



REQUEST FOR PROPOSAL

Construction

R23-109MZ

Date issued: August 30, 2023

**IRRIGATION INSTALLATION
PATTY JEWETT AND VALLEY HI
GOLF COURSES (ARPA FUNDED)**

THE CITY OF COLORADO SPRINGS



The City of Colorado Springs requests Fixed Unit Price proposals, as detailed in this Request for Proposal (RFP), for Irrigation Installation Patty Jewett & Valley Hi Golf Courses (ARPA Funded)

This RFP is posted to Rocky Mountain E-Purchasing BidNet Direct and the City of Colorado Springs' Procurement Services Website. It is available for all vendors free of charge, following free registration, at the Rocky Mountain E-Purchasing BidNet Direct website.

SUBMITTALS FOR THIS PROJECT WILL ONLY BE ACCEPTED ON THE ROCKY MOUNTAIN E-PURCHASING BIDNET DIRECT PLATFORM.

Please login to the following website to register (Free Registration) to submit a bid for this project. All required documents will be uploaded to the website.

<https://www.bidnetdirect.com/>

BIDNET Support

800-835-4603

**Estimated Project Magnitude:
\$3,000,000.00 - \$3,500,000.00 Patty Jewett Golf Course
\$2,000,000.00 – \$2,500,000.00 Valley Hi Golf Course**

These projects are funded by the American Rescue Plan Act (ARPA) and the City will issue two separate contracts. A vendor can be awarded both contracts but each contract will be separate to track costs per golf course.



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SECTION I – PROPOSAL INFORMATION

1.0 PROPOSAL INFORMATION

Section I provides general information to potential Offerors, such as proposal submission instructions and other similar administrative elements. This RFP is available on BidNet Direct under the Rocky Mountain E-Purchasing Group (www.BidNetDirect.com). All addenda or amendments shall be issued through BidNet Direct and may not be available through any other source.

1.1 RFP SCHEDULE OF EVENTS

The upcoming schedule of events is as follows:

<u>Event</u>	<u>Date</u>
Issue Request for Proposal	August 29, 2023
Pre-Proposal Conference	September 8, 2023 1:00PM

We will hold a pre-proposal conference at Patty Jewett Golf Course Clubhouse, 900 E. Espanola Street, Colorado Springs, CO 80907. This meeting is not mandatory. However all Offerors are encouraged to attend.

Cut Off Date for Questions	September 22, 2023 1:00PM
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All questions shall be submitted to Mike Zeller via email to michael.zeller@coloradosprings.gov.

Requests for Information, support and questions shall be directed to:

CONTRACT SPECIALIST Mike Zeller
CONTRACT SPECIALIST michael.zeller@coloradosprings.gov

DO NOT CONTACT ANY OTHER INDIVIDUAL AT THE CITY OF COLORADO SPRINGS REGARDING THIS SOLICITATION.
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The only acceptable method of submitting questions is electronically via BidNet Direct. Faxes or physical mail delivery are not acceptable.

Proposal Due Date	October 4, 2023 2:00PM
Interviews (if applicable)	TBD
Award of Contract	TBD
Notice to Proceed	TBD



1.2 SUBMISSION OF PROPOSAL

Proposals are to be submitted electronically on BidNet Direct (www.bidnetdirect.com). Please review the submission requirements **well in advance** of submission date and time, and allow for ample time to upload each required document. It is recommended that Offerors begin the submission process at least one (1) day in advance of the proposal deadline.

Offerors are solely responsible to ensure all required proposal documents are uploaded and submitted correctly, and that a **confirmation number** is obtained upon successful submission. Customer support for BidNet Direct may be reached at (800) 835-4603.

*******NO LATE OFFERS WILL BE ACCEPTED*******

Date/Time: Proposals shall be received on or before 2:00PM October 4, 2023

Identification of Proposal:

Proposals must be submitted to the BidNet Direct Procurement Platform (www.bidnetdirect.com). The solicitation number and Offeror name must be clearly marked within the proposal.

1.3 NUMBER OF COPIES

Offerors shall submit **one (1)** softcopy to the BidNet Direct platform. Upon submission, all proposal documents shall become and remain the property of the City of Colorado Springs.

1.4 SPECIAL TERMS

Please note the following definitions of terms as used herein:

The term “City” means the City of Colorado Springs.

The term “Contractor” or “Consultant” means the Offeror whose offer is accepted and is awarded the contract to provide the products or services specified in the RFP.

The term “Offer” means the proposal.

The term “Offeror” means the person, firm, or corporation that submits a formal proposal or offer and that may or may not be successful in being awarded the contract.

The term “Project” refers to Irrigation Installation Patty Jewett & Valley Hi Golf Courses (ARPA FUNDED).

The term “Request for Proposal” or “RFP” means this solicitation of a formal, negotiable proposal/offer. Any offer that is accepted will be the offer that is deemed by the City of Colorado Springs to be most advantageous in terms of the criteria designated in the RFP.



1.5 RFP OBJECTIVE

The objective of this RFP is to provide sufficient information to enable qualified Offerors to submit written proposals to the City of Colorado Springs. The RFP is not a contractual offer or commitment to purchase products or services. The Offeror may present options and variables to the scope while still meeting the minimum requirements of this solicitation. Innovative proposals/solutions are encouraged and considered in the selection and/or award.

All information included in proposals must be legible. Any and all corrections and or erasures must be initialed by Offeror. Each proposal shall be accompanied by a cover letter signed by an authorized representative of the Offeror. The contents of the proposal submitted by the successful Offeror(s) may become part of any contract awarded as a result of this solicitation. The City anticipates awarding two (2) Contracts via this RFP (one for Patty Jewett and one for Valley Hi golf courses). The City may award to two vendors or one depending on evaluations and pricing considerations.

1.6 CONFIDENTIAL OR PROPRIETARY INFORMATION

If an Offeror believes that parts of an offer are confidential, then the Offeror must so specify. The Offeror must include in bold letters the term "CONFIDENTIAL" on that part of the offer which the Offeror believes to be confidential. The Offeror must submit in writing specific detailed reasons, including any relevant legal authority, stating why the Offeror believes the material to be confidential. Vague and general claims as to confidentiality will not be accepted. The City of Colorado Springs will be the sole judge as to whether a claim is acceptable. Decisions regarding the confidentiality of information will be made when requests are made to make the information public. All offers and parts of offers, which are not marked as confidential, will automatically be considered public information after the contract is awarded. The successful offer may be considered public information even though parts are marked confidential.

1.7 AMENDMENTS

Amendments to this RFP may be issued at any time prior to the time set for receipt of proposals. Offerors are required to acknowledge receipt of any amendments issued to this RFP by returning a signed copy of each amendment issued. Signed copies of each amendment must be received on or before the time set for receipt of offers.

The City of Colorado Springs will post all amendments on BidNet Direct under the Rocky Mountain E-Purchasing Group (www.BidNetDirect.com). It is the Offeror's responsibility to check the website for posted amendments or contact the Contracts Specialist listed in RFP §1.1 to confirm the number of amendments which have been issued.

1.8 WITHDRAWAL OR MODIFICATION OF OFFERS

Any Offeror may modify or withdraw an offer in writing at any time prior to the deadline for submission of an offer.

1.9 ACCEPTANCE

Any offer received and not withdrawn shall be considered an offer, which may be accepted by the



City of Colorado Springs based on initial submission without discussions or negotiations.

By submitting an offer in response to this solicitation, the Offeror agrees that any offer it submits may be accepted by the City of Colorado Springs at any time within 90 calendar days from the date of submission deadline.

The City of Colorado Springs reserves the right (a) to reject any or all offers,(b) to waive informalities and minor irregularities in offers received, and/or (c) to accept any portion of an offer if deemed in the best interest of the City of Colorado Springs. Failure of the Offeror to provide in its offer any information requested in the RFP may result in rejection of the offer for non-responsiveness.

1.10 PROPOSAL PREPARATION COST

The cost of proposal preparation is not a reimbursable cost. Proposal preparation shall be at the Offeror's sole expense and is the Offeror's total and sole responsibility.

1.11 AWARD

The City of Colorado Springs intends to make two awards using the evaluation criteria listed in this RFP to determine the best value, considering all factors and criteria in the proposals submitted. Best value means the expected outcome of an acquisition that, in the City's estimation, provides the greatest overall benefit in response to the requirements detailed in the RFP. The City of Colorado Springs reserves the right to reject any or all offers and to not make an award.

1.12 PERFORMANCE PERIOD

The performance period for the project detailed in this RFP will be established:

Patty Jewett: 365 Calendar Days from Notice to Proceed

Valley Hi: 365 Calendar Days from Notice to Proceed

1.13 DEBRIEFING

Offerors not selected may request a debriefing on the selection process as well as discussion of the strengths and weaknesses of their proposal upon receipt of notification that their offer was not selected.

A debriefing may be scheduled by contacting the Contracts Specialist listed above. The Contracts Specialist must receive a written request for debriefing no later than ten (10) calendar days after issuance of a notification that the Offeror's offer was not selected.

1.14 SUBSTANTIVE PROPOSALS

By responding to this RFP, the Offeror certifies (a) that Offeror's proposal is genuine and is not made in the interest of, or on behalf of, an undisclosed person, firm, or corporation; (b) that Offeror has not directly or indirectly induced or solicited any other offerors to put in a false or sham proposal; (c) that Offeror has not solicited or induced any other person, firm, or corporation to refrain or abstain from proposing an offer or proposal; (d) that Offeror has not sought by collusion



to obtain for themselves any advantage over any other offerors or over the City of Colorado Springs; and (e) that Offeror has not violated or caused any person to violate, and shall not violate or cause any person to violate, the City's Code of Ethics contained in Article 3, of Chapter 1 of the City Code and in the City's Procurement Rules and Regulations.

1.15 OFFEROR'S QUALIFICATIONS

Each Offeror must complete Exhibit 6 – Qualification Statement.

No contract will be awarded to any Offeror who is in arrears to the City, upon any debt or contract, or who is in default, in any capacity, upon any obligation to the City or is deemed to be irresponsible or unreliable by the City based on past performance.

1.16 NON-COLORADO ENTITIES

If Offeror is a foreign entity, Offeror shall comply with C.R.S. section 7-90-801, "Authority to transact business or conduct activities required," and section 7-90-802, "Consequences of transacting business or conducting activities without authority."

Before or at the time that the contract is awarded to an entity organized or operating outside the State of Colorado, such entity shall obtain authorization to do business in the State of Colorado, designate a place of business herein, and appoint an agent for service of process.

Such entity must furnish the City of Colorado Springs with a certificate from the Secretary of the State of Colorado to the effect that a certificate of authority to do business in the State of Colorado has been issued by that office and is still valid. The entity shall also provide the City with a certified copy of the designation of place of business and appointment of agent for service of process from the Colorado Secretary of State, or a letter from the Colorado Secretary of State that such designation of place of business and agent for service of process has been made.

1.17 PROCUREMENT RULES AND REGULATIONS

All projects advertised by the City of Colorado Springs are solicited in accordance with the City's Procurement Rules and Regulations. The City's Procurement Rules and Regulations can be reviewed and/or downloaded from the City website www.coloradosprings.gov. The Contracts Specialist may also provide a softcopy of the Rules and Regulations upon request. Any discrepancies regarding conflicting statements, decisions, irregularities, clauses, or specifications will be rectified utilizing the City's Procurement Rules and Regulations, when applicable. It is the Offeror's responsibility to advise the Contracts Specialist listed in this RFP of any perceived discrepancies prior to the date and time the offer is due.

1.18 FAIR TREATMENT OF OFFERORS

The City Procurement Services Division shall be responsible for ensuring the procurement of products, commodities, and services are in a manner that affords all responsible businesses a fair and equal opportunity to compete. If an Offeror believes that a procurement is not conducted in a fair and equitable manner, the Offeror is encouraged to inform the City Procurement Services Manager as soon as possible.



1.19 ORDER OF PRECEDENCE

Any inconsistency in this solicitation shall be resolved by giving precedence in the following order:

- A. Sections I-IV of this Solicitation
- B. Special Construction Terms and Conditions
- C. General Construction Terms and Conditions
- D. Exhibits
- E. Plans
- F. Detailed Plans
- G. Standard Drawings
 - a. Calculated dimensions will govern over scaled dimensions.
- H. Special Specifications
- I. Standard Specifications

1.20 SALES TAX

The successful Offeror, if awarded a contract, shall apply to the Colorado Department of Revenue for a tax-exempt certificate for this project. The certificate does not apply to City of Colorado Springs Sales and Use Tax which shall be applicable and should be included in all proposals. The tax exempt project number and the exemption certificate only apply to County, PPRTA (Pikes Peak Rural Transportation Authority), and State taxes when purchasing construction and building materials **to be incorporated into this project**.

Furthermore, the exemption **does not** include or apply to the purchase or rental of equipment, supplies or materials that **do not become a part of the completed project or structure**. In these instances, the purchase or rental is subject to full taxation at the current taxation rate.

The Offeror and all subcontractors shall include in their Offer City of Colorado Springs Sales and Use Tax on the work covered by the offer, and all other applicable taxes.

Forms and instructions can be downloaded at <https://coloradosprings.gov/sales-tax/page/construction-contractors>. Questions can be directed to the City Sales Tax Division at (719) 385-5903 or Construction_SalesTax@coloradosprings.gov.

Our Registration Numbers are as follows:

City of Colorado Springs

Federal I.D.: 84-6000573

Federal Excise: A-138557

State Sales Tax: 98-03479

1.21 BOND REQUIREMENTS

The Offeror is advised that the successful Offeror shall be required to furnish to the City of Colorado Springs, upon award, one copy of each: Performance Bond, Labor and Materials Payment Bond, and a Maintenance Bond in the amount of 100% of the total contract within ten (10) calendar days after notification of award of a contract. The cost of all bonds shall be included in Offeror's offer.



Bonds shall:

- A. Be for the full amount of the contract price.
- B. Guarantee the Contractor's faithful performance of the work under the contract, and the prompt and full payment for all labor and materials involved therein.
- C. Guarantee protection to the City of Colorado Springs against liens of any kind.
- D. Be, when a surety bond is furnished, from a surety company operating lawfully in the State of Colorado and be accompanied with an acceptable "Power-of-Attorney" form attached to each bond copy.
- E. Be issued from a surety company that is acceptable to the City of Colorado Springs.
- F. Be submitted using the forms in the Exhibit section of this solicitation.

1.22 INTERPRETATION OF QUANTITIES IN PROPOSAL FORM

Except as otherwise provided in this RFP, the quantities appearing in the proposal form are estimates prepared for the comparison of proposals.

After award, payment to the Contractor will be made in accordance with the following procedures:

- A. Measurement required. When the Contract requires measurement of work performed or material furnished, payment will be made for actual quantities measured and accepted.
- B. Measurement Not Required. When the Contract does not require quantities of work performed or materials furnished to be measured, payment will be made for the quantities appearing in the Contract.

The estimated quantities of work to be performed and materials to be furnished may be increased, decreased or omitted.

1.23 INTERPRETATION OF PLANS AND SPECIFICATIONS

Any change to proposal forms, plans, or specifications prior to the opening of proposals will be issued by the City in the form of an Amendment. Certain individuals may be named in the RFP that have authority to provide information, clarification or interpretation to Offerors prior to opening of proposals. Information obtained from persons other than those named individuals is invalid and shall not be used for proposal purposes.

1.24 EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS, AND SITE OF WORK.

The Offeror is expected to examine the site of the proposed work, the proposal, plans, specifications, supplemental specifications, special provisions, and Contract forms, before submitting a proposal. The submission of a proposal will be considered conclusive evidence that the Offeror has made this examination and is aware of the conditions to be encountered in performing the work according to the Contract.

Boring logs and other records of subsurface investigations, if they exist, are available for inspection by Offerors. These logs and records are made available so that all Offerors have access to identical subsurface information that is available to the City, and is not intended as a substitute for personal investigation, interpretation, and judgment of the Offerors.



The City does not warrant the adequacy of boring logs and other records of subsurface investigations, and such information is not considered to be a part of the Contract. When a log of test borings is included in the subsurface investigation record, the data shown in the individual log of each test boring apply only to that particular boring and are not intended to be conclusive as to the character of any material between or around test borings. If Offerors use this information in preparing a proposal, it is used at their own risk, and Offerors are responsible for all conclusions, deductions, and inferences drawn from such information.

Offerors may conduct subsurface investigations at the project site at Offeror's expense; the City will afford them this opportunity prior to public opening of proposals.

If an Offeror discovers an apparent error or omission in the proposal form, estimated quantities, plan, or specifications, the Offeror shall immediately notify the Contracting Specialist to enable the City to make any necessary revisions. The City may consider it to be detrimental to the City for an Offeror to submit an obviously unbalanced unit proposal price.

1.25 COMBINATION OR CONDITIONAL PROPOSALS

If an RFP is issued for projects in combination and separately, the Offeror may submit proposals either on the combination or on separate units of the combination. The City reserves the right to make awards on combination or separate proposals to the advantage of the City. Combination proposals will be considered, only when specified.

1.26 ANTI-COLLUSION AFFIDAVIT

The Offeror by signing their proposal submitted to the City is certifying that the Offeror has not participated in any collusion or taken any action in restraint of free competitive bidding. This statement may also be in the form of an affidavit provided by the City and signed by the Offeror. The original of the signed anti-collusion affidavit, if separately required and provided with the RFP, shall be submitted with the proposal. The proposal will be rejected if it does not contain the completed anti-collusion affidavit.

1.27 MATERIAL GUARANTY

The successful Offeror may be required to furnish a complete statement of the origin, composition, and manufacture of materials used in the construction of the work together with samples, which will be tested for conformance with Contract requirements.



SECTION II – PROPOSAL CONTENT

2.0 PROPOSAL CONTENT

Section II provides instructions regarding the format and content required for proposals submitted in response to this solicitation.

2.1 PROPOSAL FORMAT

Offeror's written proposal should include concise, but complete, information, emphasizing why the Offeror is best or best qualified to provide the required services. The Offeror's written proposal should include the information in the format outlined below and must be limited to no more than twenty-five (25) pages. **A page shall be defined as 8-1/2" x 11"; single sided, with one inch margins, and a minimum font of Times New Roman 10.** The only exception to the 8-1/2" x 11" paper size is the proposed project schedule. It may be submitted on 11" x 17" paper. Each 11" x 17" page for the schedule shall be counted in the overall page limitations above. Each section of the proposal should be labeled to clearly follow the requirements sections identified in this section of the RFP. The following listed Exhibits must be filled out and returned with the proposal and are not counted against the page limit:

Exhibit 1	Proposal Certification
Exhibit 3	Exceptions
Exhibit 4	RESERVED
Exhibit 6	Qualification Statement
Exhibit 8	Federal Forms
Schedule A1	Price Sheet Patty Jewett Golf Course
Schedule A2	Price Sheet Valley Hi Golf Course
Schedule D	Insurance Requirements

2.2 COVER LETTER

The cover letter shall be no more than three pages. The cover letter shall contain at least the following information.

- A. RFP Number and Project Name.
- B. Statement that the Offeror is qualified to perform the work.
- C. Certification Statement that the information and data submitted are true and complete to the best knowledge of the individual signing the letter.
- D. Name, telephone number, email address, and physical address of the individual to contact regarding the proposal.
- E. The signature of an authorized principal, partner, or officer of the Offeror.

2.3 PROPOSAL CERTIFICATION

The Offeror must fill out and submit Exhibit 1 with its Proposal.



2.4 ORGANIZATIONAL BACKGROUND AND OVERVIEW

The Offeror must provide a brief history and overview of its company and its organizational structure, with special emphasis on how this project will fit within that structure. Also include principal place of business location(s), office locations, size of firm, and financial stability (annual public reports or private financial statements shall be included in an appendix or under separate cover; private financial information will be kept confidential by the City).

2.5 PROPOSAL NARRATIVE/TECHNICAL AND MANAGEMENT APPROACH

In the proposal narrative/technical and management approach section, the Offeror should explain what the Offeror will do and how it will perform if awarded a contract.

2.5.1 TECHNICAL AREA

The Offeror must explain its overall solution, considering the scope of work or statement of work provided. The content must include, but not necessarily be limited to, the following information.

A. Understanding of and Compliance with Technical Requirements

In the Technical Area, the Offeror should address each work area in sufficient detail to demonstrate a clear and full understanding of the work necessary to complete the project. The proposal should not merely parrot the requirements of the RFP. Further, the Offeror should provide evidence of sufficient planning to ensure the work is completed on schedule and within budget. It is highly recommended that the Offeror provide sufficient content and detail to answer completely the following questions:

1. Does the proposal demonstrate a firm understanding of the requirements and goals of the Statement of Work, as well as industry standards and reasonable expectations for a company in the industry?
2. Does the proposal fully and completely address each requirement and goal of the Statement of Work?
3. Does the proposal provide solutions to indicate that requirements and goals will be met on schedule?
4. Does the technical solution seem realistic?
5. Does it generally appear that the Offeror knows and thoroughly understands the business and the RFP requirements?

B. Project Approach

In the Technical Area, the Offeror should clearly present proposed solutions and indicate that it has performed adequate planning to accomplish project tasks as defined in the Statement of Work. Innovations, efficiencies, and detailed specifics are all encouraged.

The Offeror must at least address the following areas:

1. Construction phasing and traffic control for the project. Explain the phases, traffic control for each phase, and the logic in the construction phasing.



2. Erosion and sediment control during all phases of construction as well as post construction efforts through permit closure.
3. Coordination with utilities. Discuss Offeror's understanding of the key utility relocations required for this project and how Offeror will coordinate and phase construction to both facilitate and accommodate those relocations and the constraints that they impose.
4. Schedule Management. Discuss Offeror's approach to schedule management including updating and reporting progress of the work.
5. Quality Control. Discuss Offeror's quality control plan, processes and approach to ensure that the City receives a quality product.
6. Safety. Discuss Offeror's approach and commitment to safety for both construction workers and the public traveling through the construction site.
7. Potential issues that Offeror foresees with this project and how Offeror would make adjustments if encountered. Describe factors limiting construction phasing flexibility and potential remedies.

It is highly recommended that the Offeror provide sufficient content and detail to answer completely the following questions.

1. Does the proposal include a complete plan to accomplish each requirement, including subcontracting (if applicable)?
2. Does the proposal demonstrate that appropriate and qualified personnel and equipment will be provided to carry out the requirement?
3. Is the proper level of effort directed toward each requirement? Does the level of effort look unrealistically low or unreasonably high?

2.5.2 MANAGEMENT AREA

The Offeror must explain its method of managing the work to be performed. The content must include, but no necessarily be limited to, the following information.

A. Program Management Controls

In the Management Area, the Offeror should provide:

1. A plan of operation, to include management of personnel, workload, schedule, and budget
2. An organization chart which demonstrates clear and effective lines of authority, responsibility, and communication for management, supervisory, and technical personnel. The plan should address which job classification or personnel will be assigned to each task and how that determination is made. Basic human resource management concepts should be addressed, including hiring, firing, discipline, incentive plans, etc.
3. If the Offeror plans to subcontract more than 10% of the work, include information on how the Offeror plans to manage its subcontractors.
4. A detailed construction schedule for the project showing the key construction activities and how they will meet or improve the City's timeframe and maximize construction efficiency to provide the best value to the City and minimize impacts to the public. The schedule shall be based on the Offeror's understanding and



approach to the work as addressed above. Schedules should address controls to ensure the project will remain on schedule and on budget.

It is highly recommended that the Offeror provide sufficient content and detail to answer completely the following questions.

1. Does the proposal address the issues above in sufficient detail to demonstrate a sophisticated and mature management control system?
2. Are program management controls consistent with the technical portion of the proposal, especially regarding schedule and level of effort?
3. Do the plan and controls indicate that the Offeror will obtain, keep, and efficiently utilize high-quality personnel?
4. Does the proposal explain how the Offeror will address corrective actions in case of delays (e.g. expediting materials, additional resources, etc.)?
5. Does the proposal explain how the Offeror will remain within schedule and budget?

B. Past Performance/Relevant Experience and Key Personnel

In the Management Area, the Offeror should provide at least three references or name contracts demonstrating that it successfully provided services/products that are the same or similar to those required in the RFP. The proposal should adequately explain how the projects were completed on schedule and within budget. It is highly recommended that the Offeror provide sufficient content and detail to answer completely the following questions.

1. Does the proposal include at least three references or past performance citations?
2. Are the references or past performance citations relevant to the requirements of the Statement of Work of the RFP?
3. Does the Offeror explain how they were successful on the projects provided as past performance?
4. Does the Offeror apply the past performance to the City requirement in such a way as to demonstrate added value due to experience?

C. Key Personnel

In the Management Area, resumes must be provided for all personnel considered key, as required by the RFP. Resumes do not count toward the page limit. It is highly recommended that the Offeror provide sufficient content and detail to answer completely the following questions. Explain how the key personnel were related to the projects cited as relevant past performance.

1. Does the Offeror provide complete resumes, including education, experience, background information, accomplishments, and other pertinent information?
2. Does the Offeror provide resumes for all key personnel, as required by the RFP?
3. Do the resumes demonstrate adequate professional, technical, and management levels to accomplish the work effectively and efficiently?



2.6 PRICE AREA

In the Price Area, the Offeror should provide a detailed breakdown of the price for each year of performance. The price must be all-inclusive and include all unit costs for material, labor, other direct costs (e.g. travel), indirect costs (i.e. overhead and general and administrative costs), and profit/fee. Offers must include sufficient detail to allow insight into the fairness and reasonableness of the price. If the contract type will be Time and Material (T&M) labor categories, labor rates, separated profit, and estimated material costs must be included in detail.

In addition, although price may not be the most important factor, it is still very important to the City of Colorado Springs. The Offeror's pricing must be competitive as compared to the budget amount, market pricing in the industry, and the pricing of other Offerors. It is highly recommended that the Offeror provide sufficient content and detail to answer completely the following questions.

1. How does the price compare to the industry competition?
2. If low, is it unrealistically low?
3. If high, is there demonstrated added value for the additional cost?

2.7 PROPOSAL PRESENTATION

Presentation is an important factor. Offerors should provide a highly professional product, which is complete, accurate, easily understood, and effectively presented.

2.8 EXCEPTIONS

All Offerors must complete Exhibit 3, Exceptions Form and return it with their proposal. Some terms and conditions are not negotiable. Exceptions may be grounds for rendering the proposal unacceptable without further discussions.

2.9 INSURANCE REQUIREMENTS

All Offerors must complete Schedule D, Insurance Requirements and return with their proposal. Lack of responsiveness in this area may be grounds for rendering the proposal unacceptable without further discussions.



SECTION III – EVALUATION FACTORS

3.0 EVALUATION AND AWARD

Section III provides information regarding evaluation criteria and scoring. It also includes information regarding proposal selection and award of the resultant contract.

3.1 EVALUATION CRITERIA

3.1.1 TECHNICAL AREA – UNDERSTANDING OF AND COMPLIANCE WITH TECHNICAL REQUIREMENTS

See Section II - Item 2.5.1A

3.1.2 TECHNICAL AREA – PROJECT APPROACH

See Section II - Item 2.5.1B

3.1.3 MANAGEMENT AREA – PROGRAM MANAGEMENT CONTROLS

See Section II - Item 2.5.2A

3.1.4 MANAGEMENT AREA – PAST PERFORMANCE/RELEVANT EXPERIENCE/KEY PERSONNEL

See Section II – Item 2.5.2B

3.1.5 PRICE/COST AREA – PRICE/COST

See Section II – Item 2.6

3.1.6 PROPOSAL PRESENTATION AREA – PROPOSAL PRESENTATION

See Section II – Item 2.7

3.1.7 EXCEPTIONS AND INSURANCE

See Section II – Items 2.8 and 2.9

3.2 RANKING

A. The order of ranking or importance in the evaluation shall be as follows:

First: Price/Cost Area
Second: Technical Area
Third: Management Area
Fourth: Proposal Presentation Area

B. Possible scores for each criterion shall be as follows:

5 – Exceptional
4 – Very Good
3 – Satisfactory
2 – Marginal
1 – Unacceptable



C. Definitions for scoring are as follows:

Exceptional – The proposal meets all and exceeds many of the requirements of the RFP to the benefit of the City, and the information provided is of such a nature as to answer all questions without need for further inquiry. There are no corrective actions required, and no compromise of requirements is needed.

Very Good – The proposal meets all and exceeds some of the requirements of the RFP to the benefit of the City, and the information provided is of such a nature as to answer most questions without need for further inquiry. There are no corrective actions required, and no compromise of requirements is needed.

Satisfactory – The proposal meets the requirements of the RFP, and the information provided is of such a nature as to answer many questions without need for further inquiry. There are very few corrective actions required, and no substantive compromise of requirements is needed.

Marginal – The proposal does not meet some of the requirements of the RFP, and the information provided is of such a nature as to require some clarification. There are some corrective actions required, and some non-substantive compromise of requirements is needed.

Unacceptable – The proposal does not meet many of the requirements of the RFP, and the information provided is of such a nature as to require much clarification. There are many corrective actions required, and substantive compromise of requirements is needed.

D. Final/Overall Scoring

The final proposal score will be determined by adding the area scoring. The sum of the area scores will be the final/overall score.

3.3 SELECTION COMMITTEE

A selection committee will review all proposals. Through this process, the City will determine which proposals are acceptable or unacceptable. The City will notify, in writing, the Offerors whose proposals are deemed to be unacceptable. Those Offerors offering proposals deemed to be acceptable by the City will be evaluated and scored by the selection committee. This scoring will determine which Offerors are considered to be in the competitive range and may be the basis for an award decision without further steps.

If the selection committee elects not to award based upon evaluation scoring, it may engage in a forced elimination process. To inform this process, it may require oral presentations or interviews with the Offerors considered to be in the competitive range. If oral presentations or interviews are conducted, they may also be scored, or they may simply be considered as information supporting the forced elimination process. The selection committee may request revisions to the proposal from each of the Offerors at the conclusion of the interviews. The intent of the forced elimination process is to reach consensus. The decision will be based on all relevant factors, and based upon perception of best value. The final decision may or may not exactly reflect scoring ranking.



The City also reserves the right to request best and final offers from all Offerors at any point in the proposal evaluation process.

3.4 AWARD OF CONTRACT

It is anticipated that there will be negotiations or discussions with Offerors. However, the City reserves the right to award without negotiations or discussions. The City also reserves the right to award a contract not necessarily or merely to the Offeror(s) with the most advantageous price. The City intends to award to the Offeror(s) that demonstrates the best value to the City and the most substantiated ability to fulfill the requirements contained in this Request for Proposal. A contract prepared by the City will be finalized and/or negotiated with the successful Offeror(s). In the event a contract cannot be negotiated with the top ranked Offeror, the City may enter into negotiations with the next highest ranked Offeror(s), or the City may decide to call for new proposals. Immediately after the notice of award, the successful Offeror(s) will begin planning in conjunction with the City of Colorado Springs staff (to be designated by the City) to ensure fulfillment of all its obligations. The successful Offeror(s) may be expected to attend regular meetings as required by the City to assist in the preparation for startup.



SECTION IV – SPECIAL CONTRACT TERMS AND CONDITIONS

4.0 SPECIAL CONTRACT TERMS AND CONDITIONS/SPECIAL SOLICITATION PROVISIONS

In addition to the special contract terms and conditions listed below, the City's sample contract, see Exhibit 2, contains contract terms and conditions.

ADA Standards: It is a requirement of the City and required by law that any new or renovated facility meet the scoping and technical requirements of the 2010 ADA Standards for newly designed and constructed or altered local government facilities, public accommodations, and facilities. The selected Design Professional shall design the project so it both conforms to the 2010 ADA Standards, as applicable and as amended, and is readily accessible to and usable by individuals with disabilities. The selected Contractor shall build the project so it both conforms to the 2010 ADA Standards, as applicable and as amended, and is readily accessible to and usable by individuals with disabilities. Facilities that are designed, constructed, and/or altered facilities that meet or exceed the IBC 2015/ANSI A117.1 2009, used by Pikes Peak Regional Building Department, will be accepted as meeting or exceeding the 2010 ADA Standards.



SECTION V – EXHIBITS

5.0 EXHIBITS

Exhibit 1	Proposal Certification
Exhibit 2	Sample Contract
Exhibit 3	Exceptions
Exhibit 4	RESERVED
Exhibit 5	RESERVED
Exhibit 6	Qualification Statement
Exhibit 7	Evaluation Scoresheet
Exhibit 8	Federal Forms



EXHIBIT 1 PROPOSAL CERTIFICATION

Check or Mark the space after each number to indicate compliance.

1. _____ Address of Offeror's Principal Place of Business:

Does Offeror have an established office or facility in Colorado Springs?

Yes _____ No _____

If yes, indicate address below if different than Principal Place of Business.

Colorado Springs Facility - Year established _____

Address of Colorado Springs Facility:

Percent of Work to be Performed from Principal Place of Business? _____

Percent of Work to be Performed from Colorado Springs Facility? _____

2. _____ Indicate your ability to provide a certificate of insurance evidencing the required coverage types and limits specified in Minimum Insurance Requirements Exhibit. (The certificate of insurance must reflect the City of Colorado Springs as an Additional Insured, as applicable.)

Indicate your ability to comply with the following requirements:

The City shall be added as an Additional Insured to all liability policies:

Yes _____ No _____

Your property and liability insurance company is licensed to do business in Colorado:

Yes _____ No _____

Provide the name of your property and liability insurance company here:

Name: _____

Your property and liability insurance company has an AM best rating of not less than B+ and/or VII:

Yes _____ No _____

Worker's Compensation Insurance is carried for all employees and covers work done in Colorado:

Yes _____ No _____



3. _____ Provide one (1) copy of current financial statements (if required). Enclose financial information in a separate envelope; do not bind with the other proposal copies. If review of the information is to be restricted to the City's financial officer, it must be marked accordingly.
4. _____ Provide the completed and signed bid. (Bids must be identified as specified in this RFP document). All required Exhibits are attached.

By signing below, the Offeror certifies that no person or firm other than the Offeror or as otherwise indicated has any interest whatsoever in this offer or any Contract that may be entered into as a result of this offer and that in all respects the offer is legal and firm, submitted in good faith without collusion or fraud. The undersigned additionally declares that it has carefully examined the Bid information and the complete Solicitation prior to submitting a Bid. The Bidder's signature will be considered the Bidder's acknowledgement of understanding and ability to comply with all items in the solicitation.

Offeror has appointed _____ as the Offeror's representative and contact for all questions or clarifications in regard to this Offeror.

Telephone: (____) _____

Email: _____

The undersigned acknowledges and understands the terms, conditions, Specifications and all Requirements contained and/or referenced and are legally authorized by the Offeror to make the above statements or representations.

(Name of Company)

(Signature)

(Address)

Date

(City, State and Zip)

(Telephone Number)

(Name typed/Printed)

(Title)

(E-Mail Address)

FEDERAL TAX ID # _____

This Company Is: Corporation____ Individual____ Partnership____ LLC____

Offeror hereby acknowledges receipt of the following amendments, if applicable. Offeror agrees that it is bound by all Amendments identified herein.

AMENDMENT #1_____ DATED:_____

AMENDMENT #2_____ DATED:_____

AMENDMENT #3_____ DATED:_____



Please Note: the following Representations and Certifications must be initialed by Offeror in the spaces provided and returned with this certification.

1. INSURANCE REQUIREMENTS

Offeror shall comply with all insurance requirements and will submit the Insurance Certificates prior to performance start date. If limits are different from the stated amounts, Offeror shall explain variance. Certain endorsements and “additionally insured” statements may require further clarification and specific statements on a project specific basis and should have been described in the Offeror’s Bid.

Initials for 1

2. ETHICS VIOLATIONS

- A. The Offeror shall have in place and follow reasonable procedures designed to prevent and detect possible violations described in this clause in its own operations and direct business relationships.
- B. Offeror certifies the Offeror has not violated or caused any person to violate, and shall not violate or cause any person to violate, the City’s Code of Ethics contained in Article 3, of Chapter 1 of the City Code and in the City’s Procurement Rules and Regulations
- C. When the Offeror has reasonable grounds to believe that a violation described in this clause may have occurred, the Offeror shall promptly report the possible violation to the City Contracts Specialist in writing.
- D. The Offeror must disclose with the signing of this Bid, the name of any officer, director, or agent who is also an employee of the City and any City employee who owns, directly or indirectly, an interest of ten percent (10%) or more in the Offeror’s firm or any of its branches.
- E. In addition, the Offeror must report any conflict or apparent conflict, current or discovered during the performance of the Contract, to the City Contracts Specialist.
- F. The Offeror shall not engage in providing gifts, meals or other amenities to City employees. The right of the Offeror to proceed may be terminated by written notice issued by City Contracts Specialist if Offeror offered or gave a gratuity to an officer, official, or employee of the City and intended by the gratuity to obtain a contract or favorable treatment under a contract.
- G. The Offeror shall cooperate fully with the City or any agency investigating a possible violation on behalf of the City. If any violation is determined, the Offeror will properly compensate the City.
- H. The Offeror agrees to incorporate the substance of this clause (after substituting “Contractor” for “Offeror”) in all subcontracts under this offer.

Initials for 2

3. COOPERATION WITH OTHER CONTRACTORS

Other City activities/contracts may be in progress or start during the performance of this contract. The Offeror shall coordinate the work harmoniously with the other contractors or City personnel, if applicable.

Initials for 3

4. INTERNET USE

Should the Offeror require access to City Internet resources in the performance of this requirement, a “Contractor’s Internet Use Agreement” form must be separately signed by each individual having access to



the City Network. The completed Contractor's Internet Use Agreement will be maintained with this agreement. Inappropriate use of the City Network will be grounds for immediate termination of any awarded contact.

Initials for 4

5. LITIGATION

If awarded a contract, Offeror shall notify the City within five (5) calendar days after being served with a summons, complaint, or other pleading in any matter which has been filed in any federal or state court or administrative agency. The Offeror shall deliver copies of such document(s) to the City's Procurement Services Manager. The term "litigation" includes an assignment for the benefit of creditors, and filings of bankruptcy, reorganization and/or foreclosure.

Initials for 5

6. CONTRACTOR'S REGISTRATION INFORMATION

Offeror's firm verifies and states that they are (check all that apply):

- _____ Large Business (i.e. do not qualify as a small business or non-profit)
- _____ Nonprofit
- _____ Small Business
- _____ Minority Owned Business/Small Disadvantaged Business
- _____ Woman Owned Business
- _____ Veteran Owned Business
- _____ Service-Disabled Veteran Owned Business
- _____ HUBZone Business

Note: The City accepts self-certification for these categories in accordance with Small Business Administration (SBA) standards. The SBA size standards are found on the SBA website <https://www.sba.gov/content/am-i-small-business-concern>.

Initials for 6

7. CONTRACTOR PERSONNEL

- A. The Offeror shall appoint one of its key personnel as the "Authorized Representative" who shall have the power and authority to interface with the City and represent the Offeror in all administrative matters concerning this Bid and any awarded contract, including without limitation such administrative matters as correction of problems modifications, and reduction of costs.
- B. The Authorized Representative shall be the person identified in the Offeror's Bid, unless the Offeror provides written notice to the City naming another person to serve as its Authorized Representative. Communications received by the City Contracts Specialist from the Authorized Representative shall be deemed to have been received from the Offeror.



The individual, _____ (Name)
with position, _____ (Title)
Can be reached at _____
Work telephone number: _____
Home telephone number: _____
Cellular telephone number: _____
E-mail address: _____

Initials for 7

8. OFFEROR'S CERTIFICATION

The undersigned hereby affirms that:

- A. He/She is a duly authorized agent of the Offeror;
- B. He/She has read and agrees to the City's standard terms and conditions attached.
- C. The offer is presented in full compliance with the collusive prohibitions of the City of Colorado Springs. The Offeror certifies that no employee of its firm has discussed, or compared the offer with any other offeror or City employee and has not colluded with any other offeror or City employee.
- D. The Offeror certifies that it has checked all of its figures, and understands that the City will not be responsible for any errors or omissions on the part of the Offeror in preparing its Bid.
- E. By submitting an offer the Offeror certifies that it has complied and will comply with all requirements of local, state, and federal laws, and that no legal requirements have been or will be violated in making or accepting this solicitation.
- F. If awarded the contract, the Offeror agrees to execute and enter into a contract with the City, and furnish the necessary security within ten (10) days of receipt of the "Notice of Award"; and to begin the work within ten (10) day from the date of the receipt of the "Notice to Proceed", and to complete the Work with the above specifications.
- G. I hereby certify that I am submitting the Bid based on my company's capabilities to provide quality products and/or services on time.

Initials for 8

9. OFFEROR CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS:

- A. The Offeror certifies to the best of its knowledge and belief, that (i) the Offeror and/or any of its Principals
 - 1. Are (), Are not () presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;
 - 2. Have (), Have not (), within a three year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state, local) contract or subcontract; violation of Federal or state antitrust statutes relation to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statement, tax evasion, or receiving stolen property; and
 - 3. Are (), Are not () presently indicated for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in any paragraphs above.
- B. The Offeror shall provide immediate written notice to the City Contracts Specialist if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reasons of changed circumstances.
- C. The certification in paragraph 1. above, is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the City, the City Contracts Specialist may



terminate the contract resulting from this solicitation for default. Termination for default may result in additional charges being levied for the costs incurred by the City to initiate activities to replace the awarded Contractor.

Initials for 9

10. ACCEPTANCE OF CITY CONTRACTS SPECIALIST'S SOLE AUTHORITY FOR CHANGES

Unless otherwise specified in the Contract, the Offeror hereby agrees that any changes to the scope of work, subsequent to the original contract signing, shall be generated in writing and an approval signature shall be obtained from the City Contracts Specialist prior to additional work performance.

Initials for 10

11. CITY CONTRACTOR SAFETY PROGRAM

The Offeror hereby agrees to adhere to a worker safety program for contractor employees on a City job site or location. By initialing below, the Offeror has reviewed the information and will abide by the City Policy which is available for review:

<https://coloradosprings.gov/finance/page/procurement-regulations-and-documents>

Initials for 11

12. ACCEPTANCE OF CITY ENVIRONMENTALLY PREFERRED PURCHASING (EPP) POLICY

The City of Colorado Springs is committed to buying more environmentally preferable goods and services, as long as they meet performance needs, are available within a reasonable time and at a reasonable cost. The Offeror hereby acknowledges review of this policy by initialing below.

<https://coloradosprings.gov/finance/page/procurement-regulations-and-documents>

Initials for 12

13. FRAUD, WASTE, AND ABUSE

Everyone has a duty to report any suspected unlawful act impacting the City of Colorado Springs operations and its enterprises. Anyone who becomes aware of the existence or apparent existence of fraud, waste, and abuse in City of Colorado Springs is encouraged to report such matters to the City Auditor's Office in writing or on the telephone hotline 385-2387 (ADTR). Written correspondence can be mailed to:

City Auditor
P.O. Box 2241
Colorado Springs CO 80901

Or via email FraudHotline@coloradosprings.gov. Any of these mechanisms allow for anonymous reporting. For more information, please go to the website <https://coloradosprings.gov/cityfraud>.

Initials for 14

Name of Company: _____



Federal Tax ID Number: _____

DUNS Number: _____

Principal Place of Business: _____

Signature of Authorized Representative

Printed Name: _____

Title: _____

Date: _____



**EXHIBIT 2 SAMPLE CONTRACT
CONSTRUCTION CONTRACT**

Contract Number:		Project Name/Title	
Vendor/Contractor			
Contact Name:		Telephone:	
Email Address:			
Address:			
Federal Tax ID #		Please check one:	<input type="checkbox"/> Corporation <input type="checkbox"/> Individual <input type="checkbox"/> Partnership
City Contracting Specialist			
		City Dept Rep	
NOT TO EXCEED Contract Amount:		City Account #	
Contract Type:	Fixed Unit Price	Period of Performance:	

1. INTRODUCTION

THIS Fixed Unit Price CONTRACT ("Contract") is made and entered into this XXX day of XXX, 2022 by and between the City of Colorado Springs, a Colorado municipal corporation and home rule city, in the County of El Paso, State of Colorado, (the "City"), and _____ (the "Contractor").

THE CITY AND THE CONTRACTOR HEREBY AGREE AS FOLLOWS:

The City has heretofore prepared the necessary Contract Documents for the following Activity: XXXX.

The Contractor did on the XXX day of XXX, 2022 submit to the City the Contractor's written offer and proposal to do the work therein described under the terms and conditions therein set forth and furnish all materials, supplies, labor, services, transportation, tools, equipment, and parts for said work in strict conformity with the accompanying Contract Documents, which are attached hereto and incorporated herein by this reference, including the following:

1. This Contract
2. Schedule A – Price Sheet
3. Schedule B – General Construction Terms and Conditions
4. Schedule C – Special Contract Terms and Conditions
5. Schedule D – General Specifications
6. Schedule E – Special and Technical Specifications
7. Schedule F – Scope of Work
8. Exhibit 1 – Performance, Labor and Material Payment, and Maintenance Bonds
9. Exhibit 2 – Minimum Insurance Requirements



2. COMPENSATION/CONSIDERATION

THIS FIXED UNIT PRICE CONTRACT is established at the Not to Exceed amount of \$xxxxxxx.

Subject to the terms and conditions of the Contract Documents, Contractor agrees to furnish all materials and to perform all work as set forth in its proposal and as required by the Contract Documents.

All pricing is in accordance with the fixed unit prices found in Schedule A, as proposed by the Contractor. Payment made for actual quantities as set forth in Schedule B, General Construction Terms and Conditions. At no time shall the total obligation of the City exceed the not to exceed amount of this Contract.

3. TERM OF CONTRACT

Contractor will start work promptly after the Notice to Proceed and continue to work diligently until completed. The Contractor shall complete all work on an as ordered basis throughout the Contract period which is **the date of Notice to Proceed through April 30, 2022** ("Period of Performance") as per the specifications and drawings. The Contractor shall provide a two-year guarantee on all work performed under this Contract after the job has been completed and accepted.

4. INSURANCE

The Contractor shall provide and maintain acceptable Insurance Policy(s) consistent with the Minimum Insurance Requirements attached as Exhibit 2, which includes Property, Liability, and as otherwise listed in Exhibit 2. The City of Colorado Springs shall be reflected as an additional insured on the Property and Liability policy(s).

Further, Contractor understands and agrees that Contractor shall have no right of coverage under any existing or future City comprehensive, self, or personal injury policies. Contractor shall provide insurance coverage for and on behalf of Contract that will sufficiently protect Contractor, or Contractor's agents, employees, servants or other personnel, in connection with the services which are to be provided by Contractor pursuant to this Contract, including protection from claims for bodily injury, death, property damage, and lost income. Contractor shall provide worker's compensation insurance coverage for Contractor and all Contractor personnel. Contractor shall file applicable insurance certificates with the City and shall also provide additional insurance as indicated in this Contract. ***A CURRENT CERTIFICATE OF INSURANCE IS REQUIRED PRIOR TO COMMENCEMENT OF SERVICES LISTING THE CITY AND XXXX AS ADDITIONALLY INSURED.***

5. RESPONSIBILITY OF THE CONTRACTOR

- A. The Contractor shall be responsible for the professional quality, technical accuracy, and the coordination of all Scope of Work services furnished by the Contractor under this Contract. The Contractor shall, without additional compensation, correct or revise any errors or deficiencies in services provided under this Contract to the satisfaction of the City.
- B. The City's review, approval of, acceptance of, or payment for the services required under this Contract shall not be construed to operate as a waiver of any rights under this Contract or of



any cause of action arising out of the performance of this Contract, and the Contractor shall be and remain liable to the City for any and all damages to the City caused by the Contractor's negligent performance of any of the services furnished under this Contract.

- C. The rights and remedies of the City provided for under this Contract are in addition to any other rights and remedies provided by law.
- D. If the Contractor is comprised of more than one legal entity, each such entity shall be jointly and severally liable hereunder.

6. WORK OVERSIGHT

- A. The extent and character of the work to be done by the Contractor shall be subject to the general approval of the City's delegated Project Manager.
- B. If any of the work or services being performed does not conform with Contract requirements, the City may require the Contractor to perform the work or services again in conformity with Contract requirements, at no increase in Contract amount. When defects in work or services cannot be corrected by re-performance, the City may (1) require the Contractor to take necessary action to ensure that future performance conforms to Contract requirements and (2) reduce the Contract price to reflect the reduced value of the work or services performed.
- C. If the Contractor fails to promptly perform the defective work or services again or to take the necessary action to ensure future performance is in conformity with Contract requirements, the City may (1) by Contract or otherwise, perform the services and charge to the Contractor any cost incurred by the City that is directly related to the performance of such work or service or (2) terminate the Contract for breach of contract.

7. SUBCONTRACTORS, ASSOCIATES, AND OTHER CONTRACTORS

- A. Any subcontractor, outside associates, or other contractors used by the Contractor in connection with Contractor's work under this Contract shall be limited to individuals or firms that are specifically identified by the Contractor in the Contractor's proposal and agreed to by the City. The Contractor shall obtain the City's Project Manager's written consent before making any substitution of these subcontractors, associates, or other contractors.
- B. The Contractor shall include a flow down clause in all of its subcontracts, agreements with outside associates, and agreements with other contractors. The flow down clause shall cause all of the terms and conditions of this Contract, including all of the applicable parts of the Contract Documents, to be incorporated into all subcontracts, agreements with outside associates, and agreements with other contractors. The flow down clause shall provide clearly that there is no privity of contract between the City and the Contractor's subcontractors, outside associates, and other contractors.

8. KEY PERSONNEL

The key personnel listed in the proposal and/or below will be the individuals used in the performance of the work. If any of the listed key personnel leave employment or are otherwise not utilized in the performance of the work, approval to substitute must be obtained by the



Contractor from the City's Project Manager. Any substitute shall have the same or a higher standard of qualifications that the key personnel possessed at the time of Contract award.

9. START AND CONTINUANCE OF WORK

It is further agreed that the Contractor will start work promptly and continue to work diligently until this Contract is completed.

10. APPROPRIATION OF FUNDS

This Contract is expressly made subject to the limitations of the Colorado Constitution and Section 7-60 of the Charter of the City of Colorado Springs. Nothing herein shall constitute, nor be deemed to constitute, the creation of a debt or multi-year fiscal obligation or an obligation of future appropriations by the City Council of Colorado Springs, contrary to Article X, § 20, Colo. Const., or any other constitutional, statutory, or charter debt limitation. Notwithstanding any other provision of this Contract, with respect to any financial obligation of the City which may arise under this Agreement in any fiscal year after the year of execution, in the event the budget or other means of appropriation for any such year fails to provide funds in sufficient amounts to discharge such obligation, such failure (i) shall act to terminate this Contract at such time as the then-existing and available appropriations are depleted, and (ii) neither such failure nor termination shall constitute a default or breach of this Contract, including any sub-agreement, attachment, schedule, or exhibit thereto, by the City. As used herein, the term "appropriation" shall mean and include the due adoption of an appropriation ordinance and budget and the approval of a Budget Detail Report (Resource Allocations) which contains an allocation of sufficient funds for the performance of fiscal obligations arising under this Contract.

11. CHANGES

The Contractor and the City agree and acknowledge as a part of this Contract that no change order or other form or order or directive may be issued by the City which requires additional compensable work to be performed, which work causes the aggregate amount payable under the Contract to exceed the amount appropriated for this Contract as listed above, unless the Contractor has been given a written assurance by the City that lawful appropriations to cover the costs of the additional work have been made or unless such work is covered under a remedy-granting provision of this Contract. The Contractor and the City further agree and acknowledge as a part of this Contract that no change order or other form or order or directive which requires additional compensable work to be performed under this Contract shall be issued by the City unless funds are available to pay such additional costs, and, regardless of any remedy-granting provision included within this Contract, the Contractor shall not be entitled to any additional compensation for any change which increases or decreases the Contract completion date, or for any additional compensable work performed under this Contract, and expressly waives any rights to additional compensation, whether by law or equity, unless, prior to commencing the additional work, the Contractor is given a written change order describing the change in Contract completion date or the additional compensable work to be performed, and setting forth the amount of compensation to be paid, and such change order is signed by the authorized City representative, as defined below. The amount of compensation to be paid, if any, shall be deemed to cover any and all additional, direct, indirect or other cost or expense or profit of the Contractor whatsoever. It is the Contractor's sole responsibility to know, determine, and ascertain the authority of the City representative signing any change order under this Contract.



No change, amendment, or modification to this Contract shall be valid unless duly approved and issued in writing by the City of Colorado Springs Procurement Services Division. The City shall not be liable for any costs incurred by the Contractor resulting from work performed for changes not issued in writing by the City of Colorado Springs Procurement Services Division.

The following personnel are authorized to sign changes, amendments, or modifications to this Contract.

The Project Manager: Changes up to \$14,999.99

The City of Colorado Springs Chief of Staff: Changes up to \$499,999.99

The Mayor of the City of Colorado Springs: Unlimited

12. ECONOMIC PRICE ADJUSTMENT

- A. The Contractor shall notify the City of Colorado Springs Procurement Services Division if, at any time during contract performance, the rate of pay for labor or the unit prices for material shown in Schedule A experiences a significant increase. A change in price shall be considered significant when the unit price of an item increases by 10% from the execution date of this Contract. The Contractor shall furnish notice of this increase within 60 days after the increase, or within any additional period that the City Procurement Services Division may approve in writing, but not later than the date of final payment under this Contract. The notice shall include the Contractor's proposal for an adjustment in the Contract unit prices to be negotiated under paragraph (b) of this clause, and shall include, in the form required by the City Procurement Services Division, supporting data explaining the cause, effective date, and amount of the increase and the amount of the Contractor's adjustment proposal.
- B. Promptly after the City Procurement Services Division receives the notice and data under paragraph (a) of this clause, the City Procurement Services Division and the Contractor shall negotiate a price adjustment in the contract unit prices and its effective date. However, the City Procurement Services Division may postpone the negotiations until an accumulation of increases in the labor rates (including fringe benefits) and unit prices of material shown in Schedule A results in an adjustment allowable under paragraph (c)(3) of this clause. The City Procurement Services Division shall modify this contract (1) to include the price adjustment and its effective date and (2) to revise the labor rates (including fringe benefits) or unit prices of material as shown in Schedule A to reflect the increases resulting from the adjustment. The Contractor shall continue performance at current rates pending agreement on, or determination of, any adjustment and its effective date.
- C. Any price adjustment under this clause is subject to the following limitations:
 1. Any adjustment shall be limited to the effect on unit prices of the increases in the rates of pay for labor (including fringe benefits) or unit prices for material shown in Schedule A. There shall be no adjustment for:
 - (i) Supplies or services for which the production cost is not affected by such changes;
 - (ii) Changes in rates or unit prices other than those shown in Schedule A; or
 - (iii) Changes in the quantities of labor or material used from those shown in Schedule A for each item.
 2. No upward adjustment shall apply to supplies or services that are required to be delivered or performed before the effective date of the adjustment, unless the Contractor's failure to



deliver or perform according to the delivery schedule results from causes beyond the Contractor's control and without its fault or negligence, within the meaning of the Default clause.

3. There shall be no adjustment for any change in rates of pay for labor (including fringe benefits) or unit prices for material which would not result in a net change of at least 3 percent of the then-current total contract price. This limitation shall not apply, however, if, after final delivery of all line items, either party requests an adjustment under paragraph (b) of this clause.
4. The aggregate of the increases in any contract unit price made under this clause shall not exceed 10 percent of the original unit price.

13. ASSIGNMENT

No assignment or transfer by the Contractor of this Contract or any part thereof or of the funds to be received thereunder by the Contractor will be recognized unless such assignment has had the prior written approval of the City and the surety has been given due notice of such assignment. Such written approval by the City shall not relieve the Contractor of the obligations under the terms of this Contract. In addition to the usual recitals in assignment contracts, the following language must be included in the assignment:

It is agreed that the funds to be paid to the assignee under this assignment are subject to a prior lien for services rendered or materials supplied for the performance of the work called for in said contract in favor of all persons, firms, or corporations rendering such services or supplying such materials.

14. CHOICE OF LAW

This Contract is subject to and shall be interpreted under the law of the State of Colorado, and the Charter, City Code, Ordinances, Rules and Regulations of the City of Colorado Springs, Colorado, a Colorado home rule city. Court venue and jurisdiction shall be exclusively in the Colorado District Court for El Paso County, Colorado. The Parties agree that the place of performance for this Contract is deemed to be in the City of Colorado Springs, El Paso County, State of Colorado. The Contractor shall ensure that the Contractor and the Contractor's employees, agents, officers and subcontractors are familiar with, and comply with, applicable Federal, State, and Local laws and regulations as now written or hereafter amended.

15. WORKERS' COMPENSATION INSURANCE

Contractor shall take out and maintain during the Period of Performance, Colorado Worker's Compensation Insurance for the Contractor and all employees of the Contractor. If any service is sublet by the Contractor, the Contractor shall require the subcontractor to provide the same coverage for the subcontractor and subcontractor's employees. Workers' Compensation Insurance shall include occupational disease provisions covering any obligations of the Contractor in accord with the provisions of the Workers' Compensation Act of Colorado.

16. INDEMNIFICATION

Contractor agrees that the Contractor shall indemnify, defend and hold harmless the City, its officers, employees and agents, from and against any and all loss, damage, injuries, claims,



cause or causes of action, or any liability whatsoever resulting from, or arising out of, or in connection with the Contractor's obligations or actions under this Contract caused by any willful or negligent error, omission or act or a failure to observe any applicable standard of care by the Contractor or any person employed by it or anyone for whose acts the Contractor is legally liable. In consideration of the award of this Contract, to the extent damages are covered by insurance, the Contractor agrees to waive all rights of subrogation against the City, its subsidiary, parent, associated and/or affiliated entities, successors, or assigns, its elected officials, trustees, employees, agents, and volunteers for losses arising from the work performed by the Contractor for the City. The indemnification obligation shall survive the expiration or termination of this Contract

17. INDEPENDENT CONTRACTOR

In the performance of the Contractor's obligations under this Contract, it is understood, acknowledged and agreed between the parties that the Contractor is at all times acting and performing as an independent contractor, and the City shall neither have nor exercise any control or direction over the manner and means by which the Contractor performs the Contractor's obligations under this Contract, except as otherwise stated within the Contract terms. The City shall not provide any direction to the Contractor on the work necessary to complete the project. Contractor understands that it is an independent contractor responsible for knowing how to perform all work or tasks necessary to complete project. The Contractor understands and agrees that the Contractor and the Contractor's employees, agents, servants, or other personnel are not City employees. The Contractor shall be solely responsible for payment of salaries, wages, payroll taxes, unemployment benefits or any other form of compensation or benefit to the Contractor or any of the Contractor's employees, agents, servants or other personnel performing services or work under this Contract, whether it is of a direct or indirect nature. Further in that regard, it is expressly understood and agreed that for such purposes neither the Contractor nor the Contractor's employees, agents, servants or other personnel shall be entitled to any City payroll, insurance, unemployment, worker's compensation, retirement or any other benefits whatsoever.

18. APPLICABLE LAW AND LICENSES

In the conduct of the services or work contemplated in this Contract, the Contractor shall ensure that the Contractor and all subcontractors comply with all applicable state, federal and City and local law, rules and regulations, technical standards or specifications. The Contractor shall qualify for and obtain any required licenses prior to commencement of work.

19. PRIOR AGREEMENTS

This is a completely integrated Contract and contains the entire agreement between the parties. Any prior written or oral agreements or representations regarding this Contract shall be of no effect and shall not be binding on the City. This Contract may only be amended in writing, and executed by duly authorized representatives of the parties hereto.

20. INTELLECTUAL PROPERTY

The Parties hereby agree, and acknowledge, that all products, items writings, designs, models, examples, or other work product of the Contractor produced pursuant to this Contract are works made for hire, and that the City owns, has, and possesses any and all ownership rights and



interests to any work products of the Contractor made under this Contract, including any and all copyright, trademark, or patent rights, and that compensation to the Contractor for Agreement and acknowledgment of this intellectual property right section of this Contract is included in any compensation or price whatsoever paid to the Contractor under this Contract. It is the intent of the parties that the City shall have full ownership and control of the Contractor's work products produced pursuant to this Contract, and the Contractor specifically waives and assigns to the City all rights which Contractor may have under the 1990 Visual Artists Rights Act, federal, and state law, as now written or later amended or provided. In the event any products, items writings, designs, models, examples, or other work product produced pursuant to this Contract is deemed by a court of competent jurisdiction not to be a work for hire under federal copyright laws, this intellectual property rights provision shall act as an irrevocable assignment to the City by the Contractor of any and all copyrights, trademark rights, or patent rights in the Contractor's products, items writings, designs, models, examples, or other work product produced pursuant to this Contract, including all rights in perpetuity. Under this irrevocable assignment, the Contractor hereby assigns to the City the sole and exclusive right, title, and interest in and to the Contractor's products, items writings, designs, models, examples, or other work product produced pursuant to this Contract, without further consideration, and agrees to assist the City in registering and from time to time enforcing all copyrights and other rights and protections relating to the Contractor's products, items writings, designs, models, examples, or other work product in any and all countries. It is the Contractor's specific intent to assign all right, title, and interest whatsoever in any and all copyright rights in the Contractor's products, items writings, designs, models, examples, or other work product produced pursuant to this Contract, in any media and for any purpose, including all rights of renewal and extension, to the City. To that end, the Contractor agrees to execute and deliver all necessary documents requested by the City in connection therewith and appoints the City as Contractor's agent and attorney-in-fact to act for and in Contractor's behalf and stead to execute, register, and file any such applications, and to do all other lawfully permitted acts to further the registration, prosecution, issuance, renewals, and extensions of copyrights or other protections with the same legal force and effect as if executed by the Contractor; further, the parties expressly agree that the provisions of this intellectual property rights section shall be binding upon the parties and their heirs, legal representatives, successors, and assigns.

21. WAIVERS

No waiver of default by the City of any of the terms, covenants, and conditions hereof to be performed, kept, and observed by the Contractor shall be construed, or shall operate, as a waiver of any subsequent default of any of the terms, covenants, or conditions herein contained to be performed, kept, and observed by the Contractor.

22. THIRD PARTIES

It is expressly understood and agreed that enforcement of the terms and conditions of this Contract, and all rights of action relating to such enforcement, shall be strictly reserved to the Parties hereto, and nothing contained in this Contract shall give or allow any such claim or right of action by any other or third person or entity on such Contract. It is the express intention of the Parties hereto that any person or entity, other than the Parties to this Contract, receiving services or benefits under this Contract shall be deemed to be incidental beneficiaries only.

23. TERMINATION



A. Termination for Convenience.

By signing this Contract, Contractor represents that it is a sophisticated business and enters into the Contract voluntarily, has calculated all business risks associated with this Contract, and understands and assumes all risks of being terminated for convenience, whether such risks are known or not known. Contractor agrees that the City may terminate this Contract at any time for convenience of the City, upon written notice to the Contractor. Contractor expressly agrees to and assumes the risk that the City shall not be liable for any costs or fees of whatsoever kind and nature if termination for convenience occurs before Contractor begins any work or portion of the work. Contractor further expressly agrees and assumes the risks that the City shall not be liable for any unperformed work, anticipated profits, overhead, mobilizations costs, set-up, demobilization costs, relocation costs of employees, layoffs or severance costs, administrative costs, productivity costs, losses on disposal of equipment or materials, cost associated with the termination of subcontractors, costs associated with purchase orders or purchases, or any other costs or fees of any kind and nature, if Contractor has started or performed portions of the Contract prior to receiving notice from the City. The City shall be liable only for the portions of work Contractor actually satisfactorily completed up to the point of the issuance of the Notice of Termination for convenience. Upon receipt of this notice the Contractor shall immediately: discontinue all services affected (unless the notice directs otherwise), and deliver to the City all data, drawings, specifications, reports, estimates, summaries, and other information and materials accumulated in performing this Contract, whether completed or in process.

B. Termination for Cause: The occurrence of any one or more of the following events ("Event of Default") will justify termination for cause:

1. Contractor's failure to perform the work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule as adjusted from time to time.
2. Contractor's disregard of the laws or regulations of any public body having jurisdiction.
3. Contractor's disregard of the authority of Project Manager.
4. Contractor's violation in any material provision of the Contract Documents.
5. Contractor's failure to make prompt payments to its subcontractors, and suppliers of any tier, or laborers or any person working on the work by, through, or under the Contractor or any of them, any all of their employees, officers, servants, members, and agents.
6. Contractor files a petition commencing a voluntary case under the U.S. Bankruptcy Code, or for liquidation, reorganization, or an arrangement pursuant to any other U.S. or state bankruptcy Laws, or shall be adjudicated a debtor or be declared bankrupt or insolvent under the U.S. Bankruptcy Code, or any other federal or state laws relating to bankruptcy, insolvency, winding-up, or adjustment of debts, or makes a general assignment for the benefit of creditors, or admits in writing its inability to pay its debts generally as they become due, or if a petition commencing an involuntary case under the U.S. Bankruptcy Code or an answer proposing the adjudication of Contractor as a debtor or bankrupt or proposing its liquidation or reorganization pursuant to the Bankruptcy Code or any other U.S. federal or state bankruptcy laws is filed in any court and Contractor consents to or acquiesces in the filing of that pleading or the petition or answer is not discharged or denied within sixty (60) Calendar Days after it is filed.
7. A custodian, receiver, trustee or liquidator of Contractor, all or substantially all of the assets or business of Contractor, or of Contractor's interest in the Work or the Contract, is



appointed in any proceeding brought against Contractor and not discharged within sixty (60) Calendar Days after that appointment, or if Contractor shall consent to or acquiesces in that appointment.

8. Contractor fails to commence correction of defective work or fails to correct defective work within a reasonable period of time after written notice.

If one or more of the events identified in Paragraphs 1-8 above occur, City may give Contractor written notice of the event and direct the event be cured. Any such Notice to Cure will provide Contractor a minimum of ten (10) calendar days to prepare and submit to the Project Manager a plan to correct the Event of Default. If such plan to correct the Event of Default is not submitted to the Project Manager within ten (10) days after the date of the written notice or such plan is unacceptable to the City, the City may, give Contractor (and the Surety, if any) written notice that Contractor's services are being terminated for cause. Upon delivery of the termination notice, City may terminate the services of Contractor in whole or in part, exclude Contractor from the site, and take possession of the work and of all Contractor's tools, appliances, construction equipment, and machinery at the project site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion), incorporate in the work all materials and equipment stored at the site or for which City has paid Contractor but which are stored elsewhere, and finish the work as City may deem expedient. In such case, Contractor shall not be entitled to receive any further payment until Certificate of Completion of the work. In the event City terminates this Contract for Cause and the cost of completing the work exceeds the unpaid balance of the Contract price, Contractor shall pay City for any costs of completion which exceed the Contract price when combined with all amounts previously paid to Contractor. When exercising any rights or remedies under this paragraph City shall not be required to obtain the lowest price for the work performed. Should the cost of such completion, including all proper charges, be less than the original Contract price, the amount so saved shall accrue to the City. Neither the City nor any officer, agent or employee of the City shall be in any way liable or accountable to the Contractor or the Surety for the method by which the completion of the said work, or any portion thereof, may be accomplished or for the price paid.

Where Contractor's services have been so terminated by City, the termination will not affect any rights or remedies of City against Contractor or Surety then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by City will not release Contractor from liability.

- C. Termination Notice. Upon receipt of a termination notice, whether for convenience or cause, the Contractor shall immediately: discontinue all services affected (unless the notice directs otherwise), and deliver to the City all data, drawings, specifications, reports, estimates, summaries, and other information and materials accumulated in performing this Contract, whether completed or in process.
- D. Removal of Equipment. Except as provided above, in the case of termination of this Contract before completion from any cause whatever, the Contractor, if notified to do so by the City, shall promptly remove any part or all of Contractor's equipment and supplies from the property of the City, failing which the City shall have the right to remove such equipment and supplies at the expense of the Contractor.

24. BOOKS OF ACCOUNT AND AUDITING



The Contractor shall make available to the City if requested, true and complete records, which support billing statements, reports, performance indices, and all other related documentation. The City's authorized representatives shall have access during reasonable hours to all records, which are deemed appropriate to auditing billing statements, reports, performance indices, and all other related documentation. The Contractor agrees that it will keep and preserve for at least seven years all documents related to the Contract which are routinely prepared, collected or compiled by the Contractor during the performance of this Contract.

The City's Auditor and the Auditor's authorized representatives shall have the right at any time to audit all of the related documentation. The Contractor shall make all documentation available for examination at the Auditor's request at either the Auditor's or Contractor's offices, and without expense to the City.

25. COMPLIANCE WITH IMMIGRATION REFORM AND CONTROL ACT OF 1986

Contractor certifies that Contractor has complied with the United States Immigration Reform and Control Act of 1986. All persons employed by Contractor for performance of this Contract have completed and signed Form I-9 verifying their identities and authorization for employment.

26. LABOR

The Contractor shall employ only competent and skilled workmen and foremen in the conduct of work on this Contract. The Contractor shall at all times enforce strict discipline and good order among Contractor's employees. The Project Manager shall have the authority to order the removal from the work of any person, including Contractor's or any subcontractor's employees, who refuses or neglects to observe any of the provisions of these Plans or Specifications, or who is incompetent, abusive, threatening, or disorderly in conduct and any such person shall not again be employed on the Project.

In accord with the Keep Jobs in Colorado Act, codified at sections 8-17-101, et seq., C.R.S., Colorado labor shall be employed to perform the work to the extent of not less than eighty percent (80%) of each type or class of labor in the several classifications of skilled and common labor employed on this Project et seq.; provided however, that this paragraph shall not apply if the Project receives federal funding.

In no event shall the City be responsible for overtime pay.

27. GRATUITIES

- A. This Contract may be terminated if the Mayor, the Mayor's designee, and/or the Procurement Services Manager determine, in their sole discretion, that the Contractor or any officer, employee, agent, or other representative whatsoever, of the Contractor offered or gave a gift or hospitality to a City officer, employee, agent or Contractor for the purpose of influencing any decision to grant a City contract or to obtain favorable treatment under any City contract.
- B. The terms "hospitality" and "gift" include, but are not limited to, any payment, subscription, advance, forbearance, acceptance, rendering or deposit of money, services, or anything of



value given or offered, including but not limited to food, lodging, transportation, recreation or entertainment, token or award.

- C. Contract termination under this provision shall constitute a breach of contract by the Contractor, and the Contractor shall be liable to the City for all costs of reletting the contract or completion of the project. Further, if the Contractor is terminated under this provision, or violates this provision but is not terminated, the Contractor shall be subject to debarment under the City's Procurement Regulations. The rights and remedies of the City provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Contract.

28. NON-DISCRIMINATION

- A. In accord with section 24-34-402, C.R.S., Title VII of the Civil Rights Act of 1964, Americans with Disabilities Act of 1990 as amended, all applicable federal and state laws, the Contractor will not discriminate against any employee or applicant for employment because of disability, race, creed, color, sex, sexual orientation, gender identity, gender expression, religion, age, national origin, or ancestry.
- B. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- C. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to disability, race, creed, color, sex, sexual orientation, gender identity, gender expression, religion, age, national origin, or ancestry.

29. ORDER OF PRECEDENCE

Any inconsistency in this Contract shall be resolved by giving precedence in the following order:

- A. This Contract document with its terms and conditions
- B. Specific Construction Terms and Conditions
- C. General Construction Terms and Conditions
- D. The Statement of Work
- E. Specific Specifications
- F. General Specifications
- G. Other Appendices, Attachments, Exhibits, or Schedules

30. HEADINGS

The section headings contained in this Contract are for reference purposes only and shall not affect the meaning or interpretation of this Contract.

31. DISPUTES

- A. All administrative and contractual disputes arising from or related to this Contract other than those arising under Unanticipated Circumstances provisions (in section 107.27 of Schedule B



General Construction Terms and Conditions) shall be addressed in the following manner:

1. If either Party disputes or disagrees with a Contract term or the other Party's interpretation of a Contract term or has any other administrative or contractual dispute not addressed in the Unanticipated Circumstances provisions, such Party shall promptly give the other Party written notice of said dispute.
2. The Parties shall hold a meeting as soon as reasonably possible, but in no event later than thirty (30) calendar days from the initial written notice of the dispute, attended by persons with decision-making authority regarding the dispute, to attempt in good faith to negotiate a resolution of the dispute; provided, however, that no such meeting shall be deemed to vitiate or reduce the obligations and liabilities of the Parties or be deemed a waiver by a Party of any remedies to which such Party would otherwise be entitled unless otherwise agreed to by the Parties in writing.
3. If, within thirty (30) calendar days after such meeting, the Parties have not succeeded in negotiating a resolution of the dispute, they agree to submit the dispute to non-binding mediation and to bear equally the costs of the mediation.
4. The Parties will jointly appoint a mutually acceptable mediator. If they fail to do so within twenty (20) calendar days from the conclusion of the negotiation period, they shall each select a mediator. The two mediators will then appoint a third mediator who shall conduct mediation for the Parties as the sole mediator.
5. The Parties agree to participate in good faith in the mediation and negotiations for a period of thirty (30) calendar days. The substantive and procedural law of the State of Colorado shall apply to the proceedings. If the Parties are not successful in resolving the dispute through mediation, then the Parties shall be free to pursue any other remedy afforded by the laws of the State of Colorado.
6. Until final resolution of any dispute hereunder, the Contractor shall diligently proceed with the performance of this Contract as directed by the City. For purposes of this Contract, termination for convenience shall not be deemed a dispute. The City of Colorado Springs and the Contractor agree to notify each other in a timely manner of any claim, dispute, or cause of action arising from or related to this Contract, and to negotiate in good faith to resolve any such claim, dispute, or cause of action. To the extent that such negotiations fail, the City of Colorado Springs and the Contractor agree that any lawsuit or cause of action that arises from or is related to this Contract shall be filed with and litigated only by the Colorado District Court for El Paso County, CO.

32. DELIVERY

The City may cancel this Contract or any portion thereof if delivery is not made when and as specified, time being of the essence in this Contract. Contractor shall pay the City for any loss or damage sustained by the City because of failure to perform in accordance with this Contract.

33. PAYMENTS

All invoices shall be sent to the Project Manager identified in this Contract.

The City will pay the Contractor, upon submission of proper invoices, the prices stipulated in the Contract for services rendered and accepted, less any deductions provided in this Contract within 30 days (Net 30). The City will not pay late fees or interest. Any discount payment terms offered on the invoice may be taken by the City.



All payments for Construction will be made in accordance with the Payment provisions found in Schedule B – General Construction Terms and Conditions.

Each invoice must contain at least the following information:

Contract number, issued purchase order number, invoice number, invoice date, timeframe covered by invoice, type and amount of labor and materials used for that time period, dollar amount in unit price, extended price, and total value of invoice.

34. INSPECTION OF SERVICES

The Contractor is responsible for performing or having performed all inspections and tests necessary to substantiate that the services furnished under this Contract conform to Contract requirements, including any applicable technical requirements for specified manufacturers' parts. This clause takes precedence over any City inspection and testing required in the Contract's specifications, except for specialized inspections or tests specified to be performed solely by the City.

- A. Definition of "services", as used in this clause, includes services performed, workmanship, and material furnished or utilized in the performance of services.
- B. The Contractor shall provide and maintain an inspection system acceptable to the City covering the services under this Contract. Complete records of all inspection work performed by the Contractor shall be maintained and made available to the City during Contract performance and for as long afterwards as the Contract requires.
- C. The City has the right to inspect and test all services called for by the Contract, to the extent practicable at all times and places during the term of the Contract. The City will perform inspections and tests in a manner that will not unduly delay the work.
- D. If the City performs inspections or test on the premises of the Contractor or a subcontractor, the Contractor shall furnish, and shall require subcontractors to furnish, at no increase in Contract price, all reasonable facilities and assistance for the safe and convenient performance of these duties.

