

Preliminary Site Development Plans

for Ice Castle

Bloomington, Minnesota

Presented by:
Ice Castle

Client
ICE CASTLE

Project
ICE CASTLE

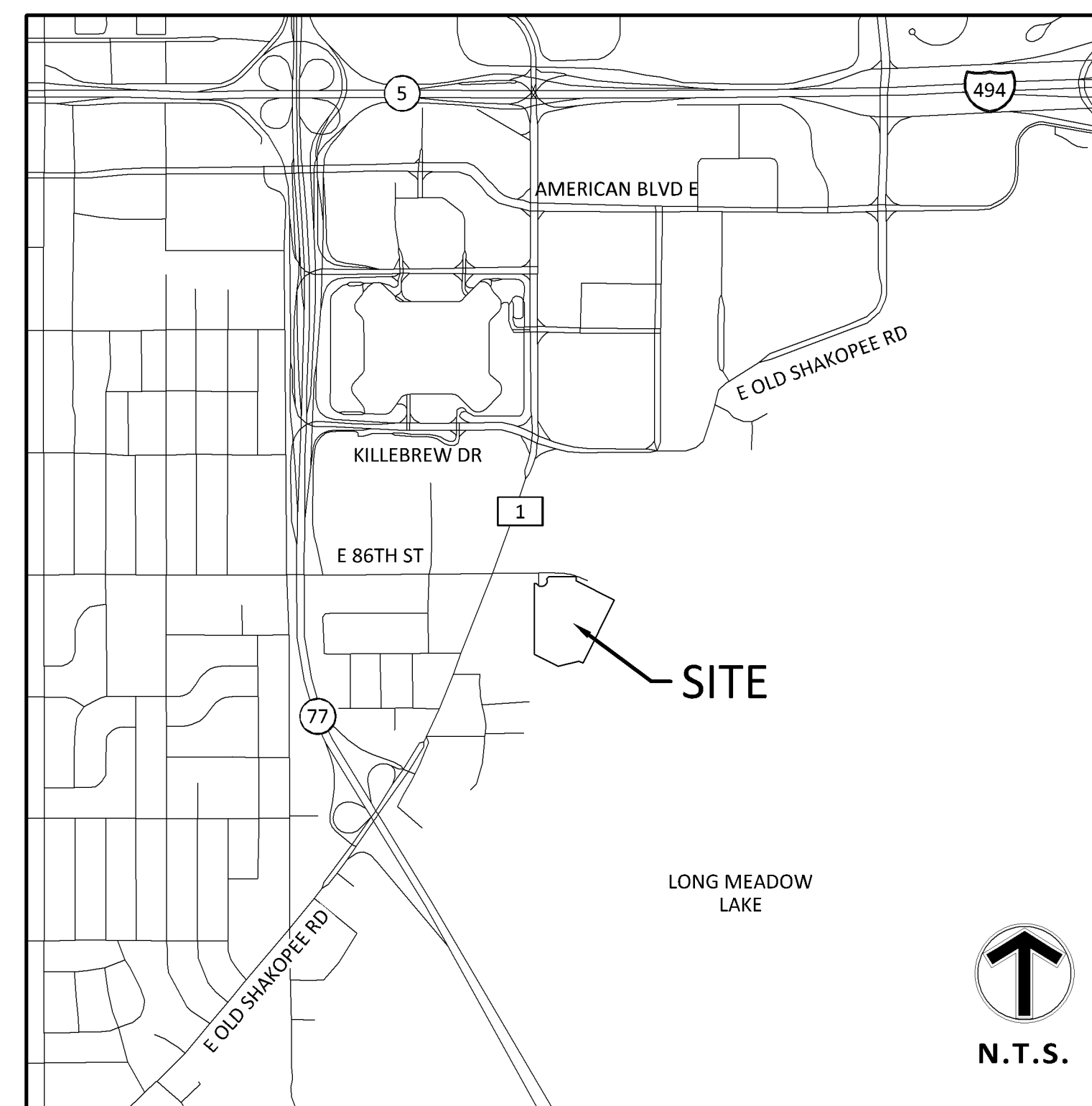
Location
BLOOMINGTON, MN
2401 E 86TH STREET

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 licensed professional ENGINEER under the laws of the state of Minnesota.

BRADY D. BUSSELMAN
 Registration No. 44579 Date: 08/29/2019
 If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's, Minnetonka, MN office.

Summary
 Designed: RBW Drawn: MHW/AF
 Approved: RBW Book / Page:
 Phase: PRELIMINARY Initial Issued: 07/24/2019

Revision History
 No. Date By Submittal / Revision
 8/29/19 AF CITY COMMENTS



VICINITY MAP
NO SCALE

SHEET INDEX	
SHEET	DESCRIPTION
C1.01	TITLE SHEET
1 OF 2	BOUNDARY & TOPOGRAPHIC SURVEY
2 OF 2	BOUNDARY & TOPOGRAPHIC SURVEY
C2.03	DEMOLITION PLAN
C3.01	SITE PLAN
C3.02	FIRE TRUCK TURNING MOVEMENT
C4.01	GRADING PLAN
C5.01	PHASE I EROSION CONTROL PLAN
C5.02	PHASE II EROSION CONTROL PLAN
C5.03	EROSION CONTROL NOTES & DETAILS
C6.01	UTILITY PLAN
C9.01	DETAILS
C9.02	DETAILS
C9.03	DETAILS
LL.01	LANDSCAPE PLAN
LL.02	IRRIGATION COVERAGE PLAN
LL.03	LANDSCAPE DETAILS AND NOTES

GOVERNING SPECIFICATIONS
 CITY OF BLOOMINGTON SPECIFICATIONS
 CITY ENGINEER'S ASSOCIATION OF MINNESOTA STANDARD SPECIFICATIONS (2013)
 MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION (2018 EDITION)

NOTE:
 ALL CONSTRUCTION AND POST-CONSTRUCTION PARKING AND STORAGE OF EQUIPMENT AND MATERIALS MUST BE ON-SITE. USE OF PUBLIC STREETS FOR PRIVATE CONSTRUCTION PARKING, LOADING/UNLOADING, AND STORAGE WILL NOT BE ALLOWED.

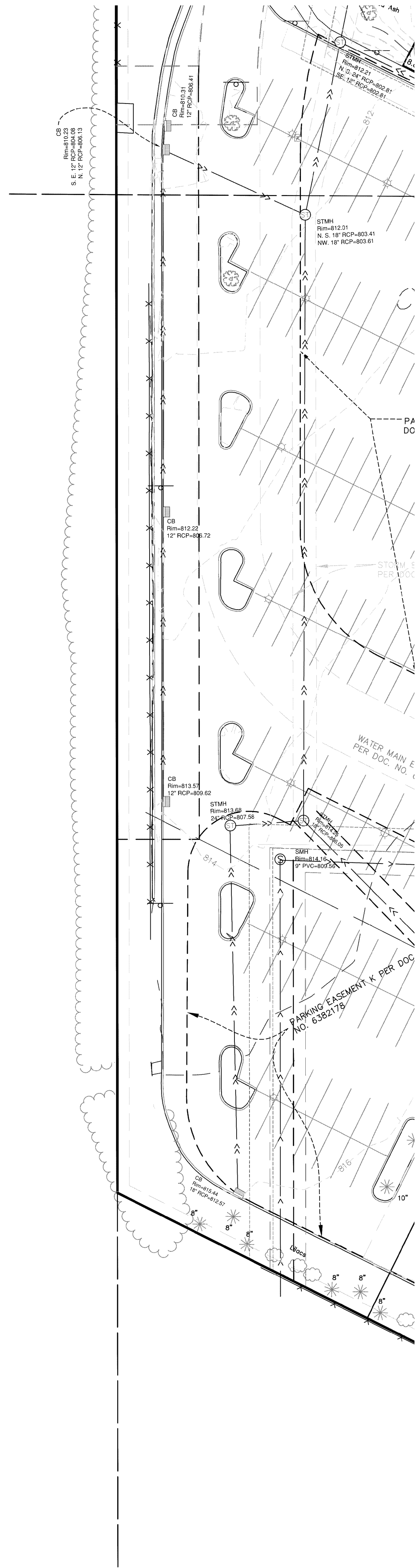
Sheet Title
TITLE SHEET

Sheet No. Revision
C1.01

Project No. 21846

CONSULTANT CONTACT LIST:

<p>DEVELOPER/OWNER ALLIANCE TEGRA GROUP 801 NICOLLET MALL, SUITE 1850 MINNEAPOLIS, MN 55402 TEL 612-752-5750 CONTACT: BRYAN SUCHY</p>	<p>CIVIL ENGINEER EVS SAMBATEK 12800 WHITEWATER DRIVE, SUITE 300 MINNETONKA, MN 55343 TEL 763-476-6010 FAX 763-476-8532 CONTACT: BRADY BUSSELMAN</p>
<p>ARCHITECT EVS 400 CLIFTON AVENUE MINNEAPOLIS, MN 55403 TEL 612-874-4127 CONTACT: ROSS NAYLOR</p>	<p>SURVEYOR EVS 10025 VALLEY VIEW RD, SUITE 140 EDEN PRAIRIE, MN 55344 TEL 952-646-0276 CONTACT: SCOTT ALWIN</p>
<p>GEOTECHNICAL AMERICAN ENGINEERING TESTING INC. 550 CLEVELAND AVENUE NORTH ST. PAUL, MN 55114 TEL 651-659-1301 CONTACT: ROB FLICKINGER</p>	<p>LANDSCAPE ARCHITECT SAMBATEK 12800 WHITEWATER DRIVE, SUITE 300 MINNETONKA, MN 55343 TEL 763-476-6010 FAX 763-476-8532 CONTACT: JOHNNIE WORKMAN</p>





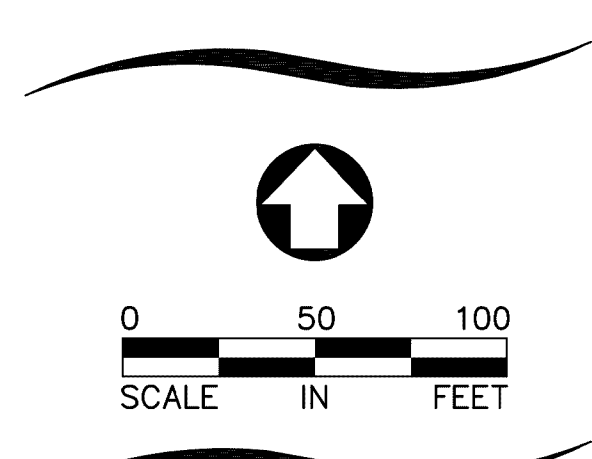
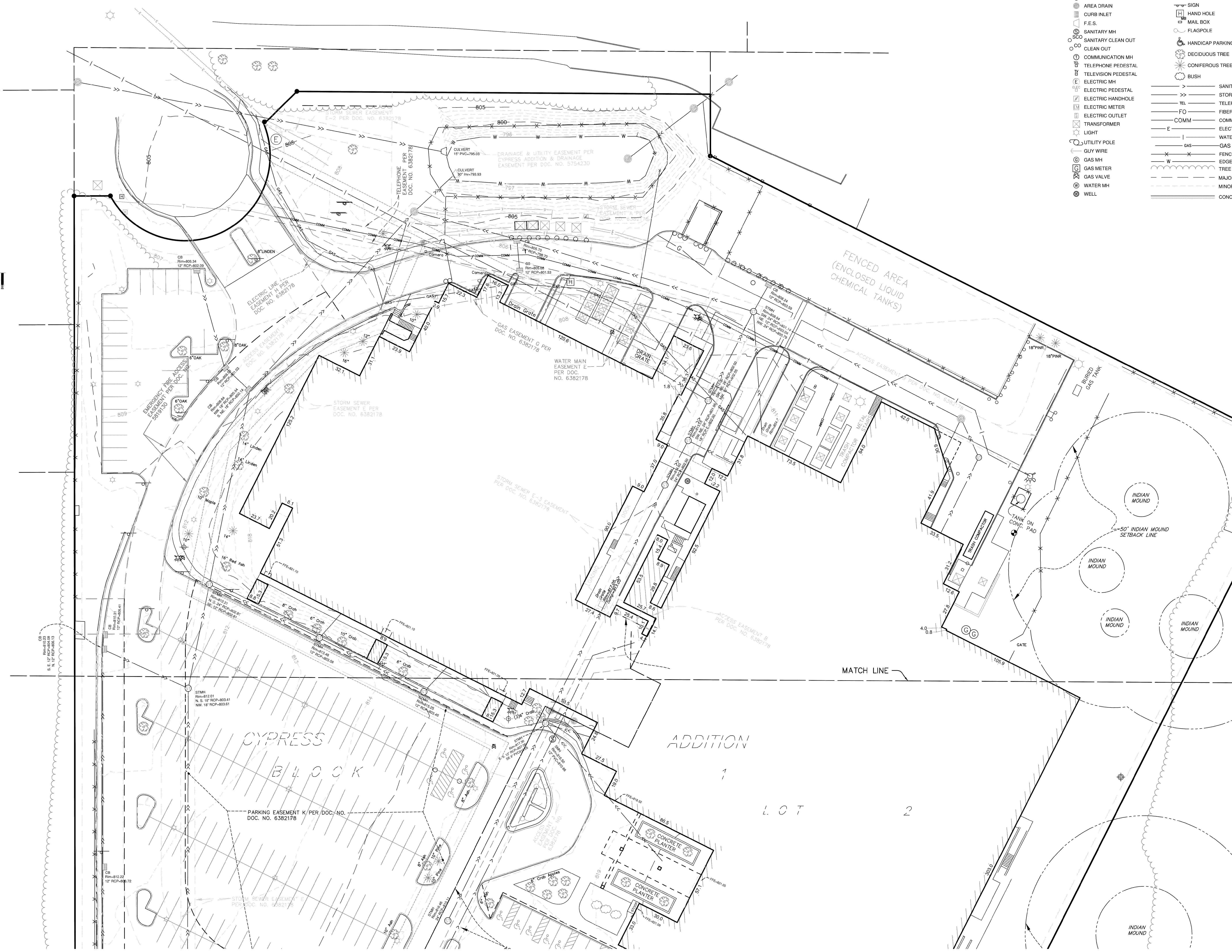
**ENGINEERING
SURVEYING
RENEWABLE
ENERGY**

EVS, INC.
10025 Valley View Road, Suite 140
Eden Prairie, Minnesota 55344
Phone: 952-646-0236
Fax: 952-646-0290
www.evs-eng.com

**BOUNDARY &
TOPOGRAPHIC
SURVEY**

LEGEND

● FOUND CIM	○ BOLLARD	○ WATER VALVE
● FOUND IP	○ SIGN	○ BOLLARD
○ STORM MH	○ SIGN	○ SIGN
○ AREA DRAIN	○ HAND-HOLE	○ MAIL BOX
○ CURB INLET	○ MAIL BOX	○ FLAGPOLE
○ E.S.	○ HANDICAP PARKING	○ DECIDUOUS TREE
○ SANITARY MH	○ CONIFEROUS TREE	○ BUSH
○ SANITARY CLEAN OUT	○ SANITARY SEWER	○ STORM SEWER
○ CLEAN OUT	○ TELEPHONE	○ TELEPHONE
○ COMMUNICATION MH	○ FIBER OPTIC	○ COMMUNICATION LINE
○ TELEPHONE PEDESTAL	○ ELECTRIC	○ WATER
○ TELEVISION PEDESTAL	○ GAS	○ GAS
○ ELECTRIC MH	○ FENCE	○ EDGE OF WATER
○ ELECTRIC PEDESTAL	○ TREE LINE	○ MAJOR CONTOUR INTERVAL
○ ELECTRIC HAND-HOLE	○ MINOR CONTOUR INTERVAL	○ CONCRETE CURBING
○ ELECTRIC METER	○ CONCRETE CURBING	
○ ELECTRIC OUTLET		
○ TRANSFORMER		
○ LIGHT		
○ UTILITY POLE		
○ GUY WIRE		
○ GAS MH		
○ GAS METER		
○ GAS VALVE		
○ WATER MH		
○ WELL		



PROJECT
ICE CASTLE

LOCATION
BLOOMINGTON, MN

#	DATE	REVISION

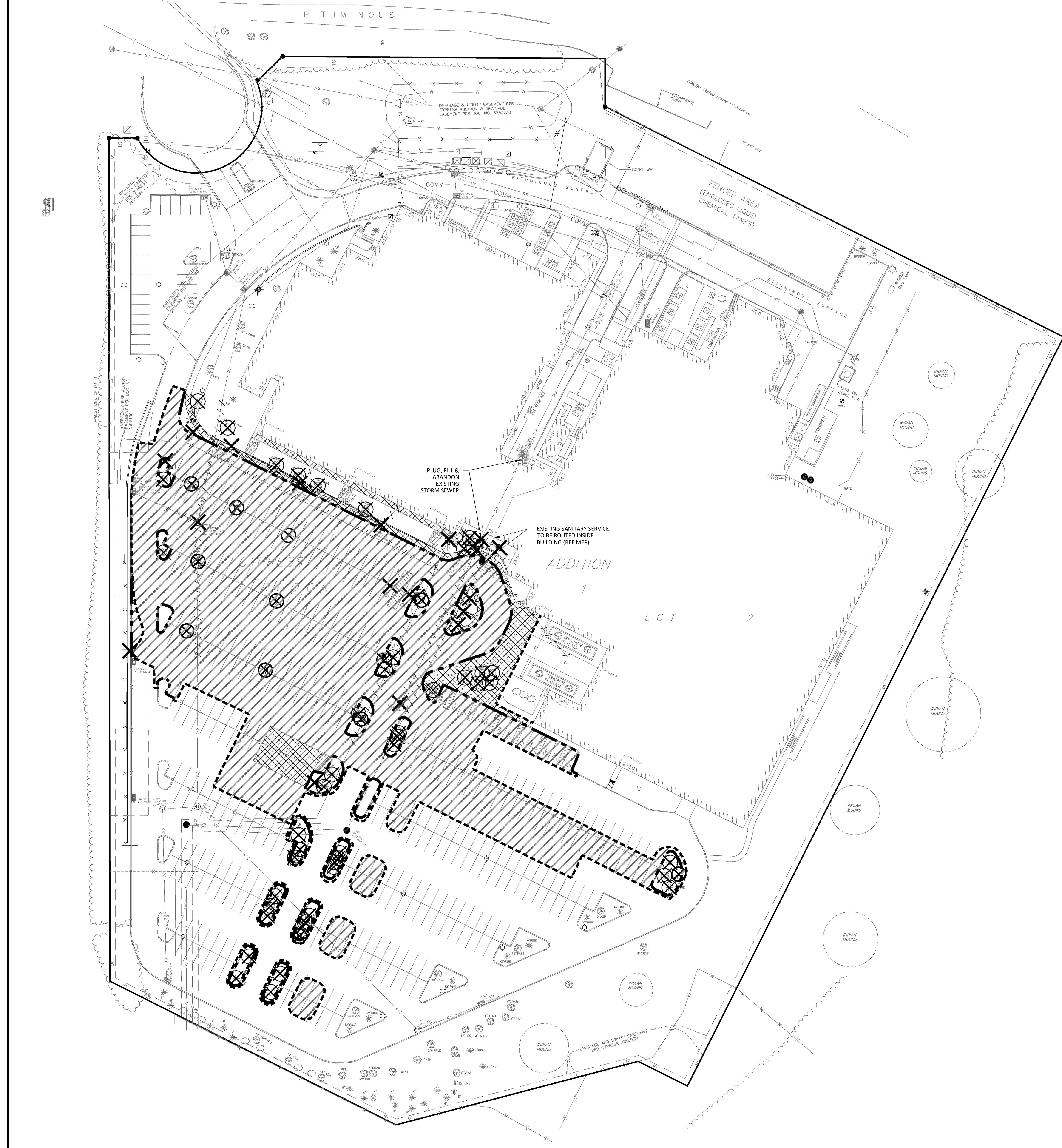
I HEREBY CERTIFY THAT THIS PLAN OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRELIMINARY
Scott Alwin
DATE: 7/20/2019
REGISTRATION NUMBER 53528

DRAWN BY	CHECKED BY
SCA	xxx
DATE	PROJECT #
12.10.2014	2019-105

SHEET NUMBER
2 OF 2

PRELIMINARY



LEGEND	
	EXISTING
GAS METER	
LIGHT	
STORM SEWER	
DRAIN TILE	
WATER MAIN	
FORCE MAIN	
SANITARY SEWER	
OVERHEAD ELECTRIC	
UNDERGROUND TELEPHONE	
UNDERGROUND CABLE TV	
UNDERGROUND ELECTRIC	
UNDERGROUND GAS	
WIRE FENCE	
IRON FENCE	
WOOD FENCE	
CHAIN LINK FENCE	
STONE RETAINING WALL	
SPRINKLER HEAD	
SPRINKLER VALVE	
GUARD RAIL	
HANDRAIL	
EDGE OF TREES	
TREES / SHRUBS	
CONCRETE	
GUARD POLES	
SIGNS	
CONCRETE CURB	
BITUMINOUS CURB	
BUILDING	
REMOVE EXISTING UTILITY LINE	
REMOVE EXIST CONCRETE CURB	
SAW CUT EXIST BITUMINOUS PAVEMENT	
REMOVE EXISTING BITUMINOUS PAVEMENT	
REMOVE EXISTING CONCRETE PAVEMENT	
REMOVE EXISTING BUILDING	
REMOVE EXISTING GRAVEL DRIVE	
REMOVE EXISTING LANDSCAPING	
REMOVE EXISTING TREE	
REMOVE EXISTING	
REMOVE EXISTING UTILITY	
REMOVE EXISTING CHAIN LINK FENCE	
REMOVE EXISTING LIGHT FIXTURE	

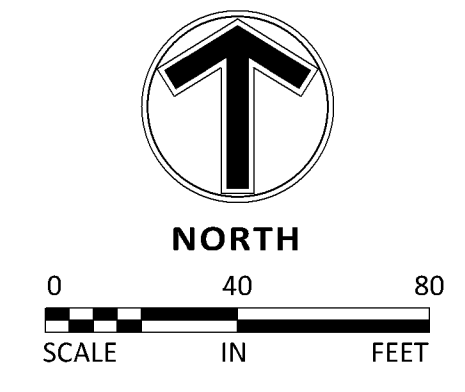
DEMOLITION NOTES

- DEMOLITION NOTES ARE NOT COMPREHENSIVE. CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION TO OBTAIN A CLEAR UNDERSTANDING OF THE INTENDED SCOPE OF WORK.
- THE DESIGN SHOWN IS BASED ON ENGINEER'S UNDERSTANDING OF EXISTING CONDITIONS. THE EXISTING CONDITIONS SHOWN ON THIS PLAN ARE BASED UPON ALTA AND TOPOGRAPHIC MAPPING PREPARED BY SUE DATES 07/20/2019. IF CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS WITHOUT EXCEPTION, CONTRACTOR SHALL HAVE MADE, AT OWN EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR AND SUBMIT IT TO THE OWNER FOR REVIEW.
- THE CONTRACTOR IS RESPONSIBLE FOR DEMOLITION, REMOVAL, AND DISPOSING IN A LOCATION APPROVED BY ALL GOVERNING AUTHORITIES AND IN ACCORDANCE WITH APPLICABLE CODES, OF ALL STRUCTURES, PAVS, WALLS, FENCES, FOUNDATIONS, PARKING, DRIVEWAYS, STRUCTURES, UTILITIES, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THE PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE CONTRACTED FILL MATERIAL PER THE GEOTECHNICAL REPORT AND/OR GEOTECHNICAL ENGINEER.
- CLEARING AND GRUBBING- CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL DEBRIS FROM THE SITE AND DISPOSING THE DEBRIS IN A LAWFUL MANNER. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL.
- CONTRACTOR IS RESPONSIBLE FOR THE DISCONNECTION OF UTILITY SERVICES TO EXISTING BUILDINGS PRIOR TO DEMOLITION OF THE BUILDINGS.
- CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES PRIOR TO REMOVAL AND/OR RELOCATION OF UTILITIES. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES CONCERNING PORTIONS OF WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANIES' FORCES AND ANY FEES WHICH ARE TO BE PAID TO UTILITY COMPANIES FOR SERVICES. CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.
- CONTRACTOR IS SPECIFICALLY CAUTIONED THAT LOCATIONS OF EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM INFORMATION AVAILABLE. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE UTILITY MAPPING ACCURACY. PRIOR TO START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES 48 HOURS PRIOR TO ANY EXCAVATION FOR ON-SITE LOCATIONS OF EXISTING UTILITIES. THE LOCATIONS OF UTILITIES SHALL BE OBTAINED BY THE CONTRACTOR BY CALLING WISCONSINA GOPHER STATE ONE CALL AT 800-252-1166 OR 651-454-0002.
- THE MAPPING LOCATION OF ALL EXISTING SEWERS, PIPING, AND UTILITIES SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. GIVE NOTICE TO ALL UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH WORK. UTILITIES DETERMINED TO BE ABANDONED SHALL BE REMOVED IF UNDER THE BUILDING INCLUDING 10' BEYOND FOUNDATIONS.
- ELECTRICAL, TELEPHONE, CABLE, WATER, FIBER OPTIC CABLE AND/OR GAS LINES NEEDING TO BE REMOVED OR RELOCATED SHALL BE COORDINATED WITH THE AFFECTED UTILITY COMPANY. ADEQUATE TIME SHALL BE PROVIDED FOR RELOCATION AND CLOSE COORDINATION WITH THE UTILITY COMPANY IS NECESSARY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE. CONTRACTOR SHALL PAY CLOSE ATTENTION TO EXISTING UTILITIES WITHIN THE ROAD RIGHT OF WAY DURING CONSTRUCTION.
- CONTRACTOR MUST PROTECT THE PUBLIC AT ALL TIMES WITH FENCING, BARRICADES, ENCLOSURES, ETC., TO THE BEST PRACTICES.
- CONTINUOUS ACCESS SHALL BE MAINTAINED FOR THE SURROUNDING PROPERTIES AT ALL TIMES DURING DEMOLITION OF THE EXISTING FACILITIES.
- PRIOR TO DEMOLITION OCCURRING, ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED AND APPROVED BY THE LOCAL AUTHORITY.
- CONTRACTOR SHALL LIMIT SAW-CUT & PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE IT IS REQUIRED AS SHOWN ON THESE CONSTRUCTION PLANS BUT IF ANY DAMAGE IS INCURRED ON ANY OF THE SURROUNDING PAVEMENT, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL AND REPAIR.
- CONTRACTOR TO PROTECT EXISTING FEATURES WHICH ARE TO REMAIN. DAMAGE TO ANY EXISTING CONDITIONS TO REMAIN WILL BE REPLACED AT CONTRACTOR'S EXPENSE.
- ABANDON OR REMOVE ALL SANITARY, WATER AND STORM SERVICES PER CITY STANDARDS. COORDINATE ALL WORK WITH CITY. ALL STREET RESTORATION SHALL BE COMPLETED IN COMPLIANCE WITH LOCAL STANDARDS.
- CONTRACTOR SHALL PREPARE AND SUBMIT TO THE GOVERNING AUTHORITY A TRAFFIC AND/OR PEDESTRIAN TRAFFIC PLAN PER CITY/COUNTY/STATE STANDARDS TO BE APPROVED BY THE LOCAL GOVERNING AUTHORITY.

THE SURFACE UTILITY INFORMATION SHOWN ON THESE PLANS IS A UTILITY QUALITY LEVEL 1. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF AUSTIN, TEXAS. THESE STANDARDS REQUIRE THE COLLECTION AND REPORTING OF EXISTING SURFACE UTILITY DATA. THE CONTRACTOR AND/OR SUBCONTRACTORS SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE CONSTRUCTION BEGINS. BY CONTRACTING THE SERVICES DESCRIBED HEREON, THE CONTRACTOR AND/OR SUBCONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES, WHICH MAY BE OCCURRED BY HIS OR HER FAILURE TO LOCATE AND PROTECT ANY AND ALL UTILITIES (UNDERGROUND AND OVERHEAD).

IF THE CONTRACTOR ENCOUNTERS ANY OBSTACLE WITHIN THE SITE, HE OR SHE SHALL NOTIFY THE ENGINEER WITH THE LOCATION, SIZE, DEPTH AND IF THE UTILITY IS ACTIVE. NO WORK SHALL BE PROCEEDED WITHOUT APPROVAL FROM THE PROJECT NUMBER.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.



Sambatek
www.sambatek.com
12800 Whitewater Drive, Suite 300
Minnetonka, MN 55343
763.476.6010 telephone
763.476.8532 facsimile
Engineering | Surveying | Planning | Environmental

Client
ICE CASTLE

Project
ICE CASTLE

Location
BLOOMINGTON, MN
2401 E 86TH STREET

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 licensed professional ENGINEER under the laws of the state of Minnesota.

BRADY D. BUSSELMAN
Registration No. 44579 Date: 08/29/2019
If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's, Minnetonka, MN office.

