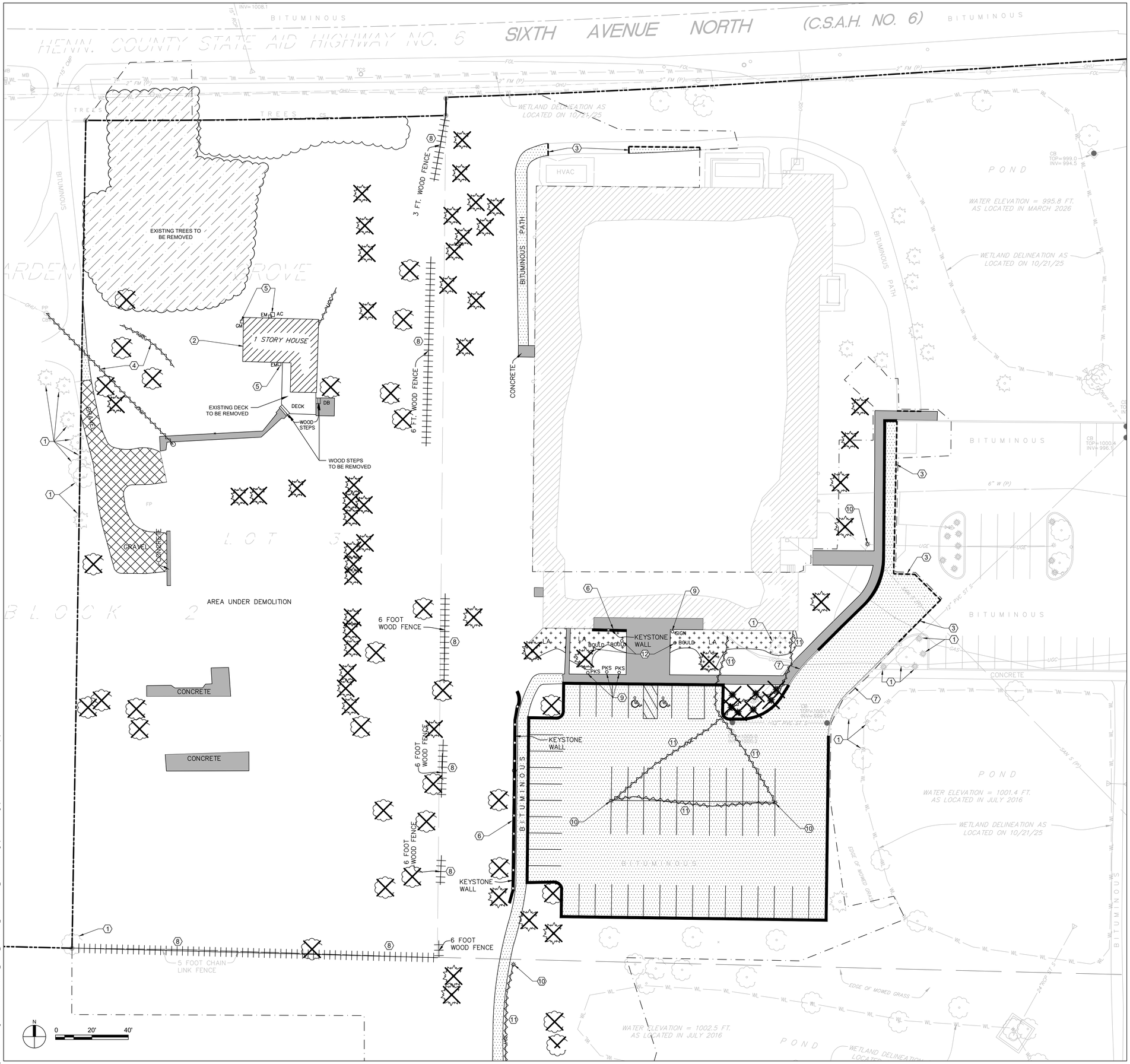


LEGEND

- PROPERTY LIMITS
- CONSTRUCTION LIMITS
- EXISTING WATERMAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING DELINEATED WETLAND
- EXISTING FORCE MAIN EXISTING
- FIBER-OPTIC LINE EXISTING
- OVERHEAD ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND COMMUNCATIONS
- EXISTING HYDRANT AND GV
- EXISTING SANITARY / STORM STRUCTURE
- REMOVE EXISTING UTILITY LINE
- REMOVE EXISTING FENCE
- SAWCUT PAVEMENT
- REMOVE EXISTING GRAVEL PAVEMENT
- REMOVE EXISTING ASPHALT PAVEMENT
- REMOVE EXISTING CONCRETE PAVEMENT
- REMOVE EXISTING LANDSCAPING
- REMOVE EXISTING TREES
- REMOVE EXISTING CONCRETE C&G
- REMOVE EXISTING WALL
- REMOVE TREE

KEYNOTES:

1. PROTECT EXISTING TREES TO REMAIN.
2. REMOVE EXISTING BUILDING
3. FULL-DEPTH SAWCUT
4. REMOVE EXISTING ELECTRICAL
5. REMOVE EXISTING PRIVATE UTILITIES
6. REMOVE EXISTING WALL
7. PROTECT EXISTING CURB & GUTTER
8. REMOVE EXISTING FENCE
9. REMOVE & SALVAGE SIGN
10. REMOVE & SALVAGE EXISTING LIGHT POLE
11. REMOVE UNDERGROUND ELECTRIC
12. REMOVE & SALVAGE BOULDERS

ANDERSON

13605 1st Ave. N. #100 Plymouth, MN 55441
P 763.412.4000 | F 763.412.4090 | ae-mn.com
Anderson Engineering of Minnesota | Proj # 17925

www.htg-architects.com
Minneapolis Bismarck

1010 Mainstreet, Suite 100
Hopkins, MN 55343
Tel: 952.278.8880

PROJECT

MORRISON ICE ARENA
ORONO, MN

ADDITION / REMODEL

1025 Old Crystal Bay Road North
Orono, MN 55356

MCWD SUBMITTAL	11/10/2026
REVISIONS	
DATE	NO

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota

KYLE J. STEBBING, PE
Name
61855
Reg No. Date

NOT FOR CONSTRUCTION
PRELIMINARY

DEMO PLAN NORTH

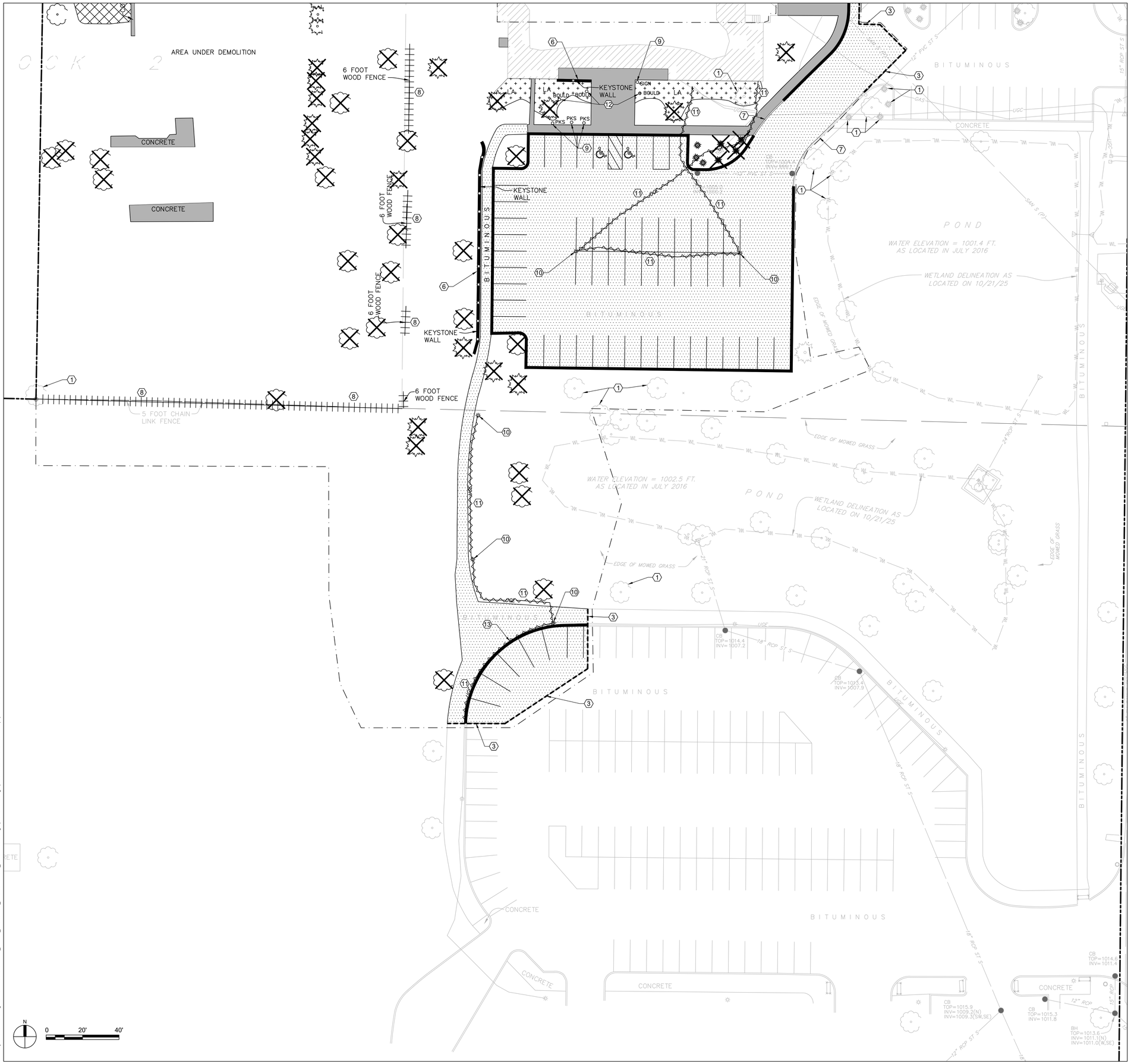
Drawn By: VRB Checked By: KJS

CD101

231168

COPYRIGHT © HTG ARCHITECTS

File Path: y:\17900\17925 htg-morrison ice arena-orono_07 civil_01 cad files_01 sheets\17925_demo sheets.dwg | edit:kstebbing | saved:9/25/2026 2:30 PM | plot:11/10/2026 12:51 PM



LEGEND

- PROPERTY LIMITS
- CONSTRUCTION LIMITS
- EXISTING WATERMAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING DELINEATED WETLAND
- EXISTING FORCE MAIN EXISTING
- FIBER-OPTIC LINE EXISTING
- OVERHEAD ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND COMMUNCATIONS
- EXISTING HYDRANT AND GV
- EXISTING SANITARY / STORM STRUCTURE
- REMOVE EXISTING UTILITY LINE
- REMOVE EXISTING FENCE
- SAWCUT PAVEMENT
- REMOVE EXISTING GRAVEL PAVEMENT
- REMOVE EXISTING ASPHALT PAVEMENT
- REMOVE EXISTING CONCRETE PAVEMENT
- REMOVE EXISTING LANDSCAPING
- REMOVE EXISTING TREES
- REMOVE EXISTING CONCRETE C&G
- REMOVE EXISTING WALL
- REMOVE TREE

KEYNOTES:

1. PROTECT EXISTING TREES TO REMAIN.
2. REMOVE EXISTING BUILDING
3. FULL-DEPTH SAWCUT
4. REMOVE EXISTING ELECTRICAL
5. REMOVE EXISTING PRIVATE UTILITIES
6. REMOVE EXISTING WALL
7. PROTECT EXISTING CURB & GUTTER
8. REMOVE EXISTING FENCE
9. REMOVE & SALVAGE SIGN
10. REMOVE & SALVAGE EXISTING LIGHT POLE
11. REMOVE UNDERGROUND ELECTRIC
12. REMOVE & SALVAGE BOULDERS
13. REMOVE CONCRETE CURB & GUTTER

