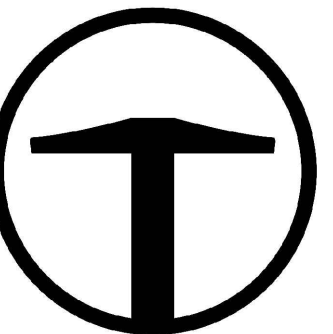


# JORDAN VALLEY WATER CONSERVANCY DISTRICT HEADQUARTERS

## UPPER CAMPUS SITE REPAIRS AND DRAINAGE IMPROVEMENTS

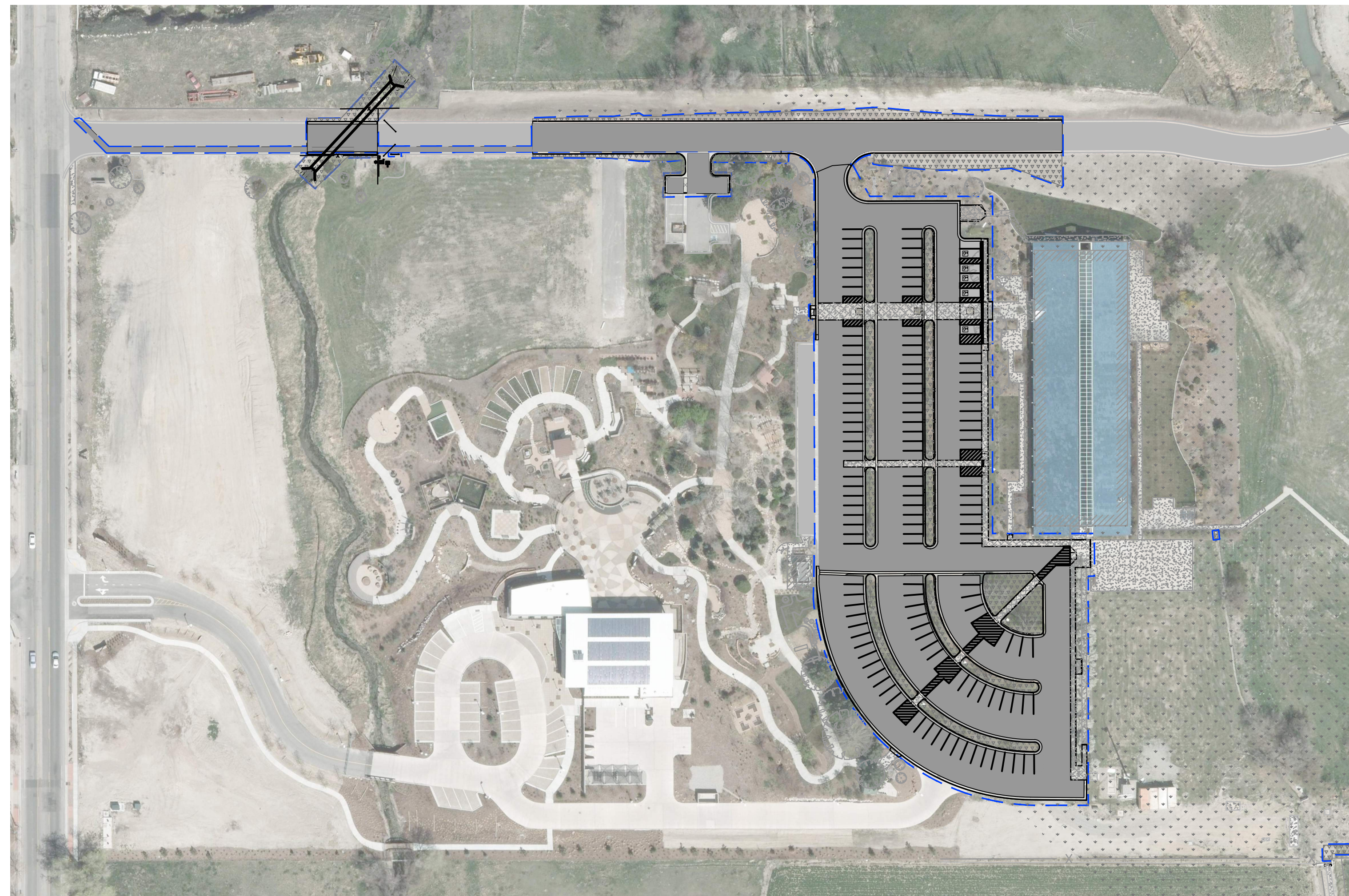
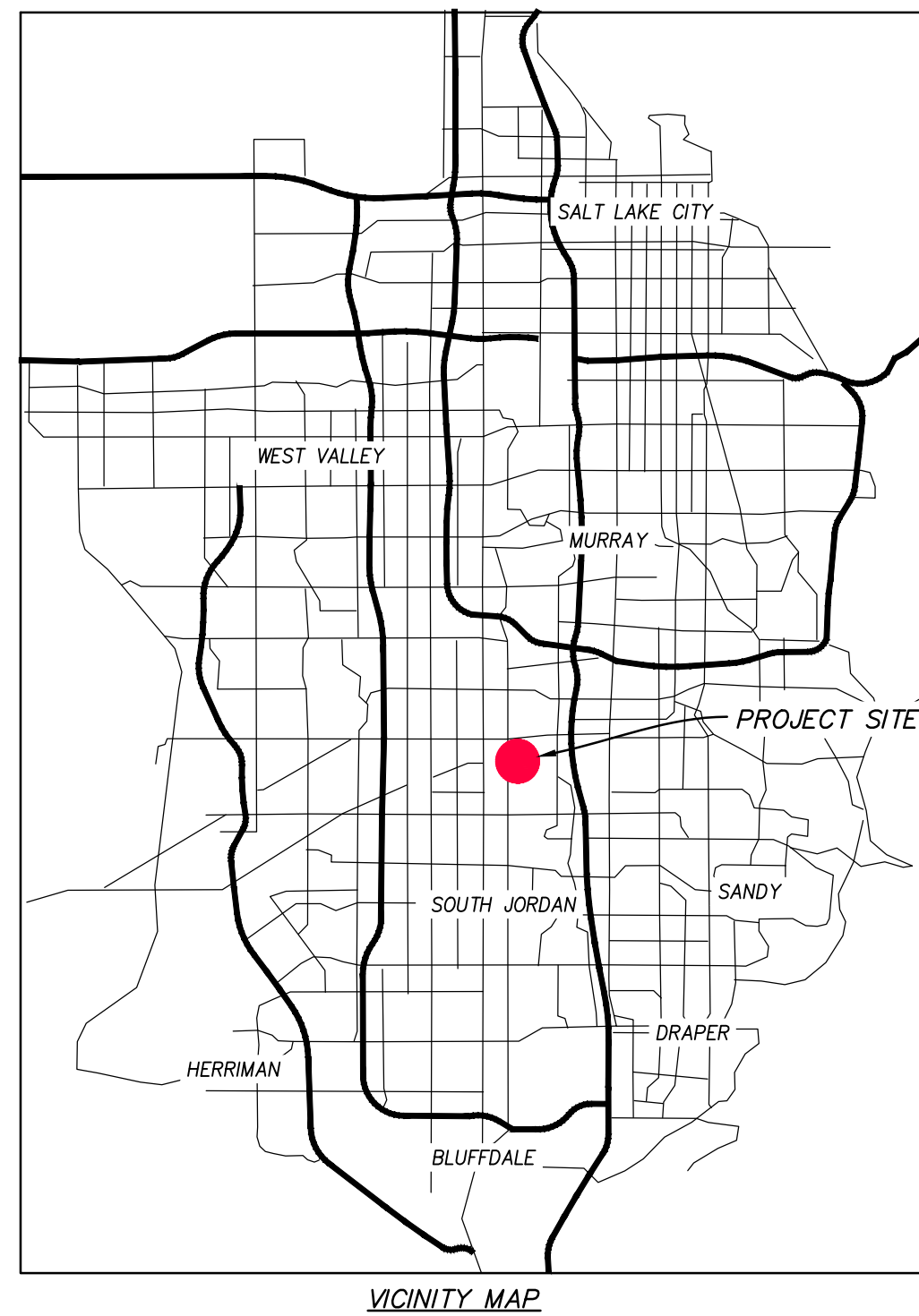
PROJECT NO. 3910  
WEST JORDAN, UTAH



TALISMAN  
CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

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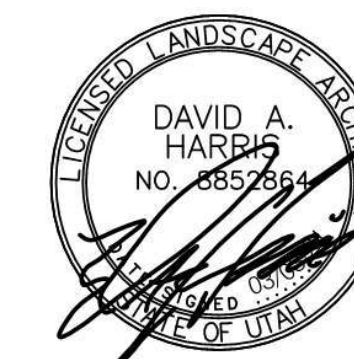
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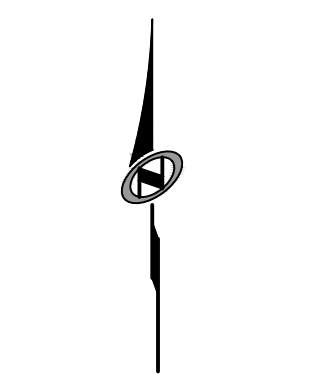
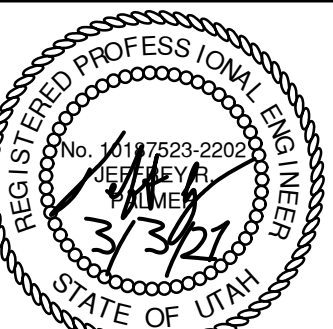
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JWVCD HEADQUARTERS  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
COVER SHEET

DATE SUBMITTED: 03.03.2021

TCC JOB NUMBER: 18-024



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**GENERAL NOTES**

- ALL CONSTRUCTION MUST STRICTLY FOLLOW THE STANDARDS AND SPECIFICATIONS SET FORTH BY: AMERICAN PUBLIC WORKS ASSOCIATION (APWA), INDIVIDUAL PRODUCT MANUFACTURERS, DESIGN ENGINEERS, JORDAN VALLEY CONSERVANCY DISTRICT AND CITY OF WEST JORDAN. IF A CONSTRUCTION PRACTICE IS NOT SPECIFIED BY ANY OF THE LISTED SOURCES, CONTRACTOR MUST CONTACT DESIGN ENGINEER FOR DIRECTION.
- STRIPING & SIGNAGE TO CONFORM TO CURRENT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- PRICES PROVIDED WITHIN THE BID AND CONTRACT DOCUMENTS SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY AND PROPER FOR THE WORK CONTEMPLATED.
- CONTRACTOR SHALL, AT THE TIME OF BIDDING AND THROUGHOUT THE PERIOD OF THE CONTRACT, BE LICENSED IN THE STATE OF UTAH AND SHALL BE BONDABLE FOR AN AMOUNT EQUAL TO OR GREATER THAN THE AMOUNT BID. CONTRACTOR MUST BE KNOWLEDGEABLE AND HAVE SPECIAL SKILLS IN THE NATURE, EXTENT AND INHERENT CONDITIONS OF THE WORK TO BE PERFORMED. THE OWNER IS RELYING UPON THE EXPERIENCE AND EXPERTISE OF THE CONTRACTOR.
- CONSULT ALL OF THE DRAWINGS AND SPECIFICATIONS FOR COORDINATION REQUIREMENTS BEFORE COMMENCING CONSTRUCTION.
- PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED.
- NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED PLANS AND OTHER DOCUMENTS APPROVED AND SIGNED BY THE APPROPRIATE PERMITTING AUTHORITIES AND STAMPED BY DESIGN ENGINEER.
- ANY WORK IN THE PUBLIC RIGHT-OF-WAY WILL REQUIRE PERMITS FROM THE APPROPRIATE, CITY, COUNTY OR STATE AGENCY CONTROLLING THE ROAD, INCLUDING OBTAINING REQUIRED INSPECTIONS.
- CONTRACTOR TO STRICTLY FOLLOW GEOTECHNICAL REPORT BY GORDON GEOTECHNICAL ENGINEERING, DATED JUNE 4, 2018 FOR THIS PROJECT. GEOTECHNICAL REPORT MUST BE ONSITE AT ALL TIMES. ALL GRADING INCLUDING BUT NOT LIMITED TO CUT, FILL, COMPACTION, ASPHALT SECTION, SUBBASE, TRENCH EXCAVATION/BACKFILL, SITE GRUBBING, RETAINING WALLS AND FOOTINGS MUST BE COORDINATED DIRECTLY WITH THE PROJECT GEOTECHNICAL ENGINEER.
- SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH BY THE GEOTECHNICAL REPORT AND GEOTECHNICAL ENGINEER.
- UNCLASSIFIED EXCAVATION SHALL BE PROPERLY DISPOSED OF PER GOVERNMENT REGULATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SCHEDULING INSPECTION AND TESTING OF ALL FACILITIES CONSTRUCTED UNDER THIS CONTRACT. ALL TESTING SHALL CONFORM TO THE REGULATORY AGENCY'S STANDARD SPECIFICATIONS. ALL TESTING AND INSPECTION SHALL BE PAID FOR BY THE OWNER; ALL RE-TESTING AND/OR RE-INSPECTION SHALL BE PAID FOR BY THE CONTRACTOR.
- CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND NOTIFYING ENGINEER OR INSPECTING AUTHORITY 48 HOURS IN ADVANCE OF COVERING ANY PHASE OF CONSTRUCTION REQUIRING OBSERVATION OR INSPECTION.
- CONTRACTOR SHALL INSPECT THE WORK SITE PRIOR TO BIDDING TO SATISFY THEMSELVES BY PERSONAL EXAMINATION OR BY SUCH OTHER MEANS AS THEY MAY PREFER OF THE LOCATION OF THE PROPOSED WORK AND OF THE ACTUAL CONDITIONS OF AND AT THE SITE OF WORK; IF, DURING THE COURSE OF THEIR EXAMINATION, A BIDDER FINDS FACTS OR CONDITIONS WHICH APPEAR TO THEM TO BE IN CONFLICT WITH THE LETTER OR SPIRIT OF THE PROJECT PLANS AND SPECIFICATIONS, THEY SHALL CONTACT THE ENGINEER FOR ADDITIONAL INFORMATION AND EXPLANATION BEFORE SUBMITTING THEIR BID. SUBMISSION OF A BID BY THE CONTRACTOR SHALL CONSTITUTE ACKNOWLEDGMENT THAT, IF AWARDED THE CONTRACT, THEY HAVE RELIED AND ARE RELYING ON THEIR OWN EXAMINATION OF (1) THE SITE OF THE WORK, (2) ACCESS TO THE SITE, AND (3) ALL OTHER DATA AND MATTERS REQUISITE TO THE FULFILLMENT OF THE WORK AND ON THEIR OWN KNOWLEDGE OF EXISTING FACILITIES ON AND IN THE VICINITY OF THE SITE OF THE WORK TO BE CONSTRUCTED UNDER THIS CONTRACT. THE INFORMATION PROVIDED BY THE ENGINEER IS NOT INTENDED TO BE A SUBSTITUTE FOR, OR A SUPPLEMENT TO, THE INDEPENDENT VERIFICATION BY THE CONTRACTOR TO THE EXTENT SUCH INDEPENDENT INVESTIGATION OF SITE CONDITIONS IS DEEMED NECESSARY OR DESIRABLE BY THE CONTRACTOR. CONTRACTOR SHALL ACKNOWLEDGE THAT THEY HAVE NOT RELIED SOLELY UPON OWNER- OR ENGINEER-FURNISHED INFORMATION REGARDING EXISTING SITE CONDITIONS IN PREPARING AND SUBMITTING THEIR BID.
- CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOBSITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
- CONTRACTOR TO USE STANDARD RFI PROCESS IF THEY DISCOVER A DISCREPANCY IN THE ACTUAL CONDITION OR NOT AS SURVEYED.
- CONTRACTOR SHALL ACKNOWLEDGE THAT THERE ARE CERTAIN PECULIAR AND INHERENT CONDITIONS EXISTENT IN THE CONSTRUCTION OF THE PARTICULAR FACILITIES WHICH MAY CREATE, DURING THE CONSTRUCTION PROGRAM, UNUSUAL OR UNSAFE CONDITIONS HAZARDOUS TO PERSONS, PROPERTY AND THE ENVIRONMENT. CONTRACTOR SHALL BE AWARE OF SUCH PECULIAR RISKS AND HAVE THE SKILL AND EXPERIENCE TO FORESEE AND TO ADOPT PROTECTIVE MEASURES TO ADEQUATELY AND SAFELY PERFORM THE CONSTRUCTION WORK WITH RESPECT TO SUCH HAZARDS.
- AT ALL LOCATIONS WHERE EXISTING PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING PAVEMENT SHALL BE SAWCUT TO A CLEAN, SMOOTH EDGE.
- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MOST RECENT, ADOPTED EDITION OF ADA ACCESSIBILITY GUIDELINES.
- ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO OWNER.
- WHERE THE PLANS OR SPECIFICATIONS DESCRIBE PORTIONS OF THE WORK IN GENERAL TERMS BUT NOT IN COMPLETE DETAIL, IT IS UNDERSTOOD THAT ONLY THE BEST GENERAL PRACTICE IS TO PREVAIL AND THAT ONLY MATERIALS AND WORKMANSHIP OF THE FIRST QUALITY ARE TO BE USED.
- IF EXISTING IMPROVEMENTS NEED TO BE DISTURBED AND/OR REMOVED FOR THE PROPER PLACEMENT OF IMPROVEMENTS TO BE CONSTRUCTED BY THESE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING IMPROVEMENTS FROM DAMAGE. COST OF REPLACING OR REPAIRING EXISTING IMPROVEMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS REQUIRING REMOVAL AND/OR REPLACEMENT. THERE WILL BE NO EXTRA COST DUE TO THE CONTRACTOR FOR REPLACING OR REPAIRING EXISTING IMPROVEMENTS.
- WHENEVER EXISTING FACILITIES ARE REMOVED, DAMAGED, BROKEN, OR CUT IN THE INSTALLATION OF THE WORK COVERED BY THESE PLANS OR SPECIFICATIONS, SAID FACILITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE WITH MATERIALS EQUAL TO OR BETTER THAN THE MATERIALS USED IN THE ORIGINAL EXISTING FACILITIES. THE FINISHED PRODUCT SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER, THE ENGINEER, AND THE RESPECTIVE REGULATORY AGENCY.
- CONTRACTOR SHALL EXERCISE DUE CAUTION AND SHALL CAREFULLY PRESERVE BENCH MARKS, CONTROL POINTS, REFERENCE POINTS AND ALL SURVEY STAKES, AND SHALL BEAR ALL EXPENSES FOR REPLACEMENT AND/OR ERRORS CAUSED BY THEIR UNNECESSARY LOSS OR DISTURBANCE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL STRIPING AND/OR PAVEMENT MARKINGS NECESSARY TO THE EXISTING STRIPING INTO FUTURE STRIPING. METHOD OF REMOVAL SHALL BE BY GRINDING OR SANDBLASTING.
- CATCH SLOPES SHALL BE GRADED AS SPECIFIED ON GRADING PLANS.
- CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING, SLOPING OR OTHER

- PROVISIONS NECESSARY TO PROTECT WORK PEOPLE FOR ALL AREAS TO BE EXCAVATED TO A DEPTH OF 4' OR MORE. FOR EXCAVATIONS 4 FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL COMPLY WITH INDUSTRIAL COMMISSION OF UTAH SAFETY ORDERS SECTION 68 - EXCAVATIONS, AND SECTION 69 - TRENCHES, ALONG WITH ANY LOCAL CODES OR ORDINANCES. CONTRACTOR SHALL FOLLOW ALL CURRENT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION CURRENT.
- ALL EXISTING GATES AND FENCES TO REMAIN UNLESS OTHERWISE NOTED ON PLANS. PROTECT ALL GATES AND FENCES FROM DAMAGE.
  - ALL DIMENSIONS, GRADES & UTILITY DESIGNS SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES.
  - CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE OWNER, ENGINEER, AND/OR GOVERNING AGENCIES.
  - CONTRACTOR SHALL MAINTAIN ONSITE AT ALL TIMES A NEATLY MARKED SET OF FULL-SIZE AS-BUILT RECORD DRAWINGS SHOWING THE FINAL LOCATION AND LAYOUT OF ALL STRUCTURES AND OTHER FACILITIES. AS-BUILT RECORD DRAWINGS SHALL REFLECT CHANGE ORDERS, ACCOMMODATIONS, AND ADJUSTMENTS TO ALL IMPROVEMENTS CONSTRUCTED. WHERE NECESSARY, SUPPLEMENTAL DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE CONTRACTOR PRIOR TO ACCEPTANCE OF THE PROJECT. THE CONTRACTOR SHALL DELIVER TO THE ENGINEER UPON PROJECT COMPLETION, ONE SET OF NEATLY MARKED AS-BUILT RECORD DRAWINGS SHOWING THE INFORMATION REQUIRED ABOVE. AS-BUILT RECORD DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR AND THE COMPLETE AS-BUILT RECORD DRAWING SET SHALL BE CURRENT WITH ALL CHANGES AND DEVIATIONS REDLINED AS A PRECONDITION TO THE FINAL PROGRESS PAYMENT APPROVAL AND/OR FINAL ACCEPTANCE.
  - CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL WATER, POWER, SANITARY FACILITIES AND TELEPHONE SERVICES AS REQUIRED FOR THE CONTRACTOR'S USE DURING CONSTRUCTION.

**UTILITY NOTES**

- EXISTING UTILITIES HAVE BEEN SHOWN ON THE PLANS USING A COMBINATION OF ON-SITE SURVEYS (BY OTHERS). PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE EACH UTILITY COMPANY LOCATE, IN THE FIELD, THEIR MAIN AND SERVICE LINES. THE CONTRACTOR SHALL NOTIFY BLUE STAKES AT 1-800-662-4111 48 HOURS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK. THE CONTRACTOR SHALL RECORD THE BLUE STAKES ORDER NUMBER AND FURNISH ORDER NUMBER TO OWNER AND ENGINEER PRIOR TO ANY EXCAVATION. IT WILL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO DIRECTLY CONTACT ANY OTHER UTILITY COMPANIES THAT ARE NOT MEMBERS OF BLUE STAKES. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS DURING THE PERFORMANCE OF THIS CONTRACT. ANY REPAIRS NECESSARY TO DAMAGED UTILITIES SHALL BE PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL BE REQUIRED TO COOPERATE WITH OTHER CONTRACTORS AND UTILITY COMPANIES INSTALLING NEW STRUCTURES, UTILITIES AND SERVICE TO THE PROJECT.
- CONTRACTOR SHALL POT HOLE ALL UTILITIES TO DETERMINE IF CONFLICTS EXIST PRIOR TO BEGINNING ANY EXCAVATION. NOTIFY ENGINEER OF ANY CONFLICTS. CONTRACTOR SHALL VERIFY LOCATION AND INVERTS OF EXISTING UTILITIES TO WHICH NEW UTILITIES WILL BE CONNECTED. PRIOR TO COMMENCING ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN ACCORDANCE WITH THE REQUIRED PROCEDURES.
- CARE SHOULD BE TAKEN IN ALL EXCAVATIONS DUE TO POSSIBLE EXISTENCE OF UNRECORDED UTILITY LINES. EXCAVATION REQUIRED WITHIN PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT THEIR EXPENSE.
- ALL VALVES AND MANHOLE COVERS SHALL BE RAISED OR LOWERED TO MEET FINISHED GRADE.
- CONTRACTOR SHALL CUT PIPES OFF FLUSH WITH THE INSIDE WALL OF THE BOX OR MANHOLE.
- CONTRACTOR SHALL GROUT AT CONNECTION OF PIPE TO BOX WITH NON-SHRINKING GROUT, INCLUDING PIPE VOIDS LEFT BY CUTTING PROCESS, TO A SMOOTH FINISH.
- CONTRACTOR SHALL GROUT WITH NON-SHRINK GROUT BETWEEN GRADE RINGS AND BETWEEN BOTTOM OF INLET LID FRAME AND TOP OF CONCRETE BOX.
- SILT AND DEBRIS IS TO BE CLEANED OUT OF ALL STORM DRAIN BOXES. CATCH BASINS ARE TO BE MAINTAINED IN A CLEANED CONDITION AS NEEDED UNTIL AFTER THE FINAL BOND RELEASE INSPECTION.
- CONTRACTOR SHALL CLEAN ASPHALT, TAR OR OTHER ADHESIVES OFF OF ALL MANHOLE LIDS AND INLET GRATES.
- EACH TRENCH SHALL BE EXCAVATED SO THAT THE PIPE CAN BE LAID TO THE ALIGNMENT AND GRADE AS REQUIRED. THE TRENCH WALL SHALL BE SO BRACED THAT THE WORK PEOPLE MAY WORK SAFELY AND EFFICIENTLY. ALL TRENCHES SHALL BE DRAINED SO THE PIPE LAYING MAY TAKE PLACE IN DEWATERED CONDITIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COST OF DEWATERING.
- CONTRACTOR SHALL PROVIDE AND MAINTAIN AT ALL TIMES AMPLE MEANS AND DEVICES WITH WHICH TO REMOVE PROMPTLY AND TO PROPERLY DISPOSE OF ALL WATER ENTERING THE TRENCH EXCAVATION.
- MAINTAIN A MINIMUM 18" VERTICAL SEPARATION DISTANCE BETWEEN ALL UTILITY CROSSINGS.
- CONTRACTOR SHALL START INSTALLATION AT LOW POINT OF ALL NEW GRAVITY UTILITY LINES.
- ALL BOLTED FITTINGS MUST BE GREASED AND WRAPPED.
- UNLESS SPECIFICALLY NOTED OTHERWISE, MAINTAIN AT LEAST 2 FEET OF COVER OVER ALL STORM DRAIN LINES AT ALL TIMES (INCLUDING DURING CONSTRUCTION).
- ALL WATER LINES SHALL BE INSTALLED A MINIMUM OF 48" OF COVER TO TOP OF PIPE BELOW FINISHED GRADE.
- ALL SEWER LINES AND SEWER SERVICES SHALL HAVE A MINIMUM SEPARATION OF 10 FEET HORIZONTAL SEPARATION, PIPE EDGE TO PIPE EDGE, FROM THE WATER LINES, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL INSTALL THRUST BLOCKING AT ALL WATERLINE ANGLE POINTS AND TEES.
- ALL UNDERGROUND UTILITIES SHALL BE IN PLACE PRIOR TO INSTALLATION OF CURB, GUTTER, SIDEWALK AND STREET PAVING.
- CONTRACTOR SHALL INSTALL MAGNETIC LOCATING TAPE CONTINUOUSLY OVER ALL NONMETALLIC PIPE.
- THE CONTRACTOR SHALL NOTIFY TALISMAN CIVIL CONSULTANTS IN WRITING AT LEAST 48 HOURS PRIOR TO BACKFILLING OF ANY PIPE WHICH STUBS TO A FUTURE PHASE OF CONSTRUCTION FOR INVERT VERIFICATION. TOLERANCE SHALL BE IN ACCORDANCE WITH THE REGULATORY AGENCY STANDARD SPECIFICATIONS.
- UNDER NO CIRCUMSTANCE SHALL THE PIPE OR ACCESSORIES BE DROPPED INTO THE TRENCH.
- EXISTING UTILITY BOXES, MANHOLES, LIDS, ETC WITHIN THE NEW PAVEMENT AREA MUST BE ADJUSTED TO GRADE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY THESE SAID STRUCTURES BEFORE COMMENCING WORK.

**LEGEND**

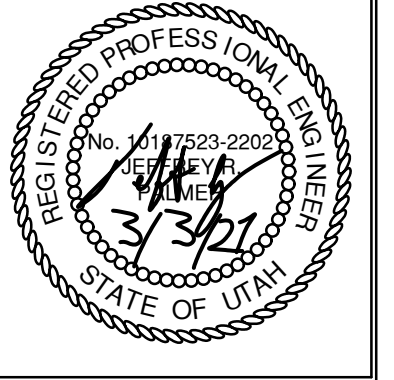
	EXISTING ASPHALT
	EXISTING ASPHALT TO BE REMOVED
	EXISTING GRAVEL/LANDSCAPING
	EXISTING GRAVEL/LANDSCAPING TO BE REMOVED
	EXISTING BUILDING/STRUCTURE
	EXISTING CONCRETE
	EXISTING CONCRETE TO BE REMOVED
	PROPOSED CONCRETE PAVEMENT
	PROPOSED ASPHALT
	PROPOSED SLURRY SEAL AREA
	PROPOSED LANDSCAPE AREA
	PROPOSED RIP-RAP
	PROPOSED DETECTABLE WARNING SURFACE
	EXISTING STORM DRAIN PIPE
	EXISTING STORM DRAIN TO BE REMOVED
	EXISTING SANITARY SEWER PIPE
	EXISTING WATER PIPE
	EXISTING MAJOR CONTOUR
	EXISTING FENCE
	EXISTING STORM DRAIN CLEANOUT
	EXISTING STORM DRAIN CATCH BASIN
	EXISTING STORM DRAIN MANHOLE
	EXISTING SANITARY SEWER MANHOLE
	EXISTING WATER MANHOLE
	EXISTING WATER VALVE
	EXISTING FIRE HYDRANT
	EXISTING IRRIGATION VALVE
	EXISTING IRRIGATION CONTROL BOX
	EXISTING TRANSFORMER
	EXISTING SIGN
	PROPOSED SIGN
	PROPOSED STORM DRAIN PIPE
	PROPOSED WATERLINE
	PROPOSED MAJOR CONTOUR
	PROPOSED STORM DRAIN CATCH BASIN
	PROPOSED STORM DRAIN MANHOLE
	PROPERTY LINE
	SAWCUT LINE
	PROPOSED GRADE BREAK
	PROPOSED HOSE BIB
	PROPOSED CURB AND GUTTER
	PROPOSED TIP OUT CURB AND GUTTER

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**JWCD HEADQUARTERS**  
**UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS**  
**GENERAL NOTES**  
DATE SUBMITTED: 03.03.2021  
TCC JOB NUMBER: 18-024



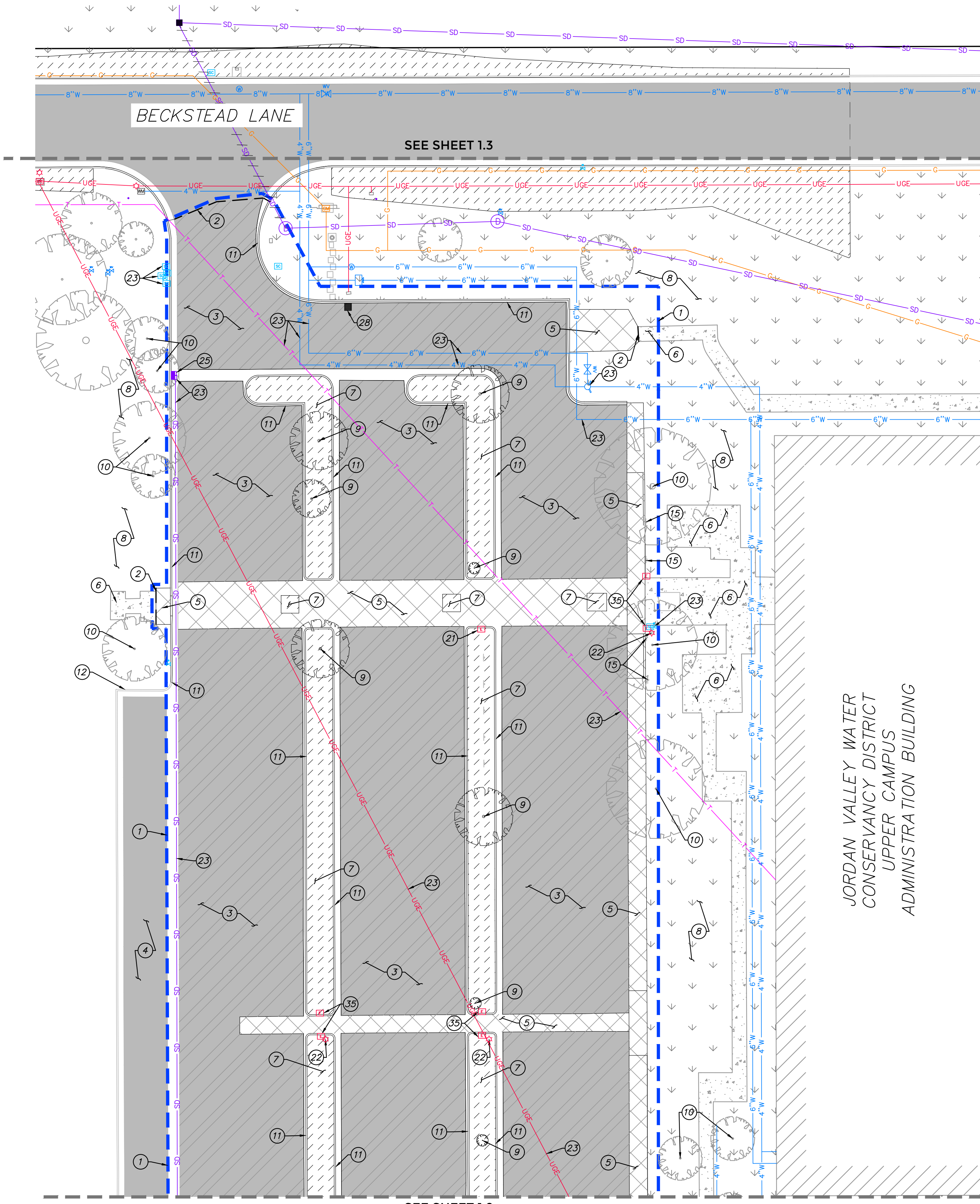
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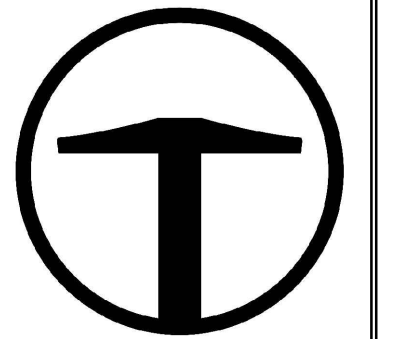


**GENERAL NOTES:**

- EXISTING UTILITY INFORMATION SHOWN IS FOR INFORMATIONAL PURPOSES ONLY. IT IS DERIVED FROM RECORD DRAWINGS AND ON-SITE SURVEY (PROVIDED BY OTHERS). UTILITY INFORMATION MAY NOT BE LOCATED CORRECTLY AND IS NOT ALL INCLUSIVE. CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES BEFORE BEGINNING DEMOLITION/CONSTRUCTION AND NOTIFY ENGINEER WHEN UNEXPECTED UTILITIES ARE DISCOVERED.
- THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR LOCATING AND PROTECTING FROM DAMAGE ALL EXISTING UTILITIES AND IMPROVEMENTS WHETHER OR NOT SHOWN ON THESE PLANS. THE FACILITIES AND IMPROVEMENTS ARE BELIEVED TO BE CORRECTLY SHOWN BUT THE CONTRACTOR IS REQUIRED TO SATISFY THEMSELVES AS TO THE COMPLETENESS AND ACCURACY OF THE LOCATIONS. ANY CONTRACTOR PERFORMING WORK ON THIS PROJECT SHALL FAMILIARIZE THEMSELVES WITH THE SITE AND SHALL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGE TO EXISTING FACILITIES RESULTING DIRECTLY, OR INDIRECTLY, FROM THEIR OPERATIONS, WHETHER OR NOT SAID FACILITIES ARE SHOWN ON THESE PLANS.
- PROVIDE ALL CONDUITS AND WIRE NECESSARY TO ENSURE THAT ALL EXISTING SITE LIGHTING RETAINS FULL FUNCTIONALITY THROUGH ALL DEMOLITION AND NEW CONSTRUCTION. ALL EXISTING LIGHTING IS TO BE FUNCTIONAL EACH NIGHT. IF EXISTING CONDUIT OR WIRE IS DAMAGED OR DEMOLISHED, NEW OR TEMPORARY WIRING SHALL BE INSTALLED TO ENSURE THE LIGHTS ARE ON BEFORE DARK.
- ALL CONDUITS AND WIRE FOR DEMOLISHED SITE LIGHTING CIRCUITS TO BE REMOVED BACK TO SOURCE, OR FIX FIXTURE TO REMAIN COMPLETE AND NOT ABANDONED IN PLACE.

**SCOPE OF WORK:**

- APPROXIMATE LIMITS-OF-DISTURBANCE (LOD).
- SAWCUT TO PROVIDE SMOOTH CLEAN EDGE.
- REMOVE AND PROPERLY DISPOSE OF EXISTING ASPHALT. RECYCLE FOR FUTURE CONSTRUCTION.
- PRESERVE AND PROTECT EXISTING ASPHALT.
- REMOVE AND PROPERLY DISPOSE OF EXISTING CONCRETE. SAWCUT AT CONTROL JOINT NEAREST TO DEMOLITION BOUNDARY SHOWN. RECYCLE FOR FUTURE CONSTRUCTION.
- PRESERVE AND PROTECT EXISTING CONCRETE.
- REMOVE AND PROPERLY DISPOSE OF EXISTING LANDSCAPING.
- PRESERVE AND PROTECT EXISTING LANDSCAPING BEYOND AREA NECESSARY TO BE DISTURBED FOR IMPROVEMENTS.
- REMOVE AND PROPERLY DISPOSE OF EXISTING TREE.
- PRESERVE AND PROTECT EXISTING TREE. SEE EROSION CONTROL AND LANDSCAPE PLANS.
- REMOVE AND PROPERLY DISPOSE OF EXISTING CURB AND GUTTER. SAWCUT AT CONTROL JOINT NEAREST TO DEMOLITION BOUNDARY SHOWN.
- PROTECT IN PLACE EXISTING CURB AND GUTTER.
- REMOVE AND PROPERLY DISPOSE OF EXISTING ADA PARKING SIGN.
- PROTECT IN PLACE EXISTING CURB.
- REMOVE AND PROPERLY DISPOSE OF EXISTING ADA PARKING SIGN.
- PROTECT IN PLACE EXISTING LIGHTING STRUCTURE.
- PROTECT IN PLACE EXISTING UTILITY LINE/STRUCTURE. CONTRACTOR TO VERIFY EXACT LOCATION.
- ADJUST TO GRADE EXISTING UTILITY STRUCTURE. SEE GRADING AND UTILITY PLAN.
- REMOVE AND PROPERLY DISPOSE OF EXISTING STORM DRAIN CATCH BASIN.
- REMOVE AND RELOCATE EXISTING ELECTRICAL UTILITY. SEE SITE PLAN FOR LOCATION.



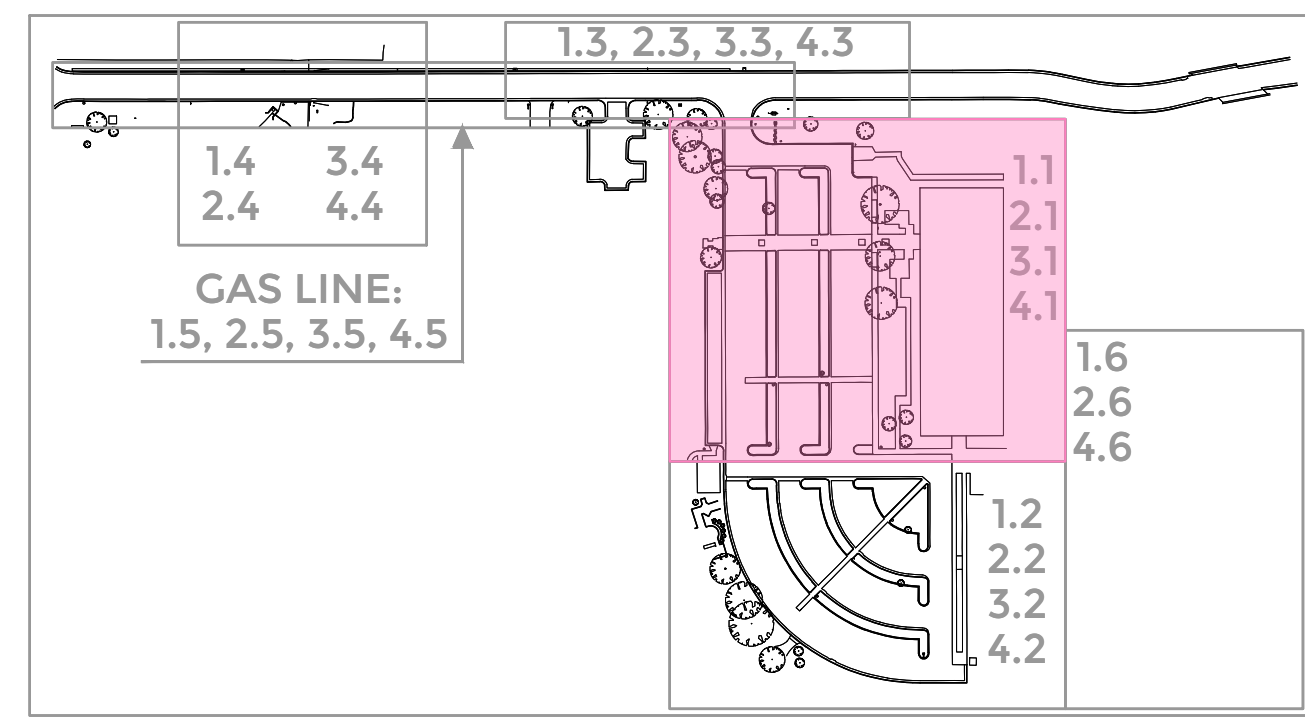
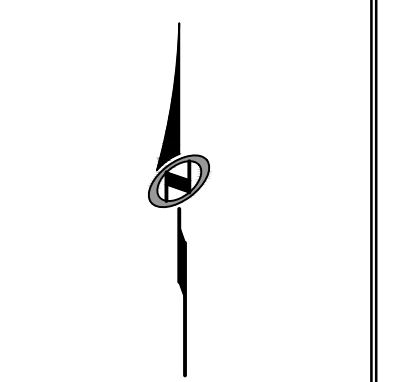
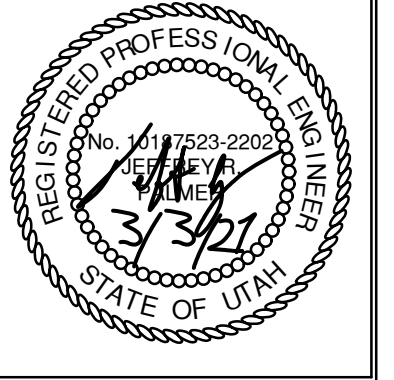
**TALISMAN**  
CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

REVISIONS:	
DATE	
BY	
NO.	

**JWCD HEADQUARTERS**  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
DEMOLITION PLAN PARKING LOT NORTH

DATE SUBMITTED: 03.03.2021

TCC JOB NUMBER: 18-024



22X34 FULL SCALE: 1"=20'

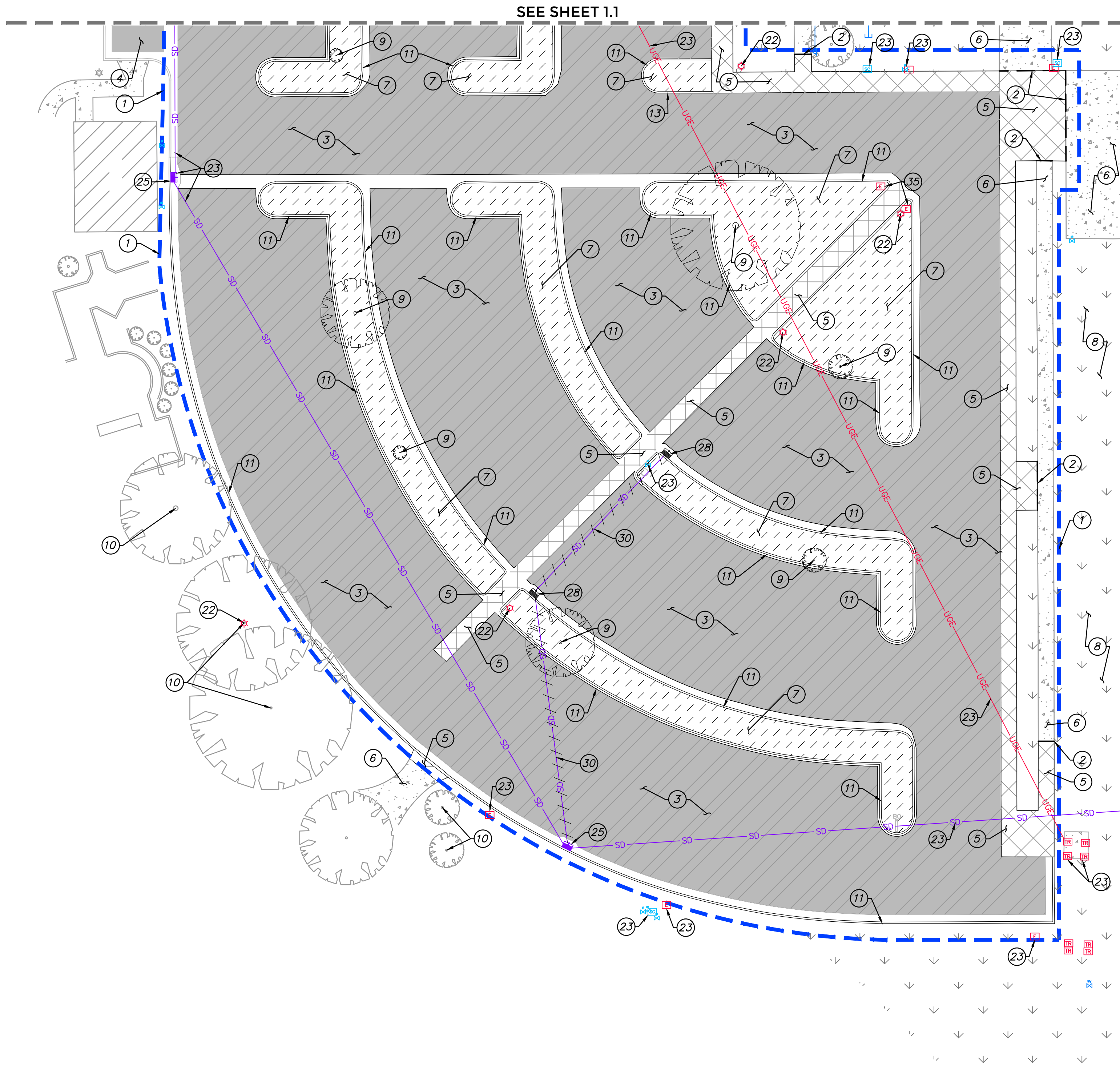
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SHEET NUMBER

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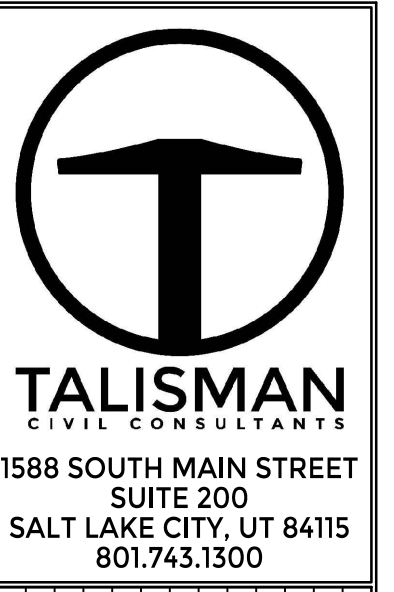


**GENERAL NOTES:**

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- THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR LOCATING AND PROTECTING FROM DAMAGE ALL EXISTING UTILITIES AND IMPROVEMENTS WHETHER OR NOT SHOWN ON THESE PLANS. THE FACILITIES AND IMPROVEMENTS ARE BELIEVED TO BE CORRECTLY SHOWN BUT THE CONTRACTOR IS REQUIRED TO SATISFY THEMSELVES AS TO THE COMPLETENESS AND ACCURACY OF THE LOCATIONS. ANY CONTRACTOR PERFORMING WORK ON THIS PROJECT SHALL FAMILIARIZE THEMSELVES WITH THE SITE AND SHALL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGE TO EXISTING FACILITIES RESULTING DIRECTLY, OR INDIRECTLY, FROM THEIR OPERATIONS, WHETHER OR NOT SAID FACILITIES ARE SHOWN ON THESE PLANS.
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- ALL CONDUITS AND WIRE FOR DEMOLISHED SITE LIGHTING CIRCUITS TO BE REMOVED BACK TO SOURCE, OR FIX FIXTURE TO REMAIN COMPLETE AND NOT ABANDONED IN PLACE.

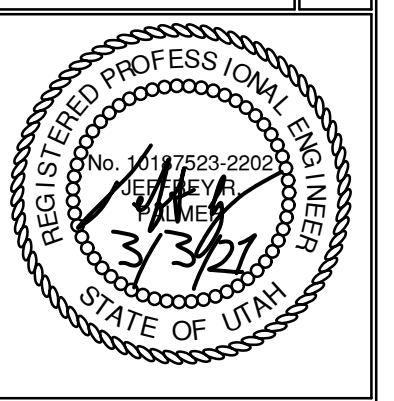
**SCOPE OF WORK:**

- APPROXIMATE LIMITS-OF-DISTURBANCE (LOD).
- SAWCUT TO PROVIDE SMOOTH CLEAN EDGE.
- REMOVE AND PROPERLY DISPOSE OF EXISTING ASPHALT. RECYCLE FOR FUTURE CONSTRUCTION.
- PRESERVE AND PROTECT EXISTING ASPHALT.
- REMOVE AND PROPERLY DISPOSE OF EXISTING CONCRETE. SAWCUT AT CONTROL JOINT NEAREST TO DEMOLITION BOUNDARY SHOWN. RECYCLE FOR FUTURE CONSTRUCTION.
- PRESERVE AND PROTECT EXISTING CONCRETE.
- REMOVE AND PROPERLY DISPOSE OF EXISTING LANDSCAPING.
- PRESERVE AND PROTECT EXISTING LANDSCAPING BEYOND AREA NECESSARY TO BE DISTURBED FOR IMPROVEMENTS.
- REMOVE AND PROPERLY DISPOSE OF EXISTING TREE.
- PRESERVE AND PROTECT EXISTING TREE. SEE EROSION CONTROL AND LANDSCAPE PLANS.
- REMOVE AND PROPERLY DISPOSE OF EXISTING CURB AND GUTTER. SAWCUT AT CONTROL JOINT NEAREST TO DEMOLITION BOUNDARY SHOWN.
- PROTECT IN PLACE EXISTING CURB AND GUTTER.
- REMOVE AND PROPERLY DISPOSE OF EXISTING CURB. SAWCUT AT CONTROL JOINT NEAREST TO DEMOLITION BOUNDARY SHOWN.
- PROTECT IN PLACE EXISTING CURB.
- REMOVE AND PROPERLY DISPOSE OF EXISTING ADA PARKING SIGN.
- PROTECT IN PLACE EXISTING LIGHTING STRUCTURE.
- PROTECT IN PLACE EXISTING UTILITY LINE/STRUCTURE. CONTRACTOR TO VERIFY EXACT LOCATION.
- ADJUST TO GRADE EXISTING UTILITY STRUCTURE. SEE GRADING AND UTILITY PLAN.
- REMOVE AND PROPERLY DISPOSE OF EXISTING STORM DRAIN CATCH BASIN.
- REMOVE AND RELOCATE EXISTING ELECTRICAL UTILITY. SEE SITE PLAN FOR LOCATION.

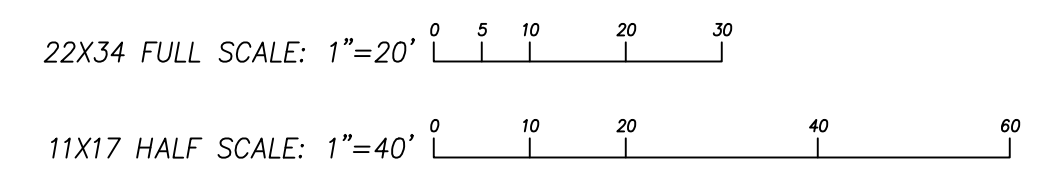
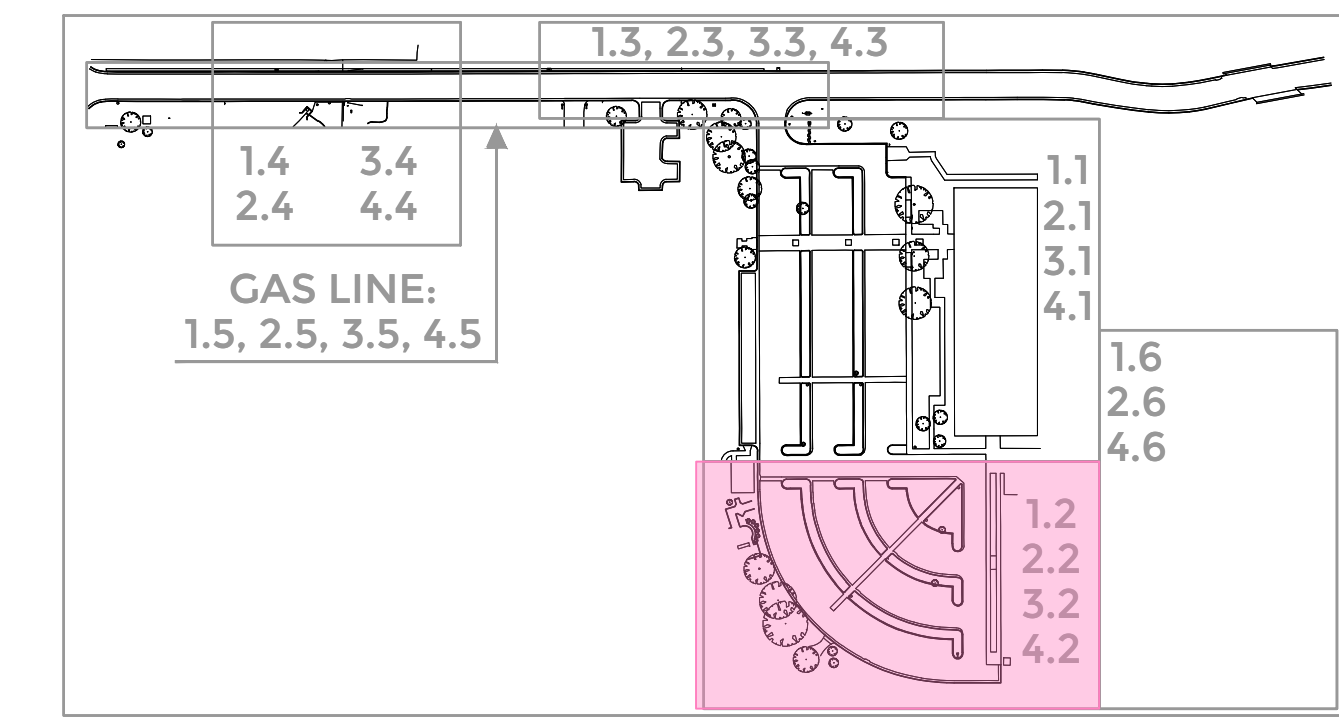


REVISIONS:	
DATE:	
BY:	
NO.:	

**JWCD HEADQUARTERS**  
**UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS**  
**DEMOLITION PLAN PARKING LOT SOUTH**  
 TCC JOB NUMBER: 18-024  
 DATE SUBMITTED: 03.03.2021



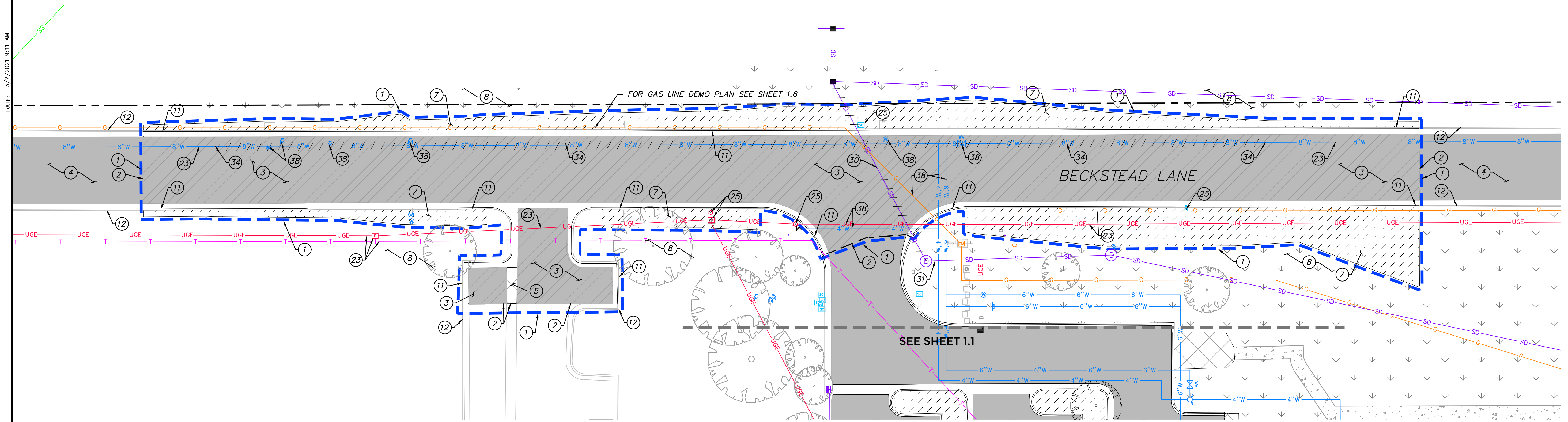
SHEET NUMBER  
**1.2**  
 5 OF 38





DATE: 3/2/2021 9:11 AM

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**GENERAL NOTES:**

1. EXISTING UTILITY INFORMATION SHOWN IS FOR INFORMATIONAL PURPOSES ONLY. IT IS DERIVED FROM RECORD DRAWINGS AND ON-SITE SURVEY (PROVIDED BY OTHERS). UTILITY INFORMATION MAY NOT BE LOCATED CORRECTLY AND IS NOT ALL INCLUSIVE. CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES BEFORE BEGINNING DEMOLITION/CONSTRUCTION AND NOTIFY ENGINEER WHEN UNEXPECTED UTILITIES ARE DISCOVERED.

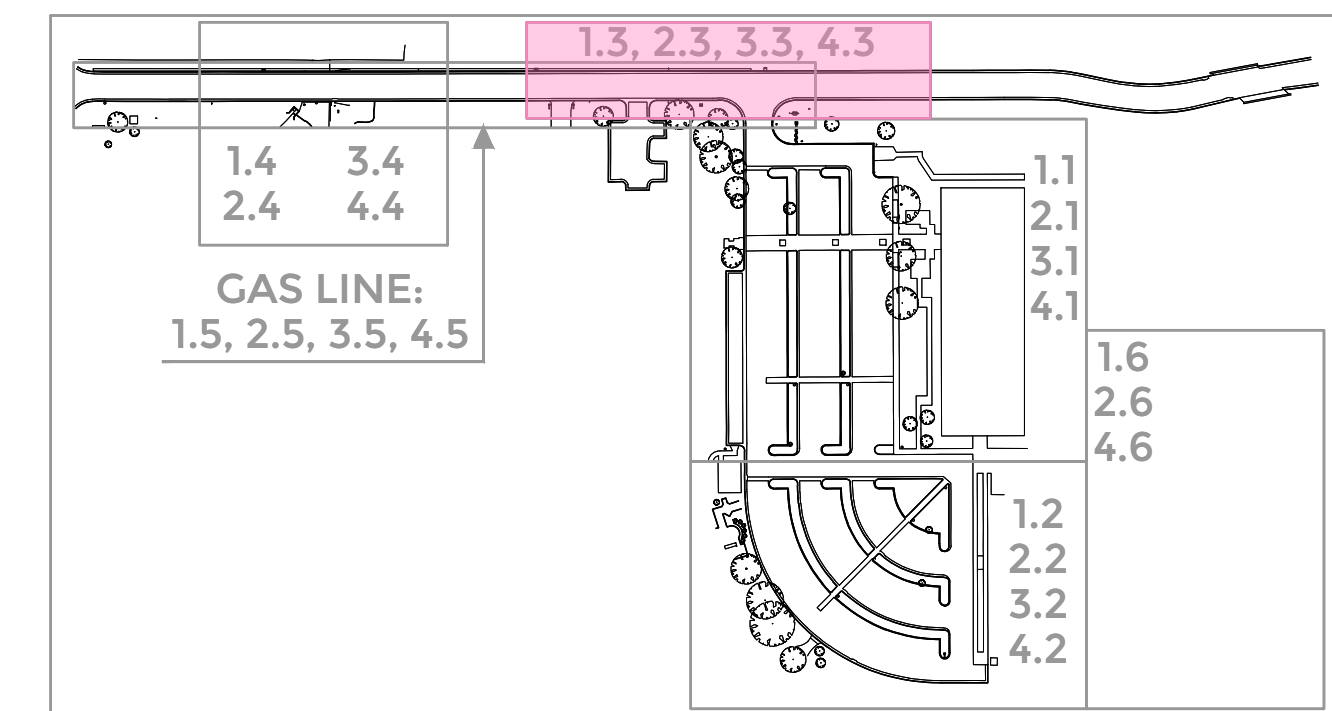
2. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR LOCATING AND PROTECTING FROM DAMAGE ALL EXISTING UTILITIES AND IMPROVEMENTS WHETHER OR NOT SHOWN ON THESE PLANS. THE FACILITIES AND IMPROVEMENTS ARE BELIEVED TO BE CORRECTLY SHOWN BUT THE CONTRACTOR IS REQUIRED TO SATISFY THEMSELVES AS TO THE COMPLETENESS AND ACCURACY OF THE LOCATIONS. ANY CONTRACTOR PERFORMING WORK ON THIS PROJECT SHALL FAMILIARIZE THEMSELVES WITH THE SITE AND SHALL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGE TO EXISTING FACILITIES RESULTING DIRECTLY, OR INDIRECTLY, FROM THEIR OPERATIONS, WHETHER OR NOT SAID FACILITIES ARE SHOWN ON THESE PLANS.

3. PROVIDE ALL CONDUITS AND WIRE NECESSARY TO ENSURE THAT ALL EXISTING SITE LIGHTING RETAINS FULL FUNCTIONALITY THROUGH ALL DEMOLITION AND NEW CONSTRUCTION. ALL EXISTING LIGHTING IS TO BE FUNCTIONAL EACH NIGHT. IF EXISTING CONDUIT OR WIRE IS DAMAGED OR DEMOLISHED, NEW OR TEMPORARY WIRING SHALL BE INSTALLED TO ENSURE THE LIGHTS ARE ON BEFORE DARK.

4. ALL CONDUITS AND WIRE FOR DEMOLISHED SITE LIGHTING CIRCUITS TO BE REMOVED BACK TO SOURCE, OR FIX FIXTURE TO REMAIN COMPLETE AND NOT ABANDONED IN PLACE.

**SCOPE OF WORK:**

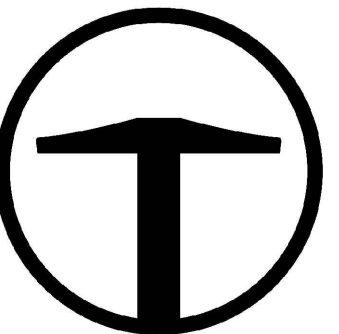
- ① APPROXIMATE LIMITS-OF-DISTURBANCE (LOD).
- ② SAWCUT TO PROVIDE SMOOTH CLEAN EDGE.
- ③ REMOVE AND PROPERLY DISPOSE OF EXISTING ASPHALT. RECYCLE FOR FUTURE CONSTRUCTION.
- ④ PRESERVE AND PROTECT EXISTING ASPHALT.
- ⑦ REMOVE AND PROPERLY DISPOSE OF EXISTING LANDSCAPING.
- ⑧ PRESERVE AND PROTECT EXISTING LANDSCAPING BEYOND AREA NECESSARY TO BE DISTURBED FOR IMPROVEMENTS.
- ⑪ REMOVE AND PROPERLY DISPOSE OF EXISTING CURB AND GUTTER. SAWCUT AT CONTROL JOINT NEAREST TO DEMOLITION BOUNDARY SHOWN.
- ⑫ PROTECT IN PLACE EXISTING CURB AND GUTTER.
- ⑫ PROTECT IN PLACE EXISTING UTILITY LINE/STRUCTURE. CONTRACTOR TO VERIFY EXACT LOCATION.
- ⑫ ADJUST TO GRADE EXISTING UTILITY STRUCTURE. SEE GRADING AND UTILITY PLAN.
- ⑫ REMOVE AND PROPERLY DISPOSE OF EXISTING STORM DRAIN PIPE.
- ⑫ CUT, CAP, AND ABANDON IN PLACE EXISTING STORM DRAIN PIPE.
- ⑫ REMOVE AND PROPERLY DISPOSE OF EXISTING WATER PIPE. CONTRACTOR TO ENSURE LINE IS NOT CHARGED, AND DISTRICT IS NOTIFIED OF SHUTDOWN.
- ⑫ REMOVE AND RELOCATE EXISTING ELECTRICAL UTILITY. SEE SITE PLAN FOR LOCATION.
- ⑫ PREPARE EXISTING WATER LINE TO BE LOOPED. SEE UTILITY PLAN.
- ⑫ UTILITY TO BE LOWERED. SEE CORRESPONDING SITE, UTILITY, GRADING, AND PROFILE PLANS.



KEYMAP

22X34 FULL SCALE: 1"=20'

11X17 HALF SCALE: 1"=40'



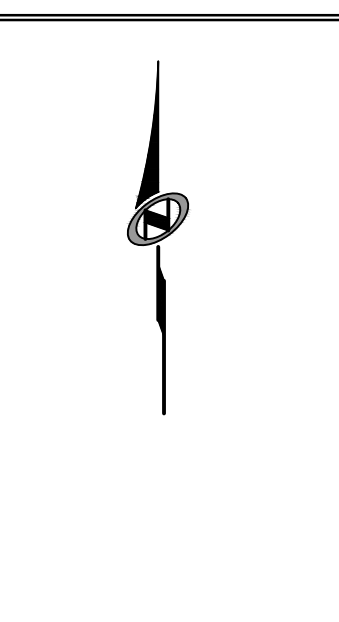
**TALISMAN**  
CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

NO.	BY	DATE	REVISIONS

**JWCD HEADQUARTERS**  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
DEMOLITION PLAN BECKSTEAD LANE

DATE SUBMITTED: 03.03.2021

TCC JOB NUMBER: 18-024

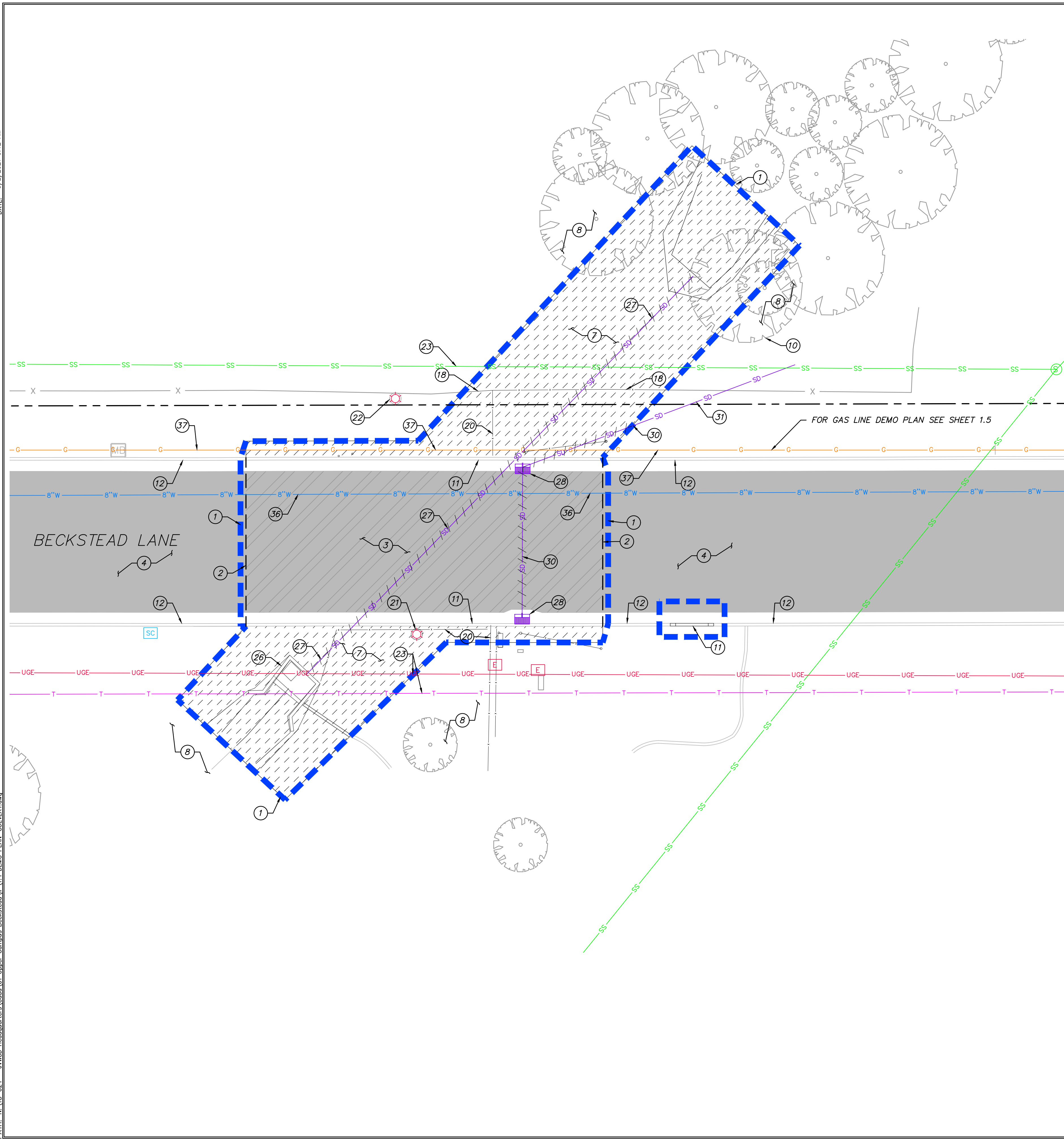


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6 OF 38





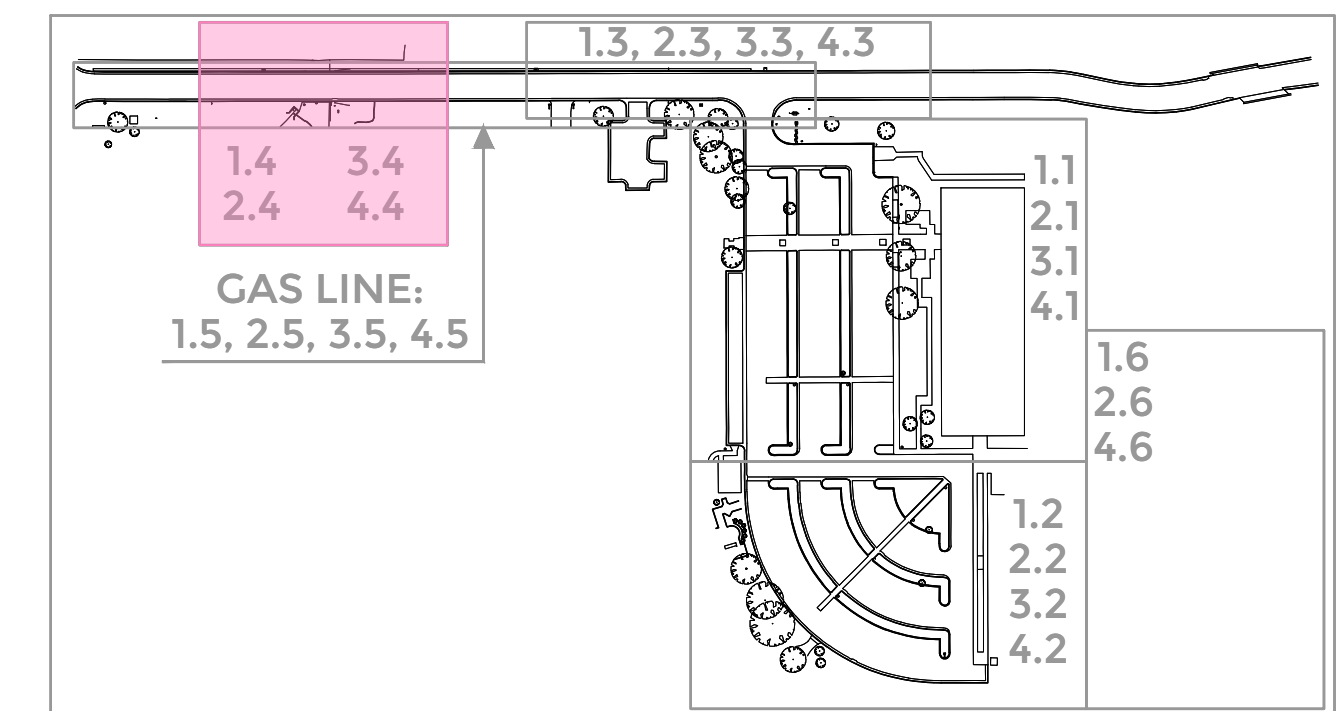
**GENERAL NOTES:**

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**SCOPE OF WORK:**

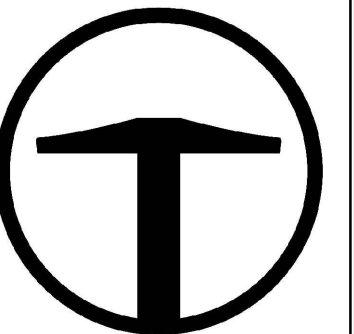
- APPROXIMATE LIMITS-OF-DISTURBANCE (LOD).
- SAWCUT TO PROVIDE SMOOTH CLEAN EDGE.
- REMOVE AND PROPERLY DISPOSE OF EXISTING ASPHALT. RECYCLE FOR FUTURE CONSTRUCTION.
- PRESERVE AND PROTECT EXISTING ASPHALT.
- REMOVE AND PROPERLY DISPOSE OF EXISTING LANDSCAPING.
- PRESERVE AND PROTECT EXISTING LANDSCAPING BEYOND AREA NECESSARY TO BE DISTURBED FOR IMPROVEMENTS.
- PRESERVE AND PROTECT EXISTING TREE. SEE EROSION CONTROL AND LANDSCAPE PLANS.
- REMOVE AND PROPERLY DISPOSE OF EXISTING CURB AND GUTTER. SAWCUT AT CONTROL JOINT NEAREST TO DEMOLITION BOUNDARY SHOWN.
- PROTECT IN PLACE EXISTING CURB AND GUTTER.
- REMOVE AND PROPERLY DISPOSE OF EXISTING FENCE.
- PROTECT IN PLACE EXISTING GATE.

- REMOVE AND RELOCATE EXISTING GATE ASSEMBLY. SEE SITE PLAN FOR LOCATION.
- REMOVE AND RELOCATE EXISTING MONUMENT AND LIGHTING. SEE SITE PLAN FOR LOCATION.
- PROTECT IN PLACE EXISTING LIGHTING STRUCTURE.
- PROTECT IN PLACE EXISTING UTILITY LINE/STRUCTURE. CONTRACTOR TO VERIFY EXACT LOCATION.
- REMOVE AND PROPERLY DISPOSE OF EXISTING HEAD WALL AND GRATE.
- REMOVE AND PROPERLY DISPOSE OF EXISTING 36" CULVERT.
- REMOVE AND PROPERLY DISPOSE OF EXISTING STORM DRAIN CATCH BASIN.
- REMOVE AND PROPERLY DISPOSE OF EXISTING STORM DRAIN PIPE.
- CUT, CAP, AND ABANDON IN PLACE EXISTING STORM DRAIN PIPE.
- PREPARE EXISTING WATER LINE TO BE LOOPED. SEE UTILITY PLAN.



22X34 FULL SCALE: 1"=10'

11X17 HALF SCALE: 1"=20'



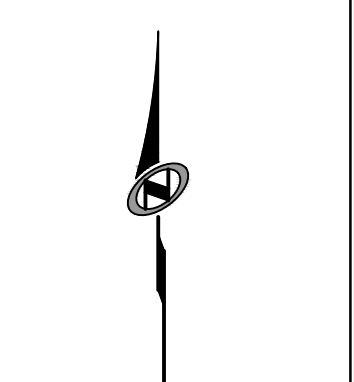
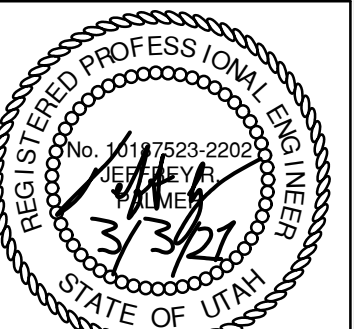
**TALISMAN**  
CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

RESPONS:	
DATE:	
BY:	
NO.:	

**JWCD HEADQUARTERS**  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
DEMOLITION PLAN CULVERT

DATE SUBMITTED: 03.03.2021

TCC JOB NUMBER: 18-024



SHEET NUMBER

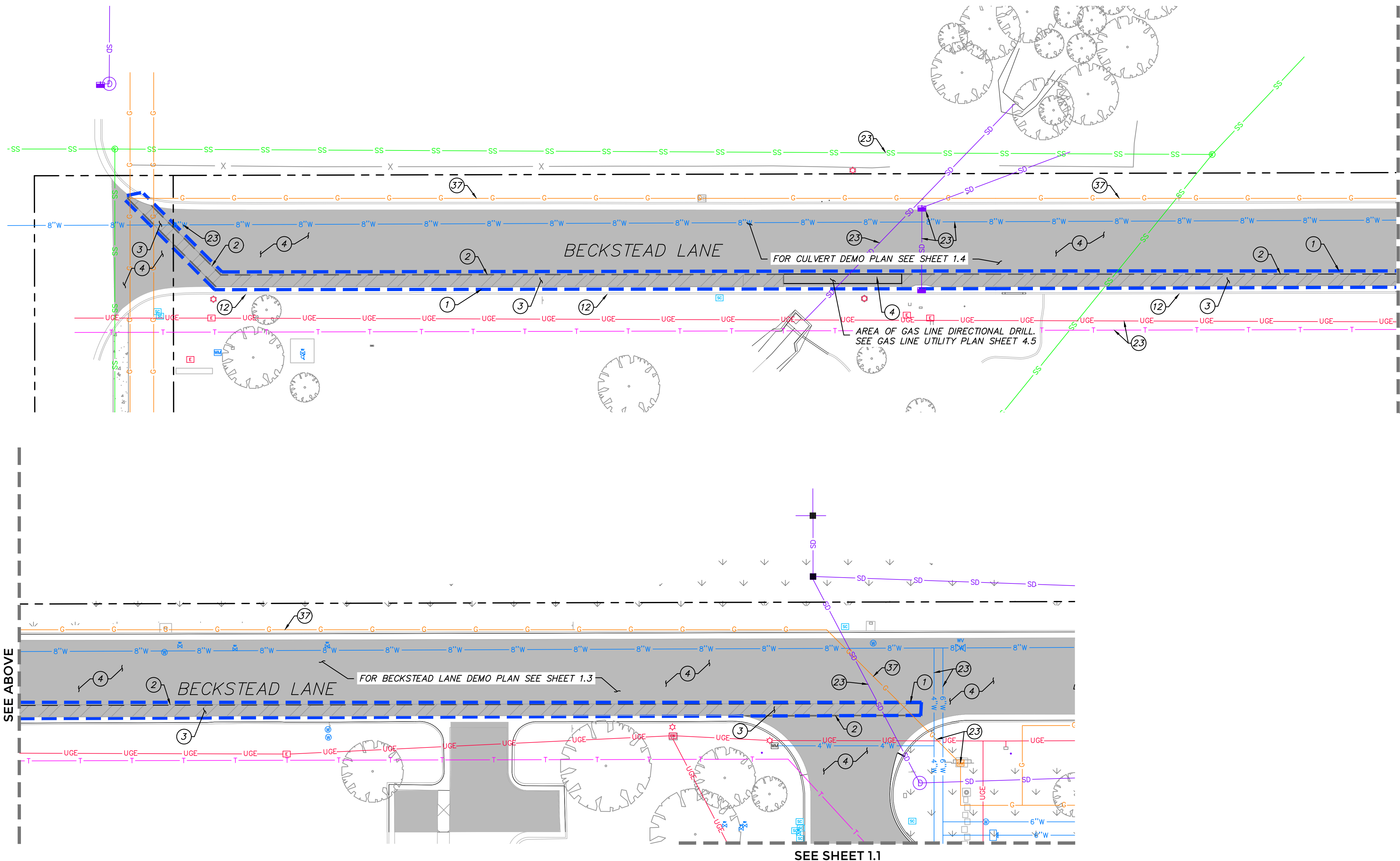
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7 OF 38



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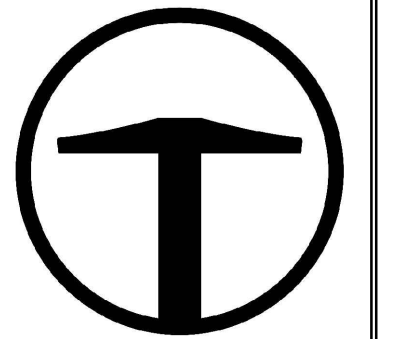


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- ALL CONDUITS AND WIRE FOR DEMOLISHED SITE LIGHTING CIRCUITS TO BE REMOVED BACK TO SOURCE, OR FIX FIXTURE TO REMAIN COMPLETE AND NOT ABANDONED IN PLACE.

**SCOPE OF WORK:**

- APPROXIMATE LIMITS-OF-DISTURBANCE (LOD).
- SAWCUT TO PROVIDE SMOOTH CLEAN EDGE.
- REMOVE AND PROPERLY DISPOSE OF EXISTING ASPHALT. RECYCLE FOR FUTURE CONSTRUCTION.
- PRESERVE AND PROTECT EXISTING ASPHALT.
- REMOVE AND PROPERLY DISPOSE OF EXISTING CONCRETE. SAWCUT AT CONTROL JOINT NEAREST TO DEMOLITION BOUNDARY SHOWN. RECYCLE FOR FUTURE CONSTRUCTION.
- PRESERVE AND PROTECT EXISTING CONCRETE.
- REMOVE AND PROPERLY DISPOSE OF EXISTING LANDSCAPING.
- PRESERVE AND PROTECT EXISTING LANDSCAPING BEYOND AREA NECESSARY TO BE DISTURBED FOR IMPROVEMENTS.
- REMOVE AND PROPERLY DISPOSE OF EXISTING TREE.
- PRESERVE AND PROTECT EXISTING TREE. SEE EROSION CONTROL AND LANDSCAPE PLANS.
- REMOVE AND PROPERLY DISPOSE OF EXISTING CURB AND GUTTER. SAWCUT AT CONTROL JOINT NEAREST TO DEMOLITION BOUNDARY SHOWN.
- PROTECT IN PLACE EXISTING CURB AND GUTTER.
- PROTECT IN PLACE EXISTING UTILITY LINE/STRUCTURE. CONTRACTOR TO VERIFY EXACT LOCATION.
- ABANDON IN PLACE EXISTING GAS LINE WITHIN POINTS OF CONNECTION. SEE GAS LINE UTILITY PLAN. CONTACT DOMINION ENERGY AND NOTIFY DISTRICT FOR GAS SHUT OFF PRIOR TO PERFORMING WORK.
- UTILITY TO BE LOWERED. SEE CORRESPONDING SITE, UTILITY, GRADING, AND PROFILE PLANS.



