

Minnehaha Creek Watershed District

REQUEST FOR BOARD ACTION

MEETING DATE: September 27, 2018

TITLE: Approval of plans and specifications and authorization to solicit quotes for carp barrier construction in the Six Mile Creek-Halsted Bay Subwatershed

RES. NUMBER: 18-103

PREPARED BY: Anna Brown

E-MAIL: abrown@minnehahacreek.org

TELEPHONE: (952) 641-4522

REVIEWED BY: Administrator Counsel Program Mgr.: Michael Hayman
 Board Committee Engineer Other

WORKSHOP ACTION:

<input type="checkbox"/> Advance to Board mtg. Consent Agenda.	<input type="checkbox"/> Advance to Board meeting for discussion prior to action.
<input type="checkbox"/> Refer to a future workshop (date):_____	<input type="checkbox"/> Refer to taskforce or committee (date):_____
<input type="checkbox"/> Return to staff for additional work.	<input type="checkbox"/> No further action requested.
<input checked="" type="checkbox"/> Other (specify): <u>Requesting final action September 27, 2018</u>	

PURPOSE or ACTION REQUESTED:

Approval of plans and specifications for carp barriers located in the Six Mile Creek-Halsted Bay Subwatershed (SMCHB) and authorization to solicit quotes for construction services.

PROJECT/PROGRAM LOCATION:

Highland Road, Minnetrista
Crown College, Minnetrista
Lake Wassermann, Victoria

PROJECT TIMELINE:

October 2017	MCWD recommended for funding through Lessard Sams Outdoor Heritage Fund
March 2018	Barrier design contract awarded
September 2018	Develop final plans and specifications
October 2018	Award construction contract
November 2018	Piling/footing installation
Spring 2019	Construction complete

PROJECT/PROGRAM COST:

Fund name and number: 500-5007 SMCHB Carp Management
Current Budget: \$567,000
Requested amount of funding: \$0
Is a budget amendment requested? No

PAST BOARD ACTION:

May 11, 2017 Authorization to request funding from Lessard Sams Outdoor Heritage Council (17-036)

March 8, 2018 Award contract for carp barrier design (18-021)

SUMMARY:

In September 2017, the Lessard Sams Outdoor Heritage Council recommended the Six Mile Creek-Halsted Bay (SMCHB) Habitat Restoration Project for \$567,000 to the Minnesota State Legislature. The funding bill was approved by the legislature and the grant period began on July 1, 2018.

The program takes a holistic and comprehensive approach to managing common carp in the SMCHB Subwatershed based on the University of Minnesota's SMCHB carp assessment (2014-2017), which developed a carp population census for each waterbody, identified migration patterns between waterbodies, and identified likely reproduction areas. To address the carp population holistically, the University researchers worked with District staff to develop a management approach, consisting primarily of three management strategies:

- Adult biomass removal
- Aeration of shallow lakes to prevent successful carp reproduction
- Barriers to prevent carp movement between waterbodies and assist with removal

Consistent with the accomplishment plan approved by the Lessard Sams Outdoor Heritage Council, the grant funds will be used to pay for the capital cost of barrier installation, utility installation for aeration, and the fish removal contracts. The District match includes equipment for removal and monitoring, the aeration units, and design services.

In March 2018, the MCWD Board of Managers awarded a contract with Wenck Associates to design barriers at four locations, with three locations – Wassermann, Crown College, and Highland Road – advancing in 2018. The fourth location, between North and South Lunsten, will be designed in 2019 pending further feasibility evaluation.

Upon approval of the plans and specifications, the quote package will be finalized and released in early October. Quotes will be solicited as two separate packages, one for the Highland Road barrier, and one package for Wassermann and Crown College. The Highland Road barrier will have a base bid for one side of the barrier, the downstream or eastern barrier, with the upstream side as a bid alternate, allowing for more time to evaluate property rights and more cost effective means of fish trapping. The contract award will be brought before the Board on October 25, 2018.

Construction for the barriers will be done in two phases. In November, the pilings and support posts for all barriers will be installed. The fabrication of the grates will occur over the winter, and installed in the pilings in early spring, before the carp migrate through these channels.

The engineers estimate for the barriers are as follows:

- Crown College: \$26,000
- Wassermann: \$18,000
- Highland Road: Base Bid - \$69,000 ; Bid Alternate - \$58,000

Staff recommends the District Board of Managers approve plans and specifications for carp barrier construction and authorize staff to solicit quotes for construction.

Attachments

- Construction quote package – plans and specifications

RESOLUTION

RESOLUTION NUMBER: 18-103

TITLE: **Approval of plans and specifications and authorization to solicit quotes for carp barrier construction in the Six Mile Creek-Halsted Bay Subwatershed**

WHEREAS, pursuant to Resolution 14-047 the MCWD Board of Managers has identified the Six Mile Creek-Halsted Bay (SMCHB) Subwatershed as a priority area for focusing District planning activities and coordination efforts with subwatershed partners; and

WHEREAS, on October 10, 2013, the MCWD Board of Managers authorized the execution of a contract with Dr. Peter Sorenson and the University of Minnesota to conduct a three-year carp assessment of the SMCHB subwatershed which facilitated the development of a carp management strategy for the subwatershed; and

WHEREAS, beginning in 2016, MCWD led in the development of a comprehensive restoration strategy for the SMCHB subwatershed to achieve the District's goals of protecting and improving water quality, water quantity, ecological integrity, and thriving communities through land use and water integration, and includes rough fish management as a principle strategy for restoration;

WHEREAS, in September 2017, the Lessard Sams Outdoor Heritage Council recommended the SMCHB Habitat Restoration project for \$567,000 in funding, and in May of 2018 the funding was approved by the Minnesota Legislature;

WHEREAS, in March 2018, the MCWD Board of Managers authorized a contract with Wenck Associates to complete barrier design, including the development of plans and specification, and facilitation of the quote process for construction services;

WHEREAS, on September 13, 2018 the MCWD Board of Managers reviewed the 90% design plans for barriers to be located at Highland Road in Minnetrista, Crown College in Minnetrista, and Lake Wassermann in Victoria;

NOW, THEREFORE, BE IT RESOLVED, that the Minnehaha Creek Watershed District Board of Managers hereby approves plans and specifications for barrier construction at Highland Road, Crown College, and Lake Wassermann; and

BE IT FURTHER RESOLVED that the MCWD Board of Managers authorizes staff to solicit quotes for construction.

Resolution Number 18-103 was moved by Manager _____, seconded by Manager _____.
Motion to adopt the resolution ___ ayes, ___ nays, ___ abstentions. Date: _____.

Secretary Date: _____

**DRAFT for discussion purposes only and subject to Board approval and the availability of funds.
Resolutions are not final until approved by the Board and signed by the Board Secretary.**

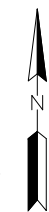
CONSTRUCTION PLANS FOR MINNEHAHA CREEK SIX MILE CREEK CARP BARRIERS

PREPARED FOR MINNEHAHA CREEK WATERSHED DISTRICT

SEPTEMBER 2018



PROJECT VICINITY MAP



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C-101B	SIX MILE BRIDGE RESTORATION PLAN
C-102	CROWN COLLEGE SITE PLAN
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THIS PLAN CONTAINS 20 SHEETS	

**SIX MILE CREEK
CARP BARRIERS**
VICTORIA, MN

PROJECT TITLE:

ISSUE NO.: 0

DESCRIPTION:

DATE: 09/21/2018

CERTIFICATION:
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PROJECT NO.: 0185-0100
DWN BY: SJB
CHK'D BY: MJS
APP'D BY: CM
ISSUE DATE: 09/21/2018
ISSUE NO.: 0

SHEET TITLE:
G-100
TITLE AND INDEX SHEET

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND/OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

CALL BEFORE YOU DIG
GOPHER STATE ONE CALL
TWIN CITY AREA: 651-454-0002
TOLL FREE 1-800-252-1166

PROJECT SCOPE

THE CONTRACTOR SHALL COMPLETE ALL EROSION CONTROL, DEMOLITION, CLEARING AND GRUBBING, GRADING, AND RESTORATION TO ACHIEVE PROPOSED IMPROVEMENTS AS INDICATED ON THE DRAWINGS IN CONFORMANCE WITH GOVERNING SPECIFICATIONS AND CODES.

GENERAL NOTES

- 1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" (LATEST EDITION) & LATEST SUPPLEMENTS, AND APPLICABLE CITY AND COUNTY REGULATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIAL AND LABOR TO CONSTRUCT THE PROJECT AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE APPROVING AUTHORITIES, SPECIFICATIONS, AND REQUIREMENTS.
3. CONTRACTOR SHALL CLEAR AND GRUB AS DIRECTED OR INDICATED ON PLAN. IF ADDITIONAL REMOVALS ARE REQUIRED, CONTRACTOR SHALL OBTAIN APPROVAL FROM OWNER PRIOR TO COMPLETING REMOVALS. REMOVE TREES, STUMPS, ROOTS, MUCK, EXISTING PAVEMENT AND ALL OTHER DELETERIOUS MATERIAL.
4. ALL QUANTITIES ARE APPROXIMATE AND MAY VARY TO ALLOW COMPLETION OF WORK.
5. EXISTING UTILITIES SHOWN ARE LOCATED ACCORDING TO THE INFORMATION AVAILABLE TO THE ENGINEER AT THE TIME OF THE TOPOGRAPHIC SURVEY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE ENGINEER. NO GUARANTEE IS MADE THAT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN OR THAT THE LOCATION OF THOSE SHOWN ARE ENTIRELY ACCURATE. THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-2 ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".
6. TOPOGRAPHIC INFORMATION IS TAKEN FROM A TOPOGRAPHIC SURVEY BY WENCK ASSOCIATES AND LIDAR DATA. IF THE CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY AT THEIR OWN EXPENSE A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR TO THE OWNER FOR REVIEW.
7. EXACT LOCATION OF UNDERGROUND UTILITIES SUCH AS GAS, TELEPHONE, FIBER OPTIC, PIPELINES, ELECTRICAL, AND CABLE TV ARE UNKNOWN. CONTRACTOR RESPONSIBLE FOR LOCATING PRIOR TO STARTING WORK.
8. CONTRACTOR SHOULD ANTICIPATE PRIVATE UTILITY CONFLICTS THROUGHOUT THE PROJECT SUB CUT AND TRENCH AREAS AND SHALL COORDINATE WITH PRIVATE UTILITY OWNERS IF ENCOUNTERED. IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PROVIDE 48 HOURS MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION.
9. THE RELOCATION AND OR PROTECTION OF ALL EXISTING UTILITIES MUST BE COORDINATED BY THE CONTRACTOR AND ANY COSTS FOR SUCH WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR EXTRA TIME AND EFFORT OF PROVISIONS NECESSARY TO WORK AROUND OR UNDER ANY UTILITIES.
10. PROTECT EXISTING PAVEMENT AND SITE FEATURES, EXCEPT AS NOTED.
11. CONTRACTOR TO COORDINATE AND MAINTAIN ACCESS TO ADJACENT PROPERTIES THROUGHOUT CONSTRUCTION.
12. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES ONE COPY OF THE CONSTRUCTION DOCUMENTS INCLUDING PLANS, SPECIFICATIONS, AND SPECIAL CONDITIONS AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.
13. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL FROM THE OWNER AND NOTIFICATION TO THE ENGINEER.
14. MAINTAIN DRAINAGE CONVEYANCE DURING CONSTRUCTION (BOTH PIPED AND OVERLAND).
15. ANY DAMAGE TO THE EXISTING PAVEMENT, CURBING, AND STRIPING SHALL BE REPLACED BY THE CONTRACTOR, TO THE OWNERS SATISFACTION, AT NO ADDITIONAL COST TO THE OWNER.
16. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING CONSTRUCTION PHASES OF THIS PROJECT. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO THE ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT.

REMOVAL NOTES

- 1. CONTRACTOR IS RESPONSIBLE FOR REMOVAL/DEMOLITION AS NOTED ON THE DRAWINGS. PROTECT ALL EXISTING FEATURES NOT IDENTIFIED FOR REMOVAL.
2. CONTRACTOR SHALL PROTECT ALL MANHOLE COVERS, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, POWER POLES, GUY WIRES, AND TELEPHONE BOXES, ETC. THAT ARE TO REMAIN IN PLACE AND UNDISTURBED DURING CONSTRUCTION.
3. CONTRACTOR SHALL COORDINATE ANY PRIVATE UTILITY WORK WITH APPROPRIATE UTILITY COMPANIES.
4. MATERIALS DEMOLISHED/REMOVED BY CONTRACTOR WILL BECOME PROPERTY OF THE CONTRACTOR, UNLESS NOTED OTHERWISE. CONTRACTOR SHALL BE RESPONSIBLE FOR HAULING MATERIAL OFF-SITE AND PROPERLY DISPOSING OF MATERIALS.
5. FEATURES NOT SPECIFICALLY IDENTIFIED ON PLAN FOR SALVAGE OR REMOVAL THAT CONFLICT WITH CONSTRUCTION ARE TO BE REVIEWED WITH ENGINEER.
6. ALL RUBBISH, CONCRETE, STEEL, METAL, DEBRIS, EQUIPMENT, ETC., RESULTING FROM DEMOLITION WORK SHALL BE REMOVED FROM THE PREMISES DURING, AND/OR UPON THE COMPLETION OF WORK, LEAVING THE SITE AREA ACCEPTABLE TO THE SATISFACTION OF THE ENGINEER.
7. CLEARING AND GRUBBING:
7.1. PROTECT ALL TREES AND PLANTS NOT DESIGNATED FOR REMOVAL.
7.2. CONDUCT OPERATIONS IN SUCH A MANNER THAT DOES NOT DAMAGE PROTECTED TREES AND VEGETATION OUTSIDE OF LIMITS OF CONSTRUCTION.
7.3. CUT AND REMOVE TREES, BRUSH, SHRUBS, WINDFALLS, LOGS, STUMPS, ROOTS, FALLEN TIMBER, AND OTHER VEGETATION.
7.4. REMOVE AND DISPOSE OF STUMPS, ROOTS, AND OTHER REMAINS.
7.5. BACKFILL DEPRESSIONS WITH NATIVE SOILS AND COMPACT BACKFILL AS DIRECTED.
7.6. DISPOSE OF ELM AND RED OAK DEBRIS IN ACCORDANCE APPLICABLE INVASIVE SPECIES STANDARDS.
7.7. CONSIDER BENEFICIAL USE DESIGNATIONS FOR UNADULTERATED WOOD, WOOD CHIPS, BARK AND SAWDUST.
7.8. BE PROHIBITED FROM BURYING OF CLEARED AND GRUBBED WASTE WITHIN LIMITS OF CONSTRUCTION.

