

# **CONTRACT DOCUMENTS**

# **CENTRAL POINT, OREGON**

# **Department of Public Works**

Skyrman Arboretum

Spring 2016

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#### WORK TO BE DONE

The work to be done under this contract may consist of one or more of the following at Skyrman Arboretum in the City of Central Point in Jackson County, Oregon:

- 1. Traffic Control.
- 2. Site Grading
- 3. Miscellaneous Portland Cement Concrete Structures
- 4. Installation of Drainage Facilities
- 5. ACP Surfacing
- 6. Paver Installation
- 7. Irrigation Installation
- 8. Landscaping

#### AUTHORITY OF CONSULTANT

The Project Engineer will be directly in charge of the project. However, the Project Engineer's authority on this project is as designated in the official "Consultant Agreement" for this project and as designated by the City of Central Point. This does include authority to approve contract changes or semifinal and final inspection of the project.

#### APPLICABLE SPECIFICATIONS

The Specification that is applicable to the work on this project is the 2015 edition of the "Oregon Standard Specifications for Construction" along with current updates. In addition, the "City of Central Point Department of Public Works Standard Specifications and Uniform Standard Details" are herein made part of this Contract as if they were attached, and are available upon request at the Public Works Department, 140 South Third Street, Central Point, OR 97502 or on the City website: www.centralpointoregon.gov. In the event of an apparent conflict between the City of Central Point Standard Specifications and the ODOT Standard Specifications, the more stringent requirement shall apply unless directed otherwise by the Engineer.

## **CLASS OF PROJECT**

This is a City of Central Point funded project.



# **Department of Public Works**

# ADVERTISEMENT FOR BIDS

#### NOTICE TO CONTRACTORS PUBLIC IMPROVEMENT PROJECT: Skyrman Arboretum PROJECT #4027961

Sealed bids will be opened and publicly read at the City of Central Point, City Hall, 140 South 3<sup>rd</sup> Street, Central Point, OR 97502 at 2:00 PST on **Tuesday, May 10, 2016** for the above referenced project. Bids must be submitted to Matt Samitore, Parks and Public Works Director, at the same address prior to 2:00 PST on the above date. Subcontractor Disclosure forms must be submitted prior to 4:00 PST on the same date.

Bidders must be prequalified in order to be eligible for award. Pre-qualification may be with the City of Central Point, City of Medford, or the Oregon Department of Transportation. If the bidder is disqualified in any of these jurisdictions, the bidder will be ineligible for this contract.

Award of contract will not be final until the later of: 1) three (3) business days after the City of Central Point announces Notice of Intent to Award; or 2) the City of Central Point provides a written response to each timely protest, denying the protest and affirming the award.

On all projects, work performed by the Contractor's own organization must be at least 30% of the awarded contract amount.

Plans and specifications will be available **online only** at <u>www.centralpointoregon.gov</u> or <u>www.questcdn.com</u> beginning April 11<sup>th</sup>, 2016. The complete digital contract documents may be downloaded for a \$10.00 non-refundable fee by inputting the QuestCDN project #4426936 on the website's Project Search page. Please contact QuestCDN.com at (952) 233-1632 or info@questcdn.com for assistance in free membership registration, downloading, and working with this digital project information.

#### COST ESTIMATE: \$150,000 - \$200,000

This project consists of improvements of an existing site to become the Skyrman Arboretum. This work will include, traffic control, grading/drainage, concrete installation, AC paving, pathway construction, grading, landscaping, and irrigation. This is a City funded project.

Work shall begin no earlier than May 23<sup>rd</sup>, 2016, and must be completed within 90 days after receiving Notice to Proceed. Please direct all questions to Jeff Ballard, P.E., at (541) 665-5233 ext. 5412 or jballard@rh2.com.

No bid will be received or considered by the City of Central Point unless bidder signs the bid statement.

The contract is for public work subject to ORS 279C.800 to 279.870. This project is subject to Oregon prevailing wage rates.

The City of Central Point may reject any bid not in compliance with all public bidding procedures and requirements, and may reject for good cause any or all bids upon a finding by the City of Central Pont that it is in the public interest to do so.

CITY OF CENTRAL POINT Matt Samitore, Parks and Public Works Director

# Instructions to Bidders

# 01. General

Plans and specifications will be available online only at <u>www.centralpointoregon.gov</u> or <u>www.questcdn.com</u> beginning April 11<sup>th</sup>, 2016. The complete digital contract documents may be downloaded for a \$10.00 non-refundable fee by inputting the QuestCDN project #4426936 on the website's Project Search page. Please contact QuestCDN.com at (952) 233-1632 or info@questcdn.com for assistance in free membership registration, downloading, and working with this digital project information.

## 02. Location

The project is located at:

Skyrman Arboretum is located along Hwy 99 in the City of Central Point, Oregon.

## 03. Examination of Plans, Specifications and Site

Bidders shall satisfy themselves as to construction conditions by personal examination of plans, specifications, and site of proposed work, and by any other examination and investigation which they may desire to make as to the nature of difficulties to be encountered.

## 04. Proposals

Proposals shall be made on the forms included herewith and shall be addressed to the City of Central Point Public Works Department, 140 South Third Street, Central Point, OR 97502. Proposals shall be placed in a sealed envelope and shall be delivered to the above address to arrive not later than 2 P.M. PDT, on May 10<sup>th</sup>, 2016.

No proposal may be withdrawn after the time set for the bid opening or before award of contract unless said award is delayed for a period exceeding sixty (60) days.

# 05. Bid Proposal Deposit

As a guarantee of good faith and as required by law, each bid shall be accompanied by a bid proposal deposit in the form of a certified check, cashier's check, or surety bond, payable to the order of the City of Central Point, for an amount not less than five (5) percent of the total amount of base bid. Deposits of the three low bidders will be retained until a contract has been entered into between the successful bidder and the City of Central Point, and until a performance and payment

bond in an amount of one hundred (100) percent of the contract price has been filed as required under these contract documents.

Deposits of other bidders will be returned as soon as it is determined that they are not one of the three low bidders.

# 06. Award of Contract

The contract will not be awarded until the City of Central Point is satisfied that the successful bidder is reasonably familiar with the class of work contemplated and has the necessary capital, tools and experience to satisfactorily perform the work within the time stated. Completion of the work within the time stated is essential, and prior commitments of the bidder, failure to complete other work on time, or reasonable doubt as to whether the bidder would complete the work on time would be cause for the rejection of any bid. In addition, the City of Central Point may determine any bidder not to be responsible in accordance with ORS 279C.395 and/or any other legal authority. The right is reserved by the City of Central Point to waive, as an informality, any irregularities in the bidding, to reject any or all proposals, to accept any proposal, to re-advertise for new proposals, or to otherwise carry out the work.

# 07. Failure to Execute Contract

In the event the successful bidder fails to furnish all approved bonds and to sign the contract within ten (10) days after notification of award, an amount equal to five (5) percent of the amount of the bid shall be forfeited to the City of Central Point as liquidated damages. Said liquidated damages shall be paid from the check or bid bond filed by the bidder. Other proposals will then be reconsidered for award by the City of Central Point.

## 08. Corrections, Interpretations and Addenda

Any omissions, discrepancies, or need for interpretation of the project documents should be brought in writing to the attention of the Project Engineer listed below. Written addenda to clarify questions which arise will then be issued.

All interpretation or explanations of the contract documents shall be in the form of an addendum and no oral statements by the City, the Project Engineer, or other representative of the City shall, in any way, modify the contract documents, whether made before or after awarding the contract.

# 09. Project Engineer

Notices as required in the general conditions shall be mailed to RH2 Engineering, Inc., 3523 Arrowhead Drive, Ste. 200, Medford, OR 97504, attention: Jeff Ballard, P.E.

## 10. Chemical Hazard Communication

Before starting work under this contract, the Contractor is required to supply information to the City of Central Point on all chemical hazards that the Contractor's work may produce and thereby create exposure to the City of Central Point employees and agents.

## 11. Completion Time

The Contractor shall be required to have the contract completed within 90 days after receiving Notice to Proceed.

#### Hours of Labor - Posting Hours of Labor:

- For work under this contract, a person may not be employed for more than ten (10) hours in any one (1) day, or forty (40) hours of work in any one (1) week, except in cases of necessity, emergency or when the public policy absolutely requires it, and in those cases, the employee shall be paid at least time and a half pay:
  - a. For all overtime in excess of eight (8) hours in any one (1) day or forty (40) hours in any one (1) week when the work week is five (5) consecutive days, Monday through Friday; and
  - b. For all overtime in excess of ten (10) hours in any one (1) day or forty (40) hours in any one (1) week when the work week is four (4) consecutive days, Monday through Friday; and
  - c. For all work performed on Saturdays and on any legal holiday specified in ORS 279C.540.
- The Contractor is not required to pay overtime if the request for overtime pay is not filed within thirty (30) days of completion of the contract if the Contractor has posted and maintained in place a circular with the information contained in ORS 279C.545 as required by ORS 279C.545(1).
- Contractors and Subcontractors must give notice in writing to employees who perform work under this contract, either at the time of hire or before commencement of work on the contract, or by posting a notice in a location frequented by employees, of the number of hours per day and days per week that the employees may be required to work.

It is the responsibility of each bidder to ascertain if all the documents listed on the attached index are included in their copy of the bid specifications.

If documents are missing, it is the sole responsibility of the bidder to contact the City of Central Point to obtain the missing documents prior to bid opening time.

## 12. Bid Package Checklist

The Following are required as a minimum for a complete bid:

- $\blacksquare$  Non-Collusion Affidavit
- ☑ Subcontractor List
- ☑ First-Tier Subcontractor Disclosure Form
- $\blacksquare$  Bid Bond Form
- 🗹 Bid Bond
- ☑ Signed Proposal Form
- $\blacksquare$  Schedule of Prices
- Acknowledgement of Receipt of Addenda

# **BID FORMS**

#### OMISSIONS AND AMBIGUITIES ON THE BID SUBMISSION WILL BE CONSIDERED GROUNDS FOR REJECTION.

# CONTRACTOR CERTIFICATIONS

#### (Must be signed and included with Bid Proposal)

We hereby certify that we have carefully examined the Contract Documents for the activity required by the specifications and will, if a trade contract, furnish all machines, tools, apparatus, and other means of construction and do the work and furnish all the materials necessary to complete the work in the manner, in the time, and according to the methods as specified in the Contract Documents.

We hereby certify that if our Proposal is accepted, we will sign the Contract within ten (10) calendar days after Notice of Award, and at that time, will deliver to the City of Central Point the Performance and Payment Bond.

# NON-COLLUSION AFFIDAVIT

We hereby certify that the bid submitted is genuine and not a sham or collusive bid, or made in the interest or on behalf of any person not therein named; and we further certify that we have not directly or indirectly induced or solicited any bidder or suppliers to put in a sham bid, or any other person or corporation to refrain from bidding; and that we have not in any manner sought by collusion to secure an advantage over any other bidder or bidders.

We hereby agree to furnish to the City of Central Point, before commencing the work under this Contract, the certificates of insurance, as specified in these documents.

We hereby certify that we will represent and warrant all work done by our subcontractors and that the work will be done in a good workmanlike manner under our direct supervision. We will notify the City of Central Point, prior to any subcontract work being done, and provide the name of the subcontractor or subcontractors to be used and the percentage of work that each subcontractor will perform.

(Name of Firm)

By:

(Authorized Signature)

Title:

# SUBCONTRACTOR LIST

#### Oregon Statutory (ORS) Certifications

#### (MUST BE SIGNED AND INCLUDED WITH BID PROPOSAL)

WE HEREBY CERTIFY to comply with Title VI of the Civil Rights Act of 1964, with Section V of the Rehabilitation Act of 1973, and with all applicable requirements of federal and state civil rights and rehabilitation statues, rules and regulations. WE CERTIFY also that we shall comply with the Americans with Disabilities Act of 1990 (Pub L No. 101-336), ORS 659.425, and all regulations and administrative rules established pursuant to those laws. WE CERTIFY also to nondiscrimination against any minority, women or emerging small business enterprises in obtaining any required subcontracts.

**WE HEREBY CERTIFY** that we will and that our subcontractors will, acknowledging that our employers will be subject employers under the Oregon Workers' Compensation Law, comply with ORS 656.017, which requires contractors to provide all workers with compensation coverage.

WE HEREBY CERTIFY that we are a "Resident Bidder", as defined in ORS 279A.120

**ORS 279A.120(1)(b) Resident Bidder defined:** A bidder that has paid taxes or income taxes in Oregon during the 12 calendar months immediately preceding a submission of the bid/proposal and has a business address in Oregon.

**ORS 279A.120** in regards to preferential treatment reads in part as follows:

In determining the lowest responsible bidder, a public contracting agency shall, for the purpose of awarding the contract in accordance to **279A.120(b)**, "Add a percent increase to the bid of a nonresident bidder equal to the percent, if any, of the preference given to that bidder in the state in which the bidder resides."

**WE HEREBY CERTIFY** that we accept all the terms and conditions contained herein and in the event of a forthcoming contract containing these same terms and conditions we would agree without exception. Any exception to these terms and conditions will be made a minimum of five (5) days before the proposal deadline.

Whereas, State and Federal law **prohibits discrimination** in employment on the basis of race, color, religion, sex, disability, familial status, or national origin, and whereas the City of Central Point supports and has set-forth a policy of equal employment opportunities for all, the following certification is required: **WE HEREBY CERTIFY**, in the performance of any contract issued from any proposal related to these documents, we will in all respects adhere to the City of Central Point policy of non-discrimination.

Contractor

Date \_\_\_\_\_

(Authorized Official)

**EXCEPTIONS** to the above Certifications. The Contractor will cross out those items they cannot certify to and then list the reasons for the exception:

# FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM

### PROJECTS OVER \$100,000.00 (ORS 279C.370)

Bidders are required to disclose information about certain first-tier subcontractors when the contract value for a Public Improvement is greater than \$100,000 (see ORS 279C.370). Specifically, when the contract amount of a first-tier subcontractor **(furnishing labor)** is greater than or equal to: (i) 5% of the project bid, but at least \$15,000; or (ii) \$350,000 regardless of the percentage, you must separately disclose the following information about that Subcontractor Listing within two (2) hours of bid closing:

(1) The subcontractor's name and address,

(2) The subcontractor's Construction Contractor Board registration number, if one is required,

(3) Dollar amount of work.

If you will not be using any subcontractors that are subject to the above disclosure requirements, you are required to indicate "NONE" on the accompanying form.

THE AGENCY MUST REJECT A BID IF THE BIDDER FAILS TO SUBMIT THE DISCLOSURE FORM WITH THIS INFORMATION BY THE STATED DEADLINE. THE BIDDER MAY SUBMIT THE DISCLOSURE FORM WITHIN THE BID PACKAGE, BY SEPARATE ENVELOPE OR BY FACSIMILE.

CITY OF CENTRAL POINT – SKYRMAN ARBORETUM Bid Closing Date: May 10, 2016 Time (PM): 2:00 PDT

Contractor Name & Address	Work Type	CCB Number	Amount

If you will not be using any subcontractors that are subject to the above disclosure requirements, you are required to indicate "None" on the above contractor listing.

#### THE CITY OF CENTRAL POINT MUST REJECT A BID IF THE BIDDER FAILS TO SUBMIT THIS DISCLOSURE FORM WITHIN TWO (2) HOURS OF THE BID CLOSING.

# BID BOND FORM

Herewith find deposit in the form of a certified check, cashier's check, or cash in the amount of \$\_\_\_\_\_\_ which is not less than five percent (5%) of the total base bid.

Sign Here: \_\_\_\_

(Or complete the following if using a bid bond)

# BID BOND

Know all men by these presents, that we \_\_\_\_\_\_\_as Principal and \_\_\_\_\_\_as Surety, are held and firmly bound unto the City of Central Point, Oregon, as obligee in the penal sum of \_\_\_\_\_\_dollars, for the payment of which the principal and the surety binds themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by these presents.

The condition of the obligation is such that if the obligee shall make any award to the principal for \_\_\_\_\_\_\_, according to the terms of the proposal or bid made by the principal therefore, and the principal shall duly make and enter into a contract with the obligee in accordance with the terms of said proposal or bid award and shall give bond for faithful performance thereof, with surety or sureties approved by the obligee; or if the principal shall, in case of failure to do so, pay and forfeit to the obligee the penal amount of the deposit specified in the call for bids, then this obligation shall be null and void; otherwise it shall be and remain in full force and effect and the surety shall forthwith pay and forfeit to the obligee, as penalty and liquidated damages the amount of this bond.

Signed, sealed and dated this	_ day of	, 20	
Principal			_
Surety			_
Return of deposit in the amount of	\$		
Date			
By			

# PROPOSAL

Contractor:	
City:	, Oregon
Date:	, 20

The City Council

City of Central Point, Oregon 140 South Third Street Central Point, OR 97502

Pursuant to and in compliance with your invitation for bids and all other documents relating thereto, the undersigned bidder, having familiarized themselves with the terms of the contract, the local conditions affecting the performance of the contract, the cost of the work at the place where the work is to be done, proposes and agrees to perform the contract, within the time stipulated, if this project is accepted, including all its component parts and everything required to be performed. The undersigned bidder proposes to provide and furnish any and all labor, materials, tools, expendable equipment, and all utility and transportation services necessary to perform the contract, and to complete in a workmanlike manner all the work covered by the contract in connection with City of Central Point's project, designated as Skyrman Arboretum, all as required by and in strict conformance with the specifications, contract plans, and the standard plans for the following unit prices.

**Note:** Unit prices of all items, all extensions and total amount of bid must be shown.

# SCHEDULE OF PRICES

Skyrman Arboretum						
ITEM #	SPEC #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
	200	TEMPORARY FEATURES AND APPURTENANCES				
10	210	MOBILIZATION	LS	1		
20	225	TEMPORARY WORK ZONE TRAFFIC CONTROL, COMPLETE	LS	1		
30	280	EROSION AND SEDIMENT CONTROL	LS	1		
	300	ROADWORK				
40	305	CONSTRUCTION SURVEY WORK	LS	1		
50	310	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1		
60	320	CLEARING AND GRUBBING	LS	1		
70	330	GENERAL EXCAVATION	CY	300		
80	350	SUBGRADE GEOTEXTILE	SY	1420		
	400	DRAINAGE AND SEWERS				
90	445	4-INCH STORM SEWER PIPE, CLASS B BACKFILL	LF	59		
100	445	6-INCH STORM SEWER PIPE, CLASS B BACKFILL	LF	30		
110	445	6-INCH STORM SEWER PIPE, C900 PVC, CLASS B BACKFILL	LF	154		
120	445	COMPLETE PIPE CLEANOUT, 4-INCH	EA	3		
130	445	COMPLETE PIPE CLEANOUT, 6-INCH	EA	3		
140	470	CONCRETE INLETS, TYPE 2 1/2 A	EA	1		
150	470	CATCH BASINS, 12-INCH SQUARE METAL	EA	3		
160	490	ADJUSTING BOXES, WATER METER	EA	1		
	600	BASES				
170	641	AGGREGATE BASE, ¾-INCH-MINUS	TN	600		
	700	WEARING SURFACES				
180	744	LEVEL 2, 1/2-INCH DENSE, MHMAC	TN	90		
190	759	CONCRETE DRIVEWAYS	SF	475		
200	759	CONCRETE WALKS	SF	4318		
210	759	CONCRETE CURBS, STRAIGHT CURB	LF	312		
220	759	CONCRETE CURBS, CURB AND GUTTER	LF	88		
230	760	CONCRETE FOUNDATION WALLS	SF	250		
240	761	CONCRETE PAVERS	SF	1025		

ITEM #	SPEC #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
	800	PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES				
250	815	REMOVABLE BOLLARDS	EA	1		
260	860	LONGITUDINAL PAVEMENT MARKINGS - PAINT	LF	72		
270	867	PAVEMENT LEGEND, TYPE B-HS: DISABLED PARKING	EA	1		
	900	PERMANENT TRAFFIC CONTROL & ILLUMINATION SYSTEMS				
280	970	POLE FOUNDATIONS	LS	1		
290	970	LIGHTING POLES, FIXED BASE	LS	1		
300	970	LIGHTING POLE ARMS	LS	1		
310	970	LUMINARES, LAMPS AND BALLASTS	LS	1		
	1000	RIGHT-OF-WAY DEVELOPMENT AND CONTROL				
320	1050	TYPE WROUGHT IRON FENCE	LF	512		
330	1050	5-FOOT DOUBLE GATES	EA	1		
340	1050	12-FOOT DOUBLE GATES	EA	1		
	1100	WATER SUPPLY SYSTEMS				
350	1160	RESETTING EXISTING HYDRANTS	EA	1		
		PATHS				
360		DECOMPOSED GRANITE PATH 4-INCH THICKNESS	SF	4450		
370		STONE PATH EDGE	LF	1830		
		IRRIGATION				
380		REMOTE CONTROL VALVES	EA	10		
390		QUICK COUPLER VALVES	EA	7		
400		MAINLINE TRENCH	LF	900		
410		IRRIGATION CONTROLLER	EA	1		
420		SPRAY SYSTEMS	SF	4000		
		PLANTING				
430		SOIL PREPARATION	SF	1200		
440		TREES	LF	2		
450		SHURBS 5 GALLONS	EA	25		

460	SHRUBS 1 GALLON	EA	69	
470	LAWN	SF	1250	

TOTAL BID

Total Bid amount in words:

Signed by: \_\_\_\_\_

# ADDENDA CERTIFICATIONS

#### MISTAKES IN BIDS

#### THE SECTIONS FROM THE OREGON ATTORNEY GENERAL MODEL PUBLIC CONTRACT RULES ARE HEREIN MADE PART OF THE CONTRACT DOCUMENTS

ADDENDA: We hereby certify that we did receive the following Addenda to these specifications: #\_\_\_\_\_ through \_\_\_\_\_.

#### CONTRACTOR

DATE

#### MISTAKES IN BIDS

#### General.

Clarification or withdrawal of a bid because of an inadvertent, nonjudgmental mistake in the bid requires careful consideration to protect the integrity of the competitive bidding system and to assure fairness. Except as provided in this rule, if the mistake is attributable to an error in judgment, the bid may not be corrected. Bid correction or withdrawal by reason of a nonjudgmental mistake is permissible but only to the extent it is not contrary to the interest of the public agency or the fair treatment of other bidders.

#### Mistakes Discovered After Bid Closing but Before Award.

This subsection prescribes procedures to be applied in situations where mistakes in bids are discovered after the time and date set for bid closing but before award.

#### • Minor Informalities.

Minor informalities are matters of form rather than substance that are evident from the bid documents, or are insignificant mistakes that can be waived or corrected promptly without prejudice to other bidders or the public agency; that is, the informality does not affect price, quantity, quality, delivery, or contractual conditions except in the case of informalities involving unit price. Examples include, but are not limited, to the failure of a bidder to:

- Return the number of signed bids or the number of other documents required by the bid documents;
- Sign the bid form in the designated block so long as a signature appears in the bid documents evidencing an intent to be bound;
- o Acknowledge receipt of an addendum to the bid documents, but only if:
  - It is clear from the bid that the bidder received the addendum and intended to be bound by its terms; or
  - The addendum involved did not affect price, quantity, quality, or delivery.

