

PLAZA STREET PARTNERS LINCOLN PROFESSIONAL PARK FILING NO. 1 LOT 3

LOCATED IN THE NORTHWEST QUARTER OF SECTION 15, TOWNSHIP 6 SOUTH,
RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
TOWN OF PARKER, COUNTY OF DOUGLAS, STATE OF COLORADO

PARKER WATER AND SANITATION DISTRICT CONSTRUCTION PLANS

AUGUST 2024

PROJECT CONTACTS

PROPERTY OWNER – DEVELOPER

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APPLICANT

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CIVIL ENGINEER

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LANDSCAPE ARCHITECT

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TOWN & UTILITY CONTACTS

ENGINEERING

TOWN OF PARKER – ENGINEERING
20120 E. MAIN STREET
PARKER, CO 80138
TEL: (303) 805-3169
CONTACT: ALEX MESTDAUGH

STORMWATER

TOWN OF PARKER
DEPARTMENT OF ENGINEERING
20120 E. MAIN STREET
PARKER, CO 80138
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CONTACT: – MICHAEL GRABCZYK

FIRE

SOUTH METRO FIRE RESCUE AUTHORITY
9195 E. MINERAL AVE.
CENTENNIAL, CO 80112
TEL: (720) 989-2244
CONTACT: CHIP KERKHOVE

WATER & SANITARY SEWER

PARKER WATER AND SANITATION DISTRICT
1800 E. WOODMAN DRIVE
PARKER, CO 80134
TEL: (303) 841-4627
CONTACT: DRAYTON SANDERSON

GAS

XCEL ENERGY
1800 LARIMER STREET
DENVER, CO 80202
EMAIL: RON.H.JOHNSON@XCELENERGY.COM
CONTACT: RON JOHNSON

ELECTRIC

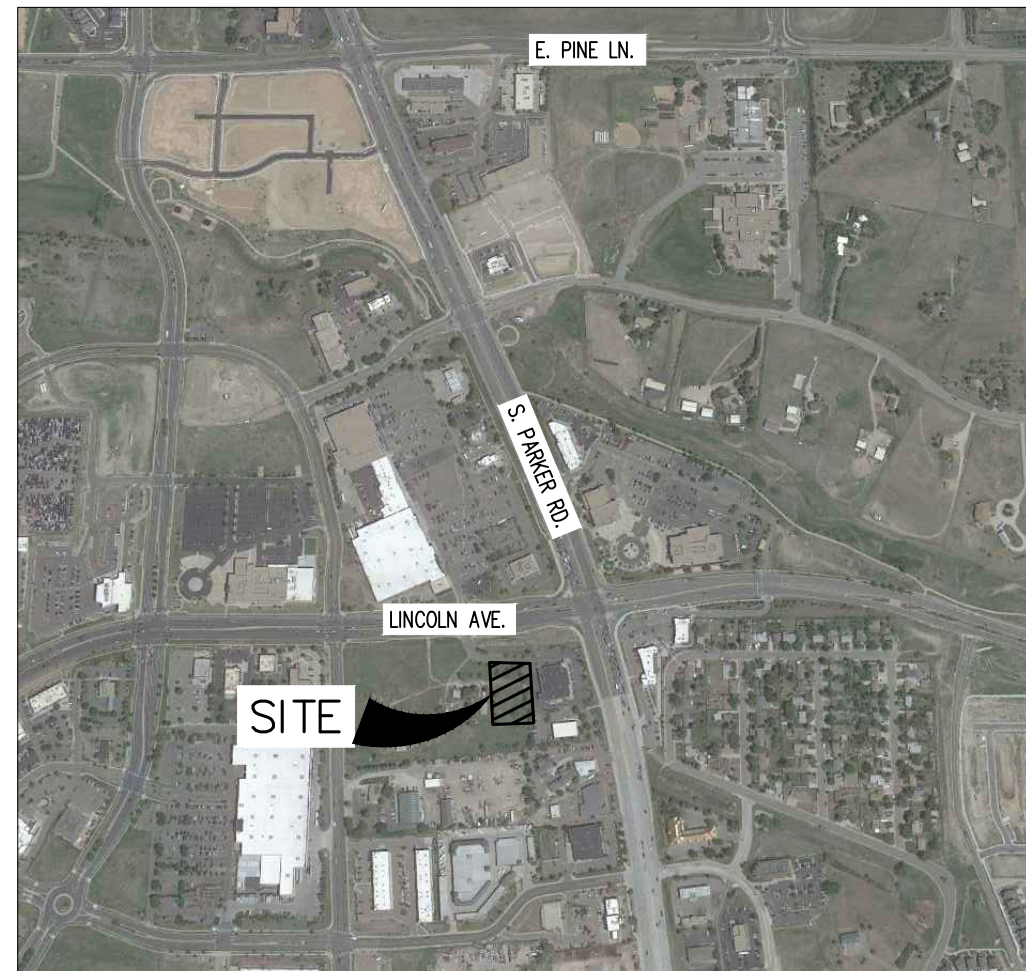
INTERMOUNTAIN RURAL ELECTRIC ASSOCIATION
5496 NORTH US HIGHWAY 85
SEDALJA, CO 80135
TEL (303) 688-3100
CONTACT: AMANDA STEINER

