

# RIVERFRONT DEVELOPMENT

## WAUKESHA, MUNICIPALITY

### CIVIL ENGINEERING PLANS

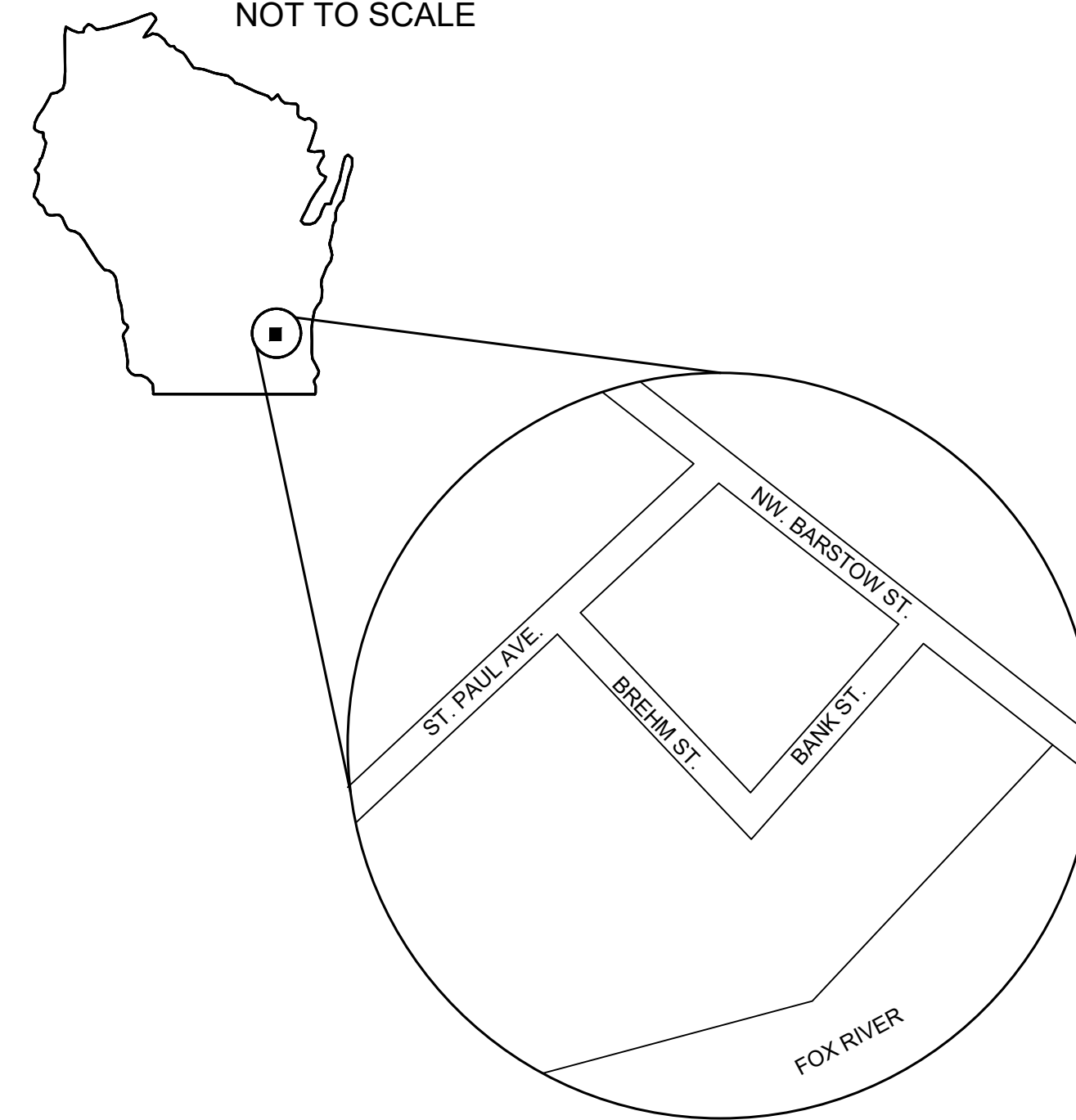
PREPARED BY:



www.thesigmagroup.com  
 1300 West Canal Street  
 Milwaukee, WI 53233  
 Phone: 414-643-4200  
 Fax: 414-643-4210

#### SITE LOCATION MAP:

NOT TO SCALE



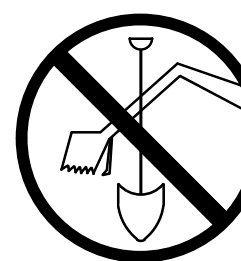
#### SHEET INDEX

SHEET NO.	DESCRIPTION
-	COVER SHEET
ARCHITECTURAL PLANS	
01	WEST BUILDING - 63 UNIT OVERALL FLOOR PLANS
02	WEST BUILDING - SOUTH AND EAST ELEVATIONS
03	WEST BUILDING - NORTH AND WEST ELEVATIONS
04	EAST BUILDING - 63 UNIT OVERALL FLOOR PLANS
05	EAST BUILDING - SOUTH AND EAST ELEVATIONS
06	EAST BUILDING - NORTH AND WEST ELEVATIONS
07	RIVERFRONT BUILDING - 66 UNIT FIRST FLOOR PLAN
08	RIVERFRONT BUILDING - 66 UNIT FLOOR PLAN - SECOND FLOOR
09	RIVERFRONT BUILDING - 66 UNIT FLOOR PLAN - THIRD AND FOURTH FLOOR
10	RIVERFRONT BUILDING - 66 UNIT FLOOR PLAN - FIFTH FLOOR AND ROOF TOP
11	RIVERFRONT BUILDING - RIVERFRONT AND BARSTOW ELEVATIONS
12	RIVERFRONT BUILDING - BANK STREET AND SOUTHWEST ELEVATIONS
13-24	CONCEPTUAL DESIGN FOR RIVERFRONT DEVELOPMENT - RENDERED PERSPECTIVE
CIVIL PLANS	
C001	SITE SURVEY
C002	TREE SURVEY
C003	EROSION CONTROL AND SITE PREPARATION PLAN
C100	SITE PLAN
C200	OVERALL GRADING PLAN
C201	GRADING PLAN
C202	GRADING PLAN
C300	UTILITY PLAN
C400	EROSION CONTROL DETAILS
C401	DETAILS
C402	DETAILS
C403	DETAILS
C500	SPECIFICATIONS
C501	SPECIFICATIONS
L100	LANDSCAPE OVERVIEW
L101	LANDSCAPE PLAN WEST
L102	LANDSCAPE PLAN EAST
L200	LANDSCAPE DETAILS
ROADWAY PLANS	
R001	ROADWAY DEMOLITION PLAN
R100	ROADWAY PLAN AND PROFILE
R300	ROADWAY DETAILS
R301	ROADWAY DETAILS
R302	ROADWAY DETAILS
R303	ROADWAY DETAILS
R304	TYPICAL SECTIONS
R400	LANDSCAPE PLAN
ELECTRICAL PLANS	
EG221	SITE ELECTRIC PLAN

#### NOTES:

- SITE BENCHMARKS
  - STARTING BENCHMARK: 29.12 CHISELED SQUARE IN TOP OF E. END OF CONC. HEAD WALL OF W. WIS. AVE BRIDGE OVER FOX RIVER. CONC. MON. WITH BRASS CAP SW COR. OF NE 1/4 SEC 3, T6N, R19E.
  - SITE BENCHMARK: 33.77, EASE FLANGE BOLT OF HYDRANT, NORTH EAST CORNER OF BANK STREET.
  - SITE BENCHMARK: 32.14 CHISELED "X" ON CONC. POLE BASE SOUTHWEST CORNER OF BANK ST. AND BREHM ST.

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



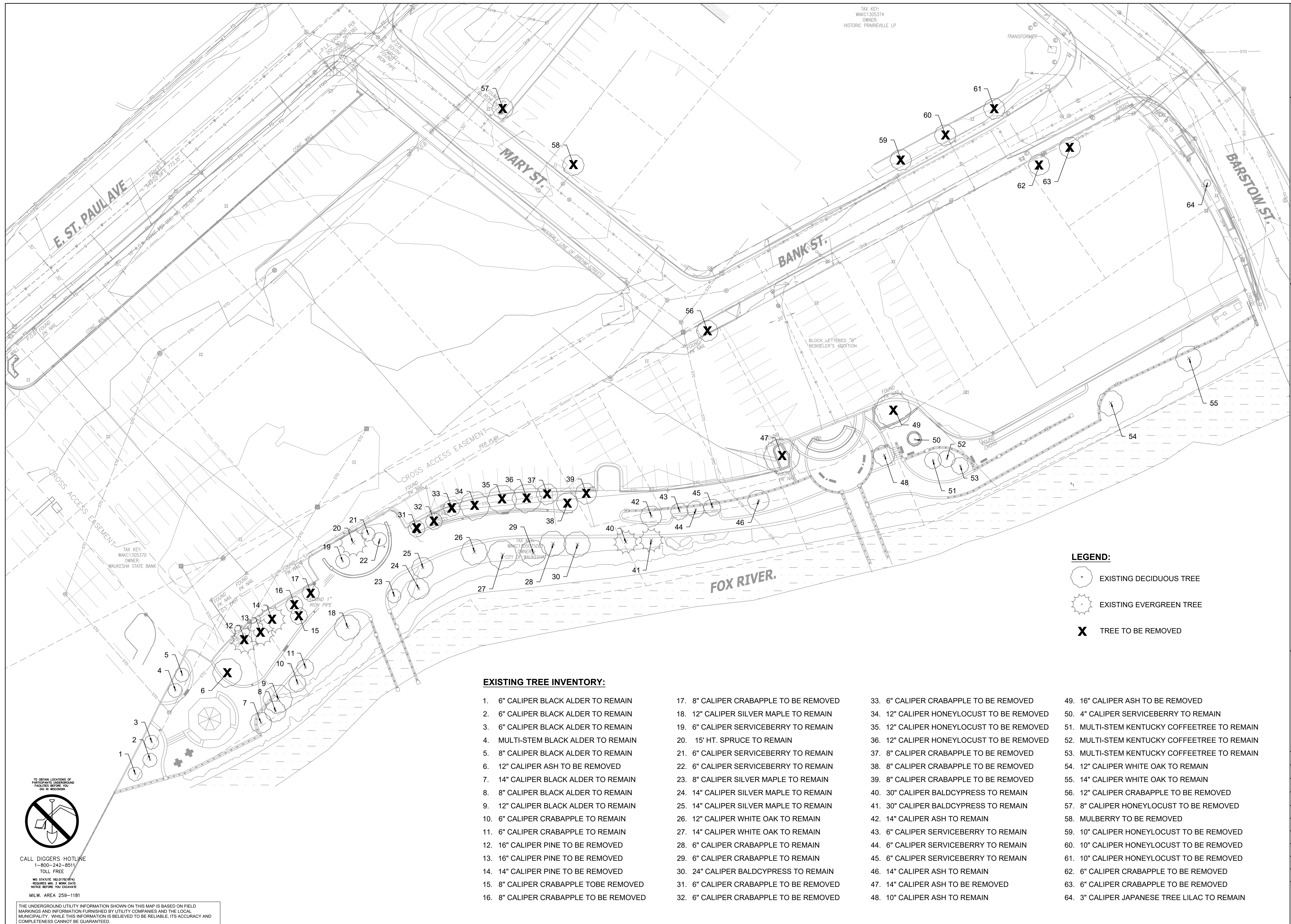
CALL DIGGERS HOTLINE  
 1-800-242-8511  
 TOLL FREE

WE STATUTE 182.07(1)(1)(a)  
 REQUIRES MIN. 3 WORK DAYS  
 NOTICE BEFORE YOU DIG/DATE.  
 MILW. AREA 259-1181

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

FINAL Plan Commission Submittal Date: 10-06-21





**GENERAL CAPITAL GROUP**  
 6938 N. Santa Monica Blvd,  
 Fox Point, WI 53217  
 Phone: 414-228-3500

**JOSEPH PROPERTY DEVELOPMENT**  
 117 N. Jefferson ST. #200  
 Milwaukee, WI 53202  
 Phone: 414-988-7885

**AG ARCHITECTURE**  
 1414 Underwood Ave. #301  
 Wauwatosa, WI 53213  
 Phone: 414-4313131

**E. ST. PAUL AVENUE  
 WAUKESHA, WISCONSIN**

**TREE SURVEY**

**LEGEND:**  
 EXISTING DECIDUOUS TREE  
 EXISTING EVERGREEN TREE  
 TREE TO BE REMOVED

**EXISTING TREE INVENTORY:**

- |  |  |   |  |
|--|--|---|--|
| 1. 6" CALIPER BLACK ALDER TO REMAIN    | 17. 8" CALIPER CRABAPPLE TO BE REMOVED | 33. 6" CALIPER CRABAPPLE TO BE REMOVED    | 49. 16" CALIPER ASH TO BE REMOVED            |
| 2. 6" CALIPER BLACK ALDER TO REMAIN    | 18. 12" CALIPER SILVER MAPLE TO REMAIN | 34. 12" CALIPER HONEYLOCUST TO BE REMOVED | 50. 4" CALIPER SERVICEBERRY TO REMAIN        |
| 3. 6" CALIPER BLACK ALDER TO REMAIN    | 19. 6" CALIPER SERVICEBERRY TO REMAIN  | 35. 12" CALIPER HONEYLOCUST TO BE REMOVED | 51. MULTI-STEM KENTUCKY COFFEETREE TO REMAIN |
| 4. MULTI-STEM BLACK ALDER TO REMAIN    | 20. 15' HT. SPRUCE TO REMAIN           | 36. 12" CALIPER HONEYLOCUST TO BE REMOVED | 52. MULTI-STEM KENTUCKY COFFEETREE TO REMAIN |
| 5. 8" CALIPER BLACK ALDER TO REMAIN    | 21. 6" CALIPER SERVICEBERRY TO REMAIN  | 37. 8" CALIPER CRABAPPLE TO BE REMOVED    | 53. MULTI-STEM KENTUCKY COFFEETREE TO REMAIN |
| 6. 12" CALIPER ASH TO BE REMOVED       | 22. 6" CALIPER SERVICEBERRY TO REMAIN  | 38. 8" CALIPER CRABAPPLE TO BE REMOVED    | 54. 12" CALIPER WHITE OAK TO REMAIN          |
| 7. 14" CALIPER BLACK ALDER TO REMAIN   | 23. 8" CALIPER SILVER MAPLE TO REMAIN  | 39. 8" CALIPER CRABAPPLE TO BE REMOVED    | 55. 14" CALIPER WHITE OAK TO REMAIN          |
| 8. 8" CALIPER BLACK ALDER TO REMAIN    | 24. 14" CALIPER SILVER MAPLE TO REMAIN | 40. 30" CALIPER BALDCYPRESS TO REMAIN     | 56. 12" CALIPER CRABAPPLE TO BE REMOVED      |
| 9. 12" CALIPER BLACK ALDER TO REMAIN   | 25. 14" CALIPER SILVER MAPLE TO REMAIN | 41. 30" CALIPER BALDCYPRESS TO REMAIN     | 57. 8" CALIPER HONEYLOCUST TO BE REMOVED     |
| 10. 6" CALIPER CRABAPPLE TO REMAIN     | 26. 12" CALIPER WHITE OAK TO REMAIN    | 42. 14" CALIPER ASH TO REMAIN             | 58. MULBERRY TO BE REMOVED                   |
| 11. 6" CALIPER CRABAPPLE TO REMAIN     | 27. 14" CALIPER WHITE OAK TO REMAIN    | 43. 6" CALIPER SERVICEBERRY TO REMAIN     | 59. 10" CALIPER HONEYLOCUST TO BE REMOVED    |
| 12. 16" CALIPER PINE TO BE REMOVED     | 28. 6" CALIPER CRABAPPLE TO REMAIN     | 44. 6" CALIPER SERVICEBERRY TO REMAIN     | 60. 10" CALIPER HONEYLOCUST TO BE REMOVED    |
| 13. 16" CALIPER PINE TO BE REMOVED     | 29. 8" CALIPER CRABAPPLE TO REMAIN     | 45. 6" CALIPER SERVICEBERRY TO REMAIN     | 61. 10" CALIPER HONEYLOCUST TO BE REMOVED    |
| 14. 14" CALIPER PINE TO BE REMOVED     | 30. 24" CALIPER BALDCYPRESS TO REMAIN  | 46. 14" CALIPER ASH TO REMAIN             | 62. 6" CALIPER CRABAPPLE TO BE REMOVED       |
| 15. 8" CALIPER CRABAPPLE TO BE REMOVED | 31. 6" CALIPER CRABAPPLE TO BE REMOVED | 47. 14" CALIPER ASH TO BE REMOVED         | 63. 6" CALIPER CRABAPPLE TO BE REMOVED       |
| 16. 8" CALIPER CRABAPPLE TO BE REMOVED | 32. 6" CALIPER CRABAPPLE TO BE REMOVED | 48. 10" CALIPER ASH TO REMAIN             | 64. 3" CALIPER JAPANESE TREE LILAC TO REMAIN |

TO OBTAIN LOCATIONS OF  
 PARTIALS UNDERGROUND  
 FACILITIES BEFORE YOU  
 DIG IN WISCONSIN  
  
 CALL DIGGERS HOTLINE  
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 WIS. STATUTE 182.07(1)(b)  
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 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.

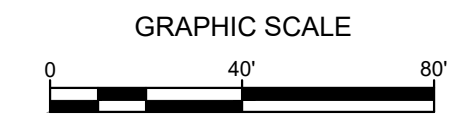
NO. REVISION	DATE BY
DRAWING NO.	19754 TREE SURVEY.DWG
DRAWN BY:	JCT
DATE:	10-06-2021
PROJECT NO:	19754
CHECKED BY:	TPM
APPROVED BY:	CTC
SHEET NO.:	

**C002**



**SITE INFORMATION**

SITE DISTURBED AREA = 219,557 SF (5.04 AC)  
 EXISTING IMPERVIOUS AREA = 132,433 SF (3.04 AC)  
 PROPOSED IMPERVIOUS AREA = 130,944 SF (3.01 AC)  
 TOTAL PARKING SPACES = 127 SPACES  
 ADA PARKING SPACES (EXTERIOR) = 2 SPACES  
 ADA PARKING SPACES (INTERIOR) = 2 SPACES PER BUILDING  
 TOTAL PROVIDED ADA SPACES = 8 SPACES  
 REQUIRED ADA STALLS = 5 STALLS



**LEGEND:**

- 5' THICK CONCRETE WALK (G C401)
- CONCRETE PAVEMENT (H C401)
- ASPHALT SURFACE (E C401)
- BRICK PAVERS
- POROUS PAVEMENT (B C402)
- CURB & GUTTER (ACCEPT) (A C401)
- CURB & GUTTER (REJECT) (A C401)

**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 RAMP, PAVING, AND CURB AND GUTTER SHALL BE COMPLETED PER MUNICIPAL AND/OR COUNTY REQUIREMENTS AND STANDARDS.

NO. REVISION DATE BY

DRAWING NO. 19754 SITE PLAN.DWG

DRAWN BY: JRG

DATE: 10-06-2021

PROJECT NO: 19754

CHECKED BY: TPM

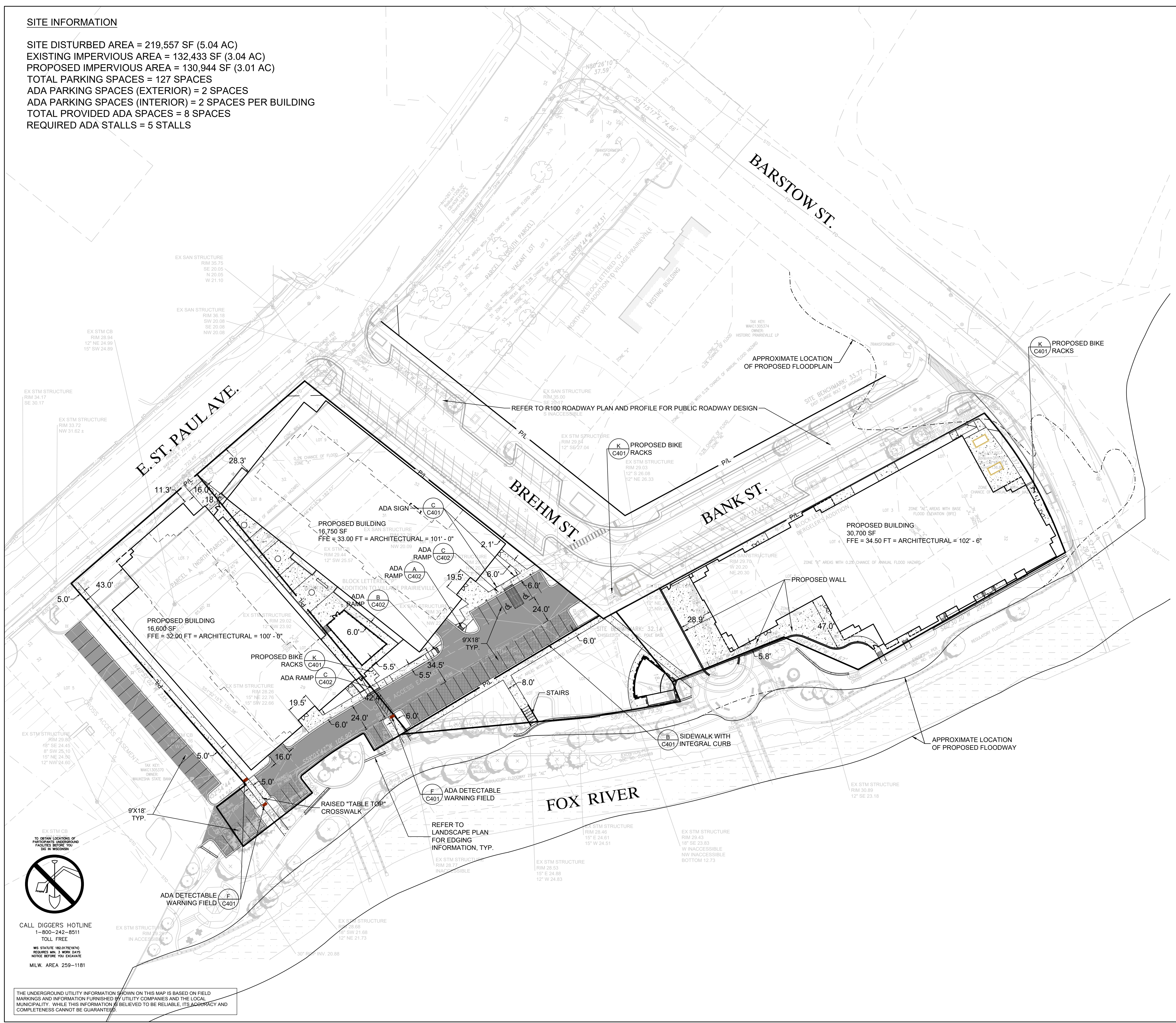
APPROVED BY: CTC

SHEET NO.:

**C100**

**E. ST. PAUL AVENUE  
 WAUKESHA, WISCONSIN**

**SITE PLAN**

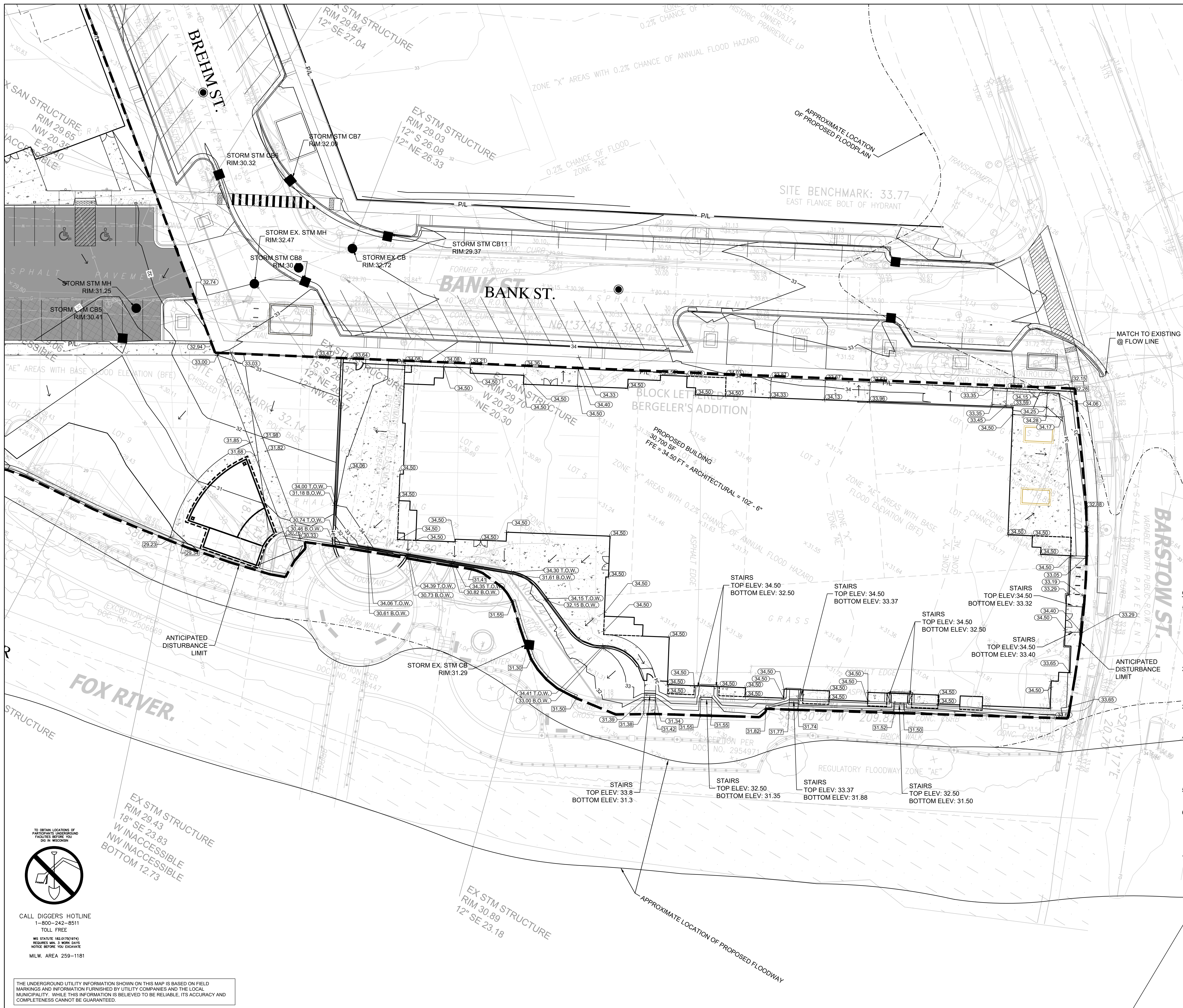


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 TOLL FREE  
 WIS STATUTE 182.0175(974)  
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**LEGEND:**

- 5' THICK CONCRETE WALK (G C401)
- CONCRETE PAVEMENT (H C401)
- ASPHALT SURFACE (E C401)
- BRICK PAVERS
- POROUS PAVEMENT (B C402)
- CURB & GUTTER (ACCEPT) (A C401)
- CURB & GUTTER (REJECT) (A C401)
- 5 - EXISTING CONTOUR
- 5 - 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)
- DRAINAGE 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. REFER TO GEOTECHNICAL REPORT FOR EXISTING SOIL CHARACTERISTICS.

