

**GENERAL NOTES**

- THE LATEST EDITIONS OF THE FOLLOWING DOCUMENTS AND ANY SUPPLEMENTS THERETO, SHALL GOVERN ALL CONSTRUCTION ITEMS ON THIS PLAN UNLESS OTHERWISE NOTED.
  - STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, 6TH EDITION (SSWCW)
  - THE WISCONSIN D.O.T. STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
  - WDNR STORMWATER RUNOFF TECHNICAL STANDARDS.
  - WISDOT PAL APPROVED EROSION CONTROL MEASURES LIST, LATEST EDITION.
  - CITY OF WAUKESHA DEVELOPMENT STANDARDS, LATEST EDITION.
- THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO MINIMIZE EROSION, WATER POLLUTION AND SILTATION CAUSED BY CONSTRUCTION OF THIS PROJECT. EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS.
- EROSION CONTROL PLAN: PRIOR TO BEGINNING WORK, AN APPROVED EROSION CONTROL PLAN WILL BE PROVIDED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY IMPLEMENTING THE APPROVED PLAN.
- THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATIONS OF THE BENCHMARKS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL ALSO FIELD VERIFY LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES, AND VERIFY FLOOR, CURB OR PAVEMENT ELEVATIONS WHERE MATCHING INTO EXISTING WORK. THE CONTRACTOR SHALL FIELD VERIFY HORIZONTAL CONTROL BY REFERENCING SHOWN COORDINATES TO KNOWN PROPERTY LINES. NOTIFY ENGINEER OF DISCREPANCIES IN EITHER VERTICAL OR HORIZONTAL CONTROL PRIOR TO PROCEEDING WITH WORK.
- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION (CALL DIGGERS HOTLINE AT 800-242-8511). COST OF REPLACEMENT OR REPAIR OF EXISTING UTILITIES DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE THE CONTRACTOR'S RESPONSIBILITY
- EXISTING UTILITY INFORMATION IS SHOWN FROM SURVEY WORK, FIELD OBSERVATIONS, AVAILABLE PUBLIC RECORDS, AND AS-BUILT DRAWINGS. EXACT LOCATIONS AND ELEVATIONS OF UTILITIES SHALL BE DETERMINED PRIOR TO INSTALLING NEW WORK. EXCAVATE TEST PITS AS REQUIRED.
- PROPERTY CORNERS SHALL BE CAREFULLY PROTECTED UNTIL THEY HAVE BEEN REFERENCED BY A PROFESSIONAL LAND SURVEYOR. PROPERTY MONUMENTS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- ENGINEER SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF PERFORMING ANY CONSTRUCTION.
- ALL TRENCHING SHALL BE PERFORMED ACCORDING TO OSHA STANDARDS.
- ALL ITEMS SHALL INCLUDE ALL THE NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.
- THE CONTRACTOR SHALL CLEAN ALL ADJACENT STREETS OF ANY SEDIMENT OR DEBRIS BY SWEEPING BEFORE THE END OF THE WORKING DAY.

# STILLWATER VILLAS

## SITE DEVELOPMENT PLANS

CITY OF WAUKESHA, WISCONSIN



12660 W. NORTH AVE, BLDG D  
BROOKFIELD, WI 53005  
PHONE: (262) 790-1480  
FAX: (262) 790-1481  
EMAIL: jpuudelko@trioeng.com

**PROJECT:**  
**STILLWATER VILLAS**  
CITY OF WAUKESHA, WISCONSIN  
**BY:** BIELINSKI COMMERCIAL, LLC.  
1830 MEADOW LN., SUITE A  
PEWAUKEE, WI 53072

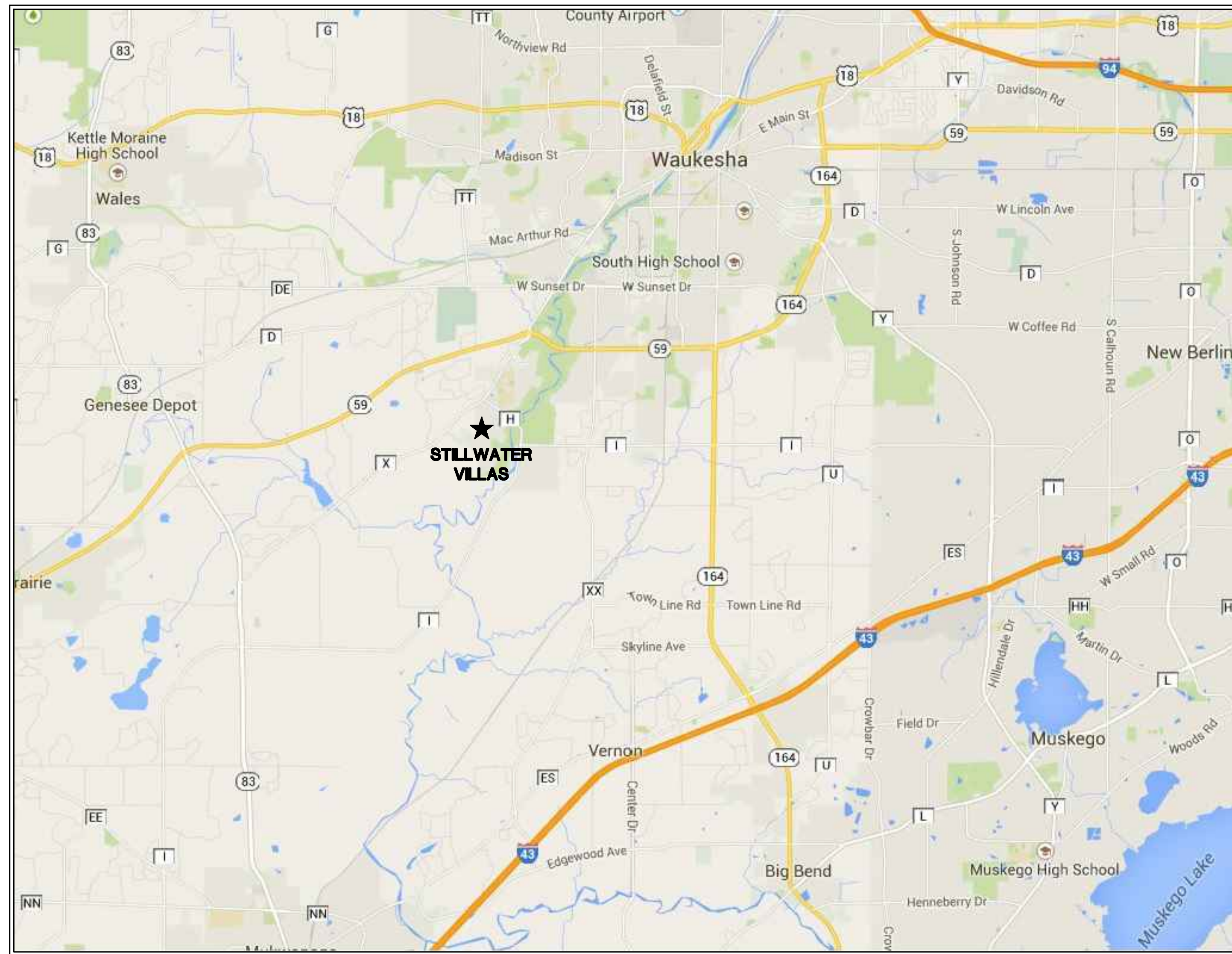
REVISION HISTORY	
DATE	DESCRIPTION
03/11/16	SWMP REVISIONS
12/17/15	CIVIL REVISIONS
08/24/15	CIVIL REVISIONS
04/03/15	CIVIL PLANS
05/08/15	UPDATED BUILDINGS

**DATE:**  
MARCH 11, 2016

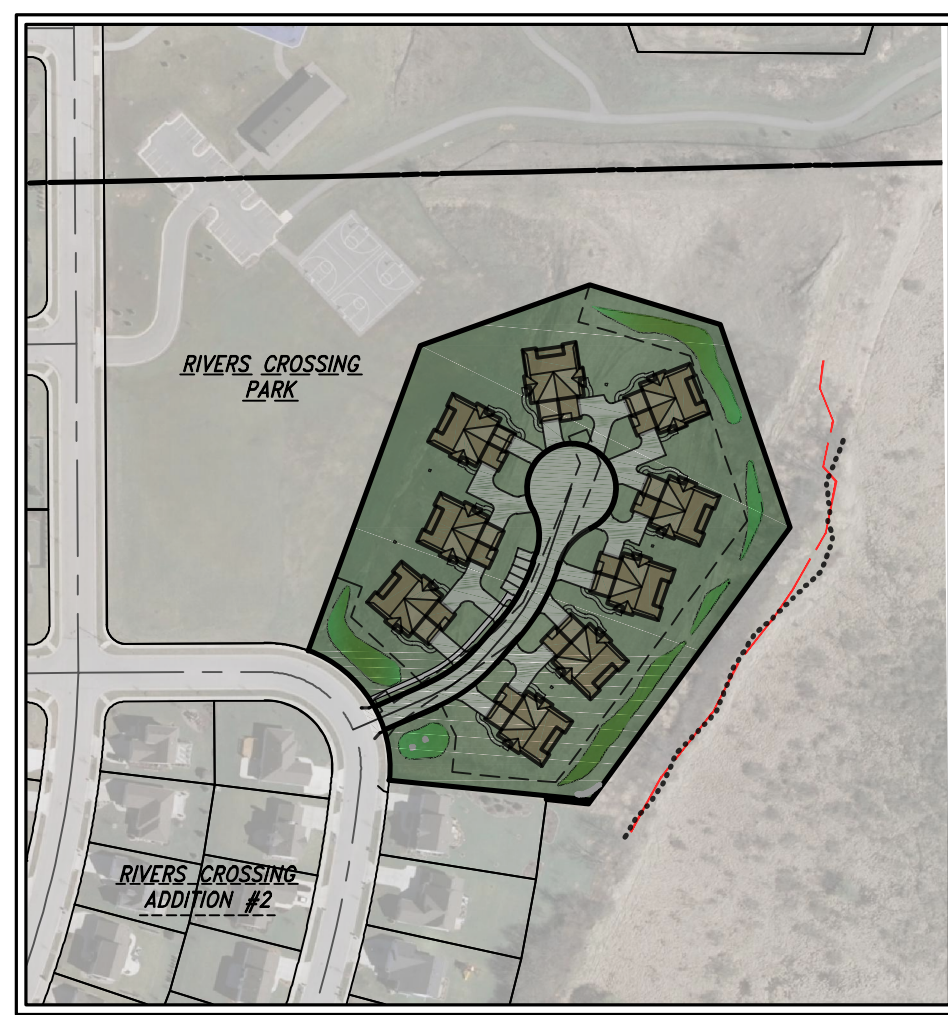
**JOB NUMBER:**  
14024

**DESCRIPTION:**  
**COVER SHEET**  
**SHEET**

**T1**



**LOCATION MAP**  
NOT TO SCALE



**AERIAL VICINITY MAP**  
1"=200'

FH:\C900\966\14024-01\CONSTRUCTION PLANS\CIVIL PLANS-STILLWATER VILLAS.DWG



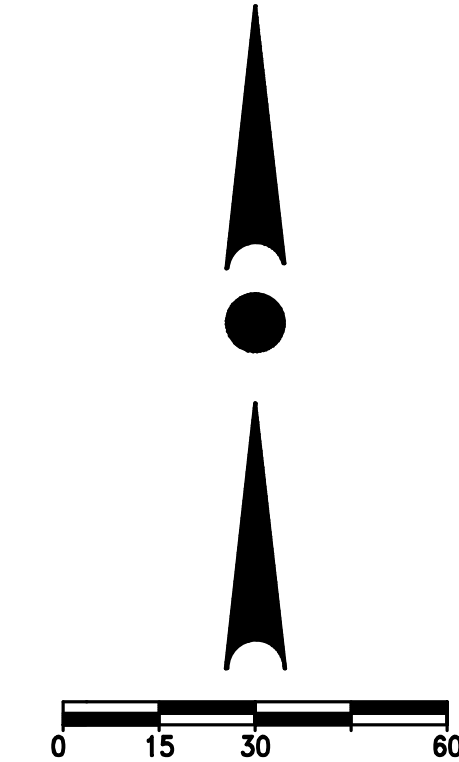
CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.  
**CALL DIGGERS HOTLINE 1-800-242-8511**

**NOTE:** EXISTING UNDERGROUND UTILITY INFORMATION WAS OBTAINED FROM AVAILABLE RECORDS. THE ENGINEER MAKES NO GUARANTEE AS TO THE ACCURACY OF THIS INFORMATION. VERIFICATION TO THE SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN LOCATION OF UTILITIES IN THE FIELD AND LOCATIONS SHOWN ON THE PLANS.

CIVIL	
T1	- COVER SHEET
C1.0	- EXISTING SITE PLAN
C1.1	- PROPOSED SITE PLAN
C1.2	- MASTER GRADING & DRAINAGE PLAN
C1.3	- EROSION CONTROL PLAN
C1.4	- ROADWAY & STORM SEWER PLAN & PROFILE
C1.5	- SANITARY SEWER & WATER MAIN PLAN & PROFILE
C1.6	- CONSTRUCTION NOTES & DETAILS
C1.7	- CONSTRUCTION NOTES & DETAILS



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**LEGEND:**

--- 017 ---	EXISTING CONTOUR
---	EXISTING SANITARY SEWER
○	EXISTING SANITARY MANHOLE
W	EXISTING WATER MAIN
⊕	EXISTING HYDRANT
---	EXISTING STORM SEWER
○	EXISTING STORM MANHOLE
□	EXISTING STORM INLET
⊞	EXISTING TRANSFORMER
⊞	EXISTING ELECTRIC PEDESTAL
⊞	EXISTING TELEPHONE PEDESTAL
⊞	EXISTING CATV PEDESTAL
⊞	EXISTING POWER POLE

**WETLAND BOUNDARY**  
 WETLAND BOUNDARIES SHOWN WERE FIELD DELINEATED BY WETLAND & WATERWAY CONSULTING, LLC (DAVE MEYER) ON JULY 1, 2015 AND FIELD LOCATED BY TRIO ENGINEERING, LLC ON JULY 7, 2015.

**100 YR. FLOODPLAIN**  
 100 YR. FLOODPLAIN PER FEMA MAP NUMBER 55133C0309G

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**STILLWATER VILLAS**  
 CITY OF WAUKESHA, WISCONSIN  
 BY: **BIELINSKI COMMERCIAL, LLC.**  
 1830 MEADOW LN., SUITE A  
 PEWAUKEE, WI 53072

**REVISION HISTORY**

DATE	DESCRIPTION
03/11/16	SWMP REVISIONS
12/17/15	CIVIL REVISIONS
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04/03/15	CIVIL PLANS
05/08/15	UPDATED BUILDINGS

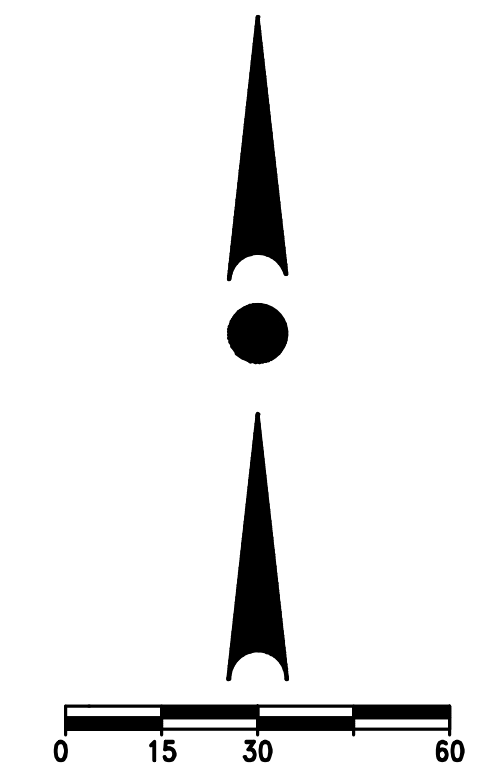
**DATE:**  
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**JOB NUMBER:**  
 14024

**DESCRIPTION:**  
 EXISTING  
 SITE PLAN

**SHEET**  
**C1.0**





DEVELOPMENT SUMMARY	
Current Zoning:	Rs-3
Proposed Zoning/Use:	RD-2 2-family Condo
Parcel Area:	4.18 acres
Proposed Units:	18 units
Density:	4.31 units/acre
Parking Provided:	Interior Garage: 36 spaces Exterior Garage: 36 spaces Surface: 5 spaces TOTAL: 77 spaces
Parking Spaces per Unit:	4.28

SETBACKS:	
PUBLIC STREET:	25 FT.
REAR YARD:	40 FT.
SIDE YARD:	30 FT. (ADJACENT TO SINGLE FAMILY)
BUILDING-BUILDING:	25 FT. (TYP.)