35. SECURITY

The City maintains security requirements regarding access to City buildings and other City workplaces and worksites on City property. All Contractor personnel accessing City buildings, workplaces, or worksites, may be required to produce a valid, Government issued picture identification. Contractor personnel lacking such identification may not be allowed access to such sites. No costs incurred by the Contractor due to City security requirements shall be allowable or payable under this Contract.

36. TIME IS OF THE ESSENCE

In as much as the Contract concerns a needed or required service, the terms, conditions, and provisions of the Contract relating to the time of performance and completion of work are of the essence of this Contract. The Contractor shall begin work on the day specified and shall prosecute



the work diligently so as to assure completion of the work within the number of calendar days or date specified, or the date to which the time for completion may have been extended.

37. EMPLOYMENT OF LABOR

The Contractor shall comply with, and defend and hold the City harmless from any violation of all laws and lawful rules and regulations, both of the State of Colorado and of the United States, relating to Workmen's Compensation, unemployment compensation, Social Security, payment for overtime, and all other expenses and conditions of employment under this Contract.

38. SALES TAX

The Contractor must have a tax-exemption certificate from the Colorado Department of Revenue for this project. The certificate does not apply to City of Colorado Springs Sales and Use Tax which shall be applicable. The tax exempt project number and the exemption certificate only applies to County, PPRTA (Pikes Peak Rural Transportation Authority), and State taxes when purchasing construction and building materials **to be incorporated into this project**.

Furthermore, the exemption **does not** include or apply to the purchase or rental of equipment, supplies or materials that **do not become a part of the completed project or structure**. Such purchases and rentals are subject to full applicable taxation.

All contracts with subcontractors must include the City of Colorado Springs Sales and Use Tax on the work covered by the Contract, and other taxes as applicable.

Note: For all equipment, materials and supplies incorporated into the work purchased from vendors or suppliers not licensed to collect City Sales Tax (i.e. out of state suppliers, etc.), City Use Tax is due and payable to the City. The Contractor shall execute and deliver, and shall cause the Contractor's subcontractors to execute and deliver to the City Sales Tax Office, ST 16 forms listing all said equipment, materials and supplies and the corresponding use tax due, along with payment for said taxes. Any outstanding taxes due may be withheld from the final payment due the Contractor and may result in suspension of Contractor from bidding on City projects.

Forms and instructions can be downloaded at <https://coloradosprings.gov/cat/government/tax-information/sales-tax>. Questions can be directed to the City Sales Tax Division at (719) 385-5903.

Our Registration Numbers are as follows:
City of Colorado Springs
Federal I.D.: 84-6000573
Federal Excise: A-138557
State Sales Tax: 98-03479

The Contractor's payment or exemption of State of Colorado, El Paso County and City Sales and Use Taxes shall be as specified herein.

39. SEVERABILITY



If any terms, conditions, or provisions of this Contract shall be held unconstitutional, illegal, or void, such finding shall not affect any other terms, conditions, or provisions of this Contract.

40. LIABILITY OF CITY EMPLOYEES

All authorized representatives of the City are acting solely as agents and representatives of the City when carrying out and exercising the power or authority granted to them under the Contract. There shall not be any liability on them either personally or as employees of the City.

41. USE OF CITY NAME OR LOGO

Except as otherwise provided in this Contract, the Contractor shall not refer to this Contract or the City of Colorado Springs in any advertising or promotions in such a manner as to state or imply that the product or service provided is endorsed or preferred by the City of Colorado Springs, its employees, or its Departments, or is considered by these entities to be superior to other products or services. Any use of the name or logo of the City of Colorado Springs in advertising or promotions must be approved in writing by the City of Colorado Springs Contracts Specialist assigned to the Contract prior to such use.

42. TRAVEL

If travel expenses are included as a line item in this Contract, all travel expenses incurred and billable by the Contractor are subject to City approval. Air travel shall be limited to the round trip "economy coach" fare. Travel from the Colorado Springs Airport is encouraged. Unless there are extenuating circumstances, the Contractor should take advantage of lower airfares by purchasing tickets more than 14 days in advance of travel. In-state travel by air must be more economical than travel by private vehicle. Use of a private vehicle may be reimbursed per mile at the current rate published by the IRS annually. Short-term parking, long-term parking or cab fare associated with airport departure and arrival may be allowable expenses. Valet parking will not be allowed unless it is the least expensive or only option. Car rental rates may be reimbursed for car rentals no greater than the intermediate or standard classification. The City will not reimburse any other travel methods or expenses. The City will pay for lodging, meals, and miscellaneous expenses on a per diem basis only, in accordance with the current per diem rates published by the IRS annually. The City will not pay for Contractor expenses exceeding the per diem rates. Receipts for all reimbursable expenses must be provided with the Contractor's invoice.

43. ELECTRONIC SIGNATURE

This Agreement and all other documents contemplated hereunder may be executed using electronic signature with delivery via facsimile transmission, by scanning and transmission of electronic files in Portable Document Format (PDF) or other readily available file format, or by copy transmitted via email, or by other electronic means and in one or more counterparts, each of which shall be (i) an original, and all of which taken together shall constitute one and the same agreement, (ii) a valid and binding agreement and fully admissible under state and federal rules of evidence, and (iii) enforceable in accordance with its terms

44. APPENDICES

The following Appendices are made a part of this Agreement:



1. Schedule A – Price Sheet
2. Schedule B – General Construction Terms and Conditions
3. Schedule C – Special Contract Terms and Conditions
4. Schedule D – General Specifications
5. Schedule E – Special and Technical Specifications
6. Schedule F – Scope of Work
7. Exhibit 1 – Performance, Labor and Material Payment, and Maintenance Bonds
8. Exhibit 2 – Minimum Insurance Requirements



CONTRACT SIGNATURE PAGE

IN WITNESS WHEREOF, the parties have caused these presents to be executed on the day and the year first above written.

This Contract is executed in one (1) original copy.

THE CITY OF COLORADO SPRINGS, COLORADO:

SECOND PARTY:	
Corporate Name	
Signature	Date
Title	



EXHIBIT 3 EXCEPTIONS

Print the words "no exceptions"(here)_____ if there are no exceptions taken to any of the terms, conditions, or specifications of these proposal documents or contract.

If there are exceptions taken to any of the terms, conditions, or specifications of the proposal document or contract, they must be clearly stated on a separate sheet of paper attached to this sheet and returned with your proposal.

Note: All potential Offerors are hereby advised that exceptions taken may be considered during the evaluation phase which may affect the final scoring of proposals. Offerors stipulating that the City must use their contract or agreement may be determined non-responsive and their Proposal determined unacceptable.

Company Name: _____

Address: _____
(City, State and Zip Code)

Authorized Signature: _____

Date: _____

Printed Name/Title: _____

Return this form with your Proposal.



EXHIBIT 4 – RESERVED

PLEASE COMPLETE SCHEDULE D – INSURANCE REQUIREMENTS



EXHIBIT 5 – RESERVED

FOR SCOPE OF WORK PLEASE SEE THE FOLLOWING:

SCHEDULE E – TECHNICAL SPECIFICATIONS PATTY JEWETT GOLF COURSE

SCHEDULE F – TECHNICAL SPECIFICATIONS VALLEY HI GOLF COURSE



EXHIBIT 6 – QUALIFICATION STATEMENT

CITY OF COLORADO SPRINGS QUALIFICATION STATEMENT

This statement will provide information which will enable the City to evaluate the qualifications of your firm and staff with regard to the requirements of this Request for Proposal. Please complete this form in its entirety and submit it (in the number of copies requested) along with the other required proposal documents. If a request in the Qualification Statement is contained in the proposal, indicate the section in the proposal where that information can be found.

(PRINT)

FIRM NAME: _____
ADDRESS: _____
CITY STATE ZIP: _____
AUTHORIZED REPRESENTATIVE: _____
TITLE: _____
AUTHORIZED SIGNATURE: _____
PHONE: _____ FAX: _____
E-MAIL ADDRESS: _____

1. TYPE OF BUSINESS

CORPORATION INDIVIDUAL
PARTNERSHIP JOINT VENTURE
OTHER: _____

2. TYPE OF LICENSE & LOCATION

3. TYPE OF SERVICE TO BE PROVIDED FOR RFP: _____

4. NUMBER OF YEARS IN BUSINESS: _____

5. ON A SEPARATE SHEET PROVIDE A BRIEF HISTORY OF YOUR FIRM, STAFF SIZE AND EXPERIENCE. SUBMIT A RESUME FOR THE PROJECT MANAGER AND EACH KEY PERSONNEL ASSIGNED TO THIS PROJECT.

6. WHAT OTHER NAME(S) HAS YOUR COMPANY OPERATED UNDER: _____

7. HAVE YOU OR YOUR FIRM EVER FAILED TO COMPLETE ANY WORK AWARDED TO YOU? YES NO IF "YES", EXPLAIN:

8. HAS ANY OFFICER OR PARTNER OF YOUR ORGANIZATION EVER BEEN AN OFFICER OR PARTNER OF ANOTHER ORGANIZATION THAT FAILED TO COMPLETE A CONTRACT WITHIN THE LAST FIVE (5) YEARS? YES NO
IF "YES", EXPLAIN:



9. HAS YOUR FIRM OR ANY PARTNERS OR OFFICERS EVER BEEN INVOLVED IN ANY BANKRUPTCY ACTION? YES NO IF "YES", EXPLAIN:

10. ARE YOU PRESENTLY INVOLVED IN ANY LITIGATION WITH ANY GOVERNMENT AGENCY? YES NO IF "YES", EXPLAIN TYPE, KIND, PLAINTIFF, DEFENDANT, ETC., AND STATE THE CURRENT STATUS:

11. BANK REFERENCE: _____
ADDRESS: _____
CONTACT: _____ PHONE: _____

12. LIST THREE (3) SIMILAR PROJECTS (LOCAL OR STATE-WIDE) **FROM LAST FIVE (5) YEARS**-INCLUDE LOCATION OF PROJECT, SIZE OF PROJECT (CONTRACT AMOUNT), CONTACT NAME, ADDRESS, TELEPHONE NUMBERS
NOTE: DETAILED INFORMATION ON THESE PROJECTS MAY ALSO BE REQUESTED IN THE RFP PACKAGE.

1. Location of Project: _____
Size of Project: _____
Contract Amount: _____
Contact Name and Title: _____
Contract Address: _____
Contact telephone and FAX Numbers: _____
2. Location of Project: _____
Size of Project: _____
Contract Amount: _____
Contact Name: _____
Contract Address: _____
Contact telephone and FAX Numbers: _____
3. Location of Project: _____
Size of Project: _____
Contract Amount: _____
Contact Name: _____
Contract Address: _____
Contact telephone and FAX Numbers: _____

13. LIST **CURRENT** SIMILAR PROJECTS (LOCAL OR STATE-WIDE) UNDER CONTRACT- INCLUDE LOCATION OF PROJECT, SIZE OF PROJECT (CONTRACT AMOUNT) CONTACT NAME, ADDRESS, TELEPHONE NUMBERS.
NOTE: DETAILED INFORMATION ON THESE PROJECTS MAY ALSO BE REQUESTED IN THE RFP PACKAGE.

1. Location of Project: _____
Size of Project: _____
Contract Amount: _____



Contact Name and Title:

Contact Address:

Contact telephone and FAX Numbers:

2. _____
Location of Project:

Size of Project:

Contract Amount:

Contact Name and Title:

Contact Address:

Contact telephone and FAX Numbers:

3. _____
Location of Project:

Size of Project:

Contract Amount:

Contact Name and Title:

Contact Address:

Contact telephone and FAX Numbers:

14. LIST OF SUB-CONTRACTORS TO BE USED FOR THIS PROJECT:
(INCLUDE NAME, ADDRESS, TELEPHONE NUMBER, TYPE OF WORK)

1. _____
Name:

Address:

Telephone Number:

Type of Work:

2. _____
Name:

Address:

Telephone Number:

Type of Work:

3. _____
Name:

Address:

Telephone Number:

Type of Work:

IF ADDITIONAL INFORMATION IS PROVIDED ON A SEPARATE SHEET FOR ANY OF THE ITEMS, CLEARLY SPECIFY WHERE IT CAN BE LOCATED IN YOUR PROPOSAL PACKAGE.



EXHIBIT 7 – EVALUATION SCORESHEET

**PROPOSAL EVALUATION SCORE SHEET
SOLICITATION NUMBER AND TITLE:**

RFP EVALUATION CRITERIA DESCRIPTION	SCORE
<p>1. TECHNICAL AREA</p> <p>The Offeror must explain its overall solution, considering the scope of work or statement of work provided. The content must include, but not necessarily be limited to, the following information.</p>	
<p>A. Understanding of and compliance with technical requirements</p>	
<p>In the Technical Area, the Offeror should address each work area in sufficient detail to demonstrate a clear and full understanding of the work. The proposal should not merely parrot the requirements of the RFP. Further, the Offeror should provide evidence of sufficient planning to ensure the work is completed on schedule and within budget.</p> <p>Consider the following questions.</p> <ol style="list-style-type: none"> 1. Does the proposal demonstrate a firm understanding of the requirements and goals of the Statement of Work, as well as industry standards and reasonable expectations for a company in the industry? 2. Does the proposal fully and completely address each requirement and goal of the Statement of Work? 3. Does the proposal provide solutions to indicate that requirements and goals will be met on schedule? 4. Does the technical solution seem realistic? 5. Does it generally appear that the Offeror knows and thoroughly understands the business and requirement? <p>COMMENTS:</p>	<p>5 – Exceptional 4 – Very Good 3 – Satisfactory 2 – Marginal 1 – Unacceptable</p>
<p>B. Project Approach</p>	
<p>In the Technical Area, the Offeror should clearly present proposed solutions and indicate that it has performed adequate planning to accomplish tasks as defined in the Statement of Work. Innovations, efficiencies, and detailed specifics are all encouraged.</p> <p>The Offeror must at least address the following areas:</p> <ol style="list-style-type: none"> 1. Construction phasing and traffic control for the project. Explain the phases, traffic control for each phase, and the logic in the 	<p>5 – Exceptional 4 – Very Good 3 – Satisfactory 2 – Marginal 1 – Unacceptable</p>



<p>construction phasing.</p> <ol style="list-style-type: none"> 2. Erosion and sediment control during all phases of construction as well as post construction efforts through permit closure. 3. Coordination with utilities. Discuss your understanding of the key utility relocations required for this project and how you will coordinate and phase your construction to both facilitate and accommodate those relocations and the constraints that they impose. 4. Schedule Management. Discuss your approach to schedule management including updating and reporting progress of the work. 5. Quality Control. Discuss your quality control plan, processes and approach to ensure that the City receives a quality product. 6. Safety. Discuss the contractor's approach and commitment to safety for both construction workers and the public traveling through the construction site. 7. Potential issues that your firm foresees with this project and how you would make adjustments if encountered. Describe factors limiting construction phasing flexibility and potential remedies. <p>Consider the following questions.</p> <ol style="list-style-type: none"> 1. Does the proposal include a complete plan to accomplish each requirement, including subcontracting (if applicable)? 2. Does the proposal demonstrate that appropriate and qualified personnel and equipment will be provided to carry out the requirement? 3. Is the proper level of effort directed toward each requirement? Does the level of effort look unrealistically low or unreasonably high? <p>COMMENTS:</p>	
<p>Sum of Ratings in Technical Area (Add numbers in Section 1.A. and 1.B):</p>	
<p>2. MANAGEMENT AREA</p> <p>The Offeror must explain its method of managing the work to be performed. The content must include, but no necessarily be limited to, the following information.</p>	
<p>A. Program Management Controls</p>	
<p>In the Management Area, the Offeror should provide a plan of operation, to include management of personnel, workload, schedule, and budget. It should also include an organization chart which demonstrates clear and effective lines of authority,</p>	<p>5 – Exceptional 4 – Very Good 3 – Satisfactory 2 – Marginal</p>



<p>responsibility, and communication for management, supervisory, and technical personnel. The plan should address which job classification or personnel will be assigned to each task and how that determination is made. Basic human resource management concepts should be addressed, including hiring, firing, discipline, incentive plans, etc. If the Offeror plans to subcontract more than 10% of the work, include information on how the Offeror plans to manage its subcontractors.</p> <p>The Offeror shall provide a detailed construction schedule for the project showing the key construction activities and how they will meet or better the County's timeframe and maximize construction efficiency to provide the best value to the City and minimize impacts to the public. The schedule shall be based on the Offeror's understanding and approach to the work as addressed above.</p> <p>Consider the following questions.</p> <ol style="list-style-type: none"> 1. Does the proposal address the issues above in sufficient detail to demonstrate a sophisticated and mature management control system? 2. Are program management controls consistent with the technical portion of the proposal, especially regarding schedule and level of effort? 3. Does the plan and controls indicate that the Offeror will obtain, keep, and efficiently utilize high quality personnel? 4. Does the offer address corrective actions? 5. Does the proposal explain how the Offeror will remain within schedule and budget? <p>COMMENTS:</p>	<p>1 – Unacceptable</p>
<p>B. Past Performance/Relevant Experience and Key Personnel</p>	
<p>In the Management Area, the Offeror should provide at least three references or contracts demonstrating that it successfully provided services/products same or similar to those required in the RFP. The proposal should adequately explain how the projects were completed on schedule and within budget.</p> <p>Consider the following questions.</p> <ol style="list-style-type: none"> 1. Does the proposal include at least three references or past performance citations? 2. Are the references or past performance citations relevant to the requirements of the Statement of Work of the RFP? 3. Does the Offeror explain how they were successful on the projects provided as past performance? 4. Does the Offeror apply the past performance to the City requirement in such a way as to demonstrate added value due to experience? <p>In the Management Area, resumes must be provided for all personnel considered key, as required by the RFP. It is highly recommended that the Offeror provide</p>	<p>5 – Exceptional 4 – Very Good 3 – Satisfactory 2 – Marginal 1 – Unacceptable</p>



<p>sufficient content and detail to answer completely the following questions. Resumes do not count toward the page limitation. Explain how the key personnel were related to the projects cited as relevant past performance.</p> <p>Consider the following questions.</p> <ol style="list-style-type: none"> 1. Does the Offeror provide complete resumes, including education, experience, background information, accomplishments, and other pertinent information? 2. Does the Offeror provide resumes for all key personnel, as required by the RFP? 3. Do the resumes demonstrate adequate professional, technical, and management levels to accomplish the work effectively and efficiently? <p>COMMENTS:</p>	
<p>Sum of Ratings in Management Area (Add numbers in Sections 2.A. and 2. B.)</p>	
<p>3. PRICE/COST AREA</p>	
<p>In the Price Area, the Offeror should provide a detailed breakdown of the price for each year of performance. The price must be fully loaded/all-inclusive and include unit cost for material, labor, other direct costs (e.g. travel), indirect costs (i.e. overhead and general and administrative costs), and profit/fee. Offers must include sufficient detail to allow insight into the fairness and reasonableness of the price. If the contract type will be T&M, labor categories, labor rates, separated profit, and estimated material costs must be included in detail.</p> <p>In addition, although price may not be the most important factor, it is still very important to the City of Colorado Springs. The Offeror's pricing must be competitive as compared to the budget amount, market pricing in the industry, and the pricing of the other Offerors.</p> <p>Consider the following questions:</p> <ol style="list-style-type: none"> 1. How does the price compare to the industry competition? 2. If low, is it unrealistically low? 3. If high, is there demonstrated added value for the additional cost? <p>COMMENTS:</p>	<p>5 – Exceptional 4 – Very Good 3 – Satisfactory 2 – Marginal 1 – Unacceptable</p>
<p>Total Price/Cost Area (Insert number from Section 3 evaluation above):</p>	
<p>4. PROPOSAL PRESENTATION</p>	
<p>Presentation is an important factor. Offerors should provide a highly professional product, which is complete, accurate, easily understood, and effectively presented.</p>	<p>5 – Exceptional 4 – Very Good</p>



COMMENTS:	3 – Satisfactory 2 – Marginal 1 – Unacceptable
Total Proposal Presentation Area (Insert number from Section 4 evaluation above):	
EXCEPTIONS PROPOSED	
What (if any) exceptions (redlines to our terms and conditions) were proposed? Are they acceptable? COMMENTS:	Pass/Fail
INSURANCE EXCEPTIONS PROPOSED	
What (if any) exceptions (redlines to our insurance terms and conditions) were proposed? Are they acceptable? COMMENTS:	Pass/Fail
TOTAL SCORE – Add Evaluation Scores from Sections 1-4 and location bonus (if applicable). The sum is the total score.	Total Score:



EXHIBIT 8 – FEDERAL FORMS

CERTIFICATION REGARDING DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS

The undersigned duly authorized official of the proposer certifies to the best of its knowledge and belief, that it and its principals:

A. Are not presently debarred, suspended, proposed for debarment, and declared ineligible or voluntarily excluded from covered transactions by any Federal department or agency.

B. Have not within a three-year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain or performing a public (federal, state or local) transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification, or destruction of records, making false statements or receiving stolen property.

C. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state or local) with commission of any of the offenses enumerated in paragraph (B) of this certification; and

D. Have not within a three-year period preceding this application/proposal had one or more public transaction (federal, state or local) terminated for cause or default.

E. Are not on the Comptroller General's List of Ineligible Bidders or any similar list maintained by any other governmental entity.

Where the proposer is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

(Check One)

I DO CERTIFY (____)

I DO NOT CERTIFY (____)

Date: _____

Signature: _____

Title: _____



RESTRICTIONS ON LOBBYING CERTIFICATION

Pursuant to United States Public Law 101-121, Section 319, the undersigned duly authorized official of the proposer hereby certifies, to the best of her/his knowledge and belief, that:

1. No Federal appropriated funds have paid or will be paid, by or on behalf of the undersigned, to any person for the purpose of influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress, in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person or agency for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress, in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit a Standard Form-LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions.
3. The undersigned duly authorized official shall require and ensure that the language of this certification be included in any award documents for subcontracts, grants, loans, and cooperative agreements, and that all subcontractors shall so certify and disclose accordingly.

This Certification is a material representation of fact, upon which reliance was placed when this transaction was made or entered into. The submission of this Certification is a prerequisite for making or entering into this transaction, imposed by Title 31 USC Section 1352. Any proposer (person) who fails to file the required certification shall be subject to civil penalty of not less than ten thousand dollars (\$10,000) and not more than one hundred thousand dollars (\$100,000) for each such failure to file.

Proposer: _____

Signature: _____

Title: _____

Date: _____



NON-COLLUSION AFFIDAVIT

The undersigned duly authorized official of the proposer hereby certifies, to the best of her/his knowledge and belief, that:

1. That I am an officer or employee of the _____ (proposing entity) having the authority to sign on behalf of the corporation, and,
2. That the prices in the attached proposal were arrived at independently by _____ (proposing entity) without collusion, consultation, communication, or any agreement, for the purpose of restricting competition as to any matter relating to such prices with any other proposer or with any other competitor regarding an understanding, or planned common course of action with any other vendor of materials, supplies, equipment, or service described in the RFP/IFB designed to limit independent proposals or competition; and
3. That unless otherwise required by law, the contents and prices contained in the proposal have not been communicated by _____ (proposing entity) or its employees or agents to any person not an employee or agent of _____ (proposing entity), or its surety on any bond furnished with the proposal, and will not be communicated to any such person prior to the official opening of the proposal; and,
4. That I have fully informed myself regarding the accuracy of the statements made in this affidavit.

Proposer: _____

Signature: _____

Title: _____

Date: _____



EQUAL EMPLOYMENT STATUS REPORT

Contractor's Name _____

Street Address _____

City _____ State _____ Zip Code _____

This firm is:

<input type="checkbox"/>	Independently owned and operated
<input type="checkbox"/>	An affiliate parent company
<input type="checkbox"/>	A subsidiary of address
<input type="checkbox"/>	A division City and State

#	Statement	Has	Has Not
1	Developed and has on file an affirmative action program in conformance with 41 CFR 60-2		
2	Participated in any previous contract or subcontract subject to the equal opportunity clause either with the City of any Federal Agency		
3	Filed with the City, or where applicable, joint Reporting Committee, or other Federal Agency, all reports due under the applicable contract(s) or subcontract(s)		
4	Contractor's Equal Employment Opportunity Program been subject to a Federal Equal Opportunity Compliance Review, If so state date of Review: _____		

Signature _____

Date _____

Title _____



SCHEDULES

Schedule A1	Price Sheet (Patty Jewett)
Schedule A2	Price Sheet (Valley Hi)
Schedule B	General Construction Terms and Conditions
Schedule C	Clauses for Contracts Subject to Federal Requirements
Schedule D	Insurance Requirements
Schedule E	Technical Specifications (Patty Jewett)
Schedule F	Technical Specifications (Valley Hi)
Schedule G	Construction Plan Set (Patty Jewett)
Schedule H	Construction Plan Set (Valley Hi)



SCHEDULE A – PRICE SHEETS

PLEASE COMPLETE AND UPLOAD THE PRICE SHEETS (EXCEL FORMAT) IN BIDNET

SCHEDULE A1 – PATTY JEWETT GOLF COURSE PRICE SHEET

SCHEDULE A2 – VALLEY HI GOLF COURSE PRICE SHEET



SCHEDULE B – GENERAL CONSTRUCTION TERMS AND CONDITIONS

SECTION 100 DEFINITIONS AND TERMS

Titles used in these specifications having a masculine gender, such as “workmen” and the pronouns “he” or “his”, are for the sake of brevity and are intended to refer to persons of any gender.

The titles or headings of the sections and subsections herein are intended for convenience of reference and shall not have any bearing on their interpretation.

When the Contract indicates that something “shall” be done, the action is required and is not discretionary.

Calendar Day	Each and every day shown on the calendar, beginning and ending at midnight.
Change Order	A written order issued to the Contractor by the City covering contingencies, extra work, increases or decreases in Contract quantities, and additions or alterations to the plans or specifications, within the scope of the Contract, and establishing the basis of payment and time adjustments for the work affected by the changes. The Change Order is the only method authorized for changing the Contract.
City	The City of Colorado Springs, Colorado.
Contract Documents	Contract Documents include the Request for Proposal, Instructions to Offerors, Proposal, Amendments, the signed Contract, surety bonds, insurance documents, all terms, conditions, and provisions, and the Specifications, including all modifications thereof incorporated in any of the documents before execution of the agreement.
Contract	The executed written agreement between the City and the Contractor setting forth the obligations of the parties for the performance of the work and the basis of payment. The Contract includes the Contract Documents, Notice to Proceed, and executed Change Orders, all of which constitute one instrument.
Contractor	The person, persons, firm, or corporation to whom a Contract is awarded by the City and who is subject to the terms of said Contract. Contractor shall include the agents, employees, workmen, subcontractors and any assignees of said Contract.
Engineer	An engineer of the City of Colorado Springs.



Notice	<p>Any written notice served pursuant to the terms of the Contract. Notice shall be deemed to have been duly served if delivered in person or by registered mail to:</p> <p>The Project Manager assigned to the Contract, City of Colorado Springs, City Engineering, 30 South Nevada Ave., Room 403, Colorado Springs, CO 80903.</p> <p>Notice to the Contractor will be to the Authorized Representative of the Contractor at the site of the Project in person; or by registered mail to the Contractor's principal place of business as indicated in the Contractor's proposal certifications; or as to the Surety on the performance bond by registered mail to the Surety at the home office of such surety.</p>
Plans	<p>The drawings, or reproductions, provided by the City that show the location, character, dimensions, and details of the work to be done.</p>
Project Manager	<p>An individual representing the City responsible for managing and oversight of the Contract. .</p>
Project	<p>The entire improvement outlined in the Scope of Services which is to be constructed in whole or in part pursuant to the Contract.</p>
Subcontractor	<p>A person, firm, or corporation, other than the Contractor, supplying labor or materials, or both, or equipment furnished at the site of the project under an Agreement with the Contractor.</p>
Surety	<p>The person, firm, or corporation that has executed as surety the Contractor's Proposal, Performance, Payment and Maintenance Bonds.</p>
Work	<p>Work performed under the Contract.</p>
Working Days	<p>Days of the week, not including weekends and City holidays, unless otherwise stated.</p>

SECTION 101 CONTRACT DOCUMENT INTERPRETATION

101.00 INTENT OF CONTRACT DOCUMENTS

The sections of the Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all. The intent of the Contract Documents is to include the cost of all labor and materials, water, fuel, tools, plants, equipment, light, transportation, and all other expenses as may be necessary for the proper execution of the work. If the Contract Documents should be contradictory in any part, the order of precedence shall be as described in the Contract.



Any work shown on the Plans and not covered in the specifications, or included in the Specifications and not shown on the Plans, shall be executed by the Contractor as though shown both on the Plans and included in the Specifications.

If the Contractor, in the course of the work, finds any discrepancy between the Plans and the physical layout, or any errors or omissions in Plans or layout, he shall immediately so inform the Project Manager and the Project Manager will promptly verify them. Any work done after such discovery without written consent of the Project Manager authorizing the same shall be done at the Contractor's risk and sole expense.

Any incidental and/or appurtenant items not specifically called for in the Plans and Specifications, but which are necessary to complete the work in accordance with the requirements of good practice, as determined by the Project Manager, shall be included as a part of the Contractor's proposal price and furnished at no additional cost to the City.

In interpreting the Contract Documents, words describing materials or work which have a well-known technical or trade meaning, unless otherwise specifically defined in the Contract documents, shall be construed in accordance with such well known meaning recognized by architects, engineers, and the trade.

101.01 SPECIAL PROVISIONS, SPECIAL SPECIFICATIONS

Special Provisions or Special Specifications may be written to expand upon, modify or cancel these general provisions or the standard specifications.

101.02 STANDARD MANUFACTURER

Wherever the terms "standard", "recognized" or "reputable" manufacturers are used, they shall be construed as meaning manufacturers who have been engaged in the business of fabricating materials, equipment, or supplies of the nature called for by the Specifications for a reasonable period of time prior to the date set for submission of proposals, and who can demonstrate to the satisfaction of the City that said manufacturer has successfully installed equipment, materials, or supplies of the type proposed to be furnished in at least three instances and that the performance of such materials, equipment, or supplies for a period of over twelve months prior to the date fixed for submission of proposals shall, prima facie, be deemed to have been engaged in such business for a reasonable length of time.

101.03 "OR EQUAL" CLAUSE

Whenever in any section of the Contract documents, any article, material, or equipment is defined by describing a proprietary product, or by using the name of manufacturer or vendor, the term "or equal" if not inserted, shall not be construed in such a manner as to exclude manufacturers' products of comparable quality, design, and efficiency, subject to review and approval by the Project Manager. The Project Manager may require that proposed equals be submitted for review and approval.

SECTION 102 COMPLIANCE WITH LAWS



102.00 PUBLIC IMPROVEMENT ASSESSMENT

If the cost of the improvement to be constructed under the Contract is to be assessed upon the owners of land benefited by such improvement, upon complaint of any such landowner that the improvement is not being constructed in accordance with the Contract, the City Council may consider the complaint and make such order in the premises as shall be just to ensure compliance with the Contract.

102.01 ALL LEGAL PROVISIONS INCLUDED

It is the intention and agreement of the parties to this Contract that all legal provisions of law required to be inserted, shall be and are inserted. However, if by mistake or otherwise, some such provision is not inserted, or is not inserted in proper form, then upon application of either party, the Contract shall be amended so as to strictly comply with the law and without prejudice to the rights of either party.

102.02 LICENSES AND PERMITS

It shall be the responsibility of the Contractor to obtain, at its expense, all necessary licenses and permits to do the Project, in accordance with applicable Federal, State and local laws, regulations and ordinances. Typical permits and fees include, but are not limited to, Excavation/Boring Permits, Concrete Construction Permits, Fugitive Dust Permits, Regional Building Permits, Pavement Degradation fees, as well as Traffic Control and Barricade Plans to be approved by the City Traffic Division for all work within public rights-of-way and easements i.e. (curb and gutter, sidewalks, pedestrian ramps and cross pans).

SECTION 103 AWARD AND EXECUTION OF CONTRACT

103.00 CONTRACT EXECUTED

A single original Contract to include the Contractor's Performance, Labor and Material Payment and Maintenance Bonds may be executed and maintained in the official Contract file located in the City Contracts office. The original copy of the Contract maintained in the City Procurement Services file shall take precedence for purposes of interpretation or determining what the Contract says. After all required signatures are obtained; photocopy counterparts (copies) will be made and distributed to the following, as applicable:

- (a) Contractor
- (b) Project Manager
- (c) City Finance Department
- (d) Inspector

Each Bond shall have an original Power of Attorney attached. The Contractor shall provide compensation insurance and public liability and property damage insurance as outlined in the Contract. The costs of executing the bonds, Contract, and insurance, including all notaries' fees and expense, are to be paid by the Contractor to whom the Contract is awarded. Bonds shall be furnished on forms prepared by the City. Copies of the City's Bond Forms are included in the Exhibits Section of the Request for Proposal, if applicable.



103.01 VERBAL AGREEMENTS

No verbal agreements or conversations with any agent or employee of the City either before or after execution of the Contract shall affect or modify any of the terms or obligations contained in any of the documents comprising the Contract.

103.02 CONTRACT SECURITY

The Contractor shall furnish good and sufficient Performance, Labor and Material Payment and Maintenance Bonds on the form attached hereto in an amount not less than the full amount of the Contract price as security for the faithful performance of the Contract, for the payment of all persons performing labor and furnishing material in connection with the work, and for all guarantees of materials and workmanship required in the Contract. If at any time during the continuance of the Contract a surety on the Contractor's bond or bonds becomes irresponsible, as determined in the City's sole and absolute discretion, the City shall have the right to require additional and sufficient sureties which the Contractor shall furnish within ten (10) days after written notice to do so. Any additional surety bonds shall cover the entire original Contract amount and any increases thereto.

103.03 INDEPENDENT CONTRACTOR

In the performance of the Contractor's obligations under this Contract, it is understood, acknowledged and agreed between the parties that the Contractor is at all times acting and performing as an Independent Contractor, and the City shall neither have nor exercise any control or direction over the manner and means by which the Contractor performs the Contractor's obligations under this Contract, except as otherwise stated within the Contract terms. The City shall not provide any direction to the Contractor on the work necessary to complete the Project. Contractor understands that it is an independent contractor responsible for knowing how to perform all work or tasks necessary to complete Project. The Contractor understands and agrees that the Contractor and the Contractor's employees, agents, servants, or other personnel are not City employees. The Contractor shall be solely responsible for payment of salaries, wages, payroll taxes, unemployment benefits or any other form of compensation or benefit to the Contractor or any of the Contractor's employees, agents, servants or other personnel performing services or work under this Contract, whether it be of a direct or indirect nature. Further in that regard, it is expressly understood and agreed that for such purposes neither the Contractor nor the Contractor's employees, agents, servants or other personnel shall be entitled to any City payroll, insurance, unemployment, worker's compensation, retirement or any other benefits whatsoever.

SECTION 104 THE CONTRACT: FOLLOWING EXECUTION

104.00 MATERIALS

Unless otherwise stipulated in the Contract, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light power, transportation, and other facilities necessary for the execution and completion of the work. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

104.01 SCHEDULE



In the event of contradictions or inconsistencies, this clause shall take precedence over any language relevant to scheduling included anywhere else in this Contract.

The Contractor shall be responsible for planning, scheduling, and reporting the progress of the work to ensure timely completion of the work as called for in the Contract Documents. The Contractor shall prepare a detailed Project schedule ("Project Schedule") that shall be used for coordination, for evaluation of progress, and for the evaluation of changes to the Contract. The Project Schedule shall include all activities, including those of subcontractors, Contractor's engineers and surveyors, and suppliers. Seasonal and weather constraints, utility coordination, railroad restrictions, right of way restrictions, traffic constraints, environmental constraints, other project interfaces, expected job learning curves and other constraints shall be considered when preparing the Project Schedule, including any phasing or sequencing of the work specified in the Contract Documents. Days scheduled as no work days shall be indicated. The Project Schedule shall consist of a Methods Statement as defined in subsection (a) below and a progress schedule consisting of (1) a Critical Path Method ("CPM") schedule as defined in subsection (b) below, or (2) a Bar Chart schedule as defined in subsection (c) below. A CPM Schedule shall be required if the Contract exceeds \$250,000 or if the construction period exceeds 150 Calendar Days, unless the Contract Documents stipulate otherwise. The CPM Schedule shall utilize Primavera's Suretrak Project Manager software (or other software designated by the Project Manager), or be capable of being read and manipulated by Suretrak Project Manager software (or other software designated by the Project Manager). The Project Schedule shall show all work completed within the Contract Period of Performance. The City reserves the right to approve or disapprove any proposed schedule. If disapproved, the Contractor must make requested changes and resubmit the schedule for approval within five working days of the disapproval by the City.

After award, the Contractor shall submit two copies of all required schedule information as described below. Schedules, schedule updates, diagrams and reports using CPM shall also be submitted electronically in the appropriate software format. All schedules, diagrams, and reports shall include a title, project number, date of preparation, and the name of the Contractor.

The Bar Chart or CPM 90-day schedule shall be submitted at least 14 Calendar Days prior to the start of the work. The Project Manager's review will not exceed five working days. Work shall not begin until the Project Schedule is accepted in writing, unless otherwise approved by the Project Manager.

(a) Methods Statement. A Methods Statement shall be prepared for the prominent features listed in the Contract Documents, and for any feature not listed in the Contract Documents that the Contractor considers a controlling factor for timely completion. The Methods Statement shall be a detailed narrative describing each feature and all work necessary to complete the feature. The Methods Statement shall be submitted with the Contractor's schedule. The following format is required:

1. Feature: Name of the feature;
2. Responsibility: Contractor, subcontractor, supplier, utility, etc. responsible for the feature;
3. Procedures: Procedures to be used to complete the work. The procedure to be used shall include general information regarding methods such as forming, excavation, pouring, heating and curing, backfill and embankment, trenching, protecting the work, etc. When separate or different procedures are to be



employed by the Contractor due to seasonal or Project phasing requirements, such differing procedures shall be described in the procedure statement;

4. Production Rates: The planned quantity of work per day for each feature;
5. Labor Force: The labor force planned to do the work;
6. Equipment: The number, types, and capacities of equipment planned to do the work;
7. Work Times: The planned time for the work to include:
 - (a) number of work days per week
 - (b) number of shifts per day
 - (c) number of hours per shift

At the Project Manager's request, the Contractor shall update the Methods Statement, or any part thereof, and submit it with the Job Progress Narrative Report or Schedule Update, whichever is earlier.

- (b) Critical Path Method. CPM is a scheduling method which shows the interdependencies between work activities. The critical path is that path through the schedule which, if delayed, will cause a delay to project completion.

The progress schedule shall include as a minimum the prominent features of this Project as listed in the Contract Documents. The progress schedule shall include all activities for all work on the Project, including subcontracted work, delivery dates for critical material, submittal and review periods, milestone requirements and no work periods. Where the Project has specific phases, each phase shall be described separately for each applicable prominent feature.

Construction activity duration shall not exceed 15 Calendar Days unless approved by the Project Manager. Series of activities that have aggregate durations of five Calendar Days or less may be grouped in a single activity. For example, "form, reinforce, and pour pier" could be defined as a single activity rather than three. Single activities or a series of grouped activities of at least one Calendar Day duration may also need to be included in the Project Schedule as determined by the Project Manager (e.g. same activities but noted separately by location).

Time Scaled Logic Diagram: This diagram shall show the logical progression of all activities required to complete the work defined in the Contract Documents. Activity information shall include activity ID, description, duration, early start and finish dates, late start and finish dates, total float, and responsibility.

1. 90-Day Schedule. The 90-Day Schedule shall provide all necessary detail for procurement, construction and submittal activities required during the first 90 days of the Period of Performance. This submittal shall include a Time Scaled Logic Diagram.
2. Project Schedule, as described above.

The Project Schedule shall cover the entire Period of Performance.
3. Schedule Updates. The Contractor shall update the 90-Day Schedule or the Project Schedule to reflect actual construction progress of all work activities on the project. Updates shall show the previous 30 days progress and a 60-day



projection for all work started, completed, or in progress during this three month window.

The Project Schedule shall be updated as of the cutoff date for the monthly progress pay estimate and submitted to the Project Manager before the payment of the progress pay estimate is approved.

Each of the diagrams, charts, and reports shall comply with the requirements for the Project Schedule above, except that they shall also include the actual completion dates and percentages of completion for the appropriate activities.

- (c) Bar Chart. The Bar Chart shall be time scaled and shall show the following:
1. The prominent features, as listed in the Contract Documents.
 2. Any feature not listed in the Contract Documents that the Contractor considers a controlling factor for timely completion.
 3. The number of days required to complete each feature and its relationship in time to other features.
 4. Sufficient space for each feature to permit two additional plots parallel to the original time span plot.
 5. The anticipated delivery dates for equipment or materials in any feature that could affect timely completion of the project.
 6. Critical completion dates for any activity within any feature that could affect timely completion of the project.
 7. Connecting lines between features that show the intended progression of activities.

The Project Schedule shall cover the time from the Day of Notice to Proceed to the predicted completion date. The Project Schedule shall be updated as of the cutoff date for the monthly progress pay estimate and submitted to the Project Manager before the payment of the progress pay estimate is approved. The Contractor shall provide a copy of the original bar chart showing, for each feature, the days actually worked and the anticipated days required to complete.

- (d) Project Coordination. The Contractor shall coordinate and schedule its work to include anticipated utility work. Various City and private utility entities may be working to install and/or inspect their utilities within the Project area. Reasonable delays should be expected for utility lowering, relocations and placement. These delays shall not be reason for granting any monetary change or performance time alteration to the Contract. As a minimum, the Contractor's Project Schedule shall reflect coordination with the following:
1. City of Colorado Springs City Engineering Division
 2. City of Colorado Springs Traffic Engineering Division
 3. Colorado Springs Utilities (water, wastewater, gas, electric)
 4. City of Colorado Springs Parks, Recreation and Cultural Services Department
 5. Private Utility and Telecommunication Companies
- (e) Contractor Early Finish or Voluntary Acceleration. Early finish or voluntary acceleration of the schedule by the Contractor is acceptable provided:



1. At the time the Contractor submits the Project Schedule indicating an early finish or voluntary acceleration, the City is notified in writing of actions on the City's part necessary to accommodate the change(s).
2. The City agrees to such change(s) in writing.
3. The City is compensated by the Contractor for any inconvenience or expense associated with the change(s).
4. There is no increase to Contract cost.

A Job Progress Narrative Report shall be submitted bi-weekly as a minimum and with all Project Schedule updates. It shall detail the description of job progress, problem areas, current and anticipated delaying factors and their anticipated effects, impacts to job milestones or Project completion, any corrective action proposed or taken, and any minor revisions to the Project Schedule. If the Job Progress Narrative Report indicates problem areas and impacts to job milestones or Project completion, a revised Project Schedule shall also be submitted as specified below.

Revision of the Project Schedule may be required, as determined by the Project Manager, for: a major revision in the schedule logic or methods of construction; the addition, deletion, or revision of activities required by Contract modification; delays in milestones or the completion of the Project; or for prosecution of work that revises the phasing or staging which is represented on the plans or on the progress schedule. If in the opinion of the Project Manager, the Contractor falls behind the approved Project Schedule, the Contractor shall take steps necessary to improve Project progress, including those steps that may be required by the Project Manager, without additional costs to the City. In those circumstances where the Contractor is behind schedule, the City may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction planned and to submit such changes and revisions to the Project Schedule to the Project Manager for approval that will demonstrate how the approved rate of required progress will be regained. Failure of the Contractor to comply with the requirements of the Project Manager under this subsection shall be grounds for a determination by the City that the Contractor is not prosecuting the work with sufficient diligence to ensure timely completion of the Contract as required.

If it is determined that a revision to the Project Schedule is required, it shall be provided to the Project Manager for review within 15 Calendar Days of Contractor receiving written notification of the requirement from the Project Manager. The Project Manager's review of the revised schedule will not exceed 5 working days. Revisions required as a result of the Project Manager's review shall be submitted within 5 working days. When accepted by the Project Manager in writing, the revised schedule shall become the Project Schedule.

The Contractor shall participate in the Project Manager's review and evaluation of the submittals. Meetings will be held to review progress and planning when requested by the Project Manager or Contractor. The Project Manager may request additional project scheduling information and documentation as deemed necessary, including reports and other information that may be reasonably generated using CPM software if required by the Contract.

The Contractor shall prosecute the work according to the Project Schedule. The Contractor shall be responsible for assuring that its subcontractors, suppliers, and engineers/surveyors, at any tier, also prosecute the work according to the Project Schedule. The City shall be entitled to rely on the Project Schedule for planning and coordination.



Acceptance of the Contractor's Project Schedule by the Project Manager is not to be construed as relieving the Contractor of obligation to complete the Contract work within the Contract time allowed for the portion of the work or the entire Contract, or granting, rejecting or in any other way acting on the Contractor's request for extension of Contract time, or claims for additional compensation.

All costs relating to preparation, submittal, and acceptance of the Project Schedule, reports and revisions, and all requirements of this subsection will not be paid for separately, but shall be included in the work.

Failure of the Contractor to comply with the requirements of this subsection may be grounds for a determination by the Project Manager that no further progress payments are to be made until the Contractor is in full compliance.

104.02 SCHEDULE OF VALUES

Promptly following the execution of the Contract Documents for all Firm Fixed Price, lump sum Contracts, the Contractor shall prepare and transmit to the Project Manager two copies of an itemized Project cost breakdown showing the unit quantities of each major construction item and the corresponding unit prices. Such unit prices shall contain all costs including profit and overhead of each item complete in place. The total cost of all the items shall equal the Contract price for the Project. This breakdown, once approved by the Project Manager, will be used primarily in determining payment due the Contractor as provided herein. If, in the opinion of the Project Manager, any unit price submitted by the Contractor is unbalanced, a detailed breakdown of the items contained in the unit will be required.

For Contracts executed on a fixed unit price basis, payment shall be made based on the actual number of units installed or performed that are complete, however, payment shall not exceed the total Contract amount unless previously approved by Change Order.

104.03 SURVEYS

Unless otherwise specified in the Contract Documents, the City will furnish all site surveys, easements, pipeline licenses, etc., necessary to authorize construction of any permanent works required in the Contract, where such work is to be done on property other than the City's.

The Project limits of construction shall be within the public right-of-way and/or City easements. The Contractor shall not trespass on premises outside of the limits of construction for this Project, unless permission to do so is granted by the property owner in writing. Copies of any such grant shall be furnished to the City prior to the performance of any work outside the limits of construction.

104.04 SUBCONTRACTS

The Contractor will be permitted to subcontract a portion of the Contract; however, the Contractor shall perform work amounting to 30 percent or more of the original total cost of proposal items. Any items designated in the Contract as "specialty items" may be performed by subcontractor. The cost of "specialty items" so performed by subcontractor may be deducted from the original



total cost of proposal items before computing the amount of work required to be performed by the Contractor.

The calculation of the percentage of subcontracted work shall be based on the Contract unit prices rather than subcontract unit prices. Proportional value for a subcontracted partial Contract item will be verified by the Project Manager. For the purpose of calculating the value of subcontracted work, the cost of procuring materials and manufactured products can be included in either the Contract or subcontract. However, when a firm both sells material to a Contractor and performs the work of incorporating the materials into the Project, these two phases shall be considered in combination and as constituting a single subcontract.

The Contractor shall as soon as practical after signing the Contract notify the Project Manager in writing, giving the names and qualifications, of all subcontractors proposed to do work on the Project within fifteen (15) business days of notice of award. The City shall have the right to reject subcontractors who are debarred or suspended from doing business with the federal government, State government, or the City of Colorado Springs. The Contractor shall notify the Project Manager of each subcontract he awards, giving:

- (a) Name, address, and telephone number of the subcontractor
- (b) Branch of work covered
- (c) Total price of subcontract
- (d) Date of subcontract

It shall be the responsibility of the Contractor to file with the Project Manager copies of applicable permits and licenses required to do the subcontracted work. Subcontracts or transfer of Contract obligations shall not release the Contractor of liability under the Contract and bonds.

104.05 OTHER CONTRACTS

The City may undertake or award other Contracts for additional work at or near the site of the work under this Contract. The Contractor shall fully cooperate with the other Contractors and with City employees and shall carefully adapt their scheduling and performance of the work to accommodate the additional work, heeding any direction that may be directed by the Project Manager. The Contractor shall not commit or permit any act, which will interfere with the performance of work by any other contractor.

SECTION 105 CONSTRUCTION SITE

105.00 LANDS TO BE USED FOR WORK

The Contractor shall confine the work activities to the area shown in the construction drawings. The Project Manager will furnish the Contractor with copies of all executed right of way (ROW) and easement documents for the Project. The established work zone shall be marked and secured with orange safety fence. Any additional work area required within adjoining private properties must be acquired by the Contractor by written permission from the property owner. The Contractor shall restore any damage or disruption to other properties utilized in the performance of this Project to an equal or better than pre-construction condition at no cost to the City. The Contractor shall indemnify and hold the City harmless from any claims or losses from damage or disruption of private property.



Contractor shall provide, at its expense and without liability to the City, any additional land and access thereto that may be required for temporary construction facilities or for storage of materials. All such costs will be considered incidental to the work and will not result in additional cost to the City. Contractor personnel shall not unnecessarily enter upon private property without the express written consent of the landowner. The Contractor shall provide the Project Manager with a copy of the written permission. The Contractor shall indemnify and hold the City harmless from any claims or losses related to Contractor trespassing.

105.01 STORAGE OF MATERIALS

The Contractor shall confine its equipment, apparatus, the storage of materials and operations of Contractor's workmen to limits indicated by law, ordinances, permits, or directions of the City and shall not encumber the Project site with materials or equipment not necessary for the Project.

105.02 LOADING OF STRUCTURES

The Contractor shall not load or permit any part of a structure to be loaded with a weight that will endanger the structure's safety. The Contractor shall enforce the Project Manager's instructions regarding signs, advertisements, fires, and smoke.

105.03 SANITARY PROVISIONS

The Contractor shall provide and maintain on the construction site at all times suitable sanitary facilities for use of those employed on this Contract without committing any public nuisance. All toilet facilities shall be subject to the approval of the El Paso County Public Health Department. All portable toilet facilities for this Project shall be kept on City or State right-of-way as directed by the Project Manager.

105.04 ACCIDENT PREVENTION

The Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. The Contractor shall submit to the City an acceptable, comprehensive Safety Plan for review prior to commencement of the Work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

- a) All persons on or about the Site or who may be affected by the Work;
- b) All Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
- c) Other property at the site or adjacent thereto, including buildings, real property, trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and underground facilities not designated for removal, relocation, or replacement in the course of the Work.

Notwithstanding the foregoing, the City reserves the right to direct the Contractor to stop work and correct an unsafe condition at any time that any person present at the job site identifies any unsafe condition or action. For this purpose only, any person at the job site is authorized to act on behalf of the City, but such intermittent delay shall not be grounds for an increase in the Contract price or schedule.



Precaution shall be exercised at all times for the protection of persons, including employees, and property. The safety provisions of all Federal, State and Municipal laws and any other codes relating to the public safety, shall be strictly observed, and the Contractor shall, at all times, whether or not so specifically directed by the Project Manager, take the necessary precautions to ensure the protection of the public.

Piling, sheeting and shoring shall be utilized where required to prevent any excessive widening or sloughing of a trench which may be detrimental to human safety, traffic flow, a pipe being placed, trees, or to any existing structure.

Excavated materials shall be placed a safe distance from the sides of the trench. Heavy equipment shall not be used or placed near the sides of a trench unless the trench is adequately braced.

The Contractor shall not load or permit any part of a structure to be loaded with a weight that will endanger the structure's safety.

The Contractor shall designate a qualified and experienced safety representative at the Work site(s) whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety plans and programs.

105.05 PROTECTION OF THE PUBLIC WORKS AND PROPERTY

The Contractor shall provide and maintain all necessary watchmen, barricades, lights, and warning signs and take all necessary precautions for the protection of the public. The Contractor shall continuously maintain adequate protection of all work from damage, and shall take all reasonable precautions to protect the City's property from injury or loss arising in connection with the Contract. The Contractor shall make good any damage, injury, or loss to their work and to the property of the City resulting from lack of reasonable protective precautions except such as may be due to errors in the Contract Documents, or caused by agents or employees of the City. The Contractor shall check all cautionary signs at least once a day during this Contract.

The Contractor shall continuously maintain adequate protection of all their work from damage and shall protect the City's and adjacent property from injury arising in connection with this Contract.

The Contractor will be responsible for any and all damage to property, public or private, that may be caused by its operations in the performance of this Contract, and the Contractor shall defend any suit that may be brought against itself or the City on account of damage inflicted by its operations, and shall pay any judgments awarded to cover such damage and shall indemnify the City for any losses arising out of such damage or related claims.

The Contractor shall be responsible for the restoration of all existing surface or subsurface improvements damaged as a result of construction at no additional cost to the City.

105.06 PUBLIC ROADS

The Contractor in executing the work on this Project shall not unnecessarily impede or interfere with traffic on public highways or streets. Detours, including surfacing, guard rails, temporary



bridges and culverts, as may be shown on the drawings, or ordered by the Project Manager to accommodate the general public, residents adjacent to the improvements, and the United States mail shall be provided and maintained by the Contractor in a good workmanlike manner. Any call out of City Barricade Crews shall be charged to and paid for by the Contractor.

All work done within the public right-of-way and/or easements requires a Traffic Control Plan approved by the City Traffic Engineering Division.

The Contractor shall provide and maintain in place all barricades, warning signs, lights and other safety devices required to protect the work, divert traffic, and warn pedestrians of open excavation, unfilled trenches, and other areas or conditions which might be hazardous or dangerous. Detour routings must first be submitted to the City Traffic Engineer for review and approval and shall be signed for the entire route of the detour as required to return the traffic to their street or origination. Detours shall be maintained throughout the period of construction in such a manner as to provide the least amount of disruption to normal traffic flow.

All signing and barricading shall conform to the latest editions of the following:

- (a) Manual of Uniform Traffic Control Devices for Street and Highways (MUTCD)
- (b) City of Colorado Springs Traffic Signage and Markings Manual
- (c) City of Colorado Springs Construction Traffic Control Manual

The City Traffic Engineer may require flag persons or off-duty police officers for traffic direction.

105.07 PROTECTION OF EXISTING CURBS, GUTTERS AND DRIVEWAYS

The Contractor shall exercise care in protecting existing curbs, gutters and driveways. Curbs, gutters and driveways damaged by the Contractor's operations shall be removed and replaced by the Contractor at Contractor's expense.

105.08 PROTECTING AND REMOVING PLANTINGS

The Contractor shall protect all existing trees, shrubs and other plantings from above ground and root structure damage during the construction activities. Plantings which are considered to be slightly damaged shall be properly pruned and sealed according to accepted nursery practices. Contractor shall be liable for the costs of any unnecessary damage to plants or trees as determined by the Project Manager. Where plantings are in conflict with new work, as determined by the City Forester (plantings in the public right-of-way) or by the inspector or owner (plantings on private property), the Contractor shall at his expense remove the planting. The Contractor shall coordinate with the City Forester prior to working in the vicinity of plantings in the public right of way.

In all cases, the proper planting season shall be observed to assure proper establishment and growth of the plantings.

Tree branches shall be trimmed back to the trunk, all around, to a minimum height of 8' above the adjacent walkway. Work shall be done only by a licensed Tree Service as provided in City Code Chapter 2, Article 3, Part 3.



105.09 PUBLIC CONVENIENCE AND SAFETY

The Contractor shall make every effort to minimize the inconvenience to property owners and to the traveling and pedestrian public, and shall conduct the Work to minimize obstruction to traffic and inconvenience to property owners affected by the Work.

The Contractor shall notify and coordinate the closing and construction of the driveways, curb, gutter and sidewalks with the Project Manager and the adjoining property owners in advance of Work in writing. The Contractor shall provide 72 hours written notice in advance of any construction that may affect access, parking and/or existing structures, including fences adjacent to that property.

Suitable access and parking will be maintained at all times. Access may be limited to half the existing driveway width for limited periods during concrete driveway and street construction. An additional verbal notice shall be provided to each business or property owner 30 minutes prior to the actual access drive closure.

Relocating of fences and structures shall be coordinated with property owners and shall include miscellaneous items including, but not limited to, utility services, street signs and mailboxes, sod replacement, sprinkler system modifications, control boxes, railroad tie walls, etc. If no such items are specifically included in the Contract, these items will be considered incidental to the work and are to be included in the unit prices. The Contractor shall coordinate the salvaging of any materials suitable for re-use with the City Inspector and, if on private property, with the respective property owners.

Any restrictions on street parking or traffic movement shall be coordinated with the City Traffic Engineer.

105.10 FAILURE TO MAINTAIN SAFE SITE

If the City becomes aware of failure to comply with applicable safety regulations, the Project Manager may inform the Contractor who shall take immediate steps to remedy the noncompliance. The Project Manager shall give written notification to the Contractor directing it to correct the unsafe acts or conditions. If the Contractor fails to comply with such a notification, the Project Manager may issue a Stop Work order in accordance with this Contract, and work shall only be resumed after adequate corrective actions have been taken to correct the safety deficiencies the Contractor has been notified of. Stoppage of work because of noncompliance with prescribed accident precaution measures shall not be considered a changed condition or changes in work, nor reason for extension of completion time.

In case of injury to persons or property by reason of failure to erect and to maintain necessary barricades, safeguards, and signals, or by reason of any act or omission of the Contractor, or Contractor's subcontractors, agents, or employees, during the performance of this Contract, the City may withhold payments due the Contractor so long as shall be reasonably necessary to indemnify the City on account of any such injuries, but the City's payment or failure to pay any sum shall not be considered a waiver of its right to indemnity under the this Contract.



105.11 EROSION AND DRAINAGE CONTROL

Contractor shall provide for the drainage of stormwater and such water as may be applied or discharged on the site in performance of the work per the latest revision of the City of Colorado Springs Drainage Criteria Manual, Volume II. Drainage facilities shall be adequate to prevent damage to the work, the site, and adjacent property.

The Contractor shall prevent the pollution of drains and watercourses by sanitary waste, sediment, debris or other substances resulting from this work. Contractor shall be required to clean up and isolate such materials on a continuing basis to prevent risk of washing into such drainage ways.

Should the affected areas of the Project exceed one acre, a Stormwater Discharge Permit shall be required. Affected area includes excavations, material stockpiles and areas where equipment and vehicles disturb the ground. An exact definition of the affected area should be obtained from the Colorado Department of Public Health and Environment (CDPHE).

105.12 POLLUTION

The Contractor shall at all times ensure compliance with applicable Federal, State, and Municipal air, water, and noise pollution laws and ordinances. The Contractor shall at all times have the proper sprinkling equipment available and shall apply water in the amount determined by each site condition or as directed by the Project Manager. The Contractor shall obtain all necessary permits at Contractor's expense, which may include, but not be limited to, El Paso County or a State Air Emission permit, State of Colorado Construction Activity permit, State of Colorado Dewatering permit and Section 404 Corp of Engineers permit, unless otherwise specified in the RFP.

105.13 TEMPORARY CONSTRUCTION

All temporary facilities, including the Contractor's field office which it may maintain at the site, and additional offices erected by subcontractors, shall be neatly constructed and arranged on the site in an orderly manner. The Contractor shall prepare and submit to the Project Manager, for approval prior to starting work, a construction plan layout, showing arrangement of storage areas, temporary buildings, equipment, and work areas. The Contractor shall provide suitable weather-tight storage sheds of capacity required to contain all materials which might be damaged by storage in the open. The Contractor shall at all times keep copies of all Contract Documents readily accessible at its office at the site.

105.14 TEMPORARY WATER SUPPLY

The Contractor shall provide, at Contractor's own expense, temporary water connections and water supply necessary for the prosecution of the work and permit all contractors on the work to use this supply at a reasonable prorated charge, or by sub-metering. The Contractor shall pay for all water consumed in the work, and shall arrange with Colorado Springs Utilities for temporary connections and payment of service charges. Upon completion of the Contract work, all temporary waterlines shall be removed. The City will devise a method and plan to monitor and enforce the proper use of temporary water. The City will inspect for compliance.



105.15 TEMPORARY ELECTRICITY

The Contractor shall arrange with the Colorado Springs Utilities for temporary electricity necessary for the prosecution of the work. The Contractor shall pay for all electric current consumed, and shall permit all contractors on the work to use this supply at a reasonable prorated charge, or by sub-metering.

105.16 TEMPORARY HEAT

The Contractor shall provide adequate, temporary heat required during construction. Until the building or work area is enclosed, heavy tarpaulin shall be used to enclose any space requiring heating or protection from weather during construction operations. After the heating plant is in operating condition and the building is enclosed, heat may be provided from the permanent heating plant if such is approved by the Project Manager. In such case, the Contractor shall arrange to operate the plant, connect permanent or temporary radiation or unit heaters, and so maintain the plant during operation that it will be turned over to the City undamaged at the completion of the work. The Contractor shall provide all fuel required. In no case shall salamander heating be used in finished or plastered surfaces; instead, gas-steam radiators, unit heaters, or other suitable and approved means shall be used if the permanent heating plant is not available. This applies only to structures. It does not apply to road improvements or other outdoor improvements.

105.17 TEMPORARY ENCLOSURES

The Contractor shall provide and maintain temporary enclosures for the work as may be required to permit continuation of interior work during inclement weather, if wall and roof construction has progressed sufficiently to make interior work possible. This applies only to structures. It does not apply to road improvements or other outdoor improvements.

105.18 CLEAN-UP

The Contractor shall at all times keep the work area including storage and staging areas, free from accumulations of waste materials. The Contractor is also responsible for any costs associated with cleanup of debris from the work site or storage areas that may inadvertently be scattered outside the area by weather or vandalism. Upon completion of the work, the Contractor shall leave the work area in a clean neat and orderly condition satisfactory to the Project Manager.

SECTION 106 ROYALTIES, PATENT INFRINGEMENTS, SPECIAL LICENSES AND PERMITS

106.00 ROYALTIES AND PATENTS

The Contractor shall pay all applicable royalties and license fees. The Contractor shall defend all suits or claims for infringement of any patent rights and save the City harmless from loss on account thereof except that the City may be responsible for any such loss when a particular process, design, or the product of a particular manufacturer or manufacturers is specified, unless the City has notified the Contractor prior to the signing of the Contract that the particular process, design, or product is patented or is believed to be patented.



SECTION 107 WORK PROVISIONS AND RULES

107.00 COMMENCEMENT AND COMPLETION OF WORK

- (a) Preconstruction Conference. After issuance of Notice to Proceed, or as otherwise established by the City, a preconstruction conference (“Preconstruction Conference”) shall be held for review of the construction schedule, Contractor’s written list of subcontractors and suppliers, written list of all required permits, project contracts, utility support plan, water control plan, Traffic Control Supervisor name and telephone number, gradations, test results, certifications, review procedures for handling shop drawings and other submittals, processing applications for payment, and other pertinent items.
- (b) At the Preconstruction Conference, the Contractor shall furnish the Project Manager a written list of all permits required for the proper completion of the Contract. The list shall clearly identify the type of permit or permits that must be obtained before work on any particular phase or phases of work can be started.
- (c) The Contractor shall commence work within ten (10) Calendar Days of the date specified on the Notice to Proceed and complete the Contract within the number of Calendar Days or by the date specified in the proposal form. Unless otherwise noted in the Contract, the number of days are Calendar Days.
- (d) The dates fixed for commencement and completion of the work may be extended by the Project Manager. All requests for extension of time by the Contractor shall be made in writing to the Project Manager and shall set forth the reasons for such requests. The Project Manager may fix the period of extension, if any. In addition, the Project Manager may grant a period of extension upon an execution of a Change Order. Any Project Manager’s decision on extensions of time shall be binding upon the parties hereto. Requests for extension of time received twenty (20) or more days after the occurrence of the delay will not be honored. No requests for extension of time shall be honored if submitted after the completion date.
- (e) If satisfactory execution and completion of the Contract shall require work or materials in greater amounts or quantities other than those set forth in the Contract, then the Contract time may be adjusted at the time of the execution of the Change Order. No allowance will be made for delays or suspension of the prosecution of the work due to the fault of the Contractor.

107.01 FAILURE TO COMPLETE WORK ON TIME, LIQUIDATED DAMAGES

If the Contractor fails to fully perform and complete the work in conformity to the provisions and conditions of the Contract within the specified time limit set forth in the Contract, including any extensions granted hereto, the Contractor may be subject to a stop work order, as provided in this Contract. In addition, the Contractor shall pay to the City for each Calendar Day of delay until such time the Contract is complete, liquidated damages at the applicable daily rate below. The amounts shown are considered to be liquidated damages to reimburse the City for the additional cost of construction engineering and Contract administration services and in no case are considered a penalty.

Original Contract Amount	Amount of Liquidated Damages Per Day
Less than \$50,000	\$300.00



\$50,000 to \$100,000	\$500.00
\$100,000 to \$500,000	\$700.00
\$500,000 to \$1,000,000	\$900.00
Over \$1,000,000	\$1500.00

107.02 WORK IN BAD WEATHER

No construction work shall be done during stormy, freezing, or inclement weather, except such as can be done satisfactorily, and in a manner to secure first class construction throughout, and then only subject to permission of the Project Manager.

The granting of a time extension for inclement weather does not imply or guarantee that additional compensation for incidental and appurtenant work caused by such weather will be approved or authorized by the Project Manager. Weather delays that can be reasonably anticipated shall not result in increased cost to the City. The Project Manager will be the sole judge as to the reasonableness of delays for inclement weather.

107.03 EXCUSABLE DELAYS

The Contractor's right to proceed will not be terminated, and the Contractor will not be charged with damages, for delays in completing the work that arise from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include:

- (a) Acts of God or of the public enemy,
- (b) Acts of the government in either its sovereign or Contractual capacity,
- (c) Acts of another contractor in the performance of a contract with the government,
- (d) Fires,
- (e) Floods,
- (f) Epidemics,
- (g) Quarantine restrictions,
- (h) Strikes of employees other than Contractor's employees,
- (i) Freight Embargos,
- (j) Unusually severe weather, or
- (k) Delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers.

107.04 COMPENSATION FOR COMPENSABLE DELAYS

If the Project Manager determines that a delay is compensable in accordance with the Contract, monetary compensation will be determined in accordance with this subsection.

- (a) These categories represent the only costs that are recoverable by the Contractor. All other costs or categories of costs are not recoverable:
 - 1. Actual, reasonable wages and benefits, including FICA, paid for additional non-salaried labor;
 - 2. Reasonable and actual costs for additional bond, insurance and tax;
 - 3. Increased, reasonable, and actual costs for materials;



4. Reasonable equipment costs calculated in accordance with the current edition of the Rental Rate Blue Book of Rental Rates for Construction Equipment for Contractor-owned equipment and based on invoice costs for rented equipment;
 5. Reasonable and actual costs of extended job site overhead;
 6. Reasonable subcontractor's claims (the same level of detail as specified herein is required for all subcontractors' claims)
 7. An additional 10 percent will be added to the total of items (1), (2), (3), (4), (5), and (6) as compensation for items for which no specific allowance is provided, including profit, overhead, and general and administrative expenses.
- (b) In adjustment for costs as allowed above, the City will have no liability for the following items of damages or expense:
1. Profit in excess of that provided in (a) above;
 2. Loss of profit;
 3. Additional cost of labor inefficiencies in excess of that provided in (a) above;
 4. Home office or other overhead or general and administrative expenses in excess of that provided in (a) above;
 5. Consequential damages, including but not limited to loss of bonding capacity, loss of bidding opportunities, and insolvency;
 6. Indirect costs or expenses of any nature in excess of that provided in (a) above;
 7. Attorney's fees, claim preparation fees, and expert fees.

All costs claimed must be documented and accompanied by a written certification from the Contractor.

107.05 EMERGENCY WORK

In an emergency affecting the safety of life or of the work or of adjoining property, the Contractor is, without special instructions or authorization from the Project Manager, hereby permitted to act at Contractor's discretion to prevent such threatening loss or injury. Contractor shall also act, without appeal, if so authorized or instructed by the Project Manager. Any reasonable compensation claimed by the Contractor on account of emergency work shall be determined by mutual agreement or in accordance with the Changes provision of this Contract.

107.06 VALUE ENGINEERING CHANGE PROPOSALS BY THE CONTRACTOR

The Contractor is encouraged to develop and offer proposals for improved construction techniques, alternative materials and other innovations. Proposals must provide a project comparable to the City's original design either at lower cost, with improved quality, or both. If a Value Engineering Change Proposal (VECP) Proposals shall be submitted only after contract award. If a VECP is rejected, the work shall be completed in accordance with the Contract at the Contract price. The Contractor shall have no claim against the City for compensable or noncompensable delay to the Contract based on the failure to respond to a VECP.

The Contractor may submit either a full VECP or a preliminary Conceptual VECP, followed by a full proposal. The City Engineer will provide timely review of all VECPs and advise the Contractor whether the VECP is complete or incomplete. When the VECP is complete, the Project Manager will advise the Contractor of either the approval of the VECP or the reasons for rejection of the VECP.



Cost savings generated to the Contract as a result of VECPs offered by the Contractor and accepted by the Project Manager shall be shared equally between the Contractor and the City.

If the Project Manager determines that the time for response indicated in the submittal under item (c)5 below is insufficient for review, the Contractor will be promptly notified. Based on the additional time needed by the Project Manager for review and the effect on the Contractor's schedule caused by the added time, the Project Manager will evaluate the need for a non-compensable time adjustment to the Contract.

(a) VECPs that will be considered are those that would produce savings to the City or provide improved Project quality without impairing essential functions and characteristics of the Project. Essential functions include but are not limited to: service life, economy of operation, ease of maintenance, desired appearance, safety, and impacts to the traveling public or to the environment during and after construction.

(b) *Submittal of Conceptual Proposal.* For VECPs that require a significant amount of design or other development resources, the Contractor may submit an abbreviated conceptual proposal for preliminary evaluation. The Project Manager will evaluate the information provided and advise the Contractor if any conditions or parameters of the conceptual proposal are found to be grounds for rejection. Preliminary review of a conceptual proposal reduces the Contractor's risk of subsequent rejection but does not commit the City to approval of the full VECP. The following information shall be submitted for each conceptual proposal.

1. A statement that the proposal is submitted as a conceptual VECP.
2. A general description of the difference between the existing Contract and the proposed change, and the advantages and disadvantages of each, including effects on cost, service life, economy of operation, ease of maintenance, desired appearance, safety, and impacts to the traveling public or to the environment during and after construction.
3. A set of conceptual plans and a description of proposed changes to the Contract specifications.
4. An estimate of the anticipated cost savings or increase.
5. A statement specifying:
 - a. when a response to the conceptual proposal from the City is required to avoid delays to the existing contract prosecution,
 - b. the amount of time necessary to develop the full Proposal,
 - c. the date by which a Change Order must be executed to obtain maximum benefit from the VECP, and
 - d. the VECP's impact on time for completing the Contract.

(c) *Submittal of Full Value Engineering Change Proposal.* The following materials and information shall be submitted with each VECP.

1. A statement that the proposal is submitted as a VECP.
2. A description of the difference between the existing Contract and the proposed change, and the advantages and disadvantages of each, including effects on service life, economy of operation, ease of maintenance, desired appearance, safety, and impacts to the traveling public or to the environment during and after construction.
3. A complete set of plans and specifications showing the proposed revisions relative to the original Contract. This portion of the submittal shall include design notes and



- construction details. The proposed plans and specifications shall be signed and sealed by the Contractor's engineer.
4. A complete analysis indicating the final estimated costs and quantities to be replaced by the VECP compared to the new costs and quantities generated by the VECP. All costs and proposed unit prices shall be documented by the Contractor.
 5. A statement specifying the date by which a Change Order must be executed to obtain the maximum cost reduction during the remainder of the Contract.
 6. A statement detailing the effect the VECP will have on the time for completing the Contract.
 7. A description of any previous use or testing of the proposed changes and the conditions and results. If the VECP was previously submitted on another City project, the VECP shall indicate the date, Contract number, and the action taken by the City.
 8. An estimate of any effects the VECP will have on other costs to the City.
 9. A statement of life cycle costs, when appropriate. Life cycle costs will not be considered as part of cost savings but shall be calculated for additional support of the VECP. A discount rate of four percent shall be used for life cycle calculations.
 10. A statement specifying when a response from the City is required to avoid delays to the prosecution of the Contract.

(d) *Evaluation.* VECPs will be evaluated in accordance with the following:

1. The Project Manager will determine if a VECP qualifies for consideration and evaluation. The Project Manager may reject any VECP that requires excessive time or costs for review, evaluation, or investigations. The Project Manager may reject proposals that are not consistent with the City's design policies and criteria for the Project.
2. VECPs, whether or not approved by the City, apply only to this Contract and become the property of the City. VECPs shall contain no restrictions imposed by the Contractor on their use or disclosure. The City has the right to use, duplicate and disclose in whole or in part any data necessary for the utilization of the Proposal. The City retains the right to utilize any accepted VECP or part thereof on other projects without obligation to the Contractor. This provision is subject to rights provided by law with respect to patented materials or processes.
3. If the City is able to demonstrate that it is already considering certain revisions to the Contract, prior to receipt of the VECP, or has approved certain changes in the Contract for general use that are subsequently proposed in a VECP, the Project Manager will reject the VECP and may proceed to implement these changes without obligation to the Contractor.
4. The Contractor shall have no claim against the City for additional costs or delays resulting from the rejection or untimely acceptance of a VECP. These costs include but are not limited to: development costs, loss of anticipated profits, increased material or labor costs, or untimely response.
5. VECP will be rejected if equivalent options are already provided in the Contract.
6. VECP that only reduce or eliminate Contract pay items will be rejected.
7. The savings generated by the VECP must be sufficient to warrant a review and processing, as determined by the Project Manager.
8. A VECP changing the type or thickness of the pavement structure or changing the design of a bridge will be rejected.
9. Additional information needed to evaluate VECPs shall be provided in a timely manner. Untimely submittal of additional information will result in rejection of the VECP. Where



design changes are proposed, the additional information shall include results of field investigations and surveys, design and computations, and changed plan sheets required to develop the design changes.

- (e) *Payment.* If the VECP is accepted, the changes and payment will be authorized by a Change Order. Reimbursement will be made as follows:
1. The changes will be incorporated into the Contract by changes in quantities of unit items, new agreed unit price items, or both, as appropriate, under the Contract.
 2. The Price of the contract will be revised to reflect the changes in the VECP. The City will pay the Contractor 50 percent of the savings to the City upon completion of the Project. The savings to the City shall be the difference between the cost of the revised work and the cost of the related construction required by the original Contract computed at Contract prices.
 3. Costs incurred by the Contractor for development, design, and implementation of the VECPs will not be reimbursed.
 4. When work performed under an approved VECP is modified to fit field or other conditions, the maximum amount paid for the work will be limited to that which would have been paid if the work had been performed under the original Contract provisions. The rejection or limitation of reimbursement shall not constitute the basis of any claim against the City for delay or for other costs except as allowed under the original Contract.

