

ADVERTISEMENT FOR BIDS
CITY OF HOLLADAY
HOLLADAY, UT
HOLLADAY CITY PLANTING

Sealed Bids for the construction of the **Holladay City Planting Project** will be received by **the City of Holladay**, at the office of the **City Engineer at 4580 S 2300 E**, until **3:00 pm** local time on **June 21, 2022**, at which time the Bids received will be publicly opened and read. The Project consists of **construction of landscape features, including rock mulch, shrubbery, grasses, and trees.**

Bids will be received for a single prime Contract. Bids shall be on a unit price basis. Bid bond is not required.

Work is to be substantially complete on or before **September 30, 2022.**

Bids will be evaluated on the lowest Base Bid plus any selected alternates. Bidder shall submit with it's Bid a copy of their contractor's license.

The City of Holladay will use the EJCDC Contract for Construction of a Small Project and the EJCDC Standard General Conditions. These documents can be requested and reviewed at any time by request to mstenquist@forsgren.com, but are not included in the advertisement package.

The Issuing Office for the Bidding Documents is: **City of Holladay Engineering, 4580 S 2300 E**. Prospective Bidders may request a copy or examine the Bidding Documents by emailing Mark Stenquist at mstenquist@forsgren.com.

Questions may be submitted to **Mark Stenquist**, mstenquist@forsgren.com. The deadline for inquiries is **June 15, 2022 at 3:00 pm**. The questions and answers shall be compiled into a Word or PDF document and posted online.

+ + END OF ADVERTISEMENT FOR BIDS + +

BID FORM FOR CONSTRUCTION CONTRACT

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 1—OWNER AND BIDDER

- 1.01 This Bid is submitted to: **City of Holladay Engineering**
- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2—ATTACHMENTS TO THIS BID

- 2.01 The following documents are submitted with and made a condition of this Bid:
 - A. Contractor's license number as evidence of Bidder's State Contractor's License or a covenant by Bidder to obtain said license within the time for acceptance of Bids;
 - B. Required Bidder Qualification Statement with supporting data

ARTICLE 3—BASIS OF BID—UNIT PRICE BID

- 3.01 *Unit Price Bids*
 - A. Bidder will perform the following Work at the indicated unit prices:

BASE BID

Island 3

Item No.	Item	Unit	Est. Quantity	Unit Cost	Amount
Demolition					
1	Clear and Grub	SF	4,776		
	SUBTOTAL				
Soils & Earthwork					
2	Imported Top Soil	SF	2,198		
3	New Boulders	EA	2		
4	Move Existing Boulders	EA	1		
	SUBTOTAL				
Planting & Irrigation					
5	Decid. Trees - 2" Cal. (Installed)	EA	3		
6	Shrubs - 5 Gal. (Installed)	EA	0		
7	Shrubs - 3 Gal.	EA	15		
8	Shrubs - 1 Gal. (Installed)	EA	117		
9	New Rock Mulch (installed)	SF	3,233		
10	Reuse Existing Rock Mulch	SF	1,543		
11	Suppliment Existing Rock Mulch	SF	1,543		
12	Weed Barrier Fabric	SF	4,776		
13	Fine grading (Soil/Planting Soil)	SF	4,776		
14	Irrigation - Drip (Installed)	SF	4,776		
15	Irrigation - Controller (labor only)	EA	1		
	SUBTOTAL				
Lighting & Electrical					
16	110 Power & Outlets at Controller	EA	1		
	SUBTOTAL				

ALTERNATE 1

Island 1

Item No.	Item	Unit	Est. Quantity	Unit Cost	Amount
Demolition					
1	Clear and Grub	SF	3,073		
	Subtotal				
Soils & Earthwork					
2	Imported Top Soil	SF	2,218		
3	Move Existing Boulders	EA	3		
	Subtotal				
Planting & Irrigation					
4	Decid. Trees - 2" Cal. (Installed)	EA	0		
5	Shrubs - 5 Gal. (Installed)	EA	10		
6	Shrubs - 3 Gal.	EA	19		
7	Shrubs - 1 Gal. (Installed)	EA	102		
8	New Rock Mulch (installed)	SF	2,218		
9	Reuse Existing Rock Mulch	SF	855		
10	Suppliment Existing Rock Mulch	SF	855		
11	Weed Barrier Fabric	SF	3,073		
12	Fine grading (Soil/Planting Soil)	SF	3,073		
13	Irrigation - Drip (Installed)	SF	3,073		
14	Irrigation - Controller (labor only)	EA	1		
	Subtotal				
Lighting & Electrical					
15	110 Power & Outlets at Controller	EA	1		
	Subtotal				

ALTERNATE 2

Island 2

Item No.	Item	Unit	Est. Quantity	Unit Cost	Amount
Demolition					
1	Clear and Grub	SF	3,937		
	Subtotal				
Soils & Earthwork					
2	Imported Top Soil	SF	2,198		
3	Move Existing Boulders	EA	4		
	Subtotal				
Planting & Irrigation					
4	Decid. Trees - 2" Cal. (Installed)	EA	0		
5	Shrubs - 5 Gal. (Installed)	EA	15		
6	Shrubs - 3 Gal.	EA	25		
7	Shrubs - 1 Gal. (Installed)	EA	129		
8	New Rock Mulch (installed)	SF	2,198		
9	Reuse Existing Rock Mulch	SF	1,739		
10	Suppliment Existing Rock Mulch	SF	1,739		
11	Weed Barrier Fabric	SF	3,937		
12	Fine grading (Soil/Planting Soil)	SF	3,937		
13	Irrigation - Drip (Installed)	SF	3,937		
14	Irrigation - Controller (labor only)	EA	0		
	Subtotal				
Lighting & Electrical					
15	110 Power & Outlets at Controller	EA	0		
	Subtotal				

NOTES:

1. From Instructions to Bidders Article 17.05:
 - a. In evaluating Bids, Owner will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
 - b. Bids will be evaluated on the lowest Base Bid plus any selected alternates.

TOTAL PROJECT BASE BID AMOUNT (ISLAND 3): _____

ALTERNATE 1 BID AMOUNT (ISLAND 1): _____

ALTERNATE 2 BID AMOUNT (ISLAND 2): _____

B. Bidder acknowledges that:

1. each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and
2. estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 4—TIME OF COMPLETION

- 4.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 4.02 Bidder agrees that the Work will be substantially complete on or before **September 30, 2022**, and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before **October 30, 2022**.
- 4.03 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 5—BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

5.01 *Bid Acceptance Period*

- A. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

5.02 *Instructions to Bidders*

- A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

5.03 *Receipt of Addenda*

- A. Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date

ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

6.01 *Bidder's Representations*

- A. In submitting this Bid, Bidder represents the following:
1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.

2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

6.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.

2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:
 - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
 - b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.
 - c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
 - d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

BIDDER hereby submits this Bid as set forth above:

Bidder:

(typed or printed name of organization)

By:

(individual's signature)

Name:

(typed or printed)

Title:

(typed or printed)

Date:

(typed or printed)

Attest:

(individual's signature)

Name:

(typed or printed)

Title:

(typed or printed)

Date:

(typed or printed)

Address for giving notices:

Bidder's Contact:

Name:

(typed or printed)

Title:

(typed or printed)

Phone:

Email:

Address:

Bidder's Contractor License No.: (if applicable)

GENERAL PLANTING NOTES

1. THE CONTRACTOR SHALL MAINTAIN A QUALIFIED SUPERVISOR ON THE SITE AT ALL TIMES DURING CONSTRUCTION THROUGH COMPLETION OF PICK-UP WORK. ALL EMPTY BAGGED AMENDMENTS, FERTILIZERS, SEEDS, ETC. USED ON PROJECT SHALL STAY ON SITE IN A NEAT, CLEAN AND ORDERLY MANNER UNTIL FINAL APPROVAL BY OWNER'S REPRESENTATIVE.

2. THE CONTRACTOR SHALL VERIFY ALL PLANT MATERIAL QUANTITIES PRIOR TO INSTALLATION. PLANT MATERIAL QUANTITIES LISTED FOR REFERENCE ONLY. PLANT SYMBOLS IN PLAN VIEW DRAWINGS REPRESENT ACTUAL QUANTITIES NEEDED AND SHALL PREVAIL OVER QUANTITY LISTED IN SCHEDULE.

3. THE CONTRACTOR SHALL FURNISH AND PAY FOR ALL TREES AND SHRUBS, INCLUDING SEEDED AND SODDED TURF, MULCHES AND GROUNDCOVERS. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE AND PAY FOR: PLANTING OF ALL PLANT MATERIALS, THE SPECIFIED GUARANTEE OF ALL PLANT MATERIALS, THE STAKING AND GUYING OF TREES, AND THE CONTINUOUS PROTECTION OF ALL PLANT MATERIALS UPON THEIR ARRIVAL AT THE SITE.

4. ALL PLANT MATERIAL SHALL BE REVIEWED BY THE OWNER'S REPRESENTATIVE AND BE IN CONFORMANCE TO THE DETAILS AND SPECIFICATIONS PRIOR TO INSTALLATION.

5. GROUNDCOVER PLANTING SHALL BE AS SHOWN ON PLAN UNLESS OTHER-WISE NOTED.

6. ALL SOIL PREPARATION SHALL BE INSTALLED AS PER THE SOIL AGRONOMY REPORT AND PER THE SPECIFICATIONS. CONTRACTOR SHALL TAKE REPRESENTATIVE SAMPLES OF NATIVE AND IMPORTED TOP SOIL. SAMPLES SHALL BE TAKEN FROM 4 SEPARATE LOCATIONS OF EACH SOIL THAT WILL RECEIVE PLANTINGS. CONTRACTOR SHALL FURNISH A WRITTEN STATEMENT GIVING THE LOCATIONS FROM WHICH SOIL SAMPLES ARE OBTAINED. THE REPORT SHALL BE IMMEDIATELY FORWARDED TO THE OWNER'S REPRESENTATIVE UPON COMPLETION OF REPORT, BUT PRIOR TO INSTALLATION. SEE ALSO SECTION 2900 OF THE SPECIAL PROVISIONS.

ALL SOIL USED FOR PLANTINGS (TOP SOIL AND BACK FILL) WHETHER NATIVE OR IMPORTED SHALL MEET THE REQUIREMENTS IN THE SPECIFICATIONS.

7. THE FOLLOWING IS A GENERAL AMENDMENT. MODIFY SOIL AMENDMENTS AS PER SOILS AGRONOMY REPORT AND SPECIFICATIONS. ORGANIC AMENDMENT IS A MINIMUM AND IS TO MODIFIED ONLY WHEN SOLS AGRONOMY REPORT REQUIRES ADDITIONAL.

FOR AREA TO BE PLANTED ON LESS THAN 2:1 SLOPE, THE FOLLOWING AMENDMENTS SHALL BE UNIFORMLY BROADCAST AND THOROUGHLY INCORPORATED BY MEANS OF A ROTOTILLER OR EQUAL TO A DEPTH OF 12".

AMOUNT PER 1,000 SQUARE FEET:

3 CU. YDS. MINIMUM OF NITROGEN STABILIZED ORGANIC AMENDMENT DERIVED FROM TURKEY MANURE AND WOOD SHAVINGS. AMENDMENT SHALL BE WEED FREE, HAVE A N:P:K RATIO OF 1:1:1, A PH OF 7.5 OR LESS. PROVIDE LANDSCAPE ARCHITECT OR OWNERS REP. WITH SAMPLE FOR APPROVAL PRIOR TO CONSTRUCTION.

5 LBS. AGRICULTURAL SOIL SULFER
10 LBS. 12-12-12 FERTILIZER
5 LBS. FERROUS IRON SULFATE

8. THE PLANT PITS SHALL BE EXCAVATED PER PLANTING DETAILS. PLANT PITS AMENDED BACKFILL SHALL BE:

5 PARTS AMENDED TOP SOIL BY VOLUME
1 PART ORGANIC AMENDMENT BY VOLUME PER ABOVE NOTE

AMENDED BACKFILL SOIL SHALL BE THE FULL DEPTH OF THE PLANT PIT. IN ALL CASES, THERE SHALL BE POSITIVE DRAINAGE AWAY FROM THE ROOT CROWN OF THE PLANT.

9. CONTRACTOR SHALL TO INSTALL SOIL IN OLD TURF AREAS TO SMOOTH OUT THE GRADE FROM BACK OF CURB TO PART WAY UP THE SMALL SLOPE TO CREATE A STRAIGHT GRADE. MINIMIZE ADDITIONAL SOIL ON TREE ROOT SYSTEM. AMEND TOP 6" OF ALL TOP SOIL IMPORTED AND EXISTING AS PER THESE NOTES, SPECIFICATIONS, AND INCLUDED SOILS REPORT.

10. PERIODICALLY FERTILIZE PLANTERS AND TURF AREAS AS PER SPECIFICATIONS AND NOTES.

11. STAKE ALL TREES PER TREE PLANTING DETAIL PER CITY ORDINANCE. TREES TO BE STAKED ONE YEAR. REMOVE STAKING IMMEDIATELY AFTER 1 YEAR SINCE TREES WERE PLANTED.

12. FOR SHRUB PLANTING, SEE DETAILS AND SPECIFICATIONS.

13. PRE-INSTALLATION WEED ABATEMENT - ON IRRIGATED SLOPES AND FLAT AREAS TO BE SEEDDED OR SODDED, REMOVE ALL EXISTING VEGETATION, EXCEPT AS IDENTIFIED BY OWNER'S REPRESENTATIVE FOR PRESERVATION IN PLACE. THE SHRUBS AND TREES TO BE PRESERVED SHALL BE CLEARLY MARKED WITH A BLUE FLAGGING RIBBON. FERTILIZE THESE AREAS WITH 300 LBS. PER ACRE OF 14-4-9. OR EQUIVALENT. IRRIGATE FOR 2-4 WEEKS, 2-4 TIMES DAILY TO KEEP THE SOIL SURFACE MOIST IN ORDER TO GERMINATE THE WEED SEEDS EXISTING IN THE SOIL. ONCE THE WEED SEEDS HAVE GERMINATED AND ATTAINED SUFFICIENT GROWTH, APPLY A BROAD SPECTRUM, NON-SELECTIVE HERBICIDE (ROUND-UP OR RODEO) ACCORDING TO THE MANUFACTURER'S LABEL RECOMMENDATIONS AND LICENSED PCA. AFTER SEVEN DAYS, GRUB ALL WEED GROWTH FROM AREAS TO OWNER'S APPROVAL. REPEAT ENTIRE PROCEDURE IF DIRECTED BY OWNER'S REPRESENTATIVE.

14. FORTY FIVE (45) DAYS AFTER INSTALLATION ALL LANDSCAPE SHALL BE FERTILIZED WITH BEST FERTILIZER CO. 16-20-0 OR APPRV'D EQUAL, APPLIED AT THE RATE OF SIX POUNDS (6 LBS.) PER 1,000 SQUARE FEET. APPLY IRON SULFATE AT THE RATE OF TWO POUNDS (2 LBS.) PER 1,000 S.F. FERTILIZER APPLICATION SHALL BE CONTINUED THEREAFTER AT MONTHLY INTERVALS. ONCE THE PLANTS ARE ESTABLISHED, FERTILIZATION SCHEDULE CAN BE REDUCED TO APPLICATIONS OF 16-6-8 AT FOUR POUNDS (4 LBS) PER 1,000 SQ. FT. AT 3 MONTH INTERVALS OR AS NECESSARY WHEN PLANTS INDICATE NUTRITIONAL STRESS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FERTILIZATION TREATMENTS WITHIN THE MAINTENANCE PERIOD.

15. SHRUB PLANTING METHOD - EXCAVATE PLANTING PIT DEPTH AND DIAMETER PER SPECIFICATIONS AND PLANTING DETAILS. FILL BOTTOM OF PLANTING PIT WITH AMENDED SOIL TO BRING LEVEL TO PROPER PLANTING DEPTH. BACKFILL AROUND ROOTBALL WITH AMENDED SOIL. FORM BASIN TO HOLD MOISTURE WITHIN THE ROOT ZONE. REMOVE BASINS WITHIN 30 DAYS OF START OF MAINTENANCE AS IDENTIFIED BY OWNER IN WRITING.

16. FIRST WATERING OF NEWLY PLANTED MATERIAL - WET THE ROOT ZONE BY HAND WATERING THE PITS TO THE LOWEST EDGE BASIN. AFTER AMENDED SOIL HAS BEEN WETTED, THE IRRIGATION SYSTEM SHOULD CONTROL THE MOISTURE FROM THAT POINT ON.

17. THE CONTRACTOR SHALL WARRANTY ALL PLANTS, MATERIAL, AND WORK FOR A PERIOD OF 1 YEAR FROM SUBSTANTIAL COMPLETION. CONTRACTOR SHALL REPLACE ANY PLANTS THAT DIE OR ARE DECLINING WITHIN THE 1 YEAR PERIOD AT NO ADDITIONAL COST TO OWNER. 2" CALIPER TREES AND SMALLER THAT ARE NOT STAKE SHALL BE WARRANTED FOR 2 YEARS.

18. THE CONTRACTOR IS RESPONSIBLE FOR A MAINTENANCE PERIOD OF ONE YEAR AFTER THE APPROVAL IN WRITING OF THE INSTALLATION OF THE PROJECT. THE MAINTENANCE SHALL BE PER THE ABOVE NOTES AND THE PROJECT SPECIFICATIONS. EXCEPTION; ALL 2" CALIPER TREES AND SMALLER THAT ARE NOT STAKED SHALL BE MAINTAINED FOR A PERIOD OF 2 YEARS. MAINTENANCE FOR THESE TREES DURING THE SECOND YEAR SHALL INCLUDE STRAIGHTENING ANY LEANING TREES AND REPLACING ANY TREES THAT BREAK BELOW THE BOWL OF THE TREE.

19. CONTRACTOR SHALL PROVIDE COLORED FLAGS FOR ALL SHRUBS AREAS TO BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO PLANTING. AN ADEQUATE QUANTITY OF DIFFERENT COLORS SHALL BE PROVIDED FOR APPROPRIATE LAYOUT CLARITY.

20. CONTRACTOR SHALL PROVIDE 4" LAYER OF ROCK MULCH IN ALL PLANTING AREAS, SEE LEGEND AND SPECIFICATIONS FOR TYPE AND COLOR. PROVIDE SAMPLE TO OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION FOR APPROVAL. IF MULCH IS INSTALLED WITHOUT APPROVAL, CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE MULCH AND INSTALL MULCH SATISFACTORY OF THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST TO OWNER.

21. FERTILIZER TABLET NOTES:

CONTRACTOR SHALL INSTALL 21 GRAM FERTILIZER TABLETS AS FOLLOWS:

EVENLY SPACE TABLETS AROUND SIDES 2" FROM ROOT BALL UNDER SOIL SURFACE. SEE DETAILS.

PLANT SIZE	QUANTITY
4" POTTED SHRUBS	1
ONE GALLON SHRUBS	1
5 GALLON SHRUBS	3
15 GALLON & 1 1/2" CAL. TREES	6
1 1/4 " CAL. TREES	6
1 1/2" CAL. TREES	6
2" CAL. TREES	8
ALL OTHER TREES	2 PER FOOT OF TRUNK UP TO 30 TABLETS MAX.

SEE SPECIFICATIONS FOR MORE INFORMATION.

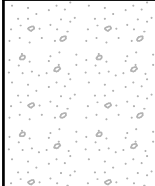
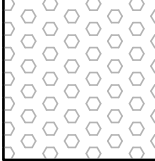
22. LANDSCAPE CONTRACTOR SHALL BE WILLING TO WORK WITH THE OWNER'S REPRESENTATIVE IF CHANGES TO THE PLANT PALETTE ARE NECESSARY TO ACHIEVE DESIRED CHARACTER. CHANGES WILL BE IN SPECIES ONLY NOT IN SIZE.

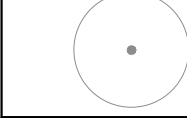
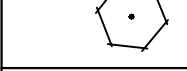
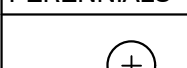
23. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING RECORDS OF QUANTITIES OF PLANT MATERIALS, FERTILIZERS, AND AMENDMENTS USED. QUANTITY LISTS SHALL BE DISTRIBUTED TO OWNER'S REPRESENTATIVE.

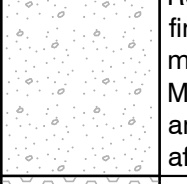
24. LANDSCAPE CONTRACTOR TO TREAT ALL ORGANIC MULCH AREAS WITH PRE-EMERGENT HERBICIDE BEFORE AND AFTER MULCH INSTALLATION AS PER MANUFACTURE'S LABEL.

25. ALL TREES AND SHRUBS SHALL BE HEALTHY AND VIGOROUS TOP QUALITY PLANT MATERIAL AND CONFORM TO THE SPECIFICATIONS, SPECIAL PROVISIONS, AMERICAN STANDARD FOR NURSERY STOCK, LATEST EDITION, AND OTHER REFERENCED STANDARDS. TREES AND SHRUBS SHALL NOT BE ROOT BOUND OR HAVE GIRDLING ROOTS. PLANTS FOUND NOT IN COMPLIANCE WITH THESE NOTES, THE SPECIFICATIONS AND REFERENCED STANDARDS SHALL BE REJECTED BY THE OWNER'S REPRESENTATIVE AND IMMEDIATELY REMOVED OFF SITE.

26. PLANT QUANTITIES IN PLANT SCHEDULE PROVIDED AS REFERENCE ONLY. QUANTITIES REQUIRED IN PLAN SHALL PREVAIL.

REFERENCE NOTES SCHEDULE ISLAND 3		
SYMBOL	DESCRIPTION	QTY
	Rock Mulch - To match existing. Rock mulch shall be size 3" for the first 3' from back of curb. Then transition rock mulch size gradually to match the smaller existng rock mulch in the center of the planters. Minimum 4" deep. Provide a true 5 oz. weed barrier fabric between soil and rock mulch. Install pre-emergent herbicide on bare soil and again after installation of rock mulch.	3,233 sf
	Existing Rock Mulch - Weed area. Remove and stock pile existing rock mulch. Remove and dispose of existing weed barrier fabric. Provide a new true 5 oz. weed barrier fabric between soil and rock mulch. Install a pre-emmergent herbicide on bare soil and again after installation of rock mulch.	1,543 sf

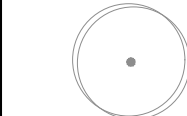
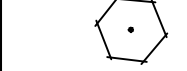
PLANT SCHEDULE ISLAND 1						
EXISTING TREES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	REMARKS
	LG TREE	1	Large Existing Tree	43' EXISTING	Existing	
SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	REMARKS
	HES PAR	46	Hesperaloe parviflora 'Sandia Glow' Sandia Glow Red Yucca	1 gal.		2-3' Tall x 2-3' Wide
	RHU GRO	19	Rhus aromatica 'Gro-Low' Gro-Low Fragrant Sumac	3 gal.		2-3' Tall x 6-8' Wide.
	SYM MA2	10	Symphoricarpos x doorenbosii 'Magic Berry' Magic Berry Snowberry	5 gal.		3-5' Tall x 3-5' Wide. Low water use once established.
GRASSES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	REMARKS
	PAN ROT	17	Panicum virgatum 'Rotstrahlbusch' Rotstrahlbusch Red Switch Grass	1 gal.		3' Tall x 2' Wide.
PERENNIALS	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	REMARKS
	HEM BUS	39	Hemerocallis x 'Passionate Returns' Passionate Returns Daylily	1 gal.		2' Tall x 1-2' Wide

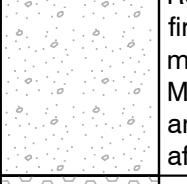
REFERENCE NOTES SCHEDULE ISLAND 1		
SYMBOL	DESCRIPTION	QTY
	Rock Mulch - To match existing. Rock mulch shall be size 3" for the first 3' from back of curb. Then transition rock mulch size gradually to match the smaller existing rock mulch in the center of the planters. Minimum 4" deep. Provide a true 5 oz. weed barrier fabric between soil and rock mulch. Install pre-emergent herbicide on bare soil and again after installation of rock mulch.	2,218 sf
	Existing Rock Mulch - Weed area. Remove and stock pile existing rock mulch. Remove and dispose of existing weed barrier fabric. Provide a new true 5 oz. weed barrier fabric between soil and rock mulch. Install a pre-emmergent herbicide on bare soil and again after installation of rock mulch.	855 sf

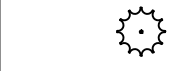
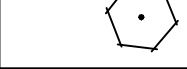
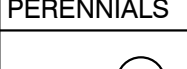
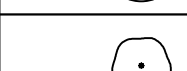
Call before you Dig
Avoid cutting underground utility lines. It's costly.

