Agenda Item Summary

Project Name: La Crosse Center Expansion & Renovation

La Crosse Center Board Meeting

1. Site Design Review + Update

a. Grading
   i. Grading (slope of surface) along Pearl Walkway will be similar to existing slope to avoid undermining the existing retaining wall to the north. The new Pearl Walkway will have a ramp and no stairs. This will make the pedestrian walkway seem wider and also be easier for snow removal.
   ii. The drop off lane along 2nd street will have a flush curb with bollards to discourage vehicles from driving on the sidewalk or plaza. The flush curb allows for better accessibility for guests being dropped off.
   iii. Grades along Front Street and the will be similar to existing conditions.

b. Lighting
   i. Exterior lighting is to be mounted to building as much as possible. In the event lighting is needed off-building, ISG is to incorporate into landscaping/greenspace, if possible. Lighting on the underside of the ballroom (truck loading area) is to be bright enough to support event loading/unloading. ISG will verify if the light poles along Front St. are to be replaced that would now be under the building.

c. Trash/Refuse Areas
   i. The trash compactor will remain in the same spot it currently is. It will be served by a trash chute that garbage can be disposed of from the ballroom level and the concourse level.
   ii. Refuse vendor service out to bid. LCC to include proposed space dimension (area for trash compactor and clearance above) in refuse vendor RFP to bidders understand proposed space.

d. Truck Turning Movements Parking along Front Street under
   i. Per LCC Staff input, ISG is proposing to widen Front Street compared to the original concept site plan to allow easier truck turning movement. This will result in omitting the sidewalk on the east side of Front St. between the Arena door entrance and Pearl Walkway. Sidewalk along Riverside Park to remain.

e. Parking under new building
   i. The on-street parking stalls on the west side of Front Street are proposed to be removed that will be under the new building. This is due to safety concerns of vehicles being parked below the new building.

f. Utilities
   i. Gas meter at North Hall is to be removed.
   ii. The new addition will be served by a new sanitary service from Front Street.

g. Landscaping & Irrigation
   i. LCC Staff has recommended the rock mulch between truck entrances be removed.
   ii. LCC Staff would prefer landscaping options to be rock mulch in lieu of grass for maintenance reasons. Trees, flower pots and shrubs are acceptable also.

2. Food Service Layouts

a. ISG has reviewed the food service layouts provided by Culinex (food service consultant) with LCC staff. The staff recommends the plans provided with a few updates. Recent changes include better circulation and more storage within the east

concessions stand, addition of ice machine to arena level concessions and including a double combi oven at the ballroom kitchen.

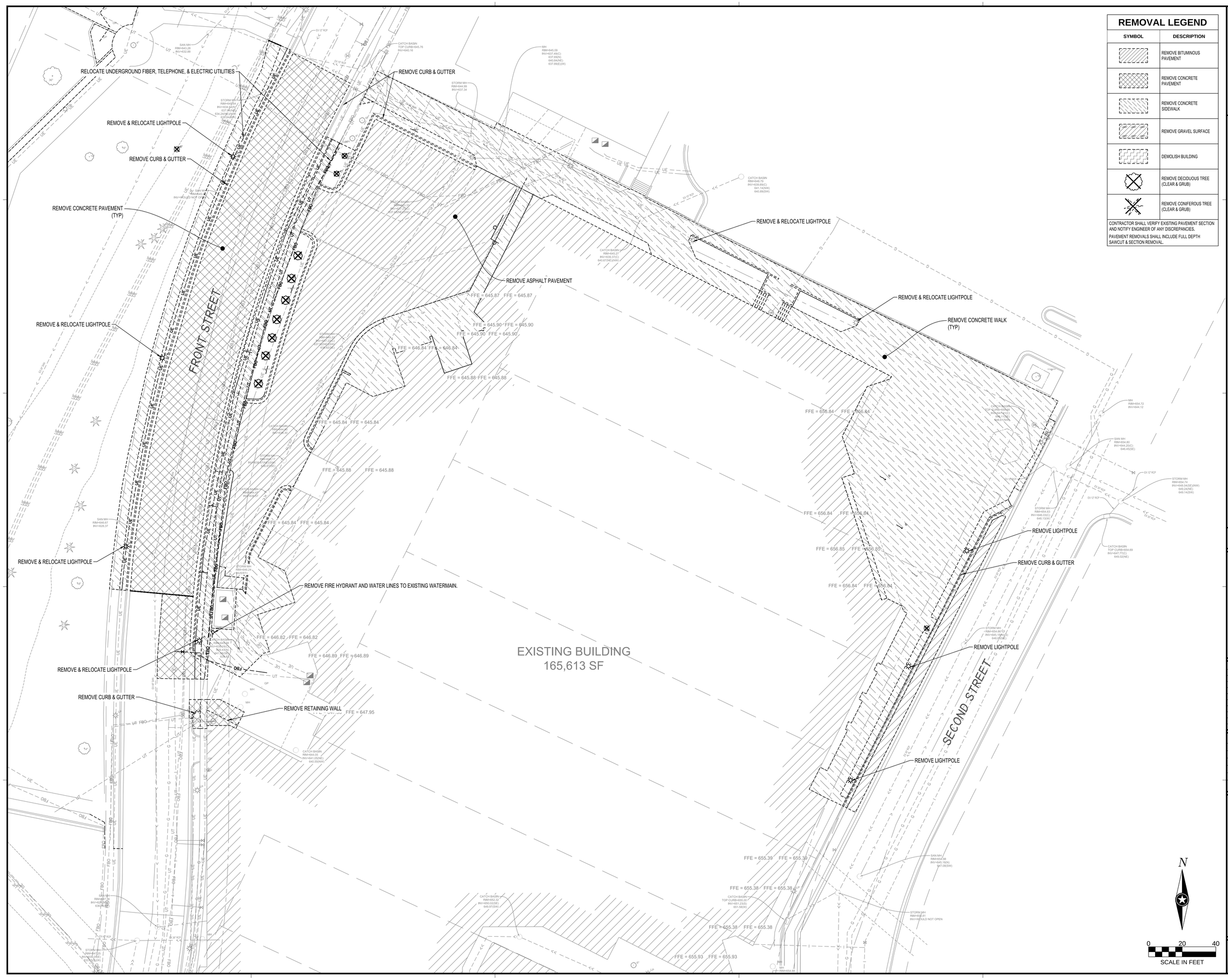
b. LCC staff would like to have one stand at the east concessions set up as a self-order/checkout kiosk.

3. HVAC System and Focus on Energy

a. After schematic design was completed and council approval of the concept, ISG's mechanical engineers developed options (good, better, best) for the HVAC system. Kraus Anderson provided cost estimates to each option and ISG estimated annual utility costs and anticipated CO2 emissions.
   i. Option 1 – Baseline RTU system (good quality) that meets energy code requirements.
   ii. Option 2 – Improved RTU system (better quality) that connects to the existing building cooling system.

b. Focus on Energy compared the two options and estimated potential energy savings of option 2 compared to option 1.

c. The focus on energy report also looks at multiple options for insulation values, glass performance, lighting efficiency and other improvements to the HVAC system. To date, the design, scope and cost estimate match with Focus on Energy's bundle #2.



REMOVAL LEGEND

SYMBOL	DESCRIPTION
	REMOVE BITUMINOUS PAVEMENT
	REMOVE CONCRETE PAVEMENT
	REMOVE CONCRETE SIDEWALK
	REMOVE GRAVEL SURFACE
	DEMOLISH BUILDING
	REMOVE DECIDUOUS TREE (CLEAR & GRUB)
	REMOVE CONIFEROUS TREE (CLEAR & GRUB)

CONTRACTOR SHALL VERIFY EXISTING PAVEMENT SECTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

PAVEMENT REMOVALS SHALL INCLUDE FULL DEPTH SAWCUT & SECTION REMOVAL.

N

0 20 40

SCALE IN FEET

ISG

PRELIMINARY NOT FOR CONSTRUCTION

PROJECT

PROJECT CLIENT
LA CROSSE CENTER EXPANSION

LA CROSSE WISCONSIN

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	16-19990
FILE NAME	19990 C2-EXIST
DRAWN BY	---
DESIGNED BY	--
REVIEWED BY	--
ORIGINAL ISSUE DATE	8/09/2019
CLIENT PROJECT NO.	-

TITLE

EXISTING SITE & REMOVALS PLAN

SHEET

C2-10

PAVEMENT LEGEND

SYMBOL	DESCRIPTION
	BITUMINOUS PAVEMENT
	CONCRETE PAVEMENT
	CONCRETE SIDEWALK
	CONCRETE PAVERS
	REVERSE PITCH CONCRETE CURB & GUTTER

PROPOSED CONCRETE PAVEMENT (TYP)

PROPOSED GRASS / LANDSCAPING (TYP)

PROPOSED CURB & GUTTER (TYP)

PROPOSED COLUMN (TYP)

PROPOSED FOOTING (TYP)

PROPOSED HYDRODYNAMIC SEPARATOR

PROPOSED SANITARY SEWER

PROPOSED SANITARY CLEANOUT

FFE=645.87

PROPOSED ACCESSIBLE RAMP (TYP)

PROPOSED CONCRETE SIDEWALK (TYP)

PROPOSED BUILDING ADDITION

PROPOSED ASPHALT PAVEMENT (TYP)

PROPOSED STORM INTAKE (TYP)

PROPOSED STORM SEWER (TYP)

PROPOSED CONCRETE STEPS

PROPOSED FIRE HYDRANT AND VALVE

PROPOSED HANDRAIL

PROPOSED RIBBON CURB

PROPOSED FLUSH DROP OFF AREA

RELOCATED GAS METER

EXISTING BUILDING
165,613 SF

FRONT STREET

SECOND STREET

N

0 20 40
SCALE IN FEET

PRELIMINARY NOT FOR CONSTRUCTION

PROJECT

PROJECT CLIENT

LA CROSSE CENTER EXPANSION

LA CROSSE WISCONSIN

REVISION SCHEDULE

DATE	DESCRIPTION	BY

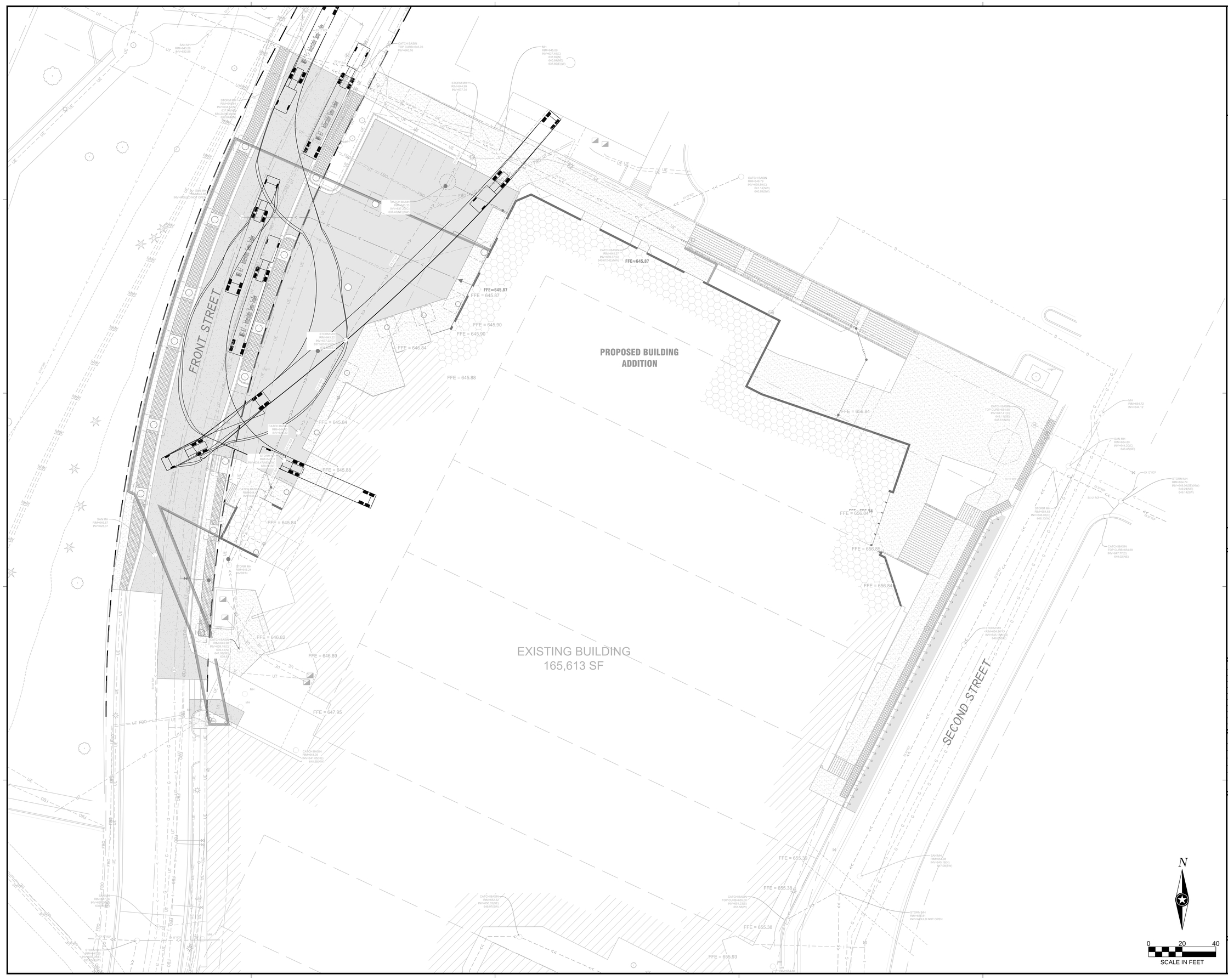
PROJECT NO.	16-19990
FILE NAME	19990 C3-SITE
DRAWN BY	---
DESIGNED BY	--
REVIEWED BY	--
ORIGINAL ISSUE DATE	8/09/2019
CLIENT PROJECT NO.	-

