity Ordinate v'	0.4988
Correlated Color Temp CCT (K)	4955
ANSI C78.377-2008 Duv	0.013
Total Radiant Flux (milliWatts)	5853 *
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.167
Input Power (Watts)	19.8
Input Power Factor (%)	98.8
Input Current THD (%)	10.3
Input Voltage THD (%)	0.3
Off-State Power (Watts)	0.0
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.081
Input Power (Watts)	20.4
Input Power Factor (%)	90.9
Input Current THD (%)	20.7
Input Voltage THD (%)	0.2

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	66
R1 Light greyish red	61
R2 Dark greyish yellow	70
R3 Strong yellowish green	77
R4 Moderate yellowish green	67
R5 Light bluish green	62
R6 Light blue	59
R7 Light violet	80
R8 Light reddish purple	53
R9 Strong red	-48
R10 Strong yellow	30
R11 Strong green	61
R12 Strong blue	29
R13 Light yellowish pink (skin)	62
R14 Moderate olive green (leaf)	87

\*NOTE:

Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even when these effects are compensated for, are likely to have a greater variation in results compared to the flux output calculated from a goniophotometric exploration since these artifacts do not affect the goniophotometric results.





INDEPENDENT TESTING LABORATORIES, INC. 4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303)442-1255 FAX: (970)535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com Page 3 of 4

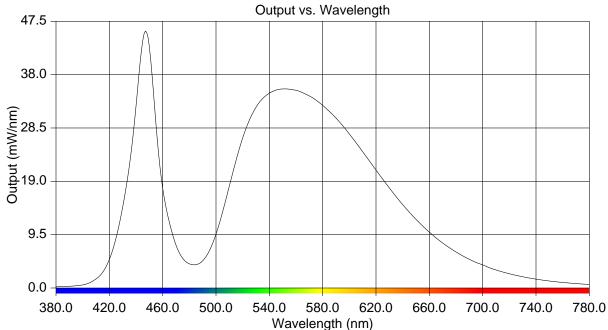
ITL80283 REPORT NUMBER: DATE: 12/31/13

PREPARED FOR: RAB LIGHTING, INC.

CATALOG NUMBER: WPLED18 (WALLPACK) - ALED18 (AREA LIGHTER)

**RESULTS:** 

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.210	515	22.692	650	12.229
385	0.246	520	26.728	655	11.044
390	0.304	525	29.876	660	9.950
395	0.393	530	32.191	665	8.937
400	0.549	535	33.752	670	8.017
405	0.906	540	34.705	675	7.183
410	1.607	545	35.255	680	6.421
415	2.796	550	35.458	685	5.731
420	5.083	555	35.410	690	5.109
425	8.862	560	35.213	695	4.555
430	14.395	565	34.790	700	4.111
435	21.730	570	34.211	705	3.614
440	32.366	575	33.466	710	3.211
445	43.979	580	32.538	715	2.858
450	43.002	585	31.457	720	2.537
455	29.107	590	30.273	725	2.257
460	17.795	595	28.919	730	2.005
465	11.719	600	27.435	735	1.778
470	7.634	605	25.887	740	1.580
475	5.283	610	24.282	745	1.401
480	4.305	615	22.646	750	1.246
485	4.155	620	21.008	755	1.106
490	4.840	625	19.398	760	0.989
495	6.624	630	17.827	765	0.884
500	9.592	635	16.297	770	0.787
505	13.593	640	14.856	775	0.701
510	18.161	645	13.498	780	0.626



### WPLED18/PC





Ultra-high efficiency LED 18 Watt wallpack. Patent Pending thermal management system. 100,000 hour L70 lifespan. 5 Year Warranty.

Color: Bronze Weight: 7.5 lbs

Project:	Туре:
Prepared By:	Date:

Driver Info		LED Info		
Type:	Constant Current	Watts:	18W	
120V:	0.17A	Color Temp:	5000K	
208V:	N/A	Color Accuracy:	66 CRI	
240V:	N/A	L70 Lifespan:	100000	
277V:	N/A	Lumens:	2,044	
Input Watts:	20W	Efficacy:	103 LPW	
Efficiency:	91%			

### **Technical Specifications**

### Electrical

### Photocell:

120V Button Photocell Included. Photocell is only compatible with 120V.

### Driver:

Constant Current, Class 2, 100-277V, 50/60 Hz, 4 kV surge protection, 500mA, 100-240VAC: 0.3-0.15A, 277VAC: 0.15A, Power Factor: 99%

### THD:

10.3% at 120V

### Listings

### **UL Listing:**

Suitable for wet locations. Suitable for mounting within 1.2m (4ft) of the ground.

### IESNA LM-79 & LM-80 Testing:

RAB LED luminaries have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80, and have received the Department of Energy "Lighting Facts" label.

