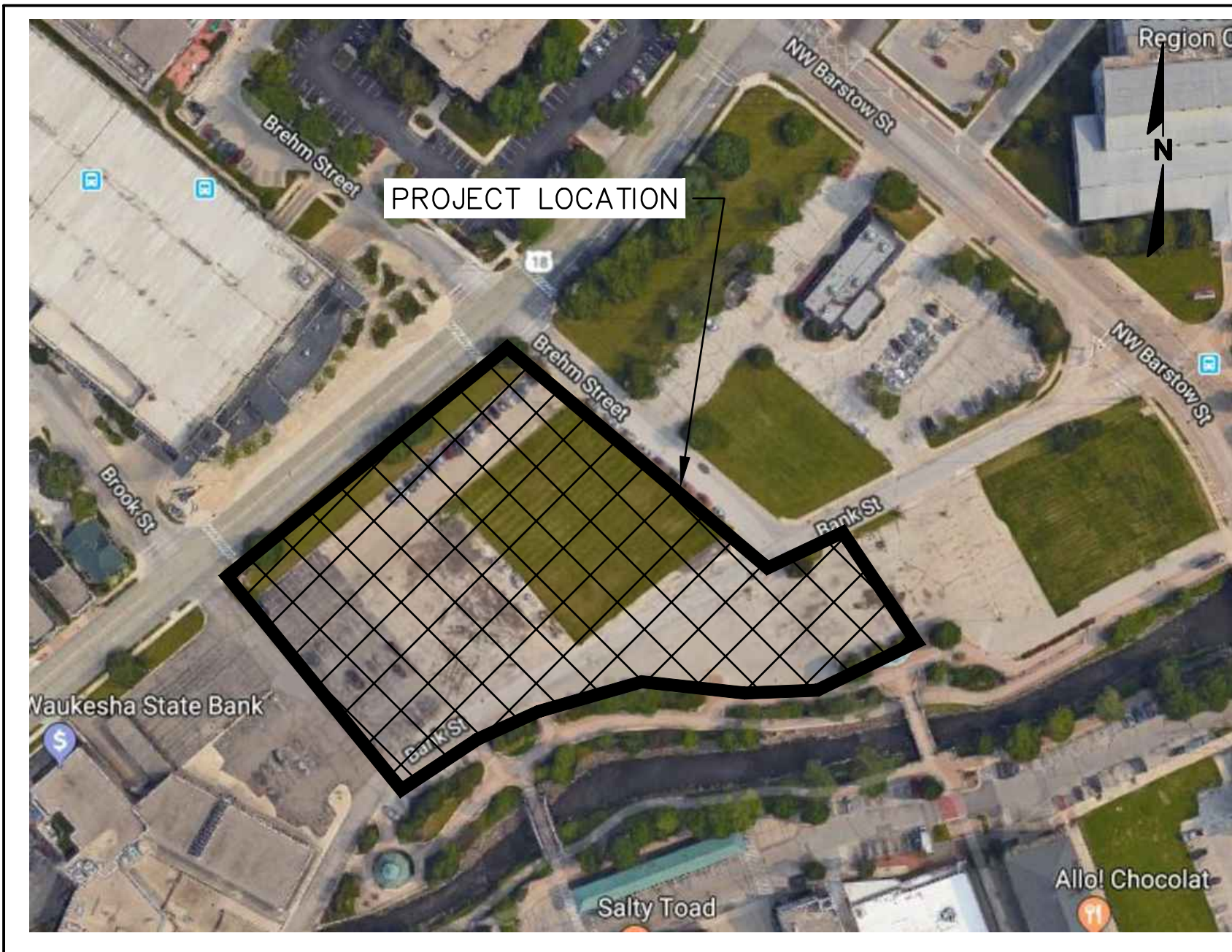
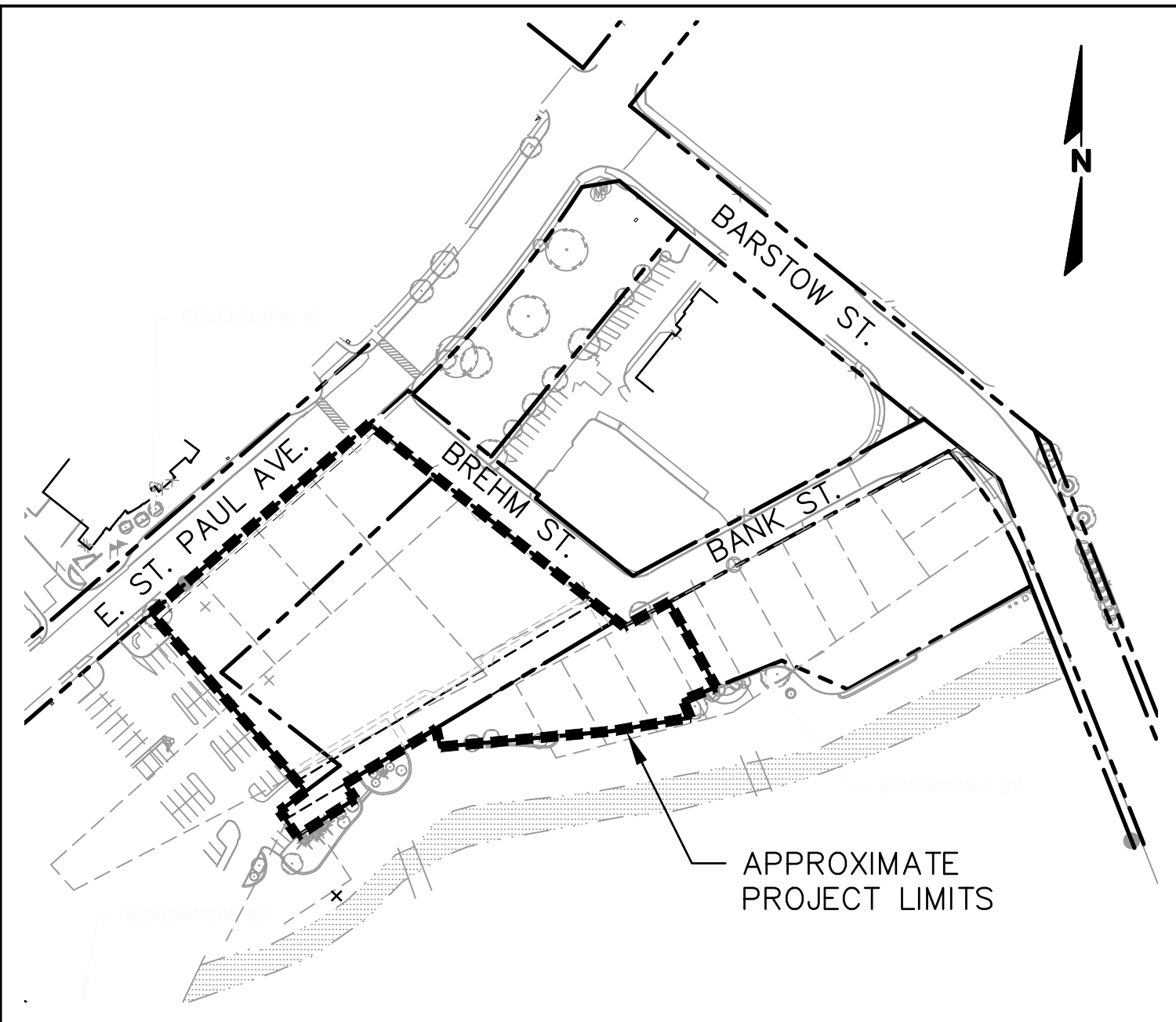


CONSTRUCTION PLANS
FOR
EAST ST. PAUL AVENUE APARTMENTS
CITY OF WAUKESHA, WISCONSIN

PROPOSED	EXISTING	
	()	INDICATES RECORDED DIMENSION WHERE DIFFERENT FROM ACTUAL MEASUREMENT
OR	o	SECTION OR 1/4 SECTION CORNER AS DESCRIBED
o	o	1" DIA. IRON PIPE FOUND (UNLESS OTHERWISE NOTED)
o	o	1" DIA. IRON PIPE, 18" LONG-SET (UNLESS OTHERWISE NOTED)
o	o	BOLLARD
o	o	SOIL BORING/MONITORING WELL
o	o	FLAGPOLE
o	o	MAILBOX
o	o	SIGN
o	o	BILLBOARD
o	o	CONTROL BOX
o	o	TRAFFIC SIGNAL
o	o	RAILROAD CROSSING SIGNAL
o	o	CABLE PEDESTAL
o	o	POWER POLE
o	o	GUY POLE
o	o	GUY WIRE
o	o	LIGHT POLE
o	o	SPOT/PEDESTAL/PAVER ACCENT LIGHT
o	o	HANDICAPPED PARKING
o	o	ELECTRIC MANHOLE
o	o	ELECTRIC PEDESTAL
o	o	ELECTRIC METER
o	o	TELEPHONE MANHOLE
o	o	TELEPHONE PEDESTAL
o	o	MARKED FIBER OPTIC
o	o	GAS VALVE
o	o	GAS METER
o	o	GAS WARNING SIGN
o	o	STORM MANHOLE
o	o	ROUND INLET OR CATCH BASIN
o	o	SQUARE INLET OR SLOT DRAIN
o	o	STORM SEWER END SECTION
o	o	SANITARY MANHOLE
o	o	CLEANOUT OR VENT
o	o	SANITARY INTERCEPTOR MANHOLE
o	o	MISCELLANEOUS MANHOLE
o	o	WATER VALVE
o	o	HYDRANT
o	o	WATER SERVICE CURB STOP
o	o	WATER MANHOLE
o	o	WELL
o	o	WATER SURFACE
o	o	WETLANDS FLAG
o	o	MARSH
o	o	CONIFEROUS TREE
o	o	DECIDUOUS TREE
o	o	SHRUB
o	o	EDGE OF TREES
o	o	-GRAVITY SANITARY SEWER
o	o	-SANITARY FORCE MAIN
o	o	-STORM SEWER
o	o	-WATERMAIN
o	o	-GAS MAIN
o	o	-ELECTRIC SERVICE
o	o	-OVERHEAD WIRES
o	o	-BUREAU ELEC. SERV.
o	o	-TELEPHONE SERVICE
o	o	-MARKED CABLE TV LINE
o	o	-MARKED FIBER OPTIC
o	o	-GRAVITY LEACHATE SYSTEM
o	o	-LEACHATE FORCE MAIN
o	o	-EXISTING UTILITY TO BE ABANDONED IN PLACE
o	o	-EXISTING MANHOLE/INLET TO BE ABANDONED IN PLACE OR EXISTING LIGHT POLE AND BASE TO BE REMOVED
o	o	PROPOSED 1-FOOT GRADE CONTOUR
o	o	PROPOSED 5-FOOT GRADE CONTOUR
o	o	SPOT/CURB FLOW LINE ELEVATION
o	o	TOP OF CURB SPOT ELEVATION
o	o	TEMPORARY INLET PROTECTION
o	o	PROPOSED CONSTRUCTION ENTRANCE
o	o	CONCRETE SIDEWALK PAVEMENT
o	o	ASPHALT PAVEMENT
o	o	PROPOSED LANDSCAPE AREA



VICINITY MAP
SCALE: NOT TO SCALE



LOCATION MAP
SCALE: 1"=150'

GENERAL NOTES

- THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE MUNICIPALITY FORTY- EIGHT (48) HOURS PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL INDEMNIFY THE OWNER, THE ENGINEER, AND THE MUNICIPALITY, THEIR AGENTS, ETC, FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, AND TESTING OF THE WORK ON THIS PROJECT.
- SITE SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- THE BIDDER WILL BE SOLELY RESPONSIBLE FOR DETERMINING QUANTITIES AND SHALL STATE SUCH QUANTITIES IN HIS PROPOSAL. HE SHALL BASE HIS BID ON HIS OWN ESTIMATE OF THE WORK REQUIRED AND SHALL NOT RELY ON THE ENGINEER'S ESTIMATE.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING SOIL CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. A GEOTECHNICAL REPORT IS AVAILABLE FROM THE OWNER. THE CONTRACTOR SHALL ABIDE BY THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE FOR EXAMINING ALL SITE CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL COMPARE FIELD CONDITIONS WITH DRAWINGS.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS REQUIRED FOR EXECUTION OF THE WORK. THE CONTRACTOR SHALL CONDUCT HIS WORK ACCORDING TO THE REQUIREMENTS OF THE PERMITS.
- THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL UTILITY INFORMATION SHOWN ON THE PLANS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL CALL DIGGERS HOTLINE TO NOTIFY THE UTILITIES OF HIS INTENTIONS, AND TO REQUEST FIELD STAKING OF EXISTING UTILITIES.
- CONTRACTOR IS ADVISED THAT ALL MUD AND DEBRIS MUST NOT BE DEPOSITED ONTO THE ADJACENT ROADWAYS PER THE REQUIREMENT OF THE MUNICIPALITY OR OTHER APPROPRIATE GOVERNMENT AGENCIES.
- ANY ADJACENT PROPERTIES OR ROAD RIGHT-OF-WAYS WHICH ARE DAMAGED DURING CONSTRUCTION MUST BE RESTORED BY THE CONTRACTOR. THE COST OF THE RESTORATION IS CONSIDERED INCIDENTAL, AND SHOULD BE INCLUDED IN THE BID PRICES.
- ELEVATIONS REFER TO THE CITY OF WAUKESHA DATUM.
- TOPOGRAPHIC AND EXISTING CONDITIONS SHOWN HERON TAKEN FROM A PLAN ENTITLED "ALTA/NSPS LAND TITLE SURVEY" PREPARED BY RASMITH, DATED FEBRUARY 18, 2019.
- PRIOR TO CONSTRUCTION IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE BENCHMARKS ILLUSTRATED HAVE NOT BEEN DISTURBED AND THEIR ELEVATIONS HAVE BEEN CONFIRMED. ANY CONFLICTS MUST BE REPORTED PRIOR TO CONSTRUCTION

BENCHMARKS

BENCHMARK #1
SOUTH END TOP
OF WALL
ELEVATION: 36.33

BENCHMARK #2
NORTH END TOP
OF WALL
ELEVATION: 31.82

BENCHMARK #3
SOUTH WEST WING
TOP OF WALL OF BRIDGE
ELEVATION: 29.95

SEWRPC BENCHMARK #1
CONC MON W/ BRASS CAP
SW CORNER NE 1/4
SEC 3-6-19
N:373154.65
E:2471679.64

SEWRPC BENCHMARK #2
CONC MON W/ BRASS CAP
NW CORNER NE 1/4
SEC 3-6-19
N:375894.32
E:2471705.93

PROJECT DIRECTORY

OWNER:
CAMPBELL MADISON PARTNERS, LLC
5887 GLENRIDGE DRIVE NE, SUITE 360
SANDY SPRINGS, GA 30328
PH: 404/495-0884

MUNICIPALITY:
CITY OF WAUKESHA
130 DELAFIELD STREET
WAUKESHA, WI 53188
CITY ENGINEER
CONTACT: ALEX DAMIEN, P.E.
PH: 262/524-3907
EMAIL: adamien@waukesha-wi.gov

SITE CIVIL ENGINEER:
raSmith
16475 W. BLUEMOUND ROAD
SUITE 200
BROOKFIELD, WI 53005
PH: 262/781-1000
PROJECT MANAGER
CONTACT: MATT KOCOUREK
EMAIL: matt.kocourek@rasmith.com
PROJECT MANAGER
CONTACT: JEREMY JEFFERY
EMAIL: jeremy.jeffery@rasmith.com

SURVEYOR:
raSmith
16475 W. BLUEMOUND ROAD
SUITE 200
BROOKFIELD, WI 53005
PH: 262/781-1000
PROJECT MANAGER
CONTACT: ERIC STURM
EMAIL: ERIC.STURM@rasmith.com

ALL SITE IMPROVEMENTS AND CONSTRUCTION SHOWN ON THE PLANS SHALL CONFORM TO THE CITY OF WAUKESHA DEVELOPMENT HANDBOOK & INFRASTRUCTURE SPECIFICATIONS, WHERE THE PLANS DO NOT COMPLY, IT SHALL BE THE SOLE RESPONSIBILITY AND EXPENSE OF THE DEVELOPER TO MAKE REVISIONS TO THE PLANS AND/OR CONSTRUCTED INFRASTRUCTURE TO COMPLY.