TELEVISION

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TELEPHONE

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VICINITY MAP
(NOT TO SCALE)

SHEET INDEX		
SHEET NUMBER	SHEET DESCRIPTION	SHEET TITLE
1	U.0	UTILITY COVER SHEET
2	U.1	UTILITY SITE PLAN
3	U.2	UTILITY DETAILS
4	U.3	UTILITY DETAILS
5	U.4	WATER PLAN
6	U.5	SANITARY PLAN
7	IR1.1	IRRIGATION PLAN
8	IR1.2	IRRIGATION DETAILS
9	IR1.3	IRRIGATION NOTES & DETAILS
10	IR1.4	IRRIGATION NOTES & DETAILS

PWSD DISTRICT ACCEPTANCE NOTES

- UPON COMPLETION OF SANITARY SEWER AND WATER CONSTRUCTION AND TESTING, THE DEVELOPER OR CONTRACTOR SHALL CONTACT THE DISTRICT FOR PROBATIONARY ACCEPTANCE INSPECTION. A PUNCHLIST WILL BE PROVIDED THE DEVELOPER AND CONTRACTOR UPON COMPLETION OF THE INITIAL WALK-THROUGH AND PROBATIONARY ACCEPTANCE WILL BE ISSUED FOLLOWING COMPLETION AND ACCEPTANCE OF THE WORK OUTLINED IN THE PUNCHLIST.
- THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE PROPER FUNCTIONING OF THE LINES FOR UP TO 1-YEAR FROM THE DATE OF PROBATIONARY ACCEPTANCE OF THE LINES BY THE DISTRICT. ANY MALFUNCTION DURING THIS PERIOD OF GUARANTEE SHALL BE REMEDIED BY THE CONTRACTOR TO THE SATISFACTION OF THE DISTRICT ENGINEER AT NO EXPENSE TO THE DISTRICT.
- THE DATE OF FINAL ACCEPTANCE WILL BE INDICATED IN THE CONDITIONS OF THE PROBATIONARY ACCEPTANCE LETTER. THE DEVELOPER SHALL BE RESPONSIBLE FOR CONTACTING THE DISTRICT FOR FINAL INSPECTION AND FINAL ACCEPTANCE.

FIRE NOTES

- IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER TO MAINTAIN DRIVE LANES FOR EMERGENCY VEHICLE INGRESS AND EGRESS, INCLUDING SNOW REMOVAL.
- EMERGENCY VEHICLE ACCESS ROAD IS REQUIRED TO ALLOW ACCESS WITHIN 150' OF ALL EXTERIOR OF THE BUILDING BY AN APPROVED ROUTE.
- FIRE APPARATUS ACCESS ROADS SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRES APPARATUS AND SHALL BE PROVIDED WITH A SURFACE SO AS TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES. ACCESS ROAD SHALL BE EITHER CONCRETE, ASPHALT, OR OTHER APPROVED ALTERNATIVE MATERIAL ACCOMPANIED WITH AN ENGINEER'S STAMP STATING THE MATERIAL WILL MEET A 75,000 LBS IMPOSED LOAD.
- FIRE HYDRANT(S) ARE REQUIRED TO BE INSTALLED AND MADE SERVICEABLE PRIOR TO AND DURING THE TIME OF VERTICAL CONSTRUCTION.
- NO PARKING FIRE LINE SIGNS ARE REQUIRED IN AREAS THAT MEET THE FOLLOWING CRITERIA AND IN AREAS DESIGNATED BY THE FIRE PREVENTION BUREAU. SIGNS SHALL BE POSTED ON BOTH SIDES OF FIRE DEPARTMENT ACCESS ROADWAYS, PUBLIC OR PRIVATE ROADWAYS OR DRIVEWAYS LESS THAN 26 FEET WIDE. SIGNS SHALL BE POSTED ON ONE SIDE ONLY OF FIRE DEPARTMENT ACCESS ROADWAYS, PUBLIC OR PRIVATE ROADWAYS OR DRIVEWAYS BETWEEN 26 FEET WIDE AND 32 FEET WIDE. NO SIGNAGE IS REQUIRED FOR ACCESS ROADWAY FIRE DEPARTMENT ACCESS ROADWAYS, PUBLIC OR PRIVATE ROADWAYS OR DRIVEWAYS EXCEEDING 32 FEET WIDE.
- WHEN FIRE APPARATUS ACCESS ROADS OR A WATER SUPPLY FOR FIRE PROTECTION IS REQUIRED TO BE INSTALLED, SUCH PROTECTION SHALL BE INSTALLED AND MADE SERVICEABLE PRIOR TO BUILDING CONSTRUCTION GOING VERTICAL.

THE DISTRICT INSPECTOR MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION. CALL PARKER WATER AND SANITATION DISTRICT AT 303-841-4627. THE DISTRICT WILL PROVIDE PERIODIC INSPECTIONS OF THE WORK. 24 HOUR NOTICE TO THE INSPECTOR IS REQUIRED FOR SCHEDULING INSPECTIONS.

ANY WORK ACCOMPLISHED WITHOUT THE APPROVAL OF THE INSPECTOR WILL BE SUBJECT TO REJECTION.