Summary
Designed: JRB/AF Drawn: MFM/AF
Approved: sbb Book / Page:
Phase: PRELIMINARY Initial Issued: 07/24/2019

Revision History
No. Date By Submittal / Revision
8/29/19 AF CITY COMMENTS

Sheet Title
DEMOLITION PLAN

Sheet No. Revision
C2.03

Project No. 21846



LEGEND

	PROPOSED	EXISTING	
PROPERTY LIMIT	---	---	ASPHALT PAVING
CURB & GUTTER	---	---	MILL & OVERLAY
EASEMENT	---	---	CONCRETE SIDEWALK
BUILDING	---	---	
RETAINING WALL	---	---	
WETLAND LIMITS	---	---	
TREELINE	---	---	
SAWCUT LINE	---	---	
SIGN	---	---	
PIPE BOLLARD	---	---	
NUMBER OF PARKING STALLS PER ROW	---	---	
KEY NOTE	---	---	
LIGHT POLE	---	---	

DEVELOPMENT SUMMARY

AREA	
NET SITE AREA	609,771 SF 14.0 AC
GROSS BUILDING AREA	330,765 SF
EXISTING BUILDING	63,331 SF
PROPOSED ADDITION	394,096 SF
TOTAL	
ZONING	CO-1 (COMMERCIAL OFFICE)
EXISTING ZONING	IT (INNOVATION & TECHNOLOGY)
PROPOSED ZONING	
PARKING SUMMARY	
WEST LOT	25 STALLS
MAIN LOT	260 STALLS
ADA	7 STALLS
TOTAL PARKING PROVIDED	292 STALLS
REQUIRED PARKING	273 STALLS
FLOOR AREA RATIO (PROPOSED)	0.65
IMPERVIOUS AREA PERCENTAGE	
EXISTING	70%
PROPOSED	68%
BUILDING COVERAGE PERCENTAGE	
EXISTING	54%
PROPOSED	65%

- DEVELOPMENT NOTES**
- ALL DIMENSIONS ARE ROUNDED TO THE NEAREST TENTH FOOT.
 - ALL DIMENSIONS SHOWN ARE TO THE FACE OF CURB TO FACE OF CURB UNLESS OTHERWISE NOTED.
 - CONTRACTOR SHALL REVIEW PAVEMENT GRADIENT AND CONSTRUCT "GUTTER OUT" WHERE WATER DRAINS AWAY FROM CURB. ALL OTHER AREAS SHALL BE CONSTRUCTED AS "GUTTER IN" CURB. COORDINATE WITH GRADING CONTRACTOR.
 - ALL AREAS ARE ROUNDED TO THE NEAREST SQUARE FOOT.
 - ALL PARKING STALLS TO BE 9' IN WIDTH AND 18' IN LENGTH UNLESS OTHERWISE INDICATED.
 - CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF EXIT PORCHES, RAMPS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
 - ALL GRADIENTS ON SIDEWALKS ALONG THE ADA ROUTE SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 5% (1:20), EXCEPT AT CURB RAMPS (1:12), AND A MAXIMUM CROSS SLOPE OF 2.08% (1:48). THE MAXIMUM SLOPE IN ANY DIRECTION ON AN ADA PARKING STALL OR ACCESS AISLE SHALL BE 2.08% (1:48). THE CONTRACTOR SHALL REVIEW AND VERIFY THE GRADIENT IN THE FIELD ALONG THE ADA ROUTES PRIOR TO PLACING CONCRETE OR BITUMINOUS PAVEMENT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF THERE IS A DISCREPANCY BETWEEN THE GRADIENT IN THE FIELD VERSUS THE DESIGN GRADIENT AND COORDINATE WITH GRADING CONTRACTOR.
 - "NO PARKING" SIGNS SHALL BE PLACED ALONG ALL DRIVEWAYS AS REQUIRED BY CITY.
 - ALL PARKING STALL STRIPING SHALL BE PAINTED WHITE.
 - ADA PARKING SIGNAGE AND PAVEMENT MARKINGS MUST BE PLACED IN ACCORDANCE WITH ADA AND MUTCD.

- KEY NOTES**
- BUILDING, STOODS, STAIRS SEE ARCHITECTURAL PLANS
 - 8-612 CONCRETE CURB AND GUTTER
 - CONCRETE SIDEWALK
 - CONCRETE APRON
 - FLAT CURB SECTION
 - SEGMENTAL BLOCK RETAINING WALL
 - TRANSFORMER
 - PEDESTRIAN RAMP
 - BIKE RACK
 - AREA WELL (REF ARCH)
 - INTEGRAL SIDEWALK/CURB
 - NEW OR RELOCATED LIGHT POLE (SEE PHOTOMETRIC PLAN)
 - 8' x 37" DEIONIZED WATER TANK
 - 10' CURB TRANSITION (SEE SHEET C4.01)

Sambatek
www.sambatek.com
12800 Whitewater Drive, Suite 300
Minnetonka, MN 55343
763.476.6010 telephone
763.476.8532 facsimile
Engineering | Surveying | Planning | Environmental

Client
ICE CASTLE

Project
ICE CASTLE

Location
BLOOMINGTON, MN
2401 E 86TH STREET

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 licensed professional ENGINEER under the laws of the state of Minnesota.

BRADY D. BUSSELMAN
Registration No. 44579 Date: 08/29/2019
If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's, Minnetonka, MN office.

Summary
Designed: RJA/ Drawn: MJA/JAF
Approved: SJB Book / Page:
Phase: PRELIMINARY Initial Issued: 07/24/2019

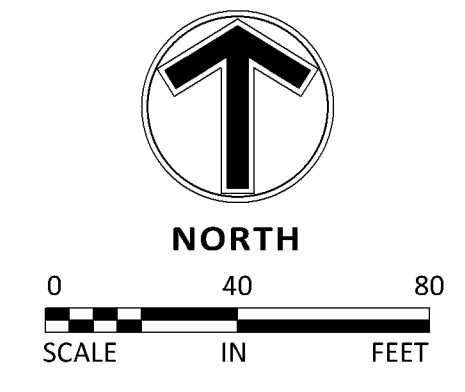
Revision History
No. Date By Submittal / Revision
8/29/19 AF CITY COMMENTS

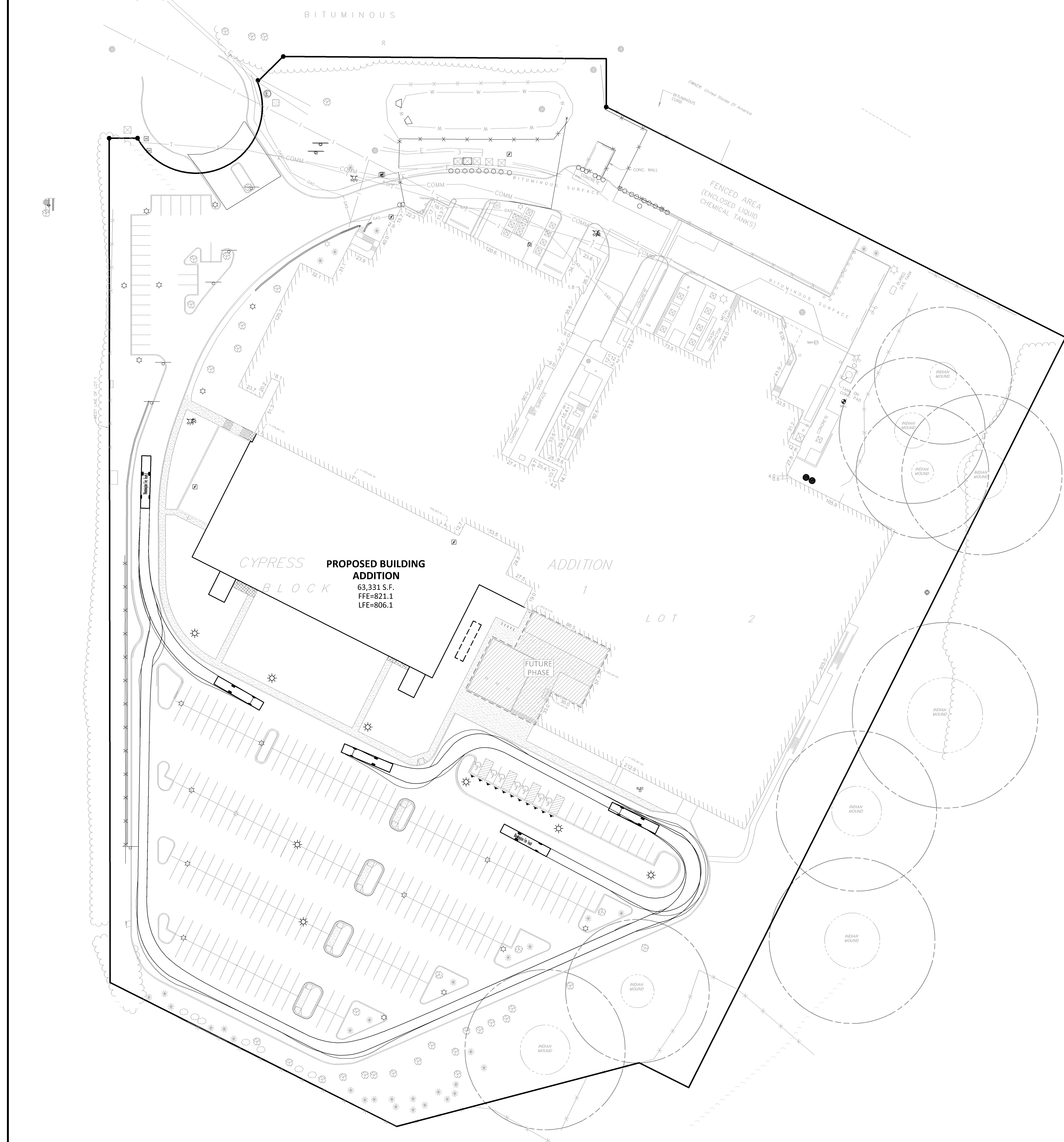
Sheet Title
SITE PLAN

Sheet No. Revision
C3.01

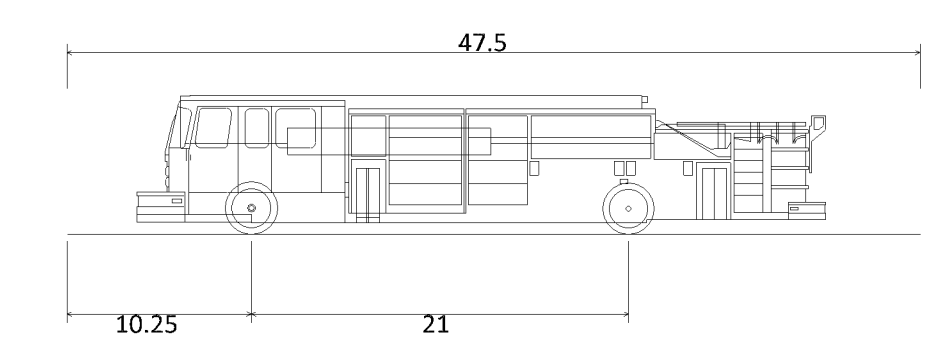
Project No. 21846

THE SUBSURFACE UTILITY INFORMATION SHOWN ON THESE PLANS IS A UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS OBTAINED ACCORDING TO THE GUIDELINES OF AUCD. BRIDGE TRENCHING OPERATIONS FOR THE COLLECTION AND REPORTING OF UTILITY INFORMATION. THE CONTRACTOR AND/OR SUBCONTRACTORS SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE CONSTRUCTION WORK. IF CONFLICTS WITH THE INFORMATION ENTERED OCCUR, THE CONTRACTOR AND/OR SUBCONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES, WHICH MAY BE OCCURRED BY THE CONTRACTOR AND/OR SUBCONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES, WHICH MAY BE OCCURRED BY THE CONTRACTOR AND/OR SUBCONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES, WHICH MAY BE OCCURRED BY THE CONTRACTOR AND/OR SUBCONTRACTOR.





LEGEND	
PROPOSED	EXISTING
PROPERTY LIMIT	---
CURB & GUTTER	---
EASEMENT	---
BUILDING	---
RETAINING WALL	---
WETLAND LIMITS	---
TREELINE	---
SAWCUT LINE	---
SIGN	---
PIPE BOLLARD	---
	STANDARD DUTY ASPHALT PAVING
	HEAVY DUTY ASPHALT PAVING
	CONCRETE PAVING
	CONCRETE SIDEWALK



Bloomington Fire Truck
 Overall Length 47.500ft
 Overall Width 10.25ft
 Overall Body Height 8.167ft
 Min Body Ground Clearance 0.670ft
 Max Track Width 8.330ft
 Lock-to-lock time 5.00s
 Max Wheel Angle 45.00°

THE SUBSEQUENT UTILITY INFORMATION SHOWN ON THESE PLANS IS A UTILITY QUALITY LEVEL. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF AEC-301. THE CONTRACTOR AND/OR SUBCONTRACTORS SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE CONSTRUCTION WORK. IF CONTRACTORS ARE NOT SURE OF THE LOCATION OF ANY UTILITIES, THEY SHOULD CONTACT THE UTILITY LOCATOR SERVICE. THE CONTRACTOR AND/OR SUBCONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES, WHICH MAY BE OCCURRED BY ANY OF HIS FAILURE TO EXACTLY LOCATE AND PROTECT ANY AND ALL UTILITIES UNDERGROUND AND OVERGROUND.

IF THE CONTRACTOR ENCOUNTERS ANY UNKNOWN UTILITIES WITHIN THE SITE, HE OR SHE SHALL NOTIFY THE ENGINEER WITH THE LOCATION, SIZE, DEPTH AND IF THE UTILITIES ARE ACTIVE. NO WORK SHALL BE INITIATED WITHOUT APPROVAL FROM THE PROJECT MANAGER.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH INTERFERE WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

Client
ICE CASTLE

Project
ICE CASTLE

Location
BLOOMINGTON, MN
 2401 E 86TH STREET

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 licensed professional ENGINEER under the laws of the state of Minnesota.

BRADY D. BUSSELMAN
 Registration No. 44579 Date: 08/29/2019
 If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's, Minnetonka, MN office.

Summary
 Designed: RJA/ Drawn: MJA/MS
 Approved: SJB Book / Page:
 Phase: PRELIMINARY Initial Issued: 07/24/2019

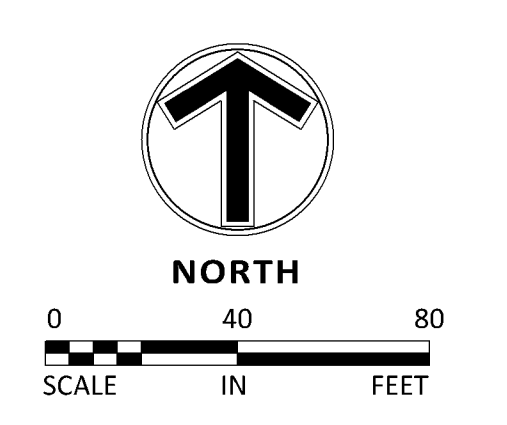
Revision History

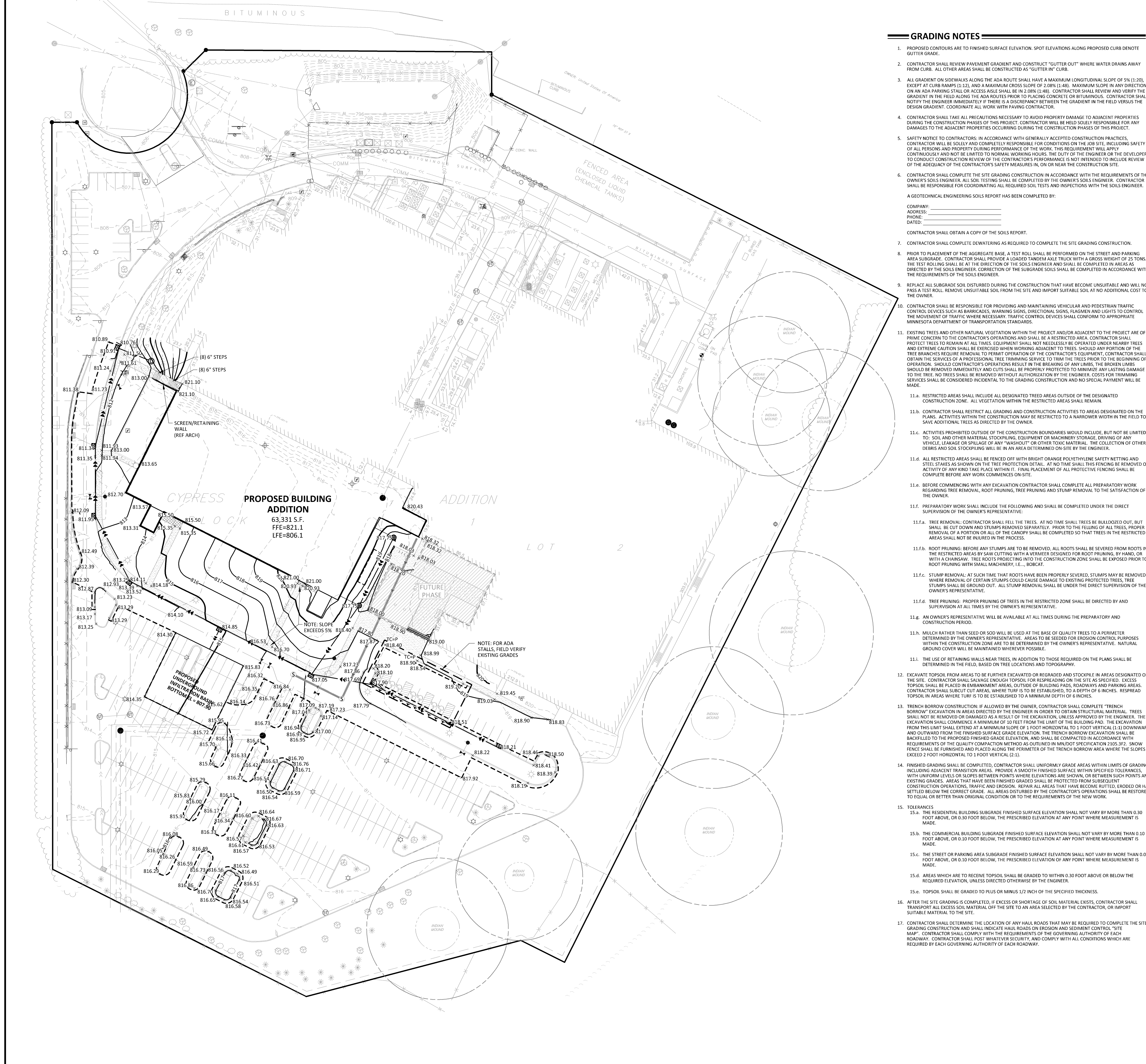
No.	Date	By	Submittal / Revision
8/29/19	AF		CITY COMMENTS

Sheet Title
FIRE TRUCK TURNING MOVEMENT

Sheet No. Revision
C3.02

Project No. 21846





THE SUBSURFACE UTILITY INFORMATION SHOWN ON THESE PLANS IS A UTILITY QUALITY LEVEL 2. THIS QUALITY LEVEL WAS OBTAINED...

IF THE CONTRACTOR ENCOUNTERS ANY OBSTACLE WITHIN THE SITE, HE OR SHE SHALL NOTIFY THE ENGINEER WITH THE LOCATION, SIZE...

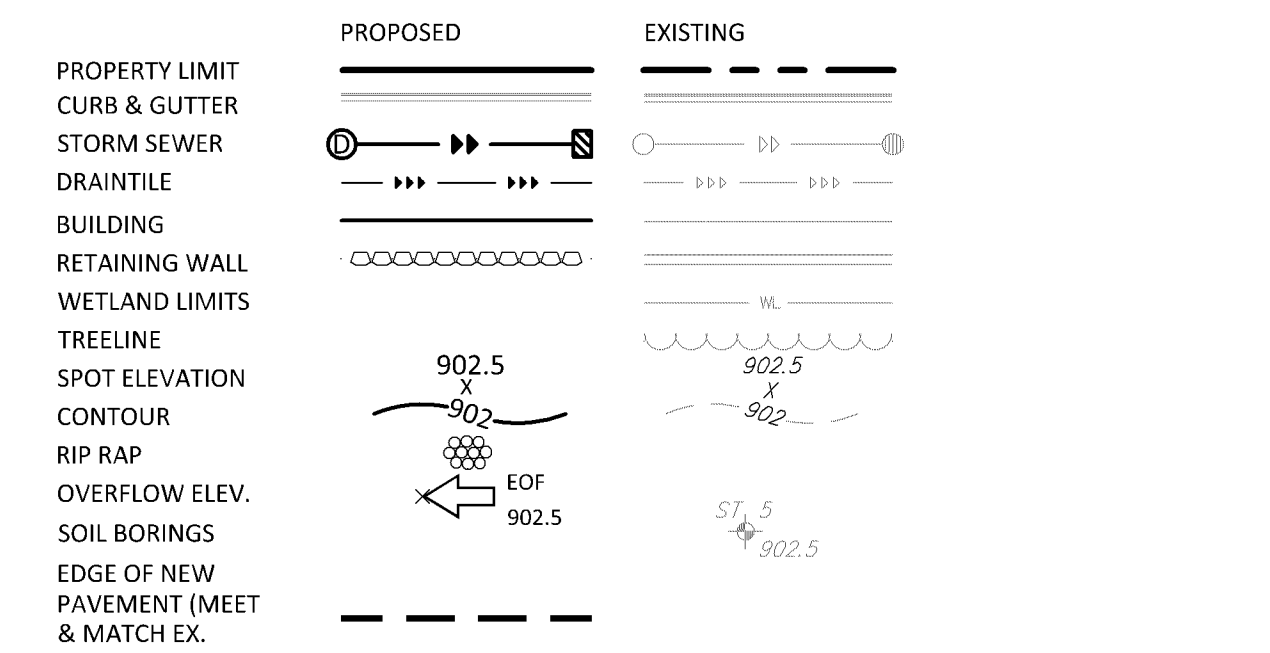
IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INDICATE ALL EXISTING UTILITIES WHICH INTERFERE WITH THE PROPOSED...

Aug 29, 2019 1:05pm - User: jmh@hsl.com PL201900127 (M:\CADD\2019\201900127\201900127.dwg)

GRADING NOTES

- 1. PROPOSED CONTOURS ARE TO FINISHED SURFACE ELEVATION. SPOT ELEVATIONS ALONG PROPOSED CURB DENOTE GUTTER GRADE.
2. CONTRACTOR SHALL REVIEW PAVEMENT GRADIENT AND CONSTRUCT "GUTTER OUT" WHERE WATER DRAINS AWAY FROM CURB...

LEGEND



INFILTRATION BASIN CONSTRUCTION NOTES

- 1. INFILTRATION BASIN CONSTRUCTION REQUIREMENTS: INCLUDES ALL DEVICES USING FILTRATION THROUGH A SOIL MEDIUM TO CAPTURE STORM WATER RUNOFF BUT ARE NOT LIMITED TO INFILTRATION BASINS, INFILTRATION TRENCHES, BIOPORTION BASINS, MAINWATER GARDENS, SAND FILTERS, ORGANIC FILTERS, BIORETENTION AREAS, ENHANCED SWALES, DRY STORAGE PONDS WITH UNDERGRAIN DISCHARGE, AND NATURAL DEPRESSIONS IF USED TO PROVIDE STORMWATER TREATMENT OF NEW IMPROVED SURFACE.
1.a. PERMITTEES MUST NOT EXCAVATE INFILTRATION SYSTEMS TO FINAL GRADE OR WITHIN THREE (3) FEET OF FINAL GRADE...

Sambatek logo and contact information: 12800 Whitewater Drive, Suite 300, Minneapolis, MN 55343. Phone: 763.476.6010, Fax: 763.476.8532.

Client: ICE CASTLE

Project: ICE CASTLE

Location: BLOOMINGTON, MN 2401 E 86TH STREET

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 licensed professional ENGINEER under the laws of the state of Minnesota.

BRADY D. BUSSELMAN, Registration No. 44579, Date: 08/29/2019

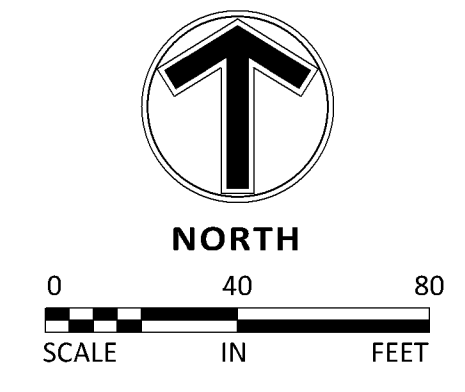
Summary: Designed: r/w/j, Drawn: jmh/m/j, Approved: s/w/b, Book / Page: Phase: PRELIMINARY, Initial Issued: 07/24/2019

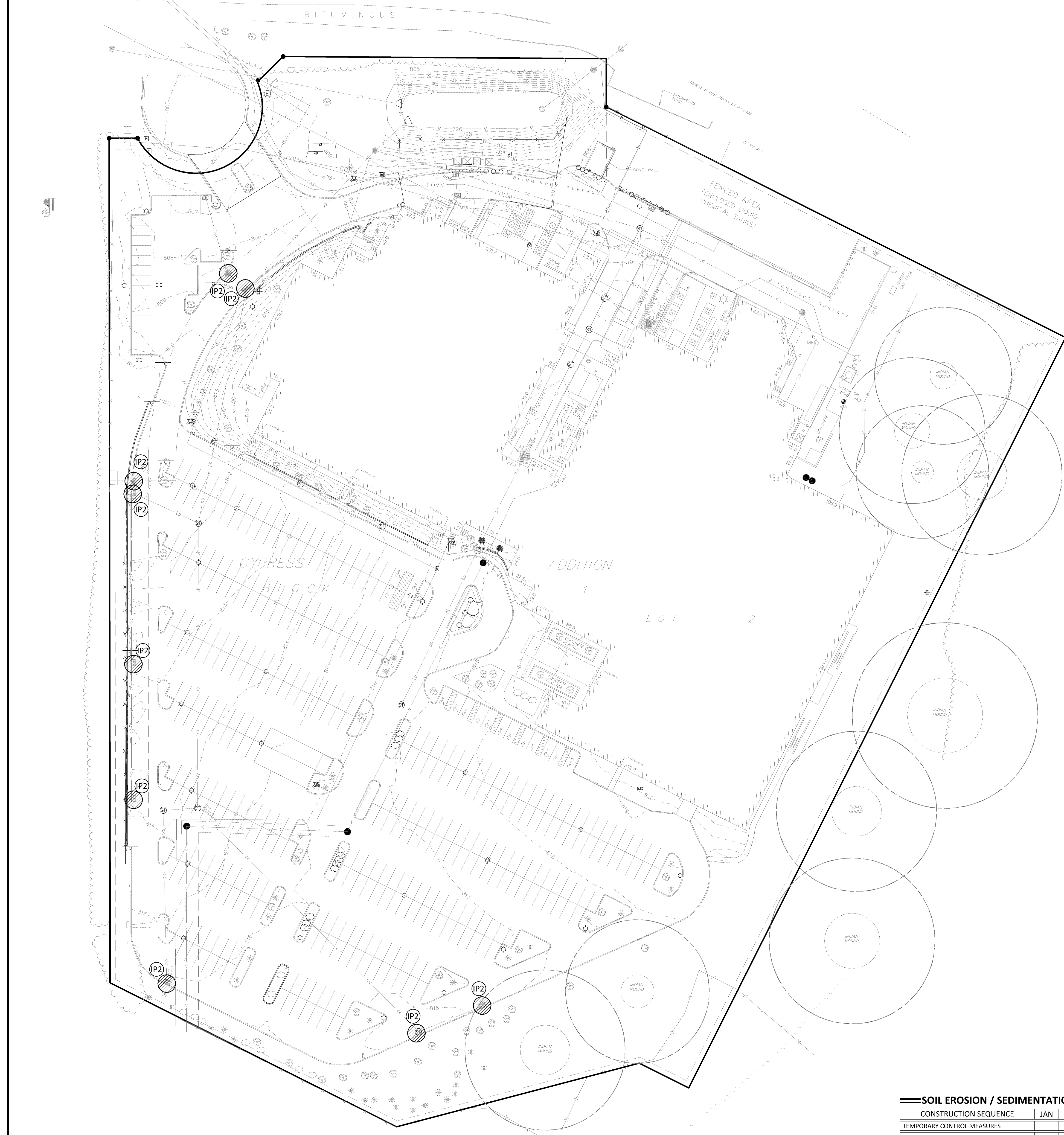
Revision History: No. Date By Submittal / Revision: 8/29/19 AF CITY COMMENTS

Sheet Title: GRADING PLAN

Sheet No. Revision: C4.01

Project No. 21846





LEGEND

	PROPOSED	EXISTING
CURB & GUTTER		
STORM SEWER		
DRAIN TILE		
CONTOUR		
RIP RAP		
OVERFLOW ELEV.		
SILT FENCE		
SILT DIKE		
LIMITS OF DISTURBANCE		
SOIL BORINGS		
DIRECTION OF OVERLAND FLOW		
TEMPORARY DIVERSION DITCH		
CHECK DAM		
LIMITS OF DRAINAGE SUB-BASIN		
BIO-ROLL		
INLET PROTECTION DEVICE 1		
INLET PROTECTION DEVICE 2		
TEMPORARY STONE CONSTRUCTION ENTRANCE		
TEMPORARY SEDIMENT BASIN		
TEMPORARY STORAGE AND PARKING AREA		
TEMPORARY STABILIZATION MEASURES (SEED, MULCH, MATS OR BLANKETS AS OUTLINED IN THE SWPPP)		

NOTE TO CONTRACTOR

THE EROSION CONTROL PLAN SHEETS ALONG WITH THE REST OF THE SWPPP MUST BE KEPT ONSITE UNTIL THE NOTICE OF TERMINATION IS FILED WITH THE MPCA. THE CONTRACTOR MUST UPDATE THE SWPPP, INCLUDING THE EROSION CONTROL PLAN SHEETS AS NECESSARY TO INCLUDE ADDITIONAL REQUIREMENTS, SUCH AS ADDITIONAL OR MODIFIED BMPs DESIGNED TO CORRECT PROBLEMS IDENTIFIED. AFTER FILING THE NOTICE OF TERMINATION, THE SWPPP, INCLUDING THE EROSION CONTROL PLAN SHEETS, AND ALL REVISIONS TO IT MUST BE SUBMITTED TO THE OWNER, TO BE KEPT ON FILE IN ACCORDANCE WITH THE RECORD RETENTION REQUIREMENTS DESCRIBED IN THE SWPPP NARRATIVE.

