



VINEYARD
STAY CONNECTED

**REGULAR MEETING
OF THE VINEYARD PLANNING COMMISSION,
Wednesday, January 20, 2021 at 6:00 p.m.**

This meeting will be held electronically because of the gathering restrictions in force due to the COVID-19 Pandemic.

Please click the link below to access:

<https://zoom.us/j/99477823697?pwd=bGlkOFJCYmFhdGdsVDZXOXRKamFYdz09>

Meeting ID: 994 7782 3697

Passcode: 007745

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You can also view the meeting on our [live stream channel](#).

CALL TO ORDER

1. WRITTEN DETERMINATION

This meeting will be an electronic meeting according to Vineyard Municipal Code Section 3.08.030.

I, Bryce Brady, as the Chair of the Vineyard Planning Commission, do hereby find and declare as follows:

1. Due to the Emergency conditions which currently exist in the State of Utah, and specifically in Utah County and Vineyard City as a result of the COVID-19 Pandemic and the recent surge in COVID-19 infections across the state and in Utah County, the holding of public meetings with an anchor location as defined in the *Utah Open and Public Meetings Act*, presents a substantial risk to the health and safety of those who may be present at the anchor location; and
2. The risk to those who may be present at an anchor location can be substantially mitigated by holding public meetings of the Planning Commission pursuant to electronic means that allow for public participation via virtual means; and

3. The City has the means and ability to allow virtual participation in the public meetings in accordance with the *Utah Open and Public Meetings Act*.

NOW THEREFORE, BASED UPON THE FOREGOING,

For thirty days from the date of this Order, meetings of the Vineyard Planning Commission shall be conducted by virtual means without an anchor location.

2. INVOCATION/INSPIRATIONAL THOUGHTS/PLEDGE OF ALLEGIANCE

3. OPEN SESSION

“Open Session” is defined as time set aside for citizens to express their views for items not on the agenda. Each speaker is limited to three (3) minutes. Because of the need for proper public notice, immediate action cannot be taken in the Planning Commission Meeting. If action is necessary, the item will be listed on a future agenda. However, the Planning Commission may elect to discuss the item if it is an immediate matter of concern.

4. MINUTES REVIEW AND APPROVAL:

4.1 September 16, 2020

4.2 November 04, 2020

4.3 December 02, 2020

5. BUSINESS ITEMS

5.1 Lakefront at Town Center Phase 1G

- The Planning Commission will consider approval of a site plan for the Open Space area delineated as wetlands

6. WORKSESSION

6.1 None

7. COMMISSION MEMBERS' REPORTS AND EX PARTE DISCUSSION DISCLOSURE

8. ADJOURNMENT

The Public is invited to participate in all Planning Commission meetings. In compliance with the Americans with Disabilities Act, individuals needing special accommodations during this public meeting should notify Cache Hancey, Planning Technician, at least 24 hours prior to the meeting by calling (801) 226-1929 or email at cacheh@vineyardutah.org.

The foregoing notice and agenda were emailed to the Salt Lake Tribune and Daily Herald, posted on the Utah Public Notice Website and Vineyard Website, posted at the Vineyard City Offices and City Hall, delivered electronically to city staff and each member of the planning commission.

AGENDA NOTICING COMPLETED ON: January 19, 2021

NOTICED BY: /s/ Briam Amaya Perez

Briam Amaya Perez, Planner II



**REGULAR MEETING
OF THE VINEYARD PLANNING COMMISSION,
Vineyard City Hall, 125 S Main St., Vineyard, Utah
Wednesday, September 16, 2020 at 6:00 p.m.**

Present

Chair Anthony Jenkins
Commissioner Shan Sullivan
Commissioner Tim Blackburn
Commissioner Jeff Knighton
Alternate Amber Rasmussen

Absent

Commissioner Brady
Commissioner Welch
Commissioner Gudmundson

Other Commissioners Present:

Staff Present: Community Development Director Morgan Brim, Planning Technician Briam Amaya Perez, City Engineer/Public Works Director Don Overson, Water Operator Sullivan Love, and Assistant City Engineer Chris Wilson.

1. CALL TO ORDER

Chair Jenkins called the meeting to order at 6:04 p.m.

2. INVOCATION/INSPIRATIONAL THOUGHTS/PLEDGE OF ALLEGIANCE

An invocation was offered by Tim Blackburn.

3. OPEN SESSION

Chair Jenkins opened the meeting to the public for an open session. No comments were made and Chair Jenkins closed the open session.

4. MINUTES REVIEW AND APPROVAL:

No minutes were presented for review and approval.

5. BUSINESS ITEMS:

- 5.1  Public Hearing and consideration of amendments to the Vineyard Zoning Ordinance to add Medical Cannabis and Pharmacy provisions: Section 15.12.050 District Use Table to add new zoning uses for Pharmacies, Cannabis Production Establishments, & Medical Cannabis Pharmacies; New Section 15.34.210 Cannabis Production Establishments and Medical Cannabis Pharmacies to add development standards for associated uses; and Section 15.60.020 Definitions for Pharmacies, Cannabis Production Establishments, & Medical Cannabis Pharmacies.**

Community Development Director Mr. Brim introduced the topic by stating that in 2018 the State provided for medical allowances, through the legislature, for medical cannabis production and pharmaceutical uses. He brought up that Life Elevated, a company in the industrial district, is in the process of applying for the state permit to allow for production of medical cannabis. Life Elevated is also looking into adding a storefront for pharmaceutical uses as well.

Mr. Brim examined the District Use Table to show that medical cannabis production establishments were permitted in the FOI and manufacturing districts as long as the business meets all licensing requirements as required by Utah State Code. He clarified that there needs to be differential code between pharmacies for cannabis and traditional pharmacies due to state code. Traditional pharmacies are permitted in retail districts and medical cannabis pharmacies are only permitted in the FOI district.

Chair Jenkins asked Mr. Brim why the City would treat the location of the two (2) types of pharmacies different. Mr. Brim explained that the original intent on restricting medical cannabis pharmacies to the FOI district was to at least allow them into the City. Mr. Brim stated that because of state code, medical cannabis pharmacies have to be a certain distance from churches, schools, and parks. The FOI district complies with that requirement as well as introduces these pharmacies slowly into the City. If a medical cannabis pharmacy wanted to open up elsewhere, the City would have to go through an amendment process to allow it.

Mr. Brim mentioned that in a discussion with medical cannabis companies, they have stated that they do not like for their businesses to be located in a standard retail environment due to their patients wanting more privacy due to the negative stigma of medical cannabis.

Commissioner Shan Sullivan asked if the Commission was perpetuating the negative stigma by hiding these pharmacies in the secret parts of town. Mr. Brim replied that because of state code, the current permitted location was the easiest for the City to adopt.

Mr. Blackburn asked to know the requirements to be a medical cannabis pharmacist. Mr. Brim explained that there are state laws in place to provide certification. Mr. Brim explained that Bev Astin and Justin Arriola at Life Elevated would be great sources to explain these requirements.

Mr. Brim read the development standards from the City code tied to this use.

1. Health and Safety:

1. There shall be no emission of dust, fumes, vapors, odors, or waste into the environment from any facility where growing, processing, or testing of cannabis occurs, and

- 86 2. Cannabis production establishments shall meet the land use requirements for the
87 zone in which it is located.
- 88 2. The following standards apply to all medical cannabis pharmacies:
- 89 1. No cannabis products shall be visible from outside a medical cannabis pharmacy,
90 2. The building square footage dedicated to the retail use of the medical cannabis
91 pharmacy shall not exceed 25% of the building or development in which it is
92 located, and
93 3. Medical cannabis pharmacies shall meet the land use requirements for the zone
94 in which it is located.

95 Mr. Brim stated that due to the limitation of the retail area allowed in the FOI district
96 that a traditional pharmacy wouldn't be permitted. Mr. Brim stated that the code only
97 allows for the production of cannabis and a small retail area in the FOI district. Large
98 retail is not permitted in the FOI district so as to maintain the health and safety of all
99 residents.



Chair Jenkins asked for a motion to move into a public hearing.

102
103 **Motion:** COMMISSIONER AMBER RASMUSSEN MOTIONED TO MOVE INTO A PUBLIC
104 HEARING. COMMISSIONER BLACKBURN SECONDED THE MOTION. ROLL WENT AS
105 FOLLOWS: COMMISSIONER RASMUSSEN, COMMISSIONER BLAKBURN, CHAIR JENKINS,
106 VICE-CHAIR KNIGHTON, COMMISSIONER SULLIVAN VOTED AYE. THE MOTION CARRIED
107 UNANIMOUSLY.

108
109 Commissioner Jeff Knighton arrived in person to tell the Commission that people online
110 on Zoom cannot hear the meeting. Staff attempted to troubleshoot the problem. The
111 problem was resolved and the meeting was resumed.



Chair Jenkins reaffirmed that the meeting is open to a public hearing. Mr. Brim
provided an overview of the ordinance for those who were not able to hear.



Motion: COMMISSIONER JEFF KNIGHTON MOTIONED TO MOVE OUT OF A PUBLIC
HEARING. COMMISSIONER BLACKBURN SECONDED THE MOTION. ROLL WENT AS
FOLLOWS: VICE-CHAIR KNIGHTON, CHAIR JENKINS, COMMISSIONER BLACKBURN,
COMMISSIONER RASMUSSEN, AND COMMISSIONER SULLIVAN VOTED AYE. THE MOTION
CARRIED UNANIMOUSLY.

121
122 Commissioner Blackburn asked to know how Life Elevated disposed of waste. Mr. Brim
123 said they must follow state regulations. Mr. Brim stated there is no THC in the raw
124 materials that Life Elevated processes. Chair Jenkins suggested that Mr. Brim ask Life
125 Elevated for specifics regarding their disposal process.

126
127 Vice-Chair Knighton asked for clarification regarding the 25% requirement allowed for

128 retail in the FOI district. Mr. Brim replied that all retail in that district is limited to 25%,
129 not just medicinal cannabis. He stated that the primary use of FOI district is light
130 manufacturing due to safety concerns. The City wanted to stay true to the spirit of the
131 zoning for this district.

132
133  **Motion:** COMMISSIONER SULLIVAN MOTIONED TO RECOMMEND ORDINANCE
134 2020.13 TO THE CITY COUNCIL. VICE-CHAIR KNIGHTON SECONDED THE MOTION. ROLL
135 WENT AS FOLLOWS: VICE-CHAIR KNIGHTON, CHAIR JENKINS, COMMISSIONER
136 BLACKBURN, COMMISSIONER RASMUSSEN, AND COMMISSIONER SULLIVAN VOTED
137 AYE. THE MOTION CARRIED UNANIMOUSLY.

