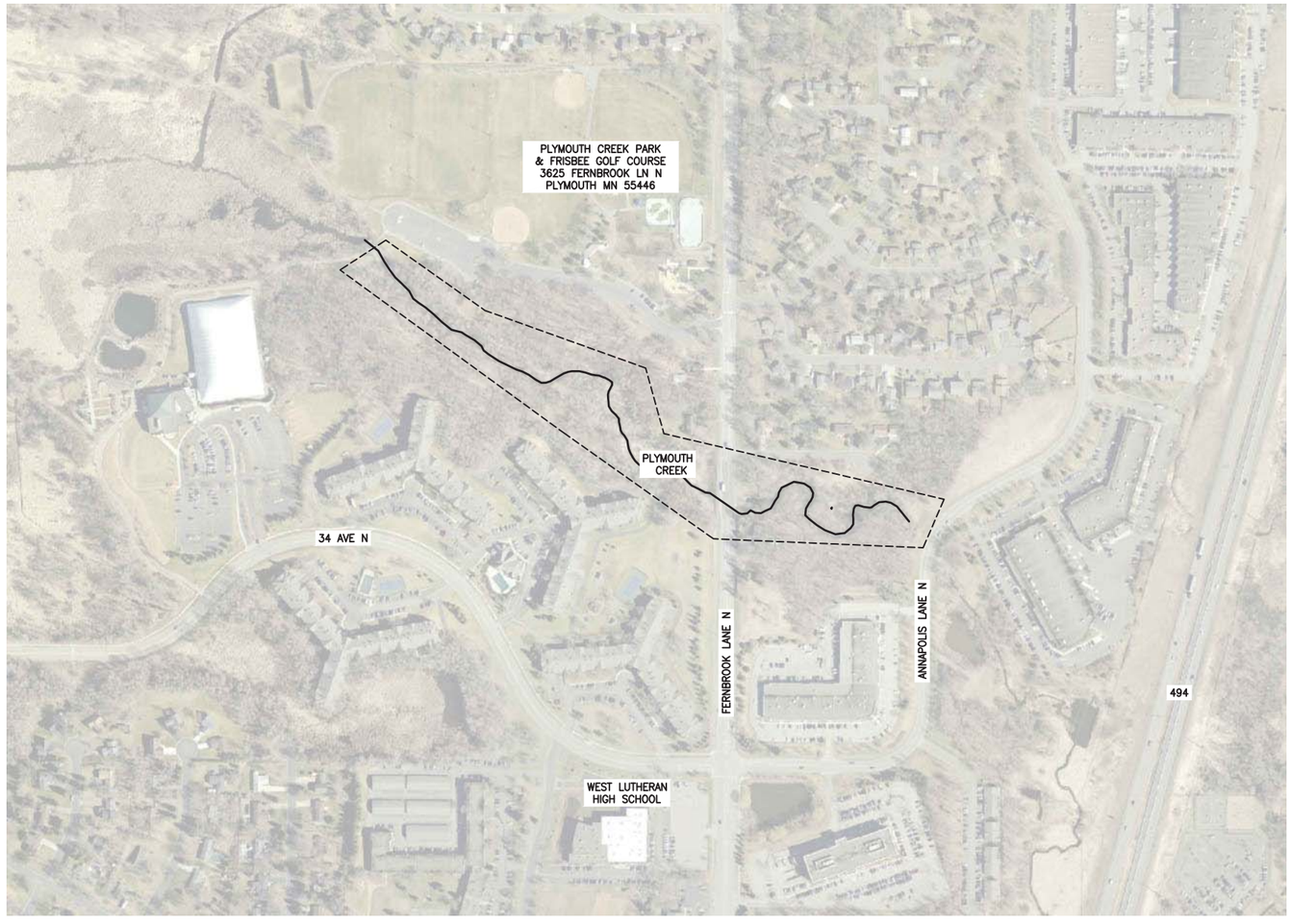
CONSTRUCTION PLANS FOR PLYMOUTH CREEK STREAM RESTORATION CITY PROJECT NO. 16007

PREPARED FOR CITY OF PLYMOUTH,MN

APRIL 2017



PROJECT VICINITY MAP

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THIS PLAN CONTAINS 22 SHEETS	

N

0 250 500
GRAPHIC SCALE IN FEET

WARNING:

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

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

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

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
0	60% DESIGN	SJB	EAM	04/20/17

SEAL

NOT FOR CONSTRUCTION

PRIME CONSULTANT

WENCK ASSOCIATES
Responsive partner. Exceptional outcomes.

PROJECT TITLE
PLYMOUTH CREEK CHANNEL RECONSTRUCTION

CITY OF PLYMOUTH
3400 PLYMOUTH BOULEVARD
PLYMOUTH, MN 55447

SHEET TITLE
TITLE AND INDEX SHEET

DWN BY	CHK'D	APP'D	DWG DATE
SJB	LNJ	EAM	MAR 2017

SCALE AS SHOWN

PROJECT NO.	SHEET NO.	REV NO.
1756–10	G–101	0

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GENERAL NOTES:

1. EXISTING CONDITIONS HAVE BEEN PROVIDED BY A COMBINATION OF HISTORIC PLANS FROM THE CITY, SURVEY INFORMATION FROM A SITE VISIT BY WENCK STAFF AND LIDAR. EXISTING FEATURES MAY NOT BE EXACT TO THEIR LOCATION. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE CONDITIONS OF THE SITE AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR VARIATIONS FROM THE DRAWINGS.
2. ALL QUANTITIES ARE APPROXIMATE AND MAY VARY TO ALLOW COMPLETION OF WORK.
3. THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-2 ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".
4. EXACT LOCATION OF UNDERGROUND UTILITIES SUCH AS GAS, TELEPHONE, FIBER OPTIC, PIPELINES, ELECTRICAL, AND CABLE TV ARE UNKNOWN. CONTRACTOR RESPONSIBLE FOR LOCATING PRIOR TO STARTING WORK.
5. CONTRACTOR SHOULD ANTICIPATE PRIVATE UTILITY CONFLICTS THROUGHOUT THE PROJECT SUB CUT AND TRENCH AREAS AND SHALL COORDINATE WITH PRIVATE UTILITY OWNERS.
6. THE RELOCATION AND OR PROTECTION OF ALL EXISTING UTILITIES MUST BE COORDINATED BY THE CONTRACTOR AND ANY COSTS FOR SUCH WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR EXTRA TIME AND EFFORT OF PROVISIONS NECESSARY TO WORK AROUND OR UNDER ANY UTILITIES.
7. INSTALL AND MAINTAIN EROSION CONTROL DEVICES AS SPECIFIED OR AS DIRECTED BY ENGINEER.
8. CONTRACTOR SHALL COMPLY WITH ALL STATE, COUNTY, AND CITY PERMITS.
9. MAINTAIN MAIL, GARBAGE, AND RECYCLING SERVICES TO PROPERTIES.
10. PROTECT EXISTING PAVEMENT AND SITE FEATURES, EXCEPT AS NOTED.
11. CONTRACTOR TO COORDINATE AND MAINTAIN ACCESS TO PROPERTIES.
12. MAINTAIN DRAINAGE CONVEYANCE DURING CONSTRUCTION (BOTH PIPED AND OVERLAND).
13. THE EXISTING PAVEMENT CONDITIONS HAVE BEEN DOCUMENTED, AND ANY DAMAGE TO THE EXISTING PAVEMENT, CURBING, AND STRIPING SHALL BE REPLACED BY THE CONTRACTOR, TO THE OWNERS SATISFACTION, AT NO ADDITIONAL COST TO THE OWNER.

REMOVAL NOTES:

1. FEATURES NOT SPECIFICALLY IDENTIFIED ON PLAN FOR SALVAGE OR REMOVAL THAT CONFLICT WITH CONSTRUCTION ARE TO BE REVIEWED WITH ENGINEER.

DEWATERING NOTES:

1. NO BID ITEM HAS BEEN PROVIDED FOR DEWATERING AS ALL DEWATERING WORK NECESSARY FOR CONSTRUCTION WILL BE CONSIDERED INCIDENTAL.
2. ENERGY DISSIPATION SHALL BE PROVIDED AT ALL DISCHARGE POINTS TO PREVENT SCOUR.
3. PROVIDE SILT BAGS FOR DEWATERING.
4. CONTRACTOR RESPONSIBLE TO SUBMIT DEWATERING PLAN TO ENGINEER FOR REVIEW. DEWATERING SHALL MEET ALL PERMIT REQUIREMENTS AND BE APPROVED PRIOR TO STARTING ANY CONSTRUCTION ACTIVITIES.
5. THE CONTRACTOR MUST DISCHARGE TURBID OR SEDIMENT-LADEN WATER RELATED TO DEWATERING OR BASIN DRAINING (E.G. PUMPED DISCHARGES, TRENCH/DITCH CUTS FOR DRAINAGE) TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN ON THE PROJECT SITE UNLESS INFEASIBLE. THE CONTRACTOR MAY DISCHARGE FROM THE TEMPORARY OR PERMANENT SEDIMENTATION BASINS TO THE SURFACE WATERS IF THE BASIN WATER HAS BEEN VISUALLY CHECKED TO ENSURE ADEQUATE TREATMENT HAS BEEN OBTAINED IN THE BASIN AND THAT NUISANCE CONDITIONS (SEE MINN. RULES 7050.0210, SUBPART 2) WILL NOT RESULT FROM THE DISCHARGE. IF THE WATER CANNOT BE DISCHARGED TO A SEDIMENTATION BASIN PRIOR TO ENTERING THE SURFACE WATER, IT MUST BE TREATED WITH THE APPROPRIATE BMPs, SUCH THAT THE DISCHARGE DOES NOT ADVERSELY AFFECT THE RECEIVING WATER OR DOWNSTREAM PROPERTIES. IF THE CONTRACTOR MUST DISCHARGE WATER THAT CONTAINS OIL OR GREASE, THE CONTRACTOR MUST USE AN OIL-WATER SEPARATOR OR SUITABLE FILTRATION DEVICE (E.G. CARTRIDGE FILTERS, ABSORBENTS PADS) PRIOR TO DISCHARGING THE WATER. THE CONTRACTOR MUST ENSURE THAT DISCHARGE POINTS ARE ADEQUATELY PROTECTED FROM EROSION AND SCOUR. THE DISCHARGE MUST BE DISPERSED OVER NATURAL ROCK RIPRAP, SAND BAGS, PLASTIC SHEETING, OR OTHER ACCEPTED ENERGY DISSIPATION MEASURES.
6. ALL WATER FROM DEWATERING OR BASIN-DRAINING ACTIVITIES MUST BE DISCHARGED IN A MANNER THAT DOES NOT CAUSE NUISANCE CONDITIONS, EROSION IN RECEIVING CHANNELS OR ON DOWNSLOPE PROPERTIES, OR INUNDATION IN WETLANDS CAUSING SIGNIFICANT ADVERSE IMPACT TO THE WETLAND.
7. IF THE CONTRACTOR IS USING FILTERS WITH BACKWASH WATER, THE CONTRACTOR MUST HAUL THE BACKWASH WATER AWAY FOR DISPOSAL, RETURN THE BACKWASH WATER TO THE BEGINNING OF THE TREATMENT PROCESS, OR INCORPORATE THE BACKWASH WATER INTO THE SITE IN A MANNER THAT DOES NOT CAUSE EROSION. THE CONTRACTOR MAY DISCHARGE BACKWASH WATER TO THE SANITARY SEWER IF PERMISSION IS GRANTED BY THE SANITARY SEWER AUTHORITY. THE CONTRACTOR MUST REPLACE AND CLEAN THE FILTER MEDIA USED IN DEWATERING DEVICES WHEN REQUIRED TO RETAIN ADEQUATE FUNCTION.

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GOPHER STATE ONE CALL
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TOLL FREE 1-800-252-1166

GOVERNING SPECIFICATIONS:

1. THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" 2016 EDITION & LATEST SUPPLEMENTS.
2. CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM) STANDARD UTILITIES SPECIFICATIONS (LATEST EDITION)
3. CITY OF PLYMOUTH CONSTRUCTION SPECIFICATIONS
4. ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCE WILL BE COMPLETED WITH IN THE CONSTRUCTION OF THIS PROJECT.

TRAFFIC CONTROL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL CONSTRUCTION STAGING, ON OR OFFSITE, AS NECESSARY TO COMPLETE THE WORK AS SPECIFIED IN THE PROJECT DOCUMENTS. A STAGING PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY CONSTRUCTION RELATED ACTIVITIES.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL. ALL TRAFFIC CONTROL SHALL CONFORM TO THE LATEST EDITION OF THE MMUTCD, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS. A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE ENGINEER, CITY, AND COUNTY FOR REVIEW AND APPROVAL PRIOR TO ANY CONSTRUCTION RELATED ACTIVITIES. PLANS SHALL COMPLY WITH ALL APPLICABLE PERMIT REQUIREMENTS.
3. TRAFFIC CONTROL SHALL ALSO INCLUDE ALL NECESSARY SIGNAGE AND MARKINGS REQUIRED FOR THE BOARDWALK CLOSURE (SIMILAR TO SIDEWALK CLOSURE). THIS SHALL INCLUDE ADVANCED WARNING SIGNS AND NECESSARY FENCING AND SIGNAGE TO PREVENT PEDESTRIANS FROM ACCESSING THE PROPOSED BOARDWALK CONNECTION AREA.