PLAN DATE: JULY 29, 2019

REVISIONS	ISSUE DATE	SHEET NO.'S	ISSUED FOR:

PLAN

INDEX

SHEET NO.

C000
C100
C101
C200
C201
C202
C300
C301
C302
C303
C400
C401
C500
C501
C502
C503
C504
L100
L200

DESCRIPTION

COVER SHEET
EXISTING CONDITIONS, DEMOLITION & EROSION CONTROL PLAN – WEST
EXISTING CONDITIONS, DEMOLITION & EROSION CONTROL PLAN – EAST
OVERALL SITE PLAN
SITE PLAN WEST
SITE PLAN EAST
GRADING AND EROSION CONTROL FOR FLOODPLAIN REMOVAL – WEST
GRADING AND EROSION CONTROL FOR FLOODPLAIN REMOVAL – EAST
GRADING & EROSION CONTROL PLAN
DETAILED GRADING PLAN
STORM SEWER PLAN
WATER & SANITARY PLAN
SITE DETAILS
EROSION CONTROL DETAILS
UTILITY DETAILS
HYDROLOGY DETAILS
SPECIFICATIONS
LANDSCAPE PLAN
LANDSCAPE NOTES & DETAILS

EAST ST. PAUL AVENUE APARTMENTS
CITY OF WAUKESHA, WI

COVER SHEET

raSmith
CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com

Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI | Cedarburg, WI
Mount Pleasant, WI | Naperville, IL | Pittsburgh, PA | Irvine, CA

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R.A. Smith, Inc.

DATE: 07/29/2019

SCALE: N.T.S.

JOB NO. 3170302

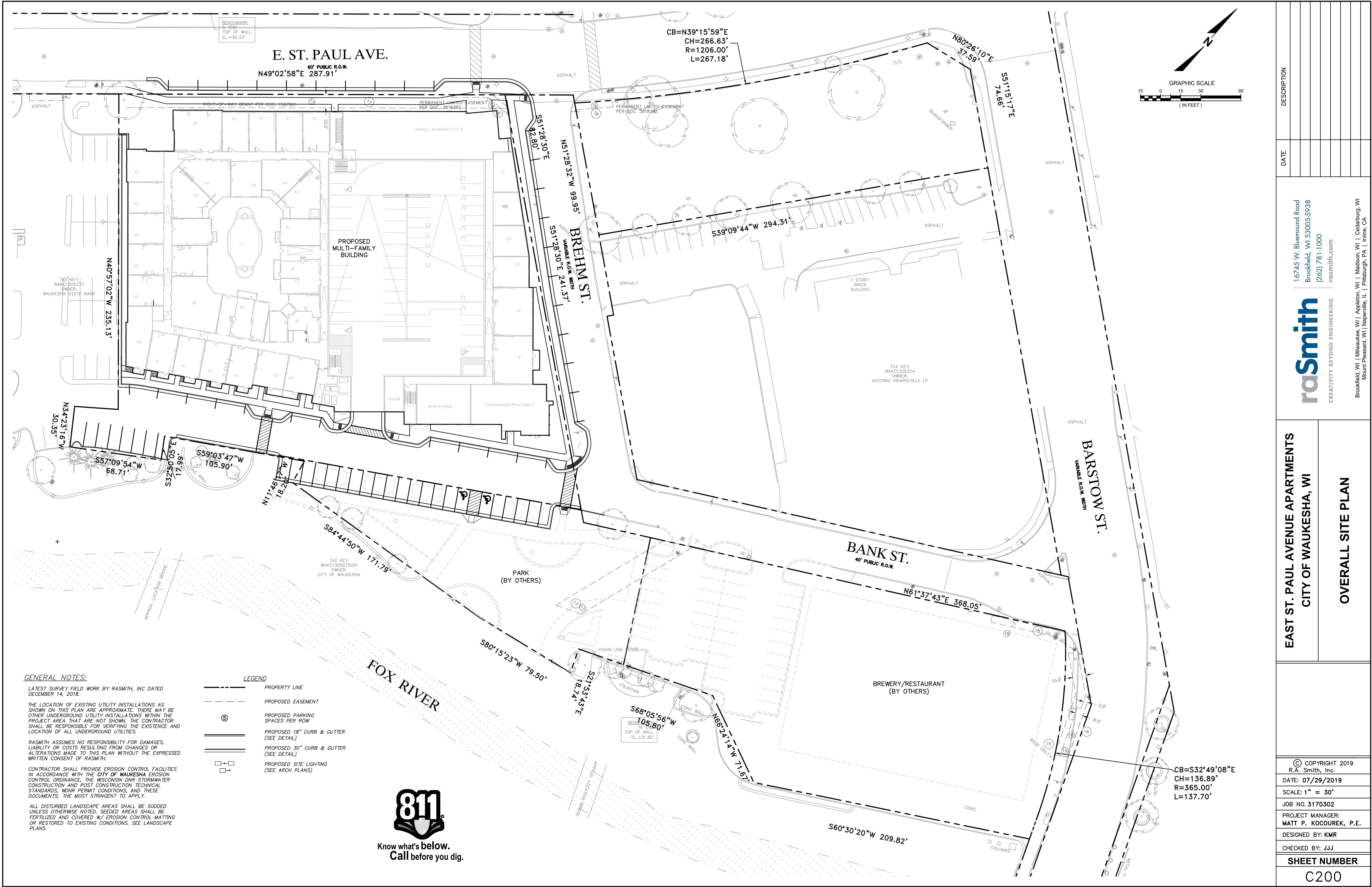
PROJECT MANAGER:
MATT P. KOCOUREK, P.E.

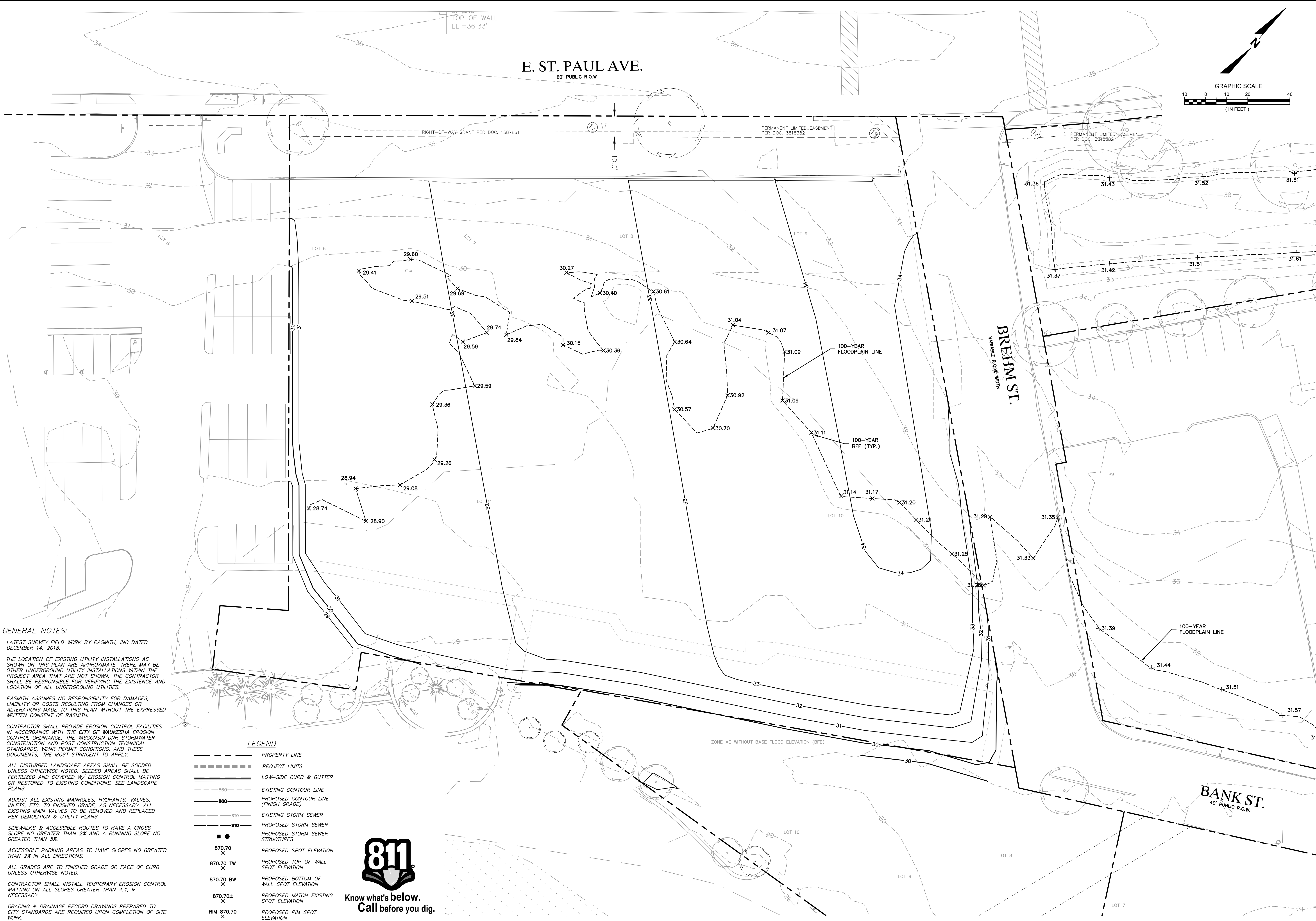
DESIGNED BY: KMR

CHECKED BY: JJJ

SHEET NUMBER

C000





GENERAL NOTES:

LATEST SURVEY FIELD WORK BY RASMITH, INC DATED DECEMBER 14, 2018.

THE LOCATION OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THIS PLAN ARE APPROXIMATE. THERE MAY BE OTHER UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES.

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CONTRACTOR SHALL PROVIDE EROSION CONTROL FACILITIES IN ACCORDANCE WITH THE CITY OF WAUKESHA EROSION CONTROL ORDINANCE, THE WISCONSIN DNR STORMWATER CONSTRUCTION AND POST CONSTRUCTION TECHNICAL STANDARDS, WDNR PERMIT CONDITIONS, AND THESE DOCUMENTS, THE MOST STRINGENT TO APPLY.

ALL DISTURBED LANDSCAPE AREAS SHALL BE SODDED UNLESS OTHERWISE NOTED. SEEDING AREAS SHALL BE FERTILIZED AND COVERED W/ EROSION CONTROL MATTING OR RESTORED TO EXISTING CONDITIONS. SEE LANDSCAPE PLANS.

ADJUST ALL EXISTING MANHOLES, HYDRANTS, VALVES, INLETS, ETC. TO FINISHED GRADE, AS NECESSARY. ALL EXISTING MAIN VALVES TO BE REMOVED AND REPLACED PER DEMOLITION & UTILITY PLANS.

SIDEWALKS & ACCESSIBLE ROUTES TO HAVE A CROSS SLOPE NO GREATER THAN 2% AND A RUNNING SLOPE NO GREATER THAN 5%.

ACCESSIBLE PARKING AREAS TO HAVE SLOPES NO GREATER THAN 2% IN ALL DIRECTIONS.

ALL GRADES ARE TO FINISHED GRADE OR FACE OF CURB UNLESS OTHERWISE NOTED.

