01.24.2021

BOZEMAN CAMPUS
MONTANA STATE UNIVERSITY

STUDENT MEMORIAL

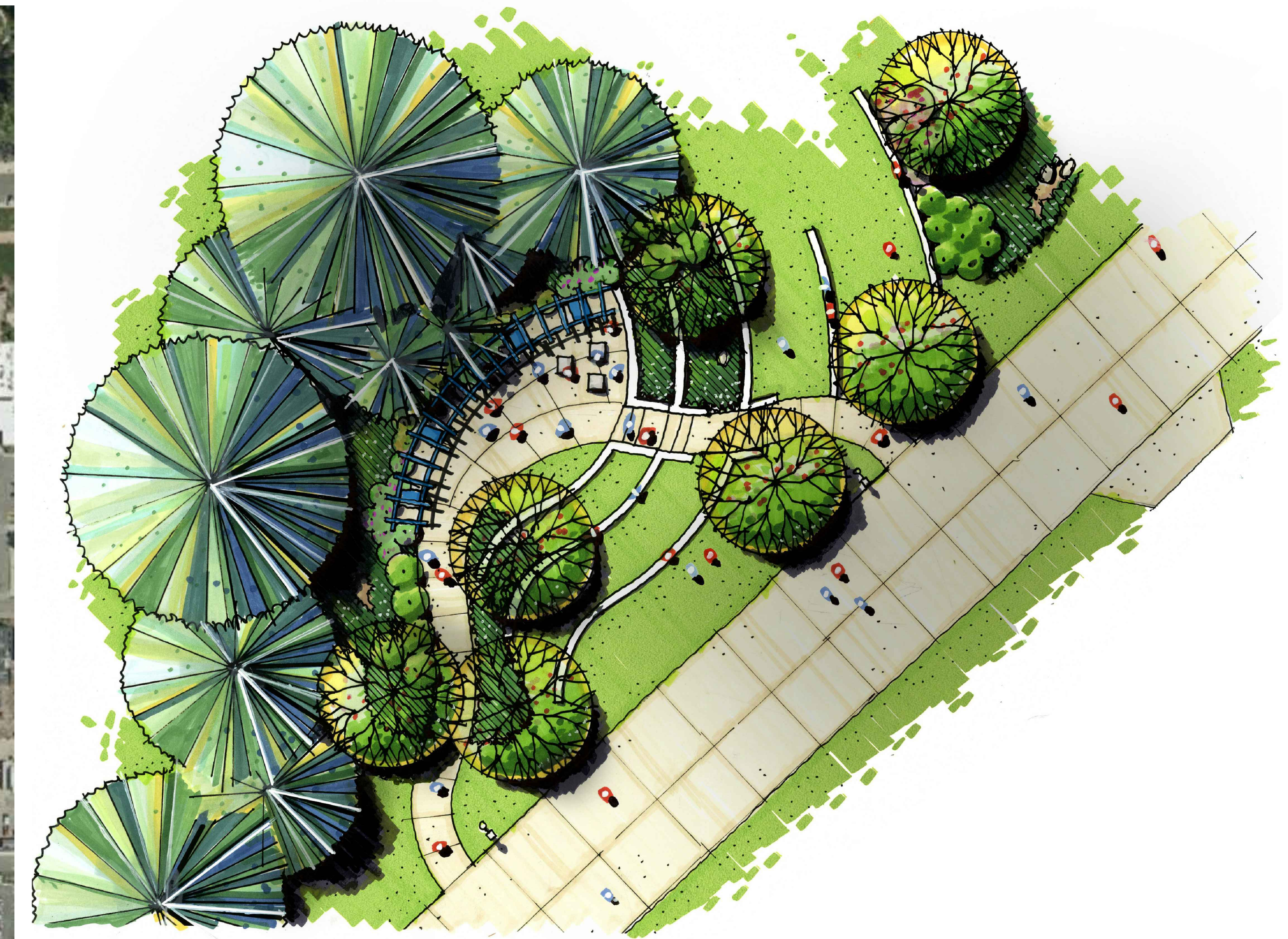
100% CONSTRUCTION DOCUMENTS

OWNER
Campus Planning, Design & Construction
Montana State University
PO Box 172760
Bozeman, MT 59717
406.994.5413

ARCHITECT/ENGINEER
Cushing Terrell
411 E. Main St.
Bozeman, MT 59715
406.556.7100
Project Manager: Debra Rosa

PROJECT LOCATION
Montana State University
Bozeman Campus
STUDENT MEMORIAL

VICINITY MAP: Locator



RENDERING FOR VISUALIZATION PURPOSES ONLY

SHEET INDEX

BASE-BID

DEMOLITION AND ALL IMPROVEMENTS EXCEPT AS NOTED IN ALTERNATES #1 AND #2. IMPROVEMENTS GENERALLY INCLUDE GRADING, SIX (6) RETAINING WALLS WITH ASSOCIATED MOW-STRIPS, STAIR AND HANDRAIL, CONCRETE PAVEMENT, PLAQUE RE-INSTALLATION, LIGHTING, AND TURF PLANTING AND IRRIGATION.

ALTERNATE #1

ADD TWO (2) WALLS WITH ASSOCIATED MOW-STRIPS, TRANSITION GRADES TO EXISTING WITHIN EXISTING LAWN AREAS, AND REPAIR OF EXISTING PLANTER AND IRRIGATION IF REQUIRED DUE TO WALL INSTALLATION.

ALTERNATE #2

ADD LANDSCAPE PLANTERS/PLANTINGS AND PLANTER IRRIGATION AS SHOWN ON THE PLANS.

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STUDENT MEMORIAL
MONTANA STATE UNIVERSITY

Cushing Terrell
cushingterrell.com
800.757.9522

DRAWN BY: D. ROSA
REVIEWED BY: D. ROSA

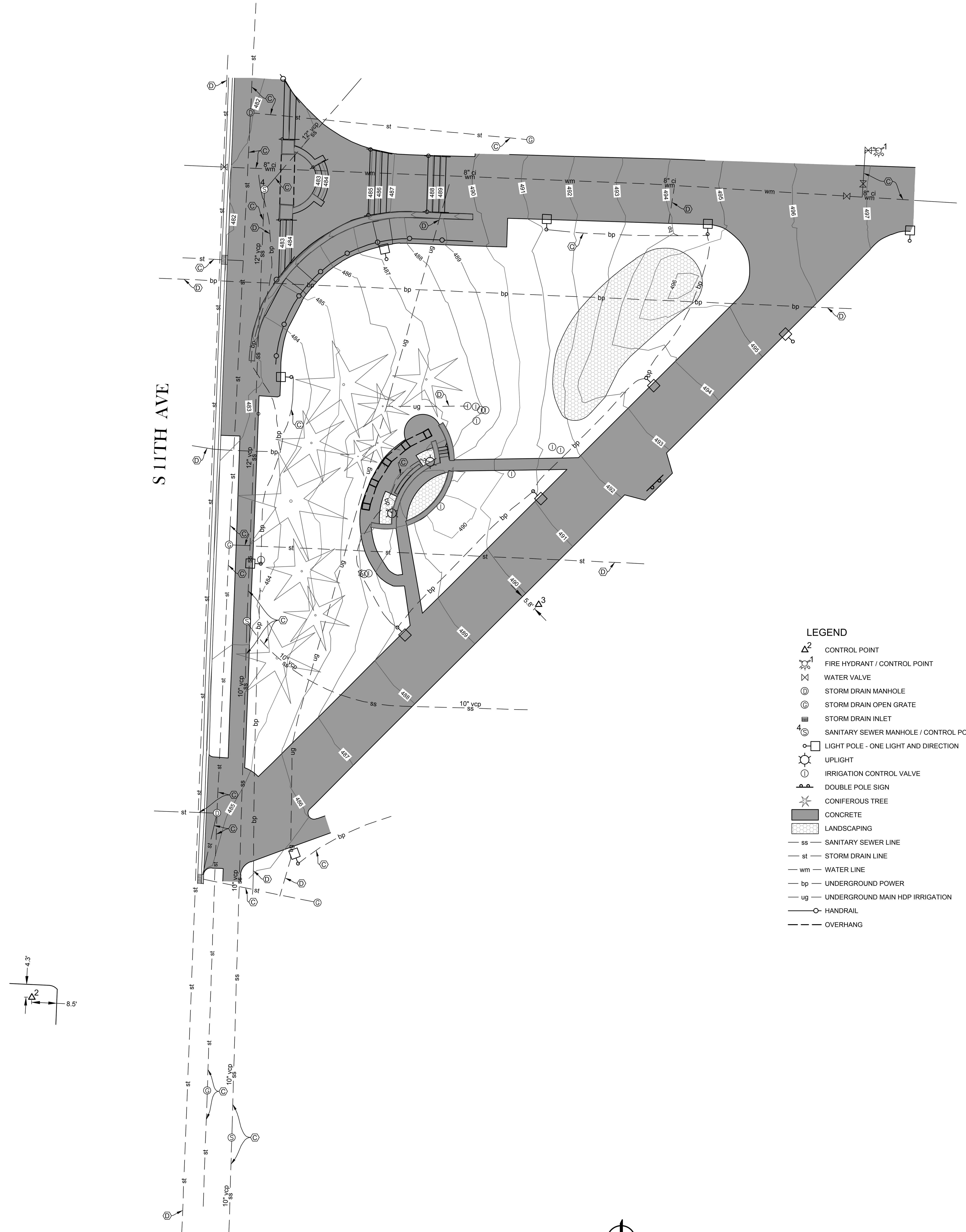
REV.	DESCRIPTION	DATE

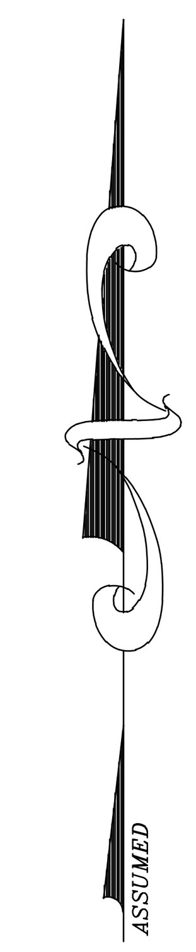
PPA# 18-2018
A/E#
Consultant #:

SHEET TITLE
COVER

SHEET
G100

DATE
01.24.2021





GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

CONTOUR INTERVAL = 1 FOOT

LEGEND

- CONTROL POINT
- FIRE HYDRANT / CONTROL POINT
- WATER VALVE
- STORM DRAIN MANHOLE
- STORM DRAIN OPEN GRATE
- STORM DRAIN INLET
- SANITARY SEWER MANHOLE / CONTROL POINT
- LIGHT POLE - ONE LIGHT AND DIRECTION
- UPLIGHT
- IRRIGATION CONTROL VALVE
- DOUBLE POLE SIGN
- CONIFEROUS TREE
- CONCRETE
- LANDSCAPING
- ss — SANITARY SEWER LINE
- st — STORM DRAIN LINE
- wm — WATER LINE
- bp — UNDERGROUND POWER
- ug — UNDERGROUND MAIN HDP IRRIGATION
- HANDRAIL
- OVERHANG

UNDERGROUND PUBLIC UTILITIES WERE LOCATED FROM MARKS FOUND ON THE GROUND IN RESPONSE TO TICKET 18028585. LOCATION OF EXISTING UTILITIES WERE DETERMINED IN ACCORDANCE WITH ASCE 38-02 'STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA.' THERE MAY BE OTHER EXISTING UTILITIES NOT INDICATED ON THIS DRAWING.

(B) UTILITY QUALITY LEVEL 'B' LOCATED FROM INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES.

(C) UTILITY QUALITY LEVEL 'C' LOCATED FROM INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGEMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL 'D' INFORMATION.

(D) UTILITY QUALITY LEVEL 'D' LOCATED FROM INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS.

CALL TWO WORKING DAYS BEFORE YOU DIG - 811

BENCHMARK:

BM1 - FIRE HYDRANT ARROW BOLT - ASSUMED ELEVATION = 500.00 FEET

CONTROL POINT TABLE

POINT #	DESCRIPTION	NORTHING	EASTING	ELEVATION
1	BM FH ARROW BOLT	20000.00	30000.00	500.00'
2	CP SPIKE	19712.27	29712.27	486.41'
3	CP SPIKE	19845.75	29884.47	489.56'
4	SSMH	19986.87	29791.32	482.39'

1 / V001 EXISTING TOPOGRAPHIC SURVEY 1"=5'-0"

NORTH REF.

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REVIEWED BY: D. ROSA

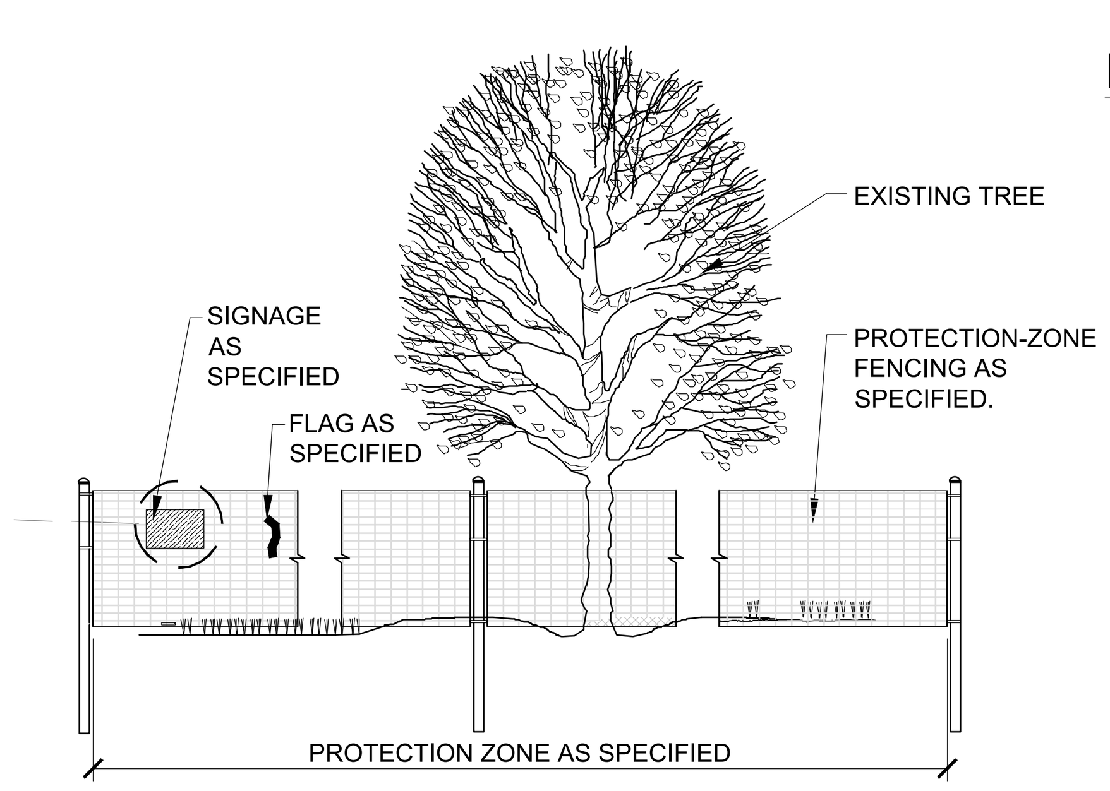
REV.	DESCRIPTION	DATE
-	-	-

PPA# 18-2018
A/E#
Consultant #:
SHEET TITLE
EXISTING TOPOGRAPHIC SURVEY
SHEET
V001
DATE
01.24.2021

1 L001 DEMOLITION SITE PLAN

1"=10'-0"

NORTH REF.



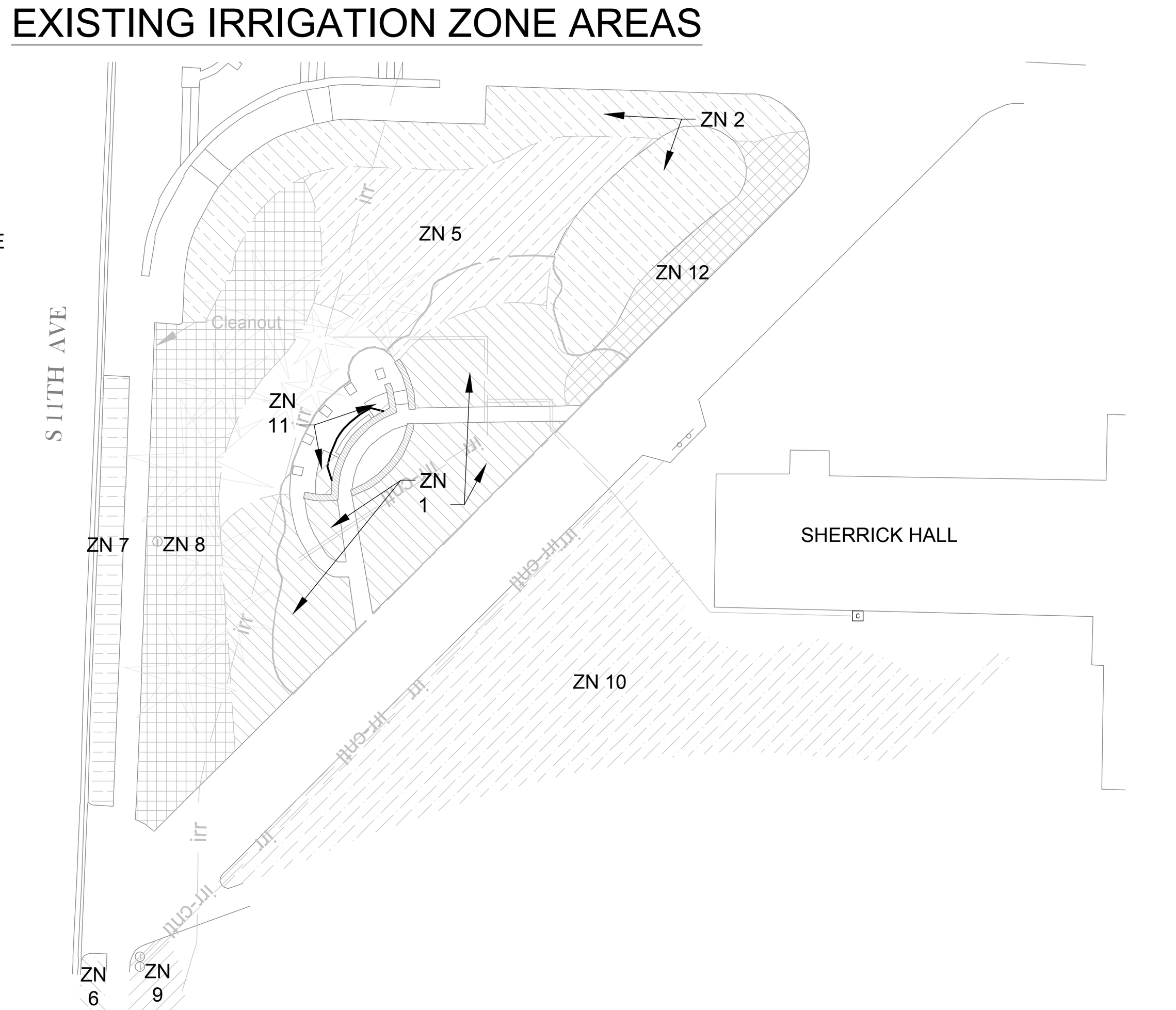
NOTES:

1. SEE TEMPORARY TREE AND PLANT PROTECTION SPECIFICATION 015639 FOR ADDITIONAL INFORMATION.
2. COORDINATE WITH OWNER'S ARBORIST FOR WORK WITHIN TREE PROTECTION AREAS.