TITLE

OVERALL SITE PLAN

SHEET

C3-10



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PROJECT CLIENT
LA CROSSE CENTER EXPANSION

LA CROSSE WISCONSIN

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	16-19990
FILE NAME	19990 C3-SITE
DRAWN BY	---
DESIGNED BY	--
REVIEWED BY	--
ORIGINAL ISSUE DATE	8/09/2019
CLIENT PROJECT NO.	-

TITLE

PROPOSED VEHICLE MOVEMENT

SHEET

C3-11

GRADING LEGEND

101	EXISTING CONTOUR (MINOR INTERVAL)
100	EXISTING CONTOUR (MAJOR INTERVAL)
101	PROPOSED CONTOUR (MINOR INTERVAL)
100	PROPOSED CONTOUR (MAJOR INTERVAL)
653.XX	PROPOSED SPOT ELEVATION
653.XX	PROPOSED TOP BACK OF CURB SPOT ELEVATION
-X.X%	SURFACE GRADE / DIRECTION

GENERAL GRADING NOTES

EXCAVATED MATERIAL SHALL BE COMPACTED TO 100% PROCTOR DENSITY FOR THE UPPER 3', AND 95% PROCTOR DENSITY BELOW 3' IN ALL BUILDING PADS. REFER TO THE QUALITY COMPACTION METHOD IN ALL OTHER AREAS.

PROPOSED CONTOURS SHOW FINISHED GRADE ELEVATIONS. BUILDING PAD AND PAVEMENT HOLD DOWNS ARE NOT INCLUDED.

FRONT STREET

SECOND STREET

PROPOSED BUILDING ADDITION

EXISTING BUILDING
165,613 SF

FFE=645.87

FFE=645.87

FFE=656.84

N

0 20 40
SCALE IN FEET

ISG

PRELIMINARY NOT FOR CONSTRUCTION

PROJECT

PROJECT CLIENT
LA CROSSE CENTER EXPANSION
LA CROSSE WISCONSIN

REVISION SCHEDULE

DATE	DESCRIPTION	BY

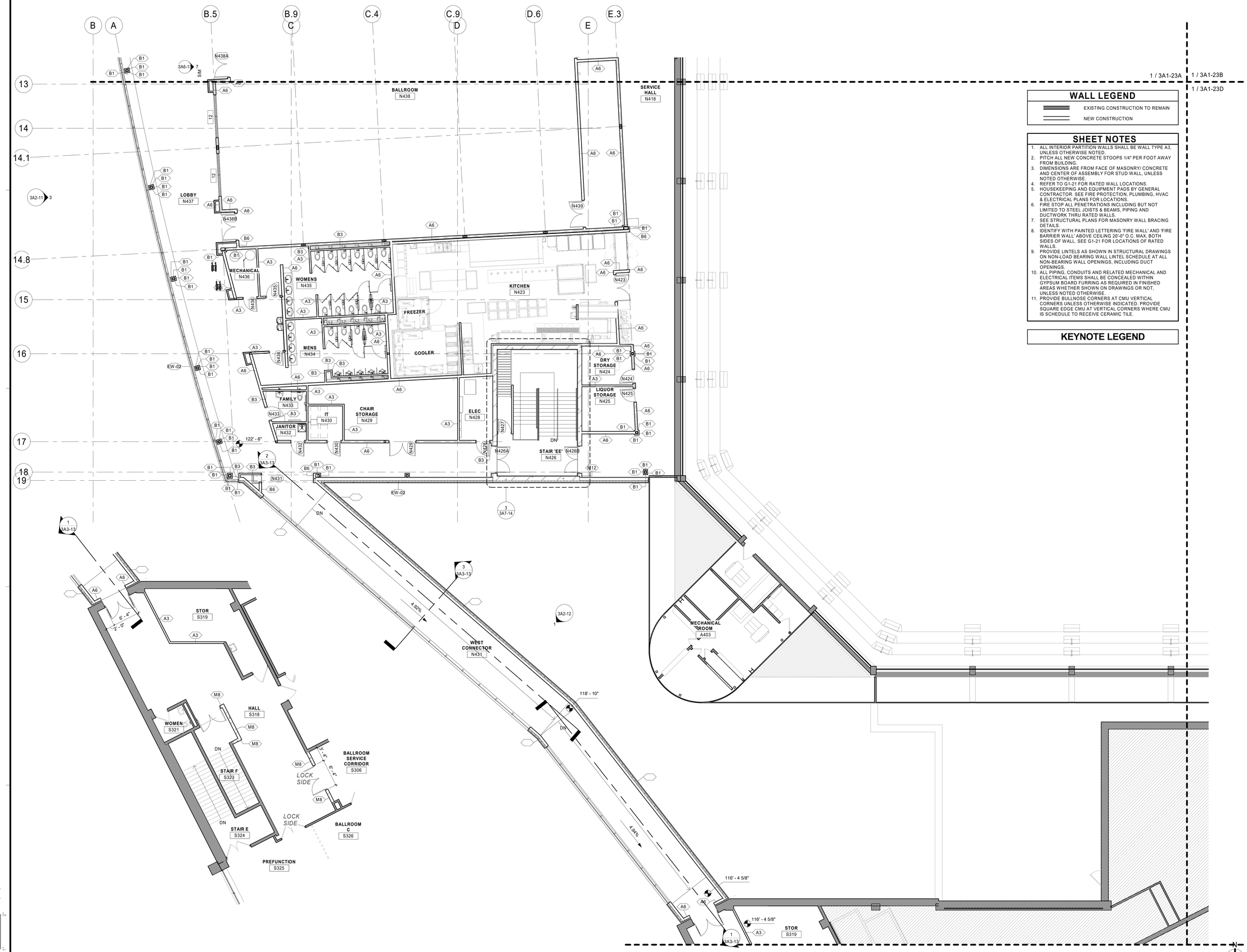
PROJECT NO.	16-19990
FILE NAME	19990 C4-GRADE
DRAWN BY	---
DESIGNED BY	--
REVIEWED BY	--
ORIGINAL ISSUE DATE	8/09/2019
CLIENT PROJECT NO.	-

TITLE

OVERALL GRADING PLAN

SHEET

C4-10



WALL LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- NEW CONSTRUCTION

SHEET NOTES

1. ALL INTERIOR PARTITION WALLS SHALL BE WALL TYPE A3, UNLESS OTHERWISE NOTED.
2. PITCH ALL NEW CONCRETE STOOPS 1/4" PER FOOT AWAY FROM BUILDING.
3. DIMENSIONS ARE FROM FACE OF MASONRY/ CONCRETE AND CENTER OF ASSEMBLY FOR STUD WALL, UNLESS NOTED OTHERWISE.
4. REFER TO G1-21 FOR RATED WALL LOCATIONS.
5. HOUSEKEEPING AND EQUIPMENT PADS BY GENERAL CONTRACTOR. SEE FIRE PROTECTION, PLUMBING, HVAC & ELECTRICAL PLANS FOR LOCATIONS.
6. FIRE STOP ALL PENETRATIONS INCLUDING BUT NOT LIMITED TO STEEL JOISTS & BEAMS, PIPING AND DUCTWORK THRU RATED WALLS.
7. SEE STRUCTURAL PLANS FOR MASONRY WALL BRACING DETAILS.
8. IDENTIFY WITH PAINTED LETTERING 'FIRE WALL' AND 'FIRE BARRIER WALL' ABOVE CEILING 20'-0" O.C. MAX, BOTH SIDES OF WALL. SEE G1-21 FOR LOCATIONS OF RATED WALLS.
9. PROVIDE LINTELS AS SHOWN IN STRUCTURAL DRAWINGS ON NON-LOAD BEARING WALL LINTEL SCHEDULE AT ALL NON-BEARING WALL OPENINGS, INCLUDING DUCT OPENINGS.
10. ALL PIPING, CONDUITS AND RELATED MECHANICAL AND ELECTRICAL ITEMS SHALL BE CONCEALED WITHIN GYPSUM BOARD FURRING AS REQUIRED IN FINISHED AREAS WHETHER SHOWN ON DRAWINGS OR NOT, UNLESS NOTED OTHERWISE.
11. PROVIDE BULLNOSE CORNERS AT CMU VERTICAL CORNERS UNLESS OTHERWISE INDICATED. PROVIDE SQUARE EDGE CMU AT VERTICAL CORNERS WHERE CMU IS SCHEDULE TO RECEIVE CERAMIC TILE.

KEYNOTE LEGEND

REFERENCE SCALE
1" = 1'
0 1/4" 1/2" 1"

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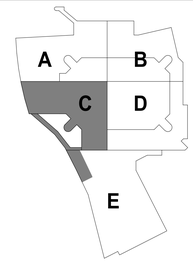

KEYPLAN

PROJECT

LA CROSSE CENTER EXPANSION & RENOVATION

LA CROSSE WISCONSIN

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	16-19990
FILE NAME	19990 Arch R18.rvt
DRAWN BY	
DESIGNED BY	
REVIEWED BY	
ORIGINAL ISSUE DATE	08/09/19
CLIENT PROJECT NO.	