ANDERSON
13605 1st Ave. N. #100 Plymouth, MN 55441
P 763.412.4000 | F 763.412.4090 | ae-mn.com
Anderson Engineering of Minnesota | Proj # 17925

www.htg-architects.com
Minneapolis Bismarck
1010 Mainstreet, Suite 100
Hopkins, MN 55343
Tel: 952.278.8880

PROJECT

MORRISON ICE ARENA
ORONO, MN

ADDITION / REMODEL

1025 Old Crystal Bay Road North
Orono, MN 55356

MCWD SUBMITTAL	11/10/2026

REVISIONS

DATE	NO

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota

KYLE J. STEBBING, PE
Name
61855
Reg No. Date

NOT FOR CONSTRUCTION
PRELIMINARY

DEMO PLAN SOUTH

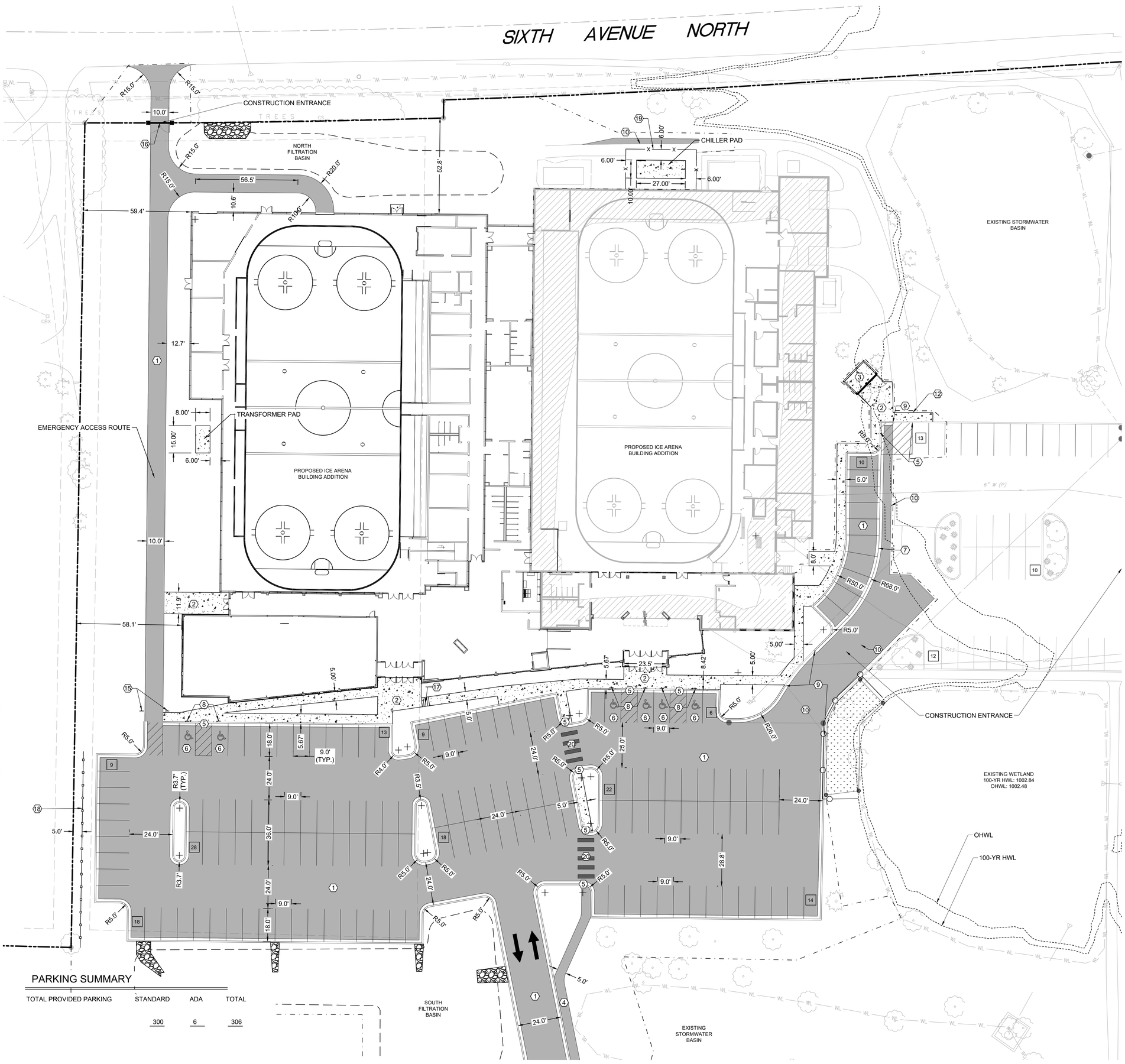
Drawn By: VRB Checked By: KJS

CD102

231168

COPYRIGHT © HTG ARCHITECTS

File Path: y:\17900\17925 htg-morrison ice arena-orono_07 civil_01 cad files_01 sheets\17925_demo sheets.dwg | edit:kstebbing | saved:9/25/2026 2:30 PM | plot:11/10/2026 12:51 PM



LEGEND

- PROPERTY LIMITS
- CONSTRUCTION LIMITS
- EXISTING WATERMAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING DELINEATED WETLAND
- EXISTING FORCE MAIN EXISTING
- FIBER-OPTIC LINE EXISTING OVERHEAD
- ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND COMMUNCATIONS
- EXISTING HYDRANT AND GV
- EXISTING SANITARY / STORM STRUCTURE
- DRAINAGE AND UTILITY EASEMENT
- PROPOSED CONCRETE C&G
- BITUMINOUS PAVEMENT
- LIGHT DUTY CONCRETE PAVEMENT
- TRAFFIC/PARKING SIGN
- CHAIN LINK PRIVACY FENCE
- ORNAMENTAL FENCE
- PROPOSED FILTRATION BASIN
- RIP RAP

KEYNOTES:

1. PROPOSED BITUMINOUS PAVEMENT
2. PROPOSED CONCRETE PAVEMENT
3. PROPOSED TRASH ENCLOSURE
4. PROPOSED BITUMINOUS TRAIL
5. TRANSITION TO RIBBON STYLE CURB. PROVIDE 3' TRANSITION TO FLUSH.
6. PROPOSED ACCESSIBLE PARKING STALLS
7. PROPOSED CONCRETE VALLEY GUTTER
8. ADA SIGNAGE
9. TIE INTO EXISTING CURB AND GUTTER
10. TIE INTO EXISTING ASPHALT PAVEMENT
11. TIE INTO EXISTING CONCRETE SIDEWALK
12. TIE INTO EXISTING BITUMINOUS TRAIL
13. INSTALL CURB CUT
14. TIP-OUT CURB
15. DO NOT ENTER SIGN
16. PROPOSED EMERGENCY ACCESS GATE
17. PROPOSED STAIRS
18. PROPOSED ORNAMENTAL FENCE
19. 8' CHAIN LINK PRIVACY FENCING
20. CROSSWALK STRIPING

GENERAL NOTES

1. DIMENSIONS TO FACE OF CURB UNLESS NOTED OTHERWISE.

N

0 20' 40'

ANDERSON
13605 1st Ave. N. #100 Plymouth, MN 55441
P 763.412.4000 | F 763.412.4090 | ae-mn.com
Anderson Engineering of Minnesota | Proj # 17925

www.htg-architects.com
Minneapolis Bismarck
1010 Mainstreet, Suite 100
Hopkins, MN 55343
Tel: 952.278.8880

PROJECT

MORRISON ICE ARENA
ORONO, MN

ADDITION / REMODEL

1025 Old Crystal Bay Road North
Orono, MN 55356

MCWD SUBMITTAL 11/10/2026

REVISIONS

DATE	NO

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota

KYLE J. STEBBING, PE
Name
61855
Reg No. Date

NOT FOR CONSTRUCTION
PRELIMINARY

SITE PLAN NORTH

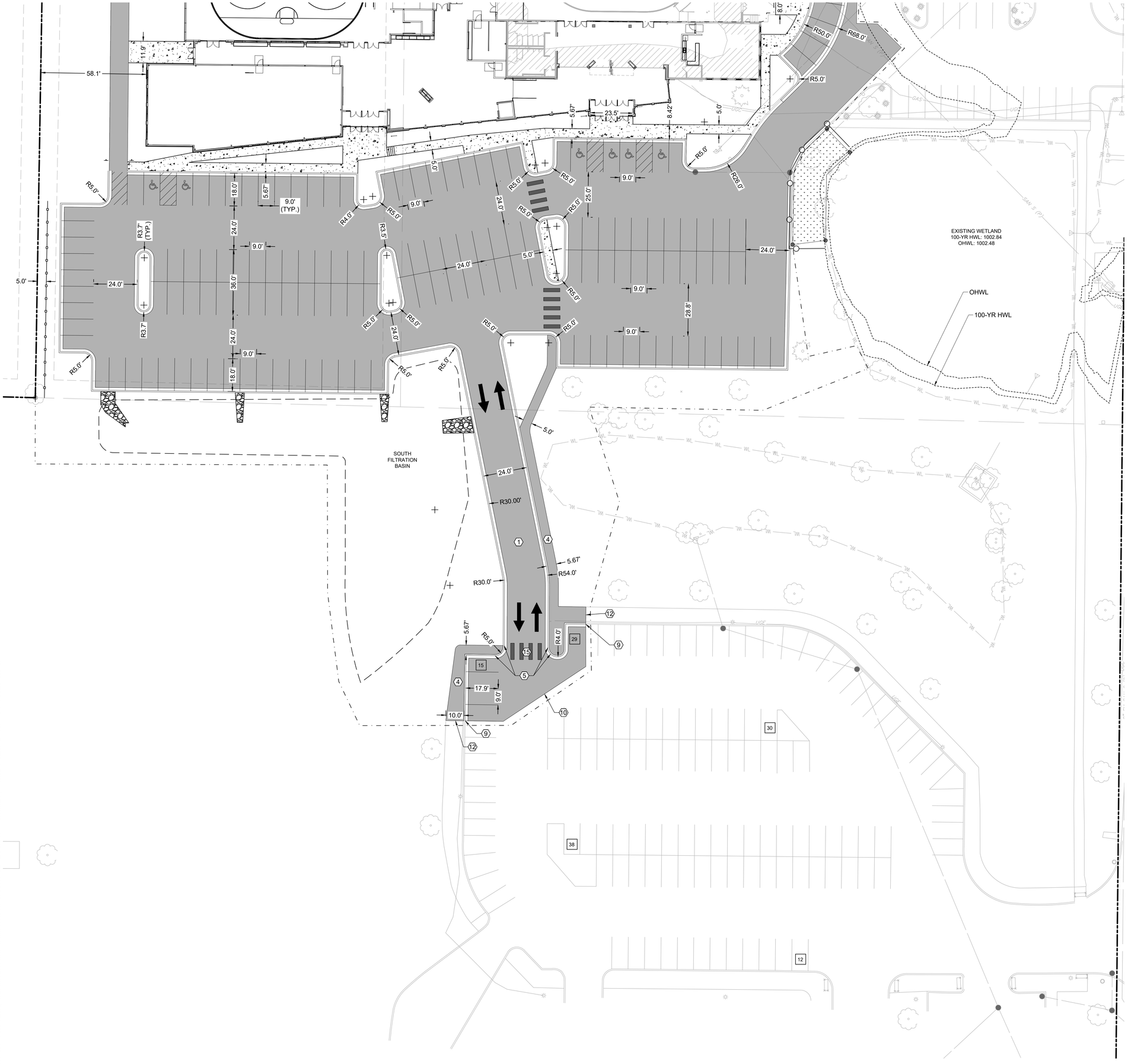
Drawn By: VRB Checked By: KJS

CS101

231168

COPYRIGHT © HTG ARCHITECTS

File Path: y:\17900\17925 htg-morrison ice arena-orono_07 civil_01 cad files_01 sheets\17925_site sheets.dwg | edit:ksteblbing | saved:11/10/2026 12:47 PM | plot:11/10/2026 12:52 PM