EROSION CONTROL MATERIALS QUANTITIES

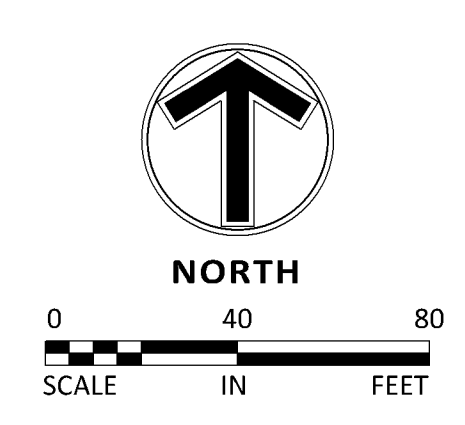
ITEM	UNIT	QUANTITY
SILT FENCE	LINEAR FEET	X
SILT DIKE	LINEAR FEET	X
BIO-ROLL	LINEAR FEET	X
CONSTRUCTION ENTRANCE	UNIT	X
INLET PROTECTION DEVICE (IP-1)	UNIT	X
INLET PROTECTION DEVICE (IP-2)	UNIT	10

* REFER TO SHEET C5.03 FOR GENERAL NOTES, MAINTENANCE NOTES, LOCATION MAPS, AND STANDARD DETAILS

SOIL EROSION / SEDIMENTATION CONTROL OPERATION TIME SCHEDULE

CONSTRUCTION SEQUENCE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	
TEMPORARY CONTROL MEASURES																			
STRIP & STOCKPILE TOPSOIL																			
ROUGH GRADE / SEDIMENT CONTROL																			
TEMPORARY CONSTRUCTION ROADS																			
FOUNDATION / BUILDING CONSTRUCTION																			
SITE CONSTRUCTION																			
PERMANENT CONTROL STRUCTURES																			
FINISH GRADING																			
LANDSCAPING / SEED / FINAL STABILIZATION																			
STORM FACILITIES																			

NOTE: CONTRACTOR OR GENERAL CONTRACTOR TO COMPLETE TABLE WITH THEIR SPECIFIC PROJECT SCHEDULE

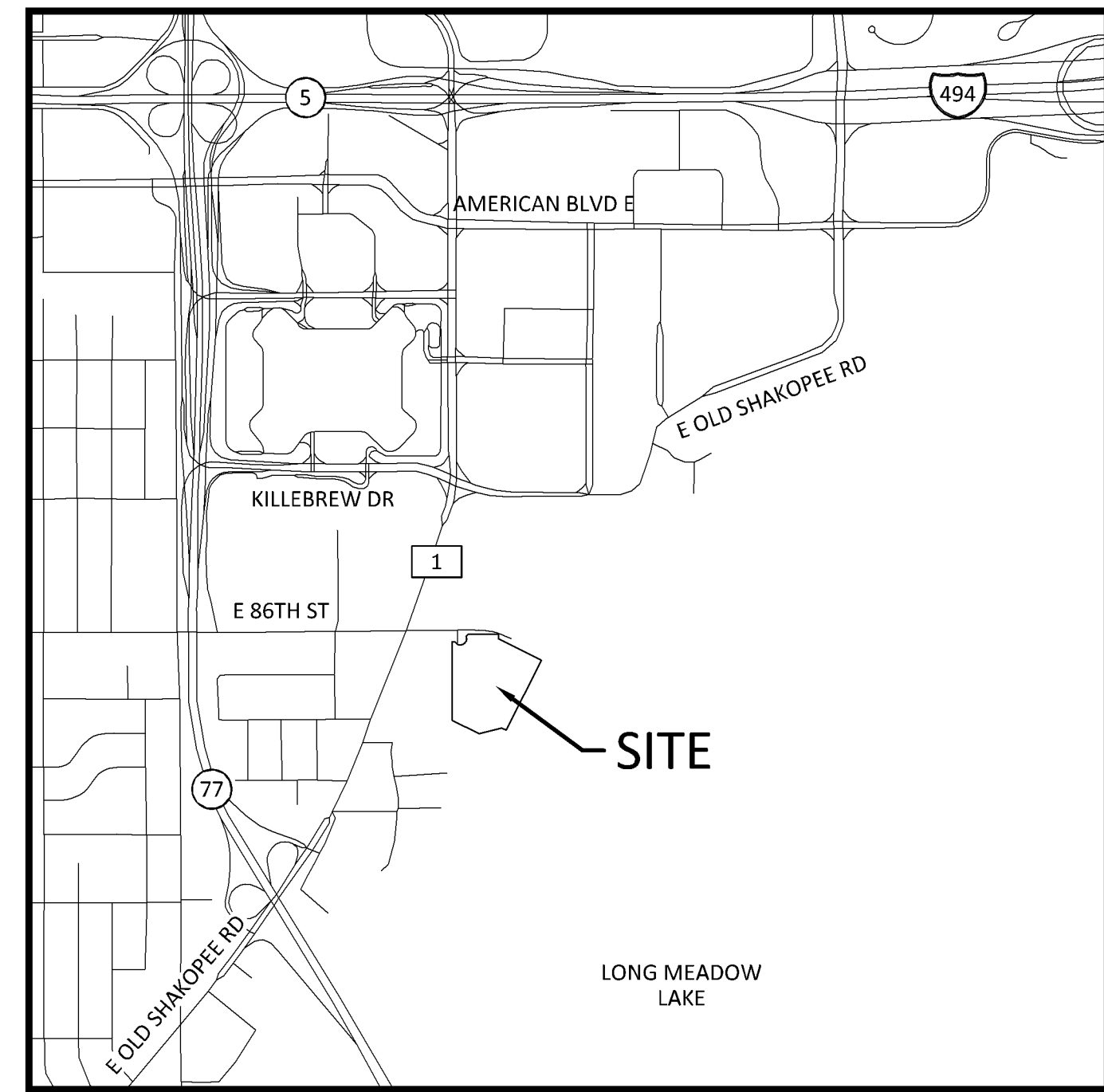


THE SUBSURFACE UTILITY INFORMATION SHOWN ON THESE PLANS IS A QUALITY LEVEL 1. THIS QUALITY LEVEL WAS OBTAINED ACCORDING TO THE GUIDELINES OF AECQ-301. THESE FINDINGS INDICATE THAT THE LOCATION AND DEPTH OF EXISTING UTILITIES BEING CONSIDERED WERE AS ACCURATE AS POSSIBLE. THE CONTRACTOR AND/OR SUBCONTRACTORS SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE CONSTRUCTION BEGINS. IF CONTRACTORS FIND UTILITIES NOT SHOWN ON THESE PLANS, THEY SHALL NOTIFY THE ENGINEER IMMEDIATELY. THE CONTRACTOR AND/OR SUBCONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES, WHICH MAY BE OCCURRED BY ANY OF HIS FAILURE TO EXACTLY LOCATE AND PROTECT ANY AND ALL UTILITIES UNDERGROUND AND THEREAFTER.

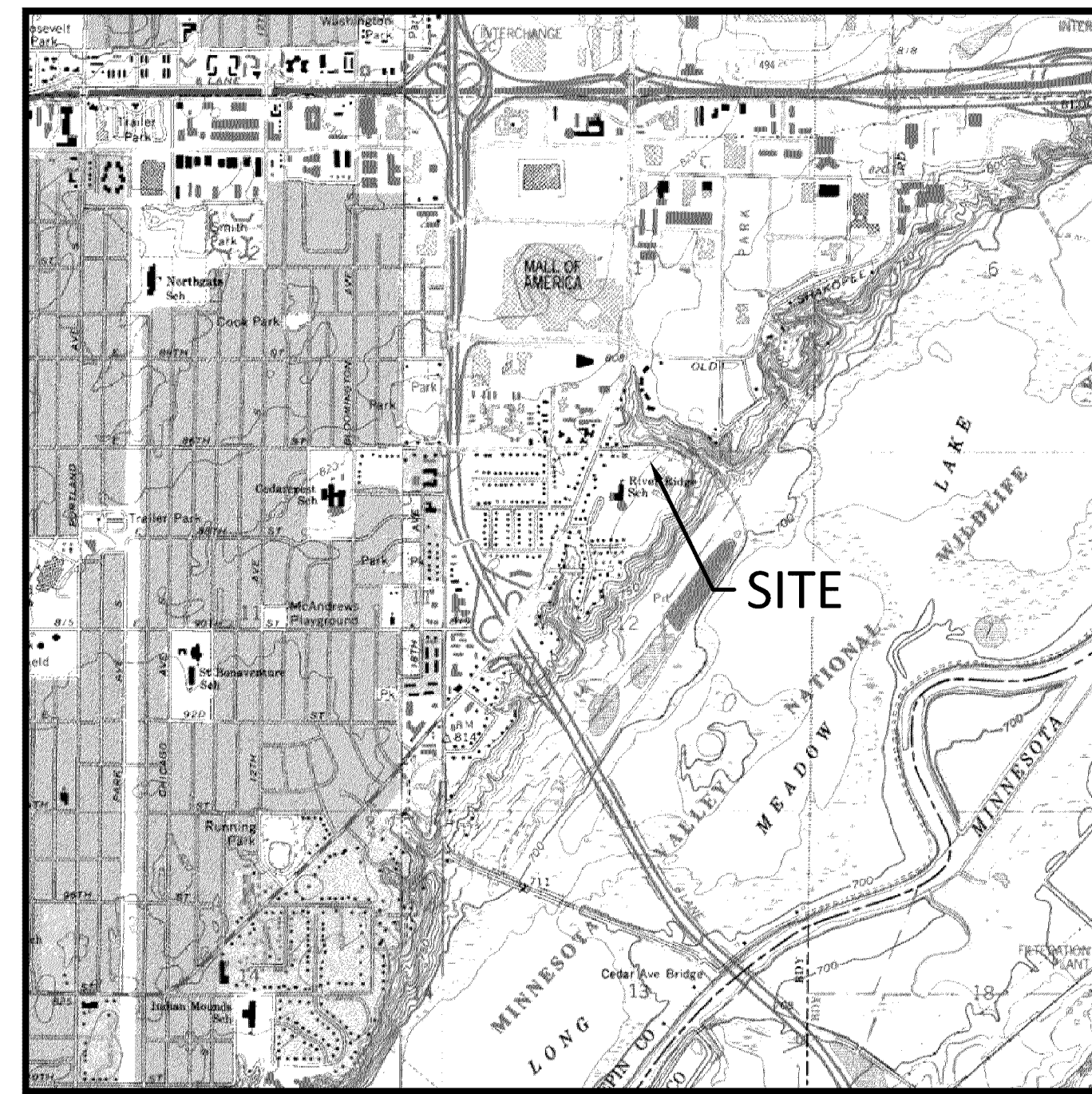
IF THE CONTRACTOR ENCOUNTERS ANY OBSTACLE WITHIN THE SITE, HE OR SHE SHALL NOTIFY THE ENGINEER WITH THE LOCATION, SIZE, DEPTH AND IF THE UTILITY IS ACTIVE. NO WORK SHALL BE INITIATED WITHOUT APPROVAL FROM THE PROJECT ENGINEER.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

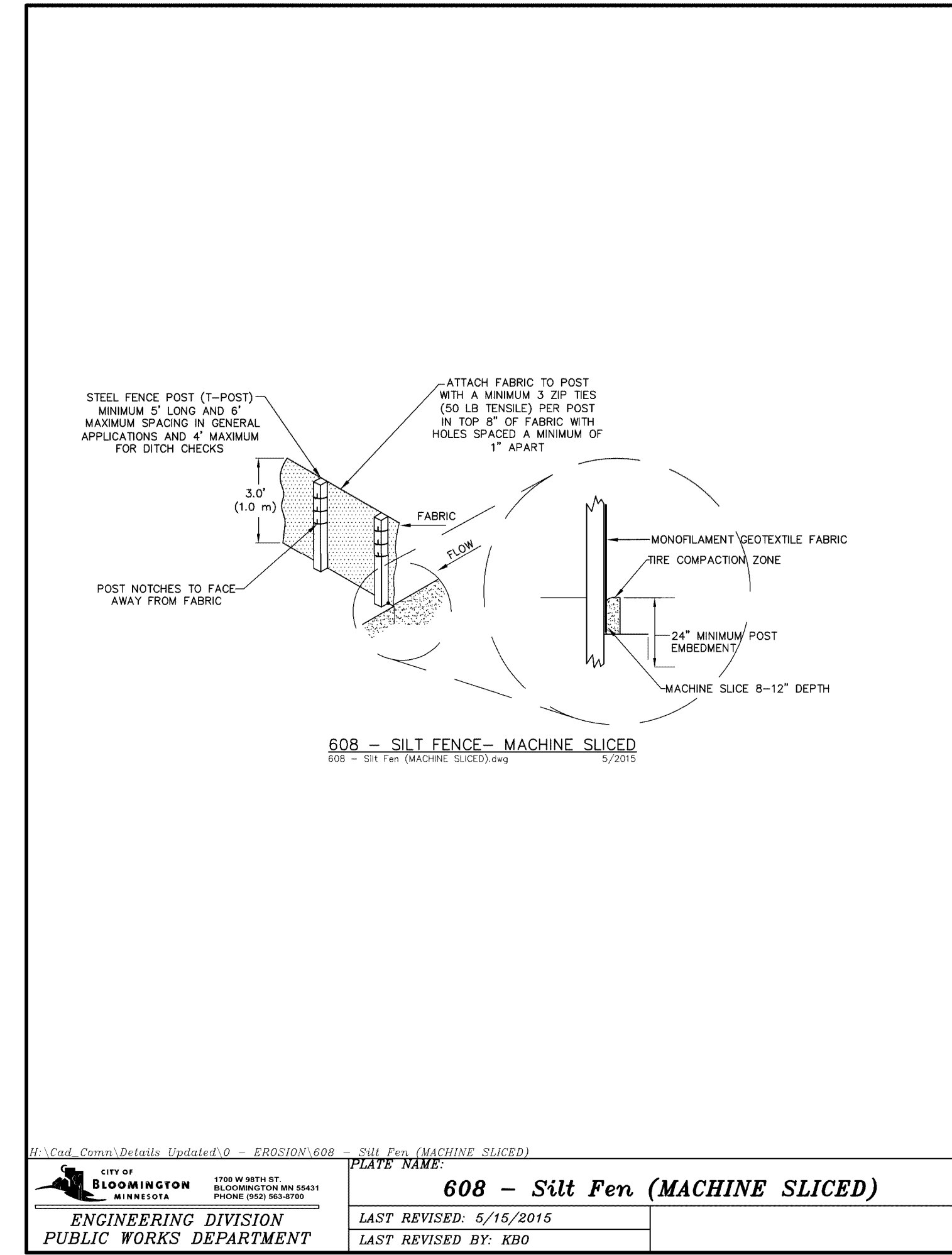
EROSION & SEDIMENTATION CONTROL NOTES & DETAILS / "SITE MAP"



SITE LOCATION MAP
NOT TO SCALE



USGS MAP
NOT TO SCALE



608 - Silt Fence (MACHINE SLICED)
LAST REVISED BY: KBO

GENERAL EROSION NOTES:

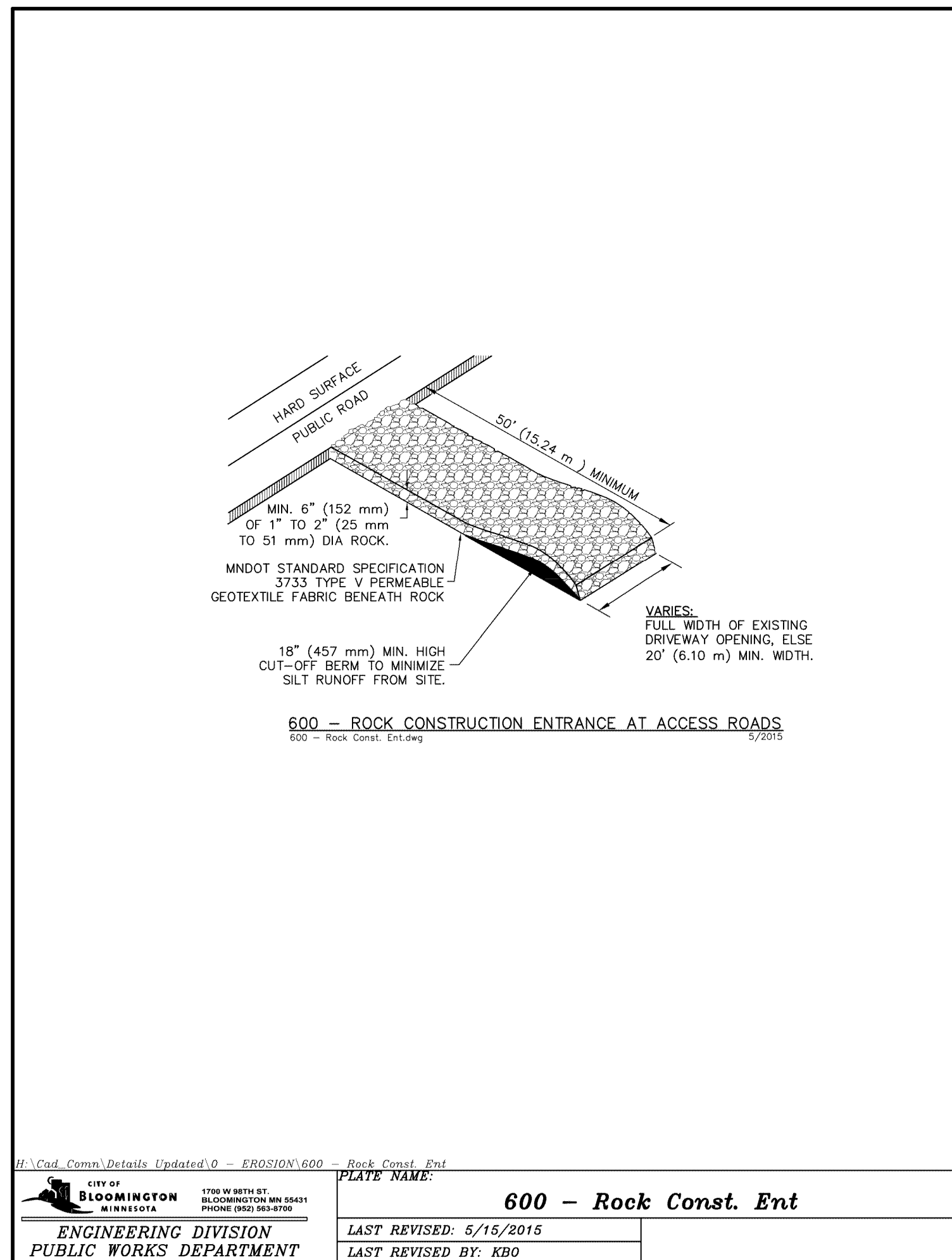
- CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME. WHERE A CONFLICT EXISTS BETWEEN LOCAL JURISDICTIONAL STANDARD SPECIFICATIONS AND SAMBATEX STANDARD SPECIFICATIONS, THE MORE STRINGENT SPECIFICATION SHALL APPLY.
- THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IS COMPRISED OF THIS DRAWING, EROSION & SEDIMENTATION CONTROL PLAN, ESC PLAN, THE STANDARD DETAILS, THE PLAN NARRATIVE, AND ITS APPENDICES, PLUS THE PERMIT AND ALL SUBSEQUENT PERMITS AND RELATED DOCUMENTS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING AND SUBMITTING THE APPLICATION FOR THE MPCA GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE SWPPP AND THE STATE OF MINNESOTA NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT, ISSUED AUGUST 1, 2018) AND BECOME FAMILIAR WITH THE CONTENTS. THE SWPPP AND ALL OTHER RELATED DOCUMENTS MUST BE KEPT AT THE SITE DURING CONSTRUCTION.
- CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES (BMPs) AS REQUIRED BY THE SWPPP & PERMITS. CONTRACTOR SHALL OVERSEE THE INSPECTION & MAINTENANCE OF THE BMPs AND EROSION PREVENTION FROM BEGINNING OF CONSTRUCTION AND UNTIL CONSTRUCTION IS COMPLETED, IS APPROVED BY ALL AUTHORITIES, AND THE NOTICE OF TERMINATION (NOTI) HAS BEEN FILED WITH THE MPCA BY EITHER THE OWNER OR OPERATOR AS APPROVED ON PERMIT. ADDITIONAL BMPs SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST TO OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
- CONTRACTOR SHALL COMPLY WITH TRAINING REQUIREMENTS IN PART 21.1-21.3 OF THE GENERAL PERMIT.
- BMPs AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
- ESC PLAN MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.
- CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THE ESC PLANS SHALL BE CLEARLY DELINEATED (E.G. WITH FLAGS, STAKES, SIGNS, SILT FENCE, ETC.) ON THE DEVELOPMENT SITE BEFORE WORK BEGINS. GROUND DISTURBING ACTIVITIES MUST NOT OCCUR OUTSIDE THE LIMITS OF DISTURBANCE.
- GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, EQUIPMENT TRAILERS, AND TOILET FACILITIES.
- ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) MUST BE LIMITED TO A DEFINED AREA OF THE SITE AND SHALL BE CONTAINED AND PROPERLY TREATED OR DISPOSED. NO ENGINE DEGRASING IS ALLOWED ON SITE.
- ALL LIQUID AND SOLID WASTES GENERATED BY CONCRETE WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER. A COMPACTED CLAY LINER IS NOT ACCEPTABLE. THE LIQUID AND SOLID WASTES MUST NOT CONTACT THE GROUND, AND THERE MUST NOT BE RUNOFF FROM THE CONCRETE WASHOUT OPERATIONS OR AREAS. LIQUID AND SOLID WASTES MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH MPCA REGULATIONS. A SIGN MUST BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES. SELF-CONTAINING CONCRETE TRUCKS ARE ALLOWED TO CONDUCT CONCRETE WASHOUT OPERATIONS ON SITE.
- 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.
- DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
- SOLID WASTE: COLLECTED SEDIMENT, ASPHALT & CONCRETE MILLINGS, FLOATING DEBRIS, PAPER, PLASTIC, FABRIC, CONSTRUCTION & DEMOLITION DEBRIS & OTHER WASTES MUST BE DISPOSED OF PROPERLY & MUST COMPLY WITH MPCA DISPOSAL REQUIREMENTS.
- HAZARDOUS MATERIALS: OIL, GASOLINE, PAINT & ANY HAZARDOUS SUBSTANCES MUST BE PROPERLY STORED, INCLUDING SECONDARY CONTAINMENT, TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. RESTRICTED ACCESS TO STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE & DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH MPCA REGULATIONS.
- ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN, AND IN THE SWPPP, SHALL BE INITIATED AS SOON AS PRACTICABLE AND PRIOR TO SOIL DISTURBING ACTIVITIES BEING INITIATED.
- DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS STOPPED SHALL BE TEMPORARILY SEEDED. WITHIN 14 DAYS OF INACTIVITY, SEEDING SHALL BE IN ACCORDANCE WITH MNDOT SEED MIXTURE NUMBER 21-111 OR 21-112 DEPENDING ON THE SEASON OF PLANTING [SEE MNDOT SPECIFICATION SECTION 2575.3] SEEDING METHOD AND APPLICATION RATE SHALL CONFORM TO MNDOT SPECIFICATION SECTION 2575.3. TEMPORARY MULCH SHALL BE APPLIED IN ACCORDANCE WITH MNDOT SPECIFICATION SECTION 2575.3F1 AND 2575.3G. ALTERNATIVELY, HYDRAULIC SOIL STABILIZER IN ACCORDANCE WITH MNDOT SPECIFICATION SECTION 2575.3H MAY BE USED IN PLACE OF TEMPORARY MULCH.
- DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY STABILIZED. THESE AREAS SHALL BE STABILIZED IN ACCORDANCE WITH THE TIME TABLE DESCRIBED ABOVE. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN FOR VEGETATIVE COVER.
- CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT FROM CONVEYANCES & FROM TEMPORARY SEDIMENTATION BASINS THAT ARE TO BE USED AS PERMANENT WATER QUALITY MANAGEMENT BASINS. BASINS MUST BE STABILIZED TO PREVENT IT FROM BEING WASHED BACK INTO THE BASIN, CONVEYANCES, OR DRAINAGEWAYS DISCHARGING OFF-SITE OR TO SURFACE WATERS. THE CLEANOUT OF PERMANENT BASINS MUST BE SUFFICIENT TO RETURN THE BASIN TO DESIGN CAPACITY.
- ON-SITE & OFF-SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BMPs. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
- TEMPORARY SOIL STOCKPILES MUST HAVE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS & CANNOT BE PLACED IN SURFACE WATERS, INCLUDING STORMWATER CONVEYANCES SUCH AS CURBS & GUTTER SYSTEMS OR CONDUITS & DITCHES.
- SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
- DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, CHECK DAMS, INLET PROTECTION DEVICES, ETC.) TO PREVENT EROSION.
- ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY. THIS INCLUDES BACKFILLING OR TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.