138 139 **6. WORK SESSION**

140 **6.1 Vineyard Tree Manual Updates**

141 Planning Technician Briam Amaya Perez described the work he has been doing to
142 update the tree manual. He listed the changes as followed:

- 143 - The title has changed from Vineyard Tree Manual to Vineyard Tree and Landscape
144 Manual. This change is more encompassing and includes groundcover.
- 145 - All of the trees and plants have been approved and shown that they can thrive in
146 Vineyards microclimate and soils.
- 147 - The manual now includes a table of contents to be more user friendly.
- 148 - All the plant species have been alphabetized.
- 149 - All the images and sources have been cited.
- 150 - Minor spelling issues have been corrected.
- 151 - Some images of trees were incorrect and the needed changes have been made.
- 152 - The tree classification system was changed to say small, medium, or large trees.
- 153 - The list of prohibited trees has been updated.
- 154 - The local retailer list has been updated.

155 Mr. Perez continued to explain that this manual is only required to be followed on
156 public lands but is encouraged to be followed on private property.

157
158 Mr. Perez stated that the City has the right to remove dead and diseased trees from
159 private property at cost of the property owner. Commissioner Blackburn asked what
160 gave the City authority to remove dead trees from private property but prohibited
161 them from enforcing which trees get planted on private property. Mr. Brim replied that
162 he will have Mr. Perez work closely with Public Works to find better wording to clarify
163 the City's authority.

164
165 Commissioner Rasmussen requested for Mr. Perez to include the scientific names of
166 each species. She also warned about male trees dispersing excess pollen.

Commissioner Blackburn asked if creating a local retailer list could warrant for controversy in that it could exclude other retailers. It was recommended that Mr. Brim include a clause to allow for the City Engineer to include other retailers without using the amendment process. Assistant City Engineer Chris Wilson told Mr. Brim that he believed a clause could be added for citizens to petition for different types of trees.

Chair Jenkins requested that the manual include a section regarding land that would be too small for the recommended vegetation. That would include utilizing rocks and other natural vegetation.

7. COMMISSION MEMBERS' REPORTS AND EX PARTE DISCUSSION DISCLOSURE

Report from Commissioner Rasmussen: Commissioner Rasmussen stated that the Sleepy Ridge golf course has natural wetlands. Natural seeds could be collected and used in the city. Mr. Brim will arrange a meeting with Jake Holdaway to collect these.

8. ADJOURNMENT



COMMISSIONER BLACKBURN MOTIONED TO ADJOURN THE MEETING.

COMMISSIONER KNIGHTON SECONDED THE MOTION. ROLL WENT AS FOLLOWS: CHAIR JENKINS, VICE-CHAIR KNIGHTON, COMMISSIONER BLACKBURN, COMMISSIONER RASMUSSEN, AND COMMISSIONER SULLIVAN VOTED AYE. THE MOTION CARRIED UNANIMOUSLY.

NOTICED BY: /s/ Cache J. Hancey

Cache J. Hancey, Planning Technician



**REGULAR MEETING
OF THE VINEYARD PLANNING COMMISSION,
Wednesday, November 4, 2020 at 6:00 p.m.**

Present

Chair Anthony Jenkins
Vice-Chair Jeff Knighton
Commissioner Shan Sullivan
Commissioner Tim Blackburn
Commissioner Bryce Brady

Absent

Alternate Jessica Welch
Alternate Tay Gudmundson

Other Commissioners Present: Alternate Amber Rasmussen.

Staff Present: Community Development Director Morgan Brim, Planner II Briam Amaya Perez, Planning Technician Cache Hancey, Assistant City Engineer Chris Wilson, and City Engineer/Public Works Director Don Overson.

Others Present: Brad Gilson with Gilson Engineering, Jason Peery with Circustrix, Resident Bryson Murray, Resident Ashley Murray, and Marie Mecham.

1. CALL TO ORDER AND WRITTEN DETERMINATION

Chair Anthony Jenkins called the meeting to order at 6:01 p.m. then read the following statement:

I, Anthony Jenkins, as the Chair of the Vineyard Planning Commission, do hereby find and declare as follows:

1. Due to the Emergency conditions which currently exist in the State of Utah, and specifically in Utah County and Vineyard City as a result of the COVID-19 Pandemic and the recent surge in COVID-19 infections across the state and in Utah County, the holding of public meetings with an anchor location as defined in the *Utah Open and Public Meetings Act*, presents a substantial risk to the health and safety of those who may be present at the anchor location; and
2. The risk to those who may be present at an anchor location can be substantially mitigated by holding public meetings of the Planning Commission pursuant to electronic means that allow for public participation via virtual means; and
3. The City has the means and ability to allow virtual participation in the public meetings in accordance with the *Utah Open and Public Meetings Act*;

2. INVOCATION/INSPIRATIONAL THOUGHTS/PLEDGE OF ALLEGIANCE

No Invocation, inspirational thought, or pledge of allegiance was given.

3. OPEN SESSION

Chair Jenkins opened the meeting to an open session. After seeing no public comment, he closed the open session.

43 **4. MINUTES REVIEW AND APPROVAL:**

44 Chair Jenkins brought forward minutes from the October 21, 2020 Planning Commission
45 Meeting. He asked the Commissioners if they had any comments or corrections. After
46 none were given, he asked for a motion to approve of the minutes.

47
48 **(6:05) Motion:** COMMISSIONER SULLIVAN MOVED TO APPROVE THE MINUTES FROM THE
49 OCTOBER 21, 2020 PLANNING COMMISSION MEETING. COMMISSIONER BLACKBURN
50 SECONDED THE MOTION. ROLL CALL WENT AS FOLLOWS: CHAIR JENKINS, VICE-CHAIR
51 KNIGHTON, COMMISSIONER SULLIVAN, COMMISSIONER BLACKBURN, AND
52 COMMISSIONER BRADY VOTE AYE. THE MOTION CARRIED UNANIMOUSLY.
53

54 **5. BUSINESS ITEMS:**

55 No items of business were presented before the Commission.
56

57 **6. PUBLIC HEARINGS**

58 **6.1 ZTA 15.38 Parking Regulations & 15.060.020 Definitions**

59 Community Development Director, Mr. Brim, introduced ordinance 2020-15. This
60 ordinance proposed modified language allowing the Planning Commission the ability to
61 reduce onsite parking requirements for specified nonresidential uses. Additionally, this
62 ordinance increased front yard parking coverage allowances and amended the method
63 used in determining front yard areas.
64

65 Mr. Brim continued to explain that this ordinance would provide an ability for the
66 Commission to review applicants for reduced parking at individual sites. Applicants would
67 need to submit a parking study to the Commission to be reviewed. He believed that it is
68 better for the Commission to approve of these individual cases instead of staff. Mr. Brim
69 then read an update to the code: The Planning Commission may use the parking study as
70 a basis for reducing the amount of onsite parking required for specific uses defined under
71 the following nonresidential categories listed in table 15.38.030(2)(c): Eating & Drinking
72 Establishments, Entertainment and Recreational Uses, and Medical Uses.
73

74 Mr. Brim stated that he liked this update because it provides a study from a professional
75 with experience in performing parking studies. He then described the process in which an
76 applicant would provide a parking study under a site plan to be approved by the City. He
77 believed that this would not be a common occurrence. This would create a more
78 thoughtful approach to parking instead of using a blanket standard. He then asked the
79 Commission for any questions regarding this portion of the ordinance.
80

81 Chair Anthony Jenkins verified with Mr. Brim that these parking reductions would be
82 handled at the site plan level of review. Mr. Brim replied that Chair Jenkins was correct
83 and added that a building re-use plan would also requirement.
84

Commissioner Tim Blackburn asked if there were any other categories of uses that were not mentioned in the three (3) categories from the updated code. Mr. Brim stated that the three (3) in the code seemed to be the most applicable and other types of businesses could apply but would need to get a text amendment to allow it. Commissioner Blackburn then asked how the parking study would affect business transitions. Mr. Brim answered that the City preforms a zoning check at the business license stage, including checking for adequate parking.

Commissioner Sullivan agreed that it is best for this approval to always go through the Commission instead of the staff.

Mr. Brim mentioned that the other issue is with parking coverage in driveways. He stated that there has been demand to have parking on individual's property instead of on the street. Mr. Brim brought up a request for the planning commission to allow for 65% hardscape instead of the current 35%/50% hardscape allowance. Mr. Brim liked the proposal because it would preserve a considerable amount of yard area while solving the issue of on-street parking. This would help older homes become compliant as well as create allowance for ADU's parking requirements. Mr. Brim introduced Brad Gilson with Gilson Engineering.

Mr. Gilson discussed issues with how residents who purchase homes later add on concrete pads. This prohibits the builders from doing this to create uniformity in how the slabs are being constructed. Mr. Gibson showed examples of this issue. The advantage to adding to the ordinance is that it creates uniformity when building. Chair Jenkins mentioned that this also prohibits the property owner from pouring hardscape over utilities. City Engineer Chris Wilson echoed Chair Jenkins' concern and agreed that this would be beneficial from an engineering standpoint.

(6:28) Motion: COMMISSIONER BLACKBURN MOVED TO OPEN THE PUBLIC HEARING. VICE-CHAIR KNIGHTON SECONDED THE MOTION. ROLL CALL WENT AS FOLLOWS: CHAIR JENKINS, COMMISSIONER BLACKBURN, VICE-CHAIR KNIGHTON, COMMISSIONER SULLIVAN, AND COMMISSIONER BRADY VOTED AYE. THE MOTION CARRIED UNANIMOUSLY.

Ashley Murray, Vineyard City resident, has lived in the city for five (5) years. She mentioned that one thing her family did not like about their house was there was no place for them to park their RV in compliance with the code. They are building a new home and wanted an ADU but stated that it is not possible with current rules. She expressed her support for this ordinance change.

Chair Jenkin asked for additional comments from the public. Hearing none, he moved to close the public hearing.

(6:32) Motion: COMMISSIONER BRADY MOVED TO CLOSE THE PUBLIC HEARING. COMMISSIONER SULLIVAN SECONDED THE MOTION. ROLL WENT AS FOLLOWS: CHAIR JENKINS, COMMISSIONER BRADY, COMMISSIONER BLACKBURN, VICE-CHAIR KNIGHTON, AND COMMISSIONER SULLIVAN VOTED AYE. THE MOTION CARRIED UNANIMOUSLY.

Chair Jenkins asked for any further discussion. Commissioner Blackburn agreed that this would be beneficial from a cost standpoint. He asked if this would allow for RV/Boats to park on this concrete extension. Mr. Brim stated that the code does require any recreational vehicle to be shielded and not allowed on the concrete extension.

Commissioner Blackburn stated that the city needed to continue to adhere to the current code regulations. Commissioner Blackburn asked that if these concrete pads are built at the time of construction and if they would also install the screening for recreational vehicles. Mr. Brim stated that it would not be required.

