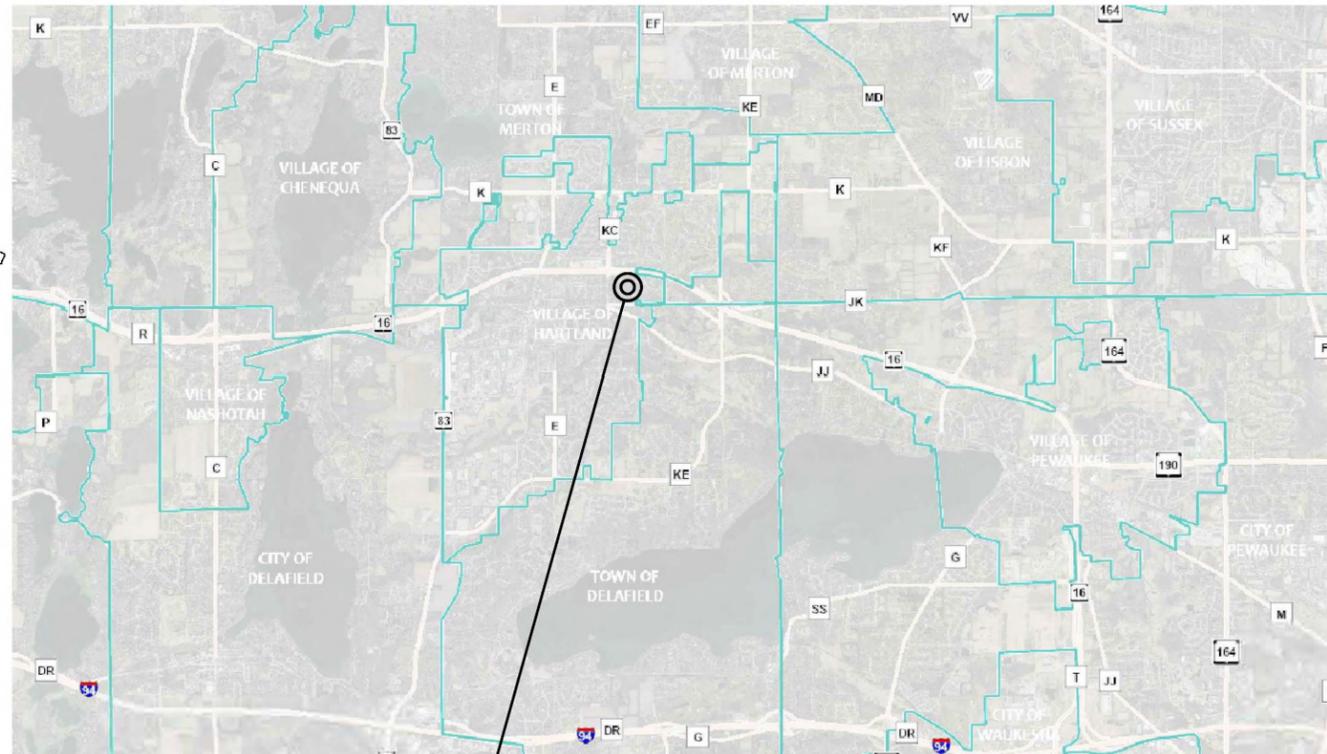
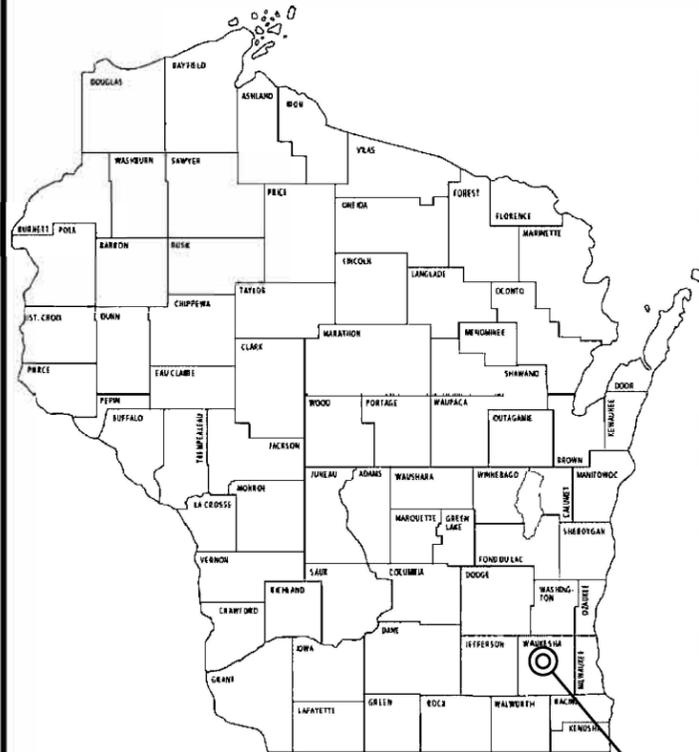


HARTLAND SUBDIVISION DEVELOPMENT

VILLAGE OF HARTLAND, WISCONSIN



PROJECT LOCATION

SHEET No.	SHEET NAME
TP 1.0	TITLE PAGE
TP 1.1	NOTES, ABBREVIATIONS, LEGEND
PL 1.0	SUBDIVISION PLAT
C 1.0	EXISTING SITE
C 2.0	GRADING PLAN
C 3.0	BADGER DRIVE PLAN & PROFILE
C 3.1	EAGLE PASS PLAN & PROFILE
C 3.2	POND & HYDRAULIC SECTION
C 3.3	DRAINAGE PLAN
C 3.4	OUTLOT PLAN & PROFILE
C 3.5	SWALE PLAN & PROFILE
C 4.0	EROSION CONTROL PLAN
C 4.1	LANDSCAPE PLAN
C 5.0	CUL-DE-SAC GRADING PLAN
D 1.0	GENERAL DETAILS
D 2.0	WATER MAIN DETAILS
D 3.0	SANITARY SEWER DETAILS
D 3.1	SANITARY SEWER DETAILS
D 4.0	STORM SEWER DETAILS
D 5.0	EROSION CONTROL DETAILS
D 5.1	EROSION CONTROL DETAILS
D 5.2	EROSION CONTROL DETAILS

OWNER:
SERVI INVESTMENTS LLC
KEN SERVI
1007 N PINEGROVE CT
HARTLAND, WI 53029
kservi43@gmail.com
(262)369-5886

ENGINEER / DESIGNER:
ROTH PROFESSIONAL SOLUTIONS
KALVIN KLIMECK, PE
317 DEWITT, ST.
PORTAGE, WI 53901
kal@rpsprofessionalsolutions.com
(414)651-0490

ELECTRIC & GAS:
WE ENERGIES
231 W MICHIGAN ST.
MILWAUKEE, WI 53203
contactwe@mail.we-energies.com
(800)242-9137

APPLICABLE LOCAL CODES:
ZONING ORDINANCE, CHAPTER 46
LAND DIVISION, CHAPTER 50
STORM & EROSION, CHAPTER 76
UTILITIES, CHAPTER 86

APPLICABLE CODES:
WISCONSIN DNR:
WATER, NR 811
SEWER, NR 110
RUNOFF, NR 151
STORMWATER, NR 216

MUNICIPAL INFORMATION:
210 COTTONWOOD AVE
HARTLAND, WI 53029
CLERK, (262)367-2714
DPW, (262)367-2714
WATER & SEWER, (262)367-2714

TITLE SHEET
HARTLAND SUBDIVISION
DEVELOPMENT

VILLAGE OF HARTLAND, WAUKESHA COUNTY, WISCONSIN

REVISION SET
09/05/2025



PROJECT NO: 2025-106 (A)

DATE: 06/30/2025

DESIGNED BY: RJR

DRAWN BY: OCZ

SHEET: TP 1.0

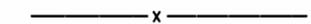
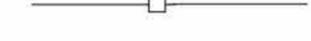
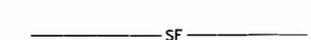
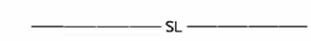
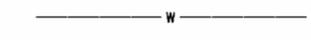
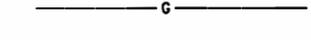
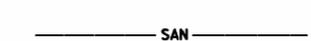
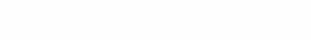
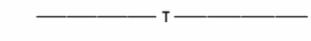
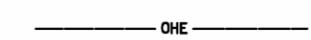
GENERAL NOTES:

- OWNER/CONTRACTOR IS RESPONSIBLE FOR ALL PROJECT SAFETY AND SAFETY COMPLIANCE.
- CONSIDER ALL EXISTING UTILITY LOCATIONS SHOWN ON THE DRAWINGS AS APPROXIMATE AND NOT NECESSARILY COMPLETE. THE CONTRACTOR SHALL OBTAIN UTILITY LOCATES AT LEAST 24 HOURS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL ALSO VERIFY EXACT LOCATIONS OF ALL BURIED UTILITIES. PROTECT AND RESTORE ALL UTILITIES TO THE UTILITY OWNERS SATISFACTION. CONTACT THE APPROPRIATE UTILITY FOR A FIELD LOCATION PRIOR TO STARTING ANY CONSTRUCTION (1-800-242-8511).
- WORK LIMITS ARE IDENTIFIED AS THE OUTER PROPERTY BOUNDARY. NOTIFY THE OWNER OR ENGINEER 24 HOURS PRIOR TO DISTURBING ANY AREA OUTSIDE THE CONSTRUCTION LIMITS. DAMAGE OR DISTURBANCE OUTSIDE OF THE CONSTRUCTION LIMITS SHALL BE REPAIRED INKIND.
- ALL WORK SHALL CONFORM TO ALL LOCAL, STATE AND FEDERAL LAWS, RULES AND REGULATIONS IN FORCE AT THE TIME OF CONSTRUCTION.
- THE OWNER/GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL CONSTRUCTION WITH OTHER CONTRACTORS INVOLVED WITH CONSTRUCTIONS OF THE PROPOSED DEVELOPMENT AND FOR REPORTING ANY ERRORS OF DISCREPANCY BETWEEN THESE PLANS AND/OR PLANS PREPARED BY OTHERS. IF ANY ERRORS, DISCORDANCES, OR OMISSIONS BECOME APPARENT, THESE SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER OR ENGINEER PRIOR TO CONSTRUCTION OF ANYTHING AFFECTED SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
- THE CONTRACTOR SHALL MAINTAIN A PEDESTRIAN FENCE AROUND ALL SIGNIFICANT EXCAVATION TO BE LEFT OPEN DURING WORK OR OVERNIGHT

ABBREVIATIONS

AC	ASPHALT CONCRETE
BLDG	BUILDING
CMP	CORRUGATED METAL PIPE
C.O.	CLEAN OUT
DPW	DEPARTMENT OF PUBLIC WORKS
DIA.	DIAMETER
DI	DUCTILE IRON PIPE
E	EAST
EA.	EACH
ELEV.	ELEVATION
ESMT.	EASEMENT
EX	EXISTING
EOP	EDGE OF PAVEMENT
FFE	FINISH FLOOR ELEVATION
FG	FINISH GRADE
GAL.	GALLON
GV/VB	GATE VALVE/VALVE BOX
HORZ.	HORIZONTAL
INV.	INVERT
L	LENGTH
L.F.	LINEAR FEET
MBW	MODULAR BLOCK WALL
MAX.	MAXIMUM
MIN.	MINIMUM
N	NORTH
A.A.A.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
OHE	OVERHEAD ELECTRIC
R	RADIUS
RMV	REMOVE
S	SOUTH
SB	SOIL BORING
SCH	SCHEDULE
SHT.	SHEET
SS	STAINLESS STEEL
S.M.D.	STANDARD MAXIMUM DENSITY
STA.	STATION
SVC	SERVICE
TC	TOP CONCRETE OR CURB
TH	TEST HOLE
TP	TOP OF PAVEMENT
TSW	TOP OF SIDEWALK
TYP.	TYPICAL
U.G.	UNDERGROUND
VERT.	VERTICAL
w/	WITH
w	Water
W	WEST
WV	WATER VALVE

LEGEND

	YARD PUMP		EXISTING FENCE
	GAS VALVE		PROPOSED FENCE
	WATER VALVE		SILT FENCE
	LIGHT POLE		SILT LOG
	TELEPHONE PEDESTAL		WATER LINE
	TEST HOLE		GAS LINE
	EXISTING MANHOLE		FORCE MAIN
	PROPOSED MANHOLE		SANITARY SEWER
	POLE		STORM SEWER
	GUY WIRE		TELEPHONE LINE
	WATER HYDRANT		OVERHEAD ELECTRIC
	WATER BOX		UNDERGROUND ELECTRIC
	DECIDUOUS TREES		FIBER OPTICS
	CONIFEROUS TREES		GRADING LIMITS
	CONCRETE SURFACE		GUARD RAIL
	GRAVEL SURFACE		TAX PARCEL LINES
	ASPHALT SURFACE		COMMUNICATION LINE
	POND		
	SAND/BEACH		
	BUFFER		
	RV SITES 12-18 PAVING		
	DRAINFIELD		
	WETLAND		
	DRAINAGE DIRECTION		
	TRAFFIC FLOW		



© Copyright Roth Professional Solutions, 2022

NOTES, ABBREVIATIONS, LEGEND

HARTLAND SUBDIVISION

DEVELOPMENT

VILLAGE OF HARTLAND, WAUKESHA COUNTY, WISCONSIN

REVISION SET
09/05/2025

PROJECT NO: 2025-106 (A)

DATE: 06/30/2025

DESIGNED BY: RJR

DRAWN BY: OCZ

SHEET: TP 1.1

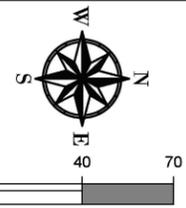
GRADING PLAN

HARTLAND SUBDIVISION

DEVELOPMENT

VILLAGE OF HARTLAND, WAUKESHA COUNTY, WISCONSIN

REVISION SET
09/05/2025



SCALE: 1" = 70' FEET
(PRINTED AT 11" X 17")

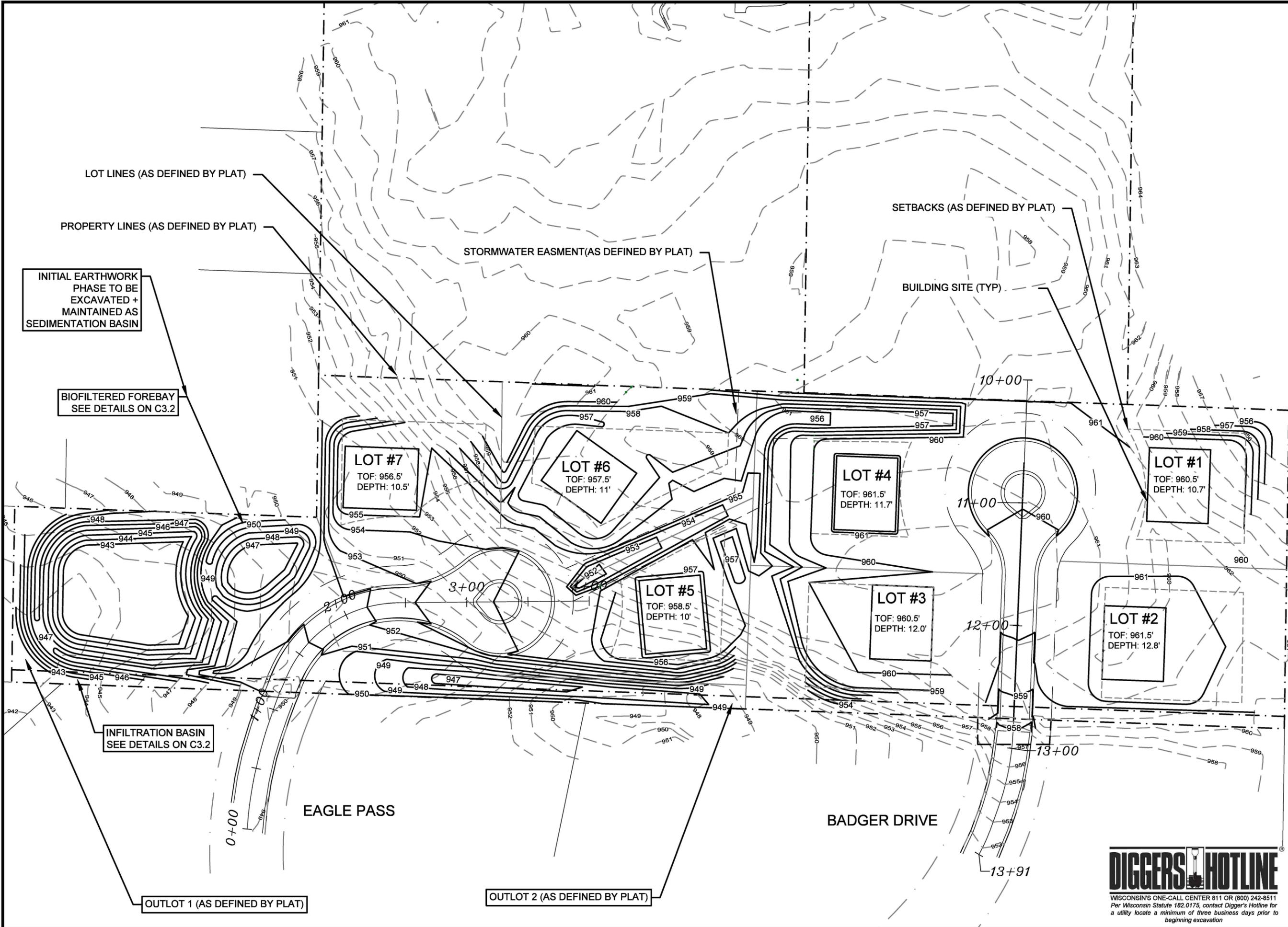
PROJECT NO: 2025-106(A)