MAINTENANCE NOTES:

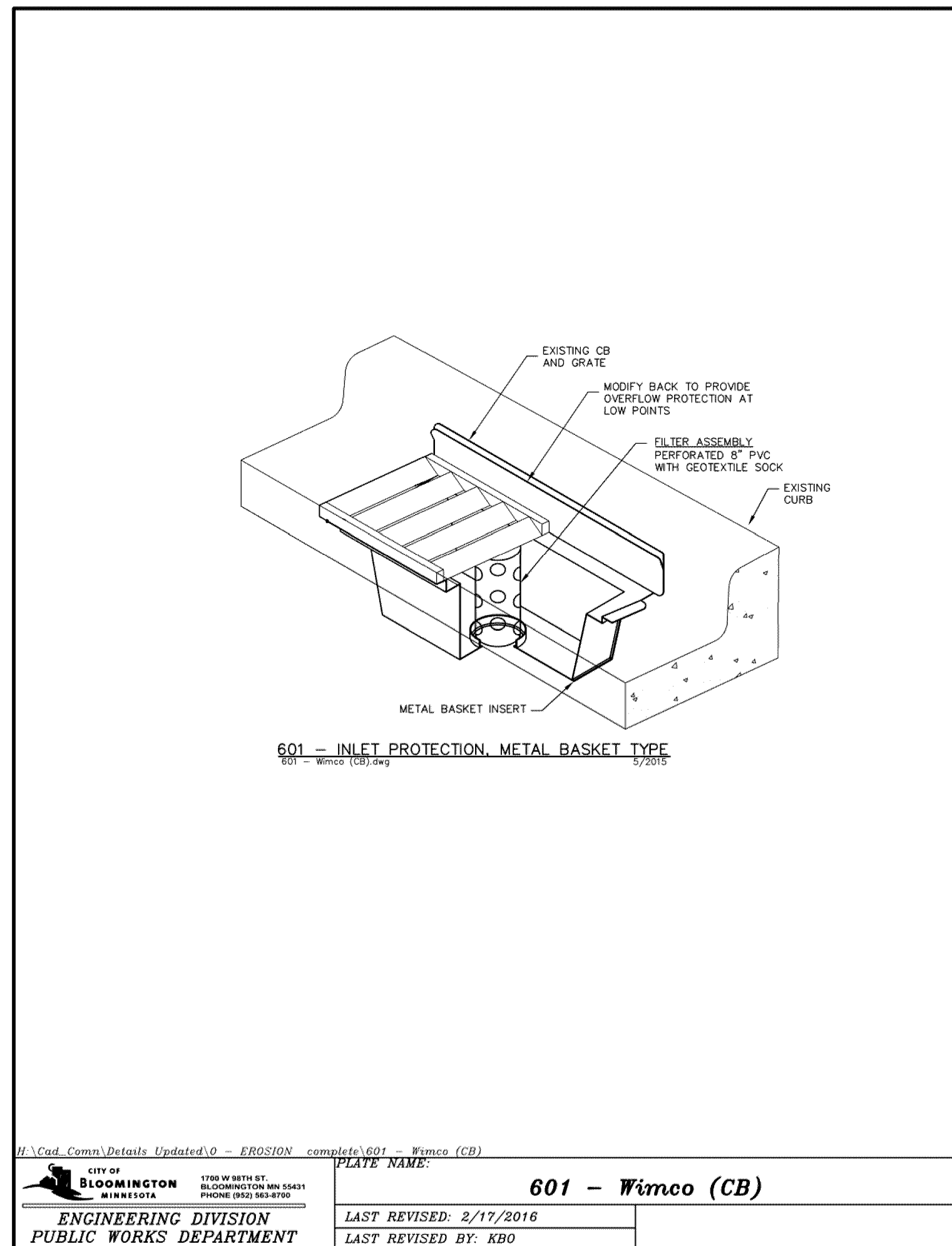
- ALL MEASURES STATED ON THIS EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. THE DESIGNATED CONTACT PERSON NOTED ON THIS PLAN MUST ROUTINELY INSPECT THE CONSTRUCTION ON SITE ONCE EVERY SEVEN DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CLEANED AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:
- SILT FENCES MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/2 OF THE HEIGHT OF THE FENCE. THESE REPAIRS MUST BE MADE WITHIN 24 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.
 - TEMPORARY AND PERMANENT SEDIMENTATION BASINS MUST BE DRAINED AND THE SEDIMENT REMOVED WHEN THE DEPTH OF SEDIMENT COLLECTED IN THE BASIN REACHES 1/2 THE STORAGE VOLUME. DRAINAGE AND REMOVAL MUST BE COMPLETED WITHIN 72 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS (SEE PART 10.1-10.5 OF THE GENERAL PERMIT).
 - SURFACE WATERS, INCLUDING DRAINAGE DITCHES AND CONVEYANCE SYSTEMS, MUST BE INSPECTED FOR EVIDENCE OF SEDIMENT BEING DEPOSITED BY EROSION. CONTRACTOR MUST REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS, INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS, AND REESTABLISH THE AREAS WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED SOIL. THE REMOVAL AND STABILIZATION MUST TAKE PLACE WITHIN SEVEN (7) DAYS OF DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS. CONTRACTOR SHALL USE ALL REASONABLE EFFORTS TO OBTAIN ACCESS. IF PRECLUDED, REMOVAL AND STABILIZATION MUST TAKE PLACE WITHIN SEVEN (7) CALENDAR DAYS OF OBTAINING ACCESS. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL LOCAL, REGIONAL, STATE AND FEDERAL AUTHORITIES AND RECEIVING ANY APPLICABLE PERMITS, PRIOR TO CONDUCTING ANY WORK.
 - CONSTRUCTION SITE VEHICLE EXIT LOCATIONS MUST BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING DURING PAVED SURFACES. TRACKED SEDIMENT MUST BE REMOVED FROM ALL OFF-SITE PAVED SURFACES, WITHIN 24 HOURS OF DISCOVERY, OR IF APPLICABLE, WITHIN A SHORTER TIME TO COMPLY WITH PART 3.11-3.12 OF THE GENERAL PERMIT.
 - CONTRACTOR IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF TEMPORARY AND PERMANENT WATER QUALITY MANAGEMENT BASINS, AS WELL AS ALL EROSION PREVENTION AND SEDIMENT CONTROL BASINS, FOR THE DURATION OF THE CONSTRUCTION WORK AT THE SITE. THE PERMITTEES ARE RESPONSIBLE UNTIL ANOTHER PERMITTEE HAS ASSUMED CONTROL (ACCORDING TO PART 3.1 TO 3.8 OF THE MPCA GENERAL PERMIT) OVER ALL AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED OR THE SITE HAS UNDERGONE FINAL STABILIZATION, AND A (N.O.T.) HAS BEEN SUBMITTED TO THE MPCA.
 - IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED IN A MANNER AND AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS (E.G., FUGITIVE SEDIMENT IN STREETS COULD BE WASHED INTO STORM SEWERS BY THE NEXT RAIN AND/OR POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS).
 - ALL INFILTRATION AREAS MUST BE INSPECTED TO ENSURE THAT NO SEDIMENT FROM ONGOING CONSTRUCTION ACTIVITIES IS REACHING THE INFILTRATION AREA AND THESE AREAS ARE PROTECTED FROM COMPACTION DUE TO CONSTRUCTION EQUIPMENT DRIVING ACROSS THE INFILTRATION AREA.

SEQUENCE OF CONSTRUCTION

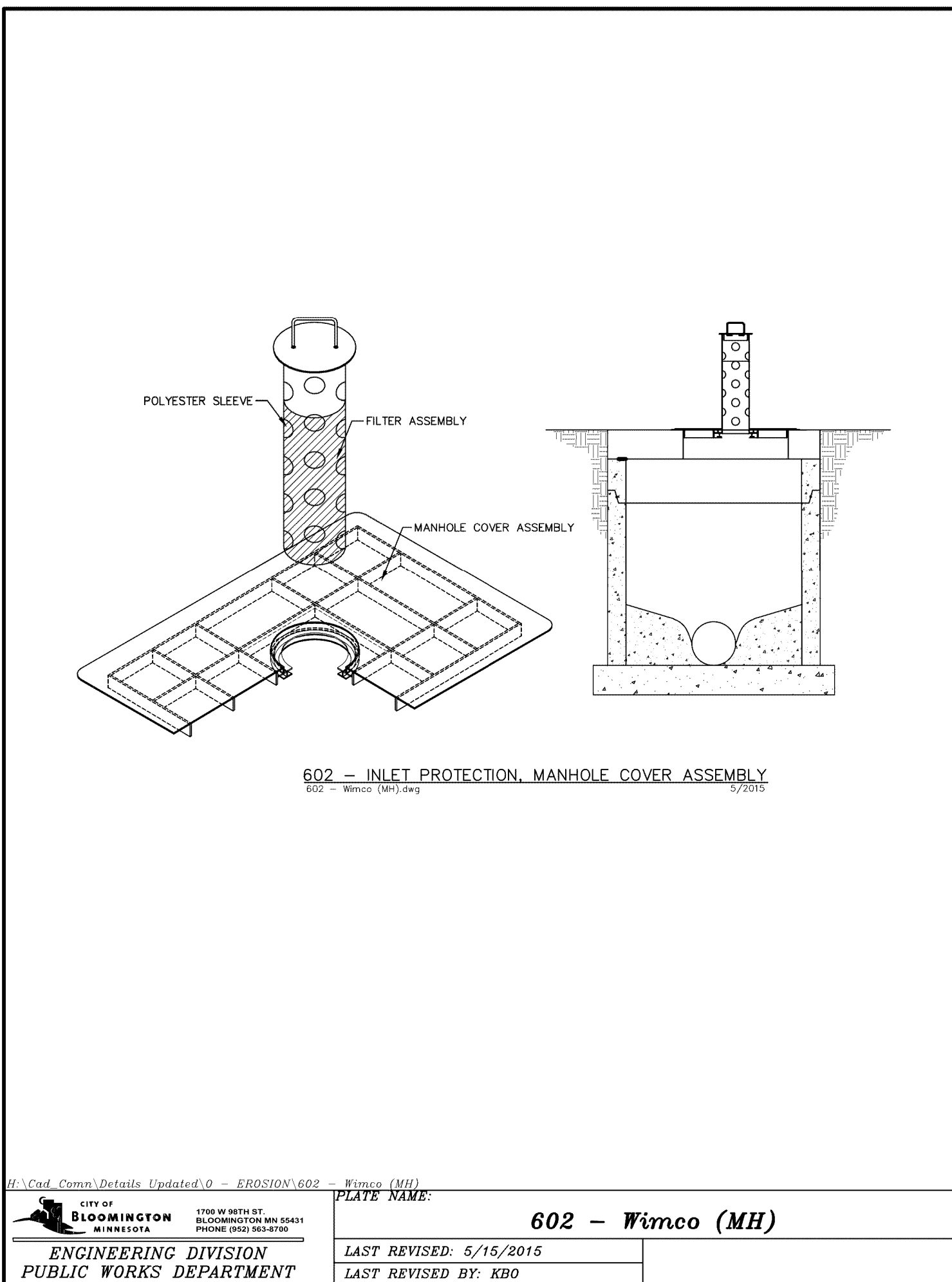
- PHASE I:
- INSTALL STABILIZED CONSTRUCTION ENTRANCES.
 - PREPARE TEMPORARY PARKING AND STORAGE AREA.
 - CONSTRUCT THE SILT FENCES ON THE SITE.
 - INSTALL INLET PROTECTION DEVICES ON EXISTING STORM STRUCTURES, AS SHOWN ON THE PLAN.
 - CONSTRUCT THE SEDIMENTATION AND SEDIMENT TRAP BASINS, AS REQUIRED.
 - HALT ALL ACTIVITIES AND CONTACT THE CIVIL ENGINEERING CONSULTANT TO PERFORM INSPECTION OF BMPs. GENERAL CONTRACTOR SHALL SCHEDULE AND CONDUCT STORM WATER PRE-CONSTRUCTION MEETING WITH ENGINEER AND ALL GROUND DISTURBING CONTRACTORS BEFORE PROCEEDING WITH CONSTRUCTION.
 - CLEAR AND GRUB THE SITE.
 - BEGIN GRADING THE SITE.
 - START CONSTRUCTION OF BUILDING PAD AND STRUCTURES.
- PHASE II:
- TEMPORARILY SEED DEGRADED AREAS.
 - INSTALL UTILITIES, UNDERDRAINS, STORM SEWERS, CURBS AND GUTTERS.
 - INSTALL RIP RAP AROUND OUTLET STRUCTURES.
 - INSTALL INLET PROTECTION AROUND ALL STORM SEWER STRUCTURES.
 - PREPARE SITE FOR PAVING.
 - INSTALL INLET PROTECTION DEVICES.
 - COMPLETE GRADING AND INSTALL PERMANENT SEEDING AND PLANTING.
 - REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES (ONLY IF SITE IS STABILIZED), IF REQUIRED BY THE CONTRACT.



600 - Rock Const. Ent
LAST REVISED BY: KBO



601 - Wimeco (CB)
LAST REVISED BY: KBO



602 - Wimeco (MH)
LAST REVISED BY: KBO

AREA SUMMARY IN ACRES

PAVEMENT AREA	1.64 ACs
BUILDING AREA	0.76 ACs
SEEDING AREA	0.77 ACs
TOTAL DISTURBED	3.17 ACs
PRE - CONSTRUCTION IMPERVIOUS	2.79 ACs
POST - CONSTRUCTION IMPERVIOUS	2.40 ACs

DEVELOPER/OWNER: XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX
SITE OPERATOR / GENERAL CONTRACTOR
SUPERINTENDENT:



Client
ICE CASTLE

Project
ICE CASTLE

Location
BLOOMINGTON, MN
2401 E 86TH STREET

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 licensed professional ENGINEER under the laws of the state of Minnesota.

BRADY D. BUSSELMAN
Registration No. 44579 Date: 08/29/2019
If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's, Minnetonka, MN office.

Summary
Designed: rba/j Drawn: jmf/mjs
Approved: sbs Book / Page:
Phase: PRELIMINARY Initial Issued: 07/24/2019

Revision History
No. Date By Submittal / Revision
8/29/19 AF CITY COMMENTS

Sheet Title
EROSION CONTROL NOTES & DETAILS

Sheet No. Revision
C5.03

Project No. 21846

Client
ICE CASTLE

Project
ICE CASTLE

Location
BLOOMINGTON, MN
2401 E 86TH STREET

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 licensed professional ENGINEER under the laws of the state of Minnesota.

BRADY D. BUSSELMAN
Registration No. 44579 Date: 08/29/2019
If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's, Minnetonka, MN office.

Summary
Designed: rbl/jr Drawn: mth/jas
Approved: sbs Book / Page:
Phase: PRELIMINARY Initial Issued: 07/24/2019

Revision History
No. Date By Submittal / Revision
8/29/19 AF CITY COMMENTS

Sheet Title
DETAILS

Sheet No. Revision
C9.01

Project No. 21846

120 - Typical Sidewalk Installation
120 - Typ Conc. Walk

ENGINEERING DIVISION
PUBLIC WORKS DEPARTMENT

PLATE NAME: 120 - Typ Conc. Walk
LAST REVISED: 9/30/2016
LAST REVISED BY: KBO

200 - Standard Manhole
200 - STD MH (CB-MH)

ENGINEERING DIVISION
PUBLIC WORKS DEPARTMENT

PLATE NAME: 200 - Std MH
LAST REVISED: 9/13/2016
LAST REVISED BY: KBO

201 - Standard Manhole w/ 2x3 Casting
201 - STD MH (CB-MH)

ENGINEERING DIVISION
PUBLIC WORKS DEPARTMENT

PLATE NAME: 201 - Std MH (2x3 Cov)
LAST REVISED: 9/13/2016
LAST REVISED BY: KBO

203 - Std MH (CB-MH)
203 - STD MH (CB-MH)

ENGINEERING DIVISION
PUBLIC WORKS DEPARTMENT

PLATE NAME: 203 - Std MH (CB-MH)
LAST REVISED: 9/13/2016
LAST REVISED BY: KBO

206 - Std CB
206 - STD CB

ENGINEERING DIVISION
PUBLIC WORKS DEPARTMENT

PLATE NAME: 206 - Std CB
LAST REVISED: 9/14/2016
LAST REVISED BY: KBO

300 - Typical Hydrant Installation
300 - Hyd Install

ENGINEERING DIVISION
PUBLIC WORKS DEPARTMENT

PLATE NAME: 300 - Hyd Install
LAST REVISED: 6/15/2016
LAST REVISED BY: KBO

308 - Typical Watermain Installation
308 - Watermain Install

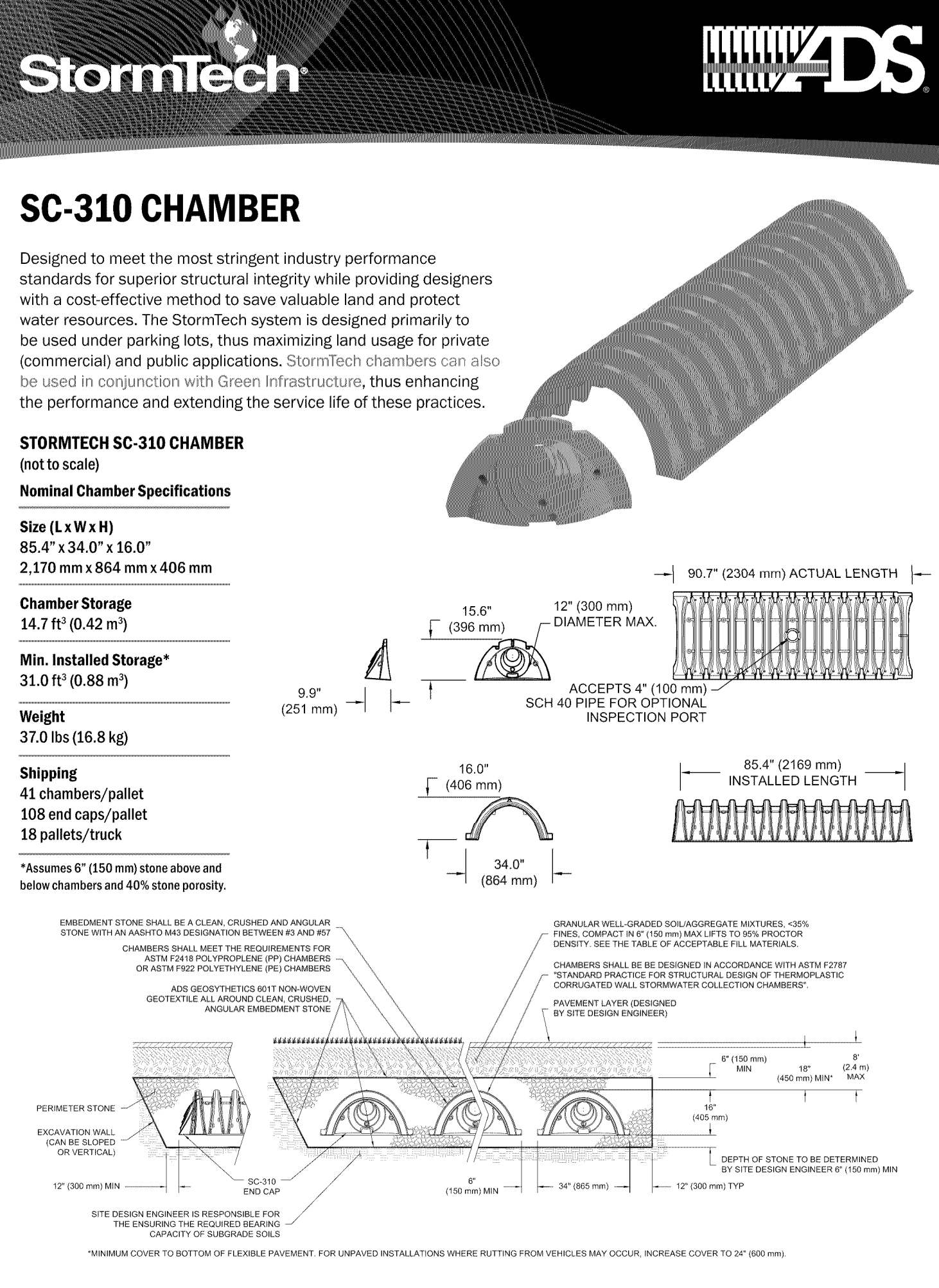
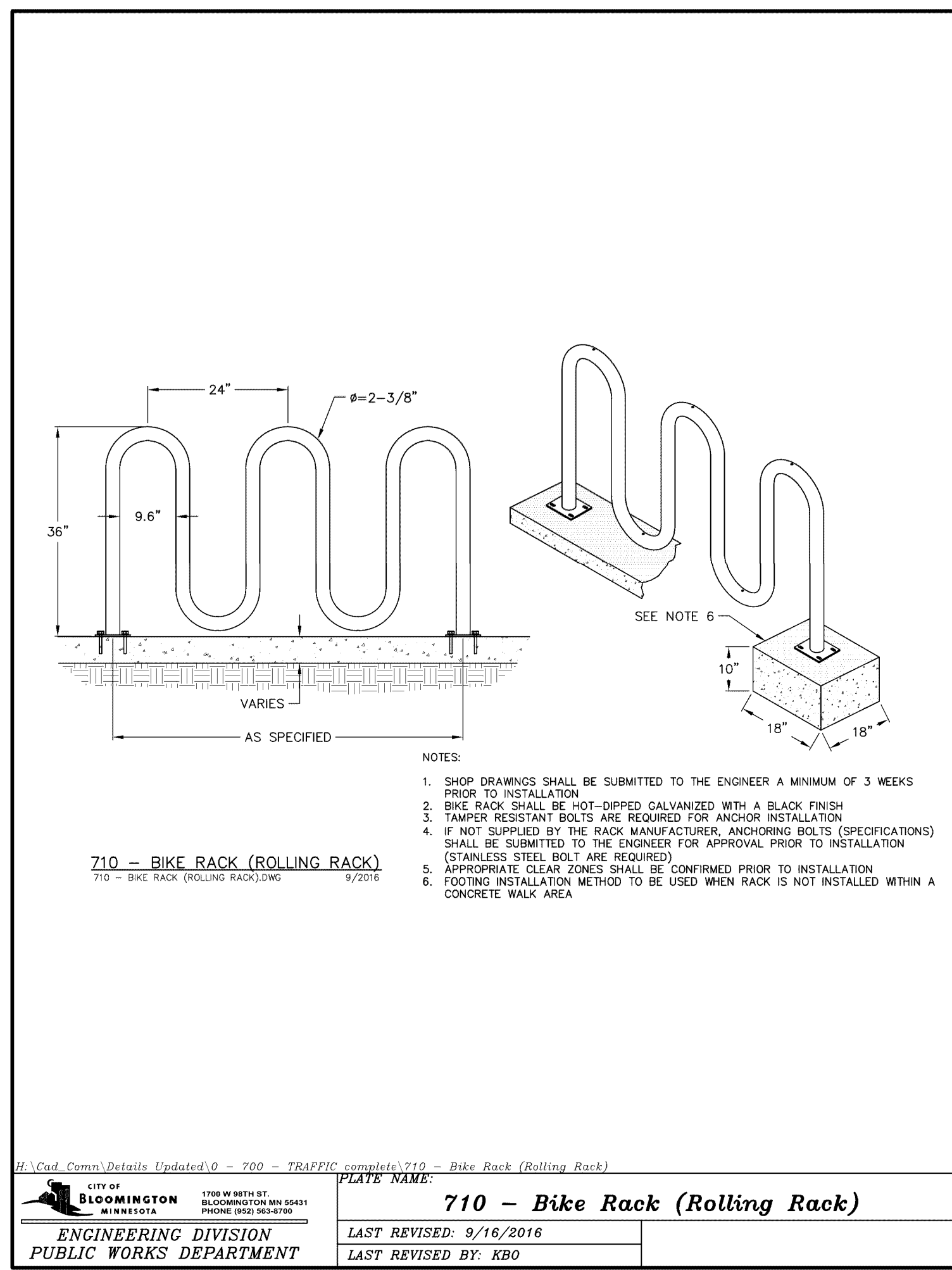
ENGINEERING DIVISION
PUBLIC WORKS DEPARTMENT