TITLE

BALLROOM LEVEL FLOOR PLAN - AREA C

SHEET

3A1-23C

LA CROSSE CENTER EXPANSION & RENOVATION

LA CROSSE, WISCONSIN

ISG PROJECT # 16-19990

ABBREVIATIONS

AC	AIR CONDITION	IW	INDIRECT WASTE
ADD	ADDENDUM	JB	JUNCTION BOX
ADJ	ADJUSTABLE	KW	KILOWATT
AFF	ABOVE FINISH FLOOR	L	LENGHT
AMP	AMPERAGE	LB	POUNDS
ARCH	ARCHITECT	LCA	LOAD CIRCUIT AMP
ASI	ARCHITECTURAL SUPPLEMENTAL INSTRUCTION	LCP	LOAD CENTER PANEL
		LIQ	LIQUID
		LP	PROPANE GAS
BFF	BELOW FINISH FLOOR	LV	LOW VOLTAGE
BFP	BACK FLOW PREVENTOR	M.C.	MECHANICAL CONTRACTOR
BLKG	BLOCKING	MAU	MAKE UP AIR UNIT
BDLG	BUILDING	MAX	MAXIMUM
BRKT	BRACKET	MBH	ONE THOUSAND BTU PER HOUR
BTUH	BRITISH THERMAL UNITS PER HOUR	MC	METAL CLAD
		MCA	MINIMUM CIRCUIT AMPACITY
BW	BOTH WAYS	MECH	MECHANICAL
CAT5	ETHERNET CABLE	MFG	MANUFACTURE
CD	CONSTRUCTION DETAIL	MIN	MINIMUM
CFM	CUBIC FEET PER MINUTE	MTL	METAL
CG	CORNER GUARD	N/A	NOT APPLICABLE
CL	CENTER LINE	NEMA	NATIONAL ELEC MFG ASSOCIATION
CLG	CEILING		
CLR	CLEAR	NG	NATURAL GAS
COND	CONDUIT	NIC	NOT INCLUDED
CONV	CONVENIENCE RECEPTACLE	NTS	NOT TO SCALE
CIRC	CIRCUIT	O & M	OWNER'S MANUAL
CW	COLD WATER	O.A.	OVER ALL
D	DEPTH	O.C.	ON CENTER
DBL	DOUBLE	P.C.	PLUMBING CONTRACTOR
DEMO	DEMOLITION	PH	PHASE
DFA	DOWN FROM ABOVE	PLAM	PLASTIC LAMINATE
DIA	DIAMETER	POS	POINT OF SALES
DIM	DIMENSION	PRV	PRESSURE REDUCING VALVE
DIST	DISTANCE	PSI	POUNDS PER SQUARE INCH
DR	DUPLEX RECEPTACLE OUTLET	PSP	PERFORATED SUPPLY PLENUM
DTK	DRAIN TEMPERING KIT	QTY	QUANTITY
DT	DETAIL	RECP	RECEPTACLE
DW	DIRECT WASTE	REFIG	REFRIGERATION
DWG	DRAWING	REL	RELOCATE
E.C.	ELECTRICAL CONTRACTOR	REM	REMOVABLE
EA	EACH	REQ'D	REQUIRED
ELEC	ELECTRICAL	RFI	REQUEST FOR INFORMATION
ELEV	ELEVATION	RLA	RUNNING LOAD AMP
EQ	EQUAL	RMN	REMAIN
EQP	EQUIPMENT	RMV	REMOVE
ETC	ETCRETERA	RO	ROUGH OPENING
EXH	EXHAUST	RPZ	REDUCING PRESSURE ZONE
EXT	EXISTING	RTU	ROOF TOP AIR HANDING UNIT
F	DEGREES FAHRENHEIT	SCH	SCHEDULE
FAB	FABRICATOR / FABRICATE	SECT	SECTION
FD	FLOOR DRAIN	SF	SQUARE FEET
FILT	FILTERED	SHT	SHEET
FL	FLOOR	SP	STATIC PRESSURE
FLA	FULL LOAD AMPERAGE	SPEC	SPECIFICATIONS
FS	FLOOR SINK	SQ	SQUARE
FSEC	FOODSERVICE EQUIPMENT CONTRACTOR	SR	SINGLE RECEPTACLE OUTLET
		ST. STL.	STAINLESS STEEL
FT	FEET	SUCT	SUCTION
FUT	FUTURE	TL	TWIST LOCK
GC	GENERAL CONTRACTOR	TYP	TYPICAL
GFCI	GROUND FAULT CIRCUIT INTERRUPT	UDS	UTILITY DISTRIBUTION SYSTEM
		UFB	UP FROM BELOW
GM	GENERAL MANAGER	UL	UNDERWRITES LABATORIES
GND	GROUND	V	VOLT
GPH	GALLON PER HOUR	VFY	VERIFY
GPM	GALLON PER MINUTE	W	WIDTH
H	HIGH	W/	WITH
HD	HEAVY-DUTY	W/O	WITH OUT
HP	HORSE POWER	WC	WATER COLUMN
HR	HOUR	WSCOT	WAINSCOT
HVAC	HEATING, VENTILATION, & AIR CONDITIONING	WTR	WATER
HW	HOT WATER		
IN	INCH		

GENERAL DOCUMENT NOTES

1) THE USE OF CULINEX DRAWINGS, ELECTRONIC MEDIA, SPECIFICATIONS AND OTHER DOCUMENTS:

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2) THE FOODSERVICE DRAWINGS PROVIDED BY CULINEX IS UNDER AN EQUIPMENT CONSULTING AGREEMENT AND ARE FOR INFORMATION USE ONLY. THEY ARE INTENDED TO SHOW EQUIPMENT LOCATION ONLY AND FOR HEALTH DEPARTMENT REVIEW FOR COMPLIANCE WITH STATE AND/OR LOCAL HEALTH CODES. ALL ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, ELECTRICAL AND INTERIOR DRAWINGS ARE TO BE PROVIDED BY A PROPERLY LICENSED ARCHITECT AND/OR ENGINEER AS OUTLINED BY STATE REQUIREMENTS. THE DOCUMENTS PROVIDED BY CULINEX CAN EITHER STAND ALONE OR BE INCLUDED WITHIN A PROJECT SUBMITTAL.

3) THE DRAWINGS PROVIDED INDICATE THE GENERAL ARRANGEMENT AND LOCATION OF FOODSERVICE EQUIPMENT AND ARE REASONABLY EXACT BASED UPON INFORMATION PROVIDED BY THE ARCHITECT AND OTHERS AT THE TIME THE DOCUMENTS WERE PRODUCED. THEREFORE ACCURACY IS NOT GUARANTEED. THE DRAWINGS ARE FOR ASSISTANCE AND GUIDANCE. EXACT LOCATIONS AND LEVELS ARE TO BE GOVERNED BY THE BUILDING CONSTRUCTION DOCUMENTS. SHOULD IT BECOME NECESSARY TO DEVIATE FROM THIS ARRANGEMENT, SUCH DEVIATION SHALL BE MADE WITHOUT EXPENSE TO THE OWNER, ARCHITECT AND OR FOODSERVICE DESIGNER.

4) ALL WORK, MATERIALS AND EQUIPMENT SHALL BE IN FULL ACCORDANCE WITH CURRENT CODES AND REGULATIONS OF LOCAL JURISDICTION AUTHORITIES, PUBLIC HEALTH, NATIONAL BOARD OF FIRE UNDERWRITERS AS WELL AS ANY LOCAL OR STATE ORDINANCES.

5) IT SHALL BE THE RESPONSIBILITY OF THE FOODSERVICE EQUIPMENT CONTRACTOR TO OBTAIN A FULL SET OF CONSTRUCTION DOCUMENTS TO BE USED FOR REVIEW AND COORDINATION WITH OTHER TRADES. IT SHALL BE THE RESPONSIBILITY OF THE PROJECT ARCHITECT AND/OR THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER TO PROVIDE THE FOODSERVICE EQUIPMENT CONTRACTOR WITH CURRENT INFORMATION ON PROJECT SCHEDULE, SUPPLEMENT INSTRUCTIONS, PROPOSAL REQUESTS AND CHANGE ORDERS.

   A. FOODSERVICE EQUIPMENT CONTRACTOR SHALL ATTEND CONSTRUCTION MEETINGS AS REQUIRED TO ENSURE PROPER MANAGEMENT OF THEIR SECTION.

   B. FOODSERVICE EQUIPMENT CONTRACTOR SHALL PROVIDE THE GENERAL CONTRACTOR AND/OR CONSTRUCTION MANAGER, ARCHITECT, AND FOODSERVICE CONSULTANT WITH MONTHLY REPORT OUTLINING THE PROJECT PROGRESS TO INCLUDE ALL ORDER DATES, WHEN SHOP DRAWINGS ARE RELEASED, SHIPPING AND INSTALLATION DATES.

6) LAST DATE REVISION VOIDS AND SUPERSEDES ANY PREVIOUS DOCUMENTS WITH THE SAME DRAWING SHEET NUMBER. IT IS THE RESPONSIBILITY OF THE CONSTRUCTION MANAGER TO RECOVER AND DISPOSE OF ALL PREVIOUS ISSUED DOCUMENTS.

7) ALL TRADES SHALL VERIFY ALL DIMENSIONS, REQUIREMENTS, AND CONDITIONS BEFORE ANY WORK BEGINS

8) ALL TRADES SHALL COORDINATE ALL WORK TO ALLOW ACCESSIBILITY AND USABILITY BY OTHERS.

9) ALL TRADES SHALL PROVIDE PREFABRICATED ROOF CURBS FOR EQUIPMENT PLACED ON THE BUILDING ROOF. CURB SHALL BE PROVIDED AND INSTALLED BY EACH TRADE. ROOF WORK SHALL BE PROVIDED BY ROOFING CONTRACTOR

10) RACKS REQUIRED TO SUPPORT EQUIPMENT PROVIDED UNDER THIS PROJECT SHALL BE PROVIDED AND INSTALLED BY TRADE.

11) EACH TRADE SHALL PROVIDE OPENINGS AND/OR SLEEVES AND FIRE SEALANT REQUIRED TO COMPLETE INSTALLATION OF EQUIPMENT. FOODSERVICE EQUIPMENT CONTRACTOR SHALL COORDINATE OPENINGS WITH BUILDING CONTRACTOR.

12) ALL EQUIPMENT SHALL BE PROVIDED AND INSTALLED, UNLESS NOTED OTHERWISE, BY THE FOODSERVICE EQUIPMENT CONTRACTOR. ALL HVAC, PLUMBING, AND ELECTRICAL ROUGH-INS AND FINAL CONNECTIONS SHALL BE PROVIDED BY TRADE.

13) MILLWORK CONTRACTOR SHALL VERIFY ALL DIMENSIONS OF FOODSERVICE EQUIPMENT THAT IS RELATED TO THE FIXTURES UNDER CONTRACT.

14) BUILDING CONTRACTOR SHALL PROVIDE AND COORDINATE THE FOLLOWING:

   A. OPENINGS OR RECESSED FLOORS AND WALLS FOR INSTALLATION OF TROUGH, WALK-IN COOLER AND OR FREEZER, CONTROL PANELS, ETC; REFER TO PLANS FOR LOCATIONS, SIZES AND DETAILS FOR REQUIRED OPENINGS.

   B. OPENINGS THRU FINISHED CEILINGS, IF REQUIRED, AND THRU ROOF TO SERVICE FOODSERVICE EQUIPMENT TO ROOF TOP EQUIPMENT SHALL BE FURNISHED BY BUILDING CONTRACTOR. THIS WORK SHALL INCLUDE STRUCTURAL SUPPORTS AS REQUIRED TO SUPPORT EQUIPMENT. FOODSERVICE IS TO VERIFY AND COORDINATE UNIT SIZE, WEIGHT, AND LOCATION WITH ALL TRADES.

   C. FOODSERVICE EQUIPMENT CONTRACTOR SHALL PROVIDE REMOVABLE ENCLOSURE PANELS FROM THE TOP OF WALK-IN COOLER AND FREEZER, AND EXHAUST HOODS TO FINISHED CEILING. (UNLESS OTHERWISE NOTED).

   D. TRADE IS TO PROVIDE TRANSIT LEVELED FINISHED FLOOR FOR WALK-IN COOLER AND FREEZER INSTALLATION. SEE PLANS FOR INSTALLATION DETAIL.

15) BUILDING CONTRACTOR SHALL PROVIDE AND INSTALL WALL BACKING OR STEEL BACKING IN ALL WALLS AS OUTLINED IN THE SPECIAL CONDITIONS PLAN.

16) BUILDING CONTRACTOR SHALL PROVIDE STRUCTURAL SUPPORT TO HANG HOODS, BAR SOFFITS AND OTHER CEILING SUPPORTED EQUIPMENT.

17) BUILDING CONTRACTOR SHALL PROVIDE AND INSTALL PVC OR EMT SLEEVE CHASE FOR REMOTE REFRIGERATION LINES, AND BEVERAGE LINES AS INDICATED ON PLANS. PROVIDE ALL STRUCTURAL PENETRATIONS AS NEEDED TO COMPLETE INSTALLATION. SEAL ALL STRUCTURAL PENETRATIONS AFTER INSTALLATION AS REQUIRED BY CODE.

DRAWING SHEET INDEX

GENERAL DEMOLITION EQUIPMENT NOTES

1) FSEC SHALL DOCUMENT ALL EXISTING EQUIPMENT'S' OPERATION WITH OWNER ON ALL EQUIPMENT THAT IS TO BE RELOCATED. FSEC SHALL PROVIDE STARTUP AND 30 DAY WARRANTY ON EQUIPMENT AFTER REINSTALLATION.