Commissioner Knighton asked if the 65% allowance would fix the current code violations present in the City. Mr. Gilson stated that the 65% would cover a majority of cases. Chair Jenkins asked Mr. Brim about existing non-conforming lots that did not go through the proper process. He wanted to know if they would be adopted into the new code. Mr. Brim said that every property would be adopted to get in compliance, however, anything over 65% would still be an issue. Chair Jenkins mentioned concerns with neighbors about needing to rip out concrete if their driveway measured over the 65% limit. Mr. Brim stated that if this issue is staff error and the building permit was issued then there isn't much the city can do.

(6:42) Motion: COMMISSIONER BRADY MOVED TO RECOMMEND APPROVAL OF ORDINANCE 2020-15 TO VINEYARD CITY COUNCIL. COMMISSIONER SULLIVAN SECONDED THE MOTION. ROLL CALL WENT AS FOLLOWS: CHAIR JENKINS, VICE-CHAIR KNIGHTON, COMMISSIONER BRADY, COMMISSIONER BLACKBURN, AND COMMISSIONER SULLIVAN VOTED AYE. THE MOTION CARRIED UNANIMOUSLY.

6.2 ZTA 15.34.030 Accessory Buildings, 15.12 Establishment of Districts and Zoning Tables and 15.34.150 Home Occupations

Mr. Brim introduced ordinance 2020-16. This ordinance would allow for accessory structures to be used with home occupations. Detached garages would be allowed within side yards. It also would clarify setback requirements for residential swimming pools.

166 **(6:48) Motion:** COMMISSIONER BLACKBURN MOVED TO OPEN THE MEETING TO A
167 PUBLIC HEARING. VICE-CHAIR KNIGHTON SECONDED THE MOTION. ROLL CALL WENT AS
168 FOLLOWS: CHAIR JENKINS, COMMISSIONER SULLIVAN, VICE-CHAIR KNIGHTON,
169 COMMISSIONER BLACKBURN, AND COMMISSIONER BRADY VOTED AYE. THE MOTION
170 CARRIED UNANIMOUSLY.

171
172 Bryson Murray, Vineyard City resident, wanted to know what would be permitted as a
173 detached garage. Mr. Brim stated that this change in the code would allow for detached
174 garages in side yards instead of defining what a detached garage is.

175
176 **(6:51) Motion:** COMMISSIONER BRADY MOVED TO CLOSE THE PUBLIC HEARING.
177 COMMISSIONER SULLIVAN SECONDED THE MOTION. ROLL CALL WENT AS FOLLOWS:
178 CHAIR JENKINS, COMMISSIONER SULLIVAN, COMMISSIONER BRADY, COMMISSIONER
179 BLACKBURN, AND VICE-CHAIR KNIGHTON VOTED AYE. THE MOTION CARRIED
180 UNANIMOUSLY.

181
182 Commissioner Blackburn asked if there was distinction between inground and above
183 ground pools. Mr. Brim replied that this section did not create a distinction.

184
185 Chair Jenkins asked Mr. Brim to clarify what would require a building permit. Mr. Brim
186 stated that the code provided a 200 sq/ft threshold, in that anything above that required
187 a permit. If you add electrical or plumbing it would require a permit. Pools required a
188 permit.

189
190 **(6:54) Motion:** COMMISSIONER BRADY MOTIONED TO RECOMMEND APPROVAL OF
191 ORDINANCE 2020-16 TO VINEYARD CITY COUNCIL. VICE-CHAIR KNIGHTON SECONDED THE
192 MOTION. ROLL CALL WENT AS FOLLOWS: CHAIR JENKINS, COMMISSIONER BLACKBURN,
193 COMMISSIONER SULLIVAN, COMMISSIONER BRADY, VICE-CHAIR KNIGHTON VOTED AYE.
194 THE MOTION CARRIED UNANIMOUSLY.

195 196 **7. COMMISSION MEMBERS' REPORTS AND EX PARTE DISCUSSION DISCLOSURE**

197 Report from Commissioner Blackburn: Commissioner Blackburn updated the Commission
198 on the Heritage Commission. They were working to create art that reflects four (4) areas
199 of importance to Vineyard City: heritage farming, Geneva Steel, Utah Lake, and Native
200 American peoples. They have reviewed hundreds of pictures with the artists to fill glass
201 frames.

202
203 Report from Alternate Amber Rasmussen: Commissioner Rasmussen shared about an
204 article that she published about the native plants to Vineyard.

Report from City Engineer Chris Wilson: Mr. Wilson gave an update regarding the Center Street overpass. They are on track to meet the December 10th deadline. Weather has been causing an issue. He also updated the Commission about the HAWK intersection, a pedestrian safety crossing, along Center Street. A contractor had been awarded the job.

8. ADJOURNMENT

(7:07) Motion: VICE-CHAIR KNIGHTON MOTIONED TO ADJOURN THE PLANNING COMMISSION MEETING. COMMISSIONER BLACKBURN SECONDED THE MOTION. ROLL CALL WENT AS FOLLOWS: CHAIR JENKINS, COMMISSIONER BLACKBURN, VICE-CHAIR KNIGHTON, COMMISSIONER BRADY, AND COMMISSIONER SULLIVAN VOTED AYE. THE MOTION CARRIED UNANIMOUSLY.

NOTICED BY: /s/ Cache J. Hancey

Cache J. Hancey, Planning Technician



**REGULAR MEETING
OF THE VINEYARD PLANNING COMMISSION,
Vineyard City Hall, 125 S Main St., Vineyard, Utah
Wednesday, December 2, 2020 at 6:00 p.m.**

This meeting was held electronically, via Zoom,
due to COVID-19 gathering restrictions

Present

Absent

Chair Anthony Jenkins
Commissioner Shan Sullivan
Commissioner Bryce Brady
Commissioner Tim Blackburn
Vice-Chair Jeff Knighton

Others Commissioners Present: Alternate Jessica Welch, Alternate Amber Rasmussen, and Alternate Tay Gudmundson

Staff Present: Assistant City Engineer Chris Wilson, City Engineer Don Overson, Planner II Briam Amaya Perez, Community Development Director Morgan Brim, and Planning Technician Cache Hancey

1. CALL TO ORDER AND WRITTEN DETERMINATION

Chair Anthony Jenkins called the meeting to order at 6:01 p.m. then read the following statement:

I, Anthony Jenkins, as the Chair of the Vineyard Planning Commission, do hereby find and declare as follows:

1. Due to the Emergency conditions which currently exist in the State of Utah, and specifically in Utah County and Vineyard City as a result of the COVID-19 Pandemic and the recent surge in COVID-19 infections across the state and in Utah County, the holding of public meetings with an anchor location as defined in the *Utah Open and Public Meetings Act*, presents a substantial risk to the health and safety of those who may be present at the anchor location; and
2. The risk to those who may be present at an anchor location can be substantially mitigated by holding public meetings of the Planning Commission pursuant to electronic means that allow for public participation via virtual means; and
3. The City has the means and ability to allow virtual participation in the public meetings in accordance with the *Utah Open and Public Meetings Act*;

NOW THEREFORE, BASED UPON THE FOREGOING,

For thirty days from the date of this Order, meetings of the Vineyard Planning Commission shall be conducted by virtual means without an anchor location.

43 **2. INVOCATION/INSPIRATIONAL THOUGHTS/PLEDGE OF ALLEGIANCE**

44 Commissioner Bryce Brady offered an invocation.

45 **3. OPEN SESSION**

46 At 6:04 p.m. Chair Jenkins opened the session to the public.

47
48 Community Development Director Morgan Brim read the following statement from Vineyard City
49 resident, Kathy Spencer:

50
51 “Dear Planning Committee,

52 I am a citizen of Vineyard and live in the Water’s Edge development. I am not able to attend the
53 planning meeting this week but wanted to voice a few suggestions and concerns for our developing
54 area.

55 I think Vineyard has great potential to become an upscale, clean, prime living place in Utah County but I
56 see the need for a few improvements. There are so many homes and so many people moving in but I
57 fear most of the development is houses without a lot of infrastructure. We need grocery stores, gas
58 stations, and pharmacies in Vineyard before we need more retail. We could have more neighborhood
59 market style if that would fit in with the retail/housing plans going in at Town Center, but some form of
60 grocery stores is needed.

61 When it comes to retail, I feel we can do so much better than lower-level chain restaurants.

62 We should pursue getting places like Gourmandise, Blue Lemon, or even a Cheesecake Factory before
63 we acquire places like Little Caesar's. I strongly encourage you to look at the benefit of the citizens' and
64 our need for more infrastructure first before adding more retail or housing. I would also encourage
65 looking at the long-term value of putting higher quality establishments, restaurants, and retail into your
66 city, while you plan and develop the rest of Vineyard. I am hopeful to make this city a great place to live
67 now and in the future.

68 Thanks for taking the time to consider my thoughts,
69 Kathy Spencer”

70
71
72 Mr. Brim responded to the letter with a list of infrastructure projects and shared that the city has similar
73 goals. He sent Ms. Spencer the city engineers contact information as well as some economic
74 development projects that she could review.

75
76 Chair Jenkins stated that it was always a good thing when residents share their thoughts, positive or
77 negative about the future developments of the city. He then clarified that it is important to be clear
78 what the objective of the planning commission is, which is to encourage certain types of businesses by
79 zoning regulations. He stated that there are currently zoning options for businesses such as the mixed-
80 use area, which is being under-utilized. The other clarification that Chair Jenkins pointed out was that
81 the city does not have an active role in selecting certain businesses. Mr. Brim can reach out to types of
82 businesses and encourage specific types of businesses but he does not pick and choose what is allowed.
83 Similar to how you don’t pick your neighbors, anyone that wants to buy a home that can find a seller is
84 able to do so. The planning commission will ensure that the right buildings are built in the right places.
85 He then opened the meeting to other commissioners for their input

86
87 Commissioner Shan Sullivan stated that this is a semantics issue. She believed that the resident was
88 meaning to say economic development instead of infrastructure. She said that the Commission was
89 doing a lot of good things with the general plan and seconded the comments from Chair Jenkins.

Commissioner Jeff Knighton agreed with Commissioner Sullivan and Chair Jenkins. He clarified that commercial establishments look at rooftops before any commitment to development in certain cities. With more residential being built, it is enticing for grocery stores and other retail. He believed that Ms. Spencer's sentiment is shared among many people and hopefully the city will be able to partner with the right store.

Chair Jenkins asked Mr. Brim if sales from online groceries are taxed in the location of the brick-and-mortar store or by the location of the purchase. Mr. Brim responded that he believed it was from the location of the purchase but would have to clarify with City Manager Jacob McHargue.