107.07 AUTHORITY OF THE PROJECT MANAGER

The Project Manager will decide all questions regarding the quality and acceptability of materials furnished, work performed, and the rate of progress of the work, all interpretation of the plans and specifications, and the acceptable fulfillment of the Contract. The Project Manager will perform technical inspection of the work and shall have authority to reject all work and materials which do not conform to the Contract.

The Project Manager has authority to stop the work whenever such stoppage may be necessary to insure the proper execution of the Contract or for the convenience of the City. The Project Manager may order the Contractor, by giving ten (10) days written notice, to suspend, delay, or interrupt all or any portion of the work required by the Contract for a period of up to (10) ten Calendar Days at no additional cost to the City. The Project Manager may immediately stop the work when it is determined that the public's safety and welfare is in jeopardy.

The Project Manager will, within a reasonable time after their presentation to the Project Manager, make decisions in writing on all claims submitted to the City by the Contractor and on all other matters relating to the execution and progress of the work or the interpretation of the Contract Documents. The Project Manager's decisions shall be final.

107.08 DUTIES OF THE INSPECTOR

Inspectors employed by the City are authorized to inspect all work done and materials furnished. Any such inspection may extend to all or any part of the work and to the preparation, fabrication or manufacture of the materials to be used. An inspector is not authorized to alter or waive the provisions of the Contract. An inspector is not authorized to issue instructions contrary to the provisions of the Contract or to act as foreman for the Contractor.



107.09 CONSTRUCTION OBSERVATION AND INSPECTION

The Project Manager shall at all times have access to the work, and the Contractor shall provide proper equipment, materials and labor as required for such access and inspection.

All equipment, material, and articles incorporated into the work covered by this Contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this Contract. The Project Manager shall have the right to reject materials and workmanship, which are defective, or require their correction. Rejected workmanship shall be satisfactorily corrected and rejected materials shall be removed from the premises and replaced without charge to the City. If the Contractor does not correct such rejected work and remove rejected materials within a reasonable time fixed by written notice, the City may remove them and charge the expense to the Contractor.

Should it be considered necessary or advisable by the Project Manager at any time before final acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the Contractor shall on request promptly furnish necessary facilities, labor and materials. If such work is found to be defective in any material respect due to fault of the Contractor or his subcontractors, he shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the actual, reasonable cost of labor and material necessarily involved in the examination and replacement, plus ten (10) percent, will be allowed the Contractor.

All materials to be incorporated in the work, all labor performed, all tools, appliances, and methods used shall be subject to the inspection and approval or rejection of the Project Manager.

If the Project Manager points out to the Contractor, Contractor's foreman, or agent any neglect or disregard of the Contract provisions, such neglect or disregard shall be remedied and further defective work be discontinued immediately.

The Contractor shall execute the work only in the presence of the Project Manager or authorized representative, unless provision has been made for the work to proceed without complete engineering supervision or inspection. The presence of the Project Manager or authorized representative shall in no way relieve the Contractor of any responsibility under this Contract.

The observation of the work by the Project Manager is intended to aid the Contractor in applying labor, materials, and workmanship in compliance with the Contract provisions. Such observation, however, shall not relieve the Contractor from any of Contractor's Contract obligations.

107.10 CONTRACTOR COOPERATION

All work under this Contract shall be performed in a skillful and professional manner. The Project Manager shall have the authority to order the Contractor to remove from the work site any employee the Project Manager deems incompetent, careless, or otherwise objectionable to the general public or the City by notify the Contractor of such order in writing.

(a) Workmen, Methods and Equipment: Permission from the Project Manager to use any particular methods, equipment or appliances shall not be so construed as to relieve the



Contractor from furnishing other equipment or appliances or adopting other methods when those in use prove unsatisfactory to the Project Manager, or as to bind the Project Manager to accept work which does not comply with the Contract.

107.11 CONTRACTOR'S RESPONSIBILITY FOR WORK

Until the work is accepted by the Project Manager as evidenced by the issuance of the Certificate of Completion, the Contractor shall have the charge and care thereof and shall take every necessary precaution against injury or damage to any part thereof by action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before its completion and acceptance and shall bear the expense thereof.

The Contractor shall be responsible for the preservation of all public and private property, trees, fences, monuments, and other property, along and adjacent to the improvements and shall use suitable precautions necessary to prevent damage to pipes, conduits, and other underground structures. When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect or misconduct in the execution of the work, or in consequence of the non-execution thereof on the part of the Contractor, such property will be restored by the Contractor and at Contractor's expense to a condition similar, or equal to that existing before such damage or injury to the satisfaction of the City's Project Manager.

It shall be the responsibility of the Contractor, when moving or operating equipment, to make all arrangements for temporary crossings of telephone, transmission, pipe lines, railroad tracks, and irrigation ditches. This work shall not be paid for as a separate item but shall be considered as incidental to the project.

107.12 PROTECTION OF UTILITIES

The Contractor's attention is directed to the fact that utilities may encroach on the construction of this Project, and also to the importance of protecting all public/private utilities encountered on this project. These may include telecommunications, cablevision, traffic signal lines, power lines, water lines, sewer lines, gas lines, railroad tracks, and other overhead and underground utilities.

The City does not warrant any survey work or location of utilities or other underground apparatuses whether performed by the City, its agent, or an independent contractor. Contractor understands and agrees any survey or location work performed by the City, its agent, or other independent contractor is provided for guidance purposes only, so as to show the approximate location of underground utilities or apparatuses. Contractor understands the existence or exact location of underground utilities or apparatuses may not be known to the City or the design engineer of record. Contractor, therefore, agrees that it shall verify the existence and location of any underground utilities or apparatus along the route of work. Verification shall be done by potholing or using other methods which will detect the exact depth, dimensions, and location of any underground utilities or apparatus.

Contractor shall be liable for any damages, loss, or claims of whatsoever kind caused by its failure to pothole or use other methods of identifying the exact depth, dimensions, and location of any underground utilities or apparatus. Contractor agrees that any claim of any kind whatsoever,



damages, loss, lawsuit, demand, or request for equitable adjustment (“Claims”), shall be waived and the City shall be forever released and discharged from such Claims if Contractor fails to comply with its obligations under this section. Contractor agrees that if it fails to maintain all records or other evidence establishing that it potholed or otherwise determined the exact location, depth, and dimensions of all underground utilities and apparatuses, then it shall not be permitted to make any Claim arising from or related to the location of underground utilities or apparatus.

The size and location of all existing utilities as known to the Project Manager have been noted on the plans for the information and guidance of the Contractor. The Contractor shall be responsible for the location and protection of all utilities located within his working area regardless of whether or not their existence or location is shown or noted on the drawings.

It is the Contractor’s responsibility to complete required work and to schedule inspections during normal working hours. The Contractor is responsible for contacting each affected utility for their inspectors’ working hours. The Contractor is responsible to request an inspection two (2) working days in advance of the inspection. In the case of an overtime inspection, the request must be in writing. All overtime costs for inspection by Colorado Springs Utilities, or other utilities personnel, shall be the Contractor’s expense. The City will not entertain any requests for time extensions for delays caused by the Contractor’s failure to properly notify the affected utility of a required inspection or the Contractor’s failure to complete the required work by the time of the scheduled inspection.

Any information concerning underground utilities shown on the drawings is intended to be merely an aid to the Contractor. The accuracy of information with respect to underground utilities is not guaranteed. The Contractor shall make their own investigation, including exploratory excavations, to determine the locations and type of existing mains or service laterals or appurtenances when their presence can be inferred from the presence of other visible facilities, such as building, manholes, inlets, meters and junction boxes, on or adjacent to the site of the work. If the Contractor discovers utility facilities not identified in the plans or specifications or in a position different from that shown in the plans and specifications, the Contractor shall immediately notify, verbally and in writing, the Project Manager and Owner of the utility facility.

Before any excavation is begun in the vicinity of water lines, railroad tracks, or structures, sewer lines, telecommunication conduits or cablevision line, each utility company, including Colorado Springs Utilities (if applicable), department, or company concerned must be notified in advance of such excavation, and such excavation shall not be made until an authorized representative of the utility concerned is at the site.

All utilities encountered must be kept in operation by the Contractor and must be protected and/or repaired at the Contractor's own expense, unless otherwise specified in the Contract documents. The Contractor shall be held liable for all damages to any and all public utilities encountered on the project, which damages are due to the Contractor's operations. Such damages shall include all physical damages to utilities and also all damages due to interruption of service of such utilities, when such damages and interruptions are caused by the Contractor's operations.

Where alterations or moving of utilities is not required to permit construction of the project, the Contractor shall take such measures as the Project Manager may direct to properly protect these utilities throughout his construction operations and shall cooperate at all times with the proper



authorities and/or owners in maintaining service of railroads, conduits, pole lines, transmission lines, pipe lines, sewers, etc., affected by this project.

The costs of damages due to the Contractor's operation shall not be allowable under this Contract and shall result in no additional cost to the City. The cost of protecting utilities where alteration or relocation is not required to permit construction of the project shall be considered as included in the original Contract price for the project and shall result in no additional cost to the City.

Should any pipe line, water lines, or gas mains, electrical conduits, sewer pipes, overhead wiring, telecommunication lines, power lines, or any other such utilities, not specifically mentioned and provided for elsewhere as a part of this Contract, have to be moved, repaired, reconditioned, or revised due to the construction, or moved temporarily to permit construction of the project the party or parties owning and operating such utilities shall perform the actual work of moving, repairing, reconditioning, or revising such utilities. Any such work would be added via change order, and the cost of this work will be borne by Colorado Springs Utilities, the utility company's involved, or other means arranged by the City.

(a) Existing Utilities

1. Existing Gas Lines: As of April 1, 1983, Federal law requires anyone who uncovers a gas line to report it to the gas company and allow it to be inspected by the gas company personnel before it is backfilled. Colorado Springs Utilities or other provider is to be notified prior to any excavation around gas lines. A Colorado Springs Utilities or other applicable provider inspector is to be notified and present on site prior to construction activities around gas lines.
2. Existing Sewer Mains and Services: All relocation, replacement protection shown on the plans or determined necessary by the inspector shall be performed according to the latest Colorado Springs Utilities Wastewater Standard Specifications. Minimum 48 hours' notice must be given to Colorado Springs Utilities prior to any related work.
3. The Contractor shall adjust sanitary sewer manhole rims to an elevation acceptable to Colorado Springs Utilities. The Contractor shall contact Colorado Springs Utilities twenty-four (24) hours prior to manhole rim adjustments.
4. Existing Water Mains and Services: All relocation, replacement or protection shown on the plans or determined necessary by the inspector shall be performed according to the latest Colorado Springs Utilities Water Standard Specifications and the Water Service Standard Specifications. Minimum 48-hour notice must be given to Colorado Springs Utilities prior to any related work. Colorado Springs Utilities reserves the right to schedule any operations at their discretion and to provide for any requirements determined necessary to perform the work. The Contractor shall coordinate with the Colorado Springs Utilities and receive their approval prior to performance of the work.

(b) Utility Support Systems:

1. If required by the Contract documents, or requested by the Project Manager, the Contractor shall submit shop drawings for the method of temporary support for all existing utilities during construction. The temporary support details for existing utilities shall be submitted for review and approval prior to performance of the work. Shop drawings must bear the seal of a Professional Project Manager registered in the State of Colorado, unless so waived by the City.
2. Regardless of City approved shop drawings, the Contractor shall be responsible for the satisfactory support of the utility system and any damages that may occur to the utility involved.



(c) Electric Utility Installation:

1. Any electric facilities unless otherwise noted are to be relocated or modified by Colorado Springs Utilities. The Contractor shall coordinate the work with Colorado Springs Utilities and Colorado Springs Utilities Contractor.
2. Light Pole Installation or Relocation:
 - i. The Contractor is responsible for coordinating with Colorado Springs Utilities, removing existing light pole foundations, constructing new light pole foundations, installing new conduits, and installing lighting junction boxes. The Contractor is responsible for coordinating with Colorado Springs Utilities for the de-energizing and removal of existing light poles.
 - ii. Colorado Springs Utilities will remove the existing light standards, reset the light standards upon completion of the new foundations, conduit and junction boxes, pulling wire, and beginning operations of the lighting within the project limits. The Contractor is responsible for scheduling and coordination with Colorado Springs Utilities crews for reinstallation and re-energizing completed light poles.

(d) Gas Utilities: The Contractor is responsible for coordinating with Colorado Springs Utilities for the relocation of existing Gas lines. Colorado Springs Utilities will relocate the existing gas lines as necessary to install project improvements within the project limits. The Contractor is responsible for scheduling and coordination with Colorado Springs Utilities crews.

(e) Telecommunication Agencies: Any telephone facilities unless otherwise noted are to be relocated or modified by the respective private utility company. The Contractor shall coordinate the work with the respective private utility company.

(f) Cablevision: The television utilities are to be relocated by the cable provider. The Contractor shall coordinate the work with any affected cable provider.

107.13 FEDERAL FUNDS

If this Contract is a federally assisted construction contract all applicable federal requirements, terms and conditions, provisions and forms shall apply. Additionally, during the performance of this Contract, the Contractor agrees as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause
2. The Contractor will, in all solicitations or advancements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
3. The Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee



or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

4. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other Contract or understanding a notice advising the labor union or workers representative of the Contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
5. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
6. The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the Secretary of Labor, State of Colorado Civil Rights Commission and any other governmental agency entity which may be assisting with the funding under this Contract for purposes of investigation to ascertain compliance with such rules, regulations and orders.
7. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any such rules, regulations, or orders, this Contract may be cancelled, terminated, or suspended in whole or in part, and the Contractor may be declared ineligible for further government Contracts or Federally assisted construction Contracts in accordance with the procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or otherwise provided by law.
8. The Contractor shall include the provisions of Paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the city, state, or any federal governmental entity may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Contractor may request the city, the state, or the United States to enter into such litigations to protect the interests of such governmental entity.

107.14 SUPERINTENDENCE

The Contractor shall give the work the constant attention necessary to facilitate the progress thereof and shall cooperate with the Project Manager and with other contractors or Colorado Springs Utilities employees in every way possible. The Contractor shall have at all times, on the work, as Contractor's agent, a competent superintendent capable of reading and thoroughly understanding the Plans and Specifications, and who shall have the necessary authority to receive and promptly execute the instructions and orders from the Project Manager or the Project Manager's authorized representative. Such superintendent shall be furnished irrespective of the amount of work sublet. The Contractor shall supply the Project Manager with a list of phone



numbers at which the Contractor and its superintendent and foreman can be reached at any time. The assigned superintendent must adhere to the cooperation requirements specified in this Contract and is subject to removal if so ordered in writing by the Project Manager.

107.15 PREPARATION

All vegetation, stumps, and debris and other objectionable objects shall be removed from the area staked out by the Project Manager, and where necessary from the area immediately adjacent thereto. Such debris shall be hauled from the site of the construction and wasted as directed by the Project Manager.

107.16 STAKING WORK

The Project Manager may provide reference points (horizontal and vertical control) only, unless otherwise noted in the proposal and project specifications. The Contractor shall engage the services of a licensed surveyor or surveying firm (hereinafter referred to as the Surveyor) to be approved by the Project Manager. The Surveyor shall perform all detailed construction layout and staking including the staking of all storm sewer, street improvements, and utility relocations in accordance with the plans and specifications. The Contractor shall be responsible for the correctness and accuracy of the detailed layout of finished structures.

Any instrument man or survey assistant employed on the work by the Contractor or his subcontractors, who are judged by the Project Manager to be incompetent, shall be removed from the work and replaced by a competent individual.

107.17 DEVIATION ALLOWED

Finished surfaces in all cases shall conform to lines, grades, cross sections and dimensions shown on the approved drawings or described in the Specifications. Deviations from the approved drawings and working drawings as may be required by the expediciencies of construction, in all cases, must be determined by the Project Manager and authorized in writing. If the Project Manager deems it inexpedient to correct work injured or done in an unauthorized manner, an equitable deduction from the Contract price of the work done shall be made by the Project Manager subject to approval of the City Procurement Services Manager.

107.18 RIGHT-OF-WAY

The City's right-of-way will in general be adequate for construction purposes. Nothing marked on the drawings shall be interpreted as giving the Contractor exclusive occupancy of the territory provided by the City. The City and its employees for any purpose, and other contractors of the City, for any purpose required by their respective contracts, may enter upon or occupy any portion of the land furnished by the City. When the territory of one contract is a necessary or convenient means of access for the execution of another contract, such privileges of access or any other reasonable privilege shall be granted by the Contractor to the extent, amount, in the manner and at times necessary. No such joint occupancy or use of the territory shall be made as the basis of any claim for delay or damages.

107.19 SHOP DRAWINGS AND SUBMITTALS



The Contractor shall submit to the Project Manager all shop drawings and submittals required for the work, including those pertaining to structural and reinforcing steel within fifteen (15) Calendar Days from the date of the Notice of Award. The Contractor shall make any corrections in the drawings required by the Project Manager and resubmit the same without delay.

Three final copies of all shop drawings (if applicable), submittals (if applicable) and schedules shall be submitted to the Project Manager, who after checking will retain two copies and return one copy to the Contractor. The Project Manager's approval of shop drawings of equipment and material shall extend only to determining the conformity of such equipment and materials with the general features of the design drawings prepared by the Project Manager. It shall be the responsibility of the Contractor to determine the correctness of all dimensions and minor details of such equipment and materials so that when incorporated in the work, correct operations will result.

107.20 RECORD DRAWINGS

The Contractor shall maintain an up-to-date set of Contract drawings and Contract records, legibly marked; depicting all constructed improvements at the site or as otherwise specified and shall submit a complete set labeled "Project Record" to the Project Manager upon completion of the Project.

- 1) Drawings:
 - a) Depths of various elements of foundation in relation to finish floor datum.
 - b) Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements and Project survey control.
 - c) Location of internal utilities and appurtenances concealed in the construction, referenced to permanent surface improvements and project survey control.
 - d) Field changes of dimensions and detail.
 - e) Changes made by Change Order.
 - f) Details not on original Contract drawings.
- 2) Specifications and Addenda:
 - a) Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
 - b) Changes made by Change Order.

107.21 MATERIALS

Unless otherwise stipulated in the Specifications, all workmanship, equipment, materials, and articles incorporated in the work covered by this Contract are to be new and of the best grade of their respective kinds for the purpose. The Contractor shall furnish to the Project Manager for the Project Manager's approval, the name of the manufacturer of machinery, mechanical and other equipment, which he contemplates installing, together with their performance capacities and other pertinent information including but not limited to instruction manuals pertaining to the use and operation of such machinery, mechanical and other equipment.

When required by the Specifications, or when called for by the Project Manager, the Contractor shall furnish for approval full information concerning the materials or articles which he contemplates incorporating in the work. Samples of materials shall be submitted for approval



when so directed. Machinery, equipment, materials, and articles installed or used without such approval shall be at the risk of subsequent rejection.

107.22 MATERIAL INSPECTION AT PLANT

If the Project Manager inspects the materials at the source, the following conditions shall be met:

- (a) The Project Manager shall have the cooperation and assistance of the Contractor and the materials producer.
- (b) The Project Manager shall have full entry to all parts of the plant necessary for the manufacture or production of the materials being furnished.
- (c) Adequate safety measures shall be provided and maintained.

The City reserves the right to retest all materials which have been previously tested or inspected. The retesting may be prior to or after incorporation of the materials into the work. Those materials inspected and tested after delivery on the Project or after incorporation into the work that do not meet the requirements of the Contract will be rejected and replaced at no additional cost to the City.

107.23 HANDLING MATERIALS

All materials shall be handled so their quality and fitness for the work is preserved. Aggregates shall be transported to the work in vehicles constructed to prevent loss or segregation of materials.

107.24 CITY FURNISHED MATERIALS

Material furnished by the City will be made available to the Contractor at the points specified in the Contract.

The cost of handling and placing materials after they are made available to the Contractor shall be considered as included in the Contract price for the item, and shall result in no additional cost to the City.

The Contractor will be held responsible for all material received until it is incorporated into the work and accepted.

Demurrage charges resulting from the Contractor's failure to accept the material at the designated time and point of delivery will be deducted from monies due the Contractor.

107.25 BUY AMERICA REQUIREMENTS

All manufacturing processes, including the application of a coating, for all steel and iron products permanently incorporated in the work shall have occurred in the United States of America. All manufacturing processes are defined as "processes required to change the raw ore or scrap metal into the finished, in-place steel or iron product". This requirement will not prevent a minimal use of foreign steel or iron provided the total project delivered cost of all such steel and iron which includes the cost of delivering the steel and iron to the Project, does not exceed one-tenth of one percent of the total Contract cost or \$2,500, whichever is greater.



With every steel or iron product that requires pre-inspection, pretesting, certified test results, or certificate of compliance, the Contractor shall provide a certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product that every process, including the application of a coating, performed on the steel or iron product either has or has not been carried out in the United States of America. These certifications shall create a chain of custody trail that includes every supplier, distributor, fabricator, and manufacturer that handles the steel or iron product. The lack of these certifications will be justification for rejection of the steel or iron product. Upon completion of the Project, the Contractor shall certify in writing of compliance with this requirement and provide evidence of the Project delivered cost of all foreign steel or iron permanently incorporated into the Project.

107.26 TESTING OF MATERIALS

Tests and Inspections. The City will employ and pay for the services of an approved testing laboratory to perform specified services for the field testing of:

- (a) Soil Compaction Control
- (b) Cast-in-Place Concrete
- (c) Asphalt Concrete Pavement

The Contractor shall perform, or arrange for the performance, and pay all costs in connection therewith, all other tests and inspections required by the Contract documents. The Contractor shall pay for all testing laboratory services in connection with tests verifying conformance of proposed materials and installation with project requirements including, but not limited to, mix designs, riprap, gradation tests for embedment, fill and backfill materials. The City shall pay for testing laboratory services in connection with tests on materials after incorporation into the project, unless retesting of materials is necessary because of the failure of the materials to meet the Project requirements. The Contractor shall obtain the City's written acceptance of the testing laboratory before having services performed.

- 1) Requirements for Independent Testing Consultants.
 - a) Consultants shall comply with "Recommended Requirements for Independent Laboratory Qualifications", latest edition, published by the American Council of Independent Laboratories, and basic requirements of ASTM E-329, "Standards of Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction", latest edition.
 - b) The Contractor shall submit to the City for prior approval, the name and address of the proposed testing laboratory with description of personnel, facilities, equipment and other qualification data, including certificate of calibration of applicable testing equipment made by an accredited calibrated agency no more than twelve (12) months prior to submittal date.
- 2) Test Reports
 - a) Testing agency shall be instructed to submit directly to the City three (3) copies of all reports of tests or inspections made, showing compliance, irregularities or deficiencies, identifying Project, date of test, location in Project, applicable specification section, applicable standard(s) for compliance, observations relating to compliance, name and signature of inspector.
- 3) Contractor Responsibilities



- a) Furnish access to the work, materials, equipment and labor required to accommodate inspections and tests when testing laboratory is retained by the City. In the event retesting of materials or recompaction is necessary because of the failure of the materials or compaction to meet the Project requirements, the cost of said retesting shall be borne by the Contractor. Cost of said retest will be deducted from the final payment amount due the Contractor, or invoiced directly to the Contractor at the City's discretion.
- 4) Reliance on Technical Data
Without warranty or representation as to the accuracy or completeness of any information or data, Contractor may rely upon the general accuracy of the "technical data" contained in the reports, specifications and drawings. The "technical data" is identified in the work technical specifications, drawings and reports that are signed and sealed by a registered Professional Engineer, Architect or Landscape Architect in the State of Colorado. Except for the reliance on the general accuracy of the "technical data," Contractor may not rely upon or make any claim against the City with respect to:
 - a) the accuracy or completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
 - b) other data, interpretations, opinions, and information contained in the reports or shown or indicated in such drawings; or
 - c) any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

107.27 UNANTICIPATED CIRCUMSTANCES

Contractor understands that this is a firm fixed price contract and so long as there are no changes in the scope of work or unanticipated circumstances as provided in subsection A-C below, Contractor must deliver the project for the agreed price. The parties agree that not every circumstance can be anticipated or known at the time this Contract was executed. Compensation for unanticipated circumstances, limited to subsections A –C, shall, at the City's sole discretion, be provided by the following method(s): (1) Unit prices previously approved; (2) allowing additional compensation on a time and materials method, not to exceed an agreed-to amount; (3) an agreed lump sum; and/or (4) the actual cost of:

- a) labor (including foreman and additional supervision, if necessary);
- b) materials necessary for incorporation into the Project;
- c) rental cost of construction plant and equipment used for work;
- d) Power and fuel required for operation of power equipment necessary to perform work;
- e) Contractor shall provide to the City physical evidence of all costs, including, but limited to, payroll, invoices, vouchers, estimates, bills, accounting records, or other relevant records. Contractor agrees that its failure to provide evidence of a claimed cost shall be a waiver of such cost(s) and the City shall be released and forever discharged from any claim of any kind whatsoever, loss, damages, request for equitable adjustment, or demand related thereto. Contractor further agrees that, at the City's discretion, a fixed fee, not to exceed 10% of the costs of work shall be added to such costs as compensation for the cost of management, insurance, benefits, bond, profit, and any other expenses.

To the extent unanticipated circumstances arise, Contractor shall follow the procedures and processes set forth herein and, if applicable, the Dispute Resolution provisions of this Contract. Contractor agrees that its failure to follow the processes set forth herein and the Dispute



Resolution process shall forever waive, release, and discharge the City from any claim of any kind whatsoever, damages, losses, lawsuits, or demands known or unknown. Additionally, the terms “detail” or “particularity” mean specificity, providing the exact basis and reason therefor with citations to the Contract or Contract Documents. Vague or ambiguous references such as “other matters” or “other costs” shall not be permitted and are not subject to any compensation method whatsoever.

Differing Site Conditions or Changed Conditions: A differing site condition or changed condition means subsurface, latent, or unknown physical site conditions that are materially different than that which is indicated in the contract and which is not ordinarily encountered and generally recognized in the work provided for in the Contract.

Contractor understands the City must be permitted the opportunity to timely investigate all differing site/changed condition matters; document conditions as they existed on the site at the time; take measurements, photographs, witness statements and the like; negotiate a compromise resolution with the Contractor and/or subcontractors; and avoid the cost, expense and delay of formal litigation.

Upon discovering a differing site condition, the Contractor shall not disturb the conditions and immediately contact the Project Manager. Within five days of discovering the condition, the Contractor shall provide written notice to the Project Manager of the condition. The written notice shall describe the condition with particularity; provide the precise material difference of the condition from the Contract, design plans, and/or other Contract Documents; describe, in detail, how the condition is not a condition that would be ordinarily encountered and generally recognized in the work provided for in the Contract; and provide a detailed explanation, including all accounting and other evidence supporting, Contractor’s losses, costs, delays, and changes in time required for performing the work. Contractor agrees that any claim, loss, damage, delay, or change in time that is not supported by evidence shall be disallowed. Contractor waives and forever releases and discharges the City from any claim of whatsoever kind, loss, damages, demand, and/or request for equitable adjustment whether known or unknown by disturbing the condition before notifying the Project Manager and by failing to provide timely detailed written notice as required herein. Any issue which is not provided for, in detail, in the written notice shall also be waived and the City shall be forever released and discharged from any claim whatsoever, loss, damage, or request for equitable adjustment, or demand arising therefrom.

After Contractor fully complies with the provisions in this section and after receiving the written notice, the Project Manager shall promptly investigate the condition and determine whether such condition materially differs from that indicated in the Contract Documents and whether it is a condition that would not ordinarily be encountered and generally recognized in the work provided for in the Contract. If the Project Manager determines the condition is a “differing site condition,” then a Change Order shall be issued describing the differing site condition and compensation method agreed to by the parties. By signing the Change Order, Contractor agrees the City shall be released and fully discharged from any claim whatsoever, loss, damage, request for equitable adjustment, or demand arising from the matters described in the Change Order. The parties shall also sign a document which describes in detail each condition and each claim, loss, damage, delay, or change in time related to that particular condition which was agreed to and fully resolved as well as any condition and each claim loss, damage, delay, or change in time related to that particular condition which is disputed.



If the Contractor disputes, disagrees with, or otherwise considers unfair any decision or ruling by the City, then Contractor shall, within 10 Calendar Days, provide the City with written notice of the dispute as set forth in the dispute section of this Contract and shall follow the dispute resolution process provided therein.

Defective or Deficient Construction Plans or Documents: A defective or deficient construction plan or document means a material error, mistake, oversight, or omission in the design plans or documents providing the specifications depicting the general and detail features of the work to be performed.

Upon discovering a defect or deficiency, the Contractor shall immediately contact the Project Manager. Within five days of initially advising the Project Manager of the defect or deficiency, the Contractor shall provide written notice to the Project Manager. The written notice shall describe the defect or deficiency with particularity explaining why it is a material defect or deficiency; provide precise detail explaining why the defect or deficiency is not something Contractor should know how to do or why the defect or deficiency is not a condition that would be ordinarily encountered and generally recognized in the work provided for in the Contract; and provide a detailed explanation, including all accounting and other evidence supporting, Contractor's losses, costs, delays, and changes in time required for performing the work. Contractor agrees that any claim, loss, damage, delay, or change in time that is not supported by evidence shall be disallowed. Contractor agrees that it shall waive and forever release and discharge the City from any claim of whatsoever kind, loss, damages, demand, and/or request for equitable adjustment whether known or unknown by failing to immediately notifying the Project Manager and by failing to provide timely detailed written notice as required herein. Any issue which is not provided for in the written notice shall also be waived and the City shall be forever released and discharged from any claim whatsoever, loss, damage, or request for equitable adjustment, or demand arising therefrom.

After Contractor fully complies with the provisions in this section and after receiving the written notice, the Project Manager shall promptly investigate the condition and determine whether such matter is a "defective or deficient design plan or document" as defined herein. If the Project Manager determines the matter is a "defective or deficient design plan or document," then a Change Order shall be issued describing the defective or deficient design plan or document, the correction and compensation method agreed to by the parties. By signing the Change Order, Contractor agrees the City shall be released and fully discharged from any claim whatsoever, loss, damage, request for equitable adjustment, or demand arising from the matters described in the change order. The parties shall also sign Form A of this Contract which describes in detail each condition and each claim, loss, damage, delay, or change in time related to that particular condition which was agreed to and fully resolved as well as any condition and each claim loss, damage, delay, or change in time related to that particular condition which is disputed.

If Contractor disputes, disagrees with, or otherwise considers unfair any decision or ruling by the City, then Contractor shall, within 10 Calendar Days, provide the City with written notice of the dispute as set forth in the Dispute Resolution section of this Contract and shall follow the dispute resolution process provided therein.

Changes in Work and Additional/Extra Work (fixed price contract): When additional information through excavation, testing, site investigation, differing site conditions, or otherwise is obtained the City shall have the right to alter, change the location, re-design, change the work, add to the



work, accelerate work, or reduce work, change the method or manner of performance, change services, and/or change materials described in the Contract (collectively “Changed Work”).

If the City changes work, then a Change Order shall be issued by the Project Manager. Contractor shall not be required to perform any Changed Work without a Change Order issued by the Project Manager. Such Changed Work shall be performed under the terms set forth in the original Contract and compensated as agreed in this section of the Contract.

If Contractor disputes any Changed Work or compensation method for such Changed Work requested by the City or set forth in a Change Order, Contractor shall, without delay, perform such work. Within 10 Calendar Days of receiving the Change Order, Contractor shall provide the City with written notice of the dispute as set forth in the Dispute Resolution section of this Contract and shall follow the dispute resolution process provided therein. Contractor further agrees that any issue not provided for, in detail, in the written notice shall also be waived and the City shall be forever released and discharged from any claim whatsoever, loss, damage, or request for equitable adjustment, or demand arising therefrom. Any matter resolved through the Dispute Resolution process shall be set forth in Form A of this Contract which describes in detail each Changed Work, including the compensation method, which was agreed to and fully resolved. By signing Form A, Contractor agrees that the City shall be released and fully discharged from any claim whatsoever, loss, damage, request for equitable adjustment, or demand arising from the matters described in Form A.

If Contractor does not dispute any Changed Work or the compensation method for such work, then Contractor shall sign the Change Order and agrees that the City shall be released and fully discharged from any claim whatsoever, loss, damage, request for equitable adjustment, or demand arising from the matters described in the Change Order.

Contractor agrees that the Project Manager shall have the authority to make minor changes in the work which do not involve additional costs and are not inconsistent with the purpose and scope of the work.

If the City finds it necessary or advisable, the City may omit, increase, or decrease any items as it may deem necessary or desirable without changing the unit prices in the proposal, provided such increase or decrease does not exceed 15% of the total monetary value of the original Contract. If material or labor involved in such change is not included in the unit prices of the Contract, but forms an inseparable part of the work to be done under this Contract, and the delay involved in asking for the bids or proposals and the letting of a new contract therefore might result in damage, injury, or impairment of the plant, work system, or other property belonging to the City, the City may in its discretion declare an emergency and require Contractor to proceed with such alterations and additions. The Contract shall not be required to perform such work or furnish extra materials without a Change Order issued by the Project Manager.

107.28 DISPUTE RESOLUTION

Mindful of the high cost of litigation, not only in dollars, but also in time and energy, the parties intend to and do hereby establish the following out-of-court alternate dispute resolution procedure to be followed in the event any dispute, claim of any kind, loss, damage, demand, request for equitable adjustment, or controversy should arise out of, or relating to this Contract or relating to any Change Order or other changes or addendums to this Contract. During the dispute resolution



procedure provided in this section, Contract shall continue to perform the work as provided for in this Contract as modified by any Change Order or Contract amendment. Nothing in this section precludes the parties from pursuing any other remedy afforded by the laws of the State of Colorado once the remedies afforded under this Contract have been complied with and exhausted.

- D. Disputes Arising from Unanticipated Circumstances: If Contractor disputes, disagrees with, or considers any decision, order, ruling, demand, request, directive, Change Order, or Contract amendment, related to the Unanticipated Circumstances provision of this Contract, and issued by the City, whether verbally or in writing, then Contractor shall:
1. Within 10 days of the City issuing any written or verbal decision, order, ruling, demand, request, directive, Change Order, or Contract amendment, Contractor shall provide written notice to the Project Manager identifying, with specific detail, each disputed matter. Any Unanticipated Circumstance dispute or matter of any kind or nature whatsoever, which Contractor does not identify in detail shall be waived and the City is released and fully discharged from any claim whatsoever, loss, damage, request for equitable adjustment, or demand arising from any matter not explicitly set forth in the written notice and described in detail;
 2. Contractor shall provide to the City all evidence of any claim of whatsoever kind, loss, damages, delay cost, or other costs, including, but not limited to payroll reports, daily logs, invoices, accounting file, receipts, email, or other relevant record or document. Any item claimed by Contractor shall be supported by verifiable evidence described herein. If Contractor requires additional time to obtain or compile such evidence, then the Contractor shall have an additional 30 days, but must identify the exact document(s) or other evidence needed, where it is maintained, and explain why it is not available. The City shall not be responsible for any delay or other damage arising from Contractor's request for additional time to obtain documents. Any item unsupported by verifiable evidence shall be waived and Contractor agrees to release and fully discharge the City from any claim of whatsoever kind, loss, damage, request for equitable adjustment, or demand related to such unsupported item.
 3. Upon receipt of Contractor's written notice, the Project Manager will investigate the disputed matter(s) and issue a written decision, ruling, order, and/or directive to Contractor. If Contractor does not dispute the Project Manager's decision, ruling, order, or directive, or a compromise has been reached, then Contractor shall sign Form A. If Contractor disputes or disagrees with the Project Manager's Ruling, then within 20 days of receiving the Project Manager's decision, ruling, order, and/or directive, Contractor must file with the City a written request for review to the City Engineer or City's Manager of the Procurement Services Division. The written request for review shall (a) state in detail the exact issue raised to the Project Manager and the issue(s) related to those matters raised to be reviewed by the City Engineer or Procurement Services Manager; (b) provide an analysis, detailing the basis, reason therefor and the how and why Contractor disagrees with the Project Manager's decision, ruling, order, or directive; and (c) attach all evidence supporting Contractor's dispute. If Contractor fails to provide a timely written request for review to the City Engineer or Procurement Services Manager, then Contractor agrees that it waives, releases, and forever discharges the City from any claim of whatsoever kind, loss, damage, request for equitable adjustment, or demand arising from or related to the Project Manager's decision, ruling, order, or directive.
 4. The City Engineer's or Procurement Services Manager's decision shall be final and conclusive for the City of Colorado Springs. If Contractor disputes, disagrees with, or



considers such decision unfair, then Contractor shall be free to pursue any other remedy afforded by the laws of the State of Colorado. If Contractor does not dispute the City Engineer's or Procurement Services Manager's decision, ruling, order, or directive or a compromise is reached, then Contractor shall sign Form A.

5. Contractor shall pay the City reasonable attorney's fees and costs associated with its failure to comply with any part of this alternate dispute process.

E. All Other Claims: If a dispute, disagreement, or controversy of any kind, other than those covered in the Unanticipated Circumstances section of this Contract, arises from or is related to the Contract, shall be resolved under the Disputes section in the Contract.

107.29 REMOVAL AND SUSPENSION FOR DEFECTIVE WORK

All work or material which has been rejected shall be remedied or removed and replaced in an acceptable manner. Additional compensation will not be allowed for such removal and replacement. Any work done beyond the lines and grades shown on the drawings, except as herein provided, will be considered as unauthorized and will not be measured or paid for. Work so done may be ordered removed at the Contractor's expense. Should the Contractor fail to comply promptly with any order of the Project Manager made under the provisions of this paragraph, the Project Manager shall have the authority to cause said work to be removed and to deduct the cost from any money due, or to become due, from the Contractor. At any time during the course of construction of this project if the provisions of the Plans, Specifications, or Contract provisions are being violated by the Contractor or his employees, the Project Manager shall have the right and authority to order all construction to cease or material to be removed, until arrangements satisfactory to the Project Manager are made by the Contractor for resumption of the work in compliance with the provisions of the Contract.

The Contractor shall promptly remove from the premises all materials and work rejected by the Project Manager as failing to meet Contract requirements, whether incorporated in the work or not, and the Contractor shall promptly replace and re-execute Contractor's own work in accordance with the Contract and without expense to the City and shall bear the expense of making good all work of other Contractors destroyed or damaged by such removal or replacement.

All removal and replacement work shall be done at the Contractor's expense. If the Contractor does not take action to remove such rejected work and materials within ten (10) days' time thereafter, the City may, upon ten (10) days written notice, sell such materials at auction or at private sale and retain the proceeds without compensation to the Contractor.

107.30 CLEANING UP AND FINAL INSPECTION

The Contractor shall at the completion of the work, remove all rubbish from and about the work and all tools, equipment, scaffolding, and surplus materials and shall leave the work clean and ready for use. If not completed by Contractor, the City may remove the rubbish and surplus materials and charge the cost to the Contractor.

All sewers, conduits, pipes, and appurtenances and all tanks, pump wells, chambers, buildings, and other structures shall be kept clean during construction and as the work or any part thereof approaches completion, the Contractor shall systematically and thoroughly clean and make any



needed repairs to them. Contractor shall furnish at Contractor's own expense, suitable tools and labor for removing all water and cleaning out all dirt, mortar, and foreign substances. Any undue leakage of water into the structures such as to make the work, in the opinion of the Project Manager, fall short of first class work, shall be promptly corrected by the Contractor at Contractor's own expense.

Cleaning and repairs shall be arranged, so far as practicable, to be completed upon finishing the construction work. Notice to begin the final cleaning, and repairing, if such is needed, will be given by the Project Manager, who at the same time will make his final inspection of the work. The Project Manager will not approve the final estimate of any portion of the work until after the final inspection is made and the work is found to be satisfactory.

107.31 CUTTING AND PATCHING

The Contractor shall do all cutting, fitting, or patching of work that may be required to make its several parts fit together or to receive the work of other contractors shown upon, or reasonably implied by the Plans and Specifications for the completed Project.

Cold or wet weather conditions that do not permit a permanent asphalt pavement replacement will require a minimum 2" bituminous pavement patch prior to opening the area to traffic as a temporary measure until the permanent asphalt pavement replacement can be installed. This item shall be incidental to any work requiring such removal of asphalt and will be considered to be included in the unit price of the related item of work.

Any cost caused by defective or ill-timed work shall be borne by the Contractor.

The Contractor shall not endanger any work by cutting, digging, or otherwise and shall not cut or alter the work of any other Contractor without the consent of the Project Manager.

107.32 FINAL TESTS

After completion of the work, the Contractor shall make any and all tests required by the Specifications or by municipal, state, or federal regulations, and where so provided in said regulations shall furnish the City with certificates of inspection by the applicable regulatory bodies. The Contractor shall also make all tests required by the National Board of Fire Underwriters for the purpose of determining insurance rates or other protection of the City or the public.

107.33 CORRECTION OF WORK AFTER FINAL PAYMENT

Neither the final payment nor any provision in the Contract Documents shall relieve the Contractor of the responsibility for negligence or faulty materials or workmanship within the extent and periods provided by law and by this Contract.

107.34 NO WAIVER OF LEGAL RIGHTS

Upon written notice that the Contractor considers all work complete, the Project Manager will make a pre-final inspection with the Contractor and will notify the Contractor in writing of incomplete or defective work revealed by the inspection. The Contractor shall promptly remedy such deficiencies.



After the Contractor has remedied all deficiencies to the satisfaction of the Project Manager and delivered all construction records including record drawings, maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection and other documents (all as required by the Contract Documents), the Contractor will be promptly issued a Certificate of Completion by the Project Manager stating that the work is acceptable.

Upon completion of the Contract, the City will make final inspection and notify the Contractor of acceptance. Final acceptance shall not preclude the City from correcting any measurement, estimate, or certificate made before or after completion of the Contract, nor from recovering from the Contractor or Surety, or both, overpayments sustained because the Contractor failed to fulfill the obligations under the Contract.

The Contractor shall be liable to the City for latent defects, fraud, or such mistakes as may amount to fraud, or as regards the City's rights under any warranty or guarantee.

For all non-federally funded projects, the following additional requirements shall apply:

- (a) All work shall be constructed in compliance with standard construction codes, and all materials and workmanship must be guaranteed for a period of two years from the date of final acceptance. If any defect in the work in violation of the foregoing warranty arises, Contractor shall, upon receipt of written notice of such defect, promptly furnish, at no cost to the City, design and engineering, labor, equipment, and materials necessary to correct such defect and cause the Work to comply fully with the foregoing warranty and Contract Documents. This obligation shall survive both final completion of and final payment for the Work. The City shall not be invoiced for any of costs of warranty work, and Contractor shall not be entitled to submit any claim for an increased fee arising therefrom. The Contractor guarantee period (two-year warranty period) will not begin until the Contract is 100 percent complete, as determined by the Project Manager. Acceptance of the 100 percent complete work shall be requested in writing by the Contractor. Any item requiring repair and/or replacement prior to expiration of the two-year warranty period shall be guaranteed for a period of one-year after the date of said correction or repair or for the remainder of the two-year warranty period, whichever is longer.
- (b) In placing orders for equipment, the Contractor shall purchase such equipment only under a written guarantee from the respective manufacturers that the equipment supplied will function satisfactorily as an integral part of the completed Project in accordance with the Plans and Specifications. Furthermore, the Contractor shall require that the manufacturer agree in writing at the time an order of equipment is placed that manufacturer will be responsible for the proper functioning of the equipment in cooperation with the Contractor, and that whenever necessary during the installation period or tuning up period following construction period, the manufacturer will supply without additional cost to the City, such superintendence and mechanical labor and any adjustments and additional parts and labor needed to make the equipment function satisfactorily, even if the same was not shown on approved shop drawings.

107.35 ACCEPTANCE

- (a) *Partial Acceptance.* If, during the performance of the project, the Contractor satisfactorily completes a unit or portion of the Project, such as a structure, an interchange, or a section of



road or pavement that can be used advantageously for traffic, the Project Manager may make final inspection of that unit. If the Project Manager finds that the unit has been satisfactorily completed in compliance with the Contract, the Contractor may be relieved of further responsibility for that unit except as otherwise provided in these general provisions. Partial acceptance shall not void or alter any of the terms of the Contract.

- (b) *Final Acceptance.* Upon notice from the Contractor of presumptive completion of the entire Project, the Project Manager will make an inspection. If the work provided for by the Contract has been satisfactorily completed, that inspection shall constitute the final inspection and the Project Manager will notify the Contractor in writing of final acceptance indicating the date on which the Project was inspected and accepted.

If the inspection discloses any unsatisfactory work, the Project Manager will give the Contractor a written list of the work needing correction. Upon correction of the work, another inspection will be made. If the work has been satisfactorily completed, the Project Manager will notify the Contractor in writing of the date of final inspection and acceptance. Final acceptance under this subsection does not waive any legal rights contained in the No Waiver of Legal Rights section of this Contract.

SECTION 108 PAYMENTS AND ACCEPTANCE OF WORK

108.00 PAYMENTS AND RETAINAGE

Payments will be made, and required retainage withheld if applicable, in accordance with this section as the work progresses at the end of each month or as soon thereafter as practicable in compliance with C.R.S. Title 24, Article 91, on statements made and approved by the Project Manager. In preparing statements, only completed work will be taken into consideration. No payment will be made for materials in storage and/or delivered to the site, unless otherwise approved by the City.

Payment for work performed by the Contractor under the Contract Documents will be made at the approved unit price or lump sum price for each of the several items as listed in the proposal and measured as hereinafter specified. Such payment shall compensate the Contractor for all costs in connection with furnishing all labor, equipment and material required and performing the operations necessary to complete the item in accordance with the Contract Documents. All incidental work essential to the completion of the Project in a workmanlike manner, and including cleanup and disposal of waste or surplus material, shall be accomplished by the Contractor without additional cost to the City. The cleanup and disposal of waste or surplus material shall be performed during construction or as soon after as is reasonably possible in order to better maintain the aesthetics and safety of the construction area. Payment will be made for the actual quantities constructed or installed, unless otherwise noted in these Contract Documents. However, any changes to plan quantity must be approved through proper Change Order procedures, said quantities being measured as specified in the Contract Documents.

- (1) If the Contract exceeds one hundred fifty thousand dollars (\$150,000.00), and is for the construction, alteration, or repair of any highway, public work, or public improvement, structure, and the Contractor has provided Performance and Payment Bonds: the City shall authorize partial progress payments of the amount due under this Contract monthly, or as soon thereafter as practicable, to the Contractor, if the Contractor is satisfactorily performing



the Contract. If the City finds that satisfactory progress is being achieved during any period for which progress is to be made, the City may authorize payment to be made in full without withholding retainage. However, if satisfactory progress has not been made, the City may retain a maximum of ten percent (10%) of the amount of the requested payment until satisfactory progress is achieved. When the work is substantially complete, the City may retain from the remaining unpaid balance that amount the City Procurement Services Manager, at the advice of the Project Manager, considers adequate for protection of the City, suppliers, subcontractors, laborers, vendors, etc., provided that such retainage shall not exceed five percent (5%) of the amount due, and shall release to the Contractor all the remaining funds associated with completed and acceptable work.

If satisfactory progress has not been made the withheld percentage of the Contract price of any such work, improvement, or construction shall be retained on an invoice-to-invoice basis and shall not be cumulative. In other words, if the Contractor is not performing satisfactorily the City will hold ten percent (10%) of what is actually due to the Contractor. For example, if the Contractor is behind schedule and has successfully completed fifty percent (50%) of the work, the City will only pay forty percent (40%) of the invoice, withholding ten percent (10%) of what is due until the Contractor gets back on schedule.

- (2) Whenever a Contractor receives payment pursuant to this section, the Contractor shall make payments to each of the subcontractors of any amount actually received which were included in the Contractor's request for payment to the City for such subcontracts. The Contractor shall make such payments within seven (7) Calendar Days of receipt of payments from the City in the same manner as the City is required to pay the Contractor under this section if the subcontractor is satisfactorily performing under the Contract with the Contractor. The subcontractor shall pay all suppliers, sub-subcontractors, laborers, and any other persons who provide goods, materials, labor, or equipment to the subcontractor any amounts actually received which were included in the subcontractor's request for payment to the Contractor for such persons, in the same manner set forth in this subsection (2) regarding payments by the Contractor to the subcontractor. If the subcontractor fails to make such payments in the required manner, the subcontractor shall pay those suppliers, sub-subcontractors, and laborers interest in the same manner set forth in this subsection (2) regarding payments by the Contractor to the subcontractor.

At the time a subcontractor submits a request for payment to the Contractor, the subcontractor shall also submit to the Contractor a list of the subcontractor's suppliers, sub-subcontractors and laborers. The Contractor shall be relieved of the requirements of this subsection (2) regarding payment in seven (7) days and interest payment until the subcontractor submits such list. If the Contractor fails to make timely payments to the subcontractor as required by this section, the Contractor shall pay the subcontractor interest as specified by Contract or at the rate of fifteen percent (15%) per annum, whichever is higher, on the amount of the payment which was not made in a timely manner. The interest shall accrue for the period from the required payment date to the date on which payment is made. Nothing in this subsection (2) shall be construed to affect the retention provisions of any Contract.

- (3) If the Contractor is not progressing in accordance with the Project Schedule or not performing quality work in accordance with the specifications, the City Procurement Services Manager, at the advice of the Project Manager may withholding retainage up to and including ten percent (10%) of the total contract amount.



108.01 PAYMENTS WITHHELD PRIOR TO FINAL ACCEPTANCE OF WORK

The City may withhold or nullify the whole or part of any certificate of payment to such extent as may be necessary to protect it from loss caused by:

- (a) Defective work not remedied.
- (b) Claims filed or reasonable evidence indicating probable filing of claims by other parties against the Contractor.
- (c) Failure of the Contractor to make payments properly to subcontractors or for material or labor.
- (d) Damage to another contractor.

When the above grounds are removed, payment will be made for amounts withheld because of them.

108.02 ACCEPTANCE OF FINAL PAYMENT

If the work is finally accepted by Project Manager under the terms and conditions of the Contract the entire balance found by the Project Manager to be due the Contractor, including the retained percentage, less any retention based on; (1) the Project Manager's estimate of the fair value of the claims against the Contractor; and (2) the cost of completing the incomplete or unsatisfactory items of work with specified amounts for each incomplete or defective item of work; and (3) retentions required by law, shall be due and payable to the Contractor. The date of completion is the date as specified in the Certificate of Completion issued by the Project Manager.

Upon completion of the work under the Contract and before the Contractor will receive or be paid for the Project Manager's final statement, the City Procurement Services Division shall post a notice in the Colorado Springs Gazette that the City has accepted such work as completed according to the Plans and Specifications and rules set forth in the Contract; that the Contractor is entitled to final settlement; that after the date specified in the Notice, the City will pay the full balance due under the Contract; and that persons having claims for labor or material furnished the Contractor must present their claim to the City Procurement Services Division prior to the date specified for such payment. Nothing herein shall be construed as relieving the Contractor and the Sureties on the Contractor's bonds from any claim or claims for work or labor done or materials or supplies furnished in the execution of the Contract.

The making and acceptance of the final payment shall constitute a waiver of all claims by the Contractor against the City.

If, after the work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and the Project Manager so certifies, the City may, upon Certificate of Completion by the Project Manager, and without terminating the Contract, make payment of the balance due for that portion of the work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment, and acceptance of the payment shall constitute a waiver of all claims by the Contractor but acceptance of the work shall not constitute a waiver of City claims against the Contractor.



Advertising for Final Payment and processing of the Final Pay Request shall not take place until after the Contractor has submitted Sales and Use Tax Forms to the City and said forms have been reviewed and approved by the City Sales Tax Office.



SCHEDULE C – CLAUSES FOR CONTRACTS SUBJECT TO FEDERAL REQUIREMENTS

1. EQUAL EMPLOYMENT OPPORTUNITY

To view the City of Colorado Springs EEO (Equal Employment Opportunity Plan) Utilization Report, the link is www.coloradosprings.gov/eeop.

During the performance of this Contract, the Contractor agrees as follows:

A. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

B. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.

C. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

D. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

E. The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

F. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.



G. The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: *Provided, however*, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

H. *Subcontracts.* Each nonexempt prime contractor or subcontractor shall include the equal opportunity clause in each of its nonexempt subcontracts.

I. *Incorporation by reference.* The equal opportunity clause may be incorporated by reference in all Government contracts and subcontracts, including Government bills of lading, transportation requests, contracts for deposit of Government funds, and contracts for issuing and paying U.S. savings bonds and notes, and such other contracts and subcontracts as the Deputy Assistant Secretary may designate.

J. *Incorporation by operation of the order.* By operation of the order, the equal opportunity clause shall be considered to be a part of every contract and subcontract required by the order and the regulations in this part to include such a clause whether or not it is physically incorporated in such contracts and whether or not the contract between the agency and the contractor is written.

K. *Adaptation of language.* Such necessary changes in language may be made in the equal opportunity clause as shall be appropriate to identify properly the parties and their undertakings. [43 FR 49240, Oct. 20, 1978, as amended at 62 FR 66971, Dec. 22, 1997]

2. EQUAL EMPLOYMENT OPPORTUNITY REPORTS AND OTHER REQUIRED INFORMATION

A. Requirements for prime contractors and subcontractors.

1. Each prime contractor and subcontractor shall file annually, on or before the September 30, complete and accurate reports on Standard Form 100 (EEO-1) promulgated jointly by the Office of Federal Contract Compliance Programs, the Equal Employment Opportunity Commission and Plans for Progress or such form as may hereafter be promulgated in its place if such prime contractor or subcontractor (i) is not exempt from the provisions of these regulations in accordance with § 60-1.5; (ii) has 50 or more employees; (iii) is a prime contractor or first tier subcontractor; and (iv) has a contract, subcontract or purchase order amounting to \$50,000 or more or serves as a depository of Government funds in any amount, or is a financial institution which is an issuing and paying agent for U.S. savings bonds and savings notes: *Provided*, That any subcontractor below the first tier which performs construction work at the site of construction shall be required to file such a report if it meets requirements of paragraphs (a)(1) (i), (ii), and (iv) of this section.

2. Each person required by § 60-1.7(a)(1) to submit reports shall file such a report with the contracting or administering agency within 30 days after the award to him of a contract



or subcontract, unless such person has submitted such a report within 12 months preceding the date of the award. Subsequent reports shall be submitted annually in accordance with § 60-1.7(a)(1), or at such other intervals as the Deputy Assistant Secretary may require. The Deputy Assistant Secretary may extend the time for filing any report.

3. The Deputy Assistant Secretary or the applicant, on their own motions, may require a contractor to keep employment or other records and to furnish, in the form requested, within reasonable limits, such information as the Deputy Assistant Secretary or the applicant deems necessary for the administration of the order.

4. Failure to file timely, complete and accurate reports as required constitutes noncompliance with the prime contractor's or subcontractor's obligations under the equal opportunity clause and is ground for the imposition by the Deputy Assistant Secretary, an applicant, prime contractor or subcontractor, of any sanctions as authorized by the order and the regulations in this part.

B. Requirements for bidders or prospective contractors—

1. *Certification of compliance with Part 60-2: Affirmative Action Programs.* Each agency shall require each bidder or prospective prime contractor and proposed subcontractor, where appropriate, to state in the bid or in writing at the outset of negotiations for the contract: (i) Whether it has developed and has on file at each establishment affirmative action programs pursuant to Part 60-2 of this chapter; (ii) whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; (iii) whether it has filed with the Joint Reporting Committee, the Deputy Assistant Secretary or the Equal Employment Opportunity Commission all reports due under the applicable filing requirements.

2. *Additional information.* A bidder or prospective prime contractor or proposed subcontractor shall be required to submit such information as the Deputy Assistant Secretary requests prior to the award of the contract or subcontract. When a determination has been made to award the contract or subcontract to a specific contractor, such contractor shall be required, prior to award, or after the award, or both, to furnish such other information as the applicant or the Deputy Assistant Secretary requests.

C. Use of reports. Reports filed pursuant to this section shall be used only in connection with the administration of the order, the Civil Rights Act of 1964, or in furtherance of the purposes of the order and said Act.[43 FR 49240, Oct. 20, 1978, as amended at 62 FR 66971, Dec. 22, 1997]

3. RESERVED

4. CONTRACT WORK HOURS AND SAFETY STANDARDS (from FAR 52.222-4)

The term “Contracting Officer” herein shall refer to the City of Colorado Springs Contracting Specialist assigned to this contract.

The term “Government” herein shall refer to the City of Colorado Springs and any interested federal or state entity.



A. *Overtime requirements.* No Contractor or subcontractor employing laborers or mechanics (see Federal Acquisition Regulation 22.300) shall require or permit them to work over 40 hours in any workweek unless they are paid at least 1 and 1/2 times the basic rate of pay for each hour worked over 40 hours.

B. *Violation; liability for unpaid wages; liquidated damages.* The responsible Contractor and subcontractor are liable for unpaid wages if they violate the terms in paragraph (a) of this clause. In addition, the Contractor and subcontractor are liable for liquidated damages payable to the Government. The Contracting Officer will assess liquidated damages at the rate of \$10 per affected employee for each calendar day on which the employer required or permitted the employee to work in excess of the standard workweek of 40 hours without paying overtime wages required by the Contract Work Hours and Safety Standards statute (found at 40 U.S.C. chapter 37).

C. *Withholding for unpaid wages and liquidated damages.* The Contracting Officer will withhold from payments due under the contract sufficient funds required to satisfy any Contractor or subcontractor liabilities for unpaid wages and liquidated damages. If amounts withheld under the contract are insufficient to satisfy Contractor or subcontractor liabilities, the Contracting Officer will withhold payments from other Federal or federally assisted contracts held by the same Contractor that are subject to the Contract Work Hours and Safety Standards statute

D. Payrolls and basic records.

1. The Contractor and its subcontractors shall maintain payrolls and basic payroll records for all laborers and mechanics working on the contract during the contract and shall make them available to the Government until 3 years after contract completion. The records shall contain the name and address of each employee, social security number, labor classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. The records need not duplicate those required for construction work by Department of Labor regulations at 29 CFR 5.5(a)(3) implementing the Construction Wage Rate Requirements statute.

2. The Contractor and its subcontractors shall allow authorized representatives of the Contracting Officer or the Department of Labor to inspect, copy, or transcribe records maintained under paragraph (d)(1) of this clause. The Contractor or subcontractor also shall allow authorized representatives of the Contracting Officer or Department of Labor to interview employees in the workplace during working hours.

E. *Subcontracts.* The Contractor shall insert the provisions set forth in paragraphs (a) through (d) of this clause in subcontracts that may require or involve the employment of laborers and mechanics and require subcontractors to include these provisions in any such lower tier subcontracts. The Contractor shall be responsible for compliance by any subcontractor or lower-tier subcontractor with the provisions set forth in paragraphs (a) through (d) of this clause.

5. CLEAN AIR ACT

By signing this Contract, the Contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water



Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA). Further, the Contractor agrees to include this clause in all subcontracts in excess of \$150,000.

6. DEBARMENT AND SUSPENSION

By signing this Contract, the Contractor certifies to the best of its knowledge and belief that it and its principals:

A. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

B. Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, falsification or destruction of records, making false statements, or receiving stolen property;

C. Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

D. Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

7. BYRD ANTI-LOBBYING AMENDMENT

By signing this Contract, the Contractor certifies that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Further, the Contractor certifies that it has not engaged in lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. The Contractor must require the same certification from all subcontractors with subcontracts valued in excess of \$100,000 under this Contract.

8. SMALL BUSINESS REQUIREMENTS

The Contractor must take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible.

Affirmative steps must include:

A. Placing qualified small and minority businesses and women's business enterprises on subcontract solicitation lists.



B. Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources for subcontracting.

C. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises.

D. Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises.

E. Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

9. PROCUREMENT OF RECOVERED MATERIALS

The Contractor must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired by the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

10. ANTI-KICKBACK PROCEDURES

A. Definitions.

1. "Kickback," as used in this clause, means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided to any prime Contractor, prime Contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a subcontract relating to a prime contract.

2. "Person," as used in this clause, means a corporation, partnership, business association of any kind, trust, joint-stock company, or individual.

3. "Prime contract," as used in this clause, means a contract or contractual action entered into by the United States for the purpose of obtaining supplies, materials, equipment, or services of any kind.

4. "Prime Contractor" as used in this clause, means a person who has entered into a prime contract with the United States.

5. "Prime Contractor employee," as used in this clause, means any officer, partner, employee, or agent of a prime Contractor.



6. "Subcontract," as used in this clause, means a contract or contractual action entered into by a prime Contractor or subcontractor for the purpose of obtaining supplies, materials, equipment, or services of any kind under a prime contract.

7. "Subcontractor," as used in this clause,

a. Means any person, other than the prime Contractor, who offers to furnish or furnishes any supplies, materials, equipment, or services of any kind under a prime contract or a subcontract entered into in connection with such prime contract, and

b. Includes any person who offers to furnish or furnishes general supplies to the prime Contractor or a higher tier subcontractor.

8. "Subcontractor employee," as used in this clause, means any officer, partner, employee, or agent of a subcontractor.

B. The 41 U.S.C. chapter 87, Kickbacks, prohibits any person from --

1. Providing or attempting to provide or offering to provide any kickback;

2. Soliciting, accepting, or attempting to accept any kickback; or

3. Including, directly or indirectly, the amount of any kickback in the contract price charged by a prime Contractor to the United States or in the contract price charged by a subcontractor to a prime Contractor or higher tier subcontractor.

C. The Contractor shall have in place and follow reasonable procedures designed to prevent and detect possible violations described in paragraph (b) of this clause in its own operations and direct business relationships.

When the Contractor has reasonable grounds to believe that a violation described in paragraph (b) of this clause may have occurred, the Contractor shall promptly report in writing the possible violation. Such reports shall be made to the inspector general of the contracting agency, the head of the contracting agency if the agency does not have an inspector general, or the Attorney General.

The Contractor shall cooperate fully with any Federal agency investigating a possible violation described in paragraph (b) of this clause.

The Contracting Officer may

1. offset the amount of the kickback against any monies owed by the United States under the prime contract and/or

2. direct that the Prime Contractor withhold from sums owed a subcontractor under the prime contract the amount of the kickback. The Contracting Officer may order that monies withheld under subdivision (c)(4)(ii) of this clause be paid over to the Government unless the Government has already offset those monies under subdivision (c)(4)(i) of this clause.



In either case, the Prime Contractor shall notify the Contracting Officer when the monies are withheld.

The Contractor agrees to incorporate the substance of this clause, including subparagraph (c)(5) but excepting subparagraph (c)(1), in all subcontracts under this contract which exceed \$150,000.

11. ENERGY EFFICIENCY IN ENERGY CONSUMING PRODUCTS

A. Definition. As used in this clause--

1. "Energy-efficient product"—

a. Means a product that—

i. Meets Department of Energy and Environmental Protection Agency criteria for use of the Energy Star trademark label; or

ii. Is in the upper 25 percent of efficiency for all similar products as designated by the Department of Energy's Federal Energy Management Program.

2. The term "product" does not include any energy-consuming product or system designed or procured for combat or combat-related missions (42 U.S.C. 8259b).

B. The Contractor shall ensure that energy-consuming products are energy efficient products (i.e., ENERGY STAR® products or FEMP-designated products) at the time of contract award, for products that are—

1. Delivered.

2. Acquired by the Contractor for use in performing services at a Federally controlled facility.

3. Furnished by the Contractor for use by the Government.

4. Specified in the design of a building or work, or incorporated during its construction, renovation, or maintenance.

C. The requirements of paragraph (b) apply to the Contractor (including any subcontractor) unless:

1. The energy-consuming product is not listed in the ENERGY STAR® Program or FEMP; or

2. Otherwise approved in writing by the Contracting Officer.

D. Information about these products is available for—

1. ENERGY STAR® at <http://www.energystar.gov/products>; and



2. FEMP at http://www1.eere.energy.gov/femp/procurement/eep_requirements.html.

12. BUY AMERICAN—CONSTRUCTION MATERIALS

A. Definitions. As used in this clause—

1. “Commercially available off-the-shelf (COTS) item”—
 - a. Means any item of supply (including construction material) that is—
 - i. A commercial item (as defined in paragraph (1) of the definition at FAR [2.101](#));
 - ii. Sold in substantial quantities in the commercial marketplace; and
 - iii. Offered to the Government, under a contract or subcontract at any tier, without modification, in the same form in which it is sold in the commercial marketplace; and
 - b. Does not include bulk cargo, as defined in [46 U.S.C. 40102\(4\)](#), such as agricultural products and petroleum products.
2. “Component” means an article, material, or supply incorporated directly into a construction material.
3. “Construction material” means an article, material, or supply brought to the construction site by the Contractor or a subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.
4. “Cost of components” means—
 - a. For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the construction material (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or
 - b. For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the construction material.
5. “Domestic construction material” means—



- a. An unmanufactured construction material mined or produced in the United States;
 - b. A construction material manufactured in the United States, if—
 - i. The cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic.
 - b. The construction material is a COTS item.
6. “Foreign construction material” means a construction material other than a domestic construction material.
7. “United States” means the 50 States, the District of Columbia, and outlying areas.
- a. Domestic preference.
 - i. This clause implements [41 U.S.C. chapter 83](#), Buy American, by providing a preference for domestic construction material. In accordance with [41 U.S.C. 1907](#), the component test of the Buy American statute is waived for construction material that is a COTS item. (See FAR [12.505\(a\)\(2\)](#)). The Contractor shall use only domestic construction material in performing this contract, except as provided in paragraphs (b)(2) and (b)(3) of this clause.
 - ii. This requirement does not apply to information technology that is a commercial item or to the construction materials or components listed by the Government as follows:
 - b. The Contracting Officer may add other foreign construction material to the list in paragraph (b)(2) of this clause if the Government determines that—
 - i. The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the requirements of the Buy American statute is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent;
 - ii. The application of the restriction of the Buy American statute to a particular construction material would be impracticable or inconsistent with the public interest; or
 - iii. The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.
8. Request for determination of inapplicability of the Buy American statute.



a. Any Contractor request to use foreign construction material in accordance with paragraph (b)(3) of this clause shall include adequate information for Government evaluation of the request, including—

- i. A description of the foreign and domestic construction materials
- ii. Unit of measure
- iii. Quantity
- iv. Price
- v. Time of delivery or availability
- vi. Location of the construction project
- vii. Name and address of the proposed supplier
- viii. A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

b. A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American statute applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(3)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American statute applies, use of foreign construction material is noncompliant with the Buy American statute.

(d) Data. To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

FOREIGN AND DOMESTIC CONSTRUCTION MATERIALS PRICE COMPARISON

Construction Material Description Unit of Measure Quantity Price (Dollars)*

Item 1:

Foreign construction material _____



Domestic construction material

Item 2:

Foreign construction material

Domestic construction material



SCHEDULE D – INSURANCE REQUIREMENTS

The following listed minimum insurance requirements shall be carried by all contractors and consultants unless otherwise specified in the City's solicitation package, Special Provisions, or Standard Specifications.

1.	X	Workers' Compensation and Employers Liability as required by statute. Employers Liability coverage is to be carried for a minimum limit of \$100,000.
2.	X	Automobile Liability covering any auto (including owned, hired, and non-owned autos) with a minimum of \$1,000,000 each accident combined single limit.
3.	X	Commercial General Liability for limits not less than \$1,000,000 combined single limit for bodily injury and property damage for each occurrence. Coverage shall include blanket contractual, broad form property damage, products and completed operations and contractors protective endorsements.

Except for workers' compensation and employer's liability insurance, the **City of Colorado Springs must be named as an additional insured**. Certificates of Insurance must be submitted before commencing the work and provide 30 days' notice prior to any cancellation, non-renewal, or material changes to policies required under the contract.

All coverage furnished by contractor is primary, and any insurance held by the City of Colorado Springs is excess and non-contributory.

The undersigned certifies and agrees to carry and maintain the insurance requirements indicated above throughout the contract Period of Performance.

(Name of Company)

(Signature)

(Date)

**Schedule E - Patty Jewett Golf
Course**

Irrigation System

Technical Specifications

July 10, 2023

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PROJECT INFORMATION/ QUALIFICATIONS

Project Scope:

The Contractor will be required to furnish and install all necessary components to irrigate the existing 27-hole golf course, driving range and practice facility. The plans that accompany these technical specifications identify the equipment needed, approximate quantities and locations for the equipment.

Project Needs:

The following is a summary of the work for the Project:

1. Mainline Irrigation Piping Approximately 33,000 linear feet 6" to 14" in diameter, buried to a depth of 30" from top of pipe, or as noted, High density polyethylene pipe (HDPE), to be installed via track type or rubber tire 150hp (minimum horsepower) trencher.
2. Lateral Irrigation Piping Approximately 127,000 linear feet 2" diameter buried to a depth of 18" from top of pipe, High density polyethylene pipe (HDPE), to be installed via 80hp rubber tire/track vibratory plow.
3. Mainline Isolation Valves Push on style with restraints, fusion bond epoxy coated ductile iron body resilient wedge gate valves on the large diameter pipe (6"-10") and fusion bond epoxy coated ductile iron body EPDM valve seal.
4. Control System 2 Wire control system connected to a new central control software package and weather station.
5. Approximate Sprinkler Quantity 2,300 golf body sprinklers, 250, block zone sprinklers, (46) 1.5" electric valves, (69) quick couplers, and (31) winter watering hydrants/ quick couplers.
6. Pump Stations Furnish and install (1) Watertronics branded vertical turbine pump station inside of the existing building. Connect to the existing mainline discharge pipe and filter flush.

A. Constraints:

1. The Contractor will be required to have the keep the same crew for the duration of the project.
2. The Contractor will staff only crew that have extensive experience installing a new irrigation system on an existing 18-hole facilities of similar size and system scope.
3. The Contractor will staff only crew with extensive and verifiable experience with the handling and installation of high-density polyethylene pipe (HDPE) and associated materials found in golf irrigation renovation projects.

4. The Contractor will staff only crew that have extensive and verifiable experience with 2 wire control systems. Identify product brand and solenoid count of each project. A minimum of (4) 2 wire projects completed in the last 2 years that are 18 holes or greater.

1.1 SCOPE

- A. The Contractor shall provide all labor, products, materials, associated materials (whether specified or not), equipment, transportation, and supervision required to construct the irrigation system including, but not limited to:
 - i. Valves, mechanical and electric.
 - ii. Field wiring.
 - iii. Piping, mainline and lateral.
 - iv. Sprinkler heads, quick coupling valves, controller devices, and drip irrigation.
 - v. Pump stations and associated infrastructure.

1.2 SUBMITTALS AND SUBSTITUTIONS

- A. The Irrigation system shall be installed with specified components or approved equal equipment, including sprinkler heads, controllers, subsurface irrigation components and valves. Another manufacturer may be substituted provided they have received an "approved equal" status prior to bidding based on the substitution process established herein.
- B. Submittal for substitutions shall meet said addendum process and include any new hydraulic calculations and equipment locations.
- C. Substitution calculations and locations shall be proposed in writing and to scale for irrigation specifiers evaluation.
- D. Substitutions shall be submitted prior to bidding based on the substitution process herein.
- E. Materials, equipment, and methods of installation shall comply with, but are not limited to, the following codes and standards:
 - i. All local and state laws and ordinances, and with all the established codes applicable thereto.
 - ii. National Electrical Code.
 - iii. American Society for Testing and Materials (ASTM).
 - iv. National Sanitation Foundation (NSF).
 - v. AWWA
- F. All materials submitted will be assembled in an electronic PDF format separated by each component. The Contractor will submit the electronic binder to the Consultant for review. Include a cut sheet of each component along with the warranty information for the product, the Supplier of the product, and a preventative maintenance practices manual for the piece of equipment. The Consultant will review the binder and may request additional information from the Contractor. The submittal package will be approved when the Consultant deems all necessary information has been provided. The Contractor will then assemble one printed and bound submittal book for the Owner. The document must be assembled and approved prior to the initial site visit of the irrigation designer.
- G. The Contractor will provide a proposed construction schedule for the project. The schedule will be developed to allow for continued operation of the existing system with transition to the operation of the new system. The Contractor will be required to have the central computer operational prior to the installation of any lateral pipe.

1.3 CONDUCT OF WORK

- A. The Contractor shall maintain a skilled superintendent on the site during the entire installation of his work. The Superintendent shall have the authority to act on all matters pertaining to the work.
- B. The assigned Superintendent and Crew Foreman will be required to complete the project through its entirety.

1.4 RIGHTS OF WAY

- A. The Contractor shall acquire the necessary right of way or lawful authority that may be necessary for approved crossings or occupation of any roads, street, or alleys upon which the Contractor work will be completed.

1.5 DELIVERIES, HANDLING AND STORAGE

- A. Materials shall be delivered to the site in accordance with the manufacturer's recommendations for shipment and protection of materials.
- B. Handling of materials as recommended by the manufacturer.
- C. Storage of all materials in locations designated and approved by the Owner.
- D. All materials are required to be contained within a locked storage container located within a fenced compound that will be secured during non-construction hours.
- E. The Contractor will provide adequate restroom and refuse facilities for their staff during the entire duration of the project.
- F. The Contractors staging area will be always kept clean and remove all refuse generated from packing materials and scrap generated during the installation of the project. The staging area will be returned to its original level of cleanliness or better at the completion of the project.

1.6 SITE CONDITIONS

- A. Take precautions to ensure that equipment and vehicles do not disturb or damage existing site grading, walks, curbs, pavements, utilities, plants, and other existing items and elements on public and private property.
- B. Verify locations and depths of all underground utilities prior to commencing excavation.
- C. Repair damage caused by Contractor's actions at no cost to the Owner.
- D. Existing Utilities:
 - i. Locate and mark all existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of support and protection during this work.
 - ii. Public and/or private underground utilities that are unknown and not located that are damaged during the excavation processes shall be repaired at the Owners expense.
 - iii. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult Owner immediately for directions. Cooperate with the Owner. Do not interrupt existing utilities serving facilities occupied and used by Owner or others during occupied hours, except when permitted in writing by Owner and then, only after acceptable temporary utility services have been provided.
 - iv. Provide minimum of 48-hour notice to Owner and receive written notice to proceed before interrupting any utility.

E. Underground Structures

- i. Underground structures, including boulders that are encountered during excavation in the alignment and depth shown on the plan shall be adjusted, if possible, to avoid its excavation. If alignment and depth adjustment cannot be made and it becomes necessary to remove the same, the Contractor shall be paid for the additional cost incurred for removal. See section 3.3 A-C for details.
- ii. The Contractor must show to Owner or Consultant the problem encountered and receive verbal and written approval before any add-on monies will be allowed.

F. Protection of Persons and Property:

- i. Barricade open excavations occurring as part of this work and post warning lights.
- ii. Operate warning lights as recommended by authorities having jurisdiction.
- iii. Protect structures, utilities, sidewalks cart paths, pavements, curbs, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by this work. Damaged areas will be repaired to original condition at Contractors cost.

1.7 GUARANTEE

- A. For a period of one (1) year from the date of final acceptance of work performed under this Section, the Contractor shall promptly furnish and install all parts and equipment, which prove defective in material, workmanship, or installation at no additional cost to Owner.
- B. Warranty items will be repaired within 48 hours of notice of defect to the Contractor. If the item is not repaired within 48 hours, the Owner reserves the right to repair the item(s) and charge the Contractor any material and labor cost for the repair.
- C. For phased or multiple season projects and during the warranty period, the Contractor shall drain and winterize the irrigation system each fall for the winter and shall place the irrigation system back into operation each spring at no additional cost to Owner. Winterization and spring startup will occur within 48 hours of notice from the Owner. The Contractor will use a compressor rated at a minimum 750CFM to winterize the system.
- D. During the warranty period, the Contractor shall perform non-warranty work or service to the system at the Owner's request and shall be paid on a time and materials basis for such work as negotiated with the Owner.
- E. The Owner will be required to provide necessary maintenance to the system during the warranty period. Necessary maintenance is defined as items that wear with regular operation of the system.

