CONSTRUCTION PLANS
FOR
WAUKESHA GENESIS
CITY OF WAUKESHA, WISCONSIN

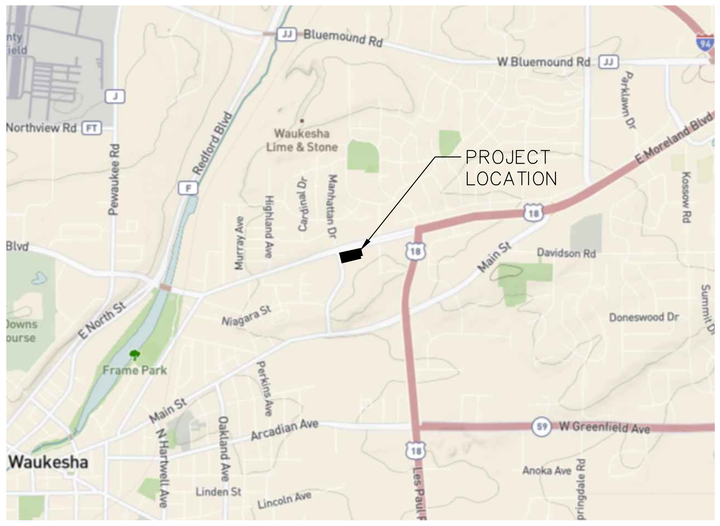
LEGEND
(PROPOSED FEATURES)

- TREE REMOVAL
- EXISTING CONCRETE PAVEMENT TO BE REMOVED
- EXISTING ASPHALT PAVEMENT TO BE REMOVED
- EXISTING GRAVEL TO BE REMOVED
- EXISTING BUILDING/STRUCTURE TO BE REMOVED
- SAWCUT LINE
- PROPOSED PROPERTY LINE
- PROPOSED SITE LIGHTING (DESIGNED BY OTHERS, FOR REFERENCE ONLY)
- MONUMENT SIGNS (CONSTRUCTION DETAILS BY OTHERS)
- SIGN
- HEAVY-DUTY CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- HEAVY-DUTY ASPHALT PAVEMENT
- STANDARD-DUTY ASPHALT PAVEMENT
- COLORED AND STAMPED CONCRETE
- PROPOSED 18" REJECT CURB & GUTTER (AS SHOWN ON SITE PLAN)
- PROPOSED 18" STANDARD CURB & GUTTER (AS SHOWN ON SITE PLAN)
- PROPOSED ACCESSIBLE PAVEMENT MARKING
- VAN ACCSSSIBLE STALL
- PROPOSED TYPE 3 CURB RAMP (SEE DETAIL SHEET. NOTE LINEWORK ON PLAN IS SYMBOLIC ONLY.)
- PROPOSED TYPE 3A CURB RAMP (SEE DETAIL SHEET. NOTE LINEWORK ON PLAN IS SYMBOLIC ONLY.)
- PROPOSED TYPE 4 CURB RAMP (SEE DETAIL SHEET. NOTE LINEWORK ON PLAN IS SYMBOLIC ONLY.)
- PROPOSED TYPE 4A CURB RAMP (SEE DETAIL SHEET. NOTE LINEWORK ON PLAN IS SYMBOLIC ONLY.)
- PROPOSED TYPE 7 CURB RAMP (SEE DETAIL SHEET. NOTE LINEWORK ON PLAN IS SYMBOLIC ONLY.)
- DOOR
- STRUCTURAL RETAINING WALL – (DESIGNED BY OTHERS)
- 869.5 — PROPOSED 0.5-FOOT GRADE CONTOUR (ONLY USED WHEN CRITICAL)
- 869 — PROPOSED 1-FOOT GRADE CONTOUR
- 870 — PROPOSED 5-FOOT GRADE CONTOUR
- 877.70 — PROPOSED SPOT GRADE
- (877.70) — PROPOSED TOP OF CURB
- 877.70 TW — PROPOSED FINISHED SURFACE GRADE ADJACENT TO TOP OF WALL
- 877.00 BW — PROPOSED FINISHED SURFACE GRADE ADJACENT TO BASE OF WALL
- PROPOSED EROSION CONTROL BALE TEMPORARY DITCH CHECK
- PROPOSED INLET PROTECTION
- PROPOSED SILT FENCE
- PROPOSED TEMPORARY DIVERSION SWALE & BERM
- PROPOSED LEVEL SPREADER
- PROPOSED STONE TRACKING MAT
- PROPOSED PERMANENT TURF REINFORCEMENT MAT
- EROSION CONTROL BLANKET
- PROPOSED RIPRAP
- G — PROPOSED GAS LINE
- E — PROPOSED ELECTRIC LINE
- T — PROPOSED TELEPHONE LINE
- W — PROPOSED WATER MAIN
- STO — PROPOSED STORM SEWER
- S — PROPOSED SANITARY SEWER
- PROPOSED FIRE DEPARTMENT CONNECTION
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED INLET/ CB
- PROPOSED STORM MANHOLE
- PROPOSED AREA DRAIN
- PROPOSED SANITARY MANHOLE

LEGEND

- ( ) INDICATES RECORDED DIMENSION WHERE DIFFERENT FROM ACTUAL MEASUREMENT
- OR SECTION OR 1/4 SECTION CORNER AS DESCRIBED
- 1" DIA. IRON PIPE FOUND (UNLESS OTHERWISE NOTED)
- 1" DIA. IRON PIPE, 18" LONG-SET (UNLESS OTHERWISE NOTED)
- BOLLARD
- SOIL BORING/MONITORING WELL
- FLAGPOLE
- MAILBOX
- SIGN
- BILLBOARD
- A AIR CONDITIONER
- B CONTROL BOX
- TRAFFIC SIGNAL
- RAILROAD CROSSING SIGNAL
- C CABLE PEDESTAL
- POWER POLE
- GUY POLE
- GUY WIRE
- LIGHT POLE
- SPOT/YARD/PEDESTAL LIGHT
- HANDICAPPED PARKING
- E ELECTRIC MANHOLE
- E ELECTRIC PEDESTAL
- ELECTRIC METER
- ELECTRIC TRANSFORMER
- T TELEPHONE MANHOLE
- T TELEPHONE PEDESTAL
- FO MARKED FIBER OPTIC
- GAS VALVE
- GAS METER
- GAS WARNING SIGN
- STORM MANHOLE
- ROUND INLET
- SQUARE INLET
- STORM SEWER END SECTION
- S SANITARY MANHOLE
- SANITARY CLEANOUT OR SEPTIC VENT
- SANITARY INTERCEPTOR MANHOLE
- MISCELLANEOUS MANHOLE
- WATER VALVE
- HYDRANT
- W WATER SERVICE CURB STOP
- W WATER MANHOLE
- WELL
- WATER SURFACE
- WETLANDS FLAG
- MARSH
- CONIFEROUS TREE
- DECIDUOUS TREE
- SHRUB
- S — EDGE OF TREES
- S — SANITARY SEWER
- STO — STORM SEWER
- W — WATERMAIN
- G — MARKED GAS MAIN
- E — MARKED ELECTRIC
- OHW — OVERHEAD WIRES
- B — BUREAU ELEC. SERV.
- T — MARKED TELEPHONE
- TV — MARKED CABLE TV LINE
- FO — MARKED FIBER OPTIC
- 780 — INDICATES EXISTING CONTOUR ELEVATION
- × 780.55 — INDICATES EXISTING SPOT ELEVATION
- EXISTING PROPERTY LINE
- EXISTING EASEMENT LINE

VICINITY MAP



PLAN INDEX

ENGINEER AND LANDSCAPE ARCHITECT:

raSmith
CREATIVITY BEYOND ENGINEERING

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

RYAN J. LANCOUR, P.E. PROJECT MANAGER
PH: (262) 317-3259

PROPERTY OWNER:

BOUCHER HOLDINGS LLC
4141 S. 108TH STREET
GREENFIELD, WI 53228
PH: (414) 427-4141

DEVELOPER:

CHAD KEMNITZ, PRESIDENT
PROFESSIONAL CONSULTANTS, INC.
300 COTTONWOOD AVENUE, #7
HARTLAND, WI 53029
PH: (262) 367-6080

BENCHMARK 1:

SET "X" NW FLANGE BOLT ON HYDRANT ON SOUTHERLY ROW OF E MORELAND BLVD
ELEVATION = 101.36'
VERTICAL DATUM: CITY OF WAUKESHA DATUM

SEWRPC BENCHMARK 1:

CONC MON W/ BRASS CAP IN CONC CURB ON NORTH SIDE EAST BOUND LANE OF USH 18
NW CORNER SW ¼ OF SEC 36
ELEVATION = 876.98'
N: 378,689.51 USFT
E: 2,448,163.35 USFT

SEWRPC BENCHMARK 2:

CONC MON W/ BRASS CAP
SW CORNER SW ¼ OF SEC 36
ELEVATION = 841.03'
N: 376,029.00 USFT
E: 2,448,203.06 USFT

811 Know what's below. Call before you dig.

CITY OF WAUKESHA NOTE

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

PLAN DATE: 08/31/2022

REVISIONS	ISSUE DATE	SHEET NO.'S	ISSUED FOR:

raSmith
CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com
Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI
Cedarburg, WI | Naperville, IL | Irvine, CA

WAUKESHA GENESIS
CITY OF WAUKESHA, WISCONSIN

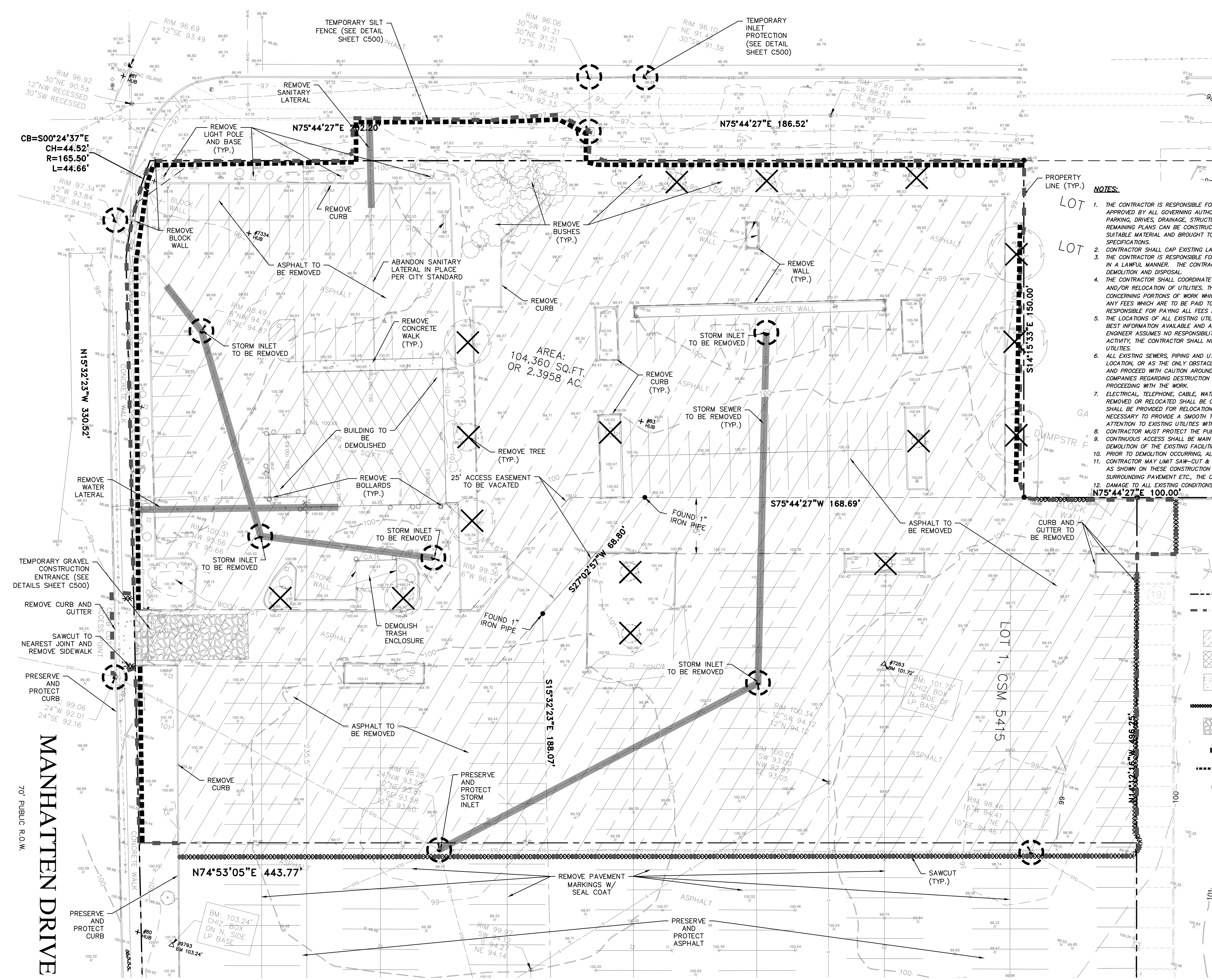
COVER SHEET

WISCONSIN
JEREMY J. JEFFERY
E-41449
BROOKFIELD
WI
PROFESSIONAL ENGINEER

08/31/2022

DATE: 08/31/2022
SCALE: NTS
JOB NO. 3210204.01
PROJECT MANAGER: RYAN J. LANCOUR, P.E.
DESIGNED BY: JJJ
CHECKED BY: RJL

SHEET NUMBER
C000



NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND DISPOSAL IN A LOCATION APPROVED BY ALL GOVERNING AUTHORITIES, OF ALL STRUCTURES, PADS, WALLS, FLUMES, FOUNDATIONS, PARKING, DRIVES, DRAINAGE, STRUCTURES, UTILITIES, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THE REMAINING PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER THE SPECIFICATIONS.
2. CONTRACTOR SHALL CAP EXISTING LATERALS AT R.O.W LINE UNLESS REQUIRED DIFFERENTLY BY AHS.
3. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL DEBRIS FROM THE SITE AND DISPOSING THE DEBRIS IN A LAWFUL MANNER. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL.
4. THE CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY CONCERNING PORTIONS OF WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY'S FORCES AND ANY FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.
5. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR ONSITE LOCATIONS OF EXISTING UTILITIES.
6. ALL EXISTING SEWERS, PIPING AND UTILITIES SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. GIVE NOTICE TO ALL UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH THE WORK.
7. ELECTRICAL, TELEPHONE, CABLE, WATER, FIBER OPTIC CABLE AND/OR GAS LINES NEEDING TO BE REMOVED OR RELOCATED SHALL BE COORDINATED WITH THE AFFECTED UTILITY COMPANY. ADEQUATE TIME SHALL BE PROVIDED FOR RELOCATION AND CLOSE COORDINATION WITH THE UTILITY COMPANY IS NECESSARY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE. CONTRACTOR SHALL PAY CLOSE ATTENTION TO EXISTING UTILITIES WITHIN THE ROAD RIGHT OF WAY DURING CONSTRUCTION.
8. CONTRACTOR MUST PROTECT THE PUBLIC AT ALL TIMES WITH FENCING, BARRICADES, ENCLOSURES, ETC.
9. CONTINUOUS ACCESS SHALL BE MAINTAINED FOR THE SURROUNDING PROPERTIES AT ALL TIMES DURING DEMOLITION OF THE EXISTING FACILITIES.
10. PRIOR TO DEMOLITION OCCURRING, ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED.
11. CONTRACTOR MAY LIMIT SAW-CUT & PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE IT IS REQUIRED AS SHOWN ON THESE CONSTRUCTION PLANS BUT IF ANY DAMAGE IS INCURRED ON ANY OF THE SURROUNDING PAVEMENT ETC., THE CONTRACTOR SHALL BE RESPONSIBLE FOR IT'S REMOVAL AND REPAIR.
12. DAMAGE TO ALL EXISTING CONDITIONS TO REMAIN WILL BE REPLACED AT CONTRACTOR'S EXPENSE.

DEMOLITION LEGEND

- PROPOSED PROPERTY LINE
- LIMITS OF DISTURBANCE = 3.03 AC; ONSITE = 2.94 AC; OFFSITE = 0.09 AC
- EXISTING ASPHALT TO BE REMOVED
- EXISTING BUILDING TO BE REMOVED
- EXISTING CONCRETE TO BE REMOVED
- SAWCUT EXISTING PAVEMENT TO ASSURE CLEAN FIT
- TEMPORARY CONSTRUCTION ENTRANCE
- TEMPORARY INLET PROTECTION
- SILT FENCE
- TREE REMOVAL

Know what's **below.** **Call** before you dig.

DESCRIPTION

DATE

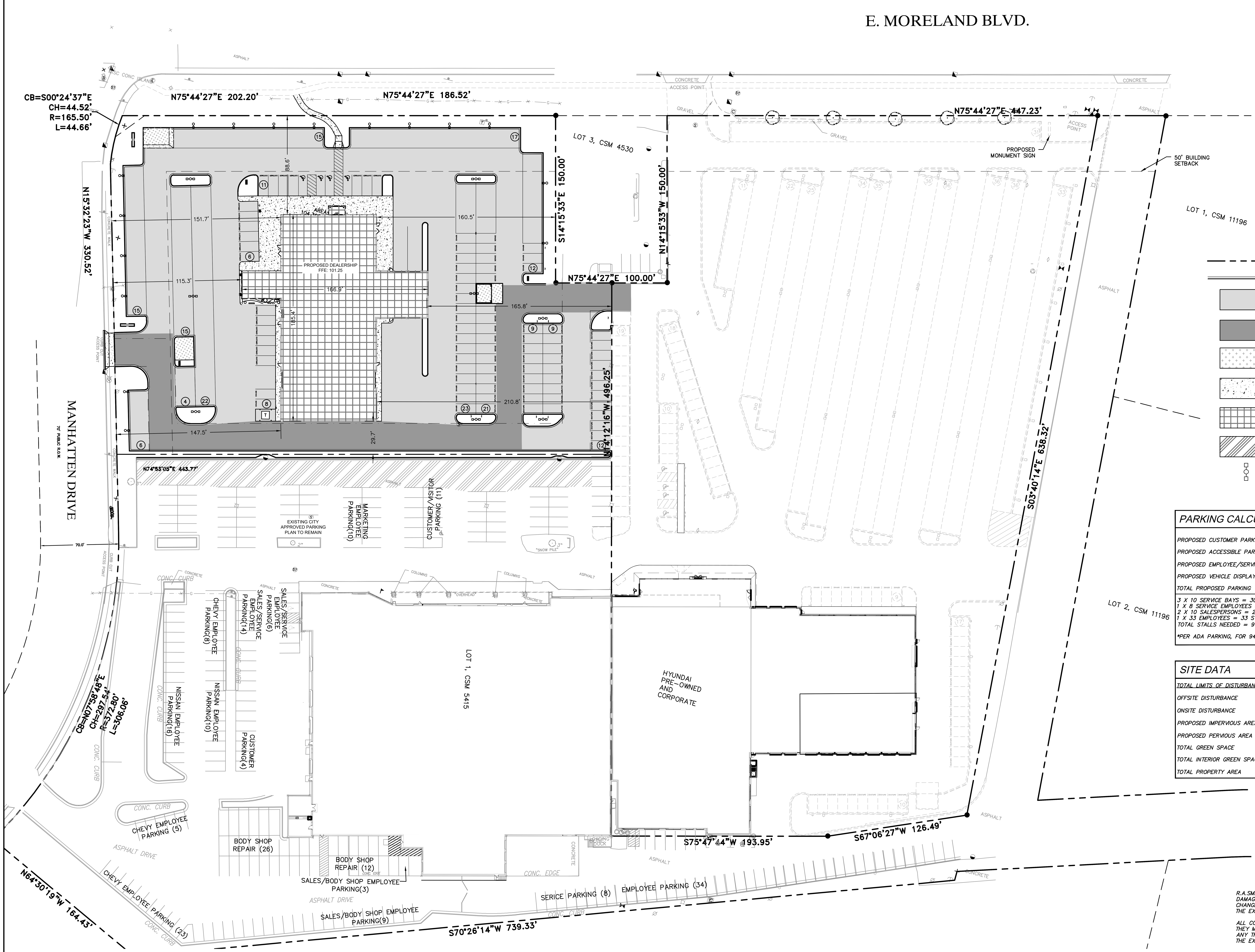
raSmith
CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com
Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI
Cedarburg, WI | Naperville, IL | Irvine, CA

WAUKESHA GENESIS
CITY OF WAUKESHA, WISCONSIN

EXISTING CONDITIONS, DEMOLITION AND EROSION CONTROL PLAN

DATE: 08/31/2022
SCALE: 1" = 20'
JOB NO. 3210204.01
PROJECT MANAGER: RYAN J. LANCOUR, P.E.
DESIGNED BY: JJJ
CHECKED BY: RJL

SHEET NUMBER
C100



LEGEND

- PROPERTY LINE
- PROPOSED 18" CURB & GUTTER
- STANDARD-DUTY ASPHALT PAVEMENT
- HEAVY-DUTY ASPHALT PAVEMENT
- HEAVY-DUTY CONCRETE PAVEMENT
- CONCRETE SIDEWALKS
- NEW BUILDING
- SEAL COAT
- PROPOSED SITE LIGHTING (BY OTHERS)

PARKING CALCULATIONS	
PROPOSED CUSTOMER PARKING	19
PROPOSED ACCESSIBLE PARKING	4
PROPOSED EMPLOYEE/SERVICE PARKING	71
PROPOSED VEHICLE DISPLAY PARKING	111
TOTAL PROPOSED PARKING	205

3 X 10 SERVICE BAYS = 30 STALLS
1 X 8 SERVICE EMPLOYEES = 8 STALLS
2 X 10 SALESPERSONS = 20 STALLS
1 X 33 EMPLOYEES = 33 STALLS
TOTAL STALLS NEEDED = 91 STALLS (94 STALLS PROPOSED)

*PER ADA PARKING, FOR 94 STALLS 4 SHOULD BE ACCESSIBLE

SITE DATA	
TOTAL LIMITS OF DISTURBANCE	132,020 SF (3.03 AC)
OFFSITE DISTURBANCE	3,975 SF (0.09 AC)
ONSITE DISTURBANCE	128,045 SF (2.94 AC)
PROPOSED IMPERVIOUS AREA	113,263 SF (2.60 AC)
PROPOSED PERVIOUS AREA	14,781 SF (0.34 AC)
TOTAL GREEN SPACE	11.56%
TOTAL INTERIOR GREEN SPACE	5.68%
TOTAL PROPERTY AREA	128,044 SF (2.94 AC)

811
Know what's **below.**
Call before you dig.

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

DESCRIPTION	DATE

raSmith
CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com
Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI
Cedarburg, WI | Naperville, IL | Irvine, CA

WAUKESHA GENESIS
CITY OF WAUKESHA, WISCONSIN
OVERALL SITE PLAN

DATE: 08/31/2022
SCALE: 1" = 40'
JOB NO. 3210204.01
PROJECT MANAGER: RYAN J. LANCOUR, P.E.
DESIGNED BY: JJJ
CHECKED BY: RJL
SHEET NUMBER
C200

E. MORELAND BLVD.

ASPHALT

MISC. CONC ISLAND

FUTURE 5' SIDEWALK

N75°44'27"E 202.20'

5' SIDEWALK

N75°44'27"E 186.52'

CB=S00°24'37"E
CH=44.52'
R=165.50'
L=44.66'

R20.0'

R25.0'

5.0'

PROPERTY LINE (TYP.)

