

# Highway 340 Roundabouts Fruita, Colorado



## Bid Documents

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**September 17, 2020**

### Project Location: Fruita, Colorado



### Owner's Representative



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PARKS AND RECREATION DIRECTOR  
CITY OF FRUITA  
TNYCUM@FRUITA.ORG  
970-858-0360 X6400

### Site Planning / Landscape Architect



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NVISION DESIGN STUDIO, INC.  
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### Structural Engineer



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LV1	LOW VOLTAGE LIGHTING PLAN
S1	STRUCTURAL PLAN / DETAILS
S2	STRUCTURAL PLAN / DETAILS

### Revisions:

NO.	DESCRIPTION	DATE

ACCEPTANCE BLOCK	
THE CITY OF FRUITA REVIEW CONSTITUTES GENERAL COMPLIANCE WITH THE CITY'S DEVELOPMENT STANDARDS, SUBJECT TO THESE PLANS BEING SEALED, SIGNED, AND DATED BY THE PROFESSIONAL OF RECORD. REVIEW BY THE CITY DOES NOT CONSTITUTE APPROVAL OF THE PLAN DESIGN. THE CITY NEITHER ACCEPTS NOR ASSUMES ANY LIABILITY FOR ERRORS OR OMISSIONS. ERRORS IN THE DESIGN OR CALCULATIONS REMAIN THE RESPONSIBILITY OF THE PROFESSIONAL OF RECORD. CONSTRUCTION MUST COMMENCE WITHIN ONE YEAR FROM THE DATE OF PLAN SIGNATURE.	
CITY PLANNER	DATE
CITY PUBLIC WORKS	DATE
CITY ENGINEER	DATE

**Layout Notes**

- HORIZONTAL AND VERTICAL LAYOUT SHALL BE PERFORMED BY THE CITY OF FRUITA SURVEYING DEPARTMENT. PROVIDE STAKING OF ALL MAJOR DESIGN COMPONENTS SUCH AS CENTER CIRCLES, F LOGO LAYOUT, AND ALL CONCRETE COMPONENTS. CONTRACTOR AND CITY SHALL DETERMINE SPECIFICS.

**Grading Notes**

- BASE SURVEY INFORMATION FOR AREA WITHIN LIMIT OF WORK WAS PROVIDED BY THE OWNER. LOCATIONS OF ANY EXISTING UNDERGROUND PIPING IS GENERALIZED AND BASED ON THE KNOWLEDGE OF THE OWNER. EXACT LOCATIONS OF PROPERTY LINES, VAULTS, ELECTRICAL DUCT BANKS, MANHOLES, CONDUIT AND PIPING, DRAINAGE STRUCTURES, AND OTHER UTILITIES TO BE VERIFIED BY CONTRACTOR PRIOR TO ANY DIGGING OR GRADING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS FROM LOCAL AGENCIES.
- IT IS THE INTENT TO MAINTAIN THE EXISTING DRAINAGE PATTERN AND NOT DISRUPT EXISTING DRAINS. CONTRACTOR SHALL BE FAMILIAR WITH EXISTING GRADES AND DRAINAGE PATTERNS PRIOR TO CONSTRUCTION. ANY CONDITIONS THAT DO NOT COMPLY WITH CURRENT ADA STANDARDS, SUCH AS LOW SPOTS IN PAVEMENT, OR ANY SITUATION WHICH MAY CREATE A SAFETY HAZARD SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.
- ALL FINISHED GRADES SHALL PROVIDE FOR NATURAL RUNOFF OF WATER WITHOUT LOW SPOTS OR POCKETS. SET FLOW LINES ACCURATELY AND PROVIDE A MINIMUM 2% AND A MAXIMUM 33% (3:1) GRADIENT IN LANDSCAPE AREAS UNLESS OTHERWISE NOTED.
- HOLD FINISHED GRADES FOR ALL PLANTING AREAS 2" MIN. BELOW TOP OF ADJACENT PAVEMENTS, CURBS OR HEADERS. ALLOW A MIN. OF 4" FOR ADDITION OF MULCH MATERIALS OVER FINISHED GRADE.
- HOLD FINISHED GRADES FOR SHRUB AND GROUND COVER AREAS 1-1/2 IN. BELOW TOP OF ADJACENT PAVEMENT, CURBS, OR HEADERS UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- MIN. 10% SLOPE AWAY FROM BUILDING FOUNDATION FOR A MINIMUM OF 10' PER GEOTECHNICAL REPORT, WHERE DITCH AND FLOWLINE GRADE ARE NOT SPECIFIED.
- FILL MATERIAL SHALL BE FREE OF DEBRIS AND VEGETATION.
- BACKFILL AGAINST FOUNDATION WALLS SHALL BE IN CONFORMANCE WITH GEOTECHNICAL REPORT.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE UNIFORM BUILDING CODE, OSHA REQUIREMENTS FOR EXCAVATION, AND SPECIAL REQUIREMENTS OF THE PERMIT. VIOLATIONS WILL RESULT IN THE STOPPAGE OF ALL WORK UNTIL THE VIOLATION IS CORRECTED.
- NO WORK SHALL BE STARTED WITHOUT FIRST NOTIFYING THE CITY AT AT LEAST 2 WORKING DAYS BEFORE WORK IS COMMENCED.
- LANDSCAPE SLOPES SHALL BE NO STEEPER THAN 2 HORIZONTAL FEET TO 1 VERTICAL FOOT, OR AS DETERMINED BY A SOILS ENGINEER AND APPROVED BY THE COUNTY.
- FILL AREAS SHALL BE CLEARED OF VEGETATION AND DEBRIS, SCARIFIED, AND BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO THE PLACING OF FILL.
- PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS SHALL BE USED TO PROTECT ADJOINING PROPERTIES DURING CONSTRUCTION OF IMPROVEMENTS.

- DUST SHALL BE CONTROLLED BY THE CONTRACTOR TO THE SATISFACTION OF THE LOCAL JURISDICTION.
- ALL STREETS SHALL BE MAINTAINED FREE OF DUST AND MUD CAUSED BY GRADING OPERATIONS. ALL OPERATIONS SHALL COMPLY WITH THE REQUIREMENTS OF THE LOCAL JURISDICTION.
- FINISH GRADING WILL BE COMPLETED AND APPROVED, AND SLOPE PLANTING AND IRRIGATION SYSTEMS INSTALLED BEFORE FINAL SIGN-OFF BY THE CITY.
- NO ROCK OR SIMILAR MATERIAL GREATER THAN 6" IN DIAMETER SHALL BE PLACED IN THE FILL UNLESS RECOMMENDATIONS FOR SUCH PLACEMENT HAVE BEEN SUBMITTED AND APPROVED BY A SOILS ENGINEER.
- THE CITY SHALL APPROVE ALL GRADING INCLUDING COMPACTION REQUIREMENTS AND THE STABILITY OF SLOPES CREATED, EXISTING OR REMAINING.
- ALL DRAINAGE PIPE SHALL BE BURIED A MINIMUM OF 12" (PREF. 18") AND POSITIVE SLOPE PROVIDED TO MAINTAIN EFFICIENT DRAINAGE.
- ALL NEW AND EXISTING STORM SEWER INFRASTRUCTURE (I.E. DRAIN INLETS, CULVERTS) THAT ARE LOCATED ON THE PROPERTY OR ARE IMMEDIATELY ADJACENT MUST BE MAINTAINED AND PERIODICALLY INSPECTED OF SEDIMENT AND DEBRIS (IF APPLICABLE). FAILURE OF SUCH PRACTICES MAY RESULT IN POOR DRAINAGE PERFORMANCE AND FLOOD DAMAGE. ALL RISK AND LIABILITY SHALL BE ASSUMED BY THE OWNER.

Project Name:



Client: City of Fruita  
Parks and Recreation  
324 North Coulson Street  
Fruita Colorado 81521  
970-858-0360  
tcasal@fruita.org

Landscape Architect:



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Landscape Architecture | Visual Simulation | Graphic Design

Registration:



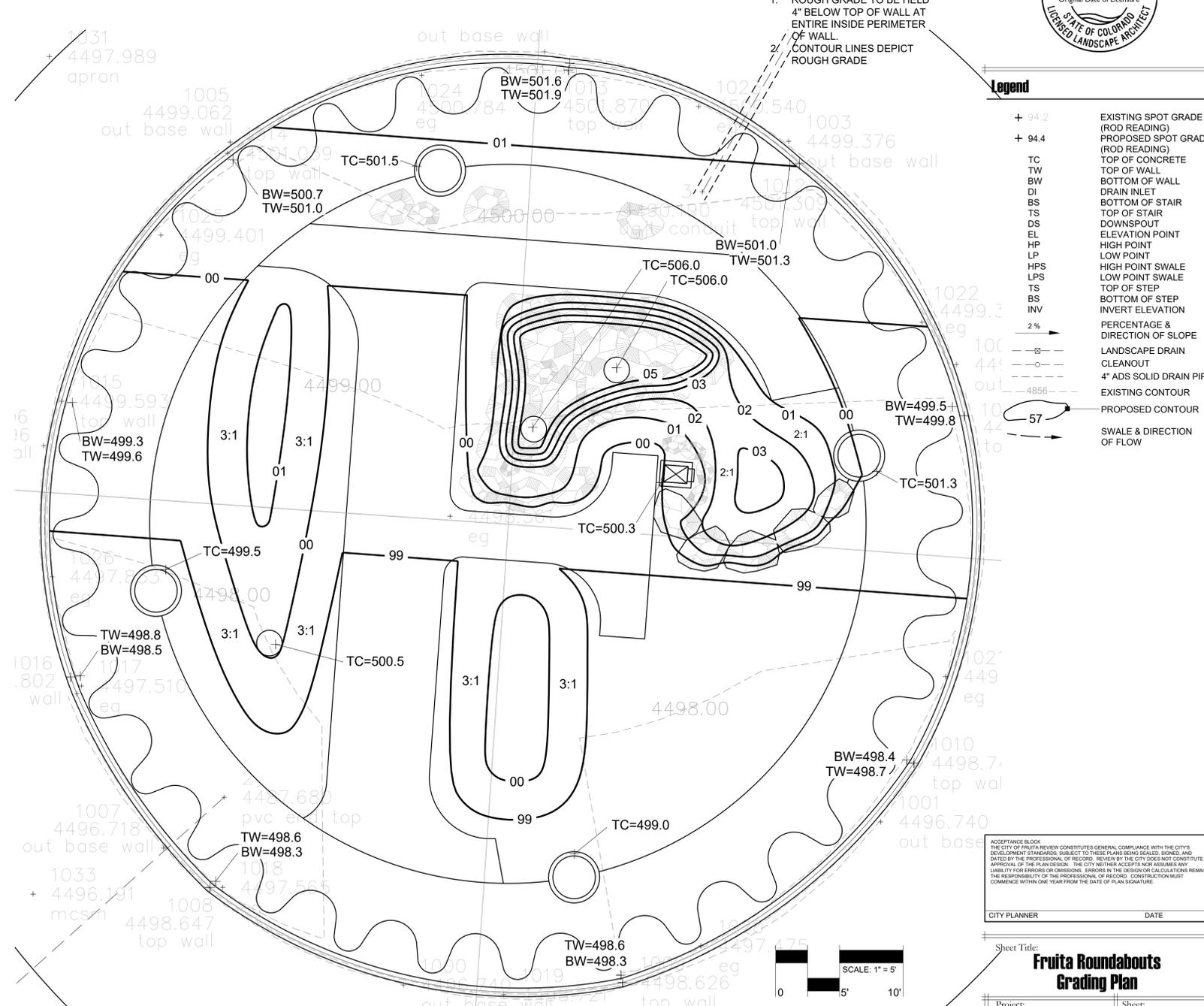
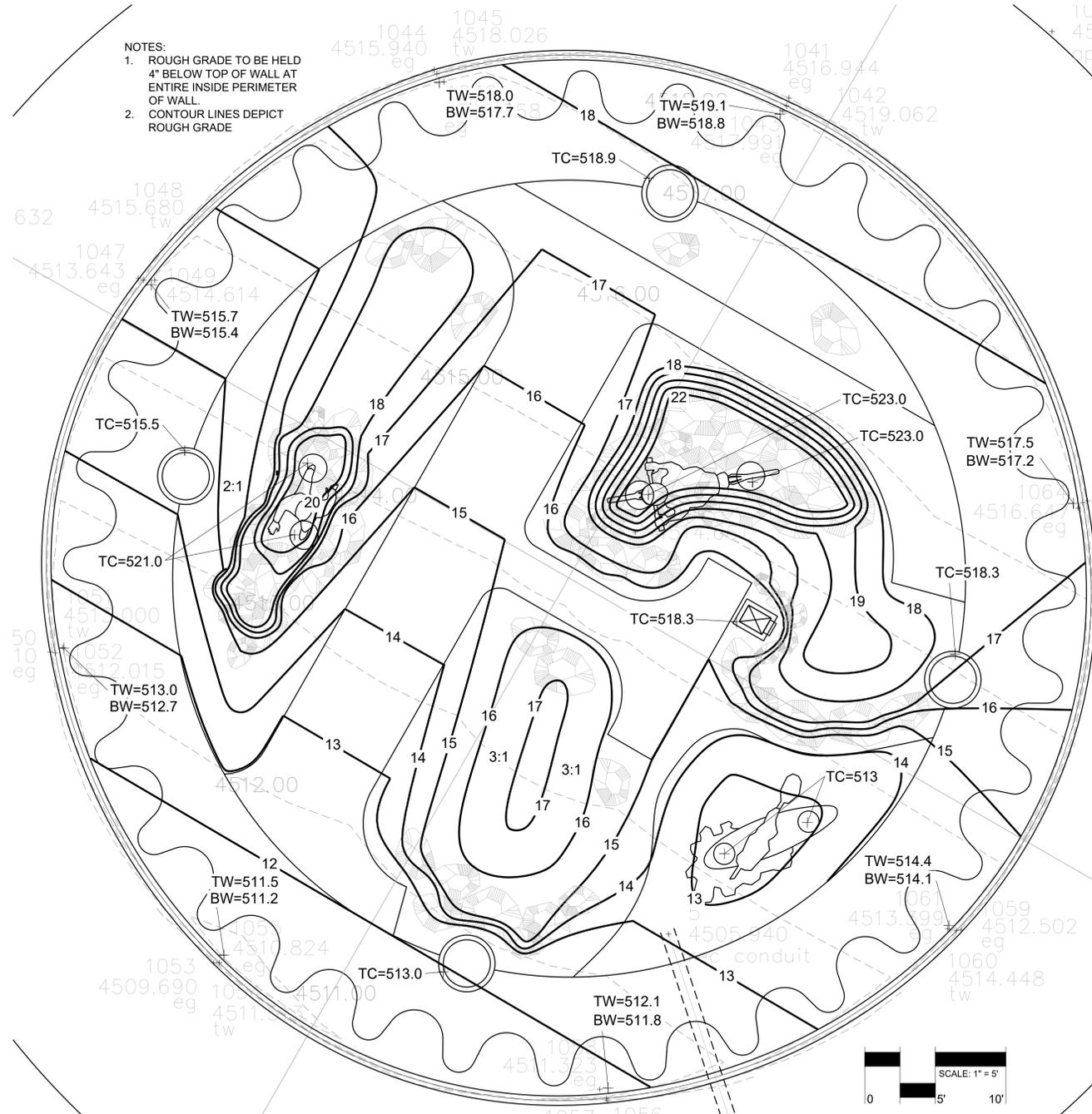
Robert A. Breeden  
LA 462  
03/21/2008  
Original Date of Licensure  
STATE OF COLORADO  
LICENSED LANDSCAPE ARCHITECT

- NOTES:
- ROUGH GRADE TO BE HELD 4" BELOW TOP OF WALL AT ENTIRE INSIDE PERIMETER OF WALL.
  - CONTOUR LINES DEPICT ROUGH GRADE

- NOTES:
- ROUGH GRADE TO BE HELD 4" BELOW TOP OF WALL AT ENTIRE INSIDE PERIMETER OF WALL.
  - CONTOUR LINES DEPICT ROUGH GRADE

**Legend**

+ 94.2	EXISTING SPOT GRADE (ROD READING)
+ 94.4	PROPOSED SPOT GRADE (ROD READING)
TC	TOP OF CONCRETE
TW	TOP OF WALL
BW	BOTTOM OF WALL
DI	DRAIN INLET
BS	BOTTOM OF STAIR
TS	TOP OF STAIR
DS	DOWNSPOUT
EL	ELEVATION POINT
HP	HIGH POINT
LP	LOW POINT
HPS	HIGH POINT SWALE
LPS	LOW POINT SWALE
TS	TOP OF STEP
BS	BOTTOM OF STEP
INV	INVERT ELEVATION
2%	PERCENTAGE & DIRECTION OF SLOPE
— —	LANDSCAPE DRAIN CLEANOUT
— —	4" ADS SOLID DRAIN PIPE
— —	EXISTING CONTOUR
— —	PROPOSED CONTOUR
57	SWALE & DIRECTION OF FLOW



**NORTH ROUNDABOUT**

**SOUTH ROUNDABOUT**

**Preliminary**  
Not For Construction

ACCEPTANCE BLOCK  
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CITY PLANNER \_\_\_\_\_ DATE \_\_\_\_\_

Sheet Title: **Fruita Roundabouts Grading Plan**

Project: Fruita Roundabouts  
Date: September 10, 2020  
Scale: 1" = 5'

Sheet: **61**

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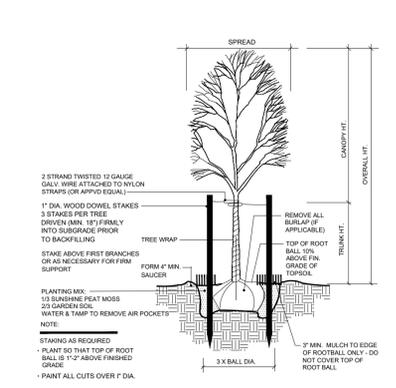
**Landscape Notes**

- NOTE: ALL PLANTS IN SIGHT DISTANCE EASEMENT SHALL REMAIN UNDER 30" IN HEIGHT AT ALL TIMES.
- INSTALL ROCK MULCH IN ALL SHRUB BEDS AS INDICATED ON PLAN.
- ALL TO BE PLANTED WITH LIVING PLANTS SHALL BE EXCAVATED DOWN TO 12" DEPTH AND NATIVE SOIL SHALL BE AMENDED WITH WITH A MIN. 4 CU YDS PER 1,000 SF WITH GOOD QUALITY COMPOSTED ORGANIC MATTER. FIRST, DECOMPACT ALL PLANTING AREA SOILS TO A MIN. DEPTH OF 12 INCHES PRIOR TO TILLING. TILL AND INCORPORATE AMENDMENT TO A MIN. DEPTH OF 12 INCHES.
- TREE PITS SHALL BE EXCAVATED TO A MIN. DEPTH OF 24" AND AMENDED SAME AS ABOVE.
- LANDSCAPE ARCHITECT SHALL NOT BE HELD RESPONSIBLE FOR THE MEANS, METHODS OR APPROPRIATENESS OF CONSTRUCTION AND SAFETY PROCEDURES CHOSEN BY ANY CONTRACTOR.
- PROVIDE MATCHING SIZES AND FORMS FOR EACH SPECIES OF TREE INSTALLED AS SHOWN ON DRAWINGS. ALIGN TREES ACROSS WALKS. ADJUST SPACING AS NECESSARY.
- INSTALL TREES A MINIMUM OF FOUR (4) FEET FROM BACK OF CURB, EDGE OF WALL OR PAVING.
- FORM 30 INCH WATERING BASIN AROUND ALL TREES. FILL BASIN WITH 1-1/2 INCH LAYER OF WOOD CHIPS.
- PLANT NAMES ARE ABBREVIATED ON THE DRAWINGS. SEE PLANT SCHEDULE FOR KEY AND CLASSIFICATION.
- ALL PLANT MATERIAL OUTSIDE OF THE LIMIT OF CONSTRUCTION LINE MUST REMAIN UNDISTURBED.
- ALL MATERIALS NOT TO BE REMOVED WILL BE MARKED CLEARLY WITH FLAGGING TAPE, PROTECTIVE FENCING, OR OTHER APPROVED BARRIER PRIOR TO CONSTRUCTION.
- IDENTIFY LOCATIONS OF ALL UNDERGROUND UTILITIES THAT MIGHT BE DISTURBED BY LANDSCAPE ELEMENTS PRIOR TO CONSTRUCTION.
- ALL PLANT MATERIALS SHALL MEET THE AMERICAN STANDARDS FOR NURSERY STOCK, ANSI Z60.1-2004, OR AS IT MAY BE AMENDED.
- THE CONTRACTOR SHALL BE HELD COMPLETELY LIABLE FOR ANY DAMAGES RESULTING IN DEVIATIONS OMISSIONS, OR AMENDMENTS TO THIS PLAN. ANY CHANGES TO THIS PLAN SHALL BE DONE ONLY BY THE LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION. FIELD CHANGES BY THE CONTRACTOR SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT BY EITHER RFI OR CHANGE ORDER IN WRITING PRIOR TO CONSTRUCTION.
- THE IRRIGATION SYSTEM SHALL CONSIST OF AN UNDERGROUND PRESSURIZED SYSTEM THAT WILL PROVIDE DRIP COMPONENTS TO THE SHRUBS AND TREES AND SPRAY IRRIGATION TO THE GRASS (IF APPLICABLE).
- IRRIGATION CONTROLLER SHALL BE A "WATER SENSE" SMART IRRIGATION CONTROLLER. VERIFY EXISTING CONTROLLER AND REPLACE IF NECESSARY.
- PROVIDE IRRIGATION TO ALL SHRUBS AND TREES - SEE IRRIGATION PLANS.