1.8 SPECIAL PROJECT REQUIREMENTS

- A. The existing irrigation system will need to remain fully operational during the mainline installation process. All existing equipment must be operational by the end of each workday.

- B. The existing system can be taken “off-line” as the new laterals are being installed. Only the hole that has laterals being installed can be non-operational at the time. The remaining holes must remain fully automatic.
- C. Existing irrigation equipment will be removed by the installing Contractor. Heads will be removed in a manner that does not damage the integrity of the equipment. Old sprinkler heads will be removed immediately after the new heads are installed on each hole and the head hole will be filled with Contractor supplied clean backfill material. Heads located in the fairway area will be seeded with a fairway seed blend supplied by the Contractor and approved by the Owner. Refer to sheet 7 for a current irrigation as built.
- D. Included in the price of the irrigation system will be parts and labor to cross connect the existing system to the new system. An estimated (4) connections will need to occur during the duration of the project.
- E. Electric valves, quick couplers, and associated valve boxes will be removed and filled with Contractor supplied backfill material. Lateral and mainline valves will have the valve boxes removed and voids filled with Contractor supplied backfill. The Owner will retain the Ownership of the removed equipment. All areas will be seeded with a blend supplied by the Contractor and approved by the Owner.
- F. Spoil Locations – There will be several spoil locations throughout the golf course. Spoils will need to be clean and free of any PVC, concrete, and excessive organic material such as roots and sod.
- G. Existing system materials: the existing system is PVC. Depth of mainline pipe is typically 30” to 36” deep and lateral pipe 18” to 24” deep.
- H. The Contractor can work Monday through Saturday from 7:00am to 6:00pm.
- I. During spring and fall frost events, the Contractor will be allowed to begin work only after the Golf Course Superintendent has given permission to begin work. The Golf Course Superintendent may require the Contractor to work only in certain areas to minimize any frost damage.
- J. Major construction activities must be confined to one- and one-half golf holes. Major construction is defined as open trenches with pipe being installed or active pipe pulling with sprinkler heads being installed.
- K. The Contractor will need to cut the sod prior to the installation of the mainline. After the installation of the mainline pipe the trench will need to be compacted, level, and passable by golf cart traffic.

SECTION 2 – PRODUCTS

2.1 PE PIPE:

- A. 2 Inch Pipe Polyethylene pipe shall comply with ASTM D3035 or ASTM F714 and the following additional clarifications and requirements. It shall be IPS diameter, dimension ratio 11, and made from PE4710 compound. Polyethylene material shall meet ASTM D3350 code C with 2% to 3% carbon black.
- B. Any pipe, 3" and larger, that does not have wire as a component of the ditch must have a #14 AWG tracer wire installed along the entire length of the pipe run. A splice box is required for every 500' of pipe run or change of pipe direction. The tracer wire will loop into the splice box in the event the pipe routing needs to be located. The color of the tracer wire will be different than that on any other #14 wire used as a station control wire.
- C. All 2" PE will be supplied in a coiled bundle and must be uncoiled and straightened per the manufacturers recommended procedure. Pipe will be supplied in rolls no longer than 2,000'.
- D. PE pipe shall be warranted for a minimum of twenty-five (25) years to be free of defective material or workmanship by the manufacturer.
- E. Pipe will be marked with purple stripping.

2.2 PE FITTINGS:

- A. Injection Molded Butt Fusion Fittings shall comply with ASTM D3261 and the following clarifications and requirements. They shall be IPS diameter, dimension ratio 11, and made from PE4710 compound. Polyethylene material shall meet ASTM D3350 code C with 2% to 3% carbon black. Ends of fittings shall be machined to match the diameter and thickness of the pipe to which it is to be fused. Fittings shall be injection molded so that knit lines/weld lines are not present in the vicinity of the crotches of elbows or tees.
- B. Fabricated Butt Fusion Fittings shall meet the five second pressure test of AWWA C906 for fittings to be used on DR 13.5 pipe. They shall be IPS diameter, made of DR 11 or thicker pipe complying with ASTM F714, and made from PE4710 compound. Polyethylene material shall meet ASTM D3350 code C with 2% to 3% carbon black. Ends of fittings shall be machined to match the diameter and thickness of the pipe to which it is to be fused. They are to be manufactured using Data Loggers. Temperature, fusion pressure, and a graphic representation of the fusion cycle shall be part of the quality control records.
- C. Electro Fusion Fittings shall comply with ASTM F1055. They shall be IPS diameter, suitable for DR 11 service, and made from PE4710 compound. Polyethylene material shall meet ASTM D3350 code C with 2% to 3% carbon black. Branch outlets of branch saddles shall be DR 11 and machined to match the diameter and thickness of the pipe if it is to be butt fused.
- D. Socket Fusion Fittings shall comply with ASTM D2683. They shall be IPS diameter, suitable for DR 11 service, and made from PE4710 compound. Polyethylene material shall meet ASTM D3350 code C with 2% to 3% carbon black.
- E. Fittings 2" to 12" in diameter shall be injection molded in configurations for which injection molded fittings are commercially available. Fabricated fittings in these sizes may only be used with the express and prior permission of the Owner's Agent.

2.3 BRASS PIPE & FITTINGS

- A. Brass Pipe - 85% red brass, AMSI Schedule 40 screwed pipe.
- B. Fittings - Medium brass, screwed 250-pound class.

2.4 REMOTE CONTROL VALVES:

- A. Valves used in the electrically controlled automatic system shall be a globe configuration.
- B. All valves shall have an external and internal bleed for manual operation.
- C. Valves 1" and larger shall have a manual flow control.
- D. Valve size and location - refer to plan.
- E. Grouped valve boxes will be set in parallel orientation to each other.
- F. Valve boxes will be in areas that have a low visual impact/ minimal traffic to the golfer and golf hole.
- G. Only one valve allowed per valve box.

2.5 CENTRAL COMPUTER FIELD INTERFACE TO DECODER CABLE

- A. #12 AWG 2 conductor cable will be used for all trunk line communication cable from the central computer interface to the lateral isolation valve. #14 AWG 2 conductor cable will be installed from the lateral isolation valve to the sprinkler.
- B. The color of each wire path will be unique to each specific wire path.
- C. All communication wire will be manufactured by Regency Wire.

2.6 2-WIRE FIELD WIRING CABLE:

- A. Conductor construction will be tin coated, soft drawn solid strand bare copper that meets ASTM specification B-33.
- B. The cable will house 2 conductors and be insulated with a high-quality polyvinylchloride (PVC) for system applications up to 600 volts. One conductor will be insulated black, and the second conductor insulated red. Both conductors will be of the same gauge identified in the plan set. The two conductors shall be laid parallel, and pressure extruded with a solid color, linear high density, and sunlight resistant outer jacket.
- C. Each leg of communication will be of a different color to allow for easy identification of that specific leg of communication.
- D. Splices shall be made moisture proof splice kits approved by the sprinkler manufacturer. Gel filled wire splices will have a vertical orientation with the entry cap of the splice will be orientated towards the bottom of the sprinkler.
- E. All low voltage wire shall be installed from 2,500' (760 m) reels.
- F. The minimum depth of cover for all low voltage wire shall be as indicated on the detail page of the plan and the minimum depth allowed by the NEC. Wiring may be installed by a suitable trenchless installation, but wire must not be pulled through the ground. A machine with a rack for wire reels and a blade with a wire chute should be used to lay wire into ground. This method should be used only where soil conditions permit installation without damaging wire. This method may not be used if trenching is specifically called for on the Plan.

- G. Low voltage wire shall be run with or be in a common trench with piping (lateral or main). The only exception is to get from the controller to the pipeline location. The deviation from the share trench will be noted on the Contractors' field notes submitted to the Consultant.
- H. A 2-foot (60 cm) expansion loop shall be provided at each sprinkler. Expansion loop and splice shall be buried immediately below the pilot/solenoid side of the sprinkler.

2.7 SPRINKLER HEADS

- A. Sprinklers heads will be installed as shown on the detail page of the plan.
- B. The selector switch will be oriented towards the front edge of the green.
- C. Toro sprinkler head yardage caps will be furnished and installed by the Contractor. Measurements will be provided by Irrigation Technologies. Caps for Toro heads will be manufactured by J. Davis Marking Systems. Allow for up to 600 caps per 27 holes. Caps will be single yardage with yellow text or white text.
- D. Sprinkler heads will have a 5-year replacement warranty when partnered with the respective swing joint manufacturers.
- E. The Contractor will include \$3,600 in their price for Irrigation Technologies to generate a plan noting the head yardage for up to 600 sprinkler heads.
- F. Sprinkler heads will have a purple cap indicating the use of non-potable water.

2.8 LATERAL ISOLATION VALVES

- A. Lateral isolation valves shall be of the size and type called on the Plan. Connection of valves to main line and lateral pipe shall be as called for in the Construction Details. Valves shall conform to the following. Lateral Isolation Valves shall be 200 psi rated angle globe valves with integrally restrained ends. Ends shall be integrally restrained push on gasketed joint as required. Components shall be 316 Stainless Steel. joints shall be SBR Rubber and comply with ASTM F477. Internal seals shall be EPDM rubber.
 - i. Lateral isolation valves will have a 15-year parts and full labor replacement warranty.
 - ii. Lateral isolation valve will be manufactured by Harrington Corporation of Lynchburg, Virginia.

2.9 MAINLINE GATE VALVES

- A. Mainline gate valves shall be line size cast iron body with a minimum non-shock cold working pressure of 200 PSI (13.6bar). Valves shall be equipped with a 2" (50 mm) opening square operating nut unless otherwise specified on the Plan. Valves shall be fusion bonded epoxy coating that meets the AWWA C550 standard. The resilient wedge shall be ductile iron, fully encapsulated with a vulcanized EPDM rubber, and shall be drip-tight to flow in either direction. The stem shall be non-rising and made of stainless steel with minimum yield strength of 40,000psi. All bolting shall be stainless steel 304 sealed with hot melt and include anti-galling compound on all bolt threads.

Ductile Iron Gate valves shall conform to specification AWWA C509.

- B. Mainline gate valves will have a 10-year parts and full labor replacement warranty.

2.10 AIR VENT/VACUUM RELIEF VALVE

- A. The air vent/vacuum relief valve shall be installed as shown on the detail page.

2.11 CENTRAL COMPUTER HARDWARE AND SOFTWARE

- A. The Central Computer and associated equipment will be installed as per the manufacturer's recommendations and will include the following components.
 - a. Toro System
 - i. Current Version Toro Lynx central control software with 5-year NSN service plan, to include the most recent release of the premium level computer specification and the accessory kit.
 - ii. Eight (8) Hours of training with the central control software by the Toro supplier.
 - iii. Certified Central Computer and Control system startup.
 - iv. 1200 VA UPS and surge protector (computer and screen use only).
 - v. Minimum 2655 Joules surge strip (interface, printer, and radio remote system).
 - vi. Four (4) Otter Box Defender series case for iPad.
 - vii. Two (2) 32" Toro spec computer monitors for the operation of the Lynx System.
 - viii. All Toro irrigation apps are installed and configured on the iPad.
 - ix. Four (4) 10th Generation Apple 10.9" iPad tablet with 256GB of memory with Wi-Fi and cellular enable. Include twelve (12) months of Verizon or AT&T data service in the price of the device.
 - x. Brother MFC-J5855DW Ink jet printer.

2.12 QUICK COUPLING VALVES:

- A. Install quick coupling valve with restraint as per detail.

2.13 VALVE BOXES

- A. All valve boxes will be permanently branded/ hot stamped with a 2" tall One character identifier in the lid of the box. Depth of branding will be no more than 1/8 inch into the box lid. Use the following one letter indicators to identify each specific valve box. Example Shown
 - i. L– Lateral Isolation Valve
 - ii. M – Mainline Isolation Valve
 - iii. S – 2 Wire Splice box
 - iv. E - 1.5" Electric valves for Block Zone Sprinklers
 - v. E - 1" Electric Valves
 - vi. D - Drain Valve
 - vii. A - Air Release Valve
 - viii. W- Winter Quick Coupler Valve Box
- B. All valve boxes will be manufactured by Highline unless specified otherwise in the installation details.
- C. All valve boxes will have a purple/lavender lid indicating the use of non-potable water.

2.14 SLEEVES:

- A. Sleeving for all irrigation piping shall be SDR13.5 HDPE 4" diameter or 2 times the size of the irrigation pipe, whichever is larger.
- B. Sleeving for all communication and power service shall be SDR13.5 HDPE 4" diameter or 2 times the size of the irrigation pipe, whichever is larger.

- C. Sleeves will extend a minimum of 12" past any road/stream/bridge crossing unless noted otherwise on the plan.

2.15 SWING JOINTS:

- A. The swing joint shall be molded from rigid PVC, Type 1, cell classification 12454-B, conforming to ASTM D1784, with a pressure rating of 315 psi (21,7 Bars), @ 73°F (22,8°C) when tested in accordance with ASTM D3139, including 60 minutes @ 790 psi and short-term exposure of 1000 psi without leakage. All NPT threads, sockets and spigots shall be Schedule 80 per ASTM D2464 and D2467.
All components shall be factory pre-assembled, available in sizes 1", 1¼", 1½" inlet/outlet, and in lengths of 8", 12" and 18".
All rotating joints are modified stub ACME threads, with two elastomer O-rings for positive sealing and thread protection. Triple-top outlet fitting will be included on all Valve-In-Head sprinklers to facilitate precise adjustment of sprinkler height. Each size unit (1", 1¼", and 1½") shall be uniquely color-coded and boldly marked to enable easy identification.
All swing joint assemblies shall be available with any combination of NPT, BSP and ACME inlets/outlets. An enlarging outlet (no additional adapter required) for swing joints with 1" and 1¼" diameters shall be available to allow them to be used with many larger rotors. An optional reducing inlet (no additional adapters required) for 1¼" swing joints (ACME) shall be available for use with a 1½" outlet Service Tee.
All swing joints shall be designed utilizing computational fluid dynamics software, resulting in superior flow characteristics.
- B. Swing joints shall be manufactured by the respective sprinkler head manufacturer.
- C. Swing joints will have a 5-year warranty.

2.16 TURNOVER EQUIPMENT:

- A. The contractor will include the equipment listed below in the price of the irrigation system. The items listed are to be provided to Owner prior to final acceptance.
 - a. (12) valve-in-head full circle sprinkler heads & swing joints of the same type installed on the project
 - b. (12) valve-in-head part circle sprinkler heads & swing joints of the same type installed on the project
 - c. (12) block zone heads & swing joints of the same type installed on the project
 - d. (12) stream rotor head assemblies & swing joints of the same type installed on the project
 - e. (6) long handle on/off keys for the selector switch on the valve-in-head sprinklers
 - f. (2) isolation keys for the mainline isolation valves
 - g. (4) isolation keys for the lateral isolation valves
 - h. (4) isolation keys for the frost-free equipment
 - i. (2) keys to operate the mainline drain valves
 - j. (2) sets of repair tools for each type of sprinkler head installed
 - k. (12) Philmac 2" polypropylene compression repair couplings
 - l. (6) Philmac 2" polypropylene compression tee fittings
 - m. (6) Philmac 2" polypropylene compression elbows
 - n. (1) Armada Pro 951 multimeter

2.17 EQUIPMENT GROUNDING, WEATHER STATION, CENTRAL COMPUTER, ICI/MIM/FIU INTERFACE

- A. The contractor will ground all equipment as required by the manufacturer to maintain the manufacturer's warranty.
- B. The Contractor will install the grounding as specified and will test the grounding of all equipment. A grounding report will be provided to the Owner and Consultant prior to substantial completion.
- C. In the event additional grounding is required, a cost will be determined prior to additional grounding equipment being installed.
- D. It is the responsibility of the installer to connect all electronic irrigation equipment for which he is responsible to earth ground in accordance with Article 250 of the National Electrical Code (NEC.) Grounding components will include the items described in the following paragraphs, at a minimum.
- E. Use grounding electrodes that are UL listed or manufactured to meet the minimum requirements of Article 250-52 of the 1999 NEC. At the very minimum, the grounding circuit will include a copper clad steel ground rod, a solid copper ground plate and 100 pounds of PowerSet® earth contact material.
- F. The Rainbird distributor will complete ground resistance testing and reporting for each wire path on the system. Testing and reports will be completed on all truck and branch wire paths during the installation of each specific wire path. Reports will be delivered to the Owner, Irrigation Consultant and Contractor.

SECTION 3 – EXECUTION

3.1 GENERAL

- A. All material shall be new, of good quality, and of the manufacturer specified. No substitutions of material shall be made without prior written approval by the Consultant.
- B. Requests for substitution shall be submitted in writing to the Consultant at least five (5) business days before the bid date. If substitution of material is approved, it will not relieve the Contractor of the obligation to replace any defective part whether during construction or in warranty period, at Contractor's expense.
- C. All materials shall be installed per these Plans and Specifications. If the installation of certain material is not covered in these specifications, then the Contractor shall follow the Manufacturer's' installation recommendations. If the manufacturer does not supply sufficient installation methods, make this known to the Owner and Consultant, and then the installation shall follow industry standards.
- D. The Contractor will build assemblies of each installation detail for the Consultant to review and accept prior to any installation taking place. Assembly review will take place during the first equipment staking site visit.
- E. The Contractor will post one complete set of construction documents including irrigation plans and written specifications inside each storage container and office space/trailer that is on the construction site. Each crew foreman is required to read and fully understand the construction document set.
- F. All skilled positions will be staffed by people that are experienced with each specific task as it relates to the installation of a golf course irrigation system. "Labor Ready" or similar daily labor persons cannot be used in skilled positions such as pipe fitting, wiring, project supervision or machine operation. Daily labor positions are allowed only to be used in final cleanup operations after all the technical processes are complete.
- G. The sprinkler head and central computer control system manufacturer will host an on-site pre-construction meeting with the installing Contractor of no less than four (4) hours in duration, on the manufacturers recommended process and procedure to handle and connect the 2-wire cable to the sprinkler control module. The manufacturer will supply all necessary tools and people qualified to complete the training. The people providing the training will provide the Owner and Irrigation Designer with a written report of the training to include participants and topics covered during the training session.

3.2 LAYOUT

- A. It is recognized that because of the dynamic nature of golf course design and construction the golf course as-staked plan may differ substantially from the plans drawn for construction of the irrigation system. Be prepared to adjust installation of the irrigation system so that it will properly irrigate golf course features as actually constructed.

- B. The Consultant shall be responsible for locating all sprinklers on the site in advance of the Contractor's work. Sprinkler locations will be marked with a flag marker. The Contractor shall be responsible for maintaining these markers until the sprinklers are installed. Routing of the pipe shall be in accordance with the Irrigation Plan, except that the Consultant reserves the right to change the routing of pipe from that shown on the plan and to change the depth of trench and cover over the top of pipe in case of rock or other obstacles. In no event shall field changes of this nature affect the overall cost of the project except where these changes may alter the quality of materials to be provided according to the plan, or where excess depth of trench and backfill is required.
- C. The Contractor, subject to approval of the Consultant, may adjust the location of any pipeline to avoid ledge rock, stumps, or other obstacles, provided that such adjustment does not increase the quantity of pipe required and is not in conflict with the evident intent of the plan.
- D. Stakes shall be clearly marked and flagged to designate the type of equipment to be installed at each point. Stakes shall be placed accurately to allow equipment to be installed within one foot from the indicated position. Where a stake is offset from the indicated position, it shall be clearly marked to indicate the base position.
- E. The Contractor shall furnish a minimum of (1) person to assist the Consultant during each staking trip. The Contractor is responsible for maintaining the location of all staked equipment. Any stakes lost after the initial location will be re-staked by the Consultant during a future visit. Weekly site/staking visits are included; if any additional visits are required, the Contractor will incur the cost of the visit(s) to include all related travel expenses.
- F. The Contractor will furnish all the necessary pin flags required to complete the equipment staking operation. A minimum of six (6) different color flags will need to be available during the staking. The irrigation staking flags will need to be a color other than what is being used to designate golf features.
- G. The Contractor will request field staking visits ten (10) business days in advance of the requested staking date.
- H. On renovation projects, survey type marking whiskers will be installed by the contractor marking all equipment staked by the Consultant. Whiskers must be installed within 24 hours of the Consultants staking visit. Locations will need to be protected and maintained by the Contractor.

3.3 EXCAVATION AND BACKFILLING/COMPACTION:

- A. Excavation shall include all materials encountered, except materials that cannot be excavated by normal mechanical means (ROCK EXCAVATION). Rock excavation shall cover the removal of rock that requires systematic drilling and blasting or use of a Hoe-Ram for its removal and boulders exceeding 1 cubic yard in volume. Material shall be considered rock when, at the discretion of the consultant or owner's representative, the Contractor is unable to progress with a Caterpillar 311 Track-Hoe (or equivalent weight class excavator) or 85 horsepower Ditch Witch 8850 trencher (or equivalent). Hardpan, hard clay, glacial till, sandstone, siltstone, shale, or other sedimentary rocks which are soft, weathered, or extensively fissured will not be classified as rock excavation. Rock is defined as one that has a modulus of elasticity of more than 200,000 psi or unconfined compressive strength at field moisture content of more than 2,000 psi.
- B. In the event unyielding material is encountered, excavation must stop, and the Owner's Representative made aware of the situation.
- C. Contractor to supply on bid form a unit price for removal of material which cannot be excavated by normal mechanical means (ROCK). Unit price shall be by volume (cubic yard) measured in its original position (prior to excavation). The quantity measured for payment will include only the material excavated from within the limits hereinafter defined. Any additional excavation outside of these limits will be considered as having been made for the contractor's benefit, and all costs in connection with such excavation shall be included in the contract prices for the various items of work.
 - a. Horizontal limits for measuring rock excavation will be the sides of the trench, except no payment will be made for the material removed outside of vertical planes extended beyond the maximum trench widths (30" width or 1.5 times the outside diameter of the pipe plus 12", whichever is greater).
 - b. Vertical distances shall be measured from the upper surface of the rock to an elevation 4 inches below the underside of the pipe barrel, or to the lower surface of the rock, whichever is less. Boulders exceeding 1 cubic yard in volume shall be paid for according to their measured volume.

- D. Excavated trenches of sufficient depth and width to permit proper handling and installation of pipe, wire, and fittings.
- E. 2" Lateral pipe installation shall be by vibratory plow. The "bullet" will be integrated into the plow blade and oversized to minimize any potential damage to the pipe.
- F. Excavate to depths required to provide 4" depth of earth fill or sand bedding for piping when rock or other unsuitable bearing material is encountered.
- G. Fill to match adjacent grade elevations with approved earth fill material. Place and compact fill in layers not exceeding 6" per lift.
- H. Provide approved earth fill or sand to a point 4" above the top of pipe.
- I. Overfill with approved excavated or borrow fill materials free of lumps or rocks larger than 1" in any dimension. Level, compact, and water settle. Should settlement occur, refill and re-seed or sod as required.
- J. Except as indicated, install irrigation mains with a minimum cover of 32" and maximum depth of 36", based on finished grades. Install irrigation laterals with a minimum cover of 18" and maximum depth of 24" based on finished grades.
- K. Excavate trenches and install piping and fill during the same working day. Do not leave open trenches or partially filled trenches open overnight.
- L. Compaction will be achieved by a pneumatic tamping device, wheel driven vibratory compactor, or crew operated "jumping jack" compaction device. **No pile driving or "Hydra Hammer" type compactors are allowed.**
- M. All mainline, lateral lines, heads and valve boxes will be tamped to 90% compaction.
- N. Lateral "pull lines" will be flattened by a 2-ton smooth double drum hydrostatic vibratory roller and top dressed with an Owner approved dressing material. Rolling will continue until the Golf Course Superintendent and/or Consultant provide acceptance.
- O. Soil moisture will remain at optimal levels to achieve 90% compaction.
- P. Mainline trenches will require that (2) 18" widths of sod be cut before any trenching has begun.
- Q. Mainline trenches will have a 2" crown in the middle of the trench to allow for trench settling.

3.4 PIPE:

- A. Pipe and fittings shall be installed using procedures recommended by the manufacturer.
- B. Pipe and fittings shall be packaged in a manner suitable for shipment by a commercial carrier. Upon receipt at the job site, a receiving inspection shall be prepared. The quantity shall be verified, and any shipping damage shall be reported to the supplier within 7 days. Damaged fittings will be replaced with new at no cost to the Owner.
- C. Trenches shall be excavated in accordance with the plans and specifications. OSHA standards and City of Fort Collins safety policies regarding safety shall be followed regarding trench safety. If groundwater is encountered, it shall be removed by the Contractor. Shoring of the trench, where required is the responsibility of the Contractor.
- D. Transition from HDPE to PVC will be as shown on the installation detail page.
- E. Foundation & Bedding. Install pipe on grade and on a stable foundation. Unstable soil or muck shall be removed from the trench bottom. A 4" foundation or bedding of compacted native material shall be in the bottom of the

trench. The bedding material shall be free of rock and organic debris and trash. Water shall be removed from the trench before bringing the bedding material and pipe to grade and backfilling. When a trench is cut through rocky material, it shall be excavated to 4" below the pipe bottom grade and bedded with rock free material. All slabs of rock, boulders and large rocks shall be removed, and disposed of off-site by the Contractor.

- F. Pipe and Large Fitting Handling: A nylon fabric choker sling capable of safely handling the weight of the pipe or fitting, shall be used to lift, place, and move pipe and fittings.
- G. Backfilling. Class I and II backfill shall be used for pipe embedment backfill. This material shall be compacted to at least 90% Standard Proctor Density in 6" lifts.
- H. Final Backfilling. Final backfill shall be placed in the trench and compacted to finished grade. Native soils without roots, limbs, large rocks, boulders, clumps, or frozen clods or any object that could damage the pipe can be used.
- I. Scrape off the oxidized layer on the pipe using either a hand scraper or another suitable scraper tool. Do not remove more than 1% of the pipe wall thickness.
- J. If needed before fusing operations occur, re-round oval pipe with a re-rounding clamp.
- K. Clean the pipe surface and the inside of the fitting liberally with isopropyl alcohol that has a solution of 99%. Make sure the surfaces are dry before assembly.
- L. All fusion saddles will be fused according to the saddle manufacture's recommendations. All necessary tools to complete the saddle fusing will be used by the Contractor.
- M. Install fitting on pipe and firmly tighten all bolts, working in a diagonal pattern. The fitting must be flush with the pipe. Use care not to contaminate the clean fusion zone area.
- N. Assemble the pipe and fittings in a clean, supported, and physical stress-free condition as possible.
- O. Connect the fitting to the fusion processor and begin fusing. At the end of the fusing process, using a sharpie or similar silver metallic marker, record the time of day, total fusing time, cooling time and technicians' initials on the pipe next to the fitting.
- P. All personnel fusing HDPE pipe will have completed an HDPE fusion training course held by DECA, CMF Global, ISCO or other approved HDPE manufacturer. A Certificate of course completion will be required as part of the first pay request/draw.
- Q. Any personnel fusing pipe is required to have a minimum of 500 hours of verifiable fusing experience.
- R. All fusing equipment will always remain on site during the installation portion of the project.
- S. All fusing equipment will be checked for proper operation and be certified to be within OEM operational specifications prior to use on the project.
- T. The Contractor will remove any HDPE shavings from the installation process with a portable shop-vac type vacuum.
- U. All fusing equipment will have a Fluke model 62 Infrared heat gun that will be used before each butt fuse to verify that the head plate is in the correct heat range.
- V. Flanged fittings will only be used transition from the HDPE pipe to a mainline isolation valves or in situations as detailed on the construction documents. Flanged connections will not be allowed from fitting to fitting.
- W. All fused fittings will be allowed to cure for the minimum time defined by the fitting manufacturer before any valves or apparatus is attached to the fused component.

- X. The Contractor will be required to fuse pipe and saddles for the Consultant's observation during the initial staking visit. Pipe and saddles will be fused in actual operating conditions and in a quantity that is satisfactory to the Consultant. If the Contractor is not fusing pipe during the initial site visit, the Contractor will include in his price one (1) additional site visit to have the Consultant on site to observe the fusing process.
- Y. The Contractor will include in his installation price a 2-day HDPE on-site fusion seminar that will be held by the HDPE fitting manufacturer. The manufacturer will cover all aspects of the fusion process to include equipment setup, equipment operation, fusion preparation, fusion methods, identification of current field conditions, and adjustments to adapt to the current field conditions. The seminar will include all methods of fusing that will be occurring on the project site. All Contractor personnel that will be fusing are required to attend the seminar and receive a certificate of completion from the fitting manufacturers training representative.

3.5 SPRINKLERS, VALVES, FITTINGS, ACCESSORIES:

- A. Install fittings, valves, sprinkler heads, risers, and accessories in accordance with manufacturer's instructions, except as otherwise indicated.
- B. Set sprinkler heads level, except as otherwise indicated or as per manufacturer's recommendations. Sprinklers will be checked by the Contractor for level using a bubble level in two directions with 90 degrees of separation.
- C. Install quick-coupling valves in the specified valve box and on elbow swing joint assembly as per manufacturer's recommendation.
- D. Install fittings and accessories as shown or required to complete the system.
- E. Install in-ground control valves in a valve access box as indicated.
- F. All valve boxes for the lateral, mainline, drain, air release, splices, and other associated equipment will be installed during the installation of the mainline pipe.
- G. Install valve access boxes on a suitable base of gravel to provide a level foundation at proper grade and to provide drainage of the access box.
- H. Toro Infinity sprinklers will be installed with the yardage tag blank included with the sprinkler will have a perpendicular orientation to the centerline of the line of play. The intent is to allow for easy identification of the sprinkler yardage tag.

3.6 FIELD WIRING:

- A. Install electric control cable in the piping trenches wherever possible. When not possible, place wire in trench adjacent to pipe. Install wire with slack to allow for thermal expansion and contraction. Expansion joints in wire will be provided at 500-foot intervals and pipeline change of directions. Where necessary to run wire in a separate trench, provide a minimum cover of 18".
- B. Provide sufficient slack (24") at site connections at remote control valves in control boxes, and wire splices to allow raising the valve bonnet or splice to the surface without disconnecting wires when repair is required.
- C. Connect each head/remote control valve to one station of a decoder except as otherwise indicated.
- D. Make field wire connections to head/remote control electric valves and splices of wire in the field; using UL listed burial splice connectors in accordance with manufacturer's recommendations.
- E. All wiring will be installed with sufficient slack to allow the wire bundle to be moved out of the way in the event a repair is needed in that area. A minimum 60" coil will be bundled at mainline tees and angles.

- F. All low voltage wire bundles installed in the mainline trench will be taped with a black electrician's tape at 10-foot intervals.
- G. All wire splices will be performed by the same crew members during the entire project. No more than (2) crew members will be allowed to make wire splices. Crew members authorized to make wire splices will be identified at the beginning of the project.
- H. All Communication and/or control wire will be placed on the interior of the valve box during installation.

3.7 FLUSHING AND ADJUSTMENT:

- A. Adjust sprinklers after installation for proper and adequate distribution of the water over the coverage pattern. Adjust for the proper arc of coverage.
- B. Adjust all electric remote-control valve flow control stems and pressure regulating device for system balance where applicable.
- C. Test and demonstrate operation of the sprinkler system to the Owner and/or Consultant.
- D. Fully flush all piping prior to installation of the sprinkler head/ electric valve onto the swing joint.

3.8 FIELD NOTES/RECORD DRAWING/PROGRESS REPORTS:

- A. During the installation of the system, the contractor will be required to keep daily field notes showing progress made during that day. An office copy of progress will be kept in a safe, clean environment. The office copy will be made available to the Owner and/or Consultant on request.
- B. The Contractor will provide field notes to the Consultant during each site visit, and prior to each pay request. The field notes will indicate equipment installed since the previous submission of field notes.
- C. Field notes presented to the Consultant will be on the same sheet size as the documents provided to the Contractor. 11x17 for each hole or 30x42 for multiple holes/sheets.
- D. All field note documents submitted to the Consultant will include a separate sheet of decoder addresses and bar codes. The sheet will be formatted by each hole and by each golf area (green, tee, fairway, rough, native....) label. The Consultant will supply an initial IC address worksheet template to the Contractor prior to the start of decoder device installation. All decoder address sheets will be kept in a 3-ring binder in the golf course superintendents office.
- E. The Consultant will transfer the field notes on to the As-built plan and will issue an updated electronic set of As-built record drawings after each site visit or at the request of the Owner or Contractor.
- F. Record drawings will be used to verify the percentage complete for pay requests. Progress reports will be provided at the request of the Owner and or Consultant. The report will detail the progress made within the requested time frame, and any issues that have occurred during the requested time frame.

3.9 CLEANING PREMISES:

- A. The Contractor shall always keep the premises on which the work is being done, and adjoining premises, clean of rubbish caused by their work.

- B. Upon completion of the job, the Contractor shall clean up all debris caused by their work and leave the job site in a neat and clean condition.
- C. Asphalt and concrete cart paths will be swept clean of any accumulated dirt and or debris every Friday.
- D. Gravel cart paths will be kept mud free and will be overlaid with a matching gravel specification at any time that excess mud and/or rutting is created by the Contractors installation operation. The applied gravel layer will be compacted with a 5-7 hp vibratory plate compactor. The gravel layer will have a thickness of 6" and will provide a stable surface for the intended vehicle path traffic.

3.10 EQUIPMENT:

- A. The Contractor will keep all equipment used for the installation of the irrigation system in proper working condition. Any equipment leaks will be promptly repaired, and any damaged turf will be replaced due to damage caused by the leaking equipment.
- B. Equipment used on existing turf must have smooth tread tire. Bar cleat tires are not allowed on any equipment on the construction site and will be removed from the site at the Consultants request.
- C. Transport type equipment will only be driven in areas and routes as identified by the Golf Course Superintendent/Project Manager.
- D. The Contractor will furnish all necessary utility and transport vehicles for the project.
- E. Dump trucks with a load capacity of no more than 1 ton can be used to move spoils from the golf course to designated spoil locations. Any trucks used must remain on a route identified by the golf course superintendent.

3.11 ACCEPTANCE:

- A. Test and demonstrate to Owner and Designer the satisfactory operation of the system.
- B. A final inspection/walk through will consist of the follow key elements:
 - i. Central Computer Operation
 - ii. Valve Box Orientation/ Grade
 - iii. Controller Grounding/ Manual Station Operation
 - iv. Sprinkler Head Operation
 - v. As Built Review
 - vi. Trench Settlement
 - vii. Warranty documentation and contact information
 - viii. Written notification, signed by an Owner's representative and the contractor, indicating system completion in compliance with drawings, specifications, contracts, and industry standards.
- C. The Contractor shall instruct the Owner in the operation of the system, including but not limited to; sprinkler troubleshooting repair and adjustment, controller operation and programming, valve troubleshooting and repair.
- D. Upon written acceptance, the Owner will assume operation of the system. The Contractor will winterize the system during the fall of 2019 and 2020, provide startup for spring 2020 and spring 2021 during the 1-year warranty period. Winterization will be required for the entire system. The Owner will notify the Contractor 48 hours in advance of the procedure taking place. The Contractor will furnish all necessary equipment and labor to complete the operation. The Owner has the option of participating in the procedure, but this does not relieve the Contractor of any warranty liability.

- E. The sprinkler head manufacturer will provide an on-site technician to assist the Contractor with the winterization of the irrigation system during the warranty period of the system. The technician will identify the proper pressure and volume of air that is needed to properly winterize the system that prevents damage to any of the sprinkler heads. Any damaged sprinklers will be replaced under warranty.

3.12 PIPELINE TESTING AND PROCEDURE:

- A. Notify the Owner at least three (3) days in advance of testing.
- B. HDPE mainline pipe 3" and larger shall be subjected to a pressure test any time after partial backfill.
- C. HDPE pipe can be subjected to test any time after the minimum cool time, defined by the material manufacturer has been met.
- D. HDPE pipe can be subjected to test after fused components have met manufacturers recommended.
 - i. Quality Control Testing (On Site Bend Back Test)
Prior to HDPE pipe being installed in the trench, at the beginning of the job, the contractor shall cut out the first butt fusion of each pipe size. The contractor shall prepare the sample for the test in accordance with the "Job Aid/ Bend Back Testing" procedure document prepared by ISCO Industries, LLC dated Oct. 26, 06 or as revised, and in accordance with ASTM D 2657. The samples shall be tested in the presence of the Owner and / or the Consultant, all in accordance with testing procedures outlined in the ISCO document. All samples shall be labeled and saved. The purpose of the test is to determine if a good weld was made. A pass means no failures during the bend back test. This means a good weld. A break means a bad weld. Any failure shall require additional testing.
 - ii. Additional testing may be required at any time at the discretion of the Owner and/or the Consultant.
- E. Volumetric Leak Test
 - i. Provide sufficient backfill around pipe to prevent pipe movement.
 - ii. Expose couplings and fittings.
 - iii. Purge all air from the pipe before testing.
 - iv. Pipe will be tested at 125% of the working pressure.
 - v. Leakage will be defined as the quantity of water that must be supplied to maintain pressure within 5 psi and determined by the formula $L = NDP/7400$
L = Allowable leakage in gallons per hour
N = Number of joints in tested section
D = Nominal diameter of pipe in inches
P = Square root of the average test pressure during test in psi
- F. The Contractor will introduce water into the mainline pipe network to allow for seal testing of all mainline and lateral isolation valves. Valves will be required to be under pressure for a minimum of 8 hours. Any valves that do not allow for a 100% watertight seal will be replaced with new at no cost to the Owner.

SECTION 4 – UNIT PRICING, BID FORM, ALTERNATES

END OF SECTION

Schedule F - Valley Hi Golf Course

Irrigation System

Technical Specifications

July 10, 2023

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PROJECT INFORMATION/ QUALIFICATIONS

Project Scope:

The Contractor will be required to furnish and install all necessary components to irrigate the existing 18-hole golf course, driving range and practice facility. The plans that accompany these technical specifications identify the equipment needed, approximate quantities and locations for the equipment.

Project Needs:

The following is a summary of the work for the Project:

1. Mainline Irrigation Piping Approximately 23,000 linear feet 6" to 12" in diameter, buried to a depth of 30" from top of pipe, or as noted, High density polyethylene pipe (HDPE), to be installed via track type or rubber tire 150hp (minimum horsepower) trencher.
2. Lateral Irrigation Piping Approximately 78,000 linear feet 2" diameter buried to a depth of 18" from top of pipe, High density polyethylene pipe (HDPE), to be installed via 80hp rubber tire/track vibratory plow.
3. Mainline Isolation Valves Push on style with restraints, fusion bond epoxy coated ductile iron body resilient wedge gate valves on the large diameter pipe (6"-10") and fusion bond epoxy coated ductile iron body EPDM valve seal.
4. Control System 2 Wire control system connected to a new central control software package and weather station.
5. Approximate Sprinkler Quantity 1,500 golf body sprinklers, 160, block zone sprinklers, (27) 1.5" electric valves, and (19) winter watering hydrants/ quick couplers.
6. Pump Stations Furnish and install (1) Watertronics branded vertical turbine pump station, 72" pre-cast concrete wet well, intake pipe and concrete slab. Demolish the existing building and remove the (2) 60" concrete wet wells. Colorado Springs Utilities (CSU) will be re-lining the existing pond. The irrigation Contractor will need to coordinate the installation of the intake pipe and wet well with CSU.

A. Constraints:

1. The Contractor will be required to have the keep the same crew for the duration of the project.
2. The Contractor will staff only crew that have extensive experience installing a new irrigation system on an existing 18-hole facilities of similar size and system scope.

3. The Contractor will staff only crew with extensive and verifiable experience with the handling and installation of high-density polyethylene pipe (HDPE) and associated materials found in golf irrigation renovation projects.
4. The Contractor will staff only crew that have extensive and verifiable experience with 2 wire control systems. Identify product brand and solenoid count of each project. A minimum of (4) 2 wire projects completed in the last 2 years that are 18 holes or greater.

1.1 SCOPE

- A. The Contractor shall provide all labor, products, materials, associated materials (whether specified or not), equipment, transportation, and supervision required to construct the irrigation system including, but not limited to:
- i. Valves, mechanical and electric.
 - ii. Field wiring.
 - iii. Piping, mainline and lateral.
 - iv. Sprinkler heads, quick coupling valves, controller devices, and drip irrigation.
 - v. Pump stations and associated infrastructure.

1.2 SUBMITTALS AND SUBSTITUTIONS

- A. The Irrigation system shall be installed with specified components or approved equal equipment, including sprinkler heads, controllers, subsurface irrigation components and valves. Another manufacturer may be substituted provided they have received an "approved equal" status prior to bidding based on the substitution process established herein.
- B. Submittal for substitutions shall meet said addendum process and include any new hydraulic calculations and equipment locations.
- C. Substitution calculations and locations shall be proposed in writing and to scale for irrigation specifiers evaluation.
- D. Substitutions shall be submitted prior to bidding based on the substitution process herein.
- E. Materials, equipment, and methods of installation shall comply with, but are not limited to, the following codes and standards:
- i. All local and state laws and ordinances, and with all the established codes applicable thereto.
 - ii. National Electrical Code.
 - iii. American Society for Testing and Materials (ASTM).
 - iv. National Sanitation Foundation (NSF).
 - v. AWWA
- F. All materials submitted will be assembled in an electronic PDF format separated by each component. The Contractor will submit the electronic binder to the Consultant for review. Include a cut sheet of each component along with the warranty information for the product, the Supplier of the product, and a preventative maintenance practices manual for the piece of equipment. The Consultant will review the binder and may request additional information from the Contractor. The submittal package will be approved when the Consultant deems all necessary information has been provided. The Contractor will then assemble one printed and bound submittal book for the Owner. The document must be assembled and approved prior to the initial site visit of the irrigation designer.
- G. The Contractor will provide a proposed construction schedule for the project. The schedule will be developed to allow for continued operation of the existing system with transition to the operation of the new system. The Contractor will be required to have the central computer operational prior to the installation of any lateral pipe.

1.3 CONDUCT OF WORK

- A. The Contractor shall maintain a skilled superintendent on the site during the entire installation of his work. The Superintendent shall have the authority to act on all matters pertaining to the work.
- B. The assigned Superintendent and Crew Foreman will be required to complete the project through its entirety.

1.4 RIGHTS OF WAY

- A. The Contractor shall acquire the necessary right of way or lawful authority that may be necessary for approved crossings or occupation of any roads, street, or alleys upon which the Contractor work will be completed.

1.5 DELIVERIES, HANDLING AND STORAGE

- A. Materials shall be delivered to the site in accordance with the manufacturer's recommendations for shipment and protection of materials.
- B. Handling of materials as recommended by the manufacturer.
- C. Storage of all materials in locations designated and approved by the Owner.
- D. All materials are required to be contained within a locked storage container located within a fenced compound that will be secured during non-construction hours.
- E. The Contractor will provide adequate restroom and refuse facilities for their staff during the entire duration of the project.
- F. The Contractors staging area will be always kept clean and remove all refuse generated from packing materials and scrap generated during the installation of the project. The staging area will be returned to its original level of cleanliness or better at the completion of the project.

1.6 SITE CONDITIONS

- A. Take precautions to ensure that equipment and vehicles do not disturb or damage existing site grading, walks, curbs, pavements, utilities, plants, and other existing items and elements on public and private property.
- B. Verify locations and depths of all underground utilities prior to commencing excavation.
- C. Repair damage caused by Contractor's actions at no cost to the Owner.
- D. Existing Utilities:
 - i. Locate and mark all existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of support and protection during this work.
 - ii. Public and/or private underground utilities that are unknown and not located that are damaged during the excavation processes shall be repaired at the Owners expense.
 - iii. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult Owner immediately for directions. Cooperate with the Owner. Do not interrupt existing utilities serving facilities occupied and used by Owner or others during occupied hours, except when permitted in writing by Owner and then, only after acceptable temporary utility services have been provided.
 - iv. Provide minimum of 48-hour notice to Owner and receive written notice to proceed before interrupting any utility.

E. Underground Structures

- i. Underground structures, including boulders that are encountered during excavation in the alignment and depth shown on the plan shall be adjusted, if possible, to avoid its excavation. If alignment and depth adjustment cannot be made and it becomes necessary to remove the same, the Contractor shall be paid for the additional cost incurred for removal. See section 3.3 A-C for details.
- ii. The Contractor must show to Owner or Consultant the problem encountered and receive verbal and written approval before any add-on monies will be allowed.

F. Protection of Persons and Property:

- i. Barricade open excavations occurring as part of this work and post warning lights.
- ii. Operate warning lights as recommended by authorities having jurisdiction.
- iii. Protect structures, utilities, sidewalks cart paths, pavements, curbs, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by this work. Damaged areas will be repaired to original condition at Contractors cost.

1.7 GUARANTEE

- A. For a period of one (1) year from the date of final acceptance of work performed under this Section, the Contractor shall promptly furnish and install all parts and equipment, which prove defective in material, workmanship, or installation at no additional cost to Owner.
- B. Warranty items will be repaired within 48 hours of notice of defect to the Contractor. If the item is not repaired within 48 hours, the Owner reserves the right to repair the item(s) and charge the Contractor any material and labor cost for the repair.
- C. For phased or multiple season projects and during the warranty period, the Contractor shall drain and winterize the irrigation system each fall for the winter and shall place the irrigation system back into operation each spring at no additional cost to Owner. Winterization and spring startup will occur within 48 hours of notice from the Owner. The Contractor will use a compressor rated at a minimum 750CFM to winterize the system.
- D. During the warranty period, the Contractor shall perform non-warranty work or service to the system at the Owner's request and shall be paid on a time and materials basis for such work as negotiated with the Owner.
- E. The Owner will be required to provide necessary maintenance to the system during the warranty period. Necessary maintenance is defined as items that wear with regular operation of the system.

1.8 SPECIAL PROJECT REQUIREMENTS

- A. The existing irrigation system will need to remain fully operational during the mainline installation process. All existing equipment must be operational by the end of each workday.

- B. The existing system can be taken “off-line” as the new laterals are being installed. Only the hole that has laterals being installed can be non-operational at the time. The remaining holes must remain fully automatic.
- C. Existing irrigation equipment will be removed by the installing Contractor. Heads will be removed in a manner that does not damage the integrity of the equipment. Old sprinkler heads will be removed immediately after the new heads are installed on each hole and the head hole will be filled with Contractor supplied clean backfill material. Heads located in the fairway area will be seeded with a fairway seed blend supplied by the Contractor and approved by the Owner. Refer to sheet 7 for a current irrigation as built.
- D. Included in the price of the irrigation system will be parts and labor to cross connect the existing system to the new system. An estimated (3) connections will need to occur during the duration of the project.
- E. Electric valves, quick couplers, and associated valve boxes will be removed and filled with Contractor supplied backfill material. Lateral and mainline valves will have the valve boxes removed and voids filled with Contractor supplied backfill. The Owner will retain the Ownership of the removed equipment. All areas will be seeded with a blend supplied by the Contractor and approved by the Owner.
- F. Spoil Locations – There will be several spoil locations throughout the golf course. Spoils will need to be clean and free of any PVC, concrete, and excessive organic material such as roots and sod.
- G. Existing system materials: the existing system is PVC. Depth of mainline pipe is typically 30” to 36” deep and lateral pipe 18” to 24” deep.
- H. The Contractor can work Monday through Saturday from 7:00am to 6:00pm.
- I. During spring and fall frost events, the Contractor will be allowed to begin work only after the Golf Course Superintendent has given permission to begin work. The Golf Course Superintendent may require the Contractor to work only in certain areas to minimize any frost damage.
- J. Major construction activities must be confined to one- and one-half golf holes. Major construction is defined as open trenches with pipe being installed or active pipe pulling with sprinkler heads being installed.
- K. The Contractor will need to cut the sod prior to the installation of the mainline. After the installation of the mainline pipe the trench will need to be compacted, level, and passable by golf cart traffic.

SECTION 2 – PRODUCTS

2.1 PE PIPE:

- A. 2 Inch Pipe Polyethylene pipe shall comply with ASTM D3035 or ASTM F714 and the following additional clarifications and requirements. It shall be IPS diameter, dimension ratio 11, and made from PE4710 compound. Polyethylene material shall meet ASTM D3350 code C with 2% to 3% carbon black.
- B. Any pipe, 3" and larger, that does not have wire as a component of the ditch must have a #14 AWG tracer wire installed along the entire length of the pipe run. A splice box is required for every 500' of pipe run or change of pipe direction. The tracer wire will loop into the splice box in the event the pipe routing needs to be located. The color of the tracer wire will be different than that on any other #14 wire used as a station control wire.
- C. All 2" PE will be supplied in a coiled bundle and must be uncoiled and straightened per the manufacturers recommended procedure. Pipe will be supplied in rolls no longer than 2,000'.
- D. PE pipe shall be warranted for a minimum of twenty-five (25) years to be free of defective material or workmanship by the manufacturer.
- E. Pipe will be marked with purple stripping.

2.2 PE FITTINGS:

- A. Injection Molded Butt Fusion Fittings shall comply with ASTM D3261 and the following clarifications and requirements. They shall be IPS diameter, dimension ratio 11, and made from PE4710 compound. Polyethylene material shall meet ASTM D3350 code C with 2% to 3% carbon black. Ends of fittings shall be machined to match the diameter and thickness of the pipe to which it is to be fused. Fittings shall be injection molded so that knit lines/weld lines are not present in the vicinity of the crotches of elbows or tees.
- B. Fabricated Butt Fusion Fittings shall meet the five second pressure test of AWWA C906 for fittings to be used on DR 13.5 pipe. They shall be IPS diameter, made of DR 11 or thicker pipe complying with ASTM F714, and made from PE4710 compound. Polyethylene material shall meet ASTM D3350 code C with 2% to 3% carbon black. Ends of fittings shall be machined to match the diameter and thickness of the pipe to which it is to be fused. They are to be manufactured using Data Loggers. Temperature, fusion pressure, and a graphic representation of the fusion cycle shall be part of the quality control records.
- C. Electro Fusion Fittings shall comply with ASTM F1055. They shall be IPS diameter, suitable for DR 11 service, and made from PE4710 compound. Polyethylene material shall meet ASTM D3350 code C with 2% to 3% carbon black. Branch outlets of branch saddles shall be DR 11 and machined to match the diameter and thickness of the pipe if it is to be butt fused.
- D. Socket Fusion Fittings shall comply with ASTM D2683. They shall be IPS diameter, suitable for DR 11 service, and made from PE4710 compound. Polyethylene material shall meet ASTM D3350 code C with 2% to 3% carbon black.
- E. Fittings 2" to 12" in diameter shall be injection molded in configurations for which injection molded fittings are commercially available. Fabricated fittings in these sizes may only be used with the express and prior permission of the Owner's Agent.

2.3 BRASS PIPE & FITTINGS

- A. Brass Pipe - 85% red brass, AMSI Schedule 40 screwed pipe.
- B. Fittings - Medium brass, screwed 250-pound class.

2.4 REMOTE CONTROL VALVES:

- A. Valves used in the electrically controlled automatic system shall be a globe configuration.
- B. All valves shall have an external and internal bleed for manual operation.
- C. Valves 1" and larger shall have a manual flow control.
- D. Valve size and location - refer to plan.
- E. Grouped valve boxes will be set in parallel orientation to each other.
- F. Valve boxes will be in areas that have a low visual impact/ minimal traffic to the golfer and golf hole.
- G. Only one valve allowed per valve box.

2.5 CENTRAL COMPUTER FIELD INTERFACE TO DECODER CABLE

- A. #12 AWG 2 conductor cable will be used for all trunk line communication cable from the central computer interface to the lateral isolation valve. #14 AWG 2 conductor cable will be installed from the lateral isolation valve to the sprinkler.
- B. The color of each wire path will be unique to each specific wire path.
- C. All communication wire will be manufactured by Regency Wire.

2.6 2-WIRE FIELD WIRING CABLE:

- A. Conductor construction will be tin coated, soft drawn solid strand bare copper that meets ASTM specification B-33.
- B. The cable will house 2 conductors and be insulated with a high-quality polyvinylchloride (PVC) for system applications up to 600 volts. One conductor will be insulated black, and the second conductor insulated red. Both conductors will be of the same gauge identified in the plan set. The two conductors shall be laid parallel, and pressure extruded with a solid color, linear high density, and sunlight resistant outer jacket.
- C. Each leg of communication will be of a different color to allow for easy identification of that specific leg of communication.
- D. Splices shall be made moisture proof splice kits approved by the sprinkler manufacturer. Gel filled wire splices will have a vertical orientation with the entry cap of the splice will be orientated towards the bottom of the sprinkler.
- E. All low voltage wire shall be installed from 2,500' (760 m) reels.
- F. The minimum depth of cover for all low voltage wire shall be as indicated on the detail page of the plan and the minimum depth allowed by the NEC. Wiring may be installed by a suitable trenchless installation, but wire must not be pulled through the ground. A machine with a rack for wire reels and a blade with a wire chute should be used to lay wire into ground. This method should be used only where soil conditions permit installation without damaging wire. This method may not be used if trenching is specifically called for on the Plan.

- G. Low voltage wire shall be run with or be in a common trench with piping (lateral or main). The only exception is to get from the controller to the pipeline location. The deviation from the share trench will be noted on the Contractors' field notes submitted to the Consultant.
- H. A 2-foot (60 cm) expansion loop shall be provided at each sprinkler. Expansion loop and splice shall be buried immediately below the pilot/solenoid side of the sprinkler.

2.7 SPRINKLER HEADS

- A. Sprinklers heads will be installed as shown on the detail page of the plan.
- B. The selector switch will be oriented towards the front edge of the green.
- C. Toro sprinkler head yardage caps will be furnished and installed by the Contractor. Measurements will be provided by Irrigation Technologies. Caps for Toro heads will be manufactured by J. Davis Marking Systems. Allow for up to 400 caps per 18 holes. Caps will be single yardage with yellow text or white text.
- D. Sprinkler heads will have a 5-year replacement warranty when partnered with the respective swing joint manufacturers.
- E. The Contractor will include \$2,400 in their price for Irrigation Technologies to generate a plan noting the head yardage for up to 400 sprinkler heads.
- F. Sprinkler heads will have a purple cap indicating the use of non-potable water.

2.8 LATERAL ISOLATION VALVES

- A. Lateral isolation valves shall be of the size and type called on the Plan. Connection of valves to main line and lateral pipe shall be as called for in the Construction Details. Valves shall conform to the following. Lateral Isolation Valves shall be 200 psi rated angle globe valves with integrally restrained ends. Ends shall be integrally restrained push on gasketed joint as required. Components shall be 316 Stainless Steel. joints shall be SBR Rubber and comply with ASTM F477. Internal seals shall be EPDM rubber.
 - i. Lateral isolation valves will have a 15-year parts and full labor replacement warranty.
 - ii. Lateral isolation valve will be manufactured by Harrington Corporation of Lynchburg, Virginia.

2.9 MAINLINE GATE VALVES

- A. Mainline gate valves shall be line size cast iron body with a minimum non-shock cold working pressure of 200 PSI (13.6bar). Valves shall be equipped with a 2" (50 mm) opening square operating nut unless otherwise specified on the Plan. Valves shall be fusion bonded epoxy coating that meets the AWWA C550 standard. The resilient wedge shall be ductile iron, fully encapsulated with a vulcanized EPDM rubber, and shall be drip-tight to flow in either direction. The stem shall be non-rising and made of stainless steel with minimum yield strength of 40,000psi. All bolting shall be stainless steel 304 sealed with hot melt and include anti-galling compound on all bolt threads.

Ductile Iron Gate valves shall conform to specification AWWA C509.

- B. Mainline gate valves will have a 10-year parts and full labor replacement warranty.

2.10 AIR VENT/VACUUM RELIEF VALVE

- A. The air vent/vacuum relief valve shall be installed as shown on the detail page.

2.11 CENTRAL COMPUTER HARDWARE AND SOFTWARE

- A. The Central Computer and associated equipment will be installed as per the manufacturer's recommendations and will include the following components.
 - a. Toro System
 - i. Current Version Toro Lynx central control software with 5-year NSN service plan, to include the most recent release of the premium level computer specification and the accessory kit.
 - ii. Eight (8) Hours of training with the central control software by the Toro supplier.
 - iii. Certified Central Computer and Control system startup.
 - iv. 1200 VA UPS and surge protector (computer and screen use only).
 - v. Minimum 2655 Joules surge strip (interface, printer, and radio remote system).
 - vi. Two (2) Otter Box Defender series case for iPad.
 - vii. Two (2) 32" Toro spec computer monitors for the operation of the Lynx System.
 - viii. All Toro irrigation apps are installed and configured on the iPad.
 - ix. Two (2) 10th Generation Apple 10.9" iPad tablet with 256GB of memory with Wi-Fi and cellular enable. Include twelve (12) months of Verizon or AT&T data service in the price of the device.
 - x. Brother MFC-J5855DW Ink jet printer.

2.12 QUICK COUPLING VALVES:

- A. Install quick coupling valve with restraint as per detail.

2.13 VALVE BOXES

- A. All valve boxes will be permanently branded/ hot stamped with a 2" tall One character identifier in the lid of the box. Depth of branding will be no more than 1/8 inch into the box lid. Use the following one letter indicators to identify each specific valve box. Example Shown
 - i. L- Lateral Isolation Valve
 - ii. M - Mainline Isolation Valve
 - iii. S - 2 Wire Splice box
 - iv. E - 1.5" Electric valves for Block Zone Sprinklers
 - v. E - 1" Electric Valves
 - vi. D - Drain Valve
 - vii. A - Air Release Valve
 - viii. W- Winter Quick Coupler Valve Box
- B. All valve boxes will be manufactured by Highline unless specified otherwise in the installation details.
- C. All valve boxes will have a purple/lavender lid indicating the use of non-potable water.

2.14 SLEEVES:

- A. Sleeving for all irrigation piping shall be SDR13.5 HDPE 4" diameter or 2 times the size of the irrigation pipe, whichever is larger.
- B. Sleeving for all communication and power service shall be SDR13.5 HDPE 4" diameter or 2 times the size of the irrigation pipe, whichever is larger.

- C. Sleeves will extend a minimum of 12" past any road/stream/bridge crossing unless noted otherwise on the plan.

2.15 SWING JOINTS:

- A. The swing joint shall be molded from rigid PVC, Type 1, cell classification 12454-B, conforming to ASTM D1784, with a pressure rating of 315 psi (21,7 Bars), @ 73°F (22,8°C) when tested in accordance with ASTM D3139, including 60 minutes @ 790 psi and short-term exposure of 1000 psi without leakage. All NPT threads, sockets and spigots shall be Schedule 80 per ASTM D2464 and D2467.
All components shall be factory pre-assembled, available in sizes 1", 1¼", 1½" inlet/outlet, and in lengths of 8", 12" and 18".
All rotating joints are modified stub ACME threads, with two elastomer O-rings for positive sealing and thread protection. Triple-top outlet fitting will be included on all Valve-In-Head sprinklers to facilitate precise adjustment of sprinkler height. Each size unit (1", 1¼", and 1½") shall be uniquely color-coded and boldly marked to enable easy identification.
All swing joint assemblies shall be available with any combination of NPT, BSP and ACME inlets/outlets. An enlarging outlet (no additional adapter required) for swing joints with 1" and 1¼" diameters shall be available to allow them to be used with many larger rotors. An optional reducing inlet (no additional adapters required) for 1¼" swing joints (ACME) shall be available for use with a 1½" outlet Service Tee.
All swing joints shall be designed utilizing computational fluid dynamics software, resulting in superior flow characteristics.
- B. Swing joints shall be manufactured by the respective sprinkler head manufacturer.
- C. Swing joints will have a 5-year warranty.

2.16 TURNOVER EQUIPMENT:

- A. The contractor will include the equipment listed below in the price of the irrigation system. The items listed are to be provided to Owner prior to final acceptance.
 - a. (8) valve-in-head full circle sprinkler heads & swing joints of the same type installed on the project
 - b. (8) valve-in-head part circle sprinkler heads & swing joints of the same type installed on the project
 - c. (8) block zone heads & swing joints of the same type installed on the project
 - d. (4) stream rotor head assemblies & swing joints of the same type installed on the project
 - e. (4) long handle on/off keys for the selector switch on the valve-in-head sprinklers
 - f. (2) isolation keys for the mainline isolation valves
 - g. (2) isolation keys for the lateral isolation valves
 - h. (2) isolation keys for the frost-free equipment
 - i. (1) keys to operate the mainline drain valves
 - j. (2) sets of repair tools for each type of sprinkler head installed
 - k. (10) Philmac 2" polypropylene compression repair couplings
 - l. (4) Philmac 2" polypropylene compression tee fittings
 - m. (4) Philmac 2" polypropylene compression elbows
 - n. (1) Armada Pro 951 multimeter

2.17 EQUIPMENT GROUNDING, WEATHER STATION, CENTRAL COMPUTER, ICI/MIM/FIU INTERFACE

- A. The contractor will ground all equipment as required by the manufacturer to maintain the manufacturer's warranty.
- B. The Contractor will install the grounding as specified and will test the grounding of all equipment. A grounding report will be provided to the Owner and Consultant prior to substantial completion.
- C. In the event additional grounding is required, a cost will be determined prior to additional grounding equipment being installed.
- D. It is the responsibility of the installer to connect all electronic irrigation equipment for which he is responsible to earth ground in accordance with Article 250 of the National Electrical Code (NEC.) Grounding components will include the items described in the following paragraphs, at a minimum.
- E. Use grounding electrodes that are UL listed or manufactured to meet the minimum requirements of Article 250-52 of the 1999 NEC. At the very minimum, the grounding circuit will include a copper clad steel ground rod, a solid copper ground plate and 100 pounds of PowerSet® earth contact material.
- F. The Rainbird distributor will complete ground resistance testing and reporting for each wire path on the system. Testing and reports will be completed on all truck and branch wire paths during the installation of each specific wire path. Reports will be delivered to the Owner, Irrigation Consultant and Contractor.

SECTION 3 – EXECUTION

3.1 GENERAL

- A. All material shall be new, of good quality, and of the manufacturer specified. No substitutions of material shall be made without prior written approval by the Consultant.
- B. Requests for substitution shall be submitted in writing to the Consultant at least five (5) business days before the bid date. If substitution of material is approved, it will not relieve the Contractor of the obligation to replace any defective part whether during construction or in warranty period, at Contractor's expense.
- C. All materials shall be installed per these Plans and Specifications. If the installation of certain material is not covered in these specifications, then the Contractor shall follow the Manufacturer's' installation recommendations. If the manufacturer does not supply sufficient installation methods, make this known to the Owner and Consultant, and then the installation shall follow industry standards.
- D. The Contractor will build assemblies of each installation detail for the Consultant to review and accept prior to any installation taking place. Assembly review will take place during the first equipment staking site visit.
- E. The Contractor will post one complete set of construction documents including irrigation plans and written specifications inside each storage container and office space/trailer that is on the construction site. Each crew foreman is required to read and fully understand the construction document set.
- F. All skilled positions will be staffed by people that are experienced with each specific task as it relates to the installation of a golf course irrigation system. "Labor Ready" or similar daily labor persons cannot be used in skilled positions such as pipe fitting, wiring, project supervision or machine operation. Daily labor positions are allowed only to be used in final cleanup operations after all the technical processes are complete.
- G. The sprinkler head and central computer control system manufacturer will host an on-site pre-construction meeting with the installing Contractor of no less than four (4) hours in duration, on the manufacturers recommended process and procedure to handle and connect the 2-wire cable to the sprinkler control module. The manufacturer will supply all necessary tools and people qualified to complete the training. The people providing the training will provide the Owner and Irrigation Designer with a written report of the training to include participants and topics covered during the training session.

3.2 LAYOUT

- A. It is recognized that because of the dynamic nature of golf course design and construction the golf course as-staked plan may differ substantially from the plans drawn for construction of the irrigation system. Be prepared to adjust installation of the irrigation system so that it will properly irrigate golf course features as actually constructed.

- B. The Consultant shall be responsible for locating all sprinklers on the site in advance of the Contractor's work. Sprinkler locations will be marked with a flag marker. The Contractor shall be responsible for maintaining these markers until the sprinklers are installed. Routing of the pipe shall be in accordance with the Irrigation Plan, except that the Consultant reserves the right to change the routing of pipe from that shown on the plan and to change the depth of trench and cover over the top of pipe in case of rock or other obstacles. In no event shall field changes of this nature affect the overall cost of the project except where these changes may alter the quality of materials to be provided according to the plan, or where excess depth of trench and backfill is required.
- C. The Contractor, subject to approval of the Consultant, may adjust the location of any pipeline to avoid ledge rock, stumps, or other obstacles, provided that such adjustment does not increase the quantity of pipe required and is not in conflict with the evident intent of the plan.
- D. Stakes shall be clearly marked and flagged to designate the type of equipment to be installed at each point. Stakes shall be placed accurately to allow equipment to be installed within one foot from the indicated position. Where a stake is offset from the indicated position, it shall be clearly marked to indicate the base position.
- E. The Contractor shall furnish a minimum of (1) person to assist the Consultant during each staking trip. The Contractor is responsible for maintaining the location of all staked equipment. Any stakes lost after the initial location will be re-staked by the Consultant during a future visit. Weekly site/staking visits are included; if any additional visits are required, the Contractor will incur the cost of the visit(s) to include all related travel expenses.
- F. The Contractor will furnish all the necessary pin flags required to complete the equipment staking operation. A minimum of six (6) different color flags will need to be available during the staking. The irrigation staking flags will need to be a color other than what is being used to designate golf features.
- G. The Contractor will request field staking visits ten (10) business days in advance of the requested staking date.
- H. On renovation projects, survey type marking whiskers will be installed by the contractor marking all equipment staked by the Consultant. Whiskers must be installed within 24 hours of the Consultants staking visit. Locations will need to be protected and maintained by the Contractor.

3.3 EXCAVATION AND BACKFILLING/COMPACTION:

- A. Excavation shall include all materials encountered, except materials that cannot be excavated by normal mechanical means (ROCK EXCAVATION). Rock excavation shall cover the removal of rock that requires systematic drilling and blasting or use of a Hoe-Ram for its removal and boulders exceeding 1 cubic yard in volume. Material shall be considered rock when, at the discretion of the consultant or owner's representative, the Contractor is unable to progress with a Caterpillar 311 Track-Hoe (or equivalent weight class excavator) or 85 horsepower Ditch Witch 8850 trencher (or equivalent). Hardpan, hard clay, glacial till, sandstone, siltstone, shale, or other sedimentary rocks which are soft, weathered, or extensively fissured will not be classified as rock excavation. Rock is defined as one that has a modulus of elasticity of more than 200,000 psi or unconfined compressive strength at field moisture content of more than 2,000 psi.
- B. In the event unyielding material is encountered, excavation must stop, and the Owner's Representative made aware of the situation.
- C. Contractor to supply on bid form a unit price for removal of material which cannot be excavated by normal mechanical means (ROCK). Unit price shall be by volume (cubic yard) measured in its original position (prior to excavation). The quantity measured for payment will include only the material excavated from within the limits hereinafter defined. Any additional excavation outside of these limits will be considered as having been made for the contractor's benefit, and all costs in connection with such excavation shall be included in the contract prices for the various items of work.
 - a. Horizontal limits for measuring rock excavation will be the sides of the trench, except no payment will be made for the material removed outside of vertical planes extended beyond the maximum trench widths (30" width or 1.5 times the outside diameter of the pipe plus 12", whichever is greater).
 - b. Vertical distances shall be measured from the upper surface of the rock to an elevation 4 inches below the underside of the pipe barrel, or to the lower surface of the rock, whichever is less. Boulders exceeding 1 cubic yard in volume shall be paid for according to their measured volume.

- D. Excavated trenches of sufficient depth and width to permit proper handling and installation of pipe, wire, and fittings.
- E. 2" Lateral pipe installation shall be by vibratory plow. The "bullet" will be integrated into the plow blade and oversized to minimize any potential damage to the pipe.
- F. Excavate to depths required to provide 4" depth of earth fill or sand bedding for piping when rock or other unsuitable bearing material is encountered.
- G. Fill to match adjacent grade elevations with approved earth fill material. Place and compact fill in layers not exceeding 6" per lift.
- H. Provide approved earth fill or sand to a point 4" above the top of pipe.
- I. Overfill with approved excavated or borrow fill materials free of lumps or rocks larger than 1" in any dimension. Level, compact, and water settle. Should settlement occur, refill and re-seed or sod as required.
- J. Except as indicated, install irrigation mains with a minimum cover of 32" and maximum depth of 36", based on finished grades. Install irrigation laterals with a minimum cover of 18" and maximum depth of 24" based on finished grades.
- K. Excavate trenches and install piping and fill during the same working day. Do not leave open trenches or partially filled trenches open overnight.
- L. Compaction will be achieved by a pneumatic tamping device, wheel driven vibratory compactor, or crew operated "jumping jack" compaction device. **No pile driving or "Hydra Hammer" type compactors are allowed.**
- M. All mainline, lateral lines, heads and valve boxes will be tamped to 90% compaction.
- N. Lateral "pull lines" will be flattened by a 2-ton smooth double drum hydrostatic vibratory roller and top dressed with an Owner approved dressing material. Rolling will continue until the Golf Course Superintendent and/or Consultant provide acceptance.
- O. Soil moisture will remain at optimal levels to achieve 90% compaction.
- P. Mainline trenches will require that (2) 18" widths of sod be cut before any trenching has begun.
- Q. Mainline trenches will have a 2" crown in the middle of the trench to allow for trench settling.

3.4 PIPE:

- A. Pipe and fittings shall be installed using procedures recommended by the manufacturer.
- B. Pipe and fittings shall be packaged in a manner suitable for shipment by a commercial carrier. Upon receipt at the job site, a receiving inspection shall be prepared. The quantity shall be verified, and any shipping damage shall be reported to the supplier within 7 days. Damaged fittings will be replaced with new at no cost to the Owner.
- C. Trenches shall be excavated in accordance with the plans and specifications. OSHA standards and City of Fort Collins safety policies regarding safety shall be followed regarding trench safety. If groundwater is encountered, it shall be removed by the Contractor. Shoring of the trench, where required is the responsibility of the Contractor.
- D. Transition from HDPE to PVC will be as shown on the installation detail page.
- E. Foundation & Bedding. Install pipe on grade and on a stable foundation. Unstable soil or muck shall be removed from the trench bottom. A 4" foundation or bedding of compacted native material shall be in the bottom of the

trench. The bedding material shall be free of rock and organic debris and trash. Water shall be removed from the trench before bringing the bedding material and pipe to grade and backfilling. When a trench is cut through rocky material, it shall be excavated to 4" below the pipe bottom grade and bedded with rock free material. All slabs of rock, boulders and large rocks shall be removed, and disposed of off-site by the Contractor.

- F. Pipe and Large Fitting Handling: A nylon fabric choker sling capable of safely handling the weight of the pipe or fitting, shall be used to lift, place, and move pipe and fittings.
- G. Backfilling. Class I and II backfill shall be used for pipe embedment backfill. This material shall be compacted to at least 90% Standard Proctor Density in 6" lifts.
- H. Final Backfilling. Final backfill shall be placed in the trench and compacted to finished grade. Native soils without roots, limbs, large rocks, boulders, clumps, or frozen clods or any object that could damage the pipe can be used.
- I. Scrape off the oxidized layer on the pipe using either a hand scraper or another suitable scraper tool. Do not remove more than 1% of the pipe wall thickness.
- J. If needed before fusing operations occur, re-round oval pipe with a re-rounding clamp.
- K. Clean the pipe surface and the inside of the fitting liberally with isopropyl alcohol that has a solution of 99%. Make sure the surfaces are dry before assembly.
- L. All fusion saddles will be fused according to the saddle manufacture's recommendations. All necessary tools to complete the saddle fusing will be used by the Contractor.
- M. Install fitting on pipe and firmly tighten all bolts, working in a diagonal pattern. The fitting must be flush with the pipe. Use care not to contaminate the clean fusion zone area.
- N. Assemble the pipe and fittings in a clean, supported, and physical stress-free condition as possible.
- O. Connect the fitting to the fusion processor and begin fusing. At the end of the fusing process, using a sharpie or similar silver metallic marker, record the time of day, total fusing time, cooling time and technicians' initials on the pipe next to the fitting.
- P. All personnel fusing HDPE pipe will have completed an HDPE fusion training course held by DECA, CMF Global, ISCO or other approved HDPE manufacturer. A Certificate of course completion will be required as part of the first pay request/draw.
- Q. Any personnel fusing pipe is required to have a minimum of 500 hours of verifiable fusing experience.
- R. All fusing equipment will always remain on site during the installation portion of the project.
- S. All fusing equipment will be checked for proper operation and be certified to be within OEM operational specifications prior to use on the project.
- T. The Contractor will remove any HDPE shavings from the installation process with a portable shop-vac type vacuum.
- U. All fusing equipment will have a Fluke model 62 Infrared heat gun that will be used before each butt fuse to verify that the head plate is in the correct heat range.
- V. Flanged fittings will only be used transition from the HDPE pipe to a mainline isolation valves or in situations as detailed on the construction documents. Flanged connections will not be allowed from fitting to fitting.
- W. All fused fittings will be allowed to cure for the minimum time defined by the fitting manufacturer before any valves or apparatus is attached to the fused component.

- X. The Contractor will be required to fuse pipe and saddles for the Consultant's observation during the initial staking visit. Pipe and saddles will be fused in actual operating conditions and in a quantity that is satisfactory to the Consultant. If the Contractor is not fusing pipe during the initial site visit, the Contractor will include in his price one (1) additional site visit to have the Consultant on site to observe the fusing process.
- Y. The Contractor will include in his installation price a 2-day HDPE on-site fusion seminar that will be held by the HDPE fitting manufacturer. The manufacturer will cover all aspects of the fusion process to include equipment setup, equipment operation, fusion preparation, fusion methods, identification of current field conditions, and adjustments to adapt to the current field conditions. The seminar will include all methods of fusing that will be occurring on the project site. All Contractor personnel that will be fusing are required to attend the seminar and receive a certificate of completion from the fitting manufacturers training representative.

3.5 SPRINKLERS, VALVES, FITTINGS, ACCESSORIES:

- A. Install fittings, valves, sprinkler heads, risers, and accessories in accordance with manufacturer's instructions, except as otherwise indicated.
- B. Set sprinkler heads level, except as otherwise indicated or as per manufacturer's recommendations. Sprinklers will be checked by the Contractor for level using a bubble level in two directions with 90 degrees of separation.
- C. Install quick-coupling valves in the specified valve box and on elbow swing joint assembly as per manufacturer's recommendation.
- D. Install fittings and accessories as shown or required to complete the system.
- E. Install in-ground control valves in a valve access box as indicated.
- F. All valve boxes for the lateral, mainline, drain, air release, splices, and other associated equipment will be installed during the installation of the mainline pipe.
- G. Install valve access boxes on a suitable base of gravel to provide a level foundation at proper grade and to provide drainage of the access box.
- H. Toro Infinity sprinklers will be installed with the yardage tag blank included with the sprinkler will have a perpendicular orientation to the centerline of the line of play. The intent is to allow for easy identification of the sprinkler yardage tag.

