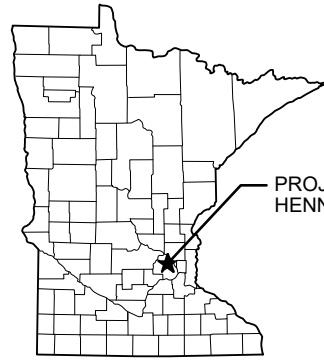


SEA SCHOOL & WILDWOOD PARK FLOOD MITIGATION PROJECT

CITY OF GOLDEN VALLEY PROJECT 20-27
GOLDEN VALLEY, MN

Item 5A.
BCWMC 10-20-22

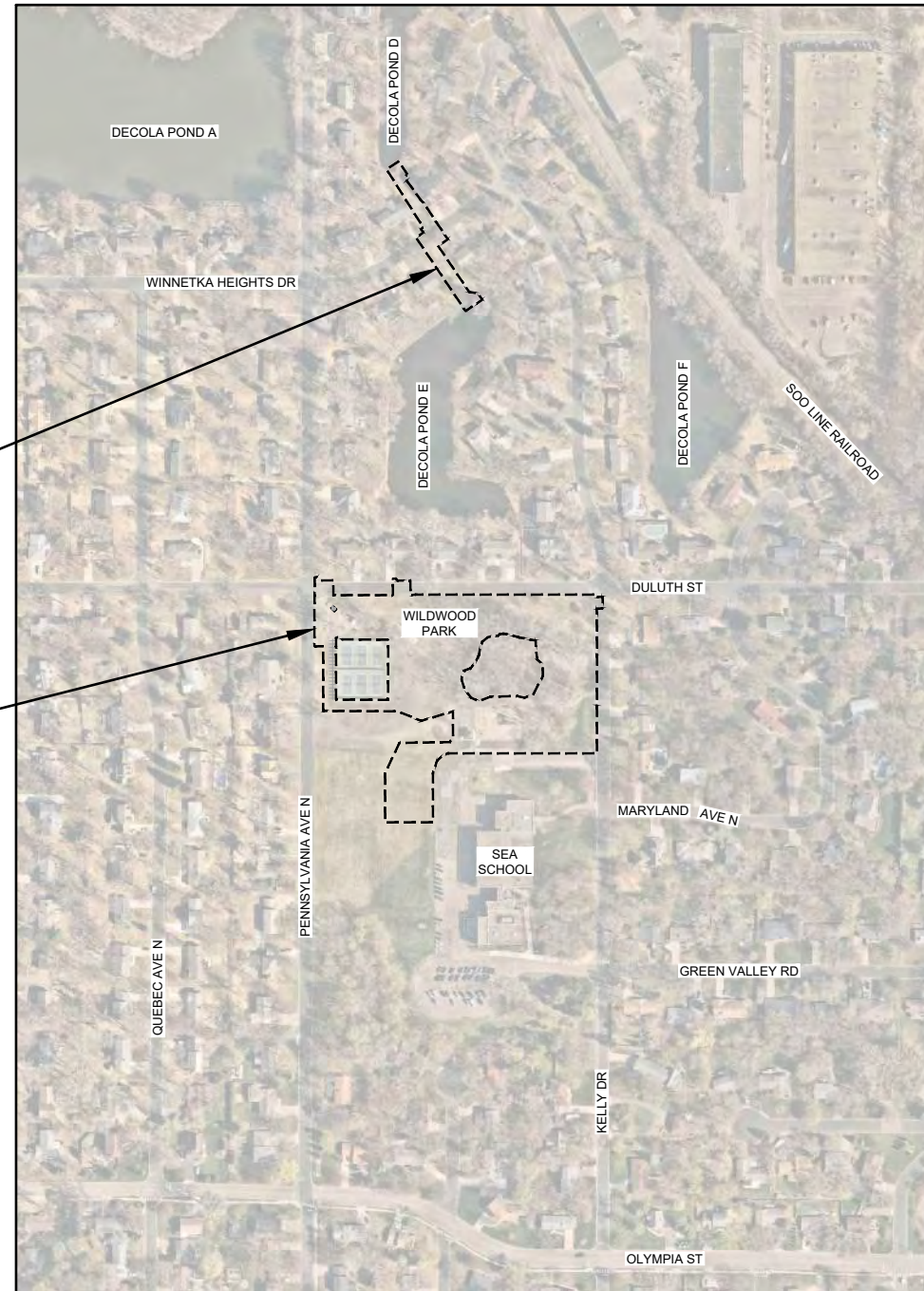


PROJECT LOCATION
HENNEPIN COUNTY

LOCATION MAP

PROJECT LOCATION
DECOLA POND 'D' OUTLET

PROJECT LOCATION
SEA SCHOOL &
WILDWOOD PARK



VICINITY MAP

PROJECT CONTACTS:

ENGINEER:
BARR ENGINEERING CO.
4300 MARKETPOINTE DRIVE
MINNEAPOLIS, MN 55435
FAX: 952-832-2601

CONTACT: PATRICK BROCKAMP, PE
EMAIL: PBROCKAMP@BARR.COM
PH: 952-842-3593

CONTACT: JEN KOEHLER, PE
EMAIL: JKOEHLER@BARR.COM
PH: 952-832-2750

OWNER:
CITY OF GOLDEN VALLEY
7800 GOLDEN VALLEY ROAD
GOLDEN VALLEY, MN. 55427

JEFF OLIVER, PE
CITY ENGINEER
EMAIL: JOLIVER@GOLDENVALLEYMN.GOV
PH: 763-593-8034

ERIC ECKMAN
ENVIRONMENTAL RESOURCES MANAGER
EMAIL: EECKMAN@GOLDENVALLEYMN.GOV
PH: 763-593-8084

COORDINATE SYSTEM: HENNEPIN COUNTY
HORIZONTAL DATUM: NAD83 (2011)
VERTICAL DATUM: NAVD88
DATE OF SURVEY: NOVEMBER 2020



GOPHER STATE ONE CALL:
CALL BEFORE YOU DIG.
1-800-252-1166

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

JEFF OLIVER, PE, CITY ENGINEER
DATE: _____ REG. NO. 23110

INDEX OF SHEETS

- G-01 ... TITLE SHEET & SITE LOCATION MAP
- G-02 ... STATEMENT OF ESTIMATED QUANTITIES
- G-03 ... STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
- G-04 ... STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
- G-05 ... EROSION & SEDIMENT CONTROL DETAILS

- C-01 ... EXISTING CONDITIONS AND REMOVALS - SEA SCHOOL & WILDWOOD PARK
- C-02 ... EXISTING CONDITIONS AND REMOVALS - DECOLA POND D OUTLET
- C-03 ... EROSION, SEDIMENT, AND TRAFFIC CONTROL - SEA SCHOOL & WILDWOOD PARK
- C-04 ... EROSION, SEDIMENT, AND TRAFFIC CONTROL - DECOLA POND D OUTLET
- C-05 ... GRADING, STORM SEWER, AND UTILITIES PLAN - SEA SCHOOL & WILDWOOD PARK
- C-06 ... GRADING AND STORM SEWER PLAN - DECOLA POND D OUTLET
- C-07 ... BITUMINOUS TRAIL PLAN - SEA SCHOOL & WILDWOOD PARK
- C-08 ... STORM SEWER PROFILES
- C-09 ... TYPICAL SECTIONS

- C-20 ... DETAILS - STORM SEWER
- C-21 ... DETAILS - CURB & PAVING
- C-22 ... DETAILS - CURB & DRIVEWAY
- C-23 ... DETAILS - CURB & DRIVEWAY
- C-24 ... DETAILS - CURB & DRIVEWAY
- C-25 ... DETAILS - CURB & DRIVEWAY
- C-26 ... DETAILS - CURB & DRIVEWAY
- C-27 ... DETAILS - WATERMAIN
- C-28 ... DETAILS - BITUMINOUS TRAIL & MISCELLANEOUS

- L-01 ... LANDSCAPE PLAN - SEA SCHOOL & WILDWOOD PARK - OVERALL
- L-02 ... LANDSCAPE PLAN - DECOLA POND D OUTLET
- L-03 ... LANDSCAPE PLAN - SEA SCHOOL & WILDWOOD PARK - GRASSING & SEEDING
- L-04 ... LANDSCAPE PLAN - SEA SCHOOL & WILDWOOD PARK - ENLARGEMENT 1
- L-05 ... LANDSCAPE PLAN - SEA SCHOOL & WILDWOOD PARK - ENLARGEMENT 2
- L-06 ... LANDSCAPE PLAN - SEA SCHOOL & WILDWOOD PARK - ENLARGEMENT 3
- L-07 ... LANDSCAPE PLAN - SEA SCHOOL & WILDWOOD PARK - ENLARGEMENT 4
- L-08 ... LANDSCAPE PLAN - PLANTING SCHEDULES
- L-09 ... LANDSCAPE PLAN - PLANTING DETAILS

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NO.		BY	CHK.	APP.	DATE	REVISION DESCRIPTION	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 LAWS OF THE STATE OF MINNESOTA. PRINTED NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE # _____		CLIENT AGENCY BID CONSTRUCTION RECORD RELEASED TO/FOR DATE RELEASED	04/28/22 08/23/22 09/16/22 A B C 0 1 2 3	Project Office: BARR BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435 Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com	Scale: AS SHOWN Date: 09/16/2022 Drawn: EPF Checked: PEB Designed: BARR Approved: JAK2	city of golden valley	SEA SCHOOL & WILDWOOD PARK FLOOD MITIGATION PROJECT TITLE SHEET & SITE LOCATION MAP	BARR PROJECT No. 23/27-1900.00 CLIENT PROJECT No. 20-27 DWG. No. G-01 REV. No. C
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STATEMENT OF ESTIMATED QUANTITIES

CAT. NO.	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
A	Mobilization/Demobilization	LS	1
B	Traffic and Pedestrian Safety Control Measures	LS	1
C	Rock Construction Entrance	Ea	2
D	Inlet Protection	Ea	13
E	Silt Fence	LF	90
F	Silt Curtain	LF	80
G	Sediment Log	LF	1,520
H	Utility Coordination (Allowance)	ALW	1
I	Clearing and Grubbing	LS	1
J	Transplant Tree	EA	22
K	Construction Fencing	LF	1,220
L	Remove and Dispose Bituminous Pavement	SY	982
M	Remove and Dispose of Concrete Pavement	SY	56
N	Remove and Dispose of Curb & Gutter	LF	527
O	Sawcut Bituminous Pavement (Full Depth)	LF	1,288
P	Remove and Salvage Boulder Wall	LS	0
Q	Remove and Dispose Sewer Pipe (12" RCP)	LF	0
R	Remove and Dispose Sewer Pipe (15" RCP)	LF	0
S	Remove and Dispose Sewer Pipe (10" PVC)	LF	0
T	Remove and Dispose Sewer Pipe (27" RCP)	LF	137
U	Remove and Dispose Sewer Pipe (30" RCP)	LF	177
V	Remove Existing Manhole	EA	2
W	Remove Hydrant	EA	2
X	Remove Gate Valve and Box (6")	EA	2
Y	Remove Watermain Piping (6")	LF	40
Z	Salvage and Reinstall Topsoil	CY	1,900
AA	Topsoil Import	CY	500
BB	Common Excavation	CY	22,943
CC	Common Excavation (Debris-Impacted)	TON	1,932
DD	Aggregate Base (CV), Class 5	TON	168
EE	Bituminous Trail (Typ)	SY	1,600
FF	Bituminous Driveway (Typ)	SY	0
GG	Concrete Driveway	SY	0
HH	Concrete Pad - Pickleball Courts	SY	220
II	Curb & Gutter	LF	234
JJ	8" PVC Pipe Sewer	LF	60
KK	Special Grate for 15" CPEP FES (0.5" Openings)	EA	1
LL	15" Inline Check Valve	EA	1
MM	12" RCP Pipe Sewer	LF	153
NN	12" RCP FES	EA	5
OO	15" RCP Pipe Sewer	LF	77
PP	24" RCP Pipe Sewer	LF	202
QQ	24" RCP FES	EA	3
RR	24" RCP Trash Rack	EA	1
SS	48" RCP Pipe Sewer	LF	305
TT	48" RCP FES	EA	2
UU	48" FES Trash Rack	EA	1
VV	12" Area Drain	EA	2
WW	48" Diameter RC Drainage Structure, Complete	EA	2
XX	60" Diameter RC Drainage Structure, Complete	EA	1
YY	72" Diameter RC Drainage Structure, Complete	EA	4
ZZ	72" Diameter RC Drainage Structure with Weir, Complete	EA	2
AAA	Hydrant	EA	2
BBB	Gate Valve, Box and Riser (6")	EA	2
CCC	Watermain Fitting (6" DIP, 45 degree)	EA	8
DDD	Watermain Piping (6" DIP)	LF	40
EEE	Random Riprap, Class III with Filter Fabric	TON	50
FFF	Subsoiling - Deep Soil Ripping	AC	2
GGG	Soil Bed Prep	AC	2
HHH	Low Maintenance Turf (MnDOT 25-131)	LB	225
III	Wet Meadow (MnDOT 33-261)	LB	22
JJJ	Upland Mesic Prairie (MnDOT 35-641)	LB	8
KKK	Prairie Restoration Savanna Wild Flower Seed Mix	LB	7
LLL	Prairie plug plantings	EA	1,500

STATEMENT OF ESTIMATED QUANTITIES

CAT. NO.	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
MMM	Filtration Basin Plantings	LS	1
NNN	Residential Landscape Repair	LS	1
OOO	Tree Plantings	EA	60
PPP	Erosion Control Blanket (Category 3N2S)	SY	8,000
QQQ	Clean Washed Sand with 5 percent iron filings	CY	100
RRR	Small Splash Block Assembly (Pipe Discharge)	EA	2
SSS	6" Perf Dual Wall HDPE Drainage Pipe and Fittings (no sock)	LF	280
TTT	6" PVC Storm Sewer Pipe and Fittings	LF	20
UUU	6" Drainage Cleanout and Cover Unit	EA	2
VVV	Planting Soil (75% sand, 25% Compost - MnDOT Grade II)	CY	240
WWW	Hydrodynamic Separator	Each	1
XXX	Use of Salvage Logs from Onsite Trees	EA	20
YYY	Gathering/Viewing Area (Wet Meadow North)	LS	1
ZZZ	Intermittent Stream (Salvage & reinstall boulders)	LS	1
AAAA	Nature Play/Outdoor Classroom (Prairie Area)	LS	1
BBBB	Pickleball Appurtenances (Gates, Shade Structures)	LS	1

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90% DESIGN REVIEW
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NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

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.

PRINTED NAME: _____
SIGNATURE: _____
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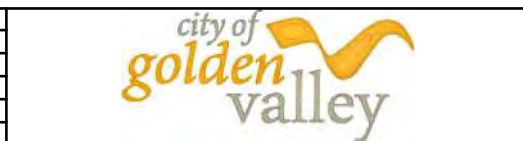
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AGENCY		08/23/22					
BID							
CONSTRUCTION							
RECORD							
RELEASED TO/FOR	A	B	C	0	1	2	3
DATE RELEASED							

Project Office:
BARR ENGINEERING CO.
4300 MARKETPOINTE DRIVE
Suite 200
MINNEAPOLIS, MN 55435

BARR

Corporate Headquarters:
Minneapolis, Minnesota
Ph: 1-800-632-2277
Ph: 1-800-632-2277

Scale	AS SHOWN
Date	09/16/2022
Drawn	EPF
Checked	PEB
Designed	BARR
Approved	JAK2



SEA SCHOOL & WILDWOOD PARK FLOOD MITIGATION PROJECT	
STATEMENT OF ESTIMATED QUANTITIES	

BARR PROJECT No. 23/27-1900.00
CLIENT PROJECT No. 20-27
DWG. No. G-02
REV. No. C

1.0 GENERAL CONSTRUCTION ACTIVITY INFORMATION:

THIS STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN PREPARED IN COMPLIANCE WITH THE MINNESOTA GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY NO. MNR100001 (GENERAL PERMIT), AS REQUIRED BY THE MINNESOTA POLLUTION CONTROL AGENCY (MPCA) UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM/STATE DISPOSAL SYSTEM (NPDES/SDS) PROGRAM.

THE PROJECT IS LOCATED IN THE CITY OF GOLDEN VALLEY, HENNEPIN COUNTY, MINNESOTA. PROPOSED CONSTRUCTION ACTIVITIES WILL TAKE PLACE WITHIN SEA SCHOOL EASEMENT AREA AND PENNSYLVANIA WOODS NATURE RESERVE SURROUNDING DECOLA PONDS D AND E. THE APPROXIMATE CENTROID OF THE PROJECT HAS A LATITUDE OF 44.99962 AND A LONGITUDE OF -93.37401.

THIS PROJECT INVOLVES EROSION CONTROL, REMOVAL AND REPLACEMENT OF CURB AND GUTTER, BITUMINOUS TRAILS, CONCRETE PAVING, ROADS, STORM SEWER REMOVALS AND INSTALLATION, WATERMAIN MODIFICATIONS, EXCAVATION AND GRADING, CONSTRUCTION OF FILTRATION BASINS AND RAIN GARDENS, LANDSCAPING INCLUDING TREE REMOVAL AND REPLACEMENT, AND UPLAND AND WETLAND RESTORATION. THE PROJECT, AS PROPOSED, HAS A TOTAL DISTURBANCE AREA OF AS SHOWN BELOW. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES ARE REQUIRED TO MINIMIZE SEDIMENT FROM BEING TRANSPORTED INTO DOWNSTREAM BASSETT CREEK AND UPSTREAM DECOLA POND D, WHICH ARE MDNR IDENTIFIED WATER BODIES. REFER TO PROJECT DRAWINGS FOR FURTHER DETAILS. (CSW PERMIT PART III.A.1)

1.1 PROJECT SIZE AND CUMULATIVE IMPERVIOUS SURFACE:

- THE ANTICIPATED AREA OF DISTURBANCE IS APPROXIMATELY 4.22 ACRES.
- THE TOTAL AREA OF PRE-CONSTRUCTION IMPERVIOUS AREA IS APPROXIMATELY 0.27 ACRES.
- THE TOTAL AREA OF POST-CONSTRUCTION IMPERVIOUS AREA IS APPROXIMATELY 0.46 ACRES.
- THE TOTAL NEW IMPERVIOUS AREA IS APPROXIMATELY 0.19 ACRES.

1.2 DATES OF CONSTRUCTION:

- ANTICIPATED START DATE: FALL 2022
- ANTICIPATED END DATE: SUMMER 2023

1.3 CONTACT INFORMATION:

OWNER: THE CITY OF GOLDEN VALLEY
 MAILING ADDRESS: 7800 GOLDEN VALLEY ROAD, GOLDEN VALLEY, MN 55427
 CONTACT PERSON: JEFF OLIVER, PE TITLE: CITY ENGINEER
 PHONE NUMBER: 763-593-8034 EMAIL ADDRESS: JOLIVER@GOLDENVALLEYMN.GOV
 ALTERNATE CONTACT PERSON: ERIC ECKMAN TITLE: ENVIRONMENTAL RESOURCES SUPERVISOR
 PHONE NUMBER: 763-593-8084 EMAIL ADDRESS: EECKMAN@GOLDENVALLEYMN.GOV

OPERATOR / GENERAL CONTRACTOR (WHO WILL OVERSEE IMPLEMENTATION OF THE SWPPP): TBD
 MAILING ADDRESS: TBD
 CONTACT PERSON: TBD TITLE: TBD
 PHONE NUMBER: TBD EMAIL ADDRESS: TBD

PARTY RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORMWATER MANAGEMENT SYSTEM: CITY OF GOLDEN VALLEY
 MAILING ADDRESS: 7800 GOLDEN VALLEY ROAD, GOLDEN VALLEY, MN 55427
 CONTACT PERSON: JEFF OLIVER, PE TITLE: CITY ENGINEER
 PHONE NUMBER: 763-593-8043 EMAIL ADDRESS: JOLIVER@GOLDENVALLEYMN.GOV

2.0 RECEIVING WATERS:

LIST ALL WATERS WITHIN ONE MILE (NEAREST STRAIGHT LINE DISTANCE) THAT ARE LIKELY TO RECEIVE STORMWATER RUNOFF FROM THE PROJECT SITE. (CSW PERMIT ITEM 5.10)

NAME OF WATER BODY	TYPE ⁽¹⁾	WATER BODY ID ⁽²⁾	SPECIAL WATER? ⁽³⁾	IMPAIRED WATER? ⁽³⁾	DNR PUBLIC WATER WITH WORK IN WATER RESTRICTIONS?
DECOLA POND D	POND/WETLAND	-	NO	NO	NO
DECOLA POND E	POND/WETLAND	-	NO	NO	NO
HONEYWELL POND	POND	-	NO	NO	NO
BASSETT CREEK	STREAM	07010206-538	NO	YES	NO

- (1) TYPE EXAMPLES: DITCH, POND, WETLAND, CALCAREOUS FEN, LAKE, STREAM, RIVER
 (2) WATER BODY IDENTIFICATION (ID) MIGHT NOT BE AVAILABLE FOR ALL WATER BODIES. USE THE SPECIAL AND IMPAIRED WATERS SEARCH TOOL AT: [HTTPS://WWW.PCA.STATE.MN.US/WATER/STORMWATER-SPECIAL-AND-IMPAIRED-WATERS-SEARCH](https://www.pca.state.mn.us/water/stormwater-special-and-impaired-waters-search)
 (3) REFER TO CSW PERMIT SECTION 23 IMPAIRED WATER FOR THE FOLLOWING POLLUTANT(S) OR STRESSOR(S): PHOSPHORUS (NUTRIENT EUTROPHICATION BIOLOGICAL INDICATORS), TURBIDITY, TOTAL SUSPENDED SOLIDS (TSS), DISSOLVED OXYGEN, OR AQUATIC BIOTA (FISH BIOASSESSMENT, AQUATIC PLANT BIOASSESSMENT, AND AQUATIC MACROINVERTEBRATE BIOASSESSMENT)

2.1 SPECIAL AND IMPAIRED WATERS: THE MPCA'S SPECIAL AND IMPAIRED WATERS SEARCH TOOL WAS USED TO LOCATE SPECIAL AND IMPAIRED WATERS WITHIN ONE MILE (AERIAL RADIUS MEASUREMENT) OF THE PROJECT SITE. NO WATERBODIES WITHIN ONE MILE HAVE AN EPA-APPROVED IMPAIRMENT. BASSETT CREEK, WHICH IS LOCATED FURTHER DOWNSTREAM THAN ONE MILE (AERIAL RADIUS), HAS EPA-APPROVED IMPAIRMENTS FOR CHLORIDES, FECAL COLIFORM, AND FISHES BIOASSESSMENTS. THESE IMPAIRMENTS ARE CONSIDERED NON-CONSTRUCTION RELATED AND DO NOT REQUIRE ADDITIONAL BEST MANAGEMENT PRACTICES (BMPs) OR PLAN REVIEW FOR COMPLIANCE WITH THE GENERAL PERMIT. (CSW PERMIT ITEM 2.7 AND SECTION 23)

ADDITIONAL BMPs OR OTHER SPECIFIC CONSTRUCTION RELATED IMPLEMENTATION ACTIVITIES IDENTIFIED IN AN APPROVED TOTAL MAXIMUM DAILY LOAD (TMDL) ARE NOT APPLICABLE TO THIS PROJECT. (CSW PERMIT ITEM 5.19)

2.2 PUBLIC WATERS WITH WORK IN WATER RESTRICTIONS: THIS PROJECT DOES NOT INCLUDE WORK IN PUBLIC WATERS. (CSW PERMIT ITEM 5.11)

2.3 WETLAND IMPACTS: THIS PROJECT MAY HAVE TEMPORARY ADVERSE IMPACTS TO WETLANDS, INCLUDING: EXCAVATION, DEGRADATION OF WATER QUALITY, DRAINING, FILLING, PERMANENT INUNDATION OR FLOODING. PERIMETER SEDIMENT CONTROLS WILL BE INSTALLED DURING CONSTRUCTION TO HELP MITIGATE WATER QUALITY DEGRADATION. THE PROJECT WILL RESULT IN A NET INCREASE IN WETLAND AREA. (CSW PERMIT ITEMS 2.4 AND 2.10, AND SECTION 22)

2.4 ENVIRONMENTAL REVIEW AND OTHER REQUIRED REVIEWS: STORMWATER MITIGATION MEASURES ARE NOT REQUIRED AS A RESULT OF AN ENVIRONMENTAL REVIEW (E.G., EAW OR EIS), ENDANGERED OR THREATENED SPECIES REVIEW, ARCHEOLOGICAL SITE REVIEW, OR OTHER LOCAL, STATE, OR FEDERAL REVIEW CONDUCTED FOR THE PROJECT. (CSW PERMIT ITEMS 2.8, 2.9, AND 5.16)

2.5 KARST AREAS OR DRINKING WATER SUPPLY MANAGEMENT AREAS: PROPOSED CONSTRUCTION ACTIVITIES DO NOT FALL WITHIN KARST AREAS OR DRINKING WATER SUPPLY MANAGEMENT AREAS. (CSW PERMIT ITEMS 16.19, 16.20, AND 18.10)

3.0 PROJECT PLANS AND SPECIFICATIONS:

REQUIRED FEATURE

- PROJECT LOCATION AND CONSTRUCTION LIMITS
- EXISTING AND FINAL GRADES, INCLUDING DRAINAGE AREA BOUNDARIES, DIRECTIONS OF FLOW AND ALL DISCHARGE POINTS WHERE STORMWATER IS LEAVING THE SITE OR ENTERING A SURFACE WATER
- SOIL TYPES AT THE SITE
- LOCATIONS OF IMPERVIOUS SURFACES
- LOCATIONS OF AREAS NOT BE DISTURBED (E.G., BUFFER ZONES, WETLANDS, ETC.)
- LOCATIONS OF AREAS OF STEEP SLOPES
- LOCATIONS OF AREAS WHERE CONSTRUCTION WILL BE PHASED TO MINIMIZE DURATION OF EXPOSED SOILS
- LOCATIONS OF ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMPs AS REQUIRED IN PERMIT SECTIONS 8 THROUGH 10 AND 14 THROUGH 19
- BUFFER ZONES AS REQUIRED IN PERMIT ITEMS 9.17 AND 23.11
- LOCATIONS OF POTENTIAL POLLUTION-GENERATING ACTIVITIES IDENTIFIED IN PERMIT SECTION 12
- STANDARD DETAILS FOR EROSION AND SEDIMENT CONTROL BMPs TO BE INSTALLED AT THE SITE

SHEET NUMBER

- G-01
- C-05, C-06
- G-03
- C-01, C-02
- C-03, C-04
- C-03, C-04
- N/A
- C-03, C-04
- N/A
- N/A
- G-05

4.0 BEST MANAGEMENT PRACTICES (BMPs):

4.1 EROSION PREVENTION PRACTICES:

- METHODS OF TEMPORARILY STABILIZING SOILS AND SOIL STOCKPILES (E.G., MULCHES, HYDRAULIC TACKIFIERS, EROSION BLANKETS, ETC.): (CSW PERMIT ITEMS 8.4, 8.5, AND 23.9)
 - AREAS OF EXPOSED SOIL WILL BE STABILIZED WITH ONE OF THE FOLLOWING: EROSION CONTROL BLANKET, PRESERVATION OF MATURE VEGETATION, MULCH, VEGETATIVE SLASH, ETC.
 - IF PRESENT, SOIL STOCKPILES WILL BE STABILIZED WITH ONE OF THE FOLLOWING MATERIALS: MULCH (SUCH AS STRAW MULCH, SLASH MULCH, WOOD CHIP, OR OTHER APPROPRIATE MULCH) (IF SLOPES ≤3H:1V), COVER MATERIAL SUCH AS TARPS OR PLASTIC SHEETING, ETC.
 - TEMPORARY STOCKPILES WITHOUT SIGNIFICANT SILT, CLAY, OR ORGANIC COMPONENTS (E.G., CLEAN AGGREGATE STOCKPILES, DEMOLITION CONCRETE STOCKPILES, SAND STOCKPILES) AND THE CONSTRUCTED BASE COMPONENTS OF ROADS, PARKING LOTS, AND SIMILAR SURFACES ARE EXEMPT FROM THESE STABILIZATION REQUIREMENTS.
- TIMELINE FOR STABILIZATION OF EXPOSED SOILS: WHERE REQUIRED, STABILIZATION OF EXPOSED SOIL AREAS (INCLUDING STOCKPILES) MUST BE INITIATED IMMEDIATELY TO LIMIT SOIL EROSION WHENEVER ANY CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 7 CALENDAR DAYS. THE FOLLOWING ACTIVITIES CAN BE TAKEN TO INITIATE STABILIZATION:
 - PREPPING THE SOIL FOR VEGETATIVE OR NON-VEGETATIVE STABILIZATION
 - APPLYING MULCH OR OTHER NON-VEGETATIVE PRODUCT TO THE EXPOSED SOIL AREA
 - SEEDING OR PLANTING THE EXPOSED AREA
 - FINALIZING ARRANGEMENTS TO HAVE STABILIZATION PRODUCT FULLY INSTALLED
- METHODS TO BE USED FOR STABILIZATION OF DITCH AND SWALE WETTED PERIMETERS (NOTE THAT MULCH, HYDRAULIC SOIL TACKIFIERS, HYDROMULCHES, ETC. ARE NOT ACCEPTABLE SOIL STABILIZATION METHODS FOR ANY PART OF A DRAINAGE DITCH OR SWALE WITH A CONTINUOUS SLOPE OF GREATER THAN 2 PERCENT). (CSW PERMIT ITEMS 8.6 THROUGH 8.8)
 - IN THE EVENT SOILS WITHIN EXISTING STORMWATER DITCHES OR SWALES ARE DISTURBED, THEY WILL BE STABILIZED USING ONE OR MORE OF THE FOLLOWING METHODS: CHANNEL EROSION CONTROL BLANKET, RIPRAP, TURF REINFORCEMENT MAT, ETC.
 - MULCH, HYDROMULCH, TACKIFIER, POLYACRYLAMIDE, OR SIMILAR EROSION PREVENTION PRACTICES WILL NOT BE USED TO STABILIZE ANY PART OF AN EXISTING STORMWATER DITCH OR SWALE.
 - TIMELINE FOR STABILIZATION OF STORMWATER DITCHES AND SWALES: THE LAST 200 LINEAL FEET OF LENGTH OF THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DITCH OR SWALE THAT DRAINS WATER FROM ANY PORTION OF THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE SITE, WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE, OR FROM THE POINT OF DISCHARGE INTO ANY SURFACE WATER WILL BE STABILIZED WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE. STABILIZATION OF THE REMAINING PORTIONS OF ANY TEMPORARY OR PERMANENT DITCHES OR SWALES WILL BE COMPLETED WITHIN 14 CALENDAR DAYS AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE AND CONSTRUCTION IN THAT PORTION OF THE DITCH HAS TEMPORARILY OR PERMANENTLY CEASED.
- METHODS TO BE USED FOR ENERGY DISSIPATION AT PIPE OUTLETS (E.G., RIP RAP, SPLASH PADS, GABIONS, ETC.). (CSW PERMIT ITEM 8.9)
- DESCRIBE TIMELINES TO BE IMPLEMENTED AT THIS SITE FOR COMPLETING THE INSTALLATION OF THE EROSION PREVENTION. (CSW PERMIT ITEMS 5.4, 8.4 THROUGH 8.6, AND 23.9)
 - IF APPLICABLE, INCLUDE THE TIMELINE FOR COMPLETING SOIL STABILIZATION FOR AREAS WITHIN 200 FEET OF A PUBLIC WATER WITH WORK IN WATER RESTRICTIONS DUE TO FISH SPAWNING TIME FRAMES
 - SOIL STABILIZATION TIMELINES FOR PORTIONS OF THE SITE THAT DRAIN TO SPECIAL OR IMPAIRED WATERS.
 - BEFORE LAND DISTURBING ACTIVITIES BEGIN, THE LIMITS OF THE AREAS TO BE DISTURBED DURING CONSTRUCTION WILL BE DELINEATED (E.G., WITH FLAGS, STAKES, SIGNS, SILT FENCE, ETC.).
- DESCRIBE ADDITIONAL EROSION PREVENTION MEASURES THAT WILL BE IMPLEMENTED AT THE SITE DURING CONSTRUCTION (E.G., CONSTRUCTION PHASING, MINIMIZING SOIL DISTURBANCE, VEGETATIVE BUFFERS, HORIZONTAL SLOPE GRADING, SLOPE DRAINING/TERRACING, ETC.). (CSW PERMIT ITEMS 8.2, 8.3, AND 8.10)
 - CONSTRUCTION PHASING WILL BE UTILIZED TO MINIMIZE THE AREA OF SOIL EXPOSED AT ANY ONE TIME.
 - SOIL DISTURBANCE WILL BE MINIMIZED WHEREVER POSSIBLE TO AID IN EROSION PREVENTION.
 - EXISTING VEGETATION WILL BE PRESERVED WHERE POSSIBLE TO LIMIT EXPOSED SOIL AND THUS WILL SERVE AS NATURAL VEGETATIVE BUFFERS.
 - EXPOSED SOIL ON STEEP SLOPES (≤3H:1V) WILL BE STABILIZED.
- IF APPLICABLE, DESCRIBE ADDITIONAL EROSION PREVENTION BMPs TO BE IMPLEMENTED AT THE SITE TO PROTECT PLANNED INFILTRATION AREAS. (CSW PERMIT ITEMS 16.4 AND 16.5)

4.2 SEDIMENT CONTROL PRACTICES:

- METHODS TO BE USED FOR DOWNGRADIENT PERIMETER CONTROL. (CSW PERMIT ITEMS 9.2 THROUGH 9.6)
 - SEDIMENT CONTROL PRACTICES SHALL BE ESTABLISHED ON ALL DOWNGRADIENT PERIMETERS AND LOCATED UPGRADIENT OF ANY BUFFER ZONES. PERIMETER SEDIMENT CONTROLS THAT MAY BE USED IN AREAS OF SHEET FLOW INCLUDE: SILT FENCING, SEDIMENT CONTROL LOGS / BIOROLLS (FILLED WITH COMPOST, WOOD CHIPS, ROCK, ETC.), VEGETATIVE SLASH BARRIERS, OTHER NATIVE MATERIAL BARRIERS, VEGETATIVE BUFFERS (RETAIN EXISTING VEGETATION WHERE POSSIBLE), EARTHEN BERMS, ROCK CHECKS, ETC.
 - PERIMETER SEDIMENT CONTROL PRACTICES MUST BE INSTALLED BEFORE ANY UPGRADIENT LAND-DISTURBING ACTIVITIES BEGIN AND REMAIN IN PLACE UNTIL PERMANENT COVER HAS BEEN ESTABLISHED.
 - IF SEDIMENT CONTROL PRACTICES HAVE BEEN ADJUSTED OR REMOVED TO ACCOMMODATE SHORT-TERM ACTIVITIES (SUCH AS CLEARING, GRUBBING, OR PASSAGE OF VEHICLES), THE CONTROLS MUST BE RE-INSTALLED IMMEDIATELY AFTER THE SHORT-TERM ACTIVITY HAS BEEN COMPLETED. SEDIMENT CONTROL PRACTICES MUST BE RE-INSTALLED BEFORE THE NEXT PRECIPITATION EVENT, EVEN IF THE SHORT-TERM ACTIVITY IS NOT COMPLETE.
 - IF THE DOWNGRADIENT SEDIMENT CONTROLS ARE OVERLOADED (BASED ON FREQUENT FAILURE OR EXCESSIVE MAINTENANCE REQUIREMENT), INSTALL ADDITIONAL UPGRADIENT SEDIMENT CONTROL PRACTICES OR REDUNDANT BMPs TO ELIMINATE THE OVERLOADING AND AMEND THE SWPPP TO IDENTIFY THESE ADDITIONAL PRACTICES.
- METHODS TO BE USED TO CONTAIN SOIL STOCKPILES. (CSW PERMIT ITEMS 9.9 AND 9.10)
 - ANY TEMPORARY SOIL STOCKPILES SHALL BE SURROUNDED BY SILT FENCING OR BIOROLLS (OR OTHER EFFECTIVE SEDIMENT CONTROLS) AND SHALL NOT BE PLACED IN ANY NATURAL BUFFERS OR SURFACE WATERS.
- METHODS TO BE USED FOR STORM DRAIN INLET PROTECTION. (CSW PERMIT ITEMS 9.7 AND 9.8)
 - IF STORM DRAINS ARE PRESENT, INLET PROTECTION BMPs WILL BE INSTALLED AROUND ALL STORM DRAIN INLETS DOWNGRADIENT OF CONSTRUCTION ACTIVITIES. STORM DRAIN INLETS WILL BE PROTECTED UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED. INLET PROTECTION BMPs THAT MAY BE USED INCLUDE: SEDIMENT CONTROL LOG, FILTER SACK, ROCK WITH FILTER FABRIC, FILTER FENCE BOX, ETC.
- METHODS TO MINIMIZE VEHICLE TRACKING AT CONSTRUCTION EXITS AND STREET SWEEPING ACTIVITIES. (CSW PERMIT ITEMS 9.11 AND 9.12)
 - A VEHICLE TRACKING BMP (SUCH AS A ROCK PADS, MUD MATS, SLASH MULCH, CONCRETE OR STEEL WASH RACKS, OR AN EQUIVALENT SYSTEM) SHALL BE INSTALLED TO MINIMIZE THE TRACKING OUT OF SEDIMENT FROM THE CONSTRUCTION AREA.
 - IF SUCH VEHICLE TRACKING BMPs ARE NOT ADEQUATE TO PREVENT SEDIMENT FROM BEING TRACKED ONTO THE PAVED ROAD, STREET SWEEPING WILL ALSO BE EMPLOYED. SEDIMENT WILL BE REMOVED BY SWEEPING WITHIN 24 HOURS.
- IF APPLICABLE, ADDITIONAL SEDIMENT CONTROLS (E.G., DIVERSION BERMS) WILL BE INSTALLED TO KEEP RUNOFF AWAY FROM PLANNED INFILTRATION AREAS WHEN EXCAVATED PRIOR TO ESTABLISHING PERMANENT COVER WITHIN THE CONTRIBUTING DRAINAGE AREA. (CSW PERMIT ITEMS 16.4 AND 16.5)
- DESCRIBE METHODS TO BE USED TO MINIMIZE SOIL COMPACTION AND PRESERVE TOP SOIL (UNLESS INFESIBLE) AT THIS SITE. (CSW PERMIT ITEMS 5.24, 9.14, AND 9.15)
- METHODS TO BE USED TO PROMOTE INFILTRATION AND SEDIMENT REMOVAL ON THE SITE PRIOR TO OFFSITE DISCHARGE, UNLESS INFESIBLE. (CSW PERMIT ITEM 9.16)
 - DISCHARGES FROM BMPs WILL BE DIRECTED TO VEGETATED AREAS OF THE SITE (INCLUDING ANY NATURAL BUFFERS) IN ORDER TO INCREASE SEDIMENT REMOVAL AND MAXIMIZE STORMWATER INFILTRATION. IF EROSION IS NOTED TO OCCUR AS THE RESULT OF SUCH A DISCHARGE, VELOCITY DISSIPATION BMPs WILL BE CONSIDERED AND INSTALLED AS NECESSARY TO PREVENT EROSION.
- DESCRIBE PLANS TO PRESERVE A 50-FOOT NATURAL BUFFER BETWEEN THE PROJECT'S SOIL DISTURBANCE AND A SURFACE WATER OR PLANS FOR REDUNDANT SEDIMENT CONTROLS IF A BUFFER IS INFESIBLE. (CSW PERMIT ITEM 9.17)
 - IN WETLANDS AND NON-SPECIAL WATERS, A 50-FOOT NATURAL BUFFER SHALL BE PRESERVED. WHEN A SURFACE WATER IS LOCATED WITHIN 50 FEET OF THE PROJECT'S EARTH DISTURBANCES AND STORMWATER FLOWS TO THE SURFACE WATER, OR WHEN A BUFFER IS INFESIBLE, REDUNDANT SEDIMENT CONTROLS SHALL BE PROVIDED. REDUNDANT PERIMETER CONTROLS WILL BE INSTALLED AT LEAST 5 FEET APART UNLESS LIMITED BY LACK OF AVAILABLE SPACE.
 - A 100-FOOT NATURAL BUFFER SHALL BE PRESERVED IN CONSTRUCTION AREAS DISCHARGING TO SPECIAL WATERS OR, IF A BUFFER IS INFESIBLE, REDUNDANT SEDIMENT CONTROLS SHALL BE PROVIDED, WHEN A SPECIAL WATER IS LOCATED WITHIN 100 FEET OF THE PROJECT'S EARTH DISTURBANCES AND STORMWATER FLOWS TO THE SURFACE WATER.
- DESCRIBE PLANS FOR USE OF SEDIMENTATION TREATMENT CHEMICALS (E.G., POLYMERS, FLOCCULANTS, ETC.). (CSW PERMIT ITEMS 5.22 AND 9.18)
- IF REQUIRED TO INSTALL A TEMPORARY SEDIMENT BASIN DUE TO 10 OR MORE ACRES DRAINING TO A COMMON LOCATION OR 5 ACRES OR MORE IF THE SITE IS WITHIN 1 MILE OF A SPECIAL OR IMPAIRED WATER, DESCRIBE (OR ATTACH PLANS) SHOWING HOW THE BASIN WILL BE DESIGNED AND CONSTRUCTED. (CSW PERMIT ITEMS 5.6, 9.13, AND 23.10 AND SECTION 14)

4.3 DEWATERING AND BASIN DRAINING: (CSW PERMIT SECTION 10 AND ITEM 10.5)

- THE FOLLOWING WILL BE USED TO TREAT/DISPOSE OF TURBID OR SEDIMENT-LADEN WATER DURING DEWATERING OR BASIN DRAINING: DEWATERING FILTER BAGS OR EQUIVALENT MEASURES.
- THE FOLLOWING WILL BE USED TO PREVENT EROSION OR SCOUR OF DISCHARGE POINTS DURING DEWATERING OR BASIN DRAINING: TEMPORARY DRAINAGE CHANNELS AND SEDIMENT BASINS OR EQUIVALENT MEASURES.
- FILTERS FOR BACKWASH WATER WILL BE MANAGED ON THE SITE AND CONSISTENTLY INSPECTED FOR DAMAGE AND PROPERLY DISPOSED OF OFFSITE WHEN PUMPING IS COMPLETED OR IF SIGNS OF DAMAGE ARE FOUND.