PROPOSED MONUMENT SIGN

RAISED PLATFORM CAR DISPLAY

TYPE 3 CURB RAMP (SEE DETAIL ON SHEET C501)

SIDEWALK WITH INTEGRAL CURB

PROPOSED 18" CURB AND GUTTER (TYP.) (SEE DETAIL SHEET C501)

50' BUILDING SETBACK

PROPOSED CURB (TYP.) (SEE DETAIL SHEET C501)

DIRECTIONAL SIGNAGE

"COSTUMER PARKING" SIGN WITH ARROW

"COSTUMER PARKING" SIGN WITH ARROW (SEE DETAILS SHEET)

R2.5' CHARGING STATION

SIDEWALK WITH INTEGRAL CURB

SIDEWALK FLUSH WITH PAVEMENT

ACCESSIBLE PARKING SIGNS (SEE DETAIL ON SHEET C501)

PROPOSED DEALERSHIP
FFE: 101.25

1-STORY BLOCK BUILDING #1557
BLDG HEIGHT: 13.6'

GATE

DUMPSTR PAD

"SERVICE PARKING" SIGN WITH ARROW

TRASH ENCLOSURE

DIRECTIONAL SIGNAGE

S14°15'33"E 150.00'

N75°44'27"E 100.00'

PROPOSED CURB (MATCH TO EXISTING)

N15°32'23"W 330.52'

CONCRETE WALK

TERMINATE CURB HEAD AT R.O.W.

PROPOSED CONCRETE DRIVEWAY APRON PER CITY OF WAUKESHA DETAIL

CURB CUT ACCESS POINT

PROPOSED CONCRETE SIDEWALK

TERMINATE CURB HEAD AT R.O.W.

CAR DISPLAY

"CUSTOMER" PAVEMENT MARKING (TYP.)

"EMPLOYEE PARKING" SIGN WITH ARROW

"SERVICE" PAVEMENT MARKING (TYP.)

"SERVICE PARKING" SIGN WITH ARROW

"EMPLOYEE" PAVEMENT MARKING (TYP.)

TRANSFORMER

PROPOSED 25' ACCESS EASEMENT

N14°12'16"W 496.25'

N74°53'05"E 443.77'

PROPOSED SEAL COAT

MANHATTEN DRIVE

70' PUBLIC R.O.W.

GRAPHIC SCALE
10 0 10 20 40
(IN FEET)

DESCRIPTION	DATE

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WAUKESHA GENESIS
CITY OF WAUKESHA, WISCONSIN

DIMENSIONED SITE PLAN

DATE: 08/31/2022
SCALE: 1" = 20'
JOB NO. 3210204.01
PROJECT MANAGER: RYAN J. LANCOUR, P.E.
DESIGNED BY: JJJ
CHECKED BY: RJL

SHEET NUMBER
C201

E. MORELAND BLVD.

MANHATTEN DRIVE

70' PUBLIC R.O.W.

CB=S00°24'37"E
CH=44.52'
R=165.50'
L=44.66'

N75°44'27"E 242.20'

N75°44'27"E 186.52'

S14°15'33"E 150.00'

N15°32'23"W 330.52'

N74°53'05"E 443.77'

N74°53'05"E 49.

N75°44'27"E 100.00'

N14°12'15"W 496.25'

LOT 3, CSM 45

LOT 3, CSM 45

LOT 1, CSM 541

PROPOSED DEALERSHIP
FFE: 101.25

AREA

#9793
BM 103.24'

#7263
BM 101.72'

GRAPHIC SCALE
10 0 10 20 40
(IN FEET)

LEGEND

- PROPERTY LINE
- EXISTING CONTOUR LINE
- EXISTING SPOT ELEVATION
- PROPOSED CONTOUR LINE
- PROPOSED SPOT ELEVATION
- PROPOSED TOP OF CURB ELEVATION
- TEMPORARY INLET PROTECTION
- SILT FENCE
- OVERLAND FLOW ROUTE

Know what's **below.**
Call before you dig.

DESCRIPTION	DATE

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CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
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rasmith.com
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WAUKESHA GENESIS
CITY OF WAUKESHA, WISCONSIN

GRADING PLAN

DATE: 08/31/2022
SCALE: 1" = 20'
JOB NO. 3210204.01
PROJECT MANAGER: RYAN J. LANCOUR, P.E.
DESIGNED BY: JJJ
CHECKED BY: RJL

SHEET NUMBER
C300

E. MORELAND BLVD.

PIPE CROSSING TABLE							
CROSSING I.D.	BOTTOM OF TOP PIPE			TOP OF BOTTOM PIPE			SEPARATION (FT)
1	STO	HDPE 12"	95.57	WAT	PVC 6"	94.02	1.55
2	STO	HDPE 12"	96.32	STO	HDPE 12"	94.48	1.84
3	STO	HDPE 24"	94.94	SAN	PVC 6"	93.31	1.63
4	STO	HDPE 8"	95.80	SAN	PVC 6"	92.93	2.86
5	STO	HDPE 12"	94.25	SAN	PVC 6"	91.14	3.11

GRAPHIC SCALE
10 0 10 20 40
(IN FEET)

NOTES:

1. *ALL PIPE LENGTHS ARE TO CENTER OF EXISTING OR PROPOSED STRUCTURE.*
2. *CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED POINTS OF CONNECTION TO EXISTING PIPE, STRUCTURES OR KNOWN CROSSINGS PRIOR TO PROPOSED UTILITY CONSTRUCTION. CONTACT ENGINEER FOR POSSIBLE REDESIGN IF EXISTING PIPE SIZES OR INVERTS VARY FROM THIS PLAN.*
3. *CONTRACTOR SHALL FIELD ADJUST ALL EXISTING UTILITY STRUCTURES TO PROPOSED GRADE WITHIN THE PROJECT LIMITS. SEE GRADING & DRAINAGE PLANS FOR PROPOSED RIM GRADES.*
4. *ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARDS SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN WISCONSIN, LATEST EDITION.*
5. *CONTRACTOR TO FIELD LOCATE ALL EXISTING LATERAL LOCATIONS & ELEVATIONS PRIOR TO UTILITY CONSTRUCTION.*
6. *ALL WATER SERVICES SHALL HAVE MINIMUM 6.0' OF COVER.*
7. *CONTRACTOR SHALL COORDINATE FINAL SIZING WITH THE OWNER PRIOR TO PROCUREMENT OF THE GREASE INTERCEPTOR(S).*
8. *CONTRACTOR TO MAINTAIN MINIMUM 18" CLEARANCE WHEN WATER MAIN CROSSES UNDER SANITARY SEWER, AND 6" MINIMUM UNDER STORM SEWER. PROVIDE 2" INSULATION BETWEEN WATER MAIN AND SEWER CROSSINGS WHERE THE VERTICAL SEPARATION IS LESS THAN 2.0'.*
9. *ALL VALVES INSTALLED AT GREATER THAN 8 FEET OF DEPTH SHALL BE PROVIDED WITH VALVE STEM EXTENSIONS TO BRING THE OPERATING NUT UP TO A NORMAL DEPTH (EQUIVALENT TO A VALVE AT 8 FEET OF DEPTH). THE EXTENSION SHALL BE SECURED TO THE OPERATING NUT WITH AT LEAST 2 SET SCREWS DRILLED INTO THE NUT. PROVIDE A CENTERING RING AT THE TOP OF THE EXTENSION.*
10. *FOR LEGEND, REFER TO SHEET C000.*
11. *THE STORM WATER FACILITY SHALL BE INSPECTED BY A CITY OF WAUKESHA INSPECTOR AT LEAST ONCE DURING CONSTRUCTION AND ONCE AFTER THE FINAL SITE STABILIZATION OF THE SITE.*
12. *SEWER LATERAL VIDEO. THE EXISTING BUILDING HAS A SANITARY SEWER LATERAL CONNECTING THE CITY'S SEWER MAIN. PLEASE PROVIDE A SEWER LATERAL VIDEO TO CITY FOR REVIEW AND APPROVAL. CONTACT THE CITY ENGINEERING DEPARTMENT FOR VIDEO FORMAT. IF THE LATERAL MAINTENANCE IS NEEDED, THEN THE LATERAL IMPROVEMENTS MAY NEED TO BE INCLUDED AS PART OF THIS PROJECT. THE LATERAL PIPE CONNECTION TO THE MAIN MAY NEED TO BE LINED OR RELAYED TO REDUCE INFILTRATION INTO THE CITY'S SANITARY SEWER SYSTEM OR IMPROVE THE STRUCTURAL INTEGRITY.*
13. *A RECORD DRAWING OF THE SANITARY/STORM SEWER FACILITIES SEALED BY A PROFESSIONAL ENGINEER OR REGISTERED LANDSURVEYOR SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT.*

North SW Easement Line Table		
Line #	Length	Direction
L1	58.23	S75° 44' 27.34"W
L2	42.85	S14° 15' 32.66"E
L3	58.15	N75° 44' 27.34"E
L4	42.85	N14° 08' 53.41"W

South SW Easement Line Table		
Line #	Length	Direction
L5	130.72	N75° 47' 44.34"E
L6	82.27	N14° 14' 36.22"W
L7	130.67	S75° 47' 44.34"W
L8	82.27	S14° 12' 15.66"E

West SW Easement Line Table		
Line #	Length	Direction
L9	108.70	S74° 34' 35.34"W
L10	90.28	S15° 32' 25.57"E
L11	108.96	N75° 44' 27.54"E
L12	92.50	N15° 41' 11.34"W

DESCRIPTION | DATE

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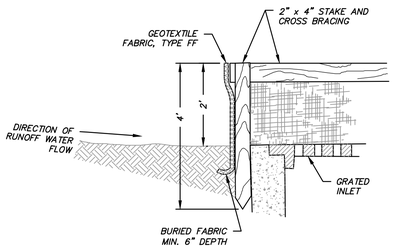
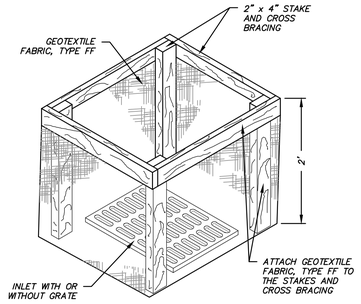
WAUKESHA GENESIS
CITY OF WAUKESHA, WISCONSIN

UTILITY PLAN

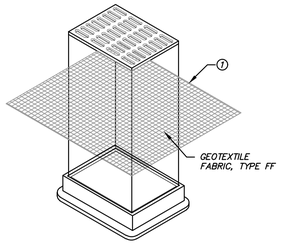
DATE: 08/31/2022
SCALE: 1" = 20'
JOB NO. 3210204.01
PROJECT MANAGER: RYAN J. LANCOUR, P.E.
DESIGNED BY: JJJ
CHECKED BY: RJL

SHEET NUMBER
C400

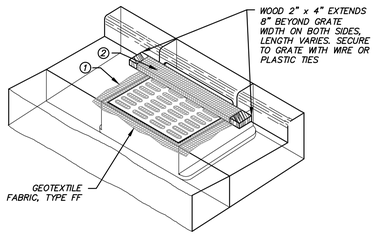




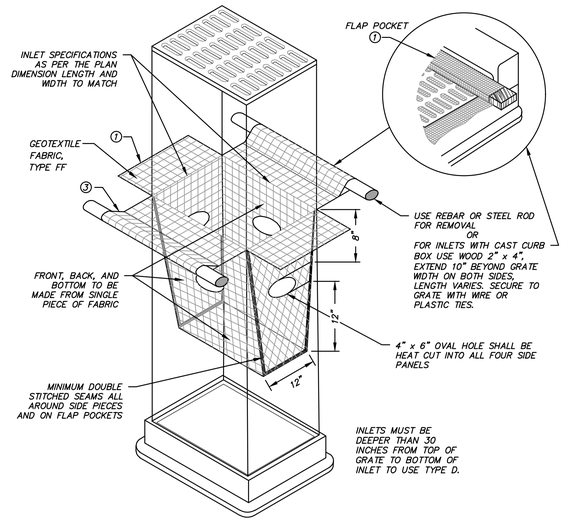
INLET PROTECTION, TYPE A



INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)
(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C
(WITH CURB BOX)



INLET PROTECTION, TYPE D
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE (2))

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.

GENERAL NOTES:

INLET PROTECTION DEVICES SHALL CONFORM TO WDNR CONSERVATION PRACTICE STANDARD 1060 AND BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE WSDOT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED IF ALLOWED BY ENGINEER.

TYPE A IS TO BE USED PRIOR TO PAVING AND TYPED B, C, AND D ARE TO USED AFTER PAVING IS PLACED.

TYPE A SHALL BE USED AROUND INLETS AND UNPAVED AREAS UNTIL PERMANENT STABILIZATION METHODS HAVE BEEN ESTABLISHED.

TYPE B SHALL BE USED AFTER THE CASTING AND GRATE ARE IN PLACE.

TYPE C SHALL BE USED ON STREET INLETS WITH CURB HEADS.

TYPE D SHALL BE USED IN AREAS WHERE OTHER TYPES OF INLET PROTECTION ARE INCOMPATIBLE WITH ROADWAY AND TRAFFIC CONDITIONS (I.E. POSSIBLE SAFETY HAZARD IF PONDING OCCURS.)

INSTALLATION NOTES:

TYPE B & C:
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D:
DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

MAINTENANCE:

REMOVE INLET PROTECTION DEVICES ONCE THE CONTRIBUTING DRAINAGE AREA IS STABILIZED WITH APPROPRIATE VEGETATION OR IMPERVIOUS AREA.

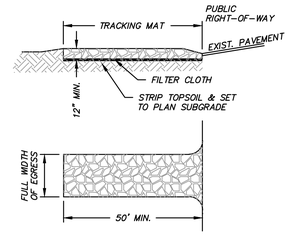
INLET PROTECTION SHALL BE, AT A MINIMUM, INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24-HOUR PERIOD.

SEDIMENT DEPOSITS SHALL BE REMOVED AND THE INLET PROTECTION DEVICE RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED BETWEEN 1/3 TO 1/2 THE DESIGN DEPTH OF THE DEVICE, OR WHEN THE DEVICE IS NO LONGER FUNCTIONING AS DESIGNED. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND STABILIZED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, DUE CARE SHALL BE TAKEN TO ENSURE SEDIMENT DOES NOT FALL INTO THE INLET AND IMPEDE THE INTENDED FUNCTION OF THE DEVICE. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

STORM DRAIN INLET PROTECTION DETAILS

(NOT TO SCALE)



CONSIDERATIONS:

1. *TIRE WASHING AND TRACKING PAD TO CONFORM TO WDNR CONSERVATION PRACTICE STANDARD 1057.*
2. *VEHICLES TRAVELING ACROSS THE TRACKING PAD SHOULD MAINTAIN A SLOW CONSTANT SPEED.*
3. *THE BEST APPROACH TO PREVENTING OFF-SITE TRACKING IS TO RESTRICT VEHICLES TO STABILIZED AREAS.*
4. *IT IS ALWAYS PREFERABLE TO PREVENT SEDIMENT FROM BEING DEPOSITED UPON THE ROAD THAN CLEANING THE ROAD LATER. SEDIMENT ON A ROAD CAN CREATE A SAFETY HAZARD AS WELL AS A POLLUTION PROBLEM.*
5. *ANY SEDIMENT TRACKED ONTO A PUBLIC OR PRIVATE ROAD SHOULD BE REMOVED BY STREET CLEANING, NOT FLUSHING, BEFORE THE END OF EACH WORKING DAY.*

NOTES:

A. TRACKING PAD:

1. *THE TRACKING PAD SHALL BE INSTALLED PRIOR TO ANY TRAFFIC LEAVING THE SITE.*
2. *THE AGGREGATE FOR TRACKING PADS SHALL BE 3"- 6" CLEAR OR WASHED STONE. ALL MATERIAL SHALL BE RETAINED ON A 3-INCH SIEVE.*
3. *THE AGGREGATE SHALL BE PLACED IN A LAYER AT LEAST 12 INCHES THICK. ON SITES WITH A HIGH WATER TABLE, OR WHERE SATURATED CONDITIONS ARE EXPECTED DURING THE LIFE OF THE PRACTICE, STONE TRACKING PADS SHALL BE UNDERLAIN WITH A WSDOT TYPE R GEOTEXTILE FABRIC TO PREVENT MIGRATION OF UNDERLYING SOIL INTO THE STONE.*
4. *THE TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT. THE TRACKING PAD SHALL BE A MINIMUM OF 50 FEET LONG.*
5. *SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY FROM TRACKING PADS OR CONVEYED UNDER AND AROUND THEM BY USING A VARIETY OF PRACTICES, SUCH AS CULVERTS, WATER BARS, OR OTHER SIMILAR PRACTICES.*

B. TIRE WASHING:

IF CONDITIONS ON THE SITE ARE SUCH THAT THE SEDIMENT IS NOT REMOVED FROM VEHICLE TIRES BY THE TRACKING PAD, THEN TIRES SHALL BE WASHED UTILIZING PRESSURIZED WATER BEFORE ENTERING A PUBLIC ROAD.

1. *THE WASHING STATION SHALL BE LOCATED ON-SITE ON AN AREA THAT IS STABILIZED AND DRAINS INTO A SUITABLE SEDIMENT TRAPPING OR SETTLING DEVICE.*
2. *THE WASH RACK SHALL CONSIST OF A HEAVY GRATING OVER A LOWERED AREA. THE RACK SHALL BE STRONG ENOUGH TO SUPPORT THE VEHICLES THAT WILL CROSS IT.*

C. MAINTENANCE:

1. *ROCKS LODGED BETWEEN THE TIRES IF DUAL WHEEL VEHICLES SHALL BE REMOVED PRIOR TO LEAVING THE CONSTRUCTION SITE.*
2. *TRACKING PADS AND TIRE WASHING STATIONS SHALL, AT AT MINIMUM, BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24-HOUR PERIOD.*
3. *THE TRACKING PAD PERFORMANCE SHALL BE MAINTAINED BY SCRAPING OR TOP-DRESSING WITH ADDITIONAL AGGREGATE.*
4. *A MINIMUM 12-INCH THICK PAD SHALL BE MAINTAINED.*

STONE TRACKING PAD AND TIRE WASHING DETAIL

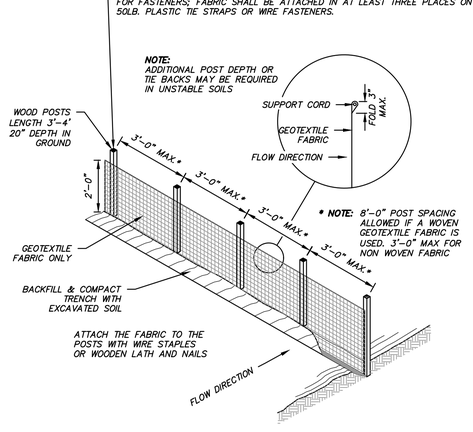
(NOT TO SCALE)

NOTES:

1. *SILT FENCE INSTALLATION AND MATERIALS SHALL CONFORM TO WDNR CONSERVATION STANDARD 1056*
2. *SILT FENCE SHALL BE PLACED ON THE CONTOUR AND NOT PERPENDICULAR TO THE CONTOUR. THE ENDS SHALL BE EXTENDED UPSLOPE TO PREVENT WATER FROM FLOWING AROUND THE ENDS OF THE FENCE.*
3. *WHEN SILT FENCE IS INSTALLED ON A SLOPE, THE PARALLEL SPACING SHALL NOT EXCEED THE REQUIREMENTS IN THE TABLE BELOW:*

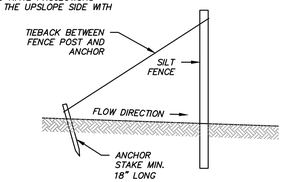
SLOPE	FENCE SPACING
< 2%	100 FEET
2 TO 5%	75 FEET
5 TO 10%	50 FEET
10 TO 33%	25 FEET
> 33%	20 FEET

4. *INSTALLED SILT FENCES SHALL BE MINIMUM 14 INCHES HIGH AND A MAXIMUM OF 28 INCHES IN HEIGHT MEASURED FROM THE INSTALLED GROUND ELEVATION.*
5. *A MINIMUM OF 20 INCHES OF THE POST SHALL EXTEND INTO THE GROUND AFTER INSTALLATION.*
6. *SILT FENCE SHALL BE ANCHORED BY SPREADING AT LEAST 8 INCHES OF THE FABRIC IN A 4-INCH TRENCH WIDE BY 6-INCH DEEP TRENCH, OR 6-INCH V-TRENCH ON THE UPSLOPE SIDE OF THE FENCE. TRENCH SHALL BE BACKFILLED AND COMPACTED. TRENCHES SHALL NOT BE EXCAVATED WIDER THAN NECESSARY FOR PROPER INSTALLATION.*
7. *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) TWIST METHOD--OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES.*
   - *B) HOOK METHOD--HOOK THE END OF EACH SILT FENCE LENGTH.*
8. *SILT FENCE SHALL AT A MINIMUM BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EACH PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24-HOUR PERIOD.*
9. *DAMAGED OR DECOMPOSED FENCES, UNDERCUTTING, OR FLOW CHANNELS AROUND THE END OF BARRIERS SHALL BE REPAIRED OR CORRECTED.*
10. *SEDIMENT SHALL BE PROPERLY DISPOSED OF ONCE THE DEPOSITS REACH ONE HALF THE HEIGHT OF THE FENCE.*
11. *SILT FENCES SHALL BE REMOVED ONCE THE DISTURBED AREA IS PERMANENTLY STABILIZED AND IS NO LONGER SUSCEPTIBLE TO EROSION.*

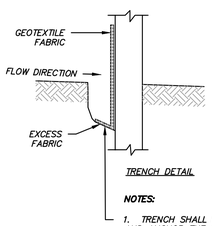


SILT FENCE DETAIL

(NOT TO SCALE)



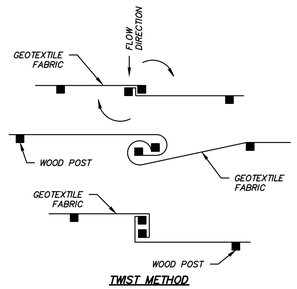
SILT FENCE TIE BACK
(WHEN ADDITIONAL SUPPORT IS REQUIRED)



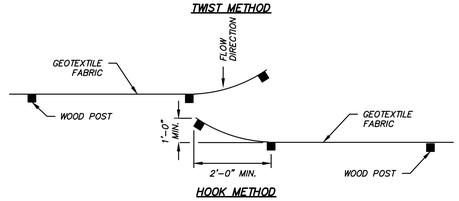
TRENCH DETAIL

NOTES:

1. *TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.*



TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE

Know what's **below.** **Call** before you dig.