3.6 FIELD WIRING:

- A. Install electric control cable in the piping trenches wherever possible. When not possible, place wire in trench adjacent to pipe. Install wire with slack to allow for thermal expansion and contraction. Expansion joints in wire will be provided at 500-foot intervals and pipeline change of directions. Where necessary to run wire in a separate trench, provide a minimum cover of 18".
- B. Provide sufficient slack (24") at site connections at remote control valves in control boxes, and wire splices to allow raising the valve bonnet or splice to the surface without disconnecting wires when repair is required.
- C. Connect each head/remote control valve to one station of a decoder except as otherwise indicated.
- D. Make field wire connections to head/remote control electric valves and splices of wire in the field; using UL listed burial splice connectors in accordance with manufacturer's recommendations.
- E. All wiring will be installed with sufficient slack to allow the wire bundle to be moved out of the way in the event a repair is needed in that area. A minimum 60" coil will be bundled at mainline tees and angles.

- F. All low voltage wire bundles installed in the mainline trench will be taped with a black electrician's tape at 10-foot intervals.
- G. All wire splices will be performed by the same crew members during the entire project. No more than (2) crew members will be allowed to make wire splices. Crew members authorized to make wire splices will be identified at the beginning of the project.
- H. All Communication and/or control wire will be placed on the interior of the valve box during installation.

3.7 FLUSHING AND ADJUSTMENT:

- A. Adjust sprinklers after installation for proper and adequate distribution of the water over the coverage pattern. Adjust for the proper arc of coverage.
- B. Adjust all electric remote-control valve flow control stems and pressure regulating device for system balance where applicable.
- C. Test and demonstrate operation of the sprinkler system to the Owner and/or Consultant.
- D. Fully flush all piping prior to installation of the sprinkler head/ electric valve onto the swing joint.

3.8 FIELD NOTES/RECORD DRAWING/PROGRESS REPORTS:

- A. During the installation of the system, the contractor will be required to keep daily field notes showing progress made during that day. An office copy of progress will be kept in a safe, clean environment. The office copy will be made available to the Owner and/or Consultant on request.
- B. The Contractor will provide field notes to the Consultant during each site visit, and prior to each pay request. The field notes will indicate equipment installed since the previous submission of field notes.
- C. Field notes presented to the Consultant will be on the same sheet size as the documents provided to the Contractor. 11x17 for each hole or 30x42 for multiple holes/sheets.
- D. All field note documents submitted to the Consultant will include a separate sheet of decoder addresses and bar codes. The sheet will be formatted by each hole and by each golf area (green, tee, fairway, rough, native....) label. The Consultant will supply an initial IC address worksheet template to the Contractor prior to the start of decoder device installation. All decoder address sheets will be kept in a 3-ring binder in the golf course superintendent's office.
- E. The Consultant will transfer the field notes on to the As-built plan and will issue an updated electronic set of As-built record drawings after each site visit or at the request of the Owner or Contractor.
- F. Record drawings will be used to verify the percentage complete for pay requests. Progress reports will be provided at the request of the Owner and or Consultant. The report will detail the progress made within the requested time frame, and any issues that have occurred during the requested time frame.

3.9 CLEANING PREMISES:

- A. The Contractor shall always keep the premises on which the work is being done, and adjoining premises, clean of rubbish caused by their work.

- B. Upon completion of the job, the Contractor shall clean up all debris caused by their work and leave the job site in a neat and clean condition.
- C. Asphalt and concrete cart paths will be swept clean of any accumulated dirt and or debris every Friday.
- D. Gravel cart paths will be kept mud free and will be overlaid with a matching gravel specification at any time that excess mud and/or rutting is created by the Contractors installation operation. The applied gravel layer will be compacted with a 5-7 hp vibratory plate compactor. The gravel layer will have a thickness of 6" and will provide a stable surface for the intended vehicle path traffic.

3.10 EQUIPMENT:

- A. The Contractor will keep all equipment used for the installation of the irrigation system in proper working condition. Any equipment leaks will be promptly repaired, and any damaged turf will be replaced due to damage caused by the leaking equipment.
- B. Equipment used on existing turf must have smooth tread tire. Bar cleat tires are not allowed on any equipment on the construction site and will be removed from the site at the Consultants request.
- C. Transport type equipment will only be driven in areas and routes as identified by the Golf Course Superintendent/Project Manager.
- D. The Contractor will furnish all necessary utility and transport vehicles for the project.
- E. Dump trucks with a load capacity of no more than 1 ton can be used to move spoils from the golf course to designated spoil locations. Any trucks used must remain on a route identified by the golf course superintendent.

3.11 ACCEPTANCE:

- A. Test and demonstrate to Owner and Designer the satisfactory operation of the system.
- B. A final inspection/walk through will consist of the follow key elements:
 - i. Central Computer Operation
 - ii. Valve Box Orientation/ Grade
 - iii. Controller Grounding/ Manual Station Operation
 - iv. Sprinkler Head Operation
 - v. As Built Review
 - vi. Trench Settlement
 - vii. Warranty documentation and contact information
 - viii. Written notification, signed by an Owner's representative and the contractor, indicating system completion in compliance with drawings, specifications, contracts, and industry standards.
- C. The Contractor shall instruct the Owner in the operation of the system, including but not limited to; sprinkler troubleshooting repair and adjustment, controller operation and programming, valve troubleshooting and repair.
- D. Upon written acceptance, the Owner will assume operation of the system. The Contractor will winterize the system during the fall of 2019 and 2020, provide startup for spring 2020 and spring 2021 during the 1-year warranty period. Winterization will be required for the entire system. The Owner will notify the Contractor 48 hours in advance of the procedure taking place. The Contractor will furnish all necessary equipment and labor to complete the operation. The Owner has the option of participating in the procedure, but this does not relieve the Contractor of any warranty liability.

- E. The sprinkler head manufacturer will provide an on-site technician to assist the Contractor with the winterization of the irrigation system during the warranty period of the system. The technician will identify the proper pressure and volume of air that is needed to properly winterize the system that prevents damage to any of the sprinkler heads. Any damaged sprinklers will be replaced under warranty.

3.12 PIPELINE TESTING AND PROCEDURE:

- A. Notify the Owner at least three (3) days in advance of testing.
- B. HDPE mainline pipe 3" and larger shall be subjected to a pressure test any time after partial backfill.
- C. HDPE pipe can be subjected to test any time after the minimum cool time, defined by the material manufacturer has been met.
- D. HDPE pipe can be subjected to test after fused components have met manufacturers recommended.
 - i. Quality Control Testing (On Site Bend Back Test)
Prior to HDPE pipe being installed in the trench, at the beginning of the job, the contractor shall cut out the first butt fusion of each pipe size. The contractor shall prepare the sample for the test in accordance with the "Job Aid/ Bend Back Testing" procedure document prepared by ISCO Industries, LLC dated Oct. 26, 06 or as revised, and in accordance with ASTM D 2657. The samples shall be tested in the presence of the Owner and / or the Consultant, all in accordance with testing procedures outlined in the ISCO document. All samples shall be labeled and saved. The purpose of the test is to determine if a good weld was made. A pass means no failures during the bend back test. This means a good weld. A break means a bad weld. Any failure shall require additional testing.
 - ii. Additional testing may be required at any time at the discretion of the Owner and/or the Consultant.
- E. Volumetric Leak Test
 - i. Provide sufficient backfill around pipe to prevent pipe movement.
 - ii. Expose couplings and fittings.
 - iii. Purge all air from the pipe before testing.
 - iv. Pipe will be tested at 125% of the working pressure.
 - v. Leakage will be defined as the quantity of water that must be supplied to maintain pressure within 5 psi and determined by the formula $L=NDP/7400$
L = Allowable leakage in gallons per hour
N = Number of joints in tested section
D = Nominal diameter of pipe in inches
P = Square root of the average test pressure during test in psi
- F. The Contractor will introduce water into the mainline pipe network to allow for seal testing of all mainline and lateral isolation valves. Valves will be required to be under pressure for a minimum of 8 hours. Any valves that do not allow for a 100% watertight seal will be replaced with new at no cost to the Owner.

SECTION 4 – UNIT PRICING, BID FORM, ALTERNATES

END OF SECTION

WATER PLAN NOTES

THE CONTRACTOR SHALL NOTIFY COLORADO SPRINGS UTILITIES' INSPECTIONS OFFICE 719-668-4658 A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

GENERAL:

- ALL CONSTRUCTION METHODS AND MATERIALS SHALL MEET COLORADO SPRINGS UTILITIES' WATER LINE EXTENSION AND SERVICE STANDARDS (WATER LESS).
- THE CONTRACTOR SHALL OBTAIN LOCATES PRIOR TO ANY EXCAVATION.
- COLORADO SPRINGS UTILITIES DOES NOT GUARANTEE THE ACCURACY OF LOCATIONS OF EXISTING PIPELINES, HYDRANTS, VALVES AND SERVICE LINES. IF FIELD CONDITIONS ARE FOUND TO BE DIFFERENT THAN SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE INSPECTOR AND THE ENGINEER OF RECORD IMMEDIATELY.
- NO TREES OR STRUCTURES ARE PERMITTED WITHIN FIFTEEN FEET (15') OF A WATER MAIN.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY FACILITIES AS A RESULT OF HIS ACTIONS. THE CONTRACTOR SHALL MAKE ALL THE REQUIRED REPAIRS IMMEDIATELY TO THE SATISFACTION OF COLORADO SPRINGS UTILITIES.
- ALL FIELD STAKING SHALL COMPLY WITH THE WATER LESS.
- THE CONTRACTOR SHALL MAKE THEIR BEST EFFORT TO ENSURE THAT WATER SERVICE TO ADJACENT PROPERTIES IS MAINTAINED DURING CONSTRUCTION.
- CORROSION PROTECTION MEASURES SHALL COMPLY WITH THE WATER LESS.
- NO SERVICE TAPS WILL BE ALLOWED UNTIL THE MAIN IS EXTENDED TO THE NEXT MAIN-LINE VALVE.
- NO SERVICE TAPS SHALL BE MADE UNTIL AUTHORIZATION HAS BEEN GRANTED BY THE COLORADO SPRINGS UTILITIES' INSPECTOR.
- ALL BENDS SHALL BE FIELD STAKED PRIOR TO CONSTRUCTION AND THE STATIONING ON THE FIELD STAKES SHALL MATCH THE STATIONING ON THE PLANS.
- FIELD MODIFICATIONS TO A FIRE SERVICE LINE OR FIRE HYDRANT DESIGN OR LOCATION MAY NEED TO BE APPROVED BY THE DESIGN ENGINEER, COLORADO SPRINGS FIRE DEPARTMENT AND COLORADO SPRINGS UTILITIES, AS REQUIRED BY THE INSPECTOR.
- REUSE OR SALVAGE OF ANY MATERIAL IS LEFT TO THE DISCRETION OF THE COLORADO SPRINGS UTILITIES INSPECTOR.
- ALL TRENCH BACKFILL AND COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE CITY OF COLORADO SPRINGS STANDARD SPECIFICATIONS MANUAL.
- ALL WATER SERVICE LINES SHOULD ENTER THE BUILDING WITHIN 5 FEET OF AN EXTERIOR WALL. EXPOSED WATER PLUMBING SHALL BE MINIMIZED INSIDE THE BUILDING PRIOR TO THE WATER METER AND/OR APPROVED BACKFLOW PREVENTION ASSEMBLY OR METHOD.

WATER PROJECT - SPECIFIC NOTES

- | | | |
|--------------------------|-------------------------------------|---|
| APPLICABLE | NOT APPLICABLE | |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | ANY EXISTING STUBS AND APPURTENANCES THAT WILL NOT BE USED SHALL BE REMOVED AND REPLACED WITH AN ACCEPTABLE SECTION OF MAIN AT THE EXPENSE OF THE CONTRACTOR. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | A CONNECTION TO AN EXISTING STUB IS PROPOSED. COLORADO SPRINGS UTILITIES DOES NOT GUARANTEE THE ACCURACY OF THE DEPTHS OR LOCATIONS OF EXISTING STUBS SHOWN ON ANY "AS-BUILT" DRAWINGS. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | A WATER STUB-OUT(S) IS/ARE PROPOSED. COLORADO SPRINGS UTILITIES DOES NOT GUARANTEE THAT THE DESIGN OR INSTALLATION OF THE PROPOSED WATER STUB-OUT WILL MEET FUTURE DEVELOPMENT NEEDS. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | A WATER QUALITY PLAN HAS BEEN APPROVED FOR THIS PROJECT |

NONPOTABLE WATER NOTES

- NONPOTABLE WATER SHALL ONLY BE UTILIZED FOR NONPOTABLE WATER PURPOSES. IT IS NEITHER SUITABLE NOR INTENDED FOR HUMAN CONSUMPTION.
- ALL NONPOTABLE WATER PIPING, VALVES, OUTLETS AND FIXTURES, AND OTHER APPURTENANCES SHALL BE COLOR CODED IN CONFORMANCE WITH THE NATIONAL INDUSTRIAL COLOR CODE (NICC) AND SECTION 4.7 OF THESE WATER LESS.
- ALL NEW BURIED DISTRIBUTION PIPING IN THE NONPOTABLE WATER DISTRIBUTION SYSTEM SHALL BE COLORED PURPLE PIPE AND EMBOSSED OR BE STAMPED/MARKED "CAUTION-NONPOTABLE WATER DO NOT DRINK"; OR BE INSTALLED WITH PURPLE IDENTIFICATION TAPE, OR A PURPLE POLYETHYLENE VINYL WRAP, AS APPROVED BY COLORADO SPRINGS UTILITIES.
- ALL NONPOTABLE WATER VALVES, OUTLETS, PUBLIC ENTRANCES AND BOUNDARIES OF AREAS IRRIGATED WITH NONPOTABLE WATER, AND ANY PORTABLE EQUIPMENT USED TO COLORADO SPRINGS UTILITIES WATER LINE EXTENSION & SERVICE STANDARDS - 2014 8-13 DISTRIBUTE NONPOTABLE WATER SHALL BE TAGGED OR SIGNED WITH THE FOLLOWING WORDS "NONPOTABLE WATER-DO NOT DRINK."
- VALVES SHALL BE THE SAME SIZE AS THE NONPOTABLE MAIN/FITTING. VALVES INSTALLED ON NONPOTABLE WATER MAINS SHALL OPEN TO THE LEFT (COUNTER-CLOCKWISE) WITH A BLACK OPERATING NUT AND A PURPLE VALVE LID.

COLORADO SPRINGS UTILITIES
NONPOTABLE WATER MAIN DESIGN APPROVAL

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Water

PROJECT NUMBER: 2023-N002
WORK ORDER NUMBER: 4004129_
CSU SHEET 1 OF 2

APPROVAL EXPIRES ONE (1) YEAR FROM THE DATE ABOVE AND RESUBMITTAL OF THESE PLANS FOR REVIEW AND APPROVAL IS REQUIRED IF CONSTRUCTION DOES NOT BEGIN DURING THIS PERIOD.

OWNER/DEVELOPER PLAN APPROVAL

THE UNDERSIGNED OWNER/DEVELOPER AGREES THAT THEY SHALL, AT THEIR EXPENSE, BE SOLELY RESPONSIBLE FOR 1) THE INSTALLATION OF THE PROPOSED UTILITY INFRASTRUCTURE IN ACCORDANCE WITH THESE PLANS, AND 2) ALL DAMAGES AND DEFECTS ARISING FROM, OR RELATED TO, THE INSTALLATION, MAINTENANCE OR OPERATION OF THE PUBLIC UTILITY INFRASTRUCTURE FROM THE DATE OF PRELIMINARY ACCEPTANCE FOR A PERIOD OF TWO YEARS, OR UNTIL FINAL ACCEPTANCE, WHICHEVER IS LATER.

THE UNDERSIGNED UNDERSTANDS THAT ALL PRIVATE UTILITY INFRASTRUCTURE, AS INDICATED ON THESE PLANS, SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE MAINTAINED BY THE OWNER, AS REQUIRED BY COLORADO SPRINGS UTILITIES' LINE EXTENSION AND SERVICE STANDARDS.

PUBLIC FACILITIES PROPOSED PRIVATE FACILITIES PROPOSED

SIGNED: Pat Gentile
OWNER/DEVELOPER
PAT GENTILE, CGCS
OWNER/DEVELOPER (PRINT NAME)

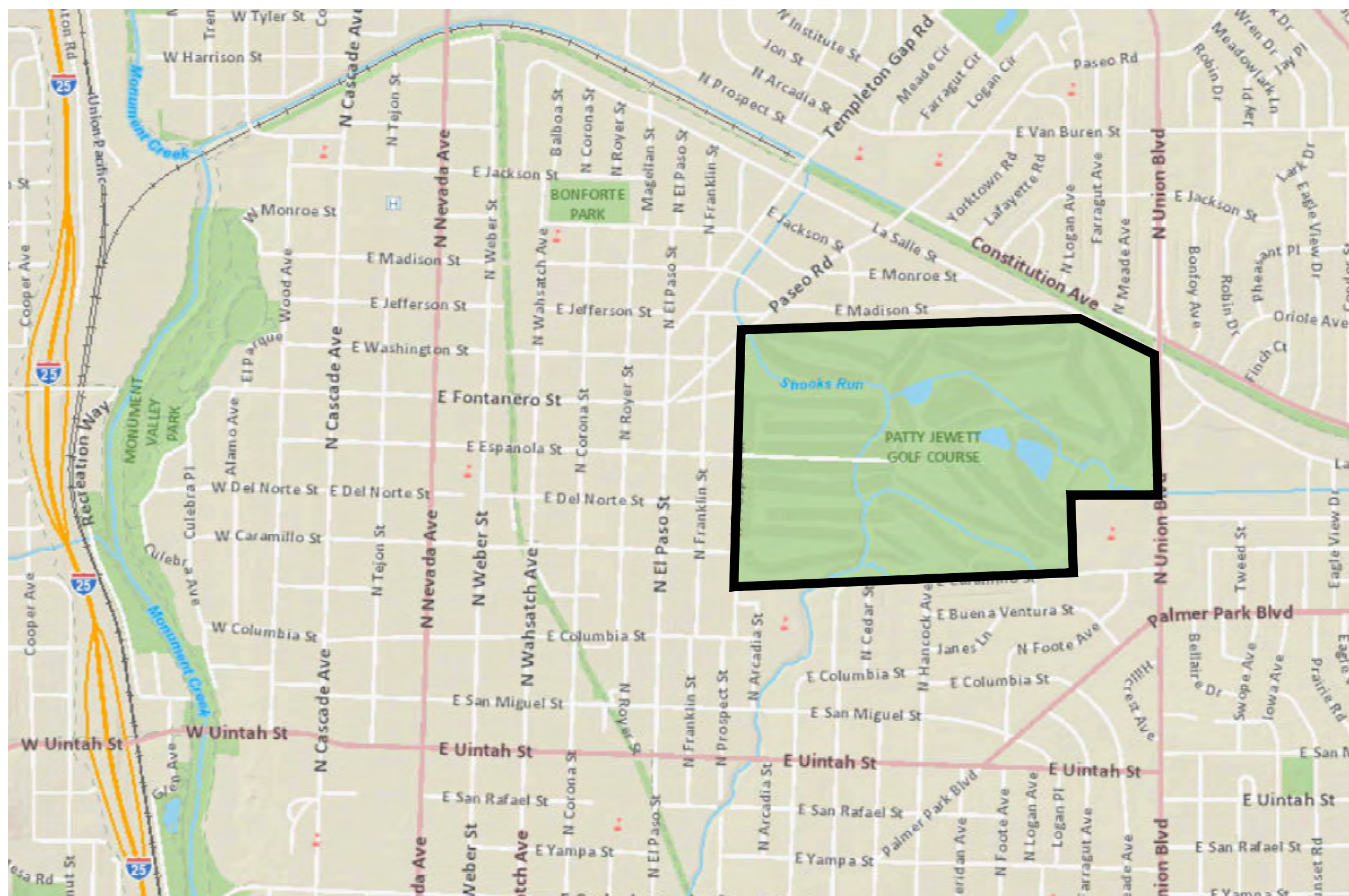
DATE: June 30, 2023

DBA: PATTY JEWETT GOLF COURSE

ADDRESS: 900 E. ESPANOLA ST.
COLORADO SPRINGS, CO 80907

PHONE: 719-385-6940

EMAIL: PGENTILE@SPRINGSGOV.COM



Vicinity Map



Site Map 1" = 400'

Schedule G - Patty Jewett Golf Course

Golf Course Irrigation System Replacement Plan Set

900 E Espanola St.

Colorado Springs, CO

80907

Utility Locate



Colorado 811
811 or 800-922-1987

Call 48 hours before you dig

FIMS MAP NUMBER: I-31, J31
TAX SCHEDULE NO.: 95000-00-066
PRESSURE ZONE: HIGHLINE
STATIC PRESSURE AT MDD: 132 PSI
UTILITY DESIGN CAD FILE NO.: N/A
UAP FILE NO.: N/A
DEVELOPMENT PLAN NO.: N/A
APPROVAL DATE: N/A
PLAT REC. NO.: N/A
PUBLIC UTILITY EASEMENT REC. NO.: N/A
NOTICE OF PRIVATE WASTEWATER SYSTEM REC. NO.: N/A
NOTICE OF PRIVATE WATER SYSTEM REC. NO.: N/A

Sheet Index

- Ir-1 Cover & Legend
- Ir-2 Irrigation System Mechanical
- Ir-3 2 Wire Communication Routing
- Ir-4 Pump Station
- Ir-5 Installation Details - Sheet 1 of 2
- Ir-6 Installation Details - Sheet 2 of 2
- Ir-7 Existing As-built

Design by:



10395 W. Ottawa Ave.
Littleton, CO 80127
Phone 720.240.6208

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COURSE IDENTIFIER

- 1 PEAK COURSE
- 11 PRAIRIE COURSE

Patty Jewett Golf Course Irrigation Equipment Legend

- 2006 FULL CIRCLE VALVE IN HEAD SPRINKLER SPACED AT 60'. SEE DETAILS #3.4.5 TORO INFINITY NF34-336-6-7 NOZZLE #3 65 PSI 24.4 GPM - INCLUDE NON-POTABLE LABELING/CAP
- 856 PART CIRCLE VALVE IN HEAD SPRINKLER SPACED AT 60'. SEE DETAILS #3.4.5 TORO INFINITY NF30-336-6-7 NOZZLE #3 65 PSI 22.9 GPM - INCLUDE NON-POTABLE LABELING/CAP
- 114 PART CIRCLE WITH REAR TAIL NOZZLE VALVE IN HEAD SPRINKLER SPACED AT 60'. SEE DETAILS #3.4.5 - INCLUDE NON-POTABLE LABELING/CAP TORO INFINITY NF30-336-6-7 NOZZLE #3 65 PSI 22.9 GPM - INCLUDE NON-POTABLE LABELING/CAP
- 32427 FULL CIRCLE & PART CIRCLE VALVE IN HEAD SPRINKLER SPACED AT 50'. SEE DETAILS #3.4.5 TORO INFINITY NF35-316-6-7 NOZZLE #31 65 PSI 15.5 GPM - INCLUDE NON-POTABLE LABELING/CAP
- 257 PART CIRCLE SHORT RADIUS BLOCK ZONE SPRINKLER SPACED AT 20'. SEE DETAIL #3.1.4 TORO TO PART CIRCLE WITH CHECK VALVE, STAINLESS STEEL, NOZZLE #2.5 2.85GPM - INCLUDE NON-POTABLE LABELING/CAP
- ◆ 69 QUICK COUPLER INCLUDE (A) KEYS AND HOSE SWIVELS - SEE DETAIL #12 TORO #1248 - INCLUDE NON-POTABLE LABELING/CAP
- ◆ 31 WINTER WATERING HYDRANT / QC ASSEMBLY - SEE DETAIL #18 FURNISH AND INSTALL 1" QC WITH WINTER WATERING HYDRANT. MATCH TO QUICK COUPLER MODEL # ABOVE
- ▲ 1 TORO LYNX 48 STATION SMART IRRIGATION CONTROLLER #300-48-P16M4 - SEE SOUTH OF #7 PRAIRIE FAIRWAY INCLUDE GROUNDING GRID FOR CONTROLLER - SEE DETAILS #31.32
- ▲ 4 TORO WALL MOUNT SMART HUB FOR 2 WIRE - DEG-RS-1000M TO BE INSTALLED BY A LICENSED SERVICE TECHNICIAN
- ▲ 46 1.5" ELECTRIC VALVE ASSEMBLY FOR THE 40' BLOCK ZONE SPRINKLERS. SEE DETAIL #15 TORO P20559-27-06-E
- ▲ 293 2" LATERAL ISOLATION VALVE - ANGLE VALVE CONFIGURATION - HARCO DUCTILE IRON 2"X 6" #84310G - SEE DETAIL #7
- ▲ 45 MAINLINE GATE VALVE - CLOW C-509 WITH HARCO PU ADAPTER, SIZE TO MAIN, 2" BLACK SQUARE NUT OPERATOR, COUNTER CLOCKWISE TO OPEN - SEE DETAIL #29
- ▲ 6 AIR RELEASE VALVE - 2" BERMAID C31 - SEE DETAIL #11
- ▲ 2 MAINLINE DRAIN VALVE - 2" GATE VALVE, AQUA-FUSE CONTROL FLOW OR A/WK SERIES 66 GATE VALVE WITH PE ENDS - SEE DETAILS #3.10
- ▲ 29 WINTER WATERING HYDRANT / QUICK COUPLER ISOLATION VALVE, AQUA-FUSE CONTROL FLOW GATE VALVE OR A/WK SERIES 66 WITH PE ENDS - SEE DETAIL #17
- ▲ 1 CENTRAL COMPUTER, INCLUDE 3 YEAR SUPPORT. SEE COMMUNICATION PAGES DETAILS #28.27 TORO LYNX CEL L1644-0-08 INCLUDE ALL LYNX MOBILE APPS
- ▲ 3 WEATHER STATION, SEE DETAIL #20 TORO WATCHDOG 300 WEATHER STATION WITH THP100, SOLAR POWER, INCLUDE MID-RANGE WIRELESS COMMUNICATION
- ▲ 3 SPLICE BOX - SEE INSTALLATION DETAIL #19
- ▲ 4 6" CROSS CONNECTION ASSEMBLIES - SEE DETAIL #16
- ▲ 1 WINTERIZATION CONNECTION - SEE DETAIL #24
- 122.000' 2" HDPE LATERAL PIPE DR11 RESIN 4710 WITH PURPLE STRIPPING - USE FOR VALVE IN HEAD LATERAL PIPING - 18" BURY DEPTH
- 5.500' 2" HDPE LATERAL PIPE DR11 RESIN 4710 WITH PURPLE STRIPPING - USE FOR BLOCK ZONE SPRINKLERS
- 2.000' 2" HDPE LATERAL PIPE DR11 4710 WITH PURPLE STRIPPING - FOR WINTER WATERING HYDRANT - 24" BURY DEPTH
- MANLINE PIPE - HDPE DR13.5 RESIN 4710 WITH PURPLE STRIPPING - SIZES SHOWN ON PLAN
- 17.000' 4" MANLINE PIPE - HDPE DR13.5 RESIN 4710 WITH PURPLE STRIPPING - SIZES SHOWN ON PLAN
- 8.000' 6" MANLINE PIPE - HDPE DR13.5 RESIN 4710 WITH PURPLE STRIPPING - SIZES SHOWN ON PLAN
- 5.500' 10" MANLINE PIPE - HDPE DR13.5 RESIN 4710 WITH PURPLE STRIPPING - SIZES SHOWN ON PLAN
- 1.500' 12" MANLINE PIPE - HDPE DR13.5 RESIN 4710 WITH PURPLE STRIPPING - SIZES SHOWN ON PLAN
- 1.000' 14" MANLINE PIPE - HDPE DR13.5 RESIN 4710 WITH PURPLE STRIPPING - SIZES SHOWN ON PLAN
- PROPOSED NATIVE AREA

CERTIFIED IRRIGATION DESIGNER

irrigation technologies
10395 W. Ottawa Ave.
Littleton, CO 80127
Phone 720.240.6208
www.IrrigationTechnologies.biz

Patty Jewett Golf Course
Irrigation System Replacement Plan Set
Colorado Springs, CO

Project	PJ 11-22
Drafter	BDK
Check	BDK
Plot Date:	06-30-2023
Scale:	As-noted

REVISIONS

SHEET TITLE:

Cover & Legend

SHEET

Ir-1

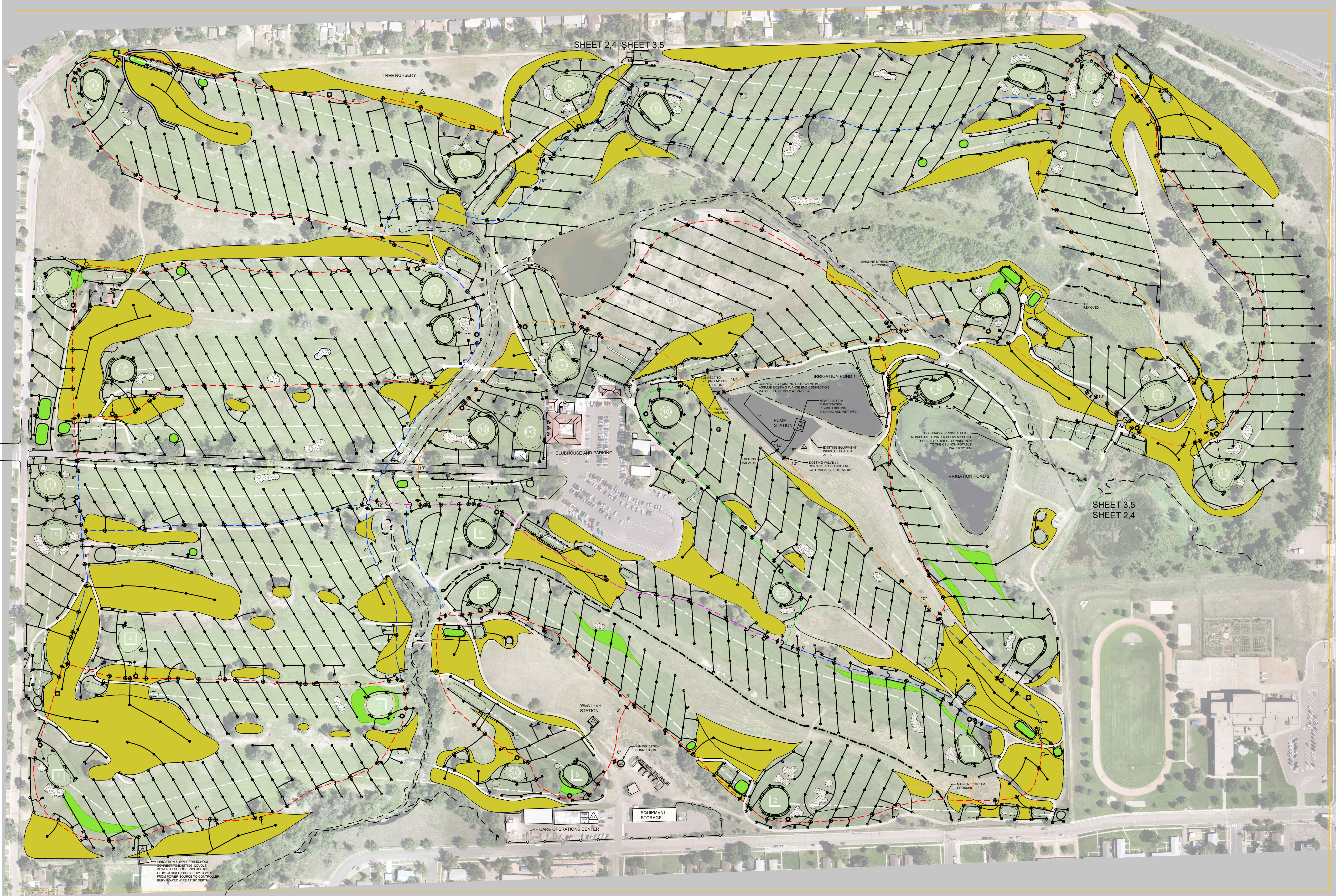
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**Patty Jewett Golf Course
 Irrigation System Replacement Plan Set
 Colorado Springs, CO**



NOTE 1: SEE LEGEND ON THE COVER SHEET FOR APPLICABLE CALLOUTS ON THIS SHEET.

NOTE 2: THE INSTALLATION, LOCATION, LENGTHS, SEPARATION, ETC., IT IS THE RESPONSIBILITY OF THE DESIGN ENGINEER AND CONTRACTOR.

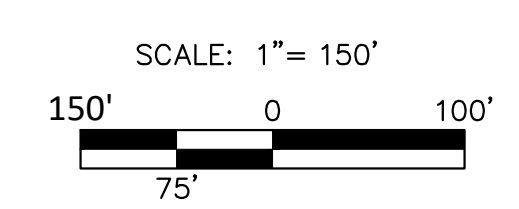
**COLORADO SPRINGS UTILITIES
 NONPOTABLE WATER MAIN DESIGN APPROVAL**

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 07/05/2023 9:34:51 AM
 mgackle
 Water

PROJECT NUMBER: 2023-N002
 WORK ORDER NUMBER: 4004129_
 CSU SHEET 2 OF 2

Colorado Springs Utilities
 It's how we're all connected

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Drafter	BDK
Check	BDK
Plot Date:	06-30-2023
Scale:	1" = 150'
REVISIONS	

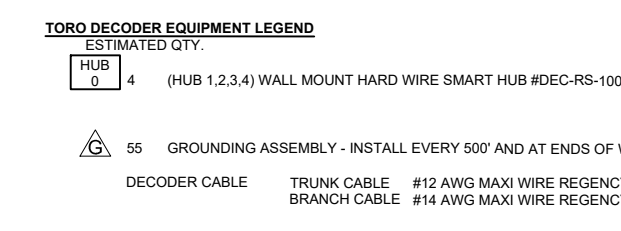
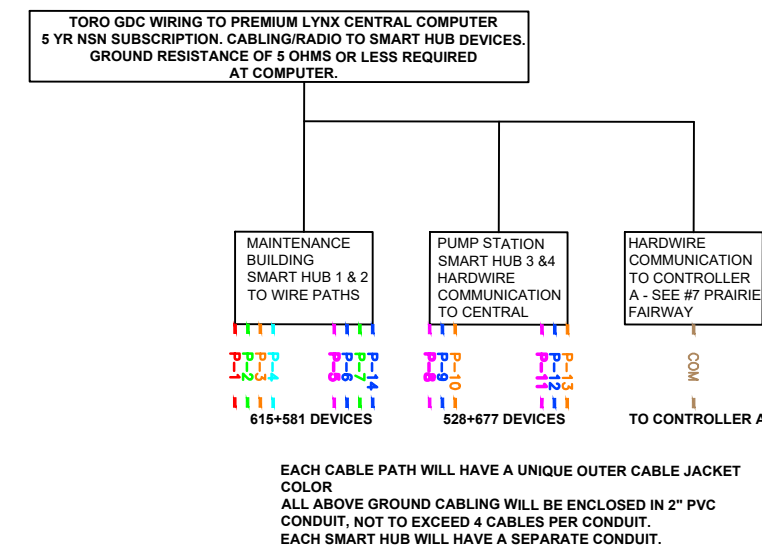
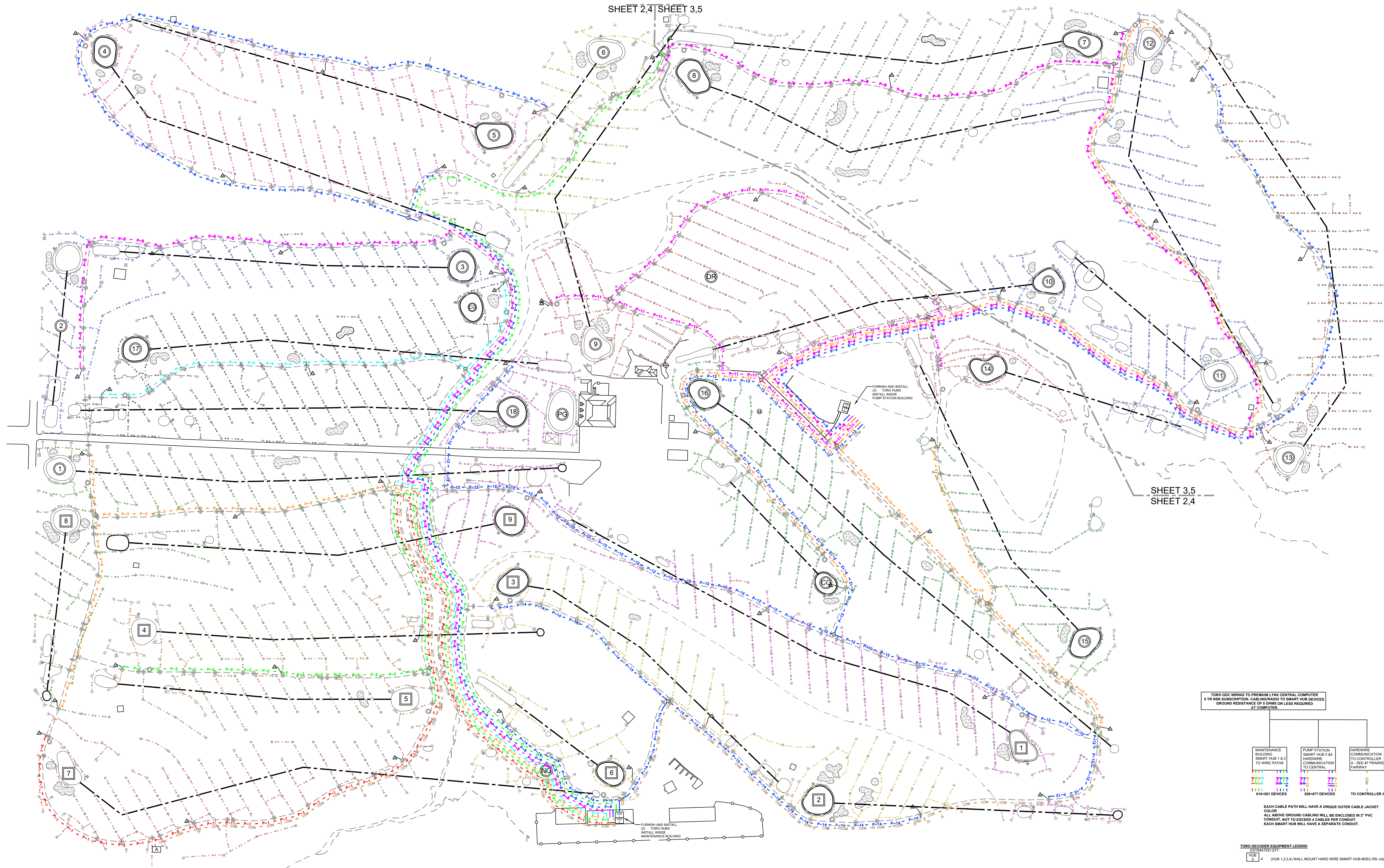
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 Irrigation System Mechanical

SHEET
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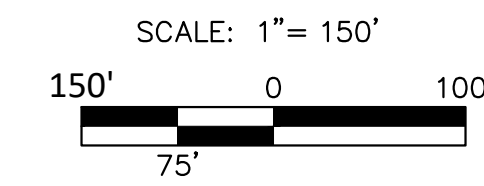


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**Patty Jewett Golf Course
 Irrigation System Replacement Plan Set
 Colorado Springs, CO**



PATH	HOLE / AREA	DECODERS ON PATH	PROGRAMMING ADDRESS	TRUNK LATERAL LINE LENGTH
P-1	PRAIRIE 7	115	1-1-250	4,000' / 7,000'
P-2	PRAIRIE 4 & 5	136	1-1-251-500	3,500' / 7,500'
P-3	PEAK 1 F&G, H&J T&F PRAIRIE	192	1-2-251	4,000' / 10,500'
P-4	PEAK 1 F&G, H&J T&F PRAIRIE	172	1-2-251-500	4,000' / 8,500'
P-5	PEAK 2 & 3, 4 TEE	134	3-1-1-250	4,000' / 7,500'
P-6	PEAK 4 F&G, HOLE 5	181	3-1-251-500	5,000' / 10,000'
P-7	PEAK 6, 7 & T & FWY	77	3-2-1-250	4,000' / 4,500'
P-8	PEAK 7 & 8	189	3-1-1-250	5,500' / 10,500'
P-9	PEAK 13	142	3-1-251-500	4,000' / 7,500'
P-10	PEAK 10 T&F, SG, 142, 157, DR	197	3-2-1-250	4,000' / 10,000'
P-11	PEAK 10 T&F, SG, 142, 157, DR	216	4-1-1-250	3,000' / 12,000'
P-12	PRAIRIE H1 2T, 90L, PEAK 17T, 185, 1T	246	4-1-251-500	5,000' / 12,000'
P-13	PEAK 19 F&G, H16, H, CGS	215	4-2-1-250	3,500' / 12,000'
P-14	PRAIRIE 3&4, H&J AT HWY 203	203	3-2-251-500	5,000' / 10,000'
COM	HARDWARE COMMUNICATION TO THE 2 REMOTE SMART HUBS AT THE PUMP STATION AND THE (1) IRRIGATION CONTROLLER SOUTH OF 7 PRAIRIE FAIRWAY. INCLUDE SPU BOARD AT PUMP STATION REGENCY #11420			7,000'



Project PJ 11-22
 Drafter BDK
 Check BDK
 Plot Date: 06-30-2023
 Scale: 1" = 150'

REVISIONS

NO.	DESCRIPTION

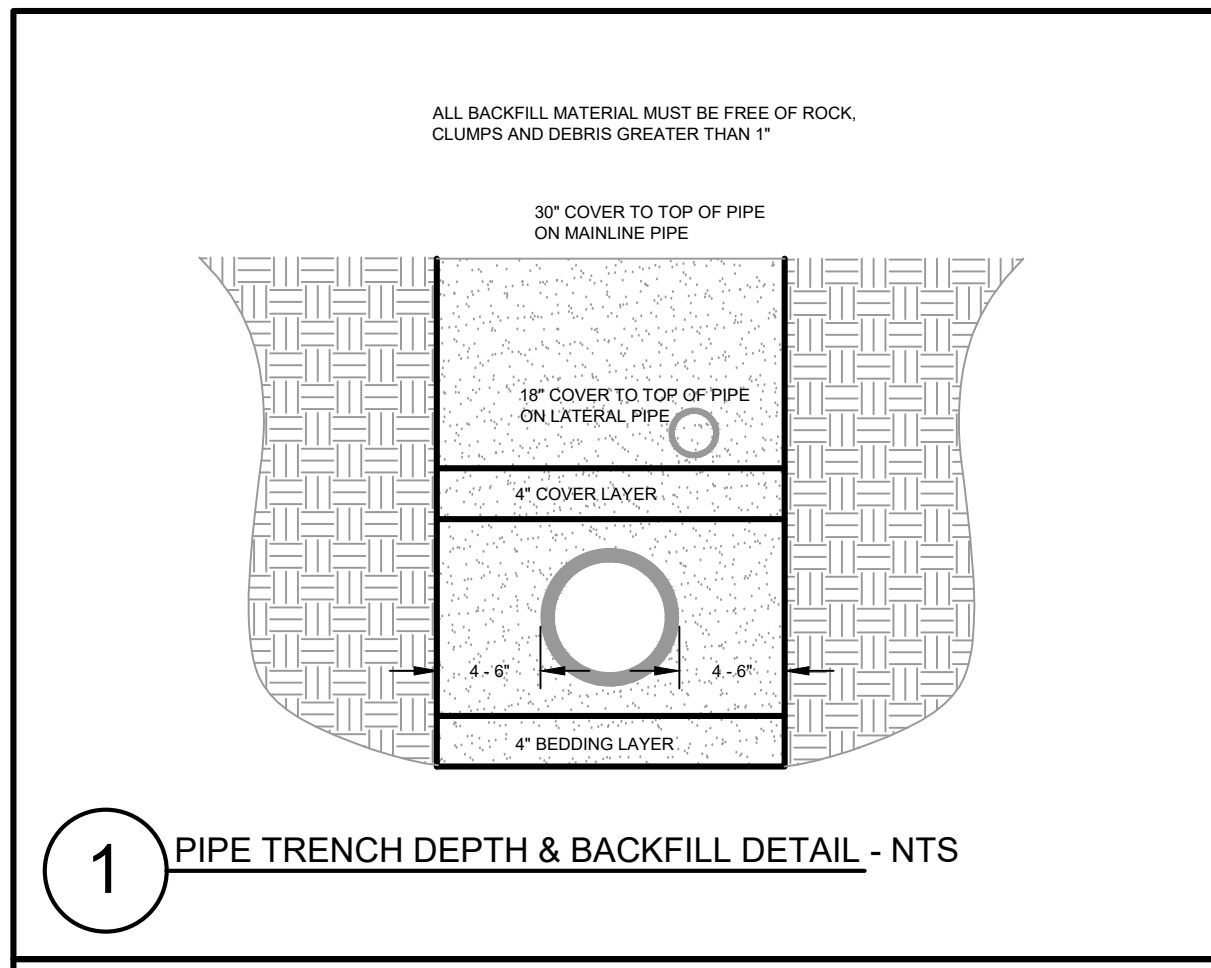
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 Communication
 Routing**

SHEET
Ir-3
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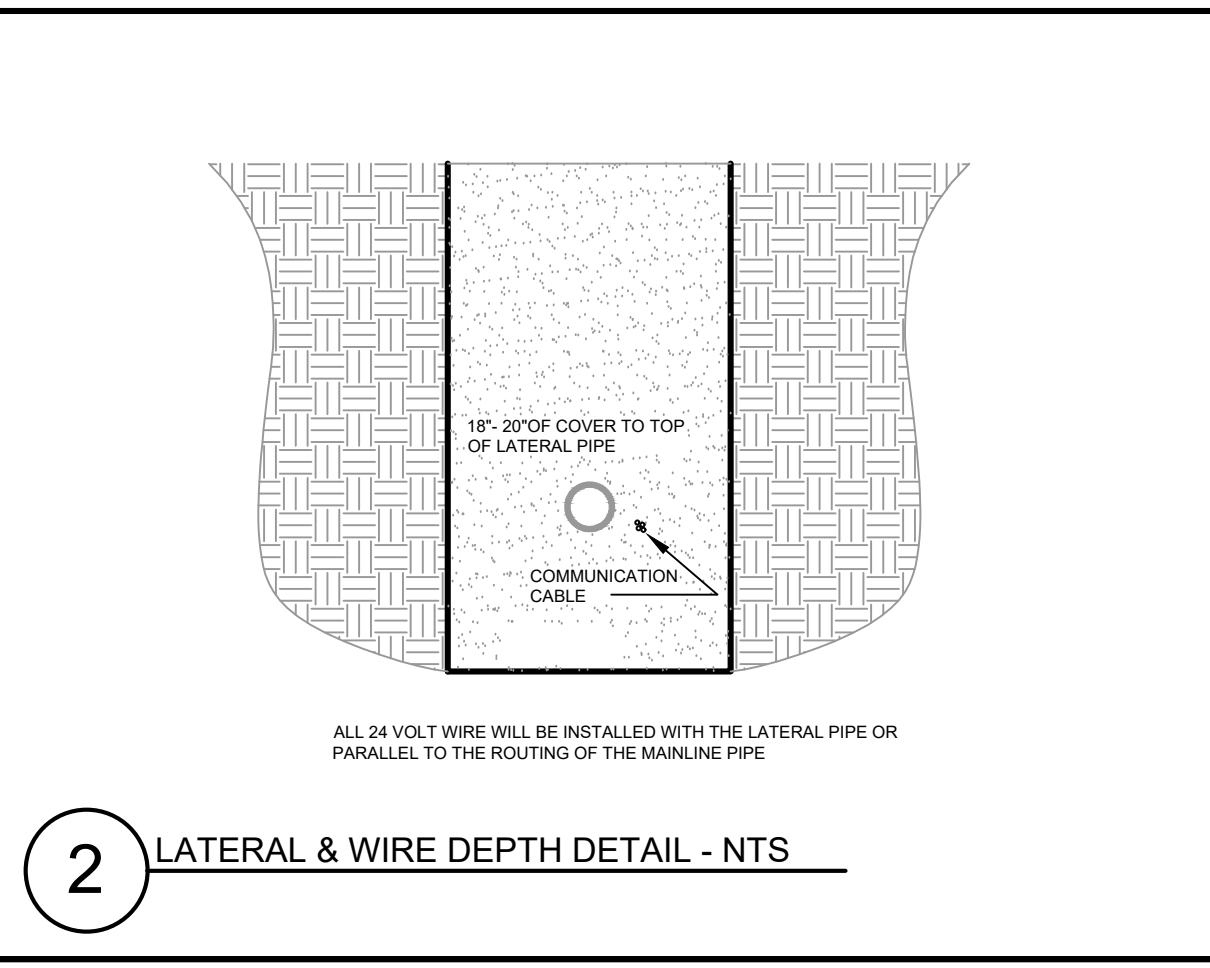


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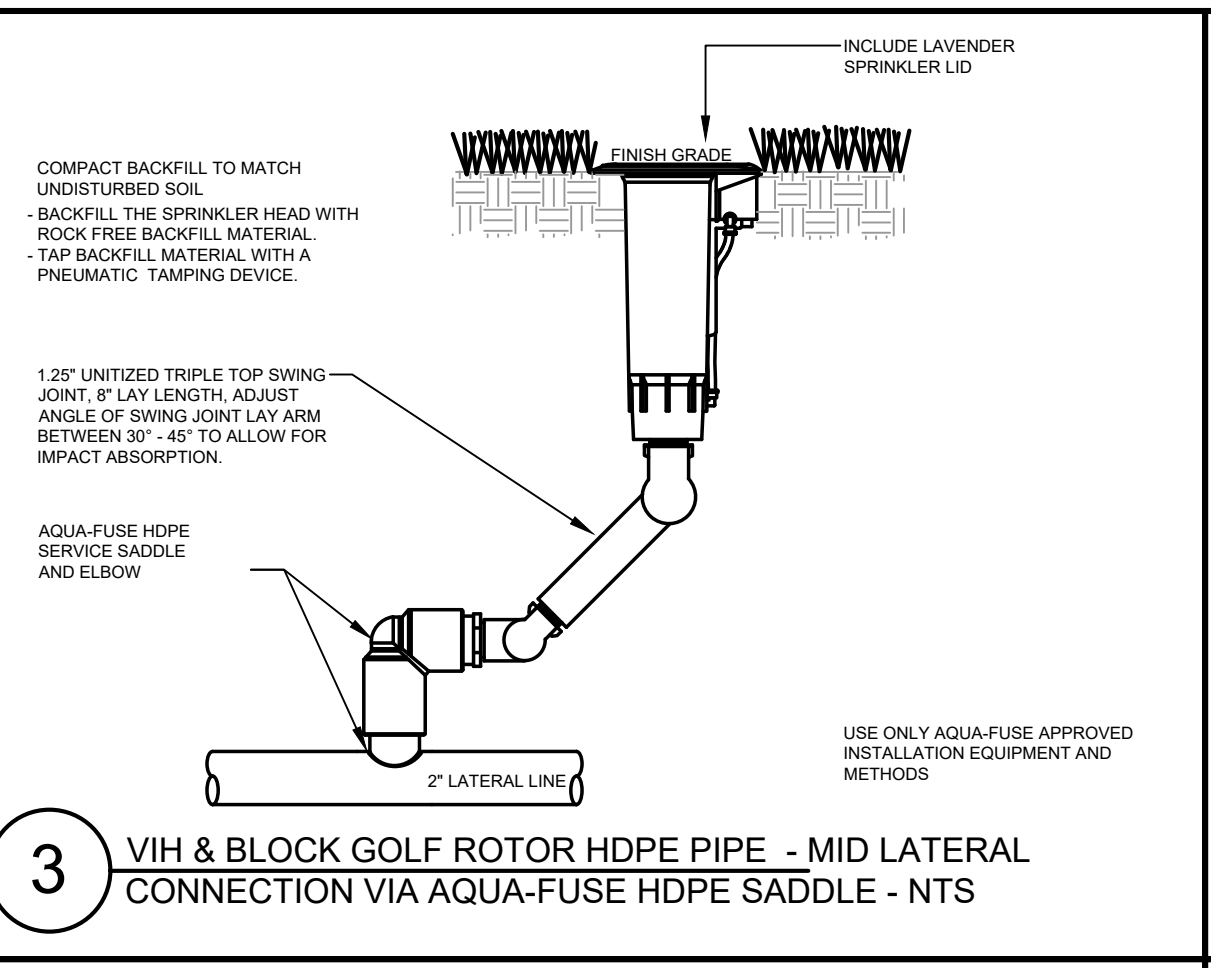
**Patty Jewett Golf Course
 Irrigation System Replacement Plan Set
 Colorado Springs, CO**



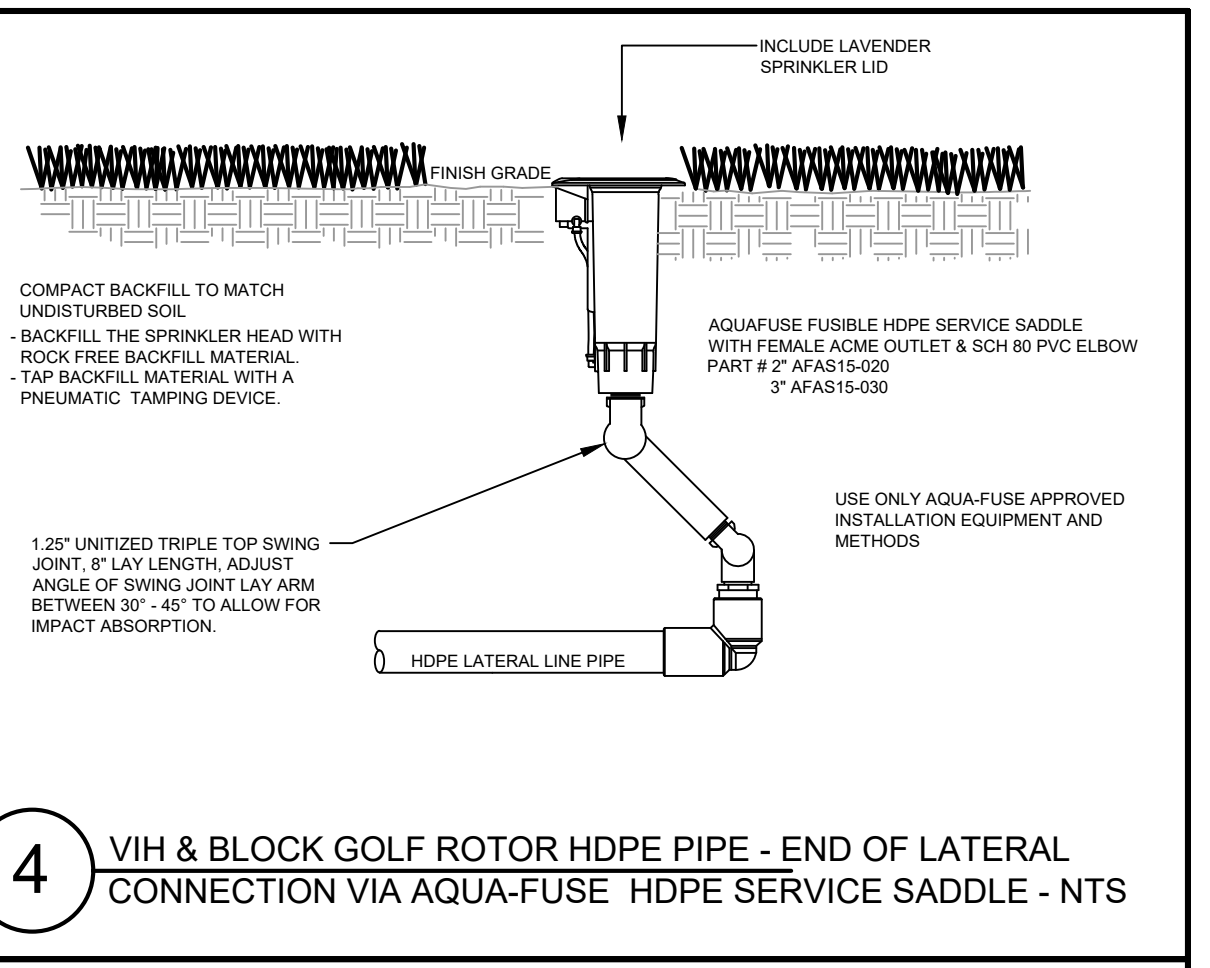
1 PIPE TRENCH DEPTH & BACKFILL DETAIL - NTS



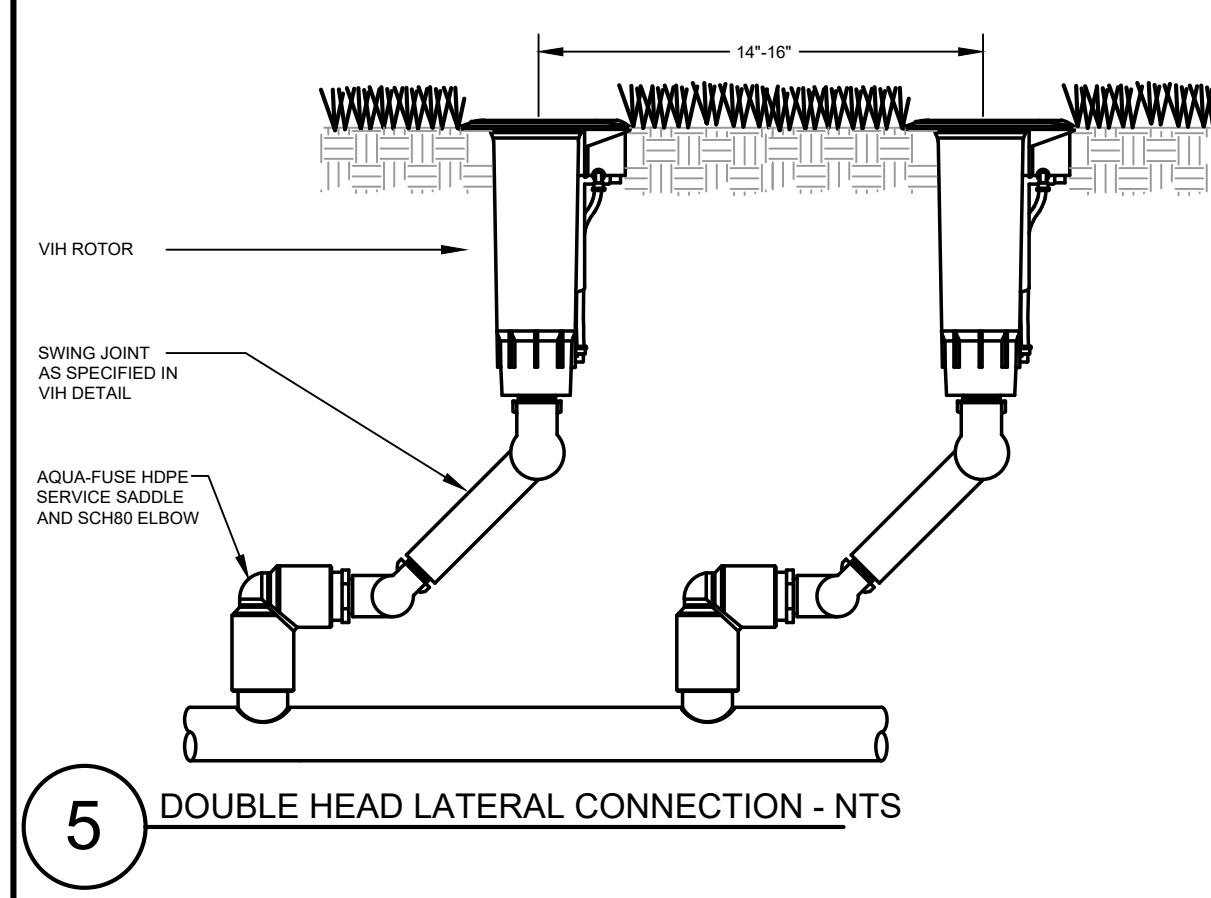
2 LATERAL & WIRE DEPTH DETAIL - NTS



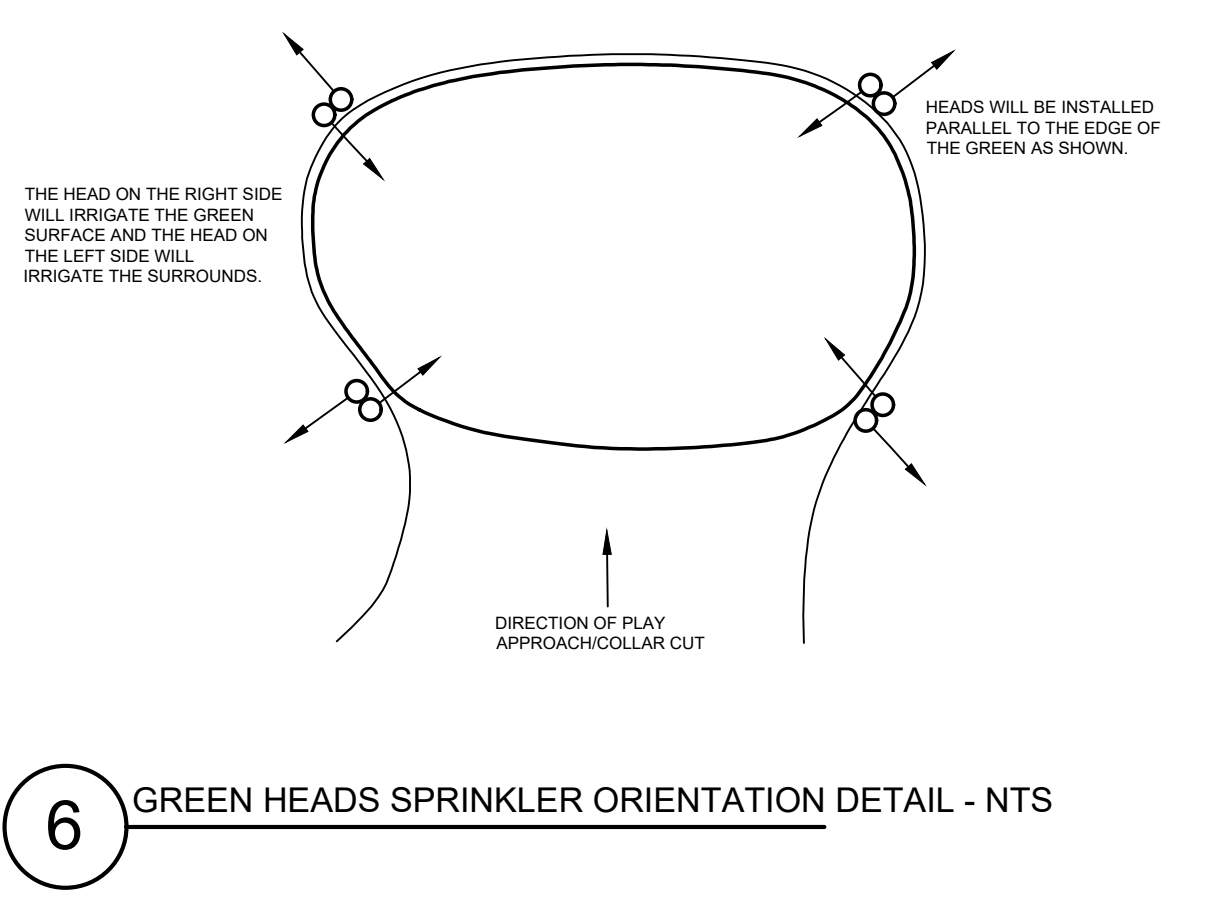
3 VIH & BLOCK GOLF ROTOR HDPE PIPE - MID LATERAL CONNECTION VIA AQUA-FUSE HDPE SADDLE - NTS



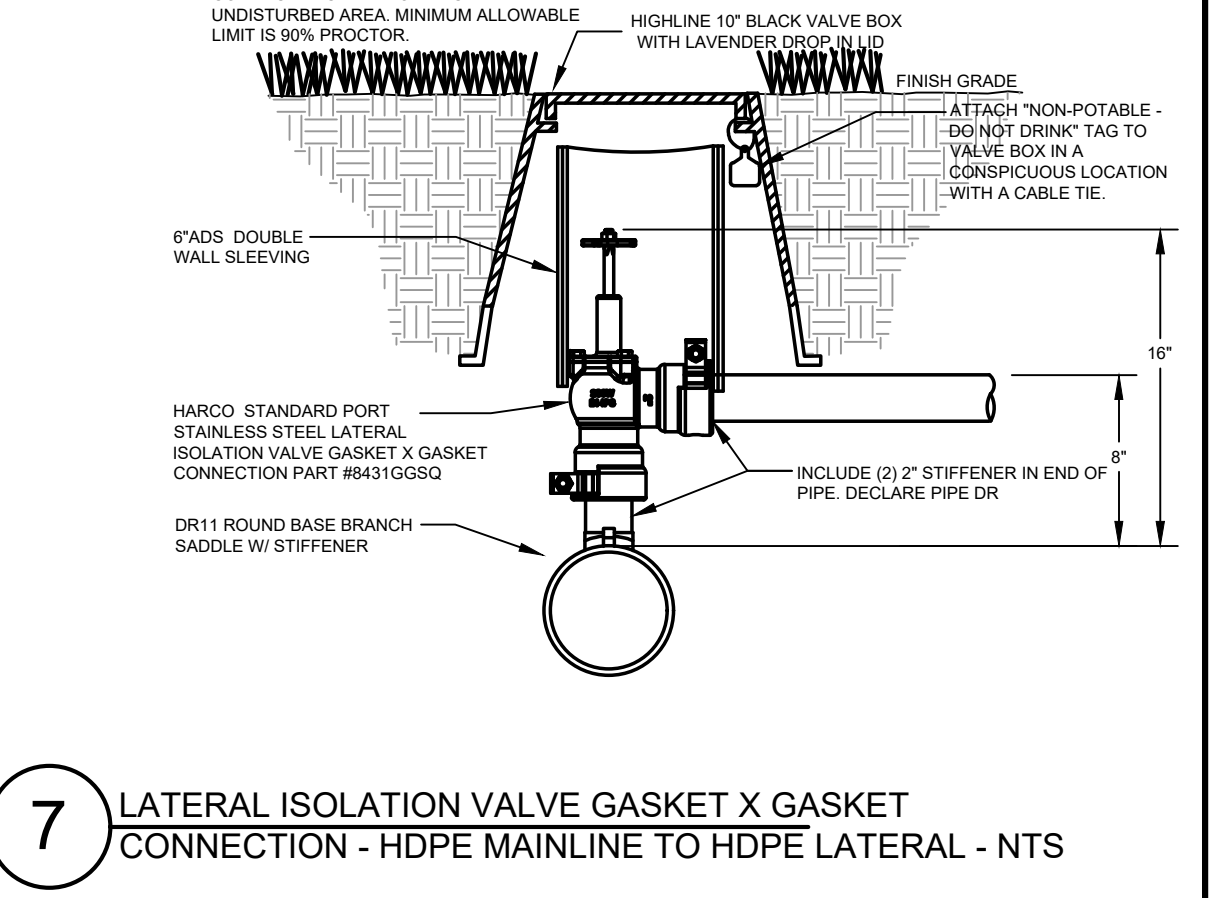
4 VIH & BLOCK GOLF ROTOR HDPE PIPE - END OF LATERAL CONNECTION VIA AQUA-FUSE HDPE SERVICE SADDLE - NTS



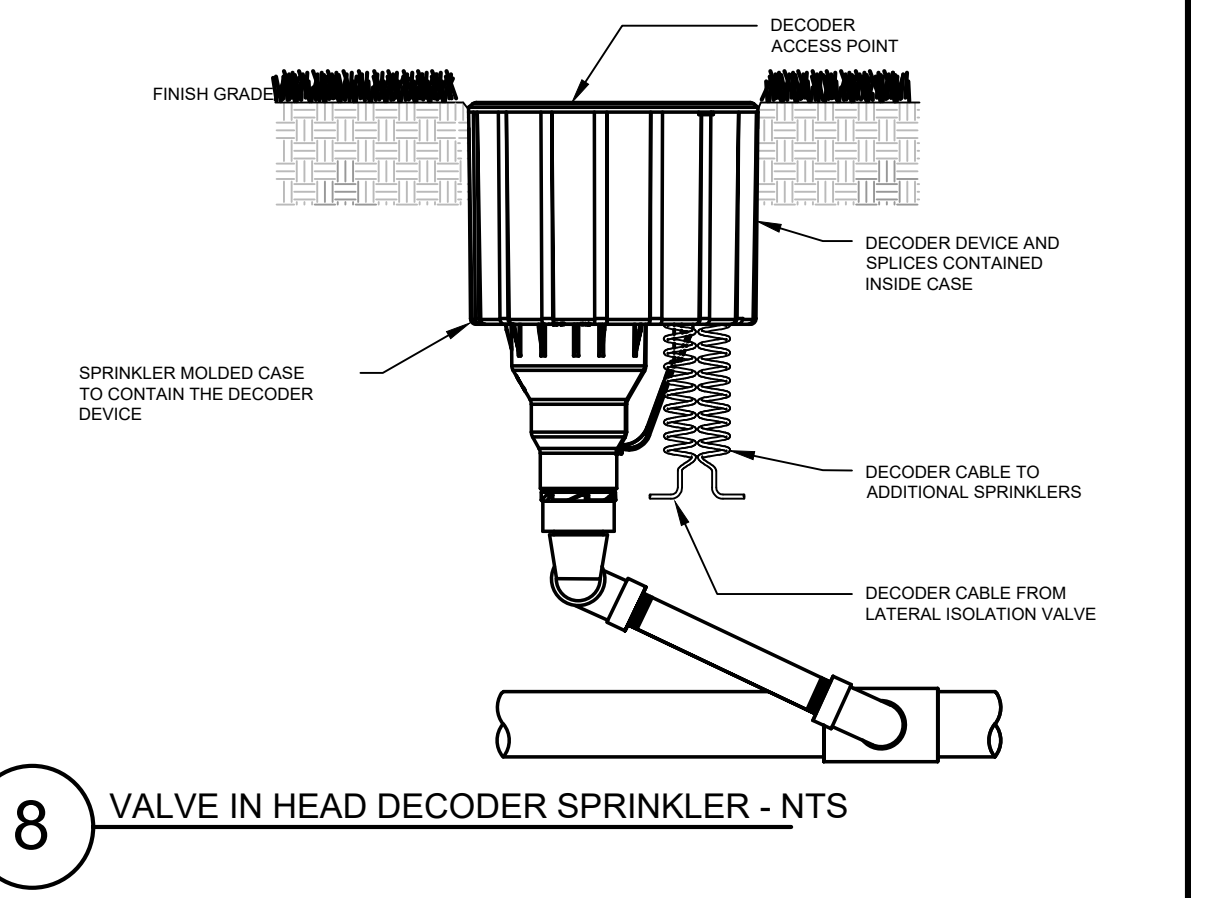
5 DOUBLE HEAD LATERAL CONNECTION - NTS



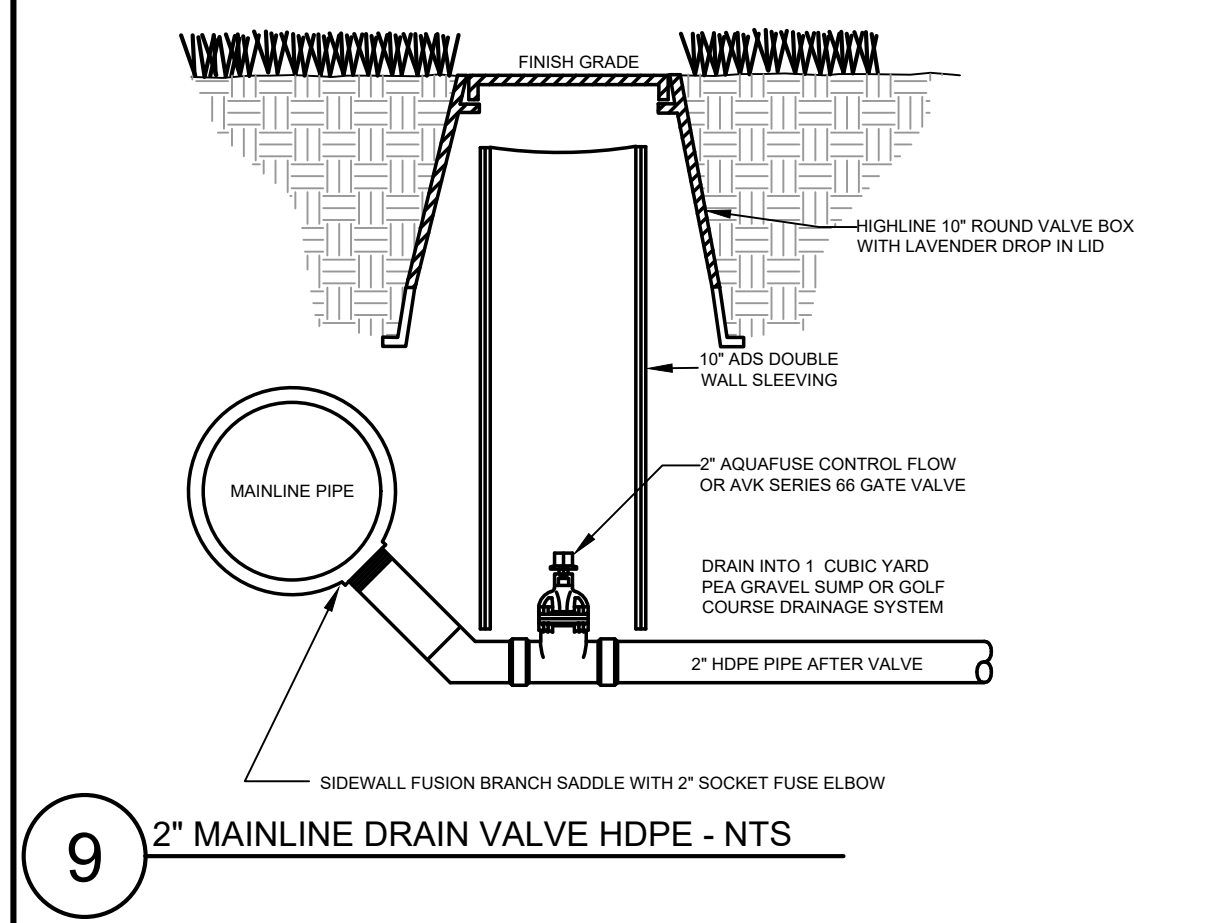
6 GREEN HEADS SPRINKLER ORIENTATION DETAIL - NTS



