

PV SYSTEM DETAILS

ARRAY TYPE:	FIXED TILT
DC SYSTEM SIZE:	2.58542 MW DC
DC SYSTEM VOLTAGE:	1000 V
AC SYSTEM SIZE:	2.25 MVA @PF=1
MODULES	(3,554) TRINA TSM-DE15H(II) 400W
INVERTERS:	SOLAREEDGE, (22) SE100KUS, (1) SE40KUS, (1) SE10KUS
OPTIMIZERS:	(1,777) SOLAREEDGE, P960, 2:1
RACKING:	DCE
CLAMPS:	N/A
AZIMUTH:	180°
ARRAY PITCH:	25°
ARRAY TILT TRINA:	27'-8" CENTER SPACING (TRINA 400W)
ARRAY TILT HELIENE:	31'-2" CENTER SPACING (HELIENE 595W)
DC/AC RATIO:	1.149

WATERTOWN HOPS
1224 AMERICAN WAY,
WATERTOWN, WI 53094
(43.176897, -88.761446)

INSPECTION ITEMS

CONTRACTOR SHALL STRICTLY ADHERE TO THE FOLLOWING CODE STANDARDS UNLESS OTHERWISE NOTED WITHIN THE DRAWING; NEC. 2017, IBC. 2015, IFC. 2015 AND APPLICABLE LOCAL CODES.

PROGRESS INSPECTIONS:

ROUGH ELECTRIC:	☐	REQUIRED	☐	NOT REQUIRED
ROUGH BUILDING:	☐	REQUIRED	☐	NOT REQUIRED

FINAL INSPECTIONS:

ELECTRIC:	☐	REQUIRED	☐	NOT REQUIRED
BUILDING:	☐	REQUIRED	☐	NOT REQUIRED
OTHER:	☐	REQUIRED	☐	NOT REQUIRED

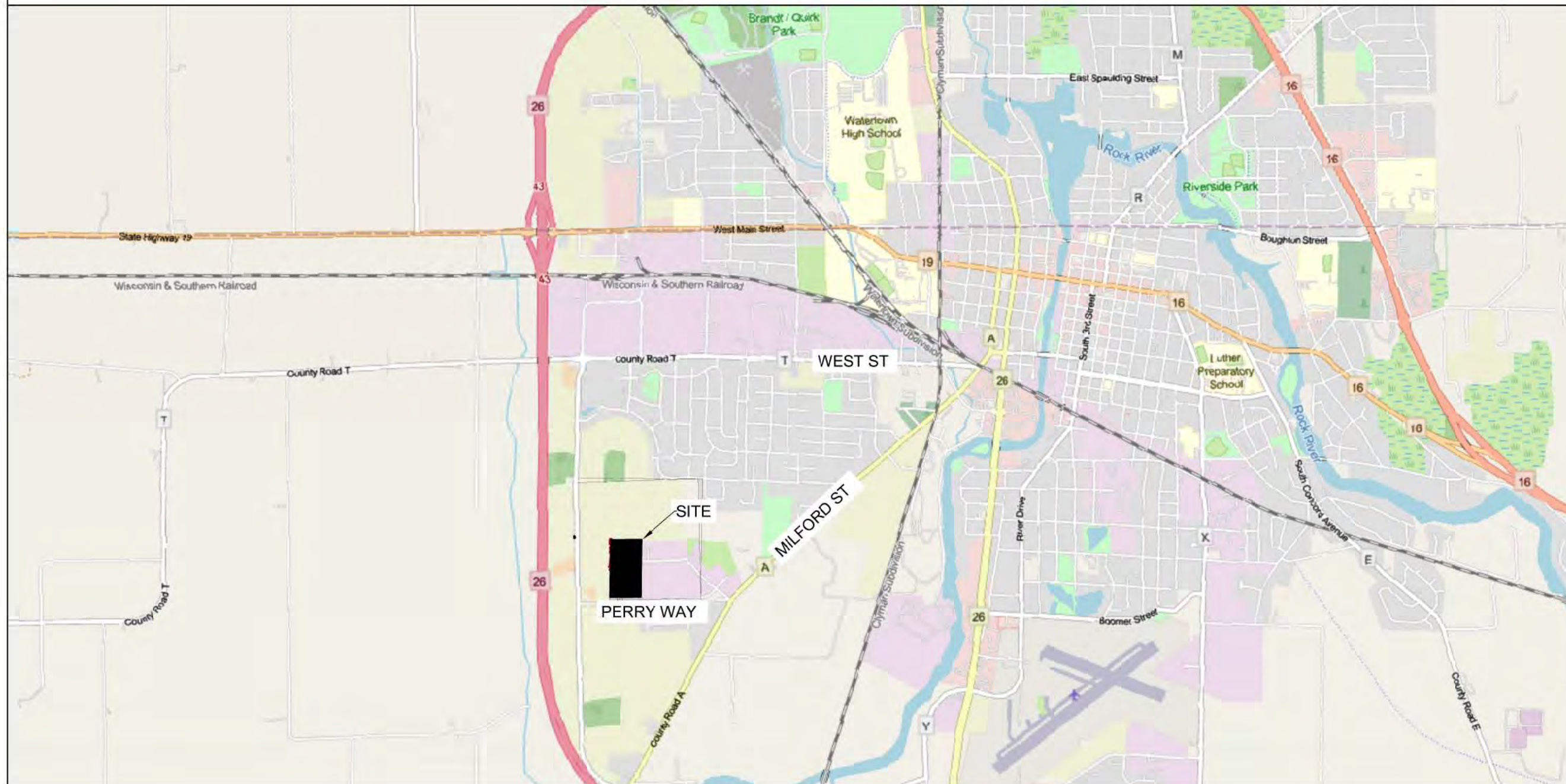
CONTRACTOR SHALL BE KNOWLEDGEABLE OF ANY LOCAL AHJ INSPECTIONS REQUIRED NOT LISTED.



N27 W24025 PAUL CT. SUITE 100
PEWAUKEE, WI 53072
PHONE: (262)-547-1200
WWW.SUNVEST.COM

CIVIL ENGINEER STAMP:

LOCATION MAP



NOTES

1. THE APPLICANT PROPOSES TO INSTALL PV MODULES AND WEATHER PROOF EQUIPMENT FOR AN UNMANNED FACILITY.
2. EQUIPMENT IS UNMANNED AND NOT FOR HUMAN HABITATION, HANDICAP ACCESS IS THEREFORE NOT REQUIRED.
3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. NON-CONFORMING CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
4. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER AND DEVELOPER FOR REMEDIAL OR CORRECTIVE ACTION.
5. DEVELOPMENT AND USE OF THE SITE WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.

DISCLAIMER

IT IS A VIOLATION OF THE LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER TO ALTER THIS DOCUMENT. UNLESS EXPLICITLY AGREED TO BY THE ENGINEER IN WRITING, THE ENGINEER DISCLAIMS ALL LIABILITY ASSOCIATED WITH THE REUSE, ALTERATION OR MODIFICATION OF THE CONTENTS HEREIN.

SITE INFORMATION

PROPERTY OWNER: WATERTOWN HOPS

POWER COMPANY: WE ENERGIES

PROJECT MANAGER: TBD

PHONE:

FENCE LINEAR FEET: 3,855' LF

APPROXIMATE SITE ACREAGE: 10.27 ACRES

GEOLOCATION COORDINATES: TBD

COORDINATE SYSTEM: TBD

AERIAL MAP



DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE DEVELOPER OR ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

DWG
NO:

DRAWING INDEX

SHEET TITLE

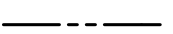
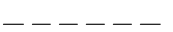
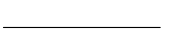
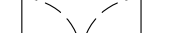
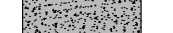
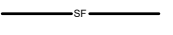
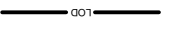
C-1.00	TITLE SHEET
C-1.01	GENERAL NOTES AND SYMBOLS
C-2.00	GENERAL NOTES
C-3.00	EROSION CONTROL PLAN
C-4.00	CIVIL SITE & GRADING PLAN
C-5.00	CIVIL DETAILS
C-5.01	EROSION CONTROL DETAILS

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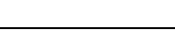
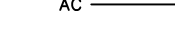
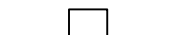
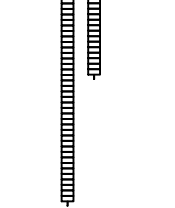
WATERTOWN HOPS
SHEET TITLE
TITLE SHEET
DWG. NO.