DATE: 06/30/2025

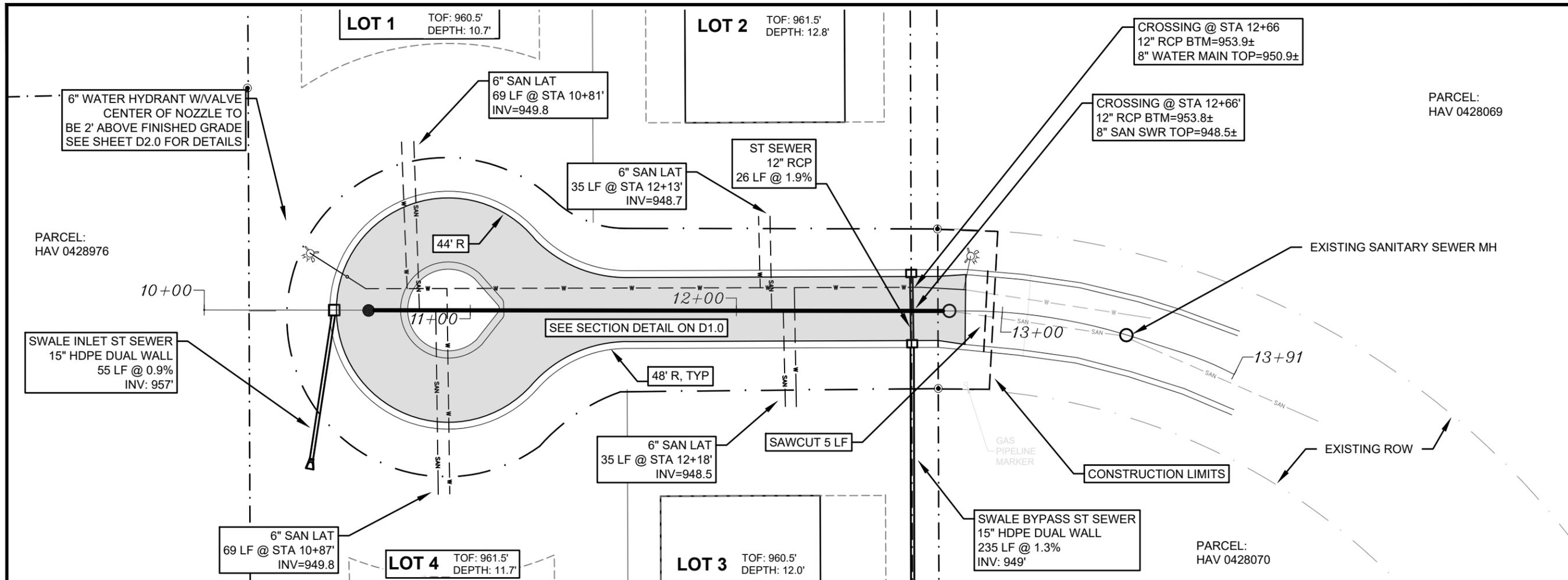
DESIGNED BY: RJR

DRAWN BY: OCZ

SHEET: C 2.0



DIGGERS HOTLINE
 WISCONSIN'S ONE-CALL CENTER 811 OR (800) 242-8511
 Per Wisconsin Statute 182.0175, contact Digger's Hotline for a utility locate a minimum of three business days prior to beginning excavation

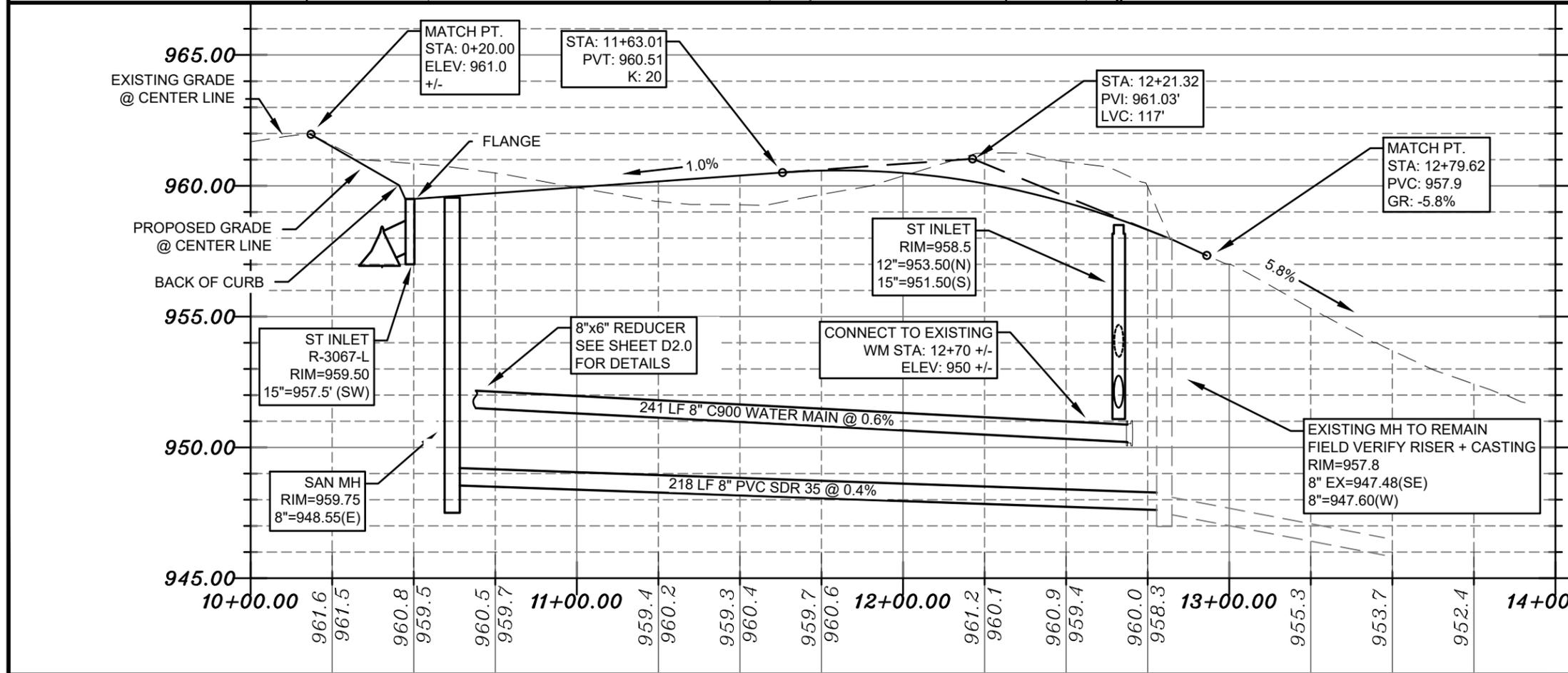


BADGER DRIVE PLAN & PROFILE

HARTLAND SUBDIVISION

DEVELOPMENT

VILLAGE OF HARTLAND, WAUKESHA COUNTY, WISCONSIN



- GENERAL NOTES:
1. MARK ALL SANITARY LATERAL WITH 2X4 POST EXTENDED ABOVE GRADE MIN OF 2'. PAINT GREEN
 2. MARK ALL WATER LATERALS WITH 2X4 POST EXTENDED ABOVE GRADE MIN OF 2'. PAINT BLUE.
 3. PROVIDE STEEL POST TO MARK END OF BOTH THE WATER MAIN AND THE SANITARY SEWER MAIN. INSTALL AT GRADE.
 4. INSTALL 1-1/4" CURB STOP AT R/W LINE FOR EACH WATER LATERAL. PROVIDE 10' STUB BEYOND THE CURB STOP.
 5. PROVIDE AN ALIGNMENT SADDLE FOR ALL VALVE BOX RISERS.
 6. CONTRACTOR TO VERIFY SANITARY INVERT AT TIE IN LOCATION.
 7. ALL INLETS WILL INCLUDE A 2' SUMP
 8. ALL PIPING OUTSIDE OF ROAD FOOTPRINT WILL BE PRIVATELY OWNED
 9. WATER AND SANITARY MAIN TO INCLUDE 8' MIN HORIZONTAL SEPARATION

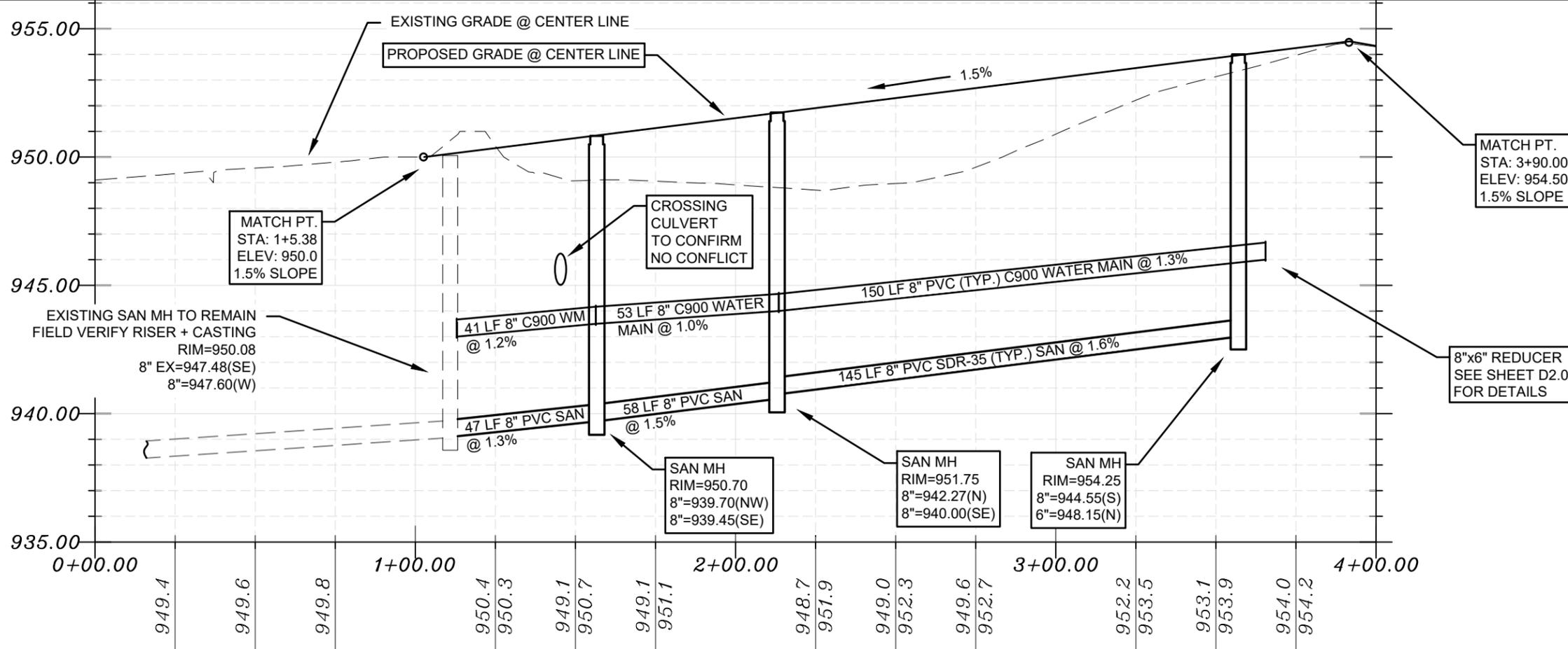
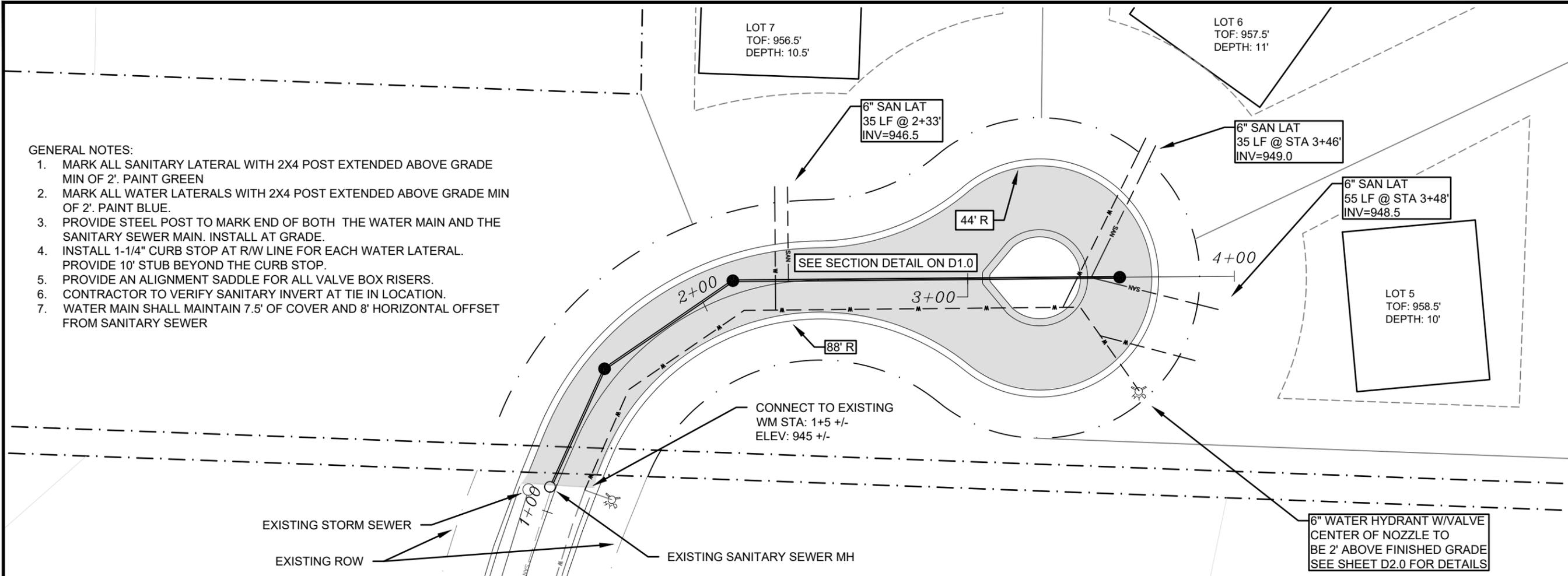
REVISION SET 09/05/2025

SCALE: 1" = 40' FEET (PRINTED AT 11"x17")

PROJECT NO:	2025-106(A)
DATE:	06/30/2025
DESIGNED BY:	RJR
DRAWN BY:	OCZ
SHEET:	C 3.0

GENERAL NOTES:

1. MARK ALL SANITARY LATERAL WITH 2X4 POST EXTENDED ABOVE GRADE MIN OF 2'. PAINT GREEN
2. MARK ALL WATER LATERALS WITH 2X4 POST EXTENDED ABOVE GRADE MIN OF 2'. PAINT BLUE.
3. PROVIDE STEEL POST TO MARK END OF BOTH THE WATER MAIN AND THE SANITARY SEWER MAIN. INSTALL AT GRADE.
4. INSTALL 1-1/4" CURB STOP AT R/W LINE FOR EACH WATER LATERAL. PROVIDE 10' STUB BEYOND THE CURB STOP.
5. PROVIDE AN ALIGNMENT SADDLE FOR ALL VALVE BOX RISERS.
6. CONTRACTOR TO VERIFY SANITARY INVERT AT TIE IN LOCATION.
7. WATER MAIN SHALL MAINTAIN 7.5' OF COVER AND 8' HORIZONTAL OFFSET FROM SANITARY SEWER



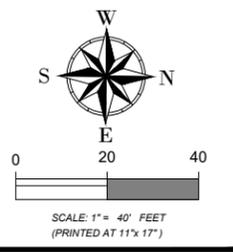
EAGLE PASS PLAN & PROFILE

HARTLAND SUBDIVISION

DEVELOPMENT

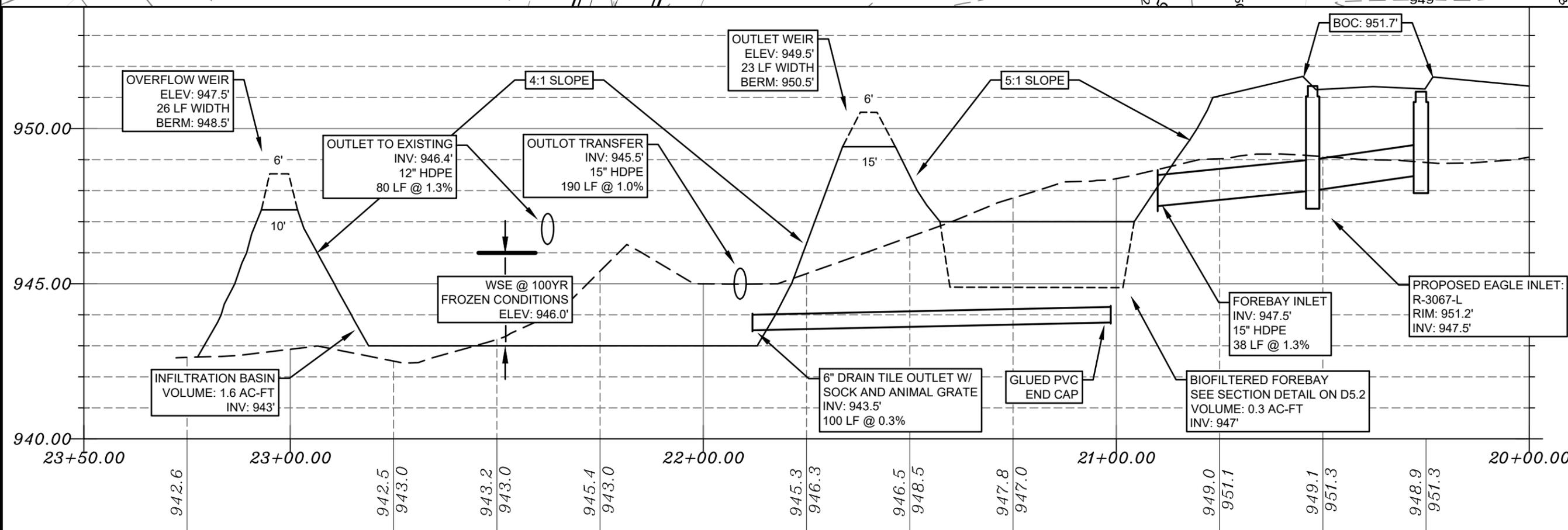
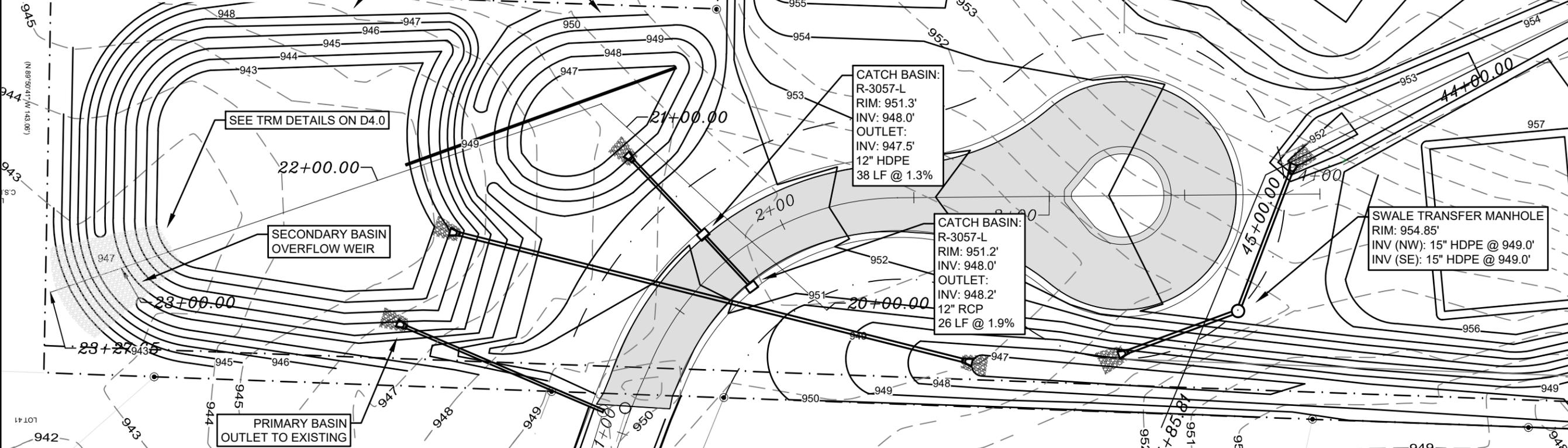
VILLAGE OF HARTLAND, WAUKESHA COUNTY, WISCONSIN