Call
811

OR
1-800-662-4111
OR
1-801-208-2100

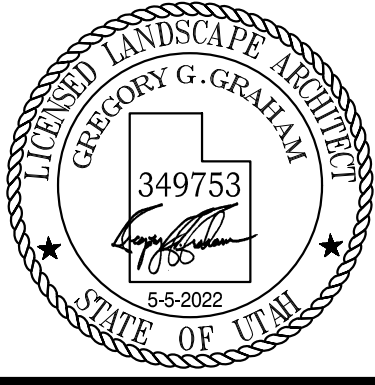
PLANT SCHEDULE ISLAND 2						
EXISTING TREES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	REMARKS
	MD TREE	5	Medium Tree	32' EXISTING	Existing	
SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	REMARKS
	HES PAR	58	Hesperaloe parviflora 'Sandia Glow' Sandia Glow Red Yucca	1 gal.		2-3' Tall x 2-3' Wide
	RHU GRO	25	Rhus aromatica 'Gro-Low' Gro-Low Fragrant Sumac	3 gal.		2-3' Tall x 6-8' Wide.
	SYM MA2	15	Symphoricarpos x doorenbosii 'Magic Berry' Magic Berry Snowberry	5 gal.		3-5' Tall x 3-5' Wide. Low water use once established.
GRASSES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	REMARKS
	PAN ROT	19	Panicum virgatum 'Rotstrahlbusch' Rotstrahlbusch Red Switch Grass	1 gal.		3' Tall x 2' Wide.
PERENNIALS	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	REMARKS
	HEM BUS	52	Hemerocallis x 'Passionate Returns' Passionate Returns Daylily	1 gal.		2' Tall x 1-2' Wide

REFERENCE NOTES SCHEDULE ISLAND 2		
SYMBOL	DESCRIPTION	QTY
	Rock Mulch - To match existing. Rock mulch shall be size 3" for the first 3' from back of curb. Then transition rock mulch size gradually to match the smaller existing rock mulch in the center of the planters. Minimum 4" deep. Provide a true 5 oz. weed barrier fabric between soil and rock mulch. Install pre-emergent herbicide on bare soil and again after installation of rock mulch.	2,198 sf
	Existing Rock Mulch - Weed area. Remove and stock pile existing rock mulch. Remove and dispose of existing weed barrier fabric. Provide a new true 5 oz. weed barrier fabric between soil and rock mulch. Install a pre-emmergent herbicide on bare soil and again after installation of rock mulch.	1,739 sf

PLANT SCHEDULE ISLAND 3						
TREES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	REMARKS
	CER OCC	3	Cercis occidentalis Western Redbud	2" Cal.		15' Tall x 10' Wide.
SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	REMARKS
	HES PAR	68	Hesperaloe parviflora 'Sandia Glow' Sandia Glow Red Yucca	1 gal.		2-3' Tall x 2-3' Wide
	RHU GRO	15	Rhus aromatica 'Gro-Low' Gro-Low Fragrant Sumac	3 gal.		2-3' Tall x 6-8' Wide.
GRASSES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	REMARKS
	PAN ROT	19	Panicum virgatum 'Rotstrahlbusch' Rotstrahlbusch Red Switch Grass	1 gal.		3' Tall x 2' Wide.
PERENNIALS	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	REMARKS
	HEM BUS	30	Hemerocallis x 'Passionate Returns' Passionate Returns Daylily	1 gal.		2' Tall x 1-2' Wide
EXISTING SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	REMARKS
	LARGE	4	Large Existing Shrub	12'	Existing	
	MEDIUM	7	Medium Existing Shrub	8' Diameter	Existing	
	SMALL	9	Small Existing Shrub	6' Diameter	Existing	

CIVISWORKS

PLANNING - LANDSCAPE ARCHITECTURE
- URBAN DESIGN
PHONE AND ADDRESS
13617 CRIMSON PARKWAY, KIRKSON, UTAH 84096



Revisions	No.	Date	By

HOLLADAY CITY PLANTING
HIGHLAND DRIVE & VINE STREET

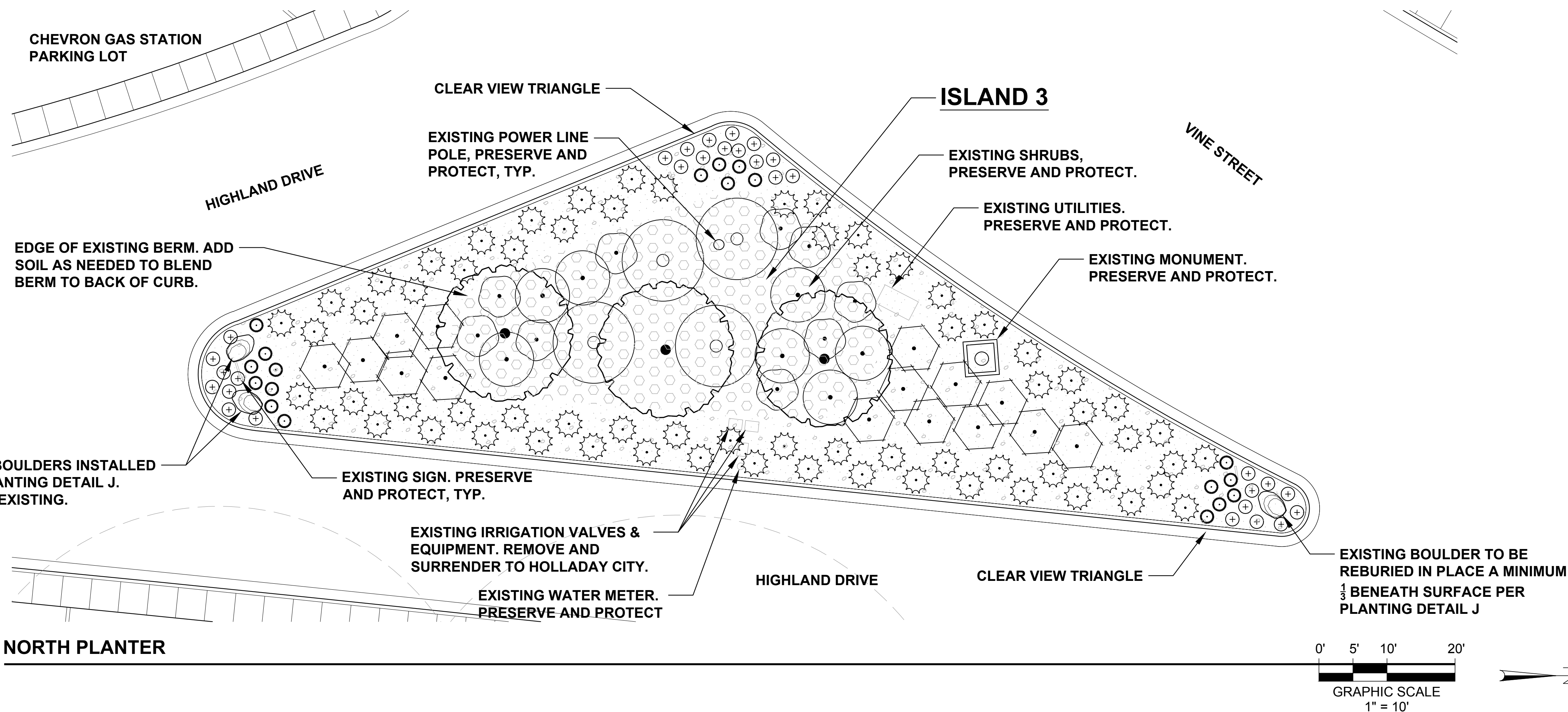
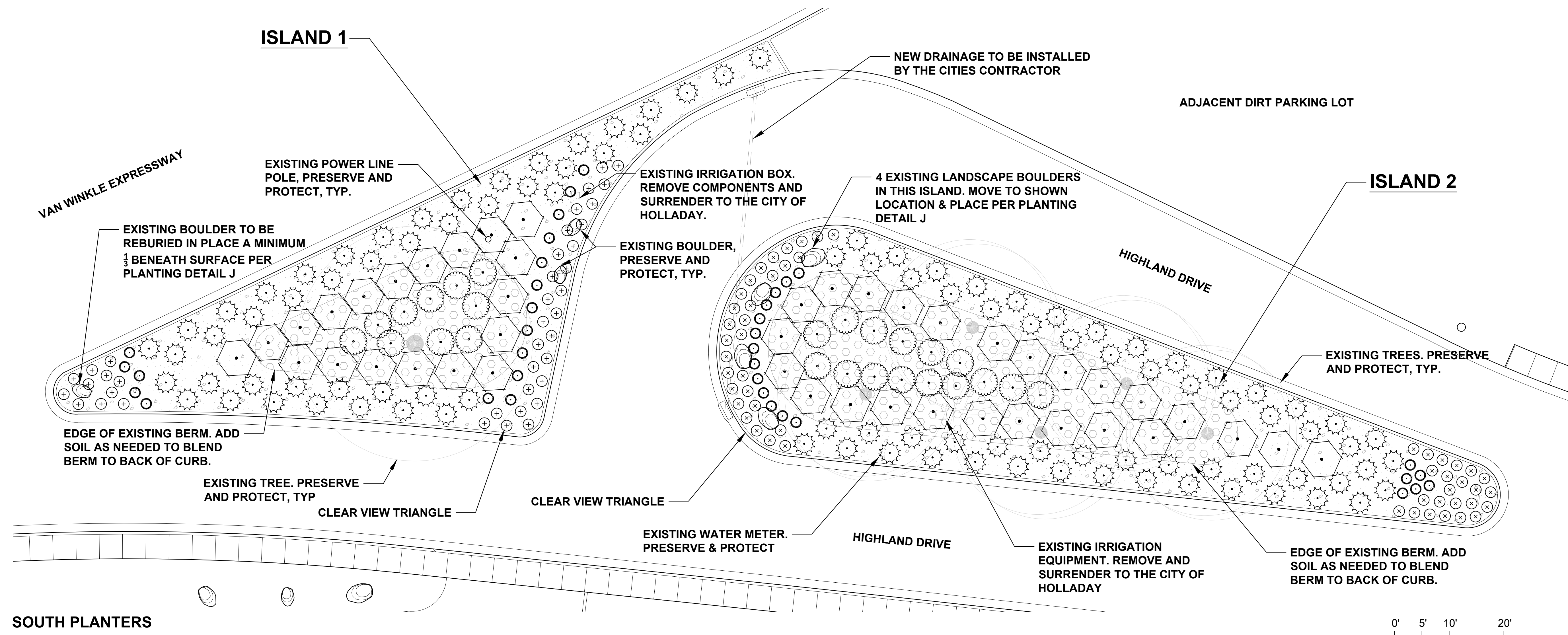
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Scale:
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Date:
MAY 5, 2022
Drawn By:
ESG
Approved By:
GGG

North

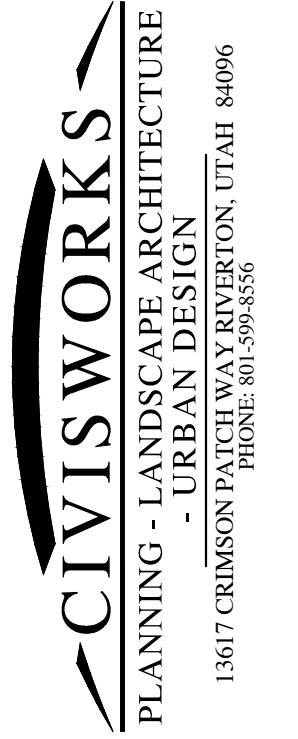
Job No.
21-066

Sheet No.
L101
1 of 9



NOTES:

1. CLEAR AND GRUB ALL EXISTING TURF AREAS PRIOR TO INSTALLATION OF NEW SOIL AND GRAVEL MULCH. APPROXIMATELY 7,649 S.F. OF EXISTING TURF ON SITE TOTAL.
2. LANDSCAPE CONTRACTOR TO TRIM UP LOWER BRANCHES ON EXISTING TREES TO PROVIDE BETTER LIGHT TO SHRUBS.
3. ALL NEW AND REPOSITIONED BOULDERS ARE TO BE INSTALLED PER THE INCLUDED PLANTING DETAIL J.
4. SINGLE MOST NORTHERN BOULDER IN THE NORTH ISLAND TO BE REBURIED IN PLACE ACCORDING TO PLANTING DETAIL J.



No.	Date	By

HOLLADAY CITY PLANTING

HIGHLAND DRIVE & VINE STREET

PLANTING PLAN

Scale:
SEE PLAN

Date:
MAY 5, 2022

Drawn By:
ESG

Approved By:
GGG

North

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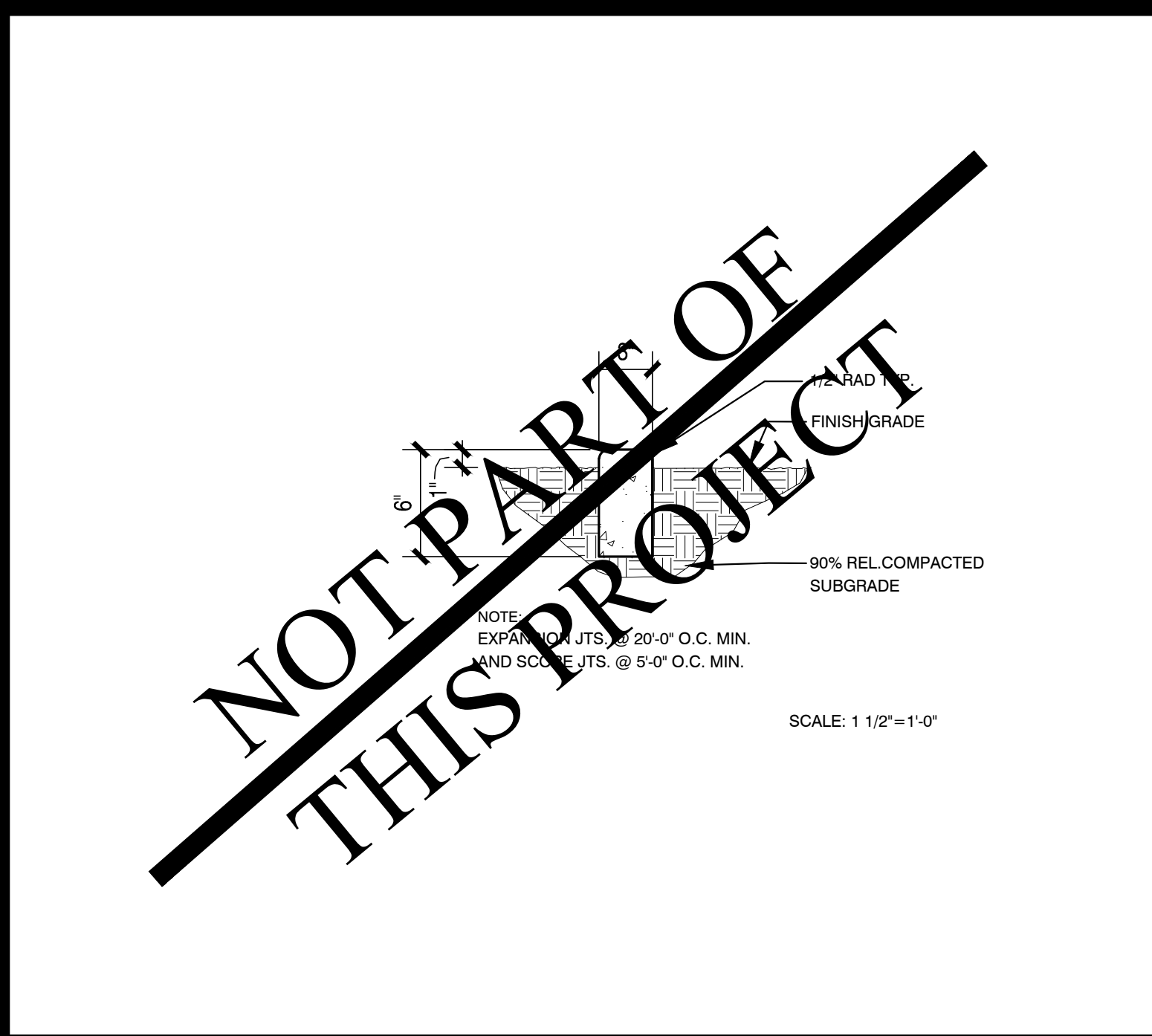
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21-066

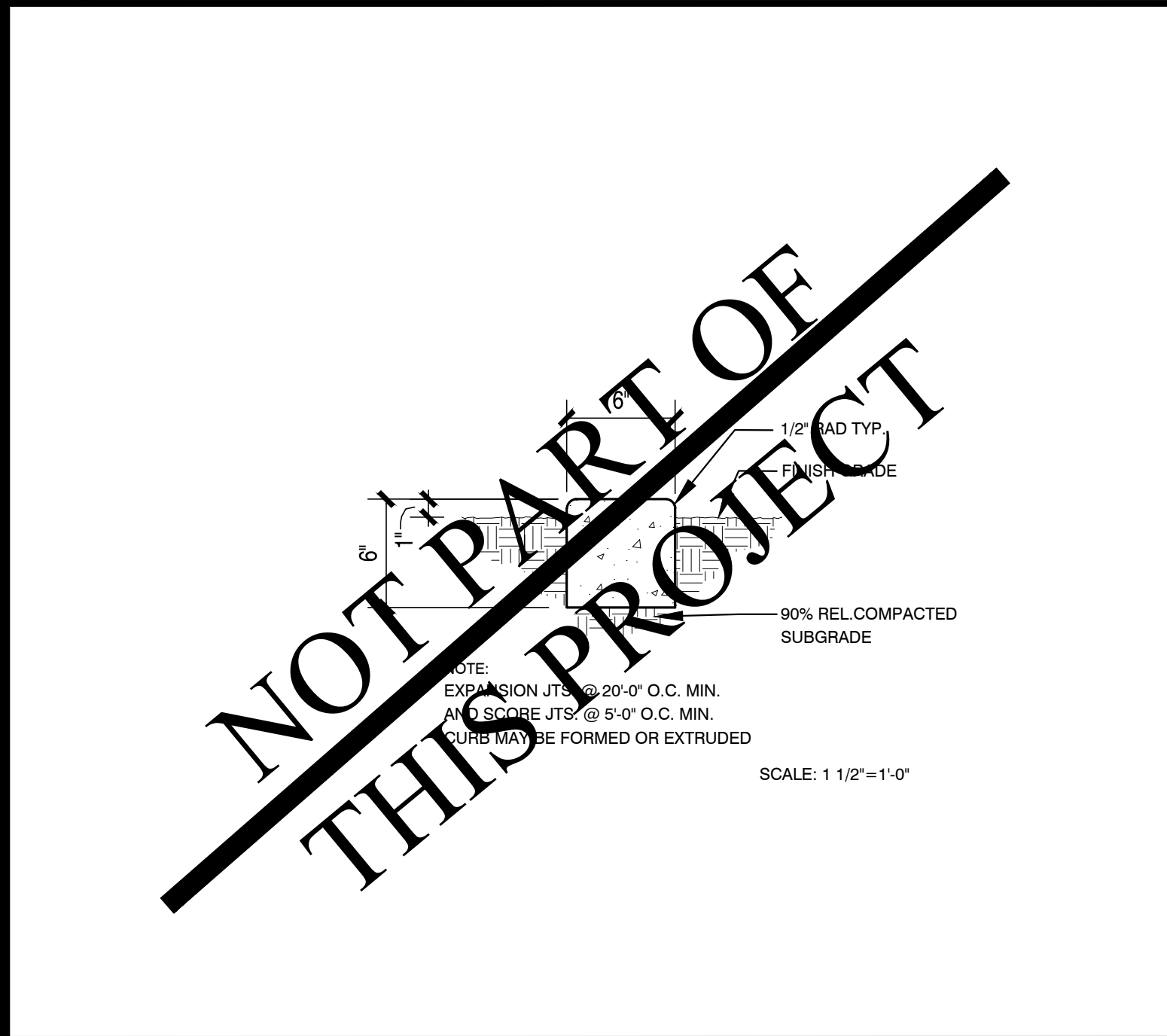
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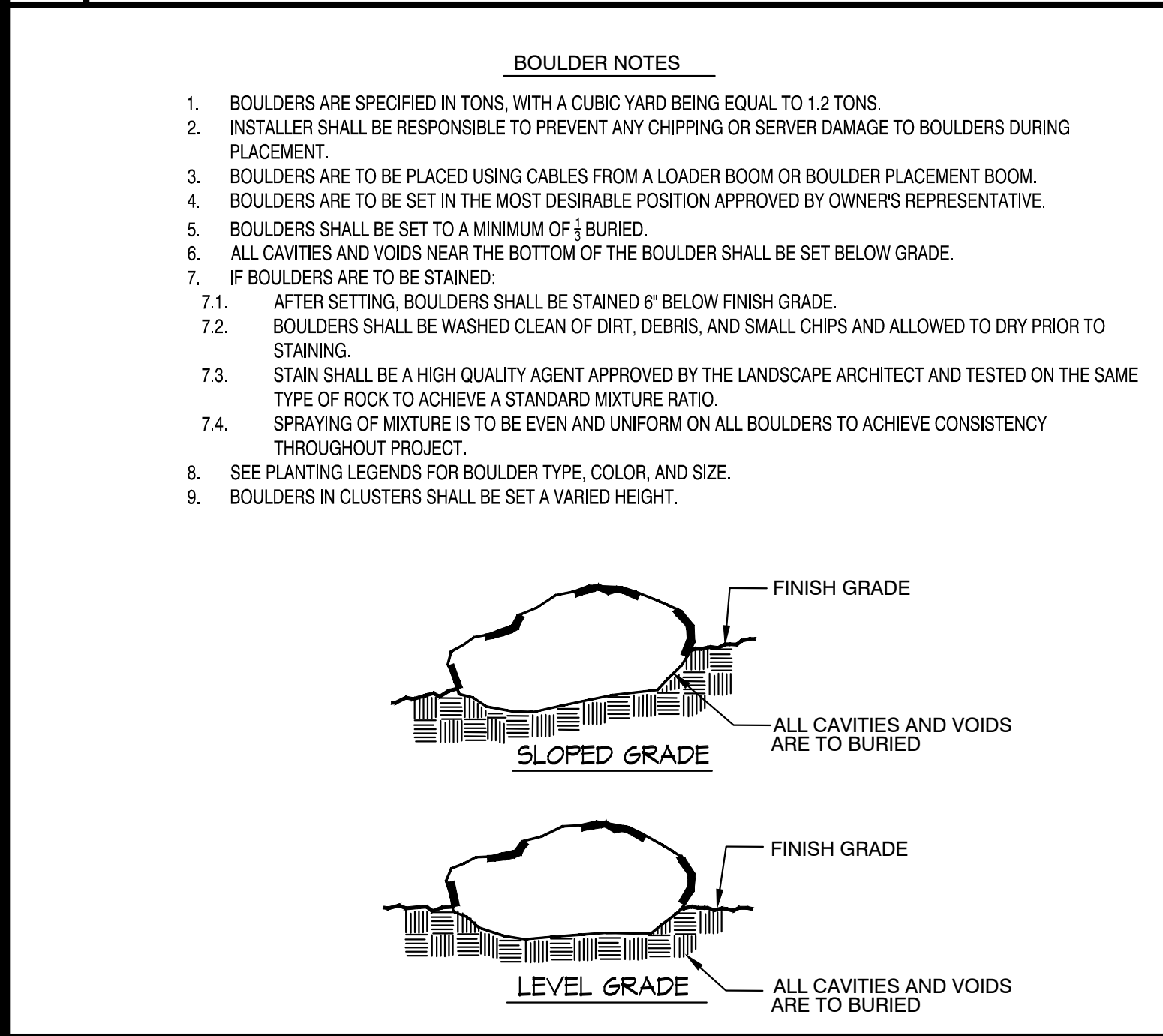
2 of 9