DWG. NO. **C-1.00**

CIVIL LEGEND:

	PARCEL BOUNDARY
	PARCEL SETBACKS
	ARRAY FENCE
	WETLANDS
	WETLAND SETBACK
	FEMA 100-YR FLOOD ZONE
	FLOODPLAIN SETBACK
	BUILDING
	BUILDING SETBACK
	DRAIN TILE
	ACCESS ROAD
	ACCESS GATE
	CONCRETE EQUIPMENT PAD
	DEMOLITION AREA
	COMPOST FILTER SOCK
	SILT FENCE
	LIMIT OF DISTURBANCE (LOD)
	SEEDING

ELECTRICAL LEGEND:

	LV CONNECTION/TERMINATION
	MV LIVE-FRONT BUSHING/TERMINATION
	MV DEAD-FRONT BUSHING/ TERMINATION
	MEDIUM VOLTAGE- UNDERGROUND
	EXISTING OVERHEAD CONDUCTORS
	DC CONDUCTORS- ABOVE GROUND
	AC CONDUCTORS ABOVE GROUND
	DC CONDUCTORS- UNDERGROUND
	AC CONDUCTORS- UNDERGROUND
	COMMUNICATION
	INVERTER STRINGING (11 STRINGS)
	INVERTER STRINGING (12 STRINGS)
	INVERTER STRINGING (13 STRINGS)
	DC TRENCHING
	AC TRENCHING
	POWER UNDERGROUND
	POWER OVERHEAD
	MODULE
	TORQUE TUBE
	UTILITY/CUSTOMER POLES
	INVERTER RACK
	MAIN SWITCHBOARD
	TRANSFORMER
	TRACKER MOTOR
	DC COMBINER BOX
	AUXILLARY TRANSFORMER
	(2/3/4 STRING) MODULE TRACKER

ELECTRICAL GENERAL NOTES/REQUIREMENTS:

- SEE ELECTRICAL DRAWINGS.

CIVIL NOTES/REQUIREMENTS:

CIVIL GENERAL NOTES

- CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL ZONING, PERMITTING, AND ENVIRONMENTAL REGULATIONS.
- CONTRACTOR SHALL UTILIZE ALTA SURVEY BENCHMARKS TO VERIFY SITE BOUNDARIES AND SETBACK REQUIREMENTS PRIOR TO ANY CONSTRUCTION ACTIVITY.
- CONTRACTOR SHALL VERIFY EXISTING SITE CONDITIONS AND NOTIFY SUNVEST IMMEDIATELY OF ANY DISCREPANCIES BEFORE PROCEEDING.
- CONTRACTOR SHALL MAINTAIN UP-TO-DATE COPIES OF ALL PERMITS AND APPROVALS ON-SITE AND MAKE THEM AVAILABLE FOR INSPECTION UPON REQUEST.
- ALL SUBCONTRACTORS SHALL BE BOUND TO THE SAME STANDARD AND REQUIREMENTS HEREIN.
- A PRECONSTRUCTION MEETING SHALL BE SCHEDULED BY THE CONTRACTOR WITH ALL STAKEHOLDERS TO REVIEW ACCESS, SCOPE LIMITS, SAFETY, AND SEQUENCING.
- CONTRACTOR SHALL MAINTAIN A DAILY LOG OF SITE ACTIVITIES, WEATHER CONDITIONS, AND NOTABLE INCIDENTS.

SITE PREPARATION

- CONTRACTOR SHALL PERFORM GRADING AS REQUIRED TO MAINTAIN PROPER SITE DRAINAGE.
- CONTRACTOR SHALL FOLLOW ALL GEOTECHNICAL ENGINEER RECOMMENDATIONS FOR COMPACTION, GRADING, STABILIZATION, MATERIAL SELECTION, ETC.
- CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES, INCLUDING SILT FENCING AND SEDIMENT TRAPS, PER STORMWATER MANAGEMENT REQUIREMENTS.
- CONTRACTOR SHALL CONSTRUCT ACCESS ROADS IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS. FINAL ROAD CONSTRUCTION SHALL MEET PROJECT SPECIFICATIONS.
- CONTRACTOR SHALL CLEAR VEGETATION ONLY WITHIN DESIGNATED WORK LIMITS AND ADHERE TO ALL PERMIT CONDITIONS REGARDING TREE REMOVAL.
- CONTRACTOR SHALL STOCKPILE AND PROTECT TOPSOIL FOR USE IN FINAL SITE RESTORATION, UNLESS OTHERWISE DIRECTED BY CIVIL ENGINEER OF RECORD.
- CONTRACTOR SHALL IMPLIMENT DUST CONTROL MEASURES AS REQUIRED TO MINIMIZE AIRBORNE PARTICULATES.
- ANY IMPORTED FILL SHALL MEET PROJECT SPECIFICATIONS & BE APPROVED BY CIVIL ENGINEER OF RECORD.

FOUNDATION & STRUCTURAL

- CONTRACTOR SHALL INSTALL DRIVEN OR HELICAL PILES IN COMPLIANCE WITH ASTM D1143 AND D3966 LOAD TESTING REQUIREMENTS.
- CONTRACTOR SHALL DESIGN AND IMPLEMENT SETTLEMENT MITIGATION STRATEGIES TO ACCOMMODATE LONG-TERM SUBSIDENCE.
- CONTRACTOR SHALL APPLY FROST HEAVE PREVENTION MEASURES AS REQUIRED FOR FROST-PRONE SOILS.
- CONTRACTOR SHALL ENSURE PILE DRIVING EQUIPMENT AND PROCEDURES MINIMIZE VIBRATION AND NOISE IN ACCORDANCE WITH AHJS.
- CONTRACTOR SHALL RECORD PILE REFUSAL DEPTHS AND SUBMIT A PILE LOG SUMMARY FOR REVIEW.
- ALL STRUCTURAL ELEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER TOLERANCES AND STAMPED DESIGN DRAWINGS.
- WHERE BEDROCK OR OBSTRUCTION IS ENCOUNTERED, CONTRACTOR SHALL PROPOSE ALTERNATE FOUNDATION SOLUTIONS AND OBTAIN WRITTEN APPROVAL BEFORE PROCEEDING.

STORMWATER MANAGEMENT

- CONTRACTOR SHALL ADHERE TO LOCAL DETENTION/RETENTION/SEDIMENT POND SIZING REGULATIONS AND CONFIRM COMPLIANCE WITH MUNICIPAL STORMWATER ORDINANCES.
- CONTRACTOR SHALL INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL DEVICES WEEKLY AND AFTER SIGNIFICANT RAINFALL (AS DETERMINED BY AHJ).
- DEWATERING SHALL COMPLY WITH NPDES PERMIT CONDITIONS AND AVOID SEDIMENT-LADEN RUNOFF.
- STORMWATER BMPs SHALL REMAIN IN PLACE AND FUNCTIONAL UNTIL FINAL SITE STABILIZATION IS ACHIEVED AND APPROVED.
- CONTRACTOR SHALL ENSURE CULVERTS AND DRAINAGE CHANNELS ARE PROPERLY SIZED AND INSTALLED PER APPROVED PLANS.
- CONTRACTOR SHALL INSTALL TEMPORARY STORMWATER BEST MANAGEMENT PRACTICES, INCLUDING BUT NOT LIMITED TO: CHECK DAMS, SWALES, SILT FENCE, COMPOST FILTER SOCK, & OTHER BMP'S AS REQUIRED BY AHJ & AS DEEMED NECESSARY DURING CONSTRUCTION.

UTILITY COORDINATION

- CONTRACTOR SHALL COORDINATE TRENCHING AND CONDUIT INSTALLATION WITH ELECTRICAL SUBCONTRACTORS TO ENSURE COMPLIANCE WITH INTERCONNECTION REQUIREMENTS.
- CONTRACTOR SHALL SCHEDULE UTILITY LOCATES (811 OR STATE EQUIVALENT) A MINIMUM OF 72-HOURS PRIOR TO EXCAVATION.
- ALL UNDERGROUND CONDUIT AND WIRING SHALL BE INSTALLED WITH DETECTABLE WARNING TAPE AND TRACER WIRE UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL VERIFY DEPTH, SEPARATION, AND LAYOUT OF ELECTRICAL TRENCHES PER ELECTRICAL DESIGN DRAWINGS.
- CONTRACTOR SHALL LOCATE AND MARK ALL EXISTING UNDERGROUND UTILITIES BEFORE COMMENCING EXCAVATION ACTIVITIES.

ENVIRONMENTAL & PERMITTING

- CONTRACTOR SHALL FOLLOW ALL ENVIRONMENTAL IMPACT ASSESSMENTS AND MAINTAIN REQUIRED SETBACKS FOR WILDLIFE PROTECTION AND WETLAND AREAS.
- CONTRACTOR SHALL PROVIDE TRAINING TO ALL WORKERS ON APPLIVABLE ENVIRONMENTAL AND PERMITTING CONSTRAINTS PRIOR TO SITE ENTRY.
- ALL SPILLS OR RELEASES SHALL BE IMMEDIATELY CONTAINED AND REPORTED TO SUNVEST AND APPROPRIATE REGULATORY AGENCIES AS REQUIRED.
- CONTRACTOR SHALL IMMEDIATELY HALT WORK AND NOTIFY SUNVEST IF ANY HISTORICAL OR ARCHEOLOGICAL ARTIFACTS ARE ENCOUNTERED.
- NOISE, LIGHT, AND OTHER TEMORARY CONSRUCTION IMPACTS SHALL BE MINIMIZED TO MEET LOCAL ENVIRONMENTAL AND COMMUNITY STANDARDS.