ANDERSON
13605 1st Ave. N. #100 Plymouth, MN 55441
P 763.412.4000 | F 763.412.4090 | ae-mn.com
Anderson Engineering of Minnesota | Proj # 17925

www.htg-architects.com
Minneapolis Bismarck
1010 Mainstreet, Suite 100
Hopkins, MN 55343
Tel: 952.278.8880

LEGEND

- PROPERTY LIMITS
- CONSTRUCTION LIMITS
- EXISTING WATERMAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING DELINEATED WETLAND
- EXISTING FORCE MAIN EXISTING
- FIBER-OPTIC LINE EXISTING OVERHEAD
- ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND COMMUNCATIONS
- EXISTING HYDRANT AND GV
- EXISTING SANITARY / STORM STRUCTURE
- DRAINAGE AND UTILITY EASEMENT
- PROPOSED CONCRETE C&G
- BITUMINOUS PAVEMENT
- LIGHT DUTY CONCRETE PAVEMENT
- TRAFFIC/PARKING SIGN
- CHAIN LINK PRIVACY FENCE
- ORNAMENTAL FENCE
- PROPOSED FILTRATION BASIN
- RIP RAP

KEYNOTES:

1. PROPOSED BITUMINOUS PAVEMENT
2. PROPOSED CONCRETE PAVEMENT
3. PROPOSED TRASH ENCLOSURE
4. PROPOSED BITUMINOUS TRAIL
5. TRANSITION TO RIBBON STYLE CURB. PROVIDE 3' TRANSITION TO FLUSH.
6. PROPOSED ACCESSIBLE PARKING STALLS
7. PROPOSED CONCRETE VALLEY GUTTER
8. ADA SIGNAGE
9. TIE INTO EXISTING CURB AND GUTTER
10. TIE INTO EXISTING ASPHALT PAVEMENT
11. TIE INTO EXISTING CONCRETE SIDEWALK
12. TIE INTO EXISTING BITUMINOUS TRAIL
13. INSTALL CURB CUT
14. TIP-OUT CURB
15. CROSSWALK STRIPING

GENERAL NOTES

1. DIMENSIONS TO FACE OF CURB UNLESS NOTED OTHERWISE.

N
0 20' 40'

PROJECT

MORRISON ICE ARENA
ORONO, MN

ADDITION / REMODEL

1025 Old Crystal Bay Road North
Orono, MN 55356

MCWD SUBMITTAL	11/10/2026

REVISIONS

DATE	NO	

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota

KYLE J. STEBBING, PE
Name
61855
Reg No. Date

NOT FOR CONSTRUCTION
PRELIMINARY

SITE PLAN SOUTH

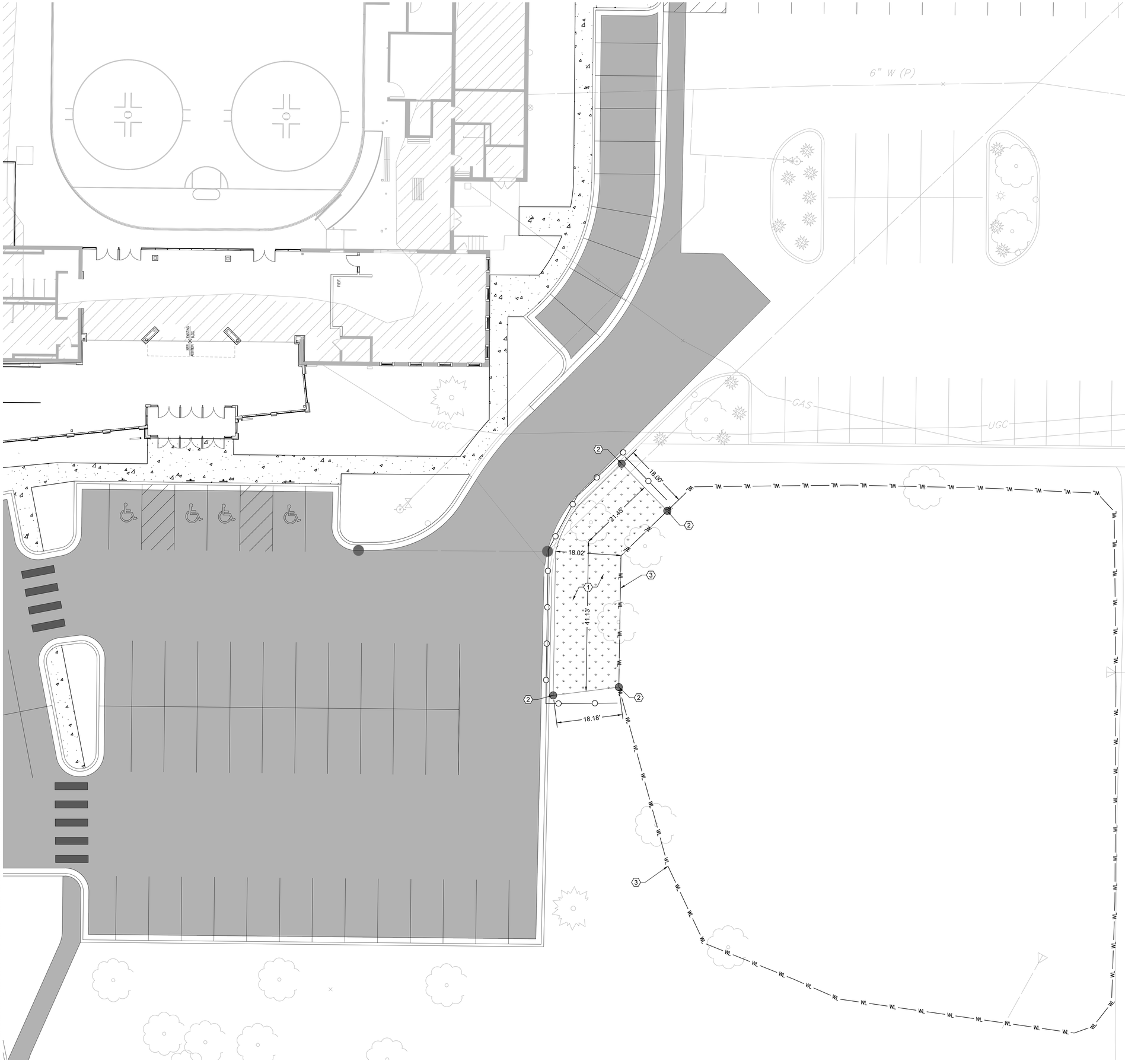
Drawn By: VRB Checked By: KJS

CS102

231168

COPYRIGHT © HTG ARCHITECTS

File Path: y:\17900\17925 htg-morrison ice arena-orono_07 civil_01 cad files_01 sheets\17925_site sheets.dwg | edit:kstebbing | saved:11/10/2026 12:47 PM | plot:11/10/2026 12:52 PM



ANDERSON
13605 1st Ave. N. #100 Plymouth, MN 55441
P 763.412.4000 | F 763.412.4090 | ae-mn.com
Anderson Engineering of Minnesota | Proj # 17925

LEGEND

- WL — DELINEATED WETLAND
- WETLAND BUFFER MONUMENT SIGN
- WETLAND BUFFER
- TEMPORARY PROTECTION FENCE

KEYNOTES:

1. DESIGNATED WETLAND BUFFER AREA
2. WETLAND BUFFER MONUMENT
3. DELINEATED WETLAND

GENERAL NOTES

KEEP ALL CONSTRUCTION ACTIVITIES OUTSIDE THE WETLAND BUFFER SHOWN ON THE PLANS. BEFORE CLEARING, GRADING, OR OTHER SITE DISTURBANCE BEGINS, INSTALL ABOVE-GROUND TEMPORARY PROTECTION FENCING ALONG THE BUFFER BOUNDARY WHERE IT ADJOINS THE WORK AREA. MAINTAIN THE FENCING THROUGHOUT CONSTRUCTION. DO NOT CLEAR, GRADE, EXCAVATE, PLACE FILL, STOCKPILE MATERIALS, STAGE EQUIPMENT, OR OPERATE VEHICLES WITHIN THE BUFFER.

www.htg-architects.com
Minneapolis Bismarck
1010 Mainstreet, Suite 100
Hopkins, MN 55343
Tel: 952.278.8880

PROJECT

MORRISON ICE ARENA
ORONO, MN

ADDITION / REMODEL

1025 Old Crystal Bay Road North
Orono, MN 55356

MCWD SUBMITTAL 11/10/2026

REVISIONS

DATE	NO	

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota

KYLE J. STEBBING, PE
Name
61855
Reg No. Date

NOT FOR CONSTRUCTION
PRELIMINARY

WETLAND BUFFER PLAN

Drawn By: VRB Checked By: KJS

CS103

231168

COPYRIGHT © HTG ARCHITECTS

N 0 10' 20'

File Path: y:\179001\17925 htg-morrison ice arena-orono_07 civil_01 cad files_01 sheets\17925_site sheets.dwg | edit:kstebbing | saved:11/10/2026 12:47 PM | plot:11/10/2026 12:52 PM

SIXTH AVENUE NORTH

CONSTRUCTION ENTRANCE

BASIN BOTTOM: 1010.50
TOP OF BERM: 1014.00'

PROPOSED ICE ARENA BUILDING ADDITION
FFE: 1015.57

EXISTING BUILDING
FFE: 1006.90

EXISTING STORMWATER BASIN

EXISTING WETLAND
100-YR HWL: 1002.84
OHWL: 1002.48

OHWL

100-YR HWL

CONSTRUCTION ENTRANCE

BASIN BOTTOM: 1006.5'
TOP OF BERM: 1010.4'

EXISTING STORMWATER BASIN

N
0 20' 40'

LEGEND

- PROPERTY LIMITS
- CONSTRUCTION LIMITS
- 1005 PROPOSED MAJOR CONTOURS
- 1004 PROPOSED MINOR CONTOURS
- 1005 EXISTING MAJOR CONTOURS
- 1004 EXISTING MINOR CONTOURS
- SF SF PROPOSED SILT FENCE
- INLET SEDIMENT PROTECTION
- SEDIMENT CONTROL LOG
- CAT-3 EROSION CONTROL BLANKET
- ROCK CONSTRUCTION ENTRANCE
- 800.1 SPOT ELEVATION
- HP 800.1 HIGH POINT
- LP 800.1 LOW POINT
- FL 800.1 FLOW LINE
- RIM 800.1 RIM ELEVATION
- INV 800 INVERT ELEVATION
- TC 800.1 TOP BACK OF CURB
- ME 800.1 MATCH EXISTING
- PG 800.1 PROPOSED GRADE
- EOF 800 EMERGENCY OVERFLOW
- TA 800 TOP OF ASPHALT
- TC 800 TOP OF CONCRETE
- 12.7% SLOPE ARROW

ANDERSON
13605 1st Ave. N. #100 Plymouth, MN 55441
P 763.412.4000 | F 763.412.4090 | ae-mn.com
Anderson Engineering of Minnesota | Proj # 17925

www.htg-architects.com
Minneapolis Bismarck
1010 Mainstreet, Suite 100
Hopkins, MN 55343
Tel: 952.278.8880