2 L001 PROTECTION-ZONE FENCING

SCALE: 1/2"=1'-0"

EXISTING IRRIGATION ZONE AREAS



DEMOLITION LEGEND

- CONCRETE TO BE REMOVED
- LANDSCAPE PLANTER, PLANTINGS, & IRRIGATION TO BE REMOVED
- TURF & IRRIGATION TO BE REMOVED
- PLANT PROTECTION ZONE (INCLUDES TREE PROTECTION ZONE) LIMIT DISTURBANCE PER TREE PROTECTION SPECIFICATION
- CONSTRUCTION LIMIT
- PROTECTION-ZONE FENCING, SEE DETAIL. EXTEND AS REQUIRED

DEMOLITION KEY:

1. REMOVE EXISTING TURF AND IRRIGATION
2. REMOVE EXISTING CONCRETE AND BASE MATERIAL TO NEAREST JOINT
3. REMOVE EXISTING RETAINING WALL
4. REMOVE EXISTING STAIR & HANDRAIL
5. REMOVE EXISTING LIGHT FIXTURE (2 QTY)
6. REMOVE EXISTING TREE (2 QTY)
7. REMOVE EXISTING LANDSCAPE PLANTER & IRRIGATION
8. REMOVE EXISTING ELECTRICAL PANEL & POWER, SEE ELECTRICAL
9. REMOVE EXISTING CANTILEVER BENCH
10. REMOVE EXISTING PLAQUE ON WALL AND SAVE FOR REFURBISH & REINSTALLATION
11. REMOVE EXISTING IRRIGATION VALVE/BOX AND SAVE FOR REINSTALLATION. VALVE TYPE SHOWN ABOVE/BELOW (ISO=ISOLATION, MV=MASTER, REG=REGULATOR). NUMBERS ARE FOR ZONES.
12. REMOVE EXISTING IRRIGATION MAIN LINE, EXTENTS APPROXIMATE
13. REMOVE EXISTING IRRIGATION CONTROLLER WIRE
14. SAVE AND PROTECT EXISTING MEMORIAL STRUCTURE
15. SAVE AND PROTECT EXISTING TREE
16. SAVE AND PROTECT EXISTING LIGHT POLE AND BURIED POWER
17. SAVE AND PROTECT EXISTING STORM DRAIN PIPING, SEE GRADING PLAN.
18. SAVE AND PROTECT EXISTING CONCRETE
19. SAVE AND PROTECT EXISTING IRRIGATION LINE
20. SAVE AND PROTECT EXISTING LANDSCAPING

CONTRACTOR AND ALL SUBCONTRATORS TO FIELD VERIFY ALL UTILITIES

GENERAL NOTES

A. VERIFY EXISTING CONDITIONS AND LOCATE ALL EXISTING UTILITIES INCLUDING ANY THAT MAY NOT BE INDICATED ON THIS PLAN. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES.
B. PROTECT ALL EXISTING IMPROVEMENTS TO REMAIN AND REPAIR BACK TO ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE IF DAMAGE OCCURS RESULTANT FROM CONTRACTOR'S OPERATIONS OR NEGLIGENCE.
C. PERFORM ALL DEMOLITION AND NEW CONSTRUCTION WORK AS PER MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS, LATEST EDITION, WITH CITY OF BOZEMAN MODIFICATIONS.
D. SITE ACCESS IS RESTRICTED TO TWO (2) MAIN VEHICLES AND EQUIPMENT/SMALLER MACHINES (I.E. SKIDSTERS OR BACKHOES).
E. STAGING AREA IS LIMITED. COORDINATE STAGING AREA WITH OWNER.
F. DO NOT SCALE DRAWINGS. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO BEGINNING WORK. START OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS.
G. CHANGES OR DEVIATIONS FROM THE DRAWINGS MADE WITHOUT THE WRITTEN CONSENT OF THE LANDSCAPE ARCHITECT AND/OR AN APPROVED CHANGE ORDER WILL BE CONSIDERED UNAUTHORIZED. COORDINATE NECESSARY MODIFICATIONS WITH ARCHITECT PRIOR TO EXECUTING CONSTRUCTION. SEE SPECIFICATIONS FOR CONTRACT MODIFICATION PROCEDURES AND AS-BUILT REQUIREMENTS.
H. REVIEW ALL DISCIPLINE DRAWINGS AND COORDINATE WITH GENERAL CONTRACTOR AND ALL TRADE CONTRACTORS FOR WORK SHOWN ON LANDSCAPE DRAWINGS AND SPECIFICATIONS.
I. NOTIFY LANDSCAPE ARCHITECT AND OWNER IN WRITING OF ANY EXPECTED DISRUPTIONS IN SERVICE OR CHANGES IN CONSTRUCTION SCHEDULE AND OBTAIN WRITTEN PERMISSION AS SPECIFIED.
J. IN THE EVENT OF ANY DISCREPANCIES, NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY.
K. NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT WRITTEN CONSENT FROM THE LANDSCAPE ARCHITECT.
L. PROVIDE ALL COMPONENTS AND ACCESSORIES FOR A COMPLETE AND FINISHED INSTALLATION FOR PRODUCTS SHOWN ON THE DRAWING SHEETS.
M. THE PROJECT MANUAL SPECIFICATIONS ARE AN INTEGRAL PART OF THESE DOCUMENTS. REVIEW ALL PROJECT INFORMATION.
N. ELECTRONIC FILES FOR LAYOUT AVAILABLE UPON WRITTEN REQUEST.
O. NOTIFY LANDSCAPE ARCHITECT IN WRITING 7 DAYS PRIOR TO SCHEDULE INSPECTIONS.
P. DURING ALL INSTALLATION, KEEP ADJACENT PAVING, CONSTRUCTION AREAS, AND WORK AREAS CLEAN AND IN ORDERLY CONDITION. PROTECT ALL STRUCTURES, UTILITIES, AND SITE IMPROVEMENTS, INCLUDING PLANT AND IRRIGATION MATERIALS FROM DAMAGE DUE TO LANDSCAPE OPERATIONS OR ACTIVITIES BY OTHER CONTRACTORS AND TRADES. MAINTAIN PROTECTION DURING INSTALLATION AND MAINTENANCE PERIODS. TREAT, REPAIR, OR REPLACE ANY DAMAGED IMPROVEMENTS, INCLUDING PLANTINGS OR IRRIGATION EQUIPMENT.

EXISTING UTILITY NOTES

A. EXISTING UNDERGROUND INSTALLATIONS AND PUBLIC UTILITIES SHOWN ARE INDICATED ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER AND DEPICTED ON THESE PLANS TO A LEVEL OF QUALITY IN ACCORDANCE WITH ASCE 38-02.
B. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR LOCATING AND VERIFYING MATERIAL TYPES OF ALL EXISTING UTILITY INSTALLATIONS ABOVE AND BELOW GROUND IN ADVANCE OF THE PROJECT BY CONTACTING THEIR RESPECTIVE OWNERS. ALL COSTS RELATED TO LOCATING EXISTING UTILITIES ARE INCIDENTAL AND SHALL NOT BE PAID SEPARATELY. NOT ALL UTILITIES ARE IDENTIFIED ON THE PLANS. NOTIFY ENGINEER OF POTENTIAL CONFLICTS.
C. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE MONTANA STATE UNIVERSITY A MINIMUM OF 5 BUSINESS DAYS PRIOR TO THE START OF CONSTRUCTION.

DEMOLITION NOTES

A. CONTRACTOR TO PROTECT ALL EXISTING IMPROVEMENTS TO REMAIN AND REPAIR BACK TO ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE IF DAMAGE OCCURS RESULTANT FROM CONTRACTOR'S OPERATIONS OR NEGLIGENCE.
B. CONTRACTOR SHALL PROVIDE ALL DEMOLITION INCIDENTAL TO OR REQUIRED FOR NEW CONSTRUCTION WHETHER OR NOT IT IS SPECIFICALLY NOTED.
C. ALL CONCRETE TO BE REMOVED SHALL BE TO NEAREST JOINT UNLESS OTHERWISE NOTED. SAWCUT AS REQUIRED TO PROVIDE NEAT AND CLEAN TRANSITIONS TO NEW CONSTRUCTION.
D. CONTRACTOR SHALL REMOVE TURF AND GRASSES TO 2" DEPTH. PROVIDE STRAIGHT, UNIFORM & CLEAN EDGE.
E. REMOVE FROM SITE EXCAVATED MATERIALS UNSUITABLE FOR USE AS FILL AND BACKFILL INCLUDING STRIPPED SOD. MATERIALS CONTAINING RUBBISH OR DEBRIS SHALL BE IMMEDIATELY REMOVED AND LEGALLY DISPOSED OF OFF-SITE. REMOVE ALL SURPLUS OF EXCAVATED SOIL MATERIAL.
F. IN ALL AREAS WHERE LANDSCAPING IS TO BE REMOVED, STRIP TOPSOIL TO 6" AND STOCKPILE FOR USE IN LANDSCAPE AREAS. THIS WILL BE SUPPLEMENTED AS REQUIRED TO ACHIEVE PROPER DEPTH.
G. PRIOR TO DEMOLITION, PROTECT EXISTING VEGETATION INDICATED TO REMAIN. REPLACE IF DAMAGED.
H. SEE PLANT PROTECTION SPECIFICATION, PLAN AND DETAILS FOR PLANTINGS TO REMAIN.
I. COVER HOLES AND TRENCHES WHEN WORK IS NOT IN PROGRESS. FENCE OR BARRICADE CHANGES OF PLANE MORE THAN 45 DEGREES HORIZONTALLY AND MORE THAN THREE FEET VERTICALLY.
J. PROVIDE DEWATERING AND DRAINAGE TO KEEP EXCAVATIONS FREE OF WATER.
K. SEE SITE PLAN FOR PLAQUE REFURBISHING.
L. SEE IRRIGATION PLANS FOR EXISTING IRRIGATION DEMOLITION AND INFORMATION.
M. SEE ELECTRICAL PLANS FOR EXISTING POWER AND LIGHTING DEMOLITION.

100% CONSTRUCTION DOCUMENTS

MONTANA STATE UNIVERSITY

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BOZEMAN, MONTANA
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STUDENT MEMORIAL
MONTANA STATE UNIVERSITY

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DRAWN BY: D. ROSA
REVIEWED BY: D. ROSA

REV.	DESCRIPTION	DATE
-	-	-

STATE OF MONTANA – DEBRA ANN-LESLIE ROSA 264 – LICENSED LANDSCAPE ARCHITECT

PPA# 18-2018

A/E#

Consultant #:

SHEET TITLE

DEMOLITION SITE PLAN

SHEET

L001

DATE

01.24.2021

S 11TH AVE

EXISTING BURIED POWER, TYP.

EXISTING SIDEWALK RAMP AND HANDRAIL, TYP.

PLANT/TREE PROTECTION ZONE, TYP.

POTENTIAL FUTURE SCULPTURE LOCATION

EXISTING LANDSCAPE PLANTER, TYP.

EXISTING LIGHT POLE & BURIED POWER, TYP.

CONSTRUCTION LIMIT, TYP.

EXISTING SIDEWALK, TYP.

EXISTING SIGN, TYP.

EXISTING LIGHT POLE & BURIED POWER, TYP.

SITE PLAN 1 / L102

SHERRICK HALL

EXISTING IRRIGATION CONTROL WIRE & CONTROLLER

POTENTIAL FUTURE SCULPTURE LOCATION

EXISTING LIGHT POLE & BURIED POWER, TYP.

EXISTING SANITARY LINE, TYP.

EXISTING IRRIGATION WATER LINE, TYP.

EXISTING IRRIGATION SYSTEM MAIN LINE AND CONTROL WIRE, TYP.

MAINTAIN FIRE ACCESS

1 / L101 OVERALL SITE PLAN

1"=10'-0"

NORTH REF.

SITE PLAN LEGEND

- CONCRETE PAVEMENT (NO COLOR)
- CONCRETE EXPANSION (ISOLATION) JOINT
- CONCRETE CONTROL (CONTRACTION) JOINT
- RETAINING WALL, SEE DETAIL
- CONCRETE MOWSTRIP, SEE DETAIL

SITE PLAN NOTES

A. SEE GENERAL NOTES FOR ADDITIONAL INFORMATION, L001.
B. DIMENSIONS ARE FROM BACK OF CURB AND FACE OF WALL VENEER.
C. DIMENSION UNITS ARE 1 FOOT ('), AND ANGLES ARE 90 DEGREES UNLESS OTHERWISE NOTED.
D. COORDINATE SLEEVES (IRRIGATION, ELECTRICAL, ETC.) PRIOR TO PAVEMENT AND WALL INSTALLATION.
E. IMMEDIATELY UPON SALVAGING PLAQUE, REMOVE DEBRIS FROM PLAQUE AND RETURN PLAQUE TO OWNER FOR OWNER TO REFURBISH. COORDINATE WITH OWNER REFURBISHING SCHEDULE AND MAKE ANY REQUIRED PROVISIONS TO INSTALL AFTER WALL CONSTRUCTION, IF PLAQUE IS DELAYED.

CONTRACTOR AND ALL SUBCONTRATORS TO FIELD VERIFY ALL UTILITIES

BASEBID

A. INCLUDES ALL IMPROVEMENTS SHOWN (SIX RETAINING WALLS AND ASSOCIATED MOW-STRIP, STAIRS/HANDRAILS, CONCRETE PAVEMENT, PLAQUE RE-INSTALL), EXCEPT NOTED UNDER ALTERNATE #1.

ALTERNATE #1

A. ADD TWO (2) FREE-STANDING/ RETAINING WALLS AND ASSOCIATED MOW-STRIP.

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MONTANA STATE UNIVERSITY

100% CONSTRUCTION DOCUMENTS

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DRAWN BY: D. ROSA		
REVIEWED BY: D. ROSA		
REV.	DESCRIPTION	DATE
-	-	-

STATE OF MONTANA
DEBRA ANN-LESLIE ROSA
3654
LICENSED LANDSCAPE ARCHITECT

PPA# 18-2018

A/E#

Consultant #:

SHEET TITLE

OVERALL SITE PLAN

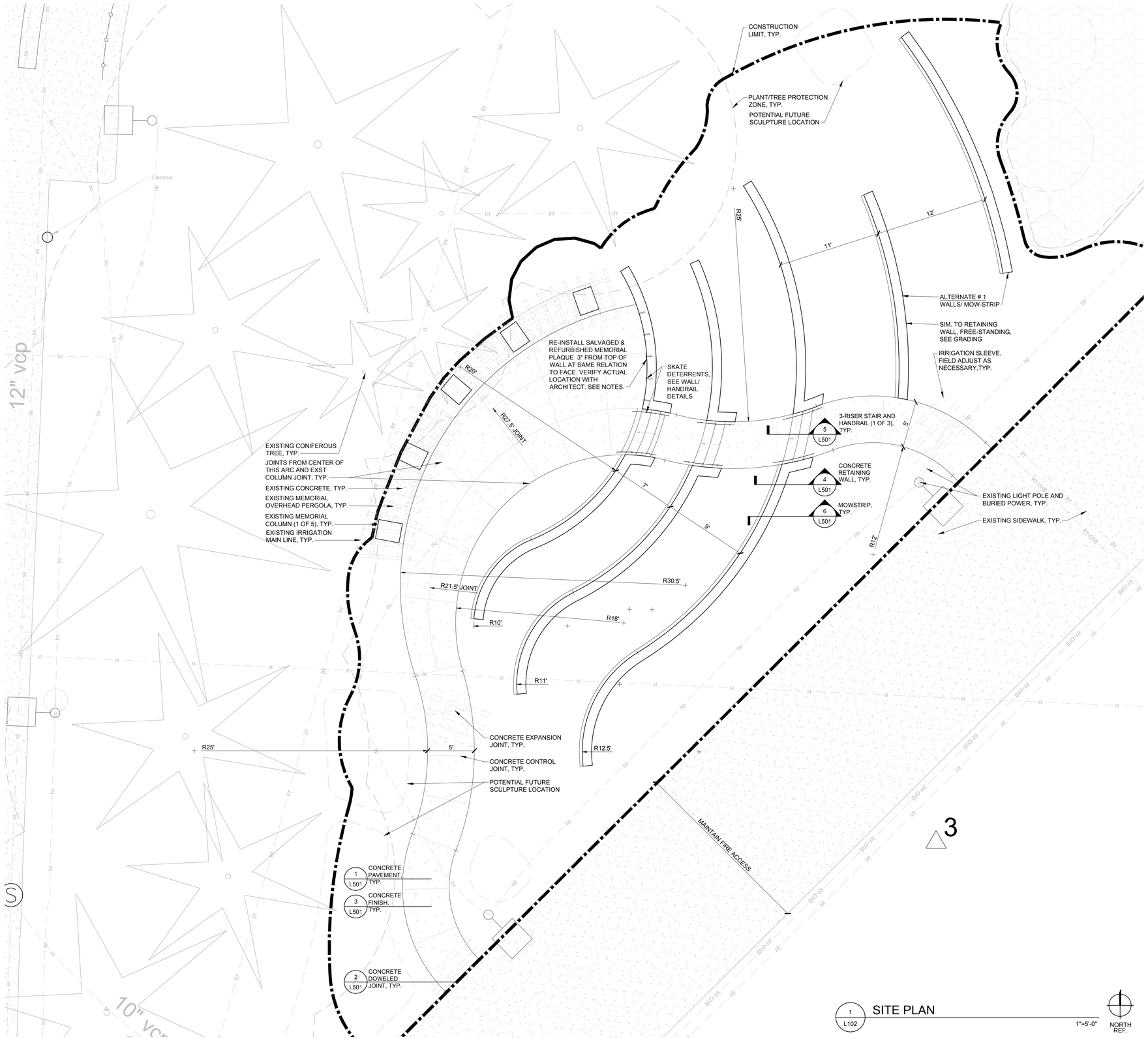
SHEET

L101

DATE

01.24.2021

Jan 24, 2021 - 12:08pm - MSU_STUDENT_L101.dwg
Plotted by: Debra Rosa



1 L102 SITE PLAN

1"=5'-0"

NORTH REF.