#### • Mistakes Where Intended Correct Bid is Evident.

If the mistake and the intended correct bid are clearly evident on the face of the bid form, or can be substantiated from accompanying documents, the public agency may accept the bid. Examples of mistakes that may be clearly evident on the face of the bid form are typographical errors, errors in extending unit prices, transposition errors, and arithmetical errors. Mistakes that are clearly evident on the face of the bid form may also include instances in which the intended correct bid is made clearly evident by simple arithmetic calculations. For example, missing unit price may be established by dividing the total bid item by the quantity of units for that item, and a missing or incorrect total bid for an item may be established by multiplying the unit price by the quantity when those figures are available on the bid. For discrepancies between unit prices and extended prices, unit prices shall prevail.

#### • Mistakes Where Intended Correct Bid is Not Evident.

The public agency may not accept a bid in which a mistake is clearly evident on the face of the bid form but the intended correct bid is not clearly evident or cannot be substantiated from accompanying documents.

# **CONTRACT EXAMPLE FORMS** (DO NOT SIGN)

# AGREEMENT

State of Oregon ) ) SS County of Jackson )

 THIS AGREEMENT AND CONTRACT, made and entered into at \*\*\_\_\_\_\_\_\*\*

 Oregon, this \_\_\_\_\_ day of \_\_\_\_\_\_, 20\_\_\_, by and between the City of Central Point, Oregon, a

 municipal
 corporation, hereinafter

 designated
 as

 the "Owner,"
 and

 hereinafter
 designated as the "Contractor,"

#### WITNESSETH:

That WHEREAS the Owner has heretofore caused to be prepared certain plans and specifications described as the Skyrman Arboretum and the Contractor did on \_\_\_\_\_\_ day of \_\_\_\_\_\_, 20\_\_\_\_\_, file with the Owner a proposal to construct said work and agreed to accept as payment therefore the sum fully stated and set forth in the proposal, and

WHEREAS, the said Contract Documents fully and accurately described the terms and conditions upon which the Contractor proposes to furnish said equipment, labor, materials, and appurtenances and perform said work, together with the manner and time of furnishing same;

IT IS THEREFORE AGREED, first, that a copy of said General Conditions and other Contract Documents filed with the Owner, as aforesaid, do, in all particulars, become a part of the Agreement and Contract by and between the parties hereto in all matters and things therein set forth and described; and further, that the Owner and the Contractor hereby accept and agree to the terms and conditions of said Contract Documents as filed as completely as if said terms and conditions and plans were herein set out in full.

IN FAITH WHEREOF, witness the hands and seals of both parties hereto on the day and year in this Agreement first above written.

Contractor	
Ву	
Title	
Attest (If Corporation)	Witness (If Individual or Partnership)
Ву	
Title	
(Owner Signature and Title)	

### CERTIFICATE OF INSURANCE

#### PROTECTIVE, COMMERCIAL GENERAL LIABILITY, COMMERCIAL AUTOMOTIVE LIABILITY

Contractor to provide form from their insurance agency to insert here:

ACORD, CERTIFICA	TE OF LIAE	<b>BILITY INS</b>	URANC	Clear Save	DATE (MM/DD/YYYY)
PRODUCER		ONLY AN HOLDER.	D CONFERS N THIS CERTIFIC	UED AS A MATTER O O RIGHTS UPON TH ATE DOES NOT AME AFFORDED BY THE PO	IE CERTIFICATE
		INSURERS A	AFFORDING COV	ERAGE	NAIC #
INSURED		INSURER A:			
		INSURER B:			
		INSURER C:			
		INSURER D:			
		INSURER E:			
COVERAGES		INSORER E.			
THE POLICIES OF INSURANCE LISTED BELOW ANY REQUIREMENT, TERM OR CONDITION O MAY PERTAIN, THE INSURANCE AFFORDED B POLICIES. AGGREGATE LIMITS SHOWN MAYHA	F ANY CONTRACT OR OT ( THE POLICIES DESCRIB	HER DOCUMENT WITI ED HEREIN IS SUBJEC AID CLAIMS.	H RESPECT TO WI T TO ALL THE TER	HICH THIS CERTIFICATE M MS, EXCLUSIONS AND CO	MAY BE ISSUED OR
INSR ADD'L LTR INSRD TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMIT	s
GENERAL LIABILITY				EACH OCCURRENCE	\$
COMMERCIAL GENERAL LIABILITY				DAMAGE TO RENTED PREMISES (Ea occurence)	\$
				MED EXP (Any one person)	\$
		n r		RSONAL & ADV INJURY	\$
					\$
GEN'L AGGREGATE LIMIT APPLIES PER:	Sal			ODUCTS - COMP/OP AGG	\$
					n
				COMBINED SINGLE LIMIT (Ea accident)	\$
ALL OWNED AUTOS SCHEDULED AUTOS				BODILY INJURY (Per person)	\$
HIRED AUTOS				BODILY INJURY (Per accident)	\$
				PROPERTY DAMAGE (Per accident)	\$
GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT	\$
ANY AUTO				OTHER THAN EA ACC AUTO ONLY: AGG	\$
EXCESS/UMBRELLA LIABILITY				EACH OCCURRENCE	\$
OCCUR CLAIMS MADE				AGGREGATE	\$
					\$
DEDUCTIBLE					\$
RETENTION \$				WCSTATU- OTH-	\$
WORKERS COMPENSATION AND EMPLOYERS' LIABILITY				WC STATU- TORY LIMITS OTH- ER	
ANY PROPRIETOR/PARTNER/EXECUTIVE				E.L. EACH ACCIDENT	\$
OFFICER/MEMBER EXCLUDED? If yes, describe under				E.L. DISEASE - EA EMPLOYEE	\$
SPECIAL PROVISIONS below				L. DISEASE - POLICY LIMIT	\$
OTHER	Jai		סוע		
DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / E	XCLUSIONS ADDED BY ENDOR	SEMENT / SPECIAL F	IONS	1	
CERTIFICATE HOLDER		CANCELLA	TION		
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		REPRESENTATI AUTHORIZED RE			
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### WORKER'S COMPENSATION EMPLOYER'S LIABILITY ENDORSEMENT

City of Central Point Public Works Department 140 South Third Street Central Point, OR 97502

Policy Information		
1. Insurance Company		
Policy Number		
2. Effective Date of This Endorsement		
3. Named Insured		
4. Employer's Liability Limit (Coverage B)		

B. Policy Amendments

А.

In consideration of the policy premium and notwithstanding any inconsistent statement in the policy to which this endorsement is attached or any other endorsement attached thereto, it is agreed as follows:

1. **Cancellation Notice.** The insurance afforded by this policy shall not be suspended, voided, canceled, reduced in coverage or in limits except after thirty (30) days prior written notice by Certified Mail Return Receipt Requested has been given to Owner. Such notice shall be sent to the address given in the heading of this endorsement.

C. Signature of Insurer or Authorized Representative of the Insurer

I, \_\_\_\_\_ (print/type), warrant that I have authority to bind the below listed insurance company and by my signature hereon do so bind this company.

Signature of Authorized	Representative
Organization	(Original signature required on endorsement furnished to the City)
Title	
Address	
Telephone	

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### PERFORMANCE AND PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: THAT whereas Central Point, Oregon, a municipal corporation has awarded to:

#### (Contractor)

hereinafter designated as the "Principal" a contract for work items, which contract consists of the Proposal/Agreement, together with the Contract Documents, Specifications, Addenda and Plans, all as hereto attached and made a part hereof, and more particularly described as:

#### Skyrman Arboretum

and whereas said principal is required under the terms of said contract to furnish a bond for the faithful performance of said contract:

NOW, THEREFORE, we the Principal and \_

a corporation, organized and existing under and by virtue of the laws of the State of Oregon, and duly authorized to do business in the State of Oregon as surety, are firmly bound unto the City of Central Point in the sum of \_\_\_\_\_\_ dollars (\$\_\_\_\_\_\_) lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bonded principal, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in said contract, and shall faithfully perform all the provisions of such contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said contract that may hereafter be made, at the time and in the manner therein specified; and shall pay all laborers, mechanics, subcontractors, and material men, and all persons who shall supply such person or persons, or subcontractors, with provisions and supplies for the carrying on of such work on his or their parts; and shall indemnify, save harmless, and defend the Owner, the Project Engineer, and their officers, employees, and agents, from any loss or damage occasioned to any person or property by reason of any carelessness or negligence on the part of said principal, or any subcontractor, in the performance of said contract or any modifications thereof; and shall further indemnify, save harmless, and defend Owner, its officers and agents, from any damage or expense by reason of failure of performance as required by said contract, or any modifications thereof, or from defects appearing or developing in the material or workmanship provided or performed under said contract within a period of one (1) year after acceptance thereof by Owner, then this obligation shall become null and void, otherwise it shall be and remain in full force and effect.

And the said surety, for value received, hereby further stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any change, extension of time, alternations or additions to

the terms of the contract or the work or to the specifications. This Bond is provided pursuant to and shall be construed in accordance with ORS 279C.

IN WITNESS THEREOF, the said Principal and the said surety caused this bond and three (3) counterparts thereof to be signed and sealed by their duly authorized officers, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_.

Principal	
Ву	
Title	
ATTEST (If Corporation)	WITNESSES (If Individual or Partnership)
CORPORATE SEAL	
Ву	
Title	
APPROVED AS TO FORM	
Surety	
Ву	
( Attorney for	)
Address of local office and agent of Surety Compan	y is:
	_

# **PREVAILING WAGES**

Prevailing wage rates for this project area and size can be found at the Oregon Bureau of Labor Industries (BOLI) or on the Web at: <u>HITP://WWW.OREGON.GOV/BOLI</u>

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# **TECHNICAL PROVISIONS**

### DEFINITIONS

**ENGINEER** – RH2 Engineering, Inc.

AGENCY/CITY - City of Central Point, Oregon

**STANDARD SPECIFICATION** – Oregon Department of Transportation, Oregon Standard Specifications for Construction, 2015 Edition, produced by the Oregon Department of Transportation and the Oregon Chapter of the American Public Works Association. The Oregon Standard Specifications for Construction are hereby incorporated by reference as if fully set forth herein. Information on how to obtain copies of these documents is available on the Oregon Department of Transportation web site at: <u>HTTP://WWW.OREGON.GOV/ODOT/HWY/SPECS/</u>

Wherever state agencies, department or officers are referred to therein, the comparable city agencies, departments or officers are meant thereby for the purpose of these documents. Specified definitions are outlined in Section 00110.20 of the contract special provisions.

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# **SPECIAL PROVISIONS**

Prepared by:



EXPIRES: 12/31/2017 Signed: April 8, 2016

RH2 Engineering, Inc. 3523 Arrowhead Drive, Ste. 200 Medford, Oregon 97504 This page is intentionally blank

## SECTION 00110 – ORGANIZATION, CONVENTIONS, ABBREVIATIONS AND DEFINITIONS

Comply with Section 00110 of the Standard Specifications supplemented and/or modified as follows:

**00110.20 Definitions** – Add the following definition:

**City** - The City of Central Point, Oregon, acting through its designated representative(s)

#### SECTION 00120 – BIDDING REQUIREMENTS AND PROCEDURES

Comply with Section 00120 of the Standard Specifications supplemented and/or modified as follows:

00120.00 Prequalification of Bidders – Replace this subsection with the following:

Bidders are required to be prequalified to be eligible for award. Prequalification may be with the City of Central Point, City of Medford, or the Oregon Department of Transportation. If the bidder is disqualified in any of these jurisdictions the bidder will be ineligible for this contract.

00120.01 General Bidding Requirements – Replace this subsection with the following:

Bids must be submitted by paper, electronic bids will not be accepted.

#### 00120.05 Request for Solicitation Documents – Replace this subsection with the following:

Plans and specifications will be available online only at <u>www.centralpointoregon.gov</u> or <u>www.questcdn.com</u> beginning April 11<sup>th</sup>, 2016. The complete digital contract documents may be downloaded for a \$10.00 non-refundable fee by inputting the QuestCDN project #4426936 on the website's Project Search page. Please contact QuestCDN.com at (952) 233-1632 or info@questcdn.com for assistance in free membership registration, downloading, and working with this digital project information.

The Plans, which are applicable to the Work to be performed under the Contract, bear title and date as follows:

"Skyrman Arboretum – Spring 2016"

**00120.30 Changes to Plans, Specifications, or Quantities before Opening of Bids** – Replace the first paragraph of this subsection with the following paragraph:

The Agency reserves the right to issue Addenda making changes to the Plans, Specifications, or quantities. The Agency will provide Addenda via email to contractors shown on the Plan Holders List only.

00120.40 Preparation of Bids – Modify this subsection as follows:

- (a) General Delete subsection (2) "Electronic Bids". Electronic bids are not permitted.
- (c) Bid Schedule Entries Delete subsection (2) "Electronic Bid Schedule Entries". Electronic bids are not permitted.
- (e) Bid Guaranty Delete subsection (2) "Bid Guaranty with Electronic Bids". Electronic bids are not permitted.

00120.45 Submittal of Bids – Replace this subsection with the following:

Bids shall be submitted in person, or by mail or parcel delivery service, to Matt Samitore, Parks and Public Works Director, City of Central Point, 140 South Third Street, Central Point, OR 97502, in a sealed envelope marked with the name of the Bidder and the words "Sealed Bid for Skyrman Arboretum."

If a delivery or courier service is used, the Bidder shall place the sealed envelope containing the Bid inside the delivery or courier service's envelope. Bids may not be submitted by fax.

Bids may be submitted until 2:00 P.M. PST on the day of Bid Opening. Bids submitted after that time will not be opened or considered. The Agency assumes no responsibility for the receipt and return of late Bids. First Tier Disclosure forms may be submitted until 4:00 P.M. on the day of bid opening.

**00120.60 Revisions or Withdrawals of Bids** – In the paragraph that begins "(a) Paper Bids - Information entered into the …" replace "ODOT Procurement Office-Construction" with "City Engineer".

Replace the bullet that begins "Changes are received at the same..." with the following bullet:

• Changes are received by Matt Samitore, Parks and Public Works Director, City of Central Point, 140 South Third Street, Central Point, OR 97502, before 2:00 P.M. PST on the day of the Bid Opening.

In the paragraph that begins "A Bidder may withdraw...", replace "ODOT Procurement Office-Construction" With "City Engineer".

Replace the bullet that begins "The request is received at the same..." with the following bullet:

• The request is received Matt Samitore, Parks and Public Works Director, City of Central Point, 140 South Third Street, Central Point, OR 97502, before 2:00 P.M. PST on the day of the Bid Opening.

Delete subsection (b) "Electronic Bids". Electronic bids are not permitted.

00120.70 Rejection of Nonresponsive Bids - Add the following bullet to the end of the bullet list:

• The Agency determines that any Pay Item is significantly unbalanced to the potential detriment of the Agency.

#### SECTION 00130 - AWARD AND EXECUTION OF CONTRACT

Comply with Section 00130 of the Standard Specification supplemented and/or modified as follows:

**00130.15 Right to Protest Award** - In the paragraph that begins "Adversely affected or...", replace the words "Procurement Office - Construction" with the words "City of Central Point".

Add the following subsection:

**00130.40(f) City of Central Point Business License** - All Contractors and Subcontractors performing work within the City limits must possess a valid City of Central Point Business License

**00130.50(a)** By the Bidder - Replace the words "ODOT Procurement Office – Construction" with the words "City of Central Point."

Replace the words "15 Calendar Days" with "10 Calendar Days."

Add the following sentence to the end of this subsection:

The successful Bidder shall deliver the properly executed Performance Bond and Payment Bond to the City of Central Point – Public Works Department within 10 days of the Agency's execution of the contract.

**00130.50(b)** By the Agency - Replace the sentence that begins "Within 7 Calendar Days..." with the following sentence:

After the Agency has received and verified the properly executed documents specified in 00130.50(a), and received legal sufficiency approval from the City Attorney, the Agency will execute the Contract.

#### SECTION 00140 - SCOPE OF WORK

Comply with Section 00140 of the Standard Specifications.

#### SECTION 00150 - CONTROL OF WORK

Comply with Section 00150 of the Standard Specifications modified as follows:

**00150.15(b)** Agency Responsibilities - Replace this subsection, except for the subsection number and title, with the following:

The Engineer will provide copies of plans and specifications

Add the following subsection: **00150.50(f)** 

#### **Utility Information:**

Contact those Utilities having buried facilities and request that they locate and mark them for their protection prior to construction.

	Utility	Contact Person's Name and Phone Number
1.	City of Central Point	Max Woody 541-664-3321
2.	Pacific Power	Rylan Wood 541-858-3204
3.	Avista Gas	David McFadden 541-941-4055
4.	Charter Communications	Brad Dill 541-282-8672
5.	Century Link	Jim Martin 541-776-8268
6.	Rogue Valley Sewer Services	Carl Tappert 541-664-6300

This Project is located within the Oregon Utility Notification Center area which is a Utilities notification system for notifying owners of Utilities about Work being performed in the vicinity of their facilities. The Utilities notification system telephone number is 811 (or use the old number which is 1-800-332-2344).

#### 00150.97 Responsibility for Materials and Workmanship

Add the following subsection:

(c) Neither the final certificate of payment nor any provision in the Contract Documents shall relieve the Contractor of responsibility for faulty Materials or workmanship and, unless otherwise specified, the Contractor shall remedy any defects due thereto and pay for any damage to other Work resulting one year from the date of acceptance of the complete building or installation. The City of Central Point shall give notice of observed defects with reasonable promptness.

#### SECTION 00160 - SOURCE OF MATERIALS

Comply with Section 00160 of the Standard Specifications.

#### SECTION 00165 - QUALITY OF MATERIALS

Comply with Section 00165 of the Standard Specifications.

#### SECTION 00170 - LEGAL RELATIONS AND RESPONSIBILITIES

Comply with Section 00170 of the Standard Specifications supplemented and/or modified as follows:

00170.10(f) Notice of Claim Against Bond - Replace this Subsection with the following Subsection:

**00170.10(f)** Notice of Claim Against Bonds – An Entity claiming not to have been paid in full for labor or Materials supplied for the prosecution of the Work may have a right of action first on the Contractor's public works bond and then, for any amount of a claim not satisfied by the public works bond, on the Contractor's bond, cashier's check, or certified check a provided in ORS 279C.600 and ORS 279C.605.

00170.70 Insurance - The following insurance coverages and dollar amounts are required on this Project:

Insurance Coverages	<b>Combined Single Limit</b>	
-	per Occurrence	Annual Aggregate Limit
Commercial General		
Liability	\$1,000,000	\$1,000,000
Commercial Automobile		
Liability	\$1,000,000	N/A

00170.70(c) Additional Insured – add the following paragraph and bullets to the end of this Subsection:

Add the following as Additional Insureds under the Contract:

- The City of Central Point and its officers, agents, employees and City Council
- RH2 Engineering, Inc.

**00170.72 Indemnity/Hold Harmless** – Add the following paragraph and bullets to the end of this Subsection:

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Extend indemnity and hold harmless to the Agency and the following:

- The City of Central Point and its officers, agents, employees, and City Council
- RH2 Engineering, Inc.

#### 00170.85(b) Contractor Furnished Warranties - Add the following paragraph to this subsection:

• The Contractor shall warrant all Work performed under this Contract for a period of one year from the date of Final Acceptance, as specified in Subsection 00150.97(c) of these Special Provisions.

#### SECTION 00180 – PROSECUTION AND PROGRESS

Comply with Section 00180 of the Standard Specifications supplemented and/or modified as follows:

Add the following Subsection:

**00180.40(c) Specific Limitations** – Limitations of operations specified in these Special Provisions include, but are not limited to, the following:

Limitations	Subsection
Cooperation with Utilities	
Final Completion Time	

Be aware of and subject to schedule limitations in the Standard Specifications that are not listed in this Subsection.

**00180.41 Project Work Schedules** – A type B schedule as detailed in the Standard Specifications is required on this Contract.

Add the following Subsection:

**00180.50(h) Contract Time** – Complete all work to be done under the Contract not later than 90 calendar days after receiving Notice to Proceed.

00180.85(b) Liquidated Damages – Add the following paragraph:

The liquidated damages for failure to complete the Work on time are \$500 per Calendar Day\*.

\* Calendar Day amounts are applicable when the Contract time is expressed on the Calendar day or fixed date basis.

#### SECTION 00190 - MEASUREMENT OF PAY QUANTITIES

Comply with Section 00190 of the Standard Specifications supplemented and/or modified as follows:

00190.20(f-2) Scale Without Automatic Printer - Add the following sentence after the first paragraph:

Pay costs for the weigh witness at \$35.00 per hour.

**00190.20(g)** Agency – Provided Weigh Technician – Add the following paragraph after the bullet list: Pay costs for the weigh technician at \$35.00 per hour.

#### SECTION 00195 – PAYMENT

Comply with Section 00195 of the Standard Specifications.

#### SECTION 00196 - PAYMENT FOR EXTRA WORK

Comply with Section 00196 of the Standard Specifications.

#### SECTION 00197 – PAYMENT FOR FORCE ACCOUNT WORK

Comply with Section 00197 of the Standard Specifications.

#### SECTION 00199 – DISAGREEMENTS, PROTEST, AND CLAIMS

Comply with Section 00199 of the Standard Specifications

#### SECTION 00210 - MOBILIZATION

Comply with Section 00210 of the Standard Specifications.

#### SECTION 00220 – ACCOMMODATIONS FOR PUBLIC TRAFFIC

Comply with Section 00220 of the Standard Specifications and/or modified as follows:

00220.02 Public Safety and Convenience – Replace the last bulleted item with the following bullets:

- Maintain access to all driveways within the work zone at all times.
- When a project restricts the width, length, height, or weight of trucks through a work zone, submit written notification on the Highway Restriction Notice Size and /or Weight form (Form No. 734-2357) to the MCTD Freight Mobility coordinator and the Engineer at least 28 days before the restriction takes effect.
- When construction requires the closure of a sidewalk or sidewalk ramp, place a Type "W1" SIDEWALK CLOSED" (OR22-12-21) sign at each point of closure.
- When construction requires the closure of a sidewalk, notify, in writing, the City of Central Point at least 14 days in advance of the closure. Do not close the sidewalk until the City provides written approval. After approval, provide 48 hour public notification prior to closing the sidewalk.
- Obtain permission from the City of Central Point before closing any city street. No city street closure will be permitted until the Engineer approves it and the area is signed according to Section 00225.
- Notify the Engineer, in writing, all affected emergency services, school districts, and US Postal Service at least 14 days in advance of the street closure. Notification list can be obtained from the City of Central Point Public Works offices.
- Allow emergency vehicles and incident response units immediate passage at all times.

Add the following bullet:

• Do not expose cold planed pavement surfaces to traffic.

**00220.40(e)** Lane Restrictions – Replace this subsection with the following:

Do not close any traffic lanes or side streets, prior to receiving Notice to Proceed.

Traffic lane closures will be allowed at any time except weekends, holidays and special events. Night time closures are preferred.