PROJECT

MORRISON ICE ARENA
ORONO, MN

ADDITION / REMODEL

1025 Old Crystal Bay Road
North
Orono, MN 55356

MCWD SUBMITTAL	11/10/2026

REVISIONS

DATE	NO

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota

KYLE J. STEBBING, PE
Name
61855
Reg No. Date

NOT FOR CONSTRUCTION
PRELIMINARY

GRADING & EROSION CONTROL PLAN NORTH

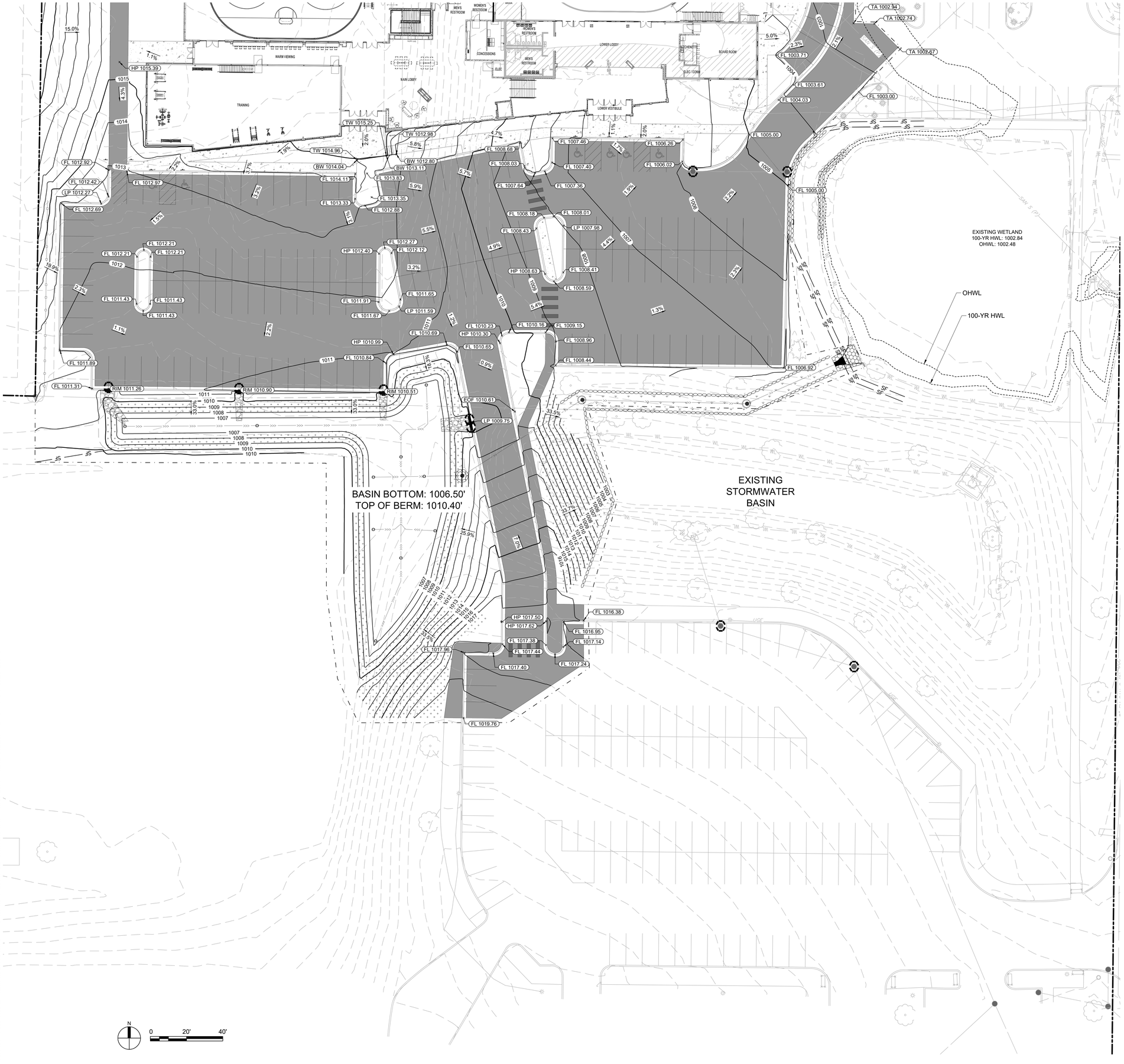
Drawn By: VRB Checked By: KJS

CG101

231168

COPYRIGHT © HTG ARCHITECTS

File Path: y:\17900\17925 htg-morrison ice arena-orono_07 civil_01 cad files_01 sheets\17925_grading sheets.dwg | edit:kstebbing | saved:11/10/2026 1:03 PM | plot:11/10/2026 1:04 PM



LEGEND

- PROPERTY LIMITS
- CONSTRUCTION LIMITS
- 1005 — PROPOSED MAJOR CONTOURS
- 1004 — PROPOSED MINOR CONTOURS
- 1005 — EXISTING MAJOR CONTOURS
- 1004 — EXISTING MINOR CONTOURS
- SF — SF — PROPOSED SILT FENCE
- INLET SEDIMENT PROTECTION
- SEDIMENT CONTROL LOG
- CAT-3 EROSION CONTROL BLANKET
- TURF GRASS
- 800.1 — SPOT ELEVATION
- HP 800.1 — HIGH POINT
- LP 800.1 — LOW POINT
- FL 800.1 — FLOW LINE
- RIM 800.1 — RIM ELEVATION
- INV 800 — INVERT ELEVATION
- TC 800.1 — TOP BACK OF CURB
- ME 800.1 — MATCH EXISTING
- PG 800.1 — PROPOSED GRADE
- EOF 800 — EMERGENCY OVERFLOW
- TA 800 — TOP OF ASPHALT
- TC 800 — TOP OF CONCRETE
- 12.7% — SLOPE ARROW

ANDERSON

13605 1st Ave. N. #100 Plymouth, MN 55441
P 763.412.4000 | F 763.412.4090 | ae-mn.com
Anderson Engineering of Minnesota | Proj # 17925

www.htg-architects.com
Minneapolis Bismarck

1010 Mainstreet, Suite 100
Hopkins, MN 55343
Tel: 952.278.8880

PROJECT

MORRISON ICE ARENA
ORONO, MN

ADDITION / REMODEL

1025 Old Crystal Bay Road
North
Orono, MN 55356

MCWD SUBMITTAL 11/10/2026

REVISIONS

DATE	NO

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota

KYLE J. STEBBING, PE
Name
61855
Reg No. Date

NOT FOR CONSTRUCTION
PRELIMINARY

GRADING & EROSION CONTROL PLAN SOUTH

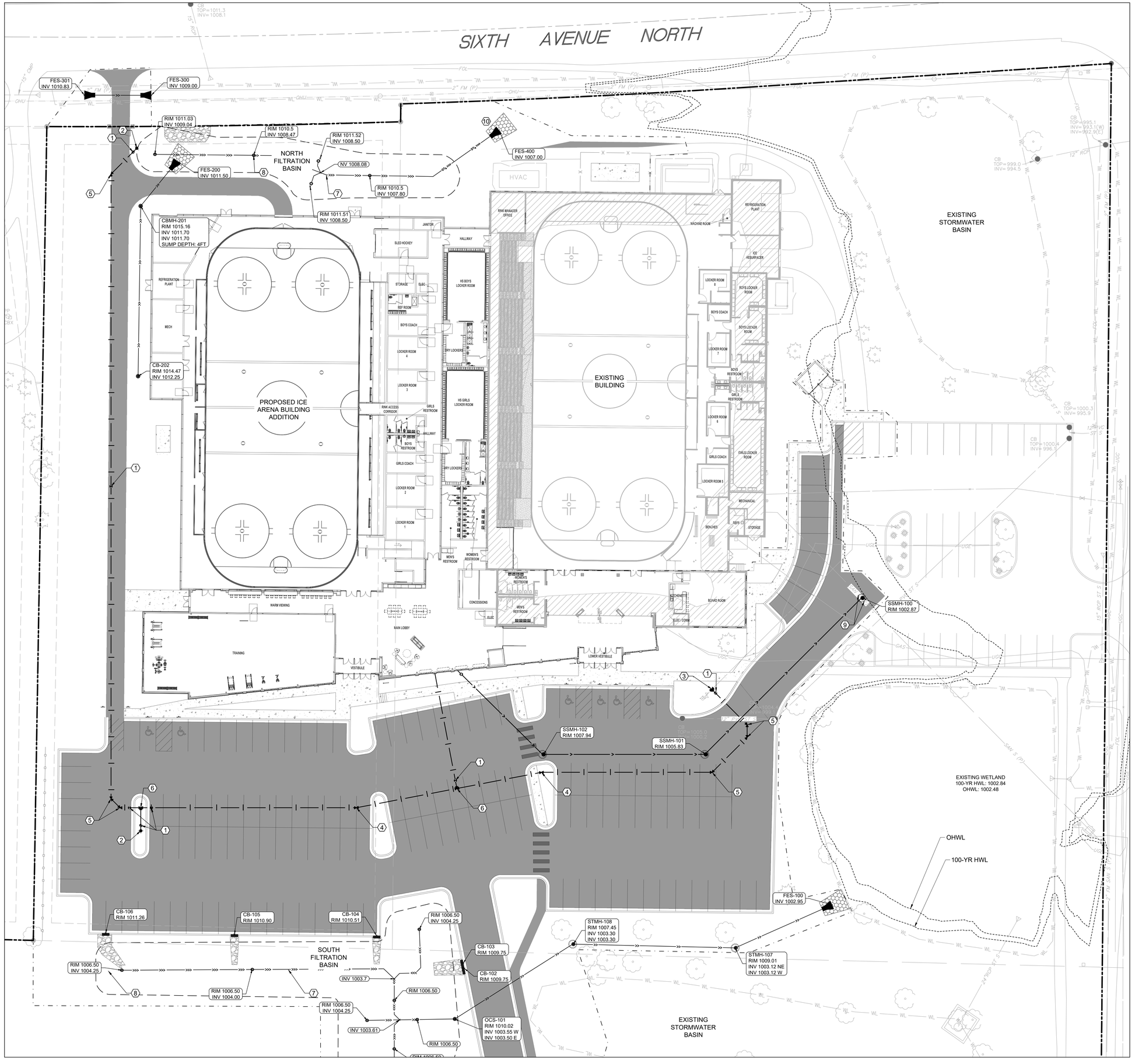
Drawn By: VRB Checked By: KJS

CG102

231168

COPYRIGHT © HTG ARCHITECTS

File Path: y:\17900s\17925 htg-morrison ice arena-orono_07 civil_01 cad files_01 sheets\17925_grading sheets.dwg | edit:kstebbing | saved:11/10/2026 11:49 AM | plot:11/10/2026 12:52 PM



LEGEND

- PROPERTY LIMITS
- CONSTRUCTION LIMITS
- EXISTING WATERMAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING DELINEATED WETLAND
- EXISTING FORCE MAIN
- EXISTING FIBER-OPTIC LINE
- EXISTING OVERHEAD ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND COMMUNICATIONS
- EXISTING HYDRANT AND GV
- EXISTING SANITARY / STORM STRUCTURE
- STORM SEWER PIPE
- 4" PERFORATED DRAINTILE
- 4" SOLID WALL DRAINTILE
- 6" PVC SANITARY SEWER
- 6" DIP WATER MAIN
- STORM STRUCTURES
- SANITARY STRUCTURES
- WATER MAIN FITTINGS
- PIPE CROSSINGS

KEYNOTES:

1. 6" GATE VALVE
2. FIRE HYDRANT
3. CONNECT TO EXISTING WATER MAIN WITH 6" TEE.
4. 6" 11.25° BEND
5. 6" 45° BEND
6. 6" TEE
7. 4" PERFORATED DRAINTILE
8. DRAINTILE CLEANOUT (TYP)
9. CONNECT TO EXISTING SANITARY SEWER
10. 4" HEADWALL OUTFALL

TABLE 1: STORM STRUCTURE SCHEDULE

STRUCTURE NUMBER	SIZE	CASTING (NEENAH OR APPROVED EQUAL)
FES-100	12" HDPE	SEE DETAIL STO-600/CX504
OCS-101	48" ROUND	SEE DETAIL 1/CX503
CB-102		RAIN GUARDIAN FORTRESS
CB-103		RAIN GUARDIAN FORTRESS
CB-104		RAIN GUARDIAN FORTRESS
CB-105		RAIN GUARDIAN FORTRESS
CB-106		RAIN GUARDIAN FORTRESS
STMH-107	15" ROUND	NYLOPLAST - 1599CGC
STMH-108	15" ROUND	NYLOPLAST - 1599CGC
FES-200	12" HDPE	SEE DETAIL STO-600/CX504
CBMH-201	15" ROUND	NYLOPLAST - 1599CGS
CB-202	12" ROUND	NYLOPLAST - 1299CGS
FES 300	15" CMP	SEE DETAIL STO-600/CX504
FES-301	15" CMP	SEE DETAIL STO-600/CX504
FES-400	4" PVC	SEE DETAIL 6/CX502

N

0 20' 40'

ANDERSON
13605 1st Ave. N. #100 Plymouth, MN 55441
P 763.412.4000 | F 763.412.4090 | ae-mn.com
Anderson Engineering of Minnesota | Proj # 17925

www.htg-architects.com
Minneapolis Bismarck
1010 Mainstreet, Suite 100
Hopkins, MN 55343
Tel: 952.278.8880

PROJECT

MORRISON ICE ARENA
ORONO, MN

ADDITION / REMODEL

1025 Old Crystal Bay Road
North
Orono, MN 55356

MCWD SUBMITTAL 11/10/2026
REVISIONS
DATE NO

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota

KYLE J. STEBBING, PE
Name
61855
Reg No. Date

NOT FOR CONSTRUCTION
PRELIMINARY

UTILITY PLAN NORTH

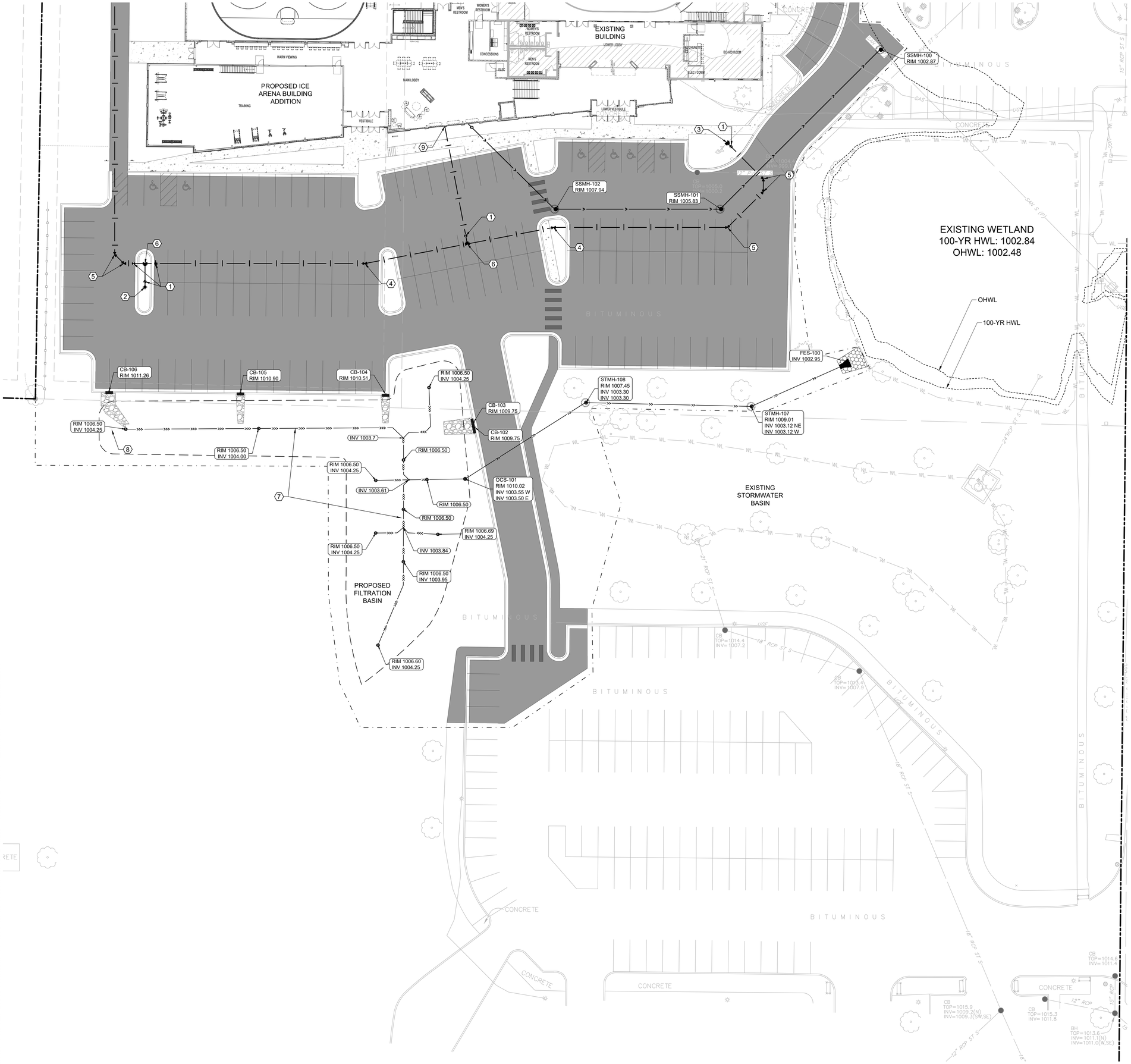
Drawn By: VRB Checked By: KJS

CU101

231168

COPYRIGHT © HTG ARCHITECTS

File Path: y:\17900\17925 htg-morrison ice arena-orono_07 civil_01 cad files_01 sheets\17925_utility sheets.dwg | ed:it.kstebbing | saved:11/10/2026 9:12 AM | plot:11/10/2026 12:52 PM



LEGEND

- PROPERTY LIMITS
- CONSTRUCTION LIMITS
- EXISTING WATERMAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING DELINEATED WETLAND
- EXISTING FORCE MAIN
- EXISTING FIBER-OPTIC LINE
- EXISTING OVERHEAD ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND COMMUNICATIONS
- EXISTING HYDRANT AND GV
- EXISTING SANITARY / STORM STRUCTURE
- STORM SEWER PIPE
- 4" PERFORATED DRAINTILE
- 4" SOLID WALL DRAINTILE
- 6" PVC SANITARY SEWER
- 6" DIP WATER MAIN
- STORM STRUCTURES
- SANITARY STRUCTURES
- WATER MAIN FITTINGS
- PIPE CROSSINGS

KEYNOTES:

1. 6" GATE VALVE
2. FIRE HYDRANT
3. CONNECT TO EXISTING WATER MAIN WITH 6" TEE.
4. 6" 11.25° BEND
5. 6" 45° BEND
6. 6" TEE
7. 4" PERFORATED DRAINTILE
8. DRAINTILE CLEANOUT (TYP)
8. INSTALL 6" PLUG W/ 1" COPPER SERVICE AND 1" CORP FOR TESTING

N

0 20' 40'

ANDERSON
13605 1st Ave. N. #100 Plymouth, MN 55441
P 763.412.4000 | F 763.412.4090 | ae-mn.com
Anderson Engineering of Minnesota | Proj # 17925

www.htg-architects.com
Minneapolis Bismarck
1010 Mainstreet, Suite 100
Hopkins, MN 55343
Tel: 952.278.8880

PROJECT

MORRISON ICE ARENA
ORONO, MN

ADDITION / REMODEL

1025 Old Crystal Bay Road North
Orono, MN 55356

MCWD SUBMITTAL 11/10/2026

REVISIONS

DATE	NO

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota

KYLE J. STEBBING, PE
Name
61855
Reg No. Date

NOT FOR CONSTRUCTION
PRELIMINARY

UTILITY PLAN SOUTH

Drawn By: VRB Checked By: KJS

CU102

231168

COPYRIGHT © HTG ARCHITECTS

File Path: y:\17900s\17925 htg\morrison ice arena-orono_07 civil_01 cad files_01 sheets\17925_utility sheets.dwg | edit:kstebbing | saved:11/10/2026 9:12 AM | plot:11/10/2026 12:52 PM

STORM WATER POLLUTION PREVENTION PLAN NARRATIVE - PAGE 1 OF 2

PROJECT DESCRIPTION/LOCATION

ORONO HOCKEY RINK EXPANSION IS LOCATED IN THE CITY OF LONG LAKE IN HENNEPIN COUNTY WITHIN THE REGION BOUNDED BY 6TH AVE, JAMESTOWN ROAD, OLD CRYSTAL BAY ROAD NORTH, AND THE ORONO HIGH SCHOOL. LATITUDE +44.997734 LONGITUDE -93.595756. LOCATED IN MINNEHAHA CREEK WATERSHED DISTRICT. THE PROPOSED SITE ENCOMPASSES 6.72 ACRES.

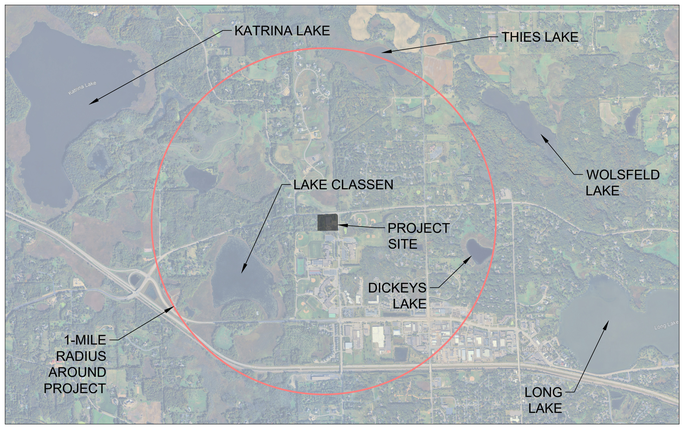
THE PLANNED SCOPE OF THE PROJECT INCLUDES:

- THE INSTALLATION OF EROSION CONTROL MEASURES AS REQUIRED FOR THE MASS GRADING OF THE SITE FOR THE CONSTRUCTION OF THE NEW ICE RINK AND PARKING LOT.
- INSTALLATION OF SANITARY SEWER, WATER MAIN, AND STORM SEWER.
- INSTALLATION OF CONCRETE CURB & GUTTER, SIDEWALKS, AND ASPHALT PAVEMENT PARKING LOT.
- CONSTRUCTION OF NEW ICE RINK AND EXTENSION TO EXISTING RINK.

RECEIVING WATERS

THESE WATERS ARE LOCATED WITHIN ONE MILE (AERIAL RADIUS) OF THE PROJECT LIMITS. DUE TO THE PROXIMITY OF THE RECEIVING WATERS, THE BMPS DESCRIBED IN APPENDIX A OF THE NPDES PERMIT MAY APPLY TO ALL AREAS OF THE SITE.