SITE PLAN LEGEND

- CONCRETE PAVEMENT (NO COLOR)
- CONCRETE EXPANSION (ISOLATION) JOINT
- CONCRETE CONTROL (CONTRACTION) JOINT
- RETAINING WALL, SEE DETAIL
- CONCRETE MOWSTRIP, SEE DETAIL

SITE PLAN NOTES

A. SEE GENERAL NOTES FOR ADDITIONAL INFORMATION, L001.
B. DIMENSIONS ARE FROM BACK OF CURB AND FACE OF WALL VENEER.
C. DIMENSION UNITS ARE 1 FOOT ('), AND ANGLES ARE 90 DEGREES UNLESS OTHERWISE NOTED.
D. COORDINATE SLEEVES (IRRIGATION, ELECTRICAL, ETC.) PRIOR TO PAVEMENT AND WALL INSTALLATION.
E. IMMEDIATELY UPON SALVAGING PLAQUE, REMOVE DEBRIS FROM PLAQUE AND RETURN PLAQUE TO OWNER FOR OWNER TO REFURBISH. COORDINATE WITH OWNER REFURBISHING SCHEDULE AND MAKE ANY REQUIRED PROVISIONS TO INSTALL AFTER WALL CONSTRUCTION, IF PLAQUE IS DELAYED.

CONTRACTOR AND ALL SUBCONTRATORS TO FIELD VERIFY ALL UTILITIES

BASEBID

A. INCLUDES ALL IMPROVEMENTS SHOWN (SIX RETAINING WALLS AND ASSOCIATED MOW-STRIP, STAIRS/HANDRAILS, CONCRETE PAVEMENT, PLAQUE RE-INSTALL), EXCEPT NOTED UNDER ALTERNATE #1.

ALTERNATE #1

A. ADD TWO (2) FREE-STANDING/ RETAINING WALLS AND ASSOCIATED MOW-STRIP.

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DRAWN BY: D. ROSA		
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STATE OF MONTANA
DEBRA ANN-LESLIE ROSA
2654
LICENSED LANDSCAPE ARCHITECT

PPA# 18-2018

A/E#

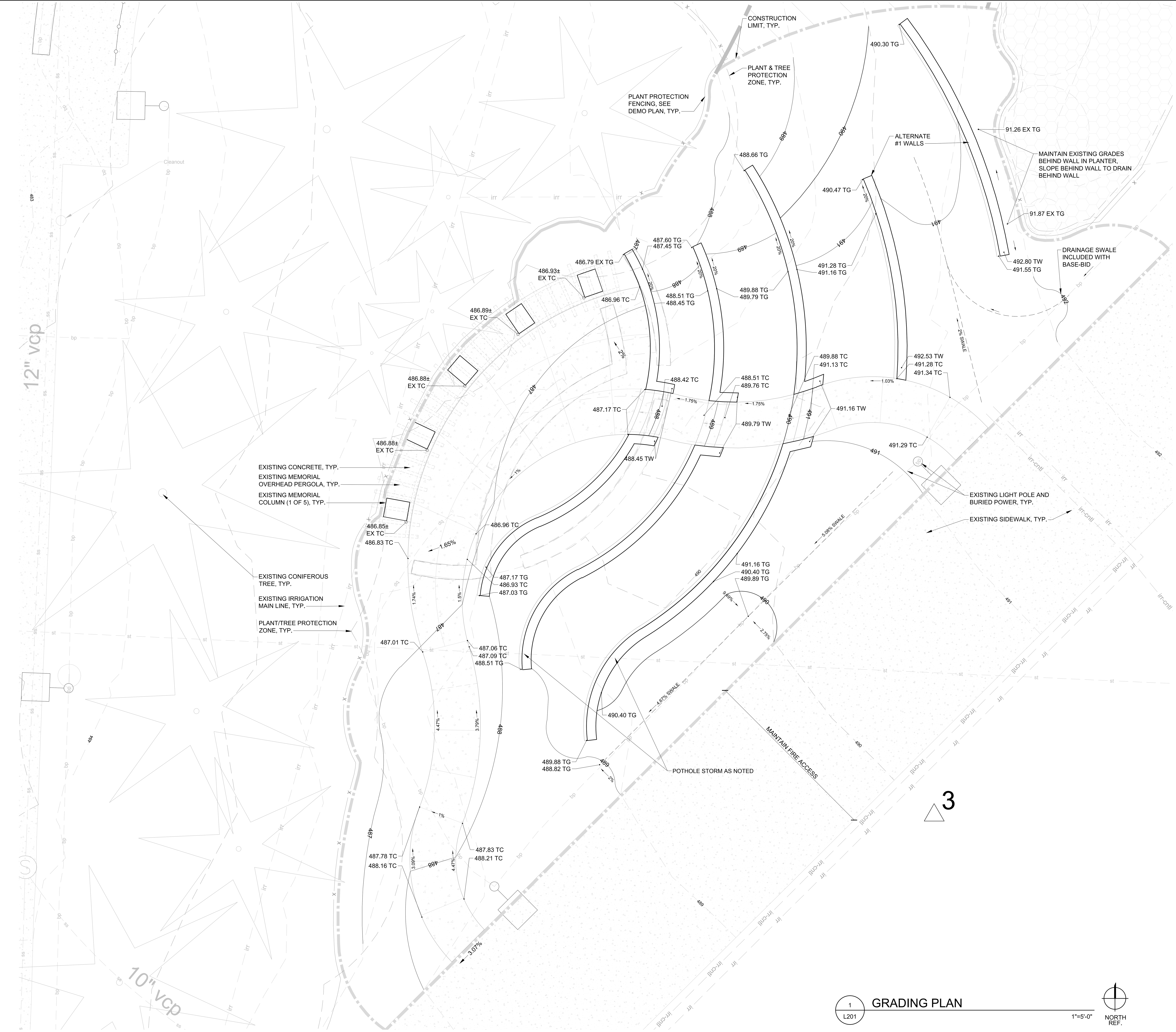
Consultant #:

SHEET TITLE
SITE PLAN

SHEET
L102

DATE
01.24.2021

Jan 24, 2021 - 12:09pm - MSU - STUDENT L101-L103.dwg
Plotted by: Debra Ann-Leslie Rosa



1 / L201 GRADING PLAN

GRADING LEGEND

	EXISTING CONTOUR
	PROPOSED CONTOUR
	DRAINAGE SWALE LINE
	CLASS 200 PVC PIPE
HP	HIGH POINT
IE	INVERT ELEVATION
LP	LOW POINT
ME	MATCH EXISTING
RIM	RIM ELEVATION
TC	TOP OF CONCRETE
TG	TOP OF GRADE
TV	TOP OF GRAVEL
TW	TOP OF WALL
2%	DRAINAGE DIRECTION & GRADIENT
487.03 TG	SPOT GRADE ELEVATION

GRADING NOTES

A. SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.
B. CONSTRUCTION SEQUENCING SHALL BE PLANNED TO PREVENT ANY SEDIMENTS FROM LEAVING THE SITE AT ANY TIME DURING CONSTRUCTION.
C. PROVIDE POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES.
D. GRADES SHOWN REPRESENT FINISH GRADES. SEE LANDSCAPE SHEETS AND SPECIFICATIONS FOR TOPSOIL DEPTHS.
E. MEET AMERICANS WITH DISABILITIES ACT GUIDELINES ON ALL ACCESSIBLE ROUTES.
F. CONTRACTOR SHALL POTHOLE TO LOCATE THE EXISTING STORM PIPE FROM SHERRICK HALL TO THE MANHOLE IN 11TH AVE. IF THE STORM PIPE CONFLICTS WITH THE CONCRETE SEAT FOOTING, IMMEDIATELY NOTIFY LANDSCAPE ARCHITECT.
G. GRADE AREAS TO ELEVATIONS AND SLOPES INDICATED WITHOUT DEPRESSIONS CAUSING POCKETING OF SURFACE WATER OR HUMPS,PRODUCING LOCALIZED RUNOFF AND GULLYING. PONDING OF WATER ON-SITE IS NOT ALLOWED.
H. REMOVE EXCESS OR SUPPLEMENT SOIL TO ACHIEVE GRADES AT NO COST TO THE OWNER.
I. GRADE UNIFORMLY WITH ROUNDED SURFACES AT TOPS AND BOTTOMS OF ABRUPT CHANGES IN PLANE.
J. ADJUST GRADES AS REQUIRED TO ACCOMMODATE UNCONSIDERED EXISTING CONDITIONS AND PROVIDE SMOOTH TRANSITIONS BETWEEN EXISTING AND NEW GRADES.
K. PROTECT GRADED AREAS FROM UNDUE EROSION.
L. OBTAIN LANDSCAPE ARCHITECT'S APPROVAL OF ROUGH GRADING PRIOR TO TOPSOIL PLACEMENT.
M. COMPACT ALL SUBGRADE AREAS TO ASTM D-1555 PRIOR TO TOPSOIL INSTALLATION
N. LAWN AREAS TO HAVE A MAXIMUM 25% SLOPE (4:1).

CONTRACTOR AND ALL SUBCONTRATORS TO FIELD VERIFY ALL UTILITIES

BASE-BID

A. GRADE AS SHOWN ON PLAN IN ALL AREAS EXCEPT NOTED ALTERNATE #1 WALLS AREA. GRADING TO BE SIMILAR AS SHOWN, BUT TRANSITION TO EXISTING GRADES OUTSIDE OF EXISTING PLANTER, AS NOT TO DISTURB. PROVIDE SMOOTH WIDER DRAINAGE SIMILAR TO SHOWN AT 2% SLOPE.

ALTERNATE #1

A. GRADE AS SHOWN ON PLAN.

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DRAWN BY: D. ROSA
REVIEWED BY: D. ROSA

REV.	DESCRIPTION	DATE
-	-	-

STATE OF MONTANA
DEBRA ANN-LESLIE ROSA
264
LICENSED LANDSCAPE ARCHITECT

PPA# 18-2018

A/E#

Consultant #:

SHEET TITLE
GRADING PLAN

SHEET
L201

DATE
01.24.2021

PLANTING LEGEND

- TURF - SOD, SPRAY IRRIGATION
- PLANTER - ORGANIC MULCH, SEE DETAIL, SPRAY IRRIGATION
- EDGING - STEEL, SEE NOTES/DETAIL
- EDGING - MATCH EXISTING
- DECIDUOUS TREE PLANTING - LARGE TREE WATERING DEVICE
- SHRUB PLANTING, SEE DETAIL SPRAY IRRIGATION
- PERENNIAL PLANTING - FLOWERING OR ORNAMENTAL GRASS SPRAY IRRIGATION

PLANTING NOTES:

A. CONTRACTOR TO VERIFY LOCATION OF ALL UTILITIES PRIOR TO INSTALLATION, EXCAVATION, OR PLANTING OPERATIONS. ANY DAMAGE TO EXISTING UTILITIES ON SITE OR ADJACENT PROPERTY SHALL BE CONTRACTOR'S RESPONSIBILITY.
B. PROTECT ALL EXISTING IMPROVEMENTS TO REMAIN AND REPAIR BACK TO ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE IF DAMAGE OCCURS RESULTANT FROM CONTRACTOR'S OPERATIONS OR NEGLIGENCE.
C. CONTRACTOR TO COORDINATE ALL CONSTRUCTION ACTIVITIES WITH OTHER TRADES.
D. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE PREPARED AND TURF SOD (OR MATCH ADJACENT VEGETATION/GROUND TREATMENT IF NOT WITHIN EXISTING OR PROPOSED IRRIGATED SOD LAWN AREAS). A DISTURBED AREA SHALL BE WHERE CONSTRUCTION ACTIVITIES INCLUDING TRENCHING, DEMOLITION, EARTHWORK, MATERIAL STORAGE, STAGING AND PARKING OR ANY OTHER FORM OF EXCAVATION, COMPACTION, OR TRAFFIC RESULTS IN THE REMOVAL OR DISPLACEMENT OF EXISTING GROUNDCOVER OR GRADE. REPAIR ALL PLANTERS TO EXISTING CONDITIONS.
E. COORDINATE TOPSOIL INSTALLATION WITH OTHER TRADES. IMPORT TOPSOIL TO SUPPLEMENT EXISTING ON-SITE AVAILABLE VOLUMES. TOPSOIL CONTRACTOR SHALL TEST AND VERIFY CHARACTERISTICS OF TOPSOIL TO BE INSTALLED AND AMEND AS REQUIRED TO GET PROPER CHARACTERISTICS AND DEPTH. TOPSOIL DEPTH AS FOLLOWS:

PLANTING TYPE	FULL TOPSOIL DEPTH	AT PAVING, BRING FULL DEPTH TO WITHIN THE FOLLOWING OF FINISH GRADE TO ALLOW FOR COVER MATERIAL
TURF	6"	1-1/2" FOR SOD INSTALLATION
PLANTERS	12"	3" FOR MULCH

F. SEE SPECIFICATIONS FOR PLANTING SOIL.
G. ALL PLANT MATERIAL AND IRRIGATION EQUIPMENT SHALL BE INSTALLED AS DETAILED
H. CONTRACTOR SHALL VERIFY ALL PLANT QUANTITIES. THE ILLUSTRATED LOCATION SHALL DICTATE COUNT.
I. DURING PLANT AND IRRIGATION SYSTEM INSTALLATION, KEEP ADJACENT PAVING, CONSTRUCTION AREAS, AND WORK AREAS CLEAN AND IN ORDERLY CONDITION. PROTECT ALL PLANT AND IRRIGATION MATERIALS FROM DAMAGE DUE TO LANDSCAPE OPERATIONS OR ACTIVITIES BY OTHER CONTRACTORS AND TRADES. MAINTAIN PROTECTION DURING INSTALLATION AND MAINTENANCE PERIODS. TREAT, REPAIR, OR REPLACE ANY DAMAGED PLANTINGS OR IRRIGATION EQUIPMENT.
J. IN THE EVENT OF ANY DISCREPANCIES, NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY.
K. NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT WRITTEN CONSENT FROM THE LANDSCAPE ARCHITECT.

TREE, SHRUB, AND PERENNIAL NOTES:

A. ALL PLANT MATERIAL SHALL CONFORM TO THE CURRENT AMERICAN NURSERY AND LANDSCAPE ASSOCIATION STANDARD FOR NURSERY STOCK AND AS SPECIFIED.
B. TREES NOT BE INSTALLED WITH IN 10' ANY UTILITIES.
C. ALL PLANT MATERIAL SHALL RECEIVE AN ADEQUATE AMOUNT OF WATER TO MEET WATERING REQUIREMENTS SUPPLIED BY AN AUTOMATIC IRRIGATION SYSTEM.
D. ALL PLANTS SHALL BE INSTALLED AFTER THE IRRIGATION SYSTEM.
E. IF SUBSOIL CONDITIONS SHOW EVIDENCE OF UNEXPECTED WATER SEEPAGE OR RETENTION NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY AND MITIGATE AS REQUIRED.
F. LANDSCAPE EDGING AS SPECIFIED.
G. PROVIDE 3" DEPTH ORGANIC MULCH AS SPECIFIED IN PLANTER AREAS AS SPECIFIED.

BASE-BID

A. PROVIDE TURF FOR ALL DISTURBED AREAS, INCLUDING AREAS SHOWN ON PLAN AS PLANTER.

ALTERNATE #1

A. ADD REPAIR OF PLANTER (NO PLANTS), IF REQUIRED FOR WALL INSTALLATION. SEE NOTE ON THE PLAN FOR EXTENT.

ALTERNATE #2

A. ADD ALL PLANTERS, PLANTINGS, (INCLUDING TREES, SHRUBS, ORNAMENTAL GRASSES, AND PERENNIALS) AND ALL ACCESSORIES AS SHOWN ON THE PLAN.