LEGEND:	
- - - - -	EXISTING CONTOUR
- - - - -	EXISTING SANITARY SEWER
○	EXISTING SANITARY MANHOLE
- - - - -	EXISTING WATER MAIN
○	EXISTING HYDRANT
- - - - -	EXISTING STORM SEWER
○	EXISTING STORM MANHOLE
□	EXISTING STORM INLET
⊠	EXISTING TRANSFORMER
⊠	EXISTING ELECTRIC PEDESTAL
⊠	EXISTING TELEPHONE PEDESTAL
⊠	EXISTING CATV PEDESTAL
⊠	EXISTING POWER POLE
- - - - -	PROPOSED SANITARY SEWER
○	PROPOSED SANITARY MANHOLE
- - - - -	PROPOSED WATER MAIN
○	PROPOSED HYDRANT
○	PROPOSED WATER VALVE
- - - - -	PROPOSED STORM SEWER
○	PROPOSED STORM MANHOLE
□	PROPOSED STORM INLET
—	PROPOSED STORM END SECTION

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**DATE:**  
MARCH 11, 2016

**JOB NUMBER:**  
14024

**DESCRIPTION:**  
PROPOSED  
SITE PLAN

**SHEET**

**C1.1**

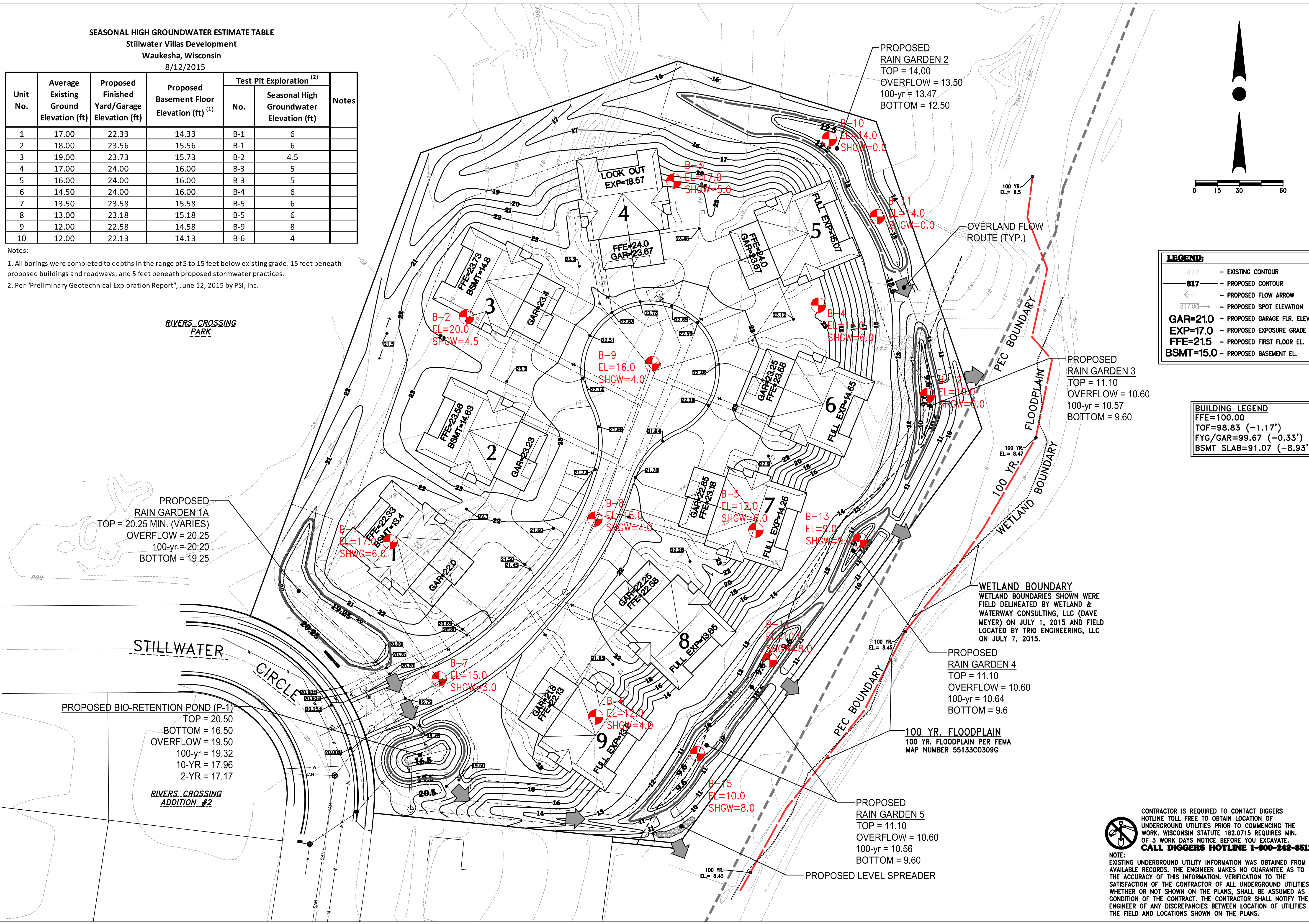
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SEASONAL HIGH GROUNDWATER ESTIMATE TABLE  
 Stillwater Villas Development  
 Waukesha, Wisconsin  
 8/12/2015

Unit No.	Average Existing Ground Elevation (ft)	Proposed Finished Yard/Garage Elevation (ft)	Proposed Basement Floor Elevation (ft) <sup>(1)</sup>	Test Pit Exploration <sup>(2)</sup>		Notes
				No.	Seasonal High Groundwater Elevation (ft)	
1	17.00	22.33	14.33	B-1	6	
2	18.00	23.56	15.56	B-1	6	
3	19.00	23.73	15.73	B-2	4.5	
4	17.00	24.00	16.00	B-3	5	
5	16.00	24.00	16.00	B-3	5	
6	14.50	24.00	16.00	B-4	6	
7	13.50	23.58	15.58	B-5	6	
8	13.00	23.18	15.18	B-5	6	
9	12.00	22.58	14.58	B-9	8	
10	12.00	22.13	14.13	B-6	4	

Notes:  
 1. All borings were completed to depths in the range of 5 to 15 feet below existing grade. 15 feet beneath proposed buildings and roadways, and 5 feet beneath proposed stormwater practices.  
 2. Per "Preliminary Geotechnical Exploration Report", June 12, 2015 by PSI, Inc.



**LEGEND:**

- 817 - EXISTING CONTOUR
- 817 - PROPOSED CONTOUR
- ← - PROPOSED FLOW ARROW
- 817.00 - PROPOSED SPOT ELEVATION
- GAR=21.0 - PROPOSED GARAGE FLR. ELEV.
- EXP=17.0 - PROPOSED EXPOSURE GRADE
- FFE=21.5 - PROPOSED FIRST FLOOR EL.
- BSMT=15.0 - PROPOSED BASEMENT EL.

**BUILDING LEGEND**

- FFE=100.00
- TOF=98.83 (-1.17')
- FYG/GAR=99.67 (-0.33')
- BSMT SLAB=91.07 (-8.93')



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 MARCH 11, 2016

**JOB NUMBER:**  
 14024

**DESCRIPTION:**  
 MASTER GRADING PLAN

**SHEET**

**C1.2**

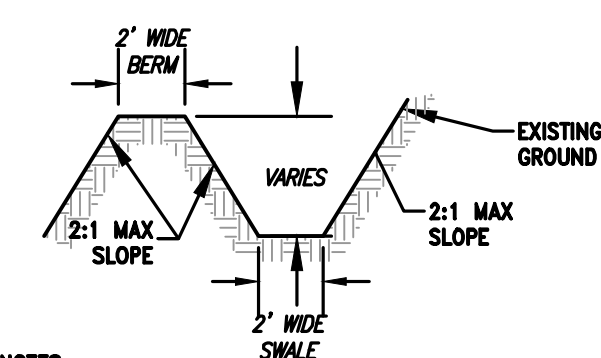
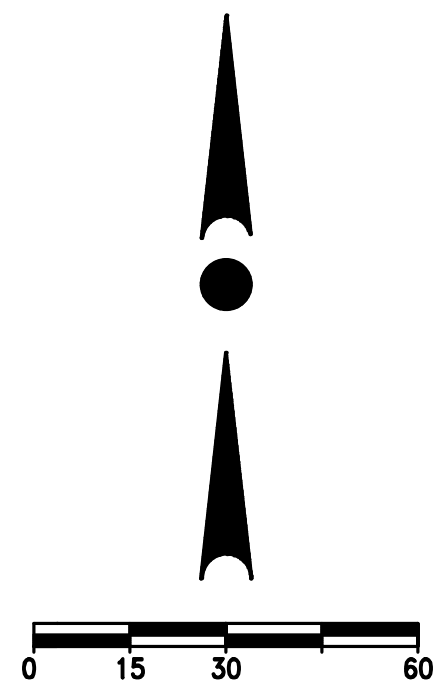
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**LEGEND:**

- 817 - EXISTING CONTOUR
- 817 - PROPOSED CONTOUR
- PROPOSED FLOW ARROW
- 817.00 - PROPOSED SPOT ELEVATION
- PROPOSED SILT FENCE
- PROPOSED INLET PROTECTION
- PROPOSED SILT SOCK
- PROPOSED TRACKING PAD



**NOTES:**  
 1. TEMPORARY SEED/STABILIZE BERMS AND DITCHES IMMEDIATELY AS ANY SECTION IS COMPLETED PER WDOT STD. SPEC.  
 2. REFER TO WISCONSIN DNR TECHNICAL STANDARD 1066 FOR ADDITIONAL INFORMATION.

**DIVERSION BERM/SWALE DETAIL**  
 NO SCALE

RIVERS CROSSING PARK

PROPOSED TOPSOIL STOCKPILE AREA

STRAW WATTLE DITCH CHECK

PROPOSED SILT FENCE (TYP.)

STRAW WATTLE DITCH CHECK

EXISTING STOCKPILE AREA

STRAW WATTLE DITCH CHECK

STILLWATER

PROPOSED GRAVEL TRACKING PAD AT CONSTRUCTION ENTRANCE

RIVERS CROSSING ADDITION #2

INLET PROTECTION REQUIRED (TYP.)

TWO CIRCULAR ORIFICES SHALL BE PLUGGED DURING THE CONSTRUCTION PHASE  
 PROPOSED EROSION CONTROL MATTING, N.A. GREEN S75, OR APPROVED EQUAL

STRAW WATTLE DITCH CHECK

STRAW WATTLE AROUND LEVEL SPREADER

STRAW WATTLE DITCH CHECK

LOOK OUT EXP=18.57

FFE=24.0 GAF=23.67

FFE=23.73 BSMIT=14.8

FFE=23.66 BSMIT=14.83

FFE=22.39 BSMIT=13.4

FFE=22.25 BSMIT=12.8

FFE=22.25 BSMIT=12.8

FFE=22.25 BSMIT=12.8

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FFE=22.25 BSMIT=12.8

FFE=22.25 BSMIT=12.8

**SILT TRAP**  
 A<sub>1</sub> = 4.18 ac  
 A<sub>2</sub> = 6.521 sf  
 TOP = 11  
 SPILLWAY = 10.5  
 WATER = 10.5  
 BOTTOM = 7.5

PROPOSED SILT FENCE (TYP.)

PROPOSED DIVERSION SWALE (TYP.)

100 YR. FLOODPLAIN  
 EL = 8.5

100 YR. FLOODPLAIN  
 EL = 8.45

PROPOSED ORANGE PROTECTIVE FENCE, TO PROTECT PEC BOUNDARY

**WETLAND BOUNDARY**  
 WETLAND BOUNDARIES SHOWN WERE FIELD DELINEATED BY WETLAND & WATERWAY CONSULTING, LLC (DAVE MEYER) ON JULY 1, 2015 AND FIELD LOCATED BY TRIO ENGINEERING, LLC ON JULY 7, 2015.

**INSTALL SILT FENCE UPSLOPE OF RAIN GARDENS AFTER COMPLETION OF SITE RAIN GARDEN GRADING**

100 YR. FLOODPLAIN  
 100 YR. FLOODPLAIN PER FEMA MAP NUMBER 55133C0309G

**STABILIZE SLOPES AFTER CONSTRUCTION**  
 OPTIONS: EROSION MATTING (N.A. GREEN S75) OR TACKFED MULCH HYDROSEED (TYP.)



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  - EROSION CONTROL PLAN: PRIOR TO BEGINNING WORK, THE CONTRACTOR MAY BE REQUIRED TO SUBMIT AN EROSION AND SEDIMENT CONTROL PLAN, DETAILING SPECIFIC MEASURES THAT WILL BE USED IN THE VARIOUS STAGES OF CONSTRUCTION FOR APPROVAL BY THE ENGINEER.
  - IMPLEMENTATION: THE CONTRACTOR SHALL NOT BEGIN WORK UNTIL AFTER INITIAL EROSION AND SEDIMENT CONTROL DEVICES ARE IN PLACE AND APPROVED BY THE ENGINEER.
  - EROSION CONTROL MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
    - DIVERT UPSTREAM RUNOFF FROM FLOWING THROUGH THE CONSTRUCTION SITE.
    - PROTECT DOWNSTREAM OR ADJACENT WATERWAYS AND WETLANDS WITH SILT FENCE.
    - DELAY STRIPPING TOPSOIL UNTIL REQUIRED FOR CONSTRUCTION.
    - PLACE SILT FENCE OR EROSION CONTROL BALES IN DITCHES AND OTHER DRAINAGE WAYS TO COLLECT SEDIMENT AND TO SLOW THE VELOCITY OF RUNOFF.
    - PROTECT STORM SEWER INLETS AND THE UPSTREAM END OF CULVERTS WITH SILT FENCE OR EROSION CONTROL BALES.
    - PROMPT REMOVAL OF EXCAVATED MATERIAL.
    - PROPER STORAGE OF BACKFILL AND BEDDING MATERIALS INCLUDING PLACING SILT FENCE OR EROSION CONTROL BALES ON THE DOWNSLOPE SIDES OF SPOIL PILES.
    - CONSTRUCTION OF TRACKING PAD TO CONSTRUCTION SITE TO PREVENT SEDIMENT FROM BEING TRACKED ONTO ROADWAYS.
    - PROMPT (SAME DAY) CLEANUP OF MATERIAL TRACKED ONTO ADJACENT STREETS.
    - TIMELY RESTORATION OF DAMAGE SURFACE AREAS.
    - ALL AREAS THAT WILL REMAIN DISTURBED AFTER OCTOBER 15, MUST BE TEMPORARILY SEEDDED AS OF THAT DATE.
  - TEMPORARY EROSION CONTROL MEASURES:
    - THE CONTRACTOR SHALL CONSTRUCT TEMPORARY EROSION CONTROL MEASURES, WHERE EROSION IS LIKELY TO BE A PROBLEM, PRIOR TO BEGINNING WORK ON THOSE SECTION(S) OF THE PROJECT. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL AFTER PERMANENT EROSION CONTROL, SUCH AS SEEDING OR SODDING, HAS BEEN ESTABLISHED.
    - IN THE EVENT THE PERMANENT EROSION CONTROL MEASURES ARE NOT FULLY IMPLEMENTED IN CURRENT CONSTRUCTION SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL NECESSARY TEMPORARY EROSION CONTROL MEASURES UNTIL AFTER PERMANENT MEASURES HAVE BEEN COMPLETED IN THE FOLLOWING YEAR.
  - ALL DISTURBANCE AREAS THAT REMAIN INACTIVE FOR SEVEN DAYS OR LONGER SHALL RECEIVE TEMPORARY SEEDING. ALL EXPOSED SOIL AREAS NOT DISTURBED FOR UP TO SEVEN DAYS SHALL BE IMMEDIATELY RESTORED WITH SEED AND MULCH.
  - TRENCH DEWATERING SHALL BE IN ACCORDANCE WITH WDMR TECHNICAL STANDARDS.
  - INSTALL SILT FENCE IN ACCORDANCE WITH WDMR TECHNICAL STANDARD DETAILS
  - ALL RIP RAP AT PIPE OUTLETS SHALL BE 3'-5" MEDIUM RIP RAP OVER TYPE R FABRIC PER WDOT SPECIFICATIONS UNLESS OTHERWISE DESIGNATED.
  - EROSION CONTROL INSPECTION AND MAINTENANCE
    - INSPECT EROSION CONTROL MEASURES WEEKLY AND AFTER SITE RECEIVES 0.5" OF RAIN IN A 24-HOUR PERIOD DURING CONSTRUCTION.
    - REPAIR OR REPLACE EROSION CONTROLS THAT ARE DAMAGED OR FAILING.
  - ALL AREAS TO BE SEEDDED AND MULCHED SHALL USE WDOT SEED MIXTURE NO. 20. MULCH SHALL APPLIED PER WDOT SPECIFICATIONS USING METHOD B FOR PLACEMENT.

- WISCONSIN DEPARTMENT OF NATURAL RESOURCES.  
 CONSERVATION PRACTICE STANDARD:  
 1052 - NON-CHANNEL EROSION MAT  
 1053 - CHANNEL EROSION MAT  
 1055 - SEDIMENT BALE BARRIER (NON-CHANNEL)  
 1056 - SILT FENCE  
 1060 - STORM DRAIN INLET PROTECTION FOR CONST. SITES  
 1062 - DITCH CHECK  
 1057 - STONE TRACKING PAD AND TIRE WASHING  
 1058 - MULCHING FOR CONSTRUCTION SITES  
 1059 - TEMPORARY SEEDING  
 1061 - DE-WATERING (IF REQUIRED)  
 1063 - SEDIMENT TRAP

- CONSTRUCTION SEQUENCE PLAN**
- INSTALL PERIMETER SILT FENCE AND TRACKING PAD. CLEAR AND GRUB EXISTING VEGETATION CONCURRENT WITH STEP 1.
  - INSTALL SEDIMENT TRAP. INSTALL OVERFLOW SPILLWAY PER PLAN. (MAY OCCUR CONCURRENT WITH TOPSOIL STRIPPING AND INITIAL ROUGH GRADING) ONCE SITE STABILIZATION IS UNDERWAY CONSTRUCT RAIN GARDENS. DO NOT INSTALL ENGINEERED SOIL MIX AT THIS TIME. FUTURE INFILTRATION AREAS SHALL BE CONSTRUCTED TO FINAL GRADES AND CAPPED WITH 4" TOPSOIL (TO BE REMOVED AND COMPLETED DURING FINAL STABILIZATION OF PROJECT).
  - STRIP TOPSOIL, STOCKPILE AND CREATE TEMPORARY DIVERSION BERM AS INDICATED TO DIRECT SITE RUNOFF TO THE SEDIMENT TRAP.
  - TEMP SEED DIVERSION BERM AND TOPSOIL STOCKPILES AND INSTALL SILT FENCE AROUND PILES AS NOTED ON THIS PLAN. ROUGH GRADE SITE.
  - INSTALL SANITARY SEWER, WATERMAIN AND STORM SEWER. NOTE THAT UTILITY INSTALLATION MAY COMMENCE CONCURRENT WITH SITE GRADING.
  - BUILDING CONSTRUCTION MAY COMMENCE AS ALLOWED BY CITY BUILDING PERMIT (NON-SEQUENTIAL).
  - FINISH GRADE SITE. RE-SPREAD TOPSOIL AND SEED, MULCH AND FERTILIZE OUTSIDE OF PAVEMENT AREAS UPON COMPLETION OF FINISH GRADING. INSTALL EROSION MATTING AS INDICATED ON PLAN AND AS NECESSARY TO STABILIZE SITE.
  - INSTALL NEW GAS/ELECTRIC/TELEPHONE UTILITIES PER PLANS BY OTHERS. (SCHEDULE TO BE DETERMINED BY OWNER)
  - INSTALL STONE BASE, SIDEWALK, CURB AND PAVEMENT FOR ENTRY DRIVE AND LOOP ROAD (WITH PARKING)
  - COMPLETE LANDSCAPING AND FINAL STABILIZATION AROUND BUILDINGS CONCURRENT WITH BUILDING CONSTRUCTION.

REMOVE PLUGS IN RESTRICTOR AND CLEAN ALL SEDIMENT FROM BASIN. INSTALL ENGINEERED SOIL MIX IN ALL PROPOSED AREAS. REMOVE PERIMETER SILT FENCE AND CLOSE OUT CONSTRUCTION SITE PERMITS ONCE THE SITE IS SUBSTANTIALLY VEGETATED (>70% GROUND COVER).