REVISION SET
 09/05/2025



PROJECT NO:	2025-106(A)
DATE:	06/30/2025
DESIGNED BY:	RJR
DRAWN BY:	OCZ
SHEET:	C 3.1

- GENERAL NOTES:
1. CONTRACTOR SHALL MAINTAIN POSITIVE SLOPE WHEN INSTALLING ENDWALL AND GRADING OUT DITCH.
 2. INSTALL DITCH CHECK 10' OUT FROM ENDWALL TO CONTROL EROSION.
 3. REPLACE DRIVEWAY SECTION IN KIND FOR THE CULVERT REPLACEMENT.
 4. PROVIDE RIPRAP ON APRON ENDWALL AND PROVIDE GRATE.
 5. SPOIL BACKFILL FOR SEWER IN ALL AREAS
 6. ALL PROPOSED STORM SEWER WILL BE REINFORCED CONCRETE AND DEDICATED TO THE VILLAGE WITH THE EXCEPTION OF THE PIPE ALONG THE EASTERLY PROPERTY LINE WHICH WILL BE DEDICATED TO THE ASSOCIATION
 7. INSTALL 15 C.Y. MEDIUM RIP RAP OVER GEOTEXTILE FABRIC AT EACH ENDWALL



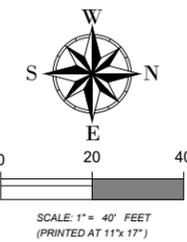
POND & HYDRAULIC SECTION

HARTLAND SUBDIVISION

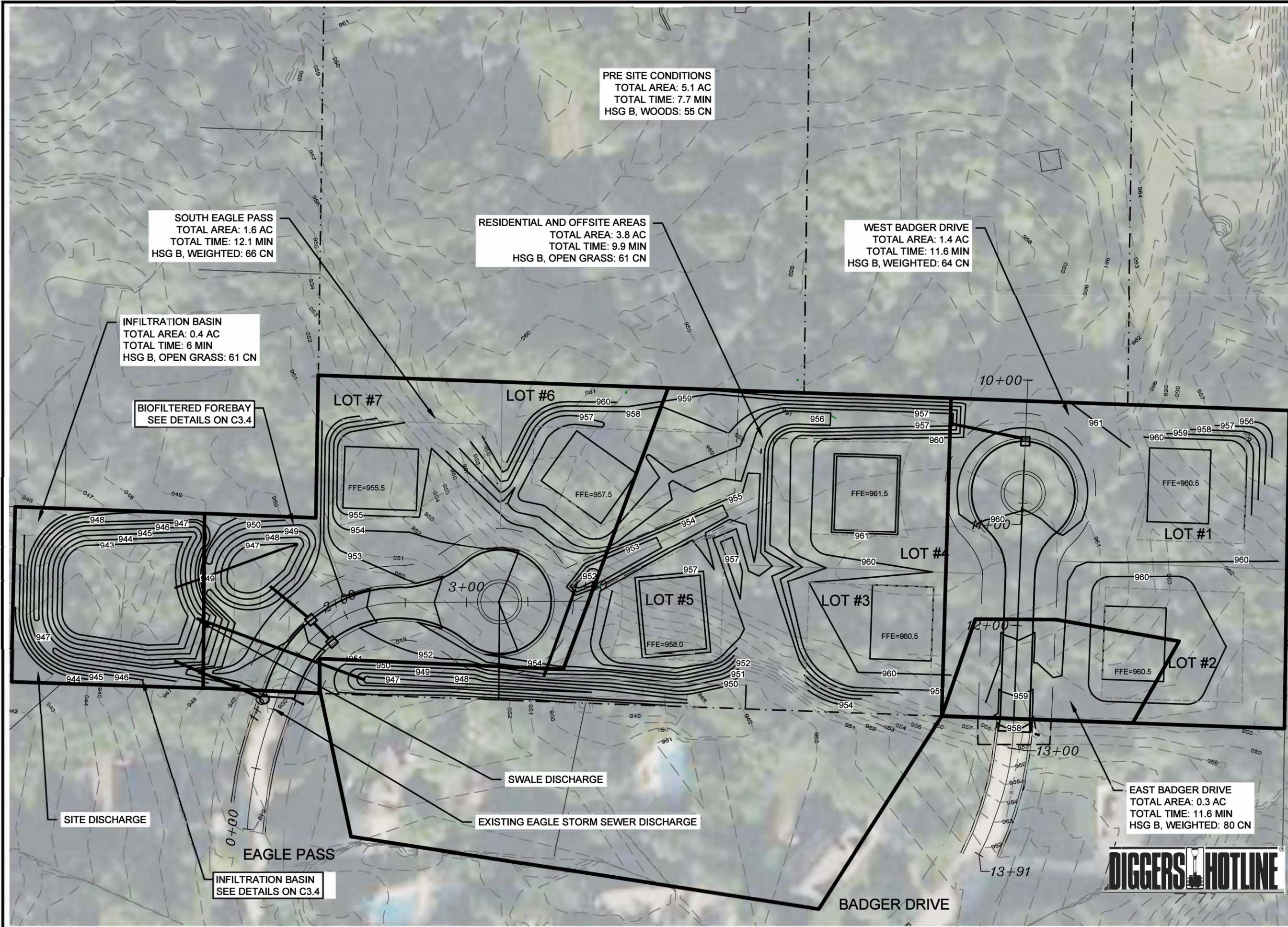
DEVELOPMENT

VILLAGE OF HARTLAND, WAUKESHA COUNTY, WISCONSIN

REVISION SET
09/05/2025



PROJECT NO:	2025-106(A)
DATE:	06/30/2025
DESIGNED BY:	RJR
DRAWN BY:	OCZ
SHEET:	C 3.2



PRE SITE CONDITIONS
 TOTAL AREA: 5.1 AC
 TOTAL TIME: 7.7 MIN
 HSG B, WOODS: 55 CN

SOUTH EAGLE PASS
 TOTAL AREA: 1.6 AC
 TOTAL TIME: 12.1 MIN
 HSG B, WEIGHTED: 66 CN

RESIDENTIAL AND OFFSITE AREAS
 TOTAL AREA: 3.8 AC
 TOTAL TIME: 9.9 MIN
 HSG B, OPEN GRASS: 61 CN

WEST BADGER DRIVE
 TOTAL AREA: 1.4 AC
 TOTAL TIME: 11.6 MIN
 HSG B, WEIGHTED: 64 CN

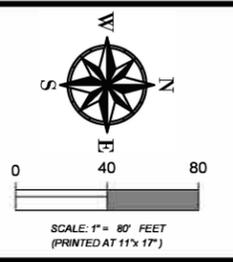
INFILTRATION BASIN
 TOTAL AREA: 0.4 AC
 TOTAL TIME: 6 MIN
 HSG B, OPEN GRASS: 61 CN

BIOFILTERED FOREBAY
 SEE DETAILS ON C3.4

EAST BADGER DRIVE
 TOTAL AREA: 0.3 AC
 TOTAL TIME: 11.6 MIN
 HSG B, WEIGHTED: 80 CN

DRAINAGE PLAN
 HARTLAND SUBDIVISION
 DEVELOPMENT
 VILLAGE OF HARTLAND, WAUKESHA COUNTY, WISCONSIN

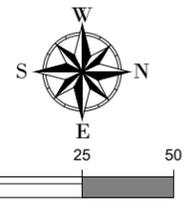
REVISION SET
 09/05/2025



PROJECT NO:	2025-106(A)
DATE:	06/30/2025
DESIGNED BY:	RJR
DRAWN BY:	OCZ
SHEET:	C 3.3



REVISION SET
 09/05/2025



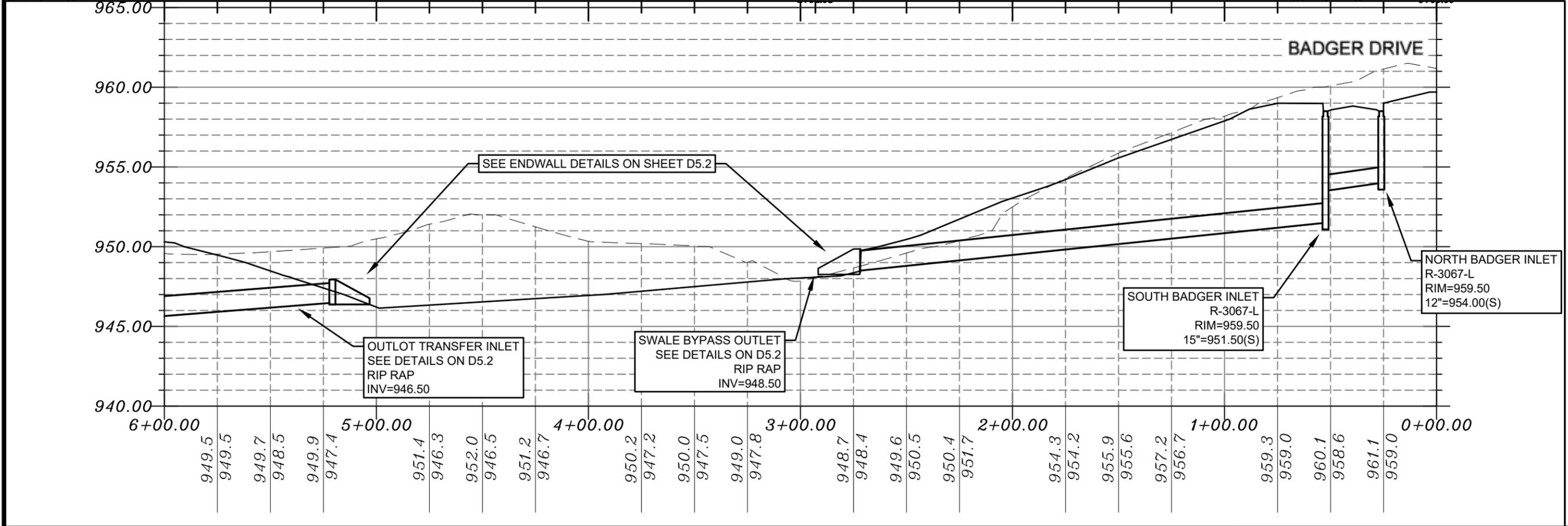
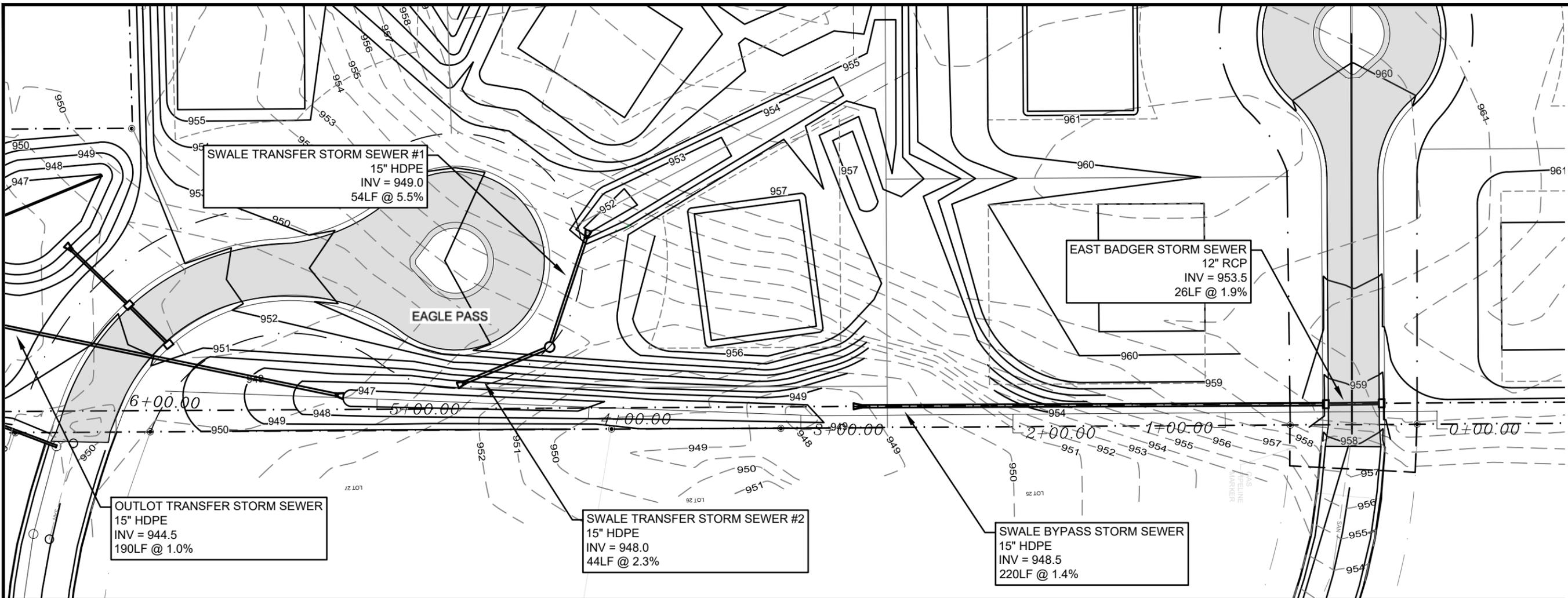
PROJECT NO: 2025-106(A)

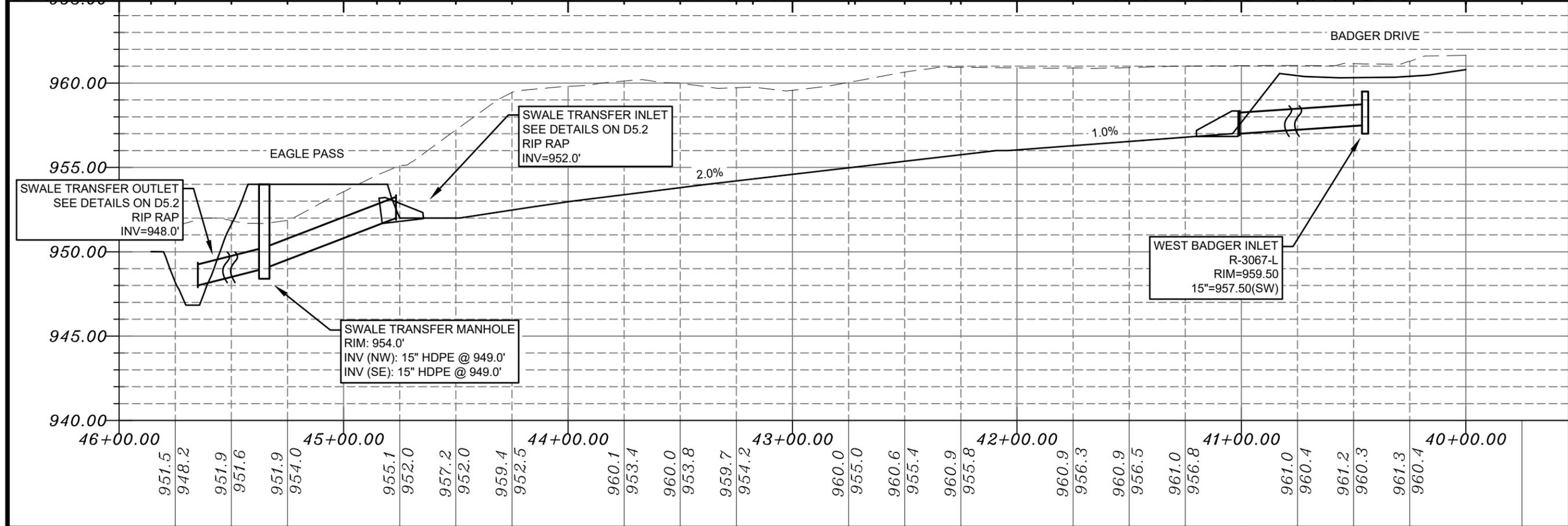
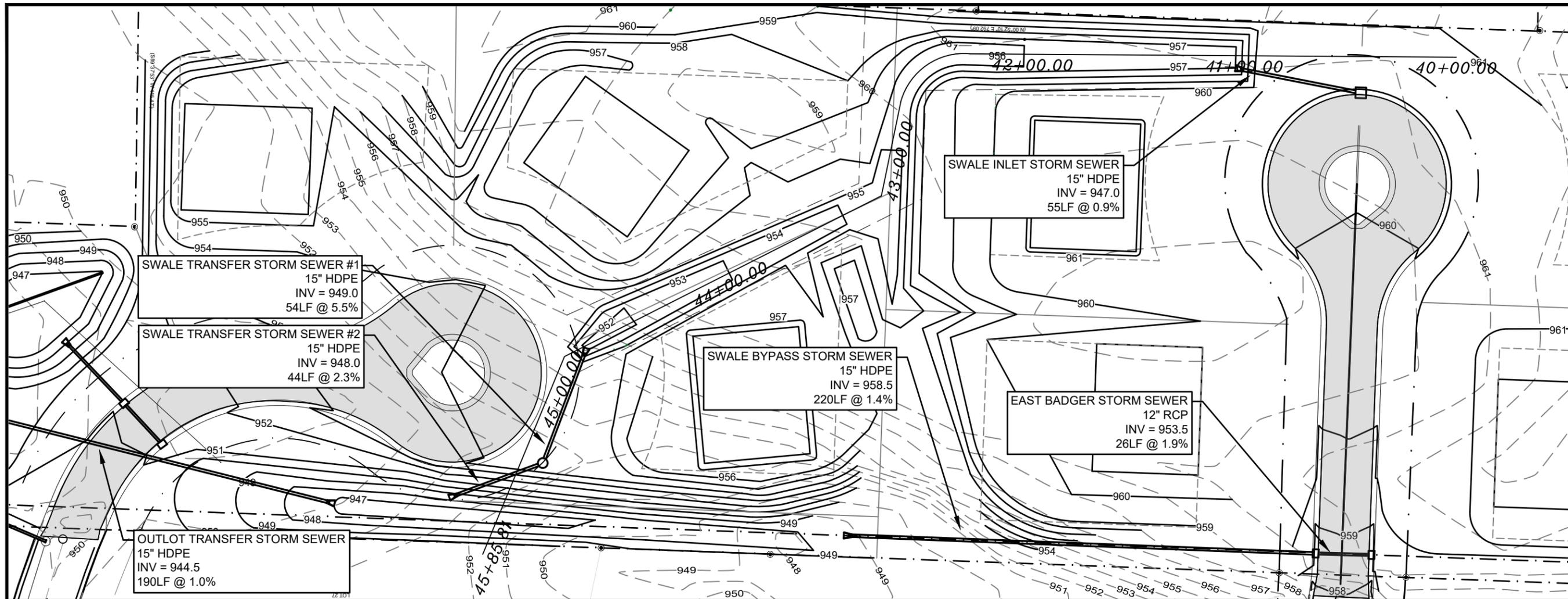
DATE: 06/30/2025