### Dark Sky Approved:

The International Dark Sky Association has approved this product as a full cutoff, fully shielded luminaire.

### **DLC Listed:**

This product is on the Design Lights Consortium (DLC) Qualified Products List and is eligible for rebates from DLC Member Utilities.

DLC Product Code: P0000175I

### **LED Characteristics**

### Lifespan:

100,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations.

### **LED**

Multi-chip, high-output, long-life LED

### **Color Consistency:**

7-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color.

### Color Stability:

LED color temperature is warrantied to shift no more than 200K in CCT over a 5 year period.

### **Color Uniformity:**

RAB's range of CCT (Correlated Color Temperature) follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2011.

### Construction

### **Ambient Temperature:**

Suitable for use in 40°C (104°F) ambient temperatures

### **Cold Weather Starting:**

The minimum starting temperature is -40°C/-40°F

### **Thermal Management:**

Superior heat sinking with external Air-Flow fins

### Finish:

Our environmentally friendly polyester powder coatings are formulated for high-durability and long-lasting color, and contain no VOC or toxic heavy metals.

### Reflector:

Semi-specular, vacuum-metalized polycarbonate

### Gaskets:

High-temperature silicone gaskets

### Housing:

Die-cast aluminum housing, lens frame and mounting

### Mounting:

Heavy-duty mounting arm with "O" ring seal & stainless steel screws

### Green Technology:

Mercury and UV free, and RoHS compliant. Polyester powder coat finish formulated without the use of VOC or toxic heavy metals.

### Optical

### Replacement:

The WPLED18 replaces 150W Metal Halide Wallpacks.

### **BUG Rating:**

B1 U0 G0

### Other

### California Title 24:

WPLED18/PC complies with 2013 California Title 24 building and electrical codes as a commercial outdoor non-pole-mounted fixture < 30 Watts

### For Use on LEED Buildings:

IDA Dark Sky Approval means that this fixture can be used to achieve LEED Credits for Light Pollution Reduction.

### Patents:

The design of WPLED18 is protected by US patent D608,040, Canada patent 138280, and China patent CN301649064S.



### **Technical Specifications (continued)**

### Other

### Warranty:

RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish.

### **Country of Origin:**

Designed by RAB in New Jersey and assembled in the USA by RAB's IBEW Local 3 workers.

### **Buy American Act Compliant:**

This product is a COTS item manufactured in the United States, and is compliant with the Buy American Act.

### Recovery Act (ARRA) Compliant:

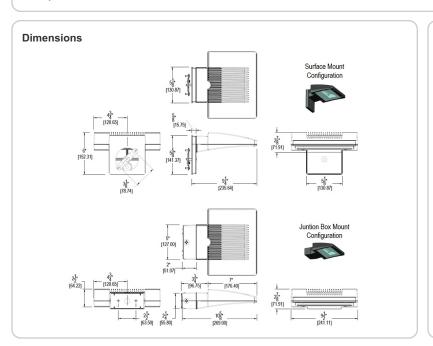
This product complies with the 52.225-21 "Required Use of American Iron, Steel, and Manufactured Goods-- Buy American Act-- Construction Materials (October 2010).

### **Trade Agreements Act Compliant:**

This product is a COTS item manufactured in the United States, and is compliant with the Trade Agreements Act.

### **GSA Schedule:**

Suitable in accordance with FAR Subpart 25.4.



### Features

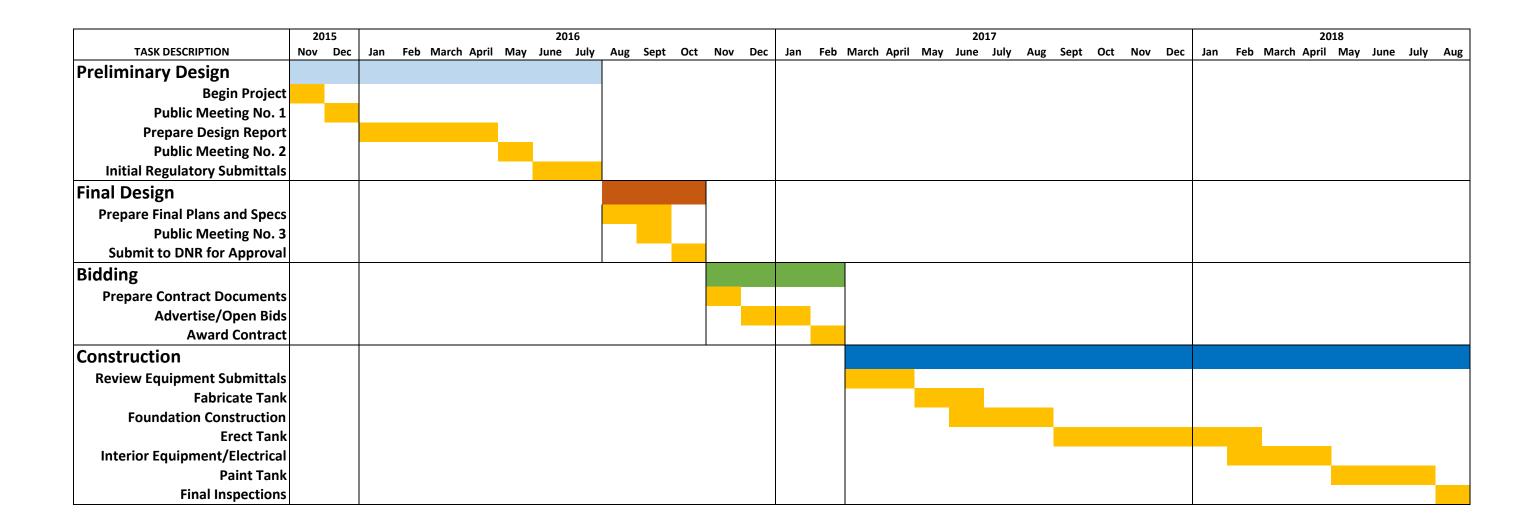
Ultra-high efficiency LED 18 Watt wallpack