2) MECHANICAL & ELECTRICAL CONTRACTORS ARE RESPONSIBLE FOR DISCONNECTION AND RECONNECTION ON ALL RELOCATED EXISTING EQUIPMENT, SCHEDULED BY FSEC AFTER OPERATIONAL VERIFICATION.

3) FSEC SHALL REMOVE ALL EQUIPMENT FROM EXISTING KITCHEN AND TURN OVER TO OWNER, OR RELOCATE OWNERS STORAGE FACILITY. FSEC IS TO COORDINATE SCHEDULE WITH CONSTRUCTION MANAGER. ANY ITEMS NOT REUSED AND NOT WANTED BY THE OWNER IS TO BE DISPOSED OF BY THE FSEC.

4) FSEC SHALL RECLAIM ALL REFRIGERATION FROM EXISTING UNITS PRIOR TO REMOVAL FROM SITEFOR DISPOSED EQUIPMENT. PROVIDE DOCUMENTATION FOR OWNERS AND CONSTRUCTION MANAGERS FILES.

5) FSEC SHALL COORDINATE WITH THE OWNER AND CONSTRUCTION MANAGER ALL RELOCATION AND/OR MODIFICATION OF ANY EQUIPMENT TO BE REUSED.

PLAN KEY INDEX

1. PROVIDE 1/8" DIAMOND TREAD 42" HIGH
2. 42" DOOR REQUIRED* (BY BUILDING CONTRACTOR)
3. JANITOR SINK W/ FAUCET * (BY MECHANICAL)
4. WASHER & DRYER* (BY OWNER)
5. CONDENSATE HOOD * (BY MECHANICAL)
6. OFFICE FURNITURE* (BY OWNER)
7. COOKING EXHAUST HOOD W/ UDS* (BY MECHANICAL)
8. EYE WASH STATION* (BY MECHANICAL)
9. GREASE INTERCEPTOR* (BY MECHANICAL)
10. LOCKERS* (BY TRADES)

*SEE ARCHITECT AND OR ENGINEER PLANS FOR EXACT LOCATIONS

PROJECT INDEX:

OWNER:

CITY OF LA CROSSE
LA CROSSE, WISCONSIN

PROJECT ADDRESS:

LA CROSSE CENTER
300 HARBORVIEW PLAZA
LA CROSSE, WISCONSIN 54601

PROJECT MANAGER: KEVIN BILLS
EMAIL: KEVIN.BILLS@IS-GRP.COM

REFERENCE SCALE 1" = 1'
0 1/4" 1/2" 1" 2"

8/8/2019 8:53:45 AM

ISG

Culinex

PRELIMINARY NOT FOR CONSTRUCTION

PROJECT

LA CROSSE CENTER EXPANSION & RENOVATION

LA CROSSE WISCONSIN

REVISION SCHEDULE

DATE	DESCRIPTION	BY

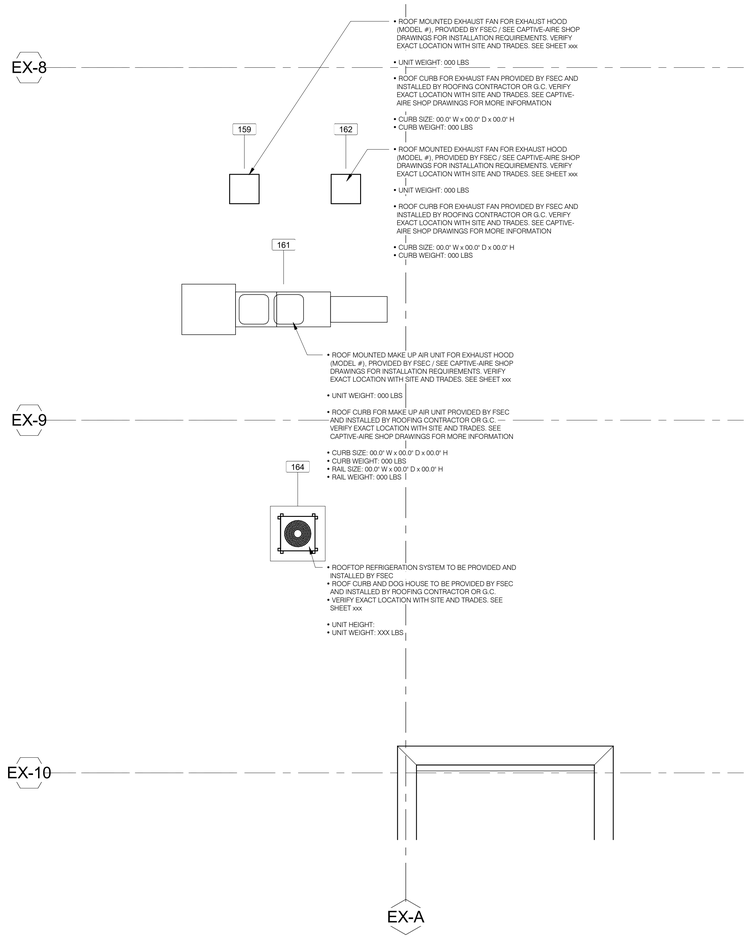
PROJECT NO.	16-19990
FILE NAME	19990 Arch R18.rvt
DRAWN BY	SK
DESIGNED BY	DH
REVIEWED BY	DH
ORIGINAL ISSUE DATE	08/07/19
CLIENT PROJECT NO.	

TITLE

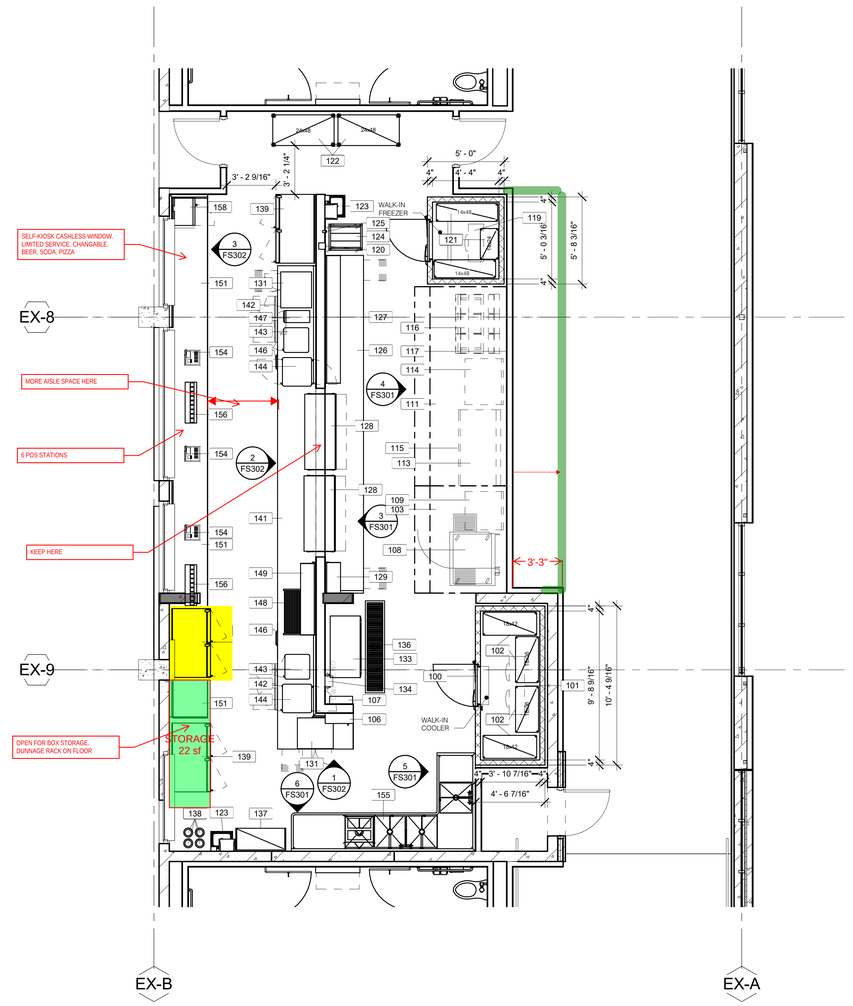
FOODSERVICE EQUIPMENT COVER SHEET

SHEET

FS100



2 FS102 FOODSERVICE EQUIPMENT CONCOURSE LEVEL AREA A ROOF PLAN
1/4" = 1'-0"



1 FS102 FOODSERVICE EQUIPMENT CONCOURSE LEVEL AREA A CONCESSION PLAN
1/4" = 1'-0"

CONCOURSE CONCESSION EQUIPMENT SCHEDULE

ITEM NO	QTY	DESCRIPTION	REMARKS
100	1	Walk-in Cooler Box & Refrigeration System	
101	1	Cooler Coil	Included w/ item 100
102	4	Cooler Shelving	
103	1	Cooking Exhaust Hood	
106	1	Remote Fire Protection System	
108	1	Double Conveyor Oven	
109	1	Stainless Steel Top Work Tables with Riser	
111	1	Cooking Exhaust Hood	
113	1	60" Griddle w/ Mobile Stand	
114	1	Stainless Steel Top Work Tables with Riser	
115	1	Stand, Cooking Equipment, Refrigerated Base	
116	1	Fryer, Battery	
117	1	Stainless Steel Wall Panel	
119	1	Freezer Coil	Included w/ item 118
120	1	Hood Control Touch Screen (CASHMI)	
121	3	Freezer Shelving	
122	2	Kitchen Mobile Shelving	
123	2	Hand Sink w/ Faucet	
124	1	Bread Rack	NIC; By Vendor
125	1	Room Temperature Sensor	
126	1	Prep Counter	
127	1	Wall Shelf	
128	2	Merchandising Display Warmers	
129	1	Wall Shelf	
131	2	Popcorn Machine	
133	1	Ice Maker, Cube Style	
134	1	Water Filter System, Icemaker	
136	1	15" x 72" Floor Trough	
137	1	Soda Rack	NIC; By Vendor
138	4	CO2 Cylinder Tank	NIC; By Vendor
139	2	Refrigerator Merchandiser	
141	1	Rear Serving Work Counter	
142	2	Undercounter Freezer	
143	2	Pizza Heated Display Case	
144	2	Pretzel Heated Display Case	
146	2	Built-in Drawer Warmer	
147	1	Hot Food Dispenser	NIC; By Vendor

CONCOURSE CONCESSION EQUIPMENT SCHEDULE

ITEM NO	QTY	DESCRIPTION	REMARKS
148	1	Hot Dog Grill	
149	1	Wall Shelf	
151	1	Front Serving Counter	
154	4	Cash Register / POS	NIC; By Owner
156	2	Soda Unit	NIC; By Vendor
158	1	Microwave Oven	
159	1	Roof Top Exhaust Fan	
161	1	Roof Top Make-Up Air Unit	
162	1	Roof Top Exhaust Fan	
164	1	Ice Machine Remote Condenser	

REFERENCE SCALE
1" = 1'-0"
0 1/4" 1/2" 1" 2"

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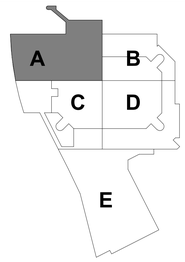

KEYPLAN

PROJECT

LA CROSSE CENTER EXPANSION & RENOVATION

LA CROSSE WISCONSIN

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	16-19990
FILE NAME	19990 Arch R18.rvt
DRAWN BY	SK
DESIGNED BY	DH
REVIEWED BY	DH
ORIGINAL ISSUE DATE	08/07/19
CLIENT PROJECT NO.	