4.4 BMP DESIGN FACTORS: THE FOLLOWING BMP DESIGN FACTORS HAVE BEEN CONSIDERED IN DESIGNING THE TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL BMPs:

- EXPECTED AMOUNT, FREQUENCY, INTENSITY, AND DURATION OF PRECIPITATION.
- NATURE OF STORMWATER RUNOFF AND RUN-ON AT THE SITE, INCLUDING FACTORS SUCH AS EXPECTED FLOW FROM IMPERVIOUS SURFACES, SLOPES, AND SITE DRAINAGE FEATURES.
- STORMWATER VOLUME, VELOCITY, AND PEAK FLOW RATES TO MINIMIZE DISCHARGE OF POLLUTANTS IN STORMWATER AND TO MINIMIZE CHANNEL AND STREAMBANK EROSION AND SCOUR IN THE IMMEDIATE VICINITY OF DISCHARGE POINTS.
- RANGE OF SOIL PARTICLE SIZES EXPECTED TO BE PRESENT.

4.5 BMP QUANTITIES: ANTICIPATED EROSION PREVENTION AND SEDIMENT CONTROL BMP QUANTITIES NEEDED FOR THE LIFE OF THE PROJECT:

- INLET PROTECTION (EA): 13
- SILT FENCE (LF): 90
- SILT CURTAIN (LF): 80
- SEDIMENT LOG (LF): 1,520
- EROSION CONTROL BLANKET (SY): 13,100
- ORANGE CONSTRUCTION FENCING (LF): 720
- STABILIZED CONSTRUCTION ENTRANCE (EA): 1

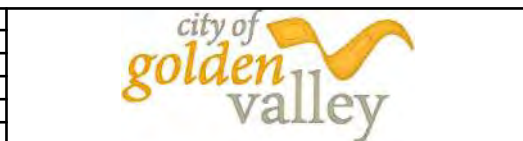
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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.				CLIENT AGENCY	04/28/22	09/16/22									
PRINTED NAME				BID											
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04/28/22	09/16/22													
	09/23/22													

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Drawn	EPF
Checked	PEB
Designed	BARR
Approved	JAK2



**SEA SCHOOL & WILDWOOD PARK
FLOOD MITIGATION PROJECT**
**STORMWATER POLLUTION PREVENTION PLAN
(SWPPP)**

BARR PROJECT No. 23/27-1900.00	
CLIENT PROJECT No. 20-27	
DWG. No. G-03	REV. No. C

5.0 PERMANENT STORMWATER MANAGEMENT SYSTEM:

A PERMANENT STORMWATER MANAGEMENT SYSTEM IS REQUIRED IF THE PROJECT RESULTS IN ONE ACRE OR MORE OF NEW IMPERVIOUS SURFACES OR RESULTS IN A NET INCREASE OF ONE OR MORE ACRES OF CUMULATIVE NEW IMPERVIOUS SURFACES IN TOTAL OR IF THE PROJECT IS PART OF A LARGER PLAN OF DEVELOPMENT. (CSW PERMIT ITEM 15.3)

5.1 A WATER QUALITY VOLUME OF ONE INCH OF RUNOFF FROM THE NET INCREASE IN CUMULATIVE NEW IMPERVIOUS SURFACES CREATED BY THE PROJECT MUST BE RETAINED ON-SITE THROUGH VOLUME REDUCTION PRACTICES (E.G., INFILTRATION OR OTHER) UNLESS PROHIBITED DUE TO ONE OF THE REASONS IN PERMIT ITEMS 16.14 THROUGH 16.21. IF INFILTRATION IS PROHIBITED, IDENTIFY OTHER METHOD(S) TO TREAT THE WATER QUALITY VOLUME (E.G., WET SEDIMENTATION BASIN, FILTRATION BASIN, REGIONAL POND, OR EQUIVALENT METHOD). (CSW PERMIT ITEMS 5.15, 15.4 THROUGH 15.9, AND 23.14)

5.2 FOR LINEAR PROJECTS WITH LACK OF RIGHT OF WAY TO INSTALL TREATMENT SYSTEMS CAPABLE OF TREATING THE ENTIRE WATER QUALITY VOLUME, IDENTIFY OTHER METHOD(S) FOR PROVIDING TREATMENT OF RUNOFF PRIOR TO DISCHARGE (E.G., GRASSED SWALES, FILTRATION SYSTEMS, SMALLER PONDS OR GRIT CHAMBERS, ETC.). (CSW PERMIT ITEM 15.9)

5.3 THIS PROJECT DOES NOT DISCHARGE TO A TROUT STREAM (OR A TRIBUTARY TO A TROUT STREAM). (CSW PERMIT ITEM 23.12)

6.0 INSPECTION AND MAINTENANCE ACTIVITIES:

6.1 PERSONS WITH REQUIRED TRAINING: TRAINED INDIVIDUALS INCLUDE THOSE PARTIES RESPONSIBLE FOR INSTALLING, SUPERVISING, REPAIRING, INSPECTING, AND MAINTAINING EROSION PREVENTION AND SEDIMENT CONTROL BMPs AT THE SITE. TRAINED INDIVIDUALS ARE ALSO RESPONSIBLE FOR IMPLEMENTATION OF THE SWPPP AND COMPLIANCE WITH THE GENERAL PERMIT UNTIL THE CONSTRUCTION ACTIVITIES ARE COMPLETE, PERMANENT COVER HAS BEEN ESTABLISHED, AND A NOTICE OF TERMINATION (NOT) HAS BEEN SUBMITTED. (CSW PERMIT ITEMS 5.20, 5.21, AND 11.9 AND SECTION 21)

THESE INDIVIDUALS WILL BE TRAINED IN ACCORDANCE WITH THE REQUIREMENTS OF THE GENERAL PERMIT, INCLUDING THE REQUIREMENT THAT THE CONTENT AND EXTENT OF TRAINING WILL BE COMMENSURATE WITH THE INDIVIDUAL'S JOB DUTIES AND RESPONSIBILITIES.

BELOW IS A LIST OF PEOPLE RESPONSIBLE FOR THIS PROJECT WHO ARE KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMPs.

TRAINED INDIVIDUAL	RESPONSIBILITY	TRAINING ENTITY*	TRAINING DATE
ERIC FITZGERALD	PREPARATION OF THE SWPPP	UNIVERSITY OF MINNESOTA	MARCH 2022
TBD	OVERSIGHT OF SWPPP IMPLEMENTATION, REVISION, AND AMMENDMENT	TBD	TBD
TBD	PERFORMANCE OF SWPPP INSPECTIONS	TBD	TBD
TBD	PERFORMANCE OR SUPERVISION OF INSTALLATION, MAINTENANCE, AND REPAIR OF BMPs	TBD	TBD

*TRAINING DOCUMENTATION AVAILABLE UPON REQUEST.

6.2 FREQUENCY OF INSPECTIONS: A TRAINED PERSON WILL ROUTINELY INSPECT THE ENTIRE CONSTRUCTION SITE. (CSW PERMIT ITEMS 11.2, 11.10, AND 23.13)

- AT LEAST ONCE EVERY 7 DAYS DURING ACTIVE CONSTRUCTION
- WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS

INSPECTION FREQUENCY MAY BE ADJUSTED UNDER THE FOLLOWING CIRCUMSTANCES:

- WHERE PARTS OF THE CONSTRUCTION AREAS HAVE PERMANENT COVER, BUT WORK REMAINS ON OTHER PARTS OF THE SITE, INSPECTIONS OF THE AREAS WITH PERMANENT COVER MAY BE REDUCED TO ONCE PER MONTH.
- WHERE CONSTRUCTION AREAS HAVE PERMANENT COVER AND NO CONSTRUCTION ACTIVITY IS OCCURRING ON THE SITE, INSPECTIONS CAN BE REDUCED TO ONCE PER MONTH AND, AFTER 12 MONTHS, MAY BE SUSPENDED COMPLETELY UNTIL CONSTRUCTION ACTIVITY RESUMES.
- WHERE CONSTRUCTION ACTIVITY HAS BEEN SUSPENDED DUE TO FROZEN GROUND CONDITIONS, THE INSPECTIONS MAY BE SUSPENDED. THE REQUIRED INSPECTIONS AND MAINTENANCE SCHEDULE MUST BEGIN WITHIN 24 HOURS AFTER RUNOFF OCCURS AT THE SITE OR UPON RESUMING CONSTRUCTION, WHICHEVER COMES FIRST.

6.3 INSPECTION REQUIREMENTS: EACH CONSTRUCTION STORMWATER SITE INSPECTION SHALL INCLUDE INSPECTION OF THE FOLLOWING AREAS. (CSW PERMIT ITEMS 11.3 THROUGH 11.8)

- ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPs AND POLLUTION PREVENTION MANAGEMENT MEASURES
- SURFACE WATERS FOR EVIDENCE OF EROSION AND SEDIMENT DEPOSITION
- CONSTRUCTION SITE VEHICLE EXIT LOCATIONS FOR EVIDENCE OF OFF SITE SEDIMENT TRACKING
- STREETS AND OTHER AREAS ADJACENT TO THE PROJECT FOR EVIDENCE OF OFF SITE ACCUMULATIONS OF SEDIMENT

6.4 MAINTENANCE REQUIREMENTS: MAINTENANCE OF THE FOLLOWING AREAS AND BMPs SHALL BE PERFORMED AS FOLLOWS: (CSW PERMIT ITEMS 11.3 THROUGH 11.8)

- NONFUNCTIONAL BMPs WILL BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPs BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.
- PERIMETER CONTROL DEVICES WILL BE REPAIRED, REPLACED, OR SUPPLEMENTED WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/2 OF THE HEIGHT OF THE DEVICE.
- TEMPORARY AND PERMANENT SEDIMENTATION BASINS WILL BE DRAINED AND THE SEDIMENT REMOVED WHEN THE DEPTH OF SEDIMENT COLLECTED IN THE BASIN REACHES 1/2 THE STORAGE VOLUME.
- DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS WILL BE REMOVED, AND THE AREAS WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED SOIL WILL BE RE-STABILIZED. THE REMOVAL AND STABILIZATION WILL BE COMPLETED WITHIN 7 CALENDAR DAYS OF DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS. IF PRECLUDED DUE TO ACCESS CONSTRAINTS, REASONABLE EFFORTS TO OBTAIN ACCESS WILL BE USED. REMOVAL AND STABILIZATION WILL TAKE PLACE WITHIN 7 CALENDAR DAYS OF OBTAINING ACCESS.
- TRACKED SEDIMENT ON PAVED SURFACES WILL BE REMOVED WITHIN 1 CALENDAR DAY OF DISCOVERY.
- AREAS UNDERGOING STABILIZATION WILL BE RESTABILIZED AS NECESSARY TO ACHIEVE REQUIRED COVER.

6.5 RECORDKEEPING REQUIREMENTS: (CSW PERMIT ITEMS 11.11 AND 24.5 AND SECTIONS 6 AND 20)

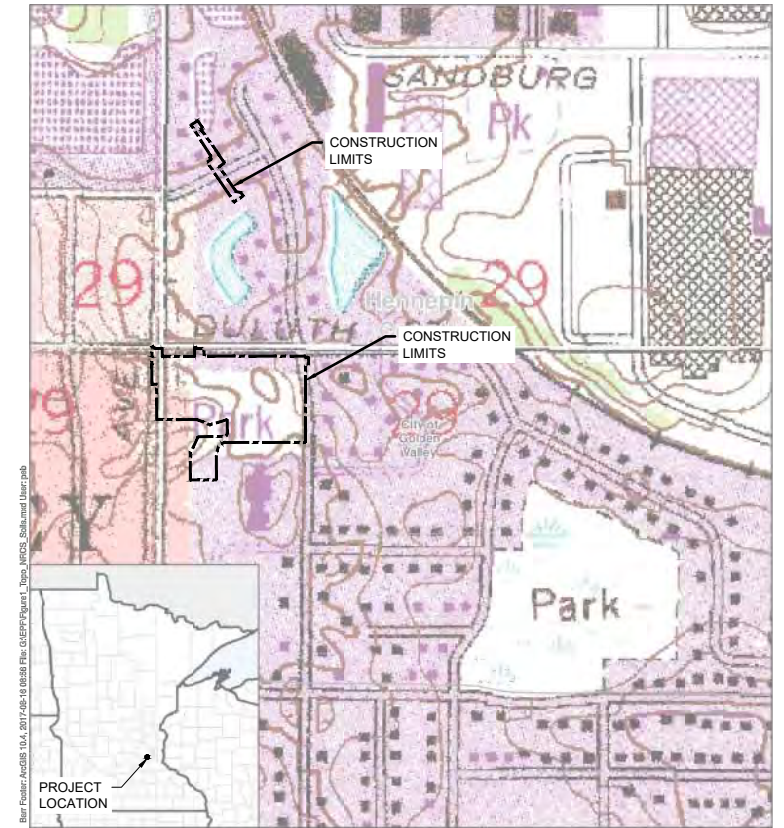
1. ALL INSPECTIONS AND MAINTENANCE ACTIVITIES MUST BE RECORDED IN WRITING WITHIN 24 HOURS OF BEING CONDUCTED AND THESE RECORDS MUST BE RETAINED WITH THE SWPPP. RECORDS OF EACH INSPECTION AND MAINTENANCE ACTIVITY SHALL INCLUDE THE DATE AND TIME; NAME OF INSPECTOR(S); FINDINGS OF INSPECTIONS; CORRECTIVE ACTIONS (INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES); AND DATE OF ALL RAINFALL EVENTS GREATER THAN 0.5 INCHES IN 24 HOURS AND THE AMOUNT OF RAINFALL FOR EACH EVENT.
 - a. IF ANY DISCHARGE IS OBSERVED DURING THE INSPECTION, DOCUMENT THE LOCATION AND APPEARANCE OF THE DISCHARGE (I.E., COLOR, ODOR, SETTLED OR SUSPENDED SOLIDS, OIL SHEEN, AND OTHER OBVIOUS INDICATORS OF POLLUTANTS), AND A PHOTOGRAPH OF THE DISCHARGE.
2. THE SWPPP WILL BE AMENDED TO INCLUDE ADDITIONAL OR MODIFIED BMPs TO CORRECT PROBLEMS OR ADDRESS SITUATIONS WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER, OR SEASONAL CONDITIONS THAT HAS A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER.
 - a. THE SWPPP WILL BE AMENDED WHEN INSPECTIONS OR INVESTIGATIONS BY THE SITE OWNER, OPERATOR, OR CONTRACTORS OR BY USEPA/MPCA OFFICIALS INDICATE THAT THE SWPPP IS NOT EFFECTIVE IN ELIMINATING OR MINIMIZING THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER; THE DISCHARGES ARE CAUSING WATER QUALITY STANDARD EXCEEDANCES; OR THE SWPPP IS NOT CONSISTENT WITH A USEPA APPROVED TMDL.
 - b. ANY AMENDMENTS TO THE SWPPP PROPOSED AS A RESULT OF THE INSPECTION WILL BE DOCUMENTED AS REQUIRED WITHIN 7 CALENDAR DAYS.
 - c. AMENDMENTS WILL BE COMPLETED BY AN APPROPRIATELY TRAINED INDIVIDUAL. CHANGES INVOLVING THE USE OF A LESS STRINGENT BMP WILL INCLUDE A JUSTIFICATION DESCRIBING HOW THE REPLACEMENT BMP IS EFFECTIVE FOR THE SITE CHARACTERISTICS.
3. RECORDS RETENTION: THE SWPPP, INCLUDING ALL CHANGES TO IT, AND INSPECTION AND MAINTENANCE RECORDS MUST BE KEPT AT THE SITE DURING CONSTRUCTION BY THE PERMITTEE WHO HAS OPERATIONAL CONTROL OF THE SITE. THE SWPPP CAN BE KEPT IN EITHER A FIELD OFFICE OR IN AN ON SITE VEHICLE DURING NORMAL WORKING HOURS.
4. RECORD AVAILABILITY: THE PERMITTEES MUST MAKE THE SWPPP, INCLUDING INSPECTION REPORTS, MAINTENANCE RECORDS, AND TRAINING RECORDS, AVAILABLE TO FEDERAL, STATE, AND LOCAL OFFICIALS WITHIN THREE DAYS UPON REQUEST FOR THE DURATION OF THE PERMIT COVERAGE AND FOR THREE YEARS FOLLOWING THE NOT.

7.0 POLLUTION PREVENTION MEASURES:

1. ANY CONSTRUCTION PRODUCTS AND LANDSCAPE MATERIALS THAT HAVE THE POTENTIAL TO LEACH POLLUTANTS SHALL BE STORED UNDER COVER (E.G., PLASTIC SHEETING OR TEMPORARY ROOFS) TO PREVENT DISCHARGE OF POLLUTANTS THROUGH MINIMIZATION OF CONTACT WITH STORMWATER. STORAGE OF SUCH MATERIALS WITHIN THE PROJECT AREA WILL BE MINIMIZED TO THE EXTENT POSSIBLE. (CSW PERMIT ITEM 12.2)
2. PESTICIDES, FERTILIZERS, AND TREATMENT CHEMICALS WILL BE STORED UNDER COVER (E.G., PLASTIC SHEETING, TEMPORARY ROOFS, WITHIN A BUILDING, OR IN WEATHER-PROOF CONTAINERS) TO PREVENT DISCHARGE OF POLLUTANTS THROUGH MINIMIZATION OF CONTACT WITH STORMWATER. STORAGE OF SUCH MATERIALS WITHIN THE PROJECT AREA WILL BE MINIMIZED TO THE EXTENT POSSIBLE. (CSW PERMIT ITEM 12.3)
3. HAZARDOUS MATERIALS AND TOXIC WASTE (E.G., OIL, DIESEL FUEL, GASOLINE, HYDRAULIC FLUIDS, PAINT SOLVENTS, PETROLEUM-BASED PRODUCTS, WOOD PRESERVATIVES, ADDITIVES, CURING COMPOUNDS, AND ACIDS) SHALL BE STORED AND DISPOSED OF IN COMPLIANCE WITH MINNESOTA RULES CHAPTER 7045, INCLUDING SECONDARY CONTAINMENT (AS APPLICABLE). HAZARDOUS MATERIALS SHALL BE PROPERLY STORED IN SEALED CONTAINERS TO PREVENT SPILLS, LEAKS, OR OTHER DISCHARGES AND PREVENT PRECIPITATION FROM FALLING ONTO THE CONTAINERS OR STORED HAZARDOUS MATERIALS. (CSW PERMIT ITEMS 2.3 AND 12.4)
4. SOLID WASTE SHALL BE COLLECTED, STORED, AND DISPOSED OF PROPERLY IN COMPLIANCE WITH MINNESOTA RULES CHAPTER 7035. THIS INCLUDES STORAGE WITHIN COVERED TRASH CONTAINERS AND DAILY REMOVAL OF LITTER AND DEBRIS. STORAGE OF SOLID WASTE WITHIN THE PROJECT AREA WILL BE MINIMIZED TO THE EXTENT POSSIBLE. (CSW PERMIT ITEM 12.5)
5. PORTABLE TOILETS WILL BE LOCATED AWAY FROM SURFACE WATERS AND POSITIONED AND SECURED TO THE GROUND SO THEY WILL NOT BE TIPPED OR KNOCKED OVER. SANITARY WASTE WILL BE DISPOSED OF IN ACCORDANCE WITH MINNESOTA RULES, CHAPTER 7041. PORTABLE TOILETS WILL BE PERIODICALLY EMPTIED AND THE WASTE HAULED OFF-SITE BY A LICENSED HAULER. (CSW PERMIT ITEM 12.6)
6. VEHICLE FUELING WILL ONLY OCCUR IN DESIGNATED AREAS. SPILL KITS WILL BE SIZED APPROPRIATELY FOR THE AMOUNT OF REFUELING TAKING PLACE WILL BE LOCATED. SPILL KITS WILL BE CLEARLY LABELED AND CONTAIN MATERIALS TO ASSIST IN SPILL CLEANUP INCLUDING ABSORBENT PADS, BOOMS FOR CONTAINING SPILLS, AND HEAVY-DUTY PROTECTIVE GLOVES. SPILLS WILL BE REPORTED TO THE MINNESOTA DUTY OFFICER AS REQUIRED BY MINNESOTA STATUTES, SECTION 115.061. (CSW PERMIT ITEMS 2.3 AND 12.7)
 - a. ANY FUEL TANKS BROUGHT ON-SITE WILL HAVE PROPERLY SIZED CONTAINMENT AND WILL NOT BE TAPPED OFF TO AVOID SPILLS FROM OVERFILLING. FUEL TANKS WILL MEET INDUSTRY STANDARDS (DESIGNED TO HOLD FUEL TYPE, PROPERLY MAINTAINED, NOT ILLEGALLY MODIFIED, NOT MISSING LEAK INDICATOR FLOATS FOR DOUBLE WALLED TANKS, SIGHT GAUGES NOT USED, ETC.) OR BE REMOVED FROM THE WORK AREA.
 - b. GUIDELINES FOR SPILL PREVENTION AND RESPONSE INCLUDE:
 - TAKE REASONABLE STEPS TO PREVENT THE DISCHARGE OF SPILLED OR LEAKED CHEMICALS, INCLUDING FUEL, FROM ANY AREA WHERE CHEMICALS OR FUEL WILL BE LOADED OR UNLOADED, INCLUDING THE USE OF DRIP PANS OR ABSORBENTS UNLESS INFEASIBLE;
 - PERFORM REGULAR PREVENTATIVE MAINTENANCE ON TANKS AND FUEL LINES;
 - INSPECT PUMPS, CYLINDERS, HOSES, VALVES, AND OTHER MECHANICAL EQUIPMENT ON-SITE FOR DAMAGE OR DETERIORATION;
 - DO NOT WASH OR RINSE FUELING AREAS WITH WATER;
 - MAINTAIN ADEQUATE SUPPLIES TO CLEAN UP DISCHARGED MATERIALS AND PROVIDE AN APPROPRIATE DISPOSAL METHOD FOR RECOVERED SPILLED MATERIALS;
 - REPORT AND CLEAN UP SPILLS IMMEDIATELY AS REQUIRED BY MINNESOTA STATUTES, SECTION 115.061, USING DRY CLEAN UP MEASURES WHERE POSSIBLE; AND
 - MAINTAIN COPIES OF SAFETY DATA SHEETS (SDSS) FOR HAZARDOUS MATERIALS ON-SITE IN LOCATIONS READILY AVAILABLE TO EMERGENCY RESPONDERS.
7. IF VEHICLE AND EQUIPMENT WASHING IS NECESSARY, A VEHICLE WASH STATION WILL BE LOCATED IN A DESIGNATED AREA. RUNOFF FROM THE WASHING AREA WILL BE CONTAINED IN A SEDIMENT BASIN AND WASTE FROM THE WASHING ACTIVITY WILL BE PROPERLY DISPOSED OF. ANY SOAPS, DETERGENTS, OR SOLVENTS WILL BE PROPERLY USED AND STORED. ANY DETERGENTS AND OTHER CLEANERS NOT PERMITTED FOR DISCHARGE WILL NOT BE USED. (CSW PERMIT ITEMS 2.3 AND 12.8)
8. THE PROJECT WILL RESULT IN CONCRETE OR OTHER WASHOUT ACTIVITIES. IF NECESSARY, A DESCRIPTION OF THE STORAGE AND DISPOSAL OF CONCRETE AND OTHER WASHOUT WASTES SO THAT WASTES DO NOT CONTACT THE GROUND WILL BE ADDED. (CSW PERMIT ITEMS 2.3 AND 12.9)
 - a. THE CONTRACTOR WILL SET UP A CONCRETE WASHOUT STATION. EXAMPLES OF APPROPRIATE CONCRETE WASHOUT PRACTICES INCLUDES, BUT ARE NOT LIMITED TO:
 - PUTTING ALL WASHOUT WATER BACK INTO CONCRETE TRUCKS FOR CONCRETE VENDOR TO MANAGE AT THEIR FACILITY.
 - BRINGING IN A PORTABLE CONCRETE WASHOUT TUB AND MANAGING ALL RECOVERED WASHOUT WATER APPROPRIATELY. THE PERIMETER MUST BE PROTECTED WITH SILT FENCE.
 - MAKE A RING OF HAY BALES AND PUT A POLY LINER IN THE MIDDLE TO CREATE AN IMPERMEABLE CONTAINMENT SO THAT CONCRETE WASHOUT DOES NOT CONTACT THE GROUND. ALL MATERIALS SHALL BE REMOVED WHEN DRY.
 - BUILDING A LINED PIT USING AN IMPERMEABLE LINER. THE PIT MUST BE SIZED FOR THE AMOUNT OF EXPECTED CONCRETE WASHOUT NEEDED. THE PIT MUST BE BERMED TO PREVENT RUN-IN OF STORMWATER DURING A PRECIPITATION EVENT.
 - CONCRETE WASHOUT AREAS SHALL BE LABELED "CONCRETE WASHOUT AREA" AND "CONTRACTORS MUST UTILIZE PROPER FACILITIES FOR DISPOSAL OF CONCRETE"
 - b. THE CONCRETE WASHOUT AREA CONCRETE WASHOUT WATER FOR CONCRETE TRUCK CHUTE AND TOOLS WILL ALSO NOT TOUCH THE GROUND. THIS PAIL OF WASH WATER CAN BE PUT BACK INTO THE CONCRETE TRUCK.

8.0 PERMANENT COVER AND PERMIT TERMINATION CONDITIONS:

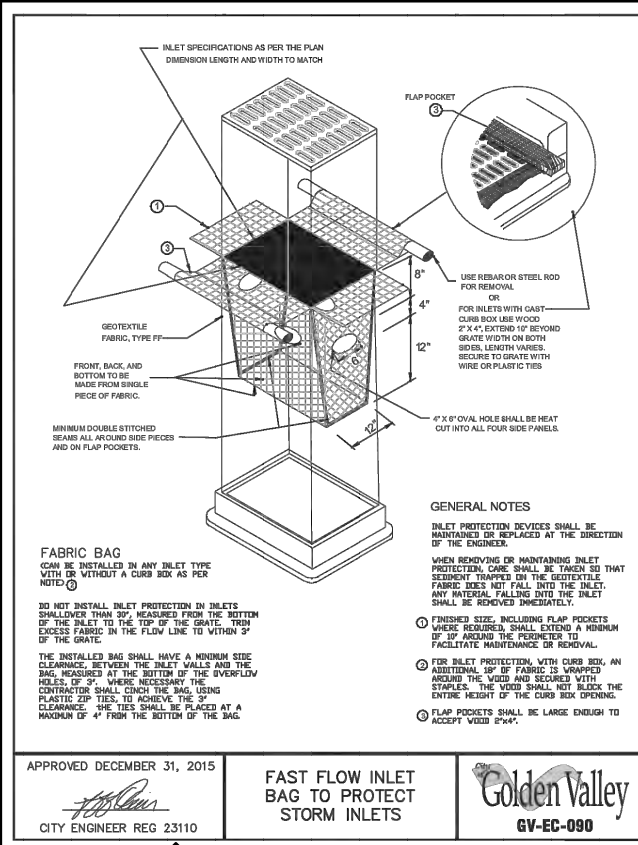
1. THE AREAS DISTURBED DURING CONSTRUCTION WILL BE STABILIZED WITH PERMANENT COVER UPON COMPLETION OF WORK. PERMANENT COVER MAY BE VEGETATIVE OR NON-VEGETATIVE, AS APPROPRIATE. ESTABLISHMENT OF PERMANENT COVER MAY INCLUDE THE FOLLOWING ACTIVITIES: PLACEMENT OF EROSION CONTROL BLANKET, PLACEMENT OF TURF REINFORCING MAT, UPLAND ZONE SEED MIXES AND PLUGS, WETLAND MEADOW SEED MIXES AND PLUGS, AND BITUMINOUS SURFACES. (CSW PERMIT ITEM 5.17)
2. FOR A CONSTRUCTION-SITE TO ACHIEVE "PERMANENT COVER", THE FOLLOWING REQUIREMENTS MUST BE COMPLETED PRIOR TO TERMINATION OF PERMIT COVERAGE (CSW PERMIT SECTIONS 4 AND 13):
 - a. ALL SOIL DISTURBING CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED AND PERMANENT COVER HAS BEEN INSTALLED OVER ALL AREAS. VEGETATIVE COVER CONSISTS OF A UNIFORM PERENNIAL VEGETATION WITH A DENSITY OF 70% OF ITS EXPECTED FINAL GROWTH. VEGETATION IS NOT REQUIRED WHERE THE FUNCTION OF A SPECIFIC AREA DICTATES NO VEGETATION (SUCH AS IMPERVIOUS SURFACES OR THE BASE OF A SAND FILTER).
 - b. ALL SEDIMENT HAS BEEN REMOVED FROM CONVEYANCE SYSTEMS, INCLUDING CULVERTS.
 - c. ALL TEMPORARY SYNTHETIC EROSION PREVENTION AND SEDIMENT CONTROL BMPs HAVE BEEN REMOVED. BMPs DESIGNED TO DECOMPOSE ON-SITE MAY BE LEFT IN PLACE.
3. SUBMIT A NOTICE OF TERMINATION (NOT) FORM TO THE MPCA WITHIN 30 DAYS AFTER THE TERMINATION CONDITIONS ARE COMPLETE.



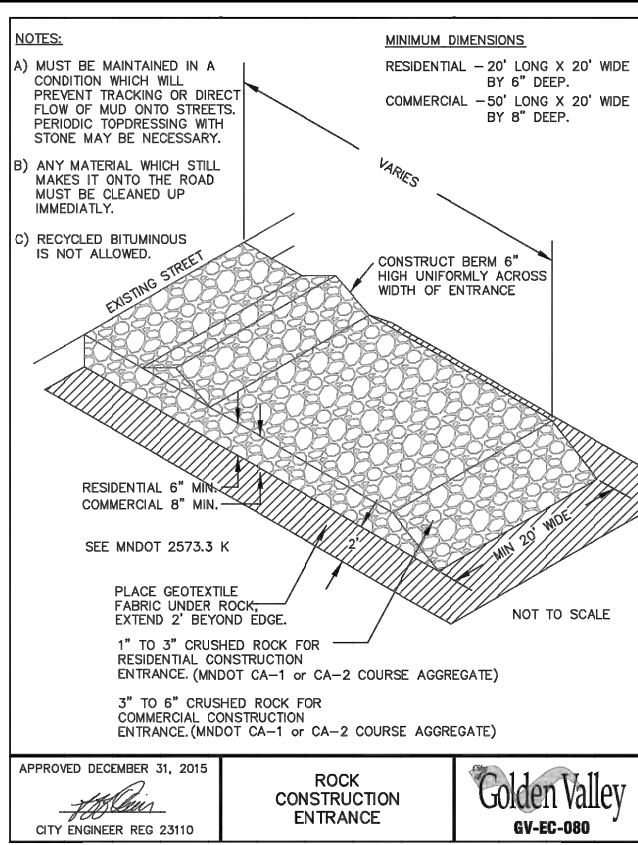
90% DESIGN REVIEW
NOT FOR CONSTRUCTION

CADD USER: PATRICK.E. BROCKAMP FILE: M:\DESIGN\23271900_001\23271900_00_04.DWG PLOT SCALE: 1:2,500 PLOT DATE: 10/10/2022 5:28 PM

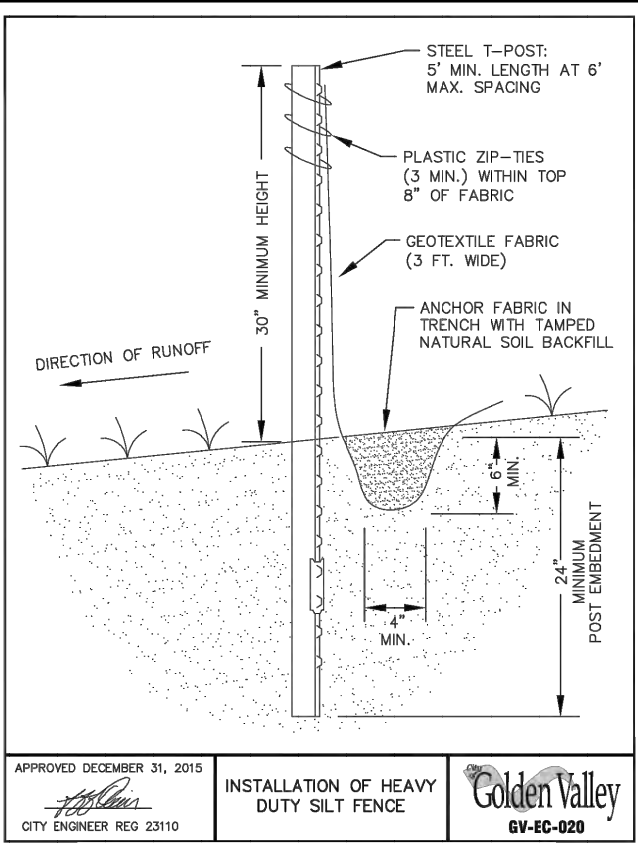
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.				CLIENT: 04/28/22 AGENCY: 08/23/22 BID: _____ CONSTRUCTION RECORD: _____ RELEASED TO/FOR: A B C 0 1 2 3 DATE RELEASED: _____		Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435 Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com		Scale: AS SHOWN Date: 09/16/2022 Drawn: EPF Checked: PEB Designed: BARR Approved: JAK2		SEA SCHOOL & WILDWOOD PARK FLOOD MITIGATION PROJECT STORMWATER POLLUTION PREVENTION PLAN (SWPPP)		BARR PROJECT No. 23/27-1900.00 CLIENT PROJECT No. 20-27 DWG. No. G-04 REV. No. C	
NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION								



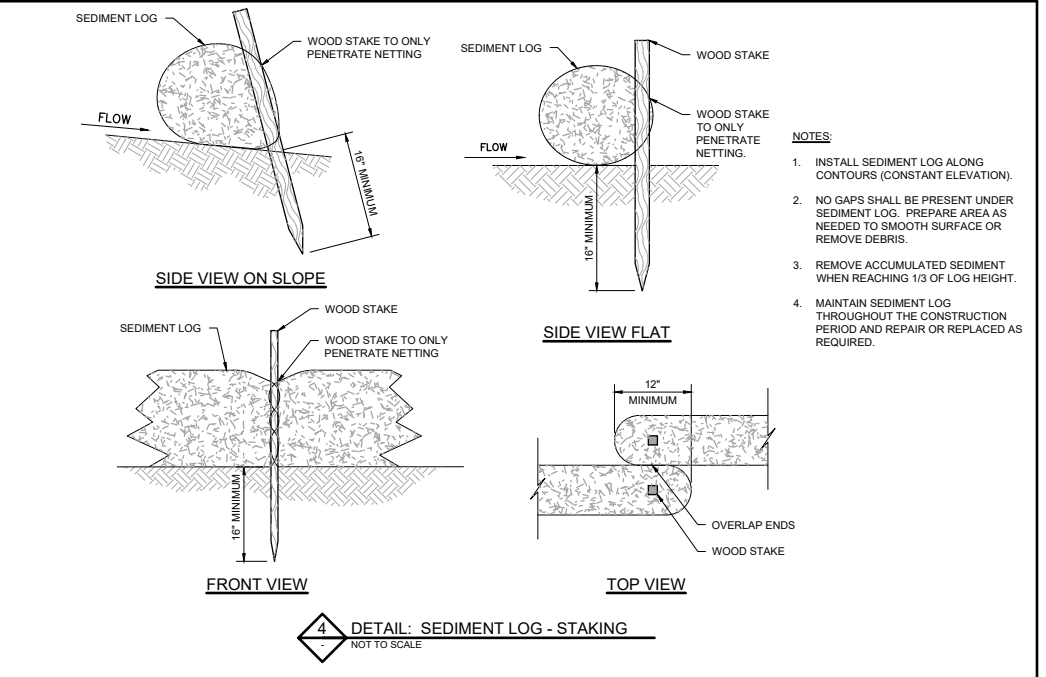
APPROVED DECEMBER 31, 2015
FAST FLOW INLET BAG TO PROTECT STORM INLETS
Golden Valley
 GV-EC-090
 CITY ENGINEER REG 23110



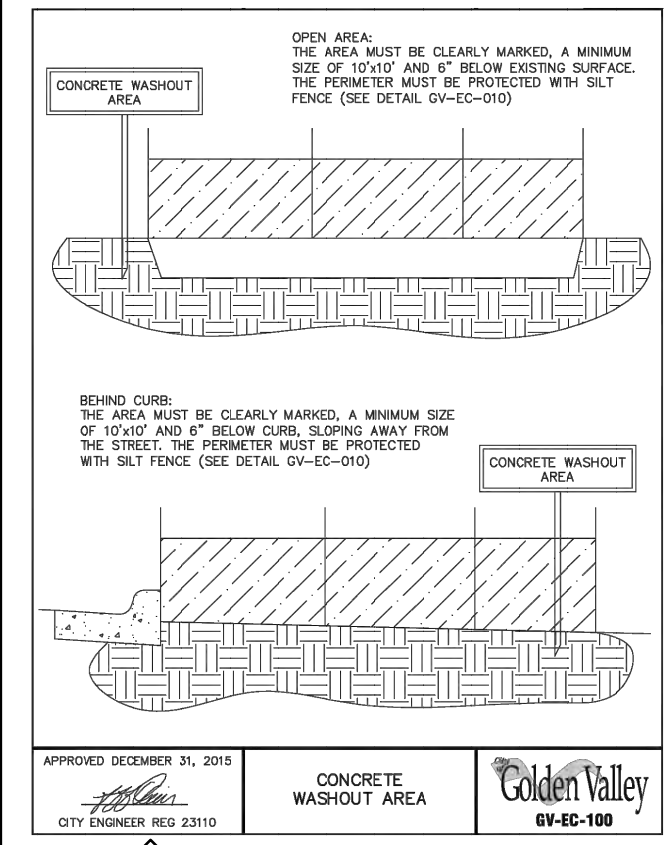
APPROVED DECEMBER 31, 2015
ROCK CONSTRUCTION ENTRANCE
Golden Valley
 GV-EC-080
 CITY ENGINEER REG 23110