REVIEWED FOR CONFORMANCE TO PARKER WATER AND SANITATION DISTRICT STANDARDS.

BY: _____
(DISTRICT REPRESENTATIVE)

DATE: _____

APPROVED FOR CONSTRUCTION:
PARKER WATER AND SANITATION DISTRICT

BY: _____
(DISTRICT ENGINEER)

DATE: _____

PWSD WATER MAIN NOTES

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE PWSD ENGINEERING STANDARDS AND SPECIFICATIONS, LATEST REVISION.
- ALL WATER MAINS SHALL BE PER PWSD MATERIALS SPECIFICATIONS. ALL MATERIALS IN CONTACT WITH POTABLE WATER SHALL BE SUITABLE FOR CHLORINATED AND CHLORAMINATED WATER.
- ALL BENDS, PLUGS, REDUCERS, AND FIRE HYDRANTS TO BE RODDED OR MEGA-LUGGED. ALL FITTINGS SHALL BE WRAPPED PER PWSD MATERIALS SPECIFICATIONS.
- THERE SHALL BE A MINIMUM COVER OF 4.5 FEET OVER ALL WATER MAINS.
- FIRE HYDRANTS SHALL CONFORM TO ANWA C-502 "DRY BARREL FIRE HYDRANTS" PIPE HYDRANT ASSEMBLIES PER PWSD SPECIFICATIONS.
- ALL BENDS, TEES, FIRE HYDRANTS, BLOW-OFFS, AND PLUGS AT DEAD-END MAINS SHALL BE PROTECTED FROM THRUST WITH CONCRETE THRUST BLOCKS.
- PRECAUTIONS SHALL BE TAKEN TO PROTECT THE INTERIOR OF PIPES, FITTINGS, AND VALVES AGAINST CONTAMINATION. ALL OPENINGS IN THE PIPELINE SHALL BE CLOSED WITH WATERTIGHT PLUGS WHEN PIPE LAYING IS STOPPED AT THE CLOSE OF THE DAY'S WORK OR FOR OTHER REASONS, SUCH AS REST BREAKS OR MEAL PERIODS.
- VALVES IN STREETS ARE TO BE LOCATED AT PROPERTY LINE EXTENSIONS EXCEPT FOR TAPPING TEES; WHERE AN ADDITIONAL VALVE SHALL BE PLACED ON THE TAPPING TEE. OTHER LOCATIONS SHOWN ON THE PLANS.
- WHEN NECESSARY TO LOWER OR RAISE WATER LINES AT STORM DRAINS AND OTHER UTILITY CROSSING, A MINIMUM CLEARANCE OF 1.5 FEET SHALL BE MAINTAINED BETWEEN OUTSIDE OF PIPES.
- THE CONTRACTOR SHALL NOTIFY THE PWSD AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION. IF WORK IS SUSPENDED FOR ANY PERIOD OF TIME AFTER INITIAL START-UP, THE CONTRACTOR MUST NOTIFY THE DISTRICT ENGINEER 48 HOURS PRIOR TO RE-START.
- PIPE BEDDING SHALL BE A CLEAN, WELL-GRADED SAND OR SQUEEGEE SAND IN ACCORDANCE WITH PWSD STANDARDS AND SPECIFICATIONS, LATEST REVISION.
- THE CONTRACTOR SHALL NOTIFY THE PUBLIC UTILITY COMPANIES AND DETERMINE THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO PROCEEDING WITH THE EXCAVATION. ALL WORK PERFORMED IN THE AREA OF THE PUBLIC UTILITIES SHALL BE PERFORMED ACCORDING TO THE REQUIREMENTS OF THESE AGENCIES.
- COMPACTION OF ALL TRENCHES MUST BE ATTAINED IN ACCORDANCE WITH THE SOILS REPORTS AND COMPACTION TEST RESULTS SUBMITTED TO THE DISTRICT ENGINEER PRIOR TO PROBATIONARY ACCEPTANCE.
- AT LEAST FIVE (5) DAYS PRIOR TO THE START OF CONSTRUCTION, A PRE-CONSTRUCTION MEETING WILL BE HELD AT THE OFFICE OF THE DISTRICT ENGINEER AND ATTENDED BY THE CONTRACTOR, DESIGN ENGINEER, AND REPRESENTATIVE OF OTHER APPROVING AGENCIES.
- CHLORINATION AND FLUSHING: ALL WATER MAINS SHALL BE INSTALLED AND CHLORINATED PER PWSD SPECIFICATIONS. CHLORINATION OF FINISHED PIPELINE COMPLETED BEFORE HYDROSTATIC TESTING.
- HYDROSTATIC TESTING: ALL WATER MAINS SHALL BE TESTED PER THE REQUIREMENTS OF THE PWSD SPECIFICATIONS UP TO MINIMUM OF 150 PSI IN THE PRESENCE OF A PWSD INSPECTOR/ENGINEER.