EROSION CONTROL NOTES:

1. SEE SHEETS EC-101, EC-102, EC-103, EC-104 FOR EROSION AND SEDIMENT CONTROL MEASURES.
2. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DEPENDING ON SITE CONDITIONS DURING CONSTRUCTION. COORDINATE WITH ENGINEER.
3. CONCRETE WASH-OUT SHALL COMPLETED OFF-SITE OR CONCRETE READY MIX TRUCKS SHALL BE SELF-CONTAINED.
4. ALL EROSION CONTROL DEVICES TO BE INSTALLED PRIOR TO COMMENCEMENT OF WORK, MAINTAINED IN ACCORDANCE WITH THE SWPPP, NPDES, AND SPECIFICATIONS THROUGHOUT DURATION OF PROJECT, AND REMOVED UPON ESTABLISHMENT OF FINAL STABILIZATION AS DIRECTED BY ENGINEER. EROSION CONTROL MEASURES USED FOR CONSTRUCTION SHALL NOT BE REMOVED UNTIL AUTHORIZED BY OWNER OR ENGINEER.
5. REMOVE TRACKED SEDIMENT FROM ALL PAVED SURFACES BOTH ON AND OFFSITE ON A DAILY BASIS (INCIDENTAL).
6. MINIMIZE DUST FROM CONSTRUCTION OPERATIONS BY PROVIDING WATER OR OTHER APPROVED METHOD ON A DAILY BASIS (INCIDENTAL).

HORIZONTAL AND VERTICAL CONTROL:

1. THE HORIZONTAL CONTROL FOR THIS PLAN IS HENNEPIN COUNTY COORDINATE RELATIVE TO SYSTEM NAD83(11).
2. THE VERTICAL CONTROL FOR THIS PLAN IS NAVD88.

ABBREVIATIONS

BV	BUTTERFLY VALVE
℄	CENTER LINE
CL.	CLASS
CMP	CORRUGATE METAL PIPE
CY	CUBIC YARD
DIP	DUCTILE IRON PIPE
EL./ELEV	ELEVATION
EX	EXISTING
FES	FLARED END SECTION
F/F	FACE TO FACE
FM	FORCEMAIN
GV	GATE VALVE
HDPE	HIGH-DENSITY POLYETHYLENE
HP	HIGH POINT
HWL	HIGH WATER LEVEL
HYD	HYDRANT
INV	INVERT
LF	LINEAL FEET
LP	LOW POINT
MH	MANHOLE
NWL	NORMAL WATER LEVEL
PVC	POLYVINYL CHLORIDE
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
R/W	RIGHT-OF-WAY
SF	SQUARE FEET
STA	STATION
SY	SQUARE YARD
TNH	TOP NUT HYDRANT
TYP	TYPICAL
WM	WATERMAIN

EXISTING SYMBOLS/LINES LEGEND

- STORM SEWER FLARED END SECTION
- STORM SEWER CATCH BASIN/MANHOLE
- STORM SEWER
- HYDRANT
- WATER MAIN
- CONTOUR MINOR (898)
- CONTOUR MAJOR (900)
- PROPERTY LINE
- PROJECT AREA LIMITS
- ACCESS ROUTE BOUNDARY
- RETAINING WALL
- EXISTING FENCE
- EXISTING CHANNEL
- APPROXIMATE TREE LINE
- WETLAND BOUNDARY (WET)
- DECIDUOUS TREE
- UTILITY POLE (PP, PL, S)
- LIGHT POLE (LP)
- EDGE OF PAVEMENT
- SIGN
- MAILBOX
- GUARD POST
- PROPERTY IRON

PROPOSED SYMBOLS/LINES LEGEND

- STORM SEWER FLARED END SECTION
- RIP RAP
- STORM SEWER CATCH BASIN/MANHOLE
- STORM SEWER
- DRAINTILE
- VEGETATED RIPRAP
- TWO STAGE CHANNEL
- CHANNEL CLEANOUT
- GRADED BANK
- CONTOUR MINOR
- CONTOUR MAJOR (802)
- SPOT ELEVATION (+811.95)
- BITUMINOUS
- CONCRETE
- DECIDUOUS TREE (XXX)
- ACCESS ROUTE BOUNDARY
- EXISTING FENCE
- PROPERTY LINE
- ROOTWAD WITH STONE TOE
- WATER EDGE
- RETAINING WALL
- PROPOSED CHANNEL CENTERLINE
- PROJECT AREA LIMITS
- ROOTWAD WITH LOG TOE
- VEGETATED RIPRAP TOE
- BARE ROOT SHRUB PLANTING

REMOVAL SYMBOLS/LINES LEGEND

- TREE REMOVAL

EROSION CONTROL SYMBOLS/LINES LEGEND

- STRAW MULCH W/ DISK ANCHORING AND MN SEED MIX 34-262
- EROSION CONTROL BLANKET AND MN SEED MIX 34-262
- SILT FENCE
- FLOTATION SILT CURTAIN
- INLET PROTECTION
- BIOROLL

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
0	60% DESIGN	SJB	EAM	04/20/17

SEAL

NOT FOR CONSTRUCTION

PRIME CONSULTANT

WENCK ASSOCIATES
Responsive partner. Exceptional outcomes.

PROJECT TITLE

PLYMOUTH CREEK CHANNEL RECONSTRUCTION

CITY OF PLYMOUTH

3400 PLYMOUTH BOULEVARD
PLYMOUTH, MN 55447

SHEET TITLE

LEGEND AND GENERAL NOTES

DWN BY	CHK'D	APP'D	DWG DATE
SJB	LNJ	EAM	MAR 2017

SCALE: AS SHOWN

PROJECT NO.	SHEET NO.	REV NO.
1756-10	G-102	0

Plot Date & Time: 22 May 2017 8:47 AM

PROTECT BITUMINOUS TRAIL

ACCESS ROUTE 4

EXISTING RIPRAP

EXISTING FIELDSTONE BOULDERS

CLEAR ALL BRUSH <8", PROTECT SPECIMEN TREES (MAY BE <8") AS MARKED BY ENGINEER (TYP.)

CLEAR ALL BRUSH

CLEAR ALL BRUSH <8", PROTECT SPECIMEN TREES (MAY BE <8") AS MARKED BY ENGINEER (TYP.)

WENCK SURVEY LIMITS
SURVEY DATE: 3/28/17

27+18

27+00

26+00

25+00

24+00

23+00

22+00

21+00

20+00

19+00

18+00

TRAIL

LANDSCAPE

PATH

BRIDGE

TEE

GREEN

FAIRWAY

WALKWAY

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12)

LEGEND

- XXX — DECIDUOUS TREE/REMOVAL
- XXX — ACCESS ROUTE BOUNDARY
- EXISTING FENCE
- PROPERTY LINE
- ROOTWAD WITH STONE TOE
- WATER EDGE
- RETAINING WALL
- PROPOSED CHANNEL CENTERLINE
- PROJECT AREA LIMITS
- ROOTWAD WITH LOG TOE
- VEGETATED RIPRAP TOE

0 30 60
GRAPHIC SCALE IN FEET

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SHEET TITLE

EXISTING CONDITIONS AND REMOVALS 27+18 TO 18+00

DWN BY	CHK'D	APP'D	DWG DATE
SJB	LNJ	EAM	MAR 2017

SCALE AS SHOWN

PROJECT NO.	SHEET NO.	REV NO.
1756-10	C-101	0

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Plot Date & Time: 22 May 2017 8:47 AM

LEGEND

- XXX — DECIDUOUS TREE/REMOVAL
- ACCESS ROUTE BOUNDARY
- EXISTING FENCE
- PROPERTY LINE
- ROOTWAD WITH STONE TOE
- WATER EDGE
- RETAINING WALL
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0 30 60
GRAPHIC SCALE IN FEET

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SHEET TITLE

EXISTING CONDITIONS AND REMOVALS 18+00 TO 9+00

DWN BY	CHK'D	APP'D	DWG DATE
SJB	LNJ	EAM	MAR 2017

SCALE AS SHOWN

PROJECT NO.	SHEET NO.	REV NO.
1756-10	C-102	0

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Plot Date & Time: 22 May 2017 8:47 AM

35TH AVE N

ACCESS ROUTE 2

WENCK SURVEY LIMITS
SURVEY DATE: 3/28/17

REMOVE EXISTING STORM SEWER PIPE AND FLARED END SECTION

CLEAR ALL BRUSH <8", PROTECT SPECIMEN TREES (MAY BE <8") AS MARKED BY ENGINEER (TYP.)

ACCESS ROUTE 1

REMOVE EXISTING LOG JAM

HARVEST AREA FOR ADDITIONAL ROOTWADS AS NEEDED

FERNBROOK LANE N

ANNAPOLIS LANE N

RIM=962.82
INV=

RIM=951.54
INV=

24" FES
INV=943.40

2500
960.80
MHS

2505
964.71
MHS

RIM=954.18
INV=

12" FES
INV=939.81

LEGEND

- DECIDUOUS TREE/REMOVAL
- ACCESS ROUTE BOUNDARY
- EXISTING FENCE
- PROPERTY LINE
- ROOTWAD WITH STONE TOE
- RIPRAP TOE
- WATER EDGE
- RETAINING WALL
- PROPOSED CHANNEL CENTERLINE
- PROJECT AREA LIMITS
- ROOTWAD WITH LOG TOE
- VEGETATED RIPRAP TOE

0 30 60
GRAPHIC SCALE IN FEET

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SHEET TITLE

EXISTING CONDITIONS
AND REMOVALS
9+00 TO 0+00

DWN BY	CHK'D	APP'D	DWG DATE
SJB	LNJ	EAM	MAR 2017

SCALE AS SHOWN

PROJECT NO.	SHEET NO.	REV NO.
1756-10	C-103	0

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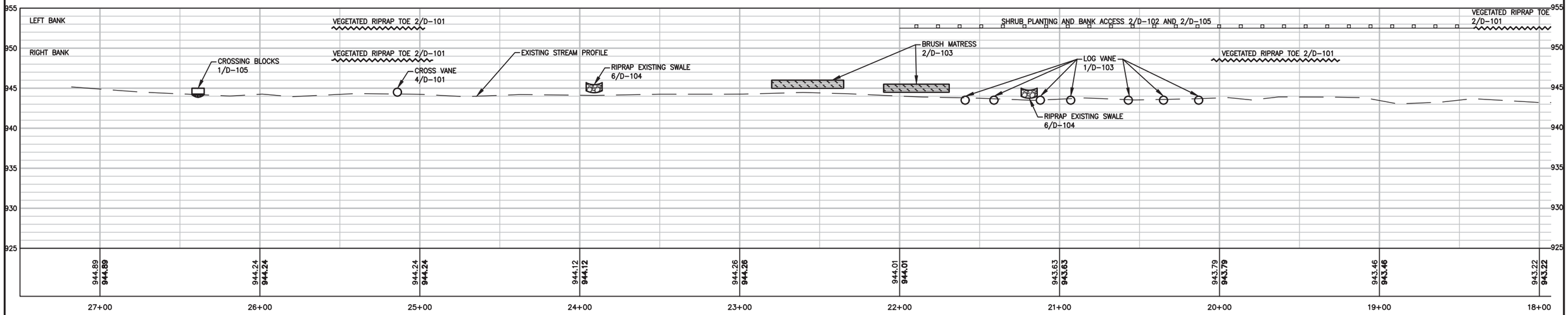
Plot Date & Time: 22 May 2017 1:05 PM

PLYMOUTH CREEK CENTERLINE STA 27+18 TO 18+00



LEGEND

- DECIDUOUS TREE
- ACCESS ROUTE BOUNDARY
- EXISTING FENCE
- PROPERTY LINE
- ROOTWAD WITH STONE TOE
- BARE ROOT SHRUB PLANTING
- SHRUB PLANTING WITH BANK ACCESS
- WATER EDGE
- RETAINING WALL
- PROPOSED CHANNEL CENTERLINE
- PROJECT AREA LIMITS
- ROOTWAD WITH LOG TOE
- VEGETATED RIPRAP TOE

0 30 60
GRAPHIC SCALE IN FEET

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
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CITY OF PLYMOUTH