Complete closure of all traffic lanes will not be allowed unless deemed necessary by City Engineer. Provide traffic detour plan to City Engineer a minimum of 14 days in advance of road closure.

Traffic control plans must be approved by Engineer prior to beginning construction.

Roadways shall be free of barricades or other objects and all lanes opened to traffic during all the restrictive periods listed above.

Add the following subsection:

**00220.40(g) Liquidated Damages** – Lane closures not in compliance with the limits listed in 00220.40(e) would inconvenience the traveling public and would be a cost to the Agency.

It is impractical to determine the actual damages which the Agency would sustain in the event a traffic lane is closed. Therefore, the Contractor shall pay to the Agency, not as a penalty, but as liquidated damages, \$500 per day, or any portion thereof, per lane, for any lane closure not in compliance with the limits listed in 00220.40(e). In addition to the liquidated damages, any added cost for traffic control measures, including flagging, required to maintain the lane closures beyond the permitted time limits, shall be at the Contractor's expense. The required traffic control measures will be as determined by the Engineer.

The engineer will determine when it is safe to reopen a lane to traffic. Assessment of liquidated damages will stop when the lane has been safely reopened. Any liquidated damages assessed under these provisions will be in addition to those under 00180.85(b).

#### SECTION 00225 – WORK ZONE TRAFFIC CONTROL

Comply with Section 00225 of the Standard Specifications and/or modified as follows:

00225.01(b) Definitions - Add the following definition:

**Protection Vehicle** - A vehicle placed in advance of short-duration or mobile work activities and dedicated to the protection of workers and equipment in the activity area. A protection vehicle is equipped with appropriate warning lights and signs. A protection vehicle may be fitted with a TMA.

**00225.05 Contractor Traffic Control Plan** - Replace this subsection, except for the subsection number and title, with the following:

Submit the following, for approval, five calendar days prior to the preconstruction conference:

- (a) Contractor TCP Provide working drawings according to 00150.35 that include the following:
  - Proposed TCP showing all TCM and quantities of TCD.
  - Proposed order and duration of the TCM
  - A detailed temporary striping plan, if applicable.
- (b) Tourist-Oriented Directional and Business Logo Signs One copy of a sketch map of the Project showing all existing tourist-oriented directional (TOD) and business logo signs and a written narrative describing how these signs will be kept in service and protected throughout all the construction stages.

If there are no TOD or business logo signs on the project, a written notification that no TOD or business logo signs exist within the project limits.

Utilize method "B" for payment as described in 00225.90(b) Method "B" - Lump Sum Basis.

#### SECTION 00280 – EROSION AND SEDIMENT CONTROL

Comply with Section 00280 of the Standard Specifications.

#### SECTION 00290 – ENVIRONMENTAL PROTECTION

Comply with section 00290 of the Standard Specifications.

#### SECTION 00305 - CONSTRUCTION SURVEY WORK

Section 00305, which is not a Standard Specification, is included for this Project by Special Provision.

Comply with Section 00305 of Oregon Department of Transportation's 2015 Special Provisions and/or modified as follows:

#### Description

**00305.00 Scope** – Provide construction survey work according to the current edition on the date of Advertisement, of the ODOT "Construction Surveying Manual for Contractors". This manual is available on the web at:

http://www.oregon.gov/ODOT/HWY/GEOMETRONICS/documents.shtml

Add the following and replace Chapter 1.5 and 1.6 of the Construction Surveying Manual for Contractors:

#### 00305.01 Agency Responsibilities:

- Provide copies of plans and specifications
- Provide horizontal and vertical alignment data
- Perform measurements and calculations for pay quantities

#### 00305.02 Contractor Responsibilities:

- Establish initial horizontal and vertical control stations in the proximity of the Project.
- Perform final "as constructed" measurements. "As constructed" measurements shall include horizontal alignment of any installed pipe and horizontal location of above ground facilities including vaults, hydrants, valves, meters, etc.
- Make calculations, field notes and survey drawings for the layout and control of the work as are necessary to construct the Project as specified.
- Provide original or copies of notes, calculations and drawings as requested.
- Preserve survey monuments and control stations according to Chapter 6.2 of this manual and as governed by applicable law.
- Replace damaged right-of-way monumentation.
- Replace and augment control stations as necessary to control the Project.
- Establish additional control stations as necessary to control the Project.
- Set stakes to define construction centerline, centerline offsets, detour lines, or other lines necessary for control of the Project work.
- Set stakes to define the work, that may include but is not limited to the following:
  - Roadway location and grade.
  - Fences and gates
  - o Guardrail, barrier, barricades, and associated features.
  - o Traffic delineators, reflectors, and guide devices.

- Temporary and permanent pavement striping and pavement marking devices.
- Temporary and permanent signing.\*
- Poles and footings, cabinets, junction boxes, sensors, and other features associated with illumination and signal facilities.\*
- o Curbs, walks, stairs, walls, mailboxes, and other miscellaneous structures.\*
- Pipes, manholes, inlets, weirs, settlement basins and other drainage and water quality structures and facilities.\*

\*This includes field verification of fit and functionality or as instructed by the Engineer.

- o Landscaping items.
- Earthwork features including guardrail flares and mounds, berms, and mounds
- Buildings and other structures and facilities.
- Environmental impact mitigation features.
- Remove and dispose of all flagging, lath, stakes and other temporary staking material after the Project is completed.

#### Measurement

00305.80 General – No separate measurement will be made for construction survey work.

#### Payment

**00305.90 General** – Payment for performing construction survey work will be made at the Contract lump sum amount for the item "Construction Survey Work"

Payment will be payment in full for furnishing all material, equipment, labor, and incidentals necessary to complete the work as specified. Payment includes all temporary protection and direction of traffic measures including flaggers and signing necessary for the performance of the construction survey work.

No separate payment will be made for preparing surveying documents including but not limited to office time, preparing and checking survey notes, and all other related preparation work.

The amount to be allowed for "Construction Survey Work" in the progress payments will not be in excess of the reasonable value of the surveying work performed under this specification as said reasonable value is estimated by the Engineer.

Costs incurred as a result of survey errors will be borne by the Contractor. Such costs include price adjustments for failure to meet requirements of the construction specifications, repair or removal and replacement of deficient product, and over-run of material.

#### SECTION 00310 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Comply with Section 00310 of the Standard Specifications.

#### SECTION 00340 – WATERING

Comply with Section 00340 of the Standard Specifications supplemented and/or modified as follows:

Watering is incidental to one or more bid items. Contractor to coordinate with the City of Central Point, 140 South 3<sup>rd</sup> Street, Central Point, OR; Phone: 541-664-7602.

#### SECTION 00350 - GEOSYNTHETIC INSTALLATION

Comply with Section 00350 of the Standard Specifications.

#### SECTION 00405 - TRENCH EXCAVATION, BEDDING AND BACKFILL

Comply with Section 00405 of the Standard Specifications and/or modified as follows:

#### **00405. Bedding** – Add the following:

For pipes 2-inches in diameter and smaller, bedding to be commercially available 3/8"-0 or No. 10-0 sand.

**00405.13 Pipe Zone Material** – Replace the sentence and two bullets that begin "For rigid pipes, unless otherwise directed..." with the following:

For rigid pipes larger than 2-inches in diameter, unless otherwise directed, furnish 1"-0 or  $\frac{3}{4}$ "-0 base aggregate conforming to 2630.10

Add the following:

For pipes 2-inches in diameter and smaller, pipe zone material to be commercially available 3/8"-0 or No. 10-0 sand.

#### **00405.46 Backfilling** – Add the following:

The Engineer may, at his discretion, require one or more compaction tests on trench backfill. These tests shall be performed by an ODOT-Certified Density Technician (CDT). The tests shall demonstrate attainment of 95 percent of determined maximum density according to AASHTO T99.

#### **00405.90 Payment** – Add the following:

In the event that unanticipated rock excavation is encountered, the unit price for same is hereby pre-established at One Hundred Dollars (\$100) per cubic yard as measured in place prior to disturbance. If 20 percent or more rock is encountered than included in the bid item, rock in excess of the bid item shall be considered unanticipated and paid at the dollar amount above. By submittal of a Bid for the project, Bidders acknowledge the sufficiency of the above unit price for unanticipated rock excavation.

#### SECTION 00445 – SANITARY, STORM, CULVERT, SIPHON, AND IRRIGATION PIPE

Comply with Section 00445 of the Standard Specifications.

00445.91 Payment – Add the pay item:

(m) Complete Pipe Cleanout \_\_\_\_\_ inch.....Each

In Item (m) includes all fittings, pipe, cover and collars required to construct a complete cleanout.

#### SECTION 00640 - AGGREGATE BASE AND SHOULDERS

Comply with Section 00640 of the Standard Specifications.

#### SECTION 00730 - EMULSIFIED ASPHALT TACK COAT

Comply with Section 00730 of the Standard Specifications supplemented and/or modified as follows:

00730.90 Payment – Replace with the following:

**00730.90 Payment** – There will be no separate payment for emulsified asphalt tack coat. Emulsified asphalt tack coat is incidental to one or more bid items.

#### SECTION 00744 – ASPHALT CONCRETE PAVEMENT

Comply with Section 00744 of the Standard Specifications supplemented and/or modified as follows:

Add the following subsection:

**00744.11(a)** Asphalt Cement – Add the following to the end of this subsection:

Provide PG 64-22 or PG 70-22 asphalt on all other Level 1-3 ACP on this project.

## SECTION 00745 – ASPHALT CONCRETE PAVEMENT – STATISTICAL ACCEPTANCE

Comply with Section 00745 of the Standard Specifications supplemented and/or modified as follows:

00745.11(a) Asphalt Cement – Add the following to the end of this subsection:

Provide PG 76-22 asphalt on Level 4 ACP on this project.

00745.80 Measurement – Add the following:

No separate or additional payment will be made for emulsified asphalt tack coat. Emulsified asphalt tack coat is incidental to ACP.

00745.95 Price Adjustments – Add the following to the end of this subsection:

The maximum CPF for any case will be 1.0.

## SECTION 00759 – MISCELLANEOUS PORTLAND CEMENT CONCRETE STRUCTURES

Comply with Section 00759 of the Standard Specifications.

#### SECTION 00760 – MISCELLANEOUS CONCRETE FOUNDATION STRUCTURES

**00760.00** Scope – This work consists of furnishing, placing and finishing commercial grade concrete foundations and walls in close conformity to the lines, grades and dimensions shown or established:

**00760.10 Materials** – Furnish materials meeting the following requirements:

Bar Reinforcement......02510

Commercial Grade Concrete.....00440

**00760.11 Aggregate Base** – Furnish aggregate base materials for base, foundation courses, leveling courses, or bedding meeting the requirements of Section 02630. If a designated size is not shown or given, furnish either 1"-0 or  $\frac{3}{4}$ "-0, as the Contractor elects:

**00760.41 Earthwork** – Make excavations and backfills for the structures according to Section 00330 and to the depths, widths, and cross-sections showed, specified, or directed.

**00760.45 Reinforcement, Dowels and Tie Bars** – Furnish and place reinforcement, dowels, and tie bars according to 00755.43 and shown or directed.

**00760.52 Fencing** – Coordinate fencing installation per the manufactures recommendations within the concrete foundation work.

**00760.80 Measurement** – The quantities of structures constructed under this Section will be measured according to the following:

• Area Basis - Measurement will be the finished surface, limited the neat lines shown or directed.

**00760.90 Payment** – The accepted quantities of structures will be paid for at the Contract unit price per unit of measurement, for the following items:

(a)Concrete Foundation Walls ......Square Foot

Item (a) will be payment in full for furnishing and placing all materials, and for furnishing all equipment, labor, and incidentals necessary to complete the work as specified. Any other work associated with this item will be considered incidental.

#### SECTION 00761 - CONCRETE PAVERS

Section 00761, which is not a Standard Specification, is included in this Project by Special Provision.

#### Description

**00761.00 Scope** - This work consists of furnishing and installing masonry unit pavers at locations shown or directed.

#### Materials

00761.10 Unit Paving Material - Furnish pavers and related material meeting the following requirements:

•	Paving Unit Type	- SF RIMA Drain Rock Joint, available from Willamette Graystone, 727 W. McAndrews Road, Medford, Oregon 97501: 541 773-4575, or approved equal
•	Unit Color	- Natural tone Blend approved by the City, or other manufacturer's approved equal
•	Unit Size	- 9 <sup>1</sup> / <sub>2</sub> -inch by 9 <sup>1</sup> / <sub>2</sub> -inch – Pattern ABA-1 Random
•	Unit Strength	- 8,000 psi with a maximum of 5% absorption (ASTM C 936)
•	Joint Sand	- Fine PCC aggregate conforming to 02690.30(h)
•	Leveling Bed Sand	- Fine PCC aggregate conforming to 02690.30(h)
٠	Weed Control	- Pre-emergent herbicide conforming to 01040.21

Submit proposed equivalent products to the Project Manager for consideration.

#### Construction

00761.40 General - Install pavers according to the manufacturer's instructions.

**00761.42 Sand Leveling Bed** - Place a minimum depth 1-inch leveling bed. Screed to grade and saturate with water to ensure a firm and smooth grade.

**00761.43 Weed Control** - Apply granular pre-emergent herbicide over the prepared leveling bed according to the manufacturer's instructions.

**00761.44 Unit Pavers** - Lay out rows so they are straight and parallel to the surrounding lines. Cut pavers with a masonry saw where necessary to fit pattern to edges.

**00761.45 Joint Sand and Compaction** - After placing pavers, sweep joint sand into the joints. Use a vibrating mechanical tamper to compact.

**00761.46 Surface Tolerance** - Do not deviate the longitudinal and transverse surface grades by more than <sup>1</sup>/<sub>4</sub>-inch in 12 feet.

00761.47 Clean Up - Remove excess sand and broken paving material from the site when complete.

#### Measurement

00761.90 Measurement - The quantities of unit pavers will be measured on the area basis.

#### Payment

**00761.95 Payment** - The accepted quantities of unit pavers will be paid for at the Contract unit price, per square foot for the item "Concrete Pavers".

Payment will be payment in full for furnishing and placing all materials, and for furnishing all equipment, labor, and incidentals necessary to complete the work as specified.

No separate or additional payment will be made for base preparation.

#### SECTION 00800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES

#### **SECTION 00815 – BOLLARDS**

Comply with Section 00815 of the Standard Specifications.

#### SECTION 00850 - COMMON PROVISIONS FOR PAVEMENT MARKINGS

Comply with Section 00850 of the Standard Specifications.

#### SECTION 00860 - LONGITUDINAL PAVEMENT MARKINGS - PAINT

Comply with Section 00850 of the Standard Specifications.

#### SECTION 00867 - TRANSVERSE PAVEMENT MARKINGS - LEGENDS AND BARS

Comply with Section 00867 of the Standard Specifications.

# SECTION 00900 – PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS

#### SECTION 00962 - METAL ILLUMINATION AND TRAFFIC SIGNAL SUPPORTS

Comply with Section 00962 of the Standard Specifications modified as follows:

00962.05(c) Illumination Supports - Add the following to the end of this subsection:

Ornamental street light poles shall be Visco type V1-C-S2/6'-F/14'.

00962.10 Materials - Add the following to the end of the material list:

High-Strength Fasteners ...... 02560.20

00962.41(b) Disposal of Waste Materials - Replace this subsection with the following subsection:

00962.41(b) Disposal of Materials - Dispose of all materials according to 00290.20.

**00962.48 Coating** - Replace this subsection, except for the subsection number and title, with the following:

Prepare and coat ornamental light poles and decorative bases according to the applicable portions of Section 00593. Repair damaged coatings according to 00593.60 after installation. Do not coat:

- Slip plate or arm connection surfaces.
- Slip base bolting hardware.
- Anchor rods, anchor rod washers, and anchor rod nuts.

Provide the following colors:

Item

Federal Standard 595 Color Number Gloss Black, No. 27038

Ornamental street light poles, arms, and pole bases

#### Payment

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00970.90 Payment - Comply with Section 00970 of the Standard Specifications.

#### **SECTION 329300 - PLANTING**

#### **PART 1 - GENERAL**

#### 1.1 WORK INCLUDED

- Α. Planting trees, shrubs, and ground covers.
- В. Mulchina.
- C. Plant establishment and warranty period.

#### 1.2 SUBMITTALS

- **Product Submittals:** Α.
  - Sample: Submit 1/2 gallon product sample of bark mulch prior to delivery at the 1. site.
  - 2. Submit a sample of plant guys.
- B. Quality Assurance Submittals:
  - 1. Submit written confirmation of plant order with landscape bid. Substitution requests for plants must be submitted prior to bidding. See submittal procedures.
  - 2. Submit Certificates required by law with plant shipments in the Closeout Manual.
  - Submit notification to Owner 14 days minimum prior to Owner assuming plant 3. maintenance responsibility that indicates the recommended landscape maintenance procedures for the next 60 days.

#### 1.3 QUALITY ASSURANCE

- Α. Regulatory Reguirements:
  - Comply with minimum requirements for plant quality, grade tolerances, and 1. caliper to height ratios as specified in American Standards for Nursery Stock, ANSI Z60.1.
  - 2. Meet or exceed the specifications of federal, state, and county laws requiring inspection of plants and planting material for plant disease control. 3.
    - The Landscape Architect may observe trees and plants prior to purchase.
- B. Plant Names:
  - Names and sizes of plants shall comply with the Standards of Practice of the 1. American Association of Nurserymen, Inc.
  - 2. Conform to Standardized Plant Names by J. Horace McFarland Company.
  - Botanical names take precedence over common names. 3.
- C. The Landscape Architect may reject plant material that does not meet specified standards at any time prior to Final Acceptance.
- Tree Inspection: Coordinate the City arborist inspection of trees at time of delivery. D. Provide City Arborist a minimum (48) forty-eight hour notice prior to delivery.

#### 1.4 **DELIVERY, STORAGE AND HANDLING**

- Α. Packing and Shipping:
  - 1. Notify the Landscape Architect of delivery schedule so plant materials may be inspected upon delivery.
  - 2. Do not deliver more plant materials than can be planted in 48 hours.
  - 3. Deliver packaged materials in manufacturer's unopened containers, fully identified by name, brand, type, weight, and analysis.
- Β. Storage and Protection:
  - 1. Protect plants against damage and dehydration.

- 2. Cover plant roots and root balls with soil or other accepted material upon delivery, if not scheduled for planting within 4 hours.
- 3. Store plant materials in shade and protect against harmful weather.
- 4. Store packaged materials to prevent damage and intrusion of foreign matter.

#### 1.5 SITE CONDITIONS

- A. Environmental Requirements:
  - 1. Do not plant when air temperature is less than 35°F or above 90°F.
  - 2. Do not plant when ground is frozen, excessively wet or dry.
  - 3. Do not plant when wind velocity exceeds 25 mph.
- B. Scheduling:
  - 1. Conduct landscape work when within the acceptable planting season for each kind of plant.
  - 2. Coordinate Work with other contractors.

#### 1.6 PLANT WARRANTIES

- A. Warranty begins on date of Final Acceptance.
- B. Plant materials shall be in healthy condition at end of one-year warranty period, or for one full growing season after installation, whichever is longer.
- C. Replace unhealthy plants within 15 days or as approved by the Landscape Architect.
- D. Corrective Work shall be done within 15 days or as approved by the Landscape Architect.
- E. Contractor is not responsible for plants damaged by vandalism or theft during warranty period.

#### 1.7 MAINTENANCE SERVICE AND PERIOD

- A. Begin maintenance service immediately after planting and continue until Final Acceptance.
- B. Water, weed, fertilize, spray, cultivate, mulch, reset plants to correct grade and upright position, remove dead wood, and perform other necessary maintenance work necessary for healthy growth.
- C. Remove fallen leaves, cones, and plant litter from landscape areas.
- D. Irrigate planting soils when necessary to avoid drying out of plant materials and to promote healthy growth.

#### 1.8 QUALIFICATIONS

A. Installer Qualifications: The landscape construction professional as defined in ORS 671.520 and performing work under this section of the contract shall hold a valid landscape contractor's license in accordance with ORS 671.510 to 671.760.

#### PART 2 - PRODUCTS

#### 2.1 PLANTS

- A. Nursery Stock:
  - 1. Healthy, well-branched and rooted, full-foliaged when in leaf, free of disease, injury, insects, weeds, and weed roots.
  - 2. Typical of plant species and variety.
  - 3. Plants held in storage will be rejected if they show signs of growth during storage.
  - 4. Do not use cold storage plants.
  - 5. Where drawings indicate row planting, furnish plants matched in form.

- 6. Plants larger than specified in plant list may be used when acceptable to the Landscape Architect at no additional cost to Owner.
- 7. If use of larger plants is acceptable to the Landscape Architect, then increase the spread of roots or root ball in proportion to the plant size.
- B. Plant Names:
  - 1. Furnish plants true to name.
  - 2. Tag a minimum of one of each bundle or lot with common and botanical name.
- C. Balled and Burlapped Plants (B&B):
  - 1. Ball and Burlap with natural ball of size to insure healthy growth.
  - 2. Dig with firm natural balls of earth of sufficient diameter and depth to encompass the feeding root system necessary for full recovery of the plant.
  - 3. Comply with ball sizes listed by American Standard for Nursery Stock.
  - 4. Cracked or broken balls are not acceptable.
- D. Container Grown Plants:
  - 1. Furnish plants in removable containers or integral peat pots.
  - 2. Furnish plants well rooted to ensure healthy growth.
  - 3. Furnish plants grown in containers from six months to two years prior to delivery, with roots filling container but not root bound.
  - 4. Furnish plants grown in container for sufficient length of time for root system to hold container soil together.
- E. Trees:
  - 1. Furnish species that mature at heights over 25 feet with a single main trunk.
  - 2. Do not furnish trees that have a main trunk with two or more co-dominant leaders.
  - 3. Do not furnish conifers which have been sheared as for Christmas tree stock.
  - 4. Trees shall not contain pruning wounds with a diameter of more than 1 inch. Pruning wounds must be made at branch collar and have sound bark on all edges.
- F. Shrubs and Ground Covers:
  - 1. Furnish plants with spread and height requirements typical for the species in the specified container size.
  - 2. Furnish plants in a moist and vigorous condition, free of dead wood, bruises, root injuries, and branch injuries.
- G. Plant List: As indicated on the Drawings.
  - 1. Contractor shall verify plant quantities indicated on the Drawings. Quantity errors on the Drawings are not the responsibility of the Owner or the Landscape Architect. Provide sufficient quantity of plants to complete work shown on the Drawings.

#### 2.2 ACCESSORIES

- A. Bark Mulch:
  - 1. Free from weeds, seeds, and material harmful to plant life.
  - 2. Shredded hemlock or fir bark, medium grade, free of wood chips, maximum size to pass 3/4" mesh screen.
- B. Wood Stakes:
  - 1. Wood Species and Grade: Douglas Fir, WCLIB or WWPA No. 2 or Construction grade.
  - 2. Nominal Size for Deciduous Trees: 2" x 2" square, or 2" diameter round, by 8 feet long, or larger if needed.
- C. Plant Guys:
  - 1. Broad belt-type strapping or plastic chain, minimum 1" width.