MATERIALS SPECIFICATIONS	
MATERIAL SPECIFICATION	DESCRIPTION
MS-W1, MS-S1, MS-S4	PIPE TYPE – PVC
MS-W2	PIPE TYPE – DUCTILE IRON
MS-W7	TAPPING SLEEVES
MS-W3, MS-S5	FITTINGS
MS-W17, MS-W18	WATER METER
MS-S3	CASTINGS

SUMMARY OF QUANTITIES (WATER)	
DESCRIPTION	QUANTITY
CONNECT TO EXISTING WATER LINE	1 LS
1-1/2" TYPE K COPPER WATER SERVICE	129 LF
WATER VALVE	1 EA
1"x 1-1/2" x 1/2" TEE	1 EA

SUMMARY OF QUANTITIES (SANITARY)	
DESCRIPTION	QUANTITY
CONNECT TO EXISTING SANITARY SEWER LINE	1 EA
4" PVC SANITARY SEWER LINE	155 LF
TWO-WAY CLEANOUT	4 EA
SINGLE CLEANOUT	3 EA
4" WYE	4 EA
GREASE INTERCEPTOR	1 EA

ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO WATER UTILITY STANDARDS. THE NUMBER AND LOCATIONS OF THE FIRE HYDRANTS AS SHOWN ON THE OVERALL UTILITY PLAN ARE CORRECT AS SPECIFIED BY THE TOWN OF PARKER, COMMUNITY DEVELOPMENT DEPARTMENT.

BY: _____
DATE: 08/26/2024

FIRE CODE OFFICIAL OR DESIGNATED REPRESENTATIVE

(NOTE – UNDERGROUND FIRE LINE (UFL) SUBMITTAL DOCUMENTS MUST MEET THE REQUIREMENTS OF NFPA 24 WHEN SUBMITTING FOR REVIEW.)

THE TOWN OF PARKER REVIEW CONSTITUTES GENERAL COMPLIANCE WITH THE TOWN'S STANDARDS AND APPROVED VARIANCES, SUBJECT TO THESE PLANS BEING STAMPED, SIGNED, AND DATED BY THE PROFESSIONAL ENGINEER OF RECORD. REVIEW BY THE TOWN DOES NOT CONSTITUTE APPROVAL OF THE PLAN DESIGN OR ACCURACY AND CORRECTNESS OF ENGINEERING CALCULATIONS. ERRORS IN THE DESIGN OR CALCULATIONS REMAIN THE RESPONSIBILITY OF THE REGISTERED PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE ARE AFFIXED TO THIS DOCUMENT.

THIS REVIEW DOES NOT CONSTITUTE APPROVAL OF ANY PRIVATE ON-SITE IMPROVEMENTS WHICH MAY BE SHOWN. CONSTRUCTION CANNOT COMMENCE UNTIL ALL REQUIRED DRAINAGE/TRAFFIC REPORT(S), FINAL DEVELOPMENT PLAN(S), SPECIAL REVIEW(S), GRADING PERMIT, AND/OR OTHER PERMITS ARE COMPLETE, APPROVED AND ON FILE WITH THE TOWN OF PARKER.

TOWN OF PARKER, DIRECTOR OF ENGINEERING

BENCHMARK

BENCHMARK IS A UDFCD 2" BRASS CAP IN HEAD WALL (90-1) NEAR PARKER ROAD AND BALDWIN AVE, ELEV=5841.07 NAVD88

BASIS OF BEARINGS

BEARINGS ARE BASED OFF THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 15, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN. AS MONUMENTED AT BOTH THE NORTHWEST QUARTER CORNER AND THE NORTH QUARTER CORNER BY 3.25" ALUMINUM CAPS, ASSUMED TO BEAR SOUTH 89°29'00" WEST.

CAUTION – NOTICE TO CONTRACTOR

- ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
- WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POT-HOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

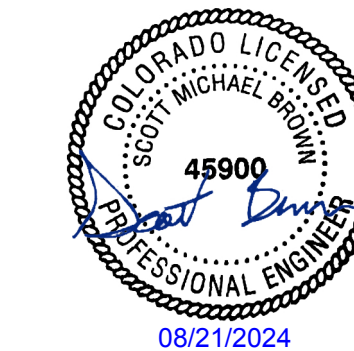


Know what's below.

Call before you dig.

Galloway

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Greenwood Village, CO 80111
303.770.8884
GallowayUS.com



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PLAZA STREET PARTNERS
CIVIL CONSTRUCTION DRAWINGS

18900 E. LINCOLN AVE.
PARKER, CO 80134

#	Date	Issue / Description	Init.
1	09/23/22	1ST SUBMITTAL	SMB
2	12/14/22	2ND SUBMITTAL	SMB
3	03/06/23	3RD SUBMITTAL	SMB
4			
5			
6			
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8			
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11			
12			
13			
14			
15			
16			

Project No: PSP000001
Drawn By: _____
Checked By: SMB
Date: 08/09/2024

COVER SHEET

U.0
Sheet 1 of 10

H:\P\1800 E. Lincoln Ave\1800 E. Lincoln Ave\1800 E. Lincoln Ave.dwg (2024/08/26) - 2024/08/26

PLAZA STREET PARTNERS

LINCOLN PROFESSIONAL PARK FILING NO.1 LOT 3

LOCATED IN THE NORTHWEST QUARTER OF SECTION 15, TOWNSHIP 6 SOUTH,
RANGE 66 WEST OF THE 6TH PRINCIPAL MERIDIAN,
TOWN OF PARKER, COUNTY OF DOUGLAS, STATE OF COLORADO