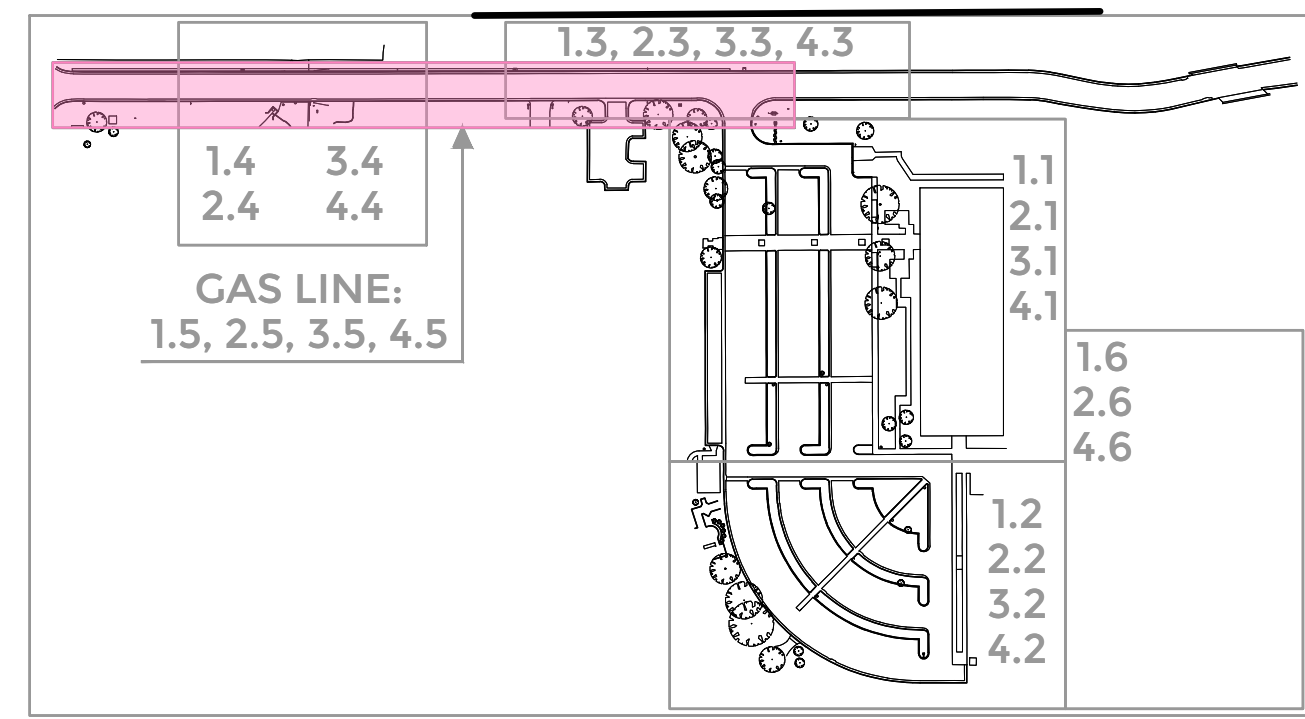
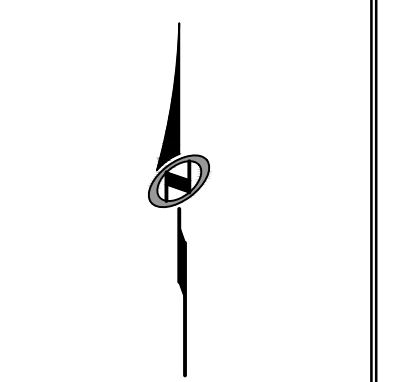
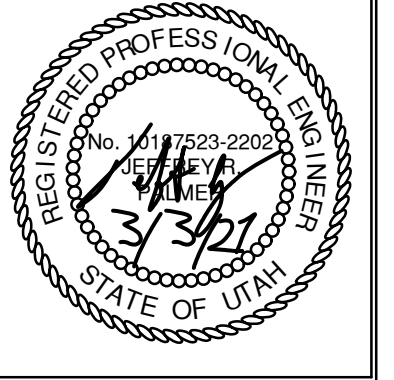
**TALISMAN**  
CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

RESPONSIBLE:	
DATE:	
BY:	
NO.:	

**JWCD HEADQUARTERS**  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
DEMOLITION PLAN GAS LINE

DATE SUBMITTED: 03.03.2021

TCC JOB NUMBER: 18-024



22X34 FULL SCALE: 1"=20'

11X17 HALF SCALE: 1"=40'

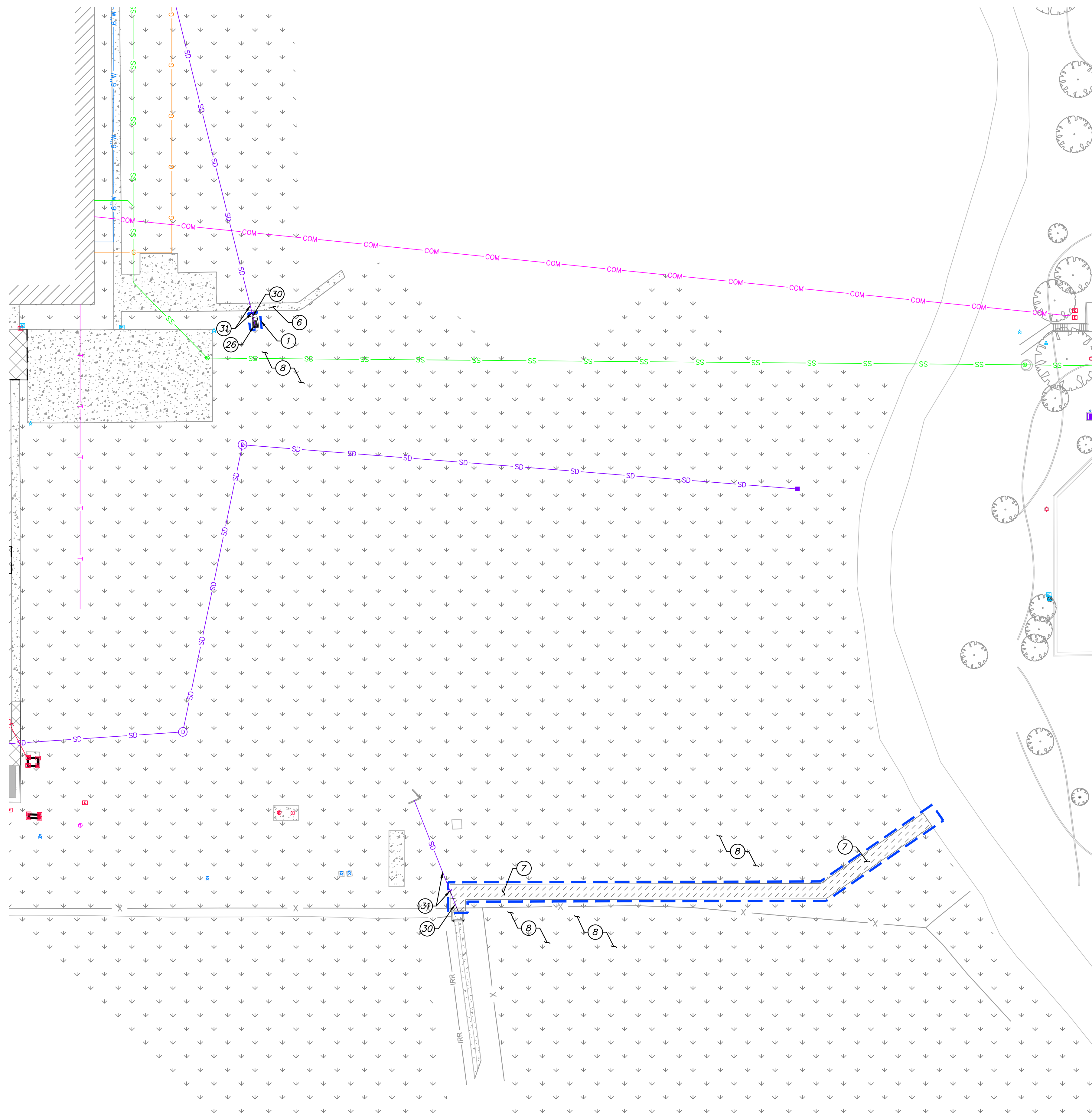


SHEET NUMBER

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8 OF 38



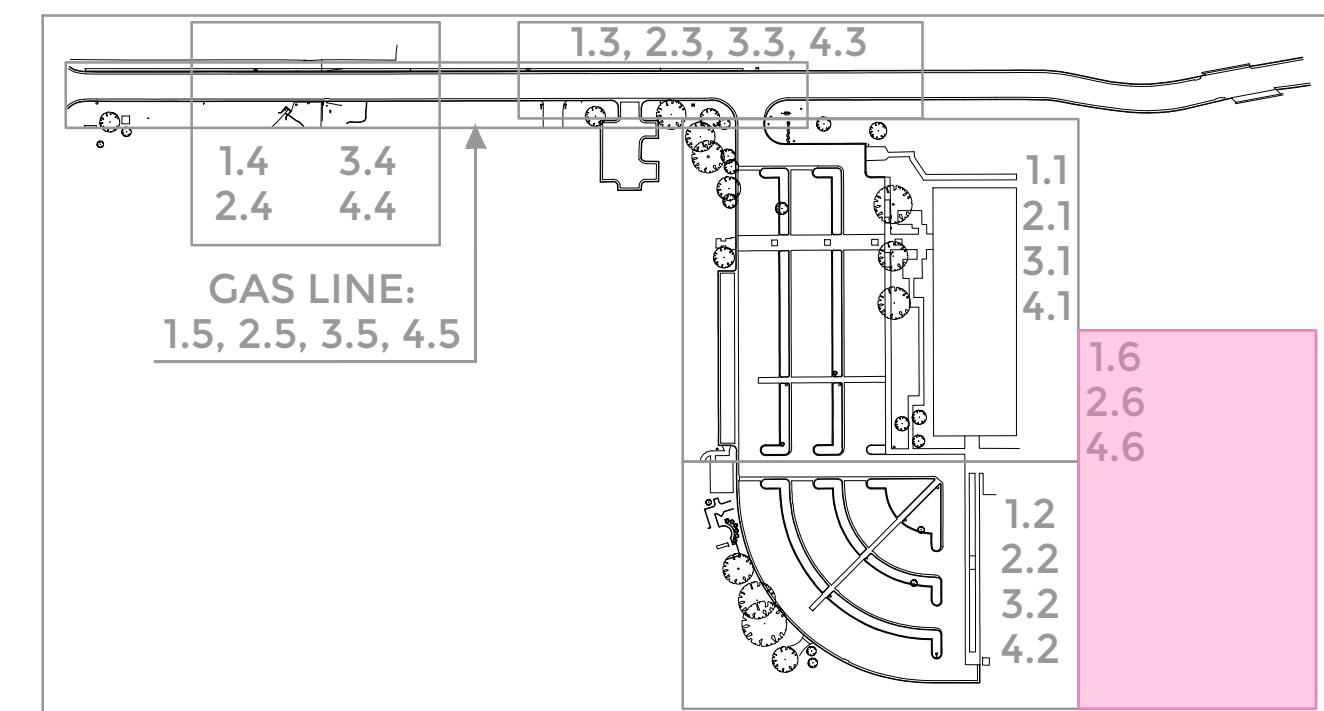


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**SCOPE OF WORK:**

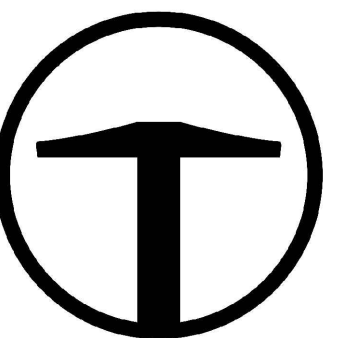
- 1 APPROXIMATE LIMITS-OF-DISTURBANCE (LOD).
- 6 PRESERVE AND PROTECT EXISTING CONCRETE.
- 7 REMOVE AND PROPERLY DISPOSE OF EXISTING LANDSCAPING.
- 8 PRESERVE AND PROTECT EXISTING LANDSCAPING BEYOND AREA NECESSARY TO BE DISTURBED FOR IMPROVEMENTS.
- 26 REMOVE AND PROPERLY DISPOSE OF EXISTING HEAD WALL AND GRATE.
- 30 REMOVE AND PROPERLY DISPOSE OF EXISTING STORM DRAIN PIPE.
- 31 CUT, CAP, AND ABANDON IN PLACE EXISTING STORM DRAIN PIPE.



KEYMAP

22X34 FULL SCALE: 1"=20'

11X17 HALF SCALE: 1"=40'



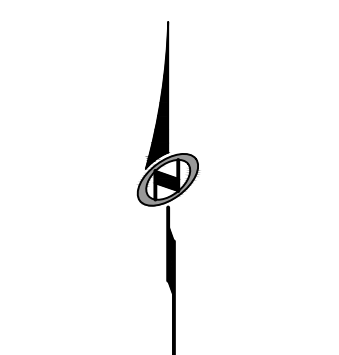
**TALISMAN**  
CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

NO.	BY	DATE	REVISIONS

**JWVCD HEADQUARTERS**  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
DEMOLITION PLAN CANAL

DATE SUBMITTED: 03.03.2021

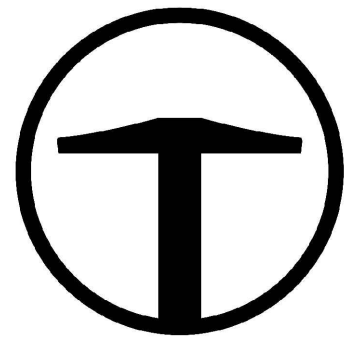
TCC JOB NUMBER: 18-024





DATE: 3/2/2021 8:19 AM

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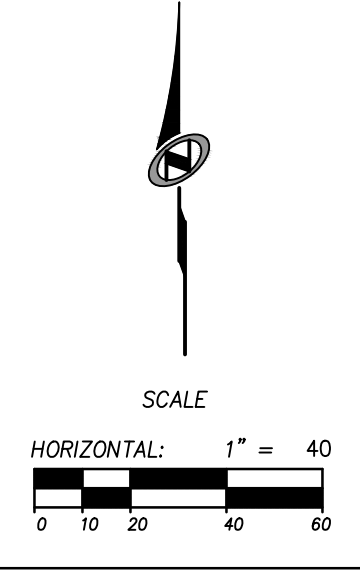
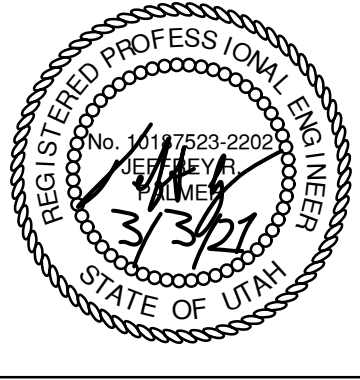


**TALISMAN**  
CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

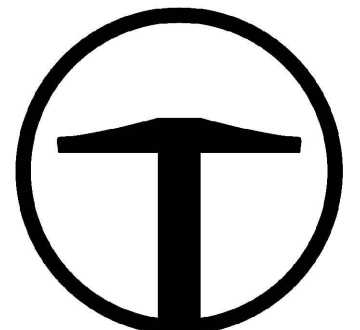
NO.	BY	DATE	REVISIONS

**JWCD HEADQUARTERS**  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
OVERALL SITE CONTROL

TCC JOB NUMBER: 18-024      DATE SUBMITTED: 03.03.2021



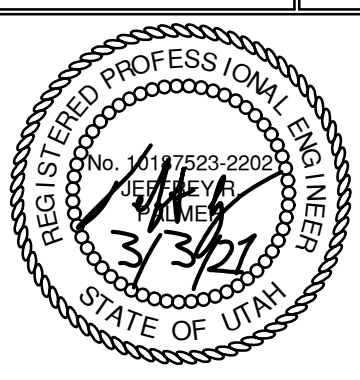




TALISMAN CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

NO.	BY	DATE	REVISIONS

**JWVCD HEADQUARTERS**  
**UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS**  
**SITE & HORIZONTAL CONTROL PARKING LOT NORTH**  
 TCC JOB NUMBER: 18-024      DATE SUBMITTED: 03.03.2021



**SITE GENERAL NOTES:**

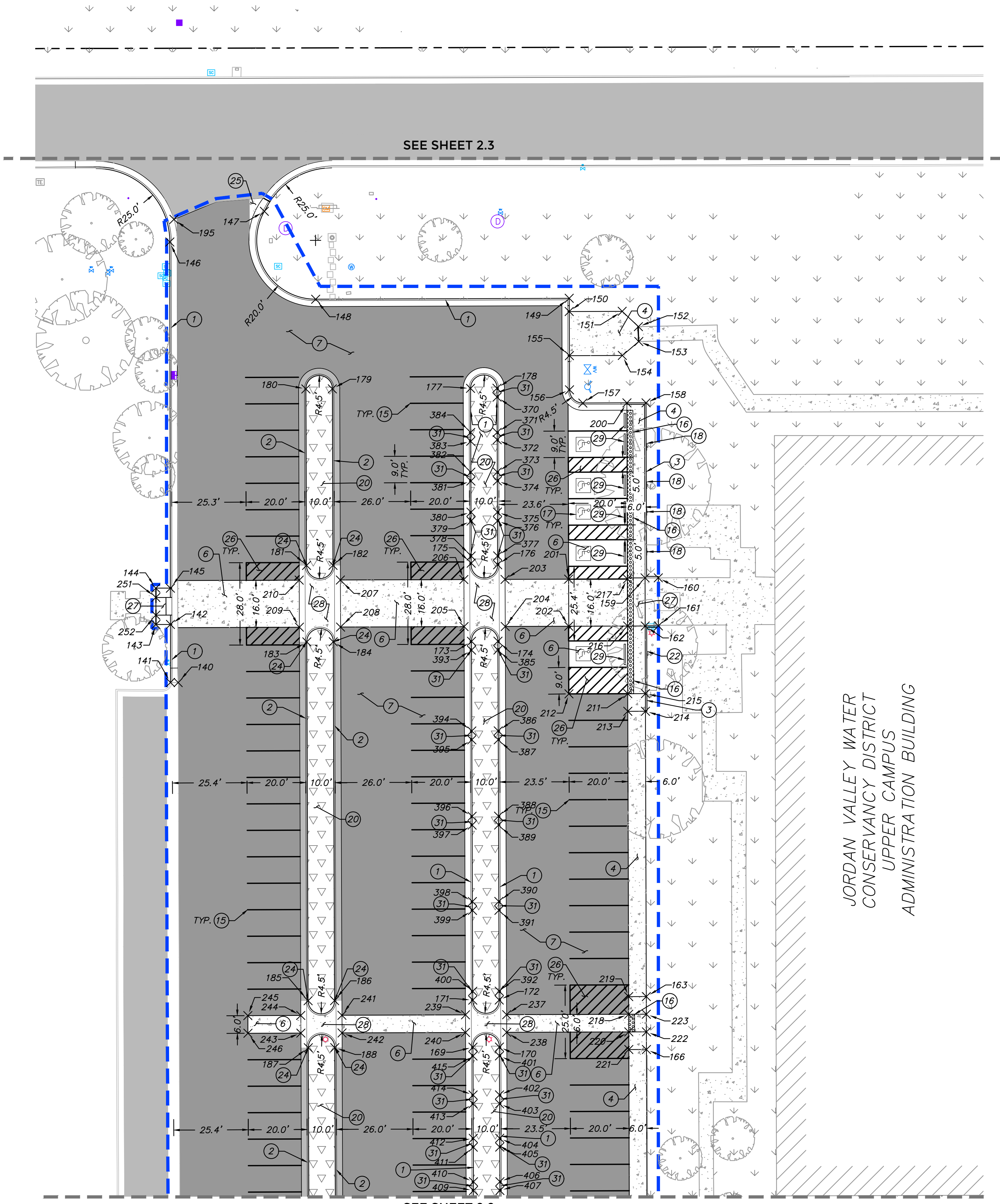
ALL IMPROVEMENTS MUST COMPLY WITH ADA STANDARDS.

ALL SIGNS AND MARKINGS SHALL CONFORM TO THE LATEST EDITION ON THE M.U.T.C.D.

**SITE SCOPE OF WORK:**

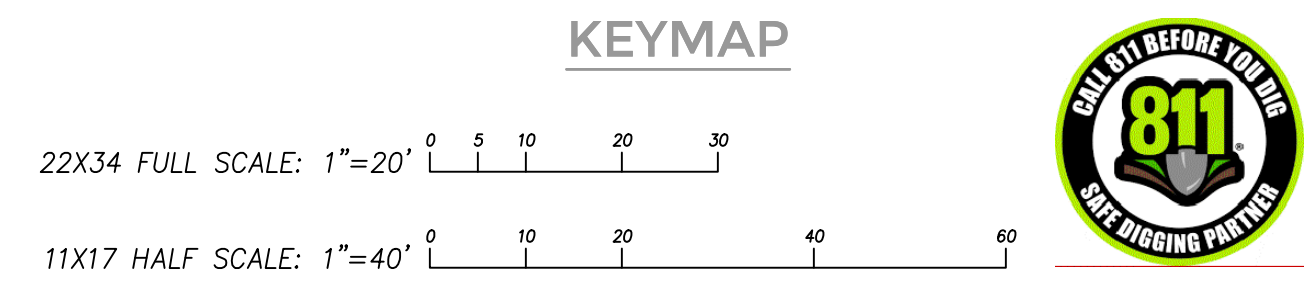
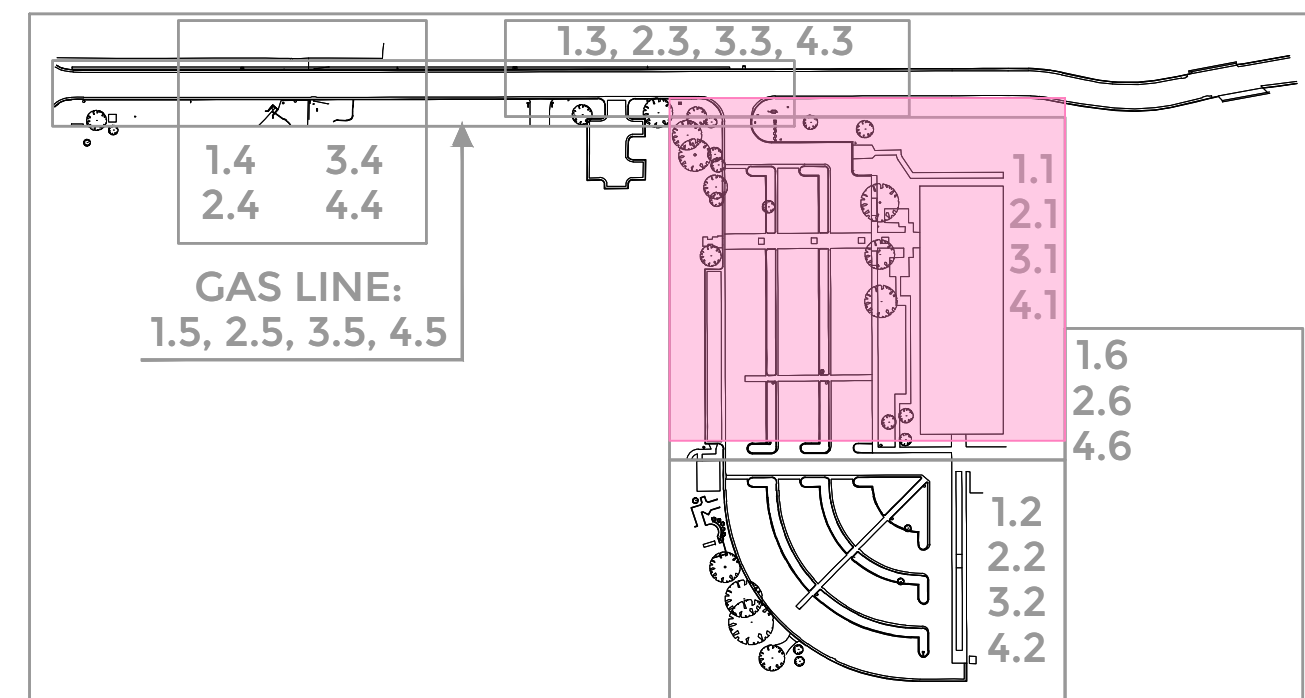
PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

- 1 INSTALL TYPE 'A' CURB AND GUTTER PER APWA PLAN NO. 205. SEE SHEET 7.0.
- 2 INSTALL TIP-OUT MODIFIED TYPE 'A' CURB AND GUTTER. SEE DETAIL E SHEET 7.0.
- 3 INSTALL TYPE 'P' CURB PER APWA PLAN NO. 209. SEE SHEET 7.1.
- 4 INSTALL CONCRETE SIDEWALK PER APWA PLAN NO. 231. SEE SHEET 7.1.
- 5 INSTALL ADA ACCESSIBLE RAMP PER APWA PLAN NO. 236.1. SEE SHEET 7.2.
- 6 INSTALL VEHICULAR CONCRETE PAVEMENT PER SECTION DETAIL B SHEET 7.0.
- 7 INSTALL ASPHALT PAVEMENT PER SECTION DETAIL C SHEET 7.0.
- 15 INSTALL WHITE PARKING STRIPE PER M.U.T.C.D. SECTION 3B.19. DIMENSIONS PER PLAN.
- 16 INSTALL DETECTABLE WARNING SYSTEM PER APWA PLAN NO. 238. SEE SHEET 7.5.
- 17 INSTALL HANDICAP PARKING SPACE MARKING PER M.U.T.C.D. SECTION 3B-22. DIMENSIONS PER PLAN.
- 18 INSTALL NEW A.D.A. PARKING SIGN R7-8 PER LATEST M.U.T.C.D. SECTION 3B-24.
- 19 RESTORE LANDSCAPING TO EXISTING CONDITIONS.
- 20 INSTALL LANDSCAPING PER LANDSCAPING PLAN.
- 21 INSTALL 4' WATERWAY PER APWA PLAN NO. 211, SEE SHEET 7.1.
- 22 INSTALL 47-8b VAN ACCESSIBLE SIGN PER LATEST M.U.T.C.D. SECTION 3B-24.
- 23 INSTALL HEAVY ASPHALT PAVEMENT SECTION. SEE DETAIL D SHEET 7.0.
- 24 TRANSITION FROM TYPE "A" TO MODIFIED TYPE "A" TIP OUT CURB AND GUTTER, SEE DETAIL F SHEET 7.0.
- 25 INSTALL WATERWAY TRANSITION PER APWA PLAN NO. 213, SEE SHEET 7.1.
- 26 INSTALL WHITE LOADING ZONE STRIPING PER M.U.T.C.D. SECTION 3B.19. DIMENSIONS PER PLAN.
- 27 INSTALL ADA ACCESS RAMP PER APWA PLAN NO. 236.3. SEE SHEET 7.2.
- 28 INSTALL ISLAND PATHWAYS. SEE DETAIL H SHEET 7.5.
- 29 INSTALL WHEEL STOP.
- 31 INSTALL CURB CUT TO ZERO CURB FOR LOW IMPACT DEVELOPMENT. SEE DETAIL K SHEET 7.5.

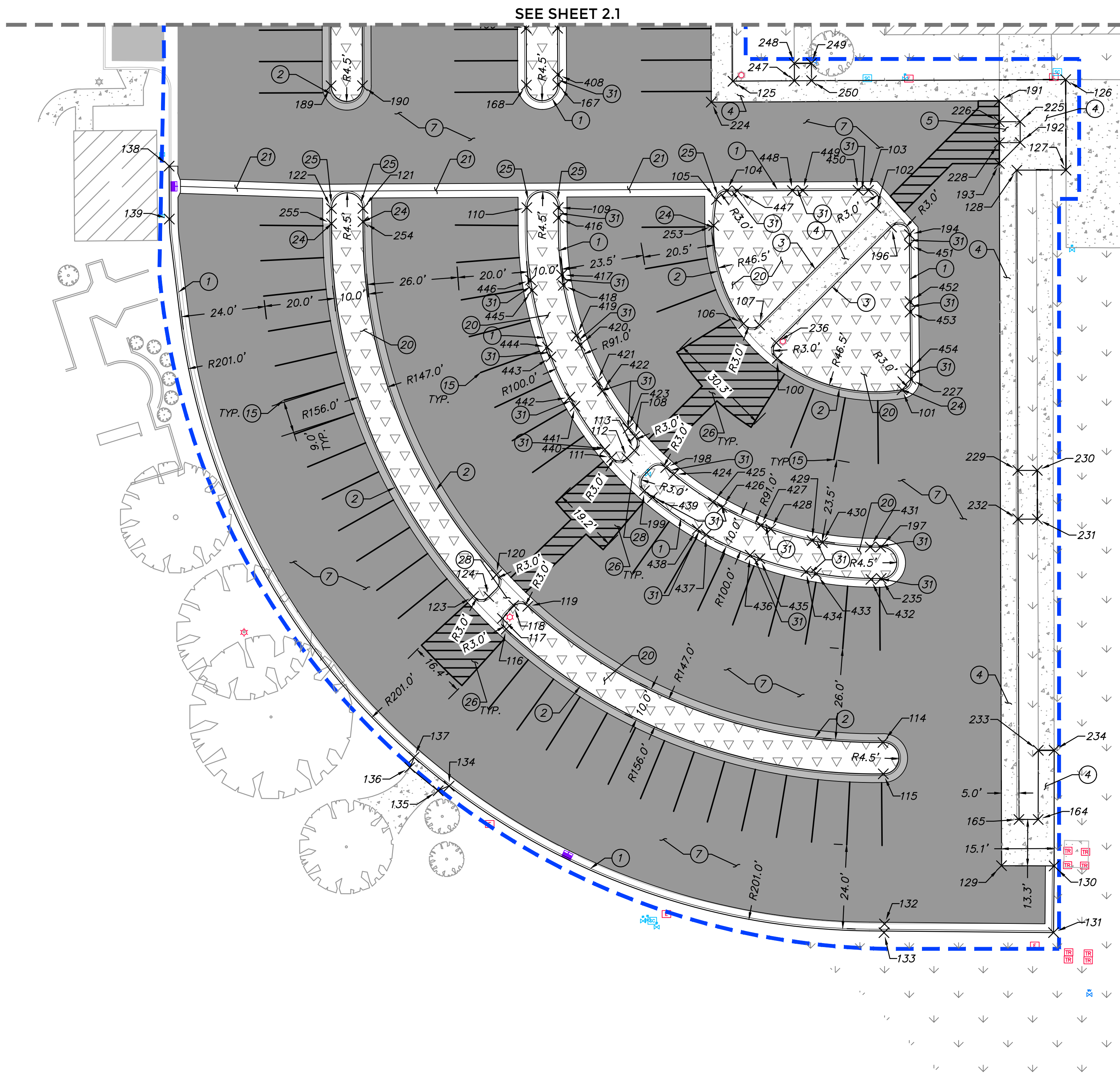


JORDAN VALLEY WATER  
CONSERVANCY DISTRICT  
UPPER CAMPUS  
ADMINISTRATION BUILDING

**NOTE TO THE CONTRACTOR**  
DIMENSIONS ARE TAKEN FROM FLOWLINE  
RADII ARE TAKEN FROM BACK OF CURB







**SITE GENERAL NOTES:**

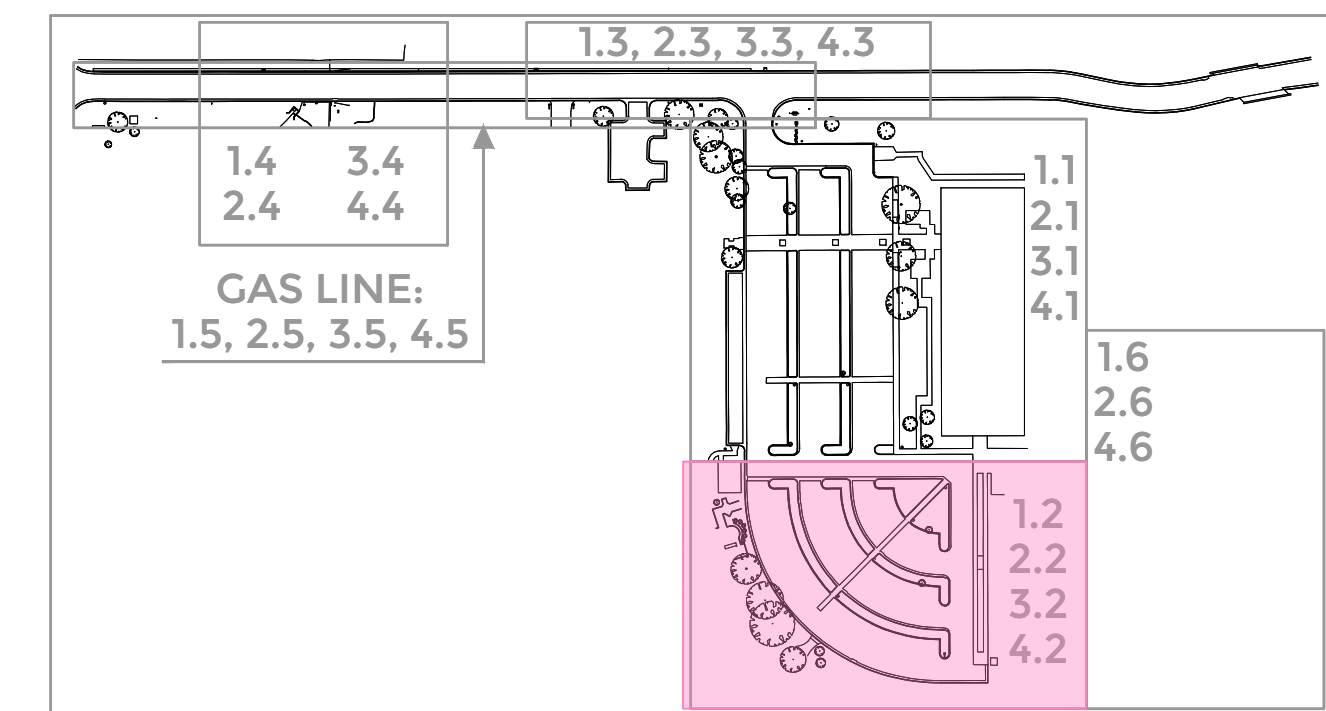
ALL IMPROVEMENTS MUST COMPLY WITH ADA STANDARDS.  
 ALL SIGNS AND MARKINGS SHALL CONFORM TO THE LATEST EDITION ON THE M.U.T.C.D.

**SITE SCOPE OF WORK:**

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

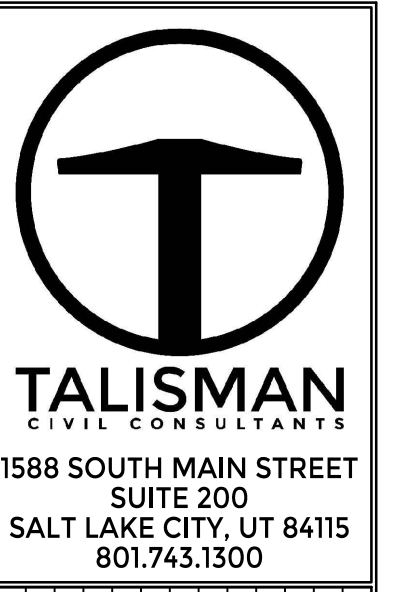
- 1 INSTALL TYPE 'A' CURB AND GUTTER PER APWA PLAN NO. 205. SEE SHEET 7.0.
- 2 INSTALL TIP-OUT MODIFIED TYPE 'A' CURB AND GUTTER. SEE DETAIL E SHEET 7.0.
- 3 INSTALL TYPE 'P' CURB PER APWA PLAN NO. 209. SEE SHEET 7.1.
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- 5 INSTALL ADA ACCESSIBLE RAMP PER APWA PLAN NO. 236.1. SEE SHEET 7.2.
- 6 INSTALL VEHICULAR CONCRETE PAVEMENT PER SECTION DETAIL B SHEET 7.0.
- 7 INSTALL ASPHALT PAVEMENT PER SECTION DETAIL C SHEET 7.0.
- 15 INSTALL WHITE PARKING STRIPE PER M.U.T.C.D. SECTION 3B.19. DIMENSIONS PER PLAN.
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- 23 INSTALL HEAVY ASPHALT PAVEMENT SECTION. SEE DETAIL D SHEET 7.0.
- 24 TRANSITION FROM TYPE "A" TO MODIFIED TYPE "A" TIP OUT CURB AND GUTTER, SEE DETAIL F SHEET 7.0.
- 25 INSTALL WATERWAY TRANSITION PER APWA PLAN NO. 213, SEE SHEET 7.1.
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- 27 INSTALL ADA ACCESS RAMP PER APWA PLAN NO. 236.3. SEE SHEET 7.2.
- 28 INSTALL ISLAND PATHWAYS. SEE DETAIL H SHEET 7.5.
- 29 INSTALL WHEEL STOP.
- 31 INSTALL CURB CUT TO ZERO CURB FOR LOW IMPACT DEVELOPMENT. SEE DETAIL K SHEET 7.5.

**NOTE TO THE CONTRACTOR**  
 DIMENSIONS ARE TAKEN FROM FLOWLINE  
 RADII ARE TAKEN FROM BACK OF CURB

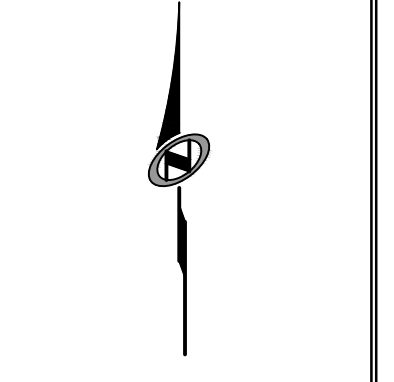
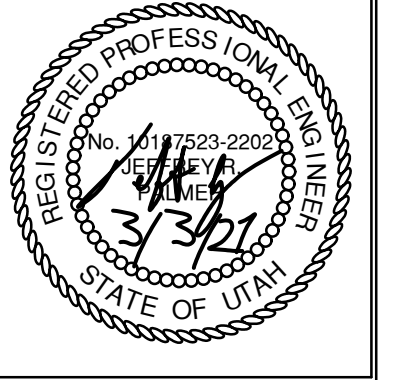


22X34 FULL SCALE: 1"=20'

11X17 HALF SCALE: 1"=40'



**JWCD HEADQUARTERS**  
 UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
 SITE & HORIZONTAL CONTROL PARKING LOT SOUTH  
 TCC JOB NUMBER: 18-024  
 DATE SUBMITTED: 03.03.2021

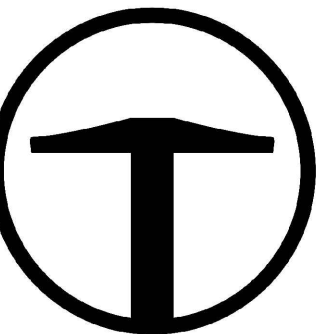


SHEET NUMBER  
**2.2**



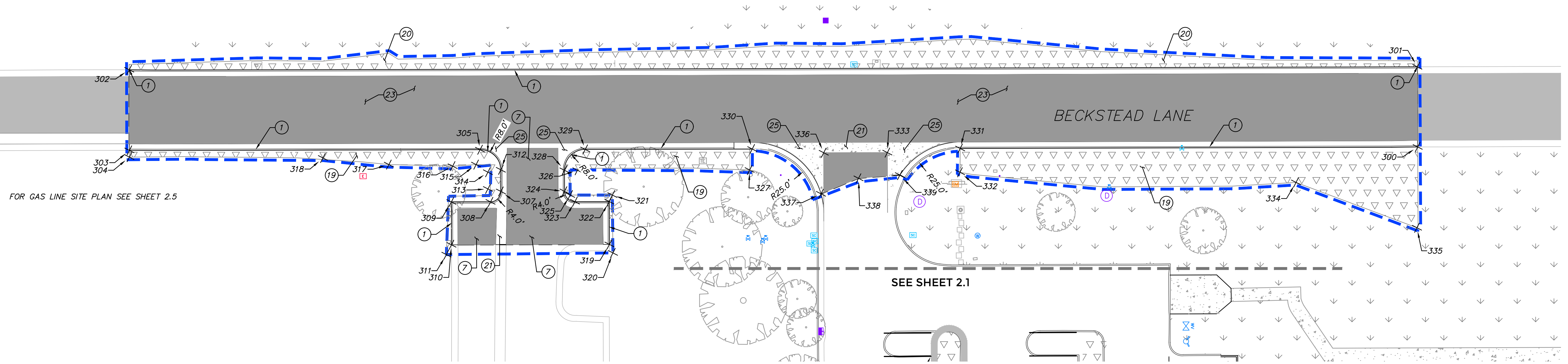
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CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

REVISIONS
DATE
BY
NO.



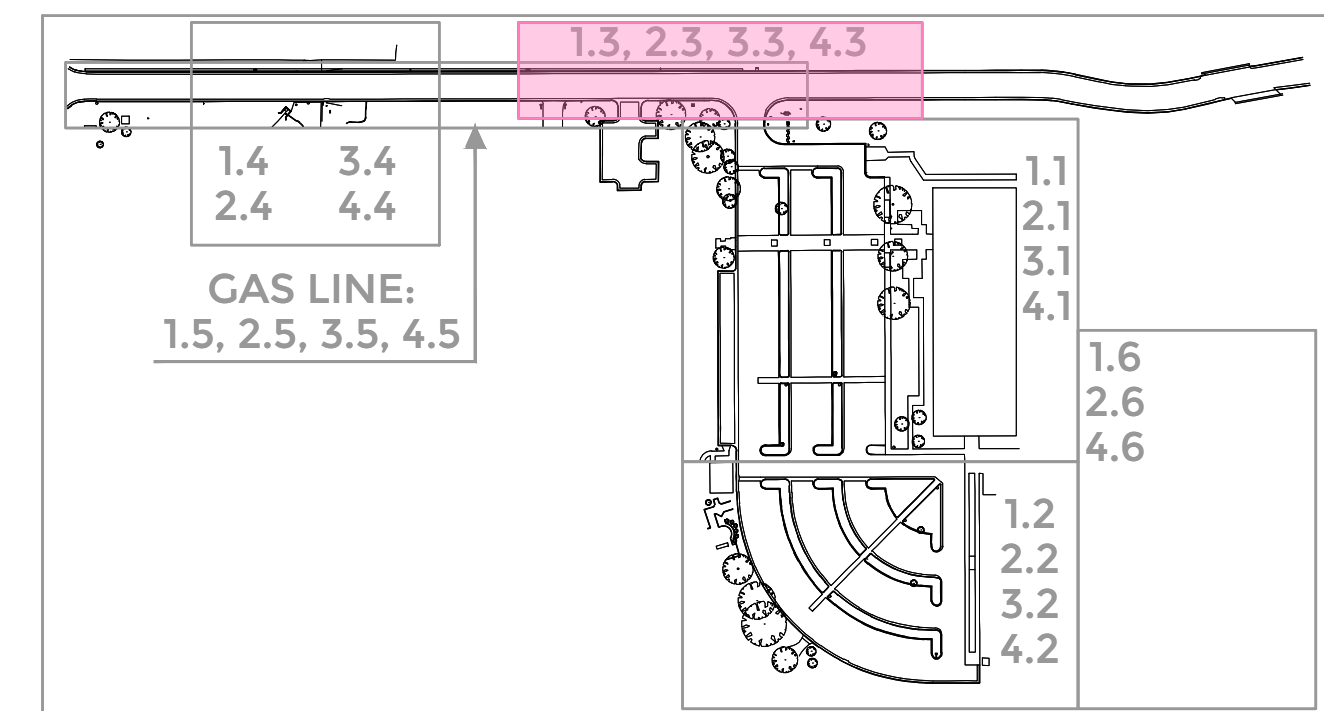
**SITE GENERAL NOTES:**

ALL IMPROVEMENTS MUST COMPLY WITH ADA STANDARDS.  
ALL SIGNS AND MARKINGS SHALL CONFORM TO THE LATEST EDITION ON THE M.U.T.C.D.

**SITE SCOPE OF WORK:**

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

- ① INSTALL TYPE 'A' CURB AND GUTTER PER APWA PLAN NO. 205. SEE SHEET 7.0.
- ⑱ RESTORE LANDSCAPING TO EXISTING CONDITIONS.
- ⑳ INSTALL LANDSCAPING PER LANDSCAPING PLAN.
- ㉑ INSTALL 4' WATERWAY PER APWA PLAN NO. 211, SEE SHEET 7.1.
- ㉒ INSTALL HEAVY ASPHALT PAVEMENT SECTION. SEE DETAIL D SHEET 7.0.
- ㉓ INSTALL WATERWAY TRANSITION PER APWA PLAN NO. 213, SEE SHEET 7.1.



**KEYMAP**

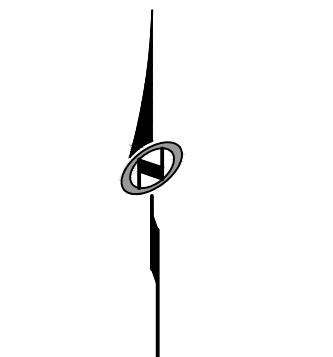
22X34 FULL SCALE: 1"=20'

11X17 HALF SCALE: 1"=40'



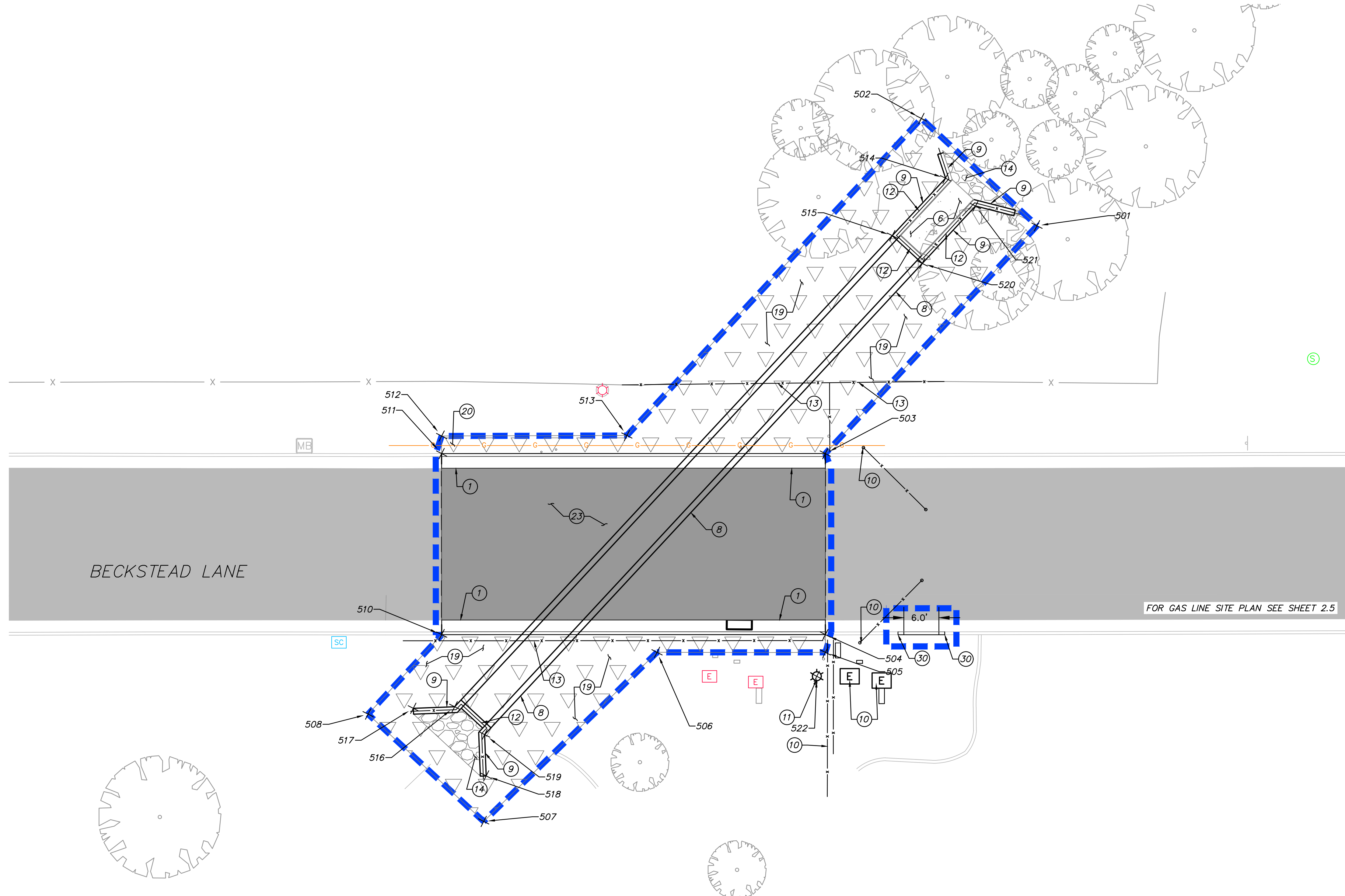
**JWVCD HEADQUARTERS**  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
SITE & HORIZONTAL CONTROL BECKSTEAD LANE

TCC JOB NUMBER: 18-024  
DATE SUBMITTED: 03.03.2021



SHEET NUMBER  
**2.3**  
13 OF 38





**SITE GENERAL NOTES:**

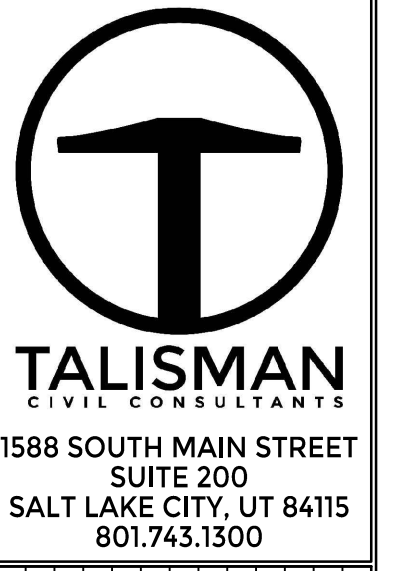
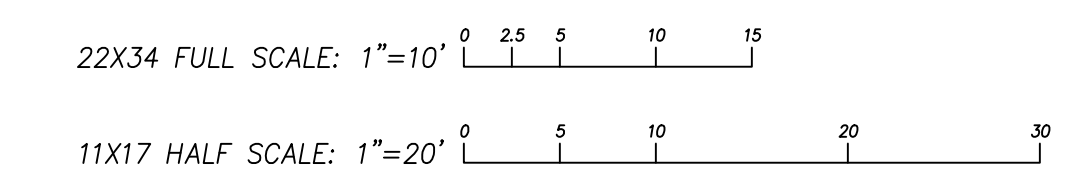
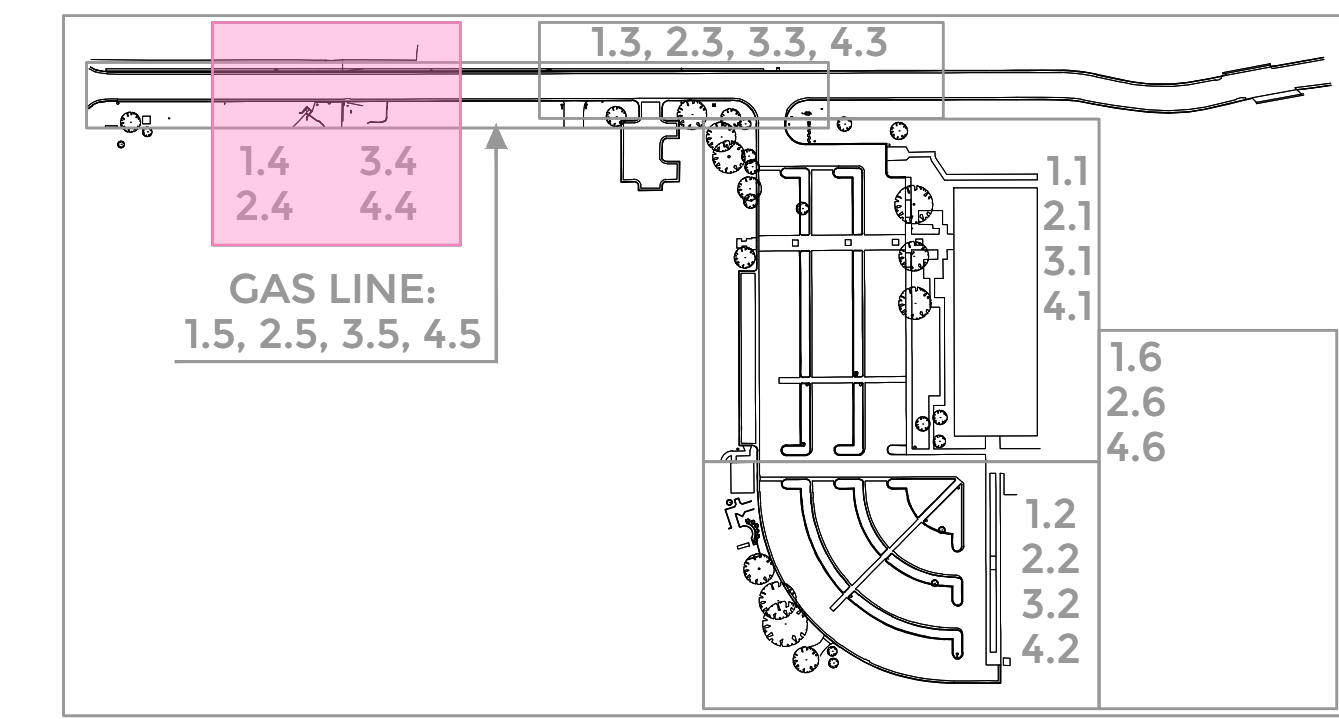
ALL IMPROVEMENTS MUST COMPLY WITH ADA STANDARDS.

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**SITE SCOPE OF WORK:**

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

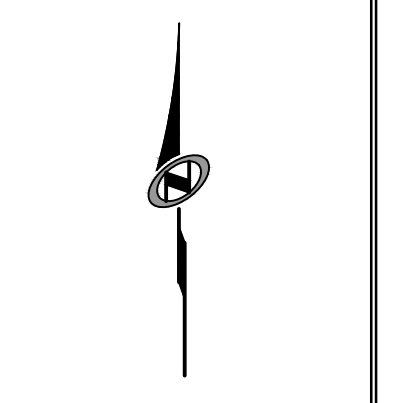
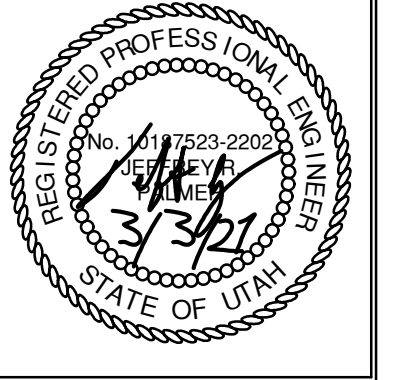
- ① INSTALL TYPE 'A' CURB AND GUTTER PER APWA PLAN NO. 205. SEE SHEET 7.0.
- ⑥ INSTALL VEHICULAR CONCRETE PAVEMENT PER SECTION DETAIL B SHEET 7.0.
- ⑧ INSTALL 5'x3' CONCRETE BOX CULVERT. SEE UTILITY PLAN, AND SECTION DETAIL A-A SHEET 5.2.
- ⑨ INSTALL PRECAST CONCRETE WING WALL PER DIMENSIONS ON SHEET 5.2.
- ⑩ INSTALL PREVIOUSLY REMOVED GATE ASSEMBLY.
- ⑪ LOCATION OF RELOCATED LIGHTING FIXTURE.
- ⑫ INSTALL GUARDRAIL ALONG WING WALL PER DETAIL G SHEET 7.0.
- ⑬ INSTALL FENCE TO MATCH PREVIOUSLY REMOVED.
- ⑭ INSTALL RIP-RAP REINFORCED WITH 4oz NON-WOVEN FABRIC. D50=9", 13.5" THICK.
- ⑲ RESTORE LANDSCAPING TO EXISTING CONDITIONS.
- ⑳ INSTALL LANDSCAPING PER LANDSCAPING PLAN.
- ㉓ INSTALL HEAVY ASPHALT PAVEMENT SECTION. SEE DETAIL D SHEET 7.0.
- ㉔ INSTALL 6' CURB CUT FOR MAINTENANCE CARTS. CONTRACTOR TO VERIFY WITH GARDEN MANAGER OVER EXACT LOCATION.



**JWVCD HEADQUARTERS  
 UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
 SITE & HORIZONTAL CONTROL CULVERT**

DATE SUBMITTED: 03.03.2021

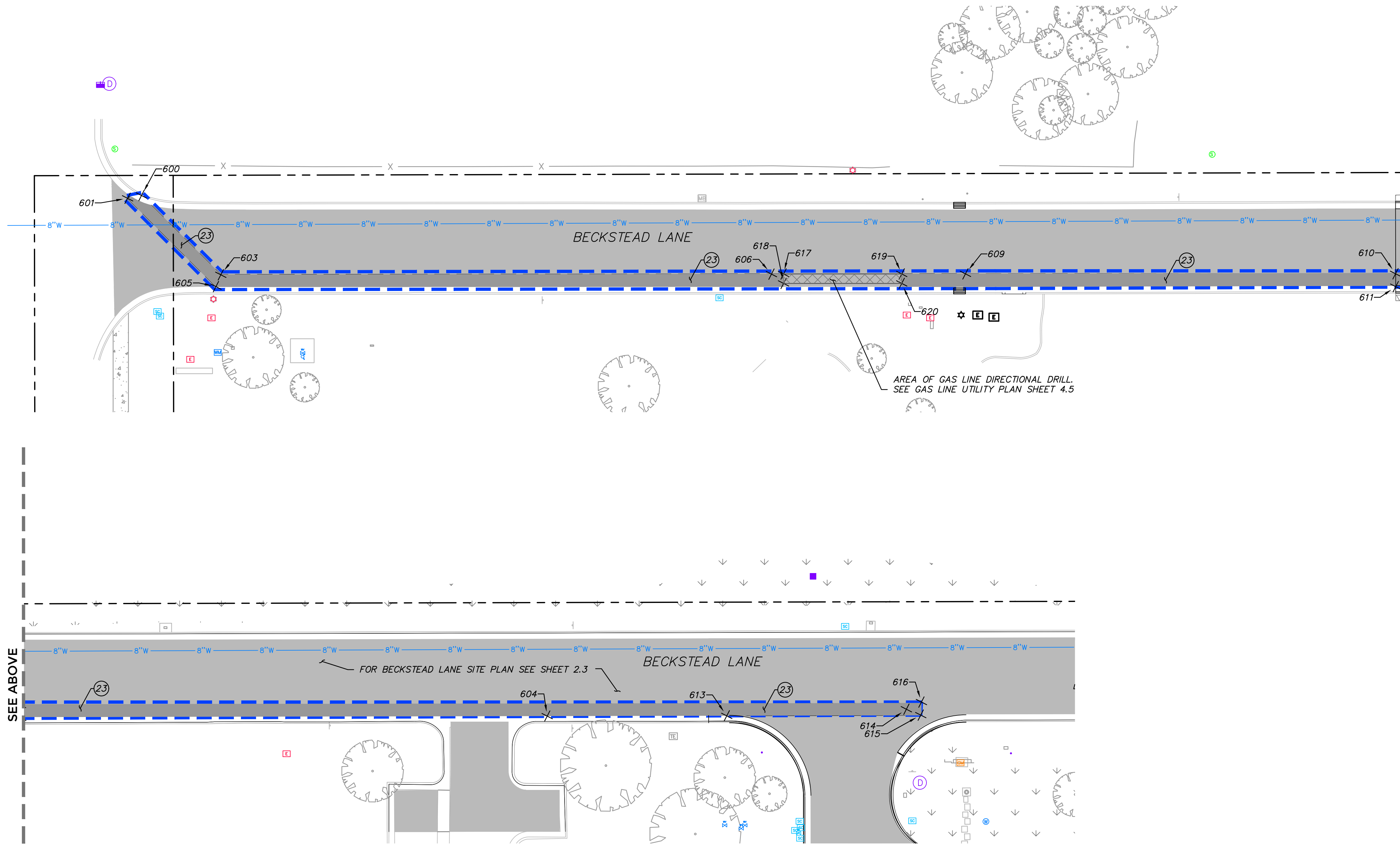
TCC JOB NUMBER: 18-024





DATE: 3/2/2021 9:31 AM

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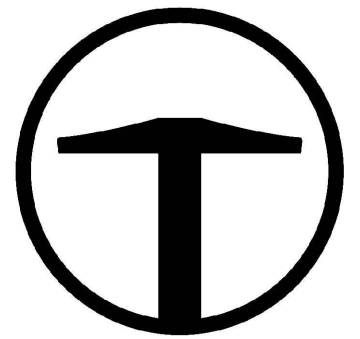
**SITE GENERAL NOTES:**

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ALL SIGNS AND MARKINGS SHALL CONFORM TO THE LATEST EDITION ON THE M.U.T.C.D.

**SITE SCOPE OF WORK:**

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

- 23 INSTALL HEAVY ASPHALT PAVEMENT SECTION. SEE DETAIL D SHEET 7.0.



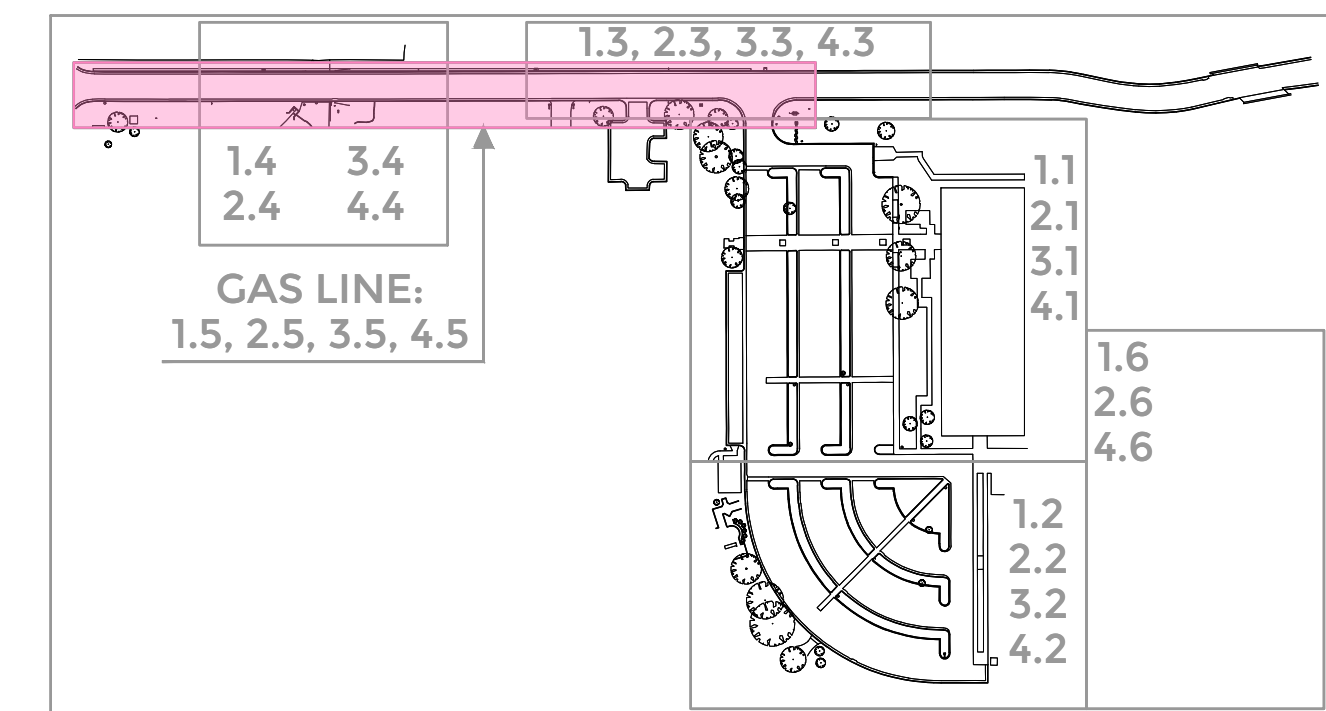
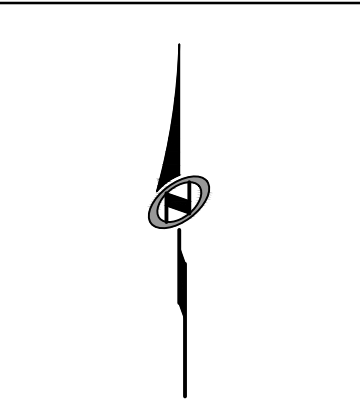
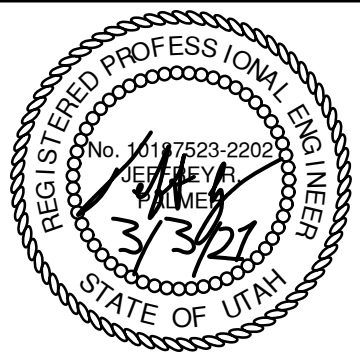
**TALISMAN**  
CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

REVISIONS:	
DATE:	
BY:	
NO.:	

**JWVCD HEADQUARTERS**  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
SITE & HORIZONTAL CONTROL GAS LINE

DATE SUBMITTED: 03.03.2021

TCC JOB NUMBER: 18-024



22X34 FULL SCALE: 1"=20'

11X17 HALF SCALE: 1"=40'

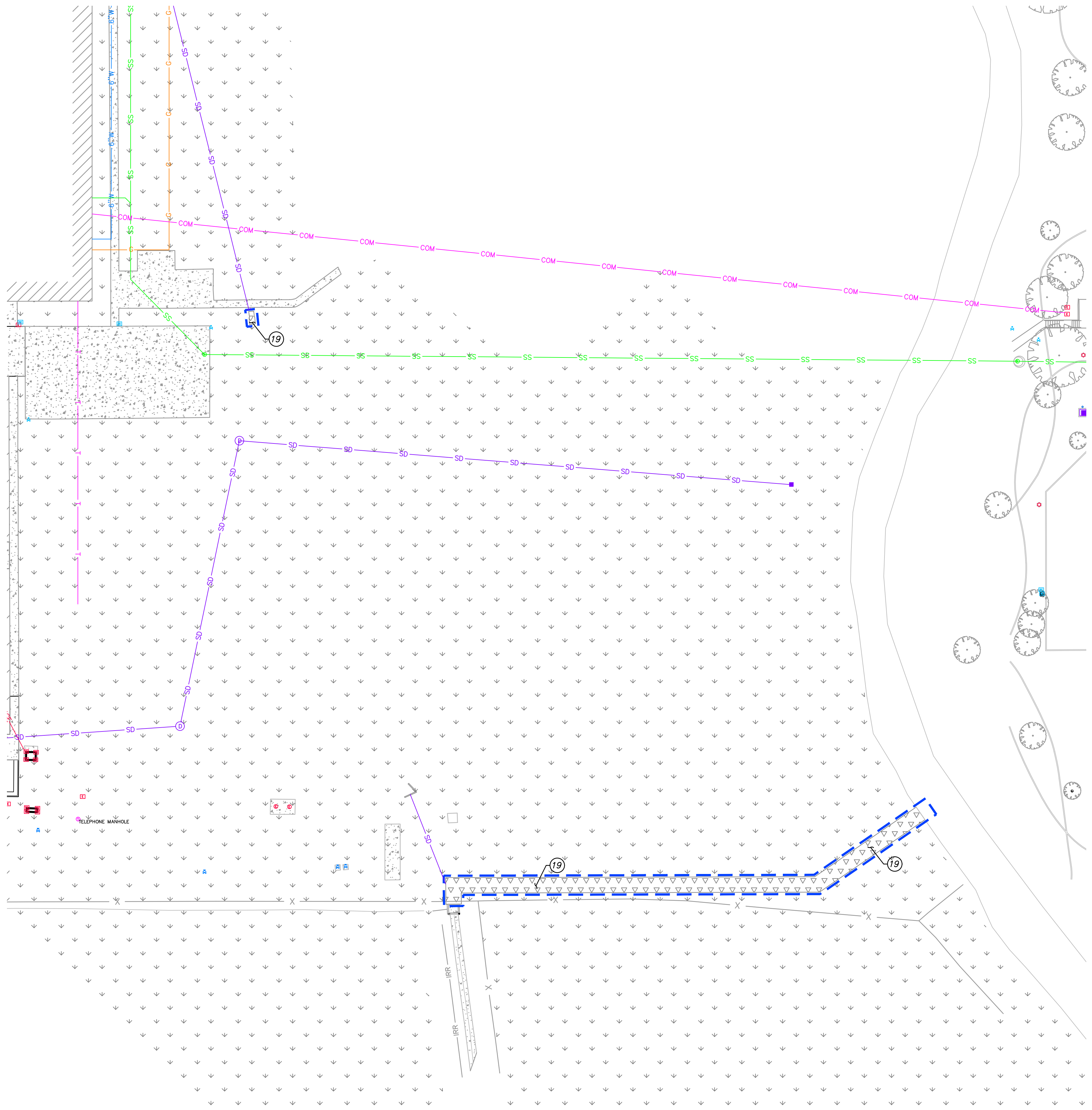


SHEET NUMBER

**2.5**

15 OF 38





**SITE GENERAL NOTES:**

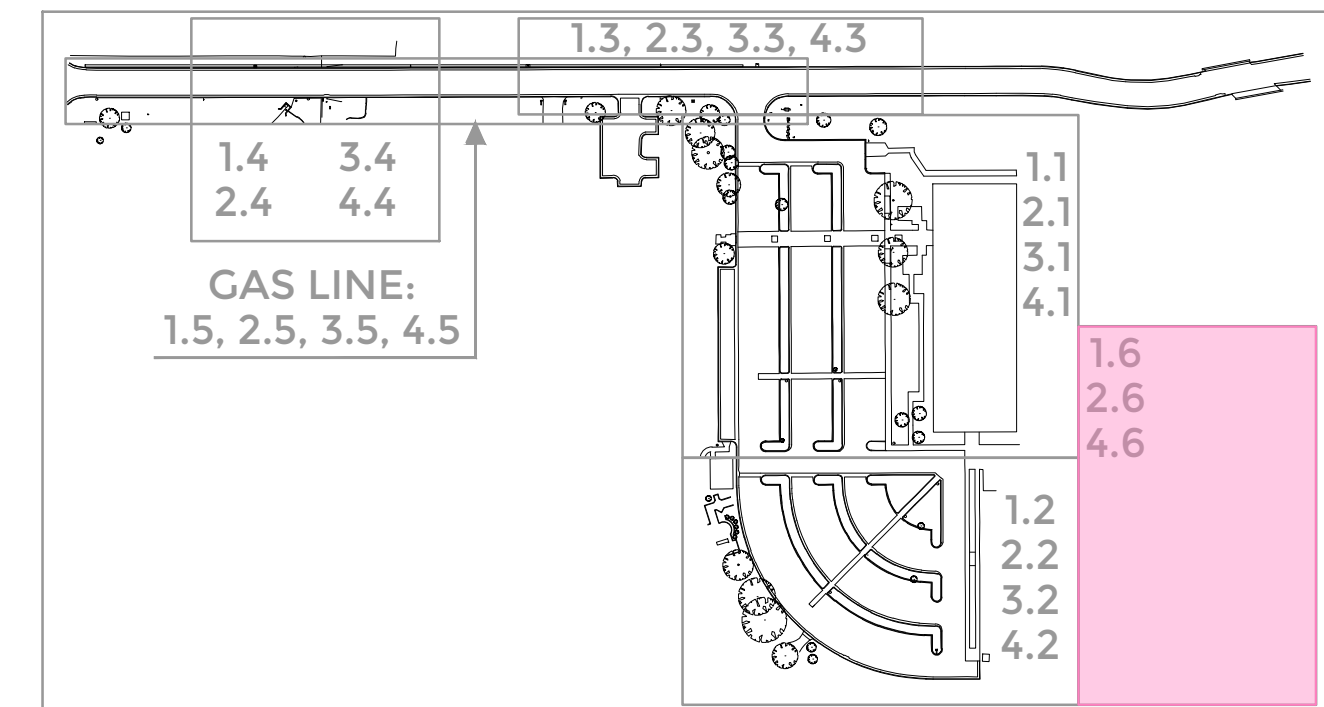
ALL IMPROVEMENTS MUST COMPLY WITH ADA STANDARDS.

ALL SIGNS AND MARKINGS SHALL CONFORM TO THE LATEST EDITION ON THE M.U.T.C.D.

**SITE SCOPE OF WORK:**

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

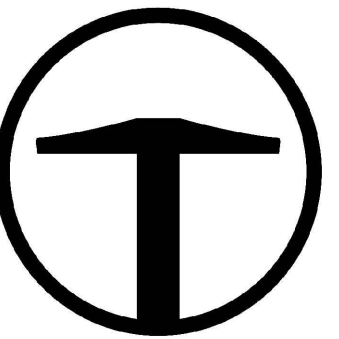
- 19 RESTORE LANDSCAPING TO EXISTING CONDITIONS.



KEYMAP

22X34 FULL SCALE: 1"=20'

11X17 HALF SCALE: 1"=40'



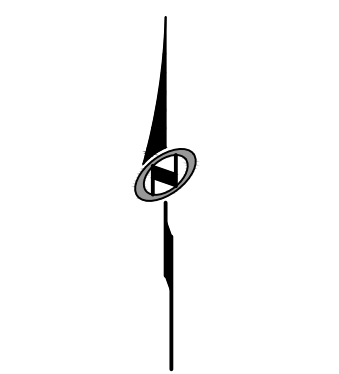
**TALISMAN**  
CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

NO.	BY	DATE	REVISIONS

**JWVCD HEADQUARTERS**  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
SITE & HORIZONTAL CONTROL CANAL

DATE SUBMITTED: 03.03.2021

TCC JOB NUMBER: 18-024



SHEET NUMBER

**2.6**

16 OF 38



DATE: 3/23/2021 3:05 PM

2.1 & 2.2 PARKING LOT HORIZONTAL CONTROL

Point Table with columns: Point #, Northing, Easting. Rows 100-119.

Point Table with columns: Point #, Northing, Easting. Rows 120-139.

Point Table with columns: Point #, Northing, Easting. Rows 140-159.

Point Table with columns: Point #, Northing, Easting. Rows 220-239.

Point Table with columns: Point #, Northing, Easting. Rows 240-259.

Point Table with columns: Point #, Northing, Easting. Rows 325-374.

Point Table with columns: Point #, Northing, Easting. Rows 435-454.

2.3 BECKSTEAD LANE HORIZONTAL CONTROL

Point Table with columns: Point #, Northing, Easting. Rows 300-320.

Point Table with columns: Point #, Northing, Easting. Rows 321-339.

2.5 CULVERT HORIZONTAL CONTROL

Point Table with columns: Point #, Northing, Easting. Rows 160-179.

Point Table with columns: Point #, Northing, Easting. Rows 180-199.

Point Table with columns: Point #, Northing, Easting. Rows 200-219.

Point Table with columns: Point #, Northing, Easting. Rows 375-394.

Point Table with columns: Point #, Northing, Easting. Rows 395-414.

Point Table with columns: Point #, Northing, Easting. Rows 415-434.

2.6 GAS HORIZONTAL CONTROL

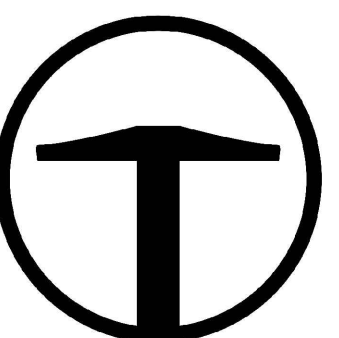
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Point Table with columns: Point #, Northing, Easting. Rows 513-522.

2.5 CULVERT HORIZONTAL CONTROL

Point Table with columns: Point #, Northing, Easting. Rows 600-615.

Point Table with columns: Point #, Northing, Easting. Rows 616-620.



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JVWCD HEADQUARTERS UPPER CAMPUS SITE REPAIRS & IMPROVMENTS HORIZONTAL CONTROL TABLES

DATE SUBMITTED: 03.03.2021

TCC JOB NUMBER: 18-024



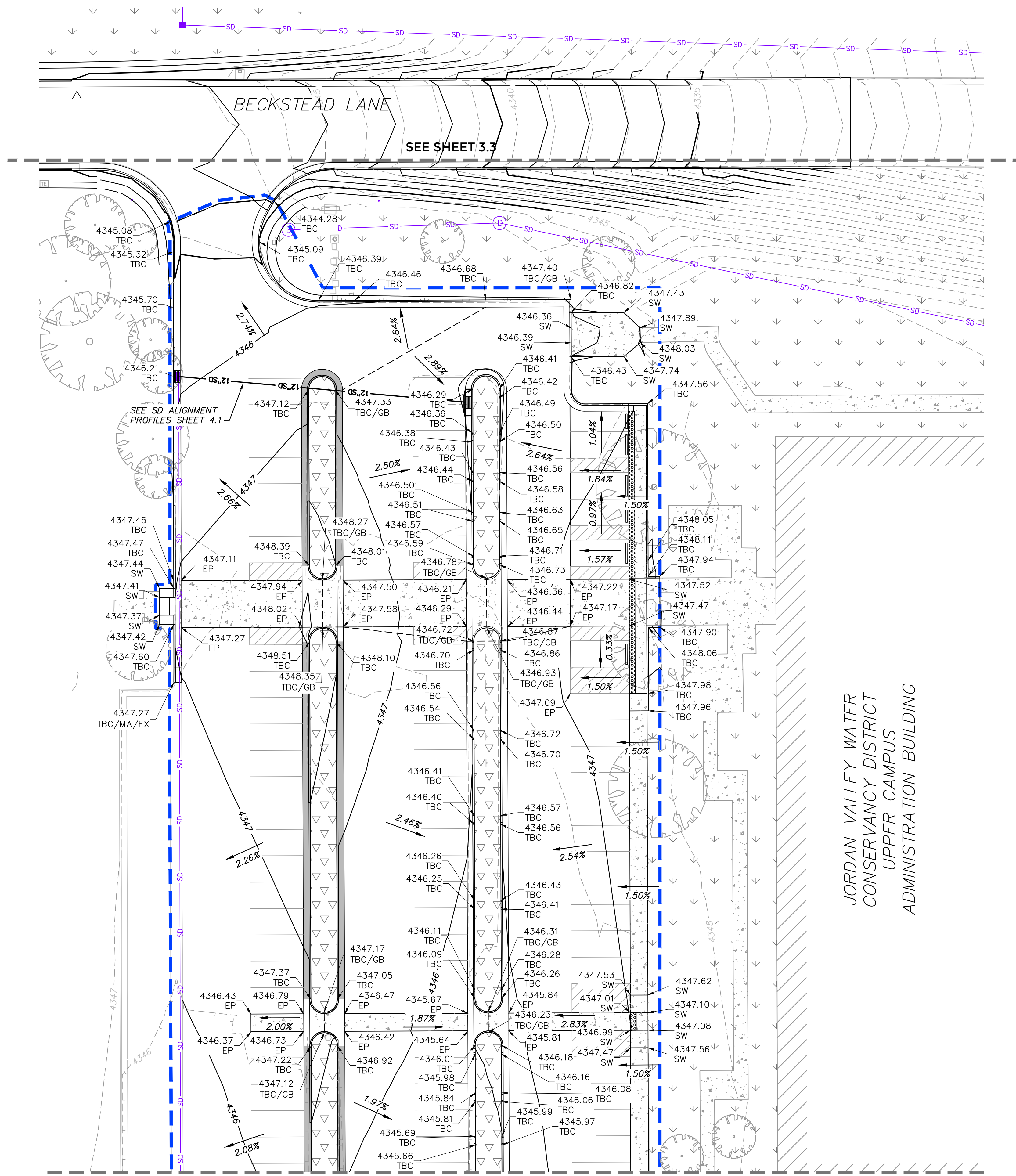
SHEET NUMBER 2.7

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DATE: 3/2/2021 9:35 AM

PATH: N:\18-024 - JWCD Headquarters\Cadd\01 Upper Campus Beckstead\1P\_3.1 GRADING PLAN-PARKING LOT.dwg



**GRADING: GEOTECHNICAL NOTES/REQUIREMENTS:**

ALL IMPORTED MATERIAL TO BE APPROVED IN WRITING BY GEOTECHNICAL ENGINEER.

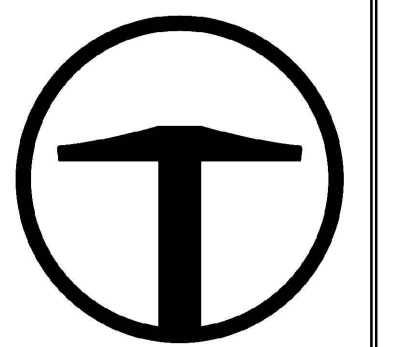
**GRADING GENERAL NOTES:**

SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT BY GORDON GEOTECHNICAL ENGINEERING, DATED JUNE 4, 2018. GEOTECHNICAL REPORT MUST BE ON SITE AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING THEM WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT. ALL EXCAVATED OR FILLED AREAS SHALL BE PLACED AND COMPACTED PER SECTION 5.2.4 OF THE GEOTECHNICAL REPORT. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT PREPARED BY A QUALIFIED REGISTERED GEOTECHNICAL ENGINEER, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS & SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT.

THE CONTRACTOR IS TO USE BEST MANAGEMENT PRACTICES FOR PROVIDING EROSION CONTROL AND DUST SUPPRESSION FOR CONSTRUCTION OF THIS PROJECT. SPECIFIC INFORMATION SHOWN ON SHEET 6.0, EROSION CONTROL, SHALL BE USED IN COMBINATION WITH OTHER ACCEPTED LOCAL PRACTICES.

**ABBREVIATIONS:**

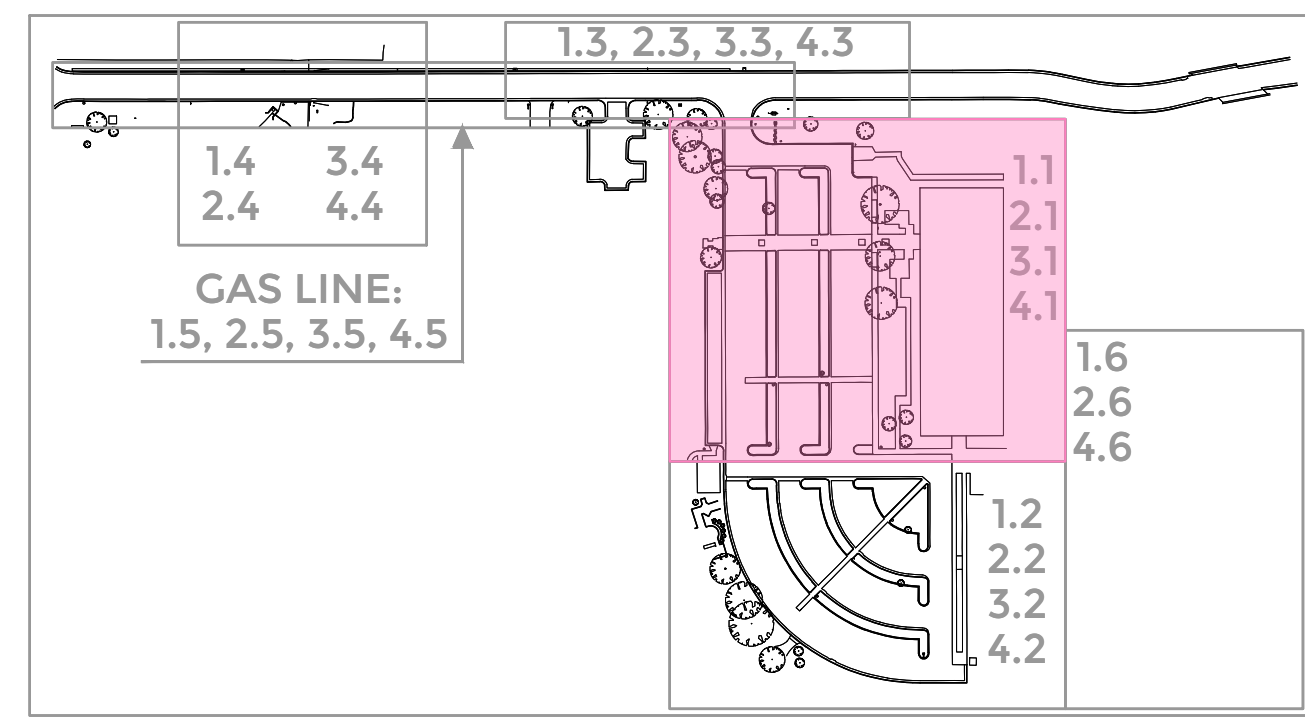
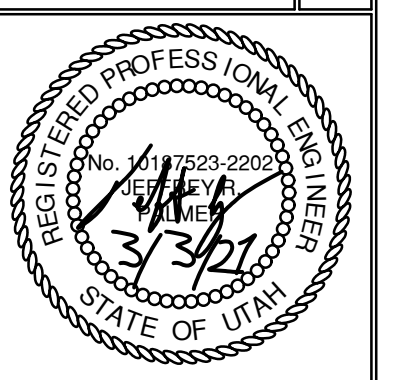
AC	ASPHALT CONCRETE
GB	GRADE BREAK
MA	MATCH EXISTING
BW	BOTTOM OF WALL
EP	EDGE OF PAVEMENT
EX	EXISTING GRADE
FG	FINISHED GRADE
HP	HIGH POINT
TBC	TOP BACK OF CURB
TG	TOP OF GRATE
TW	TOP OF WALL
SW	EDGE OF SIDEWALK
LP	LOW POINT



**TALISMAN**  
CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

REVISIONS	
DATE	
BY	
NO.	

