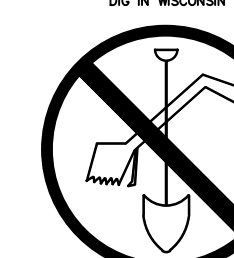


- LEGEND:**
- SECTION 1/4 SECTION LINE
 - PROPERTY LINE
 - - - EASEMENT
 - X-X- CHAIN LINK FENCE
 - ~ ~ ~ TREE LINE
 - OH OH OVERHEAD UTILITY LINE
 - E E ELECTRIC
 - T T TELEPHONE
 - FO FO FIBER OPTIC
 - CTV CTV CABLE TV
 - SAN SAN SANITARY SEWER
 - FM FM FORCE MAIN
 - ST ST STORM SEWER
 - W W WATER MAIN
 - G G GAS
 - EXISTING CONTOUR
 - MANHOLE
 - ⊞ CATCH BASIN
 - ⊞ CATCH BASIN (ROUND)
 - ROOF DRAIN
 - ⊗ HYDRANT
 - ⊗ WATER VALVE
 - ⊗ GAS VALVE
 - ⊗ UTILITY POLE
 - ⊗ GUY WIRE
 - ⊗ GAS METER
 - ⊗ ELECTRIC METER
 - ⊗ UTILITY PEDESTAL
 - ⊗ TRAFFIC SIGNAL
 - ⊗ LIGHT POLE
 - ⊗ SOIL BORING
 - ⊗ MONITORING WELL
 - IRON PIPE FOUND/SET
 - REBAR FOUND/SET
 - ⊗ CHISEL CROSS FOUND/SET
 - ⊗ PK NAIL FOUND/SET
 - SPIKE/NAIL
 - ⊗ MONUMENT
 - ⊗ BENCHMARK
 - ⊗ SIGN
 - DECIDUOUS TREE
 - ⊗ CONIFEROUS TREE
 - BUSH
 - ⊗ POST

GENERAL NOTES:

1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
2. VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
3. DRAWING IS BASED ON FIELD SURVEY COMPLETED BY THE SIGMA GROUP ON JANUARY 2020.
4. DATUM FOR THE PROJECT SURVEY IS USGS NGVD 29. BENCHMARK FOR THE PROJECT SURVEY IS NORTH 1/4 CORNER OF SECTION 24-3-21, BRASS CAPPED MONUMENT. ELEVATION 793.68.
5. CONTRACTOR TO VERIFY EXISTING CONDITIONS, CONTACT ENGINEER WITH DISCREPANCIES.

TO OBTAIN LOCATIONS OF
 PIPES FOR METEOROLOGICAL
 FACILITIES BEFORE YOU
 DIG IN RECORD



CALL DIGGERS HOTLINE
 1-800-242-8511
 TOLL FREE

WS STATUTE 182.0170(874)
 REQUIRES 30 MIN. 24 HRS
 NOTICE BEFORE YOU EXCAVATE
 MILW. AREA 259-1181

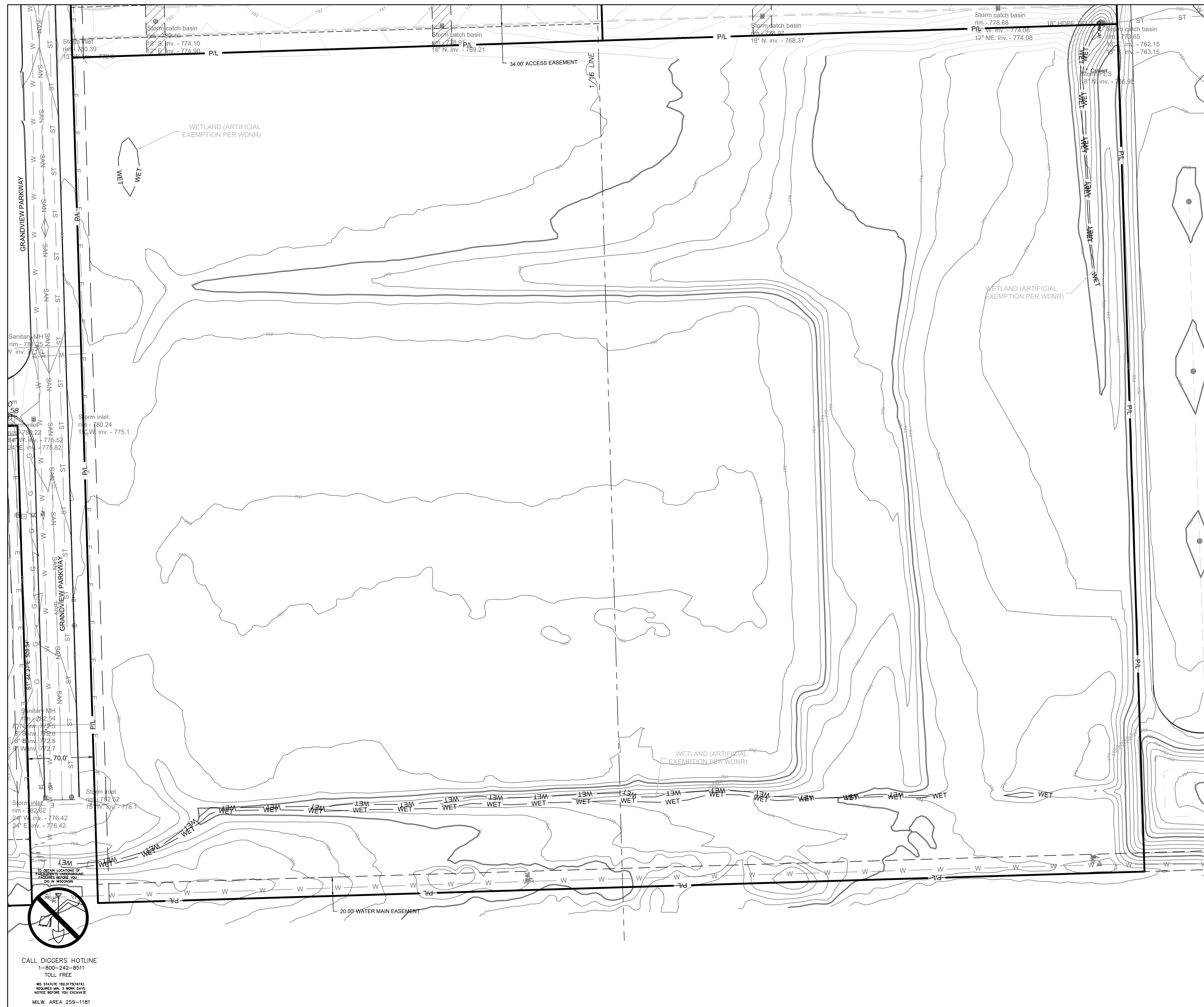
THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.

**GRANDVIEW BUSINESS PARK - SITE II
 YORKVILLE, WISCONSIN
 OVERALL SITE SURVEY**

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO.	19167_SURVEY.DWG
DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO.:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	

C001



- LEGEND:**
- SECTION 1/4 SECTION LINE
 - PROPERTY LINE
 - EASEMENT
 - x-x-x- CHAIN LINK FENCE
 - ~~~~~ TREE LINE
 - OH OH OVERHEAD UTILITY LINE
 - E E ELECTRIC
 - T T TELEPHONE
 - FO FO FIBER OPTIC
 - CTV CTV CABLE TV
 - SAN SAN SANITARY SEWER
 - FM FM FORCE MAIN
 - ST ST STORM SEWER
 - W W WATER MAIN
 - G G GAS
 - EXISTING CONTOUR
 - MANHOLE
 - CATCH BASIN
 - CATCH BASIN (ROUND)
 - ROOF DRAIN
 - HYDRANT
 - WATER VALVE
 - GAS VALVE
 - UTILITY POLE
 - GUY WIRE
 - GAS METER
 - ELECTRIC METER
 - UTILITY PEDESTAL
 - TRAFFIC SIGNAL
 - LIGHT POLE
 - SOIL BORING
 - MONITORING WELL
 - IRON PIPE FOUND/SET
 - REBAR FOUND/SET
 - CHISELED CROSS FOUND/SET
 - PK NAIL FOUND/SET
 - SPIKE/NAIL
 - MONUMENT
 - BENCHMARK
 - SIGN
 - DECIDUOUS TREE
 - CONIFEROUS TREE
 - BUSH
 - POST

- GENERAL NOTES:**
1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
 2. VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
 3. DRAWING IS BASED ON FIELD SURVEY COMPLETED BY THE SIGMA GROUP ON JANUARY 2020.
 4. DATUM FOR THE PROJECT SURVEY IS USGS NGVD 29 BENCHMARK FOR THE PROJECT SURVEY IS NORTH 1/4 CORNER OF SECTION 24-3-21, BRASS CAPPED MONUMENT. ELEVATION 793.68.
 5. CONTRACTOR TO VERIFY EXISTING CONDITIONS, CONTACT ENGINEER WITH DISCREPANCIES.

**GRANDVIEW BUSINESS PARK - SITE II
 YORKVILLE, WISCONSIN**

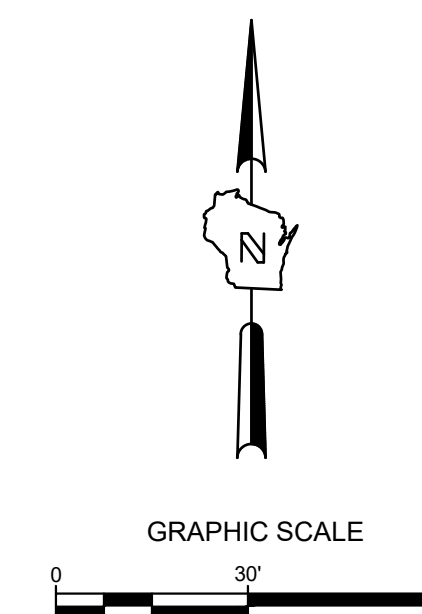
SURVEY - SITE A

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO.	19167_SURVEY.DWG
DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO.:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	

C001A

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.



- LEGEND:**
- SECTION 1/4 SECTION LINE
 - PROPERTY LINE
 - EASEMENT
 - X-X-X- CHAIN LINK FENCE
 - ~ ~ ~ TREE LINE
 - OH OH OVERHEAD UTILITY LINE
 - E E ELECTRIC
 - T T TELEPHONE
 - FO FO FIBER OPTIC
 - CTV CTV CABLE TV
 - SAN SAN SANITARY SEWER
 - FM FM FORCE MAIN
 - ST ST STORM SEWER
 - W W WATER MAIN
 - G G GAS
 - EXISTING CONTOUR
 - MANHOLE
 - IRON PIPE FOUND/SET
 - ⊕ CATCH BASIN
 - REBAR FOUND/SET
 - ⊗ CATCH BASIN (ROUND)
 - ⊗ CHISELED CROSS FOUND/SET
 - ⊕ ROOF DRAIN
 - ⊕ PK NAIL FOUND/SET
 - ⊕ HYDRANT
 - ⊕ SPIKE/NAIL
 - ⊕ WATER VALVE
 - ⊕ MONUMENT
 - ⊕ GAS VALVE
 - ⊕ BENCHMARK
 - ⊕ UTILITY POLE
 - ⊕ SIGN
 - ⊕ GUY WIRE
 - ⊕ DECIDUOUS TREE
 - ⊕ GAS METER
 - ⊕ CONIFEROUS TREE
 - ⊕ ELECTRIC METER
 - ⊕ BUSH
 - ⊕ UTILITY PEDESTAL
 - ⊕ POST
 - ⊕ TRAFFIC SIGNAL
 - ⊕ LIGHT POLE
 - ⊕ SOIL BORING
 - ⊕ MONITORING WELL

GENERAL NOTES:

1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
2. VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
3. DRAWING IS BASED ON FIELD SURVEY COMPLETED BY THE SIGMA GROUP ON JANUARY 2020.
4. DATUM FOR THE PROJECT SURVEY IS USGS NGVD 29 BENCHMARK FOR THE PROJECT SURVEY IS NORTH 1/4 CORNER OF SECTION 24-3-21, BRASS CAPPED MONUMENT. ELEVATION 793.68.
5. CONTRACTOR TO VERIFY EXISTING CONDITIONS. CONTACT ENGINEER WITH DISCREPANCIES.

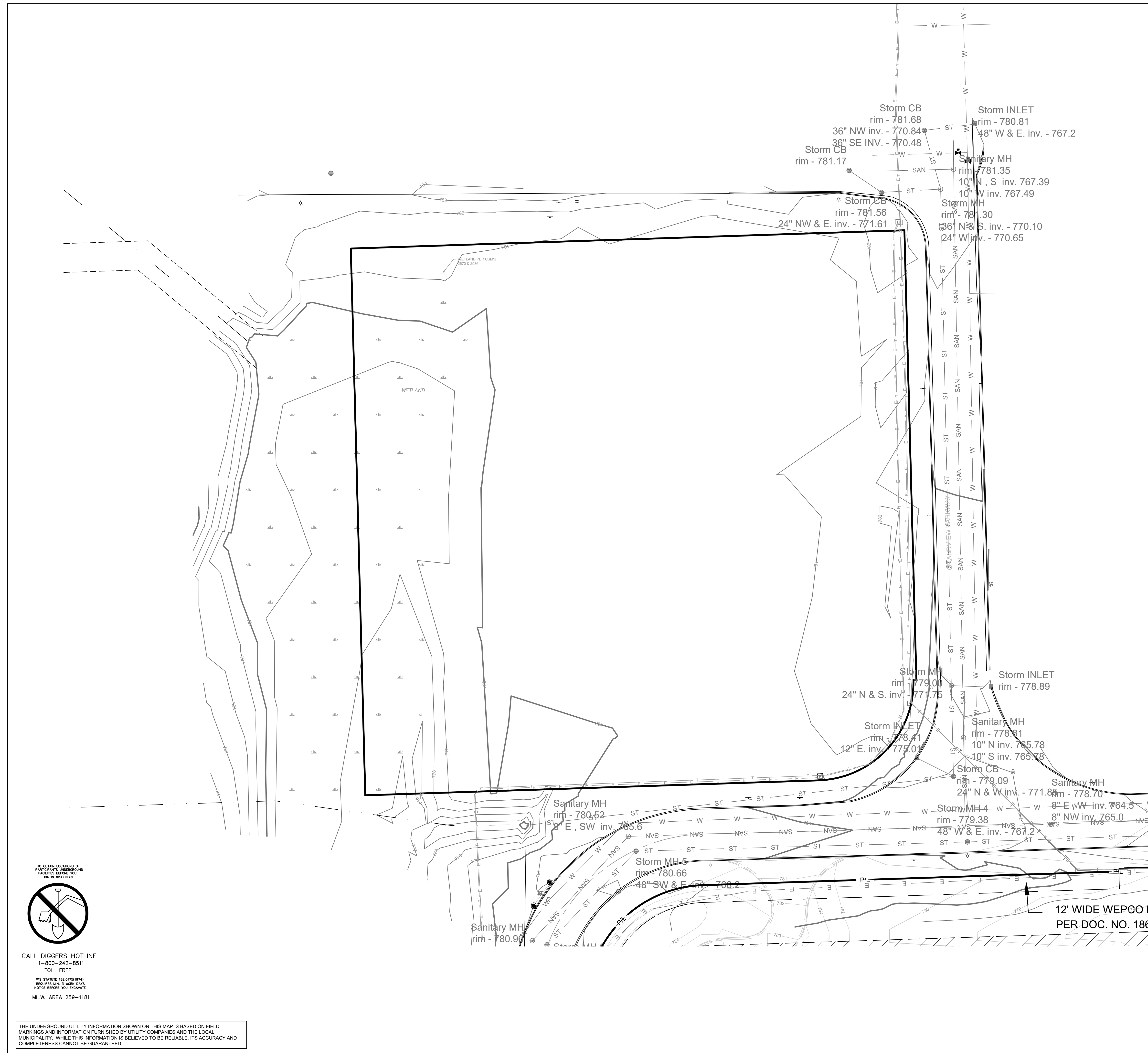
NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO.	19167_SURVEY.DWG
DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO.:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	

**GRANDVIEW BUSINESS PARK - SITE II
YORKVILLE, WISCONSIN**

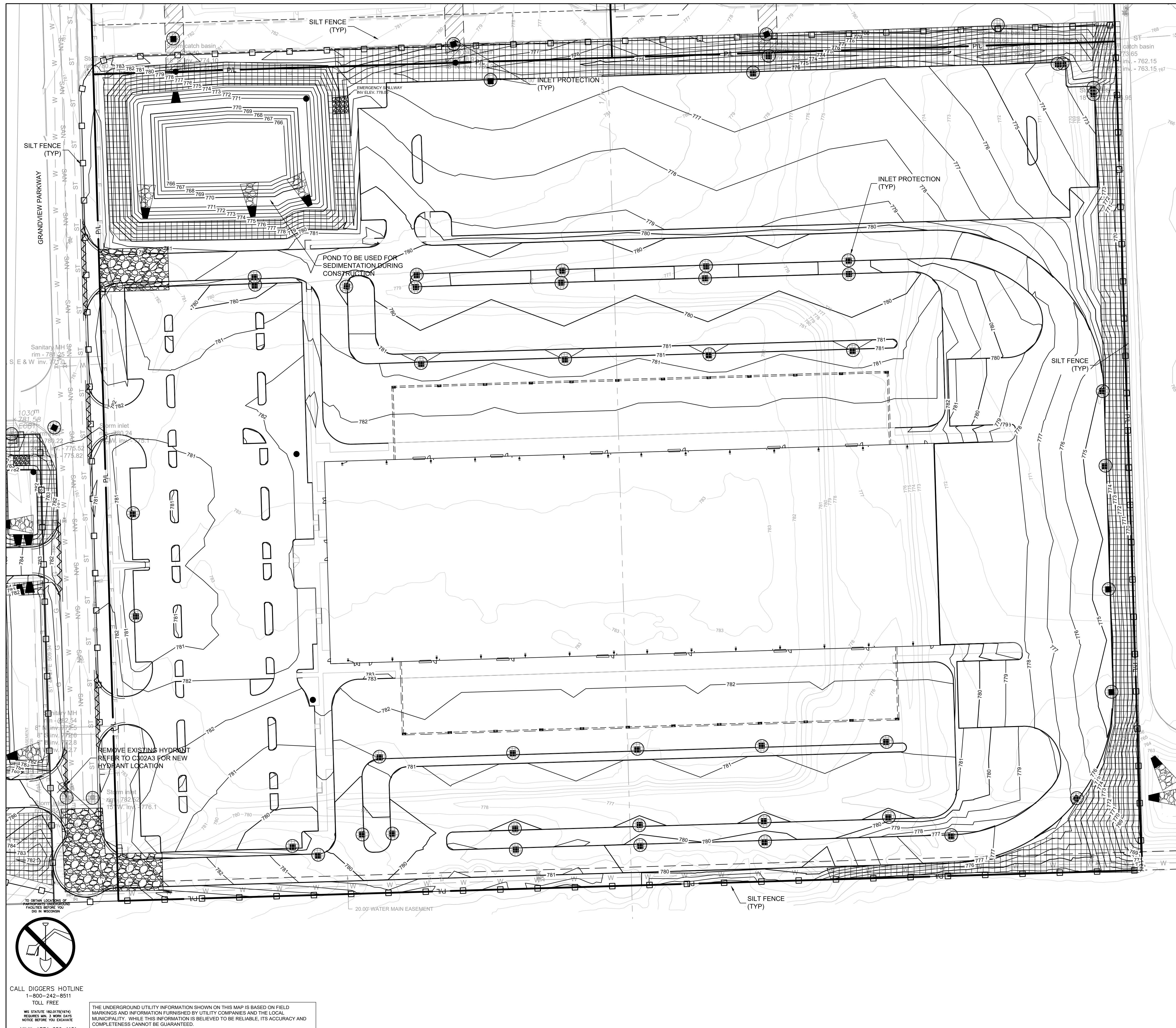
SURVEY - SITE C

C001C



CALL DIGGERS HOTLINE
 1-800-242-8511
 TOLL FREE
 WI STATE 182.0175(974)
 REQUIRES 3 WORK DAYS
 NOTICE BEFORE YOU EXCAVATE
 MILW. AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.



N

GRAPHIC SCALE
0 50' 100'

LEGEND:

- PROPOSED SILT FENCE (A C400)
- PROPOSED INLET PROTECTION (E C400)
- ▨ PROPOSED TRACKING PAD (B C400)
- ▩ PROPOSED DITCH CHECK EROSION BALES (D C400)
- ▧ PROPOSED EROSION MATTING WISDOT APPROVED CLASS 1 TYPE B (C C400)
- 5 — EXISTING CONTOUR
- 5 — PROPOSED CONTOUR
- ||||| UTILITY REMOVAL
- ⊗ STRUCTURE REMOVAL
- PAVEMENT REMOVAL
- 5 — PROPOSED SILT FENCE

- GENERAL NOTES:**
1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
 2. VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
 3. WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
 4. ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
 5. SEE SHEET C400 FOR A COMPLETE LIST OF EROSION CONTROL NOTES AND DETAILS. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO START OF LAND DISTURBING ACTIVITIES.
 6. DO NOT BEGIN LAND DISTURBING ACTIVITIES UNTIL AN EROSION CONTROL PERMIT IS OBTAINED FROM LOCAL JURISDICTION.

**GRANDVIEW BUSINESS PARK - SITE II
YORKVILLE, WISCONSIN**

**SITE PREPARATION AND EROSION
CONTROL PLAN - SITE A**

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

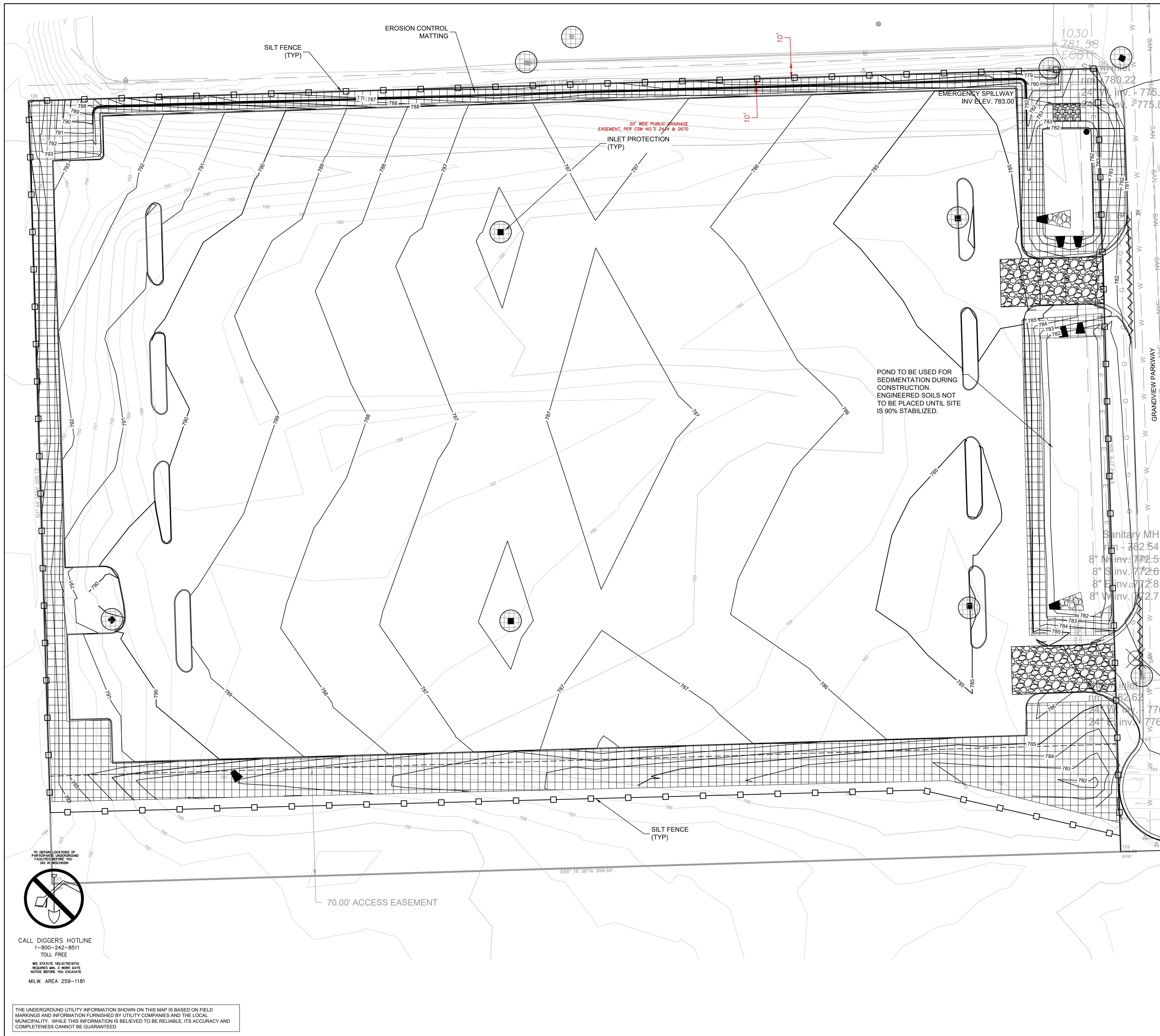
DRAWING NO.	19167_EROSION.DWG
DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	


C002A

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE

TO OBTAIN LOCATIONS OF UNDERGROUND UTILITY FACILITIES BEFORE YOU DIG IN WISCONSIN

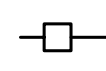






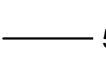
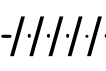


THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.





GRAPHIC SCALE
0 30' 60'

LEGEND:

-  PROPOSED SILT FENCE (A/C400)
-  PROPOSED INLET PROTECTION (E/C400)
-  PROPOSED TRACKING PAD (B/C400)
-  PROPOSED DITCH CHECK EROSION BALES (D/C400)
-  PROPOSED EROSION MATTING WISDOT APPROVED CLASS 1 TYPE B (C/C400)
-  5' EXISTING CONTOUR
-  5' PROPOSED CONTOUR
-  UTILITY REMOVAL
-  STRUCTURE REMOVAL
-  PAVEMENT REMOVAL
-  PROPOSED SILT FENCE

GENERAL NOTES:

- THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
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- WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
- ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
- SEE SHEET C400 FOR A COMPLETE LIST OF EROSION CONTROL NOTES AND DETAILS. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO START OF LAND DISTURBING ACTIVITIES.
- DO NOT BEGIN LAND DISTURBING ACTIVITIES UNTIL AN EROSION CONTROL PERMIT IS OBTAINED FROM LOCAL JURISDICTION.

**GRANDVIEW BUSINESS PARK - SITE II
 YORKVILLE, WISCONSIN**

**SITE PREPARATION AND EROSION
 CONTROL PLAN - SITE B**

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

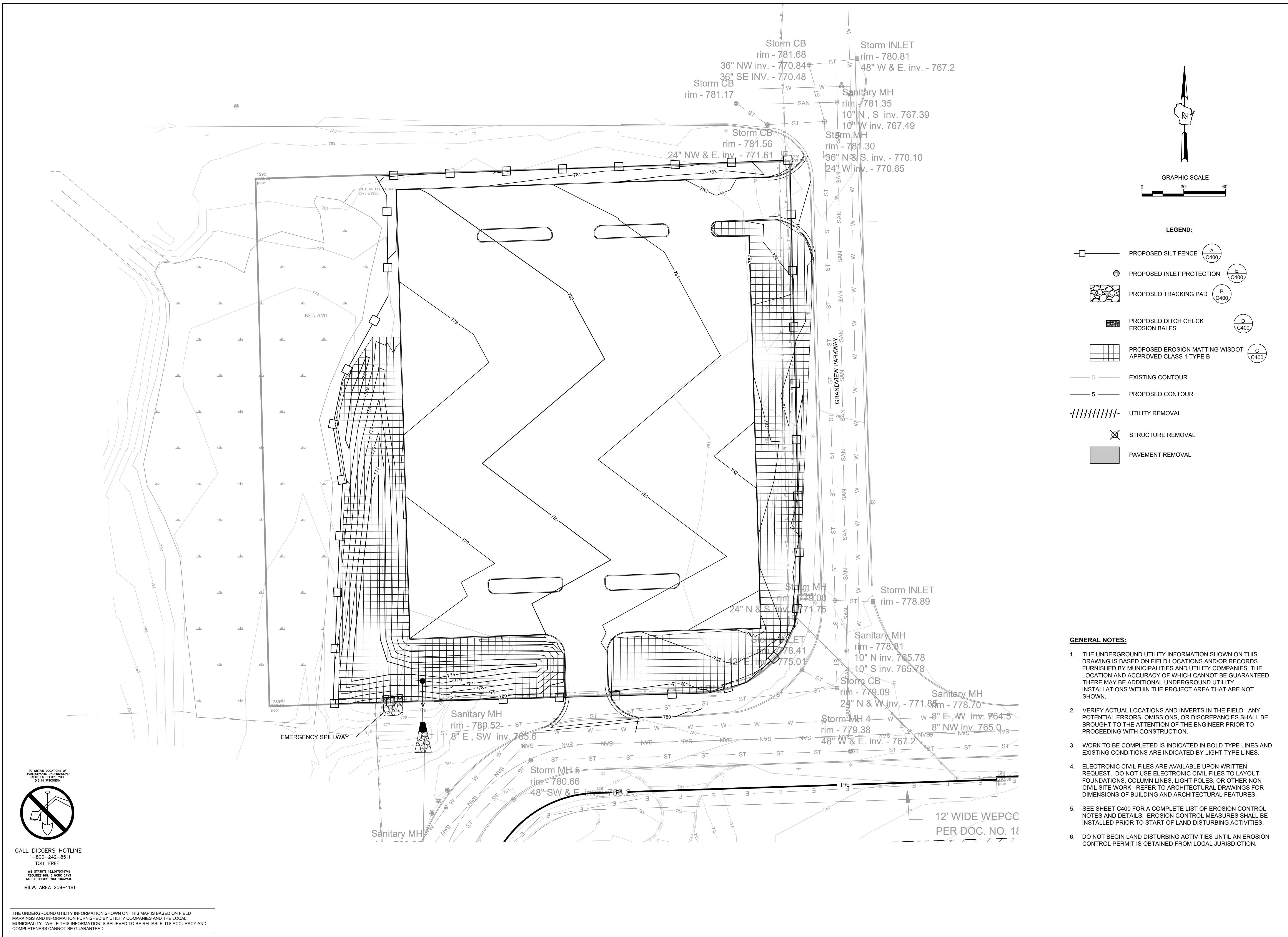
DRAWING NO.	19167_EROSION.DWG
DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	

C002B

CALL DIGGERS HOTLINE
 1-800-242-8511
 TOLL FREE

WI STATUTE 182.0175(1)(4)
 REQUIRES 48 HOURS NOTICE BEFORE YOU EXCAVATE
 MILW. AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.



LEGEND:

- PROPOSED SILT FENCE (A C400)
- PROPOSED INLET PROTECTION (E C400)
- PROPOSED TRACKING PAD (B C400)
- PROPOSED DITCH CHECK EROSION BALES (D C400)
- PROPOSED EROSION MATTING WISDOT APPROVED CLASS 1 TYPE B (C C400)
- EXISTING CONTOUR
- PROPOSED CONTOUR
- UTILITY REMOVAL
- STRUCTURE REMOVAL
- PAVEMENT REMOVAL

- GENERAL NOTES:**
- THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
 - VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
 - WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
 - ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
 - SEE SHEET C400 FOR A COMPLETE LIST OF EROSION CONTROL NOTES AND DETAILS. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO START OF LAND DISTURBING ACTIVITIES.
 - DO NOT BEGIN LAND DISTURBING ACTIVITIES UNTIL AN EROSION CONTROL PERMIT IS OBTAINED FROM LOCAL JURISDICTION.

**GRANDVIEW BUSINESS PARK - SITE II
 YORKVILLE, WISCONSIN
 SITE PREPARATION AND EROSION
 CONTROL PLAN - SITE C**

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO.	19167_EROSION.DWG
DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	

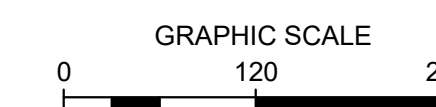
C002C

TO OBTAIN LOCATIONS OF PARTNERSHIP UNDERGROUND FACILITIES BEFORE YOU DIG IN RECORD

CALL DIGGERS HOTLINE
 1-800-242-8511
 TOLL FREE

WI STATUTE 182.0175(1)(4)
 REQUIRES 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE
 MILW. AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.



- LEGEND:**
- 5' THICK CONCRETE WALK (D C402)
 - CONCRETE PAVEMENT (C C402)
 - ASPHALT SURFACE (A C402)
 - ASPHALT SURFACE (HEAVY DUTY) (B C402)
 - BIOFILTRATION BASIN
 - CURB & GUTTER (ACCEPT) (E/F C402)
 - CURB & GUTTER (REJECT) (E C402)

TOTAL SITE INFORMATION:

TOTAL SITE = 1,352,435 S.F./31.05 AC
 EXISTING IMPERVIOUS AREA = 0.00 AC
 PROPOSED IMPERVIOUS AREA = 1,042,738 S.F./23.94 AC/77.1%
 TOTAL PARKING = 1,047 STALLS

GENERAL NOTES:

- THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
- WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
- ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
- DIMENSIONS ARE FROM FACE OF CURB OR EDGE OF PAVEMENT.
- WORK WITHIN THE PUBLIC RIGHT OF WAY, INCLUDING BUT NOT LIMITED TO DRIVEWAY OPENINGS, SIDEWALK AND RAMPS, PAVING, AND CURB AND GUTTER SHALL BE COMPLETED PER MUNICIPAL AND/OR COUNTY REQUIREMENTS AND STANDARDS.

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO. 19167_SITE.DWG

DRAWN BY: RT

DATE: 01-20-2020

PROJECT NO: 19167

CHECKED BY: TM

APPROVED BY: CTC

SHEET NO.:

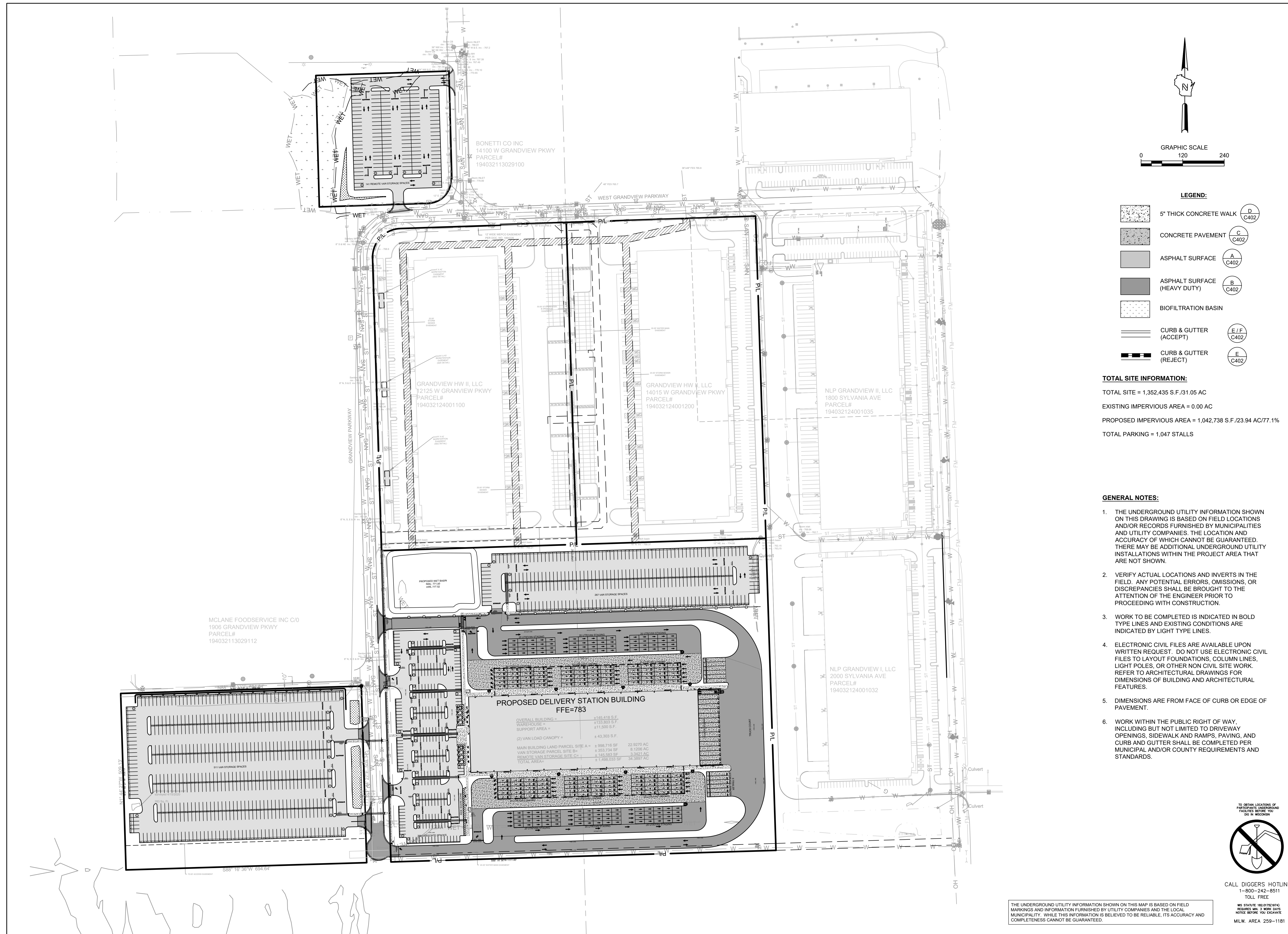
C100

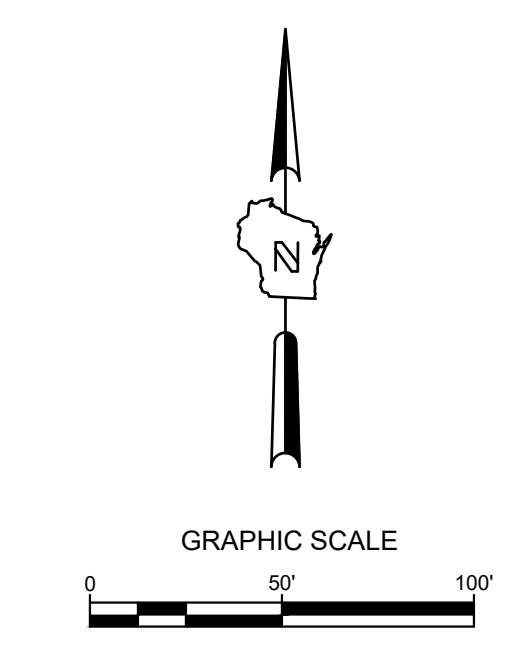
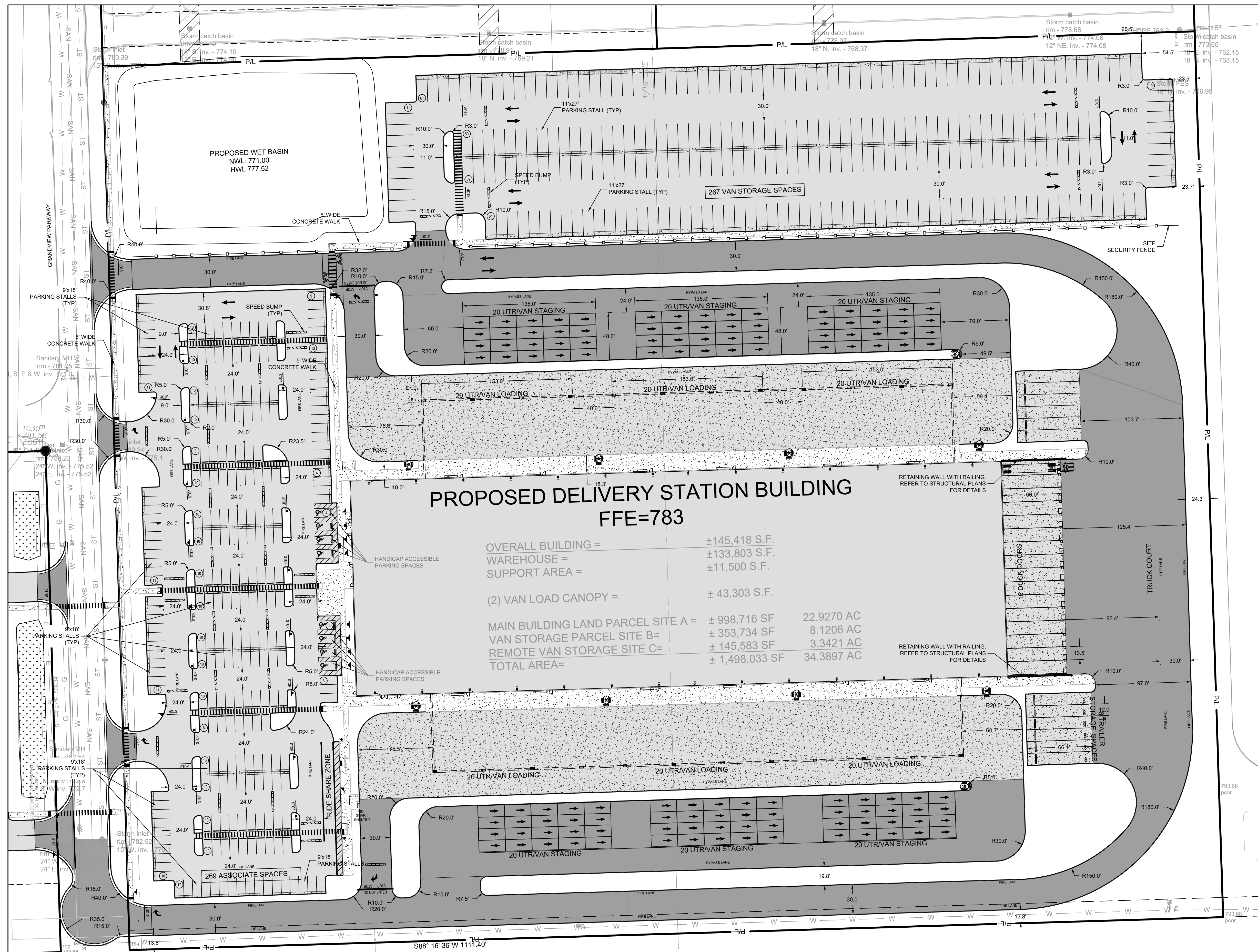


CALL DIGGERS HOTLINE
 1-800-242-8511
 TOLL FREE

MS STATUTE 182.07(1)(9)(b)
 REQUIRES 2 HOUR SAYS
 NOTICE BEFORE YOU EXCAVATE
 MILW. AREA 259-1181

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- LEGEND:**
- 5' THICK CONCRETE WALK (D C402)
 - CONCRETE PAVEMENT (C C402)
 - ASPHALT SURFACE (A C402)
 - ASPHALT SURFACE (HEAVY DUTY) (B C402)
 - BIOFILTRATION BASIN
 - CURB & GUTTER (ACCEPT) (E/F C402)
 - CURB & GUTTER (REJECT) (E C402)

SITE A INFORMATION:

TOTAL SITE = 998,701 S.F./22.92 AC
 EXISTING IMPERVIOUS AREA = 0.00 AC
 PROPOSED IMPERVIOUS AREA = 782,050 S.F./17.95 AC/78.31%
 TOTAL PARKING = 536 STALLS

- GENERAL NOTES:**
1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
 2. VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
 3. WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
 4. ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
 5. DIMENSIONS ARE FROM FACE OF CURB OR EDGE OF PAVEMENT.
 6. WORK WITHIN THE PUBLIC RIGHT OF WAY, INCLUDING BUT NOT LIMITED TO DRIVEWAY OPENINGS, SIDEWALK AND RAMPS, PAVING, AND CURB AND GUTTER SHALL BE COMPLETED PER MUNICIPAL AND/OR COUNTY REQUIREMENTS AND STANDARDS.

PROPOSED DELIVERY STATION BUILDING
FFE=783

OVERALL BUILDING =	±145,418 S.F.
WAREHOUSE =	±133,803 S.F.
SUPPORT AREA =	±11,500 S.F.
(2) VAN LOAD CANOPY =	± 43,303 S.F.
MAIN BUILDING LAND PARCEL SITE A =	± 998,716 SF 22.9270 AC
VAN STORAGE PARCEL SITE B =	± 353,734 SF 8.1206 AC
REMOTE VAN STORAGE SITE C =	± 145,583 SF 3.3421 AC
TOTAL AREA =	± 1,498,033 SF 34.3897 AC

GRANDVIEW BUSINESS PARK - SITE II
YORKVILLE, WISCONSIN

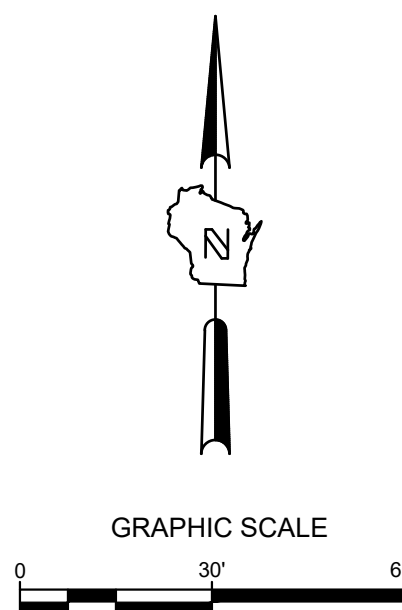
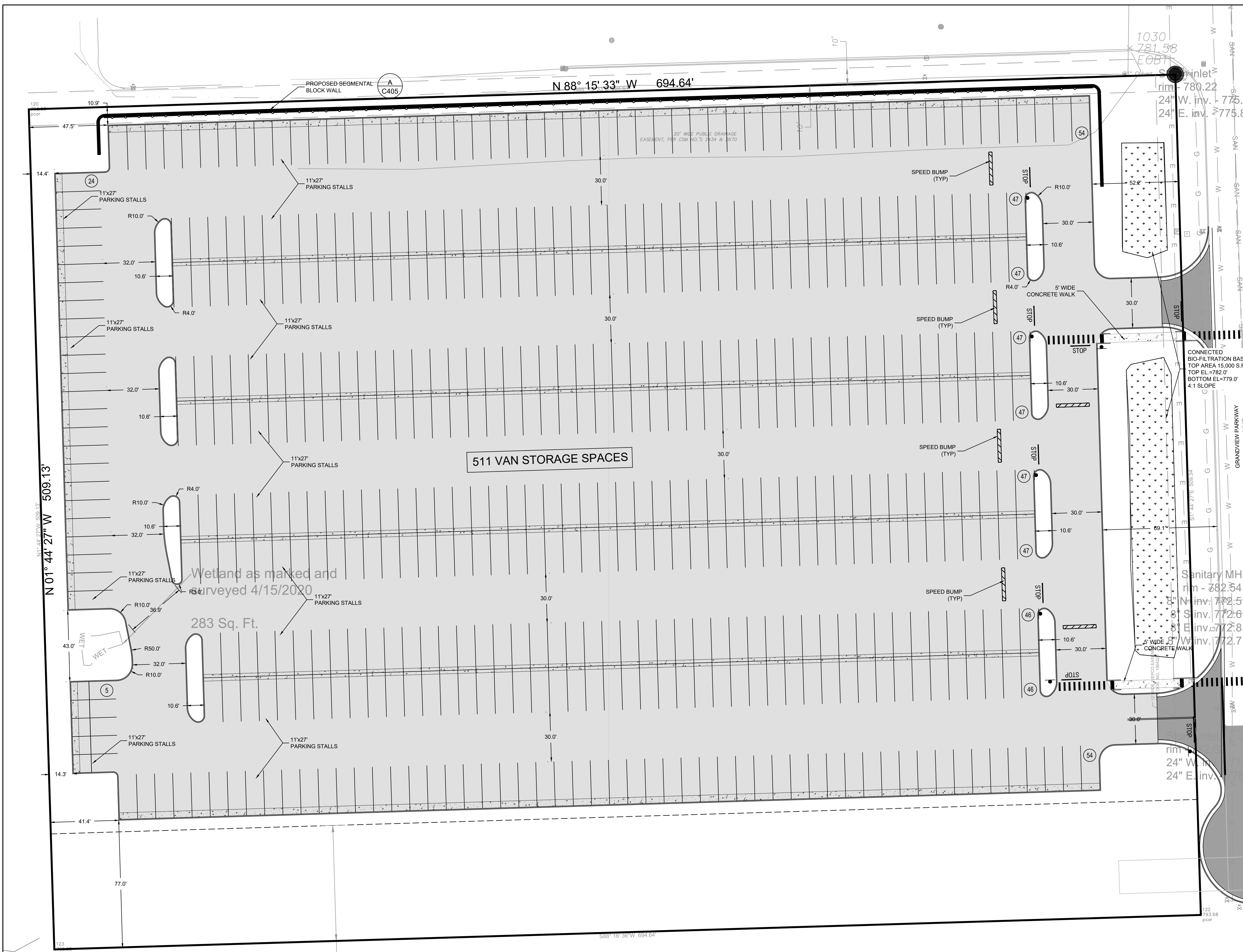
SITE PLAN - SITE A

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO.	19167_SITE.DWG
DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO.:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	



THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.