EROSION CONTROL NOTES AND MAINTENANCE

- 1. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY THE PERMITTING AGENCY OR OWNER, OR AS SITE CONDITIONS DICTATE.
2. ALL EROSION CONTROL DEVICES SHOWN ON THESE PLANS SHALL BE INSTALLED PRIOR TO THE START OF LAND DISTURBING ACTIVITIES UNLESS NOTED OTHERWISE.
3. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DEPENDING ON SITE CONDITIONS DURING CONSTRUCTION. COORDINATE WITH ENGINEER.
4. FINAL STABILIZATION TO BE COMPLETED WITHIN ONE WEEK (7 DAYS) OF SITE GRADING. ALL DISTURBED AREAS SHALL BE STABILIZED WITH SEED, SOD, OR ROCK BASE AS DETAILED ON THE CONSTRUCTION DOCUMENTS.
5. ALL DISTURBED UNPAVED AREAS ARE TO IMMEDIATELY RECEIVE SALVAGED TOPSOIL, SEED AND MULCH AND WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
6. TEMPORARY SEEDING OR OTHER APPROVED METHODS OF STABILIZATION SHALL BE INITIATED WITHIN 7 DAYS OF THE LAST DISTURBANCE ON ANY AREA OF THE SITE.
7. SITE ENTRY AND EXIT LOCATIONS SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT THE TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ON A PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY. WHEN WASHING IS REQUIRED IT SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR OTHER BMP. ALL FINES IMPOSED FOR DISCHARGING SEDIMENT ONTO PUBLIC AREAS SHALL BE PAID BY THE CONTRACTOR.
8. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
9. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL ON SITE. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC PRODUCTS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
11. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
12. CONTRACTOR SHALL INCORPORATE APPROPRIATE BMP'S AS NECESSARY TO ENSURE THAT ALL STAGING AREAS, STOCKPILES, SPOILS, ETC. SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER QUALITY.
13. ALL EROSION CONTROL MEASURES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THIS PROJECT. CHANGES ARE TO BE APPROVED BEFORE CONSTRUCTION BY THE DESIGN ENGINEER.
14. IF THE EROSION CONTROL PLAN AS APPROVED CANNOT CONTROL EROSION AND OFF-SITE SEDIMENTATION FROM THE PROJECT, THE EROSION CONTROL PLAN WILL HAVE TO BE REVISED AND/OR ADDITIONAL BMP'S AND MEASURES IMPLEMENTED. ANY REVISIONS TO THE EROSION CONTROL PLAN MADE BY THE CONTRACTOR MUST BE APPROVED BY THE ENGINEER.

TRAFFIC CONTROL

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL CONSTRUCTION STAGING, ON OR OFFSITE, AS NECESSARY TO COMPLETE THE WORK AS SPECIFIED IN THE PROJECT DOCUMENTS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL. ALL TRAFFIC CONTROL SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MUTCD, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS. A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE ENGINEER, AND CITY OR COUNTY FOR REVIEW AND APPROVAL PRIOR TO ANY CONSTRUCTION RELATED ACTIVITIES. PLANS SHALL COMPLY WITH ALL APPLICABLE PERMIT REQUIREMENTS

PERMITS REQUIRED

- 1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SECURE ANY AND ALL STATE, COUNTY, AND CITY PERMITS NECESSARY FOR CONSTRUCTION.

HORIZONTAL AND VERTICAL CONTROL

- 1. THE HORIZONTAL CONTROL FOR THIS PLAN IS HENNINGEN COUNTY COORDINATE SYSTEM (HIGHLAND ROAD SITE) AND CARVER COUNTY COORDINATE SYSTEM (CROWN COLLEGE AND WASSERMANN).
2. THE VERTICAL CONTROL FOR THIS PLAN IS <SYSTEM>.

CALL BEFORE YOU DIG
GOPHER STATE ONE CALL
TWIN CITY AREA: 651-454-0002
TOLL FREE 1-800-252-1166



CLIENT:

MINNEHAHA CREEK WATERSHED DISTRICT
QUALITY OF WATER, QUALITY OF LIFE



SIX MILE CREEK CARP BARRIERS
VICTORIA, MN

PROJECT TITLE:

Table with columns: ISSUE NO., DATE, DESCRIPTION. Row 1: 0, 09/21/2018, 100% DESIGN.

CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Let No: #
Date:

PROJECT NO.: 0185-0100

DWN BY: SJB, CHK'D BY: MJS, APP'D BY: CM

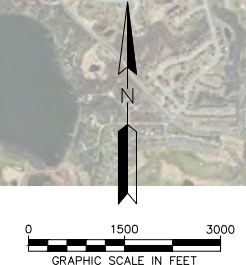
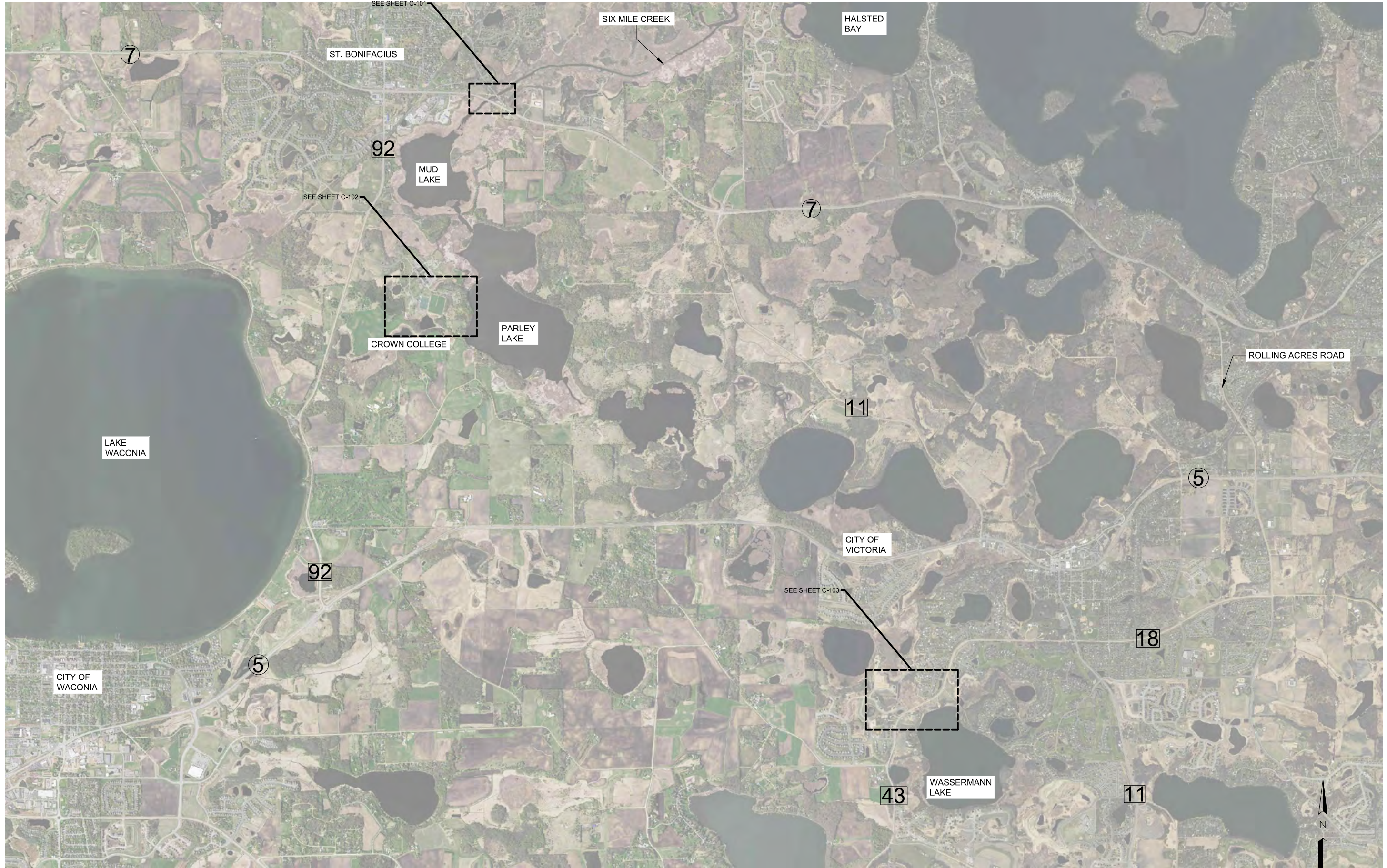
ISSUE DATE: 09/21/2018

ISSUE NO.: 0

SHEET TITLE:

G-101

SHEET NO.: GENERAL NOTES



ISSUE NO.	DESCRIPTION	DATE
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PROJECT NO.:	0185-0100	
DWN BY:	CHK'D BY:	APP'D BY:
SJB	MJS	CM
ISSUE DATE:	09/21/2018	
ISSUE NO.:	0	