N27 W24025 PAUL CT. SUITE 100
PEWAUKEE, WI 53072
PHONE: (262)–547–1200
WWW.SUNVEST.COM

CIVIL ENGINEER STAMP:

ISSUANCE:

**PRELIMINARY CIVIL
PLANS**

LICENSED ELECTRICAL ENGINEER certifies that they prepared all the electrical "E" sheets in this drawing set. LICENSED STRUCTURAL ENGINEER certifies that they prepared all of the structural "S" sheets in this drawing set. LICENSED CIVIL ENGINEER certifies that they prepared all of the civil "C" sheets in this drawing set. It should be noted that any plan sheets not identified above have been prepared and certified by others and have been included herein for informational purposes only.

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DRAWN BY:	CHECKED BY:
SCALE: AS NOTED	JOB NO:

**WATERTOWN
HOPS**

SHEET TITLE
GENERAL NOTES
AND SYMBOLS

DWG. NO.

C-1.01

ESC LEGEND

PROPERTY BOUNDARY

SETBACKS

ROW LINE

EASEMENT LINE
(SEE PLAN FOR TYPE)

SETBACK LINE

(E) CONTOUR (2-FOOT)

(E) TREE LINE

(E) FENCE LINE

(E) OVERHEAD POWER LINE

(P) LIMIT OF DISTURBANCE (LOD)

(P) DEMO AREA

DEMO NOTES

1 (P) TREE CLEARING. CONTRACTOR SHALL CLEAR, REMOVE, AND DISPOSE OF ALL TREES, BRUSH, SAPLINGS, FALLEN TIMBER, STUMPS, AND VEGETATIVE DEBRIS WITHIN THE DESIGNATED WORK LIMITS SHOWN ON THE PROJECT PLANS. WORK INCLUDES CUTTING, GRUBBING, STUMP REMOVAL, ROOT RAKING, AND DISPOSAL OF ALL ORGANIC MATERIAL. ALL VEGETATION SHALL BE CUT FLUSH TO THE GROUND UNLESS OTHERWISE SPECIFIED. STUMPS AND MAJOR ROOTS SHALL BE REMOVED TO A MINIMUM DEPTH OF 6-12 INCHES BELOW FINISHED GRADE, OR AS REQUIRED TO ALLOW CONSTRUCTION ACTIVITIES SUCH AS GRADING, TRENCHING, AND PILE INSTALLATION.

ALL TREE CLEARING TO OCCUR BETWEEN NOVEMBER 1ST AND MARCH 31ST.





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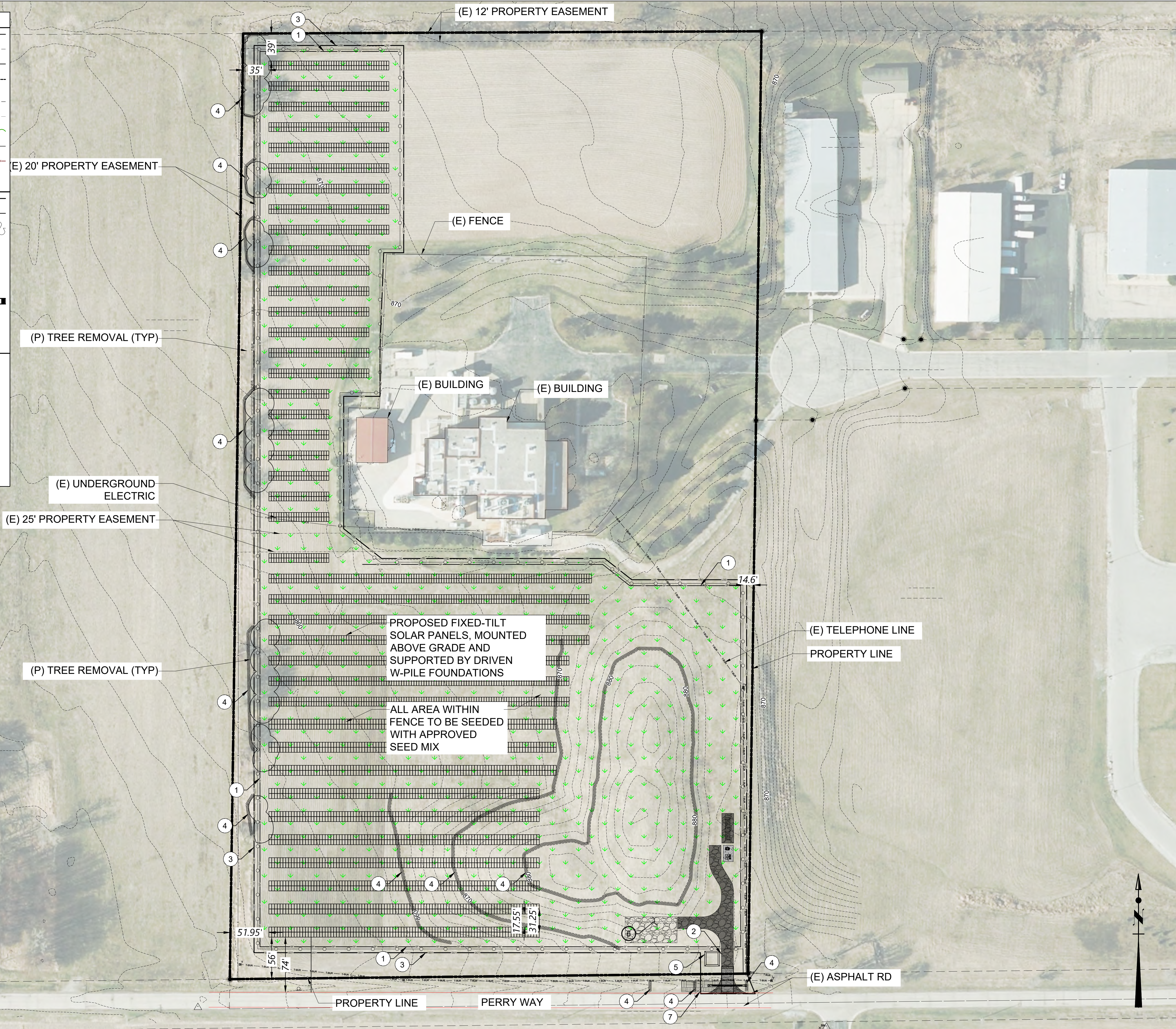
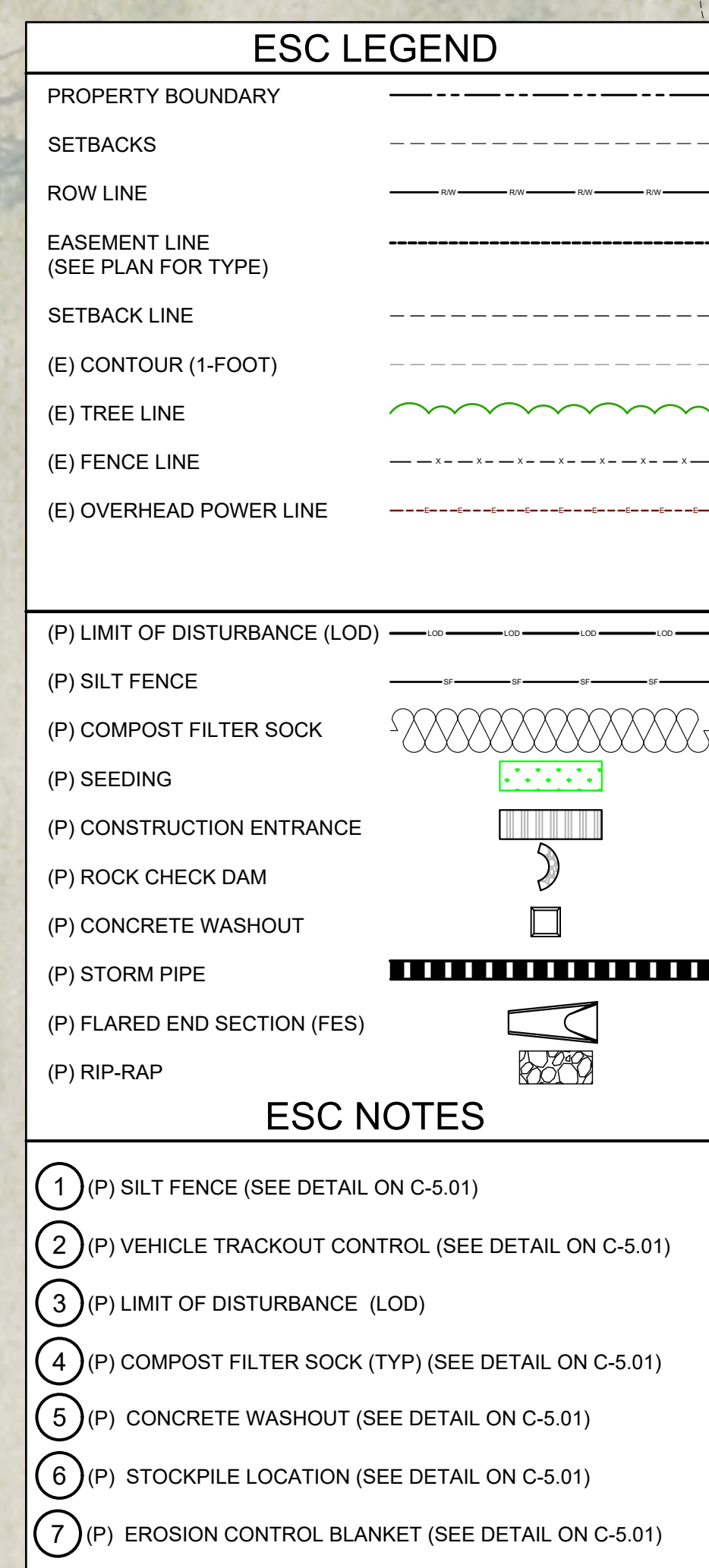
WATERTOWN HOPS