**PROJECT:**  
**STILLWATER VILLAS**  
 CITY OF WAUKESHA, WISCONSIN  
 BY: BIELINSKI COMMERCIAL, LLC.  
 1830 MEADOW LN., SUITE A  
 PEWAUKEE, WI 53072

**REVISION HISTORY**

DATE	DESCRIPTION
03/11/16	SWMP REVISIONS
12/17/15	CIVIL REVISIONS
08/24/15	CIVIL REVISIONS
04/03/15	CIVIL PLANS
05/08/15	UPDATED BUILDINGS

**DATE:**  
 MARCH 11, 2016

**JOB NUMBER:**  
 14024

**DESCRIPTION:**  
 EROSION CONTROL PLAN

**SHEET**

**C1.3**





12660 W. NORTH AVE, BLDG D  
BROOKFIELD, WI 53005  
PHONE: (262) 790-1480  
FAX: (262) 790-1481  
EMAIL: jpuudelko@trioeng.com

**PROJECT:**  
**STILLWATER VILLAS**  
CITY OF WAUKESHA, WISCONSIN  
BY: **BIELINSKI COMMERCIAL, LLC.**  
1830 MEADOW LN., SUITE A  
PEWAUKEE, WI 53072

**REVISION HISTORY**

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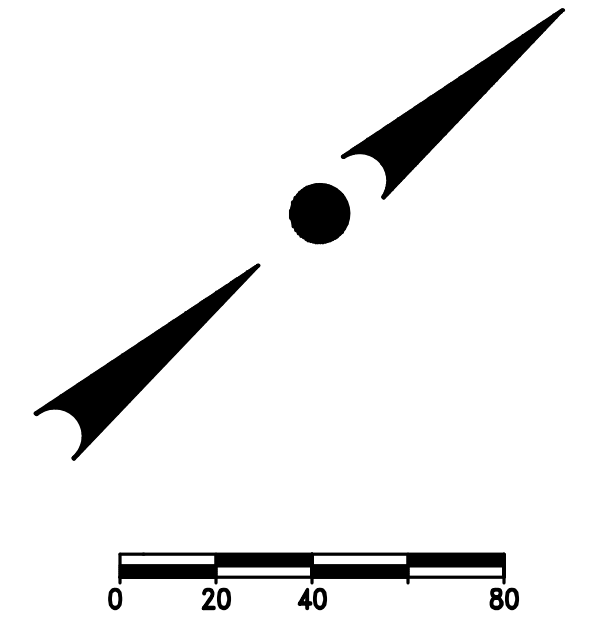
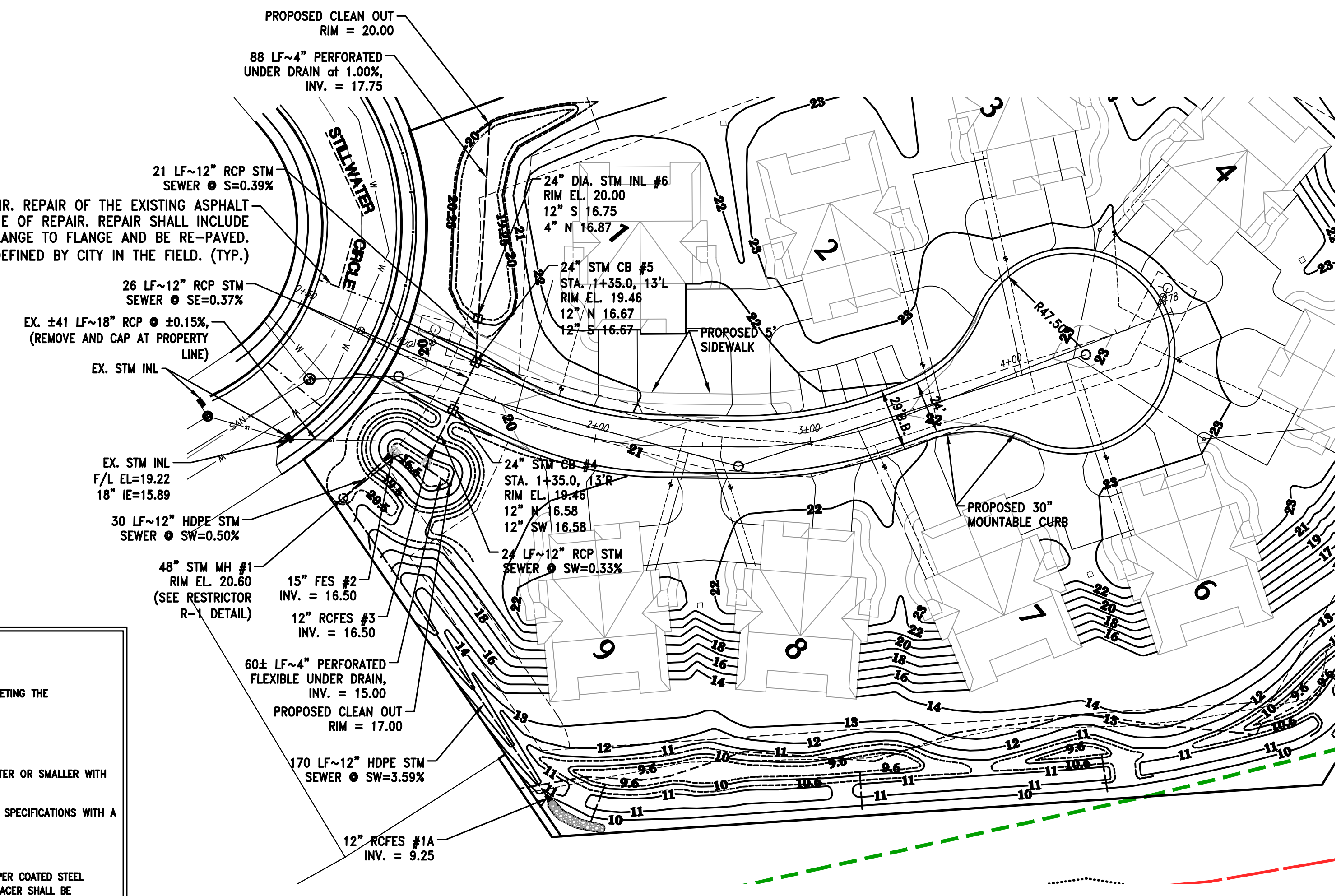
**JOB NUMBER:**  
14024

**DESCRIPTION:**  
ROADWAY & STORM SEWER PLAN & PROFILE

**SHEET**

**C1.4**

APPROX. LIMITS OF PAVEMENT REPAIR. REPAIR OF THE EXISTING ASPHALT SHALL BE DETERMINED AT THE TIME OF REPAIR. REPAIR SHALL INCLUDE MILLING EXISTING PAVEMENT FROM FLANGE TO FLANGE AND BE RE-PAVED. LIMITS TO BE DEFINED BY CITY IN THE FIELD. (TYP.)



**STORM SEWER NOTES**

**STORM SEWER**

- ALL PUBLIC STORM SEWER SHALL BE RCP (REINFORCED CONCRETE PIPE) WITH GASKETED JOINTS.
- STORM SEWER SHALL BE R.C.P. MEETING SECTION 8.6.0 (SSSWCW) AND BE RUBBER GASKETED MEETING THE REQUIREMENTS SET FORTH IN WWS CHAPTER 6.6.0.
- PIPE CLASSES:
  - 12" DIA. RCP STORM SEWER SHALL BE CL-V
  - 15" DIA. RCP STORM SEWER SHALL BE CL-IV
  - 18" & ABOVE DIA. RCP STORM SEWER SHALL BE CL-III
- STORM MANHOLES SHALL BE 48" DIAMETER PRECAST CONCRETE FOR STORM MAINS OF 24" DIAMETER OR SMALLER WITH NEENAH R-1660 FRAMES & COVERS WITH 6 VENT HOLES.
- STORM MANHOLES IN EASEMENTS SHALL USE NEENAH R-1660 FRAMES WITH TYPE C GRATES.
- CATCH BASINS SHALL HAVE 24" SUMPS AND SHALL CONFORM TO FILE NO. 26 OF THE STANDARD SPECIFICATIONS WITH A NEENAH R-3067-C FOR VERTICAL CURB APPLICATIONS.
- FIELD INLETS USE A NEENAH R-2560-08 TYPE BEEHIVE CASTING.

**TRACER WIRE NOTE**

- CONTRACTOR SHALL INSTALL PLASTIC COATED TRACER WIRE (10 TO 14 GAUGE SOLID COPPER, OR COPPER COATED STEEL WIRE) PER COMM 82.30(1)(H). PLASTIC WIRE MAY BE TAPED TO PLASTIC PIPE. IF ATTACHED, THE TRACER SHALL BE SECURED EVERY 6 TO 20 FEET AND AT ALL BENDS. TRACER WIRE SHALL HAVE ACCESS POINTS AT LEAST EVERY 300 FEET.

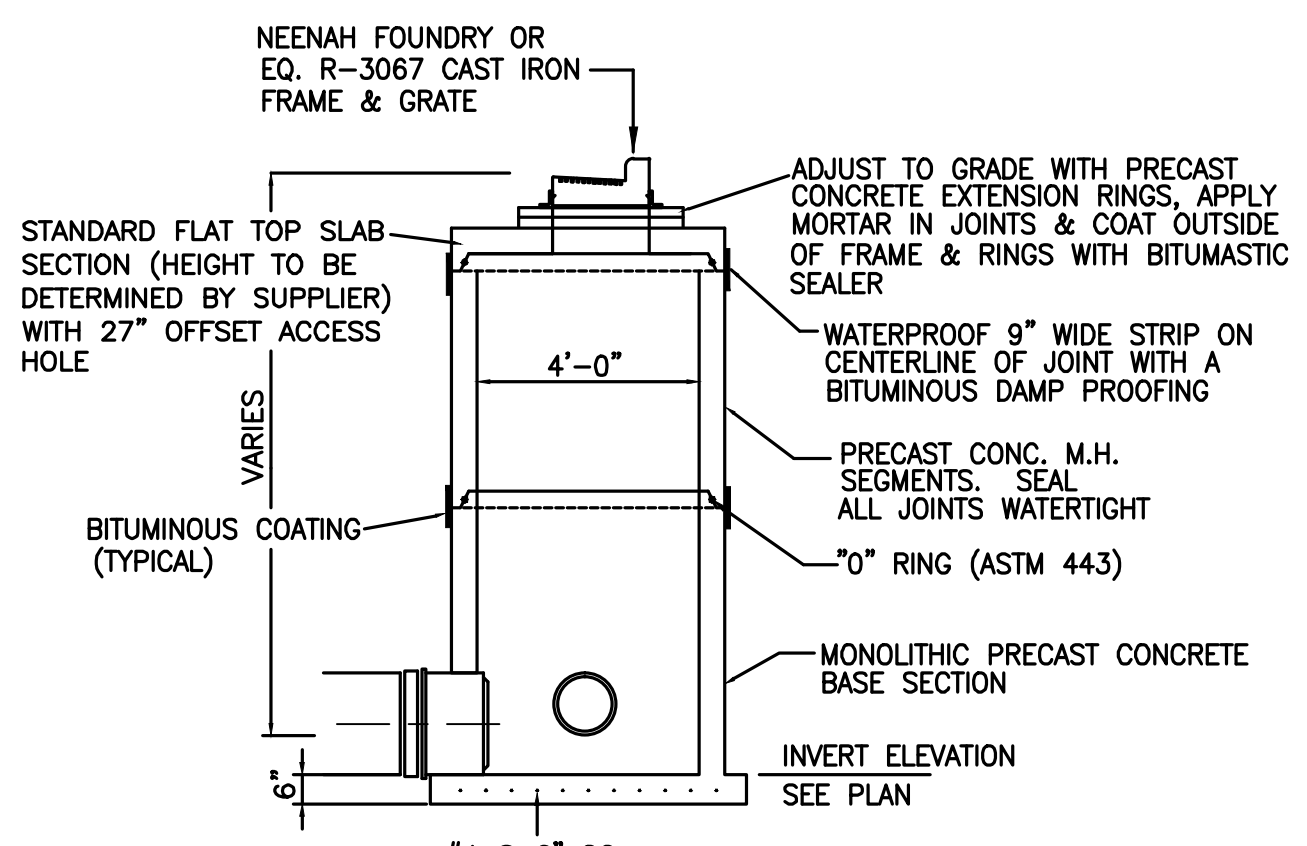
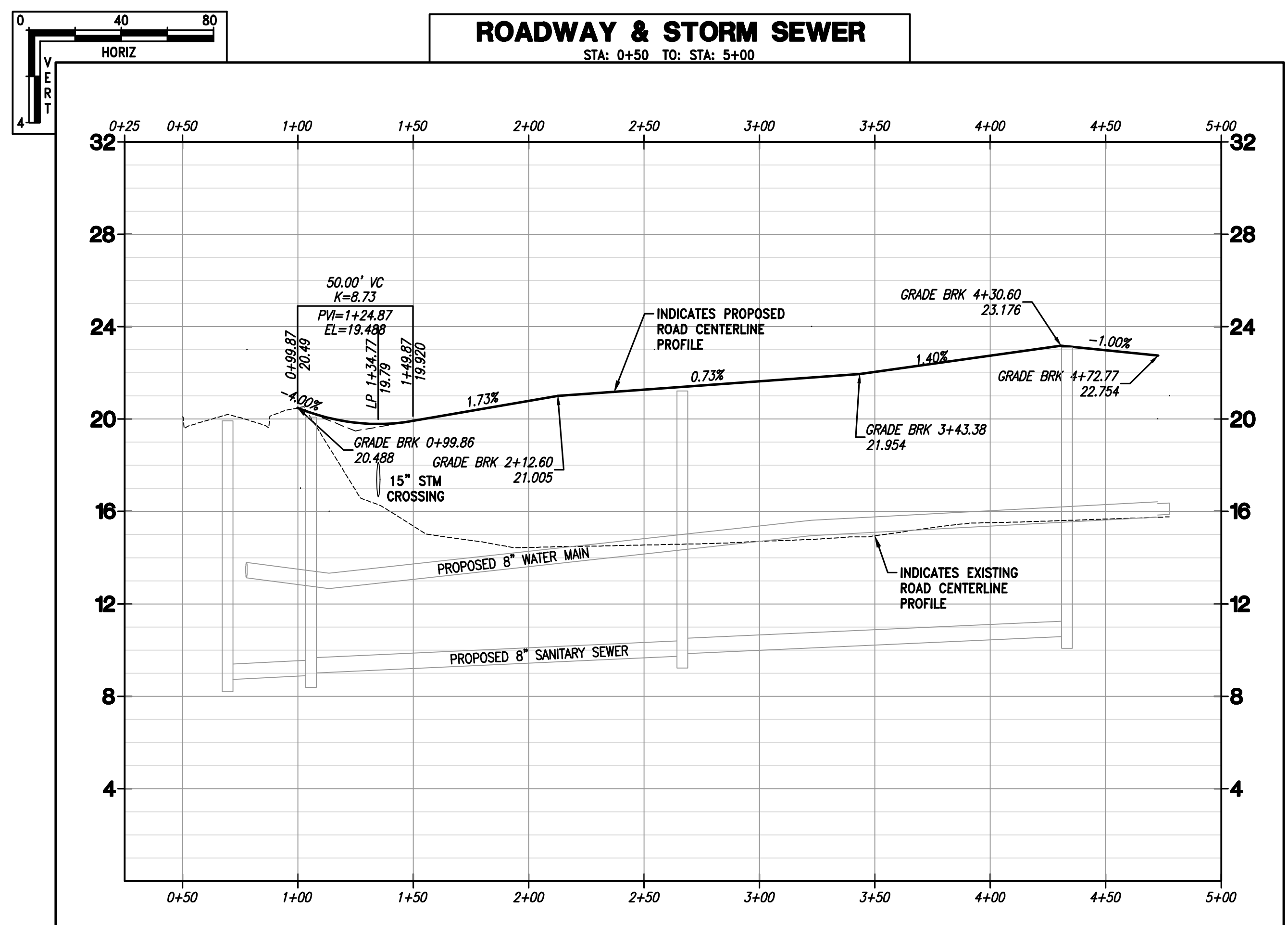
**COMPACTION NOTE**

- THE DEVELOPER SHALL CONTRACT WITH A SOIL TESTING FIRM TO PERFORM COMPACTION TESTING ON TRENCHES FOR ALL PROJECTS. THE DEVELOPER WILL BE REQUIRED TO MEET A MINIMUM COMPACTION OF 90% STANDARD PROCTOR DENSITY IN THE BOTTOM 3 FEET AND A MINIMUM COMPACTION OF 95% STANDARD PROCTOR DENSITY IN THE TOP 3 FEET OF THE EXCAVATED MATERIAL ON GRANULAR BACKFILL.

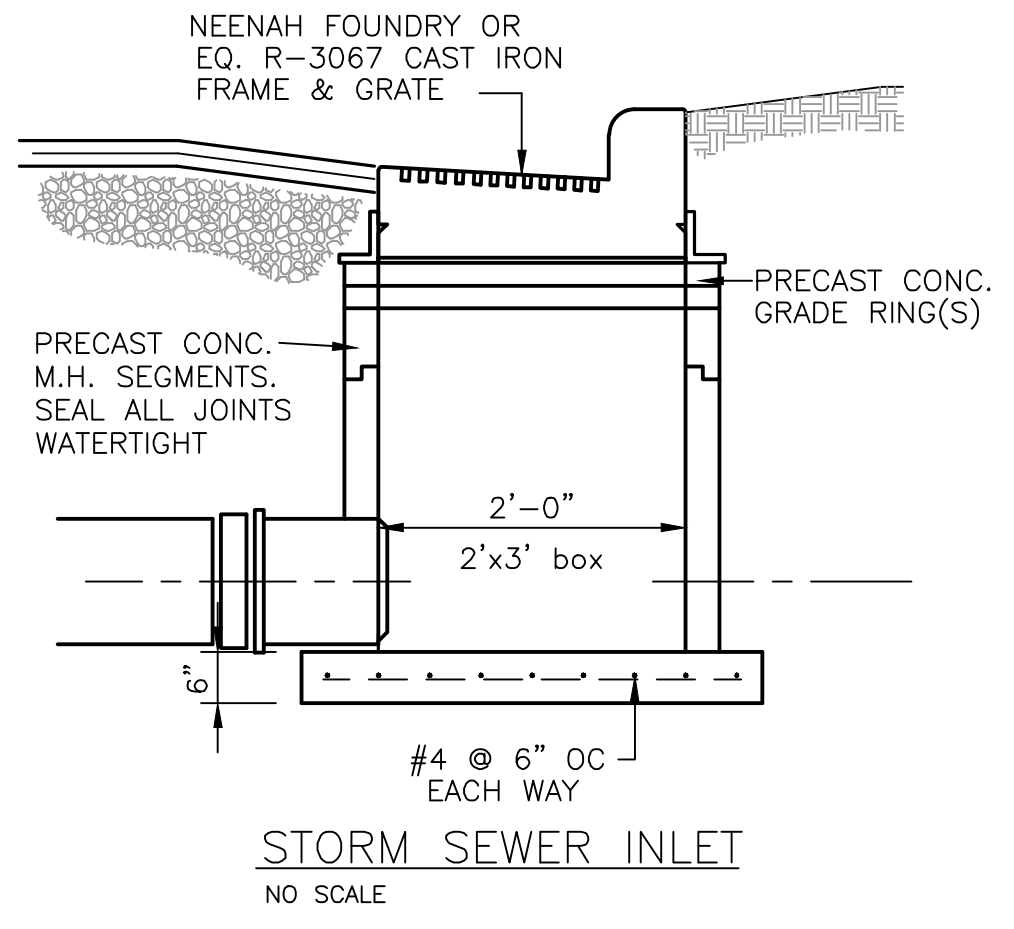
**BACKFILL NOTES**

**TRENCH BACKFILL**

- BACKFILL FOR ALL TRENCHES SHALL BE 1 1/4" CRUSHED LIMESTONE TB (SECTION 305.2.2.1 OF THE WISDOT STD. SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION) UNLESS OTHERWISE NOTED IN THE PROFILE OR IN THE PROJECT SPECIFICATION.