DESIGNED BY: RJR

DRAWN BY: OCZ

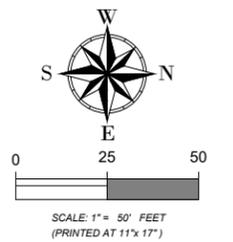
SHEET: C 3.4





SWALE PLAN
HARTLAND SUBDIVISION
DEVELOPMENT
VILLAGE OF HARTLAND, WAUKESHA COUNTY, WISCONSIN

REVISION SET
09/05/2025

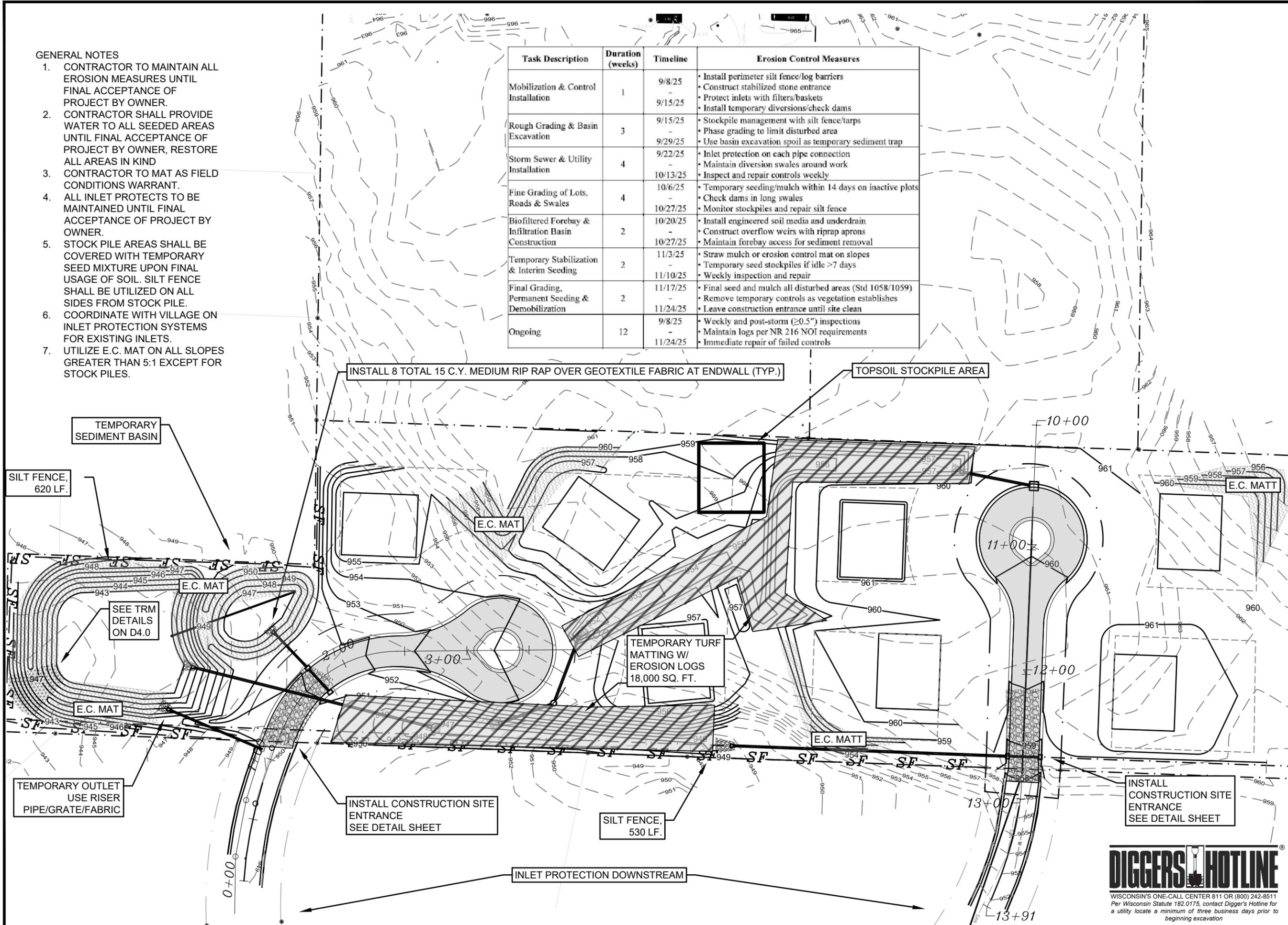


PROJECT NO:	2025-106(A)
DATE:	06/30/2025
DESIGNED BY:	RJR
DRAWN BY:	OCZ
SHEET:	C 3.5

GENERAL NOTES

1. CONTRACTOR TO MAINTAIN ALL EROSION MEASURES UNTIL FINAL ACCEPTANCE OF PROJECT BY OWNER.
2. CONTRACTOR SHALL PROVIDE WATER TO ALL SEEDED AREAS UNTIL FINAL ACCEPTANCE OF PROJECT BY OWNER, RESTORE ALL AREAS IN KIND
3. CONTRACTOR TO MAT AS FIELD CONDITIONS WARRANT.
4. ALL INLET PROTECTS TO BE MAINTAINED UNTIL FINAL ACCEPTANCE OF PROJECT BY OWNER.
5. STOCK PILE AREAS SHALL BE COVERED WITH TEMPORARY SEED MIXTURE UPON FINAL USAGE OF SOIL. SILT FENCE SHALL BE UTILIZED ON ALL SIDES FROM STOCK PILE.
6. COORDINATE WITH VILLAGE ON INLET PROTECTION SYSTEMS FOR EXISTING INLETS.
7. UTILIZE E.C. MAT ON ALL SLOPES GREATER THAN 5:1 EXCEPT FOR STOCK PILES.

Task Description	Duration (weeks)	Timeline	Erosion Control Measures
Mobilization & Control Installation	1	9/8/25 - 9/15/25	<ul style="list-style-type: none"> • Install perimeter silt fence/log barriers • Construct stabilized stone entrance • Protect inlets with filters/baskets • Install temporary diversions/check dams
Rough Grading & Basin Excavation	3	9/15/25 - 9/29/25	<ul style="list-style-type: none"> • Stockpile management with silt fence/tarps • Phase grading to limit disturbed area • Use basin excavation spoil as temporary sediment trap
Storm Sewer & Utility Installation	4	9/22/25 - 10/13/25	<ul style="list-style-type: none"> • Inlet protection on each pipe connection • Maintain diversion swales around work • Inspect and repair controls weekly
Fine Grading of Lots, Roads & Swales	4	10/6/25 - 10/27/25	<ul style="list-style-type: none"> • Temporary seeding/mulch within 14 days on inactive plots • Check dams in long swales • Monitor stockpiles and repair silt fence
Biofiltered Forebay & Infiltration Basin Construction	2	10/20/25 - 10/27/25	<ul style="list-style-type: none"> • Install engineered soil media and underdrain • Construct overflow weirs with riprap aprons • Maintain forebay access for sediment removal
Temporary Stabilization & Interim Seeding	2	11/3/25 - 11/10/25	<ul style="list-style-type: none"> • Straw mulch or erosion control mat on slopes • Temporary seed stockpiles if idle >7 days • Weekly inspection and repair
Final Grading, Permanent Seeding & Demobilization	2	11/17/25 - 11/24/25	<ul style="list-style-type: none"> • Final seed and mulch all disturbed areas (Std 1058/1059) • Remove temporary controls as vegetation establishes • Leave construction entrance until site clean
Ongoing	12	9/8/25 - 11/24/25	<ul style="list-style-type: none"> • Weekly and post-storm (≥0.5") inspections • Maintain logs per NR 216 NOI requirements • Immediate repair of failed controls



© Copyright Roth Professional Solutions, 2022

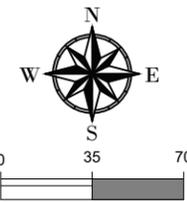
EROSION CONTROL PLAN

HARTLAND SUBDIVISION

DEVELOPMENT

VILLAGE OF HARTLAND, WAUKESHA COUNTY, WISCONSIN

REVISION SET
09/05/2025



PROJECT NO: 2025-106(A)

DATE: 06/30/2025

DESIGNED BY: RJR

DRAWN BY: OCZ

SHEET: C 4.0



WISCONSIN'S ONE-CALL CENTER 811 OR (800) 242-8511
Per Wisconsin Statute 182.0175, contact Digger's Hotline for a utility locate a minimum of three business days prior to beginning excavation

GENERAL NOTES:

1. EVERY EFFORT SHALL BE MADE TO PROTECT AND RETAIN ALL EXISTING NONINVASIVE TREES, SHRUBS, VINES, GRASSES AND GROUNDCOVERS
2. CONTRACTOR SHALL NOT EXCEED GRADING LIMITS AREA.
3. STOCK PILE AREAS ARE SHOWN ON THE EROSION PLAN.
4. AT LEAST ONE TREE OF AN APPROVED SPECIES SHALL BE PLANTED AS RECOMMENDED IN THE STREET TERRACE
5. PLANTINGS MUST TAKE PLACE WITHIN ONE YEAR OF COMPLETION

Planting Options:

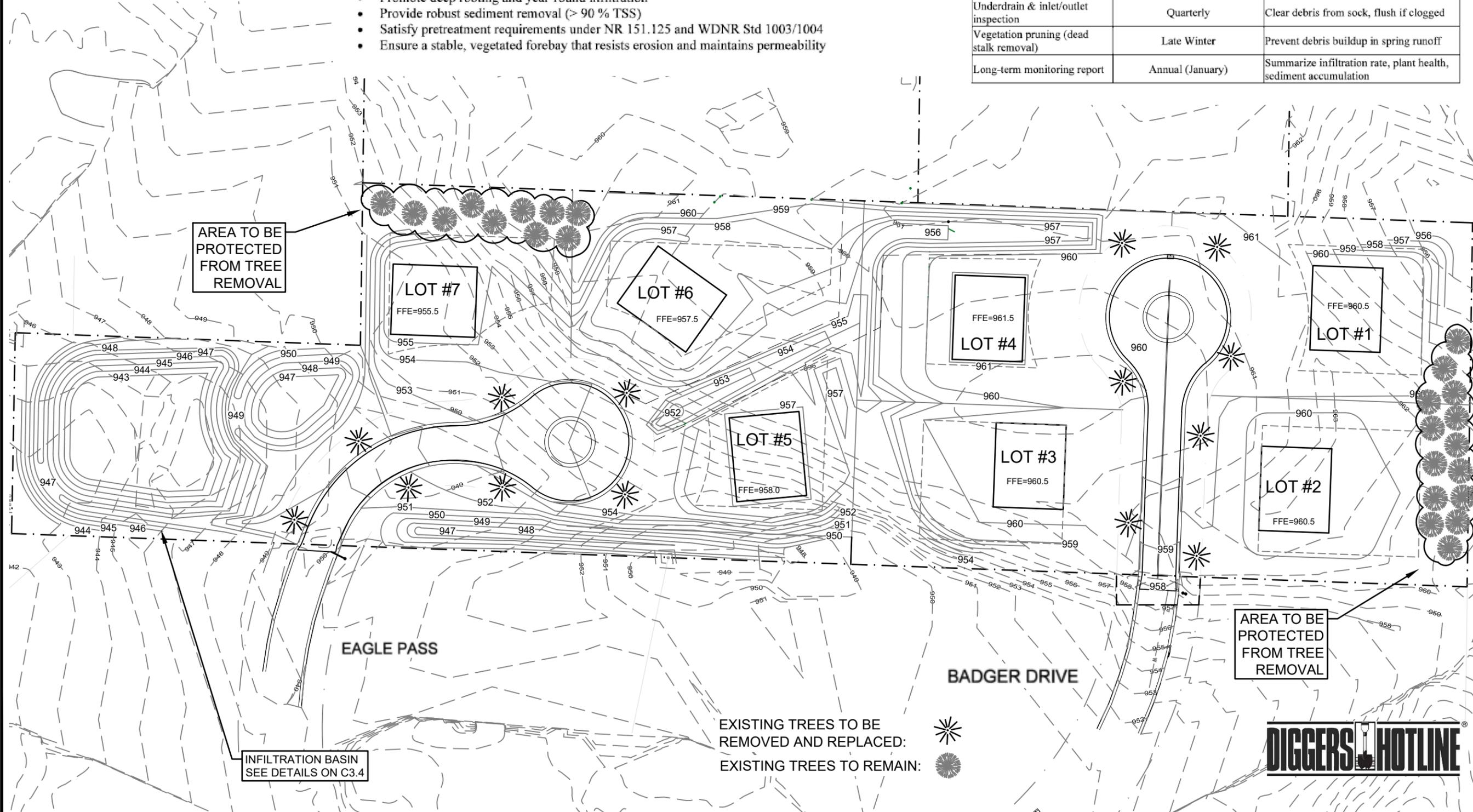
Plant Type	Species	Spacing	Bloom Period	Notes
Sedges (Grasses)	Carex stipata (Awl-fruit sedge)	12"	Jun-Jul	Good root mass
Rushes	Juncus effusus (Soft rush)	12"	Jun-Aug	Tolerates wet/dry
Wildflowers (Perennial)	Asclepias incarnata (Swamp milkweed)	18"	Jul-Sep	Pollinator habitat
Wildflowers (Perennial)	Rudbeckia fulgida (Black-eyed Susan)	18"	Jul-Sep	Stabilizes surface
Grasses (Ornamental)	Panicum virgatum (Switchgrass)	24"	Aug-Sep	Deep roots enhance infiltration
Groundcover	Lobelia cardinalis (Cardinal flower)	12"	Jul-Sep	Moisture-loving underplant

This planting approach and surface-type specification will:

- Promote deep rooting and year-round infiltration
- Provide robust sediment removal (> 90 % TSS)
- Satisfy pretreatment requirements under NR 151.125 and WDNR Std 1003/1004
- Ensure a stable, vegetated forebay that resists erosion and maintains permeability

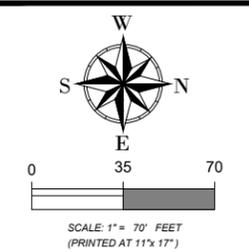
Planting Schedule & Maintenance

Activity	Timing	Notes
Final grading and media installation	Weeks 7-8	Compact subgrade, verify elevations (+6-inch media thickness)
Soil media blend placement	Week 8	Blend on-site or deliver pre-mixed
Mulch installation	Immediately after planting	Use shredded hardwood, avoid over-application (< 2 inch)
Plant installation	Early Spring (Apr-May) or Late Fall (Sep-Oct)	Plant plugs/small-pots; water-in thoroughly
Monthly inspections (Year 1)	May-Oct	Check for settling, replace failed plants, weed control
Seasonal weeding and mulching (Years 2-5)	Spring & Fall	Replenish 1-inch mulch; remove woody volunteers
Perennial replanting (as needed)	Year 2 Spring	Replace > 20 % mortality
Underdrain & inlet/outlet inspection	Quarterly	Clear debris from sock, flush if clogged
Vegetation pruning (dead stalk removal)	Late Winter	Prevent debris buildup in spring runoff
Long-term monitoring report	Annual (January)	Summarize infiltration rate, plant health, sediment accumulation



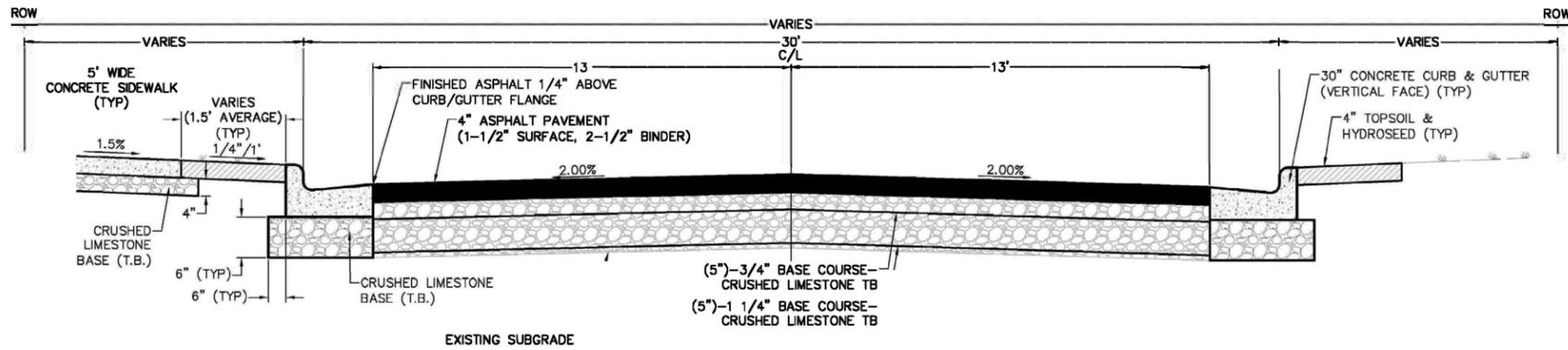
LANDSCAPE PLAN
 HARTLAND SUBDIVISION
 DEVELOPMENT

REVISION SET
 09/05/2025



PROJECT NO:	2025-106(A)
DATE:	06/30/2025
DESIGNED BY:	RJR
DRAWN BY:	OCZ
SHEET:	C 4.1



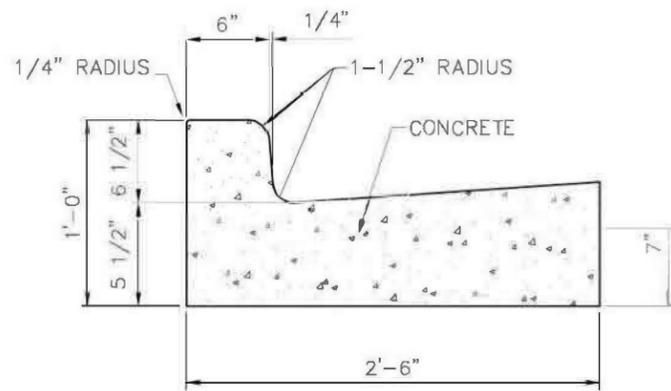


ASPHALT MIX SPECIFICATION			
COURSE	RESIDENTIAL	COLLECTORS	ARTERIAL/INDUSTRIAL
BINDER	3LT 58-28S	3LT 58-28S	3MT 58-28S
SURFACE	5LT 58-28S	5LT 58-28S	5MT 58-28H

NOTES:

- ADJUST MH FRAMES, AND VALVE BOXES TO 1/4-INCH TO 1/2-INCH LOWER THAN FINISH GRADE.
- 4" THICK CONCRETE SIDEWALK, EXCEPT 6" THICK THROUGH DRIVEWAY APPROACH..
- COMPACT BASE TO 95%.

