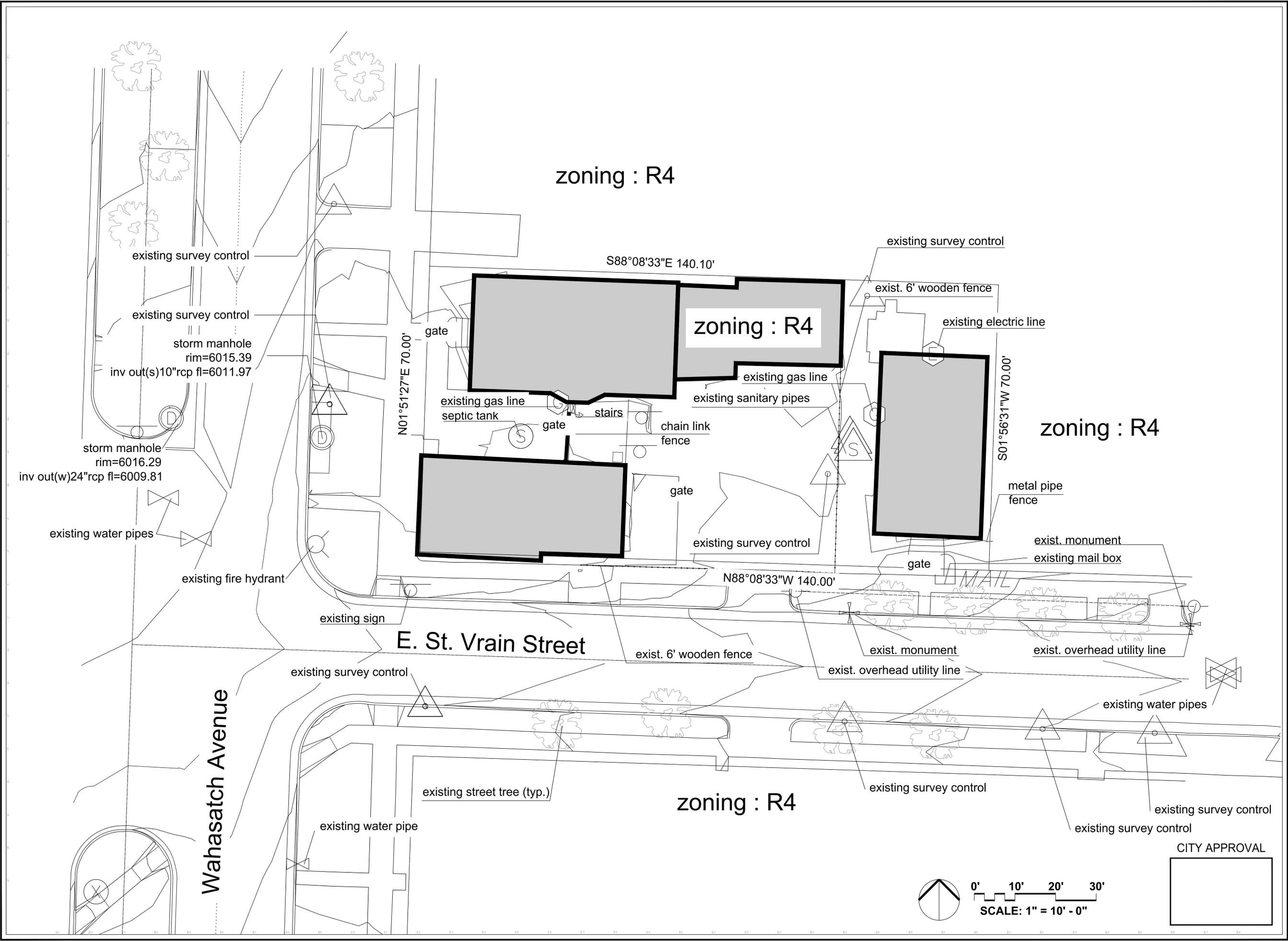
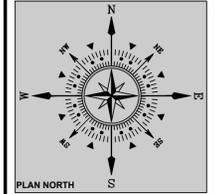


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 Only drawings which bear the official stamp of the licensed landscape architect in the state in which the drawing is issued are intended for construction purposes.



PROJECT NAME: 501 NORTH WAHSATCH AVENUE
 PROJECT ADDRESS: 501 NORTH WAHSATCH AVENUE
 COLORADO SPRINGS, CO 80903
 PROJECT DESCRIPTION: DEVELOPMENT PLAN

DATE PREPARED:	AUG 16, 2024
DESIGNED BY:	GEM
CHECKED BY:	WFG
REVISIONS:	
DATE:	BY:
DESCRIPTION:	

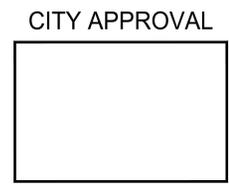
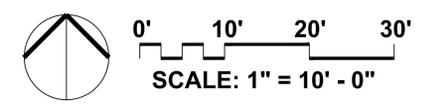
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SHEET TITLE:
 SITE PLAN

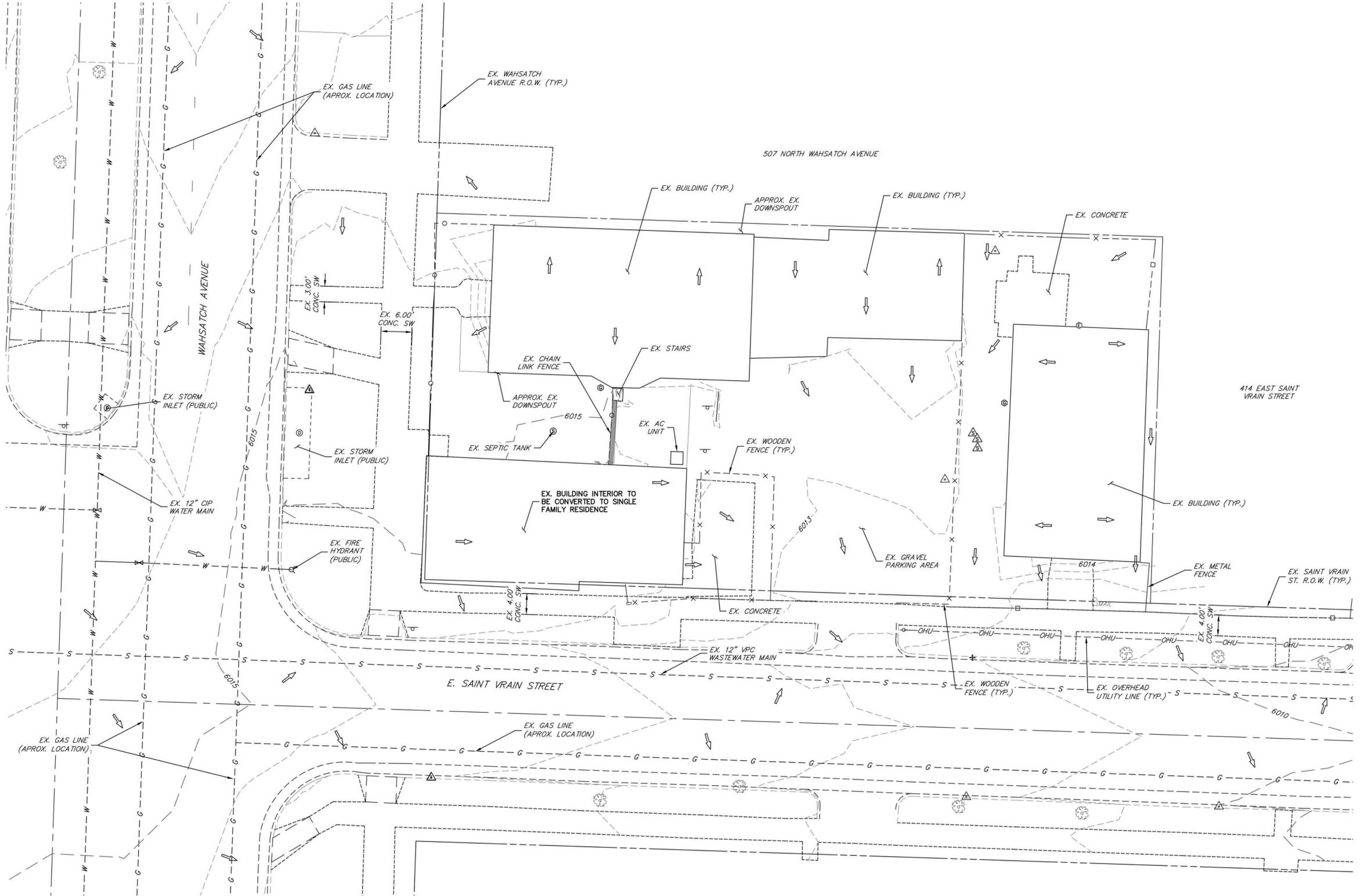
PLAN SCALE: 1" = 20' 0"