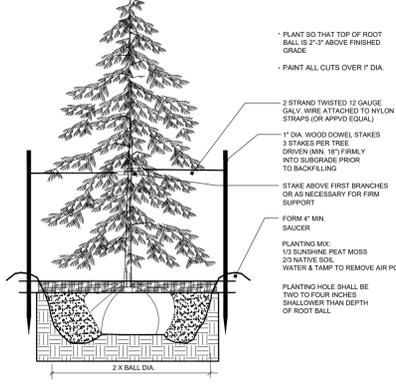
**Plant Schedule**

KEY	COMMON NAME	BOTANICAL NAME	H	W	SIZE	TYPE	QTY
<b>Deciduous Trees:</b>							
A	Prairie Fire Crabapple Tree	Malus 'Prairie Fire'	15	15	1-1/2" Cal.	B&B	2
sub	HOT WINGS® Tatarian Maple	Acer tataricum 'Garann' PP15023	15	15	1-1/2" Cal.	B&B	
sub	Winter King Hawthorn	Crataegus viridis 'Winter King'	15	15	1-1/2" Cal.	B&B	
<b>Total Deciduous Trees:</b>							<b>2</b>
<b>Evergreen Trees:</b>							
B	Pinyon Pine	Pinus edulis	15	15	6-8H	B&B	4
sub	Upright Mugo Pine	Pinus mugo 'Tannenbaum'	10	6	6-8H	B&B	
sub	Utah Juniper	Juniperus osteosperma	20	10	6-8H	B&B	
sub	Rocky Mountain Juniper	Juniperus scopulorum	20	10	6-8H	B&B	
<b>Total Evergreen Trees:</b>							<b>4</b>
<b>Shrubs &amp; Ornamental Grasses:</b>							
C	Parry's Agave	Agave parryi	2	3	5 gal.	Cont.	3
D	Leadplant	Amorpha canescens	3	3	5 gal.	Cont.	5
E	Silver Sage	Artemisia cana	4	4	5 gal.	Cont.	1
F	Dark Knight Blue Mist	Caryopteris incana 'Dark Knight'	4	4	5 gal.	Cont.	2
G	Tall Green Rabbitbrush	Chrysothamnus nauseosus graveolens	5	5	5 gal.	Cont.	3
H	Blue Stem Joint Fir	Ephedra equisetina	4	4	5 gal.	Cont.	8
I	Feather Reed Grass	Calamagrostis acutiflora 'Karl Forester'	4	3	5 gal.	Cont.	26
<b>Total Shrubs &amp; Grasses:</b>							<b>48</b>
<b>Perennials:</b>							
J	Snow in Summer	Cerastium tomentosum	1	2	1 Gal.	Cont.	16
K	Fire Cracker Penstemon	Penstemon eatoni 'Fire Cracker'	2	1	1 Gal.	Cont.	16
<b>Total Perennials:</b>							<b>32</b>