NO. REVISION	DATE BY
DRAWING NO.	19754 GRADING PLAN.DWG
DRAWN BY:	JRG
DATE:	10-06-2021
PROJECT NO.:	19754
CHECKED BY:	TPM
APPROVED BY:	CTC
SHEET NO.:	

**C202**







GENERAL CAPITAL GROUP  
 6938 N. Santa Monica Blvd,  
 Fox Point, WI 53217  
 Phone: 414-228-3500

JOSEPH PROPERTY DEVELOPMENT  
 117 N. Jefferson ST. #200  
 Milwaukee, WI 53202  
 Phone: 414-988-7885

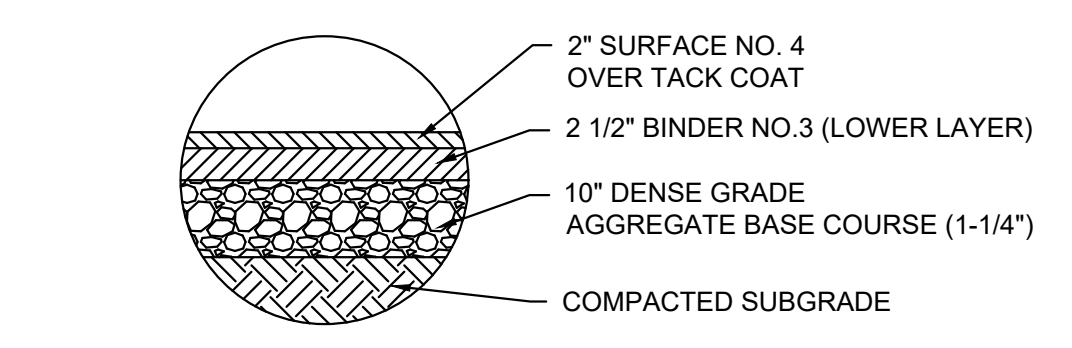
AG ARCHITECTURE  
 1414 Underwood Ave. #301  
 Wauwatosa, WI 53213  
 Phone: 414-4313131

E. ST. PAUL AVENUE  
 WAUKESHA, WISCONSIN

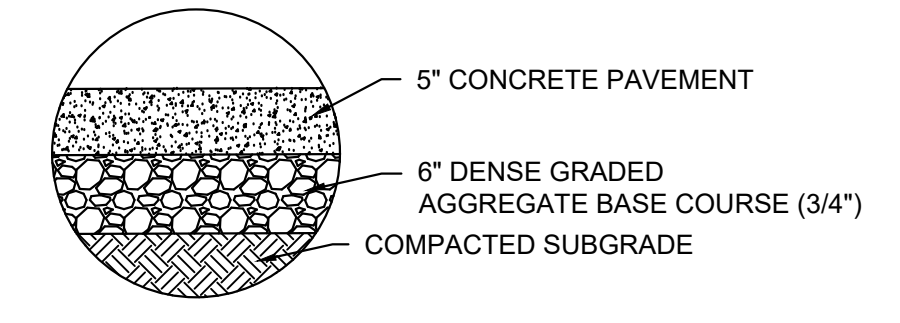
DETAILS

NO. REVISION	DATE BY
DRAWING NO.	19754 DETAILS.DWG
DRAWN BY:	##
DATE:	#####
PROJECT NO:	19754
CHECKED BY:	##
APPROVED BY:	###
SHEET NO.:	

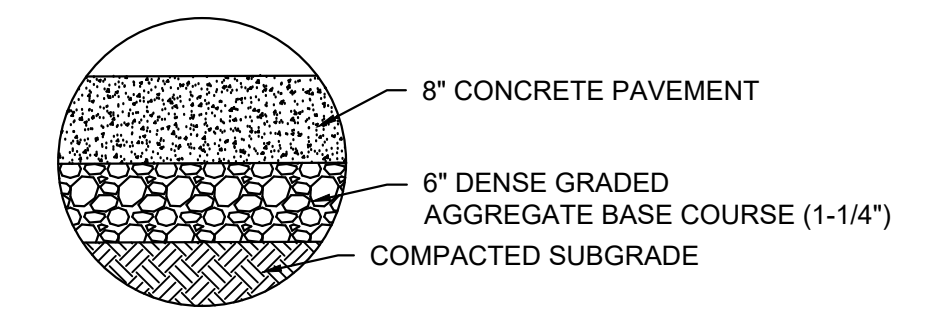
**C401**



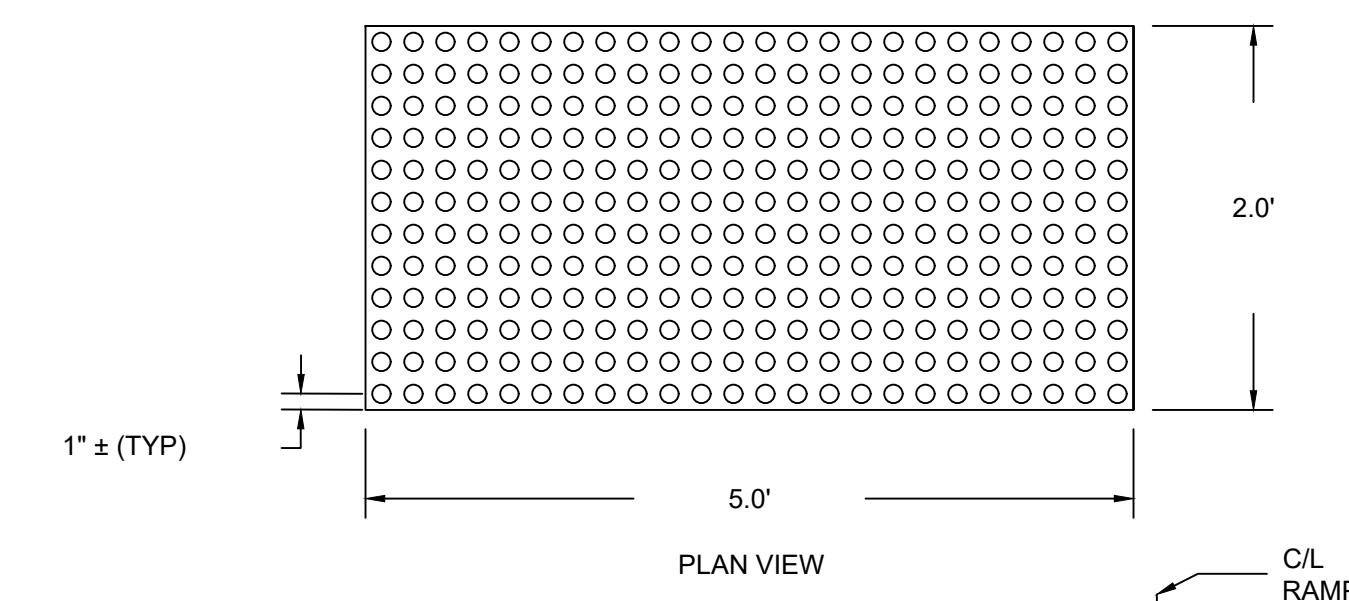
**E ASPHALT PAVEMENT SECTION**  
 NOT TO SCALE



**G CONCRETE SIDEWALK SECTION**  
 NOT TO SCALE



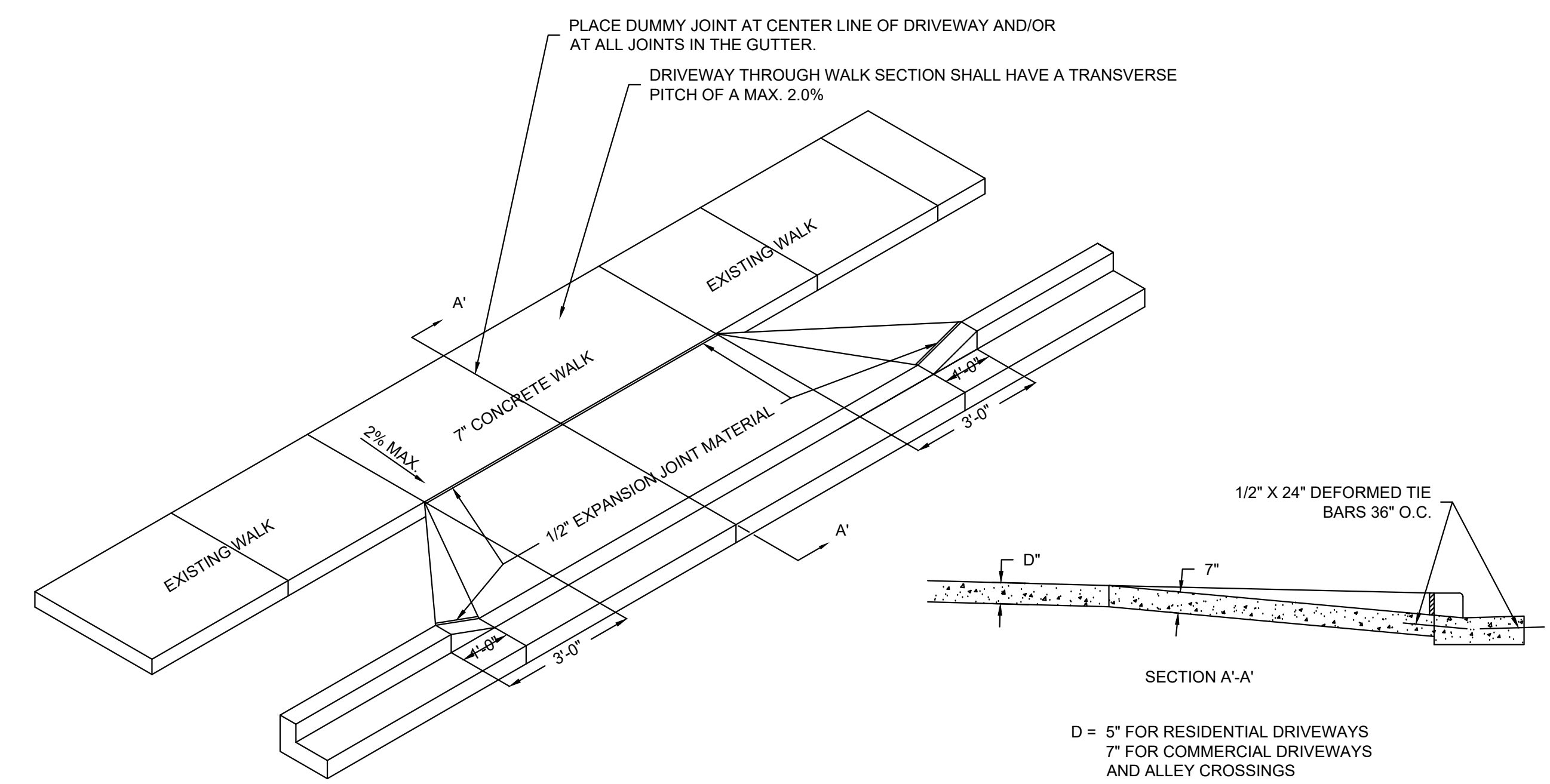
**H CONCRETE PAVEMENT SECTION**  
 NOT TO SCALE



PLAN VIEW

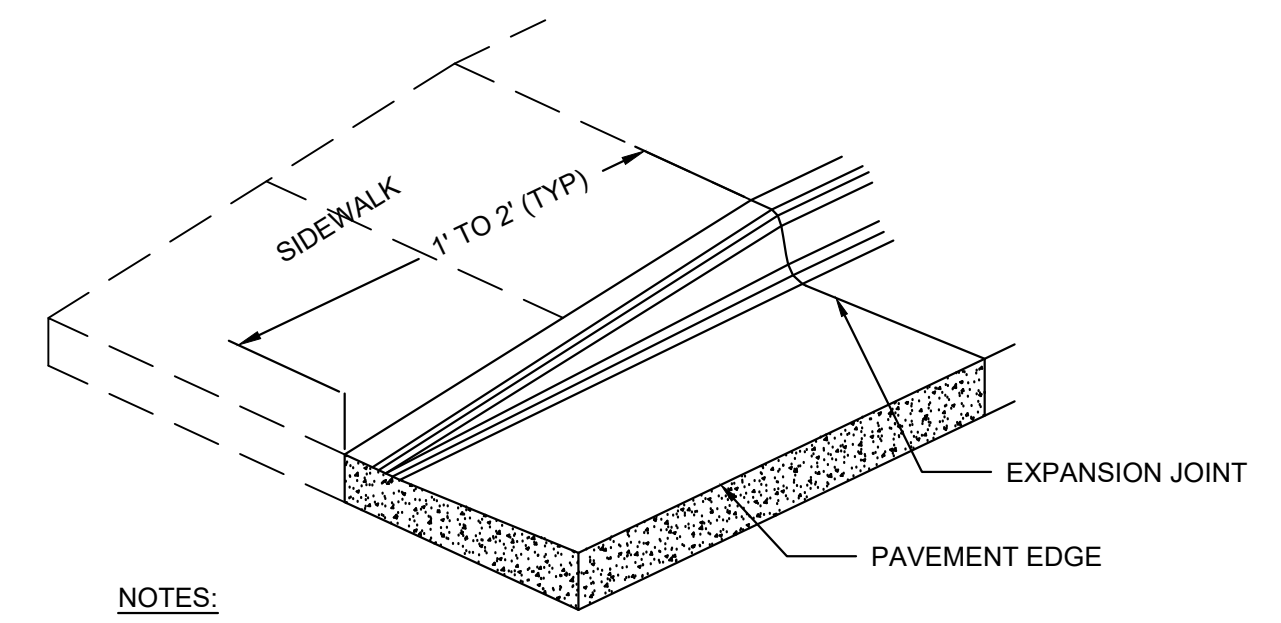
ELEVATION VIEW

**F DETECTABLE WARNING FIELD DETAIL**  
 NOT TO SCALE



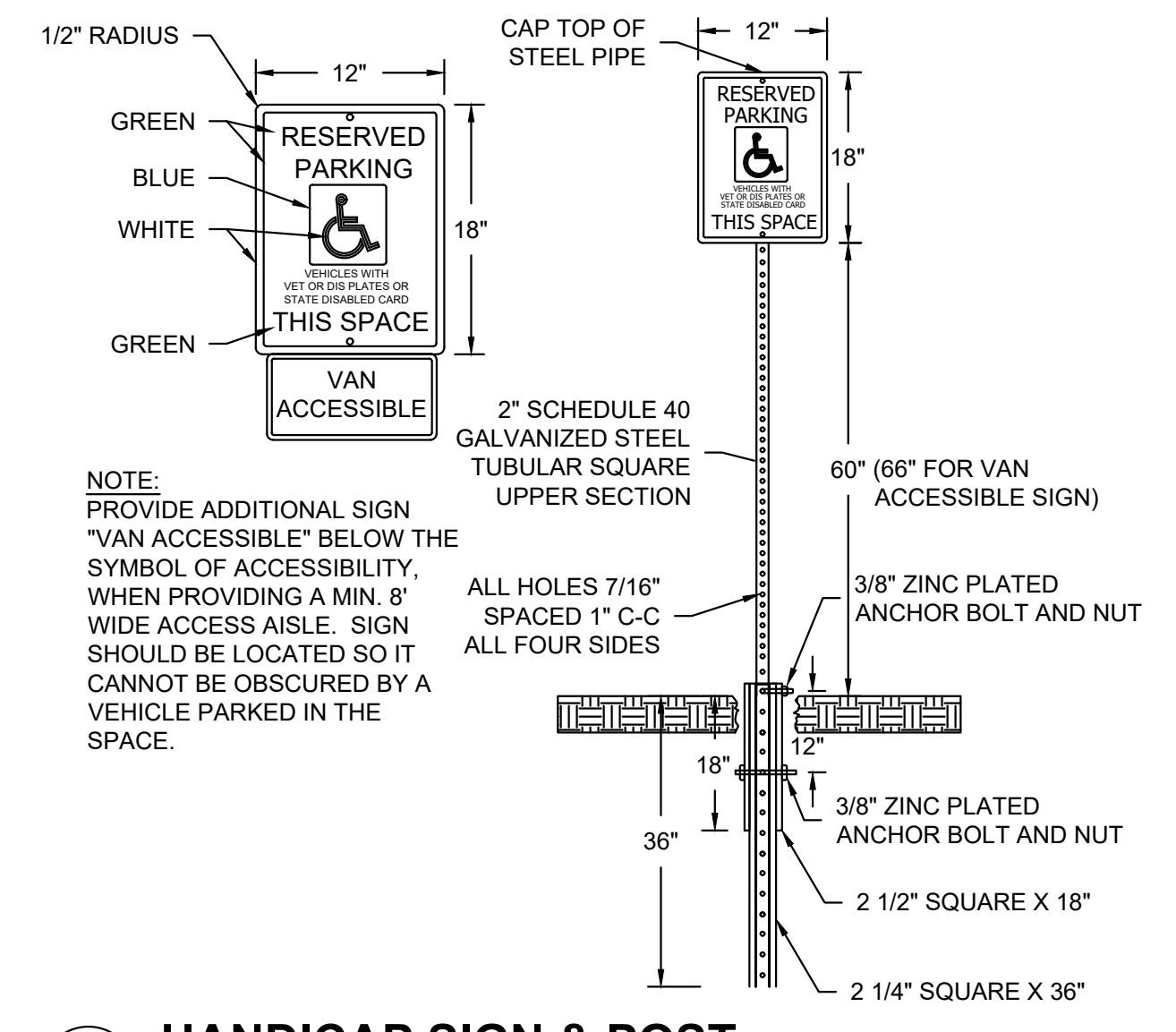
**NOTES:**  
 1. IF LOCAL JURISDICTION HAS A TYPICAL DRIVEWAY DETAIL THAT DIFFERS FROM STANDARD DETAIL, LOCAL JURISDICTION SHALL OVERRIDE STANDARD DETAIL

**K CONCRETE DRIVEWAY (WITH CONCRETE WALK)**  
 NOT TO SCALE

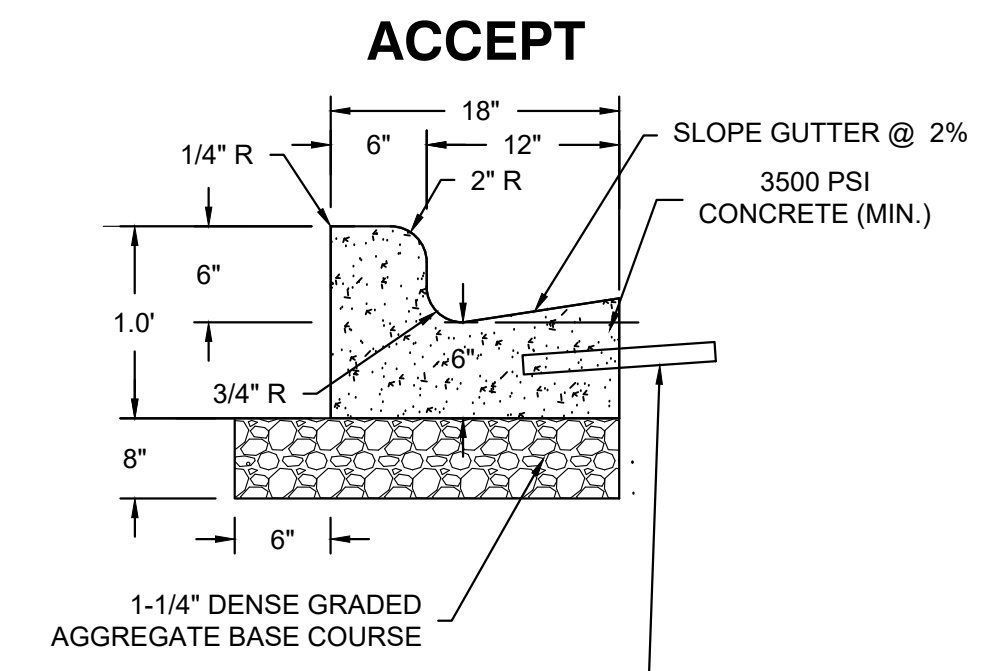


**NOTES:**  
 IF SIDEWALK IS ADJACENT TO CURB TAPER, TAPER SHALL BE EXTENDED TO 10' TO MAINTAIN 5% MAX SLOPE ON WALK FOR ADA ACCESS

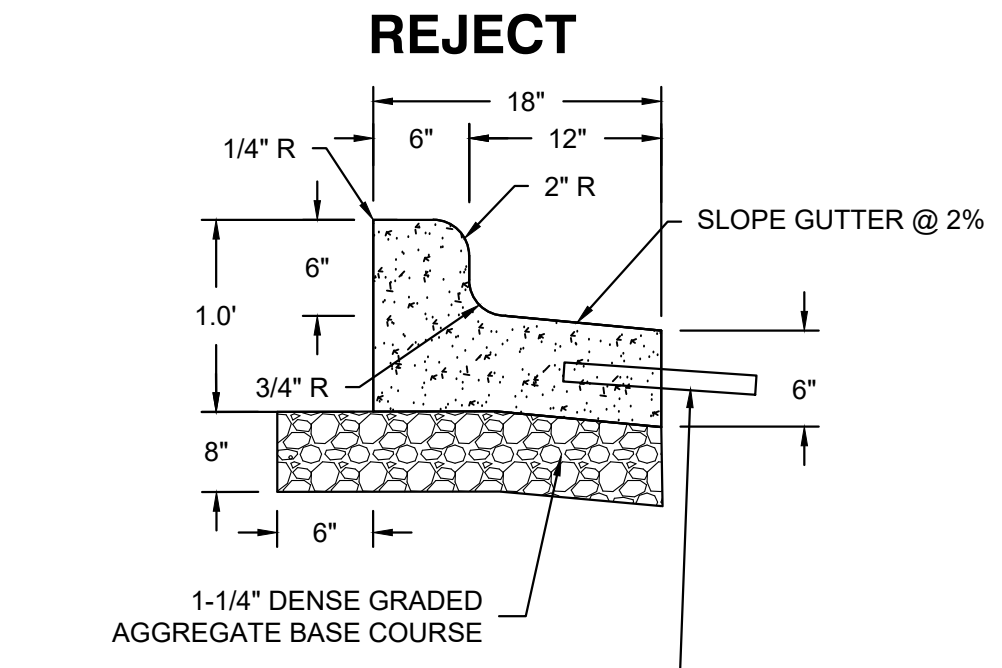
**D CURB TAPER**  
 NOT TO SCALE



**C HANDICAP SIGN & POST**  
 NOT TO SCALE

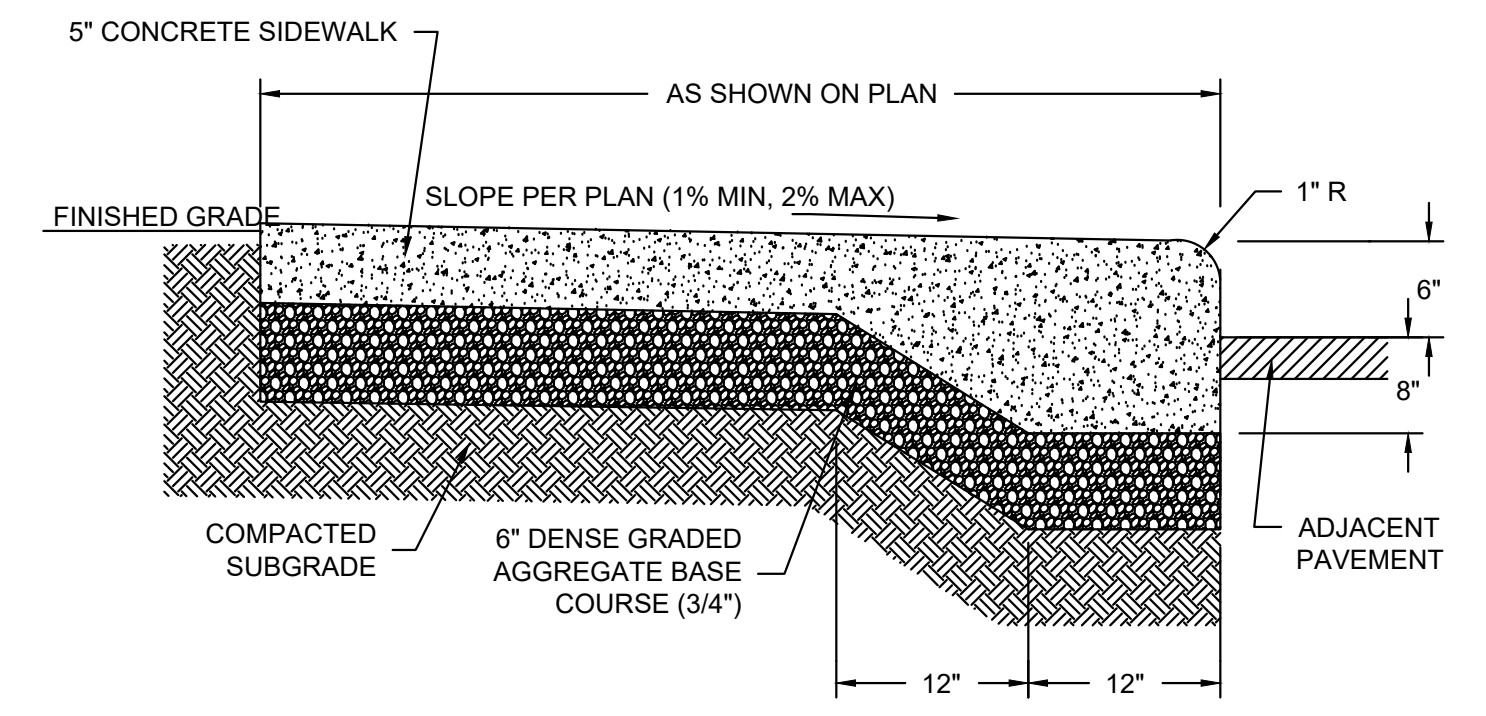


TIE-BAR IF ADJACENT TO CONCRETE (NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" C-C)



