



Design Review Committee Staff Report

Meeting Date: September 14, 2017

Subject: Special Use Permit Case Number SB15-012
Applicant: Mount Rose Water Treatment Plan
Agenda Item Number: 5A
Project Summary: Construction and operation of a water treatment plant and in-stream diversion.
Prepared by: Eva M. Krause, AICP, Planner
Washoe County Community Services Department
Planning and Building Division
Phone: 775.328.3628
E-Mail: ekrause@washoecounty.us

Description

Special Use Permit Case Number SB15-012 (Mt. Rose Water Treatment Plant) – Hearing, discussion and possible action to approve the proposed landscaping plan pursuant to an approved special use permit for the construction and operation of a water treatment plant and an in-stream water diversion structure in White's Creek. (Utility Services, Civic Use Type).

- Applicant: Truckee Meadows Water Authority
Attn: Juan Esparza
- Property Owner: Truckee Meadows Water Authority (Treatment Plant) and Washoe County (diversion structure)
- Location: Intersection of Mountain Ranch Road and future extension of Callahan Ranch Road
- Assessor's Parcel Number: 150-501-02 and 150-492-20
- Parcel Size: ± 3.9 acres (TMWA), ± 8.26 (Washoe County)
- Master Plan Category: Rural Residential (RR) and Rural (R)
- Regulatory Zone: High Density Rural (HDR) and General Rural (GR)
- Area Plan: Southwest Truckee Meadows
- Citizen Advisory Board: South Truckee Meadows / Washoe Valley
- Development Code: Authorized in Article 810, Special Use Permits
- Commission District: 2 – Commissioner Lucey
- Section/Township/Range: Section 35, T18N, R19E, MDM,
Washoe County, NV

DESIGN REVIEW COMMITTEE / LANDSCAPING REVIEW

Prior to any ground disturbing activity, the applicant shall submit a landscaping/architectural design plan to the Planning and Building Division for review and approval by the Design Review Committee (DRC). Said plan shall address, but not be limited to:

Landscaping material (if plant material: type, size at time of planting, maturation size at full growth, period of time between planting and full growth), landscaping location, landscaping irrigation system.

Because the proposal is to grade the site before applying for a building permit, staff is requesting that DRC also review and comment on the temporary soil stabilization of the water treatment plant site.

Attachment: DRC application

Cc: Property Owner: Truckee Meadows Water Authority, Attn: Juan Esparza, 1355 Capital Boulevard, Reno, NV 89502, jesparza@tmwa.com

Consultant: Stantec, Attn: John Buzzone, 6995 Sierra Center Parkway, Reno, NV 89511, john.buzzone@stantec.com



Stantec Consulting Services Inc.
6995 Sierra Center Parkway, Reno NV 89511-2213

August 17, 2017
File: 180101413

Attention: Washoe County Design Review Committee

Washoe County Community Services Department – Planning and Building

Dear Sirs,

Reference: Mt. Rose Water Treatment Plant

The Truckee Meadows Water Authority (TMWA) proposes to construct the Mt. Rose Water Treatment Plant (MRWTP). The MRWTP was identified as a critical piece of infrastructure needed to serve customers in the Mt Rose / Galena Fan Area. Washoe County issued TMWA a Special Use Permit (SUP) for the construction of the treatment plant and a water diversion on Whites Creek. The SUP included a condition that requires TMWA submit a landscaping plan for review and approval by the Design Review Committee. This application is intended to provide the Design Review Committee the opportunity to review the revegetation and landscaping plans for the treatment plant and diversion and satisfy the SUP requirement.

The project is being implemented in two phases. The first phase includes the construction of the diversion, an access road, mass grading for the treatment plan. The second phase will include various site improvements and construction of the treatment plant. The second phase is expected to begin within six months of completing the first phase. Areas disturbed during the first phase and not given final stabilization, will be treated with temporary soil stabilization pending final stabilization during the second phase.

As you will see, THWA has given special attention and consideration to developing revegetation and landscaping plans that provide attractive screening of the facility to the surrounding areas and that is consistent with the local native species. Further, every effort is taken to minimize the area of disturbance.

We thank you for your consideration of the proposed project.

Regards,

STANTEC CONSULTING SERVICES INC.

A handwritten signature in blue ink, appearing to read "John Buzzone".

John Buzzone, P.E.
Senior Water Resources Engineer
Phone: (775) 398-1222
John.Buzzone@stantec.com

Design with community in mind

Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

Project Information		Staff Assigned Case No.: _____	
Project Name: Mt Rose Water Treatment Plant			
Project Description: Construction of a water treatment plant and water diversion o Whites Creek.			
Project Address: NA			
Project Area (acres or square feet): 2.87 acres			
Project Location (with point of reference to major cross streets AND area locator): Southeast corner of Callahan Road and Mountain Ranch Road			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
150-501-02	3.90		
150-492-20	8.26		
Section(s)/Township/Range: Township 18N Range 19E Section 35			
Indicate any previous Washoe County approvals associated with this application:			
Case No.(s). Special Use Permit SB15-012			
Applicant Information (attach additional sheets if necessary)			
Property Owner: Truckee Meadows Water Authority		Professional Consultant: Stantec Consulting Inc.	
Name: Juan Esparza		Name: John Buzzone	
Address: 1355 Capital Blvd.		Address: 6995 Sierra Center Parkway	
Reno, NV	Zip: 89502	Reno, NV	Zip: 89511
Phone: 775-834-8041	Fax:	Phone: 775-398-1222	Fax:
Email: jesparza@tmwa.com		Email: john.buzzone@stantec.com	
Cell:	Other:	Cell:	Other:
Contact Person: Juan Esparza		Contact Person: John Buzzone	
Applicant/Developer:		Other Persons to be Contacted:	
Name:		Name:	
Address:		Address:	
	Zip:		Zip:
Phone:	Fax:	Phone:	Fax:
Email:		Email:	
Cell:	Other:	Cell:	Other:
Contact Person:		Contact Person:	
For Office Use Only			
Date Received:	Initial:	Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

WASHOE COUNTY DESIGN REVIEW DEVELOPMENT APPLICATION

SUPPORTING DOCUMENTS FOR:

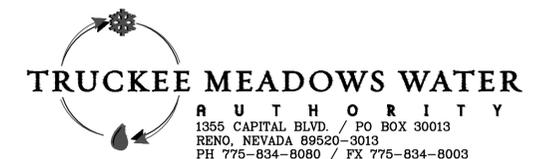
TRUCKEE MEADOWS WATER AUTHORITY
MT. ROSE WATER TREATMENT PLANT
WASHOE COUNTY, NEVADA



1001 E. 9th Street
Reno, NV 89512



6995 Sierra Center Pkwy
Reno, NV 89511
www.stantec.com



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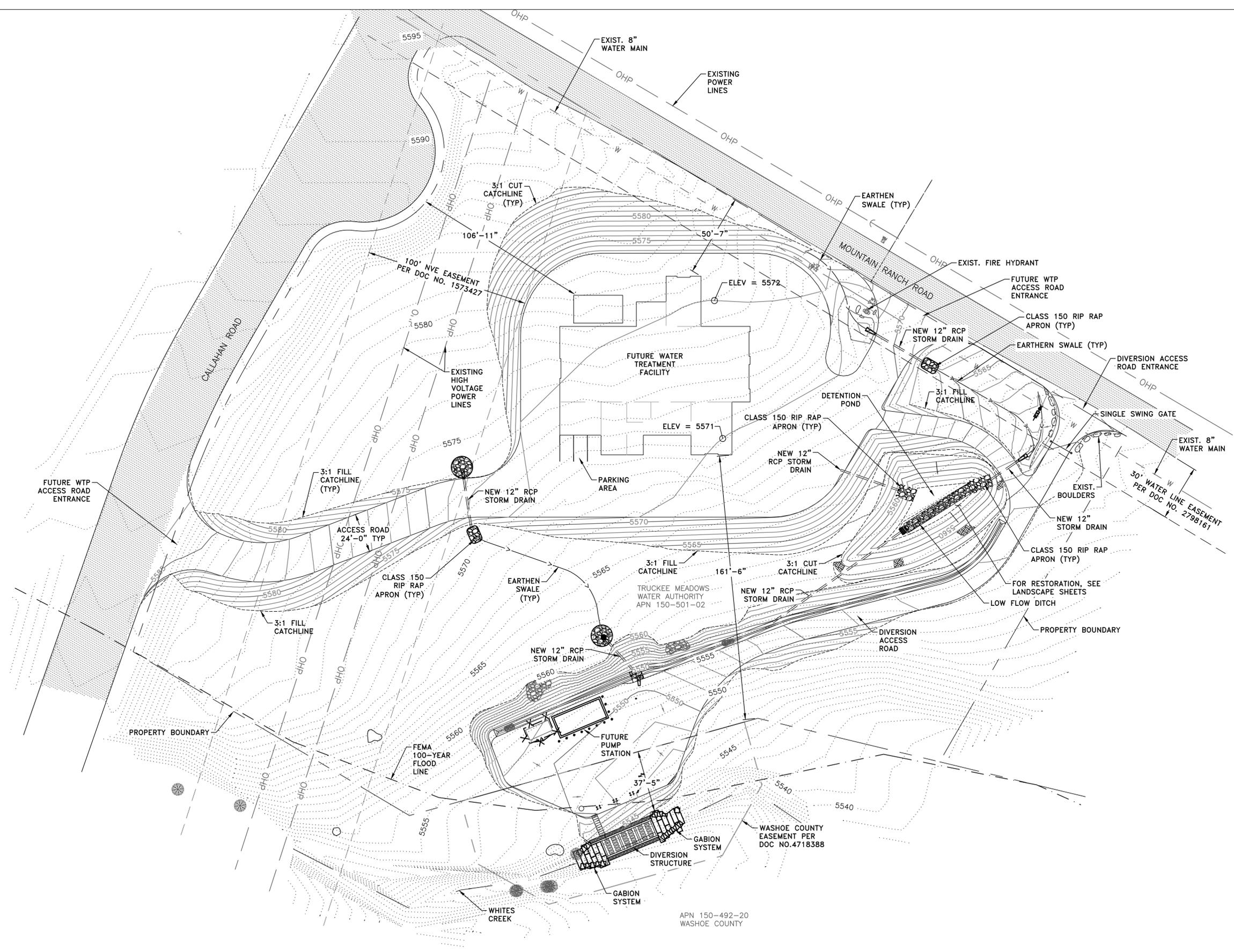
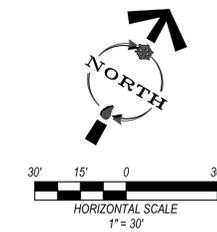
AUGUST 2017
180101413



6995 Sierra Center Pkwy
 Reno, NV 89511
 www.stantec.com

Client/Project
 TRUCKEE MEADOWS WATER AUTHORITY
 MT. ROSE WATER TREATMENT PLANT
 WASHOE COUNTY, NEVADA

Figure No. **A**
 Title
 PROJECT VICINITY MAP



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AUGUST 2017
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6995 Sierra Center Pkwy
 Reno, NV 89511
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Client/Project
 TRUCKEE MEADOWS WATER AUTHORITY
 MT. ROSE WATER TREATMENT PLANT
 WASHOE COUNTY, NEVADA

Figure No. **B**
 Title
 PROJECT SITE AND GRADING PLAN

PLANTING NOTES

GENERAL:

1. PLAN IS DIAGRAMMATIC ONLY. ALL LOCAL GOVERNING CODES SHALL BE MET. EXACT LOCATION OF TREES AND SHRUBS SHALL BE DETERMINED IN THE FIELD (INSTALL AS PER DETAILS) AND APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
2. A MINIMUM OF TWO WORKING DAYS BEFORE PERFORMING ANY DIGGING, CALL UNDERGROUND SERVICE ALERT FOR INFORMATION ON THE LOCATION OF NATURAL GAS LINES, ELECTRIC CABLES, TELEPHONE CABLES, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION AND PROTECTION OF ALL UTILITIES, AND REPAIR OF ANY DAMAGE RESULTING FROM HIS WORK AT NO ADDITIONAL COST TO THE OWNER.
3. DAMAGES: CONTRACTOR SHALL PROMPTLY REPAIR ALL DAMAGES TO EXISTING SITE AT NO COST TO OWNER.
4. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES (I.E., PAVING, PLUMBING, ELECTRICAL, ETC.).
5. THE CONTRACTOR SHALL BE RESPONSIBLE TO FIELD VERIFY SITE CONDITIONS PRIOR TO CONSTRUCTION AND TO NOTIFY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE SHOULD CONDITIONS EXIST WHICH PREVENT CONSTRUCTION AS PER THESE PLANS. COMMENCEMENT OF WORK SHALL CONSTITUTE ACCEPTANCE OF CONDITIONS AND RESPONSIBILITY FOR CORRECTIONS.
6. CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR ASSUMES SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD HARMLESS THE OWNER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT.
7. A CERTIFIED ARBORIST SHALL BE RETAINED BY THE CONTRACTOR TO PROVIDE ON-SITE OBSERVATION OF EXCAVATION, INSTALLATION AND BACKFILLING OF TRENCH AS IT PASSES NEAR TREES AS NOTED ON THE DRAWINGS. PRIOR TO CONSTRUCTION, CONTRACTOR TO PLACE ORANGE CONSTRUCTION FENCING AROUND DRIP LINE OF TREES NEAR EXCAVATIONS FOR TREE PROTECTION AND SHALL NOT DRIVE OR WORK WITHIN TREE DRIP LINES EXCEPT WHERE OBSERVED BY CERTIFIED ARBORIST. THE ARBORIST WILL PERFORM ANY ROOT PRUNING REQUIRED AS THEY ARE EXPOSED IN EXCAVATION. IF THE ARBORIST DETERMINES THAT TREES WILL NOT SURVIVE DUE TO CONSTRUCTION THE TREES WILL BE REPLACED AT A RATIO OF ONE (1) CALIPER INCH REMOVED TO ONE (1) CALIPER INCH REPLACED. REPLACED TREES WILL BE PROVIDED AT A MAXIMUM SIZE OF TWO (2) INCH CALIPER. REPLACED TREE SPECIES AND LOCATION WILL BE RECOMMENDED BY ARBORIST AND AGREED TO BY TMAA AND PROPERTY OWNER PRIOR TO PLANTING. CONTRACTOR TO PROVIDE TREES WITH DRIP IRRIGATION RETIRED FROM EXISTING SYSTEM. ARBORIST WILL OBSERVE INSTALLATION OF REPLACED TREES.