STORM WATER WILL BE CAPTURED THROUGH A STORM SEWER NETWORK WHERE IT WILL BE TREATED AND STORED UNDERGROUND. THE UNDERGROUND STORM CHAMBER WILL STORE STORM WATER AND ALLOW IT TO INFILTRATE INTO THE SOILS. DURING HEAVY BACK-TO-BACK RAINFALL EVENTS, THE TREATED STORM WATER WILL OUTLET INTO AN ADJACENT WETLAND, ALLOWING THE NEW STORM WATER TO BE STORED AND TREATED.



WATERS WITHIN 1 MILE RADIUS					
NAME OF WATER BODY	TYPE (LAKE, RIVER, WETLAND, DITCH, ETC)	APPENDIX A SPECIAL WATER (YES OR NO)	IMPAIRED WATER WITHIN 1 MILE OF PROJECT SITE (YES OR NO)	APPROVED TMDL	RECEIVING WATERS (YES OR NO)
LAKE CLASSEN	LAKE	NO	NO	NA	NO
DICKEYS LAKE	LAKE	NO	NO	NA	NO
THIES LAKE	LAKE	YES	YES	NA	NO

DUE TO THE PROXIMITY OF THE THIES LAKE, THE FOLLOWING WILL BE IMPLEMENTED ACCORDING TO THE MPCA REQUIREMENTS FOR DISCHARGING INTO IMPAIRED WATERS:

1. 23.9:Permittees must immediately initiate stabilization of exposed soil areas, as described in item 8.4, and complete the stabilization within seven (7) calendar days after the construction activity in that portion of the site temporarily or permanently ceases.
2. 23.10:Permittees must provide a temporary sediment basin as described in Section 14 for common drainage locations that serve an area with five (5) or more acres disturbed at one time.

SOIL TYPES

SOIL TYPES TYPICALLY FOUND ON THIS PROJECT CONSIST OF SANDY LEAN CLAY, SILTY SANDS, LEAN CLAY WITH SAND, AND SANDS WITH VARIOUS AMOUNTS OF GRAVEL. PER SOIL BORINGS TAKEN BY AMERICAN ENGINEERING TESTING DATED 12/09/2025. AMERICAN ENGINEERING TESTINGS REPORT IS TO BE KEPT ON SITE AS PART OF THE SWPPP AND IS TO BE MADE AVAILABLE UPON REQUEST.

PROJECT PERSONNEL AND TRAINING

THIS SWPPP WAS PREPARED BY PERSONNEL THAT ARE CERTIFIED IN THE DESIGN OF CONSTRUCTION SWPPP. COPIES OF THE CERTIFICATIONS ARE ON FILE WITH THE ENGINEER.

PROVIDE A CERTIFIED EROSION CONTROL SUPERVISOR IN GOOD STANDING WHO IS KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES. THE EROSION CONTROL SUPERVISOR WILL WORK WITH THE PROJECT ENGINEER / SWPPP DESIGNER TO OVERSEE THE IMPLEMENTATION OF THE SWPPP AND THE INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPS BEFORE, DURING, AND AFTER CONSTRUCTION UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE MPCA. PROVIDE PROOF OF CERTIFICATION AT THE PRECONSTRUCTION MEETING. WORK WILL NOT BE ALLOWED TO COMMENCE UNTIL PROOF OF CERTIFICATION HAS BEEN PROVIDED TO THE PROJECT ENGINEER.

PROVIDE AT LEAST ONE CERTIFIED INSTALLER FOR EACH CONTRACTOR OR SUBCONTRACTOR THAT INSTALLS THE PRODUCTS LISTED IN SPECIFICATION SECTION 2573.3.A.2 CERTIFIED INSTALLERS. PROVIDE PROOF OF CERTIFICATION AT THE PRECONSTRUCTION MEETING. WORK WILL NOT BE ALLOWED TO COMMENCE UNTIL PROOF OF CERTIFICATION HAS BEEN PROVIDED TO THE PROJECT ENGINEER.

CHAIN OF RESPONSIBILITY

THE OWNER AND CONTRACTOR ARE CO-PERMITTEES FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION PERMIT. THE CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL ASPECTS OF THE NPDES CONSTRUCTION PERMIT AT ALL TIMES UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE MPCA THE CONTRACTOR WILL DEVELOP A CHAIN OF COMMAND WITH ALL OPERATORS ON THE SITE TO ENSURE THAT THE SWPPP WILL BE IMPLEMENTED AND STAY IN EFFECT UNTIL THE CONSTRUCTION PROJECT IS COMPLETE, THE ENTIRE SITE HAS UNDERGONE FINAL STABILIZATION, AND A NOTICE OF TERMINATION (NOT) HAS BEEN SUBMITTED TO THE MPCA.

PROJECT CONTACTS

THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTATION OF THE SWPPP AND INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPS BEFORE, DURING, AND AFTER CONSTRUCTION UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED.

CONTACT INFORMATION		
ORGANIZATION	CONTACT NAME	PHONE
ORONO HOCKEY RINK	ANGELA ERICKSON	612-382-3880
ANDERSON ENGINEERING (SWPPP DESIGN)	BLAKE HILDAHL*	763-412-4000
HTG ARCHITECTS	JESSICA JOHNSON	952-278-8880

*CERTIFIED FOR DESIGN OF CONSTRUCTION SWPPP BY UNIVERSITY OF MINNESOTA, EXPIRES 5/30/26

MPCA DUTY OFFICER 24 HOUR EMERGENCY NOTIFICATION:
651-649-5451 OR 800-422-0798

SITE INSPECTION AND MAINTENANCE

CONTRACTOR SHALL PROVIDE NAME, CONTACT INFO, AND TRAINING DOCUMENTATION FOR THE PERSON RESPONSIBLE FOR SWPPP IMPLEMENTATION AND INSPECTION/MAINTENANCE OF BMPS.

INSPECT THE ENTIRE CONSTRUCTION SITE A MINIMUM OF ONCE EVERY SEVEN DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES WITHIN A 24 HOUR TIME FRAME. INSPECT ALL TEMPORARY AND PERMANENT WATER QUALITY MANAGEMENT, EROSION PREVENTION AND SEDIMENT CONTROL BMPS UNTIL THE SITE HAS UNDERGONE FINAL STABILIZATION AND THE N.O.T. HAS BEEN SUBMITTED. INSPECT SURFACE WATER INCLUDING DRAINAGE DITCHES FOR SIGNS OF EROSION AND SEDIMENT DEPOSITION. INSPECT CONSTRUCTION SITE VEHICLE EXIT LOCATIONS FOR EVIDENCE OF TRACKING ONTO PAVED SURFACES. INSPECT SURROUNDING PROPERTIES FOR EVIDENCE OF OFF SITE SEDIMENT ACCUMULATION.

RECORD ALL INSPECTIONS AND MAINTENANCE ACTIVITIES IN WRITING WITHIN 24 HOURS. SUBMIT INSPECTION REPORTS IN A FORMAT THAT IS ACCEPTABLE TO THE PROJECT ENGINEER.

FOR PROJECTS THAT DISCHARGE TO PROHIBITED WATERS, CONDUCT ROUTINE SITE INSPECTIONS AT A MINIMUM OF ONCE EVERY 72 HOURS (3 DAYS).

INCLUDE THE FOLLOWING IN THE RECORDS OF EACH INSPECTION AND MAINTENANCE ACTIVITY:

A. DATE AND TIME OF INSPECTIONS
B. NAME OF PERSONS CONDUCTING INSPECTIONS
C. FINDINGS OF INSPECTIONS, INCLUDING RECOMMENDATIONS FOR CORRECTIVE ACTIONS
D. CORRECTIVE ACTION TAKEN, INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES
E. DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 0.5 INCH IN 24 HOURS
F. DOCUMENTS AND CHANGES MADE TO THE SWPPP

REPLACE, REPAIR OR SUPPLEMENT ALL NONFUNCTIONAL BMPS IN THE TIME PROVIDED BELOW:

A. REPAIR, REPLACE, OR SUPPLEMENT PERIMETER CONTROL DEVICES WHEN IT BECOMES NONFUNCTIONAL OR SEDIMENT REACHES ½ THE HEIGHT OF THE DEVICE. COMPLETE REPAIRS BY THE END OF THE NEXT BUSINESS DAY FOLLOWING DISCOVERY.
B. REPAIR OR REPLACE INLET PROTECTION DEVICES WHEN THEY BECOME NONFUNCTIONAL OR SEDIMENT REACHES ½ THE HEIGHT AND/OR DEPTH OF THE DEVICE. COMPLETE REPAIRS BY THE END OF THE NEXT BUSINESS DAY FOLLOWING DISCOVERY.
C. DRAIN AND REMOVE SEDIMENT FROM TEMPORARY AND PERMANENT SEDIMENT BASINS ONCE THE SEDIMENT HAS REACHED ½ THE STORAGE VOLUME. COMPLETE WORK WITHIN 72 HOURS OF DISCOVERY.
D. REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATER INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS. RESTABILIZE ANY AREAS THAT ARE DISTURBED BY SEDIMENT REMOVAL OPERATION. SEDIMENT REMOVAL AND STABILIZATION MUST BE COMPLETED WITHIN 7 DAYS OF DISCOVERY. PREPARE AND SUBMIT A SITE MANAGEMENT PLAN FOR WORKING IN SURFACE WATERS.
E. REMOVE TRACKED SEDIMENT FROM PAVED SURFACES BOTH ON AND OFF SITE WITHIN 24 HOURS OF DISCOVERY. STREET SWEEPING MAY HAVE TO OCCUR MORE OFTEN TO MINIMIZE OFF SITE IMPACTS. LIGHTLY WET THE PAVEMENT PRIOR TO SWEEPING.
F. MAINTAIN ALL BMPS UNTIL WORK HAS BEEN COMPLETED, SITE HAS GONE UNDER FINAL STABILIZATION, AND THE NOTICE OF TERMINATION (NOT) HAS BEEN SUBMITTED TO THE MPCA.

AREA SUMMARY	ACREAGE SUMMARY
AREA	ACRES
PROPERTY	98.45
DISTURBED	2.56
IMP. PRE-CONSTRUCTION	29.92
IMP. POST-CONSTRUCTION	31.99
NEW IMP.	2.07
PERVIOUS AT COMPLETION	66.46

SPECIAL SITE NOTES

IF SITE REQUIRES PERMANENT STORMWATER MANAGEMENT, HYDROLOGIC AND WATER QUALITY MODELING DATA IS AVAILABLE UPON REQUEST.

THE SWPPP COORDINATOR MUST BE AVAILABLE FOR AN ONSITE INSPECTION WITHIN 72 HOURS UPON REQUEST BY THE MPCA AND SHALL BE RESPONSIBLE FOR THE FOLLOWING:

- SUBMIT THE NPDES PERMIT APPLICATION AND COMPLY WITH ALL REQUIREMENTS.
- IMPLEMENT THE SWPPP.
- OVERSEE INSTALLATION AND MAINTENANCE PRACTICES AND REPAIRS IDENTIFIED IN THE SWPPP.
- IMPLEMENT AND OVERSEE EMPLOYEE TRAINING AND RECORD IN OR WITH THE SWPPP.
- CONDUCT OR PROVIDE FOR INSPECTION AND MONITORING ACTIVITIES AND MAINTAIN LOGS AS PERMIT REQUIRES.
- IDENTIFY OTHER POTENTIAL POLLUTANT SOURCES NOT LISTED IN THE SWPPP AND ADD THEM.
- IDENTIFY ANY DEFICIENCIES IN THE SWPPP AND CORRECT THEM.
- ENSURE THAT CHANGES TO CONSTRUCTION PLANS ARE ADDRESSED IN THE SWPPP.
- FILE THE NOTICE OF TERMINATION UPON PROJECT COMPLETION.