STORM COMB. MH/INL DETAIL  
NO SCALE



STORM SEWER INLET  
NO SCALE

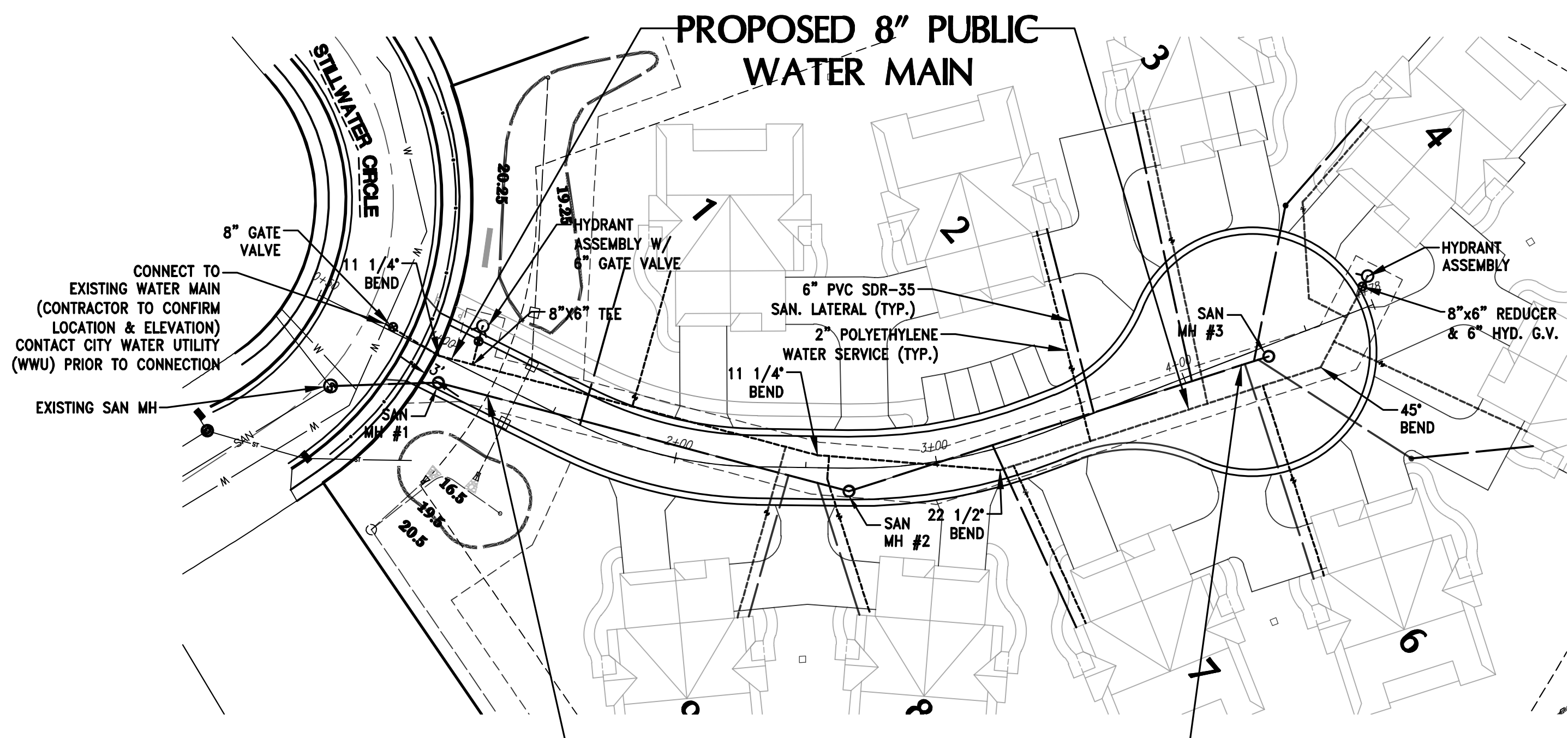


CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.  
**CALL DIGGERS HOTLINE 1-800-242-8511**

**NOTE:**  
EXISTING UNDERGROUND UTILITY INFORMATION WAS OBTAINED FROM AVAILABLE RECORDS. THE ENGINEER MAKES NO GUARANTEE AS TO THE ACCURACY OF THIS INFORMATION. VERIFICATION TO THE SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN LOCATION OF UTILITIES IN THE FIELD AND LOCATIONS SHOWN ON THE PLANS.

P:\C900\966\14024-01\CONSTRUCTION PLANS\CIVIL PLANS-STILLWATER VILLAS.DWG





**SANITARY SEWER NOTES**

**SANITARY SEWER**

- ALL 8" PVC SEWER PIPE SHALL MEET THE REQUIREMENTS SET FORTH IN SECTION 8.10.0 (SSSWC).
- ALL SANITARY MANHOLES SHALL BE 48" DIA. WITH A NEEHAH R-1661 FRAME AND SELF-SEALING LID (NON LOCKING TYPE) WITH NO VENT HOLES AND MEET THE REQUIREMENTS SET FORTH IN SSSWC.
- SDR-35 PVC PIPE SHALL BE USED FOR SANITARY SEWERS LESS THAN 16 FEET DEEP.
- C-900 PVC PRESSURE PIPE SHALL BE USED FOR SANITARY SEWERS DEEPER THAN 16 FEET.
- MAPLE HEART BOARDS SHALL BE PROVIDED AT ALL SANITARY SEWER LATERAL END CONNECTIONS.

**TRACER WIRE NOTE**

- CONTRACTOR SHALL INSTALL PLASTIC COATED TRACER WIRE (10 TO 14 GAUGE SOLID COPPER OR COPPER COATED STEEL WIRE) PER COMM 82.30(1)(4). PLASTIC WIRE MAY BE TAPED TO PLASTIC PIPE. IF ATTACHED, THE TRACER SHALL BE SECURED EVERY 6 TO 20 FEET AND AT ALL BENDS. TRACER WIRE SHALL HAVE ACCESS POINTS AT LEAST EVERY 300 FEET.

THE WORK CONTAINED IN THIS CONTRACT IS TO BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS FOR WATER MAIN & SERVICE LATERAL MATERIALS AND INSTALLATION OF WATER MAIN & APPURTENANCES FOR WAUKESHA WATER UTILITY OF THE CITY OF WAUKESHA DATED FEBRUARY 28, 2011, THE REGULATIONS OF THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR), AWWA SPECIFICATIONS, MANUFACTURERS' RECOMMENDATIONS, CITY OF WAUKESHA STANDARD CONSTRUCTION SPECIFICATIONS (FOR SEWER CONSTRUCTION), STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, SIXTH EDITION AND THE CITY OF WAUKESHA STANDARD CONSTRUCTION SPECIFICATIONS, 1972 EDITION AS REVISED, EXCEPT AS PROVIDED FOR WITHIN THIS DOCUMENT.

ALL APPLICABLE SECTIONS OF THE REVISED CITY OF WAUKESHA STANDARD CONSTRUCTION SPECIFICATIONS (FOR SEWER CONSTRUCTION) ARE AVAILABLE AT THE OFFICE OF PUBLIC WORKS. THE CITY OF WAUKESHA STANDARD CONSTRUCTION SPECIFICATIONS, 1972 EDITION, ARE AVAILABLE AT THE OFFICE OF DIRECTOR OF PUBLIC WORKS, WAUKESHA CITY HALL ANNEX, 130 DELAFIELD STREET.

**GENERAL UNDERGROUND**

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING TRENCH SUPPORT IN ACCORDANCE WITH ALL APPLICABLE STATE AND FEDERAL REGULATIONS. THE OWNER AND INSPECTOR SHALL BE HELD HARMLESS IN ALL MATTERS REGARDING SHORING AND BRACING.

**- BACKFILL:**  
COMPACTED GRANULAR BACKFILL IS REQUIRED THROUGHOUT. GRANULAR BACKFILL MUST MEET THE GRADATION REQUIREMENTS ACCORDING TO SECTION 8.43.4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, SIXTH EDITION. THE COMPACTED MATERIAL SHALL HAVE AN INITIAL LIFT OF 2- FEET AND SUBSEQUENT LIFTS OF 1- FOOT.

THE CONTRACTOR FOR THIS PROJECT WILL BE REQUIRED TO MEET A MINIMUM COMPACTION OF 95% STANDARD PROCTOR DENSITY IN THE TOP THREE FEET OF THE GRANULAR BACKFILL AND 90% STANDARD PROCTOR DENSITY IN THE REMAINING DEPTH OF THE TRENCH. TESTING WILL BE DONE BY OWNER AT NO COST TO THE CONTRACTOR FOR WATER MAIN. THE CONTRACTOR WILL BE REQUIRED TO EXPOSE AREAS OF THE TRENCH FOR THE DESIRED DEPTH FOR TESTING. COMPACTION TESTING SHALL BE COMPLETED BY THE CONTRACTOR FOR THE UTILITIES OTHER THAN WATER MAIN. DIGITAL TESTING REPORTS SHALL BE SUBMITTED TO THE OWNER ON A WEEKLY BASIS FOR INFORMATIONAL PURPOSES.

THE TOP 12-INCHES OF ALL TRENCHES SHALL CONSIST OF 1 1/4-INCH TRAFFIC BOND STONE.

STONE CHIPS ARE REQUIRED 4-INCH UNDER AND 12-INCH OVER THE PIPE AS A MINIMUM. SAND IS REQUIRED AROUND ALL COPPER WATER LATERALS AND BRASS FITTINGS.

**WATER MAIN**

AN OWNER REPRESENTATIVE SHALL PROVIDE INSPECTION FOR THE WAUKESHA WATER UTILITY. CONTRACTOR SHALL PROVIDE 72 HOURS (3 WORK DAYS) NOTICE OF THE ANTICIPATED NEED FOR INSPECTION SERVICES. NO WORK SHALL BE UNDERTAKEN WITHOUT AN INSPECTOR PRESENT AT THE SITE. THE OWNER SHALL BE RESPONSIBLE FOR THE DENIAL, OR REMOVAL OF WORK MAY BE ORDERED, FOR WORK ACCOMPLISHED WITHOUT AN INSPECTOR PRESENT OR WITHOUT THE APPROVAL OF THE OWNER.

EXISTING VALVES AND HYDRANTS SHALL BE OPERATED ONLY BY THE WAUKESHA WATER UTILITY PERSONNEL OR IN THE PRESENCE OF THE INSPECTOR, AS AUTHORIZED BY THE WAUKESHA WATER UTILITY.

**- MATERIALS:**  
ALL 8" & 6" WATER MAIN SHALL BE POLYVINYL CHLORIDE (CLASS DR-18) AWWA C-900.  
ALL WATER SERVICE LATERALS SHALL BE 1 1/4" TYPE "K" COPPER.

THE WAUKESHA WATER UTILITY WILL PROVIDE THE TAPPING SLEEVE, TAPPING VALVE, THE VALVE BOX FOR THE TAPPING VALVE AND WILL TAP THE EXISTING WATER MAIN. THE CONTRACTOR SHALL PROVIDE THE TRENCH, TRENCH SHIELD AND A MEANS FOR LOWERING THE TAPPING MACHINE.

CONTRACTOR SHALL PROVIDE ALL MATERIALS (PIPE, FITTINGS, VALVES, HYDRANTS, ACCESSORIES AND STERILIZING CHEMICALS), EQUIPMENT AND LABOR TO INSTALL THE WATER MAIN AND APPURTENANCES.

THE CONTRACTOR SHALL SUBMIT TO THE INSPECTOR AND OWNER, FOR APPROVAL, A LIST OF ALL MATERIALS HE/SHE INTENDS TO USE PRIOR TO ORDERING AND DELIVERY TO THE JOB SITE, INCLUDING THE NAMES OF ALL MATERIAL SUPPLIERS.

STORAGE OF MATERIALS FOR CONSTRUCTION WILL BE PERMITTED ON THE JOB SITE WITH PRIOR OWNER APPROVAL. CARE SHALL BE TAKEN TO AVOID BLOCKING DRIVEWAYS OR INTERFERING WITH TRAFFIC.

ALL WATER MAINS SHALL BE TESTED IN FULL ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 4.15.0 AND SECTION 5.5.18 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.

IN ADDITION TO THE ABOVE REFERENCED STATE SPECIFICATIONS, THE FOLLOWING WILL APPLY FOR ALL WATER MAIN FLUSHING ACTIVITIES ASSOCIATED WITH THIS PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE ADDITION OF ANY TEMPORARY STANDPIPES OR TEMPORARY HYDRANTS (MAY BE SUPPLIED BY THE WWU, WHEN AVAILABLE) AS SHOWN ON THE PLANS AND AS REQUIRED FOR COMPLETION OF THE FLUSHING AND DISINFECTION PORTIONS OF THE WATER MAIN WORK. A MINIMUM OF TWENTY-FOUR (24) HOURS AFTER THE WATER MAIN HAS BEEN FILLED; FLUSH OUT THE SUPER CHLORINATED WATER FROM THE WATER MAIN. THE SUPER CHLORINATED WATER MUST BE FLUSHED USING A FIRE HOSE OR OTHER APPROVED DIRECT CONVEYANCE DEVICE INTO A TANKER, INTO THE SANITARY SEWER (WITH PRIOR CITY ENGINEERING APPROVAL REQUIRED) OR ONTO A NEUTRALIZER TO KEEP THE ENVIRONMENT SAFE. ONLY THE SUPER CHLORINATED WATER SHOULD BE FLUSHED PER THE AFOREMENTIONED METHODS. ONCE THE SUPER CHLORINATED WATER HAS BEEN FLUSHED, ADDITIONAL FLUSHING METHODS SHOULD BE USED. THESE FLUSHING METHODS MUST USE THE APPROPRIATE NUMBER OF HOSES OR OTHER DIRECT CONVEYANCE DEVICES TO REACH THE MINIMUM WATER FLOW RATE OF TWO AND HALF (2 1/2) FEET PER SECOND OF WATER FLOW IN THE MAIN AS REQUIRED FOR PROPER FLUSHING. THESE HOSES OR DEVICES MUST BE SUPPLIED, INSTALLED AND REMOVED BY THE CONTRACTOR. THE WATER MUST BE DISCHARGED IN SUCH A MANNER AS TO NOT PROMOTE EROSION OF THE AREA OR MOVEMENT OF SITE MATERIALS OFF SITE OR INTO THE STORM SEWER SYSTEM. THIS MAY REQUIRE DISCHARGE DIRECTLY INTO AN ESTABLISHED STORM SEWER INLET, OR CONVEYANCE TO A CLEAN AND PAVED SURFACE TO UTILIZE THE EXISTING CURBS AND STORM SEWER SYSTEM. FLOW OF WATER FROM FLUSHING OR TESTING DIRECTLY ACROSS DISTURBED SURFACES WILL NOT BE ALLOWED. FLOW OF WATER WITHIN AN EXISTING CURB AND CUTTER LINE WILL ONLY BE ALLOWED IF THE AREA IS COMPLETELY FREE OF GRAVEL AND DEBRIS AND IF THE FLOW FULLY REMAINS ON THE UNDISTURBED SURFACE. IT MAY BE NECESSARY TO REMOVE THE INLET PROTECTION USED DURING CONSTRUCTION FOR THE PERIODS WHEN FLUSHING IS OCCURRING; THESE PROTECTIONS MUST BE PROPERLY REPLACED WHEN FLUSHING HAS ENDED. DEPENDING ON THE SITUATION, IT MAY ALSO BE NECESSARY TO STUB UP A TEMPORARY STORM SEWER INLET AT FLUSHING POINTS IF THE DISTANCE TO AN ESTABLISHED STORM SEWER SYSTEM IS TOO GREAT.

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL 8-INCH WATER MAIN AND FITTINGS INCLUDING TRACER WIRE, BEDDING, COVER AND COMPACTED GRANULAR BACKFILL. THE CONTRACTOR SHALL ALSO PROVIDE THE CHLORINATION, FLUSHING AND PRESSURE TESTING PER THE LISTED SPECIFICATIONS. WHENEVER POSSIBLE, MAINTAINING A DEPTH OF SIX FEET (6') OF COVER OVER THE WATER MAIN IS PREFERRED. THE PLAN PROFILE VIEWS SHOW THE APPROXIMATE DEPTH OF THE EXISTING CROSSING UTILITIES, WHICH WERE MARKED AT THE TIME OF THE SURVEY, EXCEPT THE SANITARY SEWER LATERALS. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING UTILITIES, TO DETERMINE THE PROPOSED WATER MAIN DEPTH, INCLUDING BUT NOT LIMITED TO THE EXISTING WATER MAINS, HYDRANT LEADS AND LATERALS, SANITARY SEWER MAINS AND LATERALS, STORM SEWERS, GAS MAINS AND LATERALS, ALL ELECTRICAL, TELEPHONE AND FIBER OPTIC LINES. ANY DAMAGE THAT MAY BE DONE TO THE SERVICE LATERALS OR ANY EXISTING UTILITY WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR THE NECESSARY MATERIALS, EXCAVATION, BACKFILL, COMPACTION AND MAINTENANCE OF DITCHES FOR THIS WORK.

**WATER MAIN NOTES**

**WATERMAIN**

- ALL 8" WATERMAIN CONSTRUCTED AS PART OF THIS PLAN SHALL BE PVC, C-900, CLASS 150 (DR-18).
- PVC PIPE SHALL HAVE PUSH-ON JOINTS WITH RUBBER GASKET.
- HYDRANTS SHALL BE SET AT 2 FT. BEHIND THE BACK OF CURB, WITH THE NOZZLE ELEVATION 20 INCHES ABOVE TOP OF CURB.
- ANCHOR TEES SHALL BE USED FOR EACH HYDRANT BRANCH.
- ALL WATERMANS (AND SERVICES) CALLED FOR ON THESE PLANS ARE TO BE INSTALLED WITH CLASS "B" BEDDING AS SPECIFIED IN CH. 4.3.0, LAYING OF WATERMAIN, AND FILE NO. 36, PART VII (SSSWC).

**TRACER WIRE NOTE**

- CONTRACTOR SHALL INSTALL PLASTIC COATED TRACER WIRE (10 TO 14 GAUGE SOLID COPPER OR COPPER COATED STEEL WIRE) PER COMM 82.30(1)(4). PLASTIC WIRE MAY BE TAPED TO PLASTIC PIPE. IF ATTACHED, THE TRACER SHALL BE SECURED EVERY 6 TO 20 FEET AND AT ALL BENDS. TRACER WIRE SHALL HAVE ACCESS POINTS AT LEAST EVERY 300 FEET.

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL 8-INCH GATE VALVES AND VALVE BOXES INCLUDING POLYETHYLENE WRAP, BEDDING, COVER AND COMPACTED GRANULAR BACKFILL. THE CONTRACTOR SHALL CHECK ALL NUTS AND BOLTS FOR TIGHTNESS, PRIOR TO INSTALLING VALVES. ANY VALVE NUT THAT NEEDS TO BE PLACED DEEPER THAN SEVEN FEET (7.0') BELOW FINISHED GRADE, THE CONTRACTOR SHALL INSTALL A VALVE EXTENSION ON THE NUT. THE TOP OF THE VALVE NUT EXTENSION SHALL BE BETWEEN 4" AND 6" FROM THE FINISHED GRADE. THE CONTRACTOR IS RESPONSIBLE FOR THE NECESSARY MATERIALS, EXCAVATION, BACKFILL, COMPACTION AND MAINTENANCE OF DITCHES FOR THIS WORK. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL HYDRANT ASSEMBLIES, WHICH INCLUDES 8" X 6" ANCHOR TEES, 6" HYDRANT VALVES AND VALVE BOXES AND 6" DUCTILE IRON HYDRANT LEADS INCLUDING BEDDING, COVER AND COMPACTED GRANULAR BACKFILL. THE CONTRACTOR SHALL CHECK ALL NUTS AND BOLTS FOR TIGHTNESS, PRIOR TO INSTALLING HYDRANTS.

THE FRONT NOZZLE MUST BE A MINIMUM OF EIGHTEEN INCHES (18") BEHIND THE BACK OF CURB OR AS SHOWN ON THE PLANS AND THE CENTER OF THE NOZZLE SHALL BE BETWEEN 18" AND 24" ABOVE FINAL GRADE. THE TRACER WIRE ACCESS BOX SHALL BE INSTALLED DURING THE HYDRANT INSTALLATION, PER FIGURE 2 OF THE WWU STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL ALSO PROVIDE THE CHLORINATION, FLUSHING AND PRESSURE TESTING PER THE LISTED SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR THE NECESSARY MATERIALS, EXCAVATION, BACKFILL, COMPACTION AND MAINTENANCE OF DITCHES FOR THIS WORK. THE COST OF THIS WORK SHALL BE PAID FOR UNDER THE UNIT BID ITEM "FURNISH AND INSTALL HYDRANT ASSEMBLY".