**JWVCD HEADQUARTERS**  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
GRADING PLAN PARKING LOT NORTH  
TCC JOB NUMBER: 18-024  
DATE SUBMITTED: 03.03.2021



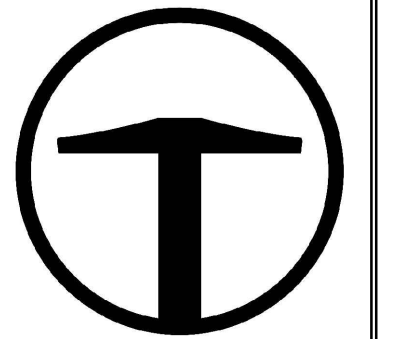
22X34 FULL SCALE: 1"=20'

11X17 HALF SCALE: 1"=40'



SHEET NUMBER  
**3.1**





TALISMAN CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

**GRADING: GEOTECHNICAL NOTES/REQUIREMENTS:**

ALL IMPORTED MATERIAL TO BE APPROVED IN WRITING BY GEOTECHNICAL ENGINEER.

**GRADING GENERAL NOTES:**

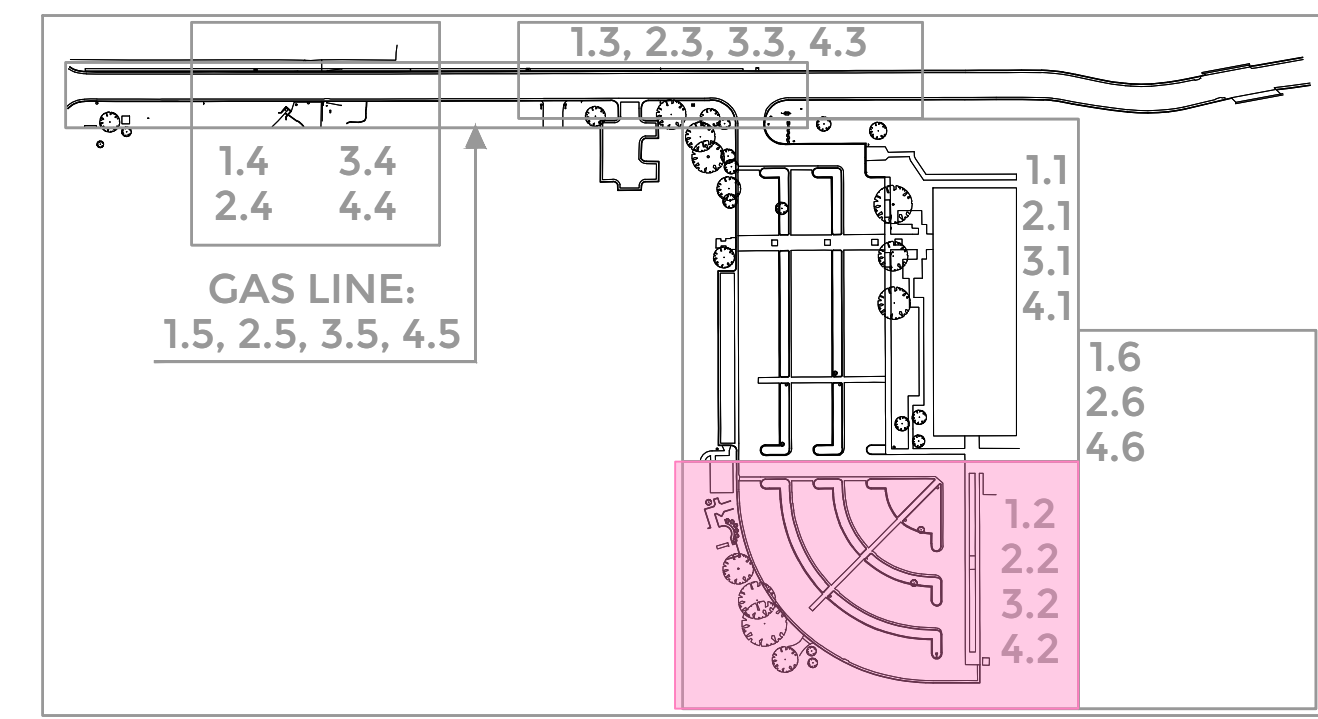
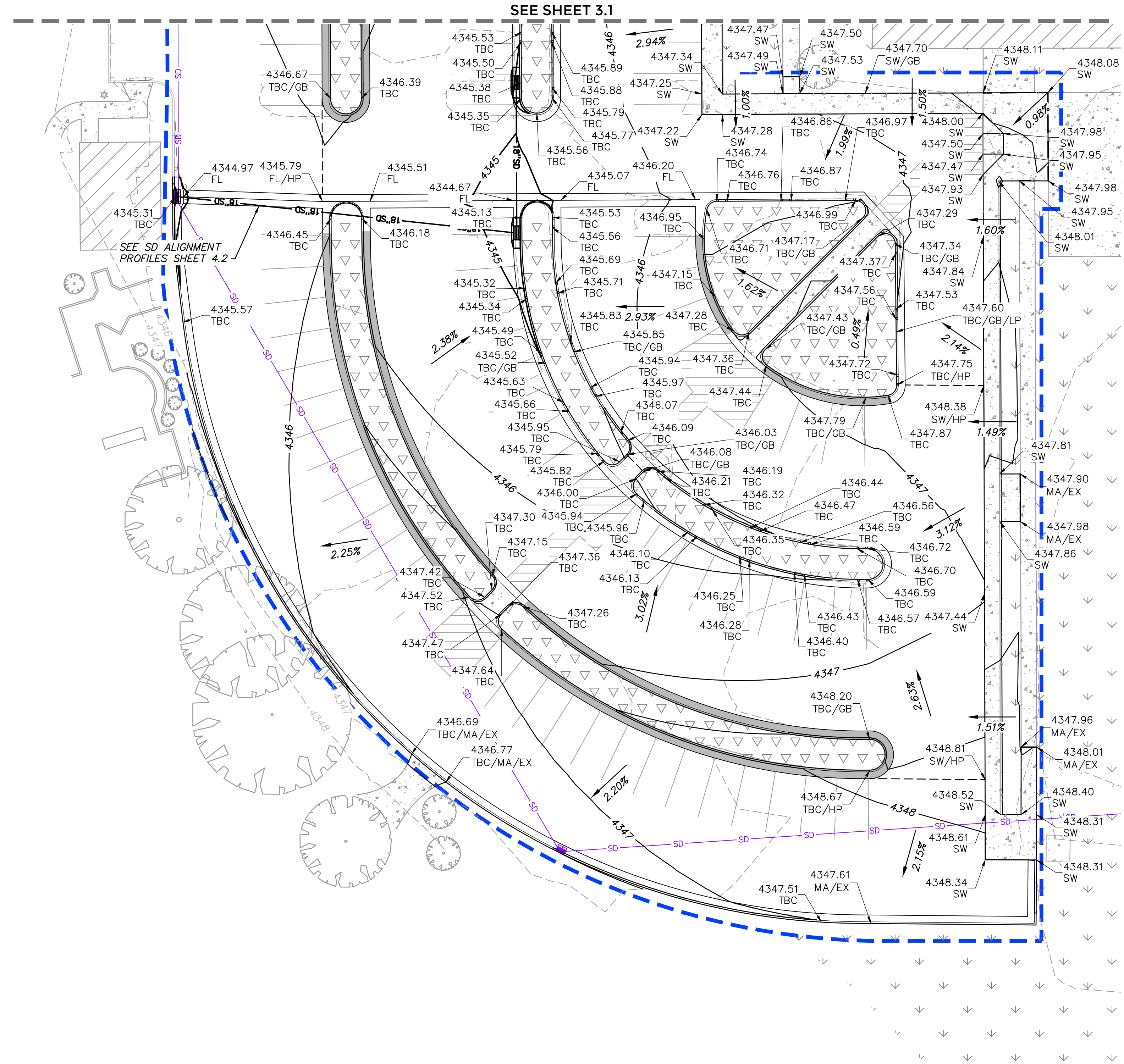
SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT BY GORDON GEOTECHNICAL ENGINEERING, DATED JUNE 4, 2018. GEOTECHNICAL REPORT MUST BE ON SITE AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING THEM WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT. ALL EXCAVATED OR FILLED AREAS SHALL BE PLACED AND COMPACTED PER SECTION 5.2.4 OF THE GEOTECHNICAL REPORT. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT PREPARED BY A QUALIFIED REGISTERED GEOTECHNICAL ENGINEER, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS & SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT.

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**ABBREVIATIONS:**

AC	ASPHALT CONCRETE
GB	GRADE BREAK
MA	MATCH EXISTING
BW	BOTTOM OF WALL
EP	EDGE OF PAVEMENT
EX	EXISTING GRADE
FG	FINISHED GRADE
HP	HIGH POINT
TBC	TOP BACK OF CURB
TG	TOP OF GRADE
TW	TOP OF WALL
SW	EDGE OF SIDEWALK
LP	LOW POINT

--- GRADE BREAK



22X34 FULL SCALE: 1"=20'

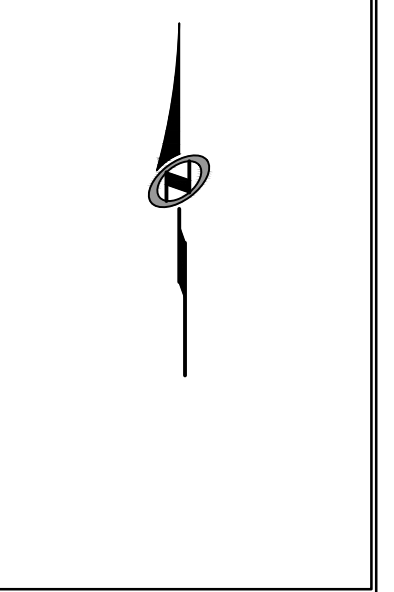
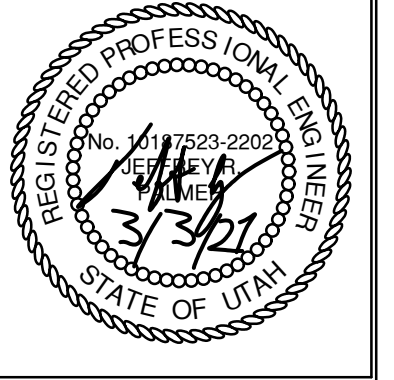
11X17 HALF SCALE: 1"=40'



REVISIONS:	
DATE:	
BY:	
NO.:	

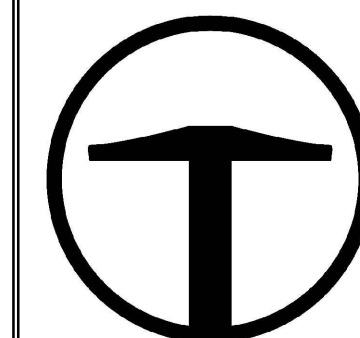
**JWVCD HEADQUARTERS**  
**UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS**  
**GRADING PLAN PARKING LOT SOUTH**

TCC JOB NUMBER: 18-024  
DATE SUBMITTED: 03.03.2021



SHEET NUMBER  
**3.2**  
19 OF 38

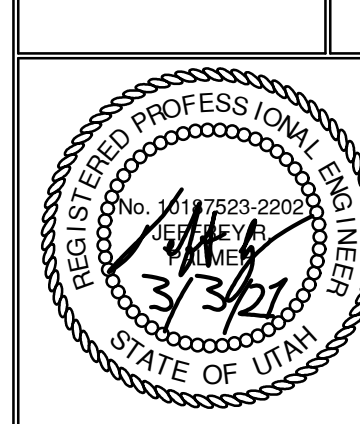




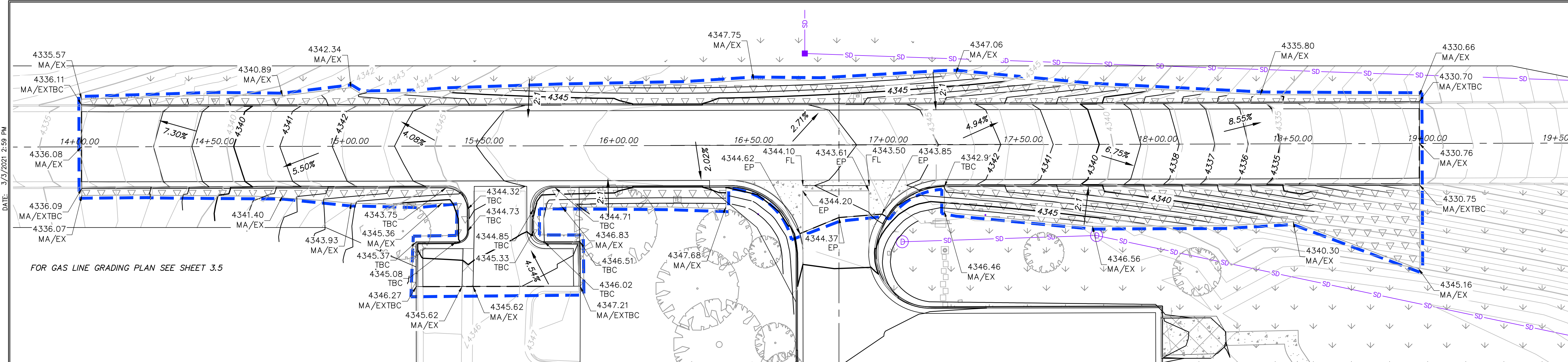
**TALISMAN**  
CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

REVISIONS	
DATE	
BY	
NO.	

**JVWCD HEADQUARTERS**  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
GRADING PLAN BECKSTEAD LANE  
DATE SUBMITTED: 03.03.2021  
TCC JOB NUMBER: 18-024



SHEET NUMBER  
**3.3**  
20 OF 38

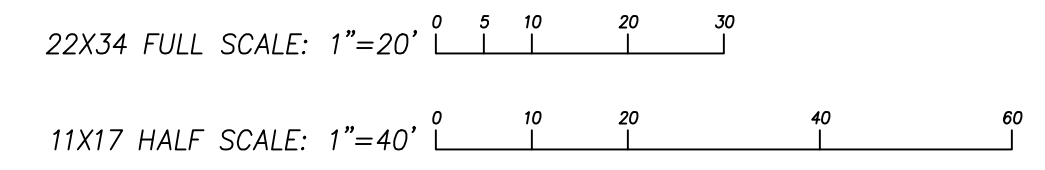


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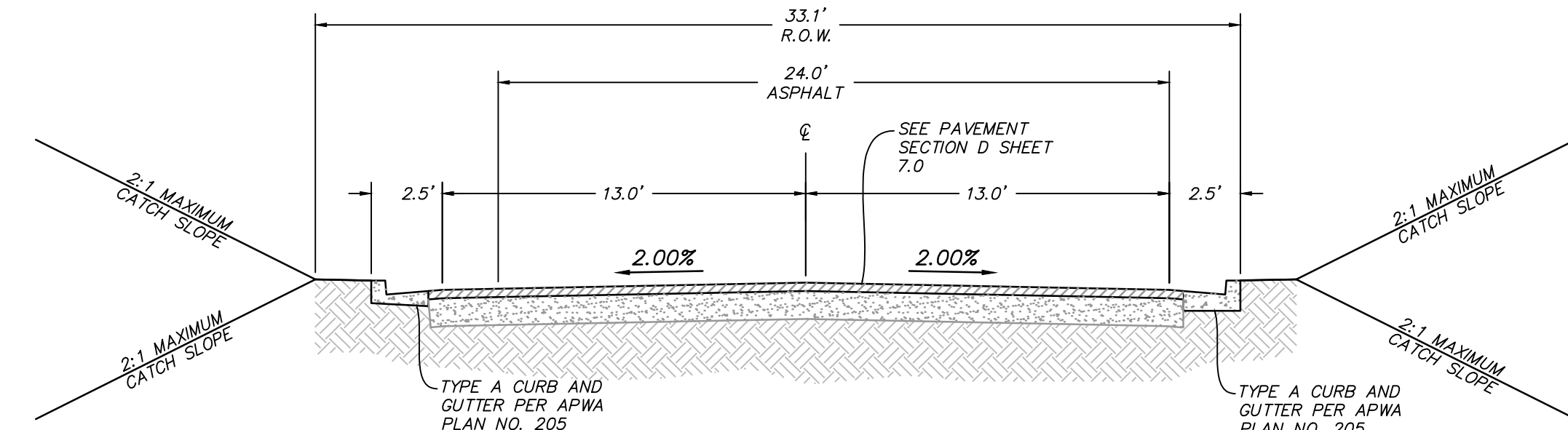
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FOR GAS LINE GRADING PLAN SEE SHEET 3.5

BECKSTEAD PLAN HORIZONTAL SCALE



BECKSTEAD PLAN



TYPICAL ROAD SECTION  
BECKSTEAD LANE - N.T.S.

**GRADING: GEOTECHNICAL NOTES/REQUIREMENTS:**

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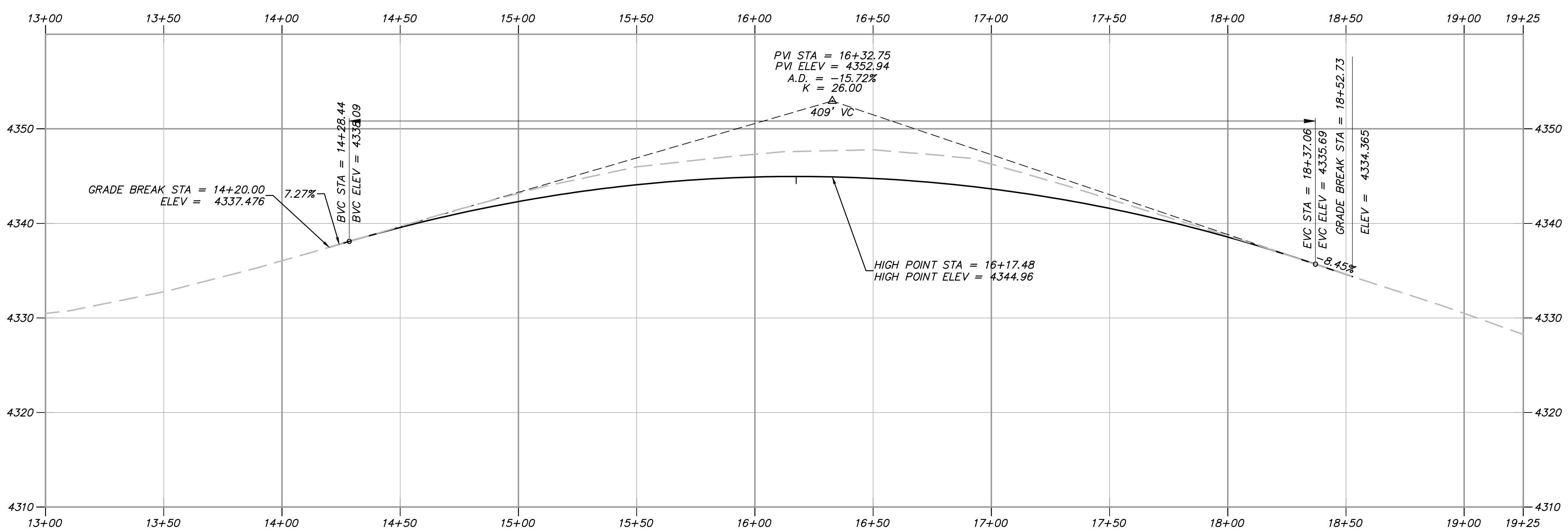
**GRADING GENERAL NOTES:**

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**ABBREVIATIONS:**

AC	ASPHALT CONCRETE
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BW	BOTTOM OF WALL
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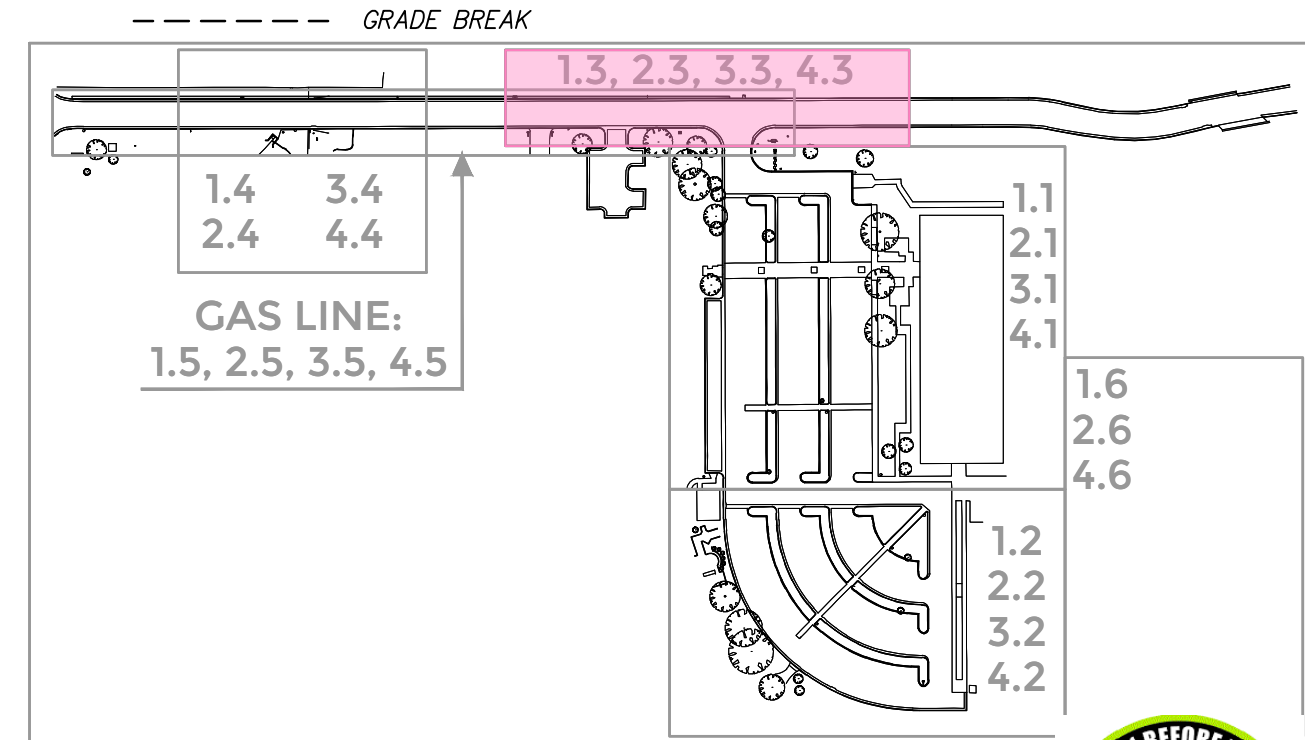
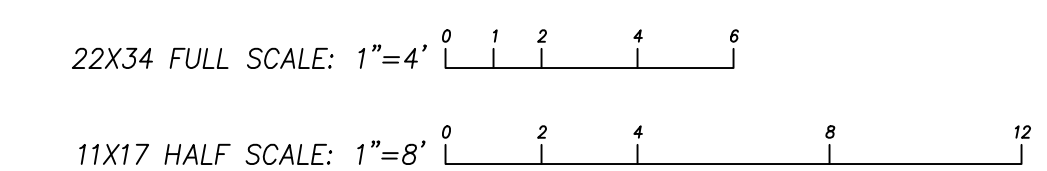


BECKSTEAD PROFILE HORIZONTAL SCALE



BECKSTEAD PROFILE

BECKSTEAD PROFILE VERTICAL SCALE



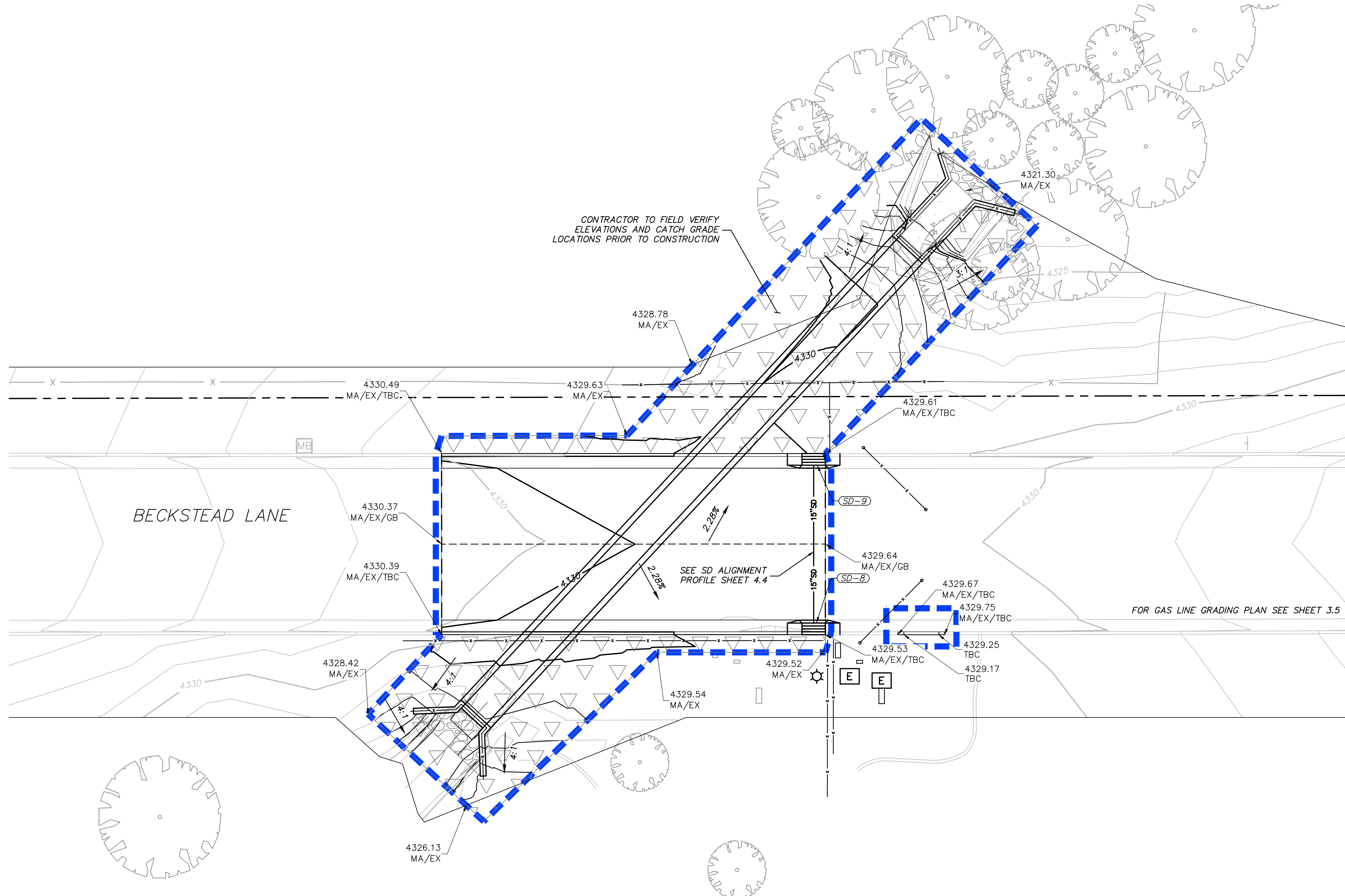
KEYMAP





DATE: 3/23/2021 11:35 AM

PATH: N:\18-024 - JMWCD Headquarters\Cadd\01 Upper Campus Beckstead\18-024 GRADING PLAN-CULVERT.dwg



**GRADING: GEOTECHNICAL NOTES/REQUIREMENTS:**

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**GRADING GENERAL NOTES:**

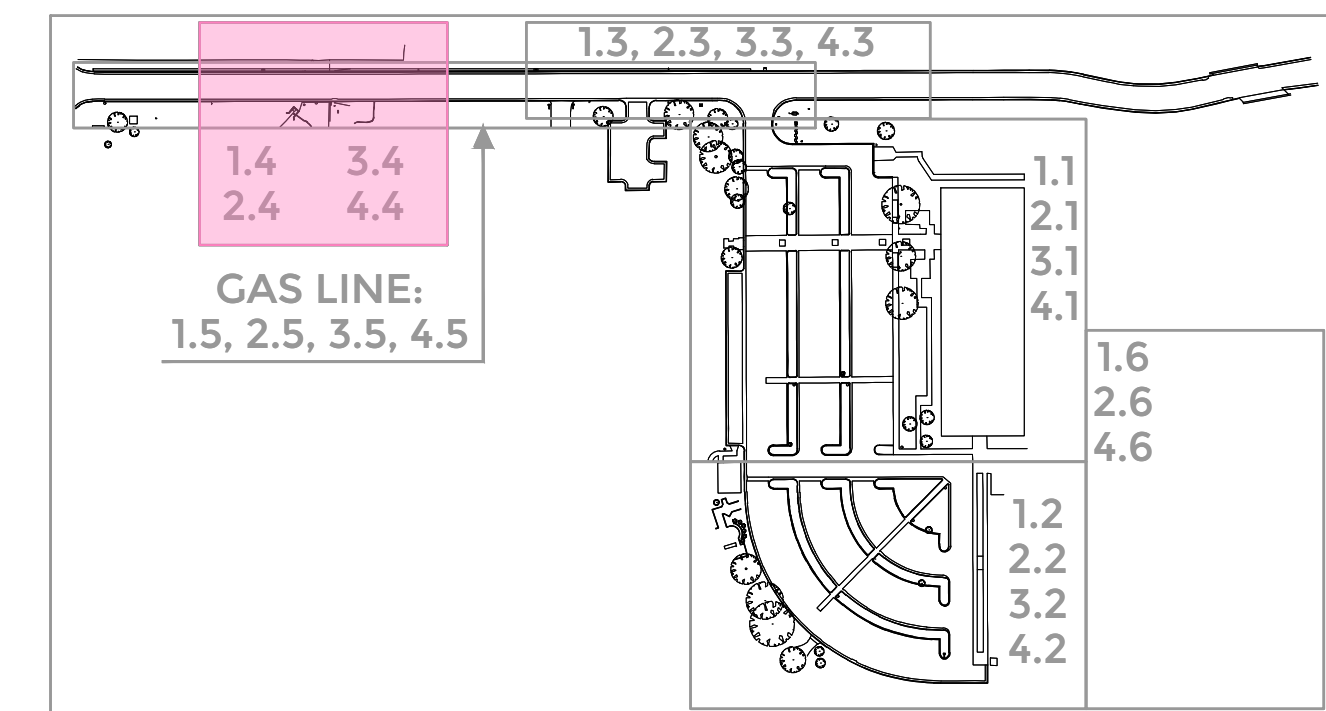
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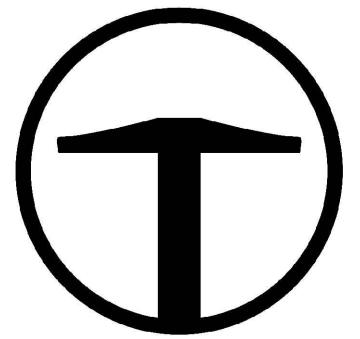
AC	ASPHALT CONCRETE
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LP	LOW POINT

--- GRADE BREAK



22X34 FULL SCALE: 1"=10'

11X17 HALF SCALE: 1"=20'

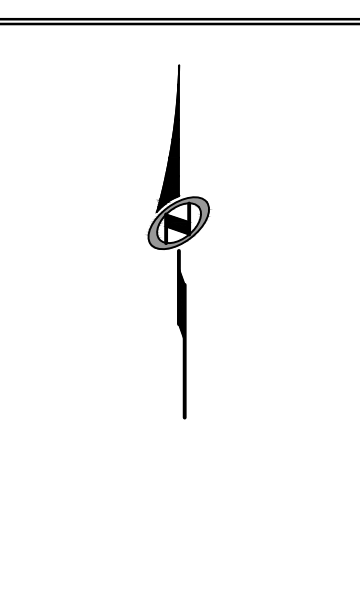
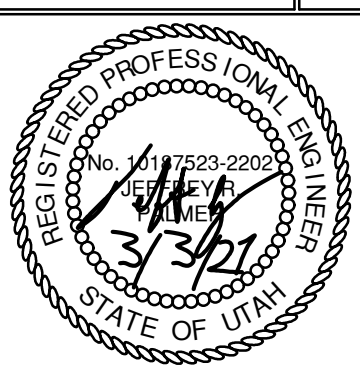


**TALISMAN**  
CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

REVISIONS	
DATE	
BY	
NO.	

**JVWCD HEADQUARTERS**  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
GRADING PLAN CULVERT

TCC JOB NUMBER: 18-024  
DATE SUBMITTED: 03.03.2021

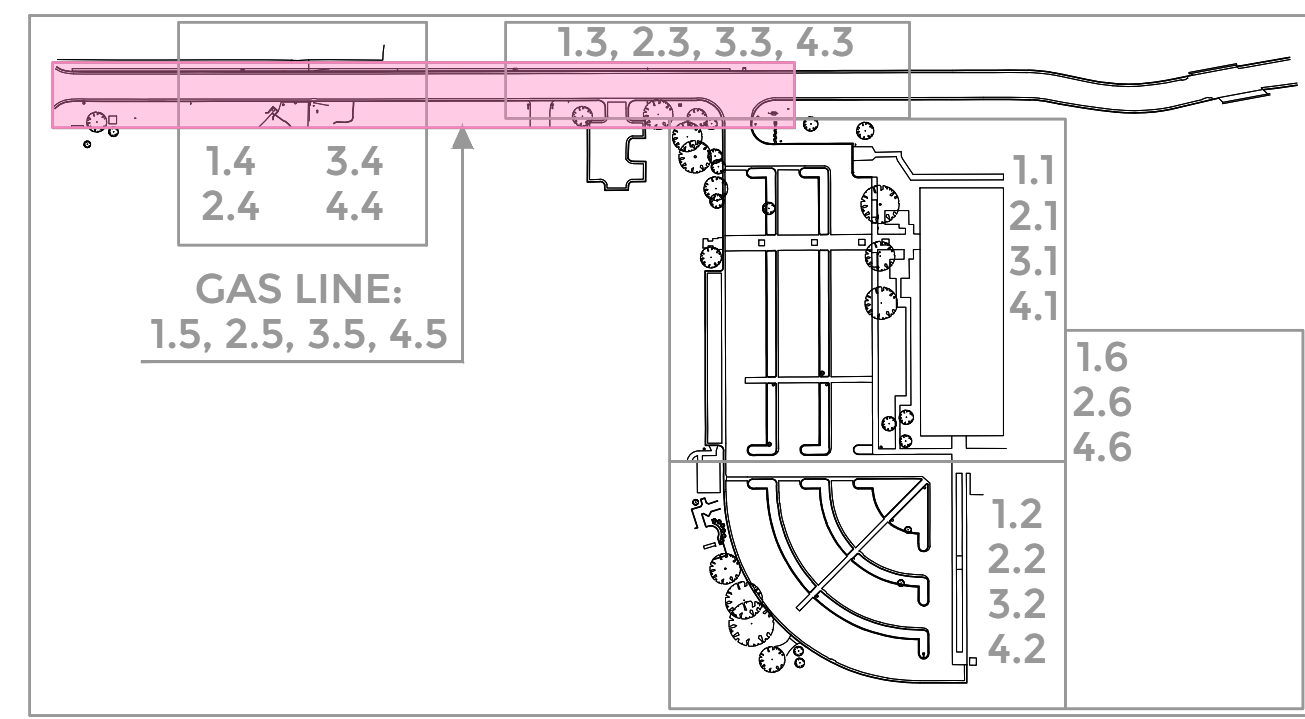
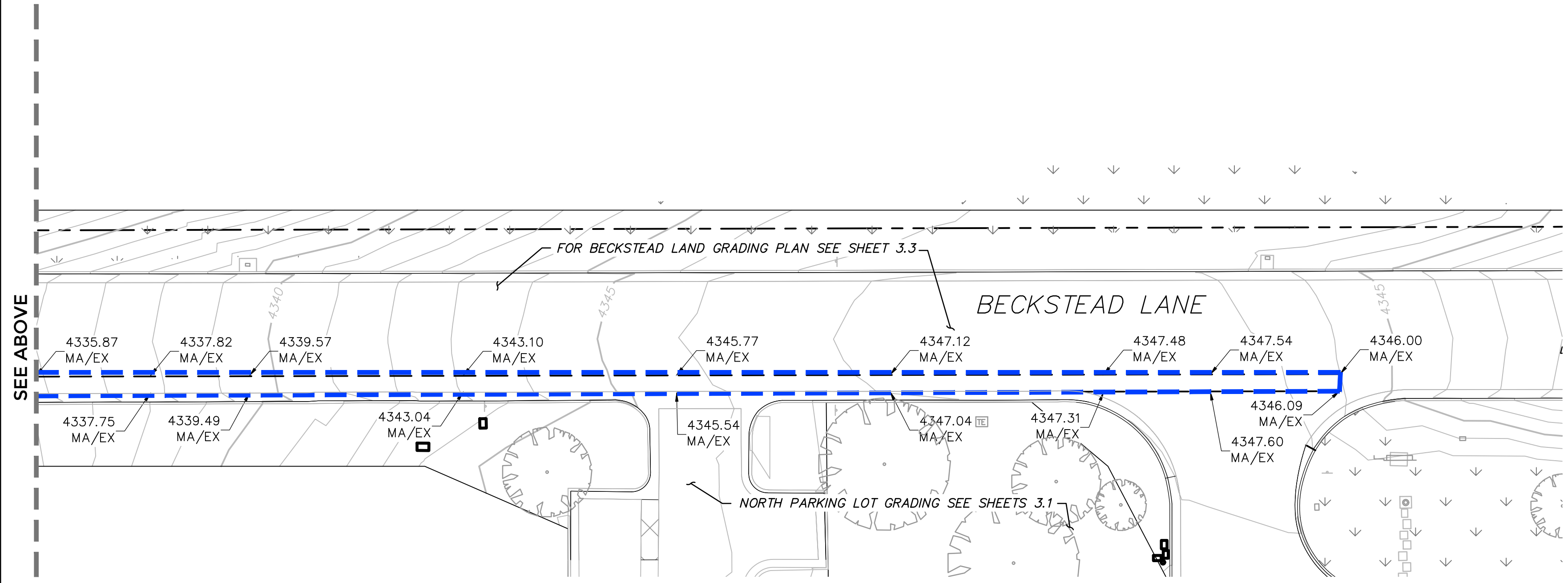
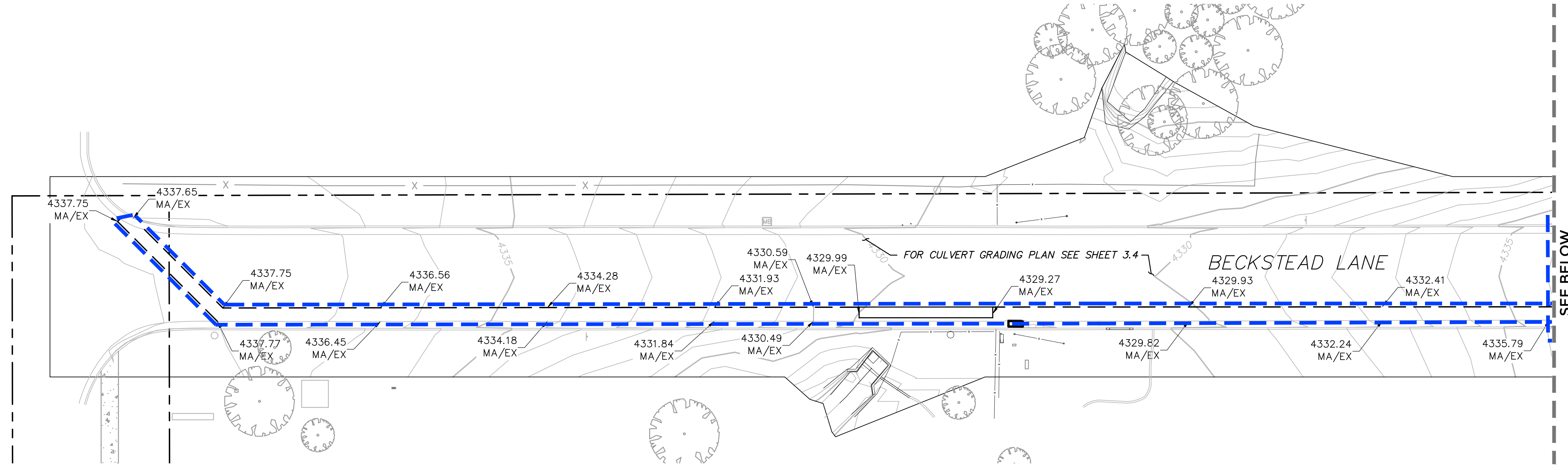


SHEET NUMBER  
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21 OF 38



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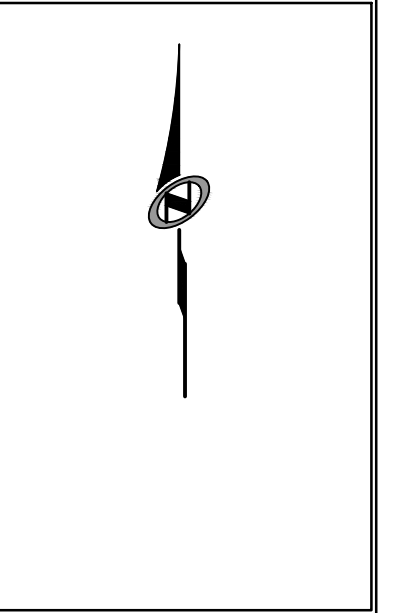
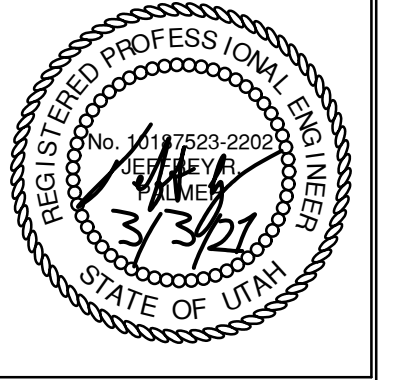
22X34 FULL SCALE: 1"=20'  
 11X17 HALF SCALE: 1"=40'



**TALISMAN**  
 CIVIL CONSULTANTS  
 1588 SOUTH MAIN STREET  
 SUITE 200  
 SALT LAKE CITY, UT 84115  
 801.743.1300

NO.	BY	DATE	REVISIONS

**JWCD HEADQUARTERS**  
 UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
 GRADING PLAN GAS LINE  
 TCC JOB NUMBER: 18-024  
 DATE SUBMITTED: 03.03.2021

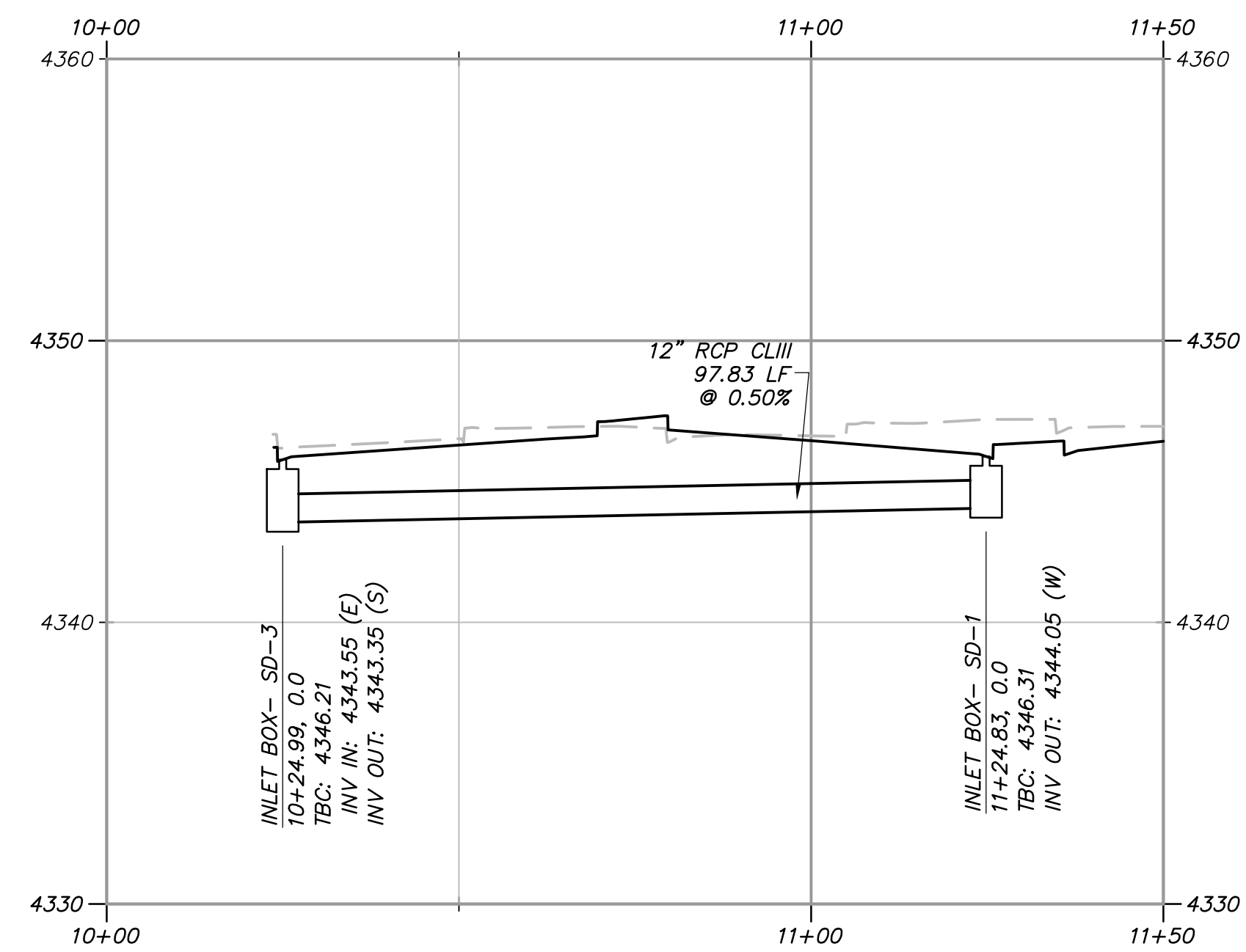
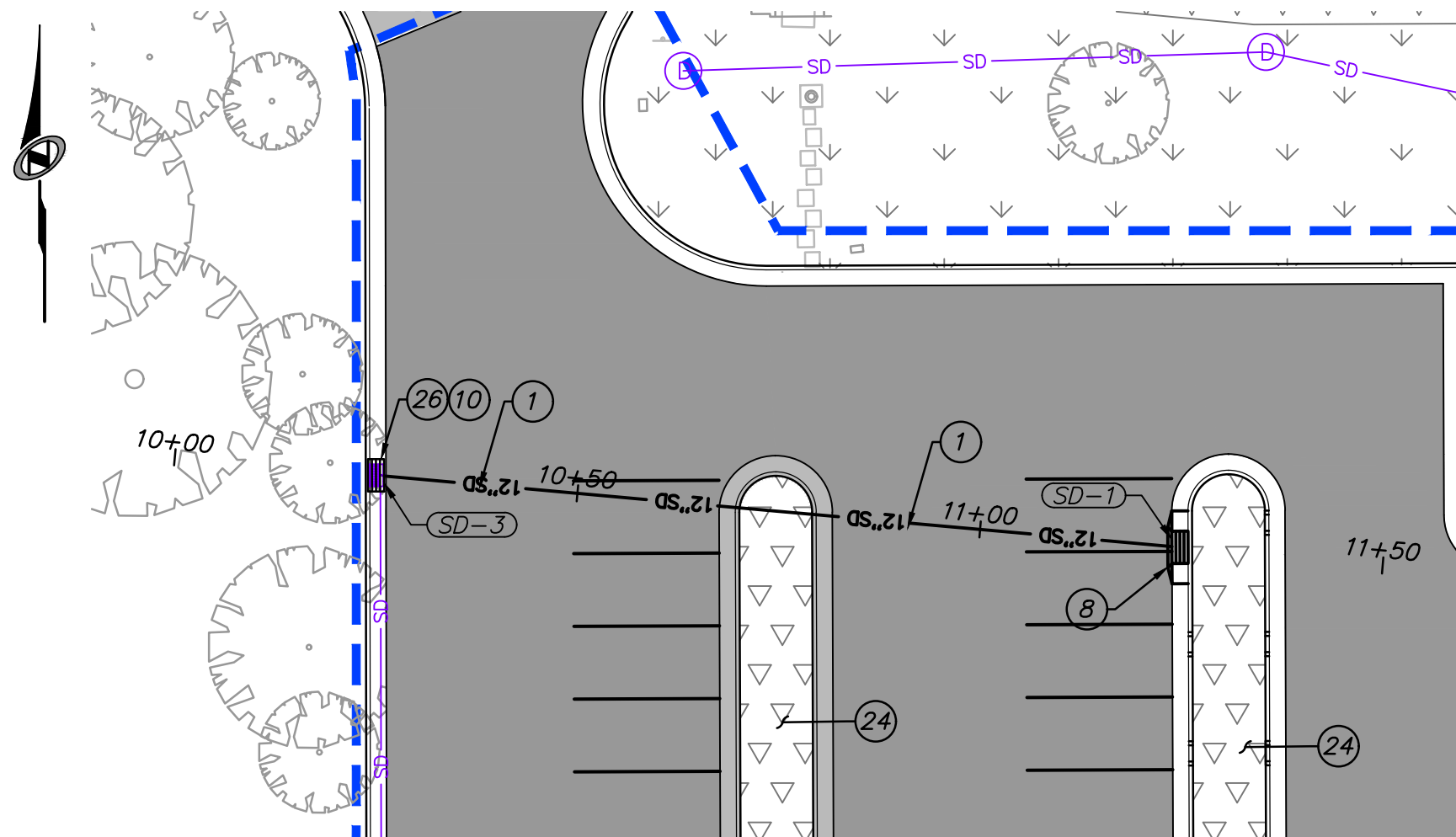


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 22 OF 38



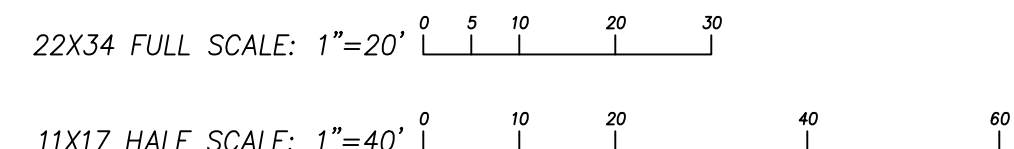
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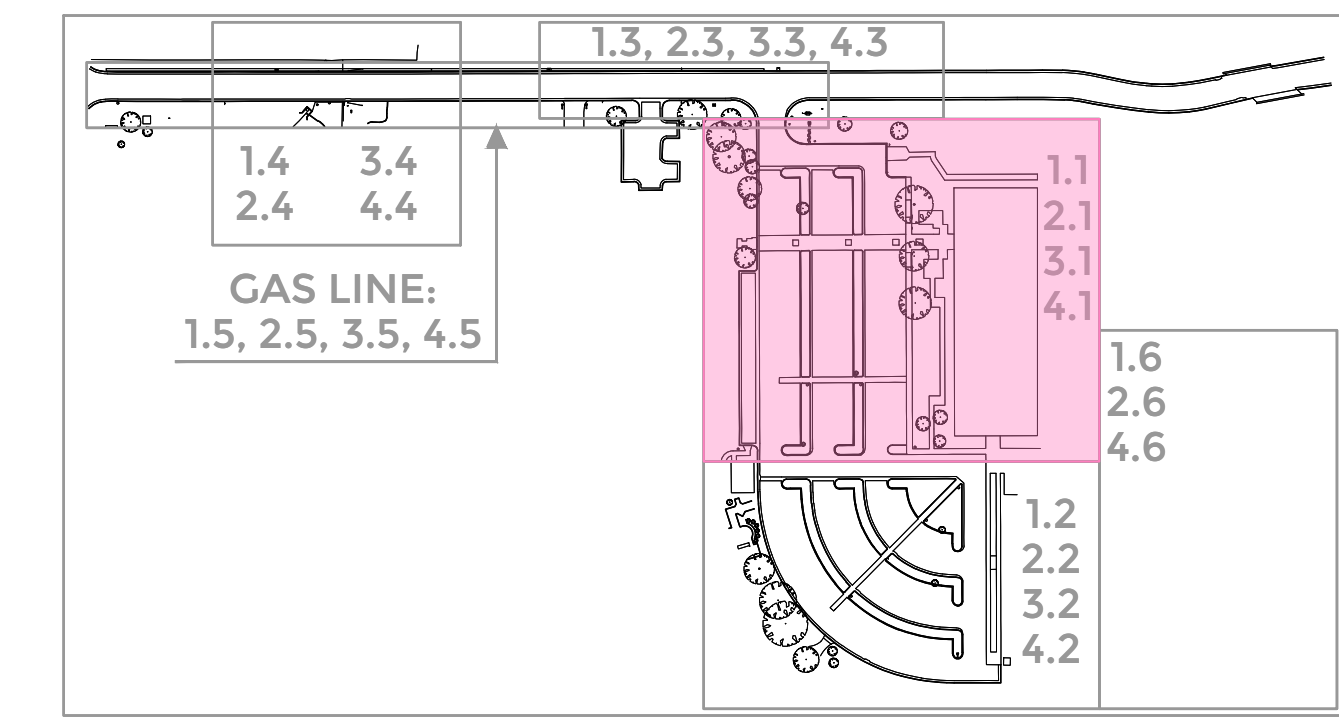
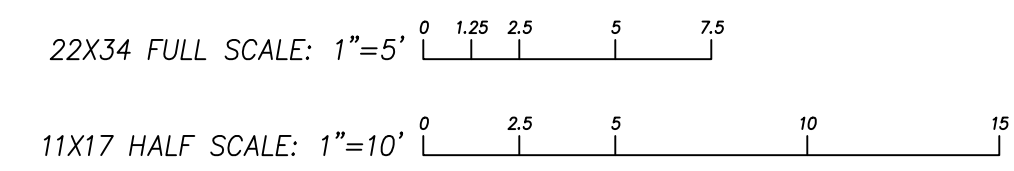


SD01 NORTH PARKING LOT PROFILE

SD01 HORIZONTAL SCALE



SD01 VERTICAL SCALE



KEYMAP



UTILITY GENERAL NOTES:

CONTRACTOR IS TO COORDINATE ALL UTILITIES WITH CIVIL, STRUCTURAL AND ELECTRICAL DRAWINGS. SEE ELECTRICAL PLANS FOR DRY UTILITY LOCATION, INSTALLATION AND DESIGN INFORMATION.

ALL NEW WATER CONSTRUCTION TO BE DONE IN ACCORDANCE WITH LOCAL GOVERNING AGENCIES AND APWA STANDARDS & SPECIFICATIONS.

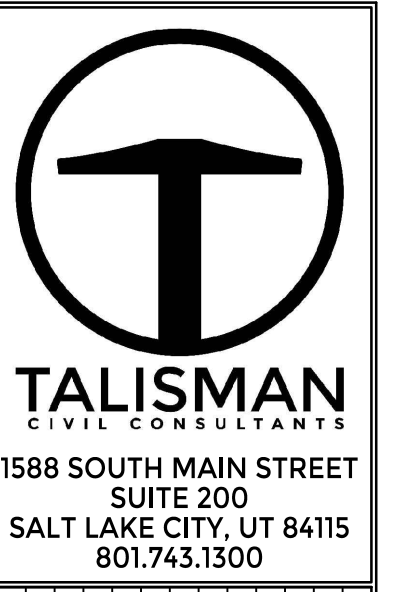
EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THOSE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. CONTRACTOR IS TO VERIFY CONNECTION POINTS WITH EXISTING UTILITIES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF CONTRACTOR'S FAILURE TO VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED IN THE CONTRACT. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO EXISTING UTILITIES AND UTILITY STRUCTURES THAT ARE TO REMAIN.

ALL SURFACE IMPROVEMENTS DISTURBED BY CONSTRUCTION SHALL BE RESTORED OR REPLACED, INCLUDING TREES, DECORATIVE SHRUBS, SOD, FENCES, WALLS AND STRUCTURES, WHETHER OR NOT THEY ARE SPECIFICALLY SHOWN ON THE CONTRACT DOCUMENTS.

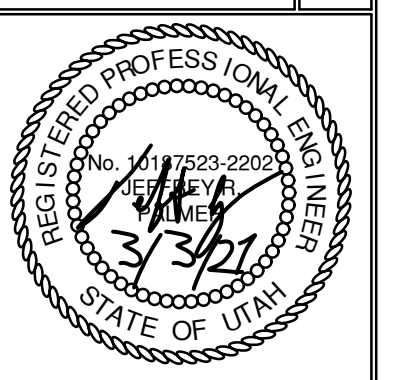
UTILITY SCOPE OF WORK:

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

- (1) INSTALL 12" RCP PER APWA PLANS NO. 381 AND 382, SHEET 7.3.
- (8) INSTALL 2'x4' CATCH BASIN WITH GRATED LID PER APWA PLAN NO. 315, SHEET 7.2, AND CONCRETE COLLAR AS NEEDED PER APWA PLAN NO. 362, SHEET 7.3.
- (10) TIE-IN TO EXISTING STORM DRAIN CATCH BASIN.
- (24) FOR IRRIGATION CONTROL, SEE LANDSCAPE PLANS.
- (26) ADJUST TO GRADE EXISTING UTILITY STRUCTURE. SEE GRADING PLAN.



**JVWCD HEADQUARTERS**  
 UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
 UTILITY PLAN PARKING LOT NORTH  
 TCC JOB NUMBER: 18-024  
 DATE SUBMITTED: 03.03.2021

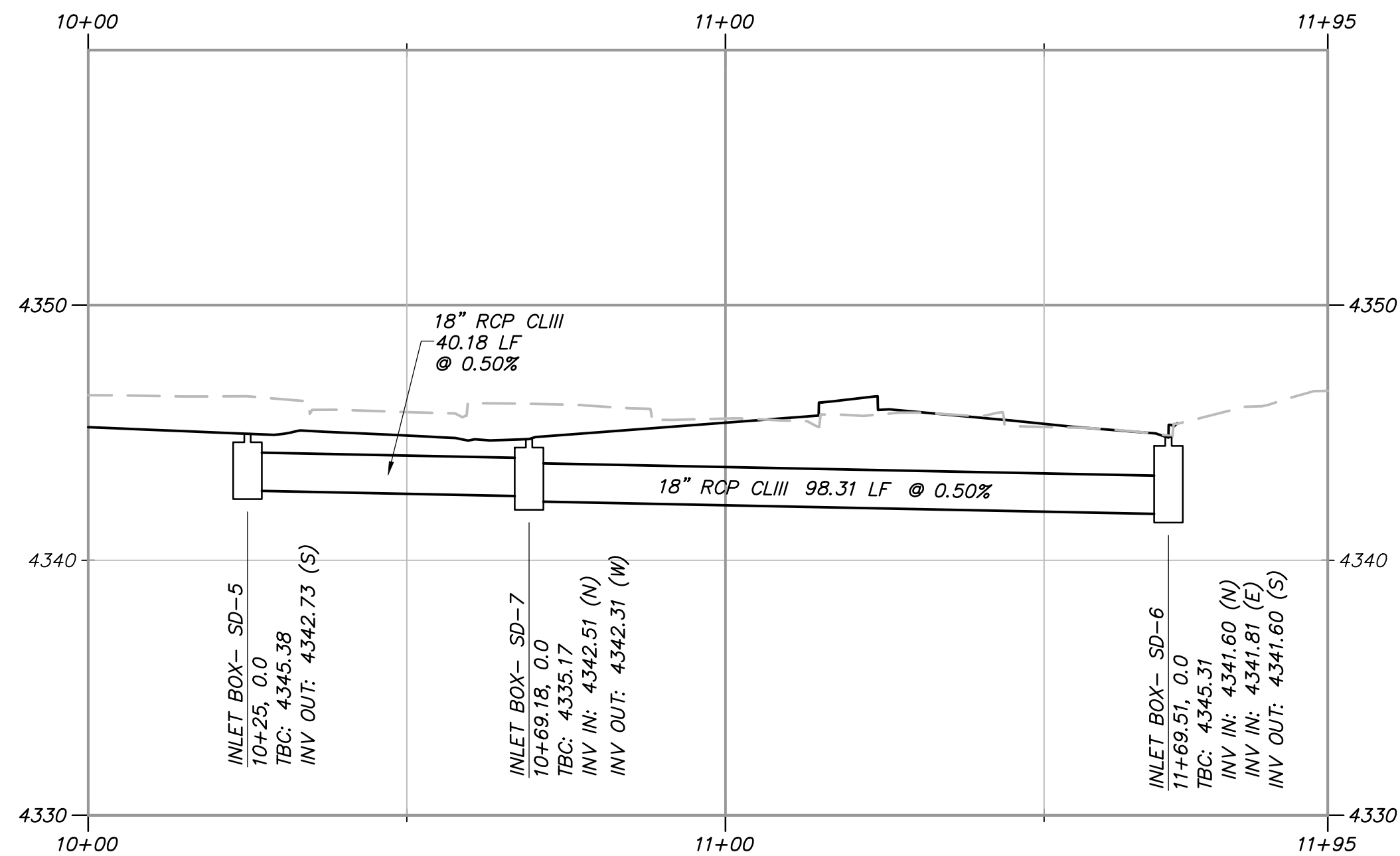
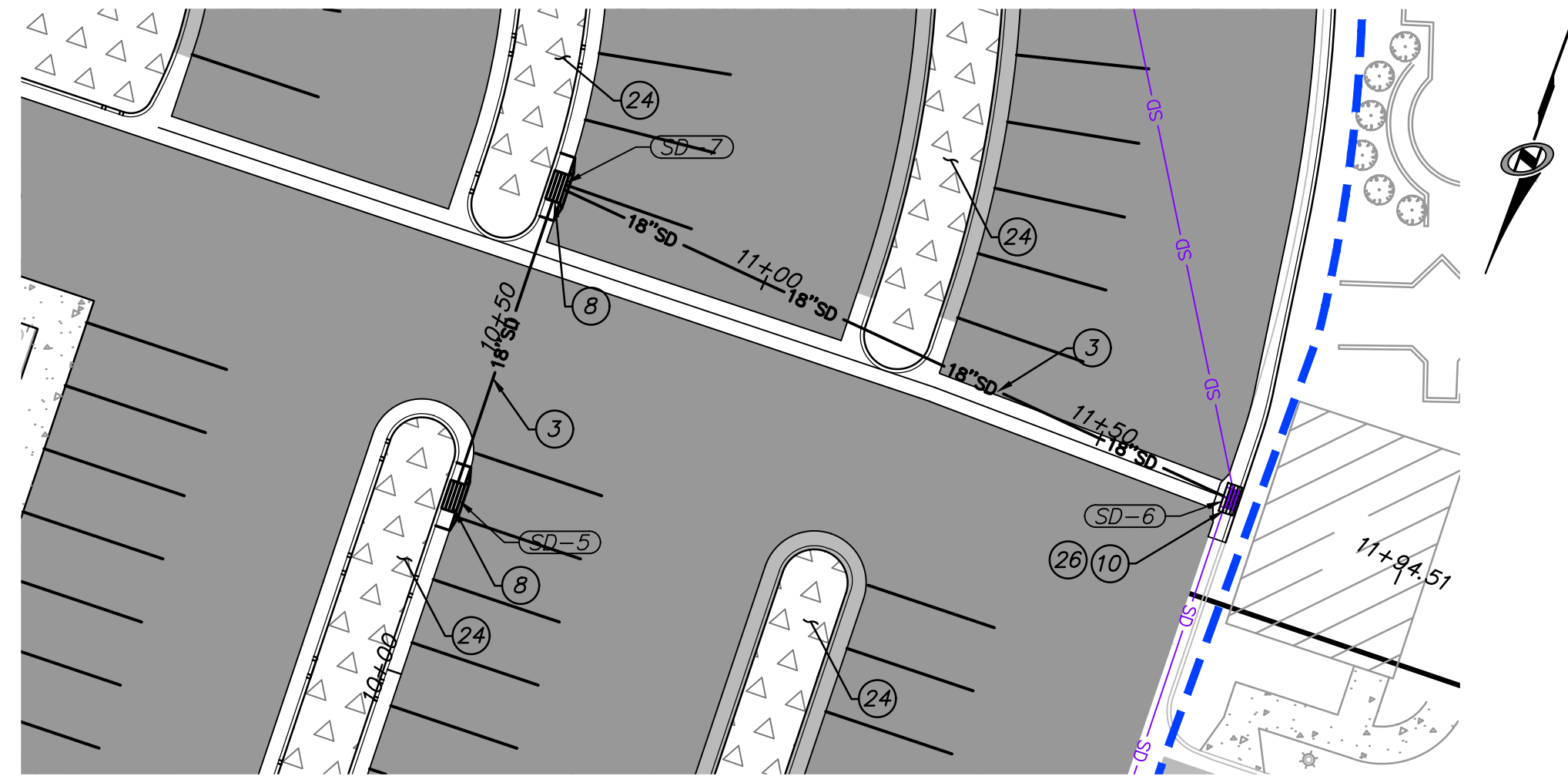


SHEET NUMBER  
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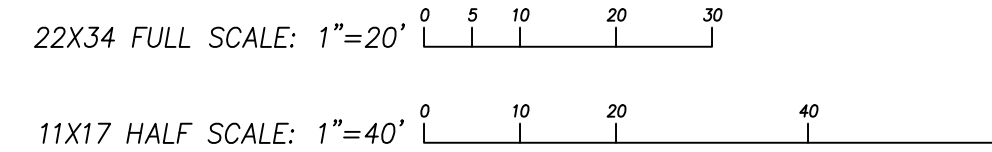
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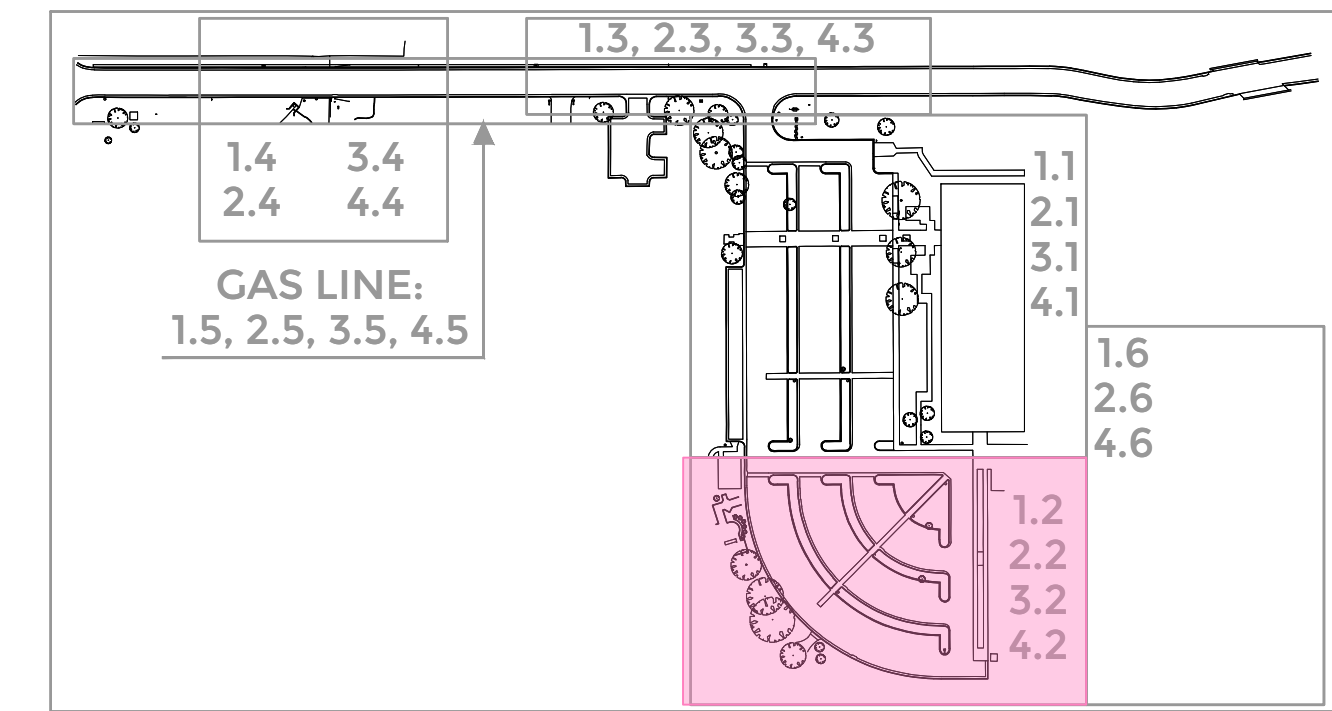


SD03 SOUTH PARKING LOT PROFILE

SD03 HORIZONTAL SCALE



SD03 VERTICAL SCALE



KEYMAP



**UTILITY GENERAL NOTES:**

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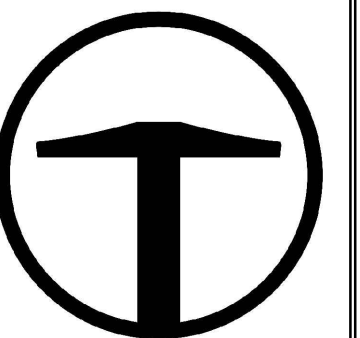
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**UTILITY SCOPE OF WORK:**

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

- 3) INSTALL 18"Ø RCP PER APWA PLANS NO. 381 AND 382, SHEET 7.3.
- 8) INSTALL 2'x4' CATCH BASIN WITH GRATED LID PER APWA PLAN NO. 315, SHEET 7.2, AND CONCRETE COLLAR AS NEEDED PER APWA PLAN NO. 362, SHEET 7.3.
- 10) TIE-IN TO EXISTING STORM DRAIN CATCH BASIN.
- 24) FOR IRRIGATION CONTROL, SEE LANDSCAPE PLANS.
- 26) ADJUST TO GRADE EXISTING UTILITY STRUCTURE. SEE GRADING PLAN.



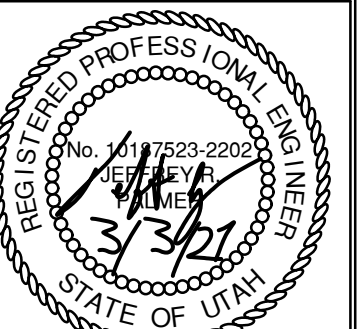
**TALISMAN**  
CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

NO.	BY	DATE	REVISIONS

**JVWCD HEADQUARTERS**  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
UTILITY PLAN PARKING LOT SOUTH

DATE SUBMITTED: 03.03.2021

TCC JOB NUMBER: 18-024

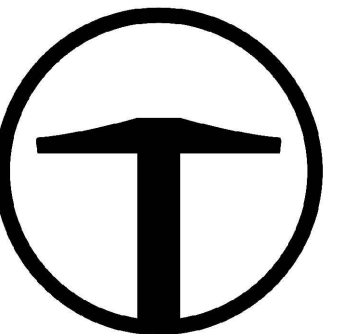


SHEET NUMBER

**4.2**

24 OF 38





**TALISMAN**  
CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

REVISIONS	
DATE	
BY	
NO.	

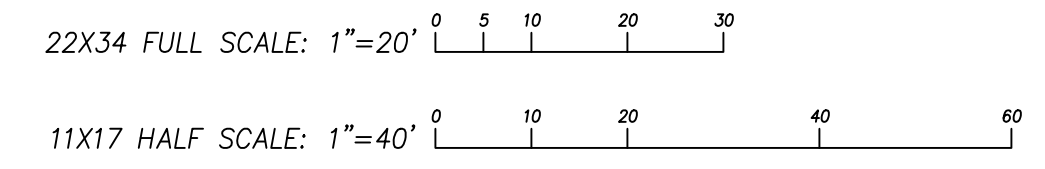
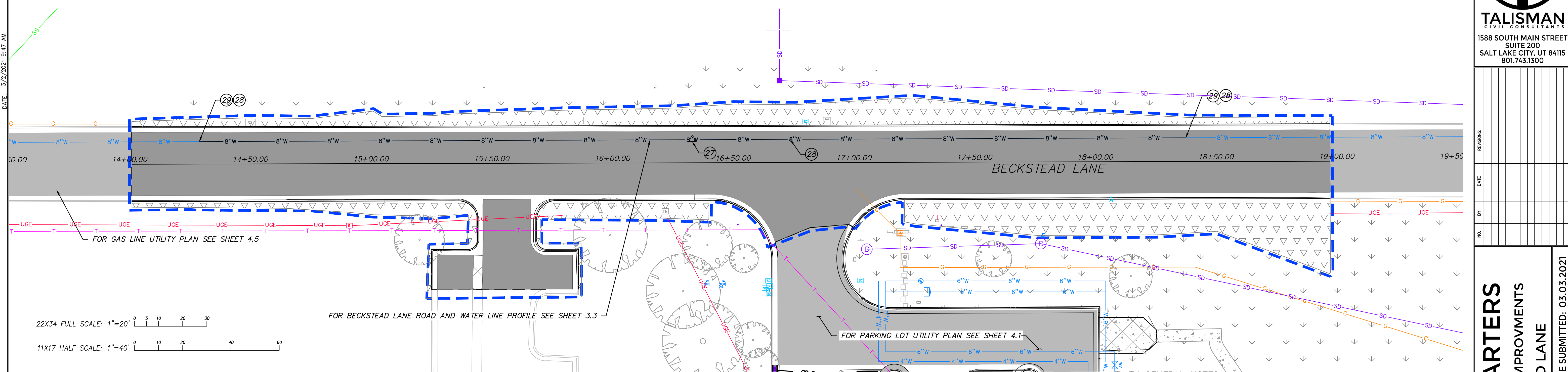
**JVWCD HEADQUARTERS**  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
UTILITY PLAN BECKSTEAD LANE  
DATE SUBMITTED: 03.03.2021  
TCC JOB NUMBER: 18-024



SHEET NUMBER  
**4.3**  
25 OF 38

DATE: 3/2/2021 9:47 AM

PATH: N:\18-024 - JVWCD Headquarters\Cadd\01 Upper Campus Beckstead\UP\_4.3 UTILITY PLAN-BECKSTEAD\_LANE.dwg



FOR BECKSTEAD LANE ROAD AND WATER LINE PROFILE SEE SHEET 3.3

FOR PARKING LOT UTILITY PLAN SEE SHEET 4.1

**UTILITY GENERAL NOTES:**

CONTRACTOR IS TO COORDINATE ALL UTILITIES WITH CIVIL, STRUCTURAL AND ELECTRICAL DRAWINGS. SEE ELECTRICAL PLANS FOR DRY UTILITY LOCATION, INSTALLATION AND DESIGN INFORMATION.

ALL NEW WATER CONSTRUCTION TO BE DONE IN ACCORDANCE WITH LOCAL GOVERNING AGENCIES AND APWA STANDARDS & SPECIFICATIONS.

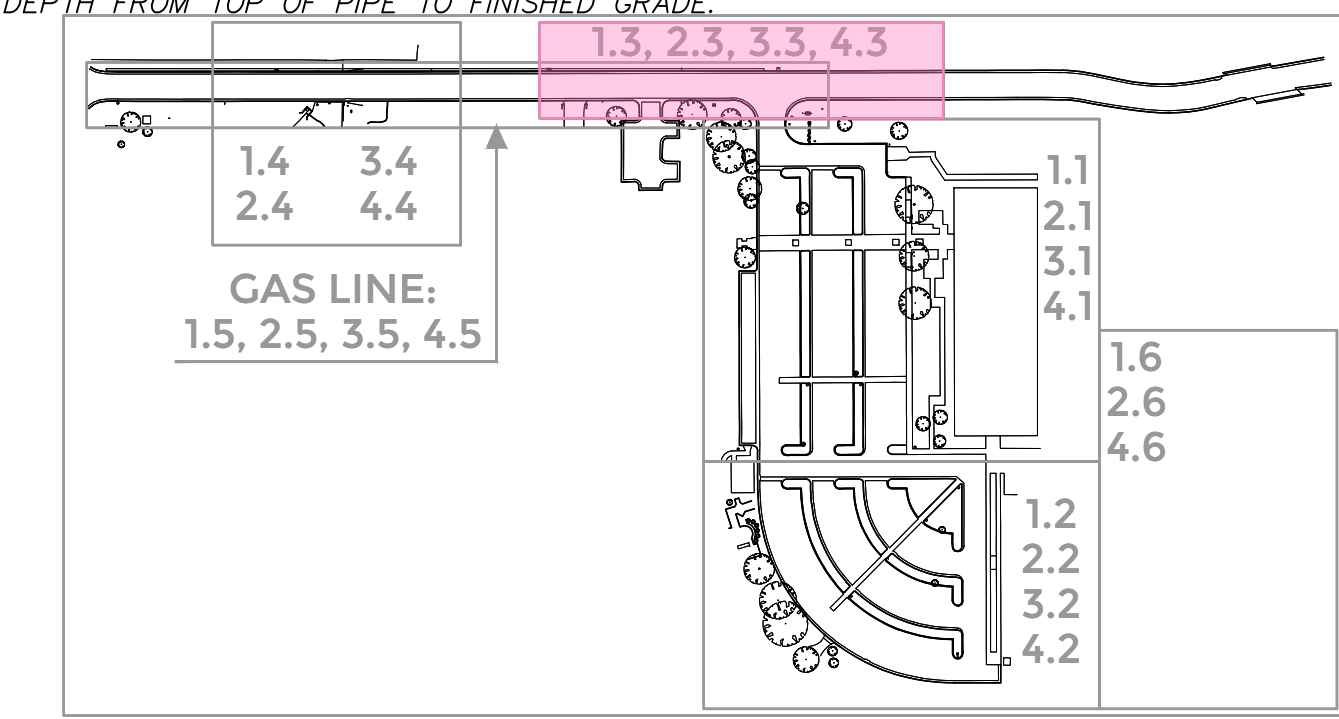
EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THOSE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. CONTRACTOR IS TO VERIFY CONNECTION POINTS WITH EXISTING UTILITIES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF CONTRACTOR'S FAILURE TO VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED IN THE CONTRACT. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO EXISTING UTILITIES AND UTILITY STRUCTURES THAT ARE TO REMAIN.

ALL SURFACE IMPROVEMENTS DISTURBED BY CONSTRUCTION SHALL BE RESTORED OR REPLACED, INCLUDING TREES, DECORATIVE SHRUBS, SOD, FENCES, WALLS AND STRUCTURES, WHETHER OR NOT THEY ARE SPECIFICALLY SHOWN ON THE CONTRACT DOCUMENTS.

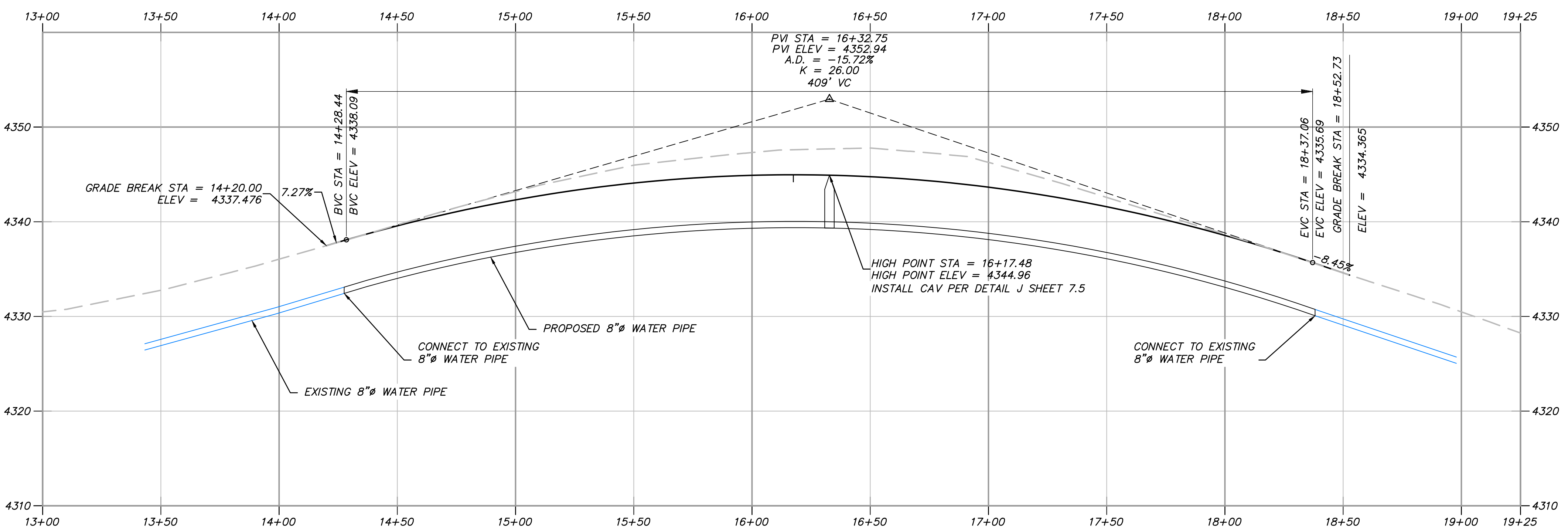
**UTILITY SCOPE OF WORK:**

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

- 27) INSTALL CAV PER DETAIL J SHEET 7.5.
- 28) INSTALL 8"Ø WATER PIPE. MAINTAIN MINIMUM 4' BURY DEPTH FROM TOP OF PIPE TO FINISHED GRADE.
- 29) CONNECT TO EXISTING WATERLINE WITH NEW 8"Ø WATERLINE. MAINTAIN MINIMUM 4' BURY DEPTH FROM TOP OF PIPE TO FINISHED GRADE.