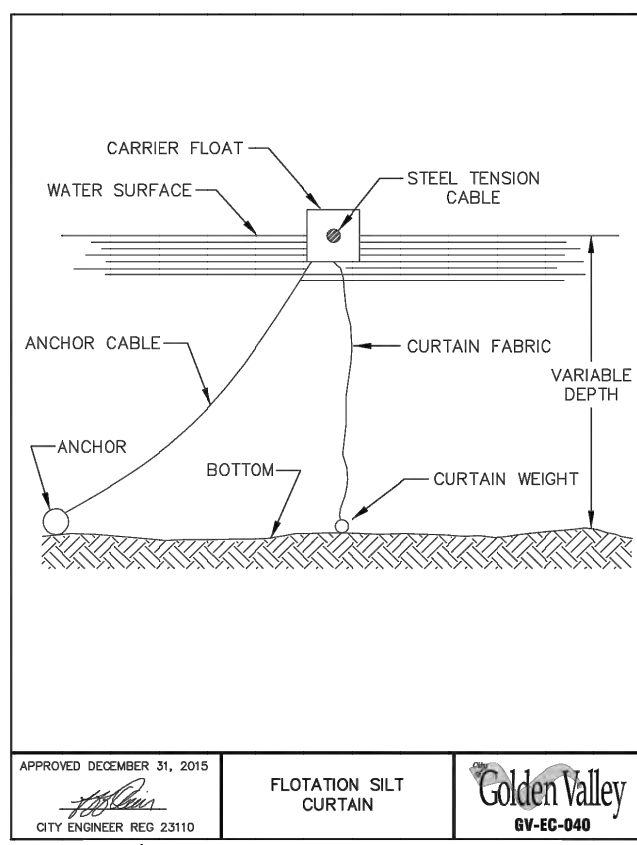
APPROVED DECEMBER 31, 2015
INSTALLATION OF HEAVY DUTY SILT FENCE
Golden Valley
 GV-EC-020
 CITY ENGINEER REG 23110



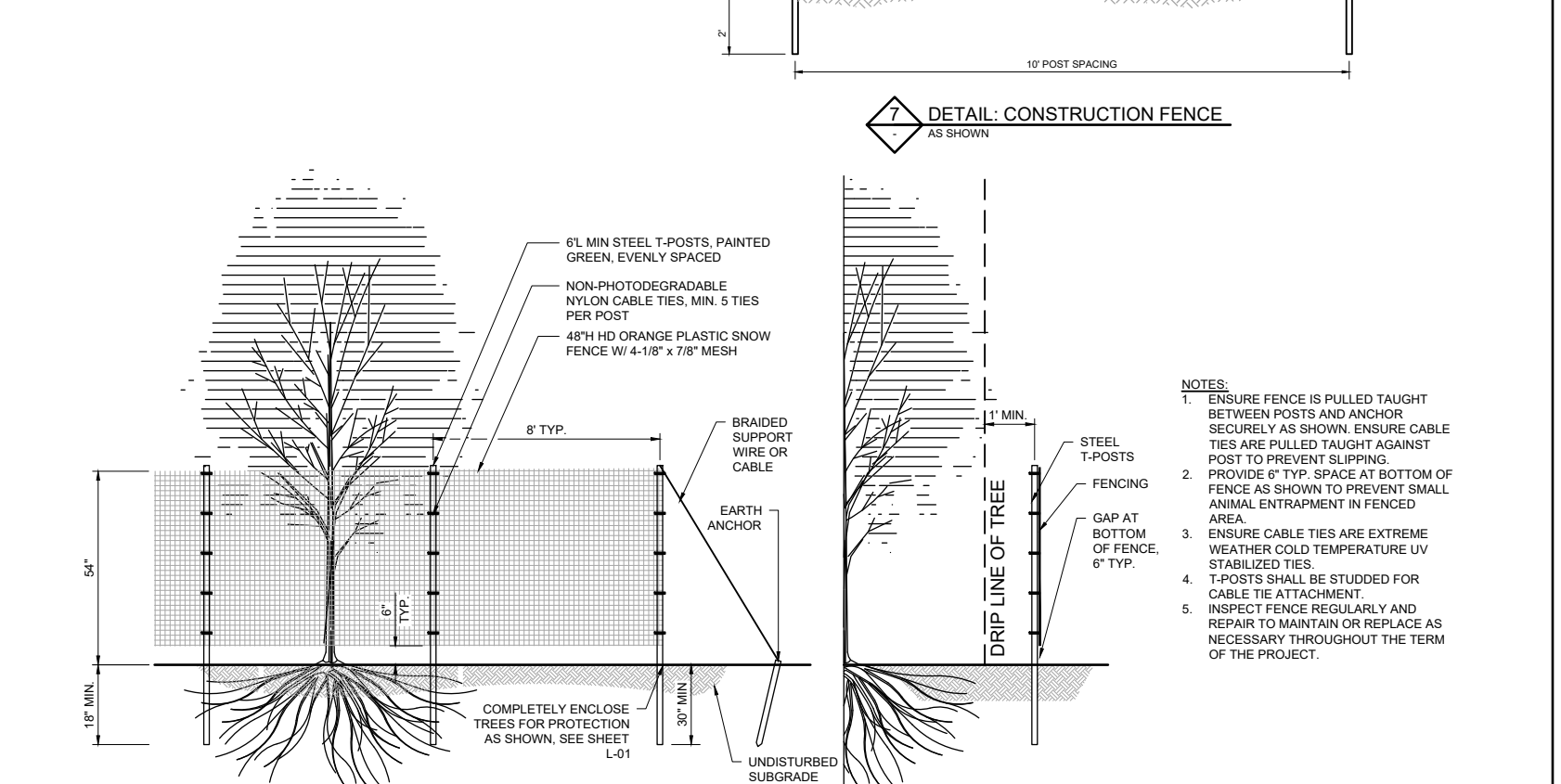
APPROVED DECEMBER 31, 2015
DETAIL: SEDIMENT LOG - STAKING
 NOT TO SCALE
Golden Valley
 GV-EC-020
 CITY ENGINEER REG 23110



APPROVED DECEMBER 31, 2015
CONCRETE WASHOUT AREA
Golden Valley
 GV-EC-100
 CITY ENGINEER REG 23110



APPROVED DECEMBER 31, 2015
FLOTATION SILT CURTAIN
Golden Valley
 GV-EC-040
 CITY ENGINEER REG 23110



APPROVED DECEMBER 31, 2015
DETAIL: TREE PROTECTION FENCE
 NOT TO SCALE
Golden Valley
 GV-EC-040
 CITY ENGINEER REG 23110

CADD USER: PATRICK.E. BROCKAMP FILE: M:\DESIGN\23171900_0516237190000_05-05.DWG PLOT SCALE: 1/2"=8'-0" PLOT DATE: 10/10/2022 5:28 PM

NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION

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.

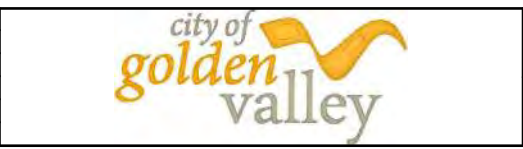
PRINTED NAME: _____
 SIGNATURE: _____
 DATE: _____ LICENSE # _____

CLIENT	04/28/22	08/18/22				
AGENCY	08/23/22					
BID						
CONSTRUCTION						
RECORD						
RELEASED TO/FOR	A	B	C	0	1	2
DATE RELEASED						

Project Office:
BARR ENGINEERING CO.
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 Suite 200
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Corporate Headquarters:
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 Fax: (952) 832-2601
 www.barr.com

Scale	AS SHOWN
Date	09/16/2022
Drawn	EPF
Checked	PEB
Designed	BARR
Approved	JAK2

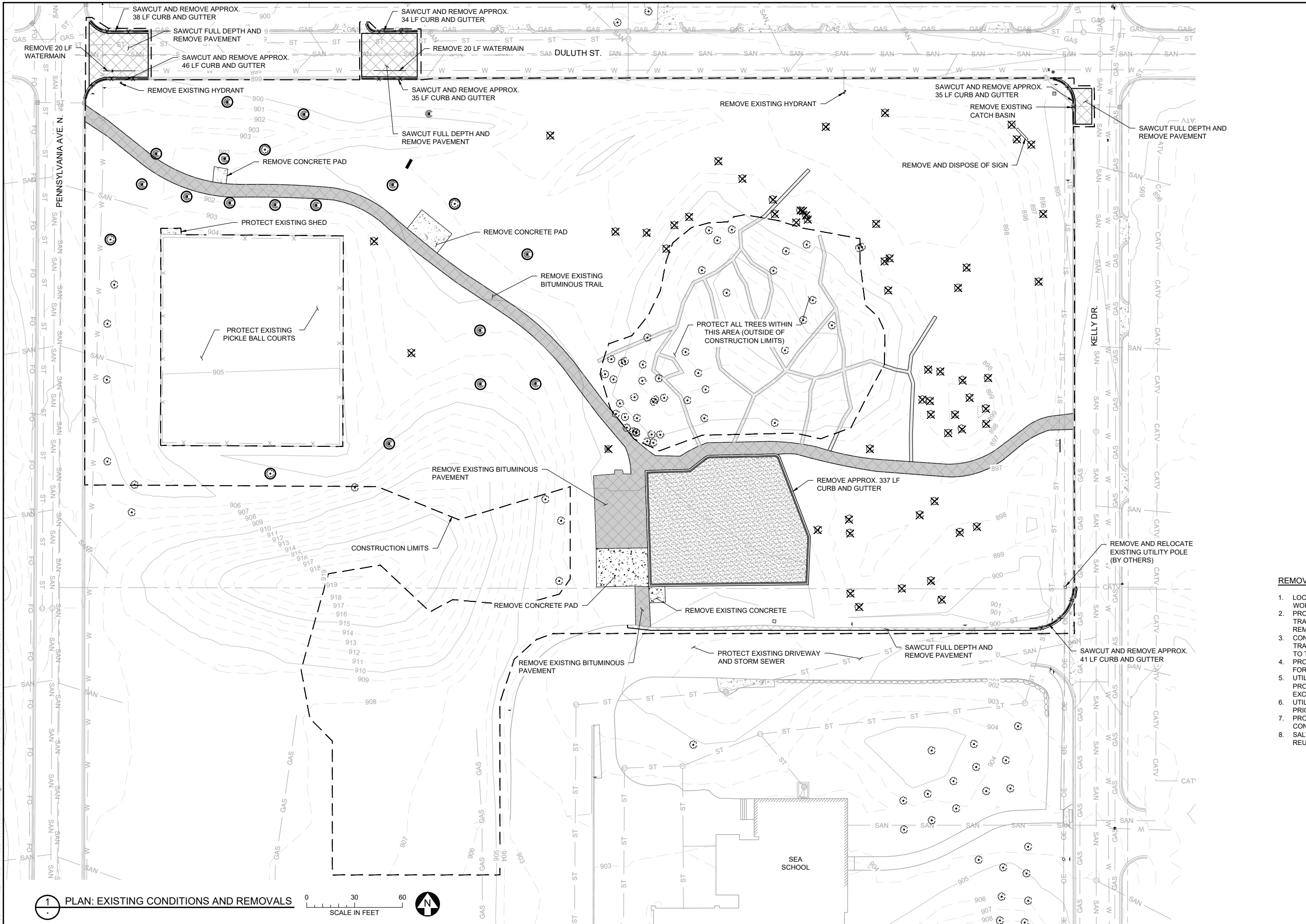


**SEA SCHOOL & WILDWOOD PARK
 FLOOD MITIGATION PROJECT**

EROSION & SEDIMENT CONTROL DETAILS

BARR PROJECT No. 23/27-1900.00
 CLIENT PROJECT No. 20-27
 DWG. No. G-05 REV. No. C

90% DESIGN REVIEW
 NOT FOR CONSTRUCTION



SYMBOL AND PATTERN LEGEND

---995---	EXISTING 5' CONTOUR
---994---	EXISTING 1' CONTOUR
---	EXISTING PROPERTY LINE
---	EXISTING DRAINAGE/UTILITY EASEMENT
ST	EXISTING STORM SEWER
SAN	EXISTING SANITARY SEWER
GAS	EXISTING GAS LINE
W	EXISTING WATERMAIN
X-X	EXISTING FENCE
---	EXISTING FOOTPATHS
---	CONSTRUCTION LIMITS
ST	STORM SEWER REMOVAL
[Cross-hatch pattern]	AREA OF PAVEMENT SAWCUT AND REMOVAL
[Line with X's]	CURB AND GUTTER REMOVAL
(Tree symbol with circle)	EXISTING DECIDUOUS TREE (PROTECT)
(Tree symbol with X)	EXISTING DECIDUOUS TREE (REMOVE)
(Tree symbol with circle and X)	EXISTING DECIDUOUS TREE (SALVAGE AND REINSTALL)
(Tree symbol with star)	EXISTING CONIFEROUS TREE (PROTECT)
(Tree symbol with X)	EXISTING CONIFEROUS TREE (REMOVE)
(Tree symbol with circle and X)	EXISTING CONIFEROUS TREE (SALVAGE AND REINSTALL)

- REMOVAL NOTES:**
1. LOCATE AND FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO WORK. NOTIFY CITY OF ANY DISCREPANCIES.
 2. PROTECT ALL EXISTING ROADS, CURBS, DRIVES, PARKING LOTS, TRAILS, FENCES, SIGNS, OR SIMILAR NOT CALLED OUT FOR REMOVAL DURING CONSTRUCTION.
 3. CONTRACTOR SHALL TAKE PRECAUTIONS TO MINIMIZE THE TRANSFER OF AQUATIC AND TERRESTRIAL INVASIVE SPECIES TO THE MAXIMUM EXTENT POSSIBLE.
 4. PROTECT TREES DURING CONSTRUCTION, UNLESS IDENTIFIED FOR REMOVAL OR DIRECTED BY OWNER.
 5. UTILITY LOCATIONS ARE APPROXIMATE. ALL UTILITIES IN THE PROJECT AREA SHOULD BE MARKED AND POTHOLED PRIOR TO EXCAVATION.
 6. UTILITY RELOCATION TO BE COORDINATED BY CONTRACTOR PRIOR TO CONSTRUCTION.
 7. PROTECT ALL EXISTING UTILITIES DURING DEMOLITION AND CONSTRUCTION.
 8. SALVAGE AND STOCKPILE TREES AS MARKED BY ENGINEER FOR REUSE ON SITE.

CADD USER: PATRICK E. BROCKAMP FILE: M:\DESIGN\23271900_001237190000_C-01.DWG PLOT SCALE: 12.5849 PLOT DATE: 10/10/2022 5:28 PM

1 PLAN: EXISTING CONDITIONS AND REMOVALS

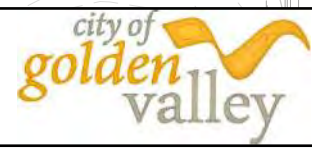


NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION

CLIENT	04/28/22	08/18/22					
AGENCY		08/23/22					
BID							
CONSTRUCTION							
RECORD							
RELEASED TO/FOR	A	B	C	0	1	2	3
DATE RELEASED							

BARR Project Office:
 BARR ENGINEERING CO.
 4300 MARKETPOINTE DRIVE
 Suite 200
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Designed	BARR
Approved	JAK2



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**SEA SCHOOL & WILDWOOD PARK
FLOOD MITIGATION PROJECT**

**EXISTING CONDITIONS AND REMOVALS
SEA SCHOOL & WILDWOOD PARK**

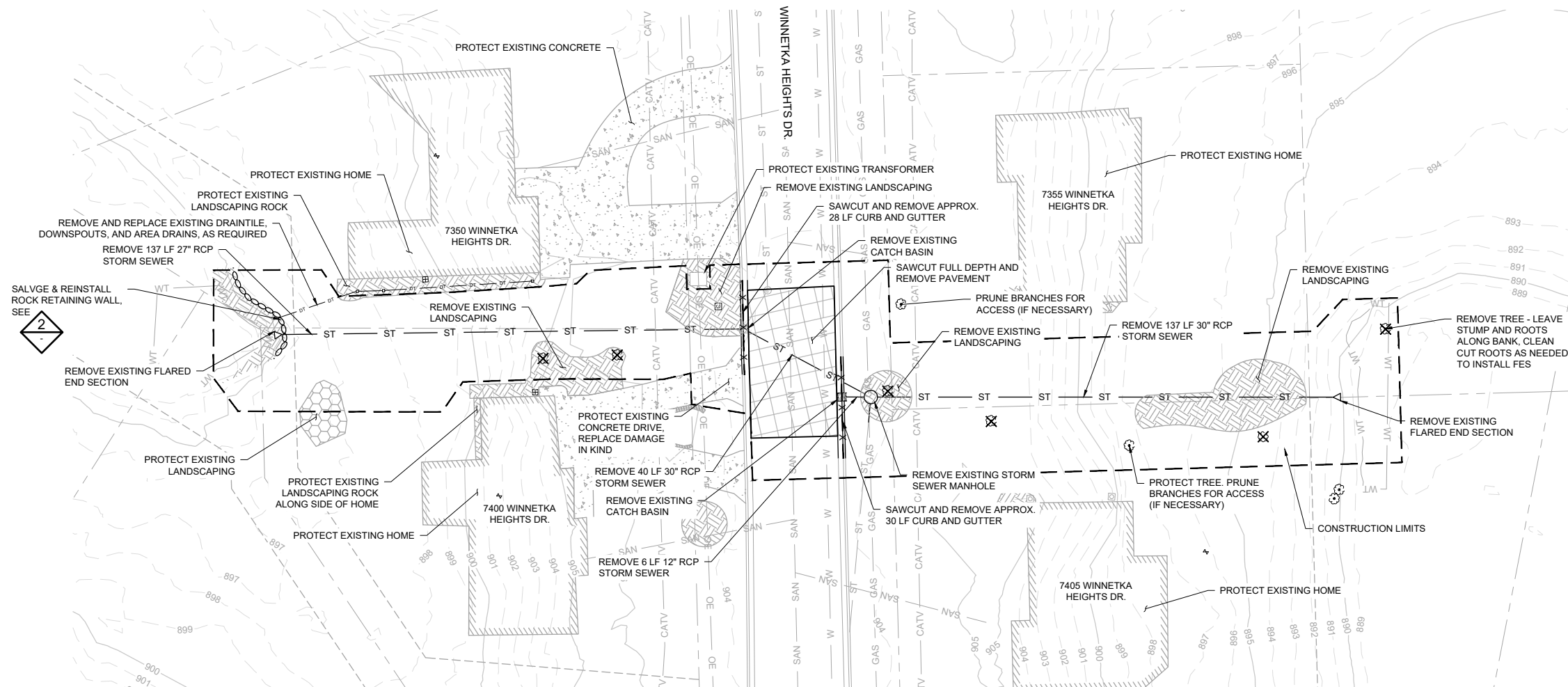
BARR PROJECT No.	23/27-1900.00
CLIENT PROJECT No.	20-27
DWG. No.	C-01
REV. No.	C

SYMBOL AND PATTERN LEGEND

—995—	EXISTING 5' CONTOUR
—994—	EXISTING 1' CONTOUR
---	EXISTING PROPERTY LINE
----	EXISTING DRAINAGE/UTILITY EASEMENT
WT	EXISTING WETLAND DELINEATION
ST	EXISTING STORM SEWER
SAN	EXISTING SANITARY SEWER
GAS	EXISTING GAS LINE
W	EXISTING WATERMAIN
UE	EXISTING UNDERGROUND ELECTRIC
X X	EXISTING FENCE
---	CONSTRUCTION LIMITS
	AREA OF PAVEMENT SAWCUT AND REMOVAL
	CURB AND GUTTER REMOVAL
	EXISTING DECIDUOUS TREE (PROTECT)
	EXISTING DECIDUOUS TREE (REMOVE)
	EXISTING CONIFEROUS TREE (PROTECT)
	EXISTING CONIFEROUS TREE (REMOVE)

REMOVAL NOTES:

1. LOCATE AND FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO WORK. NOTIFY CITY OF ANY DISCREPANCIES.
2. PROTECT ALL EXISTING ROADS, CURBS, DRIVES, PARKING LOTS, TRAILS, FENCES, SIGNS, OR SIMILAR NOT CALLED OUT FOR REMOVAL DURING CONSTRUCTION.
3. CONTRACTOR SHALL TAKE PRECAUTIONS TO MINIMIZE THE TRANSFER OF AQUATIC AND TERRESTRIAL INVASIVE SPECIES TO THE MAXIMUM EXTENT POSSIBLE.
4. PROTECT TREES DURING CONSTRUCTION, UNLESS IDENTIFIED FOR REMOVAL OR DIRECTED BY OWNER.
5. UTILITY LOCATIONS ARE APPROXIMATE. ALL UTILITIES IN THE PROJECT AREA SHOULD BE MARKED AND POTHOLED PRIOR TO EXCAVATION.
6. UTILITY RELOCATION TO BE COORDINATED BY CONTRACTOR PRIOR TO CONSTRUCTION.
7. PROTECT ALL EXISTING UTILITIES DURING DEMOLITION AND CONSTRUCTION.
8. DAMAGE TO TURF INCIDENTAL TO WORK SHOWN ON THIS SHEET SHALL BE REPLACED BY CONTRACTOR. MINIMIZE EXISTING TURF IMPACTS WHERE FEASIBLE. REFER TO SHEET L-02 FOR LANDSCAPE RESTORATION INFORMATION.
- 9.



1 PLAN: EXISTING CONDITIONS AND REMOVALS



2 DETAIL: EXISTING ROCK RETAINING WALL
NOT TO SCALE

CADD USER: PATRICK.E. BROCKAMP FILE: M:\DESIGN\23271900_001\23271900_00_C-02.DWG PLOT SCALE: 1/2"=8'-0" PLOT DATE: 10/10/2022 5:28 PM

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PRINTED NAME	_____			
SIGNATURE	_____			
DATE	_____			
LICENSE #	_____			

CLIENT	04/28/22	08/18/22				
AGENCY		08/23/22				
BID						
CONSTRUCTION						
RECORD						
RELEASED TO/FOR	A	B	C	0	1	2
DATE RELEASED						

BARR ENGINEERING CO.
4300 MARKETPOINTE DRIVE
Suite 200
MINNEAPOLIS, MN 55435

Project Office:
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Scale	AS SHOWN
Date	09/16/2022
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Designed	BARR
Approved	JAK2



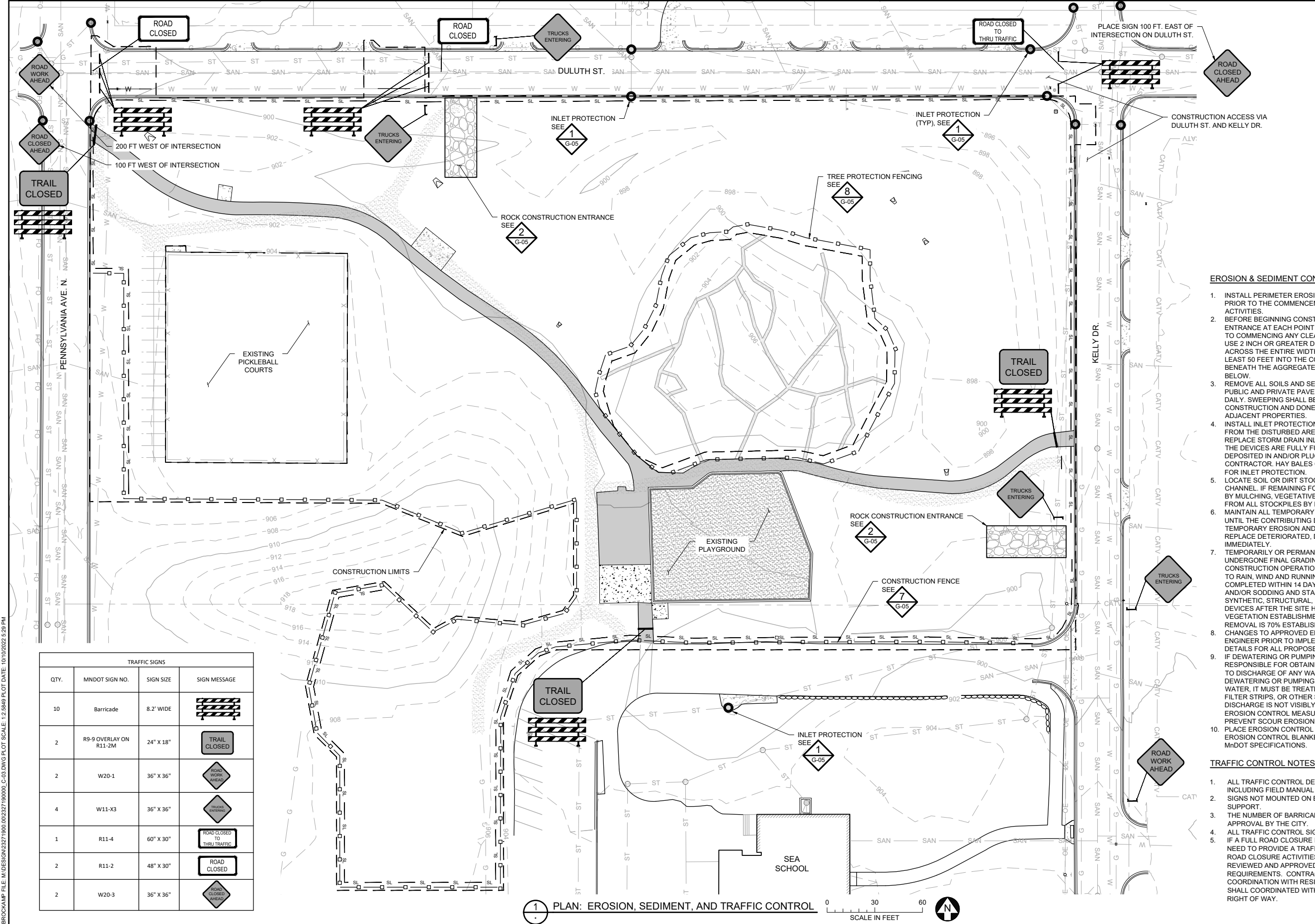
**SEA SCHOOL & WILDWOOD PARK
FLOOD MITIGATION PROJECT**

**EXISTING CONDITIONS AND REMOVALS
DECOLA POND D OUTLET**

BARR PROJECT No. 23/27-1900.00	
CLIENT PROJECT No. 20-27	
DWG. No. C-02	REV. No. C

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CADD USER: PATRICK E. BROCKAMP FILE: M:\DESIGN\23271900_001\23271900_001.DWG PLOT SCALE: 1:2,500 PLOT DATE: 10/10/2022 5:29 PM



SYMBOL AND PATTERN LEGEND	
	EXISTING 10' CONTOUR
	EXISTING 2' CONTOUR
	EXISTING PROPERTY LINE
	EXISTING DRAINAGE/UTILITY EASEMENT
	EXISTING STORM SEWER
	EXISTING SANITARY SEWER
	EXISTING GAS LINE
	EXISTING WATERMAIN
	EXISTING FENCE
	CONSTRUCTION LIMITS
	SILT FENCE
	SEDIMENT CONTROL LOG
	CONSTRUCTION FENCE
	INLET PROTECTION

- EROSION & SEDIMENT CONTROL NOTES:**
- INSTALL PERIMETER EROSION CONTROL AT THE LOCATIONS SHOWN ON THE PLANS PRIOR TO THE COMMENCEMENT OF ANY LAND DISTURBANCE OR CONSTRUCTION ACTIVITIES.
 - BEFORE BEGINNING CONSTRUCTION, INSTALL A TEMPORARY ROCK CONSTRUCTION ENTRANCE AT EACH POINT WHERE VEHICLES EXIT THE CONSTRUCTION SITE PRIOR TO COMMENCING ANY CLEARING/GRUBBING, REMOVAL, OR EARTHWORK ACTIVITIES. USE 2 INCH OR GREATER DIAMETER ROCK IN A LAYER AT LEAST 6 INCHES THICK ACROSS THE ENTIRE WIDTH OF THE ENTRANCE. EXTEND THE ROCK ENTRANCE AT LEAST 50 FEET INTO THE CONSTRUCTION ZONE USING A GEO-TEXTILE FABRIC BENEATH THE AGGREGATE TO PREVENT MIGRATION OF SOIL INTO THE ROCK FROM BELOW.
 - REMOVE ALL SOILS AND SEDIMENTS TRACKED OR OTHERWISE DEPOSITED ONTO PUBLIC AND PRIVATE PAVEMENT AREAS. AT A MINIMUM REMOVAL SHALL BE ONCE DAILY. SWEEPING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE CONSTRUCTION AND DONE IN A MANNER TO PREVENT DUST BEING BLOWN TO ADJACENT PROPERTIES.
 - INSTALL INLET PROTECTION AT ALL CATCH BASIN INLETS WHICH RECEIVE RUNOFF FROM THE DISTURBED AREAS. CONTRACTOR SHALL CLEAN, REMOVE SEDIMENT, OR REPLACE STORM DRAIN INLET PROTECTION DEVICES ON A ROUTINE BASIS SUCH THAT THE DEVICES ARE FULLY FUNCTIONAL FOR THE NEXT RAIN EVENT. SEDIMENT DEPOSITED IN AND/OR PLUGGING DRAINAGE SYSTEMS IS THE RESPONSIBILITY OF THE CONTRACTOR. HAY BALES OR FILTER FABRIC WRAPPED GRATES ARE NOT ALLOWED FOR INLET PROTECTION.
 - LOCATE SOIL OR DIRT STOCKPILES NO LESS THAN 25 FEET FROM ANY DRAINAGE CHANNEL. IF REMAINING FOR MORE THAN SEVEN DAYS, STABILIZE THE STOCKPILES BY MULCHING, VEGETATIVE COVER, TARPS, OR OTHER MEANS. CONTROL EROSION FROM ALL STOCKPILES BY PLACING SILT BARRIERS AROUND THE PILES.
 - MAINTAIN ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES IN PLACE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED. INSPECT TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES ON A DAILY BASIS AND REPLACE DETERIORATED, DAMAGED, OR ROTTED EROSION CONTROL DEVICES IMMEDIATELY.
 - TEMPORARILY OR PERMANENTLY STABILIZE ALL CONSTRUCTION AREAS WHICH HAVE UNDERGONE FINAL GRADING, AND ALL AREAS IN WHICH GRADING OR SITE BUILDING CONSTRUCTION OPERATIONS ARE NOT ACTIVELY UNDERWAY AGAINST EROSION DUE TO RAIN, WIND AND RUNNING WATER. STABILIZATION TO BEGIN IMMEDIATELY AND BE COMPLETED WITHIN 14 DAYS. USE SEED AND MULCH, EROSION CONTROL MATTING, AND/OR SODDING AND STAKING IN GREEN SPACE AREAS. REMOVE ALL TEMPORARY SYNTHETIC, STRUCTURAL, NON-BIODEGRADABLE EROSION AND SEDIMENT CONTROL DEVICES AFTER THE SITE HAS UNDERGONE FINAL STABILIZATION WITH PERMANENT VEGETATION ESTABLISHMENT. FINAL STABILIZATION FOR PURPOSES OF THIS REMOVAL IS 70% ESTABLISHED COVER OVER DENUDEED AREA.
 - CHANGES TO APPROVED EROSION CONTROL PLAN MUST BE APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION. CONTRACTOR TO PROVIDE INSTALLATION AND DETAILS FOR ALL PROPOSED ALTERNATE TYPE DEVICES.
 - IF DEWATERING OR PUMPING OF WATER IS NECESSARY, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND/OR APPROVALS PRIOR TO DISCHARGE OF ANY WATER FROM THE SITE. IF THE DISCHARGE FROM THE DEWATERING OR PUMPING PROCESS IS TURBID OR CONTAINS SEDIMENT LADEN WATER, IT MUST BE TREATED THROUGH THE USE OF SEDIMENT TRAPS, VEGETATIVE FILTER STRIPS, OR OTHER SEDIMENT REDUCING MEASURES SUCH THAT THE DISCHARGE IS NOT VISIBLY DIFFERENT FROM THE RECEIVING WATER. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AT THE DISCHARGE POINT TO PREVENT SCOUR EROSION.
 - PLACE EROSION CONTROL BLANKET ON ALL DISTURBED SLOPES 4H:1V AND STEEPER. EROSION CONTROL BLANKET MUST BE 2-SIDED WITH NATURAL NETTING, MEETING MNDOT SPECIFICATIONS.

- TRAFFIC CONTROL NOTES:**
- ALL TRAFFIC CONTROL DEVICES AND SIGNAGE SHALL CONFORM TO THE MN MUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
 - SIGNS NOT MOUNTED ON BARRICADES SHALL BE MOUNTED ON A TEMPORARY SUPPORT.
 - THE NUMBER OF BARRICADES REQUIRED AND PLACEMENT WILL BE SUBJECT TO APPROVAL BY THE CITY.
 - ALL TRAFFIC CONTROL SIGNS SHALL BE PLACED AND MAINTAINED BY CONTRACTOR. IF A FULL ROAD CLOSURE IS NECESSARY TO COMPLETE WORK, CONTRACTOR WILL NEED TO PROVIDE A TRAFFIC CONTROL PLAN INCLUDING A SCHEDULE/DATES FOR ROAD CLOSURE ACTIVITIES AND DETOUR ROUTES, AND AN EXTRA SIGNAGE TO BE REVIEWED AND APPROVED BY CITY. SIGNAGE MUST MEET MN MUTCD REQUIREMENTS. CONTRACTOR SHALL COORDINATED WITH CITY REGARDING COORDINATION WITH RESIDENTS/NOTIFICATIONS. ADDITIONALLY, CONTRACTOR SHALL COORDINATED WITH MNDOT/COUNTY IF THEY ARE PROPOSING SIGNS IN THEIR RIGHT OF WAY.

TRAFFIC SIGNS			
QTY.	MNDOT SIGN NO.	SIGN SIZE	SIGN MESSAGE
10	Barricade	8.2' WIDE	
2	R9-9 OVERLAY ON R11-2M	24" X 18"	
2	W20-1	36" X 36"	
4	W11-X3	36" X 36"	
1	R11-4	60" X 30"	
2	R11-2	48" X 30"	
2	W20-3	36" X 36"	

1 PLAN: EROSION, SEDIMENT, AND TRAFFIC CONTROL

NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION

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.

PRINTED NAME: _____
 SIGNATURE: _____
 DATE: _____ LICENSE # _____

CLIENT AGENCY	04/28/22	08/18/22			
BID	08/23/22				
CONSTRUCTION RECORD					
RELEASED TO/FOR	A	B	C	0	1 2 3
DATE RELEASED					

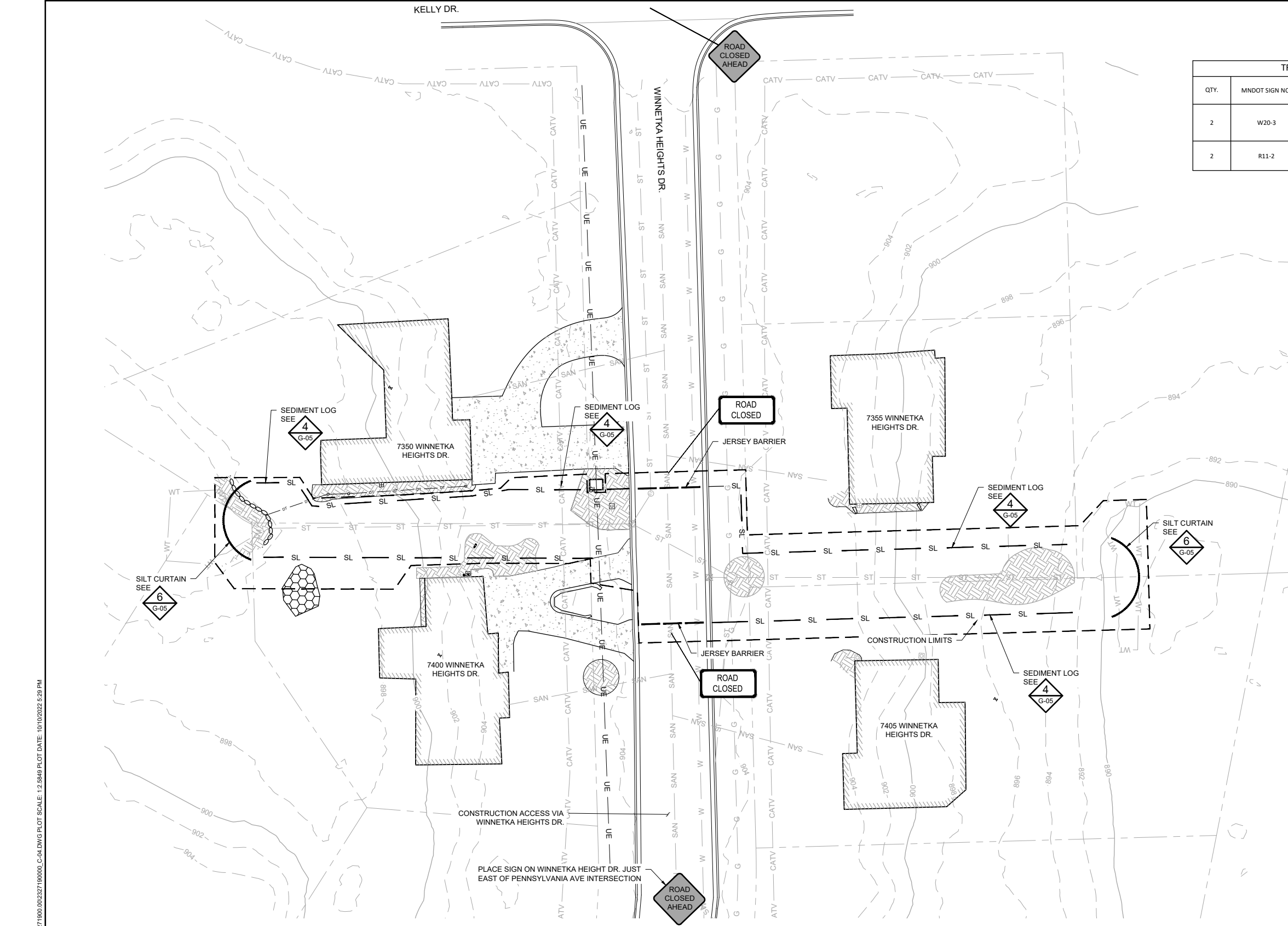
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Scale	AS SHOWN
Date	09/16/2022
Drawn	EPF
Checked	PEB
Designed	BARR
Approved	JAK2



SEA SCHOOL & WILDWOOD PARK FLOOD MITIGATION PROJECT		BARR PROJECT No. 23/27-1900.00
EROSION, SEDIMENT, AND TRAFFIC CONTROL SEA SCHOOL & WILDWOOD PARK		CLIENT PROJECT No. 20-27
DWG. No. C-03	REV. No. C	

**90% DESIGN REVIEW
NOT FOR CONSTRUCTION**



TRAFFIC SIGNS			
QTY.	MNDOT SIGN NO.	SIGN SIZE	SIGN MESSAGE
2	W20-3	36" X 36"	
2	R11-2	60" X 30"	

SYMBOL AND PATTERN LEGEND	
	EXISTING 10' CONTOUR
	EXISTING 2' CONTOUR
	EXISTING PROPERTY LINE
	EXISTING DRAINAGE/UTILITY EASEMENT
	EXISTING WETLAND DELINEATION
	EXISTING STORM SEWER
	EXISTING SANITARY SEWER
	EXISTING GAS LINE
	EXISTING WATERMAIN
	EXISTING FENCE
	CONSTRUCTION LIMITS
	SILT FENCE
	SEDIMENT CONTROL LOG

- EROSION & SEDIMENT CONTROL NOTES:**
- INSTALL PERIMETER EROSION CONTROL AT THE LOCATIONS SHOWN ON THE PLANS PRIOR TO THE COMMENCEMENT OF ANY LAND DISTURBANCE OR CONSTRUCTION ACTIVITIES.
 - BEFORE BEGINNING CONSTRUCTION, INSTALL A TEMPORARY ROCK CONSTRUCTION ENTRANCE AT EACH POINT WHERE VEHICLES EXIT THE CONSTRUCTION SITE PRIOR TO COMMENCING ANY CLEARING/GRUBBING, REMOVAL, OR EARTHWORK ACTIVITIES. USE 2 INCH OR GREATER DIAMETER ROCK IN A LAYER AT LEAST 6 INCHES THICK ACROSS THE ENTIRE WIDTH OF THE ENTRANCE. EXTEND THE ROCK ENTRANCE AT LEAST 50 FEET INTO THE CONSTRUCTION ZONE USING A GEO-TEXTILE FABRIC BENEATH THE AGGREGATE TO PREVENT MIGRATION OF SOIL INTO THE ROCK FROM BELOW.
 - REMOVE ALL SOILS AND SEDIMENTS TRACKED OR OTHERWISE DEPOSITED ONTO PUBLIC AND PRIVATE PAVEMENT AREAS. AT A MINIMUM REMOVAL SHALL BE ONCE DAILY. SWEEPING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE CONSTRUCTION AND DONE IN A MANNER TO PREVENT DUST BEING BLOWN TO ADJACENT PROPERTIES.
 - INSTALL INLET PROTECTION AT ALL CATCH BASIN INLETS WHICH RECEIVE RUNOFF FROM THE DISTURBED AREAS. CONTRACTOR SHALL CLEAN, REMOVE SEDIMENT, OR REPLACE STORM DRAIN INLET PROTECTION DEVICES ON A ROUTINE BASIS SUCH THAT THE DEVICES ARE FULLY FUNCTIONAL FOR THE NEXT RAIN EVENT. SEDIMENT DEPOSITED IN AND/OR PLUGGING DRAINAGE SYSTEMS IS THE RESPONSIBILITY OF THE CONTRACTOR. HAY BALES OR FILTER FABRIC WRAPPED GRATES ARE NOT ALLOWED FOR INLET PROTECTION.
 - LOCATE SOIL OR DIRT STOCKPILES NO LESS THAN 25 FEET FROM ANY DRAINAGE CHANNEL. IF REMAINING FOR MORE THAN SEVEN DAYS, STABILIZE THE STOCKPILES BY MULCHING, VEGETATIVE COVER, TARPS, OR OTHER MEANS. CONTROL EROSION FROM ALL STOCKPILES BY PLACING SILT BARRIERS AROUND THE PILES.
 - MAINTAIN ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES IN PLACE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED. INSPECT TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES ON A DAILY BASIS AND REPLACE DETERIORATED, DAMAGED, OR ROTTED EROSION CONTROL DEVICES IMMEDIATELY.
 - TEMPORARILY OR PERMANENTLY STABILIZE ALL CONSTRUCTION AREAS WHICH HAVE UNDERGONE FINAL GRADING, AND ALL AREAS IN WHICH GRADING OR SITE BUILDING CONSTRUCTION OPERATIONS ARE NOT ACTIVELY UNDERWAY AGAINST EROSION DUE TO RAIN, WIND AND RUNNING WATER. STABILIZATION TO BEGIN IMMEDIATELY AND BE COMPLETED WITHIN 14 DAYS. USE SEED AND MULCH, EROSION CONTROL MATTING, AND/OR SODDING AND STAKING IN GREEN SPACE AREAS. REMOVE ALL TEMPORARY SYNTHETIC, STRUCTURAL, NON-BIODEGRADABLE EROSION AND SEDIMENT CONTROL DEVICES AFTER THE SITE HAS UNDERGONE FINAL STABILIZATION WITH PERMANENT VEGETATION ESTABLISHMENT. FINAL STABILIZATION FOR PURPOSES OF THIS REMOVAL IS 70% ESTABLISHED COVER OVER DENUDEED AREA.
 - CHANGES TO APPROVED EROSION CONTROL PLAN MUST BE APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION. CONTRACTOR TO PROVIDE INSTALLATION AND DETAILS FOR ALL PROPOSED ALTERNATE TYPE DEVICES.
 - IF DEWATERING OR PUMPING OF WATER IS NECESSARY, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND/OR APPROVALS PRIOR TO DISCHARGE OF ANY WATER FROM THE SITE. IF THE DISCHARGE FROM THE DEWATERING OR PUMPING PROCESS IS TURBID OR CONTAINS SEDIMENT LADEN WATER, IT MUST BE TREATED THROUGH THE USE OF SEDIMENT TRAPS, VEGETATIVE FILTER STRIPS, OR OTHER SEDIMENT REDUCING MEASURES SUCH THAT THE DISCHARGE IS NOT VISIBLY DIFFERENT FROM THE RECEIVING WATER. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AT THE DISCHARGE POINT TO PREVENT SCOUR EROSION.
 - PLACE EROSION CONTROL BLANKET ON ALL DISTURBED SLOPES 4H:1V AND STEEPER. EROSION CONTROL BLANKET MUST BE 2-SIDED WITH NATURAL NETTING, MEETING MNDOT SPECIFICATIONS.