REQUIRED SEQUENCE:

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINISH GRADING THROUGHOUT ALL LANDSCAPE AREAS SUCH THAT THERE ARE NO HUMPS OR DEPRESSIONS AND POSITIVE DRAINAGE OCCURS THROUGHOUT. THE TOP 18" OF ALL PLANTING BEDS SHALL BE CLEAN NATIVE SOIL, FREE OF ALL CONSTRUCTION DEBRIS AND NATIVE ROCKS OVER 6" IN DIAMETER. THE CONTRACTOR SHALL AMEND THE PLANTING BED OR PLANTING HOLES PER PLANS AND SPECIFICATIONS. FINAL GRADE OF ALL PLANTERS (I.E. MULCH SURFACE) SHALL BE FLUSH WITH ADJACENT HARDSCAPE SURFACES.
9. THE CONTRACTOR SHALL OBTAIN SOIL TEST RESULTS AND RECOMMENDATIONS FOR EXISTING SITE SOIL INCLUDING: TEXTURE CLASSIFICATION, PH, NITROGEN, POTASSIUM, MAGNESIUM, CALCIUM, PHOSPHORUS, SODIUM HAZARD, BORON HAZARD, CAT ION EXCHANGE, AND FERTILIZATION MINERALS RECOMMENDATION FOR THE INTENDED USE. CONTRACTOR SHALL UTILIZE SOIL TEST RESULTS AND RECOMMENDATIONS AND SHALL PROVIDE SOIL AMENDMENTS ACCORDINGLY. CONTRACTOR SHALL PROVIDE COPIES OF SOIL TEST RESULTS TO LANDSCAPE ARCHITECT OR OWNER UPON REQUEST. RECOMMENDED SOIL TESTING LABS: MDS HARRIS, 621 ROSE ST., LINCOLN, NE 68502, (402) 476-2811, SUNLAND ANALYTICAL LAB, 11353 PYRITES WAY, SUITE 4, RANCHO CORDOVA, CA 95670, (916)-852-8557. LTP.2 MAJOR LANDSCAPE EVALUATION WITH BORON.
10. INSTALL ALL PLANT MATERIALS AS PER DETAILS AND SOIL AND PLANT LAB REPORT. INSTALL SLOW RELEASE FERTILIZER TABLETS FOR ALL PLANTS. INFORMATION IN SOILS AND PLANT LAB REPORT SHALL PREVAIL OVER NOTES AND DETAILS.
11. PLANTING MIX-SOIL AMENDMENT SHALL BE TRIPLE MIX COMPOSED OF TOPSOIL, BARK HUMUS, AND COMPOST. SUBMIT TO LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO INSTALLATION.
12. ALL PLANTING AREAS TO RECEIVE THREE-INCH MINIMUM DEPTH WOOD MULCH PER PLANS. PRIOR TO PLACEMENT SMOOTH AND COMPACT THE SUBGRADE TO 80% OF RELATIVE DENSITY. REMOVE WEEDS. INSTALL WOVEN WEED BARRIER FABRIC BENEATH ALL AREAS OF MULCH. LANDSCAPE FABRIC TO BE "DEWITT" PRO-5 WEED BARRIER (OAE) INSTALLED IN ACCORDANCE WITH MFG'S SPECIFICATIONS. ANCHOR ALL EDGES PER MANUFACTURER'S SPECIFICATIONS.
13. APPLY PRE-EMERGENT HERBICIDE TO ALL AREAS RECEIVING ROCK MULCH AND DECOMPOSED GRANITE. APPLY AFTER IRRIGATION AND PLANTING ARE COMPLETED; BEFORE AND AFTER INSTALLATION OF ROCK MULCH MATERIAL.
14. CONTRACTOR IS RESPONSIBLE FOR PROVIDING PLANT MATERIAL PER SYMBOLS AND SPACING INDICATED ON PLAN AND IN LEGENDS. SYMBOLS PREVAIL OVER NUMBERS ON PLANT LIST. NO SUBSTITUTIONS WILL BE ACCEPTED WITHOUT EXPRESSED WRITTEN CONSENT OF THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. SEE SUBMITTALS.
15. ALL PLANTS NOT MEETING OR EXCEEDING REQUIREMENTS AND RECOMMENDATIONS OF ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK" SHALL BE REJECTED. CONTRACTOR SHALL RECEIVE ON-SITE APPROVAL OF PLANT MATERIAL BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE PRIOR TO PLANTING. FAILURE TO RECEIVE PRIOR APPROVAL MAY RESULT IN REJECTION OF PLANT MATERIAL AT ANY POINT DURING CONSTRUCTION OR THE PERIOD FOLLOWING INSTALLATION. THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO INSPECT AND EVALUATE PLANTS DURING THE MAINTENANCE PERIOD. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF FAILED PLANTS.
16. ALL PLANT ROOTBALLS SHALL BE MOIST UPON ARRIVAL AT SITE AND KEPT THAT WAY THROUGH PLANTING AND APPROVAL OF FINAL WORKING IRRIGATION SYSTEM WITH WHATEVER MEANS NECESSARY INCLUDING; HAND WATERING, HOSE, WATER TRUCK, TEMPORARY IRRIGATION SYSTEM.

TREE PLANTING NOTES:

17. REMOVE ALL NURSERY STAKES, TIES, AND TAGS ABOVE AND BELOW GROUND TREES MUST STAND VERTICAL PRIOR TO STAKING TO BE ACCEPTABLE.

18. TREES GROWN STAKED IN A NURSERY WILL NOT BE ACCEPTED ON THIS PROJECT UNLESS STAKES HAVE BEEN REMOVED FOR A MINIMUM OF TWO YEARS BEFORE THE TREES ARE DUG FROM THE NURSERY. A CERTIFICATION OF THIS CONDITION WILL BE PROVIDED AT OR BEFORE DELIVERY OF TREES TO THE SITE.
19. REMOVE DAMAGED BRANCHES, RETAIN NATURAL GROWTH SHAPE CHARACTERISTICS OF SPECIES. DO NOT REMOVE OR CUT CENTRAL LEADER OR ANY LOWER BRANCHES. TREES WITH DAMAGED OR CUT CENTRAL LEADERS WILL NOT BE ACCEPTED. CUT STAKES IF NEEDED, TO PREVENT WIND DAMAGE TO LOWER BRANCHES. PRUNE ACCORDING TO CLASS 1 OR 11 STANDARDS OF THE NATIONAL ARBORISTS ASSOCIATION.
20. TOP OF ROOT BALL IS DEFINED AT THE LOCATION OF THE UPPERMOST LATERAL ROOT, NOT THE SOIL LEVEL IN THE PLANT CONTAINER. TOP OF ROOT BALL TO BE 1" ABOVE EXISTING GRADE - NO NATIVE SOIL TO BE PLACED ON TOP OF ROOT BALL.
21. CONDITIONS THAT WILL NOT BE ACCEPTED: TRUNK OR BARK WOUNDS; KINKED, GIRDLING, CIRCLING OR J ROOTS.
22. DIG SQUARE OR RECTANGULAR HOLES FOR OPTIMUM ROOT GROWTH. SCARIFY EDGES OF PLANT HOLE; DEPTH TO BE SUCH THAT TREE CAN BE PLANTED AT SAME RELATIONSHIP TO FINISH GRADE AS GROWN OR 1" ABOVE.
23. DIG PILOT HOLES FOR STAKES WITH ROTO-HAMMER INTO UNDISTURBED SOIL. PRESET STAKES IN EMPTY HOLES USING (2) 2" DIA. LODGE POLE PINE STAKES, AFTER TREE IS LOWERED INTO HOLE AND SET.
24. USE STRAPS OR HOOKS CONNECTED TO ROOTBALL OR WIRE BASKET TO LOWER TREE INTO HOLE. SET AND PLUM TREE FIRST, THEN USING BOLT CUTTERS AND UTILITY KNIFE REMOVE WIRE BASKET AND BURLAP TO BOTTOM OF ROOT BALL.
25. BACKFILL HOLE WITH PLANTING MIX IN LAYERS, TAMP SOIL AT 50% TOTAL BACKFILL DEPTH AND WATER/SOAK BEFORE ADDING MORE SOIL. ROOTBALL NOT TO BE ALLOWED TO DRY OUT, EITHER BEFORE, DURING OR AFTER PLANTING.
26. MINERAL SUPPLEMENTS TO BE ADDED TO SOIL AMENDMENTS PER RECOMMENDATION BASED ON SOIL ANALYSIS.
27. BACKFILL W/PLANTING MIX OF NATIVE SOIL AND SOIL AMENDMENT. MIX SOIL AMENDMENT TO NATIVE SOIL AT 1:3 RATIO. NATIVE SOIL TO BE SCREENED. FREE OF ROCKS, CLODS, AND DEBRIS GREATER THAN 6" DIA. TAMP TO REMOVE AIR POCKETS.
28. CONSTRUCT WATER BASIN AROUND PERIMETER OF EXCAVATED PIT. GRADE BASIN SUCH THAT WATER COLLECTS AT THE EDGE OF BASIN, NOT AT TRUNK. FILL BASIN W/WOOD CHIP MULCH PER PLAN & SPECS. KEEP BARK 4" AWAY FROM TRUNK. DO NOT COVER TRUNK COLLAR WITH MULCH.
29. CINCH BELT SECURE TO WOODEN STAKE WITH GALVANIZED NAIL DRIVEN THROUGH THE CINCH-BELT AND INTO THE STAKE TO PREVENT SLIPPAGE. FOR ATTACHMENT TO METAL STAKE WRAP AROUND TREE TRUNK AND DOUBLE-WRAP STAKE TO PREVENT SLIPPAGE. DO NOT USE WIRE OR CRIMP HOSE AROUND TRUNK.

OBSERVATIONS/APPROVALS/SUBMITTALS:

30. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE, A MINIMUM OF 48 HOURS IN ADVANCE, FOR THE FOLLOWING SITE OBSERVATIONS AND/OR MEETINGS:
 - A. PRECONSTRUCTION MEETING WITH ALL PARTIES
 - B. PLANTING PIT EXCAVATION, PRIOR TO INSTALLATION
 - C. BOULDER LOCATIONS STAKED OUT, PRIOR TO PLACEMENT (IF SPECIFIED)
 - D. PLANT MATERIAL ON SITE, PRIOR TO INSTALLATION
 - E. PLANT LOCATIONS STAKED OUT, PRIOR TO PLANTING
 - F. SITE FURNISHINGS, PRIOR TO INSTALLATION (IF SPECIFIED)
 - G. FINAL PROJECT WALK-THROUGH
 - H. ADDITIONAL SITE OBSERVATIONS AS DEEMED NECESSARY BY THE LANDSCAPE ARCHITECT AND/OR CONTRACTOR
31. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PROVIDE PLANT MATERIAL AS SPECIFIED ON THIS PLAN. THE CONTRACTOR MAY SUBMIT A REQUEST TO PROVIDE SUBSTITUTIONS FOR THE SPECIFIED PLANT MATERIAL UNDER THE FOLLOWING CONDITIONS:
 - A. ANY SUBSTITUTIONS PROPOSED SHALL BE SUBMITTED TO THE PROJECT LANDSCAPE ARCHITECT WITHIN TWO WEEKS OF THE AWARD OF CONTRACT. SUBSTITUTIONS MUST MEET EQUIVALENT DESIGN AND FUNCTIONAL GOALS OF THE ORIGINAL MATERIALS AS DETERMINED BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. ANY CHANGES MUST HAVE THE APPROVAL OF THE LANDSCAPE ARCHITECT.
 - B. THE REQUEST WILL BE ACCOMPANIED BY AT LEAST THREE NOTICES FROM PLANT MATERIAL SUPPLIERS THAT THE PLANT MATERIAL SPECIFIED IS NOT AVAILABLE AND WILL NOT BE AVAILABLE PRIOR TO CONSTRUCTION.
32. SUBMIT REQUIRED SOIL REPORT, AND SAMPLE OF PROPOSED SOIL AMENDMENTS TO LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
33. RECORD (AS-BUILT) DRAWINGS: FOLLOWING COMPLETION OF PROJECT INSTALLATION, AND PRIOR TO FINAL APPROVAL, CONTRACTOR SHALL PREPARE AND SUBMIT RECORD DRAWINGS DEPICTING A COMPLETE LANDSCAPE AND IRRIGATION INSTALLATION. PROCURE FROM LANDSCAPE ARCHITECT FULL-SIZE CONTRACT DRAWINGS. CONSTRUCTION DRAWINGS SHALL BE ON THE PROJECT SITE AT ALL TIMES DURING INSTALLATION. CONTRACTOR SHALL MAKE A DAILY RECORD OF ALL WORK INSTALLED DURING EACH DAY. ACTUAL LOCATION OF TREES AND SHRUB BEDS, IRRIGATION VALVES, AND ALL IRRIGATION AND DRAINAGE PIPING SHALL BE SHOWN ON THE PRINTS BY DIMENSIONS FROM EASILY IDENTIFIED PERMANENT FEATURES, SUCH AS BUILDING, CURBS, FENCES, WALKS, OR PROPERTY LINES. DRAWINGS SHALL SHOW MANUFACTURER'S NAME AND CATALOG NUMBER. THE DRAWINGS SHALL BE TO SCALE. ALL INFORMATION NOTED ON THE PRINT SHALL BE TRANSFERRED TO THE COPIES BY CONTRACTOR AND ALL INDICATIONS SHALL BE RECORDED IN A NEAT, ORDERLY WAY. THE RECORD DRAWING SHALL BE TURNED OVER TO THE LANDSCAPE ARCHITECT, OR OWNER'S REPRESENTATIVE.