TYPICAL NEW URBAN SECTION-RESIDENTIAL NO SCALE



30" VERTICAL FACE CURB & GUTTER NO SCALE

1.05 REGULATORY REQUIREMENTS

- A. Pay for local, county or state permits for Work on right-of-ways. Damage to pavements and to all property, public and private, due to this Work shall be repaired to same condition before construction by Contractor.

1.06 UNIT PRICES

- A. Follow 01 22 00.

1.07 QUALITY MANAGEMENT PROGRAM

- A. As a condition of acceptance, arrange, conduct, and pay for tests necessary to demonstrate satisfactory compliance with Contract Documents. Make adjustments at the plant necessary to meet requirements of Specifications including the instructions.

B. Lab testing:

- Test material from the plant at least once a day.
- Meet the following parameters:
 - Air voids (VA): Follow State Specifications 460.2.8.3.1.6 and follow State Specification-Additional Special Provision 460.2.1 issued under ASP-6.
 - Voids in the mineral aggregate (VMA): Follow State Specifications Table 460-1.
 - Gradations: Job mix formula (JMF): Follow Paragraph 1 of State Specification-Additional Special Provision 460.2.8.2.1.5 issued under ASP-6.

C. Density testing:

- Take a minimum one test per location and one test per 250 tons.
 - Use nuclear method.
 - Targets specified hereinafter.
- Locations will be at Engineer's request.

D. Results and reports:

- Make field adjustments to keep material within specified tolerances. If test results fall out of tolerance, increase testing frequency until material is within specification.
- Submit test reports within 48 hours to Engineer.

3.01 EARTHWORK

- A. Removing miscellaneous structures. Follow State Specifications 204.3 for:
- Curb and gutter.
 - Asphaltic concrete pavement.
 - Sidewalk.
 - Driveways.
- B. Roadway and drainage excavation. Follow State Specifications 205.3 for:
- Common excavation. No organic material or stones larger than 3-inches allowed within upper 12-inches of subgrade in a cut section. No organic material or stones larger than 3-inches allowed within entire subgrade layer in a fill section.
 - Rock excavation.
 - Excavation below subgrade.
 - Overhaul: No allowance for overhaul.
- C. Preparation of roadway foundation: Follow State Specifications 211.3.
- D. Subgrade proof roll: Allow Engineer to inspect prepared subgrade and to witness proof roll test by a fully loaded quad axle dump truck. Reconstruct where deflection is greater than 1/2 inch. Additional proof roll tests will be performed until entire subgrade passes.

3.02 BASE COURSE

- A. Crushed aggregate base course: Follow State Specifications 301 and 305.
- Compaction: Standard compaction.
 - 95 percent of maximum density determined by Modified Proctor.
 - Allow Engineer to inspect prepared base course and to witness proof roll test by a fully loaded quad axle dump truck. Reconstruct where deflection is greater than 1/2 inch. Additional proof roll tests will be performed until entire base course passes.
 - Allowable deviation from design grade: 1/2 inch

2.03 BACKFILL

- A. A. Granular: Follow SWS 8.43.4. Limestone screenings not allowed. Sand and gravel structural backfill material meeting gradation requirements of SWS 8.43.4 and specifically, Table 37. Limestone screenings and crushed concrete not allowed.
- B. Spoil: Follow SWS 8.43.5. Maximum particle size 3-inches.
- C. Aggregate slurry: Follow SWS 8.43.8.
- D. Crushed road gravel: Follow State Specifications 305.2.2.1 3/4-inch crushed road gravel SWS 8.43.7.
- E. Graded aggregate: Follow SWS 8.43.7 Use 3/4-inch.

3.03 PAVEMENT PULVERIZING, SHAPING AND GRADING

- A. Follow State Specification 325 and:
- Remove and stockpile excess pulverized materials to Owner approved location.
 - At completion of each working day, ramp ends of pulverized material flush to adjacent pavement for all traffic lanes.
 - Excavate and remove topsoil and unstable subgrade materials and replace with on-site sound material.
 - Grade, shape, and compact pulverized materials.
 - Redistribute materials as needed within project to fill areas with insufficient materials, low areas, and settled utility trenches.
 - Move excess material to other areas within the project.
 - Use new crushed stone base material only when existing materials are depleted and Engineer approves.
 - Allow Engineer to inspect new base course before paving.
 - Allowable deviation from design grade: 1/2 inch.
 - Utility structures: Set to finish course elevation.
 - Compaction: Standard compaction.
 - Allow Engineer to inspect prepared base course and to witness proof roll test by a fully loaded quad axle dump truck. Reconstruct where deflection is greater than 1/2 inch. Additional proof roll tests will be performed until entire base course passes.
- B. Abutting existing pavement:
- Provide full depth saw cut at match lines.
 - Provide butt joint at locations specified in field. Anticipate full width.
 - Pulverize existing pavement within construction limits.
 - Stockpile pulverized materials at location secured by Contractor.
 - Over-excavate, remove and dispose of earth material over butt joint length. Taper thickness of removed materials from 4 inches at match line to 0 inches at opposite end of butt joint.
 - Respread pulverized materials over excavated area.
 - Remove sufficient material to maintain minimum pavement and base thickness as specified herein at saw cut.

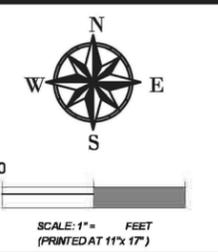
3.04 PAVEMENT AND SURFACE COURSES

- A. Tack coat: Follow State Specification 455.3.2.
- Apply between each layer of asphaltic concrete.
 - Allow to cure before paving.
- B. Asphaltic concrete pavement: Follow State Specifications 450, 460 and 465.
- Do not use 460.2.8.3 Department Testing.
 - Maximum variations:
 - 1/8 inch across a 5 foot straight edge.
 - Thickness: Within 1/4 inch of design.
 - Finish elevation: Within 1/4 inch of design.
 - Temperatures:
 - Asphaltic concrete at placement: Between 236 and 330 degrees Fahrenheit.
 - Air temperature: Follow State Specifications 450.3.2.1.2.3.
 - Subgrade: Above 32 degrees Fahrenheit.
 - Contractor may submit cold weather paving plan for review if air temperature falls below specified limits. Engineer reserves the right to reject plan without cause. If implemented, plan shall be at no additional cost to Owner.
 - Layer thickness: Shown on Drawings.
 - Compaction: Follow State Specifications 460.3.3 Maximum Density Method and follow Paragraph 1 of State Specification-Additional Special Provision 460.3.2.1 issued under ASP-6.
 - Saw cut, excavate and remove unstable binder course, base course and subgrade materials. Replace removed materials. Clean binder pavement by sweeping or flushing before applying surface pavement.
 - Allow Owner or Owner Representative to inspect binder course before applying surface course.
 - Joints: All longitudinal joints shall be hot seams.



GENERAL DETAILS
 HARTLAND SUBDIVISION
 DEVELOPMENT
 VILLAGE OF HARTLAND, WAUKESHA COUNTY, WISCONSIN

REVISION SET
 09/05/2025



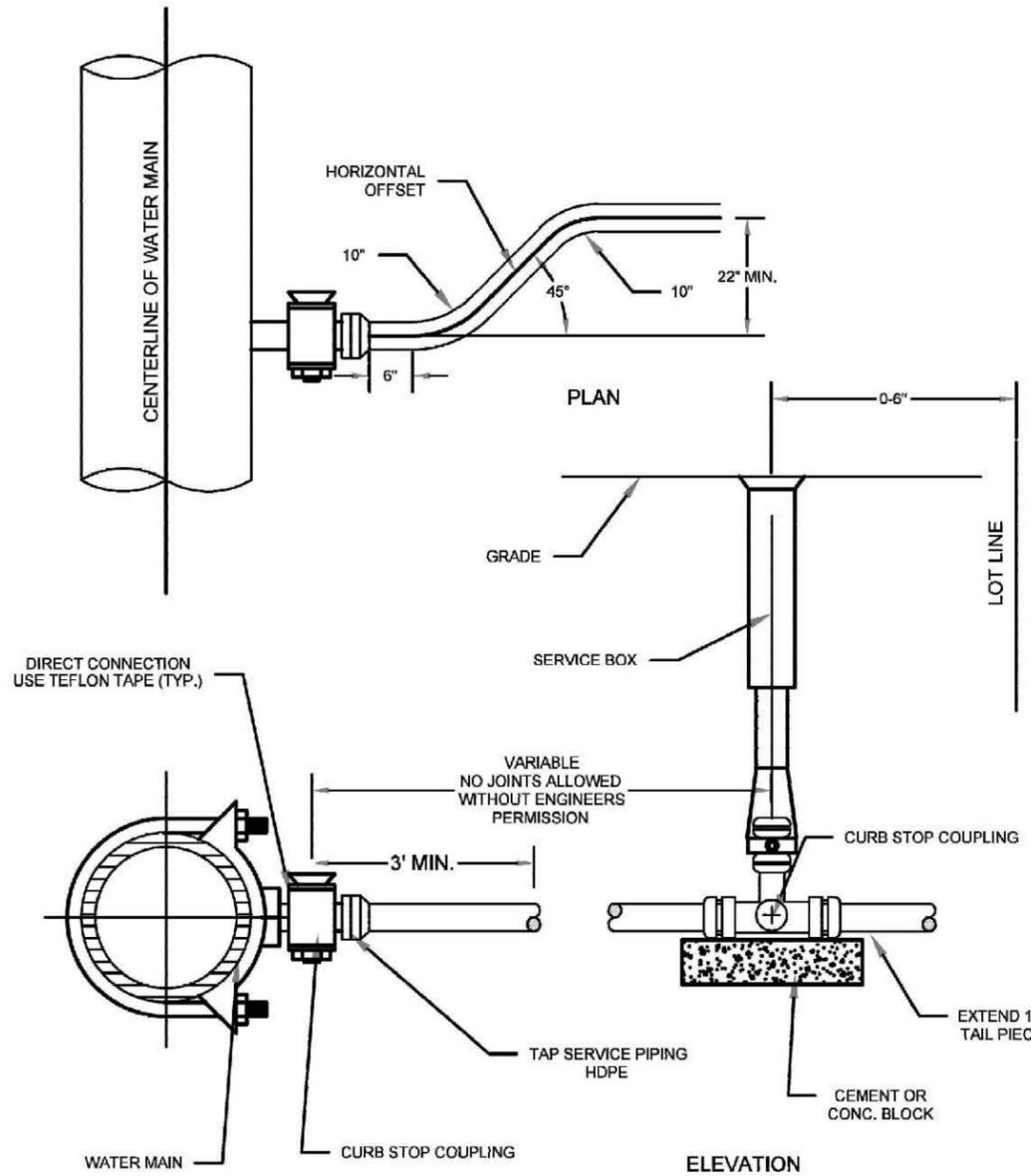
PROJECT NO: 2025-006 (A)

DATE: 06/30/2025

DESIGNED BY: RJR

DRAWN BY: OCZ

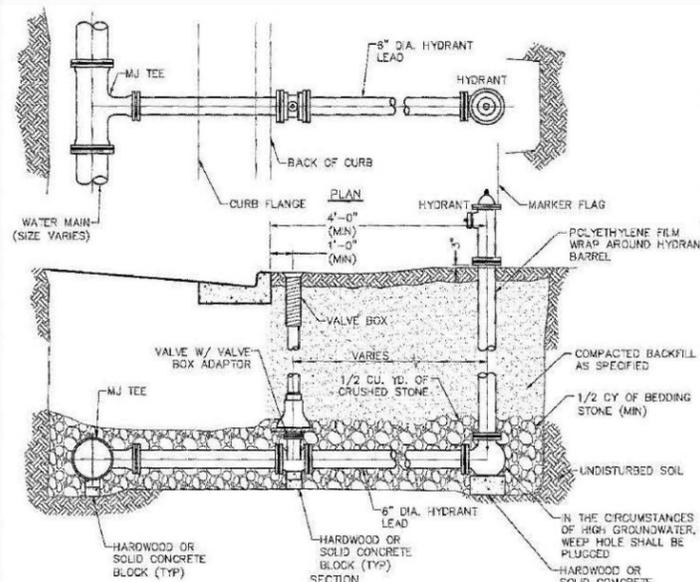
SHEET: D 1.0



SERVICE PIPE	CORP STOP	CURB STOP	SERVICE BOX
1"	1"	1"	2 1/2"
1 1/4"	1 1/4"	1 1/4"	3"
1 1/2"	1 1/4" x 1 1/2"	1 1/2"	3"
2"	1 1/2" x 2"	2"	3"

* A 2" TAP ON A 6" DIAMETER MAIN REQUIRES A DOUBLE STRAP SERVICE SADDLE.

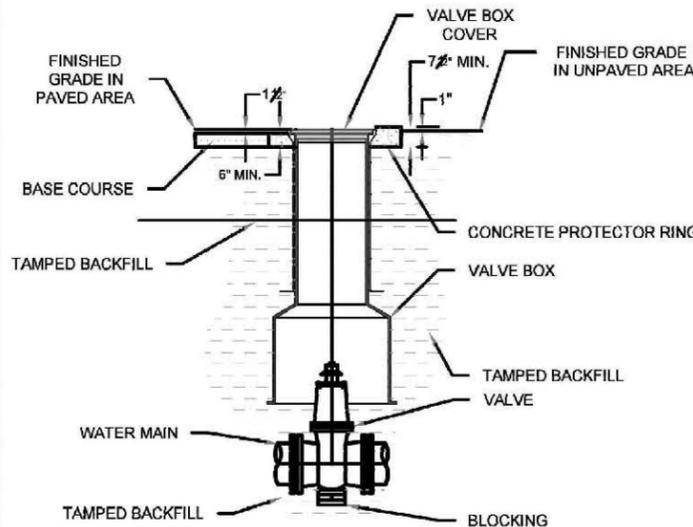
TAP SERVICE PIPING (HDPE)



- NOTES:
- REFER TO FILE NO. 38 OF THE 'STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN' FOR FURTHER INFORMATION.
 - ALL JOINTS ON HYDRANT LEADS SHALL HAVE MEGALUG RESTRAINTS.
 - BURY DEPTH OF HYDRANT AND LEAD SHALL BE 7.5 FEET FOR NEW CONSTRUCTION AND SHALL BE FIELD VERIFIED BY CONTRACTOR FOR REPLACEMENT.
 - CONTRACTOR TO VERIFY EXISTING DEPTHS IN FIELD PRIOR TO ORDERING ANY NEW HYDRANTS. (MISC. UTILITY AREAS)

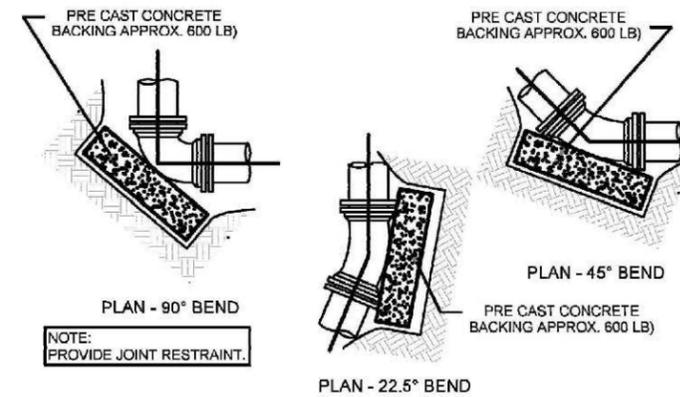
HYDRANT SETTING DETAIL

FOR USE IN PAVED AREAS FOR USE IN UNPAVED AREAS



- NOTES:
- D.I.P. MAY BE USED FOR VALVE BOX EXTENSIONS.
 - VALVE BOX SHOULD NOT CONTACT WATER MAIN OR VALVE.
 - CONCRETE PROTECTOR RING SHALL BE USED IN ALL UNPAVED AREAS.
 - ALL MATERIALS USED IN THE POTABLE WATER SYSTEM MUST BE NSF61 AND NSF372 CERTIFIED AND MEET THE LATEST FEDERAL SAFE DRINKING WATER ACT REQUIREMENTS.