4. MINUTES REVIEW AND APPROVAL:

Chair Jenkins presented the following minutes for approval:

4.1 July 1, 2020

4.2 July 15, 2020

4.3 September 2, 2020

4.4 October 21, 2020

Commissioner Bryce Brady verified that he and Commissioner Knighton were present and voting members at the October 21st Planning Commission Meeting.

Alternate Jessica Welch commented that on the September 2nd minutes, lines 201-205 were attributed to Alternate Tay Gudmundson and should have been Alternate Welch. Also, on line 237 Commissioner Sullivan was quoted and it should have been Alternate Welch.

Chair Jenkins asked for a motion to approve the minutes.

Motion: COMMISSIONER BLACKBURN MOVED TO APPROVE OF THE MINUTES WITH THE NOTED CHANGES. COMMISSIONER BRADY SECONDED THE MOTION. ROLL CALL WENT AS FOLLOWS: CHAIR JENKINS, VICE-CHAIR KNIGHTON, COMMISSIONER BRADY, COMMISSIONER BLACKBURN, AND COMMISSIONER SULLIVAN VOTED AYE. THE MOTION CARRIED UNANIMOUSLY.

5. BUSINESS ITEMS

5.1 The Planning Commission will approve the 2021 meeting calendar.

Chair Jenkins presented the proposed calendar for the upcoming 2021 Planning Commission. He asked for any concerns. No concerns were mentioned by the Commission.

Motion: COMMISSIONER SULLIVAN MOVED TO ADOPT THE PROPOSED 2021 MEETING CALENDAR. COMMISSIONER KNIGHTON SECONDED THE MOTION. ROLL CALL WENT AS FOLLOWS: CHAIR JENKINS, VICE-CHAIR KNIGHTON, COMMISSIONER BRADY, COMMISSIONER BLACKBURN, AND COMMISSIONER SULLIVAN VOTED AYE. THE MOTION CARRIED UNANIMOUSLY.

136
137 **5.2 The Planning Commission will appoint a new chair and vice chair.**

138 Chair Jenkins introduced 5.2 by noting that he would be unable to remain in the position of Chair.
139 Commissioner Knighton stated that he would be okay remaining vice-chair but not wanting to step up to
140 the Chair position. Chair Jenkins shared his responsibilities as chair. A discussion regarding the position
141 ensued.

142
143 Commissioner Sullivan nominated Commissioner Brady as the Chair. Commissioner Blackburn seconded
144 the nomination.

145
146 **Motion:** COMMISSIONER SULLIVAN MOVED TO NOMINATE COMMISSION BRADY AS THE
147 COMMISSION CHAIR. COMMISSIONER BLACKBURN SECONDED THE MOTION. ROLL CALL WENT
148 AS FOLLOWS: CHAIR JENKINS, VICE-CHAIR KNIGHTON, COMMISSIONER BRADY, COMMISSIONER
149 BLACKBURN, AND COMMISSIONER SULLIVAN VOTED AYE. THE MOTION CARRIED
150 UNANIMOUSLY.

151
152 **Motion:** COMMISSIONER BRADY MOVED TO NOMINATE COMMISSION SULLIVAN AS THE
153 COMMISSION VICE-CHAIR. COMMISSIONER KNIGHTON SECONDED THE MOTION. ROLL CALL
154 WENT AS FOLLOWS: CHAIR JENKINS, VICE-CHAIR KNIGHTON, COMMISSIONER BRADY,
155 COMMISSIONER BLACKBURN, AND COMMISSIONER SULLIVAN VOTED AYE. THE MOTION
156 CARRIED UNANIMOUSLY.

157
158 Commissioner Blackburn than thanked Chair Jenkins and Vice-Chair Knighton for their leadership in the
159 Commission.

160
161 **6. WORKSESSION**

162 **6.1 The Planning Commission will discuss potential 2021 updates to the General Plan.**

163 Mr. Brim introduced the topic and then turned the time to Planner II, Briam Amaya Perez.

164
165 Mr. Amaya began his presentation stating his intention to update specific elements of the general plan
166 in January of 2021. He then provided a brief overview of the general plan.

167
168 Mr. Amaya then asked the Commission for their thoughts on what comes to mind when thinking about a
169 general plan.

170
171 Chair Jenkins replied a general plan is overarching for all aspects of the city. It is not playbook for every
172 little thing but includes standards what people would like to see. Commissioner Blackburn answered
173 that the word vision comes to mind when thinking about a general plan. He also mentioned principles
174 and values. Commissioner Sullivan said that she believes the general plan is a guide for decisions that
175 the Planning Commission make. Alternate Gudmundson said that the general plan is the skeletal
176 structure of a city

177
178 Mr. Brim pointed out that the general plan is not law, but does provide the city a legal basis for zoning
179 changes and institute law. It's like the Constitution in that laws need to be in line with the general plan.

183
184 Mr. Amaya then asked the Commission: "Why do we plan?"

185
186 Commission Brady mentioned that it is not fun to live in cities where no one planned. No planning can
187 cause people to live next to things they should. A good plan will promote healthy residential and
188 commercial growth and zones. Commissioner Blackburn stated that plans allow for more control over
189 your destiny in that the City is being proactive with issues and not responding or reacting to them.
190 Commissioner Sullivan stated that planning is not thinking about the future, but the predecessors to the
191 future.

192
193 Mr. Amaya said that plans are meant to be living documents. They are not stagnant but should
194 encourage growth. Successful plans prevent and solve problems.

195
196 Briam read the General Plan Vision: "Vineyard is a vibrant well-balanced community providing residents
197 and visitors a connection to our heritage and a path towards an enduring future. We promote a healthy
198 community through thoughtful public investments, innovation, strategic partnerships, an activated
199 lakefront and thoughtful shared open spaces"

200
201 He continued by presenting the hierarchy of a plan. He stated that a vision helps identify elements that
202 need to be focused on, such as transportation services, parks and open space, heritage and culture, etc.
203 Based off of the identified elements of importance, the City would create goals that help create an
204 implementation plan. The reason to update the General Plan is that it helps us to know how we are
205 doing, if we are making progress, if there are delays, and reassess public input. Including the public is an
206 important element of this update.

207
208 Mr. Amaya then shared a spreadsheet that presented each topic of the General Plan. He then asked the
209 Commission members to read it and send him their input. Mr. Brim clarified the assignment for the
210 commission and asked that they send it back in two weeks.

211
212 Chair Jenkins mentioned that he liked this assignment and doubted there would be many
213 disagreements. He asked Mr. Amaya if there was a section to indicate what to prioritize. Mr. Amaya
214 replied by saying to use comment section to identify priorities.

215
216 Commission Sullivan asked for a new space added to the assignment for proposed action. Mr. Amaya
217 noted.

218
219 Mr. Amaya continued his presentation by stating that there are two elements that the staff is focusing
220 on. The first one is open space, parks, trails, and the lakefront. There has been great momentum in
221 making progress with Sunset Beach, Vineyard Beach, Walkara Way, the downtown promenades, and
222 others. With the development going on, we want to capture open spaces before it is too late. He then
223 showed some examples of open spaces currently in the city such as the open space corridor and the lake
224 shore.

225
226 Mr. Brim stated that the plan is to make many small changes throughout the plan. There will be
227 specifically two chapters updated; the parks chapter and the moderate-income housing chapter. He
228 clarified that there needs to be a clear plan so that the City can meet the three areas of moderate-
229 income housing requirements from the state.

231 Chair Jenkins asked for any questions. Seeing none, he turned the time back to Mr. Brim.

232
233 Mr. Brim finished by stating that during the second meeting in January, the Commission will present the
234 priorities for the city to focus on from Mr. Amaya's assignment.

235
236 **7. COMMISSION MEMBERS' REPORTS AND EX PARTE DISCUSSION DISCLOSURE**

237 City Engineer Chris Wilson updated the Commission about the overpass opening on the 19th. He stated
238 that they do not want people driving on the overpass until the opening.

239
240 Mr. Brim stated that the City will plan a grand opening event and to look at the City's Facebook for more
241 information

242
243 **8. ADJOURNMENT**

244
245 **Motion (7:00 p.m.):** COMMISSIONER BLACKBURN MOVED TO ADJOURN THE MEETING.
246 COMMISSIONER BRADY SECONDED THE MOTION. ROLL CALL WENT AS FOLLOWS: CHAIR
247 JENKINS, VICE-CHAIR KNIGHTON, COMMISSIONER BRADY, COMMISSIONER BLACKBURN, AND
248 COMMISSIONER SULLIVAN VOTED AYE. THE MOTION CARRIED UNANIMOUSLY.

249
250 **NOTICED BY:** /s/ Cache Hancey
251 Cache Hancey, Planning Tech
252
253



Date: January 20, 2021
Agenda Item: Lakefront at Town Center Phase 1G
From: Briam Amaya Perez, Planner II
Department: Community Development
Subject: Recommendation of Approval for Lakefront at Town Center Phase 1G

Background

On January 06, 2021, the Planning Commission reviewed a proposal from Edge Homes concerning Lakefront at Town Center Phase I. The Army Core of Engineers cleared this area as wetlands, nevertheless, Edge Homes has decided that they do not want to build homes in the area due to potential flooding liabilities. Instead, they intend to preserve and improve the wetlands by incorporating native vegetation and grasses. The Planning Commission wanted to allow time for Commissioner Amber Rasmussen, a Master Gardener, to review the plans and provide comments. Therefore, no action was taken in the previous Planning Commission meeting. Tonight, after review Commissioner Rasmussen's analysis, wishes to recommend approval of Lakefront at Town Center Phase 1G.

Findings

Edge Homes has produced a quality design that will incorporate a variety of native, drought resistant species that also enhance the community's aesthetics. This significant portion of the development, due to remain as open space, will provide an array of social and environmental benefits to Vineyard residents.