TITLE

FOODSERVICE EQUIPMENT CONCOURSE CONCESSION KITCHEN PLAN & SCHEDULE

SHEET

FS102

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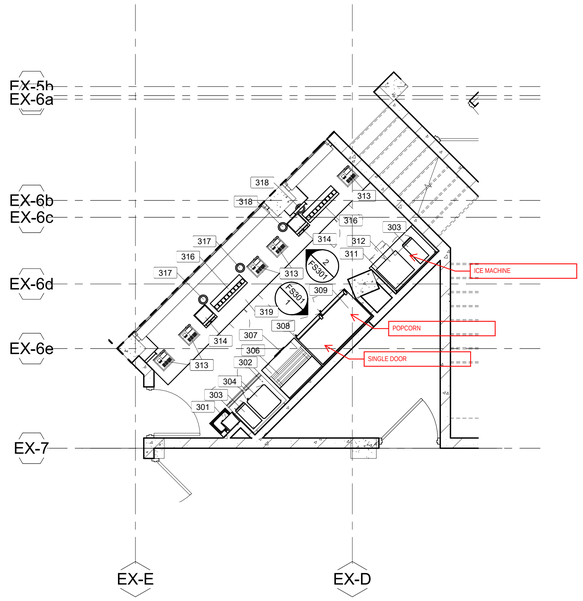
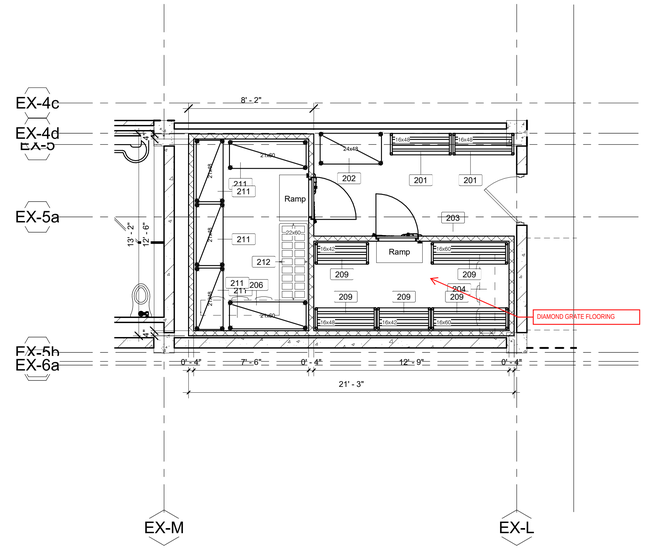
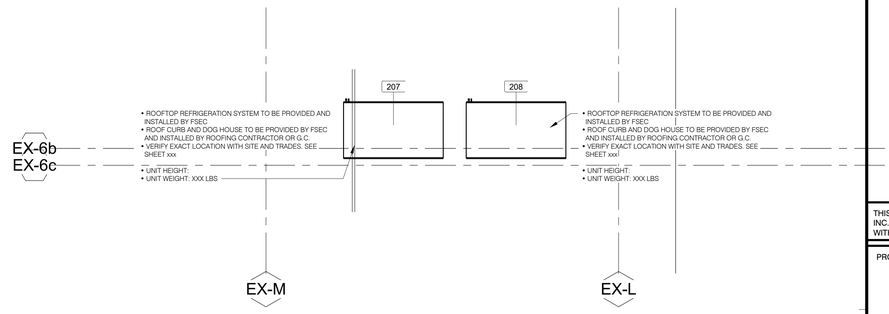


3 FS103 FOODSERVICE EQUIPMENT ARENA LEVEL AREA B CONCESSIONS PLAN
1/4" = 1'-0"



1 FS103 Arena Level Area "A" Beer & Food Walk-in Plan - Plot View
1/4" = 1'-0"



2 FS103 Arena Roof Level Area "A" Beer & Food Roof Plan - Plot View
1/4" = 1'-0"

ARENA CONCESSION EQUIPMENT SCHEDULE

ITEM NO	QTY	DESCRIPTION	REMARKS
300	1	** Spare Number **	
301	1	Hand Sink w/ Faucet	
302	1	Undercounter Freezer	
303	2	Hot Food Dispenser	NIC; By Owner
304	1	Pizza Heated Display Case	
306	1	Hot Dog Grill	
307	1	Built-in Drawer Warmer	
308	1	Wall Shelf	
309	1	Refrigerator Merchandiser	
310	1	** Spare Number **	
311	1	Work Counter	
312	1	Popcorn Machine	
313	5	Cash Register / POS	NIC; By Owner
314	2	Bottoms Up Beer System	NIC; By Vendor
315	1	** Spare Number **	
316	2	Soda Unit	NIC; By Vendor
317	2	Disposable Cup Dispenser	
318	2	Disposable Cup Dispenser	
319	1	Front Serving Counter	

ARENA WALK-INS EQUIPMENT SCHEDULE

ITEM NO	QTY	DESCRIPTION	REMARKS
201	2	Keg Storage Rack	
202	1	Dry Storage Mobile Shelving	
203	1	Walk-in Cooler Box & Refrigeration System	
204	1	Cooler Coil	
205	1	** Spare Number **	
206	1	Cooler Coil	
207	1	Roof Top Refigeration Unit	
208	1	Roof Top Refigeration Unit	
209	5	Keg Storage Rack	
210	1	** Spare Number **	
211	5	Cooler Mobile Shelving	
212	1	Rack, Dunnage	

REFERENCE SCALE
1" = 1'
0 1/4" 1/2" 1" 2"

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PROJECT

LA CROSSE CENTER EXPANSION & RENOVATION

LA CROSSE WISCONSIN

REVISION SCHEDULE

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PROJECT NO.	16-19990
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ORIGINAL ISSUE DATE	08/07/19

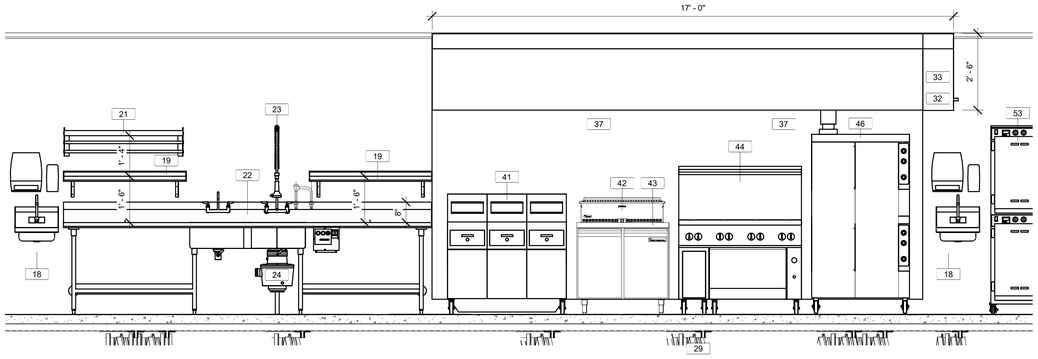
CLIENT PROJECT NO.

TITLE

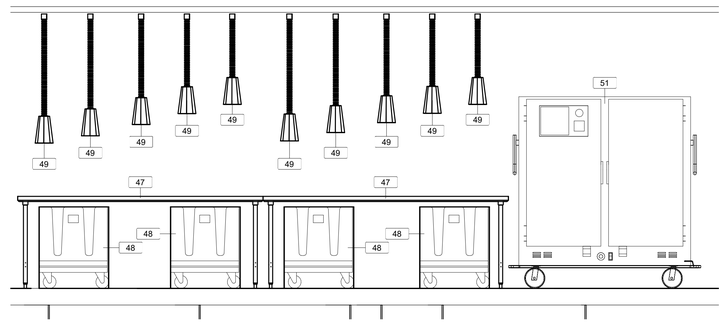
FOODSERVICE EQUIPMENT ARENA CONCESSION & WALKINS PLAN & SCHEDULE

SHEET

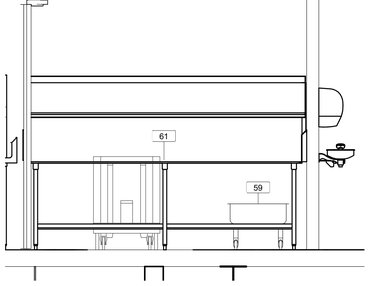
FS103



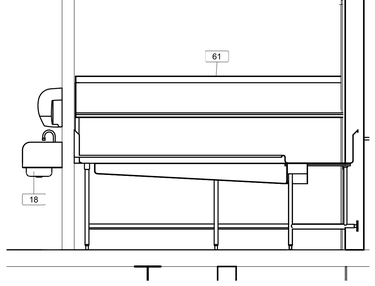
1 FS300 ELEVATION
1/2" = 1'-0"



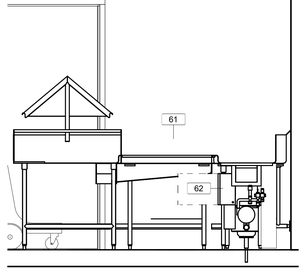
2 FS300 ELEVATION
1/2" = 1'-0"



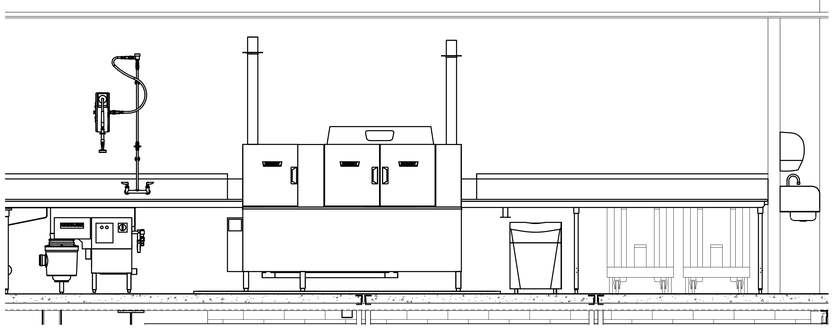
3 FS300 ELEVATION
1/2" = 1'-0"



4 FS300 ELEVATION
1/2" = 1'-0"



5 FS300 ELEVATION
1/2" = 1'-0"



6 FS300 ELEVATION
1/2" = 1'-0"

REFERENCE SCALE
1" = 1'
0 1/4" 1/2" 1" 2"

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PROJECT

LA CROSSE CENTER
EXPANSION & RENOVATION

LA CROSSE WISCONSIN

REVISION SCHEDULE

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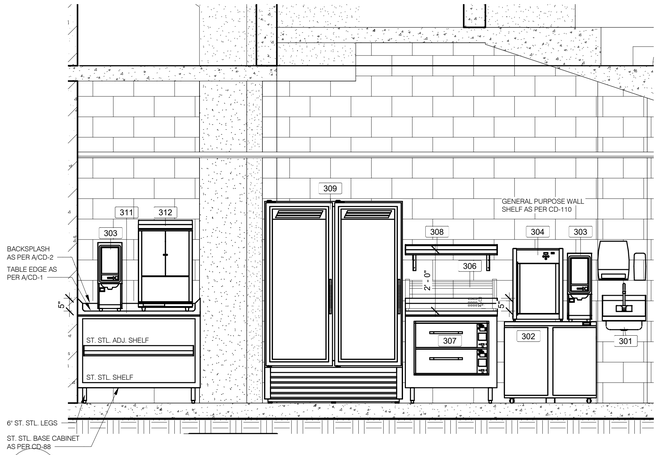
CLIENT PROJECT NO.	