VALVE AND VALVE BOX INSTALLATION

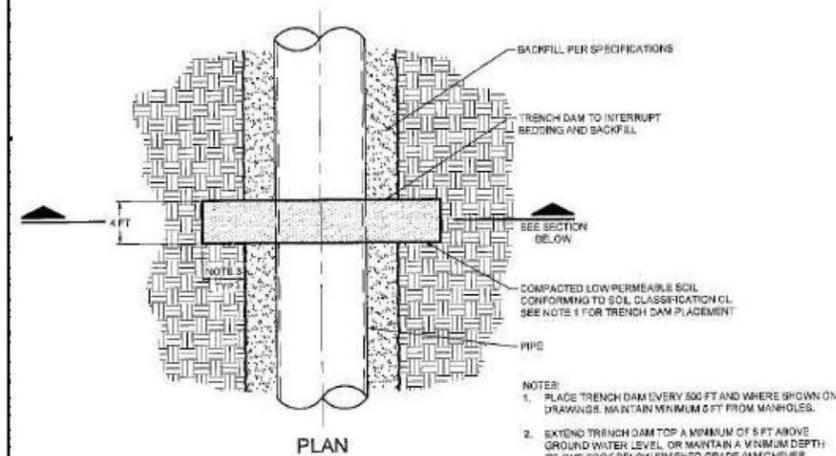


CONCRETE BACKING FOR BENDS

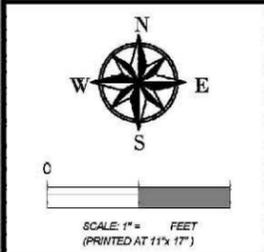
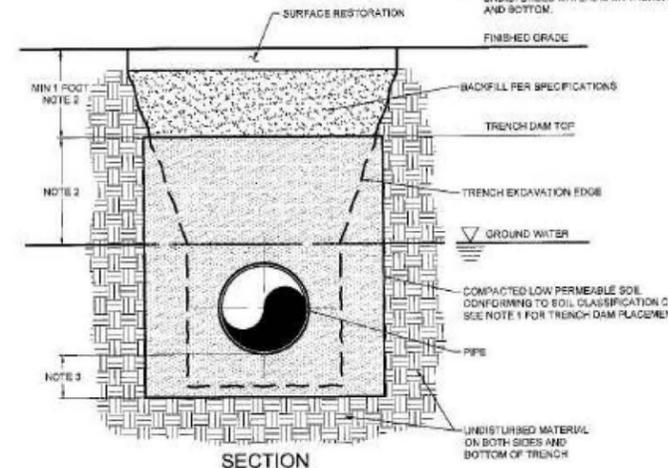
- NOTES:
- CONCRETE SHALL BE 3,000 PSI MIN.
 - CONCRETE FOR THRUST BLOCKING SHALL BE KEPT FAIRLY DRY, THUS MAKING THE CONCRETE WEDGE SHAPE MORE EASILY FORMED WITH THE WIDEST PART (BLOCKING AREA) AGAINST UNDISTURBED SOIL.
 - NO CONCRETE SHALL COVER ANY BOLTS OR GLANDS.
 - ALL FITTING AND ACCESSORIES TO BE WRAPPED WITH 10 MIL POLYETHYLENE PRIOR TO POURING BLOCKING.
 - VOLUME OF THRUST BLOCKING SHALL BE AS SHOWN ON THE THRUST BLOCKING SCHEDULE.

PIPE SIZE	90° BEND	45° BEND	22.5° BEND	11.25° BEND	180°	PLUS
4"	8"	12"	8"	8"	8"	8"
6"	10"	15"	10"	10"	10"	10"
8"	12"	18"	12"	12"	12"	12"
10"	14"	21"	14"	14"	14"	14"
12"	16"	24"	16"	16"	16"	16"
14"	18"	27"	18"	18"	18"	18"
16"	20"	30"	20"	20"	20"	20"
18"	22"	33"	22"	22"	22"	22"
20"	24"	36"	24"	24"	24"	24"
24"	28"	42"	28"	28"	28"	28"

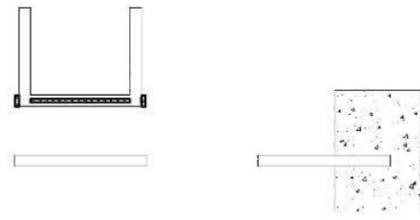
NOTE: PROVIDE JOINT RESTRAINT.



- NOTES:
- PLACE TRENCH DAM EVERY 500 FT AND WHERE SHOWN ON DRAWINGS. MAINTAIN MINIMUM 6 FT FROM MANHOLES.
 - EXTEND TRENCH DAM TOP A MINIMUM OF 5 FT ABOVE GROUND WATER LEVEL, OR MAINTAIN A MINIMUM DEPTH OF ONE FOOT BELOW FINISHED GRADE (WHICHEVER ELEVATION IS LOWER). GROUND WATER DETERMINED BY NEAREST BORING OR BY ENGINEER.
 - NOTCH TRENCH DAM A MINIMUM OF 2 FT BEYOND UNDISTURBED MATERIAL ON TRENCH EXCAVATION SIDES AND BOTTOM.

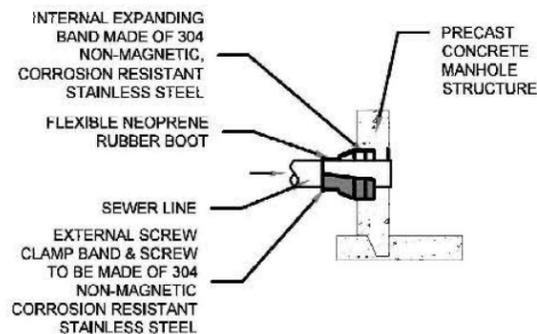


PROJECT NO:	2025-106 (A)
DATE:	06/30/2025
DESIGNED BY:	RJR
DRAWN BY:	OCZ
SHEET:	D 2.0

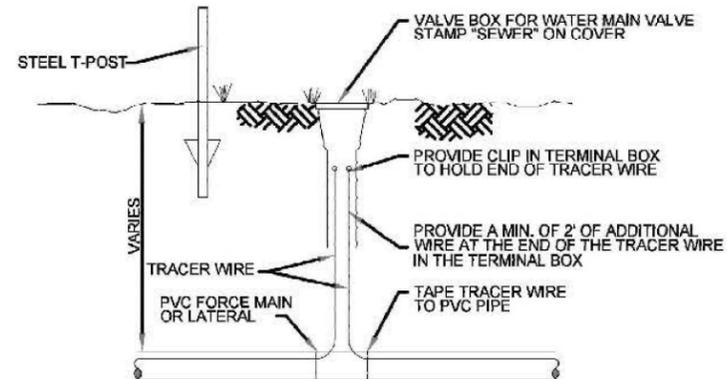


- NOTES:
1. MINIMUM DESIGN LIVE LOAD SHALL BE A SINGLE CONCENTRATED LOAD OF 300 LBS. VERTICALLY AND 200 LBS. PULL OUT.
 2. STEPS MUST BE EQUALLY SPACED VERTICALLY IN THE ASSEMBLED MANHOLE AT A MAXIMUM DESIGN DISTANCE OF 16" APART.
 3. STEPS SHALL BE FABRICATED OF COPOLYMER POLYPROPYLENE THAT ENCAPSULATES A DEFORMED # GRADE 60 REINFORCING ROD.

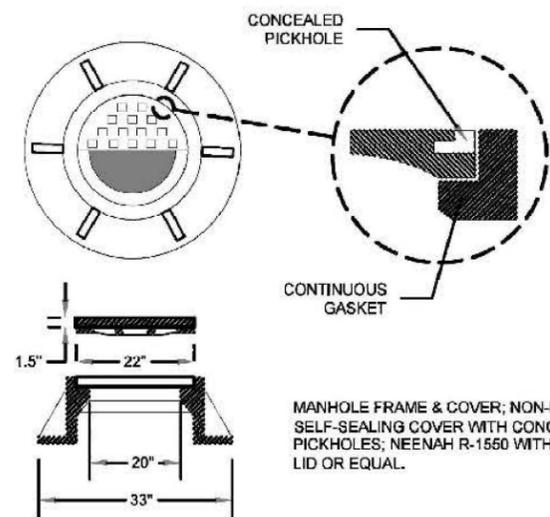
TYPICAL STEP DETAIL



FLEX PIPE TO MH



TRACER WIRE TERMINAL BOX



MANHOLE FRAME & COVER; NON-ROCKING SELF-SEALING COVER WITH CONCEALED PICKHOLES; NEENAH R-1550 WITH TYPE B LID OR EQUAL.

TYPICAL FRAME & COVER

- NOTE:
1. USE SINGLE LAYER MONOLITHIC RING AND TWO 2-INCH ADJUSTING RINGS IN CHIMNEY.
 2. SET ADJUSTING RINGS AND FRAME IN MASTIC.
 3. BACKPLASTER OUTSIDE OF STRUCTURE, NO BACKPLASTER ALLOWED INSIDE MANHOLE.
 4. ALL NEW SANITARY MANHOLES SHALL BE MINIMUM 48-INCH DIAMETER.

TYPE I FRAME/CHIMNEY JOINT REQUIRED ON ALL SANITARY MANHOLES UNLESS OTHERWISE SPECIFIED, TYPE II JOINT REQUIRED ON ALL STORM MANHOLES.

FLAT TOP SLAB MAY BE USED FOR 5'-0" AND 6'-0" DIA. MANHOLES.

ADJUST FRAME TO GRADE WITH BRICK OR CONCRETE RINGS OF VARIABLE THICKNESS, MAXIMUM RING HEIGHT=8", MINIMUM RING HEIGHT=2". CONCRETE RINGS SHALL BE REINFORCED WITH ONE LINE OF STEEL CENTERED WITHIN THE RING, WHERE NECESSARY RINGS SHALL BE GROOVED TO RECEIVE STEP.

CONCRETE AND STEEL REINFORCEMENT SHALL CONFORM TO DESIGNATION C-475 REQUIREMENTS OF ASTM SPECIFICATIONS.

JOINTS SHALL BE WATERTIGHT AND SHALL BE MADE USING MORTAR OR BUTYL RUBBER GASKETS FOR STORM AND BUTYL RUBBER GASKETS FOR SANITARY MANHOLES.

AREA OF CIRCUMFERENTIAL STEEL=0.12 SQ. INCH PER LINEAL FOOT.

SPACE BETWEEN PIPE AND PRECAST MANHOLE WALL TO BE FILLED WITH BRICK AND MORTARED IN PLACE EXCEPT THAT AN APPROVED FLEXIBLE WATERTIGHT PIPE TO MANHOLE SEAL IS REQUIRED FOR ALL FLEXIBLE SANITARY SEWER CONNECTIONS. THE ANNULAR SPACE BETWEEN THE PIPE AND MANHOLE WALL SHALL BE FILLED WITH FLEXIBLE BUTYL RUBBER GASKET MATERIAL BELOW SURFACE OF BENCH OR SPRINGLINE.

3" STONE CUSHION UNDER BASE IS REQUIRED ONLY ON WET SUB-GRADE.

PROVIDE A MINIMUM 1/2" DIA. HOLE FOR LEAKAGE TEST, NOT GREATER THAN 2" ABOVE LOWEST PIPE.

BENCH SLOPE: STORM MANHOLE 1" PER FOOT
SANITARY MANHOLE 2" PER FOOT

CLASS "D" CONCRETE

REF: CHAP. 3.5.0

PIPE DIA.	MANHOLE DIA.	WALL THICKNESS
8" THRU 27"	3'-6"	4 1/2"
30"	4'-0"	5"
36"	5'-0"	6"
42"	6'-0"	7"

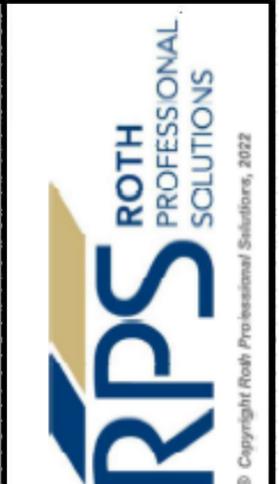
TABLE NO. 1

PRECAST MANHOLE

NOT TO SCALE
JAN. 2, 1992

FILE NO. 12

WISCONSIN'S ONE-CALL CENTER 811 OR (800) 242-8511
Per Wisconsin Statute 182.0175, contact Digger's Hotline for a utility locate a minimum of three business days prior to beginning excavation



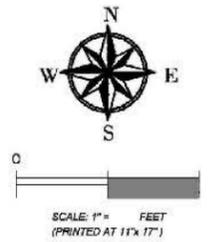
SANITARY SEWER DETAILS

HARTLAND SUBDIVISION

DEVELOPMENT

VILLAGE OF HARTLAND, WAUKESHA COUNTY, WISCONSIN

REVISION SET
09/05/2025



PROJECT NO:	2025-106 (A)
DATE:	06/30/2025
DESIGNED BY:	RJR
DRAWN BY:	OCZ
SHEET:	D 3.0

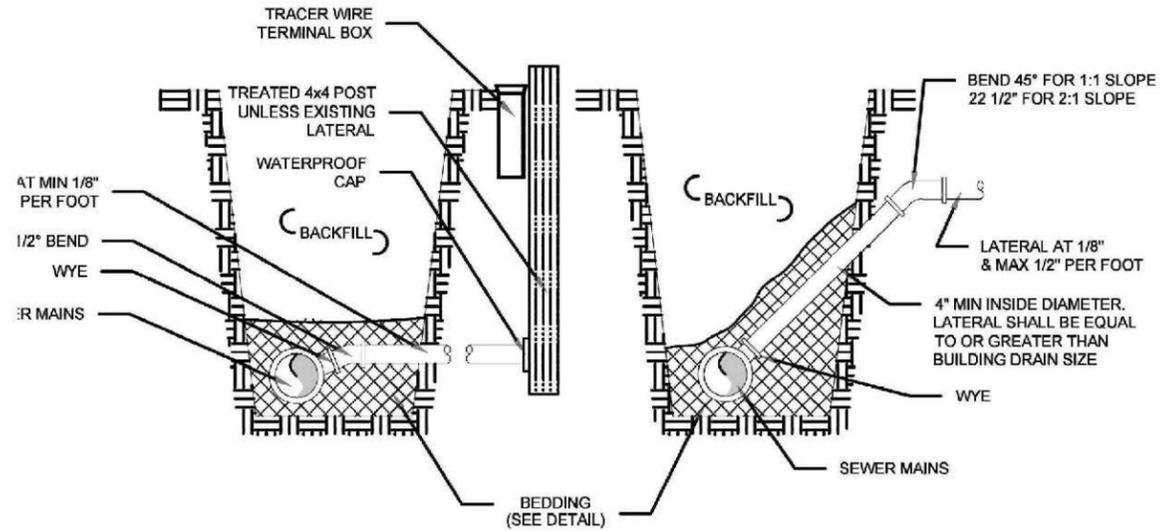
2.01 UTILITY PIPE AND APPURTENANCE MATERIALS

- A. Water Utility Distribution Piping: Follow 33 11 00.
- B. Sanitary Sewerage: Follow 33 30 00.
- C. Storm Drainage: Follow 33 40 00.

2.02 BEDDING AND COVER MATERIALS

- A. Crushed stone chips: Follow SWS 8.43.2.
- B. Around and over Underground Facilities: Follow respective owner's requirements.
- C. Polyethylene pipe embedment: 3/8-inch crushed stone chips. Follow SWS 8.43.2.
- D. Cover: Same material as bedding.

- A. Tracer wire
 - 1. Follow SWS 2.11.0.
 - 2. For open-cut: Direct-burial-rated insulated #10 AWG solid copper conductor.
 - 3. For trenchless installation:
 - a. Duratrace DD, Copperhead, Pro-Trace.
 - b. Extra high-strength directional tracer wire.
 - 1. Provide wire with break load greater than expected drilling loads.
 - 2. Minimum #12 AWG copper clad solid steel core.
 - 3. Minimum 867 lbs. average tensile break load.
 - 4. 45 mil. high density polyethylene jacket.
 - 5. 30 volt rating.
 - 4. Splices: Copperhead Industries DryConn® 3-Way Direct Bury Lug Connector 3WB-01 or approved equal.
 - 5. Color:
 - a. Water: Blue.
 - b. Sanitary: Green.
 - c. Storm: Brown.
- B. Location boxes for tracer wire access.
 - 1. Buried
 - a. SnakePit Test Station, by Copperhead Industries, or approved equal.
- C. Grounding anode rod to have a minimum of 1 pound of magnesium and #10 AWG wire.
- D. Marker flag
 - 1. "HYDRAFINDER".
 - 2. 5 feet long.
 - 3. Fiberglass, red and white.
 - 4. Spring load action.



- NOTES:
1. USE RISERS GOVERNED BY BASEMENT DEPTH & LOCAL CONDITIONS OR AS DIRECTED BY ENGINEER.
 2. LATERAL SHALL END AT PROPERTY LINE UNLESS OTHERWISE DIRECTED BY ENGINEER.
 3. DEPTH TO LATERAL & PROPERTY LINE SHALL NOT BE DEEPER THAN NECESSARY TO SERVICE PARCEL.
 4. ALL LATERALS TO BE 4" UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS.
 5. ALL HOUSE LATERAL CONNECTIONS SHALL BE CONSTRUCTED AS PER THIS DETAIL UNLESS OTHERWISE SHOWN ON PLANS, OR WITH WRITTEN APPROVAL OF THE ENGINEER.

TYPICAL LATERAL CONNECTIONS

2.05 SURFACE RESTORATION

- A. Pavement: Follow 34 71 00.
 - 1. Asphalt pavement: Full depth pavement repair matching existing cross section. Follow SWS 2.7.3 Type D, except 3-inch thickness one course.
 - 2. Concrete pavement: Follow SWS 2.7.3 Type B. Do not add calcium chloride.
- B. Lawn: Follow SWS 2.7.4 Type C. Follow 32 90 00.
- C. Curb and gutter: Follow SWS 2.7.3. Do not add calcium chloride. Follow 34 71 00.
- D. Concrete sidewalk: Follow SWS 2.7.3. Follow 34 71 00.
- E. Temporary seeding: Follow 01 57 13.