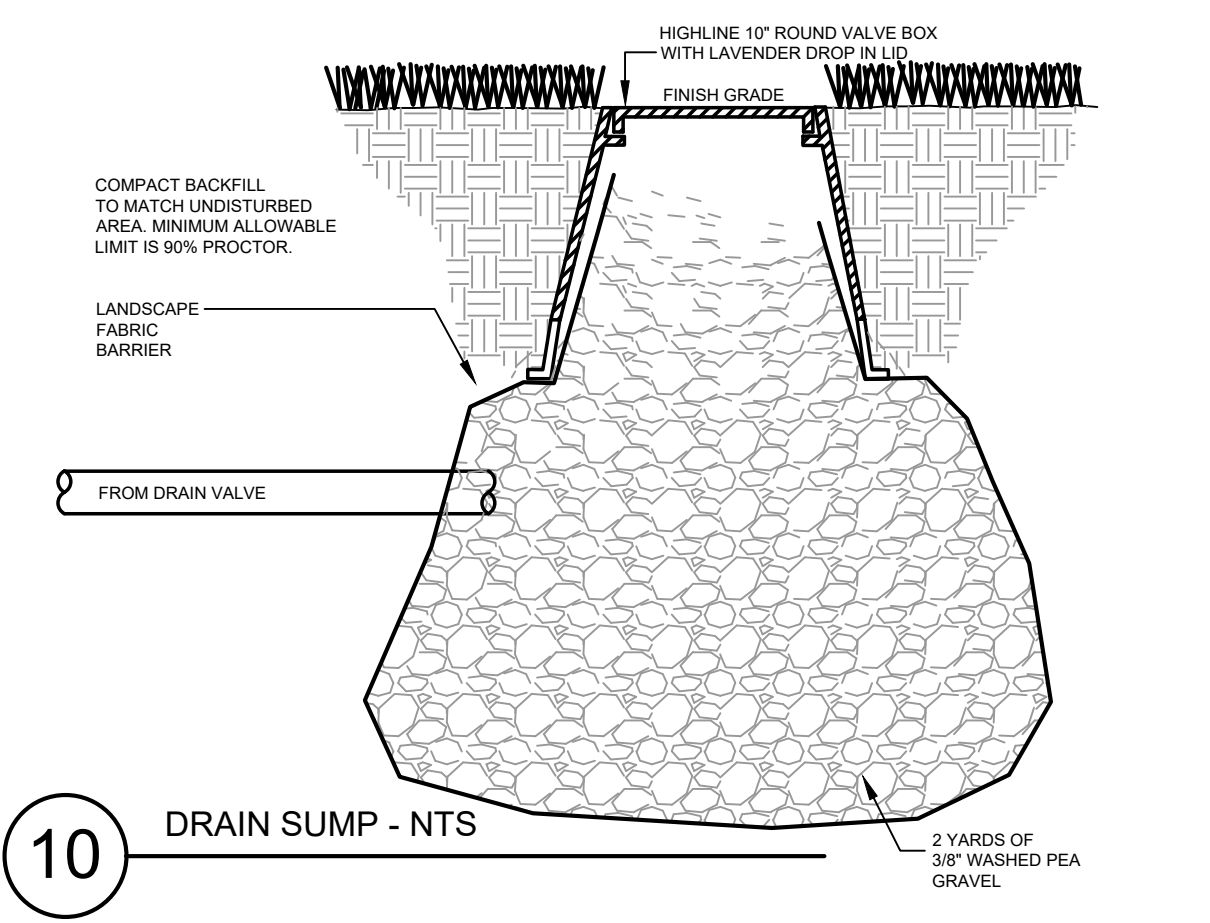
7 LATERAL ISOLATION VALVE GASKET X GASKET CONNECTION - HDPE MAINLINE TO HDPE LATERAL - NTS



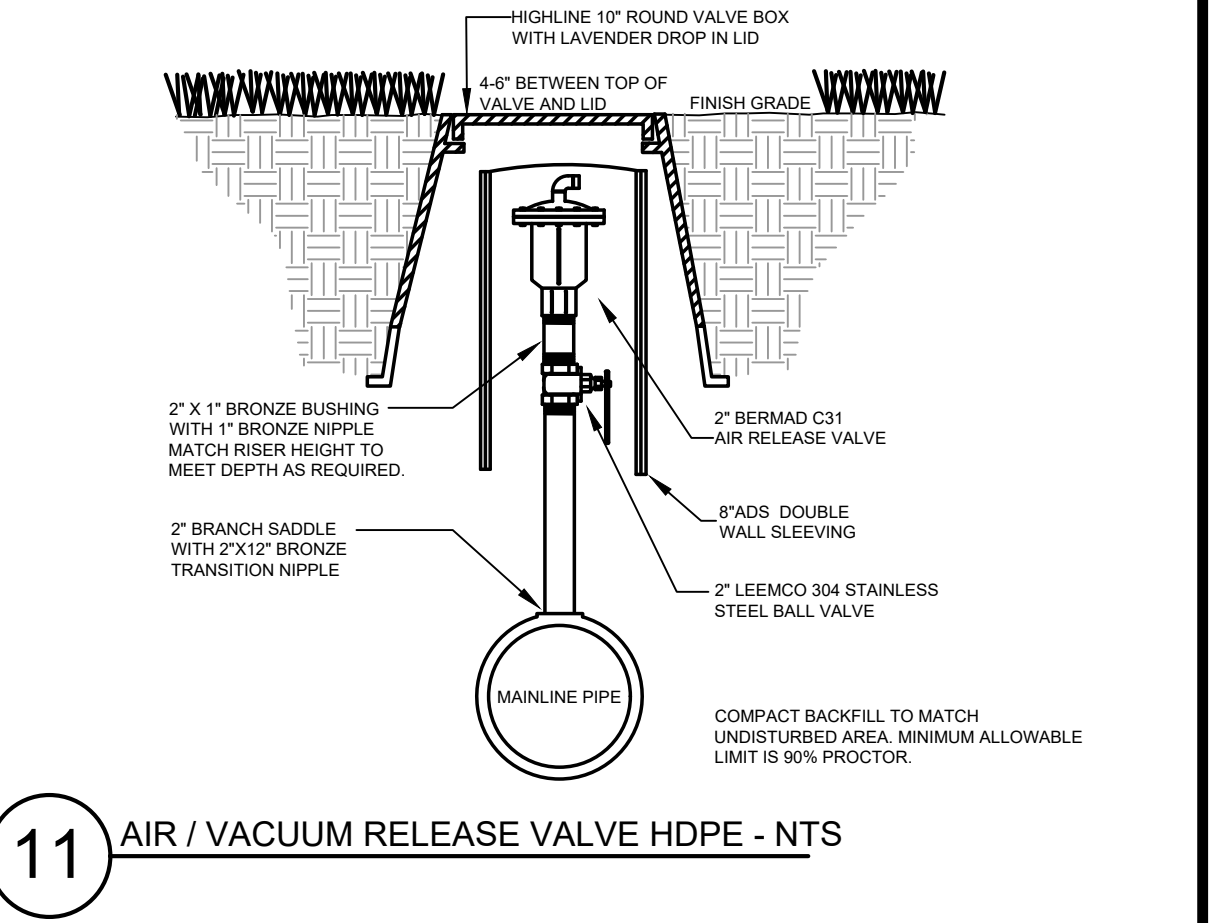
8 VALVE IN HEAD DECODER SPRINKLER - NTS



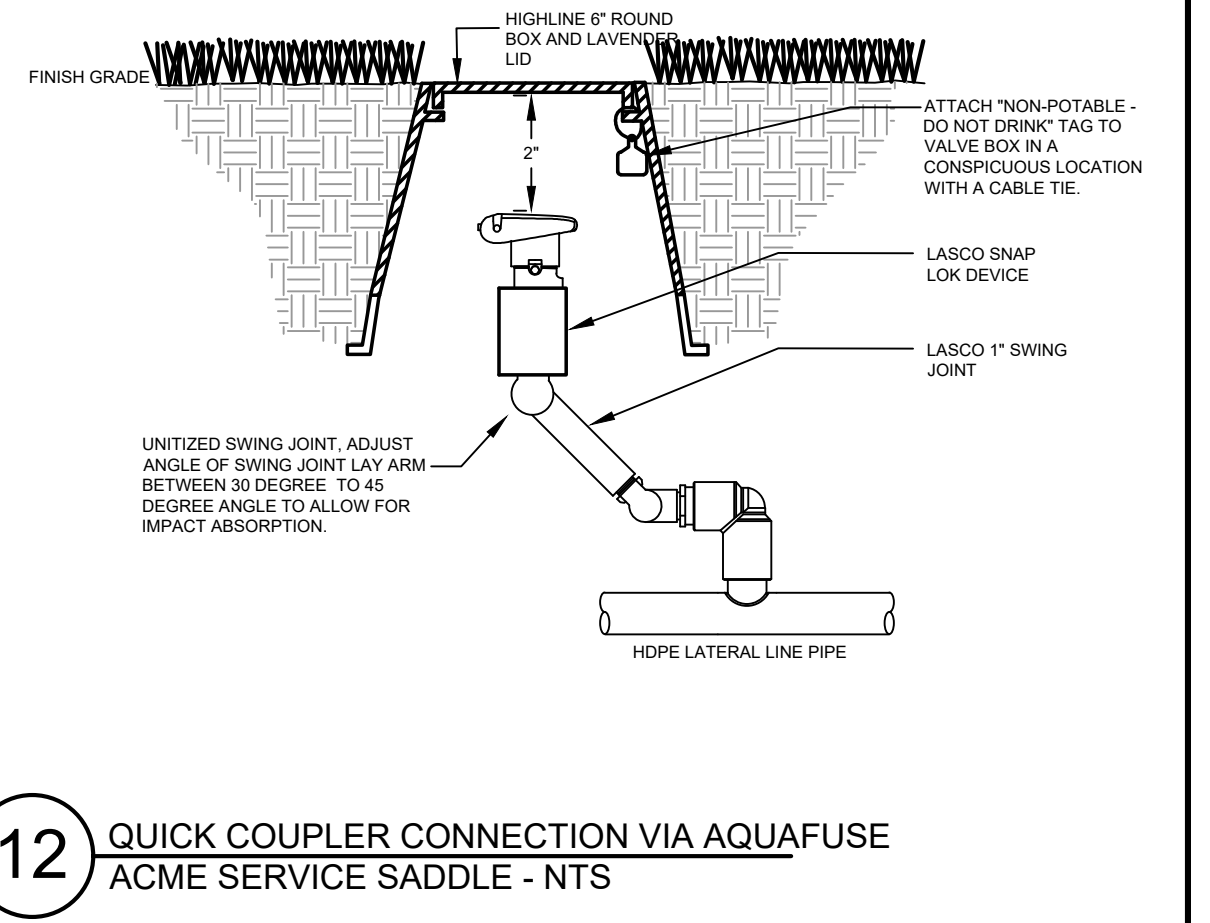
9 2" MAINLINE DRAIN VALVE HDPE - NTS



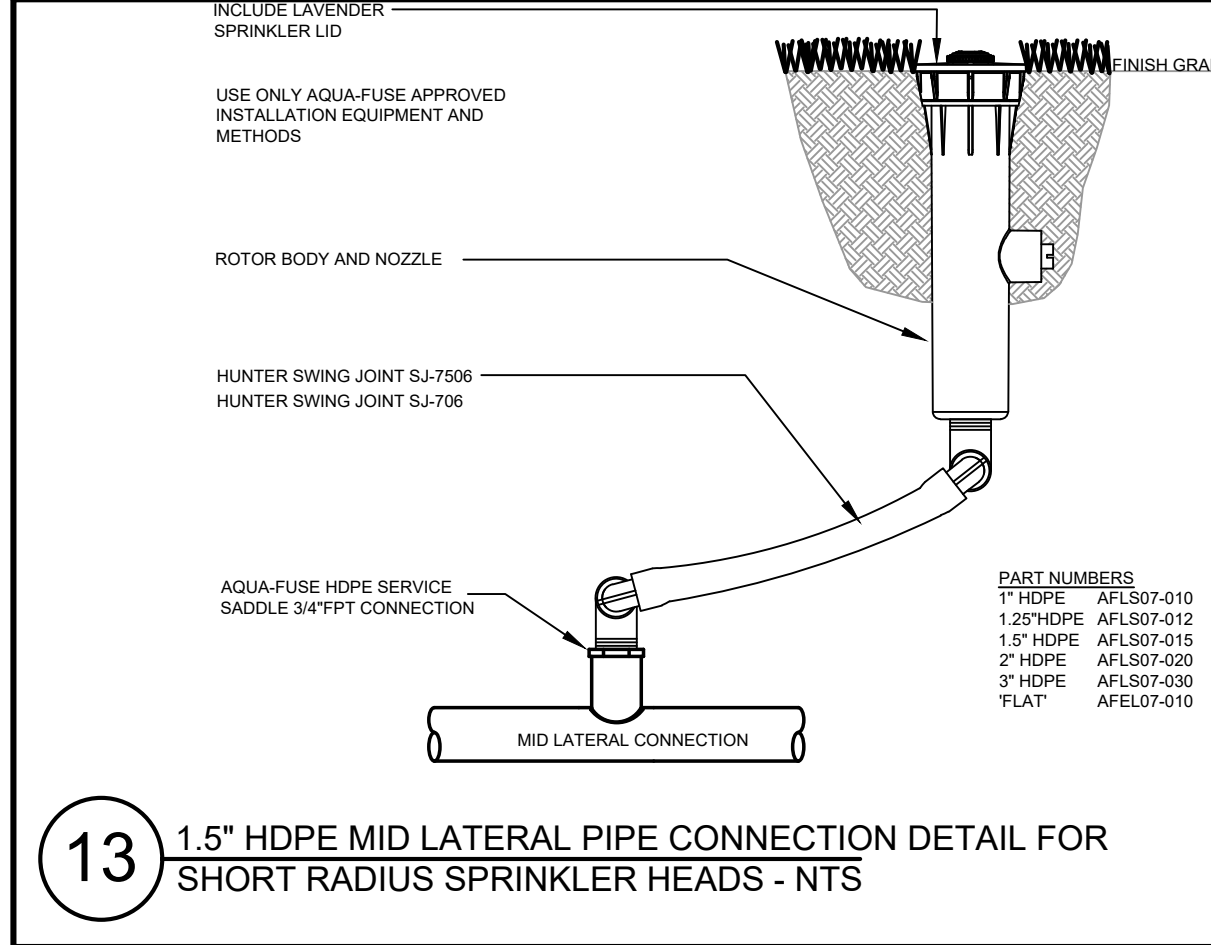
10 DRAIN SUMP - NTS



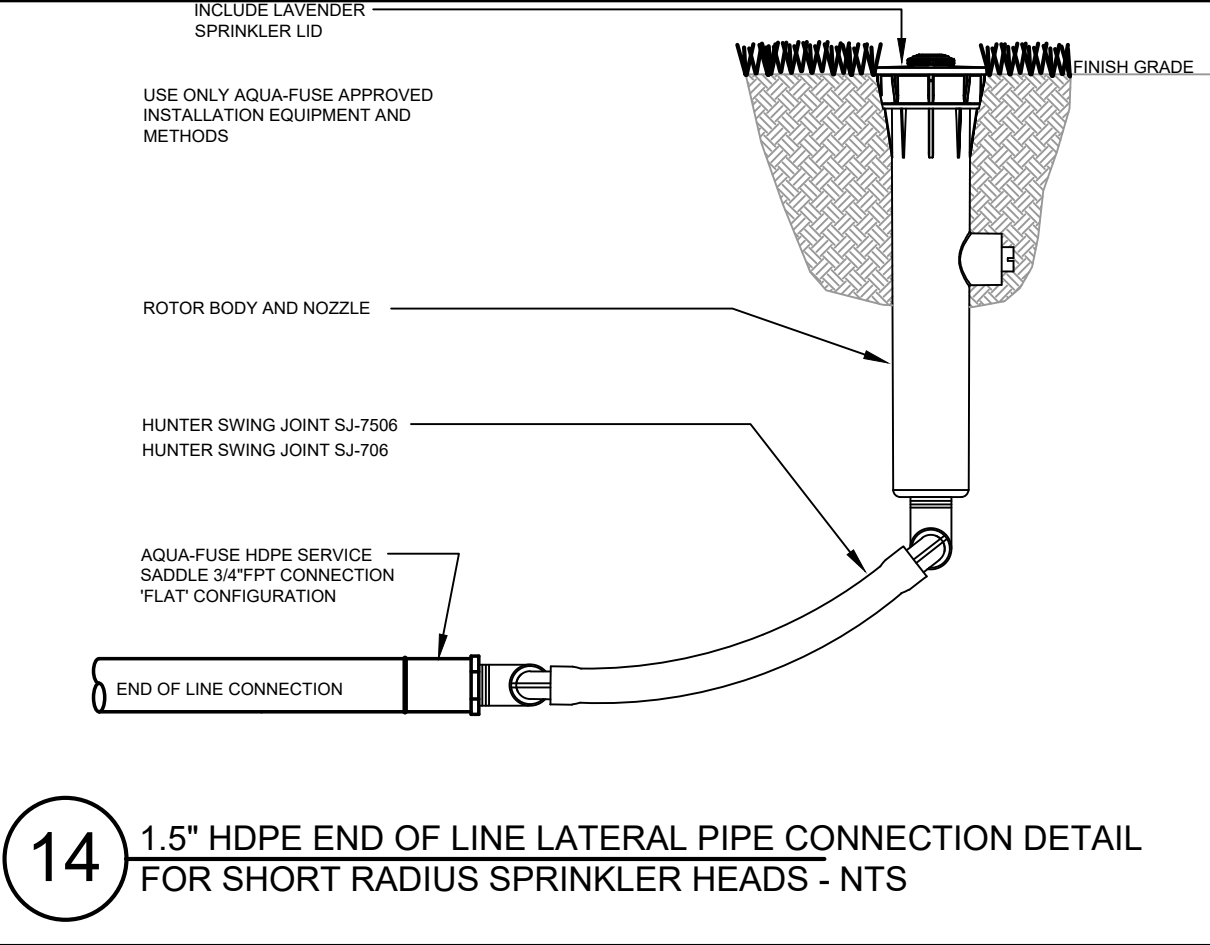
11 AIR / VACUUM RELEASE VALVE HDPE - NTS



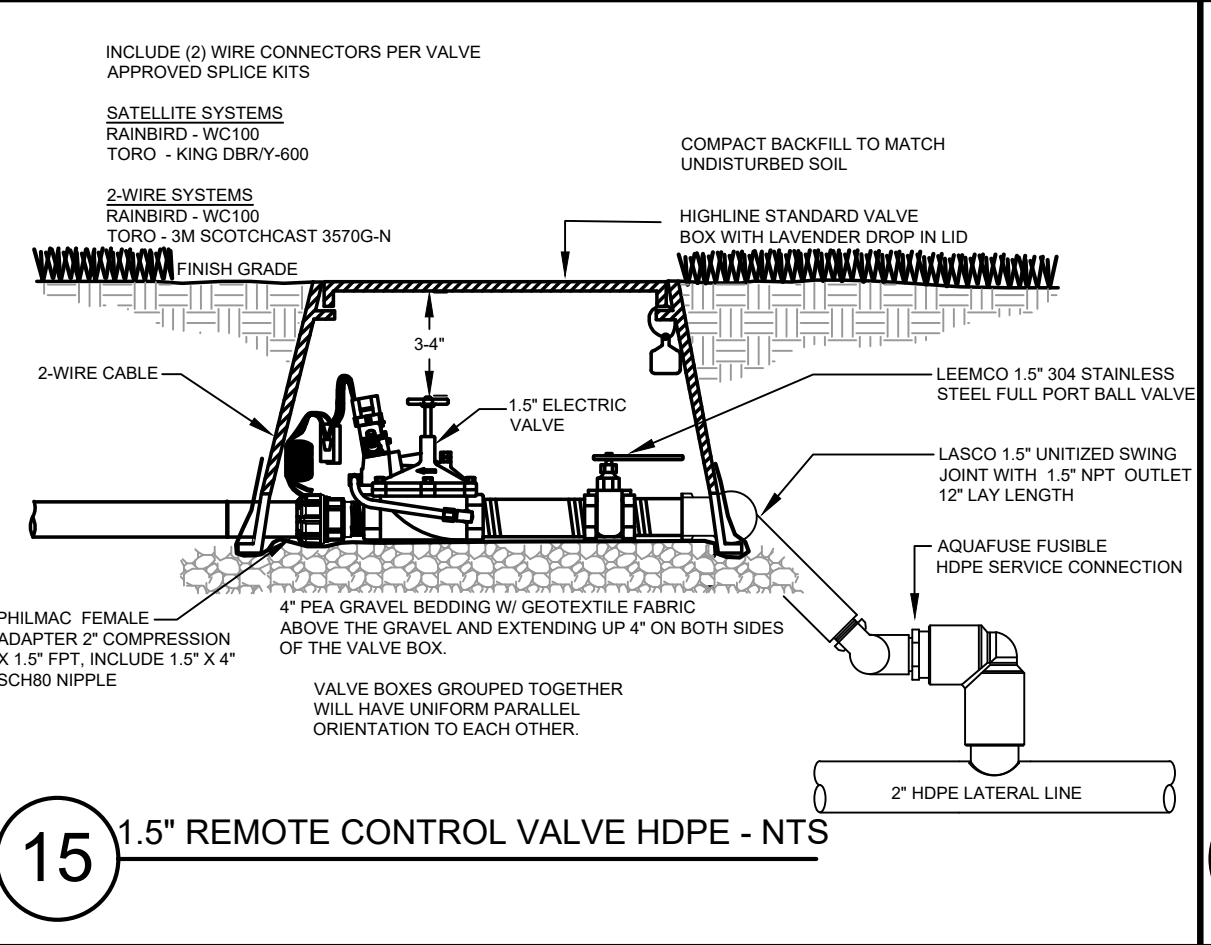
12 QUICK COUPLER CONNECTION VIA AQUA-FUSE ACME SERVICE SADDLE - NTS



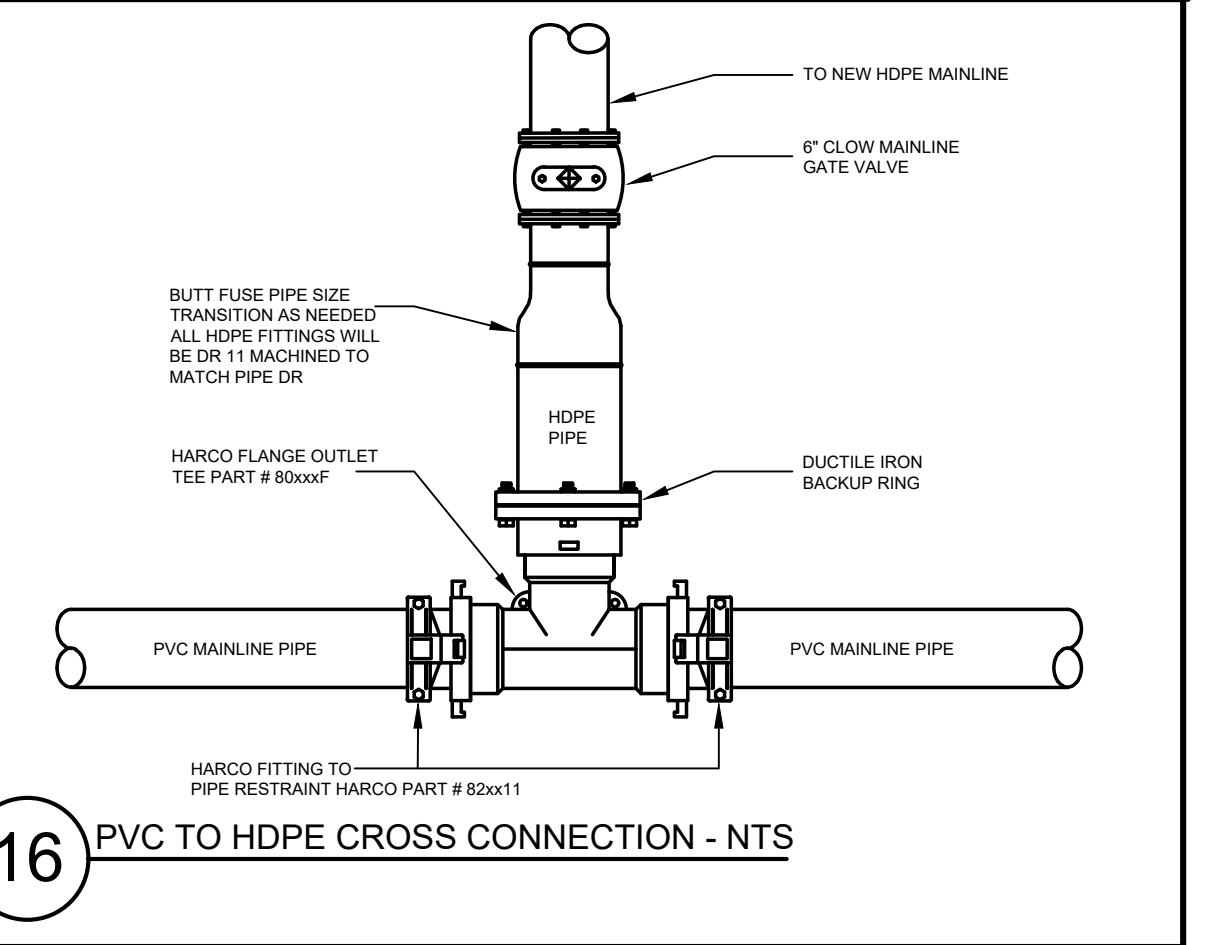
13 1.5" HDPE MID LATERAL PIPE CONNECTION DETAIL FOR SHORT RADIUS SPRINKLER HEADS - NTS



14 1.5" HDPE END OF LINE LATERAL PIPE CONNECTION DETAIL FOR SHORT RADIUS SPRINKLER HEADS - NTS



15 1.5" REMOTE CONTROL VALVE HDPE - NTS



16 PVC TO HDPE CROSS CONNECTION - NTS

Project	PJ 11-22
Drafter	BDK
Check	BDK
Plot Date:	06-30-2023
Scale:	N.T.S.

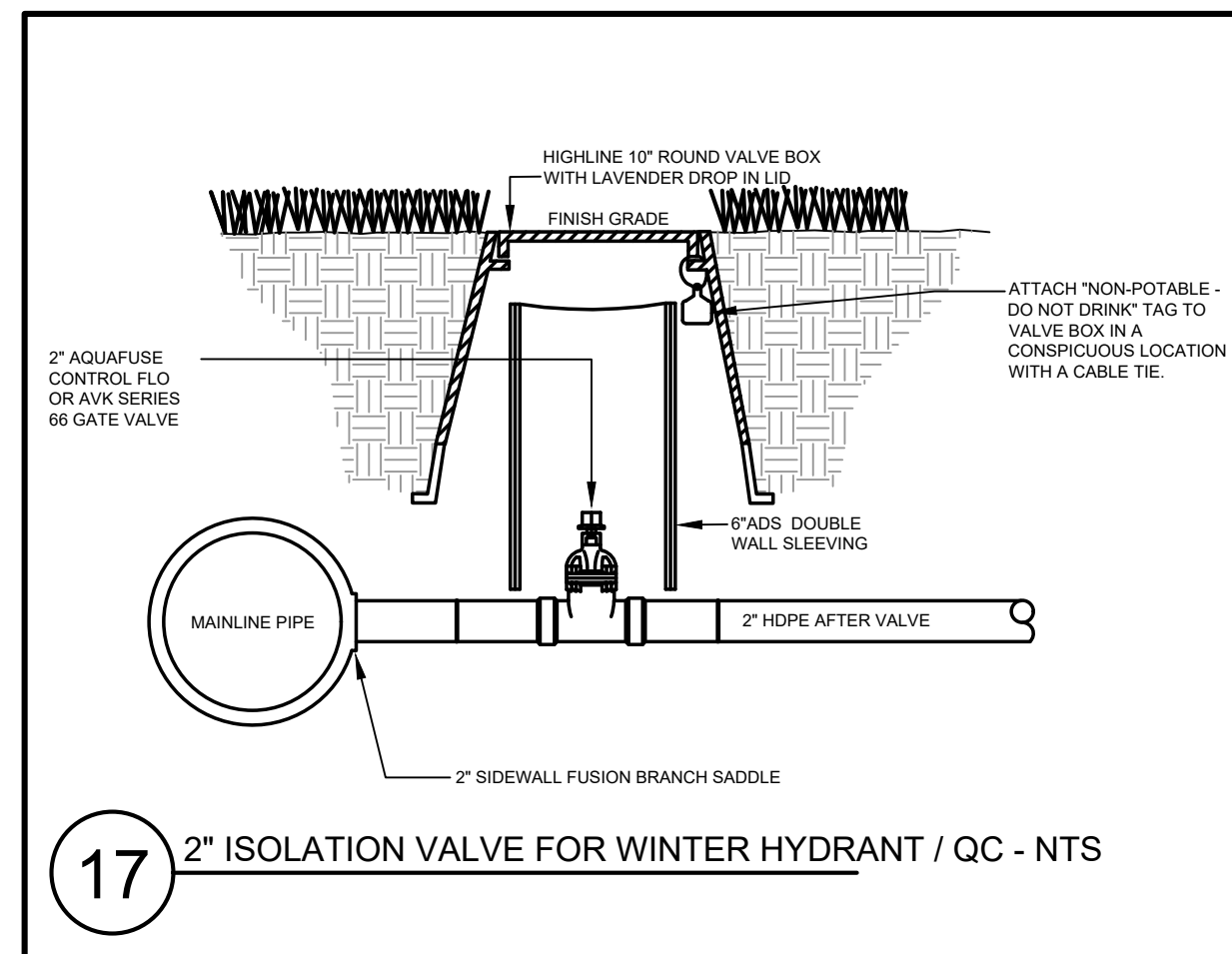
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SHEET TITLE:
 Installation
 Details
 Sheet
 1 of 2

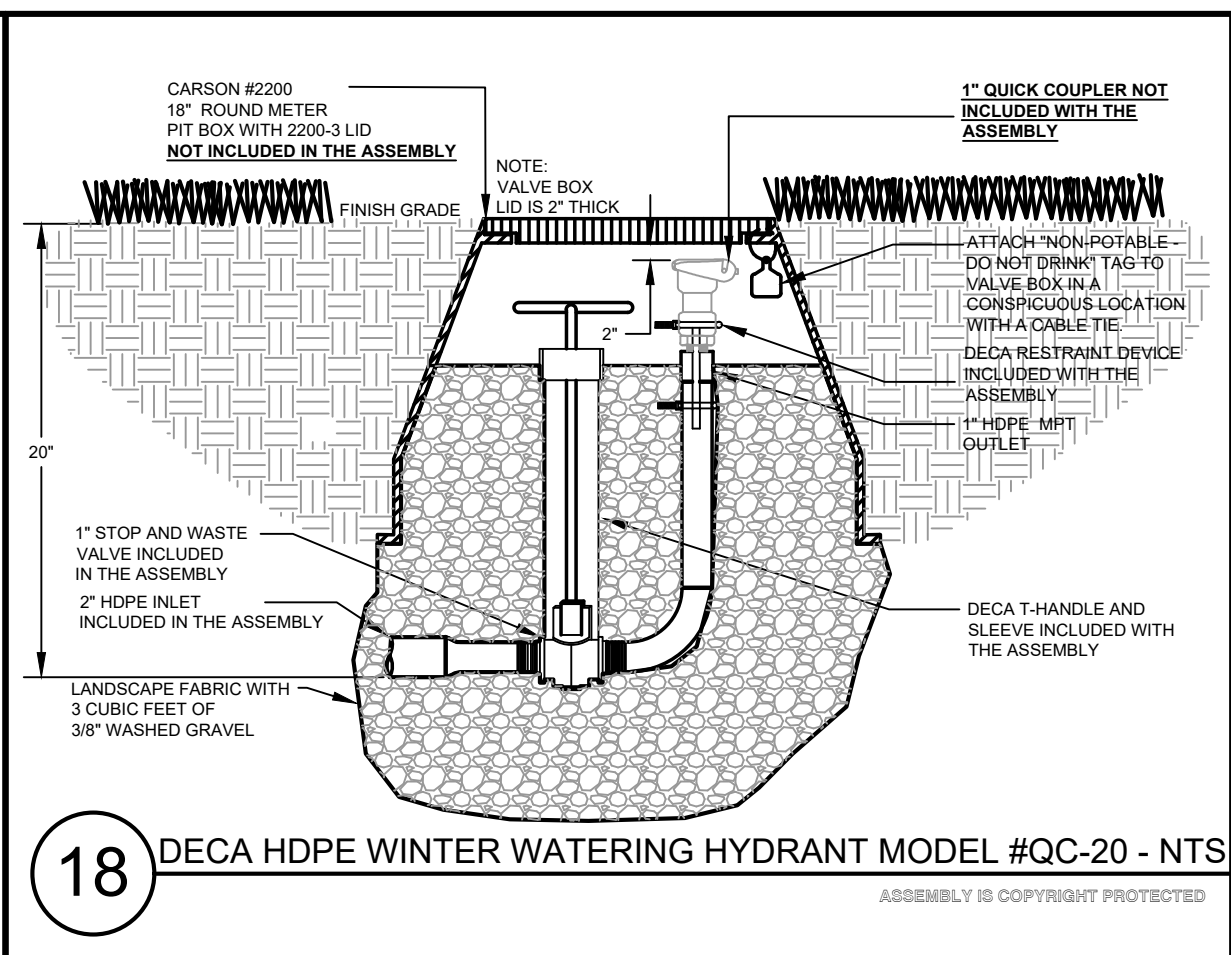


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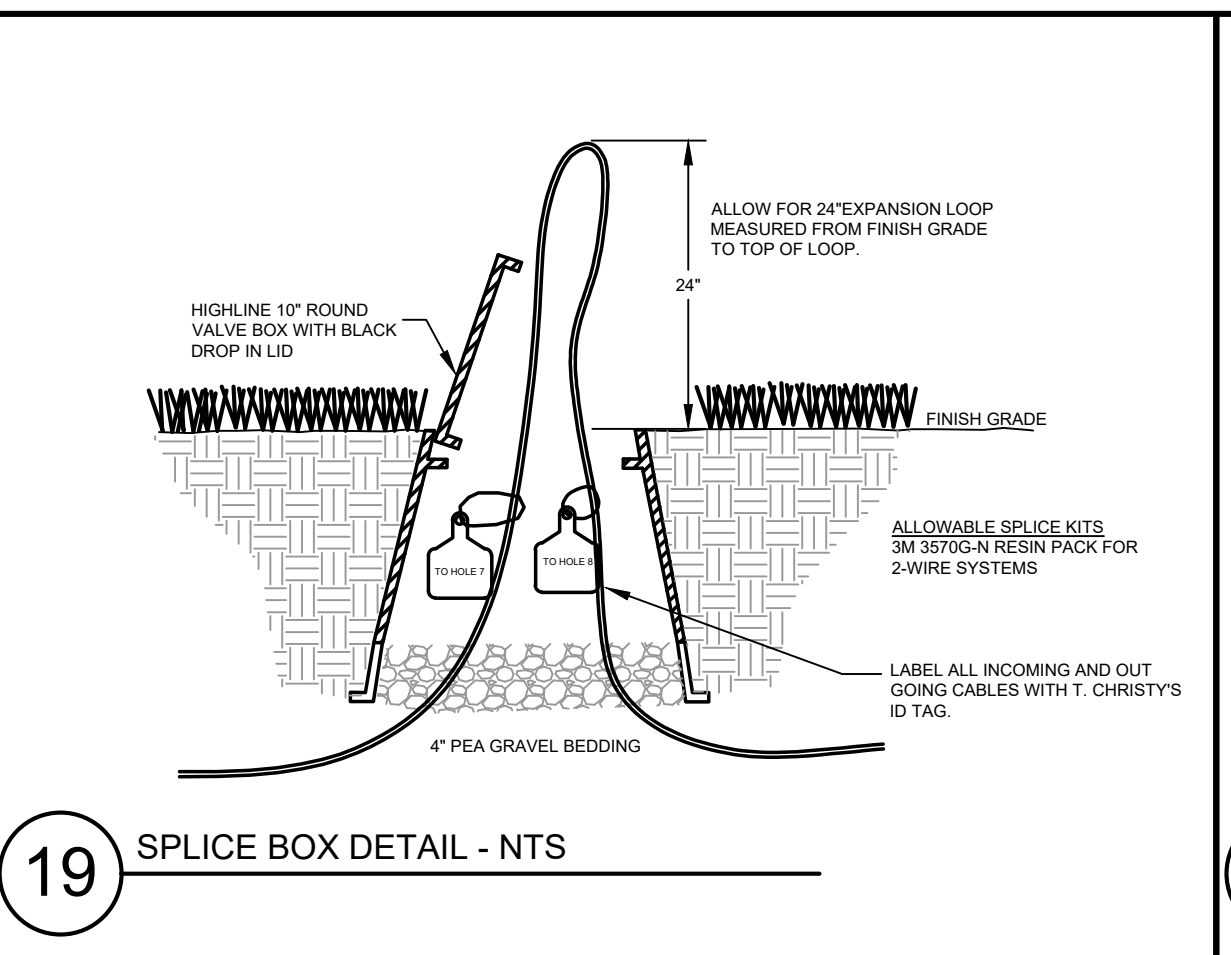
**Patty Jewett Golf Course
 Irrigation System Replacement Plan Set
 Colorado Springs, CO**



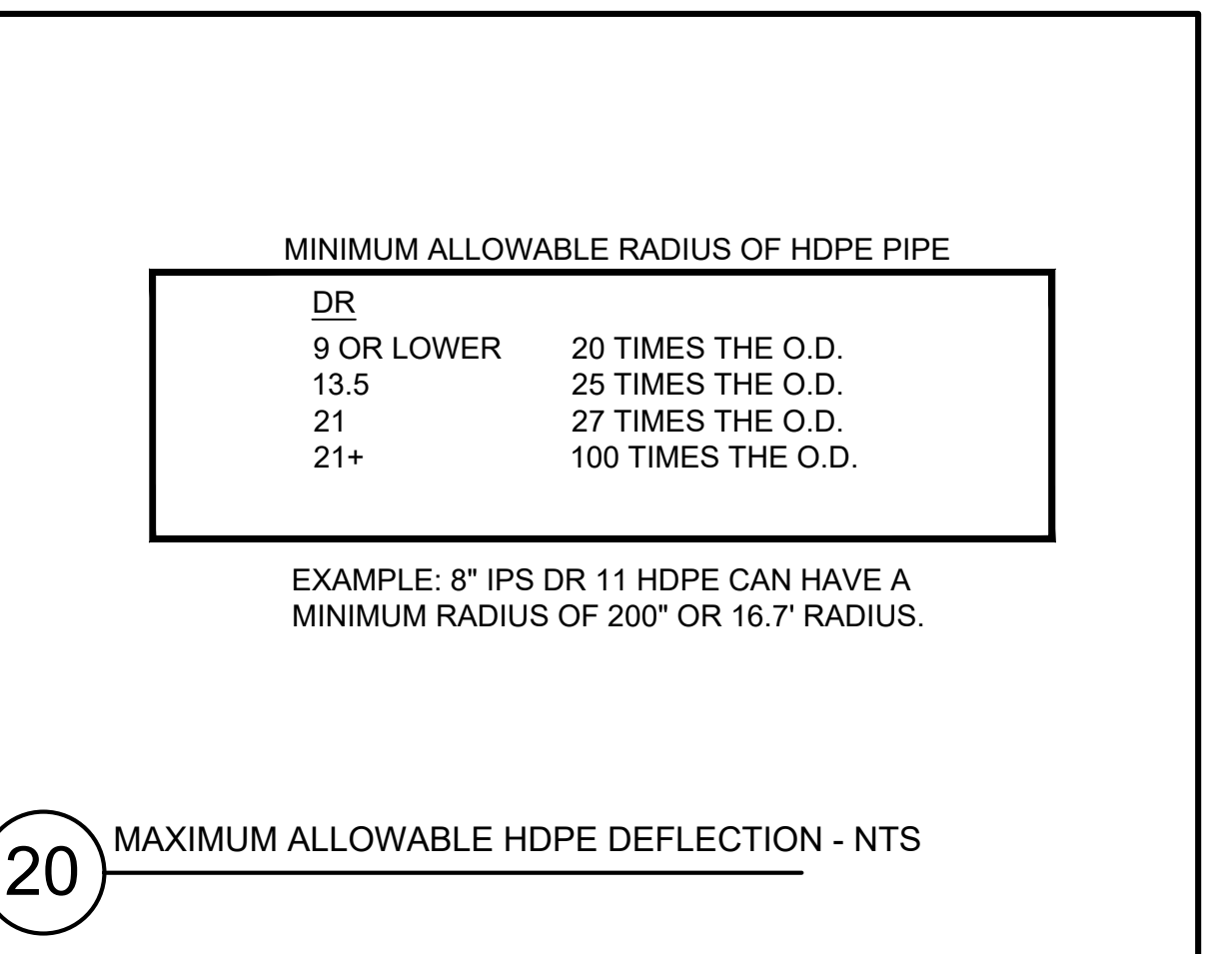
17 2" ISOLATION VALVE FOR WINTER HYDRANT / QC - NTS



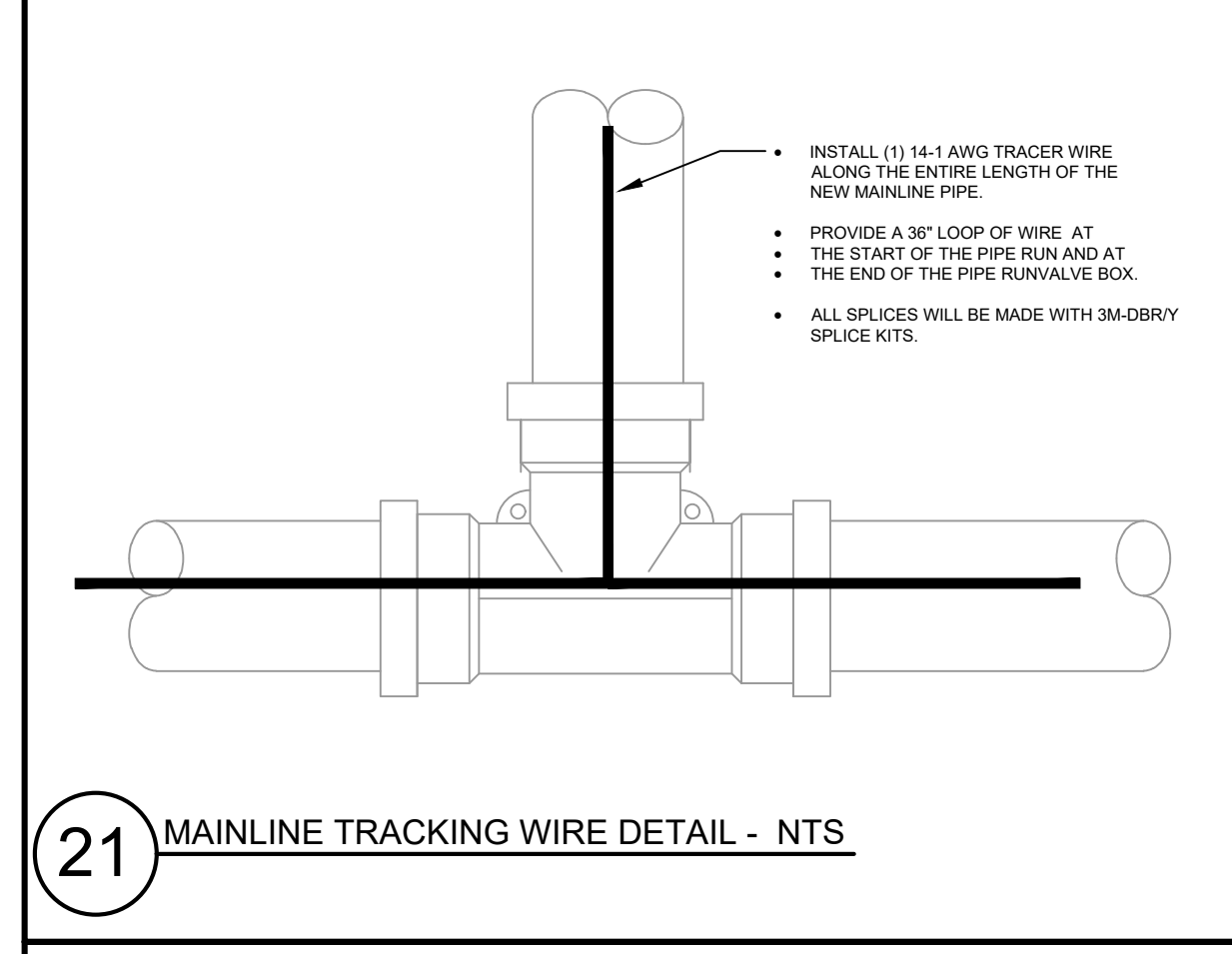
18 DECA HDPE WINTER WATERING HYDRANT MODEL #QC-20 - NTS



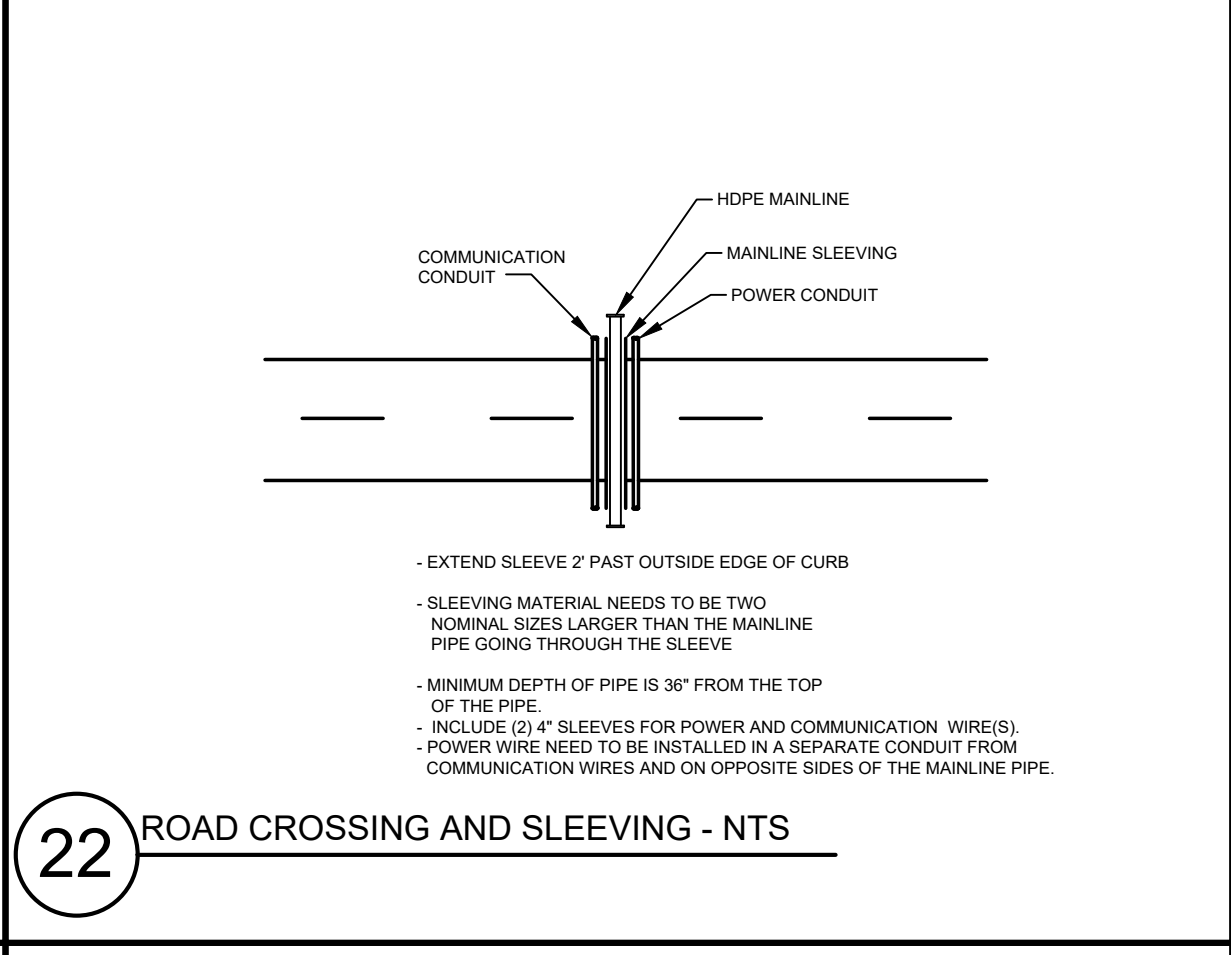
19 SPLICE BOX DETAIL - NTS



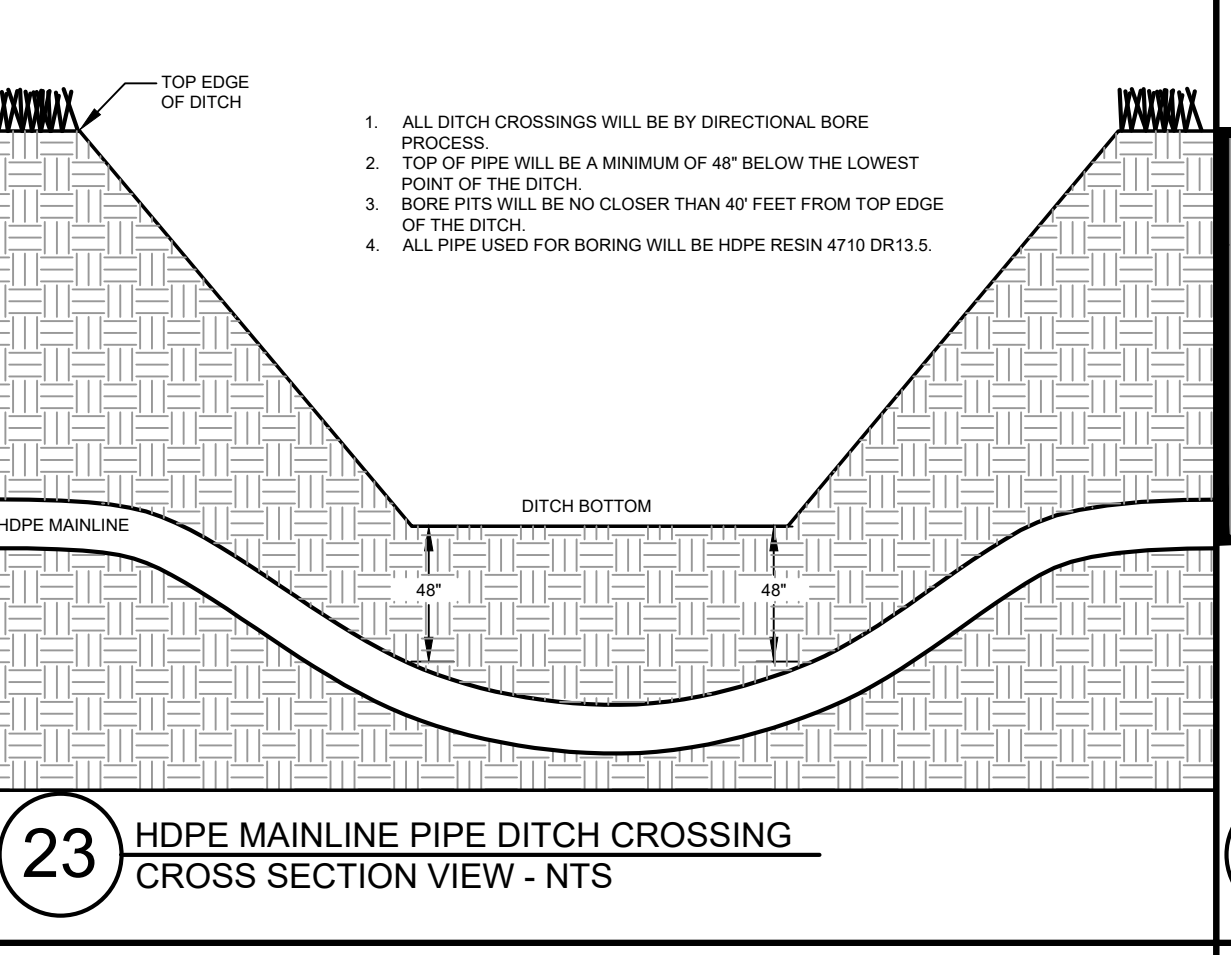
20 MAXIMUM ALLOWABLE HDPE DEFLECTION - NTS



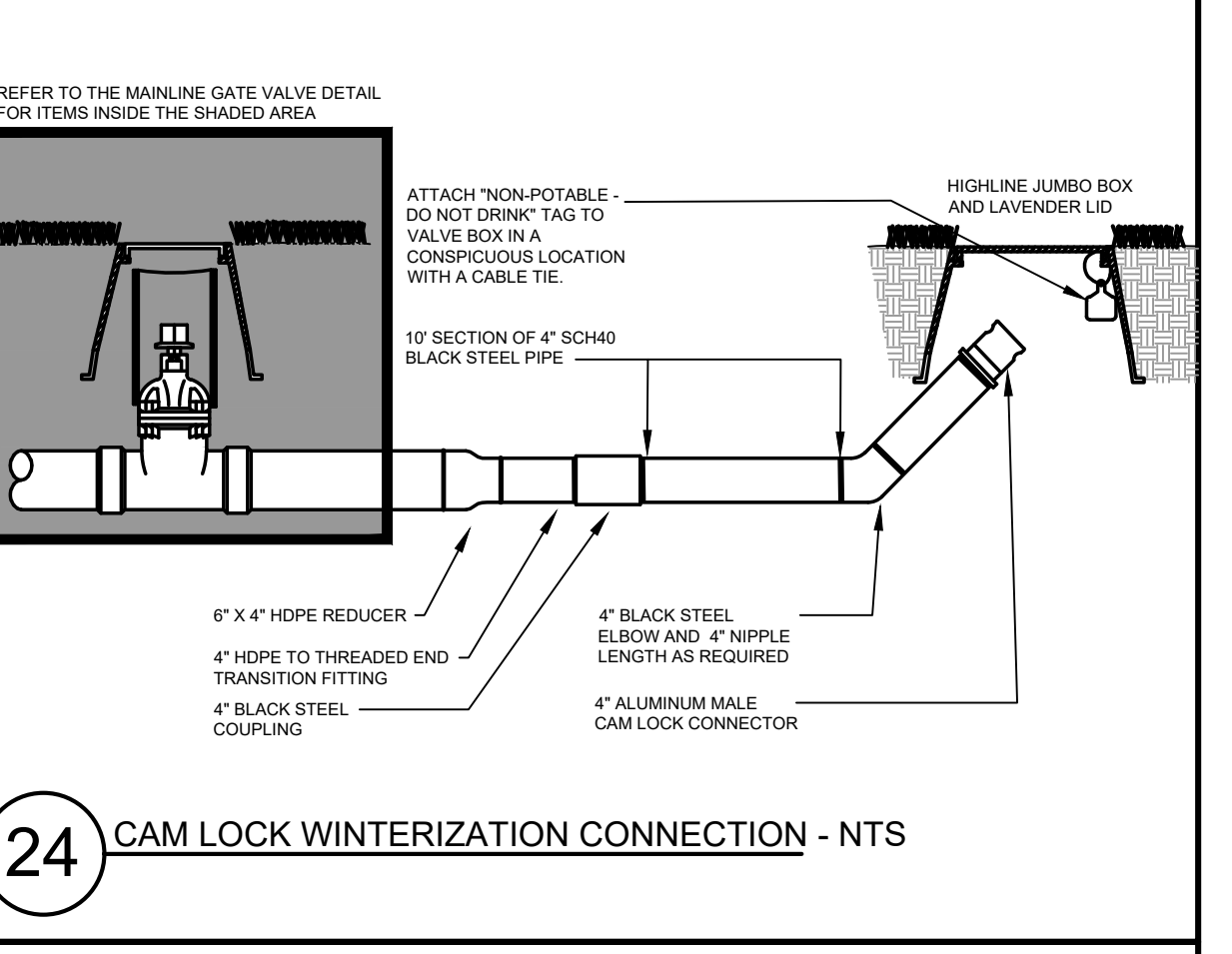
21 MAINLINE TRACKING WIRE DETAIL - NTS



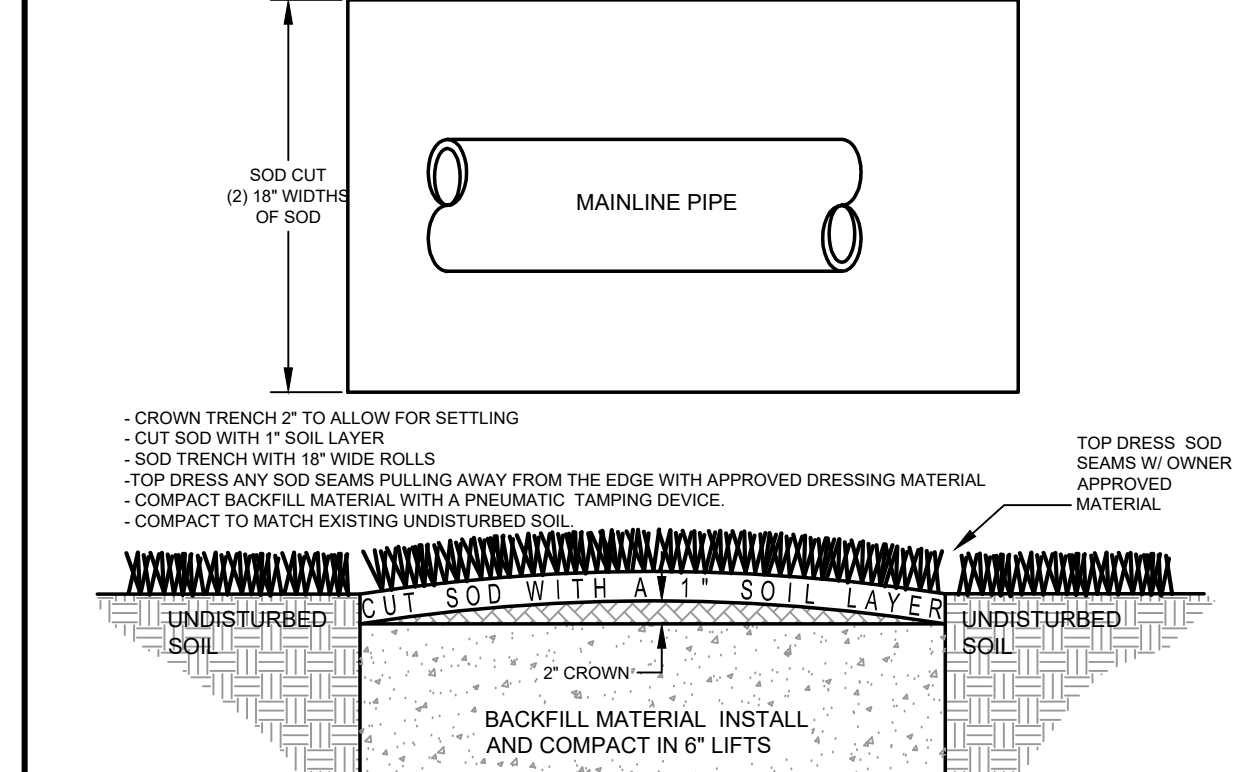
22 ROAD CROSSING AND SLEEVING - NTS



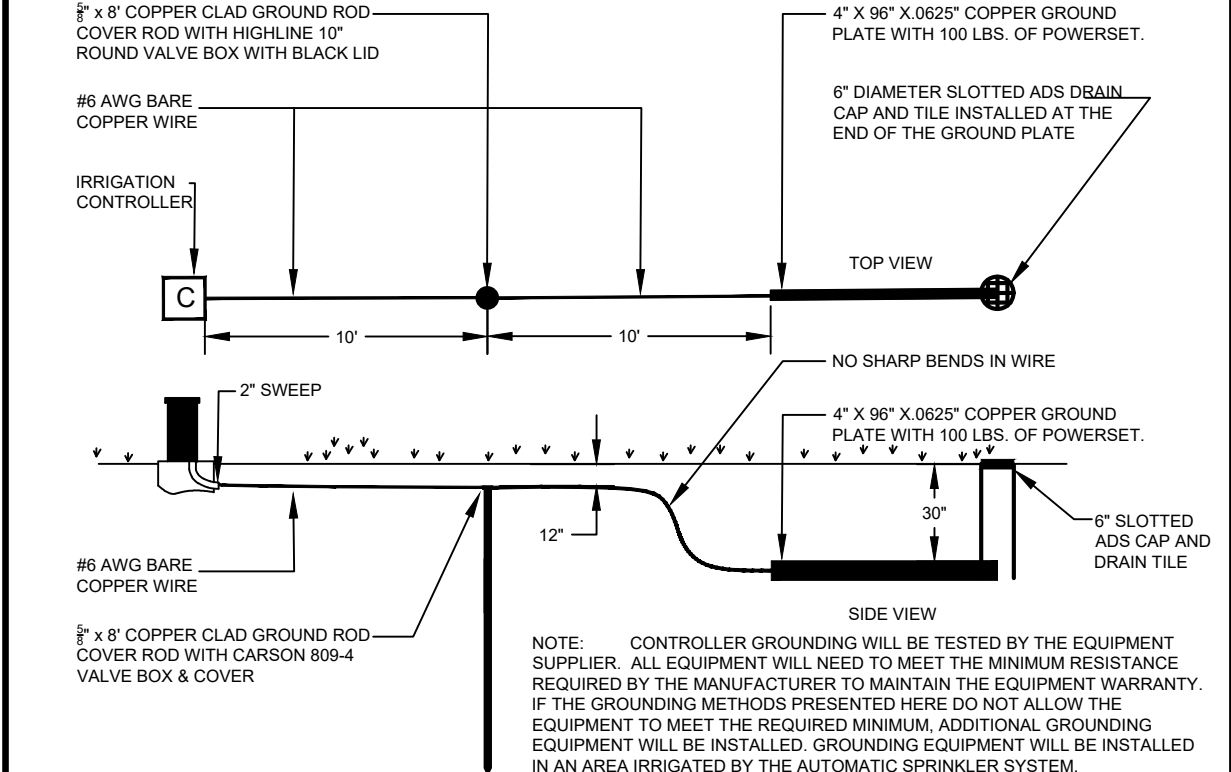
23 HDPE MAINLINE PIPE DITCH CROSSING CROSS SECTION VIEW - NTS



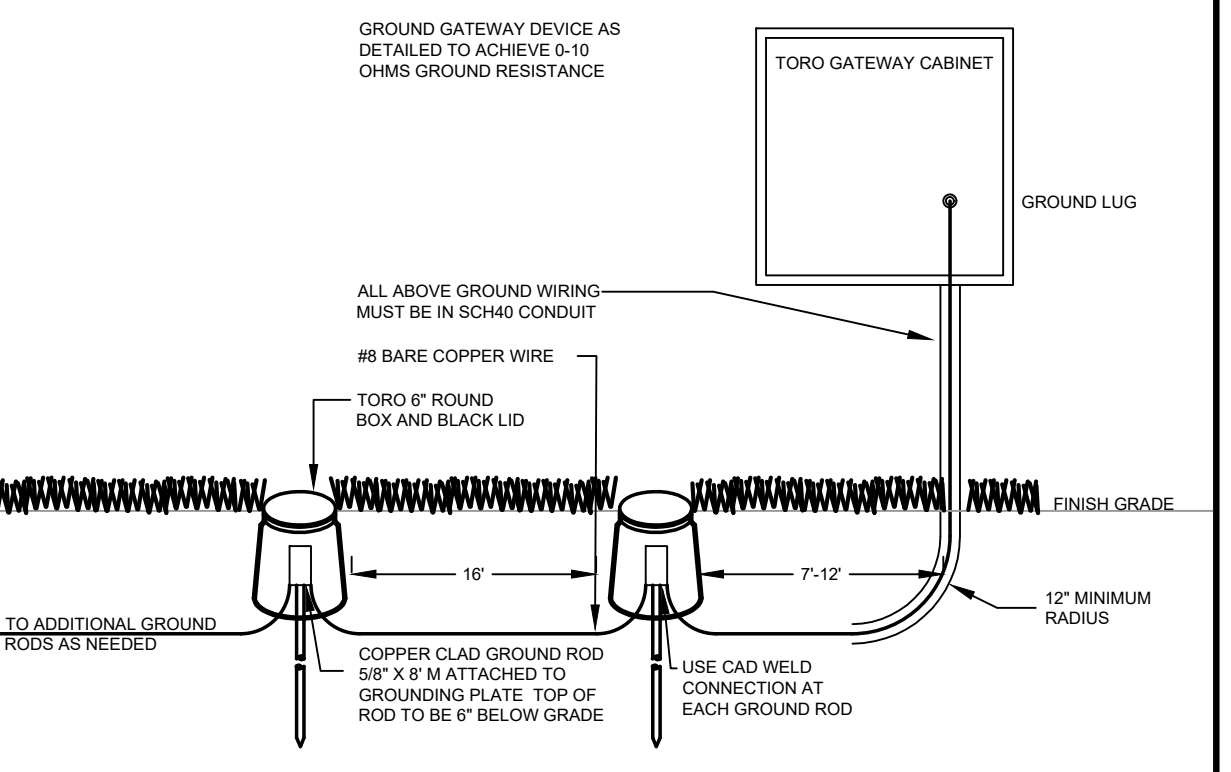
24 CAM LOCK WINTERIZATION CONNECTION - NTS



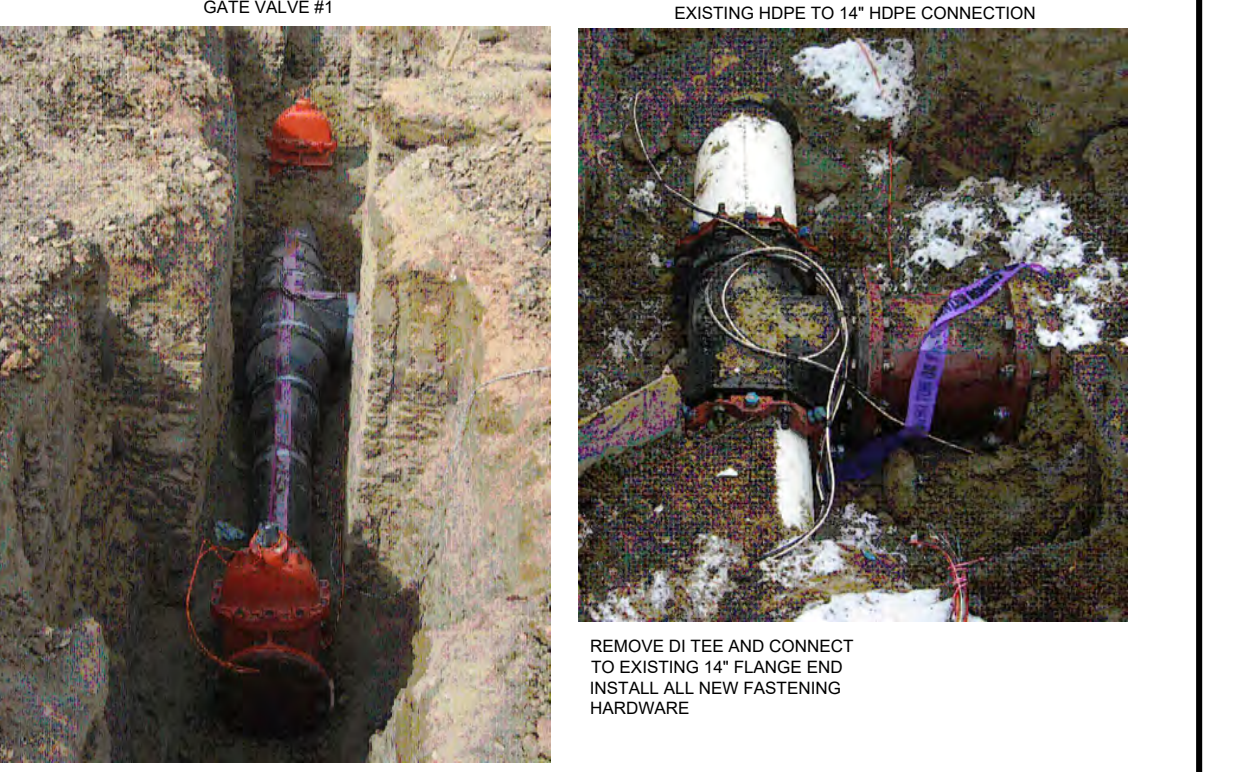
25 MAINLINE SOD STRIPPING AND REPLACEMENT DETAIL - NTS



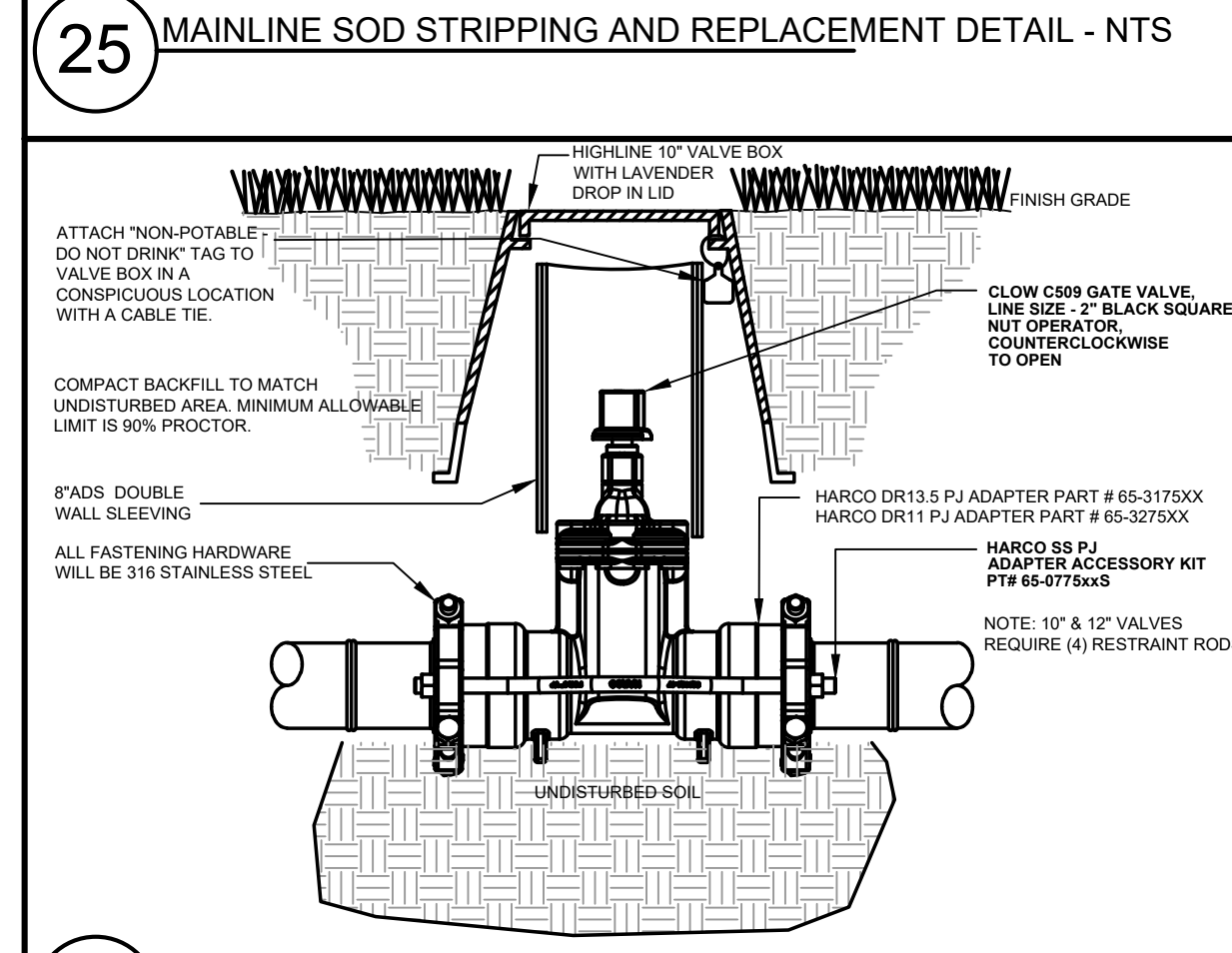
26 TORO 2 WIRE SYSTEM GROUNDING - NTS



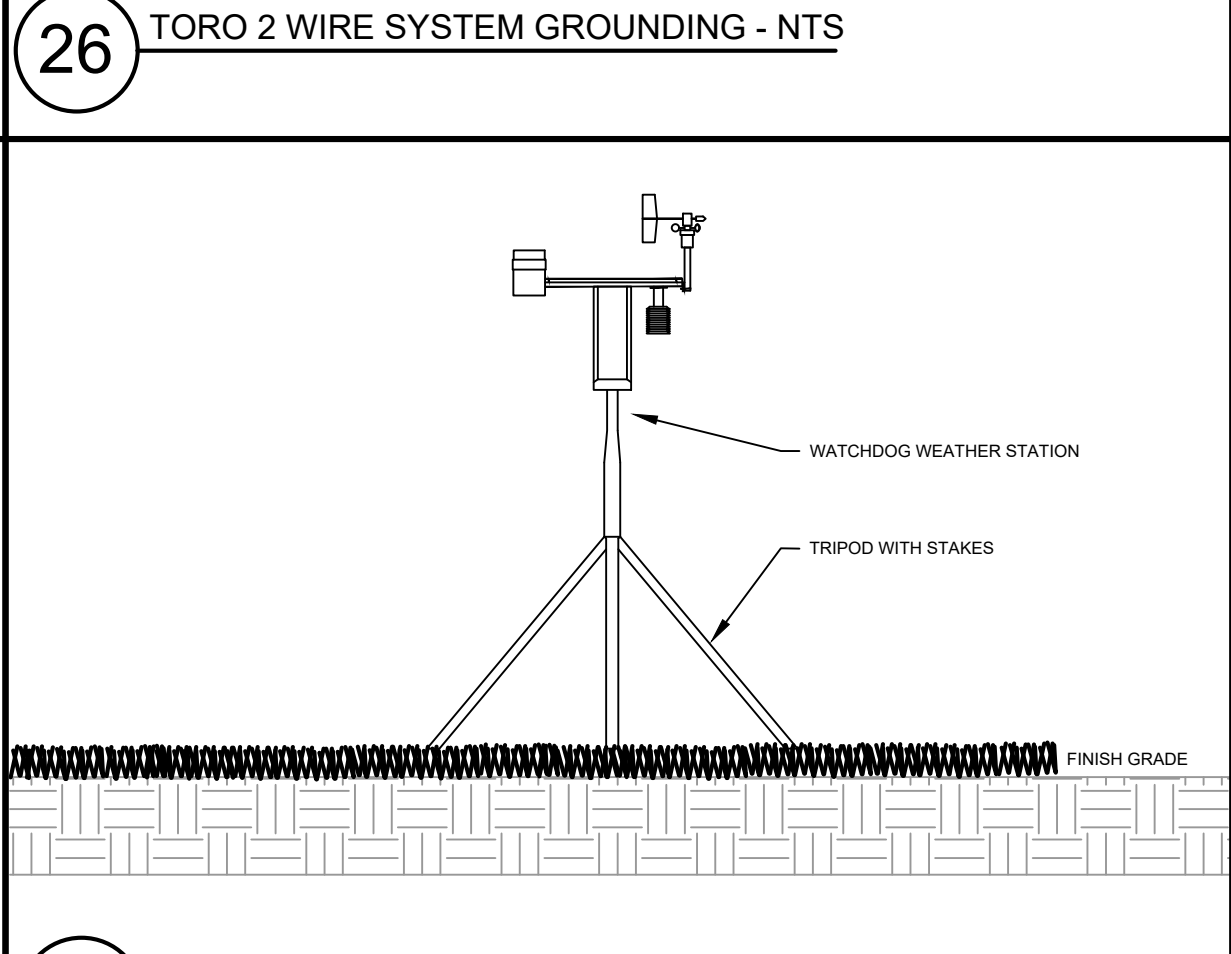
27 TORO CENTRAL COMPUTER GROUNDING - NTS