THE CONTRACTOR WILL NEED TO INSTALL A 5 POUND ANODE BAG TO EACH COPPER SERVICE LATERAL. THE WAUKESHA WATER UTILITY WILL PROVIDE THE ANODES. THE CONNECTION SHALL BE MADE ON THE FITTING END THAT CONNECTS TO THE COPPER PIPE, IN THE TRACER WIRE ATTACHMENT NUT.

**- WATER SERVICE LATERALS:**  
THE CONTRACTOR SHALL TAP THE NEW WATER MAIN FOR A 1 1/4" SERVICE USING AN 8" X 1 1/4" TAPPING SADDLE FOR PVC WATER MAIN OR A DIRECT TAP FOR D.I. WATER MAIN USING A 1 1/4" CORPORATION AND CONNECT THE EXISTING COPPER SERVICE LATERAL INTO THE CORPORATION. THERE SHOULD BE NO PIPE REQUIRED FOR THESE SERVICES; THE EXISTING COPPER SHOULD BE ABLE TO BE BENT INTO THE NEW 1 1/4" CORPORATION. ALL COPPER PIPE CONNECTIONS TO BE COMPRESSION CONNECTIONS.

**SANITARY SEWER**

ALL PIPE MUST BE INSPECTED AND MARKED PRIOR TO DELIVERY TO THE JOB BY AN ACCREDITED TESTING LABORATORY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL PUMPS, CONDUITS, AND OTHER EQUIPMENT REQUIRED TO DIVERT THE FLOW OF SEWAGE AROUND THE WORK AREA. THE CONTRACTOR SHALL INSURE THAT SURCHARGING AND BACKUPS DO NOT OCCUR ON PUBLIC AND PRIVATE PROPERTY. THE CONTRACTOR WILL BE REQUIRED TO MAKE A TEMPORARY CONNECTION BETWEEN THE EXISTING AND PROPOSED SEWERS AND REMOVE ANY DIVERSION METHODS AT THE END OF THE DAY.

INSTALL A PLUG IN SANITARY SEWER PRIOR TO STARTING AT MOST DOWNSTREAM MANHOLE.

**- MATERIALS:**  
ALL 8" SANITARY SEWER SHALL BE POLYVINYL CHLORIDE SDR-35.  
ALL SANITARY LATERALS SHALL BE 6" POLYVINYL CHLORIDE SDR-35.

**CHIMNEY REPLACEMENT**

THE ENTIRE CHIMNEY ON ALL SANITARY AND STORM MANHOLES SHALL CONSIST OF ADJUSTMENT RINGS MANUFACTURED FROM APRRO EXPANDED POLYPROPYLENE (EPP). THE RINGS SHALL BE MANUFACTURED USING A HIGH COMPRESSION MOLDING PROCESS TO PRODUCE A FINISHED DENSITY OF 120 G/L (7.5 PCF). MATERIAL SHALL BE PRO-RING AS SUPPLIED BY CRETEX SPECIALTY PRODUCTS.

THE REPLACEMENT AND ANY ADJUSTMENT OF CHIMNEYS ON EXISTING MANHOLES WITHIN THE PAVING LIMITS SHALL CONSIST OF REMOVING THE ENTIRE CHIMNEY DOWN TO THE CONE SECTION AND REPLACING WITH THE PRO-RINGS TO THE PROPOSED ELEVATIONS.

THE CHIMNEYS ON NEW MANHOLES ARE TO BE BUILT TO THE PROPOSED GRADES AND SHALL BE MINIMUM HEIGHT OF 4 INCHES AND A MAXIMUM HEIGHT OF 8 INCHES.

**INSTALLATION NOTES:**

- INSTALLATION AND SURFACE PREPARATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- REPAIR ANY SURFACE DEFECTS OR IRREGULARITIES OF THE TOP OF THE MANHOLE USING A UNIFORM BED OF NON-SHRINK GROUT MEETING THE REQUIREMENTS NOTED BELOW.
- THE JOINT BETWEEN THE FIRST GRADE RING AND MANHOLE CONE SHALL BE SEALED USING AN ADHESIVE/SEALANT MEETING THE REQUIREMENTS NOTED BELOW.
- THE JOINTS BETWEEN ALL MANHOLE ADJUSTMENT RINGS SHALL BE SEALED USING AN ADHESIVE/SEALANT NOTED BELOW.
- THE JOINT BETWEEN THE TOP MANHOLE ADJUSTMENT RING AND THE FRAME SHALL NOT BE SEALED WITH ADHESIVE/SEALANT. ON SANITARY MANHOLES, THIS JOINT WILL BE SEALED WITH AN INTERNAL FRAME-CHIMNEY SEAL. THE WIDTH OF THE SEAL SHALL BE THE MINIMUM THAT IS NECESSARY TO SEAL THE JOINT BETWEEN THE FRAME AND THE EXPANDED POLYPROPYLENE (EPP) RINGS. SEAL SHALL BE MANUFACTURED BY CRETEX SPECIALTY PRODUCTS.
- ALL CASTINGS SHALL BE CENTERED OVER THE OPENING OF THE CORBEL AND ADJUSTING RINGS. THE TOP ADJUSTING RING UPON WHICH THE CASTING IS SET SHALL BE LEVEL FROM SIDE TO SIDE UNLESS A PITCH IS REQUIRED TO MATCH THE SURFACE IN PAVED AREAS.

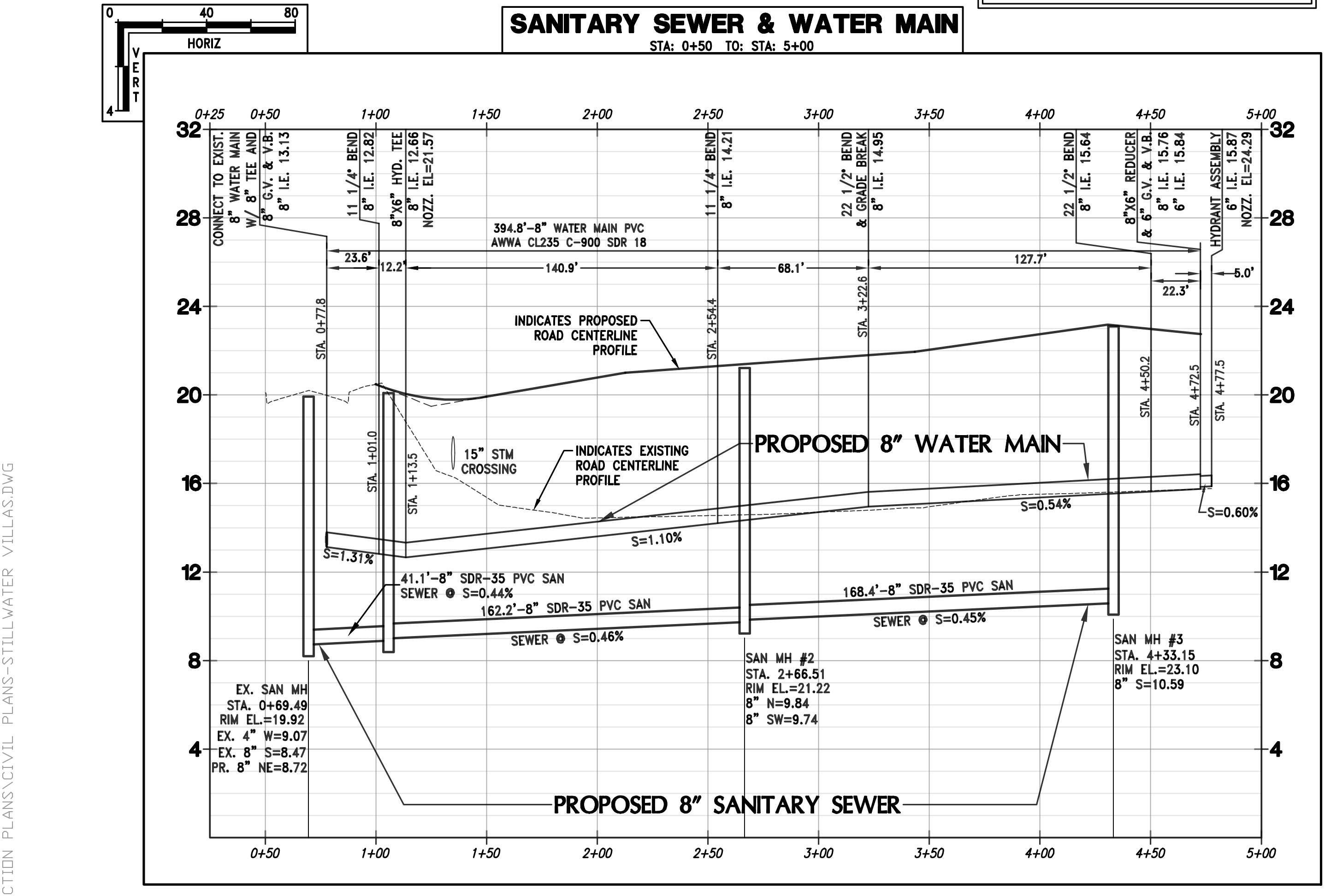
ANY NON-SHRINK MORTAR GROUT SHALL BE IPATOP-PENNGROUT MANUFACTURED BY IPA SYSTEMS, INC. (WWW.IPASYSTEMS.COM) OR ENGINEER APPROVED EQUAL. THE MATERIAL SHALL CONTAIN A BALANCED BLEND OF WASHED AND GRADED SILICA SAND, FINELY GROUND PORTLAND CEMENT, AND APPLICABLE SPECIAL ADDITIVE(S). CONTRACTOR MUST SUPPLY THE ENGINEER WITH VERIFICATION OF THE PRODUCT USED.

ANY ADHESIVE OR SEALANT USED FOR WATERTIGHT INSTALLATION OF THE PRO-RING MANHOLE GRADE ADJUSTMENT RINGS SHALL BE M-1 STRUCTURAL ADHESIVE/SEALANT OR EQUAL MEETING THE FOLLOWING SPECIFICATIONS:

- ASTM C-920, TYPE S, CLASS NS, CLASS 25, USES NT, T, M, G, A AND O
- FEDERAL SPECIFICATION TT-S-00230-C TYPE II, CLASS A
- CORPS OF ENGINEERS CRD-C-541, TYPE II, CLASS A
- CANADIAN STANDARDS BOARD CAN 19, 13-M82
- AAMA 802.3-08 TYPE II, AAMA 803.3-08 TYPE I AND AAMA 805.2-08 GROUP C

NO OTHER MATERIAL SHALL BE USED IN THE CONSTRUCTION OF THE CHIMNEY SECTION BEYOND THOSE MATERIALS INDICATED ABOVE. THIS INCLUDES WOOD SHIMS, BRICKS, STONES, ETC.

THE CONTRACTOR SHALL INSTALL CHIMNEY SEALS IN ALL SANITARY MANHOLES UNDER THIS CONTRACT. THE WIDTH OF THE SEAL SHALL BE THE MINIMUM THAT IS NECESSARY TO SEAL THE JOINT BETWEEN THE FRAME AND THE EXPANDED POLYPROPYLENE (EPP) RINGS. SEAL SHALL BE MANUFACTURED BY CRETEX SPECIALTY PRODUCTS.



CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.  
**CALL DIGGERS HOTLINE 1-800-242-8511**

**NOTE:**  
EXISTING UNDERGROUND UTILITY INFORMATION WAS OBTAINED FROM AVAILABLE RECORDS. THE ENGINEER MAKES NO GUARANTEE AS TO THE ACCURACY OF THIS INFORMATION. VERIFICATION TO THE SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN LOCATION OF UTILITIES IN THE FIELD AND LOCATIONS SHOWN ON THE PLANS.

**COMPACTION NOTE**

- THE DEVELOPER SHALL CONTRACT WITH A SOIL TESTING FIRM TO PERFORM COMPACTION TESTING ON TRENCHES FOR ALL PROJECTS. THE DEVELOPER WILL BE REQUIRED TO MEET A MINIMUM COMPACTION OF 90% STANDARD PROCTOR DENSITY IN THE BOTTOM 3 FEET AND A MINIMUM COMPACTION OF 85% STANDARD PROCTOR DENSITY IN THE TOP 3 FEET OF THE EXCAVATED MATERIAL ON GRANULAR BACKFILL.

**BACKFILL NOTES**

- BACKFILL FOR ALL TRENCHES SHALL BE 1 1/4" CRUSHED LIMESTONE TB (SECTION 305.2.2.1 OF THE WISDOT STD. SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION) UNLESS OTHERWISE NOTED IN THE PROFILE OR IN THE PROJECT SPECIFICATION.

**WISCONSIN PROFESSIONAL ENGINEER**

JOSHUA D. PUDELKO  
E-39420  
WAUKESHA, WI

**TRIO**  
CIVIL ENGINEERING

12650 W. NORTH AVE, BLDG D  
BROOKFIELD, WI 53005  
PHONE: (262) 790-1480  
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**PROJECT:**  
**STILLWATER VILLAS**  
CITY OF WAUKESHA, WISCONSIN

**BY:** BIELINSKI COMMERCIAL, LLC.  
1830 MEADOW LN., SUITE A  
PEWAUKEE, WI 53072

**REVISION HISTORY**

DATE	DESCRIPTION
03/11/16	SWMP REVISIONS
12/17/15	CIVIL REVISIONS
08/24/15	CIVIL REVISIONS
04/03/15	CIVIL PLANS
05/08/15	UPDATED BUILDINGS

**DATE:**  
MARCH 11, 2016

**JOB NUMBER:**  
14024

**DESCRIPTION:**  
**SANITARY SEWER & WATER MAIN PLAN & PROFILE**

**SHEET**  
**C1.5**

H:\C9000\966\14024-01\CONSTRUCTION PLANS\CIVIL PLANS-STILLWATER VILLAS.DWG



**COMPLIANT DOCUMENTATION:**

THE LATEST EDITIONS OF THE FOLLOWING DOCUMENTS AND ANY SUPPLEMENTS THERETO, SHALL GOVERN ALL CONSTRUCTION ITEMS ON THIS PLAN UNLESS OTHERWISE NOTED.

- STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, 6TH EDITION (SSWCW)
- THE WISCONSIN D.O.T. STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
- WDR STORMWATER RUNOFF TECHNICAL STANDARDS.
- WISDOT PAL APPROVED EROSION CONTROL MEASURES LIST, LATEST EDITION.
- CITY OF WAUKESHA DEVELOPMENT STANDARDS, LATEST EDITION.

**CONTRACTOR RESPONSIBILITY:**

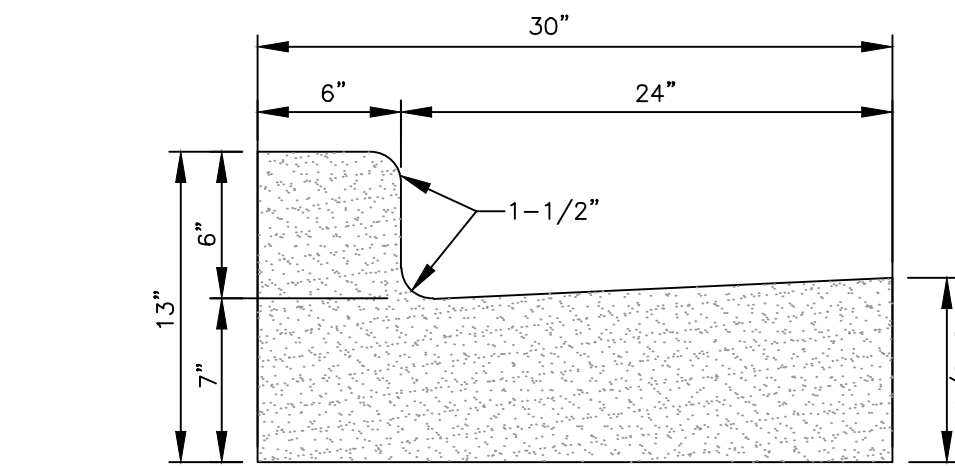
- EXISTING UNDERGROUND UTILITY INFORMATION WAS OBTAINED FROM AVAILABLE RECORDS AND FIELD SURVEY. THE ENGINEER MAKES NO GUARANTEE AS TO THE ACCURACY OF THIS INFORMATION. VERIFICATION TO THE SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN LOCATION OF UTILITIES IN THE FIELD AND LOCATIONS SHOWN ON THE PLANS.
- THE LOCATION, SUPPORT, PROTECTION AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS ITEMS.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO THE RESPONSIBILITY OF THE CONTRACTOR AND SUB-CONTRACTOR(S) TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THIS WORK. THE CONTRACTOR SHALL ALSO BE SOLELY RESPONSIBLE FOR ALL REQUIRED PERMITS, UNLESS OTHERWISE SPECIFIED.
- THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER AS CONSTRUCTION ACTIVITIES ARE COMPLETED TO PROVIDE CONSTRUCTION OVERSIGHT AND INSPECTION IN ACCORDANCE WITH THE CONSTRUCTION INSPECTION PLAN.
- THE OWNER WILL PROVIDE ALL SURVEYING AND CONSTRUCTION STAKING FOR THIS CONTRACT. THE CONTRACTOR SHALL EXERCISE CARE AND DILIGENCE IN PROTECTING THE SAME. ANY EXPENSE INCURRED FOR ADDITIONAL RESTAKING CAUSED BY CONTRACTOR'S NEGLIGENCE MAY BE CHARGED TO THE CONTRACTOR AND DEDUCTED FROM THE SUMS DUE HIM UNDER THIS CONTRACT.
- ALL TRENCHES SHALL BE BACKFILLED OR SECURELY PLATED DURING NON-WORKING HOURS.
- CONTRACTOR SHALL BE PREPARED FOR DEWATERING CONDITIONS BY HAVING APPROPRIATE PUMPS AND FILTER BAGS ON SITE FOR DEWATERING AND REMOVAL OF ALL SEDIMENT PER CITY, COUNTY AND WDR REQUIREMENTS PER TECHNICAL STANDARD 1061.

**TRAFFIC CONTROL:**

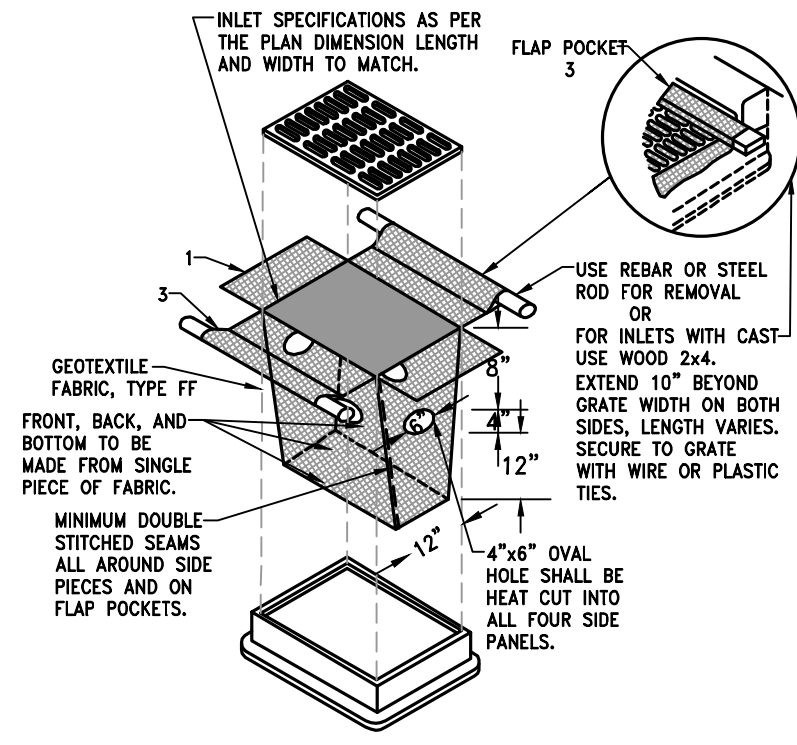
- PUBLIC ROADS SHALL NOT BE FULLY CLOSED TO TRAFFIC AT ANY TIME. ALL INGRESS AND EGRESS TRAFFIC TO THE PROJECT SHALL BE LIMITED TO THE GRAVEL ENTRANCE TO THE PROPERTY.