AFTER THE NOTICE OF TERMINATION HAS BEEN FILED, THE OWNER SHALL BE RESPONSIBLE FOR ASSIGNING RESPONSIBILITY FOR PERMANENT MAINTENANCE MEASURES.

PERMITS

THE FOLLOWING PERMITS APPLY TO THIS PROJECT:

AGENCY	TYPE OF PERMIT	PERMIT # AND DATES
MINNESOTA POLLUTION CONTROL AGENCY (MPCA)	NPDES CONSTRUCTION PERMIT	[#]
CITY OF LONG LAKE	GRADING PERMIT	[#]
CITY OF LONG LAKE	BUILDING PERMIT	[#]
MINNEHAHA CREEK WATERSHED	STORMWATER PERMIT	[#]

NOTE: IF THE 25' BUFFERS ARE MAINTAINED FROM THE WETLANDS, ADDITIONAL PERMITS WILL NOT BE REQUIRED.

LOCATION OF SWPPP REQUIREMENTS

THE REQUIRED SWPPP ELEMENTS MAY BE LOCATED IN MANY PLACES WITHIN THE PLAN SET.

SWPPP AMENDMENTS

A QUALIFIED INDIVIDUAL MUST COMPLETE ALL SWPPP CHANGES. CHANGES INVOLVING THE USE OF A LESS STRINGENT BMP MUST INCLUDE A JUSTIFICATION DESCRIBING HOW THE REPLACEMENT BMP IS EFFECTIVE FOR THE SITE CHARACTERISTICS.

PERMITTEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMPS AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION OPERATION, MAINTENANCE, WEATHER, OR SEASONAL CONDITIONS HAVING A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER.

PERMITTEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMPS AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER INSPECTIONS OR INVESTIGATIONS BY THE SITE OWNER OR OPERATOR, USEPA OR MPCA OFFICIALS INDICATE THE SWPPP IS NOT EFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER OR THE DISCHARGES ARE CAUSING WATER QUALITY STANDARD EXCEEDANCES OR THE SWPPP IS NOT CONSISTENT WITH THE OBJECTIVES OF A USEPA APPROVED TMDL.

STABILIZATION TIME FRAMES

ALL AREAS DISTURBED BY CONSTRUCTION WILL RECEIVE SEED OR SOD ACCORDING TO THE PLANS AND SPECIFICATIONS AND WITHIN THE SPECIFIED VEGETATIVE TIME SCHEDULE. FINAL STABILIZATION WILL OCCUR WHEN THE SITE HAS A UNIFORM VEGETATIVE COVER WITH A DENSITY OF 70% OVER THE ENTIRE DISTURBED AREA COMPARED TO EXISTING CONDITIONS. ALL TEMPORARY SYNTHETIC EROSION PREVENTION AND SEDIMENT CONTROL BMPS MUST BE REMOVED AS PART OF THE SITE FINAL STABILIZATION. ALL SEDIMENT MUST BE CLEANED OUT OF CONVEYANCES AND TEMPORARY SEDIMENTATION BASINS IF APPLICABLE.

ANDERSON
13605 1st Ave. N. #100 Plymouth, MN 55441
P 763.412.4000 | F 763.412.4090 | ae-mn.com
Anderson Engineering of Minnesota | Proj # 17925

www.htg-architects.com
Minneapolis Bismarck

1010 Mainstreet, Suite 100
Hopkins, MN 55343
Tel: 952.278.8880

PROJECT

MORRISON ICE ARENA
ORONO, MN

ADDITION / REMODEL

1025 Old Crystal Bay Road North
Orono, MN 55356

MCWD SUBMITTAL	11/10/2026
REVISIONS	
DATE	NO

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota

KYLE J. STEBBING, PE
Name
61855
Reg No. Date

NOT FOR CONSTRUCTION
PRELIMINARY

SWPPP NARRATIVE

Drawn By: VRB Checked By: KJS

CE201

231168

COPYRIGHT © HTG ARCHITECTS

File Path: y:\17900\17925 htg-morrison ice arena-orono_07 civil_01 cad files_01 sheets\17925_swppp.dwg | edit:katebbing | saved:9/29/2026 9:53 AM | plot:11/10/2026 12:53 PM

STORM WATER POLLUTION PREVENTION PLAN NARRATIVE - PAGE 2 OR 2

AREA	TIME FRAME	NOTES
LAST 200 LINEAL FEET OF DRAINAGE DITCH OR SWALE	WITHIN 24 HOURS OF CONNECTION TO SURFACE WATER OR PROPERTY EDGE	1, 2, 3
REMAINING PORTIONS OF DRAINAGE DITCH OR SWALE	7 DAYS	1, 3
PIPE AND CULVERT OUTLETS	24 HOURS	
STOCKPILES	7 DAYS	1

1. INITIATE INLET STABILIZATION IMMEDIATELY WHEN CONSTRUCTION HAS TEMPORARILY OR PERMANENTLY CEASED ON ANY PORTION OF THE SITE. COMPLETE STABILIZATION WITHIN THE TIME FRAME LISTED. IN MANY INSTANCES THIS WILL REQUIRE STABILIZATION TO OCCUR MORE THAN ONCE DURING THE COURSE OF THE PROJECT. TEMPORARY SOIL STOCKPILES WITHOUT SIGNIFICANT CLAY OR SILT AND STOCKPILED AND CONSTRUCTED ROAD BASE ARE NOT APPROPRIATE AND THEREFORE EXEMPT FROM THE STABILIZATION REQUIREMENT.

2. APPLICATION OF MULCH, HYDROMULCH, TACKIFIER AND POLYACRYLAMIDE ARE NOT ACCEPTABLE STABILIZATION METHODS IN THESE AREAS.

3. STABILIZE ALL AREAS OF THE SITE PRIOR TO THE ONSET OF WINTER, ANY WORK STILL BEING PERFORMED WILL BE SNOW MULCHED, SEEDED, AND BLANKETED WITHIN THE TIME FRAMES IN THE NPDES PERMIT.

4. TOPSOIL BERMS MUST BE STABILIZED IN ORDER TO BE CONSIDERED PERIMETER CONTROL BMPS. USE RAPID STABILIZATION METHOD 2, 3, OR 4 AS DIRECTED BY THE ENGINEER. THE SEED MIX USED IN THE RAPID STABILIZATION MAY BE SUBSTITUTED AS FOLLOWS:

   A. SINGLE YEAR CONSTRUCTION BETWEEN MAY 1 & AUG. 1 — SEED WITH OATS (O)
   B. SINGLE YEAR CONSTRUCTION BETWEEN AUG. 1 & OCT. 31 — SEED WITH WINTER WHEAT (WW)
   C. MULTI YEAR CONSTRUCTION — SEED WITH TWO-YEAR COVER CROP (TCC)

5. KEEP DITCHES AND EXPOSED SOILS IN AN EVEN ROUGH GRADED CONDITION IN ORDER TO BE ABLE TO APPLY EROSION CONTROL MULCHES, HYDROMULCHES AND BLANKETS.

GENERAL SWPPP NOTES FOR CONSTRUCTION ACTIVITY

1. CONTRACTOR SHALL AMEND THE SWPPP AND DOCUMENT ANY AND ALL CHANGES TO THE SWPPP AND ASSOCIATED PLAN SHEETS WITHIN 7 DAYS UPON IMPLEMENTATION. STORE THE SWPPP AND ALL AMENDMENTS ON SITE AT ALL TIMES.
2. PREPARE AND SUBMIT A SITE MANAGEMENT PLAN FOR THE ENGINEER'S ACCEPTANCE FOR CONCRETE MANAGEMENT, CONCRETE SLURRY APPLICATION AREAS, WORK IN AND NEAR AREAS OF ENVIRONMENTAL SENSITIVITY, AREAS IDENTIFIED IN THE PLANS AS "SITE MANAGEMENT PLAN AREA", ANY WORK THAT WILL REQUIRE DEWATERING, AND AS REQUESTED BY THE ENGINEER. SUBMIT ALL SITE MANAGEMENT PLANS TO THE ENGINEER IN WRITING. ALLOW A MINIMUM OF 7 DAYS FOR THE ENGINEER TO REVIEW AND ACCEPT SITE MANAGEMENT PLAN SUBMITTALS. WORK WILL NOT BE ALLOWED TO COMMENCE IF A SITE MANAGEMENT PLAN IS REQUIRED UNTIL ACCEPTANCE HAS BEEN GRANTED BY THE ENGINEER. THERE WILL BE NO EXTRA TIME ADDED TO THE CONTRACT DUE TO THE UNTIMELY SUBMITTAL.
3. IT IS THE DESIGNER'S INTENT THAT THE CONTRACTOR BUILD PONDS AND INSTALL EROSION CONTROL BMPS BEFORE PUTTING THEM INTO ACTIVE SERVICE TO THE MAXIMUM EXTENT PRACTICABLE.
4. BURNING OF ANY MATERIAL IS NOT ALLOWED WITHIN PROJECT BOUNDARY.
5. DO NOT DISTURB AREAS OUTSIDE OF THE CONSTRUCTION LIMITS. DELINEATE AREAS NOT TO BE DISTURBED PRIOR TO STARTING GROUND DISTURBING ACTIVITIES. IF IT BECOMES NECESSARY TO DISTURB AREAS OUTSIDE OF THE CONSTRUCTION LIMITS, OBTAIN WRITTEN PERMISSION FROM THE PROJECT ENGINEER PRIOR TO PROCEEDING. PRESERVE ALL NATURAL BUFFERS SHOWN ON THE PLANS.
6. ROUTE STORMWATER AROUND UNSTABILIZED AREAS OF THE SITE WHENEVER FEASIBLE. PROVIDE EROSION CONTROL AND VELOCITY DISSIPATION DEVICES AS NEEDED TO KEEP CHANNELS FROM ERODING AND TO PREVENT NUISANCE CONDITIONS AT THE OUTLET.
7. DIRECT DISCHARGES FROM BMPS TO VEGETATED AREA WHENEVER FEASIBLE. PROVIDE VELOCITY DISSIPATION DEVICES AS NEEDED TO PREVENT EROSION.
8. THE EROSION PREVENTION AND SEDIMENT CONTROL BMPS SHALL BE PLACED AS NECESSARY TO MINIMIZE EROSION FROM DISTURBED SURFACES AND TO CAPTURE SEDIMENT ON SITE. ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF ANY REMOVAL WORK AND/OR GROUND DISTURBING ACTIVITIES COMMENCE.
9. ESTABLISH SEDIMENT CONTROL DEVICES ON ALL DOWN GRADIENT PERIMETERS AND UP GRADIENT OF ANY BUFFER ZONES BEFORE UP GRADIENT LAND DISTURBING ACTIVITIES BEGIN. MAINTAIN SEDIMENT CONTROL DEVICES UNTIL CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
10. LOCATE PERIMETER CONTROL ON THE CONTOUR TO CAPTURE OVERLAND, LOW-VELOCITY SHEET FLOWS DOWN GRADIENT OF ALL EXPOSED SOILS AND PRIOR TO DISCHARGING TO SURFACE WATERS. PLACE J-HOOKS AT A MAXIMUM OF 100 FOOT INTERVALS.
11. PROVIDE PERIMETER CONTROL AROUND ALL STOCKPILES. PLACE BMP A MINIMUM 5 FEET FROM THE TOE OF SLOPE WHERE FEASIBLE. DO NOT PLACE STOCKPILES IN NATURAL BUFFER AREAS, SURFACE WATERS OR STORMWATER CONVEYANCES.
12. FLOATING SILT CURTAIN IS ALLOWED AS PERIMETER CONTROL FOR IN WATER WORK ONLY. INSTALL THE FLOATING SILT CURTAIN AS CLOSE TO SHORE AS POSSIBLE. PLACE PERIMETER CONTROL BMP ON LAND IMMEDIATELY AFTER THE IN WATER WORK IS COMPLETED.
13. DITCH CHECKS WILL BE PLACED AS INDICATED ON THE PLANS DURING ALL PHASES OF CONSTRUCTION.
14. PLACE CONSTRUCTION EXITS, AS NECESSARY, TO PREVENT TRACKING OF SEDIMENT ONTO PAVED SURFACES BOTH ON AND OFF THE PROJECT SITE. PROVIDE CONSTRUCTION EXITS OF SUFFICIENT SIZE TO PREVENT TRACK OUT. MAINTAIN CONSTRUCTION EXITS WHEN EVIDENCE OF TRACKING IS DISCOVERED. REGULAR STREET SWEEPING IS NOT AN ACCEPTABLE ALTERNATIVE TO PROPER CONSTRUCTION EXIT INSTALLATION AND MAINTENANCE. CONSTRUCTION EXITS ARE INCIDENTAL.
15. DISCHARGE TURBID OR SEDIMENT LADEN WATER TO TEMPORARY SEDIMENT BASINS WHENEVER FEASIBLE. IN THE EVENT THAT IT IS NOT FEASIBLE TO DISCHARGE THE SEDIMENT LADEN WATER TO A TEMPORARY SEDIMENT BASIN, THE WATER MUST BE TREATED SO THAT IT DOES NOT CAUSE A NUISANCE CONDITION IN THE RECEIVING WATERS OR TO DOWNSTREAM LANDOWNERS. CLEAN OUT ALL PERMANENT STORMWATER BASINS REGARDLESS OF WHETHER USED AS TEMPORARY SEDIMENT BASINS OR TEMPORARY SEDIMENT TRAPS TO THE DESIGN CAPACITY AFTER ALL UP GRADIENT LAND DISTURBING ACTIVITY IS COMPLETED.
16. PROVIDE SCOUR PROTECTION AT ANY OUTFALL OF DEWATERING ACTIVITIES.
17. PROVIDE STABILIZATION IN ANY TRENCHES CUT FOR DEWATERING OR SITE DRAINING PURPOSES.