SHEET TITLE

EXISTING CONDITIONS & DEMO PLAN

DWG. NO.

C-2.00



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1" = 60'

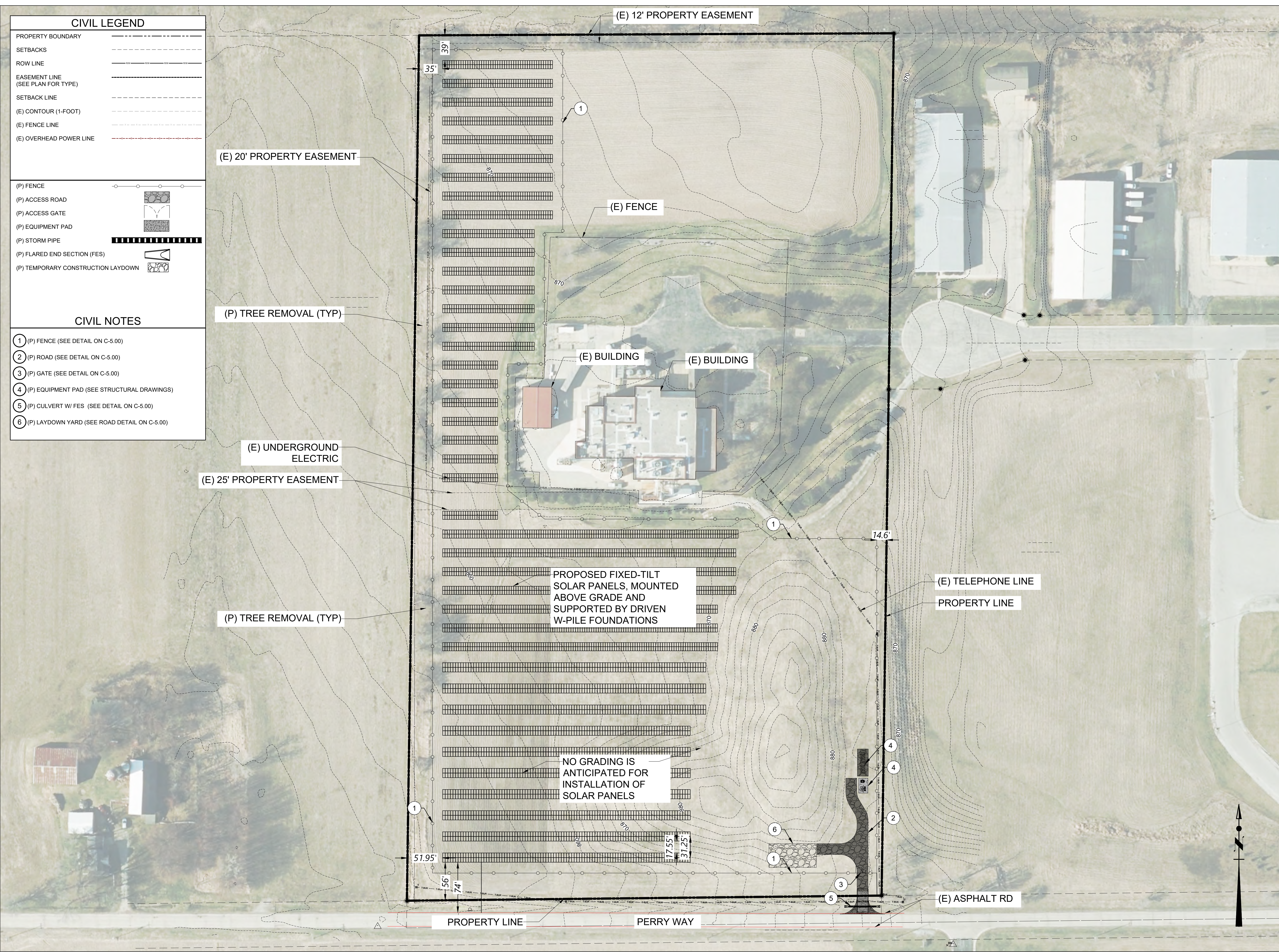
WATERTOWN HOPS

SHEET TITLE

EROSION CONTROL PLAN

DWG. NO.

C-3.00



CIVIL LEGEND	
PROPERTY BOUNDARY	---
SETBACKS	- - - - -
ROW LINE	=====
EASEMENT LINE (SEE PLAN FOR TYPE)	-----
SETBACK LINE	- - - - -
(E) CONTOUR (1-FOOT)	
(E) FENCE LINE	
(E) OVERHEAD POWER LINE	-----

(P) FENCE	-----
(P) ACCESS ROAD	-----
(P) ACCESS GATE	-----
(P) EQUIPMENT PAD	-----
(P) STORM PIPE	-----
(P) FLARED END SECTION (FES)	-----
(P) TEMPORARY CONSTRUCTION LAYDOWN	-----

- CIVIL NOTES
- 1 (P) FENCE (SEE DETAIL ON C-5.00)
 - 2 (P) ROAD (SEE DETAIL ON C-5.00)
 - 3 (P) GATE (SEE DETAIL ON C-5.00)
 - 4 (P) EQUIPMENT PAD (SEE STRUCTURAL DRAWINGS)
 - 5 (P) CULVERT W/ FES (SEE DETAIL ON C-5.00)
 - 6 (P) LAYDOWN YARD (SEE ROAD DETAIL ON C-5.00)



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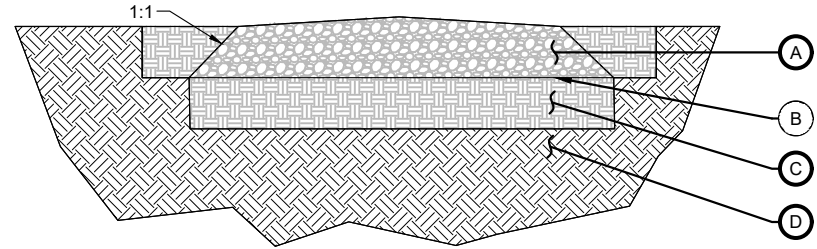
WATERTOWN HOPS

SHEET TITLE

CIVIL SITE PLAN

DWG. NO.

C-4.00



- Ⓐ 6" AGGREGATE SURFACE COURSE
(CROWNED OR CROSS SLOPED 2%)
Ⓑ GEOTEXTILE FABRIC
Ⓒ 12" COMPACTED SUBGRADE TO MIN. 95%
Ⓓ NATIVE SUBGRADE

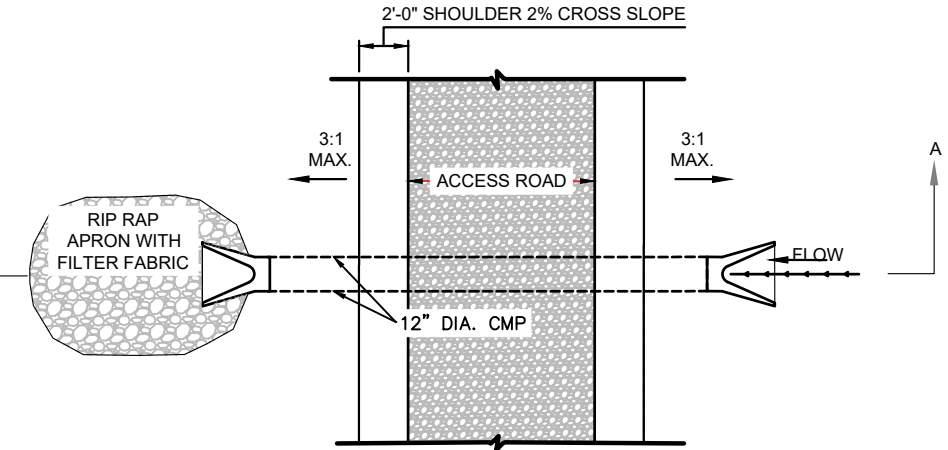
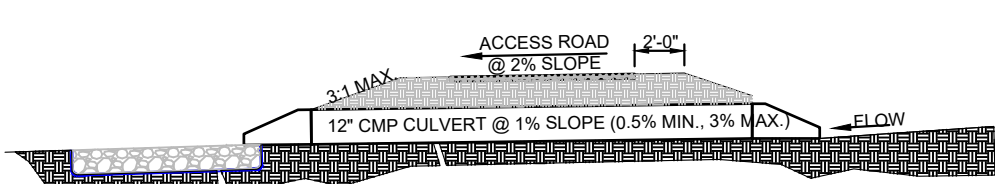
GRAVEL ACCESS ROAD