**CONSTRUCTION NOTES:**

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, STATE OF WISCONSIN, LATEST EDITION, UNLESS OTHERWISE CALLED FOR ON THE PLANS, SPECIFICATIONS OR SPECIAL PROVISIONS.
2. ALL EROSION CONTROL MEASURES SPECIFIED ON THIS PLAN SHALL MEET THE DESIGN CRITERIA, STANDARDS AND SPECIFICATIONS AS SET FORTH IN THE DEPARTMENT OF NATURAL RESOURCES WISCONSIN BEST MANAGEMENT PRACTICE HANDBOOK AND TECHNICAL STANDARDS.
3. ALL EROSION CONTROL DEVICES (I.E., SILT FENCE, SILT SOCK, GRAVEL ENTRANCE, SILTATION BASIN, ETC.), SHALL BE INSTALLED PRIOR TO COMMENCING ANY GRADING OR UTILITY CONSTRUCTION. GRADING ASSOCIATED WITH INSTALLATION OF EROSION OR SEDIMENTARY PRACTICES MAY OCCUR CONCURRENTLY WITH INSTALLATION OF PRACTICES.
4. ALL ACTIVITIES ON THE SITE SHALL BE CONDUCTED IN A LOGICAL SEQUENCE TO MINIMIZE THE AREA OF BARE SOIL EXPOSED AT ANY ONE TIME. REFER TO THE CONSTRUCTION SEQUENCING PLAN FOR ADDITIONAL INFORMATION.
5. THE OWNER IS RESPONSIBLE FOR OBTAINING A GRADING AND/OR EROSION CONTROL PERMIT (OR ANY OTHER APPLICABLE PERMITS) PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE, ALL TOWN UTILITY DEPARTMENTS, AND GOVERNMENT UNITS WHOSE PROPERTY MAY BE AFFECTED BY THE CONTRACTOR'S OPERATIONS AT LEAST THREE (3) DAYS BEFORE BREAKING GROUND. DIGGERS HOTLINE NUMBER IS 1-800-242-8511.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE CLEANLINESS OF THE PROJECT AND PUBLIC ROADWAYS DURING CONSTRUCTION PER THE REQUIREMENTS SET FORTH BY THE LOCAL AND COUNTY AGENCIES. STREETS SHALL BE KEPT FREE OF SILT OR DIRT TRACKED FROM AREAS UNDER CONSTRUCTION BY SWEEPING OR OTHER APPROPRIATE MEASURES. DUST GENERATED BY CONSTRUCTION ACTIVITIES SHALL BE MINIMIZED BY USE OF WATERING, CALCIUM CHLORIDE SURFACE TREATMENT, CONSTRUCTION SCHEDULING OR OTHER APPROPRIATE METHODS.
8. INLETS SHALL BE PROTECTED WITH AN EROSION BARRIER MEETING WDR TECHNICAL STANDARD 1060 UNTIL THE AREA HAS BEEN STABILIZED. FREQUENT INSPECTION AND TIMELY MAINTENANCE IS REQUIRED.
9. UPON COMPLETION OF THE WORK AS SPECIFIED, RESPREAD A MINIMUM OF FOUR (4") INCHES OF SALVAGED TOPSOIL OVER ALL DISTURBED AREAS AND PROVIDE SEED, FERTILIZER AND MULCH PER THE STANDARD SPECIFICATIONS.
10. ALL DISTURBED AREAS SHALL BE REVEGETATED WITHIN SEVEN DAYS AFTER BEING DISTURBED USING THE SEED MIX SPECIFIED ON THE PLANS.
11. ALL EROSION CONTROL DEVICES SHALL BE ROUTINELY INSPECTED EVERY SEVEN DAYS AND WITHIN 24 HOURS OF A RAINFALL GREATER THAN 0.5 INCHES. CONTRACTOR IS REQUIRED TO PERFORM INSPECTIONS, KEEP A LOG, AND REPAIR BMP'S AS NEEDED.
12. REFER TO EROSION CONTROL PLAN FOR SITE EROSION CONTROL ELEMENTS, REQUIREMENTS.



**30" VERT. FACE CURB & GUTTER**  
NO SCALE



**INLET PROTECTION DETAIL**  
NO SCALE

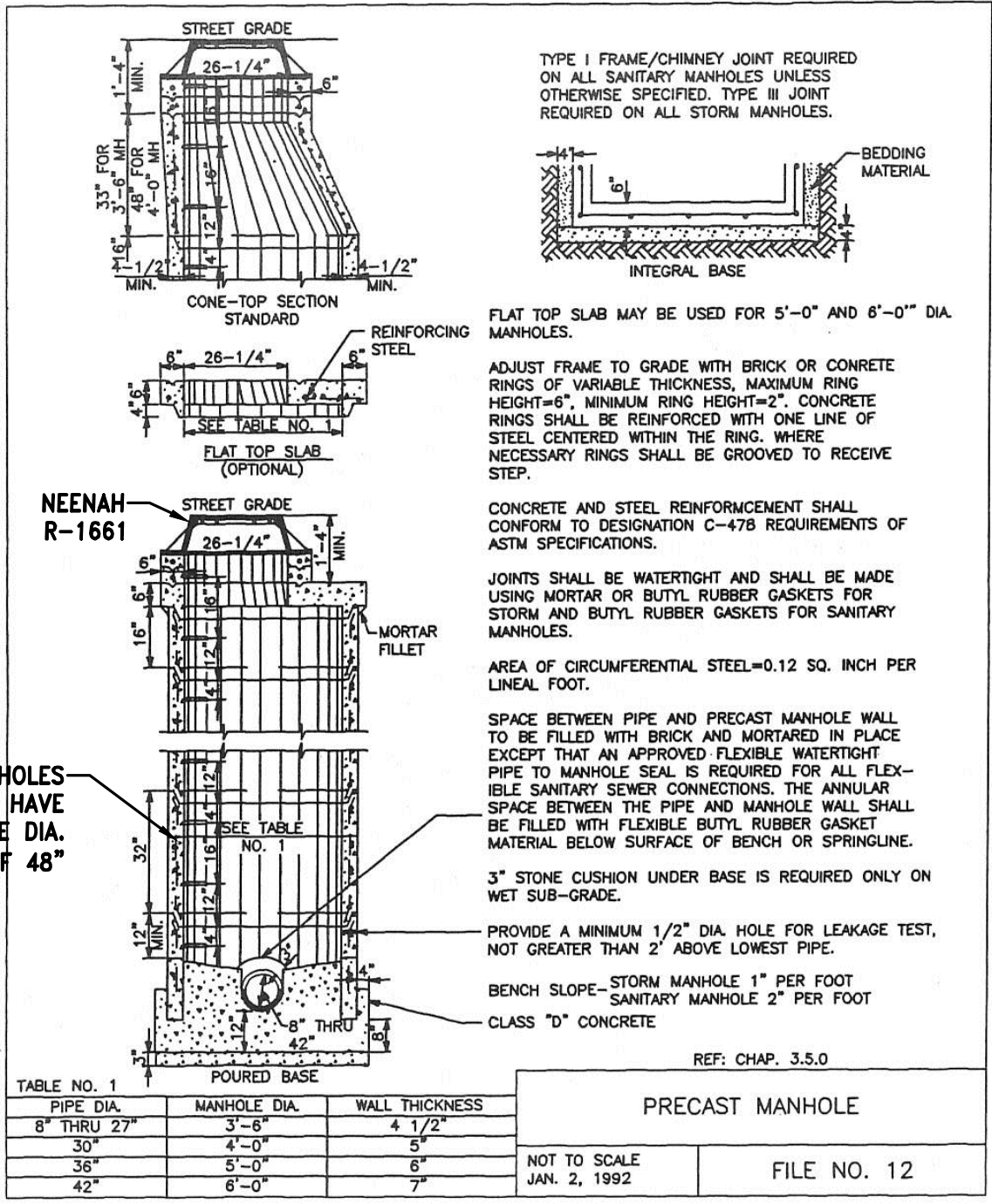
**GENERAL NOTES:**

- MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.
- WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.
- 1. FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- 2. FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- 3. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

**INSTALLATION NOTES:**

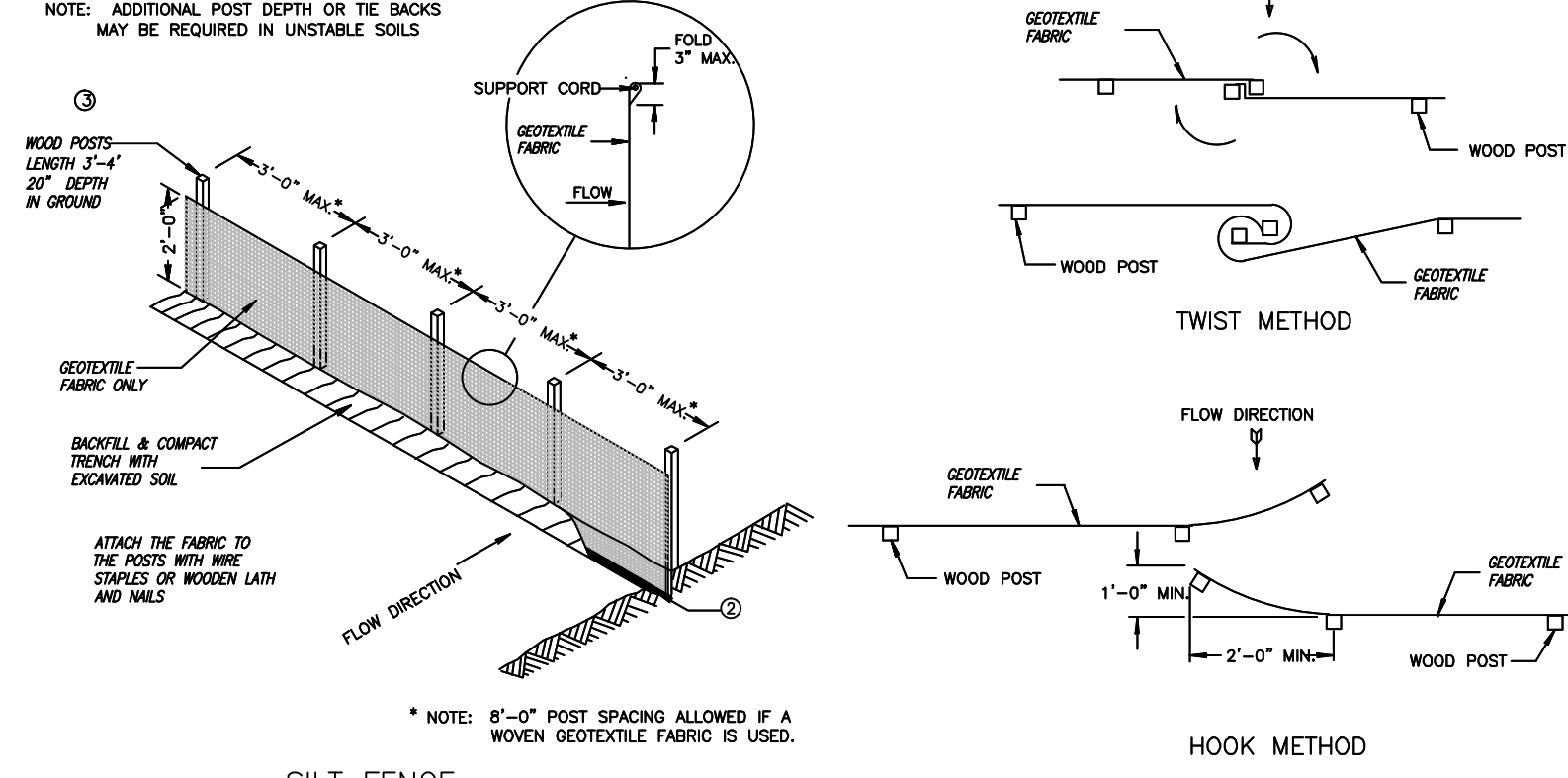
- TYPE D  
DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.
- TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.
- THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCHE 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.

ALL MANHOLES ARE TO HAVE AN INSIDE DIA. OF 48"



**SANITARY MANHOLE DETAIL**  
NO SCALE

NOTE: POLYPROPYLENE CHIMNEY RINGS SHALL BE USED.

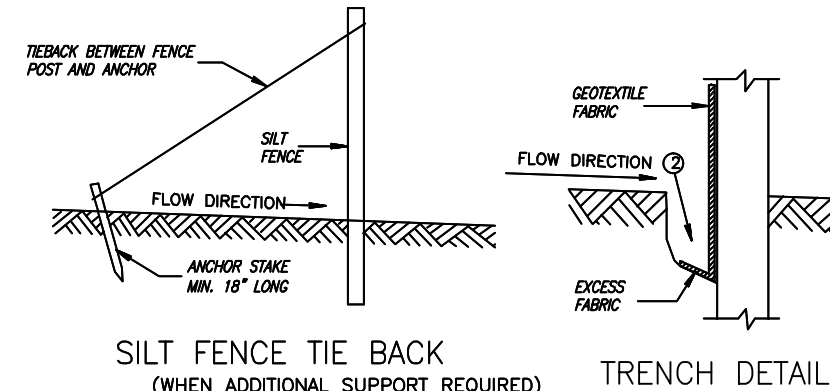


**SILT FENCE**

**JOINING TWO LENGTHS OF SILT FENCE**

**GENERAL NOTES**

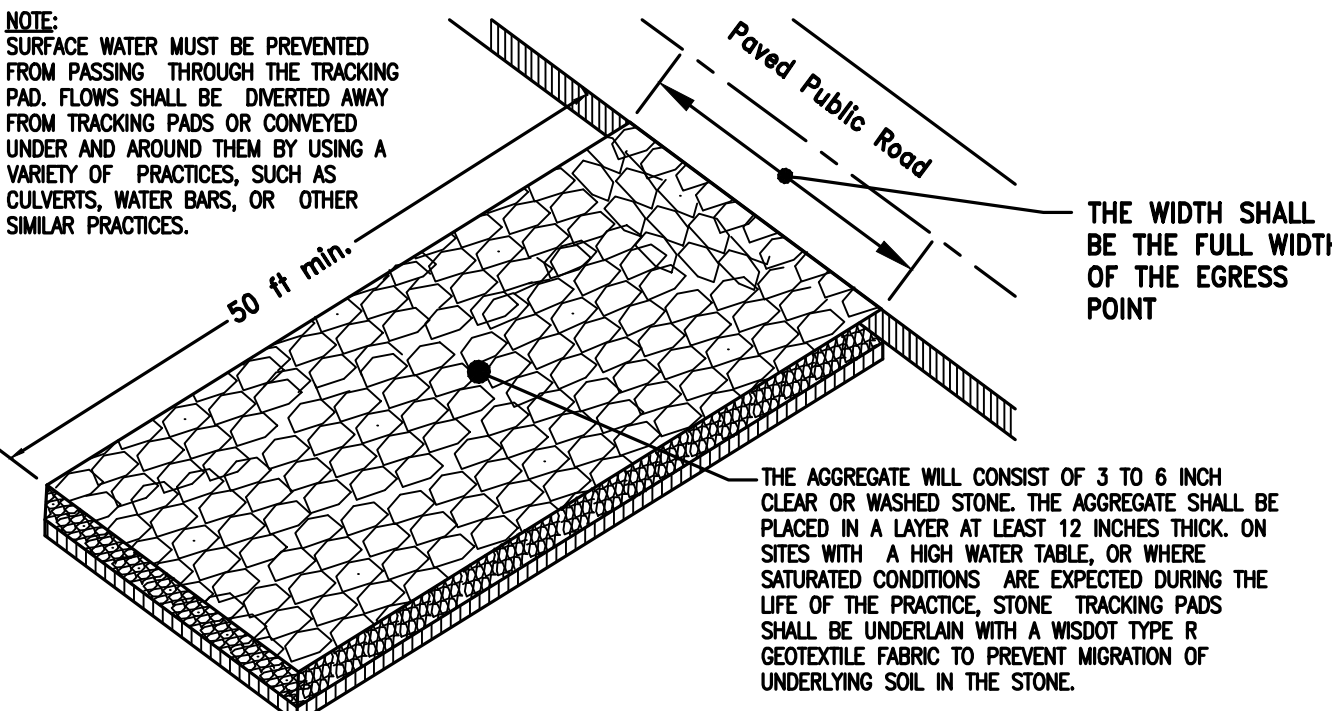
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BRIDGE & COMPACT TRENCH WITH EXHAUSTED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/2"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