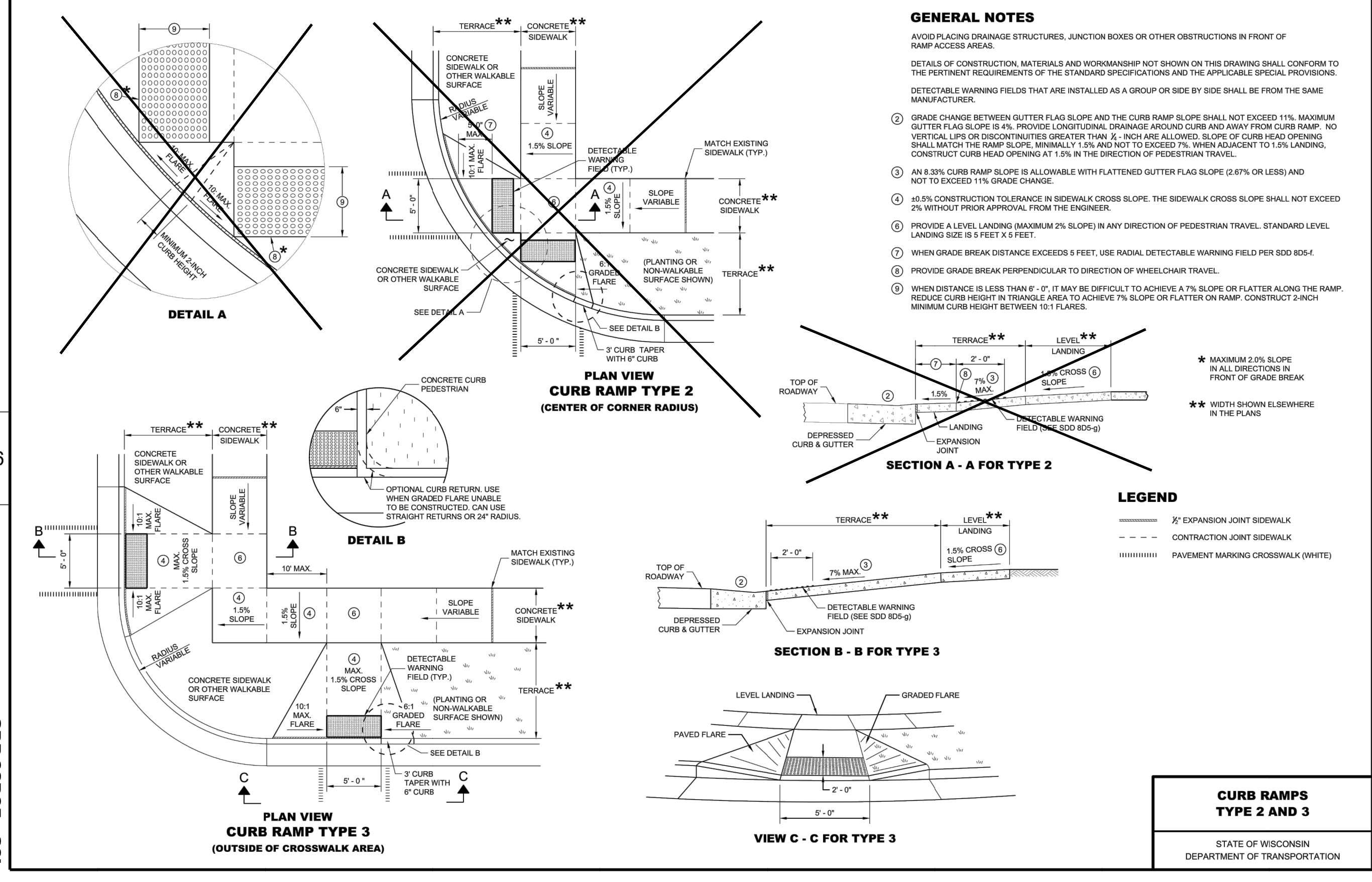
TIE-BAR IF ADJACENT TO CONCRETE (NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" C-C)

**A 18" CONCRETE CURB & GUTTER SECTION**  
 NOT TO SCALE



**B CONCRETE WALK WITH INTEGRAL CURB**  
 NOT TO SCALE

**SDD 08D05-b Curb Ramps Types 2 and 3**

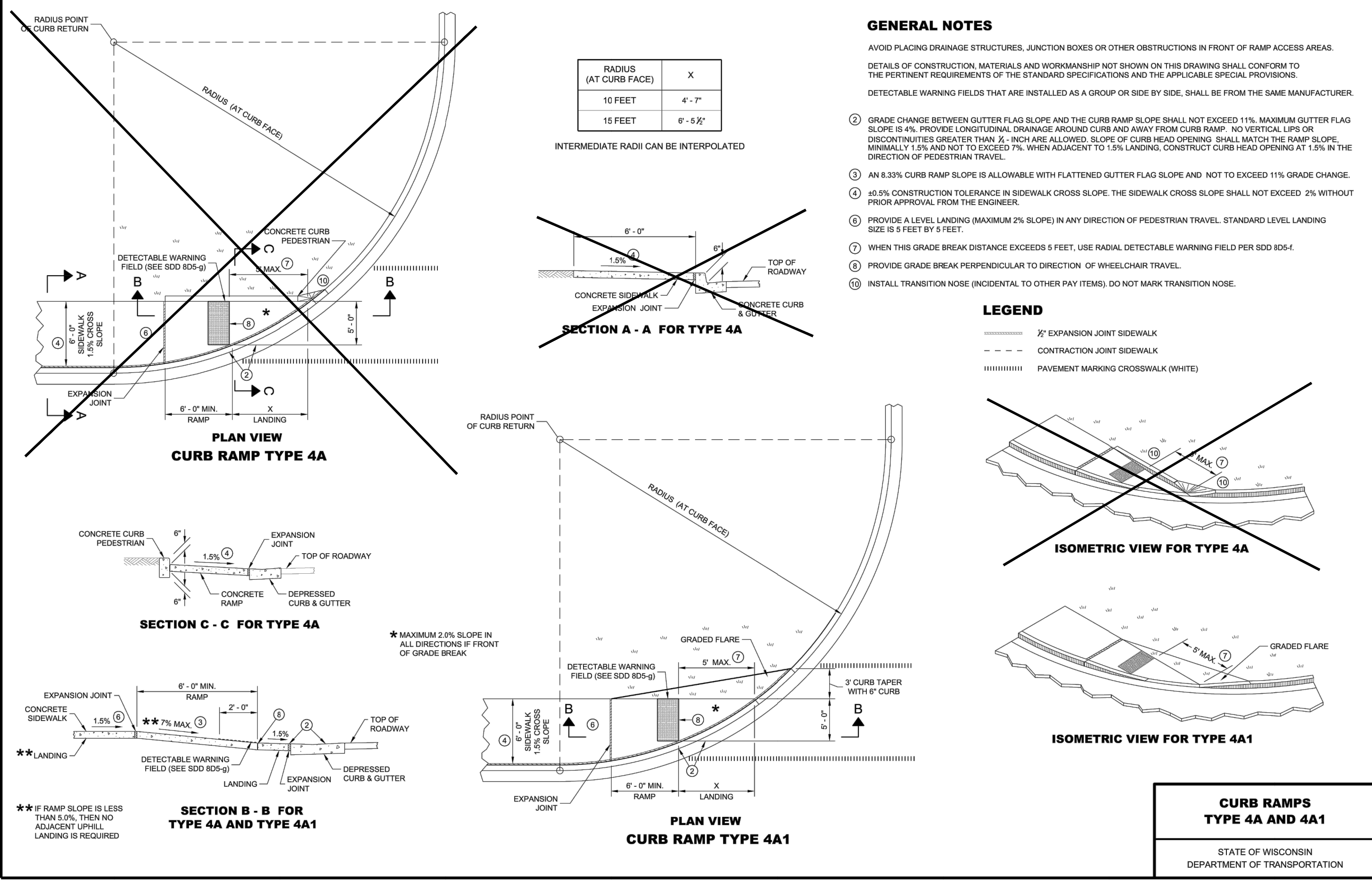


SDD 08D05 - 20b

SDD 08D05 - 20b

**A ADA RAMP DETAIL (TYPE 3)**  
 NOT TO SCALE

**SDD 08D05-c Curb Ramps Types 4A and 4A1**

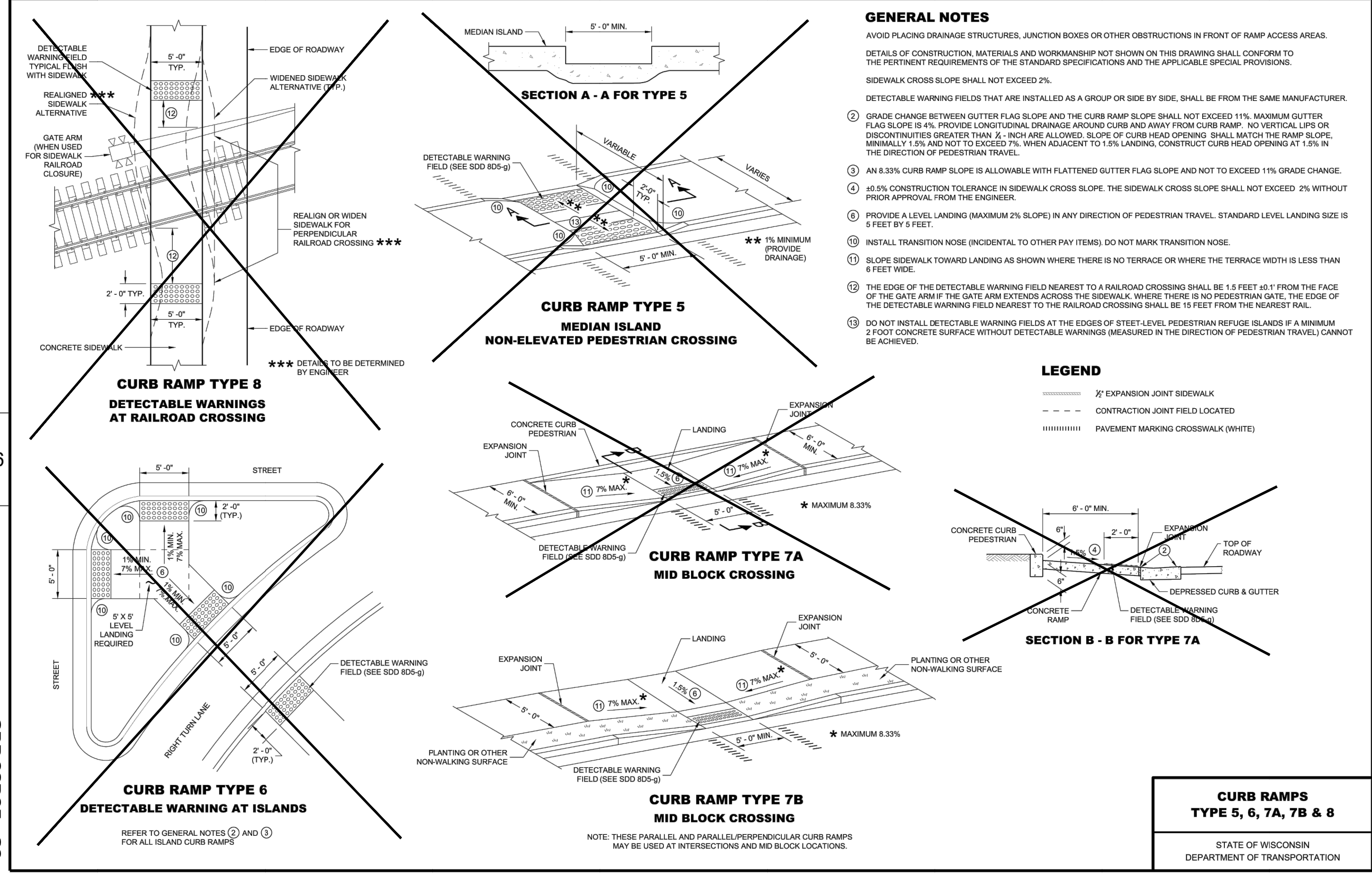


SDD 08D05 - 20c

SDD 08D05 - 20c

**B ADA RAMP DETAIL (TYPE 4A1)**  
 NOT TO SCALE

**SDD 08D05-e: Curb Ramps Types 5, 6, 7A, 7B and 8**



SDD 08D05 - 20e

SDD 08D05 - 20e

**C ADA RAMP DETAIL (TYPE 7B)**  
 NOT TO SCALE

**SIGMA GROUP**  
 Single Source. Smart Solutions.  
 www.thesignmagroup.com  
 1300 West Canal Street  
 Milwaukee, WI 53233  
 Phone: 414-643-4200  
 Fax: 414-643-4210

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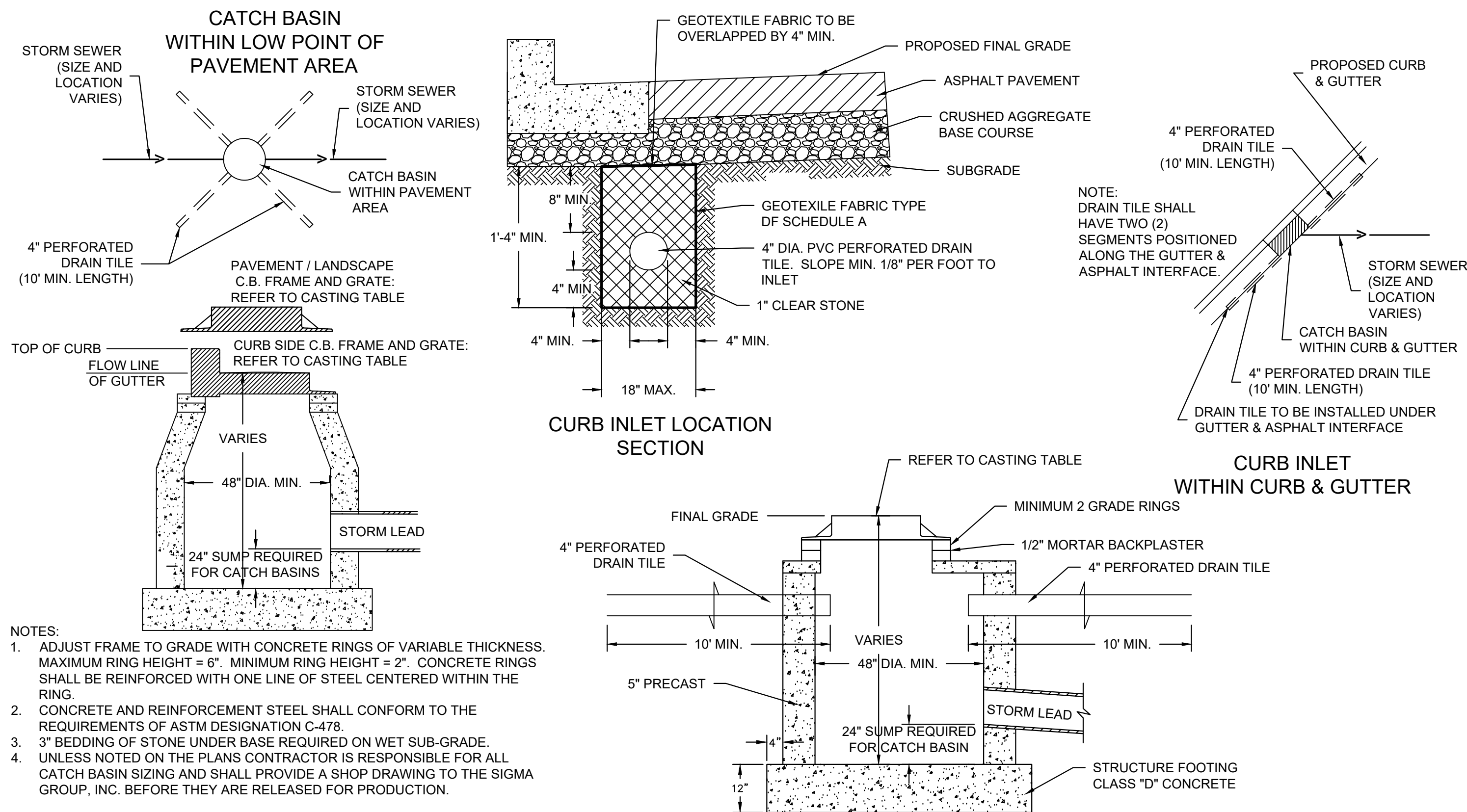
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**E. ST. PAUL AVENUE  
 WAUKESHA, WISCONSIN**

**DETAILS**

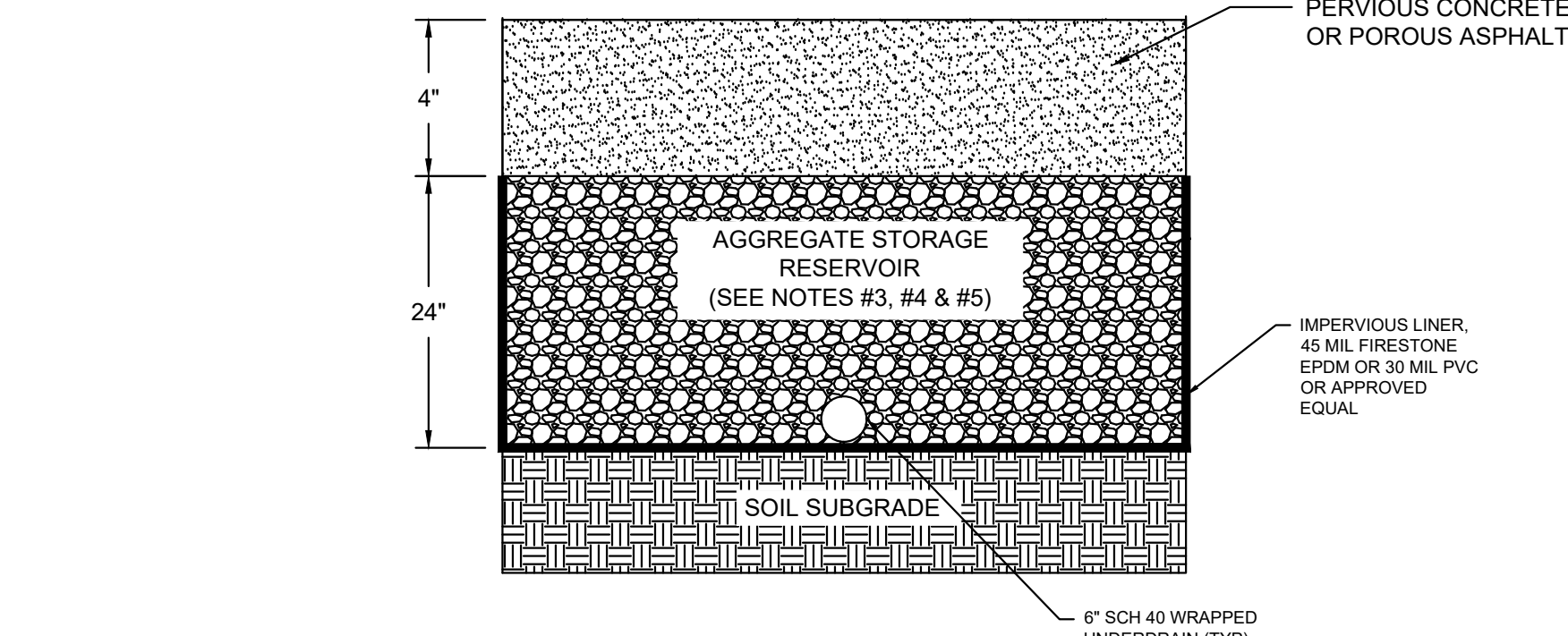
NO. REVISION	DATE BY
DRAWING NO.	19754 DETAILS.DWG
DRAWN BY:	##
DATE:	#####
PROJECT NO:	19754
CHECKED BY:	##
APPROVED BY:	##
SHEET NO.:	

**C402**



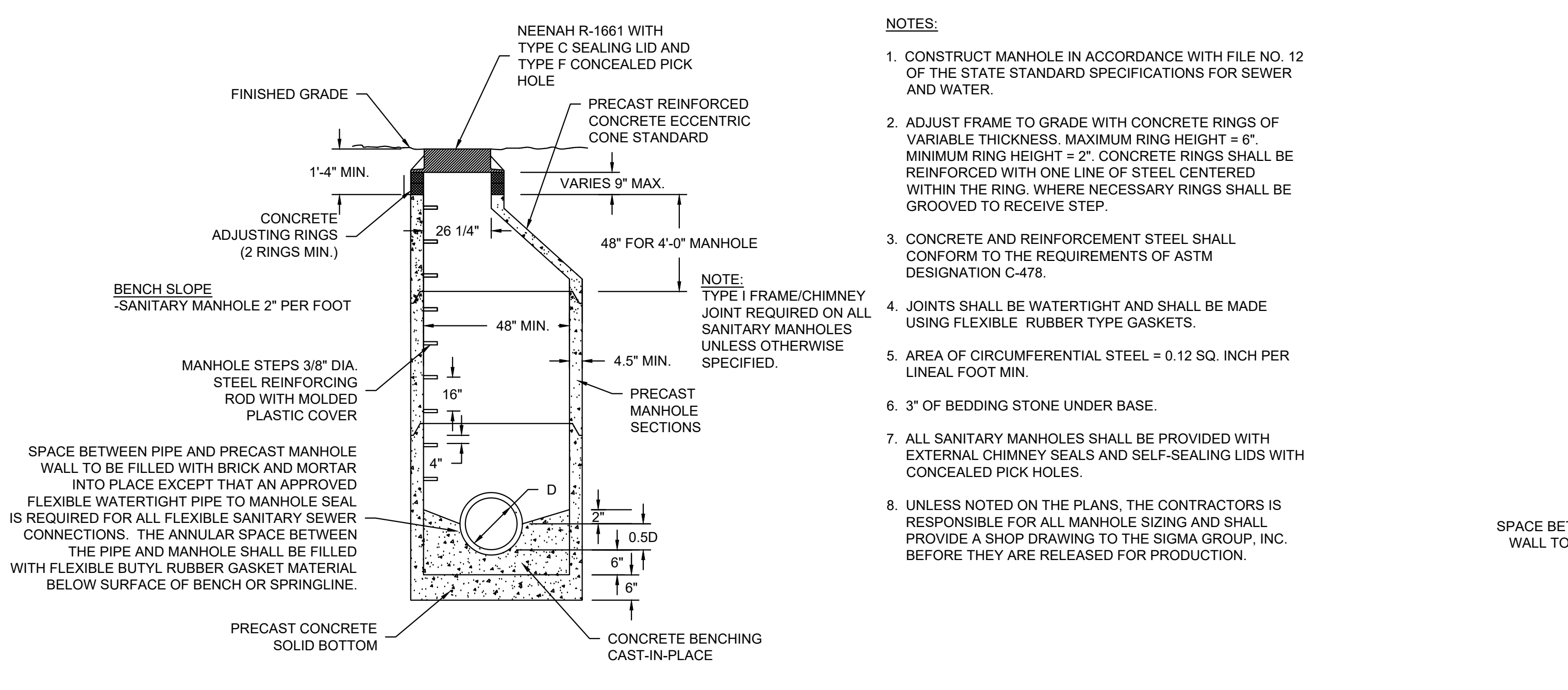
CATCH BASIN / INLET CASTING TABLE						
	IF 18" CURB & GUTTER		IF 24" CURB & GUTTER		IF 30" CURB AND GUTTER	
	CASTING	GRATE	CASTING	GRATE	CASTING	GRATE
CURB INLET	NEENAH R-3170	B	NEENAH R-3067	A	NEENAH R-32284	C
AREA INLET	NEENAH R-2050	C				