- LEGEND:**
- 5' THICK CONCRETE WALK (D C402)
 - CONCRETE PAVEMENT (C C402)
 - ASPHALT SURFACE (A C402)
 - ASPHALT SURFACE (HEAVY DUTY) (B C402)
 - BIOFILTRATION BASIN
 - CURB & GUTTER (ACCEPT) (E/F C402)
 - CURB & GUTTER (REJECT) (E C402)

SITE B INFORMATION:

TOTAL SITE = 353,734 S.F./8.12 AC
 EXISTING IMPERVIOUS AREA = 0.00 AC
 PROPOSED IMPERVIOUS AREA = 260,688 S.F./5.98 AC/73.70%
 TOTAL PARKING = 511 STALLS

- GENERAL NOTES:**
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**GRANDVIEW BUSINESS PARK - SITE II
 YORKVILLE, WISCONSIN
 SITE PLAN - SITE B**

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO.	19167_SITE.DWG
DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO.:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	



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LEGEND:

	5' THICK CONCRETE WALK	(D C402)
	CONCRETE PAVEMENT	(C C402)
	ASPHALT SURFACE	(A C402)
	ASPHALT SURFACE (HEAVY DUTY)	(B C402)
	BIOFILTRATION BASIN	(E/F C402)
	CURB & GUTTER (ACCEPT)	(E C402)
	CURB & GUTTER (REJECT)	(E C402)

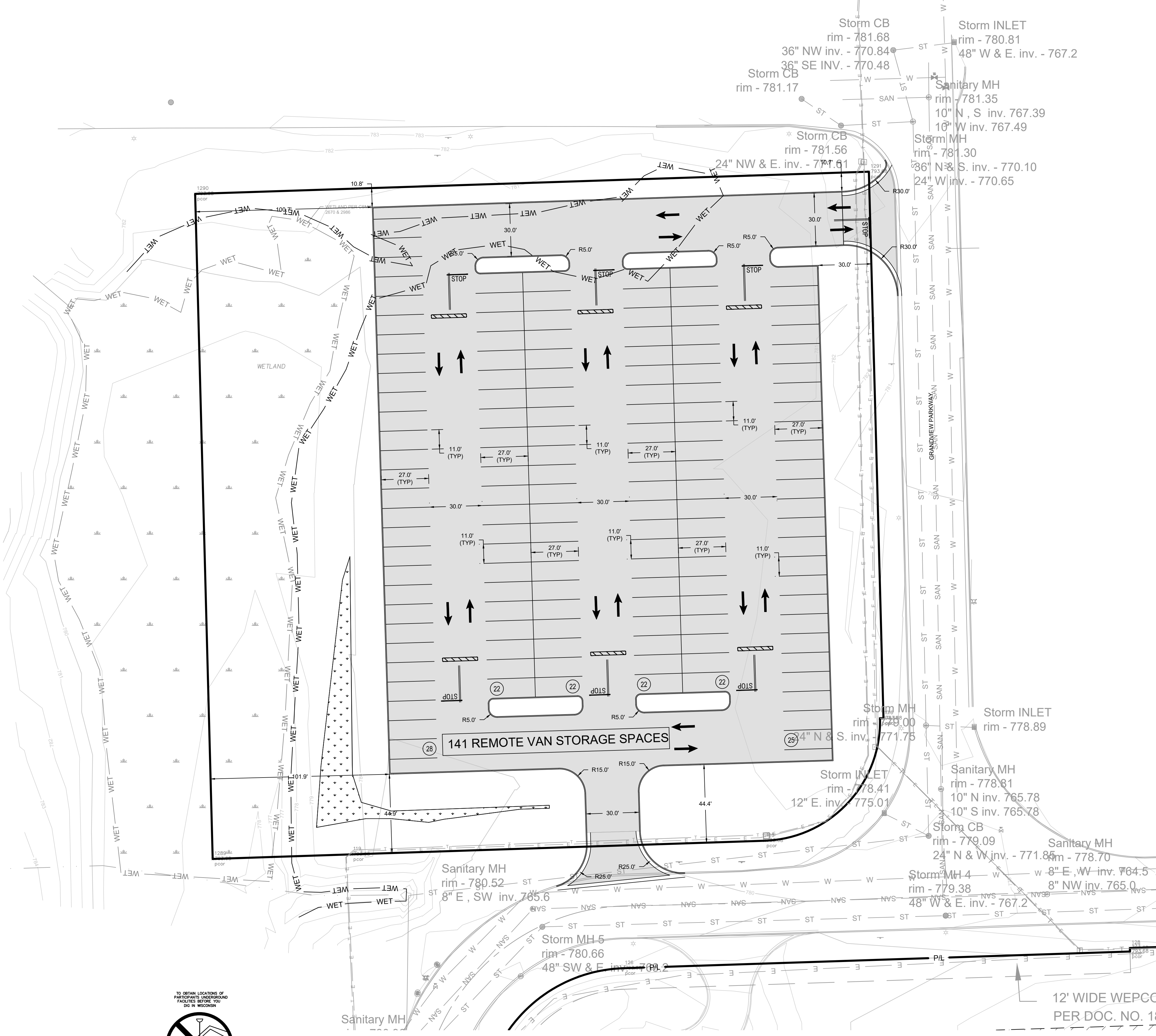
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**GRANDVIEW BUSINESS PARK - SITE II
 YORKVILLE, WISCONSIN
 SITE PLAN - SITE C**

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO.	19167_SITE.DWG
DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO.:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	

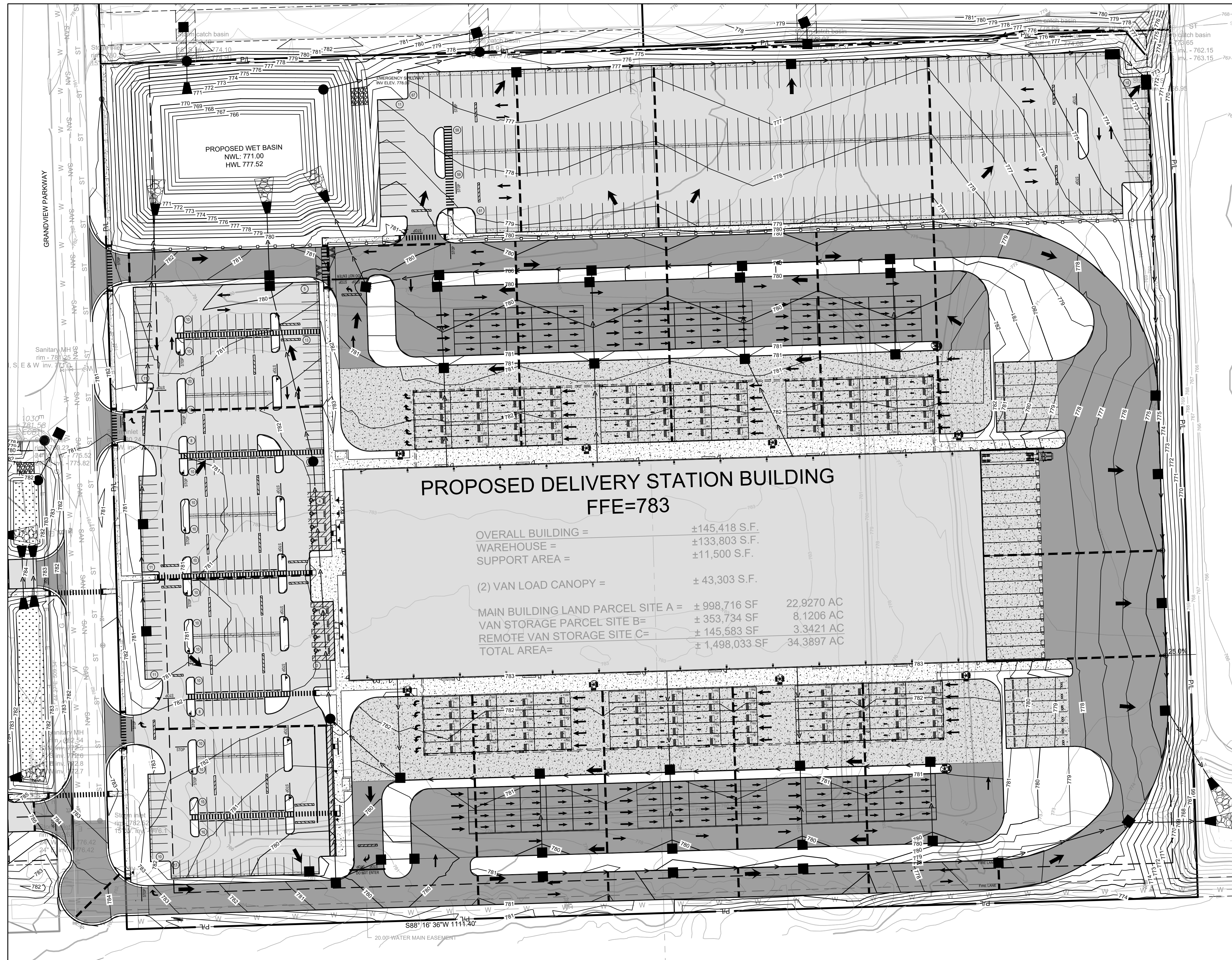
C100C



CALL DIGGERS HOTLINE
 1-800-242-9511
 TOLL FREE

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WIS STATUTE 182.017(2)(4)
 REQUIRES MIN. 3 WORK DAYS
 NOTICE BEFORE YOU DIG
 MILW. AREA 259-1181



LEGEND:

- 5" THICK CONCRETE WALK (D C402)
- CONCRETE PAVEMENT (C C402)
- ASPHALT SURFACE (A C402)
- ASPHALT SURFACE (HEAVY DUTY) (B C402)
- CURB & GUTTER (ACCEPT) (E/F C402)
- CURB & GUTTER (REJECT) (E C402)
- PROPOSED GRADE BREAK
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED CURB & GUTTER SPOT GRADE
T/C: TOP OF CURB GRADE
FL: FLOW LINE CURB GRADE
- PROPOSED ASPHALT SPOT GRADE
- EXISTING SURFACE SPOT GRADE (MATCH)
- 100-YR OVERLAND FLOW PATH

GENERAL NOTES:

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- EARTHWORK SHALL BE IN ACCORDANCE WITH GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

GRANDVIEW BUSINESS PARK - SITE II
YORKVILLE, WISCONSIN

GRADING PLAN - SITE A

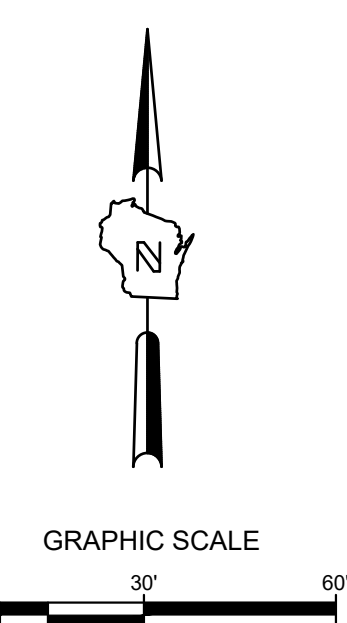
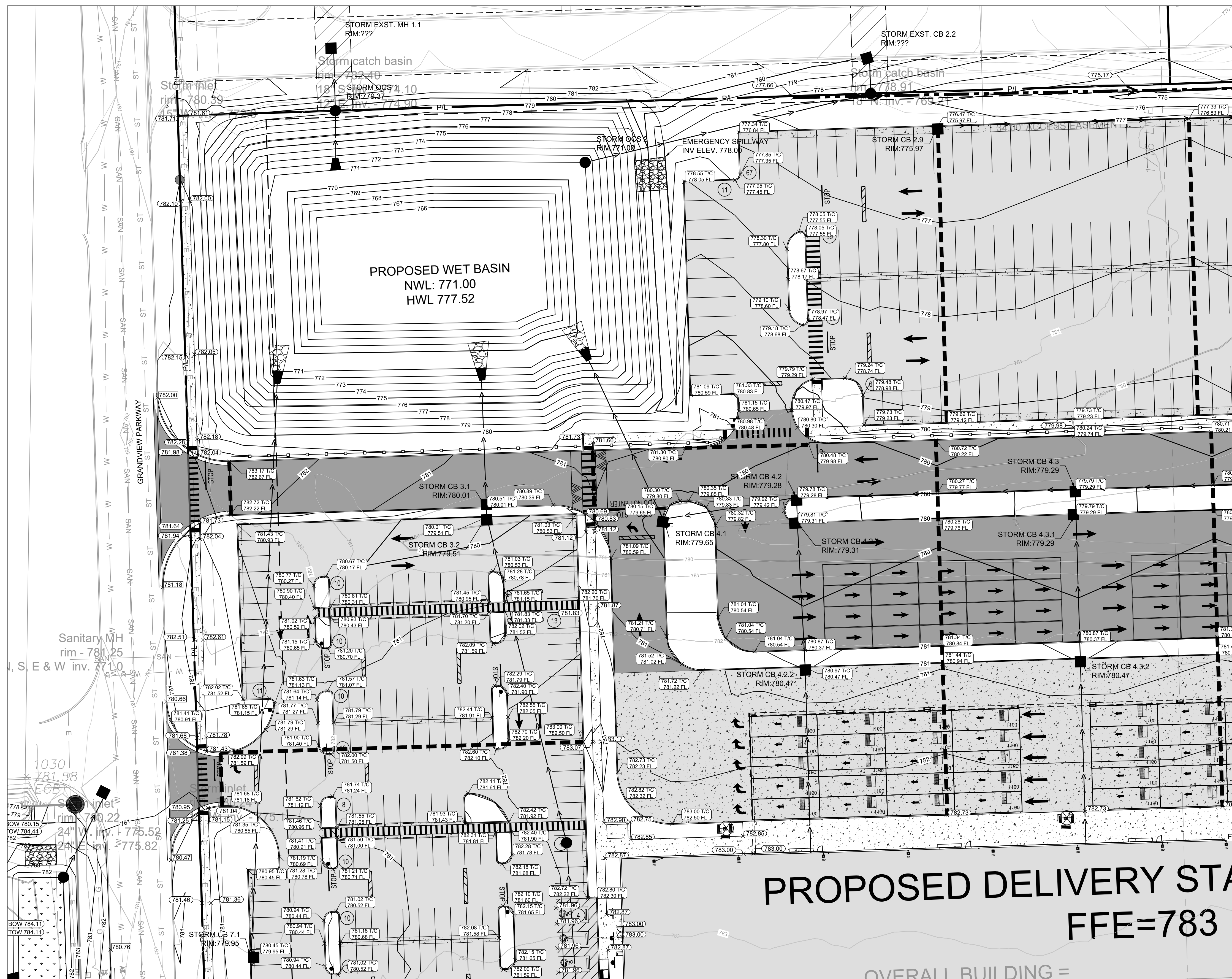
NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO.	19167_GRADING.DWG
DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO.:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	C201-A

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE

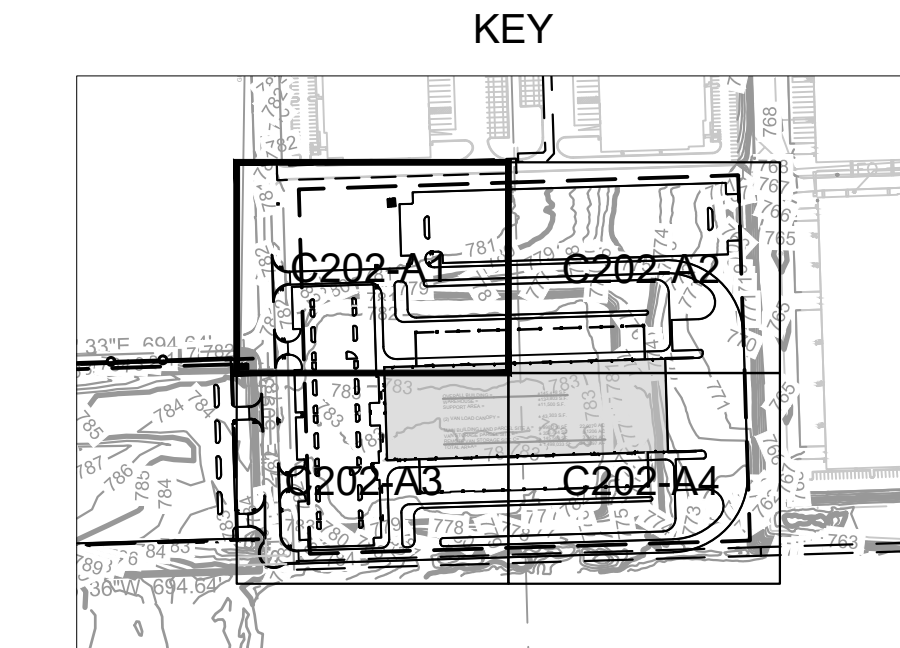
WE STRIKE 8:00PM-10:00PM
REQUIRES MIN. 3 WORK DAYS
NOTICE BEFORE YOU DIG/AWAY

MILWAUKEE AREA 259-1181



- LEGEND:**
- 5' THICK CONCRETE WALK (D C402)
 - CONCRETE PAVEMENT (C C402)
 - ASPHALT SURFACE (A C402)
 - ASPHALT SURFACE (HEAVY DUTY) (B C402)
 - CURB & GUTTER (ACCEPT) (E, F C402)
 - CURB & GUTTER (REJECT) (E C402)
 - PROPOSED GRADE BREAK
 - 5' EXISTING CONTOUR
 - 5' PROPOSED CONTOUR
 - PROPOSED CURB & GUTTER SPOT GRADE
T/C: TOP OF CURB GRADE
F/L: FLOW LINE CURB GRADE
 - PROPOSED ASPHALT SPOT GRADE
 - EXISTING SURFACE SPOT GRADE (MATCH)
 - 100-YR OVERLAND FLOW PATH

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CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE

NO OTHER LOGS/NOTES OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

MILW. AREA 259-1181

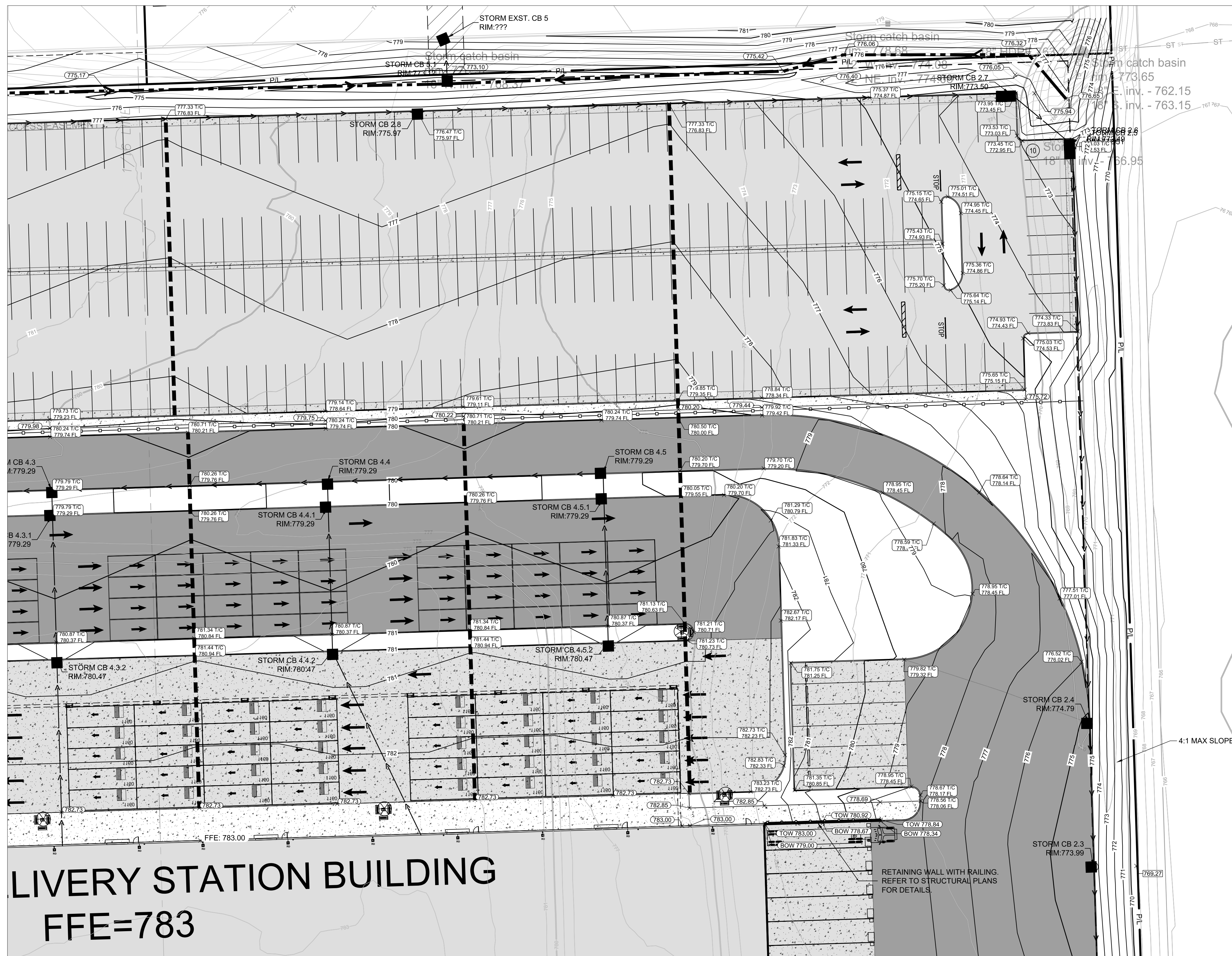
**GRANDVIEW BUSINESS PARK - SITE II
YORKVILLE, WISCONSIN**

GRADING PLAN - SITE A1

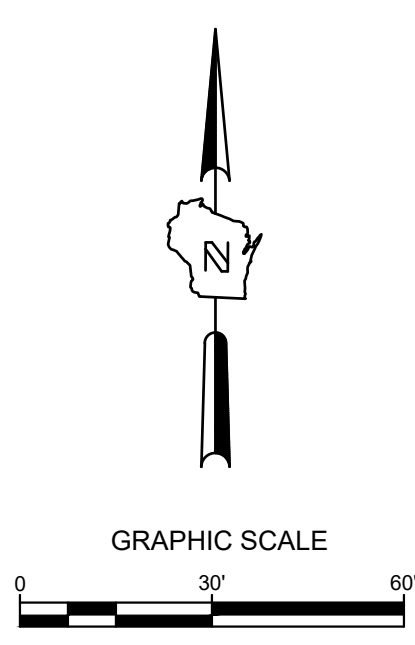
NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO.	19167_GRADING.DWG
DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO.:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	

C202-A1



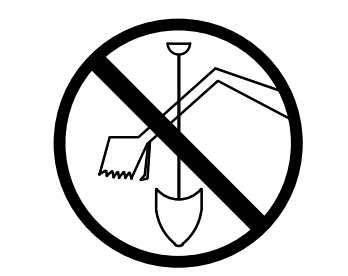
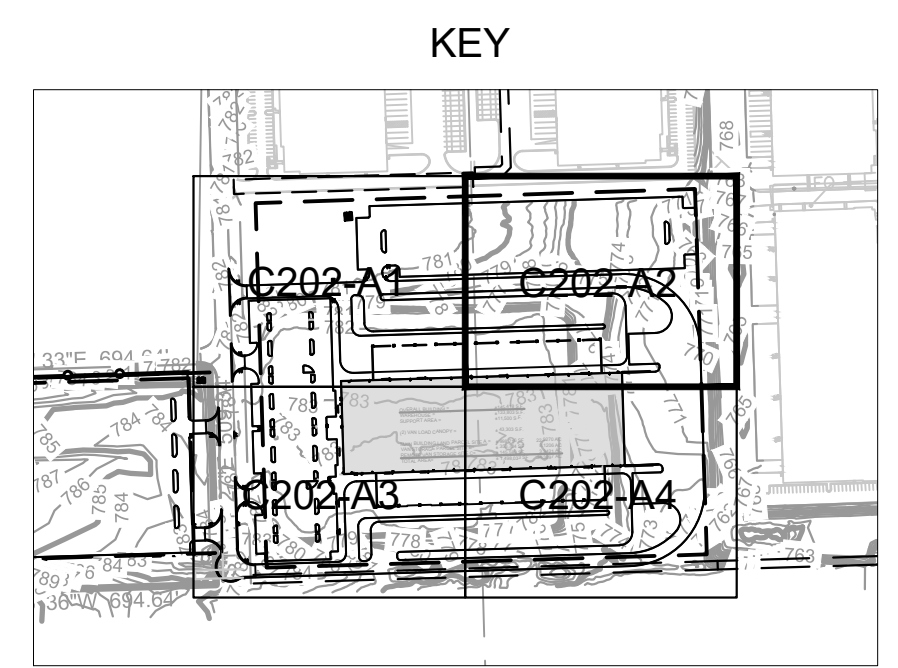
LIVERY STATION BUILDING
FFE=783



- LEGEND:**
- 5" THICK CONCRETE WALK (D/C402)
 - CONCRETE PAVEMENT (C/C402)
 - ASPHALT SURFACE (A/C402)
 - ASPHALT SURFACE (HEAVY DUTY) (B/C402)
 - CURB & GUTTER (ACCEPT) (E/F/C402)
 - CURB & GUTTER (REJECT) (E/C402)
 - PROPOSED GRADE BREAK
 - EXISTING CONTOUR
 - PROPOSED CONTOUR
 - PROPOSED CURB & GUTTER SPOT GRADE
T/C: TOP OF CURB GRADE
F/L: FLOW LINE CURB GRADE
 - PROPOSED ASPHALT SPOT GRADE
 - EXISTING SURFACE SPOT GRADE (MATCH)
 - 100-YR OVERLAND FLOW PATH

GENERAL NOTES:

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CALL DIGGERS HOTLINE
 1-800-242-8511
 TOLL FREE
WE STATUTE 182.07(9)(7a)
 REQUIRES 30' WORK ZONE
 NOTICE BEFORE YOU DIG
 MILW. AREA 259-1181

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NO.	REVISION	DATE	BY
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2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO.	19167_GRADING.DWG
DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO.:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	

GRANDVIEW BUSINESS PARK - SITE II
YORKVILLE, WISCONSIN

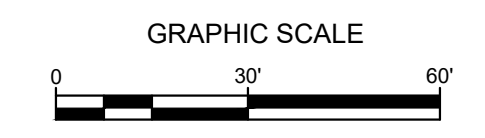
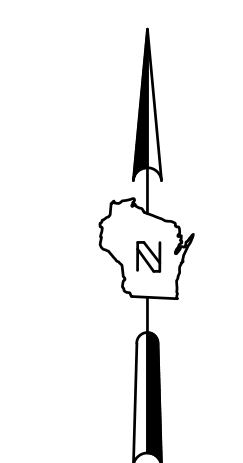
GRADING PLAN - SITE A2

C202-A2

PROPOSED DELIVERY ST FFE=783

OVERALL BUILDING =
 WAREHOUSE =
 SUPPORT AREA =
 (2) VAN LOAD CANOPY =

MAIN BUILDING LAND PARCEL SITE A
 VAN STORAGE PARCEL SITE B=
 REMOTE VAN STORAGE SITE C=
 TOTAL AREA=



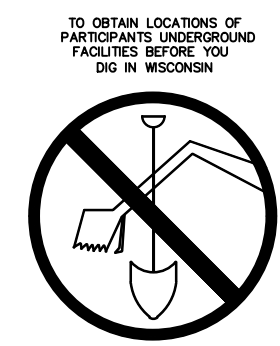
- LEGEND:**
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 - CONCRETE PAVEMENT (C C402)
 - ASPHALT SURFACE (A C402)
 - ASPHALT SURFACE (HEAVY DUTY) (B C402)
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 - CURB & GUTTER (REJECT) (E C402)
 - PROPOSED GRADE BREAK
 - EXISTING CONTOUR
 - PROPOSED CONTOUR
 - PROPOSED CURB & GUTTER SPOT GRADE
T/C: TOP OF CURB GRADE
F/L: FLOW LINE CURB GRADE
 - PROPOSED ASPHALT SPOT GRADE
 - EXISTING SURFACE SPOT GRADE (MATCH)
 - 100-YR OVERLAND FLOW PATH

GENERAL NOTES:

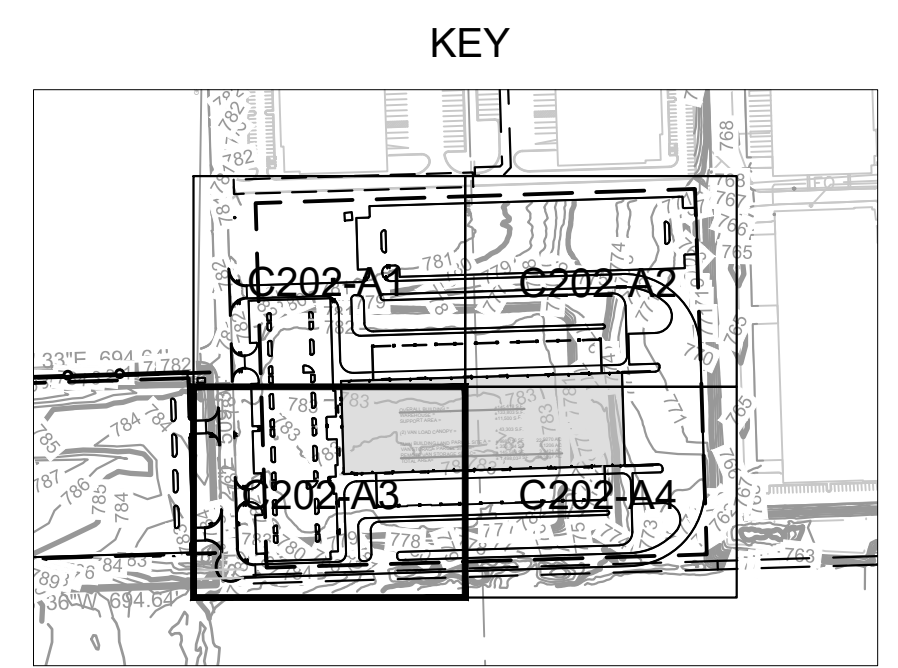
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NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

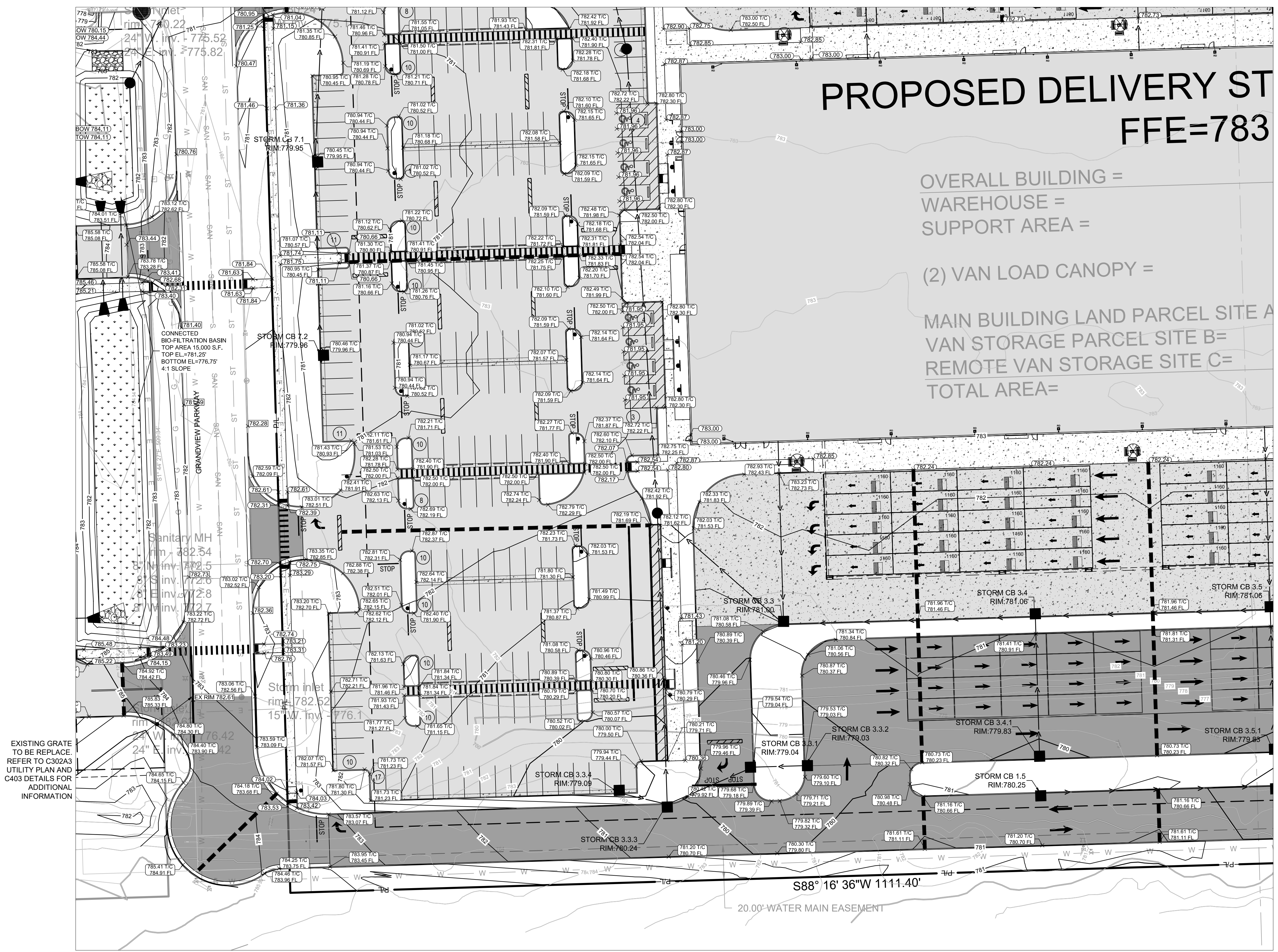
DRAWING NO. 19167_GRADING.DWG
 DRAWN BY: RT
 DATE: 01-20-2020
 PROJECT NO: 19167
 CHECKED BY: TM
 APPROVED BY: CTC
 SHEET NO:



CALL DIGGERS HOTLINE
 1-800-242-8511
 TOLL FREE
 TO OBTAIN LOCATIONS OF PARTICIPATING UNDERGROUND UTILITIES BEFORE YOU DIG
 WE STRIVE FOR EXCELLENCE
 REQUIRES MIN. 3 WORK DAYS NOTICE BEFORE YOU DIG
 MILW. AREA 259-1181



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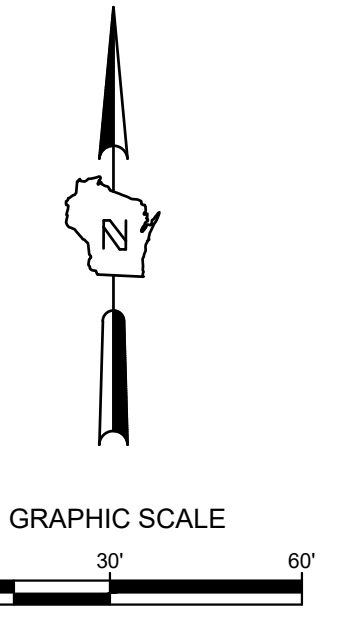
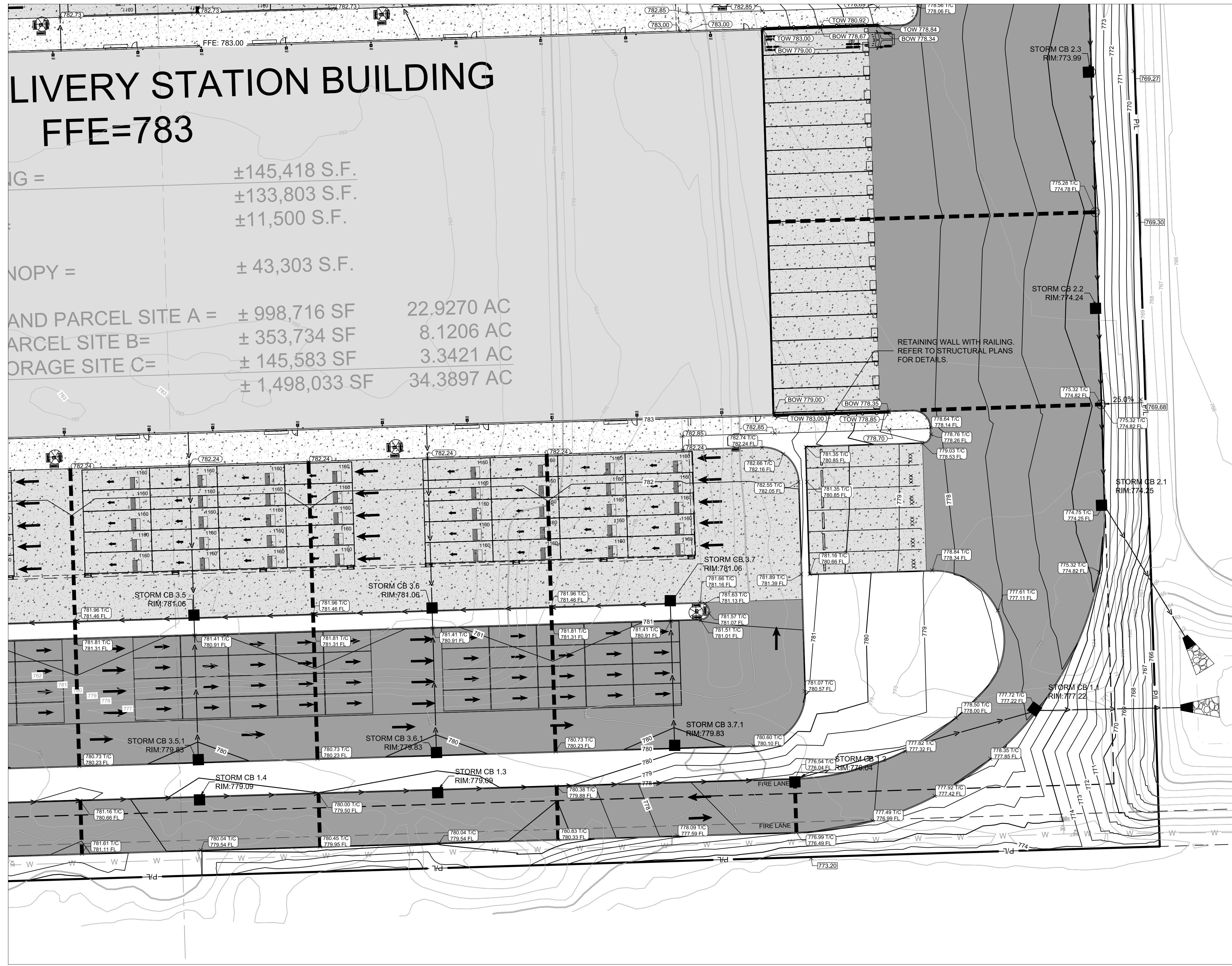


EXISTING GRATE TO BE REPLACED. REFER TO C302A3 UTILITY PLAN AND C403 DETAILS FOR ADDITIONAL INFORMATION

GRANDVIEW BUSINESS PARK - SITE II
 YORKVILLE, WISCONSIN

GRADING PLAN - SITE A3

C202-A3



- LEGEND:**
- 5' THICK CONCRETE WALK (D C402)
 - CONCRETE PAVEMENT (C C402)
 - ASPHALT SURFACE (A C402)
 - ASPHALT SURFACE (HEAVY DUTY) (B C402)
 - CURB & GUTTER (ACCEPT) (E/F C402)
 - CURB & GUTTER (REJECT) (E C402)
 - PROPOSED GRADE BREAK
 - EXISTING CONTOUR
 - PROPOSED CONTOUR
 - PROPOSED CURB & GUTTER SPOT GRADE
 T/C: TOP OF CURB GRADE
 F/L: FLOW LINE CURB GRADE
 - PROPOSED ASPHALT SPOT GRADE
 - EXISTING SURFACE SPOT GRADE (MATCH)
 - 100-YR OVERLAND FLOW PATH

GENERAL NOTES:

1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
2. VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
3. WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
4. ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
5. DIMENSIONS ARE FROM FACE OF CURB OR EDGE OF PAVEMENT.
6. WORK WITHIN THE PUBLIC RIGHT OF WAY, INCLUDING BUT NOT LIMITED TO DRIVEWAY OPENINGS, SIDEWALK AND RAMPS, PAVING, AND CURB AND GUTTER SHALL BE COMPLETED PER MUNICIPAL AND/OR COUNTY REQUIREMENTS AND STANDARDS.
7. EARTHWORK SHALL BE IN ACCORDANCE WITH GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

GRANDVIEW BUSINESS PARK - SITE II
YORKVILLE, WISCONSIN

GRADING PLAN - SITE A4

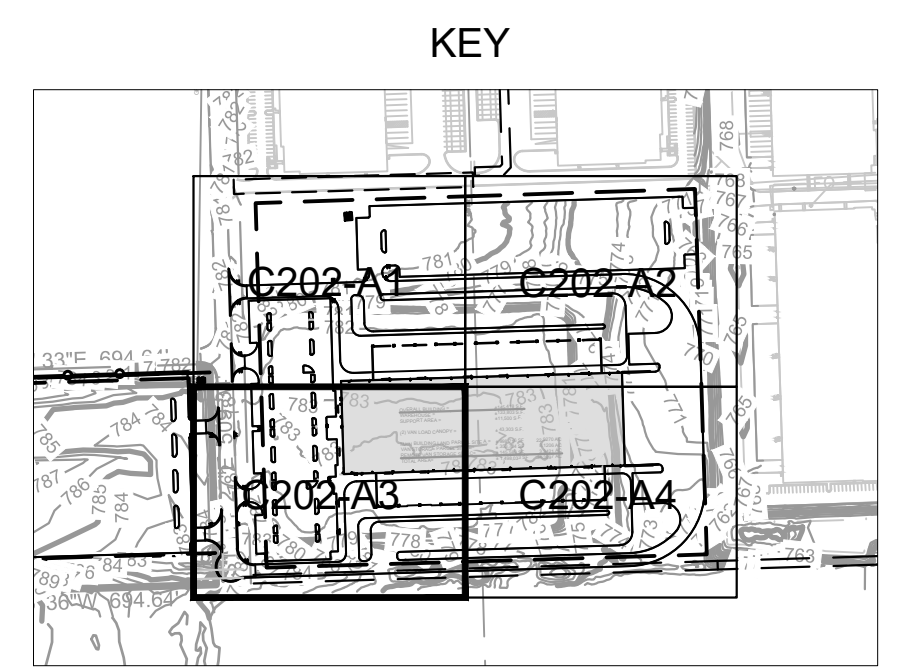
NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

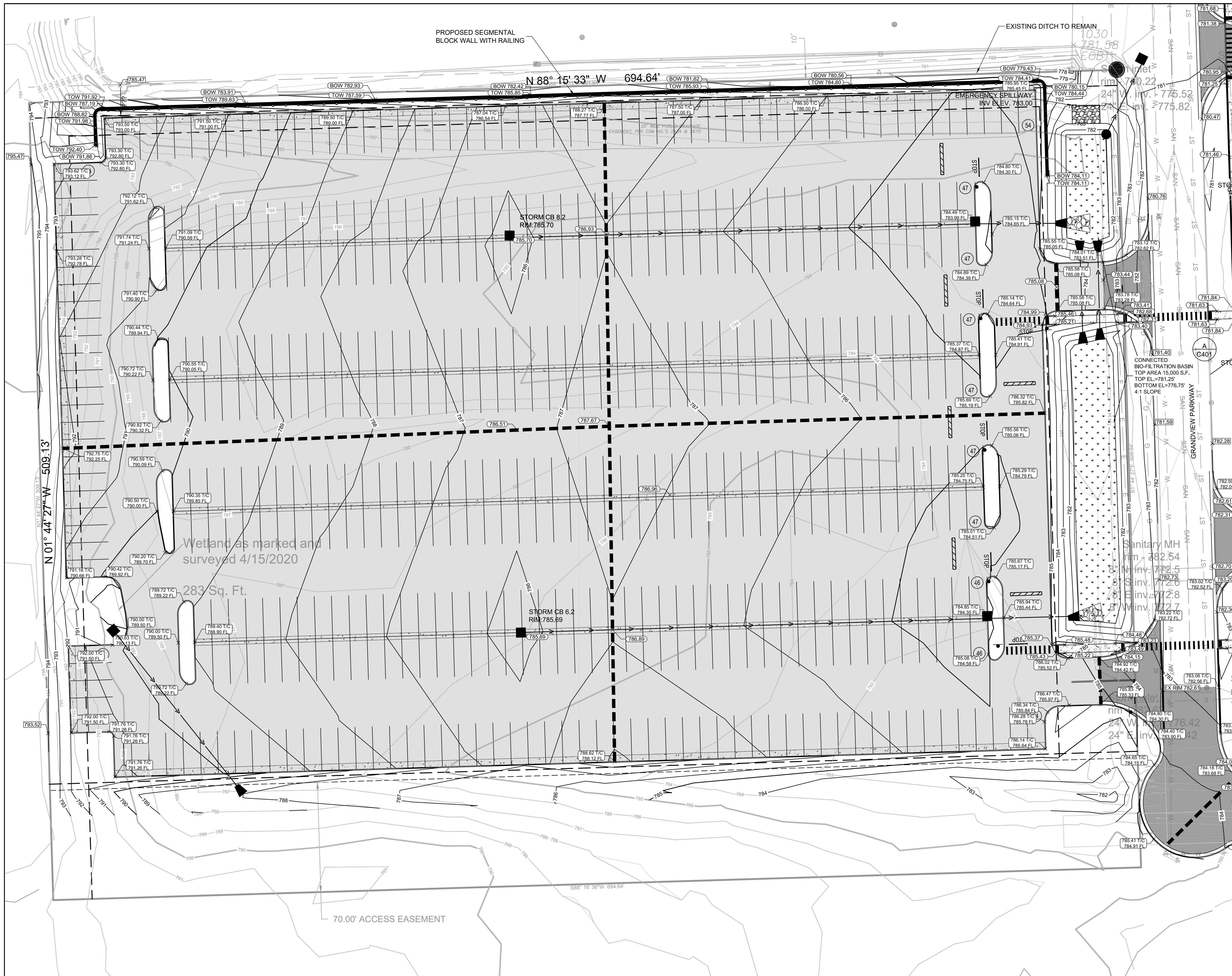
DRAWING NO.	19167_GRADING.DWG
DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO.:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	



TO OBTAIN LOCATIONS OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN
 WE STATUTE (48.075(9)(4)) REQUIRES MIN. 3 WORK DAYS NOTICE BEFORE YOU DITCH/ARE
 MIL.W. AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.





LEGEND:

- 5' THICK CONCRETE WALK (D C402)
- CONCRETE PAVEMENT (C C402)
- ASPHALT SURFACE (A C402)
- ASPHALT SURFACE (HEAVY DUTY) (B C402)
- CURB & GUTTER (ACCEPT) (E/F C402)
- CURB & GUTTER (REJECT) (E C402)
- PROPOSED GRADE BREAK
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED CURB & GUTTER SPOT GRADE
TIC: TOP OF CURB GRADE
FL: FLOW LINE CURB GRADE
- PROPOSED ASPHALT SPOT GRADE
- EXISTING SURFACE SPOT GRADE (MATCH)
- 100-YR OVERLAND FLOW PATH

- GENERAL NOTES:**
1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
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 3. WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
 4. ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
 5. DIMENSIONS ARE FROM FACE OF CURB OR EDGE OF PAVEMENT.
 6. WORK WITHIN THE PUBLIC RIGHT OF WAY, INCLUDING BUT NOT LIMITED TO DRIVEWAY OPENINGS, SIDEWALK AND RAMP, PAVING, AND CURB AND GUTTER SHALL BE COMPLETED PER MUNICIPAL AND/OR COUNTY REQUIREMENTS AND STANDARDS.
 7. EARTHWORK SHALL BE IN ACCORDANCE WITH GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

**GRANDVIEW BUSINESS PARK - SITE II
 YORKVILLE, WISCONSIN**

GRADING PLAN - SITE B

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO.	19167_GRADING.DWG
DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO.:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	

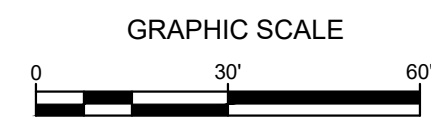
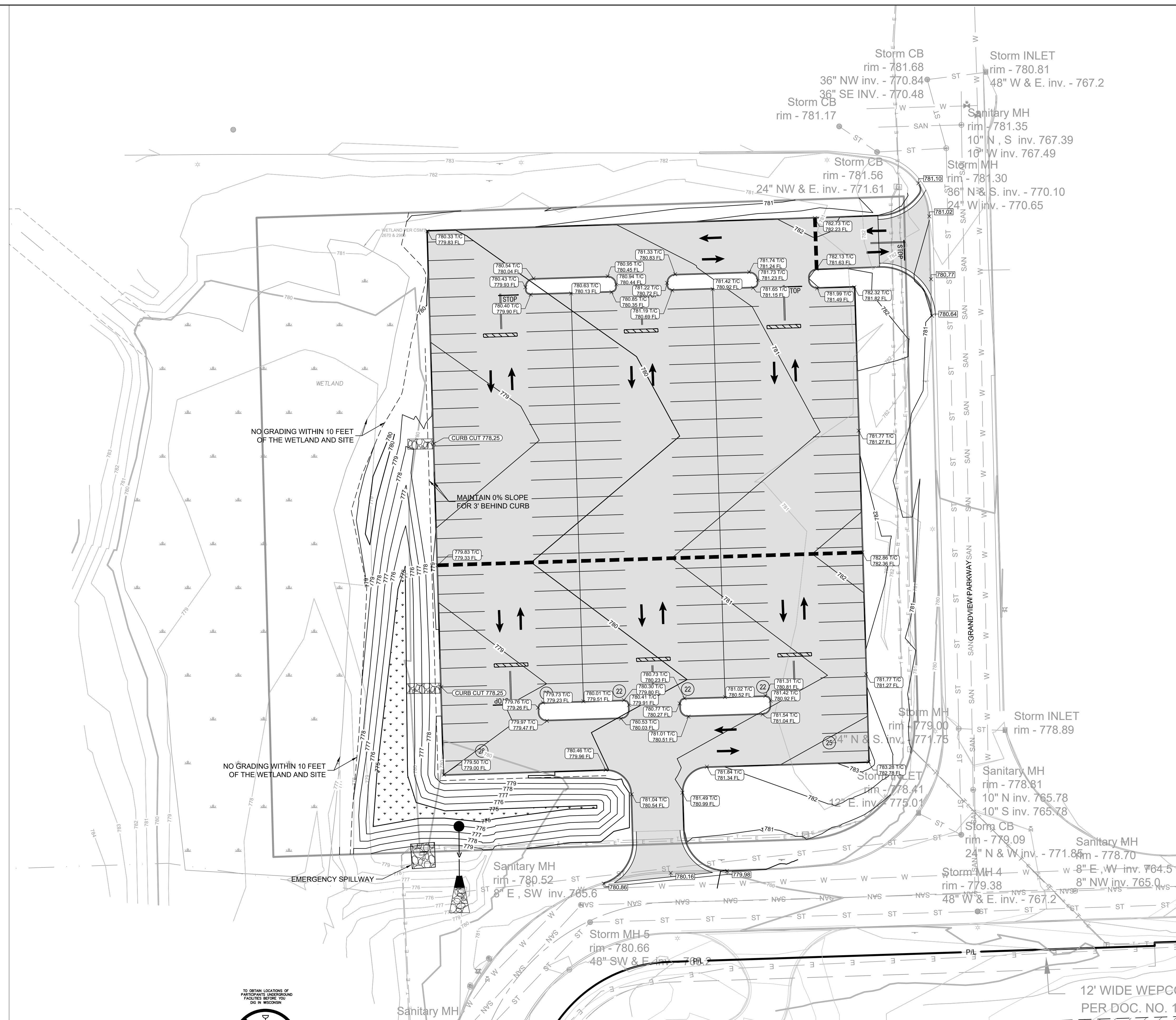
C201-B

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.

TO OBTAIN LOCATIONS OF PATENTED UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE
 1-800-242-8511
 TOLL FREE

WE STATUTE 182.0175(9)W
 REQUIRES 148 3 WORK DAYS
 NOTICE BEFORE YOU EXCAVATE
 MILW. AREA 259-1181



- LEGEND:**
- 5' THICK CONCRETE WALK (D C402)
 - CONCRETE PAVEMENT (C C402)
 - ASPHALT SURFACE (A C402)
 - ASPHALT SURFACE (HEAVY DUTY) (B C402)
 - CURB & GUTTER (ACCEPT) (E/F C402)
 - CURB & GUTTER (REJECT) (E C402)
 - PROPOSED GRADE BREAK
 - EXISTING CONTOUR
 - PROPOSED CONTOUR
 - PROPOSED CURB & GUTTER SPOT GRADE (TIC: TOP OF CURB GRADE, FL: FLOW LINE CURB GRADE)
 - PROPOSED ASPHALT SPOT GRADE
 - EXISTING SURFACE SPOT GRADE (MATCH)
 - 100-YR OVERLAND FLOW PATH

GENERAL NOTES:

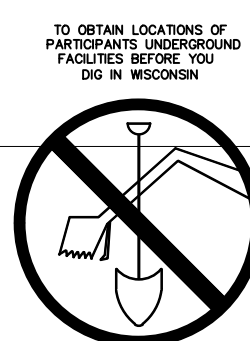
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3. WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
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7. EARTHWORK SHALL BE IN ACCORDANCE WITH GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

**GRANDVIEW BUSINESS PARK - SITE II
 YORKVILLE, WISCONSIN
 GRADING PLAN - SITE C**

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO.	19167_GRADING.DWG
DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	

C201-C



CALL DIGGERS HOTLINE
 1-800-242-8511
 TOLL FREE

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.