TITLE

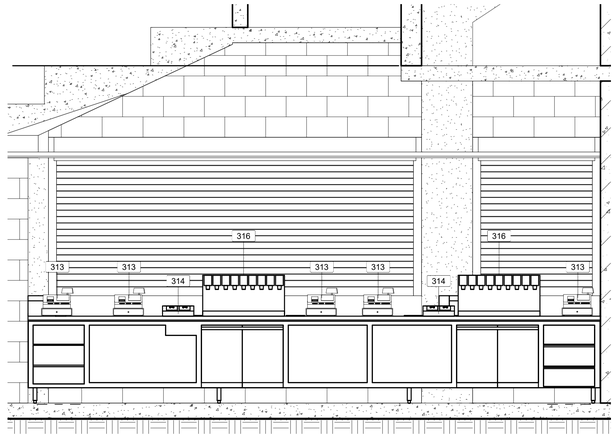
FOODSERVICE EQUIPMENT ELEVATIONS

SHEET

FS300



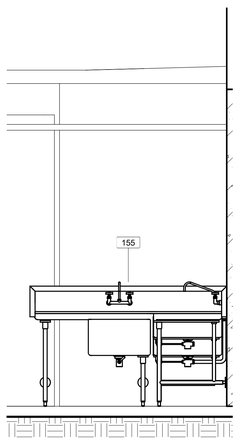
1 FS301 ELEVATION 1/2" = 1'-0"



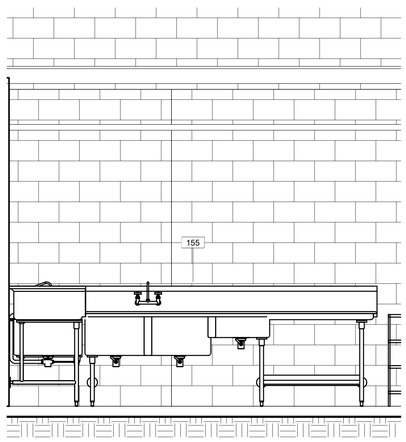
2 FS301 ELEVATION 1/2" = 1'-0"

4 FS301 ELEVATION 1/2" = 1'-0"

3 FS301 ELEVATION 1/2" = 1'-0"



5 FS301 ELEVATION 1/2" = 1'-0"



6 FS301 ELEVATION 1/2" = 1'-0"

REFERENCE SCALE 1" = 1'
0 1/4" 1/2" 1"

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PROJECT

LA CROSSE CENTER EXPANSION & RENOVATION

LA CROSSE WISCONSIN

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	16-19990
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REVIEWED BY	DH
ORIGINAL ISSUE DATE	08/07/19
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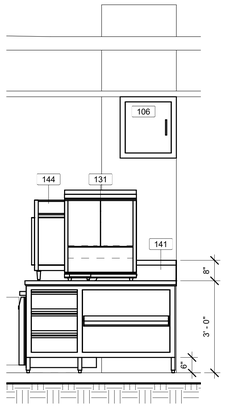
TITLE

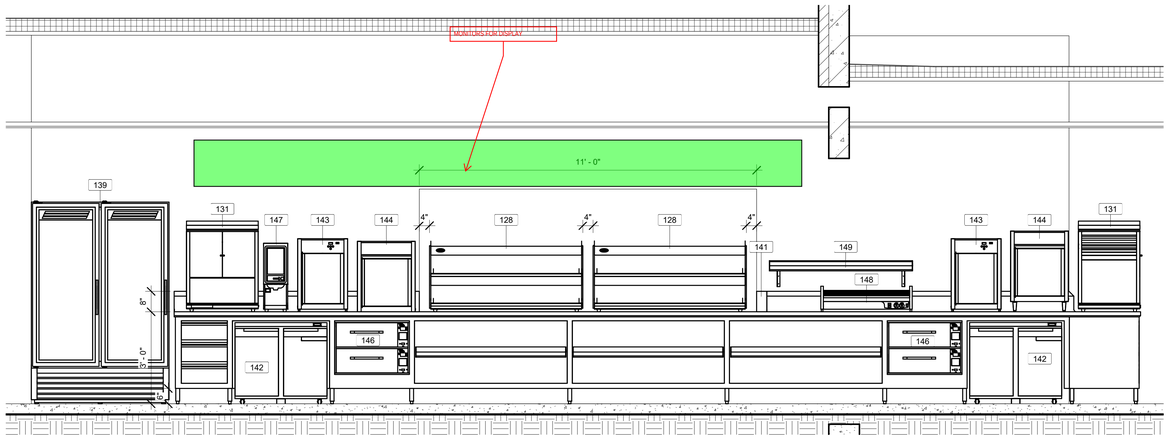
FOODSERVICE EQUIPMENT ELEVATIONS

SHEET

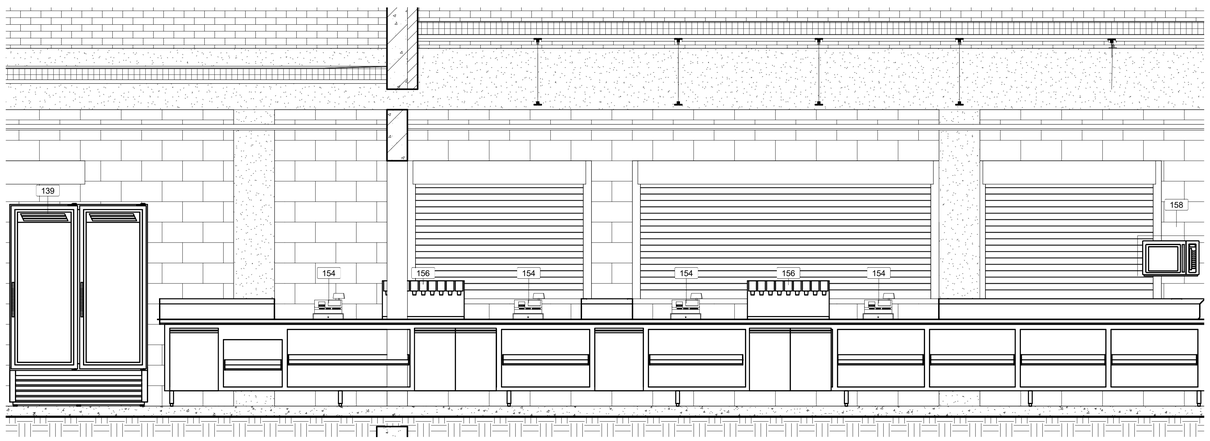
FS301



1 FS302 ELEVATION
1/2" = 1'-0"



2 FS302 ELEVATION
1/2" = 1'-0"



3 FS302 ELEVATION
1/2" = 1'-0"

REFERENCE SCALE
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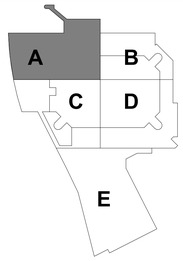

KEYPLAN

PROJECT

LA CROSSE CENTER
EXPANSION & RENOVATION

LA CROSSE WISCONSIN

REVISION SCHEDULE

DATE	DESCRIPTION	BY

PROJECT NO.	16-19990
FILE NAME	19990 Arch R18.rvt
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ORIGINAL ISSUE DATE	08/07/19
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TITLE

FOODSERVICE EQUIPMENT ELEVATIONS

SHEET

FS302

N

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focus on energy®
Partnering with Wisconsin utilities

1 South Pinckney, Suite 340 • Madison, WI 53703
phone: 608.230.7010
fax: 608.230.7035
www.focusonenergy.com

MEMORANDUM

To: Kevin Bills, ISG (La Crosse)

From: Barb Ohlsen

Project: Wisconsin Focus on Energy
Design Assistance
La Crosse Center Expansion, La Crosse, WI

Project No.: 4018023

Date: July 22, 2019

Subject: Notes from the Results Meeting held July 18, 2019. Persons whose names are listed at the end of this document will receive notes from the meeting. The names of those who attended the meeting are shown in **bold**.

Summary: The purpose of the meeting was to review the Design Assistance program and energy conservation opportunities associated with the La Crosse Center Expansion project. Focus on Energy presented results at the meeting.

Item: **Design Assistance Overview**

- Focus on Energy facilitates a collaborative approach with the project team to evaluate energy savings strategies that are cost-effective and make sense for the owner's business.
- The intent of the process is to explore and quantify a number of alternative envelope, lighting, and mechanical materials and systems with the goal of selecting design strategies that demonstrate the highest value.
- Energy analysis results may be used to form the basis of custom incentives from Wisconsin Focus on Energy.

Action: None

Item: **Building Summary**

See attached building summary.

Action: **None**

Item: **Strategy and Incremental Cost Information**

The project team reviewed the strategy results and associated incremental cost information provided by Focus on Energy and assembled bundles of strategies based on current design and group discussion.

- Exterior wall construction to have 3" continuous polyiso insulation
- Windows to be added in renovation area
- The design team selected energy-efficiency strategies for bundle 2 to represents the current design.

Action: The above changes are now incorporated and the revised results, incentives, and paybacks are shown in the attached table.

Item: **Energy Utility Service and Rates**

- Wisconsin Electric Power Co, a participating Focus on Energy utility, will provide electric service for the building.
- We Energies, a participating Focus on Energy utility, will provide natural gas service for the building.
- Average electric and gas rates for the state of Wisconsin shall be used for the Design Assistance program.

Action: None

Item: **Owner Incentive**

The Design Assistance program provides an incentive to the owner to help reduce the upfront costs associated with the addition of energy-saving strategies evaluated and verified by the program. The owner incentive is not intended to cover all increases in construction costs.

Sue Wieman was identified as the recipient of the owner incentive.

Action: **Focus on Energy** to provide La Crosse Center with the owner incentive following occupancy and program verification.

Item: **Design Team Incentive**

The Design Assistance program provides an incentive to the design team for their participation in the following activities: (1) attendance at formal meetings; (2) transfer of building architectural/engineering design information; and (3) development of applicable energy conservation strategies' incremental costs (incremental as compared to the base building design). Please note that the design team incentive is not intended to cover actual system(s) design or re-design associated with energy conservation strategies. The design team incentive will be paid out to the person identified as design team lead upon completion of the Bundle Requirements Document.

Sue Wieman was identified as the design team lead.

Action: **Focus on Energy** to provide La Crosse Center with the design team incentive upon completion of the Bundle Requirements Document.

Item: **Verification Phase**

Verification, a process that seeks to assure that one of the bundles is implemented, will be laid out in detail in the coming weeks but will generally include the following:

- Project Team notifies Focus on Energy of the bundle selection.
- Focus on Energy sends a Bundle Requirements Document to the project team, tailored to the selected bundle strategies.
- Focus on Energy processes design team incentive and sends payment to design team lead.
- Project Team sends Construction Documents to Focus on Energy, electronic format preferred.
- Project Team sends State of Wisconsin approved COMCheck submittal to Focus on Energy.
- Project Team sends requested equipment submittals to Focus on Energy.
- Field verification of select projects of installed strategies once the building is completed and occupied.
- Report by Focus on Energy as to status of strategy implementation.
- Focus on Energy provides incentive payment.

The purpose of the verification phase is to assist the project team and Focus on Energy toward realizing the energy conservation goals of the program and increasing the likelihood that the incentive proposed during the design phase is achieved upon completion of the project.

Item: **Next Steps**

Action: **Project Team** to select a bundle using the form provided with these minutes and forward the form to Focus on Energy by July 29.

Building Summary

Building Summary		
Location	La Crosse, WI	
Narrative	Convention center renovation and addition	
Space Asset Areas	Area	Number of Stories
Renovated Support Area (concourse level)	7,600 ft²	1
Convention Center	96,970 ft²	3
Total	**104,570 ft²**	**3**
Exterior lighting	22.000 sf of pedestrian walkway	
Systems Summary		
Envelope	Precast insulated wall panels and insulated metal panels, metal deck room with R-25 to 30 above deck	
Glazing	Curtain wall	
Lighting	LED lighting with daylighting and occupancy sensors	
Service Water Heating	Gas fired	
Hours of Operation	13 hours per day on average	
HVAC Scenario A	Variable air volume with gas boiler and cooling from existing chiller plant	
HVAC Scenario B	Variable air volume with gas furnace at the air-handler, electric resistance reheat and DX cooling	
Utilities		
Electric Utility	Xcel Energy	
Gas Utility	Xcel energy	
District Cooling	Unknown	
Schedule		
Construction Documents Complete		
Construction Start		
Occupancy		
Baseline Reference	ASHRAE 90.1-2007 Appendix G	
Other Notes		

Results for HVAC 1

			Savings versus Baseline		
			Bundle 1	Bundle 2	Bundle 3
Project Name:	La Crosse Center Expansion	Energy Cost Savings	$28,084	$40,700	$49,423
Building Type:	Convention Center	Peak kW Savings	27.8	44.8	55.8
Area:	104,570 ft²	kWh Savings	132,279	201,401	253,722
		Gas Savings (Therm)	18,881	23,818	27,144
		District Cooling Peak Savings (tons)	62	79	84
		District Cooling Savings (Ton-Hrs)	21,113	42,822	53,080
HVAC Scenario A	Variable air volume with gas boiler and cooling from existing chiller plant				
		Incremental 1st Cost	$212,352	$382,008	$524,782
		Projected Incentive	$23,392	$33,461	$40,535
		Payback with Incentive	6.7	8.6	9.8
		EUI (KBtu/ft²/yr)	67.9	58.5	52.4