SHEET TITLE:
C-100
 OVERALL SITE PLAN



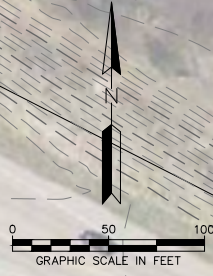
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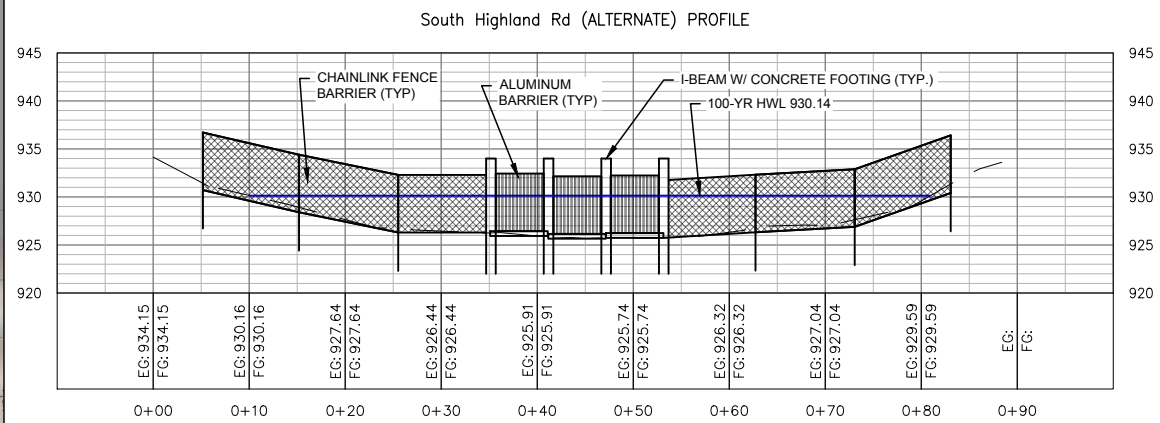
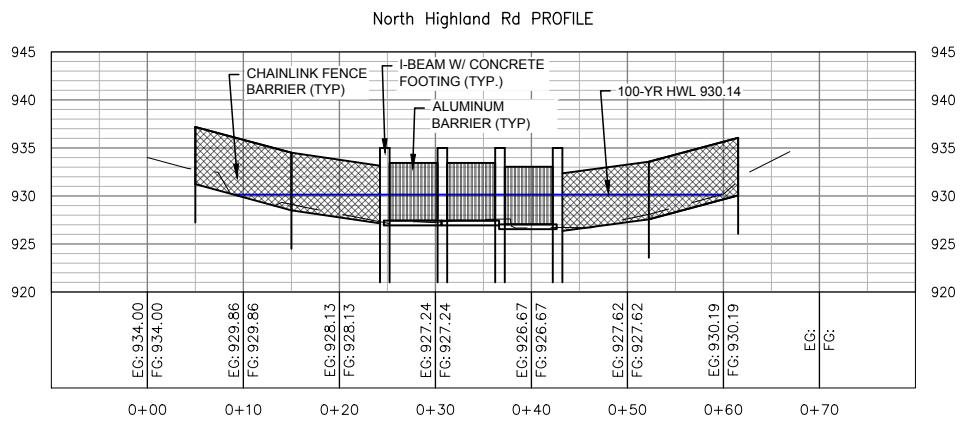
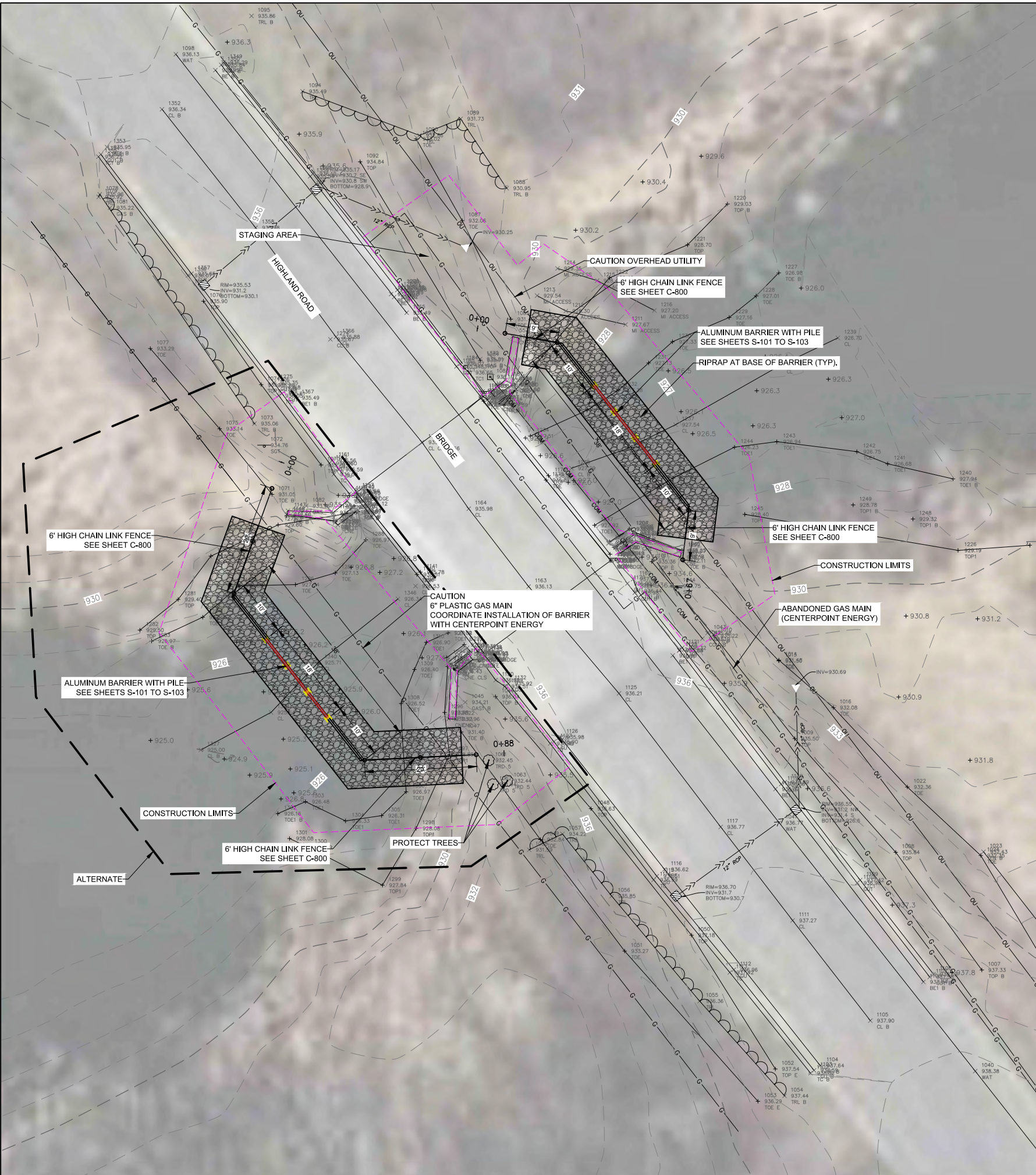
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PROJECT NO.: 0185-0100
DWN BY: SJB CHK'D BY: MJS APP'D BY: CM
ISSUE DATE: 09/21/2018
ISSUE NO.: 0

SHEET TITLE:
C-101
SHEET NO.:
SIX MILE BRIDGE
SITE PLAN



9/21/2018 10:47:30 AM



- SITE PLAN NOTES**
- CLEAR AND GRUB BRUSH AS REQUIRED. COORDINATE ANY TREE REMOVAL WITH ENGINEER/OWNER PRIOR TO REMOVAL.
 - PROTECT ALL EXISTING SIGNS OR SALVAGE AND REINSTALL (INCIDENTAL)



PROJECT TITLE: **SIX MILE CREEK CARP BARRIERS**

ISSUE NO.:	0
DATE:	09/21/2018
DESCRIPTION:	100% DESIGN

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PROJECT NO.: **0185-0100**

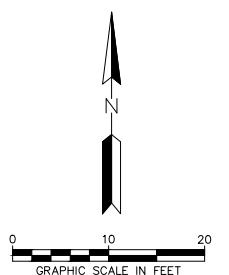
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SJB	MJS	CM

ISSUE DATE: **09/21/2018**

ISSUE NO.: **0**

SHEET TITLE:
C-101A

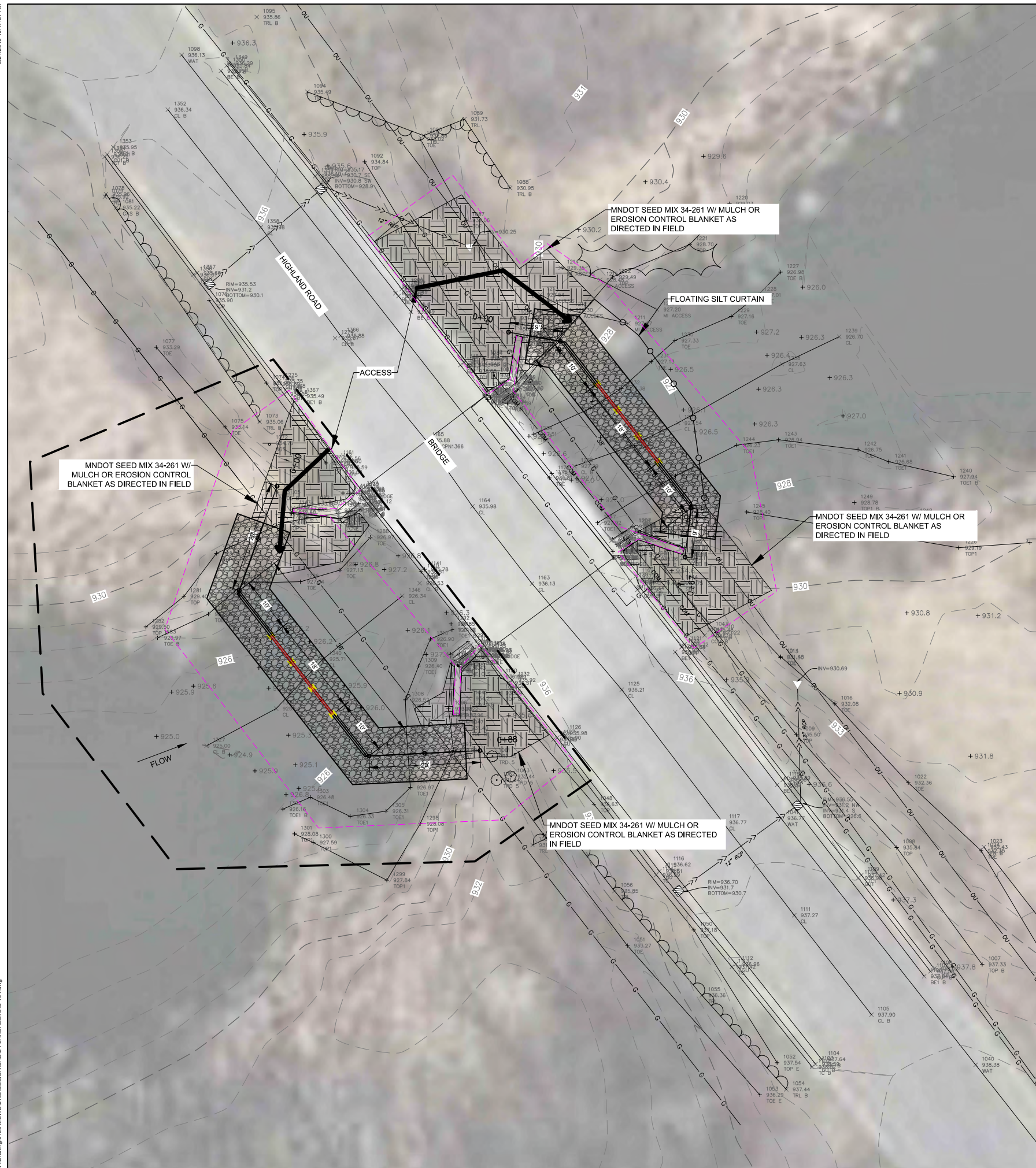
SHEET NO.:
 SIX MILE BRIDGE SITE PLAN



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 TWIN CITY AREA: 651-454-0002
 TOLL FREE 1-800-252-1166

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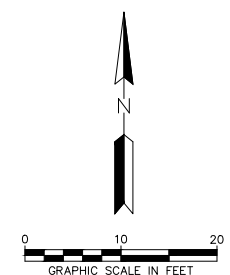
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 License #:
 Date:

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SJB	MJS	CM
ISSUE DATE:	09/21/2018	
ISSUE NO.:	0	
SHEET TITLE:	C-101B	
SHEET NO.:	SIX MILE BRIDGE RESTORATION PLAN	





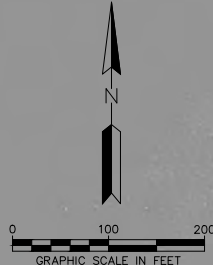
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CROWN COLLEGE

CARP BARRIER LOCATION

PID: 070060700

PARLEY LAKE

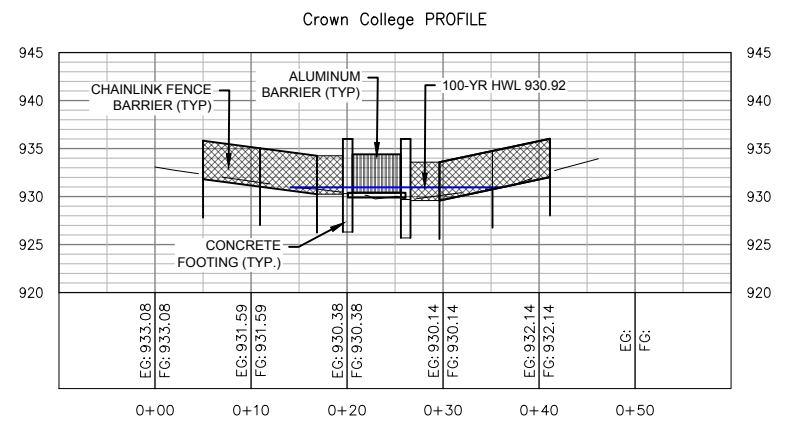


ISSUE NO.	DESCRIPTION	DATE
0	100% DESIGN	09/21/2018

CERTIFICATION:
 I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

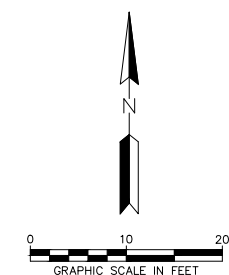
License #: _____
 Date: _____

9/21/2018 10:48:18 AM



SITE PLAN NOTES

1. CLEAR AND GRUB BRUSH AS REQUIRED. COORDINATE ANY TREE REMOVAL WITH ENGINEER/OWNER PRIOR TO REMOVAL.
2. PROTECT ALL EXISTING SIGNS OR SALVAGE AND REINSTALL (INCIDENTAL)



CALL BEFORE YOU DIG
GOPHER STATE ONE CALL
 TWIN CITY AREA: 651-454-0002
 TOLL FREE 1-800-252-1166

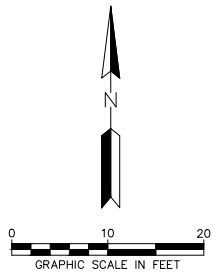
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DATE:	09/21/2018

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 License #:
 Date:

PROJECT NO.:	0185-0100	
DWN BY:	CHK'D BY:	APP'D BY:
SJB	MJS	CM
ISSUE DATE:	09/21/2018	
ISSUE NO.:	0	
SHEET TITLE:	C-102A	
SHEET NO.:	CROWN COLLEGE SITE PLAN	

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ISSUE NO.:	DESCRIPTION:	DATE:
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 Date: _____

PROJECT NO.:	0185-0100	
DWN BY:	CHK'D BY:	APP'D BY:
SJB	MJS	CM
ISSUE DATE:	09/21/2018	
ISSUE NO.:	0	
SHEET TITLE:	C-102B	
SHEET NO.:	CROWN COLLEGE RESTORATION PLAN	

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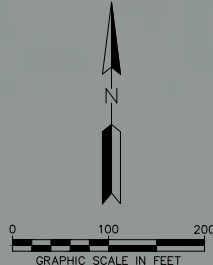