SHEET NO.
 02
 2 OF 9 SHEETS

REVIEWING AGENCY FILE NO.
 24TMP-063098

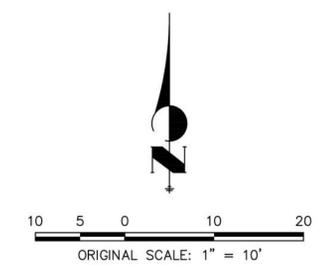


501 NORTH WAHSATCH AVENUE SITE UTILITY PLAN



LAYER LINETYPE LEGEND

	EXISTING	PROPOSED
BOUNDARY LINE	—	—
PROPERTY LINE	—	—
EASEMENT LINE	—	—
RIGHT OF WAY	—	—
CENTERLINE	—	—
STORM SEWER	—	—
SWALE/WATERWAY FLOWLINE	—	—
INDEX CONTOUR	—	—
INTERMEDIATE CONTOUR	—	—
CURB & GUTTER	—	—
FEMA FLOODPLAIN	—	—



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PREPARED FOR
ADAM RAE
 COLORADO SPRINGS
 CO, 80904
 2311 W. BIJOU STREET

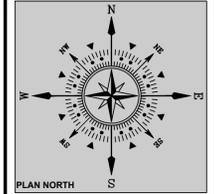
JR ENGINEERING
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 Fort Collins 970-491-8888 • www.jrengineering.com

No.	REVISION	BY	DATE

H-SCALE	1" = 10'
V-SCALE	N/A
DATE	11/14/24
DESIGNED BY	JBP
DRAWN BY	JBP
CHECKED BY	

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zoning : R4

S88°08'33"E 140.10'

zoning : R4

zoning : R4

S01°56'31"W 70.00'

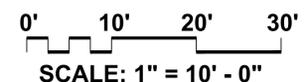
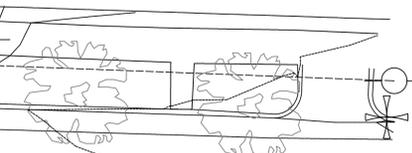
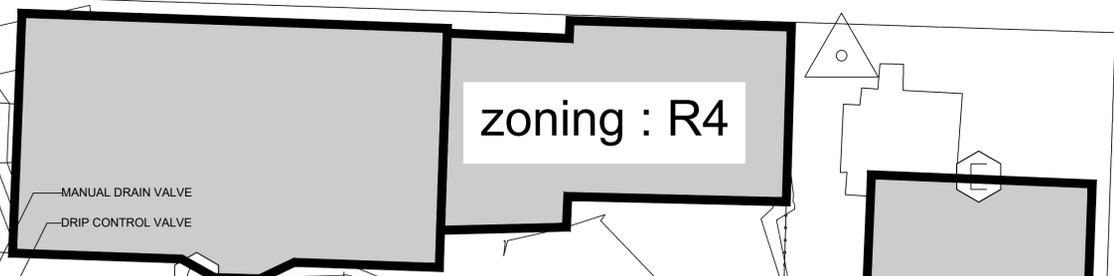
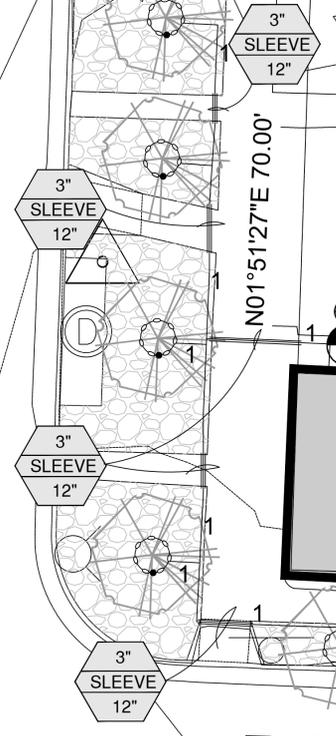
N88°08'33"W 140.00'

N01°51'27"E 70.00'

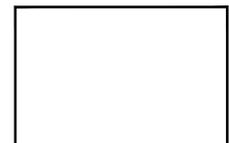
Wahasatch Avenue

E. St. Vrain Street

zoning : R4



CITY APPROVAL



PROJECT NAME: 501 NORTH WAHSATCH AVENUE

PROJECT ADDRESS: 501 NORTH WAHSATCH AVENUE
 COLORADO SPRINGS, CO 80903

PROJECT DESCRIPTION: DEVELOPMENT PLAN

DATE PREPARED: AUG 16, 2024
 DESIGNED BY: GEM
 CHECKED BY: WFG

REVISIONS:	DATE:	BY:	DESCRIPTION:

NOTES:

SHEET TITLE:
 FINAL IRRIGATION PLAN

PLAN SCALE: 1"=10'0"

SHEET NO.

05

5 OF 9 SHEETS

REVIEWING AGENCY FILE NO.
 24TMP-063098

LANDSCAPE SCHEDULE (Outlying Areas):
Planting Schedule:

TREES							
SYMBOL	QTY.	KEY	DROUGHT (TOLERANT / DEER RESISTANT)	BOTANICAL/COMMON NAME	MATURE HT./WD.	PLANTING SIZE	NOTES
	7	100		FASTIGIATE ENGLISH OAK (Quercus robur 'fastigiata')	45-60' 15-20'	2.5' cal.	8-10 Nursery Green. 50% to root or exceed AAK, min. size

Percent Signature Trees** (60% minimum- Policy 311.3.K) Signature Trees: 105
Total No. of Trees: 88 = 69% Signature Trees

SHRUBS							
SYM.	QTY.	KEY	DROUGHT (TOLERANT / DEER RESISTANT)	BOTANICAL/COMMON NAME	MATURE HT./WD.	PLANTING SIZE	NOTES

Percent Signature Shrubs** (60% minimum- Policy 311.3.K) Signature Shrubs: N/A
Total No. of Shrubs: N/A

GRASSES, PERENNIALS, GROUNDCOVERS							
SYM.	QTY.	KEY	DROUGHT (TOLERANT / DEER RESISTANT)	BOTANICAL/COMMON NAME	MATURE HT./WD.	PLANTING SIZE	NOTES

SYMBOL KEY:

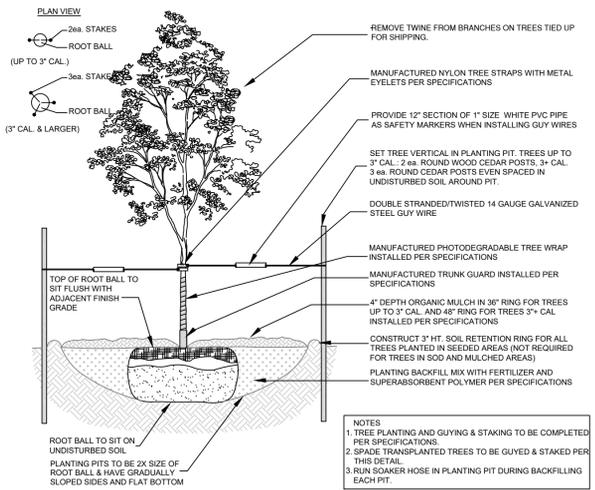
SYMBOL	DESCRIPTION/REMARKS
	STEEL MAINTENANCE EDGE; 3/16" x 4" ROLL TOP STEEL, GREEN COLOR
	IDAHO CEDAR WOOD MULCH; UNIFORMLY PLACED TO A 4" DEPTH AROUND ALL TREE ROOT BALLS IN TURF AREAS ONLY [Equal to that supplied by Pioneer Sand and Gravel, Colorado Springs, CO]
	AGGREGATE "A"; 1-1 1/2" SIZE WHOLE WASHED WHITE RIVER ROCK PLACED TO A UNIFORM DEPTH OF 3" ON FABRIC UNDERLAYMENT. [Equal to that supplied by Pioneer Sand and Gravel, Colorado Springs, CO] AREA = 1,487 SQUARE FEET.