Replaces 150W Metal Halide Wallpacks

100,00-Hour LED Lifespan

5-Year Warranty

Ordering Matrix				
Family	Watts	Color Temp	Finish	Photocell
WPLED				
	<b>18</b> = 18W	= 5000K (Cool) <b>Y</b> = 3000K (Warm)	= Bronze <b>W</b> = White	= No Photocell /PC = 120V Button
		<b>N</b> = 4000K (Neutral)		<b>/PC2</b> = 277V Button





View from Pioneer Road Looking Northwest to Town of Middleton Buildings



View from Pioneer Road Looking West towards Town of Middleton Fire Station No. 2



View of Northside of Town of Middleton Town Hall from Parking Lot off of Pioneer Road



View of Pope Farm Farmhouse and Out-Buildings Looking NW from Old Sauk Road

# Madison Water Utility Blackhawk Tower Site Photos



View from Pioneer Road Looking East



View from Old Sauk Road Looking South

# Madison Water Utility Blackhawk Tower Site Photos



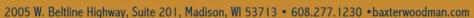
View from Old Sauk Road Looking South



View from Old Sauk Road Looking South

# Letter of Intent Appendix Material Madison Water Utility Blackhawk Water Tower

- 1. Blackhawk Tower Site Photos (2 pages)
- 2. Blackhawk Tower Adjacent Building Photos (2 pages)
- 3. Schedule
- 4. RAB Lighting WPLED 18/PC Lighting Cut Sheet (2 pages)
- 5. RAB Lighting WPLED 18/PC Lighting Photometric Details and Plan (8 pages)





August 8, 2016

City of Madison Planning/Urban Design Commission 215 Martin Luther King Jr. Blvd; Room LL-100 Madison, WI 53701-2985

Subject: Madison Water Utility, Blackhawk Water Tower Letter of Intent

Dear Planning/Urban Design Commission:

On behalf of the Madison Water Utility, please find a completed Land Use Application along with requested Submittal Information. This letter describes the project in more detail and arranged in accordance with bullet items noted in the Land Use Application.

### **Overall Project Description/Background Information**

Madison Water Utility (MWU) desires to construct a 1.0 MG water tower on the far west side of Madison to serve as elevated or "floating" storage for MWU's Pressure Zone 10 and Pressure Zone 11. The overall need for additional storage has been previously identified in MWU's approved 2006 Master Plan.

Constructing 1.0 MG now will provide for immediate system benefits and delay construction of a second elevated tank in the future. These immediate system benefits include increasing water supply redundancy for the two zones (by combining booster pumping capacities of Well 26 Pumping Station and Booster Pumping Station 128), improving fire protection, increasing emergency storage reserves, reducing overall costs and reducing future maintenance expense (by constructing one water tower at this time versus two tanks for two separate zones).

### **Project Location**

The proposed location for the Blackhawk Water Tower is 10451 Old Sauk Road, on property currently located within the Town of Middleton, near the intersection of Old Sauk Road and Pioneer Road on shown in Figure No. 1, on the following page and as included on attached exhibits.

The property consists of over 17 acres of property owned by MWU and is currently farmed (see Site Photos and Site Topographic Survey). The property was recently incorporated into the City of Madison.