PLANT SCHEDULE - ALTERNATE #2

DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	INSTALL SIZE	PKG.	MATURE SIZE
AS	2	Acer freemanii `Sienna Glen`	Freeman Maple	2" Cal.	B&B	40-50`H x 35-40`W
ORNAMENTAL TREES	QTY	BOTANICAL NAME	COMMON NAME	INSTALL SIZE	PKG.	MATURE SIZE
AM	1	Amelanchier x grandiflora `Autumn Brilliance`	Autumn Brilliance Serviceberry	2" Cal.	B&B	15-25`H x 15-25`W
PM	2	Prunus maackii	Amur Chokecherry	2" Cal.	B&B	20-30`H x 15-25`W
CONIFEROUS SHRUB	QTY	BOTANICAL NAME	COMMON NAME	INSTALL SIZE	PKG.	MATURE SIZE
PIS	19	Pinus mugo `Slowmound`	Mugo Pine	5 gal.	Pot	3-4`H x 4-6`W
DECIDUOUS SHRUB	QTY	BOTANICAL NAME	COMMON NAME	INSTALL SIZE	PKG.	MATURE SIZE
PHN	3	Physocarpus opulifolius `Summer Wine`	Summer Wine Ninebark	5 gal.	Pot	4-6`H x 4-6`W
SPT	14	Spiraea betulifolia `Tor`	Birchleaf Spirea	5 gal.	Pot	2-3`H x 2-3`W
GRASSES	QTY	BOTANICAL NAME	COMMON NAME	INSTALL SIZE	PKG.	MATURE SIZE
CAR	20	Calamagrostis brachytricha	Korean Feather Reed Grass	1 gal.	Pot	3-4`H x 2-3`W
CAK	22	Calamagrostis x acutiflora `Karl Foerster`	Feather Reed Grass	1 gal.	Pot	3-5`H x 1.5-2.5`W
HES	17	Helictotrichon sempervirens	Blue Oat Grass	1 gal.	Pot	2-3`H x 2-3`W
PERENNIALS	QTY	BOTANICAL NAME	COMMON NAME	INSTALL SIZE	PKG.	MATURE SIZE
GER	12	Geranium x `Rozanne`	Rozanne Cranesbill	1 gal.	Pot	1-2`H x 1-2`W
LAV	9	Lavandula angustifolia `Munstead`	Munstead English Lavender	1 gal.	Pot	1.5-2`H x 1.5-2`W

1 L301 PLANTING PLAN
ALTERNATIVE #2 SHOWN
1"=5'-0"
NORTH REF.

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DRAWN BY: D. ROSA
REVIEWED BY: D. ROSA

REV.	DESCRIPTION	DATE
-	-	-

STATE OF MONTANA
DEBRA ANN-LESLIE ROSA
264
LICENSED LANDSCAPE ARCHITECT

PPA# 18-2018
A/E#
Consultant #:

SHEET TITLE
PLANTING PLAN

SHEET
L301

DATE
01.24.2021

Jan 20, 2021 - 11:11pm - MSU_STUDENT_L301.dwg
Jan 20, 2021 - 11:11pm - D. ROSA

1 L401 IRRIGATION PLAN 1"=5'-0"

NORTH REF.

IRRIGATION LEGEND:

* DENOTES MODEL OR APPROVED EQUAL

SYMBOL	DESCRIPTION	SIZE	MANUF.	MODEL NUMBER
(solid line)	MAIN LINE	MATCH EXISTING, VERIFY		SCHED 40 PVC IPS
(double dashed line)	SLEEVE	6" MIN.		SCHED 40 PVC
C	IRRIGATION CONTROLLERS - USE EXISTING			
(triangle)	QUICK COUPLER VALVE	3/4"	RAINBIRD	33-DNP
(circle)	ISOLATION GATE VALVE	LINE SIZE	NIBCO	TI-8
(half-filled square)	IRRIGATION CONTROLLERS	24 STA.	RAINBIRD	ESPSAT-LW (WALL MOUNT)
(checkered square)	MASTER VALVE	2"	RAINBIRD	200-PESB-R
(light shading)	SPRINKLER:(SPRAY IRRIGATION) - TURF			
	ELECTRIC CONTROL VALVE	1.5", 2"	RAINBIRD	150,200-PESB-R
	LATERAL (DISTRIBUTION) LINE	1.5", 2"		SCHED 40 PVC IPS
	POP-UP SPRINKLER HEAD	4" SPRAY	RAINBIRD	RD1804-SP45F-NP, MPR NOZZLE
		4" ROTOR	RAINBIRD	5004+PCSAMRNP
(dark shading)	SPRINKLER: (SPRAY IRRIGATION) - PLANTER AREAS			
	ELECTRIC CONTROL VALVE	1.5", 2"	RAINBIRD	150,200-PESB-R
	LATERAL (DISTRIBUTION) LINE	1", 1.5", 2"		SCHED 40 PVC IPS
	POP-UP SPRINKLER HEAD	12" SPRAY	RAINBIRD	RD1812-SP45F-NP, MPR NOZZLE

EXISTING IRRIGATION NOTES:

A. PRIOR TO WORK, CONTACT THE OWNER AND ARCHITECT TO DISCUSS EXISTING IRRIGATION SYSTEM. INFORMATION PROVIDED IS APPROXIMATE. VERIFY ACTUAL AND COORDINATE WITH OWNER AND ARCHITECT FOR DISCREPANCIES.

B. AN EXISTING IRRIGATION SYSTEMS EXISTS WITHIN THE PROJECT DISTURBANCE AND IS GENERALLY DESCRIBED AS:
   -WATER SOURCE: UTILITY IRRIGATION DITCH WITH LIMITED FILTRATION
   -WATER CONNECTION: 2" MAINLINE, 50 GPM, 65 PSI AVAIL.
   -CONTROLLER: CONTROLLER SOUTH OF SHERRICK HALL. NOT ALL STATIONS ON THE CONTROLLER ARE OPERATIONAL AND UPGRADE IS REQUIRED.

C. CONTROL SYSTEMS ARE RAINBIRD MAXICOM CONTROL SYSTEM (ESP SAT LW) WITH ACCESSORIES AS NOTED IN SPECIFICATIONS. EXISTING CONTROLLERS ARE LOCATED ON EXTERIOR BUILDING WALLS. UPGRADE AND UPDATE CONTROLLER CHART AS DETAIL & SPECIFIED. REPLACE ANY DAMAGED CONTROL WIRE.

D. THE EXISTING IRRIGATION SYSTEMS EXTENDS BEYOND THE PROJECT LIMITS. AREAS MUST REMAIN OPERATIONAL DURING THE GROWING SEASON. PRIOR TO CONSTRUCTION, COORDINATE WITH OWNER TO PROVIDE TEMPORARY AND PERMANENT CONNECTIONS TO MAINTAIN PLANTS TO REMAIN.

E. SEE DEMOLITION PLAN OF MAINLINES & CONTROL WIRE, AND EXISTING ZONE AREAS. INFORMATION IS APPROXIMATE. REMOVE ALL EXISTING AT-GRADE SYSTEM COMPONENTS (INCLUDING HEADS WITH JOINTS, VALVES, BOXES, ETC.) IN PROJECT DISTURBANCE AREAS AND RETURN TO OWNER AT OWNERS DISCRETION. REMOVE ALL BELOW-GRADE PIPING.

F. RELOCATE EXISTING LONG IRRIGATION LINES OUT FROM UNDER NEW PAVEMENT OR WALLS. INSTALL IRRIGATION SLEEVES ON EXISTING LINES WHERE NEW PAVEMENT.

G. WHERE EXISTING IRRIGATION LINES EXTEND UNDER NEW PAVEMENT, PROVIDE NEW IRRIGATION LINES WITH SLEEVES AS DETAILED.

H. RECONNECT SPECIALTY VALVES AS REQUIRED.

I. RECONNECT EXISTING ZONES TO REMAIN TO MAINLINE AS REQUIRED. INSTALL NEW PIPING AND EQUIPMENT FOR CONNECTION AS DETAILED AND SPECIFIED.

J. MODIFY ADJACENT EXISTING ZONES TO ACCOMMODATE NEW AND ADJUSTED AREAS.

PERFORMANCE IRRIGATION NOTES:

A. SEE NOTES ON PLANTING PLAN, L301 AND ALL IRRIGATION NOTES/LEGEND THIS SHEET.

B. CONTRACTOR TO DESIGN AND INSTALL UNDERGROUND AUTOMATIC IRRIGATION SYSTEM TO PROVIDE ADEQUATE WATER FOR ALL PLANT MATERIAL AS SHOWN ON L301. INSTALL QUICK COUPLERS (5/L602) AT END OF MAINLINE AND ISOLATION VALVES (8/L602) DOWNSTREAM OF MAINLINE TEES. SEE PLAN FOR APPROXIMATE LOCATIONS. EXPAND MAINLINE FROM SHOWN TO ACCOMMODATE EXISTING ZONES.

C. UPGRADE CONTROLLER IN SAME LOCATION AND RE-USE EXISTING POWER SOURCE. EXISTING CONTROL WIRE TO EXISTING ZONES MAY BE RE-USED, AFTER TESTING TO VERIFY THEY WORK. UTILIZE EXISTING ROUTE FOR ANY NEW CONTROL WIRE. IF NO CONDUIT IS FOUND UNDER SIDEWALK, BORE AS REQUIRED TO INSTALL NEW WIRE IN NEW CONDUIT.

D. MAINLINE LOCATIONS SHOWN ON PLAN ARE SCHEMATIC. LOCATE LINE AND VALVES WITHIN ADJACENT LANDSCAPE AND 4' FROM BUILDINGS, PAVEMENT AND TREES AS AS SPECIFIED. VALVE BOXES TO BE LOCATED OUTSIDE OF PLANTERS WHERE POSSIBLE.

E. PLANTERS (SHRUBS, AND PERENNIALS) SHALL BE WATERED BY SPRINKLERS AND EQUIPMENT AS NOTED IN LEGEND AND DETAILED/SPECIFIED.

F. TREES TO BE WATERED USING TREE WATERING DEVICES, SEE PLANTS SPECIFICATION 329300.

G. TURF AREAS SHALL BE WATERED BY SPRINKLERS AND EQUIPMENT AS NOTED IN LEGEND AND DETAILED/SPECIFIED. PROVIDE HEAD TO HEAD COVERAGE IN LAWN/TURF AREAS.

H. TURF SPRINKLERS AND PLANTER SPRINKLERS TO BE ON COMPLETELY SEPARATE ZONES USING ELECTRIC CONTROL VALVES (3/L602).

I. IN THE EVENT OF ANY DISCREPANCIES, NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY.

J. CONTRACTOR SHALL PROVIDE SLEEVING FOR PIPE BELOW PAVEMENT. SLEEVE AS DETAILED (2/L602) AND SPECIFIED. SUPPLY ONE EXTRA SLEEVE WITH EACH MAINLINE SLEEVE FOR CONTROL WIRES. COORDINATE SLEEVE INSTALLATION WITH OTHER TRADES AND OTHER PROJECTS. INSTALL ADDITIONAL SLEEVES AS REQUIRED.

K. IRRIGATION SYSTEM SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL PERTINENT CODES AND REGULATIONS, THE REFERENCED STANDARDS, AND THE MANUFACTURER'S RECOMMENDATIONS.

L. IRRIGATION SYSTEM TO BE DESIGNED TO PREVENT OVER-SPRAY ONTO BUILDING AND PAVED SURFACES. DESIGN SPRINKLERS ADJACENT TO PAVED SURFACE ON SAME ZONES.

M. ZONES TO BE DESIGNED WITH REGARD TO PLANT MATERIAL AND WIND AND SUN EXPOSURE TO ENSURE PROPER PLANT REQUIRED WATER COVERAGE.

N. PROVIDE ALL COMPONENTS REQUIRED FOR PROPER WINTERIZATION OF SYSTEM.

O. PRIOR TO IRRIGATION MAINLINE TRENCH BACKFILL, CONTRACTOR TO CONTACT OWNER AND ARCHITECT TO OBSERVE CONTRACTOR ADMINISTERED MAINLINE PRESSURE TEST.

P. PROVIDE TWO HARD COPIES, OR A DIGITAL PDF, OF SCHEMATIC (INCLUDING ALL WATER SOURCES) PRIOR TO MATERIAL PURCHASE AND THEN FINAL SHOP DRAWINGS FOR WRITTEN APPROVAL. SEE SUBMITTAL REQUIREMENTS FOR ADDITIONAL INFORMATION.

Q. SEE L602 FOR IRRIGATION DETAILS AND PROJECT MANUAL FOR SPECIFICATIONS.

MAXICOM EQUIPMENT PURCHASE & INSTALLALATION REQUIREMENTS:

A. ALL RAINBIRD MAXICOM SPECIFIC COMPONENTS TO BE PURCHASED BY OWNER. CONTRACTOR TO REIMBURSE OWNER FOR PURCHASE AND INCLUDE IN BID PRICING. COORDINATE ITEMS AND PURCHASE WITH OWNER.

B. ALL RAINBIRD MAXICOM SPECIFIC COMPONENTS MUST BE INSTALLED BY MAXICOM CERTIFIED TECHNICIAN. OWNER WILL INSTALL SPECIFIC COMPONENTS WITH THEIR ON-STAFF CERTIFIED TECHNICIANS. COORDINATE INSTALLATION WITH OWNER.

CONTRACTOR AND ALL SUBCONTRATORS TO FIELD VERIFY ALL UTILITIES

BASE-BID:

A. PROVIDE SPRINKLER (SPRAY IRRIGATION) - TURF, FOR ALL DISTURBED AREAS, INCLUDING AREAS SHOWN ON PLAN FOR PLANTER AREAS. INCLUDE CONTROLLER, MAINLINE, SLEEVES, AND VALVES AS SHOWN ON PLAN.

ALTERNATE #1:

A. ADD REPAIR OF PLANTER IRRIGATION REPAIR, IF REQUIRED FOR WALL INSTALLATION.

ALTERNATE #2:

A. ADD SPRINKLER (SPRAY IRRIGATION) - PLANTERS AREAS, AS SHOWN ON PLAN. AREAS TO BE ZONED SEPARATE FROM TURF AS NOTED.

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DRAWN BY: D. ROSA
REVIEWED BY: D. ROSA

REV.	DESCRIPTION	DATE
-	-	-

STATE OF MONTANA DEBRA ANN-LESLIE ROSA 264 LICENSED LANDSCAPE ARCHITECT

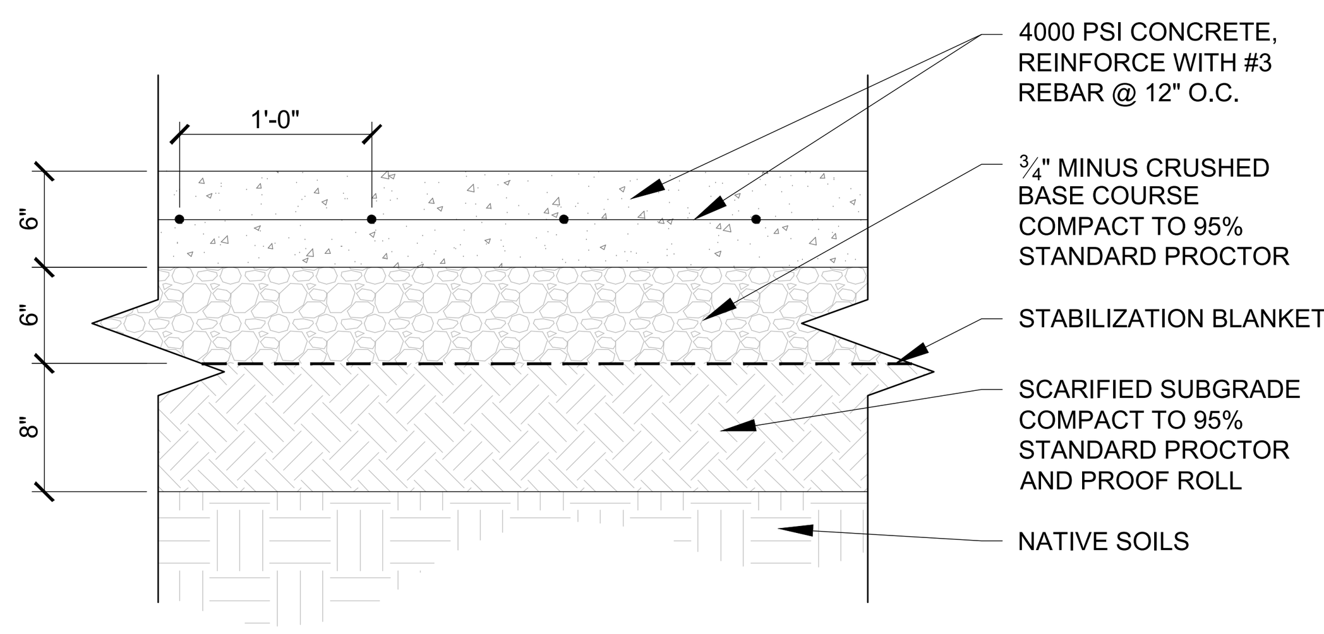
PPA# 18-2018
A/E#
Consultant #:

SHEET TITLE
IRRIGATION PLAN

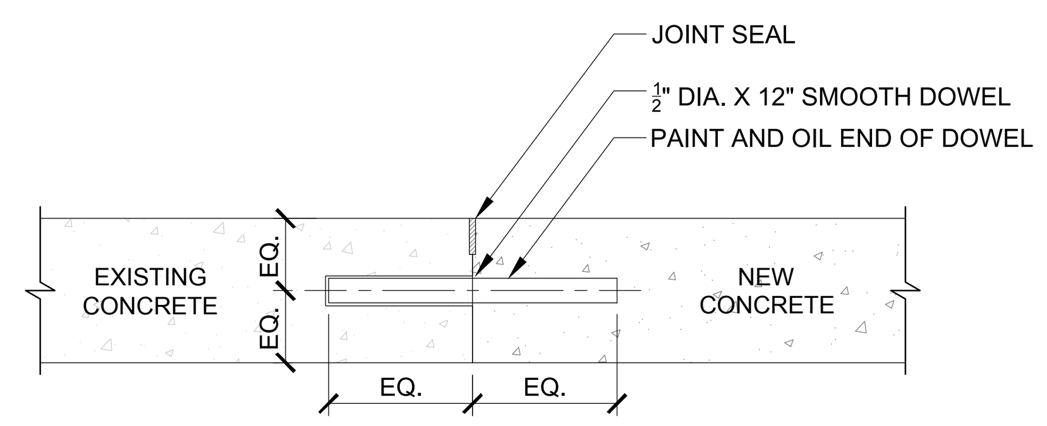
SHEET
L401

DATE
01.24.2021

NOTES:
1. 1% CROSS SLOPE (⅛"/FT) UNLESS OTHERWISE SPECIFIED.
2. EXPANSION JOINTS EVERY 25', UNLESS OTHERWISE SHOWN ON PLAN.
3. CONTRACTION JOINTS EVERY 5' (1" DEEP), UNLESS OTHERWISE SHOWN ON PLAN.
4. INSTALL GEOTEX 200ST WOVEN GEOTEXTILE OR APPROVED EQUAL
5. SEE CONCRETE PAVEMENT FINISH DETAIL.