PLATE NAME: 308 - Watermain Install
LAST REVISED: 6/15/2016
LAST REVISED BY: KBO

400 - Std. Sanitary Sewer MH
400 - STD SAN MH

ENGINEERING DIVISION
PUBLIC WORKS DEPARTMENT

PLATE NAME: 400 - Std San MH
LAST REVISED: 6/15/2016
LAST REVISED BY: KBO



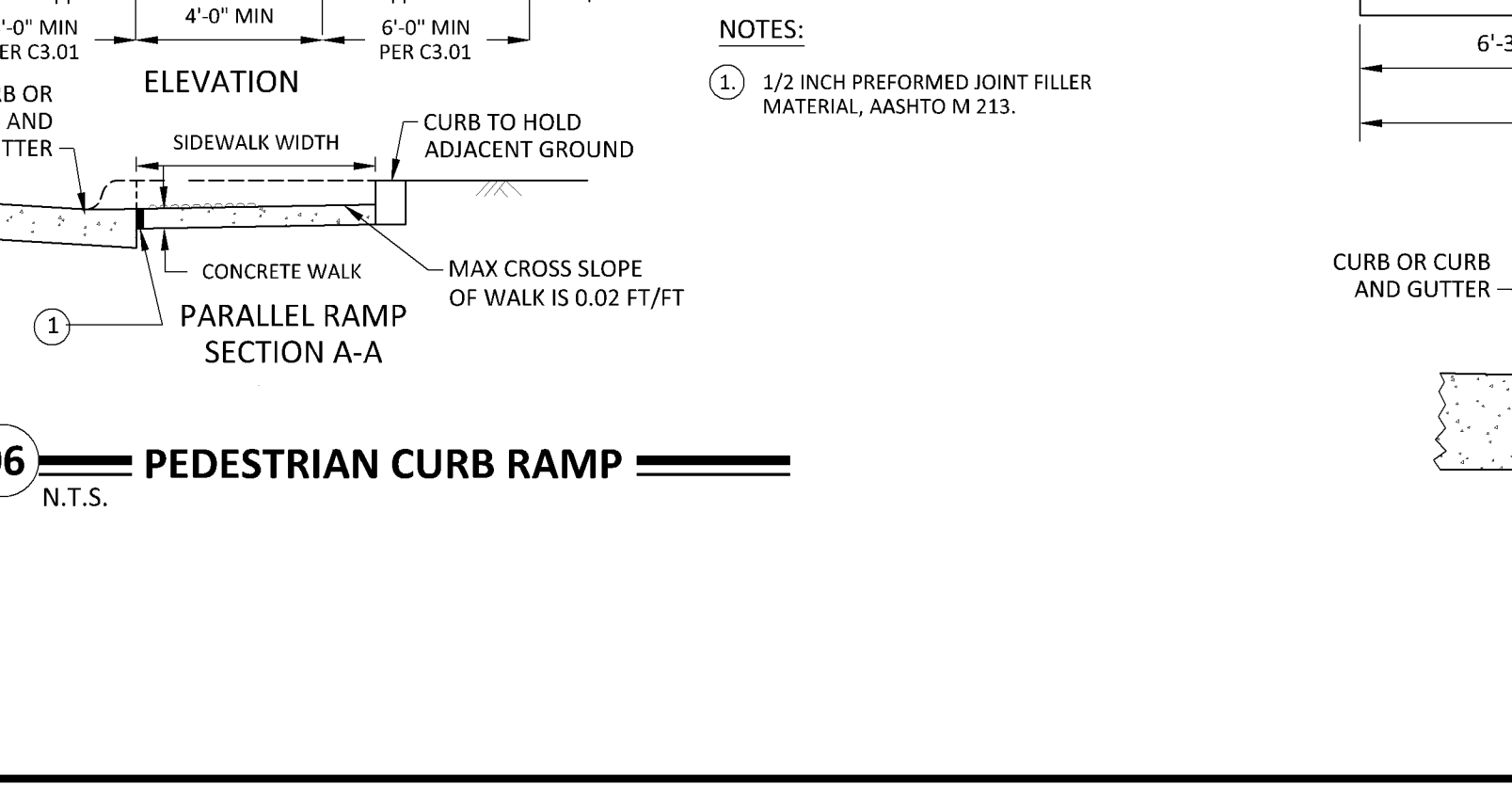
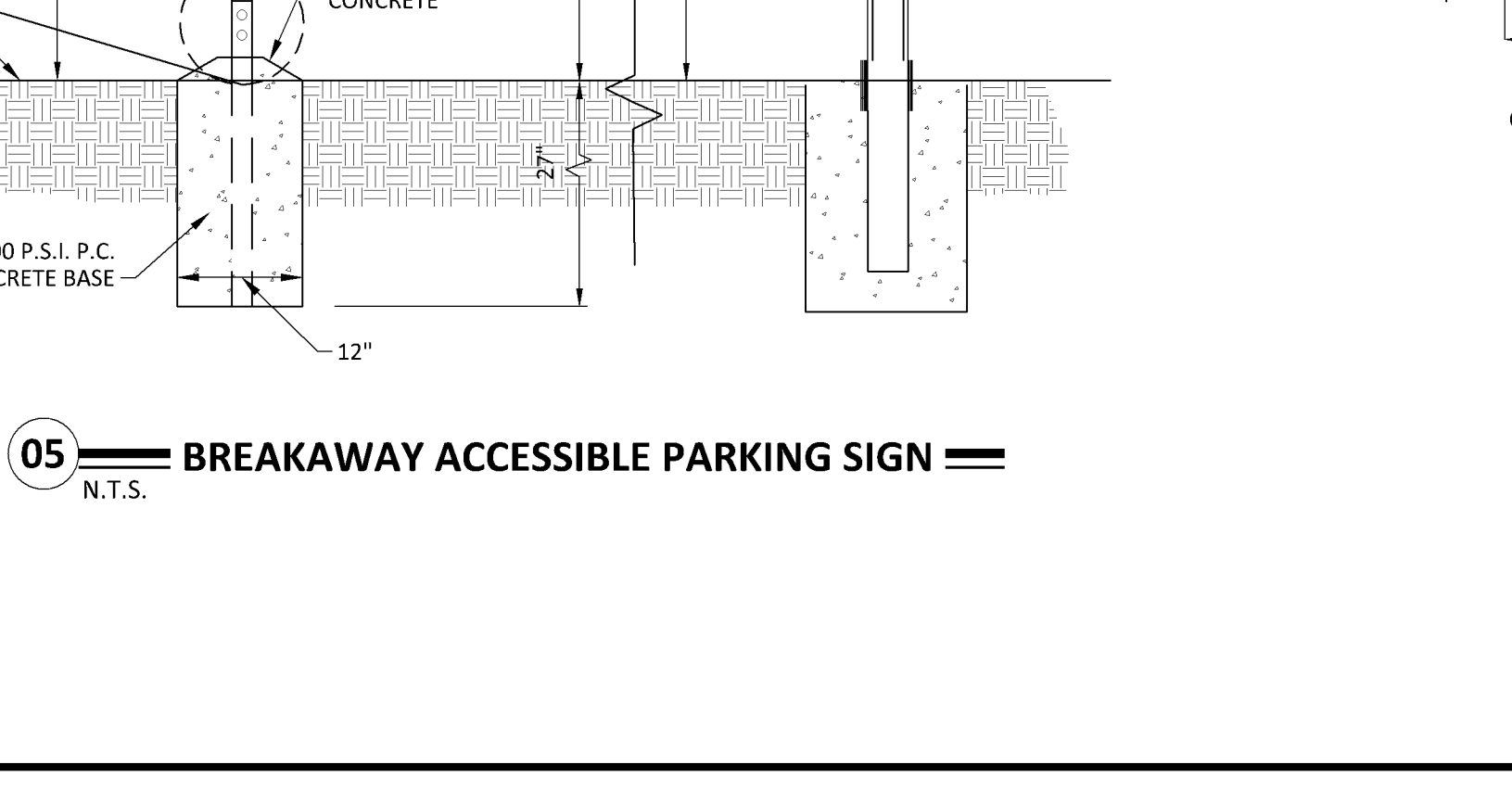
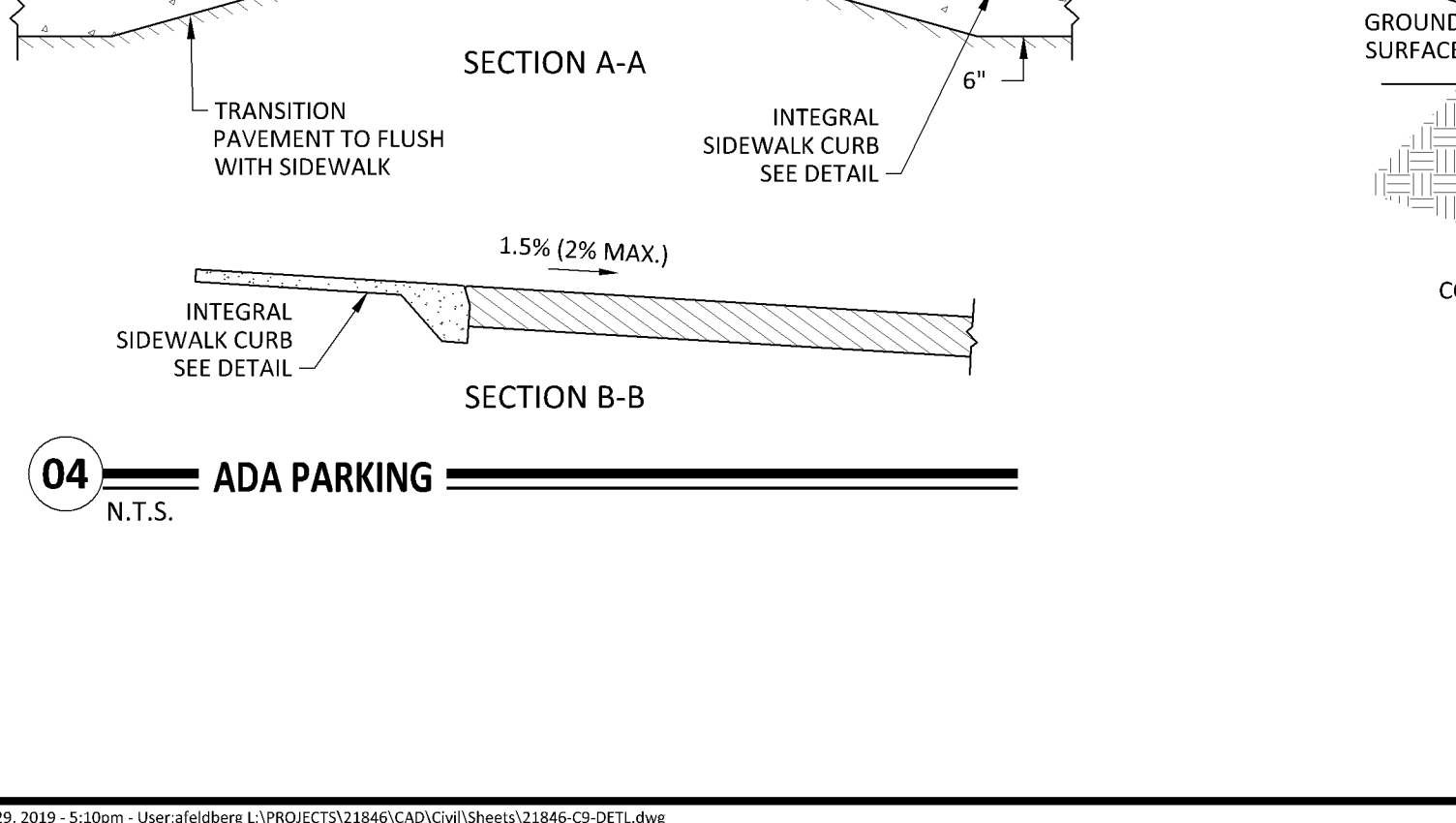
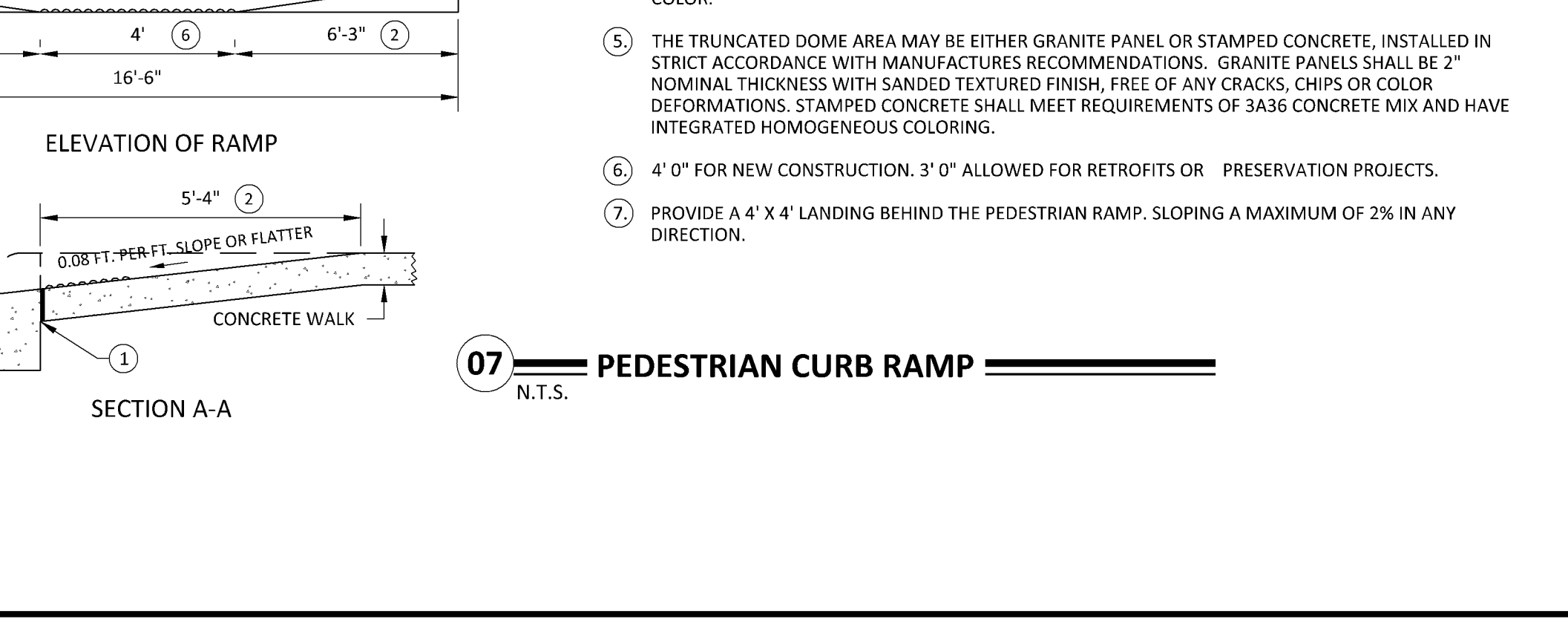
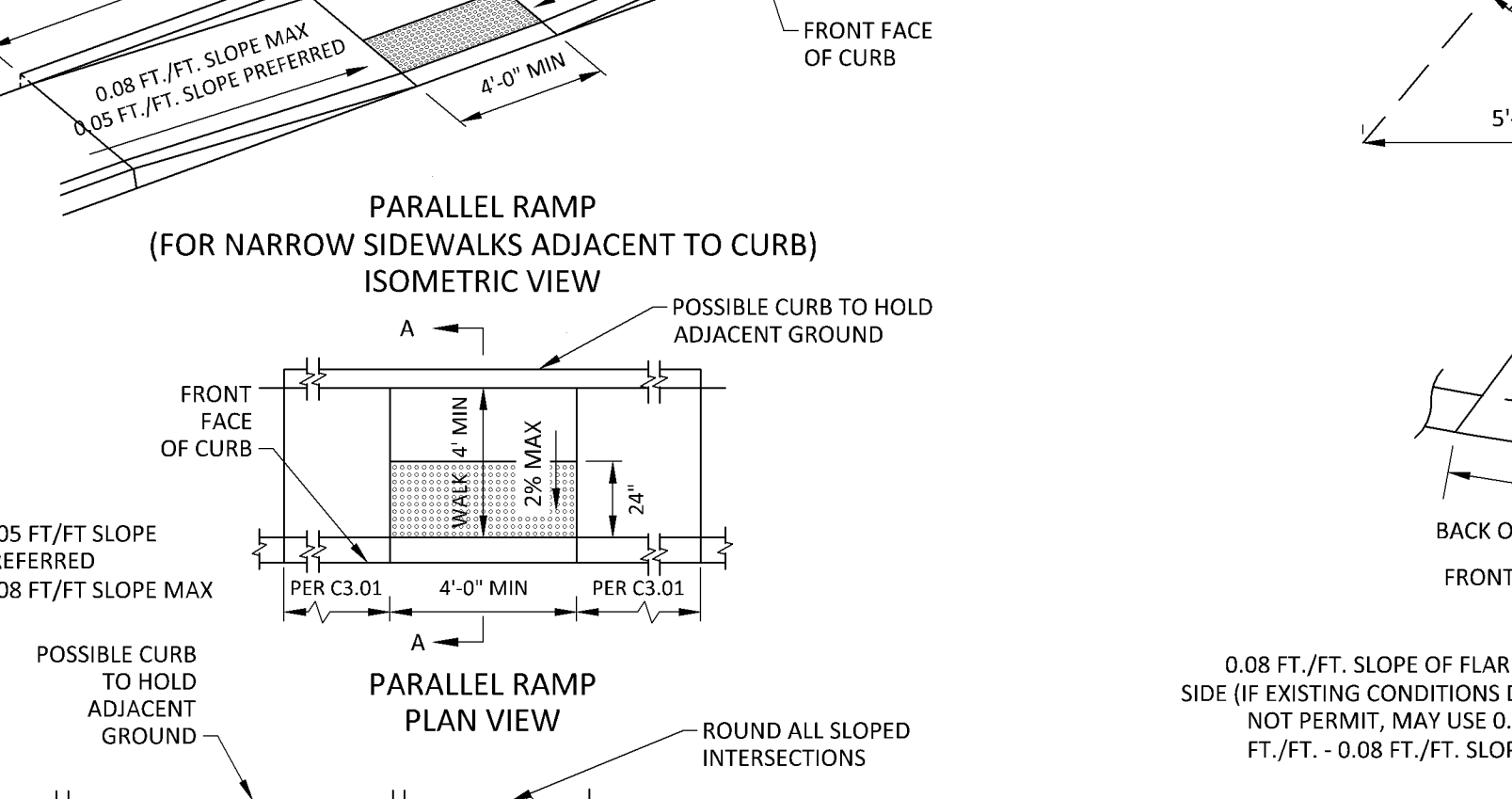
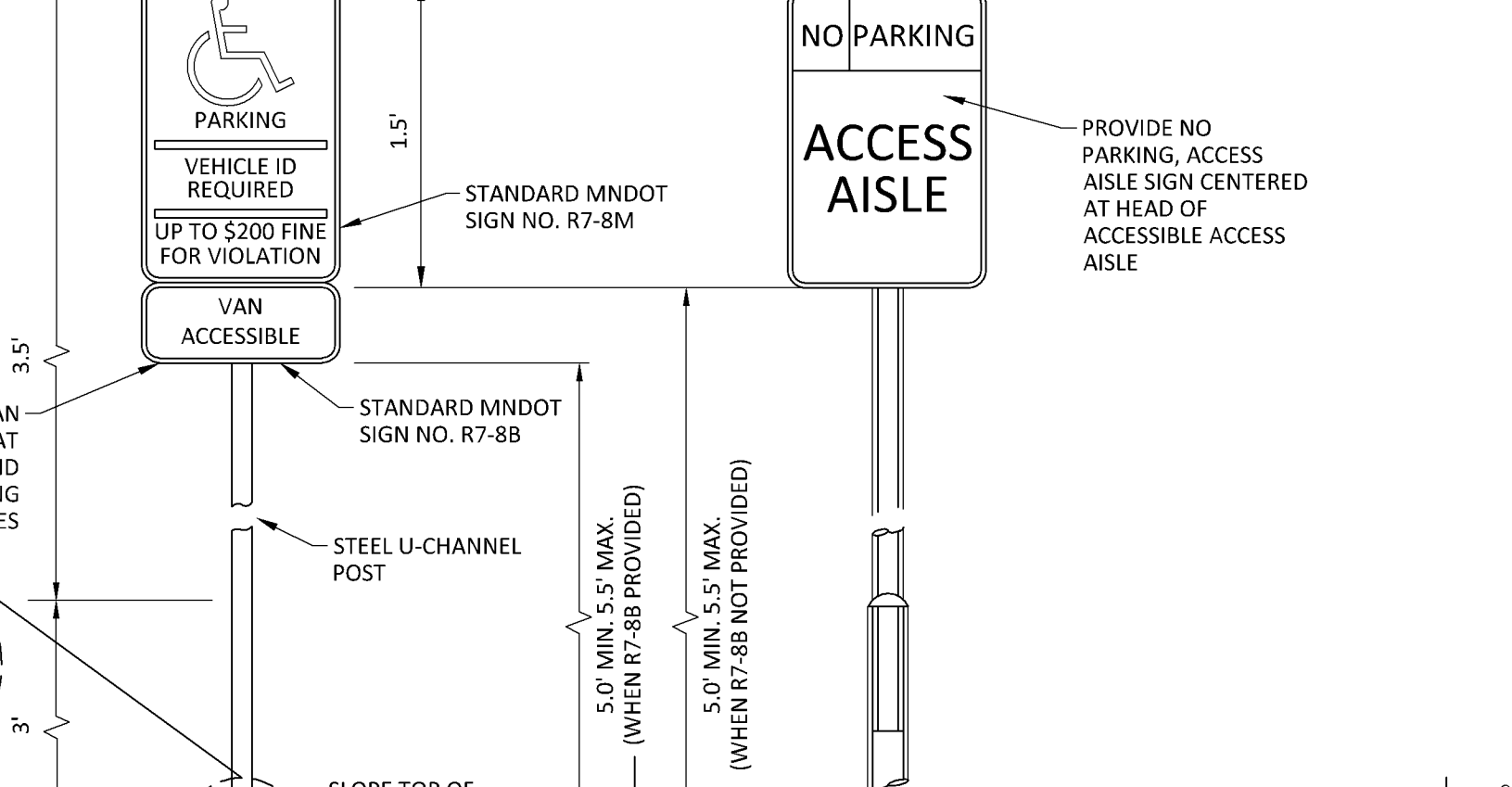
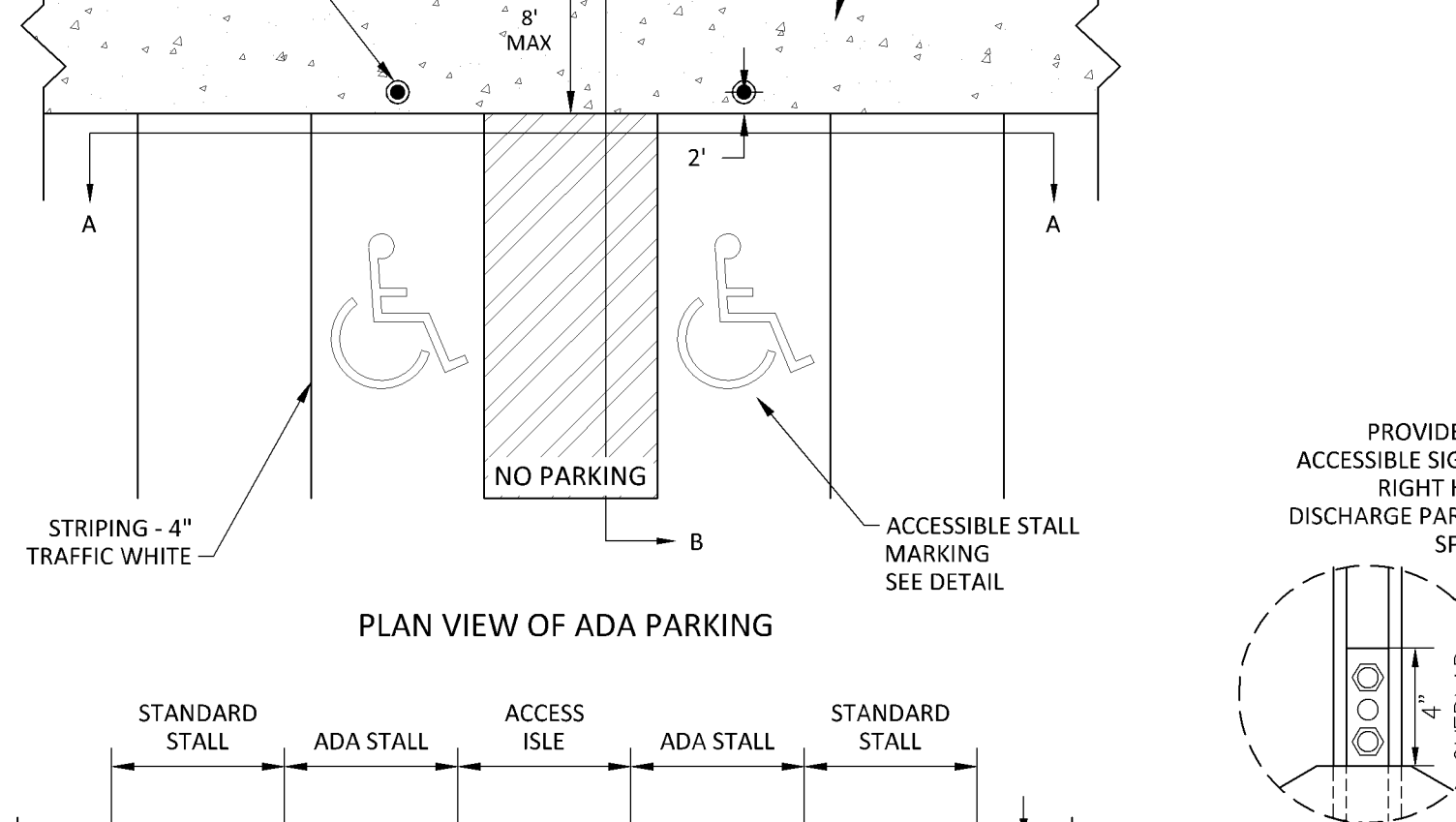
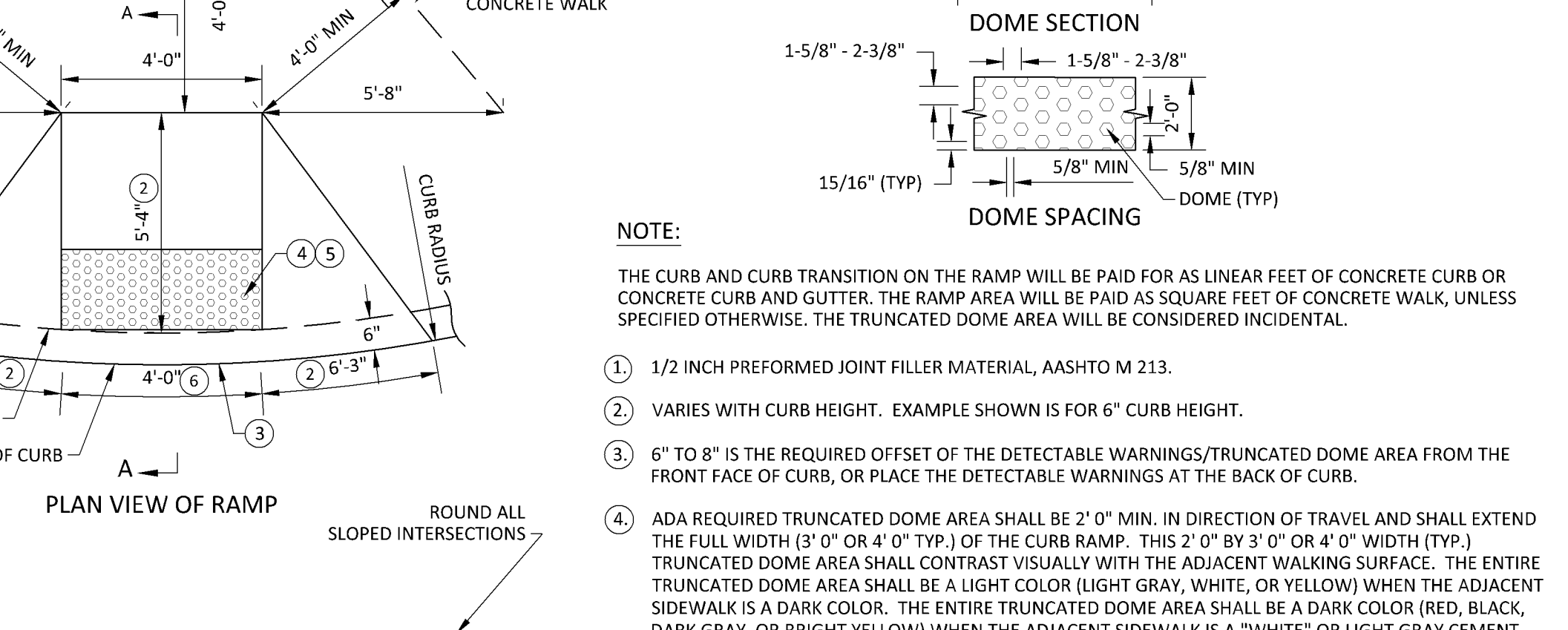
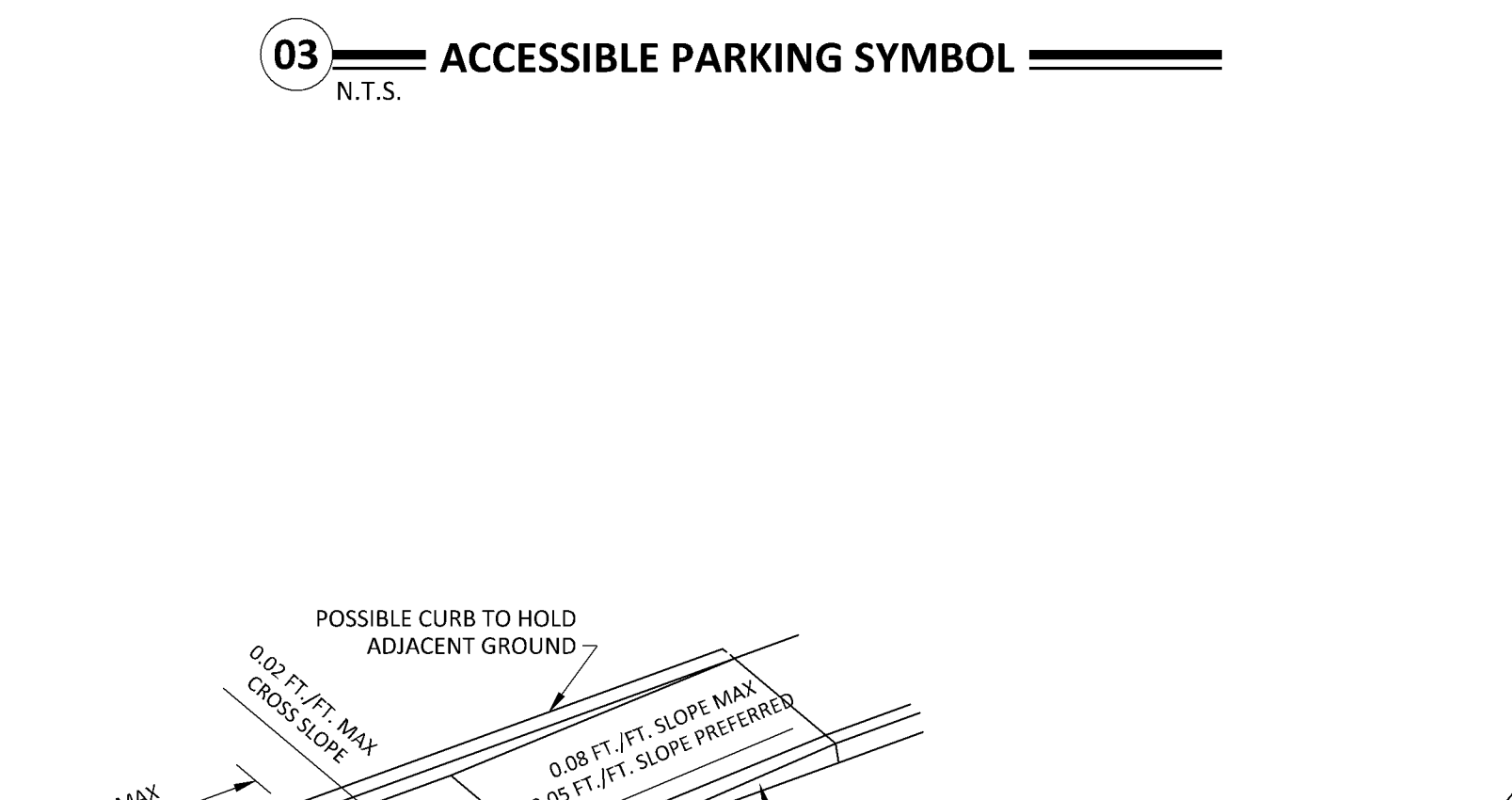
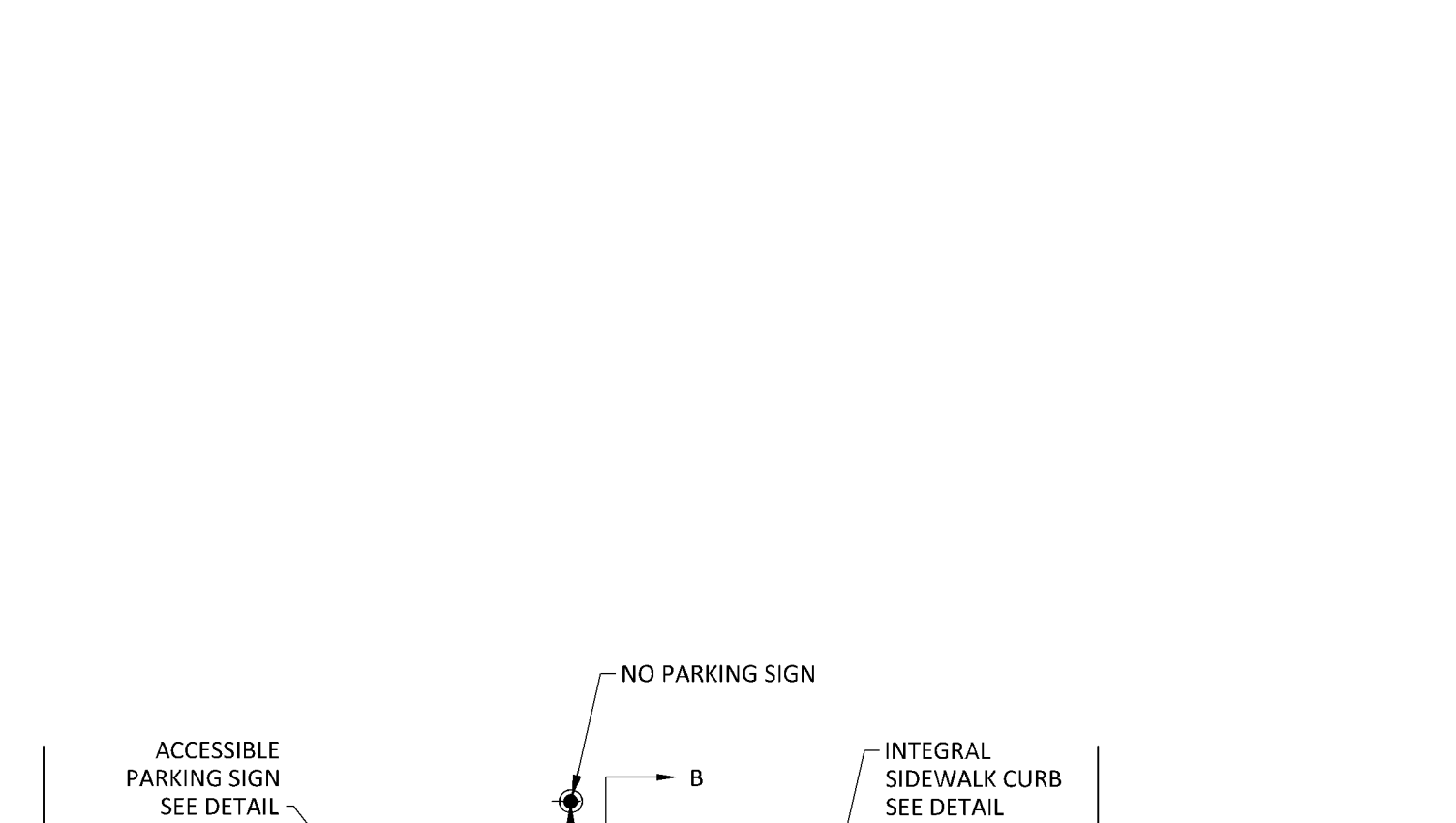
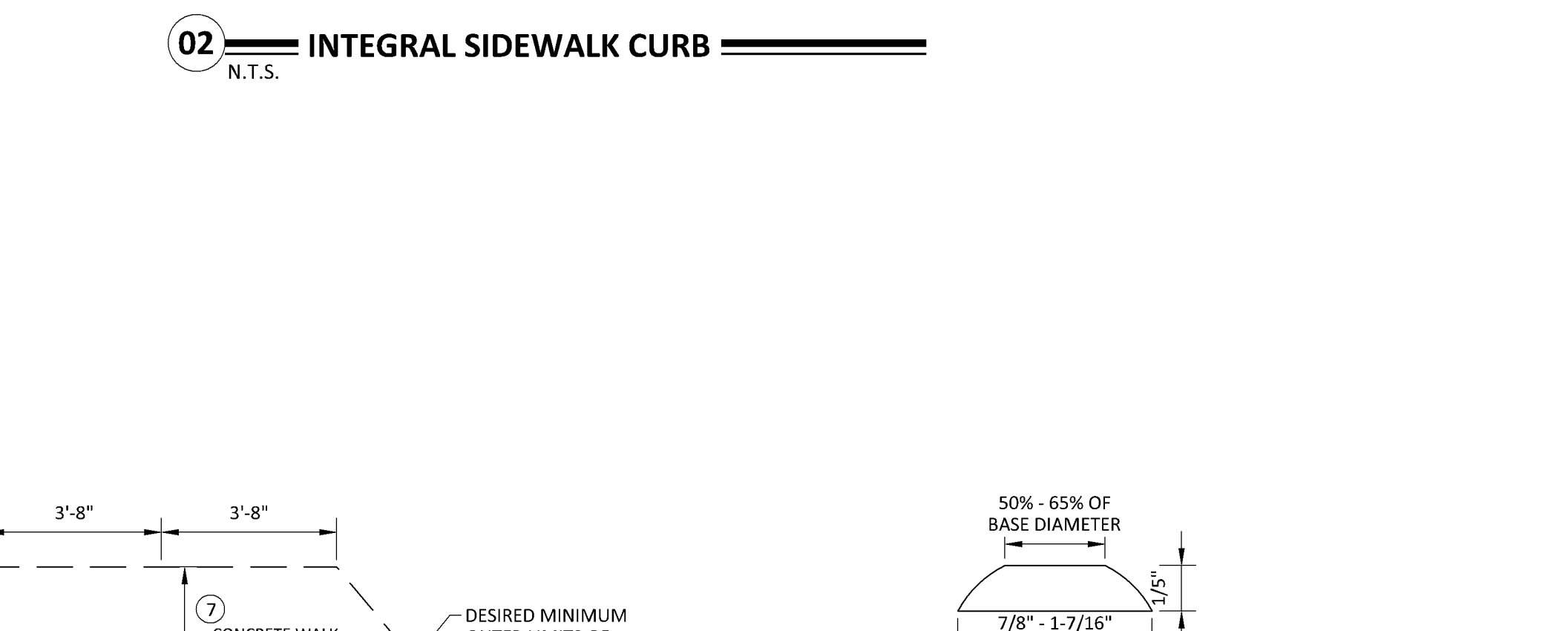
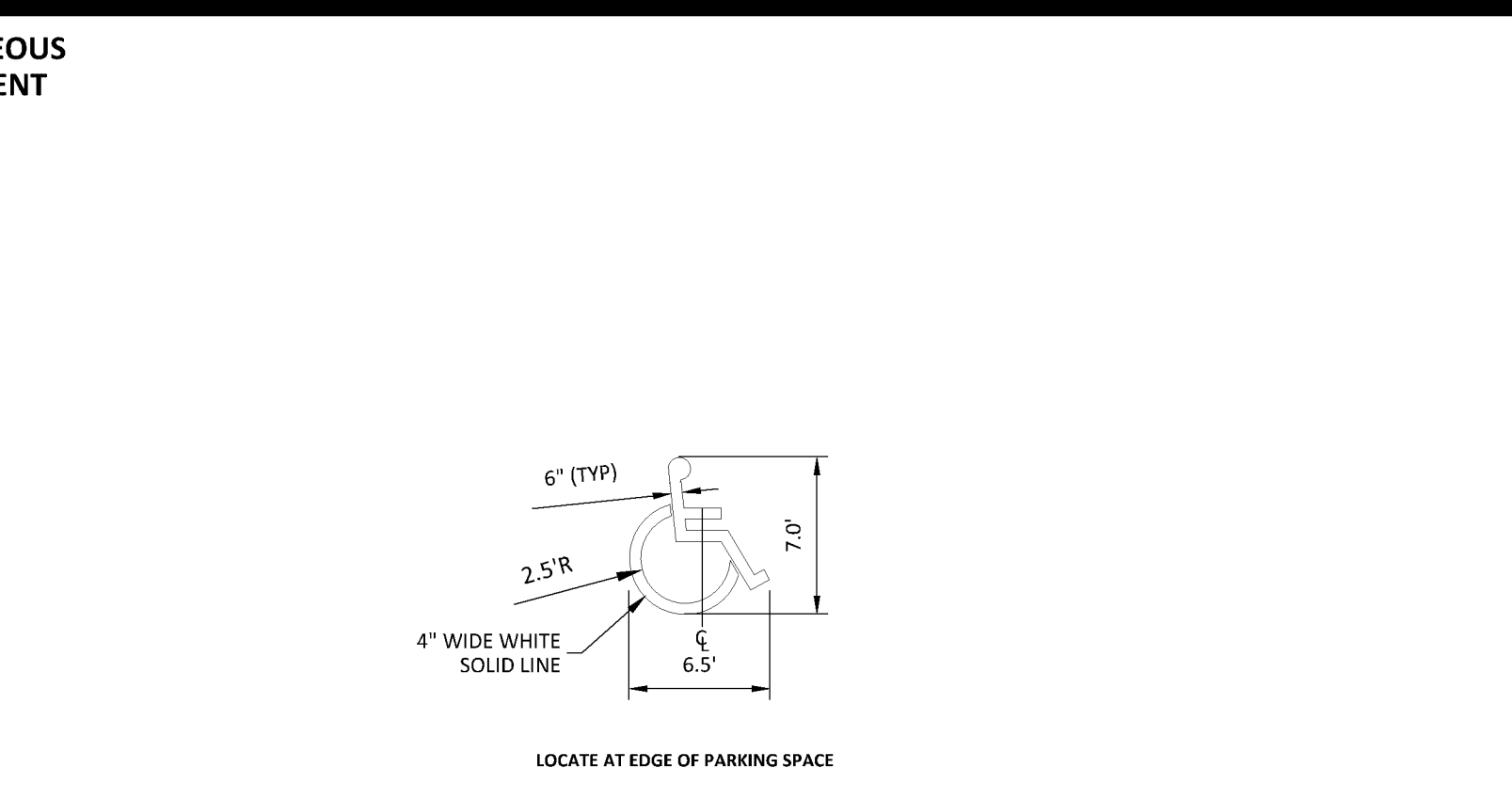
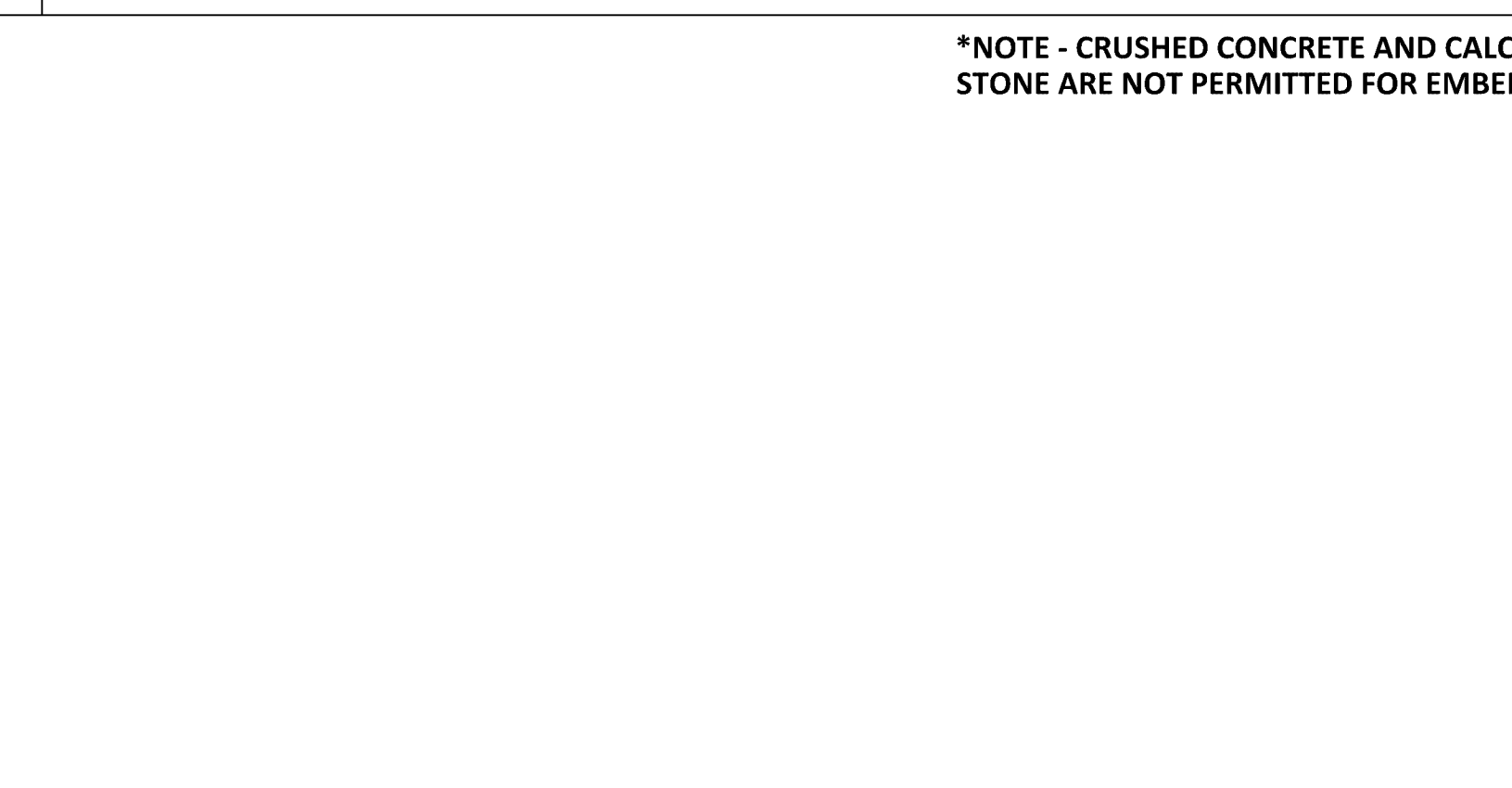
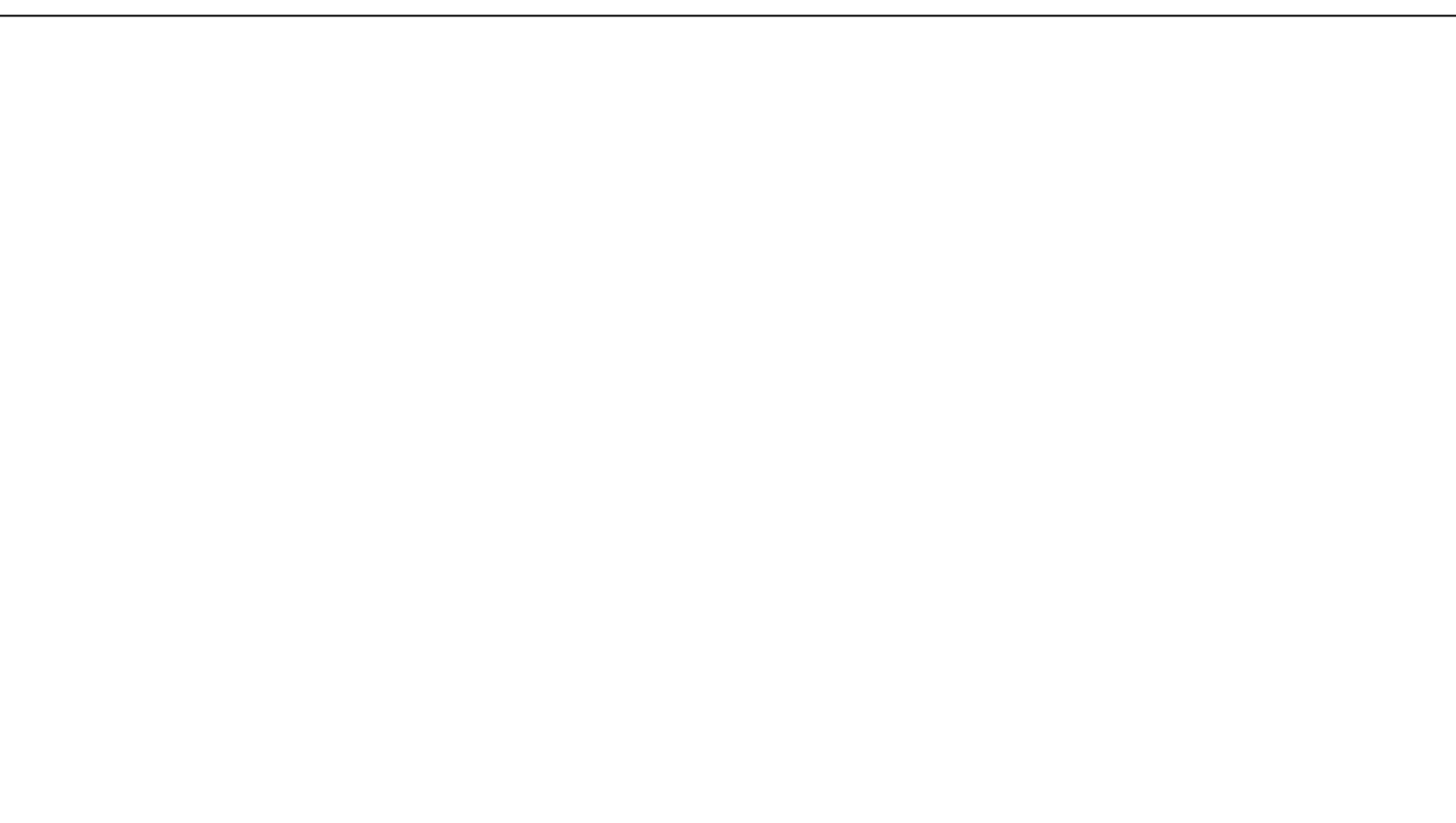
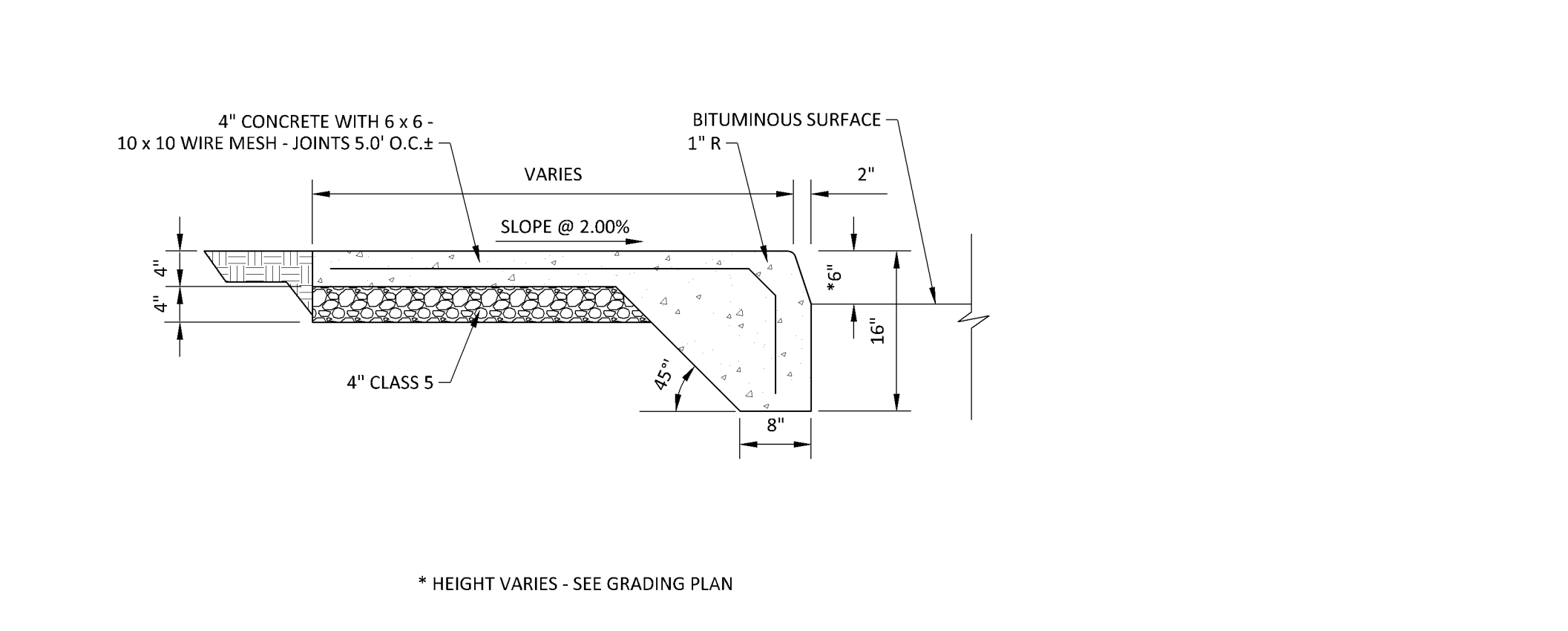
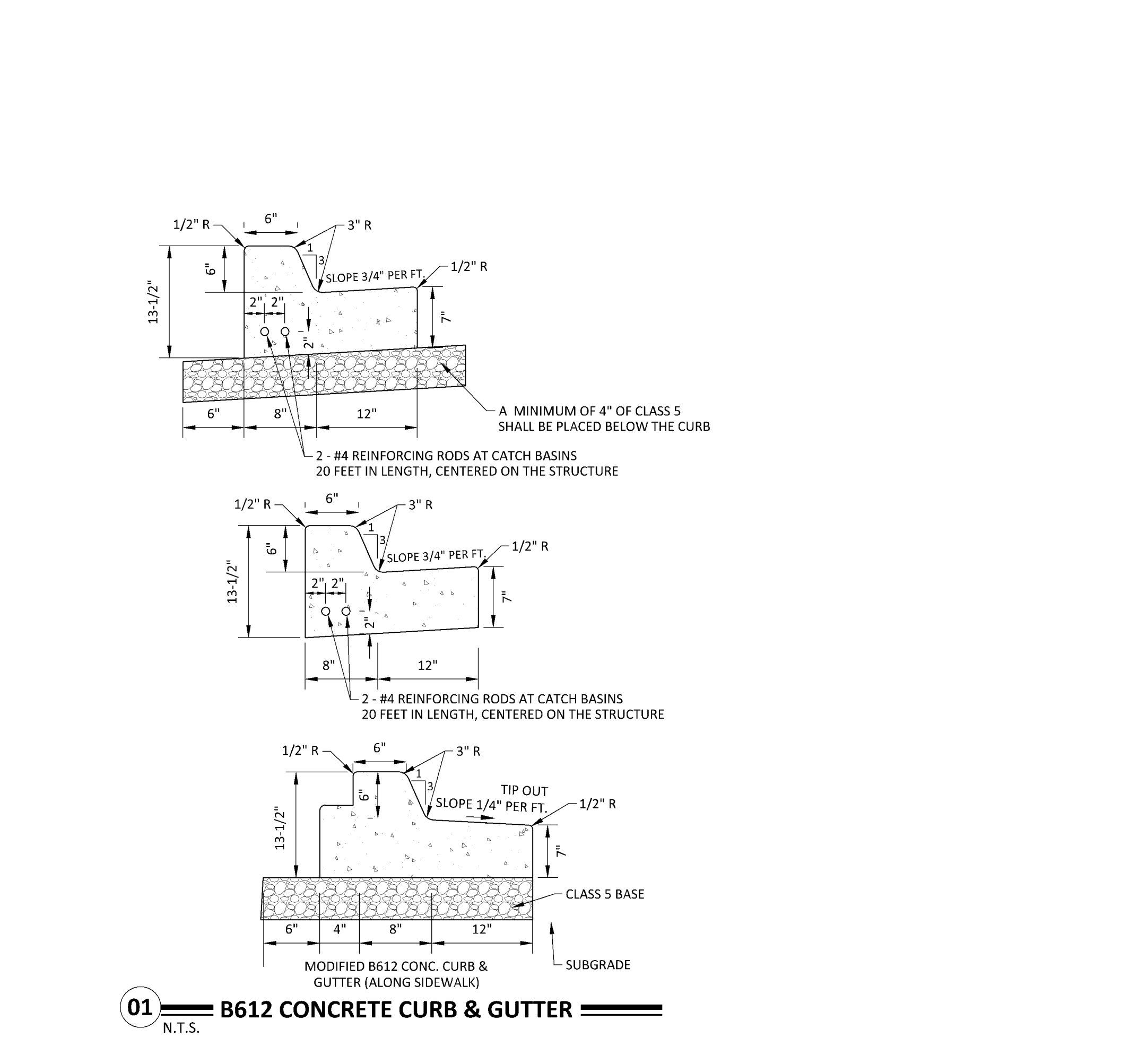
SC-310 CUMULATIVE STORAGE VOLUMES PER CHAMBER
 Assumes 40% Stone Porosity. Calculations are Based Upon a 6" (150 mm) Stone Base Under Chambers.