CIVIL CONSTRUCTION DRAWINGS

AUGUST 2024



5500 Greenwood Plaza Blvd., Suite 200
Greenwood Village, CO 80111
303.770.8884
GallowayUS.com



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PLAZA STREET PARTNERS
CIVIL CONSTRUCTION DRAWINGS

18900 E. LINCOLN AVE.
PARKER, CO 80134

GENERAL IRRIGATION NOTES

- IRRIGATION DESIGN IS BASED ON THEORIES, ASSUMPTIONS, AND/OR INFORMATION PROVIDED BY CIVIL MODELS/UTILITIES/MUNICIPAL ENTITIES AND THUS, IS DIAGRAMMATIC IN NATURE. ALL PIPING, VALVES, AND OTHER EQUIPMENT SHOWN WITHIN PAVED AREAS OR OUT OF PROPERTY BOUNDARIES ARE FOR GRAPHIC CLARIFICATION ONLY, AND SHALL BE INSTALLED IN PLANTING AREAS WITHIN THE PROPERTY LINES OR LIMITS INDICATED ON PLAN. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL ABOVE-GRADE IRRIGATION EQUIPMENT WITH THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION, OR IRRIGATION CONTRACTOR MAY BE REQUIRED TO MOVE SUCH ITEMS AT HIS OWN COST.
- REFER TO SPECIFICATIONS (AS APPROPRIATE) FOR SUBMITTALS, INSPECTIONS AND OTHER APPLICABLE INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A COPY OF THE PROJECT SPECIFICATIONS PRIOR TO BIDDING. THE PROJECT SPECIFICATIONS ARE A PART OF THESE PLANS AND SHALL BE CONSULTED BY THE IRRIGATION CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING WORK AS SPECIFIED IN THE PROJECT SPECIFICATIONS AND ON THE PLANS.
- THE IRRIGATION CONTRACTOR SHALL MEET WITH THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK, AND SHALL OBTAIN ALL ENGINEERING, LANDSCAPE, AND OTHER APPLICABLE PLANS & DOCUMENTS. CONTRACTOR SHALL THOROUGHLY REVIEW PLANS & REPORT ANY CONFLICTS OR DISCREPANCIES TO OWNER'S REPRESENTATIVE IMMEDIATELY.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, EQUIPMENT QUANTITIES, AND UTILITY LOCATIONS PRIOR TO BEGINNING WORK. DO NOT INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES, OR DIFFERENCES IN THE AREA DIMENSIONS EXIST THAT MIGHT NOT HAVE EXISTED AT THE TIME OF THE IRRIGATION DESIGN PREPARATION. SUCH OBSTRUCTIONS OR DIFFERENCES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE AND LANDSCAPE ARCHITECT. IN THE EVENT THIS NOTIFICATION IS NOT GIVEN, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY TO BRING THE SYSTEM TO A PROPER WORKING CONDITION, AND TO THE OWNER'S SATISFACTION.
- IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATIONS OF WALLS, RETAINING WALLS, ETC. THE IRRIGATION CONTRACTOR SHALL COORDINATE HIS WORK WITH THE GENERAL CONTRACTOR AND OTHER SUBCONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE SLEEVES THROUGH WALL, UNDER ROADWAY PAVING, ETC.
- THE CONTRACTOR SHALL MAKE NO SUBSTITUTIONS, DELETIONS, OR ADDITIONS TO THIS PLAN WITHOUT APPROVAL OF THE LANDSCAPE ARCHITECT.
- SEE CIVIL ENGINEER'S DRAWINGS FOR IRRIGATION POINT OF CONNECTION (TAP) AND DOMESTIC WATER SUPPLY.
- ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REQUIREMENTS. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THAT ALL IRRIGATION EQUIPMENT MEETS GOVERNMENT REGULATIONS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS OR APPROVALS.
- THE IRRIGATION SYSTEM DESIGN IS BASED ON THE MINIMUM OPERATING PRESSURE AND THE MAXIMUM FLOW DEMAND SHOWN ON THE POINT OF CONNECTION NOTE TAG(S) ON THE DRAWINGS. THE IRRIGATION CONTRACTOR SHALL FIELD VERIFY THE STATIC & OPERATING WATER PRESSURE PRIOR TO CONSTRUCTION, AND SHALL REPORT ANY DIFFERENCES BETWEEN THE WATER PRESSURE INDICATED ON THE DRAWINGS AND THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO THE OWNER'S AUTHORIZED REPRESENTATIVE AND LANDSCAPE ARCHITECT. IN THE EVENT PRESSURE DIFFERENCES ARE NOT REPORTED OR PRESSURES HAVE GREATLY CHANGED PRIOR TO THE START OF THE IRRIGATION SYSTEM CONSTRUCTION, THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR RECOMMENDING A SOLUTION AND PROVIDING AN ADD ALTERNATE BID FOR IRRIGATION COSTS.
- CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF AVAILABLE WATER PRESSURE EXCEEDS 5 PSI HIGHER OR LOWER THAN AVAILABLE WATER PRESSURE.
- NO MORE THAN 90% OF AVAILABLE MINIMUM STATIC WATER PRESSURE WAS USED IN PREPARATION OF THESE PLANS, FURTHERMORE, THE MAXIMUM FLOW THROUGH THE METER SHOULD NOT EXCEED 75% OF THE MAXIMUM SAFE FLOW.
- SUPPLY LINE AND METER TO BE PROVIDED BY GENERAL CONTRACTOR. BACKFLOW PREVENTER TO BE PROVIDED BY IRRIGATION CONTRACTOR. IRRIGATION CONTRACTOR'S POINT OF CONNECTION TO BEGIN AFTER THE IRRIGATION WATER METER.
- INSTALL ALL MATERIALS AND EQUIPMENT AS SHOWN ON THE PLANS AND DETAILS. NO SUBSTITUTIONS OF EQUIPMENT WILL BE ACCEPTABLE WITHOUT PRIOR WRITTEN APPROVAL BY THE LANDSCAPE ARCHITECT OR THE OWNER'S REPRESENTATIVE. THE IRRIGATION CONTRACTOR MAY BE REQUIRED TO REMOVE AND REPLACE ALL UNAPPROVED SUBSTITUTED EQUIPMENT AT HIS OWN COST IF SO DIRECTED BY THE OWNER.
- WHEN INSTALLING IRRIGATION PIPE AND EQUIPMENT NEXT TO HARDSCAPE (SUCH AS WALLS, CURBS, OR WALKS), PLACE PIPE AS CLOSE AS POSSIBLE TO HARDSCAPE TO AVOID CONFLICTS WITH PLANTING. REFER TO MAINLINE TRENCHING DETAILS FOR ADDITIONAL INFORMATION.
- THE IRRIGATION CONTRACTOR SHALL COORDINATE 120 V.A.C. ELECTRICAL POWER TO CONTROLLERS AND DEDICATE ONE (1) 20-AMP BREAKER FOR EACH CONTROLLER. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO MAKE THE FINAL HOOK-UP FROM THE ELECTRICAL SOURCE TO THE CONTROLLER UNIT ONLY.
- THE RAIN SENSOR SHALL BE LOCATED NEAR THE IRRIGATION CONTROLLER, AND SHALL BE MOUNTED AS SHOWN ON THE DETAIL AND/OR LEGEND. LOCATE SENSOR AWAY FROM TALL TREES, SHRUBS, AND OTHER POTENTIAL OBSTRUCTIONS.
- ALL VALVE CONTROL WIRE SHALL BE AWG 14 TYPE UF, 600 VOLT TEST, DIRECT BURIAL. NO SPLICES SHALL BE ALLOWED EXCEPT AT VALVES AND CONTROLLER. WHERE SPLICES MAY BE NECESSARY DUE TO EXCESSIVELY LONG WIRE RUNS, THE CONTRACTOR SHALL MAKE ALL SPLICES IN 6" ROUND VALVE BOXES WITH 3MS "DBY-DIRECT BURIAL SPLICE KIT". THE CONTRACTOR SHALL LABEL ALL WIRES WITH WATERPROOF TAGS AND MARKERS AT ALL SPLICES AND VALVE MANIFOLDS, AND SHALL LEAVE A 24" COIL OF EXCESS WIRE AT EACH CONNECTION.
- CONTRACTOR SHALL PROVIDE #10 COMMON WIRE, DIRECT BURIAL, TO ALL REMOTE CONTROL VALVES.
- CONNECT ALL DIRECT BURIAL WIRES TO VALVES USING 3MS "DBY-DIRECT BURIAL SPLICE KIT" (UNLESS OTHERWISE SPECIFIED).
- PROVIDE ADDITIONAL IRRIGATION CONTROL WIRES TO THE AMOUNT OF OPEN ZONES ON THE CONTROLLER ALONG EACH BRANCH OF MAINLINE FOR FUTURE EXPANSION. STUB ADDITIONAL CONTROL WIRES INTO BACK OF IRRIGATION CONTROLLERS.
- THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL CONTROL WIRE SLEEVES AND PIPE SLEEVES UNDER PAVED AREAS PRIOR TO PAVING. ELECTRICAL WIRES FOR IRRIGATION VALVES AND IRRIGATION LINES ARE TO BE PLACED IN SEPARATE SLEEVES. ALL SLEEVING SHALL BE PVC SCHEDULE 40 PIPE. SLEEVES FOR MAINLINE AND LATERAL LINES SHALL BE A MINIMUM TWICE THE DIAMETER OF THE ENCLOSED PIPE. SLEEVES FOR CONTROL WIRES SHALL BE AS PER THE SLEEVING / WIRING NOTE AND THE WIRING SLEEVE LEGEND ITEM AS SHOWN ON THESE DRAWINGS.
- TRENCH BACKFILL MATERIAL SHALL BE FREE OF ROCKS, GLASS, AND OTHER EXTRANEOUS MATERIALS LARGER THAN 1" IN DIAMETER. BACKFILL SHALL BE COMPACTED TO 90% MAXIMUM DRY DENSITY.
- WHERE VALVES ARE LOCATED IN CLOSE PROXIMITY TO EACH OTHER, CLUSTER VALVES INTO MANIFOLDS. INSTALL NO MORE THAN ONE VALVE PER VALVE BOX.
- MANUAL DRAIN VALVE, FOR FREEZE PROTECTION, ARE TO BE LOCATED AT ALL LOW POINTS OF IRRIGATION LATERAL LINES. WHERE THE LOW POINT IS AT THE END OF THE LINE, LOCATE DRAIN VALVE A MINIMUM OF 12" DOWNSTREAM FROM THE LAST SPRINKLER HEAD. SEE DETAIL FOR VALVE ORIENTATION.