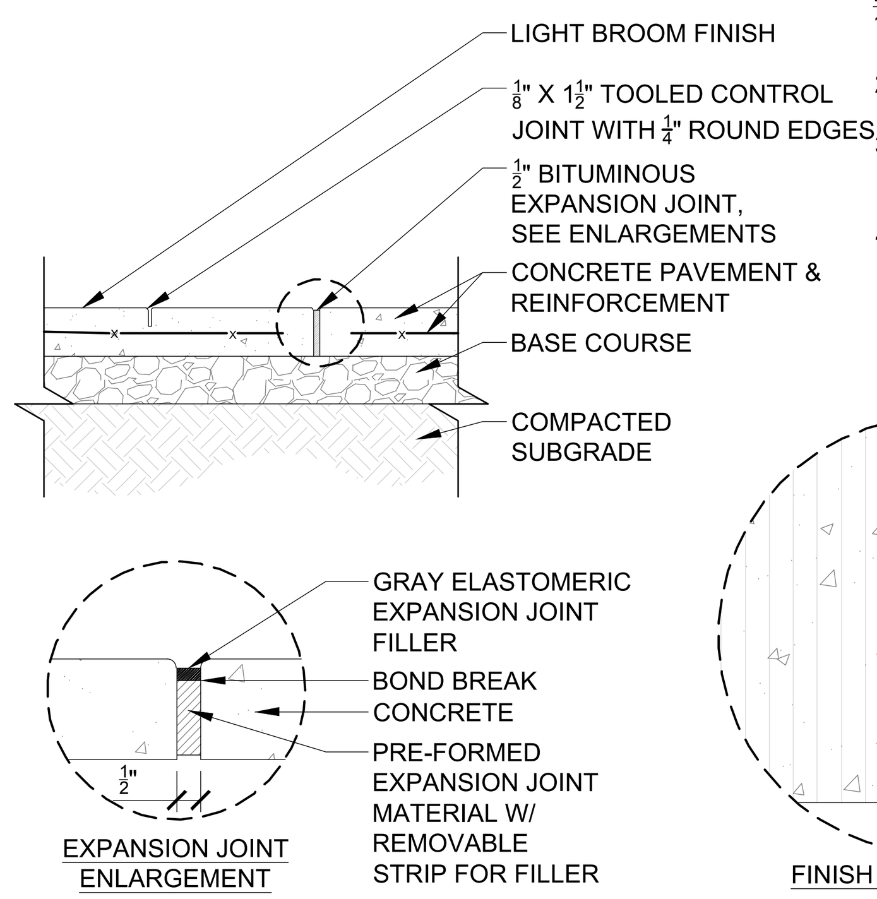
1 L501 REINFORCED CONCRETE PAVEMENT
SCALE = 1"=1'-0"

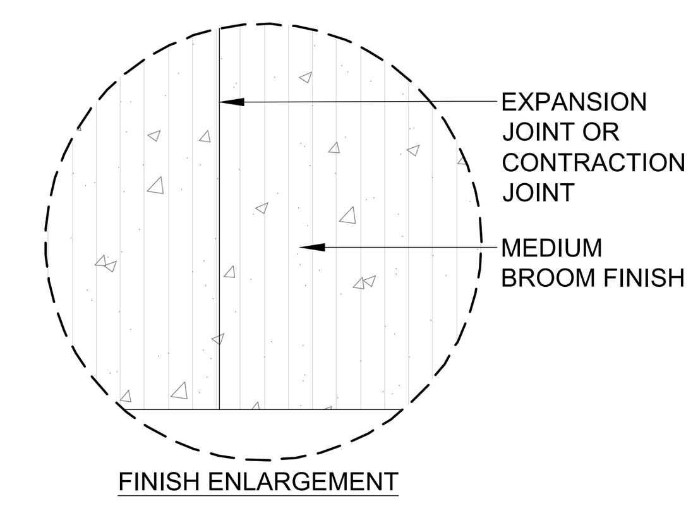


NOTES:
1. DRILL AND BOND DOWELS INTO THE EXISTING CONCRETE.
2. BOND TO BE AN EPOXY RESIN GROUT.

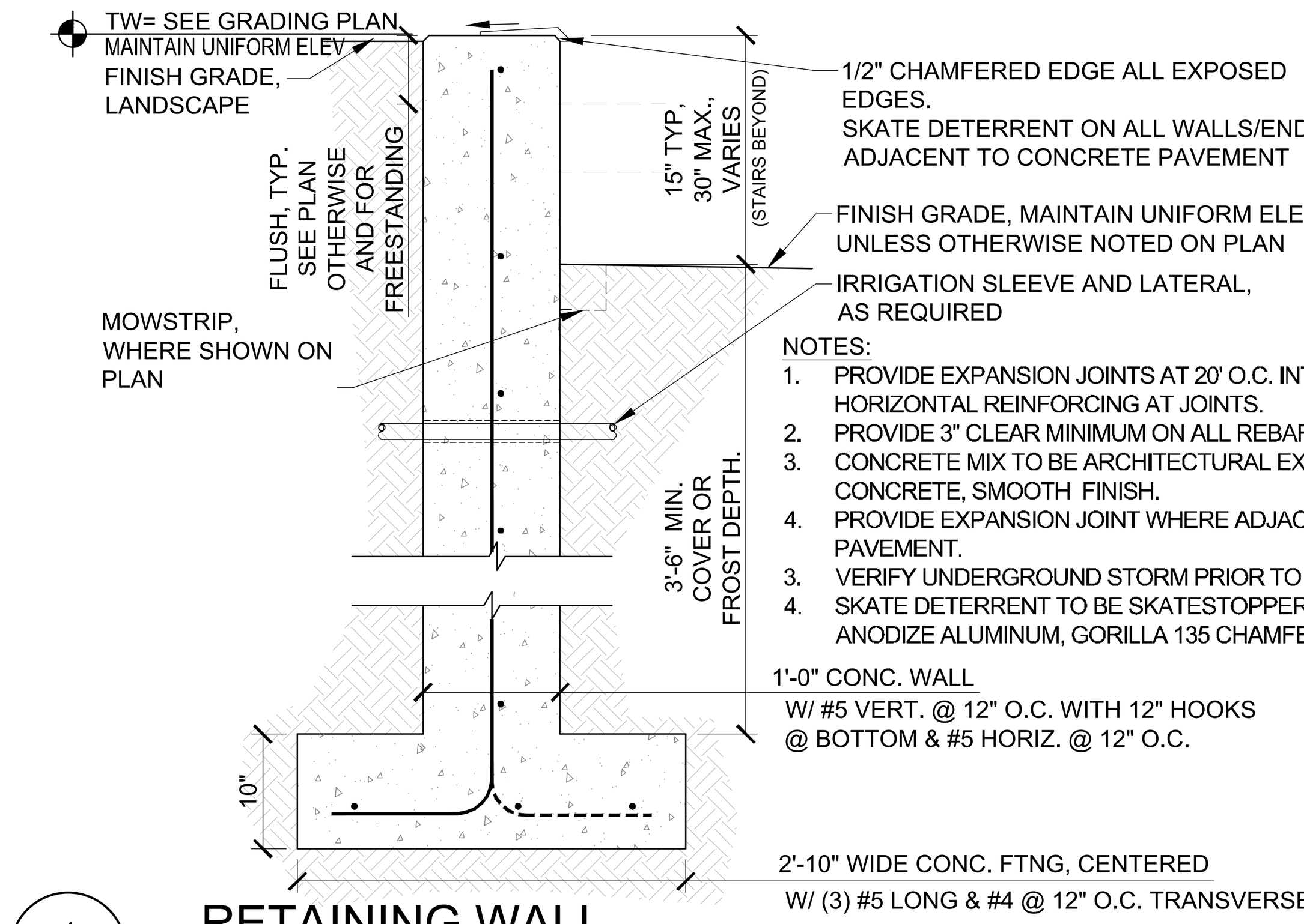
2 L501 CONCRETE DOWELED JOINT
1 1/2"=1'-0"

NOTES:
1. SEE CONCRETE PAVEMENT DETAIL FOR ADDITIONAL INFORMATION.
2. PLACE BROOMING PERPINDICULAR TO PEDESTRIAN TRAVEL.
3. MATERIALS AND CONSTRUCTION SHALL BE IN COMPLIANCE WITH MSU SPECIFICATIONS.
4. SEE PLAN FOR EXPANSION & CONTROL JOINT LOCATIONS.





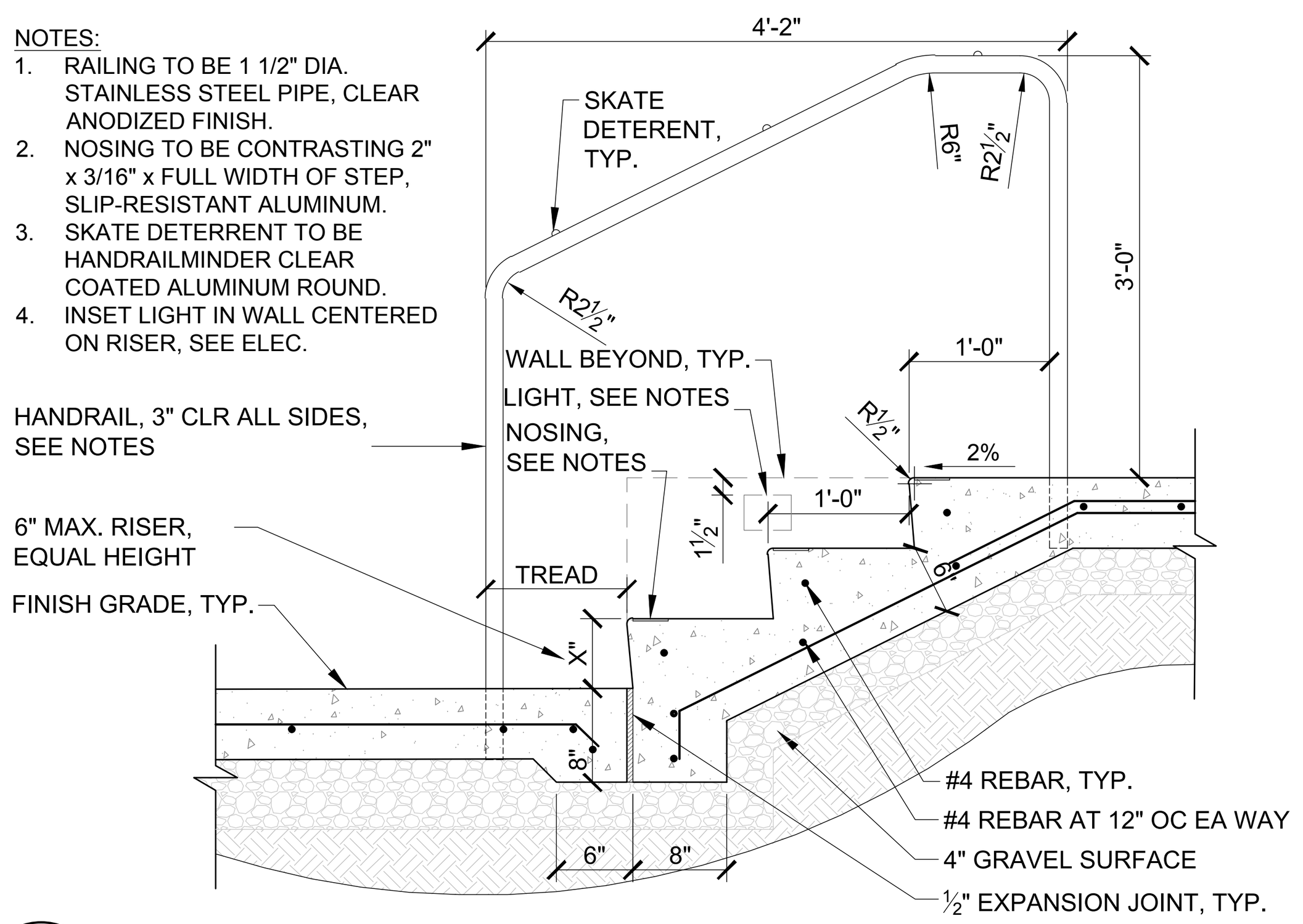
3 L501 CONCRETE PAVEMENT FINISH
SCALE = 3/4"=1'-0"



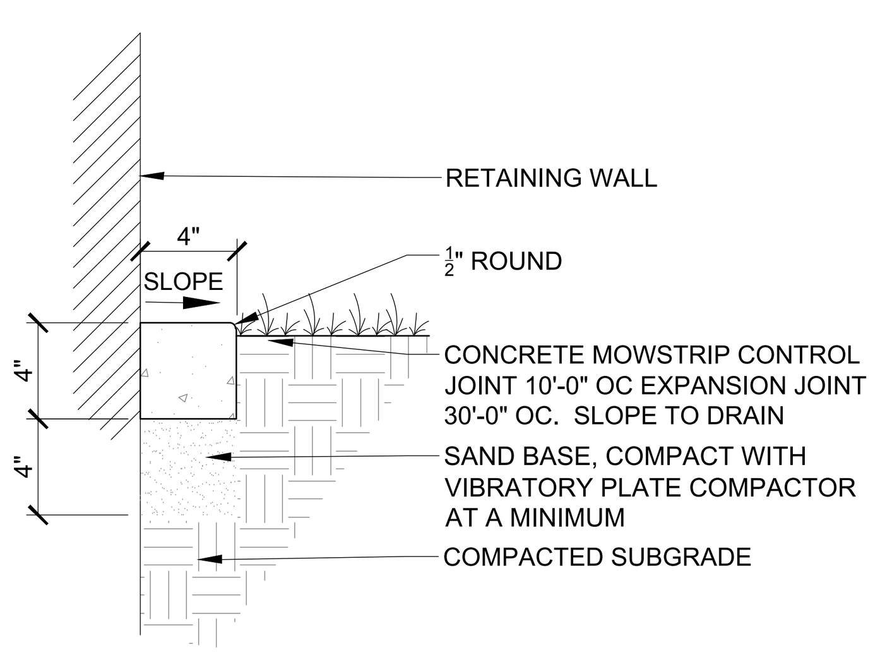
NOTES:
1. PROVIDE EXPANSION JOINTS AT 20' O.C. INTERRUPT HORIZONTAL REINFORCING AT JOINTS.
2. PROVIDE 3" CLEAR MINIMUM ON ALL REBAR
3. CONCRETE MIX TO BE ARCHITECTURAL EXPOSED CONCRETE, SMOOTH FINISH.
4. PROVIDE EXPANSION JOINT WHERE ADJACENT TO PAVEMENT.
3. VERIFY UNDERGROUND STORM PRIOR TO INSTALLATION.
4. SKATE DETERRENT TO BE SKATESTOPPER CLEAR ANODIZE ALUMINUM, GORILLA 135 CHAMFER.

4 L501 RETAINING WALL
SCALE = 3/4"=1'-0"

NOTES:
1. RAILING TO BE 1 1/2" DIA. STAINLESS STEEL PIPE, CLEAR ANODIZED FINISH.
2. NOSING TO BE CONTRASTING 2" x 3/16" x FULL WIDTH OF STEP, SLIP-RESISTANT ALUMINUM.
3. SKATE DETERRENT TO BE HANDRAILMINDER CLEAR COATED ALUMINUM ROUND.
4. INSET LIGHT IN WALL CENTERED ON RISER, SEE ELEC.



5 L501 3-RISER STAIR AND HANDRAIL
SCALE = 3/4"=1'-0"



NOTES:
1. PROVIDE CONTRACTION JOINTS EVERY TEN FEET AND EXPANSION JOINTS AT ALL CORNERS, CHANGES IN DIRECTION, PC, PT, ETC.
2. INSTALL WHERE SHOWN ON PLAN.

6 L501 CONCRETE MOWSTRIP
1 1/2"=1'-0"

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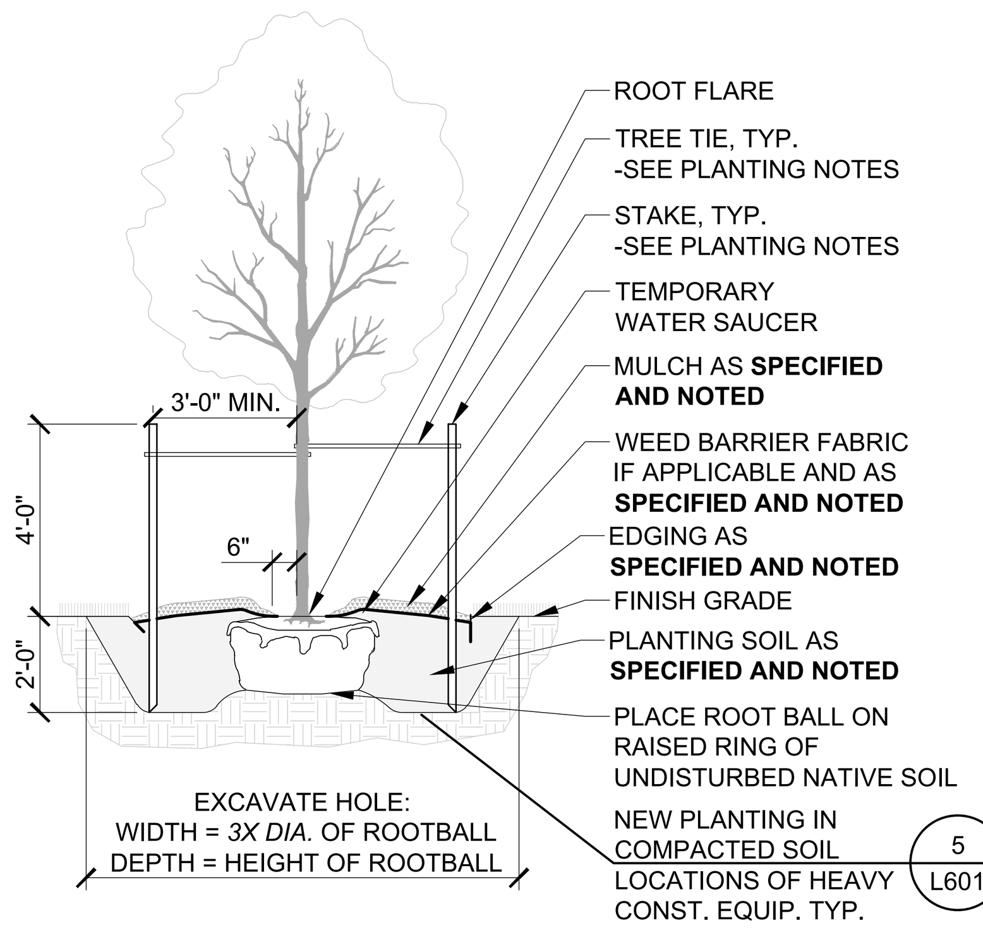
DRAWN BY: D. ROSA
REVIEWED BY: D. ROSA