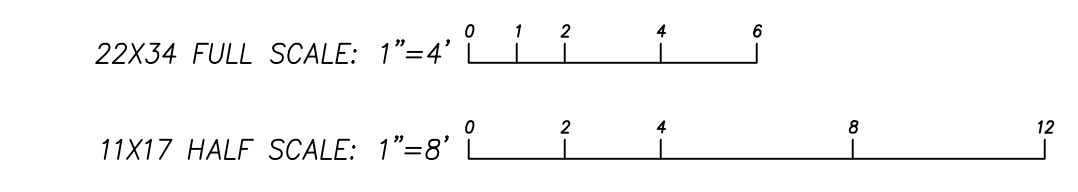
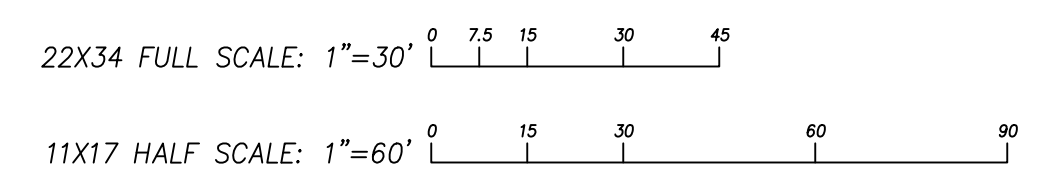
KEYMAP



BECKSTEAD PROFILE HORIZONTAL SCALE

BECKSTEAD PROFILE

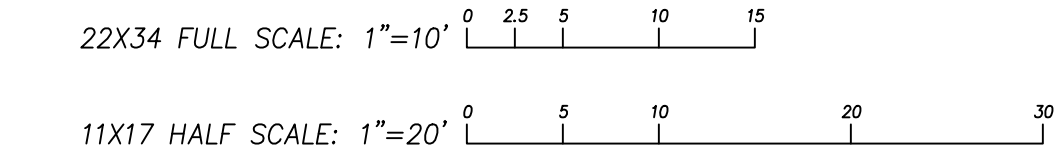
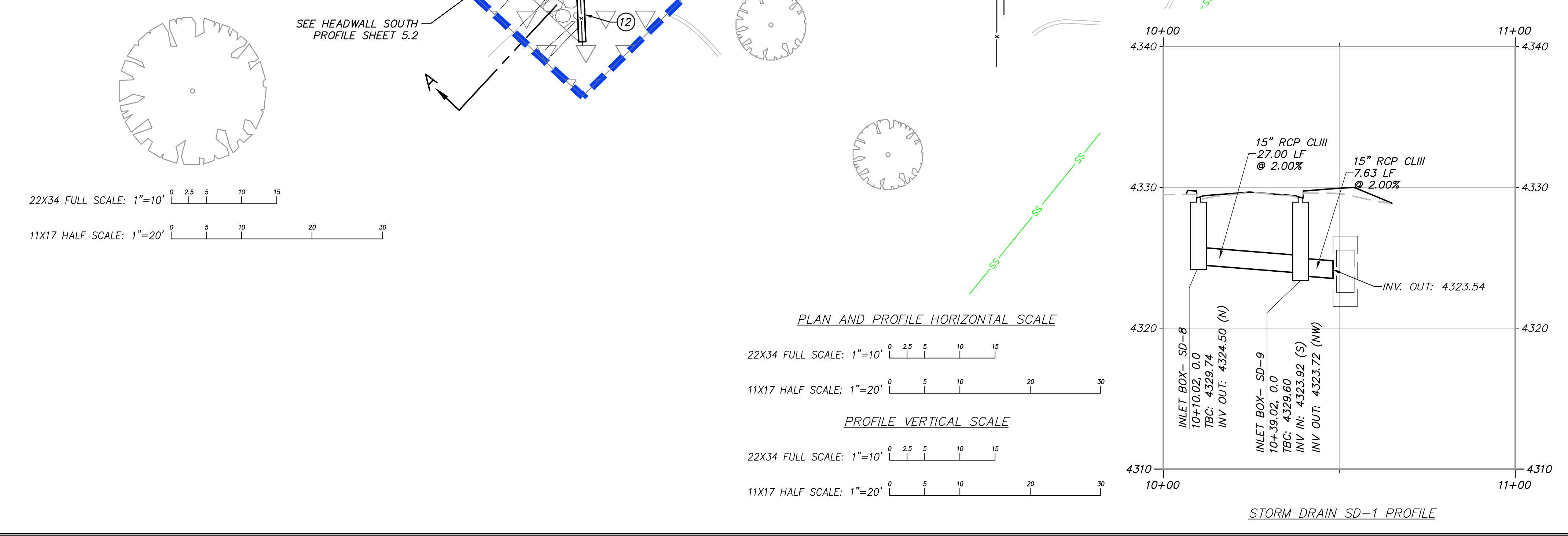
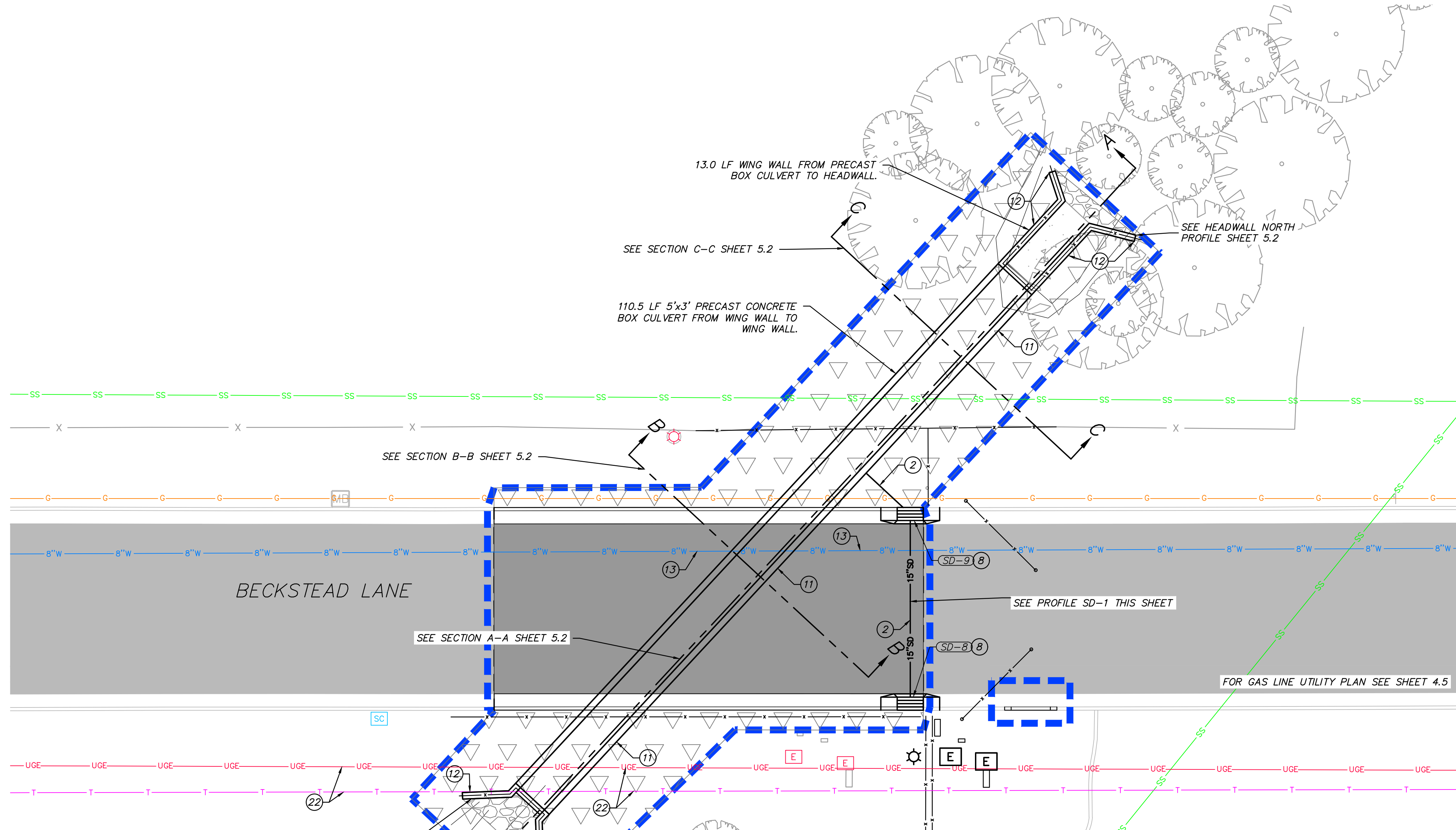
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DATE: 3/25/2021 11:38 AM

PATH: N:\18-024 - JMWCD Headquarters\Cadd\01 Upper Campus Beckstead\18-024 UTILITY PLAN-CULVERT.dwg



**UTILITY GENERAL NOTES:**

CONTRACTOR IS TO COORDINATE ALL UTILITIES WITH CIVIL, STRUCTURAL AND ELECTRICAL DRAWINGS. SEE ELECTRICAL PLANS FOR DRY UTILITY LOCATION, INSTALLATION AND DESIGN INFORMATION.

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**UTILITY SCOPE OF WORK:**

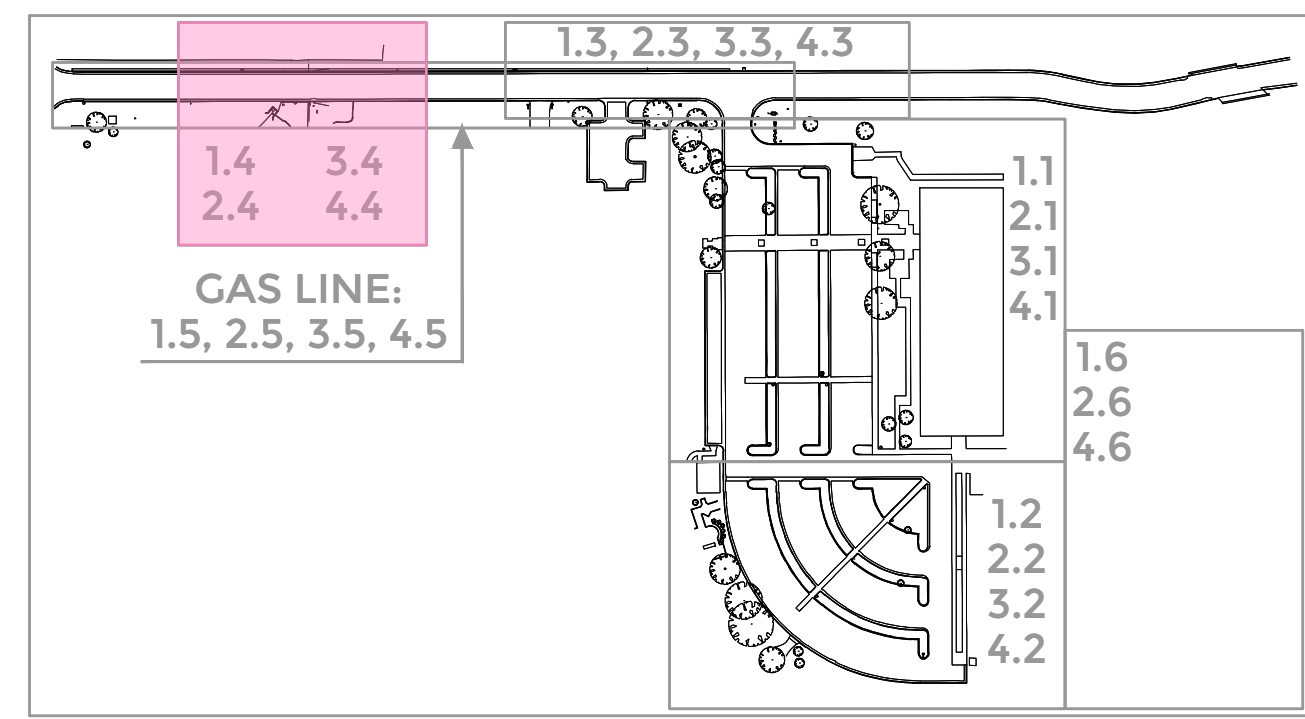
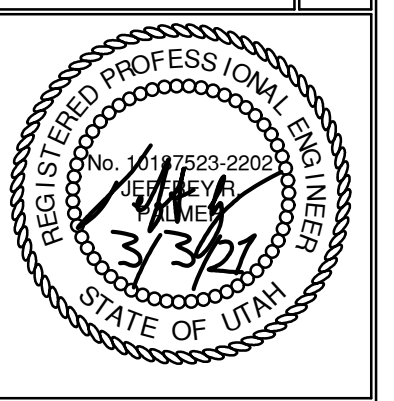
PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

- ② INSTALL 15" RCP PER APWA PLANS NO. 381 AND 382, SHEET 7.3.
- ⑧ INSTALL 2'x4' CATCH BASIN WITH GRATED LID PER APWA PLAN NO. 315, SHEET 7.2, AND CONCRETE COLLAR AS NEEDED PER APWA PLAN NO. 362, SHEET 7.3.
- ⑪ INSTALL 5'x3' PRECAST CONCRETE BOX CULVERT, SEE SECTION A-A, SHEET 5.2.
- ⑫ INSTALL PRECAST CONCRETE WING WALL PER DIMENSIONS ON SHEET 5.2.
- ⑬ LOOP EXISTING WATER LINE PER APWA PLAN NO. 543, SHEET 7.4. MAINTAIN MINIMUM 4' BURY DEPTH FROM TOP OF PIPE TO FINISHED GRADE.
- ⑳ LOOP OR REDIRECT EXISTING CONDUIT AS NEEDED. COORDINATE WITH UTILITY PROVIDER.



REVISIONS
DATE
BY
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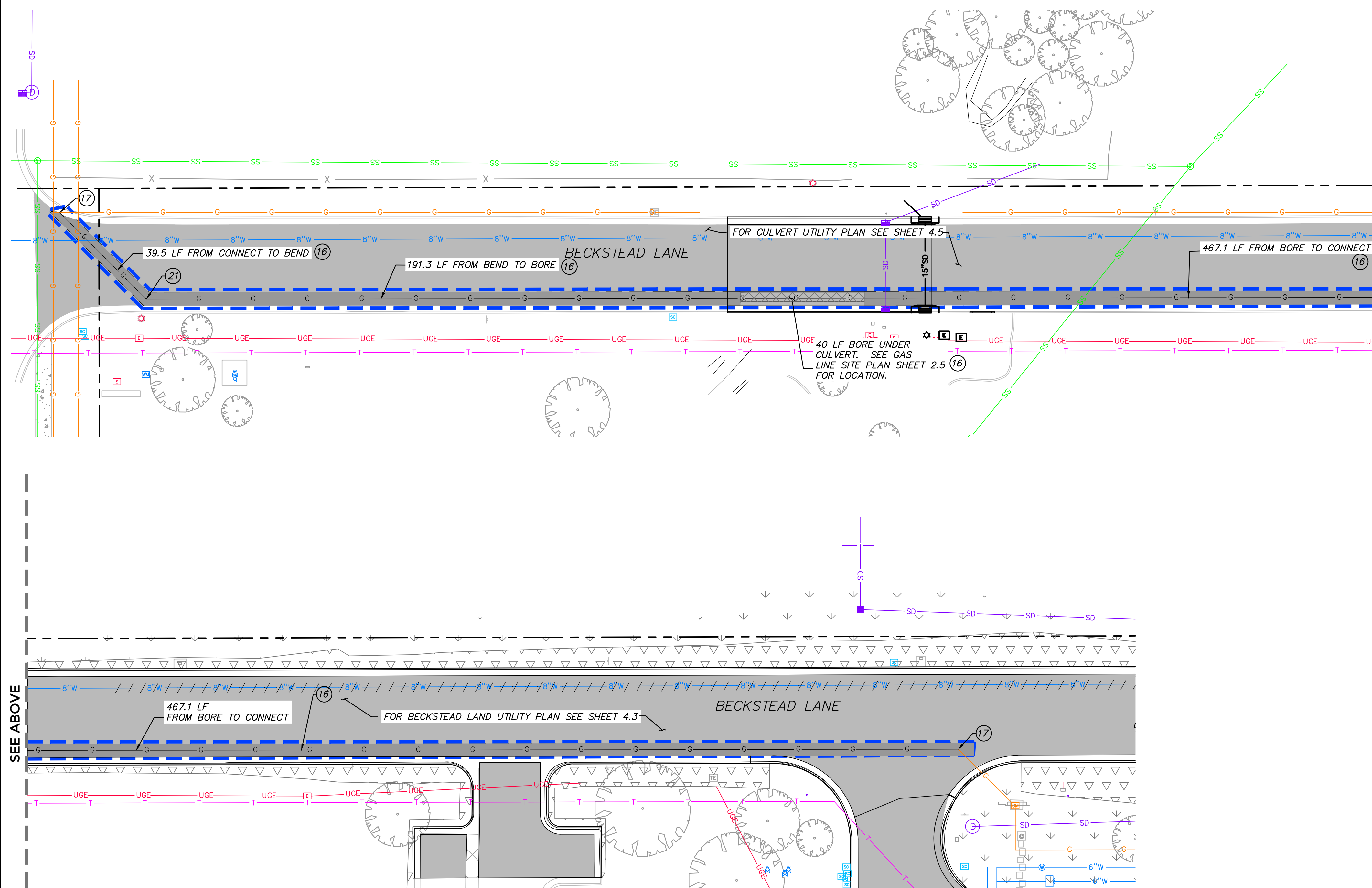
**JVWCD HEADQUARTERS**  
 UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
 UTILITY PLAN CULVERT  
 TCC JOB NUMBER: 18-024  
 DATE SUBMITTED: 03.03.2021





DATE: 3/2/2021 9:51 AM

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**UTILITY GENERAL NOTES:**

CONTRACTOR IS TO COORDINATE ALL UTILITIES WITH CIVIL, STRUCTURAL AND ELECTRICAL DRAWINGS. SEE ELECTRICAL PLANS FOR DRY UTILITY LOCATION, INSTALLATION AND DESIGN INFORMATION.

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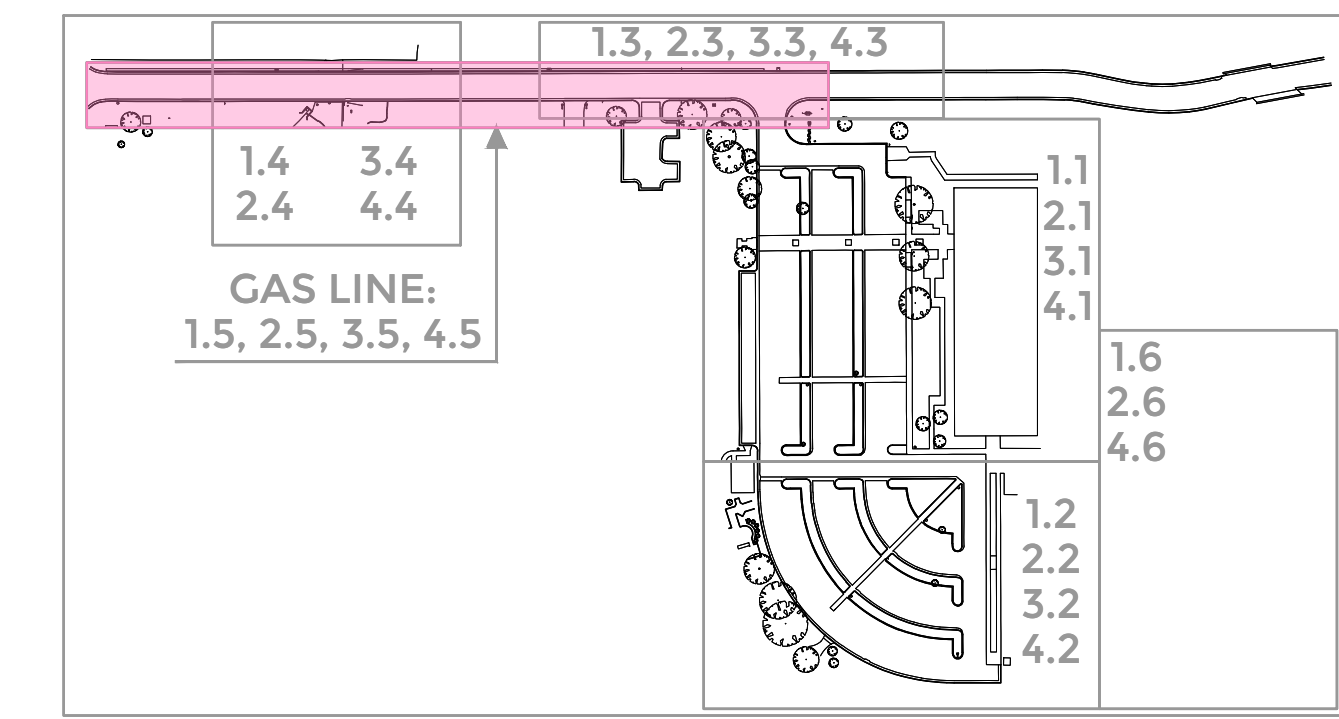
**UTILITY SCOPE OF WORK:**

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

- (16) INSTALL GAS LINE, CONTRACTOR TO COORDINATE WITH DOMINION ENERGY.
- (17) CONNECT TO EXISTING GAS LINE, CONTRACTOR TO COORDINATE WITH DOMINION ENERGY.
- (21) INSTALL SWEEP, CONTRACTOR TO COORDINATE WITH DOMINION ENERGY.

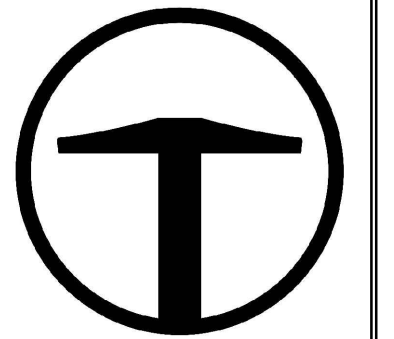
SEE BELOW

SEE ABOVE



22X34 FULL SCALE: 1"=20'

11X17 HALF SCALE: 1"=40'



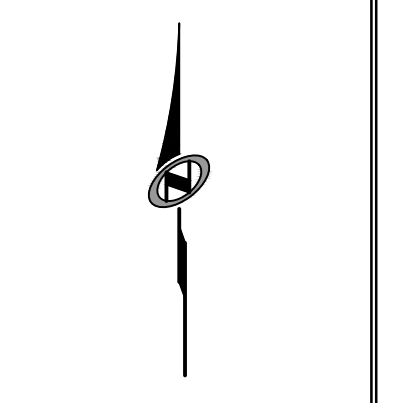
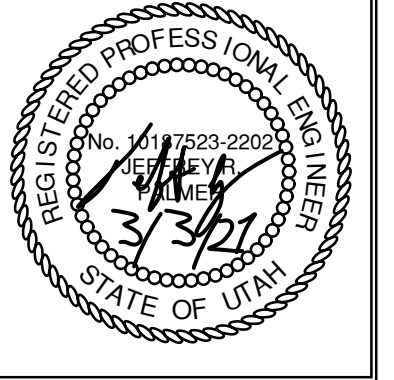
TALISMAN  
CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

REVISIONS	
DATE	
BY	
NO.	

**JWCD HEADQUARTERS**  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
UTILITY PLAN GAS LINE

DATE SUBMITTED: 03.03.2021

TCC JOB NUMBER: 18-024



SHEET NUMBER

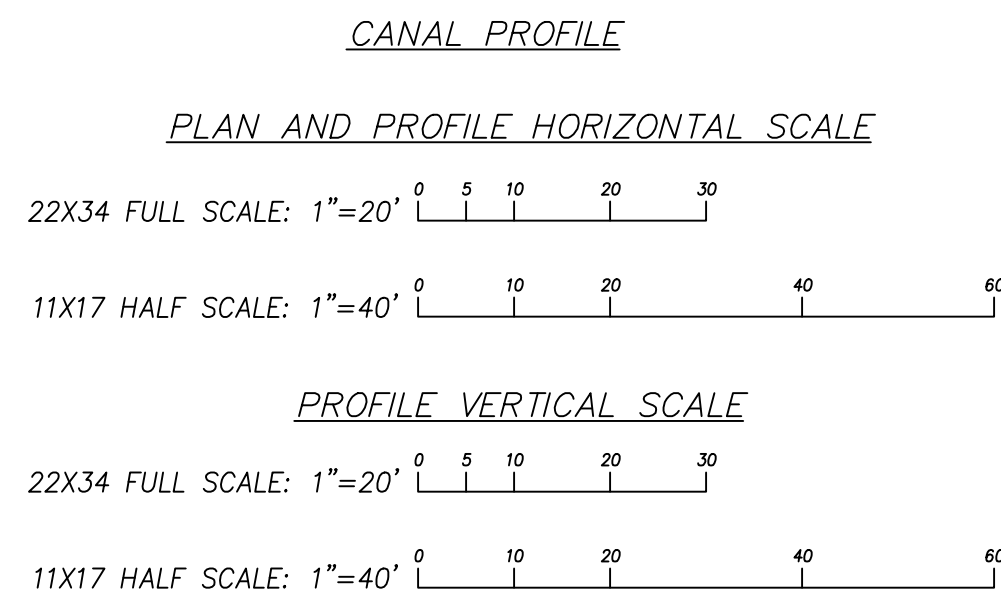
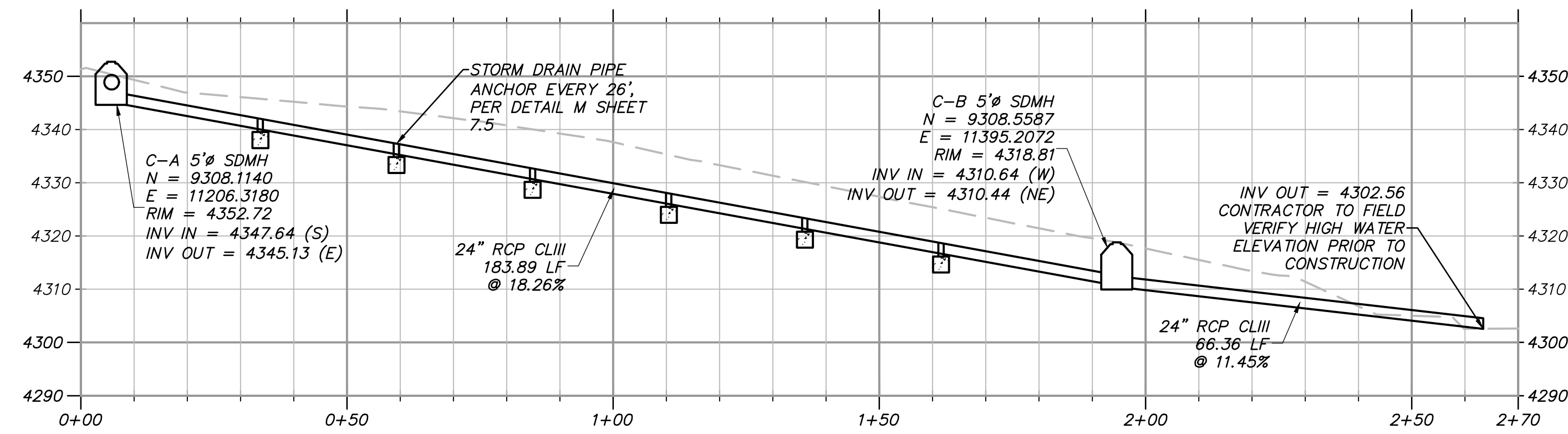
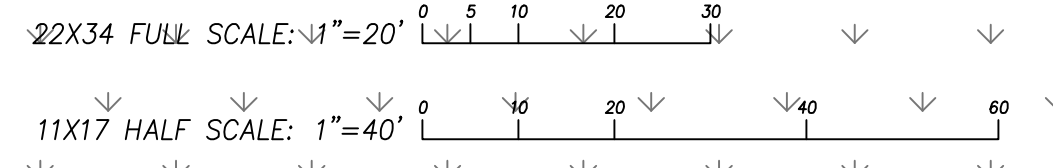
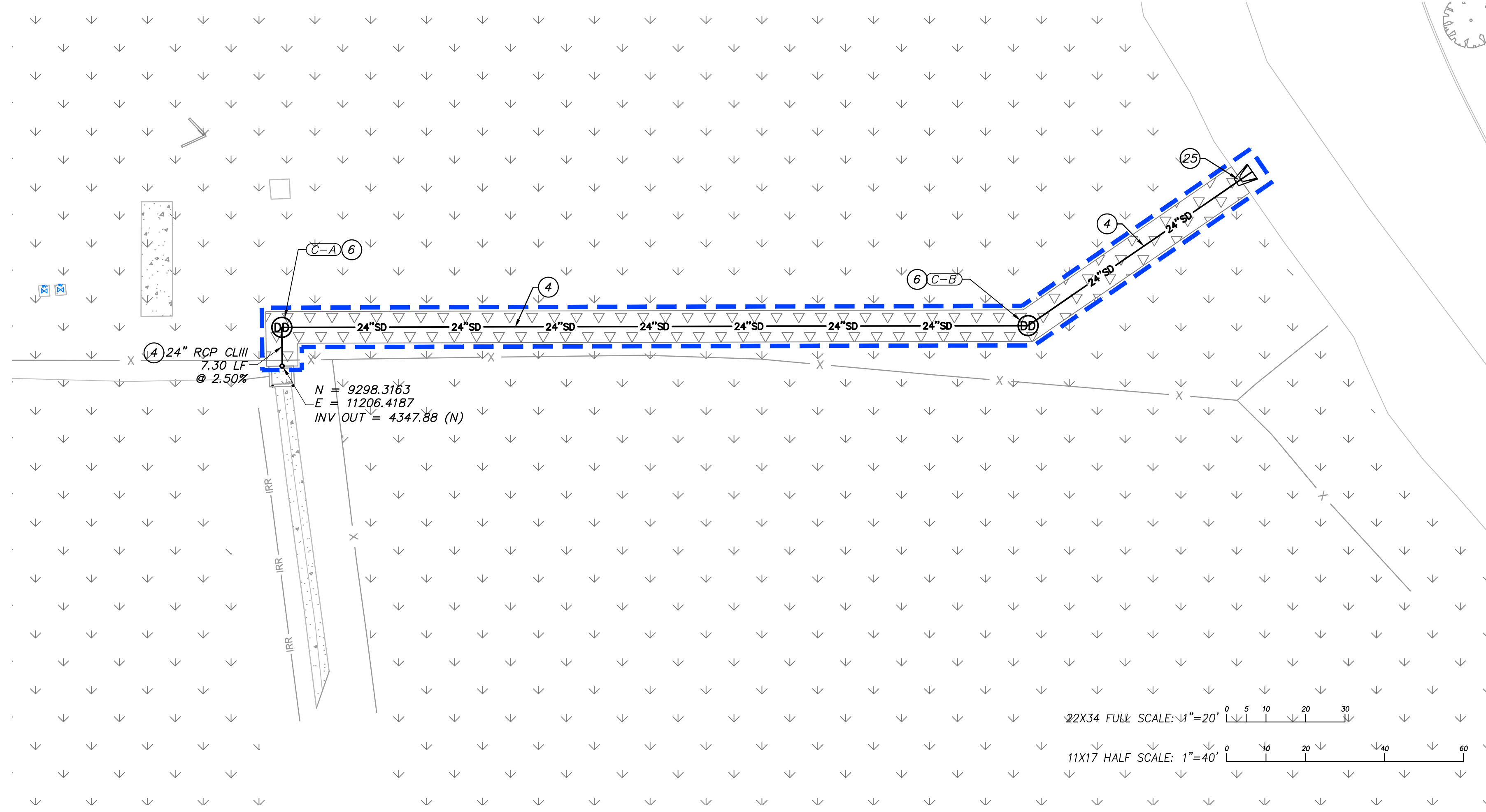
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DATE: 3/23/2021 12:31 PM

PATH: N:\18-024 - JMWCD\_Headquarters\Cadd\01\_Upper\_Campus\_Reckstead\4.6 UTILITY PLAN-CANAL.dwg



**UTILITY GENERAL NOTES:**

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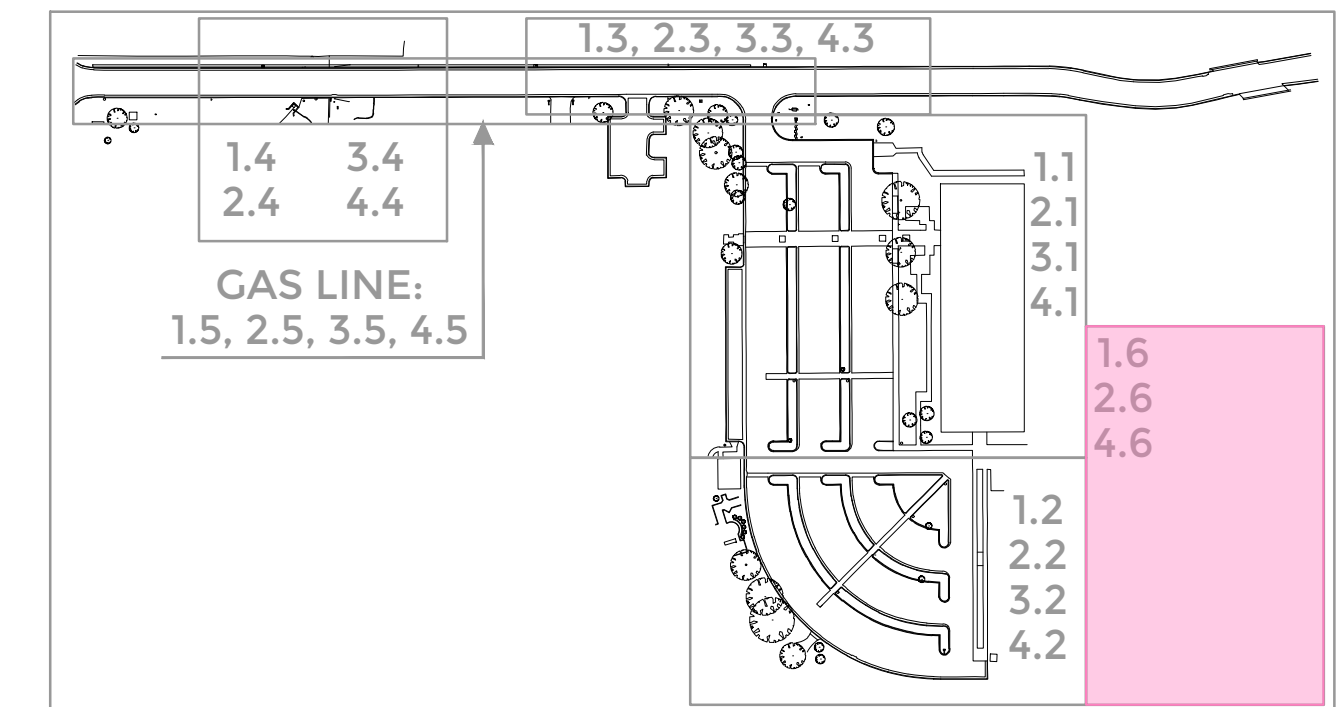
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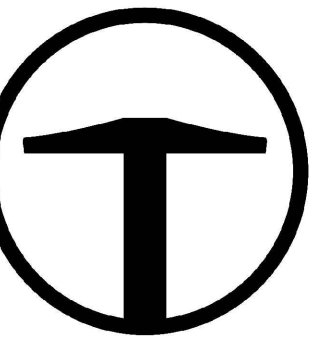
**UTILITY SCOPE OF WORK:**

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

- ④ INSTALL 24" RCP PER APWA PLANS NO. 381 AND 382, SHEET 7.3.
- ⑥ INSTALL 5" PRECAST MANHOLE PER APWA PLAN NO. 341, SHEET 7.2, AND CONCRETE COLLAR PER APWA PLAN NO. 362, SHEET 7.3.
- ②⑤ INSTALL 24" PIPE OUTFALL PER APWA PLAN NO. 323, SEE SHEET 7.3.



KEYMAP



**TALISMAN**  
CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
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**JWCD HEADQUARTERS**  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
UTILITY PLAN CANAL

DATE SUBMITTED: 03.03.2021

TCC JOB NUMBER: 18-024



SHEET NUMBER

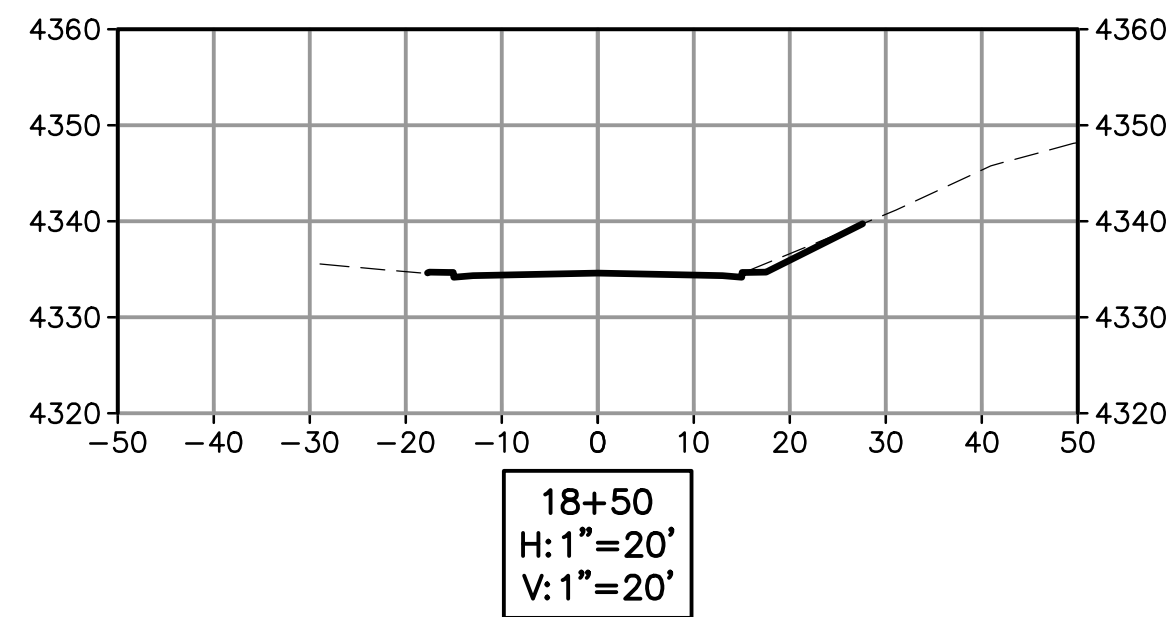
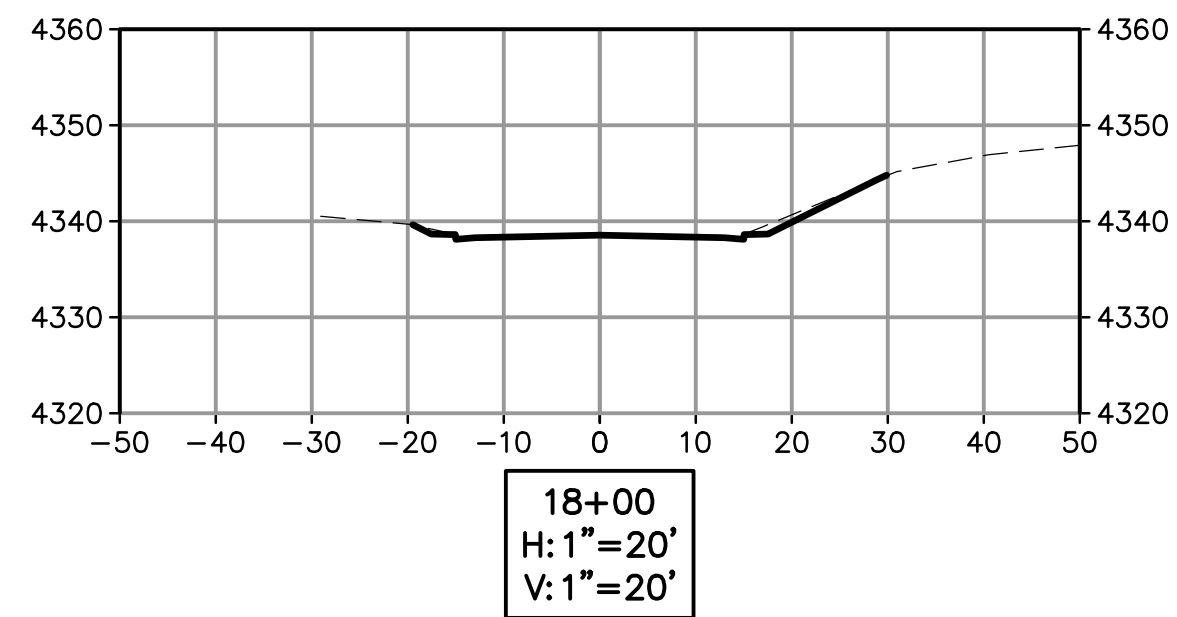
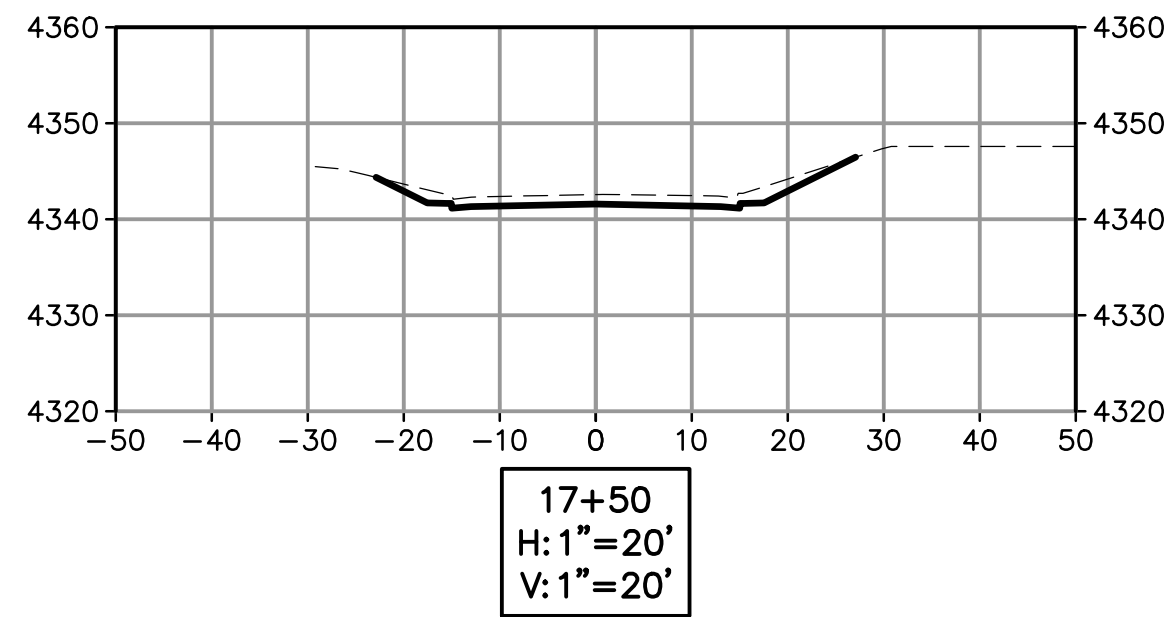
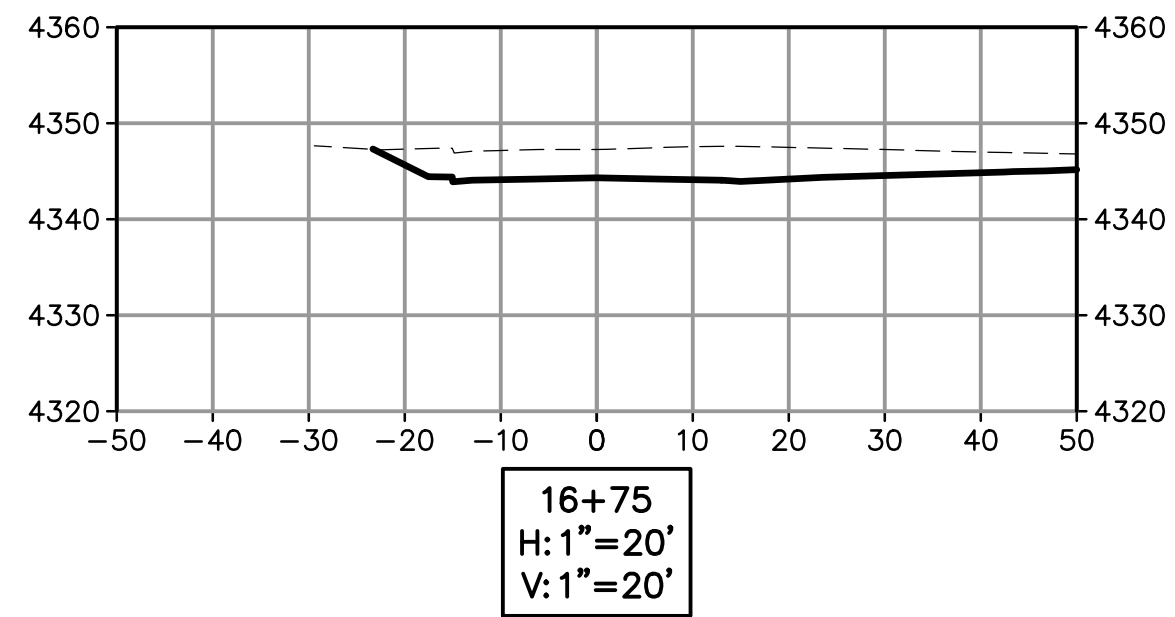
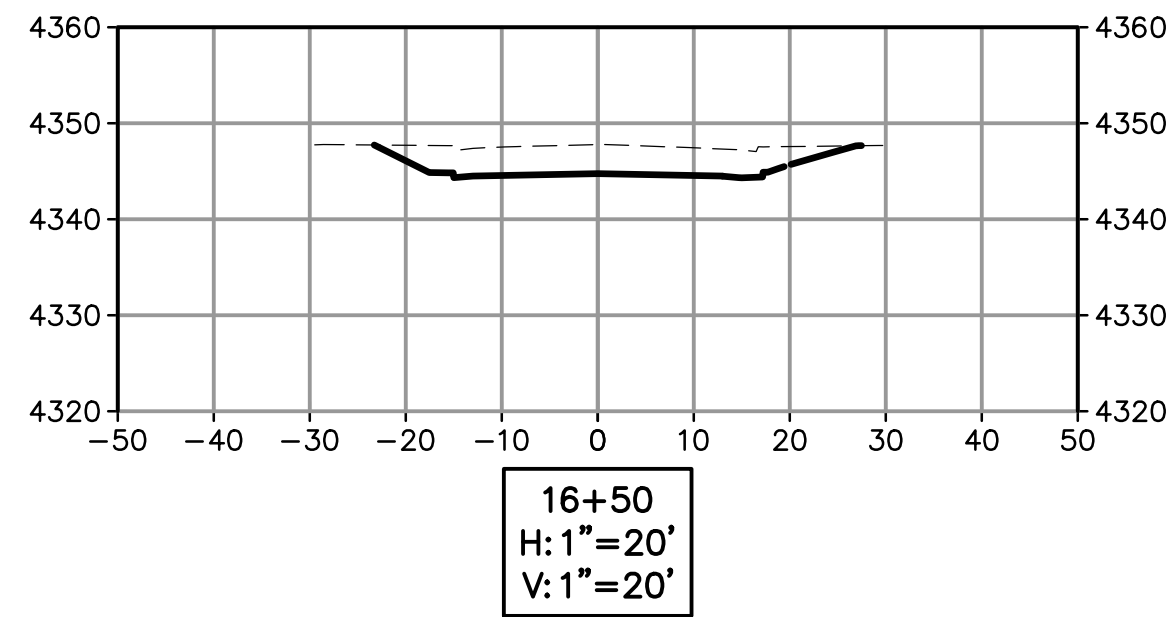
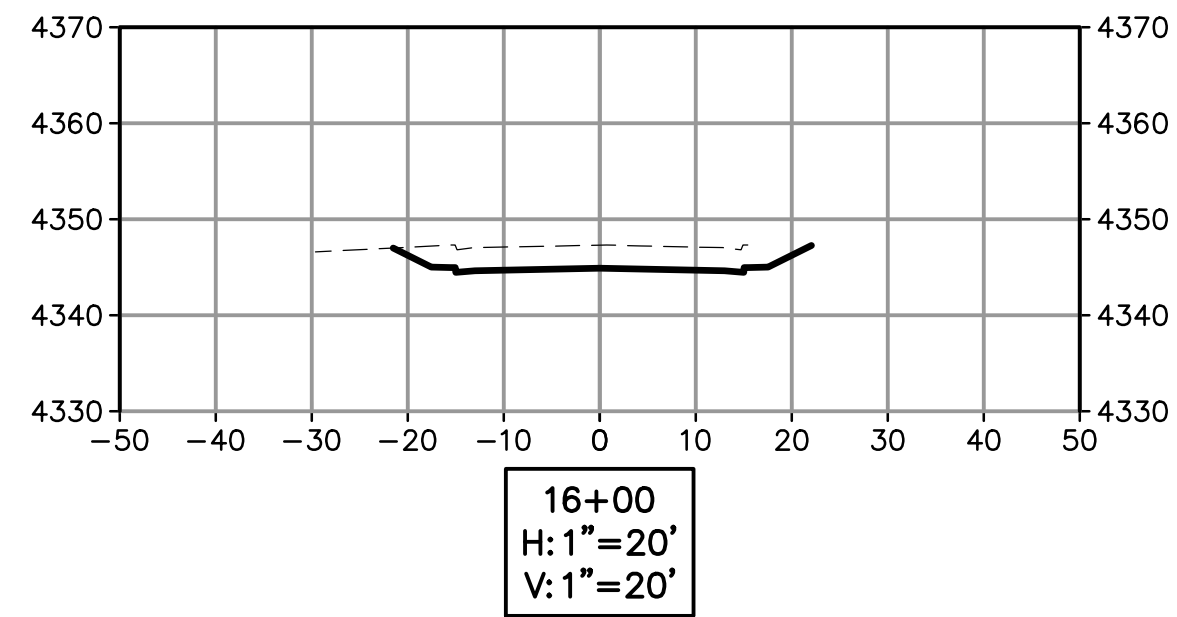
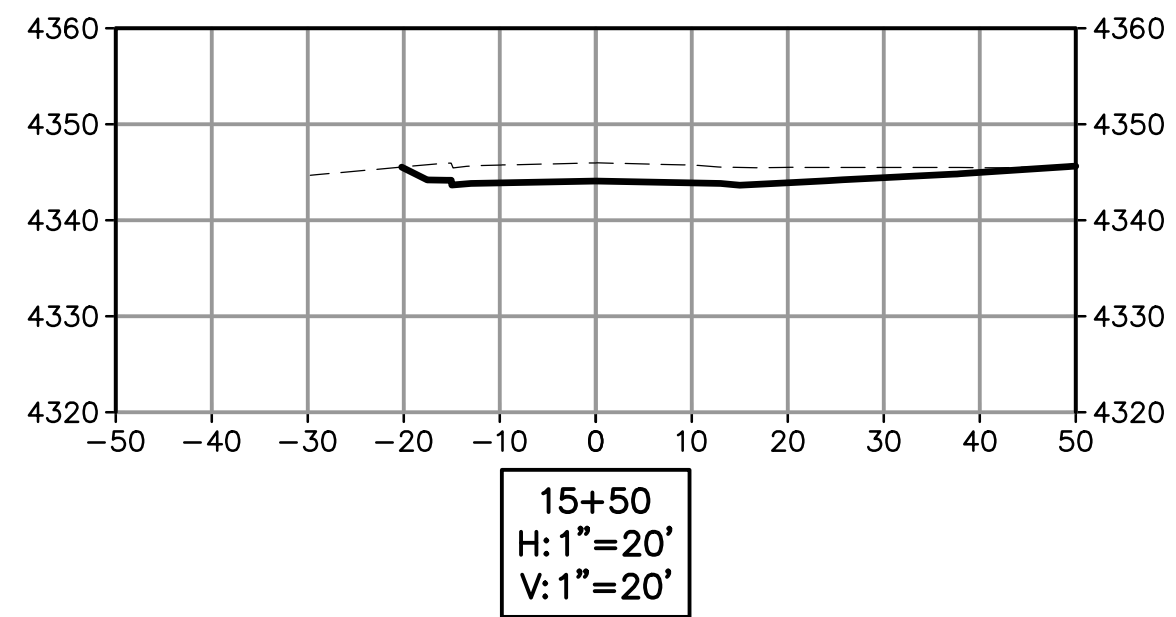
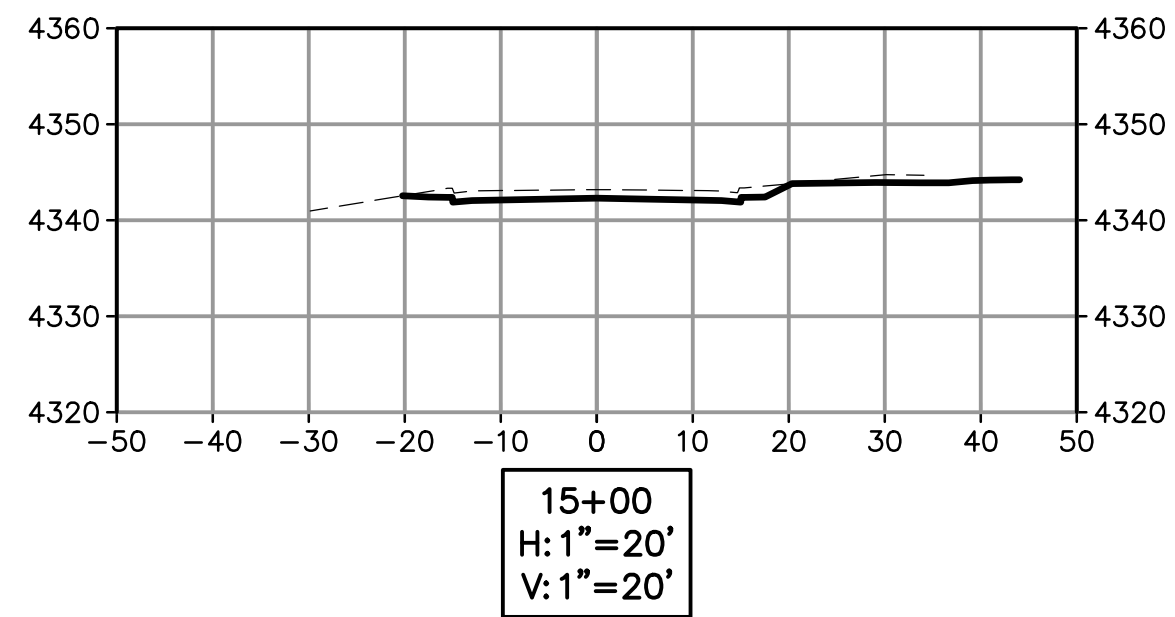
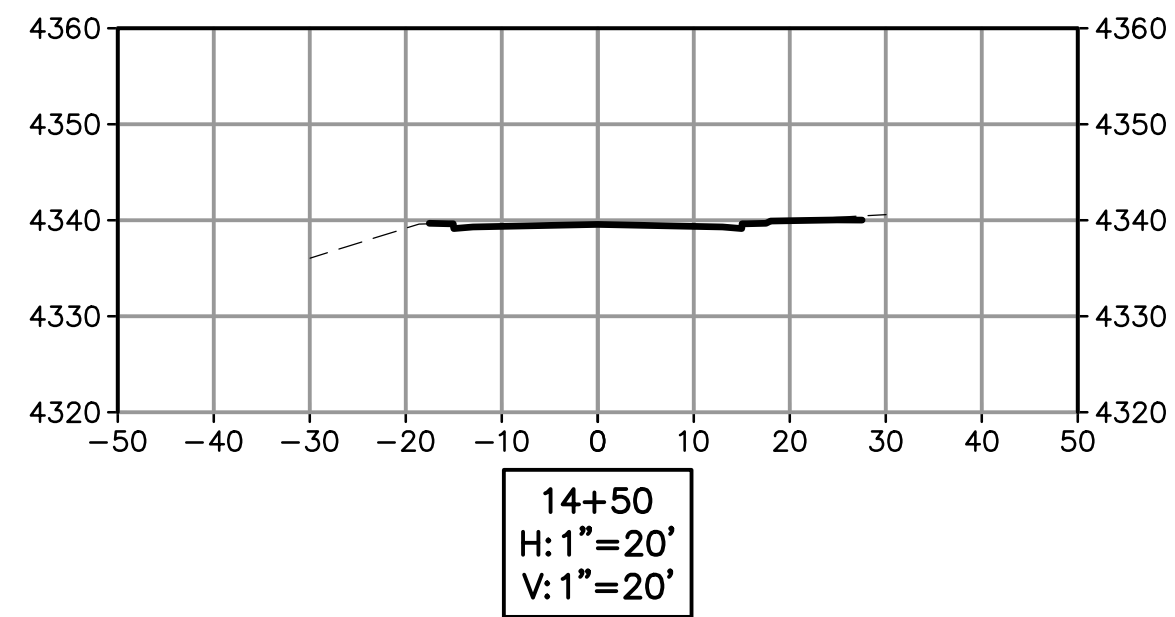
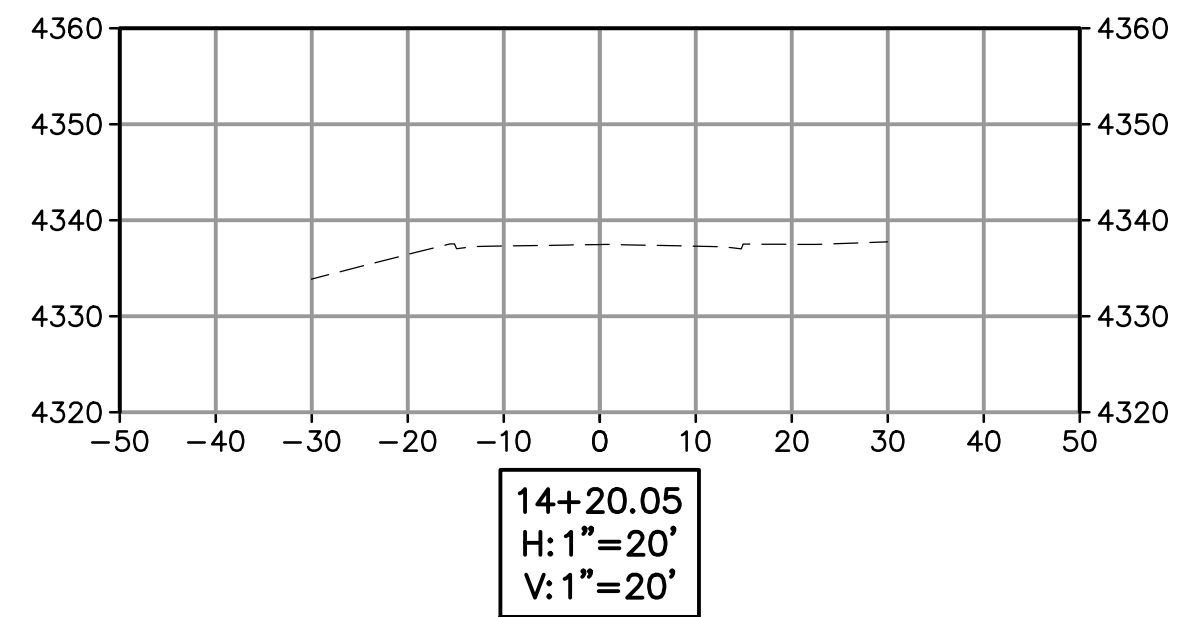
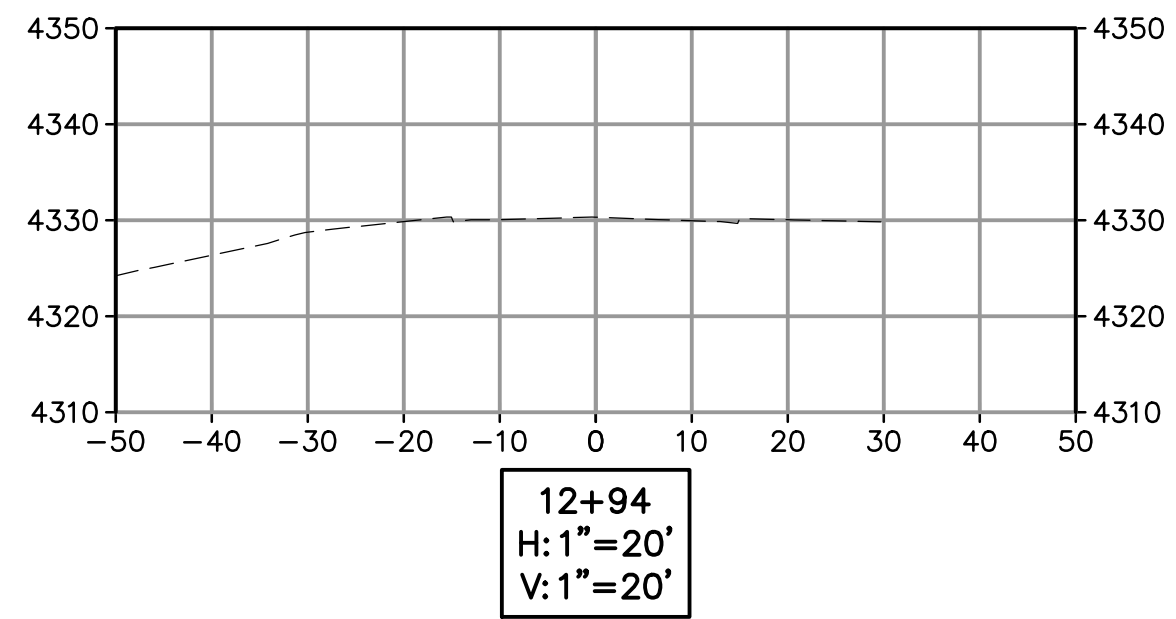
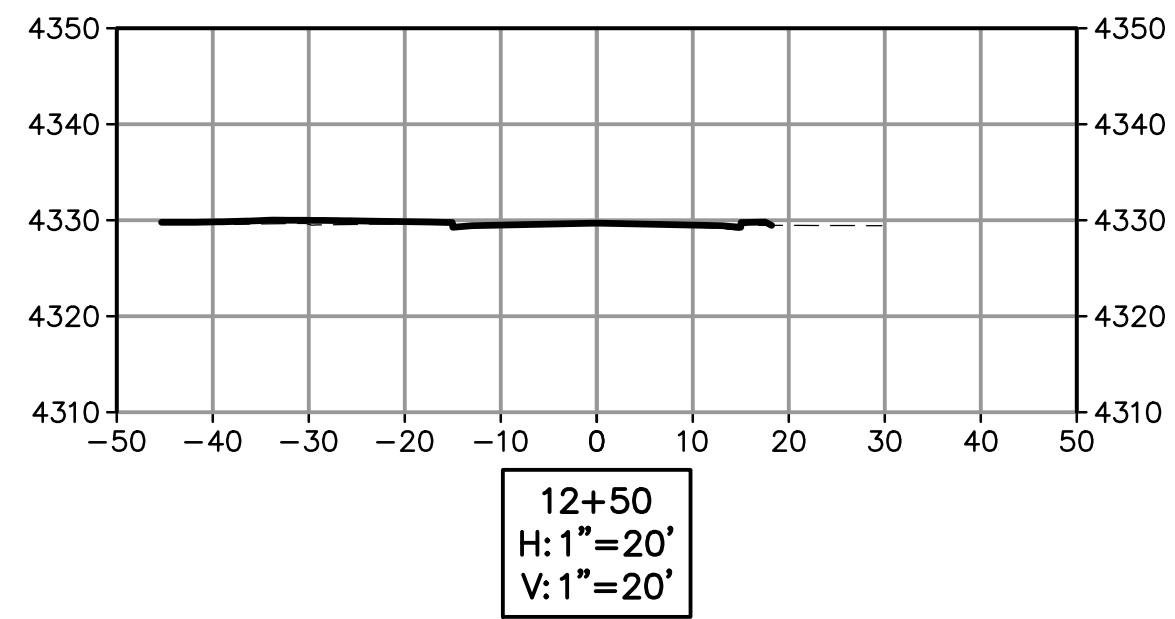
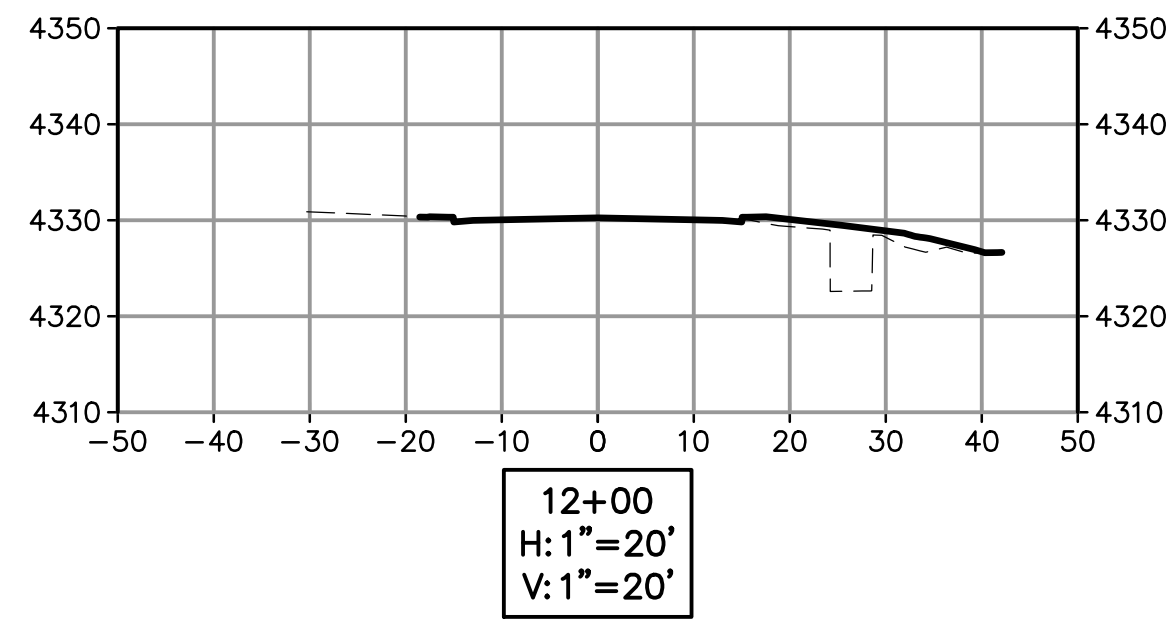
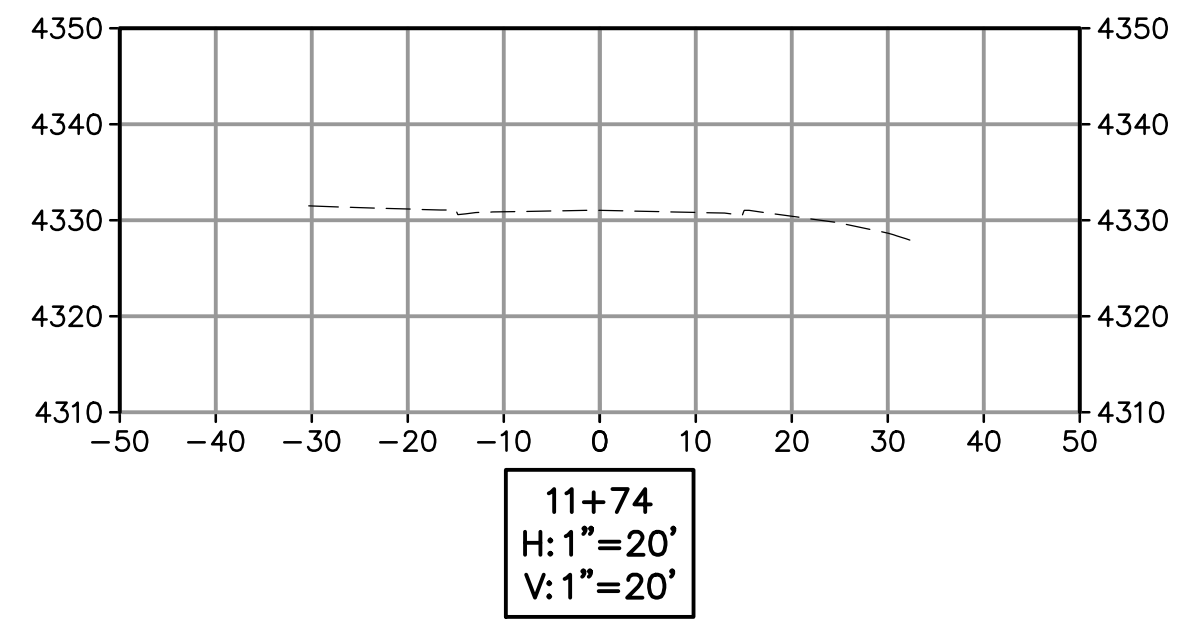
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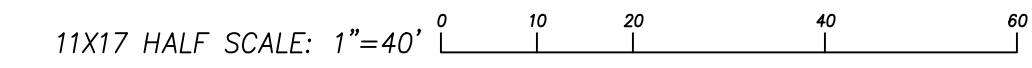
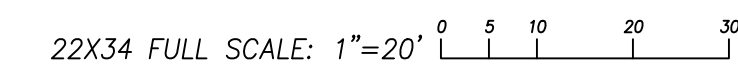


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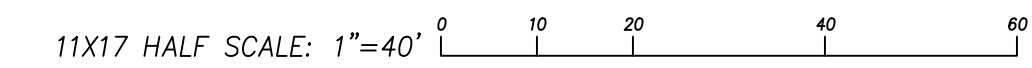
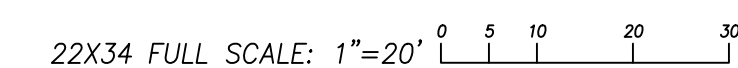
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PROFILE HORIZONTAL SCALE



PROFILE VERTICAL SCALE



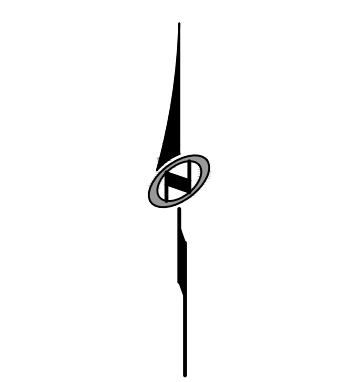
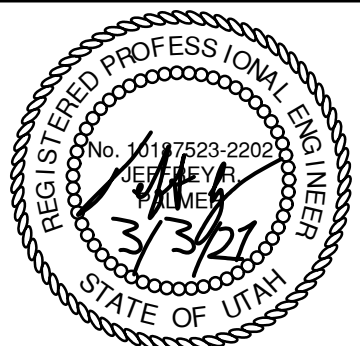
TALISMAN  
CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

NO.	BY	DATE	REVISIONS

**JVWCD HEADQUARTERS**  
**UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS**  
**PLAN & PROFILES BECKSTEAD**

DATE SUBMITTED: 03.03.2021

TCC JOB NUMBER: 18-024

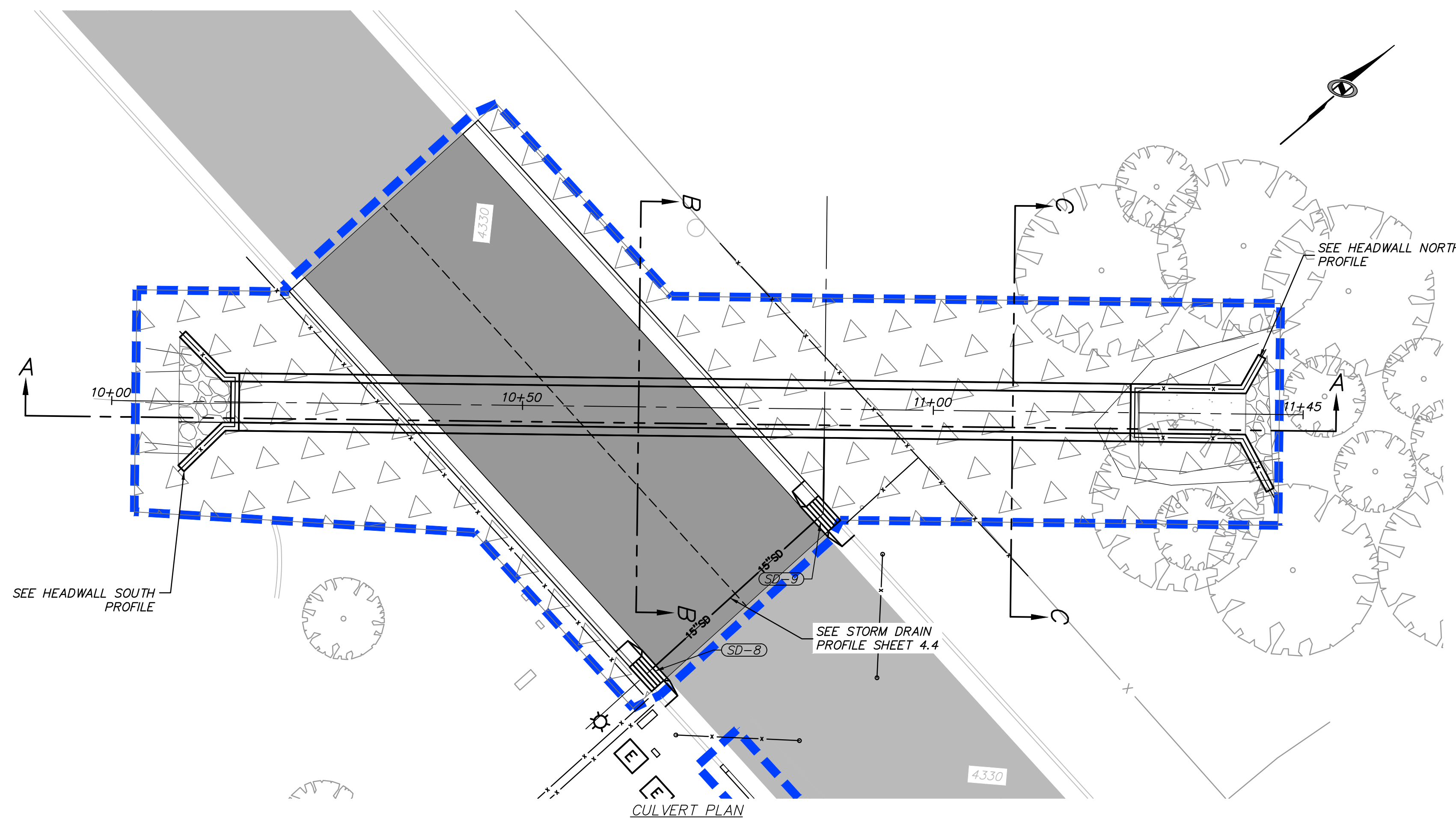


SHEET NUMBER  
**5.1**  
30 OF 39

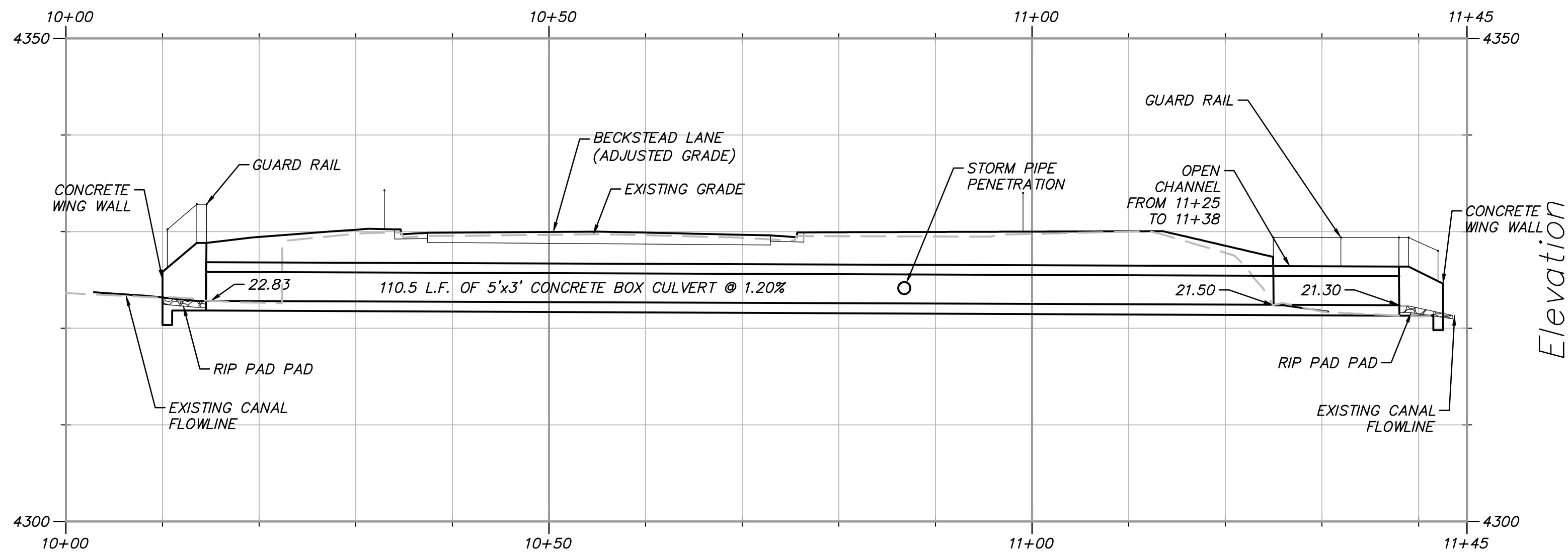


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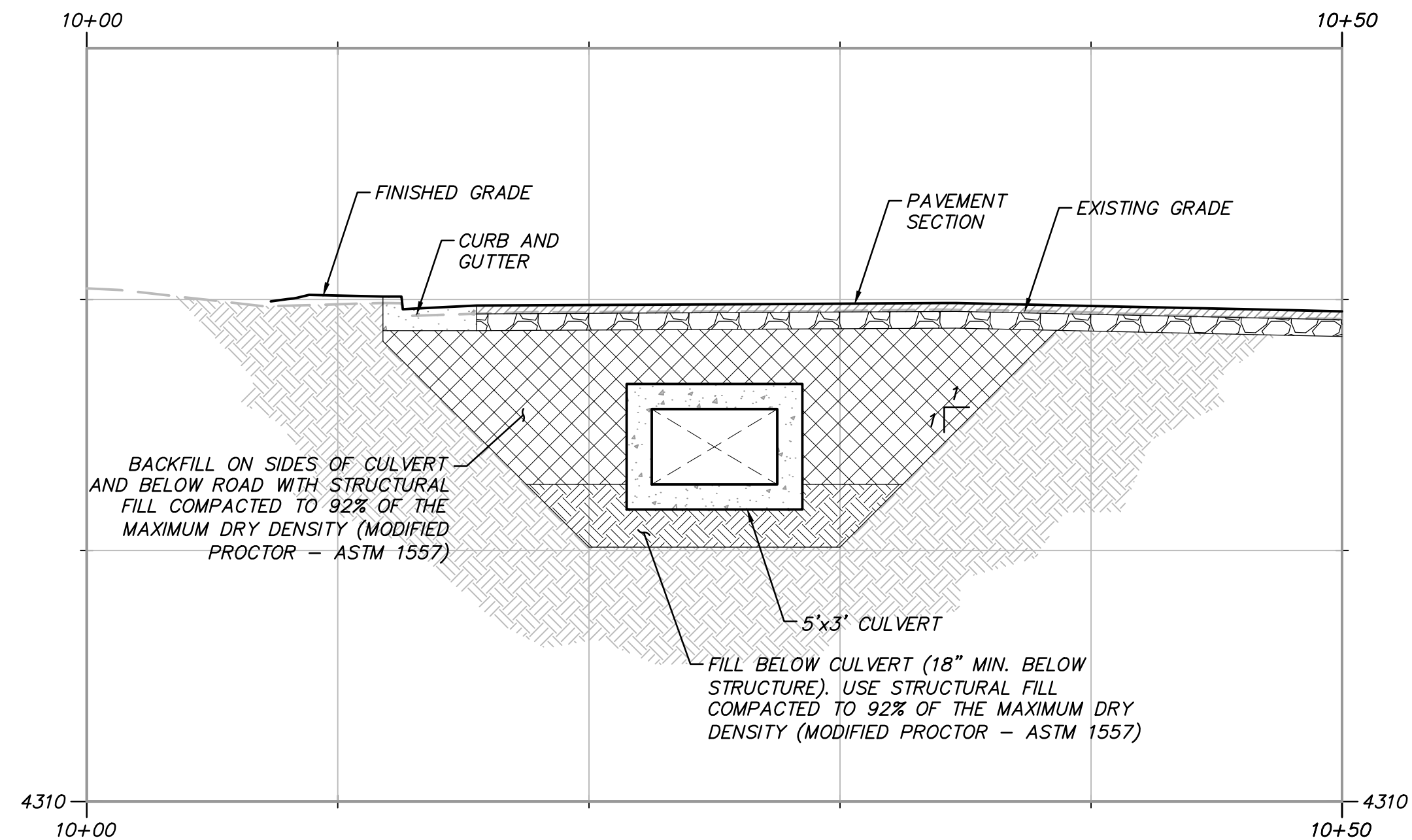
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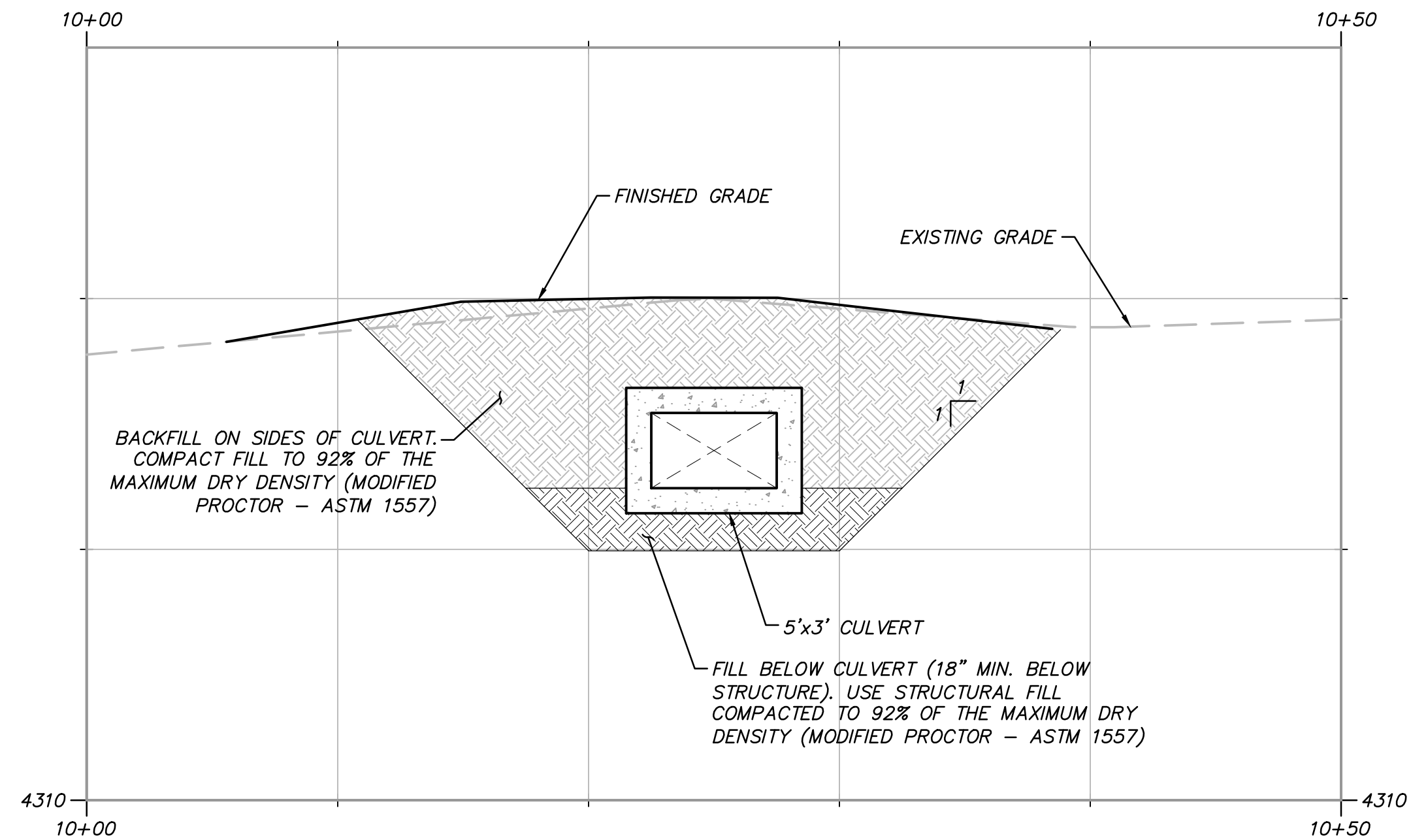
CULVERT PLAN



CULVERT SECTION A-A



CULVERT SECTION B-B



CULVERT SECTION C-C

PLAN AND PROFILE HORIZONTAL SCALE

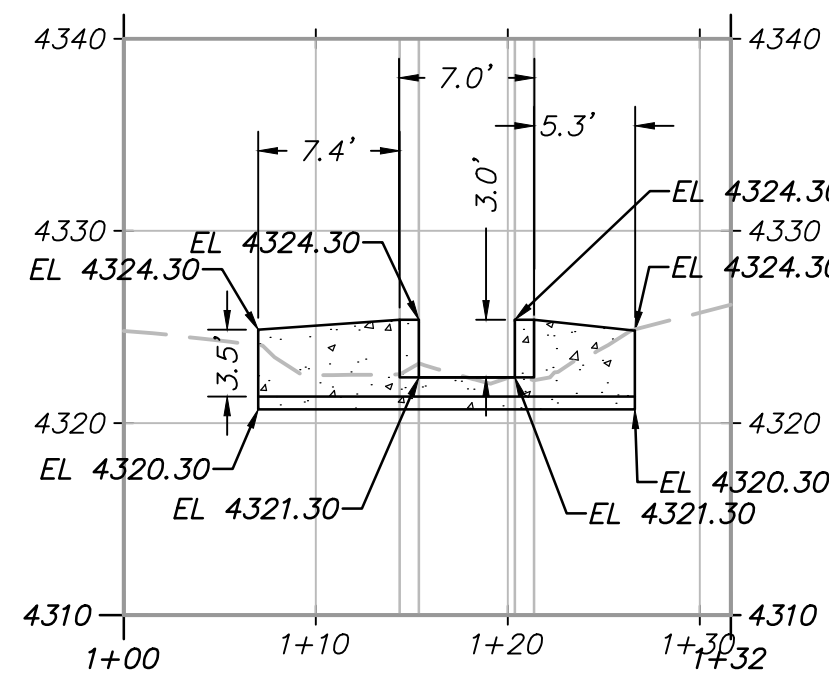
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11X17 HALF SCALE: 1"=20'

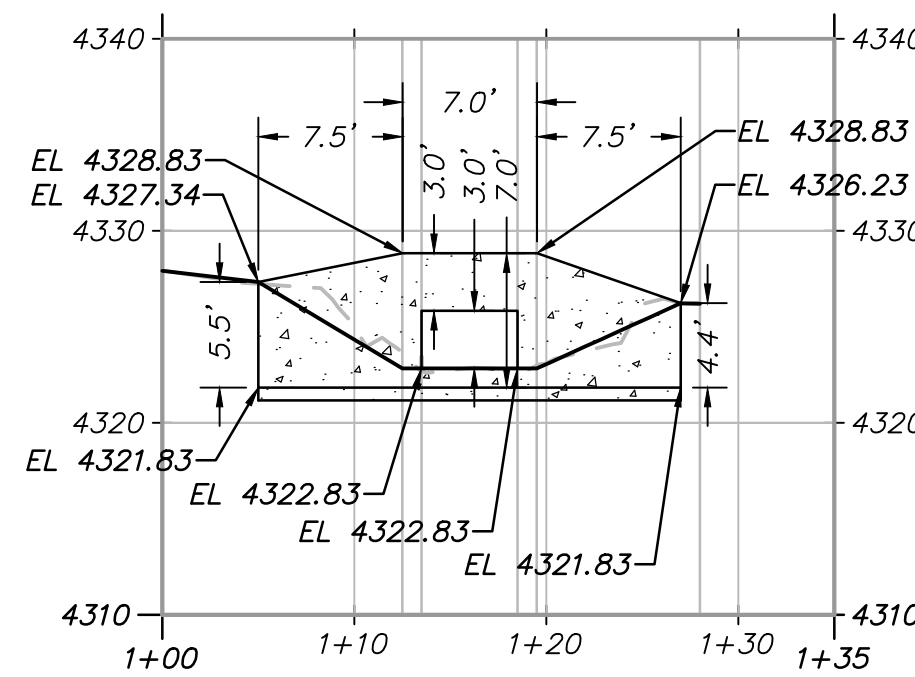
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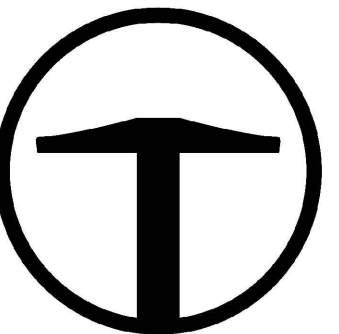
11X17 HALF SCALE: 1"=20'



HEADWALL NORTH PROFILE



HEADWALL SOUTH PROFILE



TALISMAN CIVIL CONSULTANTS  
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JWCD HEADQUARTERS  
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PLAN & PROFILES CULVERT  
DATE SUBMITTED: 03.03.2021  
TCC JOB NUMBER: 18-024



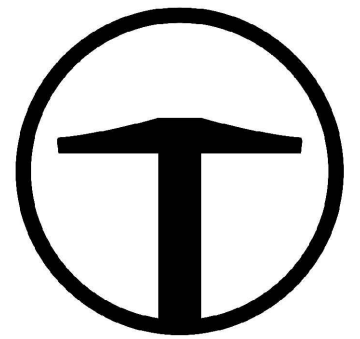
SHEET NUMBER  
**5.2**  
30 OF 38





DATE: 3/2/2021 9:57 AM

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CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

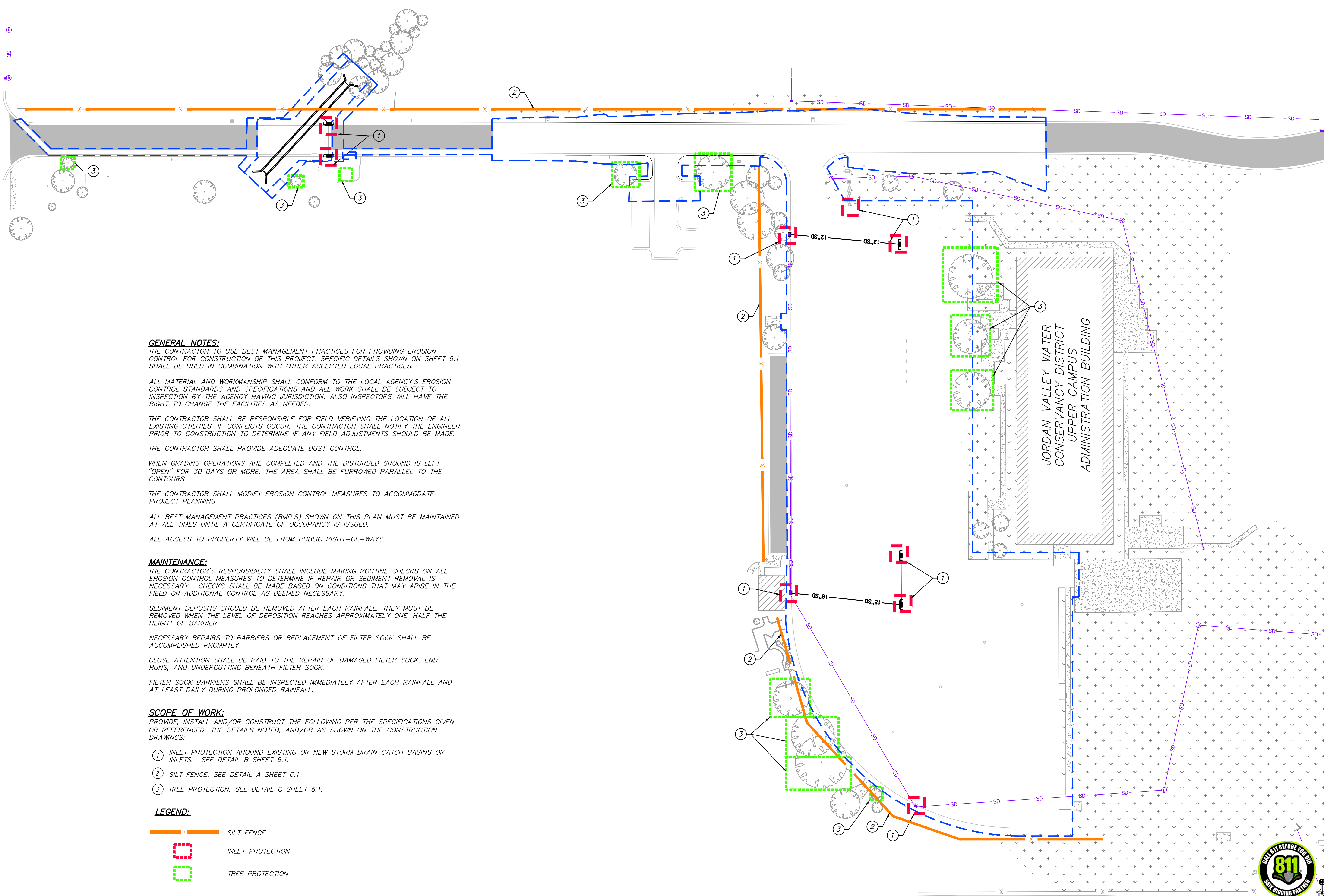
REVISIONS:
DATE:
BY:
NO.:

**JWVCD HEADQUARTERS**  
**UPPER CAMPUS SITE REPAIRS & IMPROVMENTS**  
**EROSION CONTROL PLAN**

TCC JOB NUMBER: 18-024  
DATE SUBMITTED: 03.03.2021



SHEET NUMBER  
**6.0**  
31 OF 38



**GENERAL NOTES:**

THE CONTRACTOR TO USE BEST MANAGEMENT PRACTICES FOR PROVIDING EROSION CONTROL FOR CONSTRUCTION OF THIS PROJECT. SPECIFIC DETAILS SHOWN ON SHEET 6.1 SHALL BE USED IN COMBINATION WITH OTHER ACCEPTED LOCAL PRACTICES.

ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE LOCAL AGENCY'S EROSION CONTROL STANDARDS AND SPECIFICATIONS AND ALL WORK SHALL BE SUBJECT TO INSPECTION BY THE AGENCY HAVING JURISDICTION. ALSO INSPECTORS WILL HAVE THE RIGHT TO CHANGE THE FACILITIES AS NEEDED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING THE LOCATION OF ALL EXISTING UTILITIES. IF CONFLICTS OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION TO DETERMINE IF ANY FIELD ADJUSTMENTS SHOULD BE MADE.

THE CONTRACTOR SHALL PROVIDE ADEQUATE DUST CONTROL.

WHEN GRADING OPERATIONS ARE COMPLETED AND THE DISTURBED GROUND IS LEFT "OPEN" FOR 30 DAYS OR MORE, THE AREA SHALL BE FURROWED PARALLEL TO THE CONTOURS.

THE CONTRACTOR SHALL MODIFY EROSION CONTROL MEASURES TO ACCOMMODATE PROJECT PLANNING.

ALL BEST MANAGEMENT PRACTICES (BMP'S) SHOWN ON THIS PLAN MUST BE MAINTAINED AT ALL TIMES UNTIL A CERTIFICATE OF OCCUPANCY IS ISSUED.

ALL ACCESS TO PROPERTY WILL BE FROM PUBLIC RIGHT-OF-WAYS.

**MAINTENANCE:**

THE CONTRACTOR'S RESPONSIBILITY SHALL INCLUDE MAKING ROUTINE CHECKS ON ALL EROSION CONTROL MEASURES TO DETERMINE IF REPAIR OR SEDIMENT REMOVAL IS NECESSARY. CHECKS SHALL BE MADE BASED ON CONDITIONS THAT MAY ARISE IN THE FIELD OR ADDITIONAL CONTROL AS DEEMED NECESSARY.

SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF BARRIER.

NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF FILTER SOCK SHALL BE ACCOMPLISHED PROMPTLY.

CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED FILTER SOCK, END RUNS, AND UNDERCUTTING BENEATH FILTER SOCK.

FILTER SOCK BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.

**SCOPE OF WORK:**

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

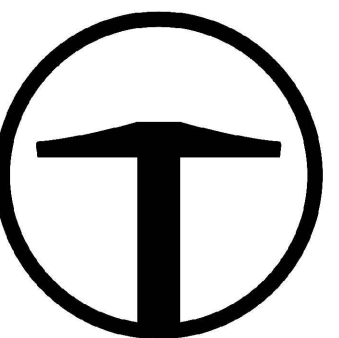
- 1 INLET PROTECTION AROUND EXISTING OR NEW STORM DRAIN CATCH BASINS OR INLETS. SEE DETAIL B SHEET 6.1.
- 2 SILT FENCE. SEE DETAIL A SHEET 6.1.
- 3 TREE PROTECTION. SEE DETAIL C SHEET 6.1.

**LEGEND:**

- SILT FENCE
- INLET PROTECTION
- TREE PROTECTION







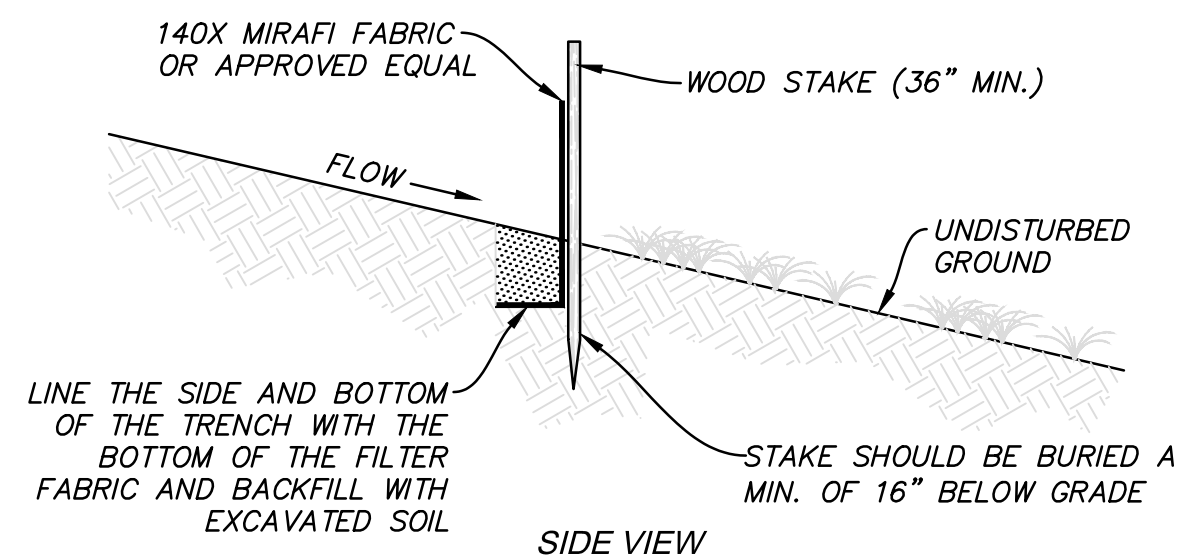
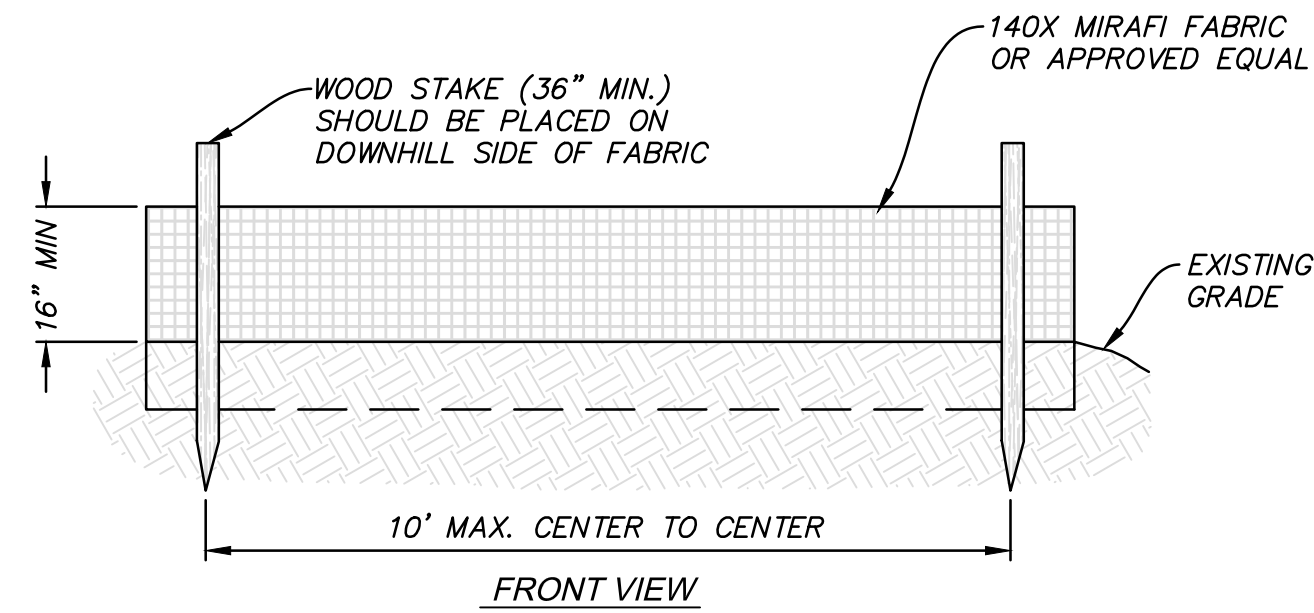
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CIVIL CONSULTANTS  
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SUITE 200  
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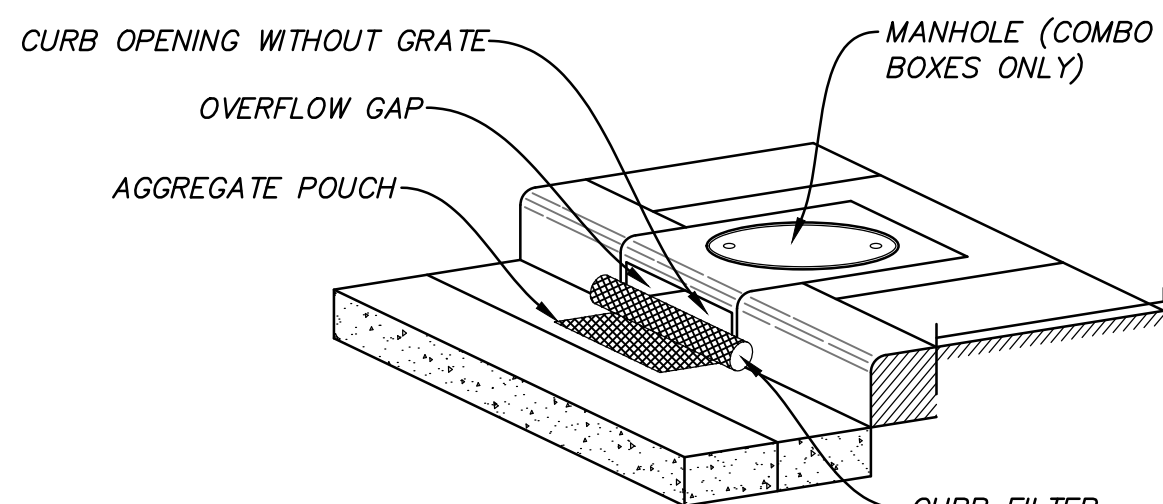
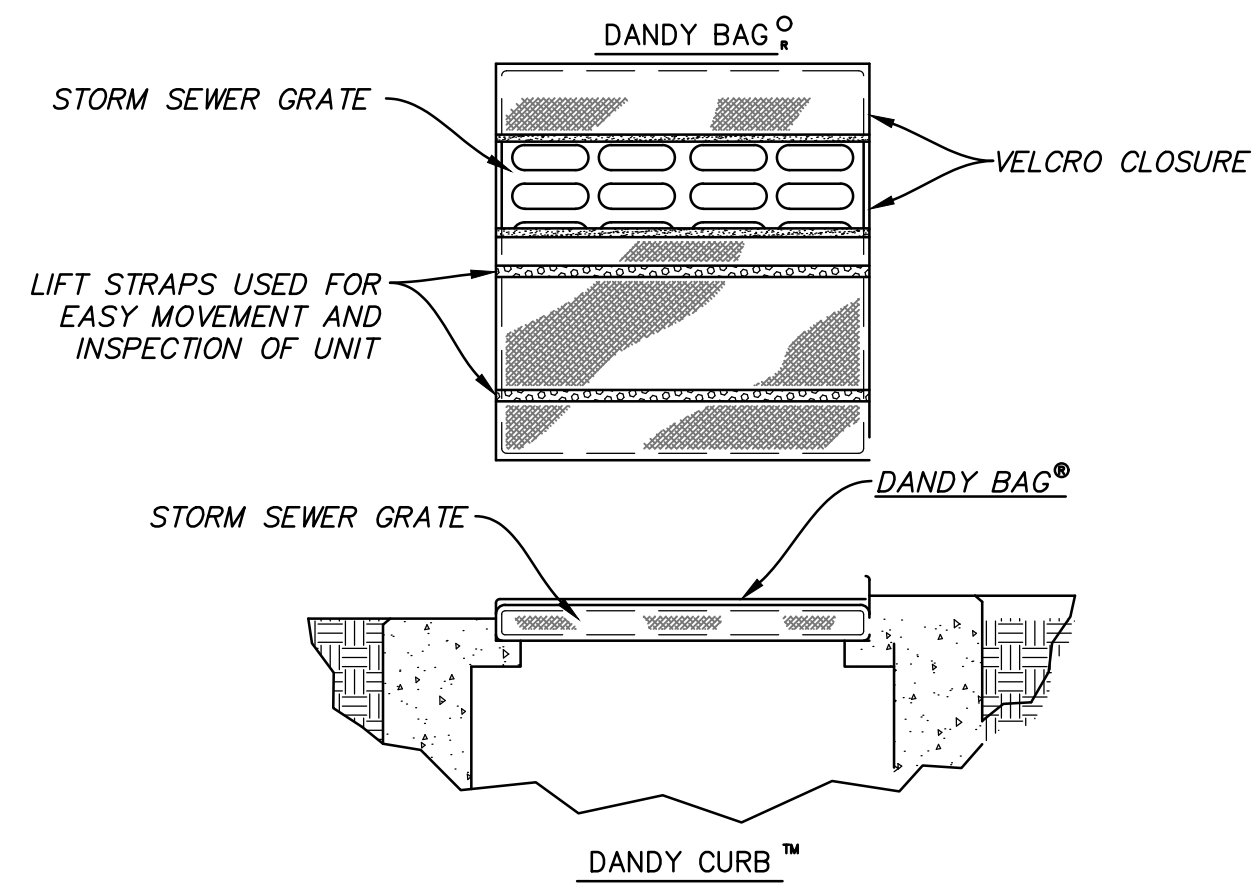
**JWCDC HEADQUARTERS**  
**UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS**  
**EROSION CONTROL DETAILS**

DATE SUBMITTED: 03.03.2021

TCC JOB NUMBER: 18-024

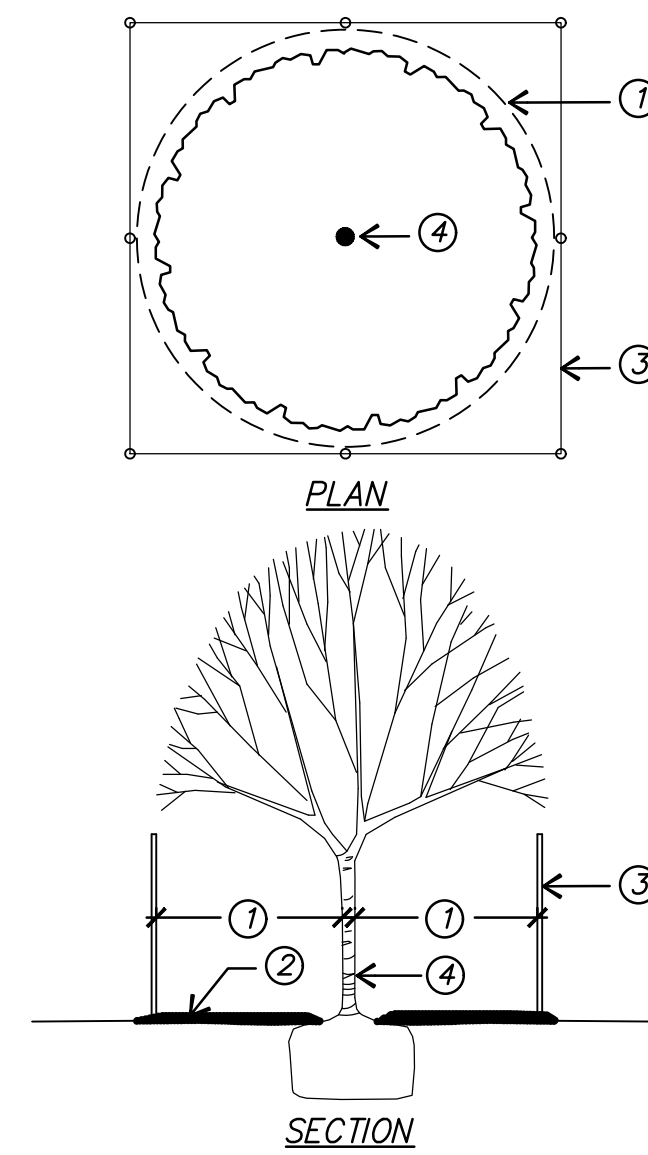


**A** **SILT FENCE**  
NOT TO SCALE



\* PROVIDE INLET PROTECTION AS NEEDED

**B** **INLET PROTECTION**  
NOT TO SCALE



- ① PROTECTIVE ROOT ZONE (PRZ)– TO CALCULATE CRITICAL ROOT RADIUS, MEASURE THE TREE'S DIAMETER (DBH) 4.5 FEET ABOVE THE GROUND. MEASURE IN INCHES. FOR EACH INCH, ALLOW FOR 1 TO 1.5 FEET OF CRITICAL ROOT RADIUS. IF A TREE'S DBH IS TEN INCHES, ITS CRITICAL ROOT RADIUS IS 10 TO 15 FEET.
- ② CONTRACTOR TO INSTALL AND MAINTAIN 6" OF TEMPORARY BARK MULCH WITHIN THE PRZ FOR PROPOSED TREES TO BE PROTECTED IN PLACE. REMOVE AND REPLACE PRIOR TO FINAL INSTALLATION OF PROPOSED MULCHES AND SURFACING.
- ③ TREE PROTECTION BARRIER– SEE SPECIFICATIONS. REVIEW DESIGN WITH OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- ④ TREE TRUNK

**NOTES:**

1. IF THERE IS TRENCHING WITHIN THE PRZ, TRENCHES SHALL ONLY BE DUG ON ONE SIDE OF THE TREE AND SHALL BE DONE ONLY DONE WITH APPROVAL FROM THE OWNER'S REPRESENTATIVE. HAND EXCAVATION ONLY.
2. DO NOT STOCKPILE ANY MATERIALS OR LOCATE ANY HEAVY MACHINERY WITHIN THE PRZ. THERE SHALL BE NO TRAFFIC ALLOWED WITHIN THE PRZ.
3. ONLY MOVE BARRIER WITH THE PERMISSION OF THE OWNER'S REPRESENTATIVE.
4. COORDINATE WITH SHAUN MOSER, GARDEN MANAGER

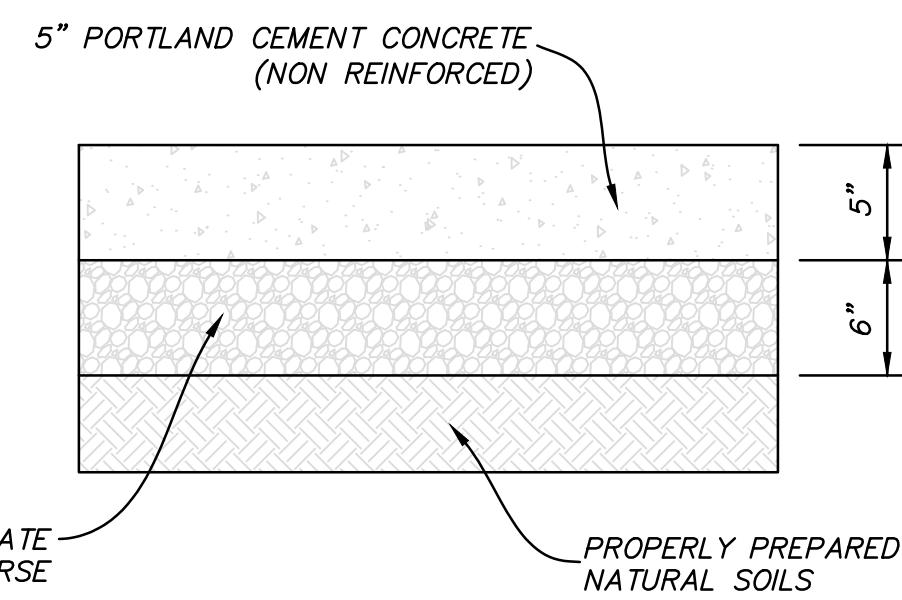
**C** **TREE PROTECTION**  
NOT TO SCALE





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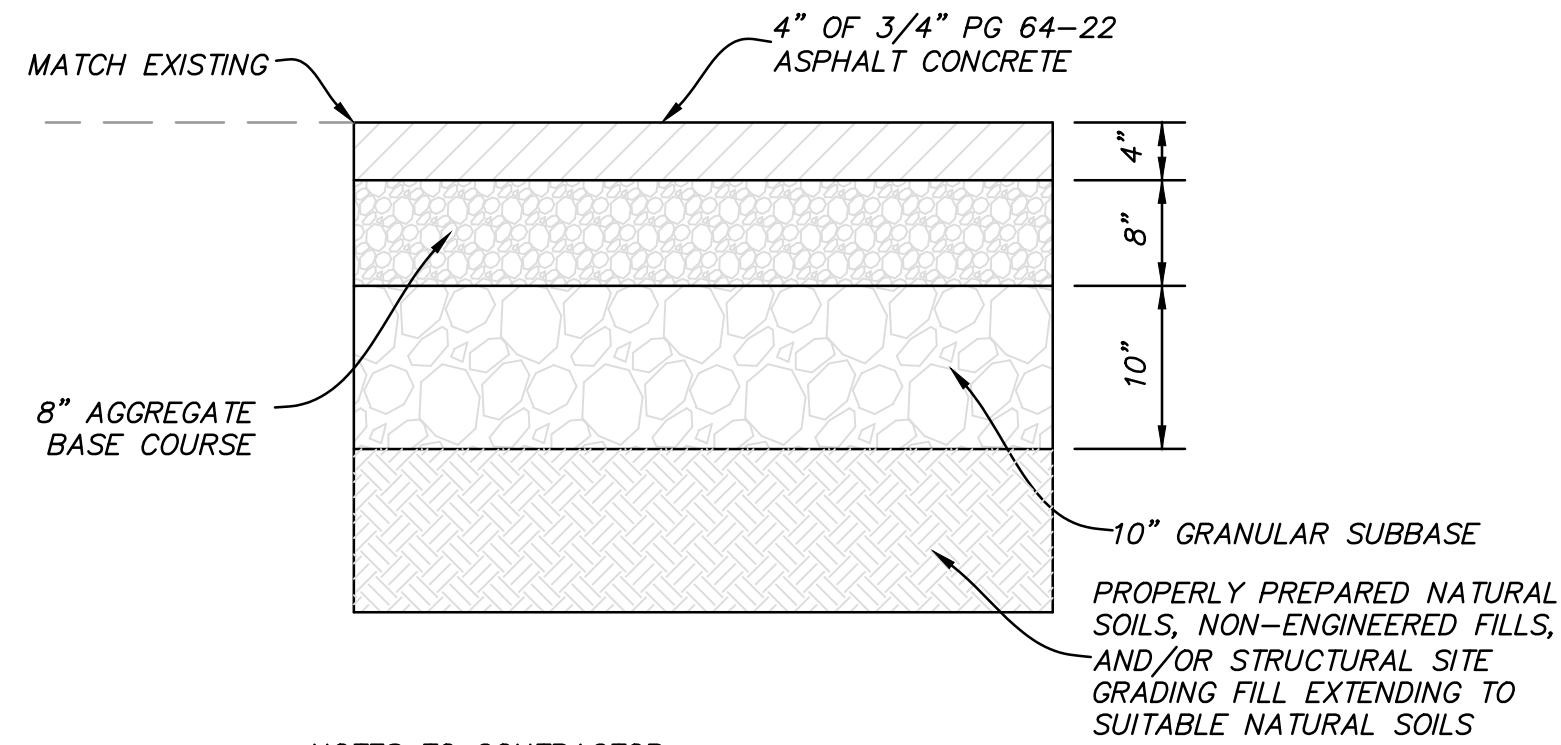
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**CONCRETE SIDEWALK SECTION**

**A CONCRETE SIDEWALK SECTION**

SCALE: N.T.S.



**HEAVY ASPHALT PAVEMENT SECTION**

**D HEAVY ASPHALT PAVEMENT SECTION**

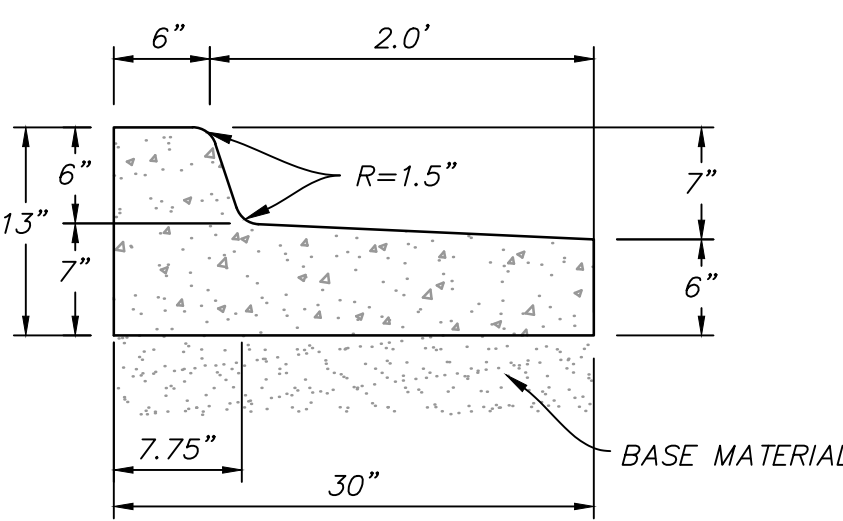
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**VEHICULAR CONCRETE SECTION**

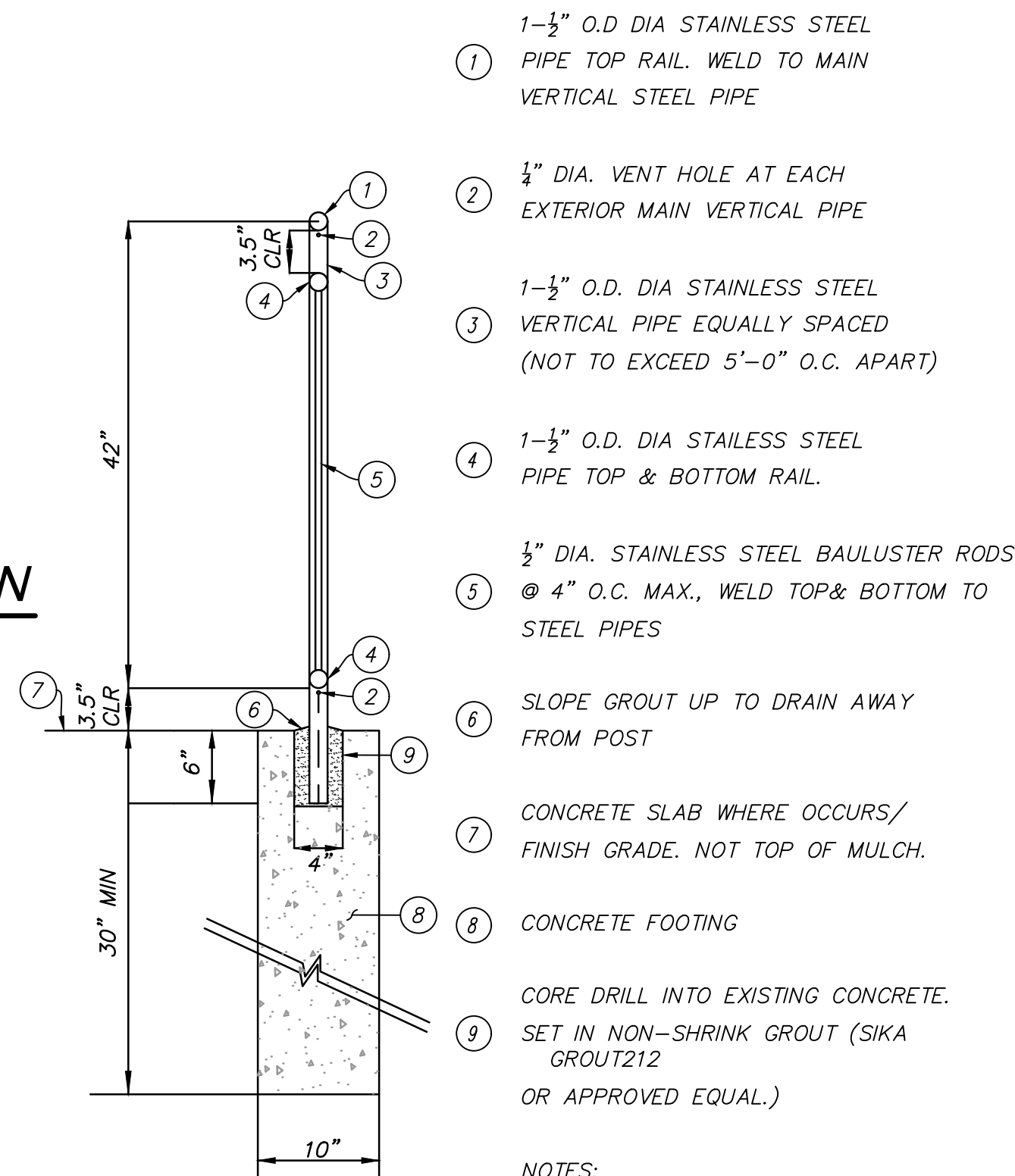
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- NOTES TO CONTRACTOR:**
1. CONTRACTOR MUST PROOF ROLL ALL NATURAL SOILS TO BE USED IN STRUCTURAL FILL.
  2. IF CONTRACTOR ENCOUNTERS SOFT SPOTS IN SOIL, THEY MUST BE COMPLETELY REMOVED OR RE-COMPACTED UNTIL SUBGRADE IS UNYIELDING.
  3. IF NATURAL SOILS BECOME DISTURBED BY CONSTRUCTION TRAFFIC OR WEATHER, SOIL MUST BE REPLACED WITH STABILIZING FILL CONSISTING OF COARSE GRAVEL OR COBBLES.



**MODIFIED TYPE 'A' TIP OUT**

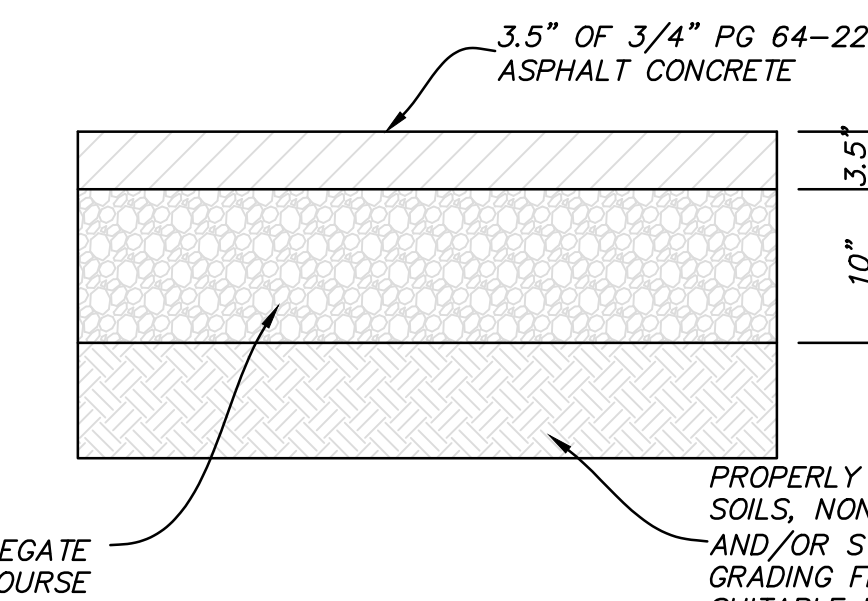
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**GUARD RAIL - TYPICAL**

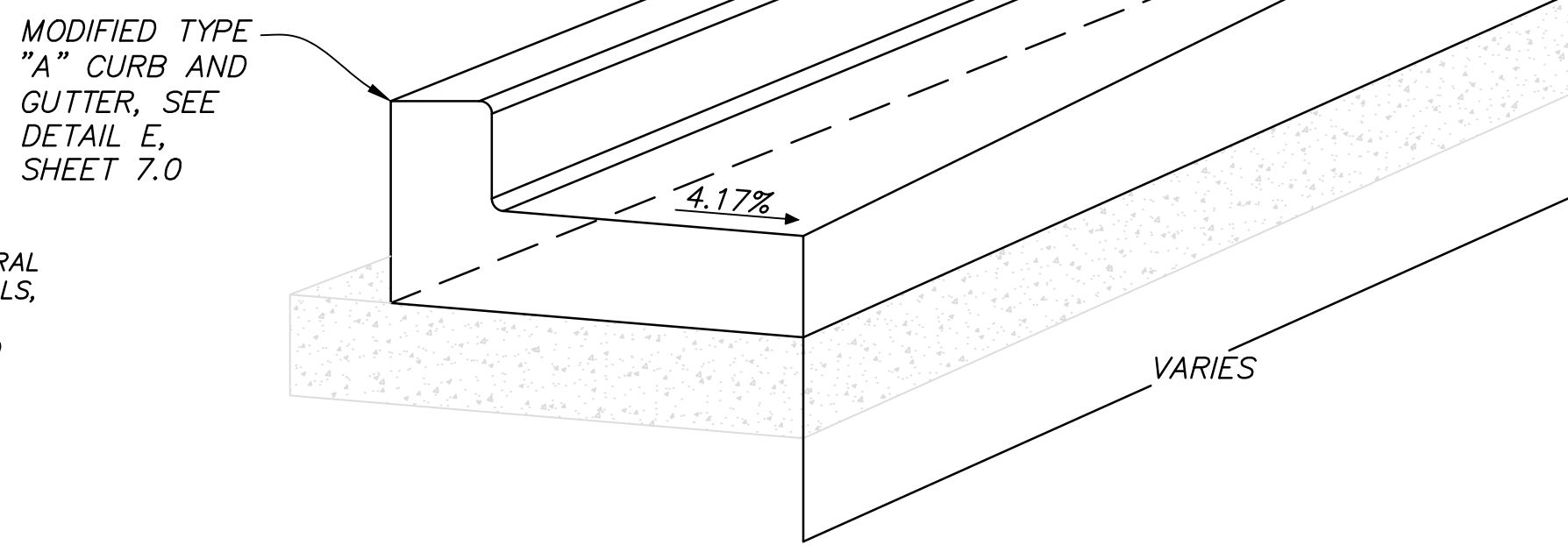
SCALE: N.T.S.

- NOTES:**
1. ALL PIPE MATERIAL SHALL BE SCHEDULE 40 PIPE
  2. STAINLESS STEEL TO BE USED AT EXTERIOR AND AS NOTED ELSEWHERE.
  3. GRIND ALL WELDS SMOOTH.
  4. CONTRACTOR TO SUBMIT SHOP DRAWINGS OF HANDRAIL FOR APPROVAL BY OWNER'S REPRESENTATIVE.



**ASPHALT PAVEMENT SECTION**

SCALE: N.T.S.



**CURB TRANSITION**

SCALE: N.T.S.

- NOTES TO CONTRACTOR:**
1. CONTRACTOR MUST PROOF ROLL ALL NATURAL SOILS TO BE USED IN STRUCTURAL FILL.
  2. IF CONTRACTOR ENCOUNTERS SOFT SPOTS IN SOIL, THEY MUST BE COMPLETELY REMOVED OR RE-COMPACTED UNTIL SUBGRADE IS UNYIELDING.
  3. IF NATURAL SOILS BECOME DISTURBED BY CONSTRUCTION TRAFFIC OR WEATHER, SOIL MUST BE REPLACED WITH STABILIZING FILL CONSISTING OF COARSE GRAVEL OR COBBLES.

**Curb and gutter**

**1. GENERAL**

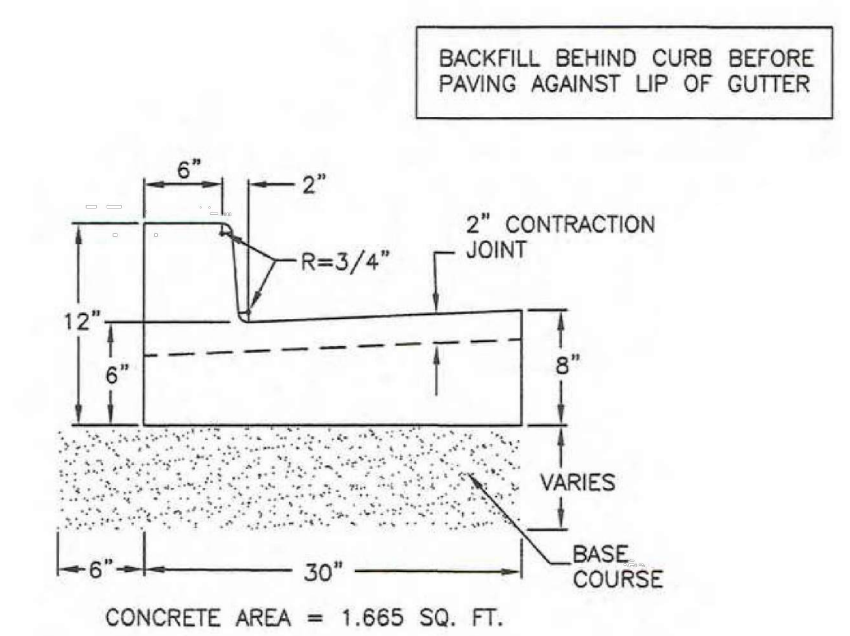
- A. Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
- B. Additional requirements are specified in APWA Section 32 16 13.

**2. PRODUCTS**

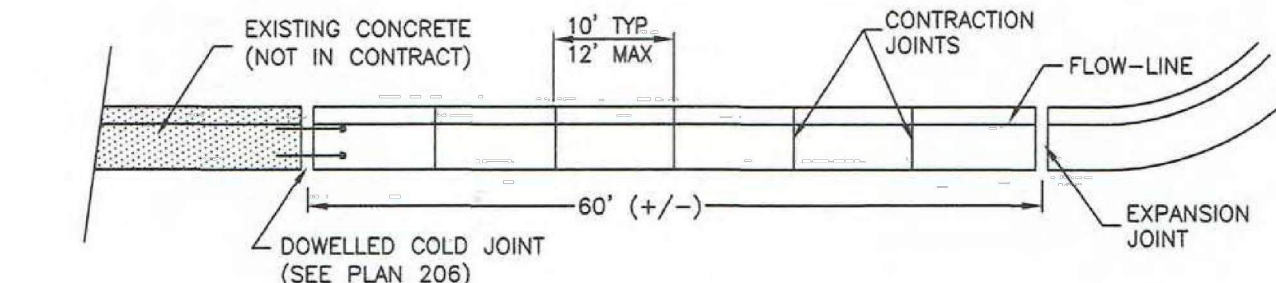
- A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
- B. Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
- C. Concrete: Class 4000, APWA Section 03 30 04. If necessary, provide concrete that achieves design strength in less than 7 days. Use caution; however, as concrete crazing (spider cracks) may develop if air temperature exceeds 90 degrees F.
- D. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.

**3. EXECUTION**

- A. Base Course Placement: APWA Section 32 05 10. Thickness is 6-inches if flow-line grade is 0.5 percent (s=0.005) or greater. If slope is less, provide 8-inches. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
- B. Concrete Placement: APWA Section 03 30 10.
  - 1) Install expansion joints vertical, full depth, with top of filler set flush with concrete surface. Install at the start or end of a street intersection curb return. Expansion joints are not required in concrete placement using slip-form construction.
  - 2) Install contraction joints vertical, 1/8-inch wide or 1/4 slab thickness if the slab is greater than 8-inches thick. Match joint location in adjacent Portland-cement concrete roadway pavement.
  - 3) Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
- C. Protection and Repair: Protect concrete from deicing chemicals during cure. Repair construction that does not drain. If necessary, fill flow-line with water to verify.



**Type A**

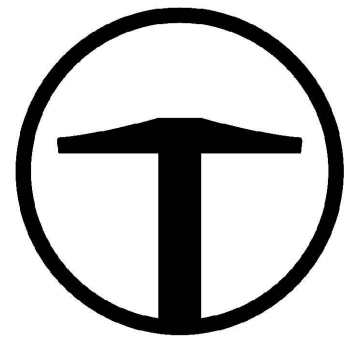


**JOINT DETAIL**

**Curb and gutter**



Plan 205.1  
December 2008

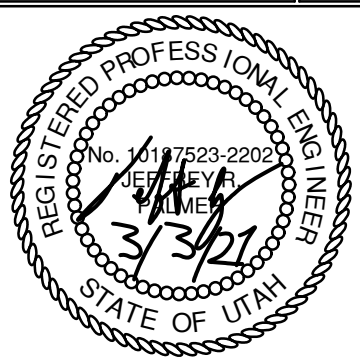


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SUITE 200  
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**JWCD HEADQUARTERS**  
**UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS**  
**DETAILS**

DATE SUBMITTED: 03.03.2021

TCC JOB NUMBER: 18-024



SHEET NUMBER  
**7.0**

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DATE: 3/2/2021 9:58 AM

Curbs

- GENERAL**
  - Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
  - Additional requirements are specified in APWA Section 32 16 13.
- PRODUCTS**
  - Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
  - Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
  - Concrete: Class 4000, APWA Section 03 30 04. If necessary, provide concrete that achieves design strength in less than 7 days. Use caution; however, as concrete crazing (spider cracks) may develop if air temperature exceeds 90 degrees F.
  - Reinforcement: Galvanized or epoxy coated, deformed, 60 ksi yield grade steel, ASTM A615.
  - Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.
- EXECUTION**
  - Base Course Placement: APWA Section 32 05 10. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
  - Concrete Placement: APWA Section 03 30 10.
    - Install expansion joints vertical, full depth, with top of filler set flush with concrete surface. Install at the start or end of a street intersection curb return. Expansion joints are not required in concrete placement using slip-form construction.
    - Install contraction joints vertical, 1/8-inch wide or 1/4 slab thickness if the slab is greater than 8-inches thick. Match joint location in adjacent Portland-cement concrete roadway pavement.
    - Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
  - Protection and Repair: Protect concrete from deicing chemicals during cure. Repair construction that does not drain. If necessary, fill flow-line with water to verify.

Waterway

- GENERAL**
  - Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
  - Unless indicated otherwise, width of waterway as follows.
    - 4 feet for a residential street.
    - 6 feet for a non-residential street.
    - If wider than 6 feet, offset the flow line in the waterway to match (line up with) the curb and gutter flow line. Adjust cross slopes to match existing slopes.
  - Additional requirements are specified in APWA Section 32 16 13.
- PRODUCTS**
  - Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
  - Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
  - Concrete: Class 4000, APWA Section 03 30 04. If necessary, provide concrete that achieves design strength in less than 7 days. Use caution; however, as concrete crazing (spider cracks) may develop if air temperature exceeds 90 degrees F.
  - Reinforcement: Galvanized or epoxy coated, deformed, 60 ksi yield grade steel, ASTM A615.
  - Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.
- EXECUTION**
  - Base Course Placement: APWA Section 32 05 10. Thickness is 6-inches if flow-line grade is 0.5 percent (s=0.005) or greater. If slope is less, provide 8-inches. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
  - Concrete Placement: APWA Section 03 30 10.
    - Install expansion joints vertical, full depth, with top of filler set flush with concrete surface. Expansion joints are not required in concrete placement using slip-form construction.
    - Install contraction joints vertical, 1/8-inch wide or 1/4 slab thickness if the slab is greater than 8-inches thick. Match joint location in adjacent Portland-cement concrete roadway pavement.
    - Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
  - Protection and Repair: Protect concrete from deicing chemicals during cure. Repair construction that does not drain. If necessary, fill flow-line with water to verify.

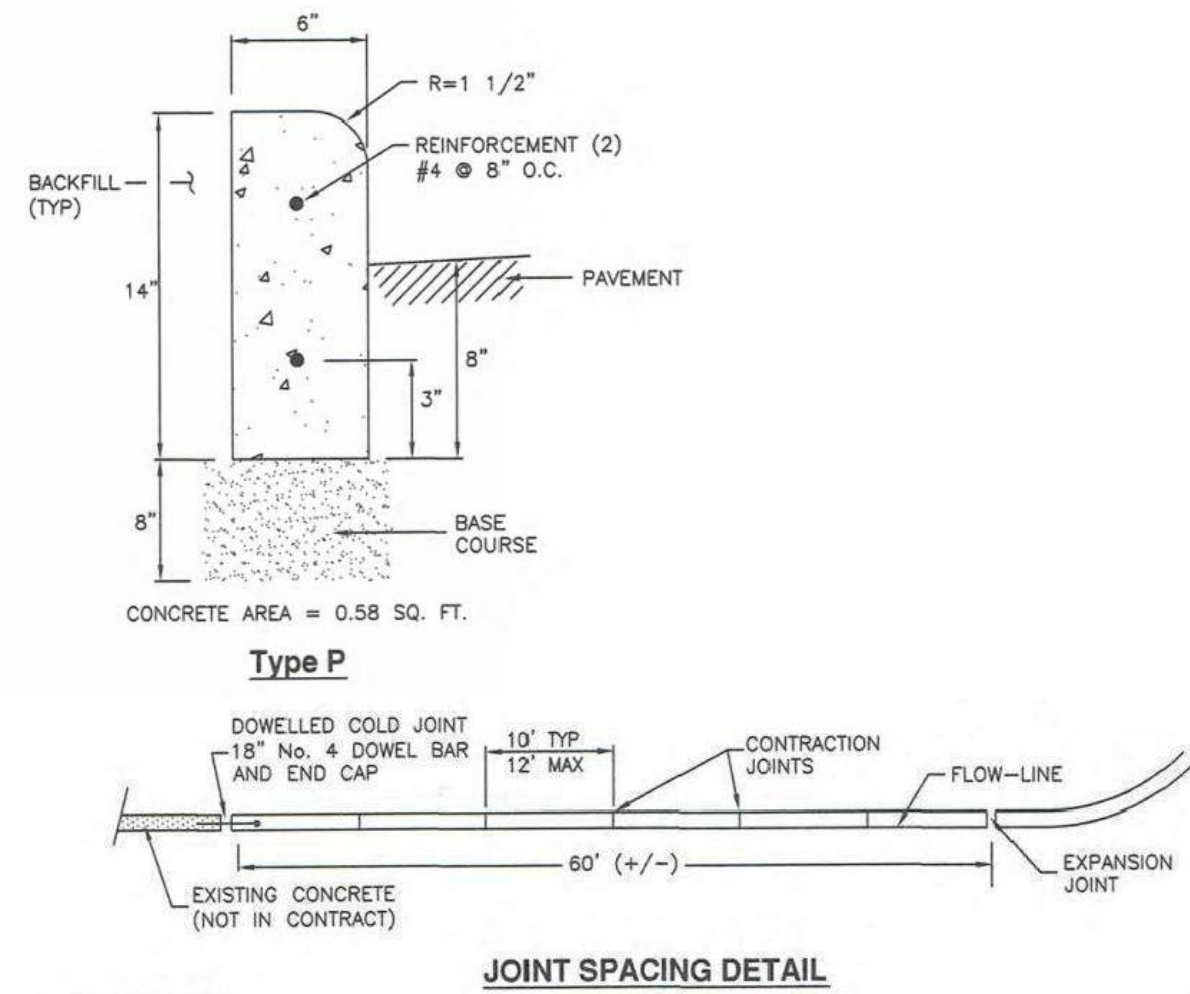
Waterway transition structure

- GENERAL**
  - Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
  - Additional requirements are specified in APWA Section 32 16 13.
- PRODUCTS**
  - Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
  - Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
  - Concrete: Class 4000, APWA Section 03 30 04. If necessary, provide concrete that achieves design strength in less than 7 days. Use caution; however, as concrete crazing (spider cracks) may develop if air temperature exceeds 90 degrees F.
  - Reinforcement: Galvanized or epoxy coated, deformed, 60 ksi yield grade steel, ASTM A615.
  - Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.
- EXECUTION**
  - Base Course Placement: APWA Section 32 05 10. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
  - Concrete Placement: APWA Section 03 30 10.
    - Install expansion joints vertical, full depth, with top of filler set flush with concrete surface. Install at the start or end of a street intersection curb return. Expansion joints are not required in concrete placement using slip-form construction.
    - Install contraction joints vertical, 1/8-inch wide or 1/4 slab thickness if the slab is greater than 8-inches thick. Match joint location in adjacent Portland-cement concrete roadway pavement.
    - Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
  - Protection and repair: Protect concrete from deicing chemicals during cure. Repair construction that does not drain. If necessary, fill flow-line with water to verify.

Sidewalk

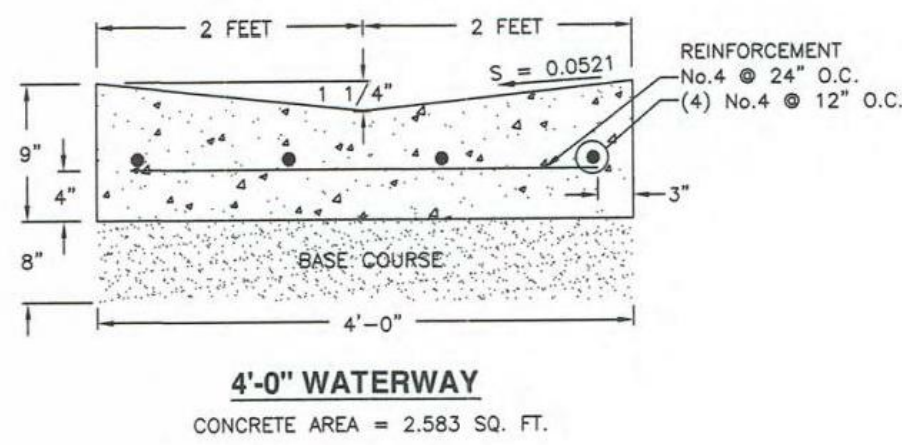
- GENERAL**
  - Variance from specified dimensions and slopes must be acceptable to the ENGINEER. System configuration may be changed at ENGINEER's discretion.
  - Additional requirements are specified in APWA Section 32 16 13.
- PRODUCTS**
  - Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
  - Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
  - Concrete: Class 4000, APWA Section 03 30 04. If necessary, provide concrete that achieves design strength in less than 7 days. Use caution; however, as concrete crazing (spider cracks) may develop if air temperature exceeds 90 degrees F.
  - Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.
- EXECUTION**
  - Base Course Placement: APWA Section 32 05 10. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
  - Concrete Placement: APWA Section 03 30 10.
    - Install expansion joints vertical, full depth, with top of filler set flush with concrete surface.
    - Install contraction joints vertical, 1/8-inch wide or 1/4 slab thickness if the slab is greater than 8-inches thick. Maximum length to width ratio for non-square panels is 1.5 to 1. Maximum panel length (in feet) is 1.5 times the slab thickness (in inches).
    - Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.

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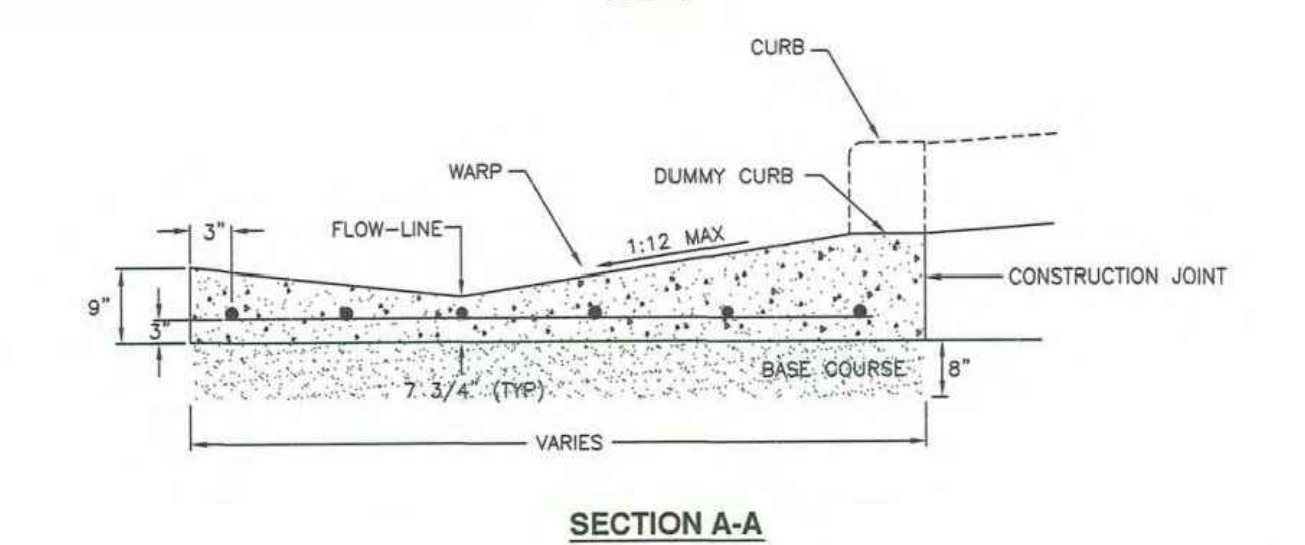
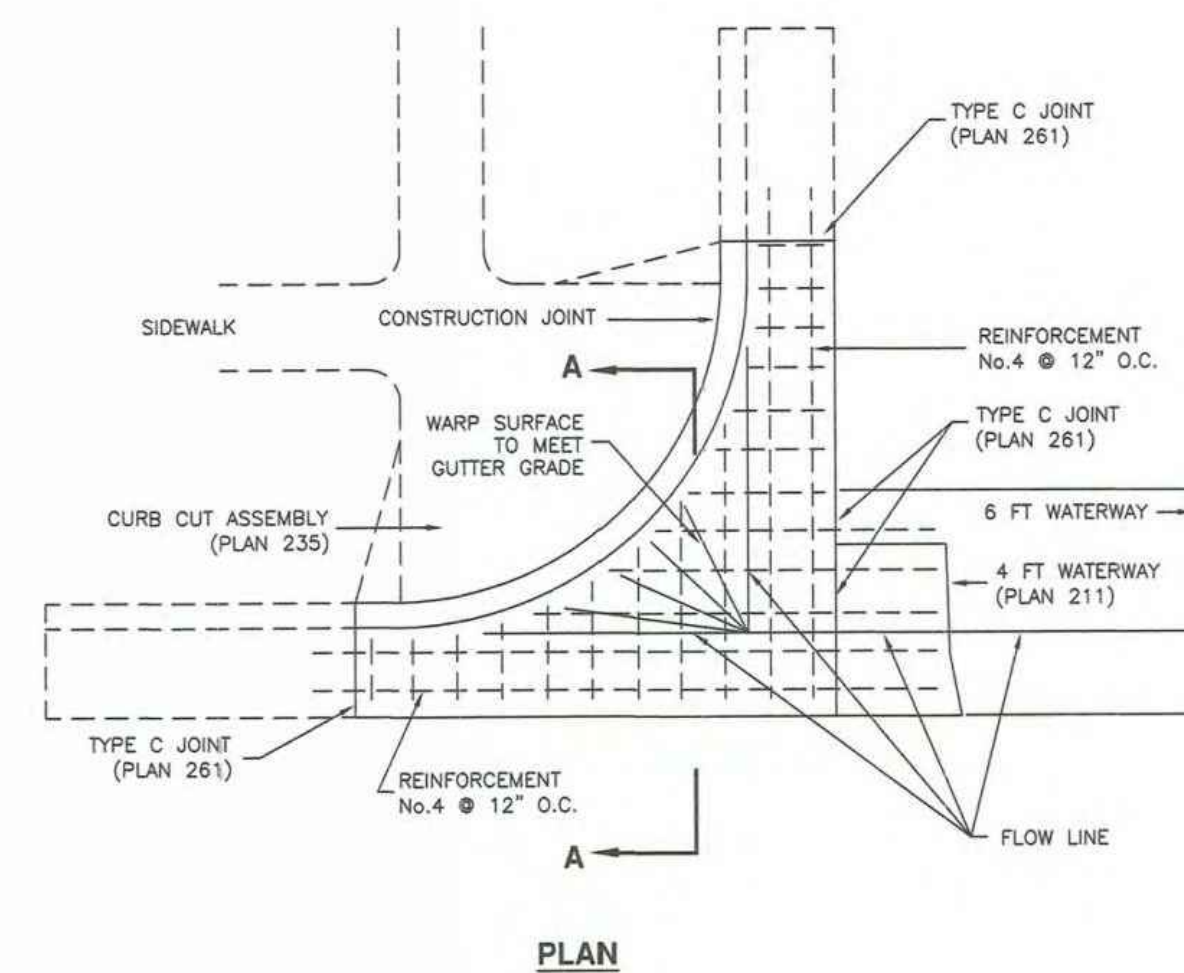
**Curbs**  
**Plan 209**  
 November 2009

211



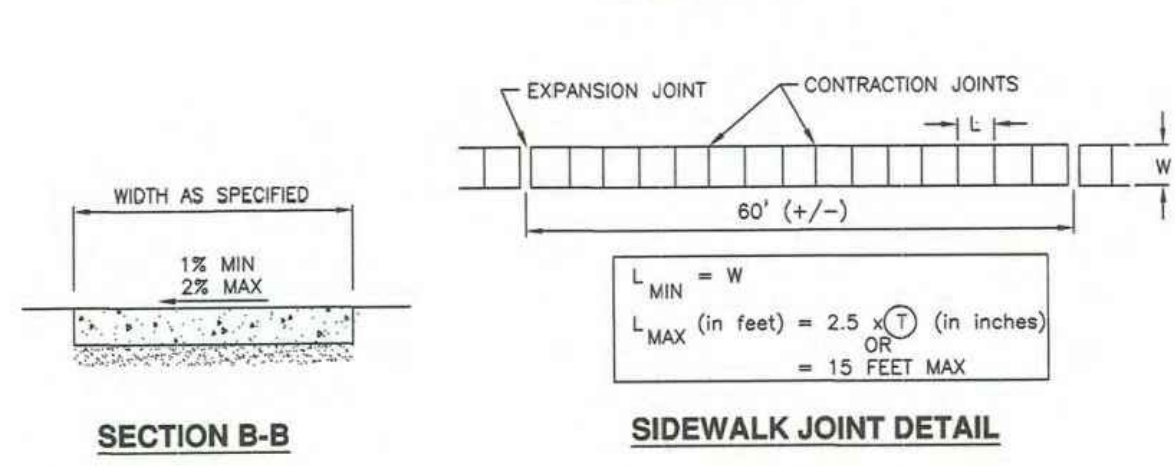
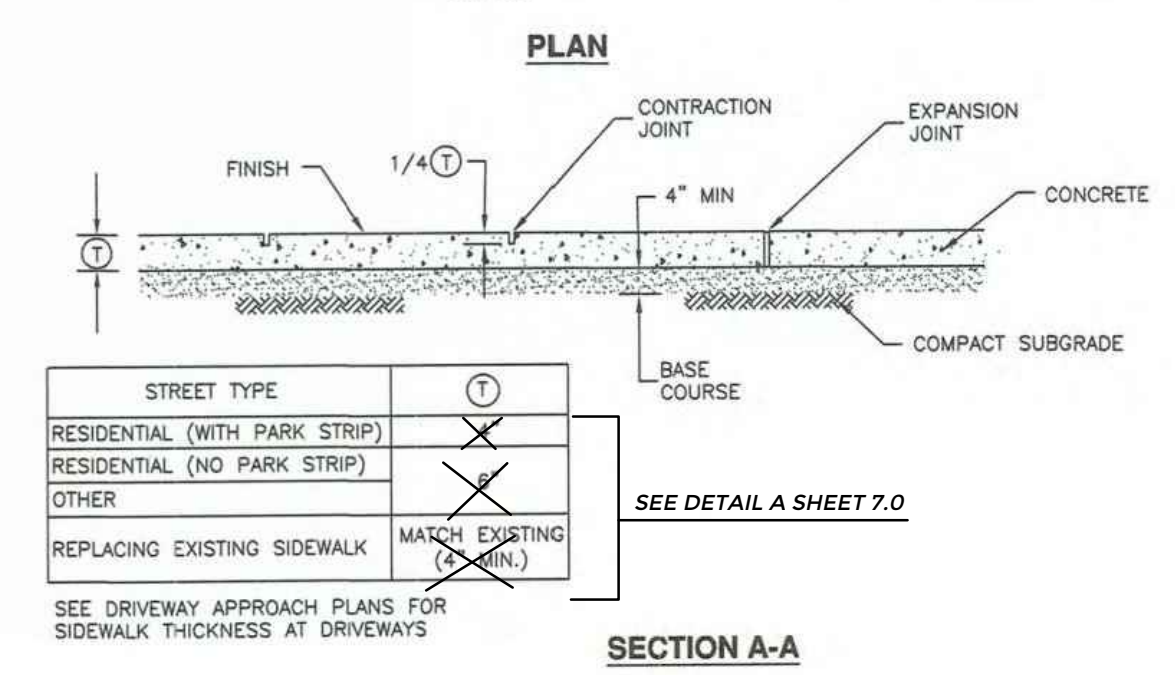
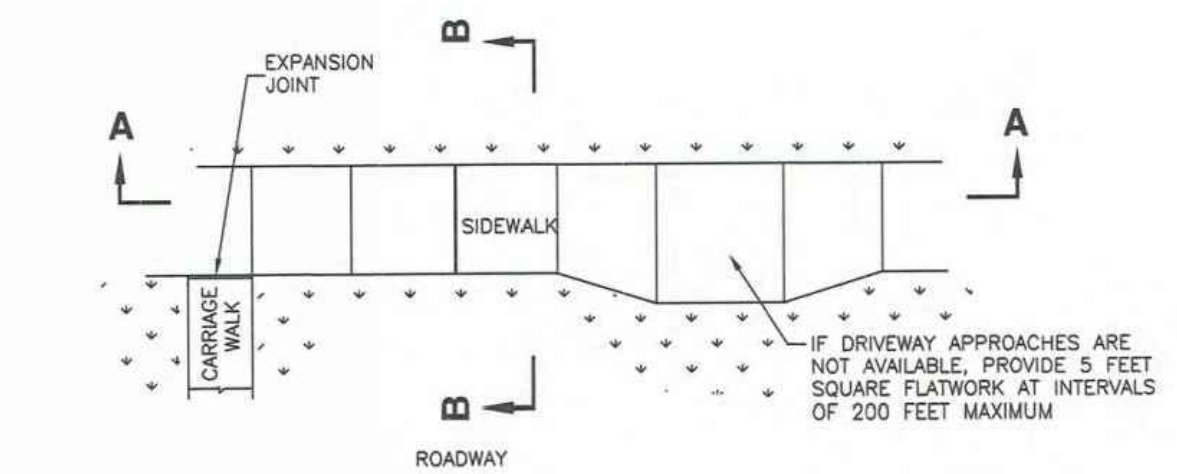
**Waterway**  
**Plan 211**  
 July 2011

213



**Waterway transition structure**  
**Plan 213**  
 May 2005

231

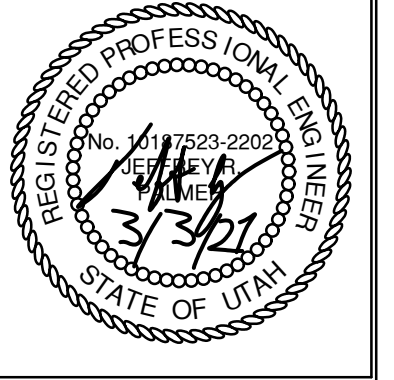


**Sidewalk**  
**Plan 231**



REVISIONS
DATE
BY
NO.

**JVWCD HEADQUARTERS**  
**UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS**  
**DETAILS**  
 TCC JOB NUMBER: 18-024  
 DATE SUBMITTED: 03.03.2021



**811**  
 CALL BEFORE YOU DIG  
 LIFE SAVING SERVICE

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**7.1**  
 34 OF 38



**Midblock curb cut assembly**

- GENERAL**
  - A. Where existing elements or spaces are altered to receive an assembly; slopes and dimensions shall comply with slopes and dimensions shown on the drawing, or to the maximum extent feasible permitted by the ENGINEER. Final configuration of the assembly may be different than shown.
  - B. Installation of flares or curb returns is ENGINEER'S choice.
  - C. Definitions and supplemental requirements are specified in APWA Section 32 16 14.
- PRODUCTS**
  - A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER'S permission.
  - B. Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
  - C. Detectable Warning Surface: Paver, ribbed composite panel, or tile. Provide a color that contrasts with adjacent walking surface, either light-on-dark or dark-on-light. ENGINEER to select type and color unless indicated elsewhere.
  - D. Concrete: Class 4000, APWA Section 03 30 04.
  - E. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.
- EXECUTION**
  - A. Base Course Placement: APWA Section 32 05 10. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
  - B. Curb Modifications:
    - 1) The sloped surface created to accommodate a flare area shall be perpendicular to the back of curb.
    - 2) No grade break shall exist between the flow-line and the foot of the curb ramp or blended transition. Length of the curb modification abutting the curb ramp or transition is 4 feet minimum.
  - C. Curb Ramp: Length not required to exceed 15 feet. Grade breaks are perpendicular to the direction of ramp run and are not permitted on the ramp or turning space surface. Sides are parallel to each other and perpendicular to the ends.
  - D. Concrete Placement: APWA Section 03 30 10.
    - 1) Maximum length to width ratio for rectangular panel joints is 1.5 to 1. Joint spacing measured in feet not to exceed twice slab thickness measured in inches or a maximum of 15 feet.
    - 2) Install expansion joints vertical, full depth, with top of filler set flush with concrete surface. Install contraction joints vertical, 1/8-inch wide, and 1/4 of the depth of the concrete flatwork.
    - 3) Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
  - E. Clear Space: No trip hazards in the clear space.

**Mid-block curb cut assembly**

- GENERAL**
  - A. Where existing elements or spaces are altered to receive an assembly; slopes and dimensions shall comply with slopes and dimensions shown on the drawing, or to the maximum extent feasible permitted by the ENGINEER. Final configuration of the assembly may be different than shown.
  - B. Installation of a curb wall is ENGINEER'S choice.
  - C. Definitions and supplemental requirements are specified in APWA Section 32 16 14.
- PRODUCTS**
  - A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER'S permission.
  - B. Expansion Joint Filler: 1/2-inch thick type F1 full depth, APWA Section 32 13 73.
  - C. Detectable Warning Surface: Paver, ribbed composite panel, or tile. Provide a color that contrasts with adjacent walking surface, either light-on-dark or dark-on-light. ENGINEER to select type and color unless indicated elsewhere.
  - D. Concrete: Class 4000, APWA Section 03 30 04.
  - E. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.
- EXECUTION**
  - A. Base Course Placement: APWA Section 32 05 10. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
  - B. Curb Modifications:
    - 1) The sloped surface created to accommodate the ramp or approach areas shall be perpendicular to the back of curb.
    - 2) No grade break shall exist between the flow-line and the turning space. Length of the curb modification abutting the turning space is 4 feet minimum.
  - C. Curb Ramp: Length not required to exceed 15 feet. Grade breaks are perpendicular to the direction of ramp run and are not permitted on the ramp or turning space surface. Sides are parallel to each other and perpendicular to the ends.
  - D. Curb Wall: Set top of curb wall equal to elevation of extended lateral lines of sidewalk.
  - E. Concrete Placement: APWA Section 03 30 10.
    - 1) Maximum length to width ratio for rectangular panel joints is 1.5 to 1. Joint spacing measured in feet not to exceed twice slab thickness measured in inches or a maximum of 15 feet.
    - 2) Install expansion joints vertical, full depth, with top of filler set flush with concrete surface. Install contraction joints vertical, 1/8-inch wide, and 1/4 of the depth of the concrete flatwork.
    - 3) Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
  - F. Clear Space: No trip hazards in the clear space.

**Catch basin**

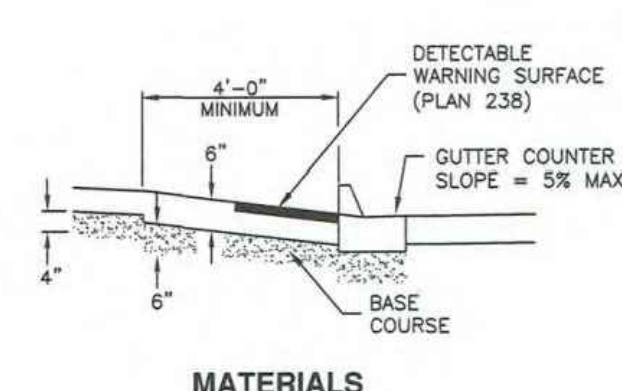
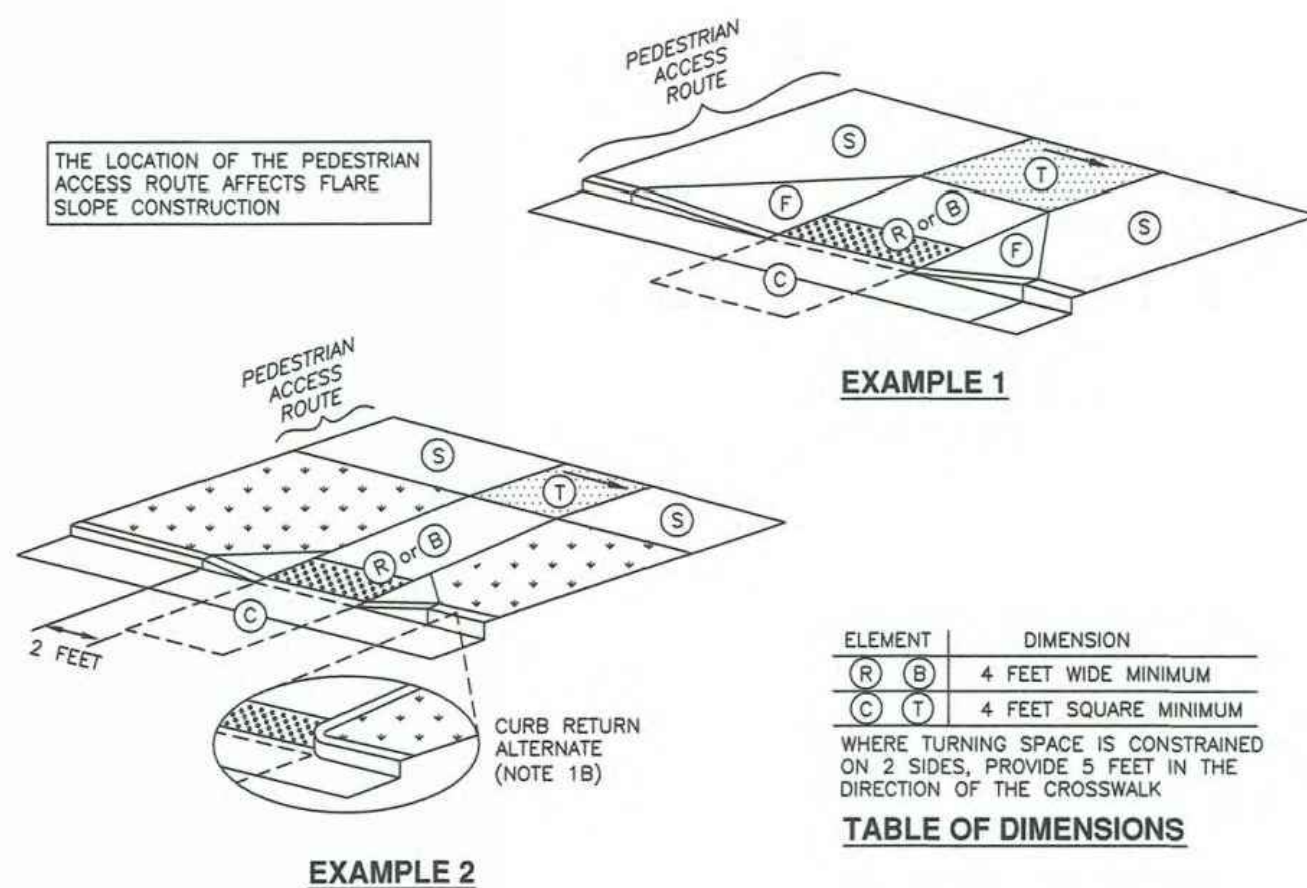
- GENERAL**
  - A. The drawing shows typical pipe connections. Refer to construction drawings for connection locations or refer to field location of existing piping when engineering pipe connection to the box.
- PRODUCTS**
  - A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER'S permission.
  - B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
  - C. Concrete: Class 4000, APWA Section 03 30 04.
  - D. Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A615.
- EXECUTION**
  - A. Base Course Placement: APWA Section 32 11 23. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
  - B. Curb Face Opening: Make opening at least 4-inches high. Provide at least a 2-inch drop between the "warp line" in the gutter flow-line and the top of the grate at the curb face opening.
  - C. Concrete Placement: APWA Section 03 30 10. Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
  - D. Backfill: Place backfill against the basin wall. Pea gravel and recycled RAP aggregate is NOT ALLOWED. Water jetting is NOT allowed. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.

**Precast manhole**

- GENERAL**
  - A. The drawing shows typical pipe connections. Refer to construction drawings for connection locations or refer to field location of existing piping when engineering pipe connection to the manhole.
  - B. Manhole size:
    - 1) Diameter is 4-feet: For pipe under 12" diameter.
    - 2) Diameter is 5-feet: For pipe 12" and larger, or when 3 or more drain pipes intersect the manhole.
  - C. Wall thickness:
    - 1) Precast reinforced concrete walls 4 3/4" minimum.
    - 2) Cast-in-place concrete to be 8 inches thick minimum.
- PRODUCTS**
  - A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER'S permission.
  - B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
  - C. Concrete: Class 4000, APWA Section 03 30 04.
  - D. Riser and Reducing Riser: ASTM C478.
  - E. Joint Sealant: Rubber based, compressible.
  - F. Grout: 2 parts sand to 1 part cement mortar, ASTM C1329.
  - G. Stabilization-Separation Geotextile: Moderate or high at CONTRACTOR'S choice, APWA Section 31 05 19.
- EXECUTION**
  - A. Foundation Stabilization: Get ENGINEER'S permission to use a sewer rock or a sewer rock in a geotextile wrap to stabilize an unstable foundation.
  - B. Base Course Placement: APWA Section 32 11 23. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
  - C. Invert cover. During construction, place invert covers over the top of pipe in manholes that currently convey sewerage. See Plan 412.
  - D. Concrete Deck or Reducing Riser: When depth of manhole from pipe invert to finish grade exceeds 7 feet, use an ASTM C478 reducing riser.
  - E. Pipe Connections: Grout around all pipe openings.
  - F. Pipe Seal: Install rubber-based pipe seals on all plastic pipes when connecting plastic pipes to manholes. Hold water-stop in place with stainless steel bands.
  - G. Joints: Place flexible sealant in all riser joints. Finish with grout.
  - H. Adjustment: If the required manhole adjustment is more than 1'-0", remove the cone and grade rings and adjust the manhole elevation with the appropriate manhole section, the cone section, and the grade rings or plastic form to make frame and lid match finish grade.
  - I. Finish: Provide smooth and neat finishes on interior of cones, shafts, and rings. Imperfect moldings or honeycombs will not be accepted.
  - J. Backfill: Provide backfill against the manhole shaft. Pea gravel and recycled RAP aggregate is NOT ALLOWED. Water jetting is NOT allowed. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.