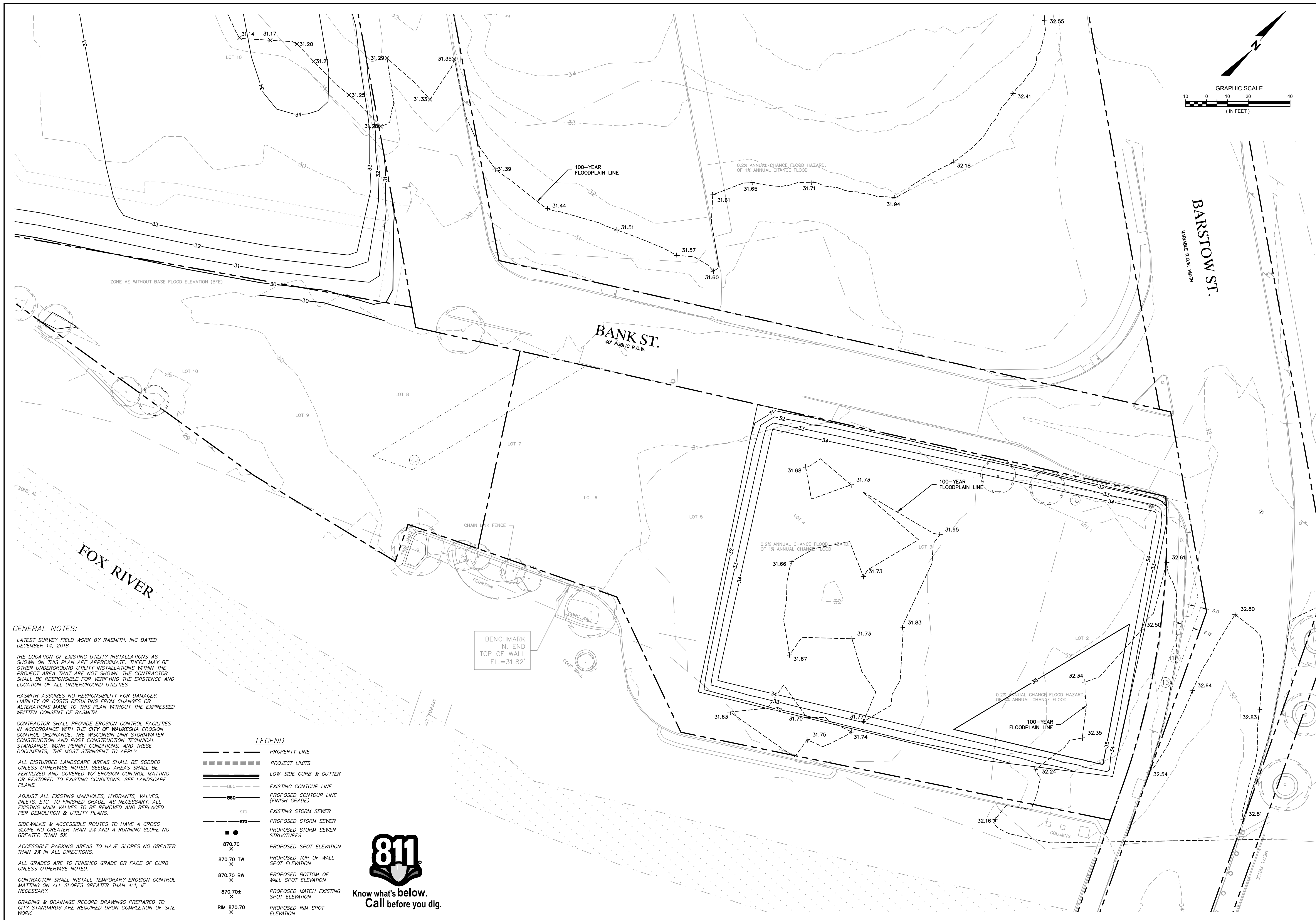
CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL MATTING ON ALL SLOPES GREATER THAN 4:1, IF NECESSARY.

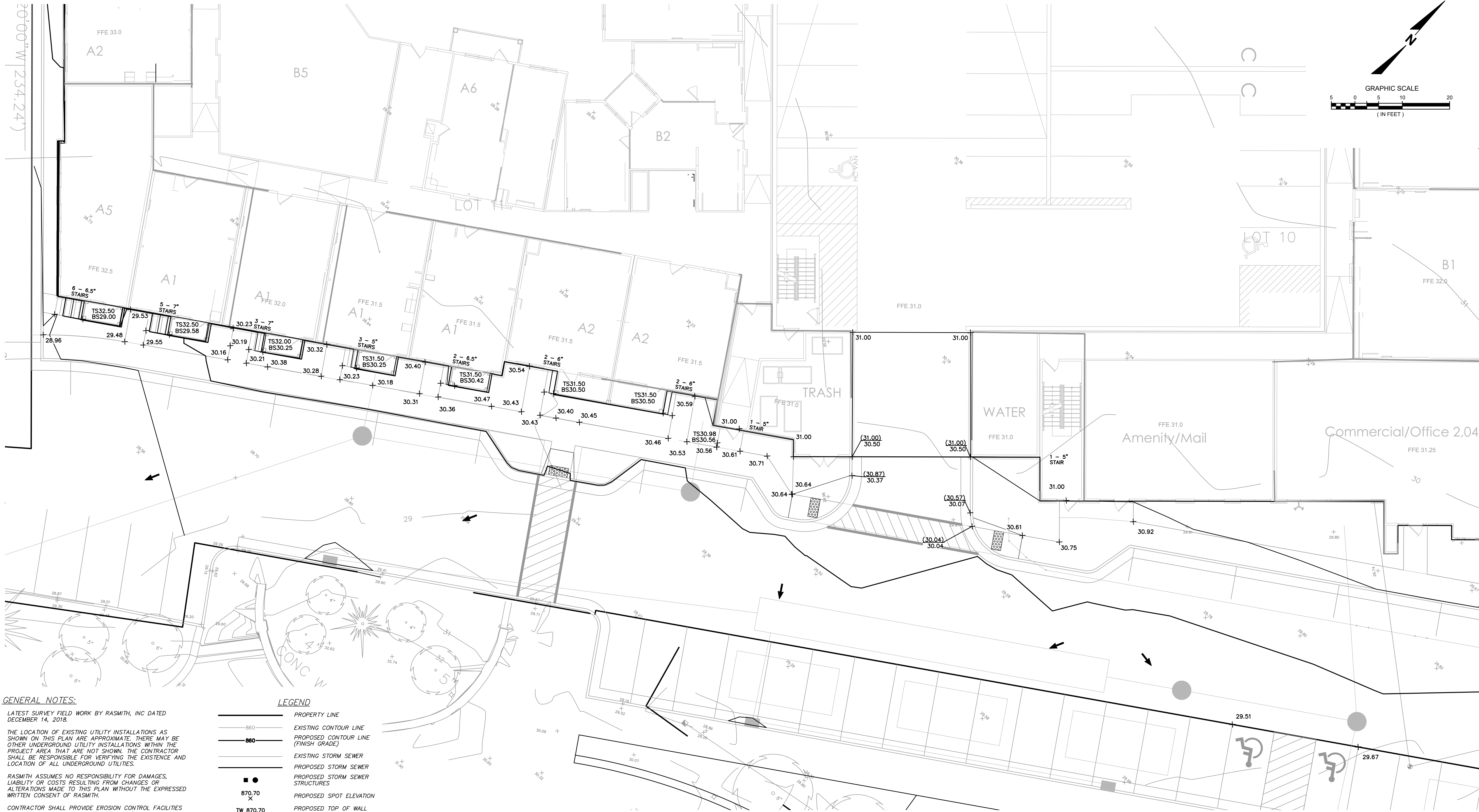
GRADING & DRAINAGE RECORD DRAWINGS PREPARED TO CITY STANDARDS ARE REQUIRED UPON COMPLETION OF SITE WORK.

- LEGEND**
- PROPERTY LINE
 - PROJECT LIMITS
 - ===== LOW-SIDE CURB & GUTTER
 - 860--- EXISTING CONTOUR LINE
 - 860--- PROPOSED CONTOUR LINE (FINISH GRADE)
 - STO--- EXISTING STORM SEWER
 - STO--- PROPOSED STORM SEWER
 - PROPOSED STORM SEWER STRUCTURES
 - 870.70 X PROPOSED SPOT ELEVATION
 - 870.70 TW X PROPOSED TOP OF WALL SPOT ELEVATION
 - 870.70 BW X PROPOSED BOTTOM OF WALL SPOT ELEVATION
 - 870.70± X PROPOSED MATCH EXISTING SPOT ELEVATION
 - RIM 870.70 X PROPOSED RIM SPOT ELEVATION



DESCRIPTION	
DATE	
16745 W. Bluemound Road Brookfield, WI 53005-5938 (262) 781-1000 rasmith.com	
raSmith CREATIVITY BEYOND ENGINEERING	
Brookfield, WI Milwaukee, WI Appleton, WI Madison, WI Cedarburg, WI Mount Pleasant, WI Naperville, IL Pittsburgh, PA Irvine, CA	
EAST ST. PAUL AVENUE APARTMENTS CITY OF WAUKESHA, WI	
GRADING AND EROSION CONTROL FOR FLOODPLAIN REMOVAL - WEST	
© COPYRIGHT 2019 R.A. Smith, Inc.	
DATE: 07/29/2019	
SCALE: 1" = 20'	
JOB NO. 3170302	
PROJECT MANAGER: MATT P. KOCOUREK, P.E.	
DESIGNED BY: KMR	
CHECKED BY: JJJ	
SHEET NUMBER	
C300	

[illegible]



GENERAL NOTES:

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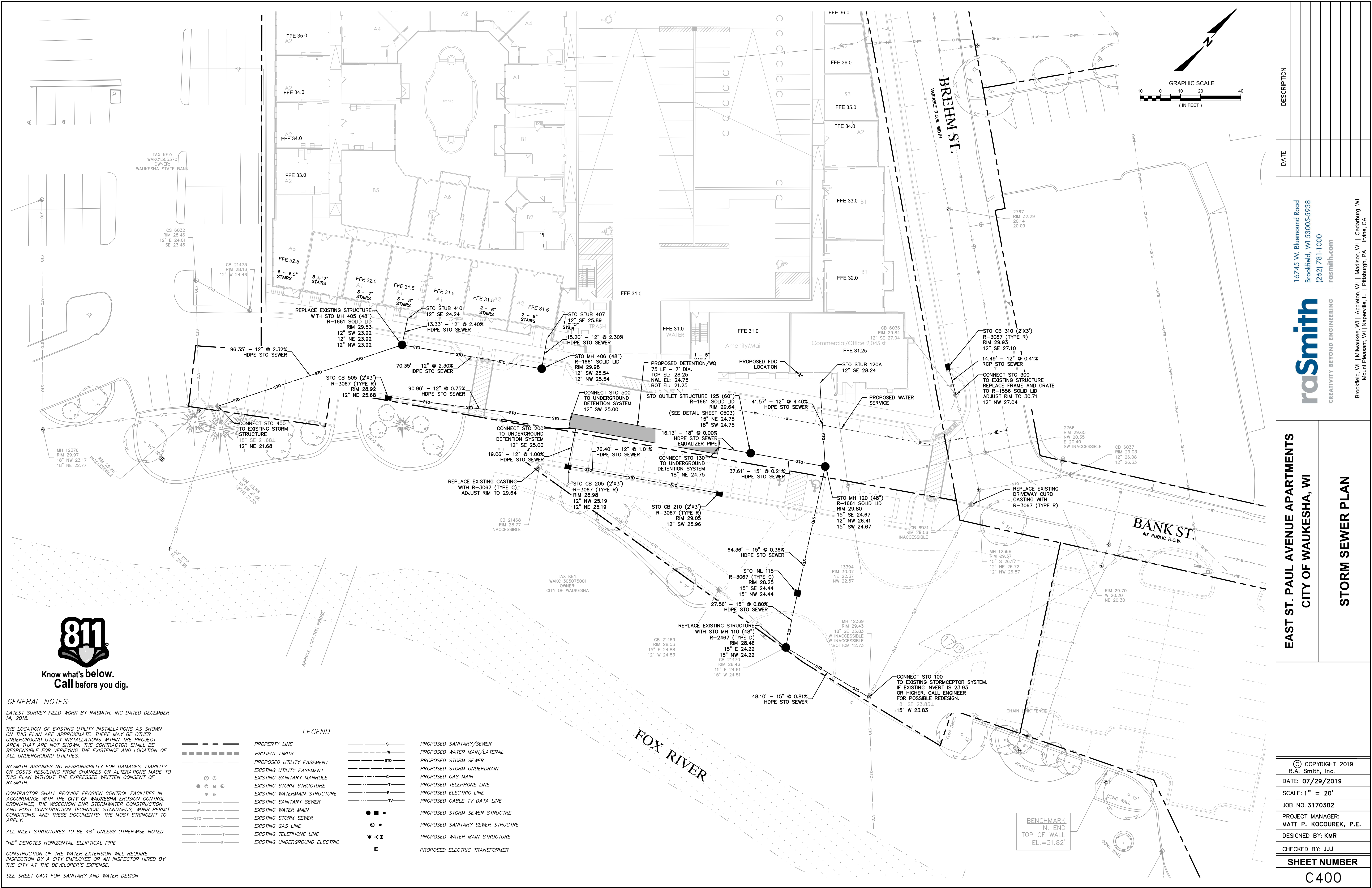
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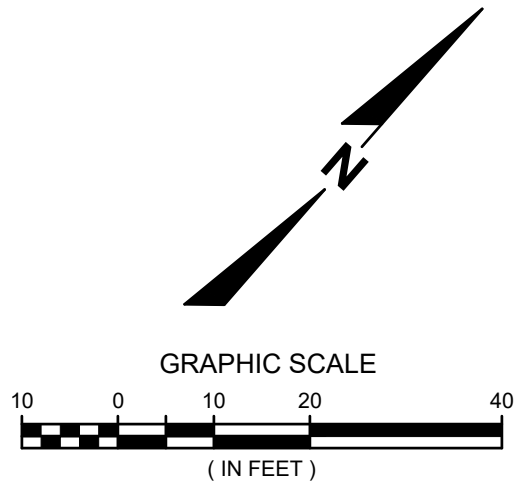
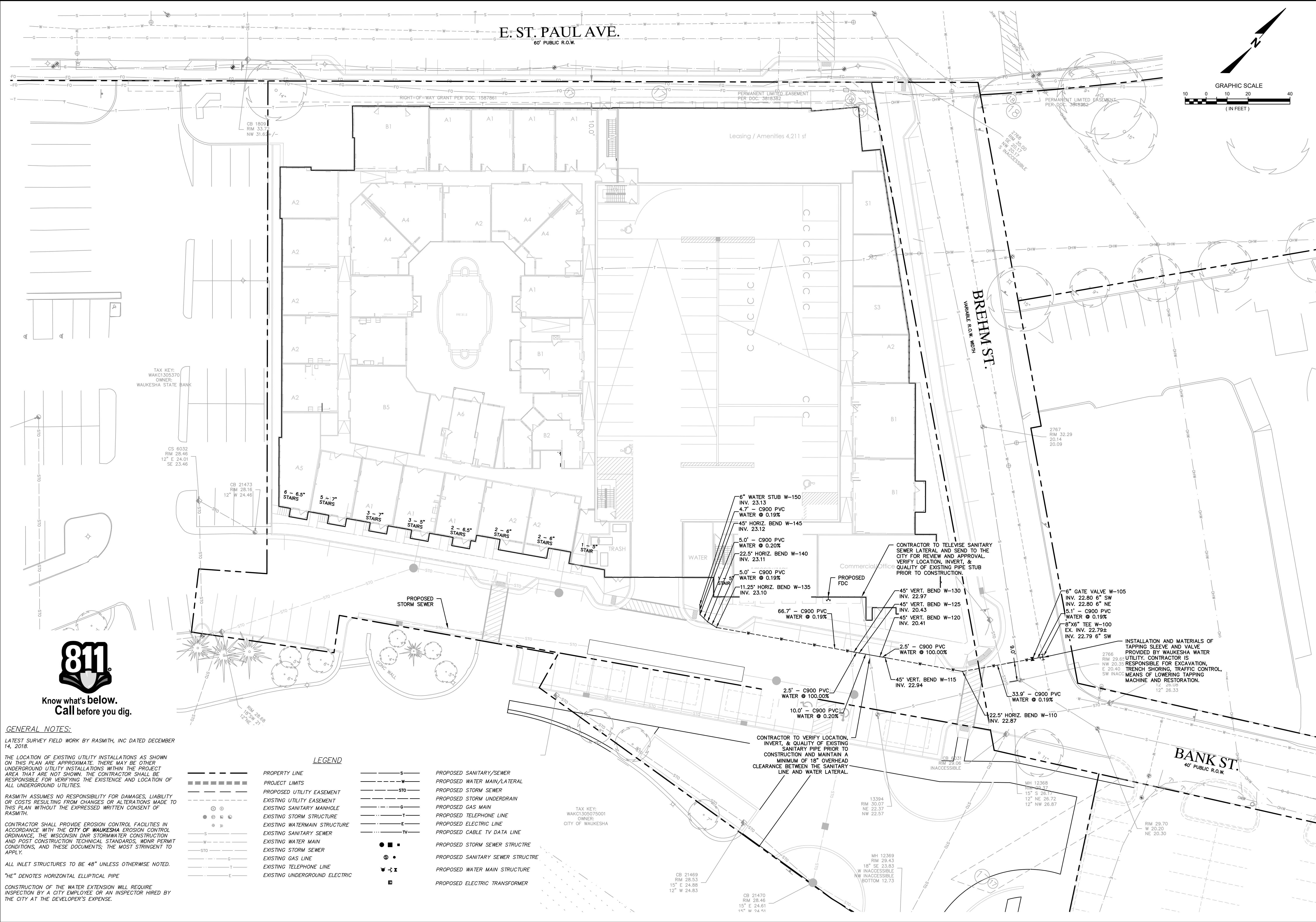
- PROPERTY LINE
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE (FINISH GRADE)
- EXISTING STORM SEWER
- PROPOSED STORM SEWER STRUCTURES
- PROPOSED SPOT ELEVATION
- PROPOSED TOP OF WALL SPOT ELEVATION
- PROPOSED BOTTOM OF WALL SPOT ELEVATION
- PROPOSED MATCH EXISTING SPOT ELEVATION
- PROPOSED RIM SPOT ELEVATION
- PROPOSED TOP OF STAIR ELEVATION
- PROPOSED BOTTOM OF STAIR ELEVATION
- PROPOSED DRAINAGE DIRECTION ARROWS