- NOTES:
1. ACCESS ROAD IMPROVEMENTS SHALL COMPLY WITH ALL RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL REPORT. GEOTECHNICAL ENGINEER OF RECORD, AND ONSITE GEOTECHNICAL TESTING REPRESENTATIVE. CONTRACTOR SHALL IMMEDIATELY SUBMIT (WITHIN ONE (1) BUSINESS DAY) ALL DEVIATIONS TO CIVIL ENGINEER OF RECORD.
2. SUBGRADE SOILS AND BASE MATERIALS SHOULD BE IN A STABLE, NON-PUMPING CONDITION AT THE TIME OF PLACEMENT AND COMPACTION.
3. AGGREGATE BASE SHOULD NOT BE PLACED WHEN THE SUBGRADE MATERIALS ARE WET OR FROZEN.
4. TOPSOIL SHOULD BE STRIPPED & STOCKPILED (6" MIN OR PER GEOTECHNICAL ENGINEER)
5. 2% CROSS SLOPE OR CROWNED AS SPECIFIED BY CIVIL EOR.

GRAVEL ROAD DETAIL

1

XX.XX

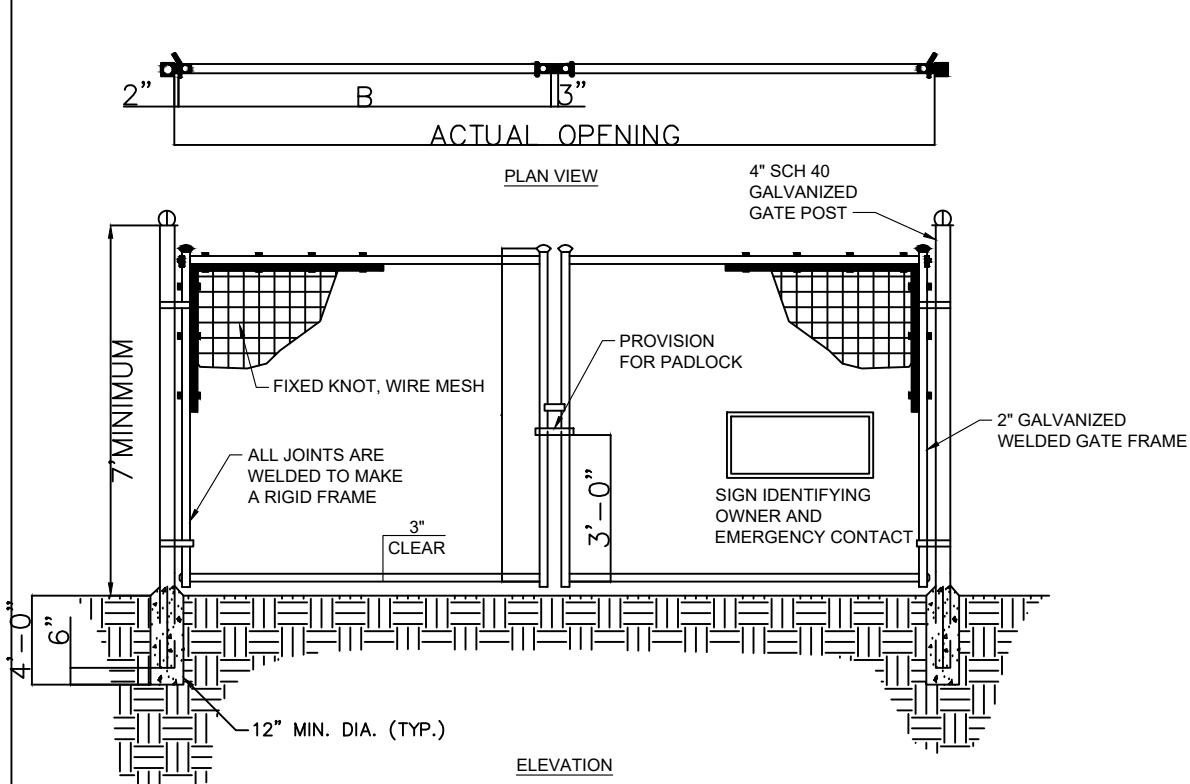


- NOTES:
1. PIPE SHALL BE SIZED BY ENGINEER WITH CALCULATIONS INCLUDED IN PLANS, BUT SHALL BE MINIMUM 24-INCH DIAMETER.
2. HEADWALLS, ENDWALLS, OR FLARED END SECTIONS SHALL BE INSTALLED AT ENDS OF PIPE.
3. BACKFILL PIPE TRENCH TO 95% COMPACTION PER AASHTO METHOD T99.
4. 2 FOOT SHOULDERS AT MAXIMUM 2% CROSS SLOPE SHALL BE MAINTAINED.
5. MAXIMUM 3:1 SIDE SLOPES TO BE MAINTAINED BEYOND SHOULDERS.

CULVERT CROSSING

2

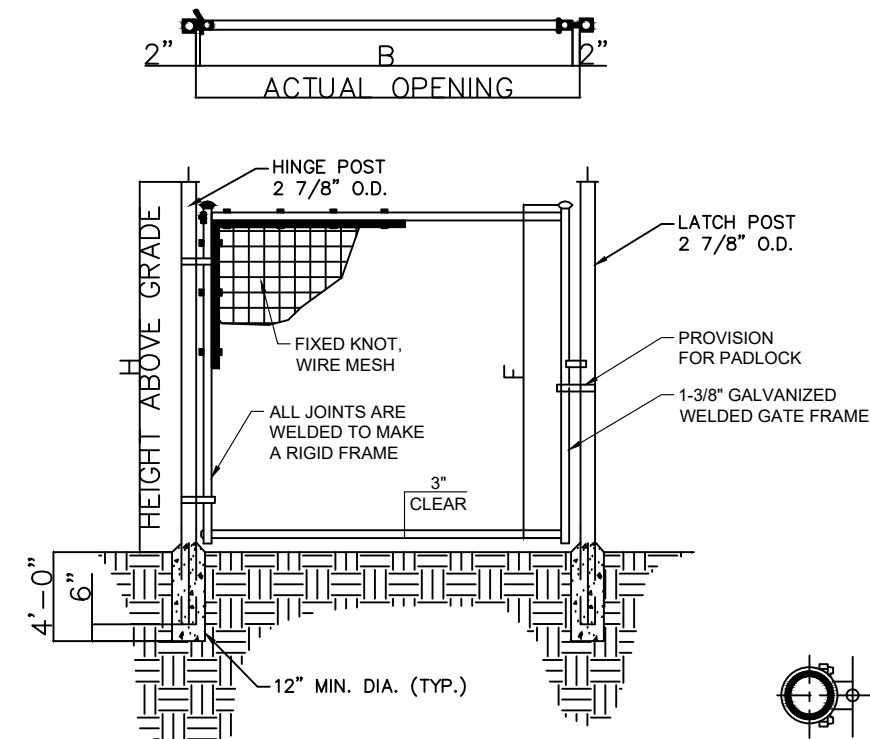
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- NOTES
1. ALL FENCING AND HARDWARE SHALL BE GALVANIZED.
2. CONCRETE ENCASUREMENT AT END AND GATE POSTS ONLY.
3. FIXED KNOT WIRE MESH TO BE BAKAERT SOLIDLOCK PRO (20/96/6), (17/96/6) OR EQUIVALENT

FIXED KNOT FARM FENCE - DOUBLE GATE

NOT TO SCALE



- NOTES
1. ALL FENCING AND HARDWARE SHALL BE GALVANIZED.
2. CONCRETE ENCASUREMENT AT END AND GATE POSTS ONLY.
3. FIXED KNOT WIRE MESH TO BE BAKAERT SOLIDLOCK PRO (20/96/6), (17/96/6) OR EQUIVALENT