- TRAFFIC CONTROL NOTES:**
- ALL TRAFFIC CONTROL DEVICES AND SIGNAGE SHALL CONFORM TO THE MN MUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
 - SIGNS NOT MOUNTED ON BARRICADES SHALL BE MOUNTED ON A TEMPORARY SUPPORT.
 - THE NUMBER OF BARRICADES REQUIRED AND PLACEMENT WILL BE SUBJECT TO APPROVAL BY THE CITY.
 - ALL TRAFFIC CONTROL SIGNS SHALL BE PLACED AND MAINTAINED BY CONTRACTOR.
 - IF A FULL ROAD CLOSURE IS NECESSARY TO COMPLETE WORK, CONTRACTOR WILL NEED TO PROVIDE A TRAFFIC CONTROL PLAN INCLUDING A SCHEDULE/DATES FOR ROAD CLOSURE ACTIVITIES AND DETOUR ROUTES, AND AND EXTRA SIGNAGE TO BE REVIEWED AND APPROVED BY CITY. SIGNAGE MUST MEET MN MUTCD REQUIREMENTS. CONTRACTOR SHALL COORDINATED WITH CITY REGARDING COORDINATION WITH RESIDENTS/NOTIFICATIONS. ADDITIONALLY, CONTRACTOR SHALL COORDINATED WITH MNDOT/COUNTY IF THEY ARE PROPOSING SIGNS IN THEIR RIGHT OF WAY.

1 PLAN: EROSION, SEDIMENT, AND TRAFFIC CONTROL

0 20 40
SCALE IN FEET

CADD USER: PATRICK.E. BROCKAMP FILE: M:\DESIGN\23271900_001\23271900_001.dwg PLOT SCALE: 1/2"=8'-0" PLOT DATE: 10/10/2022 5:29 PM

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.

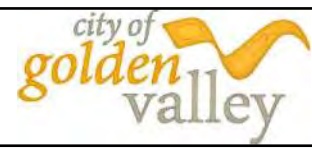
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DATE: _____ LICENSE # _____

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AGENCY		08/23/22					
BID							
CONSTRUCTION							
RECORD							
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DATE RELEASED							

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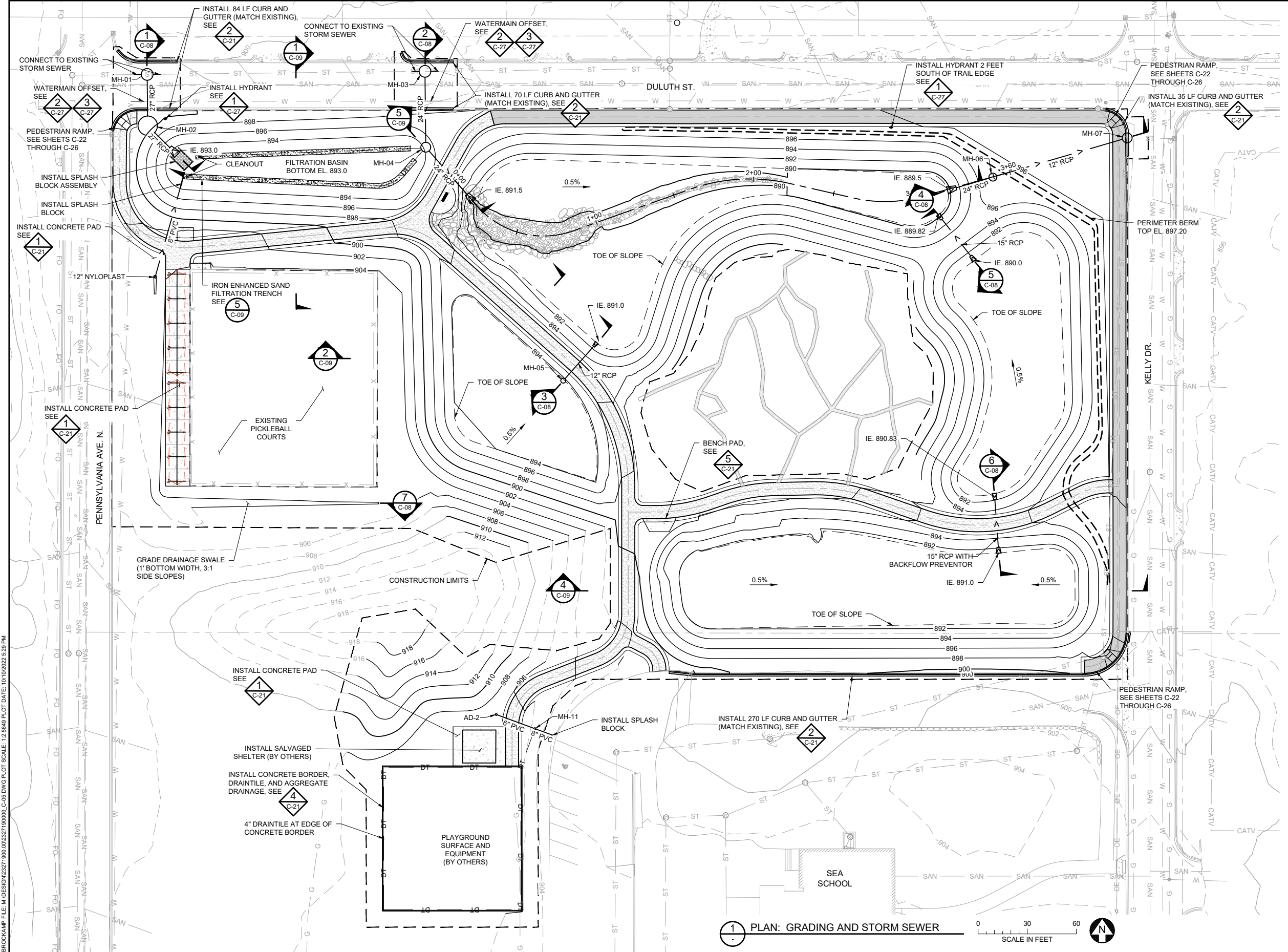
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Fax: (952) 832-2601
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Date	09/16/2022
Drawn	EPF
Checked	PEB
Designed	BARR
Approved	JAK2



SEA SCHOOL / WILDWOOD PARK FLOOD MITIGATION PROJECT		BARR PROJECT No. 23/27-1900.00
EROSION, SEDIMENT, AND TRAFFIC CONTROL DECOLA POND D OUTLET		CLIENT PROJECT No. 20-27
DWG. No. C-04	REV. No. C	

90% DESIGN REVIEW
NOT FOR CONSTRUCTION



SYMBOL AND PATTERN LEGEND

---	EXISTING 10' CONTOUR
---	EXISTING 2' CONTOUR
- - -	EXISTING PROPERTY LINE
ST	EXISTING STORM SEWER
SAN	EXISTING SANITARY SEWER
GAS	EXISTING GAS LINE
W	EXISTING WATERMAIN
X - X	EXISTING FENCE
- - -	CONSTRUCTION LIMITS
---	PROPOSED 10' CONTOUR
---	PROPOSED 2' CONTOUR
->	PROPOSED STORM SEWER

- NOTES:**
1. CONTRACTOR IS RESPONSIBLE TO LOCATE AND FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO WORK.
 2. ALL EXISTING ROADS, PARKING LOTS, TRAILS, FENCES, SIGNS, OR SIMILAR SHALL BE PROTECTED DURING CONSTRUCTION. CONTRACTOR RESPONSIBLE TO COORDINATE SURVEYS WITH OWNER TO DOCUMENT PRE-CONSTRUCTION EXISTING CONDITION ISSUES.
 3. CONSTRUCTION LIMITS AS SHOWN ARE APPROXIMATE FINAL CONSTRUCTION LIMITS TO BE COORDINATED WITH THE OWNER AND STAKED IN THE FIELD.
 4. SOIL SURFACES COMPACTED DURING CONSTRUCTION MUST BE DECOMPACTED TO A SOIL COMPACTING PRESSURE OF LESS THAN 1400 KILOPASCALS OR 200 POUNDS PER SQUARE INCH IN THE UPPER 1 INCH OF SOIL.
 5. SEE SHEET L-01 FOR PLANTING SCHEDULE AND SITE RESTORATION DETAILS.

1 PLAN: GRADING AND STORM SEWER

SCALE IN FEET

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SIGNATURE: _____
DATE: _____ LICENSE # _____

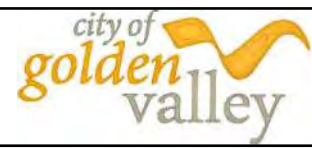
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AGENCY							
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DATE RELEASED							

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Ph: (952) 832-2601
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Approved	JAK2



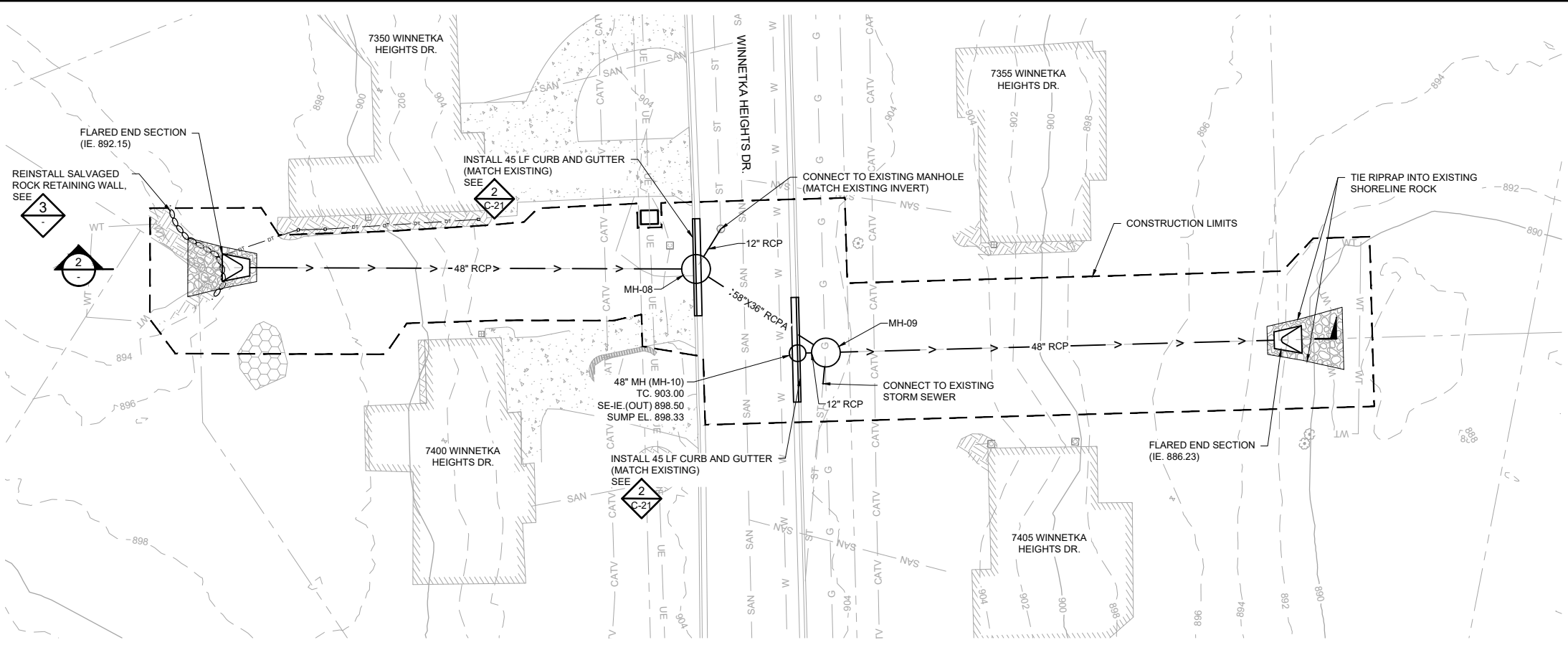
SEA SCHOOL & WILDWOOD PARK
FLOOD MITIGATION PROJECT

GRADING, STORM SEWER, AND UTILITIES PLAN
SEA SCHOOL & WILDWOOD PARK

BARR PROJECT No.	23/27-1900.00
CLIENT PROJECT No.	20-27
DWG. No.	C-05
REV. No.	C

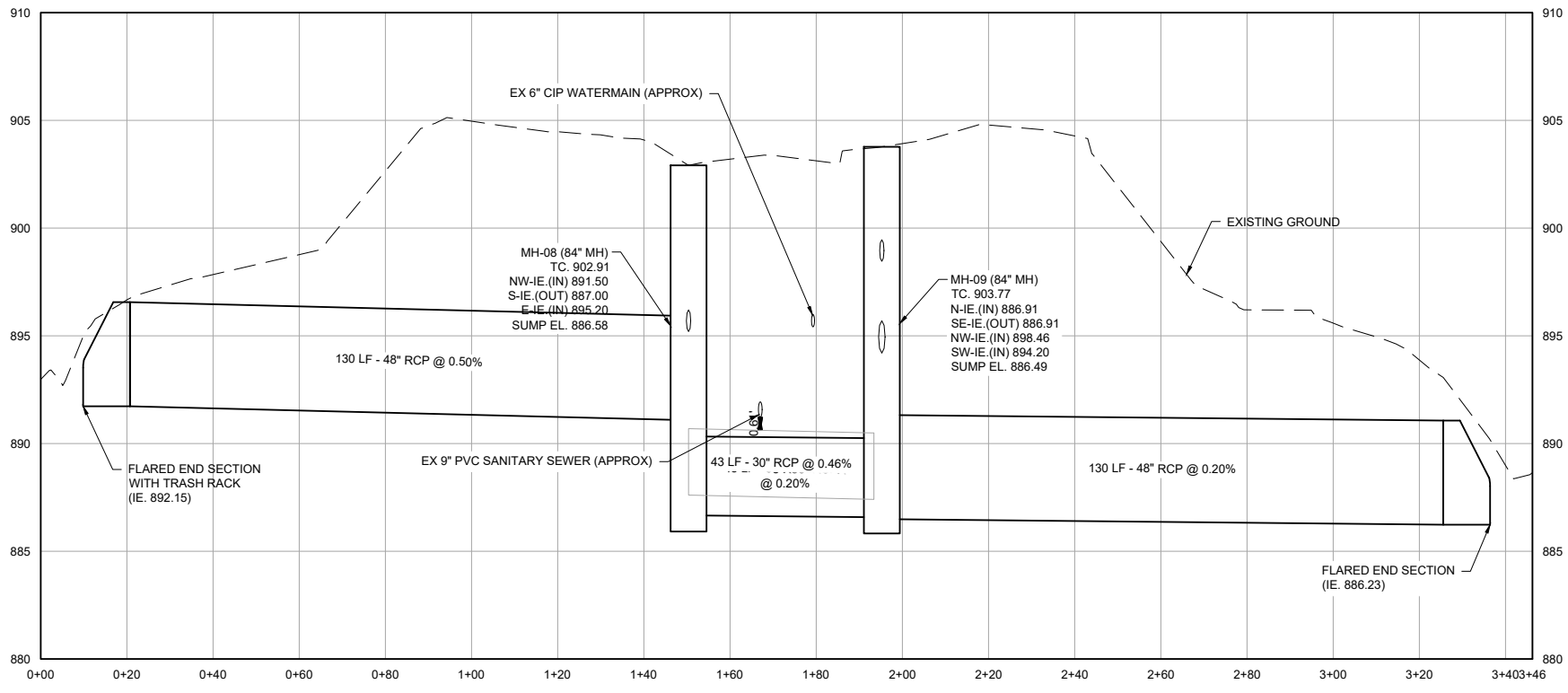
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SYMBOL AND PATTERN LEGEND	
—996—	EXISTING 10' CONTOUR
—994—	EXISTING 2' CONTOUR
- - - -	EXISTING PROPERTY LINE
WT	EXISTING WETLAND DELINEATION
SS	EXISTING STORM SEWER
SAN	EXISTING SANITARY SEWER
GAS	EXISTING GAS LINE
W	EXISTING WATERMAIN
X - X	EXISTING FENCE
- - - -	CONSTRUCTION LIMITS
—996—	PROPOSED 10' CONTOUR
—994—	PROPOSED 2' CONTOUR
->->-	PROPOSED STORM SEWER



1 PLAN: GRADING AND STORM SEWER

- NOTES:
- CONTRACTOR IS RESPONSIBLE TO LOCATE AND FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO WORK.
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 - SEE SHEET L-02 FOR PLANTING SCHEDULE AND SITE RESTORATION DETAILS.



2 PROFILE: DECOLA POND D OUTLET



3 DETAIL: EXISTING ROCK RETAINING WALL
NOT TO SCALE

CADD USER: PATRICK.E. BROCKAMP FILE: M:\DESIGN\23271900_001\23271900_00_C-06.DWG PLOT SCALE: 12.5849 PLOT DATE: 10/10/2022 5:28 PM

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PRINTED NAME	
SIGNATURE	
DATE	LICENSE #

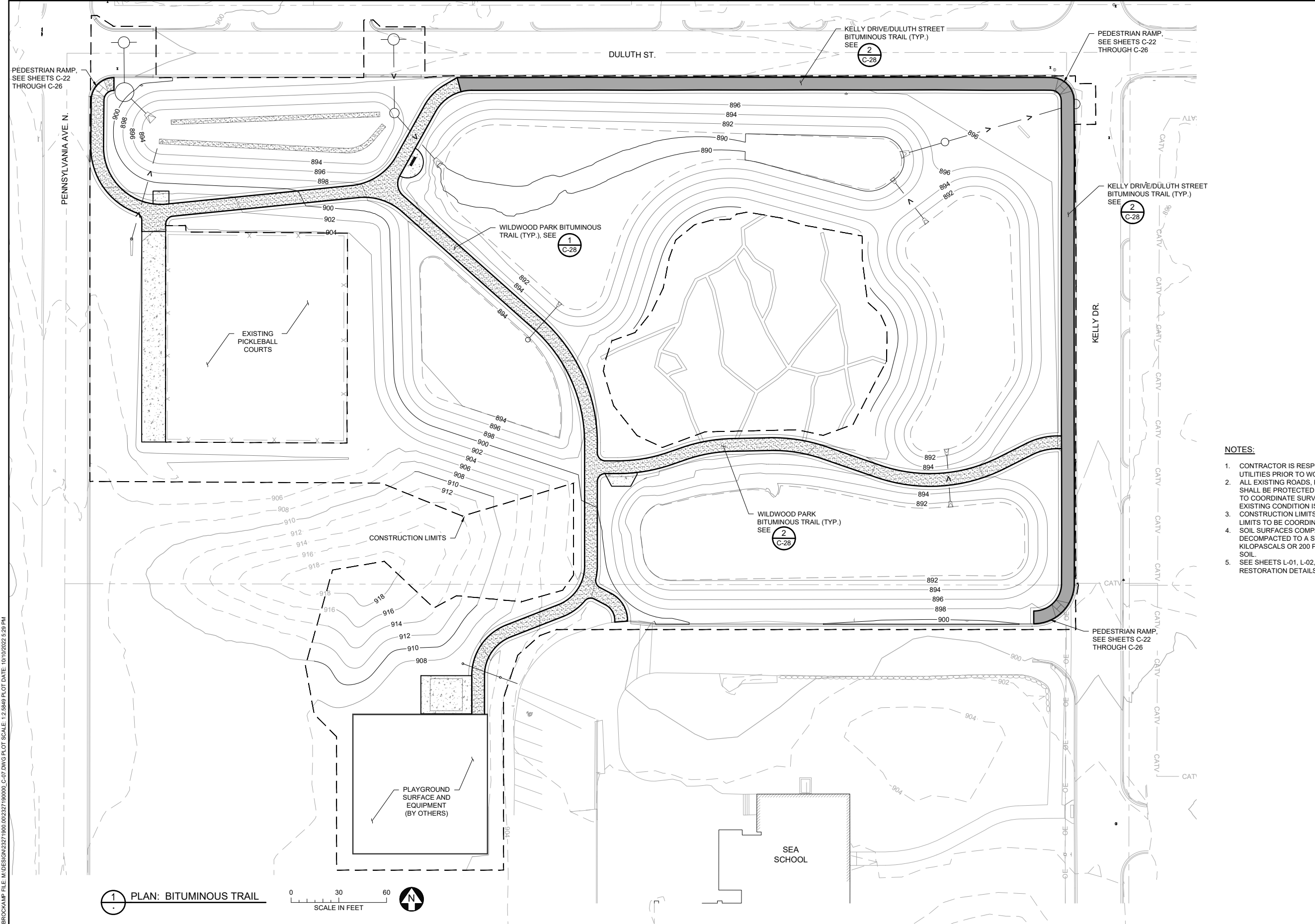
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Date	09/16/2022
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Designed	BARR
Approved	JAK2

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SEA SCHOOL & WILDWOOD PARK FLOOD MITIGATION PROJECT	
GRADING AND STORM SEWER PLAN DECOLA POND D OUTLET	
BARR PROJECT No. 23/27-1900.00	CLIENT PROJECT No. 20-27
DWG. No. C-06	REV. No. C



SYMBOL AND PATTERN LEGEND

--- 996 ---	EXISTING 10' CONTOUR
--- 994 ---	EXISTING 2' CONTOUR
---	EXISTING PROPERTY LINE
SS	EXISTING STORM SEWER
SAN	EXISTING SANITARY SEWER
GAS	EXISTING GAS LINE
W	EXISTING WATERMAIN
X - X	EXISTING FENCE
- - - -	CONSTRUCTION LIMITS
--- 996 ---	PROPOSED 10' CONTOUR
--- 994 ---	PROPOSED 2' CONTOUR
- > -	PROPOSED STORM SEWER
[Hatched Pattern]	PROPOSED KELLY DRIVE/DULUTH STREET BITUMINOUS TRAIL
[Hatched Pattern]	PROPOSED WILDWOOD PARK BITUMINOUS TRAIL
[Hatched Pattern]	PROPOSED CONCRETE PAD
[Symbol]	PROPOSED PEDESTRIAN RAMP

- NOTES:**
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 - SEE SHEETS L-01, L-02, AND L-03 FOR PLANTING SCHEDULE AND SITE RESTORATION DETAILS.

1 PLAN: BITUMINOUS TRAIL



CADD USER: PATRICK E. BROCKAMP FILE: M:\DESIGN\23271900_00\23271900_00_C-07.DWG PLOT SCALE: 1/2"=8'-0" PLOT DATE: 10/10/2022 5:28 PM

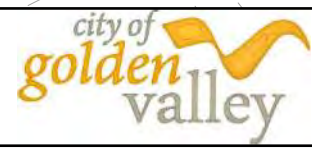
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BID						
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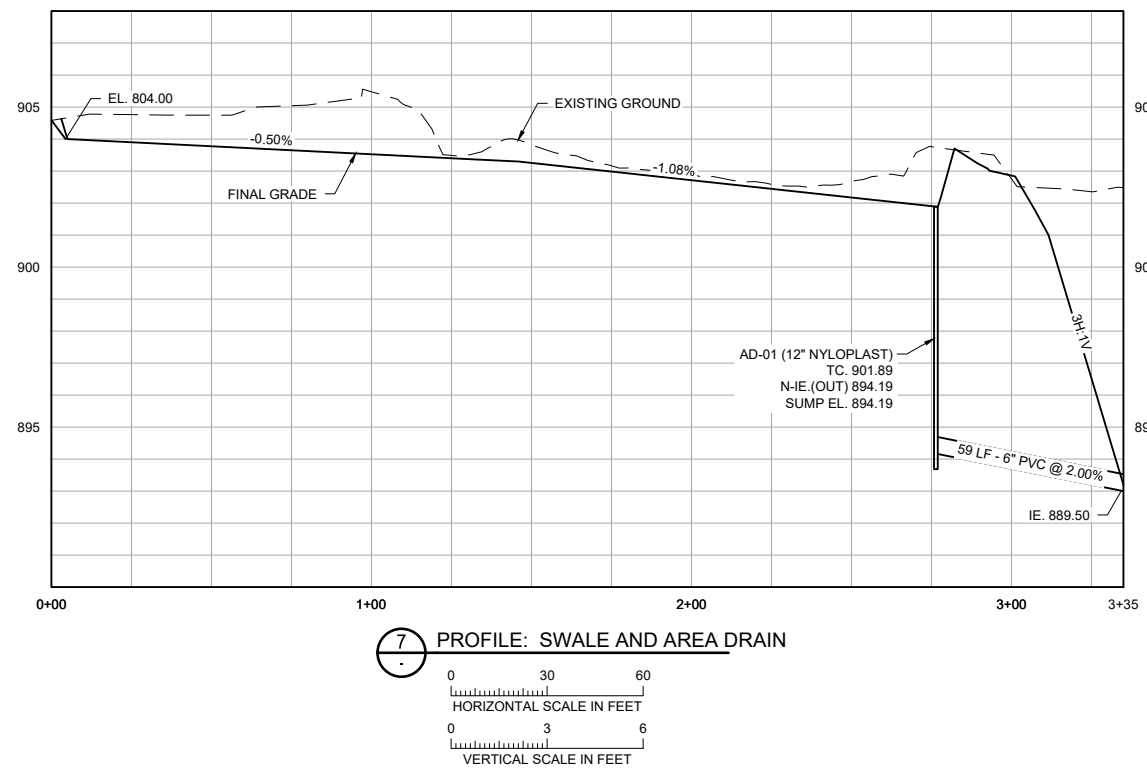
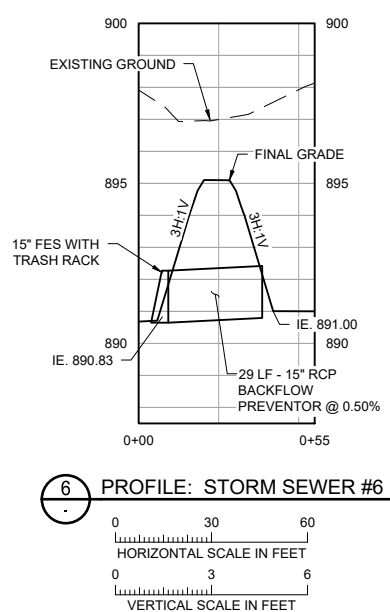
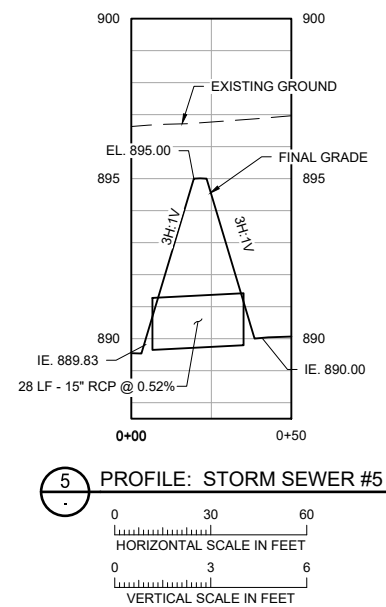
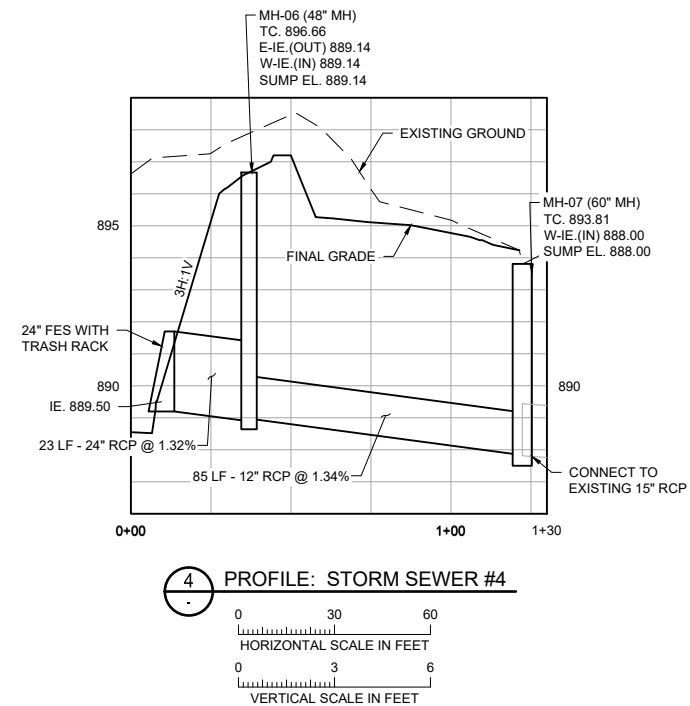
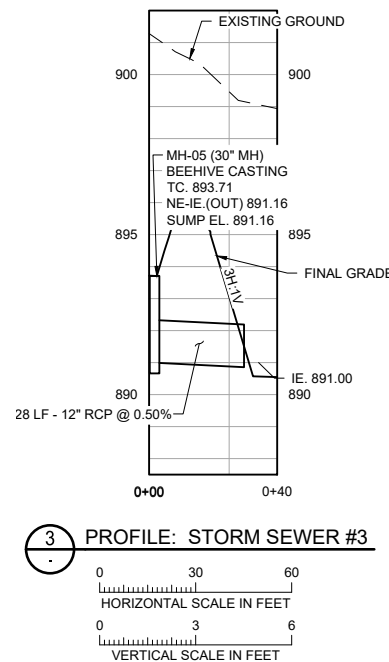
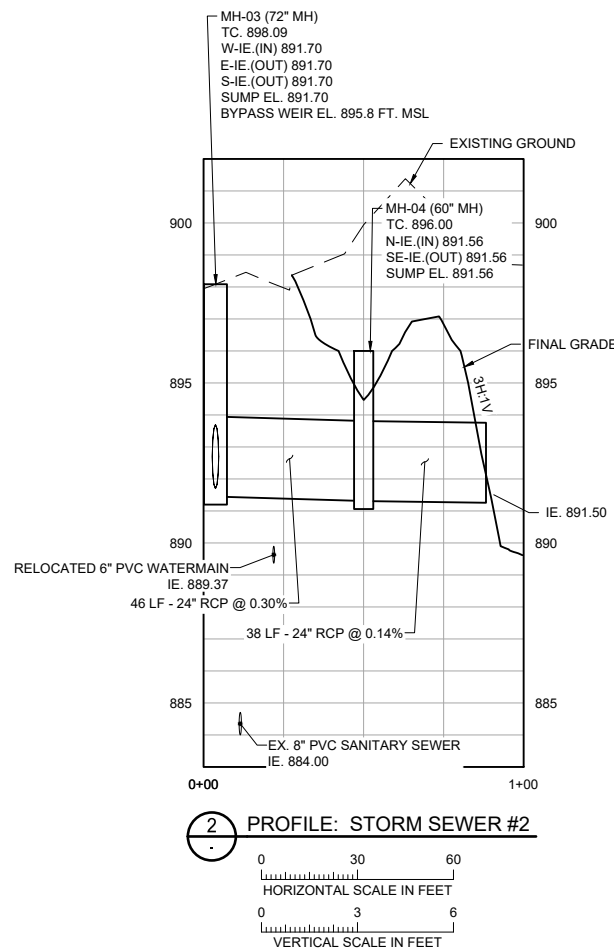
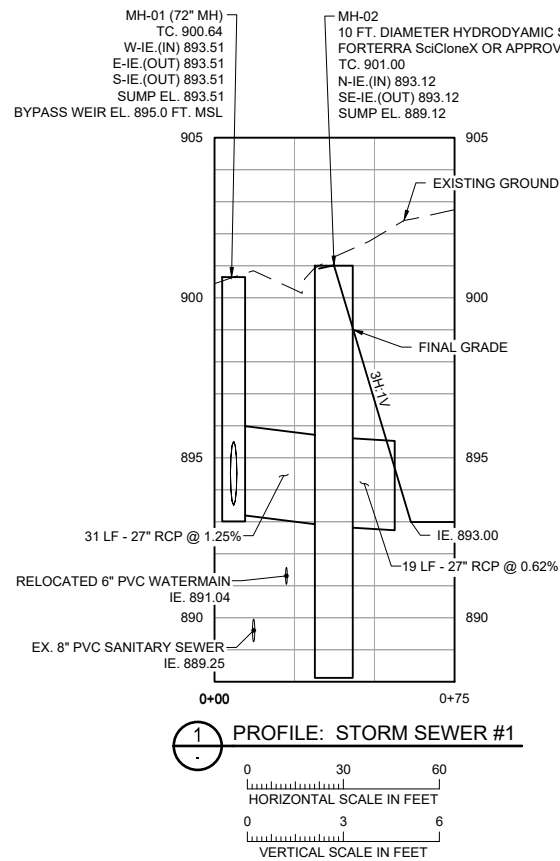


90% DESIGN REVIEW
NOT FOR CONSTRUCTION

**SEA SCHOOL & WILDWOOD PARK
FLOOD MITIGATION PROJECT**

**BITUMINOUS TRAIL PLAN
SEA SCHOOL & WILDWOOD PARK**

BARR PROJECT No.	23/27-1900.00
CLIENT PROJECT No.	20-27
DWG. No.	C-07
REV. No.	C



CADD USER: PATRICK E. BROCKAMP FILE: M:\DESIGN\23271900_C-08.DWG PLOT SCALE: 12.5849 PLOT DATE: 10/10/2022 5:30 PM

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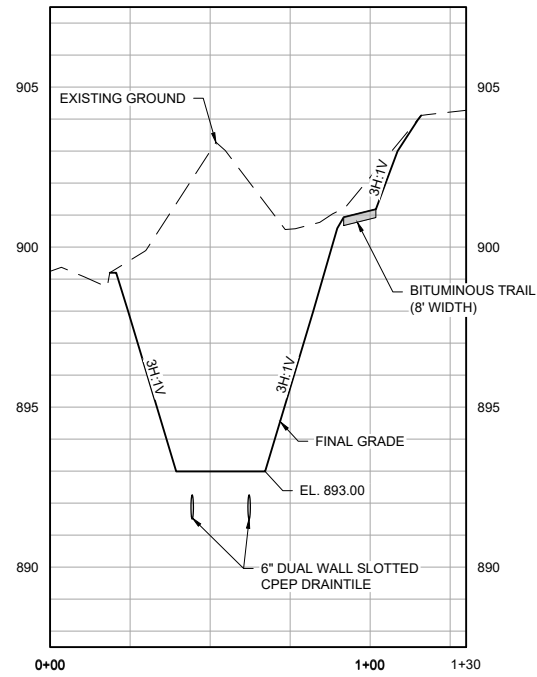
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Approved	JAK2

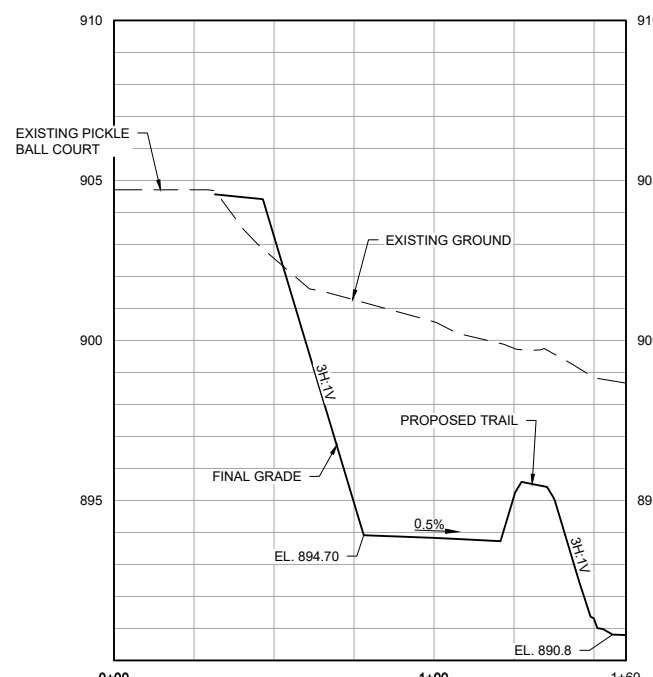


SEA SCHOOL & WILDWOOD PARK
FLOOD MITIGATION PROJECT
STORM SEWER PROFILES

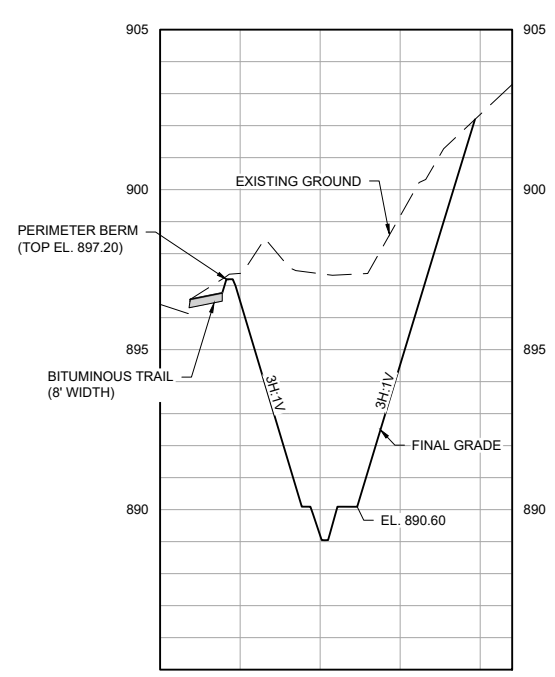
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CLIENT PROJECT No.	20-27
DWG. No.	C-08
REV. No.	C