**A INLET AND CATCH BASIN**  
 NOT TO SCALE

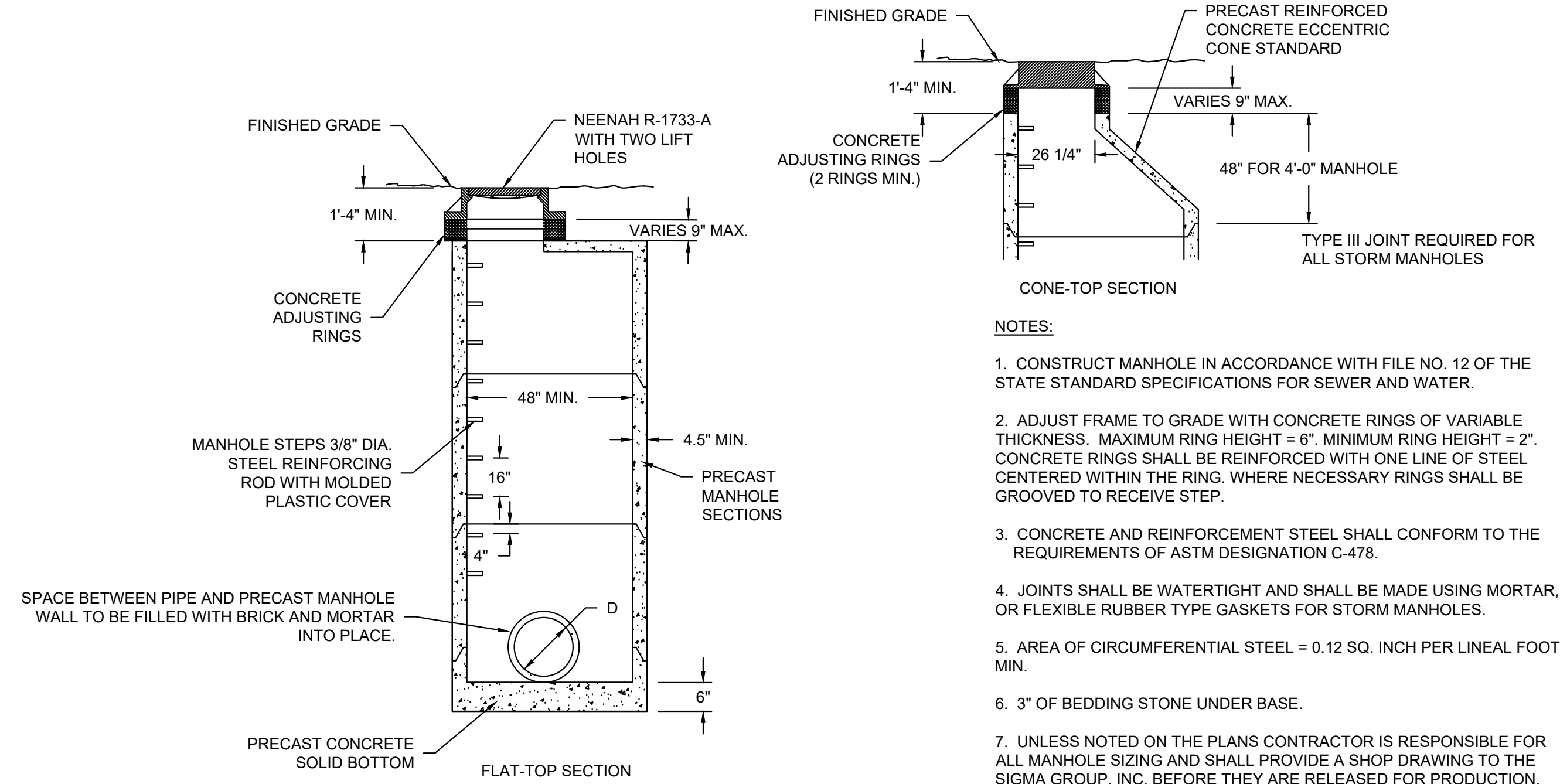


- NOTES:**
- PAVEMENT SURFACE PERCENT VOIDS SHOULD BE LESS THAN 25%.
  - JOINT STONE AND BEDDING COURSE SHALL CONSIST OF ASTM C-33, 8, 9, 89, OR 57 AGGREGATE.
  - AGGREGATE STORAGE RESERVOIR DEPTH SHALL BE A MINIMUM OF 12 INCHES. AGGREGATE STORAGE RESERVOIR SHALL USE AN OPEN GRADED BASE CONSISTING OF CRUSHED STONE OR CRUSHED GRAVEL WITH NO GRATER THAN 5% PASSING THE NO. 200 SIEVE.
  - BASE AND/OR SUBBASE COURSES WITH MINIMUM POROSITY OF 30% CAN BE CONSIDERED AGGREGATE STORAGE RESERVOIR. BASE COURSE FOR PERVIOUS PAVEMENT SHALL BE 5.0" DEPTH OF ASTM C-33, 57 AGGREGATE AND CAN BE CONSIDERED PART OF THE AGGREGATE STORAGE DEPTH.
  - UNDERDRAINS CAN BE LOCATED WITHIN OR BELOW THE AGGREGATE STORAGE RESERVOIR. UNDERDRAINS (OR EQUIVALENT) ARE REQUIRED IF THE AGGREGATE STORAGE RESERVOIR DRAIN DOWN TIME WILL EXCEED 72 HOURS.
  - THE SLOPE OF THE SUBGRADE SHALL BE AS FLAT AS POSSIBLE BUT NO GREATER THAN 2%.
  - POROUS PAVEMENT SHALL CONFORM TO THE WDNR TECHNICAL STANDARD #1008
- PERMEABLE PAVEMENT CONSTRUCTION PRACTICES:**
- POTENTIAL ADVERSE IMPACTS ASSOCIATED WITH CONSTRUCTION OPERATIONS SHALL BE MINIMIZED OR MITIGATED AS FOLLOWS:
- PRIOR TO THE START OF CONSTRUCTION, THE SCHEDULE OF PERMEABLE PAVEMENT SYSTEM CONSTRUCTION RELATIVE TO OTHER CONSTRUCTION OPERATIONS AT THE SITE SHALL BE DETERMINED.
  - PROTECT THE SUBGRADE SOILS INTERFACE, AGGREGATE STORAGE RESERVOIR AND PAVEMENT SURFACE FROM CONSTRUCTION SITE RUNOFF UNTIL ACHIEVING FINAL STABILIZATION:
    - WHERE POSSIBLE, DIVERT RUNOFF FROM DISTURBED AREAS AWAY FROM ENTERING THE PERMEABLE PAVEMENT SYSTEM, AND
    - IF RUNOFF DIVERSION IS NOT POSSIBLE, PROTECT THE PERMEABLE PAVEMENT SYSTEM IN A MANNER THAT PREVENTS SEDIMENT AND POLLUTANTS FROM ENTERING TO THE MAXIMUM EXTENT PRACTICABLE.
  - PROTECT THE SUBGRADE SOIL INTERFACE, AGGREGATE STORAGE RESERVOIR AND PAVEMENT SURFACE FROM OTHER CONSTRUCTION SITE OPERATIONS, SUCH AS LANDSCAPE EQUIPMENT OPERATION OR MATERIAL STORAGE.
  - AGGREGATE SHALL BE STORED AND HANDLED TO KEEP SEDIMENT-FREE AND PLACE TO AVOID SEGREGATION OF THE AGGREGATE.
  - WHEN CONSTRUCTION IS COMPLETE, INSPECT THE PERMEABLE PAVEMENT SURFACE AND, IF NECESSARY, CLEAN THE SURFACE USING INDUSTRY RECOMMENDED METHODS, SUCH AS REGENERATIVE AIR OR VACUUM SWEEPING.

**B PERMEABLE ASPHALT**  
 NOT TO SCALE



**C PRECAST SANITARY MANHOLE**  
 NOT TO SCALE



**D PRECAST STORM MANHOLE**  
 NOT TO SCALE

NO. REVISION	DATE BY
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CHECKED BY:	##
APPROVED BY:	###
SHEET NO.:	

**GENERAL:**

- 1. EXISTING UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY, AND NO RESPONSIBILITY IS ASSUMED BY THE OWNER OR ENGINEER FOR THEIR ACCURACY OR COMPLETENESS.
2. 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.
3. LENGTHS OF ALL UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM PLANS.

**SITE CLEARING:**

- 1. EXCEPT FOR STRIPPED TOPSOIL OR OTHER MATERIALS INDICATED TO REMAIN ON OWNER'S PROPERTY...
2. MINIMIZE INTERFERENCE WITH ADJOINING ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES...
3. SALVAGE IMPROVEMENTS: CAREFULLY REMOVE ITEMS INDICATED TO BE SALVAGED AND STORE ON OWNER'S PREMISES...
4. UTILITY LOCATOR SERVICE: NOTIFY UTILITY LOCATOR SERVICE FOR AREA WHERE PROJECT IS LOCATED...
5. DO NOT COMMENCE SITE CLEARING OPERATIONS UNTIL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE.

**SITE WATER SERVICE:**

- 1. COMPLY WITH STANDARDS OF STATE PLUMBING CODE (SPS CH. 382, 384), LOCAL WATER UTILITY REQUIREMENTS AND STANDARDS OF AUTHORITIES...
2. DO NOT INTERRUPT SERVICE TO FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED BY OWNERS OF SUCH FACILITIES...
3. WATER SERVICE PIPING MAY BE EITHER DUCTILE IRON WATER PIPE OR PVC WATER PIPE AS ALLOWED BY THE LOCAL WATER UTILITY.
4. DUCTILE IRON WATER PIPE CONFORMING TO THE REQUIREMENTS OF THE AMERICAN NATIONAL STANDARD FOR DUCTILE IRON PIPE...
5. JOINTS FOR DUCTILE IRON PIPE: JOINTS SHALL BE RUBBER GASKET JOINTS; CONFORM TO THE REQUIREMENTS OF AMERICAN NATIONAL STANDARD...
6. FITTINGS FOR DUCTILE IRON PIPE: CONFORM TO THE REQUIREMENTS OF AMERICAN NATIONAL STANDARD FOR DUCTILE IRON AND GRAY IRON FITTINGS...
7. PVC AWWA PIPE: AWWA C900, CLASS 235 WITH BELL END WITH GASKET AND WITH SPIGOT END AND MEETING REQUIREMENTS OF CHAPTER 8.20.0...
8. GATE VALVES: CONFORM TO AWWA C-500 AND STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN SUITABLE FOR DIRECT BURY.
9. VALVE BOXES: CAST IRON CONFORMING TO ASTM DESIGNATION A-48, CLASS 20 AND STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
10. FIRE HYDRANTS: TO MEET LOCAL STANDARDS.
11. WATER MAIN CONNECTIONS: TAP WATER MAIN WITH SIZE AND LOCATION INDICATED ON PLAN IN ACCORDANCE WITH LOCAL WATER UTILITY REQUIREMENTS...
12. GENERAL WATER PIPE INSTALLATION: IN ACCORDANCE WITH CHAPTER 4.3.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
13. INSTALL DUCTILE-IRON, WATER-SERVICE PIPING ACCORDING TO AWWA C600 AND CHAPTER 4.4.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
14. ALL DUCTILE IRON PIPE SHALL BE ENCASED IN POLYETHYLENE PER AWWA C105, LATEST EDITION AND IN ACCORDANCE WITH CHAPTER 4.4.4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
15. INSTALL PVC AWWA PIPE ACCORDING TO ASTM F645 AND AWWA M23 AND CHAPTER 4.6.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
16. INSTALL JOINT RESTRAINT AND CONCRETE THRUST BLOCKS AT ALL OFFSET FITTINGS (TEES, BENDS, DEAD ENDS, VALVES, REDUCERS) USING MEGA-LUG OR APPROVED EQUAL.

**SITE WATER SERVICE CONT.:**

- 17. BEDDING AND COVER FOR WATER SERVICE PIPING SHALL BE IN ACCORDANCE WITH SECTION 4.3.3 AND FILE NO. 36 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
18. INSTALL TRACER WIRE FOR NON-METALLIC WATER SERVICES IN ACCORDANCE WITH SPS SECTION 382.40(8)(K), TRACER WIRE INSULATION COLOR SHALL BE BLUE FOR POTABLE WATER SERVICE PIPING.
19. DUCTILE-IRON PIPING, RUBBER GASKETED JOINTS IN ACCORDANCE WITH SECTION 4.4.2 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
20. PVC PIPING GASKETED JOINTS: USING JOINING MATERIALS ACCORDING TO AWWA C900.
21. CONDUCT HYDROSTATIC TESTS IN ACCORDANCE WITH CHAPTER 4.15.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
22. CLEAN AND DISINFECT WATER SERVICE PIPING IN ACCORDANCE WITH SPS CHAPTER 82.40(8)(I) AND AWWA C651.

**SANITARY SEWERAGE:**

- 1. ALL PRIVATE SANITARY 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.
2. ALL PUBLIC SANITARY 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.
3. 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.
4. 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.
5. MANHOLES DEEPER THAN FOUR FEET SHALL BE PROVIDED WITH MANHOLE STEPS CONFORMING TO SECTION 8.40.0 OF THE STANDARD SPECIFICATIONS.
6. SEWERS SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 3.2.0 OF THE STANDARD SPECIFICATIONS.
7. PIPE JOINT CONSTRUCTION: FELLOW PIPING MANUFACTURER'S RECOMMENDATIONS; JOIN PVC SEWER PIPE ACCORDING TO ASTM D2321 AND ASTM D 3212 FOR ELASTOMERIC GASKET JOINTS.
8. CLASS B COMPACTED TRENCH SECTION (FILE NO. 4 OF STANDARD SPECIFICATIONS) SHALL BE UTILIZED.
9. 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.
10. MANHOLE INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 3.5.0 OF THE STANDARD SPECIFICATIONS.
11. 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.

**STORM DRAINAGE:**

- 1. 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.
2. 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.
3. 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.
4. 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.
5. HDPE PIPE: ADS N12 PIPE AS APPROVED ON THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES PLUMBING PRODUCT REGISTER.
6. 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.
7. FRAMES AND GRATES: AS INDICATED ON PLANS, CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING SPECIFIED FRAME/GRATE IS COMPATIBLE WITH STRUCTURE; IF NOT, NOTIFY ENGINEER.
8. 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.
9. MANHOLES AND CATCH BASINS DEEPER THAN FOUR FEET SHALL BE PROVIDED WITH MANHOLE STEPS CONFORMING TO SECTION 8.40.0 OF THE STANDARD SPECIFICATIONS.
10. SEWERS SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 3.2.0 OF THE STANDARD SPECIFICATIONS.
11. PROVIDE AND INSTALL CLEANOUTS IN ACCORDANCE WITH SPS CHAPTER 382.35.
12. CLASS B COMPACTED TRENCH SECTION (FILE NO. 4 OF STANDARD SPECIFICATIONS) SHALL BE UTILIZED.
13. 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.
14. MANHOLE INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 3.5.0 OF THE STANDARD SPECIFICATIONS.
15. CATCH BASIN INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 3.6 OF THE STANDARD SPECIFICATIONS.
16. 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.

**EARTH MOVING:**

- 1. ALL EARTH WORK SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER PRESENTED IN THE SITE GEOTECHNICAL REPORT.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. PIPE COVER MATERIAL: CONFORM TO SECTION 8.43.3 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
14. PREVENT SURFACE WATER AND GROUND WATER FROM ENTERING EXCAVATIONS, FROM PONDING ON PREPARED SUBGRADES, AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA.
15. SHORING, SHEETING AND BRACING: SHORE, BRACE OR SLOPE BANKS OF EXCAVATION TO PROTECT WORKMEN, BANKS, ADJACENT PAVING, STRUCTURES, AND UTILITIES TO MEET OSHA REQUIREMENTS.
16. EXCAVATE TO EXCAVATE ELEVATIONS REGARDLESS OF THE CHARACTER OF SURFACE AND SUBSURFACE CONDITIONS ENCOUNTERED.
17. 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.
18. 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.
19. CONVENTIONAL DISKING AND AERATION TECHNIQUES SHALL BE USED TO DRY SOILS BEFORE PROOF ROLLING.
20. 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.
21. EXISTING OLD FILL MATERIAL SHALL BE REMOVED BELOW FOOTINGS OR FOUNDATION SUPPORTING FILL.
22. WHERE UNSUITABLE BEARING SOILS ARE ENCOUNTERED IN A FOOTING EXCAVATION, THE EXCAVATION SHALL BE DEEPEMED TO COMPETENT BEARING SOIL AND THE FOOTING LOWERED OR AN OVEREXCAVATION AND BACKFILL PROCEDURE PERFORMED.
23. A MINIMUM OF FOUR INCHES OF DRAINAGE COURSE MAT SHALL BE PLACED BELOW BUILDING FLOOR SLABS.
24. 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.
25. BACKFILL UTILITY TRENCHES IN 4 TO 6 INCH LOOSE LIFTS COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557.
26. UTILITY BEDDING PLACEMENT: CONFORM TO SECTION 3.2.6 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
27. 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.
28. 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.
29. GRADING GENERAL: UNIFORMLY GRADE AREAS TO A SMOOTH SURFACE, FREE OF IRREGULAR SURFACE CHANGES.
30. TESTING AGENCY: CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT GEOTECHNICAL ENGINEERING TESTING AGENCY TO PERFORM FIELD QUALITY-CONTROL TESTING.
31. FOOTING SUBGRADE TESTING: EACH ISOLATED FOOTING SHALL INCLUDE AT LEAST ONE TEST PROBE.
32. 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.
33. 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.
34. 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.
35. 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.
36. 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.
37. DISPOSAL: REMOVE SURPLUS SOIL AND WASTE MATERIAL, INCLUDING UNSATISFACTORY SOIL, TRASH, AND DEBRIS, AND LEGALLY DISPOSE OF IT OFF OWNER'S PROPERTY.



GENERAL CAPITAL GROUP
6938 N. Santa Monica Blvd,
Fox Point, WI 53217
Phone: 414-228-3500

JOSEPH PROPERTY DEVELOPMENT
117 N. Jefferson ST. #200
Milwaukee, WI 53202
Phone: 414-988-7885

AG ARCHITECTURE
1414 Underwood Ave. #301
Wauwatosa, WI 53213
Phone: 414-4313131

E. ST. PAUL AVENUE
WAUKESHA, WISCONSIN

SPECIFICATIONS

Table with 2 columns: NO. REVISION, DATE BY. Includes drawing information: DRAWING NO. 19754 SPECIFICATIONS.DWG, DRAWN BY: JRG, DATE: 10-06-2021, PROJECT NO: 19754, CHECKED BY: TPM, 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 FLOATING 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. ASPHALTIC BINDER SHALL BE 58-28 S UNLESS NOTED.
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.

**SEGMENTAL RETAINING WALL:**

1. WORK SHALL CONSIST OF FURNISHING DETAILED DESIGN, MATERIALS, LABOR, EQUIPMENT AND SUPERVISION TO INSTALL A SEGMENTAL RETAINING WALL SYSTEM IN ACCORDANCE WITH PLANS AND SPECIFICATIONS AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADES, DESIGN AND DIMENSIONS SHOWN ON PLANS.
2. MATERIALS SUBMITTALS: THE CONTRACTOR SHALL SUBMIT MANUFACTURERS' CERTIFICATIONS TWO WEEKS PRIOR TO START OF WORK STATING THAT THE SRW UNITS AND GEOSYNTHETIC REINFORCEMENT MEET THE REQUIREMENTS OF THE DESIGN.
3. DESIGN SUBMITTAL: THE CONTRACTOR SHALL SUBMIT TWO SETS OF DETAILED DESIGN CALCULATIONS AND FINAL RETAINING WALL PLANS FOR APPROVAL AT LEAST TWO WEEKS PRIOR TO THE BEGINNING OF WALL CONSTRUCTION. ALL CALCULATIONS AND DRAWINGS SHALL BE PREPARED AND SEALED BY A PROFESSIONAL CIVIL ENGINEER (P.E.) - (WALL DESIGN ENGINEER) EXPERIENCED IN SRW DESIGN AND LICENSED IN THE STATE WHERE THE WALL IS TO BE BUILT.
4. SEGMENTAL RETAINING WALL (SRW) UNITS SHALL BE MACHINE FORMED, PORTLAND CEMENT CONCRETE BLOCKS SPECIFICALLY DESIGNED FOR RETAINING WALL APPLICATIONS. SRW UNITS SHALL BE VERSA-LOK STANDARD RETAINING WALL UNITS, KEYSTONE RETAINING WALL UNITS, ROCKWOOD RETAINING WALL UNITS OR APPROVED EQUAL.
5. COLOR AND STYLE OF SRW UNITS SHALL BE AS SELECTED BY ARCHITECT AND OWNER FROM MANUFACTURER'S FULL RANGE.
6. SRW UNITS SHALL BE CAPABLE OF BEING ERECTED WITH THE HORIZONTAL GAP BETWEEN ADJACENT UNITS NOT EXCEEDING 1/8 INCH.
7. SRW UNITS SHALL BE SOUND AND FREE OF CRACKS OR OTHER DEFECTS THAT WOULD INTERFERE WITH THE PROPER PLACING OF THE UNIT OR SIGNIFICANTLY IMPAIR THE STRENGTH OR PERMANENCE OF THE STRUCTURE. ANY CRACKS OR CHIPS OBSERVED DURING CONSTRUCTION SHALL FALL WITHIN THE GUIDELINES OUTLINED IN ASTM C 1372.
8. CONCRETE SRW UNITS SHALL CONFORM TO THE REQUIREMENTS OF ASTM 1372 AND HAVE A MINIMUM NET AVERAGE 28 DAYS COMPRESSIVE STRENGTH OF 3000 PSI. COMPRESSIVE STRENGTH TEST SPECIMENS SHALL CONFORM TO THE SAW-CUT COUPON PROVISIONS OF ASTM C140.
9. SRW UNITS' MOLDED DIMENSIONS SHALL NOT DIFFER MORE THAN + 1/8 INCH FROM THAT SPECIFIED, AS MEASURED IN ACCORDANCE WITH ASTM C 140. THIS TOLERANCE DOES NOT APPLY TO ARCHITECTURAL SURFACES, SUCH AS SPLIT FACES.
10. SRW UNITS SHALL BE INTERLOCKED WITH CONNECTION PINS. THE PINS SHALL CONSIST OF GLASS-REINFORCED NYLON MADE FOR THE EXPRESSED USE WITH THE SRW UNITS SUPPLIED.
11. GEOSYNTHETIC REINFORCEMENT SHALL CONSIST OF HIGH-TENACITY PET GEOGRIDS, HDPE GEOGRIDS, OR GEOTEXTILES MANUFACTURED FOR SOIL REINFORCEMENT APPLICATIONS. THE TYPE, STRENGTH AND PLACEMENT OF THE GEOSYNTHETIC REINFORCEMENT SHALL BE DETERMINED BY PROCEDURES OUTLINED IN THIS SPECIFICATION AND THE NCMA DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS (3RD EDITION 2009) AND MATERIALS SHALL BE SPECIFIED BY WALL DESIGN ENGINEER IN THEIR FINAL WALL PLANS AND SPECIFICATIONS. THE MANUFACTURER/SUPPLIER OF THE GEOSYNTHETIC REINFORCEMENT SHALL HAVE DEMONSTRATED CONSTRUCTION OF SIMILAR SIZE AND TYPES OF SEGMENTAL RETAINING WALLS ON PREVIOUS PROJECTS.
12. THE TYPE, STRENGTH AND PLACEMENT OF THE REINFORCING GEOSYNTHETIC SHALL BE AS DETERMINED BY THE WALL DESIGN ENGINEER, AS SHOWN ON THE FINAL, P.E.-STAMPED RETAINING WALL PLANS.
13. MATERIAL FOR LEVELING PAD SHALL CONSIST OF COMPACTED SAND, GRAVEL, OR COMBINATION THEREOF (USCS SOIL TYPES GP, GW, SP, & SW) AND SHALL BE A MINIMUM OF 6 INCHES IN DEPTH. LEAN CONCRETE WITH A STRENGTH OF 200-300 PSI AND 3 INCHES THICK MAXIMUM MAY ALSO BE USED AS A LEVELING PAD MATERIAL. THE LEVELING PAD SHOULD EXTEND Laterally AT LEAST A DISTANCE OF 6 INCHES FROM THE TOE AND HEEL OF THE LOWERMOST SRW UNIT.
14. DRAINAGE AGGREGATE SHALL BE ANGULAR, CLEAN STONE OR GRANULAR FILL MEETING THE FOLLOWING GRADATION AS DETERMINED IN ACCORDANCE WITH ASTM D422:

SIEVE SIZE	PERCENT PASSING
1 INCH	100
3/4 INCH	75-100
NO. 4	0-60
NO. 40	0-50
NO. 200	0-5
15. THE DRAINAGE COLLECTION PIPE SHALL BE A PERFORATED OR SLOTTED PVC, OR CORRUGATED HDPE PIPE. THE DRAINAGE PIPE MAY BE WRAPPED WITH A GEOTEXTILE TO FUNCTION AS A FILTER. DRAINAGE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM F 405 OR ASTM F 758.
16. THE REINFORCED SOIL MATERIAL SHALL BE FREE OF DEBRIS. UNLESS OTHERWISE NOTED ON THE FINAL, P.E.-SEALED, RETAINING WALL PLANS PREPARED BY THE WALL DESIGN ENGINEER, THE REINFORCED MATERIAL SHALL CONSIST OF THE INORGANIC USCS SOIL TYPES GP, GW, SW, SP, SM, MEETING THE FOLLOWING GRADATION, AS DETERMINED IN ACCORDANCE WITH ASTM D422:

SIEVE SIZE	PERCENT PASSING
1 INCH	100
NO. 4	20-100
NO. 40	0-60
NO. 200	0-35
17. THE MAXIMUM PARTICLE SIZE OF POORLY-GRADED GRAVELS (GP) (NO FINES) SHOULD NOT EXCEED 3/4 INCH UNLESS EXPRESSLY APPROVED BY THE WALL DESIGN ENGINEER AND THE LONG-TERM DESIGN STRENGTH (LTD5) OF THE GEOSYNTHETIC IS REDUCED TO ACCOUNT FOR ADDITIONAL INSTALLATION DAMAGE FROM PARTICLES LARGER THAN THIS MAXIMUM.
18. THE PLASTICITY OF THE FINE FRACTION SHALL BE LESS THAN 20.
19. THE PH OF THE BACKFILL MATERIAL SHALL BE BETWEEN 3 AND 9 WHEN TESTED IN ACCORDANCE WITH ASTM G 51.
20. DRAINAGE GEOTEXTILE SHALL CONSIST OF GEOSYNTHETIC SPECIFICALLY MANUFACTURED FOR USE AS A PERMEABLE SOIL FILTER THAT RETAINS SOIL WHILE STILL ALLOWING WATER TO PASS THROUGHOUT THE LIFE OF THE STRUCTURE. THE TYPE AND PLACEMENT OF THE GEOTEXTILE FILTER MATERIAL SHALL BE AS REQUIRED BY THE WALL DESIGN ENGINEER IN THEIR FINAL WALL PLANS AND SPECIFICATIONS.
21. THE DESIGN ANALYSIS FOR THE FINAL, P.E.-STAMPED RETAINING WALL PLANS PREPARED BY THE WALL DESIGN ENGINEER SHALL CONSIDER THE EXTERNAL STABILITY AGAINST SLIDING AND OVERTURNING, INTERNAL STABILITY AND FACIAL STABILITY OF THE REINFORCED SOIL MASS, AND SHALL BE IN ACCORDANCE WITH ACCEPTABLE ENGINEERING PRACTICE AND THESE SPECIFICATIONS. THE INTERNAL AND EXTERNAL STABILITY ANALYSIS SHALL BE PERFORMED IN ACCORDANCE WITH THE "NCMA DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS, 3RD EDITION" USING THE RECOMMENDED MINIMUM FACTORS OF SAFETY IN THIS MANUAL.
22. EXTERNAL STABILITY ANALYSIS FOR BEARING CAPACITY, GLOBAL STABILITY, AND TOTAL AND DIFFERENTIAL SETTLEMENT SHALL BE THE RESPONSIBILITY OF THE OWNER AND THE OWNER'S GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL PERFORM BEARING CAPACITY, SETTLEMENT ESTIMATES, AND GLOBAL STABILITY ANALYSIS BASED ON THE FINAL WALL DESIGN PROVIDED BY THE WALL DESIGN ENGINEER AND COORDINATE ANY REQUIRED CHANGES WITH THE WALL DESIGN ENGINEER.
23. THE GEOSYNTHETIC PLACEMENT IN THE WALL DESIGN SHALL HAVE 100% CONTINUOUS COVERAGE PARALLEL TO THE WALL FACE. GAPPING BETWEEN HORIZONTALLY ADJACENT LAYERS OF GEOSYNTHETIC (PARTIAL COVERAGE) WILL NOT BE ALLOWED.
24. CONTRACTOR'S FIELD CONSTRUCTION SUPERVISOR SHALL HAVE DEMONSTRATED EXPERIENCE AND BE QUALIFIED TO DIRECT ALL WORK AT THE SITE.
25. CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES SHOWN ON THE PROJECT GRADING PLANS. CONTRACTOR SHALL TAKE PRECAUTIONS TO MINIMIZE OVER-EXCAVATION. OVER-EXCAVATION SHALL BE FILLED WITH COMPACTED INFILL MATERIAL, OR AS DIRECTED BY THE WALL DESIGN ENGINEER, AT THE CONTRACTOR'S EXPENSE.
26. CONTRACTOR SHALL VERIFY LOCATION OF EXISTING STRUCTURES AND UTILITIES PRIOR TO EXCAVATION. CONTRACTOR SHALL ENSURE ALL SURROUNDING STRUCTURES ARE PROTECTED FROM THE EFFECTS OF WALL EXCAVATION. EXCAVATION SUPPORT, IF REQUIRED, IS THE RESPONSIBILITY OF THE CONTRACTOR.
27. FOLLOWING THE EXCAVATION, THE FOUNDATION SOIL SHALL BE EXAMINED BY THE OWNER'S ENGINEER TO ASSURE ACTUAL FOUNDATION SOIL STRENGTH MEETS OR EXCEEDS THE ASSUMED DESIGN BEARING STRENGTH. SOILS NOT MEETING THE REQUIRED STRENGTH SHALL BE REMOVED AND REPLACED WITH INFILL SOILS, AS DIRECTED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER.
28. FOUNDATION SOIL SHALL BE PROOF-ROLLED AND COMPACTED TO 95% STANDARD PROCTOR DENSITY AND INSPECTED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF LEVELING PAD MATERIALS.
29. LEVELING PAD SHALL BE PLACED AS SHOWN ON THE FINAL, P.E.-SEALED RETAINING WALL PLANS WITH A MINIMUM THICKNESS OF 6 INCHES. THE LEVELING PAD SHOULD EXTEND Laterally AT LEAST A DISTANCE OF 6 INCHES FROM THE TOE AND HEEL OF THE LOWERMOST SRW UNIT.
30. GRANULAR LEVELING PAD MATERIAL SHALL BE COMPACTED TO PROVIDE A FIRM, LEVEL BEARING SURFACE ON WHICH TO PLACE THE FIRST COURSE OF UNITS. WELL-GRADED SAND CAN BE USED TO SMOOTH THE TOP 1/4 INCH TO 1/2 INCH OF THE LEVELING PAD. COMPACTION WILL BE WITH MECHANICAL PLATE COMPACTORS TO ACHIEVE 95% OF MAXIMUM STANDARD PROCTOR DENSITY (ASTM D 698).
31. ALL SRW UNITS SHALL BE INSTALLED AT THE PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE FINAL, P.E.-SEALED WALL PLANS AND DETAILS OR AS DIRECTED BY THE WALL DESIGN ENGINEER. THE SRW UNITS SHALL BE INSTALLED IN GENERAL ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE SPECIFICATIONS AND DRAWINGS SHALL GOVERN IN ANY CONFLICT BETWEEN THE TWO REQUIREMENTS.
32. FIRST COURSE OF SRW UNITS SHALL BE PLACED ON THE LEVELING PAD. THE UNITS SHALL BE LEVELED SIDE-TO-SIDE, FRONT-TO-REAR AND WITH ADJACENT UNITS, AND ALIGNED TO ENSURE INTIMATE CONTACT WITH THE LEVELING PAD. THE FIRST COURSE IS THE MOST IMPORTANT TO ENSURE ACCURATE AND ACCEPTABLE RESULTS. NO GAPS SHALL BE LEFT BETWEEN THE FRONT OF ADJACENT UNITS. ALIGNMENT MAY BE DONE BY MEANS OF A STRING LINE OR OFFSET FROM BASE LINE TO THE BACK OF THE UNITS.
33. ALL EXCESS DEBRIS SHALL BE CLEANED FROM TOP OF UNITS AND THE NEXT COURSE OF UNITS INSTALLED ON TOP OF THE UNITS BELOW.

**SEGMENTAL RETAINING WALL CONT.:**

34. CONNECTION PINS SHALL BE INSERTED THROUGH THE PIN HOLES OF EACH UPPER-COURSE UNIT INTO RECEIVING SLOTS IN LOWER-COURSE UNITS. PINS SHALL BE FULLY SEATED IN THE PIN SLOT BELOW. UNITS SHALL BE PUSHED FORWARD TO REMOVE ANY LOOSENESS IN THE UNIT-TO-UNIT CONNECTION.
35. PRIOR TO PLACEMENT OF NEXT COURSE, THE LEVEL AND ALIGNMENT OF THE UNITS SHALL BE CHECKED AND CORRECTED WHERE NEEDED.
36. LAYOUT OF CURVES AND CORNERS SHALL BE INSTALLED IN ACCORDANCE WITH THE WALL PLAN DETAILS OR IN GENERAL ACCORDANCE WITH SRW MANUFACTURER'S INSTALLATION GUIDELINES. WALLS MEETING AT CORNERS SHALL BE INTERLOCKED BY OVERLAPPING SUCCESSIVE COURSES.
37. PROCEDURES ABOVE SHALL BE REPEATED UNTIL REACHING TOP OF WALL UNITS, JUST BELOW THE HEIGHT OF THE CAP UNITS. GEOSYNTHETIC REINFORCEMENT, DRAINAGE MATERIALS, AND REINFORCED BACKFILL SHALL BE PLACED IN SEQUENCE WITH UNIT INSTALLATION.
38. ALL GEOSYNTHETIC REINFORCEMENT SHALL BE INSTALLED AT THE PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE FINAL P.E.-SEALED RETAINING WALL PLAN PROFILES AND DETAILS, OR AS DIRECTED BY THE WALL DESIGN ENGINEER.
39. AT THE ELEVATIONS SHOWN ON THE FINAL PLANS, (AFTER THE UNITS, DRAINAGE MATERIAL AND BACKFILL HAVE BEEN PLACED TO THIS ELEVATION) THE GEOSYNTHETIC REINFORCEMENT SHALL BE LAID HORIZONTALLY ON COMPACTED INFILL AND ON TOP OF THE CONCRETE SRW UNITS, TO WITHIN 1 INCH OF THE FRONT FACE OF THE UNIT BELOW. EMBEDMENT OF THE GEOSYNTHETIC IN THE SRW UNITS SHALL BE CONSISTENT WITH SRW MANUFACTURER'S RECOMMENDATIONS. CORRECT ORIENTATION OF THE GEOSYNTHETIC REINFORCEMENT SHALL BE VERIFIED BY THE CONTRACTOR TO BE IN ACCORDANCE WITH THE GEOSYNTHETIC MANUFACTURER'S RECOMMENDATIONS. THE HIGHEST-STRENGTH DIRECTION OF THE GEOSYNTHETIC MUST BE PERPENDICULAR TO THE WALL FACE.
40. GEOSYNTHETIC REINFORCEMENT LAYERS SHALL BE ONE CONTINUOUS PIECE FOR THEIR ENTIRE EMBEDMENT LENGTH. SPlicing OF THE GEOSYNTHETIC IN THE DESIGN-STRENGTH DIRECTION (PERPENDICULAR TO THE WALL FACE) SHALL NOT BE PERMITTED. ALONG THE LENGTH OF THE WALL, HORIZONTALLY ADJACENT SECTIONS OF GEOSYNTHETIC REINFORCEMENT SHALL BE BUTTED IN A MANNER TO ASSURE 100% COVERAGE PARALLEL TO THE WALL FACE.
41. TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY ON THE GEOSYNTHETIC REINFORCEMENT. A MINIMUM OF 6 INCHES OF BACKFILL IS REQUIRED PRIOR TO OPERATION OF TRACKED VEHICLES OVER THE GEOSYNTHETIC. TURNING SHOULD BE KEPT TO A MINIMUM. RUBBER-TIRED EQUIPMENT MAY PASS OVER THE GEOSYNTHETIC REINFORCEMENT AT SLOW SPEEDS (LESS THAN 5 MPH).
42. THE GEOSYNTHETIC REINFORCEMENT SHALL BE FREE OF WRINKLES PRIOR TO PLACEMENT OF SOIL FILL. THE NOMINAL TENSION SHALL BE APPLIED TO THE REINFORCEMENT AND SECURED IN PLACE WITH STAPLES, STAKES OR BY HAND TENSIONING UNTIL REINFORCEMENT IS COVERED BY 6 INCHES OF FILL.
43. DRAINAGE AGGREGATE SHALL BE INSTALLED TO THE LINE, GRADES AND SECTIONS SHOWN ON THE FINAL P.E.-SEALED RETAINING WALL PLANS. DRAINAGE AGGREGATE SHALL BE PLACED TO THE MINIMUM THICKNESS SHOWN ON THE CONSTRUCTION PLANS BETWEEN AND BEHIND UNITS (A MINIMUM OF 1 CUBIC FOOT FOR EACH EXPOSED SQUARE FOOT OF WALL FACE UNLESS OTHERWISE NOTED ON THE FINAL WALL PLANS).
44. DRAINAGE COLLECTION PIPES SHALL BE INSTALLED TO MAINTAIN GRAVITY FLOW OF WATER OUTSIDE THE REINFORCED-SOIL ZONE. THE DRAINAGE COLLECTION PIPE SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE FINAL CONSTRUCTION DRAWINGS. THE DRAINAGE COLLECTION PIPE SHALL DAYLIGHT INTO A STORM SEWER OR ALONG A SLOPE, AT AN ELEVATION BELOW THE LOWEST POINT OF THE PIPE WITHIN THE AGGREGATE DRAIN. DRAINAGE LATERALS SHALL BE SPACED AT A MAXIMUM 50-FOOT SPACING ALONG THE WALL FACE.
45. THE REINFORCED BACKFILL SHALL BE PLACED AS SHOWN IN THE FINAL WALL PLANS IN THE MAXIMUM COMPACTED LIFT THICKNESS OF 8 INCHES AND SHALL BE COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY (ASTM D 698) AT A MOISTURE CONTENT WITHIN -1% POINT TO +3% POINTS OF OPTIMUM. THE BACKFILL SHALL BE PLACED AND SPREAD IN SUCH A MANNER AS TO ELIMINATE WRINKLES OR MOVEMENT OF THE GEOSYNTHETIC REINFORCEMENT AND THE SRW UNITS.
46. ONLY HAND-OPERATED COMPACTION EQUIPMENT SHALL BE ALLOWED WITHIN 3 FEET OF THE BACK OF THE WALL UNITS. COMPACTION WITHIN THE 3 FEET BEHIND THE WALL UNITS SHALL BE ACHIEVED BY AT LEAST THREE PASSES OF A LIGHTWEIGHT MECHANICAL TAMPER, PLATE, OR ROLLER.
47. AT THE END OF EACH DAY'S OPERATION, THE CONTRACTOR SHALL SLOPE THE LAST LEVEL OF BACKFILL AWAY FROM THE WALL FACING AND REINFORCED BACKFILL TO DIRECT WATER RUNOFF AWAY FROM THE WALL FACE.
48. AT COMPLETION OF WALL CONSTRUCTION, BACKFILL SHALL BE PLACED LEVEL WITH FINAL TOP OF WALL ELEVATION. IF FINAL GRADING, PAVING, LANDSCAPING AND/OR STORM DRAINAGE INSTALLATION ADJACENT TO THE WALL IS NOT PLACED IMMEDIATELY AFTER WALL COMPLETION, TEMPORARY GRADING AND DRAINAGE SHALL BE PROVIDED TO ENSURE WATER RUNOFF IS NOT DIRECTED AT THE WALL NOR ALLOWED TO COLLECT OR POND BEHIND THE WALL UNTIL FINAL CONSTRUCTION ADJACENT TO THE WALL IS COMPLETED.
49. SRW CAPS SHALL BE PROPERLY ALIGNED AND GLUED TO UNDERLYING UNITS WITH VERSA-LOK ADHESIVE. A FLEXIBLE, HIGH-STRENGTH CONCRETE ADHESIVE, RIGID ADHESIVE OR MORTAR ARE NOT ACCEPTABLE.
50. CAPS SHALL OVERHANG THE TOP COURSE OF UNITS BY 3/4 INCH TO 1 INCH. SLIGHT VARIATION IN OVERHANG IS ALLOWED TO CORRECT ALIGNMENT AT THE TOP OF THE WALL.
51. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT CONSTRUCTION BY OTHERS ADJACENT TO THE WALL DOES NOT DISTURB THE WALL OR PLACE TEMPORARY CONSTRUCTION LOADS ON THE WALL THAT EXCEED DESIGN LOADS, INCLUDING LOADS SUCH AS WATER PRESSURE, TEMPORARY GRADES, OR EQUIPMENT LOADING. HEAVY PAVING OR GRADING EQUIPMENT SHALL BE KEPT A MINIMUM OF 3 FEET BEHIND THE BACK OF THE WALL FACE. EQUIPMENT WITH WHEEL LOADS IN EXCESS OF 150 PSF LIVE LOAD SHALL NOT BE OPERATED WITHIN 10 FEET OF THE FACE OF THE RETAINING WALL DURING CONSTRUCTION ADJACENT TO THE WALL. CARE SHOULD BE TAKEN BY THE GENERAL CONTRACTOR TO ENSURE WATER RUNOFF IS DIRECTED AWAY FROM THE WALL STRUCTURE UNTIL FINAL GRADING AND SURFACE DRAINAGE COLLECTION SYSTEMS ARE COMPLETED.



**GENERAL CAPITAL GROUP**  
6938 N. Santa Monica Blvd,  
Fox Point, WI 53217  
Phone: 414-228-3500

**JOSEPH PROPERTY DEVELOPMENT**  
117 N. Jefferson ST. #200  
Milwaukee, WI 53202  
Phone: 414-988-7885

**AG ARCHITECTURE**  
1414 Underwood Ave. #301  
Wauwatosa, WI 53213  
Phone: 414-4313131

**E. ST. PAUL AVENUE  
WAUKESHA, WISCONSIN**

**SPECIFICATIONS**

NO. REVISION    DATE BY

DRAWING NO.    19754 SPECIFICATIONS.DWG

DRAWN BY:        JRG

DATE:              10-06-2021

PROJECT NO:      19754

CHECKED BY:     TPM

APPROVED BY:    CTC

SHEET NO.:

**C501**









**GENERAL CAPITAL GROUP**  
 6938 N. Santa Monica Blvd,  
 Fox Point, WI 53217  
 Phone: 414-228-3500

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 117 N. Jefferson ST. #200  
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 Phone: 414-988-7885

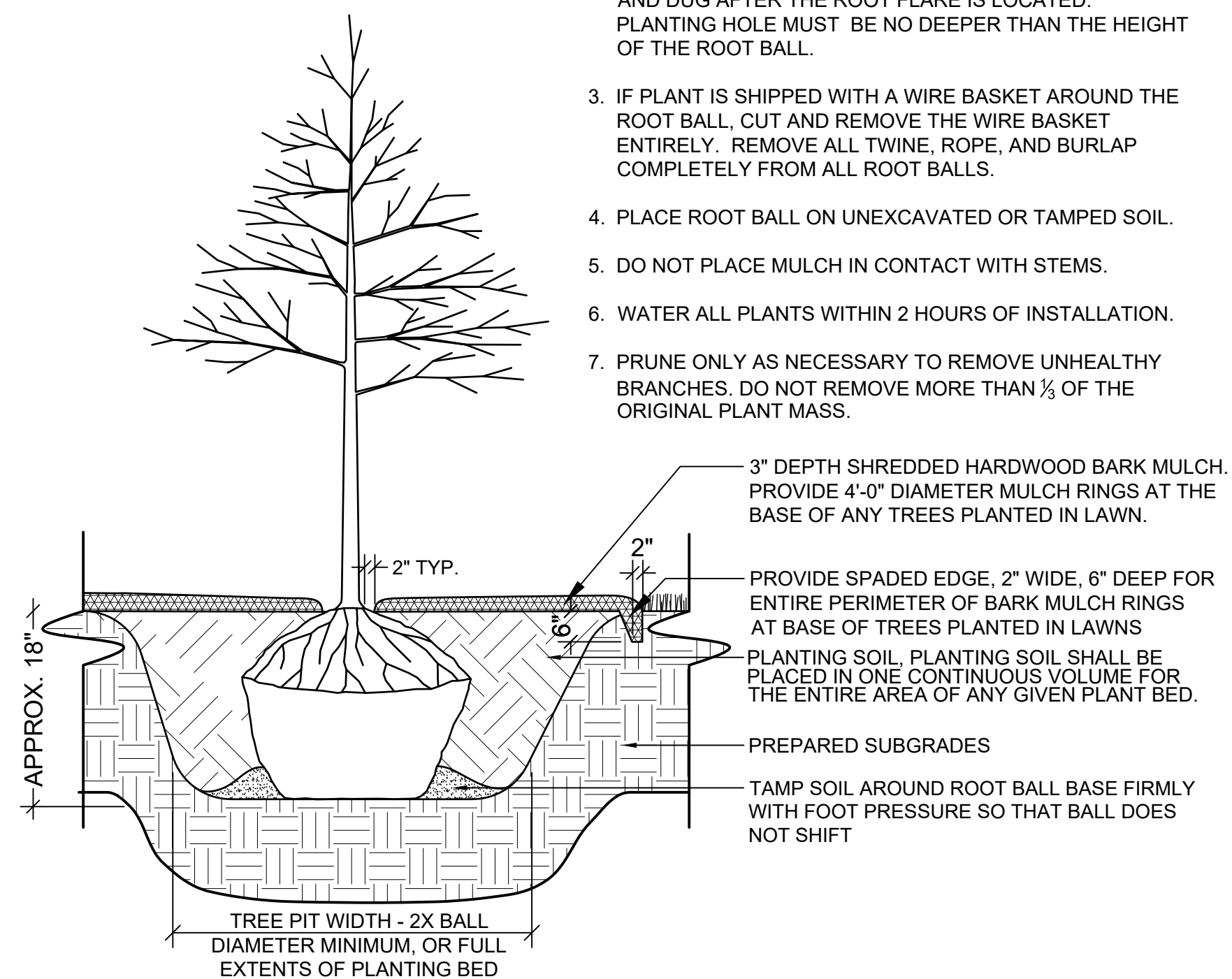
**AG ARCHITECTURE**  
 1414 Underwood Ave. #301  
 Wauwatosa, WI 53213  
 Phone: 414-4313131

**E. ST. PAUL AVENUE  
 WAUKESHA, WISCONSIN**

**LANDSCAPE DETAILS**

**NOTES:**

1. PLANT EACH TREE SUCH THAT THE ROOT FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL.
2. DEPTH OF THE PLANTING HOLE SHOULD BE DETERMINED AND DUG AFTER THE ROOT FLARE IS LOCATED. PLANTING HOLE MUST BE NO DEEPER THAN THE HEIGHT OF THE ROOT BALL.
3. IF PLANT IS SHIPPED WITH A WIRE BASKET AROUND THE ROOT BALL, CUT AND REMOVE THE WIRE BASKET ENTIRELY. REMOVE ALL TWINE, ROPE, AND BURLAP COMPLETELY FROM ALL ROOT BALLS.
4. PLACE ROOT BALL ON UNEXCAVATED OR TAMPED SOIL.
5. DO NOT PLACE MULCH IN CONTACT WITH STEMS.
6. WATER ALL PLANTS WITHIN 2 HOURS OF INSTALLATION.
7. PRUNE ONLY AS NECESSARY TO REMOVE UNHEALTHY BRANCHES. DO NOT REMOVE MORE THAN 1/2 OF THE ORIGINAL PLANT MASS.

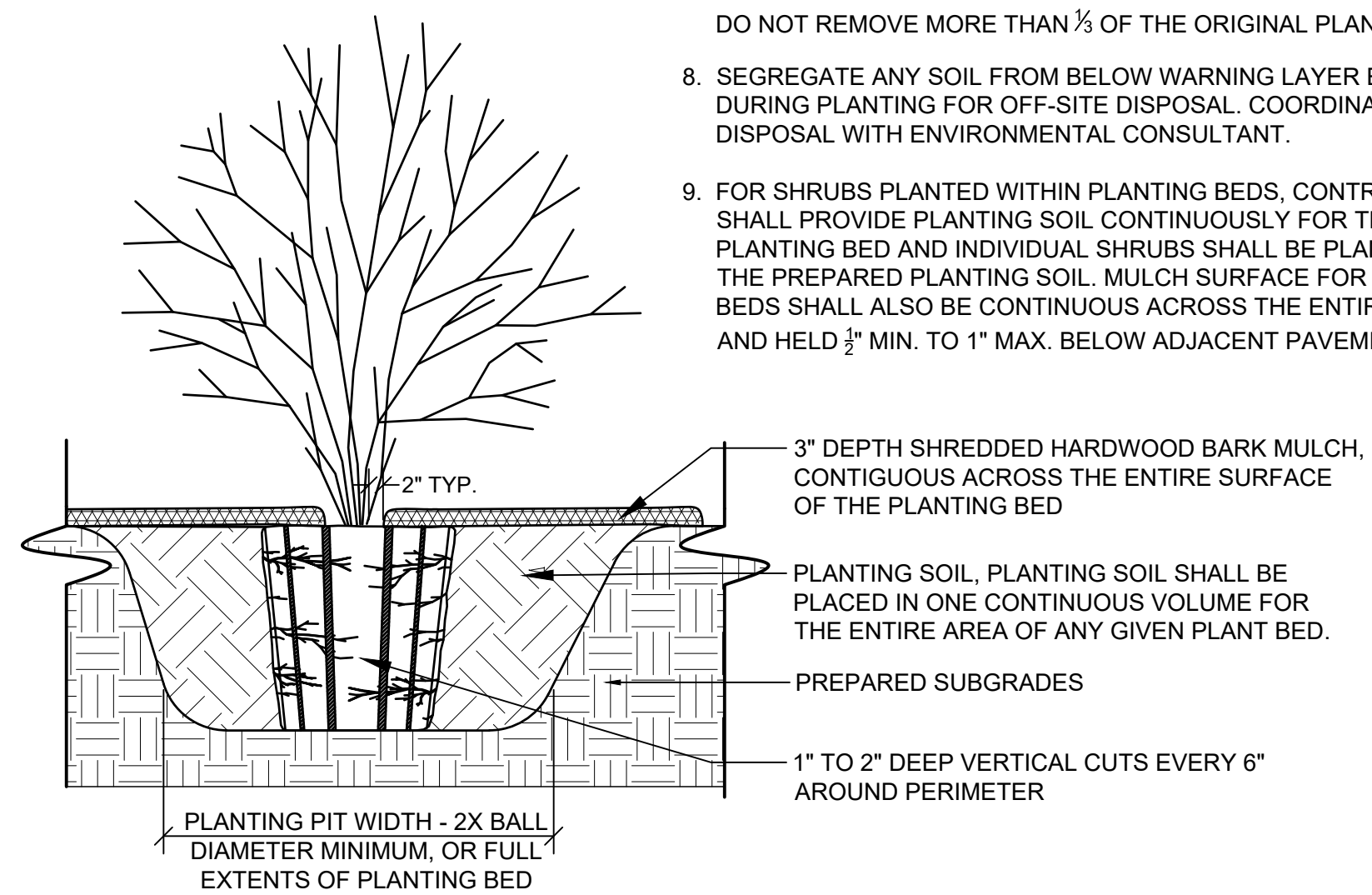


**1 TYPICAL TREE PLANTING**

NOT TO SCALE

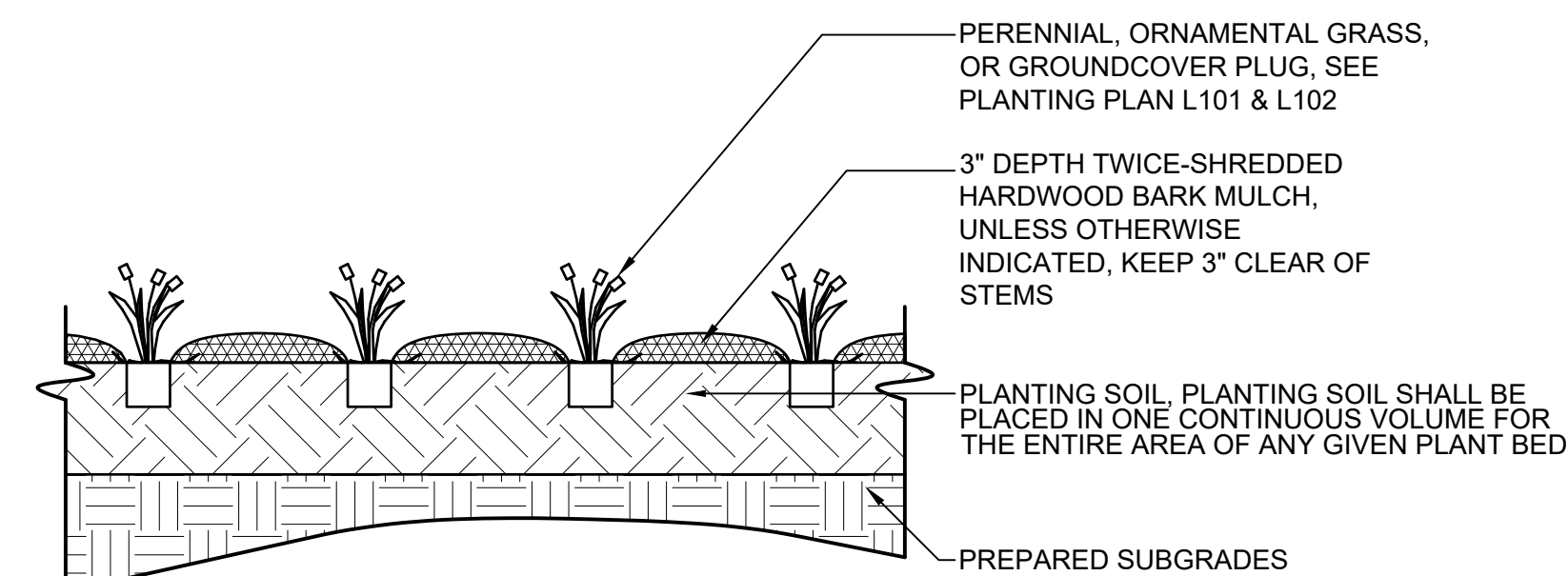
**NOTES:**

1. MAKE 1" TO 2" DEEP VERTICAL CUTS EVERY 6" AROUND THE CIRCUMFERENCE OF THE ROOT BALL BEFORE PLANTING TO LOOSEN POT-BOUND ROOTS.
2. PLANT EACH SHRUB SUCH THAT THE ROOT FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL.
3. PLANTING HOLE MUST NOT BE DEEPER THAN THE HEIGHT OF THE ROOT BALL.
4. DO NOT PLACE MULCH IN CONTACT WITH STEMS.
5. PLACE ROOT BALL ON UNEXCAVATED OR TAMPED SOIL.
6. WATER ALL PLANTS WITHIN 2 HOURS OF INSTALLATION.
7. PRUNE ONLY AS NECESSARY TO REMOVE UNHEALTHY BRANCHES. DO NOT REMOVE MORE THAN 1/2 OF THE ORIGINAL PLANT MASS.
8. SEGREGATE ANY SOIL FROM BELOW WARNING LAYER EXCAVATED DURING PLANTING FOR OFF-SITE DISPOSAL. COORDINATE DISPOSAL WITH ENVIRONMENTAL CONSULTANT.
9. FOR SHRUBS PLANTED WITHIN PLANTING BEDS, CONTRACTOR SHALL PROVIDE PLANTING SOIL CONTINUOUSLY FOR THE ENTIRE PLANTING BED AND INDIVIDUAL SHRUBS SHALL BE PLANTED INTO THE PREPARED PLANTING SOIL. MULCH SURFACE FOR PLANTING BEDS SHALL ALSO BE CONTINUOUS ACROSS THE ENTIRE SURFACE AND HELD 1/2" MIN. TO 1" MAX. BELOW ADJACENT PAVEMENTS.