Depth of Water in System (ft./mm)	Cumulative Chamber Storage (cu ft./m³)	Total System Cumulative Storage (cu ft./m³)
20 (762)	14.70 (416)	27.85 (776)
21 (813)	14.70 (416)	30.21 (852)
22 (864)	14.70 (416)	32.57 (928)
23 (891)	14.70 (416)	34.93 (1004)
24 (918)	14.70 (416)	37.29 (1080)
25 (945)	14.70 (416)	39.65 (1156)
26 (972)	14.70 (416)	42.01 (1232)
27 (999)	14.70 (416)	44.37 (1308)
28 (1026)	14.70 (416)	46.73 (1384)
29 (1053)	14.70 (416)	49.09 (1460)
30 (1080)	14.70 (416)	51.45 (1536)
31 (1107)	14.70 (416)	53.81 (1612)
32 (1134)	14.70 (416)	56.17 (1688)
33 (1161)	14.70 (416)	58.53 (1764)
34 (1188)	14.70 (416)	60.89 (1840)
35 (1215)	14.70 (416)	63.25 (1916)
36 (1242)	14.70 (416)	65.61 (1992)
37 (1269)	14.70 (416)	67.97 (2068)
38 (1296)	14.70 (416)	70.33 (2144)
39 (1323)	14.70 (416)	72.69 (2220)
40 (1350)	14.70 (416)	75.05 (2296)
41 (1377)	14.70 (416)	77.41 (2372)
42 (1404)	14.70 (416)	79.77 (2448)
43 (1431)	14.70 (416)	82.13 (2524)
44 (1458)	14.70 (416)	84.49 (2600)
45 (1485)	14.70 (416)	86.85 (2676)
46 (1512)	14.70 (416)	89.21 (2752)
47 (1539)	14.70 (416)	91.57 (2828)
48 (1566)	14.70 (416)	93.93 (2904)
49 (1593)	14.70 (416)	96.29 (2980)
50 (1620)	14.70 (416)	98.65 (3056)
51 (1647)	14.70 (416)	101.01 (3132)
52 (1674)	14.70 (416)	103.37 (3208)
53 (1701)	14.70 (416)	105.73 (3284)
54 (1728)	14.70 (416)	108.09 (3360)
55 (1755)	14.70 (416)	110.45 (3436)
56 (1782)	14.70 (416)	112.81 (3512)
57 (1809)	14.70 (416)	115.17 (3588)
58 (1836)	14.70 (416)	117.53 (3664)
59 (1863)	14.70 (416)	119.89 (3740)
60 (1890)	14.70 (416)	122.25 (3816)
61 (1917)	14.70 (416)	124.61 (3892)
62 (1944)	14.70 (416)	126.97 (4000)
63 (1971)	14.70 (416)	129.33 (4080)
64 (1998)	14.70 (416)	131.69 (4160)
65 (2025)	14.70 (416)	134.05 (4240)
66 (2052)	14.70 (416)	136.41 (4320)
67 (2079)	14.70 (416)	138.77 (4400)
68 (2106)	14.70 (416)	141.13 (4480)
69 (2133)	14.70 (416)	143.49 (4560)
70 (2160)	14.70 (416)	145.85 (4640)
71 (2187)	14.70 (416)	148.21 (4720)
72 (2214)	14.70 (416)	150.57 (4800)
73 (2241)	14.70 (416)	152.93 (4880)
74 (2268)	14.70 (416)	155.29 (4960)
75 (2295)	14.70 (416)	157.65 (5040)
76 (2322)	14.70 (416)	160.01 (5120)
77 (2349)	14.70 (416)	162.37 (5200)
78 (2376)	14.70 (416)	164.73 (5280)
79 (2403)	14.70 (416)	167.09 (5360)
80 (2430)	14.70 (416)	169.45 (5440)
81 (2457)	14.70 (416)	171.81 (5520)
82 (2484)	14.70 (416)	174.17 (5600)
83 (2511)	14.70 (416)	176.53 (5680)
84 (2538)	14.70 (416)	178.89 (5760)
85 (2565)	14.70 (416)	181.25 (5840)
86 (2592)	14.70 (416)	183.61 (5920)
87 (2619)	14.70 (416)	185.97 (6000)
88 (2646)	14.70 (416)	188.33 (6080)
89 (2673)	14.70 (416)	190.69 (6160)
90 (2700)	14.70 (416)	193.05 (6240)
91 (2727)	14.70 (416)	195.41 (6320)
92 (2754)	14.70 (416)	197.77 (6400)
93 (2781)	14.70 (416)	200.13 (6480)
94 (2808)	14.70 (416)	202.49 (6560)
95 (2835)	14.70 (416)	204.85 (6640)
96 (2862)	14.70 (416)	207.21 (6720)
97 (2889)	14.70 (416)	209.57 (6800)
98 (2916)	14.70 (416)	211.93 (6880)
99 (2943)	14.70 (416)	214.29 (6960)
100 (2970)	14.70 (416)	216.65 (7040)

STORAGE VOLUME PER CHAMBER FT³ (M³)
 Chamber and Stone Foundation Depth in (mm)
 StormTech SC-310: 14.7 (0.416) / 32.7 (0.928) / 48.4 (1.35)

AMOUNT OF STONE PER CHAMBER
 ENGLISH TONS (cu yd)
 StormTech SC-310: 2.1 (1.5 yd³) / 2.1 (1.5 yd³) / 3.4 (2.4 yd³)

VOLUME EXCAVATION PER CHAMBER YD³ (M³)
 StormTech SC-310: 2.9 (2.2 m³) / 3.4 (2.6 m³) / 3.8 (2.9 m³)



Client
ICE CASTLE

Project
ICE CASTLE

Location
BLOOMINGTON, MN
2401 E 86TH STREET

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 licensed professional ENGINEER under the laws of the state of Minnesota.

BRADY D. BUSSELMAN
Registration No. 44579 Date: 08/29/2019
If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's, Minnetonka, MN office.