SIX MILE CREEK
CARP BARRIERS
VICTORIA, MN

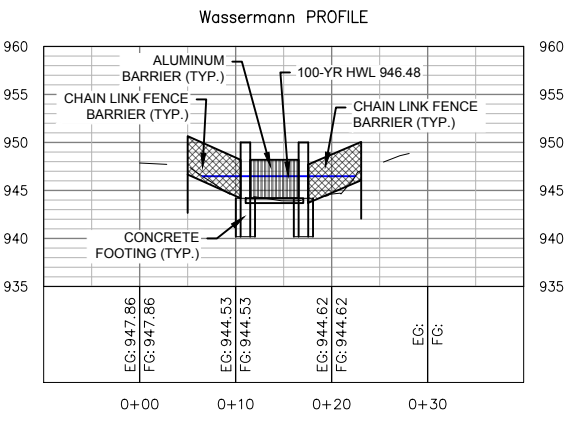
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ISSUE NO.:	0
DESCRIPTION:	100% DESIGN
DATE:	09/21/2018

CERTIFICATION:
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PROJECT NO.:	0185-0100	
DWN BY:	CHK'D BY:	APP'D BY:
SJB	MJS	CM
ISSUE DATE:	09/21/2018	
ISSUE NO.:	0	
SHEET TITLE:	C-103	
SHEET NO.:	WASSERMANN LAKE SITE PLAN	



9/21/2018 10:45:36 AM



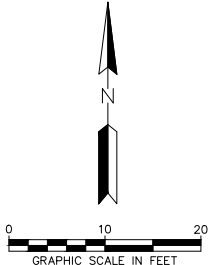
- SITE PLAN NOTES**
- CLEAR AND GRUB BRUSH AS REQUIRED. COORDINATE ANY TREE REMOVAL WITH ENGINEER/OWNER PRIOR TO REMOVAL.
 - PROTECT ALL EXISTING SIGNS OR SALVAGE AND REINSTALL (INCIDENTAL)

ISSUE NO.:	0
DESCRIPTION:	100% DESIGN
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Signature: _____
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PROJECT NO.:	0185-0100	
DWN BY:	CHK'D BY:	APP'D BY:
SJB	MJS	CM
ISSUE DATE:	09/21/2018	
ISSUE NO.:	0	
SHEET TITLE:	C-103A	
SHEET NO.:	WASSERMANN LAKE SITE PLAN	



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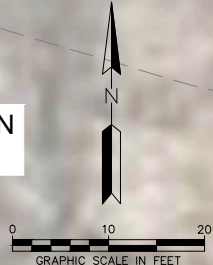


ISSUE NO.	DESCRIPTION	DATE
0	100% DESIGN	09/21/2018

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 License #:
 Date:

PROJECT NO.:	0185-0100	
DWN BY:	CHK'D BY:	APP'D BY:
SJB	MJS	CM
ISSUE DATE:	09/21/2018	
ISSUE NO.:	0	
SHEET TITLE:	C-103B	
SHEET NO.:	WASSERMANN LAKE RESTORATION PLAN	



PROJECT TITLE: **SIX MILE CREEK CARP BARRIERS**

ISSUE NO.: 0

DESCRIPTION: 100% DESIGN

DATE: 09/21/2018

CERTIFICATION:
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PROJECT NO.: 0185-0100

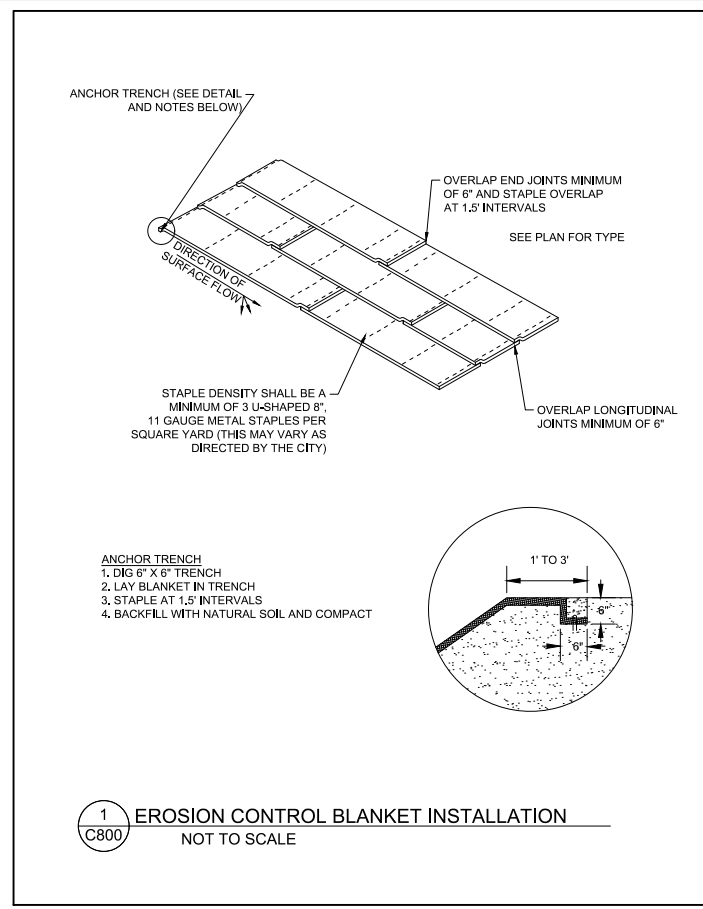
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ISSUE DATE: 09/21/2018

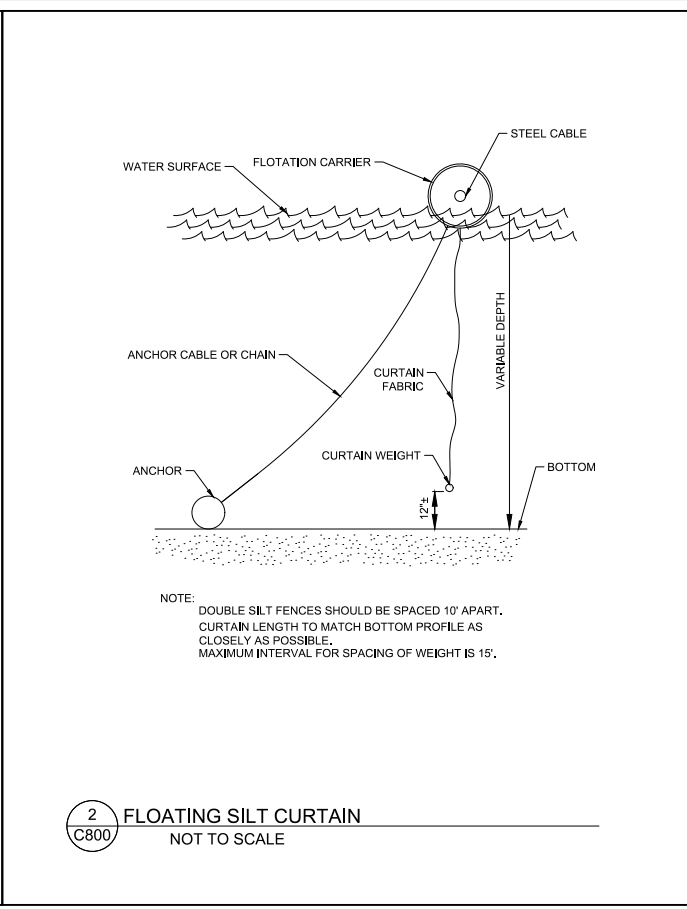
ISSUE NO.: 0

SHEET TITLE:
C-800

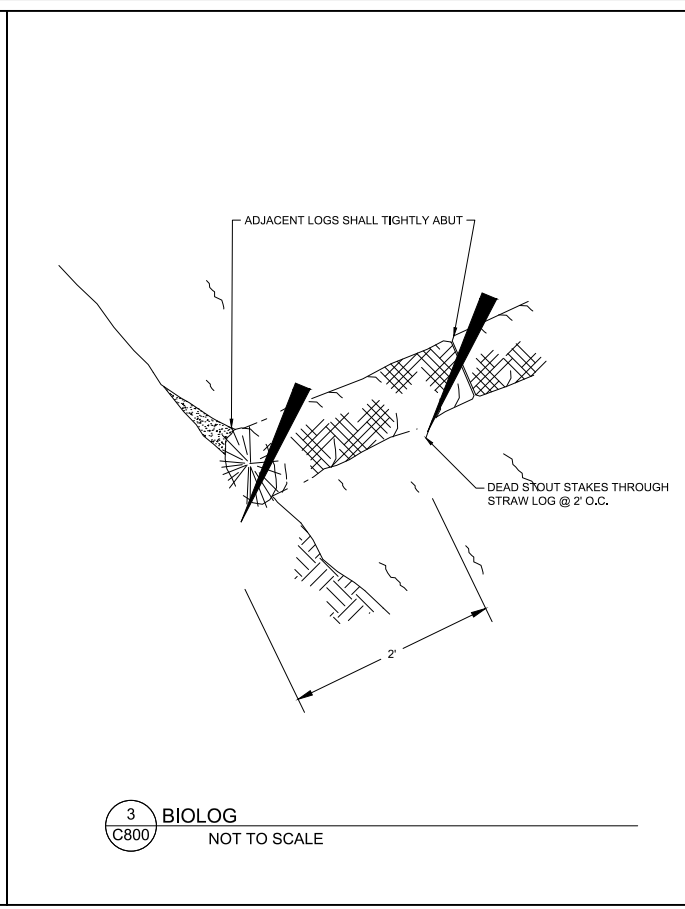
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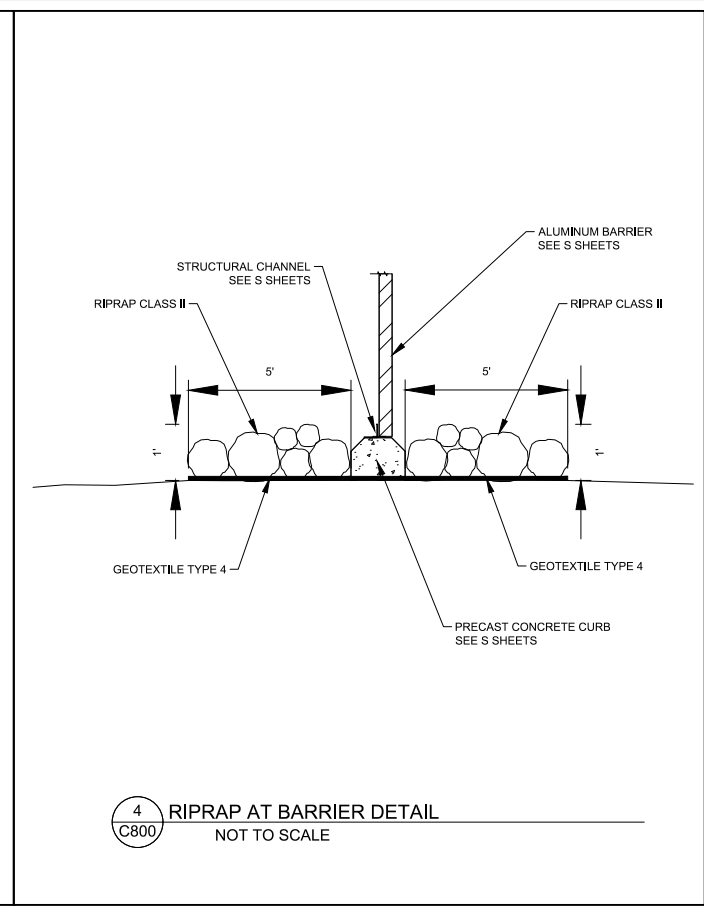
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 C800 **EROSION CONTROL BLANKET INSTALLATION**
 NOT TO SCALE