MAINTENANCE/GUARANTEES:

34. ALL PLANTED AREAS SHALL BE MAINTAINED FOR A PERIOD OF SIXTY DAYS FOLLOWING WRITTEN ACCEPTANCE BY OWNER'S REPRESENTATIVE. LANDSCAPE CONTRACTOR WILL GUARANTEE ALL PLANT MATERIAL (INCLUDING BUT NOT LIMITED TO TREES, SHRUBS, GROUND COVER, AND GRASSES) FOR A PERIOD OF ONE FULL YEAR FOLLOWING FINAL ACCEPTANCE OF THE LANDSCAPE INSTALLATION BY THE OWNER'S AUTHORIZED REPRESENTATIVE. IN BIDDING AND INSTALLING THE PLANT MATERIAL SPECIFIED ON THESE PLANS, THE LANDSCAPE CONTRACTOR AGREES THAT THE PLANT MATERIAL SPECIFIED IS SUITABLE TO THE PROJECT SITE. FURTHERMORE, THE LANDSCAPE CONTRACTOR AGREES TO HONOR THE WARRANTY AND, IF NECESSARY, REPLACE SPECIES WITH MORE HARDY PLANT TYPE IF DEEMED NECESSARY DUE TO EXCESSIVE DIE OUT. IF THE LANDSCAPE CONTRACTOR DOES NOT BELIEVE CERTAIN PLANT MATERIAL IS SUITABLE FOR THE SITE AND/OR ITS MICRO-CLIMATES, THE LANDSCAPE CONTRACTOR SHALL REQUEST TO MAKE PLANT MATERIAL SUBSTITUTIONS IN WRITING TO THE LANDSCAPE ARCHITECT PRIOR TO THE START OF INSTALLATION. PROPOSED SUBSTITUTIONS WILL RESULT IN NO ADDED COST.

REVEGETATION LEGEND

	TT1 - RIPARIAN ZONE BANK TREATMENT TYPE 1	2296 SF
	TT2 - PERMANENT REVEGETATION TYPE 2	14864 SF
	TT3 - RIP RAP TOPSOIL TREATMENT TYPE 3	2528 SF
	TT4 - TEMPORARY EROSION CONTROL TREATMENT TYPE 4	80029 SF

NOTE: SEE SHEET LD03 FOR REVEGETATION SPECIFICATIONS

PLANTING LEGEND

TREES	BOTANICAL NAME	COMMON NAME	CONT.	MATURE SIZE HXW	QTY
	POPULUS BALSAMIFERA SUBSPECIES TRICOCARPA	BALSAM POPLAR/BLACK COTTONWOOD	2" CAL	40'H X 25'W	5
	PINUS PONDEROSA	PONDEROSA PINE	10' HT.	40'H X 25'W	1
	PRUNUS VIRGINIANA	CHOKECHERRY	#10	15'H X 10'W	10

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AUGUST 2017
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6995 Sierra Center Pkwy
Reno, NV 89511
www.stantec.com

Client/Project

TRUCKEE MEADOWS WATER AUTHORITY
MT. ROSE WATER TREATMENT PLANT
WASHOE COUNTY, NEVADA

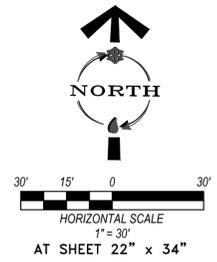
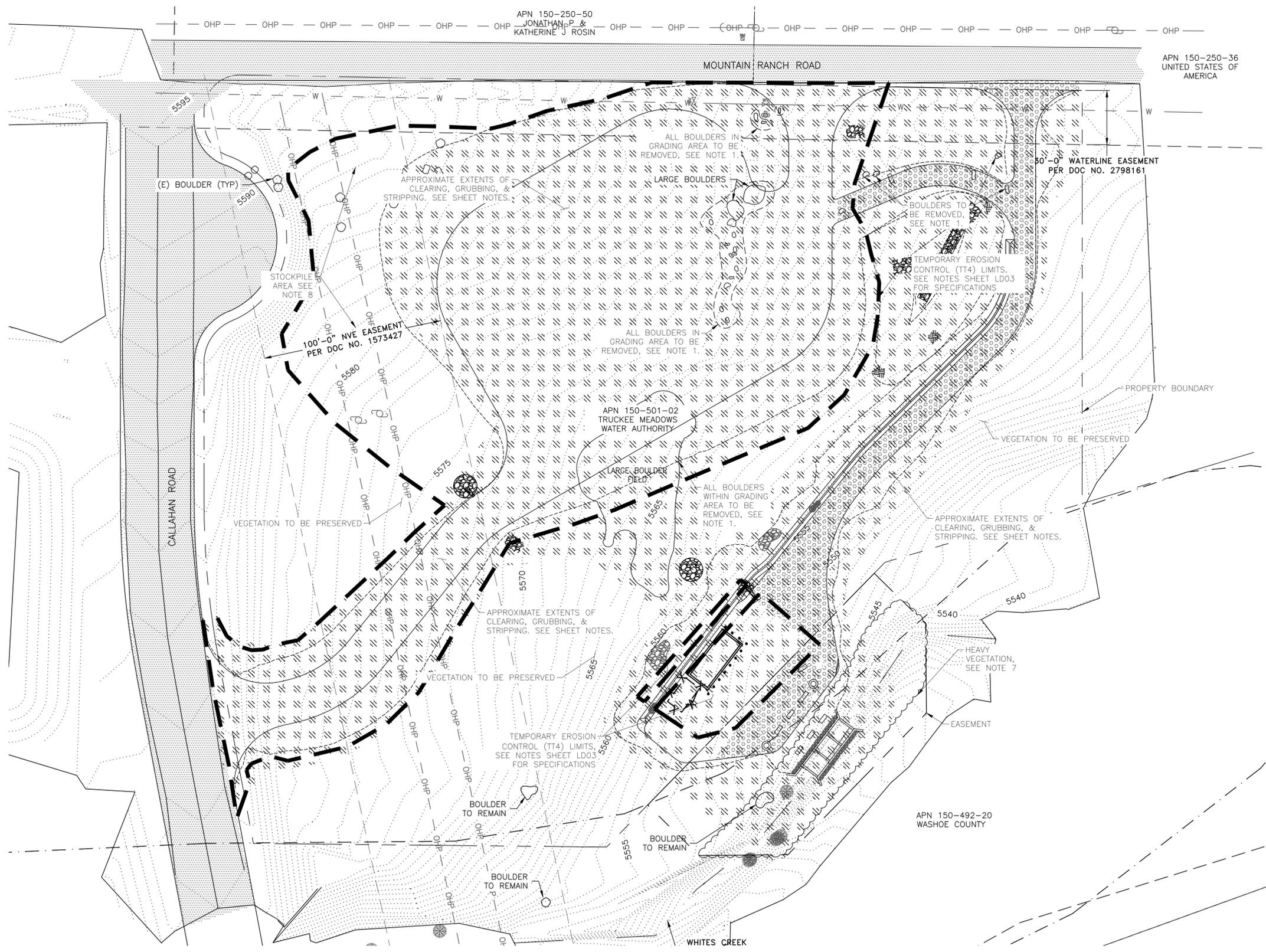
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Title

REVEGETATION/PLANTING LEGEND AND NOTES

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LEGEND:

	CLEARING AND GRUBBING
	TT4 - TEMPORARY EROSION CONTROL TREATMENT TYPE 4

- SHEET NOTES:**
1. REMOVE AND WASTE ALL ROCKS AND BOULDERS WITHIN 5 FEET OF NEW FACILITY FOOTPRINTS (BUILDINGS, EXCAVATIONS, ROADS, AND YARD STRUCTURES) NOT USED FOR NEW CONSTRUCTION, IN ACCORDANCE WITH THE SPECIFICATIONS. HAUL OFF SITE FOR DISPOSAL, AT NO ADDITIONAL COST TO THE OWNER.
 2. NOT ALL ROCK OUTCROPPINGS ARE SHOWN. SEE GEOTECHNICAL REPORT FOR ADDITIONAL ROCK LOCATIONS AND SUGGESTED SPECIAL REMOVAL TECHNIQUES. BLASTING IS NOT ALLOWED, SEE SPECIFICATIONS.
 3. TOPSOIL SALVAGE - STRIP TOPSOIL AT 6 INCHES DEPTH WITH DUFF, SURFACE VEGETATION AND ROCK 1 FOOT AND SMALLER TOGETHER FROM CLEARING/GRUBBING AREAS SHOWN IN THIS SHEET. STOCKPILE IN AREAS AS NOTED. SEE SHEET LD03 FOR TOPSOIL STOCKPILE AND STABILATION SPECIFICATIONS.
 4. STRIPPING DEPTHS OF 6 TO 10 INCHES ARE ANTICIPATED OVER A MAJORITY OF THE PROJECT AREAS. IN AREAS WHERE ESTABLISHED BRUSH AND SHRUBS ARE PRESENT, GRUBBING DEPTHS OF UP TO 12 INCHES MAY BE REQUIRED TO REMOVE THE CONCENTRATED ROOT ZONE.
 5. TOPSOIL SALVAGED MATERIAL SHALL BE STOCKPILED AND REUSED FOR LANDSCAPE PURPOSES; HOWEVER, THIS MATERIAL SHOULD NOT BE INCORPORATED INTO STRUCTURAL FILL.
 6. DEEPER AREAS OF LOCALIZED GRUBBING TO REMOVE TREE ROOT BALLS MAY BE REQUIRED AS LARGE GROUPING OF ASPENS AND WILLOWS ARE PRESENT NEAR THE EXISTING CREEK BANK. THE ENTIRE ROOT BALL SHOULD BE REMOVED AS PART OF ANY TREE REMOVAL. LARGE ROOTS (GREATER THAN 2 INCHES IN DIAMETER) RADIATING FROM THE TREE ROOT BALL AREA, LOCATED WITHIN ONE FOOT OF THE FINAL SUBGRADE SHOULD BE COMPLETELY REMOVED. EXCAVATIONS RESULTING FROM REMOVAL OPERATIONS SHOULD BE CLEANED OF ALL LOOSE MATERIAL AND WIDENED AS NECESSARY TO PERMIT ACCESS TO COMPACTION EQUIPMENT. RESULTING EXCAVATIONS SHOULD BE BACKFILLED WITH DENSIFIED STRUCTURAL FILL.
 7. HEAVY VEGETATION, INCLUDING TREES AND SHRUBS, OCCURS IN CREEK AREA. VEGETATION SHALL BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE. CONTRACTOR TO CONTACT LANDSCAPE ARCHITECT 2 WEEKS MINIMUM PRIOR TO CONSTRUCTION IN THIS AREA TO IDENTIFY VEGETATION TO BE REMOVED/PROTECTED.
 8. USE ONLY EXISTING DISTURBED AREAS FOR STOCKPILE.