#### PART 3 - EXECUTION

#### 3.1 ACCEPTABLE PLANT INSTALLERS

A. Employ a planting field superintendent to be present and direct performance of planting Work. Planting superintendent shall be familiar with planting materials and methods of installation.

#### 3.2 PERFORMANCE

- A. Verification of Conditions:
  - 1. Examine planting areas and site conditions prior to starting work.
  - 2. Verify location of underground utilities prior to starting work.
  - 3. Starting work indicates acceptance of existing site conditions.
- B. Protection:
  - 1. Protect utility lines.
  - 2. Barricade and cover excavations as required to protect pedestrians, employees, equipment, and adjacent property.
  - 3. Protect existing shrubs and trees from damage, discoloration, and soiling.
  - 4. Protect existing and new improvements from damage, discoloration, and soiling.
  - 5. Provide protective cover and barriers as necessary to prevent damage and staining.
- C. Preparation:
  - 1. Comply with requirements in Section 32 91 13, Soil Preparation.
  - 2. Excavate pit to a minimum of three times diameter of root ball or root system, not less than 6" deeper for shrubs, and not to exceed depth of root ball for holes for balled trees.
  - 3. Assure drainage by flooding prior to planting.
  - 4. Immediately prior to planting, scarify bottom and sides of hole with shovel.
- D. Placement of Trees and Shrubs:
  - 1. Set top of root ball 1-1/2 inches above finished grade.
  - 2. If hole is too deep, fill hole with compacted soil to correct levels. Deep planting is not permitted.
  - 3. Install plants upright and face plants to give best appearance and relationship to adjacent plants and structures.
  - 4. Remove root ball containers completely.
  - 5. After trees have been set in plant pit, remove top and sides of wire baskets. Use bolt cutters to cut wire in several places and remove wire from plant pit. Remove fasteners and burlap wrapping from top third of root ball. Do not bury wire and fasteners in landscape; dispose of legally.
  - 6. Trim broken and frayed roots and any circularly growing roots conforming to the container shape.
  - 7. Adjust plant locations to minimize conflicts with irrigation equipment.
- E. Installation of Tree Support: Guy and stake deciduous trees from two directions with guys, guy wire, and stakes as detailed on the Drawings.
- F. Planting Trees and Shrubs:
  - 1. Cut off broken and frayed roots.
  - 2. Place and compact prepared planting soil carefully to avoid injury to roots and fill voids.
  - 3. When hole is filled to within 4" of finish grade, fill with water and let stand until water is absorbed by soil.
  - 4. Backfill with prepared soil mix and compact to eliminate voids.
  - 5. Place Mycorrhizae Tablets in each plant pit as specified in Section 32 91 13, Soil Preparation. Ensure tablets are in direct contact with plant roots or rootball.
  - 6. Do not perform initial watering of trees and shrubs by irrigation system. Water plants thoroughly by hand with a hose immediately after planting.
- G. Planting Ground Covers:
  - 1. Install plants at spacing indicated.
  - 2. Dig holes large enough to allow spreading of roots.

- 3. Backfill with prepared soil mix and compact to eliminate voids.
- 4. Place Mycorrhizae Tablets in each plant pit as specified in Section 32 91 13, Soil Preparation. Ensure tablets are in direct contact with plant roots.
- 5. Slightly dish soil surface at each plant and water thoroughly.
- H. Pruning Trees and Shrubs: Prune trees and shrubs to remove damaged, dead and poorly connected branches.
- I. Mulching:
  - 1. Apply 3" thick layer of bark mulch over planting beds within two days after planting.
  - 2. Lift plant foliage above mulch where required to prevent mulch contact with foliage.

#### 3.3 ADJUSTING AND CLEANING

- A. Remove defective trees, plants, and ground covers from the site within 8 hours after site delivery.
- B. Repair damage to utility lines and site improvements as a result of planting work.
- C. Reshape finish grade to match adjacent surfaces.
- D. Replace defective trees, plants, and ground covers prior to Final Acceptance or where necessary during next planting season.
- E. Remove excess materials from the site.
- F. Sweep clean adjacent paving, curbs, walls, and walk surfaces.

END OF SECTION

#### SECTION 329200 – LAWN SEEDING

#### PART 1 - GENERAL

#### 1.1 WORK INCLUDED

A. Hydro-seeding new lawn areas.

#### 1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
  - 1. Pesticides and Herbicides: Include product label and manufacturer's application instructions specific to this Project.
  - 2. Maintenance Fertilizer
  - 3. Hydro (Wood Fiber) Mulch
  - 4. Tackifier
- B. Submit seed vendor's certified statement of analysis for grass seed mix.
  - 1. Comply with standards established by the Association of Official Seed Analysts.
  - 2. Seed shall have a guaranteed minimum germination rate of 80%.
  - 3. Seed must contain at most 1.0% total weed seed by weight.
- C. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of turf during a calendar year. Submit before expiration of required establishment period.

#### 1.3 **REGULATORY REQUIREMENTS**

A. Meet State of Oregon licensing requirements for the application of herbicides.

#### 1.4 DELIVERY, STORAGE AND HANDLING

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

#### 1.5 SITE CONDITIONS

- A. Environmental Requirements:
  - 1. Apply seed when wind velocity is less than 5 miles per hour at the site.
  - 2. Do not plant lawns when the air temperature is below 40°F or above 90°F.
- B. Scheduling:
  - 1. Perform seeding work after soil preparation, planting, irrigation, and other work affecting ground surface has been completed.
  - 2. Seed lawns between April 15 and October 15, unless otherwise approved by the Owner.
  - 3. Apply seed within 4 hours after final preparation of seeding areas.
  - 4. If approved by Owner to seed after October 15, increase grass seed mixture by one pound per 1000 square feet per week up to a total of 12 pounds per 1000 square feet.

#### 1.6 MAINTENANCE

A. Lawn Establishment Period: Begin maintenance immediately after each area is seeded and continue until acceptable lawn is established, but for not less than the following periods:

- 1. 60 days from date of seeding
- 2. When establishment period has not elapsed or lawn is not fully established before end of planting season, continue maintenance during next planting season.
- B. Lawn Maintenance:
  - 1. Irrigate new seeded lawn areas at a maximum rate of 0.5" of water per hour to keep soil materials moist.
  - 2. Do not walk on lawn areas for the first 30 days to irrigate, weed, or replace grass seed without using plywood protection boards to walk over prepared lawn areas.
  - 3. Apply Maintenance Fertilizer within the maintenance period at 5 pounds per 1,000 square feet if required to supplement lawn establishment after germination or as directed by the Landscape Architect.
  - 4. Water fertilizer thoroughly into soil.
  - 5. Keep grass mowed to a height of 1-1/2" to 2", removing no more than 1/3 of the grass leaf with each mowing.
  - 6. Mow grass only when ground is sufficiently firm to prevent ruts and depressions exceeding 1/8" caused by mowing equipment wheel loads.
  - 7. Reduce or temporarily terminate watering as necessary to allow mowing machinery to be used without causing ruts and depressions exceeding 1/8".
  - 8. Remove excess accumulations of grass clippings within 2 hours after mowing and legally dispose of off Project site.
- C. Repair of Lawn Areas:
  - 1. Apply grass seed to bare areas that occur in lawn areas during the establishment period.
  - 2. Reseed lawn areas where soil erosion or poor germination causes bare areas.
  - 3. Immediately remove and replace seeded areas showing excessive growth of perennial and annual weeds, deficient grass growth, or damage.
  - 4. Completely remove weeds including weed roots.
  - 5. Remove and replace unaccepted lawn areas in accordance with requirements in this Section.
- D. Maintenance Conclusion: Notify Owner in writing 5 days minimum prior to Owner assuming maintenance responsibility for lawn areas.
- E. Lawn Acceptance:
  - 1. Acceptance of seeded lawn areas is contingent upon meeting the requirements of this Section and the establishment of a healthy, weed-free stand of grass, uniform in thickness, texture, color, and height.
  - 2. Coverage Requirements: 90% coverage over any 10 sq. ft. area, with bare spots not exceeding 5 by 5 inches.
  - 3. Weed-free Tolerance: One broadleaf or narrow-leaf weed for each 50 square feet of lawn area.
  - 4. Re-establish unaccepted lawn and provide maintenance beyond the required establishment period as necessary to achieve specified results.

#### 1.7 QUALIFICATIONS

A. Installer Qualifications: The landscape construction professional as defined in ORS 671.520 and performing work under this section of the contract shall hold a valid landscape contractor's license in accordance with ORS 671.510 to 671.760.

#### PART 2 - PRODUCTS

#### 2.1 SEEDING MATERIALS

- A. Fertilizer and Accessories:
  - 1. Maintenance Fertilizer: Best Turf Gold 22-5-6, or approved equal.
  - 2. Vapor Retarder: 6 mil thick, black polyethylene sheet.

- B. Grass Seed:
  - 1. Low-Water Lawn Mix: "Team Jr." three-way turf type tall fescue blend by Sunmark Seeds International, Inc., or approved equal.
  - 2. All lawn seed shall be State of Oregon Department of Agriculture Certified Blue Tag Seed.
  - 3. Inoculate all lawn seed blends with mycorrhizae according to the manufacturer's recommended application rate.
- C. Hydro Mulch:
  - 1. Material: Virgin wood cellulose fiber containing no growth or germination inhibiting factors.
  - 2. Application Metering Material: Green dye to facilitate visual metering.
  - 3. Performance Characteristics: Forms homogenous slurry upon agitation for rapid and even dispersal.
  - 4. Acceptable Wood Fiber Mulches: Eco-Fiber by Profile Products or approved equal.
- D. Binder or Tackifier: Agritek-PAM or approved equal.

#### 2.2 PESTICIDES AND HERBICIDES

- A. General: Pesticide, registered and approved by EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- B. Post-Emergent Herbicide (Selective and Non-Selective): Effective for controlling weed growth that has already germinated.

#### 2.3 EQUIPMENT

- A. Hydraulic Hydro-seeding Equipment: Continuous mixing and agitating action to mix water, seed, fertilizer, and mulch and distribute the mixture on lawn areas.
- B. Temporary Fence:
  - 1. Posts: Pre-painted 6' long steel tee posts, or accepted substitute.
  - 2. Fence: 4' high orange plastic safety fence.

#### PART 3 - EXECUTION

#### 3.1 PERFORMANCE

- A. Verification of Conditions:
  - 1. Inspect topsoil in new lawn areas.
  - 2. Verify compliance with required soil preparation, compaction, grades, slope to drains, and completion of underground utility lines in lawn areas.
  - 3. Start of lawn planting Work indicates acceptance of subgrade and topsoil conditions.
- B. Protection of Adjacent Surfaces Prior to Seeding: Protect existing utility systems, paving, walks, curbs, and other site improvements from damage during seeding.
- C. Protection of Adjacent Surfaces Prior to Hydro-seeding: Install 10 feet minimum width vapor retarder sheet cover at perimeter of hydro-seeding area to prevent hydro-seeding drift on adjacent surfaces.
- D. Surface Preparation for Seeding:
  - 1. Comply with requirements in Section 32 91 13, Soil Preparation.
  - 2. Remove hard or soft topsoil areas and adjust grade of topsoil where required.
  - 3. Lightly irrigate dry planting soil.
  - 4. Allow time for free surface water to drain prior to seeding.
- E. Hydro-seeding:

- 1. Seed all new lawn areas shown on Drawings and areas disturbed as a result of construction operations.
- 2. Apply seed, mulch, fertilizer, amendments, and water uniformly in one application with hydraulic equipment to prepared lawn areas.
- 3. Standard lawn mix: Apply 8 pounds seed for each 1,000 square feet. Low-water mix: Apply 8 pounds seed for each 1,000 square feet.
- 4. Apply 70 pounds (dry weight) wood fiber mulch for each 1,000 square feet and 2 pounds binder or tackifier for each 1,000 square feet.
- 5. Apply mixture through a pressure spray distribution system providing a continuous, non-fluctuating discharge of mixture in the above quantities uniformly on lawn areas.
- 6. Apply seed and mulch mixture using a sweeping, horizontal motion of spray distribution system.
- 7. Do not seed within 2 feet of base of trees.

#### 3.2 PESTICIDE AND HERBICIDE APPLICATION

- A. Apply pesticides and other chemical products and biological control agents in accordance with requirements of authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.
- B. Post-Emergent Herbicides (Selective and Non-Selective): Apply in accordance with manufacturer's written recommendations and only as necessary to treat already-germinated weeds.

#### 3.3 COMPLETION

- A. Adjusting and Cleaning:
  - 1. Contractor may adjust method of seeding application only when written request is acceptable to the Owner.
  - 2. Repair or replace irrigation system components damaged during lawn seeding.
  - 3. At completion of Work in each area, remove debris, equipment, and surplus materials.
  - 4. Wash walks, walls, and paving areas adjacent to lawn areas to completely remove seed, mulch, and soil materials, and stains from exposed surfaces.
- B. Installation of Temporary Fence:
  - 1. Install temporary fence at perimeter of lawn areas where necessary to prohibit public access.
  - 2. Install posts at 10 feet on center maximum, to a minimum depth of 18".
  - 3. Keep fence erect and taut at all times.
  - 4. Remove fence when lawn areas are established and accepted.

#### END OF SECTION

#### SECTION 329113 – SOIL PREPARATION

#### PART 1 - GENERAL

#### 1.1 WORK INCLUDED

- A. Excavation, stockpiling and placing existing topsoil in lawn and planting areas. Stockpile topsoil acquired from development of infiltration rain garden, sidewalks, and paths.
- B. Preparing planting soil materials and areas to be planted with shrubs, ground cover, and lawn at locations indicated on the Drawings and as herein specified.

#### 1.2 REFERENCES

A. Definition of Noxious Weed: Includes Blackberry, Canada Thistle, Dandelion, Horsetail, Morning Glory, Nut Sedge, Poison Oak, Rush Grass, Annual Bluegrass, Bermuda Grass, Brome, Crabgrass, Johnson Grass, Nut Grass, Quack Grass, and other noxious weeds as designated on State of Oregon Dept. of Agriculture's Noxious Weed List.

#### 1.3 SUBMITTALS

- A. Topsoil:
  - 1. Submit analysis of existing (on-site) topsoil from licensed soils testing laboratory for approval prior to reuse of existing topsoil or delivery of imported topsoil. See paragraph 2.1 A. for test requirements.
  - 2. Sample: Submit 1/2-gallon sample each of existing topsoil.
- B. Submit manufacturer's or vender's certified analysis of compost, fertilizers, and soil amendments.

#### 1.4 QUALITY ASSURANCE

- A. Regulatory Requirements: Meet State of Oregon licensing requirements for the application of herbicides.
- B. Packing and Shipping: Deliver commercial fertilizer in original containers with labels indicating weight, chemical analysis and name of manufacturer.
- C. Storage and Protection:
  - 1. Store fertilizers and amendments in dry place and protect from contamination.
  - 2. Protect soil materials from deterioration by moisture, erosion, freezing temperatures, and chemical contamination during storage and handling.
  - 3. Protect existing and new improvements from damage and staining.
  - 4. Provide protective cover and barriers as necessary to prevent damage and staining.

#### 1.5 SITE CONDITIONS

- A. Environmental Requirements: Prepare soil only when topsoil is not in a wet, muddy, or frozen condition.
- B. Complete subgrade preparation prior to placing topsoil (see paragraph 3.2, this section).
- C. Scheduling: Schedule preparation of lawn areas within 48 hours prior to application of seed.

#### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Existing (On-site) Topsoil:
  - 1. Topsoil shall be fertile, friable, natural loam, surface soil, capable of sustaining vigorous plant growth; porous and free draining; free of subsoil clay lumps, brush, noxious weeds, weed seeds, roots, stones larger than 1-1/2 inches in any dimension and other material harmful to plant growth. Topsoil acquired on site shall be amended as necessary to meet this description prior to use in planting.
  - 2. Topsoil analysis from a licensed soils laboratory shall be submitted to the Landscape Architect for approval prior to use of any topsoil on the project site. Soil sample shall be a composite acquired from four different sections of the stockpiled soil or four different locations on the site at a depth between six and twelve inches, for a total combined quantity of one-half gallon. Sampling shall be observed by the Architect or Inspector of Record and a written verification describing the sampling locations and process observed shall be provided to the Landscape Architect. Soil test shall include the following: sieve analysis of soil particle size; magnesium, nitrogen, phosphorous, and potassium levels; soluble salt level; pH; organic matter; and infiltration rate. Test results shall include specific recommendations for soil conditioners, amendments and fertilizers to adjust the soil to meet the description noted above. A written narrative summarizing the analysis and recommendations shall be included in the submittal.
  - 3. Acceptable gradation as defined by USDA triangle of physical characteristics as measured by hydrometer:
    - a. Sand: 15 to 60 percent.
    - b. Silt: 10 to 60 percent.
    - c. Clay: 5 to 30 percent.
- B. On-Site or Imported Earth Fill: Approved excavated earth fill materials, free of subsoil clay lumps, brush, weeds, roots, stones larger than 1-1/2 inches in any dimension and other material harmful to plant growth.
- C. Lime: Dolomite limestone, calcium magnesium carbonate, 50% passing through a 100 mesh sieve, 95% to 100% passing through a 20 mesh sieve, agricultural ground grade, minimum neutralizing value of 90%.
- D. Compost: 1/4-inch minus fir or hemlock sawdust aged a minimum of 2 years, or approved substitute.
- E. Fertilizers and Amendments:
  - 1. Lawn Fertilizer: Best Fertilizer Triple Pro 15-15-15, or approved equal
  - 2. Planting Bed Fertilizer: Best Fertilizer Triple Pro 15-15-15, or approved equal
  - 3. Mycorrhizae Soil Amendment: Plant Success Mycorrhizae Tablets, or approved equal.

#### PART 3 - EXECUTION

#### 3.1 PERFORMANCE

- A. Site Verification of Conditions:
  - 1. Examine site for conditions which will adversely affect execution, permanence, quality of work, survival of plant material, and survival of lawn.
  - 2. Verify that grade and slopes of lawn areas and planting beds are acceptable to the Landscape Architect prior to beginning soil preparation.
  - 3. Report existing conditions detrimental to completion of soil preparation work.
  - 4. Begin Work required in this Section only after conditions are satisfactory.
  - 5. Start of Work in this Section denotes acceptance of existing conditions.
- B. Protection of Existing Site:
  - 1. Protect utility lines and site improvements.
  - 2. Stake location of underground utilities and avoid excavation in these areas beyond safe limits.
  - 3. Hand excavate where required to avoid utility line damage.

### 3.2 SUBGRADE PREPARATION

#### A. Aggregate Base Rock Removal:

- 1. Remove all gravel, aggregate base rock material, asphalt, concrete, and all other construction debris from all planting beds and lawn areas to a minimum depth of 18" inches below finish grade.
- 2. Replace with earth fill, if necessary, to bring subgrade to correct levels prior to placing topsoil.
- 3. Verify extent of areas requiring base rock removal with the General Contractor prior to submitting bid.
- B. Scarify Subgrade:
  - 1. Lawn areas: Scarify subgrade to a depth of 6 inches in two directions at 90 degrees to each other, where topsoil is scheduled to be placed, to ensure interfacing of subsoil and topsoil, and to achieve specified compaction
  - 2. Shrub Beds: Scarify subgrade to a depth of 12 inches in two directions at 90 degrees to each other, where topsoil is scheduled to be placed, to ensure interfacing of subsoil and topsoil, and to achieve specified compaction density.

#### 3.3 PREPARATION

- A. Stockpiling:
  - 1. Stockpile and protect existing topsoil on site in designated location as directed by Owner's representative.
  - 2. Do not mix other excavated materials with stockpiles.
- B. Preparing Shrub and Ground Cover Planting Bed Area:
  - 1. Ensure a 12" depth of topsoil meeting the description in 2.1 Materials, part A, at areas to be planted with shrubs and groundcovers.
  - 2. Ensure an 18" depth of topsoil meeting the description in 2.1 Materials, part A, where trees are to be placed in a diameter of 3 times the root ball.
  - 3. Spread 4" depth of compost, and 13.5 pounds per 1,000 square feet of Planting Bed Fertilizer.
  - 4. Apply additional soil amendments as required by soil test analysis at the rate indicated by the analysis.
  - 5. Till soil amendments into topsoil to a minimum depth of 8".
  - 6. Float amended topsoil to 3" below finish elevations.
  - 7. Place Mycorrhizae Tablets in each plant pit at the time of planting according to the manufacturer's specifications:
    - a. 1 tablet for each 4" pot
    - b. 2 tablets for each 1 gallon container
    - c. 4 tablets for each 3 gallon container
    - d. 8 tablets for each 5 gallon container
    - e. 10 tablets per inch of stem width for each tree (e.g. 20 tablets for each 2" caliper tree)
- C. Preparing Lawn Areas:
  - 1. Ensure a 6" depth of topsoil meeting the description in 2.1 Materials, at seeded lawn areas or as indicated on Drawings.
  - 2. Apply lime 2 weeks prior to seeding if indicated by soil test analysis at the rate indicated by the analysis.
  - 3. Spread 2" depth of compost and 6.7 pounds per 1,000 square feet of Lawn Fertilizer.
  - 4. Apply additional soil amendments as required by soil test analysis at the rate indicated by the analysis.
  - 5. Till soil amendments into topsoil to a minimum depth of 6".
- D. Finish Grading Lawn Areas:
  - 1. Remove high spots and fill depressions.

- 2. Drag and hand rake lawn areas to produce smooth, even grades as indicated on the Drawings.
- 3. Maintain existing grades at limits of Work.
- 4. Slope to grades acceptable to the Landscape Architect.
- 5. Provide positive, 2% minimum drainage and as shown on the Drawings.
- 6. Remove gravel and stones larger than 1".
- 7. Remove or break up soil clods larger than 1".
- 8. Remove sticks, trash, debris, and material deleterious to plant life.

#### 3.4 COMPLETION

- A. Adjusting and Cleaning:
  - 1. Restore eroded, settled, or compacted soil to specified condition prior to landscape planting and seeding.
  - 2. Remove excess topsoil and soil amendments from adjacent paving, curb, and walk surfaces.
  - 3. Provide protective cover and barriers as necessary to prevent damage and staining.
  - 4. Remove debris, topsoil, fertilizer, soil amendments, and soil mixes from curbs, walks, paving, and other improvement surfaces daily.
  - 5. Sweep and hose down curb, pavement, and walk areas daily as necessary to maintain clean surfaces.
  - 6. Transport surplus materials to a legal disposal area.

### END OF SECTION

### SECTION 328424 – IRRIGATION

#### PART 1 - GENERAL

#### 1.1 WORK INCLUDED

A. Provide underground landscape irrigation system at locations indicated on the Drawings and as herein specified.

#### 1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM):
  - 1. ASTM A53: Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
  - 2. ASTM D1784: Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds.
  - 3. ASTM D1785: Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
  - 4. ASTM D2466: Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.
  - 5. ASTM D2564: Standard Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems.
  - 6. ASTM F656: Standard Specification for Primers for Use in Solvent Cement Joints of Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings.

#### 1.3 SUBMITTALS

C.