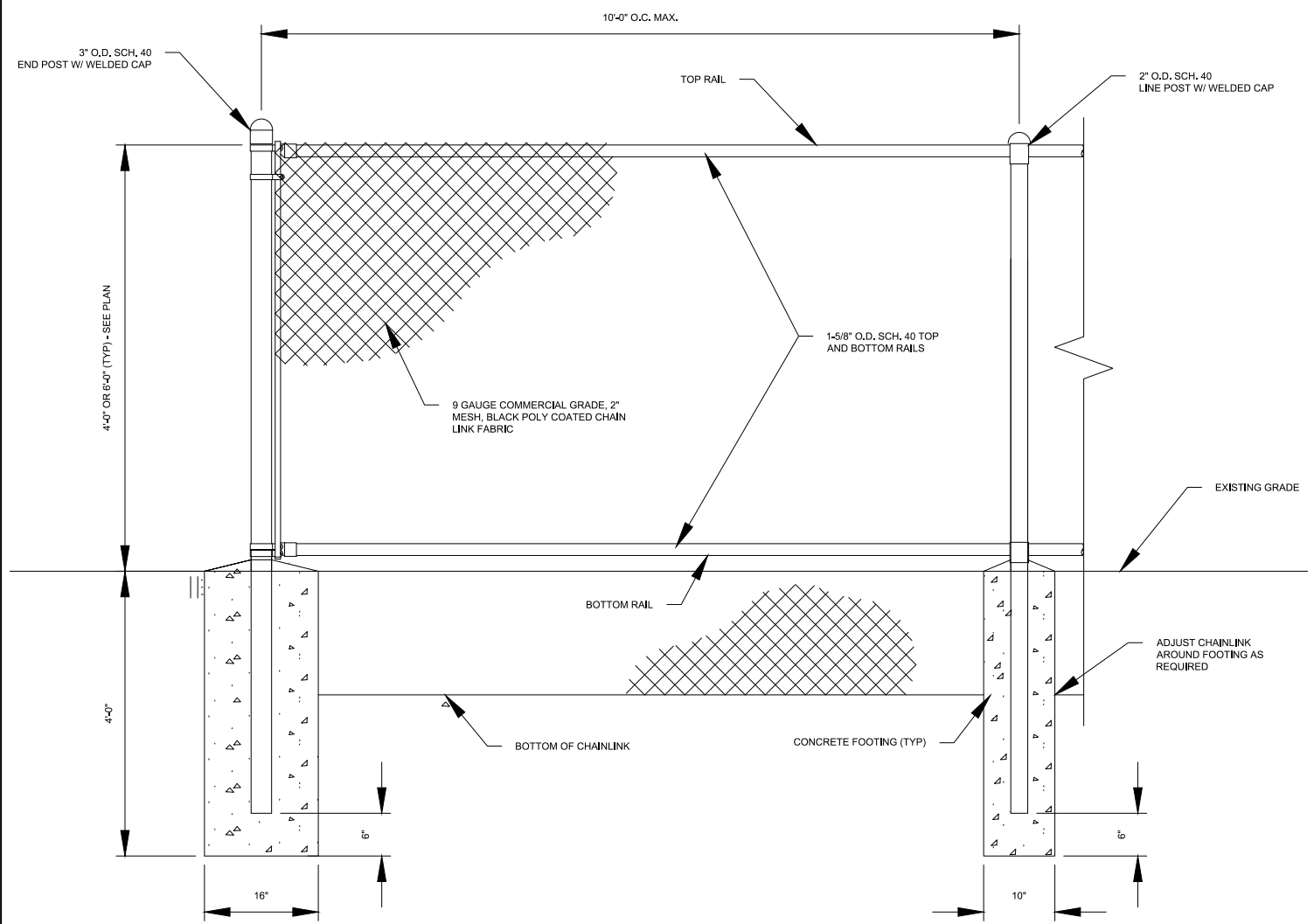
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 C800 **FLOATING SILT CURTAIN**
 NOT TO SCALE



3
 C800 **BIOLOG**
 NOT TO SCALE

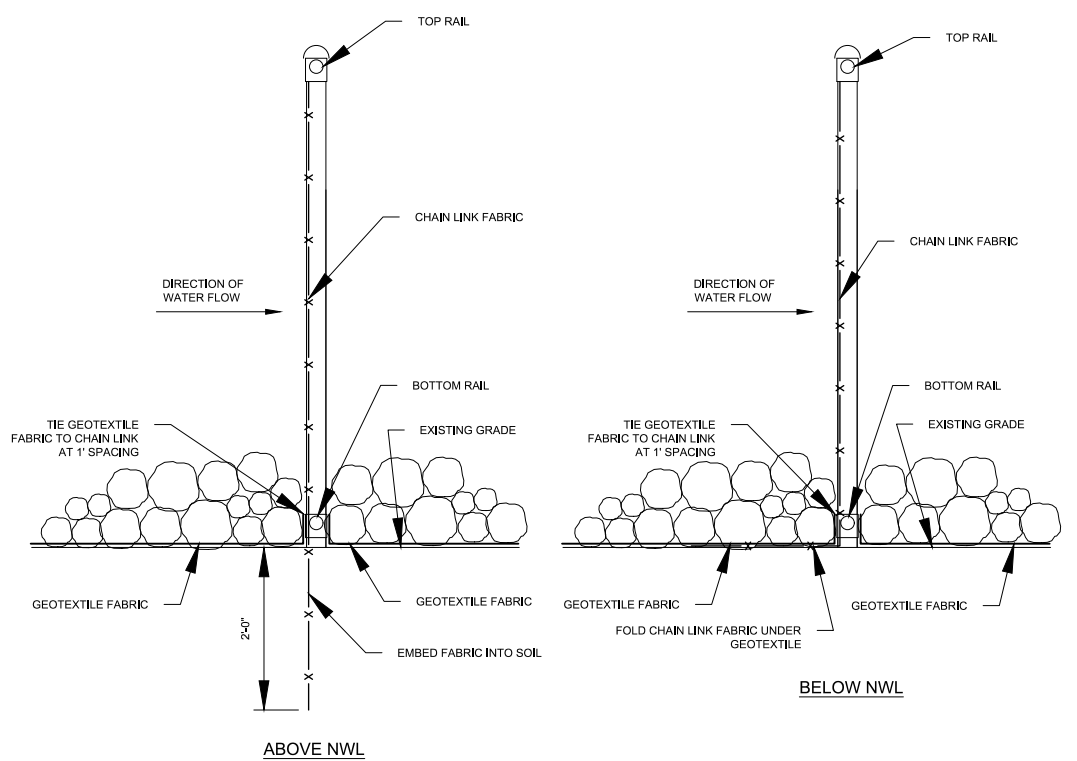


4
 C800 **RIPRAP AT BARRIER DETAIL**
 NOT TO SCALE



- NOTES:
 1. EMBED CHAIN LINK FABRIC MINIMUM 2 FOOT INTO SOIL AS DETAILED.
 2. PROVIDE END POSTS AT ALL TERMINATION POINTS AND CHANGES IN DIRECTION.
 3. FENCE AND POSTS SHALL BE BLACK POLY COATED AS SPECIFIED.

5
 C800 **CHAIN LINK FENCE**
 NOT TO SCALE



9/21/2018 3:25:37 PM

APPROXIMATE WEIGHTS - 6' LONG w/ TUBES

- 2-6' LONG CHORDS = 12' x 3.5 LBS/FT = 42 LBS
- 23-3' LONG SPINDALS = 69' x 0.63 LBS/FT = 44 LBS
- TOTAL WEIGHT = 86 LBS PER BARRIER

CONCRETE:

- $f_c = 4,000$ PSI
- AIR CONTENT = 5% - 7%

REINFORCEMENT:

- ASTM A615 GRADE 60
- $f_y = 60,000$ PSI
- CLEAR COVER = 3"

ALUMINUM SECTIONS:

- 6061-T6

STEEL SECTIONS:

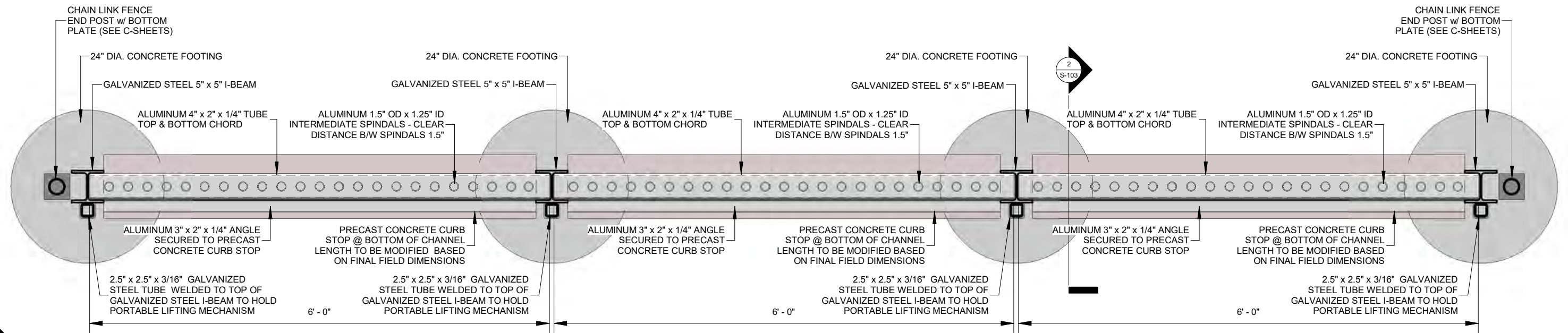
- HOT DIPPED GALVANIZED

LIFTING MECHANISM:

- MECHANISM IS TO CONSIST OF A PULLEY SYSTEM
- MECHANISM IS TO HAVE A 200 LB LIFTING WEIGHT CAPACITY
- MECHANISM IS TO BE CAPABLE OF
- MECHANISM IS TO BE ABLE TO LOCK IN PLACE AT VARIOUS LIFTING HEIGHTS

BARRIER & LIFTING MECHANISM SECURITY:

- BARRIERS ARE TO HAVE THE CAPABILITY TO BE SECURELY LOCKED IN-PLACE TO PREVENT STEALING AND VANDALISM IF OWNER DEEMS NECESSARY
- LIFTING MECHANISM IS TO HAVE THE CAPABILITY TO BE SECURELY LOCKED IN-PLACE TO PREVENT STEALING AND VANDALISM IF OWNER DEEMS NECESSARY



PLAN VIEW - HIGHLAND ROAD BRIDGE

BARRIER

3/4" = 1'-0"

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REV	REVISION DESCRIPTION	DWN	APP	REV DATE



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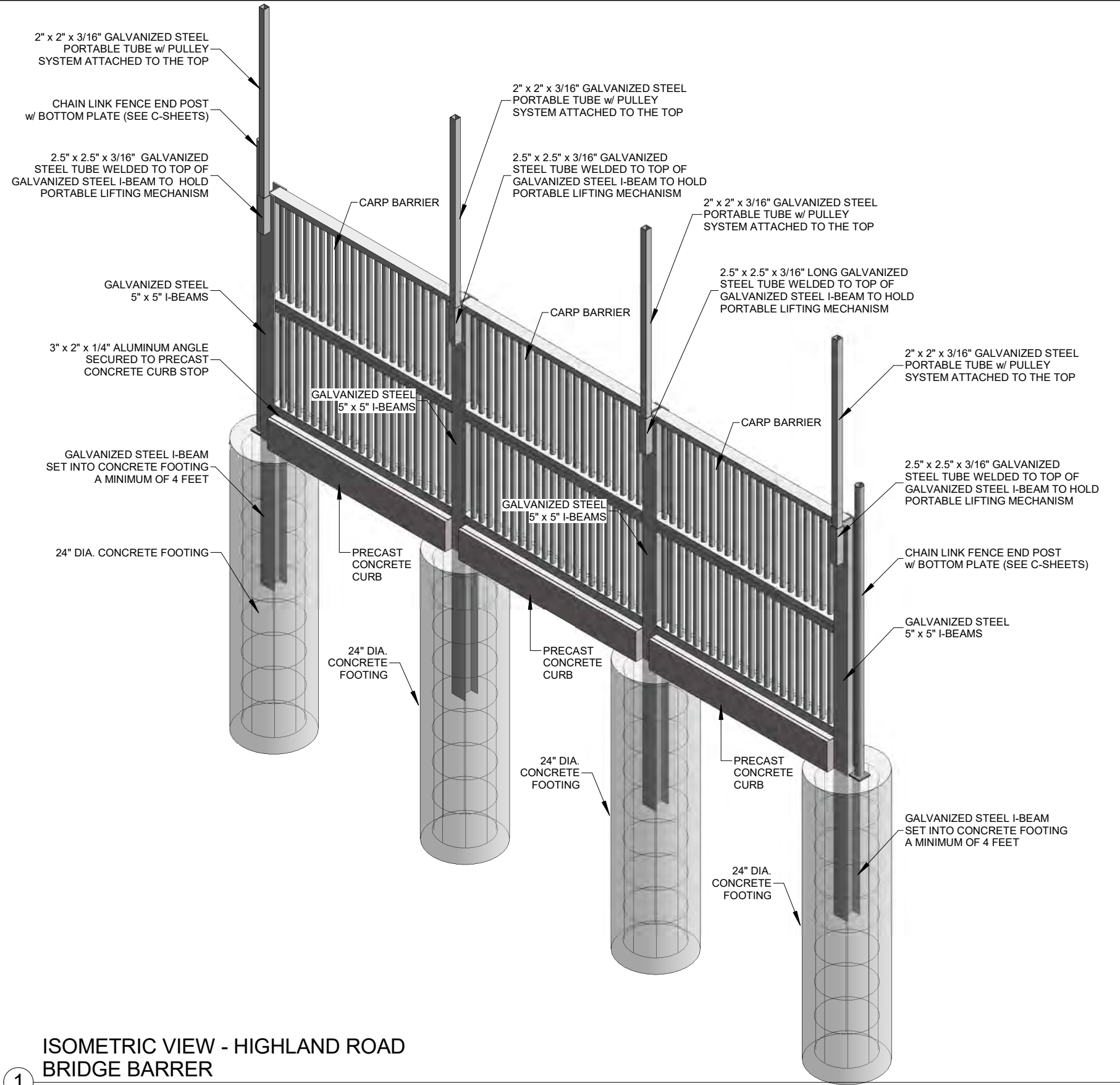
DWN BY MPJ	CHK'D DJJ	APP'D DJJ
DWG DATE 9/20/2018		
SCALE 3/4" = 1'-0"		

PROJECT SIX MILE CREEK CARP BARRIERS
CLIENT Minnehaha Creek Watershed District 15320 Minnetonka Blvd Minnetonka, MN 55345

SHEET TITLE Plan View - Highland Road Barrier		
PROJECT NO. 0185-0100	SHEET NO. S-101	REV NO.