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PLYMOUTH, MN 55447

SHEET TITLE

STABILIZATION PLAN AND PROFILE 27+18 TO 18+00

DWN BY	CHK'D	APP'D	DWG DATE
SJB	LNJ	EAM	MAR 2017

SCALE AS SHOWN

PROJECT NO.	SHEET NO.	REV NO.
1756-10	C-104	0

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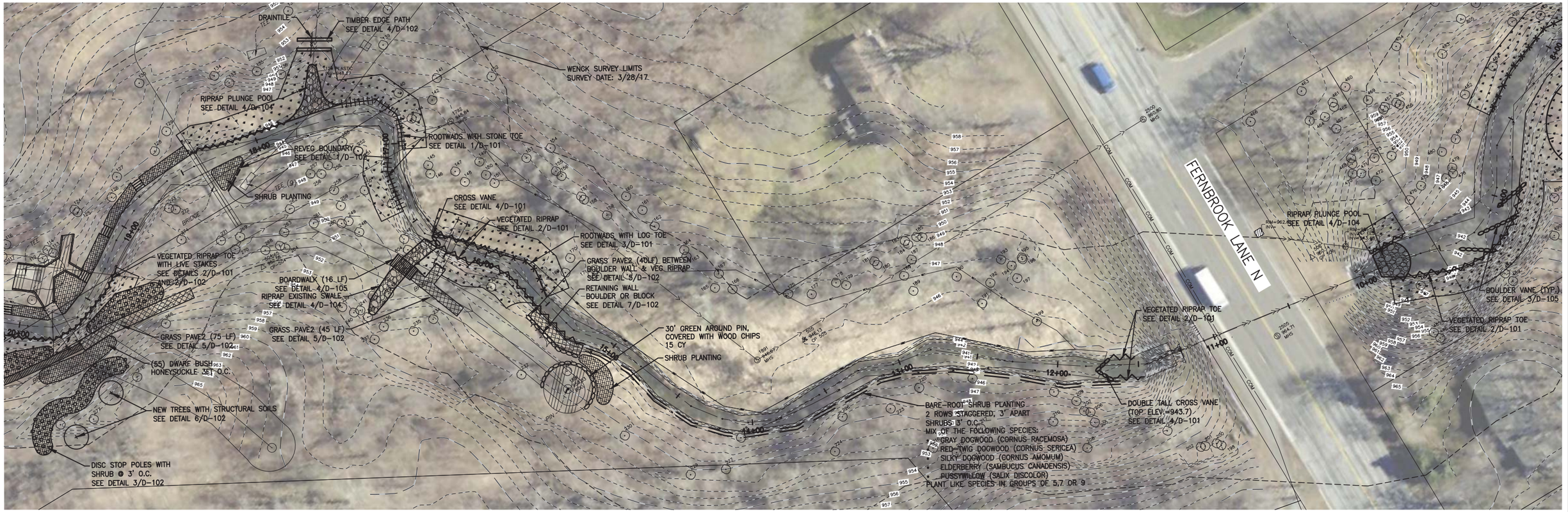
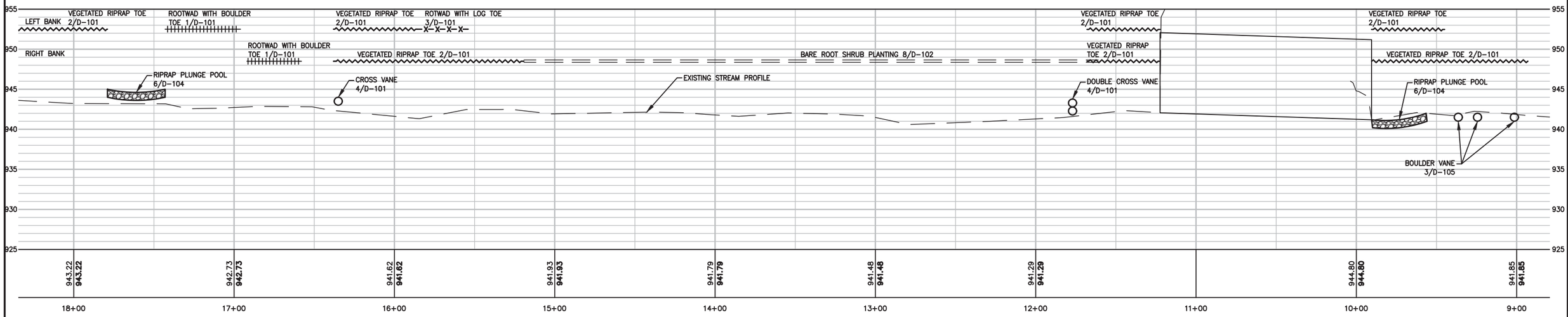
Plot Date & Time: 22 May 2017 1:05 PM



PLYMOUTH CREEK CENTERLINE STA 18+00 TO 9+00



LEGEND

- DECIDUOUS TREE (XXX)
- ACCESS ROUTE BOUNDARY
- EXISTING FENCE
- PROPERTY LINE
- ROOTWAD WITH STONE TOE
- BARE ROOT SHRUB PLANTING
- SHRUB PLANTING WITH BANK ACCESS
- WATER EDGE
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- PROPOSED CHANNEL CENTERLINE
- PROJECT AREA LIMITS
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0 30 60
GRAPHIC SCALE IN FEET

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PLYMOUTH, MN 55447

SHEET TITLE

STABILIZATION
PLAN AND PROFILE
18+00 TO 9+00

DWN BY	CHK'D	APP'D	DWG DATE
SJB	LNJ	EAM	MAR 2017

SCALE AS SHOWN

PROJECT NO.	SHEET NO.	REV NO.
1756-10	C-105	0

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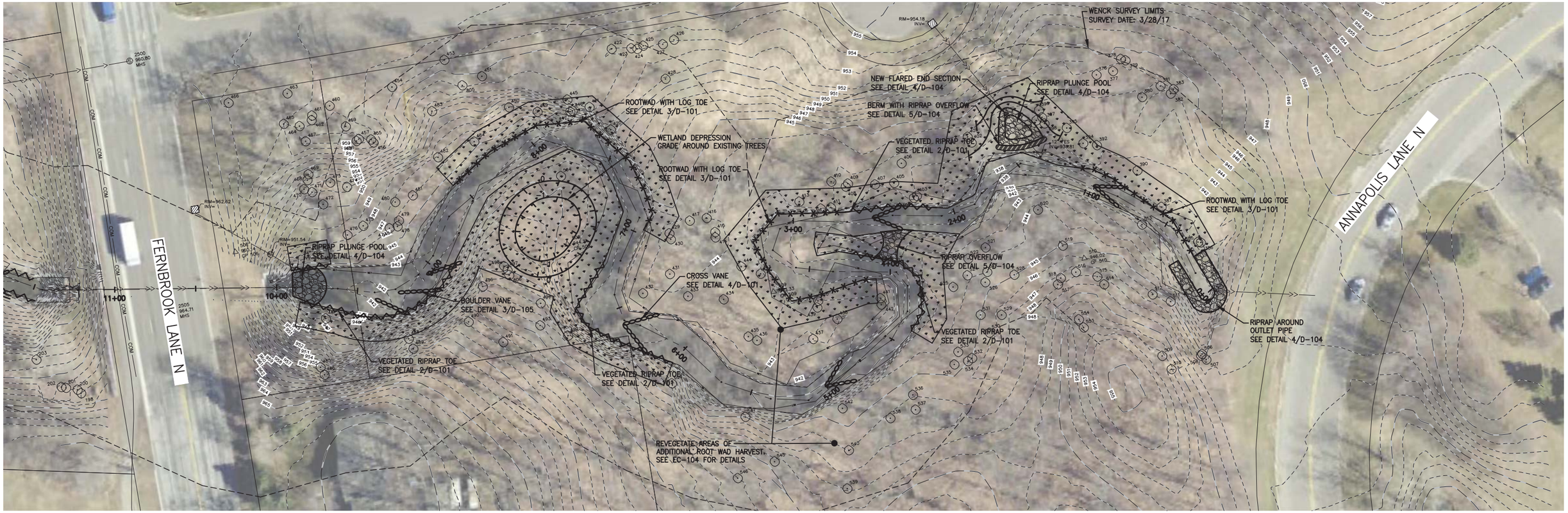
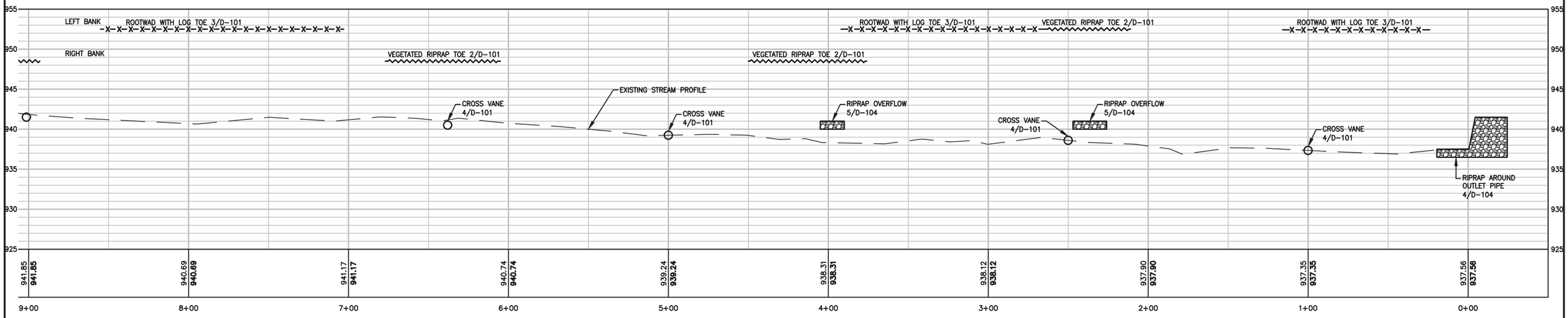
Plot Date & Time: 22 May 2017 1:05 PM



PLYMOUTH CREEK CENTERLINE STA 9+00 TO 0+00



LEGEND

- DECIDUOUS TREE (XXX)
- ACCESS ROUTE BOUNDARY
- EXISTING FENCE
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- ROOTWAD WITH STONE TOE
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- PROPOSED CHANNEL CENTERLINE
- PROJECT AREA LIMITS
- ROOTWAD WITH LOG TOE
- VEGETATED RIPRAP TOE

0 30 60
GRAPHIC SCALE IN FEET

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
0	60% DESIGN	SJB	EAM	04/20/17

SEAL

NOT FOR CONSTRUCTION

PRIME CONSULTANT

WENCK ASSOCIATES
Responsive partner. Exceptional outcomes.

PROJECT TITLE

PLYMOUTH CREEK
CHANNEL RECONSTRUCTION

CITY OF PLYMOUTH

3400 PLYMOUTH BOULEVARD
PLYMOUTH, MN 55447

SHEET TITLE

STABILIZATION
PLAN AND PROFILE
9+00 TO 0+00

DWN BY	CHK'D	APP'D	DWG DATE
SJB	LNJ	EAM	MAR 2017

SCALE AS SHOWN

PROJECT NO.	SHEET NO.	REV NO.
1756-10	C-106	0

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HOLE 1: STREAM CROSSING

SHRUB PLANTINGS

STONE STEPS

ADDITIONAL BOULDER COURSE

NATIVE GRASS PLANTINGS

GRADE 30' PUTTING AREA FLAT

30FT MULCH RING TO ELIMINATE MUD AND EROSION

GRANITE STEPPERS
60" LONG x 18" WIDE x 7" THICK

HOLE ONE CURRENTLY HAS BANK EROSION WHERE THE FAIRWAY MEETS PLYMOUTH CREEK. THE METHODS PROPOSED TO FIX THE PROBLEM ARE BY INTRODUCING A NEW LOW-FLOW CROSSING POINT WITH BANK STEPS LEADING TO STEPPERS WITHIN THE CREEK BED. INCREASING THE AMOUNT OF VEGETATION THROUGH SHRUB PLANTINGS AND NATIVE GRASSES. THE PUTTING GREEN FOR HOLE FIVE IS LOCATED CLOSE AND TO MITIGATE THE SOIL EROSION THE PROPOSED SOLUTION INCLUDES INCREASING THE HEIGHT OF THE EXISTING BOULDER WALL AND FLATTENING OUT THE "GREEN" AREA. IN ADDITION, ADDING WOOD CHIPS IN THE HIGH TRAFFIC 30 RADIUS OF THE PIN WILL REDUCE THE AMOUNT OF MUD AND IMPROVE PLAY CONDITIONS.

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
0	60% DESIGN	SJB	EAM	04/20/17

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PLYMOUTH, MN 55447

SHEET TITLE

REFERENCE PICTURES

DWN BY	CHK'D	APP'D	DWG DATE	MAR 2017
SJB	LNJ	EAM	SCALE	AS SHOWN

PROJECT NO.	SHEET NO.	REV NO.
1756-10	C-601	0

HOLE 8 LOOKING ACROSS TO TEE BOX OF HOLE 12: STREAM ACCESS + STABILIZATION

STONE STEPS TO CREEKS EDGE

SHRUB PLANTINGS

ON HOLE 8 HAS IS A HIGH POTENTIAL FOR DISC'S TO ENTER THE CREEK. THE EXISTING BANKS ARE IN NEED OF EROSION MITIGATION VEGETATION AND ARMORING. IN ORDER TO ACCOMPLISH BOTH DESIRED OUTCOMES A COMBINATION OF SHRUB PLANTINGS TO STABILIZES THE BANK WITH ACCESS STEPS LEADING TO THE CREEK EDGE FOR FISHING DISC'S OUT. THE OUTSIDE BEND WILL BE ARMORED WITH VEGETATED RIPRAP TO COMBAT FLOW VELOCITY AND PRESERVE THE VISUAL AESTHETIC WITH TALL GRASSES GROWING OVER THE ARMORING.

EXISTING SWALES

RIPRAP SWALE

MULTIPLE EXISTING DRAINAGE SWALES OCCUR WITHIN THE DISC GOLF COURSE. THE ADDITION OF RIPRAP TO STABILIZE THE SOILS WILL MITIGATE SOIL MIGRATION INTO THE CREEK. PLAYABILITY OF THE COURSE WILL NOT BE AFFECTED AND A REDUCTION OF OVERALL MUD WILL BE ACHIEVED.