LANDSCAPE NOTES:

- DRAWINGS ARE DIAGRAMMATIC. PRECISE PLACEMENT OF LANDSCAPE ACCESSORIES MAY NOT BE POSSIBLE AS INDICATED. CONSULT PROJECT LANDSCAPE ARCHITECT PRIOR TO MAKING RANDOM FIELD CHANGES WHICH MAY ALTER DESIGN INTENT.
- QUANTITIES ARE PROVIDED FOR REFERENCE ONLY. VERIFY ALL QUANTITIES PRIOR TO SUBMITTING COST PROPOSAL. IN THE EVENT OF A CONFLICT BETWEEN SCHEDULED, IMPLIED, OR EXPRESSED QUANTITIES, QUANTITIES WHICH CAN BE DETERMINED GRAPHICALLY FROM THE DRAWINGS WILL PREVAIL IN ANY CASE.
- THE CONTRACTOR IS RESPONSIBLE FOR INSPECTING AND VERIFYING ALL FIELD CONDITIONS AND RESOLVING CONFLICTS PERTAINING TO DIMENSIONS, LAYOUT, ETC. WHICH MAY AFFECT THE LANDSCAPE INSTALLATION. MOBILIZING SHALL BE CONSTRUED AS ACCEPTANCE OF CONDITIONS.
- COORDINATE ALL WORK INDICATED ON THESE DRAWINGS WITH WORK OF OTHER TRADES.
- THE PROJECT LANDSCAPE ARCHITECT RESERVES THE RIGHT TO CONSIDER AND APPROVE ALTERNATE INSTALLATIONS AT ANY TIME WHICH IN THE LANDSCAPE ARCHITECT'S OPINION MAXIMIZES THE CONSTRUCTION BUDGET AND MAINTAINS DESIGN INTENT.
- PROVIDE A 3 FOOT CLEAR SPACE AROUND THE CIRCUMFERENCE AROUND ALL FIRE HYDRANTS AND LIGHTING STANDARDS.
- CONTRACTOR TO UTILIZE STOCKPILED TOPSOIL FROM GRADING OPERATION AS MAY BE AVAILABLE. IF THE AMOUNT OF TOPSOIL NEEDED TO COMPLETE FINAL GRADING IS NOT AVAILABLE, THE CONTRACTOR SHALL IMPORT THE AMOUNT OF SOIL NEEDED.
- CONTRACTOR SHALL ENSURE THAT PROPER IRRIGATION VIA THE IRRIGATION SYSTEM IS CAPABLE OF EXTENDING AMOUNTS OF WATER REQUIRED TO ESTABLISH AND SUSTAIN PLANT GROWTH AT THE TIME OF INSTALLATION.
- AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM IS TO BE PROVIDED AND INSTALLED IN ACCORDANCE WITH THE IRRIGATION SYSTEM DRAWING AND SPECIFICATIONS.
 - IN LANDSCAPE SETBACK AREAS ALONG ROAD FRONTAGES; IN-LINE DRIP EMITTER RINGS FOR ALL TREES
 - NEW SODDED TURF INTERIOR LANDSCAPE AREAS; 20' ROTOR SPRINKLERS AND POP-UP SPRAY SPRINKLERS
 - NEW SEEDED TURF AREAS; 30' ROTOR SPRINKLERS AND POP-UP SPRAY SPRINKLERS SHRUBS AND TREES; IN-LINE DRIP EMITTER RINGS FOR ALL TREES, EMITTERS FOR ALL SHRUBS
- SOIL AMENDMENT AND FINAL GRADING FOR ALL SOD AND SEEDED TURF AREAS TO BE PROVIDED IN ACCORDANCE WITH SPECIFICATIONS.
- ALL LANDSCAPE AND IRRIGATION MAINTENANCE SHALL BE COMMENCED BY THE OWNER UPON COMPLETION AND FINAL ACCEPTANCE OF ALL LANDSCAPE AND IRRIGATION SYSTEM INSTALLATIONS.
- 4"x4" GAUGE GALVANIZED STEEL MAINTENANCE EDGING TO BE INSTALLED TO SEPARATE ALL ORGANIC AND AGGREGATE MULCHES FROM ADJACENT SOD AND SEEDED TURF AREAS. PIN EDGING WITH 1/2" STEEL EDGING PINS AT 24" SPACING.
- ALL PLANT MATERIAL TO BE INSTALLED PER DETAILS AND SPECIFICATIONS. GUY AND STAKE ALL DECIDUOUS AND EVERGREEN TREES PER DETAILS. PROVIDE SHREDDED MULCH RINGS IN RETENTION BASINS AROUND ALL TREES PLANTED IN SOD AND SEEDED AREAS (MULCH RINGS ARE NOT REQUIRED FOR TREES PLANTED IN AGGREGATE GROUNDCOVER AREAS).
- PLANT QUANTITIES AND SIZES INDICATED ARE THE MINIMUM TO SATISFY LANDSCAPE CODE REQUIREMENTS. NO SUBSTITUTIONS ARE PERMITTED WITHOUT PRIOR APPROVAL OF THE MUNICIPAL REVIEWING AGENCY.

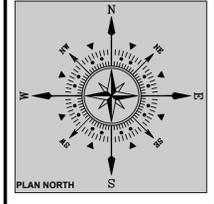
CITY OF COLORADO SPRINGS ADDITIONAL NOTES:

- THE LANDSCAPE CONTRACTOR SHALL COORDINATE WITH THE DESIGN LANDSCAPE ARCHITECT REGARDING THE REQUIRED SOILS ANALYSIS REPORT AND IS RESPONSIBLE FOR COMPLETING THE SOILS SAMPLING AND SUBMITTING THE SAMPLES TO A SOILS TESTING LAB FOR TESTING. THIS WOULD INCLUDE A SEPARATE LAB TEST REPORT AND RECOMMENDATIONS (AMENDMENT/FERTILIZER AMOUNTS AND APPLICATION RATES) FOR EACH TYPE OF PROPOSED LANDSCAPING (SHRUB BEDS/SOD/NATIVE SEED). THE SOILS LAB RESULTS AND RECOMMENDATIONS ARE REQUIRED TO BE REVIEWED AND APPROVED BY THE DESIGN LANDSCAPE ARCHITECT AND THE CITY OF COLORADO SPRINGS PRIOR TO INSTALLING ANY LANDSCAPING PLANTS/SOD/NATIVE SEEDS ON SITE.
- THE MINIMUM SOIL AMENDMENT AMOUNTS ARE AS FOLLOWS: (CU per 1,000 SF) FOR AMENDMENTS (TYPE - CLASS 1) FOR NATIVE SEED (AT LEAST 3 CU per 1,000 SF), SHRUB BEDS (AT LEAST 3 CU per 1,000 SF) AND SOD AREAS (AT LEAST 4 CU per 1,000 SF). THESE AMOUNTS MAY CHANGE BASED ON THE FUTURE SOILS REPORT.



A DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE

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Only drawings which bear the official stamp of the licensed landscape architect in the state in which the drawing is issued are intended for construction purposes.



PROJECT NAME: **501 NORTH WAHSATCH AVENUE**
PROJECT ADDRESS: **501 NORTH WAHSATCH AVENUE
COLORADO SPRINGS, CO 80903**
PROJECT DESCRIPTION: **DEVELOPMENT PLAN**

DATE PREPARED: AUG 16, 2024	DESIGNED BY: GEM
CHECKED BY: WFG	REVISIONS:
DATE: BY: DESCRIPTION:	

SHEET TITLE:
LANDSCAPE
DETAILS

PLAN SCALE: 1"=20'0"
SHEET NO.

06

6 OF 9 SHEETS

REVIEWING AGENCY FILE NO.
24TMP-063098

CITY APPROVAL



IRRIGATION SCHEDULE:		
Equipment Schedule:		
SYM.	SIZE	DESCRIPTION/REMARKS
2 sta.		RAINBIRD ESP-LXD SERIES TWO-WIRE DECODER Automatic Controller. Provide Rainbird pedestal, install per manufacturer's instructions.
		RAINBIRD WR2R2CWR2 WIRELESS Rain sensor. Install in vicinity of automatic controller per manufacturer's instructions.
	.75"	WATTS 009M-2QT Bronze Reduced Pressure Zone Backflow Assembly, qtr. turn shut-offs, tee handles. Provide and install in WattsBox Fiberglass unheated enclosure per manufacturer's instructions
	1.00"	RAINBIRD 100 EFB-CP Brass Control Valve (Master Valve)
	1.00"	RAINBIRD XCZ-100-B COM Drip Control Zone Kit for all drip zones 4 GPM- 15 GPM. Refer to watering schedule this sheet for proper valve application per drip zone.
	.75"	RAINBIRD 33DR3 Quick Coupling Valve w/RB Quick Coupling Valve Key.
	1.00"	APOLLO VALVES 2-piece Standard Port Brass Valve (manual drains)
	.25"	RAINBIRD 2" XB-10PC SINGLE OUTLET EMITTER on drip tubing emitter stake (per Detail 'N')

2 Station Controller VALVE SCHEDULE		
No.	GPM	Zone Size
D01	<10.00	01 1.00"

STANDARD CITY OF COLORADO SPRINGS IRRIGATION NOTES:		
<p>"THE CITY HAS ADOPTED PERMANENT WATER-WISE REGULATIONS AS OF JANUARY 1, 2020, WHICH WILL AFFECT THE OVERALL OPERATION OF THE IRRIGATION SYSTEM FROM MAY 1 TO OCTOBER 15. SPRINKLERS CAN BE OPERATED BEFORE 10 A.M. AND AFTER 6 P.M. WATERING IS LIMITED TO THREE DAYS A WEEK (DRIP IRRIGATION IS ALLOWED AT ANY TIME). ESTABLISHMENT PERMITS ARE REQUIRED FROM COLORADO SPRINGS UTILITIES FOR CUSTOMERS WHO NEED TO TEMPORARILY WATER MORE THAN THREE DAYS A WEEK TO ESTABLISH NEW LANDSCAPES. ALLOCATION PLANS ARE AVAILABLE FOR CUSTOMERS WHO NEED MORE WATERING SCHEDULE FLEXIBILITY FROM COLORADO SPRINGS UTILITIES."</p> <p>"FOR ALL DESIGN IRRIGATION SYSTEMS, IF MORE THAN THREE DAYS A WEEK ARE REQUIRED TO PROVIDE REQUIRED COVERAGE WITH SPRAY/ROTOR STATION VALVES, A WATER ALLOCATION PLAN IS REQUIRED FROM COLORADO SPRINGS UTILITIES - "CITY AFFIDAVIT NOTE- THE DESIGN PROFESSIONAL OF RECORD IS TO COMPLETE THE IRRIGATION INSPECTION AFFIDAVIT BASED ON APPROVED IRRIGATION PLAN. THIS SHOULD REQUIRE LIMITED CONSTRUCTION OBSERVATION VISITS AND A FUNCTIONAL TEST OF THE IRRIGATION SYSTEM SHALL BE PERFORMED TO ACCURATELY COMPLETE THE AFFIDAVIT. FINAL CO OR FINANCIAL ASSURANCES RELEASE SHALL NOT BE PROCESSED UNTIL AN EXECUTED AND APPROVED AFFIDAVIT IS SUBMITTED TO CITY STAFF. WHEN READY TO CALL FOR INSPECTION AND SUBMIT AFFIDAVIT, FIRST CONTACT THE CITY PLANNER OF RECORD FOR THE PROJECT (719-385-5905) AND AS NECESSARY OUR DRE OFFICE (719-385-5982)."</p>		

IRRIGATION SPECIFICATIONS:

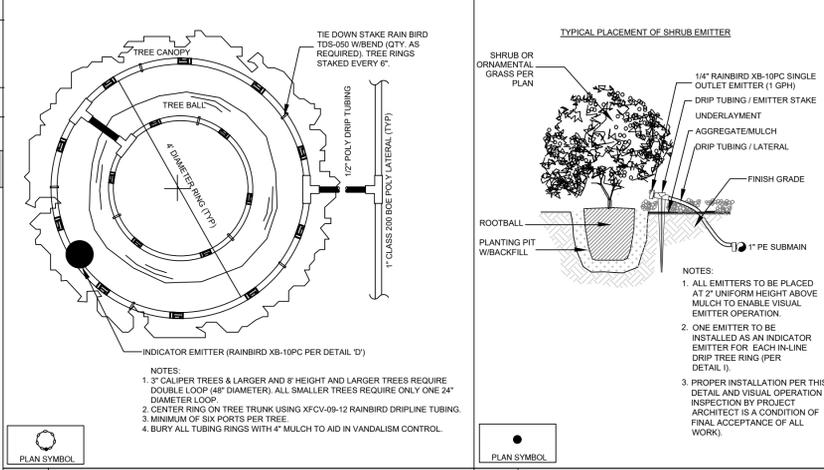
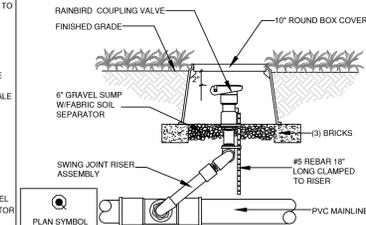
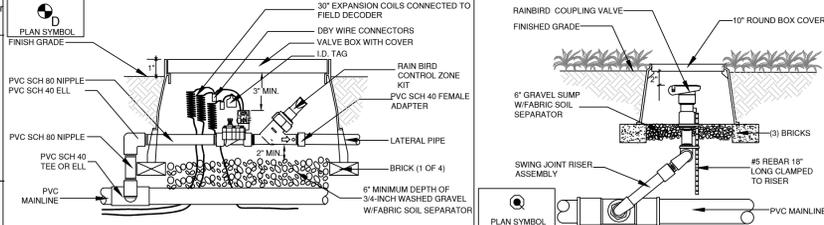
- 32 84 00 UNDERGROUND IRRIGATION SYSTEM**
Final Drawing Material and Workmanship Specifications
- PART 1: GENERAL REQUIREMENTS**
- 1.01 A. Refer to prevailing local and state Public Works General Provisions that govern work under this Section.
- 1.02 A. **SCOPE OF WORK**
The work consists of installing a new underground automatic landscape irrigation system including provision and installation of all labor, equipment, tools and materials necessary for the construction of the irrigation system as these specifications and drawings:
1. All miscellaneous incidental material required whether specifically identified or not to result in a complete and operable system.
2. Primary electric power in the vicinity of the automatic controller as indicated on the drawings to be provided by others.
3. Provision and installation of all sleeves for routing of pipelines beneath pavements as needed.
4. Provision and installation of miscellaneous incidental equipment not indicated on the drawings but which may be required to result in a complete and operable system.
5. Provision of spare equipment and as-built drawings required for Final Acceptance.
- B. Water Development charges and water facility distribution charges (tap fees) are not within this scope of work.
1. Applicable tap and water development fees shall be paid for by the Owner to facilitate commencement of work under this Section.
2. Reduced pressure backflow preventer provision and installation as indicated on drawings.
3. Type "K" copper water extension from backflow preventer to commencement of landscape irrigation system PVC mainline.
- 1.03 A. **QUALITY ASSURANCE**
Comply with the following codes, ordinances, regulations, and standards in effect at time of installation:
1. American Society for Testing and Materials (ASTM).
2. National Plumbing Code (NPC).
3. Federal Specifications (FS).
4. Plastic Pipe Institute (PPI).
5. National Electric Code (NEC).
6. National Sanitation Code (NSC).
7. All State and Local codes for cross connection of potable water systems.
8. All out-sheets, catalogs, and current published data of the manufacturers whose equipment is scheduled for use under this contract.
- B. In the event of a conflict between requirements the most stringent requirement will prevail in any case.
- C. All work under this Section shall be performed by qualified personnel who have previously completed comparable projects successfully, and who are knowledgeable and familiar with irrigation system hydraulics.
1. On-site personnel shall be capable of determining feasibility of proposed installations with regard to hydraulics.
a) Failure to familiar with hydraulics of the proposed irrigation system will not preclude Contractor's responsibility for accidental or deliberate installation of incompatible equipment, pipe sizes, etc. which do not permit operation of system as intended by design.
2. The Contractor shall field verify static pressure at the point of connection and determine its suitability prior to commencing any work downstream of the backflow preventer.
a) It is the Contractor's responsibility to report inadequate pressure to the Architect and to correct the problem prior to commencing work downstream of the point of connection.
b) It is the Contractor's responsibility to provide coverage of all landscaped areas as intended by design.
c) Failure to test and verify adequate static pressure prior to constructing the sprinkler system shall not relieve the Contractor from providing adequate operating pressure to provide coverage as intended by design.
- D. All material for use under this Section to be new and previously unused.
- E. The Contractor shall be responsible for verifying accuracy of field dimensions versus drawing dimensions. All discrepancies that may affect coverage as intended by design shall be reported to the Architect and resolved prior to commencing work.
1. Conflicts which are not fully resolved by the Contractor prior to commencing work under this Section shall be resolved at the Architect's discretion in favor of the Owner.
- 1.04 A. **SUBMITTALS**
Shop Drawings which clearly indicate changes proposed by the Contractor to pipe routing, sprinkler head placement, valve placement zone sequencing, etc. which improve operation and serviceability of the system may be provided.
1. Shop drawings are not required if no changes to the Architect's irrigation system plan are proposed.
- B. Manufacturer's cut-sheets of all equipment specified on the drawings and herein.
1. Contractor shall highlight model numbers and sizes to be provided and installed on all cut-sheet submittals.
- C. Contractor to construct 1 mock-up of the following typical installations for approval by Architect prior to installation:
1. Inline drip tree rings with indicator emitter.
2. Drip emitter on distribution zone sequencing tube with stake.
3. Control valve assembly with union joints and ball valves.
4. Rotor sprinkler head on swing joint riser assembly.
5. Pop-up spray head on flex-rip riser assembly.
- 1.06 A. **ALTERNATE EQUIPMENT**
Only the equipment appearing on the drawings will be accepted for Final Acceptance.
1. Installation of alternate equipment without prior written approval by the Architect will result in rejection of all work in inspection for Final Acceptance.
- PART 2: PRODUCTS**
- 2.01 A. Piping for mainlines and lateral lines shall be of the size and classification stated on the Drawings.
1. All piping shall be new and NSF approved.
2. Pipe shall equal ASTM D-1120 specifications for SDR-21 pressure pipe, 200psi PVC.
3. PVC pipe 1 inch to 3 inch diameter shall be DOE solvent weld type.
4. PVC pipe 4 inch diameter and larger shall be ring-tight gasketed.
5. SL-SLUFF PVC mainline tees shall be installed for all valves. Lateral PVC pipe fittings shall be socket type, NSF approved Schedule 40.
6. Solvent weld and gasketed PVC pipe shall meet ASTM requirements.
7. Teflon tape shall be used on all threaded joints.
- B. All unused pipe on the Drawings shall be 1 inch, pipe smaller than 1 inch size shall not be used for any turf zones.
- 2.02 **SPRINKLER HEAD RISER ASSEMBLIES**
All sprinkler heads shall be installed on polyethylene flex-rip or swing joint risers as indicated on the Drawings.
1. Pop-up spray heads to be installed on flex-rip risers equal to Rainbird Funny Pipe SPK-Flex.
2. Gear drive and impact rotor sprinkler heads to be installed on swing joint risers equal to Rainbird S475-SA Series 6 inch swing assemblies with 3/4" MPT elbows.
- 2.03 **SPRINKLER HEADS**
Sprinkler heads shall be equal to the type, size, and manufacturer indicated on the drawings.
1. Nozzle types and arcs to be provided as indicated on the drawings to satisfy the coverage requirements intended by design.
2. Sprinkler nozzles installed on any single zone shall have matched rates of precipitation.
3. If sprinkler heads are not factory-equipped with integral check valves Contractor shall equip all sprinkler heads installed at any elevation below the corresponding control valve with check valves equal to Hunter HC-SOF 3/8 inch or 75F 3/8 inch Check Valve to prevent low head drainage.
- 2.04 **DRIP EMITTERS, INLINE DRIP TREE RINGS AND MISCELLANEOUS DRIP EQUIPMENT**
Drip emitters for all shrubs shall be equal to the type, size, and manufacturer indicated on the drawings.
A. Drip emitters equal to Rainbird XP-10PC 1/2" single outlet barbed emitter on Rainbird XQ 1/2" vinyl tubing, 1 gph.
2. All drip emitters to be installed on emitter stakes equal to Rainbird X tubing stake installed 2 inches above aggregate and organic mulches to permit visual observation of emitter operation without removal of mulch material.
3. All drip emitters to be faced downward on emitter stakes directly above the shrub root ball.
B. Inline drip emitter rings for all trees shall be equal to the type, size, and manufacturer indicated on the drawings and field-fabricated to the required ring diameter.
1. Drip emitter rings with inline emitters equal to Rainbird XPCV-09-12 Dripline tubing to be installed for all deciduous and evergreen trees in aggregate and organic mulch plant beds and staked in place with stakes equal to Rainbird TDS-050 tub-down stakes prior to installation of underlayment, aggregate and organic mulches.
a) 1 or 2 inline drip tree rings are required based on tree caliper size or height as indicated on the Drawings.
b) Drip emitter rings are not required for trees planted in irrigated sodded turf areas.
2. 1 drip indicator emitter equal to Rainbird XP-10PC 1/2" single outlet barbed emitter on Rainbird XQ 1/2" vinyl tubing 1 gph for each drip emitter ring to be installed on emitter stakes 2 inches above all aggregate and organic mulches to permit visual observation of drip emitter ring operation without removal of mulch material.
3. All drip indicator emitters to be faced downward on emitter stakes equal to Rainbird X tubing stake directly above tree root ball.
- C. Contractor shall advise Architect as to when all drip emitters and inline drip tree rings are complete and operational and ready for inspection prior to installing underlayment, aggregate and organic mulches.
- D. Provide flushing end caps equal to Rainbird CEP710X Compression End Plug and System Flush Fitting in round control valve boxes at the end of all drip lateral pipelines.