Recommendation

Staff is recommending approval of the Lakefront at Town Center Phase 1G Site Plan and Landscaping Plan

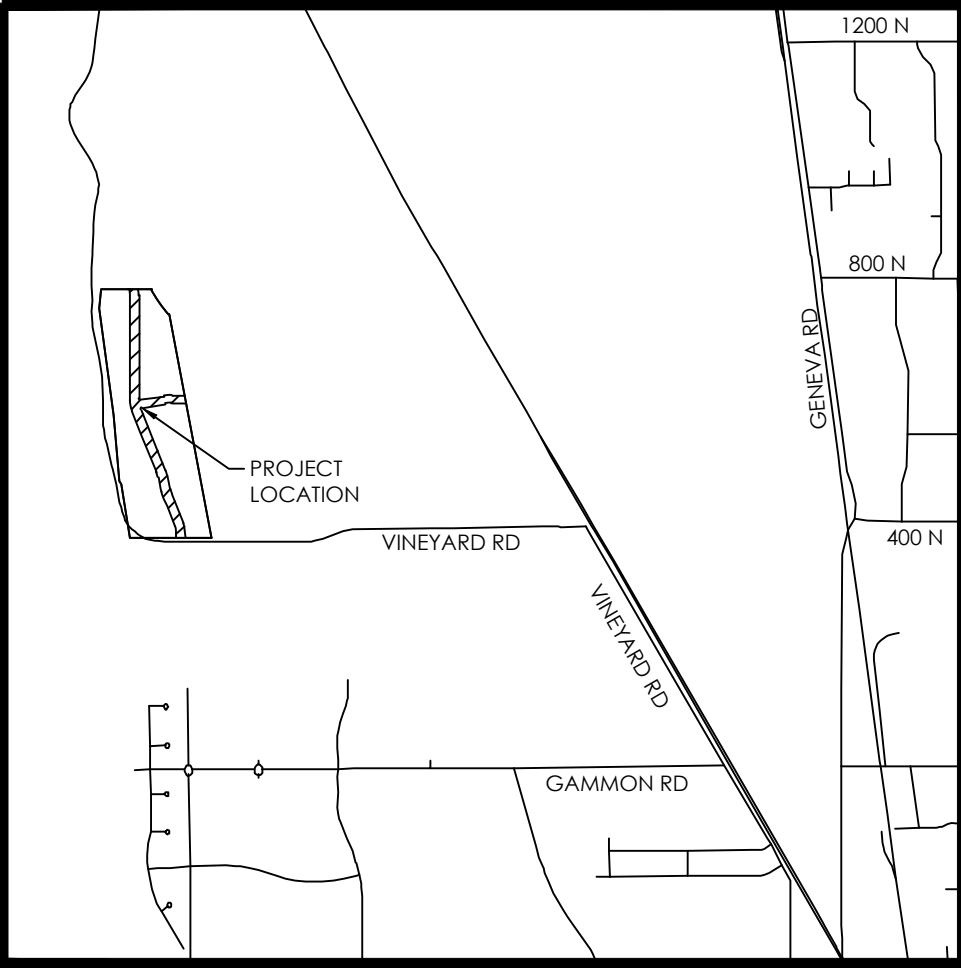
Proposed Motion

"I move to approve the Lakefront at Town Center Phase 1G Site Plan and Landscaping Plan submitted by Edge Homes."

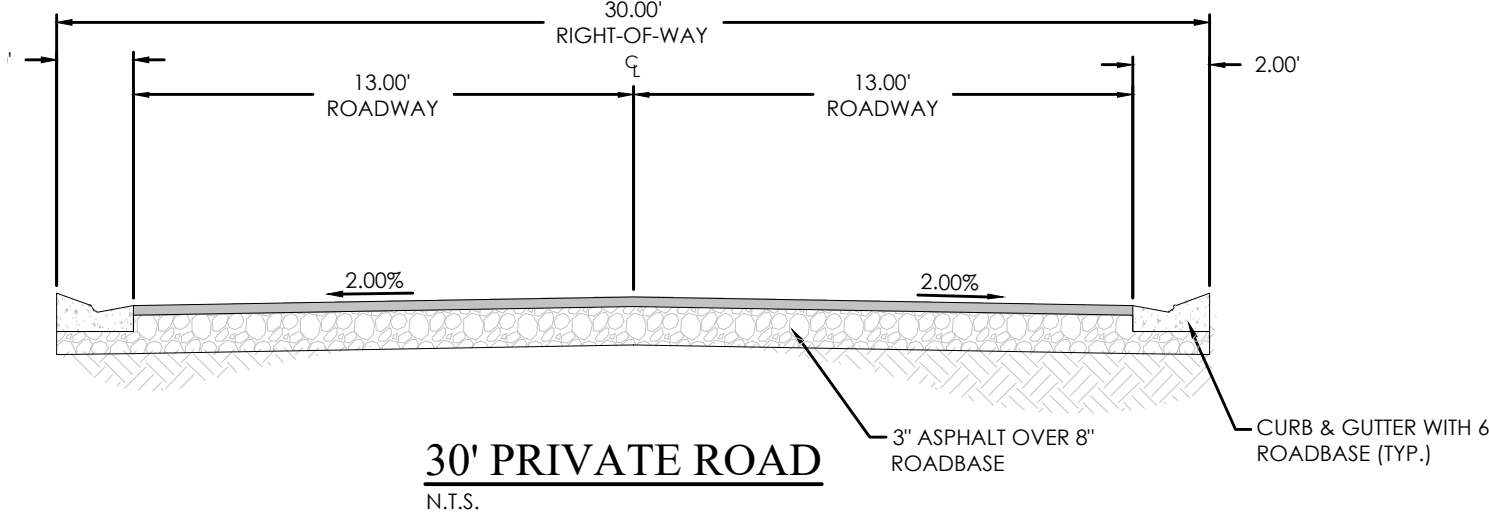
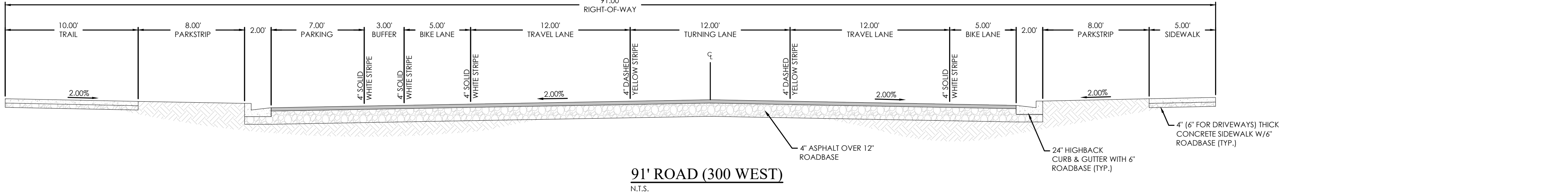
Attachments

Proposed Site Plan

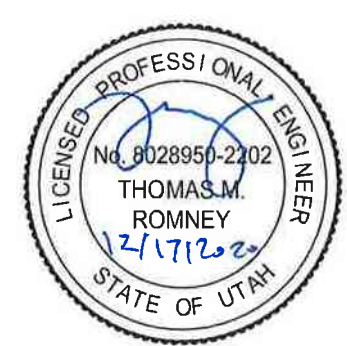
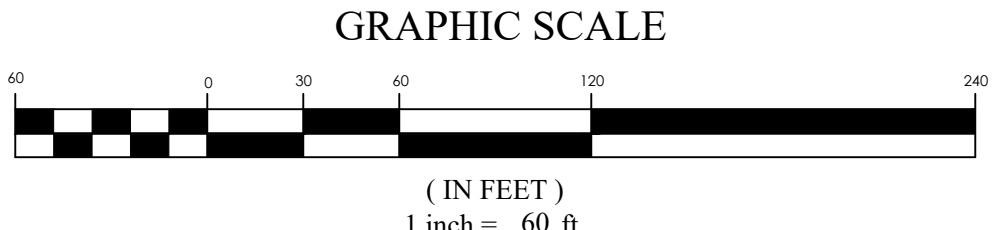
Proposed Landscaping Plan



VICINITY MAP
N.T.S.



- LEGEND**
- BOUNDARY
 - ROW
 - CENTERLINE
 - LOT LINE
 - EASEMENT
 - 15" SD
 - 15" STORM DRAIN
 - 8" SS
 - 8" SANITARY SEWER
 - 8" W
 - 8" CULINARY WATER
 - 8" SW
 - 8" SECONDARY WATER
 - XXXX
 - CONTOUR MAJOR
 - XXXX
 - CONTOUR MINOR
 - Ex SD
 - EXIST. STORM DRAIN
 - Ex SS
 - EXIST. SANITARY SEWER
 - Ex W
 - EXIST. CULINARY WATER
 - X
 - EXIST. FENCE
 - (XXXX)
 - EXIST. CONTOUR MAJOR
 - (XXXX)
 - EXIST. CONTOUR MINOR
 - SIGN
 - STREET LIGHT
 - SD MH, INLET, AND COMBO
 - SEWER MANHOLE
 - VALVE, TEE & BEND
 - WATER BLOW-OFF
 - FIRE HYDRANT
 - STREET MONUMENT (TO BE SET)
 - EXIST. STREET MONUMENT
 - EXIST. SD INLET & MH
 - EXIST. SEWER MH
 - EXIST. VALVE, TEE, & BEND
 - EXIST. FIRE HYDRANT
 - SPOT ELEVATION



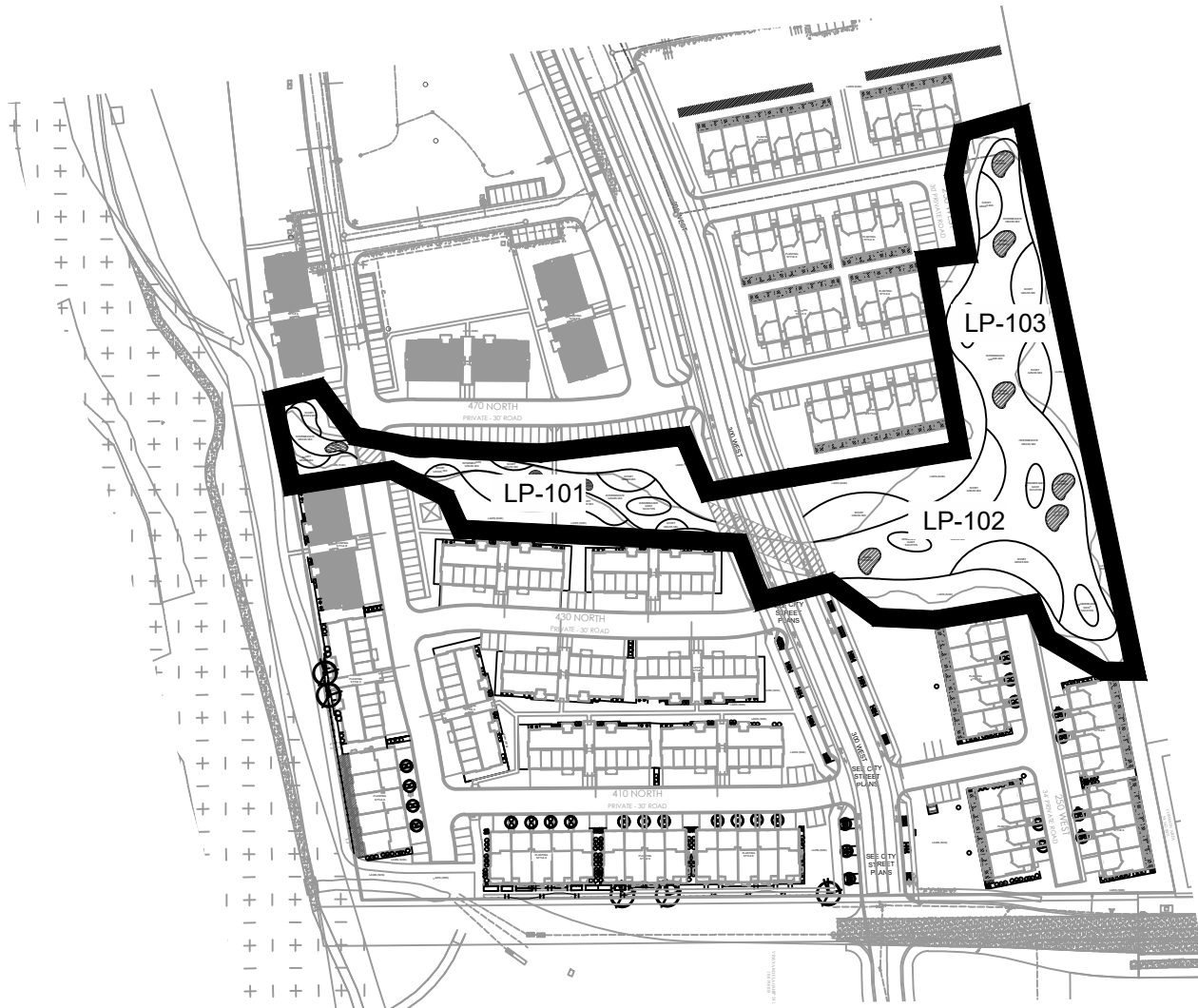
LAKEFRONT AT VINEYARD PHASE 1G
VINEYARD
SITE PLAN