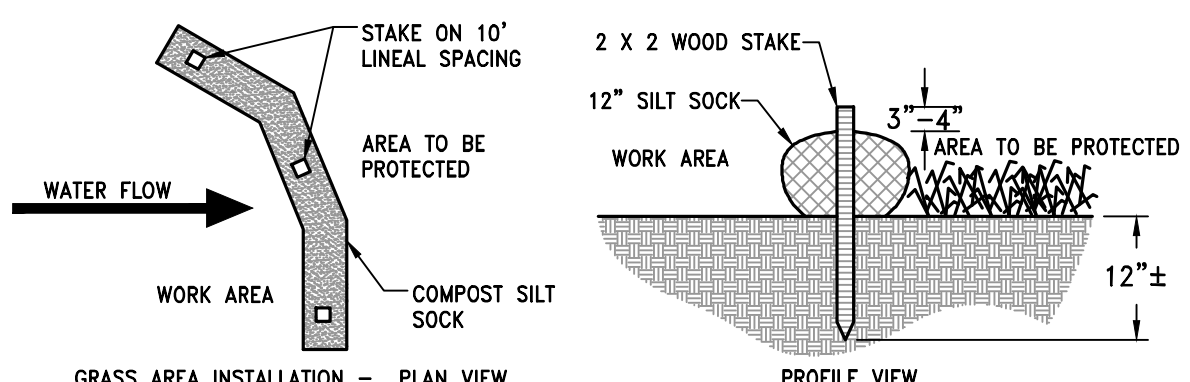
**SILT FENCE TIE BACK**

**TRENCH DETAIL**

**SILT FENCE INSTALLATION DETAIL**  
NO SCALE



**CONSTRUCTION ENTRANCE DETAIL**  
NO SCALE



**RIP-RAP DETAIL**  
NO SCALE

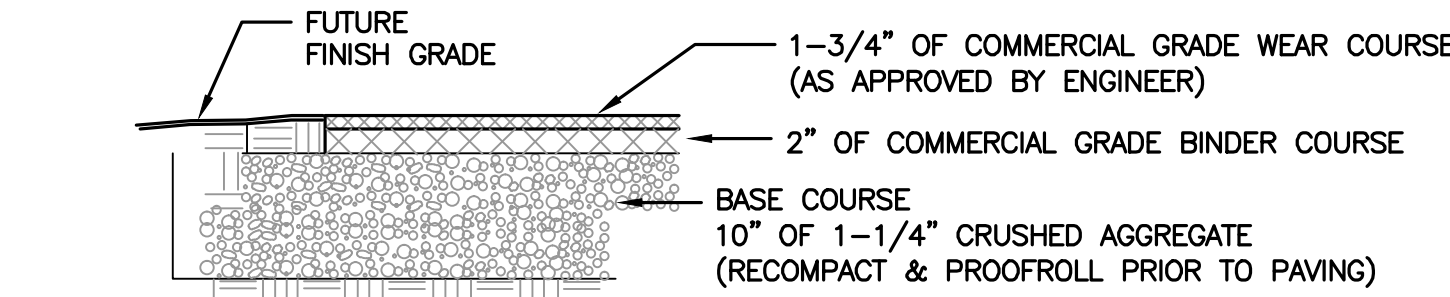
**GRASS AREA INSTALLATION - PLAN VIEW**

**PROFILE VIEW**

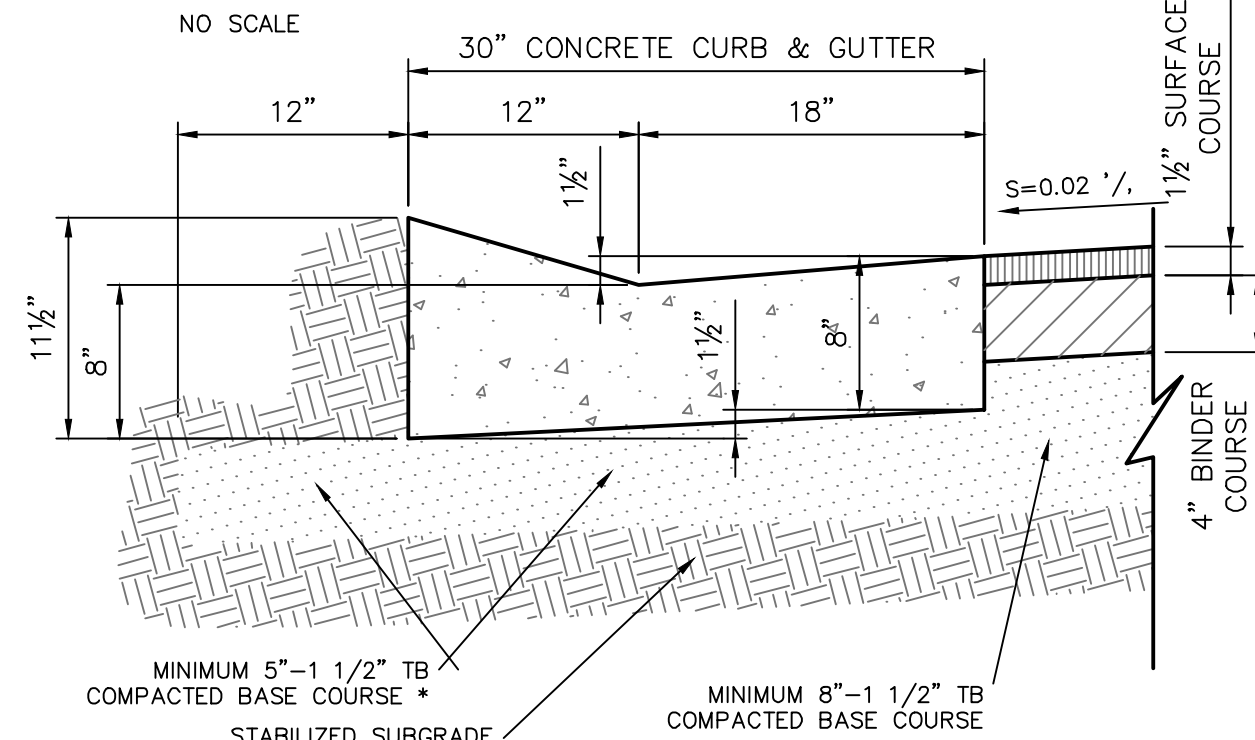
**NOTES:**

1. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS REFER TO MANUFACTURERS AND/OR SUPPLIERS. SPECIFICATIONS FOR INSTALLATION RECOMMENDATIONS.
2. ACTUAL LOCATION MAY BE FIELD ADJUSTED TO MINIMIZE DISTURBANCE TO EXISTING VEGETATION.

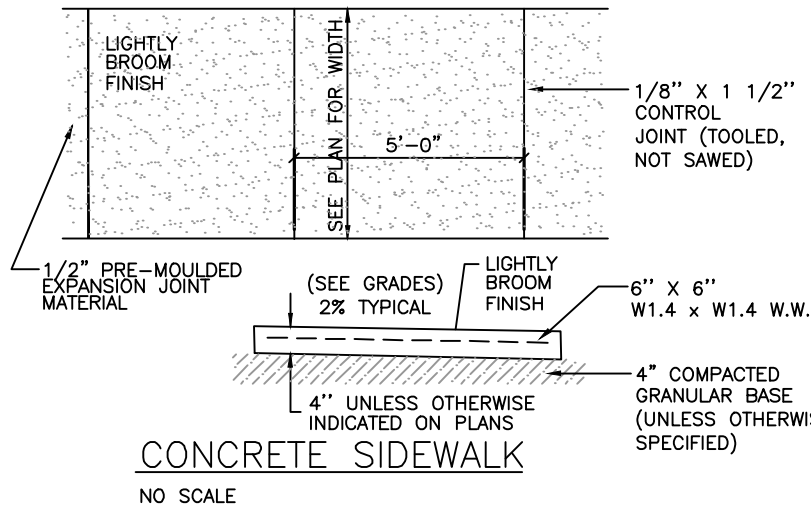
**SILT SOCK DETAIL**  
NO SCALE



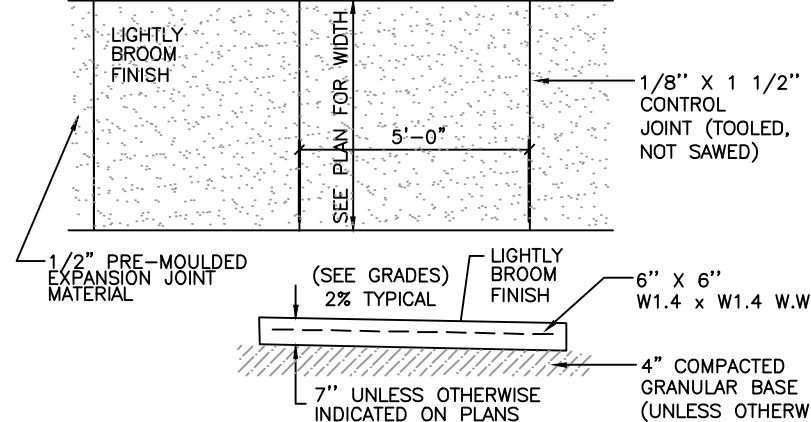
**STANDARD ASPHALT PAVING DETAIL**  
NO SCALE



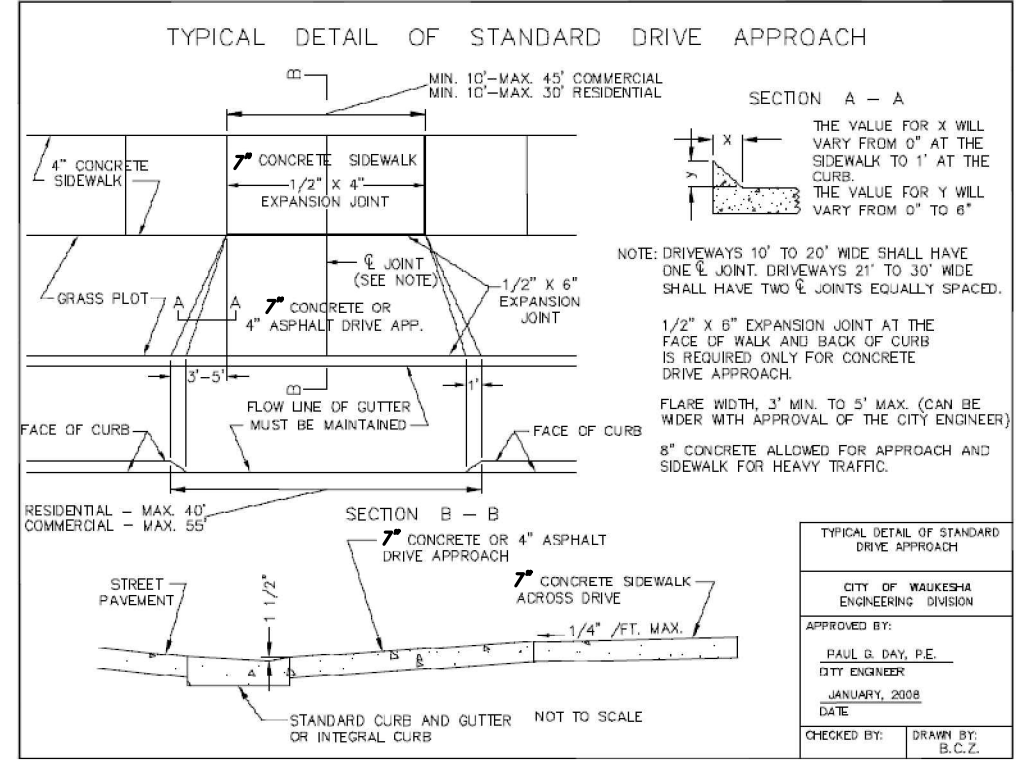
**MOUNTABLE CONCRETE CURB & GUTTER**  
NO SCALE



**CONCRETE SIDEWALK**  
NO SCALE



**CONCRETE SIDEWALK AT DRIVEWAY APRON**  
NO SCALE



**TYPICAL DETAIL OF STANDARD DRIVE APPROACH**

**TEMPORARY DEWATERING GEOTEXTILE BAG**

1. IF DEWATERING IS REQUIRED, A GEOTEXTILE DEWATERING BAG MEETING THE SPECIFICATIONS IN THE TABLE TO THE RIGHT SHALL BE UTILIZED AS STATED ON THE EROSION CONTROL PLAN.
2. REFER TO WDR TECHNICAL STANDARDS 1061 AND MANUFACTURERS REQUIREMENTS FOR INSTALLATION AND MAINTENANCE REQUIREMENTS.
3. CONTRACTOR MAY USE THRACE-LING, INC 275X GEOTEXTILE BAG, OR FUNCTIONAL EQUIVALENT TO MEET TECHNICAL STANDARD REQUIREMENTS.
4. CONTRACTOR MAY INSTALL HAY BALES AROUND DEWATERING BAG FOR STABILIZATION AS DICTATED BY SITE CONDITIONS.
5. MAX FLOW RATE SHALL NOT EXCEED 70GPM.
6. GEOTEXTILE BAG SHALL BE LOCATED ON UNDISTURBED GROUND WITH ESTABLISHED VEGETATIVE COVER. DISCHARGES OF TREATED WATER FROM THE GEOTEXTILE FILTER BAG SHALL NOT FLOW OVER UNSTABILIZED GROUND.

Property	Test Method	Type I Value
Maximum Apparent Opening Sizes	ASTM D-4751	0.212 mm
Grab Tensile Strength	ASTM D-4632	200 lbs.
Mullen Burst	ASTM D-3786	350 psi
Permeability	ASTM D-4491	0.28 cm/sec
Fabric	Nominal Representative Weight	8 oz



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**PROJECT:**  
**STILLWATER VILLAS**  
CITY OF WAUKESHA, WISCONSIN  
BY: **BIELINSKI COMMERCIAL, LLC.**  
1830 MEADOW LN., SUITE A  
PEWAUKEE, WI 53072

**REVISION HISTORY**

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**DATE:**

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**JOB NUMBER:**

14024

**DESCRIPTION:**

**CONSTRUCTION NOTES & DETAILS**

**SHEET**

**C1.6**



**INFILTRATION BASIN CONSTRUCTION NOTES**

- IT IS RECOMMENDED THAT THE RAIN GARDEN AREA BE PROTECTED FROM SITE AND BUILDING CONSTRUCTION RUNOFF ONCE IT IS CONSTRUCTED. CONTRACTOR SHALL UTILIZE SILT FENCE OR TEMPORARY BERMING UPSLOPE OF THE RAIN GARDEN DURING BUILDING CONSTRUCTION IF THE RAIN GARDEN IS COMPLETED PRIOR TO BUILDING CONSTRUCTION.
- ONCE CONSTRUCTION OF A RAIN GARDEN BEGINS, THE CONTRACTOR SHALL AVOID TRACKING HEAVY EQUIPMENT OVER THE RAIN GARDEN BOTTOM AREA.
- VEGETATION WITHIN THE BOTTOM OF THE RAIN GARDEN SHALL BE ESTABLISHED USING NATIVE (PRAIRIE) SEEDING IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1003.

**RAIN GARDEN BOTTOM RESTORATION NOTES**

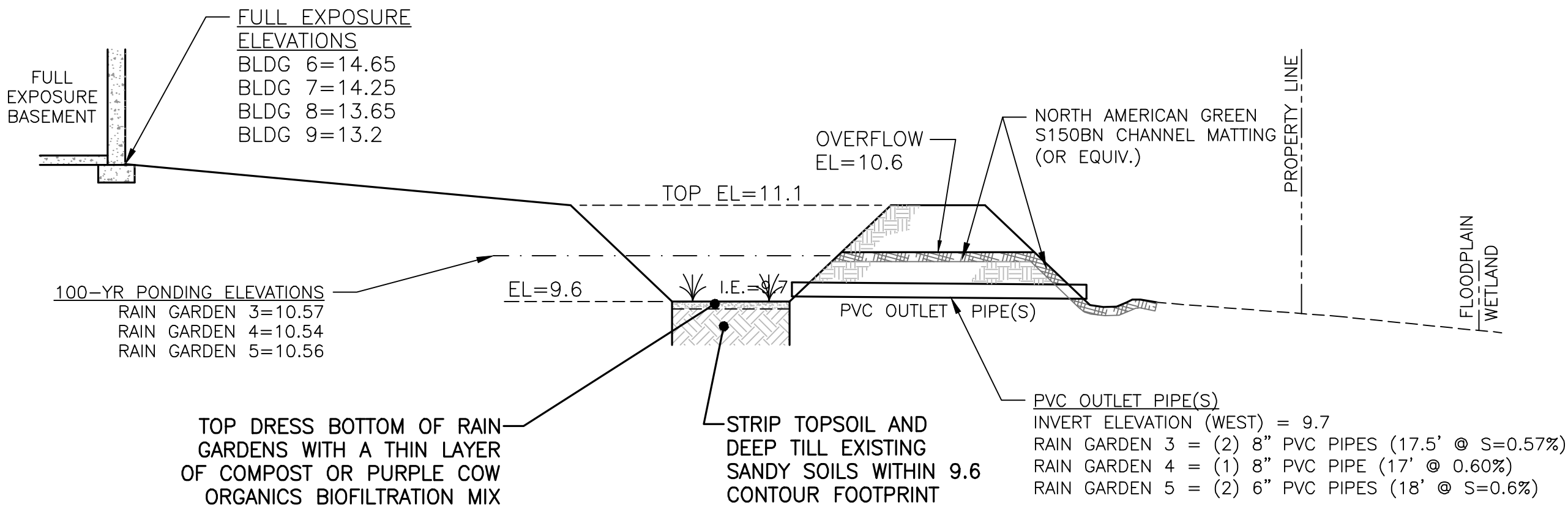
- THE BOTTOM OF THE RAIN GARDEN SHALL BE STRIPPED OF TOPSOIL AND ANY SURFICIAL CLAY LAYER(S).
- THE UNDERLYING SANDY SOILS SHALL BE DEEP TILLED A THIN LAYER OF COMPOST OR PURPLE COW ORGANICS BIOFILTRATION MEDIA SPREAD ON THE BOTTOM OF THE RAIN GARDEN AREA.
- SEED WITH PRAIRIE MOON NURSERY INFILTRATION BASIN MIX OR FUNCTIONAL PRAIRIE SEEDING EQUIVALENT. FOLLOW SEEDING RATES PROVIDED BY THE SUPPLIER.
- INSTALL STRAW MATTING IF/AS APPROPRIATE WITHIN RAIN GARDENS 2, 3 AND 5.

**GENERAL RESTORATION REQUIREMENTS**

- TRACKED EQUIPMENT AND LOW WEIGHT VEHICLES SHALL BE USED TO CONSTRUCT RAIN GARDEN.
- RAIN GARDEN SHALL BE CONSTRUCTED IN A MANNER THAT MINIMIZES SOIL COMPACTION.
- IF A COMPOST COMPONENT IS USED, IT SHALL MEET THE REQUIREMENTS OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS S100 - COMPOST.
- REFER TO THE PROPOSED LANDSCAPING PLAN FOR INFILTRATION AREA PLANTINGS.
- ALL SLOPES 4:1 OR GREATER SHALL BE MATTING WITH CLASS 1, TYPE A EROSION MATTING.

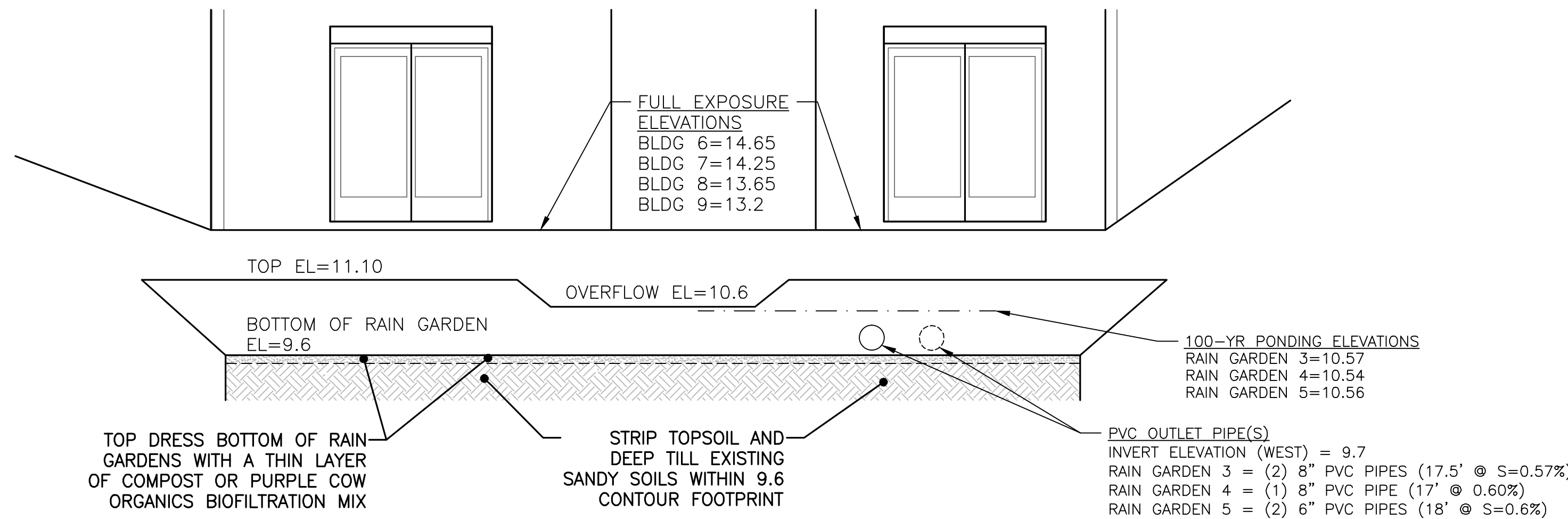
**CITY OF WAUKESHA GENERAL NOTES:**

- ALL THE 4", 6" AND 8" SANITARY SEWER SHALL BE POLYVINYL CHLORIDE PIPE ASTM 3034 SDR 35, WITH GASKET JOINTS. ALL LATERALS SHALL BE 4" OR 6".
- ALL CONSTRUCTION SHALL CONFORM TO THE "STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN," 5TH EDITION.
- TEE CONNECTIONS SHALL BE USED UNLESS OTHERWISE NOTED.
- LATERAL ENDS TO BE MARKED WITH A MARKER BOARD.
- THERE SHALL BE A 4" MINIMUM THROUGH WHERE LATERALS COME INTO MANHOLES.
- SEWER CONTRACTOR TO OBTAIN A STREET OPENING PERMIT FROM THE CITY OF WAUKESHA ENGINEERING DEPARTMENT.
- MANHOLES SHALL BE 48" IN DIAMETER. FRAMES AND COVERS SHALL BE: NEENAH R1661 LOCKING NON-ROCKING.
- AN AIR TEST AS PER THE STANDARD SPECIFICATIONS IS REQUIRED.
- SPOIL BACKFILL IS PERMITTED FOR 8" SEWER AND LATERALS.
- MANHOLE RIMS, WHERE ROAD GRADES ARE OVER 5%, MUST BE SHIMMED TO MATCH THE ROAD CENTER LINE.
- RIM GRADES SHOWN ARE FINISH ROAD GRADE, RIMS SHALL BE BUILT 3" BELOW FINISH GRADE.
- SEWER CONTRACTOR IS RESPONSIBLE FOR ANY DEWATERING PERMIT, IF NECESSARY.
- ALL THE 4" FORCE MAIN SHALL BE POLYVINYL CHLORIDE PIPE, AWWA C-900, PRESSURE CLASS 200, WITH GASKET JOINTS.