WE STATE: 182.01(2)(b) REQUIRES 48" NOTICE BEFORE YOU EXCAVATE
 MILW. AREA 259-1181



LEGEND:

- 5" THICK CONCRETE WALK (D C402)
- CONCRETE PAVEMENT (C C402)
- ASPHALT SURFACE (A C402)
- ASPHALT SURFACE (HEAVY DUTY) (B C402)
- CURB & GUTTER (ACCEPT) (E/F C402)
- CURB & GUTTER (REJECT) (E C402)
- PROPOSED GRADE BREAK
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED CURB & GUTTER SPOT GRADE (T/C: TOP OF CURB GRADE, F/L: FLOW LINE CURB GRADE)
- PROPOSED ASPHALT SPOT GRADE
- EXISTING SURFACE SPOT GRADE (MATCH)
- 100-YR OVERLAND FLOW PATH

- GENERAL NOTES:**
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 - VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
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 - EARTHWORK SHALL BE IN ACCORDANCE WITH GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

**GRANDVIEW BUSINESS PARK - SITE II
 YORKVILLE, WISCONSIN**

GRADING PLAN - CUL-DE-SAC

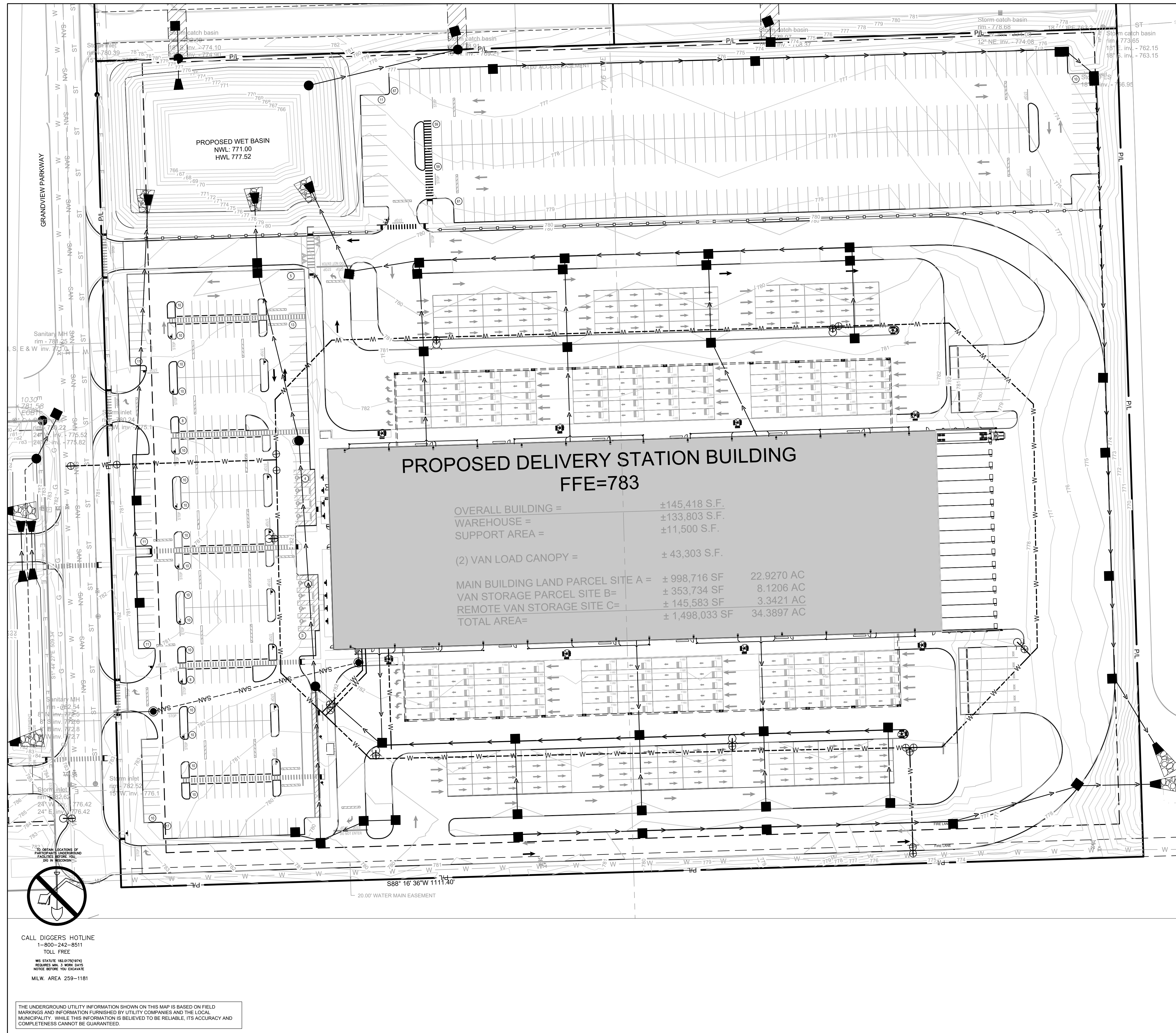
NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO.	19167_GRADING.DWG
DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO.:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	



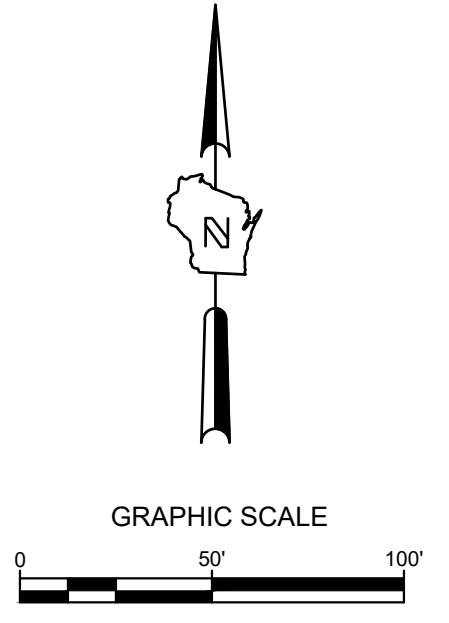
TO OBTAIN LOCATIONS OF PARTICIPATING UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN
 CALL DIGGERS' HOTLINE
 1-800-242-8511
 TOLL FREE
 WIS. STATUTE 182.01(2)(b)4
 REQUIRES AN 3 WORK DAYS NOTICE BEFORE YOU DIG A FE
 MILW. AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.



PROPOSED DELIVERY STATION BUILDING
FFE=783

OVERALL BUILDING =	±145,418 S.F.	
WAREHOUSE =	±133,803 S.F.	
SUPPORT AREA =	±11,500 S.F.	
(2) VAN LOAD CANOPY =	± 43,303 S.F.	
MAIN BUILDING LAND PARCEL SITE A =	± 998,716 SF	22.9270 AC
VAN STORAGE PARCEL SITE B=	± 353,734 SF	8.1206 AC
REMOTE VAN STORAGE SITE C=	± 145,583 SF	3.3421 AC
TOTAL AREA=	± 1,498,033 SF	34.3897 AC



- LEGEND:**
- W --- PROPOSED WATER SERVICE
 - SAN --- PROPOSED SANITARY SERVICE
 - PROPOSED STORM SEWER
 - U --- PROPOSED UNDERDRAIN
 - PROPOSED STORM INLET (B C403)
 - PROPOSED STORM MANHOLE (A C403)
 - PROPOSED SANITARY MANHOLE (D C403)
 - PROPOSED HYDRANT

- GENERAL NOTES:**
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 - ALL UTILITIES WITHIN 5 FEET OF PAVED AREAS SHALL REQUIRE GRANULAR BACKFILL. SLURRY BACKFILL IS REQUIRED FOR ALL WORK IN PUBLIC RIGHT OF WAY.
 - PRIVATE STORM INLETS IN PAVEMENT SHALL REQUIRE DRAIN TILE STUBS OF 10 FEET IN TWO DIRECTIONS FOR SUBDRAINAGE. RIM GRADE FOR STORM INLETS IN CURB AND GUTTER ARE FLOW LINE GRADES.
 - WORK IN PUBLIC RIGHT OF WAY SHALL FOLLOW MATERIAL AND INSTALLATION REQUIREMENTS PER MUNICIPAL AND/OR COUNTY.
 - PRIVATE STORM SEWER 12-INCH DIAMETER OR LARGER SHALL BE HDPE. BELOW 12-INCH DIAMETER SHALL BE PVC SDR-35 ASTM D3034. PRIVATE WATER MAIN SHALL BE CLASS 150 DR 18 PVC CONFORMING TO AWWA C-900. PRIVATE SANITARY SEWER SHALL BE PVC SDR-35 ASTM D3034.
 - STORM SEWER PIPES THAT DISCHARGE INTO THE RETENTION BASIN SHALL BE RCP PIPE MATERIAL. THE LAST THREE PIPE JOINTS SHALL BE TIE BOLTED. TRASH GRATES ARE REQUIRED AT ALL FLARED END SECTIONS APRON END WALLS.
 - COORDINATE FINAL LOCATION AND DESIGN OF PRIVATE UTILITY SERVICES (ELECTRIC, GAS, PHONE, CABLE) WITH UTILITY COMPANIES.
 - IF PROJECT IS DESIGN BUILD MEP, THE GENERAL CONTRACTOR IS REQUIRED TO PROVIDE FINAL SEWER AND WATER DESIGN SHOWING LOCATION, INVERTS AND SIZES TO THE ENGINEER FOR FINAL REVIEW AND VERIFICATION PRIOR TO STARTING UNDERGROUND UTILITY CONSTRUCTION.
 - WATER MAIN CONNECTION: TAP WATER MAIN WITH SIZE AND LOCATION INDICATED ON PLAN IN ACCORDANCE WITH LOCAL WATER UTILITY REQUIREMENTS. COORDINATE CONNECTION WITH LOCAL WATER UTILITY. ALL JOINTS SHALL BE RESTRAINED FROM CONNECTION OF WATER MAIN TO BUILDING WALL. SUBMIT JOINT RESTRAINT DETAILS FOR ALL JOINT TYPES INCLUDING PUSH-ON AND MECHANICAL CONNECTIONS. INSTALL MEGA-LUG OR APPROVED EQUAL TIGHT TO WALL FOR RESTRAINT FOR ALL BUILDING WALL PENETRATIONS AS APPROVED BY LOCAL PLUMBING INSPECTOR AND WATER UTILITY. INSTALL THRU-STOP BLOCKING AND MEGA-LUG AT BEND BELOW FLOOR FOR ALL FLOOR PENETRATIONS.
 - INSTALL JOINT RESTRAINT AND CONCRETE THRUST BLOCKS AT ALL OFFSET FITTINGS (TEES, BENDS, DEAD ENDS, VALVES, REDUCERS) USING MEGA-LUG OR APPROVED EQUAL. CONCRETE THRUST BLOCKS SHALL BE INSTALLED PER FILE NO'S 44.45.46 FROM THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN. SEE DETAIL FOR MINIMUM LENGTH OF RESTRAINED JOINT REQUIRED. SUBMIT JOINT RESTRAINT DETAILS FOR ALL JOINT TYPES INCLUDING PUSH-ON AND MECHANICAL CONNECTIONS.

**GRANDVIEW BUSINESS PARK - SITE II
YORKVILLE, WISCONSIN**

UTILITY PLAN - SITE A

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

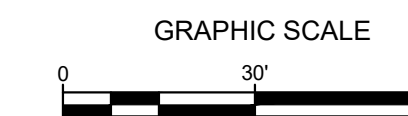
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DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	

C301-A

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE

WI STATE 182.0175(9)(3)
REQUIRES 48 HRS. NOTICE BEFORE YOU EXCAVATE
MIL.W. AREA 259-1181

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LEGEND:

- W --- PROPOSED WATER SERVICE
- SAN --- PROPOSED SANITARY SERVICE
- S --- PROPOSED STORM SEWER
- U --- PROPOSED UNDERDRAIN

- PROPOSED STORM INLET (B C403)
- PROPOSED STORM MANHOLE (A C403)
- PROPOSED SANITARY MANHOLE (D C403)
- PROPOSED HYDRANT

GENERAL NOTES:

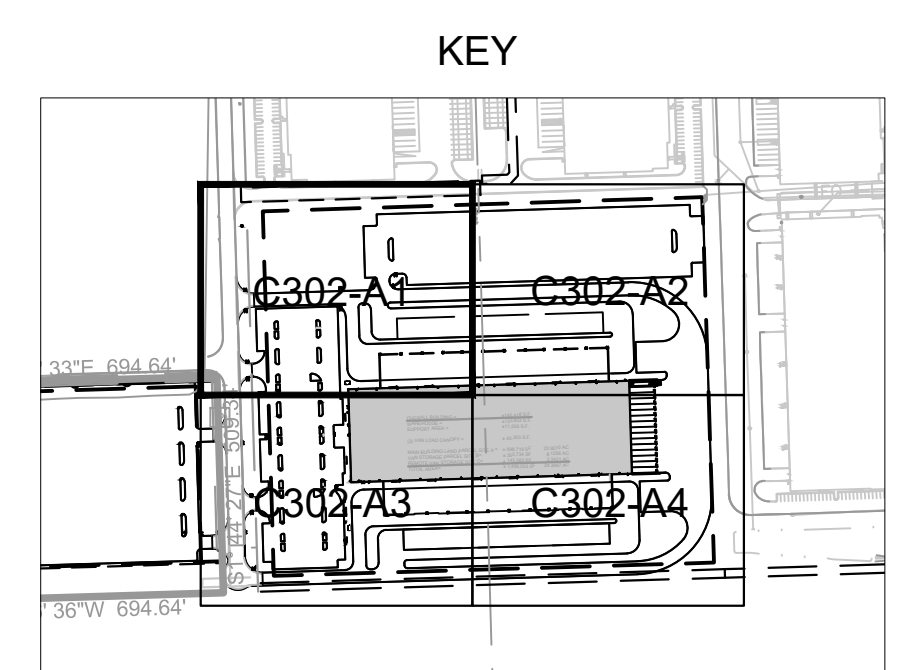
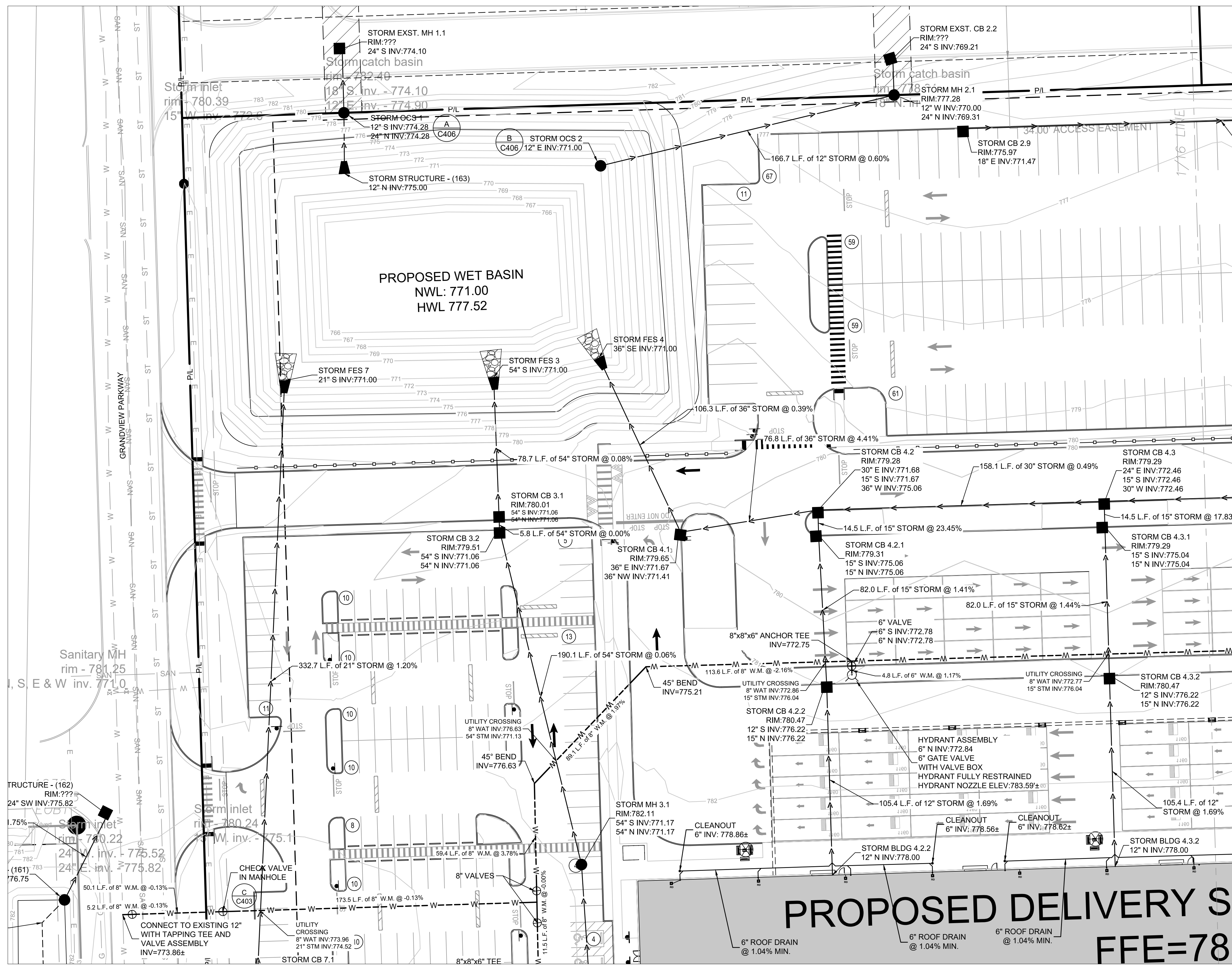
1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
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5. ALL UTILITIES WITHIN 5 FEET OF PAVED AREAS SHALL REQUIRE GRANULAR BACKFILL. SLURRY BACKFILL IS REQUIRED FOR ALL WORK IN PUBLIC RIGHT OF WAY.
6. PRIVATE STORM INLETS IN PAVEMENT SHALL REQUIRE DRAIN TILE STUBS OF 10 FEET IN TWO DIRECTIONS FOR SUBDRAINAGE. RIM GRADE FOR STORM INLETS IN CURB AND GUTTER ARE FLOW LINE GRADES.
7. WORK IN PUBLIC RIGHT OF WAY SHALL FOLLOW MATERIAL AND INSTALLATION REQUIREMENTS PER MUNICIPAL AND/OR COUNTY.
8. PRIVATE STORM SEWER 12-INCH DIAMETER OR LARGER SHALL BE HDPE. BELOW 12-INCH DIAMETER SHALL BE PVC SDR-35 ASTM D3034. PRIVATE WATER MAIN SHALL BE CLASS 150 DR 18 PVC CONFORMING TO AWWA C-900. PRIVATE SANITARY SEWER SHALL BE PVC SDR-35 ASTM D3034.
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10. COORDINATE FINAL LOCATION AND DESIGN OF PRIVATE UTILITY SERVICES (ELECTRIC, GAS, PHONE, CABLE) WITH UTILITY COMPANIES.
11. IF PROJECT IS DESIGN BUILD MEP, THE GENERAL CONTRACTOR IS REQUIRED TO PROVIDE FINAL SEWER AND WATER DESIGN SHOWING LOCATION, INVERTS AND SIZES TO THE ENGINEER FOR FINAL REVIEW AND VERIFICATION PRIOR TO STARTING UNDERGROUND UTILITY CONSTRUCTION.
12. WATER MAIN CONNECTION: TAP WATER MAIN WITH SIZE AND LOCATION INDICATED ON PLAN IN ACCORDANCE WITH LOCAL WATER UTILITY REQUIREMENTS. COORDINATE CONNECTION WITH LOCAL WATER UTILITY. ALL JOINTS SHALL BE RESTRAINED FROM CONNECTION OF WATER MAIN TO BUILDING WALL. SUBMIT JOINT RESTRAINT DETAILS FOR ALL JOINT TYPES INCLUDING PUSH-ON AND MECHANICAL CONNECTIONS. INSTALL MEGA-LUG OR APPROVED EQUAL TIGHT TO WALL FOR RESTRAINT FOR ALL BUILDING WALL PENETRATIONS AS APPROVED BY LOCAL PLUMBING INSPECTOR AND WATER UTILITY. INSTALL THRUST BLOCKING AND MEGA-LUG AT BEND BELOW FLOOR FOR ALL FLOOR PENETRATIONS.
13. INSTALL JOINT RESTRAINT AND CONCRETE THRUST BLOCKS AT ALL OFFSET FITTINGS (TEES, BENDS, DEAD ENDS, VALVES, REDUCERS) USING MEGA-LUG OR APPROVED EQUAL. CONCRETE THRUST BLOCKS SHALL BE INSTALLED PER FILE NO'S.44.45.46 FROM THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN. SEE DETAIL FOR MINIMUM LENGTH OF RESTRAINED JOINT REQUIRED. SUBMIT JOINT RESTRAINT DETAILS FOR ALL JOINT TYPES INCLUDING PUSH-ON AND MECHANICAL CONNECTIONS.

**GRANDVIEW BUSINESS PARK - SITE II
 YORKVILLE, WISCONSIN
 UTILITY PLAN - SITE A1**

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO.	19167_UTILITY.DWG
DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	

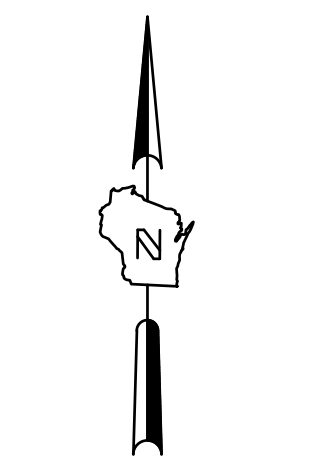
C302-A1



NOTE:
 THE WATER UTILITY DISTRICT SHALL BE ON SITE WHEN CONNECTION TO EXISTING WATER MAIN IS MADE. SLURRY BACKFILL SHALL BE USED IN THE TRENCH WITHIN PUBLIC ROAD PAVEMENT AREA. PAVEMENT SECTION SHALL BE A MINIMUM OF 5" ASPHALT (S LIFTS) OVER 12" OF 1-1/4 CABC.

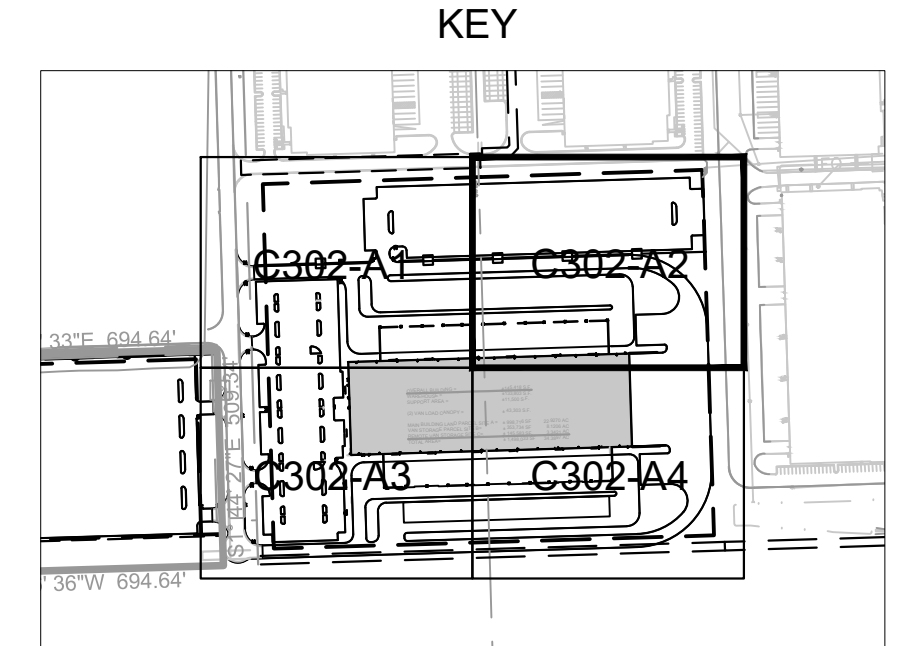
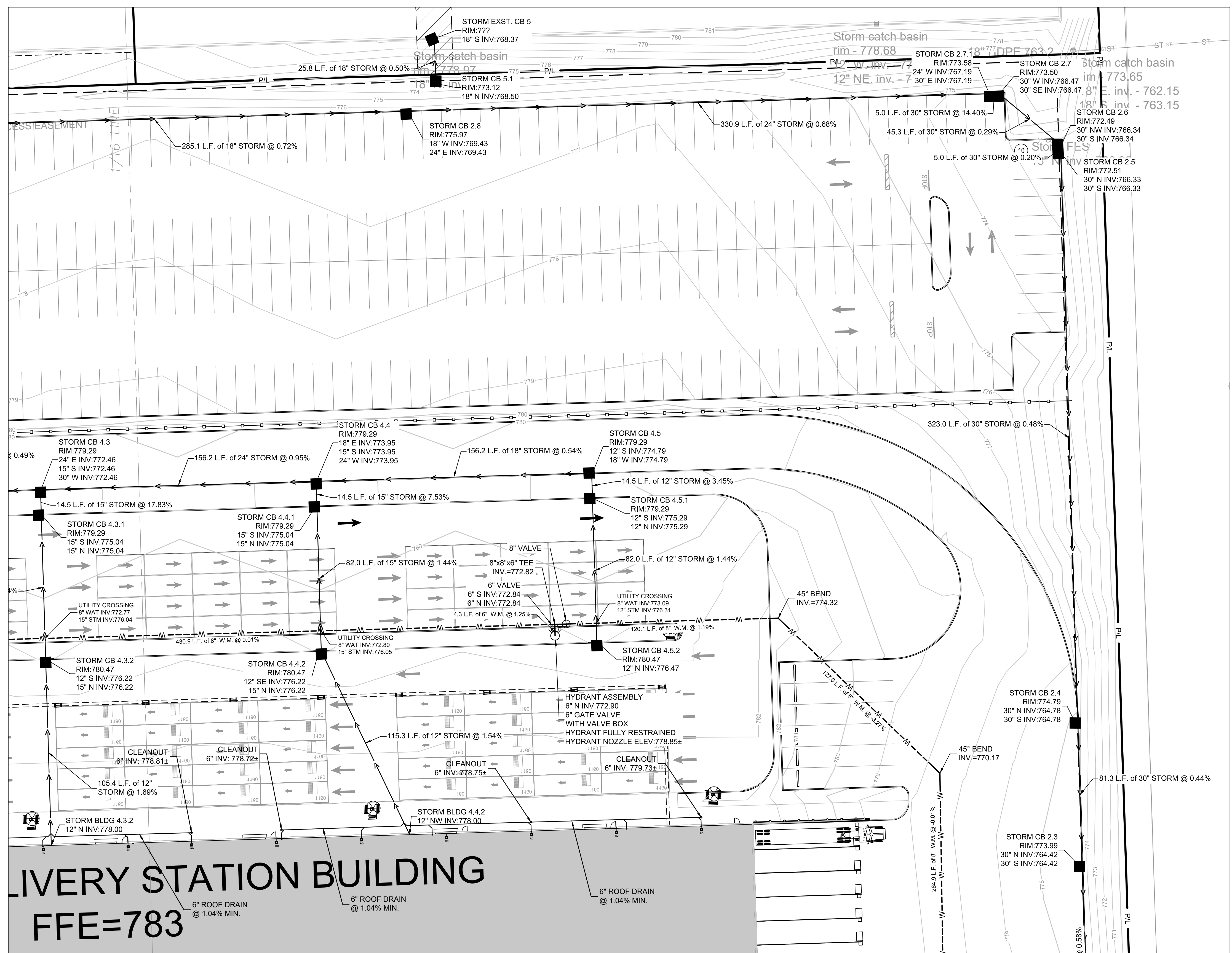
CALL DIGGERS HOTLINE
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 TOLL FREE
 WI STATE 182.0175(94)
 REQUIRES MIN. 3 WORK DAYS
 NOTICE BEFORE YOU EXCAVATE
 MILW. AREA 259-1181

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- LEGEND:**
- W --- PROPOSED WATER SERVICE
 - SAN --- PROPOSED SANITARY SERVICE
 - PROPOSED STORM SEWER
 - U --- PROPOSED UNDERDRAIN
 - PROPOSED STORM INLET (B C403)
 - PROPOSED STORM MANHOLE (A C403)
 - PROPOSED SANITARY MANHOLE (D C403)
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 - WORK IN PUBLIC RIGHT OF WAY SHALL FOLLOW MATERIAL AND INSTALLATION REQUIREMENTS PER MUNICIPAL AND/OR COUNTY.
 - PRIVATE STORM SEWER 12-INCH DIAMETER OR LARGER SHALL BE HDPE. BELOW 12-INCH DIAMETER SHALL BE PVC SDR-35 ASTM D3034. PRIVATE WATER MAIN SHALL BE CLASS 150 DR 18 PVC CONFORMING TO AWWA C-900. PRIVATE SANITARY SEWER SHALL BE PVC SDR-35 ASTM D3034.
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**GRANDVIEW BUSINESS PARK - SITE II
 YORKVILLE, WISCONSIN**

UTILITY PLAN - SITE A2

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO.	19167_UTILITY.DWG
DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	C302-A2

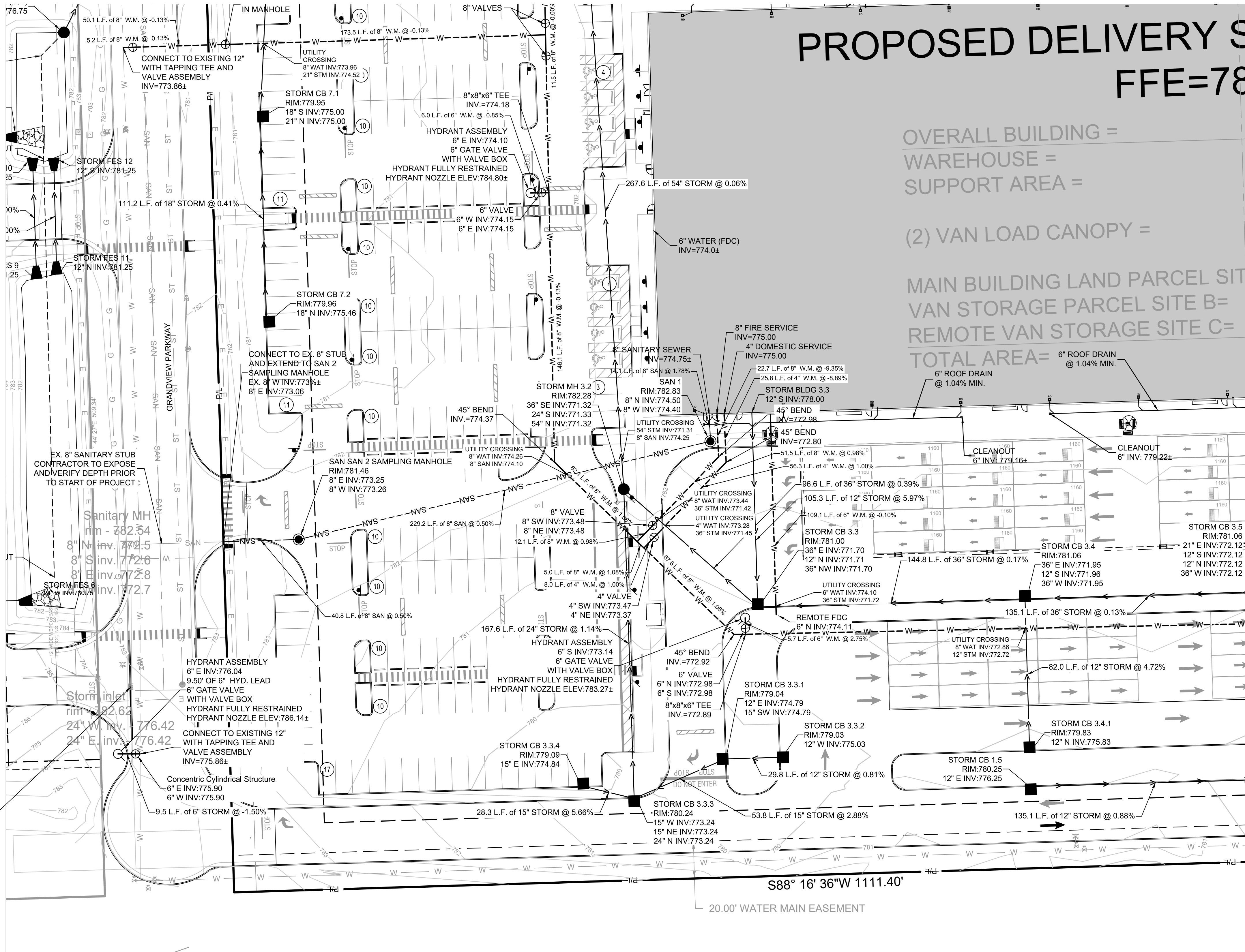
TO OBTAIN LOCATIONS OF PARTIAL RECORDS FACILITIES BEFORE YOU DIG IN RECORD

CALL DIGGERS HOTLINE
 1-800-242-8511
 TOLL FREE

WI STATE 182.0175(94)
 REQUIRES MIN. 3 WORK DAYS
 NOTICE BEFORE YOU EXCAVATE
 MILW. AREA 259-1181

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NOTE:
THE WATER UTILITY DISTRICT SHALL BE ON SITE WHEN CONNECTION TO EXISTING WATER MAIN IS MADE. SLURRY BACKFILL SHALL BE USED IN THE TRENCH WITHIN PUBLIC ROAD PAVEMENT AREA. PAVEMENT SECTION SHALL BE A MINIMUM OF 5" ASPHALT (S LIFTS) OVER 12" OF 1-1/4 CABC.



EXISTING GRATE TO BE REPLACED WITH NEENAH R2050. REFER TO C403 DETAILS FOR ADDITIONAL INFORMATION



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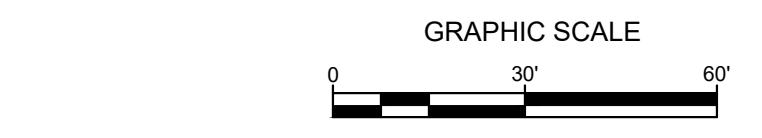
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PROPOSED DELIVERY SITE
FFE=78

OVERALL BUILDING =
WAREHOUSE =
SUPPORT AREA =

(2) VAN LOAD CANOPY =

MAIN BUILDING LAND PARCEL SITE
VAN STORAGE PARCEL SITE B=
REMOTE VAN STORAGE SITE C=
TOTAL AREA =



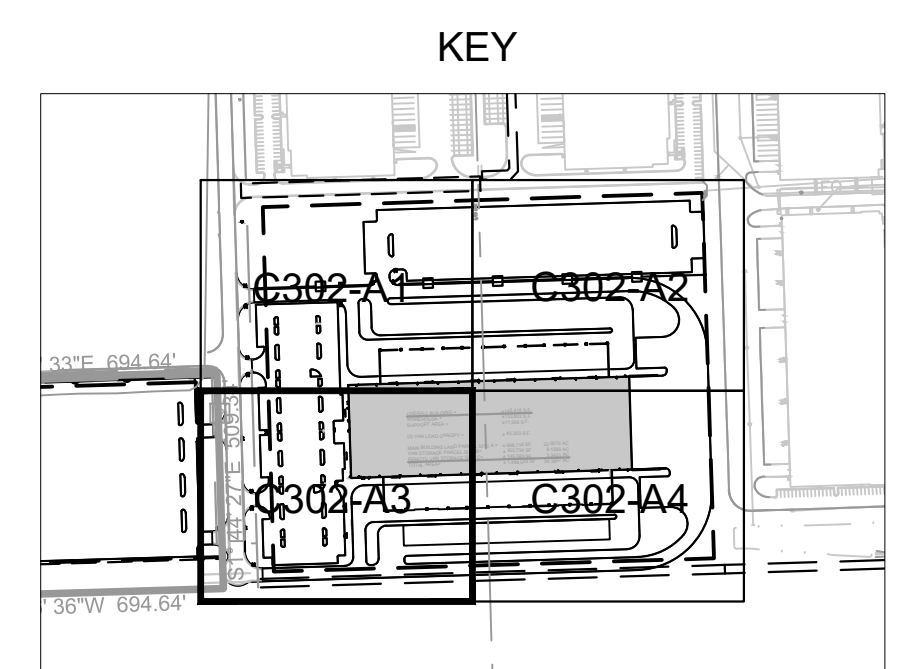
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GRANDVIEW BUSINESS PARK - SITE II
YORKVILLE, WISCONSIN

UTILITY PLAN - SITE A3



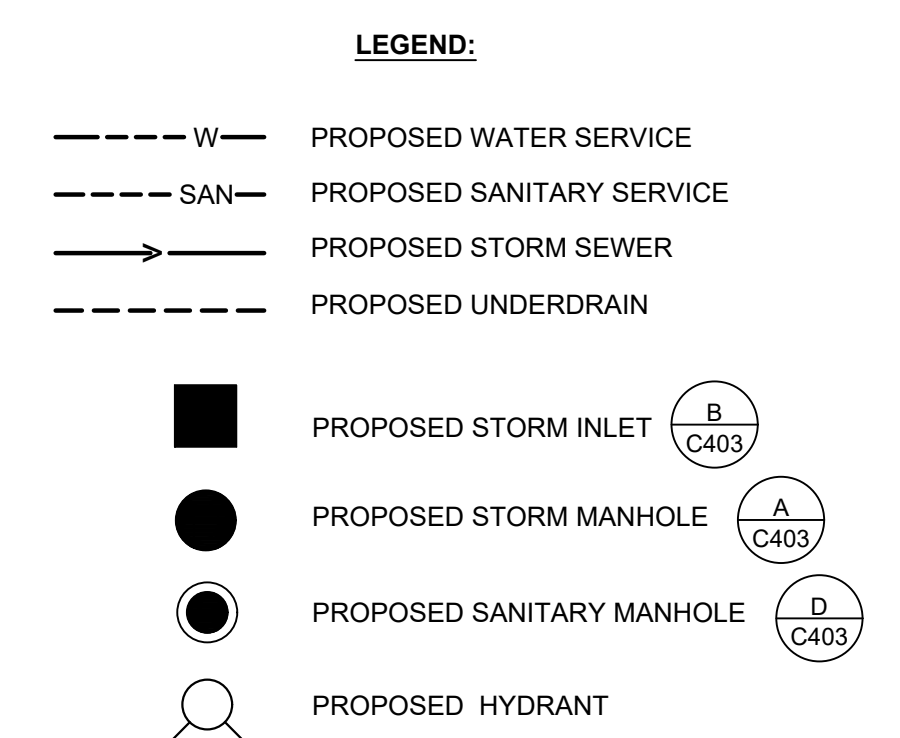
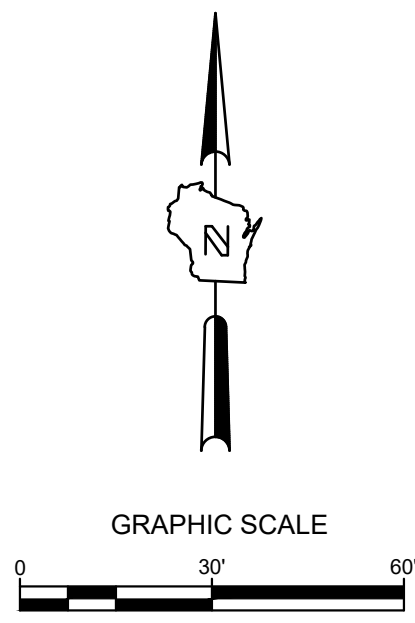
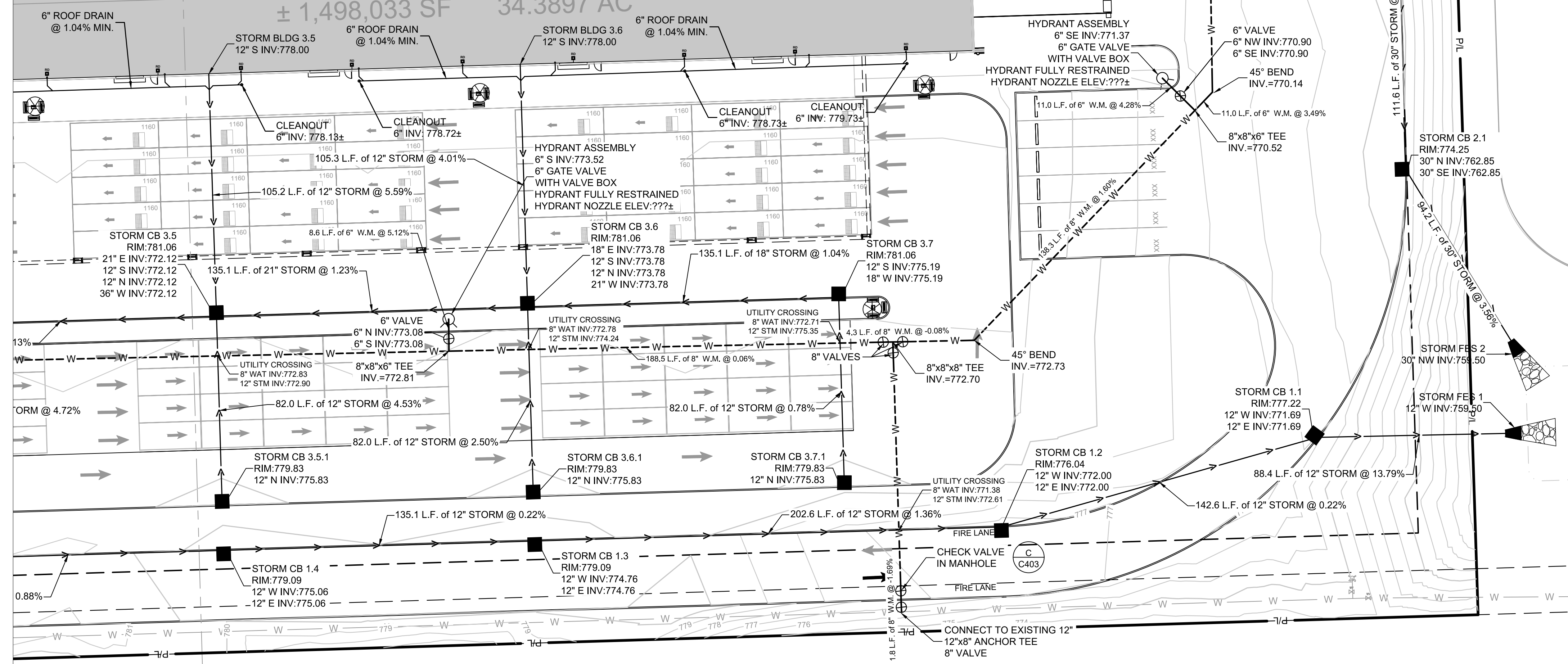
NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO.	19167_UTILITY.DWG
DRAWN BY:	RT
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SHEET NO.:	

C302-A3

VERY STATION BUILDING FFE=783

±145,418 S.F.
±133,803 S.F.
±11,500 S.F.
± 43,303 S.F.
± 998,716 SF 22.9270 AC
± 353,734 SF 8.1206 AC
± 145,583 SF 3.3421 AC
± 1,498,033 SF 34.3897 AC

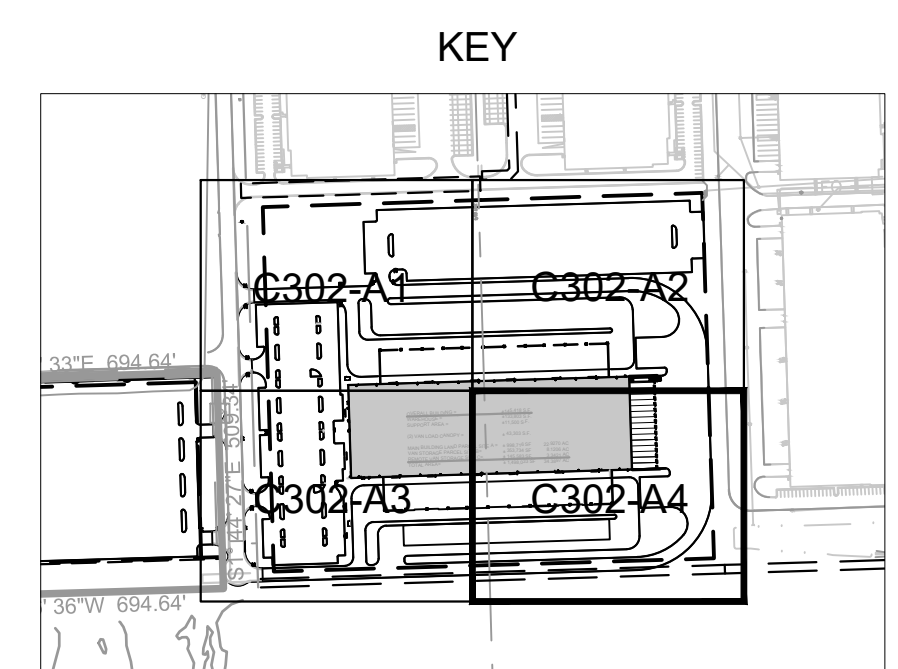


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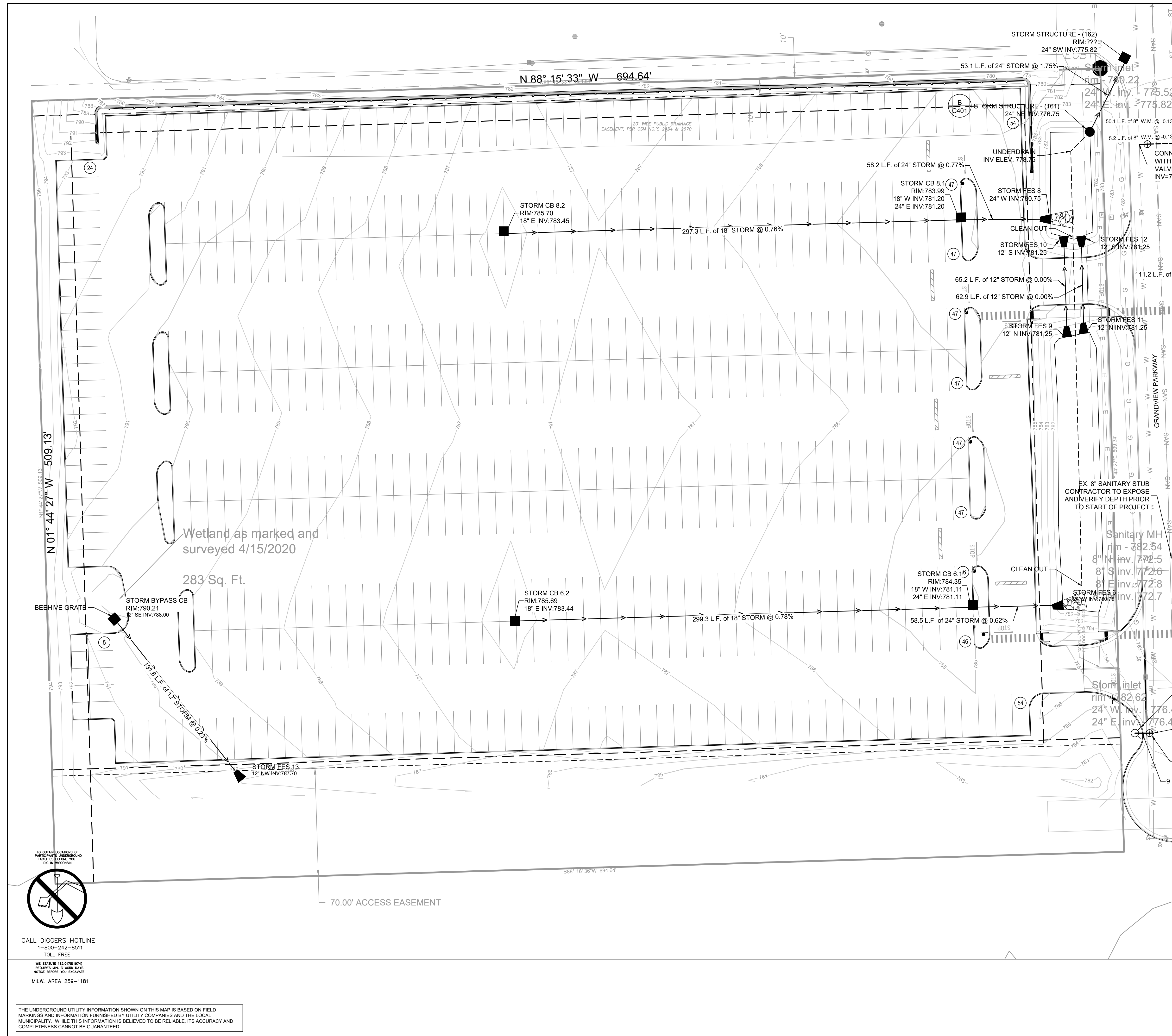


**GRANDVIEW BUSINESS PARK - SITE II
YORKVILLE, WISCONSIN**
UTILITY PLAN - SITE A4

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO. 19167_UTILITY.DWG
DRAWN BY: RT
DATE: 01-20-2020
PROJECT NO: 19167
CHECKED BY: TM
APPROVED BY: CTC
SHEET NO.:

C302-A4



N

GRAPHIC SCALE
0 30 60'

LEGEND:

- W --- PROPOSED WATER SERVICE
- SAN --- PROPOSED SANITARY SERVICE
- S --- PROPOSED STORM SEWER
- U --- PROPOSED UNDERDRAIN
- PROPOSED STORM INLET (B C403)
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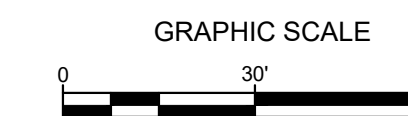
**GRANDVIEW BUSINESS PARK - SITE II
YORKVILLE, WISCONSIN**

UTILITY PLAN - SITE B

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO.	19167_UTILITY.DWG
DRAWN BY:	RT
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C302-B



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10. COORDINATE FINAL LOCATION AND DESIGN OF PRIVATE UTILITY SERVICES (ELECTRIC, GAS, PHONE, CABLE) WITH UTILITY COMPANIES.
11. IF PROJECT IS DESIGN BUILD MEP, THE GENERAL CONTRACTOR IS REQUIRED TO PROVIDE FINAL SEWER AND WATER DESIGN SHOWING LOCATION, INVERTS AND SIZES TO THE ENGINEER FOR FINAL REVIEW AND VERIFICATION PRIOR TO STARTING UNDERGROUND UTILITY CONSTRUCTION.
12. WATER MAIN CONNECTION: TAP WATER MAIN WITH SIZE AND LOCATION INDICATED ON PLAN IN ACCORDANCE WITH LOCAL WATER UTILITY REQUIREMENTS. COORDINATE CONNECTION WITH LOCAL WATER UTILITY. ALL JOINTS SHALL BE RESTRAINED FROM CONNECTION OF WATER MAIN TO BUILDING WALL. SUBMIT JOINT RESTRAINT DETAILS FOR ALL JOINT TYPES INCLUDING PUSH-ON AND MECHANICAL CONNECTIONS. INSTALL MEGA-LUG OR APPROVED EQUAL TIGHT TO WALL FOR RESTRAINT FOR ALL BUILDING WALL PENETRATIONS AS APPROVED BY LOCAL PLUMBING INSPECTOR AND WATER UTILITY. INSTALL THRUST BLOCKING AND MEGA-LUG AT BEND BELOW FLOOR FOR ALL FLOOR PENETRATIONS.
13. INSTALL JOINT RESTRAINT AND CONCRETE THRUST BLOCKS AT ALL OFFSET FITTINGS (TEES, BENDS, DEAD ENDS, VALVES, REDUCERS) USING MEGA-LUG OR APPROVED EQUAL. CONCRETE THRUST BLOCKS SHALL BE INSTALLED PER FILE NO. S-44,45,46 FROM THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN. SEE DETAIL FOR MINIMUM LENGTH OF RESTRAINED JOINT REQUIRED. SUBMIT JOINT RESTRAINT DETAILS FOR ALL JOINT TYPES INCLUDING PUSH-ON AND MECHANICAL CONNECTIONS.