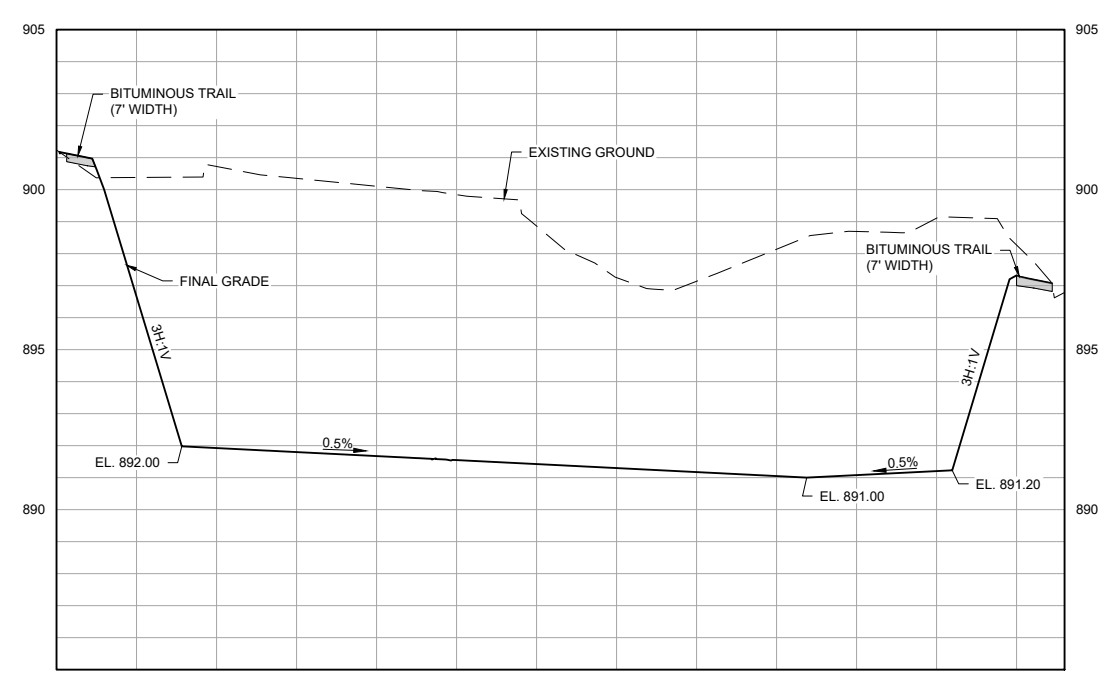
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 VERTICAL SCALE IN FEET: 0, 3, 6



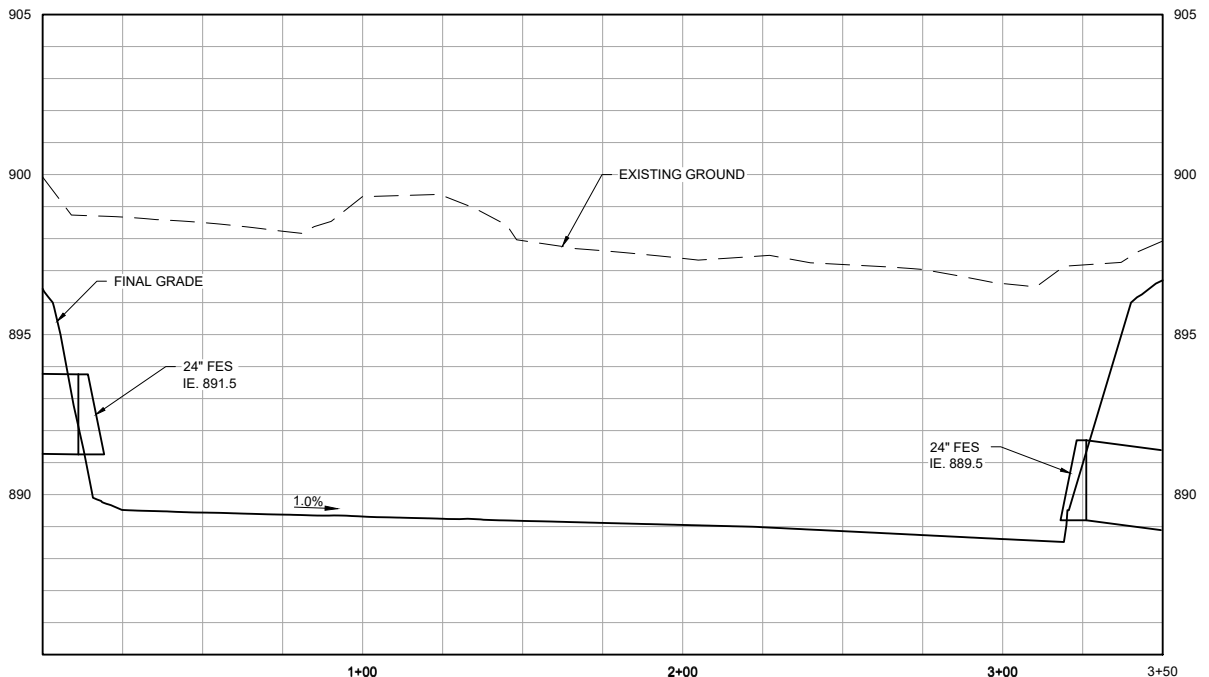
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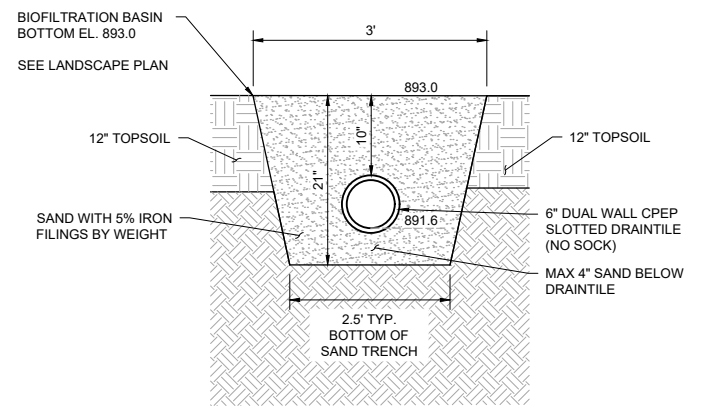
3 SECTION: NORTH WET MEADOW (TYP.)
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 VERTICAL SCALE IN FEET: 0, 3, 6



4 SECTION: SOUTH BASIN (TYP.)
 HORIZONTAL SCALE IN FEET: 0, 30, 60
 VERTICAL SCALE IN FEET: 0, 3, 6



5 PROFILE: INTERMITTENT STREAM
 HORIZONTAL SCALE IN FEET: 0, 30, 60
 VERTICAL SCALE IN FEET: 0, 3, 6



6 SECTION: IRON ENHANCED SAND FILTER TRENCH (TYP.)
 NOT TO SCALE

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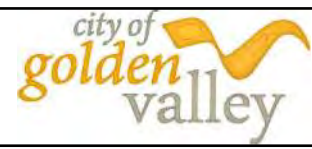
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BID	08/23/22				
CONSTRUCTION					
RECORD					
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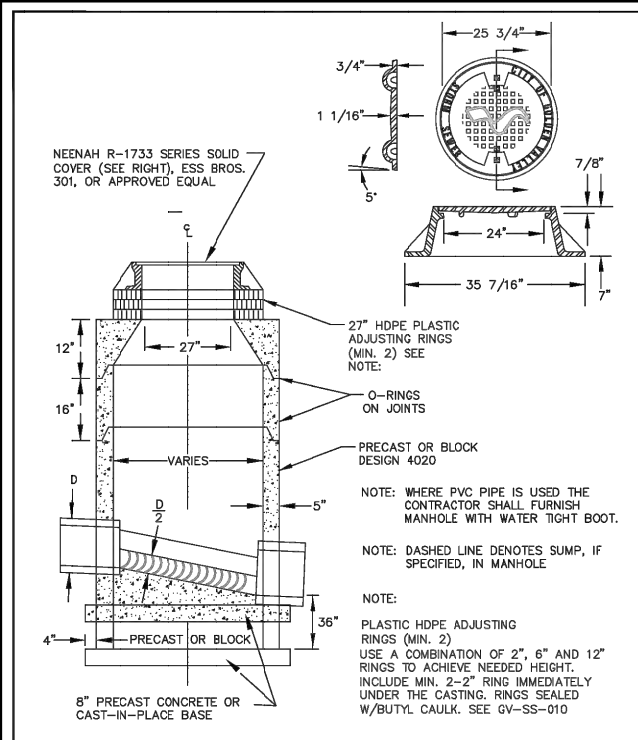
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Approved	JAK2



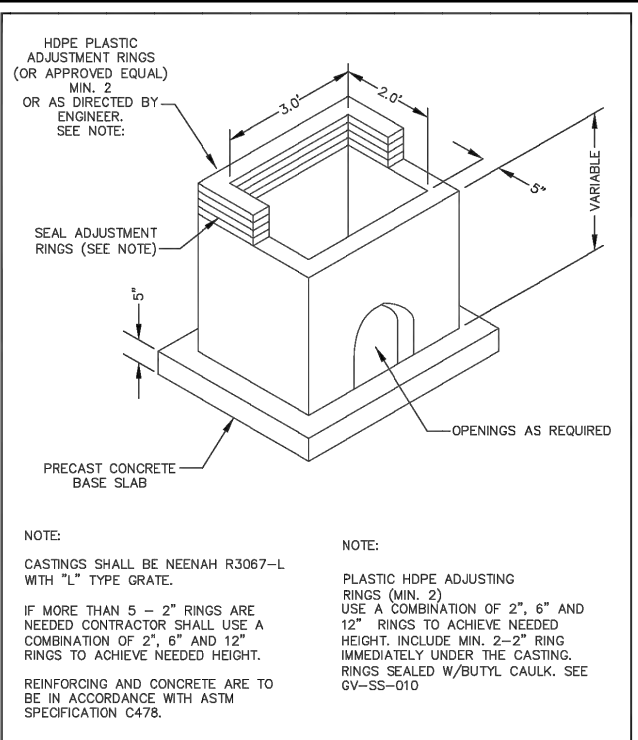
SEA SCHOOL & WILDWOOD PARK
 FLOOD MITIGATION PROJECT

TYPICAL SECTIONS

BARR PROJECT No.	23/27-1900.00
CLIENT PROJECT No.	20-27
DWG. No.	C-09
REV. No.	C



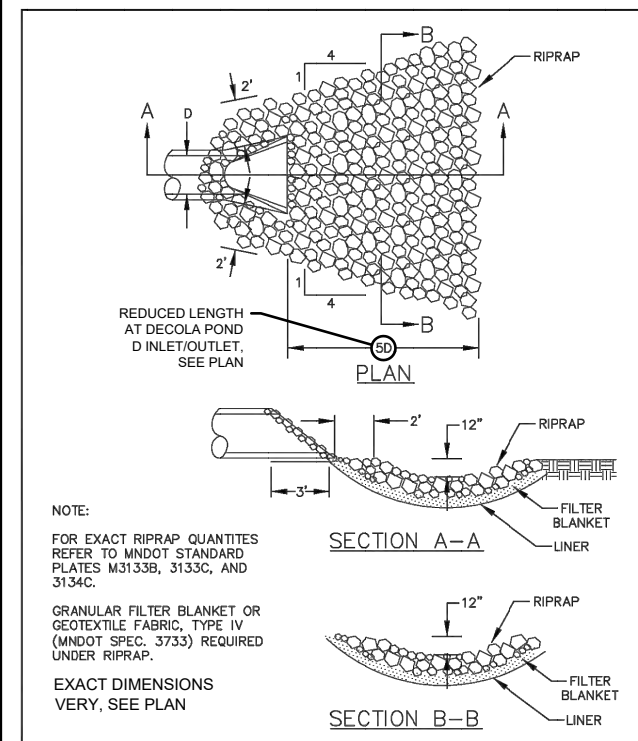
APPROVED JANUARY 1, 2018
 CITY ENGINEER REG 23110
STANDARD STORM SEWER MANHOLE DES 4020 WITH CASTING & COVER
 Golden Valley
 GV-ST-010



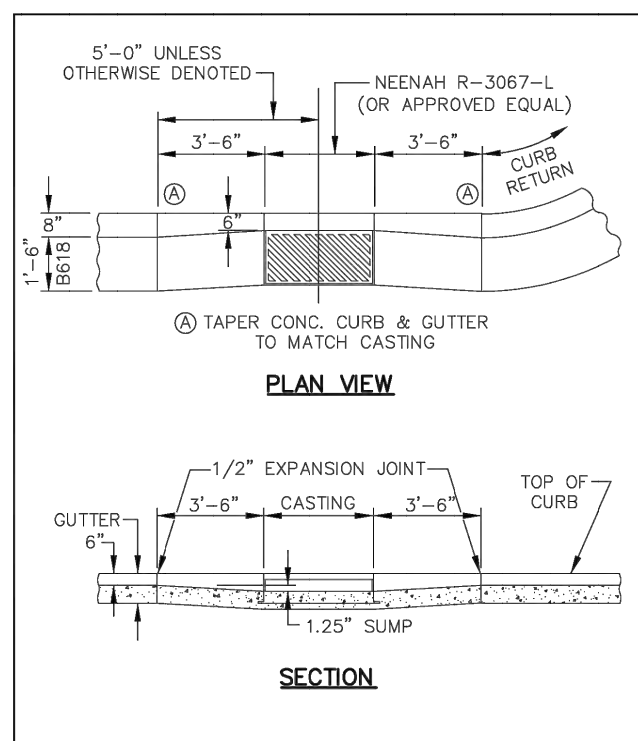
APPROVED JANUARY 1, 2018
 CITY ENGINEER REG 23110
CATCH BASIN DESIGN K
 Golden Valley
 GV-ST-020

1 DETAIL: STORM MANHOLE
 NOT TO SCALE

2 DETAIL: CATCH BASIN
 NOT TO SCALE



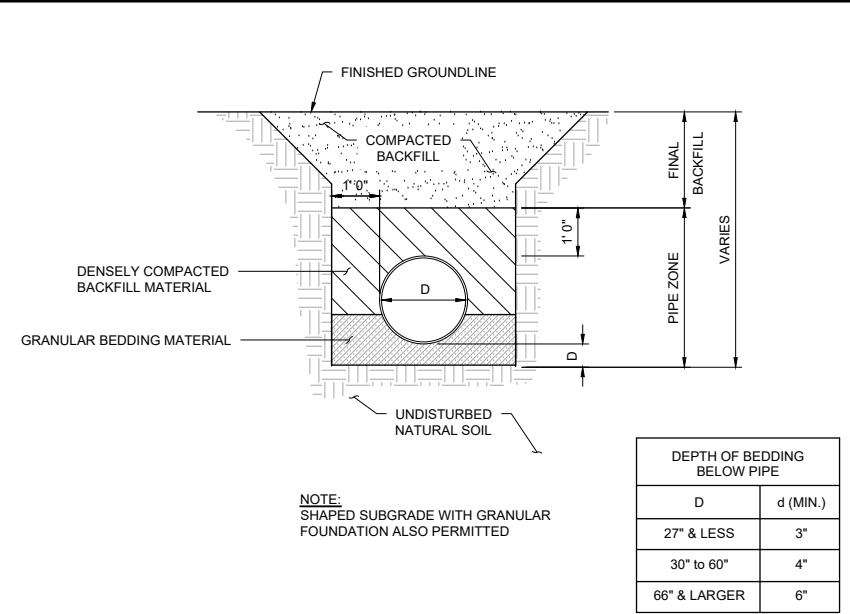
APPROVED DECEMBER 31, 2015
 CITY ENGINEER REG 23110
RIPRAP AT OUTLETS
 Golden Valley
 GV-EC-070



APPROVED JANUARY 1, 2018
 CITY ENGINEER REG 23110
CATCH BASIN INSTALLATION FOR B618 CURB & GUTTER
 Golden Valley
 GV-STRT-070

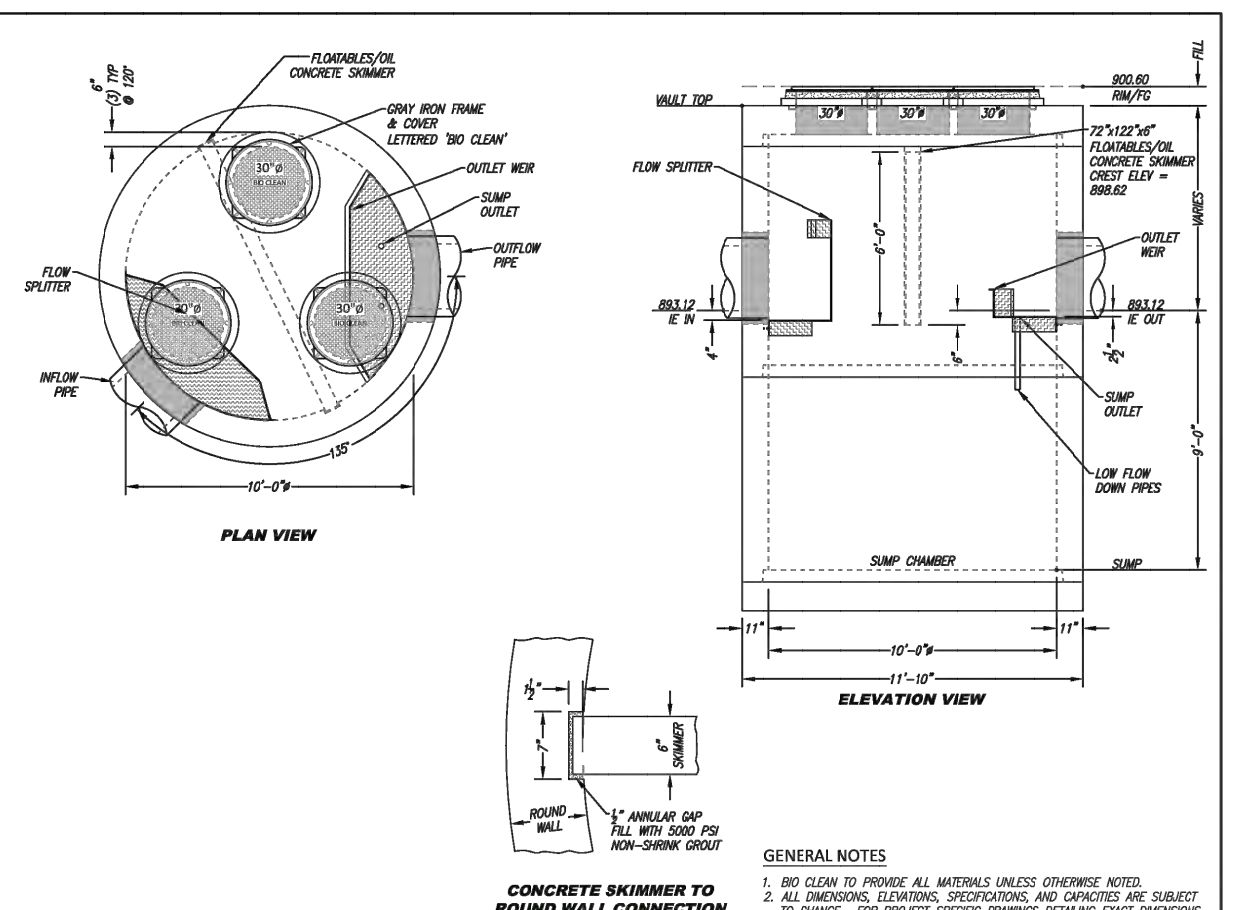
3 DETAIL: RIPRAP AT OUTLETS
 NOT TO SCALE

4 DETAIL: CATCH BASIN INSTALLATION (B618 CURB & GUTTER)
 NOT TO SCALE



5 DETAIL: RCP STORM SEWER TRENCH
 NOT TO SCALE

SITE SPECIFIC DATA*			
PROJECT NUMBER	14854		
PROJECT NAME	SEA SCHOOL AND WILDWOOD PARK		
PROJECT LOCATION	GOLDEN VALLEY, MN		
STRUCTURE ID	SCX-10		
WATER QUALITY FLOW RATE (CFS)	10.37		
PEAK FLOW RATE (CFS)	33		
PEAK STORM DURATION (YEARS)	100		
PIPE DATA	I.E.	MATERIAL	DIAMETER
INFLOW PIPE 1	893.12	RCP	27"
OUTFLOW PIPE 1	893.12	RCP	27"
RIM ELEVATION	900.80		
SUMP ELEVATION	884.12		
SURFACE LOADING REQUIREMENT	HS20		
FRAME AND COVER	(3) #30"		
SKIMMER WALL HEIGHT	STANDARD		
KNOWN GROUNDWATER ELEVATION	NA		
NOTES: CONCEPT ONLY. NOT FOR CONSTRUCTION.			
*PER ENGINEER OF RECORD			
PERFORMANCE DATA			
TREATMENT FLOW RATE (CFS)	10.37		
TSS REMOVAL EFFICIENCY	80%		
SUMP CHAMBER CAPACITY			
DIAMETER (FT)	AREA (SQ)	HEIGHT (FT)	TOTAL (CF)
10	78.50	9.00	706.5



INSTALLATION NOTES:
 1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SCICLONE UNIT AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTRACT.
 2. MANUFACTURER RECOMMENDS A 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
 3. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE (PIPES CANNOT INTRUDE BEYOND FLUSH).
 4. ALL GAPS AROUND PIPES SHALL BE SEALED WATER TIGHT WITH A NON-SHRINK GROUT PER MANUFACTURER'S STANDARD CONNECTION DETAIL AND SHALL MEET OR EXCEED REGIONAL PIPE CONNECTION STANDARDS.
 5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL RISERS AND MANHOLES. ALL COVERS SHALL BE SHIPPED LOOSE. CONTRACTOR TO USE GROUT AND/OR BRICKS TO MATCH COVERS WITH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
 1:40 SCALE

6 DETAIL: HYDRODYNAMIC SEPARATOR
 NOT TO SCALE

CADD USER: PATRICK.E. BROCKAMP FILE: M:\DESIGN\23271900_001\23271900_00_20.DWG PLOT SCALE: 1:2.5846 PLOT DATE: 10/10/2022 5:30 PM

NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION

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.
 PRINTED NAME: _____
 SIGNATURE: _____
 DATE: _____ LICENSE # _____

CLIENT	01/11/22	08/18/22				
AGENCY						
BID						
CONSTRUCTION						
RECORD						
RELEASED TO/FOR	A	B	C	0	1	2
DATE RELEASED						

BARR
 Project Office:
 BARR ENGINEERING CO.
 4300 MARKETPOINTE DRIVE
 Suite 200
 MINNEAPOLIS, MN 55435
 Corporate Headquarters:
 Minneapolis, Minnesota
 Ph: 1-800-632-2277
 Fax: (952) 832-2601
 www.barr.com

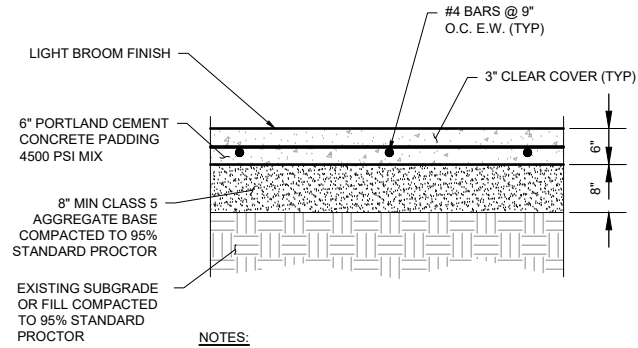
Scale	AS SHOWN
Date	09/16/2022
Drawn	EPF
Checked	PEB
Designed	BARR
Approved	JAK2



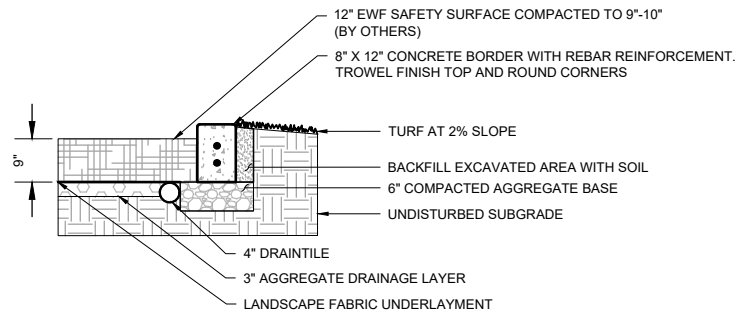
SEA SCHOOL & WILDWOOD PARK FLOOD MITIGATION PROJECT
 DETAILS
 STORM SEWER

BARR PROJECT No.	23/27-1900.00
CLIENT PROJECT No.	20-27
DWG. No.	C-20
REV. No.	C

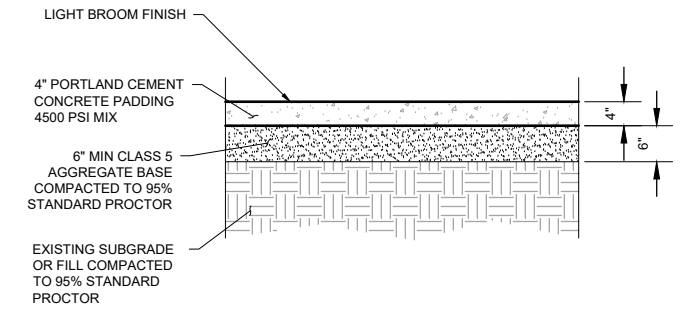
90% DESIGN REVIEW
 NOT FOR CONSTRUCTION



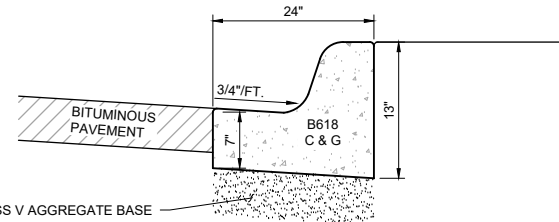
1 DETAIL: PICKLEBALL CONCRETE PAD
NOT TO SCALE



4 DETAIL: PLAYGROUND CONTAINER CONCRETE AND TURF
NOT TO SCALE

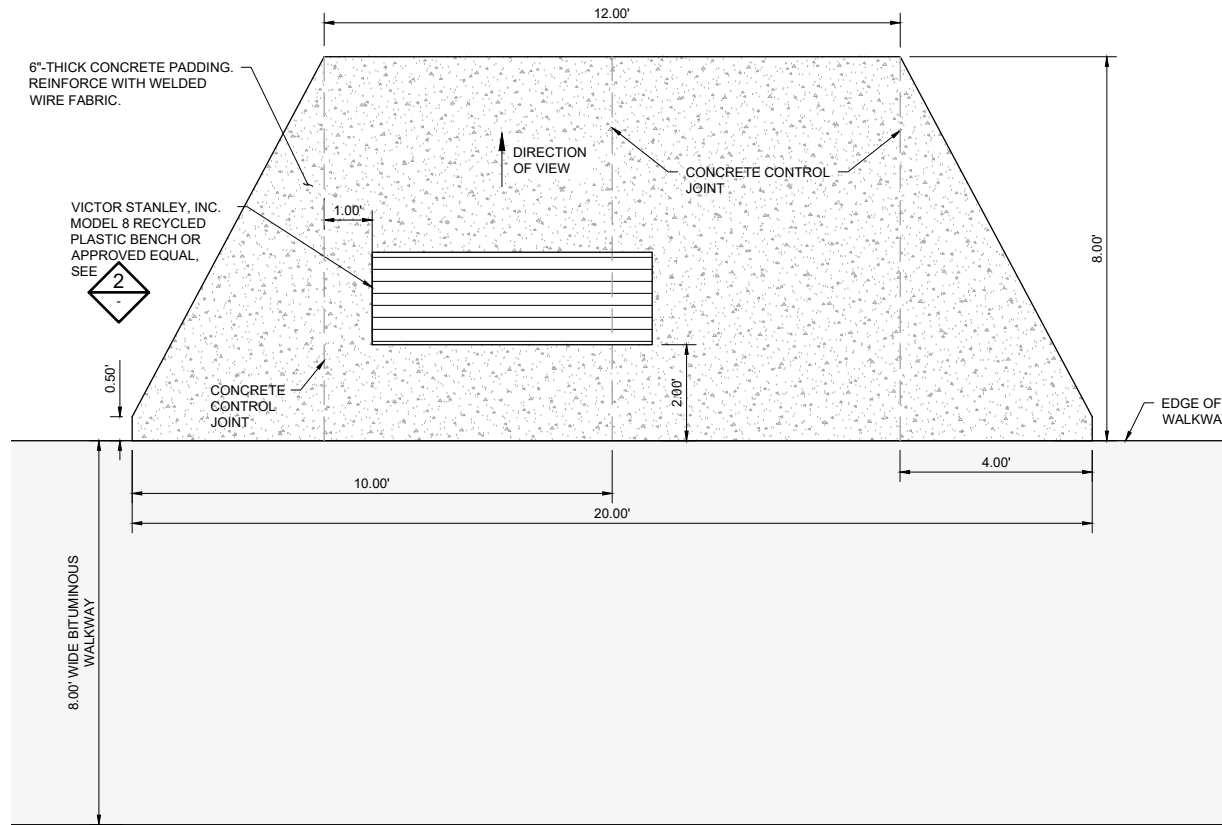


7 DETAIL: PORTA-POTTY CONCRETE PAD
NOT TO SCALE

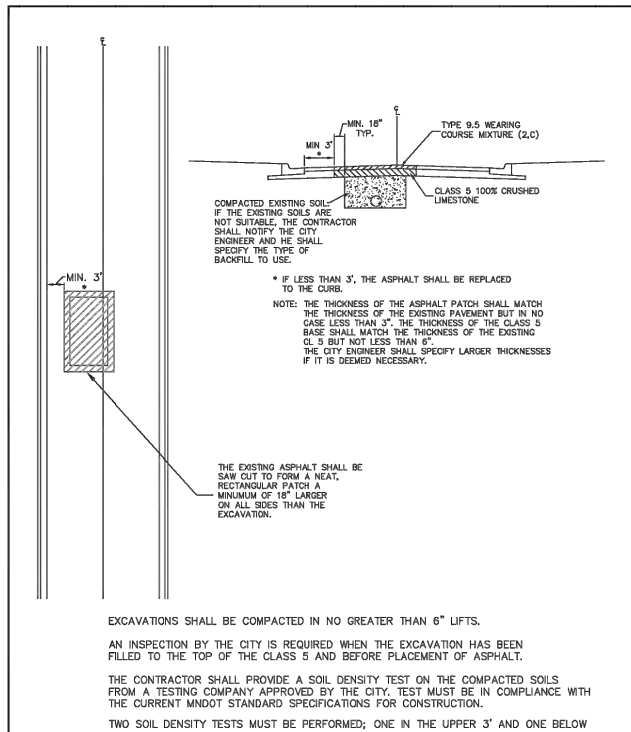


2 DETAIL: B618 CURB AND GUTTER
NOT TO SCALE

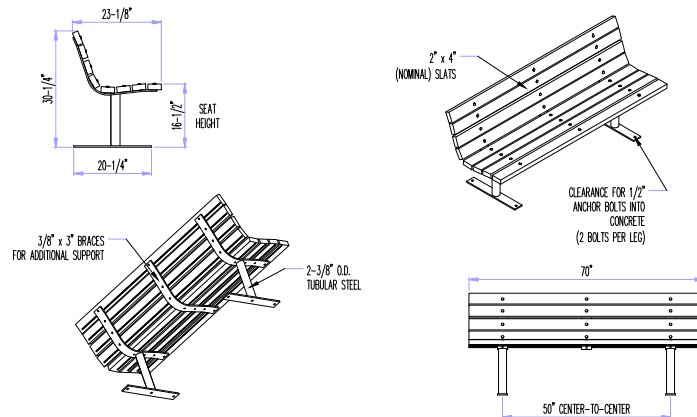
- NOTES:
- BROOM FINISH ALL EXPOSED SURFACES.
 - DIMENSIONS MATCH MNDOT DETAIL, UNLESS SHOWN OTHERWISE.
 - COMPACT UPPER 3\"/>



5 DETAIL: OVERLOOK BENCH AND CONCRETE PADDING
NOT TO SCALE



3 DETAIL: TYPE A UTILITY PATCH
NOT TO SCALE



6 DETAIL: VICTOR STANLEY, INC. MODEL 8 BENCH
NOT TO SCALE

- NOTES:
- BENCH TYPE
 - VICTOR STANLEY, INC. MODEL 8 (HOMESTEAD COLLECTION) OR APPROVED EQUAL
 - STANDARD 6-FOOT LENGTH
 - STANDARD 2ND SITE SYSTEMS SLATS (RECYCLED PLASTIC)
 - SLATS COLOR: MAPLE
 - STANDARD SURFACE MOUNT
 - NO ARM RESTS
 - WINTER SALTING CONSIDERATIONS
 - METAL COMPONENTS OF THE BENCH SHOULD BE TREATED FOR HIGH SALT ABUSE. HOT-DIP GALVANIZING BEFORE POWDER COATING IS AVAILABLE AND PERFORMED FOR VICTOR STANLEY, INC. BY AN EXPERIENCED QUALIFIED FIRM. CONTRACTOR TO CONTACT MANUFACTURER FOR DETAILS.
 - INSTALL BENCH PER MANUFACTURER'S RECOMMENDATIONS.

PLACEHOLDER

8 DETAIL: SHADE STRUCTURE CONCRETE PAD
NOT TO SCALE

90% DESIGN REVIEW
NOT FOR CONSTRUCTION

CADD USER: PATRICK.E. BROCKAMP FILE: M:\DESIGN\23271900_C-21.DWG PLOT SCALE: 1:2.5849 PLOT DATE: 10/10/2022 5:30 PM

APPROVED JANUARY 1, 2018

 CITY ENGINEER REG 23110

TYPE A UTILITY PATCH IMPROVED STREET

Golden Valley
 GV-STRT-080

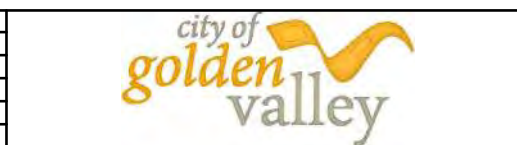
NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION

CLIENT	01/11/22	08/16/22			
AGENCY		08/23/22			
BID					
CONSTRUCTION					
RECORD					
RELEASED TO/FOR	A	B	C	0	1 2 3
DATE RELEASED					

Project Office:
BARR ENGINEERING CO.
 4300 MARKETPOINTE DRIVE
 Suite 200
 MINNEAPOLIS, MN 55435

Corporate Headquarters:
 Minneapolis, Minnesota
 Ph: 1-800-632-2277
 Fax: (952) 832-2601
 www.barr.com

Scale: AS SHOWN
 Date: 09/16/2022
 Drawn: EPF
 Checked: PEB
 Designed: BARR
 Approved: JAK2

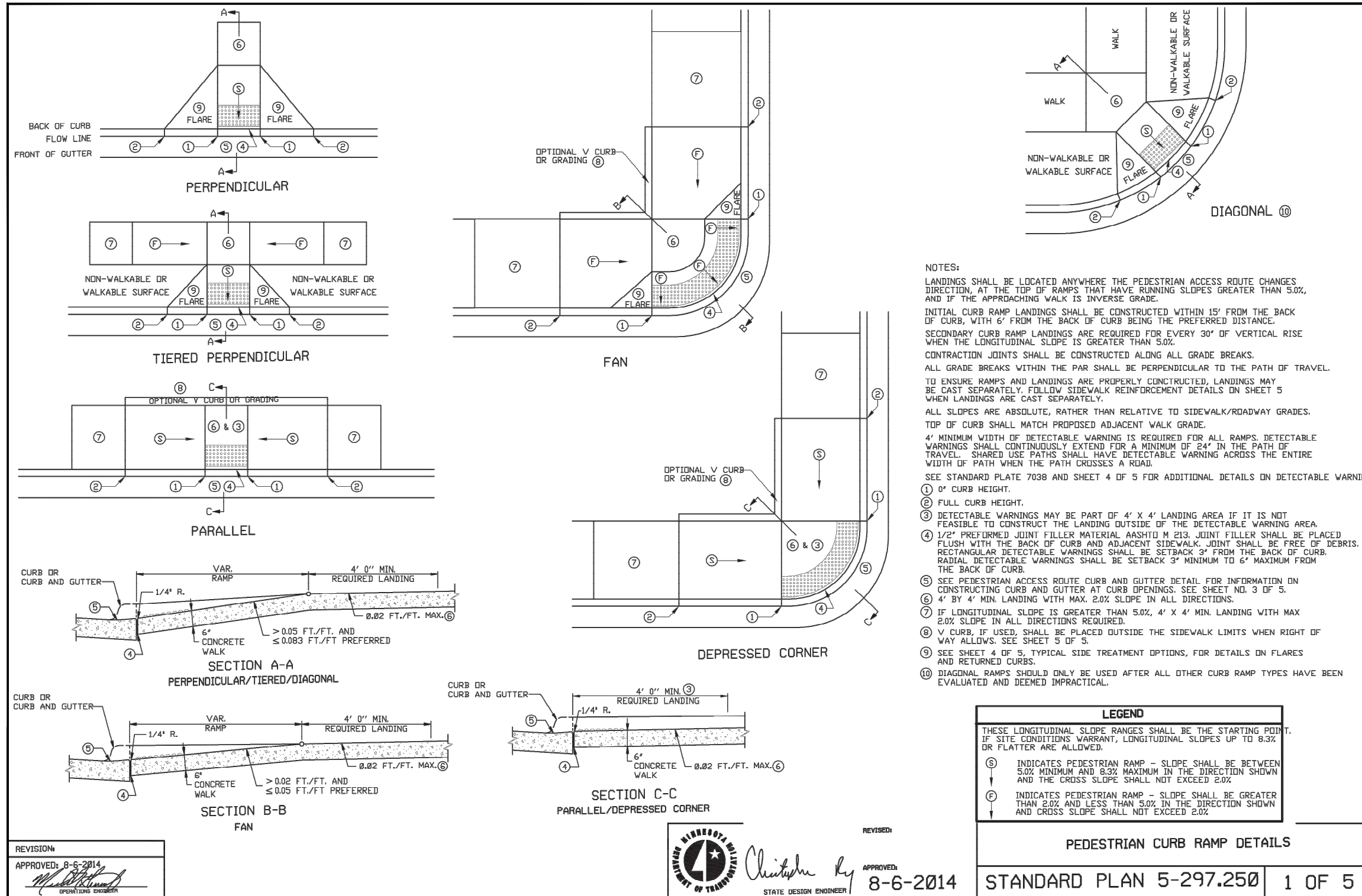


**SEA SCHOOL & WILDWOOD PARK
 FLOOD MITIGATION PROJECT**

DETAILS
 CURB & PAVING

BARR PROJECT No. 23/27-1900.00
CLIENT PROJECT No. 20-27
DWG. No. C-21
REV. No. C

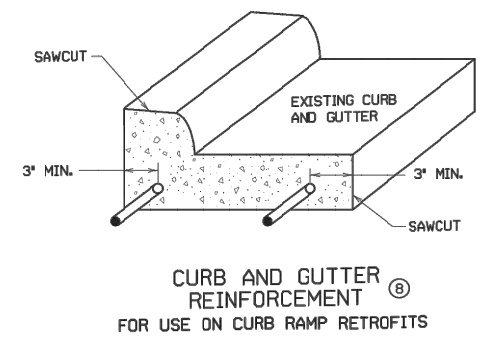
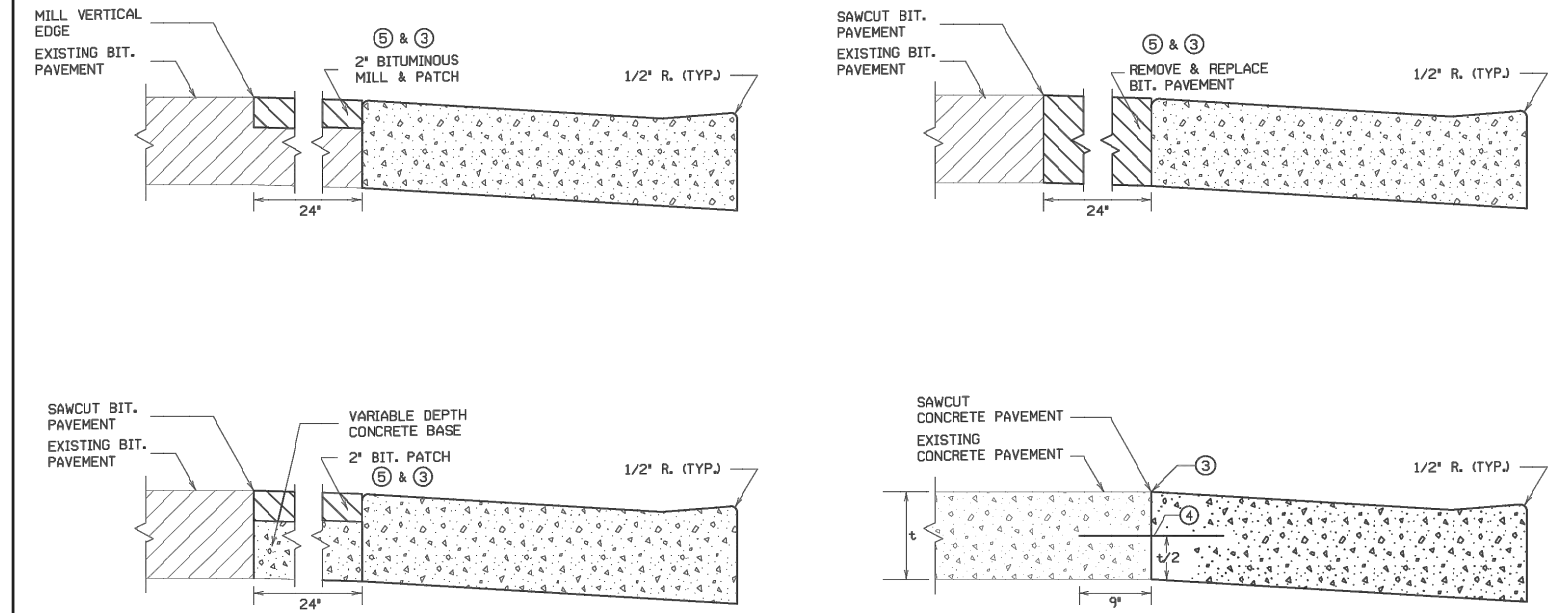
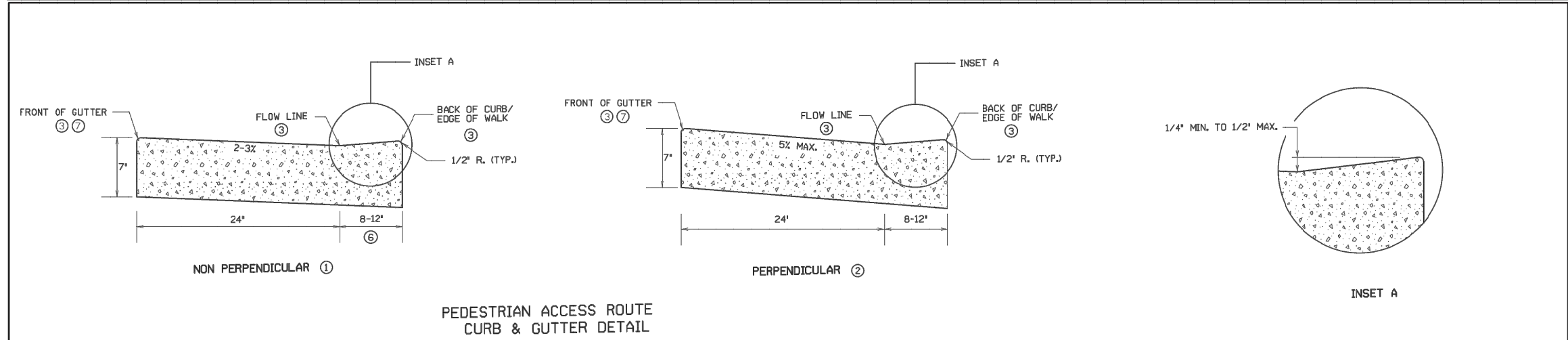
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1 DETAIL: PEDESTRIAN CURB RAMP (SHEET 1)
 NOT TO SCALE

90% DESIGN REVIEW
 NOT FOR CONSTRUCTION

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PRINTED NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE #: _____		RELEASED TO/FOR: A B C 0 1 2 3 DATE RELEASED: _____	90% DESIGN REVIEW NOT FOR CONSTRUCTION				



- NOTES:**
- POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.
 - NO PONDING SHALL BE PRESENT IN THE PAR.
 - ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.
 - ① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS, DEPRESSED CORNERS, & ONE WAY AND COMBINED DIRECTIONALS.
 - ② FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.
 - ③ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4\".
 - ④ DRILL AND GROUT NO. 4 EPOXY-COATED 18\" LONG TIE BARS AT 30\" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT.
 - ⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.
 - ⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS.
 - ⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. PAR GUTTER SHALL NOT BE OVERLAID.
 - ⑧ WHERE PLAN SPECIFIES, DRILL AND GROUT 2 - NO. 4 X 12\" LONG REINFORCEMENT BARS (EPOXY COATED).