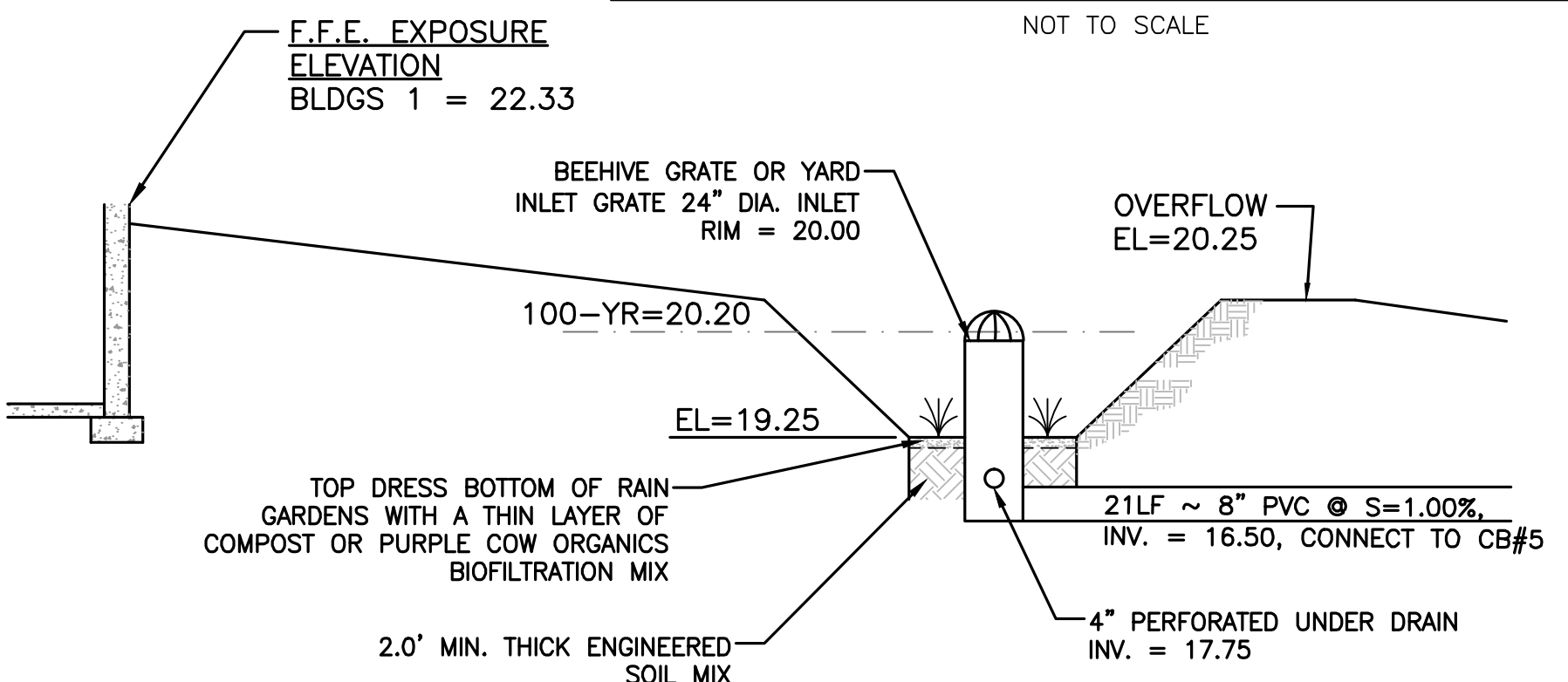
**RAIN GARDENS 3, 4 & 5 TYPICAL SECTION**

NOT TO SCALE



**RAIN GARDENS 3, 4 & 5 FRONT VIEW**

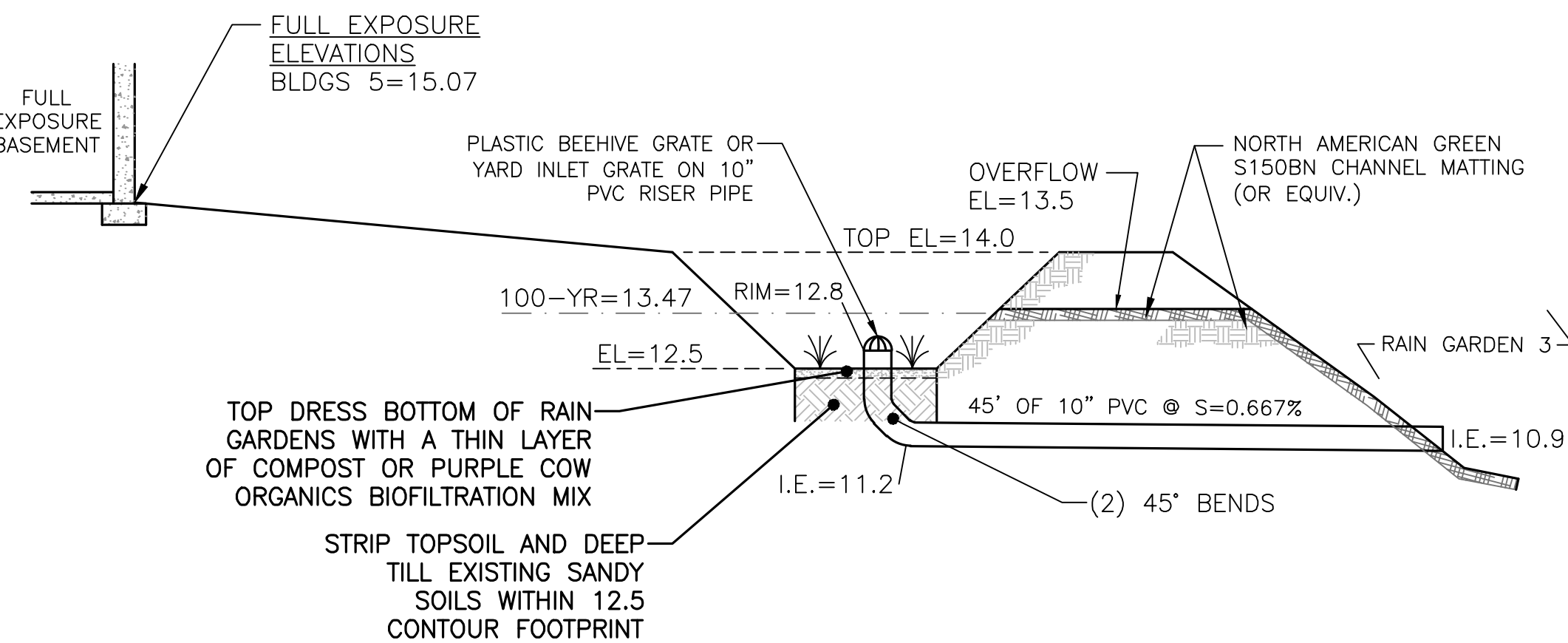
NOT TO SCALE



**RAIN GARDEN 1A TYPICAL SECTION**

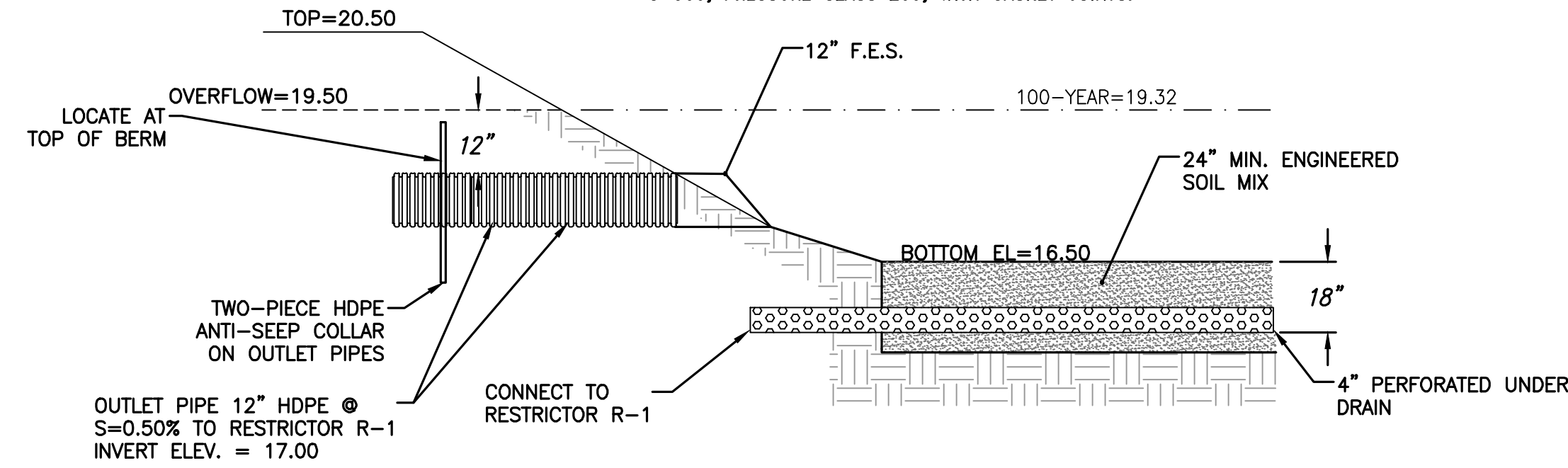
NOT TO SCALE

- EXCAVATE BOTTOM OF ENGINEERED SOIL LAYER TO NATIVE SAND/GRAVEL SOILS. OVEREXCAVATION MAY BE BACKFILLED WITH OTHER ONSITE SAND OR GRAVEL MATCHING NATIVE UNDERLYING SOILS (AS DIRECTED BY GEOTECHNICAL ENGINEER).
- TRACKED EQUIPMENT AND LOW WEIGHT VEHICLES SHALL BE USED TO CONSTRUCT RAIN GARDEN.
- PONDS SHALL BE CONSTRUCTED IN A MANNER THAT MINIMIZES SOIL COMPACTION.
- ALL POND SLOPES 4:1 OR GREATER SHALL BE MATTING WITH CLASS 1, TYPE A EROSION MATTING.



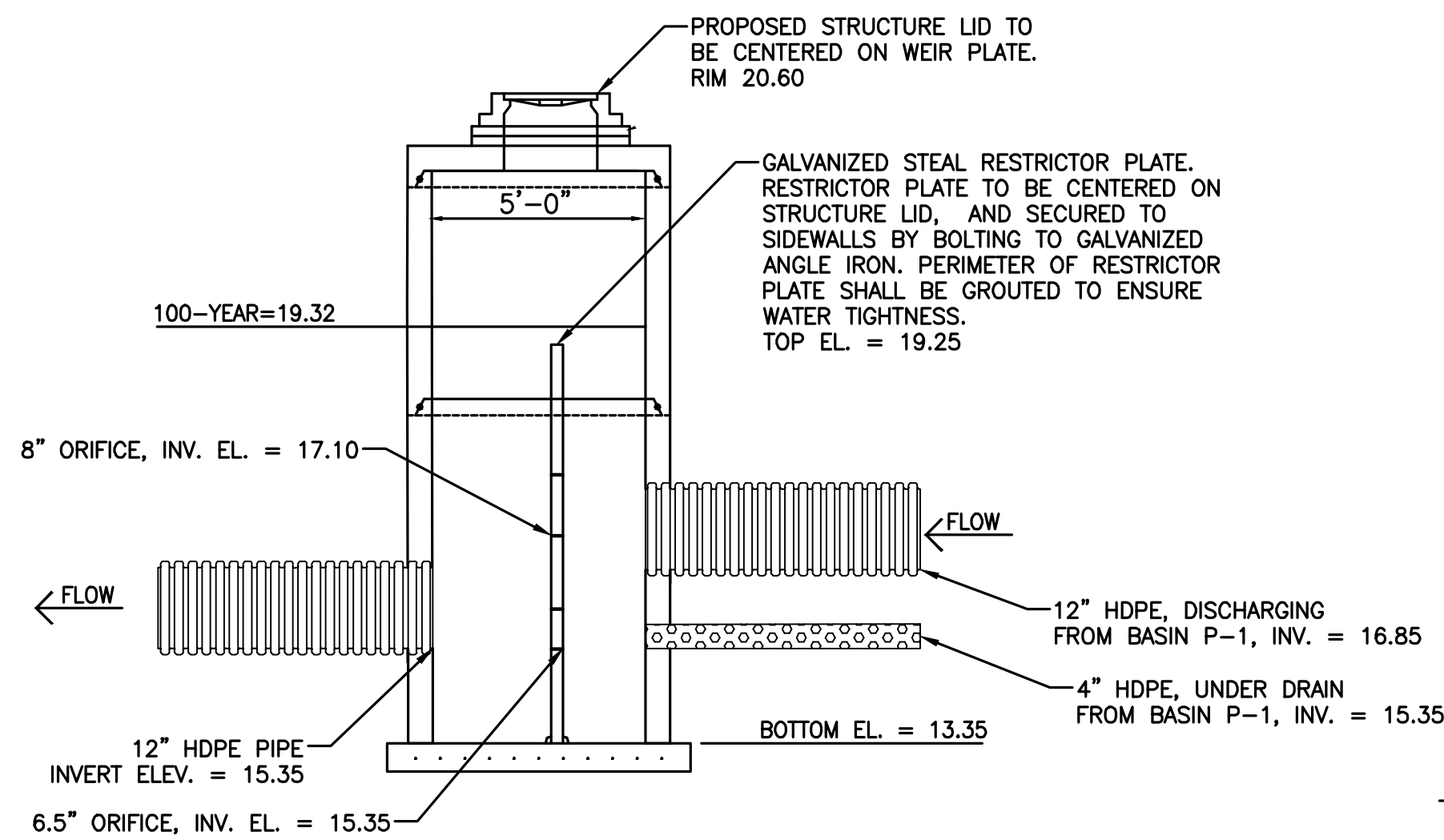
**RAIN GARDEN 2 TYPICAL SECTION**

NOT TO SCALE



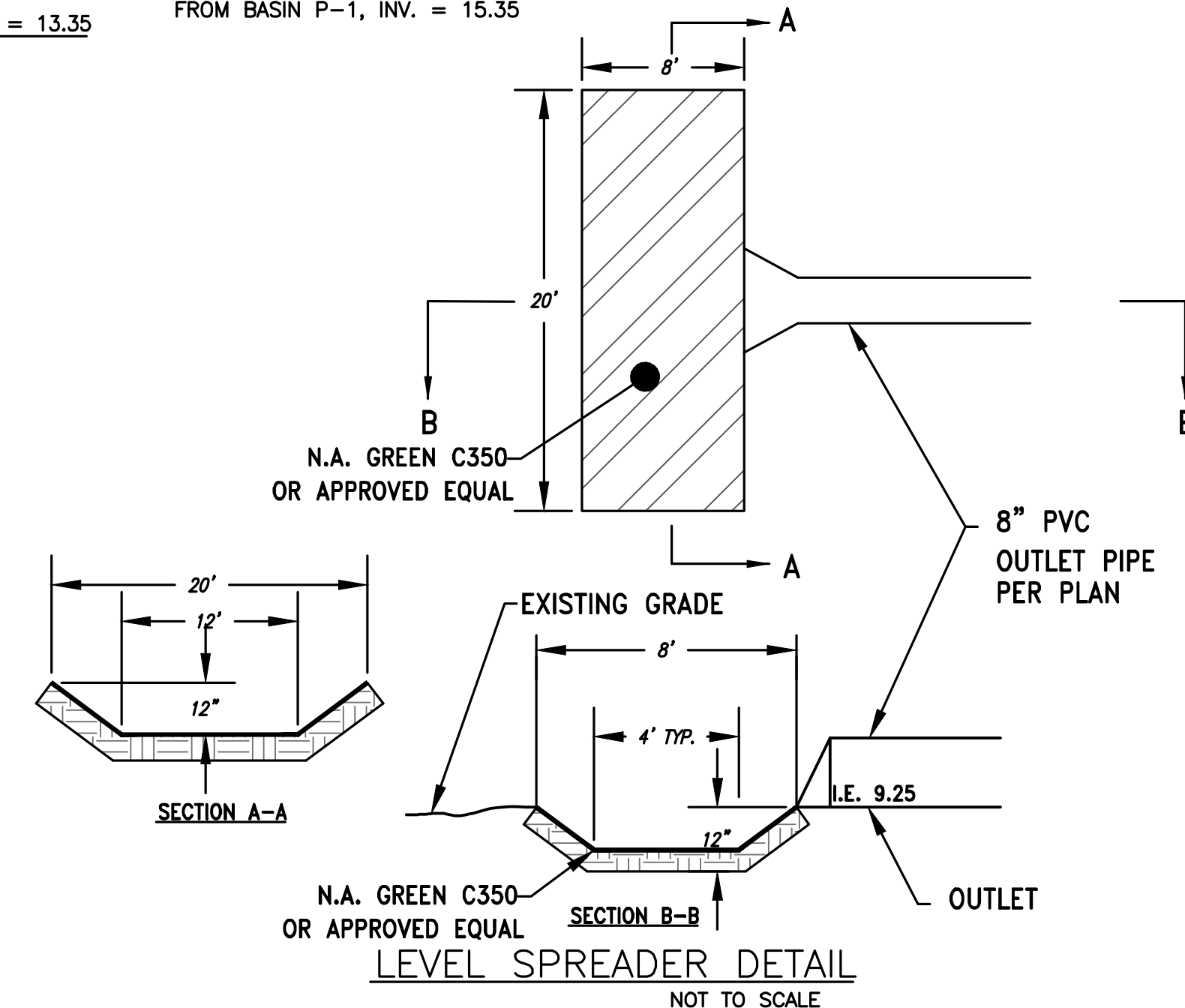
**BIO-RETENTION POND P-1**

NOT TO SCALE



**RESTRICTOR STRUCTURE R-1**

NO SCALE



**LEVEL SPREADER DETAIL**

NOT TO SCALE

**WISCONSIN PROFESSIONAL ENGINEER**  
 JOSHUA D. PUDELKO  
 E-39420  
 WAUWATOSA, WI

**TRIO**  
 CIVIL ENGINEERING

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