- A. Product Submittals:
  - 1. Submit product data showing manufacturer's name, catalog number, technical data, and photo or drawing for each component of the irrigation system.
  - 2. Submit product data 10 days prior to beginning work.
- B. Water Pressure Tests:
  - 1. Submit report of water pressure tests at irrigation water supply connection.
  - 2. Submit report of irrigation pressure tests for main line prior to backfilling.
  - Submit Record Drawings at closeout of contract to include:
    - 1. Variations or changes to system.
      - 2. Main and lateral line locations.
      - 3. Automatic control valves.
    - 4. Quick coupling valves.
    - 5. Drain valves.
      - Operating and Maintenance information for:
      - a. Control valves
        - b. Spare parts list.
        - c. Local source of replacement parts.

#### 1.4 SITE CONDITIONS

B.

6.

- A. Weather Requirements:
  - 1. Do not solvent weld polyvinyl chloride pipe when ambient temperature is below 40°F or above 95°F.
  - 2. Do not solvent weld polyvinyl chloride pipe in wet conditions.
  - Schedule for Installing Pipe, Sleeves and Sprinkler Heads:
    - 1. Schedule installation of pipe sleeves below paving and walks prior to construction.
    - 2. Schedule installation of sprinkler heads after pressure testing and final grading.

#### 1.5 DAMAGES

- A. Restore structures or facilities damaged by irrigation work to original condition.
- B. Repair damage caused by leaks or breaks in equipment and materials furnished or installed in this contract for one year after date of final acceptance.

### 1.6 EXISTING UTILITIES

- A. Locate and identify, with visible marking, existing underground utilities in areas of work. Utilities to remain in place shall be protected during excavation operations.
- B. Consult with utility owner for instructions if uncharted piping or other utilities are encountered during execution of work before proceeding.
- C. Cooperate with Owner and public or private utility companies in keeping their respective services and facilities in operation. Coordinate temporary interruptions to existing services and facilities and provide temporary utility services.

#### 1.7 **REGULATIONS**

A. Work to be accomplished in accordance with applicable Local, State and Federal codes and regulations.

#### 1.8 RECORD DRAWINGS

- A. Maintain a current record of pipe and equipment placement, and record variations or changes.
- B. Include Record Drawings in Operating and Maintenance Manual.

#### 1.9 WARRANTIES

- A. Equipment Warranty: Provide equipment manufacturer's standard Warranty for:
  - 1. Irrigation controller
  - 2. Control valves
  - 3. Quick couplers
  - 4. Sprinkler heads
  - 5. Isolation valves
- B. Installer's Warranty:
  - 1. Warranty all irrigation pipes to be free of leaks for one year from the date of final acceptance.
  - Warranty shall include repair of trench backfill that settles more than 1/2" and repair of plantings, paving, and improvements damaged by settlement of trench backfill soils during warranty period.

#### 1.10 QUALIFICATIONS

A. Irrigation Installer: The landscape construction professional as defined in ORS 671.520 and performing work under this section of the contract shall hold a valid landscape contractor's license in accordance with ORS 671.510 to 671.760.

#### PART 2 - PRODUCTS

#### 2.1 PVC PIPE

- A. Polyvinyl Chloride Plastic (PVC) Pipe: PVC 1220, Type 1, normal impact, I.P.S., N.S.F. approved or accepted substitute.
  - 1. Main and Lateral (Zone) Lines: Schedule 40 PVC pipe, conforming to ASTM D1784, ASTM D1785 and PS22.

2. PVC pipe to be new, defect free, continuously and permanently marked with manufacturer's name or trademark, size, schedule and type of pipe.

#### 2.2 PVC PIPE FITTINGS

- A. PVC Fittings: PVC 1220, schedule 40, type 1, normal impact, I.P.S., N.S.F. approved meeting requirements of ASTM D2466 or accepted substitute.
- B. PVC nipples to be standard weight schedule 80, with molded threads.

### 2.3 PVC SOLVENT CEMENT

A. For pipe diameter up to 1-1/2": Weld-On 721 blue color, or accepted substitute, meeting N.S.F. approval for Type I and II PVC and requirements of ASTM D2564.

#### 2.4 PVC CLEANER AND PRIMER

A. Weld-On P-70, purple color, or accepted substitute, meeting requirements of ASTM F656.

#### 2.5 PVC SLEEVES

A. Schedule 40 PVC, sized two times the diameter of the pipes scheduled to be contained in the sleeve. Minimum sleeve size is 4" diameter, unless otherwise noted on the Drawings.

#### 2.6 GALVANIZED STEEL PIPE AND FITTINGS

- A. Pipe: Schedule 40, hot-dipped galvanized, conforming to ASTM A53.
- B. Fittings: Hot-dipped galvanized, malleable iron.

#### 2.7 IRRIGATION HEADS

A. See schedule on the Drawings.

### 2.8 VALVES AND ACCESSORIES

- A. Control Valves: See schedule on the Drawings.
- B. Main Line Isolation Valves:
  - 1. Type: Brass ball valve with 150-PSI min. rating.
  - 2. Size: Same size as line on which it is installed.
- C. Valve Boxes for Control, Isolation and Ball Valves: 12" minimum size box, one box for each valve, with locking lid and with 3" and/or 6" extensions as needed to facilitate required installation.
  - 1. Valve boxes shall be no closer than 12 inches apart, when multiple valve boxes are placed together.
  - 2. Boxes to be Carson, Armor, or approved equal.
- D. Manual Angle Valves: Brass manual angle valve with unions and "T" stem, same size as line on which it is installed.
- E. Manual Drain Valves: Brass manual angle valve with "T" stem. Valves shall be 1" size.
- F. Quick Coupling Valves: See schedule on the Drawings.
- G. Valve Boxes for Quick Coupling Valves and Manual Drain Valves: Carson, Armor, or approved equal, round valve boxes, 10" diameter, one box for each valve.

#### 2.9 IRRIGATION CONTROLLER

A. Controller: See schedule on the Drawings.

### 2.10 IRRIGATION CONTROL WIRE

- A. Controller to Control Valves: No. 14 AWG, single strand insulated copper wire, designed for 24 volts or greater, Type UF, UL approved for direct burial in NEC Class II circuits.
  - 1. Common wire: white color.
  - 2. Control wire: red color.

#### 2.11 BACKFLOW PREVENTION DEVICE

A. Existing backflow prevention device as indicated on the Drawings.

#### 2.12 WATER SOURCE

A. Existing on-site domestic water service dedicated for landscape irrigation as indicated on the Drawings.

#### 2.13 OTHER MATERIALS

- A. Keys:
  - 1. 2 keys for each type of locking valve box, cover, or valve with integral locking lid.
  - 2. 2 valve-operating keys of type and length required to operate manual drain valves.
- B. Electrical Connectors: Water-tight electrical connectors.
  - 1. 3-M DBY.
  - 2. RainBird DB Series.
  - 3. Or accepted substitute.
- C. Locator Wire: All main lines to be marked with continuous 14-gauge, single-strand locator wire, with light blue color coating.
- D. Pipe Joint Tape: Minimum of 1/2" Teflon tape intended for use in wrapping threaded PVC and/or galvanized pipe fittings and joints, as required.
- E. Drain Rock: 1/4" round clean, washed pea gravel.

### PART 3 - EXECUTION

#### 3.1 GENERAL

- A. Do not allow work to be covered or enclosed until it has been inspected, pressure tested, and approved by the Landscape Architect.
- B. Code Requirements:
  - 1. Installation of materials and equipment shall be in accordance with manufacturer's written specifications and recommendations, and all local and state codes.
  - 2. Contractor is responsible for identifying conflicts between manufacturer's written specifications and recommendations, local and state codes, and the Contract Documents.
  - 3. Contractor shall correct work installed to meet manufacturer's or local and state requirements at no additional cost.
- C. Minor changes necessary to conform to ground conditions may be made without the Landscape Architect's approval. Changes shall be recorded on the Record Drawings.
- D. Obtain written permission to shut off any water lines prior to work. Keep disruptions in service to a minimum.
- E. Maintain system and protect it from damage, including damage caused by vandalism or adverse weather conditions, until date of final acceptance. Repair damage at no additional cost to the Owner.

#### 3.2 PIPE TRENCHING

- A. Minimum depth of cover to top of irrigation piping shall be as follows:
  - 1. Lateral Lines: Minimum of 12" deep.
  - 2. Mainline: Minimum of 18" deep.
  - 3. Sleeves under pavement: Minimum of 18" deep

- Β. Backfill trenches in cool part of day to minimize expansion and contraction of PVC pipe. C.
  - Remove debris, trash, rocks, and other foreign material from irrigation trenches.
    - Irrigation lines to have a firm, uniform bearing surface for entire length of each line. 1.
    - Wedging or blocking of pipe other than specified thrust blocking is not permitted. 2.
- D. Before backfilling trenches, pipe shall be flushed clear and clean of dirt and foreign material. (See 3.12 FLUSHING AND TESTING)
- E. Backfill trenches in layers of not more than 6" in depth and compact each layer.
  - Fill trenches to finish grade with planting soil. 1.
    - Restore disturbed surfaces to original or better condition. 2.
- F. Repair or replace materials and equipment damaged or destroyed while backfilling.

#### PIPE 3.3

- Α. Exercise care in handling and storing pipe and fittings.
  - Store materials under cover before using. 1.
  - Transport materials in a vehicle of adequate size and capacity to prevent bending or 2. concentration of an external load at any point on materials.
  - 3. Materials or portions of materials that are damaged shall be discarded and replaced.
- Remove foreign matter and dirt from inside pipe or fittings before lowering into trench. Β.
- Install pipe and fittings per manufacturer's specifications with specified materials. Use Teflon C. tape on threaded joints.
- D. Install locator wire on top side of pipe.
  - Tape locator wire to pipe at no less than 20'-0" intervals. 1.
  - 2. Sections of locator wire to be spliced together with watertight splice connectors, to provide a continuous run.
- E. Snake pipe in trenches to allow for expansion and contraction as recommended by manufacturer.
- F. Cut pipe ends square and remove burrs.
- G. Repair settling of backfilled trenches during warranty period and completely restore and repair plantings, paving and other site improvements disturbed by irrigation construction.

#### 3.4 **BACKFLOW PREVENTION DEVICE**

Α. Verify that backflow prevention device is tested and approved by authorities having jurisdiction.

#### 3.5 **CONTROL VALVES**

- A. Valve boxes to be installed with top of box flush with planting area grade.
- Β. Install valves in box allowing room to perform ongoing maintenance by the Owner.
- Place drain rock in valve box to within 2" of bottom of valve assembly. C.
- D. Install one control valve assembly per valve box. Provide jumbo valve box only if necessary to allow room for maintenance.

#### 3.6 DRAIN VALVES

Install complete with fittings, valve boxes and extensions. Install a minimum of one cubic foot Α. of drain rock at each drain valve location.

#### 3.7 **ISOLATION AND BALL VALVES**

Α. Install complete with fittings, valve boxes and extensions.

#### QUICK COUPLING VALVES 3.8

A. Install quick coupling valves on double swing joint assemblies plumb and flush to grade. Angle of nipple relative to main line shall be no more than 45 degrees and no less than 10 degrees. Install quick coupling valves as detailed on the Drawings.

### 3.9 IRRIGATION HEADS

- A. Install irrigation heads of types, sizes and coverage called for in Irrigation Legend at locations shown on the Drawings.
  - 1. Minor changes in head location may be necessary to achieve the required coverage.
  - 2. Make changes at no additional expense to the Owner.
  - 3. Notify the Landscape Architect for approval prior to making major changes.
  - 4. Document changes on the Record Drawings.
- B. Locate heads no closer than 6" from any adjacent walk, wall, or fence.

#### 3.10 IRRIGATION SLEEVES

- A. Install sleeves for irrigation lines and/or control wire under pavement prior to placing pavement materials.
  - 1. Extend sleeves beyond pavement edge a minimum of 12".
  - 2. If length of required sleeve is greater than the length of a single piece of pipe, solvent weld joints, otherwise sleeves to be of one continuous length of pipe.
- B. Tape ends of sleeve closed to keep soil out of sleeve until irrigation lines and/or control wire are installed.
- C. Permanently attach a single length of 14-gauge locator wire to the entire length of the sleeve.
- D. Stake both ends of sleeves with a readily visible stake extending 12" above grade and below grade to the bottom of sleeve.
  - 1. Mark above grade portion of stake with words 'Irrig. Sleeve'.
  - 2. Remove stakes after sleeves are recorded on Record Drawings and after irrigation lines and/or control wires are installed and inspected.

#### 3.11 IRRIGATION CONTROL WIRING

- A. Lay control wires in trench under mainline and/or lateral lines whenever they occur in same trench. Place control wires in sleeves when under paving, and when not in common trench with mainline and/or lateral lines.
- B. Wire splices to be moisture proof using specified electrical connectors.
  - 1. Make splices only in valve boxes.
    - 2. Provide minimum of 1'-0" of coiled slack between wire splices.
- C. Control wires shall be bundled together and wrapped with electrical tape at intervals of no more than 10'-0". Wires shall be placed below mainline and/or laterals when in same trench.
- D. Clearly mark both ends of wiring, on a permanent tag, with number of corresponding valve and controller station. Locate one tag at each control valve and one tag per wire in controller.
- E. Sharp bends or kinks in wiring not permitted.
  - 1. Wires to be unreeled in place alongside of or in trench and carefully placed along bottom of trench.
    - 2. Do not unreel wire and pull into trench from one end.

### 3.12 FLUSHING, TESTING, AND ADJUSTING

- A. Thoroughly flush all main and lateral (zone) lines before testing and installation of irrigation heads and before backfilling trenches.
- B. Do not install irrigation heads until after main line pressure testing and lateral line leak testing has been completed and approved.
- C. Do not backfill irrigation trenches before main line pressure testing and lateral line leak testing has been completed and approved.
  - 1. Soil may be placed in trenches between fittings and couplings to insure stability of line under pressure.

D.

- 2. Fittings and couplings must be left uncovered for visual inspection for full period of test.
- 3. Do not test until last solvent welded joint has had a minimum of 24 hours to set and cure, or longer if required by manufacturer's instructions.
- Before testing, fill main lines with water and expel air from pipes.
- E. Main line pressure testing:
  - 1. Minimum Pressure Test On Main Lines, Valves, Joints and Fittings: 100 pounds per square inch without losing more than 3 pounds per square inch for a period of 1 hour. Provide airless paint sprayer with compressor, or other equipment, to achieve required hydraulic test pressure without injection of air into main lines.
  - 2. Close all valves and cap all piping and fittings as necessary to isolate main line and conduct pressure testing.
  - 3. Perform preliminary test and repair any leaks or defects.
  - 4. Testing to be performed with a certified liquid-filled pressure gauge.
  - 5. Perform final pressure test in the presence of the Landscape Architect.
  - 6. Contractor shall provide minimum 24-hour notice to Landscape Architect requesting observation of final pressure test.
  - 7. Piping may be pressure tested in sections if approved by Landscape Architect.
- F. Lateral (zone) line leak testing:
  - 1. Perform lateral line leak testing for each control valve in numerical sequence, immediately after main line pressure testing has been approved, in the presence of the Landscape Architect.
  - 2. Open each control valve, one at a time, under main line dynamic pressure to demonstrate the absence of leaks at valves, pipe joints, and fittings.
- G. Where inspected work does not comply with specified requirements or if pressure tests fail, replace rejected work until compliance is achieved.
- H. Adjust and balance irrigation system to provide uniform coverage.
  - 1. Change, reset or adjust heads and/or nozzles as required to provide uniform coverage and match final grades.
  - 2. Perform final coverage test by operating each control valve in the presence of the Landscape Architect when the irrigation system has been completely installed and adjusted.
- I. Locator wires must be tested and approved. Wire tests to be conducted by Owner or their designated representative.

#### 3.13 IRRIGATION CONTROLLER

A. Connect controller to power supply according to all code requirements and manufacturer's installation instructions.

#### 3.14 CLEAN-UP

A. Remove packaging, excess materials, and trash, and dispose of in a legal manner.

#### 3.15 FINAL SUBMITTAL

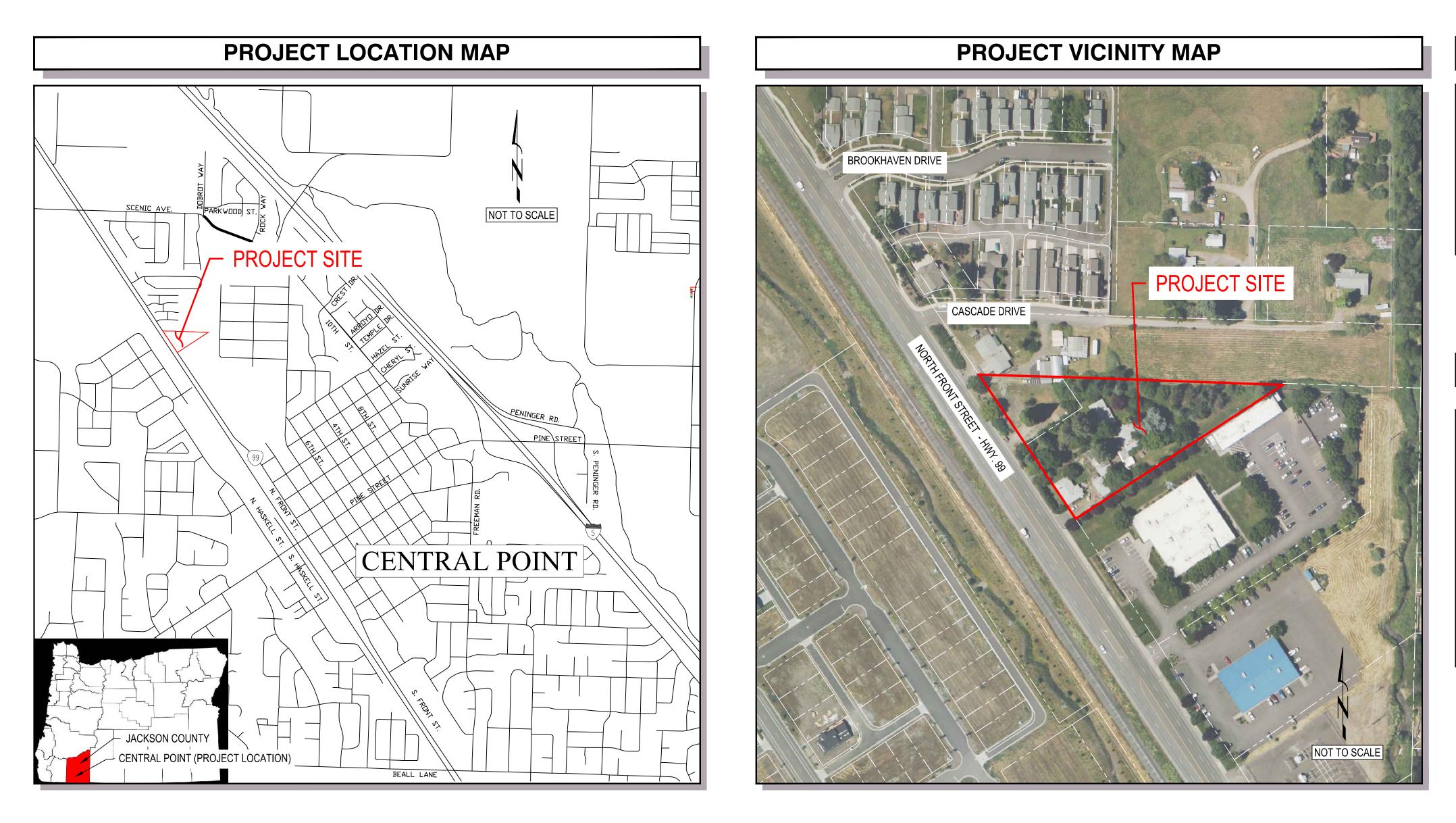
- B. Clean print of final Project Record Drawing, reduced by 50% with zones clearly color-coded, for delivery to Owner's Representative.
- C. Provide a minimum of one (1) hour of training and orientation with Owner's Representative to demonstrate adjustment and maintenance of irrigation system. Review spring activation and winterization operations as part of the Owner's training and orientation procedures.

#### END OF SECTION

# **PLANS**



# CITY OF CENTRAL POINT SKYRMAN ARBORETUM





# **SPRING 2016**

# **CONTACT PERSONNEL**

# CONTACT

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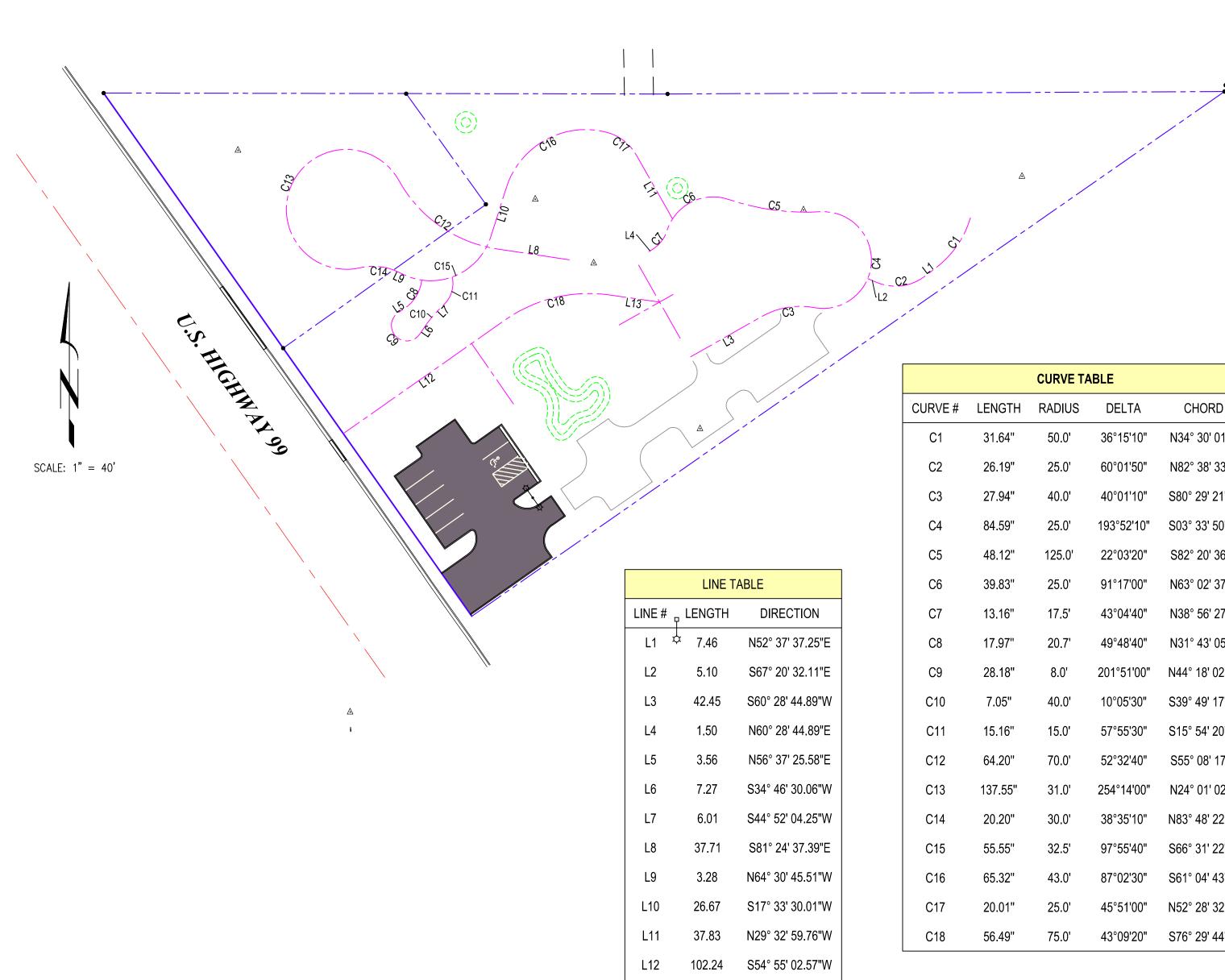
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# **DRAWING INDEX**

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12	Irrigation Details	L104
13	Planting Plan	L201
14	Planting Plan	L202
15	Planting Plan	L203







		CURVE T	ABLE	
CURVE #	LENGTH	RADIUS	DELTA	CHORD
C1	31.64"	50.0'	36°15'10"	N34° 30' 01"E
C2	26.19"	25.0'	60°01'50"	N82° 38' 33"E
C3	27.94"	40.0'	40°01'10"	S80° 29' 21"W
C4	84.59"	25.0'	193°52'10"	S03° 33' 50"W
C5	48.12"	125.0'	22°03'20"	S82° 20' 36"E
C6	39.83"	25.0'	91°17'00"	N63° 02' 37"E
C7	13.16"	17.5'	43°04'40"	N38° 56' 27"E
C8	17.97"	20.7'	49°48'40"	N31° 43' 05"E
C9	28.18"	8.0'	201°51'00"	N44° 18' 02"W
C10	7.05"	40.0'	10°05'30"	S39° 49' 17"W
C11	15.16"	15.0'	57°55'30"	S15° 54' 20"W
C12	64.20"	70.0'	52°32'40"	S55° 08' 17"E
C13	137.55"	31.0'	254°14'00"	N24° 01' 02"E
C14	20.20"	30.0'	38°35'10"	N83° 48' 22"W
C15	55.55"	32.5'	97°55'40"	S66° 31' 22"W
C16	65.32"	43.0'	87°02'30"	S61° 04' 43"W
C17	20.01"	25.0'	45°51'00"	N52° 28' 32"W
C18	56.49"	75.0'	43°09'20"	S76° 29' 44"W

L13 26.42 N81° 55' 35.57"W

5

\_C2

- of this project.
- the specifications.