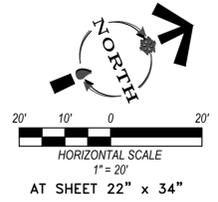
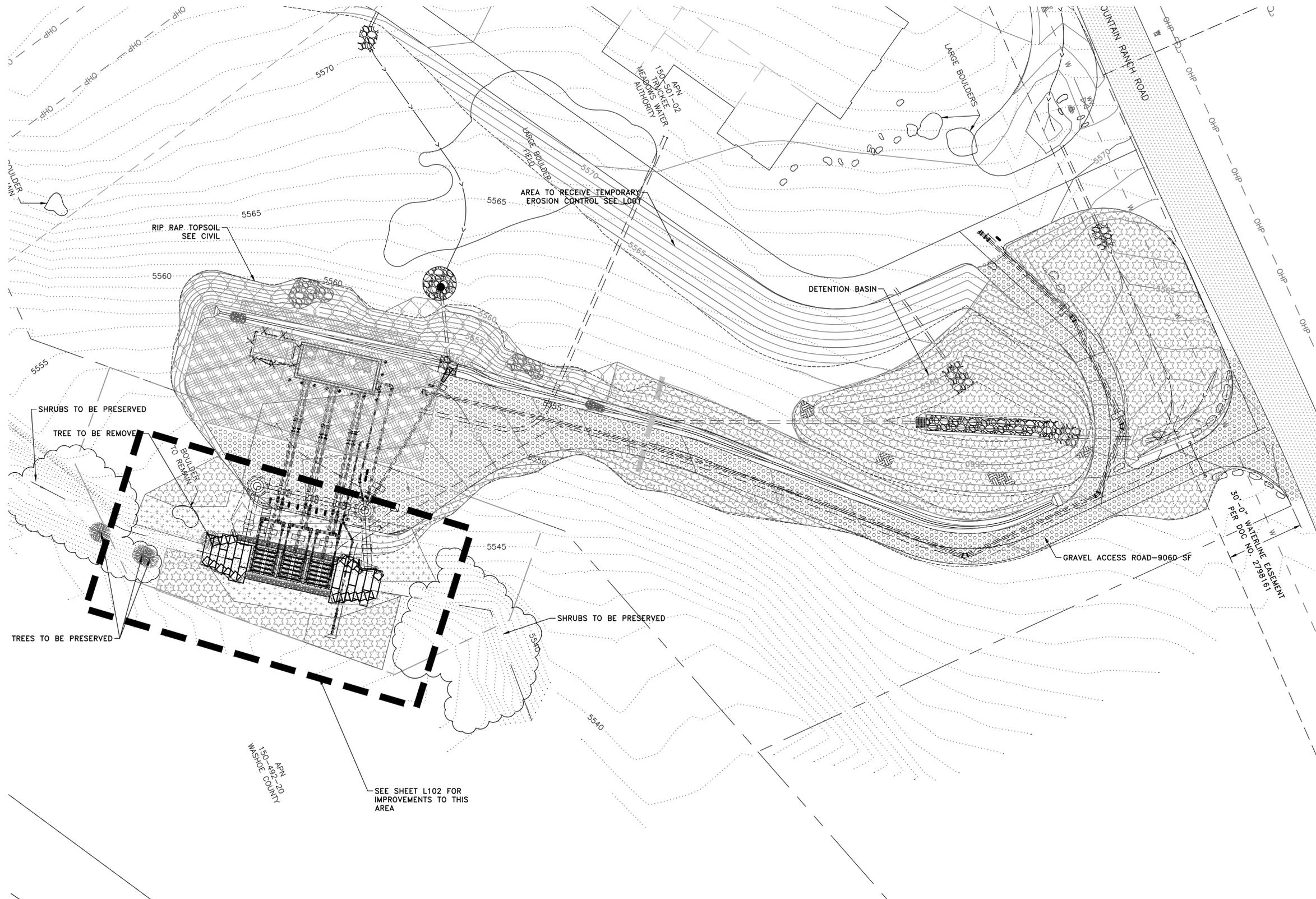


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TRUCKEE MEADOWS WATER AUTHORITY
MT. ROSE WATER TREATMENT PLANT
WASHOE COUNTY, NEVADA

Figure No. **L001**
Title
DEMOLITION & TEMPORARY EROSION CONTROL PLAN

AUGUST 2017
180101413



- LEGEND**
- RIPARIAN ZONE BANK TREATMENT TYPE 1 (TT1)
 - PERMANENT REVEGETATION TYPE 2 (TT2)
 - RIPRAP TOPSOIL REVEGETATION TYPE 3 (TT3)
 - TEMPORARY EROSION CONTROL TYPE 4 (TT4)

- SHEET NOTES:**
1. SEE REVEGETATION SPECIFICATIONS LD03



AUGUST 2017
180101413

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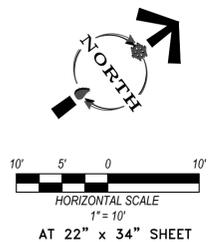
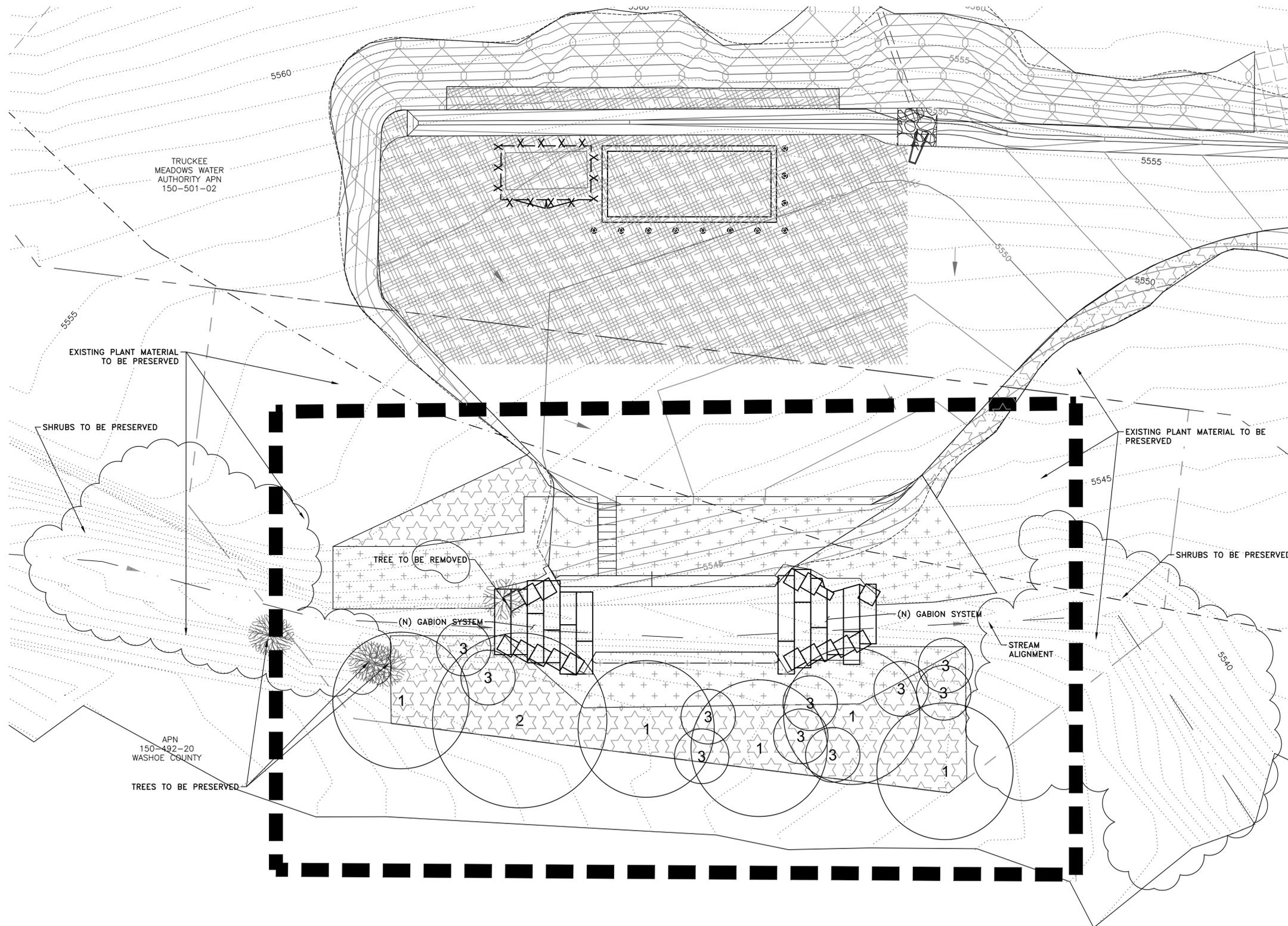


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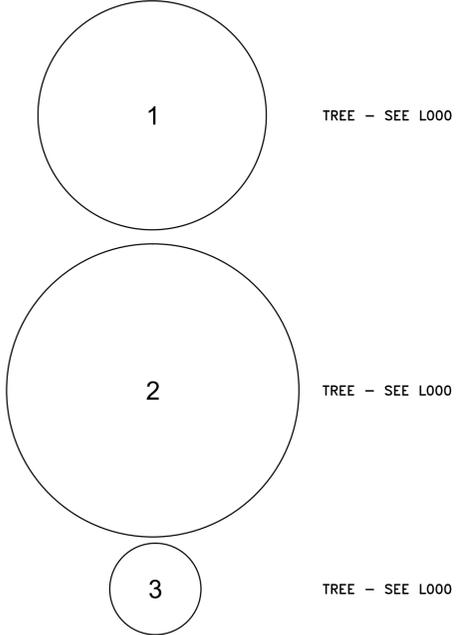
Client/Project
TRUCKEE MEADOWS WATER AUTHORITY
MT. ROSE WATER TREATMENT PLANT
WASHOE COUNTY, NEVADA

Figure No. **L101**
Title REVEGETATION PLAN - DIVERSION STRUCTURE

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- LEGEND**
-  RIPARIAN ZONE BANK TREATMENT TYPE 1 (TT1)
 -  PERMANENT REVEGETATION TYPE 2 (TT2)
 -  RIPRAP TOPSOIL REVEGETATION TYPE 3 (TT3)
 -  TEMPORARY EROSION CONTROL TYPE 4 (TT4)



- SHEET NOTES:**
1. SEE REVEGETATION SPECIFICATIONS LD03
 2. SEE PLANTING SPECIFICATIONS SHEET L000 AND PLANTING DETAILS LD02
 3. CONTACT LANDSCAPE ARCHITECT MINIMUM 3 DAYS PRIOR TO PLANTING TO STAKE TREE LOCATIONS.
 4. PLANT TREES WITH MINIMAL DISTURBANCE TO EXISTING VEGETATION. PLACE 3" DEPTH OF WOOD CHIP MULCH ON ALL GROUND DISTURBED.
 5. ALL TREES TO RECEIVE INDIVIDUAL PLANT ENCLOSURE PROTECTION, SEE DETAIL 1, SHEET LD02.



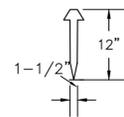
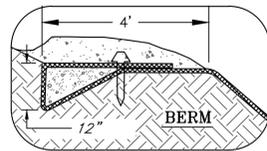
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MT. ROSE WATER TREATMENT PLANT
WASHOE COUNTY, NEVADA

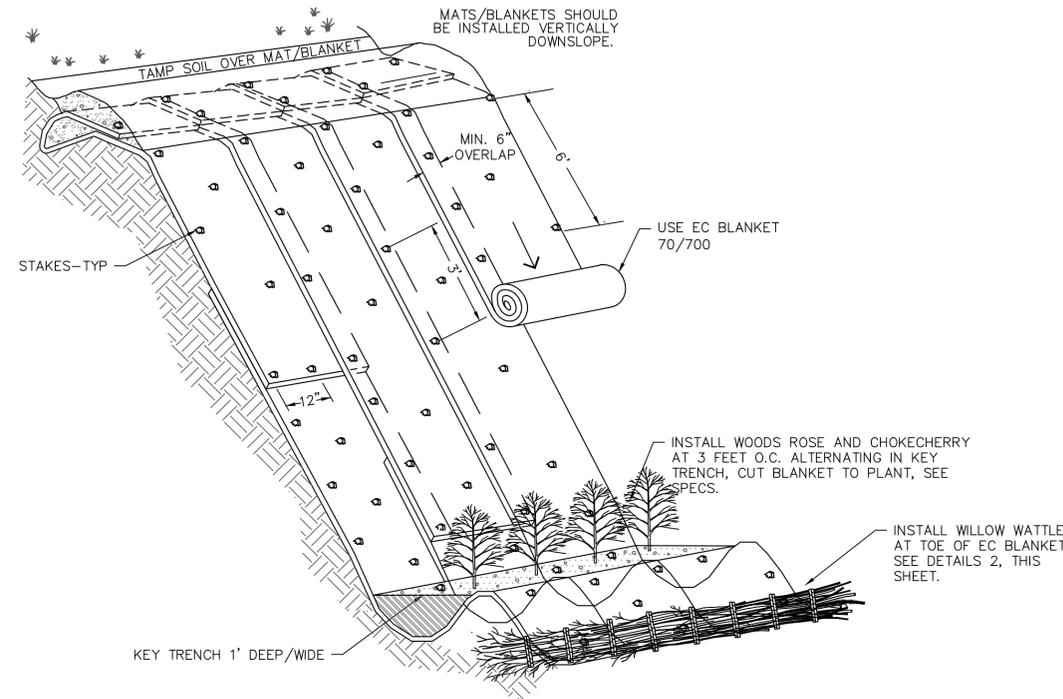
Figure No. **L102**
Title REVEGETATION/LANDSCAPE PLAN
ENLARGEMENT- DIVERSION STRUCTURE

AUGUST 2017
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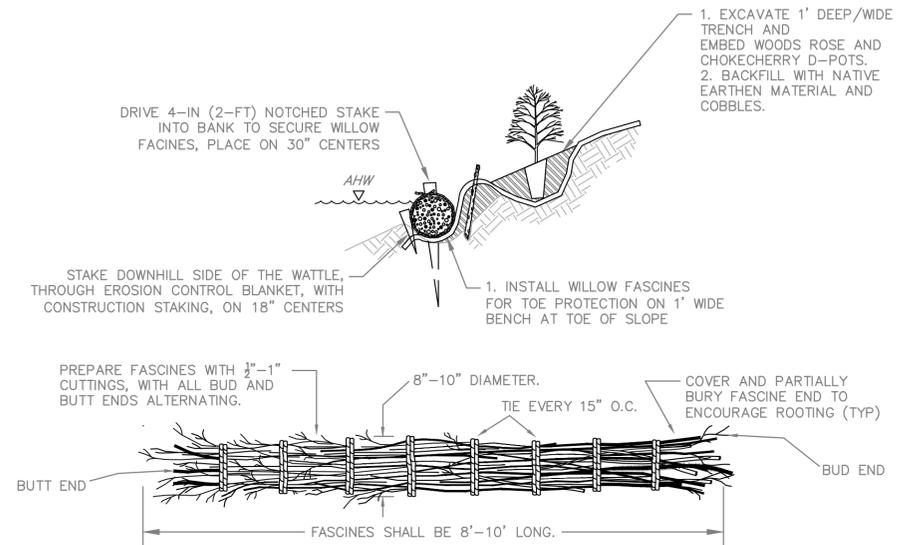
HARDWOOD BIODEGRADABLE STAKES



ISOMETRIC VIEW

- NOTES:
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
 2. APPLY SALVAGED TOPSOIL AND PERMANENT SEEDING BEFORE PLACING BLANKETS, SEE SPECS.
 3. LAY BLANKETS LOOSELY AND STAKE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

1 EROSION CONTROL BLANKET WITH WILLOW INSTALLATION
LD-01 SCALE: NONE



2 WILLOW WATTLE INSTALLATION
LD-01 SCALE: NONE

- NOTE:
1. CONTRACTOR TO USE THESE DETAILS WITH RIPARIAN ZONE BANK TREATMENT TYPE (TT1), SEE SHEET LD03, REVEGETATION SPECIFICATIONS.