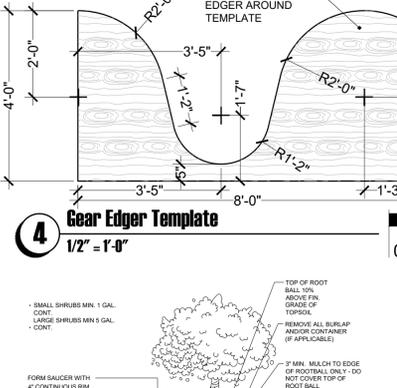
**1 Deciduous Tree Planting NTS**



**2 Evergreen Tree Planting NTS**

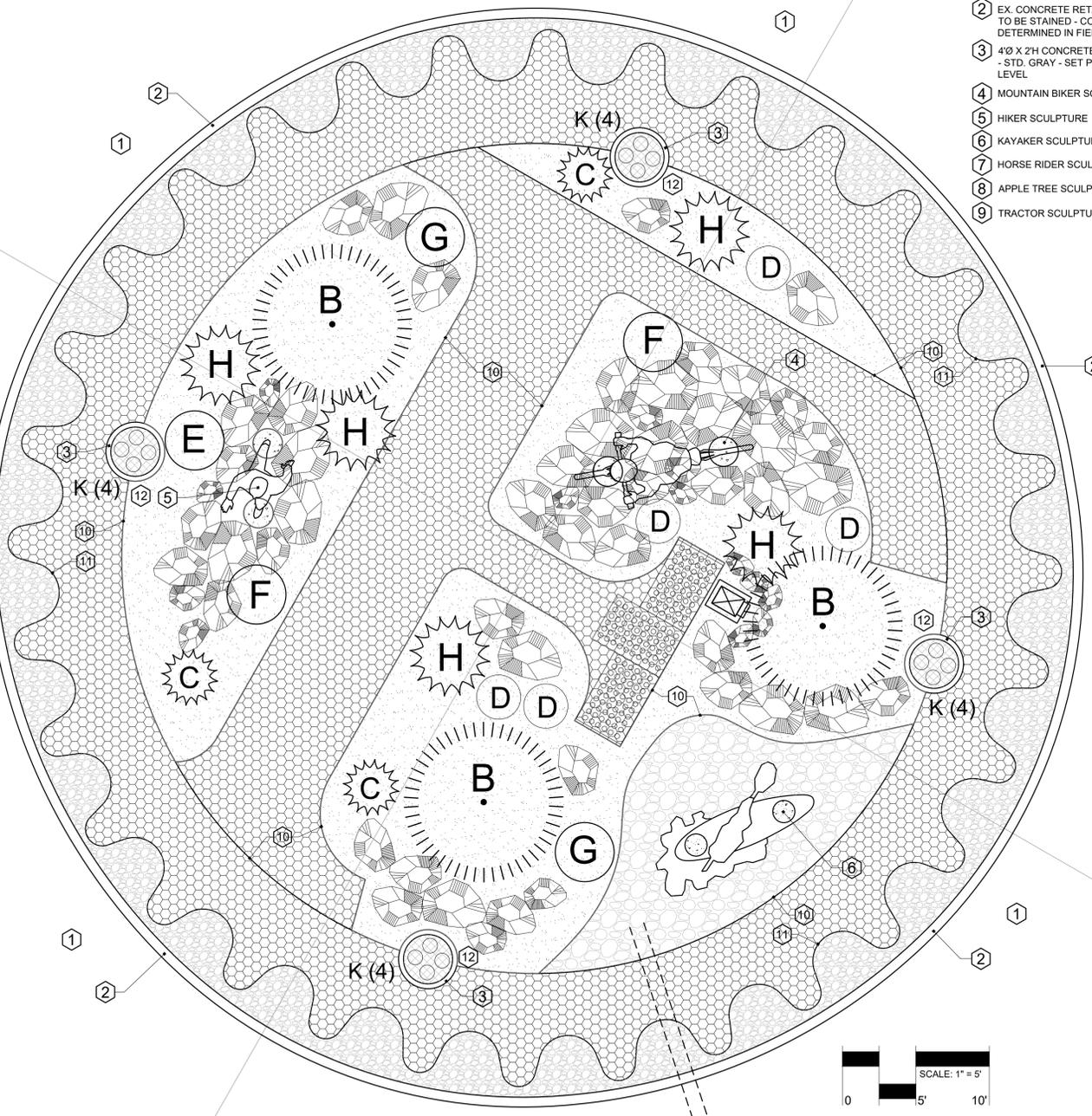


**3 Shrub Planting NTS**

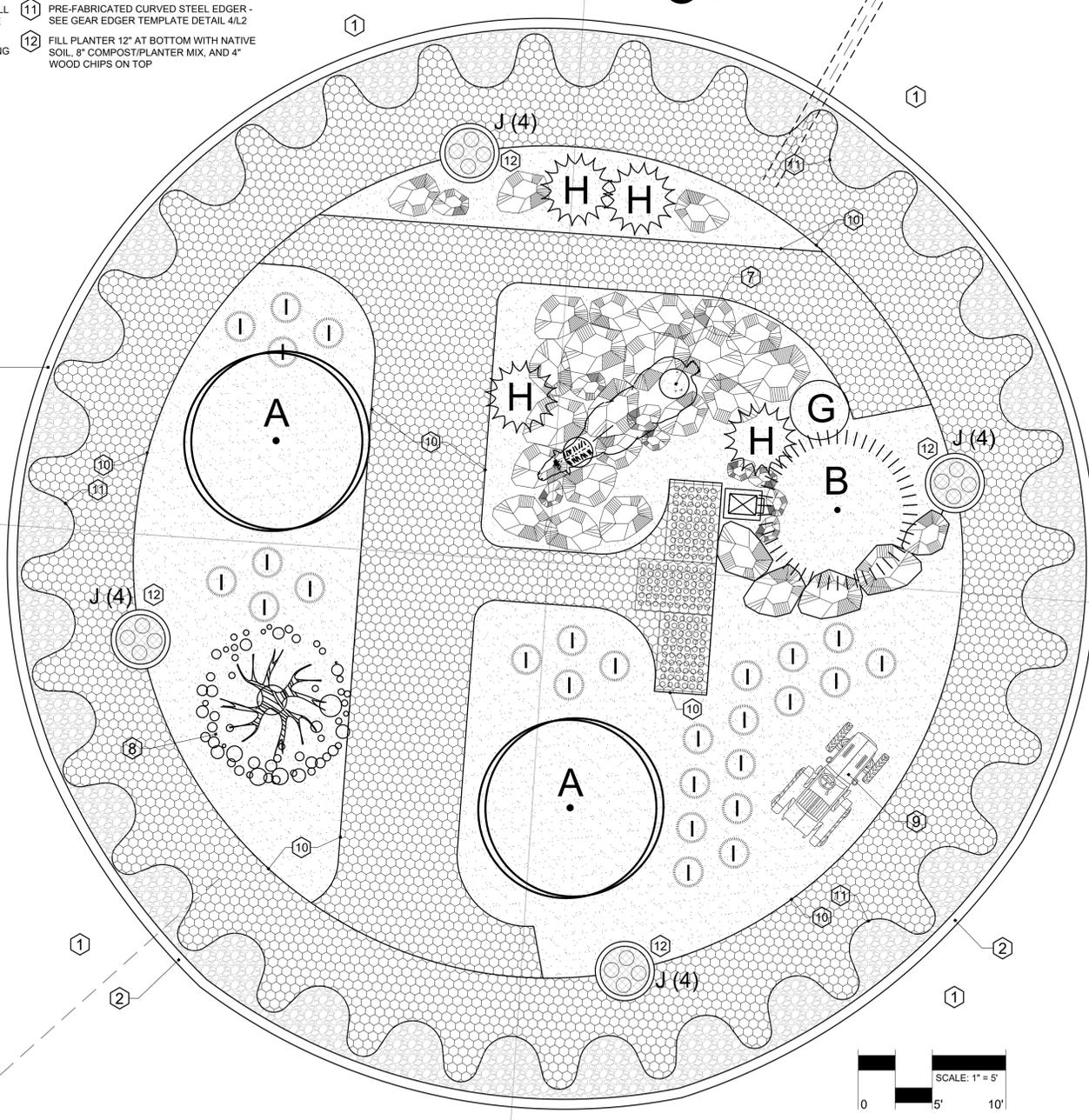


**Key Notes**

- EX. CONCRETE APRON
- EX. CONCRETE RETAINING WALL TO BE STAINED - COLOR TO BE DETERMINED IN FIELD
- 4 1/2" X 2 1/2" CONCRETE RISER RING - STD. GRAY - SET PLUMB AND LEVEL
- MOUNTAIN BIKER SCULPTURE
- HIKER SCULPTURE
- KAYAKER SCULPTURE
- HORSE RIDER SCULPTURE
- APPLE TREE SCULPTURE
- TRACTOR SCULPTURE
- 4" ROLLED TOP STEEL EDGER
- PRE-FABRICATED CURVED STEEL EDGER - SEE GEAR EDGER TEMPLATE DETAIL 4/L2
- FILL PLANTER 12" AT BOTTOM WITH NATIVE SOIL, 8" COMPOST/PLANTER MIX, AND 4" WOOD CHIPS ON TOP



**NORTH ROUNDABOUT**



**SOUTH ROUNDABOUT**

**Preliminary**  
Not For Construction

Project Name: **FRUITA COLORADO**

Client: **City of Fruita Parks and Recreation**  
324 North Coulson Street  
Fruita Colorado 81521  
970-858-0360  
tcasal@fruita.org

Landscape Architect: **NVISION DESIGN STUDIO, INC.**  
677 25 Road Grand Junction, CO 81505  
Phone: 970.210.2155 Email: rb@nviz.biz  
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Landscape Architecture | Visual Simulation | Graphic Design

Registration: **Robert A. Breeden**  
LA 462  
03/21/2008  
Original Date of Licensure  
STATE OF COLORADO  
LICENSED LANDSCAPE ARCHITECT

**Legend**

- PROPOSED SHRUBS/PERENNIALS/ORNAMENTAL GRASSES
- PROPOSED DECIDUOUS TREES
- PROPOSED EVERGREEN SHRUBS
- PROPOSED EVERGREEN TREES
- GRANITE BOULDERS 36"-48"
- 3/4" BLACK/BLUE BASALT (3" DEPTH MIN.)
- 1" - 2" WASHED COLORADO RIVER ROCK MULCH (3" DEPTH MIN.)
- 6" - 9" WASHED COLORADO RIVER ROCK MULCH (6"-9" DEPTH MIN. FILL ANY OPEN CRACKS WITH 1"-2" WASHED CO RIVER ROCK)
- 1" TAN GRANITE ROCK MULCH (3" DEPTH MIN.)
- 1/4" BURNT AUTUMN TRAIL MIX ROCK MULCH (3" DEPTH MIN.)
- WOOD CHIPS

ACCEPTANCE BLOCK  
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CITY PLANNER \_\_\_\_\_ DATE \_\_\_\_\_

**Fruita Roundabouts Planting Plan**

Project: Fruita Roundabouts  
Date: September 10, 2020  
Scale: 1" = 5'

Sheet: **PL1**

### Plan Key Notes

- 1 DISCONNECT UNUSED PVC PIPE AND CONNECT NEW 1" SCH. 40 PVC TO ZONE 12 LATERAL AFTER PRESSURE REDUCER / FILTER
- 2 1" SCH. 40 PVC - APPROX. 100 LF - 12" MIN. DEPTH
- 3 3/4" SOLID POLYETHYLENE PIPE - BURY UNDER GRAVEL AND STAKE EVERY 10 FEET W/ GALV. STAKES  
EX. 4" SLEEVE (TO BE FIELD VERIFIED)
- 4 CONNECT 3/4" POLY DRIP LINE TO 1" POLY WITHIN ROUNDABOUTS. SEE DETAILED PLANS ON L3
- 5
- 6 INSTALL 1" FLOW METER AFTER IRR VALVE IN 7" ROUND BOX NEAR CONC. VAULT - SEE 3/4 FOR ROUND BOX INSTALLATION DETAIL  
SPEC:  
PRM 1 INCH MULTI-JET BRASS TOTALIZING WATER METER WITH PULSE OUTPUT WM100PVX  
WWW.PRMFILTRATION.COM

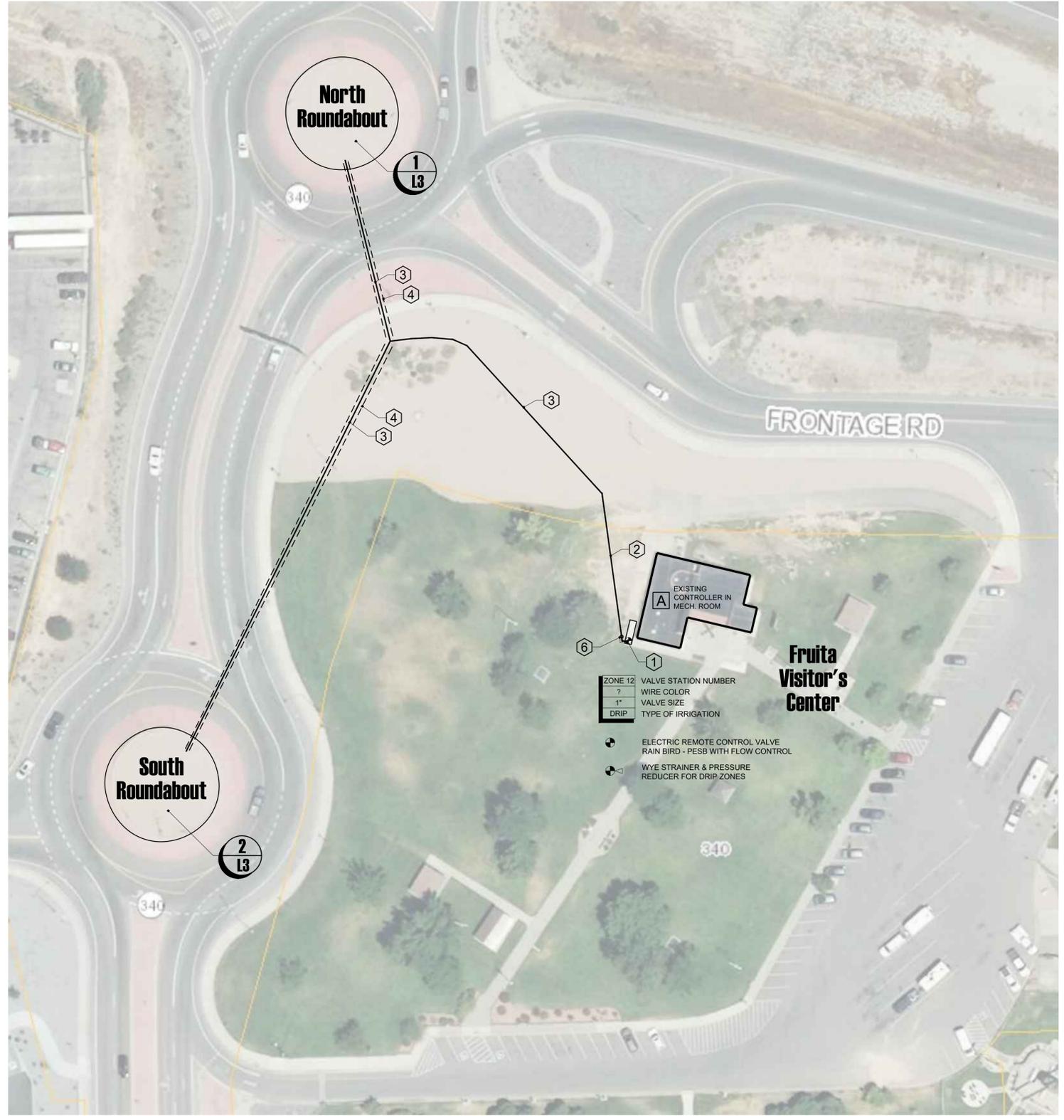
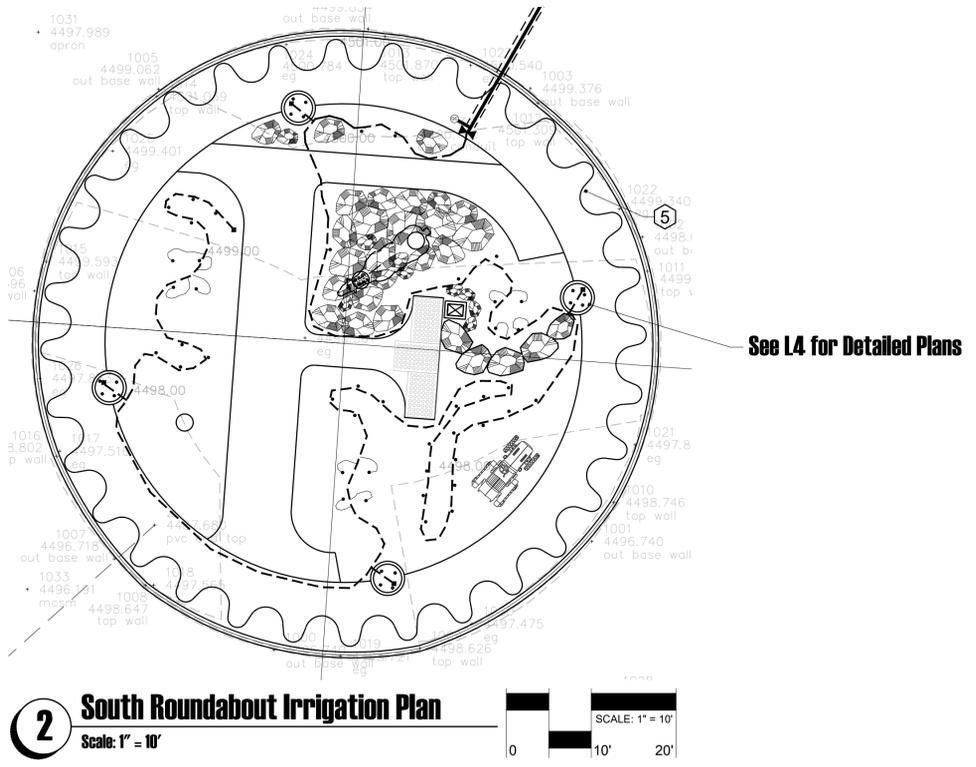
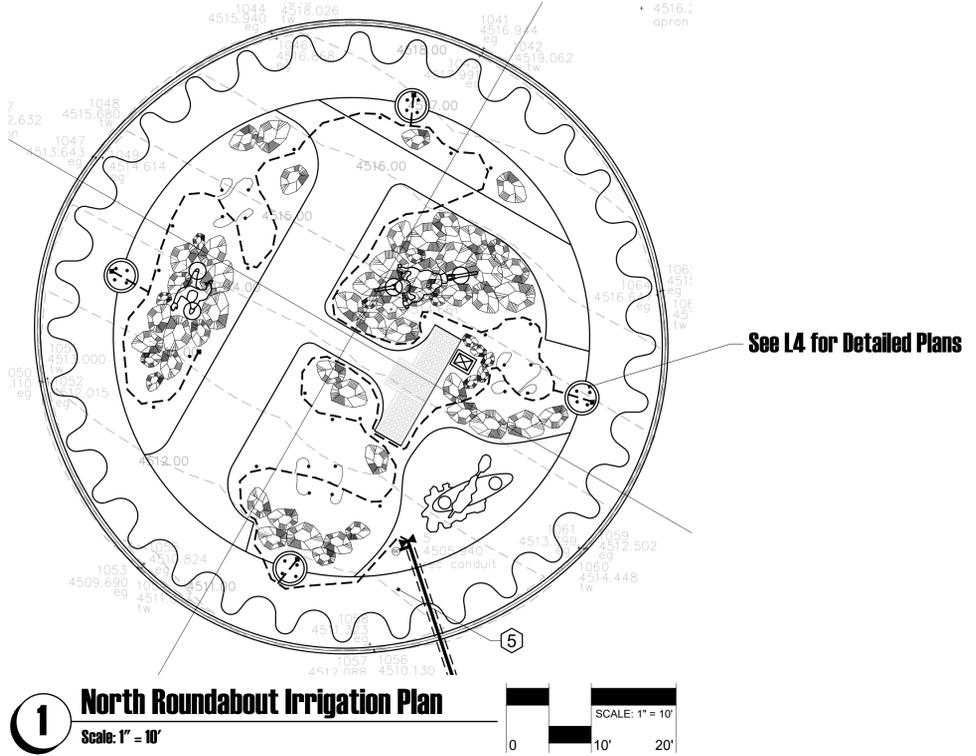
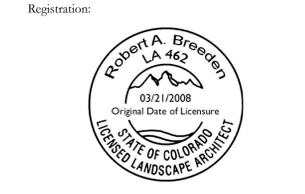