- erosion.

In all circumstances where work may potentially result in erosion or movement of sediment into streets or storm drain systems, the contractor shall conduct work activities with practices that prevent erosion and the transport of sediment into storm water facilities. The contractor shall be responsible for installing and monitoring erosion and sediment control measures as incidental to the work activity, including but not limited to measures that prevent the entry of sediment into storm drain systems, prevent flow of sediment-laden water into streets and prevent tracking of material into public roadways.

# **GENERAL NOTES**

1. Construction shall conform to the 2015 Standard Specifications for Public Works Construction published by the Oregon Chapter of APWA, and the current amendments of the approving Agency.

2. All Concrete shall be 3300 PSI at 28 days unless otherwise specified.

3. Contractor shall be responsible to clean and/or maintain existing public streets of soil or other debris deposited by construction operations and repair all streets damaged by construction operations in a timely manner to avoid inconveniences or hazards to the public.

4. Contractor shall notify Oregon Utility Notification Center at 1-800-332-2344, and the City of Central Point Public Works Department at 664-3321 48 hours prior to beginning work.

5. All contractors and subcontractors shall be pre-qualified (see specifications) prior to any construction

6. The contractor shall submit a traffic control plan and secure approval of the plan from the Agency at least five (5) working days prior to starting work.

7. The contractor shall not perform work without Agency inspections where inspections are required by

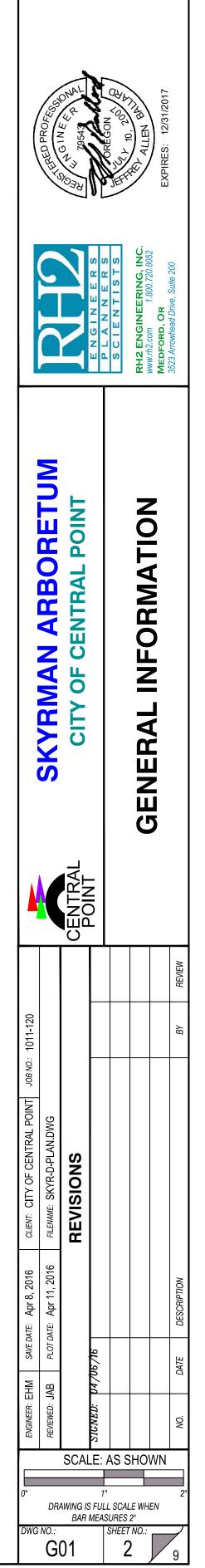
8. Where connecting to an existing pipe, the contractor shall expose the end of the existing pipe and allow the engineer to verify exact location and elevation before laying any new pipe on that system.

9. Requests by the contractor for changes to the plans must be approved by the consulting engineer and the Agency's Engineer before changes are implemented.

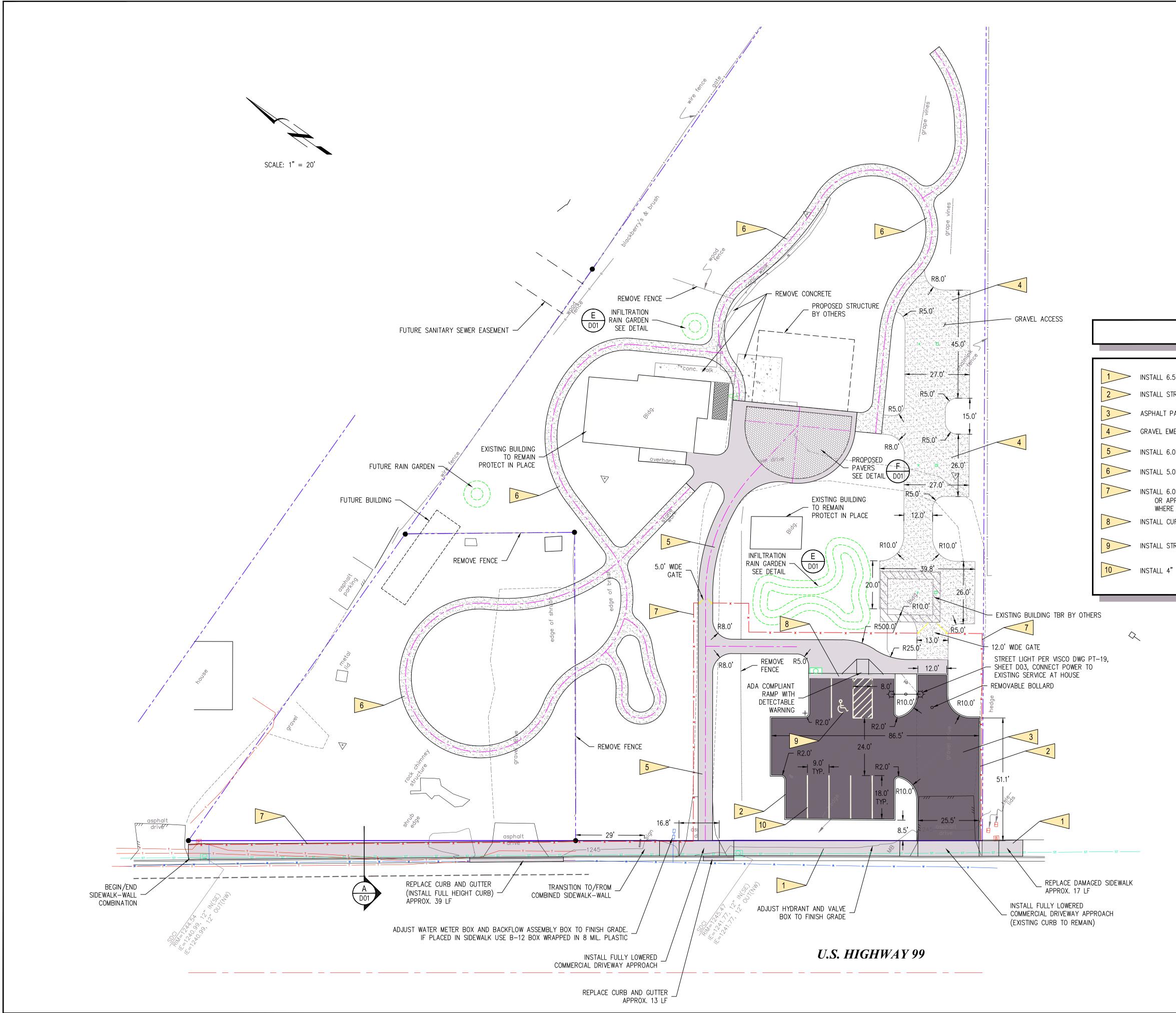
10. When performing excavations, the contractor shall comply with the provisions of ORS 757.542 to 757.562, which include requirements that the contractor hand—expose (pothole) underground facilities and use reasonable care to avoid damaging them.

11. Placement or storage of spoils from the utility trenches is not permitted on hard surface streets within public right-of-way. Spoils stored in other right-of-way areas shall be covered to prevent

12. The location and elevation of all existing utilities are shown for reference purposes only. All locations shall be verified by the contractor. If any locations vertical or horizontal vary from what is shown the contractor shall notify Public Works immediately. Any work completed without notification of incorrect location to the engineer may be removed and reconstructed at the contractors expense.

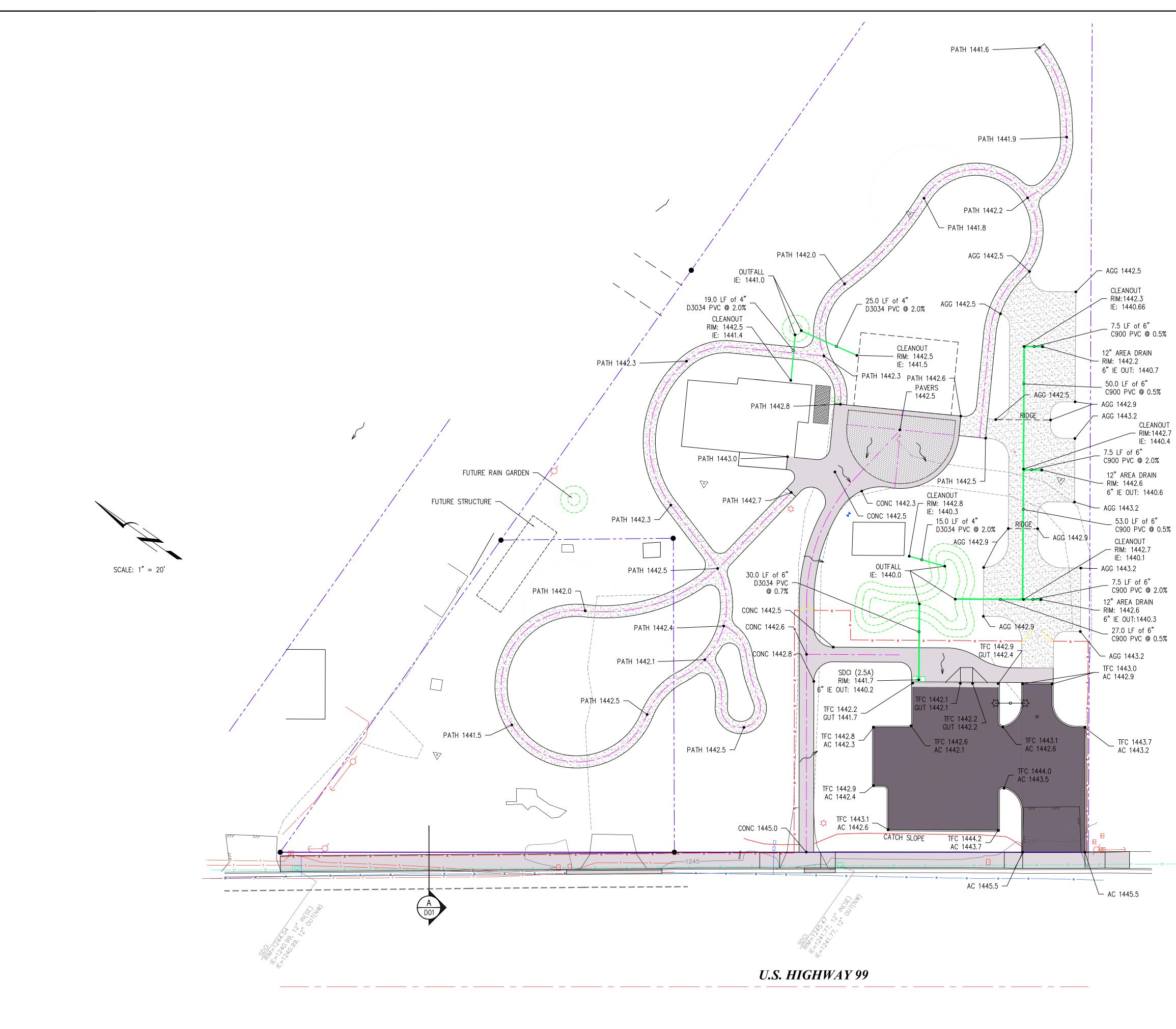


### EROSION AND SEDIMENT CONTROL NOTE



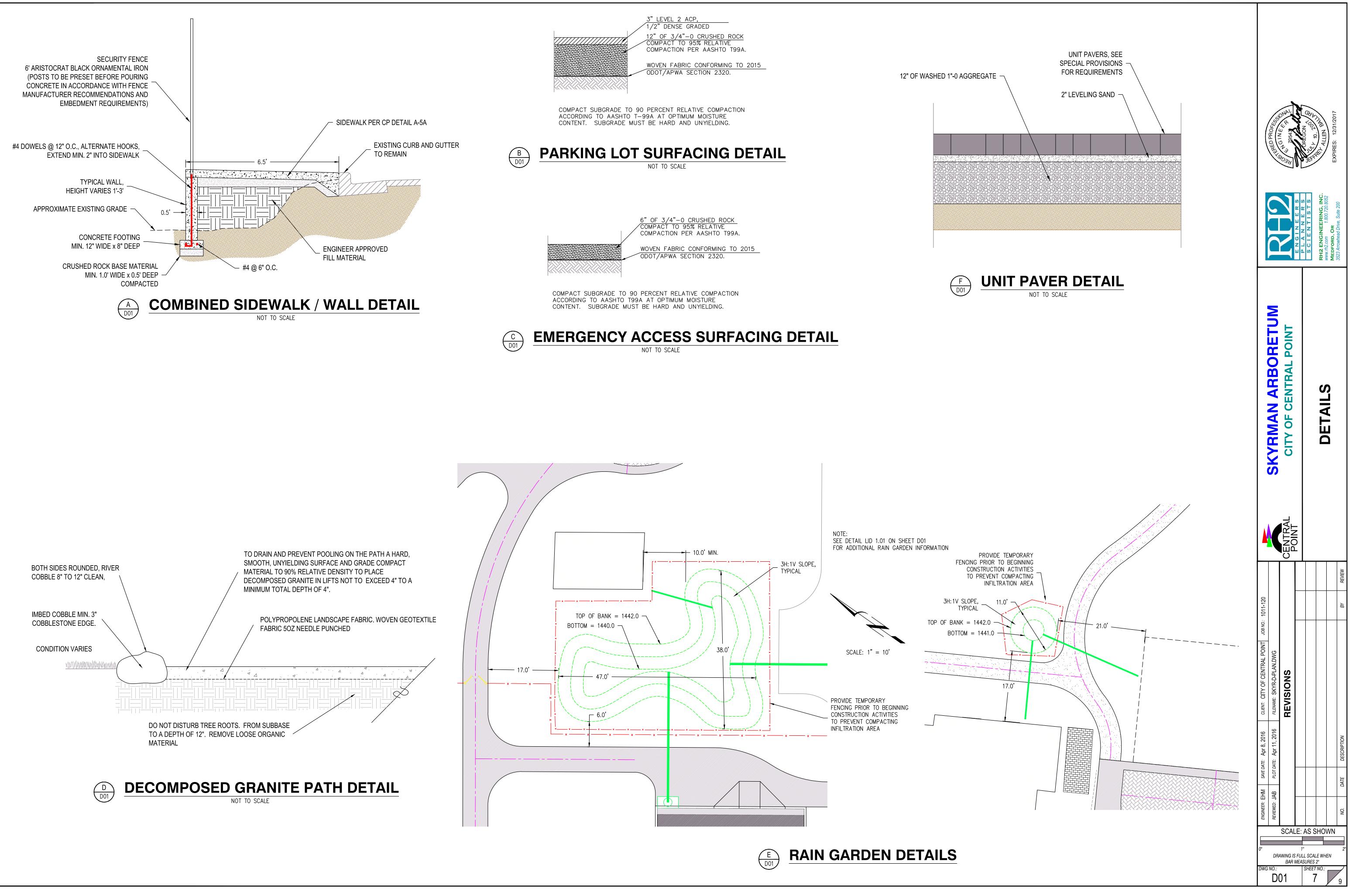
CIVIL NOTES
5' WIDE SIDEWALK PER CP DETAIL A-5A
TRAIGHT CURB PER CP DETAIL A-6B
PARKING SURFACE PER DETAIL
VERGENCY ACCESS PER DETAIL
0' WIDE SIDEWALK PER CP DETAIL A-5A
0' WIDE DECOMPOSED GRANITE PATH PER DETAIL
O' TALL WROUGHT IRON FENCE (ARISTOCRAT BLACK ORNAMENTAL IRON, PPROVED EQUAL) POSTS TO BE PRESET BEFORE POURING CONCRETE E FENCE IS LOCATED IN SIDEWALK
URB AND GUTTER PER CP DETAIL A-6B
TRIPING PER PAVEMENT LEGEND, TYPE: DISABLED PARKING
WHITE LINE STRIPING, TYP.

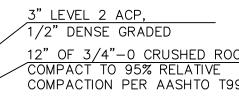
ALBED PROFESS		ENGINEERS PLANNERS	SCIENTISTS HELL	RH2 ENGINEERING, INC.	EX	3523 Arrowhead Drive, Suite 200
SKYRMAN ARBORETUM	CITY OF CENTRAL POINT					35
	RAL					
	CENTRAL					'EW
	CENTRAL					BY REVIEW
CLIENT: CITY OF CENTRAL POINT JOB NO: 1011-120 FILENAME: SKYR-D-PLAN.DWG	REVISIONS					BY

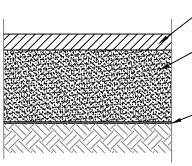


BORETUM RAL POINT JAGE PLAN
CENTRAL ARBORETUM CITY OF CENTRAL POINT CITY OF CENTRAL POINT GRADING AND DRAINAGE PLAN
1-120
CLIENT: CITY OF CENTRAL POINT JOB NO: 101 FILENAME: SKYR-D-PLAN.DWG REVISIONS
SAVE DATE: Apr 8, 2016 PLOT DATE: Apr 11, 2016
REVIEWED: JAB
SCALE: AS SHOWN
0" 1" DRAWING IS FULL SCALE WHEN BAR MEASURES 2" DWG NO.: CO2 4

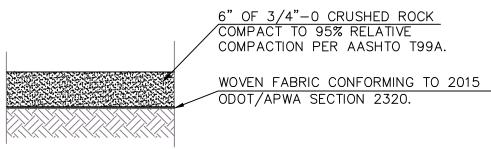
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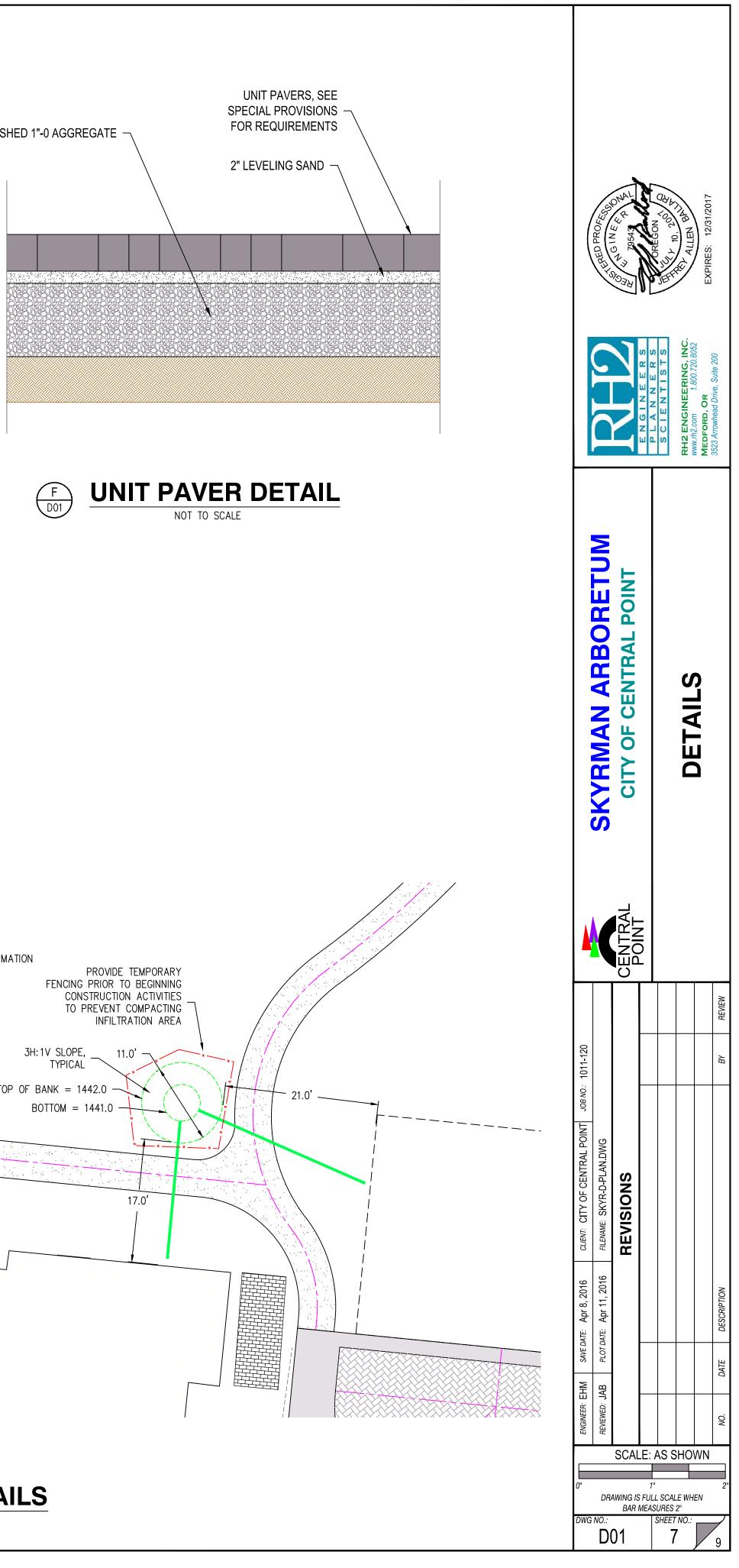