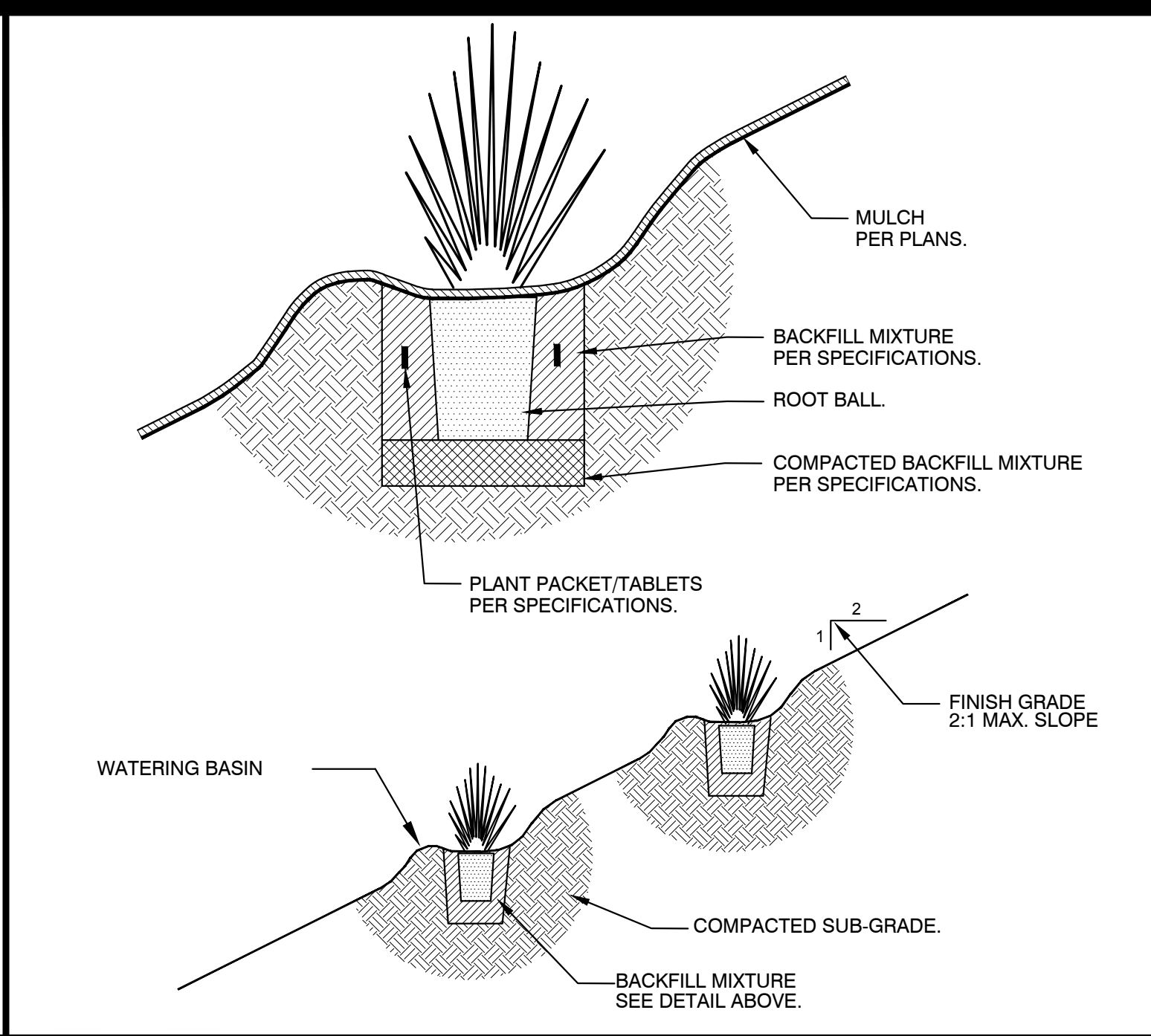
L 3" CONCRETE MOW CURB



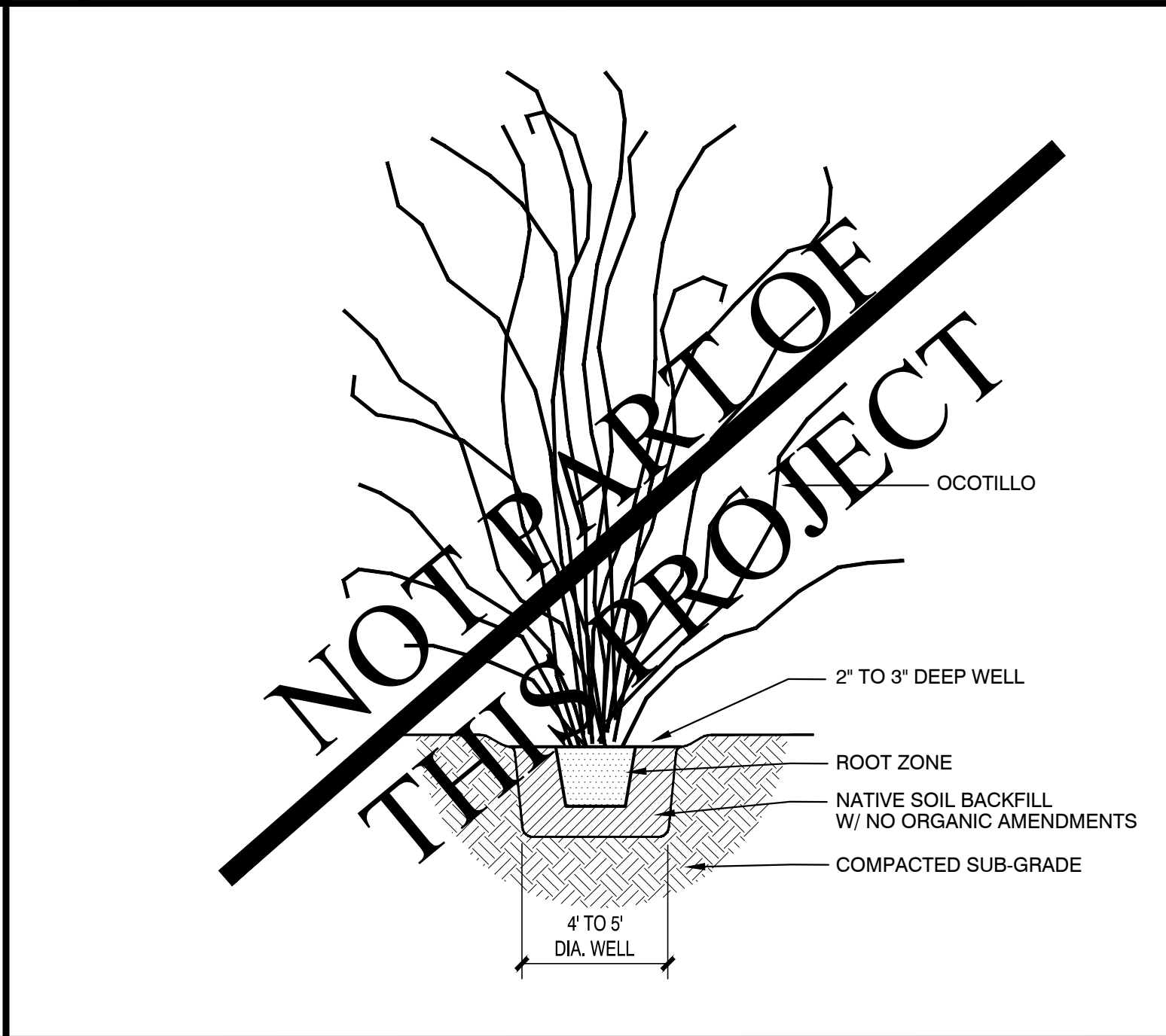
K 6" CONCRETE MOW CURB



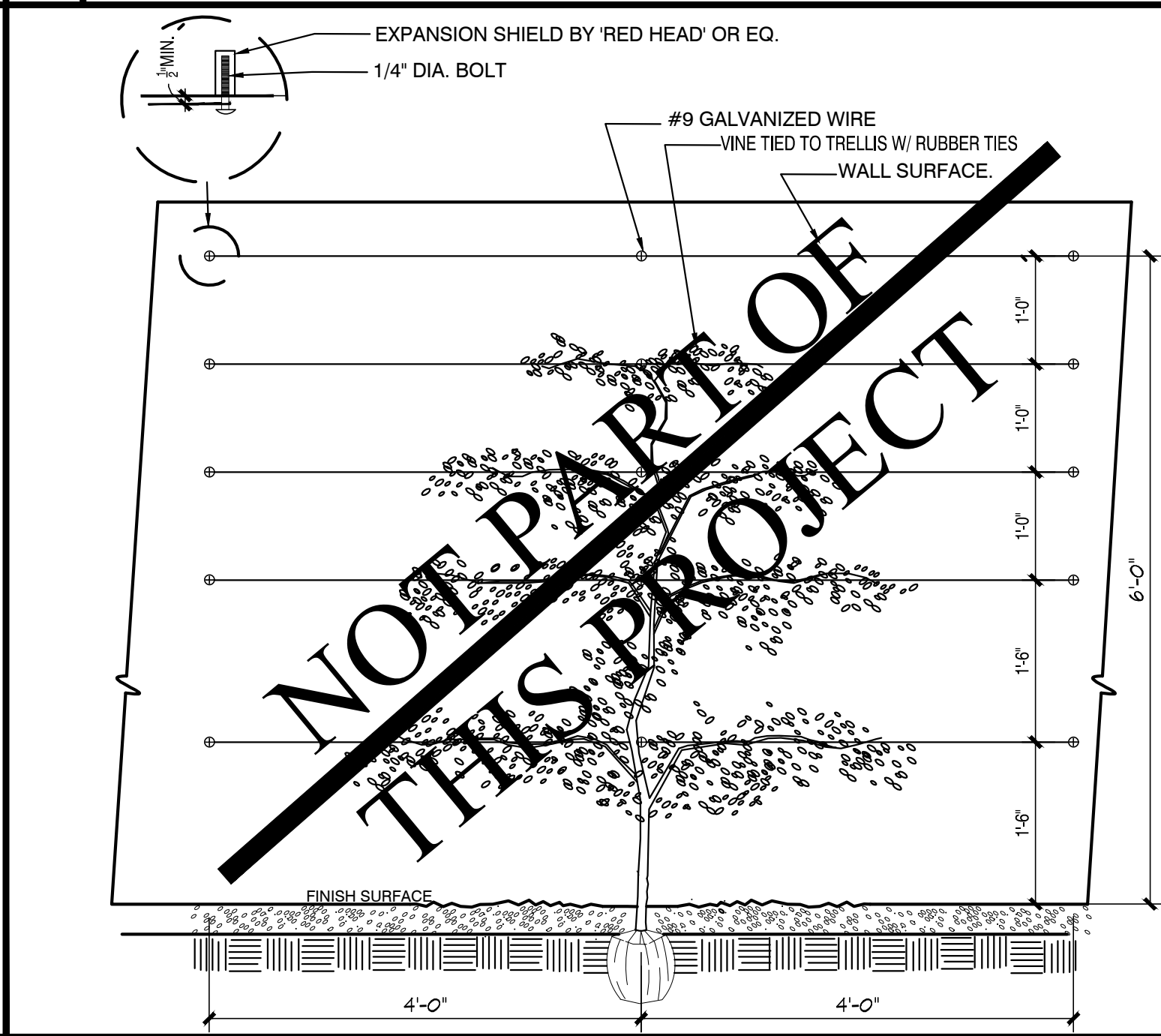
J BOULDERS



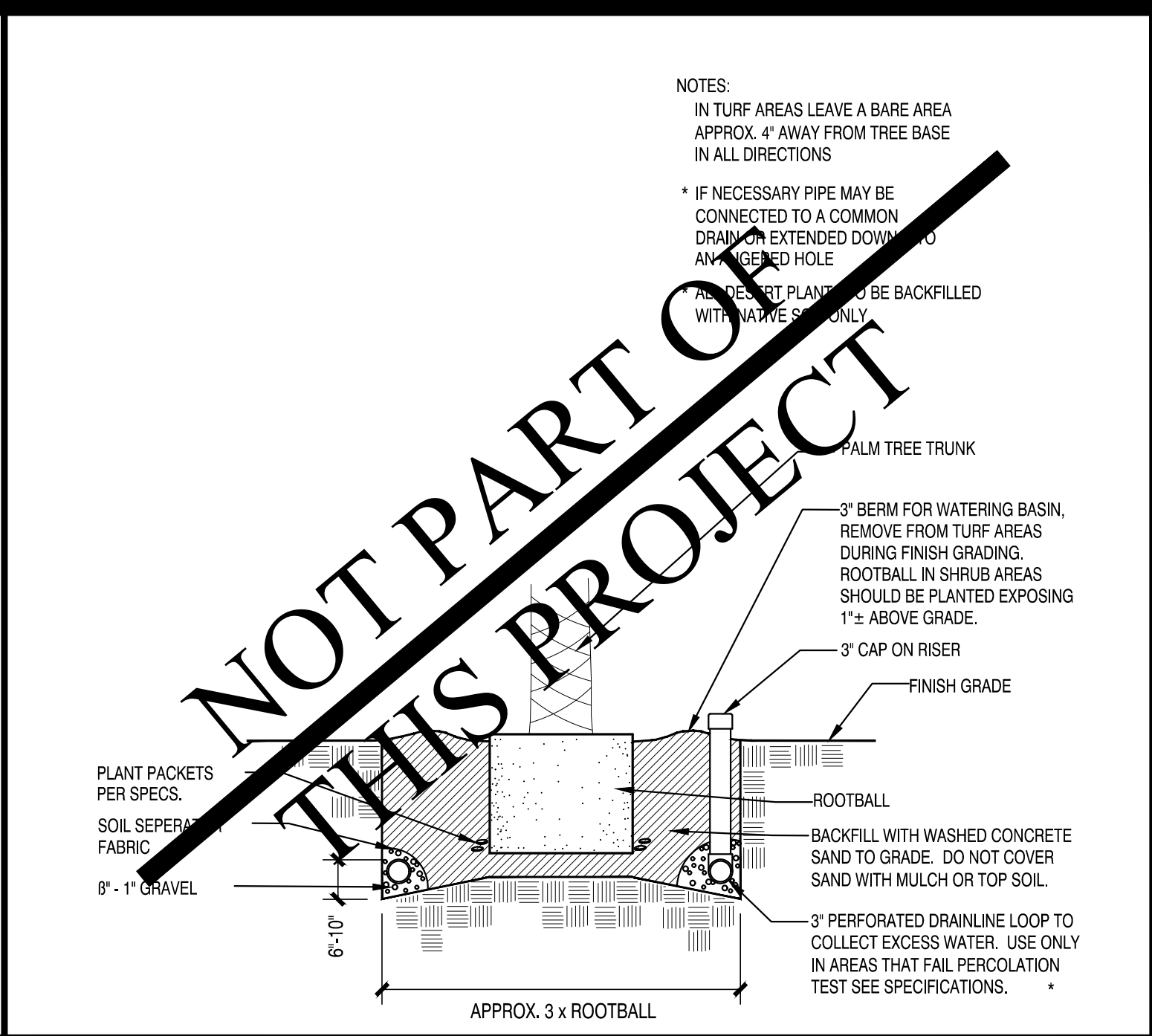
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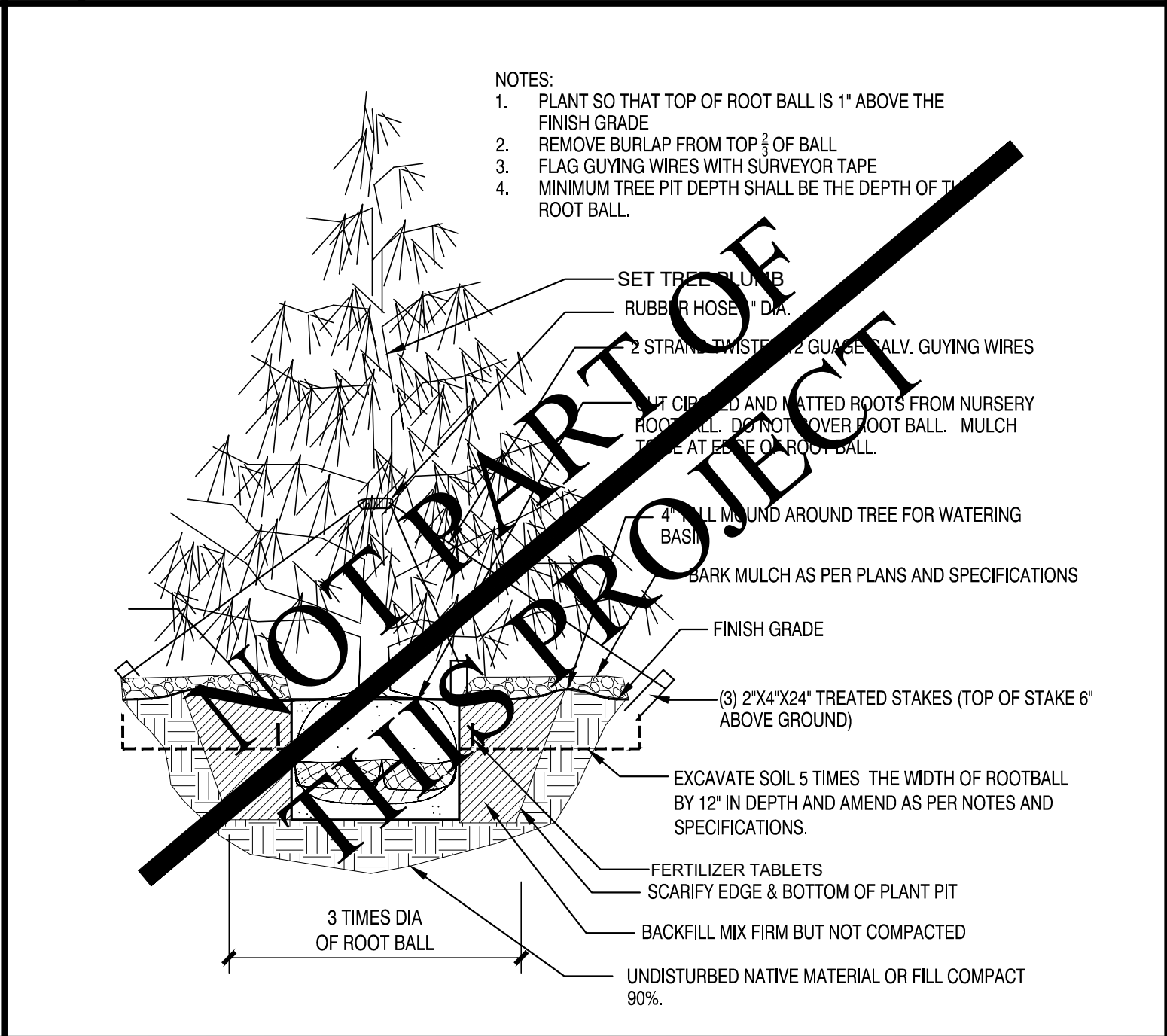
H OCOTILLO DETAIL



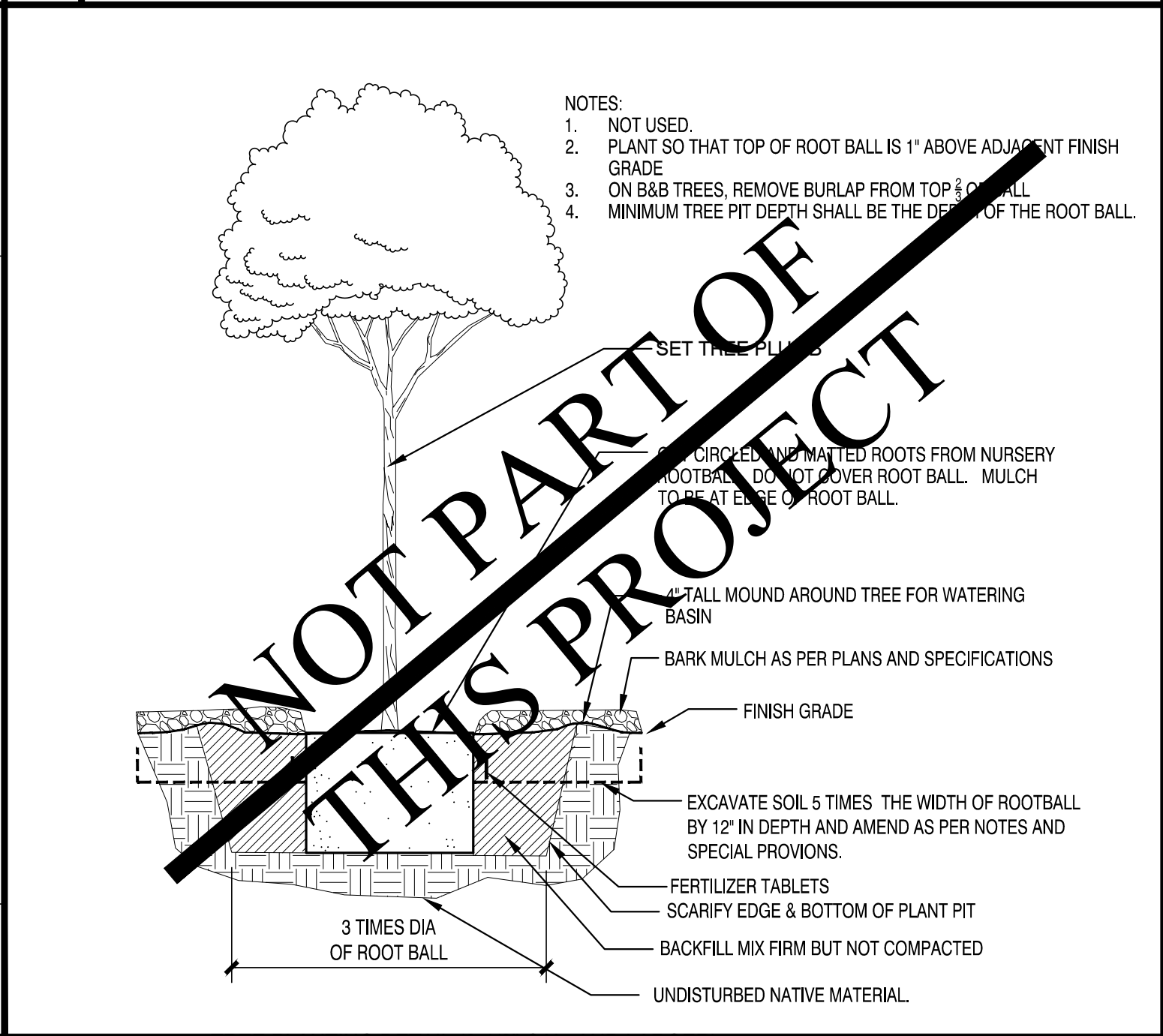
G VINE DETAIL



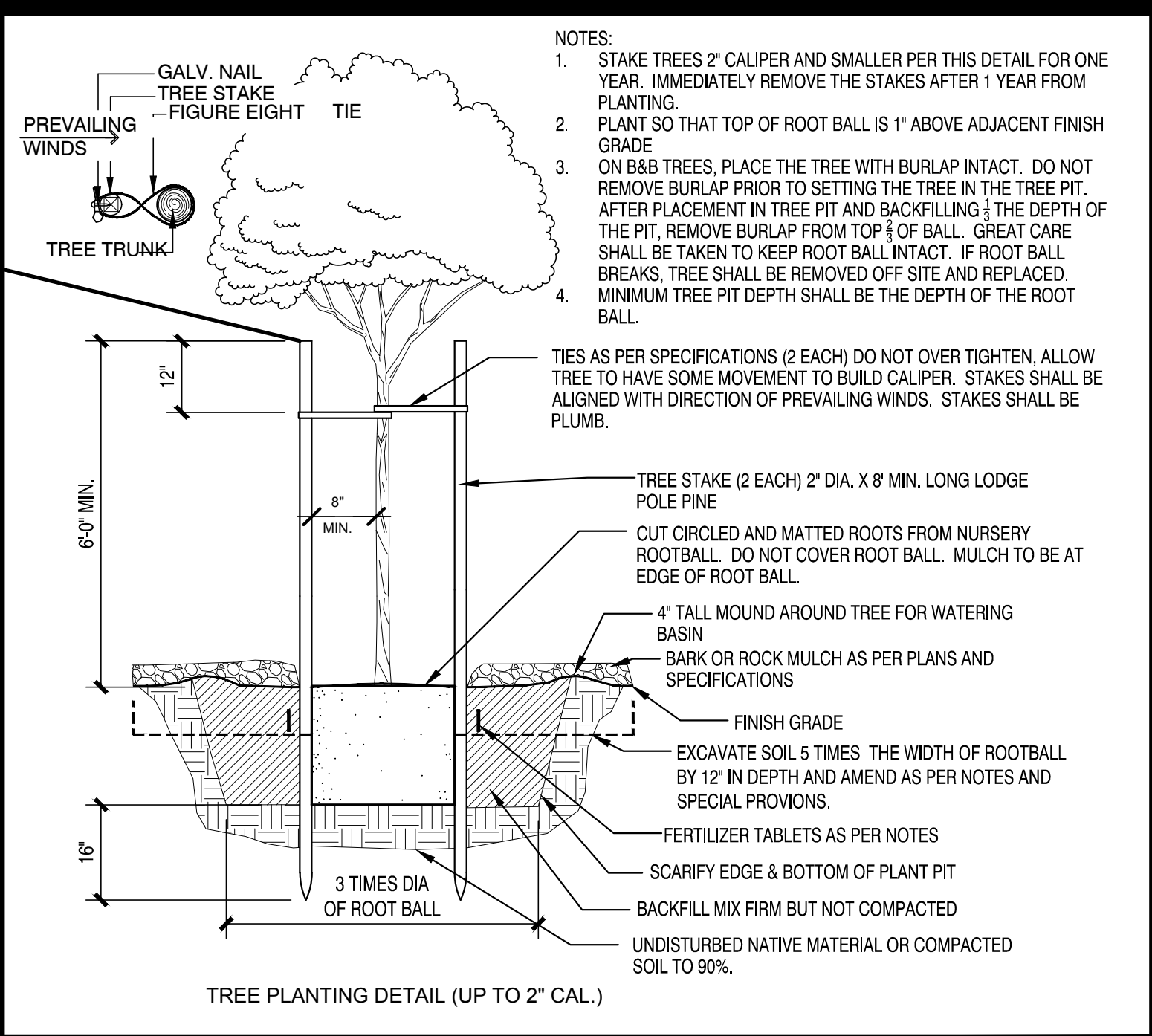
F DATE PALM TREE



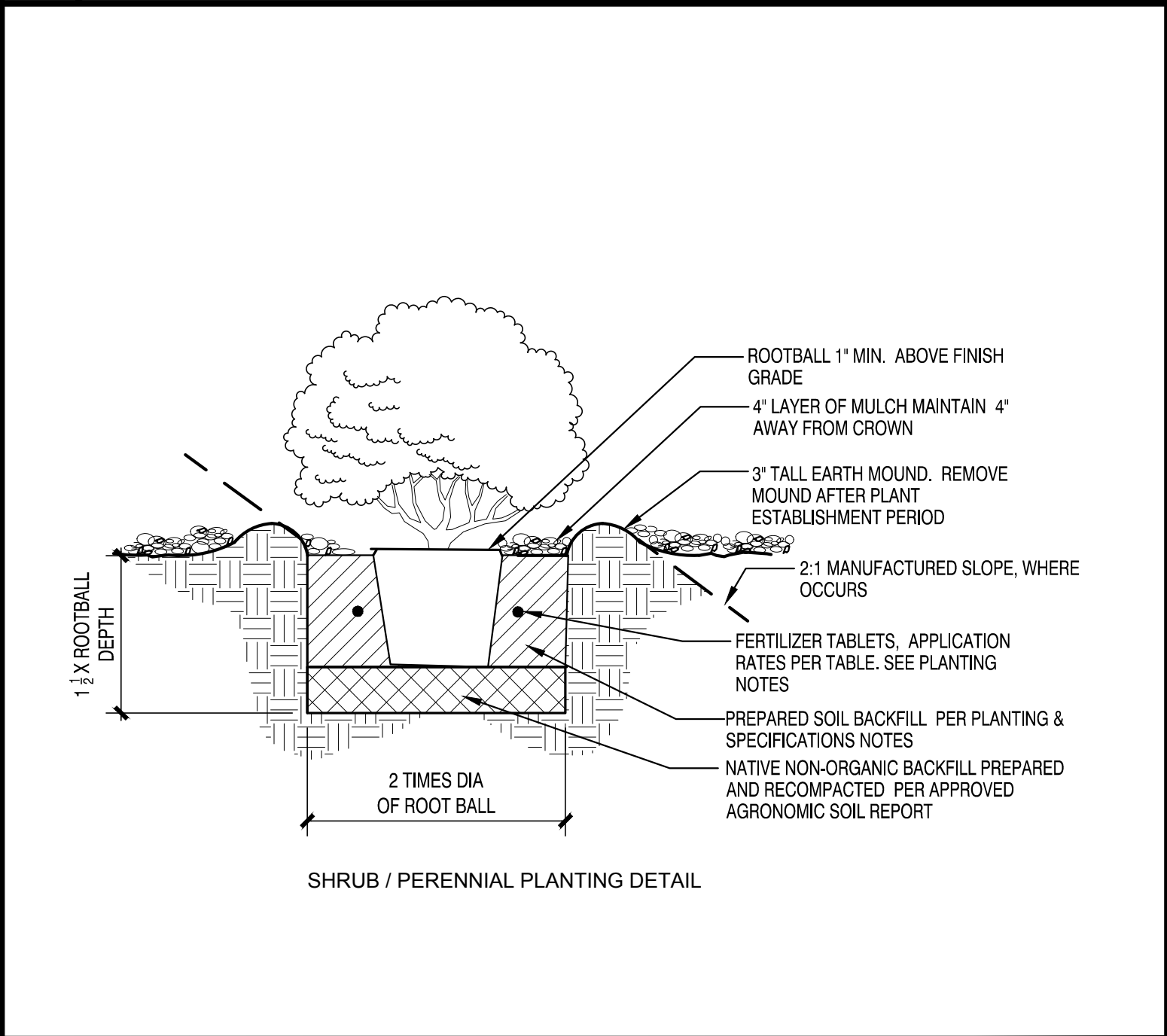
E EVERGREEN GUYING



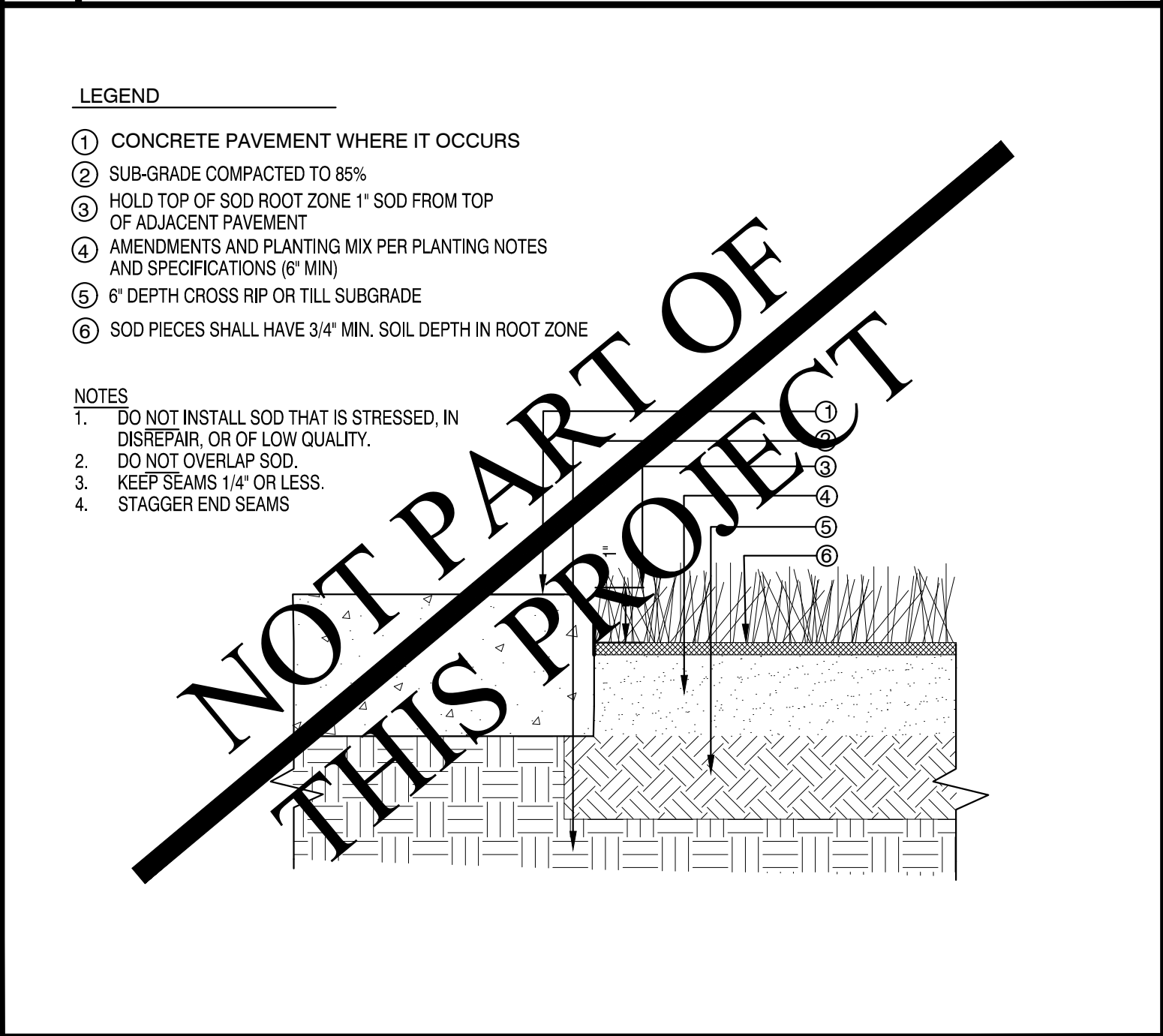
D TREE PLANTING (2-1/2" CAL. AND LARGER)



C TREE PLANTING (2" CAL. AND SMALLER)



B SHRUB / PERRENIAL PLANTING



A SOD PLANTING

SECTION 02900

PLANTING

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. Work as evident on drawings and specified herein or required to complete all landscaping and shall include, but not necessarily limited to the following work.

1. Furnish and place topsoil from outside sources where necessary.

2. Excavate tree pits.

3. Provide and plant all materials indicated on plan and plant list.

4. Stake and protect all trees and planted areas as needed.

5. Maintain all plant material until maintenance responsibility is transferred to the City upon Acceptance of the Work.

6. Clean up all areas prior to Acceptance of the Work, including debris, stains, and dirt from walks and beds.

B. These specifications are complimentary to the drawings.

C. Related Sections:

02300 - Earthwork

02800 - Irrigation System Improvements

02910 - Landscape Topsoil

02913 - Turf Grass and Soil Preparation

1.02 APPROVALS

All materials are subject to the approval of the Owner's Representative who shall have the power to reject any material found to be defective or not in conformance with the plans and specifications or defective workmanship. Contractor shall provide a list of plant material sources for approval by project engineer prior to ordering plant material.

1.03 STORAGE

Store chemical fertilizers in a weatherproof storage place.

1.04 GUARANTEE

A. Guarantee plants for a period of one year after final acceptance, against:

1. Disease and unsatisfactory growth

2. Problems resulting from neglect or from abuse except damage caused by others beyond the Contractor's control.

3. Plants eaten by Rabbits or other Wildlife. If problem develops, install protective wire cages around plants as required.

B. Remove and replace dead or unhealthy plants promptly during the growing season, or as otherwise directed by the Owner's Representative.

1.05 SUBMITTALS

A. Test report for the site soil and any imported topsoil as tested by a qualified agency. Contractor shall bear all costs appertaining thereto.

B. Pre-emergent herbicide manufacturer's data for approval.

1.06 INSPECTION AND ACCEPTANCE OF PLANT MATERIALS:

Plants are subject to inspection and approval at the place of growth or upon delivery for conformity to specification requirements as to quality, size, and variety. Such approval shall not impair the right of inspection upon delivery at the site or during the progress of work or right of rejection due to damage suffered in handling or transportation. Rejected plants shall be removed immediately from the site by the Contractor.

PART II PRODUCTS

2.01 PLANT MATERIALS

A. The Contractor shall furnish all plants shown on the drawings, as specified.

1. Plants required: The quantity, size, and manner in which to be furnished and the species, scientific and common names, are shown on the planting plans. In case of any discrepancy between the planting legen and the actual planting plan, the planting plan shall govern.

B. Requirements: Plants shall be in accordance with American Standard for Nursery Stock, latest Edition, Standardized Plant Name by the American Joint Committee of Horticultural Nomenclature, and American National Standards Institute (ANSI); Publication Z60.1. Species and variety shall conform to botanical names where given. All plants shall be nursery grown and/or transplants from on-site staging area approved by project engineer.

1. All plants shall be hardy under climate conditions similar to those in the locality of the project.

2. All plants shall be typical of their species or variety and shall have a normal habit of growth. They shall be sound, healthy and vigorous, well-branch and densely foliated when in leaf. They shall be free of disease and insect pests, eggs, or larvae. They shall have healthy, well-developed root systems but shall not be root bound.

3. Transplanted plant material shall be sound, healthy and well branched. Any plants damaged shall not be acceptable for replanting to final location.

C. Substitutions: When plants of a specified kind or size are not available, substitutions may be made upon request by the Contractor, if approved by the project engineer.

D. Container Grown Stock

1. Shall have been grown in a container long enough for the root system to have developed sufficiently to hold its soil together firm and whole. Root bound plants shall not be accepted. It shall be the responsibility of the Contractor to check all plants for root bounding prior to installation.

2. Identification: Tag 10% minimum of the plants of each variety with botanical name conforming with the name of the American Joint Committee on horticultural nomenclature.