REV.	DESCRIPTION	DATE

STATE OF MONTANA
DEBRA ANN-LESLIE ROSA 264
LICENSED LANDSCAPE ARCHITECT

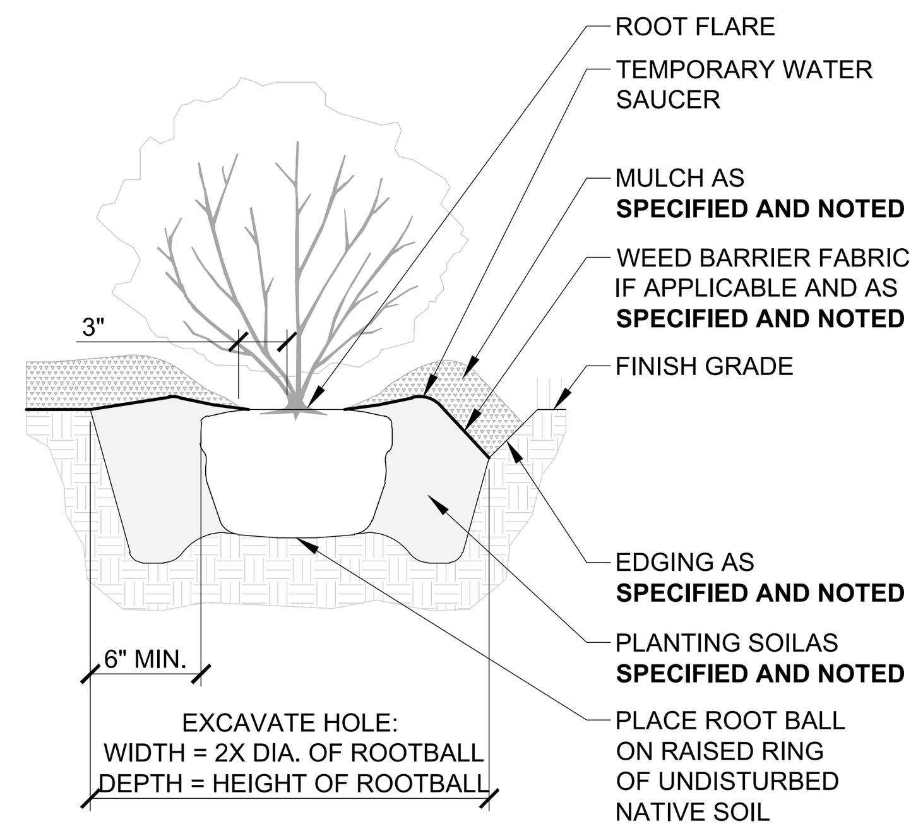
PPA# 18-2018
A/E#
Consultant #:
SHEET TITLE
LANDSCAPE SITE DETAILS
SHEET
L501
DATE
01.24.2021



NOTES:
1. SEE PLANTING GENERAL NOTES FOR MORE INFORMATION.
2. REMOVE ALL TWINE, STRING, WIRE AND NON-BIODEGRADABLE MATERIAL FROM ROOTBALL. REMOVE BURLAP FROM ENTIRE ROOTBALL.
3. THE ROOT FLARE OF ALL TREES SHALL BE LEVEL WITH OR UP TO 1" ABOVE GRADE.
4. ALL TREES SHALL BE INSTALLED WITH A TEMPORARY SAUCER OF RAISED SOIL AT THE EDGE OF ROOT BALL TO CONTAIN WATER. REMOVE OR BREACH WATER SAUCER BEFORE WINTER.
5. PULL MULCH AWAY FROM TRUNK A MINIMUM OF 6".
6. PROVIDE A 3'-0" MINIMUM MULCH RADIUS AROUND TREES IN TURF AREAS.

1 L601 DECIDUOUS TREE PLANTING

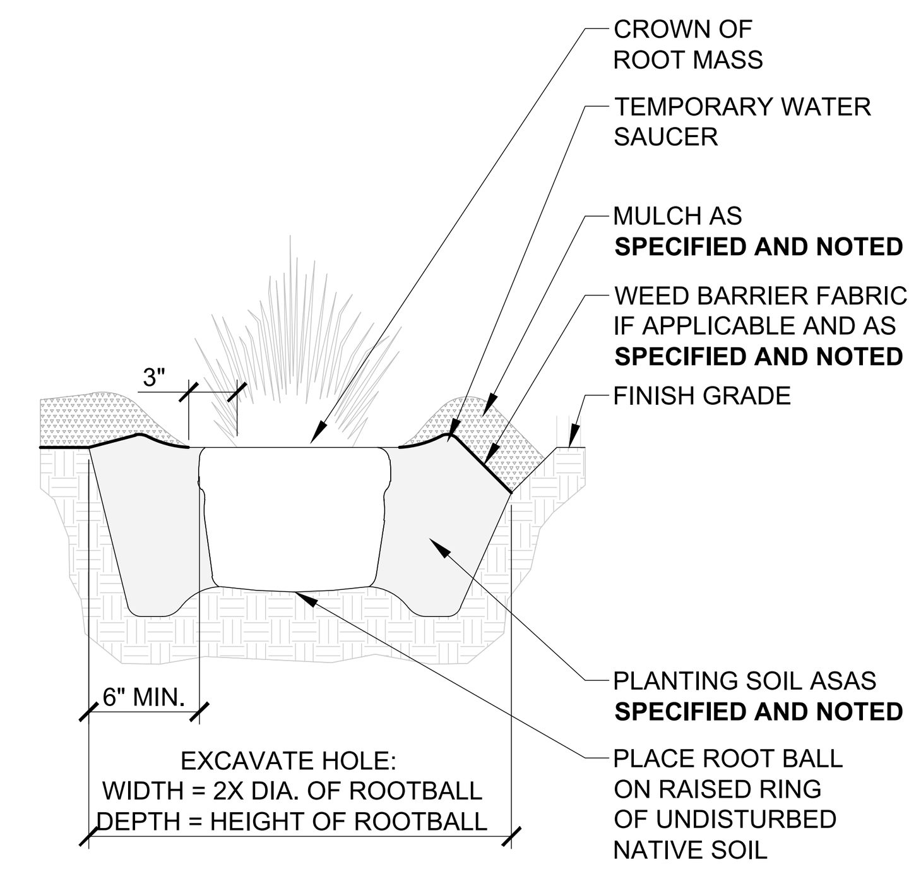
1/4" = 1'-0"



NOTES:
1. SEE PLANTING GENERAL NOTES FOR MORE INFORMATION.
2. REMOVE ALL ROOT CONTAINMENT MATERIALS FROM ROOTBALL.
3. THE ROOT FLARE OF ALL SHRUBS SHALL BE LEVEL WITH OR UP TO 1" ABOVE GRADE.
6. ALL SHRUBS SHALL BE INSTALLED WITH A TEMPORARY SAUCER OF RAISED SOIL AT THE EDGE OF ROOT BALL TO CONTAIN WATER. REMOVE OR BREACH WATER SAUCER BEFORE WINTER.
7. PULL MULCH AWAY FROM ROOT FLARE 3".

2 L601 SHRUB PLANTING

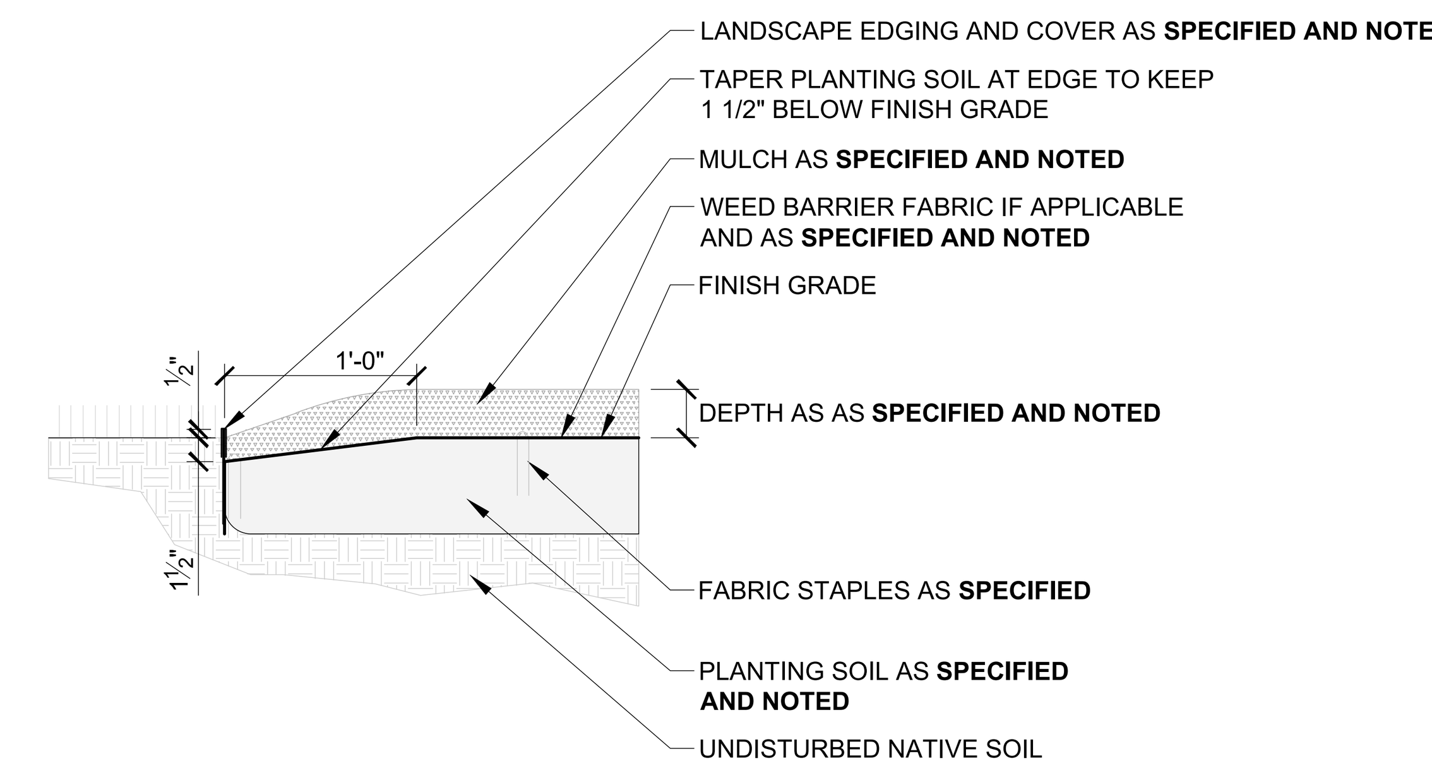
1"=1'-0"



NOTES:
1. SEE PLANTING GENERAL NOTES FOR MORE INFORMATION.
2. REMOVE ALL ROOT CONTAINMENT MATERIALS FROM ROOTBALL.
3. THE CROWN OF THE ROOT MASS OF ALL PERENNIALS SHALL BE LEVEL WITH OR UP TO 1" ABOVE GRADE.
6. ALL PERENNIALS SHALL BE INSTALLED WITH A TEMPORARY SAUCER OF RAISED SOIL AT THE EDGE OF ROOT MASS TO CONTAIN WATER. REMOVE OR BREACH WATER SAUCER BEFORE WINTER.
7. PULL MULCH AWAY FROM ROOT MASS A MINIMUM OF 3".

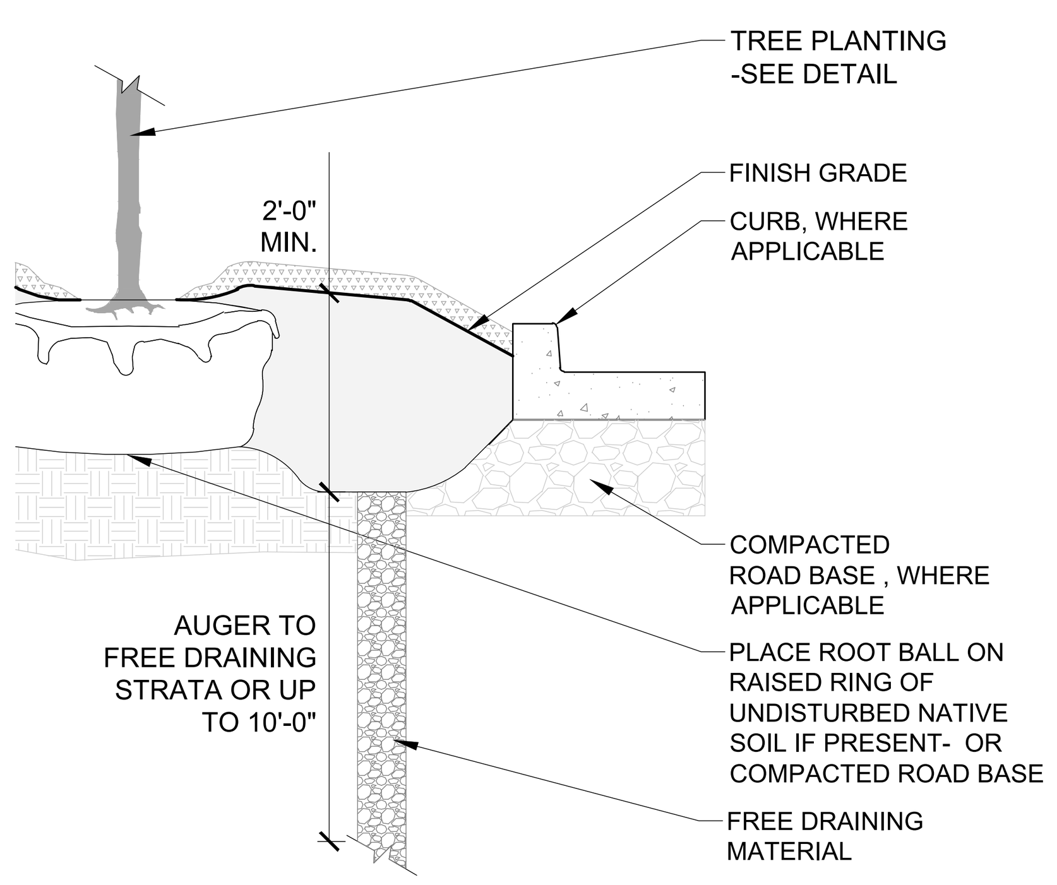
3 L601 PERENNIAL PLANTING

1"=1'-0"



4 L601 EDGING

1"=1'-0"



NOTES:
1. INSTALL DRAINAGE FOR EACH TREE WITHIN ALL COMPACTED OR HARDPAN AREAS. COMPACTED AREAS MAY INCLUDE SURFACES PREVIOUSLY PAVED AND/OR AREAS ADJACENT FOUNDATIONS.
3. PLACE HOLE WITHIN EXCAVATED AREA AT LOWEST POINT- NOT UNDER ROOT BALL.
4. AUGER 6" MIN. DIAMETER HOLE TO FREE DRAINING STRATA UP TO 10' DEEP.
5. FOR MULTIPLE TREES- AUGERED HOLES WILL BE A MINIMUM OF 24" APART.

5 L601 PLANTING IN COMPACTED SOILS

1/2"=1'-0"

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STATE OF MONTANA
DEBRA ANN-LESLIE ROSA
264
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LANDSCAPE ARCHITECT

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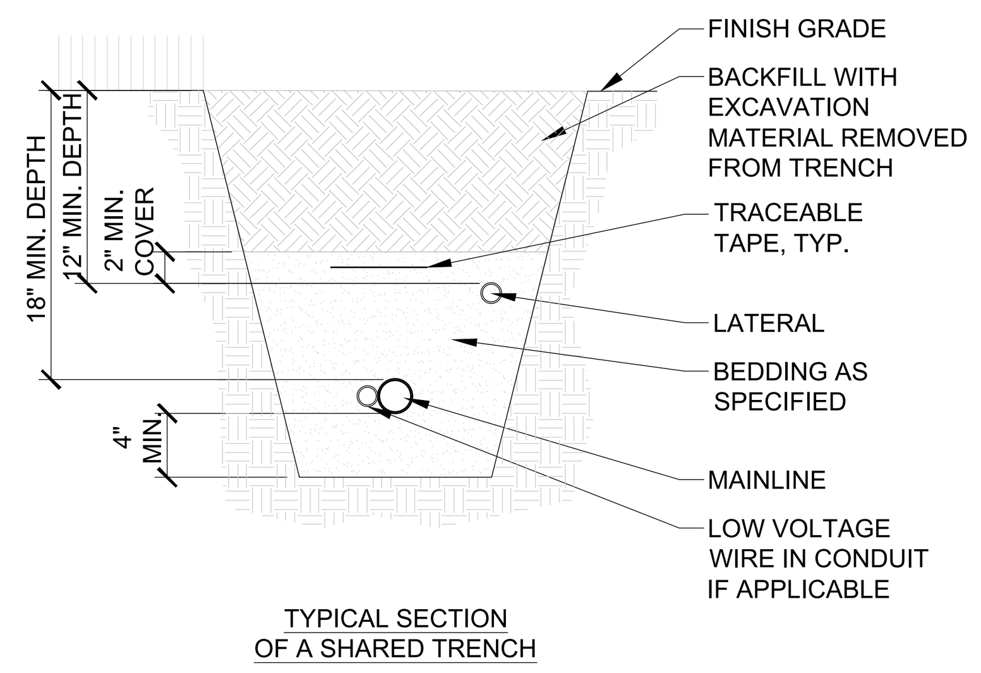
PLANTING DETAILS