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SPECIAL PROVISIONS
WHITES CREEK DIVERSION STRUCTURES PROJECT
SECTION 1. REVEGETATION AND EROSION CONTROL SPECIFICATIONS AND PLANS

10-1.32 REVEGETATION

The Contractor shall perform all revegetation work as specified herein and in accordance with the provisions of these Special Provisions, and the Plans. The revegetation work shall consist of all site preparation associated with the revegetation treatments and shall include stockpiling, processing, and replacement of topsoil (duff, surface vegetation, organic matter and rock), seedbed preparation, broadcast seeding, installation of erosion control blankets and stakes, installation of willow wattles and container plants, application of topsoil over riprap and broadcast seed, application of recycled paper mulch and tackifier, application of permanent wood chip mulch, temporary erosion control, temporary irrigation, weed control and maintenance, in accordance with the requirements as shown on the Plans, and as directed by the Engineer or their representative.

Soil disturbance shall be minimized and limited to those areas that require treatment. All existing vegetation within the project limits not designated for removal shall be protected to the greatest extent possible.

The Contractor shall request that treatment types and boundaries are located by the Engineer. All revegetation work shall be performed by a licensed and qualified landscape contractor (C-10). If a subcontractor is performing this item of work, that subcontractor shall be listed in the Contractor's bid by name, address and license number and the license shall be active at the time of Contract award and shall remain in effect throughout the term of this Contract.

All revegetated areas shall be maintained for two (2) years following completion of work.

Site Preparation and Grading

All compacted soils in the project area shall be loosened as needed with agricultural discs, rippers, or other approved and suitable equipment, to a depth of six inches unless otherwise directed by the Engineer. Soils shall be loosened on contour and perpendicular to the flow line and so that no soil clods are larger than an average of six inches in diameter. Final surfaces shall be non-uniform, rough, and natural in appearance.

Topsoil Processing and Placement and Revegetation

See sheet L001 for topsoil salvage and stockpile. Topsoil processing, placement and revegetation shall be per below.

- A. TT1 - Riparian Zone South Bank Treatment Type 1
Process topsoil, duff, vegetation, rock and organic matter. Process vegetation to 6" minus in the longest direction and screen rock 6 inches and smaller. Apply over decompacted soils as directed. Broadcast Revegetation Seed Mix and incorporate. Install willow wattles in bench at slope toe. Install coir 70/700 erosion control blankets and anchor in a key trench with Woods rose and chokecherry alternatively on three-foot centers.
- B. TT2 - Permanent Revegetation Treatment Type 2
Process topsoil, duff, vegetation, rock and organic matter. Process vegetation to 12" minus in the longest direction and screen rock 12 inches and smaller. Apply over decompacted soils as directed. Broadcast Revegetation Seed Mix and incorporate by raking to depth of ¼- ½ inch. Apply wood chip one layer deep to achieve 85 percent (85%) cover.

- C. TT3 - Riprap Topsoil Treatment Type 3
Process topsoil, duff, vegetation, rocks and organic matter. Process vegetation to 6" minus in the longest direction and screen rock 6 inches and smaller. Apply over riprap and water in place, (see detail sheet detail 5/sheet L00). Broadcast Revegetation Seed Mix over processed topsoil mixture.
- D. TT4 - Temporary Erosion Control Treatment Type 4
TT4 shall be used for temporary erosion control over mass graded areas. TT4 shall also be used over topsoil stockpiles. Stockpile all materials in a suitable location approved by the Engineer and as noted on sheet L001. Contain stockpiled material with proper Best Management Practices such as silt fence or sediment logs as shown on the plans. Apply recycled paper and tackifier mulch as temporary erosion control during stockpiling if stockpiled for more than 14 days.

Hydraulically apply recycled paper mulch at 1,000 lbs./acre with tackifier at 150 lbs./acre.
Submittals
The Contractor will be required to submit to the Engineer material samples or labels for the following materials. Submit proof of purchase or orders for materials within 20 days of the contract award to the C-10 Subcontractor. Proposed substitutions must be submitted in writing for approval by the Engineer.

- Topsoil processed for TT1, TT2, and TT3
- Seed
- Erosion control blankets and stakes
- Duff or Wood chips
- Recycled paper mulch
- Tackifier
- Roses and chokecherries in deepots

Materials

- A. Willow Wattles

All materials shall be cut from healthy, live, **dormant** branches of willow (*Salix lemmonii*, *Salix lucida ssp lasiandra*) found on site and shall be taken from suitable materials as identified by the Engineer. Branch length may vary but should average 8 ft. in length and a minimum ½-inch and maximum ¾-inch in diameter. Material shall not be cut more than one (1) day prior to installation unless approved by the Engineer and shall be stored in a cool, shady location. Do not remove leaves or branches. All cuts shall be clean without frayed ends.

Place butt ends **alternately** in each wattle so that approximately one-half of the butt ends are at the end of the wattle. Tie bundles on not more than 15-inch centers with two wraps of jute or sisal biodegradable binding wire using a non-slipping knot. When compressed firmly and tied each wattle shall measure approximately 8 inches in diameter (+/- 2 inches).

- B. Seed

All seed shall conform to all laws and regulations pertaining to the sale and shipment of seed required by the Nevada Department of Agriculture and the Federal Seed Act. For sagebrush, test seed within six (6) months prior to seeding, unless otherwise directed by the Engineer. All other seed must be tested within 12 months of application date. Seed tags must reflect the most recent test date. Submit original seed tests by lot number to the Engineer at minimum 30 days prior to application for approval. Following approval by the Engineer, seed may be mixed and delivered to the site. Deliver all seed to the project site in sealed bags with proper labeling. Weed seed shall not exceed 0.15 percent of the pure live seed specified and shall not include

any seed of cheatgrass (*Bromus tectorum*), Russian thistle (*Salsola kai*) or sweet clovers (*Melilotus officinalis*, *M. alba*). Crop seed shall not exceed 0.25 percent.

Seed tags shall show the following information:

- o Scientific name
- o Common name
- o Lot number
- o Percent purity
- o Percent germination, including hard and dormant seed
- o Percent weed seed
- o Percent crop seed
- o Origin

Requests for substitute species and/or varieties must be submitted in writing. Written approval from the Engineer is required for all requested substitutions.

Table 1. Revegetation Seed Mix

Botanical Name	Common Name/Variety	PLS lbs./acre
<i>Achilles millefolium</i>	Yarrow	0.10
<i>Achnatherum hymenoides</i>	Indian ricegrass	2.00
<i>Agropyron desertorum</i>	Crested wheatgrass	3.00
<i>Artemisia tridentata ssp. tridentata</i>	Mtn. Sagebrush	0.50
<i>Asclepias fascicularis</i>	Narrow leaved milkweed	0.50
<i>Asclepias speciosus</i>	Showy milkweed	0.50
<i>Elymus cinereus</i>	Great Basin wildrye	2.00
<i>Elymus elymoides</i>	Squirreltail	2.00
<i>Elymus glaucus</i>	Blue wildrye	2.00
<i>Elymus trachycalus</i>	Slender wheatgrass, 'Pryor'	2.00
<i>Eriogonum umbellatum</i>	Sulfur buckwheat	2.00
<i>Leymus triticoides</i>	Creeping wildrye	3.00
<i>Lolium multiflorum</i>	Annual ryegrass	5.00
<i>Lupinus argenteus</i>	Silvery lupine	2.00
<i>Poa secunda</i>	Big bluegrass, 'Sherman'	1.00
<i>Purshia tridentata</i>	Antelope bitterbrush	1.00
	Totals	28.60

- C. Woods Rose and Chokecherries in Deepot Containers

Plants shall be grown in deepots. Plants shall be nursery-grown in accordance with good horticultural practices under climatic conditions similar to those of the project site. Plants shall be sound, healthy, and vigorous; well-branched and densely foliated; free of disease, insect pests, eggs, or larvae; comprised of healthy, well-developed root systems; free from physical damage or adverse conditions which would prevent thriving growth.

Root systems must be completely free of circling, or kinks. Upon inspection, plants found to contain knined, circling, or girdling roots will be rejected. Size including height and widths shall be typical for these species. Root to shoot ratio shall be 1:1.

- D. Erosion Control Blankets and Stakes

Erosion control fabric shall consist of 100% coir fiber twine and shall be BioD-Mat 70/700 open weave with open area 48%, woven from machine-spun bristle coir twines or product equal (400). Weight shall be 23 oz/SY (780 g/sq.m) Dry tensile strength shall be vary between 1740 lbs/ft (25.4 kN/m) and 1176 lbs/ft (17.2 kN/m)

Stakes shall be 12 inches in length, manufactured from hardwood (North American Green Eco-STAKE or equivalent).

- E. Mulch

Much shall consist of two types:

1. Duff, or wood chips, salvaged from site or purchased off-site. Wood chip particle size shall be between 0.5 inch and three inches in length and not less than 0.5 inch in width and 0.125 inch in thickness. Wood chips shall be, at minimum, equal to Caltrans specification 20-2.08. At least 95 percent (95%) by volume of wood chips shall conform to the sizes specified.
2. Recycled paper mulch consists of degradable green-dyed 100%-recycled material produced from newsprint, chipboard, corrugated cardboard, or a combination of these materials. Material shall be free from weeds or other foreign matter toxic to seed germination.

- F. Tackifier

Material shall be of an organic, plant-derived substance containing psyllium or guar gum, or a combination thereof such as M-Binder or approved equal. Material shall form a transparent three-dimensional film-like crust permeable to water and air and containing no agents toxic to seed germination

Installation of Treatments

Contractor shall notify the Engineer not less than 72 hours in advance of revegetation work and shall not begin the work until prepared treatment areas have been approved. All work shall take place in the fall and prior to February 15 unless otherwise approved by the Engineer, or where sites are irrigated. The sites must be snow-free.

- A. Preparation of Seed Beds for Permanent Revegetation (TT1, TT2)

All compacted soils on slopes 3:1 and less shall be scanned to a depth of up to six inches as with hand tools, an agricultural disc, rippers, or other equipment approved by the Engineer. Engineer perpendicular to the flow line.

- B. Processed Topsoil Placement for Permanent Revegetation (TT1, TT2)

Apply six inches of processed, mixed topsoil material and incorporate as directed.

- C. Broadcast Seeding

Seed shall be uniformly broadcast with hand-held seeders or approved equal over prepared areas and lightly raked to incorporate to a depth of ¼ inch to ½ inch. Seed shall not be left uncovered more than 24 hours unless otherwise approved by the Engineer. Seeding shall not occur under conditions that would allow the seed to become windborne (wind greater than 5 miles per hour). Broadcast seed for all permanent erosion control treatments (TT1, TT2, TT3)

- D. Wood chip mulch Application

Where specified apply wood chip mulch one layer deep to achieve approximately 85% cover.

- E. Installation of Erosion Control Blankets

At the top of the slope excavate a six-inch x six-inch trench. Place blanket in the trench so that the edge of the blanket extends six inches beyond the top of the trench. Anchor blankets in trench with the hardwood stakes on 1-foot centers, backfill the trench and compact loose soil. Fold the extra blanket back over the blanket, place native fill over the blanket.

Drape blankets loosely over prepared and seeded slopes

Overlap the edges of adjacent parallel rolls six inches and staple every three feet. When blankets must be spliced, place blankets end over end (shingle style) with two-foot overlap. Staple through overlapped area, approximately one ft. on center. Stake with hardwood stakes, either six-inch or 12-inch as needed and installed down the slopes on an average of two stakes per square yard in a diamond pattern.

At the toe of the slope excavate a six-inch x six-inch trench. Place the blanket in the trench so that the edge of the blanket extends six inches beyond the top of the trench.

Anchor with hard wood stakes on two-foot centers and with planted Woods rose and chokecherries.

- E. Installation of Willow Wattles

Excavate a trench at the toe of the slope in front of the erosion control blanket key trench roughly ¼ of the diameter of the wattle. Place the wattles in the trench with ends overlapping at minimum 12 inches. Stake wattle firmly in place through the middle of the wattle on not less than 30-inch centers. Additionally, stake on the downhill side of the wattle with construction staking, not more than 18-inch centers. Pack excavated soil around the wattle so that only approximately 15 percent (15%) of the willow material is exposed

Water the wattles thoroughly so that soil is washed into the bundle.