3. On-site mock nursery: A 10 percent representative of tagged plant material of each species shall be kept on site at all times, conforming to the plant schedule and specifications, in a well protected area. Any plant material delivered to the site shall meet or exceed the sample plant or shall be rejected.

2.02 IMPORTED TOPSOIL:

Natural, fertile, friable sandy loam soil, obtained from naturally well-drained areas, not excessively acid or alkaline or containing toxic substances harmful to plant growth. Topsoil shall be clean and free of stones, lumps, roots, and other extraneous objects which hinder plant growth and plant operations. Contractor shall provide a soils report for import soil to project engineer for approval. See Section 02910 Landscape Topsoil.

2.03 BACKFILL MIX

A. Backfill Mix: For organic amendment, use well decomposed compost free of stones, sticks, soils and toxic substances harmful to plants. Total soluble salts shall be less than 1,000 ppm. The following formula shall be used as a backfill mix soil for plant material:

B. Amount per cubic yard mix:

1. 80% - Topsoil (amended as per soil's agronomy report less organic amendments)

2. 20% - Bulk organic amendment

B. If the Organic Amendment is not iron Fortified, then add Tri-C iron or equal with micros at rate of ¾ pounds per tree planting. Thoroughly incorporate into the backfill mix.

2.04 BACKFILL MIX INSTALLATION

A. Apply amended soil mix per 2.03 at top 12 inches depth around plant rootballs.

B. Trees 15 gallon and larger shall be backfilled with acceptable native soils to approximately one foot from top of rootball to bottom of rootball. Native soils shall not be toxic to plant growth. Native soil shall have Boron content shall be less than 1 PPM. The native soil shall be chemically treated as follows:

1. 1/2 pound of superphosphate per cubic yard of native soil unless soils agronomy report shows sufficient phosphorus.

2. Two (2) pounds of iron sulfate per cubic yard of native soil.

3. Native soil shall be pulverized and chemical treatments thoroughly incorporated into the native soil.

C. Slow release fertilizer tablets shall be placed in backfill mix at rates listed in notes and details.

2.05 FERTILIZER TABLETS

A. Fertilizer: Agriform slow release, 21 gram, 20-10-5 tablets for trees or approved equal. It shall be delivered to the site in containers, each fully labeled and bearing the name or trademark and warranty of the producer.

B. All plants one gallon size and larger shall be fertilized with fertilizer tablets as per planting notes.

2.06 LANDSCAPE MATERIALS

A. Chemical Treatment Material: EPA registered and approved seed pre-emergent herbicide. Use requires approval of the Owner's Representative.

B. Stakes: Stakes supporting trees shall be minimum 2" diameter lodgepole pine and capable of standing in the ground at least two years.

C. Tree ties: As noted on plans and details

D. Anti-Desiccant: Anti-desiccant shall be "Wilt Pruf" or equal, delivered in manufacturer's containers and used according to the manufacturer's instructions. This product shall be used by plant

originator and by contractor on-site for trees shipped in hot weather and to be sprayed on plants sensitive to moisture evaporation in hot water.

E. Rock Mulch: as per plans and details.

F. Boulders: as per plans and details.

G. Organic or Bark Mulch: as per plans and details.

Note: Any or-equal rock source for 3-10-inch sized rock and boulders must produce the colors, hues and patterns depicted in the rock.

PART 3 EXECUTION

3.01 SITE PREPARATION

A. Finished grades of all planting areas shall be left 2" below all walks and curbs.

B. Contractor shall verify areas to receive landscape work are ready for such work prior to proceeding. If problems exist which will adversely affect landscape work or completion in a timely manner, notify general contractor immediately for resolution.

3.02 PLANTING OPERATIONS _TREES, SHRUBS AND GROUNDCOVERS

A. Planting Season: Extreme care shall be exercised to assure plants are protected from extremes of weather which could cause damage to the plants.

1. Planting in Hot Weather: Fill each basin (pit) with water twice prior to planting. Do not allow basin to dry out. After planting, water as frequently as required to keep the plant adequately moist until well established and final acceptance by the owner. Contractor shall take extreme care to handle plant material in the coolest part of the day.

2. Planting in Cool Weather: Do not handle plant material when temperatures are 35 degrees or colder (below freezing). Damage to plant material may result. Provide mulching around plant to protect rootball.

B. Obstruction Below Ground: Do not plant any plant with a large obstruction directly below the root ball. In the event that rock or obstructions are encountered in any plant pit excavation, alternate locations shall be selected by the Owner's Representative.

C. Drainage: In the event that impervious caliche, rock or hardpan is encountered during digging operations, in tree pits or shrub pits, it shall be the responsibility of the Landscape Contractor to insure proper drainage in all pits. Minimum drainage requirements shall be the loss of water at the rate of 6" drop in water level per hour. All caliche, rock or hardpan encountered shall be disposed of off the site. Refer to Section 02910 "Landscape Topsoil and Subsurface Conditions".

D. Planting Pits: Plant pits may be square or circular and shall have vertical sides and flat bottoms. Minimum hole sizes shall be as indicated as noted.

1. Mark a circular area three to five times the diameter of the root ball. Till this area to a depth no deeper than the root ball. Walls of the undisturbed soil should be rough and sloping. Dig a hole in the center of the tilled area slightly wider and no deep than the root ball.

2. Always handle the plant by the container or the root ball. Remove the plant from the container with minimal disturbance to the root ball. Score the root ball to cut any circling roots and to disturb the media-backfill interface. Make a vertical cut ¼ to ½ inch deep four times around the sides and twice across the bottom.

3. The top of the root ball should be level with or slightly above the finished grade. Backfill as per details and these specifications. Do not pack the soil.

4. Remove the nursery stake. Do not prune unnecessarily. Remove only broken or infected branches, and double leaders using clean, shape bypass pruners. Remove trunk sprouts gradually over several years on trees.

5. Form an irrigation well, if used, at the edge of the root ball to ensure that irrigation wets the container media. Irrigate the plant and the entire tilled area. Apply enough water to thoroughly wet the soil to the depth of the root ball. This will remove air pockets without compacting the soil.

E. Watering: Water each plant thoroughly immediately after planting. Fill each basin twice for the initial watering. Water as frequently as required to keep the plant adequately moist until well established and final acceptance by the project engineer.

3.03 PRUNING AND MULCHING

A. Each tree and shrub shall be pruned in accordance with the American Association of Nurserymen standards to preserve the natural character of the plant.

B. All dead wood or suckers and all broken or badly bruised branches shall be removed.

C. Pruning shall be done with clean, sharp tools.

D. Cuts over 1" in diameter shall be painted with an approved tree paint. Paint shall cover all exposed cambium as well as other exposed living tissue.

E. Mulch the entire area with three to four inches of organic material. Do not let mulch contact the tree trunk or shrub branch. If planting in a lawn, keep the tilled area free of grass.

3.04 STAKING

A. Do not stake trees unnecessarily. If staking is required, use two stakes only on tree standards, three stakes minimum on multi-trunk trees. Place them outside the root ball and irrigation well at right angles to the prevailing wind. Make sure stakes penetrate undisturbed soil at least six inches.

B. To determine tie height, hold trunk with one hand and bend canopy to one side. If canopy does not return to an upright position, move up the trunk and try again. Find lowest point on trunk at which the canopy will return to an upright position. Place ties about six inches above this point. Use one set of ties only.

C. Fasten ties to stake so the cut ends are between the stake and the tree, not exposed on the outside of the stake. Twist wires to tighten (for wire type ties). There should be enough slack to allow the trunk and tie to move as a unit.

D. Cut the stakes off below the canopy to prevent wounds to branches.

E. Inspect and loosen ties periodically as the tree grows. Remove stakes as soon as possible.

3.05 ROCK AND ORGANIC MULCH AREAS

A. Areas to be covered with rock or organic mulch shall be treated with a seed pre-emergent prior to and after placement of mulch (see plan and details).

B. Place mulch at a minimum depth as indicated on plans and details.

C. Mulch shall be raked smooth and level. Rock mulch shall be compacted with a roller. Roller requirements are 100 lbs. minimum.

D. Apply pre-emergent a second time following other operations.

3.06 MAINTENANCE

A. The Contractor shall insure that all plant materials and lawn areas are in a sound, healthy, vigorous condition free of insects, bark abrasions, or other objectionable disfigurements and shall immediately replace any plant or areas of lawn which is unacceptable at any time up to and including final acceptance of the project or completion of the plant establishment/maintenance period, whichever occurs later.

B. When the termination of the plant/lawn establishment extends beyond the final acceptance date for the project, this additional period of time for plant establishment may be considered as a special warranty period within the standard 1-year guarantee period.

C. Unless otherwise authorized by the project engineer, the Contractor shall maintain all landscaped areas on a continuous basis as they are completed during the course of work and until final project acceptance or the termination of the plant establishment/maintenance period, whichever occurs later. Maintenance shall include keeping the landscape areas free of debris, weeding, cultivating plant/lawn replacement and pruning the planted areas at intervals acceptable to the project engineer. The Contractor shall provide adequate personnel to accomplish the required maintenance. Pruning and replacement of plants shall be as directed by the project engineer.

3.07 INSPECTION, ACCEPTANCE AND PLANT ESTABLISHMENT/MAINTENANCE PERIOD

A. The project engineer shall inspect the planting and related work upon written request by the General Contractor when all landscaping work is complete. The effective beginning date for plant establishment/maintenance period shall begin when the project is determined to be substantially complete. The plant establishment/maintenance period shall be for a period of 90 calendar days, but is subject to extension by the project engineer if the landscape areas are improperly maintained, appreciable plant replacement is required, or other corrective work becomes necessary.

B. At final project acceptance or at the end of the plant establishment/maintenance period, a final acceptance inspection of the planted areas will be made by the project engineer.

C. All requests for inspections shall be received at least five (5) days before anticipated date of inspection.

D. Responsibility of planted area: Until the project is finally accepted, the Contractor shall be

required to repair or replace any landscaping that is defective or becomes damaged. The cost of the necessary repairs or replacements shall be borne by the Contractor.

3.08 REPLACEMENT (See 1.04)

A. At the end of the 1-year guarantee period, the project engineer will make another inspection to determine the condition of plants. All plants not in a healthy growing condition, as determined by the project engineer, will be noted and as soon as seasonal conditions permit shall be removed from the site and replaced with plants, the same species and sizes as originally specified. Such replacements shall be made in the same manner as specified for the original plantings, and at no extra cost. The guarantee on plants shall be limited to one replacement.

3.09 CLEAN_UP

A. The Contractor shall be responsible for general daily site clean_up associated with his work including removal of debris and all trimmings, removal of soil from sidewalks, and removal of all materials which could present a hazard to the public.

END OF SECTION

SECTION 02910
LANDSCAPE TOPSOIL

PART 1 - GENERAL

1.01 SCOPE:

A. Subsurface and soils investigations.

1.02 SOILS INFORMATION:

A. A Geotechnical exploration report is on file with the Owner's Representative. Bidders shall make their own interpretations of the data contained in said report, and the Contractor shall not be relieved of liability or responsibility under the Contract as a result of any variance between conditions indicated by, or inferred from, said report and actual conditions encountered during the progress of work. The soils report shall take precedence over this Landscape Topsoil should discrepancies occur.

B. No warranty is made as to the accuracy or completeness of any information on soils or subsurface conditions, and it is expressly understood that neither the Owner nor his agents or consultants will be responsible for interpretations or conclusions drawn from data on existing conditions.

1.03 SITE FAMILIARIZATION:

A. The Contractor must examine the site prior to bid and prior to the start of construction.

B. Prior to the start of construction, the Contractor may perform additional borings or tests at no cost to the Owner.

C. Caliche: Any caliche, rock, or hardpan encountered during construction shall be the responsibility of the contractor to remove at his expense. Any planting pits for trees and shrubs encountering caliche, rock, or hardpan shall have caliche, rock, or hardpan removed by the contractor and disposed of off-site.

1.04 PLANTING SOILS:

A. Imported or native soil may be used for landscape plantings. Onsite native topsoil may be used if agronomy soils report finds the native topsoil acceptable and amenable to landscape plantings. Amend native soil as per agronomy soils report. Imported topsoil will be provided as needed by the Contractor if existing native topsoil quantity is insufficient for a complete project. Contractor will be responsible for placement and amendment to topsoil and planting soils. Contractor shall have agronomy soils tests performed on any native topsoil and imported topsoil to be used in any landscape plantings and turf areas. Agronomy soils test results shall be submitted to Landscape Architect and Owner's Representative for approval. Soils tests shall provide narrative report describing soils being tested, it's acceptability for landscape plantings, and the amendments needed for healthy and vigorous plant growth.

Test Measurement:

1. Organic Matter	%
2. Organic Nitrogen	lbs/A
3. Nitrate - Nitrogen	ppm & lbs/A
4. Available Nitrogen	ppm
5. Available Phosphorus	
a. Bray P1	ppm
b. Bicarbonate P	ppm
6. Exchangeable Potassium	ppm
7. Sulfate-Sulfur	ppm
8. Exchangeable Magnesium	ppm
9. Exchangeable Calcium	ppm
10. Exchangeable Sodium	ppm
11. Available Zinc	ppm
12. Available Copper	ppm
13. Available Iron	ppm
14. Available Manganese	ppm
15. Available Boron	ppm
16. Lime Requirement	lbs/1000 SF
17. Gypsum Requirement	lbs/1000 SF
18. Soil Texture	% sand, silt, clay
19. Electrical conductivity	mmhos per cm
20. Salinity	mmhos
21. SAR	ratio

B. Contractor shall bid the project with the below topsoil requirements and amendment procedures outlined in these specifications. Should results of onsite soils tests after rough grading show any unanticipated results, the amendment specifications and procedures may need to be adjusted.

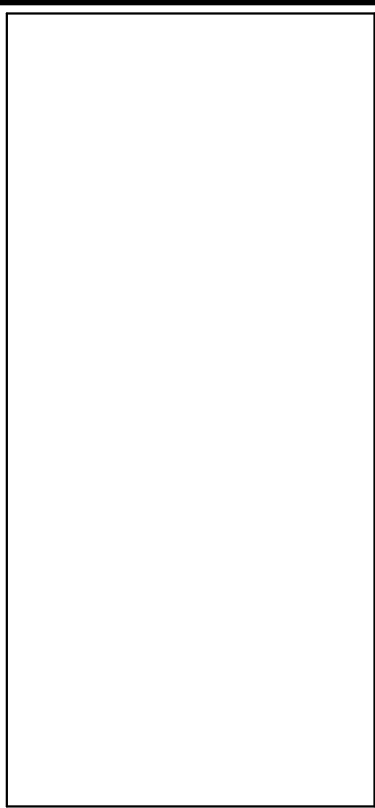
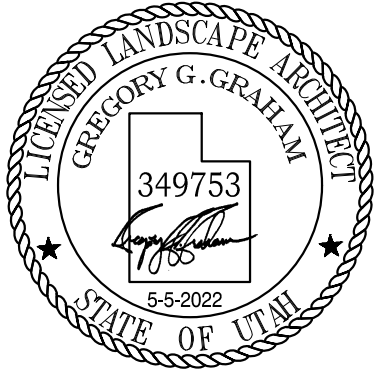
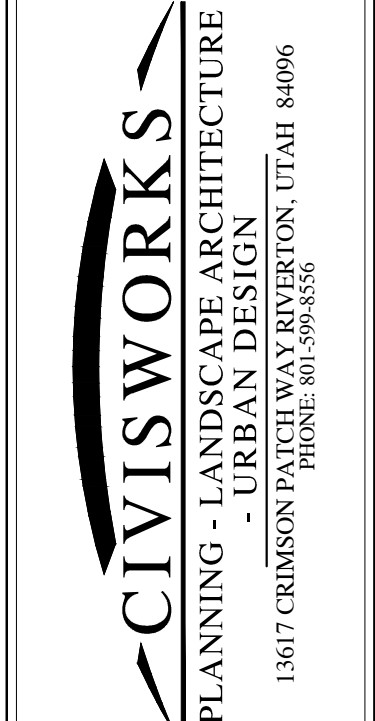
C. Acceptable native topsoil and imported topsoil shall be used for all new turf areas, shrub areas, and as part of the backfill mix for all container planting. (See Section 02900 Landscaping).

Top soil shall consist of friable soil of loam character. Topsoil shall be loam, sandy loam, silt loam, or sandy clay loam as per the Textural Triangle National Soils Handbook, Part 603-5. It shall be obtained from well-drained arable land and shall be free from sub-soil, refuse, roots, heavy or stiff clay, stones larger than ¾ inch in largest dimension, coarse sand, sticks, brush, litter, and other deleterious substances.

. Requirements for imported top soil shall be as follows:

1. TOPSOIL	
Electrical conductivity	Shall not exceed 3.0 ds/m @ 25 degrees C
pH range	6.0 - 8.0 (saturated paste)
Soluble Salts	Less than 2.5 (saturated paste)
SAR	Less than 2 (saturated paste)
Boron	Less than 1 ppm as per saturation extract
Sand	20 -70% (hydrometer)
Silt	20 -70% (hydrometer)
Clay	10 - 30% (hydrometer)

END OF SECTION



No.	Revisions	Date	By
1			
2			
3			
4			
5			
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8			
9			
10			

HOLLADAY CITY PLANTING
HIGHLAND DRIVE & VINE STREET

PLANTING
SPECIFICATIONS

Scale:
NO SCALE

Date:
MAY 5, 2022

Drawn By:
ESG

Approved By:
GGG

North

Job No.

21-066

Sheet No.

L104
4 of 9

GENERAL IRRIGATION NOTES:

1.

THE TWO IRRIGATION SYSTEM POINT OF CONNECTIONS ARE AFTER THE EXISTING WATER METERS IN THE NORTH AND CENTRAL PLANTER ISLANDS.
2.

THE IRRIGATION SYSTEM DESIGN IS BASED ON A MINIMUM NEEDED OPERATING PRESSURE AND THE MAXIMUM FLOW DEMAND SHOWN ON THE IRRIGATION DRAWINGS AT THE METER OR POINT OF CONNECT. THE CONTRACTOR SHALL TEST ONSITE WATER PRESSURE PRIOR TO CONSTRUCTION AND REPORT THE EXISTING PRESSURE. IN THE EVENT THE EXISTING PRESSURE IS LESS THAN THE PRESSURE NEEDED AS INDICATED ON THE PLANS, CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE AND DESIGN PROFESSIONAL TO DETERMINE IF ADJUSTMENTS TO THE SYSTEM ARE NECESSARY. IF THE EXISTING PRESSURE IS NOT REPORTED PRIOR TO CONSTRUCTION, CONTRACTOR SHALL ASSUME ALL AND FULL RESPONSIBILITY FOR ANY CONSTRUCTION REVISIONS NECESSARY AT NO ADDITIONAL COST TO PROJECT.
3.

120 VOLT ELECTRICAL POWER OUTLET AT THE AUTOMATIC CONTROLLER LOCATION SHALL BE INSTALLED AS PER ALL GOVERNING CODE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE THE FINAL CONNECTION FROM THE ELECTRICAL OUTLET TO THE AUTOMATIC CONTROLLER. ELECTRICAL WORK SHALL BE AS PER THE STANDARD SPECIFICATIONS, SPECIAL PROVISIONS, AND GOVERNING CODE.
4.

THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED AREAS OR OUTSIDE THE LOD LINE IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WITHIN THE LOD LINE. AVOID ANY CONFLICT BETWEEN THE IRRIGATION SYSTEM, PLANTING, AND ENGINEERING FEATURES.
5.

CONTRACTOR SHALL BE RESPONSIBLE TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS, STRUCTURES, UTILITIES, ETC.
6.

DO NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES, OR DIFFERENCES IN THE AREA DIMENSIONS EXISTING THAT MIGHT HOT HAVE BEEN CONSIDERED IN THE DESIGN. SUCH OBSTRUCTIONS OR DIFFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY AND LIABILITY FOR ANY REVISIONS NECESSARY AT NOT ADDITIONAL COST TO PROJECT.
7.

CONTRACTOR SHALL COORDINATE HIS WORK WITH THE OTHER CONTRACTORS AND TRADES AND VERIFY THE LOCATION AND INSTALLATION OF SLEEVES THROUGH WALLS, UNDER ROADS, PAVING STRUCTURES, AND OTHER SITE ELEMENTS AS SHOWN ON THESE IRRIGATION DRAWINGS.
8.

INSTALL ALL PIPE MATERIALS AND EQUIPMENT AS SHOWN IN DETAILS. USE TEFLON TAPE ON ALL PVC MALE PIPE THREADS, ON ALL SWING JOINTS, AND ON ALL VALVE ASSEMBLIES.
9.

CONTRACTOR SHALL PROVIDE GATE VALVES ON THE MAINLINE AS PER PLAN.
10.

FOR TRADITIONAL WIRED SYSTEM, WIRE SHALL BE UF-UL AMERICAN WIRE GAUGE 12 OR 14 SOLID COPPER DIRECT BURIAL WIRE. GAUGE SIZED ACCORDINGLY FOR LENGTH AS PER MANUFACTURES DETAILS AND SPECIFICATIONS. USE WHITE WIRE FOR COMMON GROUND WIRE. USE EASILY DISTINGUISHED COLORS FOR CONTROL WIRE. COMMUNICATION WIRE BETWEEN CONTROLLER AND REMOTE VALVES MAY BE BURIED DIRECTLY IN SOIL.
11.

FOR TWO-WIRE SYSTEM, CONTRACTOR SHALL USE RAIN BIRD MAXIWIRE OR EQUIVALENT. WIRE SHALL BE SIZED APPROPRIATELY FOR LENGTH AS PER MANUFACTURE'S DETAILS AND SPECIFICATIONS. WIRE SHALL BE RATED FOR DIRECT BURIAL.
12.

COMMUNICATION CABLE FOR FLOW SENSOR TO CONTROLLER SHALL BE PAIGE ELECTRIC P7315D CONFORMING TO REA PE-39 AND SHALL BE IN A 1" PVC CONDUIT. COMMUNICATION WIRE SHALL BE A SINGLE NON-SPLICED CABLE FROM CONTROLLER TO FLOW SENSOR.
13.

ALL WIRE SPLICES SHALL BE MADE WITH 3M DBR-Y AS PER MANUFACTURE'S DETAILS AND SPECIFICATIONS. ALL SPLICING SHALL OCCUR WITHIN THE VALVE BOX AT VALVE LOCATIONS.
14.

CONTROLLER(S) SHALL BE PROGRAMMED TO WORK WITH CLIENTS COMPUTER SYSTEM AS NEEDED.
15.

CONTRACTOR SHALL INSTALL PULL BOXES EVERY 200 FEET, AT ALL CHANGES IN DIRECTION OF 30° OR MORE, AND AT THE END OF RUNS WHERE EVER IRRIGATION COMMUNICATION WIRES ARE TO BE INSTALLED. SEE IRRIGATION DETAILS.
16.

ON TWO-WIRE SYSTEMS, CONTRACTOR SHALL PLACE APPROPRIATE LINE SURGE PROTECTORS AT THE APPROPRIATE INTERVAL ON THE TWO-WIRE COMMUNICATION WIRE AS PER CONTROLLER MANUFACTURE'S DETAILS AND SPECIFICATIONS.
17.

NO SUBSTITUTIONS SHALL BE MADE WITHOUT THE APPROVAL, PRIOR TO CONSTRUCTION, OF THE LANDSCAPE ARCHITECT AND THE OWNER'S REPRESENTATIVE.
18.

CONTRACTOR SHALL REPAIR DISTURBED TURF, PLANTING, AND NATIVE AREAS IN EXISTING PLANTING AND NATIVE AREAS TO PRE-CONSTRUCTION OR LIKE NEW CONDITIONS TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.

CRITICAL ANALYSIS

Generated:	2022-04-07 13:35
P.O.C. NUMBER: 01	
Water Source Information:	Existing Water Meter
FLOW AVAILABLE	
Water Meter Size:	1"
Flow Available:	14.16 GPM
PRESSURE AVAILABLE	
Static Pressure at POC:	90.00 PSI
Elevation Change:	5.00 ft
Service Line Size:	1"
Length of Service Line:	20 ft
Pressure Available:	87.00 psi
DESIGN ANALYSIS	
Maximum Station Flow:	8.29 GPM
Flow Available at POC:	14.16 GPM
Residual Flow Available:	5.87 GPM
Critical Station:	2
Design Pressure:	30 PSI
Friction Loss:	0.67 PSI
Fittings Loss:	0.07 PSI
Elevation Loss:	0 PSI
Loss through Valve:	6.29 PSI
Pressure Req. at Critical Station:	37.02 PSI
Loss for Fittings:	0.02 PSI
Loss for Main Line:	0.17 PSI
Loss for POC to Valve Elevation:	0 PSI
Loss for Backflow:	11.51 PSI
Loss for Master Valve:	1.77 PSI
Loss for Water Meter:	0.53 PSI
Critical Station Pressure at POC:	51.02 PSI
Pressure Available:	87 PSI
Residual Pressure Available:	35.98 PSI

CRITICAL ANALYSIS

Generated:	2022-04-07 13:35
P.O.C. NUMBER: 02	
Water Source Information:	Existing Water Meter
FLOW AVAILABLE	
Water Meter Size:	1"
Flow Available:	14.16 GPM
PRESSURE AVAILABLE	
Static Pressure at POC:	90.00 PSI
Elevation Change:	5.00 ft
Service Line Size:	1"
Length of Service Line:	20 ft
Pressure Available:	87.00 psi
DESIGN ANALYSIS	
Maximum Station Flow:	7.66 GPM
Flow Available at POC:	14.16 GPM
Residual Flow Available:	6.5 GPM
Critical Station:	3
Design Pressure:	30 PSI
Friction Loss:	0.69 PSI
Fittings Loss:	0.07 PSI
Elevation Loss:	0 PSI
Loss through Valve:	5.66 PSI
Pressure Req. at Critical Station:	36.42 PSI
Loss for Fittings:	0.01 PSI
Loss for Main Line:	0.15 PSI
Loss for POC to Valve Elevation:	0 PSI
Loss for Backflow:	11.5 PSI
Loss for Master Valve:	1.75 PSI
Loss for Water Meter:	0.47 PSI
Critical Station Pressure at POC:	50.3 PSI
Pressure Available:	87 PSI
Residual Pressure Available:	36.7 PSI

DRIP IRRIGATION NOTES

1.

DRIP EMITTERS SHALL BE PLACED AROUND THE ROOTBALL OF SHRUBS ON THE HIGH SIDE OF SLOPE. TO PROMOTE ROOT GROWTH IN THE SURROUNDING SOIL, CONTRACTOR SHALL ENSURE THE ROOTBALL OF THE PLANTS RECEIVES WATER FROM THE EMITTERS AND WETS THE SURROUNDING SOIL BY PLACING AND SPACING EMITTERS APPROPRIATELY, SEE IRRIGATION DETAILS.
2.

FOR NEW TREES ONLY, EMITTERS SHALL BE PLACED AT OR ON ROOTBALL AND PROGRESSIVELY SPACED BEYOND ROOTBALL OF TREE AS PER DETAIL ENSURING ROOTBALL RECEIVES WATER FROM EMITTERS AND ADJACENT SOIL IS WETTED TO PROMOTE ROOT GROWTH INTO THE ADJACENT SOIL. FOR EXISTING TREES, SPACE EMITTERS EQUIDISTANT AT THE PERIMETER OF THE DRIP LINE OF THE TREE. SEE IRRIGATION DETAILS
3.

CONTRACTOR TO USE RAIN BIRD FUNNY PIPE AND APPROPRIATE BARBED FITTINGS WITH MALE THREADS AND ADAPTERS AS THE DRIP SUPPLY TUBING TO THE EMITTERS.
4.

CONTRACTOR MAY INSTALL MULTIPLE EMITTERS ON A TERMINAL RUN OF FUNNY PIPE. MAXIMUM OF 10 EMITTERS PER TERMINAL RUN FROM RIGID PVC LATERAL LINE. TERMINAL RUNS SHALL NOT EXCEED 30'. DOES NOT APPLY TO RUNS OF FUNNY PIPE THAT CONNECT TO PVC LATERALS ON BOTH ENDS OF FUNNY PIPE.
7.

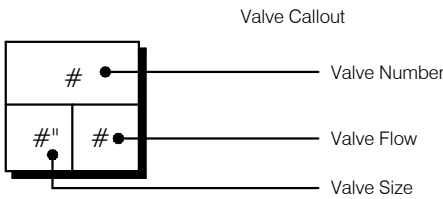
ALL DRIP ZONES SHALL HAVE MINIMUM ONE AIR RELIEF VALVE INSTALLED AT THE HIGH POINT OF ZONE. SOME DRIP ZONES MAY HAVE MULTIPLE AIR RELIEF VALVES.
8.

FOR DRIP UNDER EXISTING TREES AND SHRUBS, USE DETAIL 'M', SHEET L203.
9.