REVISIONS:
 APPROVED: 8-6-2014
Michael R. ...
 OPERATIONS ENGINEER

REVISOR:
 APPROVED: 8-6-2014
Christopher ...
 STATE DESIGN ENGINEER

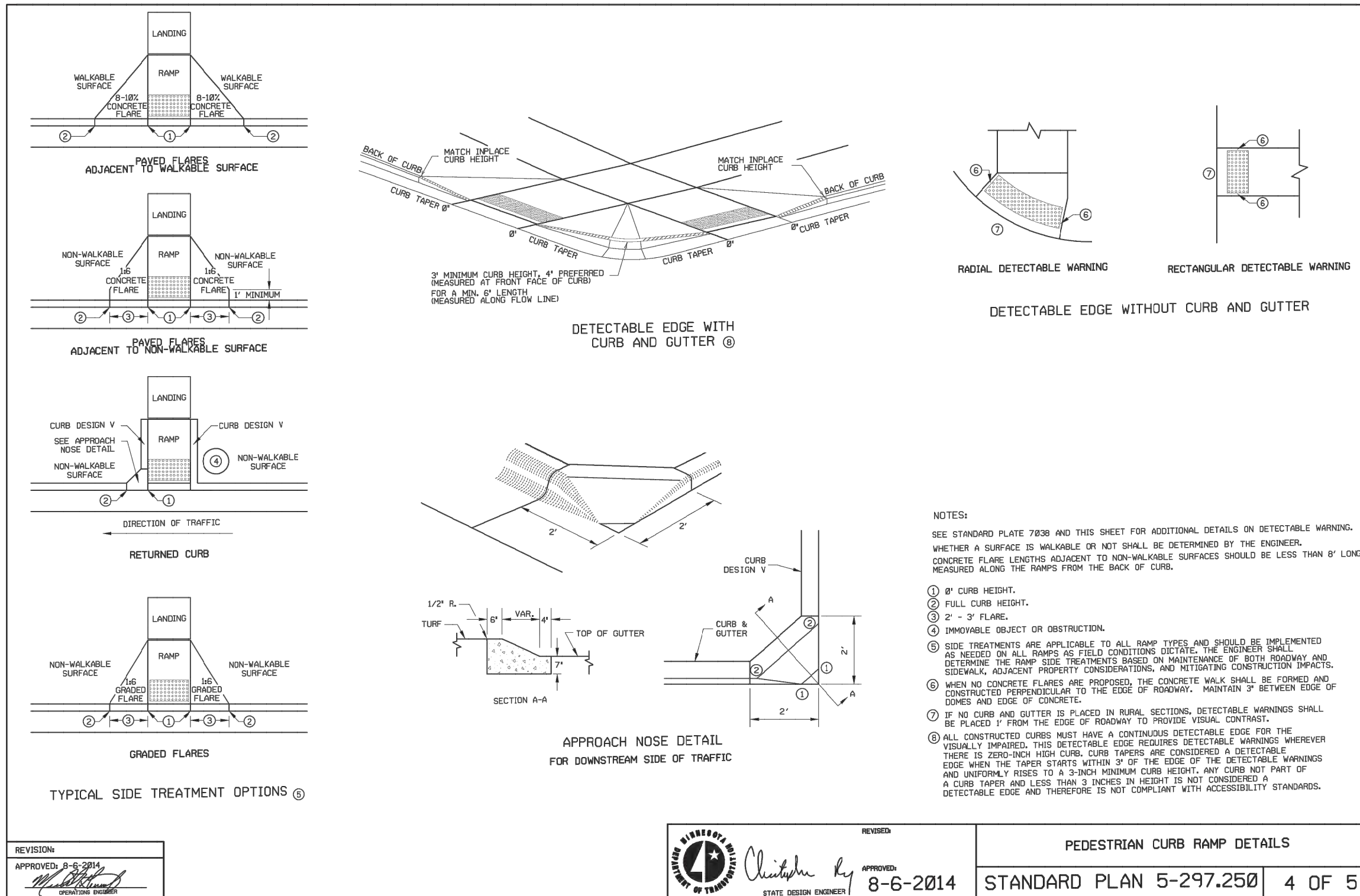
PEDESTRIAN CURB RAMP DETAILS
 STANDARD PLAN 5-297.250 3 OF 5

1 DETAIL: PEDESTRIAN CURB RAMP (SHEET 3)
 NOT TO SCALE

CADD USER: PATRICK.E. BROCKAMP FILE: M:\DESIGN\23271900_001\23271900_001.DWG PLOT SCALE: 1/2\"/>

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NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION																										



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REVISION:	
APPROVED:	8-6-2014
<i>[Signature]</i> OPERATIONS ENGINEER	

REVISION:

[Signature] APPROVED: 8-6-2014
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS	
STANDARD PLAN 5-297.250	4 OF 5

1 DETAIL: PEDESTRIAN CURB RAMP (SHEET 4)
NOT TO SCALE

90% DESIGN REVIEW
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				PRINTED NAME: _____				RECORD: _____				Date: 09/16/2012				CLIENT PROJECT No. 20-27							
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				DATE: _____				DATE RELEASED: _____				Checked: PEB				REV. No. C							
				LICENSE # _____								Designed: BARR											
												Approved: JAK2											

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Corporate Headquarters: Minneapolis, Minnesota
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DETAILS CURB & DRIVEWAY		DWG. No. C-25		REV. No. C	
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CADD USER: PATRICK.E. BROCKAMP FILE: M:\DESIGN\23271900_001\23271900_00_26.DWG PLOT SCALE: 1/2"=8'-0" PLOT DATE: 10/10/2022 5:31 PM

LANDING
36" MAX.
12"
3"

LANDING
36" MAX.
12"
3"

LANDING
36" MAX.
12"
3"

6" CONCRETE WALK
3" MINIMUM CLASS 5 AGGREGATE BASE

TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

V CURB ADJACENT TO LANDSCAPE CURB WITHIN SIDEWALK LIMITS

V CURB INTERSECTION

V CURB ADJACENT TO LANDSCAPE CURB OUTSIDE SIDEWALK LIMITS

V CURB ADJACENT TO BUILDING OR BARRIER

CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"

PLACE DETECTABLE WARNINGS ENTIRE WALK/PATH WIDTH

DETECTABLE WARNINGS 2'

NEAREST RAIL

4' 8.5"

PEDESTRIAN GATE ARM

DETECTABLE WARNINGS 2'

RAILROAD CROSSING PLAN VIEW

NON-WALKABLE SURFACE

1' MIN.

SIGNAL POLE FOUNDATION

PEDESTRIAN PUSH BUTTON STATION BASE

LANDING

RAMP

NON-WALKABLE SURFACE

CONCRETE WALK EDGES ADJACENT TO CONCRETE STRUCTURES

NOTES:

- ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS. WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.
- V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.
- END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
- ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
- EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.
- NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12" MINIMUM TO 15" MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12" MEASURED PERPENDICULAR TO THE NEAREST RAIL.
- WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM.
- WHEN PLAN SPECIFIES, DRILL AND GROUT NO. 4 12' LONG REINFORCEMENT BARS AT 36" MAX. CENTER TO CENTER (EPOXY COATED).
- TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS MAY BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET WHEN LANDINGS ARE CAST SEPARATELY.

REVISIONS:

APPROVED: 2-9-2015

OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISOR: *Christine Ky*

APPROVED: 2-9-2015

STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

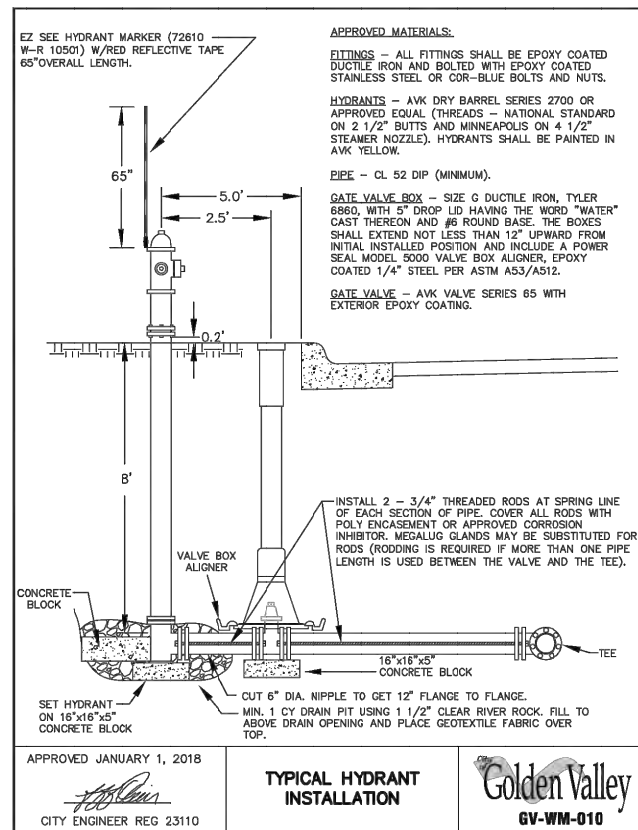
STANDARD PLAN 5-297.250 5 OF 5

1 DETAIL: PEDESTRIAN CURB RAMP (SHEET 5)
NOT TO SCALE

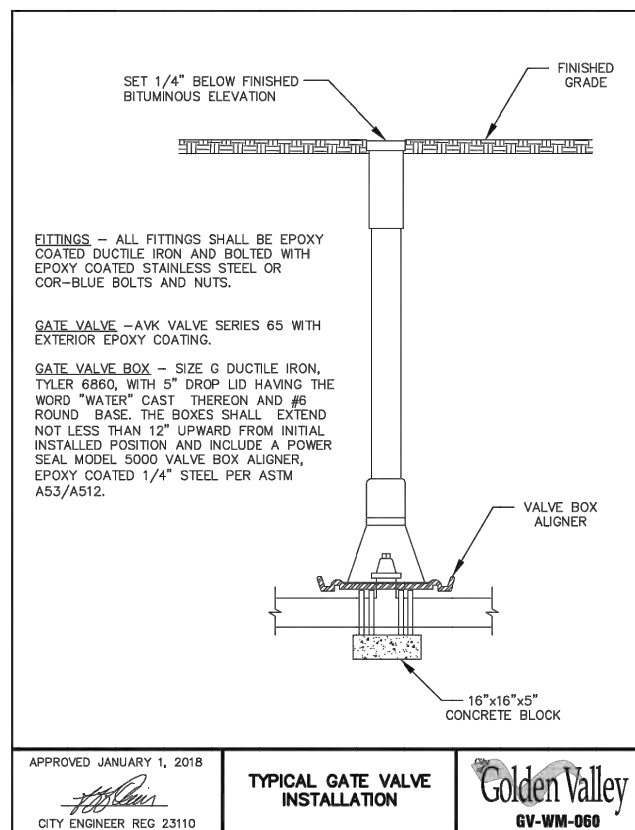
90% DESIGN REVIEW
NOT FOR CONSTRUCTION

NO.		BY	CHK.	APP.	DATE	REVISION DESCRIPTION	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.		CLIENT AGENCY BID CONSTRUCTION RECORD	01/11/22 08/23/22	08/18/22 08/23/22	A B C 0 1 2 3	RELEASED TO/FOR DATE RELEASED	BARR Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435 Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Fax: (952) 832-2601 Ph: 1-800-632-2277 www.barr.com	Scale AS SHOWN Date 09/16/2022 Drawn EPF Checked PEB Designed BARR Approved JAK2	city of golden valley	SEA SCHOOL & WILDWOOD PARK FLOOD MITIGATION PROJECT DETAILS CURB & DRIVEWAY	BARR PROJECT No. 23/27-1900.00 CLIENT PROJECT No. 20-27 DWG. No. C-26 REV. No. C
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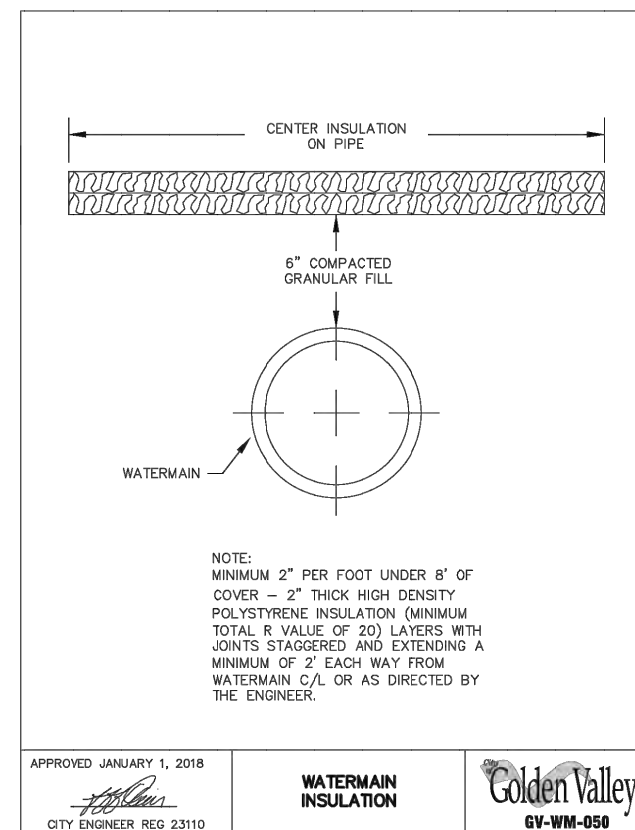
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1 DETAIL: WATER HYDRANT
 NOT TO SCALE



2 DETAIL: GATE VALVE
 NOT TO SCALE



3 DETAIL: WATERMAIN INSULATION
 NOT TO SCALE

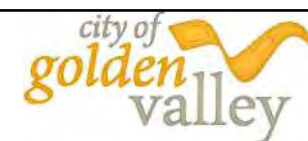
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NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION

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AGENCY		08/23/22					
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CONSTRUCTION							
RECORD							
RELEASED TO/FOR	A	B	C	0	1	2	3
DATE RELEASED							

BARR
 Project Office:
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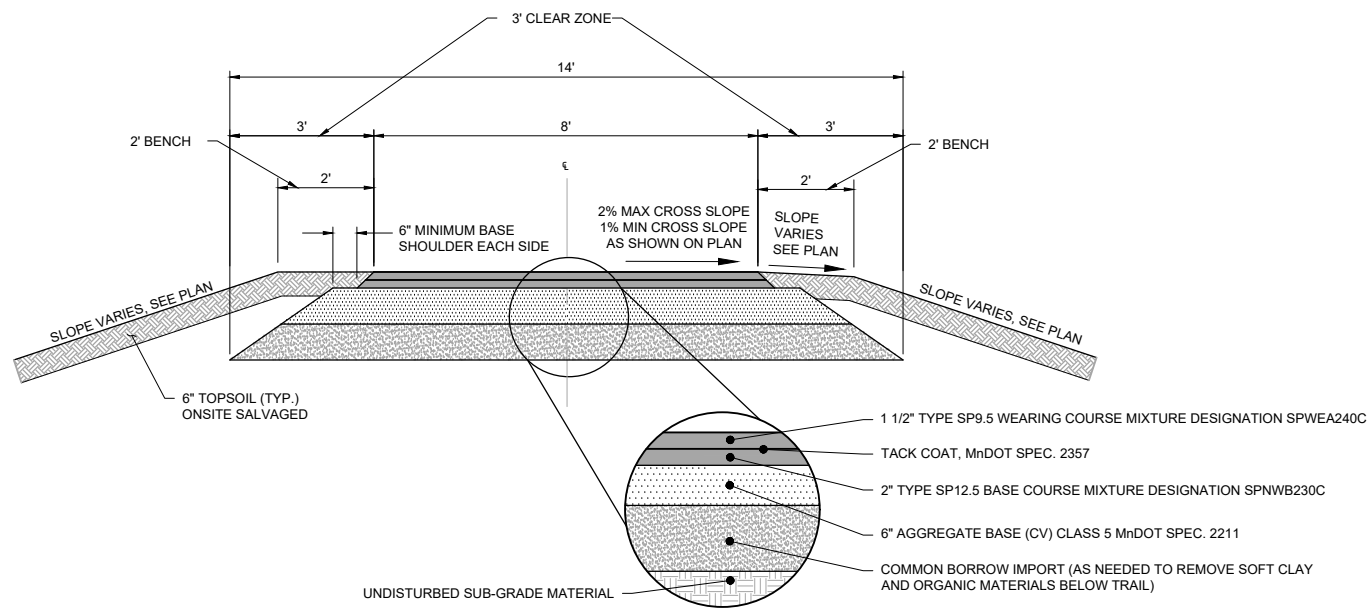
Scale	AS SHOWN
Date	09/16/2022
Drawn	EPF
Checked	PEB
Designed	BARR
Approved	JAK2



**SEA SCHOOL & WILDWOOD PARK
 FLOOD MITIGATION PROJECT**

**DETAILS
 WATERMAIN**

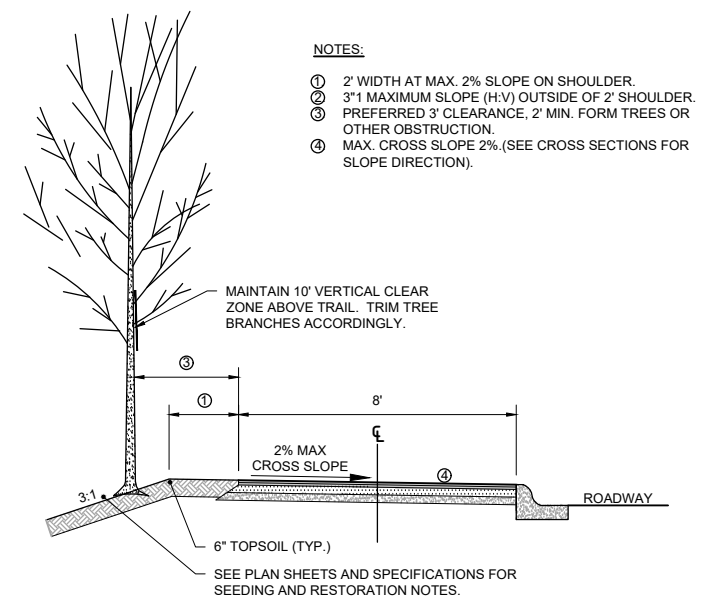
BARR PROJECT No.	23/27-1900.00
CLIENT PROJECT No.	20-27
DWG. No.	C-27
REV. No.	C



NOTES:

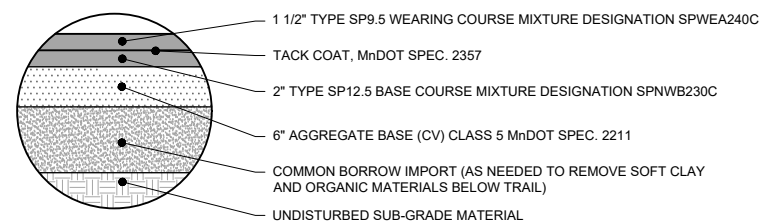
1. COMPACT ALL AGGREGATE BASE AND SELECT GRANULAR TO 100% STANDARD PROCTOR
2. PROPOSED PLAN INDICATES SLOPE DIRECTIONS OF TRAILS.

1 TYPICAL SECTION: WILDWOOD PARK TRAIL
NOT TO SCALE



NOTES:

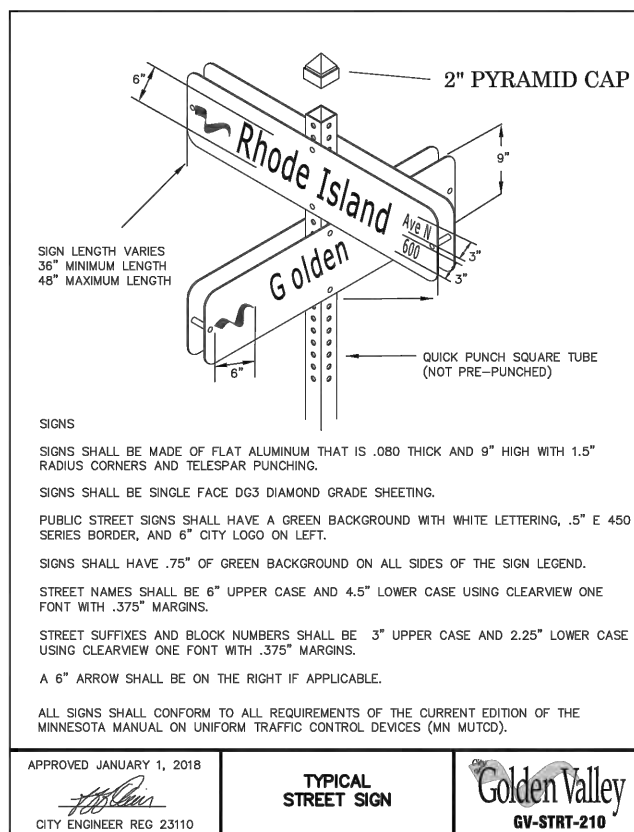
1. 2' WIDTH AT MAX. 2% SLOPE ON SHOULDER.
2. 3:1 MAXIMUM SLOPE (H:V) OUTSIDE OF 2' SHOULDER.
3. PREFERRED 3' CLEARANCE, 2' MIN. FORM TREES OR OTHER OBSTRUCTION.
4. MAX. CROSS SLOPE 2%. (SEE CROSS SECTIONS FOR SLOPE DIRECTION).



NOTES:

1. COMPACT ALL AGGREGATE BASE AND SELECT GRANULAR TO 100% STANDARD PROCTOR
2. PROPOSED PLAN INDICATES SLOPE DIRECTIONS OF TRAILS.

2 SECTION: KELLY DRIVE/DULUTH STREET TRAIL RESTORATION
NOT TO SCALE

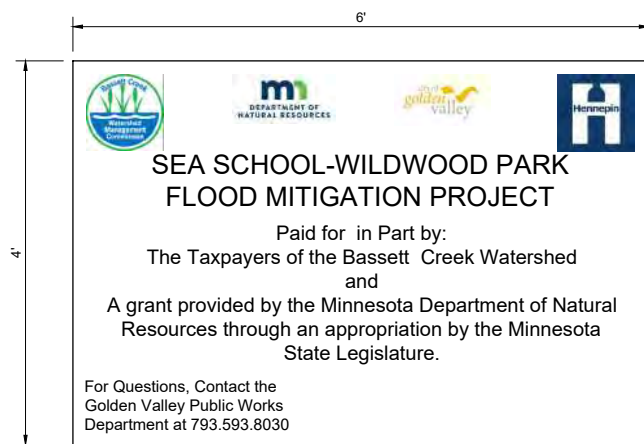


SIGNS

SIGNS SHALL BE MADE OF FLAT ALUMINUM THAT IS .080 THICK AND 9" HIGH WITH 1.5" RADIUS CORNERS AND TELESPEAR PUNCHING.
 SIGNS SHALL BE SINGLE FACE DG3 DIAMOND GRADE SHEETING.
 PUBLIC STREET SIGNS SHALL HAVE A GREEN BACKGROUND WITH WHITE LETTERING, .5" E 450 SERIES BORDER, AND 6" CITY LOGO ON LEFT.
 SIGNS SHALL HAVE .75" OF GREEN BACKGROUND ON ALL SIDES OF THE SIGN LEGEND.
 STREET NAMES SHALL BE 6" UPPER CASE AND 4.5" LOWER CASE USING CLEARVIEW ONE FONT WITH .375" MARGINS.
 STREET SUFFIXES AND BLOCK NUMBERS SHALL BE 3" UPPER CASE AND 2.25" LOWER CASE USING CLEARVIEW ONE FONT WITH .375" MARGINS.
 A 6" ARROW SHALL BE ON THE RIGHT IF APPLICABLE.
 ALL SIGNS SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MN MUTOD).

APPROVED JANUARY 1, 2018
 CITY ENGINEER REG 23110
TYPICAL STREET SIGN
 Golden Valley
 GV-STRT-210

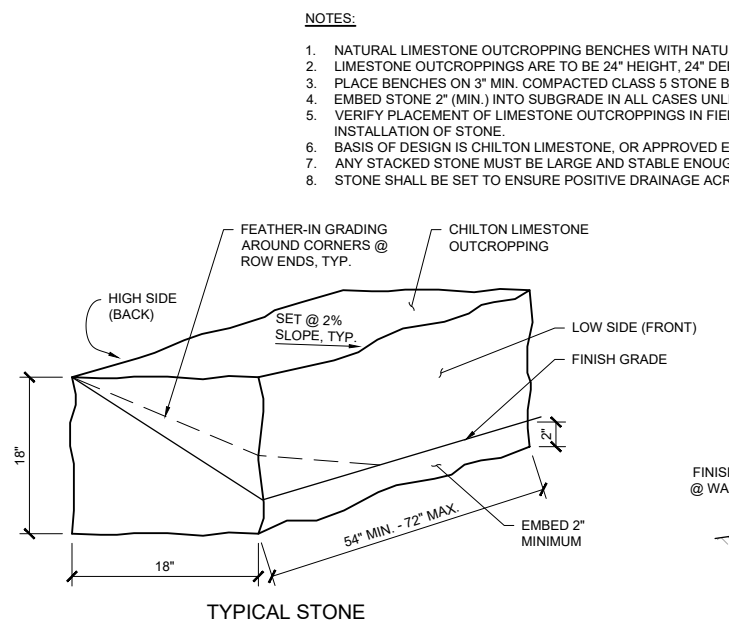
3 DETAIL: STREET SIGN (TYPICAL)
NOT TO SCALE



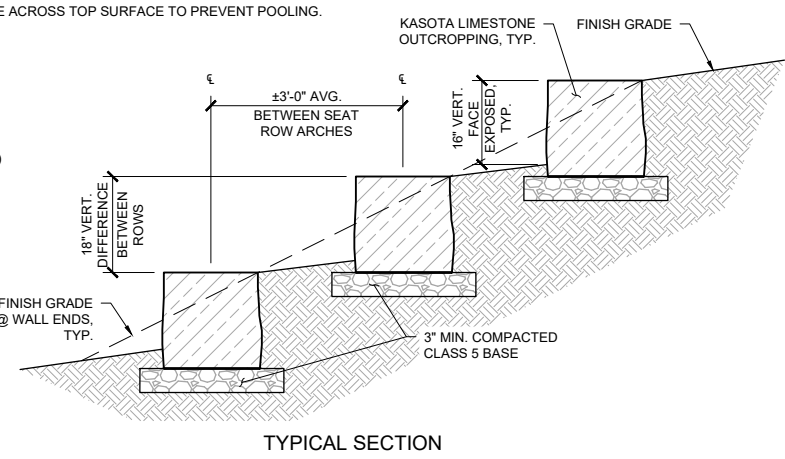
NOTE:

1. SIGN SHALL BE MOUNTED ON 4" X 4" POSTS AND SHALL BE PLACED IN A LOCATION HIGHLY VISIBLE TO ALL TRAFFIC ENTERING THE PROJECT.

4 DETAIL: BCWMC SIGN
AS SHOWN



TYPICAL STONE



TYPICAL SECTION

5 DETAIL: LIMESTONE SEAT OUTCROPPING, TYP.
NOT TO SCALE

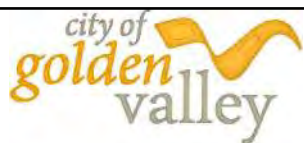
NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION

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.
 PRINTED NAME: _____
 SIGNATURE: _____
 DATE: _____ LICENSE # _____

CLIENT	01/11/22	08/23/22	09/16/22			
AGENCY						
BID						
CONSTRUCTION						
RECORD						
RELEASED TO/FOR	A	B	C	0	1	2
DATE RELEASED						

BARR
 Project Office:
 BARR ENGINEERING CO.
 4300 MARKETPOINTE DRIVE
 Suite 200
 MINNEAPOLIS, MN 55435
 Corporate Headquarters:
 Minneapolis, Minnesota
 Ph: 1-800-632-2277
 Ph: (952) 832-2601
 www.barr.com

Scale	AS SHOWN
Date	09/16/2022
Drawn	EPF
Checked	PEB
Designed	BARR
Approved	JAK2



SEA SCHOOL & WILDWOOD PARK FLOOD MITIGATION PROJECT
DETAILS
BITUMINOUS TRAIL & MISCELLANEOUS

BARR PROJECT No.	23/27-1900.00
CLIENT PROJECT No.	20-27
DWG. No.	C-28
REV. No.	C


90% DESIGN REVIEW
 NOT FOR CONSTRUCTION

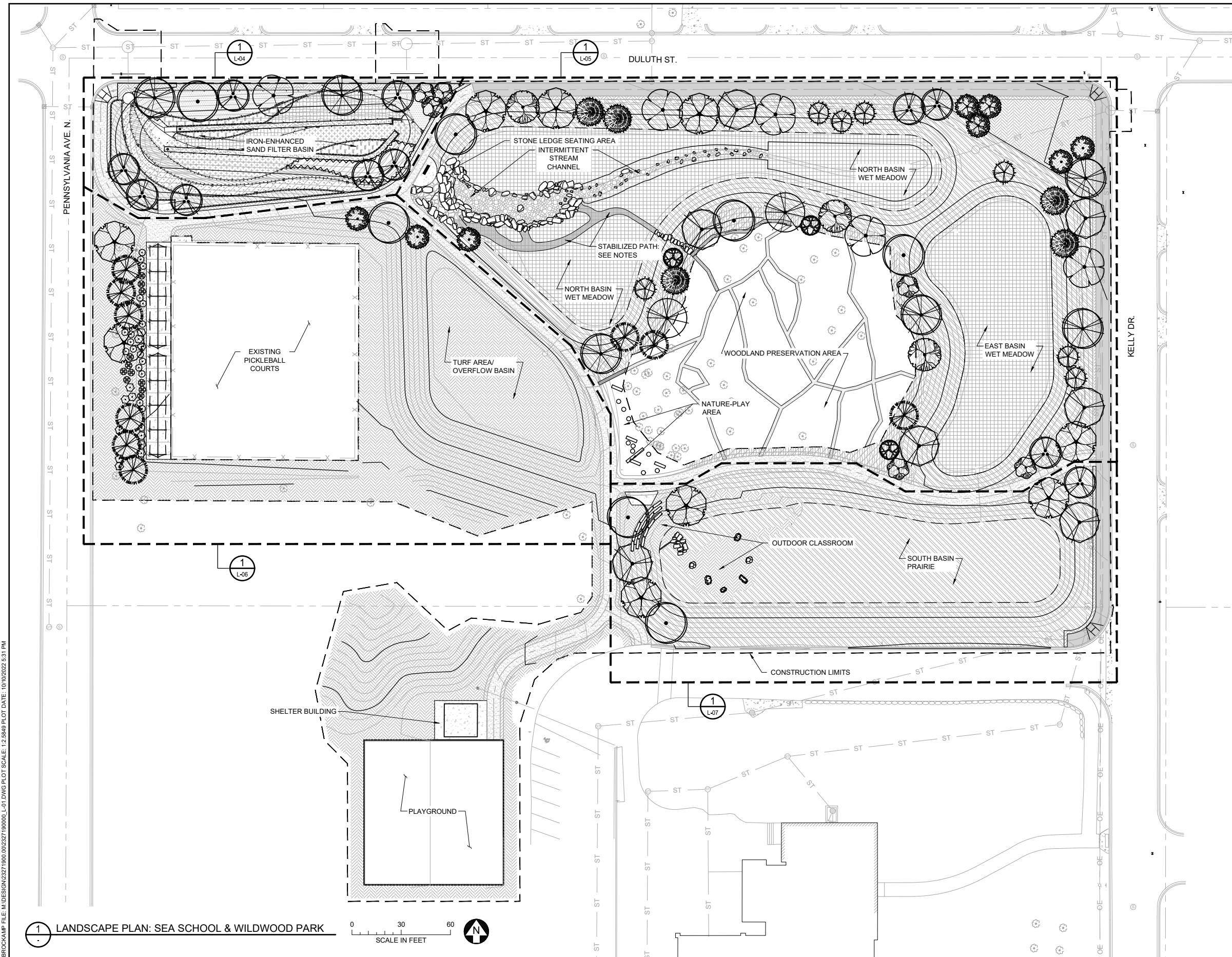
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RESTORATION PLAN LEGEND

- 995— EXISTING 5' CONTOUR
- 994— EXISTING 1' CONTOUR
- 995— PROPOSED 5' CONTOUR
- 994— PROPOSED 1' CONTOUR
- - - - EXISTING PROPERTY LINE
- ST — EXISTING STORM SEWER
- W — EXISTING WATERMAIN
- X — X — EXISTING FENCE
- - - - CONSTRUCTION LIMITS

SHEET NOTES:

1. SEE SHEET L-03 FOR SEEDING INFORMATION
2. SEE SHEET L-11 FOR TREE AND SHRUB PLANTING DETAILS.
3. SEE  FOR SPECIAL SOIL PREP REQUIREMENTS
4. LOCATE UNDERGROUND UTILITIES PRIOR TO TREE AND SHRUB PLANTING. NOTIFY ENGINEER OF CONFLICTS WITH UTILITIES. TREE AND SHRUB LOCATIONS WILL BE ADJUSTED IN THE FIELD.
5. TOPOGRAPHIC CONTOURS NOT SHOWN FOR CLARITY.
6. CONTRACTOR SHALL REPLACE IN KIND ANY TURF DAMAGED DURING CONSTRUCTION BEYOND THE EXTENTS SHOWN ON THE PLAN.
7. STABILIZED PATH: 4" DEEP DECOMPOSED GRANITE, OR APPROVED EQUAL MATERIAL.