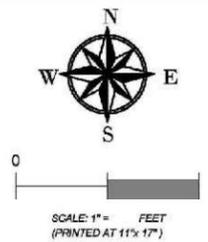
SANITARY SEWER DETAILS

HARTLAND SUBDIVISION

DEVELOPMENT

VILLAGE OF HARTLAND, WAUKESHA COUNTY, WISCONSIN

REVISION SET
09/05/2025



PROJECT NO:	2025-106 (A)
DATE:	06/30/2025
DESIGNED BY:	RJR
DRAWN BY:	OCZ
SHEET:	D 3.1

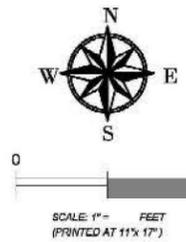
STORM SEWER DETAILS

HARTLAND SUBDIVISION

DEVELOPMENT

VILLAGE OF HARTLAND, WAUKESHA COUNTY, WISCONSIN

REVISION SET
09/05/2025



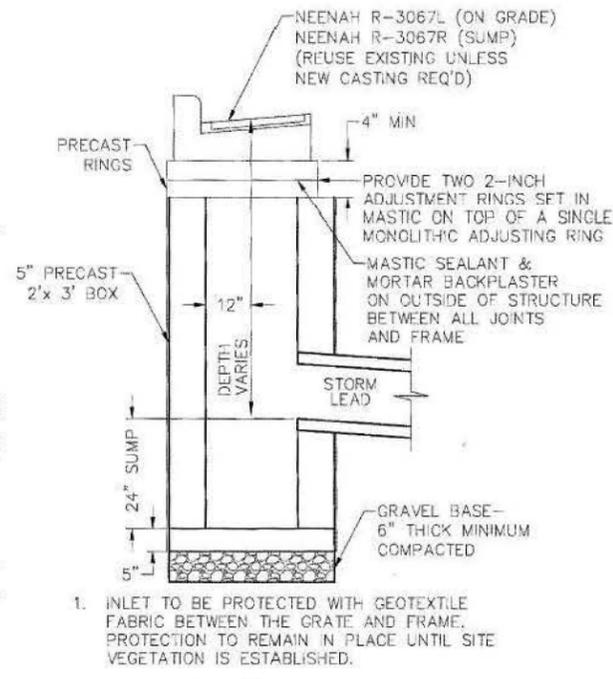
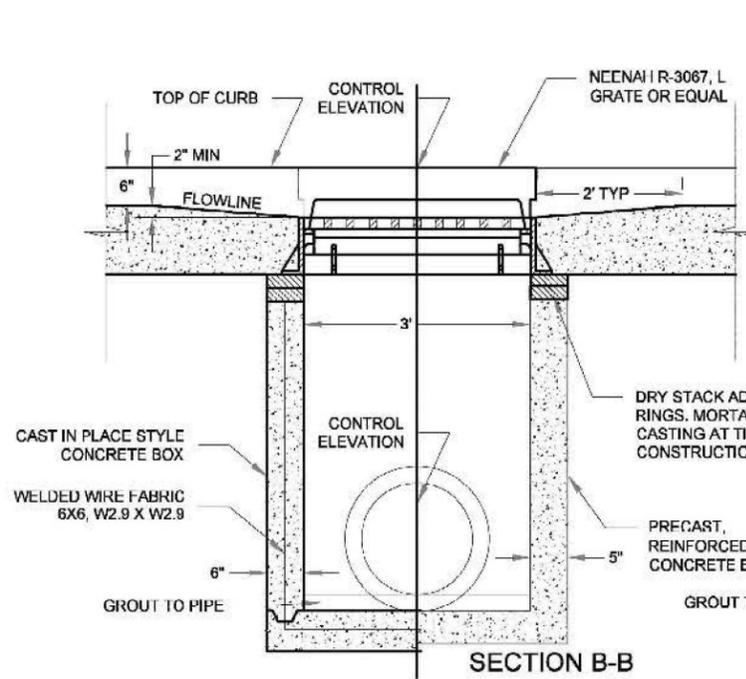
PROJECT NO: 2025-106 (A)

DATE: 06/30/2025

DESIGNED BY: RJR

DRAWN BY: OCZ

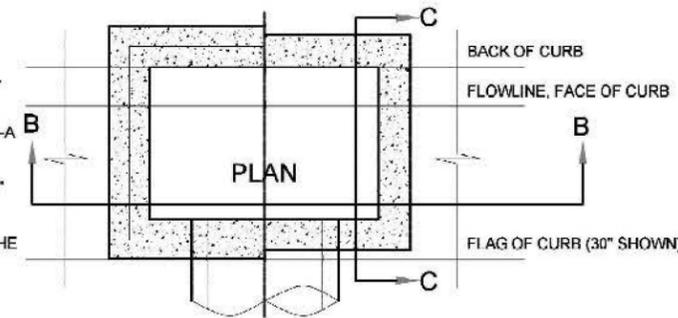
SHEET: D 4.0



CATCH BASIN DETAIL
NO SCALE

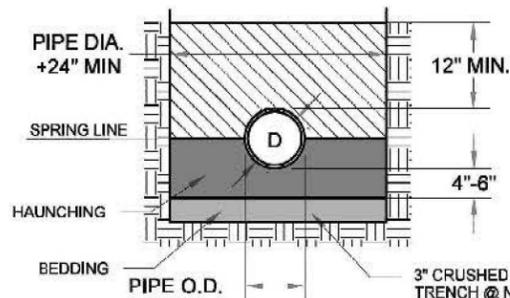
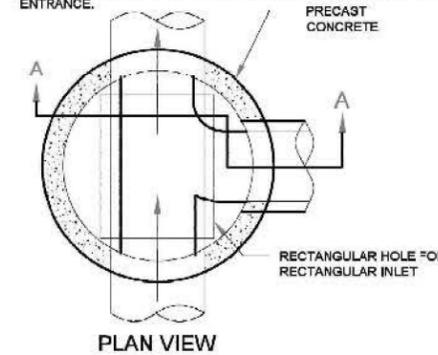
MANHOLE/INLET NOTES:

1. CURB INLET: NEENAH R-3036-L FOR INLETS ON SLOPES, NEENAH R-3067-R FOR INLETS ON SAGS AND NEENAH R-3290-A FOR INLETS IN DRIVEWAY.
2. PROVIDE MANHOLE STEPS, 16" OC. FOR STRUCTURES WHEN DEPTH IS OVER 4". MANHOLE STEPS SHALL CONFORM TO THE SPECIFICATIONS.



MANHOLE/INLET NOTES:

1. CURB INLET: NEENAH R-3036-L FOR INLETS ON SLOPES, NEENAH R-3067-R FOR INLETS ON SAGS AND NEENAH R-3290-A FOR INLETS IN DRIVEWAY. SOLID COVER: NEENAH R-1550-B WITH TYPE B NON-ROCKING LID MARKED "SICRM."
3. WHEN MH CASTING IS USED, AN ECCENTRIC GONE TOP SHALL BE USED IF MH HAS ENOUGH DEPTH.
4. PROVIDE MANHOLE STEPS, 16" OC. FOR STRUCTURES WHEN DEPTH IS OVER 4". MANHOLE STEPS SHALL CONFORM TO THE SPECIFICATIONS. DOWNSTREAM PIPE END SHALL NOT PROTRUDE BEYOND INTERIOR MANHOLE WALL. ADD GROUT AROUND PIPE TO CREATE MITERED ENTRANCE.



BEDDING AND COVER MATERIAL:
CLASS 1A: CRUSHED STONE OR GRAVEL CONFORMING TO FOLLOWING GRADATION:

SIEVE SIZE	%PASSING BY WEIGHT
1"	100
3/4"	90-100
3/8"	20-55
NO. 4	0-10
NO. 6	0-5

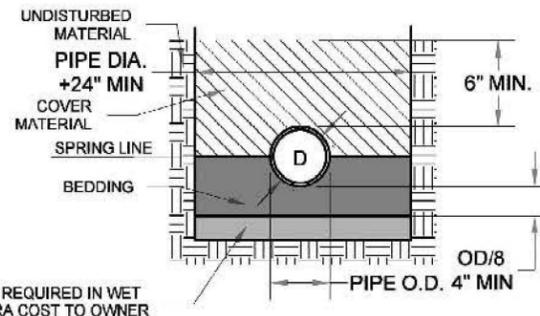
CLASS 1B: CRUSHED STONE OR GRAVEL CONFORMING TO FOLLOWING GRADATION:

SIEVE SIZE	%PASSING BY WEIGHT
1/2"	100
3/8"	85-100
NO. 4	10-30
NO. 8	0-5

INSTALLATION:

PLACE AND COMPACT BEDDING MATERIAL AND COVER IN MAXIMUM 6" LAYERS. WORK MATERIAL IN AND AROUND PIPE BY HAND TO PROVIDE UNIFORM SUPPORT. COMPACT CLASS 1B WITH HAND TAMPER OR VIBRATORY COMPACTOR TO 85% STANDARD PROCTOR.

FLEXIBLE PIPE BEDDING (INC. CMP)



BEDDING AND COVER MATERIAL:
CLASS 1A: CLEAN, ANGULAR, CRUSHED STONE, CRUSHED ROCK, OR CRUSHED GRAVEL CONFORMING TO THE FOLLOWING GRADATION:

SIEVE SIZE	%PASSING BY WEIGHT
1"	100
3/4"	90-100
3/8"	20-55
NO. 4	0-10
NO. 6	0-5

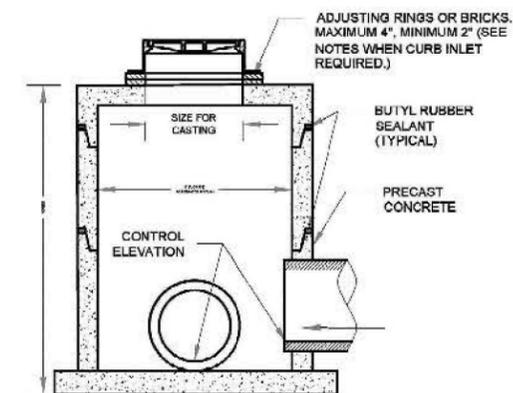
CLASS 1B: CLEAN, ANGULAR CRUSHED STONE, CRUSHED ROCK, OR CRUSHED GRAVEL CONFORMING TO THE FOLLOWING GRADATION:

SIEVE SIZE	%PASSING BY WEIGHT
1/2"	100
3/8"	85-100
NO. 4	10-30
NO. 8	0-5

INSTALLATION:

PLACE 4" OF BEDDING MATERIAL BENEATH PIPE. PLACE BEDDING MATERIAL AROUND THE PIPE TO THE SPRING LINE. WORK THE MATERIAL IN AND AROUND BY HAND TO PROVIDE UNIFORM SUPPORT. PLACE COVER MATERIAL CAREFULLY TO LEVEL 6" ABOVE THE PIPE.

RIGID PIPE BEDDING (RCP)



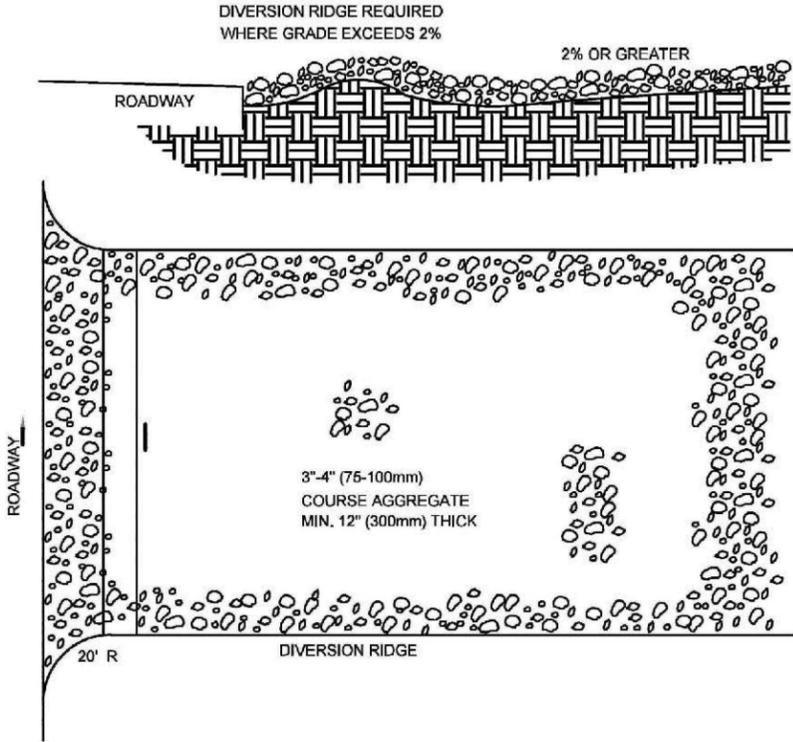
SECTION A - A

STORM SEWER MANHOLE/INLET

EROSION CONTROL NOTES

- KEEP A COPY OF THE CURRENT EROSION CONTROL PLAN ON SITE THROUGHOUT THE DURATION OF THE PROJECT.
- CONTRACTOR IS RESPONSIBLE FOR ROUTINE SITE INSPECTIONS AT LEAST ONCE EVERY 7 DAYS AND WITHIN 24 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR GREATER. KEEP INSPECTION REPORTS ON-SITE AND MAKE THEM AVAILABLE UPON REQUEST.
- INSPECT AND MAINTAIN ALL INSTALLED EROSION CONTROL PRACTICES UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.
- WHEN POSSIBLE: PRESERVE EXISTING VEGETATION (ESPECIALLY ADJACENT TO SURFACE WATERS), MINIMIZE LAND-DISTURBING CONSTRUCTION ACTIVITY ON SLOPES OF 20% OR MORE, MINIMIZE SOIL COMPACTION, AND PRESERVE TOPSOIL.
- INSTALL PERIMETER EROSION CONTROLS AND ROCK TRACKING PAD CONSTRUCTION ENTRANCE(S) PRIOR TO ANY LAND-DISTURBING ACTIVITIES, INCLUDING CLEARING AND GRUBBING. USE WDNR TECHNICAL STANDARD STONE TRACKING PAD AND TIRE WASHING #1057 FOR ROCK CONSTRUCTION ENTRANCE(S).
- INSTALL INLET PROTECTION PRIOR TO LAND-DISTURBING ACTIVITIES IN THE CONTRIBUTING DRAINAGE AREA AND/OR IMMEDIATELY UPON INLET INSTALLATION. COMPLY WITH WDNR TECHNICAL STANDARD STORM DRAIN INLET PROTECTION FOR CONSTRUCTION SITES #1060.
- STAGE CONSTRUCTION GRADING ACTIVITIES TO MINIMIZE THE CUMMULATIVE EXPOSED AREA. CONDUCT TEMPORARY GRADING FOR EROSION CONTROL PER WDNR TECHNICAL STANDARD TEMPORARY GRADING PRACTICES FOR EROSION CONTROL #1067.
- INSTALL AND MAINTAIN SILT FENCING PER WDNR TECHNICAL STANDARD SILT FENCE #1056. REMOVE SEDIMENT FROM BEHIND SILT FENCES AND SEDIMENT BARRIERS BEFORE SEDIMENT REACHES A DEPTH THAT IS EQUAL TO ONE-HALF OF THE FENCE AND/OR BARRIER HEIGHT.
- REPAIR BREAKS AND GAPS IN SILT FENCES AND BARRIERS IMMEDIATELY. REPLACE DECOMPOSING STRAW BALES (TYPICAL BALE LIFE IS 3 MONTHS), LOCATE, INSTALL, AND MAINTAIN STRAW BALES PER WDNR TECHNICAL STANDARD DITCH CHECKS #1062.
- INSTALL AND MAINTAIN FILTER SOCKS IN ACCORDANCE WITH WDNR TECHNICAL STANDARD INTERIM MANUFACTURED PERIMETER CONTROL AND SLOPE INTERRUPTION PRODUCTS # 1071.
- IMMEDIATELY STABILIZE STOCKPILES AND SURROUND STOCKPILES AS NEEDED WITH SILT FENCE OR OTHER PERIMETER CONTROL IF STOCKPILES WILL REMAIN INACTIVE FOR 7 DAYS OR LONGER.
- IMMEDIATELY STABILIZE ALL DISTURBED AREAS THAT WILL REMAIN INACTIVE FOR 14 DAYS OR LONGER. BETWEEN SEPTEMBER 15 AND OCTOBER 15: STABILIZE WITH MULCH, TACKIFIER, AND A PERENNIAL SEED MIXED WITH WINTER WHEAT, ANNUAL OATS, OR ANNUAL RYE, AS APPROPRIATE FOR REGION AND SOIL TYPE. OCTOBER 15 THROUGH COLD WEATHER: STABILIZE WITH A POLYMER AND DORMANT SEED MIX, AS APPROPRIATE FOR REGION AND SOIL TYPE.
- STABILIZE AREAS OF FINAL GRADING WITHIN 7 DAYS OF REACHING FINAL GRADE.
- SWEEP/CLEAN UP ALL SEDIMENT/TRASH THAT MOVES OFF-SITE DUE TO CONSTRUCTION ACTIVITY OR STORM EVENTS BEFORE THE END OF THE SAME WORKDAY OR AS DIRECTED BY ENGINEER. SEPARATE SWEEP MATERIALS (SOILS AND TRASH) AND DISPOSE OF APPROPRIATELY.
- CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST PER WDNR TECHNICAL STANDARD DUST CONTROL ON CONSTRUCTION SITES # 1068.
- PROPERLY DISPOSE OF ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, OR OTHER CONSTRUCTION MATERIALS) AND DO NOT ALLOW THESE MATERIALS TO BE CARRIED BY RUNOFF INTO THE RECEIVING CHANNEL.
- FOR NON-CHANNELIZED FLOW ON DISTURBED OR CONSTRUCTED SLOPES, PROVIDE CLASS [SPECIFY CLASS I, II, OR III] TYPE [SPECIFY TYPE A, B, OR C] EROSION CONTROL MATTING. SELECT EROSION MATTING FROM APPROPRIATE MATRIX IN WDOT'S WIDOT PRODUCT ACCEPTABILITY LIST (PAL); INSTALL AND MAINTAIN PER WDNR TECHNICAL STANDARD NON-CHANNEL EROSION MAT #1052.
- FOR CHANNELIZED FLOW ON DISTURBED OR CONSTRUCTED AREAS, PROVIDE EROSION CONTROL MATTING AS DIRECTED BY ENGINEER. SELECT EROSION MATTING FROM APPROPRIATE MATRIX IN WDOT'S WIDOT PRODUCT ACCEPTABILITY LIST (PAL); INSTALL AND MAINTAIN PER WDNR TECHNICAL STANDARD CHANNEL EROSION MAT #1053.
- MAKE PROVISIONS FOR WATERING DURING THE FIRST 8 WEEKS FOLLOWING SEEDING OR PLANTING OF DISTURBED AREAS WHENEVER MORE THAN 7 CONSECUTIVE DAYS OF DRY WEATHER OCCUR.
- INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES (SUCH AS TEMPORARY SEDIMENT BASINS, DITCH CHECKS, EROSION CONTROL MATTING, SILT FENCING, FILTER SOCKS, WATTLES, SWALES, ETC.), OR AS DIRECTED BY ENGINEER.
- NOTIFY ENGINEER IF THERE IS A DISCHARGE OF SEDIMENT AND/OR OTHER CONTAMINANTS. A SPILL PLAN IS REQUIRED IF THERE IS POTENTIAL TO DISCHARGE CONTAMINANTS TO WATERS OF THE STATE.