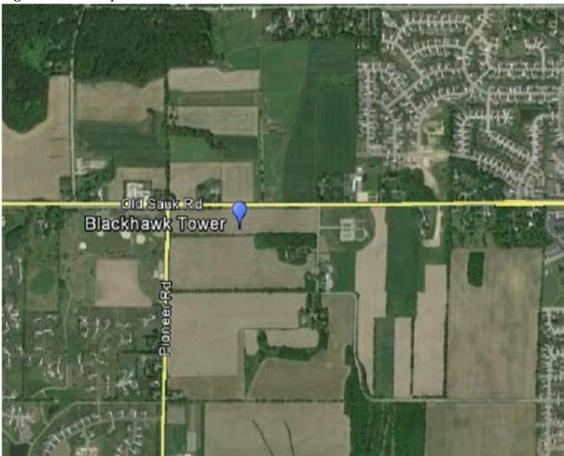


Figure No. 1: Proposed Blackhawk Tower Location

### **Project Team**

The Blackhawk Water Tower is solely a MWU project, which will be a publically bid project. Baxter and Woodman, Inc. is providing professional engineering design and construction services for the project and will utilize Dixon Engineering for on-site tank painting and welding inspections. MWU hired CGC, Inc. for soil borings.

### **Existing Conditions**

The existing site is currently being farmed. No buildings currently exist on the site. Included are several photos of the existing site as an attachment to this letter.

We have also included several photos of adjacent buildings to the site, including the Town of Middleton Town Hall; Fire Station; and the Pope Farm farmhouse.



Soil borings have determined this site to be acceptable for construction of an elevated tank.

The following regulatory comments are noted regarding the site:

- <u>Floodplain</u>: Our site sits on top of a hill-top far from any floodplains.
- Wetland Impacts: No wetlands exist near our site.
- Endangered or Threatened Species: We have performed an Endangered Species Preliminary Assessment and the results indicate that while endangered species may be present they are not legally protected. We will install silt fence on the downhill portion of our site and will contact DNR Endangered Species to confirm that no endangered species exist on site.
- Archaeological/Historic Impacts: We have searched the State's records and find no AHI features on our site that we will be disturbing. We will perform a SHPO consultation request to confirm our assumption that no in-field testing is required.

### **Project Schedule**

A detailed project schedule is attached as an exhibit to this letter. The water tower is expected to be on-line by late summer of 2018. A breakdown of our major tasks with milestone dates are noted below:

- Final Design Services will be completed by November 1, 2016.
- Bidding Services are expected to be completed on or before February 28, 2017.
- Construction-Related Services are expected to be completed by August 31, 2018.

### **Proposed Uses**

The tank will have a heated valve room in the base of the tank, along with space for storage for some materials and water system components, as well as a future bathroom.

The site will have a 20 foot access road connecting from Old Sauk Road, which will incorporate a vehicular turn around. This access road will ultimately be abandoned when the remainder of the site is developed per the Elderberry Neighborhood Development Plan. Total site disruption will include approximately 1.5 acres, including installation of a 16-inch water main to the site.

### **Hours of Operation**

When in service the tower itself will silently be in operation 24 hours per day, every day of the year. MWU will normally visit the site once per day for water quality sampling, and periodically at other times for maintenance and other repairs.



### **Building Square Footage**

The pedestal portion of the tank is 38 feet in diameter yielding a total foot print of approximately 1,150 square feet. The water containing portion of the tank above is 74 feet in diameter which is approximately 4,300 square feet.

### **Number of Dwelling Units**

No dwelling units will be on site.

### **Auto and Bike Parking Stalls**

No designated automobile or bike parking stalls are being proposed. The planned 20 foot access road and turn-around area will provide for ample automobile and truck parking for daily site visits and periodic maintenance.

### **Lot Coverage and Usable Open Space**

With the exception of the tank pedestal and access road, the remainder of the site will remain open. The following breakdown of land uses and open site are noted below in Table 1. Open space would include all turf grass, native grass and remaining farmland, which comprises approximately 98.8% of the total site.

Table 1: Lot Coverage and Useable Open Space

Description of Land Use	Area (sq ft)	Area (acres)	Percent of Total Site
Tank Pedestal	1,150	0.03	0.2%
Access Road/Turnaround	7,500	0.17	1.0%
Turf Grass	15,000	0.34	2.0%
Native Grass (w/ Watermain)	42,500	0.98	5.7%
Remaining Farmland	676,500	15.53	91.1%
Total	724,640	17.05	100.0%

### Value of Land

Madison Water Utility purchased the property in 1999 at a cost of \$471,000. At \$40,000 per acre the current value of the land is just over \$680,000.



### **Estimated Project Cost**

Estimated project costs for the Blackhawk Tower project are noted in Table 2 below utilizing PSC standard account numbers and descriptions. A 10% DNR contingency has been added along with Engineering fees and Administration costs. The total estimated Project Cost is \$4,271,000.