FOR DRIP BEYOND EXISTING TREES AND SHRUBS, USE DETAIL 'N', SHEET L203.

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	DETAIL
	Rain Bird XZC-100-PRB-LC Wide Flow Drip Control Kit, for Light Commercial Uses. 1" PEB Valve, with 1" Pressure Regulating 40psi Basket Filter. 0.3gpm to 20gpm.	G, L203
	Flush Valve 3/4" PVC ball valve in 10" valve box. See drip irrigation details for locations.	K, L203
	Netafim TLAVRV Air/Vacuum relief valve, 1/2" male pipe thread.	J, L203
	Area to Receive Drip Emitters GPH Irrigation GPST-P Threaded pressure compensating drip emitter with 1/2" (1.27cm) PTF inlet and Diffuser Cap Outlet and Purple color cap. Brown=0.5gph; Black=1.0gph; Green=2.0gph; Yellow=4.0gph; Tan=6.0gph; Gray=8.0gph; Orange=10gph.	N, M, L203 E, L204
	Emitter Notes: 2.0 GPH emitters (1 assigned to each 5 gal. plant)	
	2.0 GPH emitters (1 assigned to each 1 gal. plant)	
	2.0 GPH emitters (1 assigned to each 2 gal. plant)	
	2.0 GPH emitters (1 assigned to each 5 gal. plant)	
	4.0 GPH emitters (8 assigned to each --- plant)	
	2.0 GPH emitters (1 assigned to each 3 gal. plant)	
	4.0 GPH emitters (6 assigned to each 2" Cal. plant)	
	4.0 GPH emitters (6 assigned to each 6" Diameter plant)	
	4.0 GPH emitters (6 assigned to each 8" Diameter plant)	
	4.0 GPH emitters (8 assigned to each 15" Diameter plant)	
	4.0 GPH emitters (8 assigned to each 32" Diameter plant)	
	4.0 GPH emitters (8 assigned to each 43" Diameter plant)	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	DETAIL
	Rain Bird 44-NP 1" Brass Quick-Coupling Valve, with Corrosion-Resistant Stainless Steel Spring, Locking Non-Potable Purple Rubber Cover, and 2-Piece Body.	E, L203
	Hammond IB645 brass gate valve. Size as per plan.	F, L203
	Stop and Waste Valve Mueller bronze or brass stop and waste valve. Size per line.	Q, L203
	Master Valve Rain Rain Bird PEB 1" 1", 1-1/2", 2" Plastic Industrial Valves. Low Flow Operating Capability, Globe Configuration.	C, L203
	Zurn 975XL 1" Reduced Pressure Backflow device	L, L203
	Controller Irrigation Controller to be provided by the City. Install per manufacturers specifications.	H,P, L203
	Flomec QS200-10 1" 1" insertion flowmeter, schedule 80 PVC housing. 0.22-33 gpm range, max. operating pressure 150 psi. 2-wire connector w/ LED indicators for power and pulse. Storage temps -20 F to +160 F.	R, L203
	V.I.T. Products SBBC-30AL Low profile insulated backflow enclosure, with marine grade aluminum. 30"L, 30"H, 16.25"W (76.2cm L, 76.2cm H, 41.275cm W).	
	Water Meter 1" Existing Water Meter POC 1	
	Water Meter 1" Existing Water Meter POC 2	
	Irrigation Lateral Line: PVC Schedule 40	M,N, L203 E, L204
	Irrigation Mainline: PVC Schedule 40	M, L203
	Pipe Sleeve: PVC Schedule 40	M, L203



Call before you Dig
Avoid cutting underground utility lines. It's costly.

Call
811

or
1-800-662-4111

or
1-801-208-2100

CIVISWORKS
PLANNING - LANDSCAPE ARCHITECTURE
- URBAN DESIGN
13617 CRIMSON PARKWAY, SALT LAKE CITY, UTAH 84096
PHONE: 801-498-8555



No.	Revisions	Date	By

HOLLADAY CITY PLANTING
HIGHLAND DRIVE & VINE STREET

IRRIGATION NOTES & LEGEND

Scale:
N/A

Date:
MAY 5, 2022

Drawn By:
ESG

Approved By:
GGG

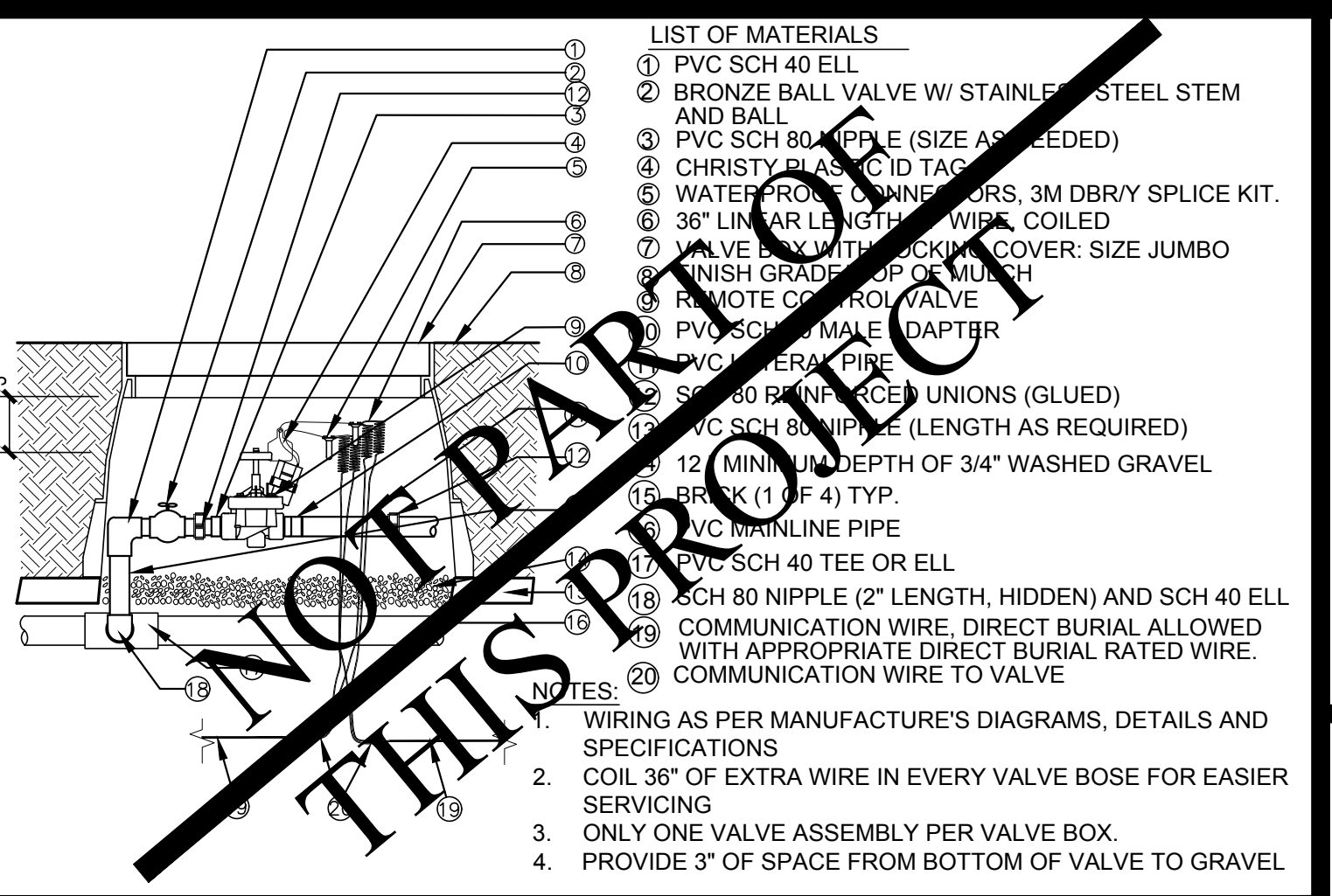
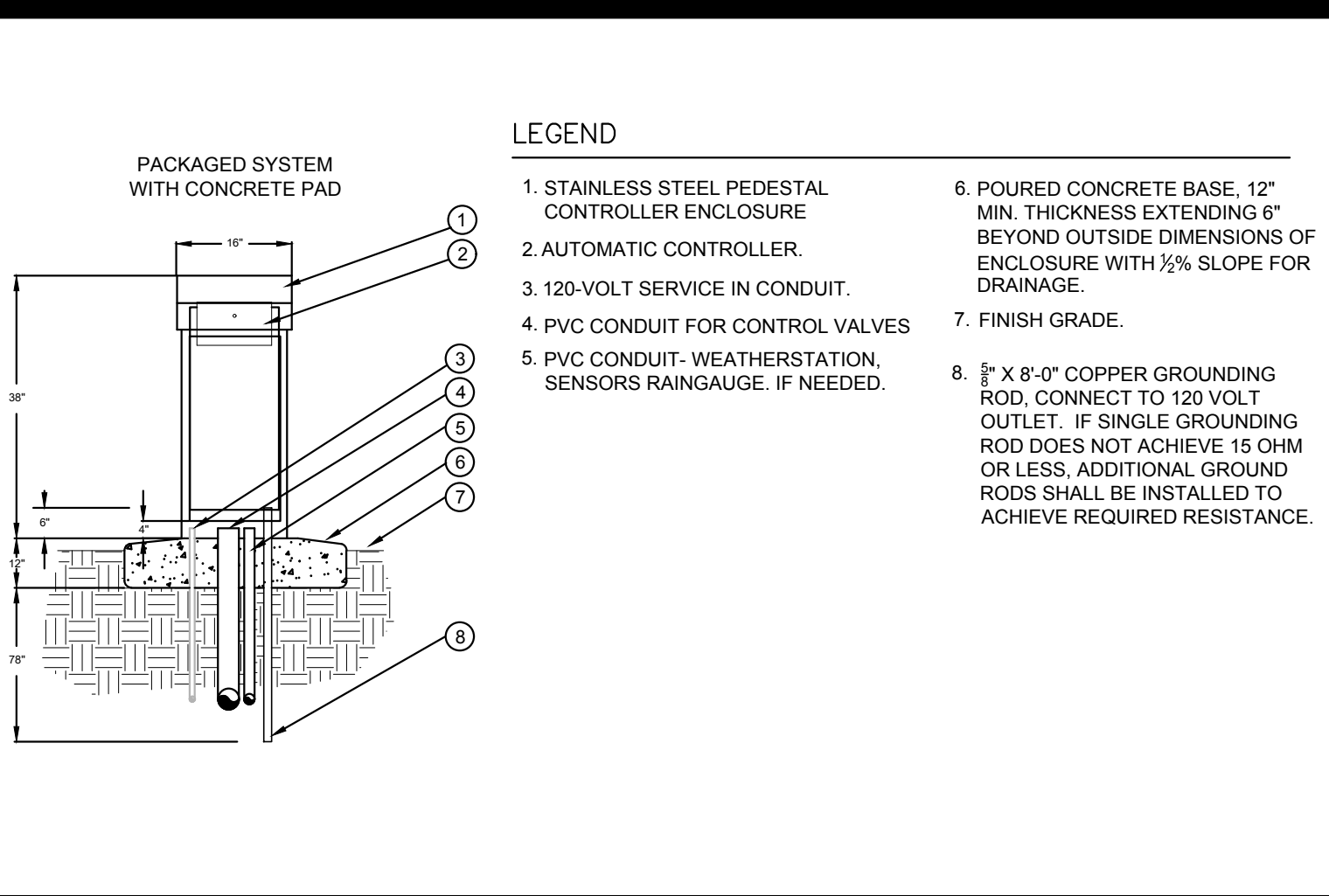
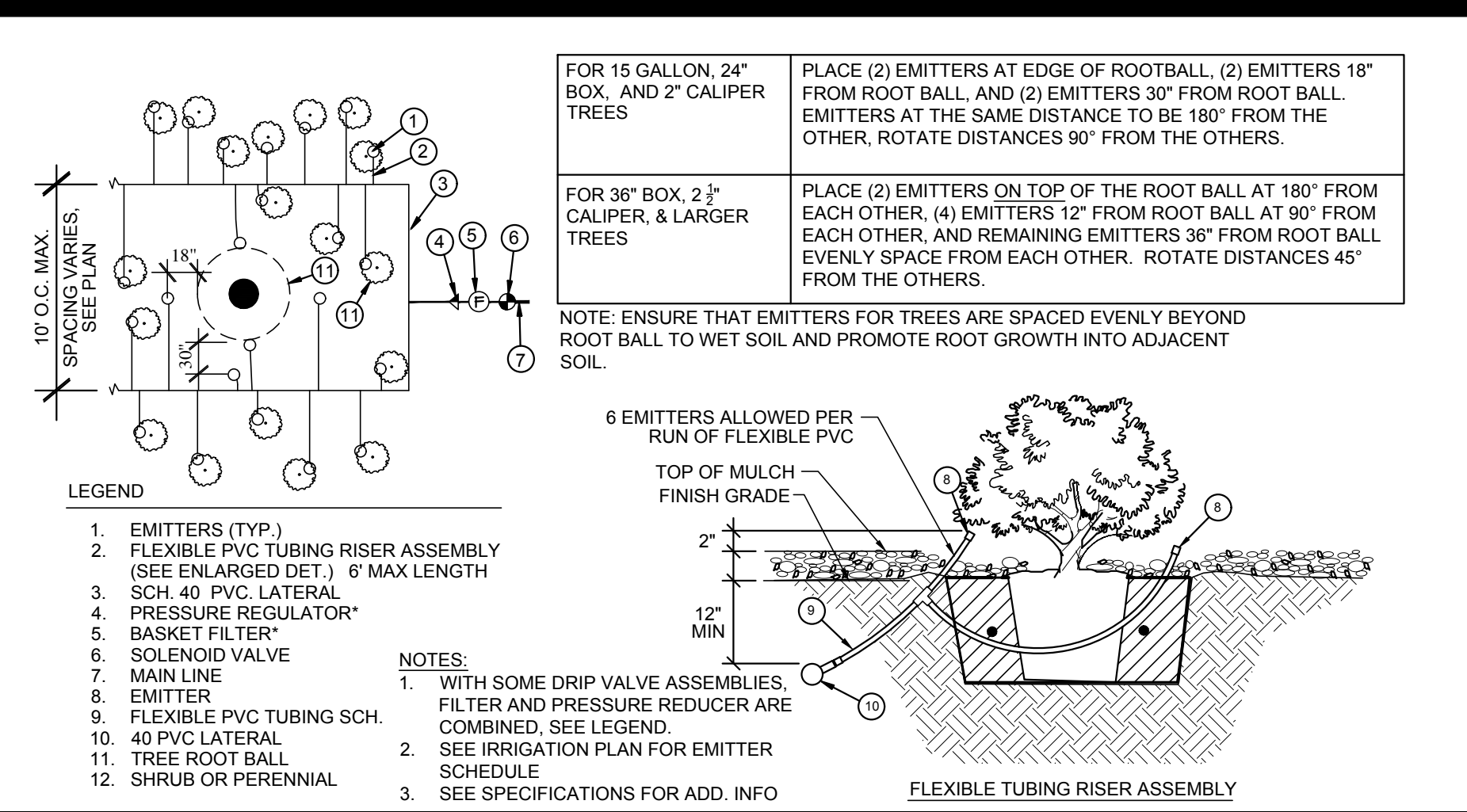
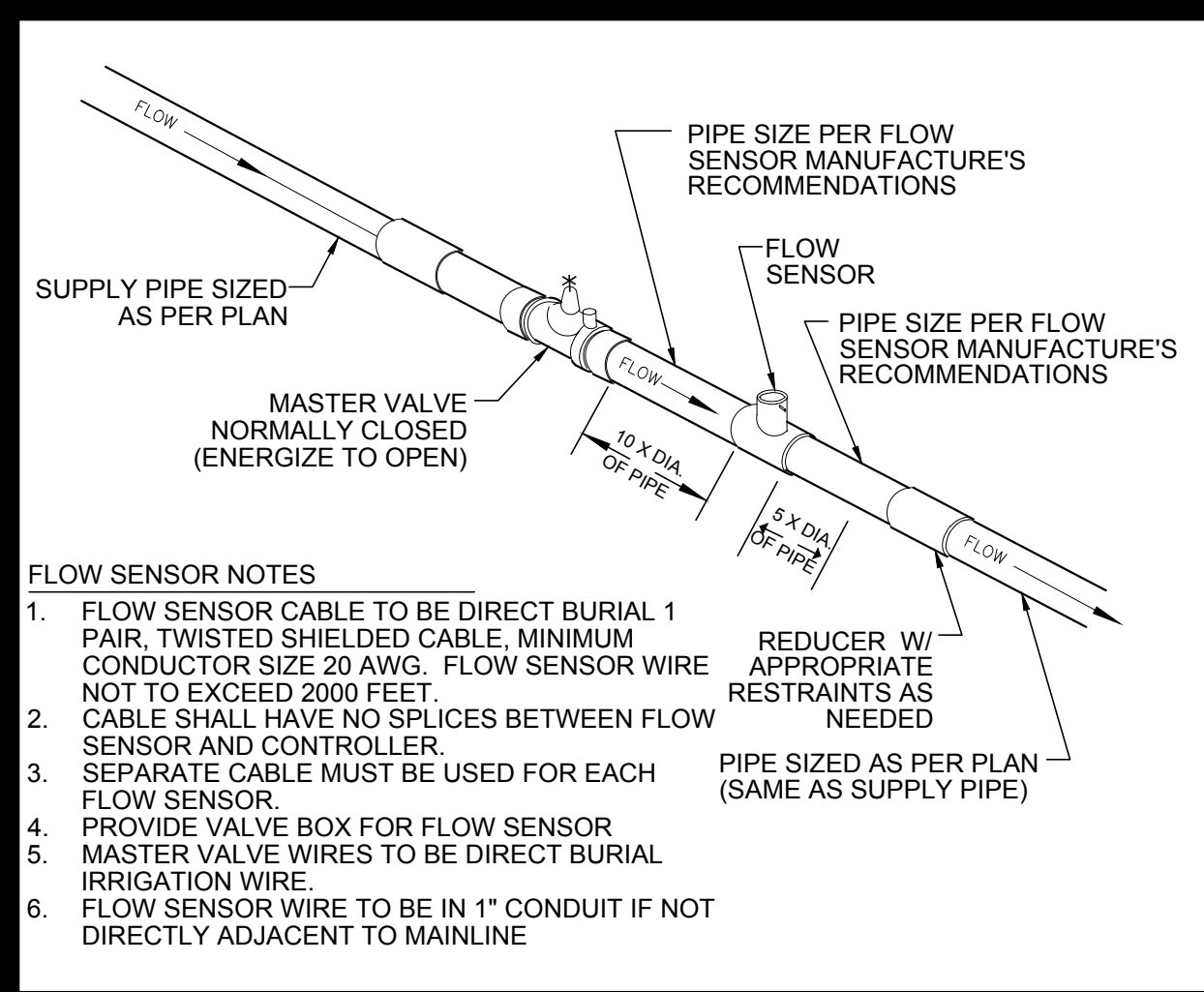
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Job No.

21-066

Sheet No.

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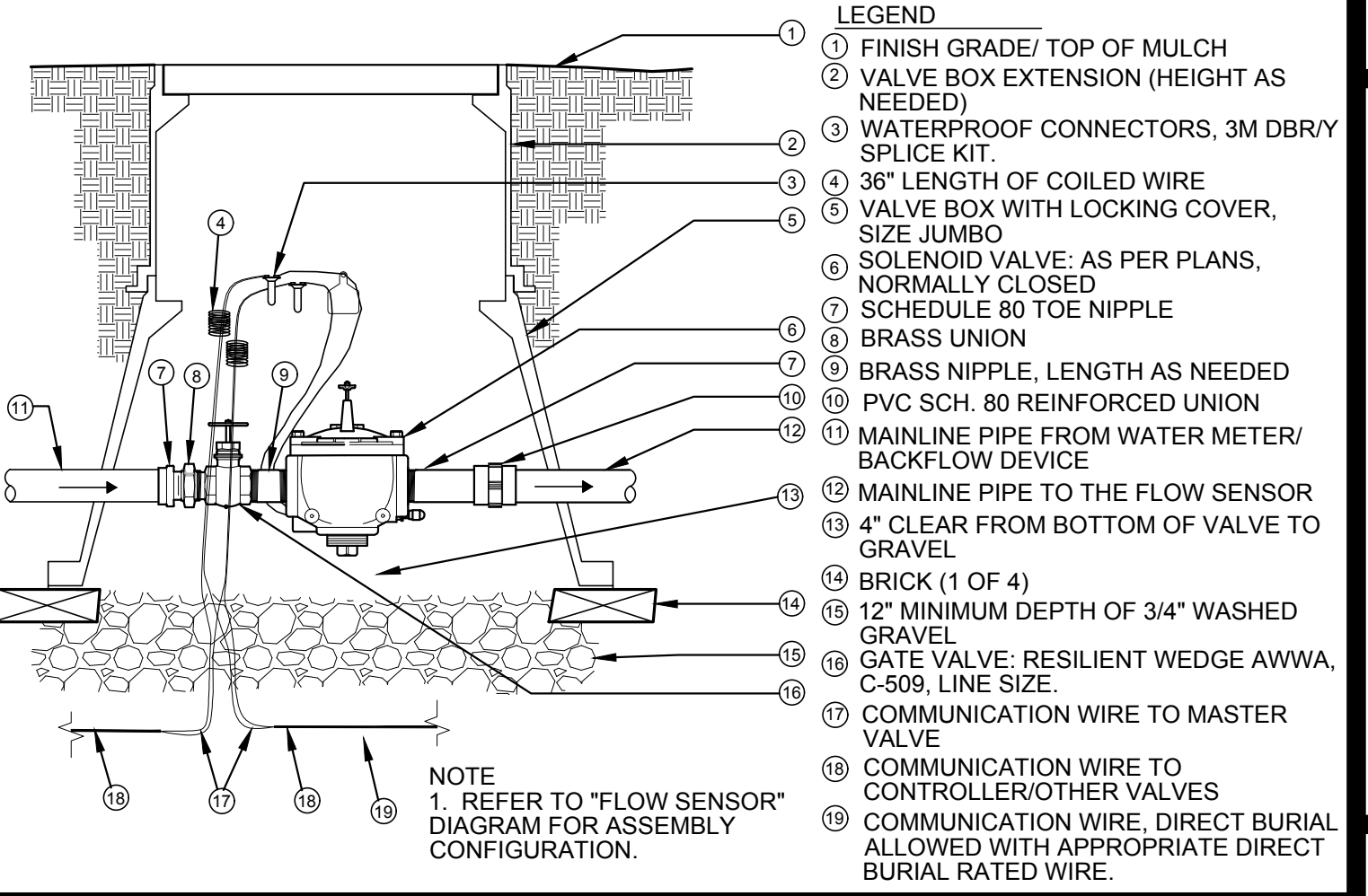
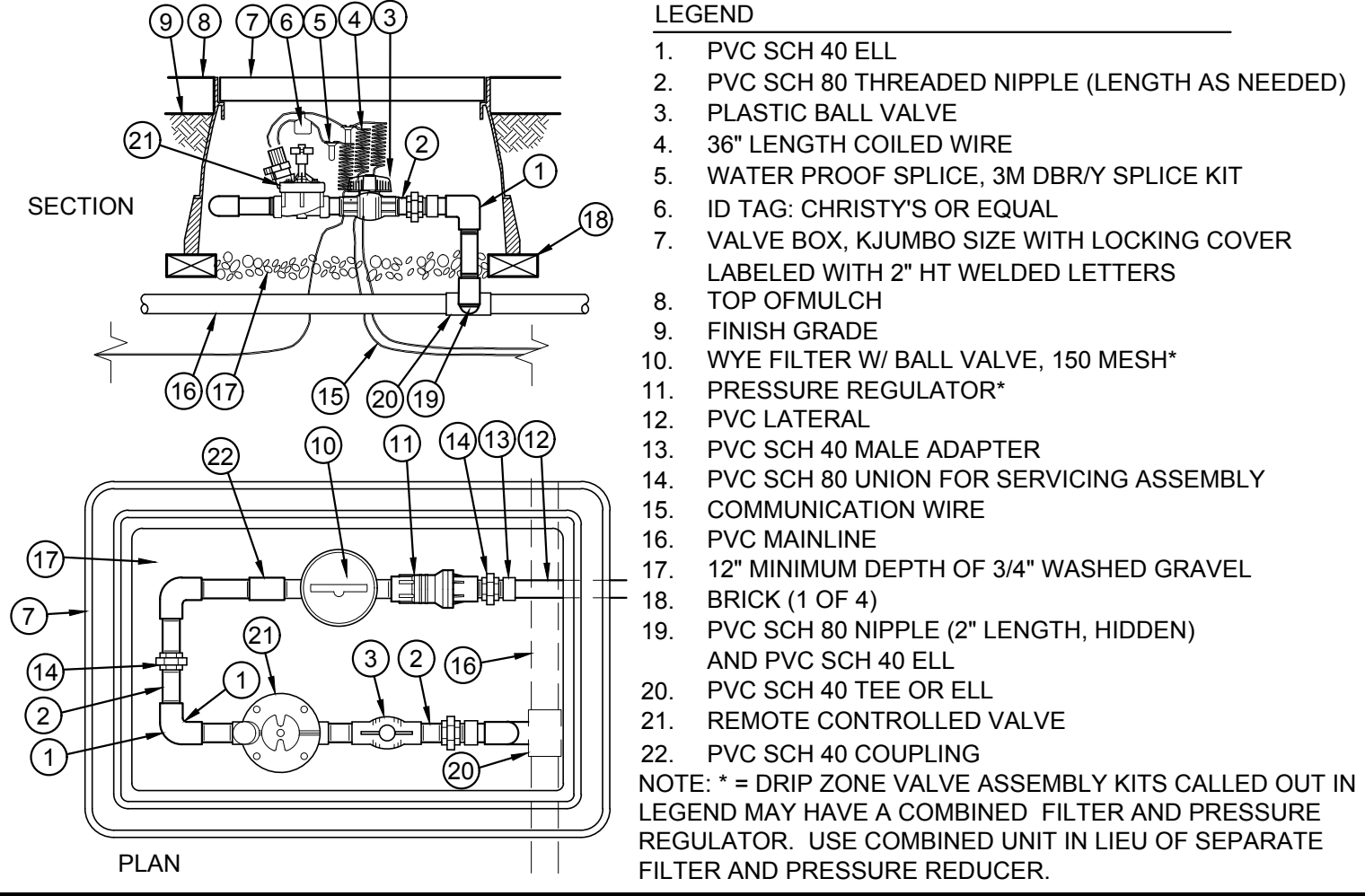
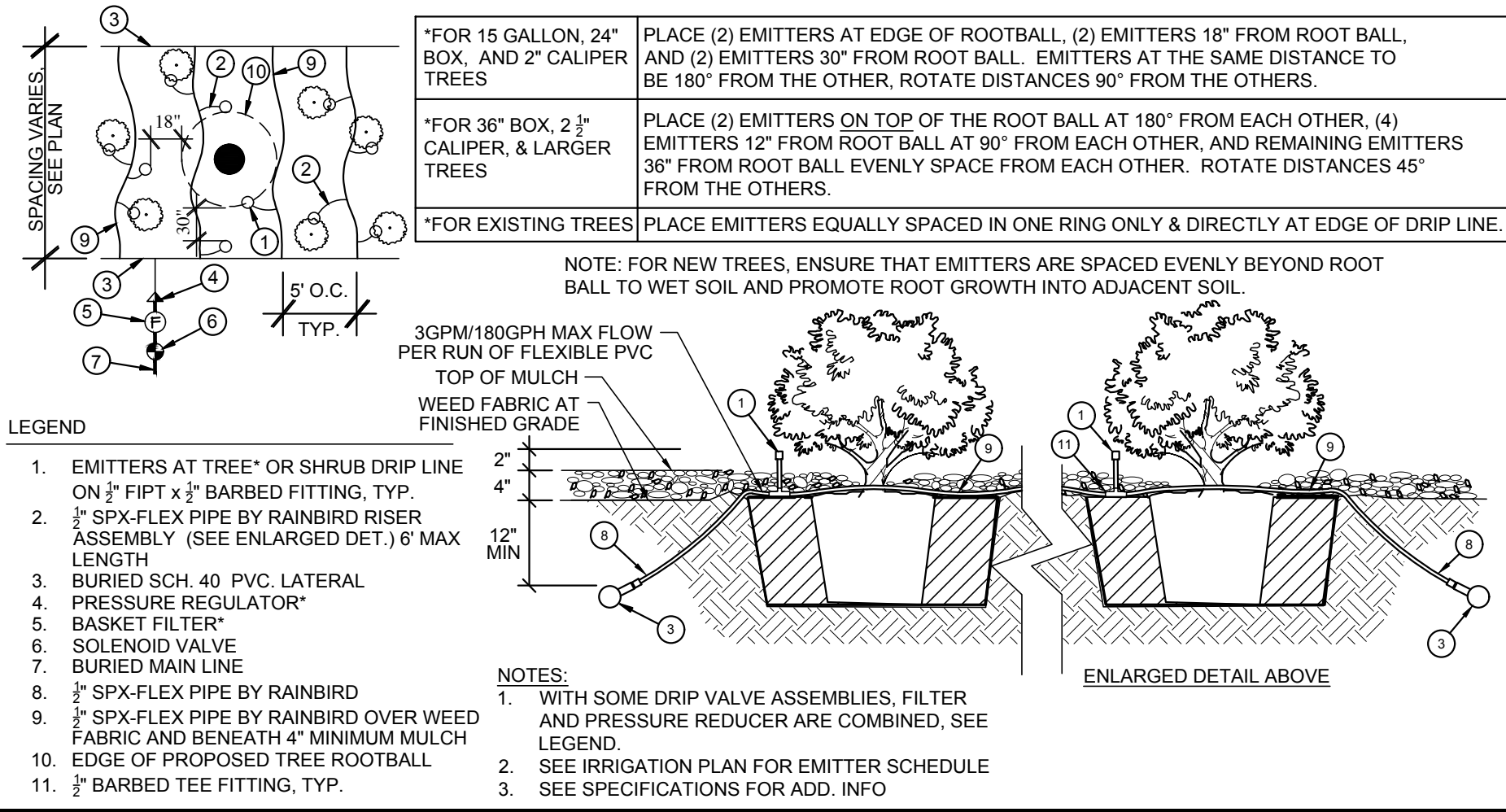
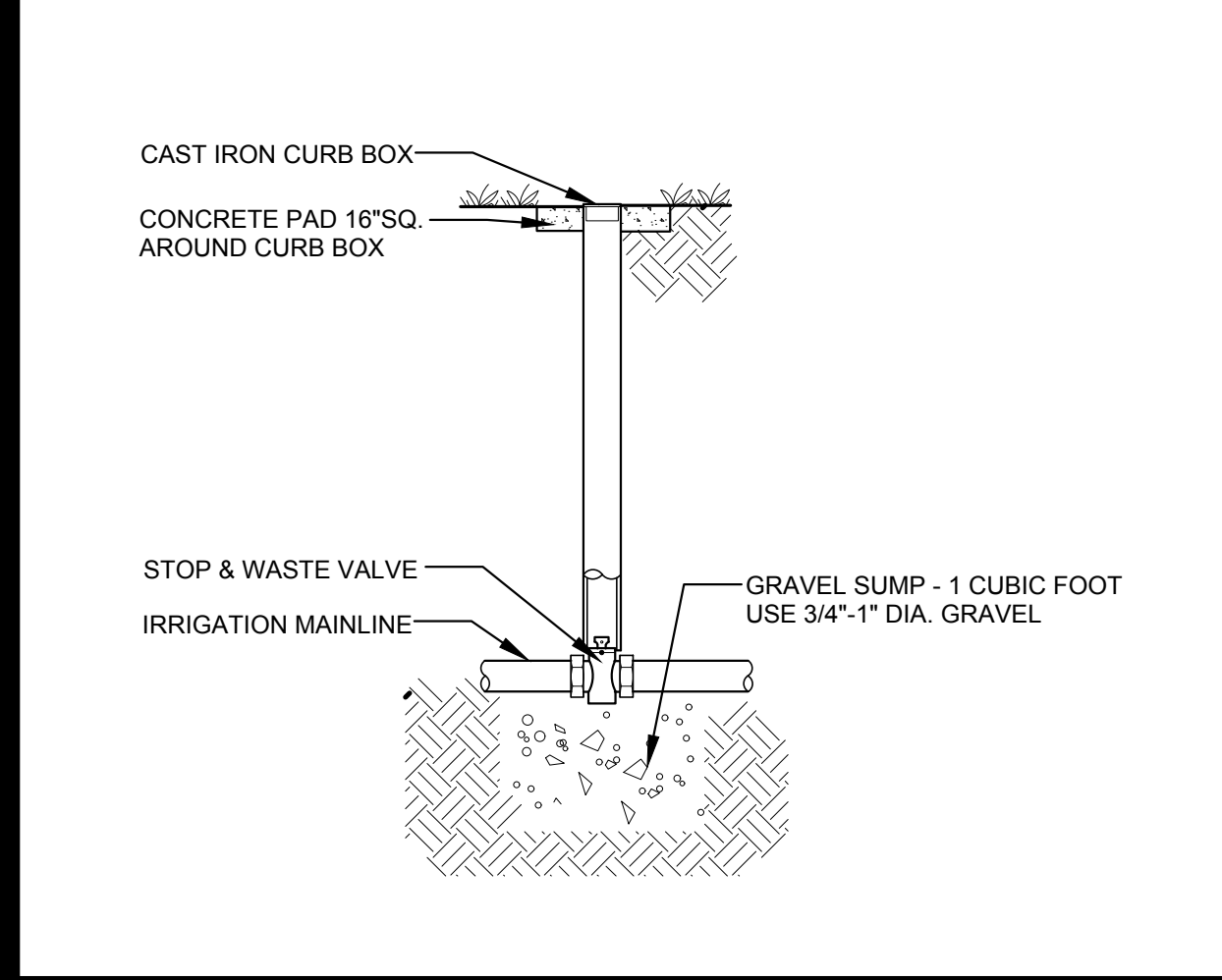