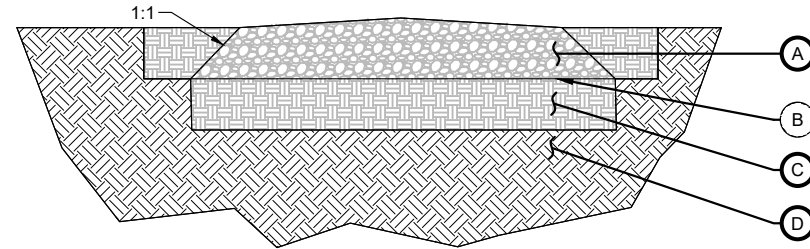
FIXED KNOT FARM FENCE - PERSONNEL GATE

NOT TO SCALE

GATE

3

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- Ⓐ 6" AGGREGATE SURFACE COURSE
(CROWNED OR CROSS SLOPED 2%)
Ⓑ GEOTEXTILE FABRIC
Ⓒ 12" COMPACTED SUBGRADE
Ⓓ NATIVE SUBGRADE

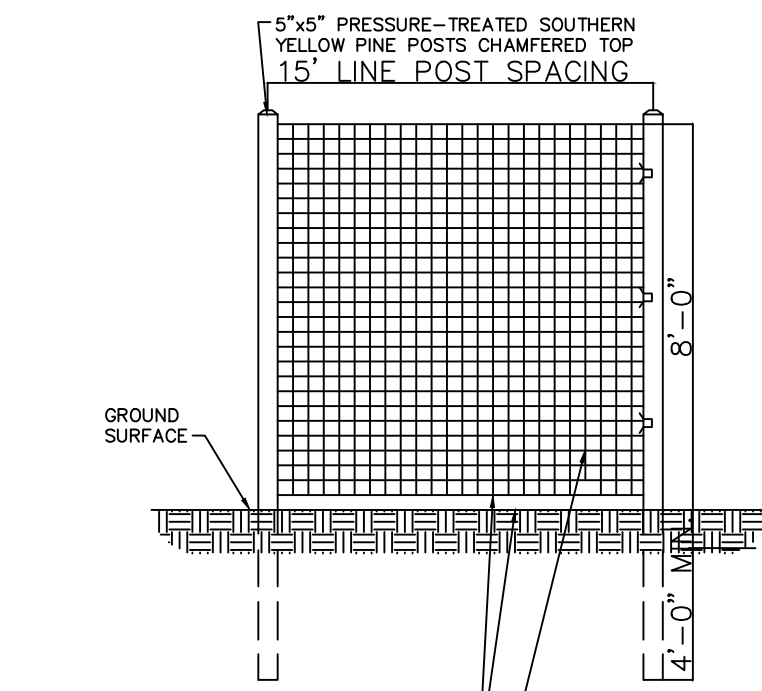
GRAVEL ACCESS ROAD

- NOTES:
1. LAYDOWN YARD SHALL COMPLY WITH ALL RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL REPORT. GEOTECHNICAL ENGINEER OF RECORD, AND ONSITE GEOTECHNICAL TESTING REPRESENTATIVE. CONTRACTOR SHALL IMMEDIATELY SUBMIT (WITHIN ONE (1) BUSINESS DAY) ALL DEVIATIONS TO CIVIL ENGINEER OF RECORD.
2. SUBGRADE SOILS AND BASE MATERIALS SHOULD BE IN A STABLE, NON-PUMPING CONDITION AT THE TIME OF PLACEMENT AND COMPACTION.
3. AGGREGATE BASE SHOULD NOT BE PLACED WHEN THE SUBGRADE MATERIALS ARE WET OR FROZEN.
4. TOPSOIL SHOULD BE STRIPPED & STOCKPILED (6" MIN OR PER GEOTECHNICAL ENGINEER)
5. 2% CROSS SLOPE OR CROWNED AS SPECIFIED BY CIVIL EOR.
6. ALL TOPSOIL REMOVED FOR LAYDOWN YARD SHALL BE STOCKPILED AND RESPREAD AFTER CONSTRUCTION IS COMPLETE & GRAVEL AND GEOTEXTILE IS REMOVED.

LAYDOWN YARD DETAIL

5

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CONTRACTOR TO MAINTAIN A 6" GAP ALONG THE BOTTOM OF FENCE PER DNR REQUIREMENTS!

BEKAERT SOLIDLOCK PRO, 12.5g HIGH-TENSILE, FIXED KNOT, MOVEN WIRE FARM FENCE (20/96/6) OR EQUIVALENT

WIRE	SIZE	TENSILE STRENGTH	WEAVING	LINE	CONSTRUCTION
Line Wire	12 1/2 ga.	Hi-Tensile 180K-212K	1347 lbs=1687 lbs	.85 sq.-1.4 sq. per sq. ft.	
Stay Wire	12 1/2 ga.	Med-Tensile 140K-170K	1048 lbs=1273 lbs	.85 sq.-1.4 sq. per sq. ft.	
Knot Wire	13 ga.	Low Tensile 57K-79K	311 lbs=456 lbs	.85 sq.-1.4 sq. per sq. ft.	

ORDER NOMENCLATURE

The first two numbers indicate the number of horizontal wires, while the second two numbers indicate the height of the fence. The last number is the distance between vertical stays.

Example: 20/96/12 is a roll with 20 horizontal wires, is 96" high, with vertical stays 12" apart.

- Note new higher strength vertical stay wire spec.
- Other configurations available on special order basis

FENCE NOTE:
1.. ALL CORNER, END POSTS, AND BRACE PANELS SHALL BE INSTALLED WITH 12" DIA X 42" CONCRETE FOOTERS.

SECURITY FENCE

4

XX.XX

NOT TO SCALE



N27 W24025 PAUL CT. SUITE 100
PEWAUKEE, WI 53072
PHONE: (262)-547-1200
WWW.SUNVEST.COM

CIVIL ENGINEER STAMP:

ISSUANCE:

**PRELIMINARY CIVIL
PLANS**

LICENSED ELECTRICAL ENGINEER certifies that they prepared all the electrical "E" sheets in this drawing set.
LICENSED STRUCTURAL ENGINEER certifies that they prepared all of the structural "S" sheets in this drawing set.
LICENSED CIVIL ENGINEER certifies that they prepared all of the civil "C" sheets in this drawing set.
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10		21	
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7		18	
6		17	
5		16	
4		15	
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2		13	
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REV	SET/DATE	REV	SET/DATE
DRAWN BY:		CHECKED BY:	
SCALE: AS NOTED		JOB NO:	

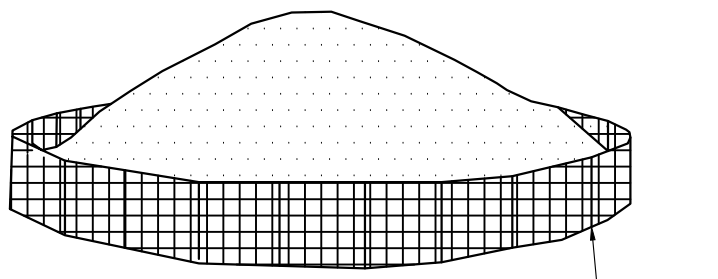
**WATERTOWN
HOPS**

SHEET TITLE

CIVIL DETAILS

DWG. NO.

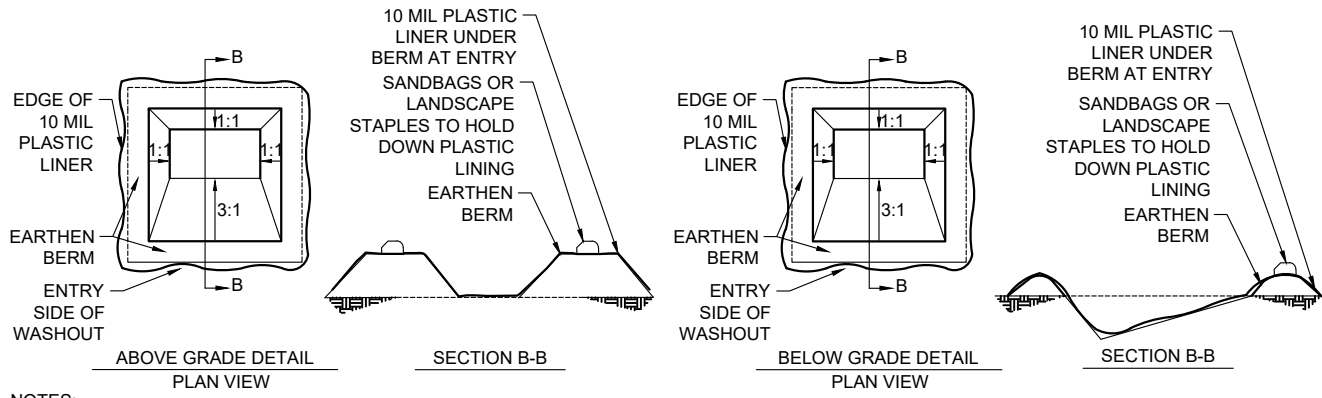
C-5.00



- NOTE:
1. TO BE USED WHERE TOPSOIL OR GRANULAR MATERIAL IS STORED
 2. MINIMUM 2:1 SIDE SLOPE OR LESS
 3. UPON COMPLETION OF USE, STOCKPILE AREA SHALL BE SEEDED & SILT FENCE REMOVED ONCE STABILIZATION IS REACHED.