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
0	60% DESIGN	SJB	EAM	04/20/17

SEAL

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DWN BY	CHK'D	APP'D	DWG DATE	MAR 2017
SJB	LNJ	EAM	SCALE	AS SHOWN

PROJECT NO.	SHEET NO.	REV NO.
1756-10	C-602	0

Plot Date & Time: 22 May 2017 2:59 PM

HOLE 8: MUDDY PATH OPTIONS

EXISTING TREES WITHIN THE FLIGHT PATH ARE SCARRED BY DISCS REPEATEDLY HITTING THE SOFT TISSUE OF YOUNG TREES. TO PROTECT THE TREES DISC STOP POLES WOULD BE PLACED BETWEEN THE TREE AND THE DIRECTION OF FLYING DISCS. WITH STAGGERED ROWS OF POLES DEFLECTION WILL SERVE TO PROTECT TREES.

SHRUB PLANTINGS

DISC STOP POLES

STEEP SLOPES CAN BE RECTIFIED THROUGH THE USE OF BOARDWALKS WHICH ALSO MINIMIZES THE FOOT TRAFFIC TRAMPLING ANY VEGETATION. THE ADDITION OF DISC STOP POLES WILL PROTECT EXISTING/NEWLY PLANTED TREES AND ADD A NEW ELEMENT OF DIFFICULTY FOR PLAYERS TO SHOOT AROUND.

BOARDWALK TO MATCH EXISTING

FOR AREAS OF HEAVY FOOT TRAFFIC IN SUNNY LOCATIONS THE USE OF GRASSPAVE2 WOULD ALLOW FOR REDUCED COMPACTION AND TRAMPLING OF TURF GRASS COVER. THE SOILS IN THESE LOCATIONS WOULD THUS BE STABILIZED WHILE ALLOWING FOR CONSISTENT GOLFER TRAFFIC. IN AREAS OF HEAVILY SHADE DUE TO TREE CANOPY THE USE OF ADDITIONAL BOARDWALKS WILL SERVE TO FOCUS TRAFFIC MOVEMENTS AROUND TREE ROOTS AND BARE SOILS.

GRASS PAVE2

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
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SJB	LNJ	EAM	MAR 2017

SCALE AS SHOWN

PROJECT NO.	SHEET NO.	REV NO.
1756-10	C-603	0

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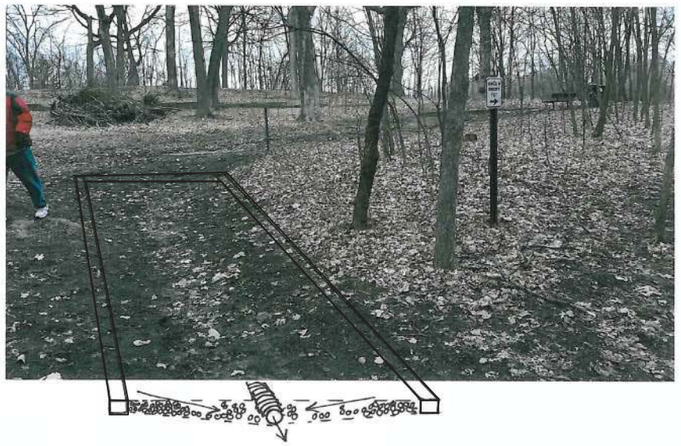
HOLE 11: MUDDY TEE BOX OPTIONS



FOR AREAS OF HEAVY FOOT TRAFFIC IN AND AROUND SHADY TEE BOXES THE PATHWAYS CAN BE BOXED IN USING PRESSURE TREATED TIMBERS AND THE BOXES FILLED WITH EITHER WOODCHIPS OR GRAVEL. THIS WILL SERVE TO REDUCE THE AMOUNT OF MUD AND KEEP THE SOIL MIGRATION DOWN.

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
0	60% DESIGN	SJB	EAM	04/20/17

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CITY OF PLYMOUTH

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PLYMOUTH, MN 55447

SHEET TITLE

REFERENCE PICTURES

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SJB	LNJ	EAM	SCALE	AS SHOWN

PROJECT NO.	SHEET NO.	REV NO.
1756-10	C-604	0

OXE–BOW: POLINATOR HABITAT + FOOD

THE RUSTY PATCHED BUMBLEBEE BECAME THE FIRST BEE SPECIES EVER LISTED UNDER THE ENDANGERED SPECIES ACT IN MARCH OF THIS YEAR; HOWEVER, POLLINATORS OF ALL KINDS (BEES, MOTHS, AND BUTTERFLIES) ARE CURRENTLY IN A DECLINING STATE ACROSS THE U.S. FOR THE ISLAND OFF THE EDGE OF THE COURSE BEHIND THE OXE–BOW A DEDICATED POLLINATOR HABITAT AND NECTAR SOURCE IS PLANNED. A COMBINATION OF SEEDING NATIVE GRASSES AND FORBS ARE PROPOSED, AS WELL AS, POTTED FORBS TO INCREASE THE DENSITY. IN ORDER TO ACHIEVE THE NECESSARY SUNLIGHT FOR THESE SPECIES THE CURRENT TREES WILL BE REMOVED.

IN ADDITION TO THE POLLINATOR SPECIFIC ISLAND, NATIVE SEED MIXES AND FLOWERING SHRUB SPECIES WILL BE USED TO STABILIZE THE BANKS OF THE CREEK. THE DENSITY OF FLOWERS WILL NOT BE AS INTENSE BUT THEY WILL SERVE AS A CONNECTIVE PATHWAY ALONG THE CREEK TO THE THE GREATER LANDSCAPE WITHIN PLYMOUTH. LIKE THE POLLINATOR ISLAND, TREES ALONG THE CORRIDOR WILL NEED TO BE REMOVED TO ALLOW NEEDED SUNLIGHT FOR THE NEW COVER TYPES. REMOVALS WILL BE LIMITED TO ONLY WHAT IS NECESSARY AS TO NOT CHANGE THE CHARACTER OF THE PARK AND THE DISC GOLF COURSE.

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
0	60% DESIGN	SJB	EAM	04/20/17

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CITY OF PLYMOUTH

3400 PLYMOUTH BOULEVARD
PLYMOUTH, MN 55447

SHEET TITLE

REFERENCE PICTURES

DWN BY	CHK'D	APP'D	DWG DATE	MAR 2017
SJB	LNJ	EAM	SCALE	AS SHOWN

PROJECT NO.	SHEET NO.	REV NO.
1756–10	C–605	0

Plot Date & Time: 20 April 2017 1:21 PM

Construction Dates: Fall 2017 - Spring 2018

Party Responsible for Long Term Operation and Maintenance of the Site - OWNER

City of Plymouth
3400 Plymouth Boulevard
Plymouth, MN 55447-1482

Derek Asche, Water Resources Manager
763-509-5526
engineering@plymouthmn.gov

Party Responsible for Implementation of the SWPPP - CONTRACTOR

Contractor	
Contact Name	
Phone	
Email	

Surface Area Tabulation

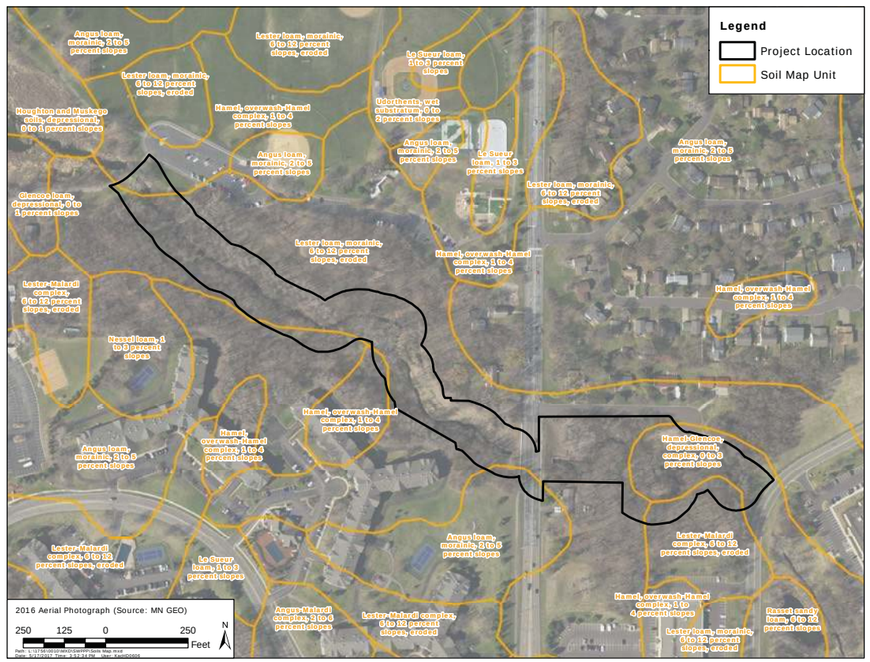
Total Disturbed Area	1.5 acres
Existing Impervious Area	0.1 acres
Proposed Impervious Area	0.1 acres
Net Impervious Area Increase	<0.1 acres

Project Description

The project consists of riparian buffer restoration, streambank stabilization, installation of boardwalk, path improvements, and improvements to several existing disc golf holes and tee boxes.

Temporary Sediment Basin

Because the total disturbed area for this project is less than 5 acres, there are no additional temporary sedimentation basin requirements.



EROSION AND SEDIMENT CONTROL PRACTICES

All exposed soil areas must have temporary erosion protection (erosion control blanket, seed) as soon as possible or within 7 days after the construction activity in that portion of the site has temporarily or permanently ceased.

CONTRACTOR shall implement appropriate construction phasing, vegetative buffer strips, horizontal slope grading, and other construction practices that minimize erosion when practical. The normal wetted perimeter of any temporary or permanent drainage ditch that drains water from a construction site, or diverts water around a site, must be stabilized within 200 lineal feet from the property edge, or from the point of discharge to any surface water. Stabilization must be completed within 24 hours of connecting to a surface water. Pipe outlets must be provided with temporary or permanent energy dissipation within 24 hours of connection to a surface water.

The following measures will be taken as sediment control practices in order to minimize sediments from entering surface waters:
The following measures will be taken as sediment control practices in order to minimize sediments from entering surface waters:
1. Installation of floating silt curtain within the creek channel at the downgradient extents of construction activity prior to site disturbance. Floating silt curtain shall be installed in two locations upgradient of the culverts under Fernbrook Lane and Annapolis Lane as shown on Sheets EC-102 and EC-103. Install silt curtain as shown on Sheet D-104.
2. Installation of perimeter silt fence in the locations shown on Sheets EC-102 through EC-104 prior to site disturbance. Perimeter silt fence shall be installed as shown on Sheet D-104.
3. Installation of inlet protection in the locations shown on Sheets EC-102 through EC-104 prior to site disturbance. Inlet protection shall be installed as shown on Sheet D-104.
4. Installation of rock construction entrances in the locations shown on Sheet C201. Rock construction entrances shall be constructed as shown on Sheet C803 to prevent tracking of sediment offsite. Street sweeping of tracked sediment shall be performed as required.

Dewatering

Turbid or sediment-laden water must be treated with the appropriate BMPs, such that discharge does not adversely affect the receiving water. Ensure that discharge points are adequately protected from erosion and scour. CONTRACTOR responsible to develop and submit dewatering plan to engineer, secure any required permits, and comply with permits.

Final Stabilization

All areas disturbed by construction will receive seed according to the plans and specifications and within the specified vegetative time schedule.

Final stabilization will occur when the site has a uniform vegetative cover with a density of 70% over the entire disturbed area. All temporary synthetic erosion prevention and sediment control BMPs (such as silt fence) must be removed as part of the site final stabilization. All sediment must be cleaned out of conveyances and temporary sedimentation basins if applicable.

Notice of Termination (NOT) must be submitted within 30 days of final stabilization. Before Termination, revegetation establishment and coverage must meet the permit requirements.

Pollution Prevention Measures

Solid Waste
Solid waste, including but not limited to, collected asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris and other waste must be disposed of properly and must comply with MPCA disposal requirements.

Hazardous Materials
Hazardous materials, including but not limited to oil, gasoline, paint and any hazardous substance must be properly stored including secondary containments, to prevent spills, leaks or other discharge. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with MCPA regulations.

Washing of Construction Vehicles
External washing of trucks and other construction vehicles must be limited to a defined area of the site. Runoff must be contained and waste properly disposed of. No engine degreasing is allowed on site.

Concrete Washout Area
The contractor shall provide effective containment for all liquid and solid wastes generated by washout operations to prevent runoff to surface waters. Liquid and solid wastes must be disposed of properly in compliance with MPCA rules.

Amendments

Amend the SWPPP as necessary to address any changes in design, construction, operation, maintenance, weather or seasonal conditions that have a significant effect on discharge of pollutants to surface or underground waters; or to address concerns identified during inspections or investigations by OWNER or local government entities.