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1 ISOMETRIC VIEW - HIGHLAND ROAD BRIDGE BARRER

REV	REVISION DESCRIPTION	DWN	APP	REV DATE



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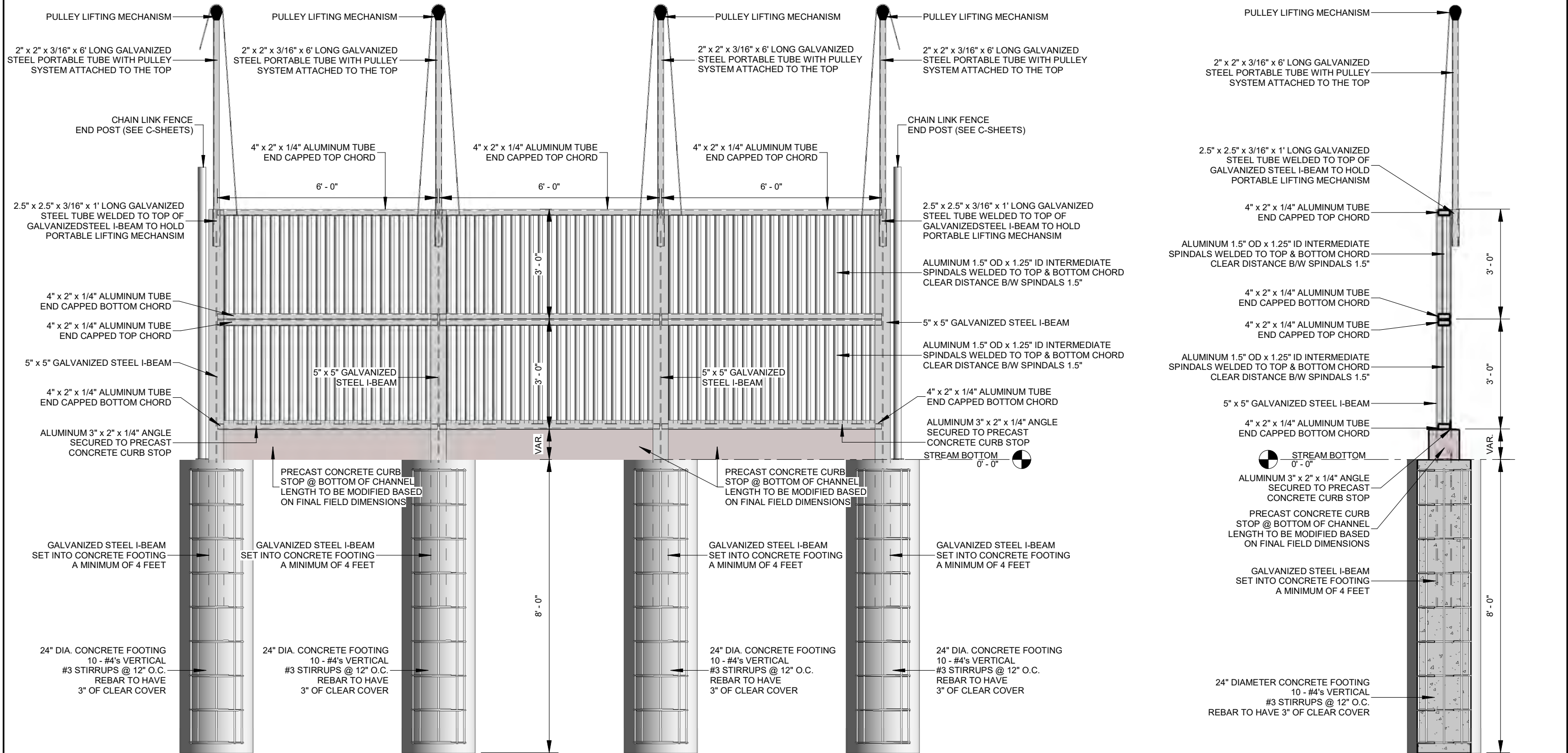
DWN BY MPJ	CHK'D DJJ	APP'D DJJ
DWG DATE 9/20/2018		
SCALE		

PROJECT SIX MILE CREEK CARP BARRIERS
CLIENT Minnehaha Creek Watershed District 15320 Minnetonka Blvd Minnetonka, MN 55345

SHEET TITLE ISO View - Highland Road Barrier		
PROJECT NO. 0185-0100	SHEET NO. S-102	REV NO.

9/21/2018 3:25:39 PM

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ELEVATION - HIGHLAND ROAD BRIDGE BARRIER

①
3/8" = 1'-0"

SECTION - HIGHLAND ROAD BRIDGE BARRIER

②
3/8" = 1'-0"

REV	REVISION DESCRIPTION	DWN	APP	REV DATE



1012 5th AVE., Suite 1B
WINDOM, MN 56101
507-831-2703
507-831-5271

DWN BY MPJ	CHK'D DJJ	APP'D DJJ
DWG DATE 9/20/2018		CLIENT Minnehaha Creek Watershed District 15320 Minnetonka Blvd Minnetonka, MN 55345
SCALE 3/8" = 1'-0"		

PROJECT SIX MILE CREEK CARP BARRIERS
CLIENT Minnehaha Creek Watershed District 15320 Minnetonka Blvd Minnetonka, MN 55345

SHEET TITLE Highland Road Barrier Details		
PROJECT NO. 0185-0100	SHEET NO. S-103	REV NO.

9/21/2018 3:25:40 PM

APPROXIMATE WEIGHTS - 6' LONG w/ TUBES

- 2-6' LONG CHORDS = 12' x 3.5 LBS/FT = 42 LBS
- 23-4' LONG SPINDALS = 92' x 0.63 LBS/FT = 58 LBS
- TOTAL WEIGHT = 100 LBS

CONCRETE:

- $f_c = 4,000$ PSI
- AIR CONTENT = 5% - 7%

REINFORCEMENT:

- ASTM A615 GRADE 60
- $f_y = 60,000$ PSI
- CLEAR COVER = 3"

ALUMINUM SECTIONS:

- 6061-T6

STEEL SECTIONS:

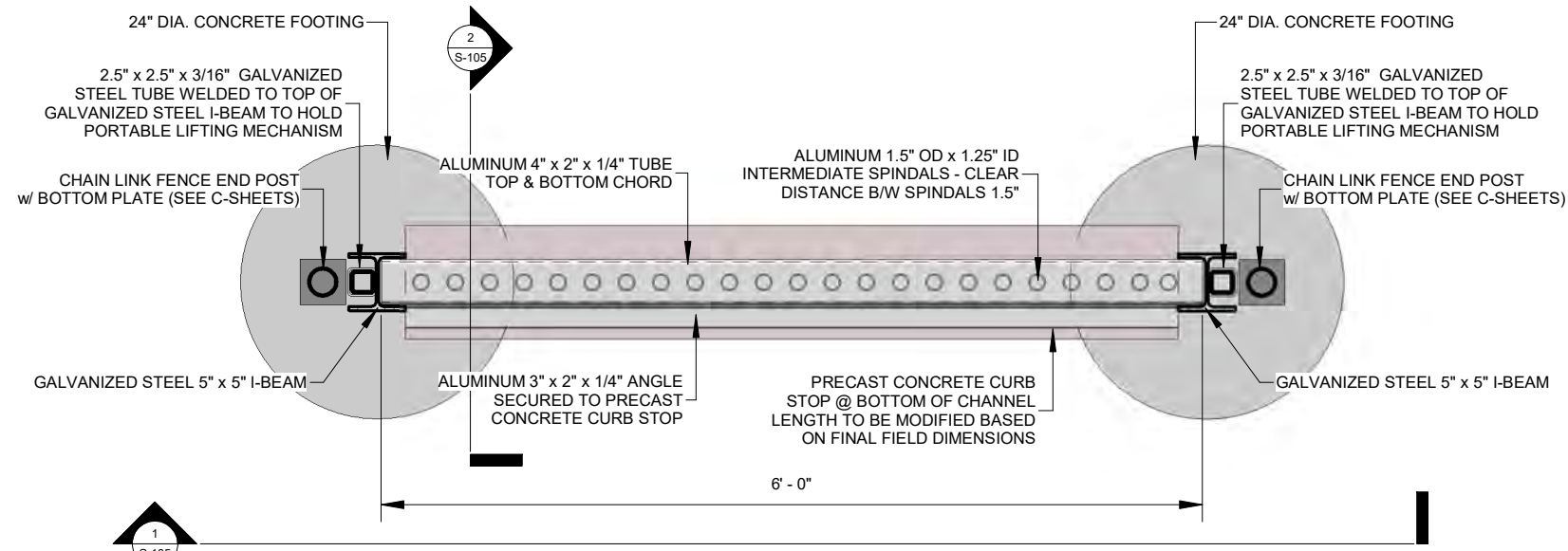
- HOT DIPPED GALVANIZED

LIFTING MECHANISM:

- MECHANISM IS TO CONSIST OF A PULLEY SYSTEM
- MECHANISM IS TO HAVE A 200 LB LIFTING WEIGHT CAPACITY
- MECHANISM IS TO BE CAPABLE OF
- MECHANISM IS TO BE ABLE TO LOCK IN PLACE AT VARIOUS LIFTING HEIGHTS

BARRIER & LIFTING MECHANISM SECURITY:

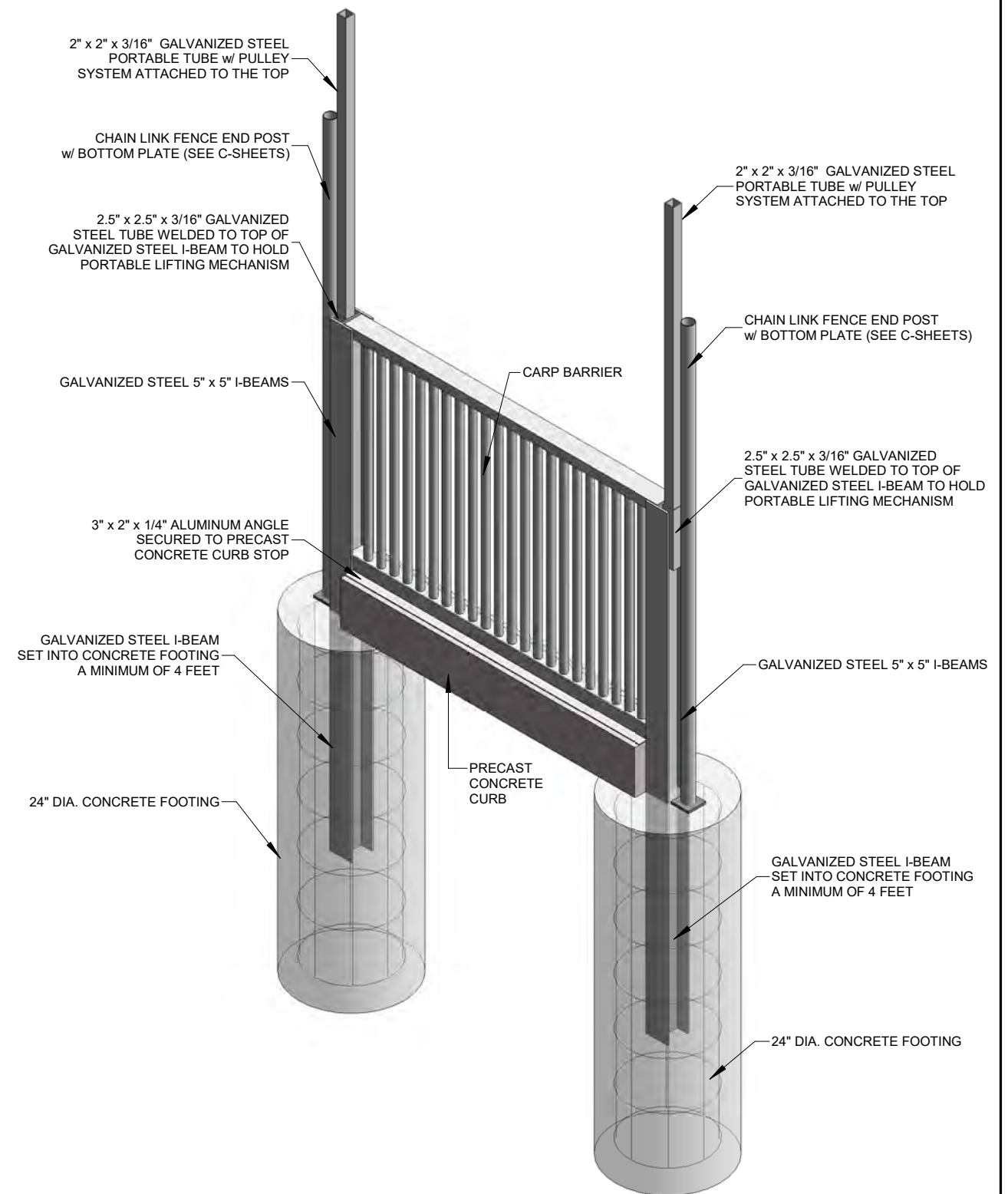
- BARRIERS ARE TO HAVE THE CAPABILITY TO BE SECURELY LOCKED IN-PLACE TO PREVENT STEALING AND VANDALISM IF OWNER DEEMS NECESSARY
- LIFTING MECHANISM IS TO HAVE THE CAPABILITY TO BE SECURELY LOCKED IN-PLACE TO PREVENT STEALING AND VANDALISM IF OWNER DEEMS NECESSARY