**Table 2: Estimated Project Cost** 

Account #	Description of Account	Estimated Cost		
341	Structures and Improvements	\$100,000		
342	Distribution Reservoirs	\$2,700,000		
343	Transmission and Dist. Mains	\$315,000		
348	Hydrants	\$10,000		
397.1	SCADA Equipment	\$50,000		
	Subtotal Construction Costs	\$3,175,000		
	DNR Contingency (10%)	\$317,000		
	Total Estimated Construction Cost	\$3,492,000		
	Engineering	\$180,000		
Administrative		\$128,000		
	Land Cost (1999 Purchase Price)	\$471,000		
	Subtotal Engineering and Administration	\$779,000		
	TOTAL Estimated Project Cost	\$4,271,000		

### Number of Construction and Full-Time Equivalent Jobs Created

The subtotaled construction, engineering and administrative costs noted above total \$3,600,000. If 25% of the above costs are labor at an average cost of \$75,000 per year (with benefits), a total of 12.7 man-years of temporary construction and administrative jobs will be created.

No permanent jobs will necessarily be created as a result of the project, although there will be an increase in approximately 0.33 man-hours as a result of additional site visits and maintenance.

### **Public Subsidy Requested**

The project will be funded by Madison Water Utility general obligation bonds and paid back by water rates.



### **Site Lighting**

There is no existing lighting on the site. We are proposing to install two lights on the side of the tank pedestal above the doors. A cut-sheet showing the specified fixture's cut sheet (with dark sky compliance) and photometric plan is included.

### **Applicant Declarations**

Please note the pre-applicant declaration notifications attached to the Land Use Application. The following notification were given:

Alder – Paul Skidmore (AD 9): <a href="https://www.citvofmadison.com/council/district/?district=9">https://www.citvofmadison.com/council/district/?district=9</a>

• Notification given May 9, 2016.

Neighborhood Association – Blackhawk Homeowners Association: <a href="http://www.cityofmadison.com/neighborhoods/profile/113.html">http://www.cityofmadison.com/neighborhoods/profile/113.html</a>

• Notification given June 6, 2016

Sincerely,

BAXTER & WOODMAN, INC. CONSULTING ENGINEERS

Gerald D. Groth, P.E.

Gerald Shoth

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### 6. Applicant Declarations