Strategy	Savings				Incremental First Cost	Payback	Bundle 1	Bundle 2	Bundle 3
	Peak kW	kWh	Gas (Therm)	Energy Cost					
Mechanical									
Facility									
Heating water system pump head at 62.82 ft	0.1	923	-15	$90	$17,777	100+		x	
Heating water system pump head at 55.84 ft	0.3	1,843	-30	$180	$35,554	100+			x
Heating water system pump head at 48.86 ft	0.4	2,769	-47	$274	$53,331	100+			
Chilled water system pump head at 52.90 ft	0.8	1,233	0	$166	$17,777	100+			
Chilled water system pump head at 47.03 ft	1.6	2,464	0	$330	$35,554	100+			
Chilled water system pump head at 41.15 ft	2.4	3,694	0	$494	$53,331	100+			
VFD on building heating water pump	0.6	3,444	-55	$340	$1,255	3.7	x	x	x
95% efficient gas boiler with moderate temperature reset	0	773	5,063	$3,213	$16,313	5.1	x	x	
95% efficient gas boiler with aggressive temperature reset	0	-2,152	6,674	$3,890	$16,313	4.2			x
VAV									
Fan system power at 1.17 BHP/1000cfm	5.3	21,602	-297	$2,358	$4,183	1.8		x	
Fan system power at 1.04 BHP/1000cfm	10.8	43,228	-600	$4,719	$8,366	1.8			x
Fan system power at 0.91 BHP/1000cfm	16.1	64,850	-905	$7,074	$12,548	1.8			
Sensible heat recovery	0	-4,488	14,148	$8,257	$41,828	5.1			
Total heat recovery	-0.8	-6,602	14,352	$9,391	$87,630	9.3	x	x	x

Strategy	Savings				Incremental First Cost	Payback	Bundle 1	Bundle 2	Bundle 3
	Peak kW	kWh	Gas (Therm)	Energy Cost					
Demand control ventilation for Renovated Support Area (concourse level)	0	153	909	$617	$3,002	4.9		x	x
Occupancy sensor control of zone temperature for Renovated Support Area (concourse level)	0.1	24	200	$171	$1,809	10.6			x
Demand control ventilation for Convention Center	0.6	1,904	10,925	$7,479	$38,303	5.1		x	x
Occupancy sensor control of zone temperature for Convention Center	1.4	2,561	2,343	$2,335	$23,079	9.9			x
Architectural									
Convention Center									
Wall R 16	0	75	79	$63	$1,868	29.6	x		
Wall R 20	0.6	653	729	$551	$21,788	39.5		x	
Wall R 24	1	1,017	1,167	$875	$41,709	47.7			x
Roof R 24	0.1	181	448	$312	$10,236	32.8	x		
Roof R 30	-0.1	144	1,139	$645	$29,630	45.9		x	
Roof R 36	0	308	1,533	$914	$68,418	74.9			x
Roof R 40	0	377	1,723	$1,044	$94,276	90.3			
Glazing high solar gain, metal frame	2.3	1,899	2,689	$1,885	$65,053	34.5	x		
Glazing medium solar gain, metal frame	6.6	7,912	2,532	$4,026	$81,200	20.2			
Glazing low solar gain, metal frame	11.1	12,101	2,072	$5,929	$98,875	16.7			
Glazing high solar gain w/ argon, metal frame	3.2	2,714	3,535	$2,561	$92,984	36.3			
Glazing medium solar gain w/ argon, metal frame	7	8,148	3,455	$4,532	$109,602	24.2		x	x
Glazing low solar gain w/ argon, metal frame	11.4	12,622	3,070	$6,519	$129,967	19.9			
Glazing high solar gain, improved metal frame	2.7	1,897	3,992	$2,485	$105,417	42.4			
Glazing medium solar gain, improved metal frame	7.2	8,230	3,921	$4,777	$125,385	26.2			
Glazing low solar gain, improved metal frame	11.6	12,775	3,561	$6,795	$147,244	21.7			
Glazing high solar gain, non-metal frame	3.2	1,868	4,830	$2,882	$137,504	47.7			
Lighting									
Facility									
Exterior site lighting reduced to 6.24 kW	0.7	3,038	0	$333	$0	0.0			
Exterior site lighting reduced to 5.54 kW	1.4	6,073	0	$664	$0	0.0	x		
Exterior site lighting reduced to 4.85 kW	2	9,105	0	$994	$0	0.0		x	
Exterior site lighting reduced to 4.16 kW	2.7	12,140	0	$1,325	$0	0.0			x
Exterior site lighting reduced to 3.47 kW	3.4	15,179	0	$1,656	$0	0.0			

Strategy	Savings				Incremental First Cost	Payback	Bundle 1	Bundle 2	Bundle 3
	Peak kW	kWh	Gas (Therm)	Energy Cost					
Exterior site lighting reduced to 2.77 kW	4.1	18,214	0	$1,990	$0	0.0			
Exterior site lighting reduced to 2.08 kW	4.8	21,252	0	$2,321	$0	0.0			
Exterior site lighting reduced to 1.39 kW	5.5	24,280	0	$2,652	$0	0.0			
Renovated Support Area (concourse level)									
Dimming daylighting control, 25% of space	0	934	-20	$103	$449	4.4			
Dimming daylighting control, 50% of space	0	1,866	-40	$202	$899	4.4			
Dimming daylighting control, 75% of space	0	2,800	-58	$303	$1,348	4.4	x		
Dimming daylighting control, 100% of space	0.1	3,717	-80	$401	$1,797	4.5		x	x
Dual level occupancy sensor control, 100% of space	0.3	1,793	-59	$168	$532	3.2			
Vacancy sensor controls, 100% of space	0.3	1,793	-59	$168	$0	0.0			
Lighting power in Renovated Support Area (concourse level) reduced to 1.08 W/ft²	0.5	2,490	-80	$235	$178	0.8			
Lighting power in Renovated Support Area (concourse level) reduced to 0.96 W/ft²	1	4,958	-159	$463	$407	0.9			
Lighting power in Renovated Support Area (concourse level) reduced to 0.84 W/ft²	1.5	7,354	-240	$690	$927	1.3	x		
Lighting power in Renovated Support Area (concourse level) reduced to 0.72 W/ft²	1.9	9,764	-324	$908	$2,114	2.3		x	
Lighting power in Renovated Support Area (concourse level) reduced to 0.60 W/ft²	2.5	12,127	-407	$1,123	$4,819	4.3			x
Convention Center									
Dimming daylighting control, 25% of space	0.2	9,296	-119	$1,089	$4,391	4.0			
Dimming daylighting control, 50% of space	0.4	18,560	-247	$2,169	$8,782	4.0			
Dimming daylighting control, 75% of space	0.7	27,848	-374	$3,251	$13,173	4.1	x		
Dimming daylighting control, 100% of space	0.9	37,108	-504	$4,322	$17,564	4.1		x	x
Dual level occupancy sensor control, 100% of space	3.9	22,926	-637	$2,212	$6,788	3.1			
Vacancy sensor controls, 100% of space	3.9	22,926	-637	$2,212	$0	0.0			
Lighting power in Convention Center reduced to 1.08 W/ft²	6.2	31,763	-890	$3,066	$2,277	0.7			
Lighting power in Convention Center reduced to 0.96 W/ft²	12.5	63,372	-1,829	$6,076	$5,190	0.9			

Strategy	Savings				Incremental First Cost	Payback	Bundle 1	Bundle 2	Bundle 3
	Peak kW	kWh	Gas (Therm)	Energy Cost					
Lighting power in Convention Center reduced to 0.84 W/ft²	18.6	95,139	-2,783	$9,090	$11,832	1.3	x		
Lighting power in Convention Center reduced to 0.72 W/ft²	24.9	127,078	-3,741	$12,114	$26,972	2.2		x	
Lighting power in Convention Center reduced to 0.60 W/ft²	31	159,039	-4,724	$15,125	$61,485	4.1			x
Service Water Heating									
Facility									
85% SWH efficiency	0	0	114	$69	$1,359	19.7			
90% SWH efficiency	0	0	260	$159	$2,719	17.1	x		
95% SWH efficiency	0	0	349	$216	$4,078	18.9		x	x
Gas fired on-demand SWH	0	0	135	$82	$8,366	100+			

Results for HVAC 2

			Savings versus Baseline		
			Bundle 4	Bundle 5	Bundle 6
Project Name:	La Crosse Center Expansion	Energy Cost Savings	$37,086	$48,368	$81,029
Building Type:	Convention Center	Peak kW Savings	114.0	139.5	205.7
Area:	104,570 ft²	kWh Savings	255,286	357,412	656,047
		Gas Savings (Therm)	14,887	15,101	15,178
HVAC Scenario B	Variable air volume with gas furnace at the air-handler, electric resistance reheat and DX cooling	Incremental 1st Cost	$128,148	$277,936	$552,729
		Projected Incentive	$31,164	$40,473	$67,392
		Payback with Incentive	2.6	4.9	6.0
		EUI (KBtu/ft²/yr)	46.0	42.5	32.7

Strategy	Savings				Incremental First Cost	Payback	Bundle 4	Bundle 5	Bundle 6
	Peak kW	kWh	Gas (Therm)	Energy Cost					
Mechanical									
VAV									
Fan system power at 1.17 BHP/1000cfm	6	22,518	-237	$2,311	$4,183	1.8		x	
Fan system power at 1.04 BHP/1000cfm	11.9	44,952	-476	$4,614	$8,366	1.8			x
Fan system power at 0.91 BHP/1000cfm	17.9	67,383	-717	$6,914	$12,548	1.8			
5% improved DX cooling efficiency	15.2	16,181	0	$1,769	$19,607	11.1	x	x	
10% improved DX cooling efficiency	29.1	30,878	0	$3,373	$39,214	11.6			x
20% improved DX cooling efficiency	53.2	56,556	0	$6,178	$78,428	12.7			
30% improved DX cooling efficiency	73.7	78,353	0	$8,556	$117,641	13.7			
Standard efficiency DX compressor part load performance	12	99,831	0	$10,902	$28,757	2.6	x		
High efficiency DX compressor part load performance	12	104,646	0	$11,428	$67,971	5.9		x	
Premium efficiency DX compressor part load performance	21.1	159,317	0	$17,398	$156,855	9.0			x
85% efficient gas furnace	0	0	875	$542	$4,497	8.3			
90% efficient gas furnace	0	0	1,654	$1,022	$10,405	10.2			
95% efficient gas furnace	0	0	2,351	$1,452	$16,313	11.2			
Sensible heat recovery	2.8	-1,689	14,210	$8,606	$41,828	4.9			
Total heat recovery	44.7	5,109	14,425	$9,478	$87,630	9.2	x	x	x
Demand control ventilation for Renovated Support Area (concourse level)	19.6	5,478	713	$1,038	$3,002	2.9			x