Task Description	Duration (weeks)	Timeline	Erosion Control Measures
Mobilization & Control Installation	1	9/8/25 - 9/15/25	- Install perimeter silt fence/log barriers - Construct stabilized stone entrance - Protect inlets with filters/baskets - Install temporary diversions/check dams
Rough Grading & Basin Excavation	3	9/15/25 - 9/29/25	- Stockpile management with silt fence/tarps - Phase grading to limit disturbed area - Use basin excavation spoil as temporary sediment trap
Storm Sewer & Utility Installation	4	9/22/25 - 10/13/25	- Inlet protection on each pipe connection - Maintain diversion swales around work - Inspect and repair controls weekly
Fine Grading of Lots, Roads & Swales	4	10/6/25 - 10/27/25	- Temporary seeding/mulch within 14 days on inactive plots - Check dams in long swales - Monitor stockpiles and repair silt fence
Biofiltered Forebay & Infiltration Basin Construction	2	10/20/25 - 10/27/25	- Install engineered soil media and underdrain - Construct overflow weirs with riprap aprons - Maintain forebay access for sediment removal
Temporary Stabilization & Interim Seeding	2	11/3/25 - 11/10/25	- Straw mulch or erosion control mat on slopes - Temporary seed stockpiles if idle >7 days - Weekly inspection and repair
Final Grading, Permanent Seeding & Demobilization	2	11/17/25 - 11/24/25	- Final seed and mulch all disturbed areas (Std 1058/1059) - Remove temporary controls as vegetation establishes - Leave construction entrance until site clean
Ongoing	12	9/8/25 - 11/24/25	- Weekly and post-storm (≥0.5") inspections - Maintain logs per NR 216 NOI requirements - Immediate repair of failed controls



- NOTES:
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT ANY MEASURES USED TO TRAP SEDIMENT.
 - WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
 - WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
 - IF TRACKING PAD IS FILLED WITH SEDIMENT REMOVE AND REPLACE COURSE AGGREGATE.

ROCK CONSTRUCTION ENTRANCE



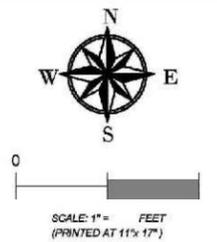
EROSION CONTROL DETAILS

HARTLAND SUBDIVISION

DEVELOPMENT

VILLAGE OF HARTLAND, WAUKESHA COUNTY, WISCONSIN

REVISION SET
09/05/2025



PROJECT NO:	2025-106 (A)
DATE:	06/30/2025
DESIGNED BY:	RJR
DRAWN BY:	OCZ
SHEET:	D 5.0

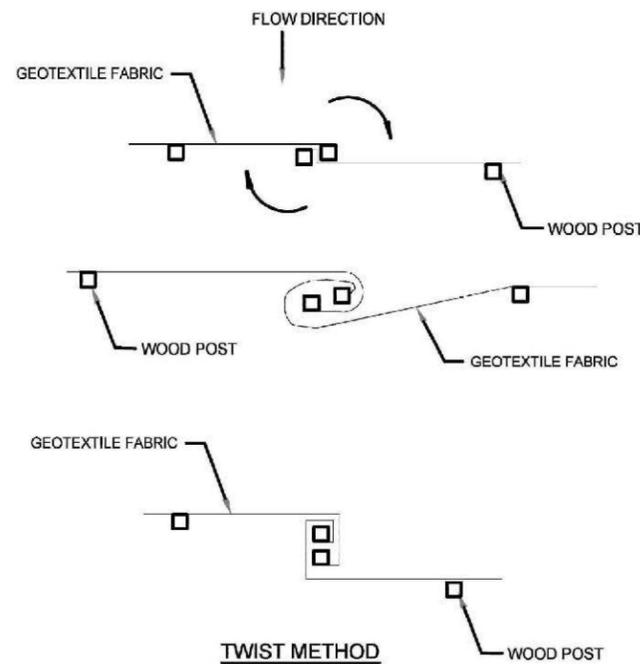
WISCONSIN'S ONE-CALL CENTER 811 OR (800) 242-8511
Per Wisconsin Statute 182.0175, contact Digger's Hotline for a utility locate a minimum of three business days prior to beginning excavation

GENERAL NOTES

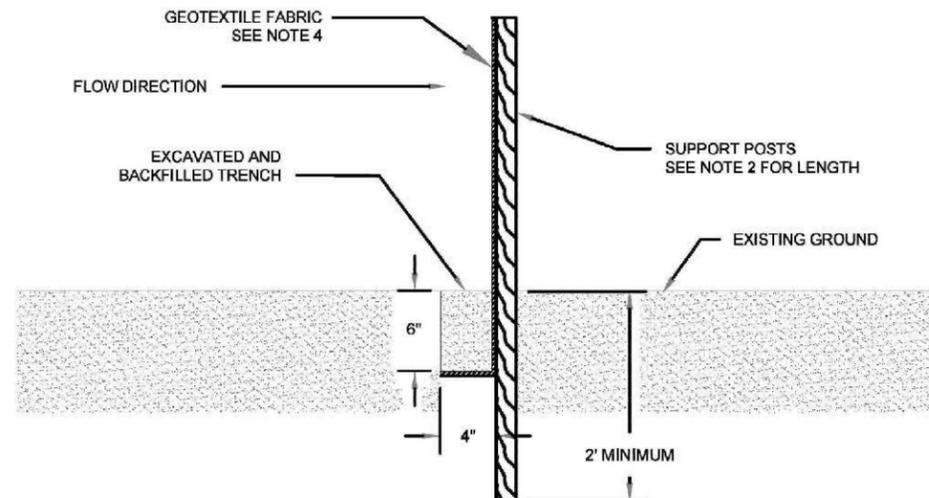
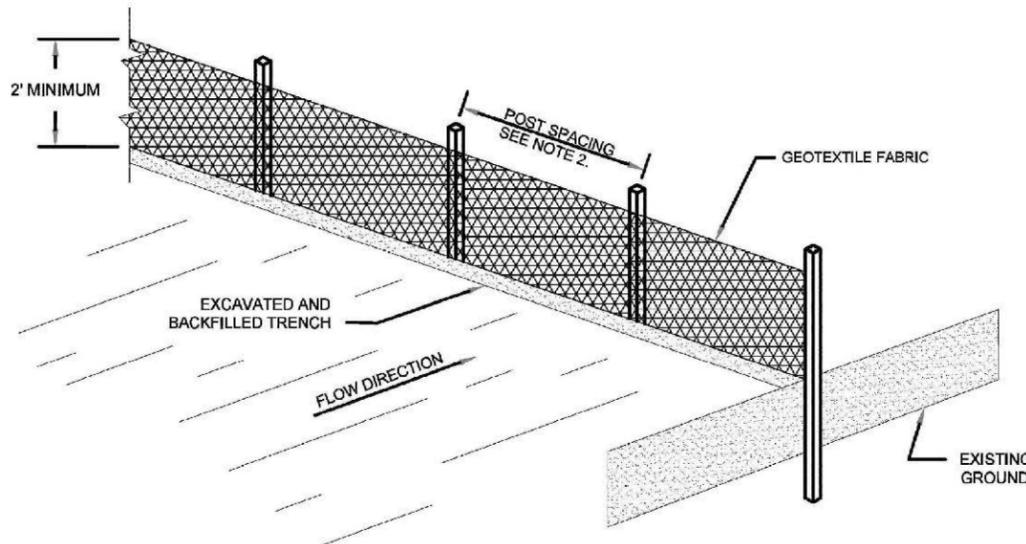
TEST REQUIREMENT	METHOD	VALUE *
MINIMUM GRAB TENSILE STRENGTH IN THE MACHINE DIRECTION	ASTM D 4632	120 LBS.
MINIMUM GRAB TENSILE STRENGTH IN THE CROSS MACHINE DIRECTION	ASTM D 4632	100 LBS.
MAXIMUM APPARENT OPENING SIZE EQUIVALENT STANDARD SIEVE	ASTM D 4751	NO. 30
MINIMUM PERMITTIVITY	ASTM D 4491	0.05 SEC ⁻¹
MAXIMUM PERMITTIVITY	ASTM D 4491	0.135 SEC ⁻¹ OR 10 gpm/sq ft at 50 mm constant head.
MINIMUM ULTRAVIOLET STABILITY PERCENTAGE OF STRENGTH RETAINED AFTER 500 HOURS OF EXPOSURE	ASTM D 4355	70%

* ALL NUMERICAL VALUES REPRESENT MINIMUM/MAXIMUM AVERAGE ROLL VALUES. (FOR EXAMPLE, THE AVERAGE OF MINIMUM TEST RESULTS ON ANY ROLL IN A LOT SHOULD MEET OR EXCEED THE MINIMUM SPECIFIED VALUES.)

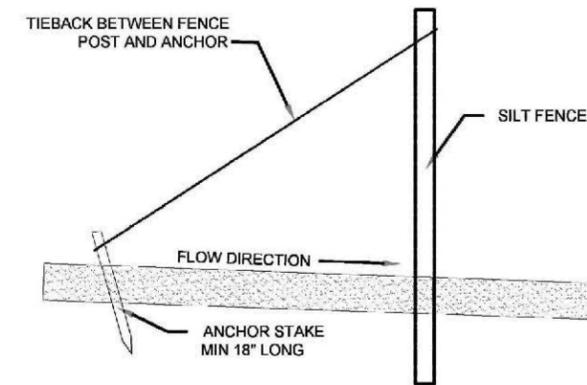
1. THE GEOTEXTILE FABRIC SHALL BE PLACED IN THE EXCAVATED TRENCH, BACKFILLED, AND COMPACTED TO THE EXISTING GROUND SURFACE.
2. WOODEN SUPPORT POSTS SHALL BE A MINIMUM DIMENSION OF 1-1/8" x 1-1/8" AIR OR KILN DRIED OF HICKORY OR OAK AND 4 FEET LONG. STEEL POSTS SHALL BE STUDDED "TEE" OR "U" TYPE WITH A MINIMUM WEIGHT OF 1.3 POUNDS PER LINEAL FOOT AND 5 FEET LONG. POST SPACING SHALL BE A MAXIMUM OF 8 FEET FOR WOVEN FABRIC AND 3 FEET FOR NON-WOVEN FABRIC.
3. THE GEOTEXTILE FABRIC SHALL BE ATTACHED DIRECTLY TO THE UPSLOPE SIDE OF WOODEN POSTS WITH 0.5 INCH STAPLES IN AT LEAST 3 PLACES, OR WITH WOODEN LATH AND NAILS. ATTACHMENT TO STEEL POSTS WILL BE BY WIRE FASTENERS OR 50 POUND PLASTIC TIE STRAPS ON THE UPSLOPE SIDE.
4. THE GEOTEXTILE FABRIC SHALL CONSIST OF EITHER WOVEN OR NON-WOVEN POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE, OR POLYVINYLIDENE CHLORIDE. NON-WOVEN FABRIC MAY BE NEEDLE PUNCHED, HEAT BONDED, RESIN BONDED, OR COMBINATIONS THEREOF. ALL FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS:



JOINING TWO LENGTHS OF SILT FENCE



SILT FENCE TYPICAL INSTALLATION



SILT FENCE TIE BACK (WHEN ADDITIONAL SUPPORT REQUIRED)

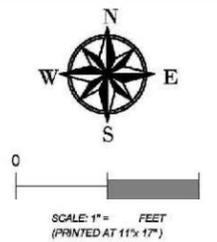
EROSION CONTROL DETAILS

HARTLAND SUBDIVISION

DEVELOPMENT

VILLAGE OF HARTLAND, WAUKESHA COUNTY, WISCONSIN

REVISION SET
09/05/2025



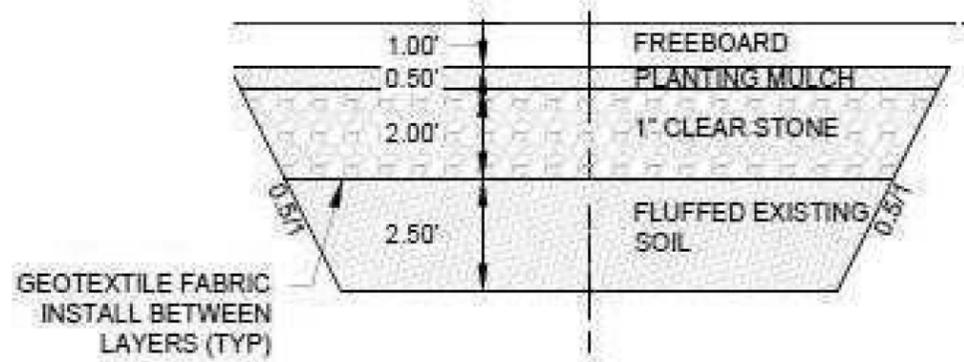
PROJECT NO: 2025-106 (A)

DATE: 06/30/2025

DESIGNED BY: RJR

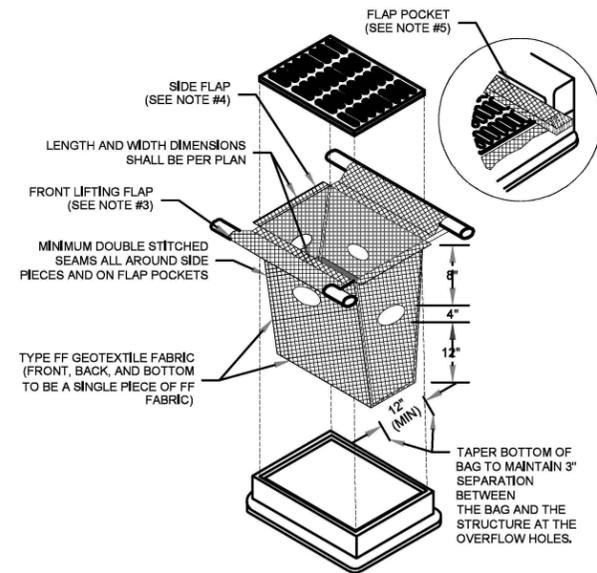
DRAWN BY: OCZ

SHEET: D 5.1



BIOFILTERED FOREBAY CROSS SECTION

ENDWALL SIZE	BAR DIAMETER	ANCHOR DIAMETER	H HEIGHT
12"	3/4"	3/4"	2 1/2"
15"	3/4"	3/4"	3"
18"	3/4"	3/4"	4"
21"	3/4"	3/4"	4"
24"	3/4"	3/4"	4"
27"	1"	3/4"	5"
30"	1"	3/4"	5"
36"	1"	3/4"	5"
42"	1"	3/4"	6"
48"	1"	3/4"	6"
54"	1 1/4"	3/4"	6"
60"	1 1/4"	3/4"	7"
66"	1 1/4"	3/4"	7"
72"	1 1/4"	3/4"	7"
84"	1 1/4"	3/4"	8"



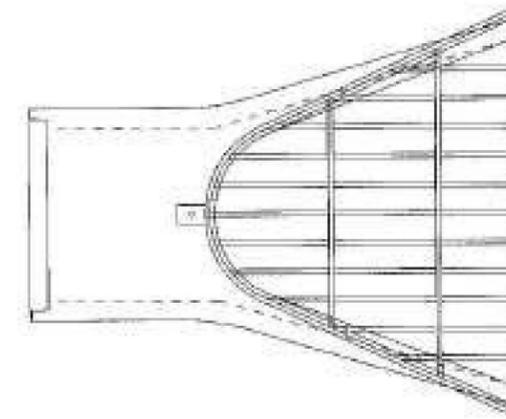
INLET PROTECTION TYPE D CAN BE INSTALLED IN INLETS WITH OR WITHOUT CURB BOXES

MAINTENANCE NOTES:

1. WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED IN THE FABRIC DOES NOT FALL INTO THE STRUCTURE. MATERIAL THAT HAS FALLEN INTO THE INLET SHALL BE IMMEDIATELY REMOVED.

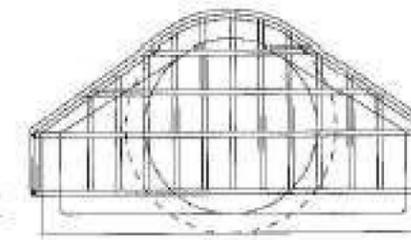
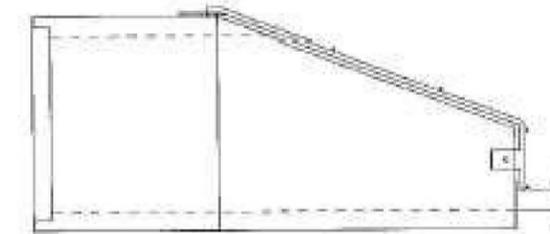
NOTES:

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



* 6" SPACING MAX.

* HINGED CONNECTOR PLATE w/ ANCHOR ATTACHED AT THREE POINTS TO ENDWALL



- NOTES:
1. TRASH RACK BARS TO BE GALVANIZED.
 2. CONNECTOR PLATE WITH BOLD ATTACHED AT THREE POINTS TO ENDWALL.

TRASH RACK NO SCALE
STO-GRATE-04 96

EROSION CONTROL DETAILS

HARTLAND SUBDIVISION

DEVELOPMENT

VILLAGE OF HARTLAND, WAUKESHA COUNTY, WISCONSIN

REVISION SET
09/05/2025



SCALE: 1" = FEET
(PRINTED AT 11" X 17")

PROJECT NO: 2025-106 (A)

DATE: 06/30/2025

DESIGNED BY: RJR

DRAWN BY: OCZ

SHEET: D 5.2