R FLOW SENSOR

N DRIP TUBING AND EMITTERS FOR NEW PLANTS

H CONTROLLER

D TURF VALVE

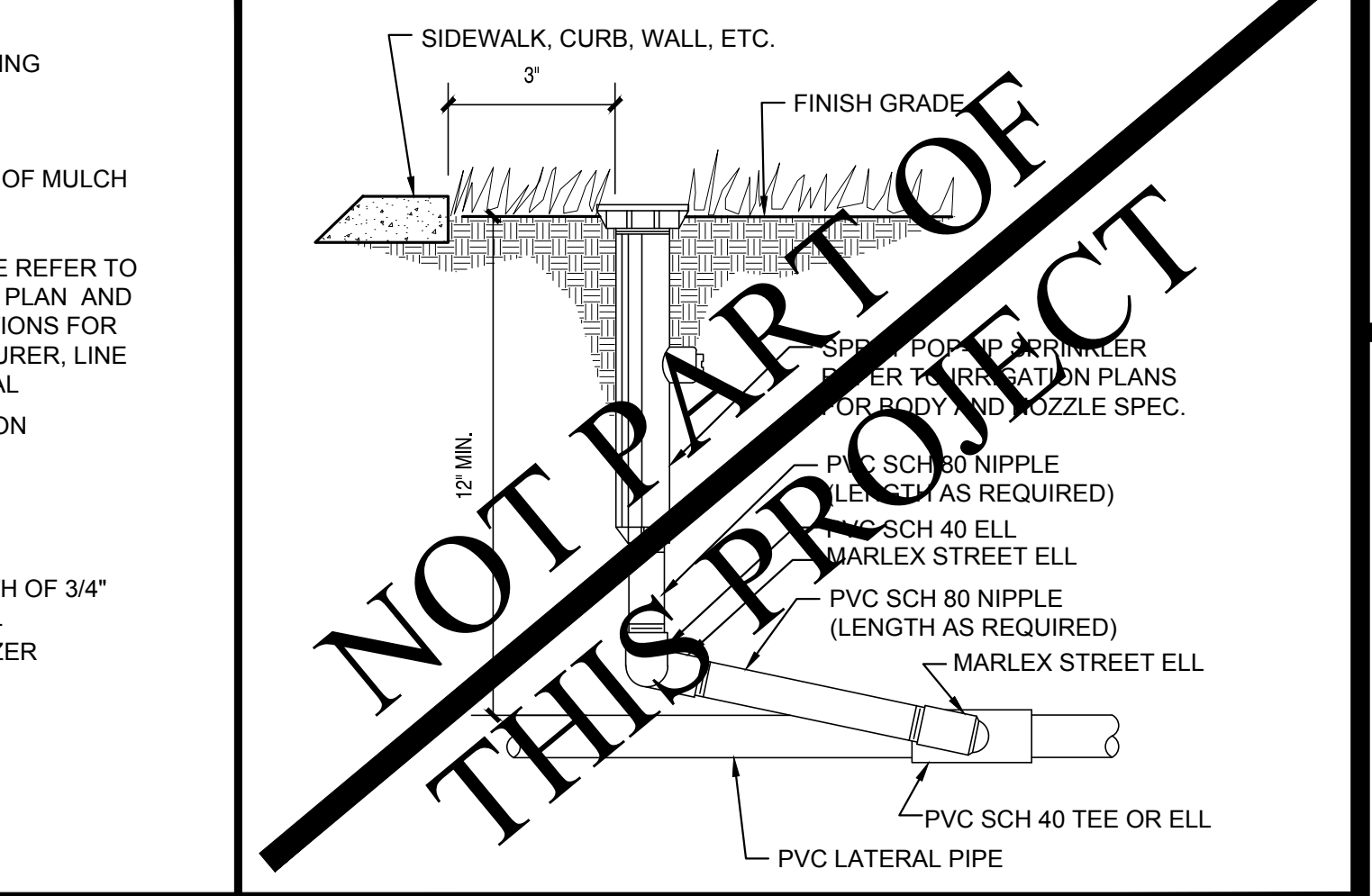
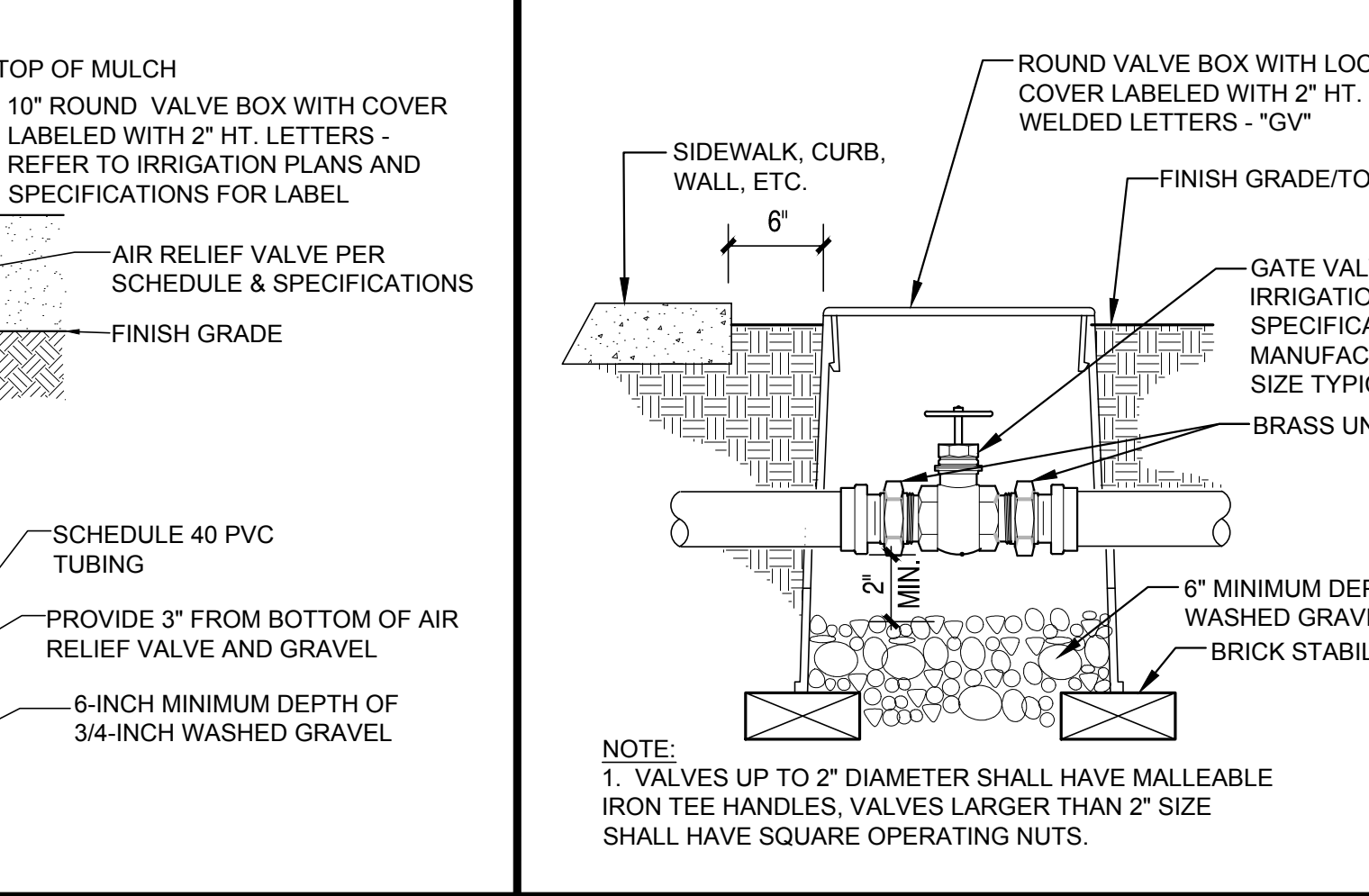
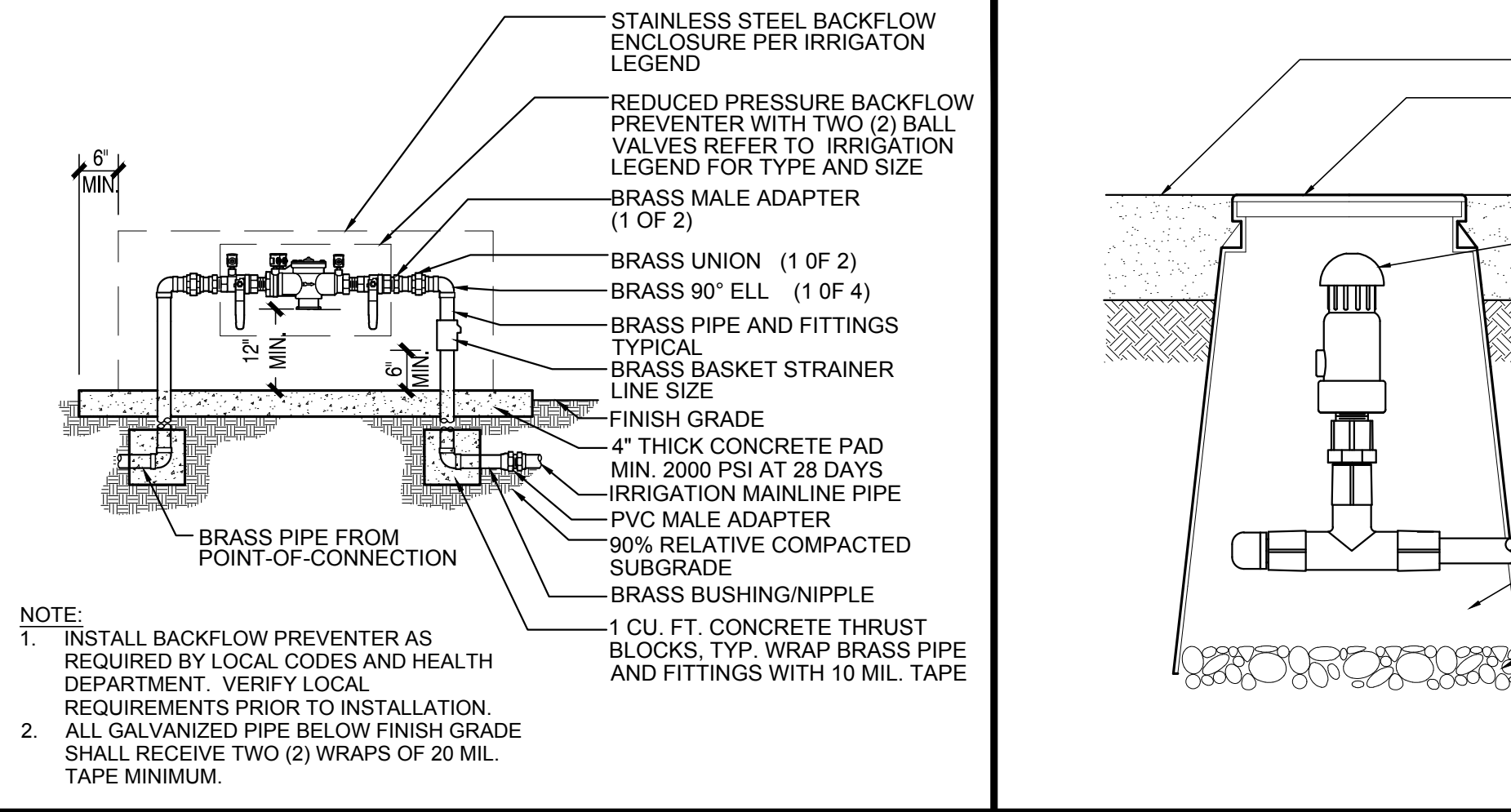
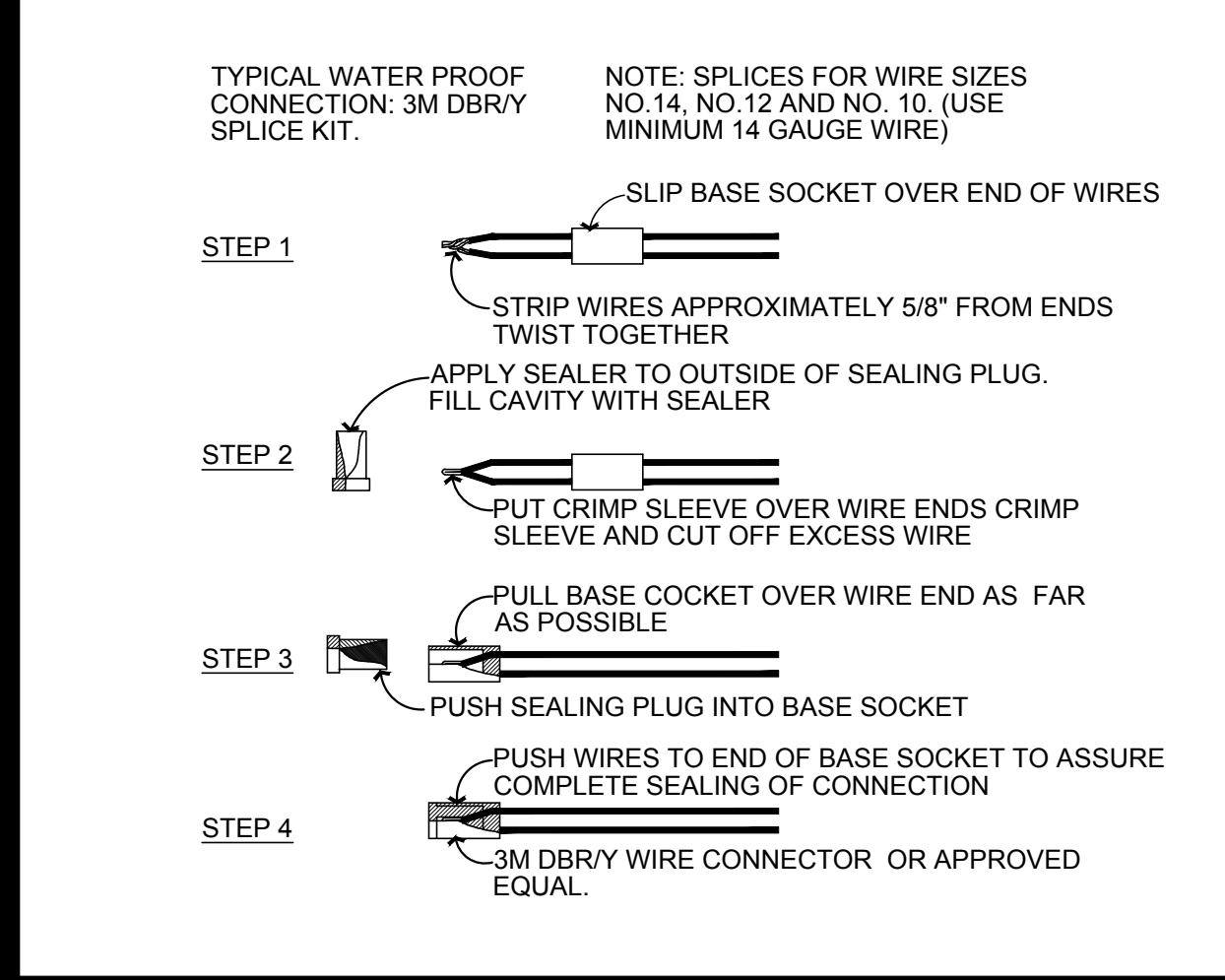


Q STOP AND WASTE

M ON-GRADE DRIP TUBING UNDER EXISTING TREES AND SHRUBS

G DRIP VALVE

C MASTER VALVE

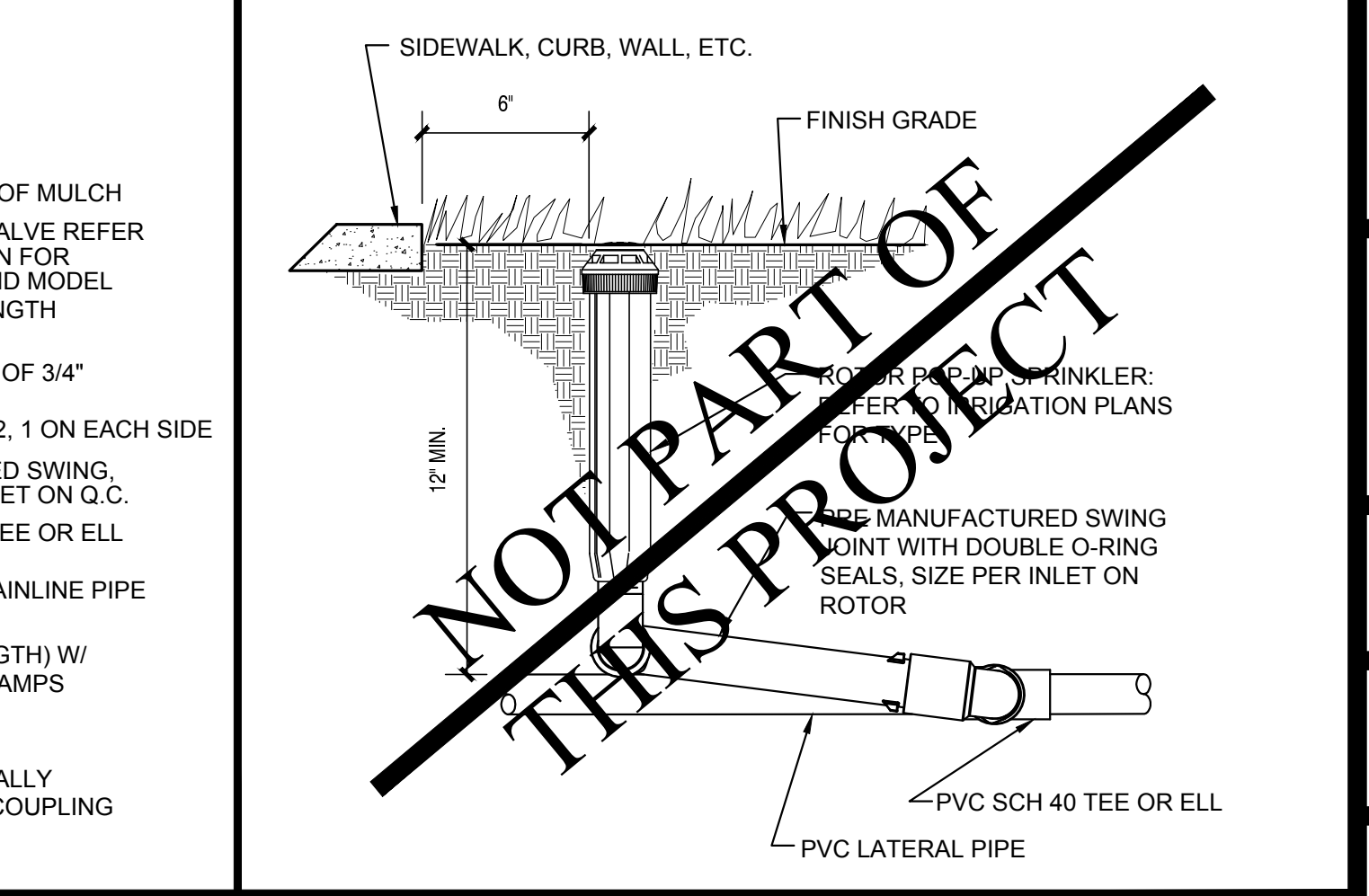
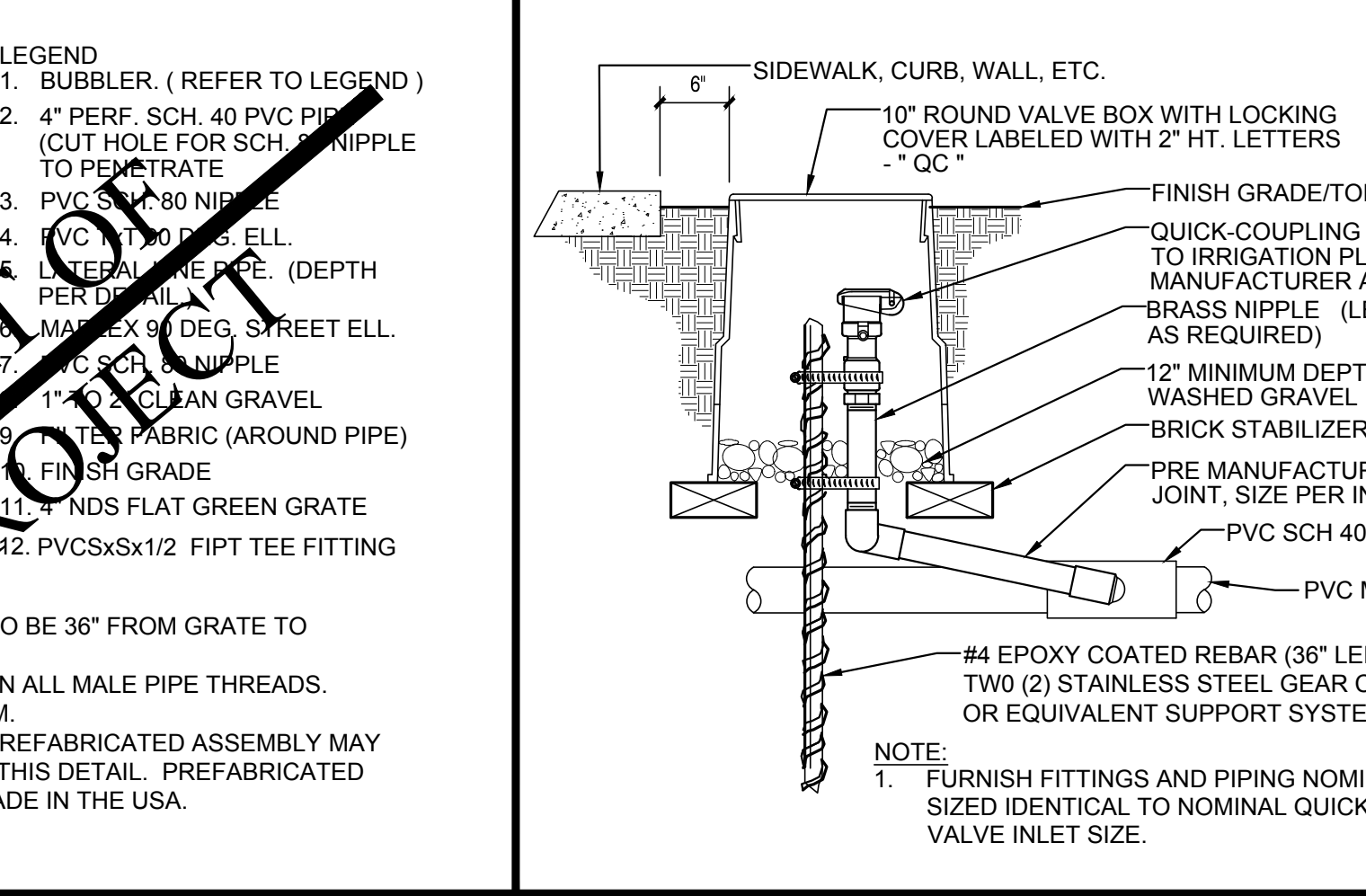
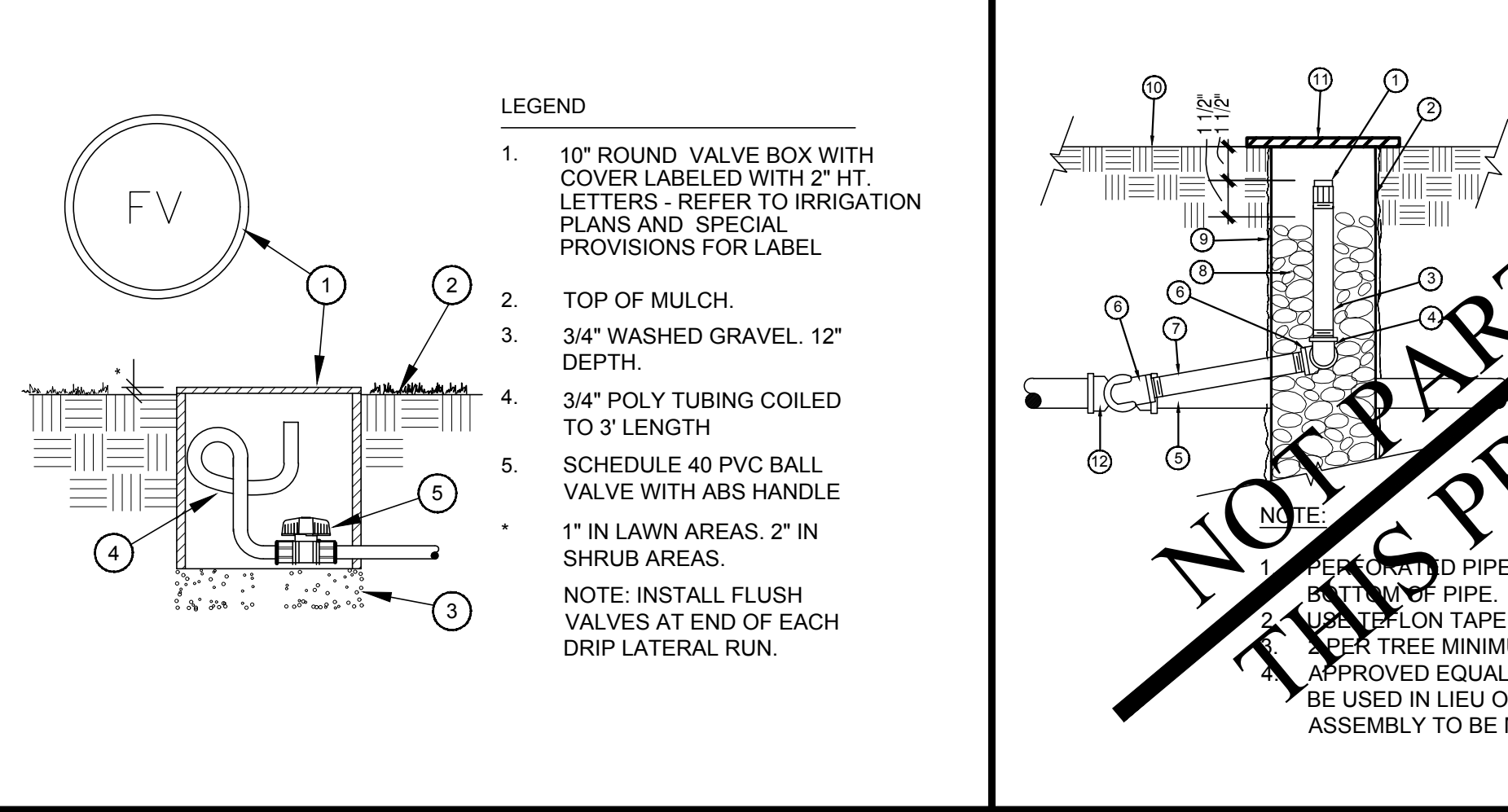
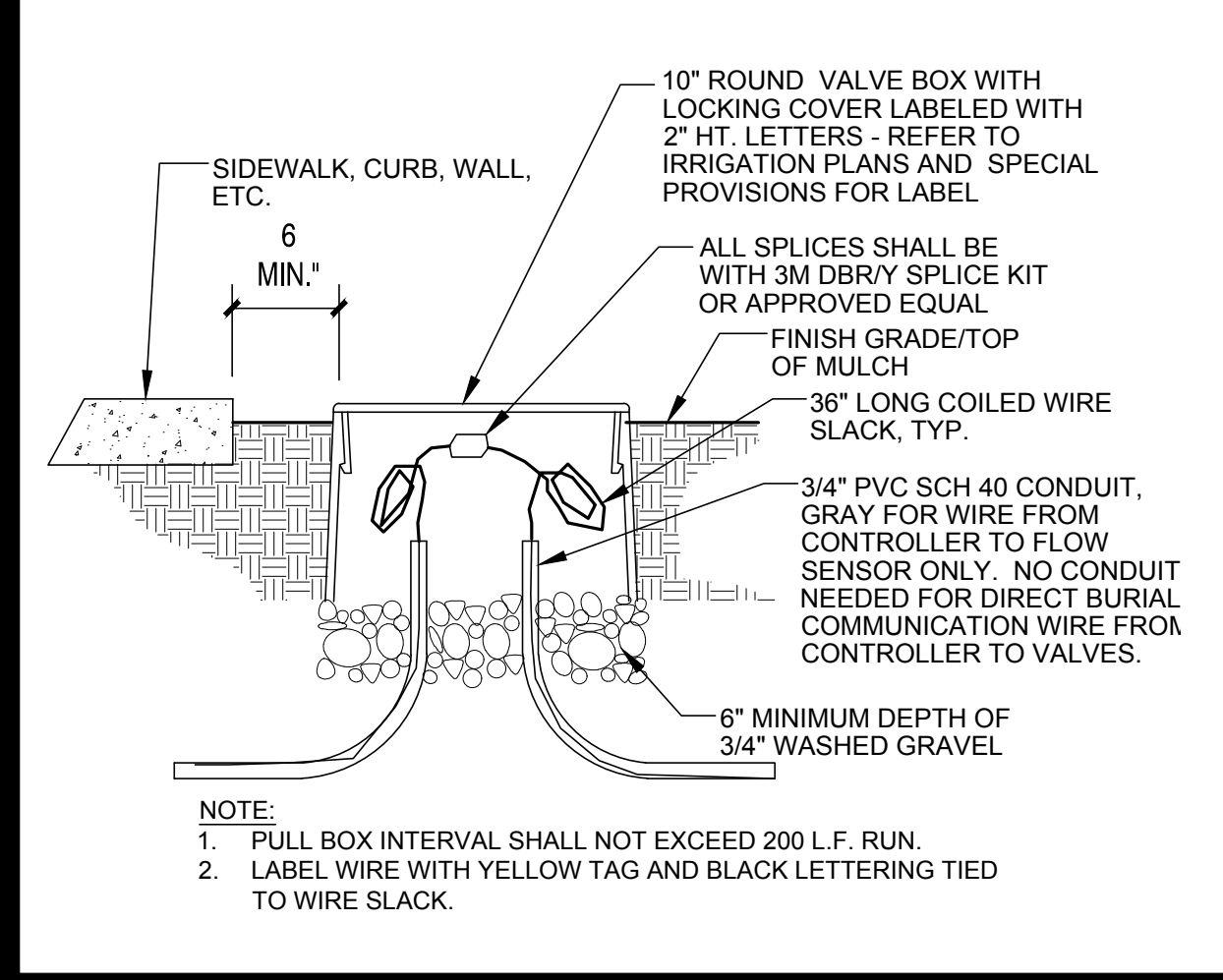