1
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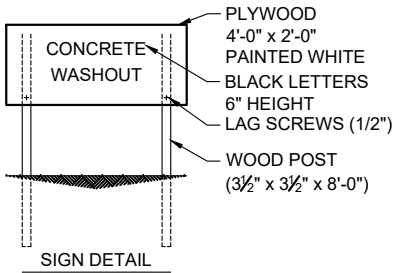
TOPSOIL & STOCKPILE MANAGEMENT



- NOTES:
1. DO NOT DISCHARGE CONCRETE OR CEMENT SLURRY FROM THE SITE
 2. THE CONCRETE WASHOUT FACILITY SHOULD BE LOCATED A MINIMUM OF 50' FROM STORM DRAIN INLETS, BUFFERS, OR WATERCOURSES.
 3. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE FACILITY
 4. THE ACTUAL LAYOUT CAN BE DETERMINED IN THE FIELD USING EITHER THE ABOVE GRADE OR BELOW GRADE CONSTRUCTION OPTION
 5. THE CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT SIZE AND QUANTITY TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY THE WASHOUT OPERATION
 6. THE PERIMETER OF THE 10 MIL LINER MUST BE HELD IN PLACE WITH SAND BAGS OR STEEL STAPLES
 7. ONCE CONCRETE WASTES ARE WASHED AND ALLOWED TO HARDEN THE CONCRETE SHOULD BE BROKEN UP, REMOVED AND DISPOSED OF AT AN APPROVED FACILITY IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS. DISPOSE OF HARDENED CONCRETE ONCE THE WASHOUT FACILITY IS 75% FULL
 8. ONCE THE FACILITY IS NO LONGER NEEDED ALL MATERIALS SHALL BE REMOVED AND THE EXISTING GRADES SHALL BE RESTORED
 9. STORMWATER ACCUMULATED WITHIN THE WASHOUT MAY NOT BE DISCHARGED INTO THE STORM DRAIN SYSTEM OR RECEIVING SURFACE WATERS.

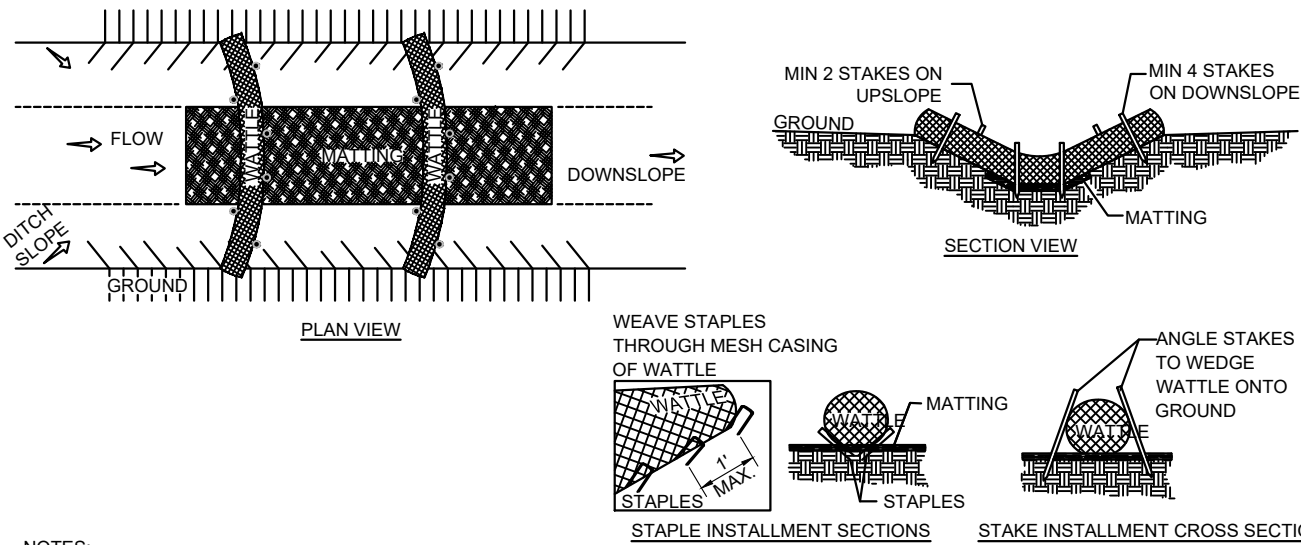
MAINTENANCE NOTES:

1. INSPECT CONCRETE WASHOUT DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED AND REPLACED.



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CONCRETE WASHOUT



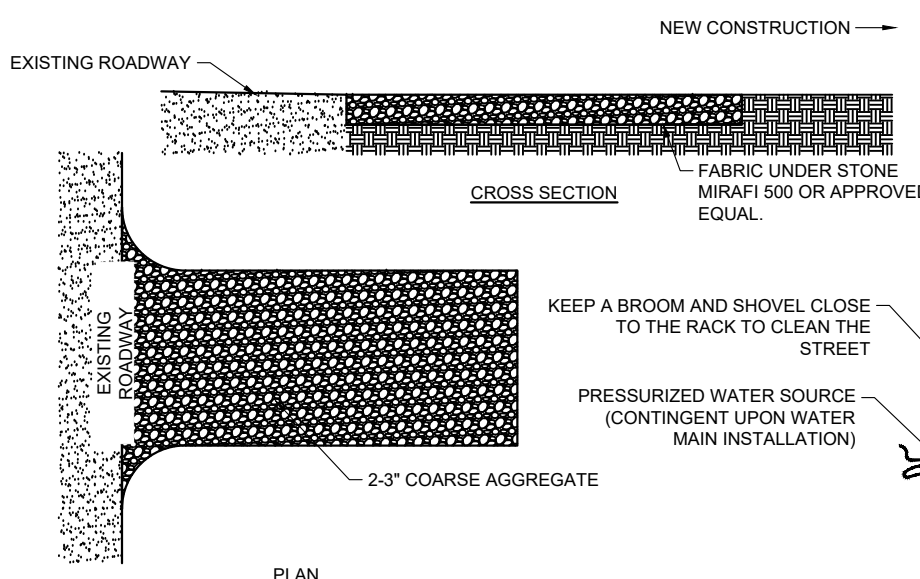
- NOTES:
1. USE A MINIMUM 12 INCH DIAMETER EXCELSIOR WATTLE
 2. USE 24 INCH LONG WOODEN STAKES WITH A 2"x2" NOMINAL CROSS SECTION
 3. INSTALL WATTLE(S) TO A HEIGHT ON SLOPE SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR SLOPES, OR AS DIRECTED
 4. INSTALL A MINIMUM OF TWO UPSLOPE STAKES AND FOUR DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND AT BOTTOM
 5. PROVIDE STAPLES MADE OF 0.125 INCH DIAMETER STEEL WIRE FORMED INTO A U-SHAPE NOT LESS THAN 12 INCHES IN LENGTH
 6. INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL
 7. AFTER INSTALLATION OF STAPLES, CHINK ANY GAPS BETWEEN WATTLE AND GROUND WITH MATTING

MAINTENANCE NOTES:

1. INSPECT WATTLES AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY
2. ACCUMULATED SEDIMENT SHOULD BE CONTINUALLY MONITORED AND REMOVED WHEN IT REACHES 1/3 OF THE HEIGHT OF THE WATTLE
3. LARGE DEBRIS, TRASH, AND LEAVES SHOULD BE REMOVED FROM IN FRONT OF THE WATTLE WHEN DISCOVERED
4. IF EROSION CAUSES THE EDGES TO FALL TO A HEIGHT EQUAL TO OR LOWER THAN THE HEIGHT OF THE WATER, REPAIRS SHOULD BE MADE IMMEDIATELY TO PREVENT RUNOFF FROM BYPASSING THE WATTLE
5. WATTLES SHOULD BE REMOVED AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN COMPLETELY STABILIZED. PERMANENT VEGETATION SHOULD REPLACE AREAS FROM WHICH WATTLES HAVE BEEN REMOVED