- F. Woods rose and Chokecherry Plantings

Plant Woods rose alternatively with chokecherries on average three ft. centers in the blanket key trench. It may be necessary to cut into the buried erosion control blanket in the key trench to achieve the specified depth of the planting hole. Excavate a planting hole an additional six inches to achieve a planting hole depth of at minimum 12 inches, and two inches wider than the container (one inch on either side). Loosen soils in the bottom and along the sides of the trench hole. Thoroughly water holes prior to planting and plant immediately to avoid drying of soils. Place the plant in the hole and backfill with the excavated moist soil so that the crown is one-inch below grade, forming a planting pocket. Water thoroughly.

- G. Riprap topsoil

Place processed, mixed topsoil material over the riprap and work the material into the voids between the rocks to a minimum of 2/3 the depth of the rock voids. Wash material with hoses to insure the spaces are filled with the growth media and so that no settling occurs. Broadcast Revegetation Seed Mix and sweep seed into the soil in between the rocks.

- G. Temporary Erosion Control, Stockpile Stabilization

Apply hydromulch with 1,000 lbs./acre recycled paper mulch with 150 lbs./acre tackifier. Use a hydroseeder with a paddle wheel agitator and adequate water to achieve homogeneous slurry. Evenly apply under non-windy conditions (<8 mph).

Maintenance

Maintain all areas for two (2) years so that there is no evidence of erosion, such as rills or gullies. The maintenance period begins on the date following the last installation. Maintenance may include application of seed and mulch, and replanting shrubs.

For willow wattles and shrubs receiving temporary irrigation, the Engineer will determine the final quantity and duration of applications. Temporary watering shall not produce rills, gullies or sheet flow. Warranty two willow shoots per linear foot for willow wattles and 80% survival of Woods rose and chokecherries.

During the two (2) year maintenance period, seeded areas shall be kept well irrigated and free from invasive and noxious weeds at all times. Invasive species include cheatgrass (*Bromus tectorum*), Russian thistle, and mustards (*Descurainia pinnata*, *Sisymbrium altissimum*). Noxious weeds include those species identified by the State of Nevada. (http://agri.nv.gov/Plant/Noxious_Weeds/Noxious_Weed_List/). The Engineer will identify noxious weeds requiring immediate removal. If at any time it is deemed that proper maintenance is not being performed, the countdown for the two (2) year maintenance period shall be stopped and not resumed until the project is brought up to the specifications and proper maintenance is resumed.

Performance Standard and Acceptance

Contractor shall guarantee revegetation for a period of two (2) full growing seasons after completed seeding as follows. A full growing season is defined as summer through fall.

Revegetated areas will be inspected by the Engineer at completion of installation and accepted subject to compliance with specified materials and installation requirements. Following two (2) full growing seasons after treatment, the Contractor shall be responsible for a uniform (e.g. evenly distributed, without large bare areas) perennial vegetative cover with a density of 70 percent of the native background vegetative cover on all revegetated areas and such that there is no significant evidence of rills, gullies or other evidence of erosion. Metrics for vegetative cover are below.

Metrics are the following:

Location and Community	Recommended Cover Standard ¹
Whites Creek Riparian	49%
Whites Creek Upland	13%

Provide the Engineer notification at least ten (10) working days before requested inspection date.

¹ The recommended cover standard is based on a cover calculation that includes non-native species that were used in past revegetation efforts at the site.



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MT. ROSE WATER TREATMENT PLANT
WASHOE COUNTY, NEVADA

Figure No. **LD03**
Title **REVEGETATION SPECIFICATIONS**



IRRIGATION NOTES

GENERAL:

- THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC., SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY, AND SHALL BE INSTALLED IN PLANTING AREAS WHEREVER POSSIBLE. THE POINT-OF-CONNECTION SHALL BE AS INDICATED ON THE PLAN UTILIZING THE EXISTING IRRIGATION MAIN LINE.
- THE CONTRACTOR SHALL VERIFY EXISTING SITE CONDITIONS AND ENSURE THAT ALL LOCAL CODES ARE MET.
- THE CONTRACTOR SHALL APPLY AND PAY FOR ALL PERMITS REQUIRED FOR INSTALLATION OF THE IRRIGATION SYSTEM AS DEPICTED ON THESE PLANS.
- CONTRACTOR SHALL VERIFY AVAILABLE FLOW AND PRESSURE DOWNSTREAM FROM THE POINT-OF-CONNECTION PRIOR TO SYSTEM INSTALLATION. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OR OWNERS REPRESENTATIVE IMMEDIATELY IF AVAILABLE FLOW IS LESS THAN REQUIRED TO RUN THE LARGEST ZONE. CONTRACTOR SHALL NOT PROCEED ANY FURTHER WITH INSTALLATION OF THE SYSTEM UNTIL NECESSARY DESIGN REVISIONS HAVE BEEN DETERMINED BY LANDSCAPE ARCHITECT. SYSTEM DESIGN BASED ON ASSUMED AVAILABLE PRESSURE OF 40 PSI. FUTURE PRESSURES MAY VARY DUE TO NEW DEVELOPMENT AND/OR OTHER UNFORESEEN CIRCUMSTANCES. LANDSCAPE ARCHITECT SHALL BEAR NO RESPONSIBILITY FOR FUTURE DEVIATIONS IN PRESSURE AND ANY RESULTING EFFECTS ON THE PERFORMANCE OF THE IRRIGATION SYSTEM.
- THE CONTRACTOR SHALL NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS OR DIFFERENCES IN DIMENSIONS EXIST THAT MIGHT HAVE BEEN UNKNOWN DURING ENGINEERING. SUCH OBSTRUCTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY AT NO ADDITIONAL COST TO OWNER.
- IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS, STRUCTURES, AND UTILITIES. THE IRRIGATION CONTRACTOR SHALL REPAIR OR REPLACE ALL ITEMS DAMAGED BY HIS WORK. HE SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE SLEEVES AND LATERALS THROUGH WALLS, UNDER ROADWAYS AND PAVING, ETC.
- ALL SPRINKLER EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
- CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL IRRIGATION MATERIALS, INCLUDING PIPE, WITH THE LANDSCAPE DRAWINGS TO AVOID INTERFERING WITH THE PLANTING OF TREES, SHRUBS, OR OTHER PLANTINGS.
- ALL VALVES ARE TO BE LOCATED IN PLANTING AREAS WHEREVER POSSIBLE. THE IRRIGATION CONTRACTOR SHALL FLUSH ALL EMITTER LATERALS AND TUBING PRIOR TO INSTALLATION OF EMITTER HEADS.
- ALL ELECTRICAL WIRE FROM CONTROLLER TO VALVES SHALL BE 14 GAUGE UL DIRECT BURIAL OR LARGER AS REQUIRED BY LENGTH PER MANUFACTURER'S SPECIFICATIONS.
- BACKFILL FOR TRENCHING, AFTER SAND BEDDING, SHALL BE COMPACTED TO A DRY DENSITY EQUAL TO THE UNDISTURBED ADJACENT SOIL AND SHALL CONFORM TO ADJACENT GRADES WITHOUT DIPS, HUMPS, OR OTHER IRREGULARITIES.
- A MINIMUM OF TWO WORKING DAYS PRIOR TO PERFORMING ANY DIGGING, CALL UNDERGROUND SERVICE ALERT AT 1-800-642-2444 FOR INFORMATION ON THE LOCATION OF NATURAL GAS LINES, ELECTRICAL CABLES, TELEPHONE CABLES, ETC.
- CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS.
- INSTALL ALL PIPE AND CONTROL WIRES IN LANDSCAPE BEDS AND IN COMMON TRENCHES WHEREVER POSSIBLE. 120 VAC ELECTRICAL POWER SOURCE AT CONTROLLER LOCATION SHALL BE PROVIDED BY OTHERS. THE IRRIGATION CONTRACTOR SHALL COORDINATE HIS WORK WITH THE ELECTRICAL CONTRACTOR TO ASSURE IRRIGATION SYSTEM IS FULLY FUNCTIONING BEFORE PLANTING OR SEEDING COMMENCES. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE TO MAKE THE FINAL CONNECTION FROM THE ELECTRICAL SOURCE TO THE CONTROLLER.
- ALL PIPING AND CONTROL WIRES UNDER PAVING SHALL BE INSTALLED IN SEPARATE SLEEVES. ALL STREET CROSSINGS SHALL HAVE MINIMUM OF 2 SLEEVES. INSIDE DIAMETER OF SLEEVE SIZE SHALL BE A MINIMUM OF TWICE (2X) THE OUTSIDE DIAMETER OF THE PIPE TO BE SLEEVED. ALL CONTROL WIRE SLEEVES SHALL BE OF SUFFICIENT SIZE FOR THE REQUIRED NUMBER OF WIRES UNDER PAVING. ALL SLEEVES SHALL BE IDENTIFIED ABOVE GROUND BY PRESSING 90 DEGREE FITTINGS ON TO THE SLEEVE ENDS AND EXTENDING THE PVC PIPE UPWARDS 18" ABOVE GRADE. THESE PIPES SHALL BE CAPPED. EXTEND ALL WIRES AND PIPES TO LIMITS OF WORK FOR FUTURE PHASES IF INDICATED. OWNER'S REPRESENTATIVE SHALL OVERSEE PLACEMENT AND SIZE OF CONTROLLERS FOR ENTIRE PROJECT.

FLUSHING AND TESTING:

- CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE FOR COMPLETE DRAINAGE OF THE MAINLINES BY INSTALLING MANUAL DRAINS AS INDICATED ON PLAN AND AT ALL SYSTEM LOW POINTS. PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS OF LARGER SIZES MAY BE APPROVED. ALL DAMAGED AND REJECTED PIPE SHALL BE REMOVED FROM THE SITE AT THE TIME OF SAID REJECTION. FINAL LOCATION OF THE AUTOMATIC CONTROLLER SHALL BE APPROVED BY OWNER'S AUTHORIZED REPRESENTATIVE.
- PIPING SHALL BE COMPLETELY FLUSHED OF FOREIGN PARTICLES BEFORE ATTACHING IRRIGATION COMPONENTS AND DRAIN VALVES.
- AFTER FLUSHING, AND WHEN ALL VALVES AND QUICK COUPLERS ARE IN PLACE, ALL MAIN SUPPLY LINES SHALL BE TESTED AT 100 POUNDS PER SQUARE INCH (100 PSI) WITH VALVES CLOSED. MAINTAIN PRESSURE FOR A PERIOD OF NOT LESS THAN (4) CONSECUTIVE HOURS. ALL JOINTS SHOWING LEAKS SHALL BE CLEANED, REMADE, AND TESTED.
- AFTER FLUSHING, LATERAL PIPES SHALL BE TESTED WITH RISERS CAPPED AND DRAIN VALVES CLOSED. THE TEST SHALL BE MADE AT MAXIMUM OPERATING PRESSURE FOR A PERIOD OF NOT LESS THAN (1) HOUR. ALL JOINTS SHOWING LEAKS SHALL BE CLEANED, REMADE, AND TESTED. ALL TESTING SHALL BE DONE IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE PRIOR TO BACKFILLING OVER PIPING.
- OPERATIONAL TESTING: PERFORM OPERATIONAL TESTING AFTER HYDROSTATIC TESTING IS COMPLETED. DEMONSTRATE TO THE LANDSCAPE ARCHITECT OR OWNERS REPRESENTATIVE THAT THE SYSTEM MEETS COVERAGE REQUIREMENTS (100%) AND THAT AUTOMATIC CONTROLS FUNCTION PROPERLY.
- AFTER COMPLETION OF CONSTRUCTION CAREFULLY ADJUST EMITTERS FOR FULL COVERAGE.

SUBMITTALS:

- MATERIALS LIST: WITHIN (15) DAYS AFTER AWARD OF CONTRACT, SUBMIT TO LANDSCAPE ARCHITECT OR OWNERS REPRESENTATIVE (3) COPIES OF A COMPLETE MATERIALS LIST (PARTIAL LIST NOT ACCEPTABLE) OF ALL MATERIALS TO BE USED ON THE PROJECT, SPECIFYING MANUFACTURER, GRADE, TRADE NAME, CATALOG NUMBER, SIZE, ETC. THIS SHALL IN NO WAY BE CONSTRUED AS ALLOWING A SUBSTITUTION FOR ANY ITEM SPECIFIED ON THE PLANS. EQUIPMENT OR MATERIALS INSTALLED OR FURNISHED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT MAY BE REJECTED AND THE CONTRACTOR REQUIRED TO REMOVE THE MATERIALS AT HIS OWN EXPENSE.
- INSTALLATION AND PERFORMANCE OF APPROVED SUBSTITUTIONS ARE THE CONTRACTOR'S RESPONSIBILITY. ANY CHANGES REQUIRED FOR INSTALLATION OF ANY APPROVED SUBSTITUTION MUST BE MADE TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT OR OWNERS REPRESENTATIVE WITHOUT ADDITIONAL COST TO OWNER.
- PRIOR TO SYSTEM INSTALLATION CONTRACTOR SHALL VERIFY AND SUBMIT TO LANDSCAPE ARCHITECT IN WRITING, AVAILABLE FLOW AND PRESSURE AT POINT-OF-CONNECTION AS DESCRIBED IN SPECIFICATION #4 ABOVE.
- COMPLETE WARRANTY CARDS FOR AUTOMATIC CONTROLLER AND OTHER IRRIGATION MATERIAL (CONTROLLER KEYS, ETC.) SHALL BE DELIVERED TO THE LANDSCAPE ARCHITECT AT FINAL PROJECT WALK-THROUGH.
- CONTRACTOR SHALL PREPARE AND ISSUE TO THE OWNER (AT COMPLETION OF THE INSTALLATION) AN ANNUAL CHART INDICATING LOCATION, OPERATING DATES, CYCLES, AND TIME FOR EACH ZONE.
- AS-BUILT IRRIGATION DRAWINGS: CONTRACTOR SHALL FURNISH AS-BUILTS OF THE COMPLETE IRRIGATION SYSTEM. PROCURE FROM LANDSCAPE ARCHITECT FULL-SIZED SEPIAS OF CONTRACT DRAWINGS. CONSTRUCTION DRAWINGS SHALL BE ON THE CONSTRUCTION SITE AT ALL TIMES WHILE THE IRRIGATION SYSTEM IS BEING INSTALLED. CONTRACTOR SHALL MAKE A DAILY RECORD OF ALL WORK INSTALLED DURING EACH DAY. ACTUAL LOCATION OF VALVES AND ALL IRRIGATION AND DRAINAGE PIPING SHALL BE SHOWN ON THE PRINTS BY DIMENSIONS FROM EASILY IDENTIFIED PERMANENT FEATURES, SUCH AS BUILDINGS, CURBS, FENCES, WALKS OR PROPERTY LINES. DRAWINGS SHALL SHOW APPROVED MANUFACTURER'S NAME AND CATALOG NUMBER. THE DRAWINGS SHALL BE TO SCALE AND ALL INDICATIONS SHALL BE NEAT. ALL INFORMATION NOTED ON THE PRINT SHALL BE TRANSFERRED TO THE COPIES BY CONTRACTOR AND ALL INDICATIONS SHALL BE RECORDED IN A NEAT, ORDERLY WAY. RECORD SEPIAS SHALL BE TURNED OVER TO THE LANDSCAPE ARCHITECT AT OR BEFORE FINAL ACCEPTANCE/APPROVAL OF THE PROJECT.