P CONTROLLER WIRE / SPLICING

L BACKFLOW

J AIR RELIEF VALVE

F GATE VALVE



O PULL BOX

K MANUAL FLUSH VALVE

I TREE BUBBLER

A POP-UP ROTOR HEAD

SOUTH PLANTERS

ISLAND 1

VAN WINKLE EXPRESSWAY

ISLAND 2

HIGHLAND DRIVE

HIGHLAND DRIVE

EXISTING SIGN. PRESERVE AND PROTECT, TYP.

4" SLEEVE INSTALLED FOR FUTURE USE

A1
1" 4.76

A2
1" 7.63

SOUTH PLANTERS

0' 5' 10' 20'
GRAPHIC SCALE
1" = 10'

NORTH PLANTER

ISLAND 3

EXISTING POWER LINE POLE, PRESERVE AND PROTECT, TYP.

EXISTING UTILITIES. PRESERVE AND PROTECT.

EXISTING MONUMENT. PRESERVE AND PROTECT.

EXISTING SIGN. PRESERVE AND PROTECT, TYP.

B1
1" 8.26

HIGHLAND DRIVE

VINE STREET



NOTE: CONTRACTOR IS TO MINIMIZE TRENCHING BENEATH ALL EXISTING TREES AND SHRUBS TO THE GREATEST EXTENT POSSIBLE.

PRESSURE
WATER PRESSURE IN THE COMMUNITY WATER MAIN IS ESTIMATED AT 90 PSI. IF THE STATIC PRESSURE AT THE METER IS NOT AS NOTED, THE CONTRACTOR SHALL CONTACT THE OWNER'S REP AND LANDSCAPE ARCHITECT TO DETERMINE SOLUTION.

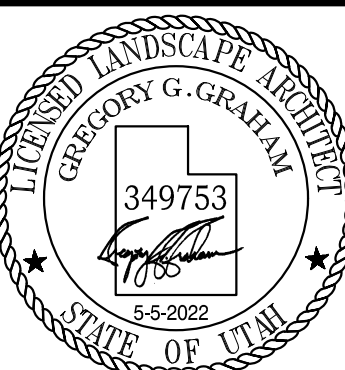
IRRIGATED AREA
TOTAL IRRIGATED AREA 11,789 SF

SLEEVES & CONDUIT
PVC SCH 40 SLEEVES. SLEEVES SHALL BE TWICE THE DIAMETER OF THE PIPE TO BE SLEEVED OR 4", WHICHEVER IS GREATER. PROVIDE SEPARATE SLEEVE FOR COMMUNICATION WIRE.

0' 5' 10' 20'
GRAPHIC SCALE
1" = 10'

NORTH PLANTER

CIVISWORKS
PLANNING - LANDSCAPE ARCHITECTURE
- URBAN DESIGN
13617 CRIMSON PARKWAY SUITE 100
SALT LAKE CITY, UT 84115
PHONE: 801.595.5555

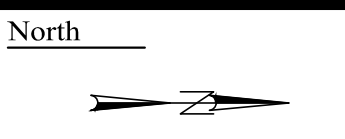


No.	Revisions	Date	By

No.	Revisions	Date	By

HOLLADAY CITY PLANTING
HIGHLAND DRIVE & VINE STREET
IRRIGATION PLAN

Scale:
N/A
Date:
MAY 5, 2022
Drawn By:
ESG
Approved By:
GGG



Job No.

21-066

Sheet No.
L202
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SECTION 02800 IRRIGATION

PART 1 - GENERAL

1.01 SCOPE OF WORK:

Furnish all labor, materials, supplies, equipment, tools, and transportation, and perform all operations in connection with and reasonably incidental to the complete installation of the irrigation system, and guarantee/warranty as shown on the drawings, the installation details, and as specified herein. Items of work specifically included are:

A. Procurement of all applicable licenses, permits, and fees.

B. Coordination of Utility Locations ("Call Before You Dig").

C. Coordination for, and connection to, electrical power supply and telephone services for the irrigation control system.

D. Maintenance period.

E. Sleeving and conduit for irrigation pipe and wire.

1.02 WORK NOT INCLUDED:

Items of work specifically excluded or covered under other sections are:

A. Excavation, installation, and backfill of tap to municipal water line.

B. Excavation, installation, and backfill of water meter, vault, and backflow prevention assembly.

C. Provision of electrical power supply and telephone services to the irrigation control system and pump stations.

1.03 RELATED SECTIONS:

A. General Conditions

21

B. Division 1-General Requirements:

C. Division 2-Site Work:

1. Section 02300 - Earthwork

2. Section 02900 - Landscaping.

1.04 SUBMITTALS:

A. Deliver five (5) copies of all submittals to the Construction Project Representative within 15 days from the date of Notice to Proceed. Contractor will be limited to one re-submittal for approval of all substitution requests.

B. Materials List: Include pipe, fittings, mainline components, water emission components, control system components. Quantities of materials need not be included.

C. Manufacturers' Data: Submit manufacturers' catalog cuts, specifications, and operating instructions for equipment shown on the materials list.

D. Shop Drawings: Submit shop drawings called for in the installation details. Show products required for proper installation, their relative locations, and critical dimensions. Note modifications to the installation detail.

1.05 RULES AND REGULATIONS:

A. Work and materials shall be in accordance with the latest edition of the National Electric Code, the Uniform Plumbing Code as published by the Western Plumbing Officials Association, and applicable laws and regulations of the governing authorities.

B. When the contract documents call for materials or construction of a better quality or larger size than required by the above-mentioned rules and regulations, provide the quality and size required by the contract documents.

C. If quantities are provided either in these specifications or on the drawings, these quantities are provided for information only. It is the Contractor's responsibility to determine the actual quantities of all material, equipment, and supplies required by the project and to complete an independent estimate of quantities and wastage.

1.06 TESTING:

A. Notify the Construction Project Representative three days in advance of testing.

B. Pipelines joined with rubber gaskets or threaded connections are subject to a pressure test at any time after partial completion of backfill. Pipelines joined with solvent-welded PVC joints shall be allowed to cure at least 24 hours before testing.

C. Subsections of mainline pipe may be tested independently, subject to the review of the Construction Project Representative.

D. Furnish clean, clear water, pumps, labor, fittings, and equipment necessary to conduct tests or retests.

E. Hydrostatic Pressure Test:

1. Subject solvent-weld mainline pipe to a continuous hydrostatic pressure equal to 150 PSI for two hours. Test with mainline components installed.

2. Backfill to prevent pipe from moving under pressure. Expose couplings and fittings.

3. Leakage will be detected by visual inspection. Replace defective pipe, fitting, joint, valve, or appurtenance. Repeat the test until the pipe passes test.

4. Cement or caulking to seal leaks is prohibited.

F. Volumetric Leakage Test:

1. Backfill to prevent pipe from moving under pressure. Expose couplings and fitting.

2. Purge all air from the pipeline before test.

3. Subject gasketed mainline pipe to an operating pressure of 150 PSI for two hours. Maintain constant pressure. The amount of additional water pumped in during the test shall not exceed 1.52 gallons per 100 joints of 3-inch diameter pipe, 1.96 gallons per 100 joints of 4-inch diameter pipe, and 2.90 gallons per 100 joints of 6-inch diameter pipe. Replace defective pipe, fitting, joint, valve, or appurtenance. Repeat the test until the pipe passes test.

4. Cement or caulking to seal leaks is prohibited.

G. Operational Test:

1. Activate each remote control valve in sequence from controller. The Construction Project Representative will visually observe operation, water application patterns, and leakage.

2. Replace defective remote control valve, solenoid, wiring, or appurtenance to correct operational deficiencies.

3. Replace, adjust, or move water emission devices to correct operational or coverage deficiencies.

4. Replace defective pipe, fitting, joint, valve, sprinkler, or appurtenance to correct leakage problems. Cement or caulking to seal leaks is prohibited.

5. Repeat test(s) until each lateral passes all tests. Repeat tests, replace components, and correct deficiencies at no additional cost to the Owner.

H. Central Control System Acceptance Test:

1. Upon completion of construction, a System Acceptance Test must be passed.

2. Following construction completion and a review by the Construction Project Representative, an evaluation period will begin. After 30 days of continuous service without major system problems, the system will be accepted and the guarantee/warranty period will begin. If at any time during the 30-day evaluation period, a major system problem occurs, the source of the problem will be determined and corrected and the 30-day evaluation period will start again. Equipment will not be accepted until such time as the System Acceptance Test is passed.

3. If successful completion of the System Acceptance Test is not attained within 90 days following commencement of the evaluation period, the Construction Project Representative has the option to request replacement of equipment, terminate the order, or portions thereof, or continue with the System Acceptance Test. These options will remain in effect until such time as a successful completion of the System Acceptance Test.

4. Final payment will be made after successful completion of the System Acceptance Test.

I. Communication Cable and Flow Sensor Cable:

1. Test for continuity and leaks to ground per wire, flow sensor, and controller manufacture's recommendations. Test results must meet or exceed manufacturer's guidelines for acceptance.

2. Replace defective wire, underground splices, or appurtenances. Repeat the test until the manufacturer's guidelines are met.

J. Control System Grounding:

1. Test for proper grounding of control system per manufacture's recommendations. Test results must meet or exceed manufacturer's guidelines for resistance to ground prior to acceptance.

2. Replace defective wire, grounding rods or plates, or appurtenances. Repeat the test until the manufacturer's guidelines are met.

1.07 WATER AUDIT:

A. Coordinate and provide a Landscape Irrigation Water Audit. Water audit to be performed by an independent Certified Landscape Irrigation Auditor, certified and in good standing with the Irrigation Association (IA), for all overhead-irrigated areas. The Auditor shall be independent of the property owner and of all contractors associated with the property. Conduct the audit in accordance with the current edition of the IA's Landscape Irrigation Auditor's Handbook. The system must meet the following minimum efficiency requirements: 60% distribution uniformity for all fixed nozzle spray systems, 70% distribution uniformity for all rotor head sprinkler systems. Perform inspection of all drip zones per the Irrigation Association standards.

B. Provide the results of the audit to the Owner's Representative and if required, to the City in a report format acceptable to the City, with the report signed by the Auditor. Provide a copy of the report to the Landscape Architect and Contractor. Include the following information in the report: Controller identification letter designation and location, station sequence numbers and valve locations,

sprinkler head location description and sprinkler spacing, water pressure reading at each valve or lateral, catch device readings and locations, calculated distribution uniformity for each valve, calculated precipitation rates for each valve, and a 12-month irrigation schedule (run times per cycle, cycles per day, and days per week for each valve).

1.08 CONSTRUCTION REVIEW:

The purpose of on-site reviews by the Construction Project Representative is to periodically observe the work in progress, the Contractor's interpretation of the construction documents, and to address questions with regard to the installation.

A. Scheduled reviews such as those for irrigation system layout or testing must be scheduled with the Construction Project Representative as required by these specifications.

B. Impromptu reviews may occur at any time during the project.

C. A review will occur at the completion of the irrigation system installation and Project Record (As-Built) Drawing submittal.

1.09 GUARANTEE/WARRANTY AND REPLACEMENT:

The purpose of this guarantee/warranty is to insure that the Owner receives irrigation materials of prime quality, installed and maintained in a thorough and careful manner.

A. For a period of one year from commencement of the formal maintenance period, contractor shall guarantee/warranty irrigation materials, equipment, and workmanship against defects and failures, fill and repair depressions, restore landscape or structural features damaged by the settlement of irrigation trenches or excavations, and repair damage to the premises caused by a defective item(s). Contractor shall make repairs within seven days of notification from the Construction Project Representative.

B. Contract documents govern replacements identically as with new work. Make replacements at no additional cost to the contract price.

C. Guarantee/warranty applies to originally installed materials and equipment and replacements made during the guarantee/warranty period.

PART 2 - MATERIALS

2.01 QUALITY:

Use materials which are new and without flaws or defects of any type, and which are the best of their class and kind.

2.02 SUBSTITUTIONS:

A. Acceptable equipment manufacturers are specified on the drawings and details. Alternative equipment must be approved in writing prior to construction and per the general conditions. The Contractor is responsible for making any changes to the design to accommodate alternative equipment.

B. Pipe sizes referenced in the construction documents are minimum sizes, and may be increased at the option of the Contractor.

2.03 SLEEVEING:

A. Install separate sleeve beneath paved areas to route each run of irrigation pipe or wiring bundle.

B. Use PVC Schedule 40 pipe with solvent welded joints for sleeving material beneath pedestrian pavements, drives and streets.

C. Sleeving diameter is as indicated on the drawings and installation details or equal to twice that of the pipe or wiring bundle passing through the sleeve.

2.04 PIPE AND FITTINGS:

A. Mainline Pipe and Fittings:

1. Use rigid, unplasticized polyvinyl chloride (PVC) 1120, 1220 National Sanitation Foundation (NSF) approved pipe, extruded from material meeting the requirements of Cell Classification 12454-A or 12454-B, ASTM Standard D1784, with an integral bellied end.

2. Use Class 200, SDR-21, rated at 200 PSI, conforming to the dimensions and tolerances established by ASTM Standard D2241 for mainline pipe with a nominal diameter greater than or equal to 3-inches.

3. Use Schedule 40 conforming to the dimensions and tolerances established by ASTM Standard D1785 for mainline pipe with a nominal diameter less than 3-inches.

4. Use rubber-gasketed pipe equipped with factory installed reinforced gaskets for mainline pipe with a nominal diameter greater than or equal to 3-inches. Gasketed pipe joints must conform to the "Laboratory Outing Tests" section of ASTM D3139. Gasket material must conform to ASTM F477. Use rubber-gasketed deep bell ductile iron fittings conforming to ASTM A-536 and ASTM F-477. Use lubricant approved by the pipe manufacturer.

5. Use solvent weld pipe for mainline pipe with a nominal diameter less than 3-inches or where a pipe connection occurs in a sleeve. Use Schedule 40, Type 1, PVC solvent weld fittings conforming to ASTM Standards D2466 and D1784. Use primer approved by the pipe manufacturer. Solvent cement to conform to ASTM Standard D2564.

B. Lateral Pipe and Fittings:

1. Use rigid, unplasticized polyvinyl chloride (PVC) 1120, 1220 National Sanitation Foundation (NSF) approved pipe, extruded from material meeting the requirements of Cell Classification 12454-A or 12454-B, ASTM Standard D1784, with an integral bellied end suitable for solvent welding.

2. Use Schedule 40 conforming to the dimensions and tolerances established by ASTM Standard D1785.

3. Use solvent weld pipe for lateral pipe. Use Schedule 40, Type 1, PVC solvent weld fittings conforming to ASTM Standards D2466 and D1784 for PVC pipe. Use primer approved by the pipe manufacturer. Solvent cement to conform to ASTM Standard D2564, of a type approved by the pipe manufacturer.

C. Specialized Pipe and Fittings:

1. Copper pipe: Use Type "K" rigid pipe conforming to ASTM Standard B88. Use wrought copper or cast bronze fittings, soldered or threaded per the installation details. Use a 95% tin and 5% antimony solder.

2. Ductile iron pipe: Use Class 50 conforming to ANSI A21.51 (AWWA C151). Use a minimum of Class 53 thickness pipe for flanged piping. Use mechanical joints conforming to ANSI A 21.10 (AWWA C110) and ANSI A21.11 (AWWA C111) or flanged fittings conforming to ANSI/AWWA C110 and ANSI B16.1 (125#).

3. Use a dielectric union wherever a copper-based metal (copper, brass, bronze) is joined to an iron-based metal (iron, galvanized steel, stainless steel).

4. Assemblies calling for threaded pipe connections shall utilize PVC Schedule 80 nipples and PVC Schedule 80 threaded fittings.

5. Joint sealant: Use only teflon-type tape on plastic threads as recommended by valve or fitting manufacturer.

D. Thrust Blocks:

1. Use thrust blocks for fittings on pipe greater than or equal to 3-inch diameter or any diameter rubber gasketed pipe.

2. Use 3,000 PSI concrete.

3. Use 2 mil plastic.

4. Use No. 4 Rebar wrapped or painted with asphalt tar based mastic coating.

E. Joint Restraint Harness:

1. Use a joint restraint harness wherever joints are not positively restrained by flanged fittings, threaded fittings, and/or thrust blocks.

2. Use a joint restraint harness with transition fittings between metal and PVC pipe, where weak trench banks exist or do not allow the use of thrust blocks, or where extra support is required to retain a fitting or joint.

3. Use bolts, nuts, retaining clamps, all-thread, or other joint restraint harness materials which are zinc plated or galvanized.

4. Use on pipe greater than or equal to 3-inch diameter or any diameter rubber gasketed pipe.

2.05 MAINLINE COMPONENTS:

A. Master Valve Assembly: as per plans and details.

B. Flow Sensor Assembly: as per plans and details.

C. Air/Vacuum Relief Valve Assembly: as per plans and details

D. Isolation Gate Valve Assembly: as per plans and details

E. Quick Coupling Valve Assembly: as per plans and details.

2.06 SPRINKLER IRRIGATION COMPONENTS:

A. Remote Control Valve (RCV) Assembly for Sprinkler and Bubbler Laterals: as per plans and details. Use remote control valves with pressure regulating features for all pop-up spray sprinkler or bubbler laterals. Use wire connectors and waterproofing sealant to join control wires to solenoid valves. Use standard Christy I.D. tags, or approved equal, with hot-stamped black letters on a yellow background. Install a separate valve box over a 3-inch depth of 3/4-inch gravel for each assembly.

B. Sprinkler Assembly: as per plans and details. Use the sprinkler manufacturer's pressure compensating screens (Rain Bird PCs, or approved equal) to achieve 30 PSI operating conditions on each spray sprinkler and to control excessive operating pressures.

2.07 DRIP IRRIGATION COMPONENTS:

A. Remote Control Valve (RCV) Assembly for Drip Laterals: as per plans and details. Use wire connectors and waterproofing sealant to join control wires to solenoid valves. Use standard Christy I.D. tags, or approved equal, with hot-stamped black letters on a yellow background. Install a separate valve box over a 3-inch depth of 3/4-inch gravel for each assembly.

B. Drip Emitter Assembly:

1. Use pressure compensating emitters with female threaded connections or barbed ends as per legend, plans and details.

2. Install emitter types and quantities as per plans and details.

3. For female threaded emitters, use flexible PVC riser hose to direct water from lateral pipe to emitter location.

4. For barbed end emitters, use 3/4" poly distribution tubing as per legend.

C. Flush Valve Assembly: as per plans and details. Locate at the end of each drip irrigation lateral pipe. Install a separate valve box over a 3-inch depth of 3/4-inch gravel for each assembly.

2.08 CONTROL SYSTEM COMPONENTS:

A. Controllers:

1. Description: as per plans and details.

2. Primary surge protection arresters: Intermatic Model A62401.

3. Controller Enclosure: Constructed of stainless steel with free-flow ventilation. The key system is to be common to all enclosures made part of this project but unique to the Owner. Prepare shop drawings to show the exact placement of all enclosure components.

4. Electrical conduit: Use PVC Schedule 40 conforming to the dimensions and tolerances established by ASTM Standard D-1785. Fittings for PVC conduit shall be Schedule 40, Type 1, PVC solvent weld sweep fittings, ASTM Standards D2466 and D1784.

5. Lightning protection: Provide 8-foot copper-clad grounding rod(s) and grounding plate as detailed for each group of controllers and in accordance with manufactures details and recommendations.

6. Wire markers: Prenumbered or labeled with indelible nonfading ink, made of permanent, nonfading material.

B. Power Wire:

1. Electric wire from the power source to satellite control unit shall be solid or stranded copper, Type UF single conductor cable or multi-conductor with ground cable, UL approved for direct underground burial. Power wires shall be black, white, and green in color. Size to match service wires as presented in the electrical drawings or code requirements, which ever is greater. The Contractor is responsible for verifying that the power wire sizes shown on the drawings are compatible and adequate for the control system being used.

2. Splices: Use 3M DBY connectors.

3. Conduit: PVC Schedule 40.

4. Warning tape: Inert plastic film highly resistant to alkalis, acids, or other destructive chemical components likely to be encountered in soils. Three inches wide, colored yellow, and imprinted with "CAUTION: BURIED ELECTRIC LINE BELOW."

C. Flow Sensor Cable:

1. Use shielded and jacketed, multi conductor cable, as shown in legend and as recommended by the flow sensor and controller manufacturers, from the control system to the flow sensor. Provide pulse decoder if needed.

2. Splices: do not splice flow sensor cable without prior written authorization from the Construction Project Representative. Use 3M-DBY direct-bury splice connectors as recommended by the flow sensor manufacturer.

D. Control Wire:

1. Use American Wire Gauge (AWG) No. 14-1 solid copper, Type UF or PE cable, UL approved for direct underground burial for individual control wires and spare control wires from the controller unit to each remote control valve or stub-out location. Use American Wire Gauge (AWG) No. 12-1 solid copper, Type UF or PE cable, UL approved for direct underground burial for common ground wire and spare common wires from the controller unit to each remote control valve or stub-out location.

2. Color: Wire color shall be continuous over its entire length. Install low voltage wires using the following color coding:

- Controller "A" control wires: Red
- Controller "A" common wire: White with red stripe
- Controller "B" control wires: Brown
- Controller "B" common wire: White with brown stripe
- Controller "C" control wires: Blue
- Controller "C" common wire: White with blue stripe
- Controller "D" control wires: Green
- Controller "D" common wire: White with green stripe
- Spare control wires along wire routing from each controller: Yellow with stripe matching control wire color
- Spare common wires along wire routing from each controller: White with yellow stripe

3. Splices: Use wire connector with waterproof sealant. Wire connector to be of listed construction consisting of two (2) pieces, one piece which snap locks into the other. A copper crimp sleeve to be provided with connector.