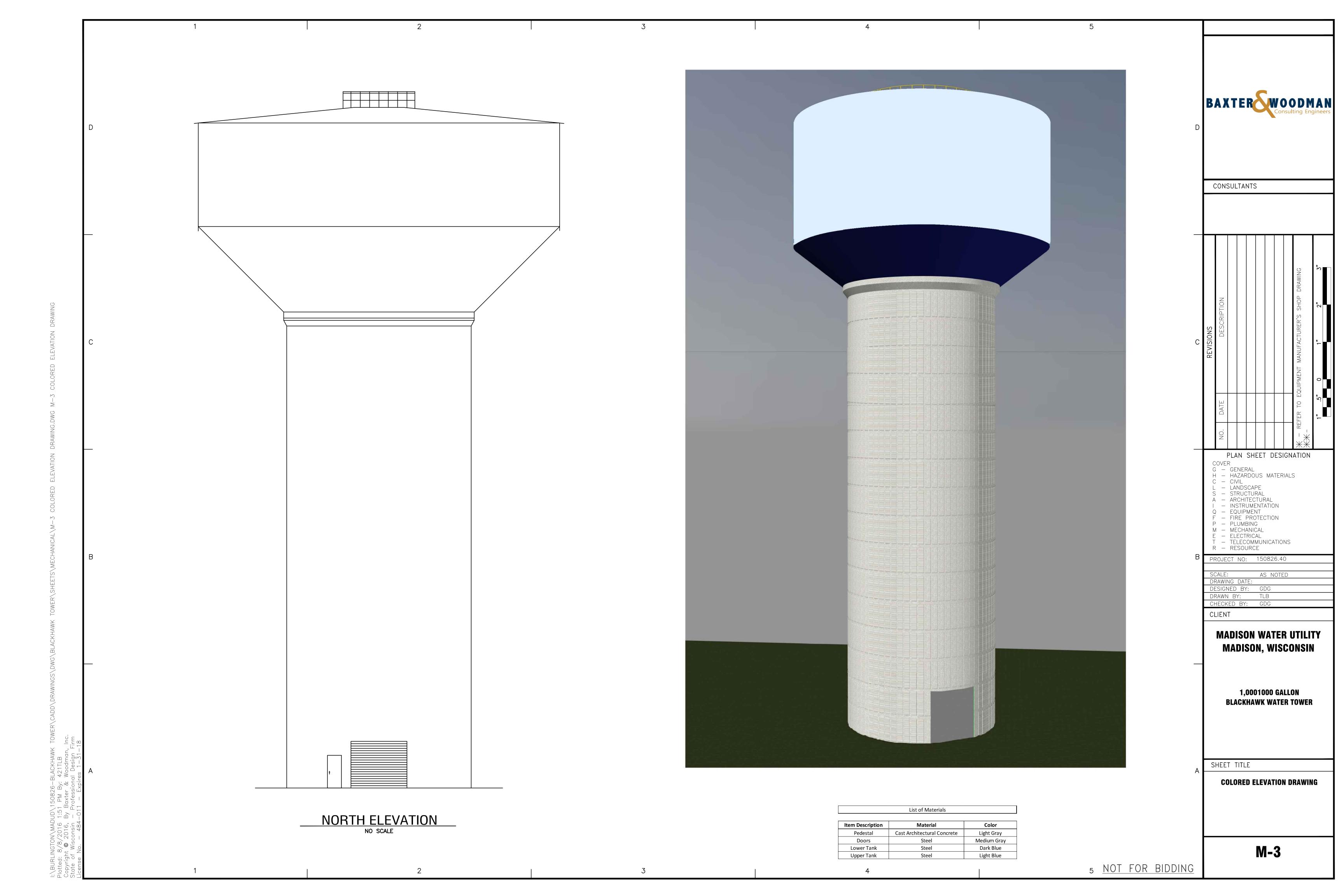
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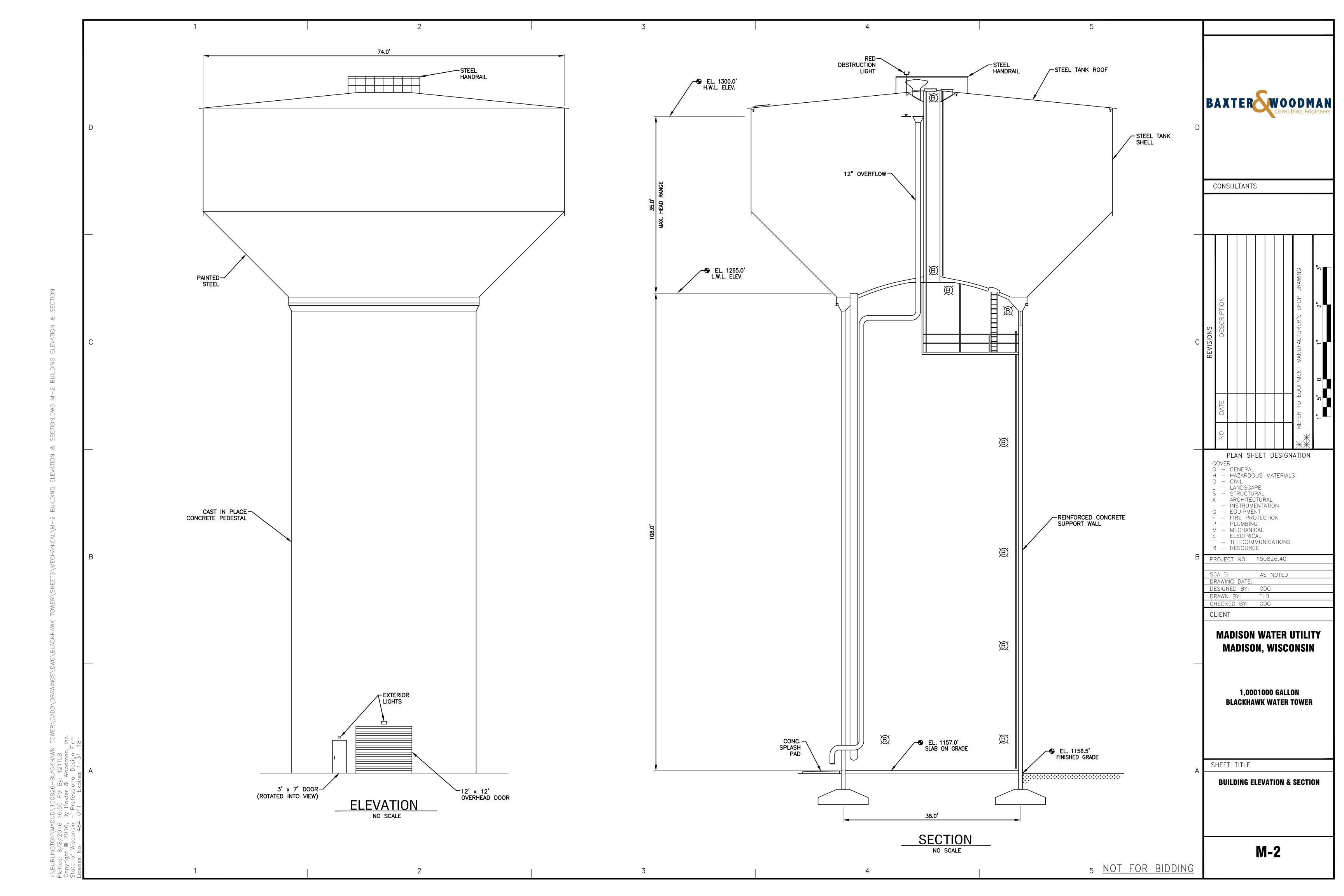
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