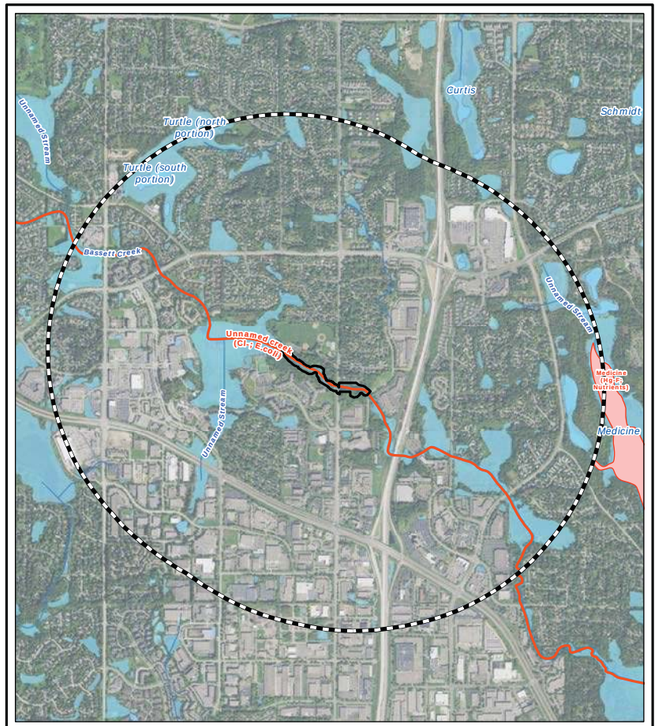
Record Retention

The SWPPP, all changes to it, and inspection and maintenance records must be kept on-site during construction. The OWNER must retain a copy of the SWPPP along with the following records for three (3) years after submittal of the Notice of Termination.
1. Any other permits required for the project;
2. Records of all inspection and maintenance conducted during construction;
3. All permanent operations and maintenance agreements that have been implemented, including all right of way, contract, covenants and other binding requirements regarding perpetual maintenance;
4. All required calculations for design of the temporary and permanent stormwater management systems.

Inspections

The inspection log will be completed by the CONTRACTOR for the construction site. Inspections at the site will be completed as follows:
Once every seven (7) days during active construction and,
Within 24 hours after a rainfall event greater than 0.5 inches in 24 hours.

The individual performing inspections must be trained as required by part IV.E of the Permit. CONTRACTOR to provide OWNER with proof of training. Inspections must include stabilized areas, erosion prevention and sediment control BMPs, and infiltration areas. Corrective actions must be identified and date of correction must be noted as identified in Section IV.E. of the Permit.



IMPAIRED WATERS, SPECIAL WATERS, AND WETLANDS
This Project is not located within 1 mile of a special water.

This Project is located within 1 mile of an impaired water (see figure above):
Plymouth Creek impaired for Cl-, E. coli
Because of the proximity of the project to an impaired water during construction, all exposed soil areas must be stabilized as soon as possible to limit soil erosion but in no case later than 7 days after the construction activity in that portion of the site has temporarily or permanently ceased.

This Project will impact wetlands. A wetland delineation has been performed and wetland permits have been obtained.

EROSION CONTROL ESTIMATED QUANTITIES

Material	Quantity
MnDOT Seed Mix 34-262	14.5 lb/acre x 0.4 acres = 6 LBS
Erosion Control Blanket	1,650 SY
Inlet Protection	5 EA
Flotation Silt Curtain	50 LF
Construction Entrance	4 EA
Bioroll	200 LF
Silt Fence	400 LF

UNIVERSITY OF MINNESOTA
Louis H Sigtermans
Minneapolis, MN
Design of Construction SWPPP
(May 31, 2020)

CERTIFICATION
In accordance with Part III.A.2 of the General Permit Authorization to Discharge Stormwater Associated with Construction Activity under the NPDES, the preparer of this document was trained under the University of Minnesota Erosion and Sediment Control Certification Program. Mr. Louis Sigtermans' certification in Design of SWPPP is valid through May 31, 2020.

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
0	60% DESIGN	SJB	EAM	04/20/17

SEAL
NOT FOR CONSTRUCTION

PRIME CONSULTANT
WENCK ASSOCIATES
Responsive partner. Exceptional outcomes.

PROJECT TITLE
PLYMOUTH CREEK CHANNEL RECONSTRUCTION
CITY OF PLYMOUTH
3400 PLYMOUTH BOULEVARD
PLYMOUTH, MN 55447

SHEET TITLE
SWPPP

DWN BY	CHK'D	APP'D	DWG DATE
SJB	LNJ	EAM	MAR 2017

SCALE AS SHOWN
PROJECT NO. 1756-10
SHEET NO. EC-101
REV NO. 0

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Plot Date & Time: 22 May 2017 1:23 PM

INLET PROTECTION
SEE DETAIL 7/D-104

ACCESS ROUTE 4

TEMPORARY CONSTRUCTION ENTRANCE
SEE DETAIL 3/D-104

SILT FENCE (TYP.)
SEE DETAIL 2/D-104

SEED AND BLANKET
MN SEED MIX 34-262

WENCK SURVEY LIMITS
SURVEY DATE: 3/28/17

27+18 27+00 25+00 24+00 23+00 22+00 21+00 20+00 19+00 18+00

TRAIL PATH BRIDGE GREEN FAIRWAY WALKWAY TEE

(1) (4) (5) (6) (7) (8) (9) (12)

LEGEND

- DECIDUOUS TREE (XXX)
- ACCESS ROUTE BOUNDARY
- EXISTING FENCE
- PROPERTY LINE
- STRAW MULCH W/ DISK ANCHORING AND MN SEED MIX 34-262
- EROSION CONTROL BLANKET AND MN SEED MIX 34-262
- WATER EDGE
- RETAINING WALL
- PROPOSED CHANNEL CENTERLINE
- PROJECT AREA LIMITS
- FLOTATION SILT CURTAIN
- INLET PROTECTION
- BIOROLL
- SILT FENCE

0 30 60
GRAPHIC SCALE IN FEET

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
0	60% DESIGN	SJB	EAM	04/20/17

SEAL

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PLYMOUTH CREEK
CHANNEL RECONSTRUCTION

CITY OF PLYMOUTH

3400 PLYMOUTH BOULEVARD
PLYMOUTH, MN 55447

SHEET TITLE

EROSION AND SEDIMENT CONTROL PLAN
27+18 TO 18+00

DWN BY	CHK'D	APP'D	DWG DATE
SJB	LNJ	EAM	MAR 2017

SCALE AS SHOWN

PROJECT NO.	SHEET NO.	REV NO.
1756-10	EC-102	0

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Plot Date & Time: 22 May 2017 1:23 PM

INLET PROTECTION
SEE DETAIL 7/D-104

RIM=959.22

ACCESS ROUTE 3

TEMPORARY CONSTRUCTION ENTRANCE
SEE DETAIL 3/D-104

SILT FENCE (TYP.)
SEE DETAIL 2/D-104

(10)

(11)

BIOROLL
SEE DETAIL 4/D-104

WENCK SURVEY LIMITS
SURVEY DATE: 3/28/17

SEED AND BLANKET
MN SEED MIX 34-262

FERNBROOK LANE N

INLET PROTECTION
SEE DETAIL 7/D-104

RIM=962.82

FLOTATION SILT CURTAIN
SEE DETAIL 1/D-104

18+00
19+00
20+00
17+00
16+00
15+00
14+00
13+00
12+00
11+00
10+00
9+00

BRIDGE

TEE (9)
TEE (12)

LEGEND

- DECIDUOUS TREE
- ACCESS ROUTE BOUNDARY
- EXISTING FENCE
- PROPERTY LINE
- STRAW MULCH W/ DISK ANCHORING AND MN SEED MIX 34-262
- EROSION CONTROL BLANKET AND MN SEED MIX 34-262
- WATER EDGE
- RETAINING WALL
- PROPOSED CHANNEL CENTERLINE
- PROJECT AREA LIMITS
- FLOTATION SILT CURTAIN
- INLET PROTECTION
- BIOROLL
- SILT FENCE

0 30 60
GRAPHIC SCALE IN FEET

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CITY OF PLYMOUTH

3400 PLYMOUTH BOULEVARD
PLYMOUTH, MN 55447

SHEET TITLE

EROSION AND SEDIMENT CONTROL PLAN
18+00 TO 9+00

DWN BY	CHK'D	APP'D	DWG DATE
SJB	LNJ	EAM	MAR 2017

SCALE AS SHOWN

PROJECT NO.	SHEET NO.	REV NO.
1756-10	EC-103	0

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LEGEND

- DECIDUOUS TREE
- ACCESS ROUTE BOUNDARY
- EXISTING FENCE
- PROPERTY LINE
- STRAW MULCH W/ DISK ANCHORING AND MN SEED MIX 34-262
- EROSION CONTROL BLANKET AND MN SEED MIX 34-262
- WATER EDGE
- RETAINING WALL
- PROPOSED CHANNEL CENTERLINE
- PROJECT AREA LIMITS
- FLOTATION SILT CURTAIN
- INLET PROTECTION
- BIOROLL
- SILT FENCE

0 30 60
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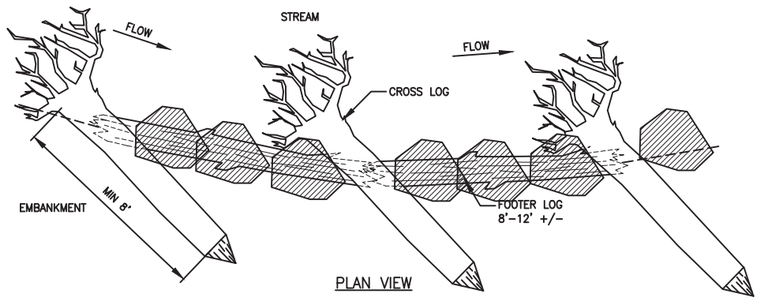
EROSION AND SEDIMENT CONTROL PLAN
9+00 TO 0+00

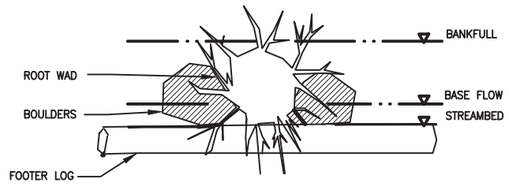
DWN BY	CHK'D	APP'D	DWG DATE
SJB	LNJ	EAM	MAR 2017

SCALE AS SHOWN

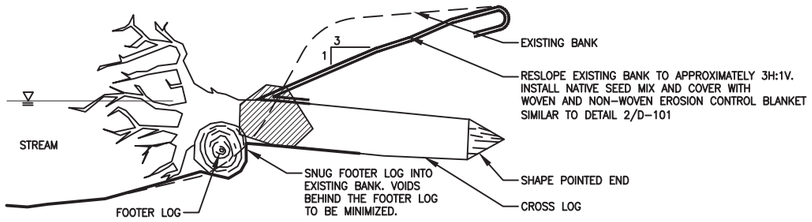
PROJECT NO.	SHEET NO.	REV NO.
1756-10	EC-104	0



PLAN VIEW



ELEVATION VIEW



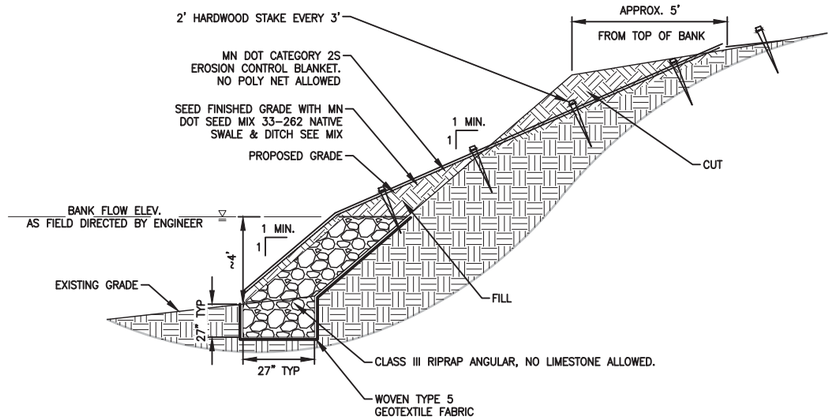
SECTION VIEW

ROOTWAD WITH BOULDER TOE

NOT TO SCALE — 1 / D-101

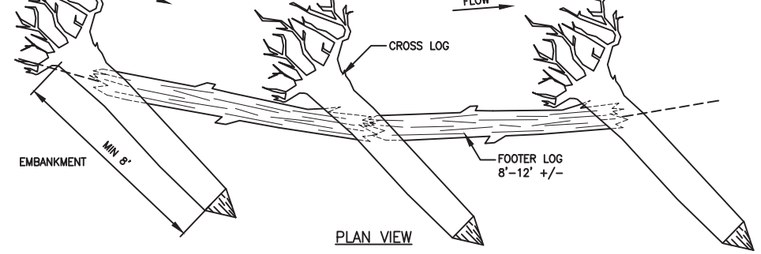
GENERAL NOTES:

1. ENGINEER TO FIELD VERIFY ROOT WAD PLACEMENT.
2. SEE PLANS FOR SPECIFIED BIOTECHNICAL TREATMENTS.
3. FOOTER LOG MINIMUM OF 12" DIAMTER BY 8' LONG.
4. A MINIMUM OF TWO CROSS LOGS PER FOOTER LOG IS REQUIRED TO ANCHOR FOOTER LOG.
5. BOULDERS SHALL BE 24" TO 36", 350 LBS. TO 450 LBS. UNCUT, UNDRESSED FIELDSTONE
6. BOULDERS TO BE FIELD LOCATED. COORDINATE WITH ENGINEER.
7. ROOTWAD SHALL BE DRIVEN OR EXCAVATED INTO BANK.