Project Name:



Client:  
City of Fruita  
Parks and Recreation  
324 North Coulson Street  
Fruita Colorado 81521  
970-858-0360  
tcasal@fruita.org

Landscape Architect:  
**VISION DESIGN STUDIO, INC.**  
677 25 Road Grand Junction, CO 81505  
Phone: 970.210.2155 Email: rb@vzst.biz  
Web: www.vzst.biz  
Landscape Architecture | Visual Simulation | Graphic Design



SCALE: 1" = 40'

0 40' 80'

**Preliminary**  
Not For Construction

Sheet Title:  
**Fruita Roundabouts Irrigation Plan**

Project: Fruita Roundabouts	Sheet: 
Date: September 10, 2020	
Scale: Varies	

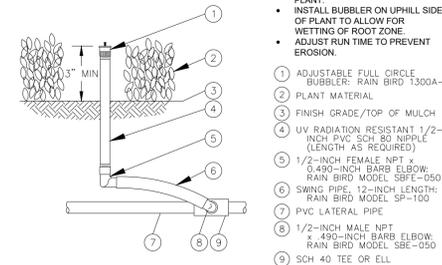
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# Irrigation Notes

- VERIFY OPERATING PRESSURE AT POINT OF CONNECTION PRIOR TO INSTALLATION OF THE IRRIGATION SYSTEM. NOTIFY PLAN PREPARER IF MEASURED PRESSURE IS MORE THAN 95 P.S.I. OR LESS THAN 60 P.S.I. THE SYSTEM IS DESIGNED FOR AN OPERATING PRESSURE OF 60 P.S.I. AND A FLOW RATE AT INLET PIPE OF 12 GPM. VERIFY ALL FLOW RATES ON-SITE PRIOR TO INSTALLATION.
- NOTIFY LANDSCAPE ARCHITECT SIX (6) DAYS PRIOR TO INSTALLATION FOR A PRE-INSTALLATION CONFERENCE AND FIELD REVIEW COORDINATION FOR TRENCH DEPTHS, ASSEMBLY REVIEW, PRESSURE TESTS, COVERAGE TESTS, PRE-MAINTENANCE AND FINAL REVIEWS.
- A CONTINUITY TEST WILL BE REQUIRED FOR CONTROL WIRE STUBOUTS. NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL FROM THE PLAN PREPARER.
- INSTALL ALL EQUIPMENT IN ACCORDANCE WITH LOCAL CODES, MANUFACTURERS AND INSTRUCTIONS. AVOID ANY CONFLICTS BETWEEN SPRINKLER SYSTEM, PLANTING, AND ARCHITECTURAL FEATURES. NOTIFY PLAN PREPARER PRIOR TO INSTALLATION OF ANY AREA OF GRADE DIFFERENCES OR OBSTRUCTIONS NOT INDICATED ON THE PLANS.
- PRIOR TO CUTTING INTO SOIL, LOCATE ALL CABLES, CONDUITS, SEWERS, AND OTHER UTILITIES OR ARCHITECTURAL FEATURES THAT ARE COMMONLY ENCOUNTERED UNDERGROUND AND TAKE PROPER PRECAUTIONS NOT TO DAMAGE OR DISTURB SUCH IMPROVEMENTS. ANY DAMAGE MADE DURING THE INSTALLATION OF THE IRRIGATION SYSTEM OF THE AFOREMENTIONED ITEMS SHALL BE REPAIRED AND/OR REPLACED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL EXPENSE TO THE OWNER.
- LOCATION OF CONTROLLER TO BE DETERMINED AT JOBSITE BY OWNER AND CONTRACTOR (IF APPLICABLE). CONNECT TO EXISTING 120 VOLT ELECTRICAL SUPPLIES. USE THIN WALL METAL CONDUIT ABOVE GRADE. INSTALL PER MANUFACTURERS SPECIFICATIONS. PROVIDE AND INSTALL RECHARGEABLE BATTERY BACK-UP FOR CONTROLLERS. CONTROLLERS SHALL BE PROPERLY GROUNDED PER ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE AND CONFORM TO LOCAL REGULATIONS. INSTALL AS DETAILED. SEAL ALL CONDUIT HOLES WITH SILICONE OR EQUAL. PROGRAM CONTROLLERS TO IRRIGATE SLIPS USING MULTIPLE REPEAT CYCLES OF SHORT DURATIONS. CARE SHALL BE TAKEN TO PREVENT RUNOFF OF WATER AND SOIL EROSION DUE TO PROLONGED APPLICATIONS OF WATER.
- USE APPROPRIATE SOLVENT AND APPLICATOR, AND PRIMER IF REQUIRED, FOR PIPE SIZE AND TYPE APPLICATIONS. APPLY PER MANUFACTURERS RECOMMENDATIONS.
- INSTALL ALL ELECTRIC VALVES, PRESSURE REGULATORS, BALL OR GATE VALVES, PIPING, BACKFLOW PREVENTORS (IF APPLICABLE), CONTROLLERS PER MANUFACTURERS SPECIFICATIONS.