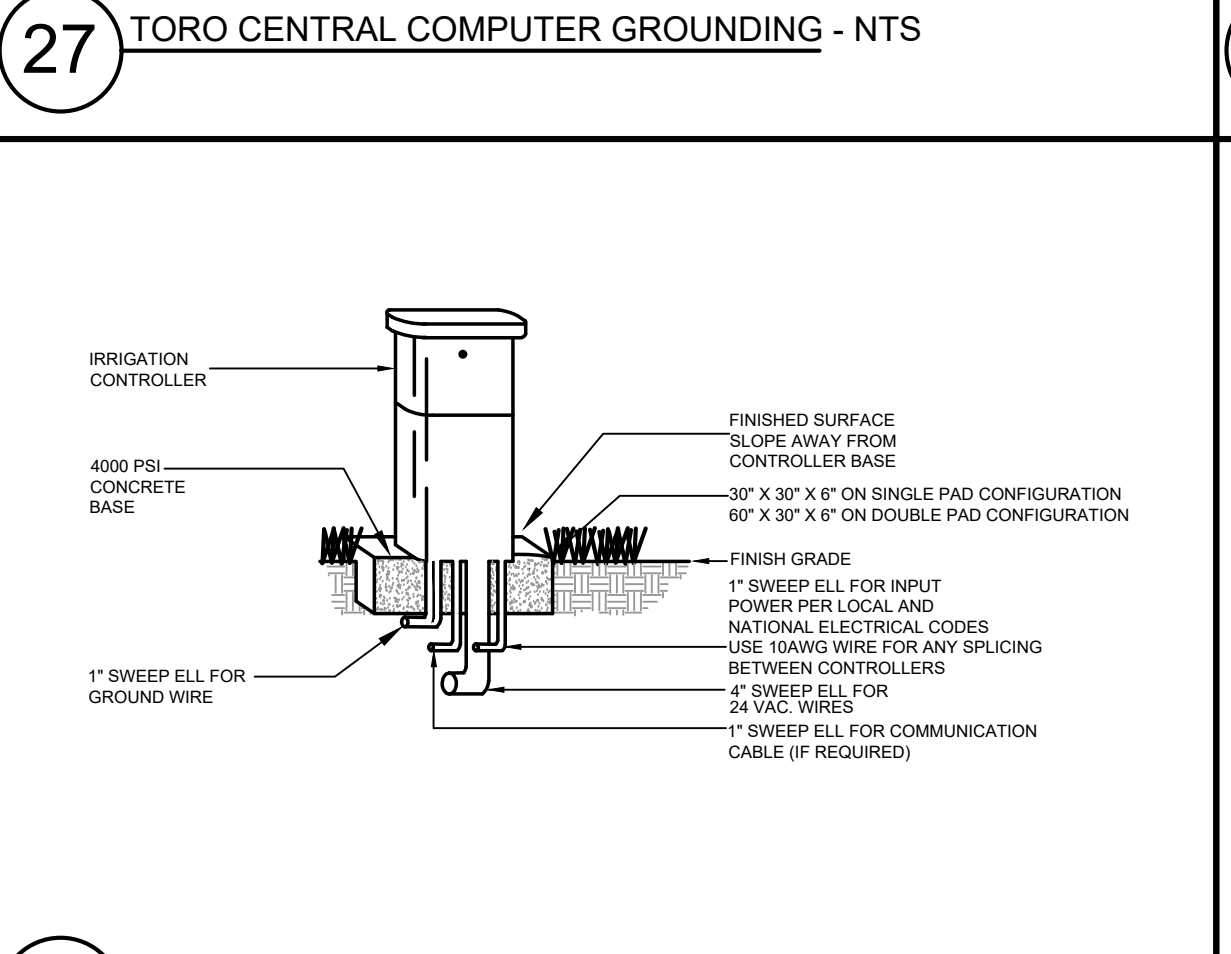
28 EXISTING GATE VALVE ASSEMBLIES AT THE PUMP STATION - NTS



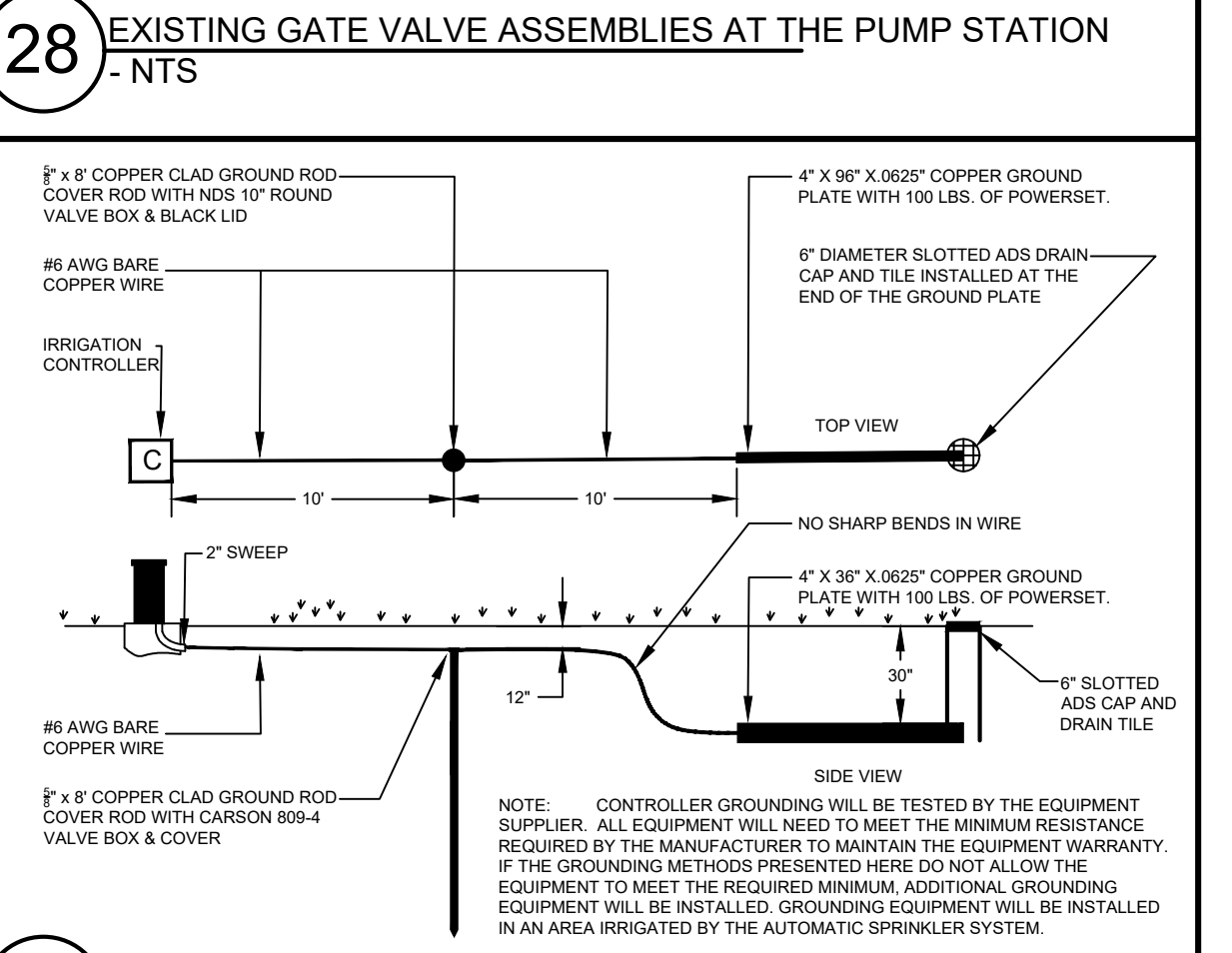
29 MAINLINE ISOLATION VALVE USING HARCO PJ CONNECTION - NTS



30 WATCHDOG WEATHER STATION & TRIPOD - NTS



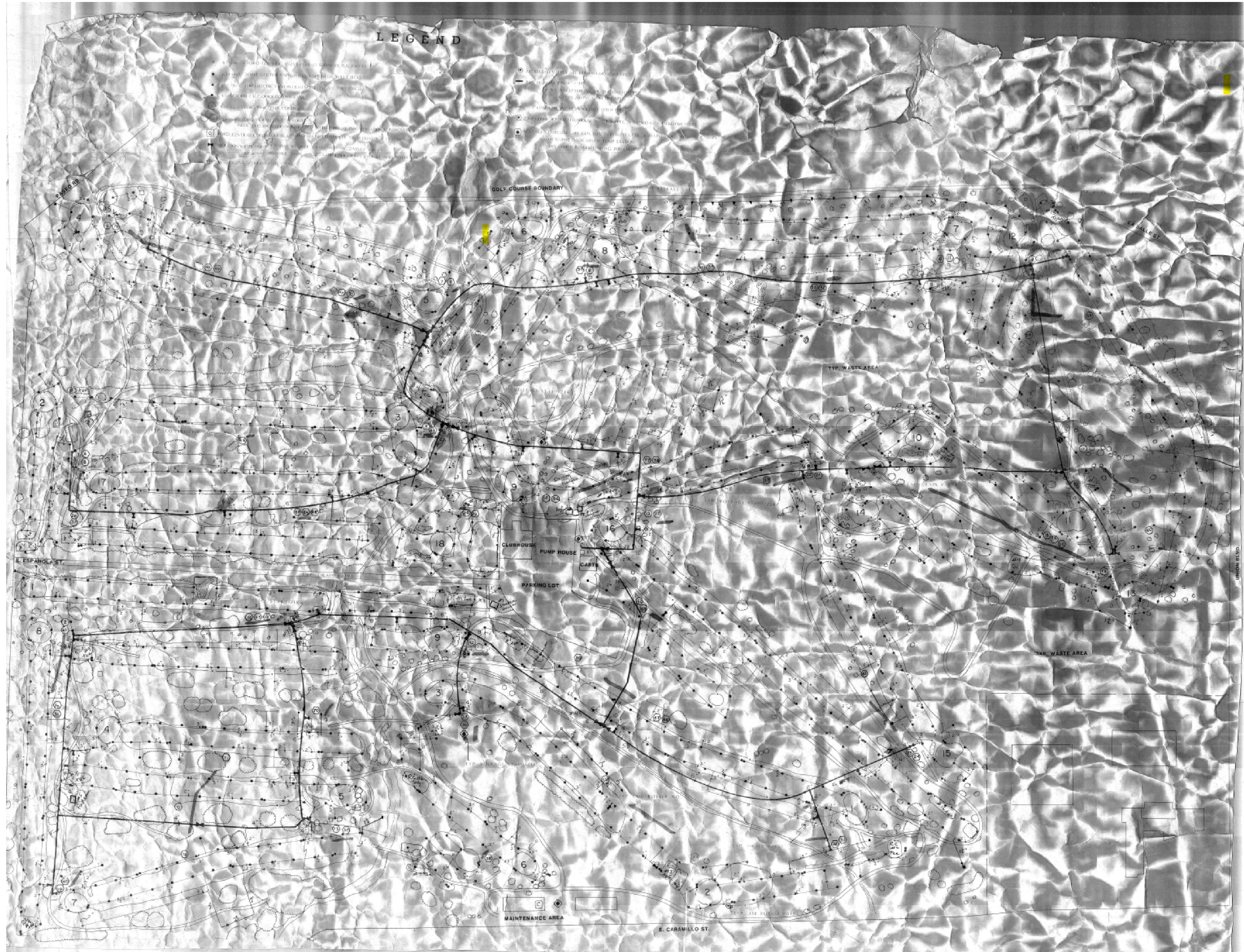
31 CONTROLLER SLEEVING AND CONCRETE PEDESTAL - NTS



32 CONTROLLER GROUNDING - NTS

Project	PJ 11-22
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Project	PJ 11-22
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SHEET TITLE:
 Existing
 As-built

WATER PLAN NOTES

THE CONTRACTOR SHALL NOTIFY COLORADO SPRINGS UTILITIES' INSPECTIONS OFFICE 719-668-4658 A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

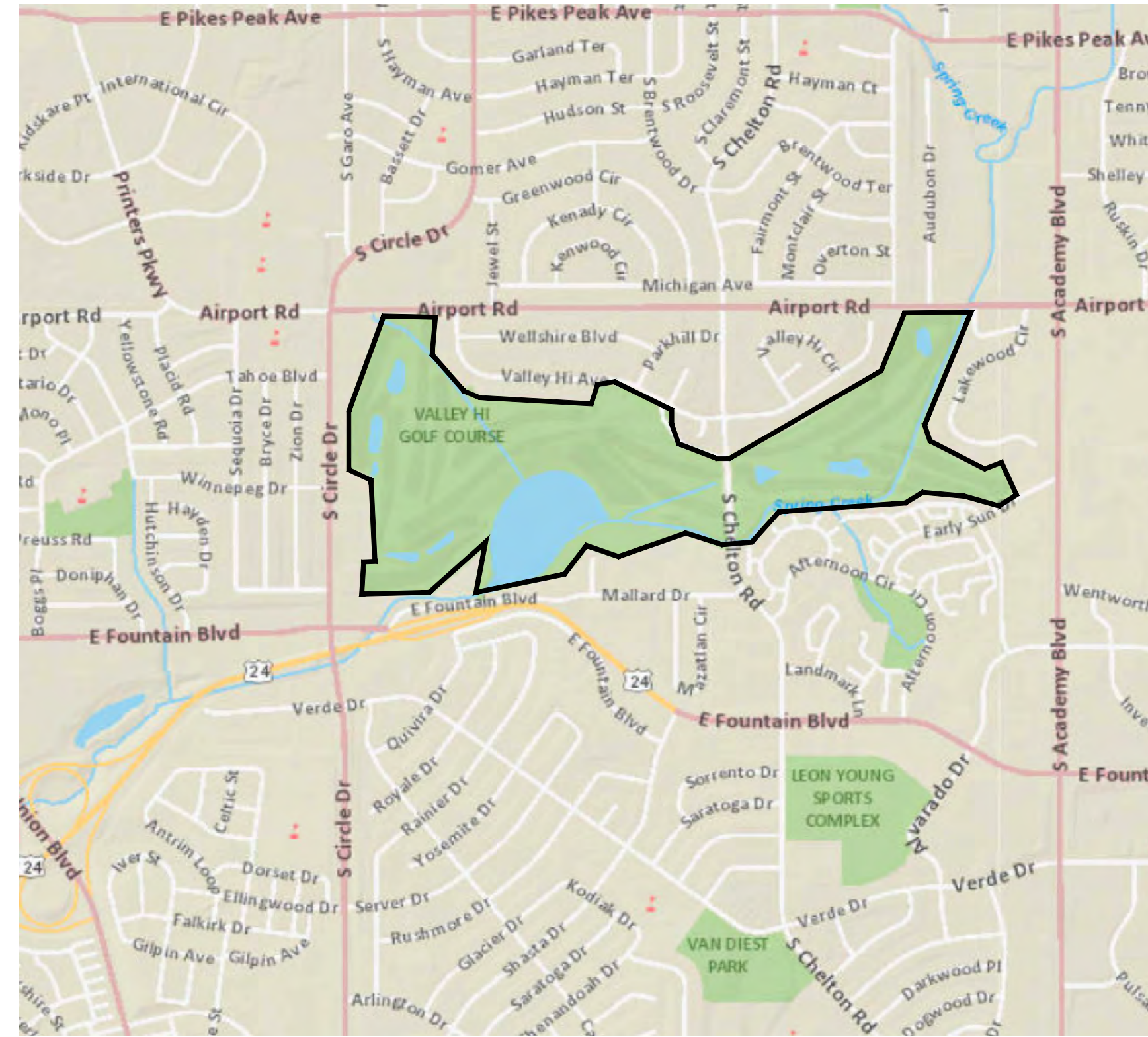
GENERAL:

- ALL CONSTRUCTION METHODS AND MATERIALS SHALL MEET COLORADO SPRINGS UTILITIES' WATER LINE EXTENSION AND SERVICE STANDARDS (WATER LESS).
- THE CONTRACTOR SHALL OBTAIN LOCATES PRIOR TO ANY EXCAVATION.
- COLORADO SPRINGS UTILITIES DOES NOT GUARANTEE THE ACCURACY OF LOCATIONS OF EXISTING PIPELINES, HYDRANTS, VALVES AND SERVICE LINES. IF FIELD CONDITIONS ARE FOUND TO BE DIFFERENT THAN SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE INSPECTOR AND THE ENGINEER OF RECORD IMMEDIATELY.
- NO TREES OR STRUCTURES ARE PERMITTED WITHIN FIFTEEN FEET (15') OF A WATER MAIN.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY FACILITIES AS A RESULT OF HIS ACTIONS. THE CONTRACTOR SHALL MAKE ALL THE REQUIRED REPAIRS IMMEDIATELY TO THE SATISFACTION OF COLORADO SPRINGS UTILITIES.
- ALL FIELD STAKING SHALL COMPLY WITH THE WATER LESS.
- THE CONTRACTOR SHALL MAKE THEIR BEST EFFORT TO ENSURE THAT WATER SERVICE TO ADJACENT PROPERTIES IS MAINTAINED DURING CONSTRUCTION.
- CORROSION PROTECTION MEASURES SHALL COMPLY WITH THE WATER LESS.
- NO SERVICE TAPS WILL BE ALLOWED UNTIL THE MAIN IS EXTENDED TO THE NEXT MAIN-LINE VALVE.
- NO SERVICE TAPS SHALL BE MADE UNTIL AUTHORIZATION HAS BEEN GRANTED BY THE COLORADO SPRINGS UTILITIES' INSPECTOR.
- ALL BENDS SHALL BE FIELD STAKED PRIOR TO CONSTRUCTION AND THE STATIONING ON THE FIELD STAKES SHALL MATCH THE STATIONING ON THE PLANS.
- FIELD MODIFICATIONS TO A FIRE SERVICE LINE OR FIRE HYDRANT DESIGN OR LOCATION MAY NEED TO BE APPROVED BY THE DESIGN ENGINEER, COLORADO SPRINGS FIRE DEPARTMENT AND COLORADO SPRINGS UTILITIES, AS REQUIRED BY THE INSPECTOR.
- REUSE OR SALVAGE OF ANY MATERIAL IS LEFT TO THE DISCRETION OF THE COLORADO SPRINGS UTILITIES' INSPECTOR.
- ALL TRENCH BACKFILL AND COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE CITY OF COLORADO SPRINGS STANDARD SPECIFICATIONS MANUAL.
- ALL WATER SERVICE LINES SHOULD ENTER THE BUILDING WITHIN 5 FEET OF AN EXTERIOR WALL. EXPOSED WATER PLUMBING SHALL BE MINIMIZED INSIDE THE BUILDING PRIOR TO THE WATER METER AND/OR APPROVED BACKFLOW PREVENTION ASSEMBLY OR METHOD.

- ANY EXISTING STUBS AND APPURTENANCES THAT WILL NOT BE USED SHALL BE REMOVED AND REPLACED WITH AN ACCEPTABLE SECTION OF MAIN AT THE EXPENSE OF THE CONTRACTOR.
- A CONNECTION TO AN EXISTING STUB IS PROPOSED. COLORADO SPRINGS UTILITIES DOES NOT GUARANTEE THE ACCURACY OF THE DEPTHS OR LOCATIONS OF EXISTING STUBS SHOWN ON ANY "AS-BUILT" DRAWINGS.
- A WATER STUB-OUT(S) IS/ARE PROPOSED. COLORADO SPRINGS UTILITIES DOES NOT GUARANTEE THAT THE DESIGN OR INSTALLATION OF THE PROPOSED WATER STUB-OUT WILL MEET FUTURE DEVELOPMENT NEEDS.
- A WATER QUALITY PLAN HAS BEEN APPROVED FOR THIS PROJECT

NONPOTABLE WATER NOTES

- NONPOTABLE WATER SHALL ONLY BE UTILIZED FOR NONPOTABLE WATER PURPOSES. IT IS NEITHER SUITABLE NOR INTENDED FOR HUMAN CONSUMPTION.
- ALL NONPOTABLE WATER PIPING, VALVES, OUTLETS AND FIXTURES, AND OTHER APPURTENANCES SHALL BE COLOR CODED IN CONFORMANCE WITH THE NATIONAL INDUSTRIAL COLOR CODE (NICC) AND SECTION 4.7 OF THESE WATER LESS.
- ALL NEW BURIED DISTRIBUTION PIPING IN THE NONPOTABLE WATER DISTRIBUTION SYSTEM SHALL BE COLORED PURPLE PIPE AND EMBOSSED OR BE STAMPED/MARKED "CAUTION-NONPOTABLE WATER DO NOT DRINK", OR BE INSTALLED WITH PURPLE IDENTIFICATION TAPE, OR A PURPLE POLYETHYLENE VINYL WRAP, AS APPROVED BY COLORADO SPRINGS UTILITIES.
- ALL NONPOTABLE WATER VALVES, OUTLETS, PUBLIC ENTRANCES AND BOUNDARIES OF AREAS IRRIGATED WITH NONPOTABLE WATER, AND ANY PORTABLE EQUIPMENT USED TO COLORADO SPRINGS UTILITIES WATER LINE EXTENSION & SERVICE STANDARDS - 2014 8-13 DISTRIBUTE NONPOTABLE WATER SHALL BE TAGGED OR SIGNED WITH THE FOLLOWING WORDS "NONPOTABLE WATER-DO NOT DRINK."
- VALVES SHALL BE THE SAME SIZE AS THE NONPOTABLE MAIN/FITTING. VALVES INSTALLED ON NONPOTABLE WATER MAINS SHALL OPEN TO THE LEFT (COUNTER-CLOCKWISE) WITH A BLACK OPERATING NUT AND A PURPLE VALVE LID.



Vicinity Map



Site Map 1" = 400'

Schedule H - Valley Hi Golf Course Golf Course Irrigation System Replacement Plan Set 610 Chelton Rd. Colorado Springs, CO 80910

Valley Hi

FIMS MAP NUMBER: K-35, K-36, L-35, L-36
 TAX SCHEDULE NO.: 95000-00-069
 PRESSURE ZONE: LOWLINE
 STATIC PRESSURE AT MDD: 117PSI
 UTILITY DESIGN CAD FILE NO.: N/A
 UAP FILE NO.: N/A
 DEVELOPMENT PLAN NO.: N/A
 APPROVAL DATE: N/A
 PLAT REC. NO.: NO PLAT REC NO. AVAILABLE
 PUBLIC UTILITY EASEMENT REC. NO.: N/A
 NOTICE OF PRIVATE WASTEWATER SYSTEM REC. NO.: N/A
 NOTICE OF PRIVATE WATER SYSTEM REC. NO.: N/A

Utility Locate



Colorado 811
 811 or 800-922-1987

Valley Hi Golf Course Irrigation Equipment Legend

- 418 FULL CIRCLE VALVE IN HEAD SPRINKLER SPACED AT 60'. SEE DETAILS #3.4.5 TORO FLEX800 FL308-336-6 NOZZLE #33 65 PSI 24.4 GPM - INCLUDE NON-POTABLE LABELING/CAP
- 525 PART CIRCLE VALVE IN HEAD SPRINKLER SPACED AT 60'. SEE DETAILS #3.4.5 TORO FLEX800 FL308-336-6 NOZZLE #33 65 PSI 22.9 GPM - INCLUDE NON-POTABLE LABELING/CAP
- 84 PART CIRCLE WITH REAR TAIL NOZZLE VALVE IN HEAD SPRINKLER SPACED AT 60'. SEE DETAILS #3.4.5 - INCLUDE NON-POTABLE LABELING/CAP TORO FLEX800 FL308-336-6 NOZZLE #33 65 PSI 22.9 GPM WITH REAR NOZZLE #102-089A YELLOW #1 RADIUS 400.5 GPM
- 244-82 FULL CIRCLE & PART CIRCLE VALVE IN HEAD SPRINKLER SPACED AT 90'. SEE DETAILS #3.4.5 TORO FLEX800 FL308-316-4 NOZZLE #31 65 PSI 15.5 GPM - INCLUDE NON-POTABLE LABELING/CAP
- 341-56 FULL AND PART CIRCLE SHORT RADII BLOCK ZONE SPRINKLER SPACED AT 35'. 56PSI. SEE DETAIL #13.14 TORO T5 PART CIRCLE WITH CHECK VALVE. STAINLESS STEEL. NOZZLE #2.5. 2.8GPM INCLUDE NON-POTABLE LABELING/CAP
- 0 QUICK COUPLER INCLUDE (4) KEYS AND HOSE SWIVELS - SEE DETAIL #12 - TORO #47404 INCLUDE NON-POTABLE LABELING/CAP
- 19 WINTER WATERING HYDRANT - QC ASSEMBLY. SEE DETAIL #16 FURNISH AND INSTALL 1" QC WITH WINTER WATERING HYDRANT MATCH TO QUICK COUPLER MODEL # ABOVE
- 3 TORO WALL MOUNT SMART HUB FOR 2 INFR. - DECORS 1005-M TO BE INSTALLED BY L.L. JOHNSON SERVICE TECHNICIANS - SEE DETAIL #27
- 27 1.5" ELECTRIC VALVE ASSEMBLY FOR THE 2" BLOCK ZONE SPRINKLERS. SEE DETAIL #15 TORO P2203-27-06-E
- 185 2" LATERAL ISOLATION VALVE - ANGLE VALVE CONFIGURATION - HARDO DUCTILE IRON 2"X 6" #8431GG - SEE DETAIL #7
- 36 MAINLINE GATE VALVE - CLOW C-568 WITH HARCO PJ ADAPTER. SIZE TO MAIN. 2" BLACK SQUARE NUT OPERATOR. COUNTER CLOCKWISE TO OPEN - SEE DETAIL #29
- 7 AIR RELEASE VALVE - 2" BERMAID C31 - SEE DETAIL #11
- 5 2" MAINLINE DRAIN VALVE - 2" GATE VALVE. AQUA-FUSE CONTROL FLOW OR AWK SERIES 66 GATE VALVE WITH PE ENDS - SEE DETAILS #9.10
- 18 2" WINTER WATERING HYDRANT / QUICK COUPLER ISOLATION VALVE. AQUA-FUSE CONTROL FLOW OR AWK SERIES 66 GATE VALVE WITH PE ENDS - SEE DETAIL #17
- 1 CENTRAL COMPUTER. INCLUDE 5 YEAR SUPPORT SEE COMMUNICATION PAGES DETAILS #27 TORO LYNX CE LX-04-500 INCLUDE ALL LYNX MOBILE APPS
- 2 WEATHER STATION. SEE DETAIL #30 TORO WATCHDOG 2910 WEATHER STATION WITH TRIPPOD. SOLAR POWER. INCLUDE MID-RANGE WIRELESS COMMUNICATION
- SPURGE BOX - SEE INSTALLATION DETAIL #19
- 3 CROSS CONNECTION ASSEMBLY - SEE DETAIL #16
- 1 WINTERIZATION CONNECTION - SEE DETAIL #24
- 75,000' 2" HOPE LATERAL PIPE DR11 RESIN 4710 WITH PURPLE STRIPPING- USE FOR VALVE IN HEAD AND WINTER WATERING QUICK COUPLER LATERAL PIPING - 18" BURY DEPTH
- 3,000' 2" HOPE LATERAL PIPE DR11 RESIN 4710 WITH PURPLE STRIPPING- USE FOR BLOCK ZONE SPRINKLERS
- 500' 2" HOPE LATERAL PIPE DR11 WITH PURPLE STRIPPING- FOR WINTER WATERING HYDRANT - 24" BURY DEPTH
- MAINLINE PIPE - HOPE DR13.5 RESIN 4710 WITH PURPLE STRIPPING- SIZES SHOWN ON PLAN
- 13,500' 6" MAINLINE PIPE - HOPE DR13.5 RESIN 4710 WITH PURPLE STRIPPING- SIZES SHOWN ON PLAN
- 5,000' 8" MAINLINE PIPE - HOPE DR13.5 RESIN 4710 WITH PURPLE STRIPPING- SIZES SHOWN ON PLAN
- 5,000' 10" MAINLINE PIPE - HOPE DR13.5 RESIN 4710 WITH PURPLE STRIPPING- SIZES SHOWN ON PLAN
- 80' 12" MAINLINE PIPE - HOPE DR13.5 RESIN 4710 WITH PURPLE STRIPPING- SIZES SHOWN ON PLAN
- 80' 24" DR17 HOPE INTAKE PIPE AT PUMP STATION
- PROPOSED NATIVE AREA

**COLORADO SPRINGS UTILITIES
NONPOTABLE WATER MAIN DESIGN APPROVAL**

APPROVED
 07/05/2023 9:43:57 AM
 mgacke
 Water

PROJECT NUMBER: 2023-N001
 WORK ORDER NUMBER: 4004001
 CSU SHEET 1 OF 3

APPROVAL EXPIRES ONE (1) YEAR FROM THE DATE ABOVE AND RESUBMITTAL OF THESE PLANS FOR REVIEW AND APPROVAL IS REQUIRED IF CONSTRUCTION DOES NOT BEGIN DURING THIS PERIOD.

OWNER/DEVELOPER PLAN APPROVAL

THE UNDERSIGNED OWNER/DEVELOPER AGREES THAT THEY SHALL, AT THEIR EXPENSE, BE SOLELY RESPONSIBLE FOR 1) THE INSTALLATION OF THE PROPOSED UTILITY INFRASTRUCTURE IN ACCORDANCE WITH THESE PLANS, AND 2) ALL DAMAGES AND DEFECTS ARISING FROM, OR RELATED TO, THE INSTALLATION, MAINTENANCE OR OPERATION OF THE PUBLIC UTILITY INFRASTRUCTURE FROM THE DATE OF PRELIMINARY ACCEPTANCE FOR A PERIOD OF TWO YEARS, OR UNTIL FINAL ACCEPTANCE, WHICHEVER IS LATER.

THE UNDERSIGNED UNDERSTANDS THAT ALL PRIVATE UTILITY INFRASTRUCTURE, AS INDICATED ON THESE PLANS, SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE MAINTAINED BY THE OWNER, AS REQUIRED BY COLORADO SPRINGS UTILITIES' LINE EXTENSION AND SERVICE STANDARDS.

PUBLIC FACILITIES PROPOSED PRIVATE FACILITIES PROPOSED

SIGNED: Pat Gentile
 OWNER/DEVELOPER
 PAT GENTILE, CCSC
 OWNER/DEVELOPER (PRINT NAME)

DATE: June 30, 2023

DBA: VALLEY HI GOLF COURSE

ADDRESS: 610 CHELTON RD.
COLORADO SPRINGS, CO 80910

PHONE: 719-385-6940

EMAIL: PGENTILE@SPRINGSGOV.COM

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- Ir-1 Cover & Legend
- Ir-2 Irrigation System Mechanical Sheet 1
- Ir-3 Irrigation System Mechanical Sheet 2
- Ir-4 2 Wire Communication Routing Sheet 1
- Ir-5 2 Wire Communication Routing Sheet 2
- Ir-6 Pump Station
- Ir-7 Installation Details Sheet 1
- Ir-8 Installation Details Sheet 2
- Ir-9 Existing Sprinkler Head Locations

Design by:

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**Valley Hi Golf Course
Irrigation System Replacement Plan Set
Colorado Springs, CO**

Project	VH 11-22
Drafter	BDK
Check	BDK
Plot Date:	06-30-2023
Scale:	As-noted

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SHEET TITLE:
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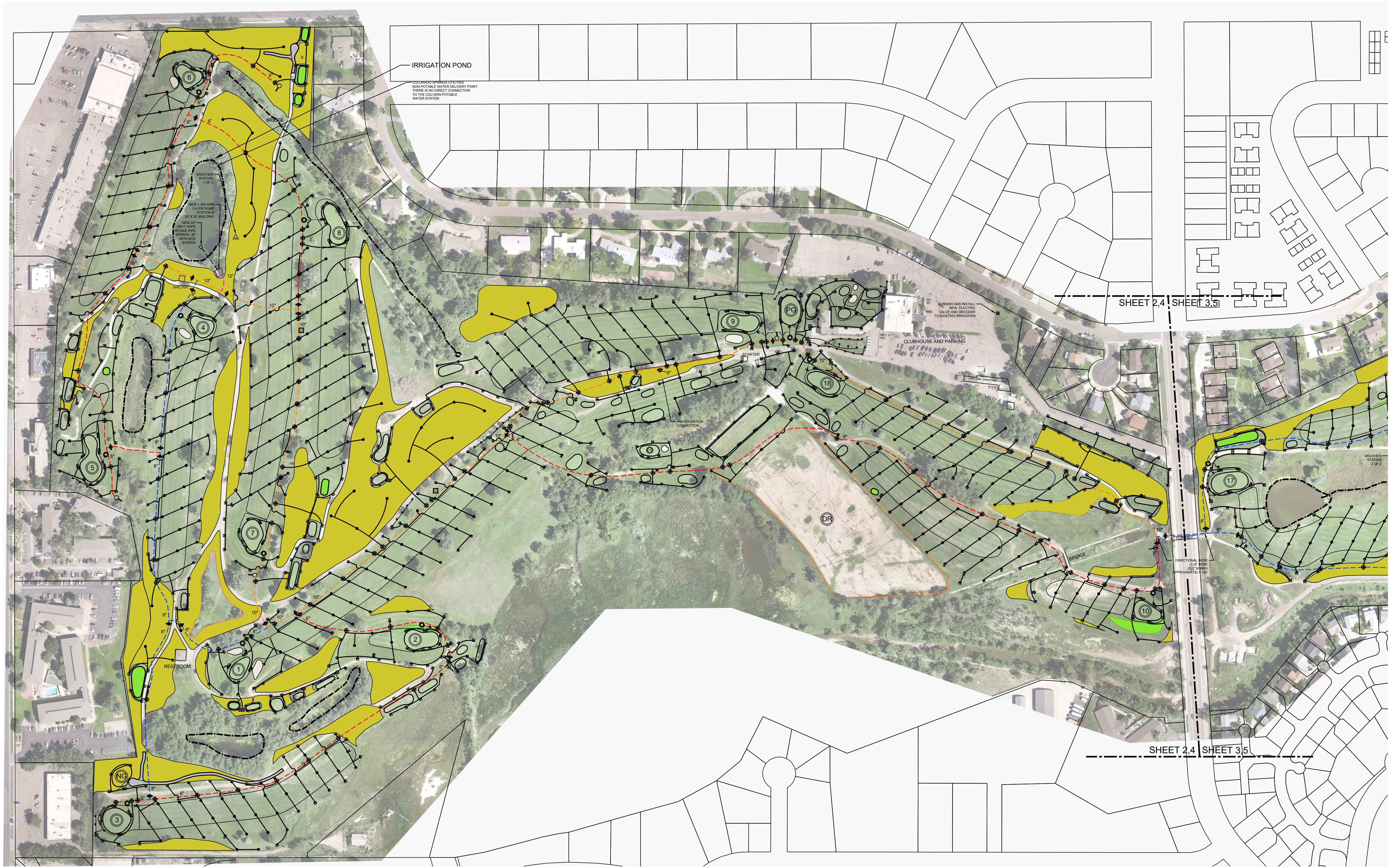
**Valley Hi Golf Course
 Irrigation System Replacement Plan Set
 Colorado Springs, CO**

Project: VH 11-22
 Drafter: BDK
 Check: BDK
 Plot Date: 06-30-2023
 Scale: 1" = 150'

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 Irrigation System Mechanical Sheet 1 of 2

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NOTE 1: SEE LEGEND ON THE COVER SHEET FOR APPLICABLE CALLOUTS ON THIS SHEET.

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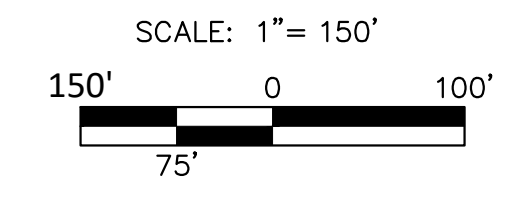
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 NONPOTABLE WATER MAIN DESIGN APPROVAL**

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 CSU SHEET 2 OF 3

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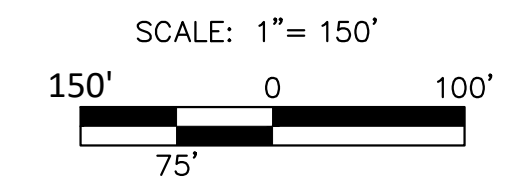
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 NONPOTABLE WATER MAIN DESIGN APPROVAL**

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 CSU SHEET 3 OF 3

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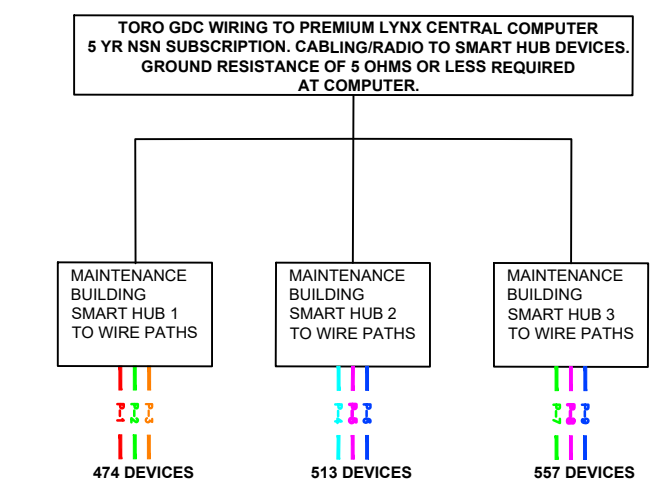
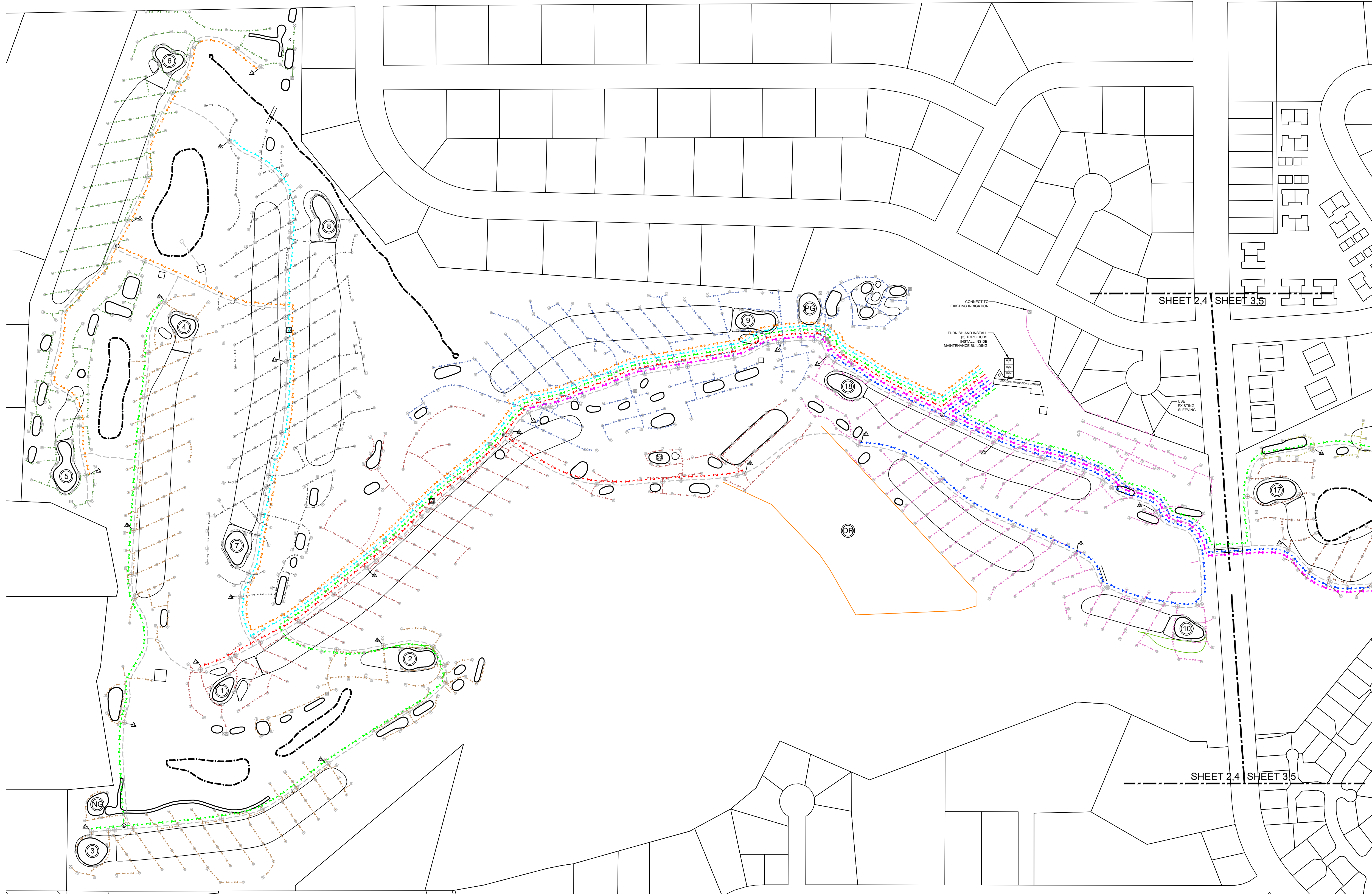
SHEET TITLE:
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**Valley Hi Golf Course
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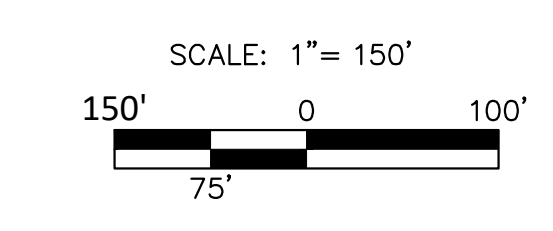


EACH CABLE PATH WILL HAVE A UNIQUE OUTER CABLE JACKET COLOR
 ALL ABOVE GROUND CABLEING WILL BE ENCLOSED IN 2" PVC CONDUIT. NOT TO EXCEED 4 CABLES PER CONDUIT.
 EACH SMART HUB WILL HAVE A SEPARATE CONDUIT.

TORO DECODER EQUIPMENT LEGEND

SYMBOL	DESCRIPTION	ESTIMATED QTY.
(Symbol)	(HUB 1,2,3) WALL MOUNT HARD WIRE SMART HUB #DEC-RS-1000-M	3
(Symbol)	GROUNDING ASSEMBLY - INSTALL EVERY 500' AND AT ENDS OF WIRE PATH	36

PATH	HOLE / AREA	DECODERS ON PATH	PROGRAMMING ADDRESS	TRUNK / LATERAL LINE LENGTH
1	1 FWY & GREEN, DR T	149	1-1-250	4,000' / 8,500'
2	HOLES 2,3,4	189	1-1-251-500	6,000' / 9,500'
3	HOLES 5,6,7T	136	1-2-1-250	6,000' / 6,500'
4	FWY & GREEN, HB	165	2-1-1-250	4,500' / 8,500'
5	17,19 & CHPG	163	2-1-251-500	2,000' / 8,000'
6	HOLES 10, 18	185	2-2-1-250	3,000' / 9,500'
7	HOLES 11, 12, 13, 14, 15, 16, 17T	225	3-1-1-250	5,000' / 10,500'
8	15 FWY & G, H16, 17T	119	3-1-251-500	5,000' / 6,000'
9	14G, 15T, 17 FWY & GREEN	153	3-2-1-250	4,500' / 10,500'



Project: VH 11-22
 Drafter: BDK
 Check: BDK
 Plot Date: 06-30-2023
 Scale: 1" = 150'

REVISIONS

NO.	DATE	DESCRIPTION

SHEET TITLE:
**2 Wire
 Communication
 Routing**
 Sheet 1 of 2

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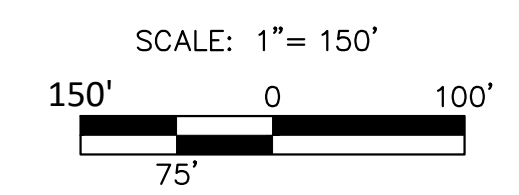
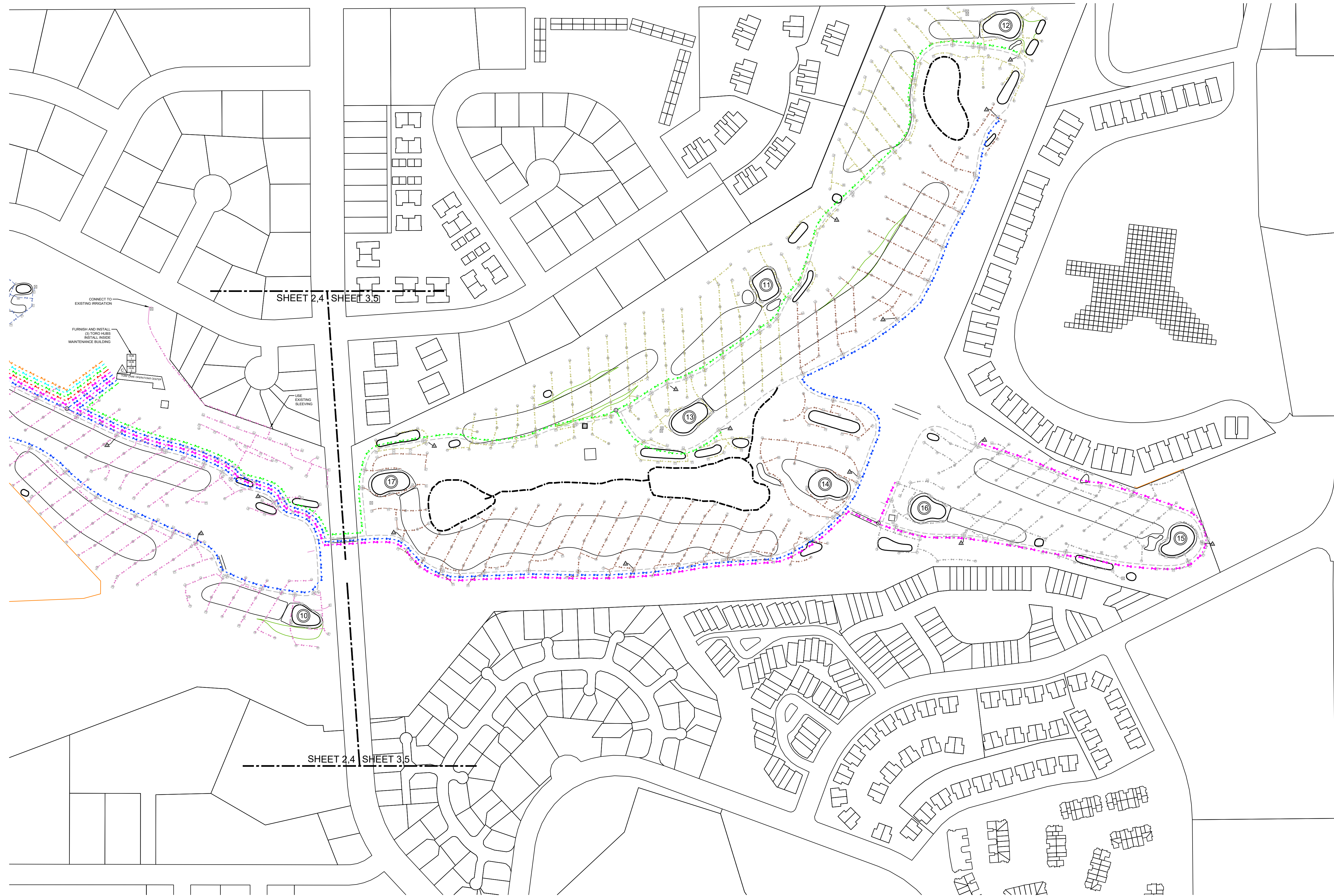
**Valley Hi Golf Course
 Irrigation System Replacement Plan Set
 Colorado Springs, CO**

Project: VH 11-22
 Drafter: BDK
 Check: BDK
 Plot Date: 06-30-2023
 Scale: 1" = 150'

REVISIONS	

SHEET TITLE:
**2 Wire
 Communication
 Routing**
 Sheet 2 of 2

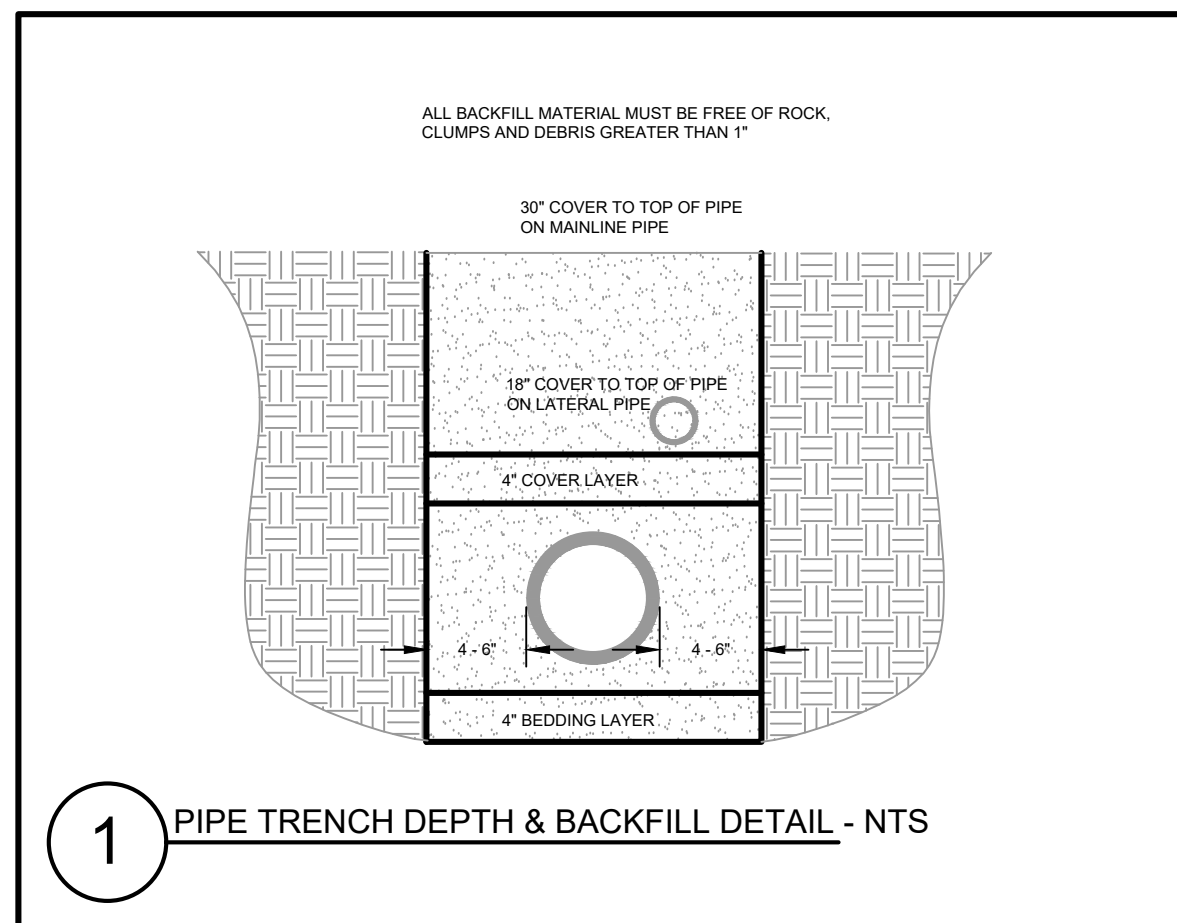
SHEET
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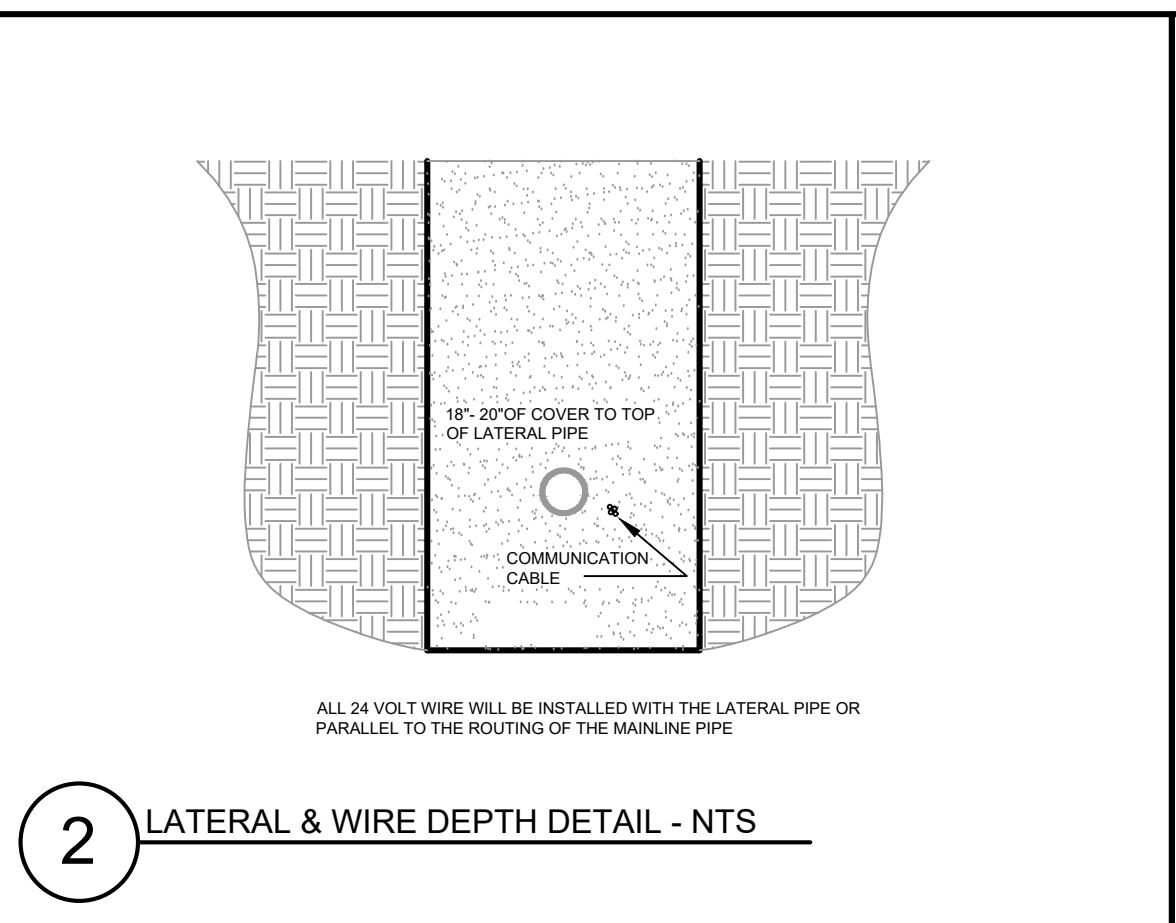


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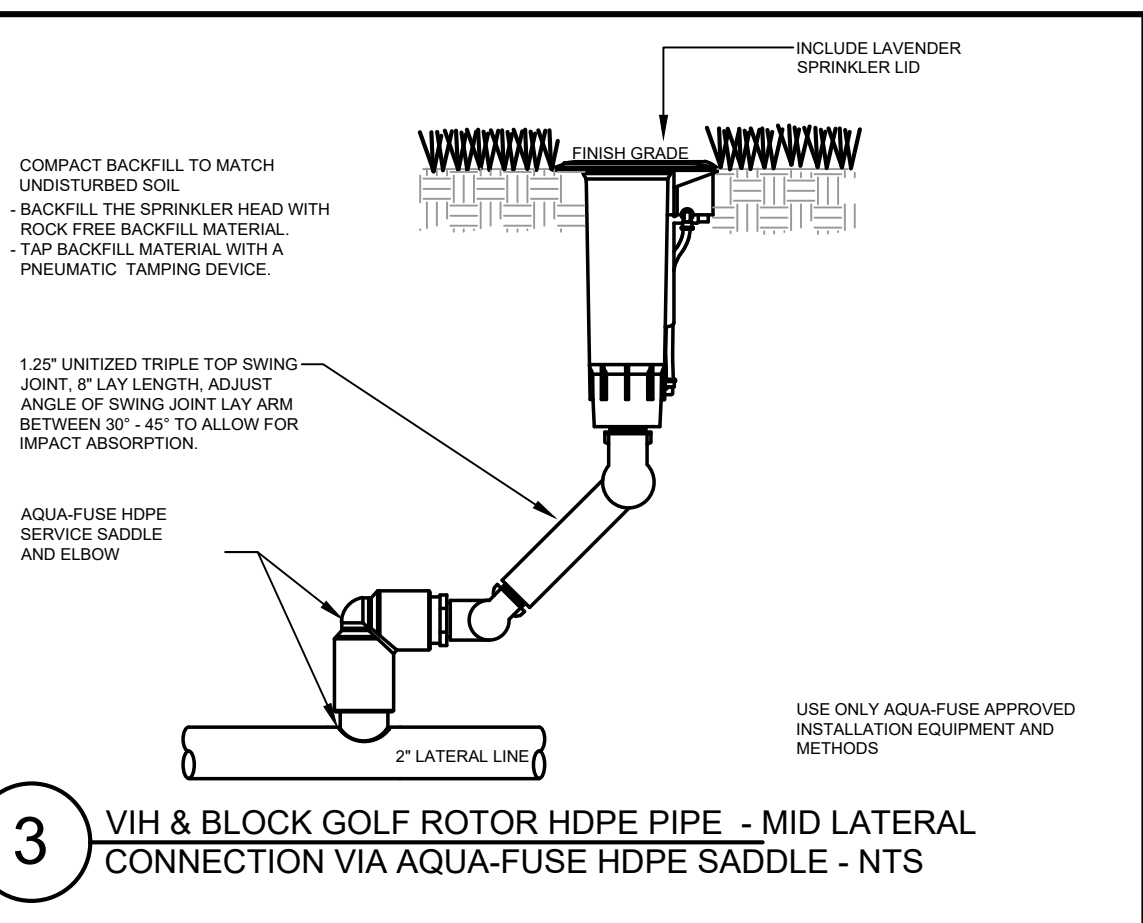
**Valley Hi Golf Course
 Irrigation System Replacement Plan Set
 Colorado Springs, CO**



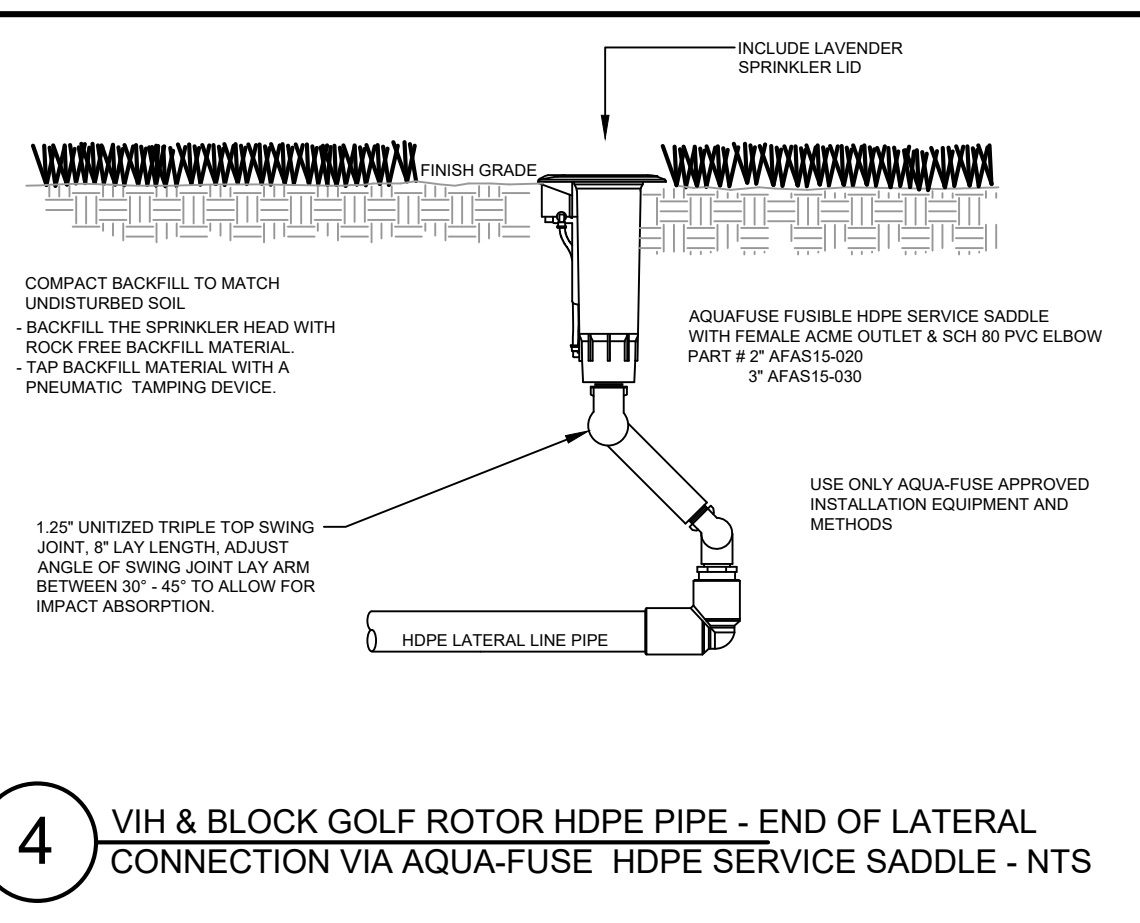
1 PIPE TRENCH DEPTH & BACKFILL DETAIL - NTS



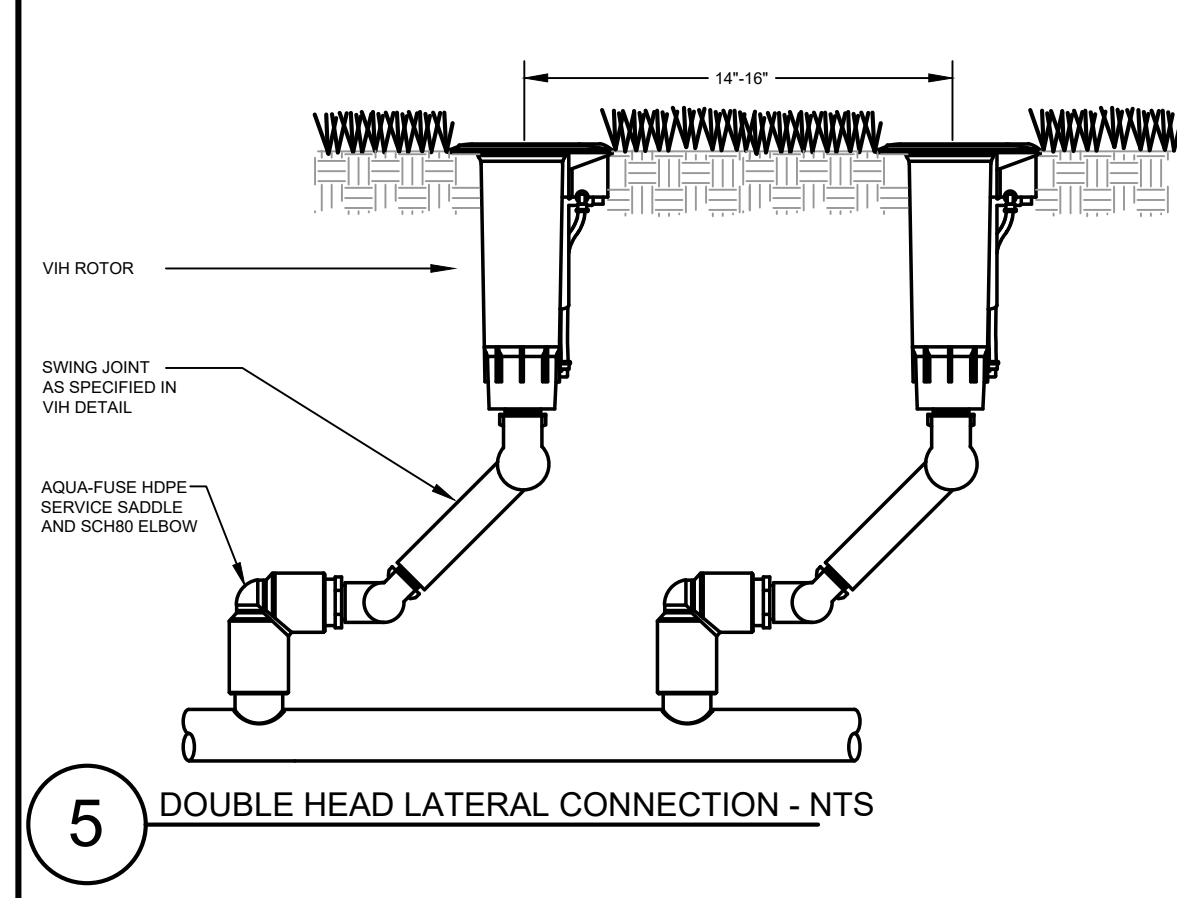
2 LATERAL & WIRE DEPTH DETAIL - NTS



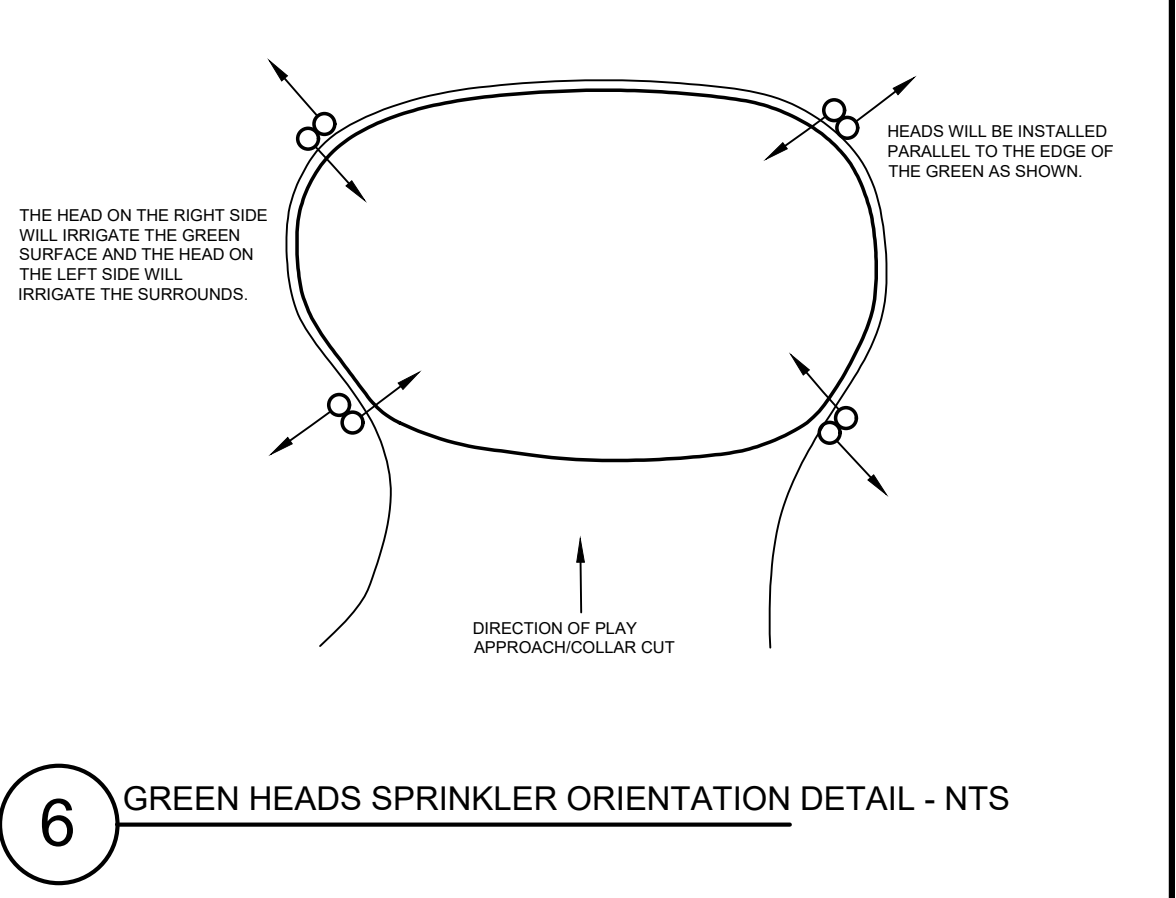
3 VIH & BLOCK GOLF ROTOR HDPE PIPE - MID LATERAL CONNECTION VIA AQUA-FUSE HDPE SADDLE - NTS



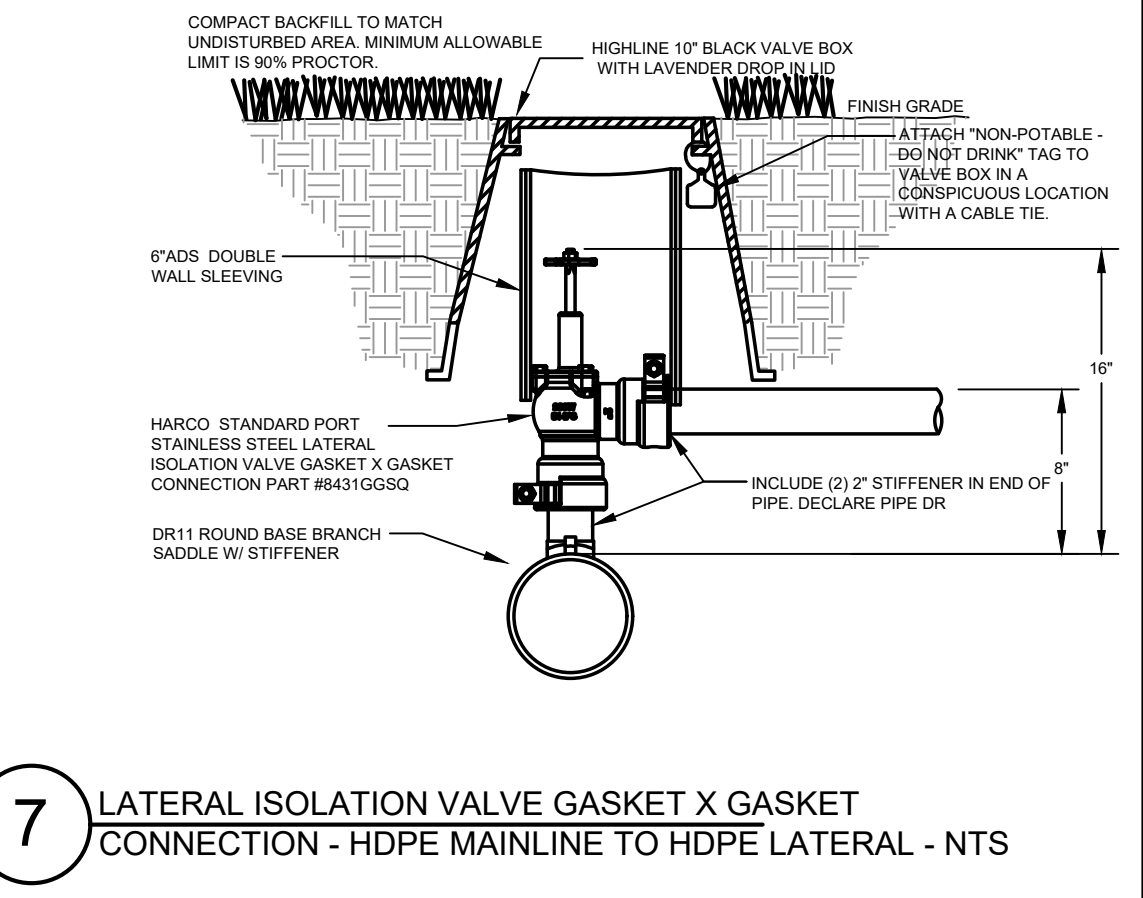
4 VIH & BLOCK GOLF ROTOR HDPE PIPE - END OF LATERAL CONNECTION VIA AQUA-FUSE HDPE SERVICE SADDLE - NTS



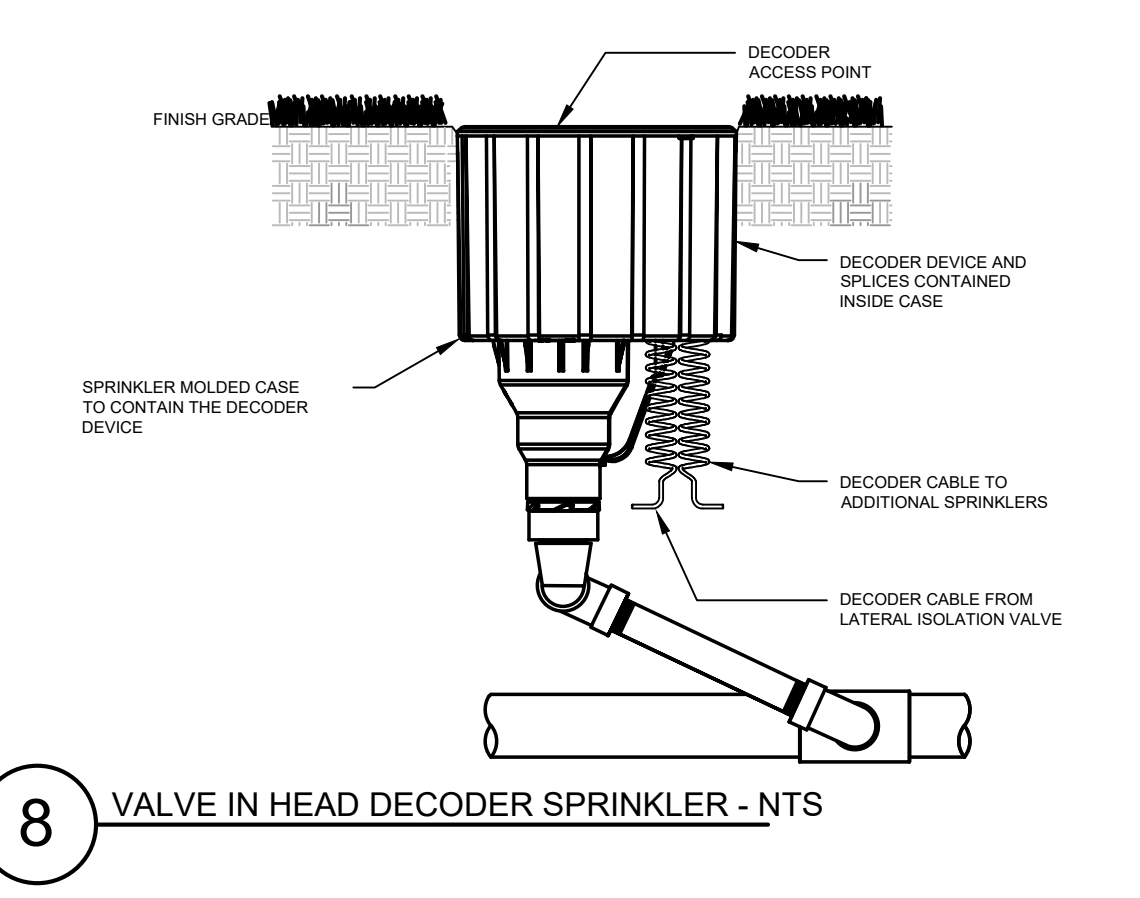
5 DOUBLE HEAD LATERAL CONNECTION - NTS



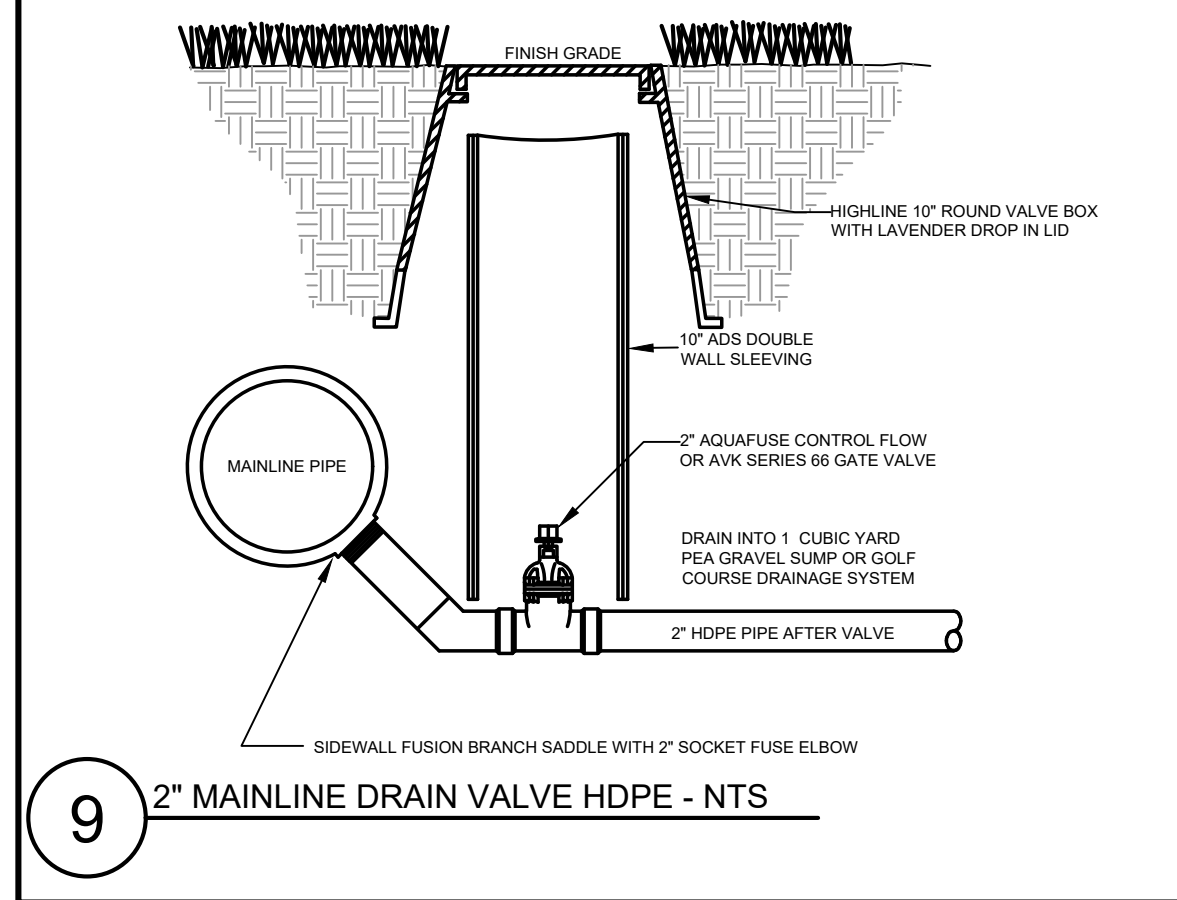
6 GREEN HEADS SPRINKLER ORIENTATION DETAIL - NTS