- 2.05 **ELECTRIC CONTROL VALVES**
Electric remote and master control valves shall be equal to the type, size and manufacturer indicated on the drawings.
1. Electric control valves shall be capable of adjusting flow over a range of 0-400psi.
2. All electric control valves shall be installed with PVC union joints and ball valves as indicated on the drawings.
3. All electric solenoid remote control valves shall be installed in a globe configuration.
4. A ball valve for servicing control valve, equal to the size of control valve, shall be installed immediately upstream of all control valves as indicated on the Drawings.
B. Electric remote control valves for all drip irrigation zones equal to Rainbird XCZ-100 PRF-PP Drip Zone Valve Kit.
1. Electric control valves for drip irrigation shall be capable of adjusting flow over a range of 0-400psi.
2. All electric control valves for drip irrigation shall be installed with PVC union joints and ball valves as indicated on the drawings.
3. All electric solenoid remote control valves for drip irrigation shall be installed in a globe configuration.
4. A ball valve for servicing control valve, equal to the size of control valve, shall be installed immediately upstream of all drip irrigation control valves as indicated on the Drawings.
- 2.06 **AUTOMATIC CONTROLLER AND RAIN SENSOR**
Automatic controller shall be equal to manufacturer, size, and type indicated on the drawings.
1. Controller shall be permanently hard-wired to the primary electric source, plug-in or switched electric source are not acceptable.
2. Contractor shall securely affix a 9"x12" envelope to the inside of the controller cabinet door to accommodate a faded copy of the Contractor's as-built drawing.
3. A copy of the controller program initially entered into the controller by the Contractor shall be printed on a separate sheet of paper and securely affixed to the inside of the controller cabinet door along with the as-built drawing.
4. Do not permanently write any controller program on the cabinet door.
5. Contractor shall affix to the controller cabinet exterior a laminated business card or label with the Contractor's name and emergency contact phone number.
6. Provide and install a rain sensor equal to Rainbird WR2R2CWR2 wireless in vicinity indicated on drawings.
- 2.07 **CONTROL WIRING, MARKERS, AND CONNECTORS**
A. Control wiring shall be 14 and 12 gauge direct burial, solid copper core or stranded.
1. Common wire shall be white in color. Control wires shall be of a solid color for each control valve and be coordinated with colors of controller wiring harness.
2. 1 yellow spare wire shall be pulled from controller to all control valves.
3. Control wiring shall be banded together at 10-foot intervals using plastic ties, and banded to maintain at 30 foot intervals.
4. A minimum of 24-30 inches additional control wiring shall be wound and cabled at each control valve location as indicated on the Drawings.
B. Provide and install 1 indelible wire marker equal to Lemproducts Inc. (lemprodustinc.com) pre-printed wire and cable markers with corresponding controller zone number at the end of each control wire inside controller cabinet.
C. Provide and install 1 indelible white-on-plastic valve tag equal to Ernesto 2"32" yellow plastic or tagon (ernesto.com) on solenoid control wiring at each control valve with corresponding controller zone number.
D. All wiring splices shall be made with watertight connectors equal to King Innovation 20210 Single Direct Bury Grease Tube w/ Yellow Wire Nut.
- 2.08 **VALVE BOXES**
A. Control valves shall be housed in poly-iron valve boxes and constructed as indicated on the Drawings.
1. Provide and install manufactured valve box extensions as needed to result in box cover being precisely 1 inch above adjacent finish grade in turf grass areas, and 3 inches above finish grade in aggregate or organic mulch plant beds.
2. All control valve boxes to be equipped with manufacturer covers that are integrally hinged or bolted to the control valve box.
e) Non-bolt equipped or snap-tight covers are unacceptable.
f) Valve box covers in turf areas are to be green color.
c) Valve box covers in aggregate and mulched plant beds are to be brown or tan in color.
d) Valve box covers used in non-potable applications are to be purple in color.
3. Aggregate drainage sumps with filter fabric soil separation as indicated on the drawings are to be excavated and constructed prior to installation of control valve and control valve box.
a) Do not fill valve boxes with aggregate after installation of control valve and box.
b) Improperly constructed aggregate sumps and control valve boxes are to be excavated and reconstructed properly at no additional cost to Owner.
B. All control valve boxes to be installed uniformly parallel and perpendicular to adjacent sodded turfs, and maintenance access to be provided.
1. Control valve boxes in groupings to be installed parallel and perpendicular with one another.
C. No more than 2 control valves may be installed in any single control valve box. Provide proper clearances as indicated on the Drawings when multiple control valves are installed in a single control valve box.
- 2.09 **BACKFLOW PREVENTER**
A. Reduced pressure backflow preventer equal to type and size indicated on the drawings or as required by local code for irrigation system purposes is to be provided and installed by others.
1. Provide and install an outdoor rated liquid-filled pressure gauge with a 2-inch dia (200psi) readout capability permanently installed on the backflow preventer ball valve upstream shut-off.
a) Pressure gauge for irrigation system backflow preventer to be provided by Contractor in addition to pressure gauge that may be installed on primary domestic service backflow preventer.
- 2.10 **OTHER EQUIPMENT**
A. Other equipment to be provided and installed, including but not limited to quick coupling valves, manual drain valves, valve caps, etc., needed to result in a complete and operable sprinkler system shall be provided and installed as indicated on the drawings.
B. Manual drain valves to be 1 inch brass straight valve assemblies installed to allow gravity drainage at all mainline low points whether specifically indicated on the drawings or to permit complete mainline drainage via gravity.
1. Contractor shall install mainline piping to slope toward manual drain valves whenever possible.
2. Manual drain valves to be installed in control valve boxes as indicated on drawings.
C. Quick Coupling valves shall be installed as indicated on the drawings.
1. Quick coupling valves shall be bronze 1 piece with lock, size as indicated on the drawings. Provide quick coupling valve key in accordance with submittal requirements at project closeout.
a) Quick coupling valves to be rebar-anchored and installed in control valve boxes as indicated on drawings.
b) Quick-coupling valves shall not be installed in valve boxes with control valves.
- PART 3: EXECUTION OF WORK**
- 3.01 **JOBSITE CONDITIONS**
A. Contractor shall be completely familiar with all existing jobsite conditions that shall affect the work prior to commencing any work under this Section.
1. No work shall be commenced until unsatisfactory jobsite conditions have been brought to the Architect's attention and resolved by this Contractor.
- 3.02 **UTILITIES AND PROTECTION**
A. Prior to commencing any work under this Section, it is the Contractor's responsibility to schedule and coordinate locations of all existing utilities on the jobsite that affect the work. "Utility" shall include but shall not be limited to gas, electric, sewer and water, telephone, and cable lines.
2. All existing utilities shall be clearly indicated on field drawings and flagged or otherwise marked on the jobsite.
3. Failure to locate existing utilities and provide adequate protection to them during the work shall not preclude responsibility for repair of subsequent damage.
4. Costs for repair to existing utilities as a result of failure to properly locate and protect utilities shall be this Contractor's responsibility.
- 3.03 **OTHER TRADES**
A. Contractor shall make all reasonable efforts to coordinate work of other trades within the work area to avoid damage to work installed under this Section.
1. Contractor shall maintain a daily log of work completed under this Section and make it available upon request of the Architect.
- 3.04 **FIELD VERIFICATION**
A. Sprinkler heads, control valves, and pipeline locations are to be flagged prior to commencing excavation.
1. Minor relocation of equipment to facilitate installation, serviceability and operation of the irrigation system may be made by this Contractor and documented on as-built drawings.
B. All rough grades shall be verified as being within a tolerance of plus or minus 2 inches by the Contractor prior to commencement of work under this Section.
1. Commencement of work under this Section shall be construed as acceptance of all grades established by others.
C. Parallel piping may be combined in common trenches where practical.
D. Pipe indicated as adjacent to backside of curbing or pavement shall not be installed farther than 6 inches away from curbing/pavement.