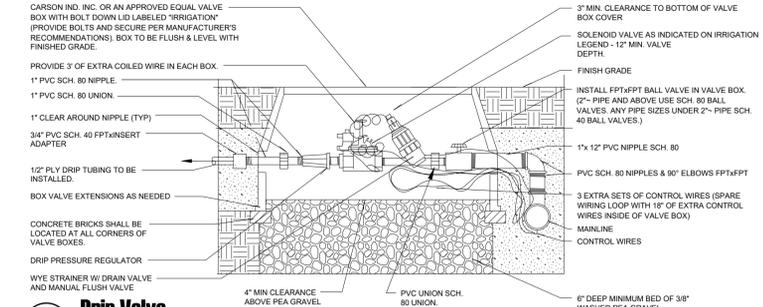
- INSTALL FLOOD BUBBLERS ON UP HILL SIDE OF PLANT AND/OR WITHIN PLANT WELL.
- POLYETHYLENE PIPE (IF APPLICABLE) INSTALLED SHALL BE PRODUCED FROM ALL VIRGIN UNION CARBIDE RESIN.
- MAINTENANCE CONSIDERATIONS:  
A. FILTER CLEANING AND FLUSHING SHOULD START OUT AS A MONTHLY PROCEDURE AND CONTINUE AS NEEDED AFTER SIX (6) MONTHS.  
B. VISUALLY CHECK FOR INDICATIONS OF PIPE BREAKS OR CLOGGED EMITTERS OR OUTLETS.  
C. WATER QUALITY SHOULD BE MEASURED ON A QUARTERLY BASIS AND AMENDMENTS ADDED AS NECESSARY TO ENSURE THE SURVIVAL RATE OF THE PLANT MATERIAL.
- ALL WIRING UNDER PAVEMENT SHALL BE INSTALLED IN PVC SCHEDULE 40 ELECTRICAL CONDUIT. ELECTRICAL CONDUIT SHALL EXTEND SIX INCHES (6") BEYOND EDGE OF PAVEMENT OR CURB. CONTRACTOR HAS THE OPTION TO INSTALL PVC SCHEDULE 40 SLEEVING FOR ALL PIPING UNDER ASPHALT AND CONCRETE PAVEMENTS AT HIS OWN EXPENSE. INSTALL SAND FOR BACKFILL IN ASPHALT PAVEMENT AREAS TO 6" COVER ABOVE PIPE. SURROUND PIPE WITH SAND IN AREAS WHERE ROCKY TERRAIN IS ENCOUNTERED.
- ALL VALVE CONTROL WIRE SHALL BE MINIMUM NO. 14 AWG COPPER UL APPROVED FOR DIRECT BURIAL IN GROUND. CONNECT WIRES AS DETAILED PER MANUFACTURERS SPECIFICATIONS. RUN ONE (1) EXTRA CONTROL WIRE OF DIFFERENT COLOR THROUGH ALL VALVE LOCATIONS FROM EACH CONTROLLER. EACH WIRE AT VALVES SHALL HAVE 24" EXCESS COILED LOOP. TAPE WIRES IN BUNDLES EVERY TEN FEET (10').
- ALL PIPES SHALL BE TESTED AT 125% OF DESIGN PRESSURE FOR 1 HOUR. ADD WATER SLOWLY TO PIPES TO AVOID WATER HAMMER DAMAGE. BLEED SYSTEM TO INSURE ALL AIR IS OUT OF PIPES AND PRESSURIZE SYSTEM TO LEVELS STATED ABOVE. VISUALLY INSPECT FOR LEAKS WHILE SYSTEM IS HOLDING PRESSURE CONSTANT.
- ALL BACKFILL MATERIAL SHALL BE FREE OF ROCKS, CLODS, AND OTHER EXTRANEUS MATERIALS. COMPACT BACKFILL TO ORIGINAL DENSITY OF SOIL.
- AT JOB COMPLETION, SUPPLY OWNER WITH TWO (2) KEYS FOR EACH CONTROLLER.
- GUARANTEE THE IRRIGATION SYSTEM AGAINST DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE.

## 1 Adjustable Full Circle Bubbler NTS - 1300 A-F ON RISER



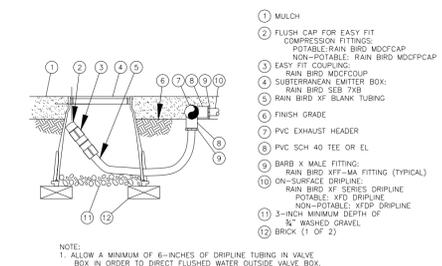
- NOTES:
- FORM BASIN AROUND BASE OF PLANT.
  - INSTALL BUBBLER ON UPHILL SIDE OF PLANT TO ALLOW FOR WETTING OF ROOT ZONE.
  - ADJUST RUN TIME TO PREVENT EROSION.
- ADJUSTABLE FULL CIRCLE BUBBLER: RAIN BIRD 1300A-F
  - PLANT MATERIAL
  - FINISH GRADE/TOP OF MULCH
  - UV RADIATION RESISTANT 1/2-INCH PVC SCH. 80 NIPPLE (LENGTH AS REQUIRED)
  - 1/2-INCH FEMALE NPT x 3/4-INCH BARB ELBOW: RAIN BIRD MODEL SBFE-050
  - SWING PIPE, 12-INCH LENGTH: RAIN BIRD MODEL SP-100
  - PVC LATERAL PIPE
  - 1/2-INCH MALE NPT x 490-INCH BARB ELBOW: RAIN BIRD MODEL SBE-050
  - SCH 40 TEE OR ELL

## 2 Drip Valve NTS



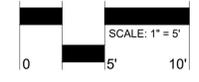
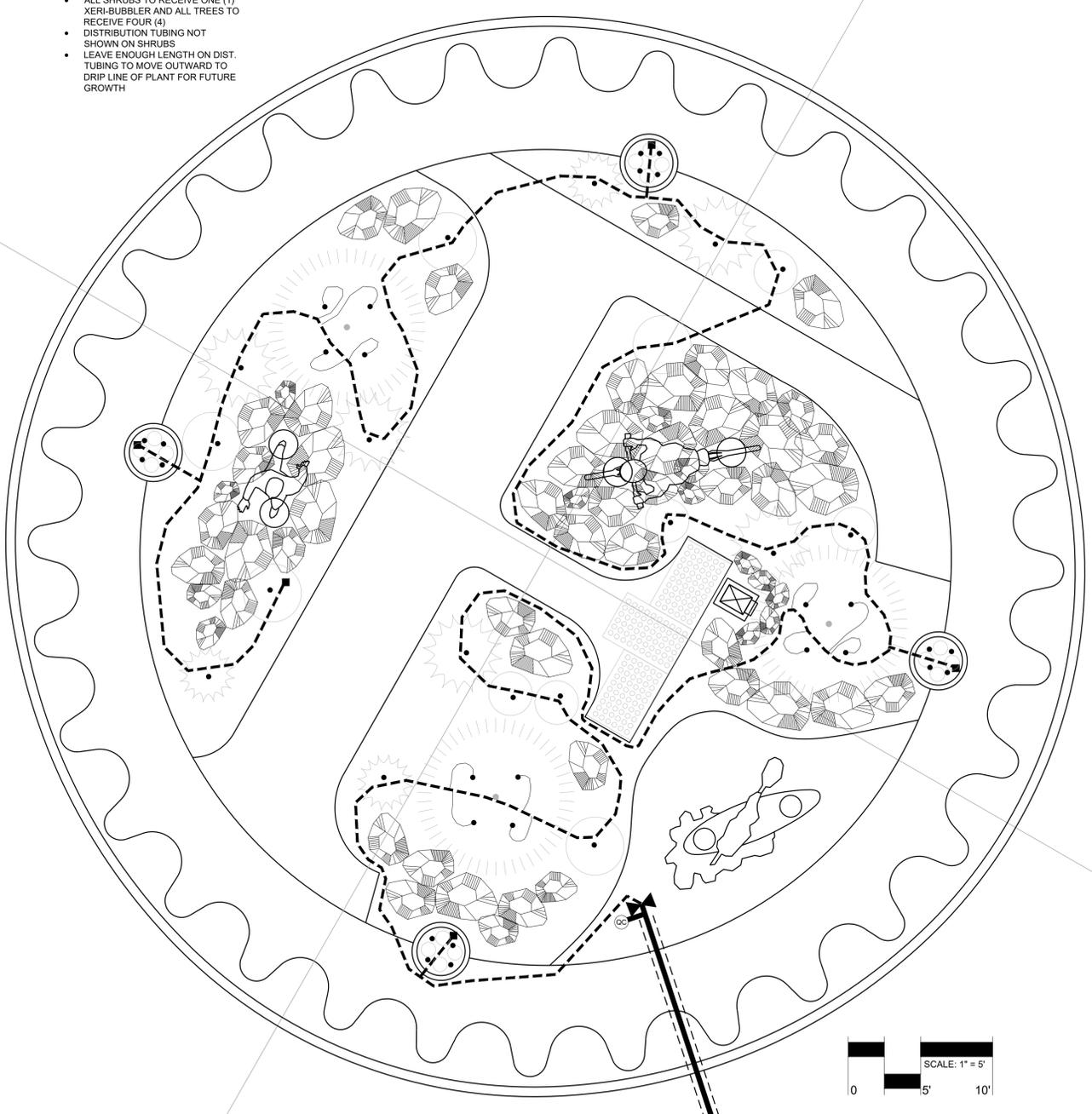
- CARSON IND. INC. OR AN APPROVED EQUAL VALVE BOX WITH BOLT DOWN LID LABELED "IRRIGATION" (PROVIDE BOLTS AND SECURE PER MANUFACTURER'S RECOMMENDATIONS). BOX TO BE FLUSH & LEVEL WITH FINISHED GRADE.
- PROVIDE 3' OF EXTRA COILED WIRE IN EACH BOX.
- 1" PVC SCH. 80 UNION
- 1" CLEAR AROUND NIPPLE (TYP)
- 3/4" PVC SCH. 40 FPTXINSERT ADAPTER
- 1/2" PLY DRIP TUBING TO BE INSTALLED.
- BOX VALVE EXTENSIONS AS NEEDED
- CONCRETE BRICKS SHALL BE LOCATED AT ALL CORNERS OF VALVE BOXES.
- DRIP PRESSURE REGULATOR
- WYE STRAINER W/ DRAIN VALVE AND MANUAL FLUSH VALVE
- 4" MIN CLEARANCE ABOVE PEA GRAVEL
- PVC UNION SCH. 80 UNION
- 3" MIN. CLEARANCE TO BOTTOM OF VALVE BOX COVER
- SOLENOID VALVE AS INDICATED ON IRRIGATION LEGEND - 12" MIN. VALVE DEPTH
- FINISH GRADE
- INSTALL FPTXFT BALL VALVE IN VALVE BOX (7" PIPE AND ABOVE USE SCH. 80 BALL VALVES. ANY PIPE SIZES UNDER 7" - PIPE SCH. 40 BALL VALVES.)
- 1x1/2" PVC NIPPLE SCH. 80
- PVC SCH. 80 NIPPLES & 90° ELBOWS FPTXFT
- 3 EXTRA SETS OF CONTROL WIRES (SPARE WIRING LOOP WITH 18" OF EXTRA CONTROL WIRES INSIDE OF VALVE BOX)
- MAINLINE
- CONTROL WIRES
- 6" DEEP MINIMUM BED OF 3/8" WASHED PEA GRAVEL