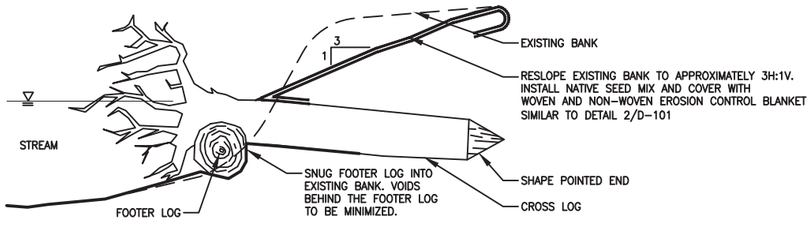


CLASS III VEGETATED RIPRAP TOE DETAIL

NOT TO SCALE — 2 / D-101



PLAN VIEW

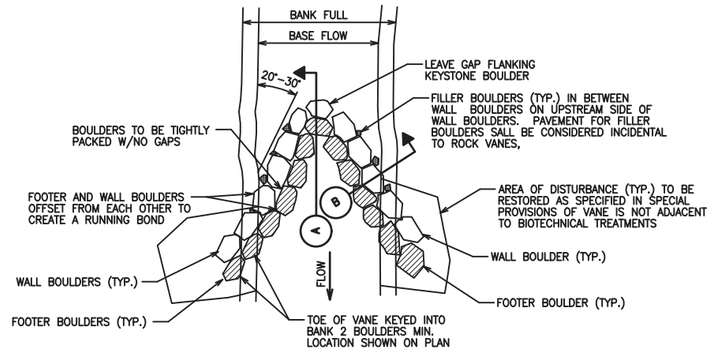


SECTION VIEW

NOTE:
1. A MINIMUM OF TWO CROSS LOGS PER FOOTER LOG IS REQUIRED TO ANCHOR FOOTER LOG.
2. MINIMUM LOG DIAMETER is 12" +/-

ROOTWAD WITH LOG TOE

NOT TO SCALE — 3 / D-101

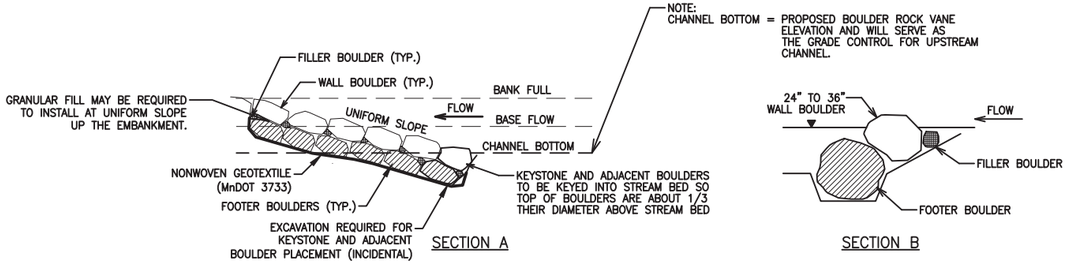


PLAN VIEW

LEGEND

- SUBMERGED OR FOOTER 24" TO 30" FIELDSTONE BOULDER MEETING MnDOT 3601.2A. AT LEAST 20% OF THE BOULDERS SHALL HAVE A DIAMETER OF 24" OR LARGER.
- PROTRUDING OR WALL 30" TO 36" BOULDERS MEETING MnDOT 3601.2A. AT LEAST 20% OF THE BOULDERS SHALL HAVE A DIAMETER OF 30" OR LARGER.
- FILLER BOULDER 6" TO 12" DIA.;

NOTE:
1. FIELD STONE BOULDERS SHALL HAVE NO CUT, BLAST OR SHEAR MARKS.
2. ENOUGH WALL BOULDERS TO BE FLAT TOPPED AND SET TO CREATE A DRY CROSSING/WALKWAY ACROSS THE CREEK.
3. FINAL PLACEMENT OF ROCK VANE AND BOULDERS TO BE FIELD VERIFIED BY ENGINEER.
4. ALL VANES EXTEND UPSTREAM INTO FLOW OF CREEK.
5. CLASS V RIPRAP ACCEPTABLE ROCK ALTERNATIVE



SECTION A — SECTION B

CROSS VANE DETAIL

NOT TO SCALE — 4 / D-101

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
0	60% DESIGN	SJB	EAM	04/20/17

SEAL

NOT FOR CONSTRUCTION

PRIME CONSULTANT

WENCK ASSOCIATES
Responsive partner. Exceptional outcomes.

PROJECT TITLE

PLYMOUTH CREEK CHANNEL RECONSTRUCTION

CITY OF PLYMOUTH

3400 PLYMOUTH BOULEVARD
PLYMOUTH, MN 55447

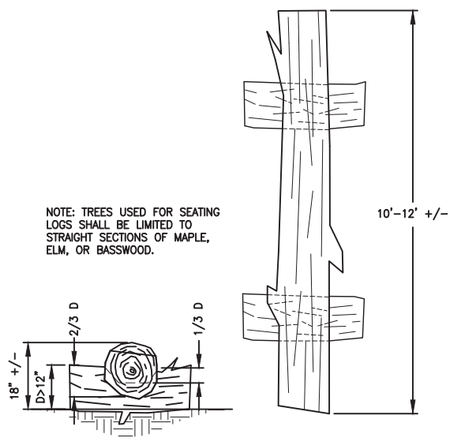
SHEET TITLE

DETAILS

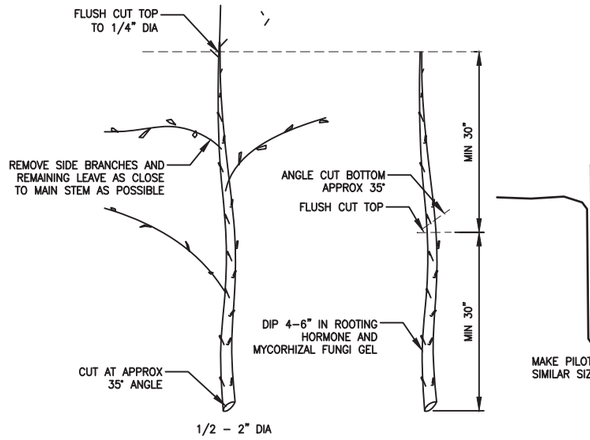
DWN BY	CHK'D	APP'D	DWG DATE
SJB	LNJ	EAM	MAR 2017

SCALE: AS SHOWN

PROJECT NO. 1756-10 | SHEET NO. D-101 | REV NO. 0

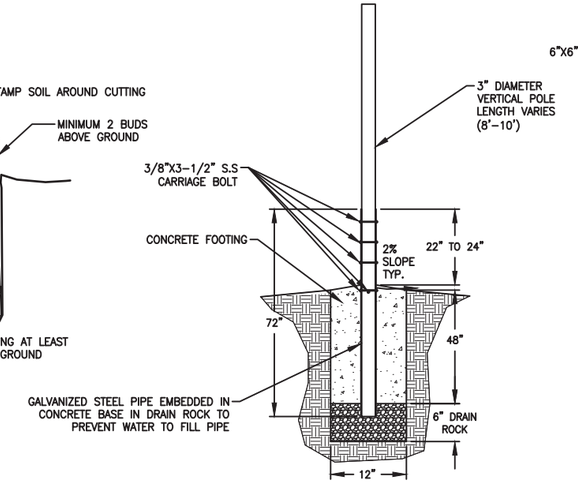


SEATING LOGS/REVEGETATION BOUNDARY — 1 / D-102
NOT TO SCALE



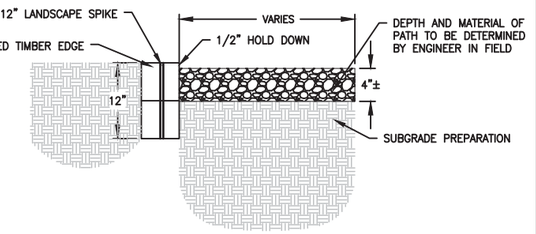
NOTES:
1. HARVEST AND PLANT STAKES DURING THE DORMANT SEASON
2. USE HEALTHY, STRAIGHT, LIVE WOOD AT LEAST 1 YEAR OLD
3. MAKE CLEAN CUTS AND DO NOT DAMAGE STAKES OR SPLIT THE ENDS DURING INSTALLATION. USE A PILOT AR IN FOIRM SOILS
4. SOAK CUTTING FOR 24 HOURS (MINIMUM) PRIOR TO INSTALLATION
5. DIP BOTTOM 4-6 INCHES IN ROOTING HORMONE
6. INSTALL THE CUTTING AND TAMP THE SOIL AROUND THE STAKE

LIVE STAKE HARVEST AND INSTALLATION — 2 / D-102
NOT TO SCALE

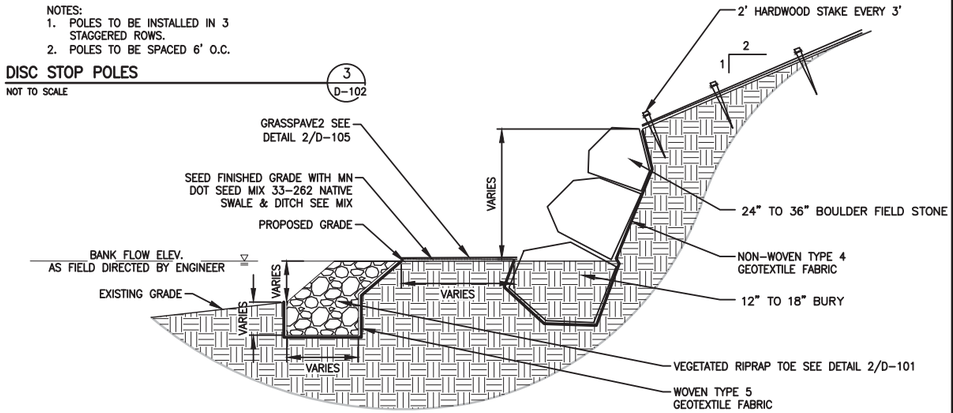


NOTES:
1. POLES TO BE INSTALLED IN 3 STAGGERED ROWS.
2. POLES TO BE SPACED 6' O.C.

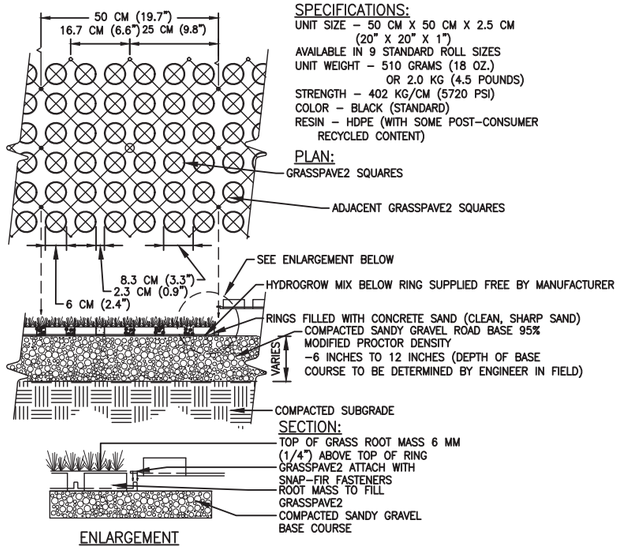
DISC STOP POLES — 3 / D-102
NOT TO SCALE



TIMBER EDGE PATH — 4 / D-102
NOT TO SCALE

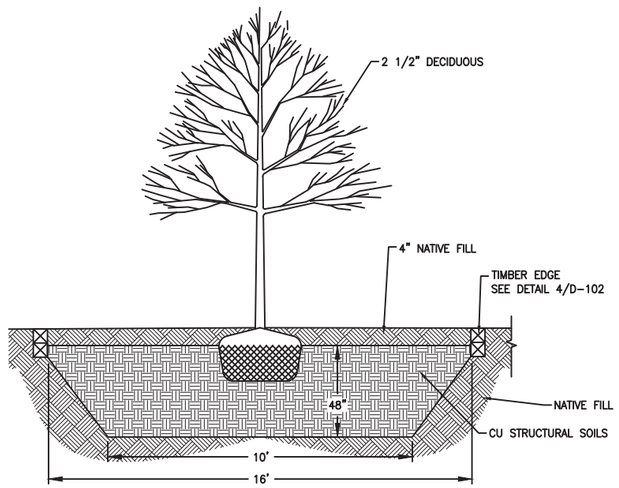


TWO STAGE CHANNEL CLASS II RIPRAP TOE & BOULDER DETAIL — 7 / D-102
NOT TO SCALE

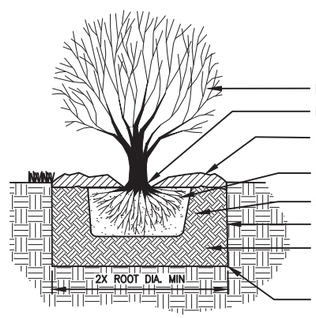


NOTES:
1. GRASS/PLANT TYPES SHALL BE SPECIFIED BY A LANDSCAPE ARCHITECT OR LANDSCAPE DESIGNER.
2. STANDARD WIDTH OF 4 UNITS ≈ 80"

GRASSPAVE2 DETAIL — 5 / D-102
NOT TO SCALE



TREE WITH STRUCTURAL SOIL BASE — 6 / D-102
NOT TO SCALE



- PRUNE ANY DAMAGED OR BROKEN BRANCHES. DO NOT CUT LEADER.
- ROOT FLARE MUST BE ABOVE FINISHED GRADE.
- DOUBLE SHRED, HARD WOOD MULCH (3") MIN.
- PRUNE DAMAGED OR DESICCATED ROOTS.
- CONTAINER GROW MATERIALS SHALL HAVE ROOTS HAND LOOSENED UPON PLANTING
- ROUGH THE SIDES OF THE HOLE SO THEY ARE NOT GLAZED FROM DIGGING.
- BACKFILL AROUND THE ROOTS WITH LOOSE SOIL. WORK SOIL TO SETTLE AND ELIMINATE VOIDS AND AIR POCKETS. WATER THOROUGHLY WHEN BACKFILLED 2/3 FULL AND ALLOW TO SETTLE.
- EXCAVATE HOLE SO THAT ROOTS ARE VERTICAL AND FULLY EXTENDED. SCARIFY PIT BOTTOM (6") MIN.