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

DATE	DESCRIPTION

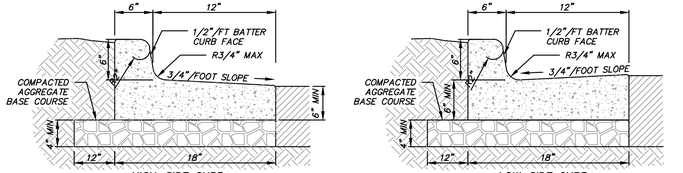
raSmith
CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com
Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI
Cedarburg, WI | Naperville, IL | Irvine, CA

WAUKESHA GENESIS
CITY OF WAUKESHA, WISCONSIN

EROSION CONTROL DETAILS

DATE: 08/31/2022
SCALE: N.T.S.
JOB NO. 3210204.01
PROJECT MANAGER: RYAN J. LANCOUR, P.E.
DESIGNED BY: JJJ
CHECKED BY: RJL

SHEET NUMBER
C500

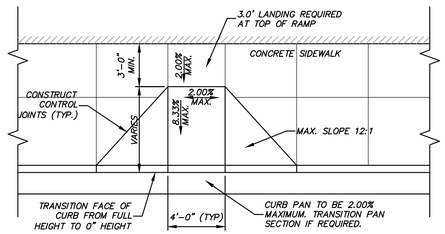


HIGH-SIDE CURB

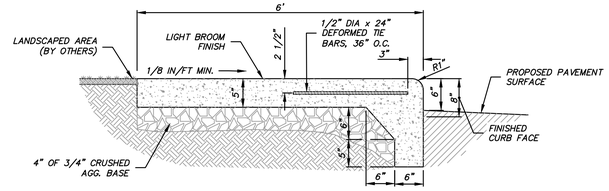
LOW-SIDE CURB

NOTES:
A) 3500 PSI CONCRETE SHALL BE USED IN CONSTRUCTION OF THE CURB & GUTTER.
B) THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE SLOPE OF THE GUTTER PAN.
C) FOR DEPRESSED CURB HEAD SLOPE, USE THE SAME SLOPE AS ADJACENT SIDEWALK.
D) THE BOTTOM OF THE CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDE MINIMUM 6" GUTTER THICKNESS MAINTAINED. TRANSVERSE CONTRACTION JOINTS SHALL BE CUT OR SAWED AT MAXIMUM 20 FOOT INTERVALS.
E) 1/2" PREFORMED EXPANSION JOINT FILLER SHALL BE PLACED TRANSVERSELY IN THE CURB ABUTTING EXISTING CURB AND SIDEWALK, WALLS OR BUILDINGS, AND AT INTERVALS NOT TO EXCEED 300 FEET, WITH PREFERRED LOCATIONS BEING AT RADIUS POINTS OR ANGLE POINTS.

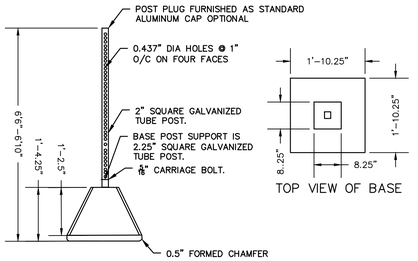
ON-SITE CONCRETE CURB & GUTTER DETAIL



TYPE 3 CURB RAMP



CONCRETE WALK W/ INTEGRAL CURB



SIDE VIEW

TOP VIEW OF BASE

PORTABLE CONCRETE SIGN BASE

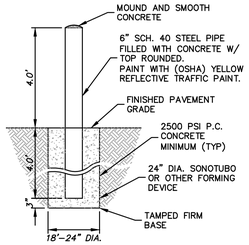
(NOT TO SCALE)

NOTES:
1. MAT'L: AIR ENTRAINED REINFORCED CONCRETE

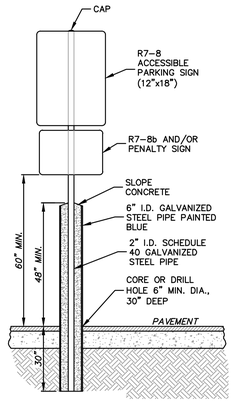
"CUSTOMER PARKING" SIGN

(NOT TO SCALE)

CUSTOMER PARKING (R ARROW) = 3
CUSTOMER PARKING (L ARROW) = 3
SERVICE PARKING (R ARROW) = 3
SERVICE PARKING (L ARROW) = 3
EMPLOYEE PARKING (R ARROW) = 4
EMPLOYEE PARKING (L ARROW) = 4

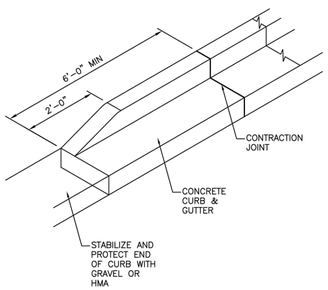


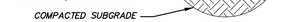
BOLLARD DETAIL



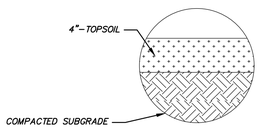
ACCESSIBLE PARKING SIGN AND POST INSTALLATION IN BOLLARD

TYPE 2

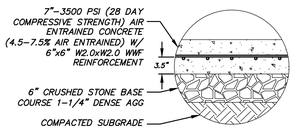




PUBLIC CONCRETE SIDEWALK SECTION

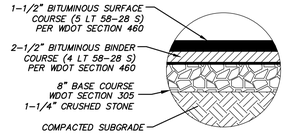


LANDSCAPED AREAS (ALL NON-PAVED AREAS)

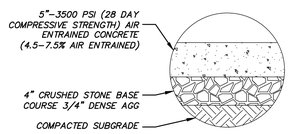


NOTES:
1. CONSTRUCTION MATERIALS AND PROCEDURES SHOULD BE IN ACCORDANCE WITH SECTION 305 AND 415 OF THE WISDOT STANDARD SPECIFICATIONS.

CONCRETE PAVEMENT SECTION

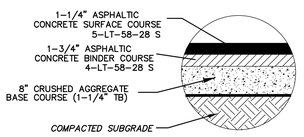


ASPHALT PAVEMENT SECTION (HEAVY DUTY)



NOTES:
1. CONSTRUCTION MATERIALS AND PROCEDURES SHOULD BE IN ACCORDANCE WITH SECTION 305 AND 415 OF THE WISDOT STANDARD SPECIFICATIONS.

CONCRETE SIDEWALK PAVEMENT SECTION



NOTES:
1. CONSTRUCTION MATERIALS AND PROCEDURES SHOULD BE IN ACCORDANCE WITH SECTION 460, TYPE E-0.3 AND SECTION 305 OF THE WISDOT STANDARD SPECIFICATIONS.
2. DEPTH OF PROPOSED CRUSHED AGGREGATE BASE COURSE WAS PROVIDED BY AND DIRECTED TO USE BY OWNER.

ASPHALT PAVEMENT SECTION (STANDARD DUTY)

811 Know what's **below.** **Call** before you dig.

DATE	DESCRIPTION

raSmith
CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com
Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI
Cedarburg, WI | Naperville, IL | Irvine, CA

WAUKESHA GENESIS
CITY OF WAUKESHA, WISCONSIN

SITE DETAILS

DATE: 08/31/2022
SCALE: N.T.S.
JOB NO. 3210204.01
PROJECT MANAGER: RYAN J. LANCOUR, P.E.
DESIGNED BY: JJJ
CHECKED BY: RJL

SHEET NUMBER
C501

CITY OF WAUKESHA
DEPARTMENT OF PUBLIC WORKS

STANDARD CONSTRUCTION DETAILS
--CURB TAPER--

APPROVED: ALEX DAMIEN DATED:
APPROVED: DATED:
DRAWN BY: JMETL DATED: 12/13/18
CHECKED BY: DATED:
PLOT SCALE .5' = 1'
PLOT DATE : 12/13/2018 8:42 AM
DETAIL NUMBER: **07-0252**
PROJECT NO:

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	JAKE BRUNOEHLER 262-794-2306 JAKE.BRUNOEHLER@ADSPIPE.COM
ADS SALES REP:	THEO TAYLOR 608-518-1254 THEO.TAYLOR@ADSPIPE.COM
PROJECT NO:	S307399

Advanced Drainage Systems, Inc.

ADS SiteAssist FOR STORMTECH INSTALLATION INSTRUCTIONS VISIT OUR APP

WAUKESHA GENESIS

WAUKESHA, WI

SC-740 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-740 SYSTEM

1. STORMTECH SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

ADS SiteAssist FOR STORMTECH INSTALLATION INSTRUCTIONS VISIT OUR APP

SC-310 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-310.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 400 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2922 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310 SYSTEM

1. STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT - NORTH SYSTEM

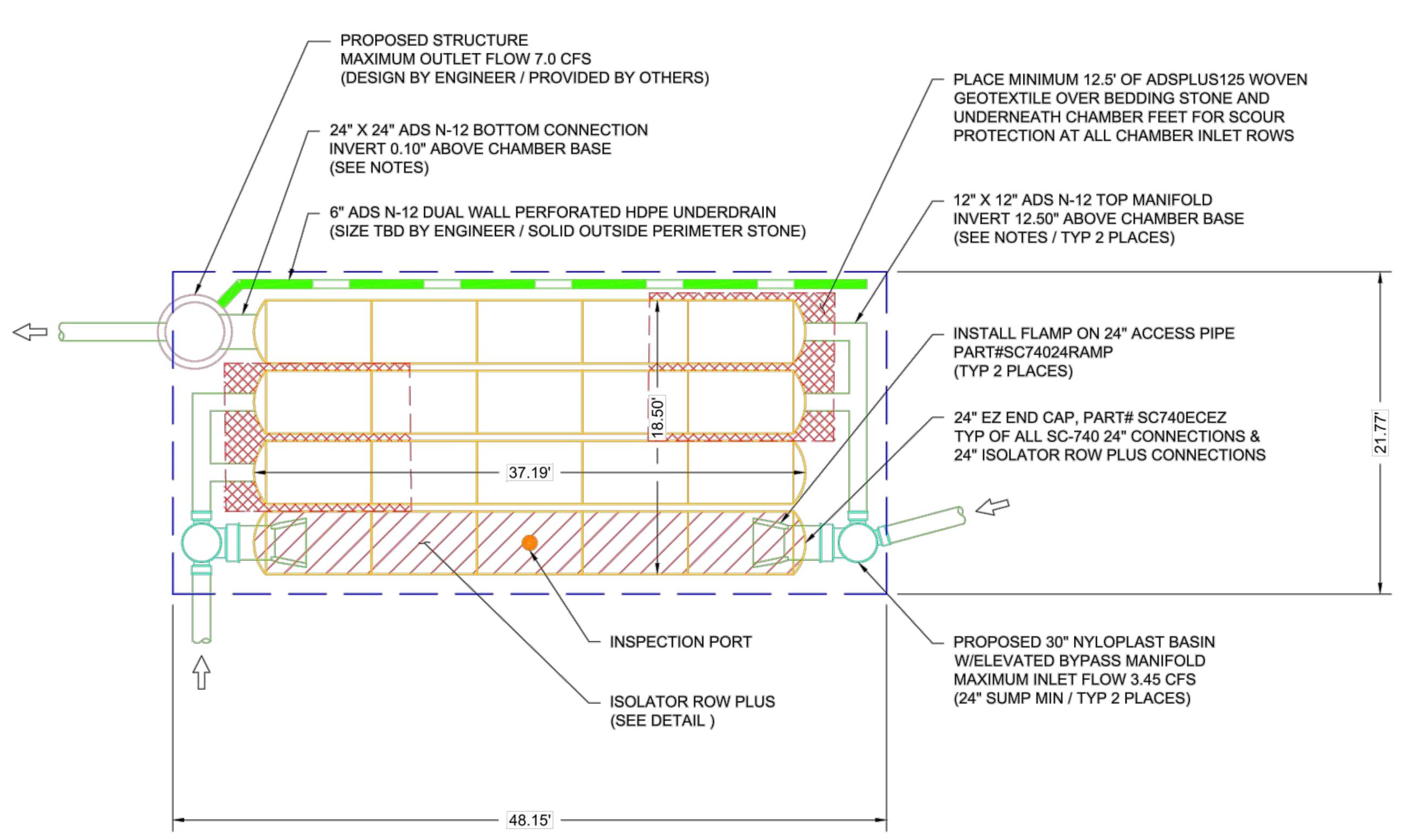
20	STORMTECH SC-740 CHAMBERS
8	STORMTECH SC-740 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
2,019	**INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)**
1048	SYSTEM AREA (ft²)
140	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS - NORTH SYSTEM

104.50	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
98.50	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
98.00	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
98.00	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
98.00	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
97.00	TOP OF STONE
96.50	TOP OF SC-740 CHAMBER
95.04	12" TOP MANIFOLD INVERT
94.01	24" BOTTOM CONNECTION INVERT
94.01	24" ISOLATOR ROW PLUS CONNECTION INVERT
94.00	BOTTOM OF SC-740 CHAMBER
93.50	UNDERDRAIN INVERT
93.50	BOTTOM OF STONE

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.



WAUKESHA GENESIS
WAUKESHA, WI
DATE: 07/18/22 DRAWN: MPV
PROJECT #: S307399 CHECKED: JPR

StormTech® Chamber System
888-892-2694 | WWW.STORMTECH.COM

ADS 4640 TRUEMAN BLVD HILLIARD, OH 43026

SHEET 3 OF 12

PROPOSED LAYOUT - WEST SYSTEM

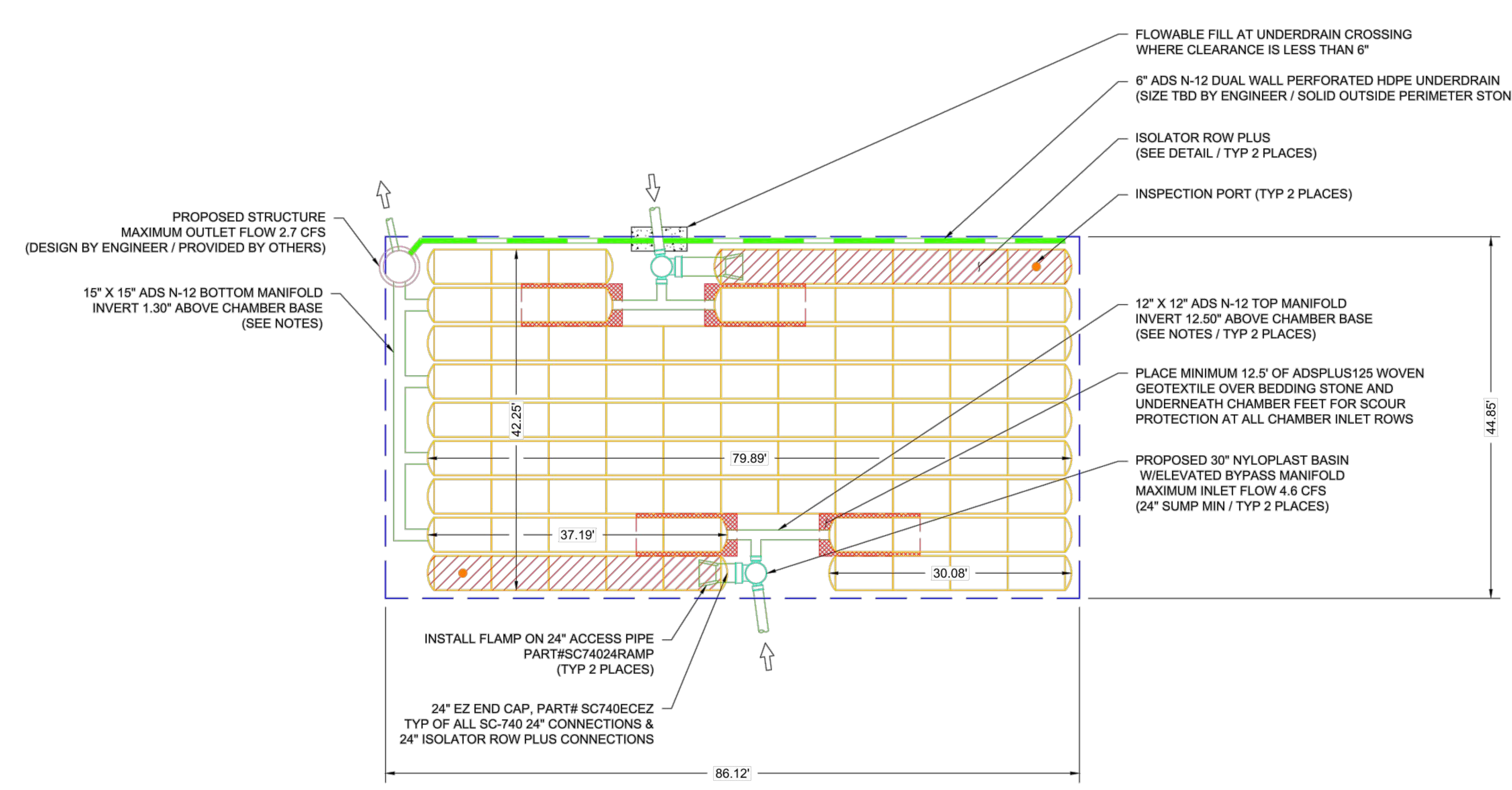
91	STORMTECH SC-740 CHAMBERS
26	STORMTECH SC-740 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
7,917	**INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)**
3863	SYSTEM AREA (ft²)
262	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS - WEST SYSTEM

105.61	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
99.61	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
99.11	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
99.11	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
99.11	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
98.11	TOP OF STONE
97.61	TOP OF SC-740 CHAMBER
96.15	12" TOP MANIFOLD INVERT
95.22	15" BOTTOM MANIFOLD INVERT
95.12	24" ISOLATOR ROW PLUS CONNECTION INVERT
95.11	BOTTOM OF SC-740 CHAMBER
94.61	UNDERDRAIN INVERT
94.61	BOTTOM OF STONE

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.



WAUKESHA GENESIS
WAUKESHA, WI
DATE: 07/18/22 DRAWN: MPV
PROJECT #: S307399 CHECKED: JPR

StormTech® Chamber System
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ADS 4640 TRUEMAN BLVD HILLIARD, OH 43026

SHEET 4 OF 12

DESCRIPTION

DATE

raSmith CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com
Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI
Cedarburg, WI | Naperville, IL | Irvine, CA

WAUKESHA GENESIS
CITY OF WAUKESHA, WISCONSIN

UNDERGROUND STORAGE DETAILS

DATE: 08/31/2022

SCALE: N.T.S.

JOB NO. 3210204.01

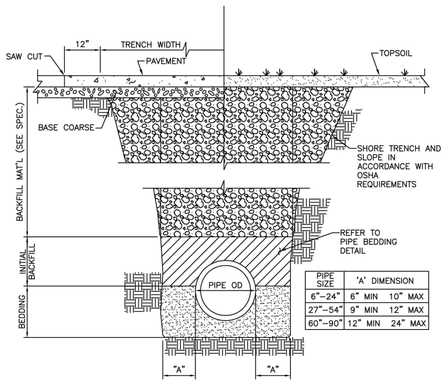
PROJECT MANAGER: RYAN J. LANCOUR, P.E.