236.1

**TURNING SPACE AT SIDEWALK LEVEL**



**SLOPE TABLE**

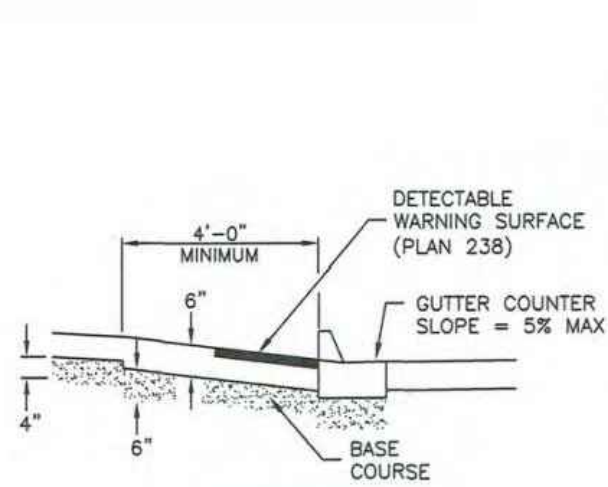
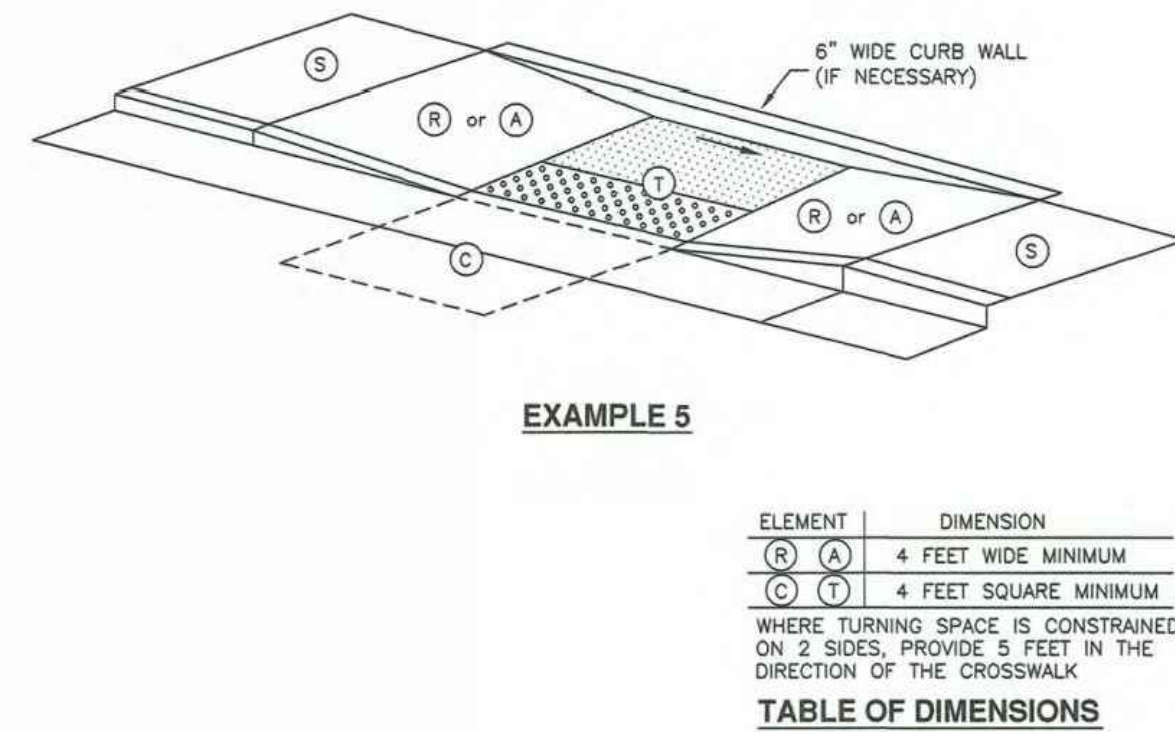
TURNING SPACE	STREET GRADE	CROSS SLOPE (%)
(T)	2	2
(R)	8.33	2 (c)
(B)	5	2 (c)
(C)	5	2 (c)
(S)	STREET GRADE	2
(F)	10	---

(c) RUNNING SLOPE IS IN THE DIRECTION OF PEDESTRIAN TRAVEL. RUNNING SLOPE OF FLARE IS PARALLEL TO BACK OF CURB

(b) CROSS SLOPE IS PERPENDICULAR TO DIRECTION OF PEDESTRIAN TRAVEL

236.3

**TURNING SPACE AT STREET LEVEL**



**SLOPE TABLE**

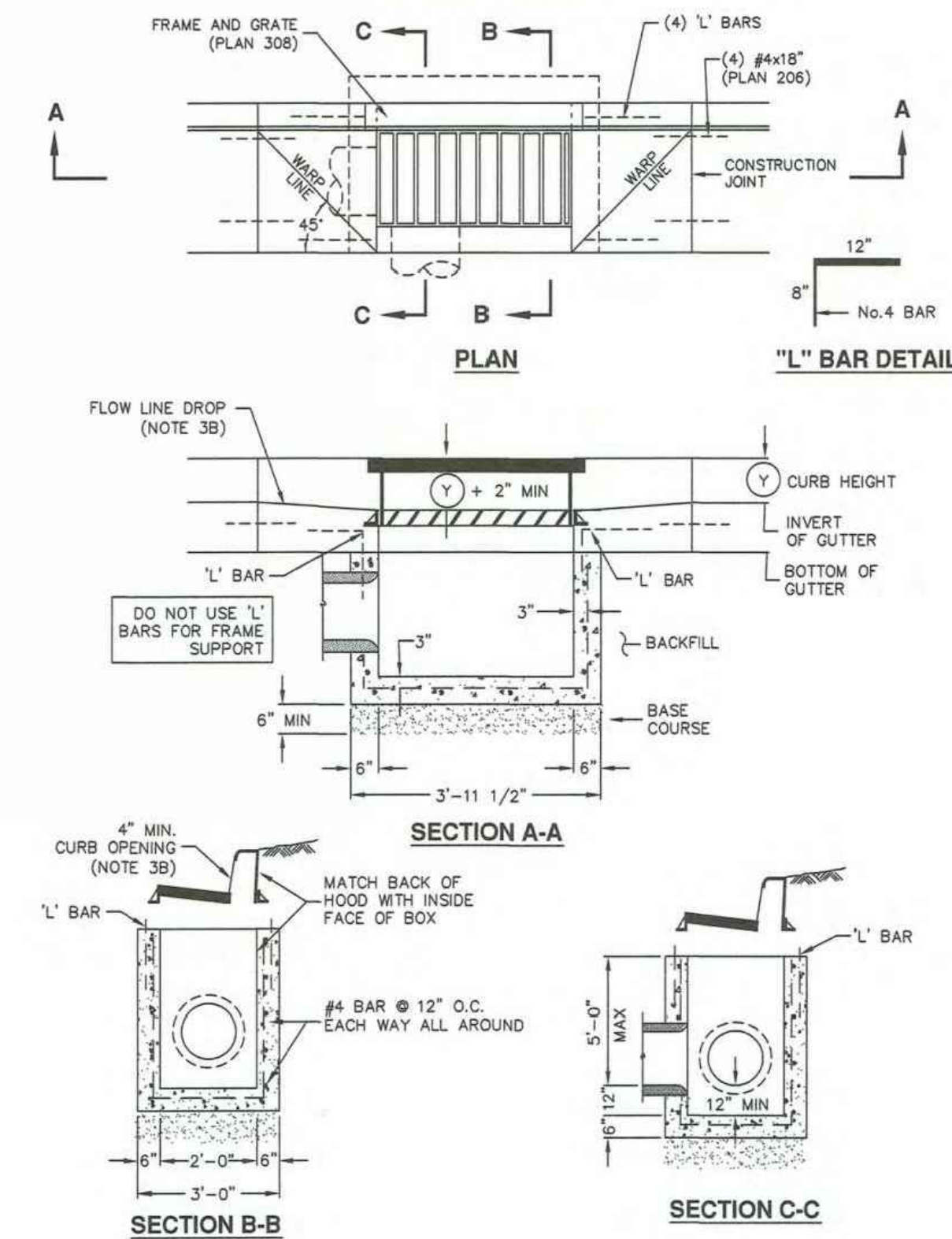
TURNING SPACE	STREET GRADE	CROSS SLOPE (%)
(T)	2	2
(R)	8.33	2
(C)	5	STREET GRADE
(S)	STREET GRADE	2
(A)	8.33	2

(c) RUNNING SLOPE IS IN THE DIRECTION OF PEDESTRIAN TRAVEL. RUNNING SLOPE OF FLARE IS PARALLEL TO BACK OF CURB

(b) CROSS SLOPE IS PERPENDICULAR TO DIRECTION OF PEDESTRIAN TRAVEL

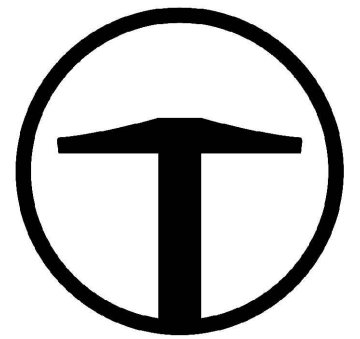
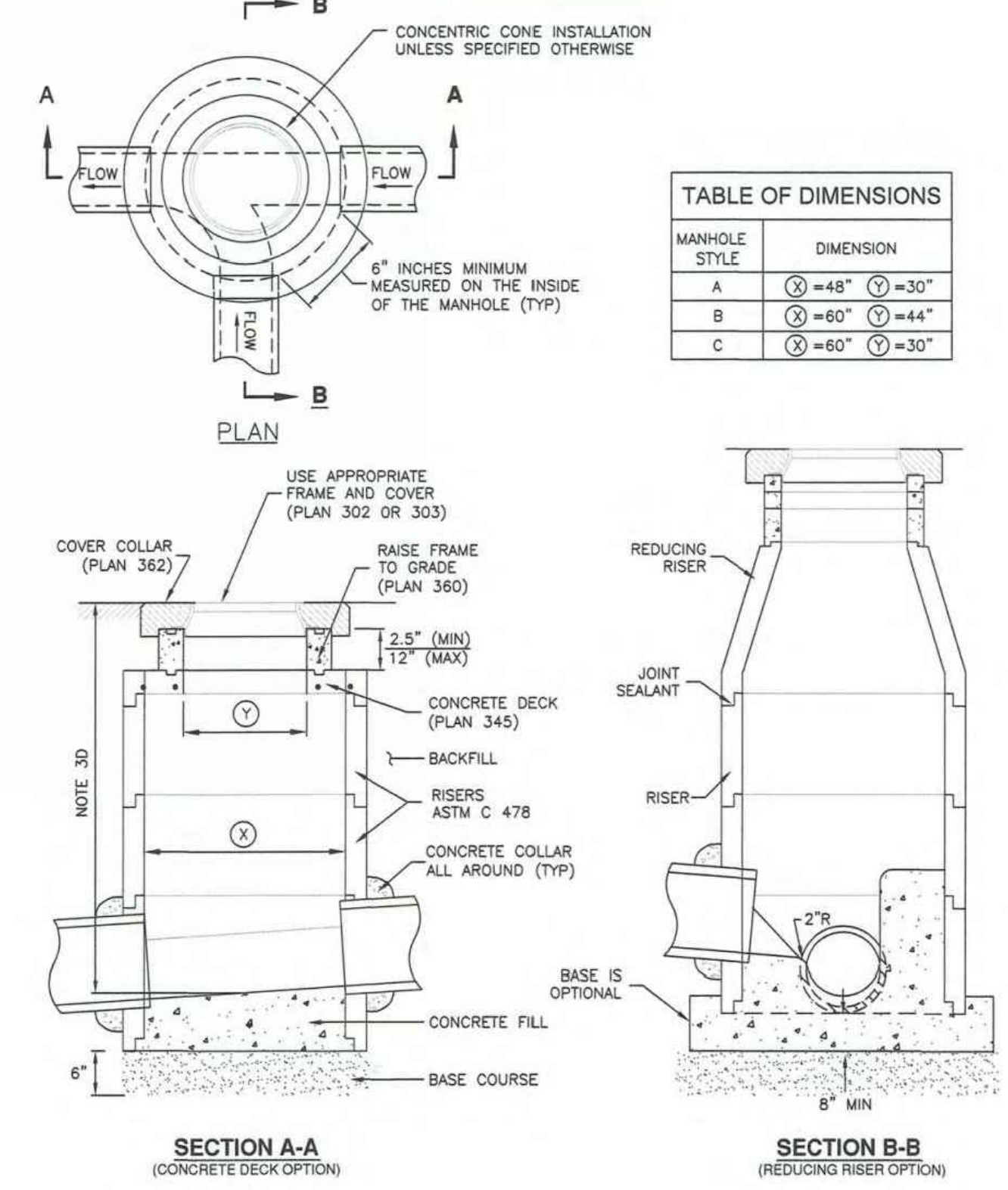
315.1

**SINGLE GRADE**



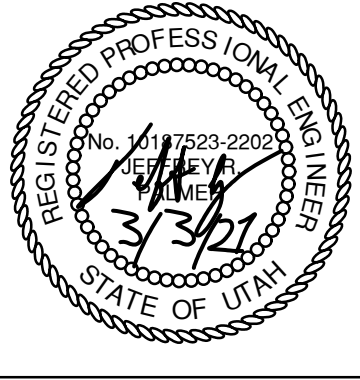
341.1

**CAST IN PLACE BASE**



TALISMAN CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

JVWCD HEADQUARTERS  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
DETAILS  
DATE SUBMITTED: 03.03.2021  
TCC JOB NUMBER: 18-024





DATE: 3/2/2021 10:00 AM

Pipe outfall

- 1. GENERAL
  - A. Round concrete pipe application.
  - B. Additional requirements are specified in APWA Section 33 05 02.
- 2. PRODUCTS
  - A. Use the same quality of precast end section as the pipe.
  - B. Use the joint material and connection that is the same as the joints in the pipeline.
- 3. EXECUTION
  - A. General dimensions and geometric shapes may vary from manufacturer to manufacturer.
  - B. Steel reinforcement is not required in the concrete end section shown.
  - C. Provide joint restraint connectors if required by ENGINEER.

Cover collar for storm drains

- 1. GENERAL
  - A. In a pavement surface, the concrete will support the frame under traffic loadings.
- 2. PRODUCTS
  - A. Concrete: Class 4000, APWA Section 03 30 04.
  - B. Concrete Curing Agent: Clear membrane forming compound with fugitive dye (Type ID Class A), APWA Section 03 39 00.
- 3. EXECUTION
  - A. Pavement Preparation: Provide a neat vertical and concentric joint between concrete and existing bituminous concrete surfaces. Clean edges of all dirt, oil, and loose debris.
  - B. Concrete Placement: APWA Section 03 30 10. Fill the annular space around the frame and cover casting with concrete. Apply a broom finish. Apply a curing agent.

Trench backfill

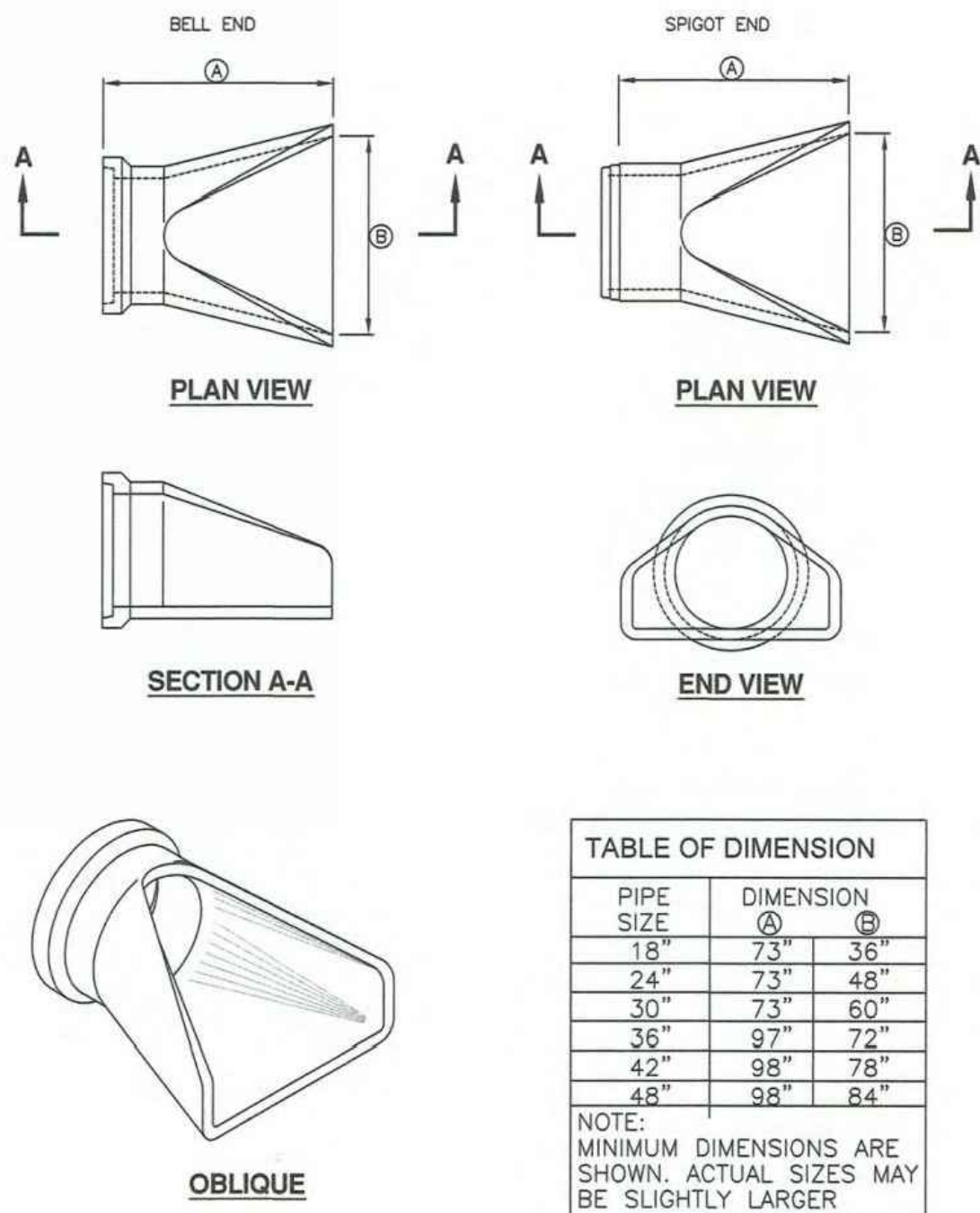
- 1. GENERAL
  - A. The drawing applies to backfilling a trench (and embankment) above the pipe zone.
- 2. PRODUCTS
  - A. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 3-inches.
  - B. Flowable Fill: APWA Section 31 05 15. Target is 60 psi in 28 days with 90 psi maximum in 28 days, it must flow easily requiring no vibration for consolidation.
- 3. EXECUTION
  - A. Trench Backfill Above the Pipe Zone: Follow requirement indicated in APWA Section 33 05 20 and the following provisions. See Standard Plan 382 for backfilling the pipe zone.
    - 1) DO NOT USE sewer rock, pea gravel, or recycled RAP aggregate as trench backfill.
    - 2) Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.
    - 3) Water jetting is NOT allowed.
  - B. Flowable Fill: If controlled low strength material is placed in the trench. Cure the material before placing surface restorations.
  - C. Embankment Backfill: When trench sides are sloped proceed as follows.
    - 1) Maximum lift thickness is 8-inches before compaction.
    - 2) Compact per APWA Section 31 23 26 to 95 percent or greater relative to a standard proctor density.
    - 3) Submission of quality control compaction test result data may be requested by ENGINEER at any time. Provide results of tests immediately upon request.
  - D. Surface Restoration:
    - 1) Landscaped Surface: Follow APWA Section 32 92 00 (turf or grass) or APWA Section 32 93 13 (ground cover) requirements. Rake to match existing grade. Replace vegetation to match pre-construction conditions.
    - 2) Paved Surface: Follow APWA Section 33 05 25 (bituminous pavement surfacing), or APWA Section 33 05 25 (concrete pavement surfacing). Do not install surfacing until compaction density is acceptable to ENGINEER.

Pipe zone backfill

- 1. GENERAL
  - A. Install the pipe in the center of the trench or no closer than 6-inches from the wall of the pipe to the wall of the trench.
- 2. PRODUCTS
  - A. Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
  - B. Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
  - C. Concrete: APWA Section 03 30 04.
  - D. Flowable Fill: Target is 60 psi in 28 days with 90 psi maximum in 28 days, APWA Section 31 05 15. It must flow easily requiring no vibration for consolidation.
  - E. Stabilization-Separation Geotextile: Moderate or high at CONTRACTOR's choice, APWA Section 31 05 19.
- 3. EXECUTION
  - A. Excavate the Pipe Zone: Width is measured at the pipe spring line and includes any necessary sheathing. Provide width recommended by pipe manufacturer. Follow manufacturer's recommendations when using trench boxes.
  - B. Foundation Stabilization: Get ENGINEER's permission before installing common fill. Vibrate to stabilize. Installation of stabilization-separation geotextile will be required to separate backfill material and native subgrade materials if common fill cannot provide a working surface or prevent soils migration.
  - C. Bedding: Follow APWA Section 33 05 20 requirements and the following provisions.
    - 1) Furnish untreated base course material unless specified otherwise by pipe manufacturer.
    - 2) Maximum lift thickness is 8-inches.
    - 3) Bedding immediately under the pipe should not be compacted, but loosely placed.
    - 4) Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
    - 5) When using concrete, provide at least Class 2,000, APWA Section 03 30 04.
  - D. Pipe Zone: DO NOT USE sewer rock, pea gravel, or recycled RAP aggregate in the pipe zone. Water jetting is NOT allowed.
    - 1) Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26 unless pipe manufacturer requires more stringent installation.
    - 2) Submission of quality control compaction test result data developed for the haunch zone may be requested by ENGINEER at any time. CONTRACTOR is to provide results of tests immediately upon request.
  - E. Flowable Fill (when required and if allowed by pipe manufacturer):
    - 1) Place the controlled low strength material, APWA Section 31 05 15.
    - 2) Prevent pipe flotation by installing in lifts and providing pipe restrains as required by pipe manufacturer.
    - 3) Reset pipe to line and grade if pipe "floats" out of position.

323.1

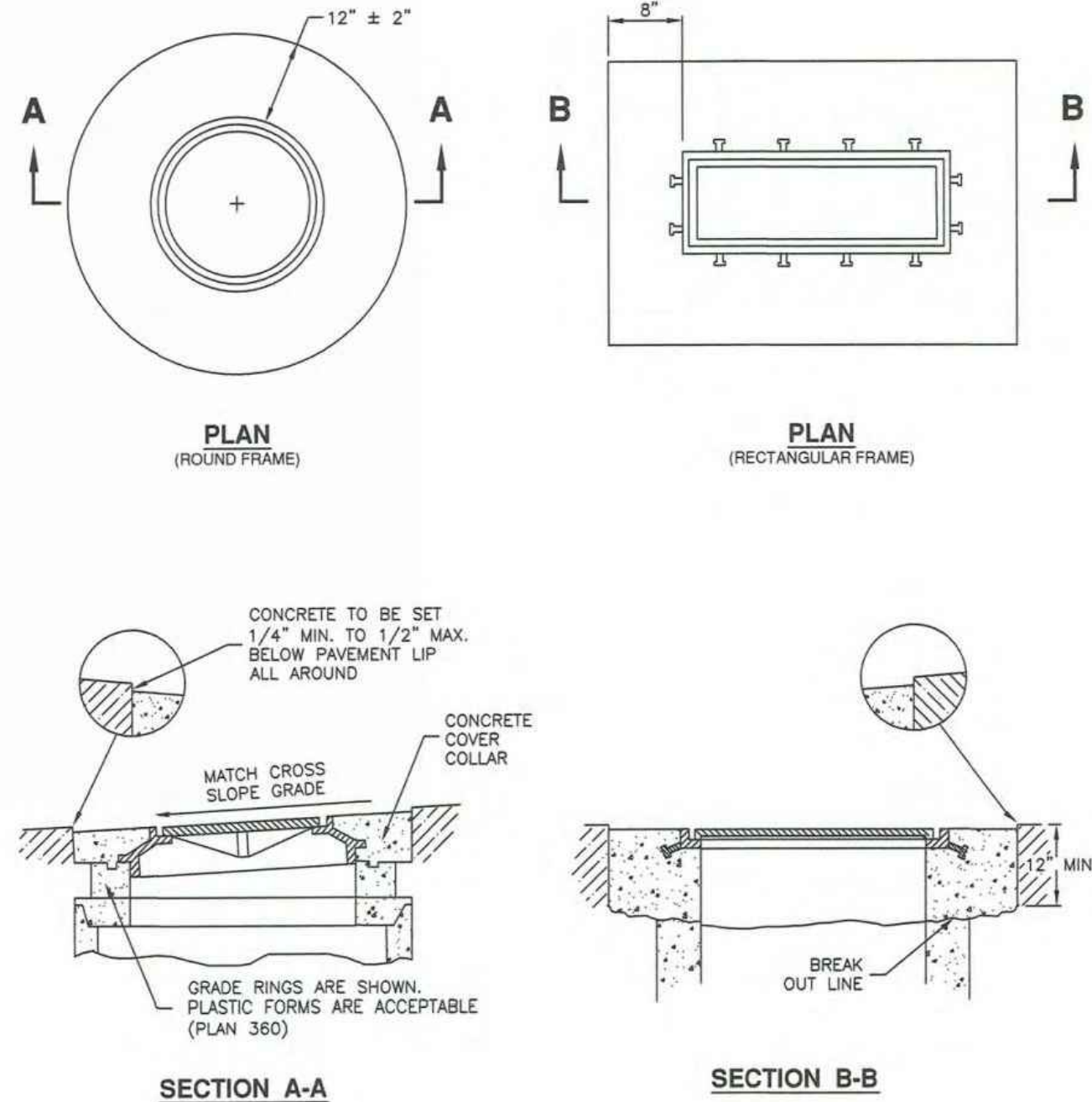
ROUND WITH FLARE



Pipe outfall

Plan 323.1 November 2010

362

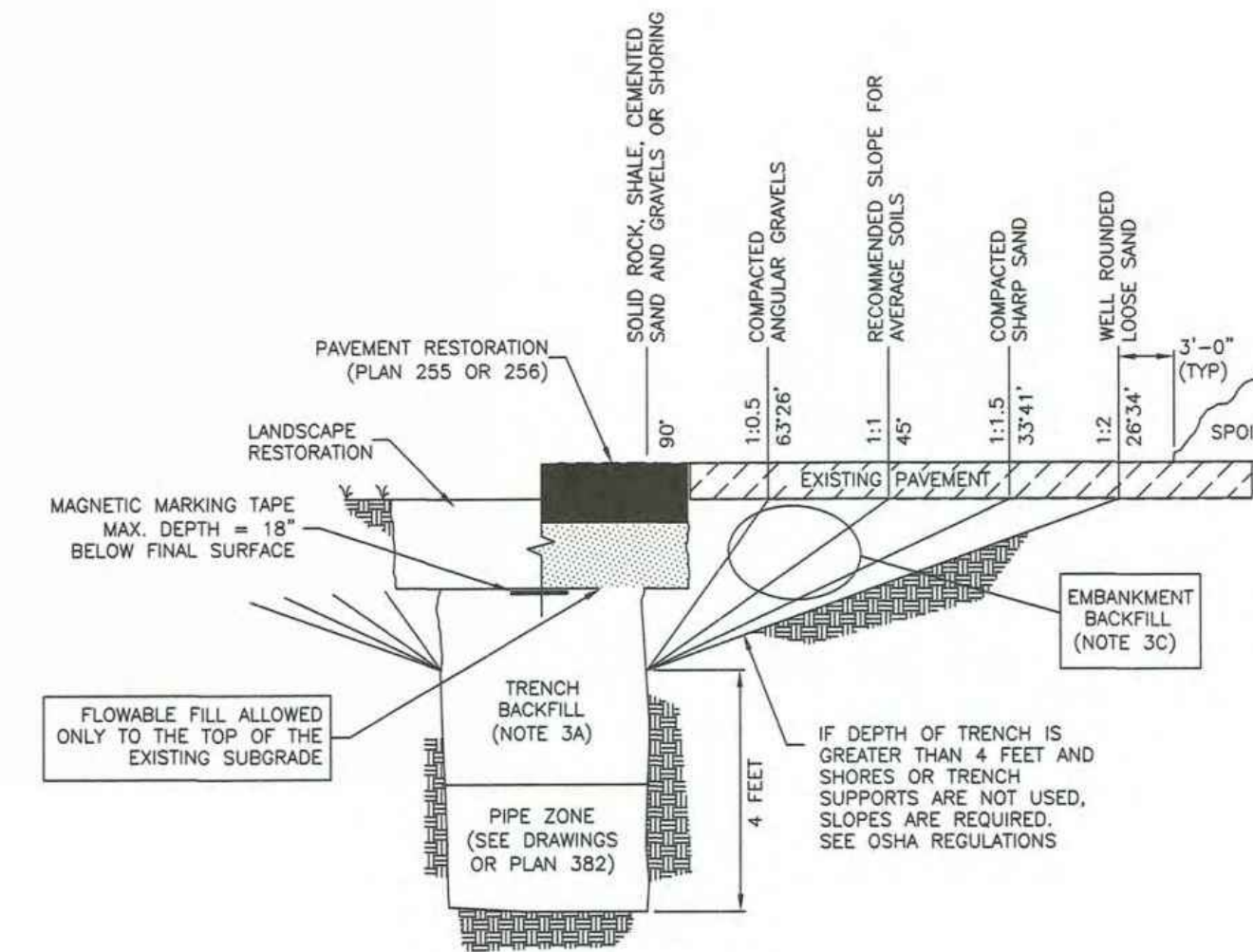


Cover collar for storm drains

Plan 362 December 2010

381

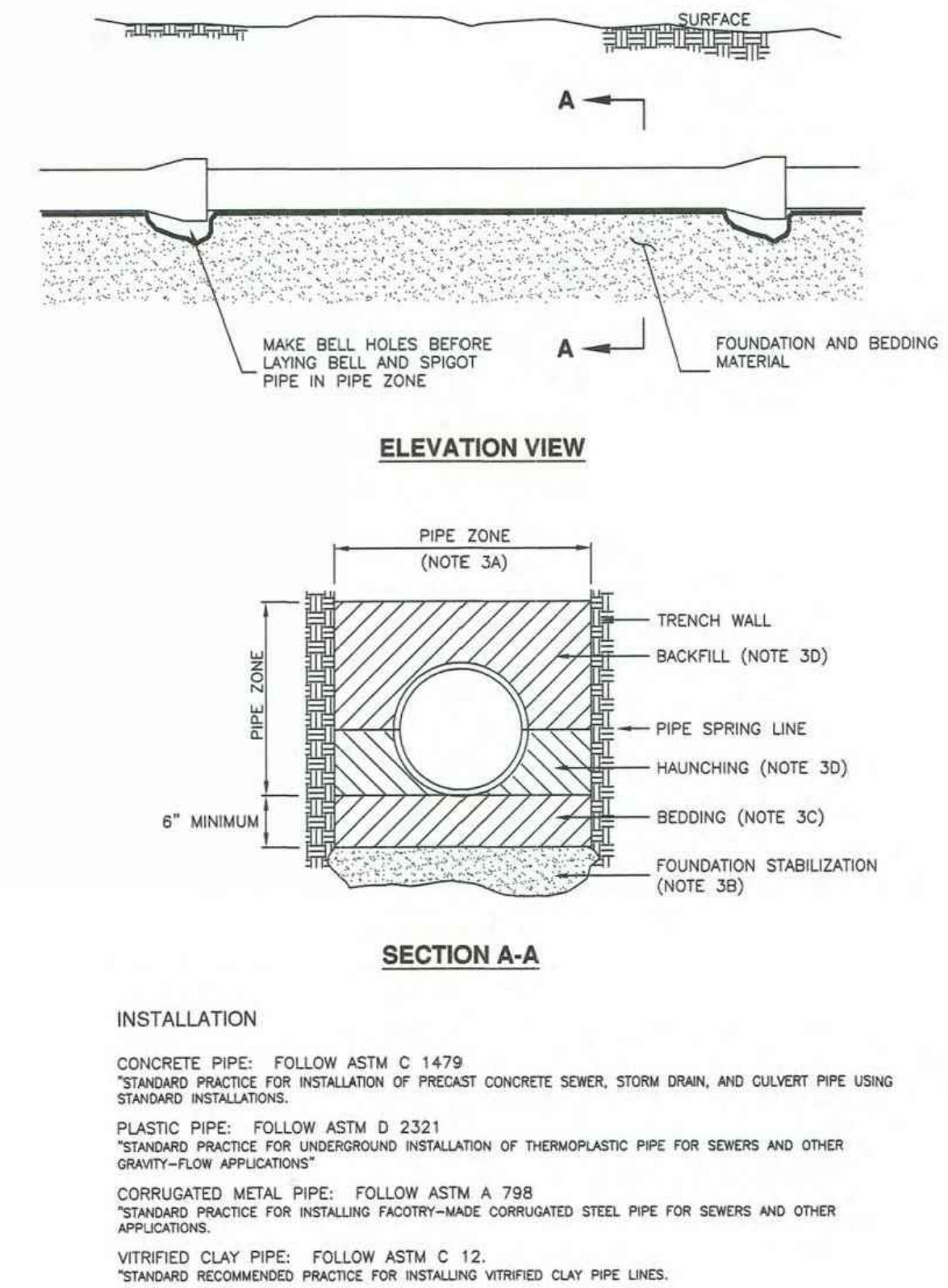
NARRATIVE: THIS PLAN SHOWS VARIOUS SLOPES RECOMMENDED FOR VARIOUS TYPES OF SLOPE STABILITY PROBLEMS. THE VERTICAL TEXT INDICATES VARIOUS MATERIALS THAT MAY BE ENCOUNTERED. THE SERVICES OF A PROFESSIONAL SOILS ENGINEER SHOULD BE USED TO VERIFY SLOPE STABILITY.



Trench backfill

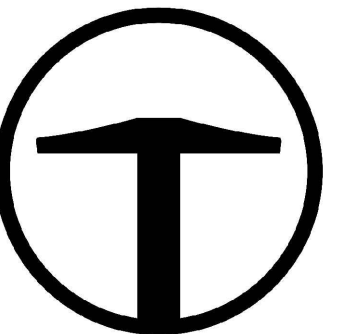
Plan 381 July 2016

382



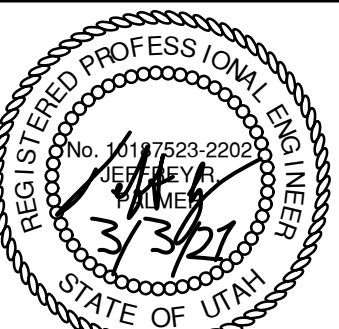
Pipe zone backfill

Plan 382 January 2011



TALISMAN CIVIL CONSULTANTS 1588 SOUTH MAIN STREET SUITE 200 SALT LAKE CITY, UT 84115 801.743.1300

JVWCD HEADQUARTERS UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS DETAILS DATE SUBMITTED: 03.03.2021 TCC JOB NUMBER: 18-024



SHEET NUMBER

7.3

36 OF 38

PA:Th: N:\18-024 - JVWCD Headquarters\Cadd\01 Upper Campus Backstair\VP 7.3 Details.dwg



DATE: 3/2/2021 10:01 AM

**Water service line loop**

- GENERAL**
  - Before backfilling, secure inspection of installation by ENGINEER.
- PRODUCTS**
  - Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
  - Piping: Match existing pipe, fittings, coupling sizes and materials.
  - Thrust Blocks: Concrete Class 4000, APWA Section 03 30 04.
  - Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A615.
  - Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
  - Grease: Non-oxide poly-FM.
- EXECUTION**
  - Thrust Blocks: Not required for flange or welded pipe systems. Before pouring thrust block concrete, wrap pipe system with plastic sheet to prevent bonding of concrete to pipe system.
  - Fittings: Use copper to copper flare fittings or copper to iron pack joint coupling with locking split clamp on iron pipe side and flare on copper side. All couplings to be brass.
  - Grease: Apply grease to all buried metal surfaces. Wrap with polyethylene sheet and tape wrap.
  - Steel Spool: Weld in place and provide slip on flange except when fitting in pipe system could move. Epoxy line per AWWA C210, C213, and coated per AWWA C208, or C214.
  - Location: Loop water mains over top of sewer lines.
  - Base Course and Backfill Placement: Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.

**Water main line loop**

- GENERAL**
  - Before backfilling, secure inspection of installation by ENGINEER.
- PRODUCTS**
  - Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
  - Piping: Match existing pipe, fittings, coupling sizes and materials.
  - Thrust Blocks: Concrete Class 4000, APWA Section 03 30 04.
  - Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A615.
  - Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
  - Grease: Non-oxide poly-FM.
  - Couplings: Brass.
- EXECUTION**
  - Thrust Blocks: Not required for flanged or welded pipe systems. Before pouring thrust block concrete, wrap pipe system in plastic sheet to prevent bonding of concrete to pipe system.
  - Fittings: Use copper to copper flare fittings or copper to iron pack joint coupling with locking split clamp on iron pipe side and flare on copper side.
  - Grease: Apply grease to all buried metal surfaces. Wrap with polyethylene sheet and tape wrap.
  - Steel Spool: Weld in place and provide slip on flange except when fitting in pipe system could move. Epoxy line per AWWA C210, C213, and coated per AWWA C208, or C214.
  - Location: Loop water mains over top of sewer lines.
  - Base Course and Backfill Placement: Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.

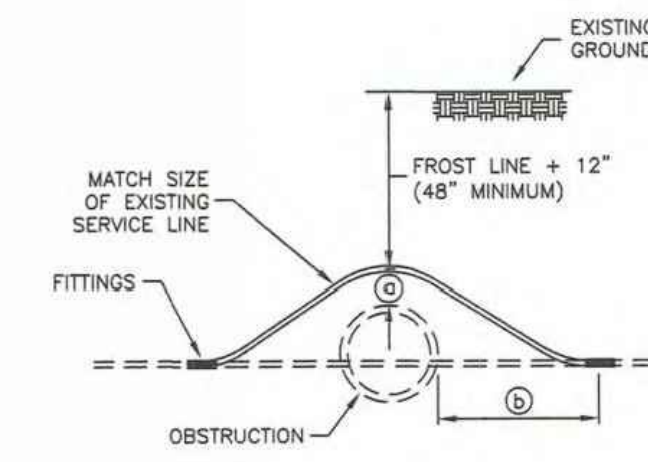
**Direct bearing thrust block**

- GENERAL**
  - Thrust design for pipe sizes or configurations not shown require special design.
  - Bearing areas, volumes, and special thrust blocking details shown on Drawings take precedence over this plan.
  - Restraint sizing is based upon a maximum operating pressure of 150 psi and a test pressure of 200 psi, and a minimum soil bearing strength of 2,000 psf. Operating pressures in excess of 150 psi or soils with less than 2,000 pound bearing strength will require special design.
  - Before backfilling around thrust block, secure inspection of installation by ENGINEER.
- PRODUCTS**
  - Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
  - Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
  - Thrust Blocks: Concrete Class 4000, APWA Section 03 30 04.
  - Grease: Non-oxide poly-FM.
- EXECUTION**
  - Pour concrete against undisturbed soil.
  - Pipe Joints: Do not cover with concrete. Leave completely accessible.
  - Grease: Apply grease to all buried metal surfaces. Wrap with polyethylene sheet and tape wrap.
  - Locking restraint devices may be used in conjunction with concrete thrust blocking (at discretion of ENGINEER).
  - Base Course and Backfill Placement: Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.

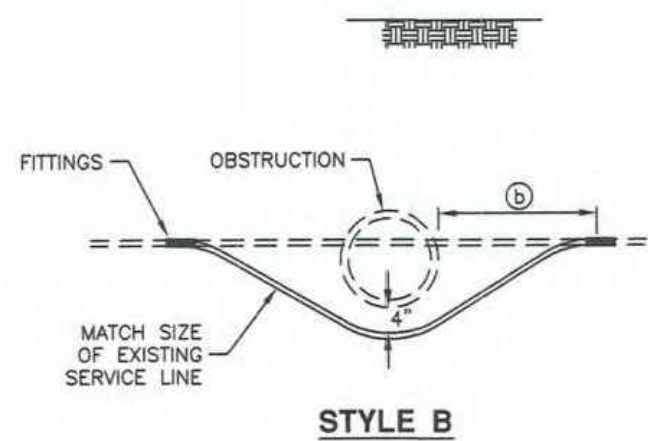
**Tie-down thrust restraints**

- GENERAL**
  - Thrust design for pipe sizes or configurations not shown require special design.
  - Bearing areas, volumes, and special thrust blocking details shown on Drawings take precedence over this plan.
  - Restraint sizing is based upon a maximum operating pressure of 150 psi and a test pressure of 200 psi, and a minimum soil bearing strength of 2,000 psf. Operating pressures in excess of 150 psi or soils with less than 2,000 pound bearing strength will require special design.
  - Before backfilling around thrust block, secure inspection of installation by ENGINEER.
- PRODUCTS**
  - Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
  - Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
  - Concrete: Class 4,000 minimum, APWA Section 03 30 04.
  - Reinforcement: Deformed steel, ASTM A615. Give bars an epoxy coating at least 15 mils thick. Minimum stress yield strength of steel tie-down bars is 70,000 ksi.
  - Grease: Non-oxide poly-FM.
- EXECUTION**
  - Pour concrete against undisturbed soil. Concrete must be allowed to cure in thrust restraints for 5 days before pressurizing water lines or have additional approved thrust restraints installed before pressurizing the water line.
  - Pipe Joints: Do not cover with concrete. Leave completely accessible.
  - Grease: Apply grease to all buried metal surfaces. Wrap with polyethylene sheet and tape wrap.
  - Locking restraint devices may be used in conjunction with concrete thrust blocking (at discretion of ENGINEER).
  - Base Course and Backfill Placement: Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.

542



STYLE A



STYLE B

TABLE OF DIMENSIONS	
OBSTRUCTION	
SEWER MAIN	OTHER
18" MIN	12" MIN.
10'-0"	12" MIN.

543.1

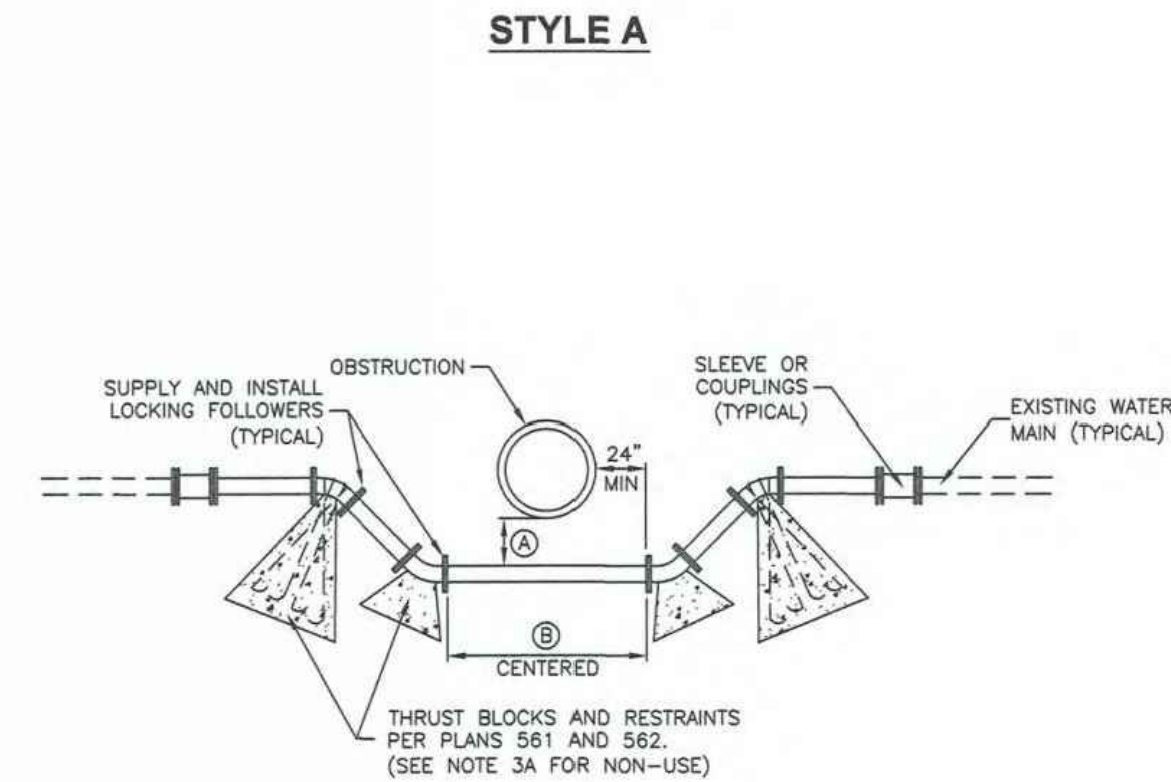
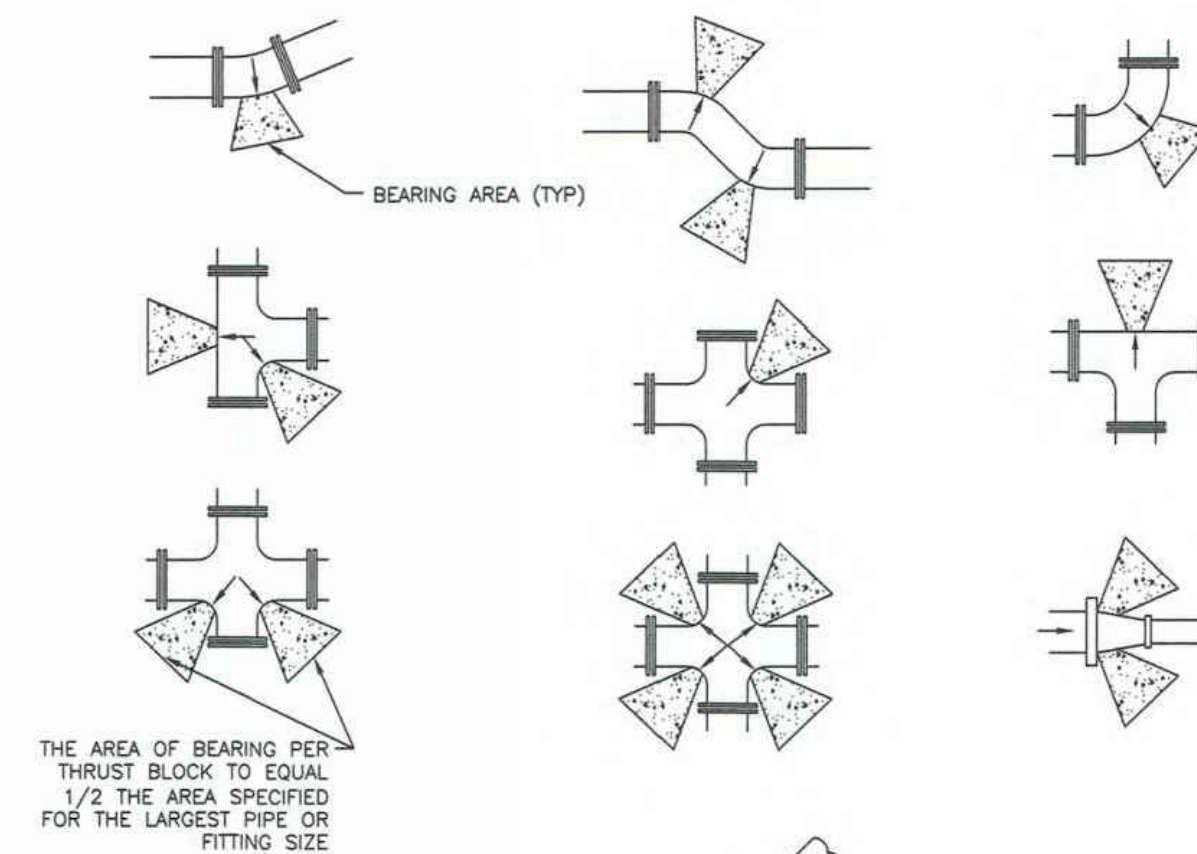


TABLE OF DIMENSIONS		
OBSTRUCTION	(A)	(B)
SEWER	18" MIN	20" MIN
OTHER	12" MIN	O.D. + 48"

561



THE AREA OF BEARING PER THRUST BLOCK TO EQUAL 1/2 THE AREA SPECIFIED FOR THE LARGEST PIPE OR FITTING SIZE

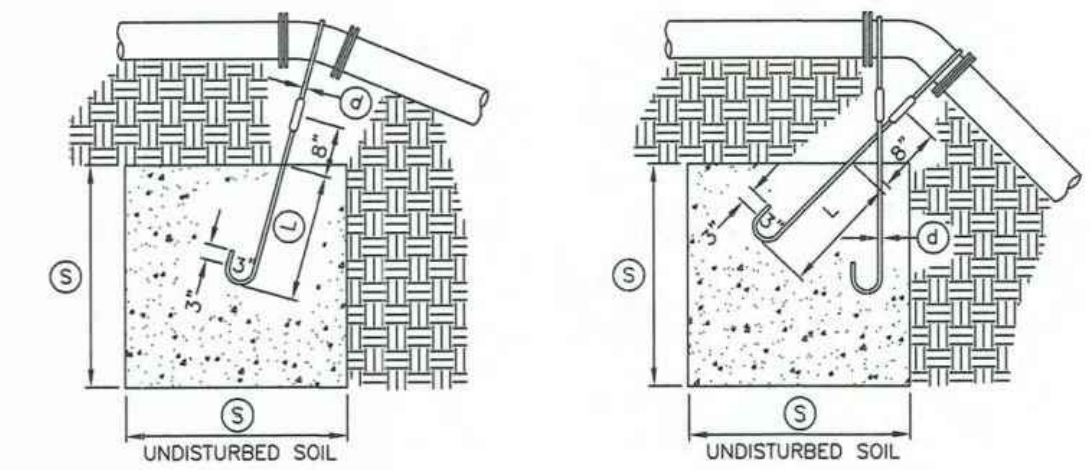
MINIMUM BEARING AREA IN SQ. FT.					
PIPE SIZE	TEES, WELVES, DEAD ENDS	90° BENDS	45° BENDS	22 1/2° BENDS	11 1/4° BENDS
4"	2	3	2	2	2
6"	4	5.5	3	2.5	2
8"	6.5	9.5	5	2.75	2.5
12"	14	20	11	5.5	3
14"	19	26.5	14.5	7.5	4
16"	24	34	18.5	9.5	6
20"	27	52	28.5	14.5	9
24"	53	74	41	21	12
30"	81	114	62	32	16



Direct bearing thrust block

Plan 561 August 2010

562



TYPE A RESTRAINT FOR 11 1/4" - 22 1/2" VERTICAL BENDS

TYPE B RESTRAINT FOR 45° VERTICAL BENDS

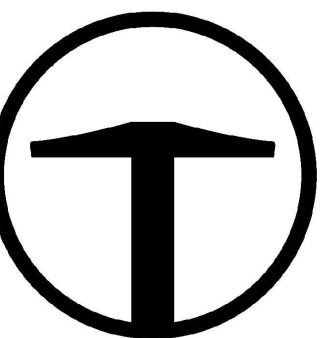
TABLE OF DIMENSIONS					
PIPE SIZE NOMINAL DIAMETER - INCH	VERTICAL BEND IN DEGREES	CONCRETE BLOCKING IN CUBIC FEET	SIZE OF CUBE - FEET	DIAMETER OF SHANK OR REBAR RODS - INCH	DEPTH OF ROD CONCRETE - FEET
4"	11 1/4"	8	2.0	5/8"	1.5
	22 1/2"	15.6	2.5	5/8"	2.0
6"	11 1/4"	15.6	2.5	5/8"	2.0
	22 1/2"	34.3	3.25	5/8"	2.0
8"	11 1/4"	27	3.0	5/8"	2.0
	22 1/2"	64	4.0	5/8"	2.0
12"	11 1/4"	107	4.25	7/8"	3.0
	22 1/2"	125	5.0	3/4"	3.0
16"	11 1/4"	138	5.17	1"	3.5
	22 1/2"	216	6.0	7/8"	3.0
20"	11 1/4"	240	6.22	1"	4.0
	22 1/2"	334	6.94	1"	4.0
24"	11 1/4"	240	6.22	1"	4.0
	22 1/2"	476	7.81	1"	4.0
30"	11 1/4"	369	7.17	1"	4.0
	22 1/2"	733	9.02	1"	4.0

TABLE OF DIMENSIONS					
PIPE SIZE NOMINAL DIAMETER - INCH	VERTICAL BEND IN DEGREES	CONCRETE BLOCKING IN CUBIC FEET	SIZE OF CUBE - FEET	DIAMETER OF SHANK OR REBAR RODS - INCH	DEPTH OF ROD CONCRETE - FEET
4"	45°	1	3.0	5/8"	2.0
				5/8"	
6"		2.37	4.0	5/8"	2.5
				5/8"	
8"		3.97	4.75	5/8"	3.0
				5/8"	
12"		9.04	6.25	5/8"	4.0
				5/8"	
16"		17.24	7.75	3/4"	4.0
				3/4"	
20"		26.52	9.2	3/4"	4.0
				3/4"	
24"		37.82	10.07	3/4"	4.0
				3/4"	
30"		58.26	11.63	3/4"	4.0
				3/4"	



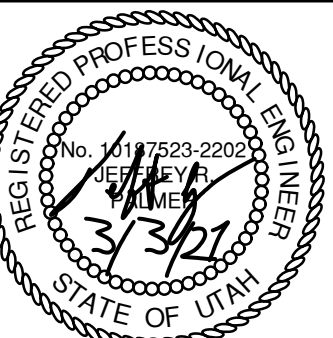
Tie-down thrust restraints

Plan 562 April 1997



TALISMAN CIVIL CONSULTANTS  
1588 SOUTH MAIN STREET SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

JWVCD HEADQUARTERS  
UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
DETAILS  
DATE SUBMITTED: 03.03.2021



SHEET NUMBER

7.4

37 OF 38

P:\TH\_N\18-024 - JWVCD Headquarters\Cadd\01 Upper Campus Beckstead\17.4 Details.dwg



Water service line loop

Plan 542 March 2001



Water main line loop

Plan 543.1 March 2011



Direct bearing thrust block

Plan 561 August 2010



Tie-down thrust restraints

Plan 562 April 1997

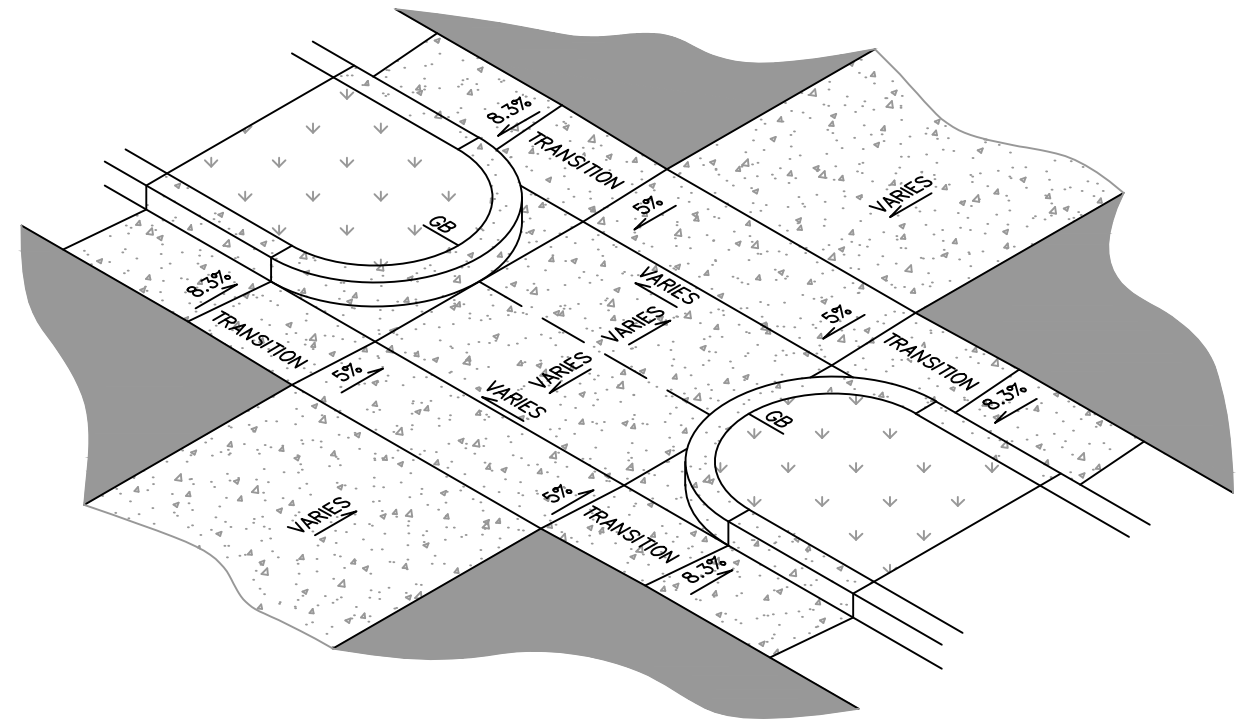


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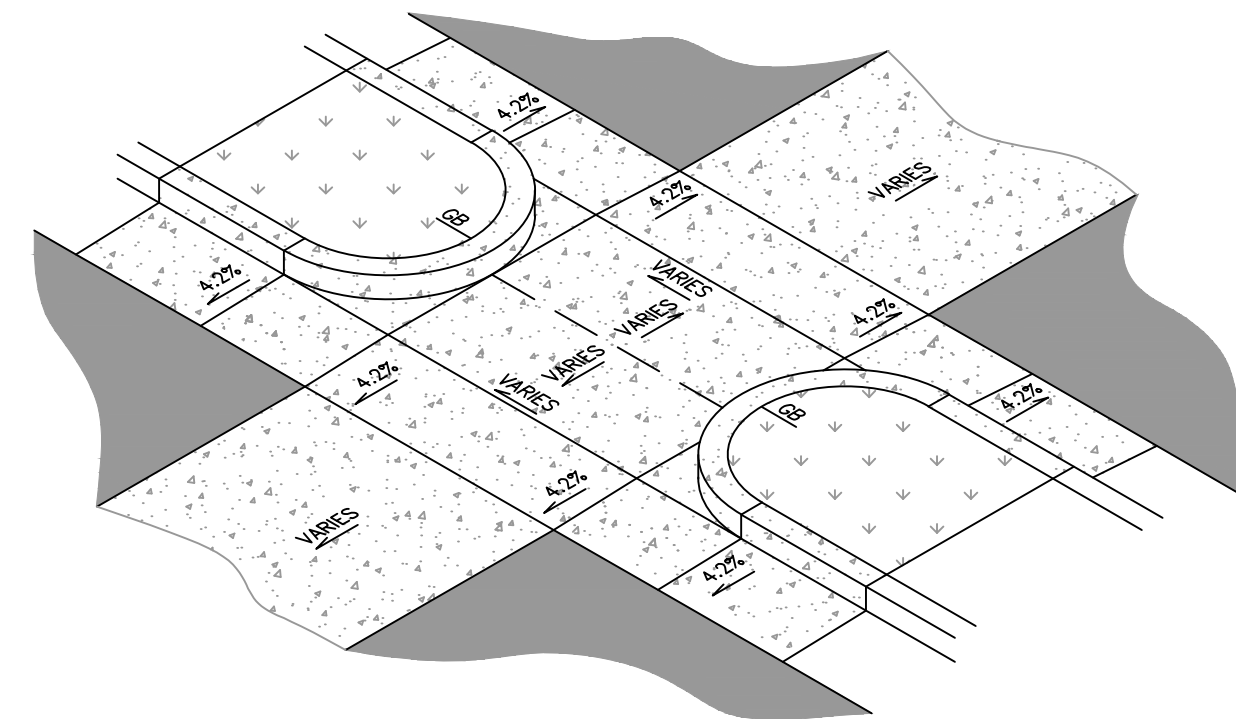
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37 OF 38



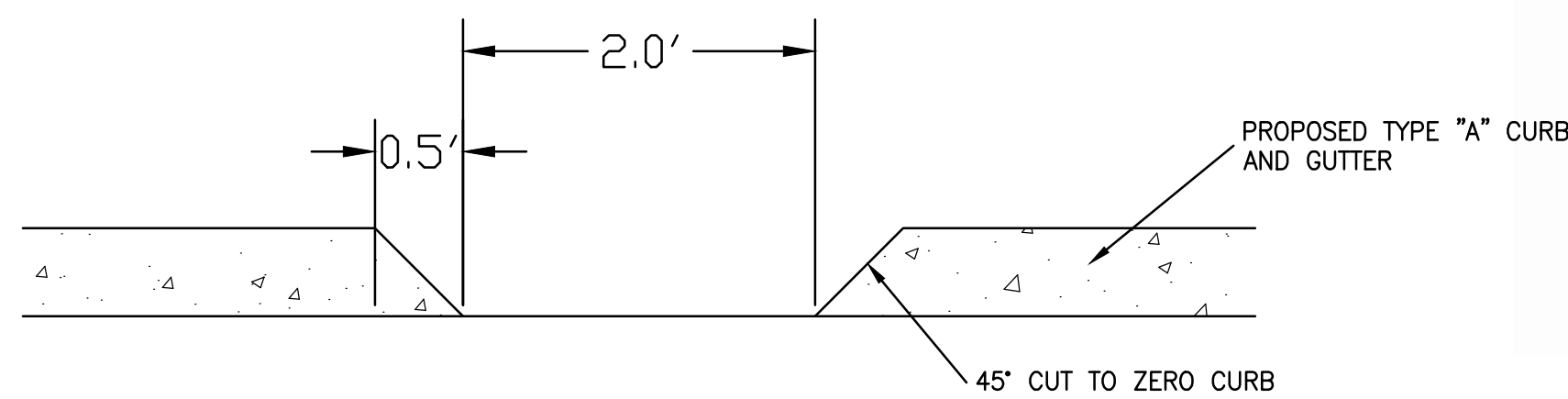


PATHWAY THROUGH ISLAND WITH CATCH GUTTER



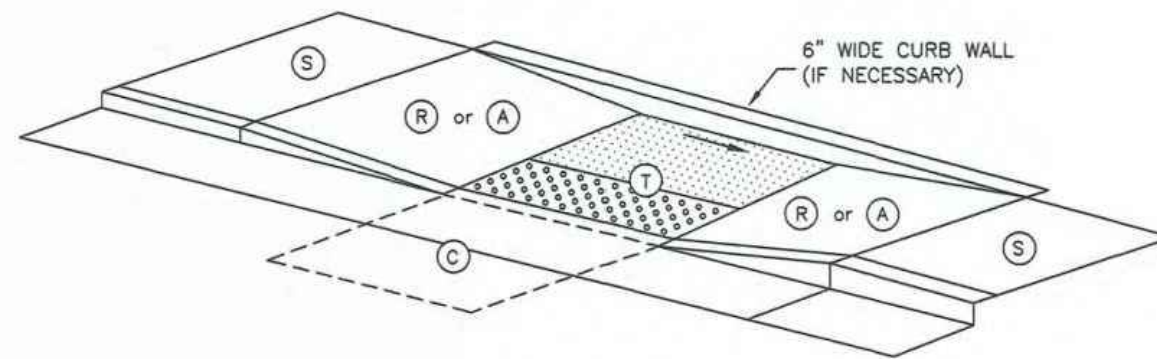
PATHWAY THROUGH ISLAND WITH TIP-OUT GUTTER

**H** ISLAND PATHWAYS  
SCALE: N.T.S.



**K** CURB CUT TO ZERO CURB  
SCALE: N.T.S.

**TURNING SPACE AT STREET LEVEL**



EXAMPLE 5

ELEMENT	DIMENSION
(R) (A)	4 FEET WIDE MINIMUM
(C) (T)	4 FEET SQUARE MINIMUM

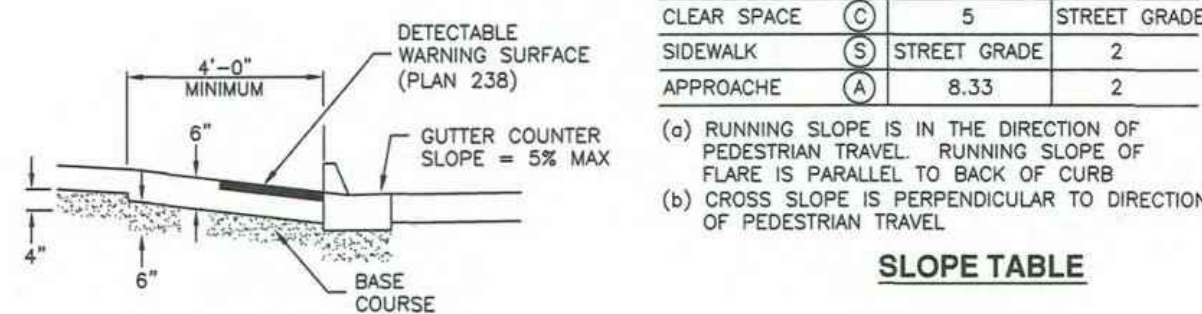
WHERE TURNING SPACE IS CONSTRAINED ON 2 SIDES, PROVIDE 5 FEET IN THE DIRECTION OF THE CROSSWALK

TABLE OF DIMENSIONS

	RUNNING SLOPE (%)	CROSS SLOPE (%)
	MAXIMUM	MAXIMUM
TURNING SPACE (T)	STREET GRADE 2	
CURB RAMP (R)	8.33	2
CLEAR SPACE (C)	5	STREET GRADE
SIDEWALK (S)	STREET GRADE 2	
APPROACH (A)	8.33	2

- (a) RUNNING SLOPE IS IN THE DIRECTION OF PEDESTRIAN TRAVEL. RUNNING SLOPE OF FLARE IS PARALLEL TO BACK OF CURB
- (b) CROSS SLOPE IS PERPENDICULAR TO DIRECTION OF PEDESTRIAN TRAVEL

SLOPE TABLE



MATERIALS

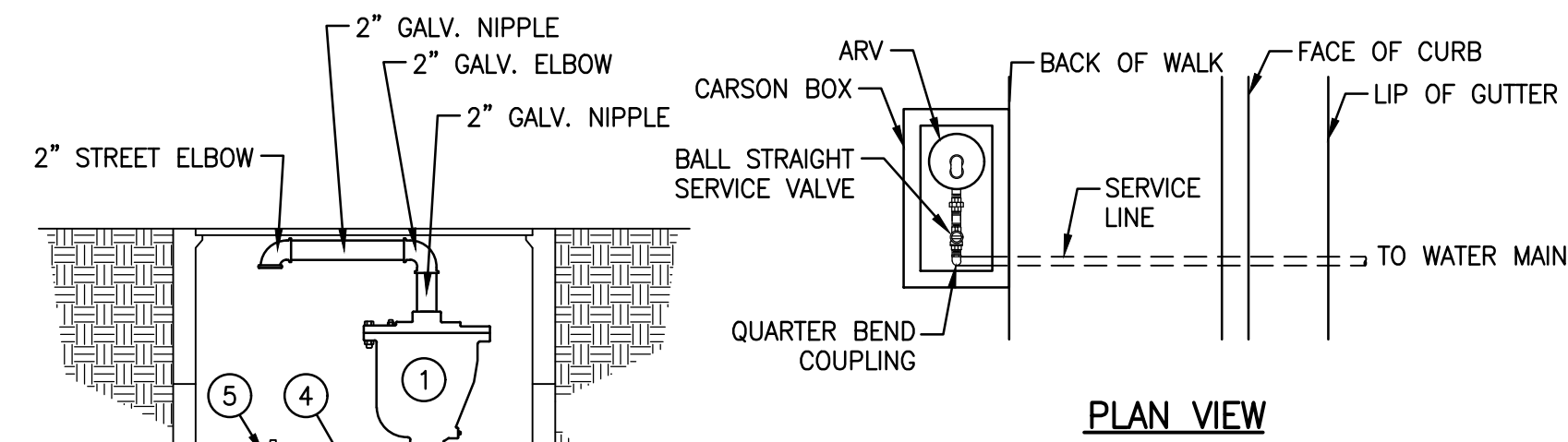


Mid-block curb cut assembly

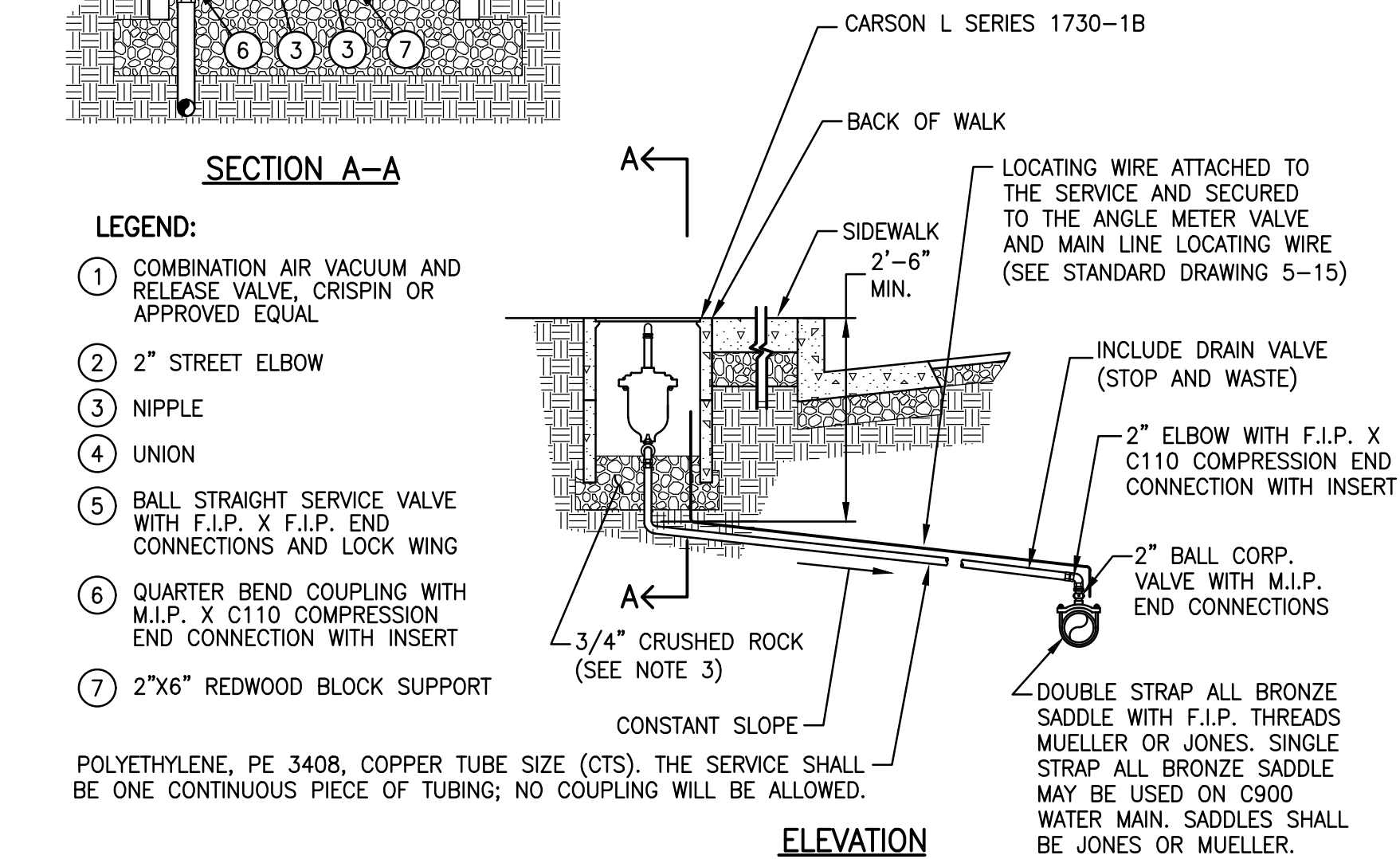
Plan  
**236.3**  
September 2011

236.3

- 3. EXECUTION**
- A. Base Course Placement: APWA Section 32 05 10. Maximum lift thickness before compaction is 8-inches when using riding equipment or 6-inches when using hand held equipment. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
  - B. Curb Modifications:
    - 1) The sloped surface created to accommodate the ramp or approach areas shall be perpendicular to the back of curb.
    - 2) No grade break shall exist between the flow-line and the turning space. Length of the curb modification abutting the turning space is 4 feet minimum.
  - C. Curb Ramp: Length not required to exceed 15 feet. Grade breaks are perpendicular to the direction of ramp run and are not permitted on the ramp or turning space surface. Sides are parallel to each other and perpendicular to the ends.
  - D. Curb Wall: Set top of curb wall equal to elevation of extended lateral lines of sidewalk.
  - E. Concrete Placement: APWA Section 03 30 10.
    - 1) Maximum length to width ratio for rectangular panel joints is 1.5 to 1. Joint spacing measured in feet not to exceed twice slab thickness measured in inches or a maximum of 15 feet.
    - 2) Install expansion joints vertical, full depth, with top of filler set flush with concrete surface. Install contraction joints vertical, 1/8-inch wide, and 1/4 of the depth of the concrete flatwork.
    - 3) Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
  - F. Clear Space: No trip hazards in the clear space.



PLAN VIEW



ELEVATION

LEGEND:

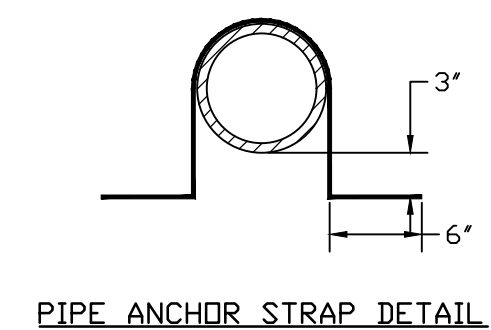
- 1 COMBINATION AIR VACUUM AND RELEASE VALVE, CRISPIN OR APPROVED EQUAL
- 2 2" STREET ELBOW
- 3 NIPPLE
- 4 UNION
- 5 BALL STRAIGHT SERVICE VALVE WITH F.I.P. X F.I.P. END CONNECTIONS AND LOCK WING
- 6 QUARTER BEND COUPLING WITH M.I.P. X C110 COMPRESSION END CONNECTION WITH INSERT
- 7 2"x6" REDWOOD BLOCK SUPPORT

POLYETHYLENE, PE 3408, COPPER TUBE SIZE (CTS). THE SERVICE SHALL BE ONE CONTINUOUS PIECE OF TUBING; NO COUPLING WILL BE ALLOWED.

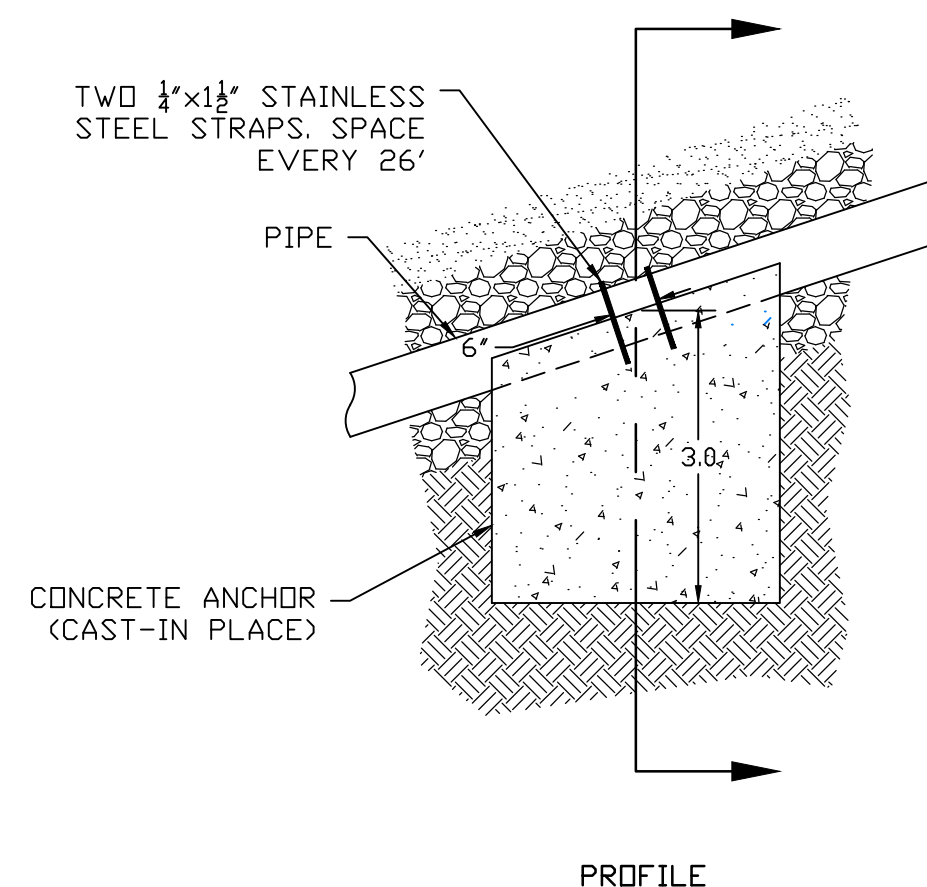
NOTES:

- 1. ALL PIPING, VALVES, AND FITTINGS SHALL BE 2" BRASS AND MUELLER UNLESS OTHERWISE SPECIFIED.
- 2. THE SERVICE LINE SHALL BE ENCASED IN SAND TO A DEPTH OF 3" BELOW AND 6" ABOVE THE PIPE. THE SAND SHALL HAVE A MINIMUM SAND EQUIVALENCY OF 30.
- 3. 3/4" CRUSHED ROCK SHALL BE INSTALLED TO A DEPTH OF 4" BELOW THE BOX AND WITHIN THE BOX TO SUPPORT THE BOX. THE LENGTH OF PE SERVICE PIPING WITHIN THE LIMITS OF THE CRUSHED ROCK SHALL BE WRAPPED WITH 10 MIL VINYL TAPE.

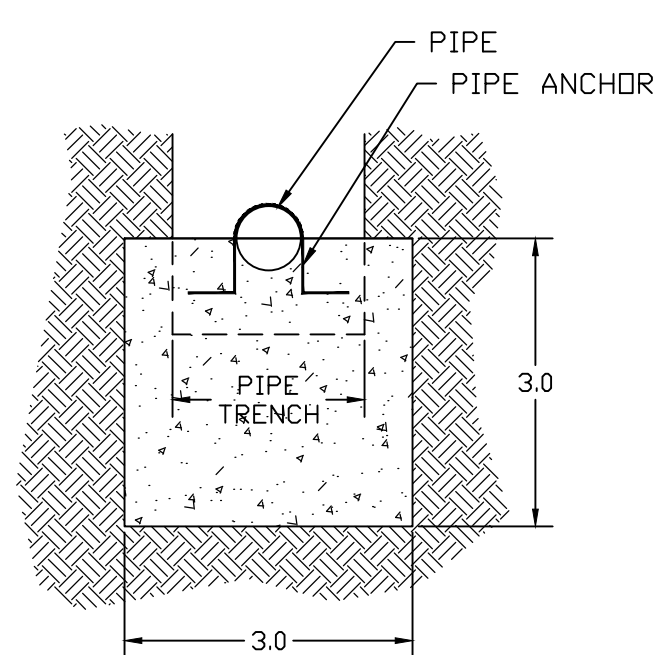
**J** COMBINATION AIR VALVE DETAIL  
SCALE: N.T.S.



PIPE ANCHOR STRAP DETAIL



PROFILE



SECTION

**M** PIPE ANCHOR DETAIL  
SCALE: N.T.S.

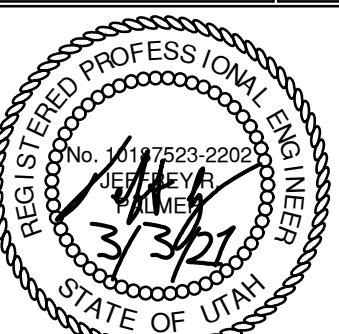


1588 SOUTH MAIN STREET  
SUITE 200  
SALT LAKE CITY, UT 84115  
801.743.1300

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UPPER CAMPUS SITE REPAIRS & IMPROVEMENTS  
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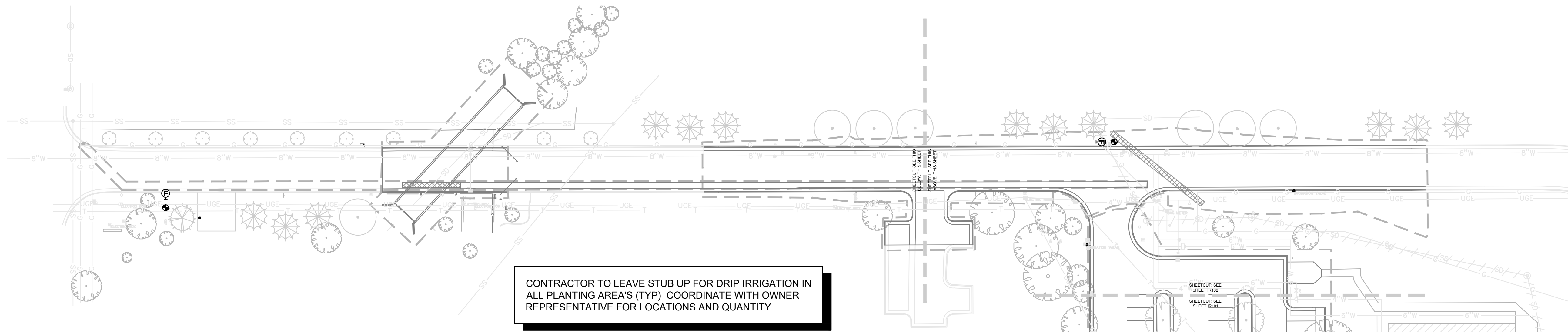
DATE SUBMITTED: 03.03.2021

TCC JOB NUMBER: 18-024



SHEET NUMBER  
**7.5**





CONTRACTOR TO LEAVE STUB UP FOR DRIP IRRIGATION IN ALL PLANTING AREA'S (TYP) COORDINATE WITH OWNER REPRESENTATIVE FOR LOCATIONS AND QUANTITY

**NOTES:**

- REUSE EXISTING IRRIGATION MAINLINE. VERIFY CONNECTIONS AND REPAIR AND REPLACE AS NECESSARY.**
- CONTRACTOR TO ENSURE ANY CHANGES TO THE IRRIGATION SYSTEM WILL NOT EFFECT IRRIGATION TO LANDSCAPE AREAS OUTSIDE THE LIMIT OF WORK.**

**IRRIGATION NOTES**

- CONTRACTOR SHALL VERIFY THAT THE WORK OF OTHER CONTRACTORS/TRADES IS SUFFICIENTLY COMPLETE TO ALLOW COMMENCEMENT OF IRRIGATION INSTALLATION PRIOR TO BEGINNING WORK.
- CONTRACTOR SHALL COORDINATE INSTALLATION OF IRRIGATION SLEEVING WITH OTHER CONTRACTORS PRIOR TO CONSTRUCTION OF PAVEMENT, WALKS, AND OTHER HARDSCAPE FEATURES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR IRRIGATION COVERAGE TO PLANT MATERIAL.
- PIPING, VALVES, CONTROLS, OUTLET DEVICES (SPRINKLERS, BUBBLERS, ETC.), AND RELATED MATERIAL SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS, ASTM STANDARDS, THE IRRIGATION SYSTEM SPECIFICATIONS AND DETAILS AND SHALL BE LOCATED AS SHOWN ON THE DETAILS. CONTRACTOR SHALL REPORT DISCREPANCIES BETWEEN ACTUAL AND PROPOSED SITE CONDITIONS TO THE OWNER'S REPRESENTATIVE. DO NOT PROCEED WITH WORK UNTIL SAID DISCREPANCIES ARE RESOLVED.
- THERE SHALL BE NO IRRIGATION SUBSTITUTIONS OR TYPE, SIZE, OR QUANTITY DEVIATIONS FROM THE IRRIGATION PLANS WITHOUT PRIOR APPROVAL FROM THE OWNER'S REPRESENTATIVE.
- THE MAINLINE AND LATERAL PIPE, VALVES, ETC. ARE SHOWN SCHEMATICALLY AND SHALL BE INSTALLED WITHIN THE LANDSCAPE AREAS. INSTALL VALVES AND VALVE BOXES IN SHRUB AREAS ONLY, NOT IN TURF. LATERAL PIPE SIZES MAY NEED TO BE RESIZED DEPENDING ON FINAL MAINLINE LOCATION. SEE TABLE FOR PIPE SIZING.
- CONTRACTOR SHALL COORDINATE IRRIGATION INSTALLATION WITH THE WORK OF OTHER CONTRACTORS AND PROTECT THE WORK OF OTHER CONTRACTORS/TRADES. CONTRACTOR IS RESPONSIBLE FOR DAMAGES RESULTING FROM HIS ACTIONS.
- CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND UTILITIES PRIOR TO INSTALLATION.
- CONTRACTOR SHALL FIELD LOCATE EXISTING IRRIGATION COMPONENTS TO BE RETAINED, SALVAGED, OR RELOCATED.
- IF IT BECOMES NECESSARY TO RELOCATE EXISTING SPRINKLER HEADS, VALVES, PIPING, ETC. DUE TO CONSTRUCTION INTERFERENCE, THE CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FROM THE OWNER'S REPRESENTATIVE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING (IN KIND OR AS APPROVED BY THE OWNER'S REPRESENTATIVE) EXISTING IRRIGATION EQUIPMENT DISTURBED AND/OR DAMAGED DURING CONSTRUCTION AND WILL ENSURE THE EXISTING SYSTEM IS FULLY OPERATIONAL AND PROVIDES HEAD TO HEAD COVER.
- THE POINTS OF CONNECTION (POC) IS SPECIFIED ON THE IRRIGATION PLANS. THE CONTRACTOR SHALL COORDINATE POC AND VERIFY COMPLIANCE WITH APPLICABLE LOCAL PLUMBING CODES.
- THE IRRIGATION STANDARDS AND SYSTEM ARE DESIGNED FOR A STATIC PRESSURE OF 140 PSI. CONTRACTOR SHALL PROVIDE IN WRITING TO THE OWNER'S REPRESENTATIVE A STATIC PRESSURE READING BEFORE STARTING WORK. CONTRACTOR SHALL FIELD VERIFY PRESSURE AT POC LOCATION PRIOR TO ORDERING MATERIALS OR STARTING IRRIGATION INSTALLATION AND NOTIFY OWNER'S REPRESENTATIVE OF DIFFERENCE FROM STATED PRESSURE. IF THE STATIC PRESSURE IS MORE OR LESS THAN 10%, NOTIFY OWNER BEFORE PROCEEDING WITH WORK. IF CONTRACTOR FAILS TO NOTIFY OWNER'S REPRESENTATIVE THE CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR SYSTEM ALTERATIONS AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
- LOW-VOLTAGE (24 VOLT) REMOTE CONTROL WIRING FROM THE CONTROLLER TO THE SOLENOID VALVES WILL BE UL APPROVED DIRECT BURIAL SINGLE-STRAND COPPER WIRE. AWG-UF-600 VOLT COMMON WIRE TO BE WHITE. WIRE SHALL BE NO SMALLER THAN 14 GAUGE. RUNS OF WIRE TO BE CONTINUOUS WITH NO SPLICES (EXCEPT IN THE VALVE BOXES WHERE VALVES ARE LOCATED). RUNS SHALL NOT EXCEED 800 FEET IN LENGTH FOR 14 GAUGE AND 1500 FEET IN LENGTH FOR 12 GAUGE.
- ELECTRICAL CONNECTIONS SHALL BE MADE AT THE REMOTE CONTROL VALVE BOXES AND CONTROLLER ENCLOSURES.
- CONNECTIONS TO REMOTE CONTROL VALVES AND SPLICES SHALL BE MADE WITH DBY-6 DIRECT BURY SPLICE KITS AS MANUFACTURED BY RAIN BIRD PENNITE CONNECTORS OR APPROVED EQUAL UNLESS OTHERWISE NOTED.
- PIPING TO BE SCHEDULE 40 PVC WITH SOLVENT WELDED JOINTS UNLESS OTHERWISE NOTED. THE IRRIGATION MAINLINE SHALL BE SCHEDULE 40 PVC PIPE WITH SCHEDULE 80 FITTINGS UNLESS OTHERWISE NOTED. INSTALL CONTROL WIRING ADJACENT TO THE MAINLINE.
- PVC SOLVENT WELD FITTINGS SHALL BE LASCO, SPEARS, DURA, OR APPROVED EQUAL. PRIME SOLVENT WELD FITTINGS BEFORE GLUING.
- BACKFILL TRENCHES WITH CLEAN FILL FREE OF DEBRIS.
- MAIN LINE PIPING AND LATERAL PIPING MAY BE PLACED IN SAME TRENCH WHEN POSSIBLE AS DETAILED.
- THREADED JOINTS SHALL BE WRAPPED WITH TEFLON TAPE UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER. USE LIQUID TEFLON ON METAL PIPE THREADS ONLY.
- VALVE COVERS, VAULT BOXES, ETC. SHALL BE PLACED SO THE EDGES ARE PARALLEL OR PERPENDICULAR TO ADJACENT HARD EDGES. TOP OF BOXES ARE TO BE FLUSH WITH GRADE. TOP SURFACE OF BOXES SHALL BE INSTALLED SO THAT A SMOOTH SURFACE IS CREATED IN RELATION TO EXISTING GRADES.
- VALVE BOXES SHALL BE PURPLE INDICATING THAT WATER IS NON-POTABLE.
- FLUSHING OF LINES PRIOR TO INSTALLATION OF NOZZLES IS REQUIRED.
- SLEEVING TO BE INSTALLED WHEREVER PIPES RUN UNDER HARDSCAPE FEATURES SUCH AS SIDEWALKS, DRIVEWAYS, STREETS, ETC.
- NO PVC PIPING SHALL BE LOCATED UNDER TREE ROOTBALLS.
- THE CONTRACTOR SHALL REVISE EXISTING IRRIGATION AS NEEDED TO PROVIDE 100% COVERAGE TO THE EXISTING IRRIGATED LANDSCAPE.
- CONTRACTOR SHALL COMPLETE INITIAL PUNCH LIST ITEMS AND OBTAIN APPROVAL FROM THE OWNER'S REPRESENTATIVE PRIOR TO SUBSTANTIAL COMPLETION.
- PRIOR TO THE ACCEPTANCE OF IRRIGATION SYSTEM BY THE OWNER'S REPRESENTATIVE, A PERSON QUALIFIED TO REPRESENT THE IRRIGATION CONTRACTOR SHALL DEMONSTRATE THE SYSTEM AND PROVE ITS PERFORMANCE, AND WORK SHALL HAVE BEEN COMPLETED, TESTED, ADJUSTED, AND PLACED IN OPERATION.
- CONTRACTOR SHALL PROVIDE THE OWNER'S REPRESENTATIVE WITH SPARE ITEMS REQUIRED IN THE SPECIAL PROVISIONS UPON COMPLETION OF THE PROJECT.