Know what's below.
Call before you dig.

DESCRIPTION	
DATE	
16745 W. Bluemound Road Brookfield, WI 53005-5938 (262) 781-1000 rasmith.com	
raSmith CREATIVITY BEYOND ENGINEERING	
Brookfield, WI Milwaukee, WI Appleton, WI Madison, WI Cedarburg, WI Mount Pleasant, WI Naperville, IL Pittsburgh, PA Irvine, CA	
EAST ST. PAUL AVENUE APARTMENTS CITY OF WAUKESHA, WI	
DETAILED GRADING PLAN	
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DATE: 07/29/2019	
SCALE: 1" = 10'	
JOB NO. 3170302	
PROJECT MANAGER: MATT P. KOCUREK, P.E.	
DESIGNED BY: KMR	
CHECKED BY: JJJ	
SHEET NUMBER	
C303	





GENERAL NOTES:

LATEST SURVEY FIELD WORK BY RASMITH, INC DATED DECEMBER 14, 2018.

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ALL INLET STRUCTURES TO BE 48" UNLESS OTHERWISE NOTED.

"HE" DENOTES HORIZONTAL ELLIPTICAL PIPE

CONSTRUCTION OF THE WATER EXTENSION WILL REQUIRE INSPECTION BY A CITY EMPLOYEE OR AN INSPECTOR HIRED BY THE CITY AT THE DEVELOPER'S EXPENSE.

- LEGEND**

 - PROPERTY LINE
 - PROJECT LIMITS
 - PROPOSED UTILITY EASEMENT
 - EXISTING UTILITY EASEMENT
 - EXISTING SANITARY MANHOLE
 - EXISTING STORM STRUCTURE
 - EXISTING WATERMAIN STRUCTURE
 - EXISTING SANITARY SEWER
 - EXISTING WATER MAIN
 - EXISTING STORM SEWER
 - EXISTING GAS LINE
 - EXISTING TELEPHONE LINE
 - EXISTING UNDERGROUND ELECTRIC
- S --- PROPOSED SANITARY/SEWER
 - W --- PROPOSED WATER MAIN/LATERAL
 - STO --- PROPOSED STORM SEWER
 - STO --- PROPOSED STORM UNDERDRAIN
 - G --- PROPOSED GAS MAIN
 - T --- PROPOSED TELEPHONE LINE
 - E --- PROPOSED ELECTRIC LINE
 - TV --- PROPOSED CABLE TV DATA LINE
 - ■ ■ PROPOSED STORM SEWER STRUCTURE
 - ● PROPOSED SANITARY SEWER STRUCTURE
 - ⊕ ⊗ PROPOSED WATER MAIN STRUCTURE
 - PROPOSED ELECTRIC TRANSFORMER

DESCRIPTION

DATE

16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com

CREATIVITY BEYOND ENGINEERING

Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI | Cedarburg, WI
Mount Pleasant, WI | Naperville, IL | Pittsburgh, PA | Irvine, CA

EAST ST. PAUL AVENUE APARTMENTS
CITY OF WAUKESHA, WI

WATER & SANITARY PLAN

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DATE: 07/29/2019

SCALE: 1" = 20'

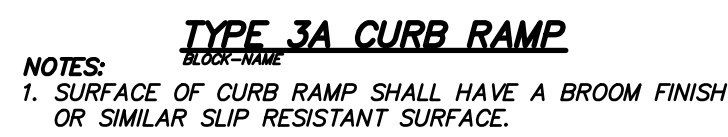
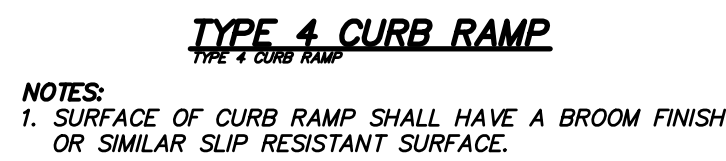
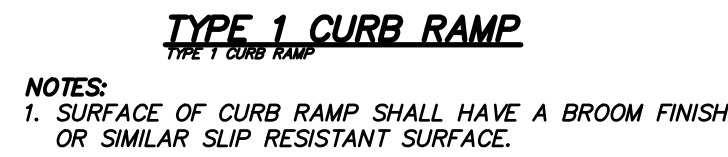
JOB NO. 3170302

PROJECT MANAGER:
MATT P. KOCOUREK, P.E.

DESIGNED BY: KMR

CHECKED BY: JJJ

SHEET NUMBER
C401

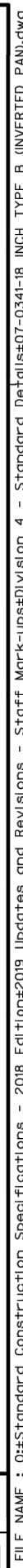



DETECTABLE WARNING FIELD
DETECTABLE WARNING FIELD (TRUNCATED DOMES)

- NOTES:
1. DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT WALKING SURFACES EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT.
 2. DETECTABLE WARNING FIELDS SHALL BE "NEENAH DETECTABLE WARNING PLATES" 4984-~~XXX~~ OR EQUIV.
 3. CURB RAMP DETECTABLE WARNING FIELDS TO BE INSTALLED 6 TO 8 INCHES FROM THE FACE OF CURB.

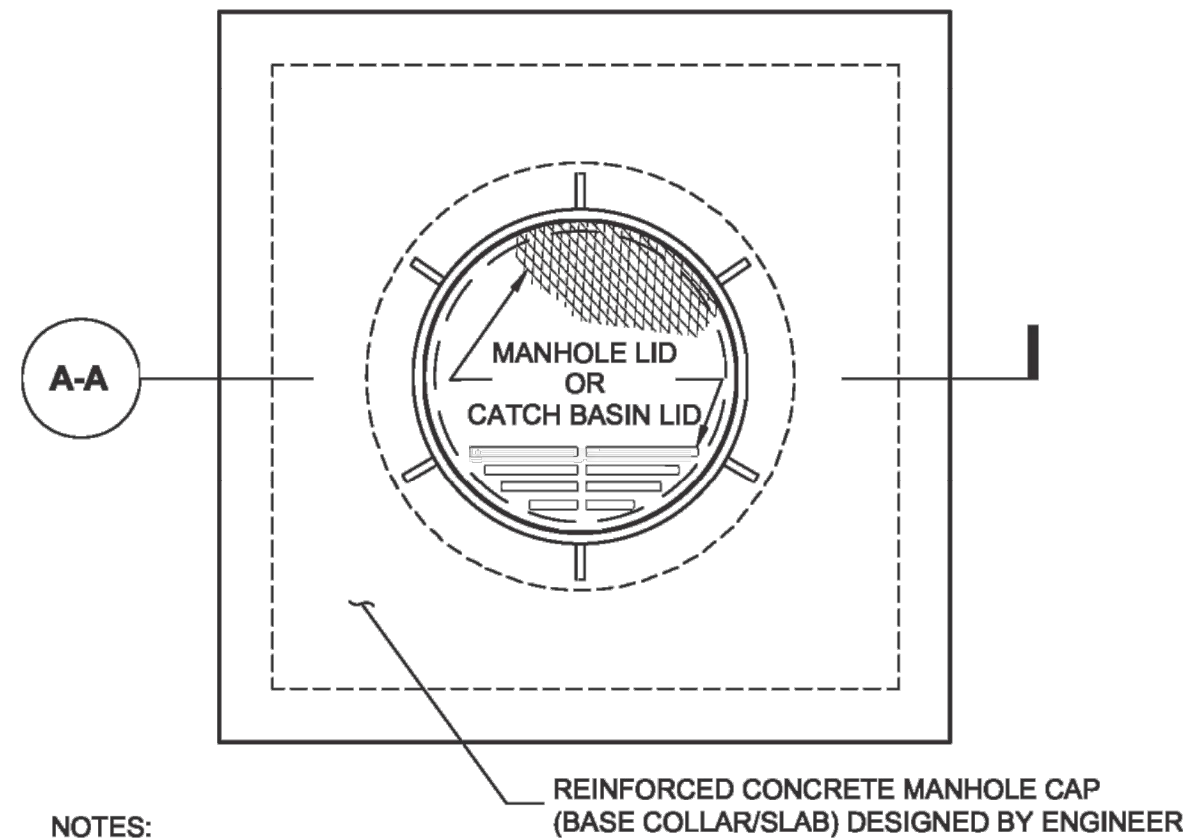
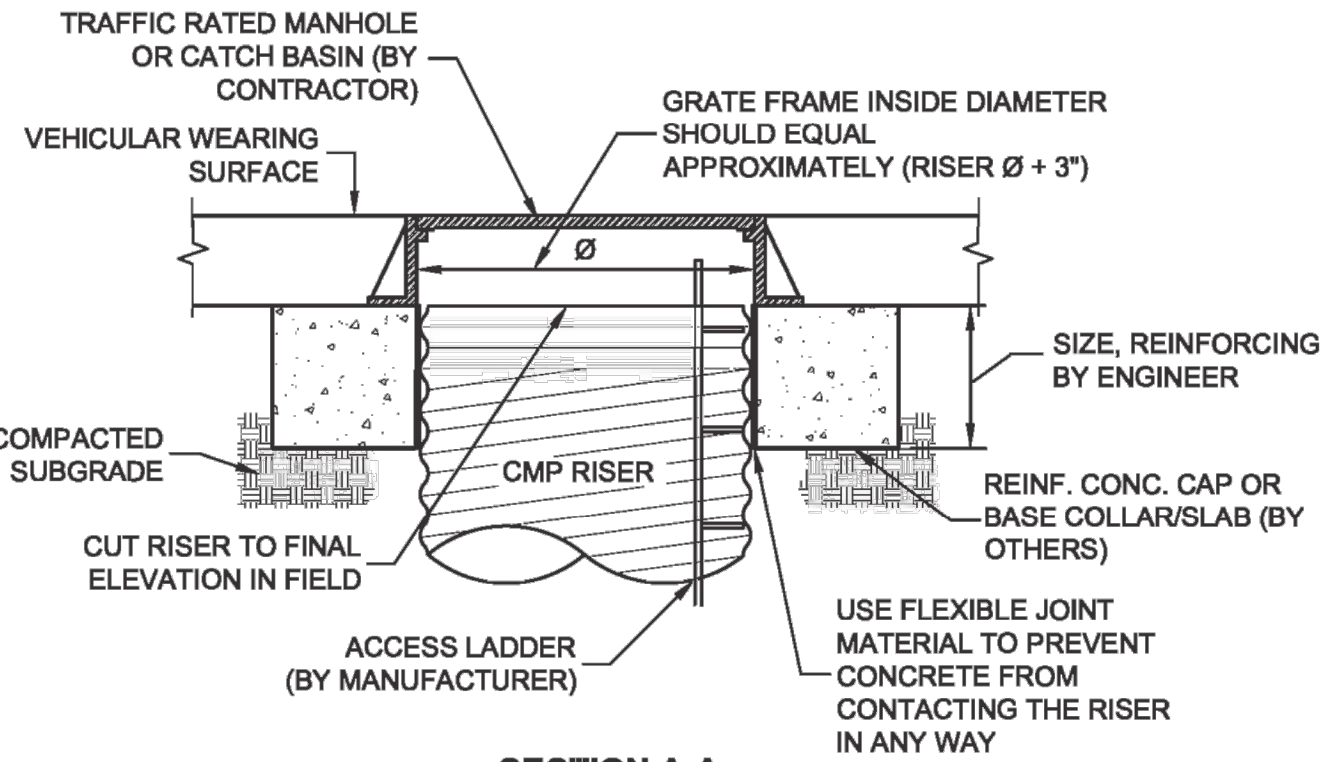