**2 TYPICAL SHRUB PLANTING**

NOT TO SCALE



**3 TYPICAL PERENNIAL PLANTING**

NOT TO SCALE

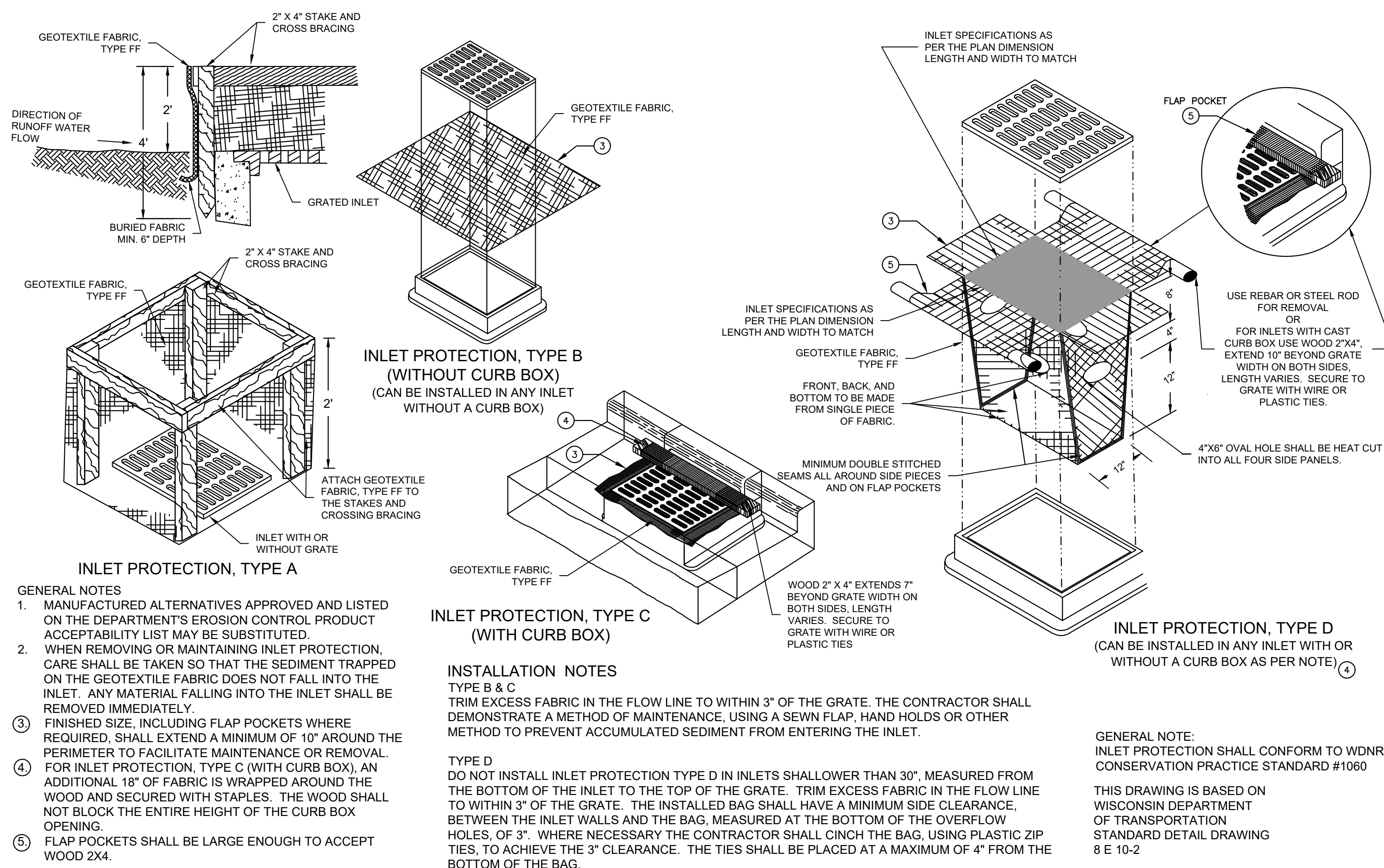
NO. REVISION DATE BY

DRAWING NO.  
 DRAWN BY: JCT  
 DATE: 10-06-2021  
 PROJECT NO: 19754  
 CHECKED BY: TPM  
 APPROVED BY: CTC  
 SHEET NO.:

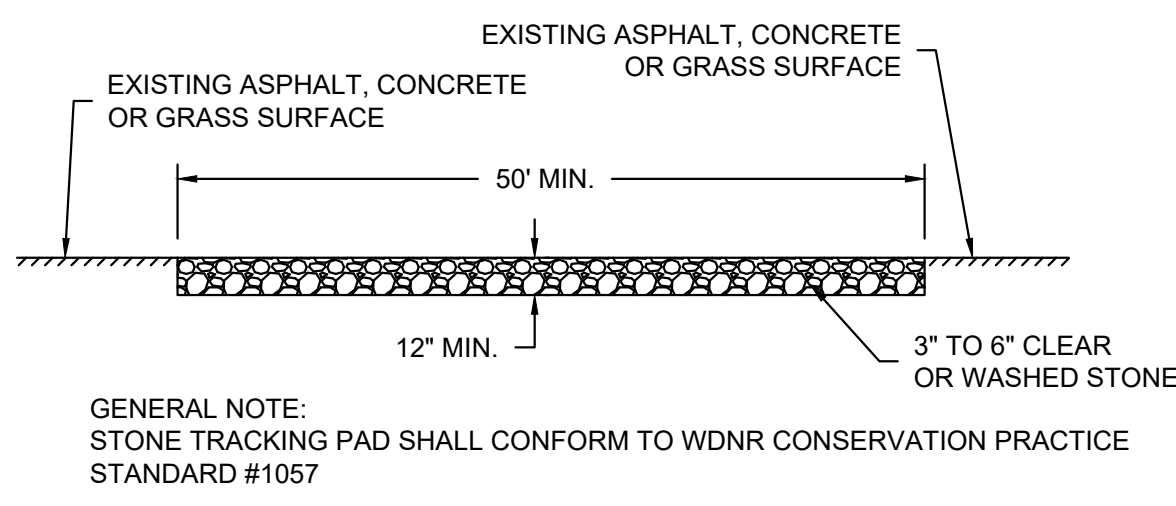
**L200**



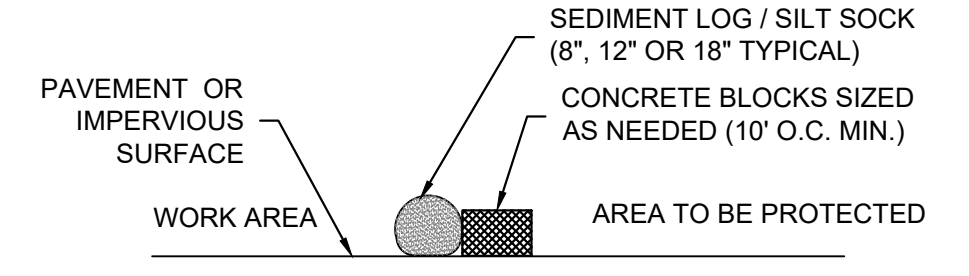




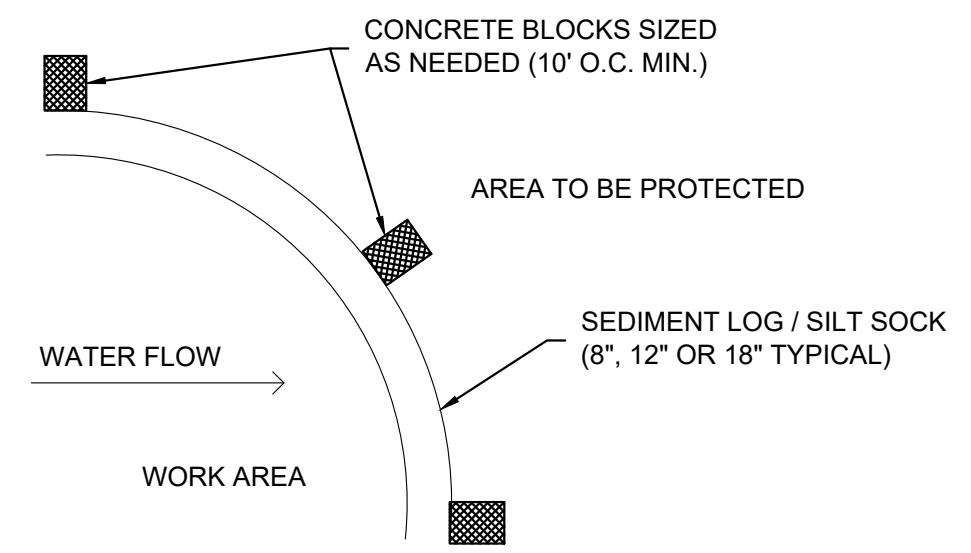
**A** INLET PROTECTION TYPE A, B, C, AND D: WDNR TS-1060  
 NOT TO SCALE



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



**SECTION** NTS



**PLAN**

**C** SEDIMENT LOG / SILT SOCK ON PAVEMENT DETAIL  
 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.

NO. REVISION	DATE BY
DRAWING NO.	19754 DETAILS ROADWAY.DWG
DRAWN BY:	JRG
DATE:	10-06-2021
PROJECT NO:	19754
CHECKED BY:	TPM
APPROVED BY:	CTC
SHEET NO.:	

GENERAL CAPITAL GROUP  
 6938 N. Santa Monica Blvd,  
 Fox Point, WI 53217  
 Phone: 414-228-3500

JOSEPH PROPERTY  
 DEVELOPMENT  
 117 N. Jefferson ST. #200  
 Milwaukee, WI 53202  
 Phone: 414-988-7885

AG ARCHITECTURE  
 1414 Underwood Ave. #301  
 Wauwatosa, WI 53213  
 Phone: 414-4313131

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 WAUKESHA, WISCONSIN

ROADWAY DETAILS

NO. REVISION DATE BY

DRAWING NO. 19754 DETAILS ROADWAY.DWG

DRAWN BY: ##

DATE: #####

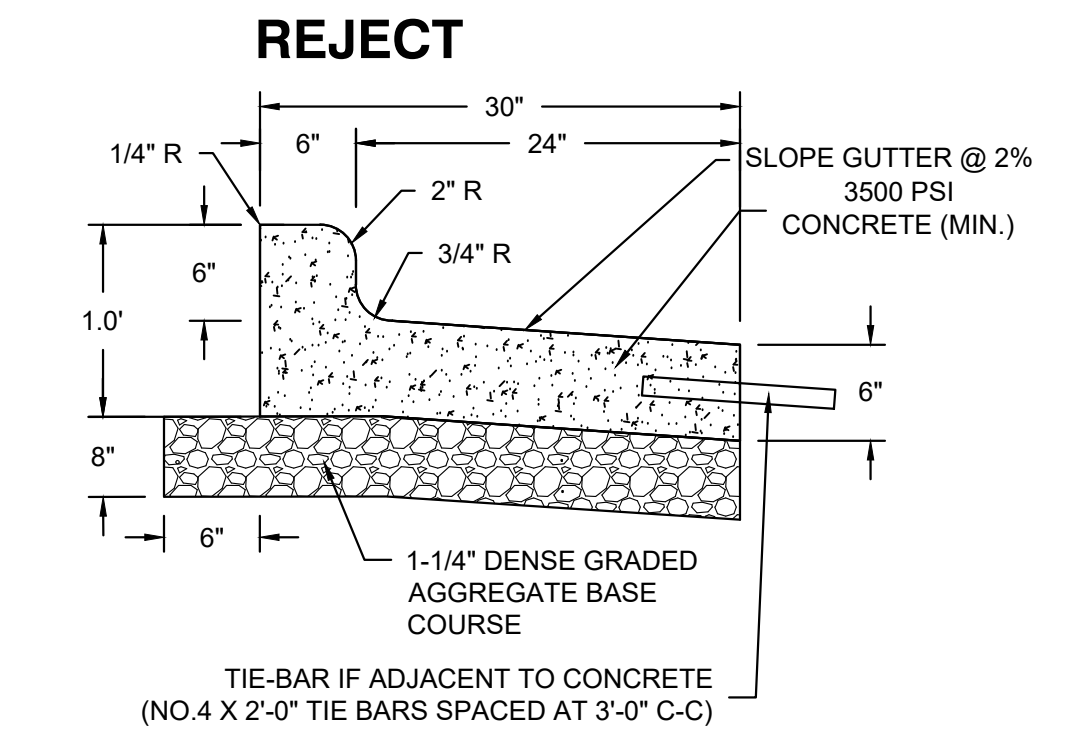
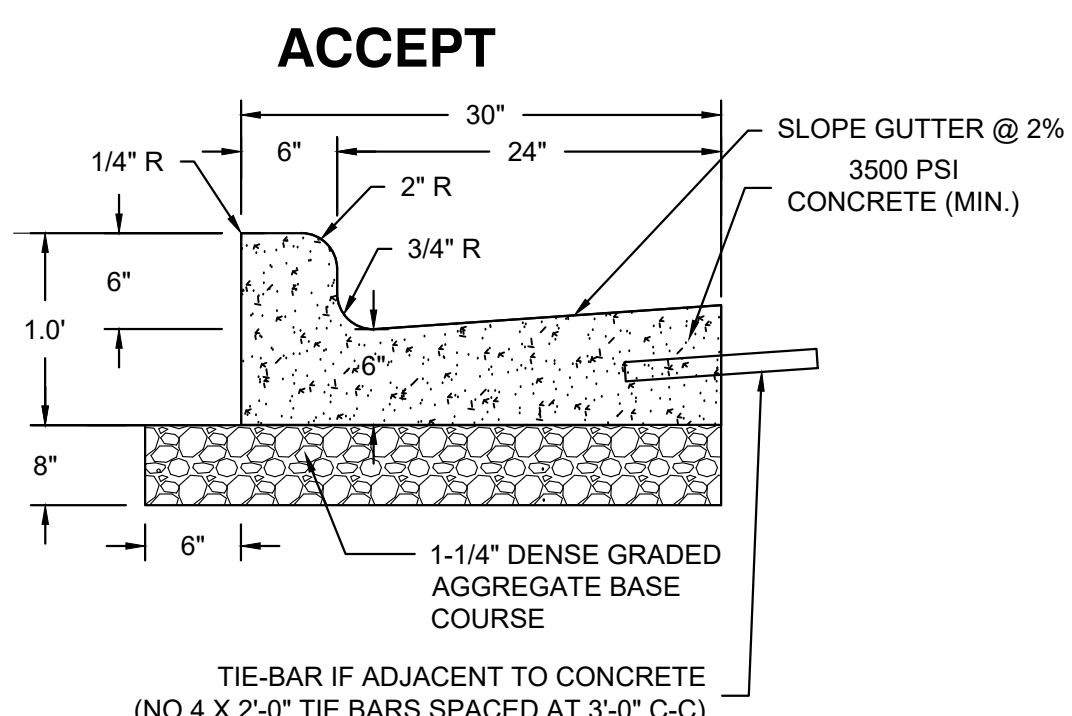
PROJECT NO: 19754

CHECKED BY: ##

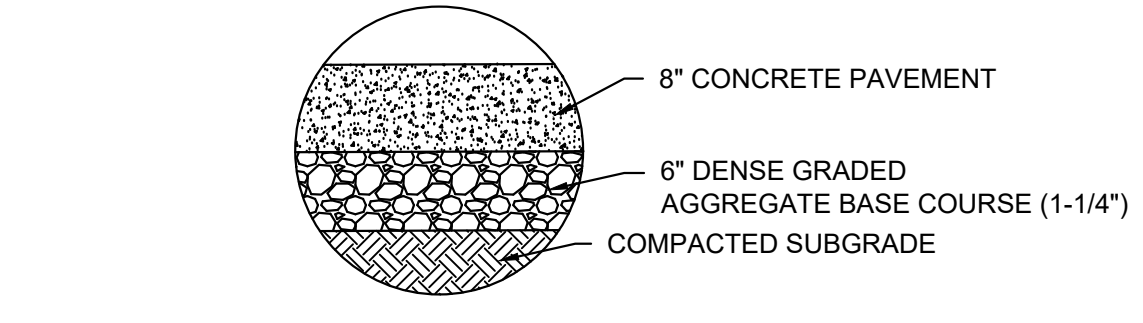
APPROVED BY: ###

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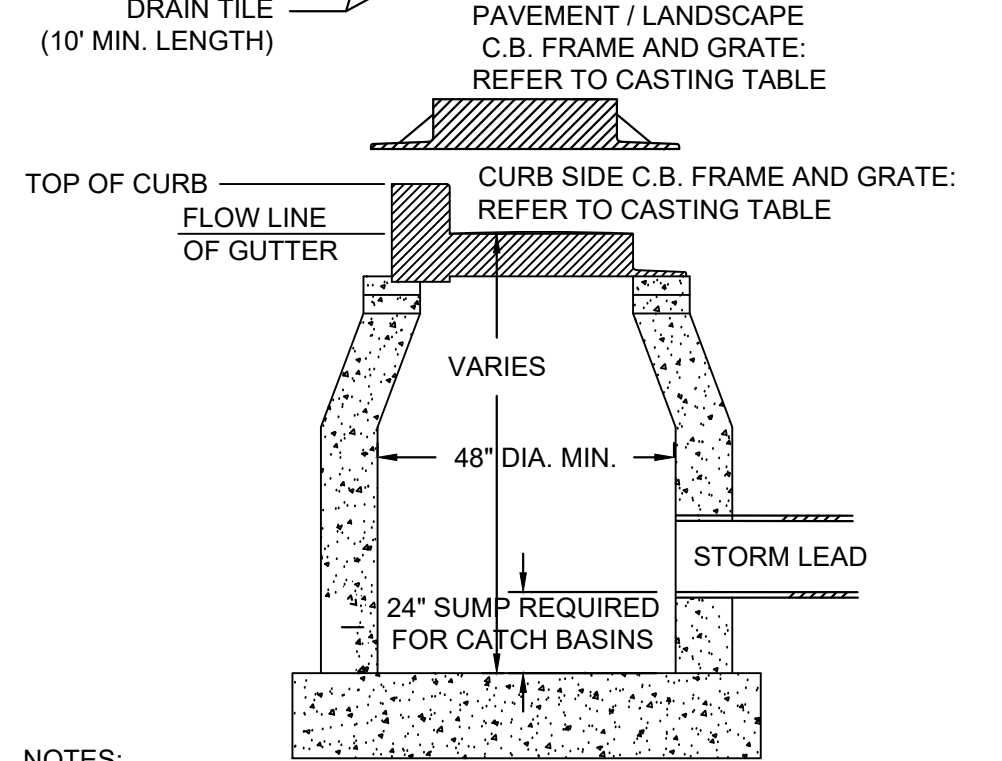
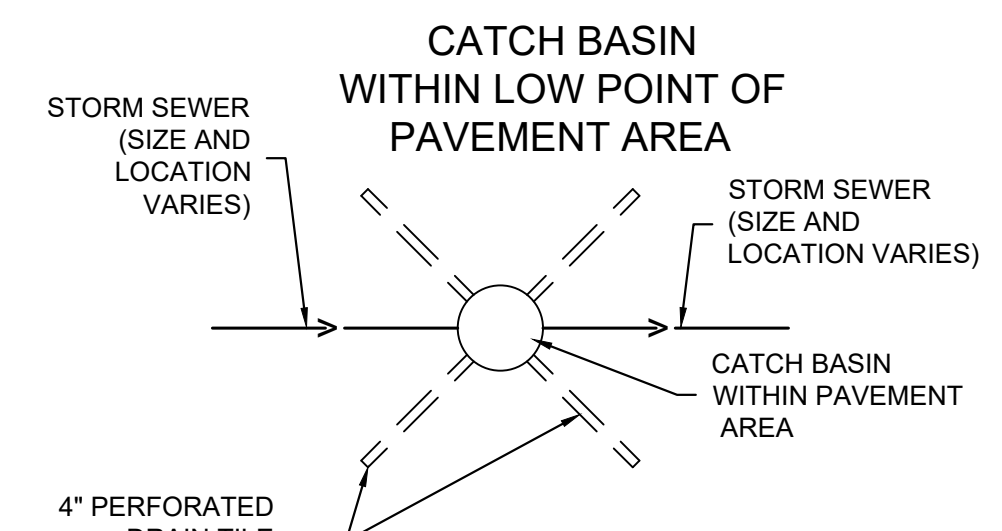
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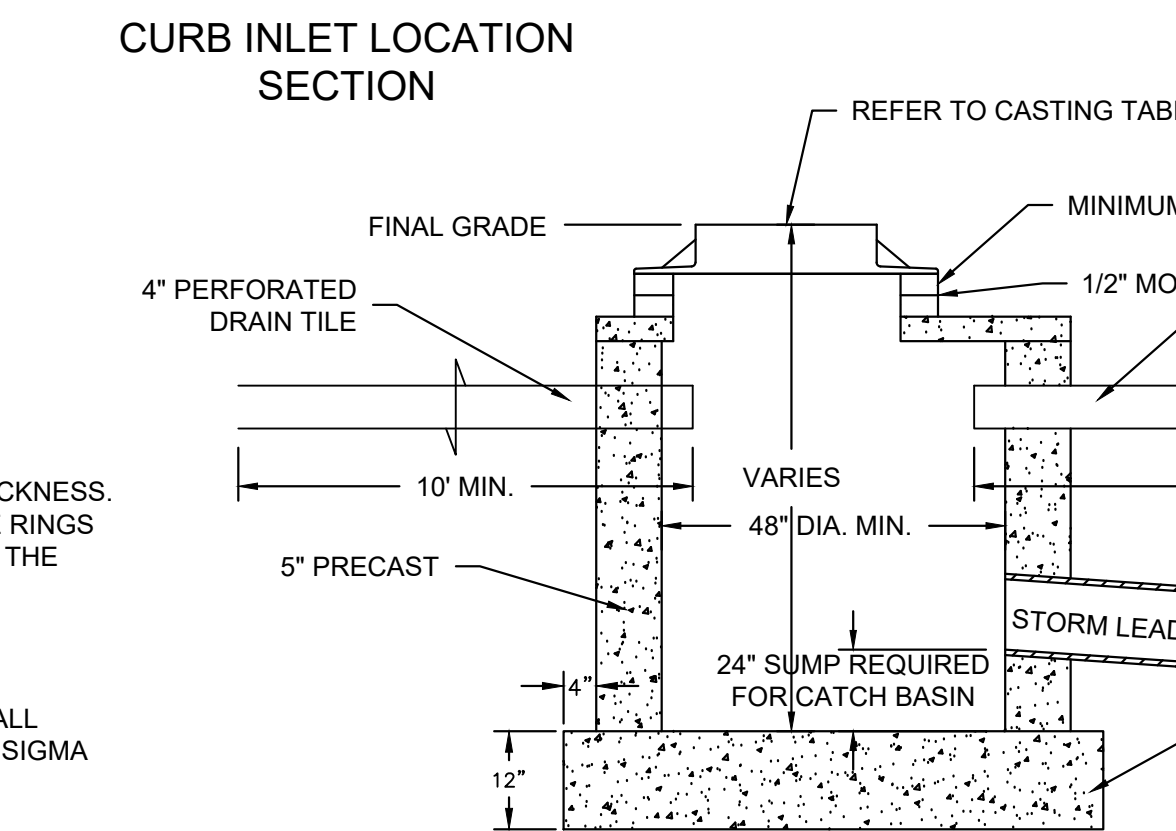
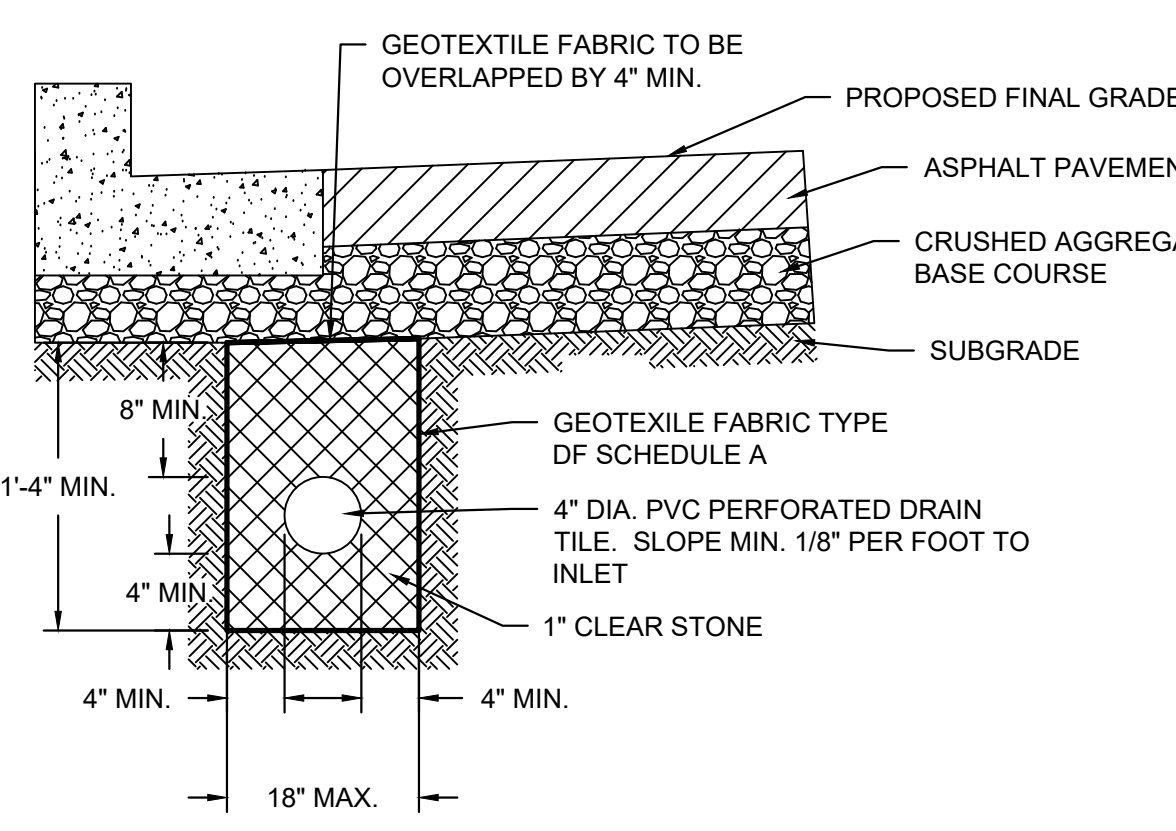
**B CONCRETE SIDEWALK SECTION**  
 NOT TO SCALE