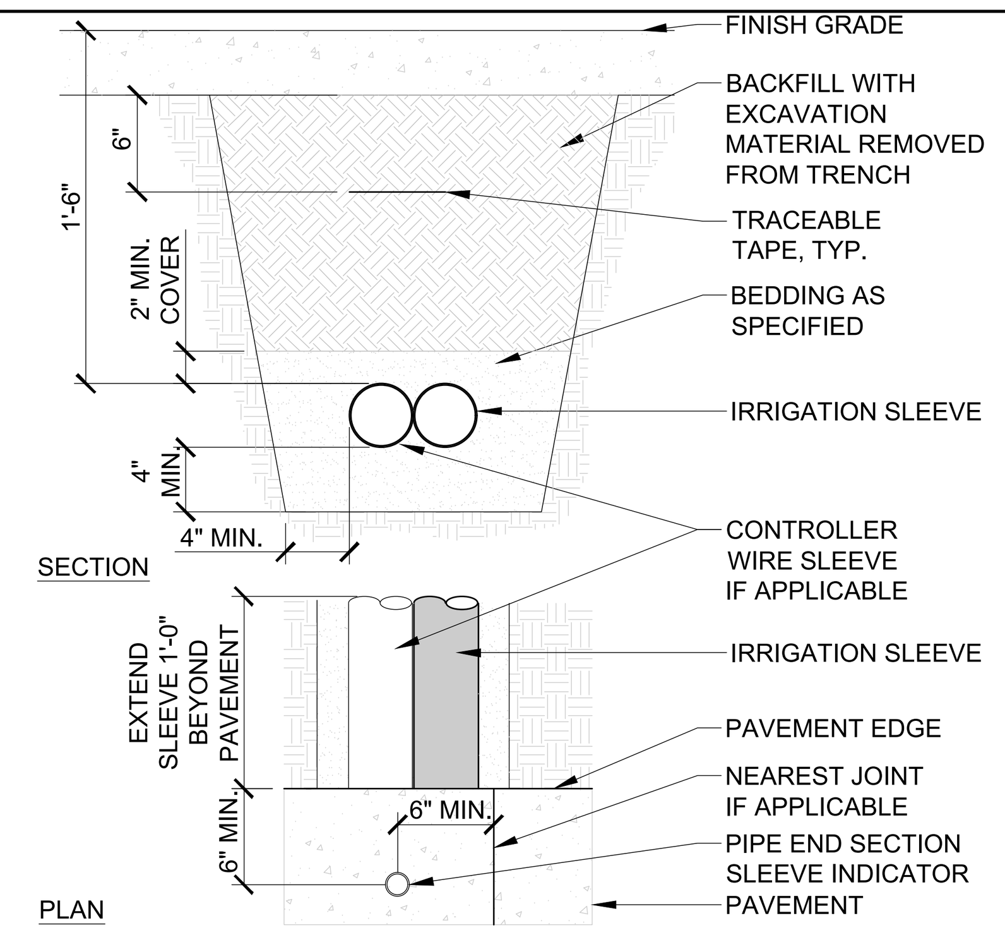
SHEET
L601

DATE
01.24.2021



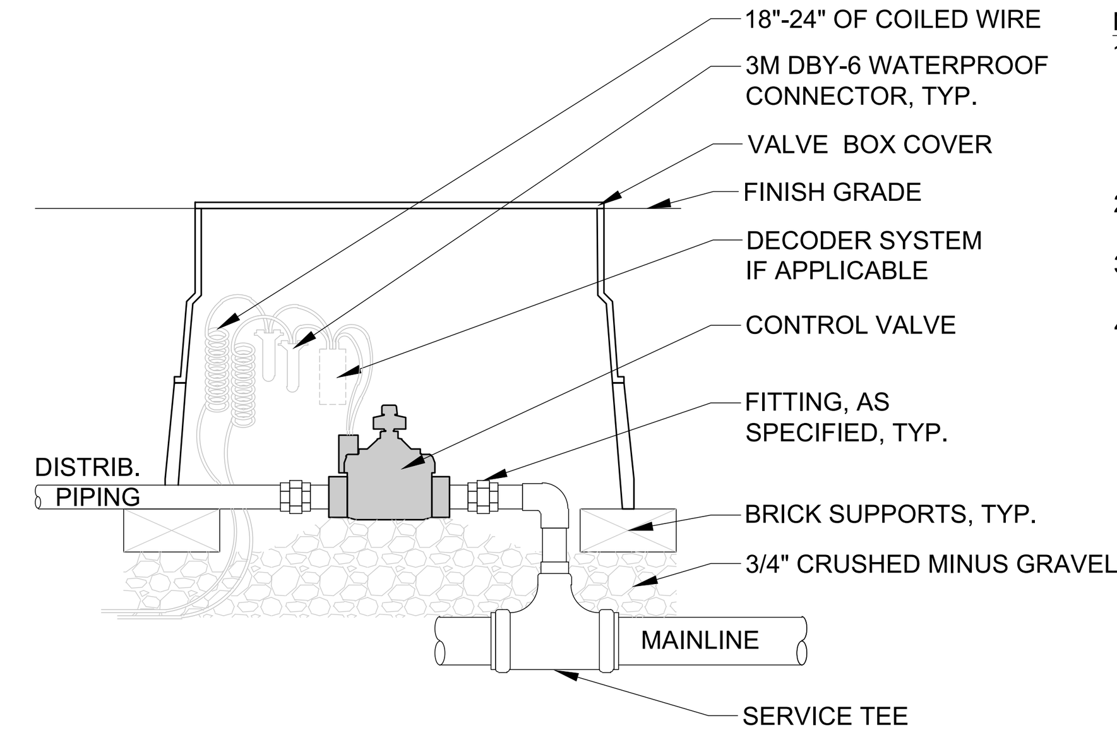
NOTES:
1. TAPE & BUNDLE ALL WIRING AT 10'-0" INTERVALS.
2. TIE A LOOSE 20" LOOP IN WIRING AT ALL CHANGES IN DIRECTION GREATER THAN 30° UNTIE ALL LOOPS AFTER MAKING CONNECTIONS.
3. BURY TRACEABLE TAPE 6" ABOVE ALL MAINLINES WITHOUT CONTROL WIRE IN TRENCH.
4. ALL WIRING UNDER PAVEMENT SHALL BE THROUGH SLEEVES -SEE DETAIL.
5. ALL SPLICES SHALL BE MADE IN VALVE BOXES AND LOCATED ON AS-BUILT PLANS.

1 L602 IRRIGATION TRENCH 1"=1'-0"



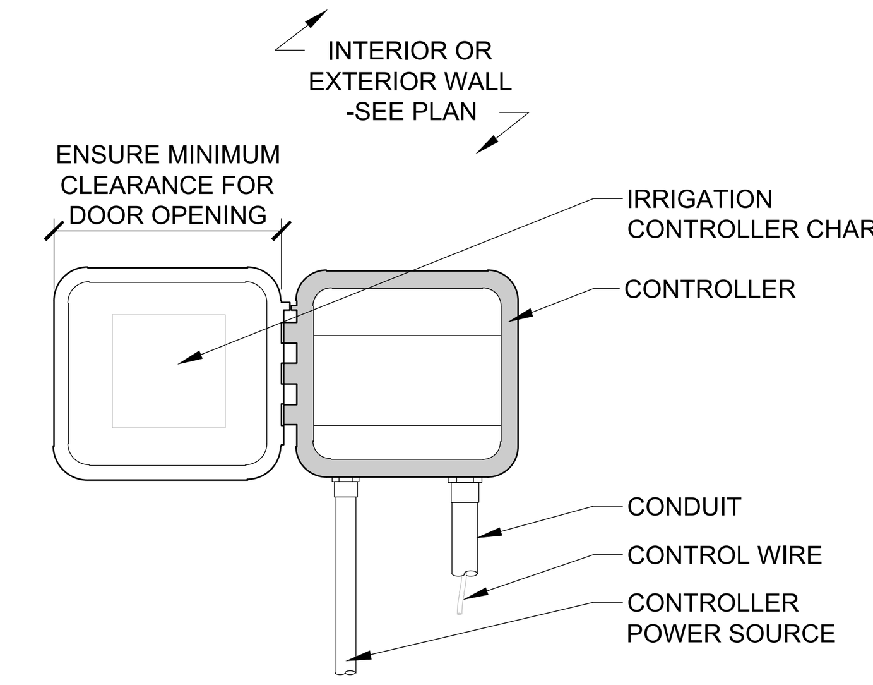
NOTES:
1. ALL IRRIGATION SLEEVING SHALL BE (2) SIZES LARGER THAN PIPE OR COMBINATION OF PIPES THEREIN ENCLOSED, WITH MINIMUM SIZE TO BE 6" SCHEDULE 40 PVC.
2. SUPPLY (1) EXTRA SLEEVE WITH EACH IRRIGATION SLEEVE FOR CONTROL WIRES. BORE UNDER EXISTING PAVING WHERE REQUIRED. BORE SEPARATELY FOR CONTROL WIRES.
3. BURY TRACEABLE TAPE ABOVE ALL SLEEVES 6" BELOW PAVEMENT.
4. PRESS OR GRIND 1" to 2" DIAMETER PIPE END SECTION IN PAVEMENT WHERE SLEEVES ARE LOCATED UNDER NEW OR EXISTING PAVEMENT RESPECTIVELY.
5. WHEN TRENCHING PROVIDE A 4" CLEARANCE AROUND SIDES OF SLEEVES. SLOPE SIDES OF TRENCH PER OSHA SPECIFICATIONS.

2 L602 IRRIGATION SLEEVE 1"=1'-0"



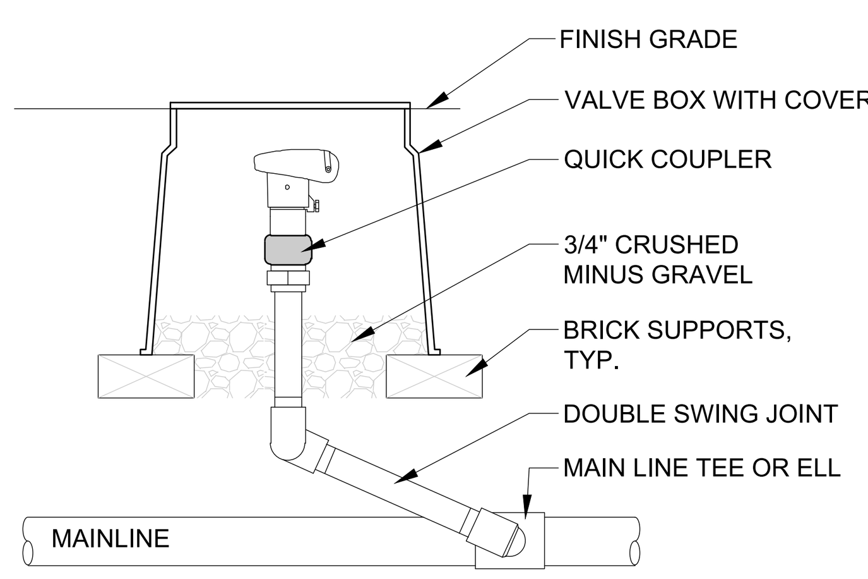
NOTES:
1. VALVE TO BE SUPPORTED BY GRAVEL, PROVIDE BLOCK SHIM AS REQUIRED.
2. SIZE VALVE AND PIPING AS SPECIFIED.
3. CONTROL WIRE AS SPECIFIED.
4. WHEREVER POSSIBLE INSTALL VALVE BOXES IN TURF AREAS. SEE IRRIGATION PLAN FOR MORE INFORMATION.

3 L602 ELECTRIC CONTROL VALVE 1 1/2"=1'-0"



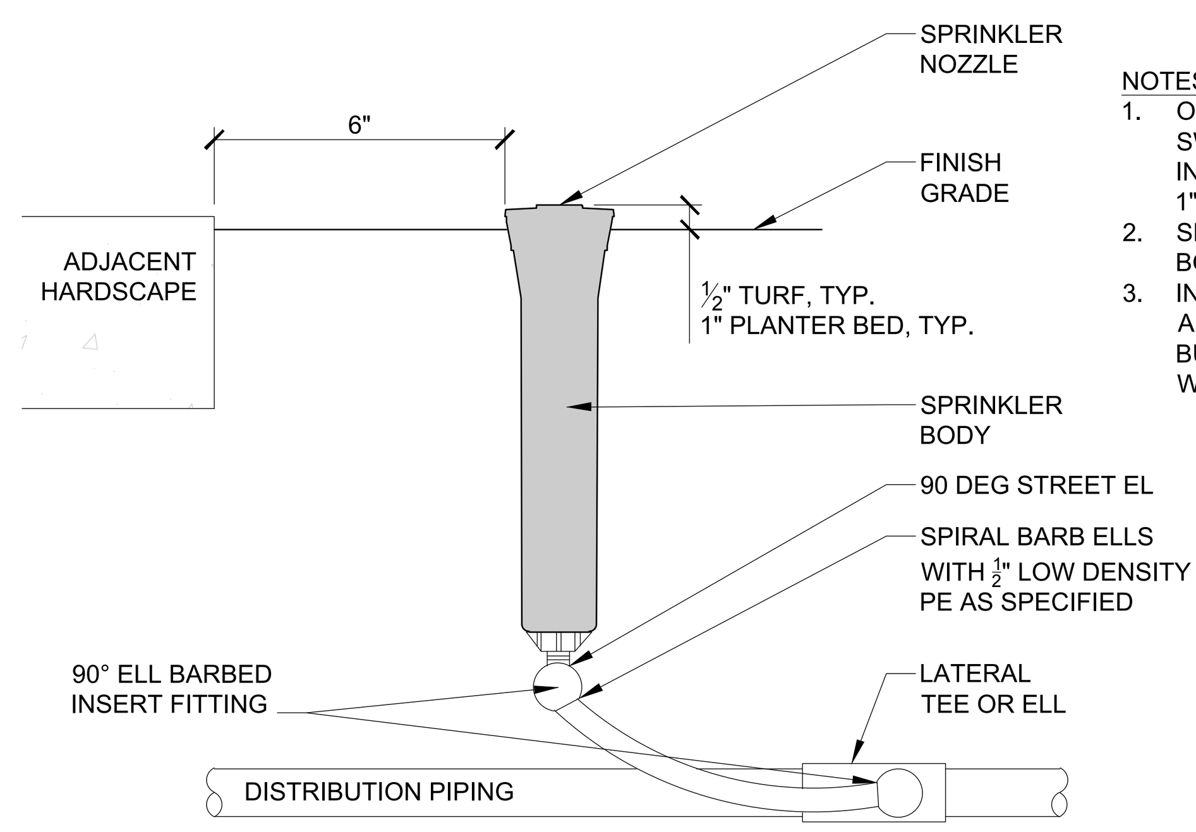
NOTES:
1. SEE IRRIGATION SPECIFICATION AND LEGEND FOR MORE INFORMATION.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. MOUNT CONTROLLER AT EYE LEVEL UNLESS OTHERWISE NOTED.
4. CONTROLLER SHALL BE HARD-WIRED TO GROUNDED 110 VAC SOURCE UNLESS OTHERWISE NOTED. COORDINATE INSTALLATION WITH ELECTRICAL.
2. PROVIDE NEW IRRIGATION CONTROLLER CHART AS SPECIFIED FOR ALL MODIFIED SYSTEMS.

4 L602 CONTROLLER & CHART UPDATE 1 1/2"=1'-0"



NOTES:
1. DOUBLE SWING JOINT SHALL BE SCHEDULE 80 PVC NIPPLE WITH (3) MARLEX STREET ELBOWS.
2. WHEREVER POSSIBLE INSTALL VALVE BOXES IN TURF AREAS. SEE IRRIGATION PLAN FOR MORE INFORMATION.

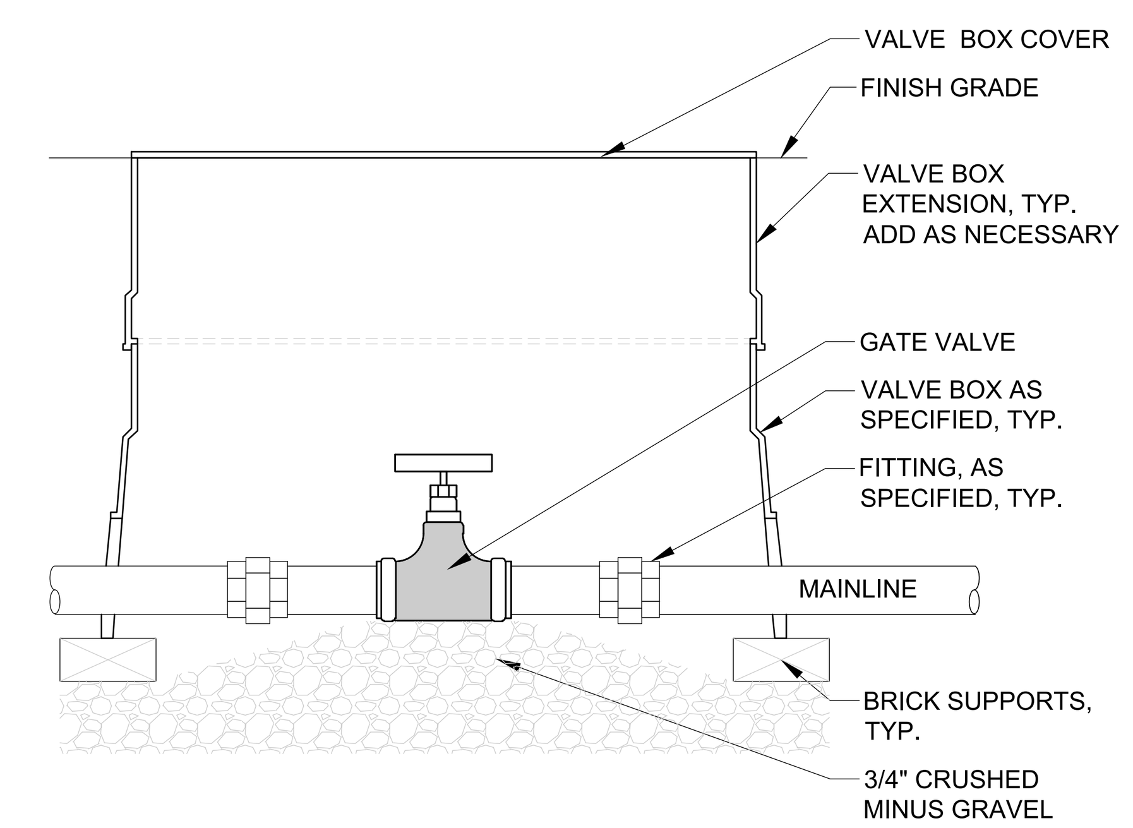
5 L602 QUICK COUPLER 1 1/2"=1'-0"



NOTES:
1. OPTION TO USE SWING JOINT SHOWN IN SPRINKLER HEAD 1" INLET.
2. SPRINKLER NOZZLE, BODY AS SPECIFIED.
3. INSTALL SPRINKLERS A MINIMUM 12" FROM BUILDINGS AND WALLS.