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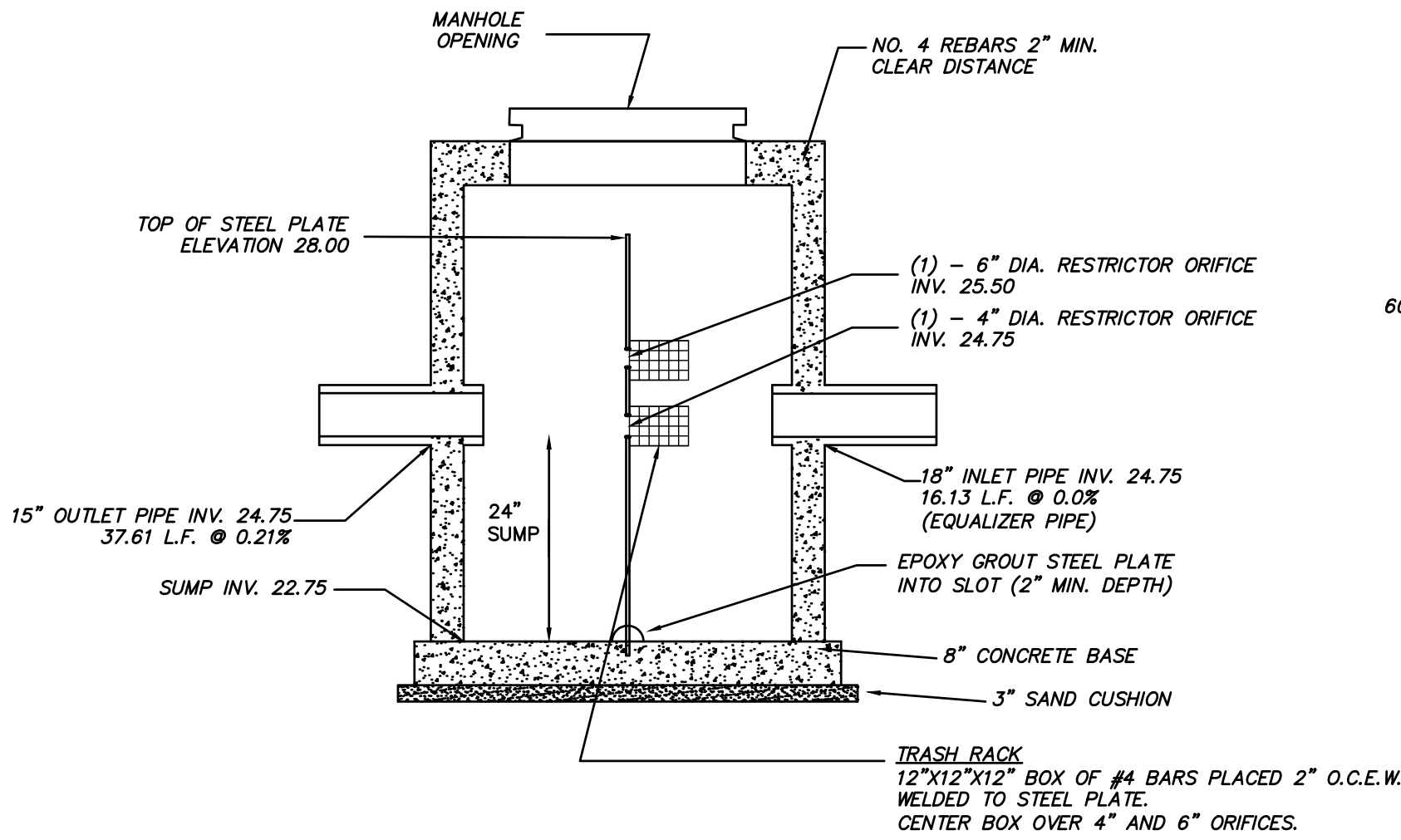
EAST ST. PAUL AVENUE APARTMENTS CITY OF WAUKESHA, WI		<div><p>16745 W. Blumound Road Brookfield, WI 53005-5938 (262) 781-1000 rasmith.com</p><p>CREATIVITY BEYOND ENGINEERING</p><p>Brookfield, WI Milwaukee, WI Appleton, WI Madison, WI Cedarburg, WI Mount Pleasant, WI Naperville, IL Pittsburgh, PA Irvine, CA</p></div>	DATE	DESCRIPTION
SITE DETAILS				
© COPYRIGHT 2019 R.A. Smith, Inc.				
DATE: 07/29/2019				
SCALE: N/A				
JOB NO. 3170302				
PROJECT MANAGER: MATT P. KOCOUREK, P.E.				
DESIGNED BY: KMR				
CHECKED BY: JJJ				
SHEET NUMBER				
C500				

C502



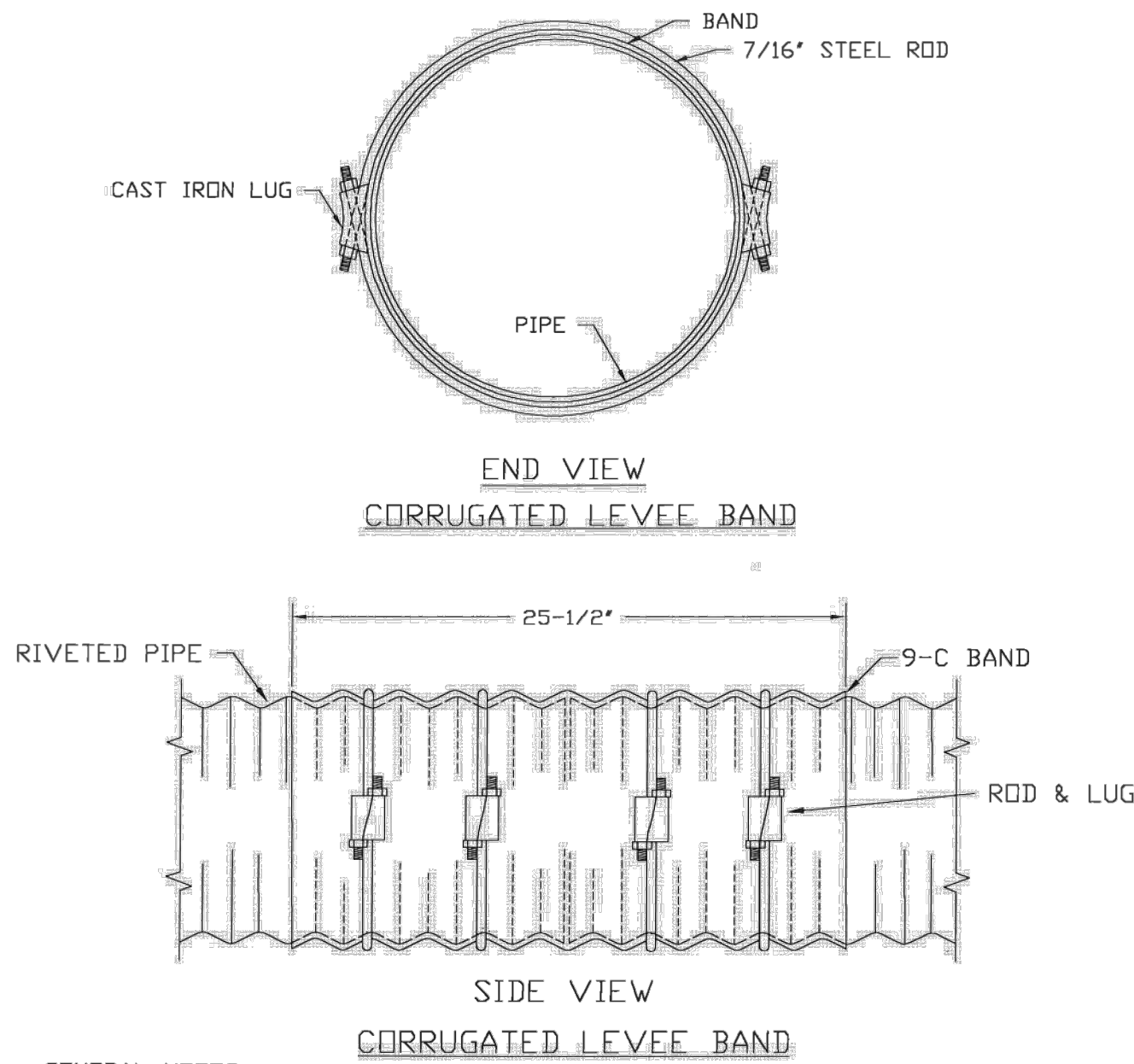
- NOTES:
1. THE CONCRETE CAP (BASE COLLAR/SLAB) SHALL BE SIZED AND DESIGNED BY OTHERS SO THAT THE LOADS ARE TRANSMITTED TO THE SOIL, AND NOT THE RISER.
 2. THE CONCRETE CAP SHALL BE SIZED TO PROVIDE AN ADEQUATE BOTTOM AREA BASED ON THE ALLOWABLE BEARING CAPACITY OF THE SOIL.
 3. THE FLEXIBLE JOINT MATERIAL (RECYCLED VINYL OR EQ.) TO BE STIFF ENOUGH SO THAT THE CONCRETE CAN NEVER ENGAGE WITH THE RISER CORRUGATIONS.

UNDERGROUND DETENTION SYSTEM – CMP RISER WITH MANHOLE CAP



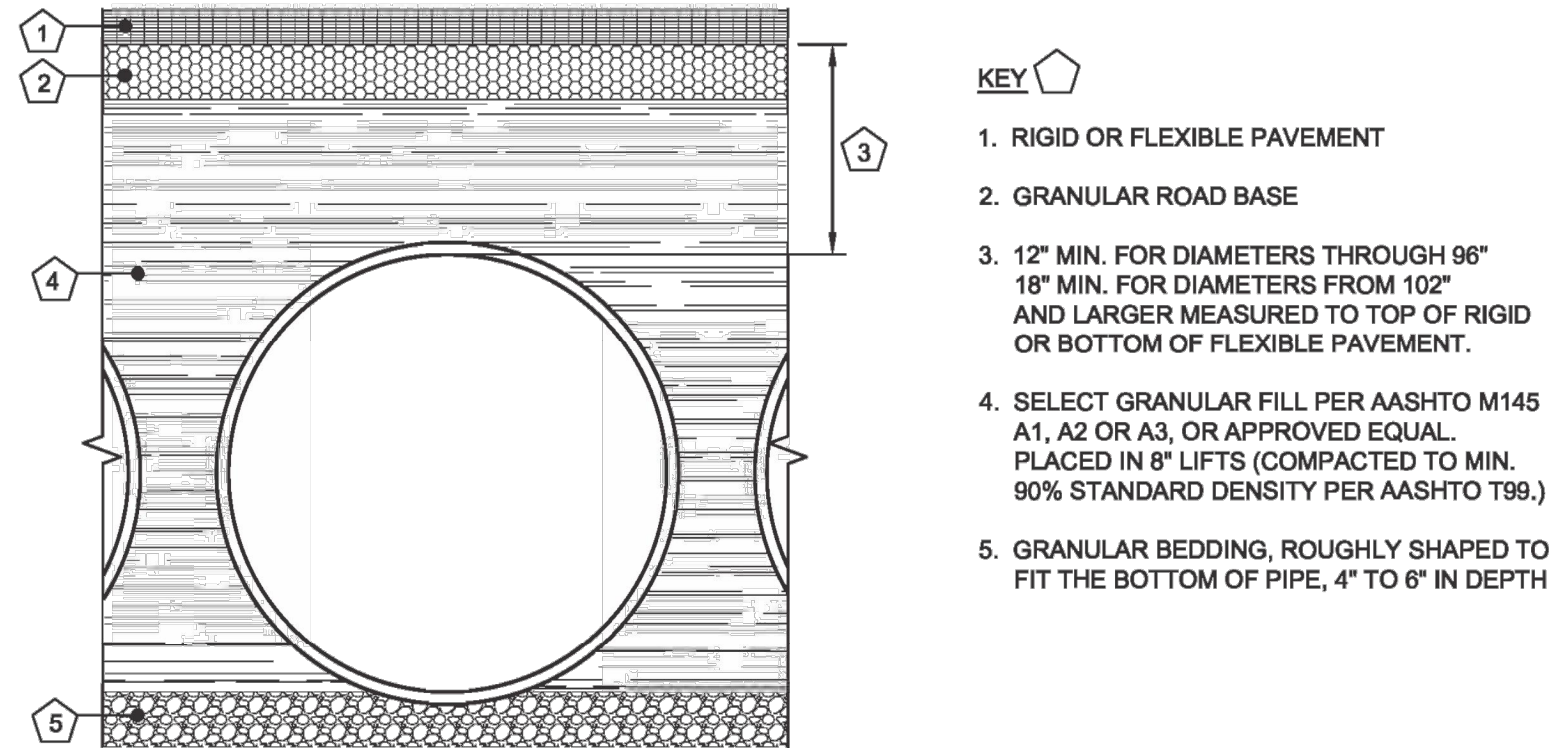
- NOTES:
1. STRUCTURE SHALL BE CONSTRUCTED CONFORMING TO THE REQUIREMENTS OF ASTM C-478.
 2. REINFORCING STEEL NOT SHOWN

OUTLET STRUCTURE 125 DETAIL



- GENERAL NOTES
1. The Corrugated Levee Band may be furnished with a 12\"/>
 2. The Corrugated Levee Band is also available with 3\"/>
 3. Dimensions are subject to manufacturing tolerances.