4. Encase wiring not located near PVC irrigation pipe in PVC Schedule 40 electrical conduit. Warning tape: Inert plastic film highly resistant to alkalis, acids, or other destructive chemical components likely to be encountered in soils. Three inches wide, colored yellow, and imprinted with "CAUTION: BURIED ELECTRIC LINE BELOW."

2.09 OTHER COMPONENTS:

A. Tools and Spare Parts: Provide operating keys, servicing tools, spare parts and other items indicated in the General Notes of the drawings.

B. Other Materials: Provide other materials or equipment shown on the drawings or installation details which are part of the irrigation system, even though such items may not have been referenced in these specifications.

PART 3 - EXECUTION

3.01 INSPECTIONS AND REVIEWS:

A. Site Inspections:

1. Verify construction site conditions and note irregularities affecting work of this section. Report irregularities to the Construction Project Representative prior to beginning work.

2. Beginning work of this section implies acceptance of existing conditions.

B. Utility Locates ("Call Before You Dig"):

1. Arrange for and coordinate with local authorities the location of all underground utilities.

2. Repair any underground utilities damaged during construction. Make repairs at no additional cost to the contract price.

C. Irrigation System Layout Review: Irrigation system layout review will occur after the staking has been completed. Notify the Construction Project Representative two weeks in advance of review. Modifications will be identified by the Construction Project Representative at this review.

3.02 LAYOUT OF WORK:

A. Stake out the irrigation system. Items staked include: sprinklers, pipe and wire routing, control valves, isolation valves, sleeving and conduit.

B. Install all mainline pipe and mainline components inside of project property lines.

3.03 EXCAVATION, TRENCHING, AND BACKFILLING:

A. Excavate to permit the pipes to be laid at the intended elevations and to permit work space for installing connections and fittings.

B. Minimum cover (distance from top of pipe or control wire to finish grade) as per plans and details.

C. Maintain at least 6 feet clearance from the centerline of mainline pipe to trees.

D. Backfill only after lines have been reviewed and tested.

E. Backfill with a 2-inch above and 2-inch below full trench width sand envelope of fine masonry sand, completely surrounding all mainline pipe and sleeving.

F. Excavated material is generally satisfactory for backfill. Backfill shall be free from rubbish, vegetable matter, frozen materials, and stones larger than 1-inches in maximum dimension. Remove material not suitable for backfill. Backfill placed next to pipe shall be free of sharp objects which may damage the pipe.

G. Backfill unsleeved pipe in either of the following manners:

1. Backfill and puddle the lower half of the trench. Allow to dry 24 hours. Backfill the remainder of the trench in 6-inch layers. Compact to density of surrounding soil.

2. Backfill the trench by depositing the backfill material equally on both sides of the pipe in 6-inch layers and compacting to the density of surrounding soil.

H. Enclose pipe and wiring beneath roadways, walks, curbs, etc., in sleeves. Minimum compaction of backfill for sleeves shall be 95% Standard Proctor Density, ASTM D698-78. Use of water for compaction around sleeves, "puddling", will not be permitted.

I. Dress backfilled areas to original grade. Incorporate excess backfill into existing site grades.

J. Where utilities conflict with irrigation trenching and pipe work, contact the Construction Project Representative for separate depth adjustments.

3.04 SLEEVEING AND BORING:

A. Install sleeving at a depth which permits the encased pipe or wiring to remain at the specified burial depth.

B. Extend sleeve ends six inches beyond the edge of the paved surface. Cover pipe ends and mark with stakes.

C. Bore for sleeves under obstructions which cannot be removed. Employ equipment and methods designed for horizontal boring.

D. Sleeves under roadway shall be at depth required by City Engineering and Public Works.

3.05 ASSEMBLING PIPE AND FITTINGS:

A. General:

1. Keep pipe free from dirt and pipe scale. Cut pipe ends square and debur. Clean pipe ends.

2. Keep ends of assembled pipe capped. Remove caps only when necessary to continue assembly.

B. Mainline Pipe and Fittings:

1. Use only strap-type friction wrenches for threaded plastic pipe.

2. PVC Rubber-Gasketed Pipe:

a. Use pipe lubricant. Join pipe in the manner recommended by manufacturer and in accordance with accepted industry practices.

b. Ductile iron fittings shall not be struck with a metallic tool. Cushion blows with a wood block or similar shock absorber.

3. PVC Solvent Weld Pipe:

a. Use primer and solvent cement. Join pipe in a manner recommended by the manufacturer and in accordance with accepted industry practices.

b. Cure for 30 minutes before handling and 24 hours before allowing water in pipe.

c. Snake pipe from side to side within the trench.

4. Fittings: The use of cross type fittings is not permitted.

C. Lateral Pipe and Fittings:

1. Use only strap-type friction wrenches for threaded plastic pipe.

2. PVC Solvent Weld Pipe:

a. Use primer and solvent cement. Join pipe in the manner recommended by the manufacturer and in accordance with accepted industry practices.

b. Cure for 30 minutes before handling and 24 hours before allowing water in the pipe.

c. Snake pipe from side to side within the trench.

3. Fittings: The use of cross type fittings is not permitted.

D. Specialized Pipe and Fittings:

1. Copper Pipe:

a. Buff surfaces to be joined to a bright finish. Coat with solder flux.

b. Solder so that a continuous bead shows around the joint circumference.

2. Ductile Iron Pipe:

a. Join pipe in the manner recommended by manufacturer and in accordance with accepted industry practices.

3. Insert a dielectric union wherever a copper-based metal (copper, brass, bronze) and an iron-based metal (iron, galvanized steel, stainless steel) are joined.

4. PVC Threaded Connections:

a. Use only factory-formed threads. Field-cut threads are not permitted.

b. Use only Teflon-type tape.

c. When connection is plastic-to-metal, the plastic component shall have male threads and the metal component shall have female threads.

5. Make metal-to-metal, threaded connections with Teflon-type tape or pipe joint compound applied to the male threads only.

E. Thrust Blocks:

1. Use cast-in-place concrete bearing against undisturbed soil.

2. Size, orientation and placement shall be as shown on the installation details.

3. Wrap fitting with plastic to protect bolts, joint, and fitting from concrete.

4. Install rebar with mastic coating as shown on the installation details.

F. Joint Restraint Harness:

1. Install harness in the manner recommended by the manufacturer and in accordance with accepted industry practices.

3.06 INSTALLATION OF MAINLINE COMPONENTS:

A. Isolation Gate Valve Assembly:

1. Install where indicated on the drawings.

2. Locate at least 12-inches from and align with adjacent walls or edges of paved areas.

B. Quick Coupling Valve Assembly: Install where indicated on the drawings.

C. Air/Vacuum Relief Valve Assembly: Install where indicated on the drawings and notes and at high points along the mainline routing.

3.07 INSTALLATION OF SPRINKLER IRRIGATION COMPONENTS:

A. Remote Control Valve (RCV) Assembly for Sprinkler and Bubbler Laterals:

1. Flush mainline before installation of RCV assembly.

2. Install where indicated on the drawings. Wire connectors and waterproof sealant shall be used to connect control wires to remote control valve wires. Install connectors and sealant per the manufacturer's recommendations.

3. Install only one RCV in a valve box. Locate valve box at least 12-inches from and align with nearby walls or edges of paved areas. Group RCV assemblies together where practical. Arrange grouped valve boxes in rectangular patterns. Allow at least 12-inches between valve boxes.

4. Adjust RCV to regulate the downstream operating pressure.

5. Attach ID tag with controller station number to control wiring.

B. Sprinkler and Bubbler Assembly:

1. Flush lateral pipe before installing sprinkler and bubbler assembly.

2. Install per the installation details at locations shown on the drawings.

3. Locate rotary sprinklers 6-inches from adjacent walls, fences, or edges of paved areas.

4. Locate spray sprinklers 3-inches from adjacent walls, fences, or edges of paved areas.

5. Install sprinklers and bubblers perpendicular to the finish grade.

6. Supply appropriate nozzle or adjust arc of coverage of each sprinkler for best performance and coverage uniformity.

7. Adjust the radius of throw of each sprinkler for best performance and coverage uniformity.

3.08 INSTALLATION OF DRIP IRRIGATION COMPONENTS:

A. Remote Control Valve (RCV) Assembly for Drip Laterals:

1. Flush mainline pipe before installing RCV assembly.

2. Locate as shown on the drawings. Wire connectors and waterproof sealant shall be used to connect control wires to remote control valve wires. Connectors and sealant shall be installed as per the manufacturer's recommendations.

3. Install only one RCV to valve box. Locate at least 12-inches from and align with nearby walls or edges of paved areas. Group RCV assemblies together where practical.

4. Arrange grouped valve boxes in rectangular patterns

B. Drip Emitter Assembly:

1. Locate as shown on the drawings and installation details.

2. Flush lateral pipe before installing emitter assembly.

3. Cut flexible PVC hose or poly distribution tubing square.

4. Use tools and techniques recommended by the manufacturer.

C. Flush Valve Assembly: Install at the end of each drip irrigation lateral pipe as shown on the installation details.

3.09 INSTALLATION OF CONTROL SYSTEM COMPONENTS:

A. Controllers:

1. The locations of the controller assemblies as depicted on the drawings are approximate; the Construction Project Representative will determine their exact site locations upon commencement of contract

2. Assemble controllers, sensors, and appurtenance in enclosure per shop drawing. Shop fabricate and test prior to installation in the field. Installation and wire connections in the field are to be done by manufacture trained and certified personnel, trained and certified by the manufacture of the controller to be installed.

3. Install electrical connections between components and controllers per manufacturer's recommendations. Wire connections in the field are to be done by manufacture trained and certified personnel, trained and certified by the manufacture of the controller to be installed.

4. Install all lightning/surge protection for the control unit per manufacturer's recommendations.

5. Lightning protection: Drive 8-foot copper-clad grounding rods into the soil as recommended by manufacture. Quantity as needed to achieved recommend ohms. If rock prevents driving, bury at least one foot deep. Install grounding plate as recommended by controller manufacturer. A single group of rods and plate may be used for grouped controller assemblies. Connect controller to grounding rod with AWG No. 6 solid conductor copper wire. Secure wire to grounding rod with Cadweld connections. Locate the connection in a separate valve box. Install two 1/8"PH emitters above each ground rod and ground plate from nearest shrub emitter lateral pipe.

6. Install primary surge protection arrestors on incoming power lines.

7. Attach wire markers to the ends of control wires inside the controller unit housing. Label wires with the identification number of the remote control valve to which the control wire is connected.

8. Connect control wire to the corresponding control unit terminal.

B. Sensors:

1. Install sensors per the installation details and manufacturer's recommendations. Install at locations shown on the drawings.

2. Electrical connections between controller components and sensors are to be installed by manufacture trained and certified personnel, trained and certified by the manufacture of the controller to be installed.

C. Power Wire:

1. Install with a minimum number of field splices. If a power wire must be spliced, make splice with recommended connector, installed per manufacturer's recommendations. Locate all splices in a separate 10-inch round valve box. Coil 2 feet of wire in valve box.

2. Green wire shall be used as the common ground wire from power source to all satellites.

D. Flow Sensor cable:

1. Route flow sensor cable as directed on plans. Install with a minimum number of field splices.

2. All flow sensor cable shall be laid in trenches and installed in conduit. The use of a vibratory plow is not permitted.

3. Carefully backfill around flow sensor cable to avoid damage to wire insulation or wire connectors.

4. If a flow sensor cable must be spliced, make splice with recommended connector, installed per manufacturer's recommendations. Locate all splices in a housing afforded by other control system components or a separate 10-inch round valve box. Coil 2 feet of cable in valve box.

5. Unless noted on plans, install wire parallel with and below mainline pipe.

6. Encase wire conduit.

E. Control Wire:

1. Bundle control wires where two or more are in the same trench. Bundle with pipe wrapping tape spaced at 10-foot intervals.

2. Provide a 36-inch excess length of wire in an 8-inch diameter loop in a 10" round valve box at each change of direction of 30° or more, at both ends of sleeves, and at 200-foot intervals along continuous runs of wiring. Do not tie wiring loop. Coil 30-inch length of wire within each remote control valve box.

3. Install common ground wire and one control wire for each remote control valve. Multiple valves on a single control wire are not permitted.

4. If a control wire must be spliced, make splice with wire connectors and waterproof sealant, installed per the manufacturer's instructions. Locate splice in a valve box which contains an irrigation valve assembly, or in a separate 10-inch round valve box. Use same procedure for connection to valves as for in-line splices.

5. Unless noted on plans, install wire parallel with and below mainline pipe.

3.10 INSTALLATION OF OTHER COMPONENTS:

A. Tools and Spare Parts:

1. Prior to the Review at completion of construction, supply to the Owner operating keys, servicing tools, spare parts, and any other items indicated in the General Notes on the drawings.

B. Other Materials: Install other materials or equipment shown on the drawings or installation details which are part of the irrigation system, even though such items may not have been referenced in these specifications.

3.11 PROJECT RECORD (AS-BUILT) DRAWINGS:

A. The Contractor is responsible for documenting changes to the design. Maintain on-site and separate from documents used for construction, one complete set of contract documents as Project Documents. Keep documents current. Do not permanently cover work until as-built information is recorded.

B. Record pipe and wiring network alterations. Record work which is installed differently than shown on the construction drawings. Record accurate reference dimensions, measured from at least two permanent reference points, of each irrigation system valve, each backflow prevention device, each controller or control unit, each sleeve end, each stub-out for future pipe or wiring connections, and other irrigation components enclosed within a valve box.

C. Prior to construction completion, obtain from the Construction Project Representative a reproducible mylar copy of the drawings. Mylars or CAD data files compatible with AutoCAD software, can be purchased from the Contractor. Cost of mylar reproducible drawings is \$25 per sheet and the cost of AutoCAD data files on diskette is \$100 for AutoCAD data file set. Using technical drafting pen or CAD, duplicate information contained on the project drawings maintained on site. Label each sheet "Record Drawing".

D. Turn over the "Record Drawings" to the Construction Project Representative. Completion of the Record Drawings will be a prerequisite for the Review at the completion of the irrigation system installation.

3.12 MAINTENANCE:

A. Upon completion of construction and Review by the Construction Project Representative, maintain irrigation system for a duration of 90 calendar days. Make periodic examinations and adjustments to irrigation system components so as to achieve the most desirable application of water.

B. Following completion of the Contractor's maintenance period, the Owner will be responsible for maintaining the system in working order during the remainder of the guarantee/warranty period, for performing necessary minor maintenance, for trimming around sprinklers, for protecting against vandalism, and for preventing damage after the landscape maintenance operation.

3.13 CLEANUP:

A. Upon completion of work, remove from the site all machinery, tools, excess materials, and rubbish.

3.13 WARRANTY:

A. The contractor shall warranty all equipment, materials, and work for a period of 1 year from substantial completion. Any part of the work that is defective, broken, or inoperable shall be replaced and fully functioning at no additional expense to owner.

END OF SECTION

CIVISWORKS
PLANNING - LANDSCAPE ARCHITECTURE
- URBAN DESIGN -
13617 CRIMSON CIRCLE, PARK ON, UTAH 84096
PHONE: 801-398-8888

LANDSCAPE ARCHITECT
GREGORY G. GRAHAM
349753
5-5-2022
STATE OF UTAH

HOLLADAY CITY PLANTING
HIGHLAND DRIVE & VINE STREET

IRRIGATION
SPECIFICATIONS

Scale:
NO SCALE
Date:
MAY 5, 2022
Drawn By:
ESG
Approved By:
GGG

North

Job No.

21-066

Sheet No.
L205
9 of 9

INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACT

ARTICLE 1—DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. *Issuing Office*—The office from which the Bidding Documents are to be issued, and which registers plan holders.

ARTICLE 2—BIDDING DOCUMENTS

- 2.01 Bidder shall obtain a complete set of Bidding Requirements and proposed Contract Documents (together, the Bidding Documents). See the Agreement for a list of the Contract Documents. It is Bidder's responsibility to determine that it is using a complete set of documents in the preparation of a Bid. Bidder assumes sole responsibility for errors or misinterpretations resulting from the use of incomplete documents, by Bidder itself or by its prospective Subcontractors and Suppliers.
- 2.02 Bidding Documents are made available for the sole purpose of obtaining Bids for completion of the Project and permission to download or distribution of the Bidding Documents does not confer a license or grant permission or authorization for any other use. Authorization to download documents, or other distribution, includes the right for plan holders to print documents solely for their use, and the use of their prospective Subcontractors and Suppliers, provided the plan holder pays all costs associated with printing or reproduction. Printed documents may not be re-sold under any circumstances.
- 2.03 Bidder may register as a plan holder and obtain complete sets of Bidding Documents, in the number and format stated in the Advertisement or invitation to bid, from the Issuing Office. Bidders may rely that sets of Bidding Documents obtained from the Issuing Office are complete, unless an omission is blatant. Registered plan holders will receive Addenda issued by Owner.

ARTICLE 3—QUALIFICATIONS OF BIDDERS

- 3.01 To demonstrate Bidder's qualifications to perform the Work, Bidder shall submit with its Bid (a) written evidence establishing its qualifications such as financial data, previous experience, and present commitments, and (b) the following information:
- A. Examples of similar work completed. Include contact information of the client.
- B. Copy of contractor's license.

- 3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.
- 3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

ARTICLE 4—PRE-BID CONFERENCE

- 4.01 A pre-bid conference will not be conducted for this Project.

ARTICLE 5—SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

5.01 *Site and Other Areas*

- A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

5.02 *Existing Site Conditions*

A. *Subsurface and Physical Conditions; Hazardous Environmental Conditions*

1. The Supplementary Conditions identify the following regarding existing conditions at or adjacent to the Site:
 - a. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data.
 - b. Those drawings known to Owner of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data.
 - c. Reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
 - d. Technical Data contained in such reports and drawings.
2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.
3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.

- B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05 of the General Conditions, and not in the drawings referred to in Paragraph 5.02.A of these Instructions to Bidders. Information and data regarding the

presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

5.03 *Site Visit and Testing by Bidders*

- A. Bidder is required to visit the Site and conduct a thorough visual examination of the Site and adjacent areas. During the visit the Bidder must not disturb any ongoing operations at the Site.
- B. Bidders visiting the Site are required to arrange their own transportation to the Site.
- C. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
- D. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder general access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site. Bidder is responsible for establishing access needed to reach specific selected test sites.
- E. Bidder must comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.
- F. Bidder must fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

5.04 *Owner's Safety Program*

- A. Site visits and work at the Site may be governed by an Owner safety program. If an Owner safety program exists, it will be noted in the Supplementary Conditions.

5.05 *Other Work at the Site*

- A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

6.01 *Express Representations and Certifications in Bid Form, Agreement*

- A. The Bid Form that each Bidder will submit contains express representations regarding the Bidder's examination of Project documentation, Site visit, and preparation of the Bid, and certifications regarding lack of collusion or fraud in connection with the Bid. Bidder should review these representations and certifications, and assure that Bidder can make the representations and certifications in good faith, before executing and submitting its Bid.

- B. If Bidder is awarded the Contract, Bidder (as Contractor) will make similar express representations and certifications when it executes the Agreement.

ARTICLE 7—INTERPRETATIONS AND ADDENDA

- 7.01 Owner on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents.
- 7.02 Bidder shall submit all questions about the meaning or intent of the Bidding Documents to Engineer in writing. Contact information and submittal procedures for such questions are as follows:
 - A. By email to mstenquist@forsgren.com or by phone at 385-424-8554.
- 7.03 Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than seven days prior to the date for opening of Bids may not be answered.
- 7.04 Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the Contract Documents unless set forth in an Addendum that expressly modifies or supplements the Contract Documents.

ARTICLE 8—CONTRACT TIMES

- 8.01 The number of days within which, or the dates by which, the Work is to be (a) substantially completed and (b) ready for final payment, and (c) Milestones (if any) are to be achieved, are set forth in the Agreement.
- 8.02 Bidder must set forth in the Bid the time by which Bidder must achieve Substantial Completion, subject to the restrictions established in Paragraph 13.07 of these Instructions. The Owner will take Bidder's time commitment regarding Substantial Completion into consideration during the evaluation of Bids, and it will be necessary for the apparent Successful Bidder to satisfy Owner that it will be able to achieve Substantial Completion within the time such Bidder has designated in the Bid. The Successful Bidder's time commitments will be entered into the Agreement or incorporated in the Agreement by reference to the specific terms of the Bid.
- 8.03 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

ARTICLE 9—SUBSTITUTE AND "OR EQUAL" ITEMS

- 9.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or "or-equal" items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or "or-equal" item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.
- 9.02 All prices that Bidder sets forth in its Bid will be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as

supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of “or-equal” or substitution requests are made at Bidder’s sole risk.

ARTICLE 10—SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 10.01 A Bidder must be prepared to retain specific Subcontractors and Suppliers for the performance of the Work if required to do so by the Bidding Documents or in the Specifications. If a prospective Bidder objects to retaining any such Subcontractor or Supplier and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.
- 10.02 If requested by Owner, such list must be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor or Supplier. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor or Supplier, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder will submit a substitute, Bidder’s Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.
- 10.03 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors and Suppliers. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor or Supplier, so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.07 of the General Conditions.

ARTICLE 11—PREPARATION OF BID

- 11.01 The Bid Form is included with the Bidding Documents.
 - A. All blanks on the Bid Form must be completed in ink and the Bid Form signed in ink. Erasures or alterations must be initialed in ink by the person signing the Bid Form. A Bid price must be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.
 - B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words “No Bid” or “Not Applicable.”
- 11.02 If Bidder has obtained the Bidding Documents as Electronic Documents, then Bidder shall prepare its Bid on a paper copy of the Bid Form printed from the Electronic Documents version of the Bidding Documents. The printed copy of the Bid Form must be clearly legible, printed on 8½ inch by 11-inch paper and as closely identical in appearance to the Electronic Document version of the Bid Form as may be practical. The Owner reserves the right to accept Bid Forms which nominally vary in appearance from the original paper version of the Bid Form, providing that all required information and submittals are included with the Bid.
- 11.03 A Bid by a corporation must be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation must be shown.

- 11.04 A Bid by a partnership must be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown.
- 11.05 A Bid by a limited liability company must be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown.
- 11.06 A Bid by an individual must show the Bidder's name and official address.
- 11.07 A Bid by a joint venture must be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture must have been formally established prior to submittal of a Bid, and the official address of the joint venture must be shown.
- 11.08 All names must be printed in ink below the signatures.
- 11.09 The Bid must contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.
- 11.10 Postal and e-mail addresses and telephone number for communications regarding the Bid must be shown.
- 11.11 The Bid must contain evidence of Bidder's authority to do business in the state where the Project is located, or Bidder must certify in writing that it will obtain such authority within the time for acceptance of Bids and attach such certification to the Bid.
- 11.12 If Bidder is required to be licensed to submit a Bid or perform the Work in the state where the Project is located, the Bid must contain evidence of Bidder's licensure, or Bidder must certify in writing that it will obtain such licensure within the time for acceptance of Bids and attach such certification to the Bid. Bidder's state contractor license number, if any, must also be shown on the Bid Form.

ARTICLE 12—BASIS OF BID

12.01 *Lump Sum*

- A. Bidders must submit a Bid on a lump sum basis as set forth in the Bid Form.

12.02 *Unit Price*

- A. Bidders must submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.
- B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity", which Owner or its representative has set forth in the Bid Form, for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

12.03 *Allowances*

- A. For cash allowances the Bid price must include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 13.02.B of the General Conditions.

ARTICLE 13—SUBMITTAL OF BID

- 13.01 The Bidding Documents include one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 2 of the Bid Form.
- 13.02 A Bid must be received no later than the date and time prescribed and at the place indicated in the Advertisement or invitation to bid and must be enclosed in a plainly marked package with the Project title, and, if applicable, the designated portion of the Project for which the Bid is submitted, the name and address of Bidder, and must be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid must be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid must be addressed to the location designated in the Advertisement.
- 13.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 14—MODIFICATION AND WITHDRAWAL OF BID

- 14.01 An unopened Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.
- 14.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 15.01 and submit a new Bid prior to the date and time for the opening of Bids.
- 14.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, the Bidder may withdraw its Bid,

and the Bid security will be returned. Thereafter, if the Work is rebid, the Bidder will be disqualified from further bidding on the Work.

ARTICLE 15—OPENING OF BIDS

- 15.01 Bids will be opened at the time and place indicated in the advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 16—BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 16.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 17—EVALUATION OF BIDS AND AWARD OF CONTRACT

- 17.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner also reserves the right to waive all minor Bid informalities not involving price, time, or changes in the Work.
- 17.02 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible.
- 17.03 If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, whether in the Bid itself or in a separate communication to Owner or Engineer, then Owner will reject the Bid as nonresponsive.
- 17.04 If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid.
- 17.05 *Evaluation of Bids*
- A. In evaluating Bids, Owner will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
 - B. Bids will be evaluated on the lowest Base Bid plus any selected alternates.
- 17.06 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.
- 17.07 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

ARTICLE 18—BONDS AND INSURANCE

- 18.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds, other required bonds (if any),

and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by required bonds and insurance documentation.

- 18.02 Article 8, Bid Security, of these Instructions, addresses any requirements for providing bid bonds as part of the bidding process.

ARTICLE 19—SIGNING OF AGREEMENT

- 19.01 When Owner issues a Notice of Award to the Successful Bidder, it will be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder must execute and deliver the required number of counterparts of the Agreement and any bonds and insurance documentation required to be delivered by the Contract Documents to Owner. Within 10 days thereafter, Owner will deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

SUPPLEMENTAL BID INSTRUCTIONS

ARTICLE 1—BONDING

1.01 *Bonding*

- A. Bonding is not required for this project.

Excerpt from Contract for a Small Construction Project (EJCDC C-522).

ARTICLE 2—INSURANCE

2.01 *Insurance*

- A. The Contractor is required to add the City of Holladay as an additional insured.
- B. When Contractor delivers the signed counterparts of the Contract to Owner, Contractor shall furnish certificates, endorsements, and any other evidence of insurance requested by Owner. Insurance is to be provided by companies that are duly licensed or authorized in the jurisdiction in which the Project is located with a minimum A.M. Best rating of A-VII or better. Contractor shall provide insurance in accordance with the following:

1. Contractor shall provide coverage for not less than the following amounts, or greater where required by Laws and Regulations:

a. *Workers' Compensation and Employer's Liability*

Workers' Compensation	Statutory
Employer's Liability	
Each Accident	\$1,000,000
Each Employee	\$1,000,000
Policy Limit	\$1,000,000

b. *Commercial General Liability*

General Aggregate	\$2,000,000
Products - Completed Operations Aggregate	\$1,000,000
Personal and Advertising Injury	\$1,000,000
Bodily Injury and Property Damage—Each Occurrence	\$1,000,000

c. *Automobile Liability*

Bodily Injury	
Each Person	\$
Each Accident	\$
Property Damage	
Each Accident	\$
[OR]	
Combined Single Limit (Bodily Injury and Property Damage)	\$1,000,000

d. *Excess or Umbrella Liability*

Per Occurrence	\$1,000,000
General Aggregate	\$1,000,000

e. *Contractor's Pollution Liability*

Each Occurrence/Claim	\$
General Aggregate	\$

- C. All insurance policies required to be purchased and maintained will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days after notice has been received by the purchasing policyholder. Within three days of receipt of any such notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.
- D. Automobile liability insurance provided by Contractor will be written on an occurrence basis and provide coverage against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle.
- E. Contractor's commercial general liability policy will be written on a 1996 or later ISO commercial general liability occurrence form and include the following coverages and endorsements:
1. Products and completed operations coverage maintained for three years after final payment;
 2. Blanket contractual liability coverage to the extent permitted by law;
 3. Broad form property damage coverage; and
 4. Severability of interest; underground, explosion, and collapse coverage; personal injury coverage.
- F. The Contractor's commercial general liability and automobile liability, umbrella or excess, and pollution liability policies will include and list Owner and Engineer and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each as additional insureds; and the insurance afforded to these additional insureds will provide primary coverage for all claims covered thereby (including, as applicable, those arising from both ongoing and completed operations) on a non-contributory basis.
1. Additional insured endorsements will include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together). If Contractor demonstrates to Owner that the specified ISO endorsements are not commercially available, then Contractor may satisfy this requirement by providing equivalent endorsements.
 2. Contractor shall provide ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent for design professional additional insureds.
- G. Umbrella or excess liability insurance will be written over the underlying employer's liability, commercial general liability, and automobile liability insurance. The coverage afforded must be at least as broad as that of each and every one of the underlying policies. Contractor may meet the policy limits specified for employer's liability, commercial general liability, and

automobile liability through the primary policies alone, or through combinations of the primary insurance policy's policy limits and partial attribution of the policy limits of an umbrella or excess liability policy that is at least as broad in coverage as that of the underlying policy.

- H. The Contractor shall provide property insurance covering physical loss or damage during construction to structures, materials, fixtures, and equipment, including those materials, fixtures, or equipment in storage or transit.
- I. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 15.