REVISION BLOCK	
#	DESCRIPTION
1	
2	
3	
4	
5	
6	

SITE PLAN	
Scale: 1"=60'	Drawn: SA
Date: 12/17/2020	Job #: 20-0169
Sheet:	C3.0

LAKEFRONT

Vineyard, Utah



LANDSCAPE PLAN SPECIFICATIONS

PART I - GENERAL

1.1 SUMMARY

- A.This section includes landscape procedures for the Project including all labor, materials, and installation necessary, but not limited to, the following:
1. Site Conditions
 2. Guarantes
 3. Maintenance
 4. Soil Amendments
 5. Fine Grading
 6. Landscape Edging
 7. Furnish and Installing Plant
 8. Turf Planting
 9. Weed Barrier

1.2 SITE CONDITIONS

- A.Examination: Before submitting a Bid, each Contractor shall carefully examine the Contract Documents; shall visit the site of the Work; shall fully inform themselves as to all existing conditions and limitations; and shall include in the Bid the cost of all items required by the Contract Documents are at a variance with the applicable laws, building codes, rules, regulations, or contain obvious erroneous or uncoordinated information, the Contractor shall promptly notify the Project Representative and the necessary changes shall be accomplished by Addendum.
- B. Protection: Contractor to conduct the Work in such a manner to protect all existing underground utilities or structures. Contractor to repair or replace any damaged utility or structure using identical materials to match existing at no expense to the Owner.
- C. Irrigation System: Do not begin planting until the irrigation system is completely installed, is adjusted for full coverage and is completely operational.

1.3 PERMITS

- A.Blue Stake/ Dig Line: When digging is required, "Blue Stake" or "Dig Line" the work site and identify the approximate location of all known underground utilities or structures.

1.4 PLANT DELIVERY, QUALITY, AND AVAILABILITY

- A.Unauthorized substitutions will not be accepted. If proof is submitted that specific plants or plant sizes are unobtainable, written substitution requests will be considered for the nearest equivalent plant or size. All substitution requests must be made in writing and preferably before the bid due date.

1.5 FINAL INSPECTION

- A.All plants will be inspected at the time of Final Inspection prior to receiving a Landscape Substantial Completion for conformance to specified planting procedures, and for general appearance and vitality. Any plant not approved by the Project Representative will be rejected and replaced immediately.

1.6 LANDSCAPE SUBSTANTIAL COMPLETION

- A.A Substantial Completion Certificate will only be issued by the Project Representative for "landscape and irrigation" in their entity. Substantial Completion will not be proportioned to be designated areas of a project.

1.7 MAINTENANCE

- A.Plant Material: The Contractor is responsible to maintain all planted materials in a healthy and growing condition for 30 days after receiving a Landscape Substantial Completion at which time the Guarantee period commences. This maintenance is to include mowing, weeding, cultivating, fertilizing, monitoring water schedules, controlling insects and diseases, re-guying and staking, and all other operations of care necessary for the promotion of root growth and plant life so that all plants are in a condition satisfactory at the end of the guarantee period. The Contractor shall be held responsible for failure to monitor watering operations and shall replace any and all plant material that is lost due to improper application of water.

1.8 GUARANTEE

- A.Guarantee: A guarantee period of one year shall begin from end of maintenance period and final acceptance for trees, shrubs, and ground covers. All plants shall grow and be healthy for the guarantee period and trees shall live and grow in acceptable upright position. Any plant not alive, in poor health, or in poor condition at the end of the guarantee period will be replaced immediately. Any plant will only need to be replaced once during the guarantee period. Contractor to provide documentation showing where each plant to be replaced is located. Any outside factors, such as vandalism or lack of maintenance on the part of the Owner, shall not be part of the guarantee

PART II - PRODUCTS

2.1 LANDSCAPE MATERIALS

- A.Tree Staking: All trees shall be staked for one year warranty period. All trees not plumb shall be replaced. Staked trees shall use vinyl tree ties and tree stakes two (2) inch by two (2) by eight (8) foot common pine stakes used as shown on the details.
- B.Tree Wrap: Tree wrap is not to be used.
- C.Mulch/Rock: See Plans. All planter beds to receive a minimum 3" layer for trees, shrubs, and perennials and 1" for groundcovers.
- D.Weed Barrier: DeWitt 5 oz. weed barrier fabric. Manufactured by DeWitt Company, dewittcompany.com or approved equal.
- E.Tree, Shrub, and Grass Backfill Mixture: Backfill mixture to be 75% native soil and 25% topsoil, thoroughly mixed together prior to placement.
- F.Topsoil: Required for turf areas, planter beds and Backfill Mixture. Acceptable topsoil shall meet the following standards:
- a. pH: 5.5-7.5
 - b. EC (electrical conductivity): < 2.0 mmhos per centimeter
 - c. SAR (sodium absorption ratio): < 5.0
 - d. % OM (percent organic matter): >1%
 - e. Texture (particle size per USDA soil classification): Sand <70%; Clay < 30%; Silt < 70%; Stone fragments (gravel or any soil particle greater than two (2) mm in size) < 3% by volume.
- G.Turf Sod: All sod shall be 18 month old as specified on plans (or approved equal) that has been cut fresh the morning of installation. Only sod that has been grown on a commercial sod farm shall be used. Only use sod from a single source.
- H.Landscape Curb Edging: six (6) inches by four (4) inches extruded concrete curbs made up of the following materials:
- a. Washed mortar sand free of organic material.
 - b. Portland Cement (see concrete spec. below for type)
 - c. Reinforced fiber - Specifically produced for compatibility with aggressive alkaline environment of Portland cement-based composites.
 - d. Only potable water for mixing.
- I.Landscape Metal Edging: 5.5" steel edging with 18" dowels into the ground for stabilization.

PART III - EXECUTION

3.1 GRADING

- A.Topsoil Preparation: Grade planting areas according to the grading plan. Eliminate uneven areas and low spots. Provide for proper grading and drainage.
- B.Topsoil Placement: Slope surfaced away from building at two (2) percent slope with no pockets of standing water. Establish finish grades of one (1) inches for planters below grade of adjacent paved surfaced. Provide neat, smooth, and uniform finish grades. Remove surplus sub-soil and topsoil from the site.
- C.Compaction: compaction under hard surface areas (asphalt paths and concrete surfaces) shall be ninety-five (95) percent. Compaction under planting areas shall be between eighty-five (85) and ninety (90) percent.

3.2 TURF GRADING

- A.The surface on which the sod is to be laid shall be firm and free from footprints, depressions, or undulations of any kind. The surface shall be free of all materials larger than 1/2" in diameter.
- B.The finish grade of the topsoil adjacent to all sidewalks, mow-strips, etc. prior to the laying of sod, shall be set such that the crown of the grass shall be at the same level as the adjacent concrete or hard surface. No exceptions.

3.3 PLANTING OPERATIONS

- A.Review the exact locations of all trees and shrubs with the Project Representative for approval prior to the digging of any holes. Prepare all holes according to the details on the drawings.
- B. Water plants immediately upon arrival at the site. Maintain in moist condition until planted.
- C. Before planting, locate all underground utilities prior to digging. Do not place plants on or near utility lines.
- D.The tree planting hole should be the same depth as the root ball, and two times the diameter of the root ball.
- E.Trees must be placed on undisturbed soil at the bottom of the planting hole.
- F.The tree hole depth shall be determined so that the tree may be set slightly high of finish grade, 1" to 2" above the base of the trunk

- flare, using the top of the root ball as a guide.

G.Plant immediately after removal of container for container plants.

- H.Set tree on soil and remove all burlap, wire baskets, twine, wrappings, etc. before beginning and backfilling operations. Do not use planting stock if the ball is cracked or broken before or during planting operation.

- I. Apply vitamin B-1 root stimulator at the rate of one (1) tablespoon per gallon.
- J. Upon completion of backfilling operation, thoroughly water tree to completely settle the soil and fill any voids that may have occurred. Use a watering hose, not the area irrigation system. If additional prepared topsoil mixture needs to be added. It should be a courser mix as required to establish finish grade as indicated on the drawings.

- K.The amount of pruning shall be limited to the minimum necessary to remove dead or injured twigs and branches. All cuts, scars, and bruises shall be properly treated according to the direction of the Project Representative. Proper pruning techniques shall be used. Do not leave stubs and do not cut the leader branch. Improper pruning shall be cause for rejection of the plant material.

- L. Prepare a watering circle of 2' diameter around the trunk. For conifers, extend the watering well to the drip line of the tree canopy. Place mulch around the planted trees.

4. TURF - SOD LAYING

- A.Top Soil Amendments: Prior to laying sod, commercial fertilizer shall be applied and incorporated into the upper four (4) inches of the topsoil at a rate of four pounds of nitrogen per one thousand (1,000) square feet. Adjust fertilization mixture and rate of application as needed to meet recommendations given by topsoil analysis. Include other amendments as required.

- B.Fertilization: Three weeks after sod placement fertilize the turf at a rate of ½ pound of nitrogen per 1000 square feet. Use fertilizer specified above. Adjust fertilization mixture and rates to meet recommendations given by topsoil analysis.