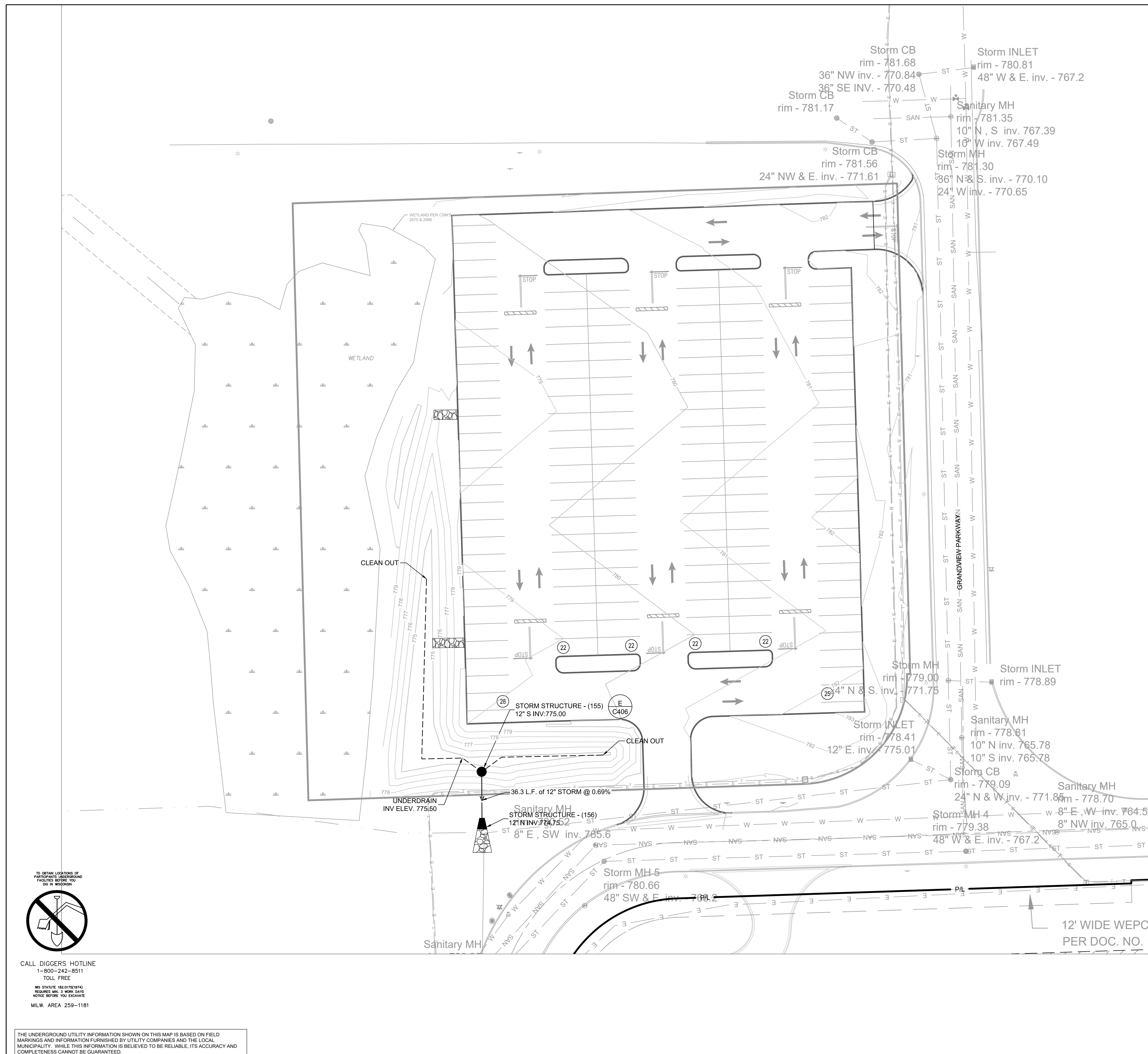
**GRANDVIEW BUSINESS PARK - SITE II
 YORKVILLE, WISCONSIN**

UTILITY PLAN - SITE C

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

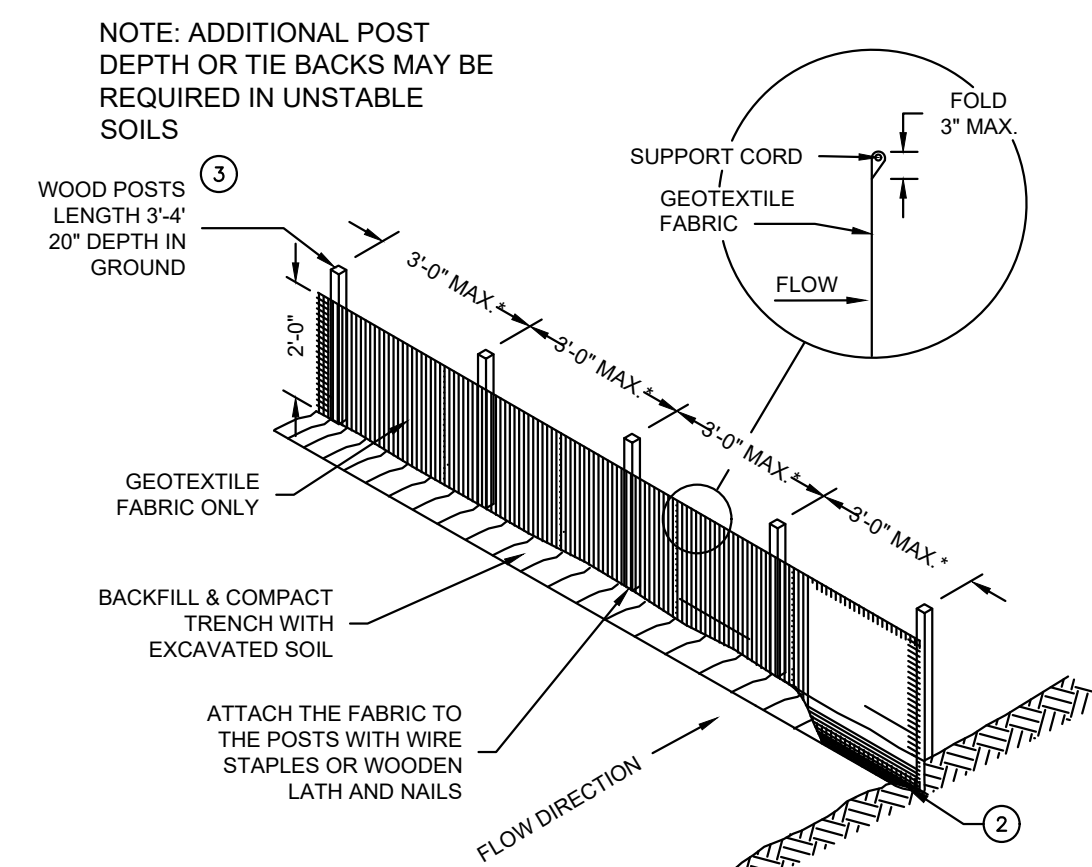
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DRAWN BY:	RT
DATE:	01-20-2020
PROJECT NO:	19167
CHECKED BY:	TM
APPROVED BY:	CTC
SHEET NO.:	

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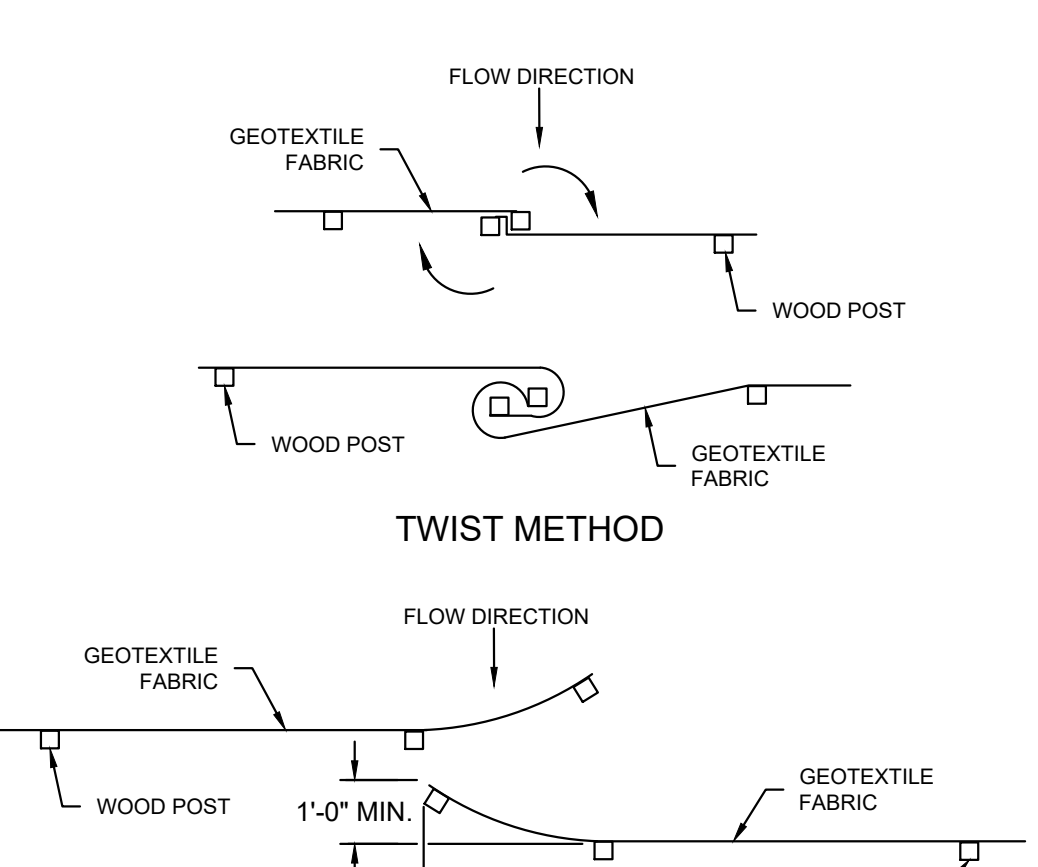


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 TOLL FREE
 WI STATE 182.075(974)
 REQUIRES MIN. 3 WORK DAYS
 NOTICE BEFORE YOU EXCAVATE
 MILW. AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.

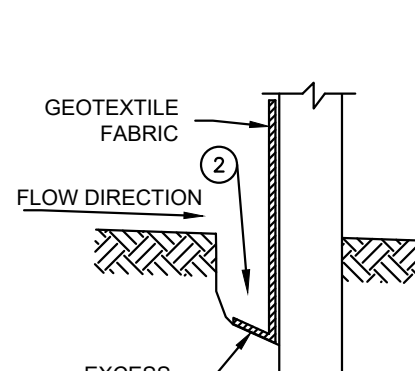
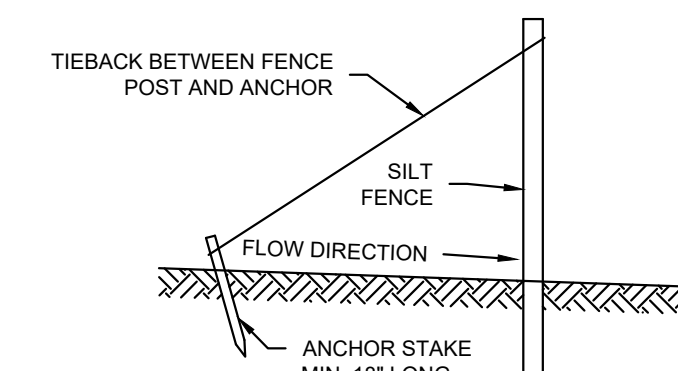


SILT FENCE



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE



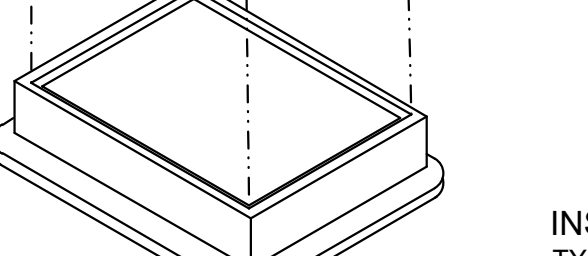
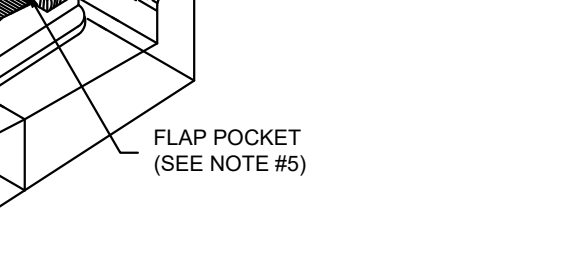
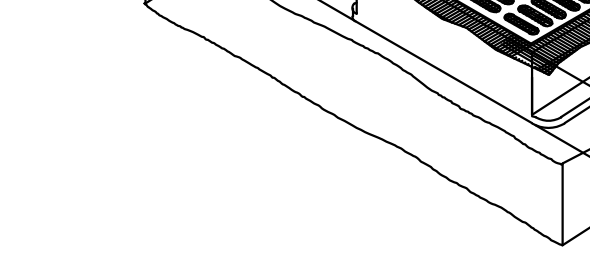
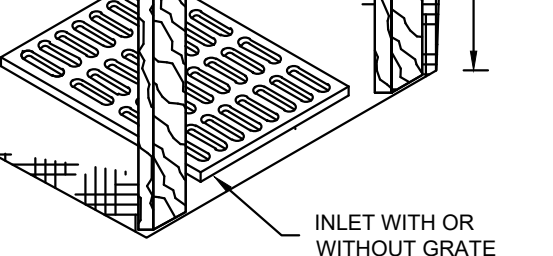
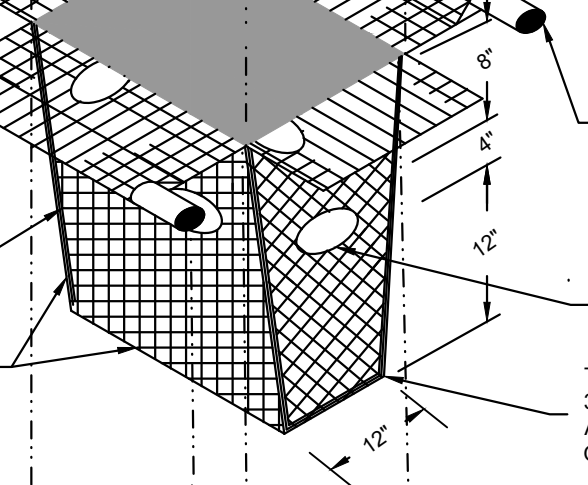
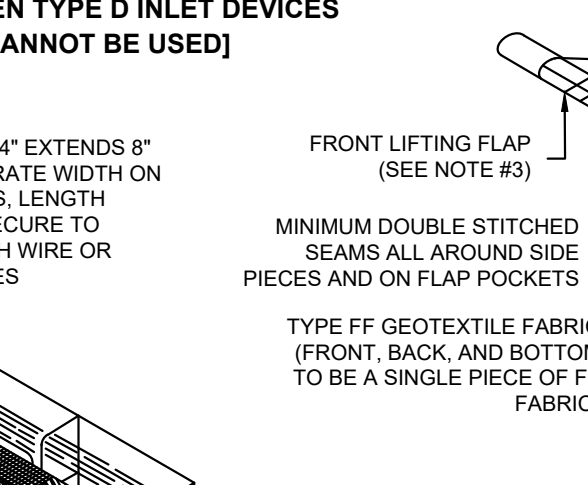
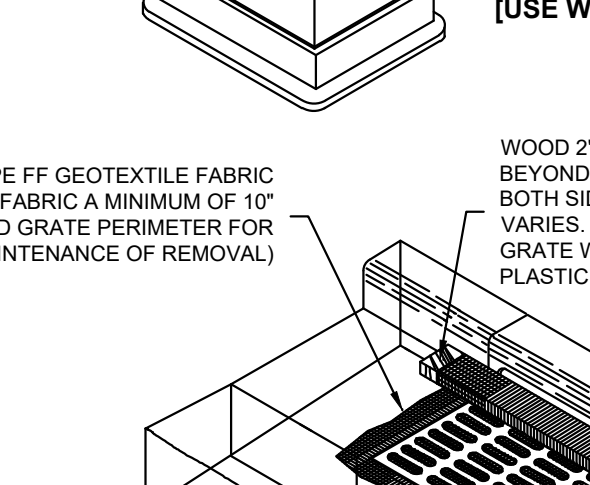
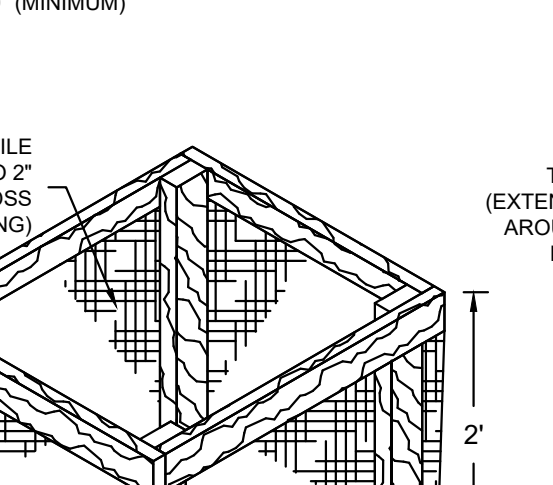
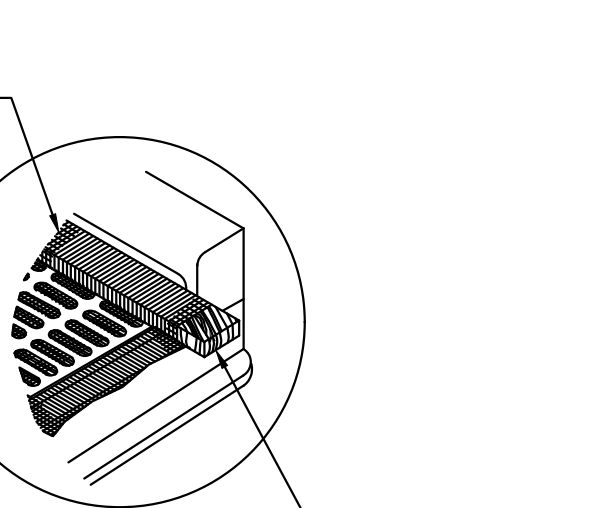
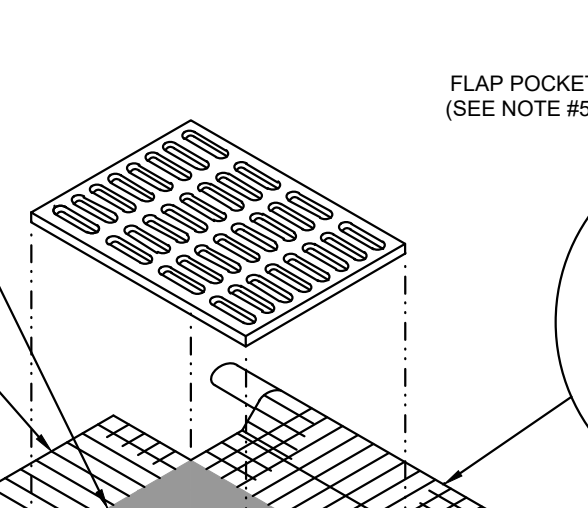
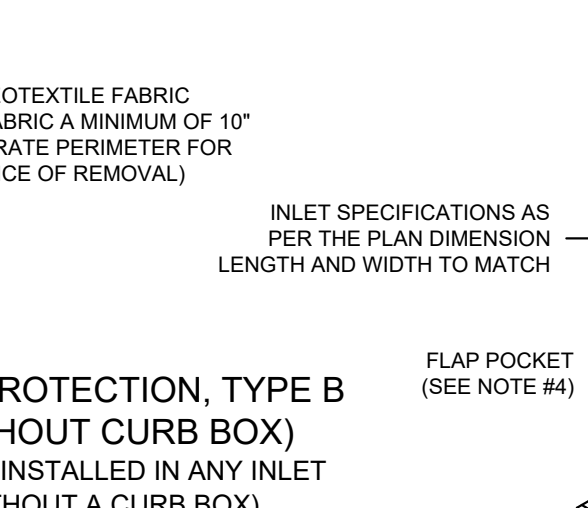
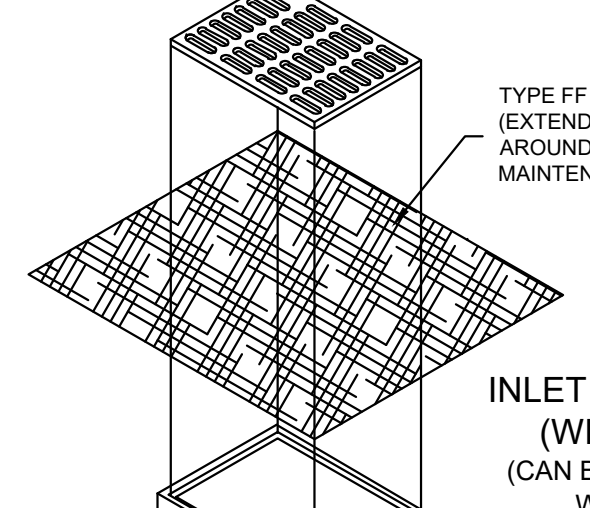
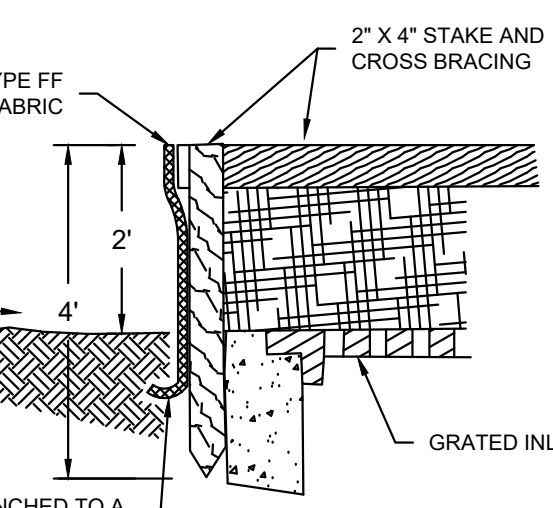
GENERAL NOTES
 SILT FENCE SHALL CONFORM TO WDNR CONSERVATION PRACTICE STANDARD #1056

THIS DRAWING IS BASED ON WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD DETAIL DRAWING 8 E 9-6

A SILT FENCE: WDNR TS-1056
NOT TO SCALE

- GENERAL NOTES
- HORIZONTAL BRACE REQUIRED WITH 2"X4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
 - TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1-1/32" X 1-1/32" OF OAK OR HICKORY.
 - SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
 - CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ON THE FOLLOWING TWO METHODS: A) OVERLAP THE END POSTS AND TWIST OR ROTATE, AT LEAST 180 DEGREES. B) HOOK THE END OF EACH SILT FENCE LENGTHS.

C EROSION MATTING: WDNR TS-1052
NOT TO SCALE



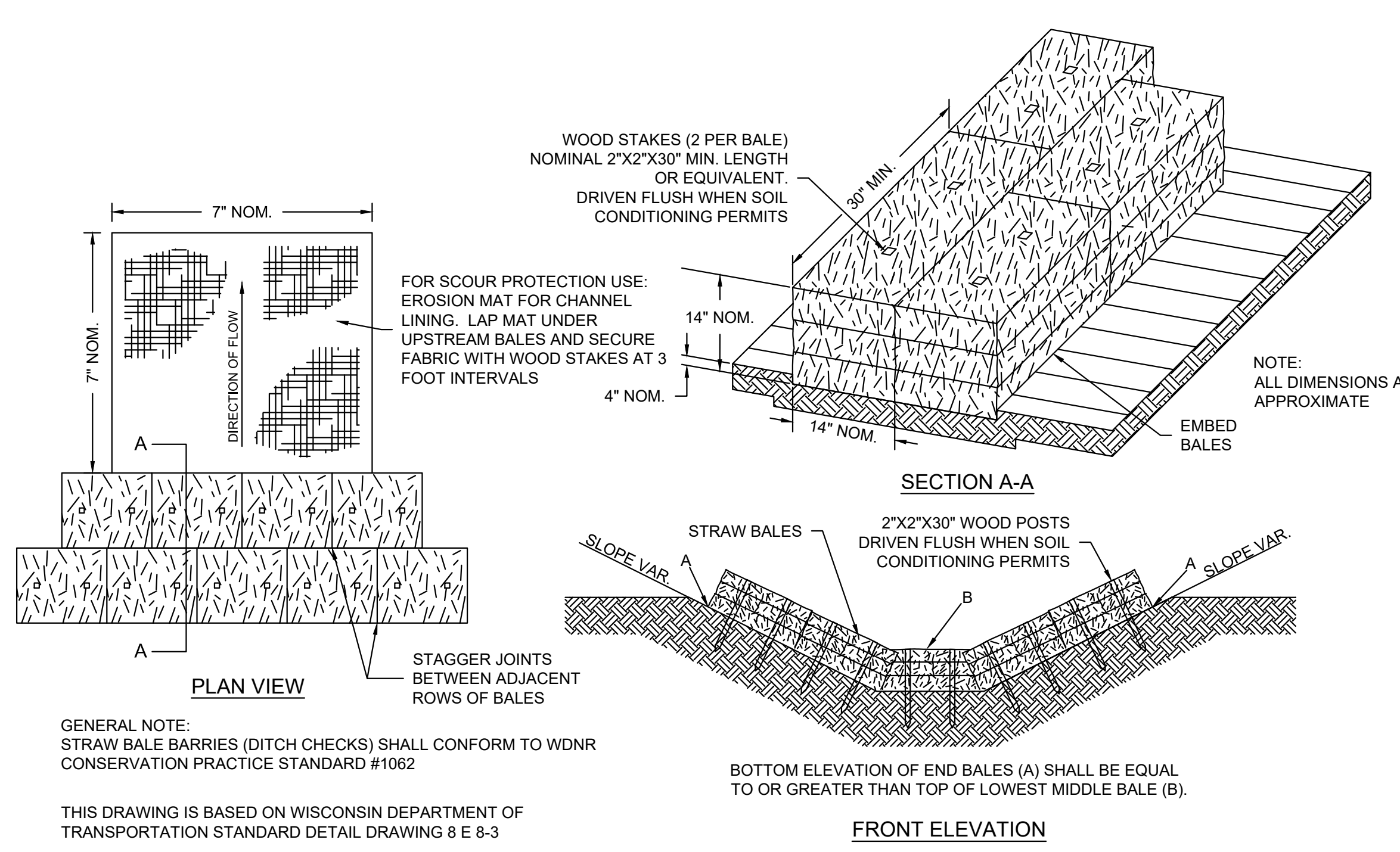
INSTALLATION NOTES
 TYPE B & C TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE. THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE. THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

- NOTES FOR TYPE A, B, C, D AND D-M INLET PROTECTION**
- TAPER BOTTOM OF BAG TO MAINTAIN THREE INCHES OF CLEARANCE BETWEEN THE BAG AND THE STRUCTURE, MEASURED FROM THE BOTTOM OF THE OVERFLOW OPENINGS TO THE STRUCTURE WALL.
 - GEOTEXTILE FABRIC TYPE FF FOR FLAPS, TOP AND BOTTOM OF OUTSIDE OF FILTER BAG. FRONT, BACK AND BOTTOM OF FILTER BAG BEING ONE PIECE.
 - FRONT LIFTING FLAP IS TO BE USED WHEN REMOVING AND MAINTAINING FILTER BAG.
 - SIDE FLAPS SHALL BE A MAXIMUM OF TWO INCHES LONG. FOLD THE FABRIC OVER AND REINFORCE WITH MULTIPLE STITCHES.
 - FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2" X 4". THE REBAR, STEEL PIPE, OR WOOD SHALL BE INSTALLED IN THE REAR FLAP AND SHALL NOT BLOCK THE TOP HALF OF THE CURB FACE OPENING.

- GENERAL NOTE:
- INLET PROTECTION SHALL CONFORM TO WDNR CONSERVATION PRACTICE STANDARD #1060.
 - MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.
 - THIS DRAWING IS BASED ON WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD DETAIL DRAWING 8 E 10-2

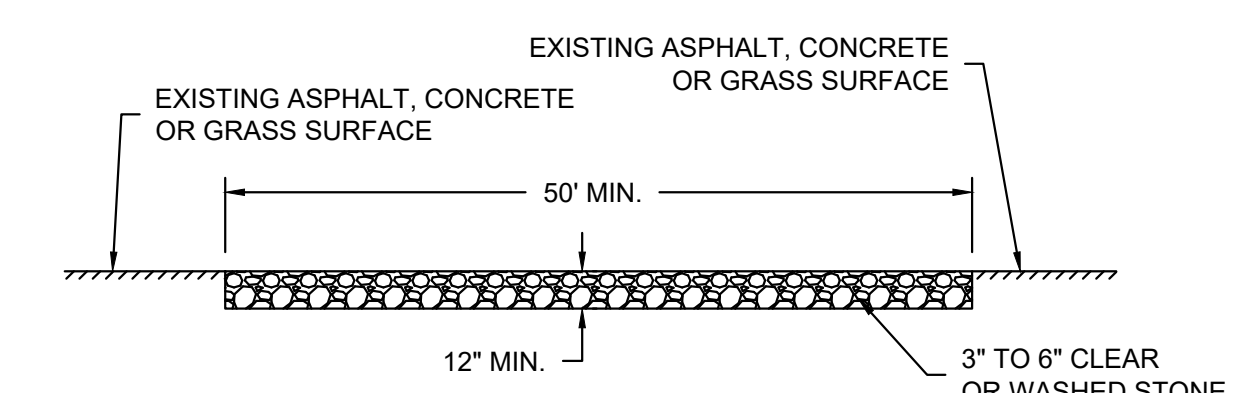
E INLET PROTECTION TYPE A, B, C, AND D: WDNR TS-1060
NOT TO SCALE



GENERAL NOTE: STRAW BALE BARRIERS (DITCH CHECKS) SHALL CONFORM TO WDNR CONSERVATION PRACTICE STANDARD #1062

THIS DRAWING IS BASED ON WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD DETAIL DRAWING 8 E 8-3

D DITCH CHECKS: WDNR TS-1062
NOT TO SCALE



GENERAL NOTE: STONE TRACKING PAD SHALL CONFORM TO WDNR CONSERVATION PRACTICE STANDARD #1057

B CONSTRUCTION ENTRANCE/ EXIT DETAIL: WDNR TS-1057
NOT TO SCALE

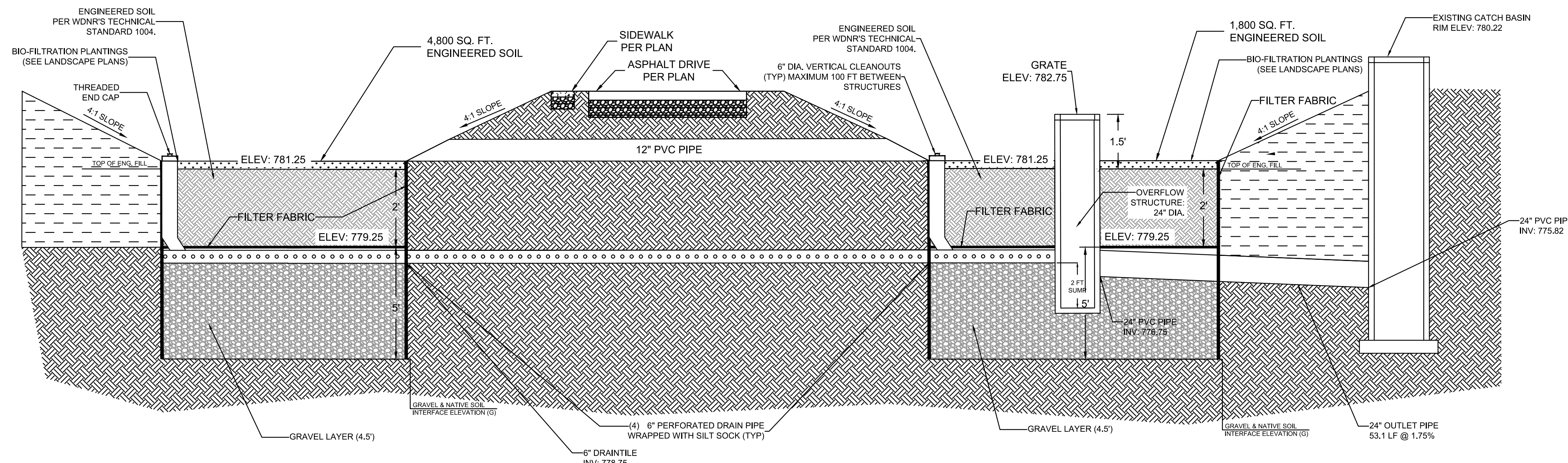
GRANDVIEW BUSINESS PARK - SITE II
 YORKVILLE, WISCONSIN

EROSION CONTROL DETAILS

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

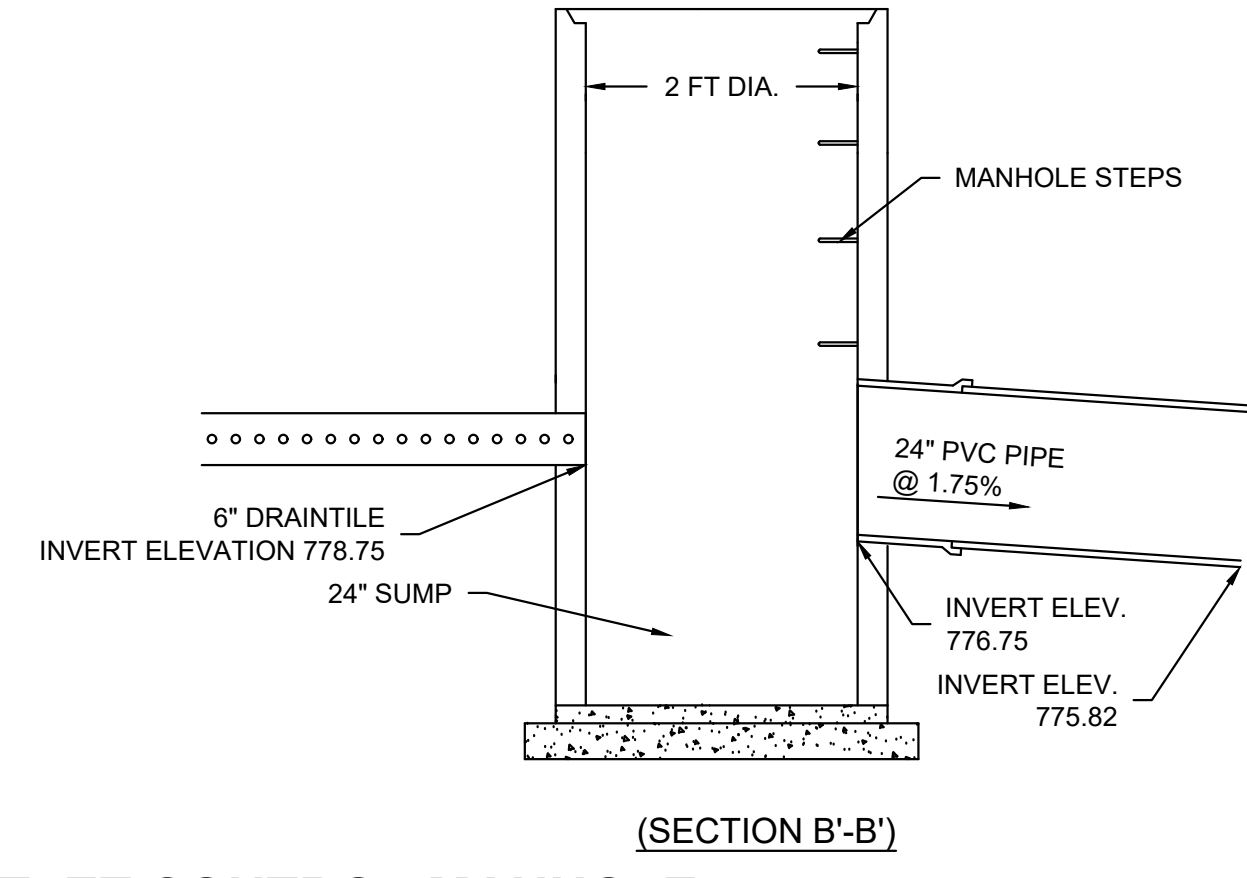
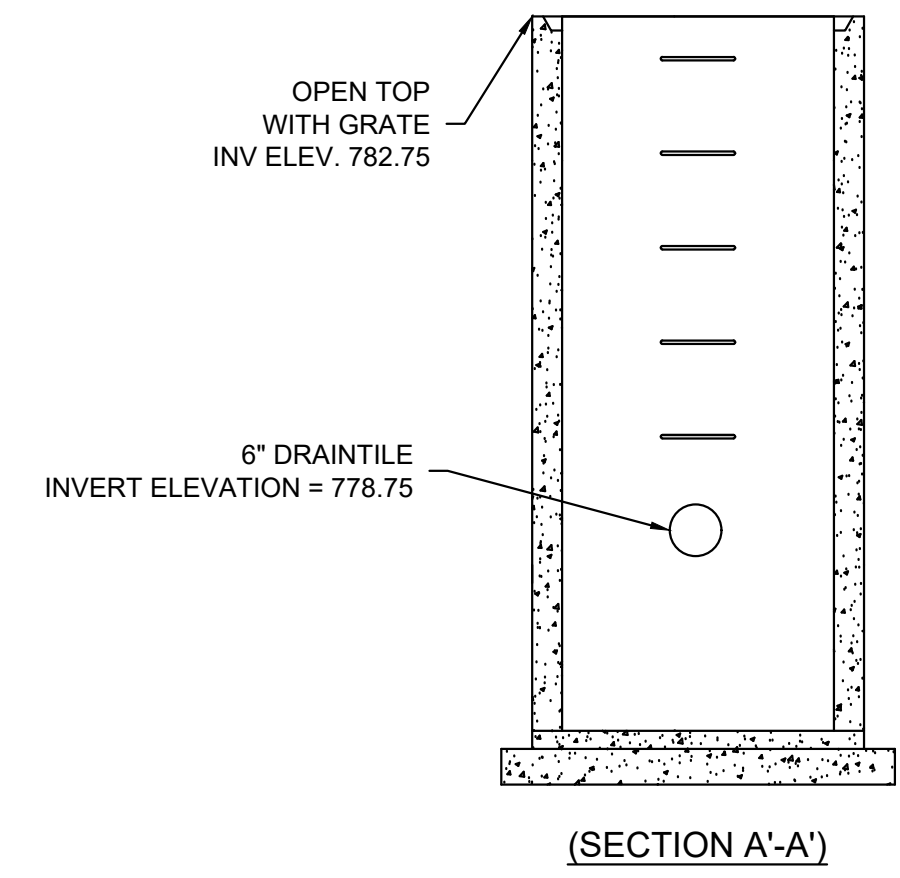
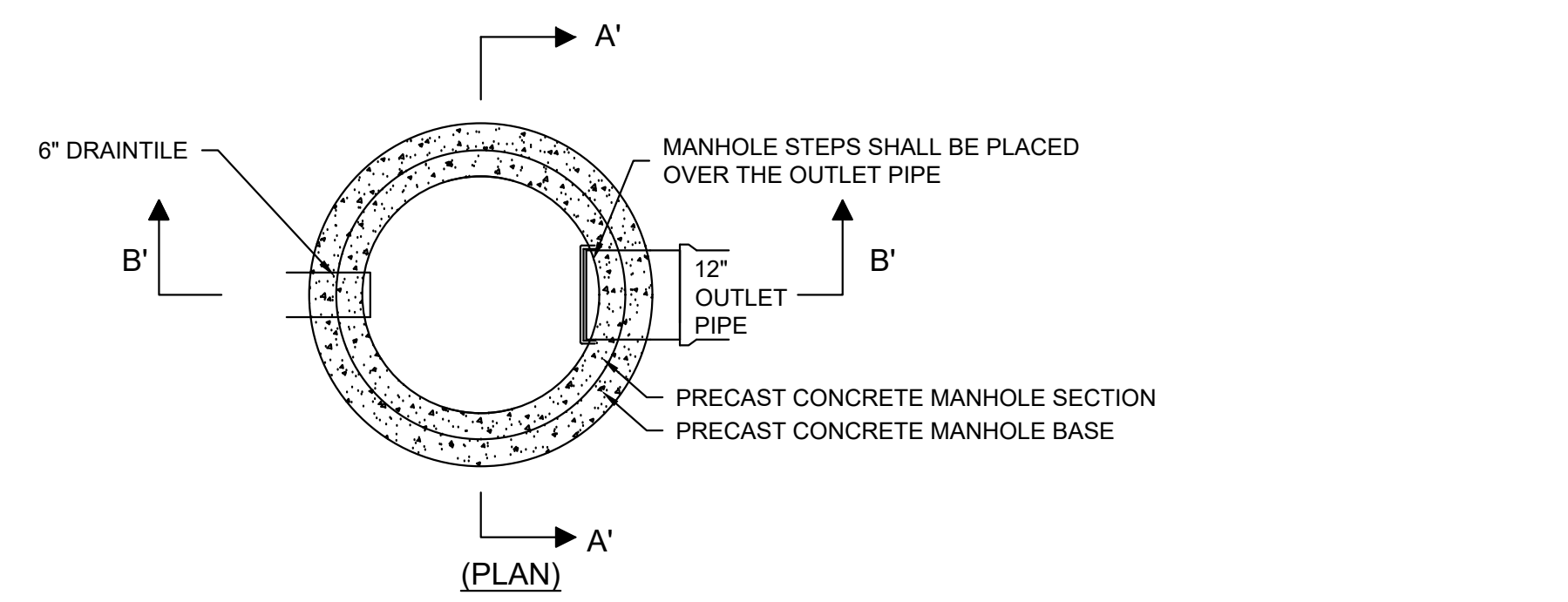
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PROJECT NO.:	19167
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C400



A GRASS/BIOFILTRATION BASIN SECTION - SITE B
NOT TO SCALE

NOTE:
BIO-FILTRATION BASIN SHALL NOT BE BROUGHT ONLINE UNTIL AREA DRAINING TO THE BASIN HAS ACHIEVED 90% STABILIZATION FROM EROSION (I.E. DO NOT PLACE ENGINEERED SOIL UNTIL SITE HAS BEEN STABILIZED).



B GRASS/BIOFILTRATION OUTLET CONTROL MANHOLE STRUCTURE - SITE B
NOT TO SCALE

EROSION CONTROL NOTES:

- CONSTRUCTION SITE EROSION CONTROL AND SEDIMENTATION CONTROL SHALL COMPLY WITH THE REQUIREMENTS OF THE LOCAL MUNICIPALITY AND SHALL EMPLOY EROSION CONTROL METHODS AS SHOWN AND SPECIFIED IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS.
- ALL EROSION CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON THE SITE.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED FOR STABILITY AND OPERATION AFTER A RAINFALL OF 0.5 INCHES OR MORE, BUT NO LESS THAN ONCE EVERY WEEK. MAINTENANCE OF ALL EROSION CONTROL STRUCTURES SHALL BE PROVIDED TO INSURE INTENDED PURPOSE IS ACCOMPLISHED. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP AND REMOVAL OF ALL SEDIMENT WHEN LEAVING PROPERTY. EROSION CONTROL MEASURES MUST BE IN WORKING CONDITION AT END OF EACH WORK DAY. DOCUMENT AND MAINTAIN RECORDS OF INSPECTIONS IN ACCORDANCE WITH WDNR NR216 REQUIREMENTS.
- SILT FENCE SHALL BE INSTALLED IN THE LOCATIONS SHOWN ON THE CONSTRUCTION PLANS. SEDIMENT DEPOSITS SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN DEPOSITS REACH A DEPTH OF 6 INCHES. THE SILT FENCE SHALL BE REPAIRED OR REPLACED AS NECESSARY TO MAINTAIN A BARRIER.
- FILTER FABRIC SHALL BE INSTALLED BENEATH INLET COVERS TO TRAP SEDIMENT PER INLET PROTECTION DETAIL IN THE LOCATIONS SHOWN ON THE CONSTRUCTION PLANS.
- EROSION CONTROL MEASURES SHALL BE MAINTAINED ON A CONTINUING BASIS UNTIL SITE IS FULLY STABILIZED.
- PERIODIC STREET SWEEPING SHALL BE COMPLETED TO MAINTAIN ADJACENT STREETS FREE OF DUST AND DIRT.
- SILT FENCE SHALL BE INSTALLED IN HORSESHOE FASHION AROUND ANY TOPSOIL AND FILL STOCKPILES.
- SITE DEWATERING. WATER PUMPED FROM THE SITE SHALL BE TREATED BY SEDIMENT BASINS OR OTHER APPROPRIATE MEASURES SPECIFIED IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS. WATER MAY NOT BE DISCHARGED IN A MANNER THAT CAUSES EROSION OF THE SITE, ADJACENT SITES, OR RECEIVING CHANNELS.
- WASTE AND MATERIAL DISPOSAL. ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, WASTEWATER, TOXIC MATERIALS, OR HAZARDOUS MATERIALS) SHALL BE PROPERLY DISPOSED AND NOT ALLOWED TO BE CARRIED OFF-SITE BY RUNOFF OR WIND.
- TRACKING. EACH SITE SHALL HAVE GRAVELED ROADS, ACCESS DRIVES AND PARKING AREAS OF SUFFICIENT WIDTH AND LENGTH TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC OR PRIVATE ROADWAYS. ANY SEDIMENT REACHING A PUBLIC OR PRIVATE ROAD SHALL BE REMOVED BY STREET CLEANING TO THE SATISFACTION OF THE MUNICIPALITY. BEFORE THE END OF EACH WORKDAY, FLUSHING MAY NOT BE USED UNLESS SEDIMENT WILL BE CONTROLLED BY A SEDIMENT BASIN OR PRACTICE SPECIFIED IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS. NOTIFY MUNICIPALITY OF ANY CHANGES IN STABILIZED CONSTRUCTION ENTRANCE LOCATION.
- SEDIMENT CLEANUP. ALL OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF A STORM EVENT SHALL BE CLEANED UP BY THE END OF THE NEXT WORKDAY. ALL OTHER OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE CLEANED UP BY THE END OF THE WORKDAY.
- ALL DISTURBED GROUND LEFT INACTIVE FOR SEVEN OR MORE DAYS SHALL BE STABILIZED BY TEMPORARY OR PERMANENT SEEDING, MULCHING, SODDING, COVERING WITH TARPS, OR EQUIVALENT PRACTICE FOUND IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARD. IF TEMPORARY SEEDING IS USED, A PERMANENT COVER SHALL ALSO BE REQUIRED AS PART OF THE FINAL SITE STABILIZATION. SEEDING OR SODDING SHALL BE REQUIRED AS PART OF THE FINAL SITE STABILIZATION.
- SOIL OR DIRT STORAGE PILES SHALL BE LOCATED A MINIMUM OF TWENTY-FIVE FEET FROM ANY DOWNSLOPE ROAD, LAKE, STREAM, WETLAND, OR DRAINAGE CHANNEL. STRAW BALE OR FILTER FABRIC FENCES SHALL BE PLACED ON THE DOWN SLOPE SIDE OF THE PILES. IF REMAINING FOR MORE THAN THIRTY DAYS, PILES SHALL BE STABILIZED BY MULCHING, VEGETATIVE COVER, TARPS OR OTHER MEANS.
- WHEN THE DISTURBED AREA HAS BEEN STABILIZED BY PERMANENT VEGETATION OR OTHER MEANS, TEMPORARY PRACTICES, SUCH AS FILTER FABRIC FENCES, STRAW BALES, SEDIMENT AND SEDIMENT TRAPS, FOUND IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS SHALL BE REMOVED.
- NOTIFY THE LOCAL MUNICIPALITY HAVING JURISDICTION WITHIN TWO WORKING DAYS OF COMMENCING ANY LAND DEVELOPMENT OR LAND DISTURBING ACTIVITY.
- OBTAIN PERMISSION FROM THE LOCAL MUNICIPALITY HAVING JURISDICTION PRIOR TO MODIFYING THE EROSION CONTROL PLAN.
- REPAIR ANY SILTATION OR EROSION DAMAGE TO ADJOINING SURFACES AND DRAINAGE WAYS RESULTING FROM LAND DEVELOPMENT OR LAND DISTURBING ACTIVITIES.
- KEEP A COPY OF THE EROSION CONTROL PLAN ON SITE.
- CONTRACTOR SHALL, TO THE EXTENT POSSIBLE, MINIMIZE DISTURBANCE OF EXISTING VEGETATION DURING CONSTRUCTION.
- CONTRACTOR SHALL, TO THE EXTENT POSSIBLE, MINIMIZE COMPACTION OF TOPSOIL AND PRESERVE TOPSOIL IN GREENSPACE AREAS.
- WASH WATER FROM VEHICLES AND WHEEL WASHING SHALL BE CONTAINED AND TREATED PRIOR TO DISCHARGE.
- CONTRACTOR SHALL MAINTAIN SPILL KITS ON-SITE.
- PERMANENT TURF SEEDING OF DISTURBED AREA MUST OCCUR PRIOR TO SEPTEMBER 15TH. IF ADEQUATE TIME IS NOT AVAILABLE TO APPLY PERMANENT SEEDING PRIOR TO SEPTEMBER 15TH, THEN DISTURBED AREAS SHALL BE TEMPORARILY SEEDED WITH AN ANNUAL RYE GRASS PER WDNR TECHNICAL STANDARD 1059, WHERE THE TEMPORARY SEEDING MUST OCCUR PRIOR TO OCTOBER 15TH.
- IF TEMPORARY SEEDING IS NOT COMPLETED BY OCTOBER 15TH, APPLY SOIL STABILIZERS AND DORMANT SEED TO DISTURBED AREA PER WDNR TECHNICAL STANDARD 1050. INSPECT ANIONIC PAM APPLICATION AT A MINIMUM FREQUENCY OF EVERY TWO MONTHS AND REAPPLY AS NECESSARY.

CONSTRUCTION SEQUENCE FOR EROSION CONTROL INCLUDES:

- INSTALL STABILIZED CONSTRUCTION ENTRANCE.
- INSTALL SILT FENCING AND INLET PROTECTION.
- INITIATE STOCKPILING OF IMPORTED MATERIAL. PLACE SILT FENCE AROUND STOCKPILE(S).
- STRIP TOPSOIL FROM STORM WATER BASIN LOCATION AND STOCKPILE.
- CONSTRUCT TEMPORARY SEDIMENTATION BASINS AND INSTALL TEMPORARY OUTLET AND EMERGENCY OVERFLOW. BIO-FILTRATION BASINS MAY BE USED AS A SEDIMENTATION BASIN DURING THE COURSE OF CONSTRUCTION BUT SHALL NOT BE BROUGHT ONLINE UNTIL AREA DRAINING TO BASIN IS AT LEAST 90% STABILIZED (DO NOT INSTALL ENGINEERED SOIL UNTIL SITE IS STABILIZED).
- CONSTRUCT DIVERSION SWALES, DIRECT RUNOFF TO SEDIMENTATION BASINS. INSTALL ASSOCIATED DITCH CHECKS.
- STRIP TOPSOIL FROM REMAINDER OF SITE IN A PROGRESSIVE MANNER, AND STOCKPILE.
- PERFORM ROUGH SITE GRADING. STABILIZE FINISHED AREAS AS THE WORK PROGRESSES. USE EROSION MATTING WHERE CALLED FOR ON THE PLANS. PER WDNR TECHNICAL STANDARD 1059: AREAS THAT RECEIVE TEMPORARY SEEDING SHALL HAVE A MINIMUM TOPSOIL DEPTH OF 2 INCHES. AREAS THAT RECEIVE PERMANENT SEEDING SHALL HAVE A MINIMAL TOPSOIL DEPTH OF 4 INCHES.
- PREPARE BUILDING PAD AND BEGIN FOUNDATIONS WORK FOR BUILDING.
- INSTALL UTILITIES. INSTALL ANY ADDITIONAL INLET PROTECTION ON NEW STORM SEWER AND INSTALL RIP-RAP WHERE SHOWN ON PLAN.
- REMOVE TEMPORARY OUTLET CONTROL STRUCTURE ON BASINS AND INSTALL PAVEMENTS.
- STABILIZE AREAS REMAINING AREAS WITHIN 7 DAYS OF COMPLETION OF FINAL GRADING AND TOPSOILING.
- REMOVE EXCESS SEDIMENT FROM STORMWATER BASINS AND RETURN BASINS TO THEIR DESIGN DIMENSIONS AND VOLUMES.
- COMPLETE CONSTRUCTION OF BIO-FILTRATION BASINS AND BRING ONLINE.
- REMOVE EROSION CONTROL MEASURES ONLY WHEN SITE IS FULLY STABILIZED.