## 3 Drip Line Flush End Cap NTS

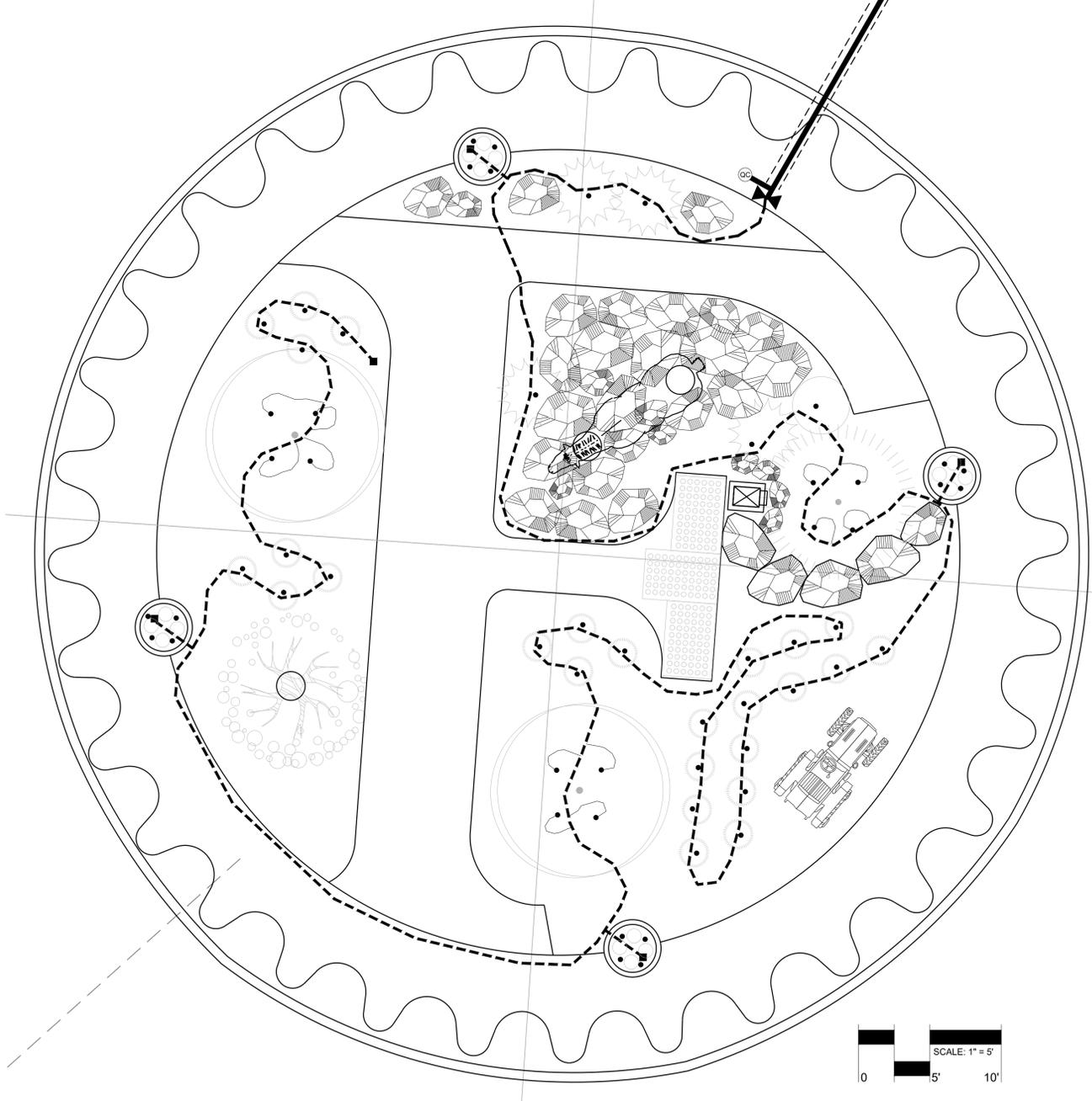


- MULCH
  - FLUSH CAP FOR EASY FIT COMPRESSION FITTINGS: POTABLE: RAIN BIRD MOCFPCAP; NON-POTABLE: RAIN BIRD MOCFPCAP
  - EASY FIT COUPLING: RAIN BIRD MOCFCOUP
  - SUBSTRATE EMITTER BOX: RAIN BIRD SEB 7x8
  - RAIN BIRD XF BLANK TUBING
  - FINISH GRADE
  - PVC EXHAUST HEADER
  - PVC SCH 40 TEE OR ELL
  - BARB x MALE FITTING: RAIN BIRD XFF-MA FITTING (TYPICAL)
  - ON-SURFACE DRIPLINE: RAIN BIRD XF DRIPLINE (POTABLE: XFD DRIPLINE; NON-POTABLE: XFDN DRIPLINE)
  - 3-INCH MINIMUM DEPTH OF 3/8" WASHED GRAVEL
  - BRICK (1 OF 2)
- NOTE:  
1. ALLOW A MINIMUM OF 6-INCHES OF DRIPLINE TUBING IN VALVE BOX IN ORDER TO DIRECT FLUSHED WATER OUTSIDE VALVE BOX.

- NOTES:
- ALL SHRUBS TO RECEIVE ONE (1) XERI-BUBBLER AND ALL TREES TO RECEIVE FOUR (4)
  - DISTRIBUTION TUBING NOT SHOWN ON SHRUBS
  - LEAVE ENOUGH LENGTH ON DIST. TUBING TO MOVE OUTWARD TO DRIP LINE OF PLANT FOR FUTURE GROWTH



# NORTH ROUNDABOUT



# SOUTH ROUNDABOUT

**Preliminary**  
Not For Construction

Project Name:

Client: **City of Fruita**  
Parks and Recreation  
324 North Coulson Street  
Fruita Colorado 81521  
970-858-0360  
tcasal@fruita.org

Landscape Architect:

677 25 Road Grand Junction, CO 81505  
Phone: 970.210.2155 Email: rb@nviz.biz  
Web: www.nviz.biz  
Landscape Architecture | Visual Simulation | Graphic Design

Registration:

**Legend**

- PVC BALL VALVE
- 3/4" LATERAL PIPE SIZE (PVC SCHEDULE 40 PIPE)
- 4" PVC SLEEVE
- 1/2" DIST. TUBING RAIN BIRD XERI-BUBBLER EASY FIT FLUSH CAP
- 1/2" RAIN BIRD XF SERIES BLANK TUBING OR EQUAL PLACED UNDER ROCK MULCH - STAKE EV. 10'
- QC QUICK COUPLING VALVE FOR HOSE CONNECTION

ACCEPTANCE BLOCK  
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CITY PLANNER \_\_\_\_\_ DATE \_\_\_\_\_

Sheet Title: **Fruita Roundabouts Irrigation Plan**

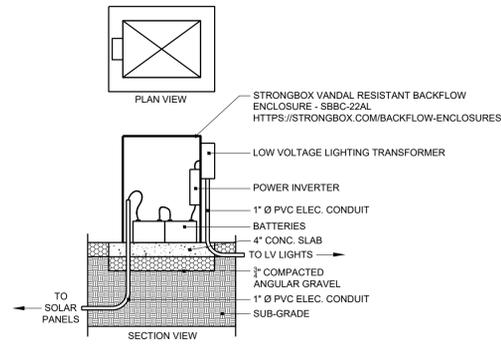
Project: Fruita Roundabouts  
Date: September 10, 2020  
Scale: 1" = 5'

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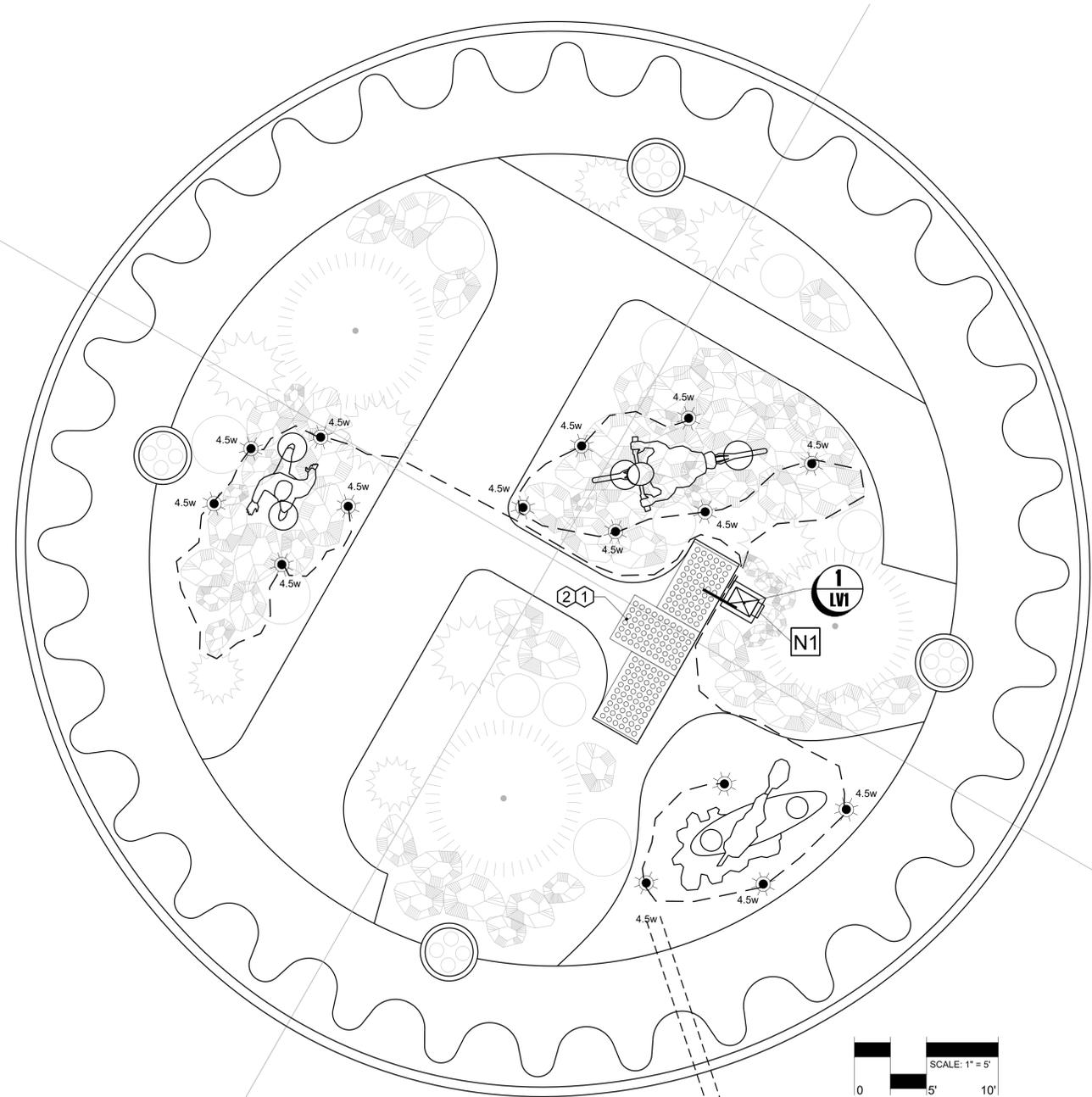
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# Low Voltage Lighting Notes