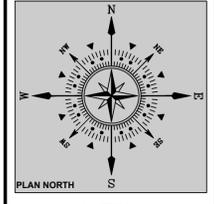
- 3.05 **EXCAVATION**
A. This Contractor shall provide all necessary excavation required for proper installation of work under this Section.
B. Mechanical trenchers used for excavation shall be capable of digging smooth, flat bottom trenches regardless of slope conditions.
C. Trenches for mainlines shall be excavated to one uniform depth of 24 inches.
D. Trenches for lateral pipelines shall be excavated to one uniform depth of 12 inches.
E. Aggregate sumps for manual drains and control valves shall be over-excavated to facilitate valve and valve box installation.
F. Sleeves crossing beneath parking lots, driveways, roadways, and sidewalks shall be installed to the depth of either the mainline or lateral pipeline to be installed inside sleeve.
1. Extend all sleeves 6 inches beyond edge of pavement.
2. Sleeves for standalone control wiring to be installed to a uniform depth not less than 24-inches.
G. Edge of pavement above all sleeve locations shall be stamped or etched with an "S" to permanently mark locations.
H. In the event the Contractor is required to reroute pipe or relocate sprinkler heads as a result of encountering consolidated rock or debris, and additional material/labor is required to complete installation, the Architect shall issue a change order for additional material and labor costs.
1. Consolidated material shall be defined as any obstruction occurring in an area normally excluded to be excavated which runs 5 feet or longer in any trench, or for greater than 25 square feet in area, both at depths less than 30 inches for irrigation pipelines.
a) The Contractor shall provide Architect with a unit cost per linear foot for excavation through consolidated material in his bid to be used in determining change order value.
- 3.06 **INSTALLATION**
A. All installations are to be made in full accordance with the drawings, specifications, local codes and ordinances, etc., with the most stringent requirement prevailing in the event of conflict.
1. Generally, no deviations from the layout of pipelines, sprinkler heads, control valves, point of connection, controller location, or other scheduled installations shall be considered or accepted by the Architect from that indicated on the drawings.
a) Changes that alter the intent of the Drawings shall not be made without prior Architect's approval.
B. No contact between any equipment installed under this Section and other utilities or structures is permitted.
C. Open pipe ends are to be taped or plugged closed at all times to keep out dirt and debris during installation.
D. All pipe to be flushed with clean water to remove all dirt and debris prior to installing sprinkler during installation.
E. All pipe to be flushed with clean water to remove all dirt and debris prior to installing sprinkler during installation.
F. Flex-pipe and swing joint risers to be installed and adjusted to result in all final headers being flush and plumb with finish grades prior to backfilling around heads.
G. Contractor shall adjust nozzles and arcs to provide optimum coverage as intended by design.
1. No overspray is permitted onto any structure. Overspray is permitted onto pavements as may be indicated on the drawings.
3.07 **BACKFILL AND COMPACTION**
A. Provide clean backfill free of clods and rocks greater than 1-inch in size, and debris that may puncture and damage pipelines and equipment installed under this Section.
B. Clean sand shall be provided and installed as bedding material beneath pipelines to facilitate installation.
C. Backfilling to be done when pipelines are cool to avoid excessive contraction.
D. Frozen or saturated soil is not to be used as backfill material at any time.
E. Open trenches and other excavations are to be backfilled with suitable material and compacted to density of adjacent undisturbed soil in 6-inch increments.
1. Compaction shall be done with a vibratory plate. Other methods of compaction are not acceptable.
2. After compaction, backfill in trenches and around control valves and sprinkler heads shall be flush with surrounding finish grades.
F. Contractor is responsible for repair to damaged equipment, finish grades, undermined pavements, sod, mulches and underlayments, etc. from setting of 1-inch or more in any trench or excavation for a period of not less than 955 five days from date of final acceptance.
1. Repair/replacement of sodded turf grass as a result of repair to trench setting shall be at this Contractor's expense.
- PART 4: TESTING AND OPERATION**
- 4.01 A. **TESTING AND ARCHITECT'S INSPECTION**
After completion of all work under this Section the Contractor shall activate the water source and pressurize the mainline to not less than 150psi, or maximum available pressure if less than 150psi.
1. The mainline shall remain closed and pressurized for not less than 24 hours prior to operation of the completed system.
B. After successful completion of the pressurized period and repair to any leaks, and the system can be operated at the pressure intended by design, the Contractor shall adjust and fine-tune all equipment for optimum performance and coverage as intended by design.
1. When wind conditions are not less than 5 mph, the Contractor shall adjust all sprinkler head nozzles to provide coverage to areas as intended by design. Overspray is not permitted onto roadways, parking lots, or structures.
2. All sprinkler heads are to be fully adjusted to be plumb and flush prior to sodding, seeding and mulching.
a) Contractor shall assume responsibility for repair or replacement of sod, seed, and landscaping should the system not be fully operable prior to installation of plantings in turf grasses.
C. Architect shall be given 5 days written notice that an inspection for Final Acceptance is requested.
1. The entire installed system shall have been allowed to operate automatically via the controller through entire cycles prior to requesting an inspection.
D. The Architect's inspection for Substantial Completion shall include visually observing the operation of all work provided and installed under this Section.
1. The Architect shall document any installation in a written punchlist that does not comply entirely with any part of this Section.
2. All punchlist items are to be completely corrected by the Contractor prior to re-inspection by Architect.
a) Backcharges will be incurred by the Contractor for any additional inspections that must be made by Architect to verify correction of deficiencies after the second inspection.
E. No inspection for Substantial Completion and/or Final Acceptance shall be performed when temperatures are 32°F or below, when there is snow on the ground, when it is raining, when winds are 5 mph or greater, or when weather conditions are generally not conducive for an inspection in the opinion of the Architect.
1. If any of the conditions in 4.01 E are not attainable at the scheduled time of inspection the Architect reserves the right to reschedule the inspection.
- 4.02 **SYSTEM OPERATION**
A. The Contractor is responsible for initial programming of controller to operate automatically at frequencies deemed necessary to sustain and promote vigorous growth of all landscaped areas to which work under this Section provides coverage.
B. The operating sequence of all zones shall be as indicated on the drawings.
C. During and up until Final Acceptance, the Contractor is responsible for making any adjustment that shall be required to equipment installed under this Section.
1. The Contractor shall include in his base contract cost adequate time to permit making jobsite visits as necessary subsequent to Final Acceptance to perform minor field adjustments to flow controls, nozzles, and controller program to maintain optimum appearance of landscaping for a period of not less than 30 days from date of Final Acceptance.
- 4.03 **CLEANUP AND JOBSITE RESTORATION**
A. Prior to Final Acceptance, all areas on the jobsite in which work under this Section has occurred shall be thoroughly cleaned of dirt, unused material, and the Contractor's installation equipment.
B. Work by other trades that is damaged or destroyed as a result of work under this Section shall be fully restored by this Contractor as a condition of Final Acceptance.
- PART 5: WARRANTY ENACTMENT**
- 5.01 A. A 365-day warranty period for all material and workmanship provided under this Section shall commence on the date of Final Acceptance of all work.
B. During the warranty period, the Contractor is responsible for all of the following:
1. Commencement of work under this Section shall be construed as acceptance of all grades established by others.
2. Parallel piping may be combined in common trenches where practical.
3. Pipe indicated as adjacent to backside of curbing or pavement shall not be installed farther than 6 inches away from curbing/pavement.