THE SIGMA GROUP
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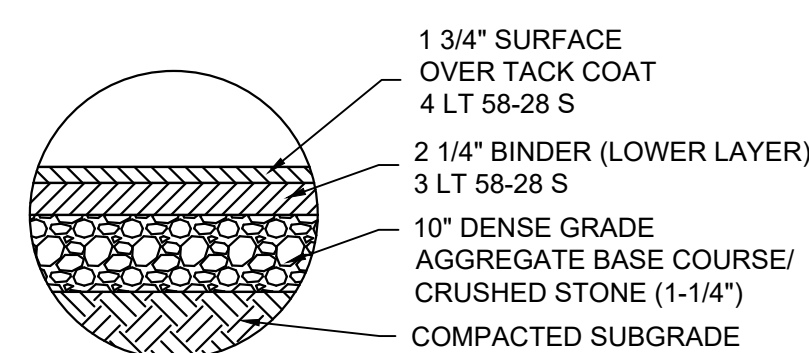
**GRANDVIEW BUSINESS PARK - SITE II
YORKVILLE, WISCONSIN**

EROSION CONTROL DETAILS

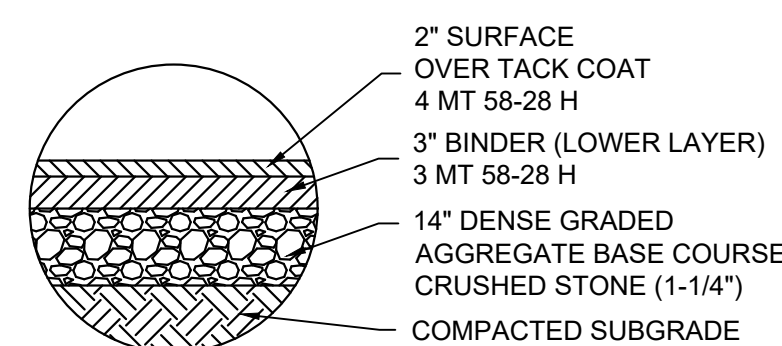
NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO.	19167_DETAILS.DWG
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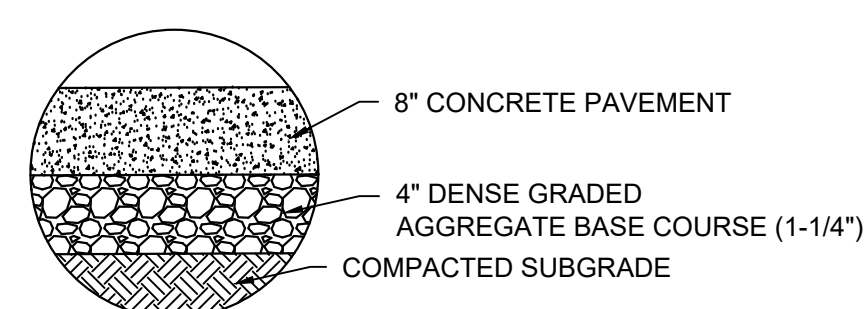
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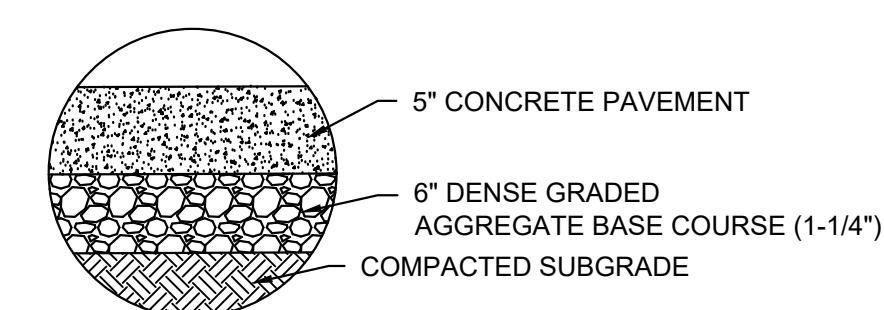
A ASPHALT PAVEMENT SECTION
NOT TO SCALE



B ASPHALT PAVEMENT SECTION (HEAVY DUTY)
NOT TO SCALE



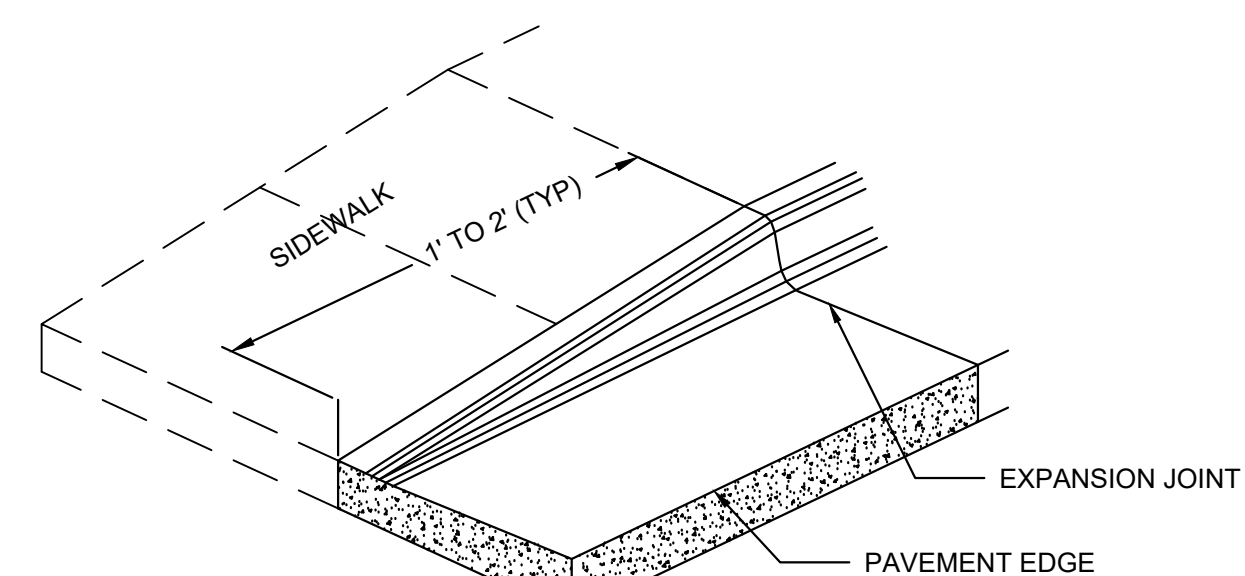
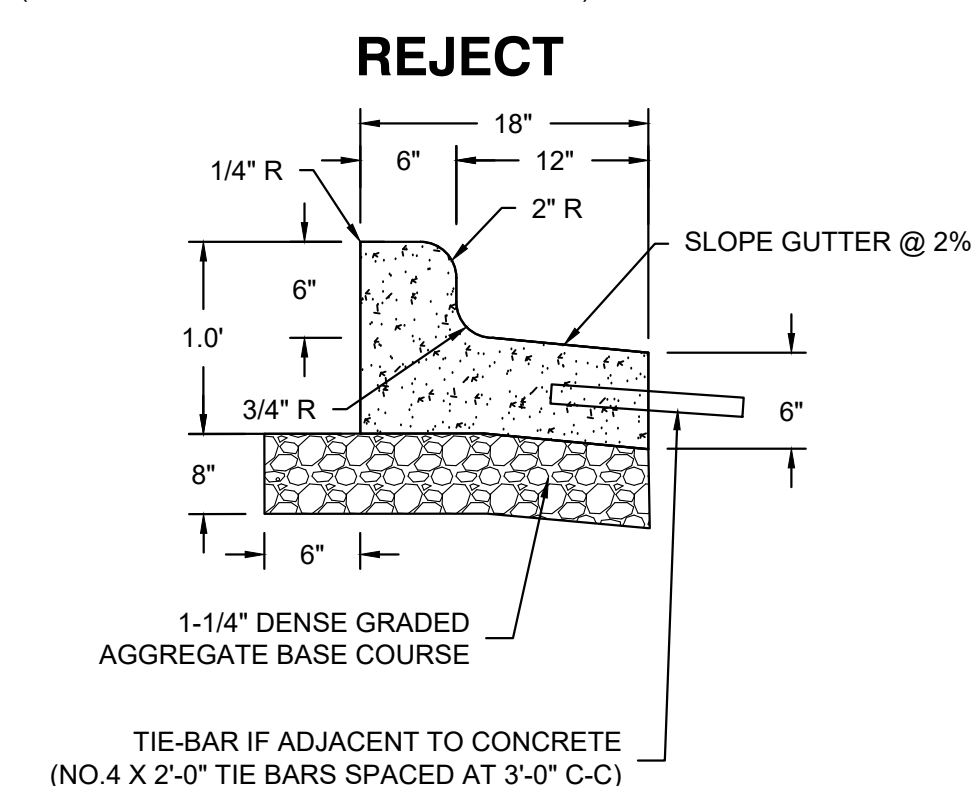
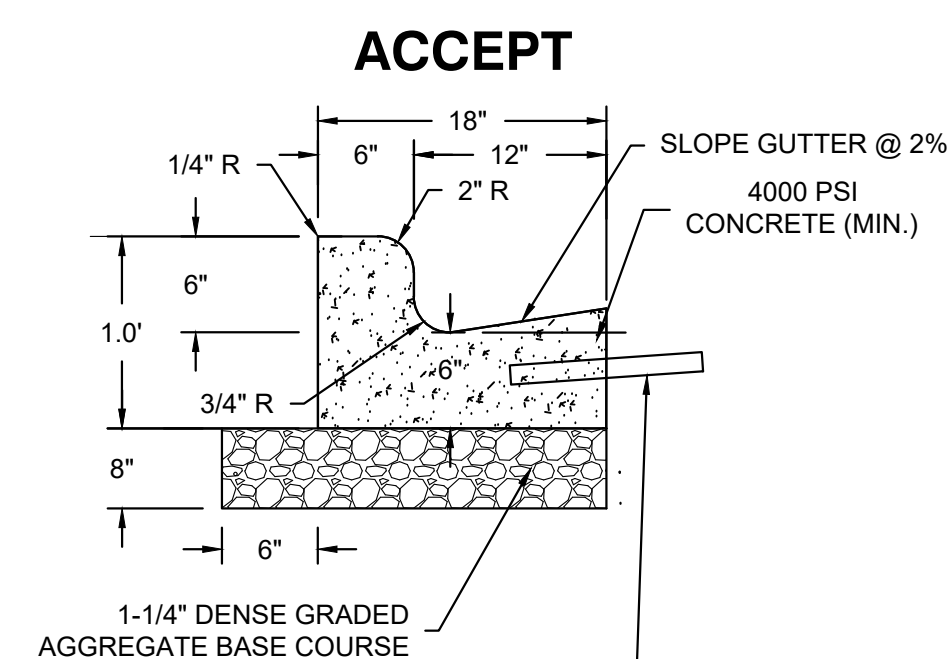
C CONCRETE PAVEMENT SECTION
NOT TO SCALE



D CONCRETE SIDEWALK
NOT TO SCALE

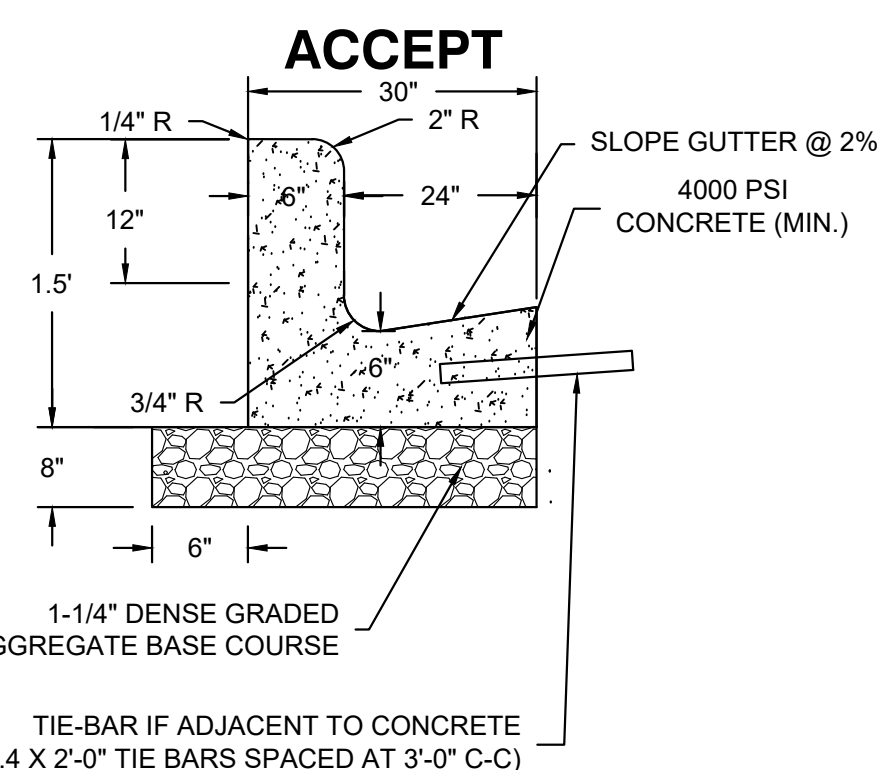
NOTES:

ANY CONNECTION TO EXISTING CURB AND GUTTER SECTION SHALL BE CONNECTED WITH A TIE-BAR

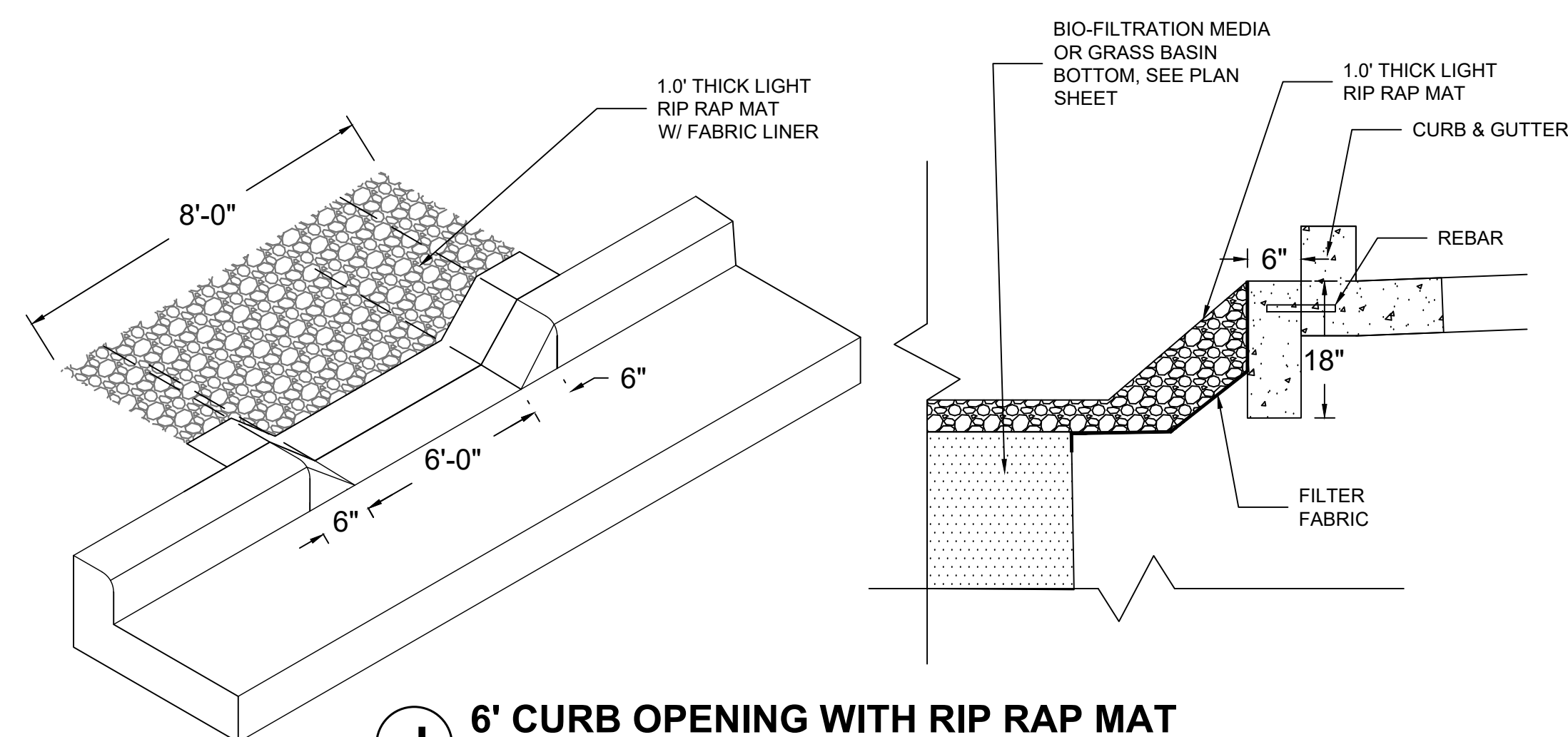


NOTES:
IF SIDEWALK IS ADJACENT TO CURB TAPER, TAPER SHALL BE EXTENDED TO 10' TO MAINTAIN 5% MAX SLOPE ON WALK FOR ADA ACCESS

L CURB TAPER
NOT TO SCALE

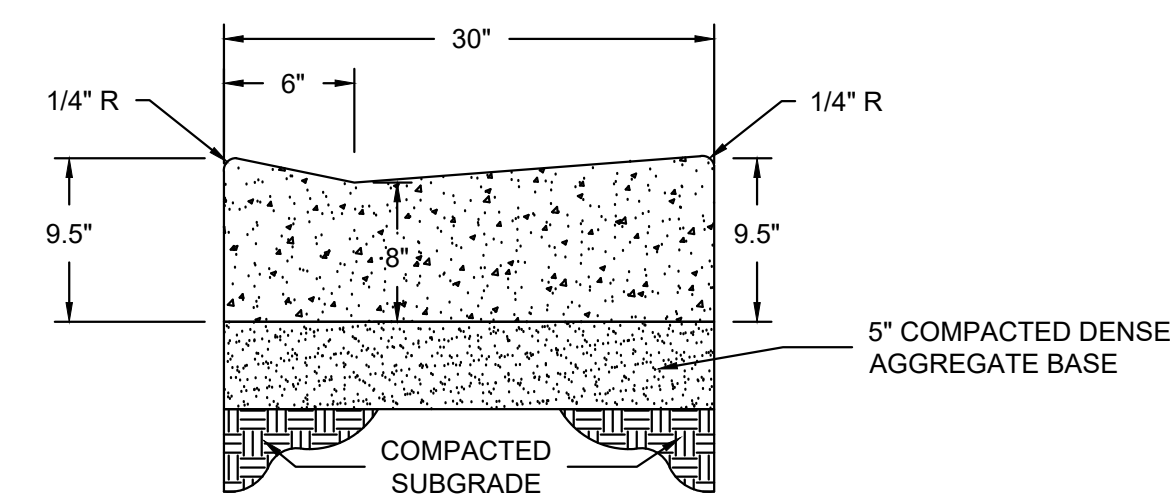


F 30" CONCRETE CURB & GUTTER SECTION (TRAILER STORAGE AREA ONLY)
NOT TO SCALE

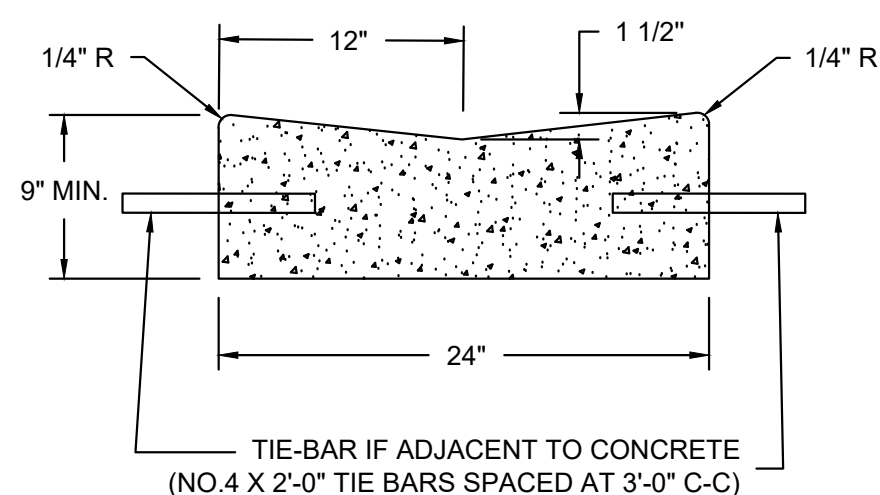


J 6" CURB OPENING WITH RIP RAP MAT
NOT TO SCALE

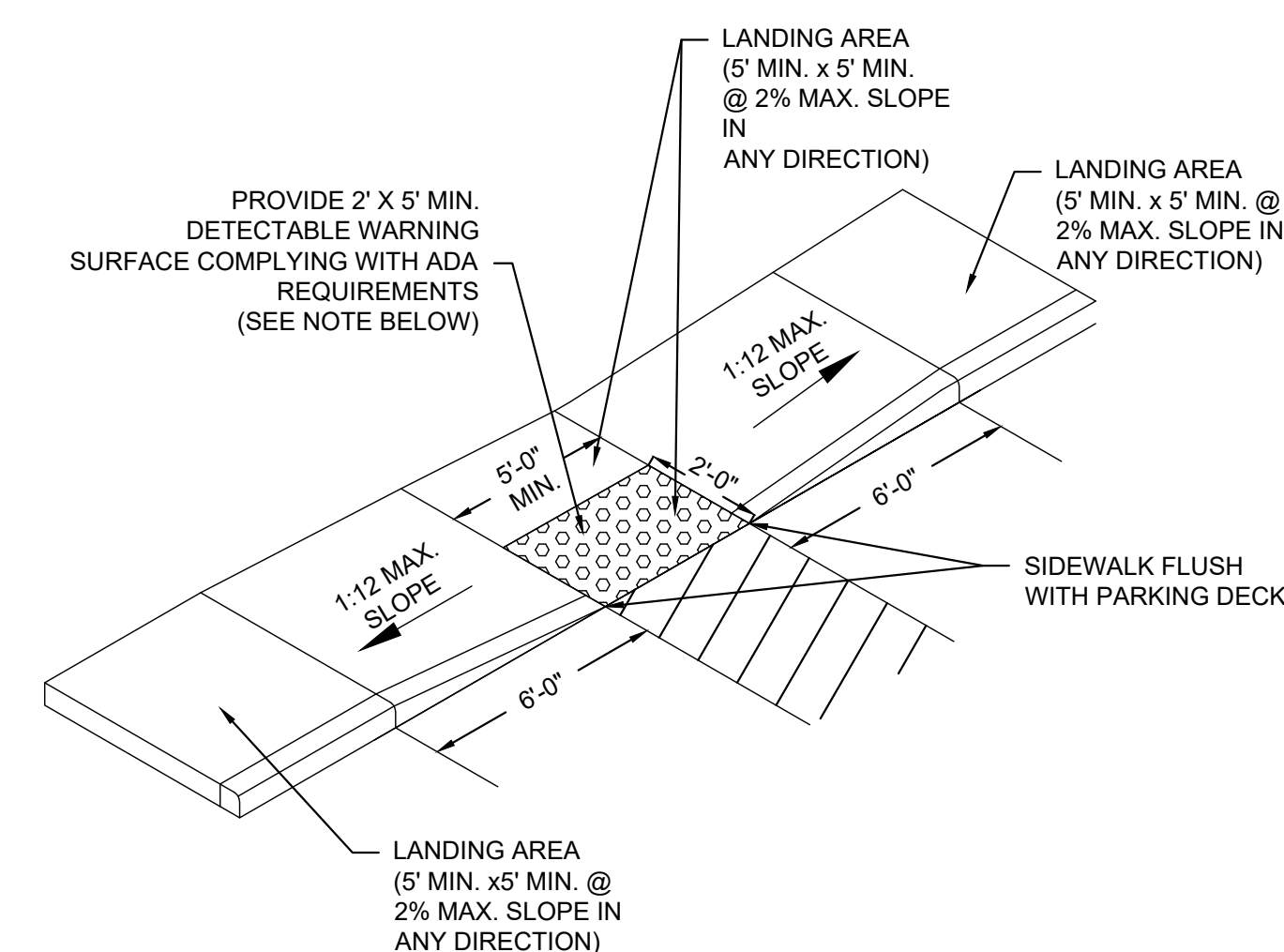
E 18" CONCRETE CURB & GUTTER SECTION
NOT TO SCALE



G DRIVEWAY ENTRANCE CURB AND GUTTER DETAIL
NOT TO SCALE



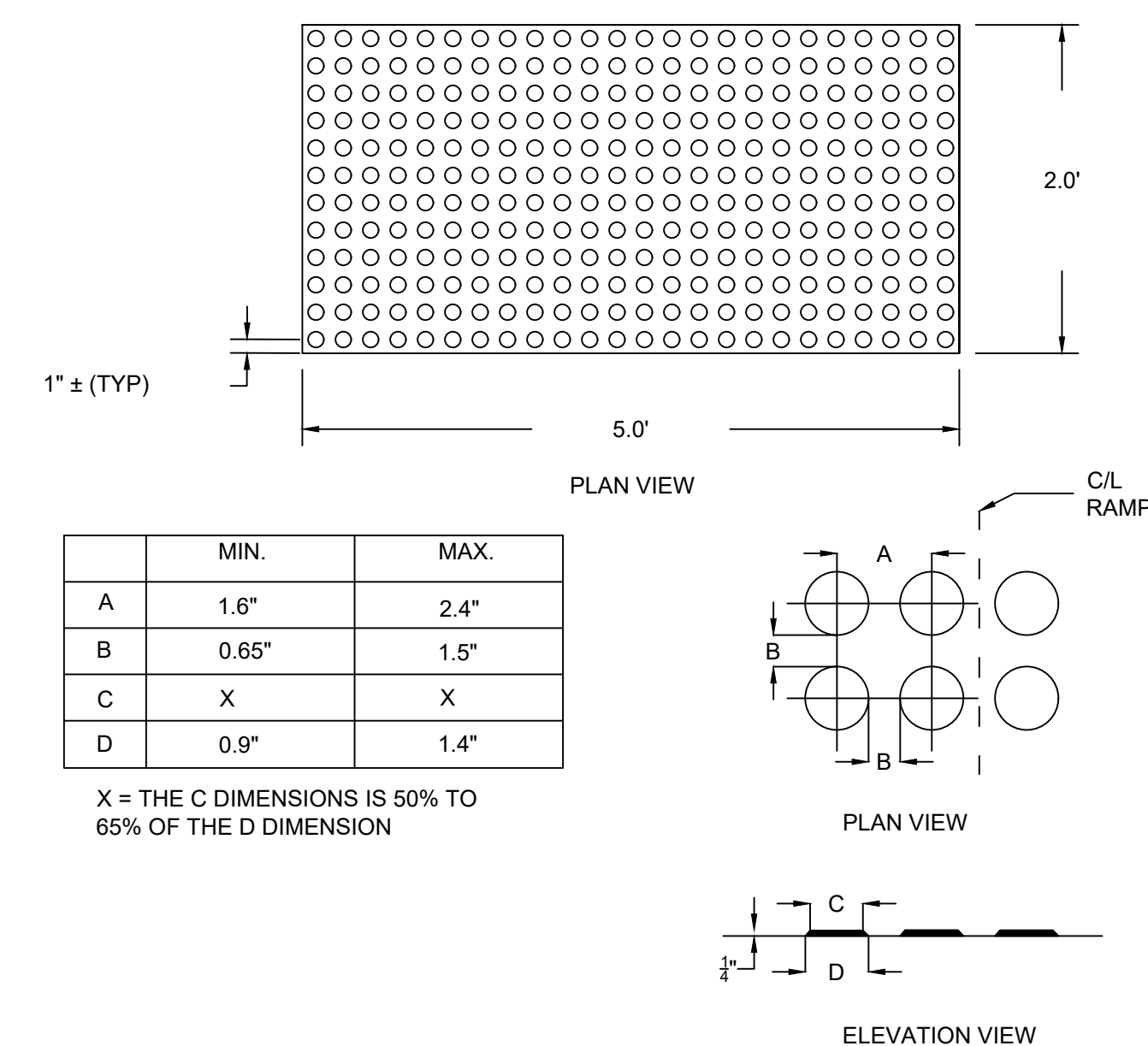
L 24" CONCRETE GUTTER SECTION
NOT TO SCALE



NOTES:

- CONTRACTOR TO VERIFY ADA RAMP DETAIL WITH CITY AND ADJUST AS NEEDED.
- PROVIDE DETECTABLE WARNING CONSISTING OF RAISED TRUNCATED DOMES OF SIZE, SPACING AND CONTRAST REQUIRED BY ADA GUIDELINES.
- DETECTABLE WARNINGS SHALL BE PER CITY STANDARDS.

H ADA RAMP DETAIL (TYPE 1)
NOT TO SCALE



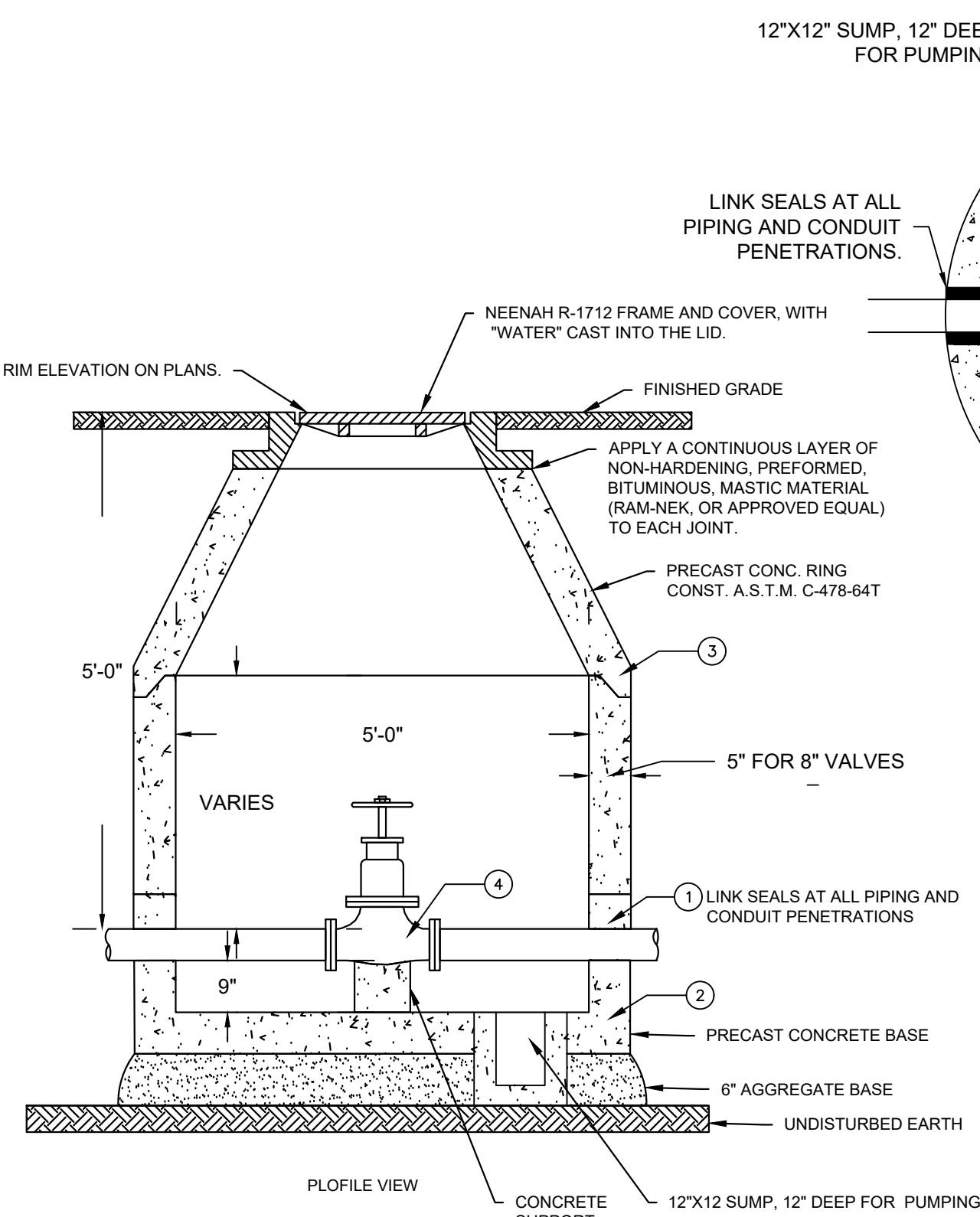
K TRUNCATED DOMES DETAIL
NOT TO SCALE

GRANDVIEW BUSINESS PARK - SITE II
YORKVILLE, WISCONSIN
SITE DETAILS

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

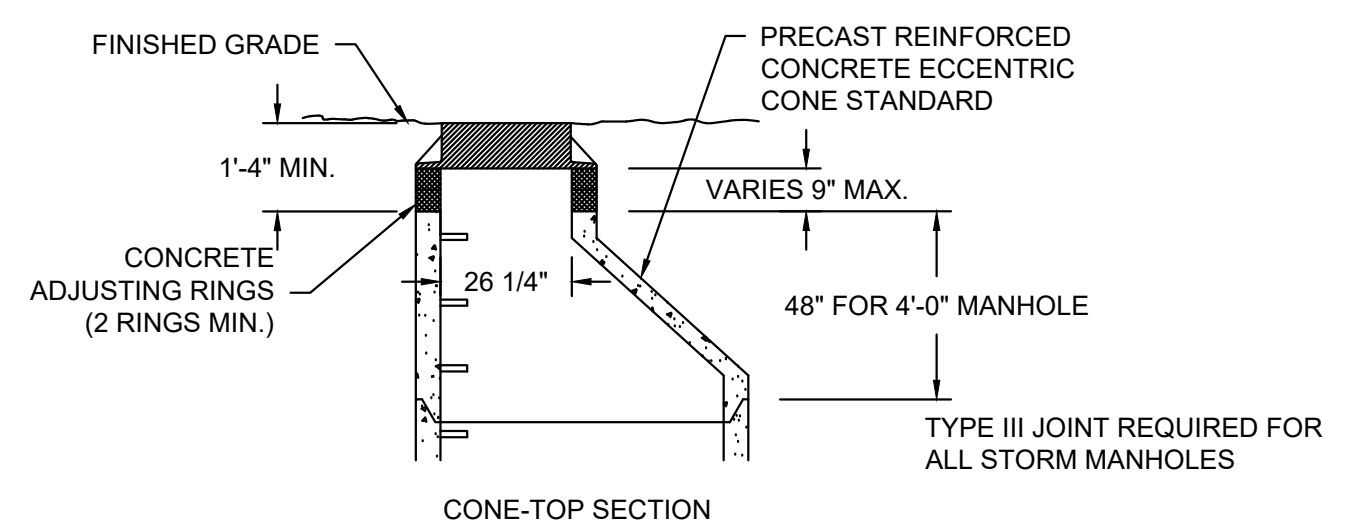
DRAWING NO. 19167_DETAILS.DWG
 DRAWN BY: RT
 DATE: 01-20-2020
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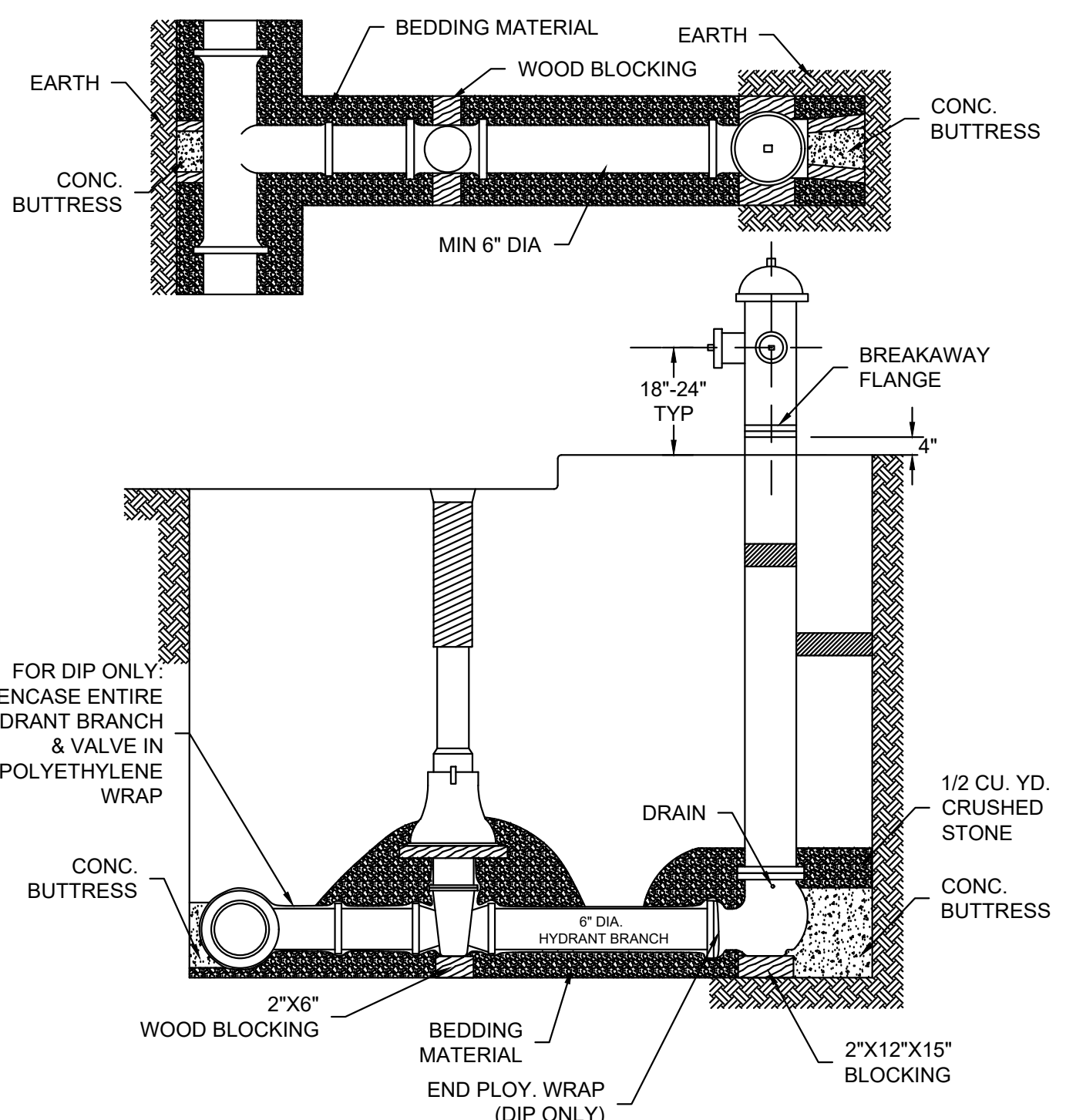
- NOTES:**
- PIPE OPENINGS TO BE CAST INTO WALL.
 - IT IS REQUIRED THAT CONCRETE BASE BE MONOLITHIC WITH THE LOWEST WALL SECTION.
 - PRECAST SECTIONS TO BE JOINED WITH TONGUE AND GROOVE JOINTS SEALED WITH RUBBER GASKET O-RINGS PER ASTM C443.
 - CHECK VALVE TO BE ACCORDANCE WITH THE SPECIFICATIONS ON SHEET C500.

A PRECAST STORM MANHOLE
NOT TO SCALE



- NOTES:**
- CONSTRUCT MANHOLE IN ACCORDANCE WITH FILE NO. 12 OF THE STATE STANDARD SPECIFICATIONS FOR SEWER AND WATER.
 - ADJUST FRAME TO GRADE WITH CONCRETE RINGS OF VARIABLE THICKNESS. MAXIMUM RING HEIGHT = 6". MINIMUM RING HEIGHT = 2". CONCRETE RINGS SHALL BE REINFORCED WITH ONE LINE OF STEEL CENTERED WITHIN THE RING. WHERE NECESSARY RINGS SHALL BE GROOVED TO RECEIVE STEP.
 - CONCRETE AND REINFORCEMENT STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION C-478.
 - JOINTS SHALL BE WATERTIGHT AND SHALL BE MADE USING MORTAR, OR FLEXIBLE RUBBER TYPE GASKETS FOR STORM MANHOLES.
 - AREA OF CIRCUMFERENTIAL STEEL = 0.12 SQ. INCH PER LINEAL FOOT MIN.
 - 3" OF BEDDING STONE UNDER BASE.
 - UNLESS NOTED ON THE PLANS CONTRACTOR IS RESPONSIBLE FOR ALL MANHOLE SIZING AND SHALL PROVIDE A SHOP DRAWING TO THE SIGMA GROUP, INC. BEFORE THEY ARE RELEASED FOR PRODUCTION.

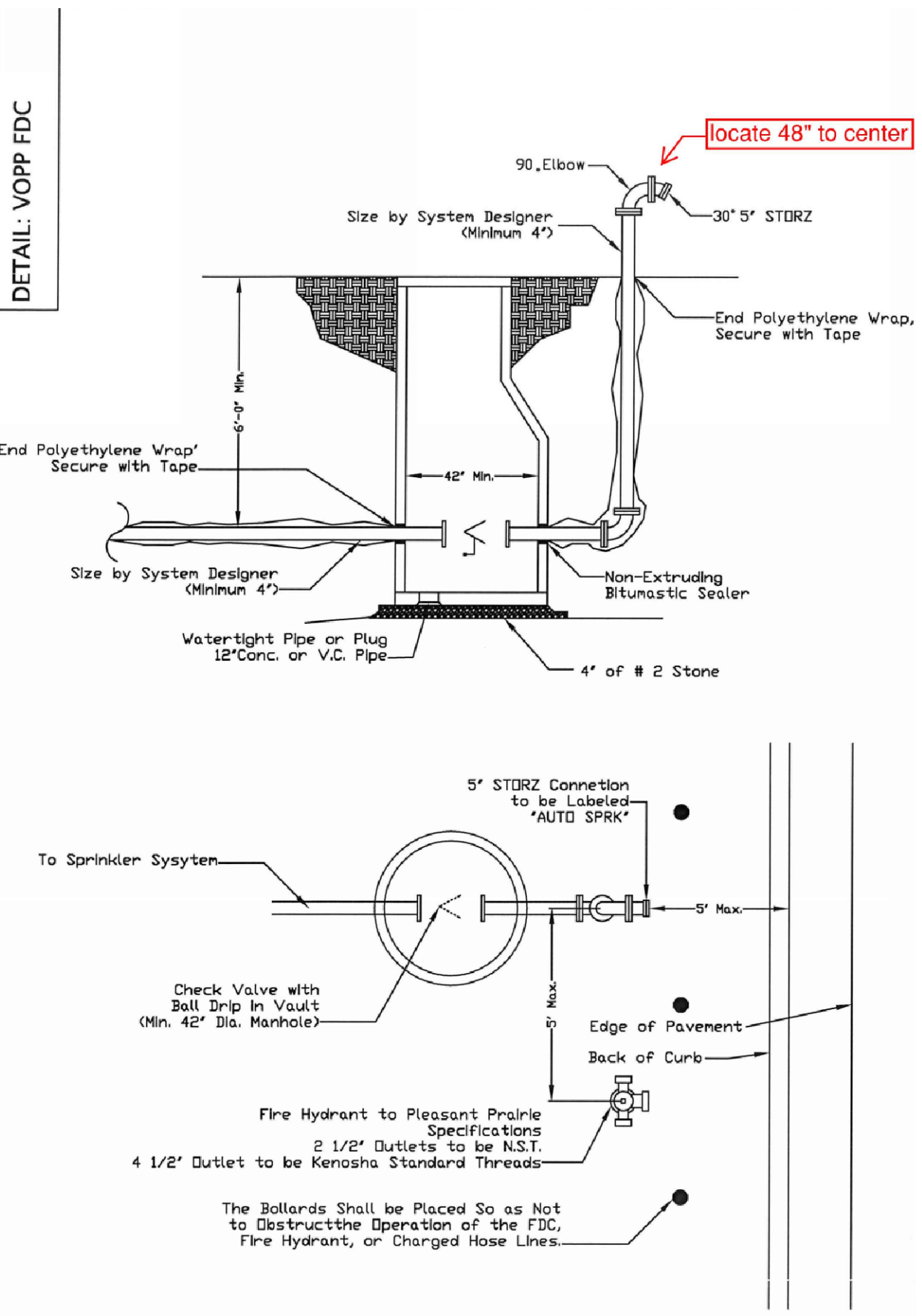
B INLET AND CATCH BASIN
NOT TO SCALE



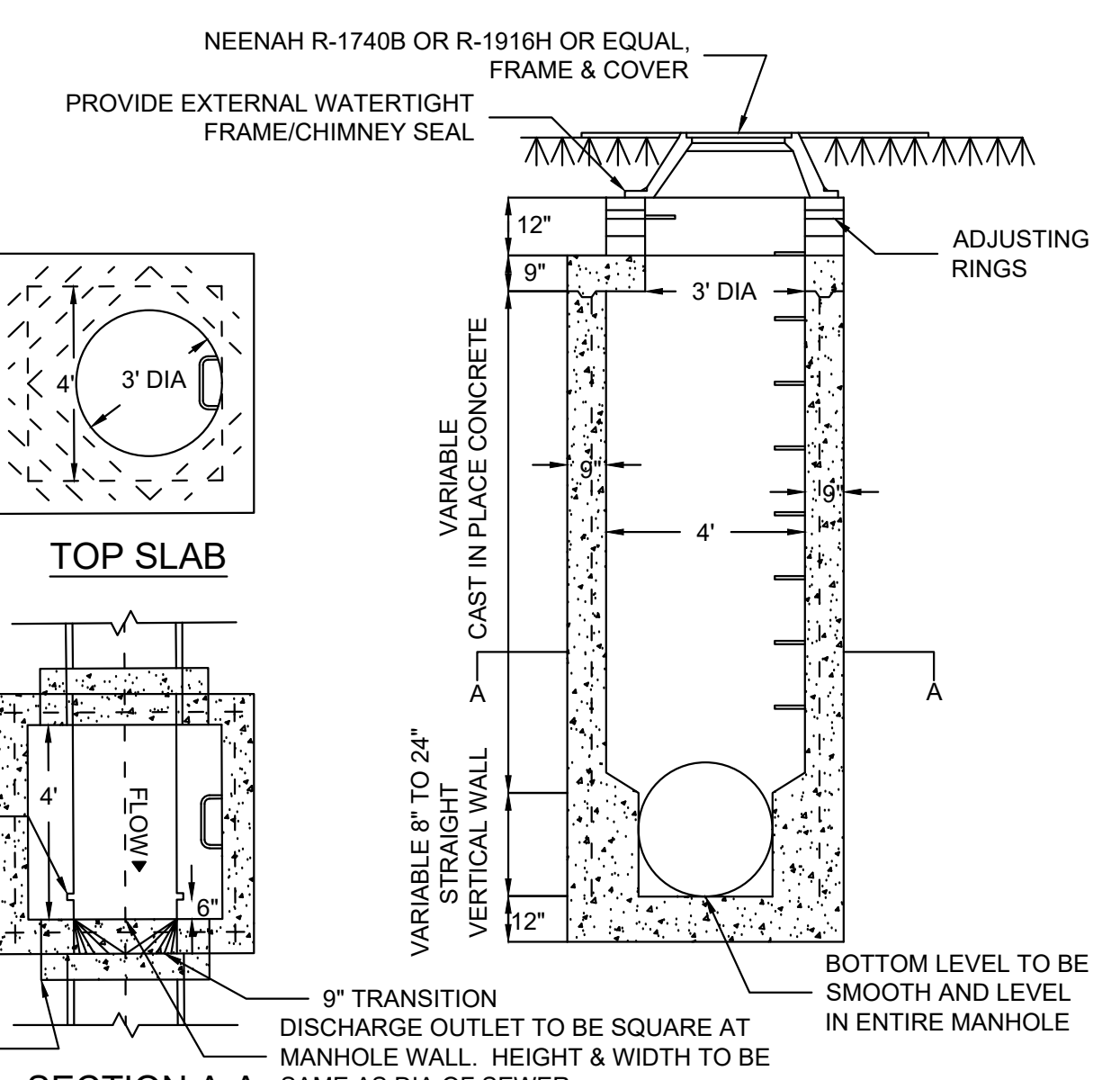
- NOTES:**
- ENTIRE HYDRANT LEAD SHALL BE RESTRAINED BY MEGA-LUG OR APPROVED EQUAL.
 - CONTRACTOR SHALL USE ANCHOR TEE AND VALVE WHEN ALLOWED BY LOCAL INSPECTOR.

E TYPICAL HYDRANT SETTING
NOT TO SCALE

C CHECK VALVE DETAIL
NOT TO SCALE

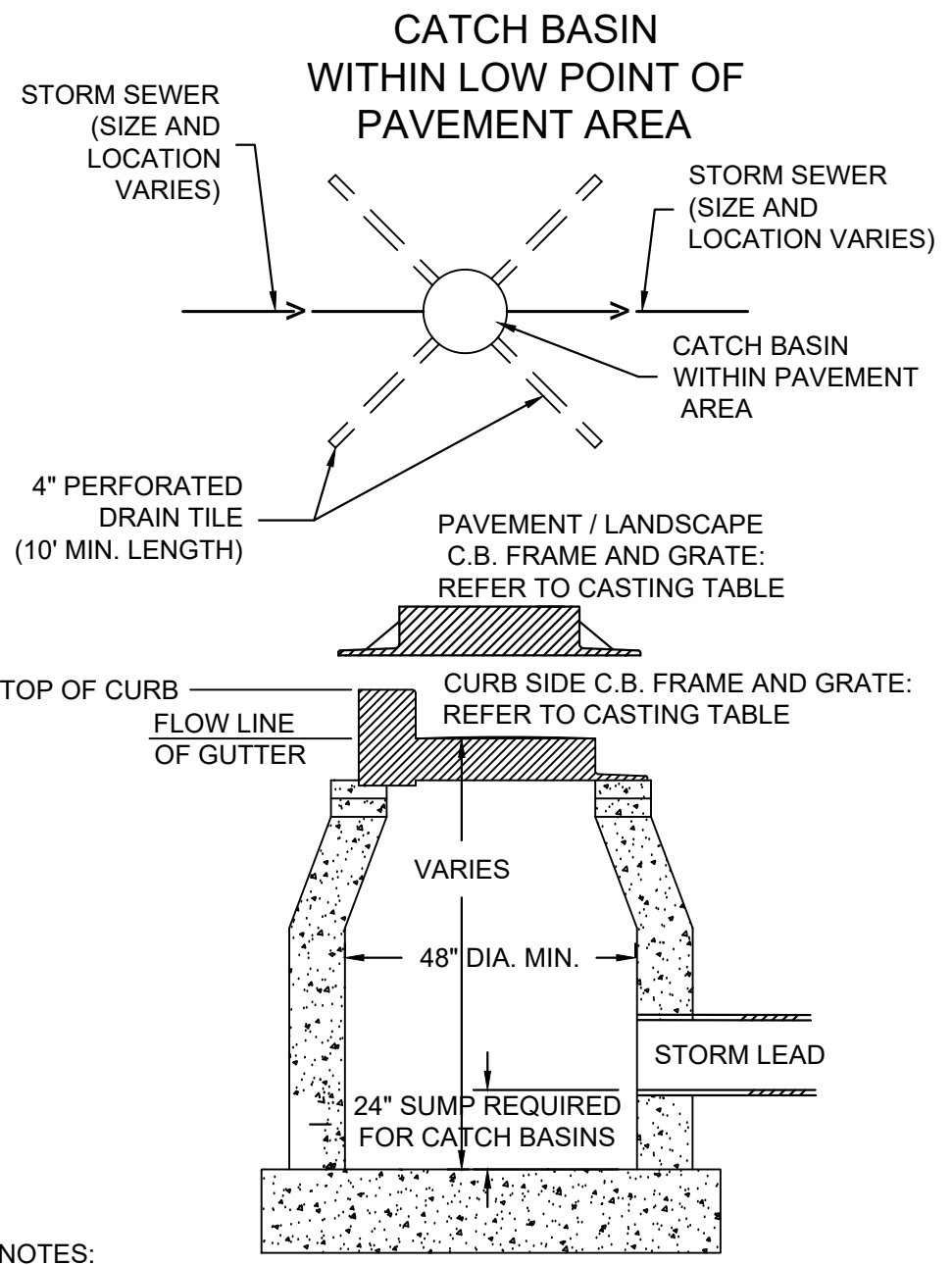


F CLEANOUT
NOT TO SCALE



- NOTES:**
- SAMPLING & GAUGE MANHOLE SHALL CONFORM TO THE LATEST VERSION OF THE "STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN", FILE NO. 23

D SAMPLING & GAUGE MANHOLES
NOT TO SCALE



- NOTES:**
- ADJUST FRAME TO GRADE WITH CONCRETE RINGS OF VARIABLE THICKNESS. MAXIMUM RING HEIGHT = 6". MINIMUM RING HEIGHT = 2". CONCRETE RINGS SHALL BE REINFORCED WITH ONE LINE OF STEEL CENTERED WITHIN THE RING.
 - CONCRETE AND REINFORCEMENT STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION C-478.
 - BEDDING OF STONE UNDER BASE REQUIRED ON WET SUB-GRADE.
 - UNLESS NOTED ON THE PLANS CONTRACTOR IS RESPONSIBLE FOR ALL CATCH BASIN SIZING AND SHALL PROVIDE A SHOP DRAWING TO THE SIGMA GROUP, INC. BEFORE THEY ARE RELEASED FOR PRODUCTION.