PLAN VIEW - CROWN COLLEGE

BARRIER

3/4" = 1'-0"



ISOMETRIC VIEW - CROWN COLLEGE

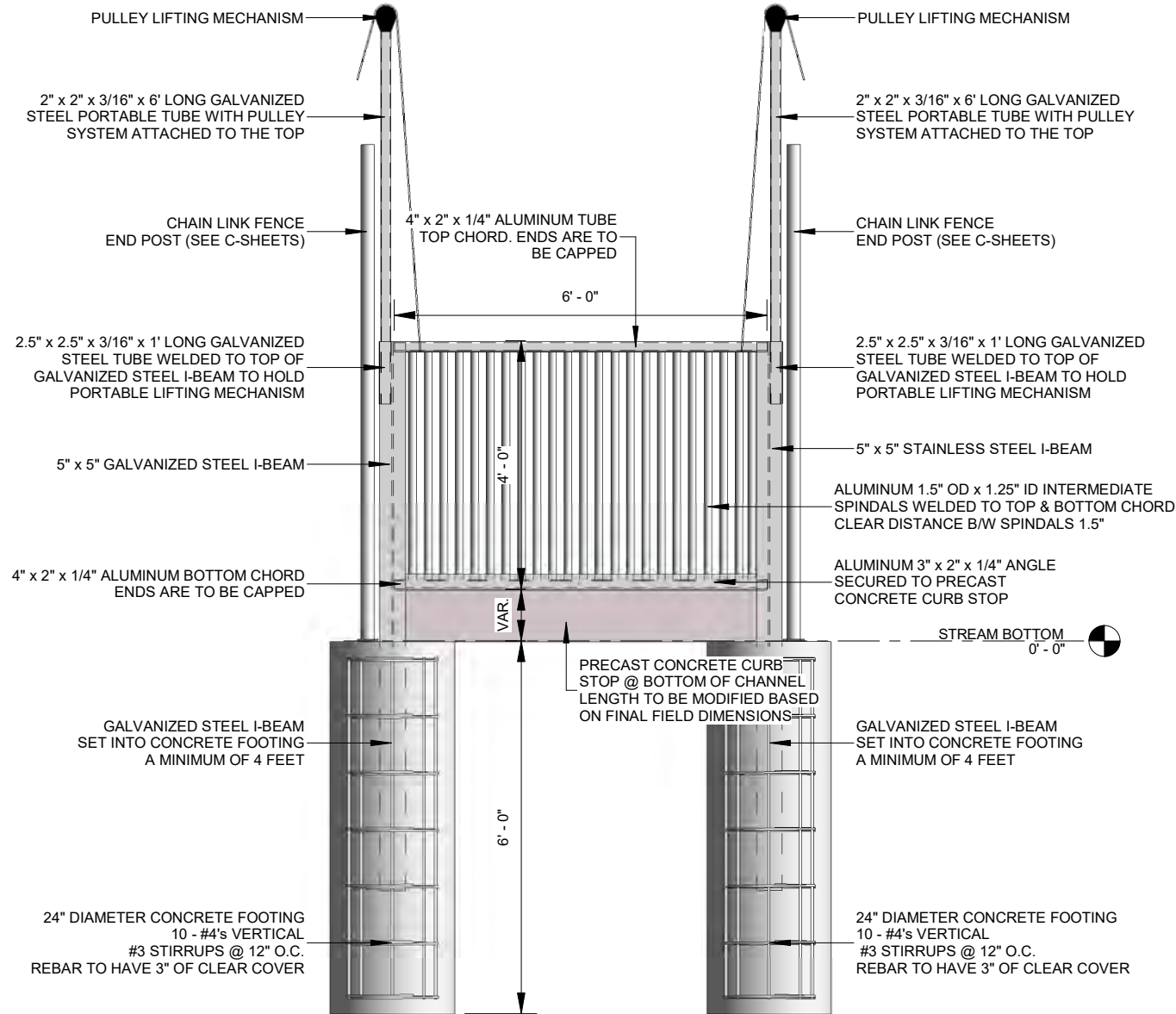
BARRIER

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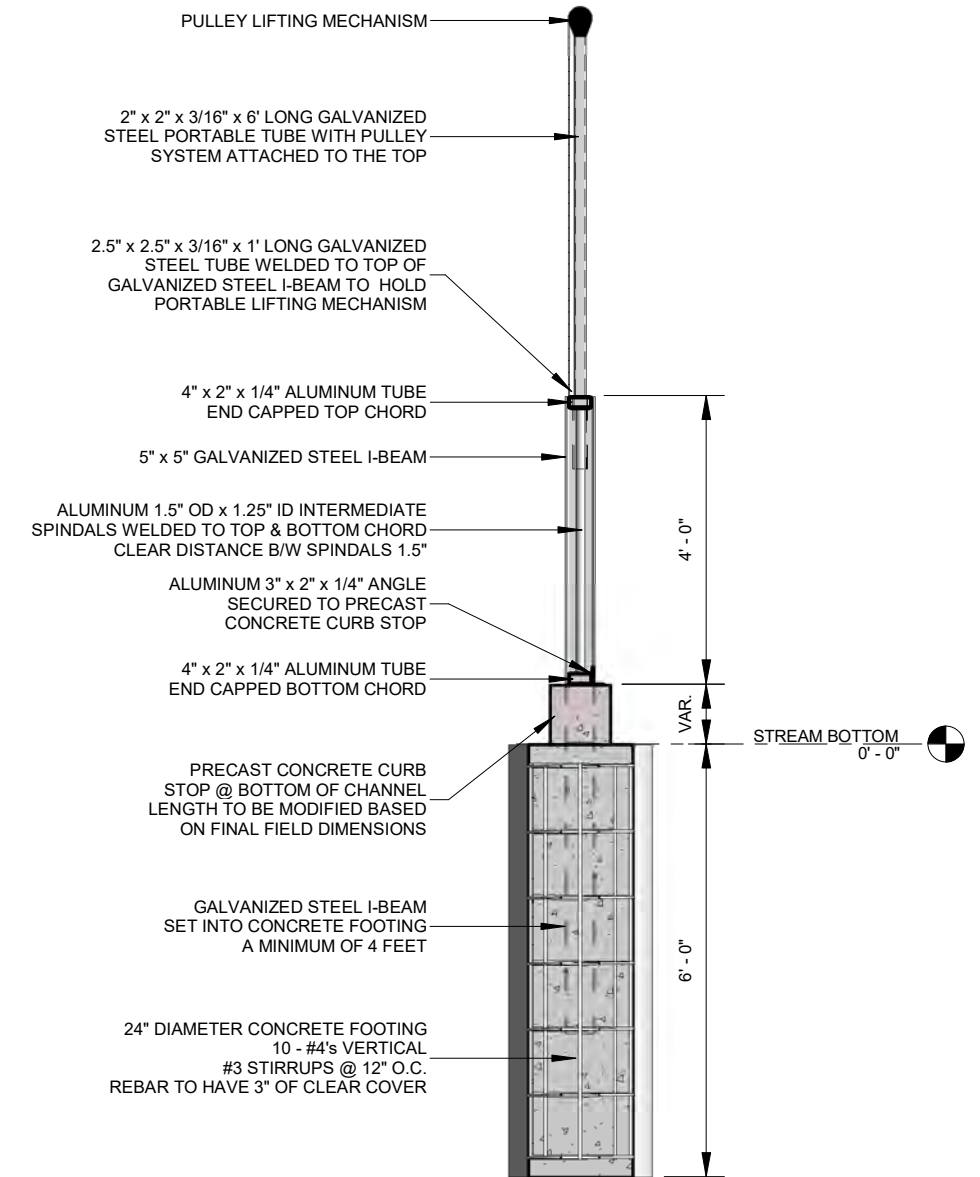
REV	REVISION DESCRIPTION	DWN	APP	REV DATE	 <p>1012 5th AVE., Suite 1B WINDOM, MN 56101 507-831-2703 507-831-5271</p> <p>Responsive partner. Exceptional outcomes.</p>	DWN BY	CHK'D	APP'D	PROJECT	SHEET TITLE Plan & ISO View - Crown College Barrier			
						MPJ	DJJ	DJJ	SIX MILE CREEK CARP BARRIERS		PROJECT NO.	SHEET NO.	REV NO.
							DWG DATE	9/20/2018			CLIENT	0185-0100	S-104
						SCALE	3/4" = 1'-0"		Minnehaha Creek Watershed District 15320 Minnetonka Blvd Minnetonka, MN 55345				

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1 ELEVATION - CROWN COLLEGE BARRIER
3/8" = 1'-0"



2 SECTION - CROWN COLLEGE BARRIER
3/8" = 1'-0"

REV	REVISION DESCRIPTION	DWN	APP	REV DATE



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DWN BY MPJ	CHK'D DJJ	APP'D DJJ
DWG DATE 9/20/2018		
SCALE 3/8" = 1'-0"		

PROJECT SIX MILE CREEK CARP BARRIERS	CLIENT Minnehaha Creek Watershed District 15320 Minnetonka Blvd Minnetonka, MN 55345
---	---

SHEET TITLE Crown College Barrier Details		
PROJECT NO. 0185-0100	SHEET NO. S-105	REV NO.

9/21/2018 3:25:41 PM

APPROXIMATE WEIGHTS - 6' LONG w/ TUBES

- 2-6' LONG CHORDS = 12' x 3.5 LBS/FT = 42 LBS
- 23-4' LONG SPINDALS = 92' x 0.63 LBS/FT = 58 LBS
- TOTAL WEIGHT = 100 LBS

CONCRETE:

- $f_c = 4,000$ PSI
- AIR CONTENT = 5% - 7%

REINFORCEMENT:

- ASTM A615 GRADE 60
- $f_y = 60,000$ PSI
- CLEAR COVER = 3"

ALUMINUM SECTIONS:

- 6061-T6

STEEL SECTIONS:

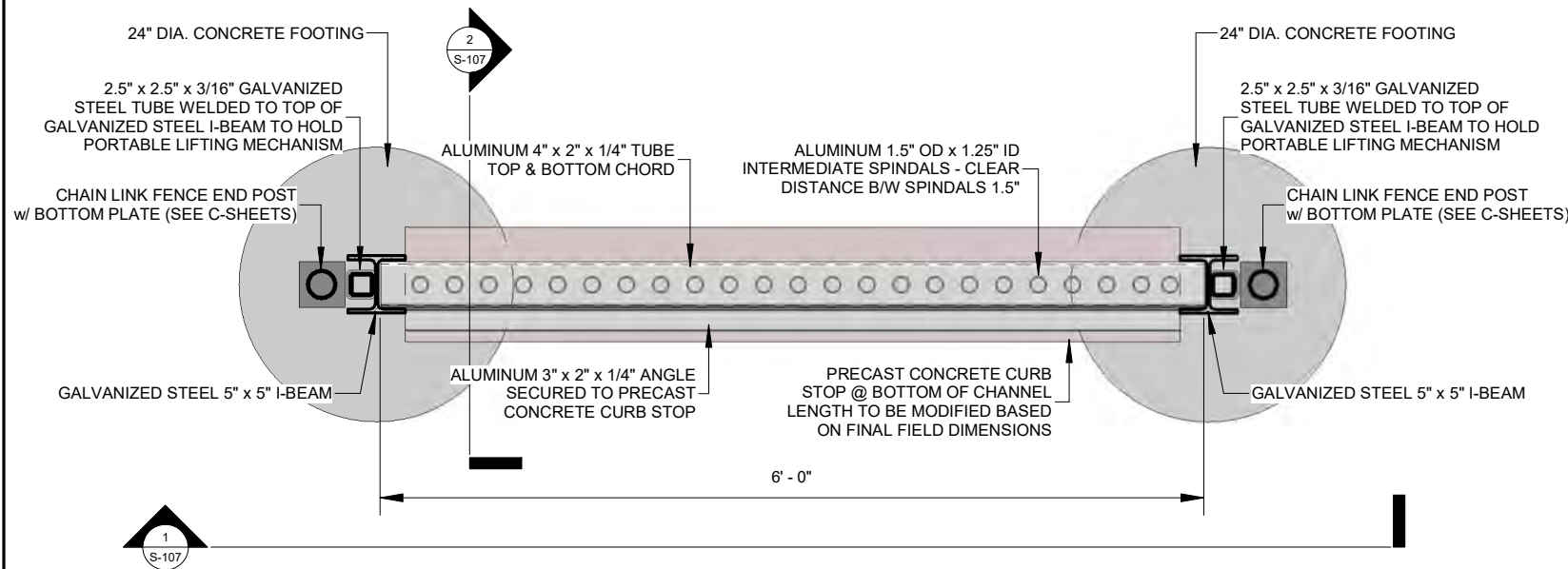
- HOT DIPPED GALVANIZED

LIFTING MECHANISM:

- MECHANISM IS TO CONSIST OF A PULLEY SYSTEM
- MECHANISM IS TO HAVE A 200 LB LIFTING WEIGHT CAPACITY
- MECHANISM IS TO BE CAPABLE OF
- MECHANISM IS TO BE ABLE TO LOCK IN PLACE AT VARIOUS LIFTING HEIGHTS

BARRIER & LIFTING MECHANISM SECURITY:

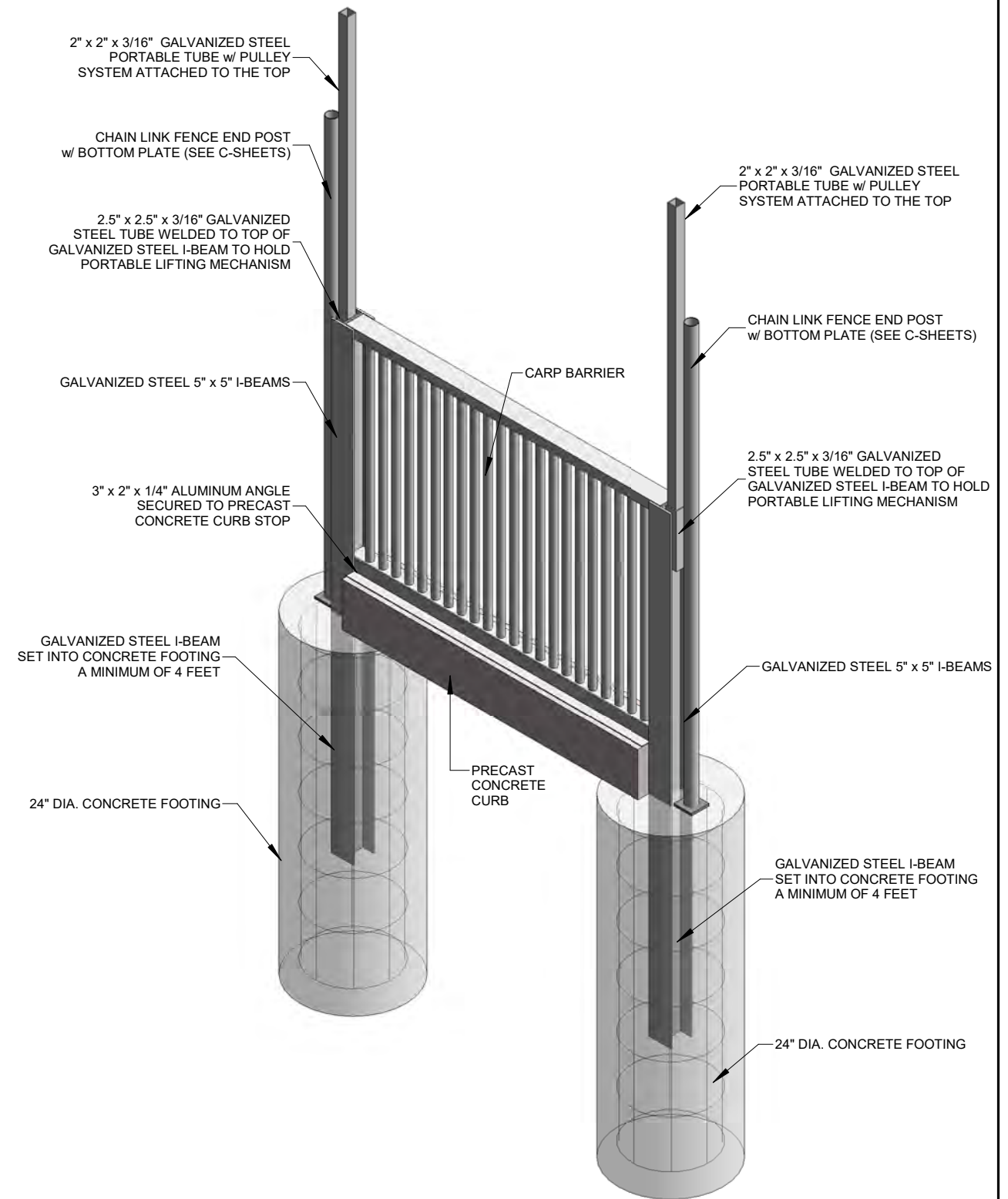
- BARRIERS ARE TO HAVE THE CAPABILITY TO BE SECURELY LOCKED IN-PLACE TO PREVENT STEALING AND VANDALISM IF OWNER DEEMS NECESSARY
- LIFTING MECHANISM IS TO HAVE THE CAPABILITY TO BE SECURELY LOCKED IN-PLACE TO PREVENT STEALING AND VANDALISM IF OWNER DEEMS NECESSARY



PLAN VIEW - WASSERMANN LAKE

BARRIER

1
3/4" = 1'-0"



ISOMETRIC VIEW - WASSERMANN LAKE

BARRIER

2

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REV	REVISION DESCRIPTION	DWN	APP	REV DATE

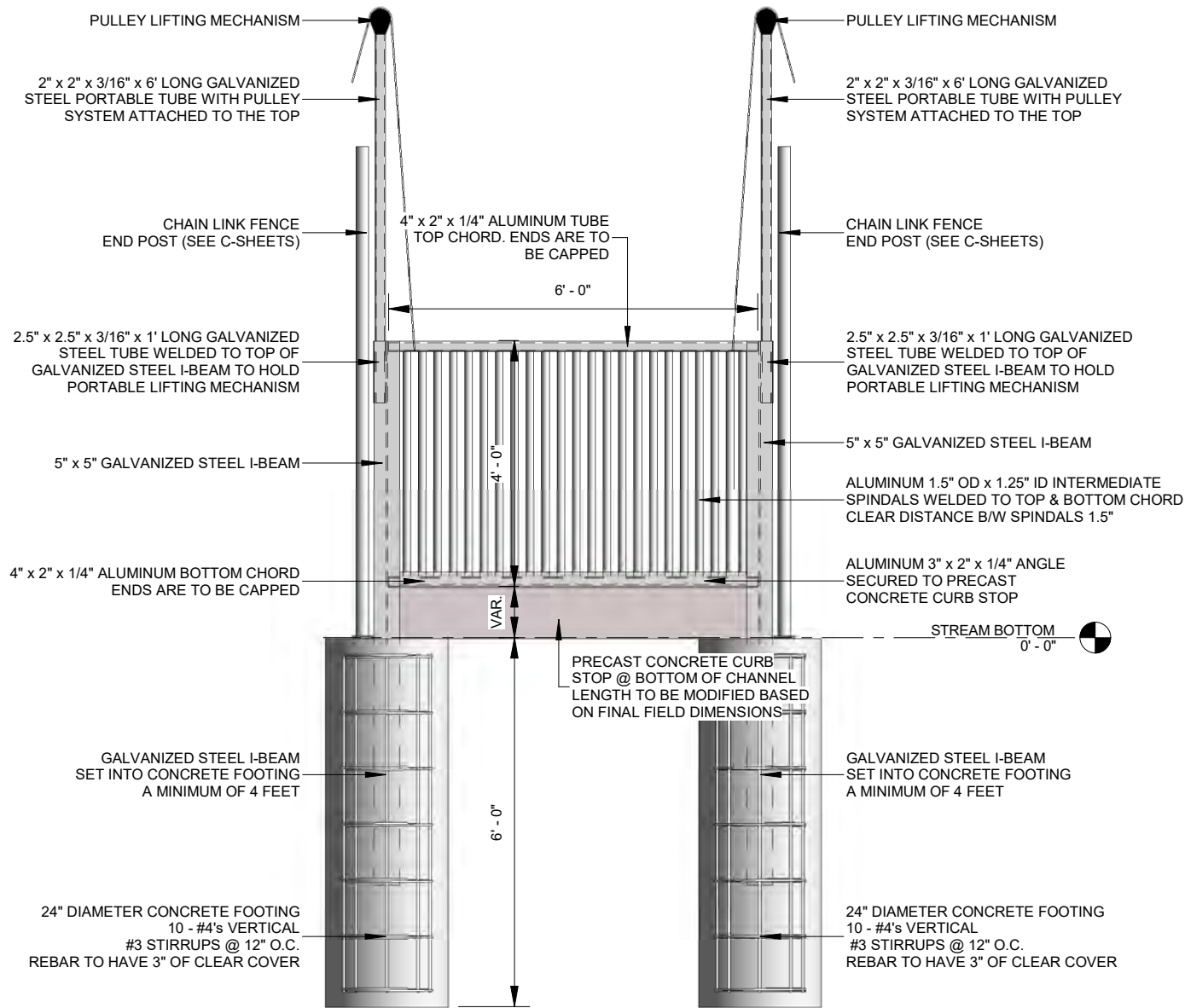


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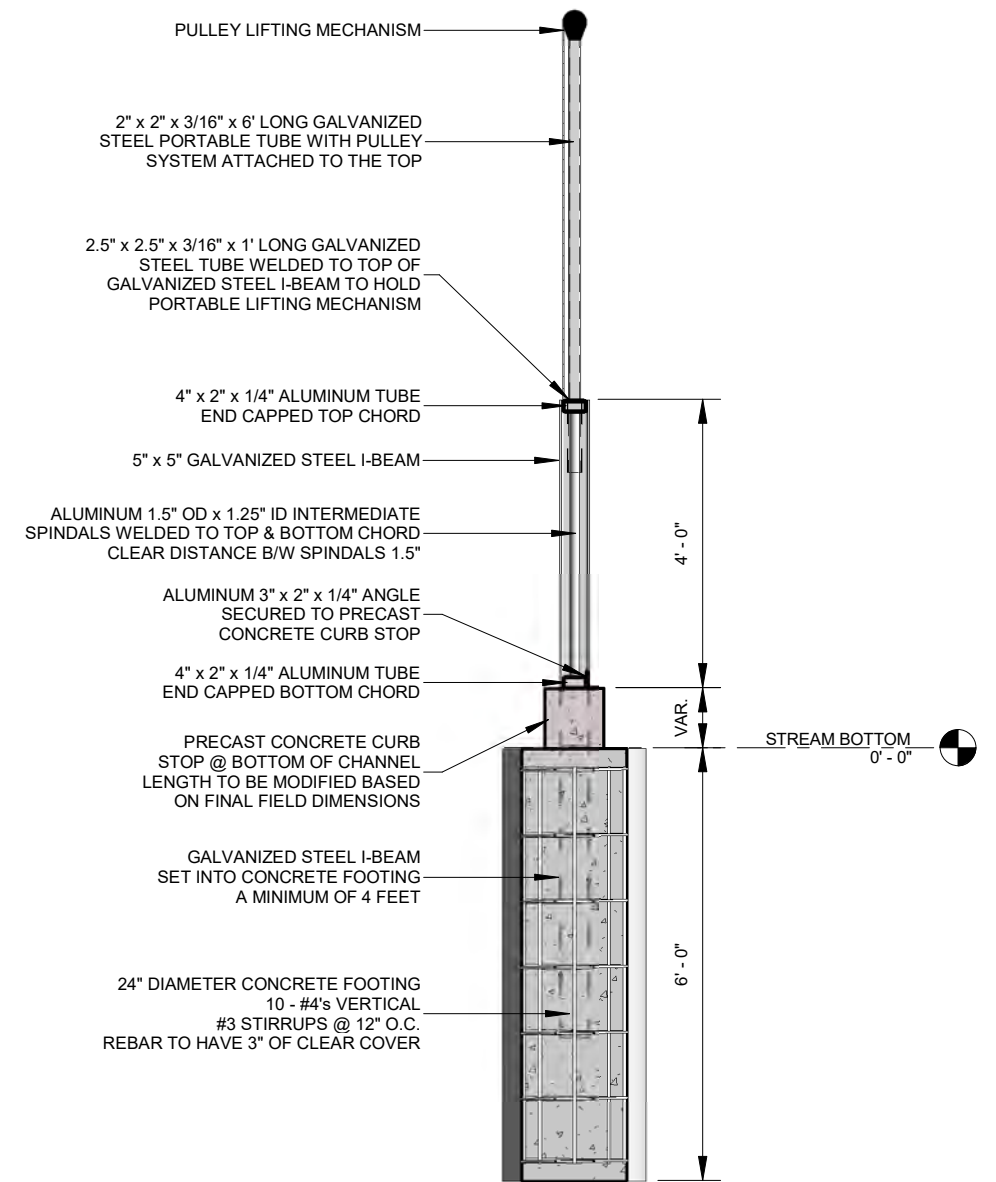
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DWG DATE 9/20/2018		
SCALE 3/4" = 1'-0"		

PROJECT SIX MILE CREEK CARP BARRIERS
CLIENT Minnehaha Creek Watershed District 15320 Minnetonka Blvd Minnetonka, MN 55345

SHEET TITLE Plan & ISO View- Wasserman Barrier		
PROJECT NO. 0185-0100	SHEET NO. S-106	REV NO.



ELEVATION - WASSERMANN LAKE BARRIER
 1
 3/8" = 1'-0"



SECTION - WASSERMANN LAKE BARRIER
 2
 3/8" = 1'-0"

REV	REVISION DESCRIPTION	DWN	APP	REV DATE


WENCK ASSOCIATES
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 507-831-2703
 507-831-5271

DWN BY MPJ	CHK'D DJJ	APP'D DJJ
DWG DATE 9/20/2018		
SCALE 3/8" = 1'-0"		

PROJECT SIX MILE CREEK CARP BARRIERS	CLIENT Minnehaha Creek Watershed District 15320 Minnetonka Blvd Minnetonka, MN 55345
---	---

SHEET TITLE Wasserman Barrier Details		
PROJECT NO. 0185-0100	SHEET NO. S-107	REV NO.