UNDERGROUND DETENTION SYSTEM – CORRUGATED LEVEE BAND



FOUNDATION/BEDDING PREPARATION

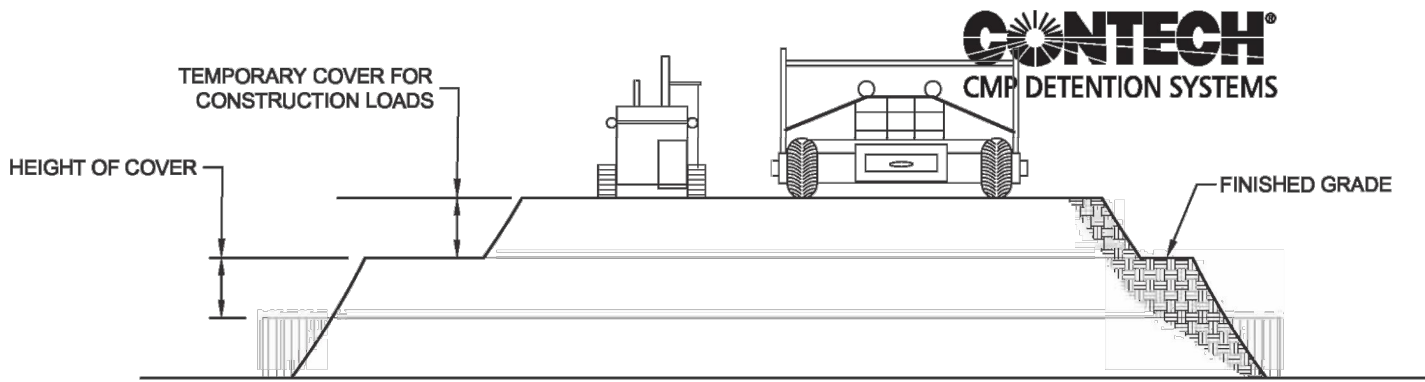
PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND BROUGHT BACK TO THE GRADE WITH A FILL MATERIAL AS APPROVED BY THE ENGINEER. ONCE THE FOUNDATION PREPARATION IS COMPLETE, 4\"/>

BACKFILL

THE BACKFILL SHALL BE AN A1, A2 OR A3 GRANULAR FILL PER AASHTO M145, OR A WELL-GRADED GRANULAR FILL AS APPROVED BY THE SITE ENGINEER (SEE INSTALLATION GUIDELINES). THE MATERIAL SHALL BE PLACED IN 8\"/>

OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS, AS APPROVED BY SITE ENGINEER.

UNDERGROUND DETENTION SYSTEM – CMP BACKFILL DETAIL



CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
128-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

3 CONSTRUCTION LOADING DIAGRAM
4 SCALE: N.T.S.

SPECIFICATION FOR CORRUGATED STEEL PIPE-ALUMINIZED TYPE 2 STEEL

SCOPE

THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE CORRUGATED STEEL PIPE (CSP) DETAILED IN THE PROJECT PLANS.

MATERIAL

THE ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M274 OR ASTM A892.

PIPE

THE CSP SHALL BE MANUFACTURED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF AASHTO M36 OR ASTM A760. THE PIPE SIZES, GAGES AND CORRUGATIONS SHALL BE AS SHOWN ON THE PROJECT PLANS.

ALL FABRICATION OF THE PRODUCT SHALL OCCUR WITHIN THE UNITED STATES.

HANDLING AND ASSEMBLY

SHALL BE IN ACCORDANCE WITH RECOMMENDATIONS OF THE NATIONAL CORRUGATED STEEL PIPE ASSOCIATION (NCSPA).

INSTALLATION

SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II OR ASTM A798 AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.

UNDERGROUND DETENTION SYSTEM – CONSTRUCTION LOADING DETAIL



Know what's below.
Call before you dig.

R.A.SMITH, INC. ASSUMES NO RESPONSIBILITY FOR DAMAGES, LIABILITY OR COSTS RESULTING FROM CHANGES OR ALTERATIONS MADE TO THIS PLAN WITHOUT THE EXPRESSED WRITTEN CONSENT OF R.A.SMITH, INC.

DESCRIPTION

DATE

16745 W. Bluemound Road
Brookfield, WI 53005-5938
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raSmith
CREATIVITY BEYOND ENGINEERING

Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI | Cedarburg, WI
Mount Pleasant, WI | Naperville, IL | Pittsburgh, PA | Irvine, CA

EAST ST. PAUL AVENUE APARTMENTS
CITY OF WAUKESHA, WI

HYDROLOGY DETAILS

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R.A. Smith, Inc.

DATE: 07/29/2019

SCALE: N/A

JOB NO. 3170302

PROJECT MANAGER:
MATT P. KOCUREK, P.E.

DESIGNED BY: KMR

CHECKED BY: JJJ

SHEET NUMBER
C503

SPECIFICATIONS

A. GENERAL

1. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE MUNICIPALITY FORTY- EIGHT (48) HOURS PRIOR TO THE START OF CONSTRUCTION.
2. THE CONTRACTOR SHALL INDEMNIFY THE OWNER, THE ENGINEER, AND THE MUNICIPALITY, THEIR AGENTS, ETC, FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, AND TESTING OF THE WORK ON THIS PROJECT.
3. SITE SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
4. THE BIDDER WILL BE SOLELY RESPONSIBLE FOR DETERMINING QUANTITIES AND SHALL STATE SUCH QUANTITIES IN THEIR PROPOSAL. THE CONTRACTOR SHALL BASE THEIR BID ON THEIR OWN ESTIMATE OF THE WORK REQUIRED AND SHALL NOT RELY ON THE ENGINEER'S ESTIMATE.
5. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING SOIL CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. A GEOTECHNICAL REPORT MAY BE AVAILABLE FROM THE OWNER. THE CONTRACTOR SHALL ABIDE BY THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
6. THE CONTRACTOR IS RESPONSIBLE FOR EXAMINING ALL SITE CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL COMPARE FIELD CONDITIONS WITH DRAWINGS.
7. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS REQUIRED FOR EXECUTION OF THE WORK. THE CONTRACTOR SHALL CONDUCT THEIR WORK ACCORDING TO THE REQUIREMENTS OF THE PERMITS.
8. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL UTILITY INFORMATION SHOWN ON THE PLANS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL CALL DIGGER'S HOTLINE AT 1-800-242-8511 TO NOTIFY THE UTILITIES OF THEIR INTENTIONS, AND TO REQUEST FIELD STAKING OF EXISTING UTILITIES.
9. CONTRACTOR IS ADVISED THAT ALL MUD AND DEBRIS MUST NOT BE DEPOSITED ONTO THE ADJACENT ROADWAYS PER THE REQUIREMENT OF THE MUNICIPALITY OR OTHER APPROPRIATE GOVERNMENT AGENCIES.
10. ANY ADJACENT PROPERTIES OR ROAD RIGHT-OF-WAYS WHICH ARE DAMAGED DURING CONSTRUCTION MUST BE RESTORED BY THE CONTRACTOR. THE COST OF THE RESTORATION IS CONSIDERED INCIDENTAL, AND SHOULD BE INCLUDED IN THE BID PRICES.
11. SUBMITTALS:
- A. SHOP DRAWINGS AND/OR MANUFACTURER'S PRODUCT DATA SUBMITTALS ARE REQUIRED ONLY IF THE PRODUCT OR METHOD OF CONSTRUCTION
- a. IS DIFFERENT FROM THAT SPECIFIED OR
- b. IS PART OF THE WORK THAT WILL BE DEDICATED AS A PUBLIC UTILITY OR ROADWAY AT THE END OF THE PROJECT OR
- c. IF REQUIRED BY THE MUNICIPAL ENGINEER.
- B. FOR UTILITY OR ROAD WORK THAT WILL BE DEDICATED TO A MUNICIPALITY, CONTRACTOR MUST MAKE SUBMITTALS TO THE MUNICIPALITY AS WELL AS ENGINEER.
- C. ALL DOCUMENTS SUBMITTED FOR REVIEW SHALL HAVE THE SPECIFIC MATERIAL, PART, SIZE, ETC. RELATED TO THE DESIGN HIGHLIGHTED IN SOME FASHION. EXAMPLE: A FITTING CUT SHEET HAS MULTIPLE PRESSURE RATING FOR DIFFERENT SIZE BENDS. HIGHLIGHT THE PRESSURE CLASS & SIZE TO BE USED ON THE PROJECT. ALL SUBMITTALS NOT PROPERLY IDENTIFYING THE SPECIFIC MATERIAL BEING USED WILL BE REJECTED.
- D. ALL DOCUMENTS SUBMITTED FOR REVIEW MUST INDICATE WHAT PART OF THE DESIGN THEY RELATE TO.
- E. CONTRACTOR SHALL ALLOW A MINIMUM OF 10 WORKING DAYS FOR SUBMITTAL REVIEW.
- F. SUBSTITUTION REQUESTS
- a. IF A SUBSTITUTION IS REQUESTED, CONTRACTOR SHALL SUBMIT A SHOP DRAWING AND/OR MANUFACTURER'S DATA AND AN EXPLANATION AS TO EXACTLY HOW THE PROPOSED SUBSTITUTION MEETS THE PROPOSED DESIGN TO THE OWNER'S REPRESENTATIVE OR ENGINEER FOR REVIEW AND APPROVAL. PRODUCT SPECIFICATION SHEETS WITHOUT EXPLANATION WILL NOT BE ACCEPTED.
- b. THE CONTRACTOR SHALL ALSO INDICATE WITH THE SUBSTITUTION REQUEST THE AMOUNT THAT WILL BE CREDITED FROM THE CONTRACT AMOUNT TO THE OWNER IF THE SUBSTITUTION IS APPROVED.
- c. THE CONTRACTOR SHALL NOT PROCEED UNTIL THE OWNER'S APPROVAL IS GIVEN.

B. EROSION CONTROL

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING COPIES OF ALL PERMITS, INCLUDING WPDES DISCHARGE PERMITS (IF APPLICABLE), AND THE CITY OF WAUKESHA EROSION CONTROL PERMIT. CONTRACTOR IS RESPONSIBLE FOR ABIDING BY ALL PERMIT REQUIREMENTS AND RESTRICTIONS.
2. ALL INSTALLATION AND MAINTENANCE OF EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE APPLICABLE WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) TECHNICAL STANDARD.
3. ALL EROSION CONTROL FACILITIES SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT AND WARRANTY PERIOD IN CONFORMANCE WITH THE DNR WPDES GENERAL PERMIT.
4. ALL EROSION AND SEDIMENTATION CONTROL PRACTICES SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24 HOUR PERIOD. NEEDED REPAIRS WILL BE MADE IMMEDIATELY.
5. ALL DISTURBED GROUND LEFT INACTIVE FOR FOURTEEN DAYS OR MORE SHALL BE STABILIZED WITH TOPSOIL, SEED, AND MULCH IN ACCORDANCE WITH THE WDNR TECHNICAL STANDARDS 1059 AND 1058.
6. TEMPORARY SEED MIXTURE SHALL CONFORM TO 630.21.5.1.4 OF THE WISDOT STANDARD SPECIFICATIONS. USE WINTER WHEAT OR RYE FOR FALL PLANTINGS STARTED AFTER SEPTEMBER 1.
7. DISTURBED AREAS THAT CANNOT BE STABILIZED WITH A DENSE GROWTH OF VEGETATION BY SEEDING AND MULCHING DUE TO TEMPERATURE OR TIMING OF CONSTRUCTION, SHALL BE STABILIZED BY APPLYING ANIONIC POLYACRYLAMIDE (PAM) IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1050.
8. SEDIMENT SHALL BE REMOVED FROM THE SEDIMENT BASINS TO MAINTAIN A THREE FOOT DEPTH OF TREATMENT, MEASURED BELOW THE NORMAL WATER ELEVATION. SEDIMENT WILL BE REMOVED FROM THE DIVERSION DITCHES WHEN IT REACHES HALF THE HEIGHT OF THE DITCH. SEDIMENT WILL BE REMOVED FROM BEHIND THE SILT FENCE AND DITCH CHECKS WHEN IT REACHES HALF THE HEIGHT OF THE FENCE/BALE. THE SILT FENCE AND DITCH CHECKS SHALL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.
9. ALL WATER FROM CONSTRUCTION DEWATERING SHALL BE TREATED IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1061 PRIOR TO DISCHARGE TO WATERS OF THE STATE, WETLANDS, OR OFFSITE. CONTRACTOR RESPONSIBLE FOR REVISING THE PERMIT, IF NECESSARY.
10. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED. DEPENDING ON HOW THE CONTRACTOR GRADES THE SITE, IT MAY BE NECESSARY TO INSTALL TEMPORARY SEDIMENT TRAPS IN VARIOUS LOCATIONS THROUGHOUT THE PROJECT. TEMPORARY SEDIMENT TRAPS SHALL BE DESIGNED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1063.
11. ANY SEDIMENT TRACKED ONTO A PUBLIC OR PRIVATE ROAD SHOULD BE REMOVED BY STREET CLEANING, NOT FLUSHING, BEFORE THE END OF EACH WORKING DAY.
12. DUST CONTROL SHALL BE PROVIDED AS NECESSARY IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1068.
13. FINAL STABILIZATION OF LANDSCAPED AREAS SHALL BE IN ACCORDANCE WITH THE APPROVED LANDSCAPE PLAN.
14. ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE APPROVED LANDSCAPE PLAN TO MAINTAIN A VIGOROUS DENSE VEGETATIVE COVER.