SHRUB PLANTING — 8 / D-102
NOT TO SCALE

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
0	60% DESIGN	SJB	EAM	04/20/17

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PROJECT TITLE

PLYMOUTH CREEK CHANNEL RECONSTRUCTION

CITY OF PLYMOUTH

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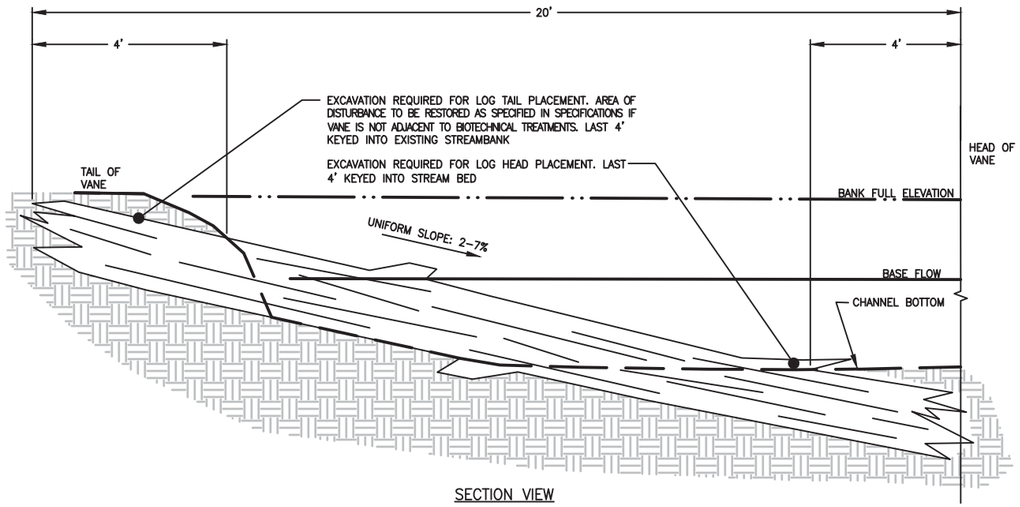
PLYMOUTH, MN 55447

SHEET TITLE

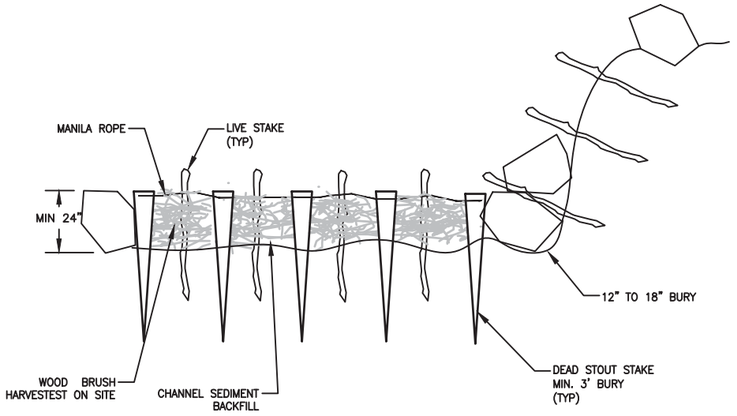
DETAILS

DWN BY	CHK'D	APP'D	DWG DATE	MAR 2017
SJB	LNJ	EAM	SCALE	AS SHOWN

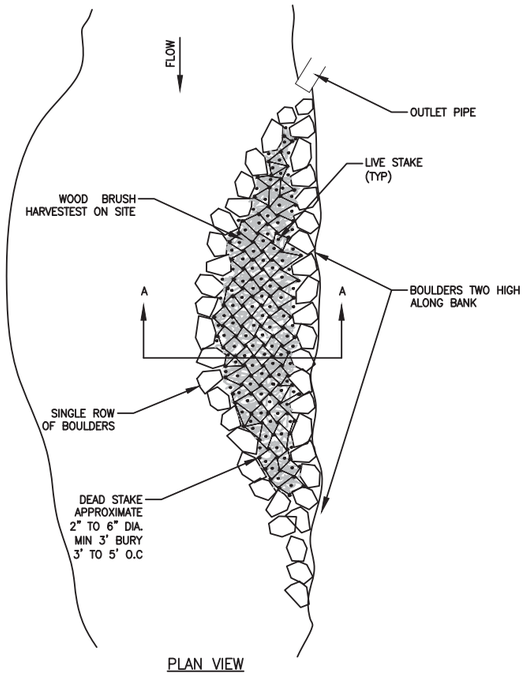
PROJECT NO.	SHEET NO.	REV NO.
1756-10	D-102	0



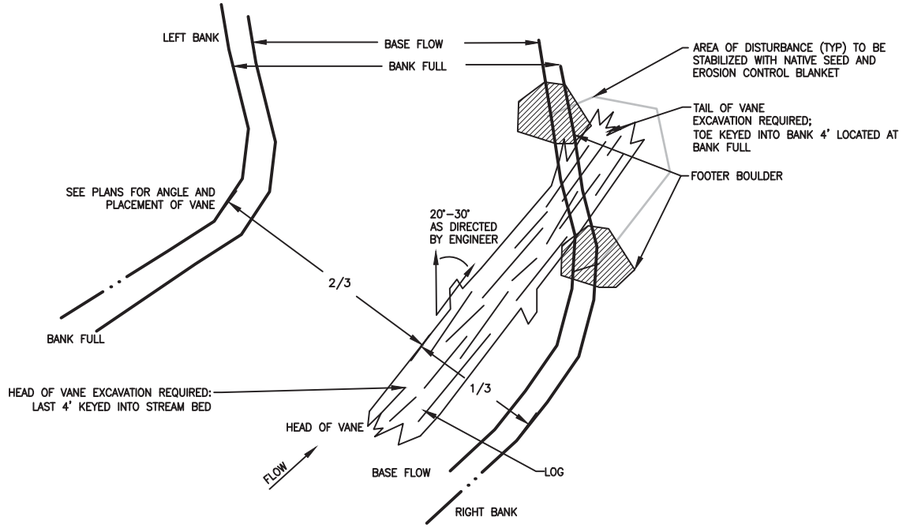
SECTION VIEW



SECTION VIEW A–A



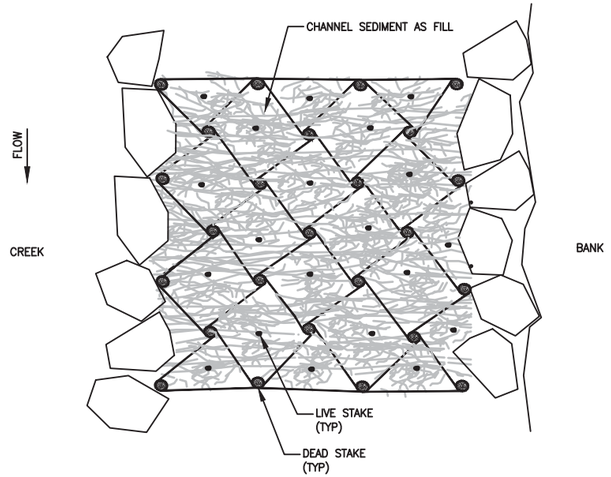
PLAN VIEW



PLAN VIEW

LOG VANE DETAIL (TYPICAL) — 1 / D–103

NOT TO SCALE



NOTES:
1. MANILA ROPE– MINIMUM 3/8" NATURAL FIBER TWISTED ROPE WITH 500 LB BREAK STRENGTH.
2. DEAD STAKES MAY BE HARVESTED ON SITE 3' TO 5' O.C. MIN 3' BURY, APPROXIMATE 2"–6" DIAMETER.
3. OVERLAY BRANCHES
4. LIVE STAKES 3' TO 5' O.C., MIN 2' BURY MIN 12" ABOVE MATTRESS.

PLAN VIEW

BRUSH MATTRESS — 2 / D–103

NOT TO SCALE

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
0	60% DESIGN	SJB	EAM	04/20/17

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CITY OF PLYMOUTH

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PLYMOUTH, MN 55447

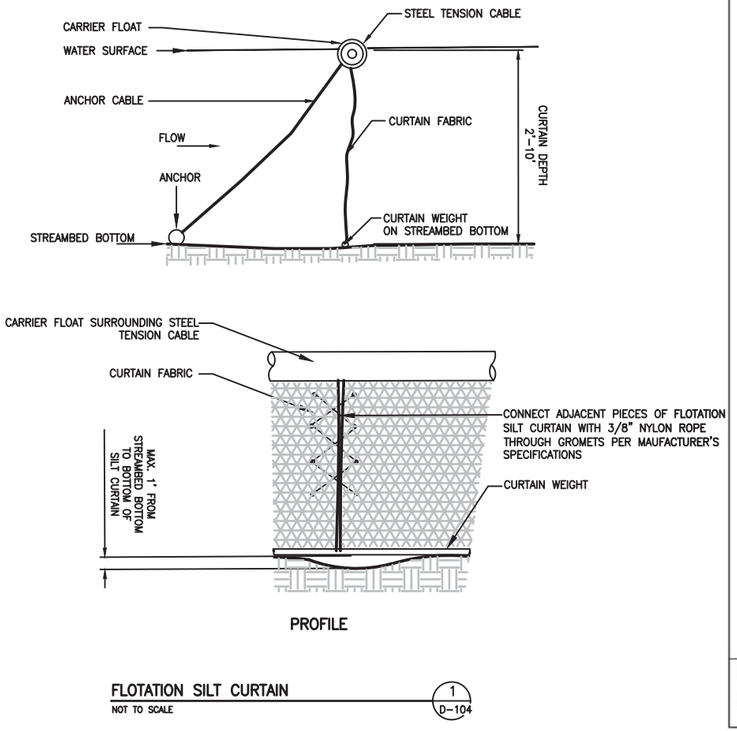
SHEET TITLE

DETAILS

DWN BY	CHK'D	APP'D	DWG DATE
SJB	LNJ	EAM	MAR 2017

SCALE AS SHOWN

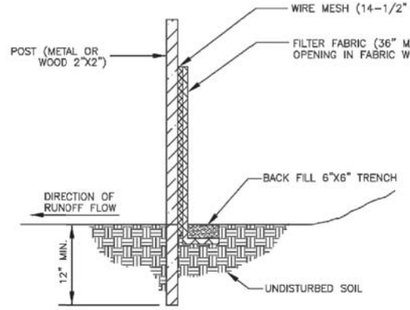
PROJECT NO.	SHEET NO.	REV NO.
1756–10	D–103	0



FLOTATION SILT CURTAIN (1 / D–104)
NOT TO SCALE

NOTES:

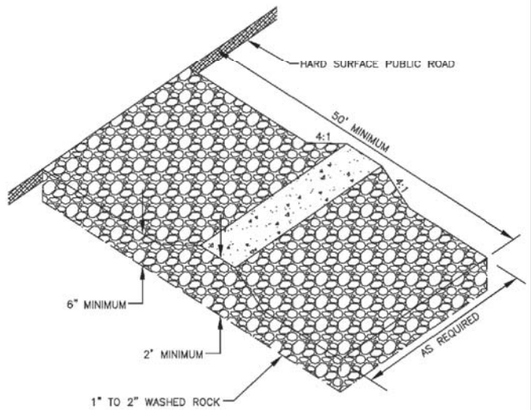
1. DIG A 6"X6" TRENCH ALONG THE INTENDED FENCE LINE.
2. DRIVE ALL POSTS INTO THE GROUND AT THE DOWNHILL SIDE OF THE TRENCH.
3. WIRE FENCING PER HENNEPIN COUNTY CONSERVATION DISTRICT EROSION AND SEDIMENT CONTROL MANUAL. WIRE MESH MUST BE A MINIMUM OF 2" INTO THE GROUND AND NO MORE THAN 36" ABOVE THE ORIGINAL GROUND SURFACE.
4. LAY OUT SILT FENCE ON THE UPHILL SIDE ALONG THE FENCE LINE, AND BACK FILL.
5. WOOD POSTS MAY BE SPACED UP TO 4 FEET APART IF WIRE MESH IS NOT USED TO SUPPORT THE FABRIC. IF WIRE MESH IS USED TO SUPPORT THE FABRIC STEEL POSTS MAY BE SPACED UP TO 8 FEET APART.
6. REMOVE SILT FENCE AFTER TURF IS ESTABLISHED.