- USE TEFLON TAPE ON ALL PVC MALE PIPE THREADS ON ALL SWING JOINT AND VALVE ASSEMBLIES.
- ALL IRRIGATION HEADS, INCLUDING FIXED-SPRAY AND DRIP DEVICES, SHALL BE SET PERPENDICULAR TO THE FINISH GRADE OF THE AREA TO BE IRRIGATED.
- ALL PRESSURIZED MAINLINES, VALVES, DRIP, AND ROTOR AND SPRAY HEADS SHALL BE INSTALLED A MINIMUM OF 3' AWAY FROM ANY BUILDING FOUNDATION. IF THIS EQUIPMENT IS SHOWN WITHIN THE 3' OFFSET ON THESE PLANS, IT IS FOR THE PURPOSE OF GRAPHIC CLARITY ONLY.
- EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE, IT IS THE INTENT OF THE IRRIGATION DESIGN TO INDICATE ALL SPRAY HEADS AS "POP-UPS". IN THE EVENT THAT POP-UP HEADS HAVE NOT BEEN SPECIFIED IN TURF AREAS, IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO BRING THIS TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO BIDDING AND CONSTRUCTION.
- ALL SPRAY AND ROTOR HEAD LOCATIONS SHALL BE STAKED, FLAGGED AND/OR OTHERWISE CLEARLY MARKED ON THE GROUND PRIOR TO INSTALLATION. SPRINKLER HEAD STAKING SHALL BE INSPECTED AND APPROVED BY THE OWNER'S REPRESENTATIVE OR THE LANDSCAPE ARCHITECT BEFORE INSTALLATION. STAKED LOCATIONS SHALL BE SPACED TO PROVIDE HEAD-TO-HEAD COVERAGE, RECOMMENDED SETBACK DISTANCE OF ALL PROPOSED IRRIGATION HEADS IS 12" FROM BACK OF CURB AND EDGE OF PAVEMENT.
- FLUSH AND ADJUST ALL SPRINKLER HEADS FOR OPTIMUM PERFORMANCE AND TO PREVENT OVERSPRAY ONTO WALKS, ROADWAYS, AND/OR BUILDINGS AS MUCH AS POSSIBLE. THIS SHALL INCLUDE SELECTING THE BEST NOZZLE ARC AND RADIUS TO FIT THE EXISTING SITE CONDITIONS.
- ALL POP-UP TYPE SPRINKLER HEADS INSTALLED IN TURF AREAS SHALL BE INSTALLED SO THE TOP OF THE SPRINKLER HEAD IS FLUSH WITH THE ADJACENT SIDEWALK, OR PAVING. ALL POP-UP HEADS AWAY FROM HARDSCAPE EDGES IN TURF SHALL BE 1" ABOVE THE FINISH GRADE TO PREVENT CONTACT WITH MOWERS.
- EXISTING TREES TO REMAIN ARE TO BE PROTECTED FROM DAMAGE. DO NOT TRENCH OR EXCAVATE WITHIN THE CRITICAL ROOT ZONE OF ANY TREE.
- ALL PLANT MATERIAL IN TREE HOLDING AREAS SHALL BE MANUALLY WATERED/IRRIGATED TO KEEP MOIST UNTIL PLANTED.
- UPON COMPLETION OF INSTALLATION OF IRRIGATION SYSTEM, IRRIGATION CONTRACTOR SHALL PROVIDE THE FOLLOWING:
 - ACCURATE AND COMPLETE "AS BUILT" PLANS OF IRRIGATION SYSTEM INCLUDING 8-1/2" X 11" ZONE MAP TO BE PLACED INSIDE EACH CONTROLLER BOX.
 - LOG ON ALL WATER WINDOWS, RUN SCHEDULE TIMES, AND OTHER CHANGES AND/OR MODIFICATIONS TO THE IRRIGATION SYSTEM SINCE INSTALLATION.
 - ONE HOUR OF TRAINING TO OWNER ON IRRIGATION SYSTEM AND CONTROLLER OPERATION.
 - THREE OF EACH TYPE OF HEAD AND EMITTER INSTALLED.
 - ONE OF EACH TYPE OF VALVE INSTALLED.
 - REVIEW WINTERIZATION PROCEDURES FOR IRRIGATION SYSTEM WITH OWNERS REPRESENTATIVE.
- PRIOR TO ACCEPTANCE OF IRRIGATION SYSTEM AT THE END OF THE MAINTENANCE PERIOD, THE IRRIGATION CONTRACTOR SHALL PROVIDE THE FOLLOWING: CURRENT SCHEDULE RUN TIME AND WATER WINDOW LOG, ALONG WITH NOTING ANY OTHER PERTINENT INFORMATION.
- UNLESS OTHERWISE SPECIFIED, THE IRRIGATION CONTRACTOR SHALL REPAIR OR REPLACE ANYTHING DAMAGED BY HIS WORK AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL INSTALL MAINLINES ±12" FROM PAVEMENT EDGE IN PLANTING AREAS. ALL PIPING, VALVES, AND OTHER EQUIPMENT SHOWN WITHIN PAVED AREAS OR OUT OF PROPERTY BOUNDARIES ARE FOR DESIGN CLARIFICATION ONLY, AND SHALL BE INSTALLED IN PLANTING AREAS WITHIN THE PROPERTY LINES OR LIMITS AS INDICATED ON THESE PLANS.
- IN THE EVENT OF A DISCREPANCY BETWEEN THE PLAN AND SPECIFICATIONS, THE PLAN SHALL TAKE PRECEDENCE.
- THE IRRIGATION SYSTEM SHALL BE INSTALLED BY A QUALIFIED IRRIGATION CONTRACTOR.