DESIGNED BY: JJJ

CHECKED BY: RJL

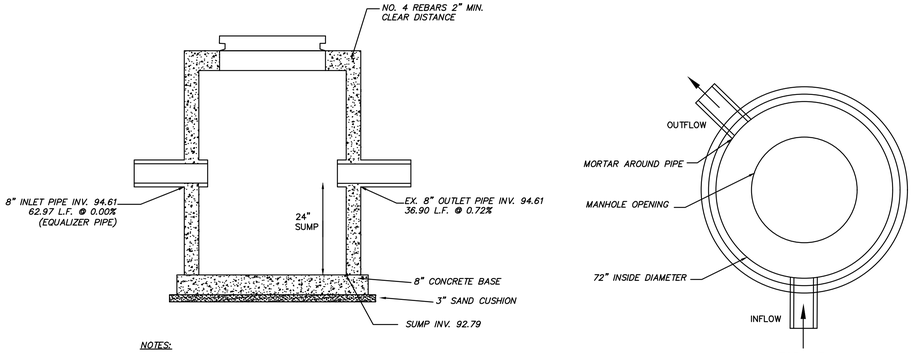
SHEET NUMBER

C503



PIPE SIZE	'A' DIMENSION	
6"–24"	6" MIN	10" MAX
27"–54"	9" MIN	12" MAX
60"–90"	12" MIN	24" MAX

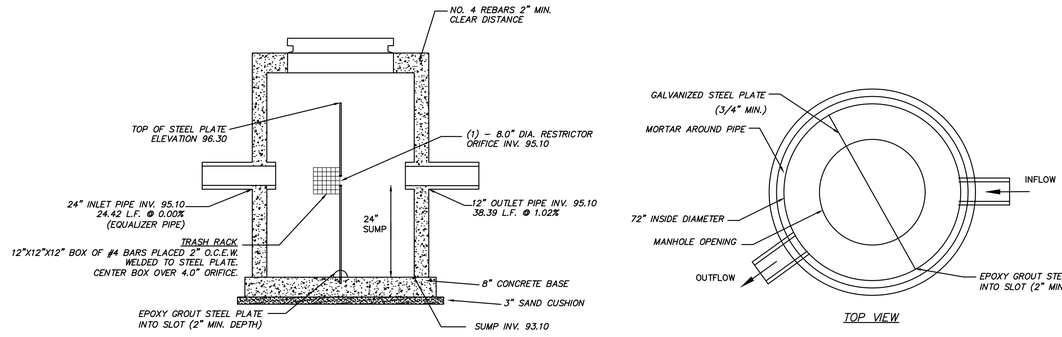
CITY OF WAUKESHA DEPARTMENT OF PUBLIC WORKS	STANDARD CONSTRUCTION DETAIL --PIPE TRENCH DETAIL--			
APPROVED: ALEX DAMIEN DATE:	DRAWN BY: JMEIL DATE: 12/13/18	PLOT SCALE: 0.750	DETAIL NUMBER:	**05-0008**
APPROVED: DATE:	CHECKED BY: DATE:	PLOT DATE : 12/13/2018 8:16 AM	PROJECT NO:	



TOP VIEW

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

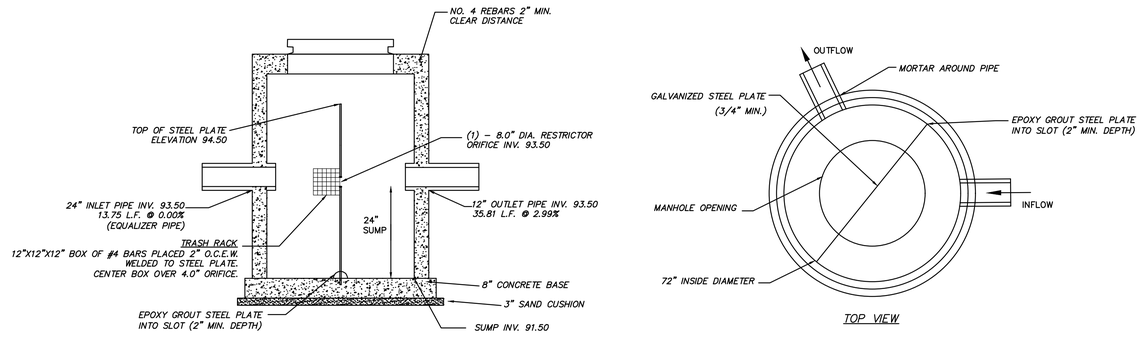
STO 105 OUTLET STRUCTURE DETAIL



TOP VIEW

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

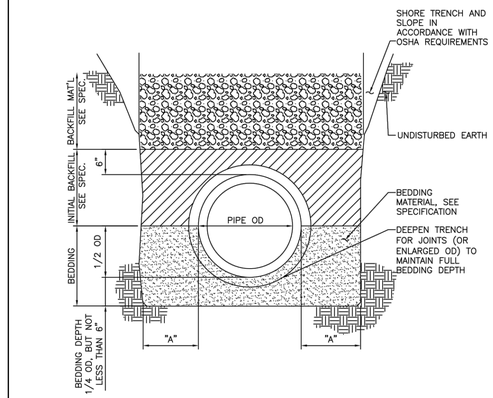
STO 410 OUTLET STRUCTURE DETAIL



TOP VIEW

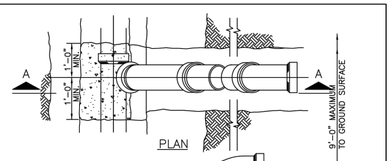
NOTES:
1. STRUCTURE SHALL BE CONSTRUCTED CONFORMING TO THE REQUIREMENTS OF ASTM C-478.
2. REINFORCING STEEL NOT SHOWN

STO 905 OUTLET STRUCTURE DETAIL

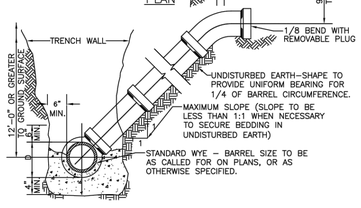


NOTES:
1. REFER TO PIPE TRENCH DETAIL.
2. TRANSITION OF BEDDING TYPES SHALL ONLY BE MADE AT PIPE JOINTS.
3. COMPACTION SHALL NOT BE DONE IN LAYERS MORE THAN 12" THICK.
4. BACKFILL SHALL BE COMPACTED TO NOT LESS THAN 90% STANDARD PROCTOR.

CITY OF WAUKESHA DEPARTMENT OF PUBLIC WORKS	STANDARD CONSTRUCTION DETAIL --PIPE BEDDING DETAIL--			
APPROVED: ALEX DAMIEN DATE:	DRAWN BY: JMEIL DATE: 12/13/18	PLOT SCALE: 0.800000	DETAIL NUMBER:	**05-0011**
APPROVED: DATE:	CHECKED BY: DATE:	PLOT DATE : 12/13/2018 8:17 AM	PROJECT NO:	

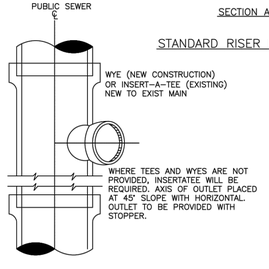


PLAN



SECTION A–A

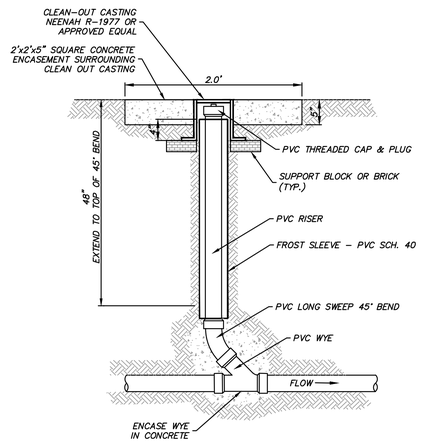
STANDARD RISER FOR SERVICE CONNECTION



NOTE:
1. RISERS TO BE CONSTRUCTED WHERE SEWER DEPTH EXCEEDS 12'-0".

STANDARD SERVICE CONNECTION

CITY OF WAUKESHA DEPARTMENT OF PUBLIC WORKS	STANDARD CONSTRUCTION DETAIL -STANDARD SERVICE CONNECTION -			
APPROVED: ALEX DAMIEN DATE:	DRAWN BY: JMEIL DATE: 12/13/18	PLOT SCALE: 1"=1'	DETAIL NUMBER:	**05-0156**
APPROVED: DATE:	CHECKED BY: DATE:	PLOT DATE : 12/13/2018 8:19 AM	PROJECT NO:	



CLEAN-OUT STRUCTURE

SECTION VIEW

Know what's **below.**
Call before you dig.

DATE	DESCRIPTION

raSmith
CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com
Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI
Cedarburg, WI | Naperville, IL | Irvine, CA

WAUKESHA GENESIS
CITY OF WAUKESHA, WISCONSIN

UTILITY DETAILS

DATE: 08/31/2022
SCALE: N.T.S.
JOB NO. 3210204.01
PROJECT MANAGER: RYAN J. LANCOUR, P.E.
DESIGNED BY: JJJ
CHECKED BY: RJL

SHEET NUMBER
C502

PROPOSED LAYOUT - SOUTH SYSTEM

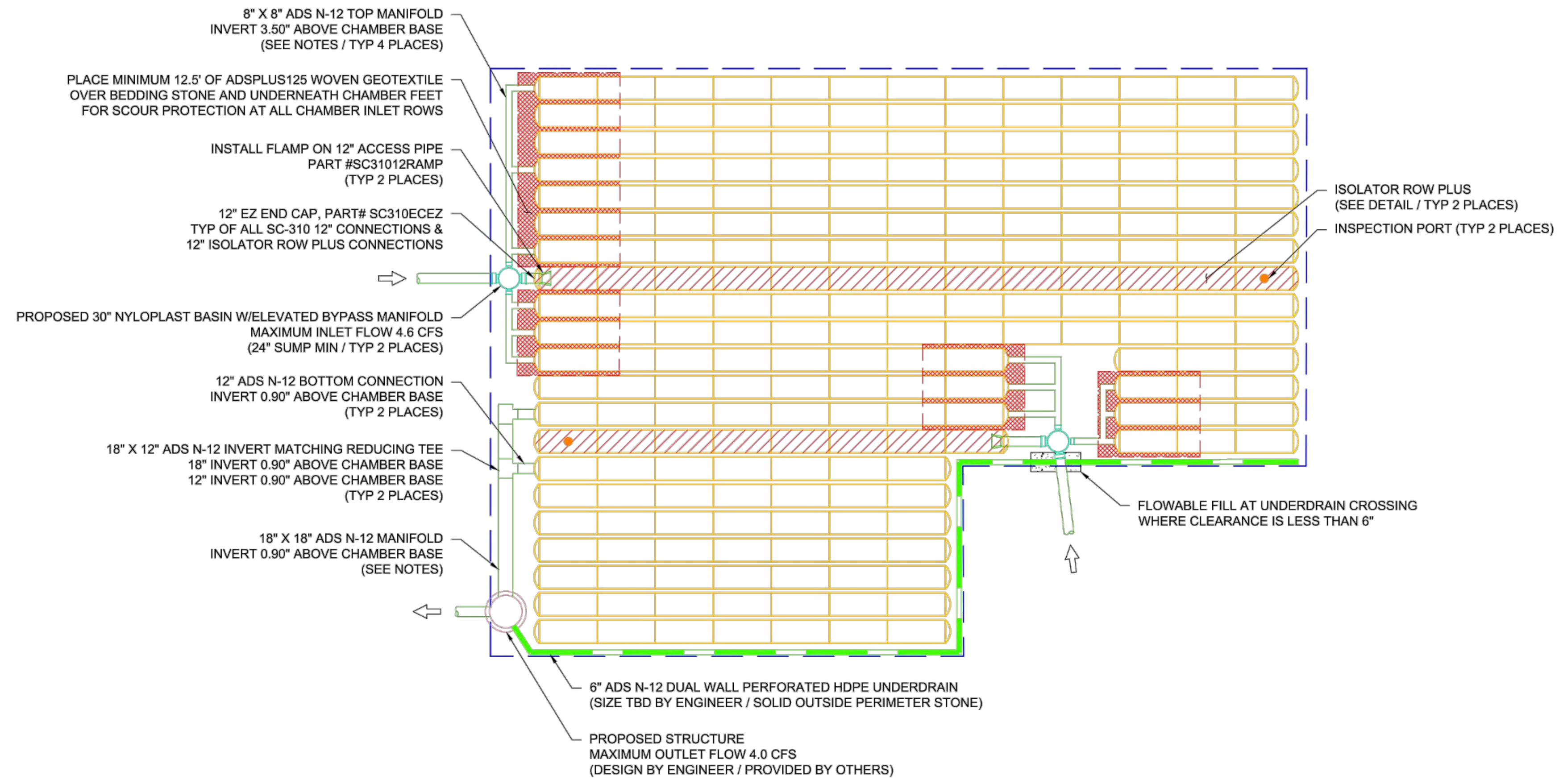
223	STORMTECH SC-310 CHAMBERS
50	STORMTECH SC-310 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
7,794	**INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)**
6235	SYSTEM AREA (ft²)
344	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS - SOUTH SYSTEM

104.93	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
98.93	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
98.43	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
98.43	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
98.43	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
97.43	TOP OF STONE
96.93	TOP OF SC-310 CHAMBER
95.89	8" TOP MANIFOLD INVERT
95.68	12" ISOLATOR ROW PLUS CONNECTION INVERT
95.68	12" BOTTOM CONNECTION INVERT
95.68	18" BOTTOM MANIFOLD INVERT
95.60	BOTTOM OF SC-310 CHAMBER
95.10	UNDERDRAIN INVERT
95.10	BOTTOM OF STONE

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.



8" X 8" ADS N-12 TOP MANIFOLD INVERT 3.50" ABOVE CHAMBER BASE (SEE NOTES / TYP 4 PLACES)
PLACE MINIMUM 12.5' OF ADSPLUS125 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS
INSTALL FLAMP ON 12" ACCESS PIPE PART #SC31012RAMP (TYP 2 PLACES)
12" EZ END CAP, PART# SC310ECEZ TYP OF ALL SC-310 12" CONNECTIONS & 12" ISOLATOR ROW PLUS CONNECTIONS
PROPOSED 30" NYLOPLAST BASIN W/ELEVATED BYPASS MANIFOLD MAXIMUM INLET FLOW 4.6 CFS (24" SUMP MIN / TYP 2 PLACES)
12" ADS N-12 BOTTOM CONNECTION INVERT 0.90" ABOVE CHAMBER BASE (TYP 2 PLACES)
18" X 12" ADS N-12 INVERT MATCHING REDUCING TEE 18" INVERT 0.90" ABOVE CHAMBER BASE 12" INVERT 0.90" ABOVE CHAMBER BASE (TYP 2 PLACES)
18" X 18" ADS N-12 MANIFOLD INVERT 0.90" ABOVE CHAMBER BASE (SEE NOTES)
ISOLATOR ROW PLUS (SEE DETAIL / TYP 2 PLACES)
INSPECTION PORT (TYP 2 PLACES)
FLOWABLE FILL AT UNDERDRAIN CROSSING WHERE CLEARANCE IS LESS THAN 6"
6" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN (SIZE TBD BY ENGINEER / SOLID OUTSIDE PERIMETER STONE)
PROPOSED STRUCTURE MAXIMUM OUTLET FLOW 4.0 CFS (DESIGN BY ENGINEER / PROVIDED BY OTHERS)

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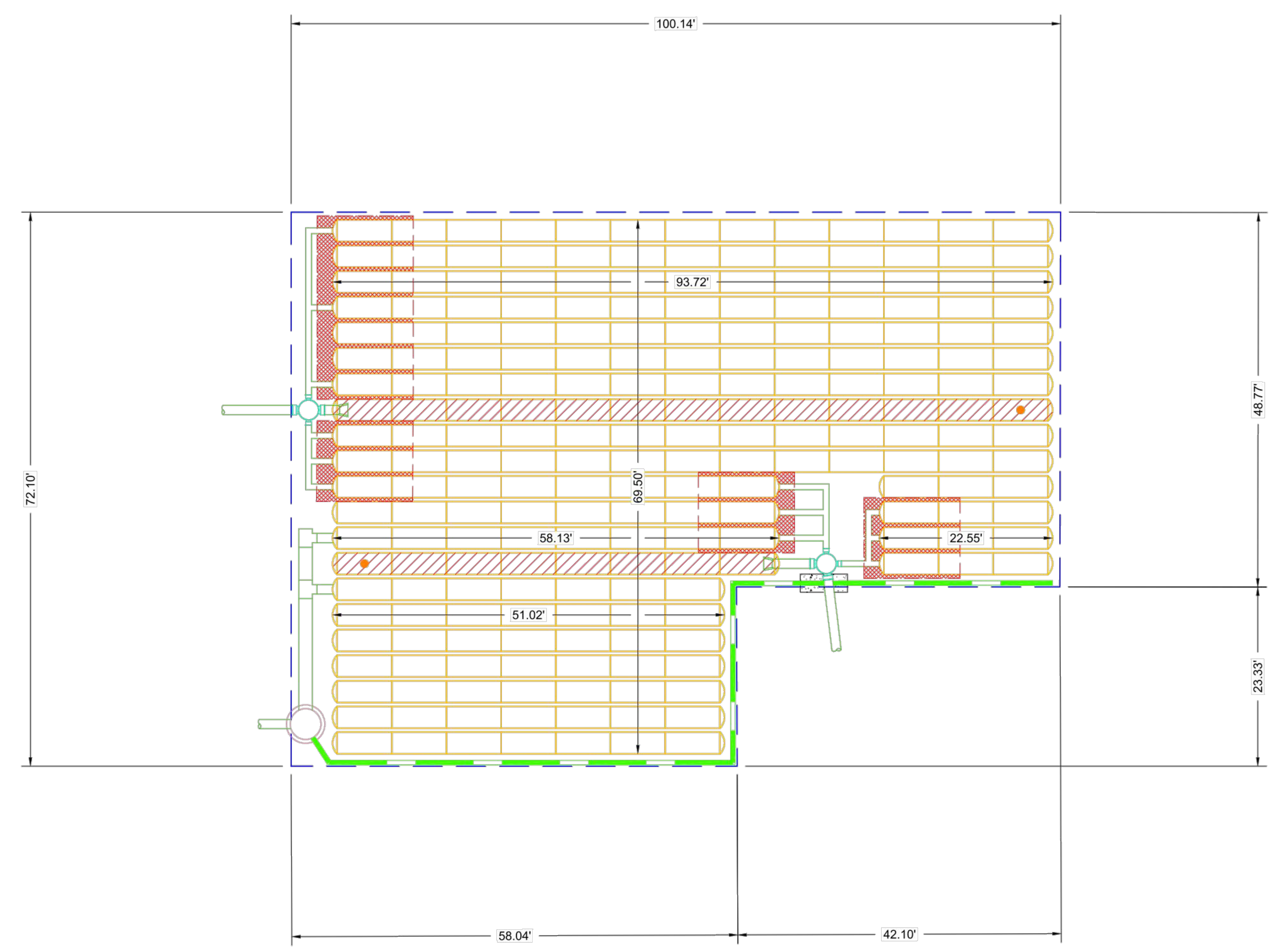

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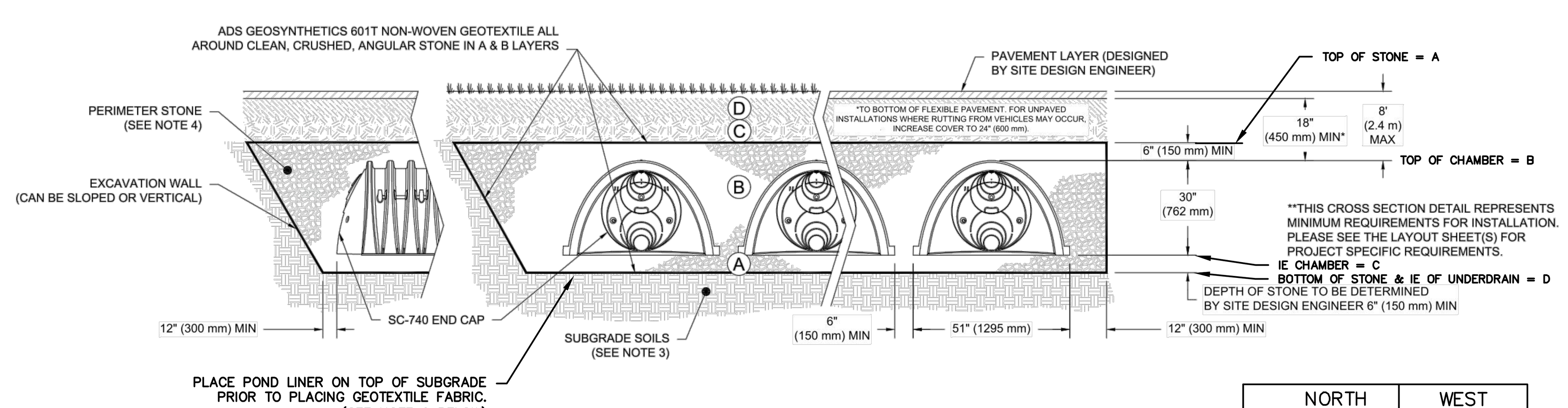
ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



ADS GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE ALL AROUND CLEAN, CRUSHED, ANGULAR STONE IN A & B LAYERS
PAVEMENT LAYER (DESIGNED BY SITE DESIGN ENGINEER)
TOP OF STONE = A
PERIMETER STONE (SEE NOTE 4)
EXCAVATION WALL (CAN BE SLOPED OR VERTICAL)
*TO BOTTOM OF FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING FROM VEHICLES MAY OCCUR, INCREASE COVER TO 24" (600 mm).
18" (450 mm) MIN*
8' (2.4 m) MAX
6" (150 mm) MIN
TOP OF CHAMBER = B
30" (762 mm)
**THIS CROSS SECTION DETAIL REPRESENTS MINIMUM REQUIREMENTS FOR INSTALLATION. PLEASE SEE THE LAYOUT SHEET(S) FOR PROJECT SPECIFIC REQUIREMENTS.
IE CHAMBER = C
BOTTOM OF STONE & IE OF UNDERDRAIN = D
DEPTH OF STONE TO BE DETERMINED BY SITE DESIGN ENGINEER 6" (150 mm) MIN
12" (300 mm) MIN
SC-740 END CAP
SUBGRADE SOILS (SEE NOTE 3)
6" (150 mm) MIN
51" (1295 mm)
12" (300 mm) MIN
PLACE POND LINER ON TOP OF SUBGRADE PRIOR TO PLACING GEOTEXTILE FABRIC. (SEE NOTE 6 BELOW)

	NORTH SYSTEM	WEST SYSTEM
A	97.00	98.11
B	96.50	97.61
C	94.00	95.11
D	93.50	94.61

NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
6. PLACE 40 MIL (HDPE) POND AND CANAL LINER OR EQUAL ON SUBGRADE EXTENDING THE ENTIRE EXCAVATED AREA AND UP EXCAVATED WALLS ONE FOOT PRIOR TO PLACING GEOSYNTHETIC FABRIC.