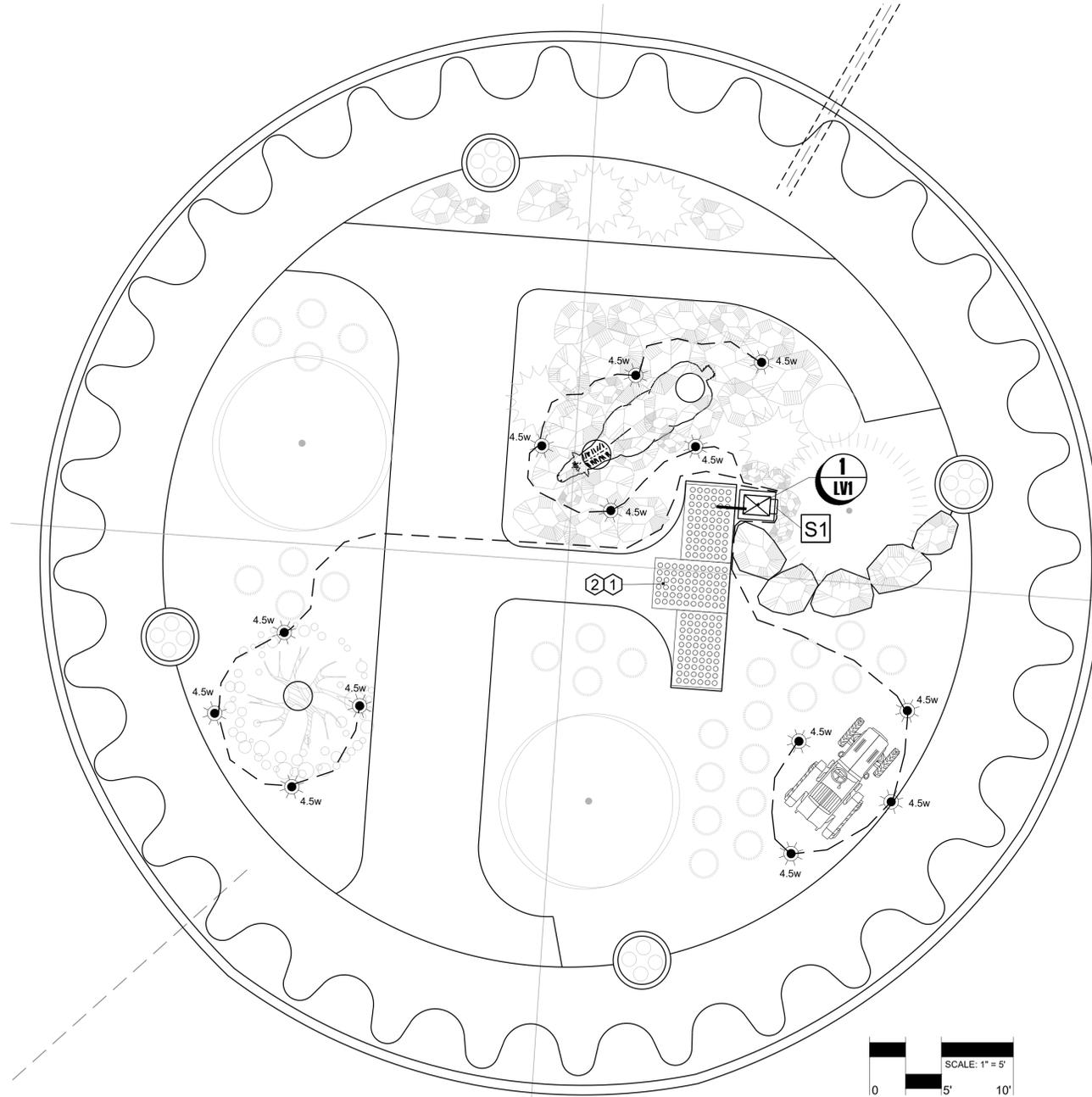
- ALL EXTERIOR ELECTRICAL OUTLETS AND LOW VOLTAGE TRANSFORMERS TO BE INSTALLED 18" ABOVE FIN. GRADE. ALL LINE VOLTAGE WIRE SHALL BE INSTALLED IN 1" SCH. 40 PVC ELECTRICAL CONDUIT AND SECURELY FASTENED TO CABINET WITH APPROPRIATE BRACKETS.
- ALL PATH LIGHT FIXTURES SHALL BE INSTALLED VERTICALLY TRUE AND PLUMB.
- LOW VOLTAGE WIRE SHALL BE BURIED NO DEEPER THAN 6". CABLE BURIED UNDER ROCK MULCH IS ACCEPTABLE AS LONG AS ALL WIRE CONNECTIONS ARE WATER TIGHT AND CABLE IS STAKED TO MINIMIZE THE LOOSENING OF CONNECTIONS.
- THE SPECIFIED LIGHT FIXTURES ARE FOR USE ONLY WITH LOW VOLTAGE LANDSCAPE POWER UNITS THAT DO NOT EXCEED 25 AMPS, 15 VOLT MAXIMUM.
- LUMINAIRES SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND LOCAL CODES. FAILURE TO DO SO WILL VOID THE WARRANTY AND MAY RESULT IN SERIOUS INJURY AND/OR DAMAGE TO THE LUMINAIRE.
- SAFETY WARNING: LUMINAIRE CAN BECOME VERY HOT DEPENDING ON LAMP WATTAGE USED. LENS AND METAL AROUND LAMP CAN BECOME HOT ENOUGH TO BLISTER HANDS. PARTICULAR CARE SHOULD BE TAKEN NOT TO LOCATE LUMINAIRES WHERE SMALL CHILDREN CAN REACH THEM IF HIGH WATTAGE LAMPS ARE USED.
- LUMINAIRES ARE NOT TO BE INSTALLED WITHIN 10 FT. (3.05M) OF A POOL OR SPA. SECONDARY CABLE IS NOT TO BE BURIED MORE THAN 6". WHEN USING MULTIPLE LUMINAIRES, LOAD IS NOT TO EXCEED THE TOTAL WATTS OF TRANSFORMER RATING. DO NOT USE EXTENSION CORDS ON POWER UNITS. NOTE: ALWAYS USE UL RECOGNIZED WIRE CONNECTORS FOR CONNECTIONS.
- THE LUMINAIRES ON THIS PLAN IS UL LISTED FOR ABOVE GROUND INSTALLATION ONLY.
- LUMINAIRE MOUNTING:  
TO PREVENT ELECTRICAL SHOCK, DISCONNECT TRANSFORMER FROM ELECTRICAL SUPPLY BEFORE INSTALLATION OR SERVICE. RUN WIRE PIGTAIL FROM LUMINAIRE THROUGH MOUNTING HOLE IN TOP OF GROUND STAKE. THREAD LUMINAIRE INTO THREADED HOLE IN GROUND STAKE. PLACE STAKE IN DESIRED POSITION AND INSERT INTO GROUND UNTIL FLANGE OF STAKE IS FLUSH TO GRADE. STRIP TWO LEADS FROM LUMINAIRE PIGTAIL USING TWO SILICONE FILLED SAFETY CONNECTORS (PROVIDED), CONNECT LEADS FROM LUMINAIRE TO MAIN SUPPLY CABLE LEADS. NOTE: LUMINAIRES ARE SUPPLIED WITH 36" OF 18-2 CABLE PIGTAIL FOR SECURE CONNECTION TO MAIN SUPPLY CABLE. WIRE IS TO BE PROTECTED BY ROUTING IN CLOSE PROXIMITY TO LUMINAIRE. WIRING SHOULD BE BURIED A MAXIMUM DEPTH OF 6 INCHES (15.2 CM) IN ORDER TO CONNECT TO MAIN SUPPLY CABLE. PROVIDE POWER TO LUMINAIRE AND CHECK FOR PROPER OPERATION.



**1 Waterproof Enclosure**  
1/2" = 1'-0"



**NORTH ROUNDABOUT**



**SOUTH ROUNDABOUT**



**Preliminary**  
Not For Construction

Project Name: **FRUITA COLORADO**

Client: **City of Fruita Parks and Recreation**  
324 North Coulson Street  
Fruita Colorado 81521  
970-858-0360  
tcasal@fruita.org

Landscape Architect: **VISION DESIGN STUDIO, INC.**  
677 25 Road Grand Junction, CO 81505  
Phone: 970.210.2155 Email: rb@vds.biz  
Web: www.vds.biz  
Landscape Architecture | Visual Simulation | Graphic Design

Registration: **Robert A. Breeden**  
LA 462  
03/21/2008  
Original Date of Licensure  
STATE OF COLORADO  
LICENSED LANDSCAPE ARCHITECT

- Legend**
- PV SOLAR PANELS
  - WATERPROOF CABINET (SEE 1/LV1)
  - 12-2 LINE VOLTAGE WIRE IN 1" Ø PVC CONDUIT - INSTALL OVER WEED FABRIC AND UNDER MULCH - STAKE WITH GALV. STAKES EVERY 18"
  - 12 GUA. LOW VOLTAGE CABLE SINGLE CIRCUIT, 2 CONDUCTOR INSTALL OVER WEED FABRIC AND UNDER MULCH - STAKE WITH GALV. STAKES EVERY 10"
  - LIGHT FIXTURE  
VISTA 2250 ACCENT LIGHT GR-2250-DZ-LED-FT BULB:  
LED MR-16 LN16-4.5-W-36-LED WATTAGE: 4.5W BEAM SPREAD: 36° WWW.VISTAPRO.COM
  - 4.5w BULB WATTAGE
  - TRANSFORMER  
VISTA MT SERIES MT-600-SS

- Key Notes**
- ACTUAL NUMBER OF PANELS TO BE DETERMINED BY SOLAR CONTRACTOR
  - GROUND MOUNTING HARDWARE TO BE PROVIDED BY SOLAR CONTRACTOR

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CITY PLANNER \_\_\_\_\_ DATE \_\_\_\_\_

Sheet Title: **Fruita Roundabouts Low Voltage Lighting Plan**

Project: Fruita Roundabouts  
Date: September 10, 2020  
Scale: 1" = 5'

Sheet: **1 LV1**