LANDSCAPE PLAN: SEA SCHOOL & WILDWOOD PARK



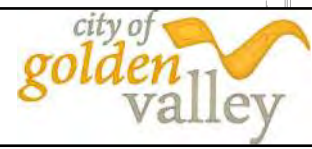
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PRINTED NAME	_____			
SIGNATURE	_____			
DATE	_____			
LICENSE #	_____			

CLIENT AGENCY	01/11/22	08/23/22				
BID CONSTRUCTION RECORD						
RELEASED TO/FOR	A	B	C	0	1	2
DATE RELEASED						

BARR ENGINEERING CO.
4300 MARKETPOINTE DRIVE
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MINNEAPOLIS, MN 55435
Ph: 1-800-632-2277
Fax: (952) 832-2601
www.barr.com

Scale	AS SHOWN
Date	09/16/2022
Drawn	EPF
Checked	PEB
Designed	BARR
Approved	JAK2



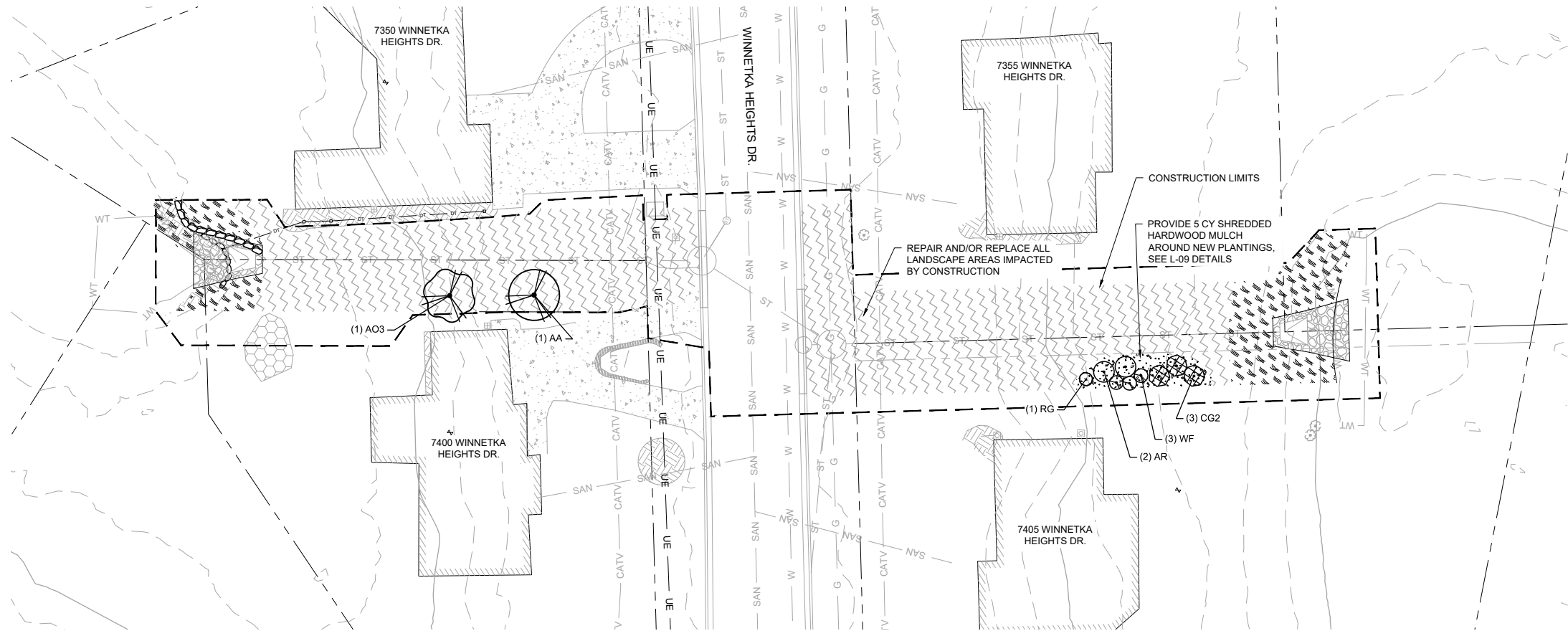
**SEA SCHOOL & WILDWOOD PARK
FLOOD MITIGATION PROJECT**

LANDSCAPE PLAN
SEA SCHOOL & WILDWOOD PARK - OVERALL

BARR PROJECT No.	23/27-1900.00
CLIENT PROJECT No.	20-27
DWG. No.	L-01
REV. No.	C

CADD USER: PATRICK.E. BROCKAMP FILE: M:\DESIGN\23271900_00\2327190000_L-01.DWG PLOT SCALE: 12.5649 PLOT DATE: 10/10/2022 5:31 PM

SYMBOL AND PATTERN LEGEND	
	EXISTING 10' CONTOUR
	EXISTING 2' CONTOUR
	EXISTING PROPERTY LINE
	EXISTING WETLAND DELINEATION
	EXISTING STORM SEWER
	EXISTING SANITARY SEWER
	EXISTING GAS LINE
	EXISTING WATERMAIN
	EXISTING FENCE
	CONSTRUCTION LIMITS



- LOW MAINTENANCE TURF
 - EROSION CONTROL BLANKET
 - MnDOT 25-131 LOW MAINTENANCE TURF MIX, SEEDING RATE: 220 LBS./ACRE
- NATIVE BUFFER (SHORELINE)
 - EROSION CONTROL BLANKET
 - SHORELINE SEED MIX (W/ PLUGS)
 - SEE L-08 FOR SEED MIX DESIGN

- NOTES:**
- SEEDING MUST BE COMPLETED WHEN PONDS ARE AT NWL
 - SEE SHEET L-09 FOR TREE AND SHRUB PLANTING DETAILS.
 - SEE FOR SPECIAL SOIL PREP REQUIREMENTS
 - LOCATE UNDERGROUND UTILITIES PRIOR TO TREE AND SHRUB PLANTING. NOTIFY ENGINEER OF CONFLICTS WITH UTILITIES. TREE AND SHRUB LOCATIONS WILL BE ADJUSTED IN THE FIELD.
 - ALL TREES SHOWN ON THIS SHEET SHALL RECEIVE 1/3rd CY SHREDDED HARDWOOD MULCH, REFER TO L-09 PLANTING DETAILS FOR ADDITIONAL INFORMATION.
 - FINAL LOCATIONS OF PLANT MATERIAL SHOWN ON THIS SHEET SHALL BE DETERMINED IN FIELD BY LANDSCAPE ARCHITECT.

1 PLAN: LANDSCAPE - DECOLA POND D OUTLET

0 20 40
SCALE IN FEET

PLANT SCHEDULE DECOLA D

TREES	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
AA	ACER X FREEMANII 'JEFFERSRED'	AUTUMN BLAZE® FREEMAN MAPLE	#10	CONT.	1
AO3	AESCULUS GLABRA	OHIO BUCKEYE	#10	CONT.	1
SHRUBS	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
AR	AMELANCHIER ALNIFOLIA 'REGENT'	REGENT SERVICEBERRY	#2	CONT.	2
CG2	CORNUS RACEMOSA	GRAY DOGWOOD	#2	CONT.	3
RG	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC	#2	CONT.	1
WF	WEIGELA FLORIDA	WEIGELA (VARIETY TBD)	#2	CONT.	3

* FINAL PLANT MATERIAL TO BE DETERMINED BY HOMEOWNER. ARRANGEMENT SHOWN IS A SAMPLE FOR PLANT MATERIAL SIZING, QUANTITY, AND GENERAL LOCATION FOR BIDDING PURPOSES.

90% DESIGN REVIEW
NOT FOR CONSTRUCTION

CADD USER: PATRICK.E. BROCKAMP FILE: M:\DESIGN\23271900_00\23271900_00.DWG PLOT SCALE: 12.5849 PLOT DATE: 10/10/2022 5:32 PM

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PRINTED NAME	SIGNATURE	DATE	LICENSE #	
NO.	BY	CHK.	APP.	DATE

CLIENT	01/11/22	08/18/22					
AGENCY		08/23/22					
BID							
CONSTRUCTION							
RECORD							
RELEASED TO/FOR	A	B	C	0	1	2	3
DATE RELEASED							

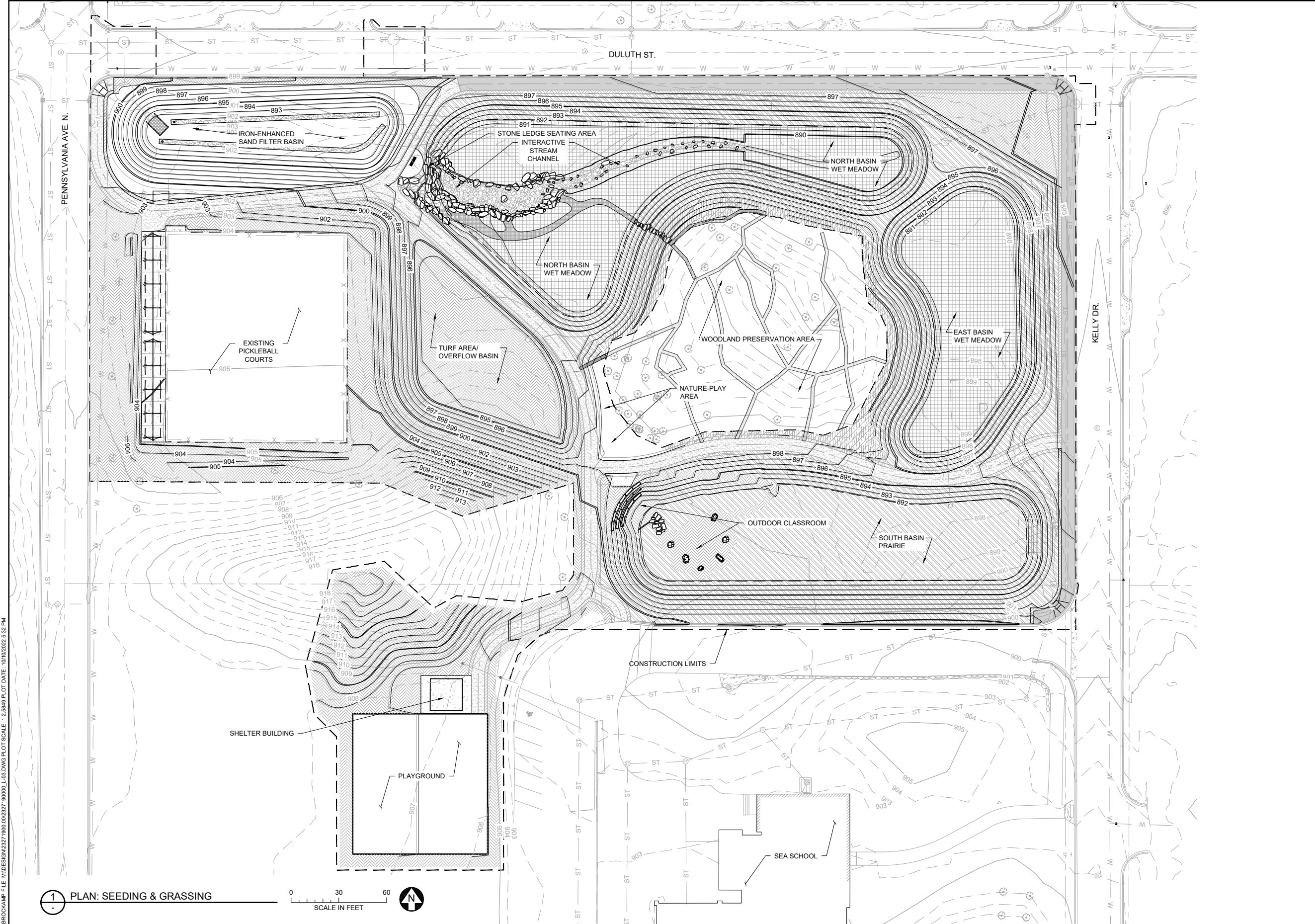
Project Office:
BARR ENGINEERING CO.
4300 MARKETPOINTE DRIVE
Suite 200
MINNEAPOLIS, MN 55435

Corporate Headquarters:
Minneapolis, Minnesota
Ph: 1-800-632-2277
Fax: (952) 832-2601
www.barr.com

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Date	09/16/2022
Drawn	EPF
Checked	PEB
Designed	BARR
Approved	JAK2




SEA SCHOOL & WILDWOOD PARK FLOOD MITIGATION PROJECT		BARR PROJECT No. 23/27-1900.00	
LANDSCAPE PLAN DECOLA POND D OUTLET		CLIENT PROJECT No. 20-27	
DWG. No.	L-02	REV. No.	C




RESTORATION PLAN LEGEND

- 995 — EXISTING 5' CONTOUR
- 994 — EXISTING 1' CONTOUR
- 995 — PROPOSED 5' CONTOUR
- 994 — PROPOSED 1' CONTOUR
- - - - EXISTING PROPERTY LINE
- ST — EXISTING STORM SEWER
- W — EXISTING WATERMAIN
- X - X - EXISTING FENCE
- - - - CONSTRUCTION LIMITS

- SEEDING PLAN SHEET NOTES:**
- SEEDING MUST BE COMPLETED WHEN PONDS ARE AT NWL
 - SEE SHEET L-08 FOR TREE AND SHRUB PLANTING DETAILS. TREES & SHRUBS NOT SHOWN FOR CLARITY.
 - SEE  FOR SPECIAL SOIL PREP REQUIREMENTS
 - LOCATE UNDERGROUND UTILITIES PRIOR TO TREE AND SHRUB PLANTING. NOTIFY ENGINEER OF CONFLICTS WITH UTILITIES. TREE AND SHRUB LOCATIONS WILL BE ADJUSTED IN THE FIELD.

SEED MIX SCHEDULE

	WET MEADOW SEED MIX SEE L-08 FOR MIX DESIGN	25,889 SF
	PRAIRIE SEED MIX SEE L-08 FOR MIX DESIGN	47,821 SF
	WOODLAND EDGE SEED MIX SEE L-08 FOR MIX DESIGN	3,902 SF
	SEE LAWN TURF SEED MIX SEE L-08 FOR MIX DESIGN	52,639 SF

1 PLAN: SEEDING & GRASSING
 SCALE IN FEET 0 30 60


90% DESIGN REVIEW
 NOT FOR CONSTRUCTION

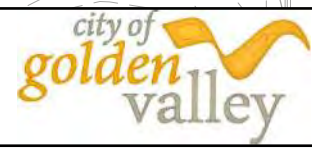
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

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PRINTED NAME	
SIGNATURE	
DATE	LICENSE #

CLIENT	01/11/22	08/18/22					
AGENCY							
BID							
CONSTRUCTION							
RECORD							
RELEASED TO/FOR	A	B	C	0	1	2	3
DATE RELEASED							

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Scale	AS SHOWN
Date	09/16/2022
Drawn	EPF
Checked	PEB
Designed	BARR
Approved	JAK2



**SEA SCHOOL & WILDWOOD PARK
 FLOOD MITIGATION PROJECT**
 LANDSCAPE PLAN
 SEA SCHOOL & WILDWOOD PARK - GRASSING & SEEDING

BARR PROJECT No.	23/27-1900.00
CLIENT PROJECT No.	20-27
DWG. No.	L-03
REV. No.	C

CADD USER: PATRICK.E. BROCKAMP FILE: M:\DESIGN\23271900_00\23271900_00.L03.DWG PLOT SCALE: 12.5849 PLOT DATE: 10/10/2022 5:32 PM

PLANT SCHEDULE - IRON-ENHANCES SAND FILTER BASIN

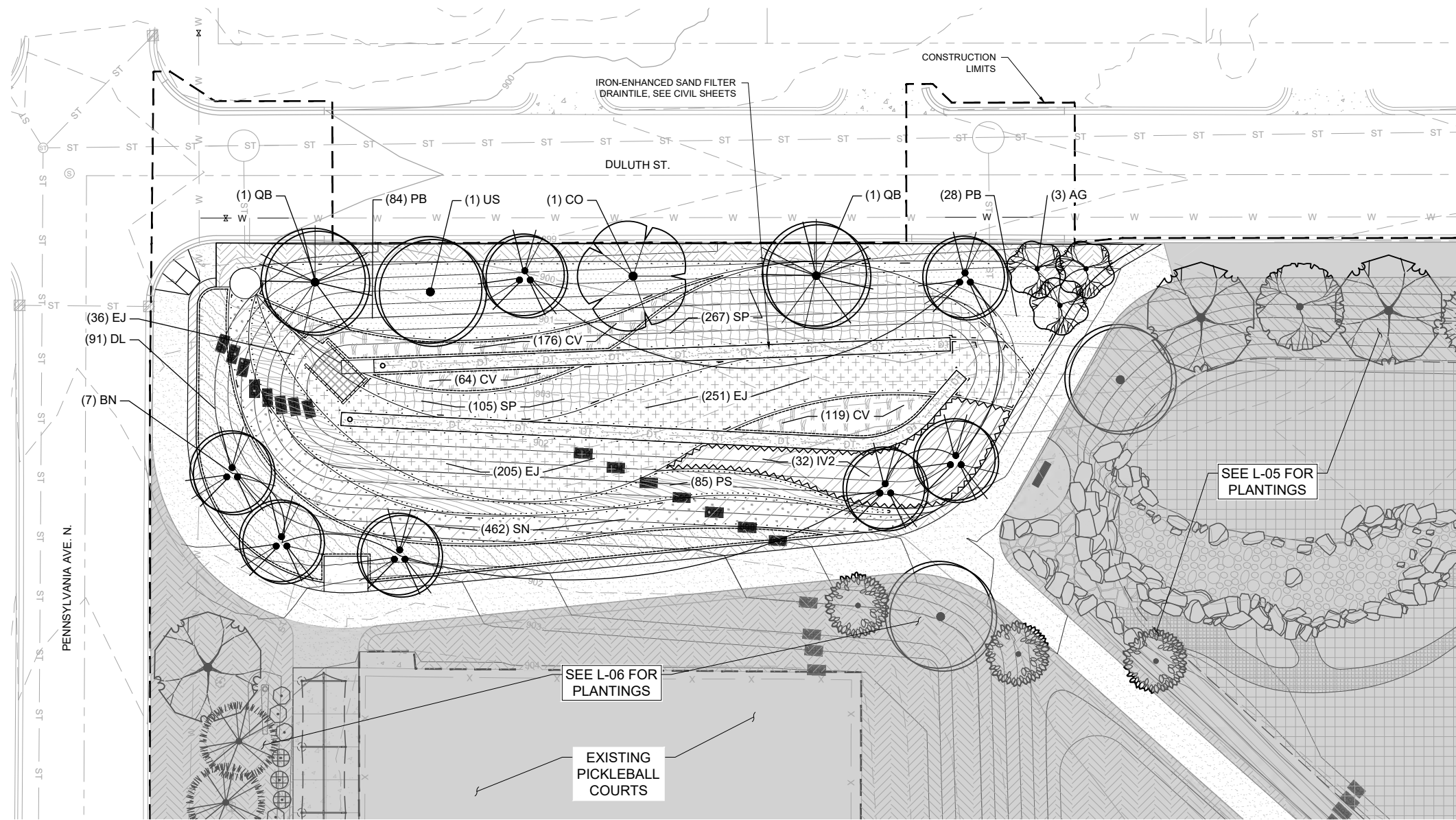
TREES	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
AG	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE APPLE SERVICEBERRY	#10	CONT.	3
BN	BETULA NIGRA	RIVER BIRCH MULTI-TRUNK	#10	CONT.	7
CO	CELTIS OCCIDENTALIS	COMMON HACKBERRY	#10	CONT.	1
QB	QUERCUS BICOLOR	SWAMP WHITE OAK	#10	CONT.	2
US	ULMUS AMERICANA 'ST. CROIX' TM	ST. CROIX AMERICAN ELM	#10	CONT.	1

SEE L-08 FOR PLANTING SCHEDULE OF PLANT MASSINGS WITHIN BASIN

RESTORATION PLAN LEGEND

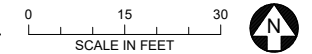
- 995— EXISTING 5' CONTOUR
- 994— EXISTING 1' CONTOUR
- 995— PROPOSED 5' CONTOUR
- 994— PROPOSED 1' CONTOUR
- - - - EXISTING PROPERTY LINE
- ST — EXISTING STORM SEWER
- W — EXISTING WATERMAIN
- X — X — EXISTING FENCE
- - - - CONSTRUCTION LIMITS
- WET MEADOW SEED MIX
-SEE L-03 FOR LOCATIONS
- PRAIRIE SEED MIX
-SEE L-03 FOR LOCATIONS
- WOODLAND EDGE SEED MIX
-SEE L-03 FOR LOCATIONS
- BEE LAWN TURF SEED MIX
-SEE L-03 FOR LOCATIONS

- SHEET NOTES:**
- SEE SHEET L-03 FOR SEEDING INFORMATION
 - SEE SHEET L-09 FOR TREE AND SHRUB PLANTING DETAILS.
 - SEE FOR SPECIAL SOIL PREP REQUIREMENTS
 - LOCATE UNDERGROUND UTILITIES PRIOR TO TREE AND SHRUB PLANTING. NOTIFY ENGINEER OF CONFLICTS WITH UTILITIES. TREE AND SHRUB LOCATIONS WILL BE ADJUSTED IN THE FIELD.
 - CONTRACTOR SHALL REPLACE IN KIND ANY TURF DAMAGED DURING CONSTRUCTION BEYOND THE EXTENTS SHOWN ON THE PLAN.
 - STABILIZED PATH: 4" DEEP DECOMPOSED GRANITE, OR APPROVED EQUAL METHOD.



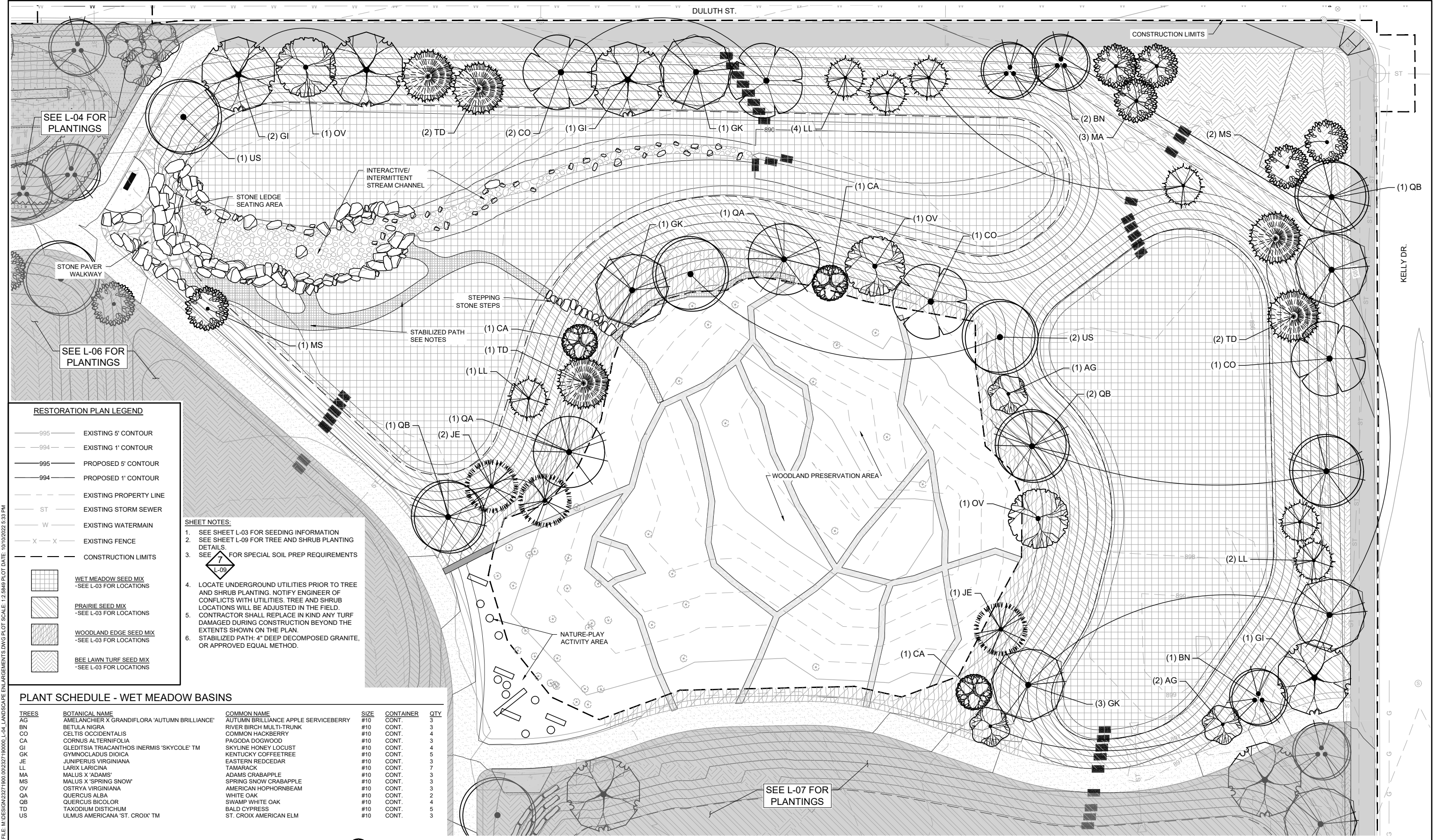
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1 PLAN: IRON ENHANCED SAND FILTER BASIN



90% DESIGN REVIEW
NOT FOR CONSTRUCTION

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PRINTED NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE #: _____				NO. BY CHK. APP. DATE REVISION DESCRIPTION				DWG. No. L-04 REV. No. C				LANDSCAPE PLAN SEA SCHOOL & WILDWOOD PARK - ENLARGEMENT 1				SEA SCHOOL & WILDWOOD PARK - ENLARGEMENT 1											



SEE L-04 FOR PLANTINGS

SEE L-06 FOR PLANTINGS

SEE L-07 FOR PLANTINGS

RESTORATION PLAN LEGEND

- 995 — EXISTING 5' CONTOUR
- 994 — EXISTING 1' CONTOUR
- 995 — PROPOSED 5' CONTOUR
- 994 — PROPOSED 1' CONTOUR
- — EXISTING PROPERTY LINE
- ST — EXISTING STORM SEWER
- W — EXISTING WATERMAIN
- X — X — EXISTING FENCE
- — — CONSTRUCTION LIMITS
- WET MEADOW SEED MIX
-SEE L-03 FOR LOCATIONS
- PRAIRIE SEED MIX
-SEE L-03 FOR LOCATIONS
- WOODLAND EDGE SEED MIX
-SEE L-03 FOR LOCATIONS
- BEE LAWN TURF SEED MIX
-SEE L-03 FOR LOCATIONS

SHEET NOTES:

1. SEE SHEET L-03 FOR SEEDING INFORMATION
2. SEE SHEET L-09 FOR TREE AND SHRUB PLANTING DETAILS
3. SEE FOR SPECIAL SOIL PREP REQUIREMENTS
4. LOCATE UNDERGROUND UTILITIES PRIOR TO TREE AND SHRUB PLANTING. NOTIFY ENGINEER OF CONFLICTS WITH UTILITIES. TREE AND SHRUB LOCATIONS WILL BE ADJUSTED IN THE FIELD. CONTRACTOR SHALL REPLACE IN KIND ANY TURF DAMAGED DURING CONSTRUCTION BEYOND THE EXTENTS SHOWN ON THE PLAN.
5. STABILIZED PATH: 4" DEEP DECOMPOSED GRANITE, OR APPROVED EQUAL METHOD.

PLANT SCHEDULE - WET MEADOW BASINS

TREES	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
AG	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE APPLE SERVICEBERRY	#10	CONT.	3
BN	BETULA NIGRA	RIVER BIRCH MULTI-TRUNK	#10	CONT.	3
CO	CELTIS OCCIDENTALIS	COMMON HACKBERRY	#10	CONT.	4
CA	CORNUS ALTERNIFOLIA	PAGODA DOGWOOD	#10	CONT.	3
GI	GLEDITSIA TRIACANTHOS INERMIS 'SKYCOLE'™	SKYLINE HONEY LOCUST	#10	CONT.	4
GK	GYMNOCLADUS DIOICA	KENTUCKY COFFEETREE	#10	CONT.	5
JE	JUNIPERUS VIRGINIANA	EASTERN REDCEDAR	#10	CONT.	3
LL	LARIX LARICINA	TAMARACK	#10	CONT.	7
MA	MALUS X 'ADAMS'	ADAMS CRABAPPLE	#10	CONT.	3
MS	MALUS X 'SPRING SNOW'	SPRING SNOW CRABAPPLE	#10	CONT.	3
OV	Ostrya virginiana	AMERICAN HOPHORNBEAM	#10	CONT.	3
QA	QUERCUS ALBA	WHITE OAK	#10	CONT.	2
QB	QUERCUS BICOLOR	SWAMP WHITE OAK	#10	CONT.	4
TD	TAXODIUM DISTICHUM	BALD CYPRESS	#10	CONT.	5
US	ULMUS AMERICANA 'ST. CROIX'™	ST. CROIX AMERICAN ELM	#10	CONT.	3

1 PLAN: STREAM & WET MEADOW BASIN



90% DESIGN REVIEW
NOT FOR CONSTRUCTION

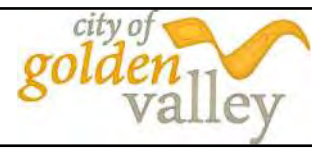
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

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AGENCY		BID								
CONSTRUCTION		RECORD								
RELEASED TO/FOR		A	B	C	0	1	2	3		
DATE RELEASED										

BARR
Corporate Headquarters: Minneapolis, Minnesota
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www.barr.com

Scale	AS SHOWN
Date	09/16/2022
Drawn	EPF
Checked	PEB
Designed	BARR
Approved	JAK2



SEA SCHOOL & WILDWOOD PARK
FLOOD MITIGATION PROJECT

LANDSCAPE PLAN
SEA SCHOOL & WILDWOOD PARK - ENLARGEMENT 2

BARR PROJECT No. 23/27-1900.00
CLIENT PROJECT No. 20-27
DWG. No. L-05
REV. No. C

CADD USER: PATRICK.E. BROCKAMP FILE: M:\DESIGN\23271900\091622\L-04_LANDSCAPE ENLARGEMENTS.DWG PLOT SCALE: 1:2,500 PLOT DATE: 10/10/2022 3:33 PM

PLANT SCHEDULE - PICKLEBALL COURT

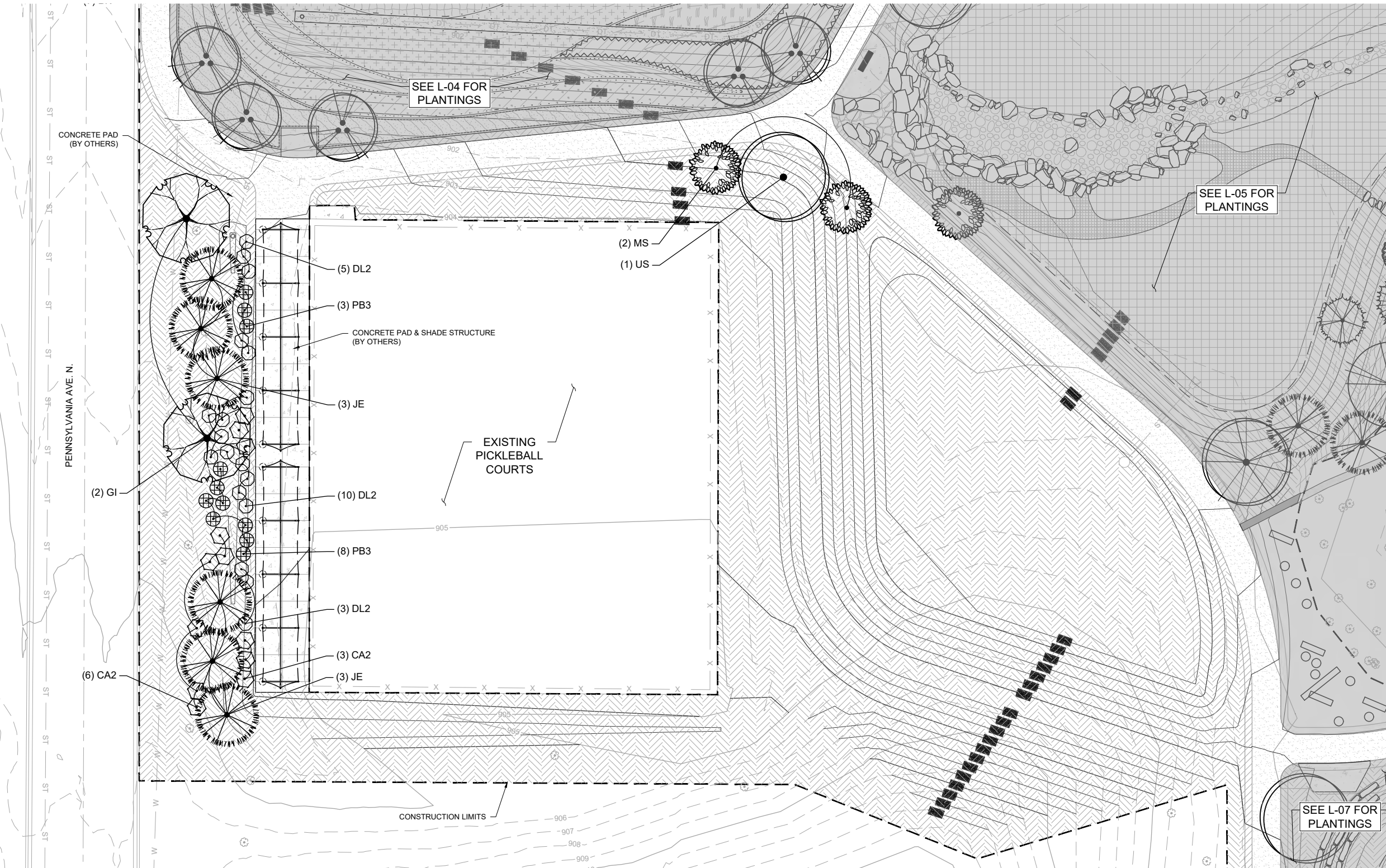
TREES	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
GI	GLEDITSIA TRIACANTHOS INERMIS 'SKYCOLE' TM	SKYLINE HONEY LOCUST	#10	CONT.	2
JE	JUNIPERUS VIRGINIANA	EASTERN REDCEDAR	#10	CONT.	6
MS	MALLUS X 'SPRING SNOW'	SPRING SNOW CRABAPPLE	#10	CONT.	1
US	ULMUS AMERICANA 'ST. CROIX' TM	ST. CROIX AMERICAN ELM	#10	CONT.	1

SHRUBS	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
CA2	CORYLUS AMERICANA	AMERICAN HAZELNUT	#2	CONT.	12
DL2	DIERVILLA LONICERA	DWARF BUSH HONEYSUCKLE	#1	CONT.	18
PB3	PHYSCARPUS OPULIFOLIUS 'MONLO'	DIABLO® NINEBARK	#2	CONT.	11

RESTORATION PLAN LEGEND

- 995— EXISTING 5' CONTOUR
- 994— EXISTING 1' CONTOUR
- 995— PROPOSED 5' CONTOUR
- 994— PROPOSED 1' CONTOUR
- - - - EXISTING PROPERTY LINE
- ST — EXISTING STORM SEWER
- W — EXISTING WATERMAIN
- X — X — EXISTING FENCE
- - - - CONSTRUCTION LIMITS
- [Grid Pattern] WET MEADOW SEED MIX
-SEE L-03 FOR LOCATIONS
- [Diagonal Lines] PRAIRIE SEED MIX
-SEE L-03 FOR LOCATIONS
- [Cross-hatch] WOODLAND EDGE SEED MIX
-SEE L-03 FOR LOCATIONS
- [Wavy Lines] BEE LAWN TURF SEED MIX
-SEE L-03 FOR LOCATIONS

- SHEET NOTES:**
- SEE SHEET L-03 FOR SEEDING INFORMATION
 - SEE SHEET L-09 FOR TREE AND SHRUB PLANTING DETAILS
 - SEE [Symbol] FOR SPECIAL SOIL PREP REQUIREMENTS
 - LOCATE UNDERGROUND UTILITIES PRIOR TO TREE AND SHRUB PLANTING. NOTIFY ENGINEER OF CONFLICTS WITH UTILITIES. TREE AND SHRUB LOCATIONS WILL BE ADJUSTED IN THE FIELD. CONTRACTOR SHALL REPLACE IN KIND ANY TURF DAMAGED DURING CONSTRUCTION BEYOND THE EXTENTS SHOWN ON THE PLAN.
 - STABILIZED PATH: 4" DEEP DECOMPOSED GRANITE, OR APPROVED EQUAL METHOD.



1 PLAN: PICKLEBALL COURT AREA

0 15 30
SCALE IN FEET

90% DESIGN REVIEW
NOT FOR CONSTRUCTION

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. PRINTED NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE # _____		CLIENT AGENCY: _____ BID: _____ CONSTRUCTION RECORD: _____ RELEASED TO/FOR: _____ DATE RELEASED: _____		Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435 Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com		Scale: AS SHOWN Date: 09/16/2022 Drawn: DJS2 Checked: MDB3 Designed: BARR Approved: JAK2		city of golden valley		SEA SCHOOL & WILDWOOD PARK FLOOD MITIGATION PROJECT LANDSCAPING PLAN SEA SCHOOL & WILDWOOD PARK - ENLARGEMENT 3		BARR PROJECT No. 23/27-1900.00 CLIENT PROJECT No. 20-27 DWG. No. L-06 REV. No. C	
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CADD USER: PATRICK E. BROCKAMP FILE: M:\DESIGN\23271900_00\23271900_00_L-04_LANDSCAPE ENLARGEMENTS.DWG PLOT SCALE: 1:2,500 PLOT DATE: 10/10/2022 9:33 PM

PLANT SCHEDULE - PRAIRIE BASIN

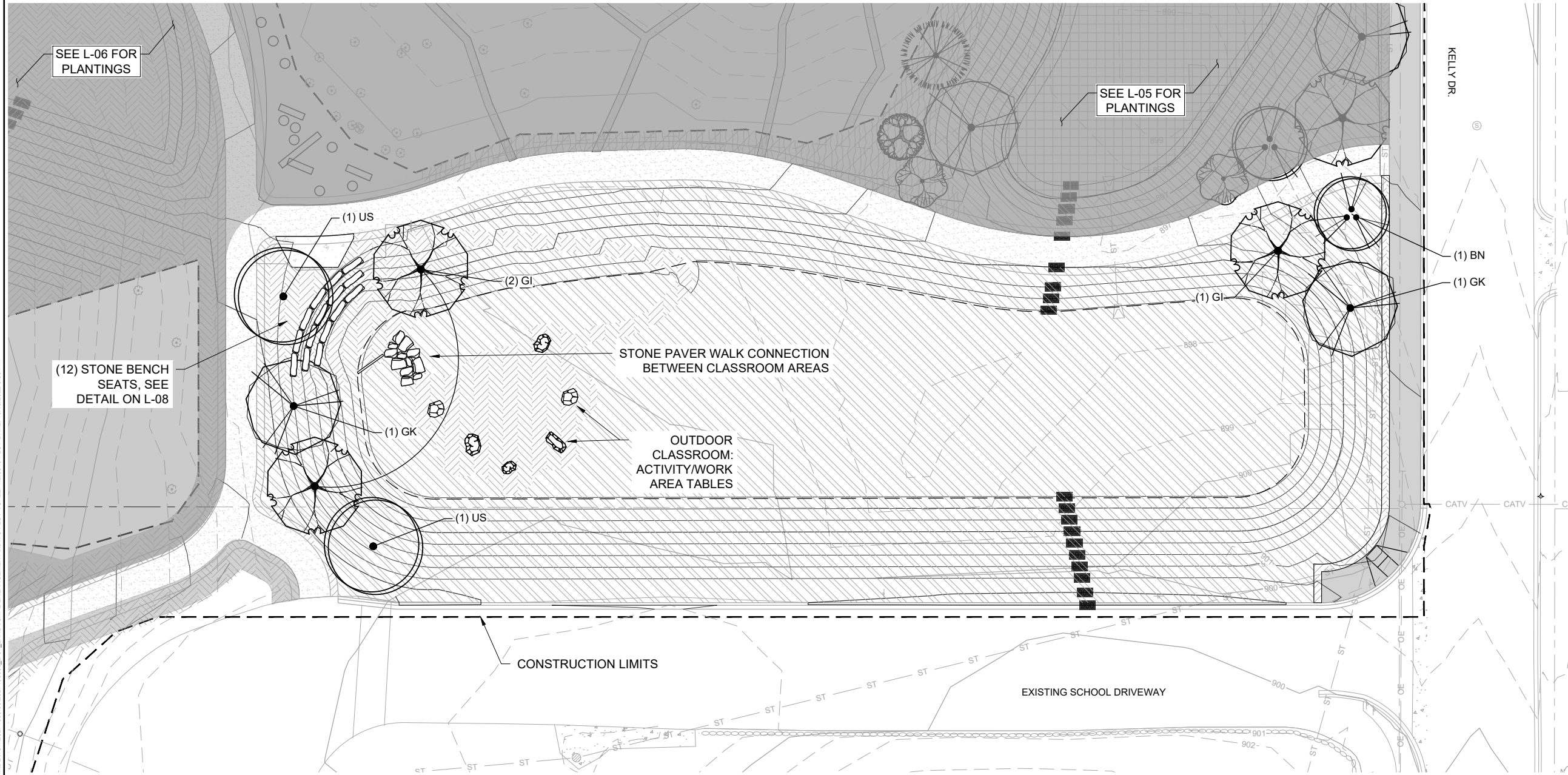
TREES	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY
BN	BETULA NIGRA	RIVER BIRCH MULTI-TRUNK	#10	CONT.	1
GI	GLEDITSIA TRIACANTHOS INERMIS 'SKYCOLE'™	SKYLINE HONEY LOCUST	#10	CONT.	3
GK	GYMNOCLADUS DIOICA	KENTUCKY COFFEETREE	#10	CONT.	2
US	ULMUS AMERICANA 'ST. CROIX'™	ST. CROIX AMERICAN ELM	#10	CONT.	2

RESTORATION PLAN LEGEND

- 995— EXISTING 5' CONTOUR
- 994— EXISTING 1' CONTOUR
- 995— PROPOSED 5' CONTOUR
- 994— PROPOSED 1' CONTOUR
- - - - EXISTING PROPERTY LINE
- ST — EXISTING STORM SEWER
- W — EXISTING WATERMAIN
- X — X — EXISTING FENCE
- - - - CONSTRUCTION LIMITS
- WET MEADOW SEED MIX
-SEE L-03 FOR LOCATIONS
- PRAIRIE SEED MIX
-SEE L-03 FOR LOCATIONS
- WOODLAND EDGE SEED MIX
-SEE L-03 FOR LOCATIONS
- BEE LAWN TURF SEED MIX
-SEE L-03 FOR LOCATIONS

SHEET NOTES:

- SEE SHEET L-03 FOR SEEDING INFORMATION
- SEE SHEET L-09 FOR TREE AND SHRUB PLANTING DETAILS
- SEE FOR SPECIAL SOIL PREP REQUIREMENTS
- LOCATE UNDERGROUND UTILITIES PRIOR TO TREE AND SHRUB PLANTING. NOTIFY ENGINEER OF CONFLICTS WITH UTILITIES. TREE AND SHRUB LOCATIONS WILL BE ADJUSTED IN THE FIELD.
- CONTRACTOR SHALL REPLACE IN KIND ANY TURF DAMAGED DURING CONSTRUCTION BEYOND THE EXTENTS SHOWN ON THE PLAN.
- STABILIZED PATH: 4" DEEP DECOMPOSED GRANITE, OR APPROVED EQUAL METHOD.