**D CONCRETE PAVEMENT SECTION**  
 NOT TO SCALE



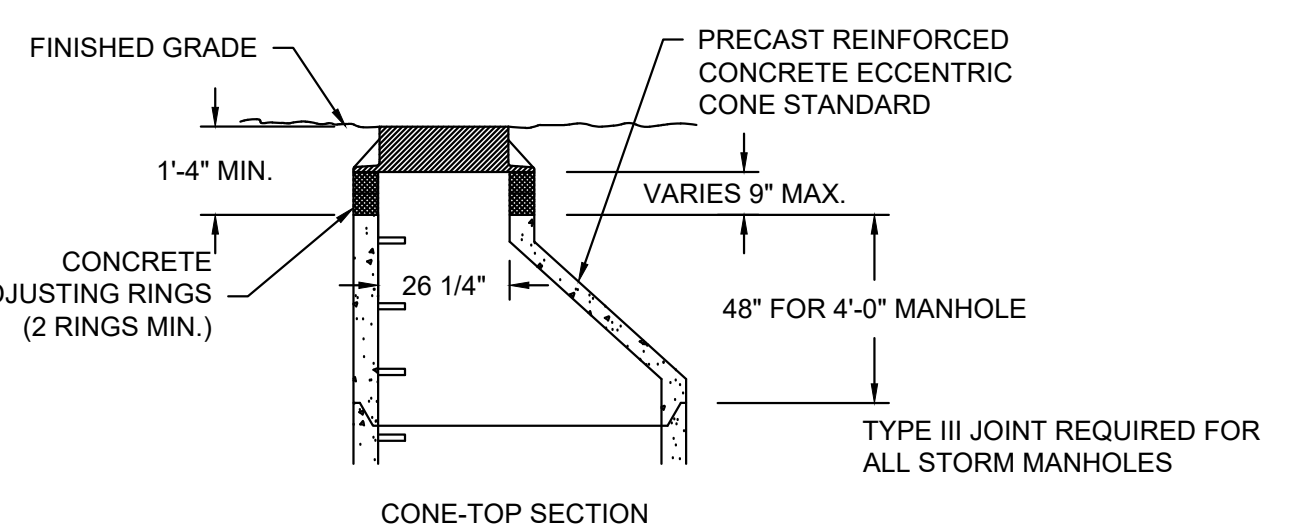
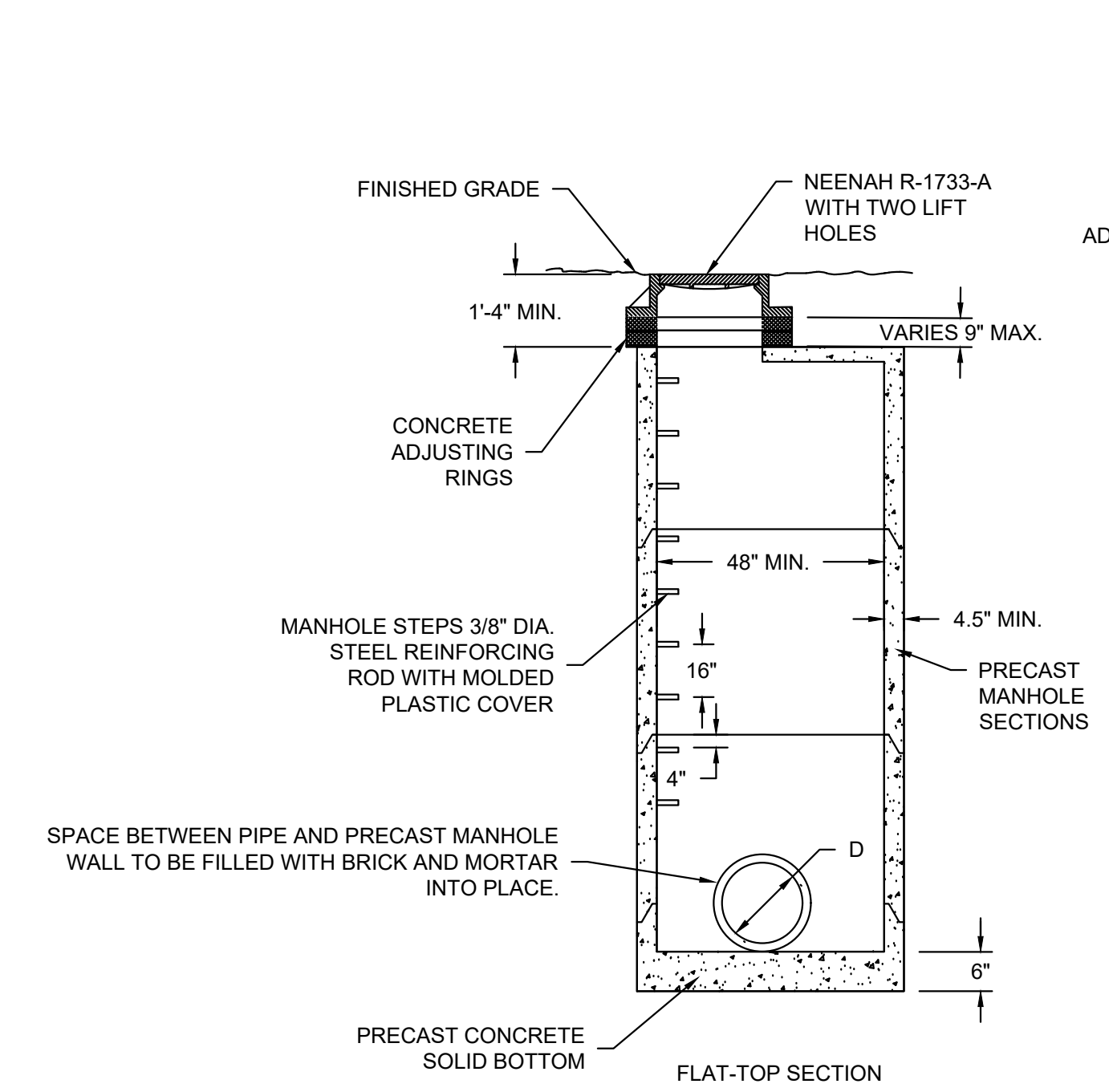
NOTES:  
 1. ADJUST FRAME TO GRADE WITH CONCRETE RINGS OF VARIABLE THICKNESS. MAXIMUM RING HEIGHT = 6\"/>



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

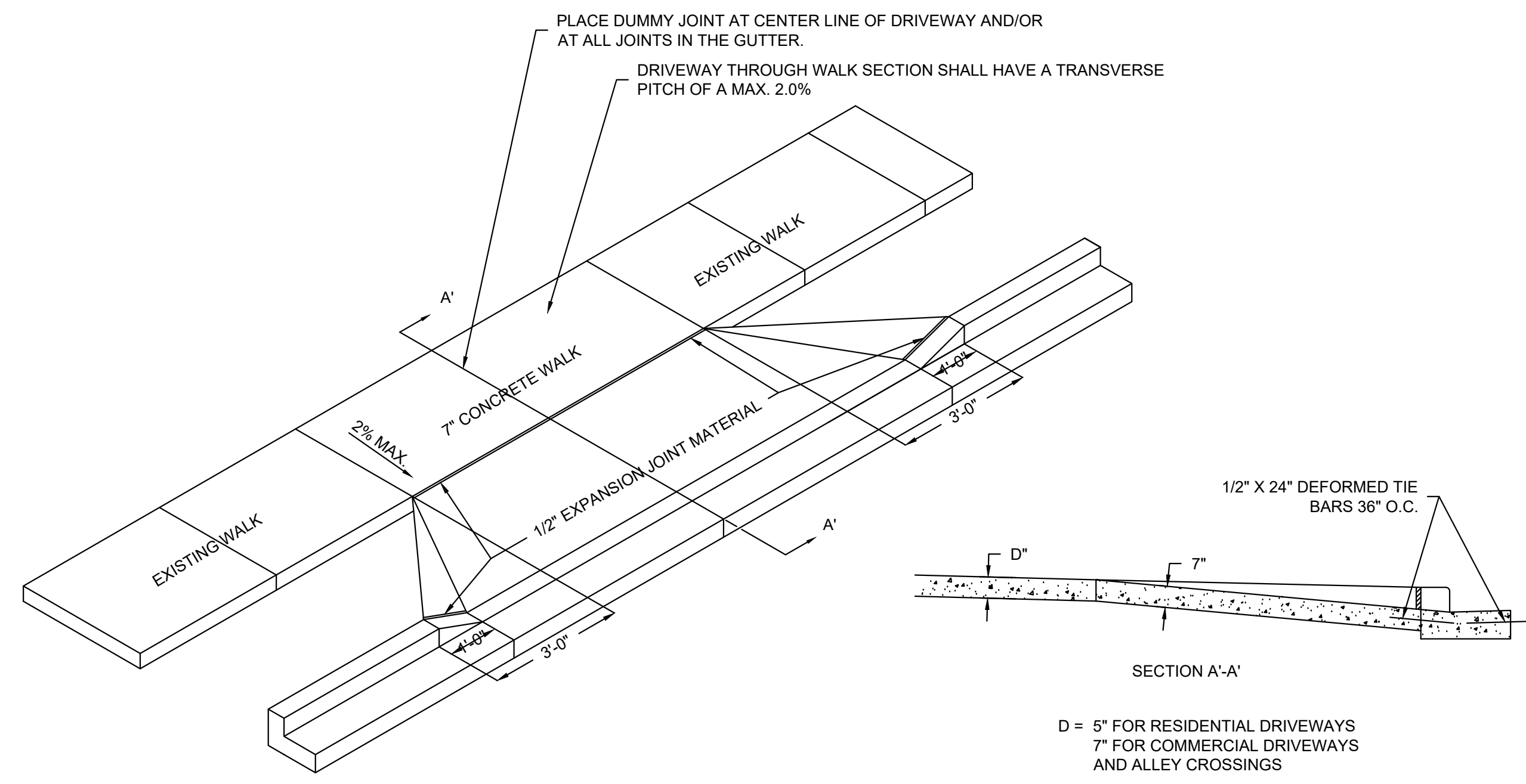
**E INLET AND CATCH BASIN**  
 NOT TO SCALE

**A 30\"/>
 NOT TO SCALE**



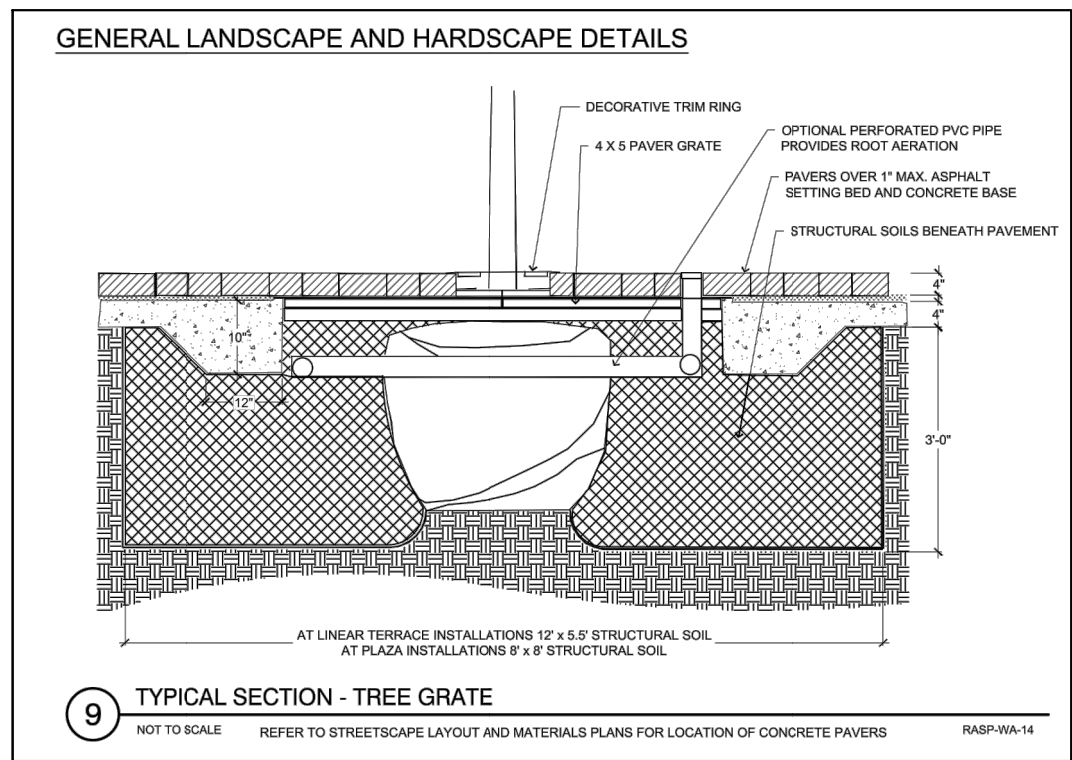
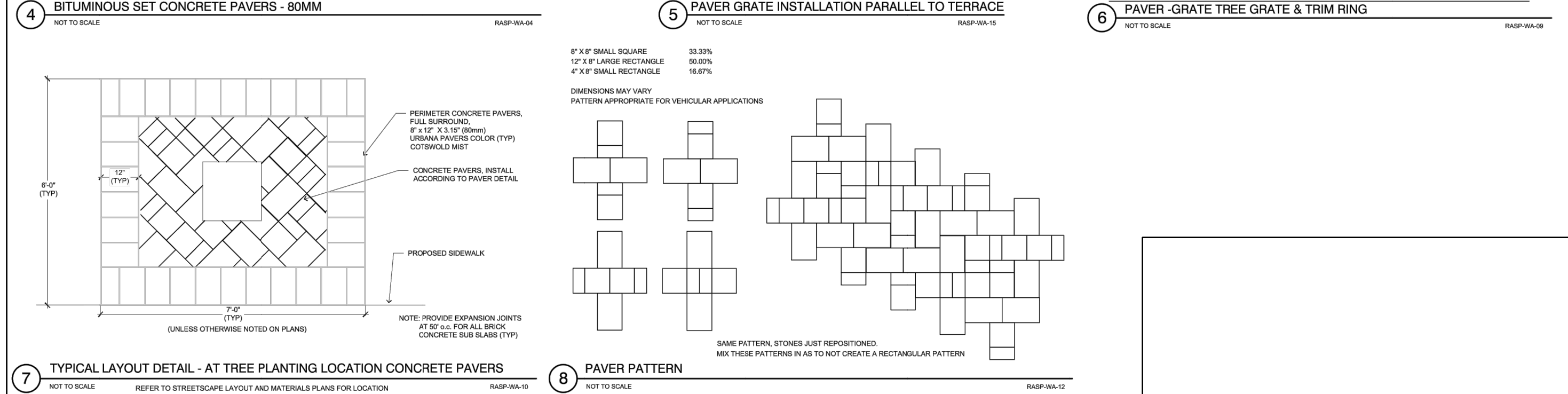
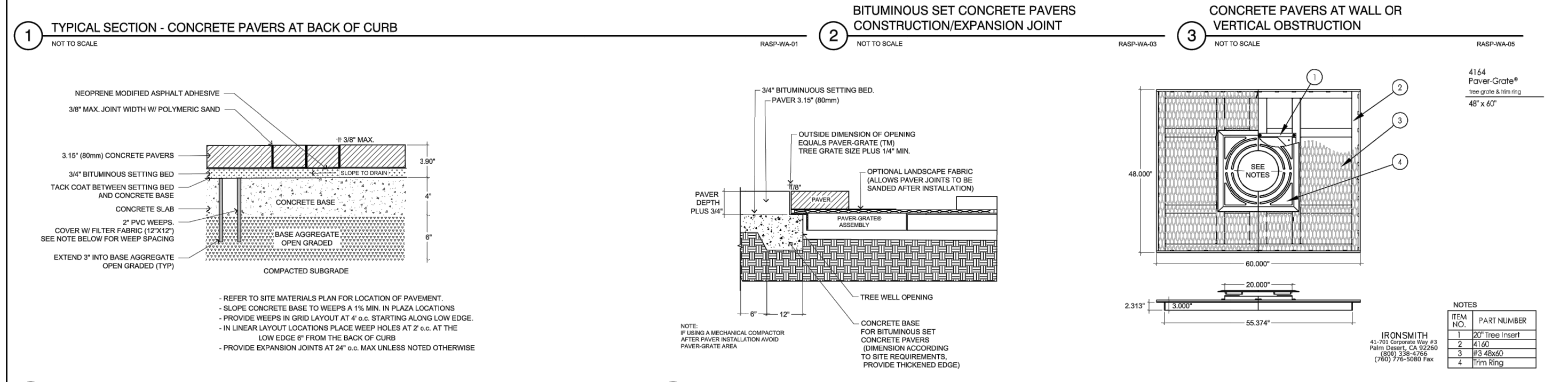
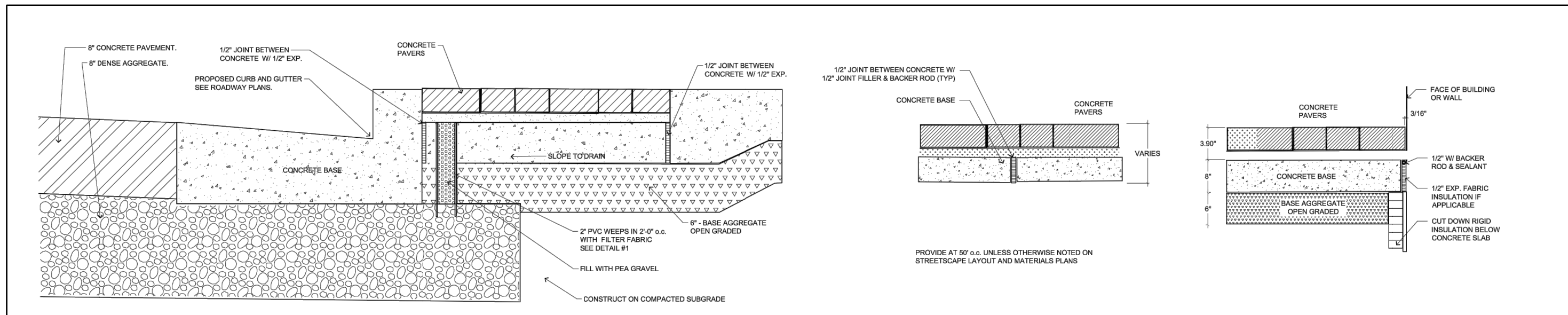
NOTES:  
 1. CONSTRUCT MANHOLE IN ACCORDANCE WITH FILE NO. 12 OF THE STATE STANDARD SPECIFICATIONS FOR SEWER AND WATER.  
 2. ADJUST FRAME TO GRADE WITH CONCRETE RINGS OF VARIABLE THICKNESS. MAXIMUM RING HEIGHT = 6\"/>

**F PRECAST STORM MANHOLE**  
 NOT TO SCALE



NOTES:  
 1. IF LOCAL JURISDICTION HAS A TYPICAL DRIVEWAY DETAIL THAT DIFFERS FROM STANDARD DETAIL, LOCAL JURISDICTION SHALL OVERRIDE STANDARD DETAIL

**G CONCRETE DRIVEWAY (WITH CONCRETE WALK)**  
 NOT TO SCALE



- CONTRACTOR RESPONSIBLE FOR CONTACTING PUBLIC AND PRIVATE UNDERGROUND UTILITY LOCATING SERVICE TO HAVE SITE MARKED PRIOR TO ANY DIGGING OR EARTHWORK.
  - CONCRETE PLAZA: SOLOMON COLORS, INC. DRY PIGMENT COLOR #385 BARK
  - CONCRETE PAVERS:
- SUPPLIED BY:  
NORTHFIELD AN OLDCASTLE COMPANY  
1 HUNT COURT  
MUNDELEIN, IL 60060  
NORTHFIELDBLOCK.COM
- THE CONCRETE PAVER PRODUCTS REQUIRED INCLUDE:  
PRODUCT: BELGARD URBANA 3 PIECE  
PRODUCT TYPE: BELGARD URBANA  
PRODUCT SIZE: 4" X 8", 8" X 8", 12" X 8"  
PRODUCT THICKNESS: 80MM THICK  
PRODUCT COLOR: DANVILLE BEIGE, COTSWOLD MIST, ONTARIO BLEND  
PRODUCT FINISH: BELGARD TEXTURGARD FINISH (ADA COMPLIANT)  
PATTERN & COLOR: SEE CIVIL SPECIFICATIONS  
SEE DETAIL IN PLAN SHEET FROM THE PROPOSED PATTERN.