- C.Sod Availability and Condition: Sod is to be delivered to the site in good condition. It is to be inspected upon arrival and installed within 24 hours. Sod is to be moist and cool to ensure that decomposition has not begun and is to be free of pests, diseases, or blemishes. The Contractor shall satisfy himself as to the existing conditions prior to any construction. The Contractor shall be fully responsible for furnishing and laying all sod required on the plans. He shall furnish new sod as specified above and lay it so as too completely satisfy the intent and meaning of the plans and specification at no extra cost to the owner. In the case of any discrepancy in the amount of sod to be removed or amount to be used, it shall be the Contractor's responsibility to report such to the Project Representative prior to commencing the work.

- D.Sod Laying: The surface upon which the new sod to be laid will be prepared as specified in the detail and be lightly watered before laying. Areas where sod is to be laid shall be cut trimmed, or shaped to receive full width sod (minimum twelve (12) inches). No partial strip or pieces will be accepted.

- E.Sod shall be tamped lightly as each piece is set to ensure that good contact is made between edges and also the ground. If voids or holes are discovered, the sod piece(s) is (are) to be raised and topsoil is to be used to fill in the areas until level. Sod laid on any sloped areas shall be anchored with wooden dowels or other materials which are accepted by the grass sod industry.

- F.Sod shall be rolled with a roller that is at least 50% full immediately after installation to ensure the full contact with soil is made.

- G.Apply water directly after laying sod. Rainfall is not acceptable.

- H.Watering of the sod shall be the complete responsibility of the Contractor by whatever means necessary to establish the sod in an acceptable manner to the end of the Maintenance period. If an irrigation system is in place on the site, but for whatever reason, water is not available in the system. It is the responsibility of the Contractor to water the sod by whatever means, until the sod is accepted by the Project Representative.

- I. Protection of the newly laid sod shall be the complete responsibility of the Contractor. The Contractor shall provide acceptable visual barriers, to include barricades set appropriate distances with strings or tapes between barriers, as an indication of new work. The Contractor is to restore any damaged areas caused by others (including vehicular traffic), erosion, etc, until such time as the lawn is accepted by the Owner.

- J. All sod that has not been laid within 24 hours shall be deemed unacceptable and will be removed from the site.

3.5 WEED BARRIER

- A.For the health of the soil and the microorganisms, weed barrier is not recommended. If use is required or requested, do not place in annual or grass areas.

- B.Cut weed barrier back to the edge of the plant rootball.

- C.Overlap rows of fabric min. 6"

- D.Stable fabric edges and overlaps to ground.

END OF SECTION

LANDSCAPE NOTES

INSTALLATION

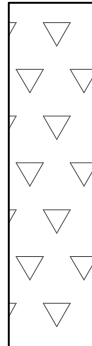
1. LANDSCAPE CONTRACTOR SHALL HAVE ALL UTILITIES BLUE STAKED PRIOR TO DIGGING. ANY DAMAGE TO UTILITIES SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE WITH NO ADDITIONAL COST TO THE OWNER.
2. DURING THE BIDDING AND INSTALLATION PROCESS, THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITIES OF ALL MATERIALS. IF DISCREPANCIES EXIST, THE PLAN SHALL DICTATE QUANTITIES TO BE USED.
3. ALL PLANT MATERIAL SHALL BE PLANTED ACCORDING TO INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) STANDARDS WITH CONSIDERATION TO INDIVIDUAL SOIL AND SITE CONDITIONS, AND NURSERY CARE AND INSTALLATION INSTRUCTIONS.
4. SELECTED PLANTS WILL BE ACCORDING TO THE PLANT LEGEND. IF SUBSTITUTIONS ARE NECESSARY, PROPOSED LANDSCAPE CHANGES MUST BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO LAYING SOD.
5. SHOULD THE SITE REQUIRE ADDITIONAL TOPSOIL, REFER TO SOIL TEST WHEN MATCHING EXISTING SOIL. IF A MATCHING SOIL IS NOT LOCATABLE, A 6" DEPTH OF SANDY LOAM TOPSOIL (MIXED PRIOR TO SPREADING WITH 2-3" OF QUALITY COMPOST) CAN BE INCORPORATED INTO THE EXISTING SOIL USING THE FOLLOWING DIRECTIONS: SCARIFY TOP 6" OF EXISTING SUBSOIL AND INCORPORATE 3" OF NEW COMPOST ENRICHED TOPSOIL SPREAD REMAINING TOPSOIL TO REACH FINISHED GRADE.
6. SOD FOR NEW LAWN AREAS SHALL BE A DROUGHT TOLERANT VARIETY. FINE LEVEL ALL AREAS PRIOR TO LAYING SOD.
7. EDGING, AS INDICATED ON PLAN, IS TO BE INSTALLED BETWEEN ALL LAWN AND PLANTER AREAS. ANY TREES LOCATED IN LAWN MUST HAVE A 4-6" TREE RING OF THE SAME EDGING.
8. IF REQUIRED BY CITY OR OWNER SPECIFIED, DeWitt 5 OZ WEED BARRIER FABRIC TO BE INSTALLED IN ALL PLANTER AREAS EXCEPT UNDER ANNUAL PLANTING AREAS AS SHOWN ON PLAN. WEED BARRIER SHALL BE CUT BACK FROM EACH PLANT TO THE DIAMETER OF THE ROOTBALL.
9. ROCK MULCH (INORGANIC MULCH) TO BE APPLIED AT THE FOLLOWING DEPTHS: 3" IN ALL TREE, SHRUB, AND PERENNIAL PLANTER AREAS; ANNUAL PLANTING AREAS AS SHOWN ON PLAN TO RECEIVE 4" OF SOIL AID MATERIAL (ORGANIC MULCH). NO MULCH SHALL BE PLACED WITHIN 12" OF BASE OF TREE AND 6" WITHIN BASE OF SHRUBS AND PERENNIALS.
10. A NEW UNDERGROUND, AUTOMATIC IRRIGATION SYSTEM IS TO BE INSTALLED BY CONTRACTOR IN ALL LANDSCAPED AREAS. LAWN AREAS TO RECEIVE AT LEAST 100% HEAD TO HEAD COVERAGE AND PLANTER AREAS TO RECEIVE A FULL DRIP SYSTEM TO EACH TREE AND SHRUB. POINT SOURCE DRIP OR IN-LINE DRIP TUBING TO BE SECURED AT EDGE OF ROOTBALL, NOT AGAINST TRUNK. SEE IRRIGATION PLAN.
11. UPON REQUEST, A PLANT GUIDE IS AVAILABLE WITH OUR RECOMMENDATIONS REGARDING WEED BARRIER, PLANT CARE AND MAINTENANCE.

INSTALLER RESPONSIBILITIES AND LIABILITIES

1. THESE PLANS ARE FOR BASIC DESIGN LAYOUT AND INFORMATION. LANDSCAPE CONTRACTOR IS REQUIRED TO USE TRADE KNOWLEDGE FOR IMPLEMENTATION. OWNER ASSUMES NO LIABILITIES FOR INADEQUATE ENGINEERING CALCULATIONS, MANUFACTURER PRODUCT DEFECTS, INSTALLATION OF ANY LANDSCAPING AND COMPONENTS, OR TIME EXECUTION.
2. LANDSCAPE CONTRACTOR IS RESPONSIBLE AND LIABLE FOR INSTALLATION OF ALL LANDSCAPING AND IRRIGATION SYSTEMS INCLUDING CODE REQUIREMENTS, TIME EXECUTIONS, INSTALLED PRODUCTS AND MATERIALS.

GRADING AND DRAINAGE REQUIREMENTS

1. AS PER CODE, ALL GRADING IS TO SLOPE AWAY FROM ANY STRUCTURE. SURFACE OF THE GROUND WITHIN 10' FEET OF THE FOUNDATION SHOULD DRAIN AWAY FROM THE STRUCTURE WITH A MINIMUM FALL OF 6"
2. AS PER CODE, FINISHED GRADE WILL NOT DRAIN ON NEIGHBORING PROPERTIES
3. A MINIMUM OF 6" OF FOUNDATION WILL BE LEFT EXPOSED AT ALL CONDITIONS
4. LANDSCAPE CONTRACTOR TO MAINTAIN OR IMPROVE FINAL GRADE AND PROPER DRAINAGE ESTABLISHED BY EXCAVATOR, INCLUDING BUT NOT LIMITED TO ANY MAINTENANCE, PRESERVATION, OR EXAGGERATION OF SLOPES, BERMS, AND SWALES.
5. LANDSCAPE CONTRACTOR IS RESPONSIBLE TO CORRECT ANY DAMAGED OR IMPROPER WATERFLOW OF ALL SWALES, BERMS, OR GRADE.
6. DEVICES FOR CHANNELING ROOF RUN-OFF SHOULD BE INSTALLED FOR COLLECTION AND DISCHARGE OF RAINWATER AT A MINIMUM OF 10' FROM THE FOUNDATION, OR BEYOND THE LIMITS OF FOUNDATION WALL BACKFILL, WHICHEVER DISTANCE IS GREATER



INTERMEDIATE GRASS BLEND: 43,811 SQ. FT.
TALLER GRASSES APPEAR WITHIN THE CENTER AREAS OF THE MATRIX. THEY CAN SURVIVE ON 12-14" OF PRECIPITATION A YEAR. WESTERN WHEATGRASS CAN HANDLE FLOODING AS CAN ALKALI SACATON. THE NATIVE GRASSES WILL NATURALLY COLONIZE IN AREAS MOST SUITED TO THEIR NEEDS CREATING DYNAMIC ECOTYPES ALONG THE LANDSCAPED TRAIL.

VARIETY	MINIMUM PRECIPITATION	GROWTH CYCLE	HEIGHT	PERCENT IN MIX
SIDEOTS GRAMA	10-12"	WARM	15-30"	10
STREAMBANK WHEATGRASS	8"	COOL	12-36"	10
SNAKE RIVER WHEATGRASS	10-13"	COOL	12-48"	10
NEEDLE 'N THREAD GRASS	8"	COOL	24-48"	5
WESTERN WHEATGRASS	10"	COOL	24-36"	40
BLUEBUNCH WHEATGRASS	8-14"	COOL	18-48"	20
ALKALI SACATON	10-12"	WARM	18-36"	5



SHORT GRASS BLEND: 24,638 SQ. FT.
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VARIETY	MINIMUM PRECIPITATION	GROWTH CYCLE	HEIGHT	PERCENT IN MIX
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INLAND SALTGRASS	8"	WARM	6-12"	5
SHEEP FESCUE	8-10"	COOL	6-12"	25
GALLETA GRASS	6"	WARM	6-12"	15



TALL GRASS BLEND: 1,965 SQ. FT.

THESE TALL GRASSES CAN BE PLANTED AS GALLONS CREATING FOCAL POINTS ALONG THE TRAIL AND MATURING AT DIFFERENT TIMES.