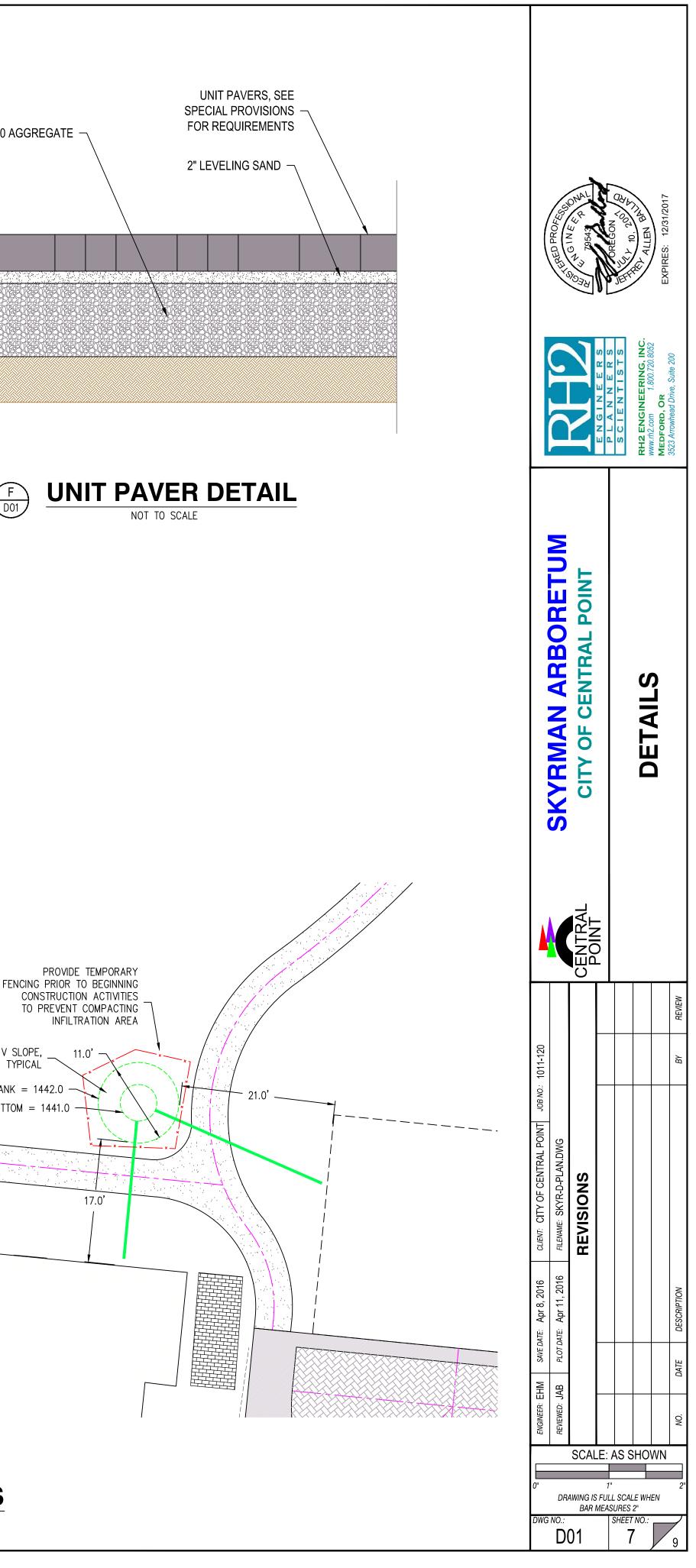




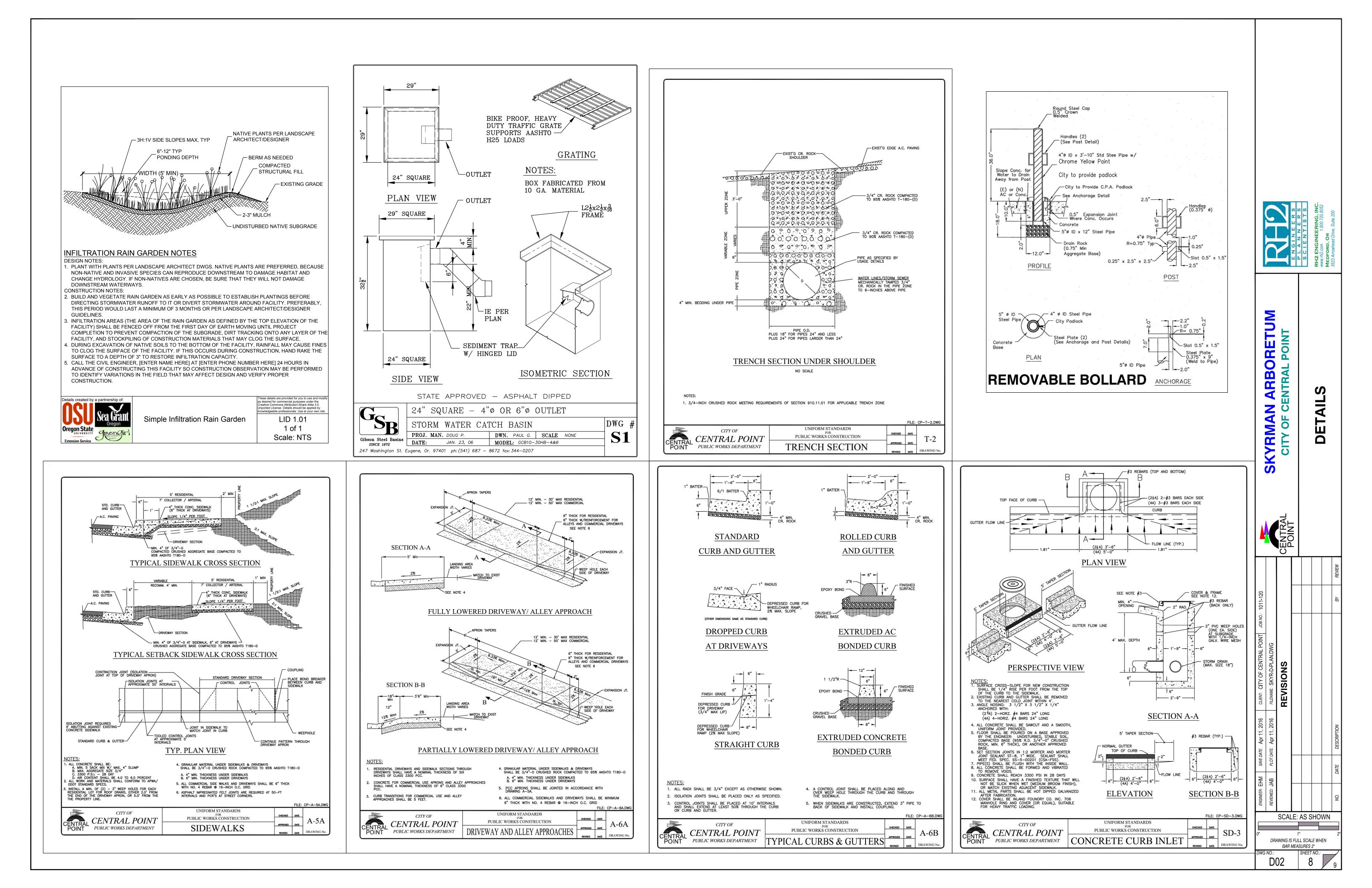


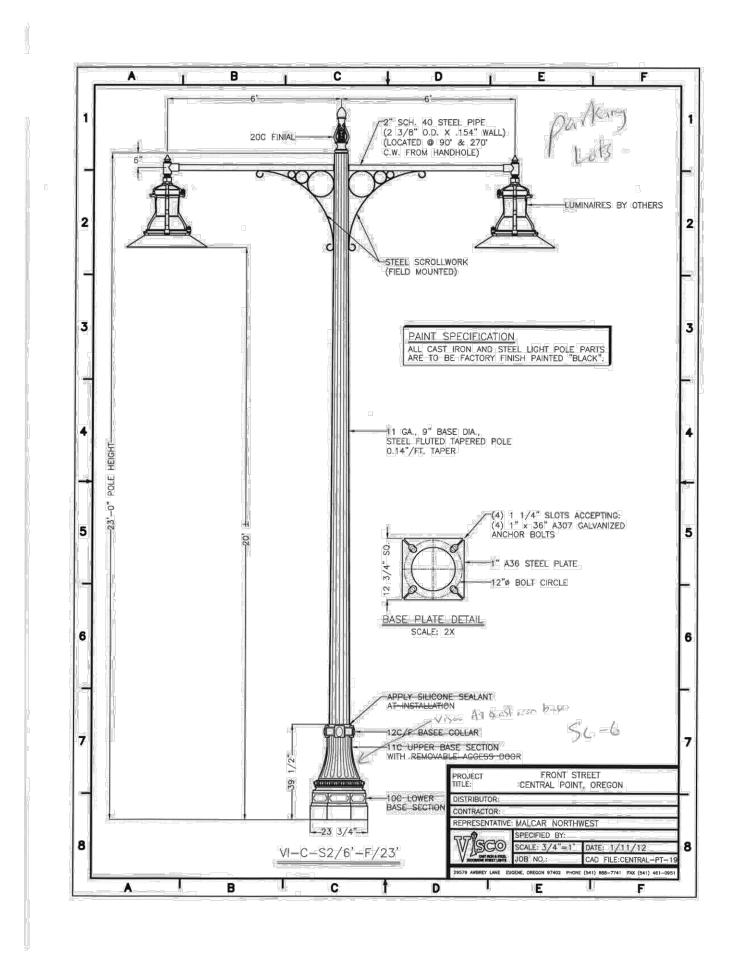


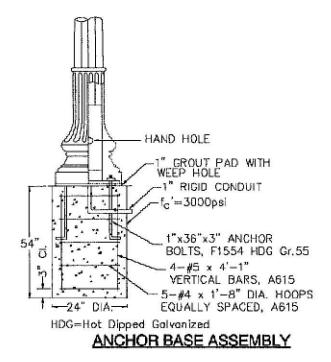




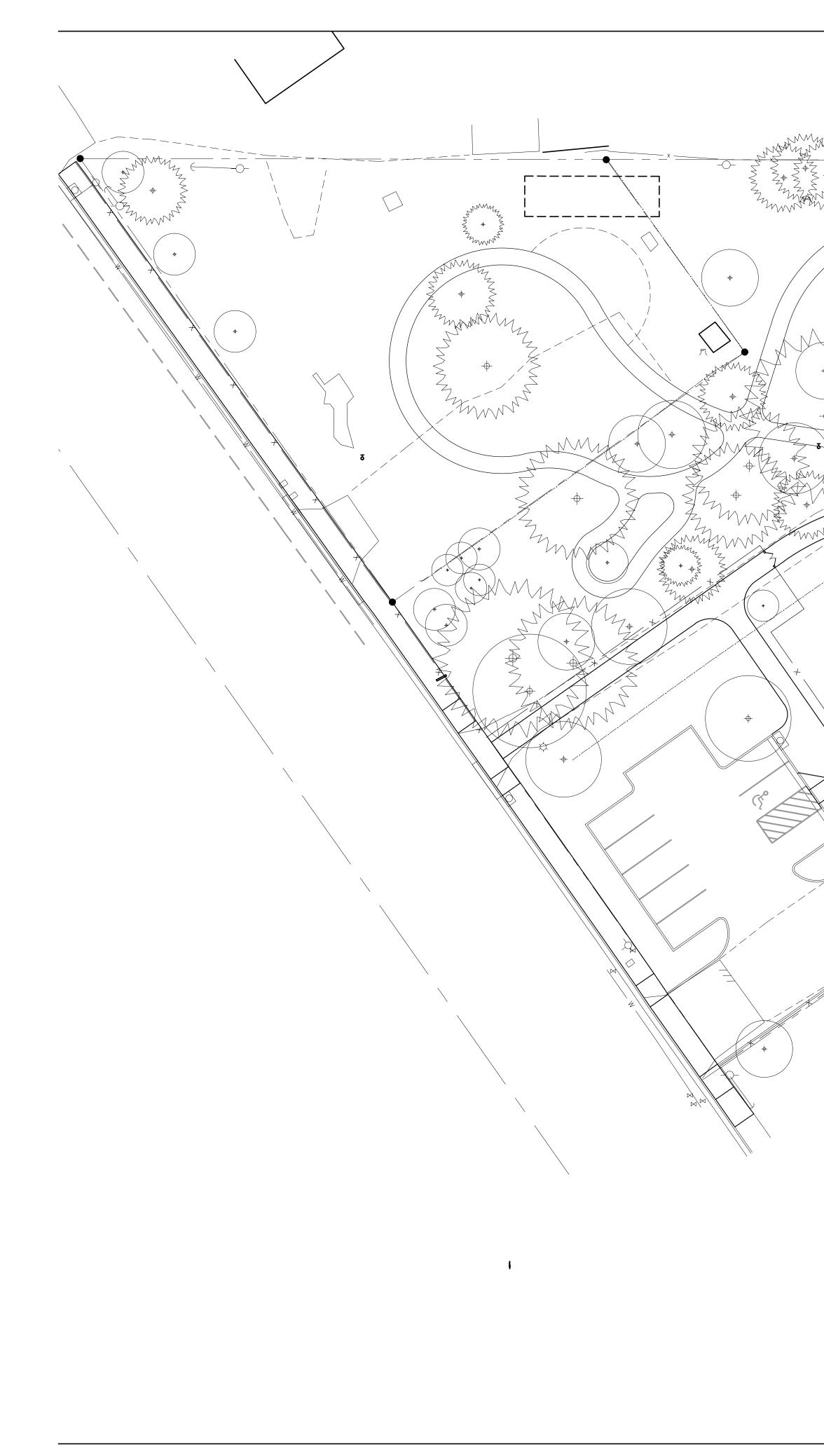








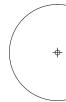
			ENGINEERS PIANNERS	SCIENTISTS	NGINEERING, INC.	WWW.III.com 1.000.720.0032 MEDFORD, OR	whead Drive, Suite 200
	SKYRMAN ARBORETUM						3523 Ar
1011-120		Ŭ U					BY REVIEW
EHM SAVE DATE: Apr 11, 2016 CLIENT: CITY OF CENTRAL POINT JOB NO: 1011-120	AB PLOT DATE: Apr 11, 2016 FILENAME: SKYR-D-PLAN.DWG	REVISIONS					DATE DESCRIPTION
		SCAL AWING IS BAR I	1' FUL		LE WH 2"		.ON

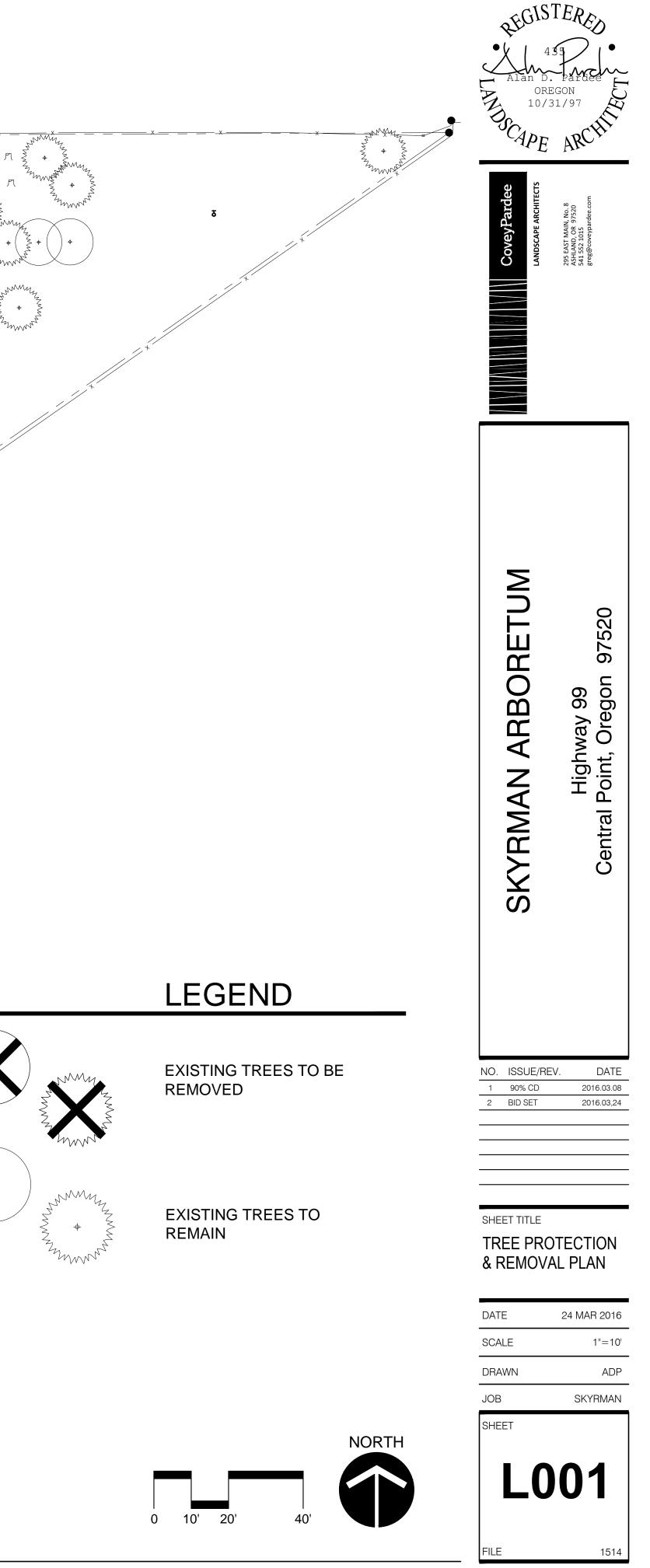


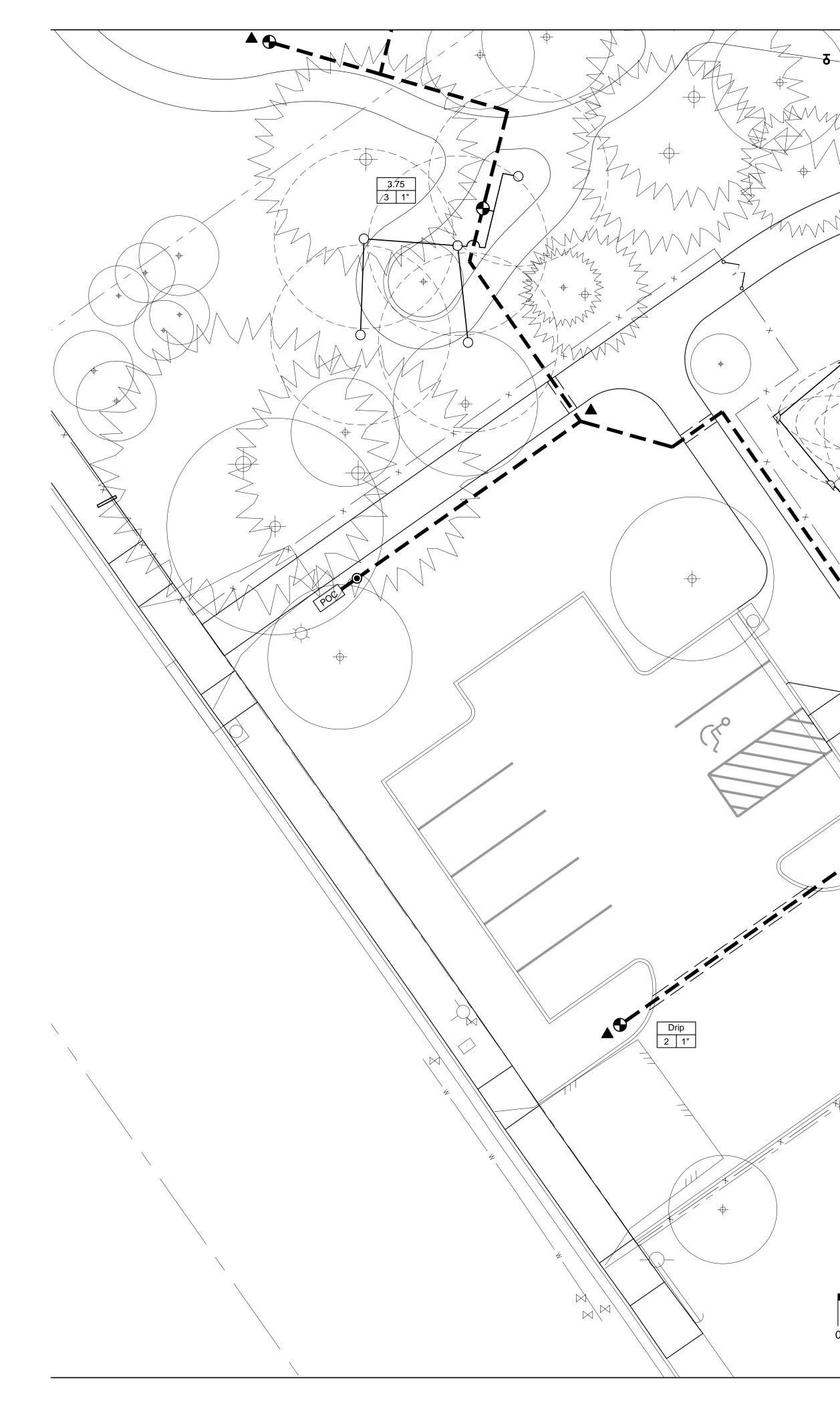
# GENERAL NOTES

- A. Topographic survey provided by City of Central Point.
- B. Trees to be removed will be clearly marked in the field prior to beginning construction.
- C. Contractor shall work with the city arborist to establish Tree Root Protection Zones per ANSI 300 part 5. Contractor shall shall inform city parks staff and request their presence on site before trenching or cutting within the dripline of any existing tree to remain. When roots 2" diameter or larger are encountered, the contractor shall inform the city parks staff and request the presence of the city arborist. Roots 2" diameter and larger shall be exposed and cut by, or under the direct supervision of, the city arborist.