C. GRADING

1. THE PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED ACCORDING TO THE WISCONSIN D.O.T. STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION, THE GEOTECHNICAL REPORT AND THE LOCAL ORDINANCES AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL MAINTAIN SITE DRAINAGE THROUGHOUT CONSTRUCTION. THIS MAY INCLUDE THE EXCAVATION OF TEMPORARY DITCHES OR PUMPING TO ALLEVIATE WATER PONDING.
3. SILT FENCE AND OTHER EROSION CONTROL FACILITIES MUST BE INSTALLED PRIOR TO CONSTRUCTION OR ANY OTHER LAND DISTURBING ACTIVITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL EROSION CONTROL FACILITIES ONCE THE THREAT OF EROSION HAS PASSED WITH THE APPROVAL OF THE GOVERNING AGENCY.
4. THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR THE COMPUTATIONS OF ALL GRADING AND FOR ACTUAL LAND BALANCE, INCLUDING UTILITY TRENCH SPOIL. THE CONTRACTOR SHALL IMPORT OR EXPORT MATERIAL AS NECESSARY TO COMPLETE THE PROJECT.
5. GRADING SHALL CONSIST OF CLEARING AND GRUBBING EXISTING VEGETATION, STRIPPING TOPSOIL, REMOVAL OF EXISTING PAVEMENT OR FOUNDATIONS, IMPORTING OR EXPORTING MATERIAL TO ACHIEVE AN ON-SITE EARTHWORK BALANCE, GRADING THE PROPOSED BUILDING PADS AND PAVEMENT AREAS, SCARIFYING AND FINAL COMPACTION OF THE PAVEMENT SUBGRADE, AND PLACEMENT OF TOPSOIL.
6. NO FILL SHALL BE PLACED ON A WET OR SOFT SUBGRADE. THE SUBGRADE SHALL BE PROOF-ROLLED AND INSPECTED BY THE GEOTECHNICAL ENGINEER BEFORE ANY MATERIAL IS PLACED.
7. ALL FILL SHALL BE CONSIDERED STRUCTURAL FILL AND SHALL BE PLACED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
8. TOPSOIL IN PARKING ISLANDS: ALL PARKING LOT ISLANDS TO BE BACKFILLED WITH TOPSOIL TO A MINIMUM DEPTH OF 18" BY GRADING CONTRACTOR TO INSURE LONG TERM PLANT HEALTH. CROWN ALL PLANTING ISLANDS A MINIMUM OF 6" TO PROVIDE PROPER DRAINAGE, UNLESS OTHERWISE SPECIFIED.

D. PAVING

1. THE PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED ACCORDING TO THE WISCONSIN D.O.T. STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION, AND THE LOCAL ORDINANCES AND SPECIFICATIONS.
2. PAVING SHALL CONSIST OF FINE GRADING PAVEMENT AREAS, INSTALLATION OF CRUSHED STONE BASE, CONCRETE AND/OR BITUMINOUS PAVEMENT, PAVEMENT MARKING, AND CLEANUP. ALL MATERIALS SHALL BE PROVIDED BY THE CONTRACTOR.
3. AGGREGATES USED IN THE CRUSHED AGGREGATE BASE SHALL BE (1-1/4 INCH) DENSE GRADED BASE IN ACCORDANCE WITH SUBSECTION 305.2.2 OF THE STANDARD SPECIFICATIONS.
4. HOT MIX ASPHALT PAVEMENT (HMA) SHALL BE CLASSIFIED AS (LT) IN ACCORDANCE WITH SECTION 460 AND TABLE 460-2 OF THE STANDARD SPECIFICATIONS.
5. ASPHALTIC MATERIALS SHALL BE PERFORMANCE GRADED (PG) BINDERS IN ACCORDANCE WITH SECTION 455 OF THE STANDARD SPECIFICATIONS. UPPER LAYERS SHALL BE 4 LT 58-28 S, AND LOWER LAYERS SHALL BE 5 LT 58-28 S.
6. AGGREGATES USED IN THE HMA SHALL BE IN ACCORDANCE WITH SUBSECTION 460.2.2.3 OF THE STANDARD SPECIFICATIONS. THE NOMINAL AGGREGATE SIZE FOR THE UPPER LAYER PAVEMENT SHALL BE 12.5MM, AND THE LOWER LAYER PAVEMENT SHALL BE 19.0MM.
7. TACK COAT SHALL BE IN ACCORDANCE WITH SUBSECTION 455.2.5 OF THE STANDARD SPECIFICATIONS. THE RATE OF APPLICATION SHALL BE 0.050-0.070 GAL/SY.
8. CONCRETE FOR CURB, DRIVEWAY, WALKS AND NON-FLOOR SLABS SHALL BE GRADE A (OR GRADE A2 IF PLACING BY SLIP-FORMED PROCESS) AIR ENTRAINED IN ACCORDANCE WITH SECTION 501 FOR THE STANDARD SPECIFICATIONS, WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,500 PSI.
9. CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE STANDARD SPECIFICATIONS: SECTION 415 FOR CONCRETE PAVEMENT, SECTION 601 FOR CONCRETE CURB AND GUTTER, AND SECTION 602 FOR CONCRETE SIDEWALKS.
10. ALL FINISHED CONCRETE SHALL BE COVERED WITH A LIQUID CURING COMPOUND CONFORMING TO AASHTO M 148, TYPE 2, IN ACCORDANCE WITH SECTION 415 OF THE STANDARD SPECIFICATIONS.
11. PAVEMENT MARKINGS SHALL BE PAINT IN ACCORDANCE WITH SECTION 646 OF THE STANDARD SPECIFICATIONS. (COLOR SHALL BE AS INDICATED ON THE PLANS.) THE FOLLOWING ITEMS SHALL BE PAINTED WITH COLORS NOTED BELOW:
- PARKING STALLS: WHITE
- PEDESTRIAN CROSSWALKS: WHITE
- LANE STRIPING WHERE SEPARATING TRAFFIC IS MOVING IN OPPOSITE DIRECTIONS: YELLOW
- LANE STRIPING WHERE SEPARATING TRAFFIC IS MOVING IN SAME DIRECTIONS: WHITE
- ADA SYMBOLS: BLUE OR PER LOCAL CODE
- FIRE LANES: PER LOCAL CODE
- EXTERIOR SIDEWALK CURBED, LIGHTPOLE BASES, AND GUARD POSTS: YELLOW

E. PRIVATE UTILITIES

1. THE PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED ACCORDING TO WISCONSIN ADMINISTRATIVE CODE, SECTION SPS 382-384, LATEST EDITION, THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION, AND THE LOCAL ORDINANCES AND SPECIFICATIONS.
2. BEFORE PROCEEDING WITH ANY UTILITY CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE EACH EXISTING LATERAL OR POINT OF CONNECTION AND VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES. IF ANY EXISTING UTILITIES ARE NOT AS SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY FOR POSSIBLE REDESIGN.
3. ALL CONNECTIONS TO EXISTING PIPES AND MANHOLES SHALL BE CORED CONNECTIONS.
4. PROPOSED SANITARY SEWER, WATER MAIN, AND INTERNALLY CONNECTED STORM SEWER SHOWN ON THIS PLAN SHALL TERMINATE AT A POINT FIVE (5) FEET FROM THE EXTERIOR BUILDING WALL. STORM SEWER CONNECTING TO EXTERIOR DOWN SPOUTS SHALL BE PER DETAILS ON THE ARCHITECTURAL PLANS. THE EXACT LOCATION OF ALL DOWN SPOUTS SHALL BE PER THE ARCHITECTURAL PLANS.
5. MATERIALS FOR STORM SEWER SHALL BE AS FOLLOWS:
- STORM SEWER PIPE WITHIN PUBLIC RIGHT-OF-WAY SHALL BE REINFORCED CONCRETE, ASTM C-76, CLASS III OR GREATER, WITH ELASTOMERIC SEALS CONFORMING TO ASTM C-443.
- STORM SEWER PIPE 24" OR LESS SHALL BE EITHER:
- A) HIGH DENSITY POLYETHYLENE (HDPE) WITH A SMOOTH INTERIOR AND ANNULAR EXTERIOR CORRUGATIONS, SUCH AS ADS N-12 WT. HDPE PIPE SHALL CONFORM TO ASTM F2648 AND F2306. JOINTS SHALL BE WATER TIGHT CONFORMING TO ASTM D3212 WITH ELASTOMERIC SEALS (GASKETS) CONFORMING TO ASTM F477.
- B) POLYVINYL CHLORIDE (PVC) PIPE, ASTM D-3034, SDR 35, WITH ELASTOMERIC PUSH-ON JOINTS CONFORMING TO ASTM D-3212.
- C) REINFORCED CONCRETE, ASTM C-76, CLASS III OR GREATER, WITH ELASTOMERIC SEALS CONFORMING TO ASTM C-443.
- TRENCH SECTION SHALL BE CLASS "C" FOR CONCRETE AND CLASS "B" FOR ALL OTHER MATERIALS.
- INLETS SHALL BE SOLID CONCRETE BLOCK OR PRE CAST REINFORCED CONCRETE, ASTM C-478.
6. MATERIALS FOR SANITARY SEWER SHALL BE AS FOLLOWS:
- SANITARY SEWER PIPE SHALL BE PVC, ASTM D-3034, SDR-35 WITH RUBBER GASKETED JOINTS, CONFORMING TO ASTM D-3212.
- TRENCH SECTION SHALL BE CLASS "B" BEDDING. CRUSHED STONE CHIPS SHALL BE USED FOR BEDDING MATERIAL. PREFABRICATED WYE CONNECTIONS ARE REQUIRED FOR SANITARY LATERALS
7. MATERIALS FOR WATER SERVICE SHALL BE AS FOLLOWS:
- WATER SERVICE SHALL BE PVC, SDR-18, CLASS 235, AWWA C-900, WITH ELASTOMERIC JOINTS (ASTM D-3139), WITH A VALVE AT THE SUPPLY MAIN.
- WATER SERVICE SHALL BE DUCTILE IRON (DI), ASTM A-377, WITH ELASTOMERIC JOINTS (AWWA C-111), WITH A VALVE AT THE SUPPLY MAIN.
- WATER SERVICE SHALL BE COPPER, TYPE "K", WITH A VALVE AT THE SUPPLY MAIN.
- ALL FITTINGS SHALL BE MECHANICAL JOINT, DUCTILE IRON CONFORMING TO AWWA C-111.
- HYDRANTS SHALL BE IN ACCORDANCE WITH THE MUNICIPALITY'S STANDARD SPECIFICATIONS.
- GATE VALVES SHALL BE RESILIENT WEDGE TYPE, AWWA C-509, AND SHALL BE INSTALLED WITH AN ADJUSTABLE VALVE BOX AND COVER MARKED "WATER".
- TRENCH SECTION SHALL CONFORM TO SECTION 4.3.C, FILE NO. 38 OF THE STANDARD SPECIFICATIONS. SAND OR STONE CHIP BEDDING MATERIAL IS REQUIRED.
8. EXTREME CAUTION MUST BE FOLLOWED REGARDING THE COMPACTION OF ALL UTILITY TRENCHES. MECHANICALLY COMPACTED GRANULAR BACKFILL IS REQUIRED UNDER & WITHIN 5 FEET OF ALL PAVEMENT INCLUDING SIDEWALKS. FLOODING OF BACKFILL MATERIAL IS NOT ALLOWED. THE COST OF THIS GRANULAR MATERIAL AND ITS COMPACTION IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE COST OF THE PROPOSED UTILITY.
9. UPON COMPLETION OF FINAL PAVING OPERATIONS, THE UTILITY CONTRACTOR SHALL ADJUST ALL MANHOLE AND INLET RIMS AND VALVE BOXES TO FINISHED GRADE.
10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE OWNER WITH A SET OF MARKED-UP PRINTS SHOWING ALL CHANGES MADE DURING THE CONSTRUCTION PROCESS. ANY CHANGES TO THE DRAWINGS OR ADDITIONAL ITEMS MUST BE REPORTED TO THE OWNER.
11. TRACER WIRE SHALL BE INSTALLED ON ALL BURIED NON-METALLIC SANITARY SEWERS, PRIVATE SANITARY INTERCEPTOR MAIN SEWERS, STORM BUILDING SEWERS, AND PRIVATE STORM INTERCEPTOR MAIN SEWERS THAT DISCHARGE TO MUNICIPAL MAINS. TRACER WIRE SHALL ALSO BE INSTALLED ON ALL BURIED NON-METALLIC WATER SERVICES AND PRIVATE WATER MAINS CONNECTED TO MUNICIPAL SUPPLY SYSTEMS. TRACER WIRE SHALL BE IN ACCORDANCE WITH COMM 82.30(1)(b)(1). TRACER WIRE SHALL BE A MINIMUM OF 18-GAUGE, INSULATED, SINGLE-CONDUCTOR COPPER WIRE OR EQUIVALENT. TRACER WIRE COLOR SHALL BE BLUE FOR POTABLE WATER, GREEN FOR SANITARY SEWER, AND BROWN FOR STORM SEWER.
- SANITARY SEWER LATERALS SHALL HAVE A GREEN #12 LOCATER WIRE INSTALLED ALONG THE ENTIRE LENGTH. LOCATER WIRE SHALL BE BROUGHT TO THE SURFACE AT THE EDGE OF THE BUILDING AND ENCLOSED IN A CURB BOX WITH "SEWER" ON THE COVER.
- ALL SANITARY SEWER TO BE INSTALLED IN ACCORDANCE WITH CITY OF WAUKESHA STANDARDS.
- ALL APPLICATION FEES FOR SANITARY SEWER MUST BE COMPLETED AND PAID PRIOR TO CONNECTION OF SEWER SYSTEMS.
- ANY UTILITY WORK IN THE RIGHT-OF-WAY AD ALL SANITARY SEWER CONNECTIONS TO BE INSPECTED BY CITY NOTIFY CITY 72 HOURS IN ADVANCE OF CONNECTING TO SEWER.

EAST ST. PAUL AVENUE APARTMENTS
CITY OF WAUKESHA, WI

SPECIFICATIONS



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(262) 781-1000
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Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI | Cedarburg, WI
Mount Pleasant, WI | Naperville, IL | Pittsburgh, PA | Irvine, CA

DESCRIPTION

DATE

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R.A. Smith, Inc.