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ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
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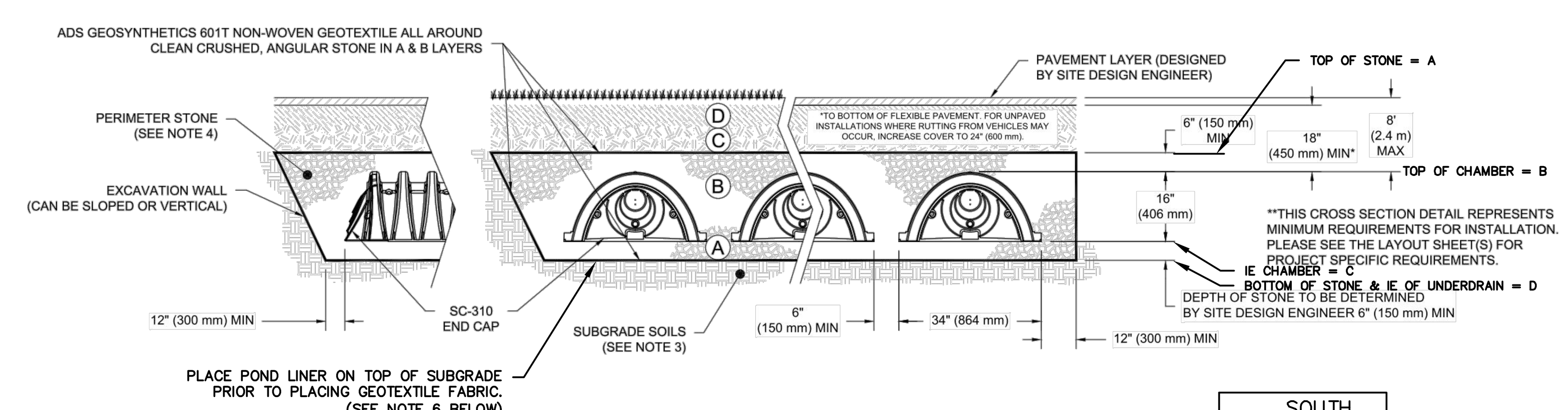

ADS GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE ALL AROUND CLEAN CRUSHED, ANGULAR STONE IN A & B LAYERS
PAVEMENT LAYER (DESIGNED BY SITE DESIGN ENGINEER)
TOP OF STONE = A
PERIMETER STONE (SEE NOTE 4)
EXCAVATION WALL (CAN BE SLOPED OR VERTICAL)
18" (450 mm) MIN*
8' (2.4 m) MAX
6" (150 mm) MIN
TOP OF CHAMBER = B
16" (406 mm)
**THIS CROSS SECTION DETAIL REPRESENTS MINIMUM REQUIREMENTS FOR INSTALLATION. PLEASE SEE THE LAYOUT SHEET(S) FOR PROJECT SPECIFIC REQUIREMENTS.
IE CHAMBER = C
BOTTOM OF STONE & IE OF UNDERDRAIN = D
DEPTH OF STONE TO BE DETERMINED BY SITE DESIGN ENGINEER 6" (150 mm) MIN
12" (300 mm) MIN
SC-310 END CAP
SUBGRADE SOILS (SEE NOTE 3)
6" (150 mm) MIN
34" (864 mm)
12" (300 mm) MIN
PLACE POND LINER ON TOP OF SUBGRADE PRIOR TO PLACING GEOTEXTILE FABRIC. (SEE NOTE 6 BELOW)

	SOUTH SYSTEM
A	97.43
B	96.93
C	95.60
D	95.10

NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
6. PLACE 40 MIL (HDPE) POND AND CANAL LINER OR EQUAL ON SUBGRADE EXTENDING THE ENTIRE EXCAVATED AREA AND UP EXCAVATED WALLS ONE FOOT PRIOR TO PLACING GEOSYNTHETIC FABRIC.

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DATE	DESCRIPTION

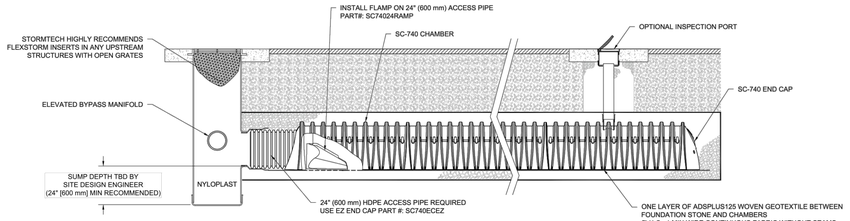
raSmith
CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com
Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI
Cedarburg, WI | Naperville, IL | Irvine, CA

WAUKESHA GENESIS
CITY OF WAUKESHA, WISCONSIN

UNDERGROUND STORAGE DETAILS

DATE: 08/31/2022
SCALE: N.T.S.
JOB NO. 3210204.01
PROJECT MANAGER: RYAN J. LANCOUR, P.E.
DESIGNED BY: JJJ
CHECKED BY: RJL

SHEET NUMBER
C504



SC-740 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

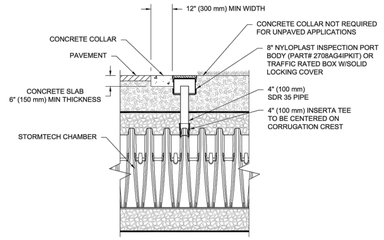
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

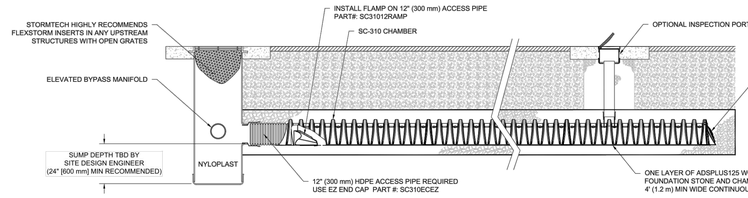
NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)
NTS



SC-310 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

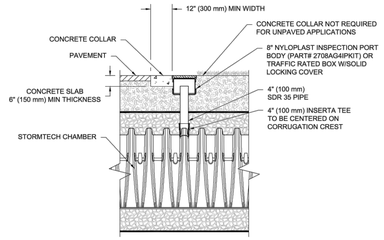
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

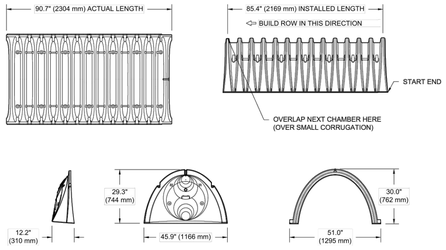
1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)
NTS

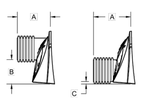
SC-740 TECHNICAL SPECIFICATION
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 9" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

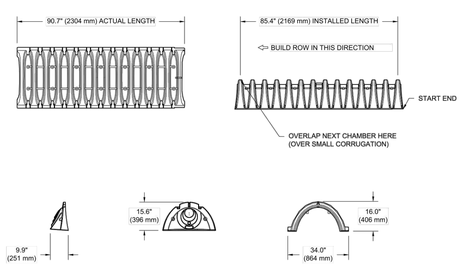
PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740ECEZ*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740ECEZ ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740ECEZ THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

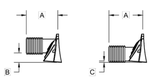
SC-310 TECHNICAL SPECIFICATION
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0" X 16.0" X 85.4"	(864 mm X 406 mm X 2169 mm)
CHAMBER STORAGE	14.7 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	31.0 CUBIC FEET	(0.88 m³)
WEIGHT	35.0 lbs.	(16.8 kg)

*ASSUMES 6" (152 mm) ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE CORED END CAPS END WITH "PC"

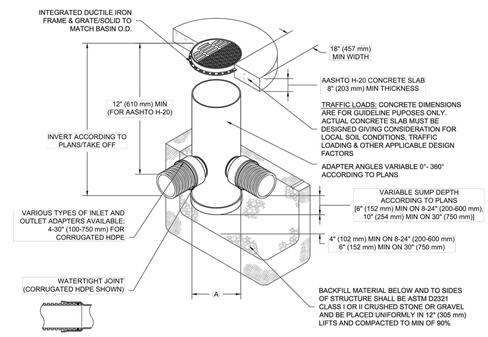
PART #	STUB	A	B	C
SC310EPE06T / SC310EPE06TPC	6" (150 mm)	9.6" (244 mm)	5.8" (147 mm)	---
SC310EPE06B / SC310EPE06BPC			---	0.5" (13 mm)
SC310EPE08T / SC310EPE08TPC	8" (200 mm)	11.9" (302 mm)	3.5" (89 mm)	---
SC310EPE08B / SC310EPE08BPC			---	0.6" (15 mm)
SC310EPE10T / SC310EPE10TPC	10" (250 mm)	12.7" (323 mm)	1.4" (36 mm)	---
SC310EPE10B / SC310EPE10BPC			---	0.7" (18 mm)
SC310ECEZ*	12" (300 mm)	13.5" (343 mm)	---	0.9" (23 mm)

ALL STUBS, EXCEPT FOR THE SC310ECEZ ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

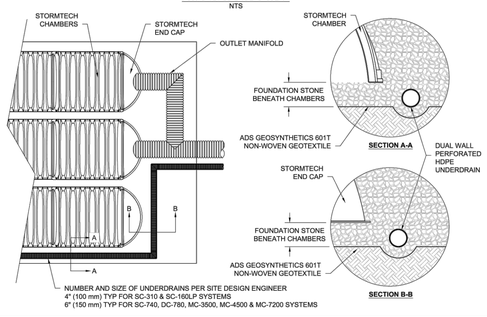
* FOR THE SC310ECEZ THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

NYLOPLAST DRAIN BASIN
NTS



UNDERDRAIN DETAIL
NTS



NUMBER AND SIZE OF UNDERDRAINS PER SITE DESIGN ENGINEER
4" (100 mm) TYP FOR SC-310 & SC-160LP SYSTEMS
6" (150 mm) TYP FOR SC-740, DC-780, MC-3500, MC-4500 & MC-7200 SYSTEMS

NOTES

1. 8-30" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
2. 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
5. FOR COMPLETE DESIGN AND PRODUCT INFORMATION: **WWW.NYLOPLAST-US.COM**
6. TO ORDER CALL: **800-821-6710**

A	PART #	GRATE/SOLID COVER OPTIONS		
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20	STANDARD AASHTO H-20	SOLID AASHTO H-20

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

DATE	DESCRIPTION

raSmith
CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com
Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI
Cedarburg, WI | Naperville, IL | Irvine, CA

WAUKESHA GENESIS
CITY OF WAUKESHA, WISCONSIN
UNDERGROUND STORAGE DETAILS

DATE: 08/31/2022
SCALE: N.T.S.
JOB NO. 3210204.01
PROJECT MANAGER: RYAN J. LANCOUR, P.E.
DESIGNED BY: JJJ
CHECKED BY: RJL

SHEET NUMBER
C505

DIVISION 1 – GENERAL REQUIREMENTS

01 41 00 – REGULATORY REQUIREMENTS

1. THE LATEST EDITIONS OF THE FOLLOWING DOCUMENTS AND ANY SUPPLEMENTS THERETO, SHALL GOVERN ALL CONSTRUCTION ITEMS ON THIS PLAN UNLESS OTHERWISE NOTED:
   a. WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) STORM WATER TECHNICAL STANDARDS
   b. WISCONSIN EROSION CONTROL PRODUCT ACCEPTABILITY LIST
   c. STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN (SSSWCW)
   d. WISCONSIN ADMINISTRATIVE CODE, SECTIONS SPS 382-387
   e. WISCONSIN DEPARTMENT OF TRANSPORTATION (WISDOT) STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION
   f. FEDERAL HIGHWAY ADMINISTRATION MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
   g. WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD)
   h. UNITED STATES DEPARTMENT OF JUSTICE ADA STANDARDS
   i. UNITED STATES DEPARTMENT OF TRANSPORTATION ADA STANDARDS FOR TRANSPORTATION FACILITIES
   j. MUNICIPALITY DEVELOPMENT STANDARDS
   k. COUNTY DEVELOPMENT STANDARDS
2. THE OWNER, ENGINEER AND MUNICIPALITY SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF PERFORMING ANY CONSTRUCTION ACTIVITIES.
3. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING COPIES OF ALL PERMITS AND FOR ABIDING BY ALL PERMIT REQUIREMENTS AND RESTRICTIONS.
4. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL 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 TO INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK.
5. SHOP DRAWINGS AND/OR MANUFACTURER'S PRODUCT DATA SUBMITTALS ARE REQUIRED ONLY IF THE PRODUCT OR METHOD OF CONSTRUCTION IS DIFFERENT FROM THAT SPECIFIED OR IF REQUIRED BY THE MUNICIPAL ENGINEER.
   a. ALL DOCUMENTS SUBMITTED FOR REVIEW SHALL HAVE THE SPECIFIC MATERIAL, PART, SIZE, ETC. HIGHLIGHTED IN SOME FASHION. EXAMPLE: A FITTING CUT SHEET HAS MULTIPLE PRESSURE RATING FOR DIFFERENT SIZE BENDS. HIGHLIGHT THE PRESSURE CLASS & SIZE TO BE USED ON PROJECT. ALL SUBMITTALS NOT PROPERLY IDENTIFYING THE SPECIFIC MATERIAL BEING USED WILL BE REJECTED.
   b. CONTRACTOR SHALL SUBMIT A PDF COPY AND AN EXPLANATION AS TO HOW THE SUBSTITUTION MEETS THE PROPOSED DESIGN (PRODUCT SPECIFICATION SHEETS WITHOUT EXPLANATION WILL NOT BE ACCEPTED) TO THE OWNER'S REPRESENTATIVE OR ENGINEER FOR REVIEW AND APPROVAL. THE CONTRACTOR SHALL NOT PROCEED UNTIL THE OWNER'S APPROVAL IS GIVEN. IN PROJECT SCHEDULING CONTRACTOR SHALL ACCOUNT FOR 5 WORKING DAYS FOR SUBMITTAL REVIEW. IN THE EVENT SUCH SUBSTITUTION IS APPROVED, THE OWNER WILL REQUIRE FROM THE CONTRACTOR A CREDITED DEDUCTION FROM THE CONTRACT AMOUNT EQUAL TO ANY SAVINGS IN MATERIAL COST RESULTING FROM USE OF THE PROPOSED SUBSTITUTE.
6. THE CONTRACTOR SHALL ASSUME COMPLETE AND SOLE RESPONSIBILITY FOR THE QUALITY OF WORK. IF CHANGES OR ADJUSTMENTS ARE RECOMMENDED BY THE CONTRACTOR, THEY MAY BE MADE ONLY UPON WRITTEN APPROVAL OF THE OWNER OR HIS REPRESENTATIVE.
   a. ALL WORK SHALL BE DONE IN COMPLIANCE WITH THE CONTRACT DOCUMENTS. THE OWNER OR HIS REPRESENTATIVE SHALL DECIDE ALL QUESTIONS WHICH SHALL ARISE AS TO THE QUALITY AND ACCEPTABILITY OF MATERIALS FURNISHED, WORK PERFORMED, AND WORKMANSHIP, , INTERPRETATION OF THE PLANS AND SPECIFICATIONS HE SHALL DETERMINE THE AMOUNT OF WORK PERFORMED AND MATERIALS FURNISHED.
   b. FAILURE OR NEGLIGENCE ON THE PART OF THE OWNER OR HIS REPRESENTATIVE TO CONDEMN OR REJECT SUBSTANDARD OR INFERIOR WORK OR MATERIALS SHALL NOT BE CONSTRUED TO IMPLY AN ACCEPTANCE OF SUCH WORK OR MATERIALS, IF IT BECOMES EVIDENT AT ANY TIME PRIOR TO THE FINAL ACCEPTANCE OF THE WORK BY THE OWNER. NEITHER SHALL IT BE CONSTRUED AS BARRING THE OWNER, AT ANY SUBSEQUENT TIME, FROM THE RECOVERY OF DAMAGES OR OF SUCH A SUM OF MONEY AS MAY BE NEEDED TO BUILD ANEW ALL PORTIONS OF THE SUBSTANDARD OR INFERIOR WORK OR REPLACEMENT OF IMPROPER MATERIALS WHEREVER FOUND.
   c. INSPECTORS EMPLOYED BY THE OWNER SHALL BE AUTHORIZED TO INSPECT ALL WORK DONE AND ALL MATERIAL FURNISHED. SUCH INSPECTION MAY EXTEND TO ALL OR ANY PART OF THE WORK AND TO THE PREPARATION, FABRICATION OR MANUFACTURE OF THE MATERIALS TO BE USED. THE INSPECTOR IS NOT AUTHORIZED TO REVOKE, ALTER OR WAIVE ANY REQUIREMENTS OF THE SPECIFICATIONS, NOR IS HE AUTHORIZED TO APPROVE OR ACCEPT ANY PORTION OF THE COMPLETED PROJECT. HE SHALL CALL THE ATTENTION OF THE CONTRACTOR TO ANY FAILURE OF THE WORK OR MATERIALS TO CONFORM TO THE SPECIFICATIONS AND CONTRACT, AND SHALL HAVE THE AUTHORITY TO REJECT MATERIALS. ANY DISPUTE BETWEEN THE INSPECTOR AND CONTRACTOR SHALL BE REFERRED TO THE OWNER OR HIS REPRESENTATIVE. ANY ADVICE WHICH THE INSPECTOR MAY GIVE THE CONTRACTOR SHALL IN NO WAY BE CONSTRUED AS BINDING THE ENGINEER IN ANY WAY OR RELEASING THE CONTRACTOR FROM FULFILLING ANY OF THE TERMS OF THE CONTRACT.
   d. ALL MATERIALS AND EACH PART OF DETAIL OF THE WORK SHALL BE SUBJECT AT ALL TIMES TO INSPECTION BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE OR THE AUTHORITY HAVING JURISDICTION AND THE CONTRACTOR WILL BE HELD STRICTLY TO THE TRUE INTENT OF THE SPECIFICATIONS IN REGARD TO QUALITY OF MATERIALS, WORKMANSHIP, AND THE DILIGENT EXECUTION OF THE CONTRACT. SUCH INSPECTION MAY INCLUDE MILL, PLANT OR SHOP INSPECTION, AND ANY MATERIAL FURNISHED UNDER THESE SPECIFICATIONS IS SUBJECT TO SUCH INSPECTION. THE OWNER OR HIS REPRESENTATIVES SHALL BE ALLOWED ACCESS TO ALL PART OF THE WORK, AND SHALL BE FURNISHED WITH SUCH INFORMATION AND ASSISTANCE BY THE CONTRACTOR AS IS DETERMINED BY THE OWNER OR HIS REPRESENTATIVE, TO MAKE A COMPLETE AND DETAILED INSPECTION.
   e. ALL WORKMANSHIP SHALL CONFORM TO THE BEST STANDARD PRACTICE. UNLESS OTHERWISE SPECIFIED, THE SPECIFICATIONS OR RECOGNIZED ASSOCIATION OF MANUFACTURERS AND CONTRACTORS OR INDUSTRIAL MANUFACTURERS SHALL BE USED AS GUIDES FOR THE STANDARDS OF WORKMANSHIP.
   f. ALL EXPOSED ITEMS OF WORK SHALL PRESENT A NEAT WORKMANLIKE APPEARANCE AND SHALL BE AS TRUE TO SHAPE AND ALIGNMENT AS POSSIBLE TO OBTAIN WITH MEASURING OR LEVELING INSTRUMENTS GENERALLY USED IN THE RESPECTIVE TYPES OF WORK. ITEMS OF WORK SHALL BE SOUND AND FULLY PROTECTED AGAINST DAMAGE AND PREMATURE DETERIORATION. IT IS SPECIFICALLY UNDERSTOOD THAT IN ALL QUESTIONS OF QUALITY AND ACCEPTABILITY OF WORKMANSHIP, THE CONTRACTOR AGREES TO ABIDE BY THE DECISION OF THE OWNER OR HIS REPRESENTATIVE.
   g. ALL MATERIALS AND WORKMANSHIP NOT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS SHALL BE CONSIDERED AS DEFECTIVE, AND ALL SUCH MATERIALS, WHETHER IN-PLACE OR NOT, SHALL BE REJECTED AND SHALL BE REMOVED FROM THE WORK BY THE CONTRACTOR AT HIS EXPENSE. UPON FAILURE ON THE PART OF THE CONTRACTOR TO COMPLY WITH ANY ORDER OF THE OWNER RELATIVE TO THE PROVISIONS OF THIS ARTICLE, THE OWNER SHALL HAVE THE AUTHORITY TO REMOVE AND REPLACE SUCH DEFECTIVE MATERIAL AND TO DEDUCT THE COST OF REMOVAL AND REPLACEMENT FROM ANY MONIES DUE OR WHICH MAY BECOME DUE THE CONTRACTOR.
   h. THE CONTRACTOR SHALL KEEP A LEGIBLE COPY OF THE PLANS, SPECIFICATIONS, AND ALL PERMITS AT THE SITE OF THE WORK AT ALL TIMES.
   i. AT THE COMPLETION OF THE WORK AND PRIOR TO FINAL PAYMENT, THE CONTRACTOR SHALL PROVIDE THE OWNER OR HIS REPRESENTATIVE WITH A MARKED-UP SET OF DRAWINGS SHOWING ALL CHANGES OR VARIATIONS FROM THE ORIGINAL DRAWINGS. THESE CHANGES SHALL BE MADE ON A SET OF FIELD DRAWINGS AS THE WORK TAKES PLACE, AND NOT FROM MEMORY WHEN THE WORK IS DONE. THIS SET OF DRAWINGS SHOULD BE KEPT CLEAN IN A LOCATION AT THE SITE WHERE THE OWNER OR HIS REPRESENTATIVE MAY EXAMINE THEM.
      i. THE MARKED-UP DRAWINGS SHALL BE ACCURATE. ARBITRARY MARKINGS ARE OF NO VALUE. CAREFUL MEASUREMENTS SHALL BE MADE TO LOCATE UNDERGROUND EXTERIOR AND UNDERGROUND INTERIOR SEWERS, GAS LINES, WATER LINES, ELECTRICAL CONDUIT AND MISCELLANEOUS PIPING.
7. CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL, TRAFFIC CONTROL PLANS AND PERMITTING FOR ALL WORK TO BE COMPLETED ONSITE OR IN THE PUBLIC RIGHT-OF WAY.