GUARANTEE / FINAL ACCEPTANCE

- CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE THE IRRIGATION SYSTEM FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. MANUFACTURER WARRANTIES SHALL NOT SUPERSEDE THIS GUARANTEE AS CONTRACTOR SHALL BE FULLY LIABLE FOR REPAIRS/REPLACEMENT OF FAILED MATERIALS/WORKMANSHIP.

IRRIGATION SCHEDULE	
SYMBOL	DESCRIPTION
	TEMPORARY DRIP IRRIGATION INSTALL ON SURFACE, SUBMIT SHOP DRAWINGS FOR APPROVAL
	TEMPORARY SPRAY ROTARY IRRIGATION RAINBIRD 12" ROTARY SPRAY HEADS, INSTALL ON SURFACE, SUBMIT SHOP DRAWINGS FOR APPROVAL
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	MATCO-NORCA 200RTD 2-1/2" DUCTILE IRON EPOXY COATED & RESILIENT WEDGE ISOLATION SHUT OFF VALVE.
	GRISWOLD 2000KE 1-1/2" 1-1/2" SOLENOID, NORMALLY CLOSED MASTER VALVE. EPOXY COATING. CAST IRON AND BRONZE MATERIAL.
	REDUCED PRESSURE BACKFLOW PREVENTER 1-1/2" (SEE CIVIL SHEETS)
	CREATIVE SENSOR TECHNOLOGY FSI-T10-001 1" (25MM) PVC TEE FLOW SENSOR W/SOCKET ENDS, CUSTOM MOUNTING TEE AND ULTRA-LIGHTWEIGHT IMPELLER ENHANCES LOW FLOW MEASUREMENT. FLOW RANGE: 0.86-52.0 GPM.
	CAP FOR FUTURE USE CAP AT THE MAINLINE FOR FUTURE EXPANSION. INSTALL IN A VALVE BOX WITH EXTRA WIRES.
	IRRIGATION LATERAL LINE: PVC SCHEDULE 40 (NOT SHOWN ON PLAN)
	IRRIGATION MAINLINE: PVC SCHEDULE 40 (2-1/2") SEE CIVIL SHEETS
	PIPE SLEEVE: PVC SCHEDULE 40 PIPE SLEEVE SIZE SHALL 2 X THE DIAMETER OF ALL PIPE BEING SLEEVED. WIRING SHALL BE SLEEVED SEPARATELY ALONGSIDE MAINLINE SLEEVE. EXTEND SLEEVES 12 INCHES BEYOND EDGES OF PAVING OR CONSTRUCTION.

PVC SCHEDULE 40

PIPE SIZE:	MAX. GPM:
3/4"	6
1"	10
1-1/4"	18
1-1/2"	24
2"	40
2-1/2"	60
3"	90



PROJ-MTROSE-07

AUGUST 2017
180101413



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Client/Project

TRUCKEE MEADOWS WATER AUTHORITY
MT. ROSE WATER TREATMENT PLANT
WASHOE COUNTY, NEVADA

Figure No.

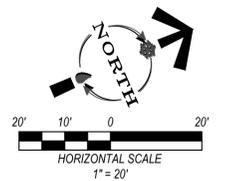
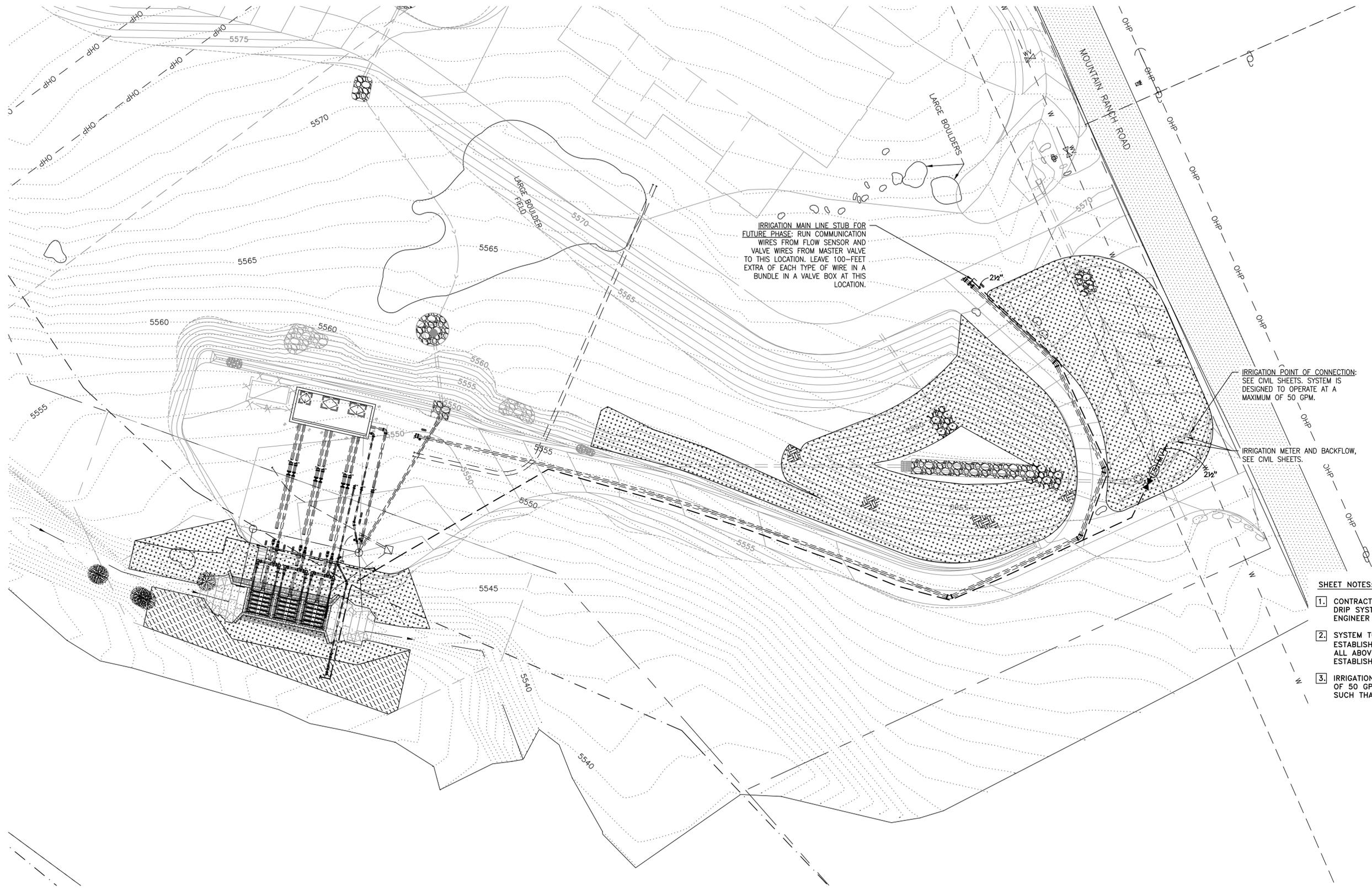
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Title

IRRIGATION LEGEND AND NOTES

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IRRIGATION MAIN LINE STUB FOR FUTURE PHASE: RUN COMMUNICATION WIRES FROM FLOW SENSOR AND VALVE WIRES FROM MASTER VALVE TO THIS LOCATION. LEAVE 100- FEET EXTRA OF EACH TYPE OF WIRE IN A BUNDLE IN A VALVE BOX AT THIS LOCATION.

IRRIGATION POINT OF CONNECTION: SEE CIVIL SHEETS. SYSTEM IS DESIGNED TO OPERATE AT A MAXIMUM OF 50 GPM.

IRRIGATION METER AND BACKFLOW, SEE CIVIL SHEETS.

SHEET NOTES:

1. CONTRACTOR TO PROVIDE TEMPORARY IRRIGATION SPRAY AND DRIP SYSTEM. SUBMIT SHOP DRAWING OF SYSTEM TO ENGINEER FOR APPROVAL.
2. SYSTEM TO REMAIN OPERATIONAL DURING PLANT ESTABLISHMENT PERIOD (2 YEAR) CONTRACTOR TO REMOVE ALL ABOVE GROUND COMPONENTS AT END OF PLANT ESTABLISHMENT PERIOD.
3. IRRIGATION SYSTEM DESIGNED TO OPERATE AT A MAXIMUM OF 50 GPM. PROGRAM TEMPORARY IRRIGATION CONTROLLERS SUCH THAT THIS DESIGNED FLOW IS NOT EXCEEDED.

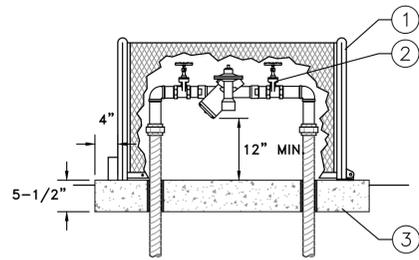
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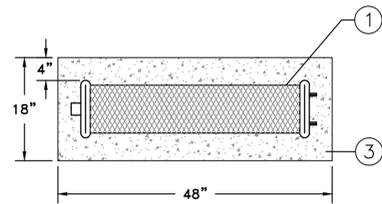
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TRUCKEE MEADOWS WATER AUTHORITY
MT. ROSE WATER TREATMENT PLANT
WASHOE COUNTY, NEVADA

Figure No. **LIR2**
Title
IRRIGATION PLAN



ELEVATION

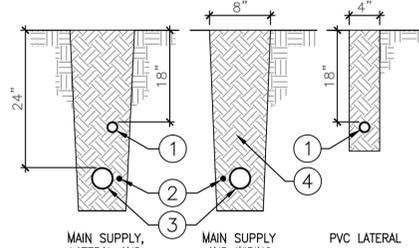
- 1 GUARDSHACK ENCLOSURE MODEL GS-3 WITH FROST GUARD FG-3, MOUNTED TO CONCRETE PAD. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- 2 REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY, SEE 10A-2/TYP.
- 3 CONCRETE PAD. CROWN TO DRAIN AND FLOAT FINISH. HEIGHT OF TOP OF PAD ABOVE GRADE SHALL BE DETERMINED BY OWNER.



PLAN

NOTE: GUARDSHACK ENCLOSURE TO BE POWDER COATED WOODLAND TAN OR FOREST GREEN (OR APPROVED EQUAL) TO BE DETERMINED BY OWNER.

1 GUARDSHACK CAGE COVER
LIR3 SCALE: NONE



SECTION

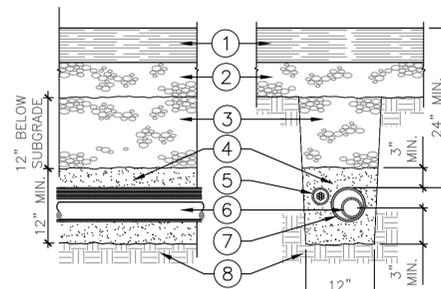
PLAN

- 1 IRRIGATION LATERAL PIPE.
- 2 WIRING: TAPE AND BUNDLE WIRING AT 10'-0" INTERVALS. COMMON TRENCHING OF IRRIGATION PIPE AND REMOTE CONTROL VALVE WIRING TO BE DONE WHERE POSSIBLE (INSTALL TRACE WIRE ALONG ALL MAIN LINE PIPE THAT DOES NOT HAVE CONTROL WIRES ADJACENT TO PIPE).
- 3 MAIN LINE: ALL MAIN LINE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. MAINTAIN MIN. 4" SPACE BETWEEN PARALLEL PIPE LINES AND 6" VERTICAL SPACE BETWEEN MAIN LINE AND LATERAL LINES. WIRING AND MAIN LINE TO BE AT SAME MIN. DEPTH OF 24".
- 4 BACKFILL.
- 5 ALL PVC PIPE TO BE SNAKED IN TRENCHED AS SHOWN.

- NOTES:
1. ALL PIPING UNDER PAVING SHALL BE SLEEVED.