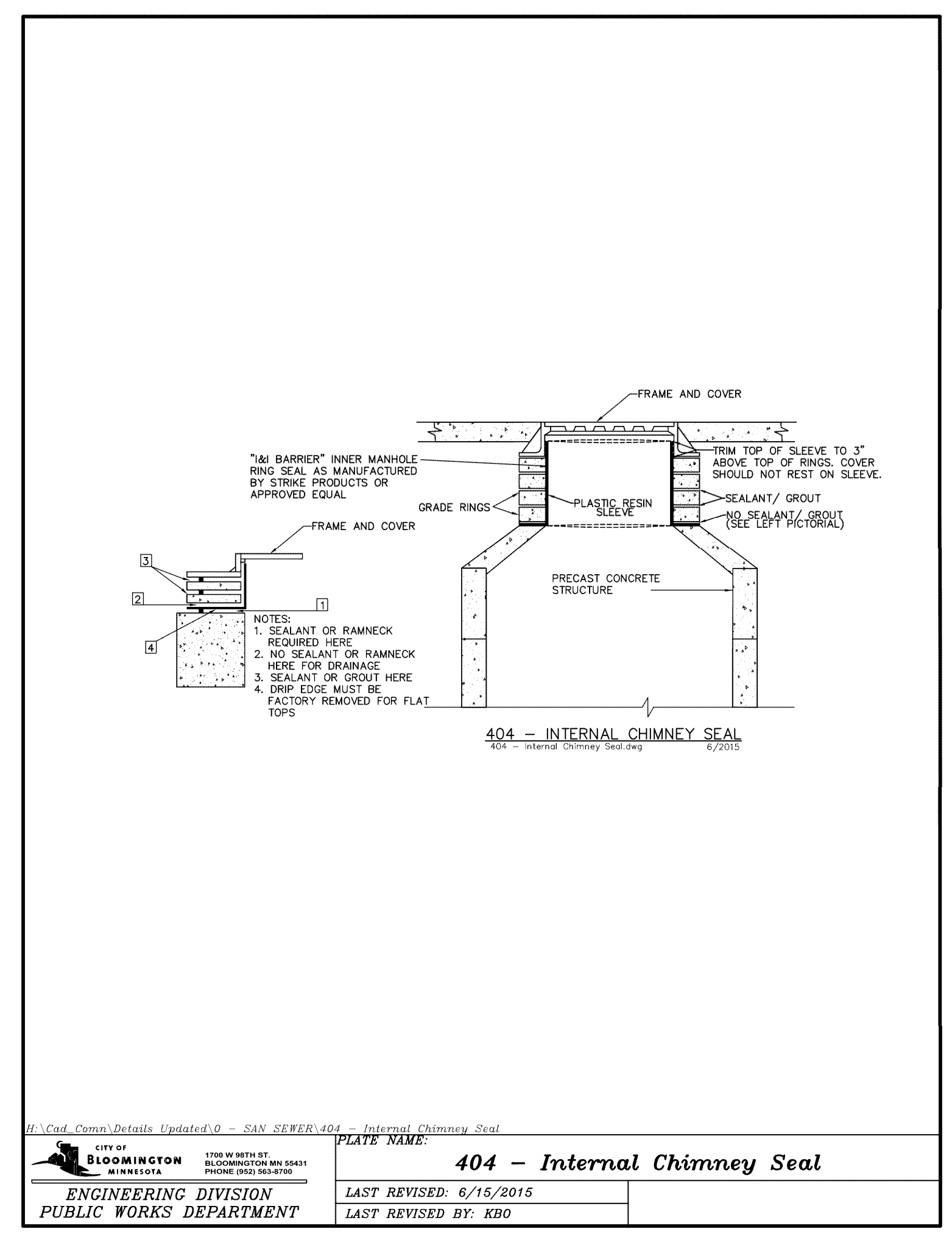
Summary
Designed: RJA/ Drawn: MHA/AS
Approved: SSB Book / Page:
Phase: PRELIMINARY Initial Issued: 07/24/2019

Revision History
No. Date By Submittal / Revision
8/29/19 AF CITY COMMENTS

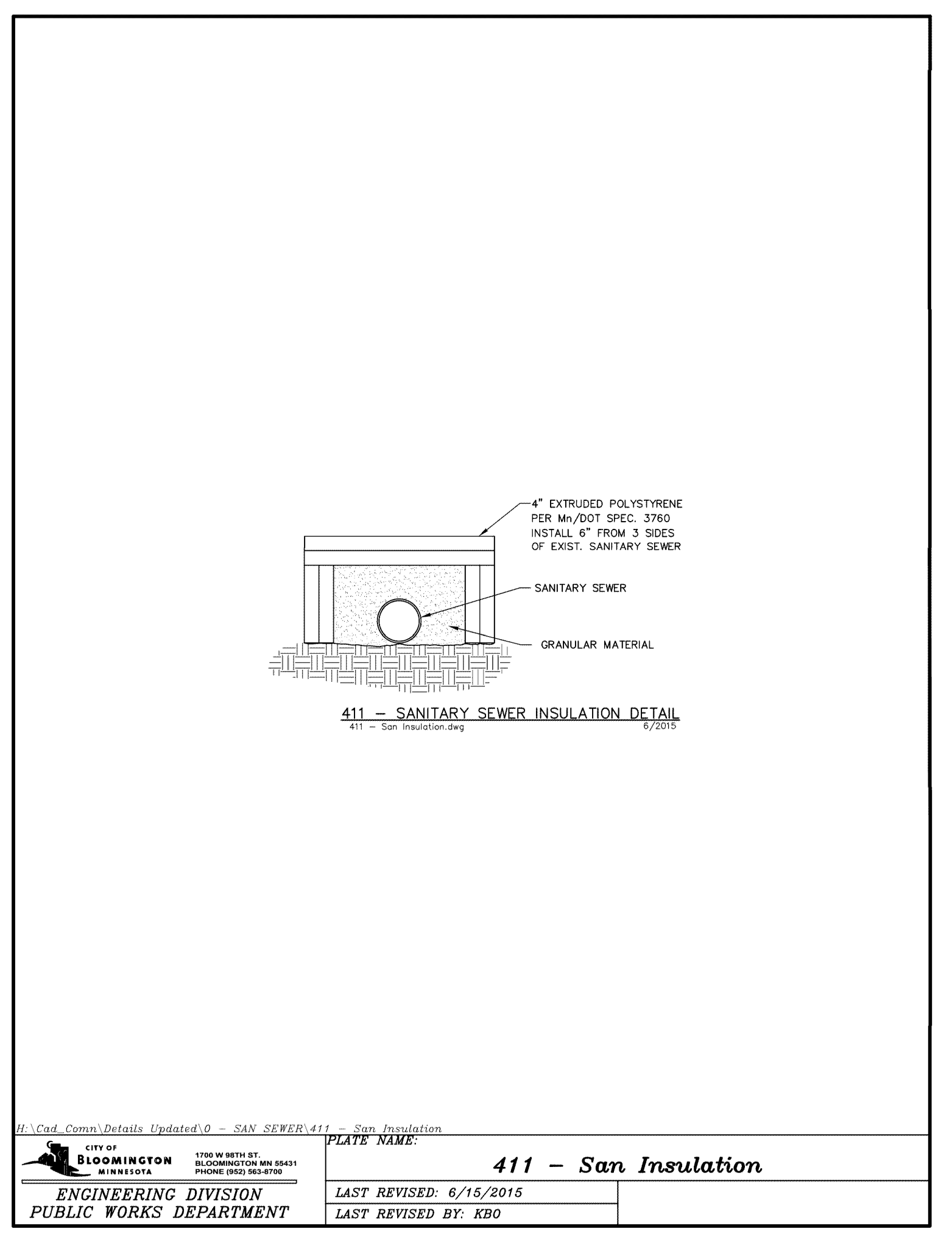
Sheet Title
DETAILS

Sheet No. Revision
C9.03

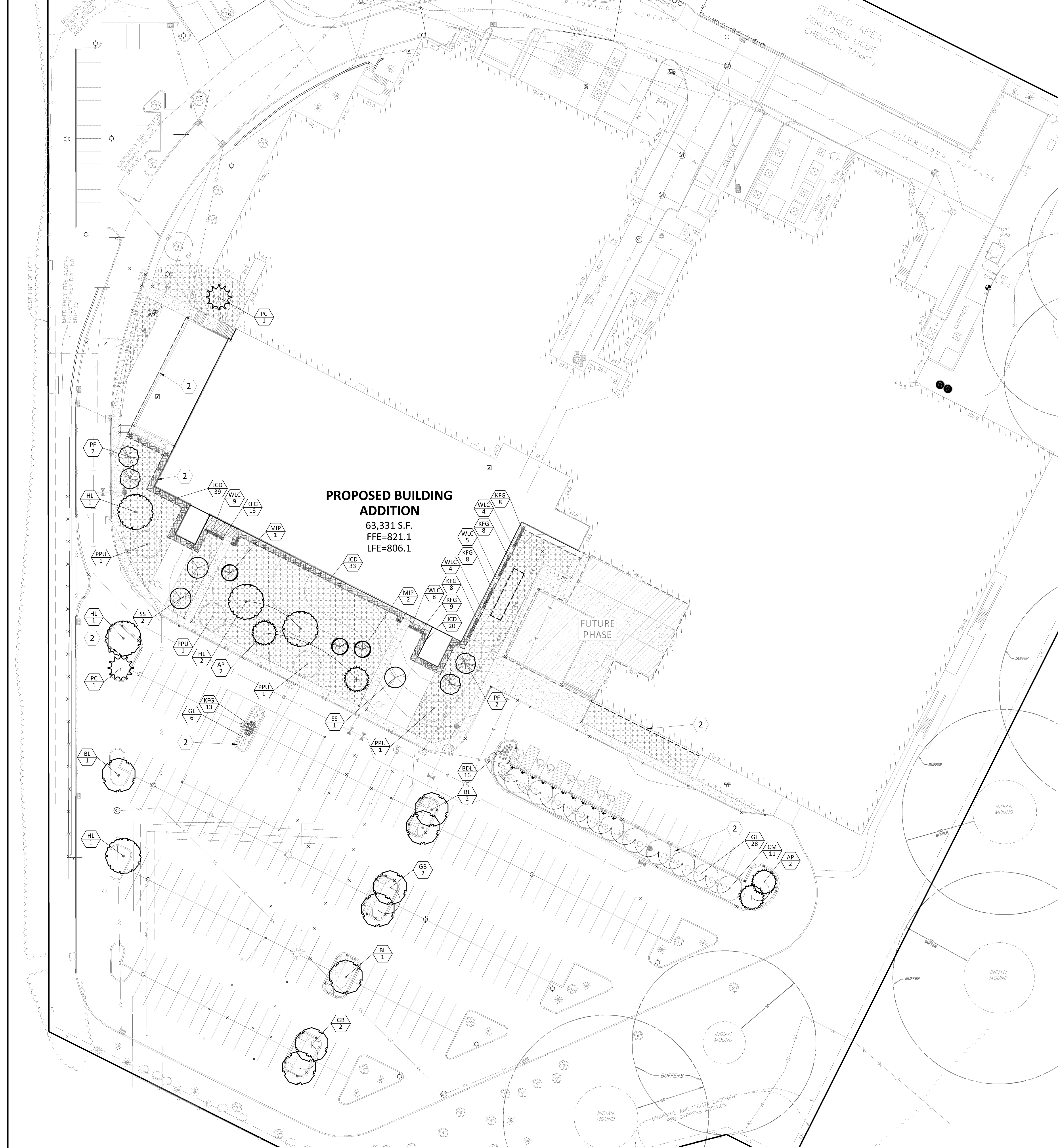
Project No. 21846



CITY OF BLOOMINGTON ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		PLATE NAME: 404 - Internal Chimney Seal LAST REVISED: 6/16/2018 LAST REVISED BY: KBO
--	--	--



CITY OF BLOOMINGTON ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		PLATE NAME: 411 - San Insulation LAST REVISED: 6/15/2018 LAST REVISED BY: KBO
--	--	---



LEGEND

	PROPOSED	EXISTING	
PROPERTY LIMIT	---	---	STANDARD DUTY ASPHALT PAVING
CURB & GUTTER	---	---	CONCRETE PAVING
EASEMENT	---	---	CONCRETE SIDEWALK
BUILDING	---	---	
RETAINING WALL	---	---	
WETLAND LIMITS	---	---	
TREELINE	---	---	
LANDSCAPE EDGING	---	---	
STORM SEWER	---	---	
SANITARY SEWER	---	---	
FORCEMAIN (SAN.)	---	---	
WATERMAIN	---	---	
YARDDRAIN	---	---	
LIMITS OF DISTURBANCE	---	---	
TREE PROTECTION FENCE	---	---	
SIGN	---	---	
PIPE BOLLARD	---	---	

BLOOMINGTON LANDSCAPE CODE

	REQUIRED	PROPOSED
CALCULATIONS		
DEVELOPABLE LAND AREA: 2.49 AC / 108,650 SF	44	44
ONE OVERSTORY TREE PER 2,500 SF OF DEVELOPABLE AREA	109	126
ONE SHRUB PER 1,000 SF OF DEVELOPABLE AREA		
50% OF SHRUBS MAY BE PERENNIALS		
4:1 PERENNIAL: SHRUB SUBSTITUTION RATIO		
MINIMUM OVERSTORY TREE SIZE	2.5" CAL	
MINIMUM ORNAMENTAL TREE SIZE	1.5" CAL	
MINIMUM EVERGREEN TREE SIZE	6' FEET	
MINIMUM ONE (1) DECIDUOUS TREE PER PARKING LOT ISLAND.		
PLANNED DEVELOPMENT ZONE		
AIRPORT RUNWAY OVERLAY (AR-17)		

PLANT SCHEDULE

PLANT SCHEDULE

TREES	CODE	BOTANICAL / COMMON NAME	CONT	CAL	SIZE	QTY
	CM	Acer x freemanii 'Armstrong' / Armstrong Freeman Maple	B & B	2.5" Cal		11
	GB	Ginkgo biloba 'Autumn Gold' TM / Maidenhair Tree (Male only)	B & B	2.5" Cal		4
	HL	Gleditsia triacanthos 'Skyline' / Skyline Honey Locust	B & B	2.5" Cal		5
	BL	Tilia americana 'Boulevard' / Boulevard Linden	B & B	2.5" Cal		4
CONIFERS	CODE	BOTANICAL / COMMON NAME	CONT	CAL	SIZE	QTY
	PPU	Picea pungens / Colorado Spruce	B & B		6'	4
	PC	Pinus cembra / Swiss Stone Pine	B & B		7'	2
	AP	Pinus nigra / Austrian Black Pine	B & B		6'	4
ORN. TREES	CODE	BOTANICAL / COMMON NAME	CONT	CAL	SIZE	QTY
	MIP	Malus ioensis 'Prairie Rose' / Prairie Rose Crabapple	B & B	1.25" Cal.		3
	PF	Malus x 'Prairifire' / Prairifire Crab Apple	B & B	2" Cal		4
	SS	Malus x 'Spring Snow' / Spring Snow Crab Apple	B & B	2" Cal		3
SHRUBS	CODE	BOTANICAL / COMMON NAME	CONT			QTY
	JCD	Juniperus chinensis 'Daub's Frosted' / Daub's Frosted Juniper	5 gal			92
	GL	Rhus aromatica 'Gro-Low' / Gro-Low Fragrant Sumac	5 gal			34
GRASSES	CODE	BOTANICAL / COMMON NAME	CONT			QTY
	KFG	Calamagrostis x acutiflora 'Karl Foerster' / Feather Reed Grass	1 gal			67
PERENNIALS	CODE	BOTANICAL / COMMON NAME	CONT			QTY
	BDL	Hemerocallis x 'Baja' / Baja Daylily	1 gal			16
	WLC	Nepeta x faassenii 'Walkers Low' / Walkers Low Catmint	1 gal			30
GROUND COVERS	CODE	BOTANICAL / COMMON NAME	CONT			QTY
	TUR HIG	Turf Sod Highland Sod / Sod	Sod			22,976 sf

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION
2	ROCK MULCH - 3/4" DRESSER TRAP ROCK W/ FABRIC
GRASSPAVE 2	GRASSPAVE 2 - POROUS GRASS PAVER. HYDROSEED USING MATCHING SEED MIX AS ADJACENT SOD. DEPTH OF BASE TO BE DETERMINED BY STRUCTURAL LOAD REQUIREMENTS.

Client
ICE CASTLE

Project
ICE CASTLE

Location
BLOOMINGTON, MN
2401 E 86TH STREET

Certification
I hereby certify that this survey, plan 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.

Joshua J. McKinney
Registration No. 53234 Date: 08/30/2019
This certification is not valid unless wet signed in blue ink. If applicable, contact us for a wet signed copy of this survey which is available upon request at Sambatek, Minnetonka, MN office.

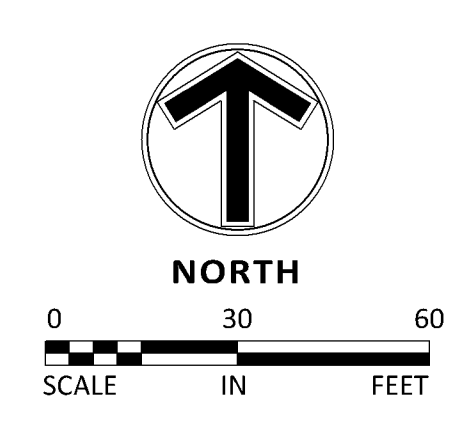
Summary
Designed: RB/JF Drawn: M/M/JF
Approved: sjs Book / Page:
Phase: PRELIMINARY Initial Issued: 07/24/2019

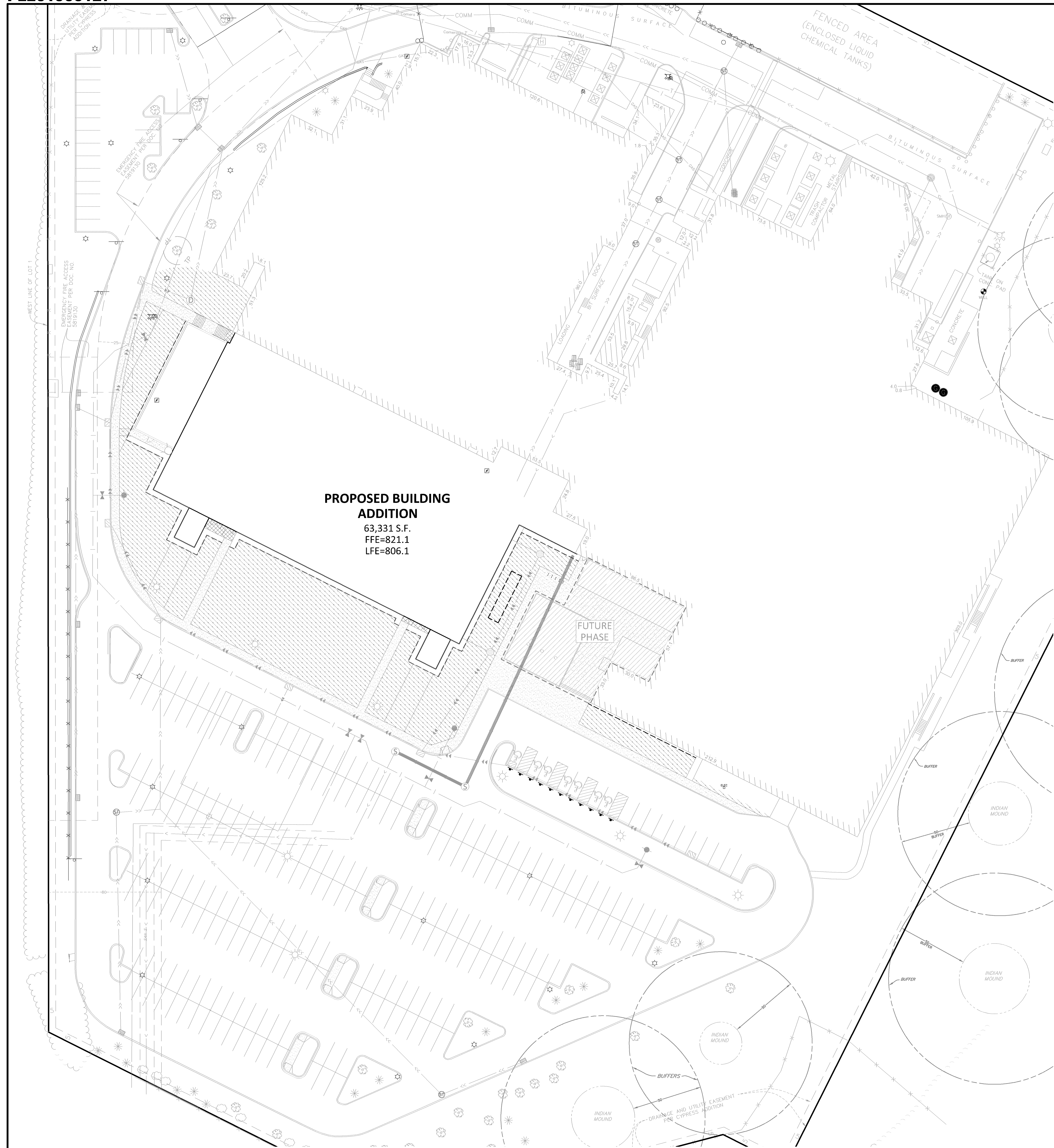
Revision History
No. Date By Submittal / Revision
8/29/19 AF CITY COMMENTS

Sheet Title
LANDSCAPE PLAN

Sheet No. Revision
L1.01

Project No. 21846





PROPOSED BUILDING ADDITION
 63,331 S.F.
 FFE=821.1
 LFE=806.1

LEGEND

	PROPOSED	EXISTING	
PROPERTY LIMIT	---	---	STANDARD DUTY ASPHALT PAVING
CURB & GUTTER	---	---	CONCRETE PAVING
EASEMENT	---	---	CONCRETE SIDEWALK
BUILDING	---	---	
RETAINING WALL	---	---	
WETLAND LIMITS	---	---	
TREELINE	---	---	
LANDSCAPE EDGING	---	---	
STORM SEWER	---	---	
SANITARY SEWER	---	---	
FORCEMAIN (SAN.)	---	---	
WATERMAIN	---	---	
YARD DRAIN	---	---	
LIMITS OF DISTURBANCE	---	---	
TREE PROTECTION FENCE	---	---	
SIGN	---	---	
PIPE BOLLARD	---	---	

IRRIGATION SCHEDULE

IRRIGATION COVERAGE

SYMBOL	DESCRIPTION	QTY
[Symbol]	SPRAY IRRIGATION	25,194 sf
[Symbol]	DRIP IRRIGATION	7,698 sf

Client
ICE CASTLE

Project
ICE CASTLE

Location
BLOOMINGTON, MN
 2401 E 86TH STREET

Certification
 I hereby certify that this survey, plan 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.

Joshua J. McKinney
 Registration No. 53234 Date: 08/30/2019
 This certification is not valid unless wet signed in blue ink. If applicable, contact us for a wet signed copy of this survey which is available upon request at Sambatek, Minnetonka, MN office.

Summary
 Designed: RJA/ Drawn: MJA/MS
 Approved: SJB Book / Page:
 Phase: PRELIMINARY Initial Issued: 07/24/2019

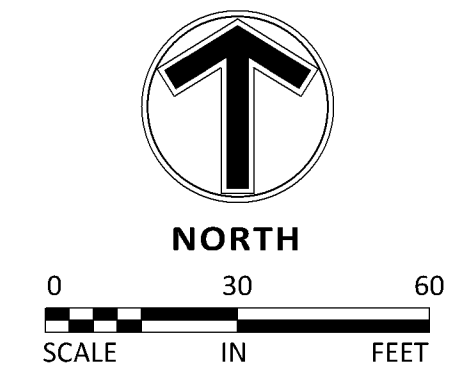
Revision History

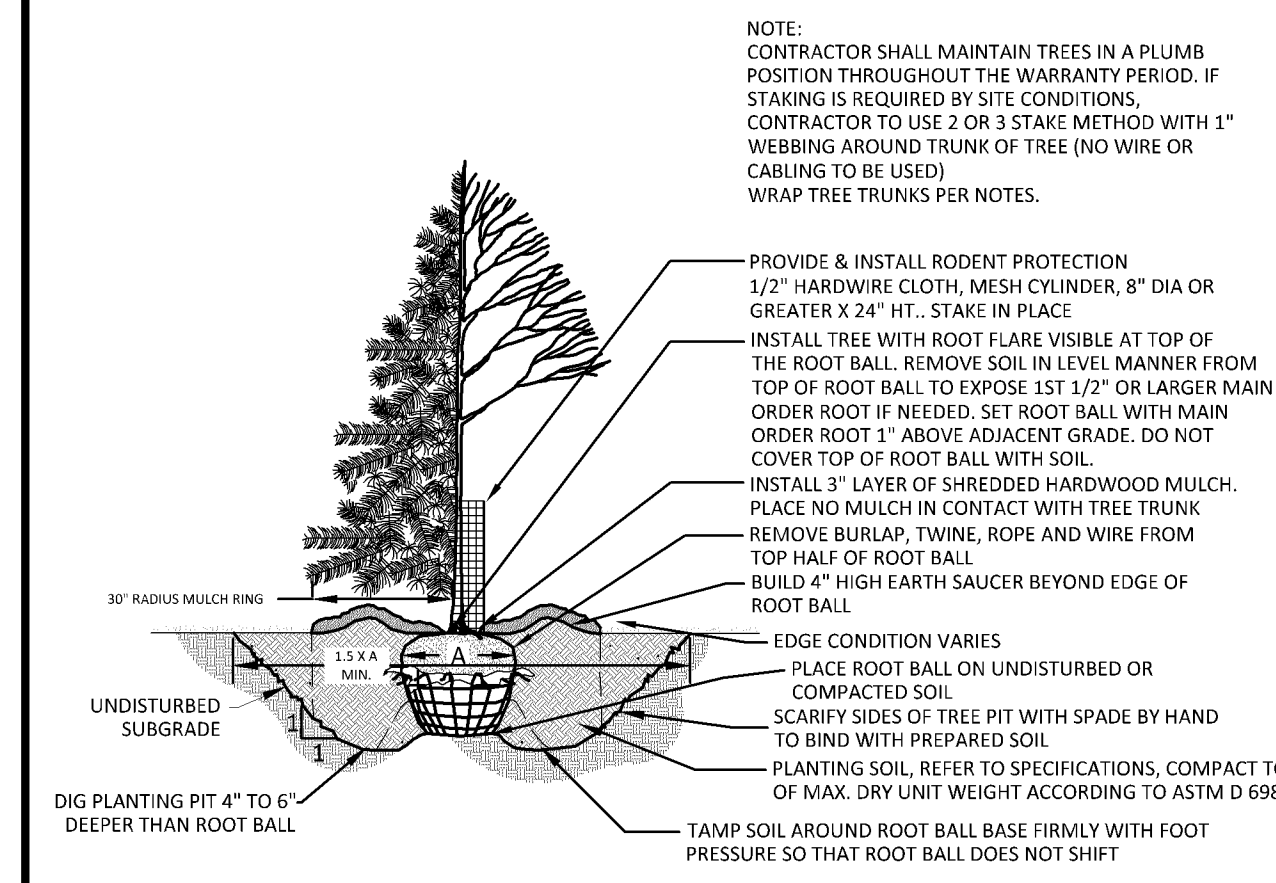
No.	Date	By	Submittal / Revision
8/29/19	AF		CITY COMMENTS