IRRIGATION PLAN NOTES:

- IN THE EVENT OF A CONFLICT IN REQUIREMENTS BETWEEN THE DRAWINGS AND STATE AND LOCAL STANDARDS, THE MOST STRINGENT INTERPRETATION WILL PREVAIL.
- SCOPE OF WORK SHALL INCLUDE PROVISION OF ALL MISCELLANEOUS AND INCIDENTAL EQUIPMENT TO RESULT IN A COMPLETE AND OPERABLE SYSTEM, WHETHER INDICATED ON THE DRAWINGS OR NOT.
- INSTALLER IS RESPONSIBLE FOR DETERMINING HYDRAULIC FEASIBILITY OF OPERATION OF ALL ZONES AND TO REPORT CONCERNS TO PROJECT ARCHITECT FOR CORRECTION PRIOR TO INSTALLING ANY EQUIPMENT.
- DESIGN PRESSURE: 80psi STATIC AT POINT-OF-CONNECTION, 35psi AT HEAD LOCATION.
- ALL EQUIPMENT IS TO BE INSTALLED PER THE DRAWINGS, DETAILS, AND ALL LOCAL AND STATE CODES FOR CROSS CONNECTION WITH A POTABLE DOMESTIC WATER SOURCE.
- DRAWINGS ARE DIAGRAMMATIC. PRECISE PLACEMENT OF EQUIPMENT MAY NOT BE POSSIBLE AS INDICATED. FIELD CHANGES WHICH DO NOT ALTER DESIGN INTENT MAY BE PERFORMED IN THE FIELD BY THE INSTALLER.
- QUANTITIES WHICH CAN BE DETERMINED GRAPHICALLY FROM THE DRAWINGS PREVAIL OVER SCHEDULED QUANTITIES IN THE EVENT OF A CONFLICT.
- ALL MAINLINE PIPE IS TO BE MARKED WITH TRACER WIRE.
- MAINLINE PIPE TO BE ROUTED AS INDICATED ON DRAWINGS AND INSTALLED TO A UNIFORM 24" DEPTH. MAINLINE TO BE INSTALLED PARALLEL TO SIDEWALKS AND CURBS WHERE INDICATED AND BE NO FARTHER THAN 1" FROM BACK OF ADJACENT PAVEMENTS.
- ADJUST ALL NOZZLES AND EMITTERS FOR PROPER COVERAGE. NO OVERSPRAY IS PERMITTED ONTO STRUCTURES OR VEHICULAR PARKING LOTS. MINOR OVERSPRAY ONTO SIDEWALKS IS ALLOWED WHERE INDICATED BY DESIGN.
- IRRIGATION INSTALLATION MUST BE 100% OPERABLE AND DEMONSTRATED IN THE PRESENCE OF THE OWNER AND PROJECT ARCHITECT PRIOR TO ISSUANCE OF CITY AFFIDAVIT OF COMPLETION FOR FINAL ACCEPTANCE.



40204 This drawing is an instrument of service and as such remains the exclusive property of William Gamal & Associates, Ltd. whether used or not. Reproduction or modification of this drawing without prior consent from Gamal & Associates is prohibited under all applicable intellectual property laws.
The drawing is diagrammatic. In the event of a conflict, quantities which can be determined graphically shall prevail over scheduled, stated, or listed quantities. Field changes made without prior approval by the Resolving Authority of the project shall result in a change of final acceptance. Specific measures of a schedule of quantity shall only be shown when the official stamp of the licensed landscape architect in the state in which the drawing is issued are attached for authorization purposes.



PROJECT NAME: 501 NORTH WAHSATCH AVENUE
PROJECT ADDRESS: 501 NORTH WAHSATCH AVENUE, COLORADO SPRINGS, CO 80903
PROJECT DESCRIPTION: DEVELOPMENT PLAN

DATE PREPARED: AUG 16, 2024
DESIGNED BY: GEM
CHECKED BY: WFG
REVISIONS:
DATE: DESCRIPTION:

NOTES:

SHEET TITLE: IRRIGATION DETAILS
PLAN SCALE: 1"=20'0"
SHEET NO. 07 OF 9 SHEETS
REVIEWING AGENT FILE NO. 24TMP-063098

IRRIGATION SPECIFICATIONS CONTD ON NEXT PAGE:
APPROVAL:



D-Series Size 1 LED Wall Luminaire

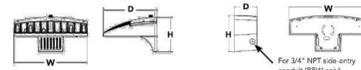


Specifications Luminaire

Width: 13-3/4" (34.9 mm) Weight: 12 lbs (5.4 kg) Depth: 10" (25.4 mm) Height: 6-3/8" (162 mm)

Back Box (BBW, E20WC)

Width: 13-3/4" (34.9 mm) Weight: 5 lbs (2.3 kg) Depth: 4" (102 mm) Height: 6-3/8" (162 mm)



Ordering Information

EXAMPLE: DSWW1 LED 20C 1000 40K T3M MVOLT DBDXTD

Table with columns: Series, LEDs, Drive Current, Color Temperature, Distribution, Voltage, Mounting, Control Options, Shipped Included, Shipped Installed

Other Options

Table with columns: Option, Description, Price

Accessories

Table with columns: Accessory, Description, Price



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DSWW1 LED Rev. 3/26/24

Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Table showing LAT multipliers for temperatures from 0°C to 40°C

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the DSWW1 LED 20C 1000 (driven to 20°C ambient, based on 10,000 hours of LED testing per IESNA LM-79-08 and projected per IESNA TM-21-11).

Table showing lumen maintenance factors for different hours of operation

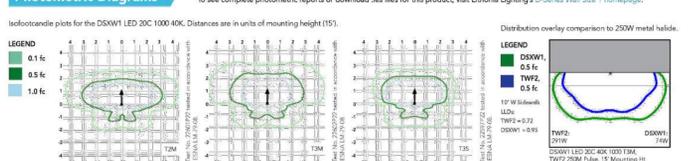
Electrical Load

Table showing electrical load for various luminaire configurations

Motion Sensor (Default) Settings

Table showing motion sensor settings for different options

Photometric Diagrams



Options and Accessories



FEATURES & SPECIFICATIONS

INTENDED USE: The energy saving, long life and easy-to-install design of the D-Series Wall Size 1 make it the smart choice for building mounted downlight and pathway illumination for nearly any facility.

Performance Data

Lumen Output

Large table showing lumen output for various configurations and temperatures



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DSWW1 LED Rev. 3/26/24

WAC LIGHTING

Rockport

Outdoor Wall Sconce 3000K

Table with columns: Model & Size, Color Temp, Finish, LED Watts, LED Lumens, Delivered Lumens

Example: WS-W77211-BK

For custom requests please contact customs@wacighting.com

DESCRIPTION

Industrial style meets nautical edginess. A look and design reliable for a pragmatic and aesthetic approach to the workplace or the home.

FEATURES

- Downlight illumination
• AGLD driverless technology
• 5 Year warranty

SPECIFICATIONS

Color Temp: 3000K
Input: 120 VAC, 50/60Hz
CRI: 90
Dimming: ELV: 100-10% ; TRIAC: 100-10%
Rated Life: 54000 Hours
Standards: ETL, cETL, P65, Title 24 JAR Compliant
Wet Location Listed
Construction: Aluminum body, etched acrylic diffuser

Fixture Type:

Catalog Number:

Project:

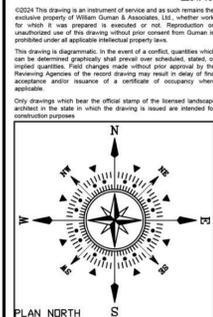
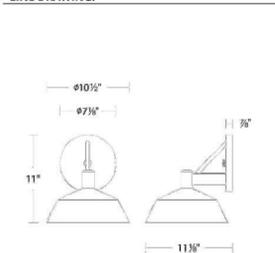
Location:



FINISHES:

Brushed Aluminum Black

LINE DRAWING:



PROJECT NAME: 501 NORTH WAHSATCH AVENUE
PROJECT ADDRESS: 501 NORTH WAHSATCH AVENUE, COLORADO SPRINGS, CO 80903
PROJECT DESCRIPTION: DEVELOPMENT PLAN

Table with columns: DATE PREPARED, DESIGNED BY, CHECKED BY, REVISIONS, DATE, BY, DESCRIPTION

NOTES:

SHEET TITLE: CUT SHEETS

PLAN SCALE: 1"=10'0"

SHEET NO.



DP2

9 of 9 SHEETS

REVIEWING AGENCY FILE NO.