**SIGMA GROUP**  
Single Source. Sound Solutions.  
www.thesigmagroup.com  
1300 West Canal Street  
Milwaukee, WI 53233  
Phone: 414-643-4200  
Fax: 414-643-4210

**GENERAL CAPITAL GROUP**  
6938 N. Santa Monica Blvd,  
Fox Point, WI 53217  
Phone: 414-228-3500

**JOSEPH PROPERTY DEVELOPMENT**  
117 N. Jefferson ST. #200  
Milwaukee, WI 53202  
Phone: 414-988-7885

**AG ARCHITECTURE**  
1414 Underwood Ave. #301  
Wauwatosa, WI 53213  
Phone: 414-4313131

**E. ST. PAUL AVENUE  
WAUKESHA, WISCONSIN**

**ROADWAY DETAILS**

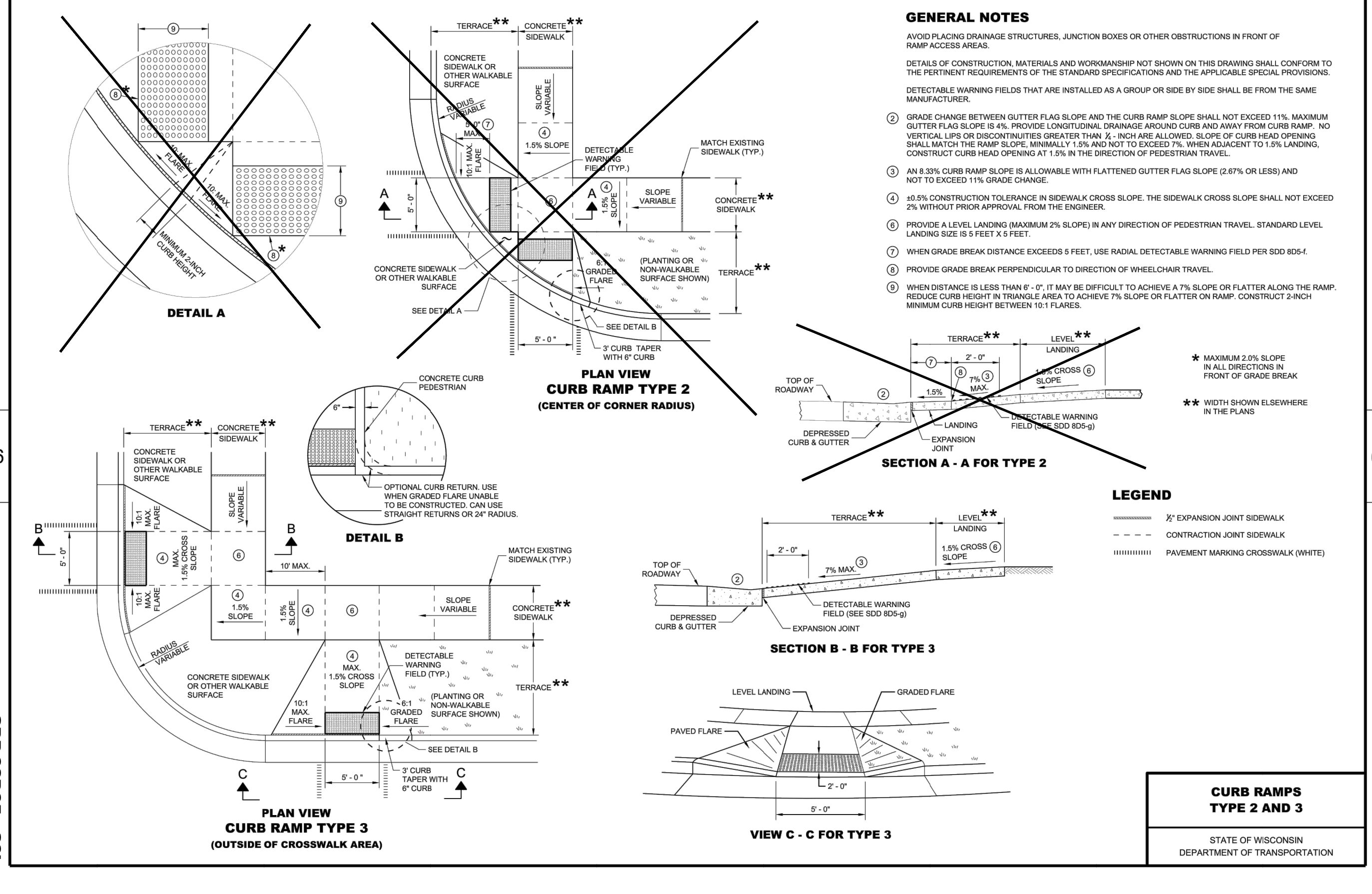
NO. REVISION	DATE BY

DRAWING NO. 19754 DETAILS ROADWAY.DWG  
DRAWN BY: ##  
DATE: #####  
PROJECT NO: 19754  
CHECKED BY: ##  
APPROVED BY: ###  
SHEET NO.:

**R302**



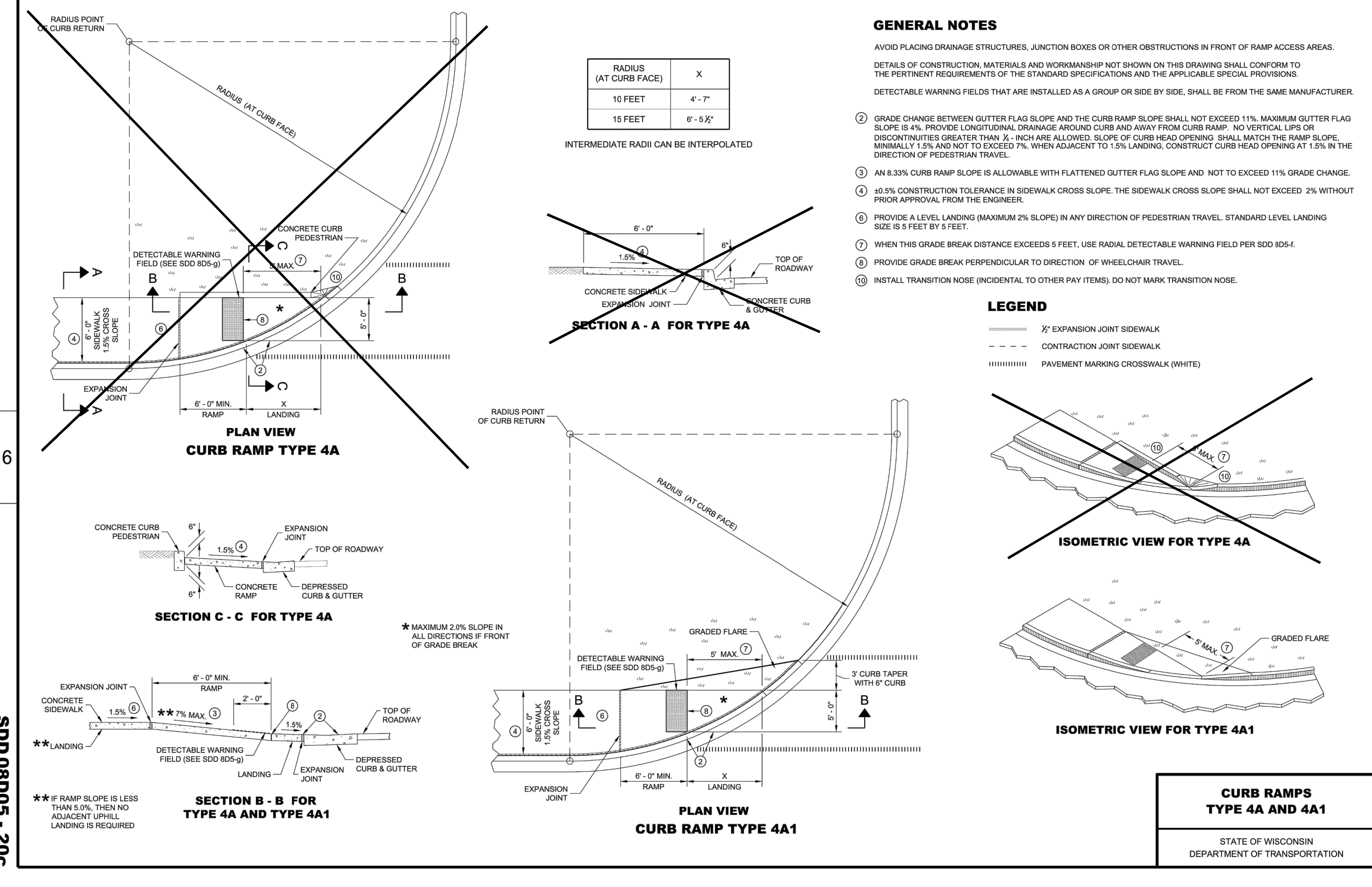
**SDD 08D05-b Curb Ramps Types 2 and 3**



SDD 08D05 - 20b

SDD 08D05 - 20b

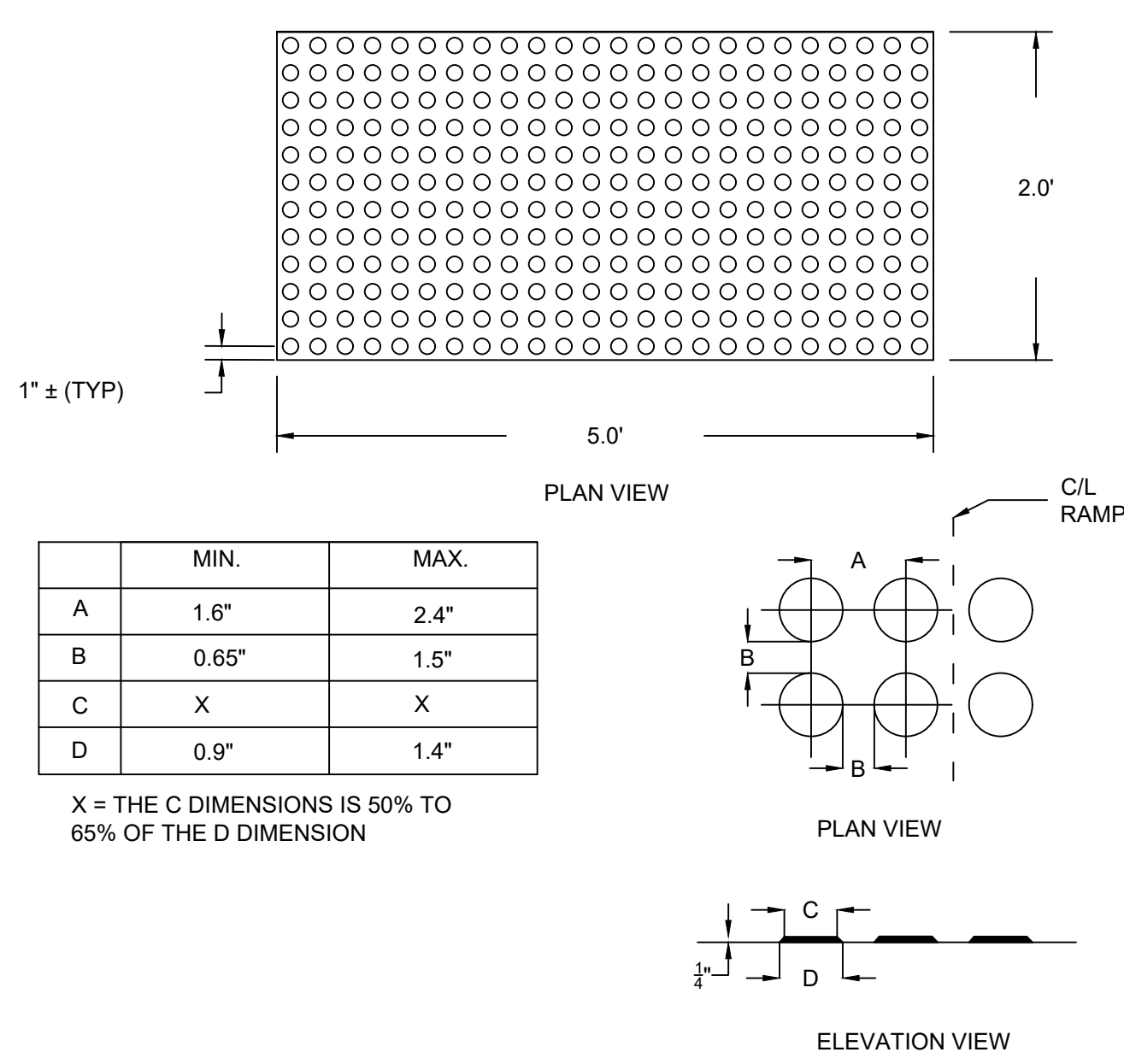
**SDD 08D05-c Curb Ramps Types 4A and 4A1**



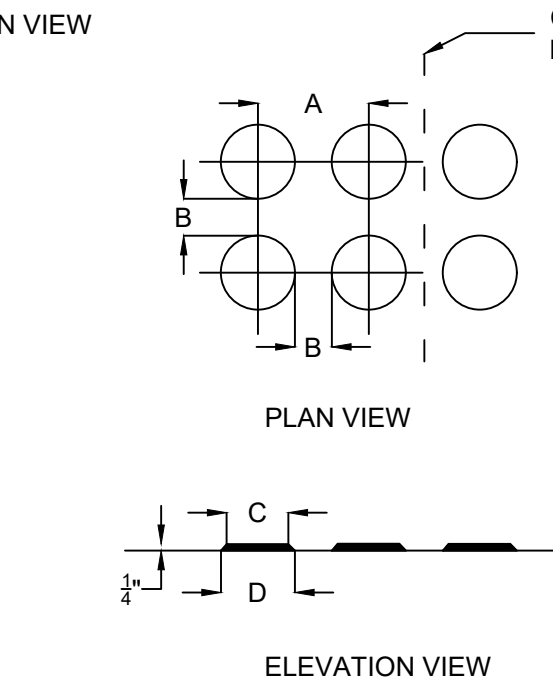
SDD 08D05 - 20c

SDD 08D05 - 20c

**A ADA RAMP DETAIL (TYPE 3)**  
NOT TO SCALE



**D DETECTABLE WARNING FIELD DETAIL**  
NOT TO SCALE



**B ADA RAMP DETAIL (TYPE 4A1)**  
NOT TO SCALE

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WAUKESHA, WISCONSIN

ROADWAY DETAILS

NO. REVISION DATE BY

DRAWING NO. 19754 DETAILS ROADWAY.DWG  
DRAWN BY: ##  
DATE: #####  
PROJECT NO: 19754  
CHECKED BY: ##  
APPROVED BY: ##  
SHEET NO.:

**R303**

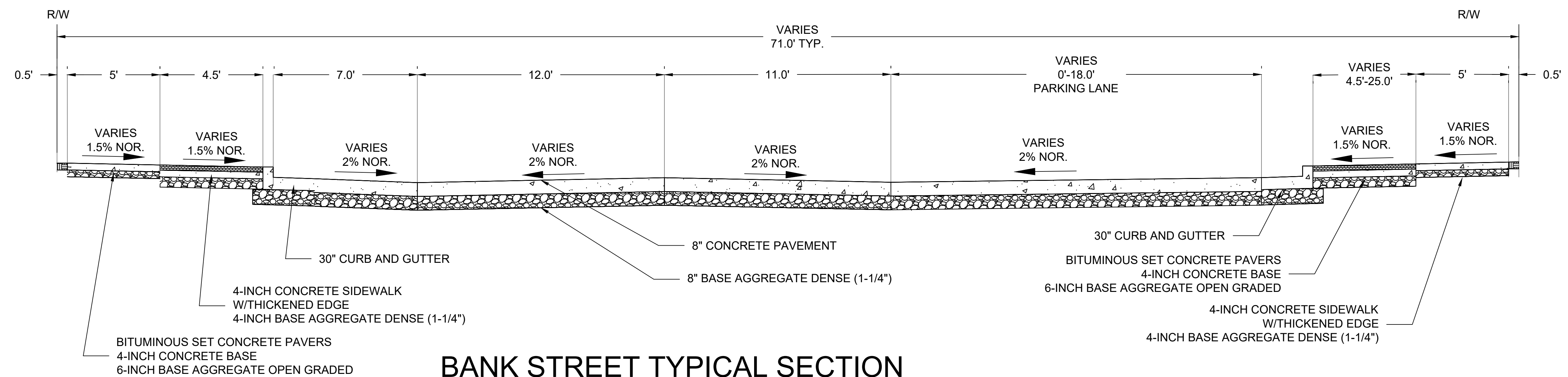
GENERAL CAPITAL GROUP  
 6938 N. Santa Monica Blvd,  
 Fox Point, WI 53217  
 Phone: 414-228-3500

JOSEPH PROPERTY DEVELOPMENT  
 117 N. Jefferson ST. #200  
 Milwaukee, WI 53202  
 Phone: 414-988-7885

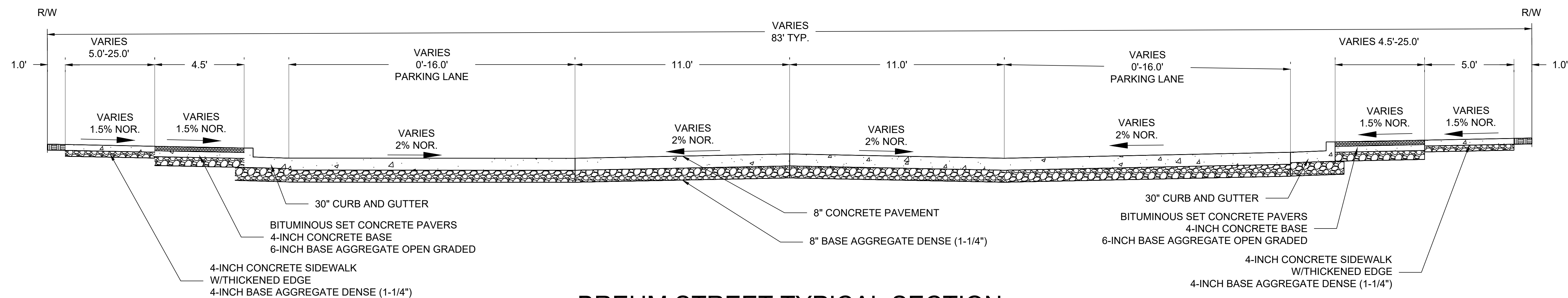
AG ARCHITECTURE  
 1414 Underwood Ave. #301  
 Wauwatosa, WI 53213  
 Phone: 414-4313131

E. ST. PAUL AVENUE  
 WAUKESHA, WISCONSIN

ROADWAY TYPICAL SECTIONS

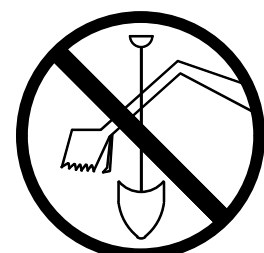


**BANK STREET TYPICAL SECTION**



**BREHM STREET TYPICAL SECTION**

TO OBTAIN LOCATIONS OF  
 PARTICIPANTS UNDERGROUND  
 UTILITIES BEFORE YOU  
 DIG IN WISCONSIN



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

WIS STATUTE 182.0175(974)  
 REQUIRES MIN. 3 WORK DAYS  
 NOTICE BEFORE YOU DIG ANYWHERE  
 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.

NO. REVISION DATE BY

DRAWING NO. 19754 ROADWAYS.DWG

DRAWN BY: JRG

DATE: 10-06-2021

PROJECT NO: 19754

CHECKED BY: TPM

APPROVED BY: CTC

SHEET NO.:

**R304**





1414 UNDERWOOD AVE.  
WAUWATOSA, WI 53213  
414.431.3131 TEL  
414.431.0531 FAX  
WWW.AGARCH.COM  
Architecture  
Engineering  
Planning

REVISIONS  
NO. DATE DESCRIPTION

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DATE  
05 OCT 2021  
PROJECT  
210401  
SHEET NO.

LIGHT FIXTURE SCHEDULE				
Label	Catalog Number	Description	Lamp Lumens	Watts
DA	NWPW041409L30ENBP	LED Outdoor LED Wall SCONCE, BOT 5'-5"	880	10
DD	XTOR6B-W-BZ-XX	CROSSTOUR 58W WALL MOUNT LED , BOT 8'	6129	58
DJ	EW3506-BK	STEP LIGHT	400	5
DR	HC615D010-HM612835-61MDCWF	6" RECESSED DOWNLIGHT	1500	15
PA3	GLEON-SA1D-735-U-SL3	GALLEON AREA AND ROADWAY LUMINAIRE (1) 70 CRI TYPE III OPOTICS WITH SPILL CONTROL 14' HIGH STRAIGHT ALUMINUM POLE WITH 2' CONCRETE BASE	8124	67
PA3HS	GLEON-SA1D-735-U-SL3-HSS	GALLEON AREA AND ROADWAY LUMINAIRE (1) 70 CRI TYPE III OPOTICS WITH SPILL CONTROL 14' HIGH STRAIGHT ALUMINUM POLE WITH 2' CONCRETE BASE	8127	67
PA4	GLEON-SA1D-735-U-SL4	GALLEON AREA AND ROADWAY LUMINAIRE (1) 70 CRI TYPE IV WIDE OPOTICS WITH HOUSE SIDE SHIELD 14' HIGH STRAIGHT ALUMINUM POLE WITH 2' CONCRETE BASE	7719	67
PA4HS	GLEON-SA1D-735-U-SL4-HSS	GALLEON AREA AND ROADWAY LUMINAIRE (1) 70 CRI TYPE IV WIDE OPOTICS WITH HOUSE SIDE SHIELD 14' HIGH STRAIGHT ALUMINUM POLE WITH 2' CONCRETE BASE	7719	67
PC3	PWY-EDG-3M-P4-02-E-UL-xx-350-4 OK	42" TALL BOLLARD, TYPE III OPTICS	1389	22
PD3	PWY-EDG-3M-P1-02-E-UL-xx-350-4 OK	18" TALL BOLLARD, TYPE III OPTICS	1389	22

**Statistics:**

**Overall**  
Average 1.0 fc  
Maximum 49.2 fc  
Minimum 0.0 fc  
Max/Min N/A  
Average/Min N/A

**Courtyard & Walkways**  
Average 2.6 fc  
Maximum 49.2 fc  
Minimum 0.0 fc  
Max/Min N/A  
Average/Min N/A

**East Walkway**  
Average 1.4 fc  
Maximum 13.5 fc  
Minimum 0.0 fc  
Max/Min N/A  
Average/Min N/A

**Parking and Drive**  
Average 1.5 fc  
Maximum 12.9 fc  
Minimum 0.0 fc  
Max/Min N/A  
Average/Min N/A

**Patio**  
Average 1.7 fc  
Maximum 6.3 fc  
Minimum 0.1 fc  
Max/Min 63.0:1  
Average/Min 17.0:1

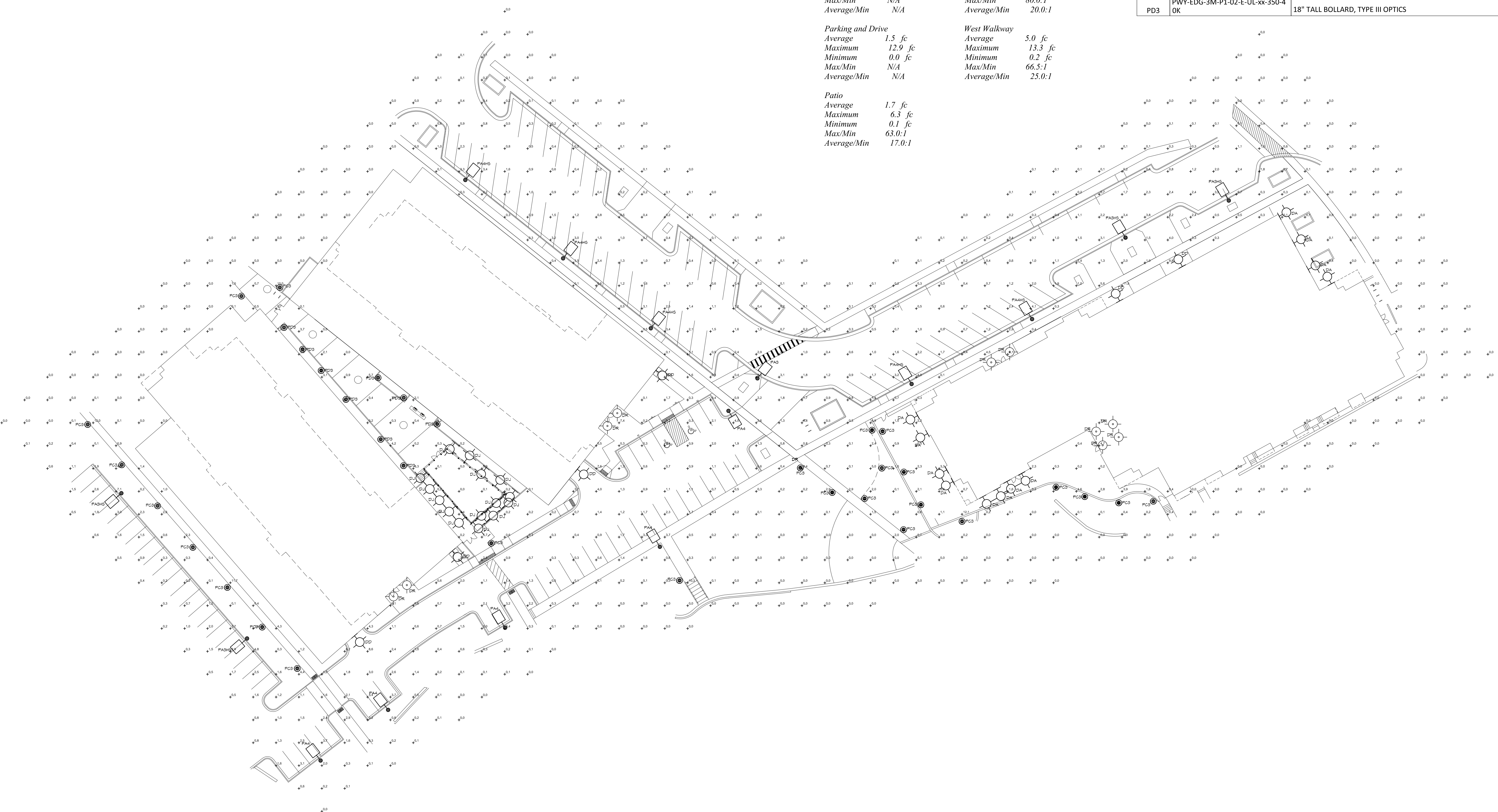
**Statistics:**

**Residential Patio**  
Average 2.9 fc  
Maximum 9.6 fc  
Minimum 0.1 fc  
Max/Min 96.0:1  
Average/Min 29.0:1

**South Walkway**  
Average 2.2 fc  
Maximum 12.5 fc  
Minimum 0.1 fc  
Max/Min 125.0:1  
Average/Min 22.0:1

**West Parking**  
Average 2.0 fc  
Maximum 8.0 fc  
Minimum 0.1 fc  
Max/Min 80.0:1  
Average/Min 20.0:1

**West Walkway**  
Average 5.0 fc  
Maximum 13.3 fc  
Minimum 0.2 fc  
Max/Min 66.5:1  
Average/Min 25.0:1



1" = 30' - 0" SITE ELECTRICAL PLAN EG221