**IRRIGATION SCHEDULE**

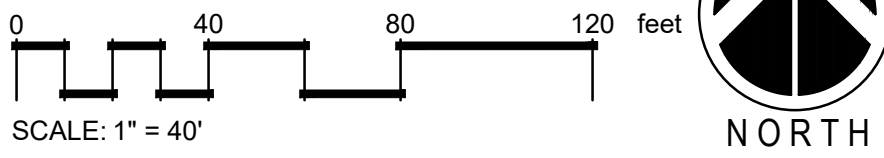
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	FLUSH VALVE 1/2" PVC FLUSH VALVE WITH 24" OF FLEXIBLE DRIP TUBING COILED IN 12" VALVE BOX
	RAIN BIRD PEB 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.
	PIPE SLEEVE: PVC CLASS 200 SDR 21

**Pipe Schedule**  
Maximum Flow Rate - SCH. 40 PVC Plastic Pipe

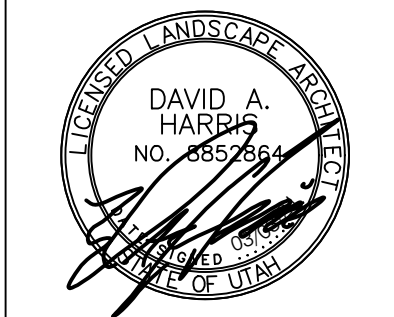
Pipe Size	Maximum Flow (GPM)
1/2" NOT ALLOWED	
3/4"	5-7
1"	10-12
1 1/4"	16-22
1 1/2"	26-30
2"	50
2 1/2"	70

Max flow on 1/2" poly tubing is 5gpm or a max length of no more than 250 feet without a 3/4" pvc lateral

IRRIGATION VALVE AND SLEEVING LAYOUT



**epg** Sustainable Solutions. Thriving Environments.  
6949 South High Tech Drive  
Midvale, Utah 84047  
CONTACT:  
DAVE HARRIS, PLA  
801.746.4457  
epgllc.design  
dharris@epgllc.co



**JORDAN VALLEY WATER CONSERVANCY DISTRICT**

**TALISMAN CIVIL CONSULTANTS**

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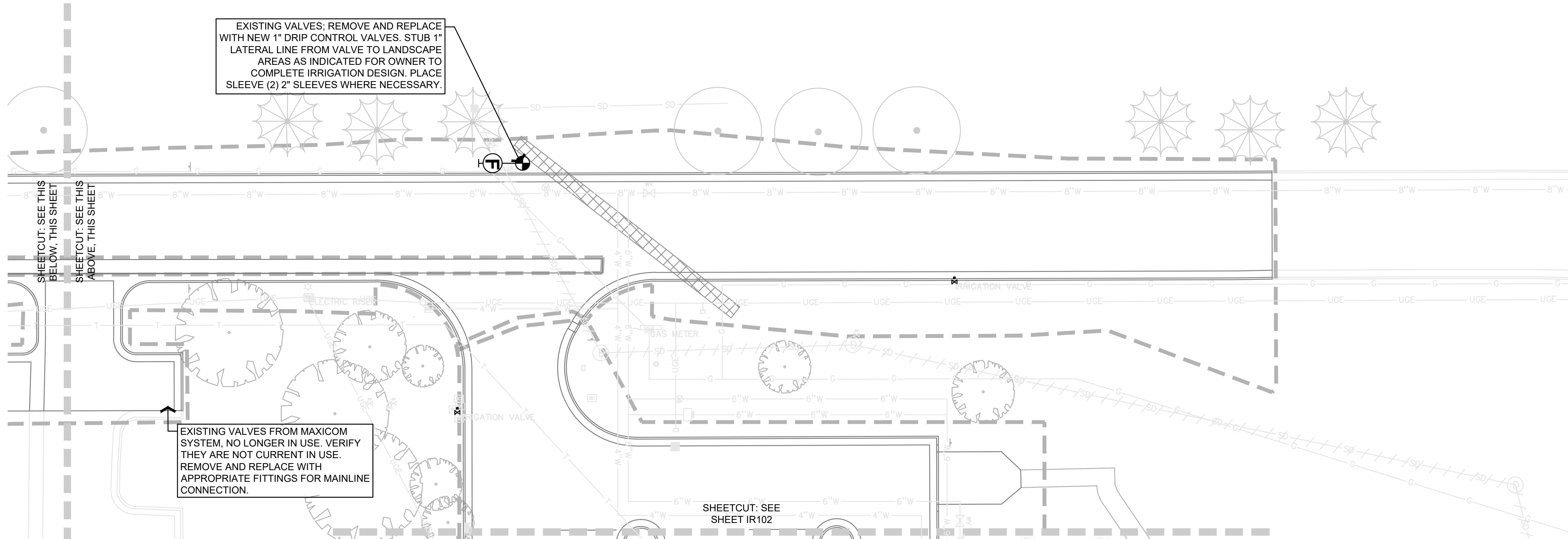
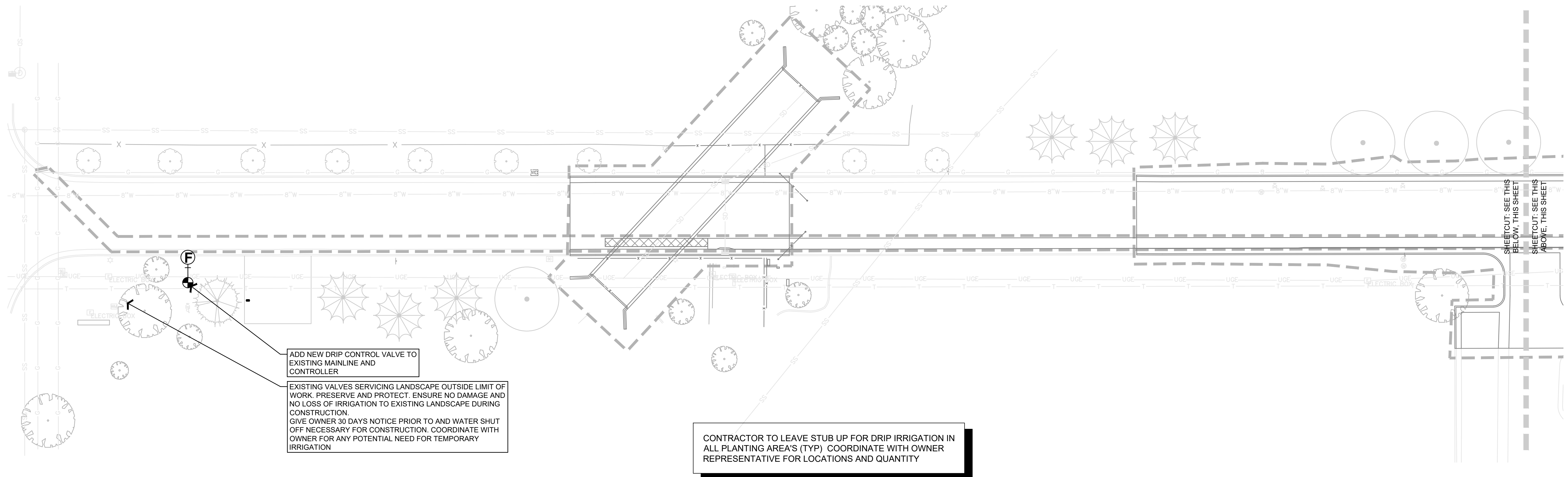
JORDAN VALLEY WATER CONSERVANCY DISTRICT  
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REV	DATE	DESCRIPTION

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DRAWN: LS  
CHECKED: DH  
ISSUE DATE: 03.03.2021  
PROJ #: TALISM-001

Sheet Name:  
**IRRIGATION PLAN OVERVIEW**  
Sheet Number:  
**IR001**





**IRRIGATION SCHEDULE**

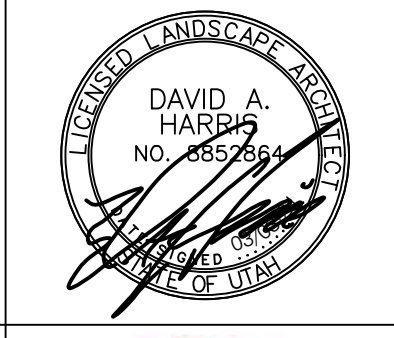
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	RAIN BIRD PEB 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.
	PIPE SLEEVE: PVC CLASS 200 SDR 21
	SLEEWING: CLASS 200 PVC ONE 6", ONE 4", ONE 2" SLEEVE ONE 4", ONE 2" SLEEVE ONE 2" SLEEVE
	Valve Callout Valve Number Valve Flow Valve Size

**Pipe Schedule**  
Maximum Flow Rate - SCH. 40 PVC Plastic Pipe

Pipe Size	Maximum Flow (GPM)
1/2"	NOT ALLOWED
3/4"	5-7
1"	10-12
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Max flow on 1/2" poly tubing is 5gpm or a max length of no more than 250 feet without a 3/4" pvc lateral

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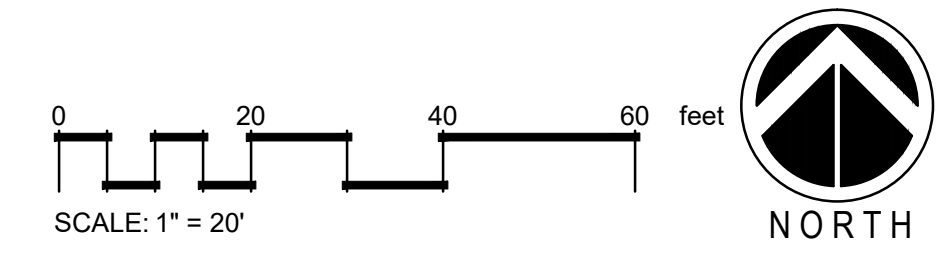
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REV	DATE	DESCRIPTION

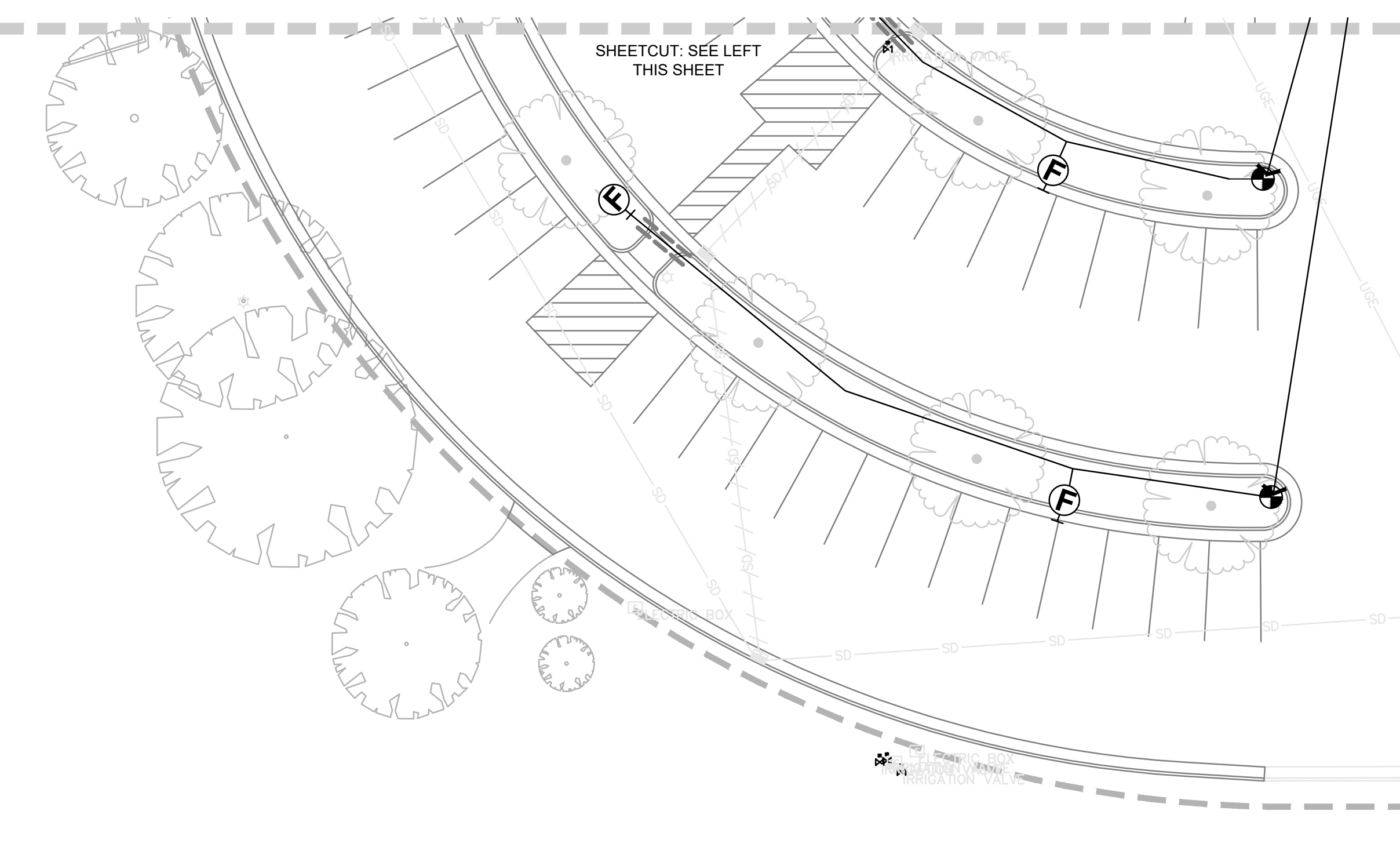
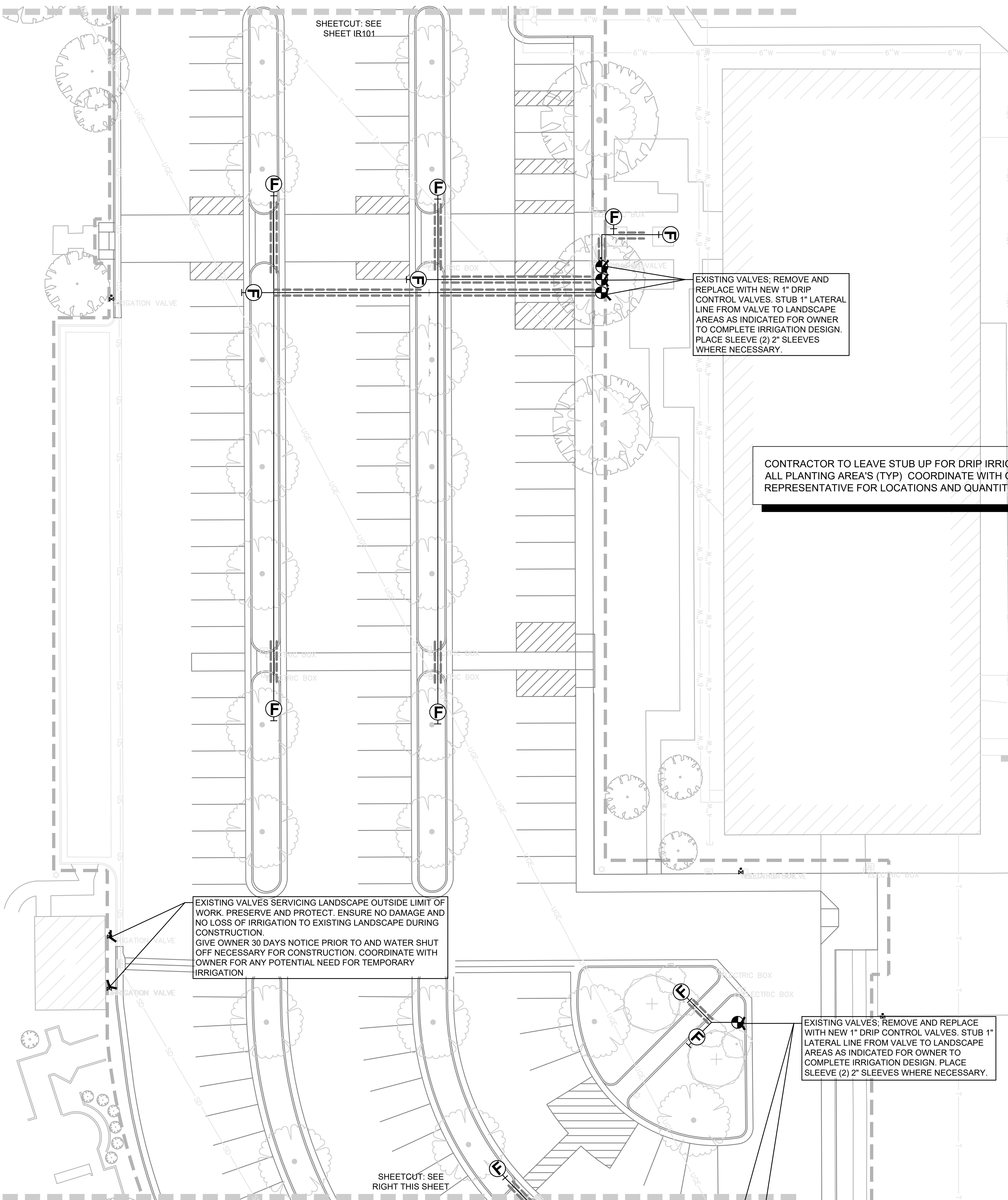
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ISSUE DATE: 03.03.2021  
PROJ #: TALISM-001

Sheet Name:  
**IRRIGATION PLAN**

Sheet Number:  
**IR101**







**IRRIGATION SCHEDULE**

**SYMBOL**      **MANUFACTURER/MODEL/DESCRIPTION**

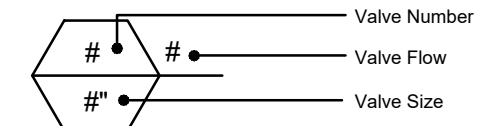
**F**      FLUSH VALVE  
1/2" PVC FLUSH VALVE WITH 24" OF FLEXIBLE DRIP TUBING COILED IN 12" VALVE BOX

**SYMBOL**      **MANUFACTURER/MODEL/DESCRIPTION**

**R**      RAIN BIRD PEB  
1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.

===== PIPE SLEEVE: PVC CLASS 200 SDR 21

③ SLEEVE: CLASS 200 PVC  
ONE 6", ONE 4", ONE 2" SLEEVE  
② ONE 4", ONE 2" SLEEVE  
① ONE 2" SLEEVE



**Pipe Schedule**

Maximum Flow Rate - SCH. 40 PVC Plastic Pipe

Pipe Size	Maximum Flow (GPM)
1/2"	NOT ALLOWED
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Max flow on 1/2" poly tubing is 5gpm or a max length of no more than 250 feet without a 3/4" pvc lateral

**CONTRACTOR TO LEAVE STUB UP FOR DRIP IRRIGATION IN ALL PLANTING AREA'S (TYP) COORDINATE WITH OWNER REPRESENTATIVE FOR LOCATIONS AND QUANTITY**

EXISTING VALVES SERVICING LANDSCAPE OUTSIDE LIMIT OF WORK. PRESERVE AND PROTECT. ENSURE NO DAMAGE AND NO LOSS OF IRRIGATION TO EXISTING LANDSCAPE DURING CONSTRUCTION. GIVE OWNER 30 DAYS NOTICE PRIOR TO AND WATER SHUT OFF NECESSARY FOR CONSTRUCTION. COORDINATE WITH OWNER FOR ANY POTENTIAL NEED FOR TEMPORARY IRRIGATION

EXISTING VALVES: REMOVE AND REPLACE WITH NEW 1" DRIP CONTROL VALVES. STUB 1" LATERAL LINE FROM VALVE TO LANDSCAPE AREAS AS INDICATED FOR OWNER TO COMPLETE IRRIGATION DESIGN. PLACE SLEEVE (2) 2" SLEEVES WHERE NECESSARY.

6949 South High Tech Drive  
Midvale, Utah 84047

CONTACT:  
DAVE HARRIS, PLA  
801.746.4457  
epgllc.design  
dharris@epgllc.co

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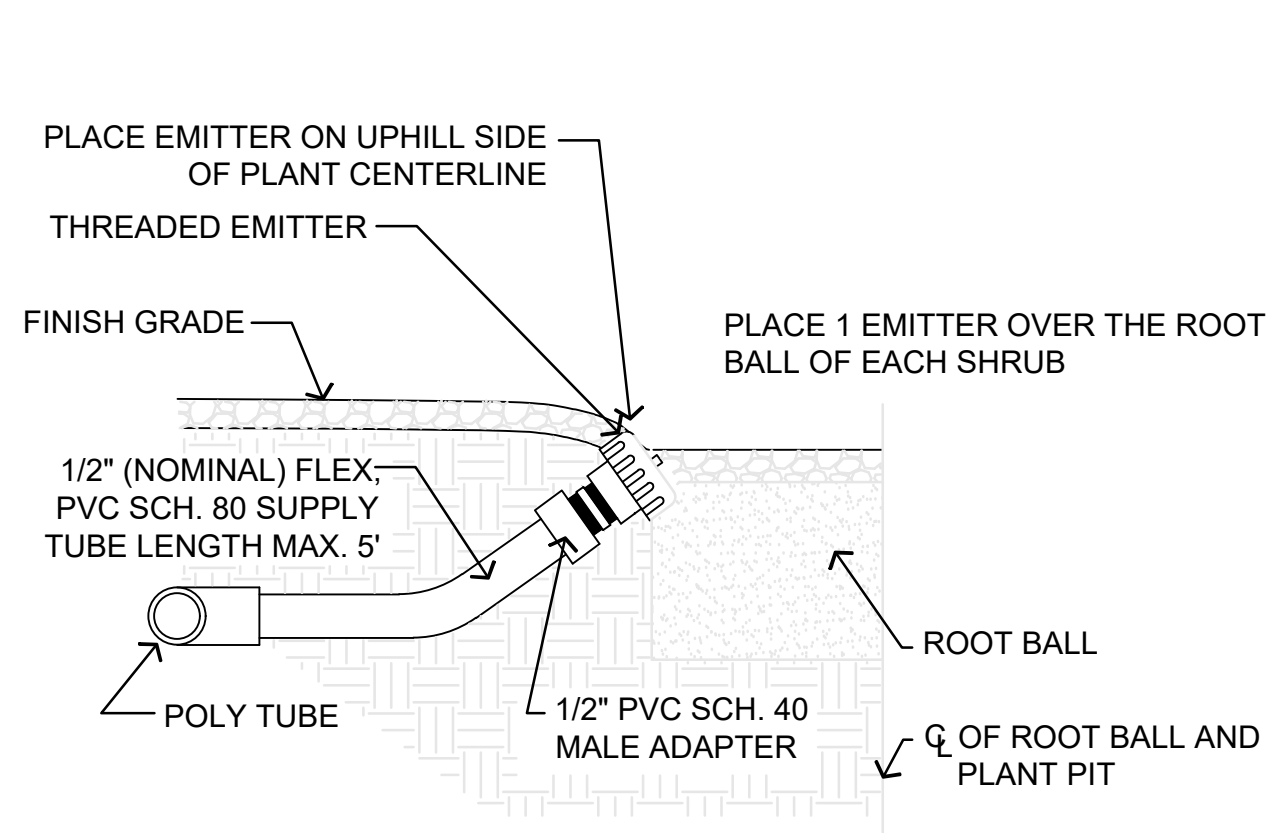
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ISSUE DATE: 03.03.2021  
PROJ #: TALISM-001

Sheet Name:  
**IRRIGATION PLAN**

Sheet Number:  
**IR102**



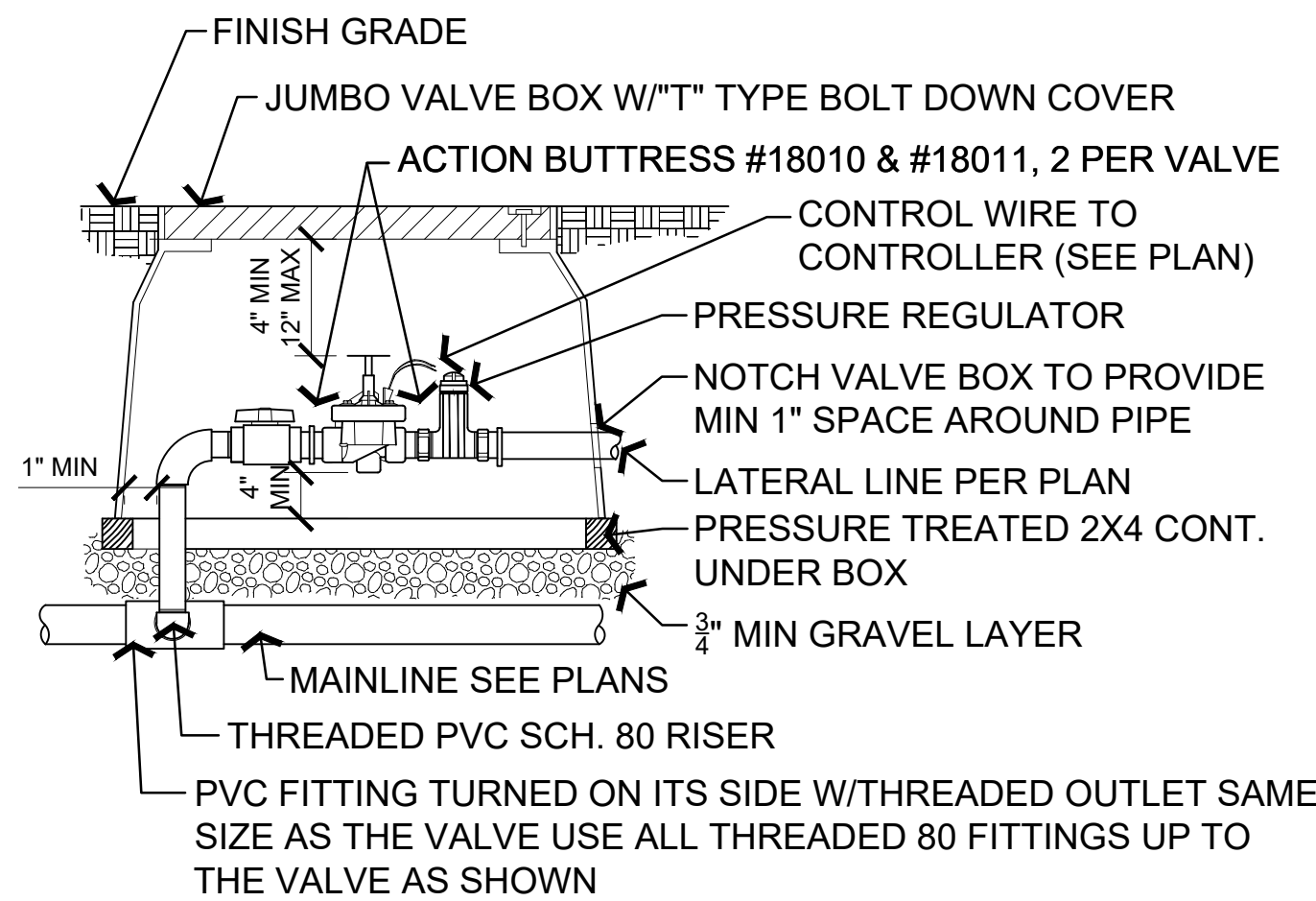


- NOTES:
1. PROVIDE ONE THREADED EMITTER PER SHRUB, SEE IRRIGATION LEGEND.
  2. POLY TUBING MAX LENGTH PER IRRIGATION SCHEDULE.
  3. MAX GPM PER EACH POLY LATER PER IRRIGATION SCHEDULE.
  4. EACH THREADED EMITTER SERVES AS FLUSH VALVE.

**1 SHRUB EMITTER DETAIL**

6" = 1'-0"

P-CO-USA-02

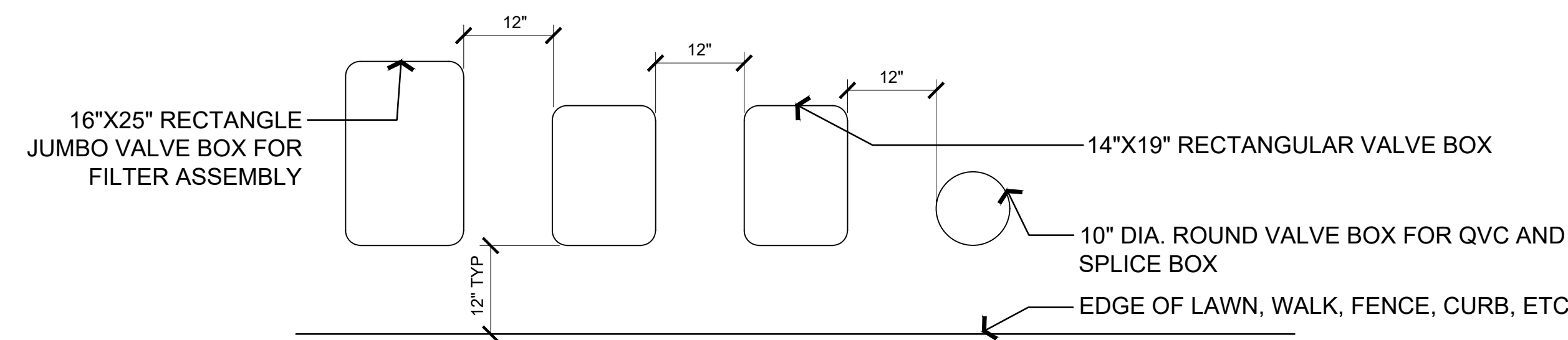


- NOTE:
1. MAINTAIN 6" MIN CLEARANCE BETWEEN VALVES IN (2) VALVES ARE PLACED IN ONE BOX
  2. CONTRACTOR TO INSTALL ONE ADDITIONAL WIRE TO EACH VALVE FROM CONTROLLER 2' MIN EXCESS WIRE LOOP IN VALVE BOX USE WATERPROOF CONNECTORS PER SPECS

**5 DRIP VALVE CONTROL ZONE KIT / ASSEMBLY**

3/4" = 1'-0"

P-CO-CIB-32

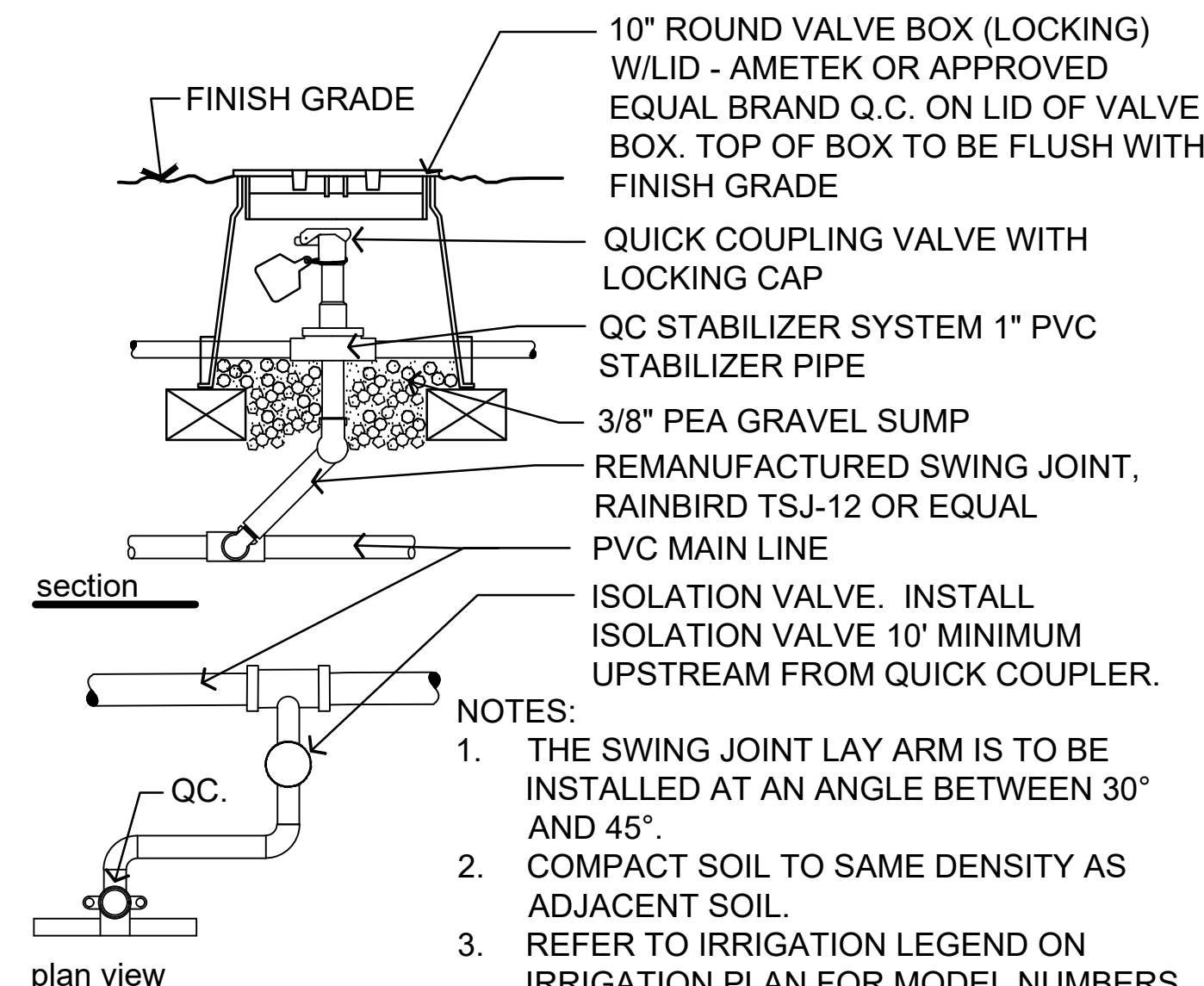


- NOTES:
1. CENTER VALVE BOX OVER REMOTE CONTROL VALVE TO FACILITATE SERVICING VALVE.
  2. SET BOXES 1" ABOVE FINISH GRADE OR MULCH COVER IN GROUND COVER/SHRUB AREA AND FLUSH WITH FINISH GRADE IN TURF AREA
  3. SET RCV AND VALVE BOX ASSEMBLY IN GROUND COVER/SHRUB AREA WHERE POSSIBLE. INSTALL IN LAWN ONLY IF GROUND COVER DOES NOT EXIST ADJACENT TO LAWN.
  4. SET BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE OF LAWN, WALK, FENCE, CURB, ETC.
  5. AVOID HEAVILY COMPACTING SOIL AROUND VALVE BOXES TO PREVENT COLLAPSE AND DEFORMATION OF VALVE BOX SIDES.
  6. INSTALL EXTENSION BY VALVE BOX MANUFACTURER AS REQUIRED TO COMPLETELY ENCLOSE ASSEMBLY FOR EASY ACCESS.

**8 VALVE BOX INSTALLATION**

3/4" = 1'-0"

P-CO-CIB-38

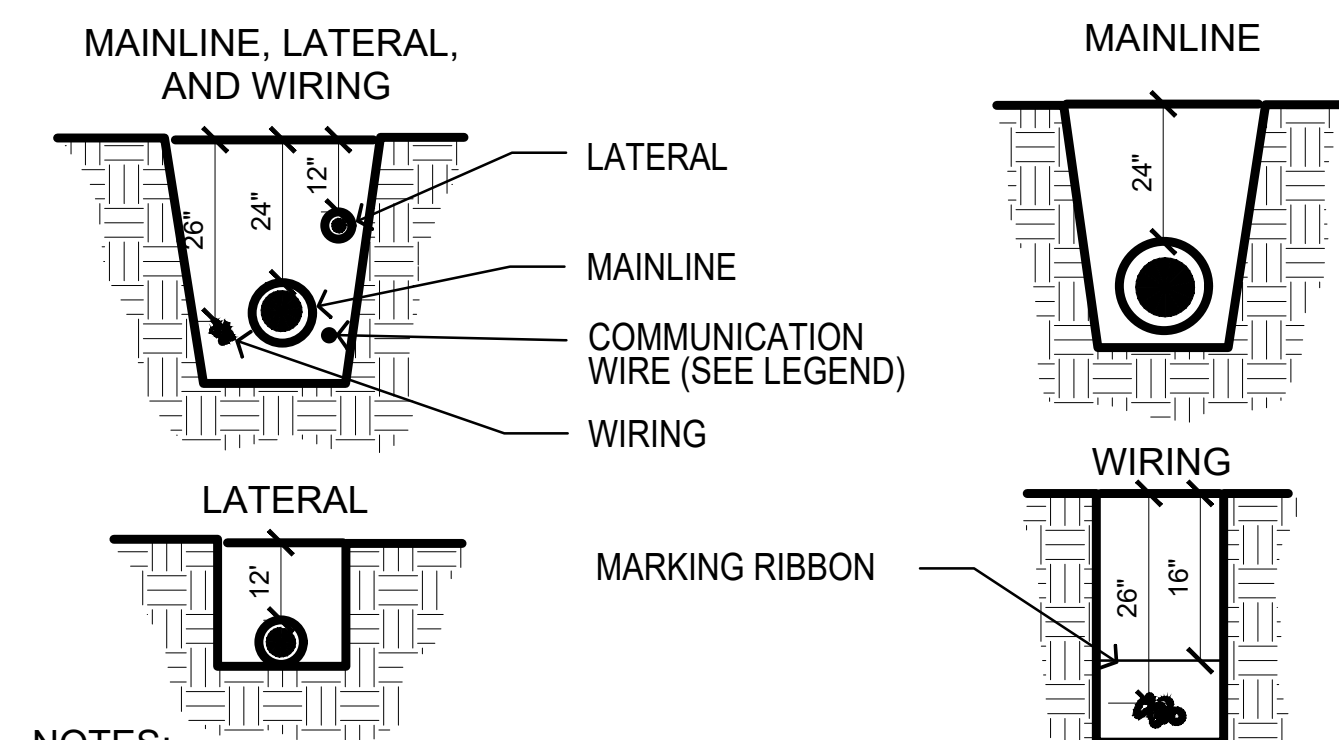


- NOTES:
1. THE SWING JOINT LAY ARM IS TO BE INSTALLED AT AN ANGLE BETWEEN 30° AND 45°
  2. COMPACT SOIL TO SAME DENSITY AS ADJACENT SOIL.
  3. REFER TO IRRIGATION LEGEND ON IRRIGATION PLAN FOR MODEL NUMBERS, DESCRIPTIONS, AND NOTES.

**2 QUICK COUPLER**

1 1/2" = 1'-0"

P-CO-USA-05

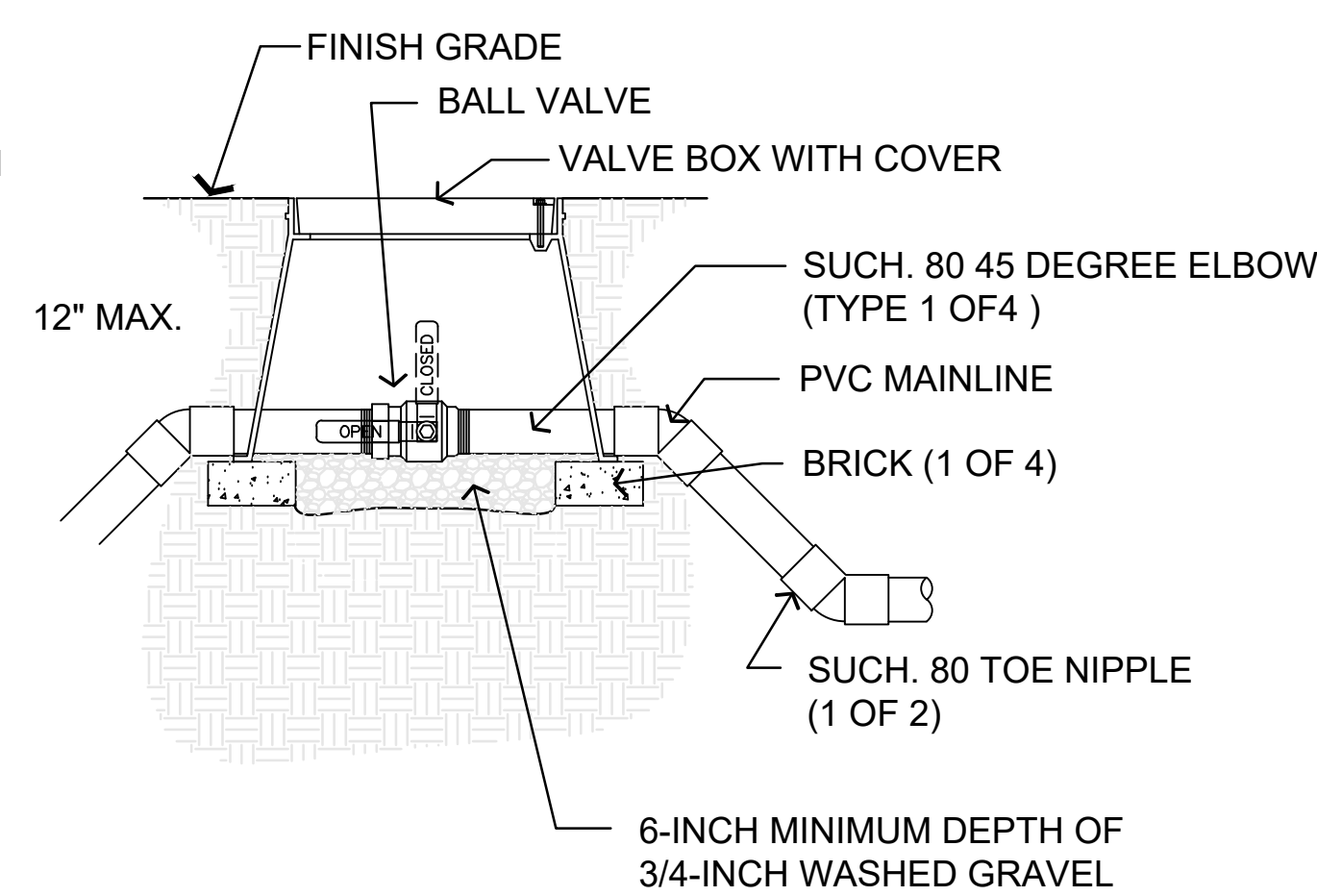


- NOTES:
1. TAPE AND BUNDLE WIRING AT 10' INTERVALS.
  2. ALL MAINLINE PIPING TO BE INSTALLED PER SPECIFICATIONS.
  3. ROUTE TRENCH MIN. 6' FROM ANY TREE PLANTING AND OUTSIDE THE DRIP LINE OF EXISTING TREES.
  4. TIE A 20" LOOP IN ALL WIRING AT CHANGES OF DIRECTIONS GREATER THAN 30 DEGREES.
  5. BACK FILL MATERIAL TO BE FREE OF ALL DEBRIS AND ROCKS LARGER THAN 3/4-INCH IN DIA.
  6. REFER TO IRRIGATION LEGEND.

**6 TRENCHING DETAIL**

3/8" = 1'-0"

P-CO-USA-09

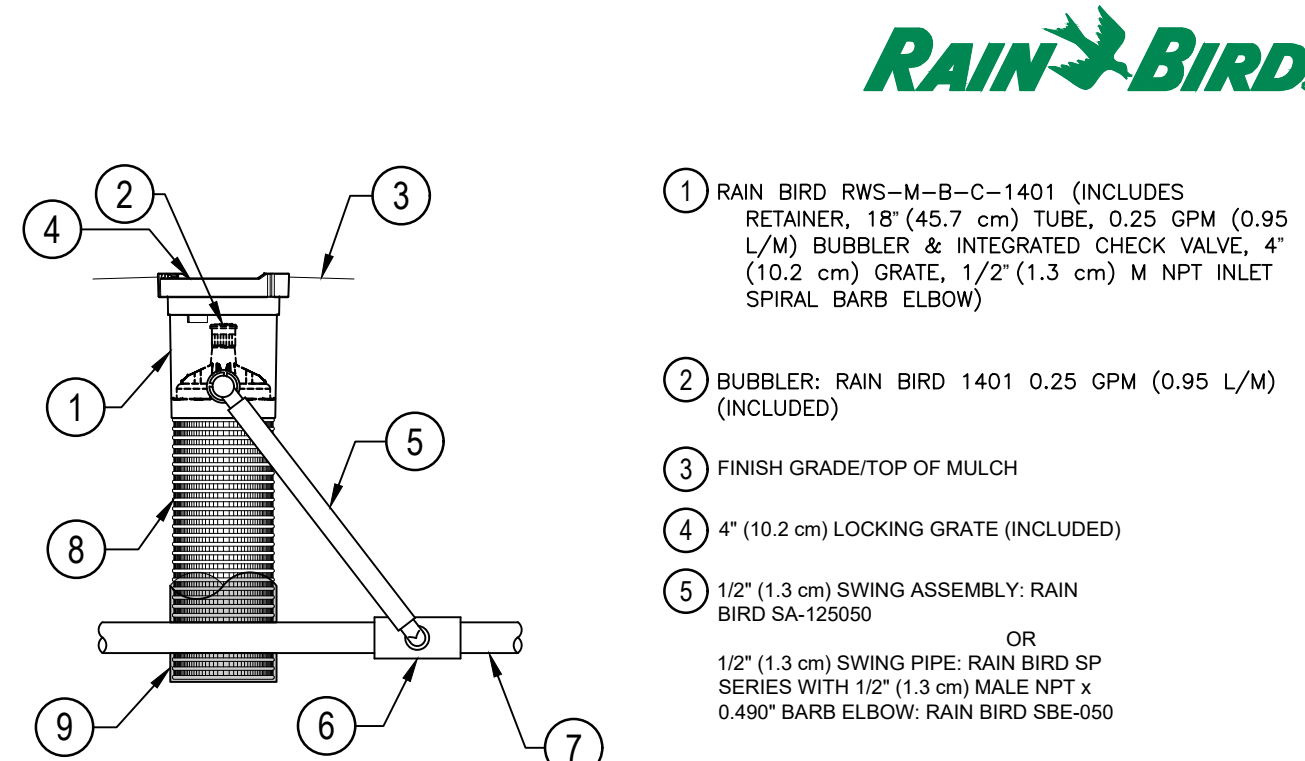


- NOTES:
1. NOMINAL SIZE OF BALL VALVE TO MATCH NOMINAL MAINLINE SIZE.

**3 BALL VALVE**

1 1/2" = 1'-0"

P-CO-USA-01



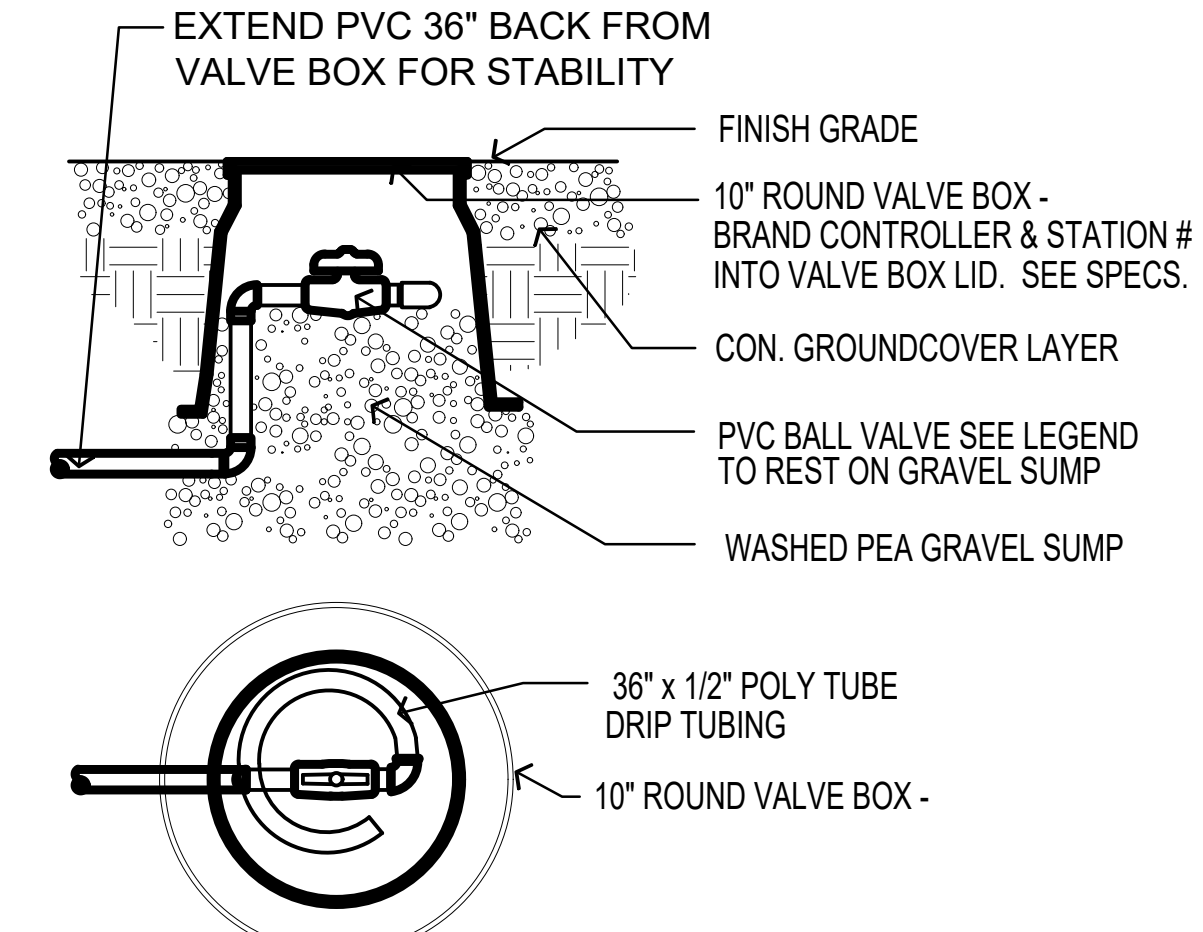
1. RAIN BIRD RWS-M-B-C-1401 (INCLUDES RETAINER, 18" (45.7 cm) TUBE, 0.25 GPM (0.95 L/M) BUBBLER & INTEGRATED CHECK VALVE, 4" (10.2 cm) GRATE, 1/2" (1.3 cm) M NPT INLET SPIRAL BARB ELBOW)
2. BUBBLER: RAIN BIRD 1401 0.25 GPM (0.95 L/M) (INCLUDED)
3. FINISH GRADE/TOP OF MULCH
4. 4" (10.2 cm) LOCKING GRATE (INCLUDED)
5. 1/2" (1.3 cm) SWING ASSEMBLY: RAIN BIRD SA-125050 OR 1/2" (1.3 cm) SWING PIPE: RAIN BIRD SP SERIES WITH 1/2" (1.3 cm) MALE NPT x 0.490" BARB ELBOW: RAIN BIRD SBE-050
6. PVC OR POLYETHYLENE LATERAL PIPE
7. PVC OR POLYETHYLENE LATERAL PIPE
8. 4" (10.2 cm) WIDE x 18" (45.7 cm) LONG RIGID BASKET WEAVE CANISTER (INCLUDED)
9. OPTIONAL SOCK (RWS-SOCK) FOR SANDY SOILS

- NOTES:
1. 4" (10.2 cm) GRATE IS ALSO AVAILABLE IN PURPLE (RWS-GRATE-P)
  2. INSTALL PRODUCT SO THAT THE GRATE IS EVEN WITH FINISH GRADE OR TOP OF MULCH.
  3. OPTIONAL SAND SOCK (RWS-SOCK) IS 34" (86.4 cm) IN LENGTH, CUT TO LENGTH NEEDED TO COVER MESH BASKET AREA.
  4. WHEN INSTALLING IN EXTREMELY HARD OR CLAY SOILS, ADD 3/4" (1.9 cm) GRAVEL UNDER AND AROUND THE UNIT TO ALLOW FASTER WATER INFILTRATION AND ROOT PENETRATION.
  5. ONCE RWS-M HAS BEEN INSTALLED FILL THE BASKET WITH PEA GRAVEL BEFORE LOCKING LID.

**7 ROOT WATERING SYSTEM-M-B-C-1401**

NOT TO SCALE

P-PU-MC-12



- NOTES:
1. REFER TO IRRIGATION LEGEND ON IRRIGATION PLAN FOR MODEL NUMBERS, DESCRIPTIONS, AND NOTES.

**4 FLUSH CAP**

1 1/2" = 1'-0"

P-CO-USA-03

REV	DATE	DESCRIPTION

DESIGNED BY: DH  
DRAWN: LS  
CHECKED: DH  
ISSUE DATE: 03.03.2021  
PROJ #: TALISM-001

Sheet Name:  
**IRRIGATION  
DETAILS**

Sheet Number:  
**IR301**



## UNDERGROUND SPRINKLER IRRIGATION SYSTEM

## PART 1 GENERAL

## 1.1 SUMMARY

Furnish all work and material, appliances, tools, equipment, facilities, transportation, and services necessary for and incidental to performing all operations in connection with the installation of underground sprinkler system complete, as shown on drawings and/or specified herein. When the term "Contractor" is used in this section, it shall refer to the irrigation Contractor.

## 1.2 APPLICABLE STANDARDS

ASTM D2241	Poly (Vinyl Chloride) (PVC) Plastic Pipe (SDR-PR)
ASTM D2464	Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Threaded, Schedule 80
ASTM D2466	Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Threaded and Socket, Schedule 40
ASTM D24647	Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Socket, Schedule 80
ASTM D2564	Solvent cements for Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings
ASTM D2855	Making Solvent - Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings
ASTM F-477	Gasket Pocket Pipe

## 1.3 GUARANTEE AND MAINTENANCE

- A. The Contractor is required to guarantee the sprinkler irrigation system in accordance with form below. A copy of the guarantee form shall be included in the Operations and Maintenance Manual. The guarantee form shall be on the Contractor's letterhead and contain the following information:

## GUARANTEE FOR SPRINKLER IRRIGATION SYSTEM

We hereby guarantee that the sprinkler irrigation system we provided is free from defects in materials and workmanship, and the work has been completed in accordance with the drawings and specifications, ordinary wear and tear, and unusual abuse or neglect excepted. We agree to repair or replace any defects in material or workmanship including repair of backfill settlement which may develop during the period of one year from date of Substantial Completion and to repair or replace any damage related to such defects at no additional cost to the Owner. We shall make such repairs or replacements within a reasonable time, as determined by Owner, after receipt of written notice from the Owner, we authorize the Owner to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand.

PROJECT:  
LOCATION:  
SIGNED:

SIGNED:  
CONTRACTOR  
ADDRESS:  
PHONE:  
DATE OF ACCEPTANCE:

- B. Maintenance shall include, but not necessarily be limited to the following:

- Adjustment of emitters to compensate for settlement and/or plant growth.
- Backfilling of all trenches.
- Unstopping emitters plugged by foreign material.
- Adjustment of controller as necessary to insure proper sequence and watering time.
- All maintenance necessary to keep the system in good operating order.

- C. Guarantee and maintenance after final acceptance do not include alterations as necessitated by re-landscaping, re-grading, addition of trees or the addition and/or changes in sidewalks, walls, driveways, etc.

## 1.4 SUBMITTALS

- A. The Contractor shall submit to the Owner's Representative two copies of shop drawings or manufacturer's "cut sheet" for each type of sprinkler head, pipe, controller, valves, check valve assemblies, valve boxes, wire, conduit, fittings and all other types of fixtures and equipment which he proposes to install on the job. The submittal shall include the manufacturer's name, model number, equipment capacity and manufacturer's installation recommendation, if applicable, for each proposed item.
- B. No partial submittal will be accepted and submittals shall be neatly bound into a brochure and logically organized. After the submittal has been approved, substitutions will not be allowed except by written consent of the Owner's Representative.
- C. Shop drawings shall include dimensions, elevations, construction details, arrangements and capacity of equipment, as well as manufacturer's installation recommendations.

## 1.5 SUBSTITUTION OF MATERIALS

- A. This irrigation system has been designed around the irrigation components herein stated and as shown on the plans. Changes of brand name, trade name, trademarked, patented articles,

or any other substitutions will be allowed only by written order signed by the Owner's Representative. The Owner is under no obligation to accept materials other than as specified. If a bidder wishes for a substitute item to receive consideration as an "approved equal," the bidder and each item must meet all of the following requirements without exceptions.

- B. An item, to be considered a substitute, must meet the same specifications of materials, fabrication or construction, dimension or size, shape, finish, performance standards, warranty or guarantee, and any other pertinent and salient features of quality, as indicated in manufacturer's specifications for original specified item.

- C. A sample of the item, along with a written request for consideration, shop drawings, and written specifications, must have been received by the Owner's Representative a minimum of 10 days before the bid opening date. The item shall then be examined, and the bidder shall be notified, in writing, seven days later, whether or not the item is an "approved equal." The Owner's Representative shall be the final judge of whether or not an item submitted for consideration qualifies as being an acceptable substitute.

- D. Under no circumstances shall an item be given consideration as an "approved equal" substitute later than 10 days before the bid opening. After that date, all items shall be bid per the original specifications. Likewise, unless certified as an "approved equal" per the time frame and the requirements above, the successful bidder (known as Contractor after signing the contract) shall install all items per the original plans and specifications. Equipment or material installed or furnished without prior approval of the Owner's Representative as herein specified, may be rejected and the Contractor required to remove such materials at his own expense.

- E. The Contractor alone shall bear complete responsibility for the installation and operation of any material or equipment installed on the job (as a substitute for specified equipment or material) should such substituted material prove to be defective, inoperable or in-applicable.

## 1.6 QUALITY ASSURANCE

- A. All work under this contract shall comply with the provisions of these specifications, as illustrated on the accompanying drawings, or as directed by the Owner's Representative, and shall satisfy all applicable local codes, ordinances, or regulations of the governing bodies and all authorities having jurisdiction over this project.

- B. Installation of equipment and material shall be done in accordance with the requirements of the National Electric Code, adopted Plumbing Codes and standard plumbing procedures. The drawings and these specifications are intended to comply with all the necessary rules and regulations; however, some discrepancies may occur. Where such discrepancies occur, the Contractor shall immediately notify the Owner's Representative in writing of the discrepancies and apply for an interpretation. Should the discovery and notification occur after the execution of a contract, any additional work required for compliance with the regulations shall be paid for as covered by these contract documents.

- C. The Contractor shall give all necessary notices, obtain all permits and pay all costs in connection with his work; file with all governmental departments having jurisdiction; obtain all required certificates of inspection for his work and deliver to the Owner's Representative before request of acceptance and final payment for the work.

- D. The Contractor shall include in the work labor, materials, services, apparatus or drawings in order to comply with applicable laws, ordinances, rules and regulations whether or not shown on the drawings and/or specified.

- E. Prequalification:

The installation of the irrigation system shall be made by an individual or firm duly licensed under the State of Utah Registrar of Contractors. The Contractor must demonstrate successful completion of at least five comparable projects within the last five years.

## 1.7 SUPERINTENDENT

- A. The Contractor shall provide a superintendent satisfactory to the Owner's Representative.
- B. The superintendent shall not be changed, except with the consent of the Owner's Representative.
- C. The superintendent shall be authorized to represent the Contractor

## 1.8 NOTIFICATION OF OWNER'S REPRESENTATIVE

- A. The Owner's Representative shall have free access to the work whenever it is in preparation or progress and proper facilities, for such access and inspection. The Contractor shall notify the Owner's Representative when he will and will not be on the job. Should the Contractor work periodically on the job, the Owner's Representative shall have the right to require the Contractor to give a 24 hour notice of each and every day or partial day that he intends to work on the project. The Contractor shall perform no work, unless the Owner's Representative has been properly notified. Failure to notify the Owner's Representative may require the Contractor to redo, uncover pipe, expose for inspection, etc., all that the Owner's Representative was unable to inspect.

## 1.9 EXISTING UTILITIES - LOCATION AND ELEVATIONS

- A. The Contractor shall examine the site and verify to his own satisfaction the locations and elevations of utilities and availability of utilities and services required. Contractor shall employ the services of a professional utility locator service to locate existing on site utilities in the construction area prior to beginning work and as needed to maintain clear indications of utility locations.

The Contractor shall inform himself as to their relation to the work and the submission of bids shall be deemed as evidence thereof. The Contractor shall repair at his own expense, and to the satisfaction of the Owner's Representative, for damage to utilities shown or not shown on the plans.

- B. Should utilities not shown on the plans be found during excavations, Contractor shall promptly notify Owner's Representative for instructions as to further action.

- C. Contractor shall make necessary adjustments in the layout as may be required to connect to

existing stubouts, should such stubouts not be located exactly as shown and as may be required to work around existing work, at no increase in cost to the Owner. Such work will be recorded on record drawings and turned over to the Owner's Representative prior to final acceptance.

## 1.10 COOPERATION OF TRADES

Work under this contract may be accomplished with other Contractors and trades on the project site at the same time. The Contractor shall allow each Contractor and trade adequate time at the proper state of construction to fulfill his contract.

## 1.11 RECORD DRAWINGS

- A. Record dimensioned locations and depths for each of the following:

- Pressure line routing (provide dimensions for each 100 lineal feet {maximum} along each routing, and for each change in directions).
- Controllers, pressure regulators and other items identified by the Owner's Representative.
- Irrigation control valves
- Control wire routing
- Sleeves under paving

- B. Locate dimensions from two permanent points (buildings, monuments, sidewalks, curbs or pavements).

- C. Record changes which are made from the Contract Drawings, including changes in the pressure and non-pressure lines.

- D. Record required information on a set of blackline prints of the Drawings. Do not use these prints for an other purpose.

- E. Maintain information daily. Keep drawings at the site at all times and available for review by the Owner's Representative.

- F. Reproducible bonds will be furnished by the Owner's Representative at cost for printing and handling.

## 1.12 CONTROLLER CHARTS

- A. Do not prepare charts until record drawings have been approved by the Owner's Representative.

- B. Provide one controller chart.

- Chart may be a reproduction of the Record Drawing, if the scale permits fitting the controller door. If photo reduction prints are required, keep reduction to maximum size possible to retain full legibility.

- Chart shall be blackline print of the actual system, showing the area covered by that controller.

- C. Identify the area of coverage of each remote control valve, using a distinctly different pastel color, drawn over the entire area of coverage.

- D. Following approval of charts by the Owner's Representative, they shall be hermetically sealed between two layers of 20 mil thick plastic sheet.

- E. Charts must be completed and approved prior to final acceptance of the irrigation system.

## 1.13 OPERATING AND MAINTENANCE MANUALS

- A. Provide two individually bound manuals detailing operating and maintenance requirements for irrigation systems.

- B. Manuals shall be delivered to the Owner's Representative no later than 10 days prior to completion of work.

- C. Provide descriptions of installed materials and systems in sufficient detail to permit maintenance personnel to understand, operate and maintain the equipment.

- D. Provide the following in each manual:

- Index sheet, stating Irrigation Contractor's name, address, telephone number and name of person to contact.
- Duration of guarantee period.
- Equipment list providing the following for each item:

- Manufacturer's name
- Make and model number
- Name and address of local manufacturer's representative
- Spare parts list in detail
- Detailed operating and maintenance instructions of major equipment.

## 1.14 CHECKLIST

- A. Provide a signed and dated checklist and deliver to the Owner's Representative prior to final acceptance of the work.

- B. Use the following format:

- Plumbing permits: if none required, so note.
- Material approvals: approved by and date
- Pressure line tests: by whom and date
- Record drawings: received by and date
- Controller charts: received by and date
- Operation and maintenance manuals: received by and date.
- Manufacturer's warranties if required: received by and date.
- Written guarantee: received by and date.

## 1.15 WATER SERVICE

The Contractor will install a new water service and a new point of connection for this project as shown on the drawings and described in these specifications.

## 1.16 SLEEVES AND ELECTRICAL CONDUITS

Sleeves and electrical conduits will need to be installed as noted on the drawings or required by the project. Not all required sleeves are shown on the drawings. Contractor shall be responsible for timely placement of sleeves and conduits at no additional cost to the Owner.

## 1.17 PROGRESS MEETINGS

Contractor shall attend all progress meetings as requested by Owner's Representative during installation.

## SECTION 02819 - UNDERGROUND SPRINKLER IRRIGATION SYSTEM

## PART 2 PRODUCTS

## 2.1 GENERAL

Unless otherwise noted on the plans, materials shall be new and unused. This irrigation system has been designed around the irrigation components herein stated and as shown on plan. Changes of brand name, trade name, trademarked, patented articles, or any other substitutions will be allowed only by written order as outlined in Section 1.6.

## 2.2 PVC PRESSURE MAINLINE PIPE AND FITTINGS)

- A. Pipe shall be made from NSF approved type I, Grade I PVC compound conforming to ASTM Specification D 2241. Piping SDR solvent weld.

- B. Fittings for pressure mainline piping shall be PVC solvent-weld fittings Schedule 80, Type I NSF approved conforming to ASTM test procedure D 2466 and shall be as manufactured by Spears, Lasco or Dura.

- C. Solvent cement and primer for PVC solvent-weld pipe and fittings shall be heavy duty gray Oatey Glue and Purple Primer or approved equal. Manufacturer's installation requirements shall be strictly adhered to.

- D. PVC pipe shall bear the following markings:

- Manufacturer's name
- Nominal pipe size
- Schedule or class
- Pressure rating in psi
- National Sanitation Foundation (NSF) approval.
- Date of extrusion

- E. Fittings shall bear the manufacturer's name or trademark, material designation, size, applicable IPS schedule and NSF seal of approval.

- 2.3 PVC NON-PRESSURE LATERAL LINE PIPING (used to connect new drip laterals to existing irrigation system).

- A. Non-pressure buried lateral line piping shall be Sch. 40 PVC with solvent-weld joints.

- B. Pipe shall be made from NSF approved, Type I, Grade II PVC compound conforming to ASTM resin specifications D1784. Pipe shall meet requirements set forth in Federal Specification PS-22-70, with an appropriate standard dimension ratio.

- C. PVC solvent-weld fittings shall be Schedule 40, Type I NSF approved conforming to ASTM test procedure D2466 as manufactured by Spears, Lasco or Dura.

- D. Unless otherwise noted, requirements for non-pressure lateral-line pipe and fittings shall be the same as for solvent-weld pressure mainline pipe and fittings.

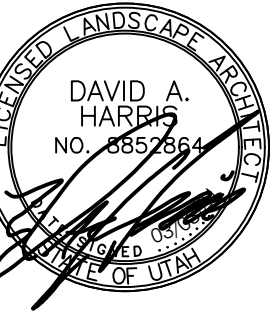
## 2.4 SWING JOINTS

All swing joint assemblies, nipples and risers shall be manufacturer pre-assembled per the following, as detailed. Hunter ICV series plastic globe valve.



6949 South High Tech Drive  
Midvale, Utah 84047

CONTACT:  
DAVE HARRIS, PLA  
801.746.4457  
epgllc.design  
dharris@epgllc.co



JORDAN VALLEY WATER CONSERVANCY DISTRICT  
WEST JORDAN, UTAH  
100% CONSTRUCTION DOCUMENTS

REV	DATE	DESCRIPTION					

DESIGNED BY: DH  
DRAWN: LS  
CHECKED: DH  
ISSUE DATE: 03.03.2021  
PROJ #: TALISM-001

Sheet Name:

**IRRIGATION  
SPECIFICATIONS**

Sheet Number:

**IR401**



1" Lasco G 172-212 or approved equal.

3/4' Lasco T722-212. or approved equal.

1/2" Lasco T522-212. or approved equal.

2.5 CONTROL WIRING

A. Connections between the automatic controllers and the electric control valves shall be made with direct burial copper wire AWG-UF 600 volt. Circuit wires shall be red with white common wires. Install in accordance with valve manufacturer's specifications.

Remote Control Valve circuit wire shall be #14 and common wire shall be #12.

B. Wiring shall occupy the same trench and shall be installed along the same route as pressure supply or lateral lines whenever possible.

C. Where more than one wire is placed in a trench, the wiring shall be taped together at intervals of 10 feet.

D. An expansion curl shall be provided within 3 feet of each wire connection. Expansion curl shall be of sufficient length at each splice connection at each electric control, so that in case of repair the valve bonnet may be brought to the surface without disconnection of the control wires. Control wires shall be laid loosely in trench without stress or stretching of control wire conductors.

E. Field splices between the automatic controller and electrical control valves will not be allowed without prior approval of the Owner's Representative.

F. Control wiring installed under paving shall be installed in UL listed Schedule 40 electrical conduit. Conduit shall terminate at least 2 feet inside of a planting area. Conduit joints and fittings shall be solvent weld. Size shall be 2" minimum and larger as required and/or shown on the plans.

G. Two #12 "spare" wires shall be run from the controller to the furthest valve location in each direction. Wires shall be white with color stripes or otherwise marked in an approved manner. This is addition to any designated future wires identified on the plans. Spare wires shall be indicated on the Record Drawings.

H. Wire connectors shall have a two-piece PVC housing which, when filled with resin epoxy and pressed together, forms a permanent, one-piece, moisture-proof wire splice. Connectors shall be UL listed, rated 600 volt, for PVC insulated wire. No wire splices shall be buried. Wire connectors shall be 3M models DBR, DBY or approved equal.

I. A #14 green tracer wire shall be installed along the path of main lines. Tracer wire to be looped in valve boxes.

2.6 ELECTRIC REMOTE CONTROL VALVES

Rain Bird XCZ-100-PRF-BF Drip Control Zone Kit (DV series valve and BFF series pressure regulating back flush filter). Hunter ICV series plastic globe valve.

2.7 VALVE BOXES

A. Use plastic rectangular box for all electrical control valves as required. Detail as shown. Provide stainless steel bolts.

B. Provide extensions as required to ensure box rests on continuous soil base.

C. All openings including the bottom to be sealed with geotextile fabric.

D. Valve boxes shall be as follows:

Quick Coupling Valve	Carson Model 910 with T Style Cover
Junction Box, Pull Box	Carson Model 1419 with T Style Cover
Remote Control Valve	Carson Model 1220 with T Style Cover
Valve	Carson Model 1324 with T Style Cover

2.8 SLEEVES

Sleeves shall be provided where shown on the drawings, where required and/ or specified herein. Not all required sleeves are shown on the drawings.

A. Mainlines, lateral line piping, emitter headers and lateral piping and control wire shall be installed in a sleeve under paving walls and concrete surfaces.

B. Sleeving shall be Schedule 40 or SDR 35 PVC solvent weld pipe.

C. Joints shall be solvent welded. Welds to be primed and glued as per pipe size.

D. Sleeves shall be capped and kept clean of dirt and debris.

E. Excavation and backfill shall be as specified in Section 3.3.

F. All sleeves shall extend a minimum of 2 feet into the planting area.

G. Location of sleeves shall be shown on the record drawings.

H. Each sleeve shall be taped along its entire length with metallic locator tape manufactured for that purpose.

I. Sleeves shall have a minimum horizontal clearance of 12" from each other and other piping. Sleeves shall not be installed parallel and directly over another line. Sleeves shall have a minimum of 6 inches vertical clearance where they cross other lines.

J. Sleeves shall be a minimum size of 2" or 2 pipe sizes larger than the pipe being sleeved. Each pipe shall have its own sleeve unless approved by the Owner's Representative.

2.9 COPPER PIPE AND FITTINGS

A. Where indicated on the drawings, use Type K rigid conforming to ASTM Standard B88.

B. Fittings shall be wrought copper or bronze. Use a 95% tin and 5% antimony solder.

2.10 BACKFLOW PREVENTER AND ENCLOSURE

A. The backflow preventer shall be Wilkins 975XL as shown on the plans and installed per city of West Jordan standard details PK-155 and CW-240.

B. Enclosure must be a minimum of 12" above grade per West Jordan City Public Works Guidelines.

2.11 QUICK COUPLING VALVES

A. As shown on drawings.

SECTION 02819 - UNDERGROUND SPRINKLER IRRIGATION SYSTEM

PART 3 EXECUTION

3.1 INSTALLATION

A. General

1. Contractor Responsibility: The Contractor shall not willfully install the irrigation system as shown on the drawings when it is obvious in the field that obstructions, grade differences or discrepancies in equipment usage, area dimensions or static water pressure exist that might not have been considered in the engineering. Such obstructions or differences shall be brought to the attention of the Owner's Representative. In the event this notification is not performed, the Contractor shall assume full responsibility for any revision necessary.

2. Material and equipment shall be delivered to the job site in unbroken reels, cartons or other packaging to demonstrate that such material is new and of a quality and grade in keeping with the intent of these specifications.

B. Site Conditions

1. Scaled dimensions are approximate. The Contractor shall check and verify size dimensions and receive Owner's Representative approval prior to proceeding with work under this Section.

2. Exercise extreme care in excavating and working near existing utilities. Contractor shall be responsible for damage to utilities which are caused by his operation or neglect. Contractor to employ the services of a professional utility locator service to locate existing on site utilities in the construction area prior to beginning work and as needed to maintain clear indications of utility locations.

3. Coordinate installation of irrigation materials, including pipe, so there shall be no interference with utilities or other construction or difficulty in planting trees, shrubs, and ground covers. Contractor shall coordinate with other Contractors to insure timely placing of necessary sleeves, wires and pipes under walks, curbs and paving.

4. Design Pressure: This irrigation system has been designed to operate with a minimum static inlet water pressure as shown on the notes and drawings. The Contractor shall take a pressure reading prior to beginning construction. If the pressure reading is less than indicated, the Contractor shall notify the Owner's Representative.

3.2 PREPARATION

A. Physical Layout

1. Prior to installation, the Contractor shall stake out pressure supply lines, location of remote control valves, specialty valves, sprinkler heads and controllers.

2. Layout shall be approved by Owner's Representative prior to installation. Prior approval shall be obtained for valves, controllers, main line routing and

sprinkler locations.

3. Strict adherence shall be made to provide clearances between potable and irrigation lines as required by Municipality standards.

B. Water Supply

1. Irrigation system shall be connected to water supply points of connection as indicated on the drawings.

2. Connections shall be made at approximate locations as shown on drawings. Contractor is responsible for minor changes caused by actual site conditions.

3.3 EXCAVATION AND BACKFILL

A. Trenching: Dig trenches straight and support pipe continuously on bottom of trench. Lay pipe to an even grade. Trenching excavation shall follow layout indicated on drawings and as noted. If the bottom of a pipe trench excavation is found to consist of rock, caliche, or any other material that, by reason of its hardness, cannot be excavated to give a uniform bearing surface, said rock or other material shall be removed for at least 2" below the specified trench depth, and be refilled to specified trench depth with sand or similar material thoroughly tamped into place.

B. Trenching and installation of mainline and lateral lines shall occur after excavation of existing grass and soil, but before the placement of imported soil.

C. Burial of Pipe: Burial of pipe shall be as indicated on drawings:

D. Backfilling

1. The trenches shall not be backfilled until all required tests are performed. Trenches shall be carefully backfilled in 6" lifts with the excavated materials approved for backfilling, consisting of earth, loam, sandy clay, sand, or other approved materials, free from clods of earth or stones larger than 1" in diameter. Backfill shall be mechanically compacted in landscaped areas to a dry density equal to adjacent undisturbed soil in planting areas. Backfill will conform to adjacent grades without dips, sunken areas, humps or other surface irregularities. Backfilling shall not be performed while trenches or backfill material is in a wet or muddy condition.

2. A fine granular material backfill will be initially placed on all lines to a depth of 3". No foreign matter larger than 1/2" in size will be permitted in the initial backfill.

3. Flooding of trenches will be permitted only with approval of the Owner's Representative.

4. If settlement occurs and subsequent adjustments in pipe, valves, sprinkler heads, lawn or planting, or other construction are necessary, the Contractor shall make required adjustments without cost to the Owner.

A. Trenching and Backfill Under Paving

1. Trenches located under areas where paving, asphaltic concrete or concrete will be installed shall be backfilled with sand (a layer 6" below the pipe and 3" above the pipe) and compacted in layers to 90% compaction, using manual or mechanical tamping devices. Trenching for piping shall be compacted to equal the compaction of the existing adjacent undisturbed soil and shall be left in a firm, unyielding condition. Trenches shall be left flush with the adjoining grade. The sprinkler irrigation Contractor shall set in place, cap, and pressure test all piping under paving prior to the paving work.

2. Provide for a minimum cover of 24" between the top of the pipe and the bottom of the aggregate base for all pressure and non-pressure piping installed under asphaltic concrete paving.

3. Where the plans or site conditions require the existing paving to be cut, the saw cut method shall be used. The removed paving shall be replaced in kind.

F. Trenching Adjacent to Existing Trees

Where it is necessary to excavate adjacent to existing trees, the Contractor shall use all possible care to avoid injury to trees and tree roots. Excavation in areas where 2" and larger roots occur shall be done by hand. All roots 6" and larger in diameter, except directly in the path of pipe or conduit, shall be tunneled under and shall be heavily wrapped with burlap to prevent scarring or excessive drying. Where a ditching machine is run close to trees having roots smaller than 51 mm in diameter, the wall of the trench adjacent to the tree shall be hand trimmed, making clean cuts. Roots 1" and larger in diameter shall be painted with two coats of Tree Seal or equal. Trenches adjacent to trees should be closed within 24 hours, and where this is not possible the side of the trench adjacent to the tree shall be kept shaded with burlap or canvas.

3.4 ASSEMBLIES

A. Routing of sprinkler irrigation lines as indicated on the drawings is diagrammatic.

Install lines and various assemblies to conform with the details shown on drawings and in accordance with the manufacturer's recommendations.

B. Install no multiple assemblies on plastic lines. Provide each assembly with its own outlet.

C. Install assemblies specified herein in accordance with respective detail. In absence of detail drawings or specifications pertaining to specific items required to complete work, perform such work in accordance with best standard practice with prior approval of Owner's Representative.

D. PVC pipe and fittings shall be thoroughly cleaned of dirt, dust and moisture before installation. Installation and solvent-welding methods shall be recommended by the pipe and fitting manufacturer. Primer shall be used on solvent weld joints. No solvent weld joint shall be submitted to water pressure until curing for 24 hours minimum.

E. On PVC to metal connections, the Contractor shall work the metal connections first. Teflon paste or approved equal shall be used on threaded PVC to PVC joints, and on threaded PVC to metal joints. Light wrench pressure is all that is required. Where threaded PVC connections are required, use threaded PVC adapters into which the pipe may be welded.

3.5 PVC PIPE INSTALLATION

A. Piping shall be snaked in the trench to allow for thermal expansion and contraction.

B. After curing of solvent weld joint and after having received the approval of the Owner's Representative, the mainline shall be filled. Extreme care will be taken to slowly fill the piping while releasing entrapped air at the ends of the main line.

C. Lines shall have a minimum clearance of 6" from each other, and from lines of other trades. Parallel lines shall not be installed directly over one another.

D. Manufacturing's installation recommendations shall be strictly adhered to.

3.6 FLUSHING OF SYSTEM

A. After new sprinkler pipe lines and risers are in place and connected, necessary diversion work has been completed, and prior to installation of sprinkler heads, emitters, the control valves shall be opened and a full head of water used to flush out the system.

B. Sprinkler heads and emitters shall be installed only after flushing of the system has been accomplished to the complete satisfaction of the Owner's Representative.