POLLUTION PREVENTION

1. PROVIDE A SPILL KIT AT EACH WORK LOCATION ON THE SITE.
2. STORE ALL BUILDING MATERIALS THAT HAVE THE POTENTIAL TO LEACH POLLUTANTS, PESTICIDES, HERBICIDES, INSECTICIDES, FERTILIZERS, TREATMENT CHEMICALS, AND LANDSCAPE MATERIALS UNDER COVER WITH SECONDARY CONTAINMENT.
3. PROVIDE A SECURE STORAGE AREA WITH RESTRICTED ACCESS FOR ALL HAZARDOUS MATERIALS AND TOXIC WASTE. RETURN ALL HAZARDOUS MATERIALS AND TOXIC WASTE TO THE DESIGNATED STORAGE AREA AT THE END OF THE BUSINESS DAY UNLESS INFEASIBLE. STORE ALL HAZARDOUS MATERIALS AND TOXIC WASTE (INCLUDING BUT NOT LIMITED TO OIL, DIESEL FUEL, GASOLINE, HYDRAULIC FLUIDS, PAINT, PETROLEUM BASED PRODUCTS, WOOD PRESERVATIVES, ADDITIVES, CURING COMPOUNDS, AND ACIDS) IN SEALED CONTAINERS WITH SECONDARY CONTAINMENT. CLEAN UP SPILLS IMMEDIATELY.
4. STORE, COLLECT AND DISPOSE OF ALL SOLID WASTE.
5. POSITION ALL PORTABLE TOILETS SO THAT THEY ARE SECURE AND CANNOT BE TIPPED OR KNOCKED OVER. PROPERLY DISPOSE OF ALL SANITARY WASTE.
6. FUEL AND MAINTAIN VEHICLES IN A DESIGNATED CONTAINED AREA WHENEVER FEASIBLE. USE DRIP PANS OR ABSORBENT MATERIALS TO PREVENT SPILLS OR LEAKED CHEMICALS FROM DISCHARGING TO SURFACE WATER OR STORMWATER CONVEYANCES. PROVIDE A SPILL KIT AT EACH LOCATION THAT VEHICLES AND EQUIPMENT ARE FUELED OR MAINTAINED AT.
7. LIMIT VEHICLE AND EQUIPMENT WASHING TO A DEFINED AREA OF THE SITE. CONTAIN RUNOFF FROM THE WASHING AREA TO A TEMPORARY SEDIMENT BASIN OR OTHER EFFECTIVE CONTROL. PROPERLY DISPOSE OF ALL WASTE GENERATED BY VEHICLE AND EQUIPMENT WASHING. ENGINE DEGREASING IS NOT ALLOWED ON THE SITE.
8. PROVIDE EFFECTIVE CONTAINMENT FOR ALL LIQUID AND SOLID WASTES GENERATED BY WASHOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS. LIQUID AND SOLID WASHOUT WASTES MUST NOT CONTACT THE GROUND. DESIGN THE CONTAINMENT SO THAT IT DOES NOT RESULT IN RUNOFF FROM THE WASHOUT OPERATIONS OR CONTAINMENT AREA.
9. CREATE AND FOLLOW A WRITTEN DISPOSAL PLAN FOR ALL WASTE MATERIALS. INCLUDE IN THE PLAN HOW THE MATERIAL WILL BE DISPOSED OF AND THE LOCATION OF THE DISPOSAL SITE. SUBMIT PLAN TO THE ENGINEER.
10. USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT DISCHARGE OR PLACEMENT OF BITUMINOUS GRINDINGS, CUTTING, MILLINGS, AND OTHER BITUMINOUS WASTES FROM AREAS OF EXISTING OR FUTURE VEGETATED SOILS AND FROM ALL WATER CONVEYANCE SYSTEMS, INCLUDING INLETS, DITCHES AND CURB FLOW LINES.
11. USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT CONCRETE DUST, PARTICLES, CONCRETE WASH OUT, AND OTHER CONCRETE WASTES FROM LEAVING SITE, DEPOSITING IN EXISTING OR FUTURE VEGETATED AREAS, AND FROM ENTERING STORMWATER CONVEYANCE SYSTEMS, INCLUDING INLETS, DITCHES AND CURB FLOW LINES. USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT SAW CUT SLURRY AND PLANING WASTE FROM LEAVING SITE AND FROM ENTERING STORMWATER CONVEYANCE SYSTEMS INCLUDING DITCHES AND CULVERTS.

RECORD RETENTION

THE SWPPP, ALL CHANGES TO IT AND INSPECTION AND MAINTENANCE RECORDS MUST BE KEPT ON-SITE DURING CONSTRUCTION. THE OWNER MUST RETAIN A COPY OF THE SWPPP ALONG WITH THE FOLLOWING RECORDS FOR THREE (3) YEARS AFTER SUBMITTAL OF THE NOTICE OF TERMINATION (NOT):

1. ANY OTHER PERMITS REQUIRED FOR THE PROJECT.
2. RECORDS OF ALL INSPECTION AND MAINTENANCE CONDUCTED DURING CONSTRUCTION
3. ALL PERMANENT OPERATIONS AND MAINTENANCE AGREEMENTS THAT HAVE BEEN IMPLEMENTED INCLUDING ALL RIGHT OF WAY, CONTRACTS, COVENANTS AND OTHER BINDING REQUIREMENTS REGARDING PERPETUAL MAINTENANCE; AND
4. ALL REQUIRED CALCULATIONS FOR DESIGN OF THE TEMPORARY AND PERMANENT STORMWATER MANAGEMENT SYSTEMS.

SWPPP SCHEDULE OF INSTALLATION & MAINTENANCE

ITEM	INSTALLATION	INSPECTION & MAINTENANCE	REMOVAL
SILT FENCE	PRIOR TO COMMENCEMENT OF EARTHWORK OPERATIONS.	INSPECT & MAINT. AFTER EACH RUN-OFF EVENT. REMOVE SEDIMENTS AS REQUIRED.	AFTER TRIBUTARY DRAINAGE AREA IS RESTORED.
ROCK CONST. ENTRANCE	PRIOR TO COMMENCEMENT OF EARTHWORK OPERATIONS.	INSPECT REGULARLY. MAINTAIN AS NEEDED.	PRIOR TO PAVING.
OUTLET SKIMMER STRUCTURE	AFTER POND GRADING IS COMPLETED.	INSPECT REGULARLY. MAINTAIN AS NEEDED.	PERMANENT.
RIP-RAP & FILTER	UPON COMPLETION OF POND GRADING, CONC. SWALE CONST. AND OUTLET INSTALLATION.	INSPECT & MAINTAIN AT LEAST ANNUALLY AND AFTER HEAVY RAINFALL EVENT.	PERMANENT.
DETENTION POND	DURING EARTHWORK OPERATIONS.	AFTER HEAVY RAINFALL EVENTS. REMOVE SEDIMENTS AS NEEDED.	PERMANENT.
SEED & MULCH	AFTER POND GRADING IS COMPLETED.	INSPECT & MAINTAIN AFTER HEAVY RAINS. REPLACE WASH-OUT AREAS IMMEDIATELY	NO REMOVAL NECESSARY.
INLET PROTECTION	UPON INLET CONSTRUCTING	WHEN 1/3 CAPACITY OF BMP IS REACHED	AFTER TRIBUTARY AREAS ARE FULLY RESTORED

ESTIMATED BMPS QUANTITIES

BMP	ORIGINAL ESTIMATE	MODIFICATION	DATE
ENERGY DISSIPATER			
TEMP. DIVERSION DIKES			
CHECK DAMS			
TEMP SEEDING			
PERMANENT SEEDING	32,692 SF		
PERMANENT SODDING	18,093 SF		
MULCHES (SPECIFY TYPES)	10,348 SF (ROCK MULCH)		
CAT 3 EROSION CONTROL BLANKET	14,930 SF		
SOIL TACKIFIERS			
SILT FENCING	870 LF		
EROSION CONTROL MATS			
STORM DRAIN INLET PROTECTION	13		
TEMPORARY OR PERMANENT SEDIMENTATION BASINS			
CONSTRUCTION ENTRANCE	2		
DEWATERING (TREATMENT LOCATION, SCHEMATIC, & SAMPLING PLAN REQUIRED			
CONCRETE TRUCK WASHOUT			

ANDERSON
13605 1st Ave. N. #100 Plymouth, MN 55441
P 763.412.4000 | F 763.412.4090 | ae-mn.com
Anderson Engineering of Minnesota | Proj # 17925

www.htg-architects.com
Minneapolis Bismarck
1010 Mainstreet, Suite 100
Hopkins, MN 55343
Tel: 952.278.8880

PROJECT

MORRISON ICE ARENA
ORONO, MN

ADDITION / REMODEL

1025 Old Crystal Bay Road North
Orono, MN 55356

MCWD SUBMITTAL 11/10/2026

REVISIONS

DATE	NO	

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota

KYLE J. STEBBING, PE
Name
61855
Reg No. Date

NOT FOR CONSTRUCTION
PRELIMINARY

SWPPP NARRATIVE

Drawn By: VRB Checked By: KJS

CE202

231168

COPYRIGHT © HTG ARCHITECTS

File Path: y:\179001\17925 htg-morrison ice arena-orono_07 civil_01 cad files_01 sheets\17925_swppp.dwg | edit:kstebbing | saved:9/29/2026 8:53 AM | plot:11/10/2026 12:53 PM