01 70 00 – EXECUTION & CLOSEOUT REQUIREMENTS

1. THE CONTRACTOR IS RESPONSIBLE FOR EXAMINING ALL EXISTING SITE CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL COMPARE WITH THIS PLAN.
2. EXISTING UTILITY INFORMATION IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY, BASED ON BEST AVAILABLE PUBLIC RECORDS, AS-BUILT DRAWINGS, AND FIELD OBSERVATIONS. NO RESPONSIBILITY IS ASSUMED BY THE OWNER OR ENGINEER FOR ACCURACY OR COMPLETENESS. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND NATURE OF EXISTING UTILITIES, AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.
3. THE CONTRACTOR SHALL VERIFY ALL LOCATIONS, ELEVATIONS, AND SIZES OF EXISTING UTILITIES AND SHALL CHECK ALL PROPOSED UTILITY CONNECTIONS AND CROSSINGS PRIOR TO PROCEEDING WITH ANY WORK. ANY CONFLICTS SHALL BE REPORTED TO THE ENGINEER SO REDESIGN MAY OCCUR IF NEEDED. COST OF REPLACEMENT OR REPAIR OF EXISTING UTILITIES DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
4. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING SOIL CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. A GEOTECHNICAL REPORT MAY BE AVAILABLE FROM THE OWNER. THE CONTRACTOR SHALL ABIDE BY THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT AND SUBSEQUENT RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER DURING CONSTRUCTION
5. THE CONTRACTOR SHALL FIELD VERIFY ELEVATIONS OF THE BENCHMARKS AND HORIZONTAL CONTROL BY REFERENCING SHOWN COORDINATES TO KNOWN PROPERTY LINES, AND SHALL NOTIFY THE ENGINEER OF DISCREPANCIES IN EITHER VERTICAL OR HORIZONTAL CONTROL PRIOR TO PROCEEDING WITH ANY WORK.
6. SURVEY BENCHMARKS AND CONTROL POINTS SHALL BE MAINTAINED AND PROTECTED FROM DISTURBANCE.
7. PROPERTY CORNERS SHALL BE CAREFULLY PROTECTED AT ALL TIMES. PROPERTY MONUMENTS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
8. ANY ADJACENT PROPERTIES OR ROAD RIGHT-OF-WAYS WHICH ARE DAMAGED DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR. THE COST OF RESTORATION IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED.
9. PUBLIC ROADS SHALL NOT BE FULLY CLOSED TO TRAFFIC AT ANY TIME. ALL INGRESS AND EGRESS TRAFFIC TO THE PROJECT SITE SHALL BE LIMITED TO THE CONSTRUCTION ENTRANCE.
10. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING QUANTITIES, SHALL BID ON THEIR OWN ESTIMATE OF THE WORK REQUIRED, AND SHALL NOT RELY ON THE ENGINEER'S ESTIMATE.
11. REQUESTS FOR CLARIFICATION WILL BE INTERPRETED BY THE OWNER/ENGINEER PRIOR TO AWARD OF CONTRACT, AND WHEN NECESSARY, OFFICIAL WRITTEN RESPONSES WILL BE ISSUED. OFFICIAL WRITTEN RESPONSES SHALL BE BINDING TO THE WORK. IN NO WAY SHALL VERBAL DIALOGUE CONSTITUTE OFFICIAL RESPONSE.
12. SHOULD ANY DISCREPANCIES BE DISCOVERED BY THE CONTRACTOR AFTER AWARD OF CONTRACT, NOTIFY OWNER/ENGINEER IN WRITING IMMEDIATELY. CONSTRUCTION OF ITEMS AFFECTED BY THE DISCREPANCIES SHALL NOT COMMENCE OR CONTINUE UNTIL AN OFFICIAL WRITTEN RESPONSE IS ISSUED.
13. ALL WORK SHALL BE GUARANTEED BY THE CONTRACTOR FOR A MINIMUM PERIOD OF 12 MONTHS FROM THE DATE OF FINAL ACCEPTANCE. THIS GUARANTEE SHALL INCLUDE ALL DEFECTS IN MATERIALS AND WORKMANSHIP.
14. THE CONTRACTOR SHALL INDEMNIFY THE OWNER, THE ENGINEER, AND THE MUNICIPALITY, THEIR AGENTS, ETC., FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, AND TESTING OF THE WORK ON THIS PROJECT.

DIVISION 31 – EARTHWORK

31 10 00 – SITE CLEARING & DEMOLITION

1. WORK SHALL CONSIST OF DEMOLITION, ABANDONMENT, AND REMOVAL OF EXISTING FOUNDATIONS, WALLS, SLABS, FENCES, PIPING, PAVEMENTS, AND OTHER MANMADE ITEMS INTERFERING WITH NEW CONSTRUCTION. WORK SHALL ALSO CONSIST OF CLEARING AND GRUBBING OF TREES, SHRUBS, VEGETATION, ROOTS, STUMPS, RUBBISH, AND OTHER PERISHABLE MATTER INTERFERING WITH NEW CONSTRUCTION.
2. ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.
3. CALL 811 TO NOTIFY UTILITY PROVIDERS AND REQUEST FIELD LOCATION OF EXISTING UTILITIES WITHIN PROJECT LIMITS PRIOR TO ANY CONSTRUCTION RELATED ACTIVITIES.
4. INSTALL PERIMETER FENCING AS INDICATED PRIOR TO COMMENCING ANY CONSTRUCTION RELATED ACTIVITY.
5. CLEARLY IDENTIFY ALL VEGETATION TO BE PRESERVED AND/OR RELOCATED PRIOR TO CLEARING AND GRUBBING.
6. PROTECT EXISTING IMPROVEMENTS TO REMAIN DURING CONSTRUCTION. ANY DAMAGED IMPROVEMENTS SHALL BE RESTORED TO ORIGINAL CONDITION, OR AS OTHERWISE ACCEPTABLE TO THE OWNER.
7. REMOVE EXISTING ABOVE-GRADE AND BELOW-GRADE IMPROVEMENTS AS INDICATED AND AS NECESSARY TO CONSTRUCT PROPOSED IMPROVEMENTS.
8. SAWCUT ALL PAVEMENT TO BE REMOVED IN STRAIGHT LINES TO FULL DEPTH.
9. DEMOLISH CONCRETE AND MASONRY IN SMALL SECTIONS. BREAK UP CONCRETE SLABS THAT ARE 2 FEET OR MORE BELOW PROPOSED SUBGRADE TO PERMIT DRAINAGE.
10. DISCONNECT AND SEAL/CAP EXISTING UTILITIES TO BE REMOVED, RELOCATED, OR ABANDONED IN ACCORDANCE WITH REQUIREMENTS OF UTILITY PROVIDERS.
11. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING OWNERSHIP OF AND COORDINATING NECESSARY REMOVAL AND/OR RELOCATION OF ALL EXISTING UTILITIES WITHIN THE PROJECT LIMITS.
12. DO NOT INTERRUPT UTILITY SERVICE TO EXISTING FACILITIES UNLESS PERMITTED BY THE OWNER.
13. VOIDS LEFT BY REMOVALS SHALL BE LEVELED TO PREVENT PONDING OF WATER.
14. REMOVE AND LEGALLY DISPOSE OF DEMOLISHED MATERIALS, TRASH, AND DEBRIS FROM THE PROJECT SITE. RUBBISH, TRASH, GARBAGE, AND LITTER SHALL BE PLACED IN SEALED CONTAINERS THROUGHOUT CONSTRUCTION.

31 20 00 – EARTH MOVING

1. WORK SHALL CONSIST OF STRIPPING AND STORAGE OF TOPSOIL, EXCAVATION, EMBANKMENT, IMPORTING OR EXPORTING MATERIAL TO ACHIEVE LAND BALANCE, COMPACTION, FINISH GRADING, SUBGRADE PREPARATION, AND REPLACEMENT OF TOPSOIL.
2. ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.
3. ALL EARTHWORK SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT AND SUBSEQUENT RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER DURING CONSTRUCTION BASED ON FIELD CONDITIONS, AND THESE REQUIREMENTS. THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER SHALL GOVERN.
4. EXCAVATE TO SUBGRADE REGARDLESS OF THE CHARACTER OF SURFACE AND SUBSURFACE CONDITIONS ENCOUNTERED. EXCAVATED MATERIAL MAY INCLUDE ROCK AND UNCLASSIFIED OBSTRUCTIONS, WHICH IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE WORK.
5. EXISTING FOUNDATIONS, BUILDING REMNANTS, AND UNSATISFACTORY MATERIAL SHALL BE COMPLETELY REMOVED FROM WITHIN AND A MINIMUM OF 10 FEET BEYOND BUILDING PAD AREAS. ANY RELATED EXCAVATION SHALL BE BACKFILLED WITH COMPACTED ENGINEERED FILL MATERIAL.
6. EXISTING FOUNDATIONS, BUILDING REMNANTS, AND UNSATISFACTORY MATERIAL SHALL BE REMOVED TO A MINIMUM OF 2 FEET BELOW PROPOSED SUBGRADE WITHIN GREENSPACE AND PAVEMENT AREAS. ANY RELATED EXCAVATION SHALL BE BACKFILLED WITH COMPACTED ENGINEERED FILL MATERIAL.
7. AREAS SHALL BE GRADED TO WITHIN 1 INCH, MORE OR LESS, OF PROPOSED SUBGRADE. DEVIATIONS SHALL NOT BE CONSISTENT IN ONE DIRECTION.
8. DISKING, HARROWING, AND AERATION TECHNIQUES SHALL BE USED TO DRY SUBGRADE PRIOR TO PROOF ROLLING.
9. IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER, PROOF ROLL SUBGRADE BELOW BUILDING PAD AND PAVEMENT AREAS DURING DRY WEATHER WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK WHERE COHESIVE SOILS ARE PREDOMINANT, AND WITH A SMOOTH DRUMMED VIBRATORY ROLLER WHERE GRANULAR SOILS ARE PREDOMINANT. SUBGRADE WHICH IS OBSERVED TO RUT OR DEFLECT EXCESSIVELY SHALL BE UNDERCUT IN ACCORDANCE WITH RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER. DO NOT PROOF ROLL WET OR SATURATED SUBGRADE.
10. THE CONTRACTOR SHALL MAINTAIN POSITIVE SITE DRAINAGE THROUGHOUT CONSTRUCTION. THIS MAY INCLUDE EXCAVATION OF TEMPORARY DITCHES OR PUMPING TO ALLEVIATE WATER PONDING. SURFACE WATER AND GROUNDWATER SHALL BE PREVENTED FROM ENTERING EXCAVATIONS, PONDING ON PREPARED SUBGRADES, AND FLOODING PROJECT SITE AND/OR SURROUNDING AREAS.
11. THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR ALL EARTHWORK COMPUTATIONS AND FOR ACTUAL LAND BALANCE, INCLUDING UTILITY TRENCH SPOIL. THE CONTRACTOR SHALL IMPORT OR EXPORT MATERIAL AS NECESSARY TO COMPLETE THE PROJECT.
12. TOPSOIL REPLACEMENT DEPTH SHALL BE AS CALLED OUT ON THE CIVIL OR LANDSCAPE PLANS, OR A MINIMUM OF FOUR INCHES IF NOT CALLED OUT ON LANDSCAPE PLAN.

31 25 00 – EROSION & SEDIMENTATION CONTROLS

1. WORK SHALL CONSIST OF INSTALLATION OF TEMPORARY AND PERMANENT PRACTICES FOR SEDIMENTATION CONTROL, EROSION CONTROL, SLOPE PROTECTION, AND REMOVAL OF PRACTICES UPON FINAL SITE STABILIZATION.
2. ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.
3. INSTALLATION AND MAINTENANCE OF PRACTICES SHALL BE IN ACCORDANCE WITH THE APPLICABLE WDNR TECHNICAL STANDARD, OR THE WISCONSIN CONSTRUCTION SITE BEST MANAGEMENT PRACTICE HANDBOOK IF A TECHNICAL STANDARD IS NOT AVAILABLE.
4. ALL PRACTICES SHALL BE INSTALLED PRIOR TO COMMENCING ANY LAND DISTURBING CONSTRUCTION RELATED ACTIVITY. EARTHWORK ASSOCIATED WITH INSTALLATION OF PRACTICES MAY OCCUR CONCURRENTLY.
5. ALL PRACTICES SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT AND WARRANTY PERIOD IN CONFORMANCE WITH PERMIT REQUIREMENTS.
6. ALL PRACTICES SHALL BE ROUTINELY INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL GREATER THAN 0.5 INCHES. THE CONTRACTOR IS REQUIRED TO PERFORM INSPECTIONS, KEEP A LOG, AND CONDUCT REPAIRS AS NEEDED.
7. ALL DISTURBED AREAS SHALL DRAIN TO A CONTROL PRACTICE AT ALL TIMES DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. DEPENDING UPON HOW THE CONTRACTOR GRADES THE SITE, IT MAY BE NECESSARY TO INSTALL ADDITIONAL CONTROL PRACTICES IN VARIOUS LOCATIONS THROUGHOUT THE PROJECT SITE. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL CONTROL PRACTICES NECESSARY TO PREVENT EROSION AND SEDIMENTATION.
8. ALL DISTURBED GROUND LEFT INACTIVE FOR 7 DAYS SHALL BE STABILIZED WITH A TEMPORARY SEED MIXTURE AND MULCH. THE TEMPORARY SEED MIXTURE SHALL BE IN ACCORDANCE WITH SECTION 630 OF WISDOT STANDARD SPECIFICATIONS. WINTER WHEAT OR RYE SHALL BE USED FOR TEMPORARY SEED AFTER SEPTEMBER 1.
9. DISTURBED AREAS THAT CAN NOT BE STABILIZED WITH A DENSE GROWTH OF VEGETATION DUE TO TEMPERATURE OR TIMING OF CONSTRUCTION SHALL BE STABILIZED BY APPLYING ANIONIC POLYACRYLAMIDE (PAM).
10. ALL ACTIVITIES ON THE PROJECT SITE SHALL BE CONDUCTED IN A LOGICAL SEQUENCE TO MINIMIZE THE AREA OF BARE SOIL EXPOSED AT ANY ONE TIME.
11. DUST GENERATED BY CONSTRUCTION RELATED ACTIVITIES SHALL BE MINIMIZED BY USE OF WATERING, CALCIUM CHLORIDE SURFACE TREATMENT, CONSTRUCTION SCHEDULING, OR OTHER APPROPRIATE MEASURES.
12. THE CONTRACTOR SHALL BE PREPARED FOR DEWATERING CONDITIONS BY HAVING APPROPRIATE PUMPS AND FILTER BAGS ONSITE. ALL WATER FROM CONSTRUCTION DEWATERING SHALL BE TREATED PRIOR TO DISCHARGE FROM THE PROJECT SITE.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE CLEANLINESS OF THE PROJECT SITE AND PUBLIC ROADS DURING CONSTRUCTION. PUBLIC ROADS SHALL BE KEPT FREE OF SEDIMENT TRACKED FROM AREAS UNDER CONSTRUCTION BY DAILY SWEEPING OR OTHER APPROPRIATE MEASURES.
14. FINAL STABILIZATION OF LANDSCAPED AREAS SHALL BE IN ACCORDANCE WITH THE APPROVED LANDSCAPE PLAN.
15. ALL SEEDED AREAS SHALL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED IN ACCORDANCE WITH THE APPROVED LANDSCAPE PLAN TO MAINTAIN A VIGOROUS DENSE VEGETATIVE COVER.

DIVISION 32 – EXTERIOR IMPROVEMENTS

32 12 00 – ASPHALT PAVING

1. WORK SHALL CONSIST OF FINE GRADING SUBGRADE, EXCAVATION BELOW SUBGRADE (IF NECESSARY), PLACEMENT OF CRUSHED STONE BASE, INSTALLATION OF HOT-MIX ASPHALT, PAVEMENT MARKING, SIGNAGE, AND CLEANUP.
2. ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.
3. CRUSHED STONE BASE SHALL BE IN ACCORDANCE WITH SECTION 305 OF WISDOT STANDARD SPECIFICATIONS.
4. ASPHALTIC MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 455 OF WISDOT STANDARD SPECIFICATIONS.
5. AGGREGATE SHALL BE IN ACCORDANCE WITH SECTION 460 OF WISDOT STANDARD SPECIFICATIONS.
6. DO NOT CONDUCT ASPHALT PAVING IF ANY OF THE FOLLOWING CONDITIONS EXIST: CRUSHED STONE BASE IS WET OR EXCESSIVELY DAMP; TEMPERATURE IS BELOW 30 DEGREES FAHRENHEIT AT TIME OF BINDER COURSE INSTALLATION; TEMPERATURE HAS BEEN BELOW 35 DEGREES FAHRENHEIT WITHIN 12 HOURS PRIOR TO TACK COAT APPLICATION; TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT AT TIME OF SURFACE COURSE INSTALLATION.
7. COMPACT ASPHALT IN ACCORDANCE WITH SECTION 450 OF WISDOT STANDARD SPECIFICATIONS. COMPACT ASPHALT TO PRODUCE THE THICKNESS INDICATED WITHIN PLUS/MINUS 1/4-INCH FOR BINDER COURSE, AND WITHIN PLUS 1/4-INCH FOR SURFACE COURSE (NO MINUS).
8. APPLY TACK COAT BETWEEN ASPHALT COURSES AT A MINIMUM RATE OF 0.25 GAL/SY.
9. NO TRAFFIC SHALL BE ALLOWED ON ASPHALT AFTER FINAL ROLLING UNTIL IT HAS COOLED AND HARDENED.
10. FINAL ASPHALT SURFACE SHALL BE WITHIN A 1/8-INCH TOLERANCE AS DETERMINED BY USING A 10-FOOT STRAIGHTEDGE APPLIED LONGITUDINALLY OR TRANSVERSELY. REMOVE AND REPLACE ALL RAISED AND DEPRESSED AREAS EXCEEDING TOLERANCE.
11. A SLOPE NO GREATER THAN 2% IN ALL DIRECTIONS AT ADA PARKING STALLS AND ADJACENT UNLOADING AREAS IS REQUIRED. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK.
12. A SLOPE NO GREATER THAN 5% ALONG THE LENGTH OF THE ACCESSIBLE ROUTE IS REQUIRED. A SLOPE NO GREATER THAN 2% ACROSS THE WIDTH OF THE ACCESSIBLE ROUTE IS REQUIRED. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK.

32 13 00 – CONCRETE PAVING

1. WORK SHALL CONSIST OF FINE GRADING SUBGRADE, EXCAVATION BELOW SUBGRADE (IF NECESSARY), PLACEMENT OF CRUSHED STONE BASE, INSTALLATION OF CONCRETE, AND CLEANUP.
2. ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.
3. CRUSHED STONE BASE SHALL BE IN ACCORDANCE WITH SECTION 305 OF WISDOT STANDARD SPECIFICATIONS.
4. CONCRETE SHALL BE GRADE A AIR-ENTRAINED IN ACCORDANCE WITH SECTION 501 OF WISDOT STANDARD SPECIFICATIONS, WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
5. AGGREGATE SHALL BE IN ACCORDANCE WITH SECTION 501 OF WISDOT STANDARD SPECIFICATIONS.
6. WATER SHALL BE IN ACCORDANCE WITH SECTION 501 OF WISDOT STANDARD SPECIFICATIONS AND ASTM C94 / C94M.
7. AIR-ENTRAINING SHALL BE IN ACCORDANCE WITH SECTION 501 OF WISDOT STANDARD SPECIFICATIONS AND ASTM C260.
8. LIQUID CURING COMPOUND SHALL BE IN ACCORDANCE WITH SECTION 415 OF WISDOT STANDARD SPECIFICATIONS AND AASHTO M 148.
9. CURBING SHALL BE IN ACCORDANCE WITH SECTION 601 OF WISDOT STANDARD SPECIFICATIONS.
10. SIDEWALK AND PATIO SHALL BE IN ACCORDANCE WITH SECTION 602 OF WISDOT STANDARD SPECIFICATIONS.
11. CONCRETE FORMS SHALL REMAIN IN PLACE AT LEAST 24 HOURS AFTER CONCRETE INSTALLATION AND SHALL BE CLEANED AFTER EACH USE. CONCRETE FORMS SHALL BE COATED WITH RELEASE AGENT TO ALLOW SEPARATION WITHOUT DAMAGE TO CONCRETE.
12. CONSTRUCTION AND CONTRACTION JOINTS SHALL BE IN ACCORDANCE WITH SECTION 415 OF WISDOT STANDARD SPECIFICATIONS. JOINT PATTERN SHALL FOLLOW ARCHITECTURAL PLANS IF AVAILABLE.
13. ISOLATION JOINTS SHALL CONSIST OF PREFORMED JOINT FILLER STRIPS ABUTTING CURBING, INLETS, CATCH BASINS, MANHOLES, STRUCTURES, AND OTHER FIXED OBJECTS.

DIVISION 32 – EXTERIOR IMPROVEMENTS

14. EDGES OF CONCRETE PAVEMENT, CURBING, SIDEWALK, PATIOS, AND JOINTS SHALL BE TOOLED IN CONCRETE AFTER INITIAL FLOATING WITH AN EDGING TOOL TO A 1/4-INCH RADIUS. REPEAT TOOLING AFTER APPLYING SURFACE FINISHES AND ELIMINATE TOOL MARKS ON SURFACES.
15. FINISH, CURE, AND PROTECT CURBING IN ACCORDANCE WITH SECTION 601 OF WISDOT STANDARD SPECIFICATIONS.
16. FINISH (LIGHT BROOM), CURE, AND PROTECT SIDEWALK AND PATIOS IN ACCORDANCE WITH SECTION 602 OF WISDOT STANDARD SPECIFICATIONS.
17. FINISH (ARTIFICIAL TURF DRAG), CURE, AND PROTECT VEHICULAR PAVEMENT AND PADS IN ACCORDANCE WITH SECTION 415 OF WISDOT STANDARD SPECIFICATIONS.
18. MAINTAIN CONCRETE FREE OF STAINS, DISCOLORATION, DIRT, AND OTHER FOREIGN MATERIAL. SWEEP CONCRETE PRIOR TO SUBSTANTIAL COMPLETION INSPECTION.
19. MAXIMUM DIFFERENCE BETWEEN CONCRETE SIDEWALKS AND ADJACENT PAVEMENT SURFACES SHALL NOT EXCEED 1/4-INCH VERTICAL.
20. A SLOPE NO GREATER THAN 2% IN ALL DIRECTIONS AT ADA PARKING STALLS AND ADJACENT UNLOADING AREAS IS REQUIRED. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK.
21. A SLOPE NO GREATER THAN 5% ALONG THE LENGTH OF THE ACCESSIBLE ROUTE IS REQUIRED. A SLOPE NO GREATER THAN 2% ACROSS THE WIDTH OF THE ACCESSIBLE ROUTE IS REQUIRED. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK.
22. ALL HANDICAP ACCESSIBLE DOORWAYS REQUIRE AN EXTERIOR LANDING THAT IS A MINIMUM OF 5 FEET BY 5 FEET WITH A SLOPE NO GREATER THAN 2% IN ALL DIRECTIONS. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK.
23. REMOVE AND REPLACE CONCRETE THAT IS BROKEN, DAMAGED, DEFECTIVE, OR DOES NOT COMPLY WITH THE REQUIREMENTS LISTED ABOVE.