SEE L-06 FOR PLANTINGS

SEE L-05 FOR PLANTINGS

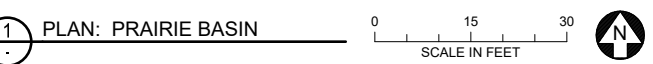
(12) STONE BENCH SEATS, SEE DETAIL ON L-08

STONE PAVER WALK CONNECTION BETWEEN CLASSROOM AREAS

OUTDOOR CLASSROOM: ACTIVITY/WORK AREA TABLES

CONSTRUCTION LIMITS

EXISTING SCHOOL DRIVEWAY



90% DESIGN REVIEW
NOT FOR CONSTRUCTION

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. PRINTED NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE # _____		CLIENT: _____ AGENCY: _____ BID: _____ CONSTRUCTION: _____ RECORD: _____ RELEASED TO/FOR: _____ DATE RELEASED: _____		 Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435 Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com		Scale: AS SHOWN Date: 09/16/2022 Drawn: DJS2 Checked: MDB3 Designed: BARR Approved: JAK2		 SEA SCHOOL & WILDWOOD PARK FLOOD MITIGATION PROJECT LANDSCAPE PLAN SEA SCHOOL & WILDWOOD PARK - ENLARGEMENT 4		BARR PROJECT No. 23/27-1900.00 CLIENT PROJECT No. 20-27 DWG. No. L-07 REV. No. C	
NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION						

CADD USER: PATRICK.E. BROCKAMP FILE: M:\DESIGN\23271900_00\2327190000_L-04_LANDSCAPE ENLARGEMENTS.DWG PLOT SCALE: 1:2.5848 PLOT DATE: 10/10/2022 3:33 PM

TREES & SHRUBS - ENTIRE PLANT SCHEDULE - WILDWOOD PARK

TREES	CODE	QTY	COMMON / BOTANICAL NAME	SIZE	CONTAINER
	AG	6	AUTUMN BRILLIANCE APPLE SERVICEBERRY AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE' SINGLE LEADER. NO 'V' NOTCHES BELOW 48" ABOVE ROOT BALL.	#10	CONT.
	BN	11	RIVER BIRCH MULTI-TRUNK BETULA NIGRA MULTI-TRUNK FORM. MINIMUM OF 3 LEADERS.	#10	CONT.
	CO	5	COMMON HACKBERRY CELTIS OCCIDENTALIS SINGLE STRAIGHT LEADER.	#10	CONT.
	CA	3	PAGODA DOGWOOD CORNUS ALTERNIFOLIA SINGLE LEADER. NO 'V' NOTCHES BELOW 48" ABOVE ROOT BALL.	#10	CONT.
	GI	9	SKYLINE HONEY LOCUST GLEDTISIA TRIACANTHOS INERMIS 'SKYCOLE' TM SINGLE STRAIGHT LEADER.	#10	CONT.
	GK	7	KENTUCKY COFFEETREE GYMNOCLADUS DIOICIA SINGLE STRAIGHT LEADER.	#10	CONT.
	JE	9	EASTERN REDCEDAR JUNIPERUS VIRGINIANA SINGLE STRAIGHT LEADER. NO SHEARED OR CLIPPED TREES WILL BE ACCEPTED.	#10	CONT.
	LL	7	TAMARACK LARIX LARICINA SINGLE STRAIGHT LEADER. NO SHEARED OR CLIPPED TREES WILL BE ACCEPTED.	#10	CONT.
	MA	3	ADAMS CRABAPPLE MALUS X 'ADAMS' SINGLE LEADER. NO 'V' NOTCHES BELOW 48" ABOVE ROOT BALL.	#10	CONT.
	MS	5	SPRING SNOW CRABAPPLE MALUS X 'SPRING SNOW' SINGLE LEADER. NO 'V' NOTCHES BELOW 48" ABOVE ROOT BALL.	#10	CONT.
	OV	3	AMERICAN HOPHORNBEAM OSTRYA VIRGINIANA SINGLE STRAIGHT LEADER.	#10	CONT.
	QA	2	WHITE OAK QUERCUS ALBA SINGLE STRAIGHT LEADER.	#10	CONT.
	QB	6	SWAMP WHITE OAK QUERCUS BICOLOR SINGLE STRAIGHT LEADER.	#10	CONT.
	TD	5	BALD CYPRESS TAXODIUM DISTICHUM SINGLE STRAIGHT LEADER. NO SHEARED OR CLIPPED TREES WILL BE ACCEPTED.	#10	CONT.
	US	7	ST. CROIX AMERICAN ELM ULMUS AMERICANA 'ST. CROIX' TM SINGLE STRAIGHT LEADER.	#10	CONT.
SHRUBS	CODE	QTY	COMMON / BOTANICAL NAME	SIZE	CONTAINER
	CA2	12	AMERICAN HAZELNUT CORYLUS AMERICANA	#2	CONT.
	DL2	18	DWARF BUSH HONEYSUCKLE DIERVILLA LONICERA	#1	CONT.
	PB3	11	DIABOLO® NINEBARK PHYSCARPUS OPULIFOLIUS 'MONLO'	#2	CONT.

WET MEADOW SEED MIX

Common Name	Scientific Name	PLS Rate (lb/ac)	% of Mix (by weight)
Canada Blue Joint Grass	<i>Calamagrostis canadensis</i>	0.12	0.4%
Canada Wild Rye	<i>Elymus canadensis</i>	0.25	0.7%
Riverbank Wild Rye	<i>Elymus riparius</i>	0.50	1.5%
Switchgrass	<i>Panicum virgatum</i>	0.50	1.5%
Fowl Bluegrass	<i>Poa palustris</i>	0.13	0.4%
Little Bluestem	<i>Schizachyrium scoparium</i>	2.00	5.9%
Indian Grass	<i>Sorghastrum nutans</i>	0.40	1.2%
Prairie Cordgrass	<i>Spartina pectinata</i>	1.00	3.0%
Purpletop	<i>Tridens flavus</i>	0.24	0.7%
Grasses Subtotal		5.14	15%
Porcupine Sedge	<i>Carex hystericina</i>	0.02	0.1%
Field Oval Sedge	<i>Carex molesta</i>	0.06	0.2%
Palm Sedge	<i>Carex muskingumensis</i>	0.12	0.4%
Long-beaked Sedge	<i>Carex sprengeii</i>	0.03	0.1%
Awl-fruited Sedge	<i>Carex stipata</i>	0.06	0.2%
Tussock Sedge	<i>Carex stricta</i>	0.063	0.2%
Fox Sedge	<i>Carex vulpinoidea</i>	0.10	0.3%
Sedges & Rushes Subtotal		0.45	1%
Columbine	<i>Aquilegia canadensis</i>	0.06	0.2%
Swamp Milkweed	<i>Asclepias incarnata</i>	0.12	0.4%
Purple Milkweed	<i>Asclepias purpurascens</i>	0.12	0.4%
Butterfly Milkweed	<i>Asclepias tuberosa</i>	0.06	0.2%
White Wild Indigo	<i>Baptisia alba</i>	0.30	0.9%
Partridge Pea	<i>Chamaecrista fasciculata</i>	1.00	3.0%
Purple Prairie Clover	<i>Dalea purpurea</i>	0.15	0.4%
Narrow-Leaved Coneflower	<i>Echinacea angustifolia</i>	0.10	0.3%
Rattlesnake Master	<i>Eryngium yuccifolium</i>	0.10	0.3%
Boneset	<i>Eupatorium perfoliatum</i>	0.05	0.1%
Joe-Pye Weed	<i>Eutrochium maculatum</i>	0.06	0.2%
Bottle Gentian	<i>Gentiana andrewsii</i>	0.06	0.2%
Meadow Blazing Star	<i>Liatris ligulistylis</i>	0.08	0.2%
Prairie Blazing Star	<i>Liatris pycnostachya</i>	0.04	0.1%
Wild Lupine	<i>Lupinus perennis</i>	0.30	0.9%
Wild Bergamot	<i>Monarda fistulosa</i>	0.01	0.0%
Smooth Aster	<i>Symphotrichum laeve</i>	0.06	0.2%
New England Aster	<i>Symphotrichum novae-angliae</i>	0.07	0.2%
Goat's Rue	<i>Tephrosia virginiana</i>	0.25	0.7%
Golden Alexanders	<i>Zizia aurea</i>	0.06	0.2%
Forbs Subtotal		3.05	9%
Oats	<i>Avena sativa</i>	25.00	74.3%
Cover Crop Subtotal		25.00	74%
Total		33.64	100%

PRAIRIE SEED MIX

Common Name	Scientific Name	Rate (lb/ac)	% of Mix (by weight)
Sideoats Grama	<i>Bouteloua curtipendula</i>	4.00	10.65%
Blue Grama	<i>Bouteloua gracilis</i>	0.75	2.00%
Kalm's Brome	<i>Bromus kalmii</i>	0.31	0.83%
Purple Love Grass	<i>Eragrostis spectabilis</i>	0.03	0.08%
June Grass	<i>Koeleria macrantha</i>	0.16	0.43%
Little Bluestem	<i>Schizachyrium scoparium</i>	3.00	7.99%
Purpletop	<i>Tridens flavus</i>	0.12	0.32%
Grasses Subtotal		8.37	22%
Plains Oval Sedge	<i>Carex brevior</i>	0.06	0.16%
Field Oval Sedge	<i>Carex molesta</i>	0.13	0.33%
Fox Sedge	<i>Carex vulpinoidea</i>	0.13	0.33%
Path Rush	<i>Juncus tenuis</i>	0.06	0.16%
Sedges & Rushes Subtotal		0.37	1%
Yellow giant hyssop	<i>Agastache nepetoides</i>	0.02	0.04%
Nodding Onion	<i>Allium cernuum</i>	0.04	0.11%
Prairie Onion	<i>Allium stellatum</i>	0.03	0.08%
Pearly Everlasting	<i>Anaphalis margaritacea</i>	0.02	0.05%
Pasque Flower	<i>Anemone patens</i>	0.02	0.04%
Tall Thimbleweed	<i>Anemone virginiana</i>	0.03	0.08%
Columbine	<i>Aquilegia canadensis</i>	0.04	0.11%
Butterfly weed	<i>Asclepias tuberosa</i>	0.10	0.27%
Whorled Milkweed	<i>Asclepias verticillata</i>	0.04	0.11%
Aromatic aster	<i>Aster oblongifolius</i>	0.03	0.08%
White Wild Indigo	<i>Baptisia alba</i>	0.50	1.33%
Cream wild indigo	<i>Baptisia bracteata</i>	0.50	1.33%
Partridge Pea	<i>Chamaecrista fasciculata</i>	1.00	2.66%
White Prairie Clover	<i>Dalea candida</i>	0.10	0.27%
Narrow-Leaved Coneflower	<i>Echinacea angustifolia</i>	0.08	0.21%
Flowering Spurge	<i>Euphorbia corollata</i>	0.03	0.08%
Biennial Gaura	<i>Gaura biennis</i>	0.30	0.80%
Prairie Smoke	<i>Geum triflorum</i>	0.03	0.08%
Button Blazing Star	<i>Liatris aspera</i>	0.06	0.16%
Meadow Blazing Star	<i>Liatris ligulistylis</i>	0.06	0.16%
Spotted Bee Balm	<i>Monarda punctata</i>	0.06	0.16%
Large-flowered Beardtongue	<i>Penstemon grandiflorus</i>	0.04	0.11%
Black-eyed Susan	<i>Rudbeckia hirta</i>	0.30	0.80%
Sweet Black-Eyed Susan	<i>Rudbeckia subtomentosa</i>	0.03	0.08%
Stiff Goldenrod	<i>Solidago rigida</i>	0.01	0.03%
Prairie Violet	<i>Viola pedatifida</i>	0.30	0.80%
Heart-leaf Golden Alexanders	<i>Zizia aurea</i>	0.06	0.16%
Forbs Subtotal		3.82	10%
Oats	<i>Avena sativa</i>	25.00	66.56%
Cover Crop Subtotal		25.00	67%
Total		37.56	100.0%

WOODLAND EDGE CENTRAL SEED MIX (MNDOT 36-711)

Common Name	Scientific Name	PLS Rate (lb/ac)	% of Mix (by weight)
Big Bluestem	<i>Andropogon gerardii</i>	0.50	1.42%
Side-oats Grama	<i>Bouteloua curtipendula</i>	1.00	2.81%
Fringed Brome	<i>Bromus ciliatus</i>	0.50	1.39%
Kalm's Brome	<i>Bromus kalmii</i>	1.50	4.22%
Poverty Grass	<i>Danthonia spicata</i>	0.37	1.04%
Nodding Wild Rye	<i>Elymus canadensis</i>	0.75	2.11%
Slender Wheatgrass	<i>Elymus trachycaulus</i>	1.00	2.81%
Virginia Wild Rye	<i>Elymus virginicus</i>	1.75	4.93%
Little Bluestem	<i>Schizachyrium scoparium</i>	1.13	3.17%
Indian Grass	<i>Sorghastrum nutans</i>	0.50	1.41%
Grasses Subtotal		9.00	25.31%
Common Yarrow	<i>Achillea millefolium</i>	0.03	0.09%
Blue Giant Hyssop	<i>Agastache foeniculum</i>	0.06	0.18%
Leadplant	<i>Amarpha canescens</i>	0.05	0.13%
Pearly Everlasting	<i>Anaphalis margaritacea</i>	0.02	0.05%
Canada Milk Vetch	<i>Astragalus canadensis</i>	0.25	0.71%
White Prairie Clover	<i>Dalea candida</i>	0.06	0.16%
Purple Prairie Clover	<i>Dalea purpurea</i>	0.18	0.51%
Early Sunflower	<i>Helianthus scaberrimus</i>	0.13	0.37%
Round-Headed Bush Clover	<i>Lespedeza capitata</i>	0.07	0.19%
Wild Bergamot	<i>Monarda fistulosa</i>	0.06	0.18%
Clayton's Sweet Cicely	<i>Osmorhiza claytonii</i>	0.06	0.17%
Smooth Wild Rose	<i>Rosa blanda</i>	0.09	0.27%
Black Eye Susan	<i>Rudbeckia hirta</i>	0.20	0.57%
Show Goldenrod	<i>Solidago speciosa</i>	0.06	0.17%
Smooth Aster	<i>Symphotrichum laeve</i>	0.06	0.18%
Sky Blue Aster	<i>Symphotrichum oolentangiense</i>	0.06	0.17%
Golden Alexander	<i>Zizia aurea</i>	0.06	0.16%
Forbs Subtotal		1.50	4.26%
Oats	<i>Avena sativa</i>	25.00	70.43%
Cover Crop Subtotal		25.00	70.43%
Total		35.50	100.00%

BEE LAWN TURF SEED MIX

Common Name	Scientific Name	Rate (lb/ac)	% of Mix (by weight)
Sheep Fescue	<i>Festuca ovina L.</i>	44.6	23.1%
Hard Fescue	<i>Festuca longifolia</i>	44.6	23.1%
Chewings Fescue	<i>Festuca rubra var. commutata</i>	44.6	23.1%
Creeping Red Fescue	<i>Festuca rubra</i>	44.6	23.1%
Dutch White Clover	VNS	8.7	4.5%
Creeping Thyme	<i>Thymus serpyllum</i>	0.9	0.5%
Common Self-Heal	<i>Prunella vulgaris</i>	5.2	2.7%
Total		193.41	100.0%

SHORELINE SEED MIX - AT DECOLA POND 'D' OUTLET

Common Name	Scientific Name	PLS Rate (lb/ac)	% of Mix (by weight)
Big Bluestem	<i>Andropogon gerardii</i>	1.25	3.7%
Canada Blue Joint Grass	<i>Calamagrostis canadensis</i>	0.06	0.2%
Canada Wild Rye	<i>Elymus canadensis</i>	0.75	2.2%
Riverbank Wild Rye	<i>Elymus riparius</i>	0.75	2.2%
American Manna Grass	<i>Glyceria grandis</i>	0.15	0.4%
Fowl Manna Grass	<i>Glyceria striata</i>	0.11	0.3%
Rice Cut Grass	<i>Leersia oryzoides</i>	0.25	0.7%
Switchgrass	<i>Panicum virgatum</i>	0.50	1.5%
Fowl Bluegrass	<i>Poa palustris</i>	0.13	0.4%
Indian Grass	<i>Sorghastrum nutans</i>	1.00	3.0%
Prairie Cordgrass	<i>Spartina pectinata</i>	1.00	3.0%
Grasses Subtotal		5.95	18%
Porcupine Sedge	<i>Carex hystericina</i>	0.02	0.1%
Lake Sedge	<i>Carex lacustris</i>	0.25	0.7%
Palm Sedge	<i>Carex muskingumensis</i>	0.08	0.2%
Long-beaked Sedge	<i>Carex sprengeii</i>	0.03	0.1%
Tussock Sedge	<i>Carex stricta</i>	0.0625	0.2%
Fox Sedge	<i>Carex vulpinoidea</i>	0.10	0.3%
Green Bulrush	<i>Scirpus atrovirens</i>	0.19	0.6%
Wool Grass	<i>Scirpus cyperinus</i>	0.08	0.2%
Sedges & Rushes Subtotal		0.81	2%
Swamp Milkweed	<i>Asclepias incarnata</i>	0.12	0.4%
Purple Milkweed	<i>Asclepias purpurascens</i>	0.12	0.4%
Canada Anemone	<i>Anemone canadensis</i>	0.03	0.1%
White Wild Indigo	<i>Baptisia alba</i>	0.3	0.9%
False Aster	<i>Botanria asteroides</i>	0.03	0.1%
Showy Tick Trefoil	<i>Desmodium canadense</i>	0.06	0.2%
Flat-Topped Aster	<i>Doellingeria umbellata</i>	0.04	0.1%
Narrow-Leaved Coneflower	<i>Echinacea angustifolia</i>	0.08	0.2%
Rattlesnake Master	<i>Eryngium yuccifolium</i>	0.05	0.1%
Boneset	<i>Eupatorium perfoliatum</i>	0.05	0.1%
Joe-Pye Weed	<i>Eutrochium maculatum</i>	0.06	0.2%
Cream Gentian	<i>Gentiana alba</i>	0.06	0.2%
Sneezeweed	<i>Helenium autumnale</i>	0.05	0.1%
Spotted Touch Me Not	<i>Impatiens capensis</i>	0.03	0.1%
Meadow Blazing Star	<i>Liatris ligulistylis</i>	0.08	0.2%
Wild Lupine	<i>Lupinus perennis</i>	0.3	0.9%
Fringed Loosestrife	<i>Lysimachia ciliata</i>	0.02	0.1%
Swamp Candles	<i>Lysimachia terrestris</i>	0.01	0.0%
Wild Bergamot	<i>Monarda fistulosa</i>	0.01	0.0%
Wild Quinine	<i>Parthenium integrifolium</i>	0.06	0.2%
Virginia Mountain Mint	<i>Pycnanthemum virginianum</i>	0.01	0.0%
Prairie Dock	<i>Stiphium terribithraceum</i>	0.15	0.4%
Smooth Aster	<i>Symphotrichum laeve</i>	0.06	0.2%
New England Aster	<i>Symphotrichum novae-angliae</i>	0.07	0.2%
Ohio Spiderwort	<i>Tradescantia ohioensis</i>	0.02	0.1%
Blue Vervain	<i>Verbena hastata</i>	0.04	0.1%
White Vervain	<i>Verbena urticifolia</i>	0.016	0.0%
Ironweed	<i>Vernonia fasciculata</i>	0.03	0.1%
Golden Alexanders	<i>Zizia aurea</i>	0.06	0.2%
Forbs Subtotal		2.02	6%
Oats	<i>Avena sativa</i>	25.00	74.0%
Cover Crop Subtotal		25.00	74%
Total		33.77	100%

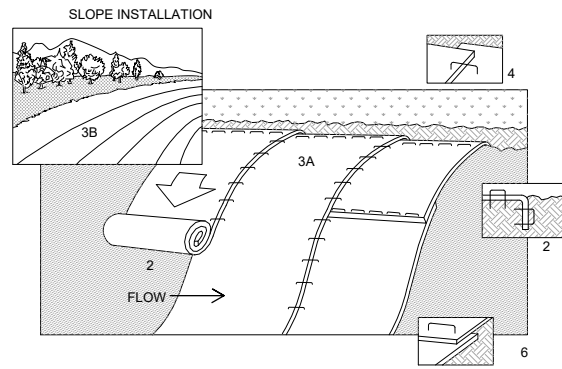
2 SCHEDULE: SEED MIXES - SEE L-03 FOR LOCATIONS

PLANTING MASSINGS - IRON ENHANCED SAND FILTER BASIN

GRASSES	CODE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	CV	CAREX VULPINOIDEA	FOX SEDGE	4" PLUG	18" o.c. 359
	PS	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	1 GAL.	36" o.c. 85
	SP	SPARTINA PECTINATA	PRAIRIE CORDGRASS	1 GAL.	24" o.c. 372
PERENNIAL	CODE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	EJ	EUPATORIUM MACULATUM	JOE PYE WEED	1 GAL.	24" o.c. 492
	SN	SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	1 GAL.	18" o.c. 462
SHRUBS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	DL	DIERVILLA LONICERA	DWARF BUSH HONEYSUCKLE	1 GAL.	48" o.c. 91
	IV2	ILEX VERTICILLATA 'JIM DANDY'	JIM DANDY WINTERBERRY	2 GAL.	60" o.c. 32
	IR	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY	2 GAL.	60" o.c. 3
	PB	PHYSCARPUS OPULIFOLIUS 'MONLO' TM	DIABOLO NINEBARK	2 GAL.	48" o.c. 112

PRAIRIE PLANTING

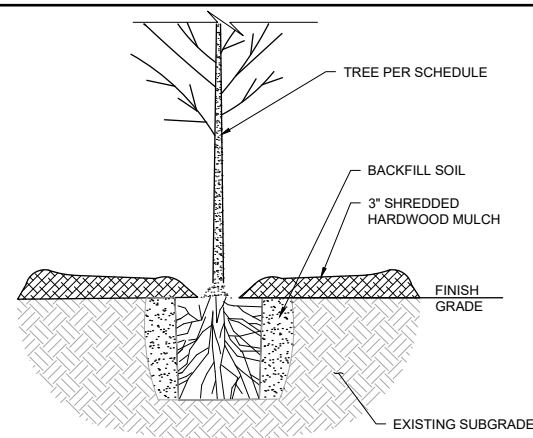
Common name	Scientific name	Spacing	Size	Qty.
Leadplant	<i>Amarpha canescens</i>	as per L.A.	Plug	TBD
Butterfly Weed	<i>Asclepias tuberosa</i>	as per L.A.	Plug	TBD
Whorled Milkweed	<i>Asclepias verticillata</i>	as per L.A.	Plug	TBD
Smooth Aster	<i>Aster laevis</i>	as per L.A.	Plug	TBD
Aromatic aster	<i>Symphotrichum oblongifolium</i>	as per L.A.	Plug	TBD
White Wild Indigo	<i>Baptisia alba</i>	as per L.A.	Plug	TBD
Pale Purple Coneflower	<i>Echinacea angustifolia</i>	as per L.A.	Plug	TBD
Purple Coneflower	<i>Echinacea purpurea</i>	as per L.A.	Plug	TBD
Rattlesnake Master	<i>Eryngium yuccifolium</i>	as per L.A.	Plug	TBD
Rough Blazing				



NOTES:

- REFER TO MANUFACTURER RECOMMENDATIONS FOR STAPLE PATTERNS FOR SLOPE INSTALLATIONS.
- PREPARE SOIL BY LOOSENING TOP 1-2 INCHES AND APPLY SEED (AND FERTILIZER WHERE REQUIRED) PRIOR TO INSTALLING BLANKETS. GROUND SHOULD BE SMOOTH AND FREE OF DEBRIS.
- BEGIN (A) AT THE TOP OF THE SLOPE AND ROLL THE BLANKETS DOWN OR (B) AT ONE END OF THE SLOPE AND ROLL THE BLANKETS HORIZONTALLY ACROSS THE SLOPE.
- THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 6" OVERLAP, WITH THE UPHILL BLANKET ON TOP.
- WHEN BLANKETS MUST BE SPICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 6" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.
- BLANKET MATERIALS SHALL BE AS SPECIFIED OR AS APPROVED BY ENGINEER.

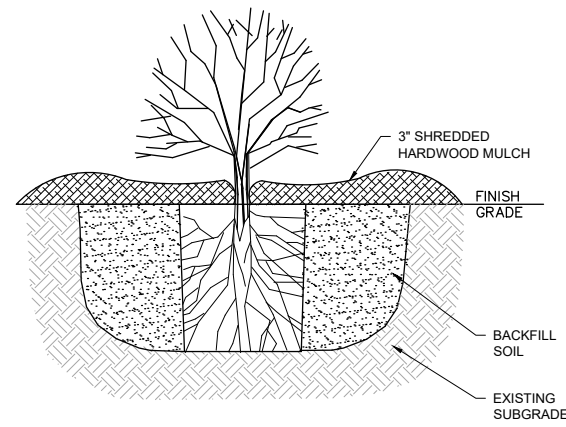
1 DETAIL: EROSION CONTROL BLANKET INSTALLATION
NOT TO SCALE



TREE PLANTING NOTES:

- PROVIDE AND INSTALL PLANTS PER SCHEDULE.
- REMOVE DEAD OR DAMAGED BRANCHES. RETAIN THE NATURAL FORM OF PLANT. DO NOT CUT THE LEADER.
- IF ROOT FLARE IS NOT EXPOSED WITHIN THE CONTAINER EXCAVATE SURFACE SOIL TO BASE OF ROOT FLARE.
- DIG PLANT HOLES 6" MIN. LARGER THAN ROOT MASS, ALL SIDES.
- SCARIFY BOTTOM AND SIDES OF HOLE PRIOR TO PLANTING.
- SET TREE ON LIGHTLY FIRMED BACKFILL SOIL SO ROOT FLARE IS EVEN WITH FINISH GRADE.
- REMOVE BURLAP AND ROPES FROM TOP 1/3 OF ROOT BALLS. CUT WIRE BASKET DOWN TO SECOND HORIZONTAL WIRE FROM BOTTOM, AND DISPOSE OF OFF-SITE.
- BACKFILL WITH PLANTING SOIL AND FIRM SOIL AROUND ROOT MASS TO MAINTAIN PLUMB AND ENSURE NO AIR GAPS AROUND ROOT MASS.
- CONSTRUCT 3" WATERING BASIN. THOROUGHLY WATER WITHIN 3 HOURS OF INSTALLATION.
- PLACE SHREDDED HARDWOOD MULCH (MNDOT SPEC 3882.2 TYPE 6 - WEED SEED FREE SHREDDED HARDWOOD.) TO A RADIUS OF 24" AND TO A DEPTH OF 3" AROUND TREE (SOIL PREPARED AS PER PLAN).
- NO MULCH TO BE IN CONTACT WITH BASE OF PLANT.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TREES IN A PLUMB POSITION THROUGHOUT THE WARRANTY PERIOD.

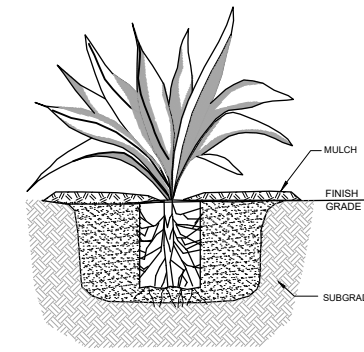
2 DETAIL: TREE PLANTING
NOT TO SCALE



SHRUB PLANTING NOTES:

- PROVIDE AND INSTALL PLANTS PER SCHEDULE.
- REMOVE DEAD OR DAMAGED BRANCHES. RETAIN THE NATURAL FORM OF PLANT.
- IF ROOT FLARE IS NOT EXPOSED WITHIN THE CONTAINER EXCAVATE SURFACE SOIL TO BASE OF ROOT FLARE.
- DIG PLANT HOLES 6" MIN. LARGER THAN ROOT MASS, ALL SIDES.
- SET SHRUB ON LIGHTLY FIRMED BACKFILL SOIL SO ROOT FLARE IS EVEN WITH FINISH GRADE.
- PLACE SHREDDED HARDWOOD MULCH (MNDOT SPEC 3882.2 TYPE 6 - WEED SEED FREE SHREDDED HARDWOOD.) TO A RADIUS OF 24" AND TO A DEPTH OF 3" AROUND PLANT.
- NO MULCH TO BE IN CONTACT WITH PLANT.

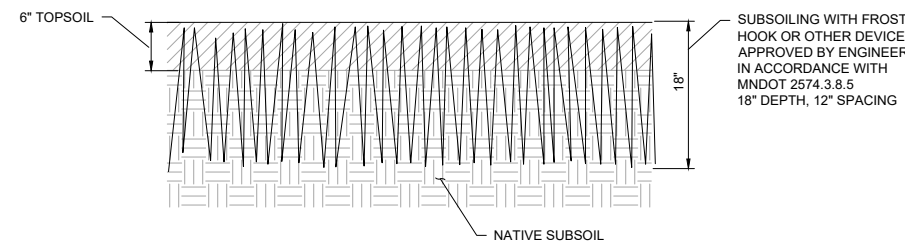
3 DETAIL: SHRUB PLANTING
NOT TO SCALE



HERBACEOUS PLUG PLANTING NOTES:

- PREPARE SOIL WITH COMPOST AMENDMENT PER PLAN.
- PROVIDE AND INSTALL PLANTS PER SCHEDULE.
- EXCAVATE HOLE 3 TIMES WIDTH OF ROOTBALL.
- BREAK BOTTOM OF ROOTBALL TO LOOSEN ROOTS.
- PLANT THROUGH MULCH ALIGNING ROOTBALL TOP EVEN WITH SOIL - DO NOT PLANT TOO DEEP OR TOO SHALLOW. FIRM SOIL TO ENSURE GOOD CONTACT WITH ROOTS.
- APPLY 3" DEPTH SHREDDED HARDWOOD MULCH TO ENTIRE PLANTING AREA (SOIL PREPARED AS PER SPECIFICATIONS).
- NO MULCH TO BE IN CONTACT WITH PLANT.
- WATER THOROUGHLY AFTER PLANTING.
- HERBACEOUS PLANTS SHALL BE GUARANTEED FOR 60 DAYS FROM TIME OF OWNER ACCEPTANCE. CONTRACTOR TO WATER AS NECESSARY TO MAINTAIN IN A HEALTHY CONDITION. AT THE END OF THIS PERIOD ANY DEAD PLANTS SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.

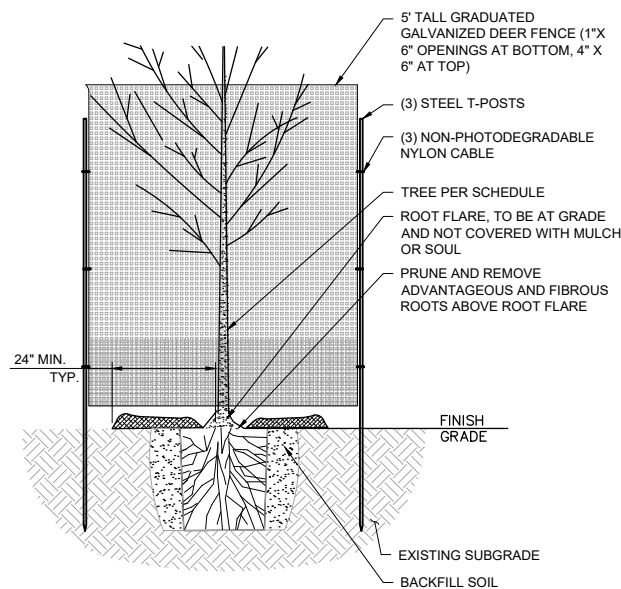
4 DETAIL: HERBACEOUS PLUG
NOT TO SCALE



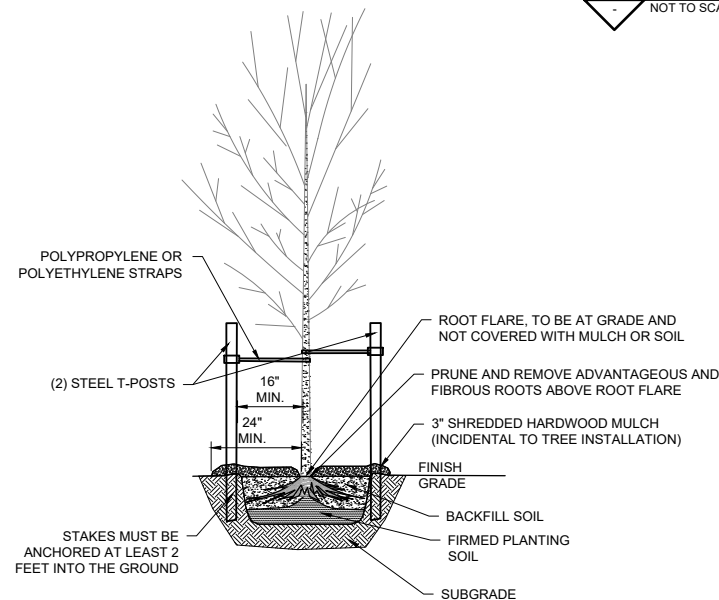
7 DETAIL: SUBSOILING
NOT TO SCALE

TREE PLANTING NOTES:

- PROVIDE AND INSTALL PLANTS PER SCHEDULE.
- ALL DECIDUOUS TREES SHALL BE ENCLOSED BY GALVANIZED DEER FENCING TO PROTECT FROM ANIMAL BROWSING. TREE PROTECTION SHALL BE CONSIDERED INCIDENTAL TO TREE PLANTING.
- REMOVE DEAD OR DAMAGED BRANCHES. RETAIN THE NATURAL FORM OF PLANT. DO NOT CUT THE LEADER.
- IF ROOT FLARE IS NOT EXPOSED WITHIN THE CONTAINER EXCAVATE SURFACE SOIL TO BASE OF ROOT FLARE.
- DIG PLANT HOLES 6" MIN. LARGER THAN ROOT MASS, ALL SIDES.
- SCARIFY BOTTOM AND SIDES OF HOLE PRIOR TO PLANTING.
- SET TREE ON LIGHTLY FIRMED BACKFILL SOIL SO ROOT FLARE IS EVEN WITH FINISH GRADE.
- BACKFILL WITH PLANTING SOIL AND FIRM SOIL AROUND ROOT MASS TO MAINTAIN PLUMB AND ENSURE NO AIR GAPS AROUND ROOT MASS.
- CONSTRUCT 3" WATERING BASIN. THOROUGHLY WATER WITHIN 3 HOURS OF INSTALLATION.
- PLACE SHREDDED HARDWOOD MULCH (MNDOT SPEC 3882.2 TYPE 6 - WEED SEED FREE SHREDDED HARDWOOD.) TO A RADIUS OF 24" AND TO A DEPTH OF 3" AROUND TREE (SOIL PREPARED AS PER PLAN).
- NO MULCH TO BE IN CONTACT WITH BASE OF PLANT.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TREES IN A PLUMB POSITION THROUGHOUT THE GUARANTEE PERIOD.
- CONTRACTOR TO WATER AS NECESSARY THROUGHOUT GUARANTEE PERIOD TO MAINTAIN IN A HEALTHY CONDITION. AT THE END OF THE GUARANTEE PERIOD ALL TREES THAT ARE DEAD OR DETERMINED UNHEALTHY OR UNSIGHTLY SHALL BE REPLACED AT CONTRACTOR'S EXPENSE. SEE HERBACEOUS PLANT ESTABLISHMENT SPECIFICATIONS FOR ADDITIONAL DETAIL.



5 DETAIL: TREE PLANTING WITH PROTECTION
NOT TO SCALE



6 DETAIL: BARE ROOT TREE PLANTING
NOT TO SCALE

BARE ROOT TREE PLANTING NOTES:

- INSTALL PLANT MATERIAL THAT MEETS SPECIFICATIONS.
- SOAK ROOTS IN WATER MINIMUM OF ONE HOUR PRIOR TO PLANTING.
- PLANTING HOLE DIMENSIONS FOR 8' TALL TREE: MIN. 54" WIDE, MIN. 14" DEEP.
- SCARIFY SIDES AND BOTTOM OF PLANTING HOLE PRIOR TO PLANTING.
- TRANSFER PLANT DIRECTLY FROM WATER TO HOLE, SET PLANT SO THE ROOT FLARE IS AT THE FINISHED SOIL ELEVATION. SPREAD ROOTS OUT EVENLY.
- SET PLUMB AND IMMEDIATELY BACKFILL WITH PLANTING SOIL. DO NOT LEAVE IN PLANTING HOLE UNCOVERED. LIGHTLY FIRM SOIL TO MAINTAIN PLUMB POSITION.
- WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANTS AND FILL VOIDS.
- BACK FILL VOIDS AND WATER A SECOND TIME.
- PLACE SHREDDED HARDWOOD MULCH (MNDOT SPEC 3882.2 TYPE 6 - WEED SEED FREE SHREDDED HARDWOOD.) TO A RADIUS OF 24" AND TO A DEPTH OF 3" AROUND TREE (SOIL PREPARED AS PER PLAN) WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.
- PROTECT TREE AS SHOWN IN TREE PLANTING WITH PROTECTION DETAIL.
- ALL TREES SHALL BE STAKED AND TIED TO MAINTAIN VERTICALITY FOLLOWING PLANTING. TREE STAKING SHALL BE CONSIDERED INCIDENTAL TO TREE PLANTING.
- INSTALL TWO (2) 8" STEEL T-POSTS, ANCHORED 2' INTO THE GROUND ON EITHER SIDE OF THE TRUNK.
- INSTALL 16" LONG 40 MIL POLYPROPYLENE OR POLYETHYLENE STRAPS AROUND TRUNK AND AFFIX TO TO HOLES IN T-POSTS WITH 10 GAUGE WIRE.
- REMOVE THE TREE STAKING AFTER TWO (2) YEARS OF MAINTAINED PLUMB POSITION.

CADD USER: PATRICK.E. BROCKAMP FILE: M:\DESIGN\23271900_001\23271900_00_10 AND L-11.DWG PLOT SCALE: 1:2,500 PLOT DATE: 10/10/2022 5:33 PM

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.				
PRINTED NAME	_____			
SIGNATURE	_____			
DATE	_____			
LICENSE #	_____			

CLIENT	01/11/22	08/18/22				
AGENCY		08/23/22				
BID						
CONSTRUCTION						
RECORD						
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DATE RELEASED						

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Scale	AS SHOWN
Date	09/16/2022
Drawn	DJS2
Checked	MDB3
Designed	BARR
Approved	JAK2



**SEA SCHOOL & WILDWOOD PARK
 FLOOD MITIGATION PROJECT**

LANDSCAPE PLAN
 PLANTING DETAILS

BARR PROJECT No. 23/27-1900.00	
CLIENT PROJECT No. 20-27	
DWG. No. L-09	REV. No. C

90% DESIGN REVIEW
 NOT FOR CONSTRUCTION