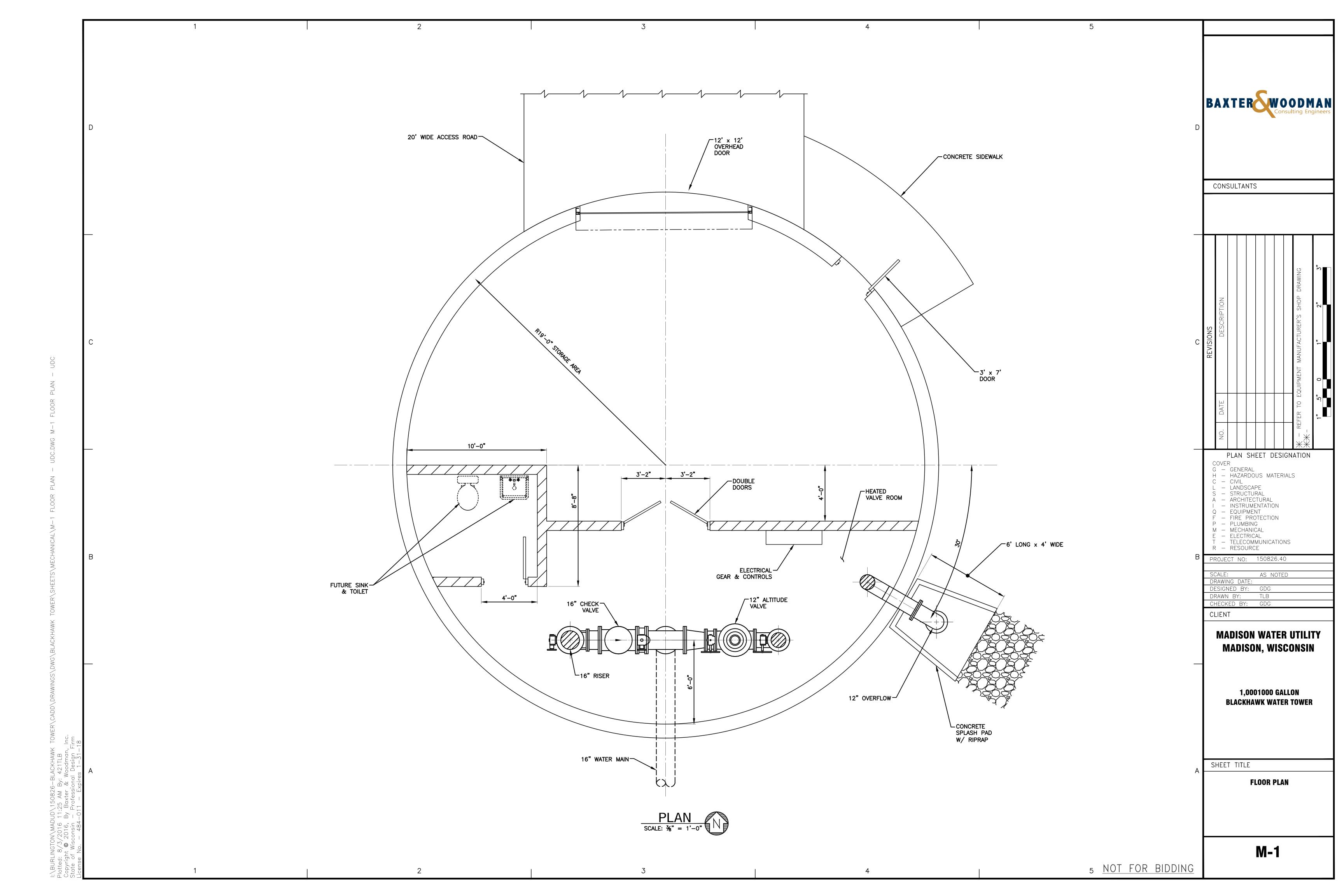
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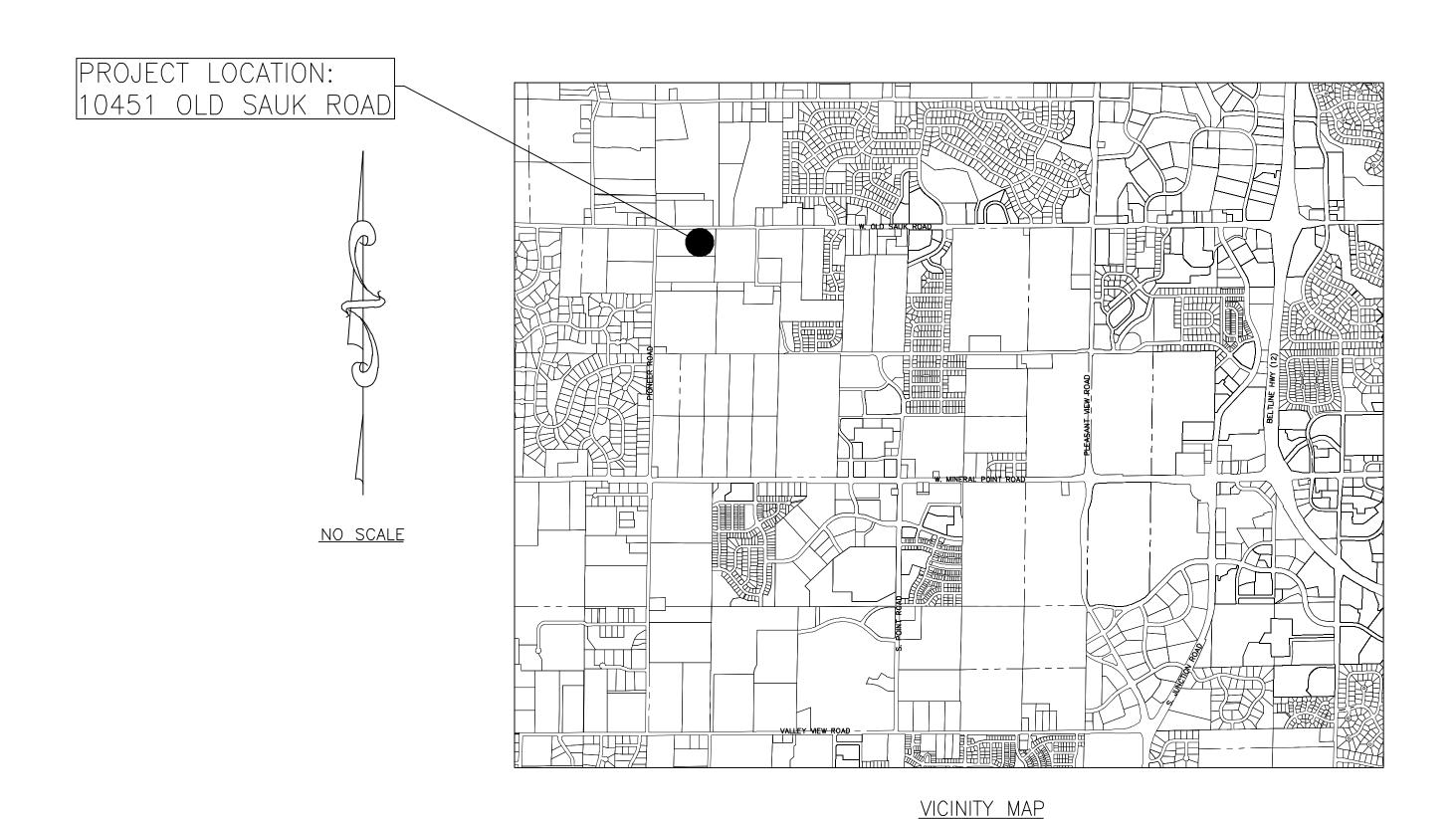