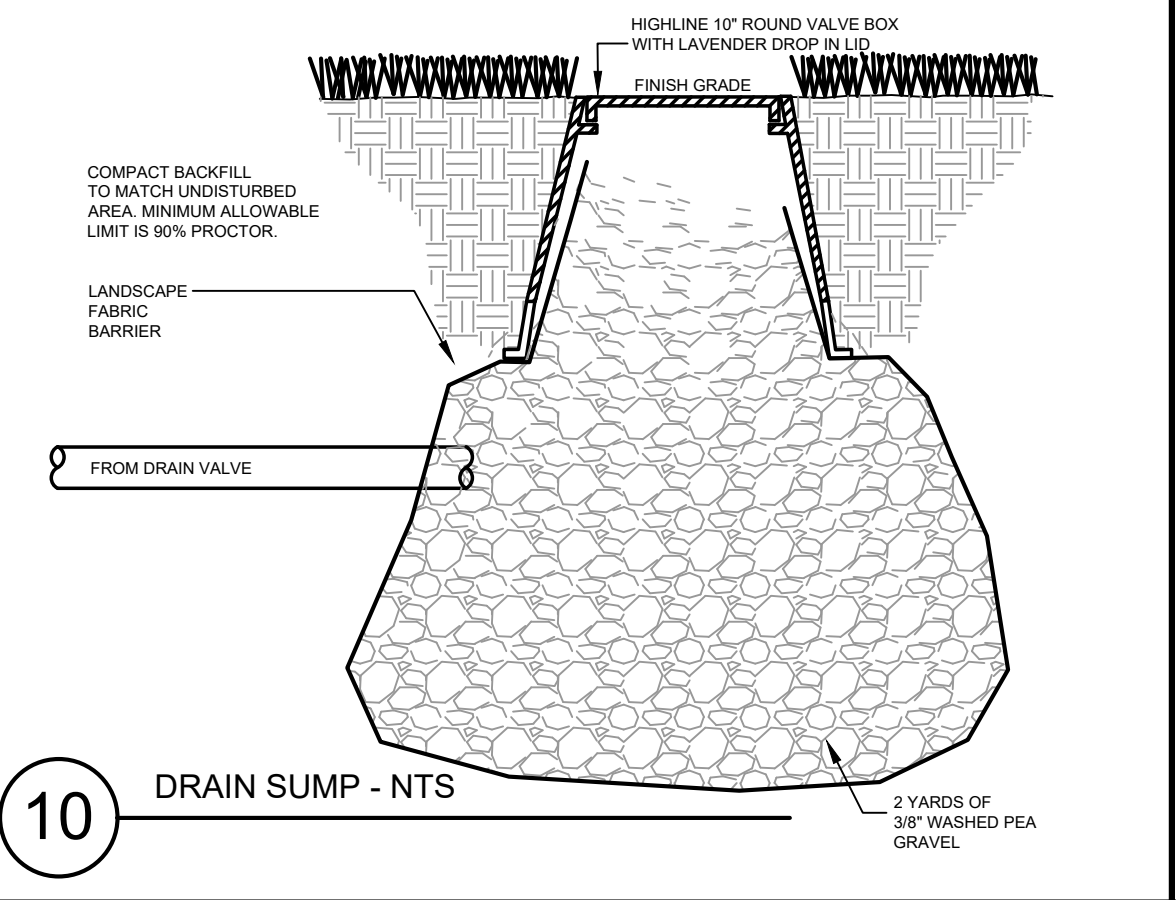
7 LATERAL ISOLATION VALVE GASKET X GASKET CONNECTION - HDPE MAINLINE TO HDPE LATERAL - NTS



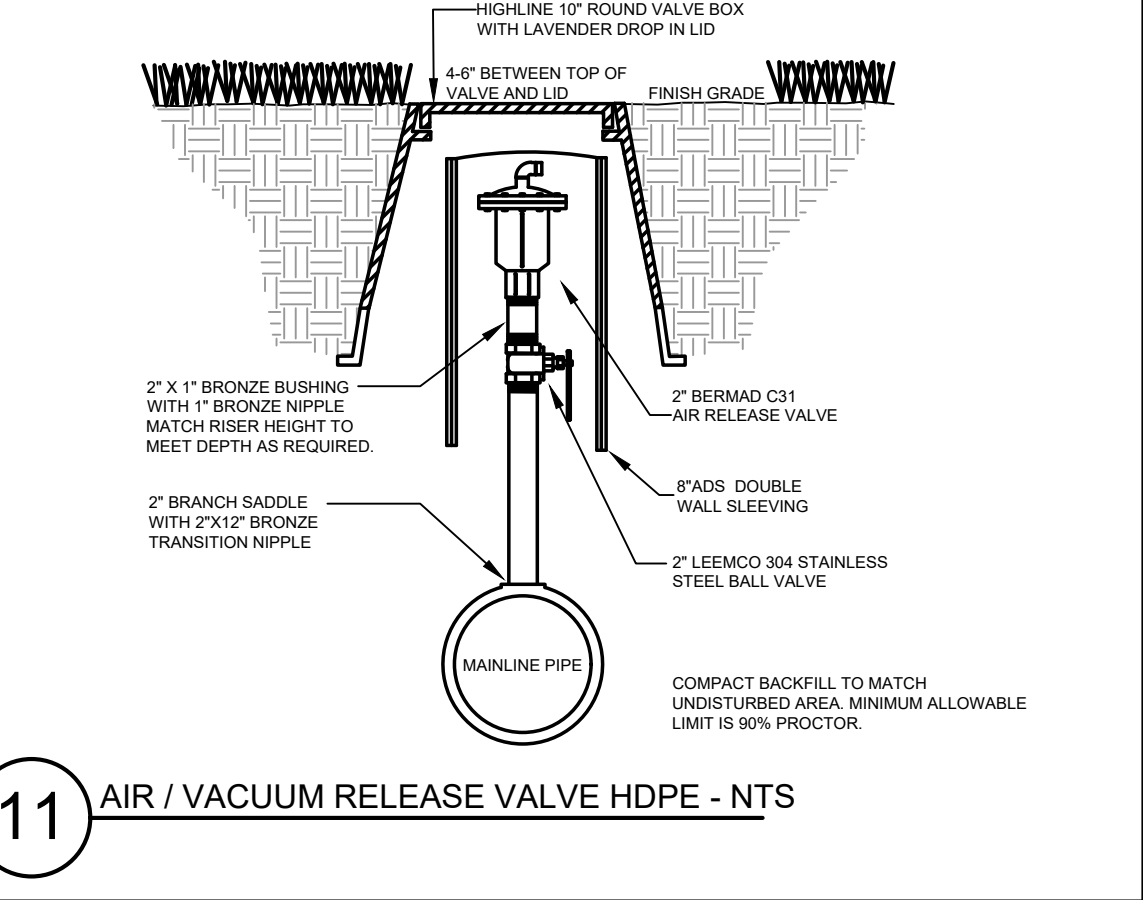
8 VALVE IN HEAD DECODER SPRINKLER - NTS



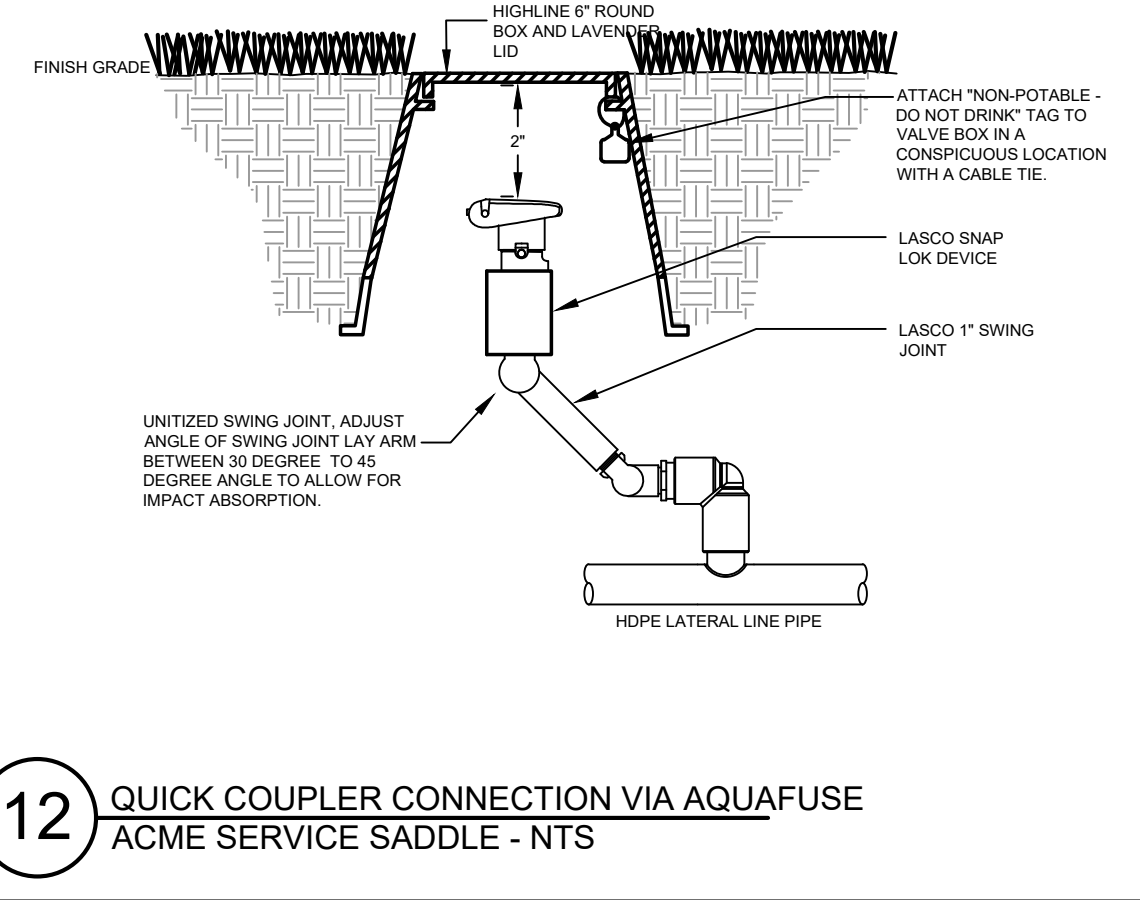
9 2" MAINLINE DRAIN VALVE HDPE - NTS



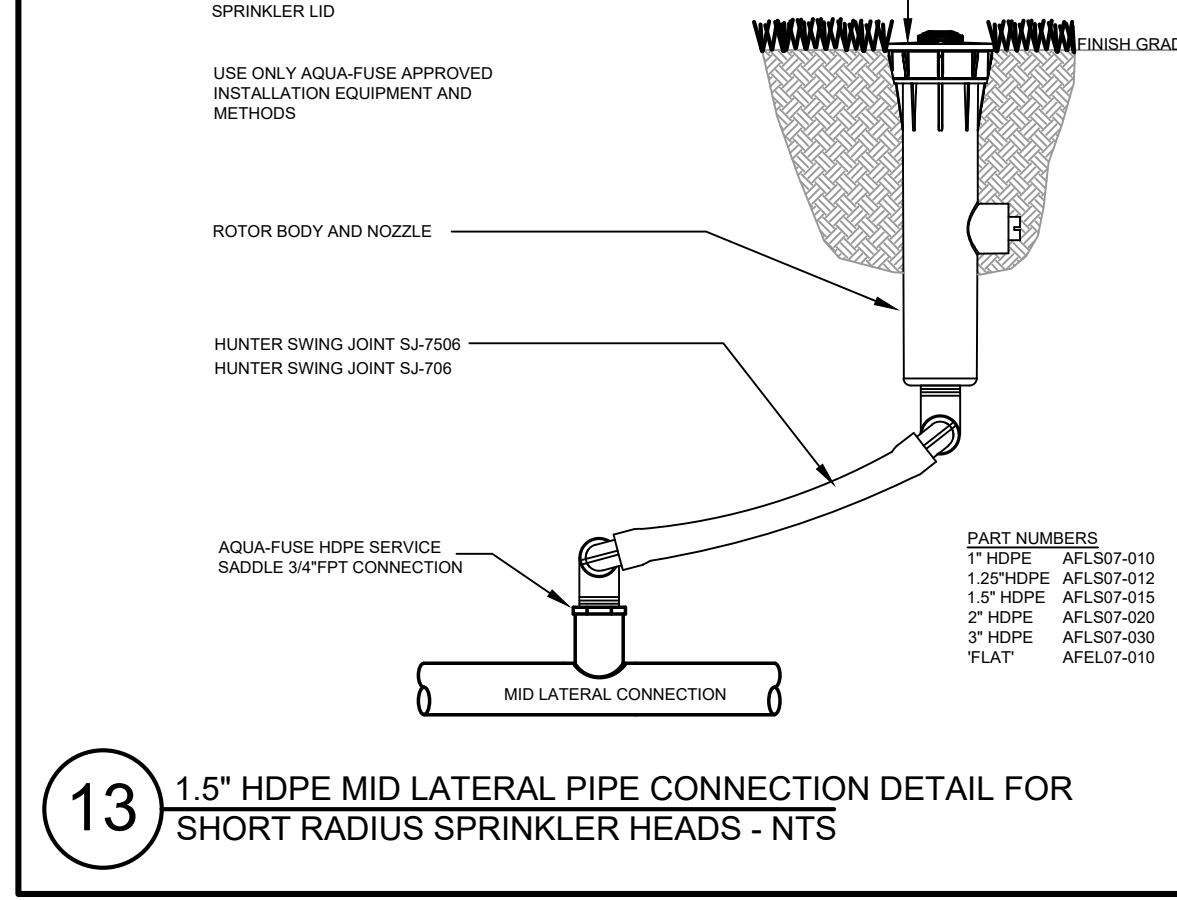
10 DRAIN SUMP - NTS



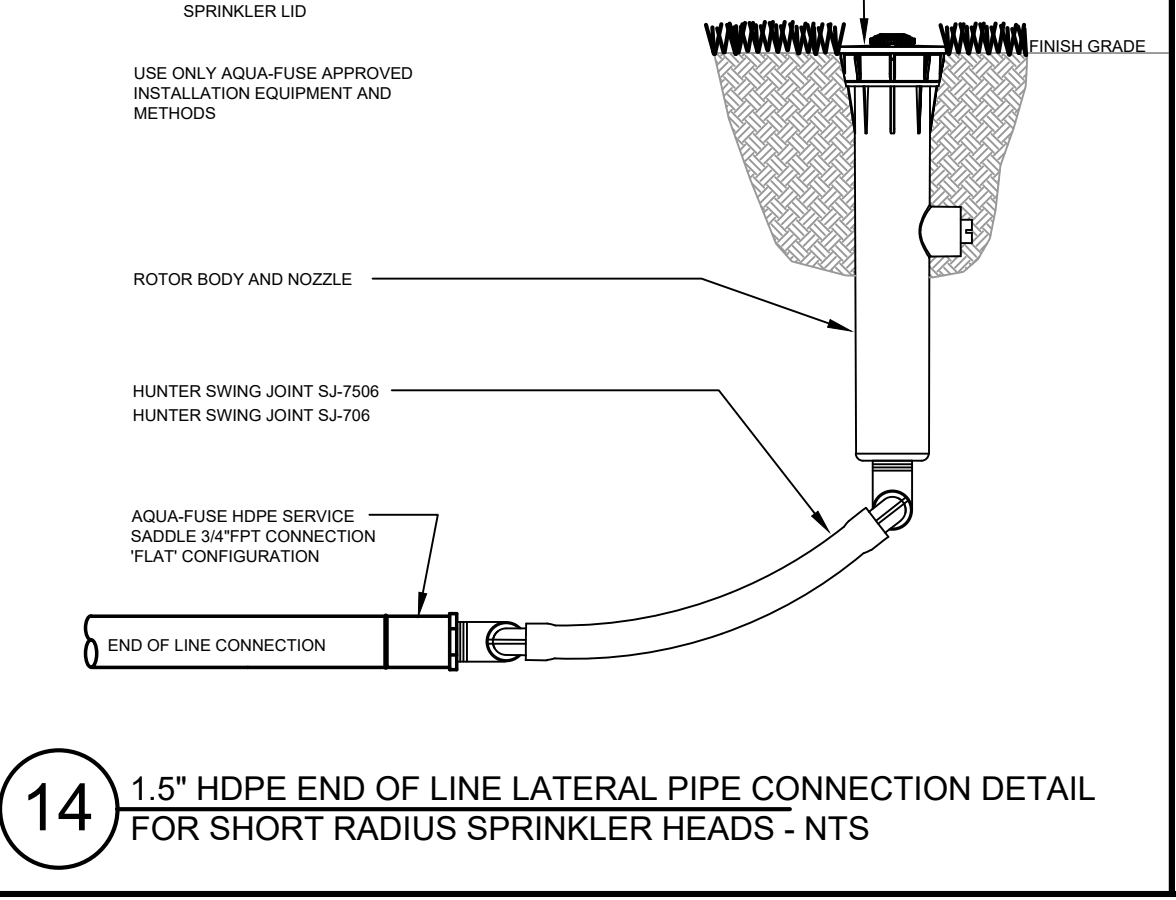
11 AIR / VACUUM RELEASE VALVE HDPE - NTS



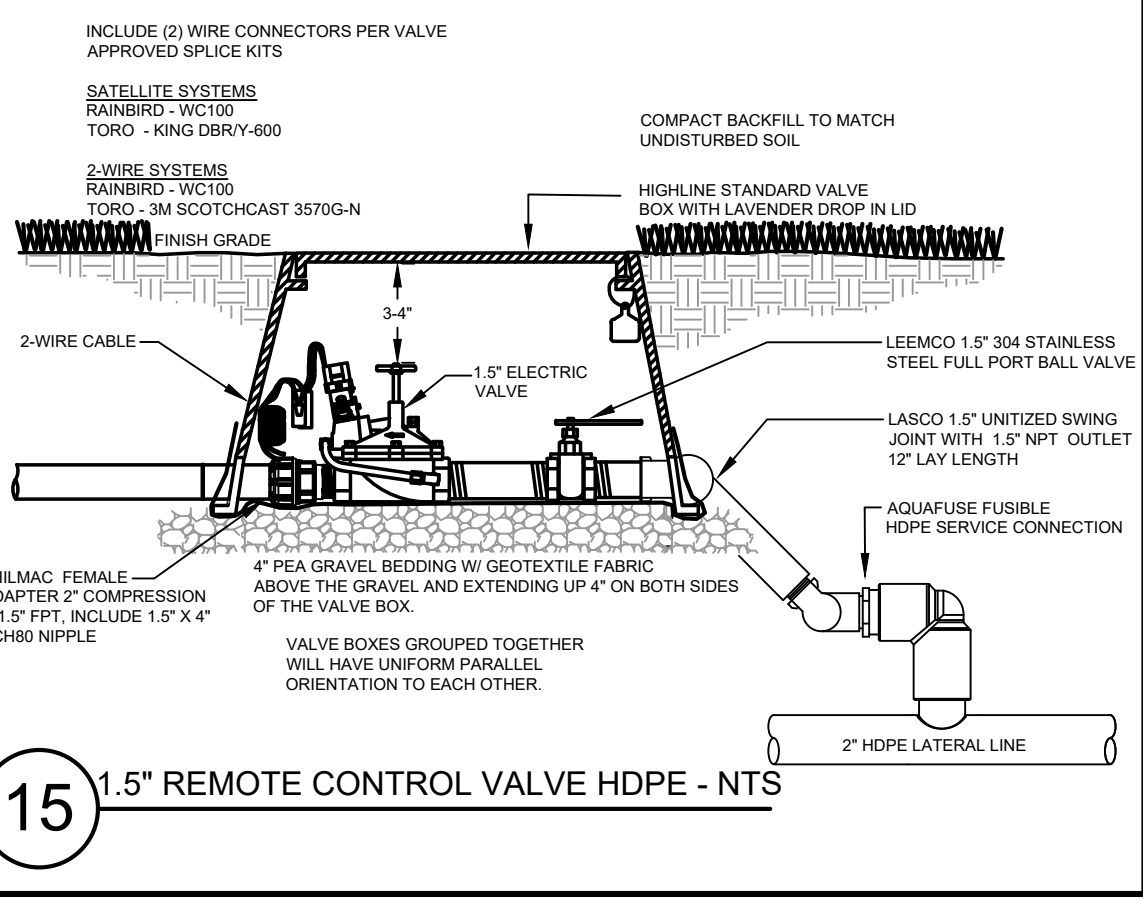
12 QUICK COUPLER CONNECTION VIA AQUAFUSE ACME SERVICE SADDLE - NTS



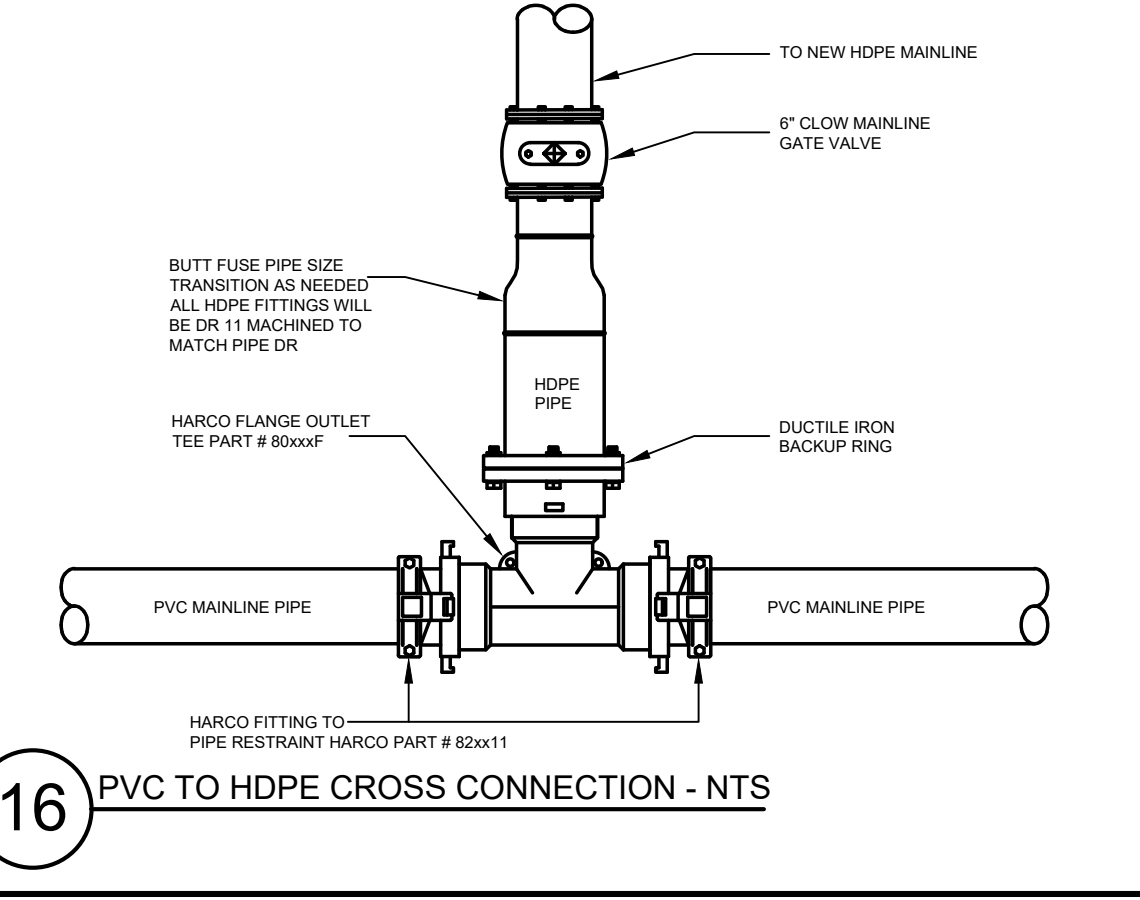
13 1.5" HDPE MID LATERAL PIPE CONNECTION DETAIL FOR SHORT RADIUS SPRINKLER HEADS - NTS



14 1.5" HDPE END OF LINE LATERAL PIPE CONNECTION DETAIL FOR SHORT RADIUS SPRINKLER HEADS - NTS



15 1.5" REMOTE CONTROL VALVE HDPE - NTS



16 PVC TO HDPE CROSS CONNECTION - NTS

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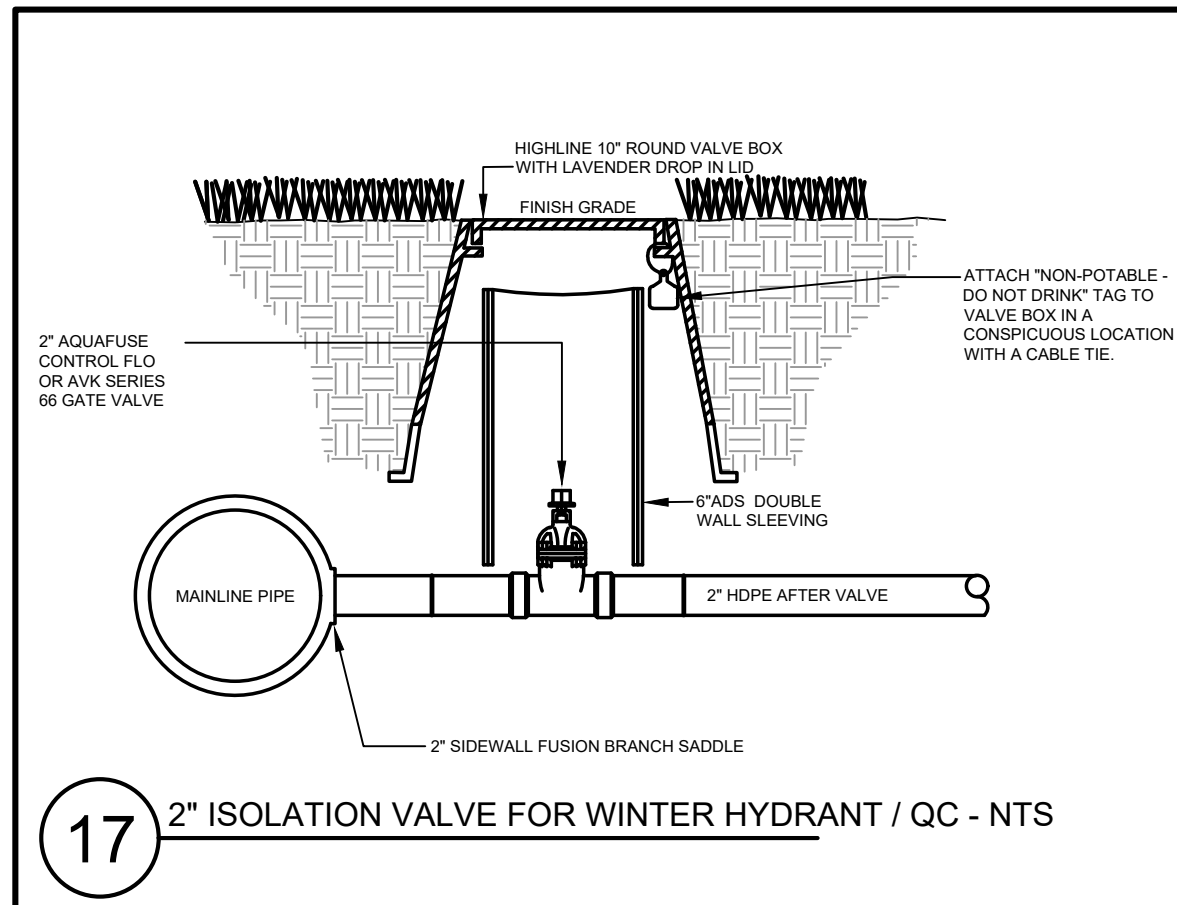
REVISIONS	

SHEET TITLE:
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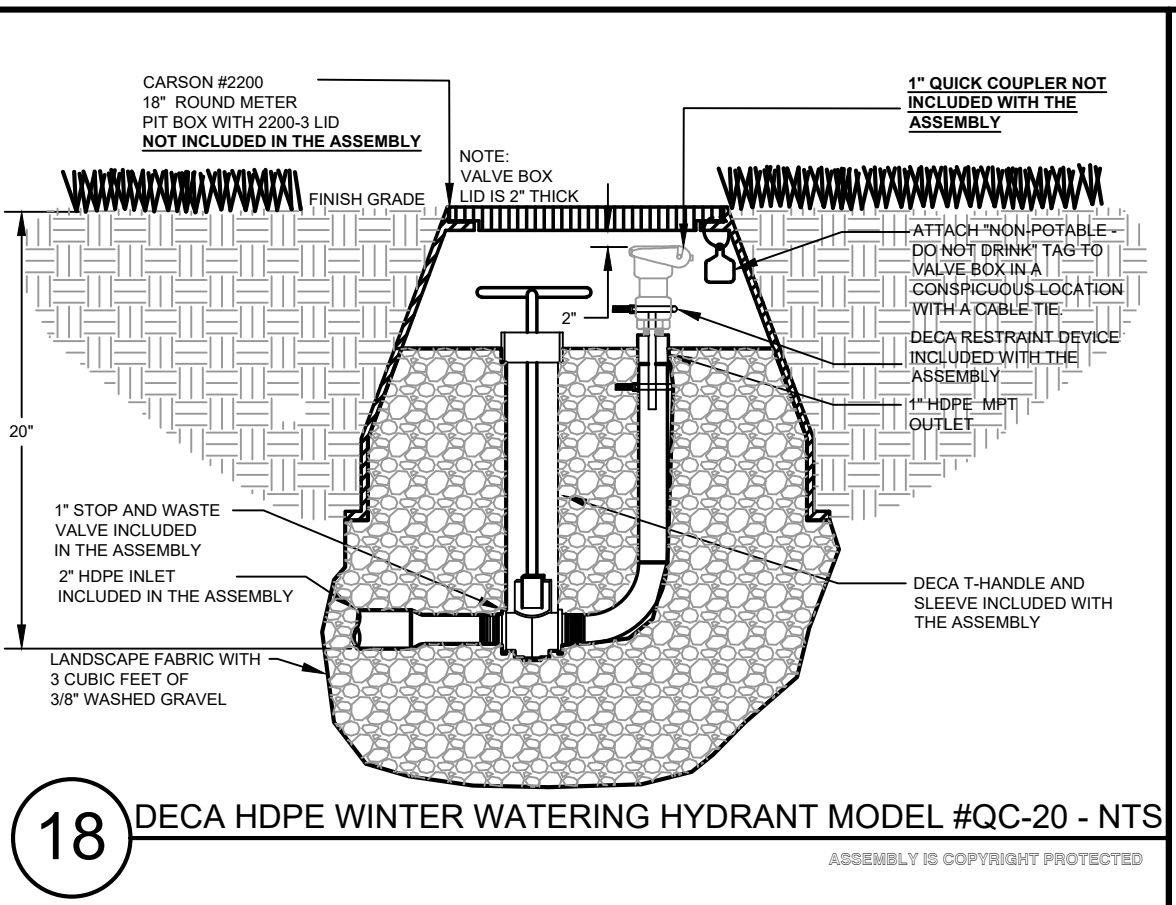


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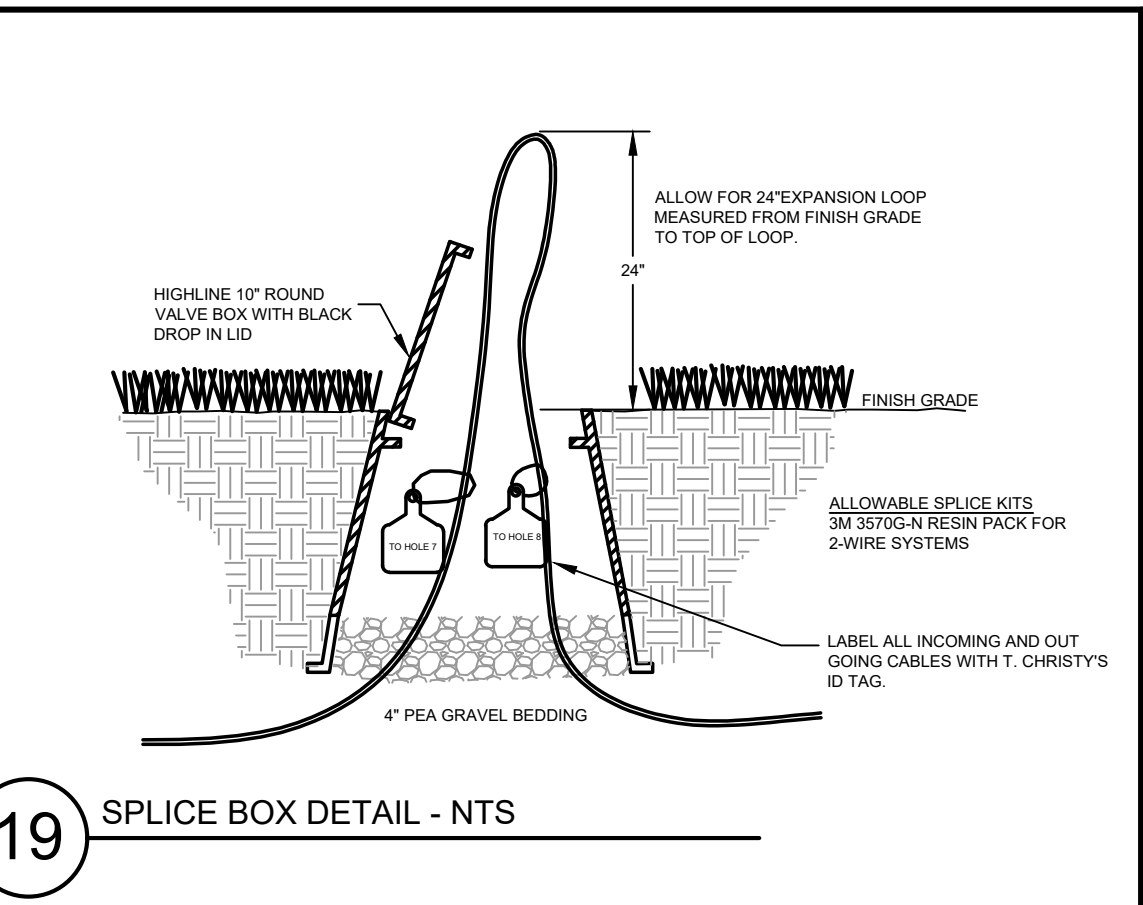
**Valley Hi Golf Course
 Irrigation System Replacement Plan Set
 Colorado Springs, CO**



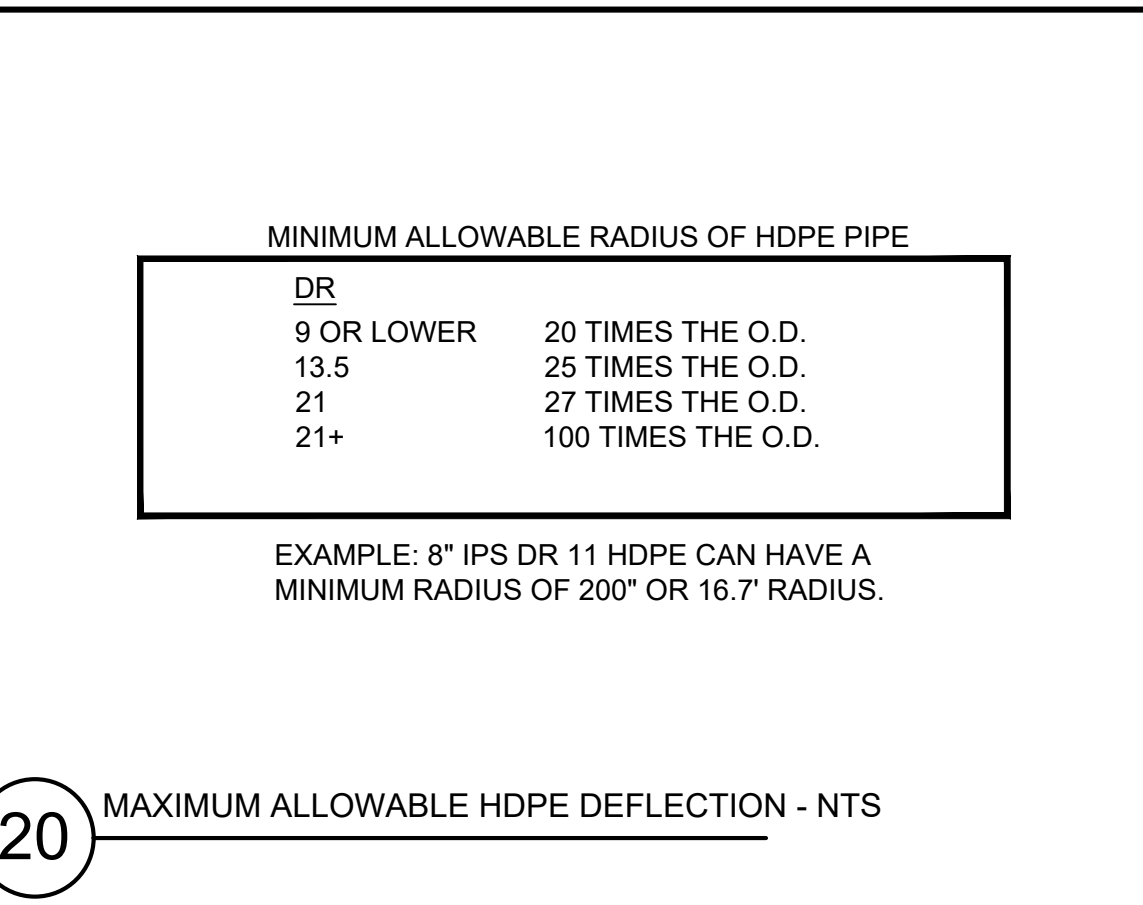
17 2" ISOLATION VALVE FOR WINTER HYDRANT / QC - NTS



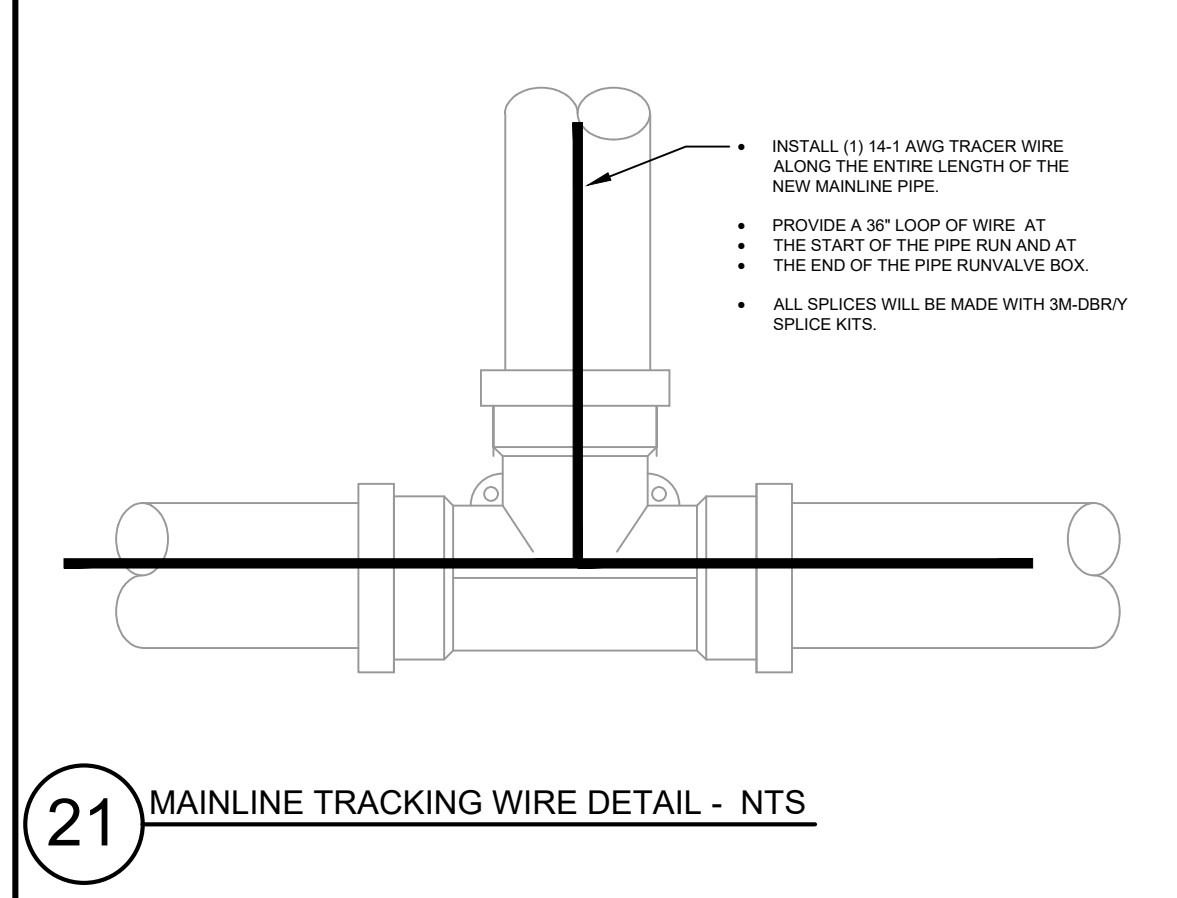
18 DECA HDPE WINTER WATERING HYDRANT MODEL #QC-20 - NTS



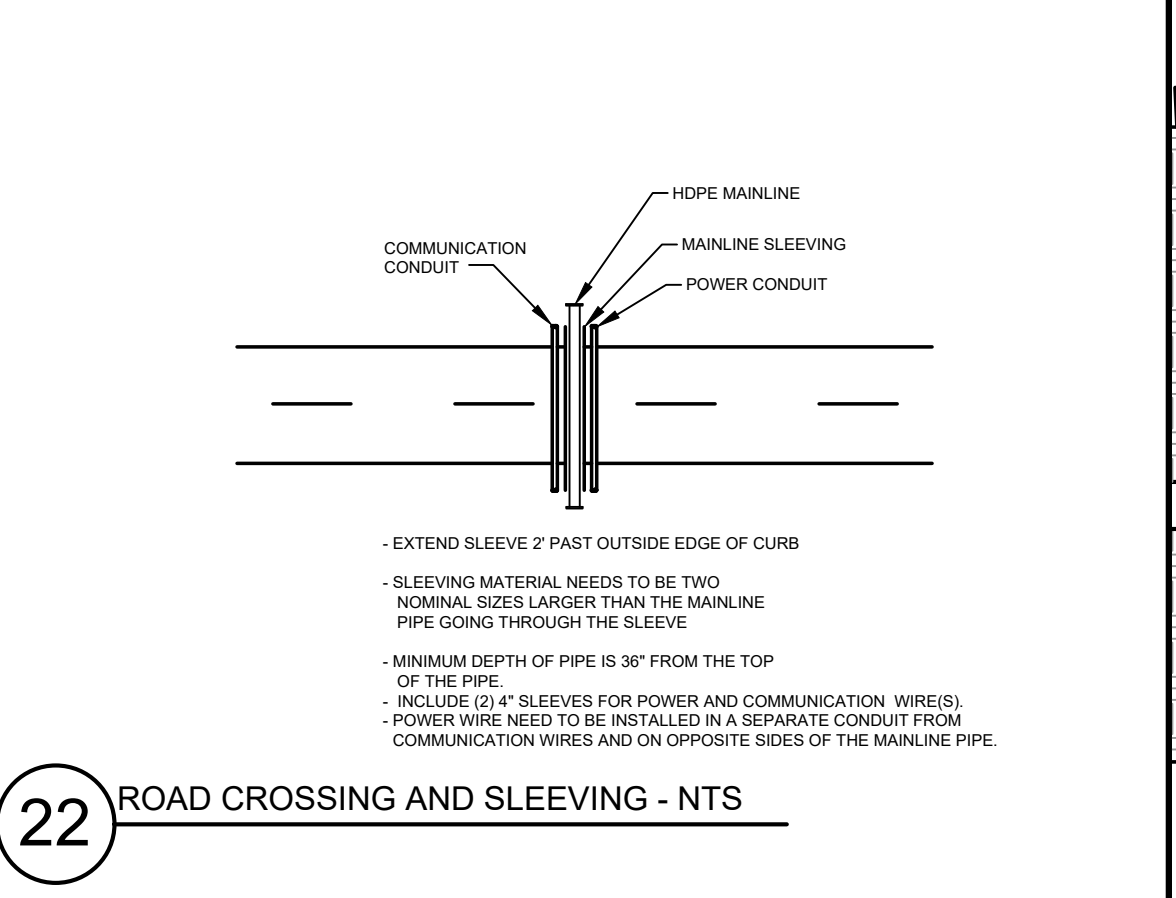
19 SPLICE BOX DETAIL - NTS



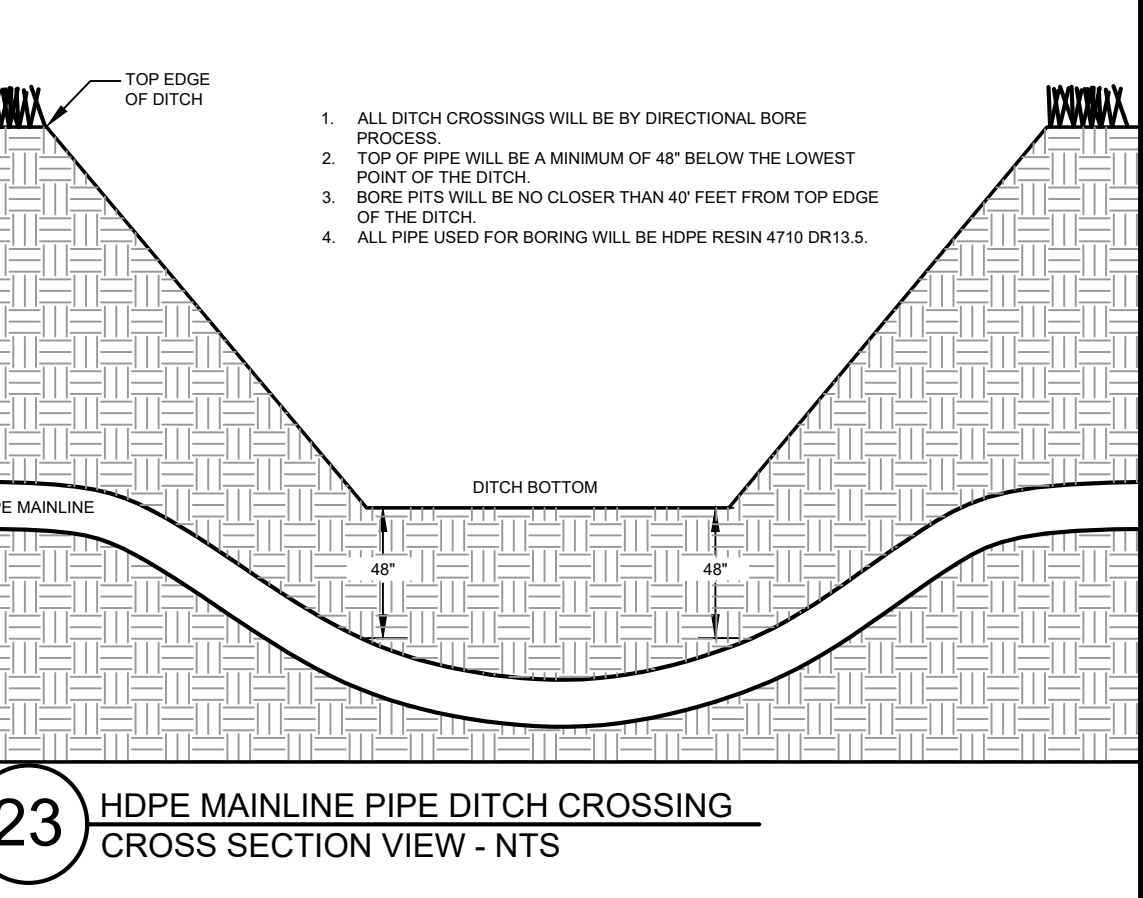
20 MAXIMUM ALLOWABLE HDPE DEFLECTION - NTS



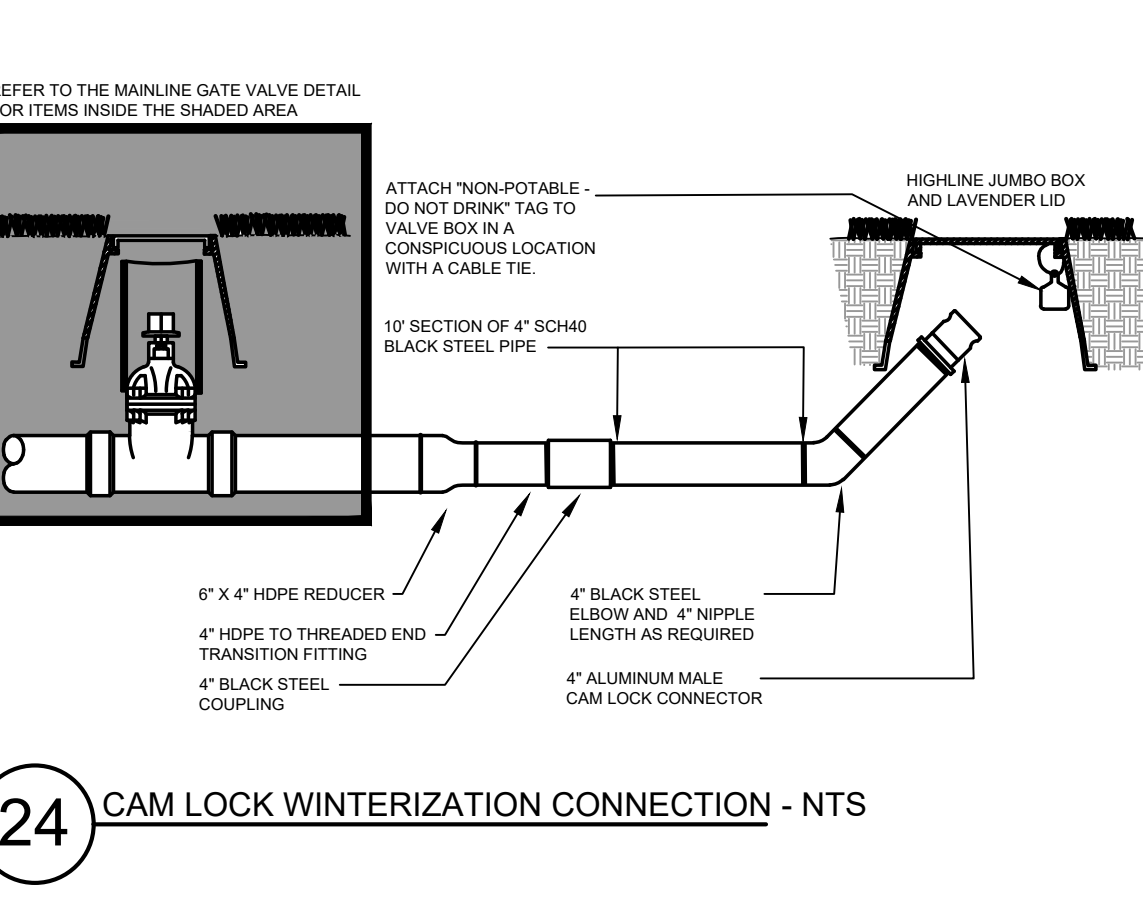
21 MAINLINE TRACKING WIRE DETAIL - NTS



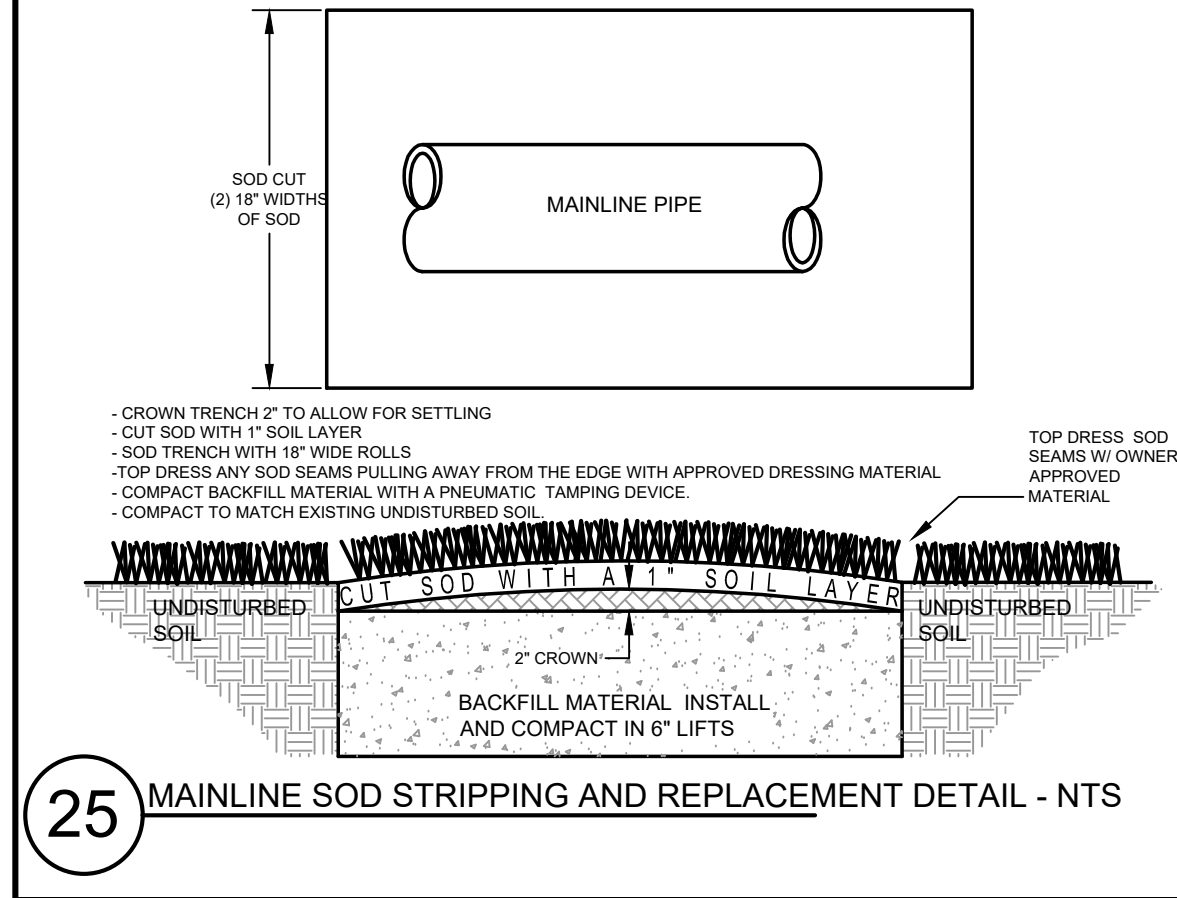
22 ROAD CROSSING AND SLEEVING - NTS



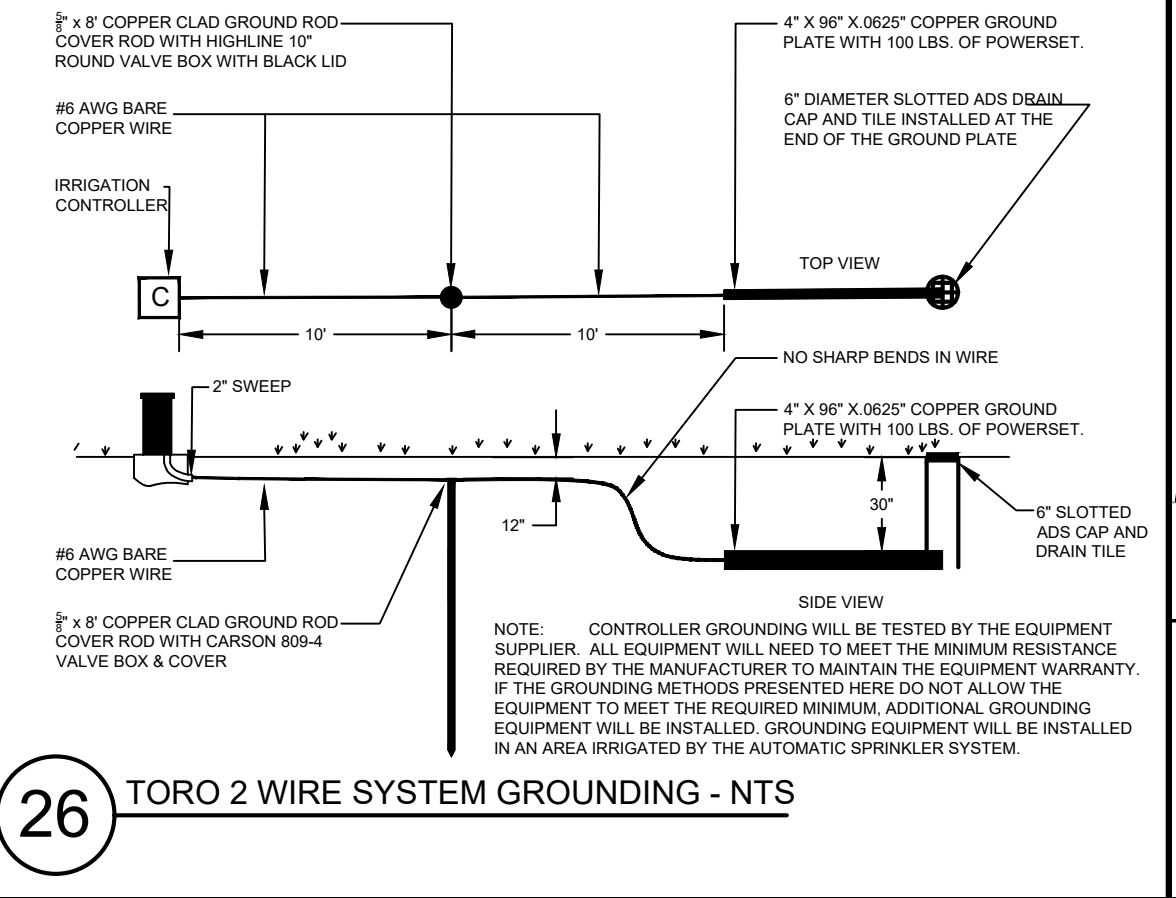
23 HDPE MAINLINE PIPE DITCH CROSSING CROSS SECTION VIEW - NTS



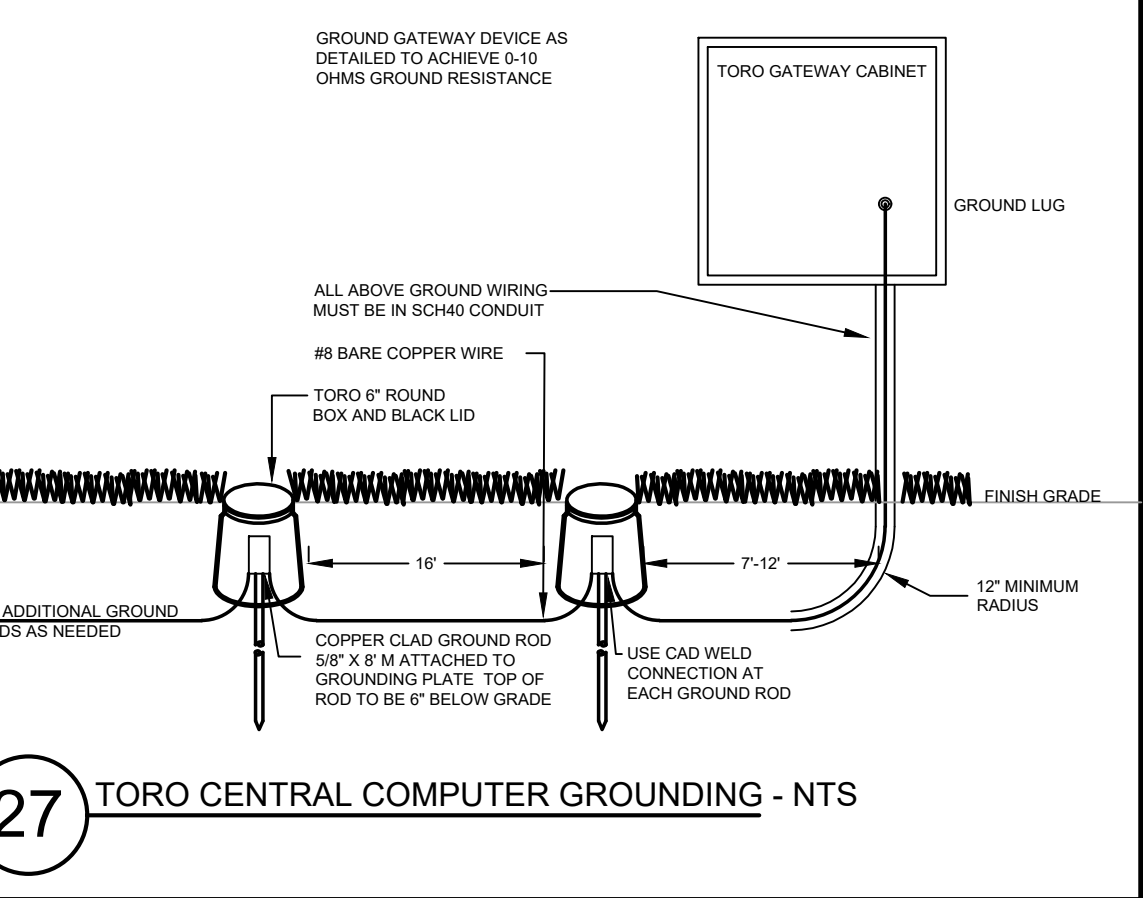
24 CAM LOCK WINTERIZATION CONNECTION - NTS



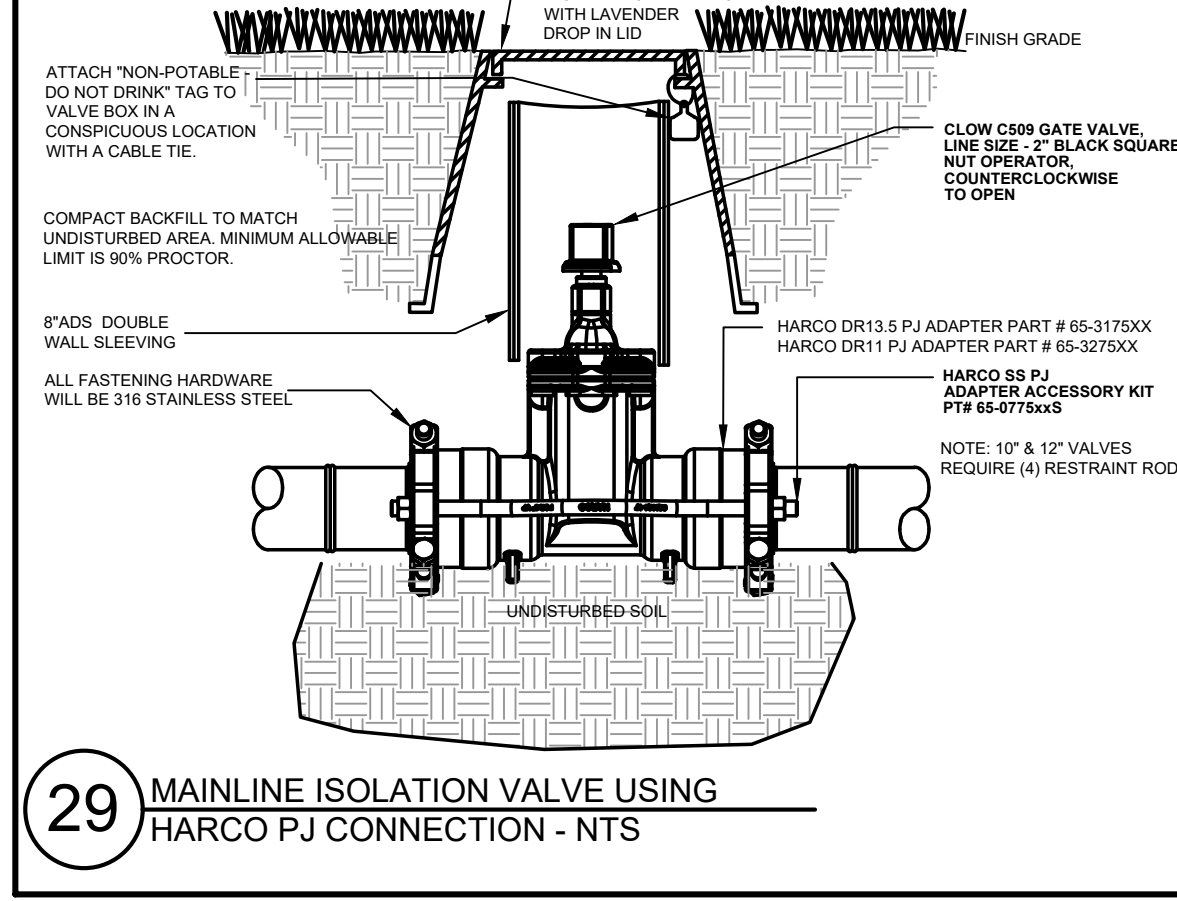
25 MAINLINE SOD STRIPPING AND REPLACEMENT DETAIL - NTS



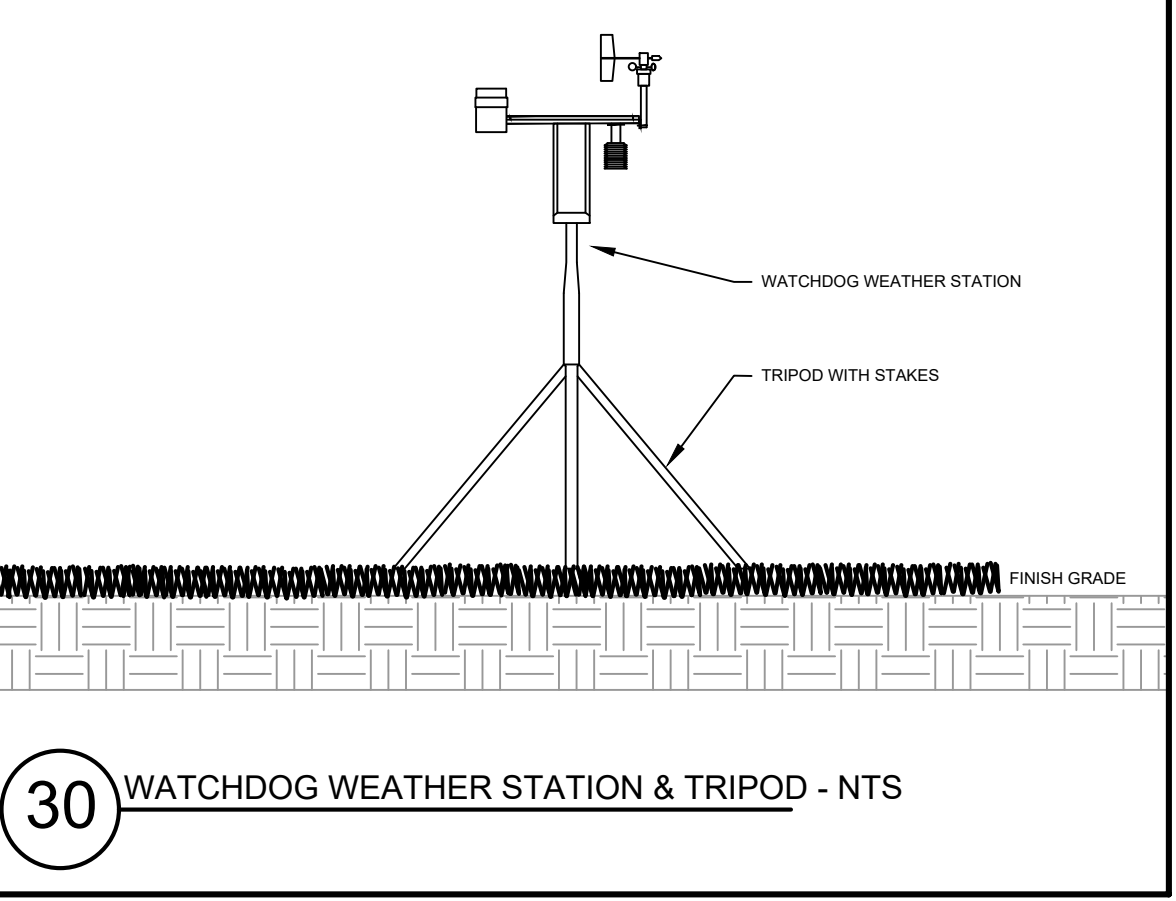
26 TORO 2 WIRE SYSTEM GROUNDING - NTS



27 TORO CENTRAL COMPUTER GROUNDING - NTS



29 MAINLINE ISOLATION VALVE USING HARCO PJ CONNECTION - NTS



30 WATCHDOG WEATHER STATION & TRIPOD - NTS

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Drafter	BDK
Check	BDK
Plot Date:	06-30-2023
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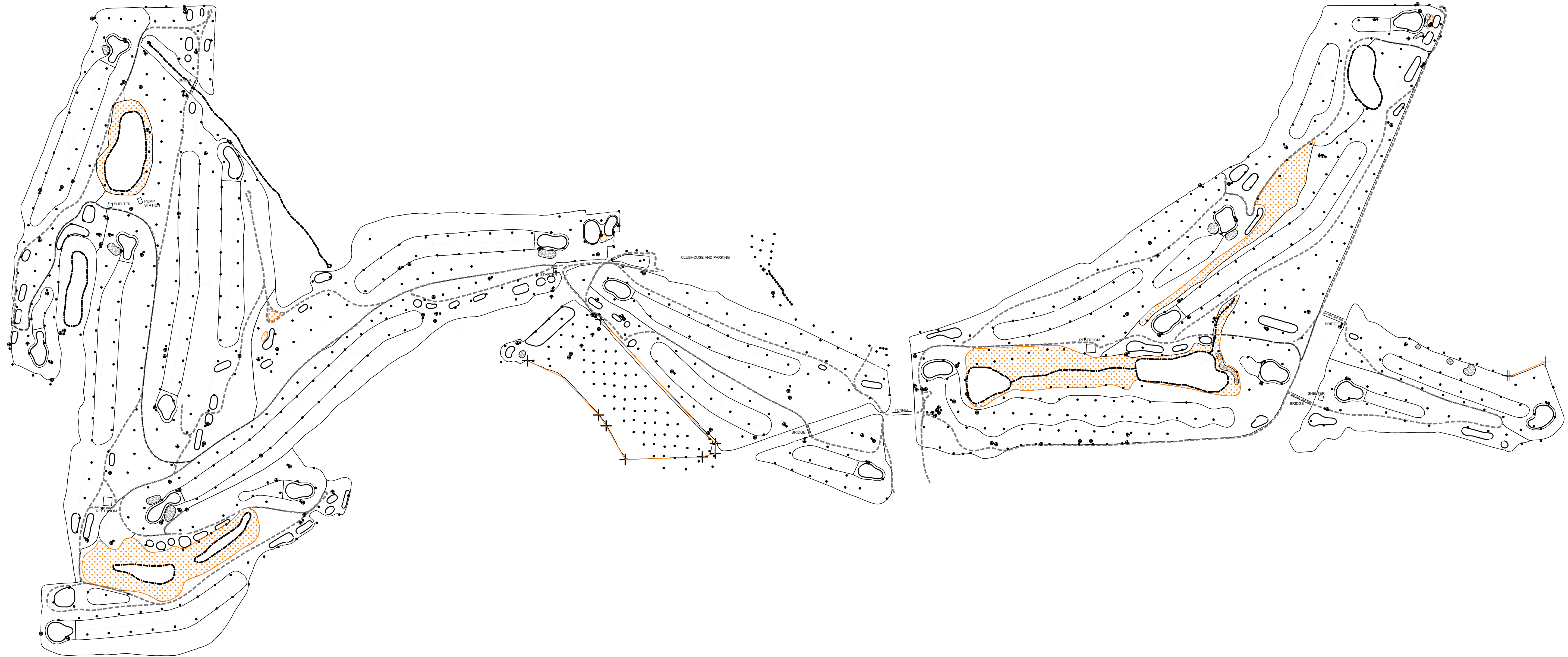
SHEET TITLE:
**Installation
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Project	VH 11-22
Drafter	BDK
Check	BDK
Plot Date:	06-30-2023
Scale:	
1" = 200'	

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SHEET TITLE:
 Existing Sprinkler Head Locations