	CATCH BASIN / INLET CASTING TABLE					
	#18\"/>					
CURB INLET	NEENAH R-3170	B	NEENAH R-3067	A	NEENAH R-3228H	C
AREA INLET	NEENAH R-2050	C				

G FIRE DEPARTMENT CONNECTION (FDC)
NOT TO SCALE

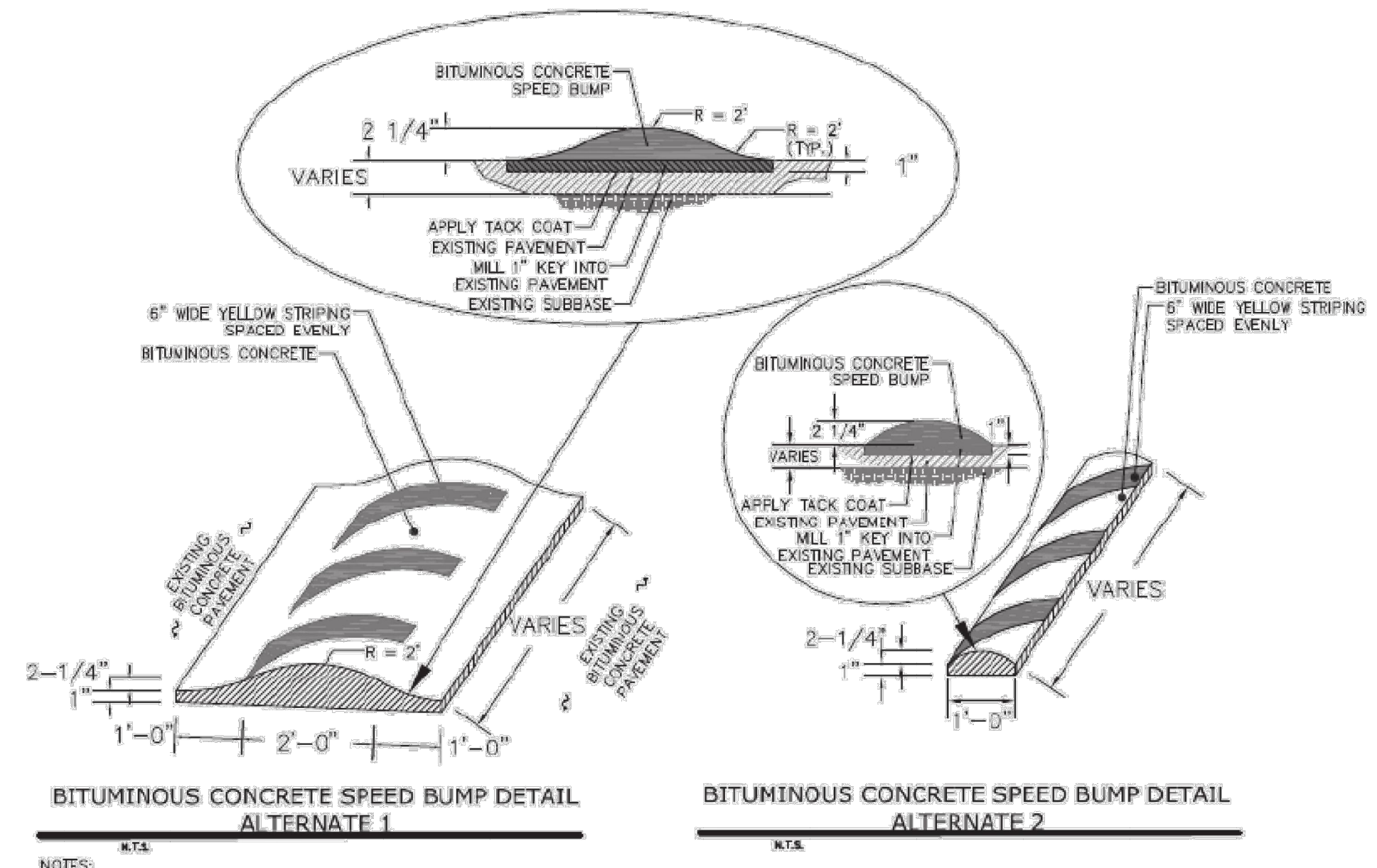
GRANDVIEW BUSINESS PARK - SITE II
YORKVILLE, WISCONSIN

SITE DETAILS

NO.	REVISION	DATE	BY
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SHEET NO.:	

C403



BITUMINOUS CONCRETE SPEED BUMP DETAIL ALTERNATE 1
 NOTES:
 1. BITUMINOUS CONCRETE SPEED BUMPS SHALL BE USED IN LOCATIONS WHERE SHOWN IS A CONCERN.
 2. INSTALL AT A DISTANCE OF 10 TO 20 FEET IN ADVANCE OF ALL STOP SIGNS AND CROSSWALKS IN DIRECTION OF TRAVEL.

BITUMINOUS CONCRETE SPEED BUMP DETAIL ALTERNATE 2

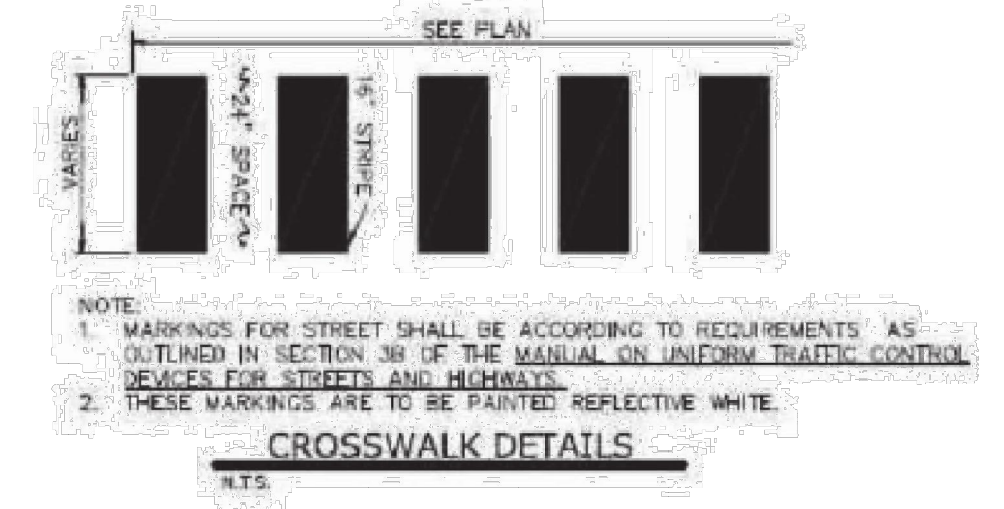
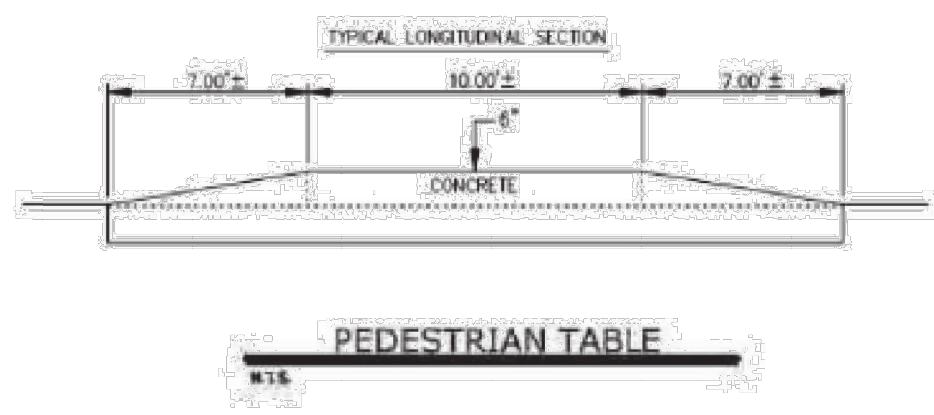
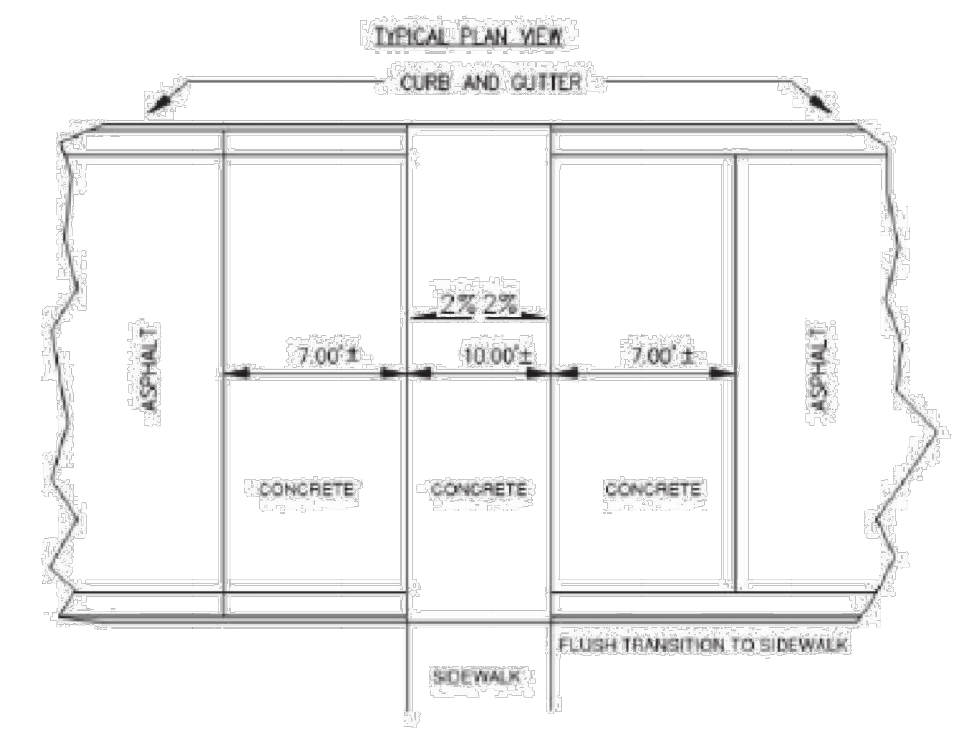
STRIPING NOTES:
 1. ALL STRIPING SHALL BE LONG LIFE EPOXY RESIN AND 4" WIDE UNLESS OTHERWISE NOTED. ALL PAVEMENT GRAPHICS SHALL BE HOT-APPLIED THERMOPLASTIC (REFLECTIVE). COLOR SHALL BE WHITE ON ASPHALT AND YELLOW ON CONCRETE.
 2. ALL PROPOSED SIGNAGE AND STRIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE TENANT FULFILLMENT WORLDWIDE REAL ESTATE SIGNAGE STANDARDS.

POST AND PANEL SIGNS
 MOUNTING U-1E, U-1C, U-2
SPECIFICATIONS
 ALSO SEE GENERAL CONSTRUCTION AND INSTALLATION INSTRUCTIONS.

DESCRIPTION
 1. POST AND PANEL SIGNS WITH STANDARD SIZED "MUTCD" AND CUSTOM SIGN FACES
 2. MATERIALS AND CONSTRUCTION.
 3. SIGNS TO CONSIST OF ALUMINUM SIGN PANEL ON 2" SQUARE STEEL POST.
 4. PANEL TO CONFORM TO "MUTCD" SPECIFICATIONS. SOLID ALUMINUM PANEL, 0.08" THICK. COMPOSITE MATERIALS ARE NOT ACCEPTABLE.
 5. POSTS ARE TO BE 2" SQUARE STEEL, 12 GA. 7/16" PERFORATION ON 1" CENTERS. FOUR SIDES TO BE APPROXIMATELY 12' LONG.
 6. SUPPORTS ARE TO BE SUFFICIENT FOR SECURE MOUNTING OF SIGN.
 7. ALL HARDWARE SHALL BE NON-CORROSIVE. IF ADDITIONAL THICKNESS OF MATERIAL OR ADDITIONAL INTERNAL BRACING IS REQUIRED FOR SECURE INSTALLATION OR TO PROVIDE STABILITY, ALTERATIONS SHALL BE REFLECTED IN SHOP DRAWINGS. WIND LOADING A DURABILITY SHALL BE TAKEN INTO ACCOUNT IN THE ENGINEERING OF THE SIGN.
 8. GRAPHICS AND TYPOGRAPHY SIGN GRAPHICS ARE TO BE HEAVY DUTY "3M" REFLECTIVE VINYL.
 9. CUSTOM GRAPHICS AND TYPOGRAPHY SIGNS ARE AVAILABLE FROM THE OWNER AS ELECTRONIC FILES.
 10. COLORS ARE INDICATED ON THE DESIGN INTENT DRAWINGS. ADDITIONAL COLOR AND FINISH SPECIFICATIONS ARE FOUND IN THE GENERAL SPECIFICATIONS.
 11. ALL SIGNS INDICATED "DOT" SHALL CONFORM TO THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FROM THE FEDERAL HIGHWAY ADMINISTRATION.

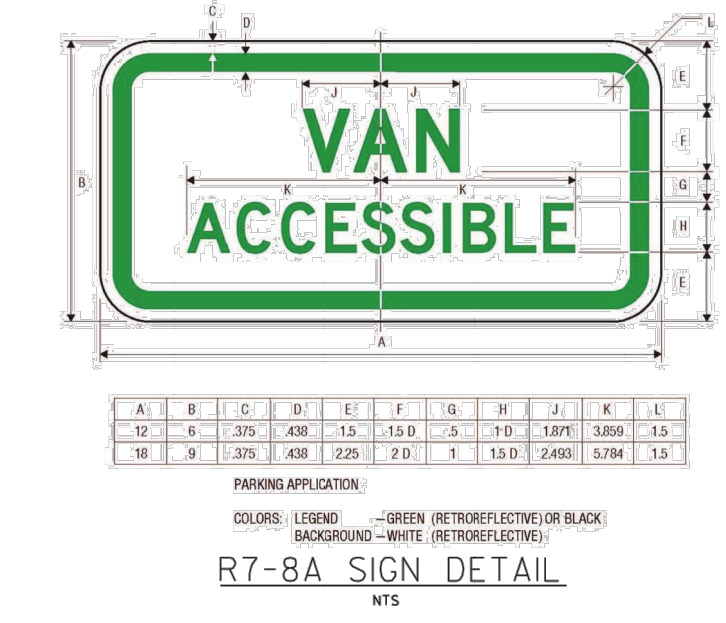
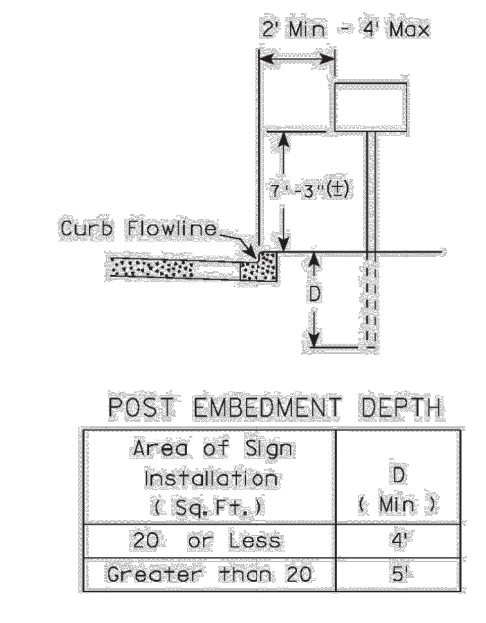
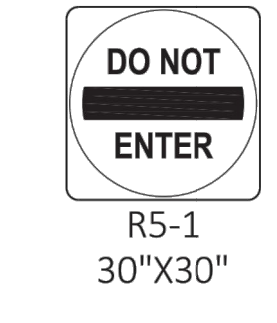
INSTALLATION
 1. LOCATIONS ARE GENERALLY NOTED ON THE ATTACHED LOCATION PLANS. THE CONTRACTOR IS RESPONSIBLE FOR FILED VERIFYING ALL INSTALLATION CONDITIONS PRIOR TO FABRICATION.
 2. MOUNTING U-1E SHALL BE USED FOR SIGNS IN COMPACTED EARTH. MOUNTING U-1C SHALL BE USED FOR SIGNS ON CONCRETE OR ASPHALT PAVING.
 3. MOUNTING U-1E PROVIDES A 36" MOUNTING TUBE (2 1/4" SQUARE STEEL DRIVE TO 1" TO 2" ABOVE GRADE. THE MOUNTING TUBE IS PAIRED WITH AN 18" BREAKAWAY SUPPORT TUBE (2 1/4" SQUARE STEEL POST). THE SIGN POST SINKS TO THE BASE OF THE ANCHOR TUBE AND FASTENS TO THE ANCHOR TUBE AND BREAKAWAY SUPPORT WITH AN ANGLE BOLT.
 4. INTENTIONALLY OMITTED.
 5. TYPICAL SIGN PANEL INSTALLS BOTTOM OF SIGN AT 7'-0" ABOVE FINISHED GRADE. THE POST EXTENDS TO WITHIN 2' OF THE TOP OF THE SIGN PANEL. INSTALLATION SHALL BE PLUMB, LEVEL, AND STRAIGHT.
 6. MOUNTING U-2 PROVIDES TWO POLE SUPPORT SIMILAR TO THE MOUNTING U-1E. ADDITIONALLY, U-2 REQUIRES CROSS BRACING OF STRUCTURAL ANGLE ON THE BACK OF THE SIGN FACE.
 7. TOP OF THE U-2 MOUNTED SIGN SHALL BE AT 8'-0" ABOVE FINISHED GRADE. INSTALLATION SHALL BE PLUMB, LEVEL, AND STRAIGHT.
 8. THE INSTALLATION METHODS AND DETAILS FOR EACH LOCATION SHALL BE ILLUSTRATED IN THE SUBMITTED SHOP DRAWINGS. FINAL LOCATION WILL BE APPROVED ON THE SITE BY THE TENANT OR HIS REPRESENTATIVE.
 9. SIGN POSTS INSTALLED IN COMPACTED EARTH OR SIDEWALK SHALL BE 18" MIN. FROM FACE OF CURB.

SUBMITTALS
 THE FOLLOWING SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION - (3) SETS OF SHOP DRAWINGS AND (3) 6"x6" VINYL SAMPLES OF EACH SIGN FACE COLOR. SEE GENERAL CONSTRUCTION AND INSTALLATION SPECIFICATIONS FOR ADDITIONAL SUBMITTALS.



SIGN LEGEND

MUTCD SIGN ID	DIMENSIONS	LEGEND
W11-2	36" X 36"	
W16-7P	24" X 12"	
W17-1	36" X 36"	



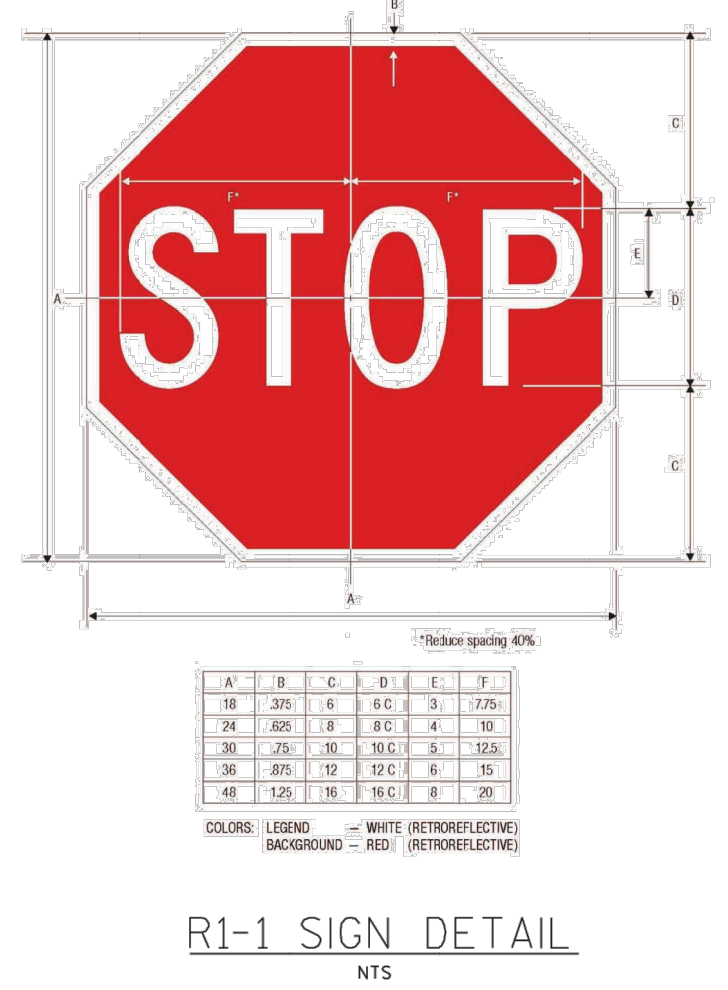
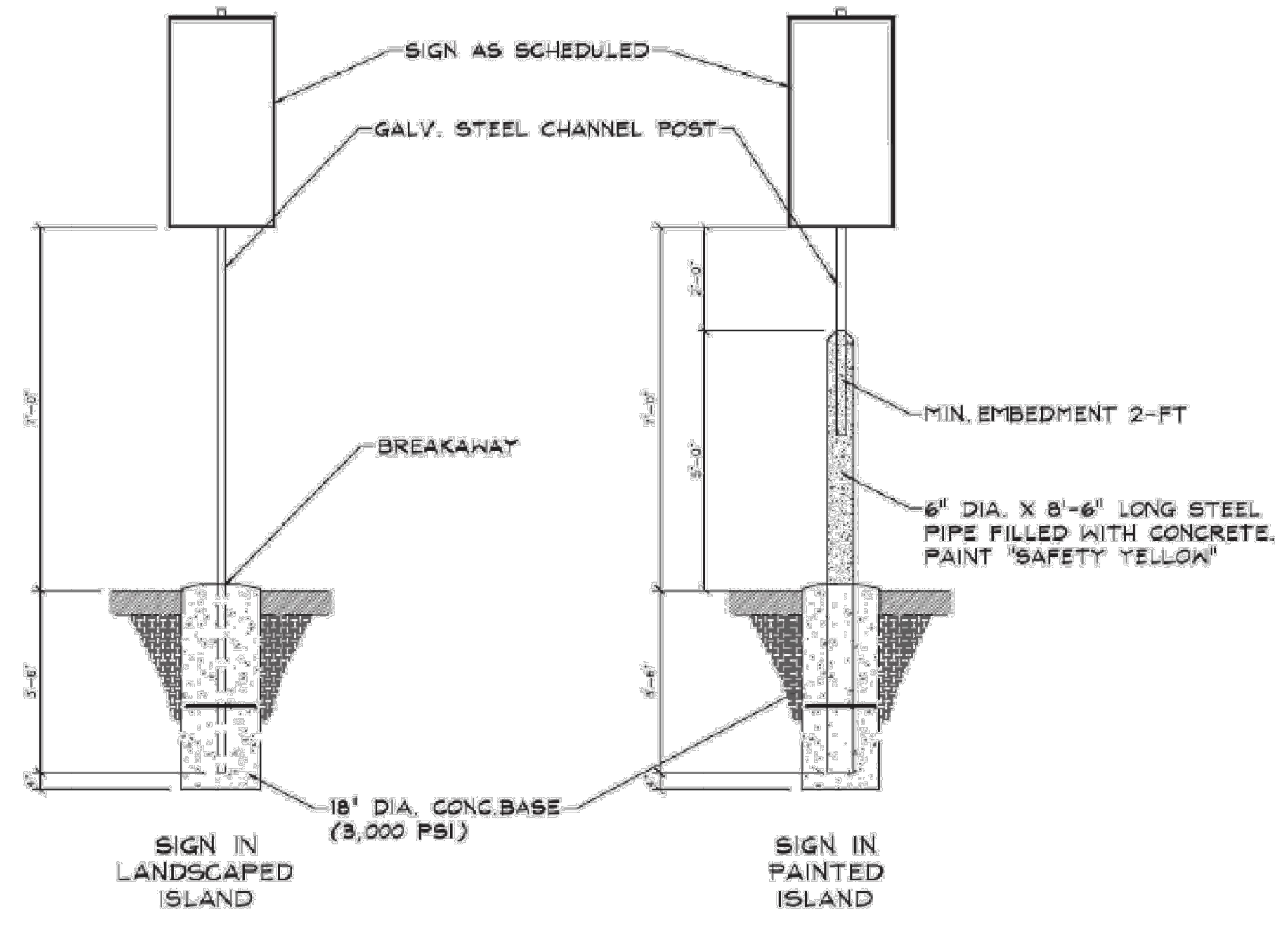
PEDESTRIAN TABLE

CROSSWALK DETAILS

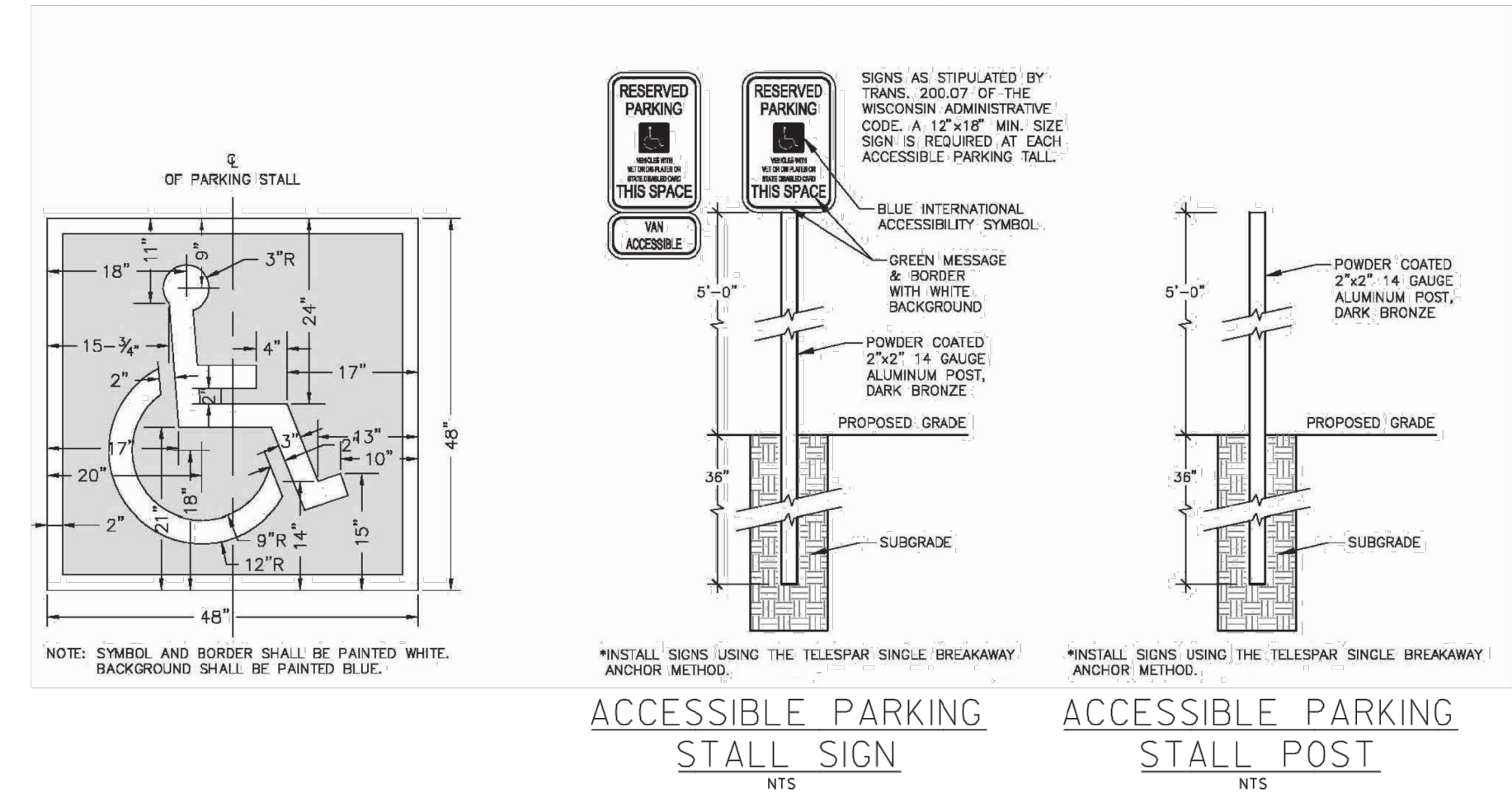
R7-8 SIGN DETAIL

SIGN INSTALLATION

R7-8A SIGN DETAIL



R1-1 SIGN DETAIL



ACCESSIBLE PARKING STALL SIGN

ACCESSIBLE PARKING STALL POST

**GRANDVIEW BUSINESS PARK - SITE II
 YORKVILLE, WISCONSIN**

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DRAWING NO. 19167_DETAILS.DWG

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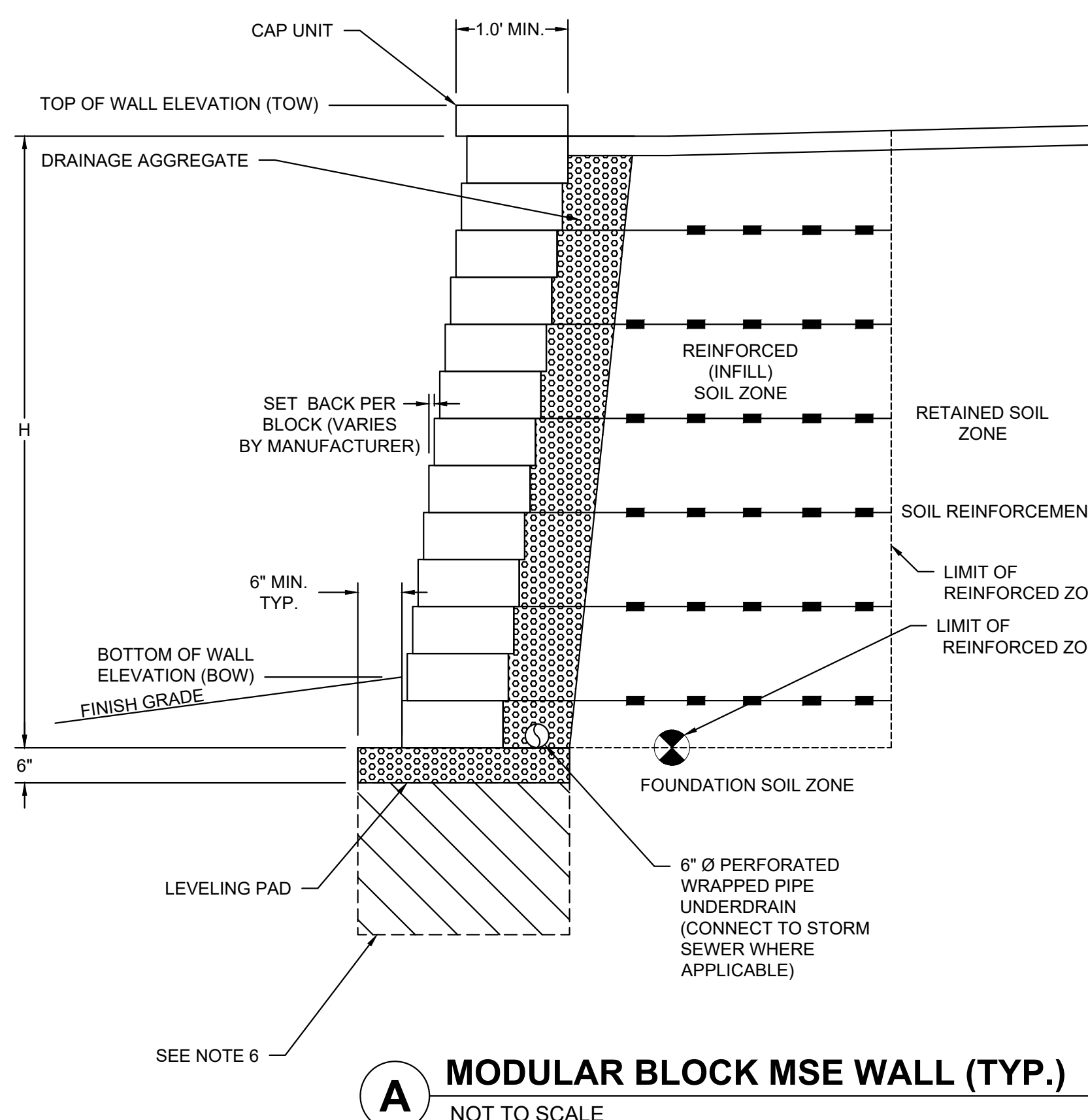
PROJECT NO: 19167

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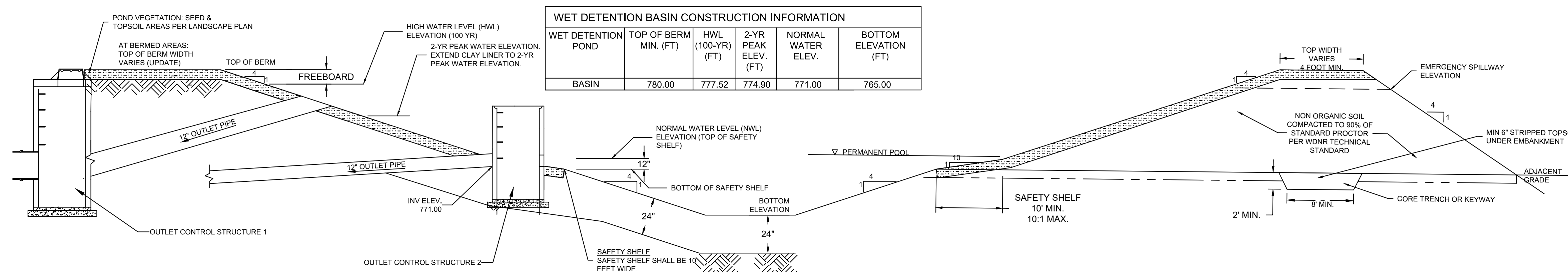


- NOTES:**
1. RETAINING WALL SYSTEM SHALL BE KEYSTONE, ROCKWOOD, OR APPROVED EQUAL.
 2. TYPICAL SECTION IS FOR CONCEPTUAL DESIGN ONLY. THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND STAMPED AND SEALED SHOP DRAWINGS AND STABILITY CALCULATIONS FOR THE RETAINING WALLS TO THE ENGINEER. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF THESE ITEMS SHALL BE INCLUDED.
 3. GEOGRID REINFORCEMENT SPACING AND LENGTH PER MANUFACTURER'S ENGINEER RECOMMENDATIONS.
 4. GEOTECHNICAL ENGINEER MAY REQUIRE THAT ADDITIONAL DRAIN PIPING IS NEEDED DEPENDENT UPON SOILS ENCOUNTERED DURING WALL CONSTRUCTION.
 5. WALL STRUCTURE TO BE VERIFIED WITH GEOTECHNICAL ENGINEER.
 6. ANY SPECIAL TREATMENT SOILS BELOW LEVELING PAD WHICH ARE SUBJECT TO FROST HEAVE SHALL BE DESIGNED BY STRUCTURAL ENGINEER OF RECORD.
 7. PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.
 8. THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THIS SHEET AND GRADING PLAN SHEETS.
 9. STYLE AND COLOR OF THE MODULAR BLOCK SHALL BE SELECTED BY THE OWNER AND ARCHITECT.
 10. PROTECTIVE RAILINGS/GUARD RAILS REQUIRED FOR ALL RETAINING WALLS ADJACENT TO PEDESTRIAN PATHS TO BE VERIFIED BY WALL DESIGNER, ARCHITECT, AND LOCAL JURISDICTION.

A MODULAR BLOCK MSE WALL (TYP.)
 NOT TO SCALE

GRANDVIEW BUSINESS PARK - SITE II
 YORKVILLE, WISCONSIN

SITE DETAILS



WET DETENTION BASIN CONSTRUCTION INFORMATION					
WET DETENTION POND	TOP OF BERM MIN. (FT)	HWL (100-YR) (FT)	2-YR PEAK ELEV. (FT)	NORMAL WATER ELEV.	BOTTOM ELEVATION (FT)
BASIN	780.00	777.52	774.90	771.00	765.00

LOW PERMEABILITY CLAY POND LINER:
 MATERIAL FOR LOW PERMEABILITY CLAY POND LINER SHALL BE A NATURAL CLAY SOIL (CL MATERIAL) AS DEFINED BY THE UNIFIED SOIL CLASSIFICATION SYSTEM. FREE FROM ORGANIC OR OTHER DELETERIOUS MATERIAL. CLAY LINER SHALL BE A TYPE "B" LINER PER WDNR TECHNICAL STANDARD 1001 WHICH INCLUDES THE FOLLOWING CRITERIA: 50 PERCENT FINES (200 SIEVE) OR MORE, AN IN-PLACE HYDRAULIC CONDUCTIVITY OF 1×10^{-6} CM/SEC OR LESS, AN AVERAGE LIQUID LIMIT VALUE OF 16 OR GREATER, WITH NO VALUE LESS THAN 14, AN AVERAGE PI OF 7 OR MORE WITH NO VALUES LESS THAN 5. IN-SITU CLAY (IF PRESENT) AT THE BASIN MAY BE USED TO SATISFY THE LINER REQUIREMENT PROVIDED IT MEETS THE WDNR TYPE B LINER REQUIREMENTS AND IS PRESENT IN-SITU AT A THICKNESS OF 3 OR MORE FEET. SUBMIT TEST DATA DEMONSTRATING ANY MATERIALS INTENDED FOR USE AS THE BASIN LINER MEET THE REQUIRED CRITERIA FOR A TYPE B LINER.

CLAY SOURCE SHALL BE APPROVED PRIOR TO INITIATING PLACEMENT OF THE CLAY MATERIAL. SUBMIT REPRESENTATIVE MOISTURE-DENSITY DATA FOR PROPOSED CLAY MATERIAL PRIOR TO START OF WORK. IF REQUESTED, FURNISH ENGINEER WITH REPRESENTATIVE CLAY MATERIAL SAMPLES FOR TESTING.

FIELD THICKNESS AND FIELD COMPACTION OF CLAY TO BE TESTED BY OWNER'S INDEPENDENT TESTING AGENCY.

LOW PERMEABILITY CLAY/POND LINER SHALL BE PLACED USING STANDARD COMPACTION TECHNIQUES, AS PER THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, SECTION 207.3.6. PERCENT COMPACTION SHALL BE GREATER THAN 95% OF STANDARD PROCTOR. MATERIAL SHALL BE COMPACTED WITH MOISTURE CONTENT WET OF OPTIMUM DENSITY MOISTURE. MATERIAL SHOULD BE PLACED IN LAYERS GENERALLY NOT EXCEEDING 8 INCHES IN THICKNESS BEFORE COMPACTION.

CLEARING AND SUBGRADE PREPARATION:
 ALL EXISTING TOPSOIL, ROOTMAT, AND ANY OTHER SOFT OR UNSUITABLE MATERIALS SHALL BE REMOVED FROM THE CLEARING AND STRIPPING LIMITS.

PRIOR TO INITIATION OF FILL PLACEMENT, THE STRIPPED AREA SHALL BE OBSERVED BY AN EXPERIENCED GEOTECHNICAL ENGINEER OR HIS AUTHORIZED REPRESENTATIVE TO AID IN LOCATING UNSUITABLE AND/OR HIGHLY PLASTIC MATERIALS WHICH REQUIRE COMPLETE AND/OR PARTIAL REMOVAL.

THE PREPARATION OF FILL SUBGRADES OF EMBANKMENTS SHALL BE OBSERVED ON A FULL-TIME BASIS BY AN EXPERIENCED GEOTECHNICAL ENGINEER OR HIS AUTHORIZED REPRESENTATIVE TO ENSURE THAT ALL UNSUITABLE MATERIALS HAVE BEEN COMPLETELY REMOVED.

FILL PLACEMENT:
 FILL MATERIALS SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL RECOMMENDATIONS.

THE FOOTPRINT OF THE EMBANKMENT AREAS SHALL BE WELL DEFINED, INCLUDING THE LIMITS OF THE FILL ZONES, AT THE TIME OF FILL PLACEMENT, WITH GRADE CONTROL MAINTAINED THROUGHOUT THE FILL PLACEMENT OPERATIONS.

FILL OPERATIONS SHALL BE OBSERVED ON A FULL-TIME BASIS BY A QUALIFIED SOIL TECHNICIAN, WHO SHALL PERFORM IN PLACE DENSITY TESTS TO DETERMINE IF MINIMUM COMPACTION REQUIREMENTS ARE BEING MET.

FILL MATERIALS SHALL NOT BE PLACED ON FROZEN SOILS. SIMILARLY, BORROW FILL MATERIALS SHALL NOT CONTAIN FROZEN MATERIALS AT THE TIME PLACEMENT. FROZEN SOILS, FROM BOTH SUBGRADE AND FILL, SHALL BE REMOVED PRIOR TO CONTINUATION OF FILL OPERATIONS.

AREAS RECEIVING FILL SHALL BE GRADED TO FACILITATE POSITIVE DRAINAGE OF ANY FREE WATER ASSOCIATED WITH PRECIPITATION AND SURFACE RUNOFF.

B WET DETENTION BASIN W/ TYP. EMBANKMENT CROSS SECTION

NOT TO SCALE

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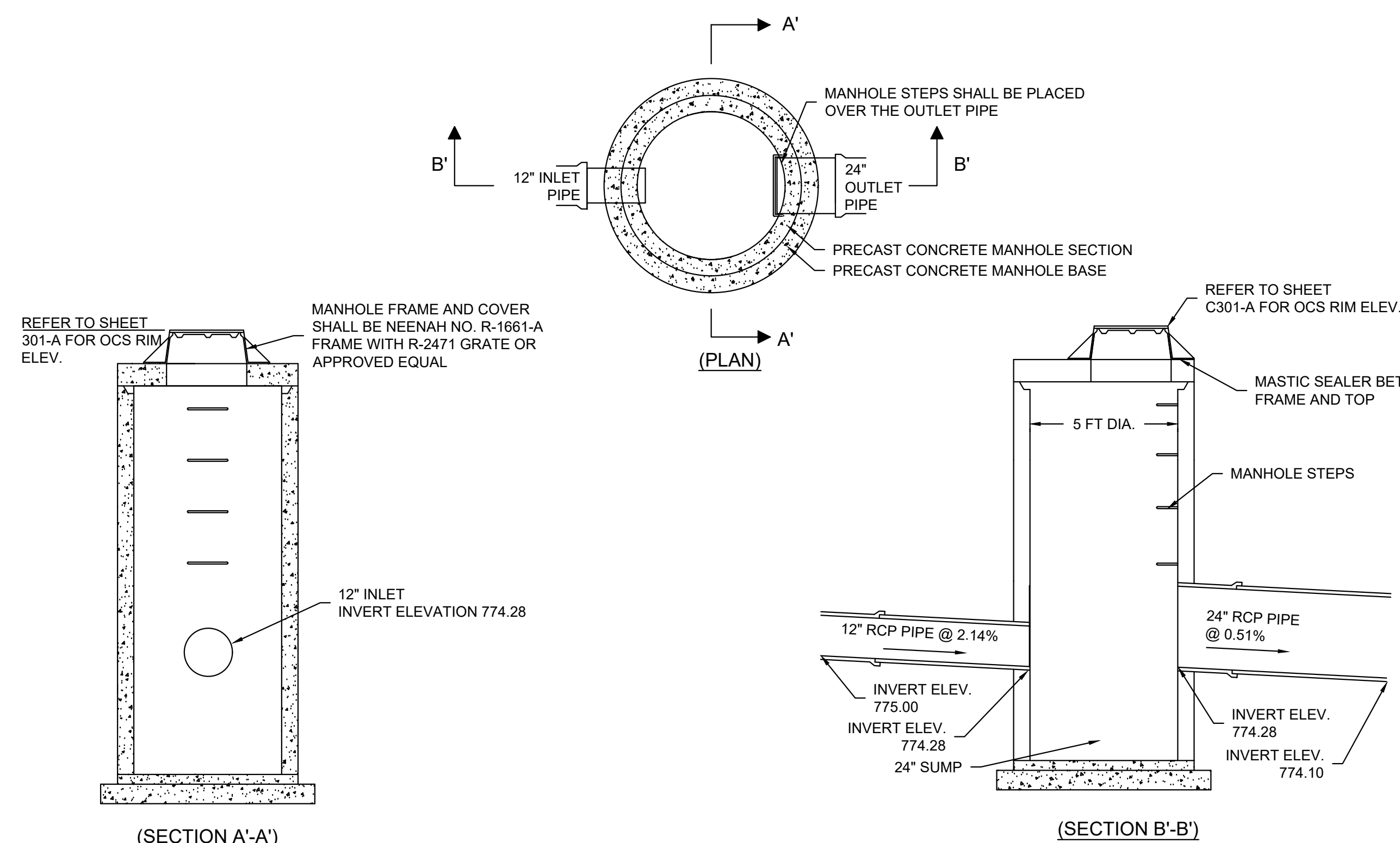
PROJECT NO: 19167

CHECKED BY: TM

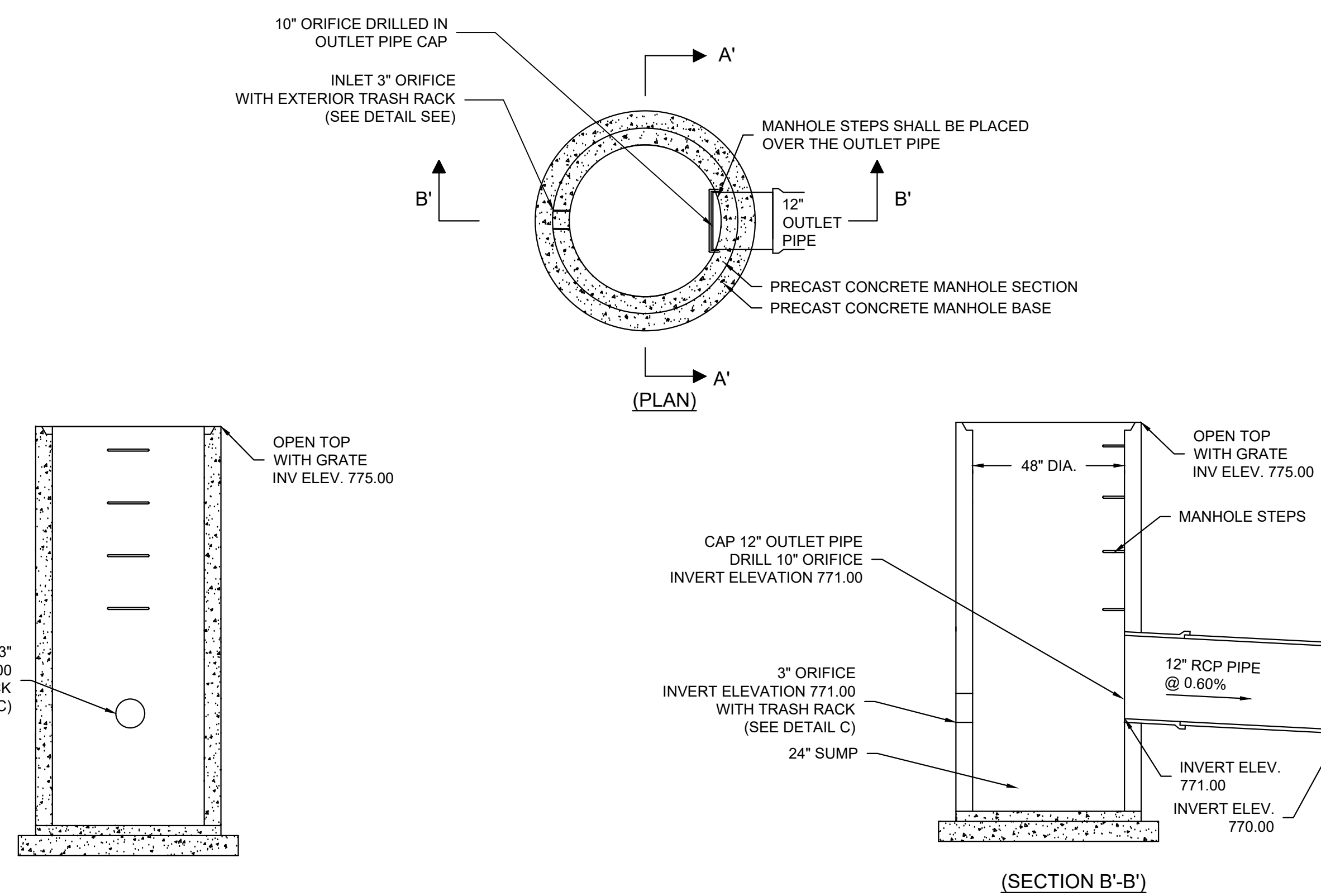
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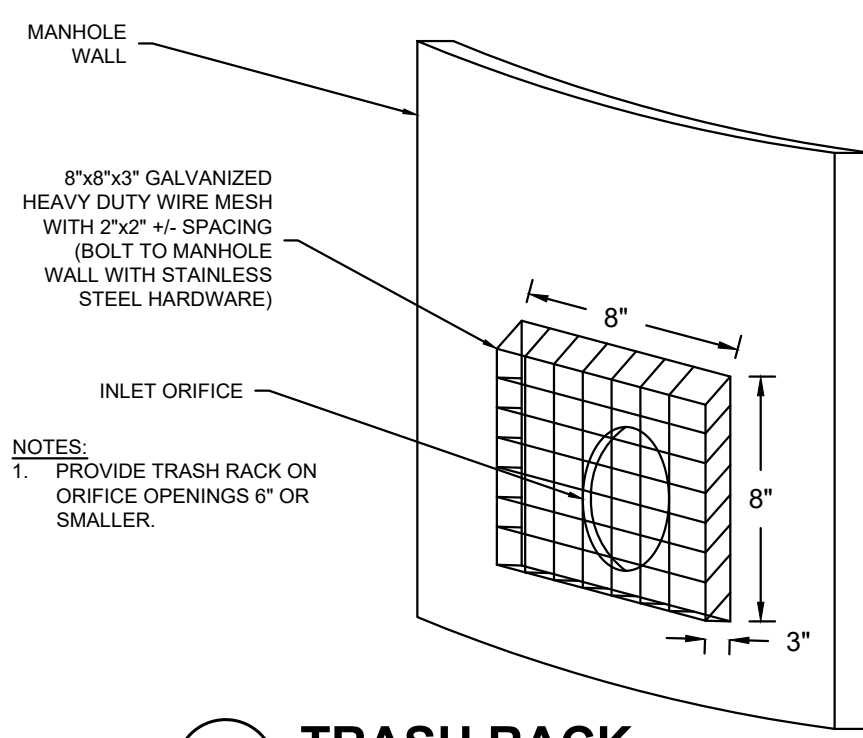
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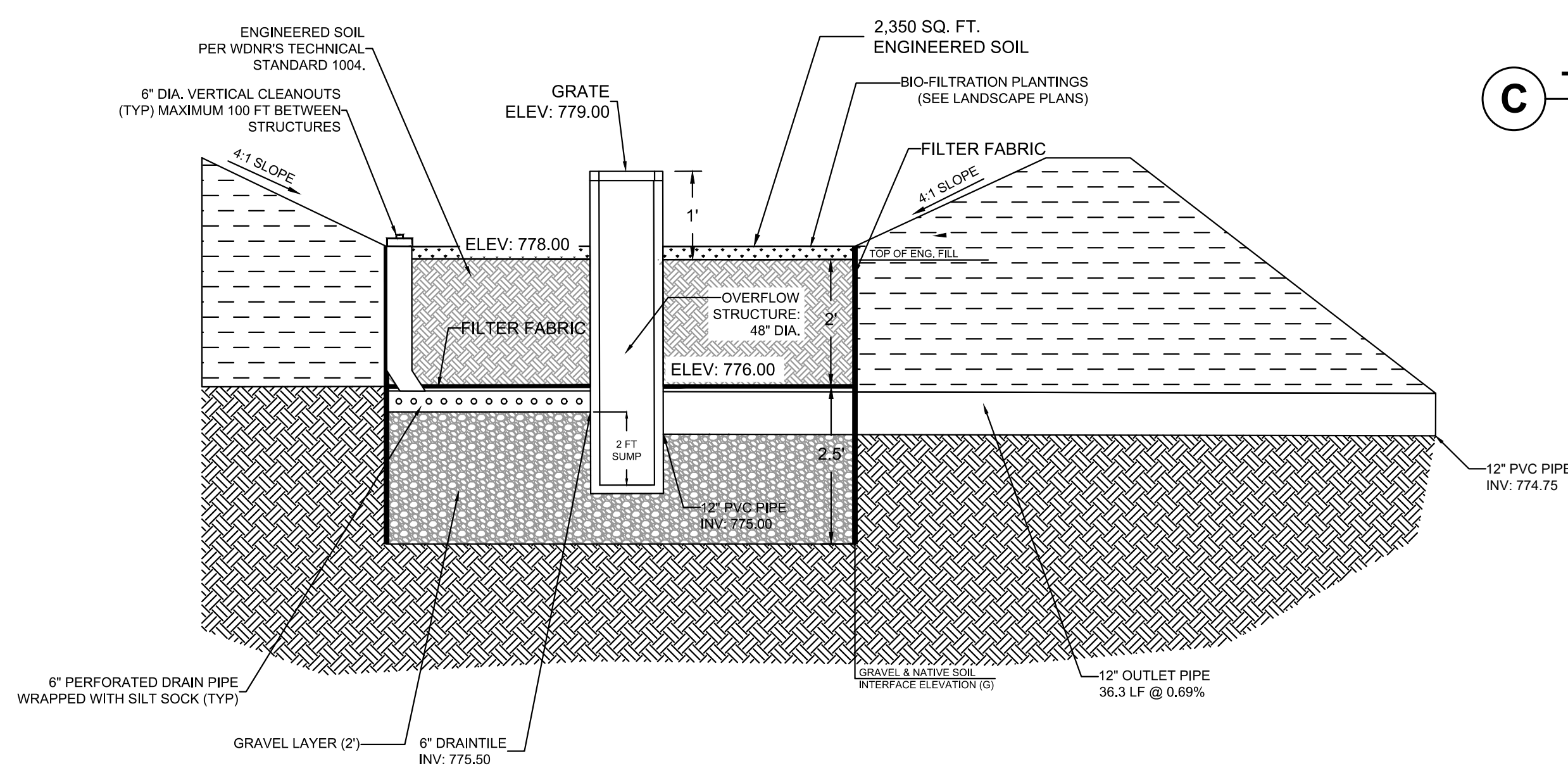
A WET BASIN OUTLET CONTROL MANHOLE STRUCTURE - 1
 NOT TO SCALE



B WET BASIN OUTLET CONTROL MANHOLE STRUCTURE - 2
 NOT TO SCALE

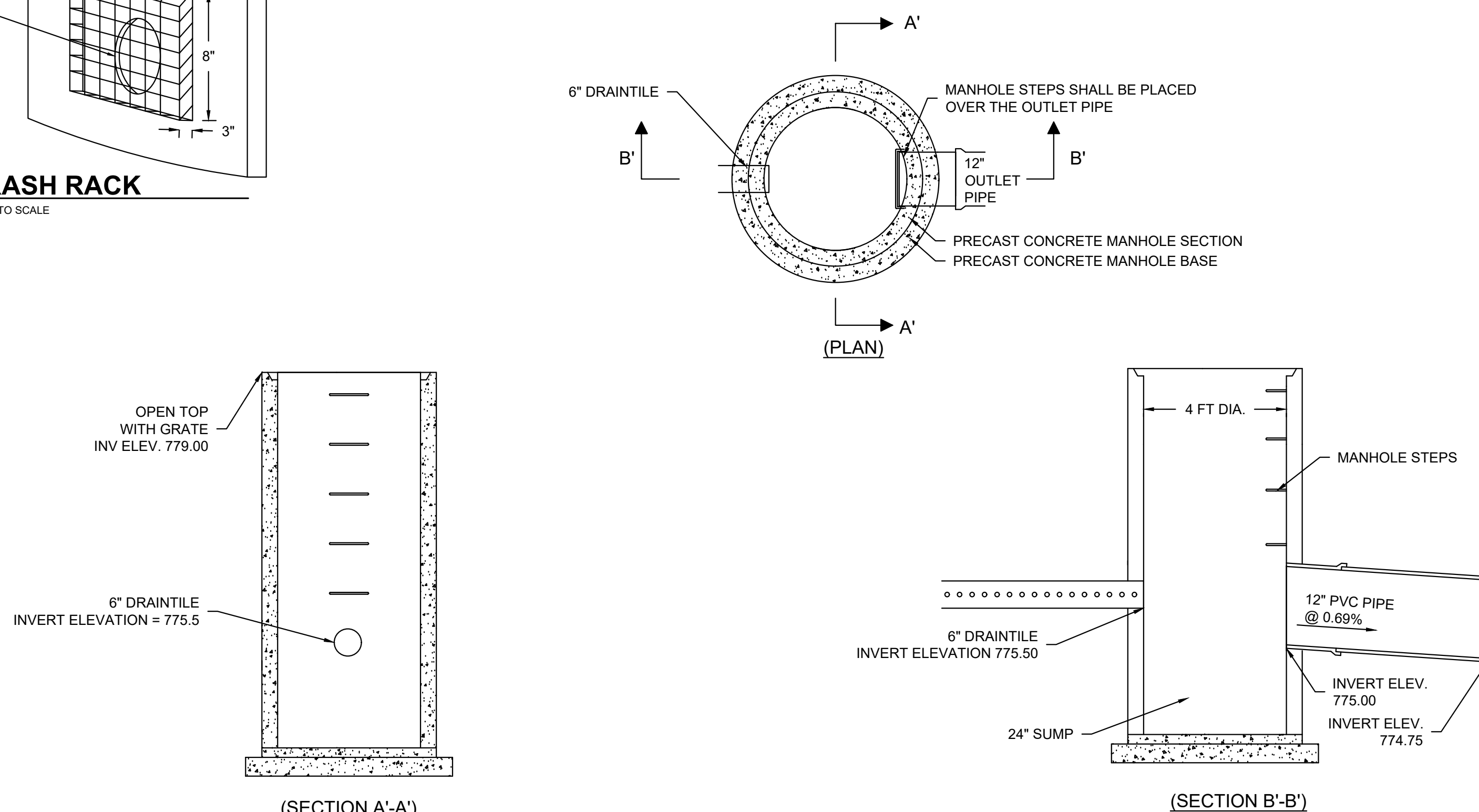


C TRASH RACK
 NOT TO SCALE



D GRASS/BIOFILTRATION BASIN SECTION - SITE C
 NOT TO SCALE

NOTE:
 BIO-INFILTRATION BASIN SHALL NOT BE BROUGHT ONLINE UNTIL AREA DRAINING TO THE BASIN HAS ACHIEVED 90% STABILIZATION FROM EROSION (I.E. DO NOT PLACE ENGINEERED SOIL UNTIL SITE HAS BEEN STABILIZED).