# MADISON WATER UTILITY

# MADISON, WISCONSIN 1,000,000 GALLON BLACKHAWK WATER TOWER CONDITIONAL USE PERMIT



INDEX							
TITLE		SHEET NO.					
TITLE		GENERAL	CIVIL	STRUCT.	MECH.	ELEC.	
COVER SHEET		_	_	_	_	_	
OVERALL SITE PLAN			C-1				
SITE PLAN			C-2				
GRADING AND UTILITY PLAN			C-3				
LANDSCAPE PLAN			C-4				
FLOOR PLAN					M-1		
BUILDING ELEVATION/SECTION					M-2		
COLORED ELEVATION DRAWING					M-3		

# EXISTING UTILITIES:

WHERE THE DRAWINGS INCLUDE INFORMATION PERTAINING TO THE LOCATION OF UNDERGROUND UTILITY FACILITIES, SUCH INFORMATION REPRESENTS ONLY THE OPINION OF THE ENGINEER AS TO THE LOCATION OF SUCH UTILITIES. THE INFORMATION IS INCLUDED ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. THE UTILITY LOCATIONS WERE DETERMINED FROM THE BEST AVAILABLE RECORDS. THE ENGINEER AND OWNER ASSUME NO RESPONSIBILITY WHATEVER WITH RESPECT TO THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN ON THE DRAWINGS REGARDING THE LOCATION OF UNDERGROUND UTILITY FACILITIES OR THE MANNER IN WHICH THEY ARE TO BE REMOVED OR ADJUSTED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES. THE CONTRACTOR SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION REGARDING THE LOCATION OF THE UTILITY FACILITIES AND THE WORKING SCHEDULES OF THE UTILITY COMPANIES FOR REMOVING OR ADJUSTING THE FACILITIES.



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