2 TRENCHING
LIR3 SCALE: NOT TO SCALE

PROJ-MTROSE-04



SECTION

CROSS SECTION

- 1 ASPHALT OR CONCRETE SECTION.
- 2 BASE ROCK SECTION.
- 3 ASPHALT BASE BACKFILL COMPACTED TO MEET SUBGRADE SPECS.
- 4 SAND BACKFILL, COMPACTED TO MEET SUBGRADE SPECS.
- 5 REMOTE CONTROL VALVE WIRES IN SCH. 40 PVC SLEEVE (MINIMIZE SPLICING).
- 6 MAIN LINE OR LATERAL PIPING.
- 7 SCH. 40 SLEEVE, SIZE MINIMUM 2 X DIAMETER OF INTERIOR PIPE.
- 8 UNDISTURBED SUBGRADE.

- NOTES:
1. TRENCH SHALL BE BACKFILLED AND COMPACTED PRIOR TO BASE PREPARATION.
 2. IRRIGATION CONTRACTOR SHALL COORDINATE W/ PAVING CONTRACTOR FOR INSTALLATION OF SLEEVES UNDER PAVING.

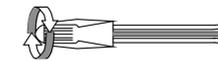
3 TRENCH UNDER PAVING
LIR3 SCALE: NOT TO SCALE

PROJ-MTROSE-03

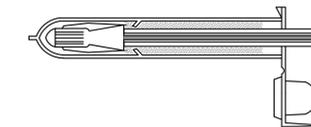
STEP 1: STRIP WIRES 1/2" FROM ENDS.



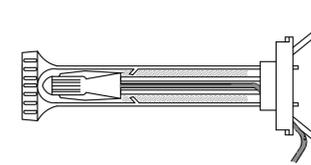
STEP 2: TWIST ON PERFORMANCE PLUS CONNECTOR IN A CLOCKWISE DIRECTION.



STEP 3: INSERT SPLICE TO BOTTOM OF GEL-FILLED TUBE. CHECK TO MAKE SURE CONNECTOR HAS BEEN PUSHED PAST LOCKING FINGERS AND IS SEATED AT BOTTOM OF TUBE.



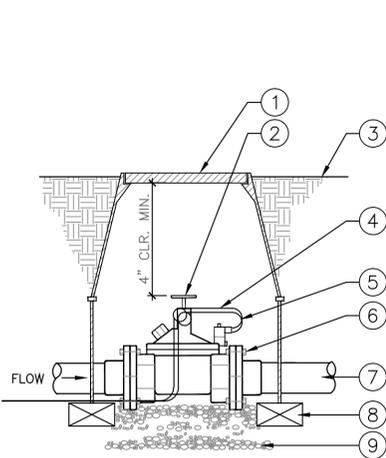
STEP 4: POSITION WIRES IN WIRE CHANNELS AND CLOSE INSULATOR TUBE COVER.



NOTES: UTILIZE 3M DIRECT BURY SPLICE KIT FOR ALL WIRE CONNECTIONS.

4 ELECTRICAL WIRING CONNECTOR KIT
LIR3 SCALE: NOT TO SCALE

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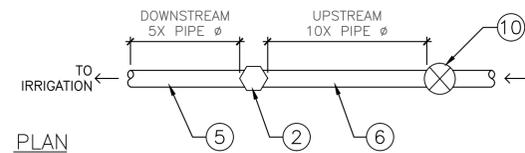


SECTION

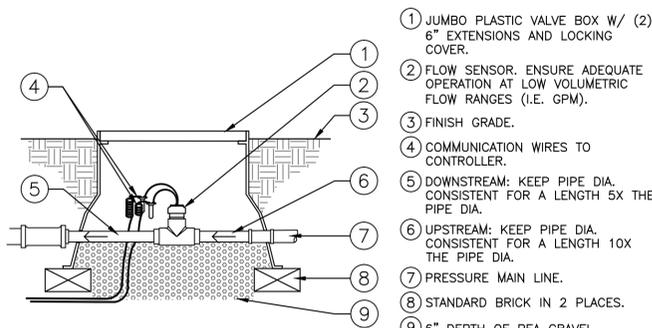
- 1 PLASTIC VALVE BOX W/ BOLT DOWN COVER WITH BOX EXTENSION IF REQUIRED, REFER TO SPECS. HEAT BRAND VALVE NUMBER ON LID.
 - 2 MASTER CONTROL VALVE.
 - 3 FINISH GRADE.
 - 4 PIG TAIL EXPANSION LOOP (MIN. 18").
 - 5 CONTROL AND COMMON WIRES.
 - 6 SCH. 80 PVC FLANGES, TYP. 2 PLACES.
 - 7 PVC MAIN LINE.
 - 8 STANDARD BRICK AT 4 CORNERS.
 - 9 6" DEPTH OF PEA GRAVEL.
- NOTES:
1. VALVE SHALL BE LINE SIZE UNLESS OTHERWISE NOTED.
 2. PLACE IN VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPING.
 3. REFER TO SPECS. AND PLAN SHEETS FOR MORE INFORMATION.

5 MASTER VALVE
LIR3 SCALE: 1" = 1'-0"

PROJ-MTROSE-02



PLAN

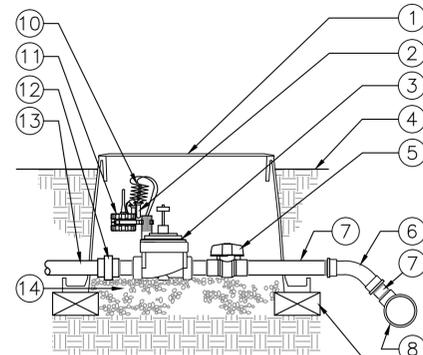


SECTION

- 1 JUMBO PLASTIC VALVE BOX W/ (2) 6" EXTENSIONS AND LOCKING COVER.
- 2 FLOW SENSOR. ENSURE ADEQUATE OPERATION AT LOW VOLUMETRIC FLOW RANGES (I.E. GPM).
- 3 FINISH GRADE.
- 4 COMMUNICATION WIRES TO CONTROLLER.
- 5 DOWNSTREAM: KEEP PIPE DIA. CONSISTENT FOR A LENGTH 5X THE PIPE DIA.
- 6 UPSTREAM: KEEP PIPE DIA. CONSISTENT FOR A LENGTH 10X THE PIPE DIA.
- 7 PRESSURE MAIN LINE.
- 8 STANDARD BRICK IN 2 PLACES.
- 9 6" DEPTH OF PEA GRAVEL.
- 10 MASTER VALVE.

6 FLOW SENSOR (SINGLE)
LIR3 SCALE: NOT TO SCALE

PROJ-MTROSE-25



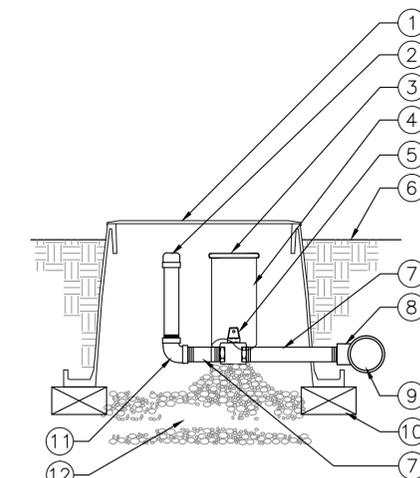
SECTION

- NOTES:
1. ALL WIRE TO BE INSTALLED AS PER LOCAL CODE.

7 BATTERY REMOTE CONTROL VALVE
LIR3 SCALE: 1" = 1'-0"

PROJ-MTROSE-08

- 1 PLASTIC VALVE BOX W/ BOLT DOWN LID.
- 2 UL LISTED WATERPROOF CONNECTORS.
- 3 REMOTE CONTROL VALVE.
- 4 FINISH GRADE.
- 5 PVC ISOLATION BALL VALVE.
- 6 SCH 80 PVC SxS 45' ELL.
- 7 PVC SCHEDULE 80 NIPPLE (LENGTH AS REQUIRED).
- 8 PVC MAIN LINE.
- 9 STANDARD BRICK IN 4 PLACES.
- 10 WIRE COILS: LEAVE EXCESS 2'-0" COIL IN EACH VALVE BOX. WRAP WIRE AROUND 1/2" PIPE 15 TIMES TO CREATE COILS.
- 11 BATTERY POWERED CONTROLLER.
- 12 PVC UNION.
- 13 PVC LATERAL.
- 14 6" DEPTH OF PEA GRAVEL.



SECTION

- 1 PLASTIC VALVE BOX W/ BOLT DOWN LID, 14" x 19".
- 2 1" SCH 80 PVC THREADED CAP.
- 3 4" TORO CAP.
- 4 4" SDR 35 PIPE RISER.
- 5 1" MUELLER CURB STOP.
- 6 FINISH GRADE.
- 7 PVC SCH 80 THREADED NIPPLE.
- 8 PVC SCH 80 MAINLINE TEE.
- 9 PVC MAIN LINE.
- 10 STANDARD BRICK IN 4 PLACES.
- 11 1" SCH 80 PVC ELL.
- 12 6" DEPTH OF PEA GRAVEL. PLACE PRIOR TO INSTALLATION OF VALVE BOX.

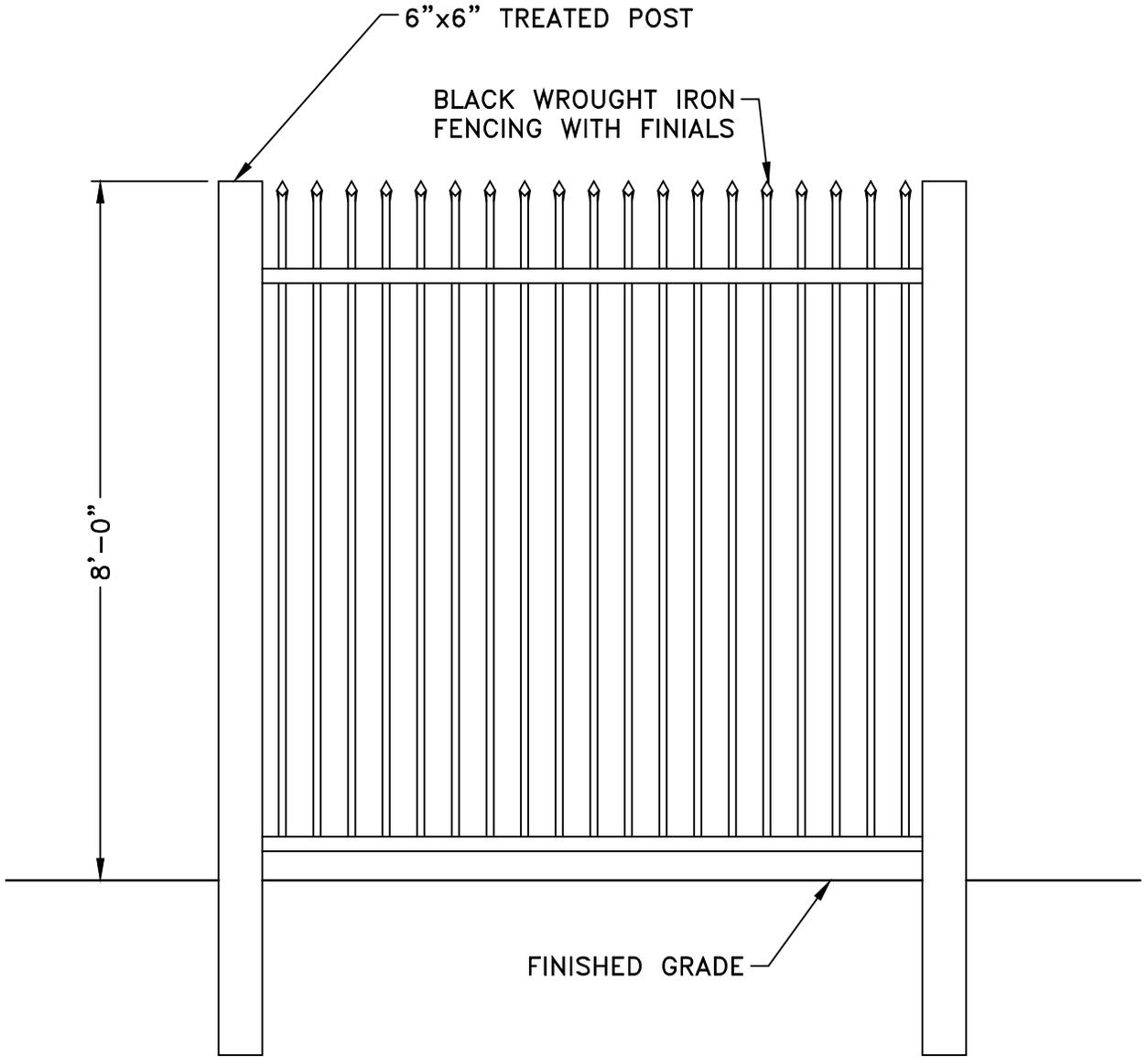
8 BLOW OUT CURB STOP VALVE
LIR3 SCALE: 1" = 10'

PROJ-MTROSE-11

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ORIGINAL SHEET - ANSI A

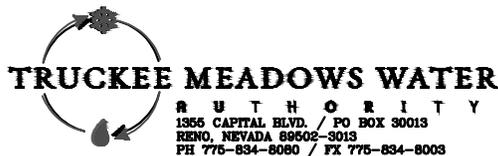


SCALE: N.T.S.

DECEMBER 2015
180101383



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Client/Project
Truckee Meadows Water Authority
MT ROSE
WATER TREATMENT PLANT

Figure No.
6

Title
FENCE DETAIL