Sheet Title
IRRIGATION COVERAGE PLAN

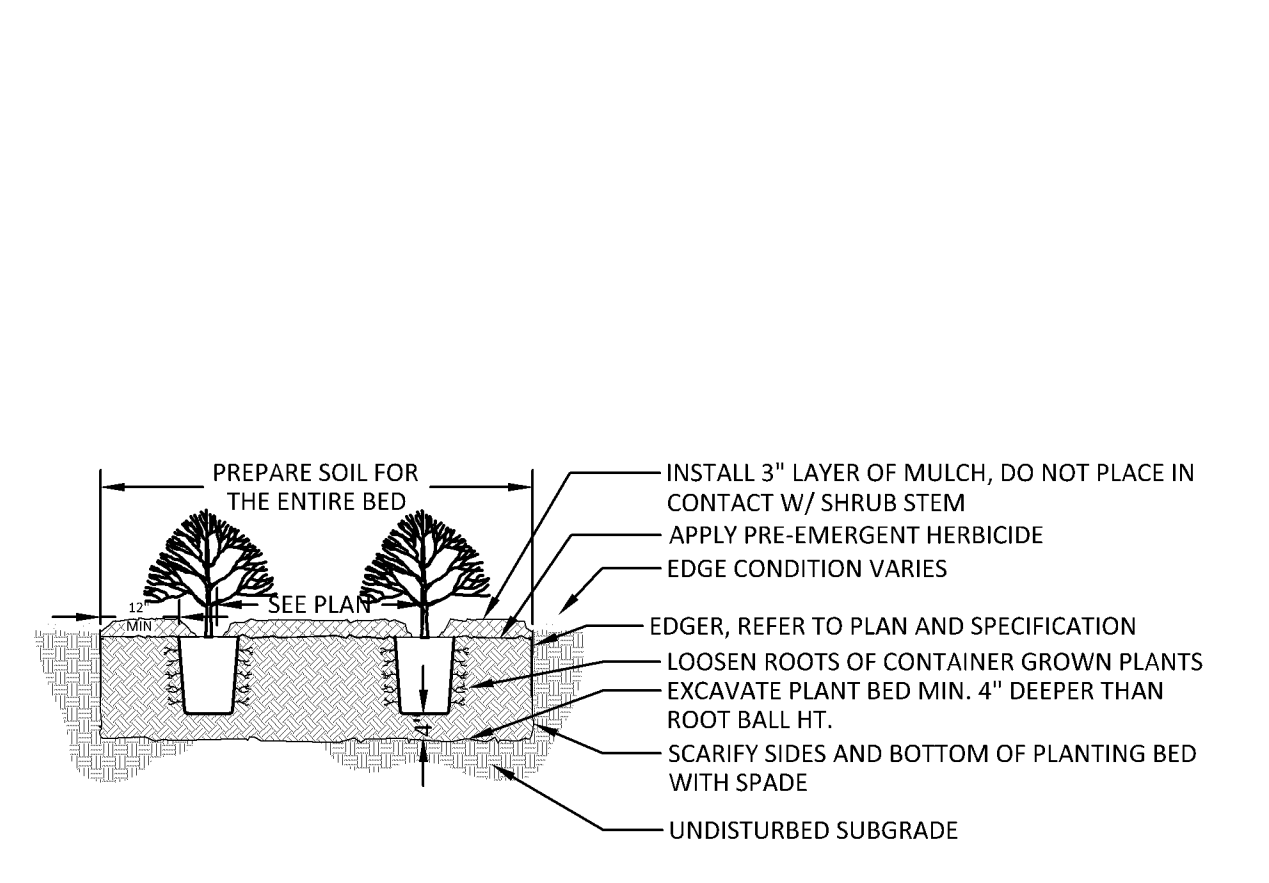
Sheet No. Revision
L1.02

Project No. 21846

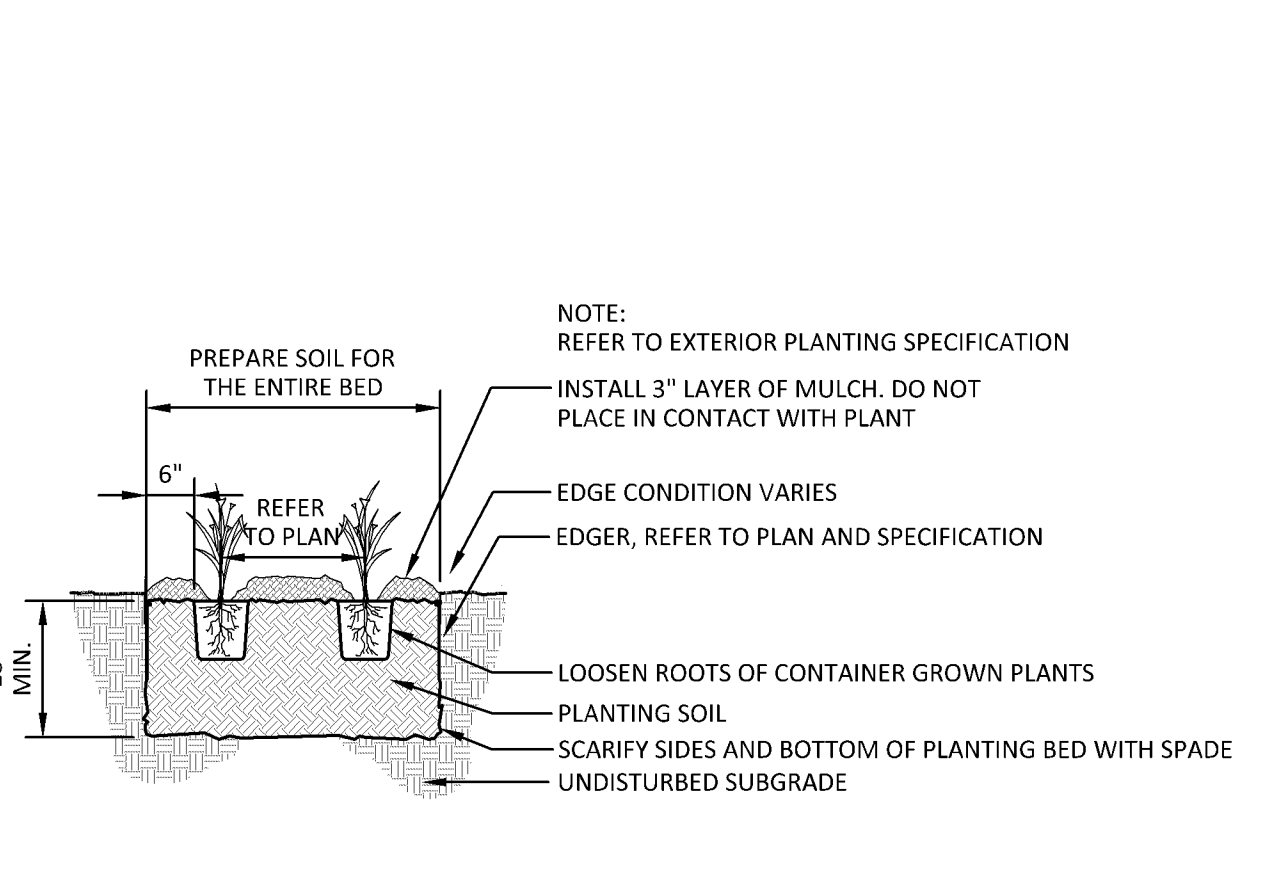




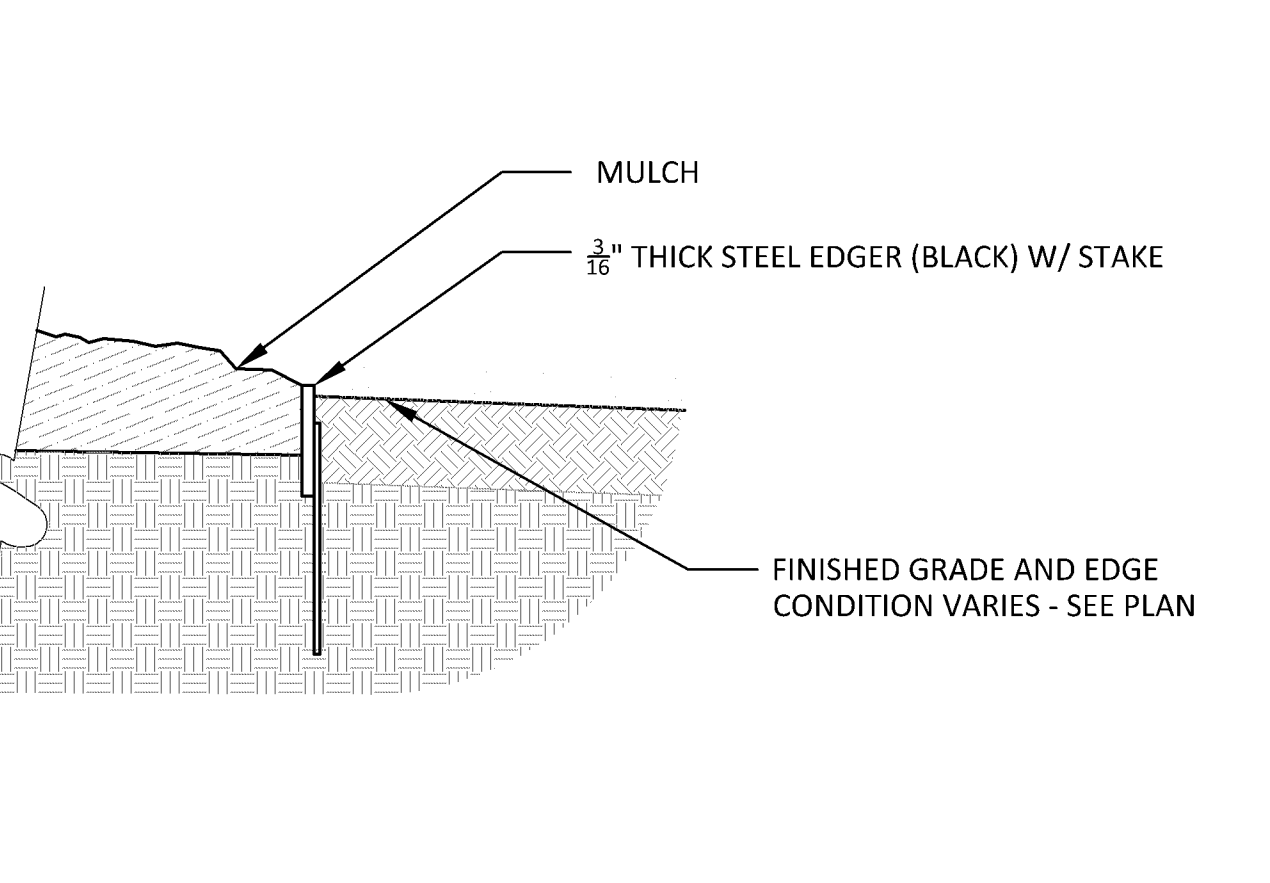
1 TREE PLANTING DETAIL
1/4" = 1'-0"
P-01



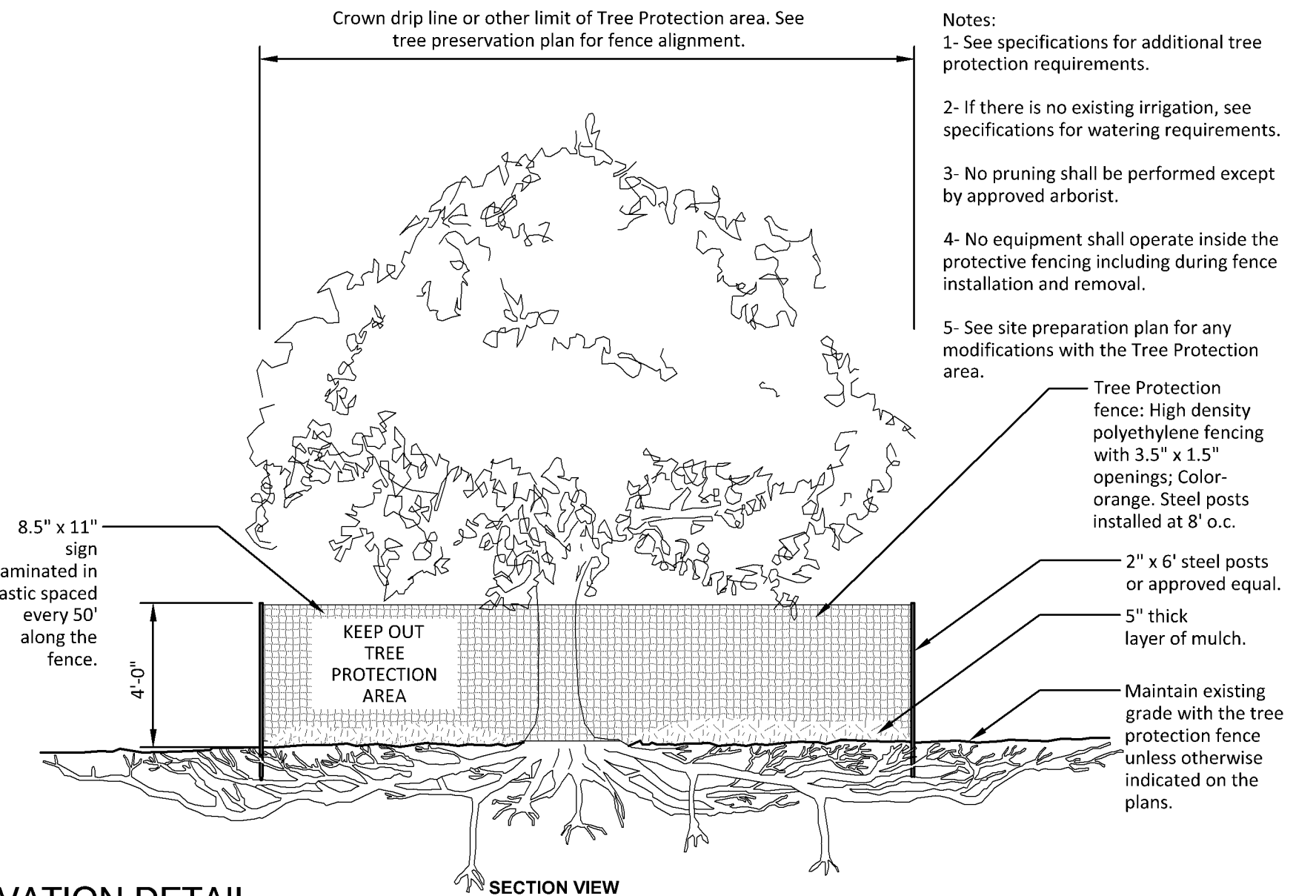
2 SHRUB PLANTING DETAIL
3/8" = 1'-0"
P-02



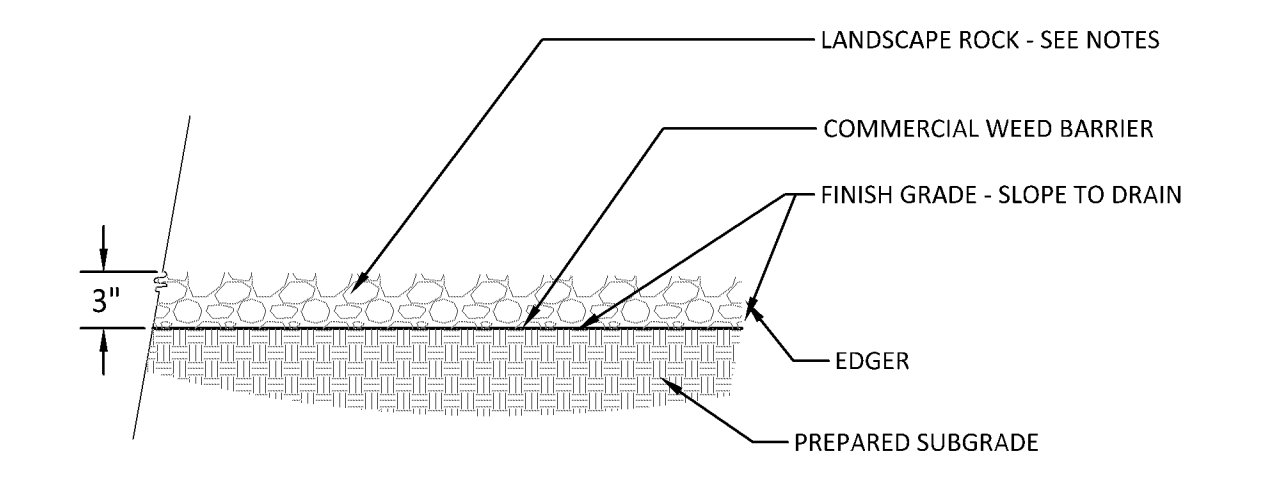
3 PERENNIAL PLANTING DETAIL
1/2" = 1'-0"
P-03



4 STEEL EDGER
1 1/2" = 1'-0"
P-06



5 TREE PRESERVATION DETAIL
1/4" = 1'-0"
P-04



6 ROCK MULCH
1" = 1'-0"
P-09

NOTES

- GENERAL NOTES:**
- THE CONTRACTOR SHALL INSPECT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS RELATING TO THE NATURE AND SCOPE OF THE WORK.
 - THE CONTRACTOR SHALL VERIFY PLANT LAYOUT AND BRING TO THE ATTENTION OF THE LANDSCAPE ARCHITECT DISCREPANCIES WHICH MAY COMPROMISE THE DESIGN OR INTENT OF THE LAYOUT.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE CODES, REGULATIONS, AND PERMITS GOVERNING THE WORK.
 - THE CONTRACTOR SHALL PROTECT EXISTING ROADS, CURBS/GUTTERS, TRAILS, TREES, LAWNS AND SITE ELEMENTS DURING CONSTRUCTION. DAMAGE TO SAME SHALL BE REPAIRED AND/OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
 - LOCATE AND VERIFY ALL UTILITIES, INCLUDING IRRIGATION LINES, WITH THE OWNER FOR PROPRIETARY UTILITIES AND GOPHER STATE ONE CALL 48 HOURS BEFORE DIGGING. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ANY DAMAGES TO SAME. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS TO FACILITATE PLANT RELOCATION.
 - THE LANDSCAPE CONTRACTOR SHALL COORDINATE THE PHASES OF CONSTRUCTION AND PLANTING INSTALLATION WITH OTHER CONTRACTORS WORKING ON SITE.
 - THE CONTRACTOR SHALL REVIEW THE SITE FOR DEFICIENCIES IN SITE CONDITIONS WHICH MIGHT NEGATIVELY AFFECT PLANT ESTABLISHMENT, SURVIVAL OR WARRANTY. UNDESIRABLE SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO BEGINNING OF WORK.
 - THE PLAN TAKES PRECEDENCE OVER THE LANDSCAPE LEGEND IF DISCREPANCIES EXIST. CONTRACTOR TO VERIFY QUANTITIES SHOWN ON THE PLAN.
 - THE SPECIFICATIONS TAKE PRECEDENCE OVER THE PLANTING NOTES AND GENERAL NOTES.
 - EXISTING TREES AND SHRUBS TO REMAIN SHALL BE PROTECTED TO THE Drip Line FROM ALL CONSTRUCTION TRAFFIC, STORAGE OF MATERIALS ETC. WITH A 1" DRAINAGE PLASTIC SAFETY FENCING ADEQUATELY SUPPORTED BY STEEL FENCE POSTS 6' O.C. MAXIMUM SPACING.
 - LONG TERM STORAGE OF MATERIALS OR SUPPLIES ON SITE WILL NOT BE ALLOWED.
 - CONTRACTOR SHALL REQUEST IN WRITING, A FINAL ACCEPTANCE INSPECTION.

- PLANTING NOTES:**
- NO PLANTS SHALL BE INSTALLED UNTIL FINAL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
 - A GRANULAR PRE-EMERGENT HERBICIDE SHALL BE APPLIED TO ALL PLANT BEDS AT THE MANUFACTURERS RECOMMENDED RATE PRIOR TO PLANT INSTALLATION.
 - ALL PLANTING STOCK SHALL CONFORM TO THE "AMERICAN STANDARD FOR NURSERY STOCK" AND SO, LATEST EDITION, OF THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIALS.
 - OVERSTORY TREES SHALL BEGIN BRANCHING NO LOWER THAN 6' ABOVE PAVED SURFACES.
 - ALL PLANTS MUST BE HEALTHY, VIGOROUS MATERIAL FREE OF PESTS AND DISEASE AND BE CONTAINER GROWN OR BALLED AND BURLAPPED AS INDICATED IN THE LANDSCAPE LEGEND.
 - PLANT MATERIALS TO BE INSTALLED PER PLANTING DETAILS.
 - ALL TREES MUST BE STRAIGHT TRUNKED AND FULL HEADED AND MEET ALL REQUIREMENTS SPECIFIED.
 - THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANTS WHICH ARE DEEMED UNSATISFACTORY BEFORE, DURING, OR AFTER INSTALLATION.
 - NO SUBSTITUTIONS OF PLANT MATERIAL SHALL BE ACCEPTED UNLESS APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT.
 - ALL PLANT MATERIAL QUANTITIES, SHAPES OF BEDS AND LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE COVERAGE OF ALL PLANTING BEDS AT SPACING SHOWN AND ADJUSTED TO CONFORM TO THE EXACT CONDITIONS OF THE SITE. THE LANDSCAPE ARCHITECT SHALL APPROVE THE STAKING LOCATION OF ALL PLANT MATERIALS PRIOR TO INSTALLATION.
 - ALL PLANTING AREAS MUST BE COMPLETELY MULCHED AS SPECIFIED.
 - MULCH: ALL PLANTING BEDS, MAINTENANCE STRIPS, AND PARKING LOT ISLANDS TO HAVE ROCK TO MATCH EXISTING ROCK MULCH. SUBMIT SAMPLE OF PROPOSED AND EXISTING ROCK MULCH TO LANDSCAPE ARCHITECT FOR APPROVAL.
 - MULCH: SHREDDED HARDWOOD MULCH, CLEAN AND FREE OF NOXIOUS WEEDS OR OTHER DELETERIOUS MATERIAL, IN ALL MASS PLANTING BEDS AND FOR TREES, UNLESS INDICATED AS ROCK MULCH ON DRAWINGS. SUBMIT SAMPLE TO LANDSCAPE ARCHITECT PRIOR TO DELIVERY ON SITE FOR APPROVAL. DELIVER MULCH ON DAY OF INSTALLATION. USE 3" FOR SHRUB BEDS, TREE KINGS, AND 3" FOR PERENNIAL/GROUND COVER BEDS, UNLESS OTHERWISE DIRECTED.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MULCHES AND PLANTING SOIL QUANTITIES TO COMPLETE THE WORK SHOWN ON THE PLAN.
 - USE ANTI-DESCENDANT (ANTI-TRIP) OR APPROVED EQUAL ON DECIDUOUS PLANTS MOVED IN LEAF AND FOR EVERGREENS MOVED ANYTIME. APPLY AS PER MANUFACTURERS INSTRUCTION. ALL EVERGREENS SHALL BE SPRAYED IN THE LATE FALL FOR WINTER PROTECTION DURING WARRANTY PERIOD.
 - WRAP ALL SMOOTH-BARKED DECIDUOUS TREES PLANTED IN THE FALL PRIOR TO DECEMBER 1 AND REMOVE WRAPPING AFTER MAY 1. TREE WRAPPING MATERIAL SHALL BE WHITE TWO-WALLED PLASTIC SHEETING APPLIED FROM TRUNK FLARE TO THE FIRST BRANCH.
 - ALL DECIDUOUS, PINE, AND LARCH PLANTINGS SHALL RECEIVE RODENT PROTECTION PER MNDOT 251.31.2.
 - PLANTING SOIL FOR TREES, SHRUBS AND GROUND COVERS: FERTILE FRABLE LOAM CONTAINING A LIBERAL AMOUNT (MIN. 10% BY HURUS) AND CAPABLE OF SUSTAINING VIGOROUS PLANT GROWTH. IT SHALL COMPLY WITH MNDOT SPECIFICATION 3877 TYPE B SELECT TOPSOIL MIXTURE SHALL BE FREE FROM HARD-PACK SUBSOIL, STONES, CHEMICALS, NOXIOUS WEEDS, ETC. SOIL MIXTURE SHALL HAVE A PH BETWEEN 6.1 AND 7.5 AND 10-10 FERTILIZER AT THE RATE OF 3 POUNDS PER CUBIC YARD. IN PLANTING BEDS INCORPORATE THIS MIXTURE THROUGHOUT THE ENTIRE BED IN A 4" LAYER AND ROTOTILLING IT INTO THE TOP 12" OF SOIL AT A 1:1 RATIO ANY PLANT STOCK NOT PLANTED ON DAY OF DELIVERY SHALL BE HEELED AND WATERED UNTIL INSTALLATION. PLANTS NOT MAINTAINED IN THIS MANNER WILL BE REJECTED.
 - CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THAT EACH EXCAVATED TREE AND SHRUB PIT WILL PERCOLATE PRIOR TO INSTALLING PLANTING MEDIUM AND PLANTS. THE CONTRACTOR SHALL FILL THE BOTTOM OF SELECTED HOLES WITH SIX INCHES OF WATER AND CONFIRM THAT THIS WATER WILL PERCOLATE WITHIN A 24-HOUR PERIOD. IF THE SOIL AT A GIVEN AREA DOES NOT DRAIN PROPERLY, A PVC DRAIN OR GRAVEL SLUMP SHALL BE INSTALLED ON THE PLANTING SHALL BE RELOCATED IF DIRECTED BY THE LANDSCAPE ARCHITECT.
 - ALL PLANTS SHALL BE GUARANTEED FOR TWO COMPLETE GROWING SEASONS (APRIL 1 -

- NOVEMBER 1), UNLESS OTHERWISE SPECIFIED. THE GUARANTEE SHALL COVER THE FULL COST OF REPLACEMENT INCLUDING LABOR AND PLANTS.
- CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AT LEAST 3 DAYS PRIOR TO PLANNED DELIVERY. THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AT LEAST 24 HOURS IN ADVANCE OF BEGINNING PLANT INSTALLATION.
- SEASONS/TIME OF PLANTING AND SEEDING: NOTE: THE CONTRACTOR MAY ELECT TO PLANT IN OFF-SEASONS ENTIRELY AT HIS/HER RISK.
- | | |
|--------------------------------|-------------------------|
| 22.1. POTTED PLANTS: | 4/1 - 6/1; 9/21 - 11/1 |
| 22.2. DECIDUOUS B&B: | 4/1 - 6/1; 9/21 - 11/1 |
| 22.3. EVERGREEN POTTED PLANTS: | 4/1 - 6/1; 9/21 - 11/1 |
| 22.4. EVERGREEN B&B: | 4/1 - 5/1; 9/21 - 11/1 |
| 22.5. TURF LAWN SEEDING: | 4/1 - 6/1; 7/20 - 9/20 |
| 22.6. NATIVE GRASS SEEDING: | 4/15 - 7/20; 9/20-10/20 |
- MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER EACH PORTION OF THE WORK IS IN PLACE. PLANT MATERIAL SHALL BE PROTECTED AND MAINTAINED UNTIL THE INSTALLATION OF THE PLANTS IS COMPLETE. INSPECTION HAS BEEN MADE, AND PLANTING IS ACCEPTED EXCLUSIVE OF THE GUARANTEE. MAINTENANCE SHALL INCLUDE WATERING, CULTIVATING, MULCHING, REMOVAL OF DEAD MATERIALS, RESETTING PLANTS TO PROPER GRADE AND KEEPING PLANTS IN A PLUMB POSITION. AFTER ACCEPTANCE, THE OWNER SHALL ASSUME MAINTENANCE RESPONSIBILITIES. HOWEVER, THE CONTRACTOR SHALL CONTINUE TO BE RESPONSIBLE FOR KEEPING THE TREES PLUMB THROUGHOUT THE GUARANTEE PERIOD.
- ANY PLANT MATERIAL WHICH DIES, TURNS BROWN, OR DEFOLIATES PRIOR TO TOTAL ACCEPTANCE OF THE WORK SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE AND MEETING ALL LANDSCAPE LEGEND SPECIFICATIONS.
- WATERING: MAINTAIN A WATERING SCHEDULE WHICH WILL THOROUGHLY WATER ALL PLANTS ONCE A WEEK IN EXTREMELY HOT, DRY WEATHER. WATER MORE OFTEN AS REQUIRED BY INDICATORS OF HEAT STRESS SUCH AS WILTING LEAVES. CHECK MOISTURE UNDER MULCH PRIOR TO WATERING TO DETERMINE NEED. CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS FOR WATER.

- TURF NOTES:**
- TURF ESTABLISHMENT SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE PROVISIONS OF THE MNDOT 2105 AND 2075 EXCEPT AS MODIFIED BELOW.
- ALL AREAS TO RECEIVE SOO SHALL ALSO RECEIVE 6" OF TOPSOIL PRIOR TO INSTALLING SOO. TOPSOIL SHALL BE FREE OF TREE ROOTS, STUMPS, BULGING MATERIAL, AND TRASH, AND SHALL BE FREE OF STONES LARGER THAN 1 1/2" IN ANY DIMENSION.
 - WHERE SOO ABUTS PAVED SURFACES, FINISHED GRADE OF SOO/SEED SHALL BE HELD 1" BELOW SURFACE ELEVATION OF TRAIL, SLAB, CURB, ETC.
 - SOO SHALL BE Laid PARALLEL TO THE CONTIGUOUS AND SHALL HAVE STAGGERED JOINTS. ON SLOPES STEEPER THAN 3:1 OR IN DRAINAGE SWALES, SOO SHALL BE STAKED SECURELY.
 - TURF ON ALL OTHER AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED BY SEEDING, MULCHING AND FERTILIZING. SEED MIXTURE NO 25-151 WILL BE PLACED AT THE RATE OF 120 POUNDS PER ACRE.
 - ALL DISTURBED AREAS TO BE TURF SEED, ARE TO RECEIVE 6" TOP SOIL, SEED, MULCH, AND WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. FOR SLOPES STEEPER THAN 3:1 OR IN DRAINAGE SWALES INSTALL EROSION CONTROL BLANKET.
 - ALL DISTURBED AREAS TO RECEIVE NATIVE SEED, ARE TO RECEIVE PLANTING SOIL, SEED, MULCH, AND WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. FOR SLOPES STEEPER THAN 3:1 OR IN DRAINAGE SWALES INSTALL EROSION CONTROL BLANKET.

- GENERAL TREE SPECIFICATIONS:**
- ALL STREET AND PARKING LOT TREES SHALL BE LIMBED UP TO THE FOLLOWING HEIGHTS:
 - 1" CAL TREES- LOWEST BRANCH 6' HT.
 - 2" CAL TREES- LOWEST BRANCH 7' HT.
 - TREE CANOPY WIDTH SHALL BE RELATIVE TO HEIGHT/CALIPER OF TREE AND TYPE OF TREE.
 - 1" CALIPER/6' HT: 3'-4" WIDTH MIN.
 - 2" CALIPER/12'-14' HT: 4'-5" WIDTH MIN.
 - 3" CALIPER/14'-16' HT: 6'-7" WIDTH MIN.
 - CANOPY TREES SHALL NOT HAVE CO-DOMINATE LEADERS IN LOWER HALF OF TREE CROWN.
 - ALL TREES SHALL HAVE SYMMETRICAL OR BALANCED BRANCHING ON ALL SIDES OF THE TREE.
 - TREES SHALL NOT BE TRIPPED PRUNED.
 - TREES SHALL BE FREE OF PHYSICAL DAMAGE FROM SHIPPING AND HANDLING. DAMAGED TREES SHALL BE REJECTED.
 - CONTRACTOR TO INSTALL A TOTAL OF 4 QUICK COUPLERS AT THE CORNERS OF THE PROPERTY. A 2.5" TYPE K SOURCE PIPE IS PROVIDED BY MECHANICAL.

- IRRIGATION NOTES:**
- IRRIGATION SYSTEM TO BE DESIGN/BUILD. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL OF SYSTEM LAYOUT PRIOR TO INSTALLATION.
 - ALL SOO TO RECEIVE SPRAY OR ROTOR IRRIGATION HEADS WITH MINIMUM DESIGN OF 1" IRRIGATION PER WEEK.
 - ALL PLANT BEDS TO RECEIVE DRIP LINE IRRIGATION, WITH A MINIMUM DESIGN OF .25" IRRIGATION PER WEEK.
 - CONTRACTOR TO INSTALL A TOTAL OF 4 QUICK COUPLERS AT THE CORNERS OF THE PROPERTY. A 2.5" TYPE K SOURCE PIPE IS PROVIDED BY MECHANICAL.