E GRASS/BIOFILTRATION OUTLET CONTROL MANHOLE STRUCTURE - SITE C
 NOT TO SCALE

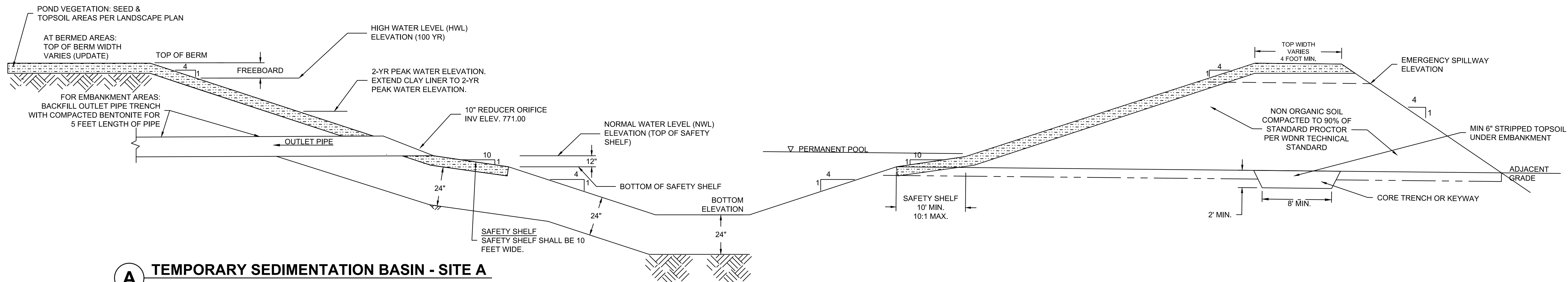
GRANDVIEW BUSINESS PARK - SITE II
 YORKVILLE, WISCONSIN

SITE DETAILS

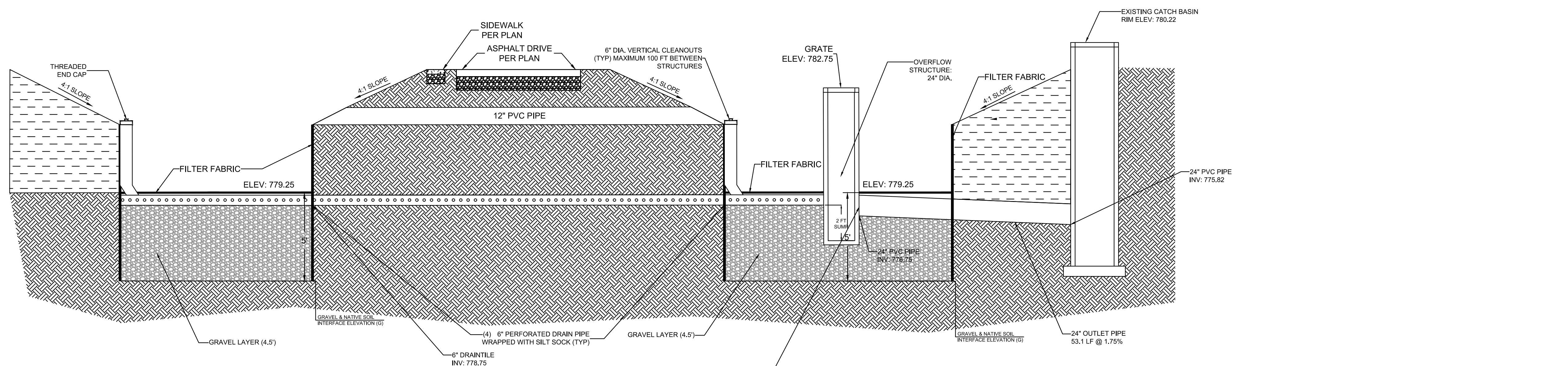
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C406

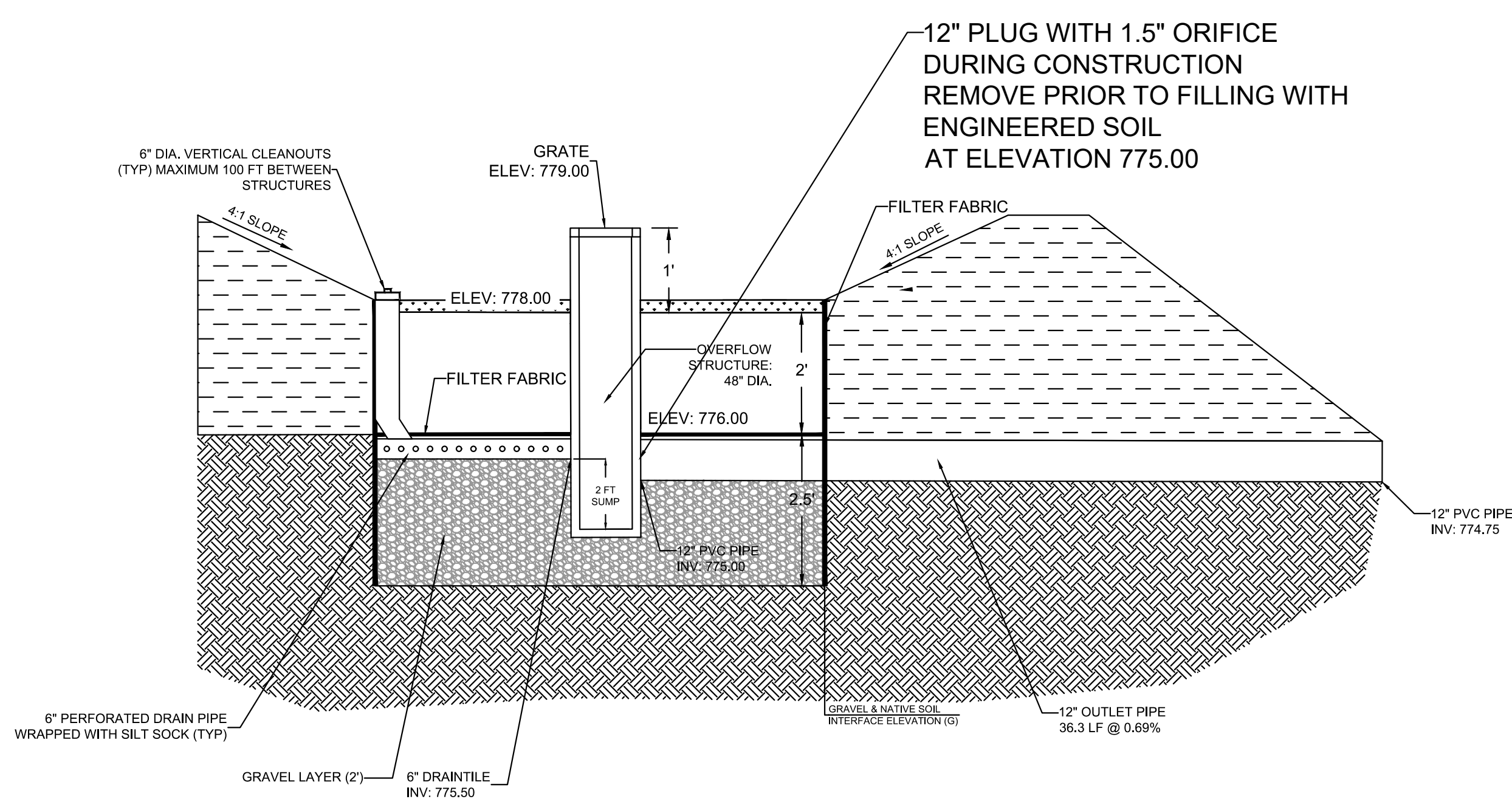


A TEMPORARY SEDIMENTATION BASIN - SITE A
 NOT TO SCALE

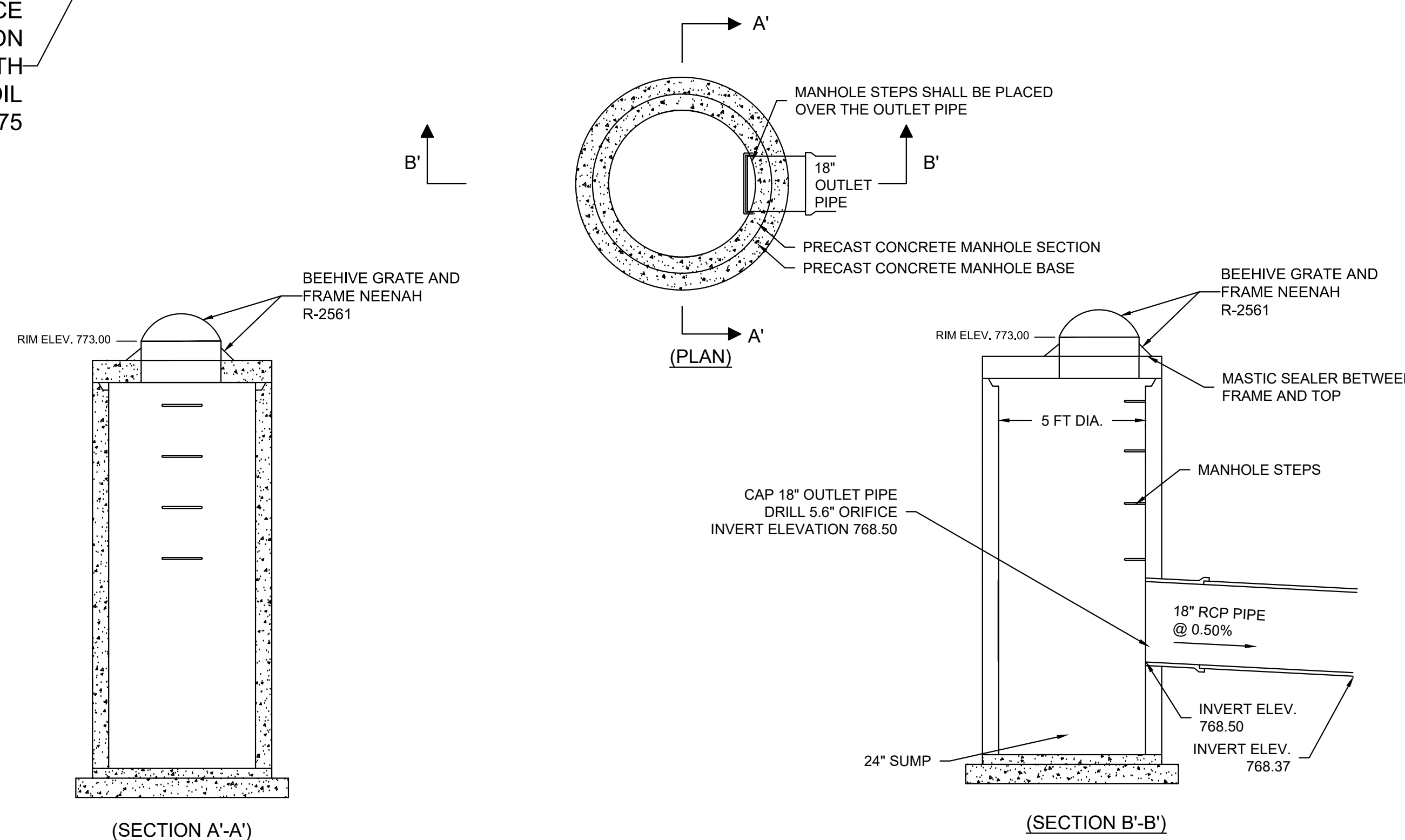


B TEMPORARY SEDIMENTATION BASIN - SITE B
 NOT TO SCALE

24" PLUG WITH 2.3" ORIFICE DURING CONSTRUCTION REMOVE PRIOR TO FILLING WITH ENGINEERED SOIL AT ELEVATION 776.75



C TEMPORARY SEDIMENTATION BASIN - SITE C
 NOT TO SCALE



B NORTH SWALE OUTLET CONTROL MANHOLE STRUCTURE
 NOT TO SCALE

GRANDVIEW BUSINESS PARK - SITE II
 YORKVILLE, WISCONSIN

SITE DETAILS

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO. 19167_DETAILS.DWG

DRAWN BY: RT

DATE: 01-20-2020

PROJECT NO: 19167

CHECKED BY: TM

APPROVED BY: CTC

SHEET NO.:

C407

GENERAL:

- EXISTING UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY, AND NO RESPONSIBILITY IS ASSUMED BY THE OWNER OR ENGINEER FOR THEIR ACCURACY OR COMPLETENESS.
- CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTRACTOR SHALL HAVE SITE MARKED BY DIGGER'S HOTLINE AND SHALL HAVE PRIVATE UTILITIES MARKED BY A PRIVATE UTILITY LOCATOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL VERIFY ALL ELEVATIONS, LOCATIONS, AND SIZES OF EXISTING UTILITIES AND SHALL CHECK ALL UTILITY CROSSINGS AND PROPOSED CONNECTIONS FOR CONFLICTS/DISCREPANCIES PRIOR TO INITIATING CONSTRUCTION. REPORT ANY CONFLICTS OR DISCREPANCIES TO THE ENGINEER SO REDESIGN MAY OCCUR IF NEEDED.
- LENGTHS OF ALL UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM PLANS. LENGTHS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.

SITE CLEARING:

- EXCEPT FOR STRIPPED TOPSOIL OR OTHER MATERIALS INDICATED TO REMAIN ON OWNER'S PROPERTY, CLEARED MATERIALS SHALL BECOME CONTRACTOR'S PROPERTY AND SHALL BE REMOVED FROM PROJECT SITE.
- MINIMIZE INTERFERENCE WITH ADJOINING ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES DURING SITE-CLEARING OPERATIONS.
- SALVABLE IMPROVEMENTS: CAREFULLY REMOVE ITEMS INDICATED TO BE SALVAGED AND STORE ON OWNER'S PREMISES WHERE INDICATED.
- UTILITY LOCATOR SERVICE: NOTIFY UTILITY LOCATOR SERVICE FOR AREA WHERE PROJECT IS LOCATED BEFORE SITE CLEARING.
- DO NOT COMMENCE SITE CLEARING OPERATIONS UNTIL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE.
- PROTECT AND MAINTAIN BENCHMARKS AND SURVEY CONTROL POINTS FROM DISTURBANCE DURING CONSTRUCTION.
- LOCATE AND CLEARLY FLAG TREES AND VEGETATION TO REMAIN OR TO BE RELOCATED.
- PROTECT EXISTING SITE IMPROVEMENTS TO REMAIN FROM DAMAGE DURING CONSTRUCTION; RESTORE DAMAGED IMPROVEMENTS TO THEIR ORIGINAL CONDITION, AS ACCEPTABLE TO OWNER.
- LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP OFF UTILITIES INDICATED TO BE REMOVED; ARRANGE WITH UTILITY COMPANIES TO SHUT OFF INDICATED UTILITIES.
- EXISTING UTILITIES: DO NOT INTERRUPT UTILITIES SERVING FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED BY THE OWNER AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY UTILITY SERVICES.
- FILL DEPRESSIONS CAUSED BY CLEARING AND GRUBBING OPERATIONS WITH SATISFACTORY SOIL MATERIAL UNLESS FURTHER EXCAVATION OR EARTHWORK IS INDICATED; PLACE FILL MATERIAL IN HORIZONTAL LAYERS NOT EXCEEDING A LOOSE DEPTH OF 8 INCHES, AND COMPACT EACH LAYER TO A DENSITY EQUAL TO ADJACENT ORIGINAL GROUND.
- REMOVE SOD AND GRASS BEFORE STRIPPING TOPSOIL.
- STRIP TOPSOIL TO WHATEVER DEPTHS ARE ENCOUNTERED IN A MANNER TO PREVENT INTERMINGLING WITH UNDERLYING SUBSOIL OR OTHER WASTE MATERIALS.
- STOCKPILE TOPSOIL MATERIALS AWAY FROM EDGE OF EXCAVATIONS WITHOUT INTERMIXING WITH SUBSOIL. GRADE AND SHAPE STOCKPILES TO DRAIN SURFACE WATER. COVER TO PREVENT WINDBLOWN DUST.
- REMOVE EXISTING ABOVE- AND BELOW-GRADE IMPROVEMENTS AS INDICATED AND AS NECESSARY TO FACILITATE NEW CONSTRUCTION.
- REMOVE SURPLUS SOIL MATERIAL, UNSUITABLE TOPSOIL, OBSTRUCTIONS, DEMOLISHED MATERIALS, AND WASTE MATERIALS INCLUDING TRASH AND DEBRIS, AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
- SEPARATE RECYCLABLE MATERIALS PRODUCED DURING SITE CLEARING FROM OTHER NONRECYCLABLE MATERIALS. STORE OR STOCKPILE WITHOUT INTERMIXING WITH OTHER MATERIALS AND TRANSPORT THEM TO RECYCLING FACILITIES.

STORM DRAINAGE:

- ALL PRIVATE STORM SEWER WORK SHALL BE IN ACCORDANCE WITH THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES (DPS) PLUMBING CODE - CHAPTERS SPS 382 AND SPS 384 AND LOCAL MUNICIPAL REQUIREMENTS.
- ALL PUBLIC STORM SEWER WORK SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION (STANDARD SPECIFICATIONS) AND LOCAL MUNICIPAL REQUIREMENTS.
- PVC SEWER PIPE AND FITTINGS: ASTM D 3034, SDR 35, WITH BELL-AND-SPIGOT ENDS WITH RUBBER GASKETED JOINTS IN ACCORDANCE WITH CHAPTER 8.10.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. JOINTS SHALL CONFORM TO ASTM D-3212.
- REINFORCED CONCRETE PIPE: ASTM C76 WITH BELL AND SPIGOT ENDS AND GASKETED JOINTS WITH ASTM C443 RUBBER GASKETS IN ACCORDANCE WITH CHAPTER 8.6.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
- HDPE PIPE: ADS N12 PIPE AS APPROVED ON THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES PLUMBING PRODUCT REGISTER.
- CATCH BASINS: STANDARD PRECAST CONCRETE CATCH BASINS CONFORMING TO CHAPTER 3.6.0 OF THE STANDARD SPECIFICATIONS AND IN GENERAL CONFORMANCE WITH FILE NO. 26 OF THE STANDARD SPECIFICATIONS. DEPTH AND DIAMETER AS INDICATED ON PLANS. CATCH BASIN SIZES TO BE VERIFIED BY CONTRACTOR AND SHOP DRAWINGS SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW PRIOR TO ORDERING STRUCTURES.
- FRAMES AND GRATES: AS INDICATED ON PLANS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING SPECIFIED FRAME/GRATE IS COMPATIBLE WITH STRUCTURE; IF NOT, NOTIFY ENGINEER.
- MANHOLES: STANDARD PRECAST REINFORCED CONCRETE MANHOLES CONFORMING TO ASTM C478, SECTION 8.39.0 OF THE STANDARD SPECIFICATIONS AND CONFORMING TO FILE NOS. 12, 13 AND 15 OF THE STANDARD SPECIFICATIONS. DIAMETER AND DEPTH AS INDICATED ON PLANS. MANHOLE SIZES TO BE VERIFIED BY CONTRACTOR AND SHOP DRAWINGS SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW PRIOR TO ORDERING STRUCTURES.
- MANHOLES AND CATCH BASINS DEEPER THAN FOUR FEET SHALL BE PROVIDED WITH MANHOLE STEPS CONFORMING TO SECTION 8.40.0 OF THE STANDARD SPECIFICATIONS.
- SEWERS SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 3.2.0 OF THE STANDARD SPECIFICATIONS. INSTALL PROPER SIZE INCREASERS, REDUCERS AND COUPLINGS WHERE DIFFERENT SIZES OR MATERIALS OF PIPES AND FITTINGS ARE CONNECTED. INSTALL TRACER PIPE OVER NON-METALLIC PIPING IN ACCORDANCE WITH SPS SECTION 382.30(11)(H) AND 382.36(7)(D).
- PROVIDE AND INSTALL CLEANOUTS IN ACCORDANCE WITH SPS CHAPTER 382.35. INSTALL CLEANOUTS AND RISER EXTENSIONS FORM SEWER PIPES TO PROPOSED GRADE. INSTALL PIPING SO CLEANOUTS OPEN IN DIRECTION OF FLOW IN SEWER PIPE. USE LIGHT DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN EARTH OR UNPAVED FOOT TRAFFIC AREAS; USE MEDIUM DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN PAVED FOOT TRAFFIC AREAS; USE HEAVY DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN VEHICULAR TRAFFIC AREAS. SET CLEANOUT FRAMES AND COVERS IN PAVEMENT AREAS FLUSH WITH PAVEMENT SURFACE.
- CLASS B COMPACTED TRENCH SECTION (FILE NO. NO. 4 OF STANDARD SPECIFICATIONS) SHALL BE UTILIZED. BEDDING AND COVER MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 8.43.0 OF THE STANDARD SPECIFICATIONS.
- TRENCH BACKFILL MATERIAL SHALL BE GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF THE STANDARD SPECIFICATIONS BENEATH AND WITHIN FIVE FEET OF PAVEMENT AREAS; COMPACTED SPOIL BACKFILL IN ACCORDANCE WITH SECTION 8.43.5 OF THE STANDARD SPECIFICATIONS MAY BE USED BENEATH LANDSCAPE AREAS.
- MANHOLE INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 3.5.0 OF THE STANDARD SPECIFICATIONS. SET MANHOLE RIMS TO ELEVATIONS INDICATED ON PLANS.
- CATCH BASIN INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 3.6 OF THE STANDARD SPECIFICATIONS. CATCH BASIN EXCAVATION AND PREPARATION SHALL BE IN ACCORDANCE WITH SECTION 3.5.4(A) AND (B) OF THE STANDARD SPECIFICATIONS. FRAMES AND GRATES SHALL BE SET TO THE ELEVATIONS SHOWN ON THE PLANS.
- AFTER INSTALLATION OF SEWER PIPE CLEAN ALL DEBRIS FROM SEWER AND INSPECT INTERIOR OF PIPING TO DETERMINE WHETHER LINE DISPLACEMENT OR OTHER DAMAGE HAS OCCURRED. CONDUCT DEFLECTION TESTING OF INSTALLED PIPE IN ACCORDANCE WITH SECTION 3.2.6(1/4) OF THE STANDARD SPECIFICATIONS; REPLACE ANY PIPE SECTION NOT PASSING THE DEFLECTION TESTING USING NEW PIPE MATERIALS.

EARTH MOVING:

- ALL EARTH WORK SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER PRESENTED IN THE SITE GEOTECHNICAL REPORT, GEOTECHNICAL ENGINEER RECOMMENDATIONS MADE IN THE FIELD AND THESE SPECIFICATIONS. IN CASE OF CONFLICT BETWEEN THESE SPECIFICATIONS AND THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER, THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER SHALL GOVERN.
- CONTRACTOR SHALL PROVIDE MATERIAL TEST REPORTS FROM A QUALIFIED TESTING AGENCY INDICATING TEST RESULTS FOR CLASSIFICATION ACCORDING TO ASTM D2487 AND LABORATORY COMPACTION CURVES ACCORDING TO ASTM D 1557 FOR EACH ON-SITE AND OFF-SITE SOIL MATERIAL PROPOSED FOR FILL AND BACKFILL.
- CONTRACTOR SHALL PROVIDE PREEXCAVATION PHOTOS OR VIDEOS SHOWING EXISTING CONDITIONS OF ADJOINING STRUCTURES AND SITE IMPROVEMENTS THAT MIGHT BE MISCONSTRUED AS DAMAGE CAUSED BY EARTHWORK OPERATIONS.
- OLD BUILDING FOUNDATIONS, BUILDING REMNANTS OR UNSUITABLE BACKFILL MATERIAL SHALL BE COMPLETELY REMOVED FROM WITHIN AND A MINIMUM OF 10 FEET BEYOND THE NEW BUILDING PAD AREAS. THE RESULTING EXCAVATION SHALL BE BACKFILLED WITH COMPACTED ENGINEERED FILL.
- FOUNDATIONS, FOUNDATION WALLS OR CONCRETE FLOOR SLABS SHALL BE REMOVED TO A MINIMUM OF TWO FEET BELOW PROPOSED SUBGRADE WITHIN PROPOSED PARKING AND GREENSPACE AREAS. BASEMENT SLABS LOCATED BELOW 2 FEET FROM PLANNED SUBGRADE ELEVATION MAY BE LEFT IN PLACE BUT SHALL BE BROKEN INTO MAXIMUM 6 INCH PIECES TO FACILITATE DRAINAGE.
- SATISFACTORY SOILS FOR FILL: ASTM D 2487 SOIL CLASSIFICATION GROUPS GW, GP, GM, SW, SP, AND SM. OR A COMBINATION OF THESE GROUPS; FREE OF ROCK OR GRAVEL LARGER THAN 3 INCHES IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION, AND OTHER DELETERIOUS MATTER OR ANY SOIL GROUP OR COMBINATION OF GROUPS APPROVED OF BY THE PROJECT GEOTECHNICAL ENGINEER.
- UNSATISFACTORY SOILS FOR FILL: SOIL CLASSIFICATION GROUPS GC, SC, CL, ML, OL, CH, MH, OH, AND PT ACCORDING TO ASTM D 2487 OR A COMBINATION OF THESE GROUPS UNLESS DEEMED SATISFACTORY BY THE PROJECT GEOTECHNICAL ENGINEER. UNSATISFACTORY SOILS ALSO INCLUDE SOILS NOT MAINTAINED WITHIN 3 PERCENT OF OPTIMUM SOIL MOISTURE CONTENT AT THE TIME OF COMPACTION.
- AGGREGATE BASE COURSE BENEATH PAVEMENTS: SHALL BE 1-1/4" DENSE GRADED BASE COURSE CONFORMING TO SECTION 305 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.
- ENGINEERED FILL: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND; ASTM D 2940; WITH AT LEAST 90 PERCENT PASSING A 1-1/2-INCH (37.5-MM) SIEVE AND NOT MORE THAN 12 PERCENT PASSING A NO. 200 SIEVE OR ANY SOIL DEEMED ACCEPTABLE FOR ENGINEERED FILL BY THE PROJECT GEOTECHNICAL ENGINEER. ENGINEERED FILL SHALL BE FREE OF ORGANIC, FROZEN, OR OTHER DELETERIOUS MATERIAL AND HAVE A MAXIMUM PARTICLE SIZE LESS THAN 3 INCHES. CLAY FILLS SHALL HAVE A LIQUID LIMIT OF LESS THAN 49 AND PLASTICITY INDEX BETWEEN 11 AND 25.
- BEDDING COURSE FOR SEWERS AND WATER SERVICE: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND CONFORMING TO THE REQUIREMENTS OF SECTION 8.43.2 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
- DRAINAGE COURSE BENEATH BUILDING SLABS: NARROWLY GRADED MIXTURE OF WASHED, CRUSHED STONE, OR CRUSHED OR UNCRUSHED GRAVEL; ASTM D 448; COARSE-AGGREGATE GRADING SIZE 57; WITH 100 PERCENT PASSING A 1-1/2-INCH (37.5-MM) SIEVE AND 0 TO 5 PERCENT PASSING A NO. 8 SIEVE.
- TRENCH BACKFILL MATERIAL SHALL BE GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF THE STANDARD SPECIFICATIONS BENEATH AND WITHIN FIVE FEET OF PAVEMENT AREAS; COMPACTED SPOIL BACKFILL IN ACCORDANCE WITH SECTION 8.43.5 OF THE STANDARD SPECIFICATIONS MAY BE USED BENEATH LANDSCAPE AREAS.
- PIPE COVER MATERIAL: CONFORM TO SECTION 8.43.3 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
- PREVENT SURFACE WATER AND GROUND WATER FROM ENTERING EXCAVATIONS, FROM PONDING ON PREPARED SUBGRADES, AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA.
- SHORING, SHEETING AND BRACING: SHORE, BRACE OR SLOPE BANKS OF EXCAVATION TO PROTECT WORKMEN, BANKS, ADJACENT PAVING, STRUCTURES, AND UTILITIES TO MEET OSHA REQUIREMENTS. DESIGN OF TEMPORARY SUPPORT OF EXCAVATION IS THE RESPONSIBILITY OF THE CONTRACTOR.
- EXCAVATE TO SUBGRADE ELEVATIONS REGARDLESS OF THE CHARACTER OF SURFACE AND SUBSURFACE CONDITIONS ENCOUNTERED. UNCLASSIFIED EXCAVATED MATERIALS MAY INCLUDE ROCK, SOIL MATERIALS, AND OBSTRUCTIONS. NO CHANGES IN THE CONTRACT SUM OR THE CONTRACT TIME WILL BE AUTHORIZED FOR ROCK EXCAVATION OR REMOVAL OF OBSTRUCTIONS.
- PROOF-ROLL SUBGRADE BELOW THE BUILDING SLABS AND PAVEMENTS WITH FULLY LOADED TANDEM AXLE DUMP TRUCK OR RUBBER Tired VEHICLE OF SIMILAR SIZE AND WEIGHT, TYPICALLY 9 TONS/AXLE, WHERE COHESIVE SOILS ARE ENCOUNTERED OR WITH A SMOOTH DRUMMED VIBRATORY ROLLER WHERE GRANULAR SOILS ARE PRESENT. DO NOT PROOF-ROLL WET OR SATURATED SUBGRADES AND PROOFROLL IN DRY WEATHER. PROOF ROLL IN PRESENCE OF PROJECT GEOTECHNICAL ENGINEER OR TECHNICIAN. SOILS THAT ARE OBSERVED TO RUT OR DEFLECT EXCESSIVELY UNDER THE MOVING LOAD (TYPICALLY >1") SHALL BE UNDERCUT AND REPLACED WITH PROPERLY COMPACTED ENGINEERED FILL. IN PAVEMENT AREAS WHERE UNDERCUTS ARE PERFORMED, THE EDGES OF THE OVEREXCAVATIONS SHALL BE FEATHERED INOT THE SURROUNDING SUITABLE SOIL SO THAT EDGE FAILURE OF THE OVEREXCAVATED AREA DOES NOT OCCUR.
- DUE TO CLAYEY SOILS, IF UNDERCUTS OCCUR WITHIN PAVEMENT AREAS AND THEY ARE BACKFILLED WITH GRANULAR SOILS, THE BOTTOM OF THE OVEREXCAVATION SHALL BE SLOPED TO A DRAINILE THAT IS IN KIND SLOPED TOWARD THE NEAREST STORM SEWER. MINIMUM SLOPES OF SUCH DRAINTILES SHALL BE 0.5%.
- CONVENTIONAL DISKING AND AERATION TECHNIQUES SHALL BE USED TO DRY SOILS BEFORE PROOF ROLLING. ALLOT FOR PROPER DRYING TIME IN PROJECT SCHEDULE.
- ENGINEERED FILL SHALL BE PLACED IN MAXIMUM LIFTS OF EIGHT INCHES OF LOOSE MATERIAL AND COMPACTED WITHIN 3% OF OPTIMUM SOIL MOISTURE CONTENT VALUE AND A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR TEST ASTM D1557. EACH LIFT OF COMPACTED ENGINEERED FILL SHALL BE OBSERVED AND TESTED BY A QUALIFIED GEOTECHNICAL ENGINEER OR TECHNICIAN.
- EXISTING OLD FILL MATERIAL SHALL BE REMOVED BELOW FOOTINGS OR FOUNDATION SUPPORTING FILL. ENGINEERED FILL BELOW FOOTINGS SHOULD HAVE AN IN-PLACE DENSITY OF 95% OF THE MAXIMUM DRY DENSITY AND A MOISTURE CONTENT WITHIN 3% OF OPTIMUM AS DETERMINED BY ASTM D1557. ENGINEERED FILL BELOW FOOTINGS SHALL BE EVALUATED BY IN-FIELD DENSITY TESTS DURING CONSTRUCTION.
- WHERE UNSUITABLE BEARING SOILS ARE ENCOUNTERED IN A FOOTING EXCAVATION, THE EXCAVATION SHALL BE DEEPEENED TO COMPETENT BEARING SOIL AND THE FOOTING LOWERED OR AN OVEREXCAVATION AND BACKFILL PROCEDURE PERFORMED. OVEREXCAVATION AND BACKFILL TREATMENT REQUIRES WIDENING THE DEEPEENED EXCAVATION IN ALL DIRECTIONS AT LEAST 6 INCHES BEYOND THE EDGE OF THE FOOTING FOR EACH 12 INCHES OF OVEREXCAVATION DEPTH. THE OVEREXCAVATION SHALL BE BACKFILLED UP TO FOOTING BASE ELEVATION IN MAXIMUM 8 INCH LOOSE LIFTS WITH SUITABLE GRANULAR FILL MATERIAL AND COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AND A MOISTURE CONTENT WITHIN 3% OF OPTIMUM AS DETERMINED BY ASTM D1557. SOILS AT FOUNDATION BEARING ELEVATION IN THE FOOTING EXCAVATIONS SHALL BE OBSERVED AND TESTED BY A QUALIFIED GEOTECHNICAL ENGINEER OR TECHNICIAN.
- A MINIMUM OF FOUR INCHES OF DRAINAGE COURSE MAT SHALL BE PLACED BELOW BUILDING FLOOR SLABS. DRAINAGE COURSE SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION WITH RESPECT TO THE MODIFIED PROCTOR (ASTM D1557)
- UTILITY TRENCHES FOR SEWER AND WATER SHALL CONFORM TO CLASS B COMPACTED TRENCH SECTION IN ACCORDANCE WITH FILE NO. 4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
- BACKFILL UTILITY TRENCHES IN 4 TO 6 INCH LOOSE LIFTS COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557. BACKFILL SHALL BE MOISTURE CONDITIONED TO BE WITH 3% OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D1557.
- UTILITY BEDDING PLACEMENT: CONFORM TO SECTION 3.2.6 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. BEDDING MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 90% COMPACTION WITH RESPECT TO THE MODIFIED PROCTOR (ASTM D1557).
- COMPACTION TESTING OF UTILITY TRENCHES SHALL BE PERFORMED FOR EVERY 200 CUBIC YARDS OF BACKFILL PLACED OR EACH LIFT WITHIN 200 LINEAR FEET OF TRENCH, WHICHEVER IS LESS.
- AGGREGATE BASE COURSE BENEATH PAVEMENTS SHALL BE PLACED AND COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN 3% OF OPTIMUM AS DETERMINED BY ASTM D1557. AGGREGATE BASE SHALL BE OBSERVED AND TESTED BY A QUALIFIED GEOTECHNICAL ENGINEER OR TECHNICIAN.
- GRADING GENERAL: UNIFORMLY GRADE AREAS TO A SMOOTH SURFACE, FREE OF IRREGULAR SURFACE CHANGES. COMPLY WITH COMPACTION REQUIREMENTS AND GRADE TO CROSS SECTIONS, LINES, AND ELEVATIONS INDICATED. SLOPE GRADES TO DIRECT WATER AWAY FROM BUILDINGS AND TO PREVENT PONDING.
- TESTING AGENCY: CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT GEOTECHNICAL ENGINEERING TESTING AGENCY TO PERFORM FIELD QUALITY-CONTROL TESTING.
- FOOTING SUBGRADE TESTING: EACH ISOLATED FOOTING SHALL INCLUDE AT LEAST ONE TEST PROBE. TEST PROBES SHALL BE PERFORMED EVERY 20 LINEAR FEET IN CONTINUOUS FOOTINGS.
- BUILDING SLAB AREA TESTING: AT SUBGRADE AND AT EACH COMPACTED FILL AND BACKFILL LAYER, AT LEAST 1 TEST PER LIFT FOR EVERY 2500 SQ. FT. OR LESS OF BUILDING SLAB, BUT IN NO CASE FEWER THAN 3 TESTS.
- PAVEMENT AREA TESTING: AT SUBGRADE AND AT EACH COMPACTED FILL AND BACKFILL LAYER, AT LEAST ONE TEST FOR EVERY LIFT FOR EVERY 2,500 SQUARE FEET OF PAVEMENT AREA, BUT IN NO CASES FEWER THAN 3 TESTS.
- UTILITY TRENCH BACKFILL TESTING: ONE TEST FOR EACH 200 CUBIC YARDS OF FILL BACKFILL PLACED OR ONE TEST PER 200 LINEAR FEET OF TRENCH FOR EACH LIFT; WHICHEVER IS LESS.
- FOUNDATION WALL BACKFILL: AT EACH COMPACTED BACKFILL LAYER, AT LEAST 1 TEST PER LIFT FOR EACH 50 FEET OR LESS OF WALL LENGTH, BUT NO FEWER THAN 2 TESTS.
- WHEN TESTING AGENCY REPORTS THAT SUBGRADES, FILLS, OR BACKFILLS HAVE NOT ACHIEVED DEGREE OF COMPACTION SPECIFIED, SCARIFY AND MOISTEN OR AERATE, OR REMOVE AND REPLACE SOIL TO DEPTH REQUIRED; RECOMPACT AND RETEST UNTIL SPECIFIED COMPACTION IS OBTAINED.
- DISPOSAL: REMOVE SURPLUS SOIL AND WASTE MATERIAL, INCLUDING UNSATISFACTORY SOIL, TRASH, AND DEBRIS, AND LEGALLY DISPOSE OF IT OFF OWNER'S PROPERTY.



GRANDVIEW BUSINESS PARK - SITE II
YORKVILLE, WISCONSIN

TECHNICAL SPECIFICATIONS

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM
DRAWING NO. 19167_SPECIFICATIONS.DWG			
DRAWN BY: RT			
DATE: 01-20-2020			
PROJECT NO: 19167			
CHECKED BY: TM			
APPROVED BY: CTC			
SHEET NO.:			

C500

CONCRETE PAVING:

1. THE COMPOSITION, PLACING AND CONSTRUCTION OF CONCRETE PAVEMENTS SHALL BE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF SECTIONS 415, 416, 501, 601, AND 602 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION (WISDOT STANDARD SPECIFICATIONS) AND LOCAL MUNICIPAL REQUIREMENTS AND SPECIFICATIONS.
2. CONTRACTOR SHALL PROVIDE PRODUCT DATA FOR EACH TYPE OF PRODUCT INDICATED - INCLUDE TECHNICAL DATA AND TESTED PHYSICAL AND PERFORMANCE PROPERTIES; JOB-MIX DESIGNS: CERTIFICATION THAT MIX MEETS OR EXCEEDS WISDOT STANDARD SPECIFICATIONS; AND MATERIAL CERTIFICATES CERTIFYING COMPLIANCE WITH WISDOT STANDARD SPECIFICATIONS.
3. MANUFACTURER QUALIFICATIONS: MANUFACTURER OF READY-MIXED CONCRETE PRODUCTS WHO COMPLIES WITH ASTM C 94/C 94M REQUIREMENTS FOR PRODUCTION FACILITIES AND EQUIPMENT AND APPROVED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.
4. CONCRETE GRADE: GRADE A, GRADE A-2, OR A-FA CONFORMING TO SECTION 501.3.1.3 OF THE WISDOT STANDARD SPECIFICATIONS
5. AGGREGATES: CONFORM TO SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS. PROVIDE AGGREGATES FROM A SINGLE SOURCE.
6. WATER: ASTM C 94/C 94M AND SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.
7. AIR-ENTRAINING ADMIXTURE: ASTM C 260 AND SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.
8. CHEMICAL ADMIXTURES: PER SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.
9. CURING MATERIALS IN ACCORDANCE WITH SECTION 415.3.12 OF THE WISDOT STANDARD SPECIFICATIONS.
10. EXPANSION JOINT MATERIAL: CONFORM TO SECTION 415.2.3 OF THE WISDOT STANDARD SPECIFICATIONS.
11. MEASURE, BATCH, AND MIX CONCRETE MATERIALS AND CONCRETE IN ACCORDANCE WITH SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.
12. GENERAL EXECUTION: CONFORM TO SECTION 415 OF THE WISDOT STANDARD SPECIFICATIONS.
13. PROOFROLL SUBGRADE AND AGGREGATE BASE AS OUTLINED IN EARTH MOVING SPECIFICATION PRIOR TO PLACEMENT OF PAVEMENTS.
14. SET, BRACE, AND SECURE EDGE FORMS, BULKHEADS, AND INTERMEDIATE SCREED GUIDES FOR PAVEMENT TO REQUIRED LINES, GRADES, AND ELEVATIONS. INSTALL FORMS TO ALLOW CONTINUOUS PROGRESS OF WORK AND SO FORMS CAN REMAIN IN PLACE AT LEAST 24 HOURS AFTER CONCRETE PLACEMENT.
15. CLEAN FORMS AFTER EACH USE AND COAT WITH FORM-RELEASE AGENT TO ENSURE SEPARATION FROM CONCRETE WITHOUT DAMAGE.
16. JOINTS GENERAL: FORM CONSTRUCTION, ISOLATION, AND CONTRACTION JOINTS AND TOOL EDGINGS TRUE TO LINE WITH FACES PERPENDICULAR TO SURFACE PLANE OF CONCRETE. CONSTRUCT TRANSVERSE JOINTS AT RIGHT ANGLES TO CENTERLINE, UNLESS OTHERWISE INDICATED. CONFORM TO SECTION 415 OF THE WISDOT STANDARD SPECIFICATIONS
17. CONSTRUCTION JOINTS: SET CONSTRUCTION JOINTS AT SIDE AND END TERMINATIONS OF PAVEMENT AND AT LOCATIONS WHERE PAVEMENT OPERATIONS ARE STOPPED FOR MORE THAN ONE-HALF HOUR UNLESS PAVEMENT TERMINATES AT ISOLATION JOINTS.
18. ISOLATION JOINTS: FORM ISOLATION JOINTS OF PREFORMED JOINT-FILLER STRIPS ABUTTING CONCRETE CURBS, CATCH BASINS, MANHOLES, INLETS, STRUCTURES, WALKS, OTHER FIXED OBJECTS, AND WHERE INDICATED.
19. CONTRACTION JOINTS: FORM WEAKENED-PLANE CONTRACTION JOINTS, SECTIONING CONCRETE INTO AREAS AS INDICATED. CONSTRUCT CONTRACTION JOINTS FOR A DEPTH EQUAL TO AT LEAST ONE-FOURTH OF THE CONCRETE THICKNESS TO MATCH JOINTING OF EXISTING ADJACENT CONCRETE PAVEMENT.
20. EDGING: TOOL EDGES OF PAVEMENT, GUTTERS, CURBS, AND JOINTS IN CONCRETE AFTER INITIAL FLOORING WITH AN EDGING TOOL TO A 1/4-INCH RADIUS. REPEAT TOOLING OF EDGES AFTER APPLYING SURFACE FINISHES. ELIMINATE TOOL MARKS ON CONCRETE SURFACES.
21. CURBING: COMPLY WITH SECTION 601 OF THE WISDOT STANDARD SPECIFICATIONS.
22. SIDEWALKS: COMPLY WITH SECTION 602 OF THE WISDOT STANDARD SPECIFICATIONS.
23. MOISTEN AGGREGATE TO PROVIDE A UNIFORM DAMPENED CONDITION AT TIME CONCRETE IS PLACED.
24. FINISH CURBING IN ACCORDANCE WITH SECTION 601.3.5 OF THE WISDOT STANDARD SPECIFICATIONS.
25. FINISH SIDEWALK AND PATIO IN ACCORDANCE WITH SECTION 602.3.2.3 OF THE WISDOT STANDARD SPECIFICATIONS (LIGHT BROOM FINISH).
26. FINISH CONCRETE VEHICULAR PAVEMENTS AND PADS IN ACCORDANCE WITH SECTION 415.3.8 OF THE WISDOT STANDARD SPECIFICATIONS (ARTIFICIAL TURF DRAG FINISH).
27. PROTECT AND CURE SIDEWALK IN ACCORDANCE WITH SECTION 602.3.2.6 OF THE WISDOT STANDARD SPECIFICATIONS.
28. PROTECT AND CURE CURBING IN ACCORDANCE WITH SECTION 601.3.7 OF THE WISDOT STANDARD SPECIFICATIONS.
29. PROTECT AND CURE VEHICULAR CONCRETE PAVING IN ACCORDANCE WITH SECTION 415.3.12 OF THE WISDOT STANDARD SPECIFICATIONS.
30. REMOVE AND REPLACE CONCRETE PAVEMENT THAT IS BROKEN, DAMAGED, OR DEFECTIVE OR THAT DOES NOT COMPLY WITH REQUIREMENTS IN THIS SECTION.
31. PROTECT CONCRETE FROM DAMAGE. EXCLUDE TRAFFIC FROM PAVEMENT FOR AT LEAST 7 DAYS AFTER PLACEMENT.
32. MAINTAIN CONCRETE PAVEMENT FREE OF STAINS, DISCOLORATION, DIRT, AND OTHER FOREIGN MATERIAL. SWEEP CONCRETE PAVEMENT NOT MORE THAN TWO DAYS BEFORE DATE SCHEDULED FOR SUBSTANTIAL COMPLETION INSPECTIONS.

ASPHALTIC PAVING:

1. THE COMPOSITION, PLACING AND CONSTRUCTION OF ASPHALTIC PAVEMENTS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 450, 455, 460, 465, AND 475 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION (WISDOT STANDARD SPECIFICATIONS).
2. CONTRACTOR SHALL PROVIDE PRODUCT DATA FOR EACH TYPE OF PRODUCT INDICATED - INCLUDE TECHNICAL DATA AND TESTED PHYSICAL AND PERFORMANCE PROPERTIES; JOB-MIX DESIGNS: CERTIFICATION THAT MIX MEETS OR EXCEEDS WISDOT STANDARD SPECIFICATIONS; AND MATERIAL CERTIFICATES CERTIFYING COMPLIANCE WITH WISDOT STANDARD SPECIFICATIONS.
3. MANUFACTURER QUALIFICATIONS: MANUFACTURER SHALL BE REGISTERED WITH AND APPROVED BY THE DOT OF THE STATE IN WHICH PROJECT IS LOCATED.
4. ENVIRONMENTAL LIMITATIONS: DO NOT APPLY ASPHALT MATERIALS IF BASE COURSE IS WET OR EXCESSIVELY DAMP OR IF THE FOLLOWING CONDITIONS ARE NOT MET: APPLY TACK COAT WHEN AMBIENT TEMPERATURE IS ABOVE 50 DEGREES FAHRENHEIT AND WHEN TEMPERATURE HAS NOT BEEN BELOW 35 DEGREES FAHRENHEIT FOR 12 HOURS IMMEDIATELY PRIOR TO APPLICATION; PLACE ASPHALTIC CONCRETE SURFACE COURSE WHEN TEMPERATURE IS ABOVE 40 DEGREES FAHRENHEIT; BASE COURSE MAY BE PLACED WHEN AIR TEMPERATURE IS ABOVE 30 DEGREES FAHRENHEIT AND RISING. PROCEED WITH PAVEMENT MARKING ONLY ON CLEAN, DRY SURFACES. DO NOT APPLY BELOW THE MINIMUM PAVEMENT TEMPERATURE AS RECOMMENDED BY THE MANUFACTURER.
5. AGGREGATES SHALL BE IN ACCORDANCE WITH SECTION 460.2.2 OF THE WISDOT STANDARD SPECIFICATIONS.
6. ASPHALT MATERIALS SHALL BE IN ACCORDANCE WITH CHAPTER 455 OF THE WISDOT STANDARD SPECIFICATIONS.
7. PAVEMENT MARKING PAINT: PROVIDE PAINT FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S APPROVED PRODUCTS LIST. COLOR SHALL BE WHITE UNLESS INDICATED OTHERWISE ON PLANS.
8. HOT-MIX ASPHALT: ASPHALTIC BINDER COURSE AND SURFACE COURSE SHALL BE MIXTURE LT FOR REGULAR DUTY PAVEMENT AND LT FOR HEAVY DUTY PAVEMENT COMPLYING WITH THE WISDOT STANDARD SPECIFICATIONS.
9. AGGREGATE BASE COURSE BENEATH PAVEMENTS: SHALL BE 1-1/4" DENSE GRADED BASE COURSE CONFORMING TO SECTION 305 OF THE WISDOT STANDARD SPECIFICATIONS.
10. PAVEMENT PLACEMENT GENERAL: ASPHALT CONCRETE PAVING EQUIPMENT, WEATHER LIMITATIONS, JOB-MIX FORMULA, MIXING, CONSTRUCTION METHODS, COMPACTION, FINISHING, TOLERANCE AND PROTECTION SHALL CONFORM TO THE REQUIREMENTS OF THE APPROPRIATE SECTIONS OF THE WISDOT STANDARD SPECIFICATIONS.
11. PREPARE AND PROOFROLL SUBGRADES AND AGGREGATE BASE COURSE AS OUTLINED IN EARTH MOVING SPECIFICATIONS PRIOR TO PLACEMENT OF ASPHALT PAVEMENTS.
12. SWEEP LOOSE GRANULAR PARTICLES FROM SURFACE OF AGGREGATE BASE COURSE PRIOR TO PAVEMENT PLACEMENT. DO NOT DISLODGE OR DISTURB AGGREGATE EMBEDDED IN COMPACTED SURFACE OF BASE COURSE.
13. SPREAD AND FINISH ASPHALTIC MIXTURE IN ACCORDANCE WITH SECTION 450.3.2.5 OF THE WISDOT STANDARD SPECIFICATIONS. PAVEMENT THICKNESSES SHALL BE AS INDICATED ON THE PLANS.
14. PROMPTLY CORRECT SURFACE IRREGULARITIES IN PAVING COURSE BEHIND PAVER. USE SUITABLE HAND TOOLS TO REMOVE EXCESS MATERIAL FORMING HIGH SPOTS. FILL DEPRESSIONS WITH HOT-MIX ASPHALT TO PREVENT SEGREGATION OF MIX; USE SUITABLE HAND TOOLS TO SMOOTH SURFACE.
15. COMPACT ASPHALTIC PAVEMENT IN ACCORDANCE WITH SECTION 450.3.2.6 OF THE WISDOT STANDARD SPECIFICATIONS.
16. PROTECTION: AFTER FINAL ROLLING, DO NOT PERMIT VEHICULAR TRAFFIC ON PAVEMENT UNTIL IT HAS COOLED AND HARDENED. ERECT BARRICADES TO PROTECT PAVING FROM TRAFFIC UNTIL MIXTURE HAS COOLED ENOUGH NOT TO BECOME MARKED.
17. THICKNESS TOLERANCE: COMPACT EACH COURSE TO PRODUCE THE THICKNESS INDICATED WITHIN PLUS/MINUS 1/4 INCH FOR BINDER COURSE AND PLUS 1/4 INCH FOR SURFACE COURSE, NO MINUS.