DATE: 07/29/2019

SCALE: N/A

JOB NO. 3170302

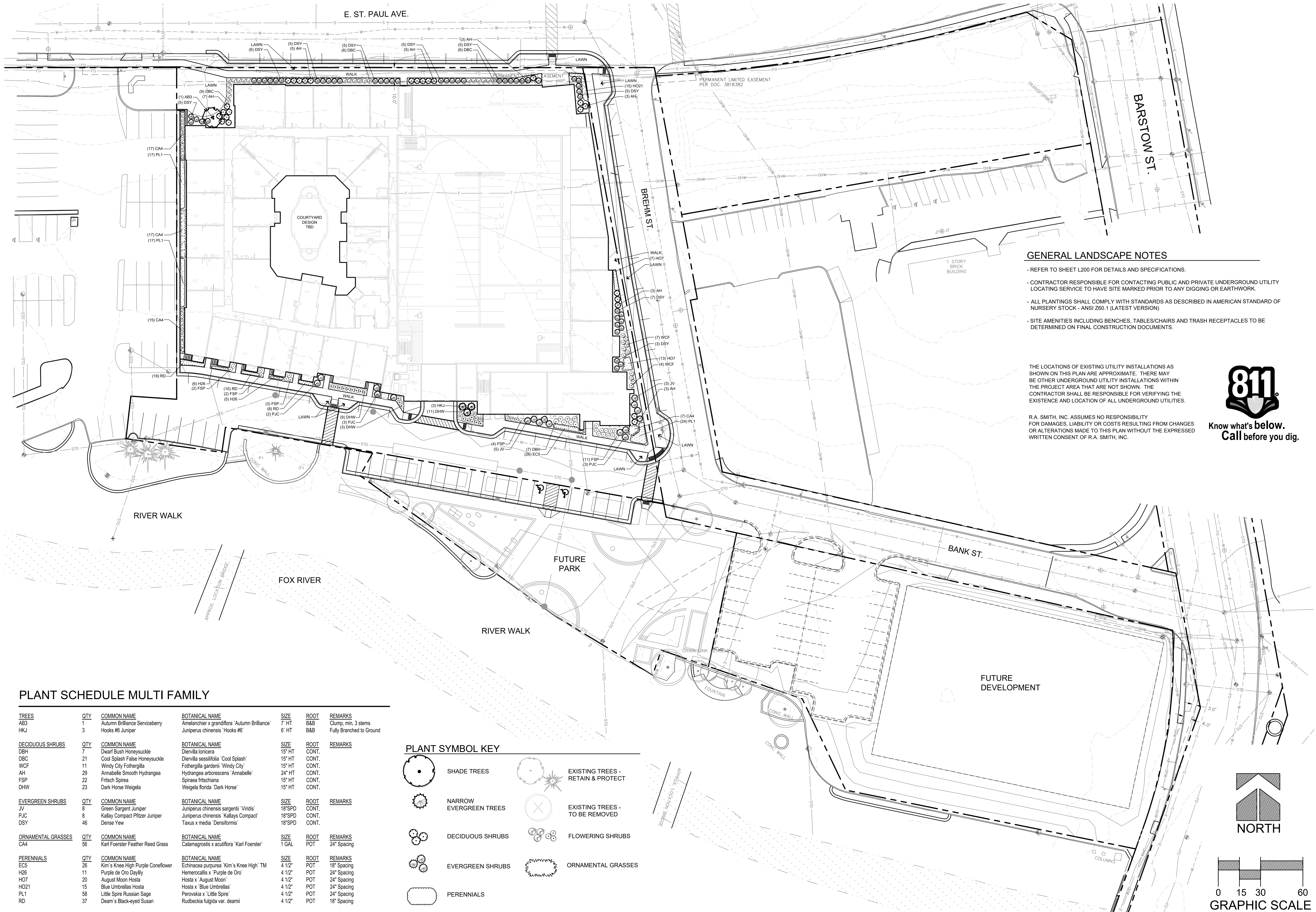
PROJECT MANAGER:
MATT P. KOCUREK, P.E.

DESIGNED BY: KMR

CHECKED BY: JJJ

SHEET NUMBER

C504



DESCRIPTION	
DATE	
16745 W. Bluemound Road Brookfield, WI 53005-5938 (262) 781-1000 rasmith.com	
raSmith CREATIVITY BEYOND ENGINEERING	
Brookfield, WI Appleton, WI Madison, WI Cedarburg, WI Mount Pleasant, WI Naperville, IL Pittsburgh, PA Irvine, CA	

EAST ST. PAUL AVENUE APARTMENTS CITY OF WAUKESHA, WI	PRELIMINARY LANDSCAPE PLAN
© COPYRIGHT 2019 R.A. Smith, Inc. DATE: 07/29/2019 SCALE: 1" = 30' JOB NO. 3170302 PROJECT MANAGER: MATT P. KOCOUREK, P.E. DESIGNED BY: LJH/ALS CHECKED BY: LJH SHEET NUMBER L100	

Diagram illustrating the process of planting a tree, showing the tree structure and the planting hole details. The diagram includes the following callouts:

- Prune tree as needed-methods vary depending on species and time of season
- Wrap tree in fall if required
- Each tree must be planted such that the trunk flare is visible at the top of the root ball. Trees where the trunk flare is not visible shall be rejected. Do not cover the top of the root ball with soil.
- Remove burlap, twine and wire cage from top 1/3 of root ball - score remaining 2/3 of burlap once tree is in place and remove twine, carefully bend down remaining wire to bottom of hole.
- Mulch over soil ring-do not build up mulch onto trunk of tree
- Dig hole 2x wider than dia. of root ball
- Back fill with specified soil-avoid air pockets (see specifications)
- Existing subgrade

NOT TO SCALE

Each tree must be planted such that the trunk flare is visible at the top of the root ball. Trees where the trunk flare is not visible shall be rejected. Do not cover the top of the root ball with soil.

Remove burlap, twine and wire cage from top 1/3 of root ball - score remaining 2/3 of burlap once tree is in place and remove twine - carefully bend down remaining wire to bottom of hole

Mulch over soil ring-do not build up mulch onto trunk of tree

Dig hole 2x wider than dia. of root ball

Back fill with specified soil - avoid air pockets (see specifications)

Existing subgrade

4 NOT TO SCALE

Bedlines are to be cut crisp as per plan, a clean definition between turf and plant bed is required.

Top of mulch to be flush with turf

The diagram is a cross-section showing a landscape bed. On the left, a layer of mulch is indicated by a cross-hatch pattern. To its right is a layer of turf, indicated by a horizontal line pattern. A vertical dimension line between the top of the mulch and the top of the turf is labeled '3"'. A diagonal line, representing a bedline, separates the mulch and turf. A tool, possibly a trowel or straightedge, is shown cutting this bedline. Labels with arrows point to the 'Mulch' and 'Turf' areas. The text 'Top of mulch to be flush with turf' is written above the mulch area. The text 'Bedlines are to be cut crisp as per plan, a clean definition between turf and plant bed is required.' is written above the bedline.

NOT TO SCALE

2"x2"x24"

Wood stakes

Rubber hose

Root ball

Planting mix

PLAN VIEW

approx. 120°

Rubber hose-affix above first crotch of tree

Yellow poly rope

45°

2"x2"x24" Notched wood stakes-3 per tree-set into solid ground

2

NOT TO SCALE

P-PL-TREE-DEC-03

2"x2"x24" Wood stakes

Rubber hose

Root ball

Planting mix

PLAN VIEW

approx. 120°

Rubber hose-affix directly above crotch

Yellow poly rope - avoid disturbing tree branches during installation

2"x2"x24" Notched wood stakes-3 per tree-set into solid ground

5 NOT TO SCALE P-PL-TREE-EVER-02

Planting mix

Root ball

Belt strapping

Wood stake
3" dia. cedar

Woven cloth belt strapping nail to stake

3" dia. cedar wood stakes - cut to same height

EQUAL

SECTION VIEW

PLAN VIEW

NOTE:
Do not let stakes touch sides of root ball

NOT TO SCALE

P-PL-TREE-DEC-01

- Prune cut dead and broken branches - retain natural plant shape
- Plant at same depth as previous level
- Do not bury any bottom branches
- Install 2 slow release fertilizer packets per B&B shrub and 1 per potted shrub, adjacent to root ball.
- Prune out any brown branches
- Dig hole 2x wider than dia. of root ball
- Finished grade-mulch level
- Planting mix (see specifications)

Container grown

Balled & Burlapped

Carefully remove from plastic pot and score roots 1" deep with a sharp knife

Remove burlap and twine from top 1/3 of root ball and score remaining 2/3

NOT TO SCALE

1. Contractor responsible for contacting public and private underground utility locating service to have site marked prior to any digging or earthwork.
2. Contractor to verify all plant quantities shown on plant list and verify with plan. Report any discrepancies immediately to general contractor.
3. All plantings shall comply with standards as described in American Standard of Nursery Stock - ANSI Z60.1 (latest version). General contractor or owner's representative reserves the right to inspect and potentially reject any plants that are inferior, compromised, undersized, diseased, improperly transported, installed incorrectly or damaged.
4. Any potential plant substitutions must be submitted in writing and approved by the general contractor or owner's representative prior to installation. All plants must be installed as per sizes shown on plant material schedule, unless approved by general contractor or owner's representative.
5. All seeded areas and planting beds require topsoil to be placed within 3" of finish grade during rough grading operations. All parking lot islands require topsoil placed to a minimum depth of 18" to insure long term plant health. These requirements should be coordinated between the general contractor, grading contractor and landscape contractor.
6. The landscape contractor to be responsible for placing a minimum depth of 3" of blended, prepared and non-compacted topsoil in all seeded areas. The fine grading of planting beds and parking lot islands may require additional topsoil to bring to finish grade. Finished landscaped areas to be smooth, uniform and provide positive drainage away from all structures and pavement.
7. Tree planting (see planting detail):
Plant all trees slightly higher than finished grade at root flare. Remove excess soil from top of root ball, if needed. Scarify side walls of tree pit prior to installation. Remove and discard non-biodegradable bark wrapping and support wire. Remove biodegradable burlap and wire cage (if applicable) from top one-third of rootball. Carefully bend remaining wire down to the bottom of hole once the tree has been placed into the hole and will no longer be moved. Score the remaining two-thirds of burlap and remove twice. Backfill pit with 80% existing soil removed from excavation and 20% plant starter mix blended prior to backfilling holes. Discard any gravel, heavy day or stones. Avoid any air pockets and do not tamp soil down. When hole is two-thirds full, trees shall be watered thoroughly, and water left to soak in before proceeding.

Provide a 3" deep, 4 ft. diameter shredded hardwood bark mulch ring around all lawn trees. Do not build up any mulch onto trunk of any tree. Trees that are installed incorrectly will be replaced at the time and expense of the landscape contractor. Stake trees according to the staking detail.
8. Shrub planting: all shrubs to be pocket planted with a 50/50 mix of plant starter and topsoil. Install topsoil into all plant beds as needed to achieve proper grade and replace undesirable soil (see planting detail). Remove all excessive gravel, clay and stones from plant beds prior to planting. When hole is two-thirds full, shrubs shall be watered thoroughly and water left to soak in before proceeding.
9. Mulching: all tree and shrub planting beds to receive a 3" deep layer of high quality shredded hardwood bark mulch (not environmental). All perennial planting areas to receive a 2" layer of mulch and groundcover areas a 1-2" layer of the same mulch. Do not mulch annual flower beds (if applicable). Do not allow mulch to contact plant stems and tree trunks.
10. Edging: edge all planting beds with a 4" deep spaded edge (shovel cut or mechanical). Bedlines are to be cut crisp, as per plan. A clean definition between lawn area and plant bed is required.
11. Plant bed preparation: all perennial, ornamental grass, annual and groundcover areas are required to receive a blend of organic soil amendments prior to installation. Rototill the following materials, at the ratio given, into the required 18" of topsoil to a depth of approx. 8":

Per every 100 square feet of bed area add:
2 cu. ft. bale of peat moss
2 lbs. of 5-10-5 slow release fertilizer
1/4 cu. yard of composted manure
12. Lawn installation for all seeded turfgrass areas: remove / kill off any existing unwanted vegetation prior to seeding. Prepare the topsoil and seed bed by removing all surface stones 1" or larger and grading lawn areas to finish grade. Apply a starter fertilizer and specified seed uniformly and provide mulch covering suitable to germinate and establish turf. Provide seed and fertilizer mix information to general contractor prior to installation. Erosion control measures are to be used in swales and on steep grades, where applicable. Methods of installation may vary at the discretion of the landscape contractor on his/her responsibility to establish and guarantee a smooth, uniform, quality turf. A minimum depth of 3" of blended, prepared and non-compacted topsoil is required for all lawn areas. If straw mulch is used as a mulch covering, a tackifier may be necessary to avoid wind damage. Marsh hay containing red canary grass is not acceptable as a mulch covering.

An acceptable quality turf is defined as having no more than 10% of the total area with bare spots larger than 1 square foot and uniform coverage throughout all turf areas.
13. Seed mix for lawn areas - use only a premium quality seed mix installed at recommended rates. Premium blend seed mix example (or equivalent): 50% blended bluegrass, 25% creeping red fescue, 25% perennial rye applied at 5 lbs per 1,000 SF. Provide seed specifications to general contractor prior to installation.
14. Lawn installation for all sodded turfgrass areas: remove / kill off any existing unwanted vegetation prior to sodding. Prepare the topsoil and sod bed by removing all surface stones 1" or larger and grading lawn areas to finish grade. Apply a 10-10-10 starter fertilizer uniformly throughout areas prior to laying the sod. Use only premium sod blend according to TPI (revised 1995) and ASPA standards. Install sod uniformly with staggered joints, laid tightly end to end and side to side. Roll sod with a walk behind roller and water immediately upon installation to a 3" depth. Stake any sod installed on steep slopes or in swales, etc. Landscape contractor is responsible to provide a smooth, uniform, healthy turf, and is responsible for the first two mowings of the newly installed turf, and is also responsible for the required watering during this period.
15. Warranty and replacements: Trees, evergreens, and shrubs to be guaranteed (100% replacement) for a minimum of one (1) year from the date of substantial project completion. Perennials, groundcovers, and ornamental grasses to be guaranteed for a minimum of one growing season from the date of substantial project completion. Perennials, groundcovers, and ornamental grasses planted after September 1st shall be guaranteed through May 31st of the following year. Only one replacement per plant will be required during the warranty period, except for losses or replacements due to failure to comply with specified requirements.
16. The landscape contractor is responsible for the watering and maintenance of all landscape areas at time of planting and throughout construction until the substantial completion of the installation and acceptance by the owner. This includes all trees, shrubs, evergreens, perennials, ornamental grasses and turf grass. Work also includes weeding, edging, mulching (only if required), fertilizing, trimming, sweeping up grass clippings, pruning and deadheading.
17. Project completion: upon substantial completion of the project, the landscape contractor is responsible to conduct a final review with the owner's representative and the general contractor to answer questions and insure that all specifications have been met. The landscape contractor is to provide watering and general ongoing maintenance instructions (in writing) for the new plantings and lawn to the owner and general contractor.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THIS PLAN ARE APPROXIMATE. THERE MAY BE OTHER UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES.

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