LANDSCAPE/IRRIGATION WORKSHEET

Tap sizing for dedicated irrigation taps

Yellow fields require user input

Irrigation Water Requirement = (ETo x PF x LA)/IE	
Define Landscape & Irrigation System:	
High Water Use Plant Material	
*Cool season turfgrass (Kentucky bluegrass)	
Plant Factor (PF, %)	High 0.9
Landscape Area (LA, sq ft)	0
Irrigation Efficiency (IE, %)	Overhead 0.65
High-Moderate Water Use Plant Material	
*Hybrid grass types (Texas hybrids, fescue, etc.)	
Plant Factor (PF, %)	High-Med 0.8
Landscape Area (LA, sq ft)	599
Irrigation Efficiency (IE, %)	Overhead 0.65
Moderate Water Use Plant Material	
*Traditional trees/shrubs/perennials, alternative grass types (buffalograss, blue grama, etc.)	
Plant Factor (PF, %)	Med 0.5
Landscape Area (LA, sq ft)	6,099
Irrigation Efficiency (IE, %)	Drip 0.9
Low Water Use Plant Material	
*Xeric trees/shrubs/perennials, native grass mixes	
Plant Factor (PF, %)	Low 0.25
Landscape Area (LA, sq ft)	4714
Irrigation Efficiency (IE, %)	Overhead 0.65
*PWSD holds final discretion for determining appropriate plant factor designations based on landscape plan submission	
Visit Appendix B of the SMWSA Model Ordinance for Plant Factor Guidelines	
Site Summary:	
Total Irrigated Area (sq ft)	11412
Avg Plant Factor (%)	0.41
Avg Irrigation Efficiency (%)	0.78
Peak monthly ET, Parker, CO:	
Peak monthly ET (July):	7.56 in
Irrigation Water Requirement (IWR):	
Peak monthly IWR:	27836 gal
Maximum flow requirement	2.9 GPM
* Max. flow requirements are based on peak monthly irrigation demands and follow PWSD's watering guidelines	
Hydraulic Requirements:	
Tap Size (in)	Max GPM
3/4"	10
1"	18
1 1/2"	40
2"	71
3"	189
4"	380
* 2" and smaller assumes Seamless K Copper Tube 3" and larger assumes Ductile Iron Pipe Class 350	
Tap Size Requirement	3/4"
System Design Pressure: 122 PSI	
<input checked="" type="checkbox"/> Design pressure has been field tested & verified	
<input checked="" type="checkbox"/> This form has been completed in compliance with PWSD's Engineering Standards & Specifications Manual regarding irrigation design specifications	

CRITICAL ANALYSIS

P.O.C. NUMBER: 01
Water Source Information: USE 3/4" TAP INTO DOMESTIC WATERLINE DOWNSTREAM OF THE BUILDING METER. IRRIGATION TO BE SUB-METERED.

FLOW AVAILABLE
Water Meter Size: 3/4"
Flow Available: 10.2 GPM

PRESSURE AVAILABLE
Static Pressure at POC: 122 PSI
Elevation Change: 3.00 ft
Service Line Size: 3/4"
Length of Service Line: 12 ft
Pressure Available: 119 PSI

DESIGN ANALYSIS
Maximum Station Flow: 9.47 GPM
Flow Available at POC: 10.2 GPM
Residual Flow Available: 0.73 GPM

Critical Station: A12
Design Pressure: 40 PSI
Friction Loss: 0.15 PSI
Fittings Loss: 0.02 PSI
Elevation Loss: 0 PSI
Loss through Valve: 2.95 PSI
Pressure Req. at Critical Station: 43.1 PSI
Loss for Fittings: 0.49 PSI
Loss for Main Line: 4.95 PSI
Loss for POC to Valve Elevation: 0 PSI
Loss for Backflow: 12.4 PSI
Loss for Master Valve: 2.95 PSI
Loss for Water Meter: 1.44 PSI
Critical Station Pressure at POC: 65.3 PSI
Pressure Available: 119 PSI
Residual Pressure Available: 53.7 PSI

#	Date	Issue / Description	Init.
1	09/23/22	1ST SUBMITTAL	SMB
2	12/14/22	2ND SUBMITTAL	SMB
3	03/06/23	3RD SUBMITTAL	SMB

Project No:	PSP000001
Drawn By:	TDN
Checked By:	TDN
Date:	08/09/2024

IRRIGATION NOTES & DETAILS

IR1.4

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