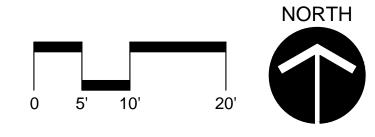






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SYMBOL	RADIUS	NOZZLE	GPM
	12'	MP1000-180	0.37
Þ	14'	MP1000-90	0.19
Δ	14'	MP1000-180	0.37
A	14'	MP1000-210	0.43
0	14'	MP1000-360	0.75
Þ	19'	MP2000-90	0.40
	19'	MP2000-180	0.74
A	19'	MP2000-210	0.86
SYMBOL	DESCRIF	TION	
•	Rain Bird	XCZ-PRB-100-	COM Coi
	RAIN BIR	D 33-DLRC QU	IICK COL
۲	MAIN LIN	E ISOLATION	VALVE
	MAIN LIN	E, SCH 40 PVC	C (1" DIA.
	LATERAL	LINE, SCH 40	PVC.
	SLEEVE,	SCH 40 PVC, N	MIN. 6" D
POC	POINT O	F CONNECTIO	N: EXIST
С	HUNTER	IC-1800-ACC-F	PED, 18-8



INNI A

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0

3.46 1 1"

1-

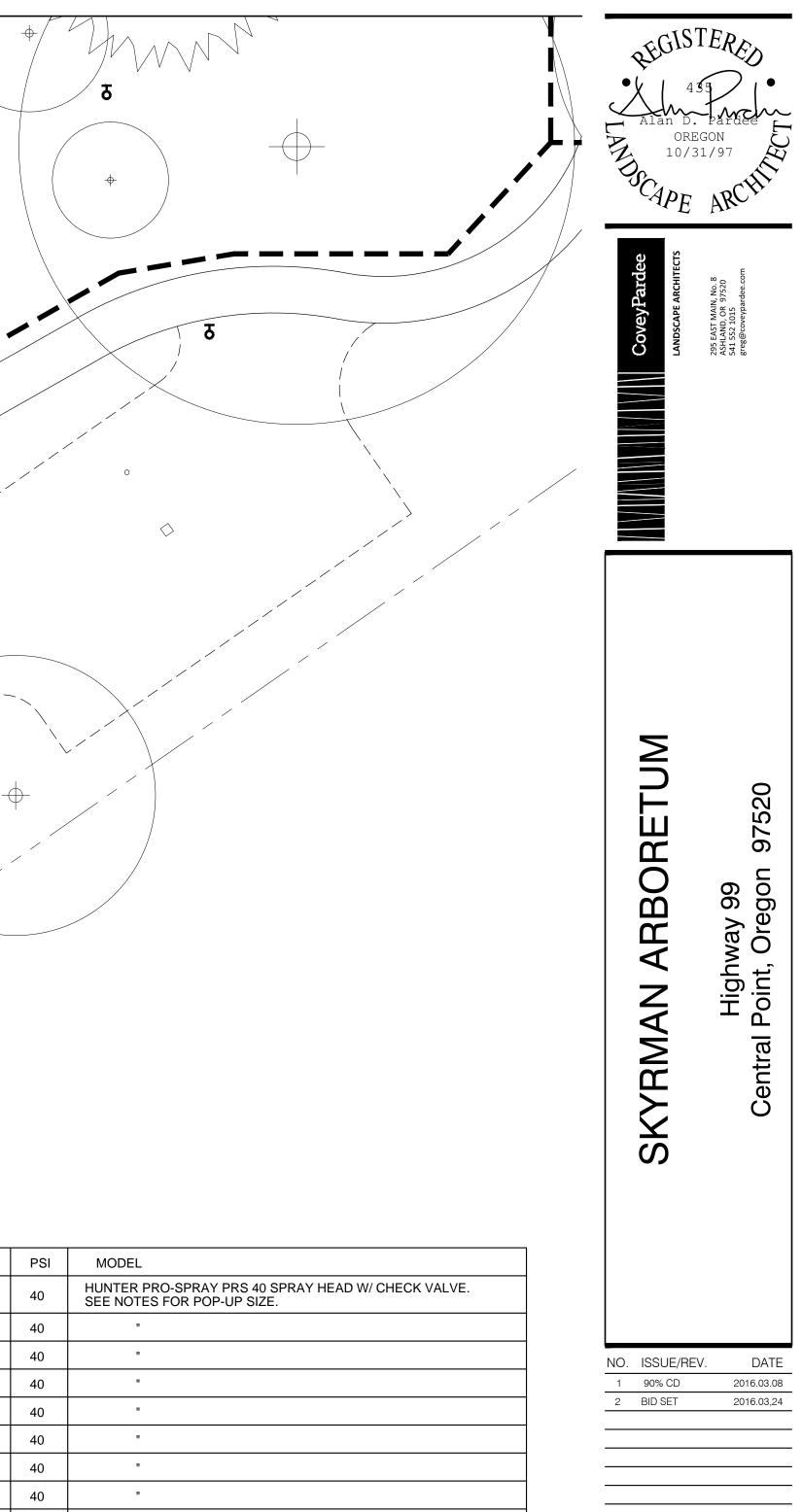
Drip 10 1"

 $\Diamond$ 

-

 $\mathbb{N}$ 

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ontrol Zone Kit w/ PESB valve & pressure regulating basket filter. See Sheet L104 for detail.

DUPLING VALVE. See Sheet L104 for detail.

A. UNLESS OTHERWISE NOTED)

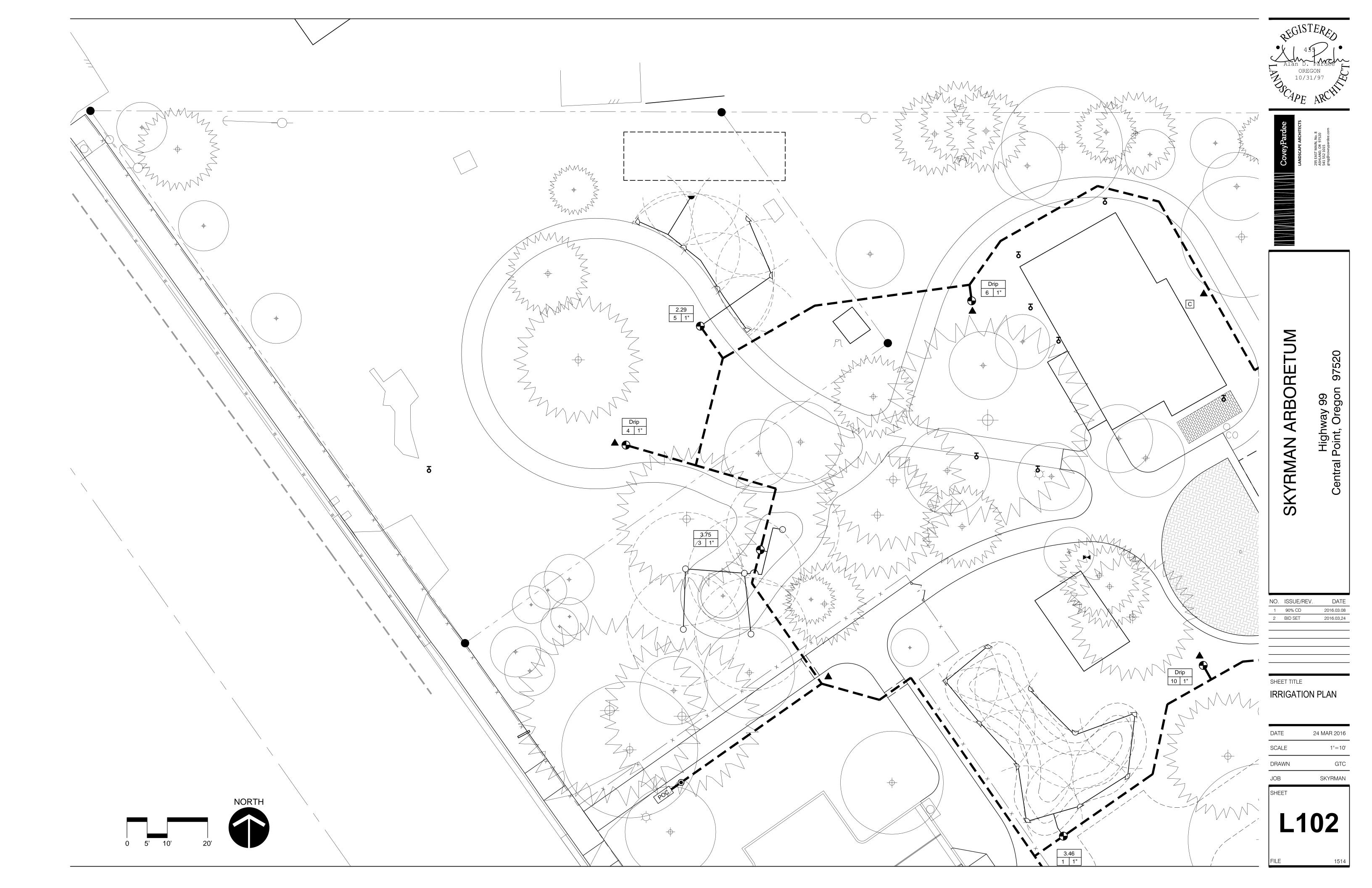
DIA. UNLESS OTHERWISE NOTED. COORDINATE WITH GENERAL CONTRACTOR.

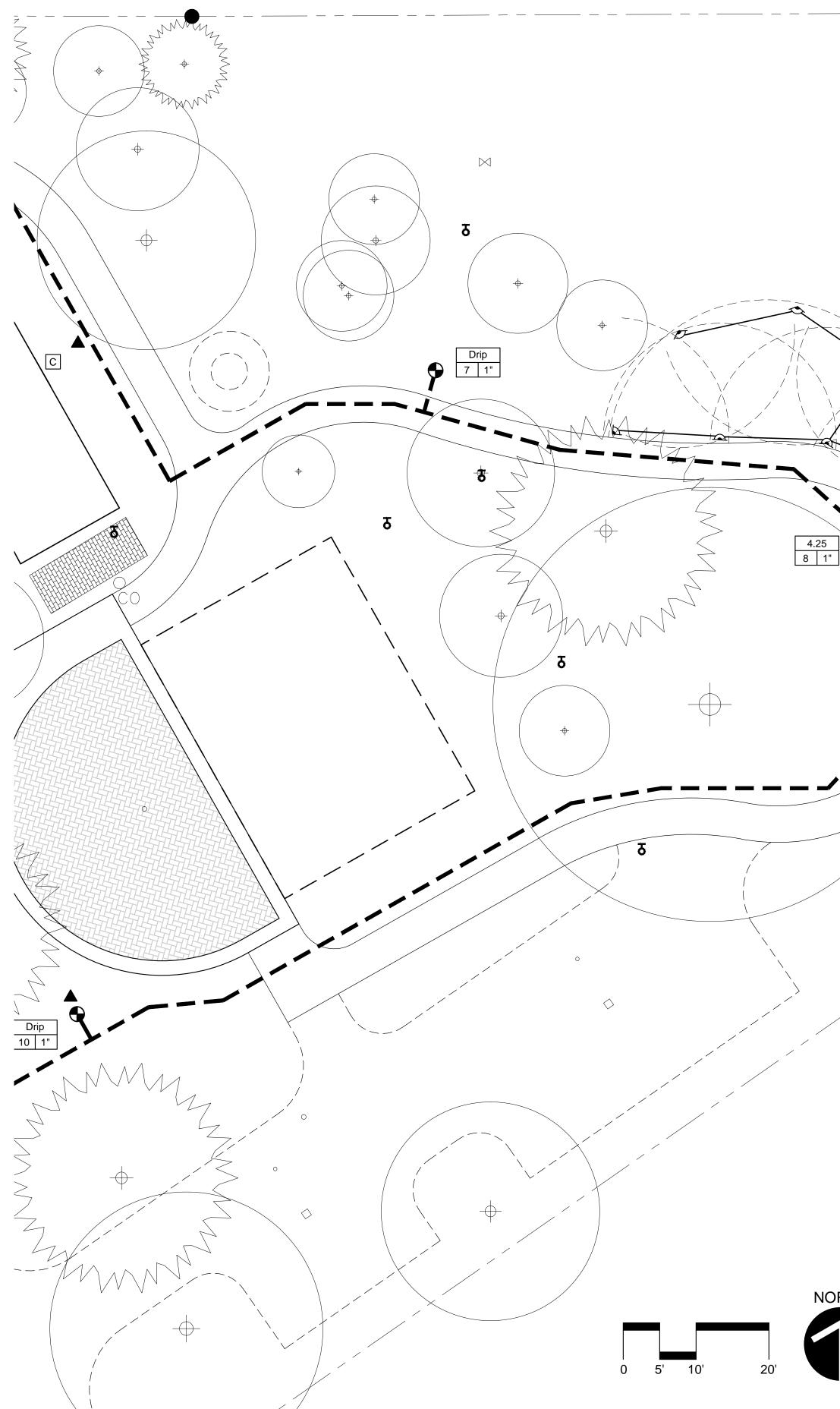
TING 1" DOUBLE-CHECK BACKFLOW PREVENTION DEVICE

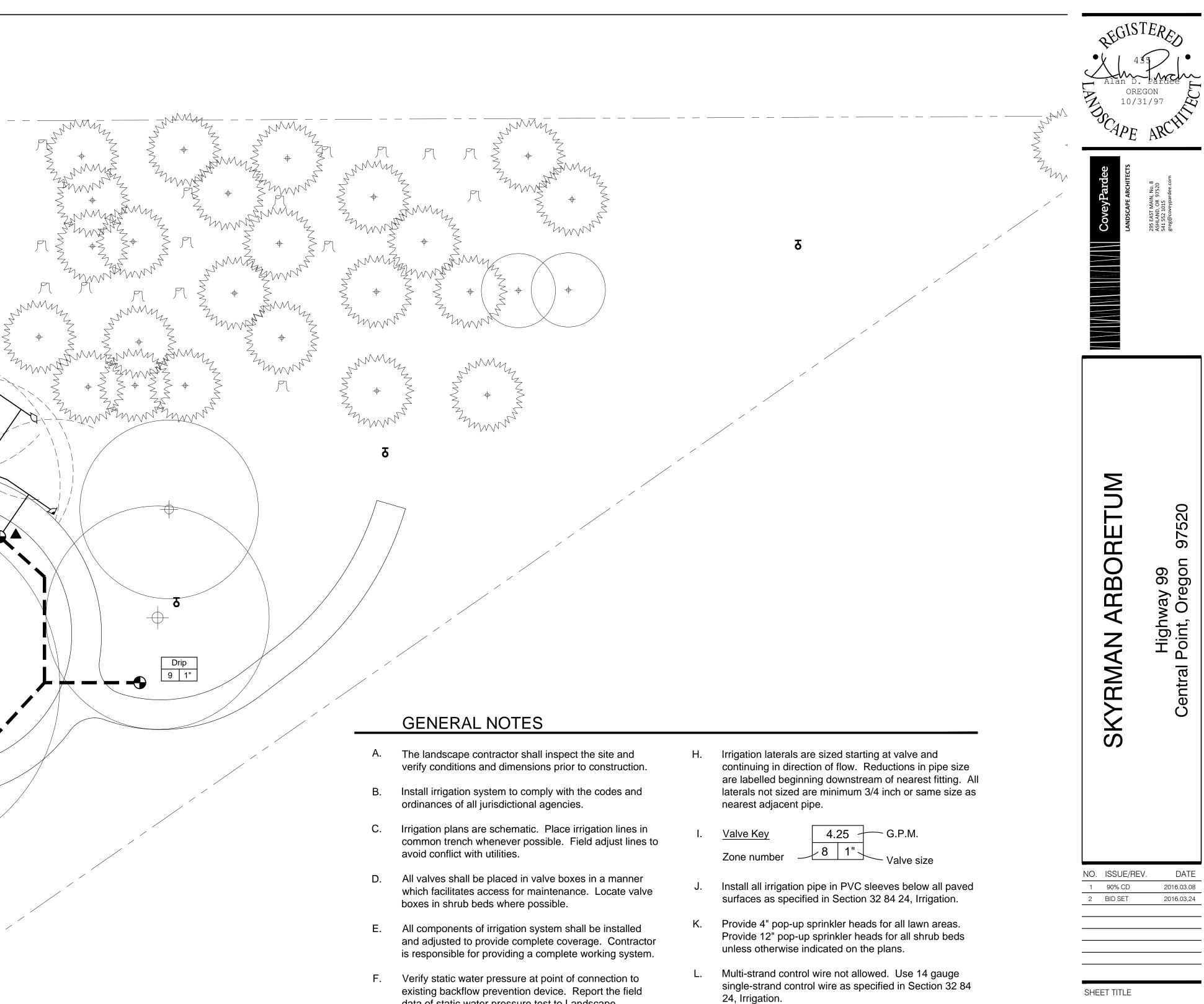
S-STATION MODULAR CONTROLLER W/ METAL CABINET & PEDESTAL.

SHEET TITLE IRRIGATION PLAN

DATE	24 MAR 2016
SCALE	1"=10'
DRAWN	GTC
JOB	SKYRMAN
SHEET	
	101
FILE	1514





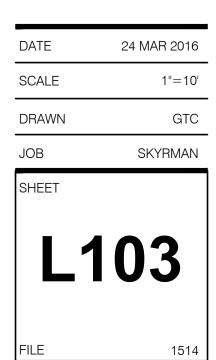


data of static water pressure test to Landscape Architect. M. Install drain valves at low points in main and lateral lines. Install quick coupling valves at high points in the G. System is designed to operate with a minimum of 45 psi main lines to facilitate blowing out the system. at the furthest head from the point of connection. Head layout and zones are based on this data, and N. Install pressure regulators as required. specifications shown in the irrigation legend. Notify the Landscape Architect if actual field data differs from this O. Install in-line check valves as required to prevent low information. head drainage.



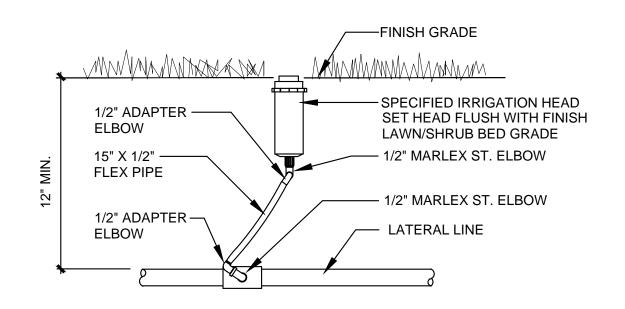
P. Install air relief valves at high points in the main line as required for air vacuum relief.

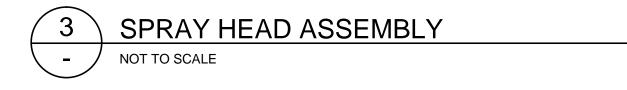
# **IRRIGATION PLAN**

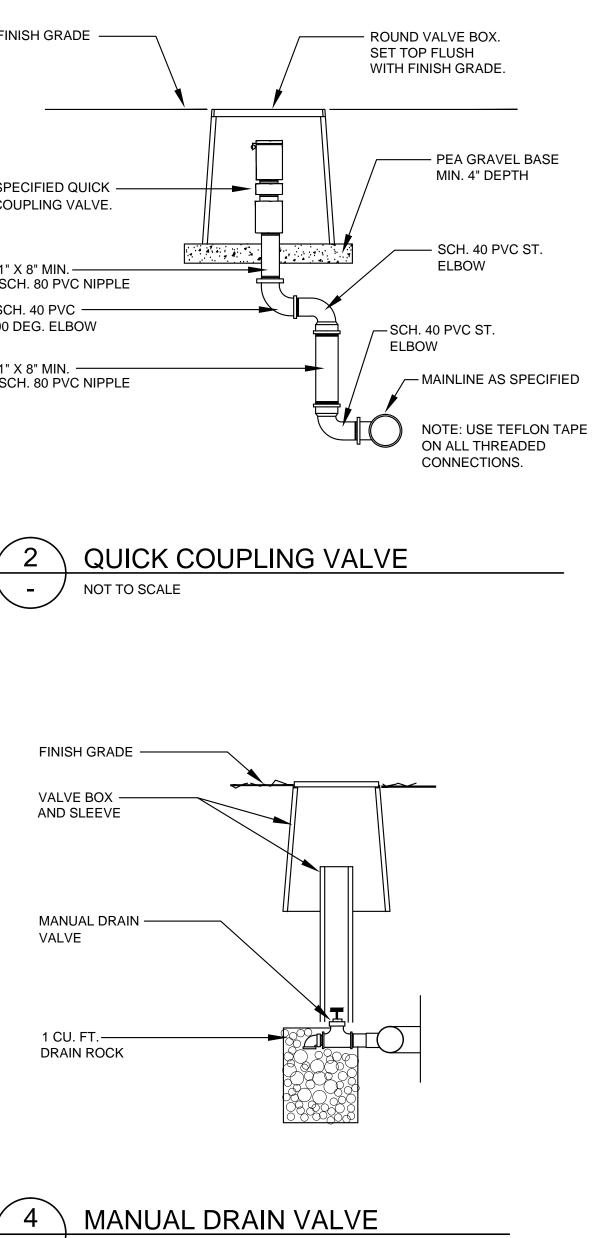


	<ol> <li>TOP OF MULCH</li> <li>VALVE BOX WITH COVER</li> <li>30-INCH LINEAR LENGTH OF WIRE, COILED</li> <li>WATERPROOF CONNECTOR</li> <li>1-INCH BALL VALVE (INCLUDED IN XCZ-PRB-100-COM KIT)</li> <li>ID TAG</li> </ol>
	<ul> <li>7 REMOTE CONTROL VALVE: RAIN BIRD PESB (INCLUCED IN XCZ-PRB-100-COM KIT)</li> <li>8 PRESSURE REGULATING QUICK CHECK BASKET FILTER: RAIN BIRD PRB-QKCHK-100 (INCLUDED IN XCZ-PRB-100-COM KIT)</li> <li>9 PVC SCH 40 FEMALE ADAPTOR</li> <li>10 LATERAL PIPE</li> </ul>
	<ol> <li>PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)</li> <li>PVC SCH 40 ELL</li> <li>PVC SCH 40 ELL</li> <li>PVC SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND PVC SCH 40 ELL</li> <li>PVC SCH 40 TEE OR ELL</li> <li>MAINLINE PIPE</li> <li>A-INCH MINIMUM DEPTH OF</li> </ol>
1 IRRIGATION CONTROL ZONE K - NOT TO SCALE	(16) 4-INCH MINIMUM DEPTH OF DRAIN ROCK (17) PVC SCH 80 NIPPLE, CLOSE (INCLUDED IN XCZ-PRB-100-COM KIT)

<u>NOTE:</u> INSTALL IRRIGATION HEADS PERPENDICULAR TO THE SLOPE OF THE FINISH GRADE.

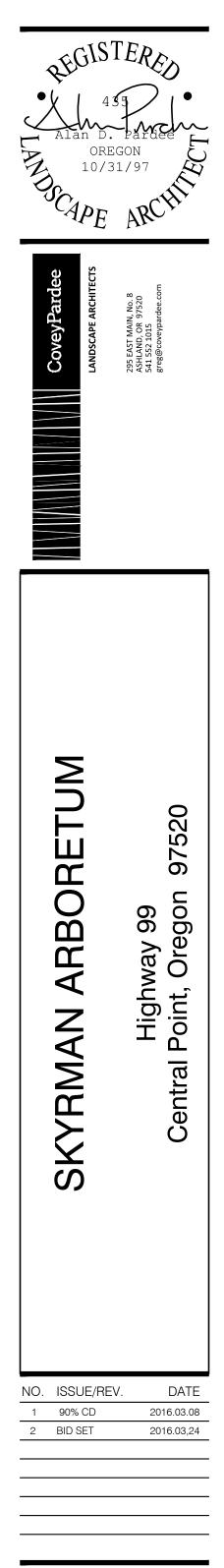






NOT TO SCALE

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## SHEET TITLE IRRIGATION DETAILS

DATE SCALE DRAWN	24 MAR 2016 1"=10' GTC
JOB	SKYRMAN
SHEET	104