18. SURFACE SMOOTHNESS TOLERANCE: COMPACT EACH COURSE TO PRODUCE A SURFACE SMOOTHNESS WITHIN THE FOLLOWING TOLERANCES AS DETERMINED BY USING A 10-FOOT STRAIGHTEDGE APPLIED TRANSVERSELY OR LONGITUDINALLY TO PAVED AREAS: BINDER COURSE: 1/4 INCH; SURFACE COURSE: 1/8 INCH. REMOVE AND REPLACE ALL HUMPS OR DEPRESSIONS EXCEEDING THE SPECIFIED TOLERANCES.
19. DO NOT APPLY PAVEMENT-MARKING PAINT UNTIL LAYOUT, COLORS, AND PLACEMENT HAVE BEEN VERIFIED WITH ENGINEER.
20. APPLY MARKINGS TO A DRY SURFACE FREE FROM FROST. REMOVE DUST, DIRT, OIL, GREASE, GRAVEL, DEBRIS OR OTHER MATERIAL THAT MAY PREVENT BONDING TO THE PAVEMENT.
21. APPLY PAINT AS THE MANUFACTURER SPECIFIES WITH MECHANICAL EQUIPMENT TO PRODUCE PAVEMENT MARKINGS, OF DIMENSIONS INDICATED, WITH UNIFORM, STRAIGHT EDGES. APPLY AT MANUFACTURER'S RECOMMENDED RATES AT A MINIMUM RATE OF 17.6 GALLONS/MILE FOR A CONTINUOUS 4" LINE.
22. TESTING AGENCY: CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO PERFORM FIELD TESTS AND INSPECTIONS AND TO PREPARE TEST REPORTS.

BIOFILTRATION BASIN:

1. BIOFILTRATION BASIN SHALL BE CONSTRUCTED IN GENERAL ACCORDANCE WITH WDNR TECHNICAL STANDARD 1004: BIORETENTION FOR INFILTRATION AND THESE SPECIFICATIONS.
2. ENGINEERED SOIL MIX SHALL CONSIST OF A MIX OF 70 TO 85% SAND AND 15 TO 30% COMPOST BASED ON VOLUME. SAND SHALL MEET THE REQUIREMENTS FOR FINE AGGREGATE SAND SPECIFIED SECTION 501.2.5.3.4 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION OR MEET ASTM C33 (FINE AGGREGATE CONCRETE SAND).
3. PRIOR TO PLACEMENT IN THE BIOFILTRATION BASIN, THE ENGINEERED SOIL SHALL BE PREMIXED AND THE MOISTURE CONTENT SHALL BE LOW ENOUGH TO PREVENT CLUMPING AND COMPACTION DURING PLACEMENT.
4. THE ENGINEERED SOIL SHALL BE PLACED IN MULTIPLE LIFTS, EACH APPROXIMATELY 12 INCHES IN DEPTH.
5. ENGINEERED SOIL MIX SHALL BE FREE OF ROCKS, STUMPS, ROOTS, BRUSH OR OTHER MATERIAL OVER ONE INCH IN DIAMETER. NO OTHER MATERIALS SHALL BE MIXED WITH THE PLANTING SOIL THAT MAY BE HARMFUL TO PLANT GROWTH OR BE A HINDRANCE TO PLANTING OR MAINTENANCE.
6. ENGINEERED SOIL AND GRAVEL SHALL BE IN ACCORDANCE WITH THE LATEST WDNR TECHNICAL STANDARD 1004.
7. PEA GRAVEL SHALL BE GRADED SUCH THAT MINIMUM PARTICLE SIZE IS LARGE ENOUGH TO PREVENT FALLING THROUGH PERFORATIONS OF THE UNDERDRAIN PIPE.
8. BIOFILTRATION BASIN DRAIN PIPE: 6-INCH SCHEDULE 40 PVC PIPE MEETING PERFORATION REQUIREMENTS OF AASHTO M278 HIGHWAY UNDERDRAIN SPECIFICATIONS WITH 3/8" PERFORATIONS ON 6" CENTERS WITH 4 HOLES PER ROW.
9. BEEHIVE INLET: NEENAH R-256I, OR EQUAL.
10. RISER STRUCTURE: 36" DIAMETER PRECAST CATCH BASIN STRUCTURE WITH 24" TOP OPENING TO ACCOMMODATE BEEHIVE INLET. IN GENERAL ACCORDANCE WITH FILE NO. 26 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
11. GRAVEL STORAGE LAYER (IF INDICATED ON PLANS): COURSE AGGREGATE #2 IN ACCORDANCE WITH SECTION 501.2.5.4.4 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
12. FILTER FABRIC: GEOTEXTILE FABRIC IN ACCORDANCE WITH SECTION 645.2.4 OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
13. EXCAVATE TO GRADES AS INDICATED ON PLANS.
14. CONSTRUCT TEMPORARY DIVERSION SWALES OR PROVIDE OTHER MEANS AS NECESSARY TO PREVENT CONSTRUCTION SITE RUNOFF FROM DISTURBED AREAS, AND RUNOFF FROM PVIOUS AREAS WHICH HAVE NOT YET BEEN STABILIZED, FROM ENTERING THE BIORETENTION AREA.
15. CONSTRUCTION SHALL BE SUSPENDED DURING PERIODS OF RAINFALL OR SNOWMELT. CONSTRUCTION SHALL REMAIN SUSPENDED IF PONDED WATER IS PRESENT OR IF RESIDUAL SOIL MOISTURE CONTRIBUTES SIGNIFICANTLY TO THE POTENTIAL FOR SOIL SMEARING, CLUMPING OR OTHER FORMS OF COMPACTION.
16. COMPACTION AND SMEARING OF THE ENGINEERED SOIL AND TOP SOIL BENEATH THE FLOORS, IN THE SOIL PLANTING BED, AND THE SIDE SLOPES OF THE BASIN, AND COMPACTION OF THE ENGINEERED SOILS IN THE BASIN SHALL BE MINIMIZED. DURING SITE DEVELOPMENT, THE AREA DEDICATED TO THE BIOFILTRATION BASIN SHALL BE CORDONED OFF TO PREVENT ACCESS BY HEAVY EQUIPMENT. ACCEPTABLE EQUIPMENT FOR CONSTRUCTING THE BIOFILTRATION BASIN INCLUDES EXCAVATION HOES, LIGHT EQUIPMENT WITH TURF TYPE TIRES, MARSH EQUIPMENT OR WIDE-TRACK LOADERS.
17. IF COMPACTION OCCURS AT THE BASE OF THE BIOFILTRATION BASIN, THE SOIL SHALL BE REFRACTURED TO A DEPTH OF AT LEAST 12 INCHES. IF SMEARING OCCURS, THE SMEARED AREAS OF THE INTERFACE SHALL BE CORRECTED BY RAKING OR ROTO-TILLING.
18. STEPS MAY BE TAKEN TO INDUCE MILD SETTLING OF THE ENGINEERED SOIL BED AS NEEDED TO PREPARE A STABLE PLANTING MEDIUM AND TO STABILIZE THE PONDING DEPTH. VIBRATING PLATE-STYLE COMPACTORS SHALL NOT BE UTILIZED.
19. ANY SEDIMENT ACCUMULATED IN THE BASIN DUE TO CONSTRUCTION ACTIVITIES SHOULD BE REMOVED AND THE ENGINEERED SOIL SHALL BE DEEP TILLED PRIOR TO PLANTING.
20. IMPERVIOUS LINER SHALL BE 45 MIL FIRESTONE EPDM (GSI PRODUCTS), OR 30 MIL PVC (GSI PRODUCTS), OR EQUAL.



GRANDVIEW BUSINESS PARK - SITE II
YORKVILLE, WISCONSIN

TECHNICAL SPECIFICATIONS

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM
DRAWING NO. 19167_SPECIFICATIONS.DWG			
DRAWN BY: RT			
DATE: 01-20-2020			
PROJECT NO: 19167			
CHECKED BY: TM			
APPROVED BY: CTC			
SHEET NO.:			

C501

SANITARY SEWER CONSTRUCTION

- A. Bedding and Cover Material.
- Sanitary sewer bedding and cover material shall conform to the appropriate sections of the "Standard Specifications", as specified and/or modified below:
 - PVC pipe - Section 3.2.6.(i), as modified below (Note that the bedding section is essentially Class "B" Bedding except that a minimum of 12 inches of cover material is required over the top of the pipe.)
 - Crushed pea gravel will not be allowed for use as bedding material. Cover material shall be the same material as used for bedding and shall conform to Section 6.43.2.(a).
 - Delete the following sentence from Paragraphs 3.2.6.(b)(2) and 3.2.6.(i)1:

"If crushed stone chips or other materials conforming to Section 6.43.2.(a) are used as cover material, no compaction or staging is required."
 - Placement and Compaction.
 - Place bedding material to the springline of the pipe and compact prior to placing cover material. Compaction of bedding material at the level of the pipe springline shall include working bedding material under the haunches of the pipe using shovels or other suitable methods. The Contractor shall take care to completely work bedding material under the haunches of the pipe to provide adequate side support.
 - Place and compact cover material in one or more lifts after compacting bedding material. Place a minimum of 12 inches of cover material over the pipe.
- B. Laterals.
- Connections to the Main Sewer.
 - Building sewer (lateral) connections to the main sewer shall be made with wyes except as noted below. The ends of laterals shall be plugged in accordance with Paragraph 3.2.5.(f) of the "Standard Specifications".
 - All riser connections to PVC pipe shall be made with factory fabricated or injection molded in-line tees. Do not use saddles for riser connections.

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- Bore Laterals Under Existing Roadways.
 - Sanitary sewer laterals shall be installed by boring under existing pavement and shoulder areas. The cost of boring shall be included in the unit price(s) bid for sanitary sewer laterals.
- Marker Stakes.
 - The Contractor shall furnish and install a marker stake over the end of each lateral installed. The marker shall be a minimum 2" x 4" x 4' wooden plank or as approved by the Engineer. The marker shall be placed vertically with its top flush with the surface grade. Place a spike or other durable magnetic material in the top of the marker stake to aid in future relocation.
- Connections to Existing Sewers and Manholes.
 - Sewer Stub Connections.
 - Sewer connections to existing sewer stubs of different type of material or joint shall be made with approved watertight adaptors.
 - Manhole Connections.
 - Sewer connections to existing manholes shall be made in accordance with Section 3.5.7. of the "Standard Specifications". Field tapped holes for connecting sewer pipe to manholes shall be made by coring the manhole except that connections to brick or block manholes may be made by punching out the opening. Flexible pipe connections shall be made with flexible watertight connectors, Kor-N-Seal, Link-Seal or equal. All clamps, bolts, etc. of pipe to manhole seals shall be stainless steel. If Link-Seal connectors are used, the bolt heads shall be placed on the inside of manholes.
 - Plug Downstream Manhole.
 - Place temporary plugs in all downstream (receiving) manholes to prevent groundwater and debris from entering the existing sewer system.
 - Lateral Connections.
 - Lateral connections to existing sewers shall be made with saddles and by coring the existing sewer or by inserting (cutting-in) a wye or tee into the existing sewer. The wye or tee shall be of the same pipe material as the existing sewer. The lateral/tee connection shall be made with approved adaptors or couplings.

SP-2

- D. Deflection Testing.
- Polyvinyl chloride (PVC) sewer pipe shall be deflection tested with an approved go-no-go acceptance testing device. The test shall not be conducted until after all backfill has been placed and consolidated and after riser pipes and sewer laterals have been installed. The entire length of sewer pipe shall be tested.
 - PVC pipe shall be deflection tested in accordance with Paragraph 3.2.6.(j)4. of the "Standard Specifications", as amended below:
 - PVC pipe shall not be deflection tested until at least 14 days after all backfill has been placed, including backfilling of laterals and risers. Initial deflection testing shall be done using a 95% mandrel. The use of a 92.5% testing device will not be allowed for initial testing regardless of the time elapsed after backfilling.
 - All sections failing to pass the test shall be repaired and retested, however, if at least 30 days have elapsed since the pipe was placed and backfilled, the Contractor will be allowed to retest the sewer line using a 92.5% mandrel.
 - Mandrels.
 - Go-no-go mandrels shall conform to the requirements of File No. 30 of the "Standard Specifications".
- E. Leakage Testing.
- Low Pressure Air Test.
 - Amend Paragraph 3.7.1. of the "Standard Specifications" to read in part: "Sanitary sewers less than or equal to 36 inches in diameter shall be tested for leakage using the low pressure air test. The length of laterals included in the test section shall be included in determining the test time."
- F. Insulation.
- Sewer lines shall be insulated where noted on the Plans and wherever the depth of cover is less than five (5) feet when so ordered by the Engineer. Insulation shall be in accordance with Chapter 4.17.0. of the "Standard Specifications".
- H. Televising Sewers.
- The Contractor shall televise all sewers after successfully completing deflection and leakage testing and after forming manhole flowlines and benches.

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- The Contractor shall provide the District with a copy of the videotape and a written report by the video contractor. The report shall indicate all defects (i.e., bad joints, cracked pipe, infiltration, standing water, etc.) and shall list locations of all laterals. Lateral locations shall be cross-referenced to street addresses or lot numbers if addresses are not available.
- All defects shall be corrected and any dirt, gravel or foreign material removed from the sewer prior to acceptance by the District.
- The cost of televising sewers shall be incidental to the cost of sewer construction.
- The Contractor shall retest all repaired sewer lines for both deflection and leakage in accordance with Subsections 201.D. and 201.E. of these "Special Provisions". The cost of retesting shall be paid for by the Contractor.

SANITARY SEWER MATERIALS

- A. Sanitary sewer pipe material shall be polyvinyl chloride (PVC) pipe conforming to the following:
- Polyvinyl chloride (PVC) sewer pipe, 4 inch through 15 inch diameter, meeting the requirements of ASTM D-3034, SDR-35, with integral bell type flexible elastomeric joints meeting the requirements of ASTM D-3212. PVC material shall have a cell classification of 12454-B, 12454-C, 12364-C or 13364-B, except that 12364-C and 13364-B shall have a minimum tensile modulus of 500,000 psi.
- B. Well Protection.
- Sanitary sewer pipe material located within 25 to 50 feet of private wells, as shown on the Plans or as directed by the Engineer, shall be pressure pipe as specified below. The pressure pipe shall be PVC pipe unless ductile iron pipe is specified on the Plans or by the Engineer.
 - Polyvinyl chloride (PVC) pressure pipe conforming to AWWA C-900, Class 150, DR-18, or ASTM D2241, CL 250, SDR-17, with integral elastomeric bell and spigot joints.
 - Ductile iron pipe, Class 52, meeting the requirements of AWWA C-151 (ANSI 21.51), cement mortar lined with internal and external bluminous coating and furnished with push-on joints with rubber gaskets.
 - Ductile iron pipe shall be wrapped with polyethylene wrap meeting the requirements of AWWA Standard C-105 (ANSI A21.5) using Class C (black) polyethylene material and shall be installed as specified in Chapter 4.4.4. of the "Standard Specifications". Fold and tape loose wrap

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material to minimize air entrapment which could cause the material to be punctured when backfilling.

- The pressure pipe shall be installed from manhole to manhole (entire manhole section) within those section(s) of manholes passing within 50 feet of private wells. Main line wye and tee lateral connections shall be pressure pipe, but laterals and risers may be constructed of gravity sewer pipe materials.
- Laterals.
 - Sanitary sewer lateral pipe material within 8 to 25 feet of private wells shall be plastic sewer pipe conforming to the requirements for PVC sewer pipe of this Section of the Special Provisions.

SANITARY MANHOLES

- A. Standard Manhole.
- Sanitary manholes shall be constructed in accordance with Chapter 3.5.0. and File Nos. 12 12A, 13 and 15 of the "Standard Specifications" and these Special Provisions.
 - Poured Manhole Base.
 - All manhole bases (benches) shall be poured in place in accordance with Subsection 3.5.5.(b) of the "Standard Specifications". Precast manhole bases or precast integral base units will be allowed, however, no precast base units with preformed benches are allowed.
 - Manholes shall be precast 48 inch inside diameter with eccentric cones.
 - Adjusting Rings.
 - A minimum of 4 inches to a maximum of 19 inches of adjusting rings shall be furnished for each manhole, unless shown otherwise on the Plans. (Note: Type II Manholes - 3 inches minimum of rings is acceptable.)
 - Waterproof Manholes.
 - Furnish manholes to minimize the chimney height required, so that chimney seal extensions will not be required. Note that a standard 9 inch seal covers a 6-1/2 inch chimney height.
 - Material.
 - Adjusting rings shall be injection molded High Density Polyethylene (HDPE) adjustment rings as

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manufactured by Ladtech, Inc. or equal. Concrete adjusting rings shall not be used.

- Installation.
 - Install HDPE adjusting rings per the manufacturer's recommendation.
 - Manhole depths shown on the Plans are approximate only, unless the cover elevation is indicated. Manhole covers shall be placed to match the existing grade unless the finished elevation is shown on the Plans.
 - Place manhole covers located in road pavements on new Town roads 2-1/4 inches below the finished grade (3/4 inch below the asphaltic binder course elevation).
 - Raise manhole covers to 1/4 inch below the finished grade by cutting out the manhole and adding a 2 inch HDPE adjusting ring. This work shall be done no more than 10 days prior to placing the surface course. Protect raised manhole covers with flashing barricades. The cost of raising manhole covers shall be included in the unit price bid for asphaltic surface course.
 - Revise Chapter 6.38.0 of the "Standard Specifications" to require that concrete brick and block, if required, shall be colored "red or pink", conforming to Subsection 519.2.3 of the "State Specifications".
- Manhole steps shall be OSHA approved and fabricated using 3/8" minimum diameter steel reinforcing rod with molded plastic covering.
- Manhole Frames and Covers.
 - Typical Casting.
 - Manhole frames and covers shall be Neenah R-1580 (old R-1080) with Type "B" self-sealing lids, non-rocking, or equal.
 - Center manhole frames on adjusting rings.
- Frame/Chimney Joints.
 - Type I (Waterproof Manholes).
 - All waterproof manholes shall be constructed with Type I frame/chimney joints. Type I joints shall consist of the following:

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- The manhole frame shall be set on a bed of non-shrink grout, 3/4 inch minimum thickness, extending the full width of and continuously around the top of the chimney. The inner and outer faces of the mortar joint shall be trowel finished.
 - Non-shrink grout shall be a premixed, non-metallic, cementitious, controlled expansion, high strength, versatile grout; PenngROUT by IPA Systems, Inc. or equal.
- Adjusting rings shall be set with butyl rubber sealant troweled into a 1/4 inch thick layer over the entire surface area of the top of cone and all adjusting rings, except as specified in Paragraph (1) above. The butyl rubber sealant shall be EZ-Stik or Kent-Seal butyl base sealant in trowelable grade or equal.
- External Chimney Seal.

Type I joints shall be provided with an external manhole chimney seal as manufactured by Cretex Specialty Products, Waukesha, Wisconsin. The external manhole seal shall be installed in accordance with the detailed manufacturer's instruction.

 - Furnish and install manhole seals to span (cover) the entire chimney height.
 - The seal shall be water tested for leaks after the bottom compression band is installed. After the seal has successfully passed the leakage test, drain the water and install the top band.

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applied as a bag or a sheet wrapped around the manhole in a continuous manner with seams bonded with waterproof tape.

- Cone/Ring Dimensions.
 - Manhole Cone Sections.
 - The top dimensions of cone sections shall be either 24 inches inside diameter by 36 outside diameter or 26 inches inside diameter by 38 inches outside diameter.
 - The outside diameter of the top of the cone section shall be as large as or larger than the base flange of the manhole casting.
 - Adjusting Rings.
 - Adjusting ring dimensions shall match the dimensions of the top of the cone section; either 24" x 36" or 26" x 38".
 - Adjusting rings shall have flat or even bearing surfaces providing bearing contact over the entire contact surfaces.
 - Adjusting rings shall be as specified in Section 6.39.10 of the "Standard Specifications", except the dimensions shall be as specified above.
 - Center adjusting rings on manhole cones and center manhole castings on adjusting rings so that their surfaces will be flush whenever possible.
- Sealing Manhole Chimneys.
 - The entire outside surface of the manhole chimney, including all adjusting rings and overlapping both the manhole cone or flat-top slab (a minimum of 4 inches) and the manhole frame, shall be covered with a minimum 1/4 inch thick coating of butyl rubber sealant. The butyl rubber sealant shall be EZ-Stik or Kent-Seal butyl base sealant in trowelable grade or equal.
- Waterproof Manholes.
 - Seal only the lower portion of the chimney, from the bottom of the external rubber seal to 4 inches below the top of the cone, on Type I frame/chimney joints (external seal).

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- C. Manhole Riser Joints.
- Joints for precast manhole riser sections shall be made with rubber "O"-ring gaskets, a continuous ring of butyl rubber sealant (EZ-Stik or

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2.	ENGINEERING REVIEW	05/07/20	SMM

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SHEET NO.:

C502

<p>Kent-Seal in rope form) or equal. The butyl sealant shall be 1 inch diameter equivalent or as recommended by the manhole manufacturer.</p> <p>D. Manhole Lifting Holes.</p> <p>1. All lifting holes in precast manhole sections shall be plugged using rubber plugs supplied by the manhole supplier, non-shrink grout or other approved method. Non-shrink grout shall fill the entire void and shall be troweled at each face to provide smooth surfaces. Cement mortar shall not be used to plug lifting holes.</p> <p>E. Manhole Pipe Connections.</p> <p>1. Connections of pipes to manholes shall be made in accordance with Section 3.5.7. of the "Standard Specifications". All field tapped holes for connecting sewer pipe to manholes shall be made by coring.</p> <p>2. All plastic pipe shall be connected to manholes by means of flexible watertight pipe to manhole seals in accordance with Subsection 3.5.7.(c). Manhole seals shall be Kor-N-Seal, Link Seal or equal. All clamps, bolts, etc. of pipe to manhole seals shall be stainless steel. If Link Seal connectors are used, the bolt heads shall be placed on the inside of manholes.</p> <p>F. Drop Manholes</p> <p>1. All drop manholes, unless shown otherwise on the Plans, shall be constructed as "outside" drop manholes in accordance with Section 3.5.8.(d) and File No. 19 or 20 of the "Standard Specifications" and the requirements of these Special Provisions.</p> <p>G. Waterproof Manholes.</p> <p>1. Waterproof manholes shall be constructed the same as standard manholes except that they shall be furnished with waterproof frames and lids and Type 1 frame/chimney joints.</p> <p>a. Waterproof frames and lids shall be Neenah R-1755-C with Type "B" lid and security saddle plate or equal.</p> <p>H. Sewer Stubs/Bulkheads.</p> <p>1. Sewer stubs, where the length is not shown on the Plans, shall be 4 foot minimum length and shall be plugged in accordance with Section 3.2.25.(a) of the "Standard Specifications".</p> <p>2. Bulkheads for future sewer connections to manholes, where called for on the Plans, shall be made in accordance with File No. 13A of the "Standard Specifications". Connections for future sewer connections 27 inches in diameter and larger shall be bulkheaded with an 8 inch wall using concrete brick.</p> <p style="text-align: center;">SP-9</p>	<p>BACKFILLING UTILITY TRENCHES</p> <p>A. Excavated Material Backfill.</p> <p>1. Excavated material, in accordance with Section 6.43.5. of the "Standard Specifications", may be used to backfill trenches unless shown otherwise on the Plans, except as provided for in Paragraph 2 below.</p> <p>a. If excavated material is unsuitable for backfilling, trenches shall be backfilled with granular material when so ordered by the Engineer. The volume of material will be based upon field measurements of the trench.</p> <p>2. Granular Backfill Required in Place of Excavated Material Backfill.</p> <p>a. The following categories of trenches shall be backfilled with granular material.</p> <p>(1) Existing Pavements and Shoulders.</p> <p>(a) Trenches extending to within or under existing paved roads and gravel shoulders shall be backfilled with granular material, unless slurry backfill is specified in Subsection 700.C (Slurry Backfill) of these Special Provisions; except as modified below.</p> <p>1) Trenches extending to within five (5) feet of the pavement shall be backfilled with granular material.</p> <p>(2) New Village Roads.</p> <p>(a) Trenches located within 25 feet of manholes in the traveled roadway of new Town Roads shall be backfilled with granular material.</p> <p>(3) Driveways, Parking Areas, and Cross Streets.</p> <p>(a) Trenches through paved or graveled surfaces, such as driveways and parking areas, shall be backfilled with granular material within one half-to-one slopes extending downward and outward from the edges of such improved surfaces.</p> <p>B. Granular Backfill (As shown on the Plans).</p> <p>1. Granular backfill, in accordance with Table 37 of Section 6.43.4. of the "Standard Specifications", shall be used to backfill trenches as shown on the Plans, except as provided for below.</p> <p style="text-align: center;">SP-10</p>	<p>a. If excavated material is suitable for use as granular backfill, trenches shall be backfilled with suitable excavated granular material when so ordered by the Engineer. A credit for using excavated material backfill in place of granular material will be figured based upon the price bid in the Schedule of Fixed Prices. The volume of material will be based upon field measurements of the trench.</p> <p>b. State Highways.</p> <p>Granular backfill placed within state highway right-of-ways shall conform to Section 209. of the "State Specifications".</p> <p>2. Sewer Laterals and Water Services.</p> <p>a. Sewer lateral and/or water service trenches through lawn or terrace areas in sections requiring granular backfill may be backfilled with excavated material outside of the limits specified in Subsection 700.A.2.(a)(1) above.</p> <p>3. Backfill in Waterways.</p> <p>a. Materials used to backfill trenches within waterways shall be washed gravel backfill free of excessive fines. Materials conforming to Tables 32 and 33 (bedding materials) of Section 6.43.2. of the "Standard Specifications" shall be generally considered acceptable under this classification.</p> <p>C. Slurry Backfill (As Shown on the Plans).</p> <p>1. "Slurry" aggregate material shall be used to backfill trenches as shown on the Plans.</p> <p>a. The slurry backfill material must be prepared in the quantities noted below. The material shall be placed in a clean cement mixer truck and thoroughly mixed.</p> <p style="text-align: center;">1,350 lbs. Sand 775 lbs. #1 Stone (1 inch) 1,150 lbs. #2 Stone (2 inch) 25 gals. (+0 to -0.5 gal.) Water per cubic yard</p> <p>b. No additional water will be allowed. The above weights are damp weights.</p> <p>c. Just prior to placing the slurry, the mixer shall be run at mixing speed for one full minute to insure an even mixture.</p> <p>d. Compaction of slurry backfill is not required, however, the Engineer may order mechanical vibration in areas difficult to backfill.</p> <p style="text-align: center;">SP-11</p>	<p>D. Consolidation.</p> <p>1. Amend Section 2.6.14. of the "Standard Specifications" to read in part:</p> <p>"All granular and excavated material backfill shall be consolidated through mechanical compaction by means of a backhoe boom-mounted compactor. Either a vibratory compactor or compaction wheel is acceptable if it can meet the densities specified below. Backfill placed in trenches outside of State highway right-of-ways shall be compacted in eighteen (18) inch maximum lifts, before compaction, except that the first lift shall be two (2) feet in depth. The Contractor shall take all precautions necessary to protect utilities from being damaged during backfilling and compaction operations."</p> <p>a. Granular backfill shall be compacted to a minimum of 95% Standard Proctor Density.</p> <p>b. Excavated material backfill shall be compacted to a density equal to 100% of the density of the undisturbed material in adjacent trench walls.</p> <p>c. Topsoil shall not be compacted.</p> <p>d. Backfill placed within state highway right-of-ways shall be compacted in 12" maximum lifts, except that the first lift shall be two (2) feet in depth.</p> <p>2. If there is a question as to whether or not the specified density has been achieved, a soil testing firm selected by the Engineer will be brought in to determine the backfill density. The cost of this testing will be paid for by the Owner if the test results are satisfactory, however, if the backfill is found to be inadequately compacted, the Contractor shall pay all testing costs.</p> <p>3. If the Contractor desires to use alternate compaction equipment or backfill depths greater than those specified, documentation must be submitted to the Engineer substantiating the adequacy of the proposed compaction method. Alternate compaction methods shall not be used unless approved by the Engineer. The Engineer may require density testing by an approved soil testing firm to field verify backfill densities. All compaction testing costs for field verifying alternate compaction methods shall be paid for by the Contractor.</p> <p>E. Trench Surface Maintenance.</p> <p>1. The Contractor's attention is directed to Section 2.6.16. of the "Standard Specifications", requiring the Contractor to maintain trench surfaces for the duration of the Contract and for one (1) year after acceptance.</p> <p style="text-align: center;">SP-12</p>
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<p>WATER MAIN CONSTRUCTION</p> <p>A. Bedding and Cover Material.</p> <p>1. Wrapped Ductile Iron Pipe.</p> <p>a. Bedding and cover material used with ductile iron water main encased in polyethylene wrap shall be bedding sand conforming to Subsection 8.43.2(c) of the "Standard Specifications".</p> <p>2. Polyvinyl Chloride (PVC) Pipe.</p> <p>a. Bedding and cover material shall be crushed stone chips conforming to Paragraph 8.43.2(a) of the "Standard Specifications". Crushed pea gravel will not be allowed for use as bedding or cover material.</p> <p>3. Trench Section.</p> <p>a. The trench section shall conform to Section 4.3.3 and File No. 36 of the "Standard Specifications", as amended below:</p> <p>(1) Bedding and cover shall be placed in a minimum of three separate lifts to ensure adequate compaction of these materials, with one lift of bedding material ending at or near the springline of the pipe. The Contractor shall take care to completely work bedding material under the haunch of the pipe to provide adequate side support.</p> <p>B. Backfill Material.</p> <p>1. Granular backfill for water main where required shall conform to the requirements of Section 8.43.4 of the "Standard Specifications".</p> <p>a. All water main within 10 linear feet (perpendicular) of any existing or proposed paved surface shall be backfilled with compacted granular backfill. Trenches running parallel to and within 5 linear feet of any existing or proposed paved surface shall be backfilled with compacted granular backfill. The exact location and limits of the granular backfill will be as directed by the Engineer.</p> <p>C. Polyethylene Wrap.</p> <p>1. Polyethylene wrap shall be provided on all ductile iron water main and cast iron or ductile iron fittings.</p> <p>a. All joint restraint systems shall be enclosed within the wrap.</p> <p>b. Wrap the first three feet of water service piping.</p> <p>c. Wrap all cast iron or ductile iron fittings used with PVC pipe.</p> <p>d. Wrap all valve boxes.</p> <p>e. Wrap all hydrant barrels, but be careful not to plug weepholes.</p> <p>2. Polyethylene wrap shall meet the requirements of Section 8.21.0 of the "Standard Specifications" and shall be installed as specified in Section 4.4.4 of the "Standard Specifications".</p> <p style="text-align: center;">SP-1</p>	<p>a. Fold and tape loose wrap material to minimize air entrapment which could cause the material to be punctured when backfilling.</p> <p>D. Tracer Wire.</p> <p>1. All water main, including stubs, dead end mains and services, shall be provided with tracer wire according to Chapter 2.11.0 of the "Standard Specifications" and as follows:</p> <p>a. Tracer wire shall be 10 gauge solid copper wire with a solid PVC insulation coating suitable for underground installation.</p> <p>(1) PVC insulation for water mains and services shall be blue in color.</p> <p>b. Wire splices shall be in accordance with File No. 24B of the "Standard Specifications".</p> <p>c. Place tracer wire at the top of the main and tape to the pipe at ten foot (10') intervals.</p> <p>d. Tracer wire shall be brought to grade in adjustable ABS tracer wire access boxes by Valvco (product no. TWABADJ18) located directly in front of all hydrants. The cast iron cover shall be labeled "WATER" and the access box shall extend from finished grade to 18 - 24 inches below with 18 inches of slack in the wire for future connection.</p> <p>e. The Contractor shall test all tracer wire for electrical continuity in the presence of the Engineer or his representative prior to acceptance of the main.</p> <p>f. The cost of tracer wire shall be included in the unit price(s) bid for water main and water services.</p> <p>E. Disinfecting Water Mains.</p> <p>1. Water mains shall be cleaned and disinfected in accordance with Sections 4.3.11 and 4.3.12 and Chapter 4.16.0 of the "Standard Specifications" and AWWA Standard C651. Place calcium hypochlorite tablets in the water main as specified in Section 4.3.12.</p> <p>2. See Section "Disinfection" of these "Special Provisions" for water main flushing and sampling requirements.</p> <p>F. Sewer Crossings.</p> <p>1. Center one full length of water main pipe on sewers wherever water main crosses over or under a sanitary or storm sewer so that both water main joints will be as far from the sewer as possible.</p> <p>G. High Points In Water Main.</p> <p>1. The Contractor shall install water main at the grades shown on the Plans with no high points constructed in the main except at hydrants and as indicated on the</p> <p style="text-align: center;">SP-2</p>	<p>Plans. If a high point which could trap air can not be prevented, then an air release assembly shall be constructed at that point, if so ordered by the Engineer.</p> <p>H. Joint Restraint.</p> <p>1. Restraining Fittings, Valves and Sleeves.</p> <p>a. MEGALUG Restrained Joints.</p> <p>(1) Restrain all fittings (bends, tees, caps and plugs), valves and sleeves using MEGALUG restrained joints as manufactured by EBAA Iron Sales, Inc. of Eastland, Texas, or as provided for in Paragraph b. below.</p> <p>(2) Buttress all fittings, as provided for in Paragraph 1.1 below, in addition to joint restraint.</p> <p>b. Joint Restraint Systems.</p> <p>(1) The following joint restraint systems may be used in place of MEGALUG restrained joints.</p> <p>(a) Tyler Mechanical Joint Restraint.</p> <p>1) Joint restraint for mechanical joint pipe and fittings used with either ductile iron or PVC pipe may be provided using the Tyler Mechanical Joint Restraint (MJR) System on 4-inch through 12-inch diameter pipes.</p> <p>2. Restraining Vertical Bends and Offsets.</p> <p>a. Changes in the grade of the water main made by vertical bends or offsets shall be restrained by strapping in accordance with File No. 47 of the "Standard Specifications" or as provided for in Subsection H.1 above.</p> <p>3. Restrained Valves on PVC Pipe in Valve Manholes.</p> <p>a. All valves placed in manholes and installed on PVC pipe shall be restrained using PVC joint restraint systems as manufactured by EBAA Iron Sales, Inc.</p> <p>4. Restrained Joint Water Services.</p> <p>a. All 4 inch and larger water service piping shall be restrained from the main line tee to the shut-off valve, as specified in Subsection H.1 above, with the end of the service piping braced with thrust blocking. In lieu of providing thrust blocking, the Contractor may restrain the entire length of service piping.</p> <p>5. Restrained Hydrant Leads.</p> <p>a. Hydrant leads shall be restrained per Section D. under "Hydrants" of these "Special Provisions".</p> <p>I. Concrete Blocking (Buttresses).</p> <p>1. All horizontal bends, tees, caps and plugs shall be provided with concrete buttresses, in addition to joint restraint as specified in Subsection H.1 above,</p> <p style="text-align: center;">SP-3</p>	<p>in accordance with Section 4.3.13 and File Nos. 44, 44A, 45 and 46 of the "Standard Specifications".</p> <p>J. Insulation.</p> <p>1. Water mains shall be insulated where noted on the Plans and wherever the depth of cover is less than five (5) feet when so ordered by the Engineer. Insulation shall be in accordance with Chapter 4.17.0 and File No. 48 of the "Standard Specifications" and the details on the Plans.</p> <p>K. Operation of Existing Valves.</p> <p>1. All existing valves will be operated by or under the supervision of the Town of Yorkville Water Utility District.</p> <p>L. Connections to Existing Mains.</p> <p>1. The Contractor shall coordinate his work schedule with the Owner when connecting intersecting streets to the new water main in order to minimize inconvenience and disruption caused by the temporary discontinuance of water service. The Contractor shall notify the Owner at least 24 hours prior to shutting off any water service. Water service to residences shall not be shut down for a period longer than eight (8) hours, nor after 4:30 p.m. or on weekends without approval of the Owner. Residential water service may only be shut down between the hours of 8:30 a.m. to 4:30 p.m., except that residential water services may be shut down outside of these hours with the Owner's permission. Water service to businesses shall not be shut down for a period longer than two (2) hours unless satisfactory arrangements are made with the businesses affected. The Contractor shall take whatever measures are necessary to return service at the end of each working day, including the use of temporary valves or plugs.</p> <p>M. Water Main Offsets.</p> <p>1. Water mains shall be offset as shown on the Plans or as directed by the Engineer. Water main offsets shall be in accordance with File No. 47 of the "Standard Specifications" as modified below.</p> <p>a. Place offsets to provide a minimum of six (6) feet of cover.</p> <p>N. Termination of New Main.</p> <p>1. Where the new main terminates at a valve or dead end, a full length of pipe shall be laid to facilitate the installation of a mechanical joint plug, test hydrant (as required) and blocking.</p> <p>WATER MAIN MATERIALS</p> <p>A. Water main pipe material shall be polyvinyl chloride (PVC) pipe conforming to the following:</p> <p>1. Polyvinyl Chloride Pipe.</p> <p>a. Polyvinyl chloride (PVC) pipe (4 inch through 12 inch diameter) meeting the requirements of AWWA Standard C900, Class 150, DR-18 with cast iron O.D. and integral elastomeric bell and spigot joints.</p> <p style="text-align: center;">SP-4</p>
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**GRANDVIEW BUSINESS PARK - SITE II
YORKVILLE, WISCONSIN**

TECHNICAL SPECIFICATIONS

NO.	REVISION	DATE	BY
1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST
2.	ENGINEERING REVIEW	05/07/20	SMM

DRAWING NO. 19167_SPECIFICATIONS.DWG
 DRAWN BY: RT
 DATE: 01-20-2020
 PROJECT NO: 19167
 CHECKED BY: TM
 APPROVED BY: CTC
 SHEET NO.:

C503

<p>(1) Hydrant leads shall be ductile iron pipe.</p> <p>b. Polyvinyl chloride (PVC) pipe (16 inch through 36 inch diameter) meeting the requirements of AWWA Standard C905, DR-18, Pressure Rating (PR) 235, with cast iron O.D. and integral elastomeric bell and spigot joints.</p> <p>2. Fittings (Used With Ductile Iron and PVC Pipe).</p> <p>a. Fittings shall be ductile iron conforming to AWWA C110 (ANSI 21.10) or cast iron conforming to AWWA C153 (ANSI 21.53). All fittings shall have a cement mortar lining with an internal and external bituminous coating meeting the requirements of AWWA Standard C104 (ANSI 21.4). Fittings shall be supplied with mechanical joints with rubber gaskets.</p> <p>(1) Ductile iron mechanical joint fittings meeting the requirements of AWWA Standard C153 for "compact fittings", 3" through 64" size, may be used in place of the fittings specified above.</p> <p>(2) All fittings shall be North American, Sigma or Star made only.</p> <p>b. Bolts.</p> <p>(1) All water main nuts and bolts, including connections to mains, fittings, valves and hydrants, shall be Stainless Steel.</p> <p>VALVES AND VALVE BOXES</p> <p>A. Resilient-Seated Gate Valves.</p> <p>1. Resilient-seated gate valves shall meet the requirements of AWWA C509 or AWWA C515.</p> <p>a. Resilient-seated gate valves shall be furnished with mechanical joints with rubber gaskets, cast iron or ductile iron body, stainless steel bonnet nuts and bolts, bronze mounted, resilient wedge, non-rising stem, "O"-ring stem seals, 2 inch square operating nut opening to the left (counterclockwise) and rated at 200 psi working pressure.</p> <p>b. All 4, 6, 8 and 10 inch valves shall be resilient-seated gate valves unless shown otherwise on the Plans.</p> <p>c. Resilient-seated gate valves shall be Waterous "Series 500" (American Flow Control).</p> <p>B. Butterfly Valves.</p> <p>1. Butterfly valves shall be AWWA rubber-seated butterfly valves meeting the requirements of AWWA C504, Class 150B.</p> <p>a. Butterfly valves shall be furnished with mechanical joints with rubber gaskets, cast iron or ductile iron body for buried service, underground operator with a 2 inch square operating nut opening to the left (counterclockwise) and rated at 150 psi working pressure.</p> <p>(1) Provide valves with stainless steel end cap and bolts securing the operating nut to the actuator.</p>	<p>(2) All 12 inch or larger butterfly valves used for private water service lines shall be rated at 200 psi working pressure.</p> <p>b. All 12 inch or larger valves shall be butterfly valves.</p> <p>c. Butterfly valves shall be supplied by the following manufacturers:</p> <p>(1) Main Line (150 psi working pressure) — Pratt "Groundhog"</p> <p>(2) Water Service (200 psi working pressure) — Dresser M&H Style 450</p> <p>C. Valve Boxes.</p> <p>1. Valve boxes shall be three piece cast iron valve boxes consisting of base, screw type center (5-1/4 inch shaft diameter) and top section with no-tilt drop cover marked "WATER".</p> <p>a. Place valve box covers at the existing grade or to the elevation shown on the Plans or as specified in these "Special Provisions". Furnish extension sections as required. Turn the top section down, where covers are set below the finished grade, to allow for future final adjustment (raising) to finished grade.</p> <p>b. Valve boxes shall be North American Sigma or Star made only. Acceptable manufacturers include: Tyler 6860 series.</p> <p>2. Valve Box Adaptors.</p> <p>a. Valve boxes for both gate and butterfly valves shall be installed by mounting on cast iron valve box adaptors as manufactured by Adaptor, Inc., of Oak Creek, Wisconsin, or equal.</p> <p>3. Valve Stem Extensions.</p> <p>a. All valves installed at greater than 8 feet of depth shall be provided with valve stem extensions to bring the operating nut up to normal depth (equivalent to a valve at 8 feet of depth). The extension shall be secured to the operating nut with at least 2 set screws drilled into the nut. Provide a centering ring at the top of the extension.</p> <p>4. Valve Box Depth.</p> <p>a. Valve box depths shown on the Plans are approximate only, unless the cover elevation is indicated. Valve box covers shall be placed to match the existing grade (1/4 inch below pavement surface) unless the finished elevation is shown on the Plans.</p> <p>b. Furnish and install valve boxes so that they may be extended (raised) to final grade without installing additional valve box sections.</p> <p>HYDRANTS</p>	<p>A. Standard Hydrant.</p> <p>1. Hydrants shall be Waterous "Pacer", Model WB-67 conforming to the following specifications:</p> <p>a. Hydrants shall be compression type, with 5-1/4 inch bottom valve and 6 inch mechanical joint inlet connection equipped with "O"-ring packing, traffic style breakaway safety flange construction, meeting the requirements of AWWA Standard C502 and meeting specifications for 300 PSI test pressure and 150 PSI working pressure.</p> <p>(1) The bottom or base flange and any other buried flanges shall be fastened using stainless steel nuts and bolts.</p> <p>b. Hydrants shall have two 2-1/2 inch hose nozzles and one 4-1/2 inch Yorkville Standard pumper nozzle with Yorkville Standard fire hose coupling screw threads and nut type nozzle caps with gaskets and chains.</p> <p>c. Hydrants shall have 1-1/2 inch pentagon operating nut opening to the left (counter-clockwise).</p> <p>d. Hydrants, including barrel extensions, shall be painted with RustOleum Industrial Enamel "1210" Fire Hydrant Red" with the nozzle caps and operating nut painted with Rust-Oleum Industrial Enamel 1906 "Silver Gray".</p> <p>e. Hydrant assembly shall include an integral "Storz" connection on the pumper nozzle.</p> <p>B. Barrel Extensions.</p> <p>1. Hydrants shall be furnished for the depth of bury shown on the Plans. Hydrants requiring greater than 7-1/2 feet of bury shall be furnished as standard 7-1/2 foot hydrants with extensions as required. Hydrant extensions shall be compatible with hydrant barrel and stem sections and shall be installed at the top of the barrel section. The distance from the ground line to the centerline of the lowest nozzle shall be from 18 to 23 inches. The cost of furnishing barrel extensions shall be included in the unit price bid for hydrants or hydrant assemblies.</p> <p>a. Secure extension flanges using stainless steel nuts and bolts.</p> <p>C. Valves and Valve Boxes.</p> <p>1. Hydrant valves and valve boxes shall conform to the requirements for gate valves and valve boxes of these "Special Provisions".</p> <p>D. Hydrant Leads.</p> <p>1. Hydrant leads shall be six (6) inch, Class 53, ductile iron pipe.</p> <p>2. Restrain hydrants with thrust blocking and by anchoring to the main. Restrain all joints with: tie rods (2-3/4" diameter) per File No. 47 of the "Standard</p>	<p>Specifications", MEGALUG restrained joints, anchoring pipe and fittings, or restrained joint pipe per Section H.1 under "Water Main Construction" of these "Special Provisions". Provide concrete thrust blocks for both the hydrant and hydrant tee.</p> <p>a. Secure the hydrant lead to the main using an anchoring tee.</p> <p>E. Hydrant and Auxiliary Valve Locations.</p> <p>1. Place hydrants 5 feet behind the back of curb (urban roads) or 3 feet from the right-of-way line (rural roads with ditches), unless shown otherwise on the Plans.</p> <p>2. Connect hydrant valves directly to the anchoring tee.</p> <p>F. Temporary Hydrant Cover.</p> <p>1. Temporarily cover new hydrants during construction with polyethylene bags, securely fastened in place, until after the water main has been tested and placed in service.</p> <p>G. Hydrant Access Drives.</p> <p>1. Hydrant Access Drives shall include furnishing and installing the following materials:</p> <p>a. 20'-18" corrugated metal culvert pipe with endwalls.</p> <p>b. 8" of 3/4" crushed limestone base course compacted in place.</p> <p>c. Sufficient excavated spoil material compacted in place to elevate the finished drive to match the existing edge of pavement.</p> <p>2. Corrugated metal culvert pipes shall be in accordance with Chapter 8.14 of the "Standard Specifications".</p> <p>3. Limestone base course shall be in accordance with Section 305 of the "State Specifications". Gradation for base course material shall be 3/4-inch (19.0 mm) as specified in Section 305.2.2.1.</p> <p>H. Fire Hydrant Post.</p> <p>1. A fire hydrant post shall be installed for each hydrant. The post shall be considered incidental to the bid item for hydrants.</p> <p>2. Posts shall be FlexStake FH800 as manufactured by FlexStake Inc., Fort Myers, Florida. Posts shall be red, 48 inches in length, and supplied with optional hydrant decal.</p> <p>3. The post shall be attached to the fire hydrant in accordance with manufacturer's instructions.</p> <p>HYDROSTATIC TESTS</p> <p>A. General Requirements.</p> <p>1. All tests shall be performed as specified in Chapter 4.15.0 of the "Standard Specifications", except that the duration of the leakage test shall not be less than</p>
SP-5	SP-6	SP-7	SP-8

<p>8 hours and shall not exceed a rate of 10 gallons per 24 hours per mile of pipe per inch diameter at the test pressure of 100 psi. The Engineer or his Representative shall be present at all times during testing. The maximum allowable leakage rate shall be determined using the following formula:</p> $GPH = \frac{ND \cdot P^{1.2}}{7400}$ <p>GPH = Gallons per hour N = Number of joints under test D = Nominal diameter of main in inches P = Average pressure in pounds per square inch gauge during leakage test (100 psi)</p> <p>2. The Contractor shall furnish all labor, equipment and material to complete all testing.</p> <p>3. Temporary Air-Release.</p> <p>a. Trapped air shall be bled off (by tapping the main) when filling the main with water and/or removed by flushing through hydrants.</p> <p>b. Temporary air-release may be provided by tapping 1 inch corporation into the plug on dead end lines. After flushing and testing is completed, the temporary taps shall be abandoned in place.</p> <p>c. The Contractor shall provide temporary hydrants if required to flush dead end lines.</p> <p>d. All costs for providing temporary air-release, including tapping shall be paid for by the Contractor.</p> <p>B. Test Sections.</p> <p>1. The Contractor has the option to test the entire new water main as one continuous test section or in segments per his discretion. However, no more than 2,000 linear feet of water main shall be tested at one time.</p> <p>2. Connections to intersecting streets need not be tested; however, the Contractor shall sterilize and flush all connecting mains. The intersecting main(s) shall be subjected to line pressure and any visible defects repaired prior to backfilling.</p> <p>DISINFECTION</p> <p>A. General Requirements.</p> <p>1. The water main shall be disinfected in accordance with Section 4.3.12 and Chapter 4.16.0 of the "Standard Specifications".</p> <p>a. Amend paragraph 4.16.5 of the "Standard Specifications" to read:</p>	<p>4.16.5 SAMPLING. The Contractor shall take all necessary samples of the water and provide any equipment necessary to take these samples at no cost to the Owner. The Contractor, accompanied by the Engineer or his representative, shall deliver the samples to an approved laboratory for testing.</p> <p>B. Safe Samples.</p> <p>1. At least one (1) safe sample must be obtained from of the segments hydrostatically tested as listed under Section B. (Test Sections) in "Hydrostatic Tests" of these "Special Provisions". Additional samples may also be required from:</p> <p>a. Representative locations from each of the test sections to establish that all of the mains are free of contamination.</p> <p>b. Dead end lines.</p> <p>c. Connections to existing mains (see Subsection C, below)</p> <p>2. Water main segment(s) shall not be placed in service until after water sample(s) have been obtained.</p> <p>C. Procedures for Disinfecting Connections to Existing Mains.</p> <p>The following procedures apply when existing mains are wholly or partially dewatered. Existing mains that are isolated by an existing valve require no disinfection. After the appropriate procedures have been completed, the existing main may be returned to service prior to completion of bacteriological testing to minimize disruption to service.</p> <p>1. Apply liberal quantities of hypochlorite to wet trenches at or near the connection to the existing main. Use hypochlorite tablets if water is being pumped from the trench to prolong protection as hypochlorite is slowly released as the tablets dissolve.</p> <p>2. Swab the interior of all pipe and fittings located between the connection to the existing main and the closest new valve (including connection pipe and fittings) with a one percent hypochlorite solution in accordance with Subsection F, below, of these "Special Provisions".</p> <p>3. Flush the connection to the existing main, from both directions toward the connection if valve and locations permit, as soon as the connection has been completed and the nearest new valve installed and secured. Flush through the new main until all discolored water is eliminated.</p> <p>4. Should the water main connection be severely contaminated by dirty water or other means, the existing main and connection shall be disinfected by slug chlorination in accordance with the procedure specified below:</p> <p>a. Continue to isolate the section of contaminated main.</p> <p>b. Shut off all service connections.</p> <p>c. Place hypochlorite tablets in the connection to the new main.</p>	<p>d. Flush the main to remove particulates.</p> <p>e. Slowly dose the contaminated main with a 300 mg/l free chlorine concentration for a period of at least 15 minutes.</p> <p>f. Flush the main until the water is free of noticeable chlorine odor.</p> <p>g. Open service connections and return the main to service.</p> <p>5. Take bacteriological samples to provide a record for determining the effectiveness of the procedure. Samples may be required from both sides of the connection.</p> <p>6. If unsatisfactory tests are recorded, the Owner will determine the necessary corrective action. Take daily samples until two consecutive safe samples have been recorded.</p> <p>D. Rechlorination.</p> <p>1. Should any test prove unsatisfactory, the water main shall be sterilized by the Contractor by such methods as he deems necessary and samples taken until acceptable results are obtained.</p> <p>E. Flushing.</p> <p>1. All water mains, including dead end mains and all hydrants, and all water services shall be flushed. Water services shall be flushed, with a minimum amount of water equivalent to the volume of the service pipe, until the water is visibly clean.</p> <p>a. Provisions shall be made to convey water used for flushing or testing to a suitable discharge point.</p> <p>b. The Contractor shall use suitable methods for disposing of flushing water to prevent surface erosion.</p> <p>2. Water Furnished By Owner.</p> <p>a. Water for testing and flushing will be furnished by the Owner. All flushing of new mains will be done under the supervision of the Engineer or his representative and will be coordinated to serve the best interest of the Owner and its customers.</p> <p>3. Metered Water.</p> <p>a. The Contractor shall meter all water used for flushing purposes. A complete record of all water used for flushing, including amounts and dates, shall be kept by the Contractor and provided to the Owner. The Owner will furnish all water required for flushing free of charge.</p> <p>b. The Contractor shall use a flushing meter provided by the Owner. The meter shall be returned, in good condition, immediately after completing flushing operations. The Contractor shall be responsible for any damage to flushing meters.</p>	<p>NO. REVISION DATE BY</p> <table border="1"> <tr> <td>1.</td> <td>VILLAGE REVIEW/ BIDDING SET</td> <td>03/20/20</td> <td>RST</td> </tr> <tr> <td>2.</td> <td>ENGINEERING REVIEW</td> <td>05/07/20</td> <td>SMM</td> </tr> </table> <p>DRAWING NO. 19167_SPECIFICATIONS.DWG</p> <p>DRAWN BY: RT</p> <p>DATE: 01-20-2020</p> <p>PROJECT NO: 19167</p> <p>CHECKED BY: TM</p> <p>APPROVED BY: CTC</p> <p>SHEET NO.:</p> <p style="text-align: center; font-size: 24pt;">C504</p>	1.	VILLAGE REVIEW/ BIDDING SET	03/20/20	RST	2.	ENGINEERING REVIEW	05/07/20	SMM
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**GRANDVIEW BUSINESS PARK - SITE II
YORKVILLE, WISCONSIN**

TECHNICAL SPECIFICATIONS