STANDARD DETAILS
SILT FENCE DETAIL
CITY OF PLYMOUTH

PUBLISHED 3–16
CITY PL. NO. ST–18
REVISED 3–16

SILT FENCE (2 / D–104)
NOT TO SCALE



NOTES:

ROCK SIZE SHOULD BE 1" TO 2" IN SIZE SUCH AS MN/DOT CA–1 OR CA–2 COURSE AGGREGATE. (WASHED)

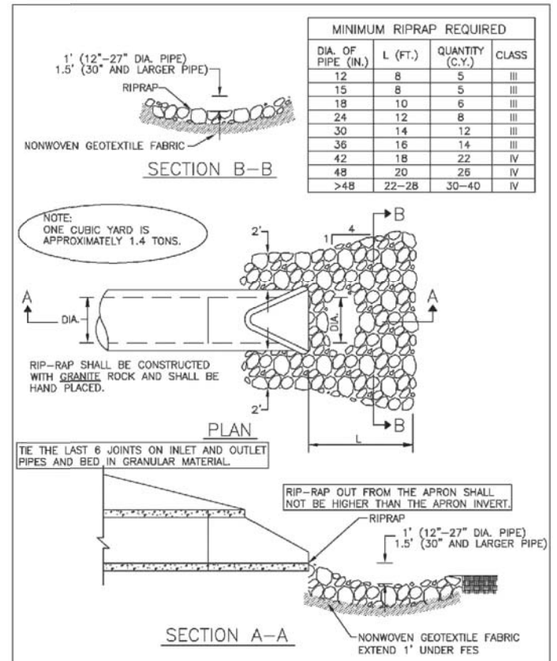
A GEOTEXTILE FABRIC MAY BE USED UNDER THE ROCK TO PREVENT MIGRATION OF THE UNDERLYING SOIL INTO THE STONE.

STANDARD DETAILS
ROCK ENTRANCE TO CONSTRUCTION SITE
CITY OF PLYMOUTH

PUBLISHED 3–16
CITY PL. NO. ST–19
REVISED 3–16

ROCK ENTRANCE TO CONSTRUCTION SITE (3 / D–104)
NOT TO SCALE

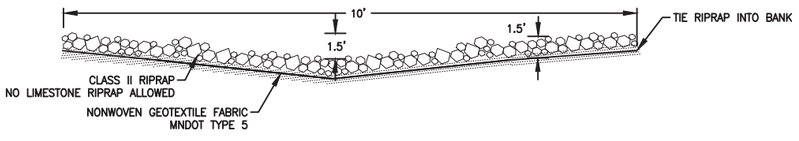
MINIMUM RIPRAP REQUIRED			
DIA. OF PIPE (IN.)	L (FT.)	QUANTITY (C.Y.)	CLASS
12	8	5	III
15	8	5	III
18	10	6	III
24	12	8	III
30	14	12	III
36	16	14	III
42	18	22	IV
48	20	26	IV
>48	22–28	30–40	IV



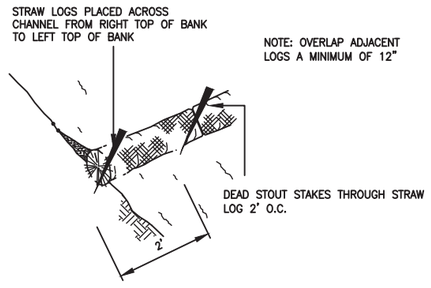
STANDARD DETAILS
RIPRAP DETAIL FOR FLARED END SECTIONS
CITY OF PLYMOUTH

PUBLISHED 3–16
CITY PL. NO. ST–4
REVISED 3–12

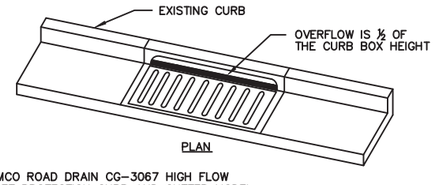
RIPRAP AT FLARED END SECTIONS DETAIL (4 / D–104)
NOT TO SCALE



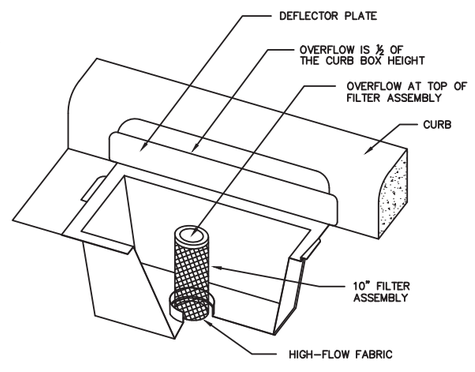
CLASS II RIPRAP OVERFLOW DETAIL (5 / D–104)
NOT TO SCALE



BIOROLL DETAIL (6 / D–104)
NOT TO SCALE



WIMCO ROAD DRAIN CG–3067 HIGH FLOW INLET PROTECTION CURB AND GUTTER MODEL OR CITY APPROVED EQUAL.



INLET PROTECTION DETAIL (7 / D–104)
NOT TO SCALE

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
0	60% DESIGN	SJB	EAM	04/20/17

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SHEET TITLE
DETAILS

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SJB	LNJ	EAM	MAR 2017

SCALE AS SHOWN

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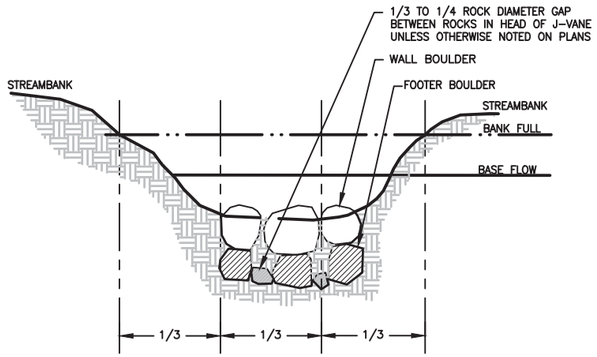
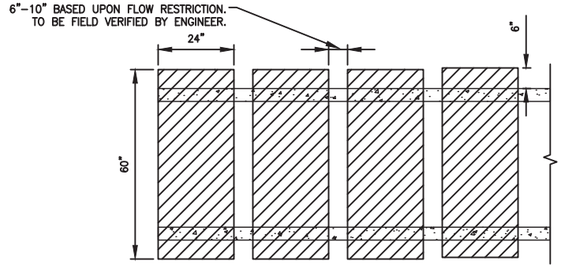
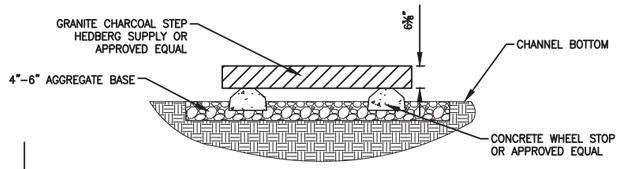
1756–10	D–104	0



SECTION VIEW



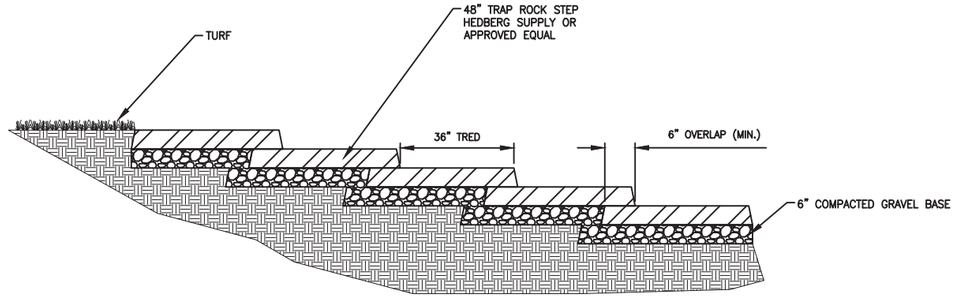
PLAN VIEW



SECTION VIEW

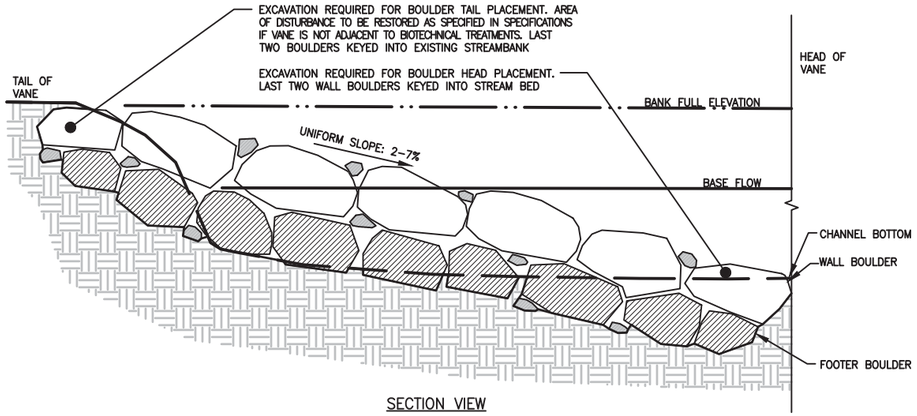
CREEK CROSSING STEPPERS (1 / D-105)

NOT TO SCALE

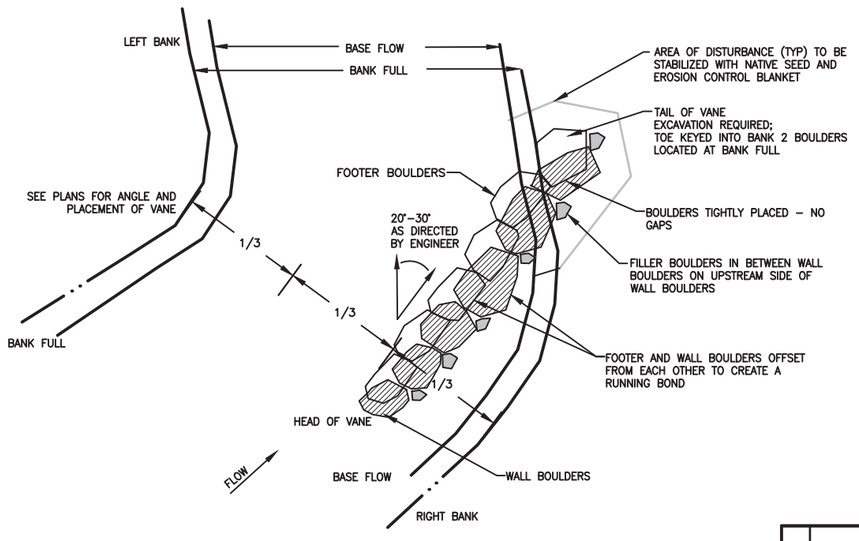


BANK ACCESS STEPS (2 / D-105)

NOT TO SCALE



SECTION VIEW



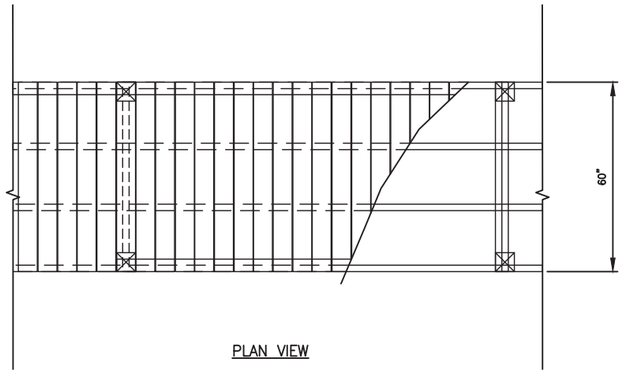
PLAN VIEW

NOTE:
1. CLASS V RIPRAP ACCEPTABLE ROCK ALTERNATIVE
2. BOULDER VANES TO BE FIELD LOCATED BY ENGINEER

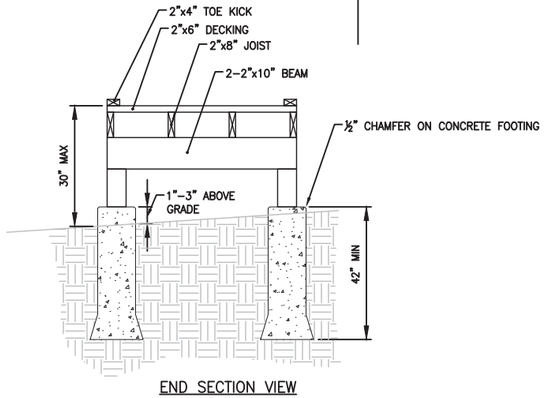
BOULDER VANE DETAIL (TYPICAL) (3 / D-105)

NOT TO SCALE

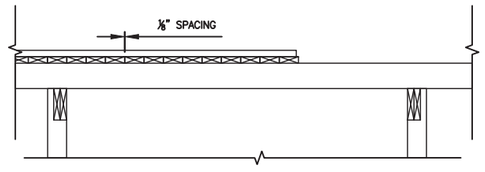
NOTES:
10' JOIST SPAN, 10' POST SPACING
#2 SOUTHERN PINE PRESSURE TREATED
JOISTS = 2"x8" 19.33" O.C.
BEAMS = 2-2"x10"
CORNER FOOTING = 12" DIA. MIN
INTERMEDIATE FOOTING - 17" DIA MIN
DECKING = 2"x6"



PLAN VIEW



END SECTION VIEW



LONGITUDINAL SECTION VIEW

BOARDWALK (4 / D-105)

NOT TO SCALE

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
0	60% DESIGN	SJB	EAM	04/20/17

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SCALE AS SHOWN

PROJECT NO. 1756-10

SHEET NO. D-105

REV NO. 0