Strategy	Savings				Incremental First Cost	Payback	Bundle 4	Bundle 5	Bundle 6
	Peak kW	kWh	Gas (Therm)	Energy Cost					
Occupancy sensor control of zone temperature for Renovated Support Area (concourse level)	10.8	6,342	-52	$660	$1,809	2.7			x
Demand control ventilation for Convention Center	257.9	73,601	8,225	$13,125	$38,303	2.9			x
Occupancy sensor control of zone temperature for Convention Center	33.9	80,223	-721	$8,313	$23,079	2.8			x
Architectural									
Convention Center									
Wall R 16	1.9	1,871	3	$206	$1,868	9.1	x		
Wall R 20	10.1	17,317	31	$1,910	$21,788	11.4		x	
Wall R 24	20.4	27,370	61	$3,025	$41,709	13.8			x
Roof R 24	1.2	9,858	46	$1,103	$10,236	9.3	x		
Roof R 30	37.8	38,298	128	$4,260	$29,630	7.0		x	
Roof R 36	45.6	46,390	197	$5,186	$68,418	13.2			x
Roof R 40	49.2	50,207	231	$5,625	$94,276	16.8			
Glazing high solar gain, metal frame	70.3	59,408	238	$6,634	$65,053	9.8	x		
Glazing medium solar gain, metal frame	73.1	95,343	-439	$10,139	$81,200	8.0			
Glazing low solar gain, metal frame	54.5	101,551	-638	$10,695	$98,875	9.2			
Glazing high solar gain w/ argon, metal frame	93.9	79,277	306	$8,845	$92,984	10.5			
Glazing medium solar gain w/ argon, metal frame	96.6	114,792	-381	$12,300	$109,602	8.9		x	x
Glazing low solar gain w/ argon, metal frame	78.3	124,472	-647	$13,192	$129,967	9.9			
Glazing high solar gain, improved metal frame	113.5	88,825	508	$10,015	$105,417	10.5			
Glazing medium solar gain, improved metal frame	108.8	124,272	-339	$13,359	$125,385	9.4			
Glazing low solar gain, improved metal frame	90.7	135,949	-665	$14,433	$147,244	10.2			
Glazing high solar gain, non-metal frame	138.9	102,491	706	$11,628	$137,504	11.8			
Lighting									
Facility									
Exterior site lighting reduced to 6.24 kW	0.7	3,038	0	$331	$0	0.0			
Exterior site lighting reduced to 5.54 kW	1.4	6,073	0	$665	$0	0.0	x		
Exterior site lighting reduced to 4.85 kW	2	9,105	0	$994	$0	0.0		x	
Exterior site lighting reduced to 4.16 kW	2.7	12,140	0	$1,326	$0	0.0			x
Exterior site lighting reduced to 3.47 kW	3.4	15,179	0	$1,658	$0	0.0			
Exterior site lighting reduced to 2.77 kW	4.1	18,214	0	$1,990	$0	0.0			
Exterior site lighting reduced to 2.08 kW	4.8	21,252	0	$2,320	$0	0.0			

Strategy	Savings				Incremental First Cost	Payback	Bundle 4	Bundle 5	Bundle 6
	Peak kW	kWh	Gas (Therm)	Energy Cost					
Exterior site lighting reduced to 1.39 kW	5.5	24,280	0	$2,651	$0	0.0			
Renovated Support Area (concourse level)									
Dimming daylighting control, 25% of space	0.1	614	-1	$68	$449	6.6			
Dimming daylighting control, 50% of space	0.2	1,225	-3	$131	$899	6.9			
Dimming daylighting control, 75% of space	0.2	1,800	-1	$195	$1,348	6.9	x		
Dimming daylighting control, 100% of space	0.3	2,378	-3	$258	$1,797	7.0		x	x
Dual level occupancy sensor control, 100% of space	0.3	549	-2	$56	$532	9.5			
Vacancy sensor controls, 100% of space	0.3	549	-2	$56	$0	0.0			
Lighting power in Renovated Support Area (concourse level) reduced to 1.08 W/ft²	0.5	790	-2	$87	$178	2.1			
Lighting power in Renovated Support Area (concourse level) reduced to 0.96 W/ft²	1	1,590	-3	$171	$407	2.4			
Lighting power in Renovated Support Area (concourse level) reduced to 0.84 W/ft²	1.5	2,299	-3	$249	$927	3.7	x		
Lighting power in Renovated Support Area (concourse level) reduced to 0.72 W/ft²	1.9	2,964	-5	$320	$2,114	6.6		x	
Lighting power in Renovated Support Area (concourse level) reduced to 0.60 W/ft²	2.4	3,609	-5	$391	$4,819	12.3			x
Convention Center									
Dimming daylighting control, 25% of space	0.8	8,557	-19	$924	$4,391	4.8			
Dimming daylighting control, 50% of space	1.5	17,058	-44	$1,837	$8,782	4.8			
Dimming daylighting control, 75% of space	2.4	25,378	-64	$2,732	$13,173	4.8	x		
Dimming daylighting control, 100% of space	3.2	33,606	-86	$3,618	$17,564	4.9		x	x
Dual level occupancy sensor control, 100% of space	2.9	13,799	-192	$1,387	$6,788	4.9			
Vacancy sensor controls, 100% of space	2.9	13,799	-192	$1,387	$0	0.0			
Lighting power in Convention Center reduced to 1.08 W/ft²	5.4	19,126	-271	$1,922	$2,277	1.2			
Lighting power in Convention Center reduced to 0.96 W/ft²	10.8	36,849	-531	$3,696	$5,190	1.4			
Lighting power in Convention Center reduced to 0.84 W/ft²	15.9	53,734	-783	$5,384	$11,832	2.2	x		
Lighting power in Convention Center reduced to 0.72 W/ft²	21.1	70,130	-1,018	$7,029	$26,972	3.8		x	

Strategy	Savings				Incremental First Cost	Payback	Bundle 4	Bundle 5	Bundle 6
	Peak kW	kWh	Gas (Therm)	Energy Cost					
Lighting power in Convention Center reduced to 0.60 W/ft²	26.2	85,672	-1,238	$8,589	$61,485	7.2			x
Service Water Heating									
Facility									
85% SWH efficiency	0	0	115	$70	$1,359	19.4			
90% SWH efficiency	0	0	260	$158	$2,719	17.2	x		
95% SWH efficiency	0	0	349	$215	$4,078	19.0		x	x
Gas fired on-demand SWH	0	0	135	$82	$8,366	100+			

Bundle Results Summary

Bundled Annual Savings

Bundle Description	Peak kW Savings	% Peak kW Savings	kWh Savings	% kWh Savings	Gas Savings (Therm)	% Gas Savings	District Peak kW Savings	% District Peak kW Savings	District kWh Savings	% District kWh Savings
Bundle 1	28	19	132,279	18	18,881	45	36	25	12,246	8
Bundle 2	45	31	201,401	27	23,818	56	46	32	24,837	17
Bundle 3	56	38	253,722	35	27,144	64	49	34	30,786	21
Bundle 4	114	27	255,286	16	14,887	88	n/a	n/a	n/a	n/a
Bundle 5	140	33	357,412	22	15,101	89	n/a	n/a	n/a	n/a
Bundle 6	206	48	656,047	41	15,178	90	n/a	n/a	n/a	n/a

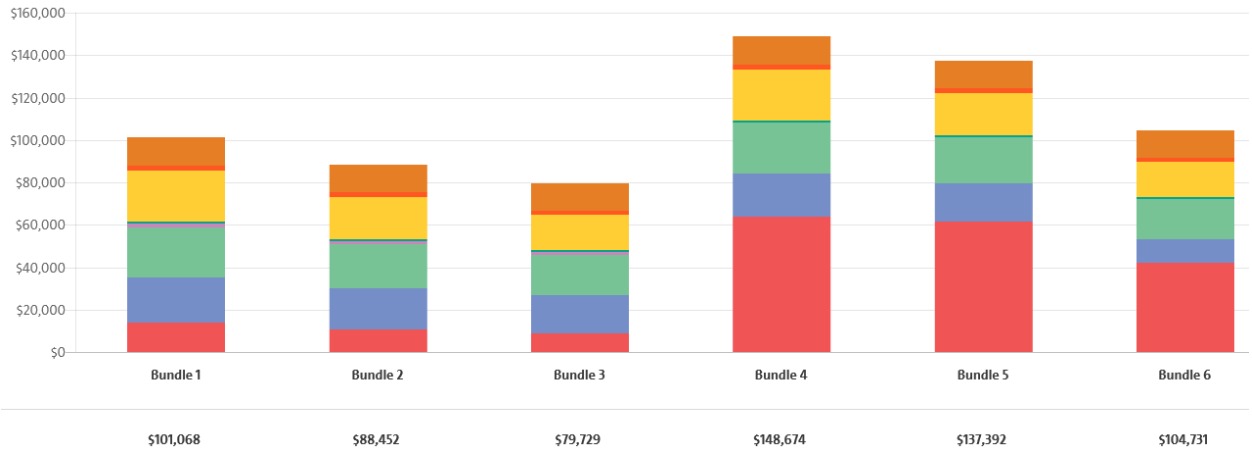
Simple Payback with Incentive

Bundle Description	Energy Cost Savings	Incremental First Cost	Electric Incentive	Gas Incentive	Total Incentive	Payback in Years (after incentive)
Bundle 1	$28,084	$212,352	$13,007	$10,385	$23,392	6.7
Bundle 2	$40,700	$382,008	$20,361	$13,100	$33,461	8.6
Bundle 3	$49,423	$524,782	$25,606	$14,929	$40,535	9.8
Bundle 4	$37,086	$128,148	$22,976	$8,188	$31,164	2.6
Bundle 5	$48,368	$277,936	$32,167	$8,306	$40,473	4.9
Bundle 6	$81,029	$552,729	$59,044	$8,348	$67,392	6.0

Energy Analysis – Relative Bundle Savings

The graph below shows the relative annual cost savings between the bundles. The bundle that is the most expensive to operate on an annual basis (Bundle 4 for this project) is set as the baseline and the savings of the other bundles as compared to this bundle are show. Note that although the HVAC B bundles show higher savings and incentives when compared to their baseline, these bundles actually cost more to operate than their corresponding HVAC A bundles. The additional cost per year of operation for HVAC B is greater than the additional one time incentive that would be paid for HVAC B as compared to HVAC A. This is primarily due to the use of electric reheat which is more expensive than gas boiler reheat.

The graph below shows the annual cost to operate each bundle. Again, bundle 4 is shown to be the most costly to operate on an annual basis.



Note that these cost estimates are for comparative purposes only. Actual annual energy costs may vary but the relative cost differences between bundles would be similar.

Key Model Inputs

Core Definition

Space Asset Area	Type	Area (ft²)	Floors	Units	Arrangement	Flr/Flr Height
Renovated Support Area (concourse level)	Convention Center	7,600	1	n/a	Adjacent / Grade	20
Convention Center	Convention Center	96,970	3	n/a	Adjacent / Grade	20

Schedules

Space Asset Area	People Density (ft²/person)	Daily Use							Hours per Day	Applicable Months											
		S	M	T	W	T	F	S		J	F	M	A	M	J	J	A	S	O	N	D
Renovated Support Area (...	41.0	●	●	●	●	●	●	●	13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Convention Center	41.0	●	●	●	●	●	●	●	13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

● Full Use
● Partial Use
● No Use

Thermostat

Space Asset Area	Heating Set Point (°F)		Cooling Set Point (°F)	
	Occupied	Unoccupied	Occupied	Unoccupied
Renovated Support Area (...	70	60	75	80
Convention Center	70	60	75	80

Ventilation Requirements

Space Asset Area	Outside Air Per Person (ft³/min/person)	Outside Air Per Area (ft³/min/ft²)	Exhaust Flow Per Area (ft³/min/ft²)	Air Changes (ACH)	
				Occupied	Unoccupied
Renovated Support Area (...	5.0	0.06	0.00	n/a	n/a
Convention Center	5.0	0.06	0.00	n/a	n/a

Power & Process Load

Space Asset Area	Power Density (W/ft²)	Process Load	
	Equipment	*Load (Btu/hr/ft²)*	*Fuel Source*
Renovated Support Area [...	0.25	0.00	Gas
Convention Center	0.25	0.00	Gas

Utility Rates

Fuel	Utility	Conversion factor	Rate
Electric	Wisconsin Electric Power Co	1	Average rate: $0.1092 per kWh
Gas	We Energies	1	Average rate: $0.62 per therm

Wisconsin Focus on Energy, Design Assistance

Bundle Selection Form for La Crosse Center Expansion, La Crosse, WI

Please select a bundle below, note any required modifications, and complete the contact information. After completion, please return this form to Focus on Energy.

Focus on Energy
Attn: Bundle Selection Team
Email: bundleselection@twgi.com
Or fax to 952.938.1480

Goal Date: July 29, 2019

After reviewing the results and incentives as outlined in this document, we have chosen the following bundle for implementation. We hereby request that Focus on Energy note this selection, which will begin the verification process.

Bundle compositions and payback analysis are included for reference.

Please Select One

HVAC 1		HVAC 2	
Bundle 1	☐	Bundle 4	☐
Bundle 2	☐	Bundle 5	☐
Bundle 3	☐	Bundle 6	☐

Please note any special circumstances or bundle modifications here:

_____

_____

_____

_____

_____

_____

Name _____

Company _____

Date _____

Copies:

Attendees shown in **bold**.

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