6 L602 SPRINKLER HEAD - 1/2" TO 3/4" INLET 3"=1'-0"

7 L602 NOT USED 3"=1'-0"



NOTES:
1. VALVE TO BE SUPPORTED BY GRAVEL, PROVIDE BLOCK SHIM AS REQUIRED.
2. SIZE VALVE AND PIPING AS SPECIFIED.
3. WHEREVER POSSIBLE INSTALL VALVE BOXES IN TURF AREAS. SEE IRRIGATION PLAN FOR MORE INFORMATION.

8 L602 ISOLATION VALVE 1 1/2"=1'-0"

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100% CONSTRUCTION DOCUMENTS

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REV.	DESCRIPTION	DATE
24	PR 09	04.22.20
24	PR 009R1	05.26.20

STATE OF MONTANA
DEBRA ANN-LESLIE ROSA
264
LICENSED
LANDSCAPE ARCHITECT

PPA# 18-2018
A/E#
Consultant #:
SHEET TITLE
IRRIGATION DETAILS
SHEET
L602
DATE
01.24.2021

CTA MASTER
ELECTRICAL SPECIFICATIONS 10

DIVISION 26 - ELECTRICAL

SCOPE

The provisions, terms and requirements of Division 1 and 2, the applicable Drawings and Technical Specifications herein shall apply to work under this Division.

This Work consists of, but is not necessarily limited to, the furnishing of all labor, equipment, appliances and materials and the performance of all operations in connection with the installation of all electrical work completed, in strict accordance with Specifications and/or Drawings, applicable codes, including incidental materials necessary and required for their completion.

"PROVIDE" = Furnished and installed complete. "OR EQUAL" = Or equal as approved to quote by Engineer, 10 days prior to Bid.

260000 - COMMON WORK RESULTS

A. Intent of Drawings: Drawings are partly diagrammatic and do not show exact location of conduit unless specifically dimensioned.

B. Workmanship:

1. Work shall be accomplished by workmen skilled in particular trade, in conformance with best practices and accepted standards.
2. Work shall contribute to efficiency of operation, accessibility, maintenance and appearance. No part of installation shall interfere with operation of any other system or part of building.
3. Non-satisfactory work shall be corrected at no additional expense to Owner.

C. Responsibility:

1. The Electrical Contractor is responsible for installation of satisfactory and complete work in accordance with the intent of Drawings and Specifications. Provide, at no extra cost, incidental items required for completion of work even though not specifically mentioned or indicated in Specifications or on Drawings.
2. If, at any time, and in any case, change in location of conduit, outlets, fixtures, switches, panels, electrical equipment or associated components, etc., becomes necessary due to obstacles or installation of other trades, such required changes shall be made by Contractor at no extra cost.
3. Conflicts discovered during construction shall immediately be called to the attention of the Engineer for decision. Do not proceed with installation in area of question until conflict has been fully resolved.
4. Coordinate all electrical work with other trades to prevent unnecessary delays in the construction schedule.
5. Excavation and backfill required by electrical installations shall be accomplished in accordance with Division 2 by this Contractor.
6. Provide temporary electrical power and lighting for all trades that require service during the course of this Project. Comply with the NFPA 70 and OSHA requirements. (Energy costs by General Contractor.)

D. Guarantee-Warranty: This Contractor shall and hereby does warrant and guarantee:

1. That all work executed under this Section will be free from defects of materials and workmanship for a period of one year from the date of final acceptance of this work.
2. The Contractor agrees to, at the Contractor's own expense, repair and replace all such defective materials and work and all other work damaged thereby which becomes defective during the term of warranty. Agreement does not include damages done by Owner.

E. Permits, Tests, Codes and Standards:

1. Electrical Contractor to pay for all permits and fees in connection with this work.
2. WORK SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITIONS OF ADOPTED LOCAL, STATE AND NATIONAL CODES AND ORDINANCES, THE STATE FIRE MARSHAL, AND UTILITY COMPANY REGULATIONS.
3. Electrical work shall conform to National Electrical Codes, latest editions, as a minimum requirement.
4. All material to conform with applicable standards.

F. Discrepancies: Prior to submitting Bid, Contractor shall refer any apparent discrepancies or omissions to engineer for clarification.

G. Shop Drawing Submittals:

1. In addition to distribution requirements for submittals specified in Division 1 Section "Submittals," submit Electronic Drawings in pdf format for final and official approval through the General Contractor as listed below. If the Authority Having Jurisdiction requires Shop Drawings to have a Registered Engineers Stamp Affixed, this shall be the sole responsibility of the Contractor to acquire such stamp at Contractor's cost.

   Additional copies may be required by individual Sections of these Specifications. Copies of price list sheets are not acceptable. Manufacturer's name and address must appear on each sheet. All copies shall be legible.

   Shop Drawings shall include a completed specification sheet of all equipment along with fabrication, installation drawings, setting diagrams, schedules, patterns, templates and similar Drawings. Installation drawings for fire alarm shall be done with a computer cadd program and include no other system. A basic floor plan in dwf or pdf electronic format can be obtained through the General Contractor. Autocad .dwg format will not be available.

H. Supporting Equipment:

1. Unless otherwise indicated, fasten electrical items and their supporting hardware securely to structure, including conduits, raceways, cables, cabinets, and control components. Fasten by means of wood screws or screw-type nails on wood, toggle bolts on hollow masonry units, concrete inserts or expansion bolts on concrete or solid masonry, and machine screws, welded threaded studs, or spring-tension clamps on steel. Threaded studs driven by a power charge and provided with lock washers and nuts may be used instead of expansion bolts and machine or wood screws. Do not weld conduit, pipe straps, or items other than threaded studs to steel structures. In partitions of light steel construction, use sheet metal screws. All device boxes in sheetrock walls will be tight before, during and after installation of sheetrock.
2. Provide supports for electrical items in accordance with NFPA 70 and all other applicable codes.
3. Contractor responsible for providing watertight conduit penetrations at all watertight walls, floors roofs and membranes.
4. Provide sealing as per NFPA 70 300-7 for all conduits exposed to different temperatures.

I. Electrical Identification:

1. Identify underground exterior electrical circuits by installation of continuous underground plastic marker, 6 - 8 inches below grade.

260300 - REMODEL WORK

A. The Contractor shall carefully examine the Drawings and Specifications, visit the project site, and make note of all existing conditions, dimensions and limitations prior to Bid and make allowances thereto.

B. No Change Orders will be issued for Contractor's failure to visit site, remodel work necessary for a complete installation of systems shown, and due to Contractor's lack of understanding of amount or difficulty of work involved.

C. The Contractor shall also notify all corporations, companies, individuals or local authorities owning, or having jurisdiction over existing utilities and services which interfere in any manner with the execution of the work under this Contract, and shall remove, relocate or protect such utilities or equipment as required by the parties having jurisdiction over same.

D. If existing active or non-active services (which may not be shown on plans) are encountered that require relocation or disconnecting, the Electrical Contractor shall make written request for decision on proper handling of the services. The Electrical Contractor shall not proceed with the work until so authorized by the Architect.

E. When areas of the existing buildings are adjacent to the area of construction in which work is going on and are occupied, then this Contractor shall arrange the work so as to reduce to a minimum the periods of interruption or outages in the various services.

F. Not less than one week before any system is to be put out of service, the Contractor shall notify and coordinate with other trades and the Owner of such necessity including the extent of the work to be done during the outage, possible length of time required for that phase of the work, and the desired time at which the outage is to begin.

G. Balance additional loads to existing circuitry between phases. Furnish a revised, typed panel directory on existing panelboards where loads have been added or changed on this project.

H. Carefully lay out all work in advance to minimize cutting, channeling or drilling. Where necessary, all cutting and patching shall be done in a manner approved by the Architect. Do not endanger the stability of the structure. Restore any damaged surfaces to original conditions. Contractor at fault to assume all costs.

I. Remove or relocate existing conduits, wires, equipment, devices or fixtures indicated on Drawings and as required by remodel operations. Where the reuse of existing conduits, wires, devices, or fixture is permitted, verify that wiring is continuous. Existing outlets or junction boxes shall not be rendered inaccessible by structural changes made to the building.

J. Existing equipment which is indicated as being removed and not indicated for re-use shall be disposed of unless stated otherwise. Light fixture ballasts may contain PCB's and shall be disposed of according to environmental regulations.

260519 - CONDUCTORS AND CABLES

A. Submit Shop Drawings in accordance with the "Common Work Results" Section.

B. Branch Circuits: Copper THHN-THWN. Solid for No. 10 AWG and smaller.

C. Multi-conductor Cable: Copper Type AC and Type MC with separate insulated ground wire.

D. Aluminum conductors are not acceptable.

E. Conductor Insulation: Comply with NEMA WC 70 for types THHN-THWN. Utilize other types of insulation only where specifically noted or required by code for the installed condition.

F. Tighten electrical connectors and terminals, including screws and bolts, in accordance with manufacturer's published torque tightening valves or as specified in UL Codes.

G. Color code secondary service, feeder, and branch circuit conductors with factory applied color as follows:

208y/120 Volts	Phase	480y/277 Volts
Black	A	Brown
Red	B	Purple
Blue	C	Yellow
White	Neutral	Gray
Green	Ground	Green

260526 - GROUNDING AND BONDING

A. Install separate insulated equipment grounding conductors for branch circuits in compliance with NFPA 70 Article 250.

260533 - RACEWAYS AND BOXES

A. Submit Shop Drawings in accordance with the "Common Work Results" section.

B. Conduit Raceway:

1. Outdoors, use the following, unless otherwise stated:
   a. Concealed: RMC or IMC.
   b. Exposed: RMC or IMC.
   c. Underground: Schedule 40 PVC with Schedule 80 PVC fittings.
   d. Connection to Vibrating Equipment: Liquid tight flexible metal conduit.
2. **ENT IS NOT ALLOWED**.
3. Conceal conduit and cable, unless otherwise noted. All conduits shall have insulated ground wire installed. Do not install conduit embedded in slabs. EMT fittings shall be steel, compression or set screw type. All raceways shall be installed and supported in accordance with NFPA 70 and applicable codes.

C. Pull and Junction Boxes:

1. Comply with UL 50, "Electrical Cabinets and Boxes," for boxes over 100 cubic inches volume. Boxes shall have screwed or bolt-on covers, shall be suitable for the intended application and shall be labeled.

D. All materials shall be UL listed, appropriate for intended application. Entire raceway system shall be in accordance with NFPA 70, ANSI, NEMA, UL, and all other applicable codes.

265100 - LIGHTING

A. Submit Shop Drawings in accordance with the "Common Work Results" Section.

B. Manufacturer, model, style, color, size, etc., as scheduled. If no color has specified, provide fixture with the standard finish as published by the manufacturer. All fixtures to be supplied as complete, housing, sockets, lamp holders, internal working, wire guards, lens guards, diffusing materials or lenses, pendants, hangers, canopies, aligners, end caps, ballasts and emergency battery packs, plaster frames, recessing boxes, hold down clips, anchor bolts, etc. Install plumb and true, free of light leaks, warps, dents and other irregularities.

1. .

C. LED Modules:

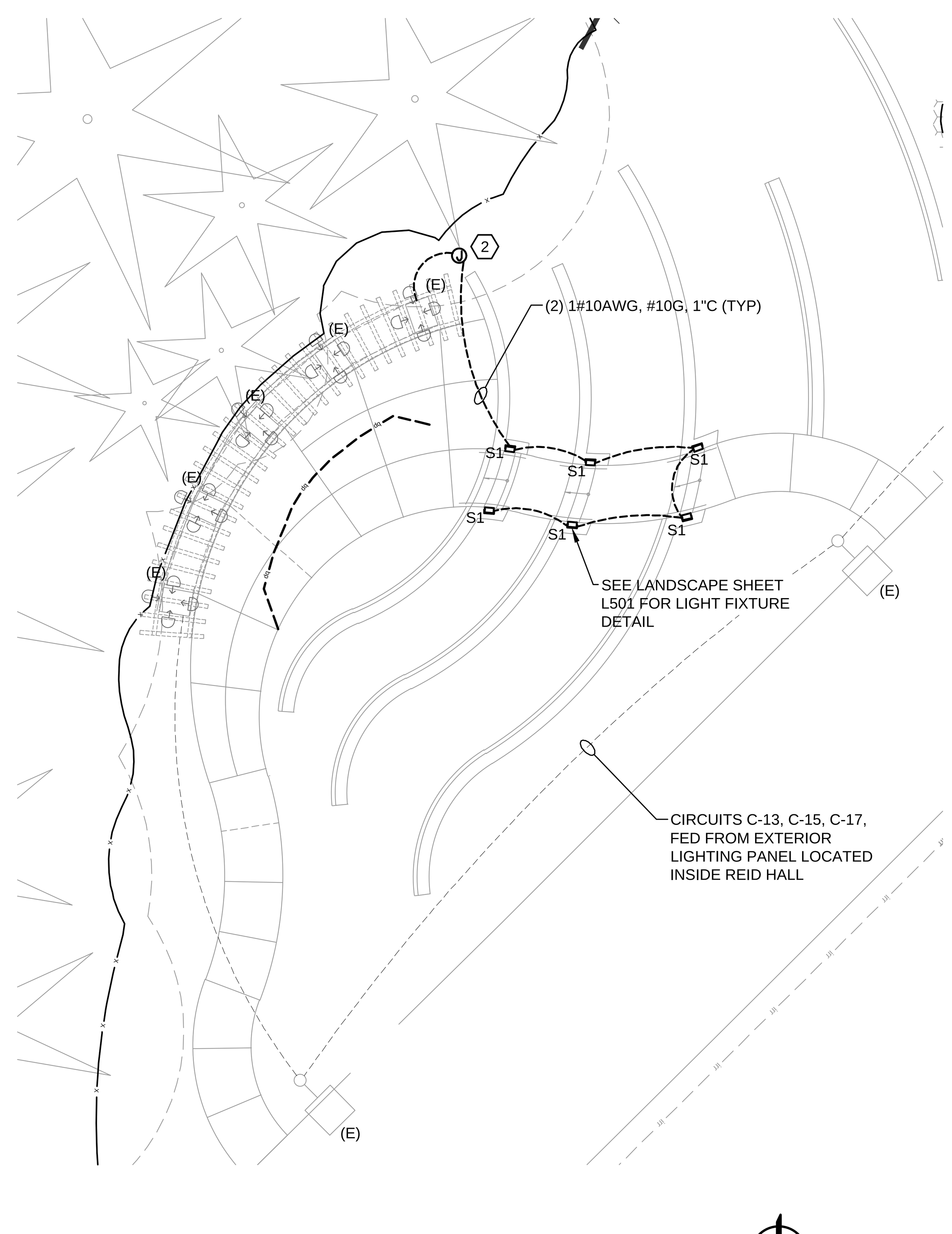
1. Comply with ANSI C78.377, UL 8750, IES LM-79 and IES LM-80.
2. CRI minimum of 80 or as scheduled.
3. Efficiency: 60 Lumens per watt minimum for down lights and 90 lumens minimum per watt minimum for other fixture types or as schedule on the drawings.
4. Rated life of minimum 50,000 hours minimum or as scheduled.
5. Fully serviceable and upgradable Light Engine.
6. Warranty: 3-year minimum for all fixture components.

D. LED Drivers:

1. LED Driver/Power Supply: Integral high efficiency driver with power supply of 120V-277v input 60HZ. Power factor greater than 0.9 at full load. Drive current at 1000ma maximum. Class 2 power supply. Dimming utilizing 0-10V dimming control. Provide continuous flicker free dimming from 100 percent to 10 percent. The driver shall be capable of being serviced through the aperture for down light applications.
2. Warranty: 3-year minimum for all fixture components.

END OF SECTION

1/E100 ELECTRICAL DEMOLITION SITE PLAN 1"=10'-0" NORTH REF.



2/E100 ELECTRICAL SITE PLAN 1"=10'-0" NORTH REF.

⟨?⟩ SHEET WORK NOTES

1. RETAIN EXISTING CIRCUITRY FOR REUSE WITH NEW STEP LIGHT FIXTURES. MAINTAIN CONTINUITY OF CIRCUITRY TO EXISTING SPOT LIGHTS TO REMAIN.
2. FIELD VERIFY LOCATION OF NEW HANDHOLE BOX TO INTERCEPT EXISTING CIRCUITRY.

LEGEND

LIGHTING

SYMBOL	DESCRIPTION
	WALL WASH OR DIRECTIONAL FIXTURE
	SQUARE POLE MOUNTED FIXTURE, EXTERIOR
	DIRECTIONAL INGROUND FIXTURE, EXTERIOR

DEVICES AND POWER

SYMBOL	DESCRIPTION
J	WEATHERPROOF HANDHOLE

ABBREVIATIONS AND MISCELLANEOUS

SYMBOL	DESCRIPTION
CU	COPPER
(E)	EXISTING
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
BN1L-2,4,6	CIRCUIT DESIGNATION, PANEL BN1L, CIRCUITS 2,4,6
1/E501	INDICATES DETAIL 1 ON SHEET E501
⟨1⟩	SHEET WORK NOTE
	CONDUIT CONCEALED UNDER GRADE

LIGHTING FIXTURE SCHEDULE

	FIXTURE						MOUNTING		LAMP
TYPE	DESCRIPTION	MFG.	CATALOG NUMBER	NOTES	VOLTS	WATTS	TYPE	HEIGHT	TYPE
S1	LED STEP LIGHT	PIL	INSERT+ ZERO 070598	1	277	6	SITE	SEE L501	LED

NOTES:
1. LED STEP LIGHT TO FACE NEW SIDEWALK. COORDINATE ROUGH IN WITH CONCRETE INSTALLER.

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DRAWN BY: M. GIESER		
REVIEWED BY: M. GIESER		
REV.	DESCRIPTION	DATE

MONTANA MICHAEL GIESER No. 61357 PE LICENSED PROFESSIONAL ENGINEER

PPA# 18-2018

A/E#

Consultant #:

SHEET TITLE
ELECTRICAL SITE PLAN

SHEET
E100

DATE
01.23.2021