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FIBER ROLL IN DITCH

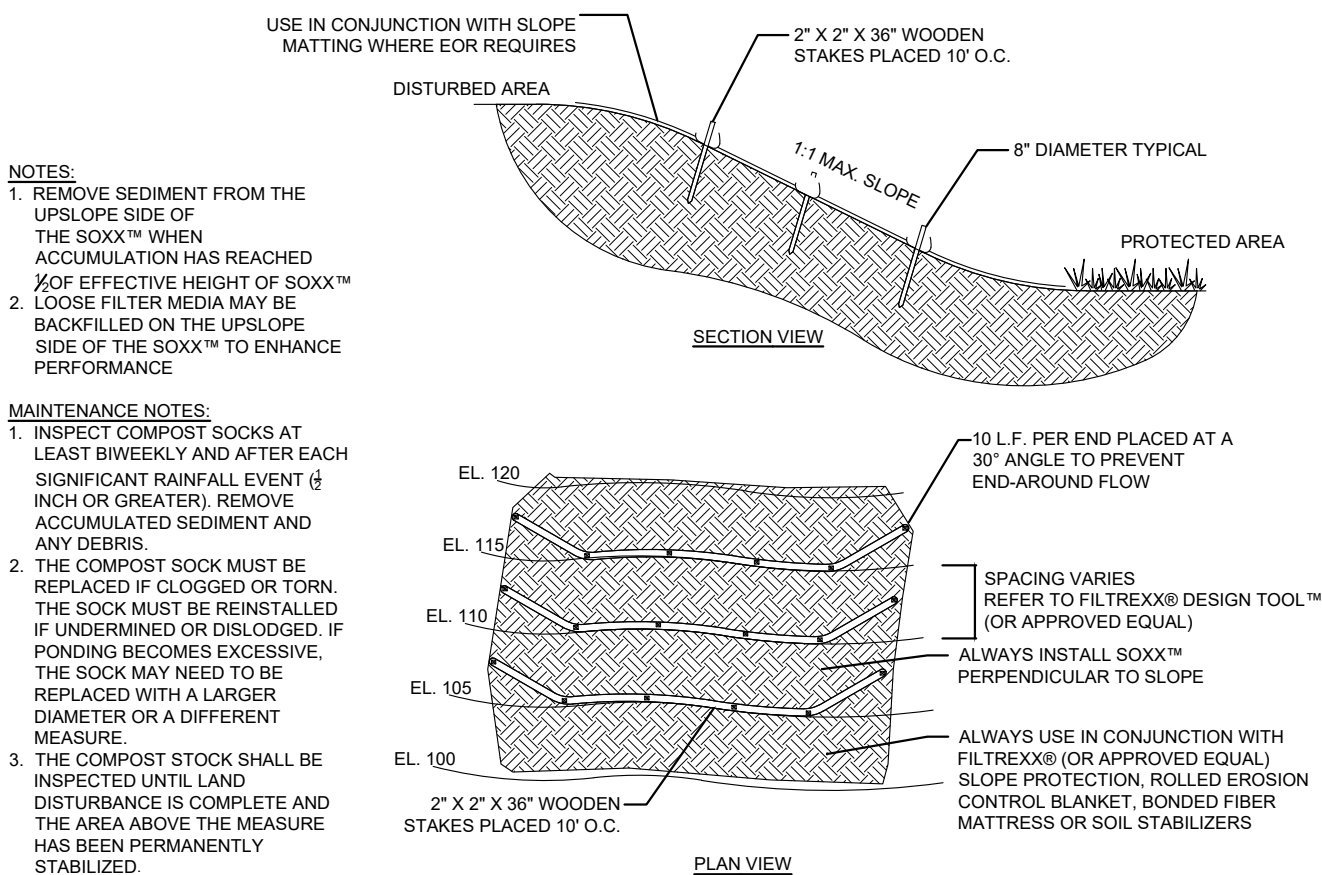


- NOTES:
1. PUT SILT FENCE OR TREE PROTECTION FENCE UP TO ENSURE CONSTRUCTION ENTRANCE IS USED
 2. IF CONSTRUCTION ON THE SITES ARE SUCH THAT THE MUD IS NOT REMOVED BY THE VEHICLE TRAVELING OVER THE STONE, THEN THE TIRES OF THE VEHICLE MUST BE WASHED BEFORE ENTERING PUBLIC ROAD (ON AN AREA STABILIZED WITH CRUSHED STONE)
 3. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO TO PUBLIC STREETS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT

4
XX.XX

DRIVEWAY TRACKOUT CONTROL DETAIL

NOT TO SCALE



- NOTES:
1. REMOVE SEDIMENT FROM THE UPSLOPE SIDE OF THE SOCK** WHEN ACCUMULATION HAS REACHED 20% EFFECTIVE HEIGHT OF SOCK**
 2. LOOSE FILTER MEDIA MAY BE BACKFILLED ON THE UPSLOPE SIDE OF THE SOCK** TO ENHANCE PERFORMANCE

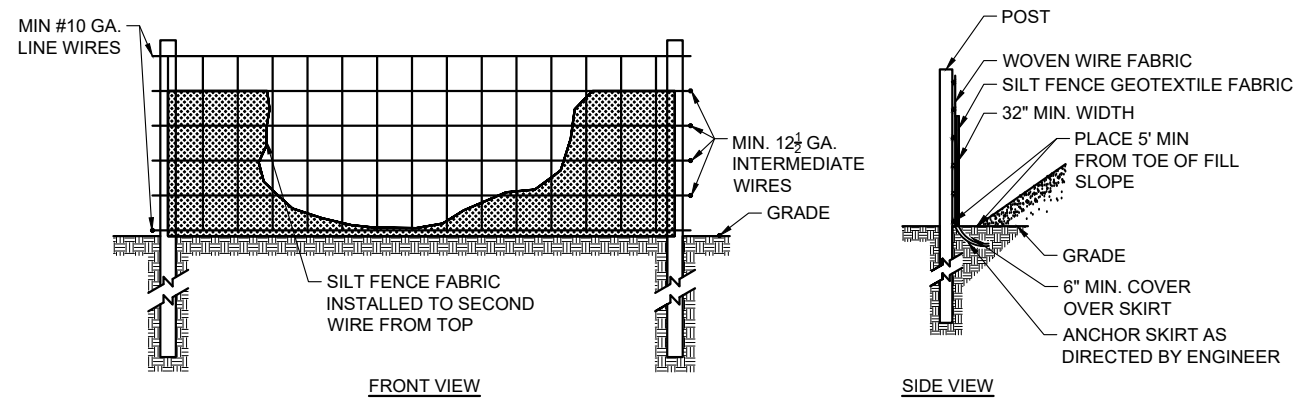
MAINTENANCE NOTES:

1. INSPECT COMPOST SOCKS AT LEAST BIWEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT (1/4 INCH OR GREATER). REMOVE ACCUMULATED SEDIMENT AND ANY DEBRIS
2. THE COMPOST SOCK MUST BE REPLACED IF CLOGGED OR TORN. THE SOCK MUST BE REINSTALLED IF UNDERMINED OR DISCLOSED IF PONDING BECOMES EXCESSIVE. THE SOCK MAY NEED TO BE REPLACED WITH A LARGER DIAMETER OR A DIFFERENT MEASURE
3. THE COMPOST SOCK SHALL BE INSPECTED UNTIL LAND DISTURBANCE IS COMPLETE AND THE AREA ABOVE THE MEASURE HAS BEEN PERMANENTLY STABILIZED

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COMPOST SOCKS

NOT TO SCALE



- NOTES:
1. USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW
 2. END OF SILT FENCE NEEDS TO BE TURNED UPHILL
 3. SILT FENCE SHOULD BE A MINIMUM OF 5 FEET FROM THE TOE OF SLOPE
 4. SYNTHETIC FILTER FABRIC SHOULD BE AT LEAST 95% BY WEIGHT POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS IN ASTM D 6411
 5. SYNTHETIC FILTER FABRIC SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USEABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 TO 100 DEGREES F
 6. POSTS FOR SEDIMENT FENCES SHALL BE 1.33 LB/LF STEEL WITH A MIN LENGTH OF 5 FEET. STEEL POSTS SHALL HAVE PROTECTIONS TO FACILITATE FASTENING THE FABRIC
 7. USE WIRE FENCE WITH A MAX MESH SPACING OF 6 INCH FOR REINFORCEMENT OF STANDARD STRENGTH FILTER FABRIC

MAINTENANCE NOTES:

1. INSPECT SEDIMENT FENCES AT LEAST BIWEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT (1/4 INCH OR GREATER). MAKE REQUIRED REPAIRS IMMEDIATELY
2. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT IMMEDIATELY
3. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAINFALL EVENT AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEAN OUT
4. ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED, REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS. BRING THE SILT FENCE AREA TO GRADE AND APPLY PERMANENT STABILIZATION MEASURES

6
XX.XX

STANDARD SILT FENCE



N27 W24025 PAUL CT. SUITE 100
PEWAUKEE, WI 53072
PHONE: (262)-547-1200
WWW.SUNVEST.COM

CIVIL ENGINEER STAMP:

ISSUANCE:

**PRELIMINARY CIVIL
PLANS**

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SCALE: AS NOTED JOB NO:

**WATERTOWN
HOPS**

SHEET TITLE

EROSION CONTROL DETAILS

DWG. NO.

C-5.01