32 17 00 – PAVEMENT MARKING & SIGNAGE

1. WORK SHALL CONSIST OF INSTALLATION OF PARKING LOT STRIPING, DIRECTION ARROWS, HANDICAP ACCESSIBLE SYMBOLS AND SITE SIGNAGE.
2. ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.
3. PAVEMENT MARKING PAINT SHALL BE IN ACCORDANCE WITH SECTION 646 OF WISDOT STANDARD SPECIFICATIONS AND WISDOT APPROVED PRODUCTS LIST. COLOR SHALL BE WHITE UNLESS NOTED OTHERWISE ON THIS PLAN. MARKINGS SEPARATING OPPOSING TRAFFIC SHALL BE YELLOW.
4. ALL PARKING LOT STRIPING SHALL BE 4-INCH WIDTH UNLESS NOTED OTHERWISE ON THIS PLAN.
5. BARRICADE WORK AREA DURING INSTALLATION AND UNTIL PAVEMENT MARKING PAINT IS DRIED. PROTECT ADJACENT AREAS FROM RECEIVING PAINT.
6. APPLY PAINT IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS TO PRODUCE MARKINGS AS INDICATED WITH UNIFORM, STRAIGHT EDGES. TEMPLATES SHALL BE PROFESSIONALLY MADE TO INDUSTRY STANDARDS.
7. APPLY PAINT TO CLEAN AND DRY SURFACE, FREE FROM FROST, TO ENSURE PROPER BONDING.
8. NOTIFY OWNER OF ANY UNSOUND CONDITIONS PRIOR TO COMMENCING WORK. APPLYING PAVEMENT MARKING PAINT CONSTITUTES CONTRACTOR'S ACCEPTANCE OF SURFACE AS SUITABLE FOR INSTALLATION.

32 32 00 – RETAINING WALLS

1. WORK SHALL CONSIST OF FURNISHING DETAILED DESIGN, MATERIALS, LABOR, EQUIPMENT, SUPERVISION, AND DIRECTION TO CONSTRUCT RETAINING WALL SYSTEMS IN REASONABLY CLOSE CONFORMITY TO THE LINES, GRADES, AND DIMENSIONS SHOWN ON THIS PLAN. RETAINING WALLS SHOWN ON THIS PLAN ARE FOR GENERAL LOCATION AND MATERIAL REFERENCE ONLY.
2. ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.
3. THE CONTRACTOR SHALL PROCURE DETAILED DESIGN CALCULATIONS AND DRAWINGS, PREPARED AND SEALED BY A PROFESSIONAL ENGINEER EXPERIENCED WITH RETAINING WALL DESIGN AND LICENSED IN THE STATE IN WHICH THE RETAINING WALLS ARE TO BE CONSTRUCTED.
4. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL SURROUNDING STRUCTURES AND UTILITIES ARE PROTECTED FROM THE EFFECTS OF EXCAVATION AND PROVIDING ANY NECESSARY EXCAVATION SUPPORT.
5. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT CONSTRUCTION ADJACENT TO THE RETAINING WALLS DOES NOT DISTURB OR PLACE TEMPORARY LOADS ON THE RETAINING WALLS THAT EXCEED DESIGN LOADS.

DIVISION 33 – UTILITIES

33 10 00 – WATER DISTRIBUTION

1. WORK SHALL CONSIST OF INSTALLATION AND TESTING OF THE WATER DISTRIBUTION SYSTEM AND ALL APPURTENANCES.
2. ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.
3. ALL PUBLIC WATER DISTRIBUTION WORK SHALL BE IN ACCORDANCE WITH SSSWCW AND MUNICIPALITY DEVELOPMENT STANDARDS.
4. ALL PRIVATE WATER DISTRIBUTION WORK SHALL BE IN ACCORDANCE WITH WISCONSIN ADMINISTRATIVE CODE AND MUNICIPALITY DEVELOPMENT STANDARDS.
5. POLYVINYL CHLORIDE (PVC) PIPE SHALL BE SDR 18, CLASS 150 CONFORMING TO AWWA C900 WITH INTEGRAL ELASTOMERIC BELL AND SPIGOT JOINTS IN ACCORDANCE WITH SECTION 8.20.0 OF SSSWCW.
6. DUCTILE IRON PIPE (DIP) SHALL BE CLASS 150 CONFORMING TO AWWA C151 WITH RUBBER GASKETED JOINTS IN ACCORDANCE WITH SECTION 8.18.0 OF SSSWCW.
7. POLYETHYLENE TUBING SHALL BE SDR 9 IN ACCORDANCE WITH SECTION 8.24.0 OF SSSWCW AND CONFORM TO AWWA C901.
8. COPPER TUBING SHALL BE TYPE "K" IN ACCORDANCE WITH SECTION 8.24.0 OF SSSWCW AND CONFORM TO ASTM B88.
9. BALL VALVES SHALL BE IN ACCORDANCE WITH SECTION 8.30.0 OF SSSWCW AND CONFORM TO AWWA C800 AND ASTM B62.
10. GATE VALVES SHALL BE IN ACCORDANCE WITH SECTION 8.27.0 OF SSSWCW AND CONFORM TO AWWA C500.
11. BUTTERFLY VALVES SHALL BE IN ACCORDANCE WITH SECTION 8.28.0 OF SSSWCW AND CONFORM TO AWWA C504.
12. VALVE BOXES SHALL BE IN ACCORDANCE WITH SECTION 8.29.0 OF SSSWCW AND CONFORM TO ASTM A48. VALVE BOXES SHALL BE SIZE DD, SCREW TYPE, 3 PIECE ASSEMBLY, WITH COVERS MARKED "WATER". ALL VALVE BOXES SHALL BE SET TO PROPOSED GRADE, TRULY VERTICAL, AND SUPPORTED BY USE OF ADAPTOR.
13. HYDRANTS SHALL BE IN ACCORDANCE WITH SECTION 8.26.0 OF SSSWCW AND CONFORM TO AWWA C502. PUMPER NOZZLE SHALL BE PERPENDICULAR TO AND ORIENTED TOWARDS THE PAVEMENT. HYDRANTS SHALL BE ATTACHED BY MEANS OF TEE AND HAVE A GROUND LINE TO CENTER DISTANCE OF 18 TO 21 INCHES.
14. FITTINGS SHALL BE CLASS 150 IN ACCORDANCE WITH SECTION 8.22.0 OF SSSWCW, CONFORMING TO AWWA C110, AND PROVIDED WITH MECHANICAL JOINTS.
15. MECHANICAL JOINTS SHALL BE MADE WITH "COR TEN" NUTS AND BOLTS, OR CORROSION-RESISTANT EQUIVALENTS CONFORMING TO AWWA C111.
16. POLYETHYLENE WRAP SHALL BE IN ACCORDANCE WITH SECTION 8.21.0 OF SSSWCW AND PROVIDED FOR ALL METAL PIPES AND FITTINGS.
17. THRUST RESTRAINT SHALL BE IN ACCORDANCE WITH SECTION 4.3.13 OF SSSWCW AND PROVIDED FOR ALL BENDS, CAPS, PLUGS, AND TEES.
18. TRENCH SECTION SHALL BE IN ACCORDANCE WITH FILE NO. 36 OF SSSWCW. MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE OUTSIDE DIAMETER OF PIPE PLUS 20 INCHES.
19. PIPE BEDDING AND COVER MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 8.43.0 OF SSSWCW. MINIMUM COVER OVER PIPE SHALL BE 12 INCHES.
20. TRENCH BACKFILL MATERIAL SHALL BE MECHANICALLY COMPACTED GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF SSSWCW BENEATH AND WITHIN 5 FEET OF PAVEMENT AREAS, AND SHALL BE SPOIL BACKFILL IN ACCORDANCE WITH SECTION 8.43.5 OF SSSWCW BENEATH GREENSPACE AREAS, UNLESS ALTERNATIVE COMPACTION IS RECOMMENDED IN THE GEOTECHNICAL REPORT OR BY THE GEOTECHNICAL ENGINEER DURING CONSTRUCTION, IN WHICH CASE THE CONTRACTOR IS TO FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
21. CAUTION MUST BE FOLLOWED REGARDING THE COMPACTION OF ALL UTILITY TRENCHES. FLOODING OF BACKFILL MATERIAL IS NOT ALLOWED.
22. TRACER WIRE SHALL BE BLUE AND INSTALLED IN ACCORDANCE WITH SECTION 2.11.2 OF SSSWCW ON ALL BURIED NON-METALLIC PUBLIC WATER MAIN PIPE, PRIVATE WATER MAIN PIPE, AND BUILDING WATER SERVICE PIPE. TRACER WIRE SHALL BE INSULATED, SINGLE-CONDUCTOR, 12 GAUGE SOLID COPPER OR COPPER COATED STEEL WIRE, SECURED AT LEAST EVERY 10 FEET AND AT ALL BENDS, WITH ACCESS POINTS AT LEAST EVERY 300 FEET.
23. PROPOSED WATER SERVICES SHOWN ON THIS PLAN SHALL TERMINATE AT A POINT FIVE (5) FEET FROM THE EXTERIOR BUILDING WALL.
24. THE CONTRACTOR IS RESPONSIBLE FOR THE SIZE, TYPE AND NUMBER OF BENDS REQUIRED TO COMPLETE CONSTRUCTION, WHICH SHALL BE INCIDENTAL AND INCLUDED IN THE COST OF WORK.
25. THE CONTRACTOR SHALL ADJUST ALL VALVE BOXES TO FINISHED SURFACE UPON COMPLETION OF PAVING OPERATIONS.
26. THE CONTRACTOR IS RESPONSIBLE FOR PRESSURE TESTING AND SAFE WATER SAMPLING. HYDROSTATIC TESTING SHALL BE IN ACCORDANCE WITH SECTION 4.15.0 OF SSSWCW. DISINFECTION SHALL BE IN ACCORDANCE WITH SECTION 4.16.0 OF SSSWCW AND CONFORM TO AWWA C651. WATER MAINS SHALL BE FLUSHED AND TESTED IN THE PRESENCE OF THE WATER UTILITY OPERATOR.

33 30 00 – SANITARY SEWERAGE

1. WORK SHALL CONSIST OF INSTALLATION AND TESTING OF THE SANITARY SEWERAGE SYSTEM AND ALL APPURTENANCES.
2. ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.
3. ALL PUBLIC SANITARY SEWERAGE WORK SHALL BE IN ACCORDANCE WITH SSSWCW AND MUNICIPALITY DEVELOPMENT STANDARDS.
4. ALL PRIVATE SANITARY SEWERAGE WORK SHALL BE IN ACCORDANCE WITH WISCONSIN ADMINISTRATIVE CODE AND MUNICIPALITY DEVELOPMENT STANDARDS.
5. POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS SHALL BE SDR 35 CONFORMING TO ASTM D3034 FOR DEPTHS LESS THAN 18 FEET, AND SHALL BE SDR 18 CONFORMING TO AWWA C900 FOR DEPTHS GREATER THAN 18 FEET, BOTH WITH PUSH-ON RUBBER GASKETED JOINTS IN ACCORDANCE WITH SECTIONS 8.10.6 AND 8.41.4 OF SSSWCW.
6. MANHOLES SHALL BE PRECAST REINFORCED CONCRETE IN ACCORDANCE WITH SECTION 8.39.0 OF SSSWCW AND CONFORM TO ASTM C478. SIZES SHALL BE AS INDICATED AND VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING.
7. TRENCH SECTION SHALL BE CLASS B IN ACCORDANCE WITH SECTION 3.2.6 OF SSSWCW. MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE OUTSIDE DIAMETER OF PIPE PLUS 20 INCHES.
8. PIPE BEDDING AND COVER MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 8.43.0 OF SSSWCW. MINIMUM COVER OVER PIPE SHALL BE 12 INCHES.
9. TRENCH BACKFILL MATERIAL SHALL BE MECHANICALLY COMPACTED GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF SSSWCW BENEATH AND WITHIN 5 FEET OF PAVEMENT AREAS, AND SHALL BE SPOIL BACKFILL IN ACCORDANCE WITH SECTION 8.43.5 OF SSSWCW BENEATH GREENSPACE AREAS, UNLESS ALTERNATIVE COMPACTION IS RECOMMENDED IN THE GEOTECHNICAL REPORT OR BY THE GEOTECHNICAL ENGINEER DURING CONSTRUCTION, IN WHICH CASE THE CONTRACTOR IS TO FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
10. CAUTION MUST BE FOLLOWED REGARDING THE COMPACTION OF ALL UTILITY TRENCHES. FLOODING OF BACKFILL MATERIAL IS NOT ALLOWED.
11. ALL CONNECTIONS TO EXISTING SANITARY SEWER PIPES AND STRUCTURES SHALL BE CORED CONNECTIONS, UNLESS NOTED OTHERWISE. PREFABRICATED WYE CONNECTIONS ARE REQUIRED FOR ALL BUILDING SANITARY SERVICE PIPES, UNLESS NOTED OTHERWISE.
12. CLEANOUTS AND RISER EXTENSIONS SHALL BE INSTALLED IN ACCORDANCE WITH SPS 382.35 FROM SEWER PIPES TO GROUND SURFACE. LIGHT DUTY LOADING CLASSIFICATION SHALL BE USED IN UNPAVED AREAS. MEDIUM DUTY LOADING CLASSIFICATION SHALL BE USED IN PAVED FOOT TRAFFIC AREAS. HEAVY DUTY LOADING CLASSIFICATION SHALL BE USED IN PAVED VEHICULAR TRAFFIC AREAS. FRAMES AND COVERS SHALL BE SET FLUSH WITH SURFACE.
13. TRACER WIRE SHALL BE GREEN AND INSTALLED IN ACCORDANCE WITH SECTION 2.11.2 OF SSSWCW ON ALL BURIED NON-METALLIC PUBLIC SANITARY SEWER PIPE, PRIVATE SANITARY INTERCEPTOR PIPE, AND BUILDING SANITARY SERVICE PIPE. TRACER WIRE SHALL BE INSULATED, SINGLE-CONDUCTOR, 12 GAUGE SOLID COPPER OR COPPER COATED STEEL WIRE, SECURED AT LEAST EVERY 10 FEET AND AT ALL BENDS, WITH ACCESS POINTS AT LEAST EVERY 300 FEET.

DIVISION 33 – UTILITIES

13. TRACER WIRE SHALL BE GREEN AND INSTALLED IN ACCORDANCE WITH SECTION 2.11.2 OF SSSWCW ON ALL BURIED NON-METALLIC PUBLIC SANITARY SEWER PIPE, PRIVATE SANITARY INTERCEPTOR PIPE, AND BUILDING SANITARY SERVICE PIPE. TRACER WIRE SHALL BE INSULATED, SINGLE-CONDUCTOR, 12 GAUGE SOLID COPPER OR COPPER COATED STEEL WIRE, SECURED AT LEAST EVERY 10 FEET AND AT ALL BENDS, WITH ACCESS POINTS AT LEAST EVERY 300 FEET.
14. PROPOSED SANITARY SERVICES SHOWN ON THIS PLAN SHALL TERMINATE AT A POINT FIVE (5) FEET FROM THE EXTERIOR BUILDING WALL.
15. THE CONTRACTOR SHALL ADJUST ALL MANHOLE RIMS TO FINISHED SURFACE UPON COMPLETION OF PAVING OPERATIONS.
16. AFTER INSTALLATION OF SANITARY SEWERAGE SYSTEM, CLEAN ALL DEBRIS FROM SYSTEM AND INSPECT FOR DAMAGE. CONDUCT TESTING OF INSTALLED PIPE IN ACCORDANCE WITH SSSWCW. REPAIR ANY DAMAGE AND REPLACE ANY PIPE NOT PASSING TESTING.

33 40 00 – STORMWATER DRAINAGE

1. WORK SHALL CONSIST OF INSTALLATION AND TESTING OF THE STORMWATER DRAINAGE SYSTEM AND ALL APPURTENANCES.
2. ALL ITEMS SHALL INCLUDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.
3. ALL PUBLIC STORMWATER DRAINAGE WORK SHALL BE IN ACCORDANCE WITH SSSWCW AND MUNICIPALITY DEVELOPMENT STANDARDS.
4. ALL PRIVATE STORMWATER DRAINAGE WORK SHALL BE IN ACCORDANCE WITH WISCONSIN ADMINISTRATIVE CODE AND MUNICIPALITY DEVELOPMENT STANDARDS.
5. REINFORCED CONCRETE PIPE (RCP) AND END SECTIONS SHALL BE IN ACCORDANCE WITH SECTION 8.6.0 OF SSSWCW AND CONFORM TO ASTM C76 WITH RUBBER GASKETED JOINTS CONFORMING TO ASTM C443. UNLESS NOTED OTHERWISE, 12-INCH DIAMETER PIPE SHALL BE CLASS V, 15-INCH DIAMETER PIPE SHALL BE CLASS IV, AND 18-INCH DIAMETER PIPE AND LARGER SHALL BE CLASS III.
6. CORRUGATED METAL PIPE (CMP) AND END SECTIONS SHALL BE 16 GAUGE CONFORMING TO ASTM A760.
7. HIGH-DENSITY POLYETHYLENE (HDPE) PIPE AND FITTINGS SHALL BE ADS N12 WT AS APPROVED BY THE WISCONSIN DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES PLUMBING PRODUCTS REGISTER.
8. POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS SHALL BE SDR 35 CONFORMING TO ASTM D3034 WITH PUSH-ON RUBBER GASKETED JOINTS CONFORMING TO ASTM D3212.
9. MANHOLES SHALL BE PRECAST REINFORCED CONCRETE IN ACCORDANCE WITH SECTION 8.39.0 OF SSSWCW AND CONFORM TO ASTM C478. SIZES SHALL BE AS INDICATED AND VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING.
10. CATCH BASINS SHALL BE PRECAST REINFORCED CONCRETE IN ACCORDANCE WITH SECTION 3.6.0 OF SSSWCW AND CONFORM TO ASTM C478. SIZES SHALL BE AS INDICATED AND VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING.
11. INLETS SHALL BE PRECAST REINFORCED CONCRETE IN ACCORDANCE WITH SECTION 3.6.0 OF SSSWCW AND CONFORM TO ASTM C913. SIZES SHALL BE AS INDICATED AND VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING.
12. AREA DRAINS SHALL BE ADS NYLOPLAST AS APPROVED BY THE WISCONSIN DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES PLUMBING PRODUCTS REGISTER.
13. FRAMES AND GRATES SHALL BE AS INDICATED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING FRAMES AND GRATES ARE COMPATIBLE WITH PRECAST STRUCTURES PRIOR TO ORDERING.
14. TRENCH SECTION SHALL BE CLASS B IN ACCORDANCE WITH SECTION 3.2.6 OF SSSWCW. MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE OUTSIDE DIAMETER OF PIPE PLUS 20 INCHES.
15. PIPE BEDDING AND COVER MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 8.43.0 OF SSSWCW. MINIMUM COVER OVER PIPE SHALL BE 12 INCHES.
16. TRENCH BACKFILL MATERIAL SHALL BE MECHANICALLY COMPACTED GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF SSSWCW BENEATH AND WITHIN 5 FEET OF PAVEMENT AREAS, AND SHALL BE SPOIL BACKFILL IN ACCORDANCE WITH SECTION 8.43.5 OF SSSWCW BENEATH GREENSPACE AREAS, UNLESS ALTERNATIVE COMPACTION IS RECOMMENDED IN THE GEOTECHNICAL REPORT OR BY THE GEOTECHNICAL ENGINEER DURING CONSTRUCTION, IN WHICH CASE THE CONTRACTOR IS TO FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
17. CAUTION MUST BE FOLLOWED REGARDING THE COMPACTION OF ALL UTILITY TRENCHES. FLOODING OF BACKFILL MATERIAL IS NOT ALLOWED.
18. ALL CONNECTIONS TO EXISTING STORM SEWER PIPES AND STRUCTURES SHALL BE CORED CONNECTIONS, UNLESS NOTED OTHERWISE.
19. FLEXIBLE COMPRESSION COUPLINGS SHALL BE USED IN THE CONNECTION OF DISSIMILAR PIPE MATERIALS.
20. CLEANOUTS AND RISER EXTENSIONS SHALL BE INSTALLED IN ACCORDANCE WITH SPS 382.35 FROM SEWER PIPES TO GROUND SURFACE. LIGHT DUTY LOADING CLASSIFICATION SHALL BE USED IN UNPAVED AREAS. MEDIUM DUTY LOADING CLASSIFICATION SHALL BE USED IN PAVED FOOT TRAFFIC AREAS. HEAVY DUTY LOADING CLASSIFICATION SHALL BE USED IN PAVED VEHICULAR TRAFFIC AREAS. FRAMES AND COVERS SHALL BE SET FLUSH WITH SURFACE.
21. TRACER WIRE SHALL BE BROWN AND INSTALLED IN ACCORDANCE WITH SECTION 2.11.1 OF SSSWCW ON ALL BURIED NON-METALLIC PUBLIC STORM SEWER PIPE, PRIVATE STORM INTERCEPTOR PIPE, AND BUILDING STORM SERVICE PIPE. TRACER WIRE SHALL BE INSULATED, SINGLE-CONDUCTOR, 12 GAUGE SOLID COPPER OR COPPER COATED STEEL WIRE, SECURED AT LEAST EVERY 10 FEET AND AT ALL BENDS, WITH ACCESS POINTS AT LEAST EVERY 300 FEET.
22. FIELD TILE ENCOUNTERED DURING CONSTRUCTION SHALL BE CONNECTED TO THE STORMWATER DRAINAGE SYSTEM. IF THIS CANNOT BE ACCOMPLISHED, THEN IT SHALL BE REPAIRED WITH NEW PIPE OF SIMILAR SIZE AND MATERIAL. DOCUMENTATION OF SUCH FIELD TILE SHALL BE PROVIDED TO THE OWNER.
23. PROPOSED STORM SERVICES SHOWN ON THIS PLAN SHALL TERMINATE AT A POINT FIVE (5) FEET FROM THE EXTERIOR BUILDING WALL. CONNECTIONS TO DOWNSPOUTS SHALL BE PER DETAILS ON THE BUILDING PLUMBING PLANS. THE EXACT LOCATION OF DOWNSPOUTS SHALL BE PER THE ARCHITECTURAL PLANS.
24. THE CONTRACTOR SHALL ADJUST ALL MANHOLE RIMS AND INLETS TO FINISHED SURFACE UPON COMPLETION OF PAVING OPERATIONS.
25. AFTER INSTALLATION OF STORMWATER DRAINAGE SYSTEM, CLEAN ALL DEBRIS FROM SYSTEM AND INSPECT FOR DAMAGE. REPAIR ANY DAMAGE.