3.7 REMOTE CONTROL VALVES

Install remote control valves where shown on drawings and details. Drawings are schematic and valves shall be located adjacent and perpendicular to walks or curbs where possible. When grouped together, allow at least 1" between valve boxes. Install each remote control valve in a separate valve box. Electric control valves shall be tagged with permanent tags and markings indicating valve number, controller, controller station and type and location of heads and emitters on the valve. Each remote control valve box shall be branded with the controller and station number in an approved manner. Piping connecting the main line with the valve shall be the same size as the largest lateral pipe size for that zone. Reducing fitting shall occur at the unions and ball valve on either side of the valve. Each remote control valve shall have a separate tee from the main line. Boxes shall be aligned in a manner acceptable to the Owner's Representative.

3.8 CONTROL WIRE INSTALLATION

Control wire less than 2500 feet in length shall be continuous without splices or joints from the controller to the valves. Connections to the electric valves shall be made within 18" of the valve using connectors specified in Paragraph 2.5, unless otherwise approved by the Owner's Representative in writing.

Control wires shall be installed at least 16" deep. Contractor shall obtain the Owner's Representative's approval for wire routing when installed in separate ditch. Control wires may be installed in a common ditch with piping; however, wires must be installed a minimum of 4" below or to one side of piping.

3.9 FIELD QUALITY CONTROL

A. Adjustment of the system

1. The Contractor shall flush system for optimum performance.

2. All parts of the irrigation system and associated equipment shall be adjusted to function properly and shall be turned over to the Owner in operating condition.

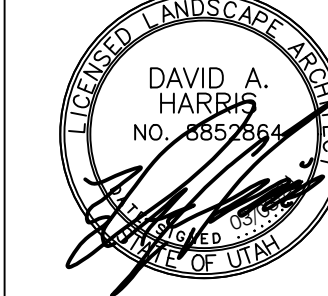
B. Testing of Irrigation System:

1. The Contractor shall request the presence of the Owner's Representative at least 48 hours in advance of testing.



6949 South High Tech Drive  
Midvale, Utah 84047

CONTACT:  
DAVE HARRIS, PLA  
801.746.4457  
epgllc.design  
dharris@epgllc.co





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REV	DATE	DESCRIPTION

DESIGNED BY: DH  
DRAWN: LS  
CHECKED: DH  
ISSUE DATE: 03.03.2021  
PROJ #: TALISM-001

Sheet Name:  
**IRRIGATION SPECIFICATIONS**

Sheet Number:  
**IR402**



1. Piping under paved areas shall be tested under hydrostatic pressure of 150 psi and proved water tight prior to paving.
2. PVC lateral line pipe shall be tested at working line pressures with couplings exposed and swing joints and other outlets capped.
3. Sustain pressure in lines for not less than two hours. Pipe sections shall be center loaded and couplings shall be exposed. Before testing, the line shall have been filled with water for at least four hours and provisions made for thoroughly bleeding the line of air.
4. All hydrostatic tests shall be made only in the presence of Owner's Representative. No pipe shall be backfilled until it has been inspected, tested and approved in writing.
5. Furnish necessary force pump and other test equipment.
6. Upon completion of each phase of work, entire system shall be tested and adjusted to meet site requirements.

3.10 MAINTENANCE

- A. Contractor shall provide job maintenance of the entire irrigation system and shall continue until job acceptance by the Owner. Maintain system components and assure proper watering of plants. Repair leaks and replace defective components. After landscape and irrigation operations are complete and in conformance with the contract documents, the Owner shall grant provisional acceptance.
- D. Following provisional acceptance, the Contractor shall provide job maintenance for 1-year consisting of all items covered under maintenance alone. Following the 1-year maintenance period, the Owner shall grant final job acceptance after verifying all work and system components are in conformance with the contact documents.

3.11 CLEANUP

Cleanup shall be made as each portion of work progresses. Refuse and excess dirt shall be removed from the site, walks and paving shall be broomed or washed down, and any damage sustained on the work of others shall be repaired to the original conditions acceptable to the Owner's Representative.

3.12 FINAL OBSERVATION PRIOR TO ACCEPTANCE

The Contractor shall operate each system in its entirety for the Owner's Representative at the time of final observation. Items deemed not acceptable shall be reworked to the complete satisfaction of the Owner's Representative.

The Contractor shall show evidence to the Owner's Representative that the Owner has received accessories, charts, record drawings, and equipment as required before final observation can occur.

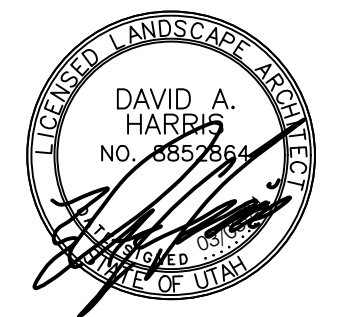
3.13 OBSERVATION SCHEDULE

- A. Contractor shall be responsible for notifying the Owner's Representative in advance for the following observations according to the time indicated:
  1. Pre-job conference - 7 days
  2. Main line layout, pump installation, remote control valve locations 72 hours
  3. Pressure supply line installation and testing - 72 hours
  4. Automatic controller hook up - 72 hours
  5. Control wire installation - 72 hours
  6. Final observation - 7 days
- B. When the inspections have been conducted by other than the Owner's Representative, show evidence of when and by whom these inspections were made.
- C. No observation shall commence without as-built drawings. In the event the Contractor calls for an observation without as-built drawings, without completing previously noted corrections, or without preparing the system for observations, he shall be responsible for reimbursing the Owner's Representative at the hourly rate in effect at the time.

**END OF SECTION**



6949 South High Tech Drive  
Midvale, Utah 84047  
CONTACT:  
DAVE HARRIS, PLA  
801.746.4457  
epgllc.design  
dharris@epgllc.co



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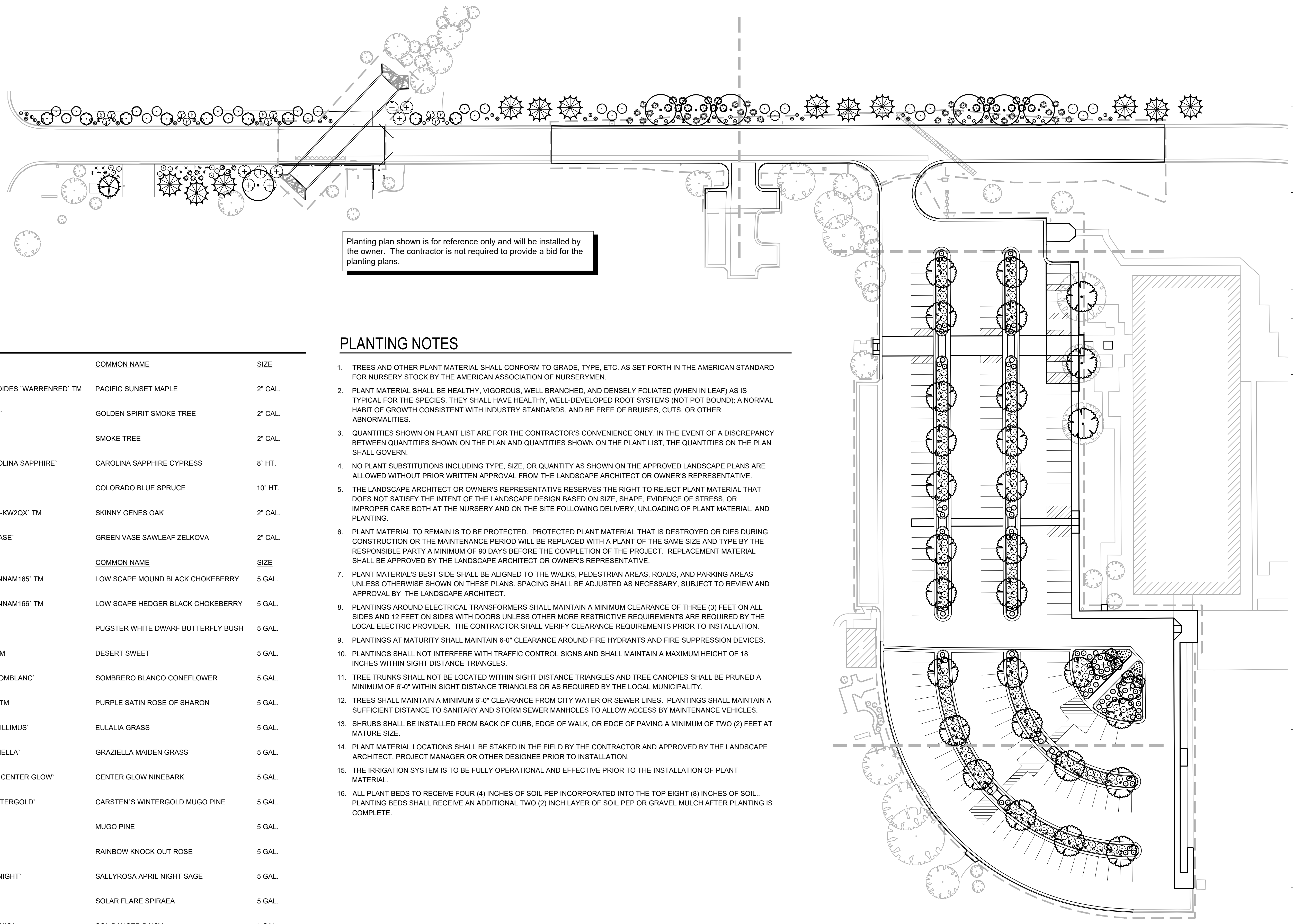
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Sheet Name:  
**IRRIGATION SPECIFICATIONS**

Sheet Number:  
**IR403**





Planting plan shown is for reference only and will be installed by the owner. The contractor is not required to provide a bid for the planting plans.

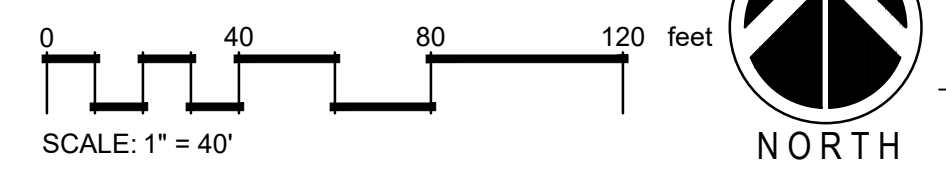
### PLANTING NOTES

- TREES AND OTHER PLANT MATERIAL SHALL CONFORM TO GRADE, TYPE, ETC. AS SET FORTH IN THE AMERICAN STANDARD FOR NURSERY STOCK BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL BRANCHED, AND DENSELY FOLIATED (WHEN IN LEAF) AS IS TYPICAL FOR THE SPECIES. THEY SHALL HAVE HEALTHY, WELL-DEVELOPED ROOT SYSTEMS (NOT POT BOUND); A NORMAL HABIT OF GROWTH CONSISTENT WITH INDUSTRY STANDARDS, AND BE FREE OF BRUISES, CUTS, OR OTHER ABNORMALITIES.
- QUANTITIES SHOWN ON PLANT LIST ARE FOR THE CONTRACTOR'S CONVENIENCE ONLY. IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN ON THE PLAN AND QUANTITIES SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN SHALL GOVERN.
- NO PLANT SUBSTITUTIONS INCLUDING TYPE, SIZE, OR QUANTITY AS SHOWN ON THE APPROVED LANDSCAPE PLANS ARE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
- THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REJECT PLANT MATERIAL THAT DOES NOT SATISFY THE INTENT OF THE LANDSCAPE DESIGN BASED ON SIZE, SHAPE, EVIDENCE OF STRESS, OR IMPROPER CARE BOTH AT THE NURSERY AND ON THE SITE FOLLOWING DELIVERY, UNLOADING OF PLANT MATERIAL, AND PLANTING.
- PLANT MATERIAL TO REMAIN IS TO BE PROTECTED. PROTECTED PLANT MATERIAL THAT IS DESTROYED OR DIES DURING CONSTRUCTION OR THE MAINTENANCE PERIOD WILL BE REPLACED WITH A PLANT OF THE SAME SIZE AND TYPE BY THE RESPONSIBLE PARTY A MINIMUM OF 90 DAYS BEFORE THE COMPLETION OF THE PROJECT. REPLACEMENT MATERIAL SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
- PLANT MATERIAL'S BEST SIDE SHALL BE ALIGNED TO THE WALKS, PEDESTRIAN AREAS, ROADS, AND PARKING AREAS UNLESS OTHERWISE SHOWN ON THESE PLANS. SPACING SHALL BE ADJUSTED AS NECESSARY, SUBJECT TO REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT.
- PLANTINGS AROUND ELECTRICAL TRANSFORMERS SHALL MAINTAIN A MINIMUM CLEARANCE OF THREE (3) FEET ON ALL SIDES AND 12 FEET ON SIDES WITH DOORS UNLESS OTHER MORE RESTRICTIVE REQUIREMENTS ARE REQUIRED BY THE LOCAL ELECTRIC PROVIDER. THE CONTRACTOR SHALL VERIFY CLEARANCE REQUIREMENTS PRIOR TO INSTALLATION.
- PLANTINGS AT MATURITY SHALL MAINTAIN 6'-0" CLEARANCE AROUND FIRE HYDRANTS AND FIRE SUPPRESSION DEVICES.
- PLANTINGS SHALL NOT INTERFERE WITH TRAFFIC CONTROL SIGNS AND SHALL MAINTAIN A MAXIMUM HEIGHT OF 18 INCHES WITHIN SIGHT DISTANCE TRIANGLES.
- TREE TRUNKS SHALL NOT BE LOCATED WITHIN SIGHT DISTANCE TRIANGLES AND TREE CANOPIES SHALL BE PRUNED A MINIMUM OF 6'-0" WITHIN SIGHT DISTANCE TRIANGLES OR AS REQUIRED BY THE LOCAL MUNICIPALITY.
- TREES SHALL MAINTAIN A MINIMUM 6'-0" CLEARANCE FROM CITY WATER OR SEWER LINES. PLANTINGS SHALL MAINTAIN A SUFFICIENT DISTANCE TO SANITARY AND STORM SEWER MANHOLES TO ALLOW ACCESS BY MAINTENANCE VEHICLES.
- SHRUBS SHALL BE INSTALLED FROM BACK OF CURB, EDGE OF WALK, OR EDGE OF PAVING A MINIMUM OF TWO (2) FEET AT MATURE SIZE.
- PLANT MATERIAL LOCATIONS SHALL BE STAKED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE LANDSCAPE ARCHITECT, PROJECT MANAGER OR OTHER DESIGNEE PRIOR TO INSTALLATION.
- THE IRRIGATION SYSTEM IS TO BE FULLY OPERATIONAL AND EFFECTIVE PRIOR TO THE INSTALLATION OF PLANT MATERIAL.
- ALL PLANT BEDS TO RECEIVE FOUR (4) INCHES OF SOIL PEP INCORPORATED INTO THE TOP EIGHT (8) INCHES OF SOIL. PLANTING BEDS SHALL RECEIVE AN ADDITIONAL TWO (2) INCH LAYER OF SOIL PEP OR GRAVEL MULCH AFTER PLANTING IS COMPLETE.

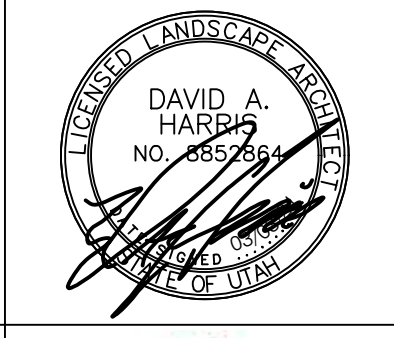
### PLANT SCHEDULE

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
	7	ACER TRUNCATUM X PLATANOIDES 'WARRENRED' TM	PACIFIC SUNSET MAPLE	2" CAL.
	4	COTINUS COGGYGRIA 'ANCOT'	GOLDEN SPIRIT SMOKE TREE	2" CAL.
	2	COTINUS X DUMMERI 'GRACE'	SMOKE TREE	2" CAL.
	1	CUPRESSUS ARIZONICA 'CAROLINA SAPPHIRE'	CAROLINA SAPPHIRE CYPRESS	8' HT.
	12	PICEA PUNGENS 'GLAUCA'	COLORADO BLUE SPRUCE	10' HT.
	9	QUERCUS ROBUR X ALBA 'JFS-KW2QX' TM	SKINNY GENES OAK	2" CAL.
	29	ZELKOVA SERRATA 'GREEN VASE'	GREEN VASE SAWLEAF ZELKOVA	2" CAL.
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE
	223	ARONIA MELANOCARPA 'UCONNAM165' TM	LOW SCAPE MOUND BLACK CHOKEBERRY	5 GAL.
	9	ARONIA MELANOCARPA 'UCONNAM166' TM	LOW SCAPE HEDGER BLACK CHOKEBERRY	5 GAL.
	12	BUDDLEJA X 'SMNBDW'	PUGSTER WHITE DWARF BUTTERFLY BUSH	5 GAL.
	20	CHAMAEBATIARIA MILLEFOLIUM	DESERT SWEET	5 GAL.
	24	ECHINACEA PURPUREA 'BALSOMBLANC'	SOMBRERO BLANCO CONEFLOWER	5 GAL.
	27	HIBISCUS SYRIACUS 'ILVOPS' TM	PURPLE SATIN ROSE OF SHARON	5 GAL.
	30	MISCANTHUS SINENSIS 'GRACILLIMUS'	EULALIA GRASS	5 GAL.
	8	MISCANTHUS SINENSIS 'GRAZIELLA'	GRAZIELLA MAIDEN GRASS	5 GAL.
	12	PHYSOCARPUS OPULIFOLIUS 'CENTER GLOW'	CENTER GLOW NINEBARK	5 GAL.
	61	PINUS MUGO 'CARSTEN'S WINTERGOLD'	CARSTEN'S WINTERGOLD MUGO PINE	5 GAL.
	115	PINUS MUGO 'SLOWMOUND'	MUGO PINE	5 GAL.
	100	ROSA X 'RADCOR' TM	RAINBOW KNOCK OUT ROSE	5 GAL.
	14	SALVIA X SYLVESTRIS 'APRIL NIGHT'	SALLYROSA APRIL NIGHT SAGE	5 GAL.
	12	SPIRAEA X 'ZELDA'	SOLAR FLARE SPIRAEA	5 GAL.
	12	TETRANEURIS ACAULIS ARIZONICA	SOL DANCER DAISY	1 GAL.
	8	VIBURNUM X RHYTIDOPHYLLOIDES 'ALLEGHANY'	ALLEGHANY VIBURNUM	5 GAL.

PLANTING NOTES:  
1. ALL PLANTING AREAS TO RECEIVE LANDSCAPE WOOD MULCH TO MATCH EXISTING. WOOD MULCH TO BE 2" DEEP.



**epg** Sustainable Solutions  
Thriving Environments  
6949 South High Tech Drive  
Midvale, Utah 84047  
CONTACT:  
DAVE HARRIS, PLA  
801.746.4457  
epgllc.design  
dharris@epgllc.co



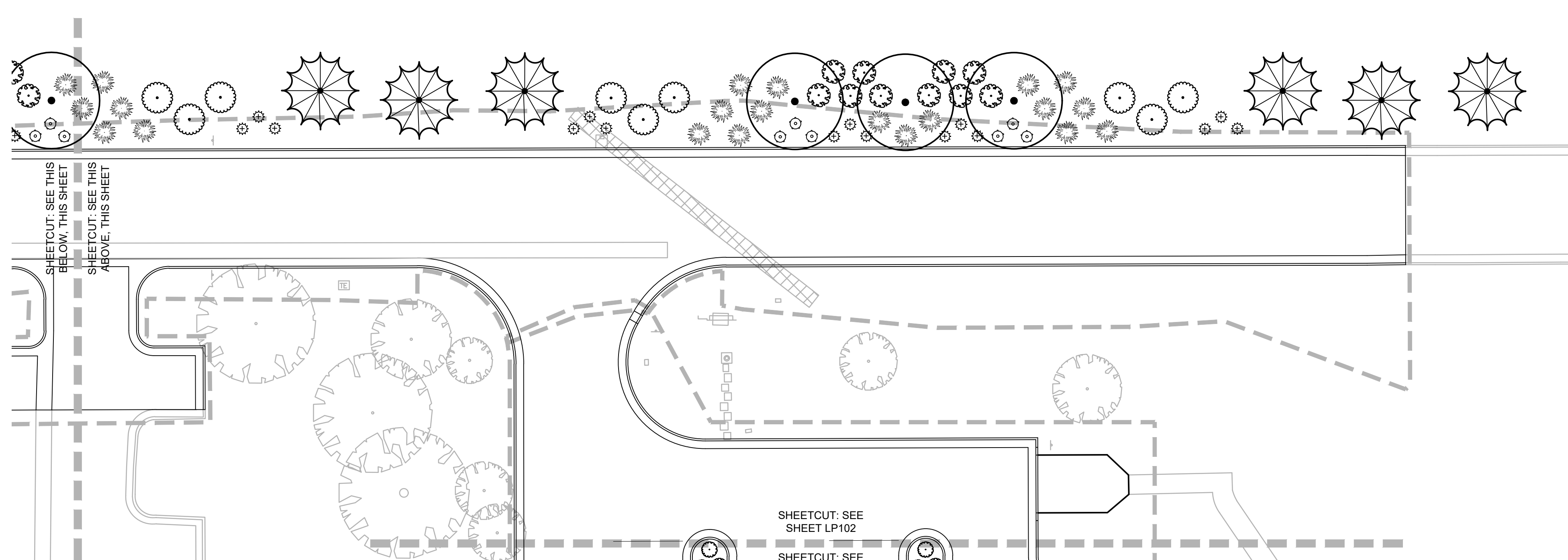
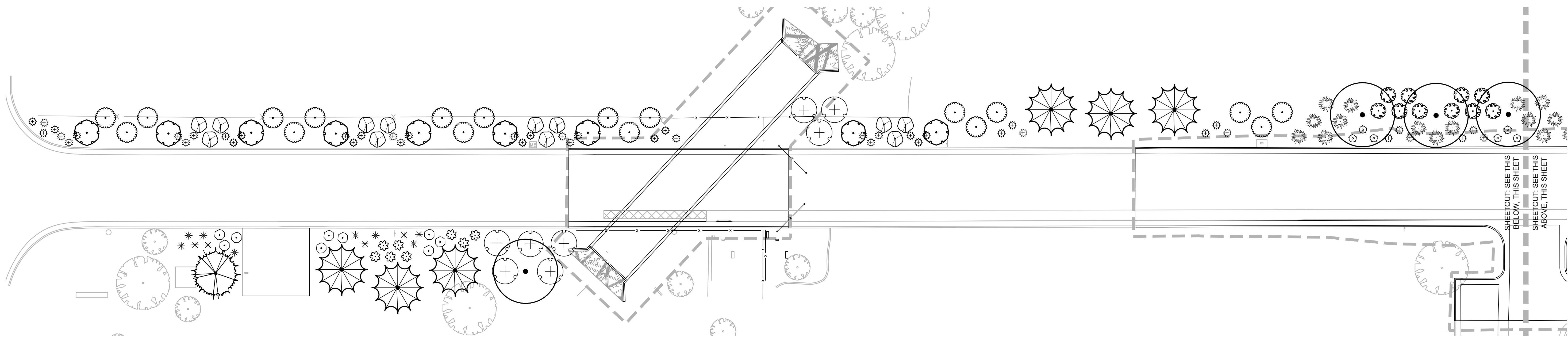
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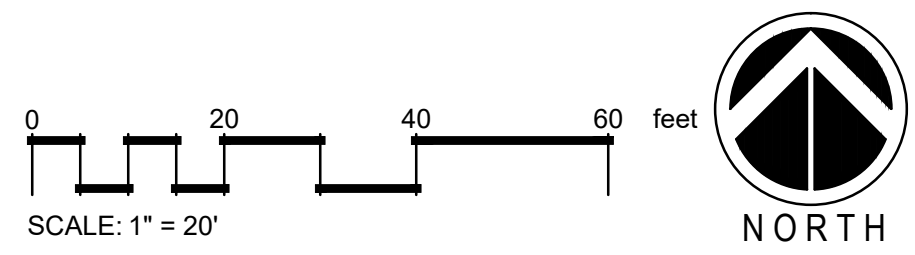
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ISSUE DATE: 03.03.2021  
PROJ #: TALISM-001

Sheet Name:  
**LANDSCAPE PLAN OVERVIEW**  
Sheet Number:  
**LP001**





Planting plan shown is for reference only and will be installed by the owner. The contractor is not required to provide a bid for the planting plans.



**PLANT SCHEDULE**

TREES		SHRUBS	
BOTANICAL / COMMON NAME	SYMBOL	BOTANICAL / COMMON NAME	SYMBOL
ACER TRUNCATUM X PLATANOIDES 'WARRENRED' TM PACIFIC SUNSET MAPLE		ARONIA MELANOCARPA 'UCONNAM165' TM LOW SCAPE MOUND BLACK CHOKEBERRY	
COTINUS COGGYGRIA 'ANCOT' GOLDEN SPIRIT SMOKE TREE		ARONIA MELANOCARPA 'UCONNAM166' TM LOW SCAPE HEDGER BLACK CHOKEBERRY	
COTINUS X DUMMERI 'GRACE' SMOKE TREE		BUDDLEJA X 'SMNBDW' PUGSTER WHITE DWARF BUTTERFLY BUSH	
CUPRESSUS ARIZONICA 'CAROLINA SAPPHIRE' CAROLINA SAPPHIRE CYPRESS		CHAMAEBATIARIA MILLEFOLIUM DESERT SWEET	
PICEA PUNGENS 'GLAUCA' COLORADO BLUE SPRUCE		ECHINACEA PURPUREA 'BALSOMBLANC' SOMBREIRO BLANCO CONEFLOWER	
QUERCUS ROBUR X ALBA 'JFS-KW2QX' TM SKINNY GENES OAK		HIBISCUS SYRIACUS 'ILVOPS' TM PURPLE SATIN ROSE OF SHARON	
ZELKOVA SERRATA 'GREEN VASE' GREEN VASE SAWLEAF ZELKOVA			
MISCANTHUS SINENSIS 'GRACILLIMUS' EULALIA GRASS			
MISCANTHUS SINENSIS 'GRAZIELLA' GRAZIELLA MAIDEN GRASS			
PHYSOCARPUS OPULIFOLIUS 'CENTER GLOW' CENTER GLOW NINEBARK			
PINUS MUGO 'CARSTEN'S WINTERGOLD' CARSTEN'S WINTERGOLD MUGO PINE			
PINUS MUGO 'SLOWMOUND' MUGO PINE			
ROSA X 'RADCOR' TM RAINBOW KNOCK OUT ROSE			
SALVIA X SYLVESTRIS 'APRIL NIGHT' SALLYROSA APRIL NIGHT SAGE			
SPIRAEA X 'ZELDA' SOLAR FLARE SPIRAEA			
TETRANEURIS ACAULIS ARIZONICA SOL DANCER DAISY			
VIBURNUM X RHYTIDOPHYLLOIDES 'ALLEGHANY' ALLEGHANY VIBURNUM			

**PLANTING NOTES:**  
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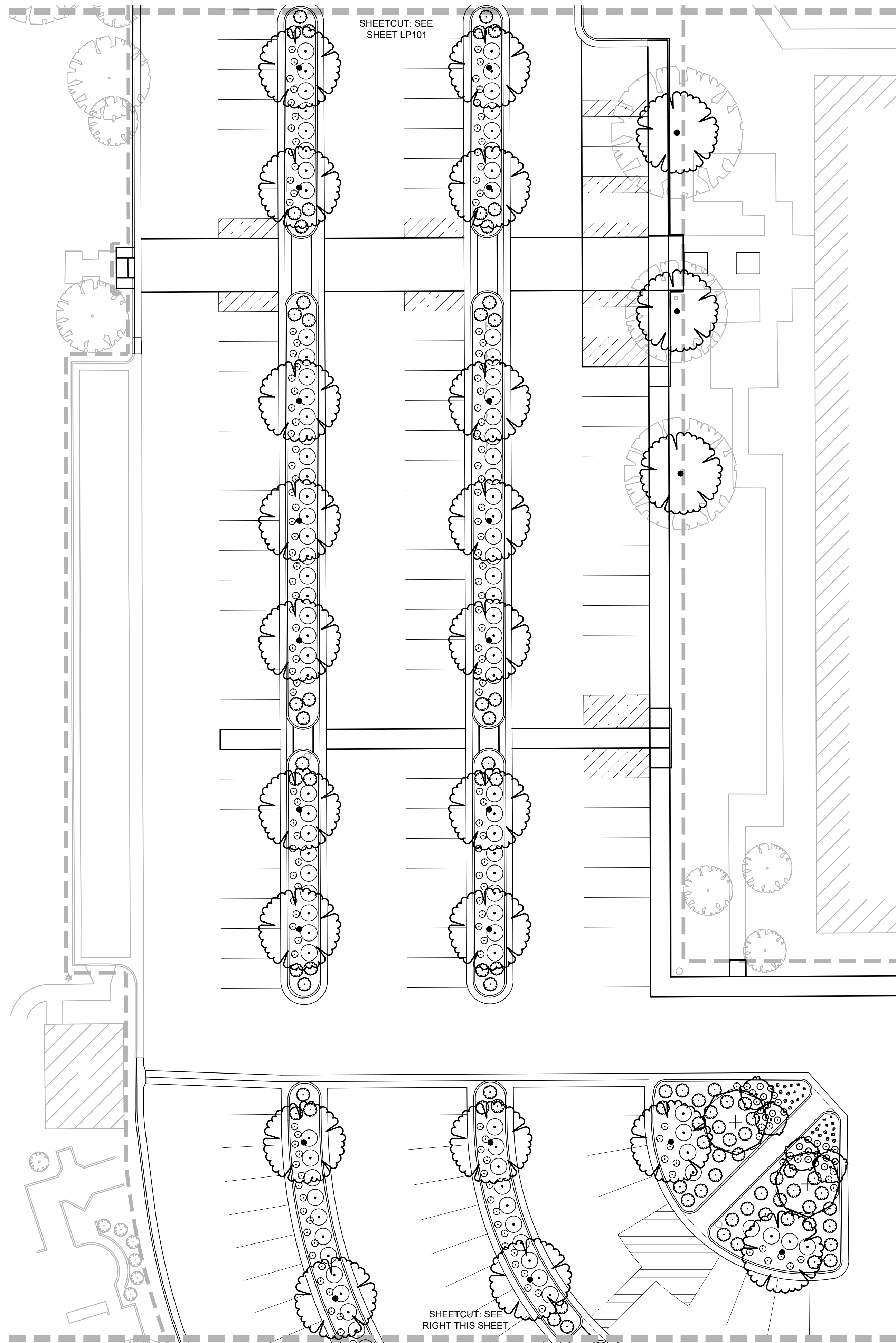
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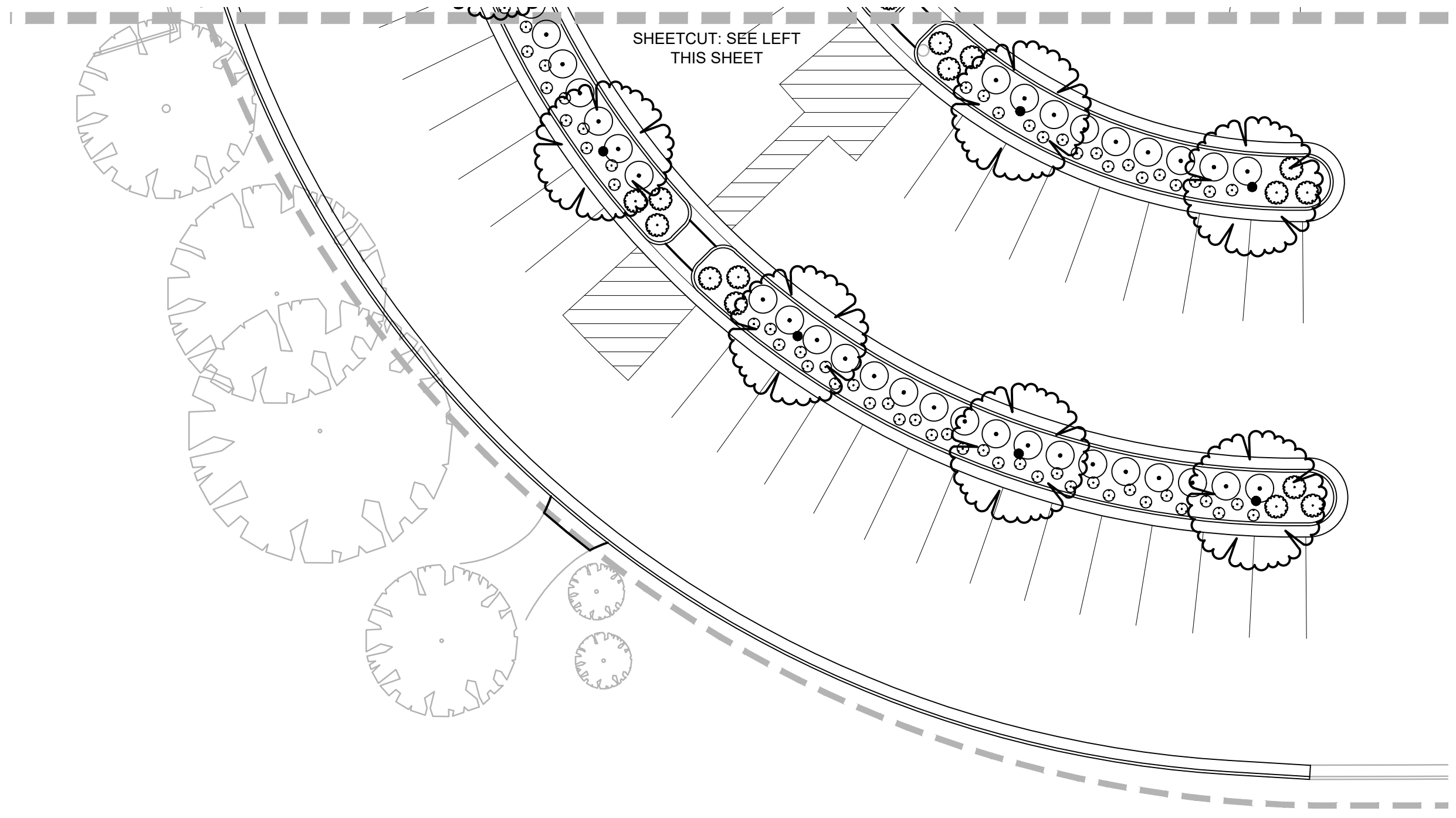
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**LANDSCAPE PLAN**

Sheet Number:  
**LP101**





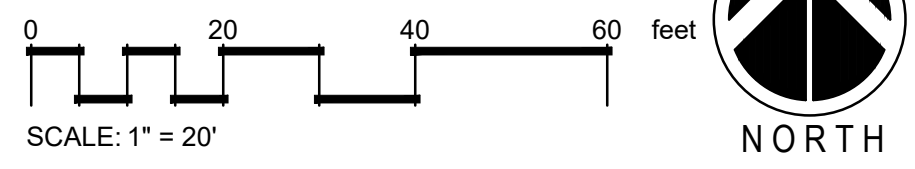
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**PLANT SCHEDULE**

TREES	BOTANICAL / COMMON NAME		
	ACER TRUNCATUM X PLATANOIDES 'WARRENRED' TM PACIFIC SUNSET MAPLE		MISCANTHUS SINENSIS 'GRACILLIMUS' EULALIA GRASS
	COTINUS COGGYGRIA 'ANCOT' GOLDEN SPIRIT SMOKE TREE		MISCANTHUS SINENSIS 'GRAZIELLA' GRAZIELLA MAIDEN GRASS
	COTINUS X DUMMERI 'GRACE' SMOKE TREE		PHYSOCARPUS OPULIFOLIUS 'CENTER GLOW' CENTER GLOW NINEBARK
	CUPRESSUS ARIZONICA 'CAROLINA SAPPHIRE' CAROLINA SAPPHIRE CYPRESS		PINUS MUGO 'CARSTEN'S WINTERGOLD' CARSTEN'S WINTERGOLD MUGO PINE
	PICEA PUNGENS 'GLAUCA' COLORADO BLUE SPRUCE		PINUS MUGO 'SLOWMOUND' MUGO PINE
	QUERCUS ROBUR X ALBA 'JFS-KW2QX' TM SKINNY GENES OAK		ROSA X 'RADCOR' TM RAINBOW KNOCK OUT ROSE
	ZELKOVA SERRATA 'GREEN VASE' GREEN VASE SAWLEAF ZELKOVA		SALVIA X SYLVESTRIS 'APRIL NIGHT' SALLYROSA APRIL NIGHT SAGE
SHRUBS	BOTANICAL / COMMON NAME		
	ARONIA MELANOCARPA 'UCCONNAM165' TM LOW SCAPE MOUND BLACK CHOKEBERRY		SPIRAEA X 'ZELDA' SOLAR FLARE SPIRAEA
	ARONIA MELANOCARPA 'UCCONNAM166' TM LOW SCAPE HEDGER BLACK CHOKEBERRY		TETRANEURIS ACAULIS ARIZONICA SOL DANCER DAISY
	BUDDLEJA X 'SMNBDW' PUGSTER WHITE DWARF BUTTERFLY BUSH		VIBURNUM X RHYTIDOPHYLLOIDES 'ALLEGHANY' ALLEGHANY VIBURNUM
	CHAMAEBATIARIA MILLEFOLIUM DESERT SWEET		
	ECHINACEA PURPUREA 'BALSOMBLANC' SOMBRERO BLANCO CONEFLOWER		
	HIBISCUS SYRIACUS 'ILVOPS' TM PURPLE SATIN ROSE OF SHARON		

**PLANTING NOTES:**  
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**epg** Sustainable Solutions  
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6949 South High Tech Drive  
Midvale, Utah 84047  
CONTACT:  
DAVE HARRIS, PLA  
801.746.4457  
epgllc.design  
dharris@epgllc.co

LANDSCAPE ARCHITECT  
DAVID A. HARRIS  
NO. 485266  
STATE OF UTAH

JORDAN VALLEY WATER  
CONSERVANCY DISTRICT

TALISMAN  
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WEST JORDAN, UTAH  
100% CONSTRUCTION DOCUMENTS

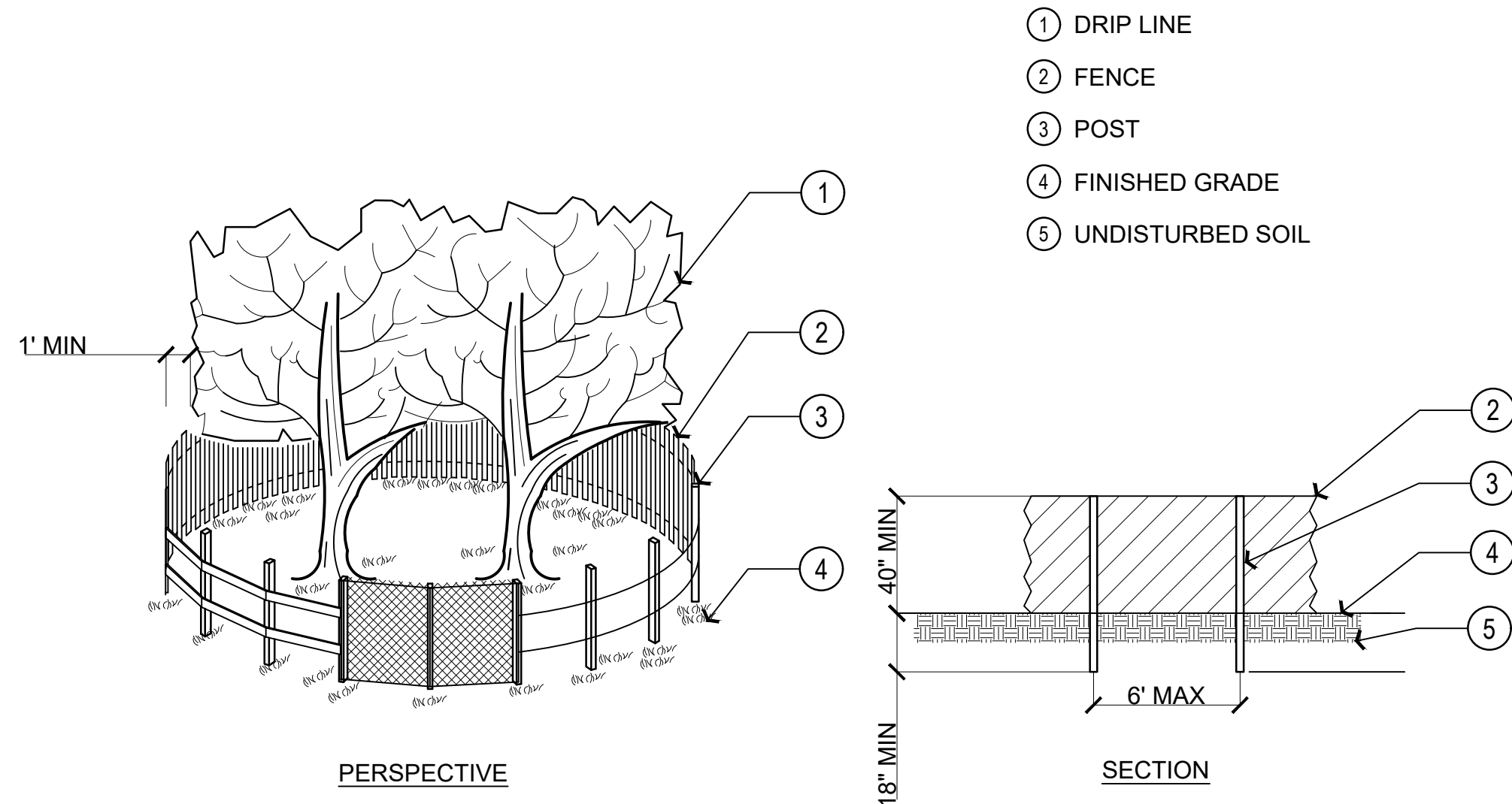
REV	DATE	DESCRIPTION

DESIGNED BY: DH  
DRAWN: LS  
CHECKED: DH  
ISSUE DATE: 03.03.2021  
PROJ #: TALISM-001

Sheet Name:  
**LANDSCAPE PLAN**

Sheet Number:  
**LP102**



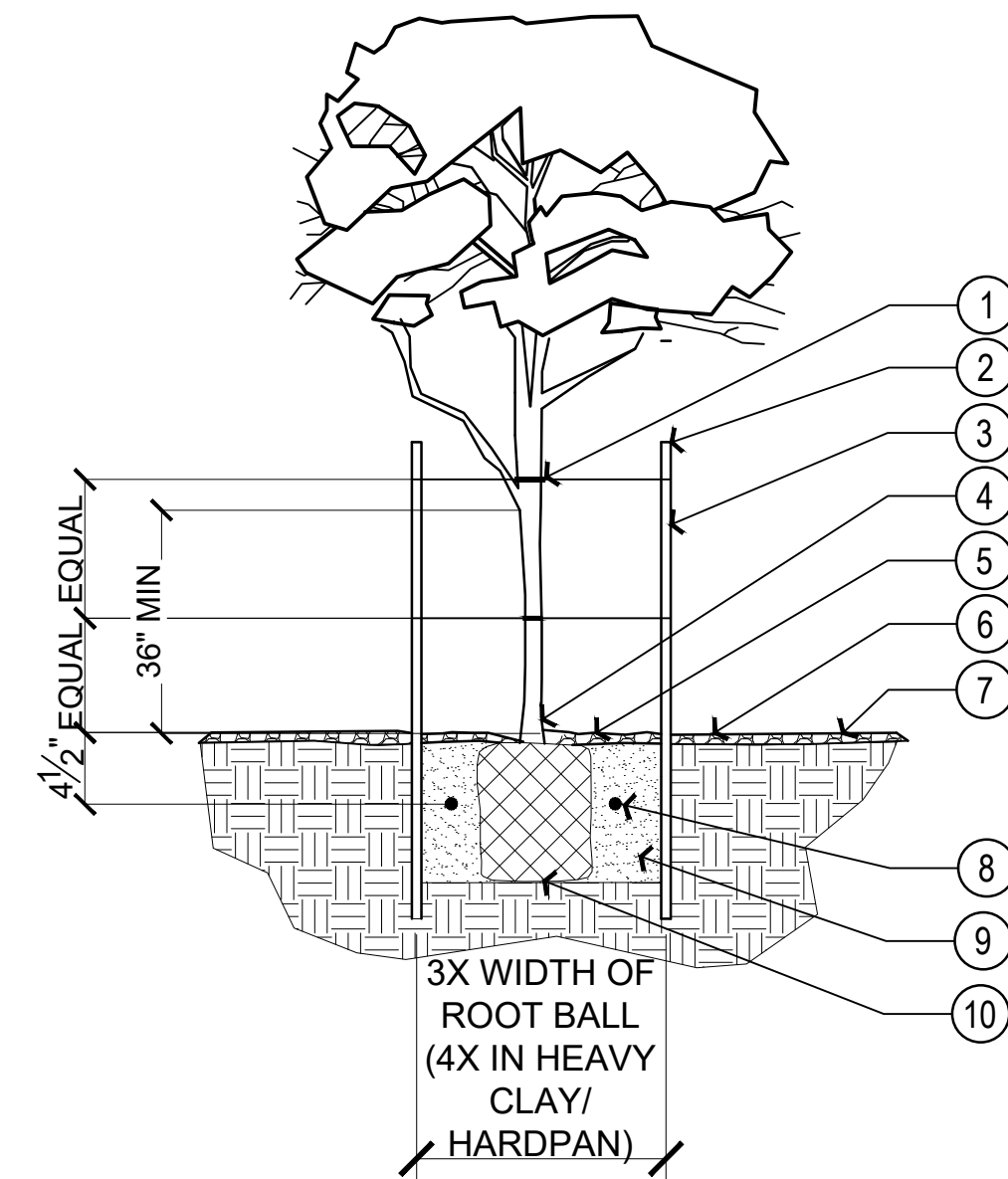


**1 TREE PROTECTION FENCING**

NTS

P-CO-JOR-39

- NOTES:**
1. THE FENCE SHALL BE LOCATED A MINIMUM OF 1 FOOT OUTSIDE THE DRIPLINE OF THE TREE TO BE SAVED AND IN NO CLOSER THAN 5 FEET TO THE TRUNK OF TREE. TREE PROTECTION TO BE INSTALLED AND APPROVED BY CLV URBAN FORESTER PRIOR TO CONSTRUCTION STARTING.
  2. FENCE POSTS SHALL BE EITHER STANDARD STEEL POSTS OF WOOD POSTS WITH A MINIMUM CROSS SECTIONAL AREA OF 4.0 SQ. IN.
  3. THE FENCE MAY BE EITHER A 40" HIGH SNOW FENCE, 40" PLASTIC WEB FENCING OR ANY OTHER MATERIAL AS APPROVED BY THE LANDSCAPE ARCHITECT.
  4. ALL PLANTS DESIGNATED TO BE SAVED SHALL BE PROTECTED BY FENCING, AS ILLUSTRATED.
  5. THERE SHALL BE NO STORAGE OF MATERIAL WITHIN THE BOUNDARIES OF THE TREE PROTECTION FENCING.
  6. TREE PROTECTION FENCING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT AND REMOVED AT THE END OF CONSTRUCTION.



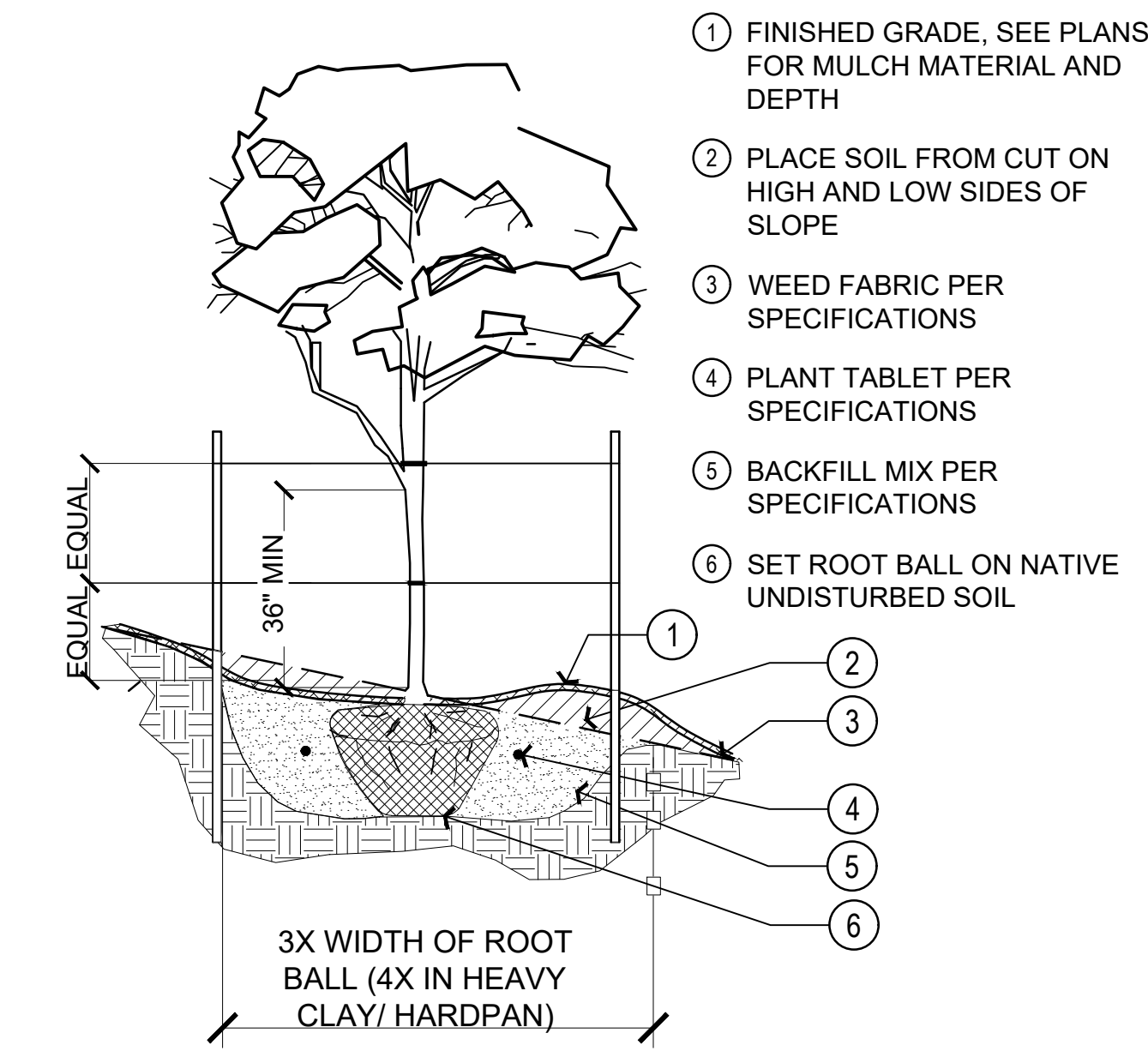
**2 TREE PLANTING**

NTS

P-CO-JOR-42

1. 3/4" WEBBED NYLON STRP; MAINTAIN 4"-6" I.D. LOOP FOR WRAPPING AROUND STAKE, STAPLE STRAP TO TREE STAKE
2. TRIM TREE STAKES 6" ABOVE FIRST SCAFFOLD BRANCH
3. 2" DIA LODGEPOLE PINE STAKES, SHALL BE 8' VERTICAL; LOCATE OUTSIDE OF ROOTBALL (TYP OF 2)
4. SET BASE OF ROOT FLARE 1"-2" ABOVE FINISHED GRADE
5. FOOT TAMP 6" DIA AROUND ROOT BALL TO ENSURE TREE STABILITY
6. PROVIDE A 6" DIA SHOVEL CUT TREE RING IN SOD; MULCH PER SPECIFICATIONS
7. FINISHED GRADE
8. FERTILIZER TABLETS PER SPECIFICATIONS
9. BACKFILL MIX PER SPECIFICATIONS
10. SET ROOT BALL ON UNDISTURBED NATIVE SOIL

- NOTES:**
1. REMOVE SUCKERS AND POORLY ATTACHED LOWER BRANCHES.
  2. STANDARD TREES SHALL HAVE A SINGLE, RELATIVELY STRAIGHT CENTRAL LEADER AND TAPERED TRUNK FREE OF CODOMINANT STEMS.
  3. TREES WITH CALIPER EQUAL TO OR LESS THAN 4" WILL BE MEASURED AT 6" ABOVE THE SOIL LINE.

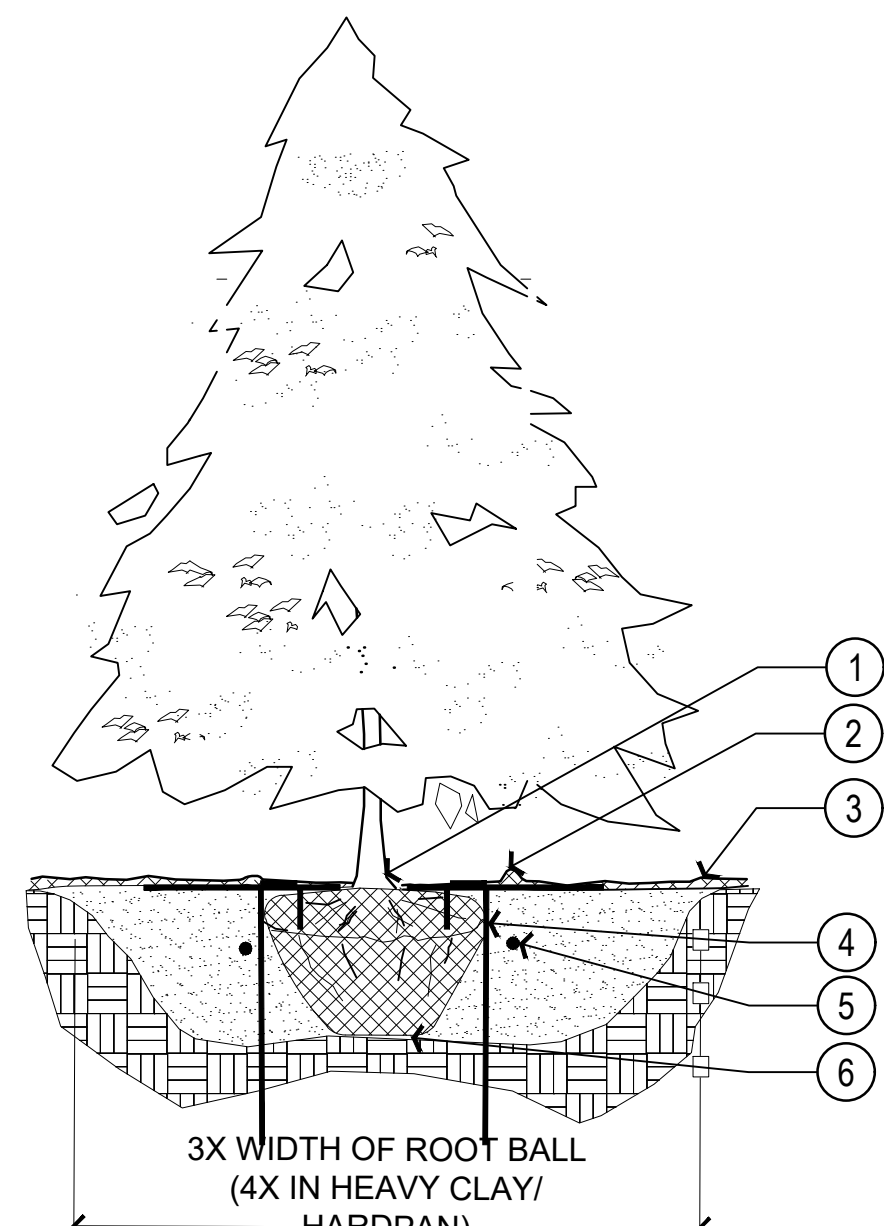


**3 TREE PLANTING ON SLOPE**

NTS

P-CO-JOR-43

1. FINISHED GRADE, SEE PLANS FOR MULCH MATERIAL AND DEPTH
2. PLACE SOIL FROM CUT ON HIGH AND LOW SIDES OF SLOPE
3. WEED FABRIC PER SPECIFICATIONS
4. PLANT TABLET PER SPECIFICATIONS
5. BACKFILL MIX PER SPECIFICATIONS
6. SET ROOT BALL ON NATIVE UNDISTURBED SOIL



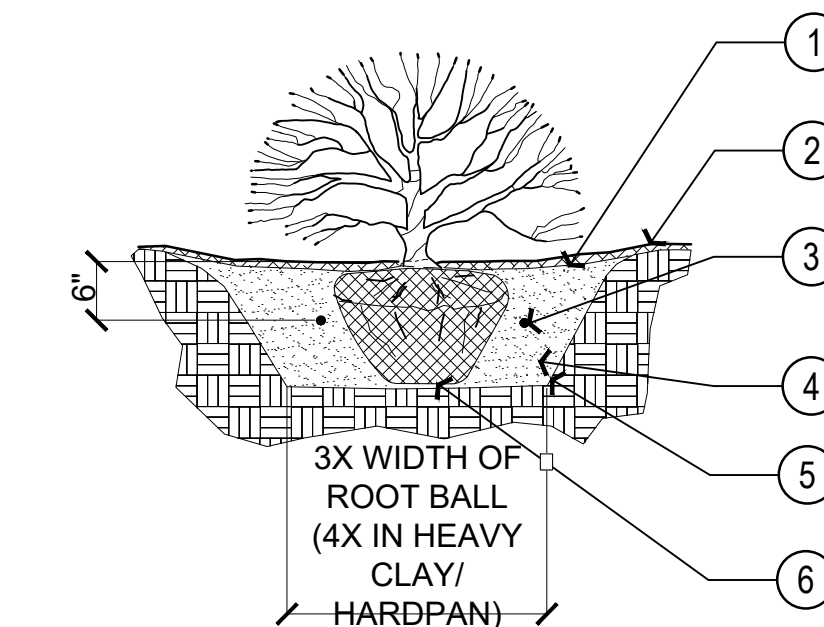
**4 EVERGREEN TREE PLANTING**

NTS

P-CO-JOR-40

1. SET BOTTOM OF ROOT FLARE 1"-2" ABOVE FINISHED GRADE
2. PROVIDE A MULCHED SAUCER EXTENDING 6" PAST ROOTBALL, TYP
3. FINISHED GRADE, PROVIDE A 2' RADIUS TREE RING CUT INTO SOD; MULCH MATERIAL AND DEPTH PER PLAN
4. TOMAHAWK TREE STABILIZER, 1 PER SIDE. USE DRIVING TOOL BY TOMAHAWK TO INSTALL. SIZE BASED ON TREE CALIPER. CONTACT BORDER CONCEPTS INC. AT 1.800.843.3343 OR AT WWW.BORDERCONCEPTS.COM
5. PLANT TABLET PER SPECIFICATIONS
6. SET ROOT BALL ON UNDISTURBED NATIVE SOIL

- NOTES:**
1. TREE STAKING SHOULD ONLY OCCUR WHEN NEEDED, SEE SPEC. AND AS APPROVED BY LANDSCAPE ARCHITECT.
  2. AFTER TREE PLACEMENT CUT AND REMOVE WIRE AND TIES FROM ROOTBALL.
  3. REMOVE BURLAP FROM TOP 2/3 OF ROOTBALL



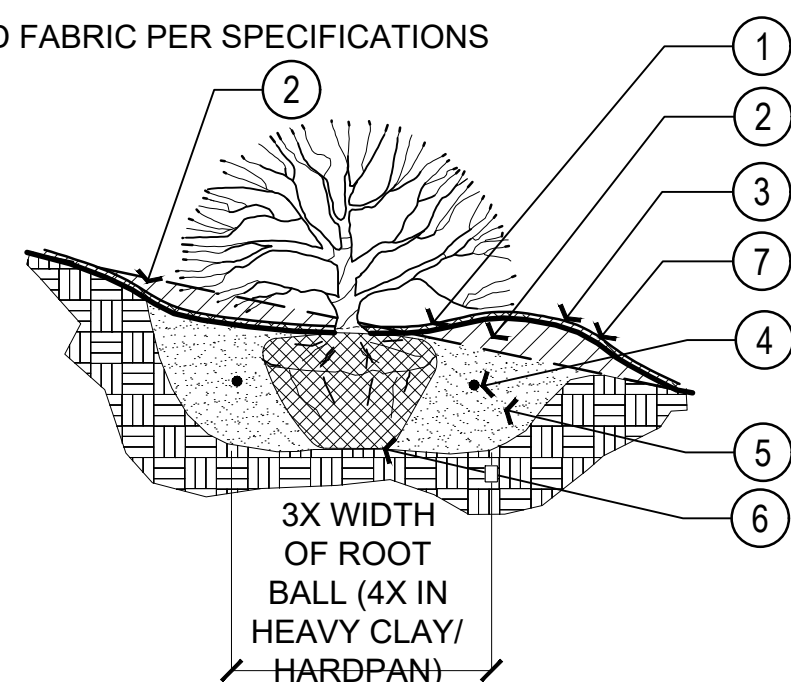
**5 SHRUB PLANTING**

NTS

P-CO-JOR-38

1. 2" DEEP WATERING BASIN SHALL BE GENTLE AND UNIFORM THROUGHOUT WITH NO OBTRUSIVE EDGES
2. FINISHED GRADE, SEE PLANS FOR MULCH MATERIAL AND DEPTH
3. PLANT TABLET PER SPECIFICATIONS
4. BACKFILL MIX PER SPECIFICATIONS
5. SCARIFY SIDES OF PIT, TYP
6. SET ROOT BALL ON NATIVE UNDISTURBED SOIL

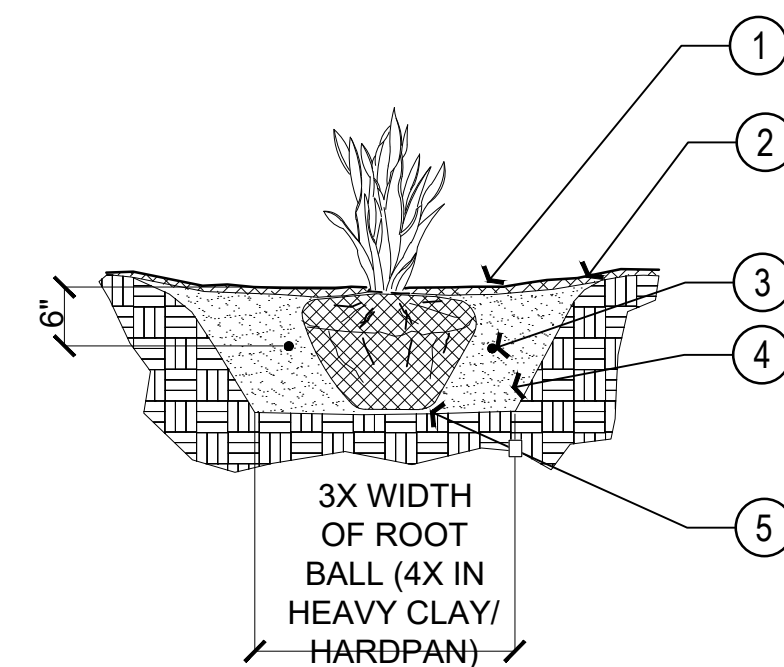
1. 2" DEEP WATERING BASIN SHALL BE GENTLE AND UNIFORM THROUGHOUT WITH NO OBTRUSIVE EDGES
2. PLACE SOIL FROM CUT ON HIGH AND LOW SIDES OF SLOPE
3. FINISHED GRADE, SEE PLANS FOR MULCH MATERIAL AND DEPTH
4. PLANT TABLET PER SPECIFICATIONS
5. BACKFILL MIX PER SPECIFICATIONS
6. SET ROOT BALL ON NATIVE UNDISTURBED SOIL
7. WEED FABRIC PER SPECIFICATIONS



**6 SHRUB PLANTING ON SLOPE**

NTS

P-CO-JOR-37



**7 ORNAMENTAL GRASS**

NTS

P-CO-JOR-36

Planting plan shown is for reference only and will be installed by the owner. The contractor is not required to provide a bid for the planting plans.

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Sheet Name:  
**LANDSCAPE  
DETAILS**

Sheet Number:  
**LP301**



## EXTERIOR PLANTS

## PART 1 - GENERAL

## 1.1 SUMMARY

## A. Section Includes:

- Plants.
- Planting soils.
- Tree stabilization.
- Landscape edgings.

## Related Sections:

- Section 02819 "Underground Sprinkler Irrigation System."

## 1.2 DEFINITIONS

## A. Backfill: The earth used to replace or the act of replacing earth in an excavation.

B. Container-Grown Stock: Healthy, vigorous, well-rooted plants grown in a container, with a well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of plant required.

C. Duff Layer: The surface layer of native topsoil that is composed of mostly decayed leaves, twigs, and duff.

D. Finish Grade: Elevation of finished surface of planting soil.

E. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.

F. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.

G. Pests: Living organisms that occur where they are not desired, or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.

H. Planting Area: Areas to be planted.

I. Planting Soil: Standardized topsoil; existing, native surface topsoil; existing, in-place surface soil; imported topsoil; or manufactured topsoil that is modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.

J. Plant; Plants; Plant Material: These terms refer to vegetation in general, including trees, shrubs, vines, ground covers, ornamental grasses, bulbs, corms, tubers, or herbaceous vegetation.

K. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.

L. Stem Girdling Roots: Roots that encircle the stems (trunks) of trees below the soil surface.

M. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

N. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

O. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil; but in disturbed areas such as urban environments, the surface soil can be subsoil.

## 1.3 SUBMITTALS

## A. Product Data: For each type of product indicated, including soils.

- Plant Materials: Include quantities, sizes, quality, and sources for plant materials.
- Pesticides and Herbicides: Include product label and manufacturer's application instructions specific to the Project.
- Plant Photographs: Include color photographs in digital or 3- by 5-inch print format of each required species and size of plant material as it will be furnished to the Project. Take photographs from an angle depicting true size and condition of the typical plant to be furnished. Include a scale rod or other measuring device in each photograph. For species where more than 20 plants are required, include a minimum of three photographs showing the average plant, the best quality plant, and the worst quality plant to be furnished. Identify each photograph with the full scientific name of the plant, plant size, and name of the growing nursery.

## B. Samples for Verification: For each of the following:

- Organic Compost Mulch: 1-quart volume of each organic mulch required; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch. Each Sample shall be typical of the lot of material to be furnished; provide an accurate representation of color, texture, and organic makeup.
- Edging Materials and Accessories: Manufacturer's standard size, to verify color selected.

C. Qualification Data: For qualified landscape Installer. Include list of 5 similar projects completed by Installer demonstrating Installer's capabilities and experience. Include

project names, addresses, and year completed, and include names and addresses of owners' contact persons.

## D. Product Certificates: For each type of manufactured product, from manufacturer, and complying with the following:

- Manufacturer's certified analysis of standard products.
- Analysis of other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.

## E. Material Test Reports: For existing native soil for plant mix.

## F. Warranty: Sample of special warranty.

## 1.4 QUALITY ASSURANCE

## A. Installer Qualifications: A qualified landscape Installer whose work has resulted in successful establishment of plants.

- Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
- Personnel Certifications: Installer's field supervisor shall have the following certification from the Professional Landcare Network:
  - Certified Landscape Technician - Exterior, with installation, maintenance, and irrigation specialty area(s), designated CLT-Exterior.
- Pesticide Applicator: State licensed, commercial..

B. Soil-Testing Laboratory Qualifications: An independent or university laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.

C. Soil Analysis: For each unamended soil type, furnish soil analysis and a written report by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; sodium absorption ratio; deleterious material; pH; and mineral and plant-nutrient content of the soil.

- Testing methods and written recommendations shall comply with USDA's Handbook No. 60.
- The soil-testing laboratory shall oversee soil sampling; with depth, location, and number of samples to be taken per instructions from Owner's Representative. A minimum of three representative samples shall be taken from varied locations for each soil to be used or amended for planting purposes.
- Report suitability of tested soil for plant growth.

a. Based upon the test results, state recommendations for soil treatments and soil amendments to be incorporated. State recommendations in weight per 1000 sq. ft. or volume per cu. yd. for nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory planting soil suitable for healthy, viable plants.

b. Report presence of problem salts, minerals, or heavy metals, including aluminum, arsenic, barium, cadmium, chromium, cobalt, lead, lithium, and vanadium. If such problem materials are present, provide additional recommendations for corrective action.

D. Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.

E. Measurements: Measure according to ANSI Z60.1. Do not prune to obtain required sizes.

- Trees and Shrubs: Measure with branches and trunks or canes in their normal position. Take height measurements from or near the top of the root flare for field-grown stock and container grown stock. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip to tip. Take caliper measurements 6 inches above the root flare for trees up to 4-inch caliper size, and 12 inches above the root flare for larger sizes.
- Other Plants: Measure with stems, petioles, and foliage in their normal position.

F. Plant Material Observation: Owner's Representative may observe plant material either at place of growth or at site before planting for compliance with requirements for genus, species, variety, cultivar, size, and quality. Owner's Representative retains right to observe trees and shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent defects and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.

- Notify Owner's Representative of sources of planting materials seven days in advance of delivery to site.

## G. Preinstallation Conference: Conduct conference at Project site.

## 1.5 DELIVERY, STORAGE, AND HANDLING

A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws if applicable.

## B. Bulk Materials:

- Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
- Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
- Accompany each delivery of bulk fertilizers and soil amendments with appropriate certificates.

C. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and

delivery. Do not drop plants during delivery and handling.

## D. Handle planting stock by root ball.

E. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.

- Do not remove container-grown stock from containers before time of planting.
- Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist, but not overly-wet condition.

## 1.6 PROJECT CONDITIONS

A. Field Measurements: Verify actual grade elevations, service and utility locations, irrigation system components, and dimensions of plantings and construction contiguous with new plantings by field measurements before proceeding with planting work.

B. Interruption of Existing Services or Utilities: Do not interrupt services or utilities to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary services or utilities according to requirements indicated:

- Notify Owner's Representative no fewer than two days in advance of proposed interruption of each service or utility.
- Do not proceed with interruption of services or utilities without Owner's Representative written permission.

C. Planting Restrictions: Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.

D. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions and warranty requirements.

## 1.7 WARRANTY

When warranties are required, verify with Owner's counsel that special warranties stated in this article are not less than remedies available to Owner under prevailing local laws.

A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.

- Failures include, but are not limited to, the following:
  - Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner, or incidents that are beyond Contractor's control.
  - Structural failures including plantings falling or blowing over.
  - Faulty performance of tree stabilization or edgings.
  - Deterioration of metals, metal finishes, and other materials beyond normal weathering.
- Warranty Periods from Date of Substantial Completion:
  - Trees, Shrubs, Vines, Ground Covers and Ornamental Grasses: 12 months.
  - Biennials, Perennials, and Other Plants: 12 months or a full growth cycle.
- Include the following remedial actions as a minimum:
  - Immediately remove dead plants and replace unless required to plant in the succeeding planting season.
  - Replace plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
  - A limit of one replacement of each plant will be required except for losses or replacements due to failure to comply with requirements.

## 1.8 MAINTENANCE SERVICE

A. Initial Maintenance Service: Provide maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established but for not less than maintenance period below.

- Maintenance Period: Three months from date of Substantial Completion.

## SECTION 02930 - EXTERIOR PLANTS

## PART 2 - PRODUCTS

## 2.1 PLANT MATERIAL

A. General: Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant Schedule or Plant Legend shown on Drawings and complying with ANSI Z60.1 and the Arizona Nursery Association Recommended Average Tree Specifications; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

- Trees with damaged, crooked, or multiple leaders; tight vertical branches where bark is squeezed between two branches or between branch and trunk ("included bark"); crossing trunks; cut-off limbs more than 3/4 inch in diameter; or with stem girdling roots will be rejected.
- Collected Stock: Do not use plants harvested from the wild, from native stands,

from an established landscape planting, or not grown in a nursery unless otherwise indicated.

B. Provide plants of sizes, grades, and ball or container sizes complying with ANSI Z60.1 for types and form of plants required. Plants of a larger size may be used if acceptable to Consultant, with a proportionate increase in size of roots or balls.

C. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which shall begin at root flare according to ANSI Z60.1. Root flare shall be visible before planting.

D. Labeling: Label each plant of each variety, size, and caliper with a securely attached, waterproof tag bearing legible designation of common name and full scientific name, including genus and species. Include nomenclature for hybrid, variety, or cultivar, if applicable for the plant as shown on Drawings.

## 2.2 INORGANIC SOIL AMENDMENTS

A. Sulfur: Granular, biodegradable, and containing a minimum of 90 percent sulfur, with a minimum of 99 percent passing through No. 6 sieve and a maximum of 10 percent passing through No. 40 sieve.

B. Perlite: Horticultural perlite, soil amendment grade.

C. Agricultural Gypsum: Minimum 90 percent calcium sulfate, finely ground with 90 percent passing through No. 50 sieve.

D. Sand: Clean, washed, natural or manufactured, and free of toxic materials.

## 2.3 ORGANIC SOIL AMENDMENTS

A. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 3/4-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

- Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.
- Sphagnum Peat: Partially decomposed sphagnum peat moss, finely divided or granular texture, with a pH range of 3.4 to 4.8.
- Muck Peat: Partially decomposed moss peat, native peat, or reed-sedge peat, finely divided or of granular texture, with a pH range of 6 to 7.5, and having a water-absorbing capacity of 1100 to 2000 percent.
- Wood Derivatives: Decomposed, nitrogen-treated sawdust, ground bark, or wood waste; of uniform texture and free of chips, stones, sticks, soil, or toxic materials.

1. In lieu of decomposed wood derivatives, mix partially decomposed wood derivatives with ammonium nitrate at a minimum rate of 0.15 lb/cu. ft. of loose sawdust or ground bark, or with ammonium sulfate at a minimum rate of 0.25 lb/cu. ft. of loose sawdust or ground bark.

E. Composted Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, debris, and material harmful to plant growth.

## 2.4 FERTILIZERS

A. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:

- Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.
- Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.

B. Planting Tablets: Tightly compressed chip type, long-lasting, slow-release, commercial-grade planting fertilizer in tablet form. Tablets shall break down with soil bacteria, converting nutrients into a form that can be absorbed by plant roots.

- Size: 10-gram tablets.
- Nutrient Composition: 20 percent nitrogen, 10 percent phosphorous, and 5 percent potassium, by weight plus micronutrients.

C. Chelated Iron: Commercial-grade FeEDDHA for dicots and woody plants, and commercial-grade FeDTPA for ornamental grasses and monocots.

## 2.5 PLANTING SOILS

A. Planting Soil: Existing, in-place surface soil. Verify suitability of existing surface soil to produce viable planting soil. Remove stones, roots, plants, sod, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth. Mix surface soil with the following soil amendments in the following quantities to produce planting soil:

- Ratio of Loose Compost to Surface Soil by Volume: 1:3.
- Soil Amendments: Weight of soil amendments per 1000 Sq. Ft. to be determined by agronomy soil analysis.

## 2.6 MULCHES

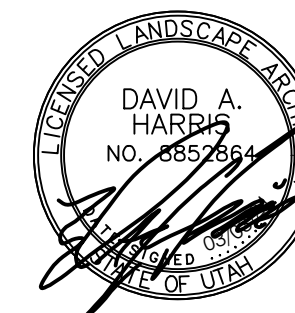
A. Mineral Mulch: Hard, durable stone, washed free of loam, sand, clay, and other foreign substances, of following type, size range, and color:

- Type: Landscape Cobble.
- Size Range: 2 inch minus.
- Color: Dark Brown (to be approved by owner).



6949 South High Tech Drive  
Midvale, Utah 84047

CONTACT:  
DAVE HARRIS, PLA  
801.746.4457  
epgllc.design  
dharris@epgllc.co



JORDAN VALLEY WATER  
CONSERVANCY DISTRICT



JORDAN VALLEY WATER CONSERVANCY DISTRICT  
WEST JORDAN, UTAH  
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LANDSCAPE  
SPECIFICATIONS

Sheet Number:

LP401



2.7 MOISTURE-CONTROL BARRIERS

- A. High Density Polyethylene (HDPE) smooth geomembrane in thickness of 0.75 mm (30 mils), having high tensile strength, chemical resistance, stress-crack resistance, and low temperature properties for moisture containment.

2.8 PESTICIDES

- A. General: Pesticide registered and approved by EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- B. Pre-Emergent Herbicide (Selective and Non-Selective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
- C. Post-Emergent Herbicide (Selective and Non-Selective): Effective for controlling weed growth that has already germinated.

2.9 TREE STABILIZATION MATERIALS

- A. Stakes and Guys:
  1. Upright and Guy Stakes: Sound, new Lodge Pole wood with wood pressure-preservative treatment, free of knots, holes, cross grain, and other defects, 2" diameter min. by length indicated, pointed at one end.
  2. Guys and Tie Wires: ASTM A 641/A 641M, Class 1, galvanized-steel wire, two-strand, twisted, 0.106 inch in diameter.
  3. Tree-Tie Rubber Hose: UV-resistant 1/2" diameter garden hose.

2.10 MISCELLANEOUS PRODUCTS

- A. Wood Pressure-Preservative Treatment: AWPAC C2, with waterborne preservative for soil and freshwater use, acceptable to authorities having jurisdiction, and containing no arsenic; including ammoniacal copper arsenate, ammoniacal copper zinc arsenate, and chromated copper arsenate.
- B. Antidesiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for trees and shrubs. Deliver in original, sealed, and fully labeled containers and mix according to manufacturer's written instructions.
- C. Burlap: Non-synthetic, biodegradable.
- D. Planter Drainage Gravel: Washed, sound crushed stone or gravel complying with ASTM D 448 for Size No. 8.
- E. Planter Filter Fabric: Woven geotextile manufactured for separation applications and made of polypropylene, polyolefin, or polyester fibers or combination of them.
- F. Mycorrhizal Fungi: Dry, granular inoculant containing at least 5300 spores per lb of vesicular-arbuscular mycorrhizal fungi and 95 million spores per lb of ectomycorrhizal fungi, 33 percent hydrogel, and a maximum of 5.5 percent inert material.

SECTION 02930 - EXTERIOR PLANTS

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive plants for compliance with requirements and conditions affecting installation and performance.
  1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
  2. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.
  3. Suspend soil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
  4. Uniformly moisten excessively dry soil that is not workable and which is too dusty.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

- C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Consultant and replace with new planting soil.

3.2 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities and turf areas and existing plants from damage caused by planting operations.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- C. Apply antidesiccant to trees and shrubs using power spray to provide an adequate film over trunks (before wrapping), branches, stems, twigs, and foliage to protect during digging, handling, and transportation.
  1. If deciduous trees or shrubs are moved in full leaf, spray with antidesiccant at nursery before moving and again two weeks after planting.

3.3 EXCAVATION FOR TREES AND SHRUBS

- A. Planting Pits and Trenches: Excavate circular planting pits with sides slopes vertical. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.

1. Excavate approximately the width indicated on details in relation to ball diameter for stock.
2. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball.
3. If area under the plant was initially dug too deep, add soil to raise it to the correct level and thoroughly tamp the added soil to prevent settling.
4. Maintain required angles of repose of adjacent materials as shown on the Drawings. Do not excavate subgrades of adjacent paving, structures, hardscapes, or other new or existing improvements.
5. Maintain supervision of excavations during working hours.
6. Keep excavations covered or otherwise protected when unattended by Installer's personnel.

- B. Subsoil and topsoil removed from excavations may be used as planting soil.
- C. Obstructions: Notify Consultant if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.

- 1. Hardpan Layer: Drill 6-inch- diameter holes, 24 inches apart, into free-draining strata or to a depth of 10 feet, whichever is less, and backfill with free-draining material.
- D. Drainage: Notify Consultant if subsoil conditions evidence unexpected water seepage or retention in tree or shrub planting pits.
- E. Fill excavations with water and allow to percolate away before positioning trees and shrubs.

3.4 TREE AND SHRUB PLANTING

- A. Before planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.
- B. Remove stem girdling roots and kinked roots. Remove injured roots by cutting cleanly; do not break.
- C. Set container-grown stock plumb and in center of planting pit or trench with root flare 1 inch above adjacent finish grades.
  1. Use planting soil for backfill.
  2. Carefully remove root ball from container without damaging root ball or plant.
  3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
  4. Place planting tablets in each planting pit when pit is approximately one-half filled; in amounts indicated. Place tablets beside the root ball about 1 inch from root tips; do not place tablets in bottom of the hole.
  5. Continue backfilling process. Water again after placing and tamping final layer of soil.
- D. When planting on slopes, set the plant so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.

3.5 TREE AND SHRUB PRUNING

- A. Remove only dead, dying, or broken branches. Do not prune for shape.
- B. Prune, thin, and shape trees, shrubs, and vines according to standard professional horticultural and arboricultural practices. Unless otherwise indicated by Consultant, do not cut tree leaders; remove only injured, dying, or dead branches from trees and shrubs; and prune to retain natural character.
- C. Do not apply pruning paint to wounds.

3.6 TREE STABILIZATION

- A. Install trunk stabilization as follows unless otherwise indicated:
  1. Upright Staking and Tying: Use a minimum of two stakes of length required to penetrate at least 12 inches below bottom of backfilled excavation and to extend at least 72 inches above grade. Set vertical stakes and space to avoid penetrating root balls or root masses.
  2. Support trees with two strands of tie wire, connected to the brass grommets of tree-tie webbing at contact points with tree trunk. Allow enough slack to avoid rigid restraint of tree.
  3. At one month prior to the end of the warranty period contractor is to perform a field review with the owner to evaluate the stability of the trees and the continuation and or removal of the tree stakes. Contractor to remove stakes and ties of trees deemed to be self supporting. Contractor to ressecure, restake and adjust tree ties for trees that required continued support.

3.7 GROUND COVER AND PLANT PLANTING

- A. Set out and space ground cover and plants other than trees and shrubs as indicated in even rows with triangular spacing.
- B. Use planting soil for backfill.
- C. Dig holes large enough to allow spreading of roots.
- D. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.
- E. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.
- F. Protect plants from hot sun and wind; remove protection if plants show evidence of

recovery from transplanting shock.

3.8 PLANTING AREA MULCHING

- A. Organic Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of one of the following:
  - B. Type: shredded bark
  - C. Size Range: 3 inches (76 mm) maximum, 1/2 inch (13 mm) minimum.

3.9 PLANT MAINTENANCE

- A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings. Spray or treat as required to keep trees and shrubs free of insects and disease.
  - B. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.
  - C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.

3.10 PESTICIDE APPLICATION

- A. Apply pesticides and other chemical products and biological control agents in accordance with authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.
- B. Pre-Emergent Herbicides (Selective and Non-Selective): Apply to tree, shrub, ground-cover, and landscape cobble areas in accordance with manufacturer's written recommendations. Do not apply to seeded areas.
- C. Post-Emergent Herbicides (Selective and Non-Selective): Apply only as necessary to treat already-germinated weeds and in accordance with manufacturer's written recommendations.

3.11 CLEANUP AND PROTECTION

- A. During planting, keep adjacent paving and construction clean and work area in an orderly condition.
- B. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.
- C. After installation and before Substantial Completion, remove nursery tags, nursery stakes, tie tape, labels, wire, burlap, and other debris from plant material, planting areas, and Project site.

3.12 DISPOSAL

- A. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.

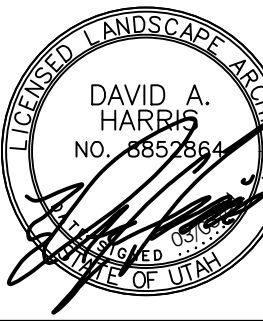
**END OF SECTION**

Planting plan shown is for reference only and will be installed by the owner. The contractor is not required to provide a bid for the planting plans.



6949 South High Tech Drive  
Midvale, Utah 84047

CONTACT:  
DAVE HARRIS, PLA  
801.746.4457  
epgllc.design  
dharris@epgllc.co



JORDAN VALLEY WATER CONSERVANCY DISTRICT  
WEST JORDAN, UTAH  
100% CONSTRUCTION DOCUMENTS

REV	DATE	DESCRIPTION					

DESIGNED BY: DH  
DRAWN: LS  
CHECKED: DH  
ISSUE DATE: 03.03.2021  
PROJ #: TALISM-001

Sheet Name:  
**LANDSCAPE SPECIFICATIONS**

Sheet Number:  
**LP402**