SEQUENCE OF CONSTRUCTION

ON SITE RUNOFF WILL BE CONTAINED WITHIN THE LIMITS OF THE PROJECT. ALL DEWATERING SHALL BE DONE IN ACCORDANCE TO WDNR AND LOCAL SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY TRAFFIC CONTROL FOR TRAFFIC ENTERING AND LEAVING THE SITE. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH STATE, COUNTY AND LOCAL REGULATIONS. SEQUENCE AND TIMING FOR INSTALLATION OF EROSION CONTROL MEASURES & SITE IMPROVEMENTS SHALL BE AS LISTED BELOW OR AS SITE CONDITIONS WARRANT DURING CONSTRUCTION ADDITIONAL BMPS SHALL BE INSTALLED TO REDUCE THE MIGRATION OF SEDIMENT TO THE MOST EXTENT PRACTICABLE.
(ALL CONSTRUCTION DATES ARE BEST ESTIMATES)

1. TO OBTAIN CITY STORM WATER PERMIT AND PERFORM WEEKLY EROSION CONTROL INSPECTIONS AND SUBMIT INSPECTIONS TO CITY EROSION CONTROL INSPECTOR.
2. INSTALL ROCK CONSTRUCTION ENTRANCES.
3. INSTALL SILT FENCE AS SHOWN ON THE PLAN.
4. INSTALL STORM DRAIN INLET PROTECTION ON EXISTING INDICATED STORM INLETS.
5. STRIP TOPSOIL AND GRADE SITE IN INCREMENTS APPROPRIATE TO WORK WHILE MAINTAINING SEDIMENTATION AND EROSION CONTROL PRACTICES IN CONFORMANCE WITH LOCAL AND STATE GUIDELINES.
6. INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL BMPS AS NOTED WHEN SITE WORK AND GRADING ALLOWS.
7. CONSTRUCT UTILITIES AND INSTALL ADDITIONAL STORM DRAIN INLET PROTECTION TO INLETS AS SOON AS THEY ARE CONSTRUCTED.
8. TEMPORARILY SEED AND MULCH SITE
9. PREPARE PARKING LOT SUBGRADE. INSTALL CURB AND GUTTER AND PAVE SITE.
10. APPLY SEED, FERTILIZER, AND MULCH TO LANDSCAPE LAWN AREAS AS SOON AS POSSIBLE. (THROUGHOUT CONSTRUCTION)
11. FLUSH STORM SEWER.
12. AT END OF PROJECT, COORDINATE PERMIT TERMINATION WITH CITY EROSION INSPECTOR. ONCE THE PROJECT SITE IS 80% STABILIZED, ALL REMAINING TEMPORARY EROSION CONTROL BMPS SHALL BE REMOVED AND RESTORED AS NECESSARY.

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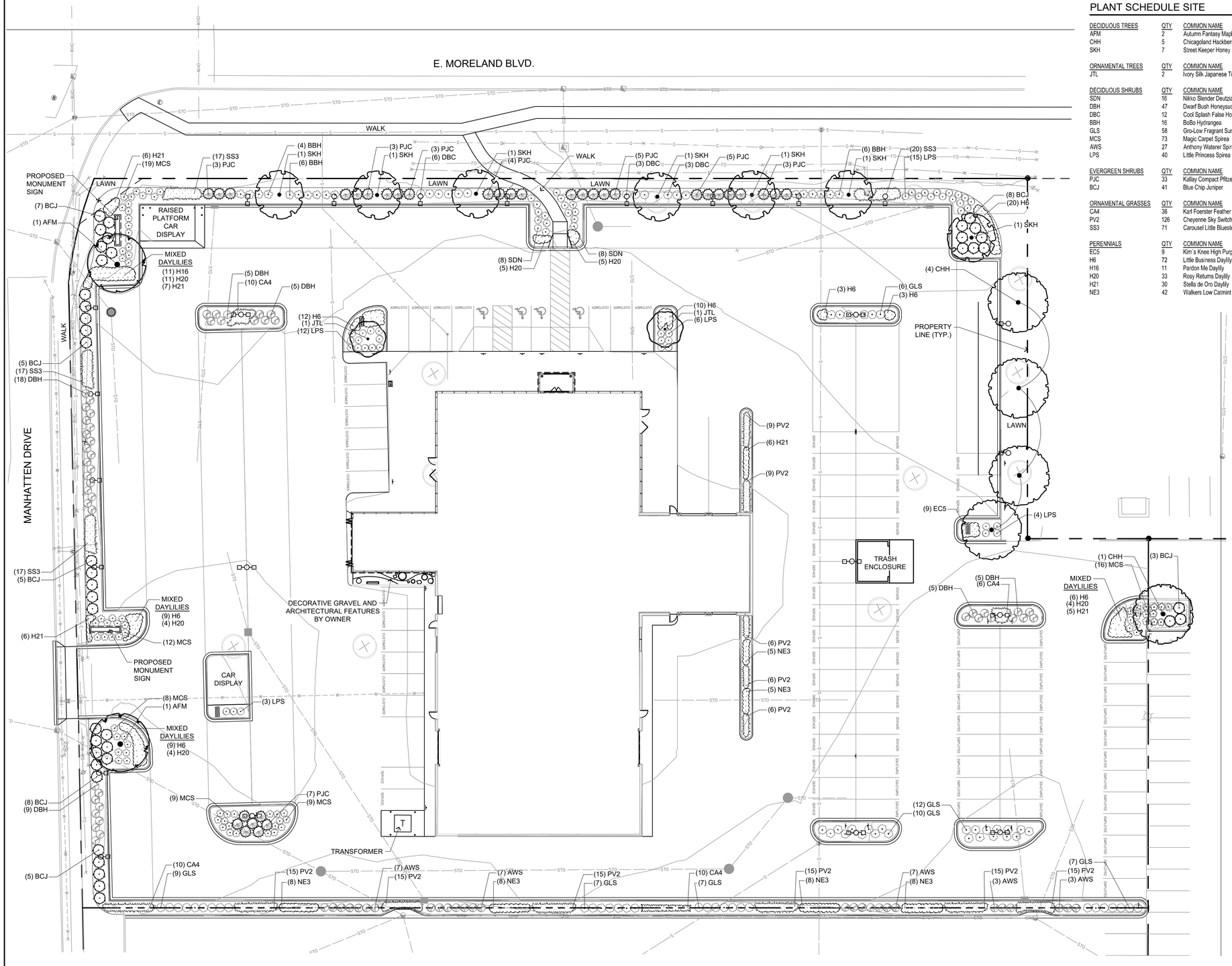
raSmith
CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com
Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI
Cedarburg, WI | Naperville, IL | Irvine, CA

WAUKESHA GENESIS
CITY OF WAUKESHA, WISCONSIN

SPECIFICATIONS

DATE: 08/31/2022
SCALE: N.T.S.
JOB NO. 3210204.01
PROJECT MANAGER: RYAN J. LANCOUR, P.E.
DESIGNED BY: JJJ
CHECKED BY: RJL
SHEET NUMBER
C600



PLANT SCHEDULE SITE

DECIDUOUS TREES	QTY	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
AFM	2	Autumn Fantasy Maple	Acer freemanii `Autumn Fantasy`	2" CAL	B&B	Full, matching heads
CHH	5	Chicagoland Hackberry	Celtis occidentalis `Chicagoland`	2" CAL	B&B	Full, matching heads
SKH	7	Street Keeper Honey Locust	Gleditsia triacanthos `Draves`	2" CAL	B&B	Full, matching heads
ORNAMENTAL TREES	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
JTL	2	Ivory Silk Japanese Tree Lilac	Syringa reticulata `Ivory Silk`	2" CAL	B&B	Full, matching heads
DECIDUOUS SHRUBS	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
SDN	16	Nikko Slender Deutzia	Deutzia gracilis `Nikko`	15" HT	CONT.	
DBH	47	Dwarf Bush Honeysuckle	Diervilla lonicera	15" HT	CONT.	
DBC	12	Cool Splash False Honeysuckle	Dierivilla sessilifolia `Cool Splash`	15" HT	CONT.	
BBH	16	BoBo Hydrangea	Hydrangea paniculata `ILVOBO``	24" HT	CONT.	
GLS	58	Gro-Low Fragrant Sumac	Rhus aromatica `Gro-Low`	15" HT	CONT.	
MCS	73	Magic Carpet Spirea	Spiraea japonica `Magic Carpet`	15" HT	CONT.	
AWS	27	Anthony Waterer Spiraea	Spiraea x bumalda `Anthony Waterer`	15" HT	CONT.	
LPS	40	Little Princess Spirea	Spiraea x japonica `Little Princess`	15" HT	CONT.	
EVERGREEN SHRUBS	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
PJC	33	Kallay Compact Pfitzer Juniper	Juniperus chinensis `Kallays Compact`	18"SPD	CONT.	
BCJ	41	Blue Chip Juniper	Juniperus horizontalis `Blue Chip`	18"SPD	CONT.	
ORNAMENTAL GRASSES	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
CA4	36	Karl Foerster Feather Reed Grass	Calamagrostis x acutiflora `Karl Foerster`	1 GAL	POT	24" Spacing
PV2	126	Cheyenne Sky Switch Grass	Panicum virgatum `Cheyenne Sky`	1 GAL	POT	18" Spacing
SS3	71	Carousel Little Bluestem Grass	Schizachyrium scoparium `Carousel`	1 GAL	POT	24" Spacing
PERENNIALS	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
EC5	9	Kim`s Knee High Purple Coneflower	Echinacea purpurea `Kim`s Knee High` TM	1 GAL	POT	18" Spacing
H6	72	Little Business Daylily	Hemerocallis x `Little Business`	1 GAL	POT	24" Spacing
H16	11	Pardon Me Daylily	Hemerocallis x `Pardon Me`	1 GAL	POT	18" Spacing
H20	33	Rosy Returns Daylily	Hemerocallis x `Rosy Returns`	1 GAL	POT	18" Spacing
H21	30	Stella de Oro Daylily	Hemerocallis x `Stella de Oro`	4 1/2"	POT	18" Spacing
NE3	42	Walkers Low Catmint	Nepeta x faassenii `Walkers Low`	4 1/2"	POT	24" Spacing

TREES TO BE REMOVED

SITE DATA	
PROPOSED IMPERVIOUS AREA	113,263 SF (2.60 AC)
PROPOSED PERVIOUS AREA	14,781 SF (0.34 AC)
TOTAL GREEN SPACE	11.56%
TOTAL INTERIOR GREEN SPACE	5.68%
TOTAL PROPERTY AREA	128,044 SF (2.94 AC)

NORTH

0 10 20 40
GRAPHIC SCALE

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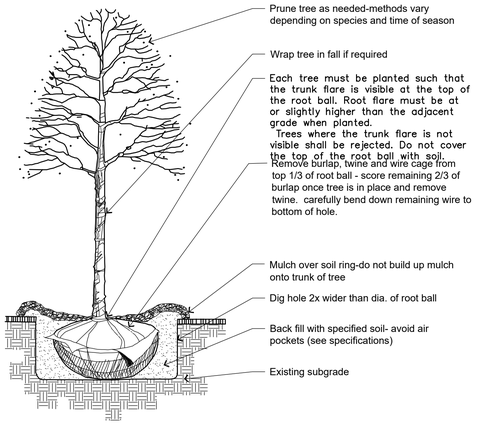
WAUKESHA GENESIS
CITY OF WAUKESHA, WISCONSIN

LANDSCAPE PLAN

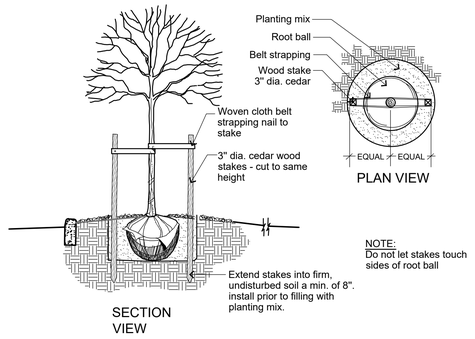
DATE: 08/31/2022
SCALE: 1" = 20'
JOB NO. 3210204.01
PROJECT MANAGER: RYAN J. LANCOUR, P.E.
DESIGNED BY: JJJ
CHECKED BY: RJL

SHEET NUMBER
L100



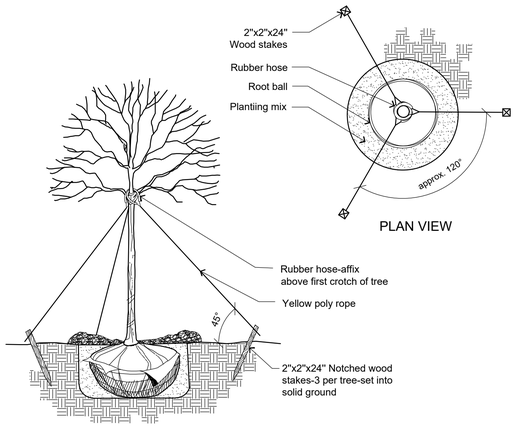
1 DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE



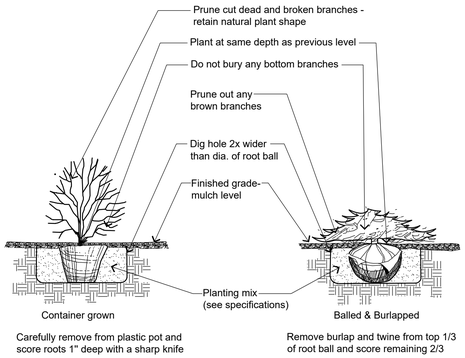
2 DECIDUOUS TREE STAKING FOR RESTRICTED AREAS

NOT TO SCALE



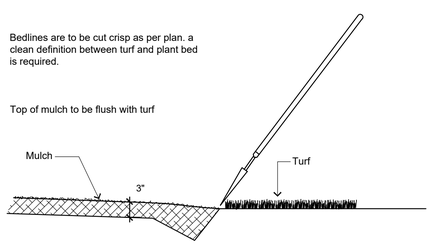
3 DECIDUOUS TREE STAKING DETAIL

NOT TO SCALE



4 SHRUB PLANTING DETAIL

NOT TO SCALE



5 SHOVEL CUT PLANT BED EDGING DETAIL

NOT TO SCALE

DIVISION 1 - GENERAL REQUIREMENTS

01 5 00 Substitution Procedures

1. Any potential plant substitutions must be submitted in writing and approved by the general contractor or owner's representative prior to installation. All plants must be installed as per sizes shown on plant material schedule, unless approved by general contractor or owner's representative. Any potential changes to sizes shown on plan and appropriate cost credits / adjustments must be submitted in writing to the landscape architect and general contractor prior to installation.

01 11 13 Work Covered by Contract Documents

1. All trees, evergreens, and shrubs to be guaranteed (100% replacement free of cost to owner) for a minimum of one (1) year from the date of substantial project completion. Only one replacement per plant will be required during the warranty period, except for losses or replacements due to failure to comply with specified requirements. Replacements shall be plants of the same variety specified on the plan and closely match adjacent specimens in size.

2. Upon substantial completion of the project, landscape contractor is responsible to conduct a final review of the project with the owner's representative and the general contractor to answer questions and insure that all specifications have been met. The landscape contractor shall provide watering and general ongoing maintenance instructions (in writing) for the new plantings and seeded/sodded areas.

012 16 Work Sequence

1. Contractor responsible for contacting public and private underground utility locating service to have site marked prior to any digging or earthwork.

2. Contractor to verify all plant quantities shown on plant list and verify with plan. Report any discrepancies immediately to general contractor. Inform landscape architect and general contractor of date(s) when planting shall commence.

DIVISION 32 - EXTERIOR IMPROVEMENTS

32 91 00 - PLANTING PREPARATION

32 91 13 Soil Preparation

1. Areas to be seeded: remove / kill off any existing unwanted vegetation prior to seeding with a glyphosate herbicide, applied only by a state certified applicator no sooner than 2 weeks prior to seed installation. Prepare seed bed areas to a maximum depth of 1 inch. Prepare the topsoil by removing all surface stones 1" or larger. Soil's surface should be loose and free of any soil clumps exceeding 1 inch in diameter. Do not fertilize native seeding areas.

2. Erosion control measures are to be used in swales and on steep grades, where applicable.

3. Plant bed preparation: all perennial, ornamental grass, annual and groundcover areas are required to receive a blend of organic soil amendments prior to installation. Rototill the following materials, at the ratio given, into the required 18" of topsoil to a depth of approx. 8" -

   Per every 100 square feet of bed area add:

   2 cu. ft. bale of peat moss
   2 lbs. of 5-10-5 slow release fertilizer
   1/4 cu. yard of composted manure

32 91 13.16 Mulching

1. All tree and shrub planting beds to receive a 3" deep layer of high quality shredded hardwood bark mulch (not enviromulch). All perennial and ornamental grass planting areas to receive a 2" layer and groundcover areas a 1-2" layer of the same mulch. Do not mulch annual flower beds (if applicable). Do not allow mulch to contact plant stems and tree trunks.

2. If straw mulch is used as a mulch covering for seeding, a tackifier may be necessary to avoid wind damage.

32 91 19 LANDSCAPE GRADING

32 91 19.13 Topsoil Placement and Grading

1. The subsequent requirements regarding topsoil should be coordinated between the general contractor, grading contractor and landscape contractor.

2. Topsoil should be placed to within 3" of finish grade by general / grading contractor during rough grading operations. Planting islands and planting beds to be backfilled with screened topsoil (per note below) to a minimum depth of 18" by general / grading contractor to insure long term plant health.

3. Topsoil shall be: screened existing stockpiled topsoil, screened existing in-place soil, or screened soil from an off-site source that will support plant growth, and meets the following requirements. The soil shall closely match the mechanical analysis (percentage sand, silt and clay) of the existing subsoil. Soil shall be free of rocks, coarse fragments, gravel, sticks, trash, roots, debris over 3/4" and any substances harmful to plant growth. It also must be free of plants or plant parts of any noxious weeds.

4. Planting beds and parking lot islands: Landscape contractor is responsible for ensuring that unwanted material (gravel, debris, roots and other extraneous material harmful to plant growth) has been removed from the topsoil and the fine grading of all landscaped areas. The fine grading of planting beds and parking lot islands may require additional topsoil to bring to finish grade. Crown all planting islands and planting beds not adjacent to buildings, a minimum of 6" to provide proper drainage, unless otherwise specified. All other finished landscaped areas to be smooth, uniform and provide positive drainage away from structures and pavement.

5. Seeded areas: to receive a settled minimum depth of 3" of blended, prepared and non-compacted topsoil. Landscape contractor is responsible for excavation and removal of unwanted material (gravel, debris, roots and other extraneous material harmful to plant growth) to the specified depth, supplementing with additional topsoil (if necessary) and the fine grading of all seeded areas.

32 92 00 - TURF AND GRASSES

32 92 19 Seeding

1. Seed lawn areas - use only a premium quality seed mix. Premium blend seed mix example (or equivalent): 50% blended bluegrass, 25% creeping red fescue, 25% perennial rye applied at 5 lbs per 1,000 SF or at recommended rates from supplier. Provide seed specifications to general contractor prior to installation.

2. Erosion control measures are to be used in swales and on steep grades, where applicable.

3. Methods of installation may vary at the discretion of the landscape contractor on his/her responsibility to establish and guarantee a smooth, uniform, quality turf and evenly seeded native areas.

4. An acceptable quality seed installation is defined as having:
   a. No bare spots larger than 1 square foot
   b. No more than 10% of the total area with bare spots larger than 1 square foot
   c. A uniform coverage throughout all areas

32 93 00 - PLANTS

1. All plantings shall comply with standards as described in American Standard of Nursery Stock - ANSI Z60.1 (latest version). General contractor or owner's representative reserves the right to inspect and potentially reject any plants that are inferior, compromised, undersized, diseased, improperly transported, installed incorrectly or damaged.

2. The landscape contractor is responsible for the watering and maintenance of all landscape areas at time of planting, throughout construction and for a period of 60 days after the substantial completion of the installation. This includes all trees, shrubs, evergreens, perennials, ornamental grasses, turf grass, meadow grass and wildflower areas. Work also includes weeding, edging, mulching (only if required), fertilizing, trimming, sweeping up grass clippings, pruning and deadheading. Refer to the maintenance sections and specifications for more information.

32 93 43 Trees

1. Trees shall be planted per planting details.
2. Plant all trees slightly higher than finished grade at root flare. Remove excess soil from top of root ball, if needed.
3. Scarify side walls of tree pit prior to installation.
4. Remove and discard non-biodegradable ball wrapping and support wire. Remove biodegradable burlap and wire cage (if applicable) from top one-third (1/3) of root ball. Carefully bend remaining wire down to the bottom of the hole once the tree has been placed into the hole and will no longer be moved. Biodegradable burlap and twine is preferred over non-biodegradable ball-wrapping.
5. Score the remaining two-thirds of burlap and remove twine.
6. Backfill tree planting holes with 80% existing soil removed from excavation and 20% plant starter mix blended prior to backfilling holes. Avoid any air pockets and do not tamp soil down. Discard any gravel, heavy clay or stones.
7. When hole is two-thirds full, trees shall be watered thoroughly and water left to soak in before proceeding.
8. Provide a 3" deep, 4 ft. Diameter shredded hardwood bark mulch ring around all trees. Do not build up any mulch onto trunk of any tree.
9. Trees that are installed incorrectly will be replaced at the time and expense of the landscape contractor.
10. If Trees too large for two people to lift in and out of holes shall be placed with sling. Do not rock the trees in holes to raise them.
11. Stake trees if site conditions warrant, to promote the long term establishment of the tree.

32 94 00 - PLANTING ACCESSORIES

32 94 13 Landscape Edging

1. Edge all planting beds with a 4" deep spaded edge (shovel cut or mechanical). Bedlines are to be cut crisp, as per plan. A clean definition between lawn and plant bed is required.

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16745 W. Bluemound Road
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WAUKESHA GENESIS
CITY OF WAUKESHA, WISCONSIN

LANDSCAPE NOTES AND DETAILS

DATE: 08/31/2022
SCALE: NOT TO SCALE
JOB NO. 3210204.01
PROJECT MANAGER: RYAN J. LANCOUR, P.E.
DESIGNED BY: JJJ
CHECKED BY: RJL

SHEET NUMBER
L200