VARIETY	MINIMUM PRECIPITATION	GROWTH CYCLE	HEIGHT
BASIN WILDRYE	10"	COOL	36-72"



TALL GRASS BLEND: 3,700 SQ. FT.

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VARIETY	MINIMUM PRECIPITATION	GROWTH CYCLE	HEIGHT
WINDBREAKER GIANT SACATON GRASS	10"	WARM	96-120"

REVEGETATION NOTES

LAND PREPARATION BEFORE SEEDING

- REMOVE WEEDS BY MECHANICAL MEANS OR IF NECESSARY SPRAYING WITH AN HERBICIDE AND ADDED SURFACTANT. GLYPHOSATE AND/OR 2,4-D WILL NOT REMAIN IN THE SOIL FOR EXTENDED PERIODS OF TIME. ALWAYS READ LABEL DIRECTIONS OR ENLIST THE SERVICES OF A CERTIFIED PESTICIDE APPLICATOR. SEE LIST OF WEEDS ON PROPERTY BELOW.

SOIL PREPARATION IF PLANTING IN NATIVE SOIL (SEE SOIL TEST RESULTS)

- SCARIFY 6-8" USING ANY LARGE EQUIPMENT TO RIP OR BREAK UP THE SURFACE
- SMOOTH OUT AND SET THE ROUGH GRADE FOR POSITIVE DRAINAGE
- SOIL SHOULD BE SANDY IN NATURE
- APPLY A BIOTIC SOIL MEDIA (SEE GRANITE SEED [HTTPS://GRANITESEED.COM/PLANTING-AIDS/BIOTIC-SOIL-MEDIA/](https://graniteseed.com/planting-aids/biotic-soil-media/)) AT A DEPTH OF 6" TO HELP REPAIR DAMAGED SOIL AND CREATE AN ACCEPTABLE GROWTH MEDIA FOR GRASSES

SOIL PREPARATION IF REMOVING COMPACTED SOIL AND IMPORTING NEW TOPSOIL

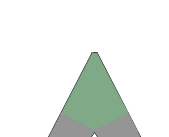
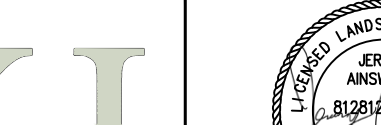
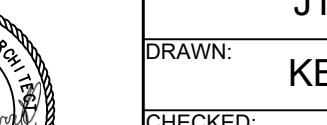
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- HYDROSEEDING INFORMATION REGARDING NURSE CROP AND LATE SEASON WATER APPLICATION GATHERED FROM LAWRENCE AT GRASS MASTER HYDROSEEDING (385) 743-1615

ISSUE DATE			PROJECT NUMBER		PLAN INFORMATION		PROJECT INFORMATION		DEVELOPER / PROPERTY OWNER / CLIENT		LANDSCAPE ARCHITECT / PLANNER		LICENSE STAMP			
12-17-2020			UT18016		811 BLUE STAKES OF UTAH UTILITY NOTIFICATION CENTER, INC. 1-800-662-4111 www.bluestakes.org   GRAPHIC SCALE: 1" = 200'		LAKEFRONT: PH 1G VINEYARD, UTAH		Developer / Property Owner:		EDGE HOMES 13702 S 200 W B12 DRAPER, UT 84020 (801) 494-0150		 DESIGN GROUP Landscape Architecture • Planning & Visualization 3450 N. TRIUMPH BLVD. SUITE 102 LEHI, UTAH 84043 (801) 960-2698 www.pkjdesigngroup.com		 PM: JTA DRAWN: KBA CHECKED: TM PLOT DATE: 12/17/20 LANDSCAPE PLAN LP-100	
NO.	REVISION	DATE	Client / Engineer:						FOCUS ENGINEERING 32 W CENTER ST, MIDVALE, UT 84047 (801) 352-0075							
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DESIGN GROUP
Landscape Architecture • Planning • Visualization

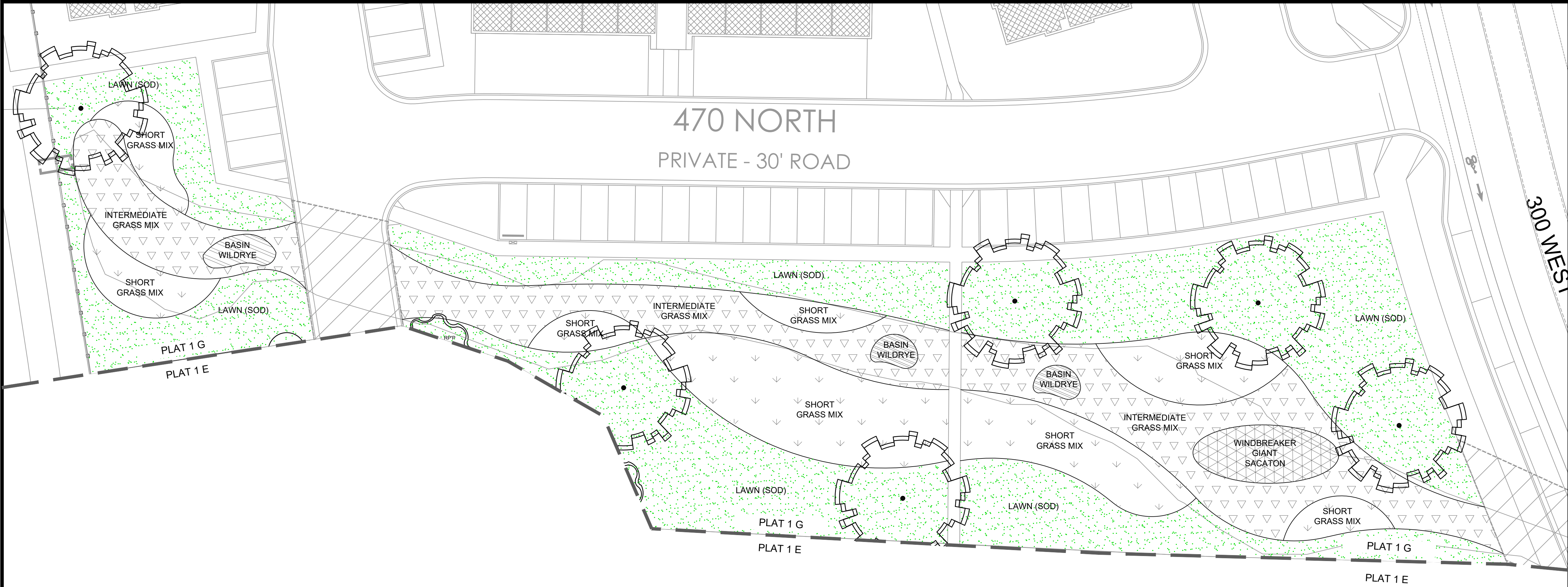
3450 N. TRIUMPH BLVD, SUITE 102
LEHI, UTAH 84043 (801) 960-2698
www.pkjdesigngroup.com



PM: JTA
DRAWN: KBA
CHECKED: TM
PLOT DATE: 12/17/2020

LANDSCAPE PLAN

LP-100



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TREE LEGEND (TOTAL PLANT COUNT)

SYMBOL	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	HYDROZONE	SPECIAL NOTES
PA	PLATANUS ACERFOLIA	LONDON PLANETREE	17	2" CAL.	MODERATE	

SITE MATERIALS (TOTAL SITE)

LAWN AREA : 58,811 SQ.FT.

LAWN AREAS SHALL BE SOD. NEW TURF AREAS TO BE SODDED WITH 18% "BLUESTAR KENTUCKY BLUEGRASS, 19% "MARQUIS" KENTUCKY BLUEGRASS, 17% "NEWPORT" KENTUCKY BLUEGRASS, 17% "TOUCHDOWN" KENTUCKY BLUEGRASS, 16% "MVP" PERENNIAL RYEGRASS, 13% "ACCENT" PERENNIAL RYEGRASS OR APPROVED EQUAL AT A RATE OF 220 LBS. PER ACRE. FINE LEVEL ALL AREAS PRIOR TO LAYING SOD.

ALL LAWN AREAS SHALL BE IRRIGATED WITH 100% COVERAGE BY POP-UP SPRAY HEADS AND GEAR-DRIVEN ROTORS. ALL DECIDUOUS AND CONIFER TREES PLANTED WITHIN SOD AREAS SHALL HAVE A FOUR FOOT(4") DIAMETER TREE RING COVERED WITH CHOCOLATE BROWN BARK MULCH, NO SHREDDED FINES. SUBMIT SAMPLES TO BE APPROVED BY LANDSCAPE ARCHITECT AND OWNER BEFORE INSTALLATION.

***THE LANDSCAPE ARCHITECT PROVIDES QUANTITY AND FOOTAGE INFORMATION AS AN AIDE TO THE BIDDING LANDSCAPER. QUANTITIES, SPECIES, AND SPECIFICATIONS HAVE BEEN SUBMITTED AND APPROVED BY THE MUNICIPALITIES – ALL SUBSTITUTIONS AND LESSER QUANTITIES MUST BE APPROVED BY THE LANDSCAPE ARCHITECT AND EDGE HOMES MANAGEMENT. IT IS ENTIRELY THE RESPONSIBILITY OF THE BIDDERS TO CALCULATE THE MATERIAL BASED ON THE GRADE CONTOURS, INCLUDING ALL LANDSCAPING RETAINING WALLS INDICATED ON THE CIVIL AS WELL AS THE LANDSCAPING DRAWINGS. THESE CIVIL, LANDSCAPING, AND IRRIGATION DRAWING WILL NEED TO BE REVIEWED PRIOR TO SUBMITTING A BID FOR THE PROJECT. ANY SHORTAGES OF MATERIALS WILL NOT BE PAID FOR BY EDGE HOMES OR THE LANDSCAPE ARCHITECT

ISSUE DATE

12-17-2020

PROJECT NUMBER

UT18016

NO.

REVISION

DATE

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BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC
1-800-662-4111
www.bluestakes.org

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0' 10' 20' 40' 80'

GRAPHIC SCALE: 1" = 20'

LAKEFRONT: PH 1E

VINEYARD, UTAH

DEVELOPER / PROPERTY OWNER / CLIENT

Developer / Property Owner:

EDGE HOMES
13702 S 200 W B12
DRAPER, UT 84020
(801) 494-0150

Client / Engineer:

FOCUS ENGINEERING
32 W CENTER ST,
MIDVALE, UT 84047
(801) 352-0075

LANDSCAPE ARCHITECT / PLANNER

PKJ

DESIGN GROUP

Landscpe Architecture Planning & Visualization

3450 N. TRIUMPH BLVD, SUITE 102
LEHI, UTAH 84043 (801) 960-2698
www.pkjdesigngroup.com

LICENSE STAMP

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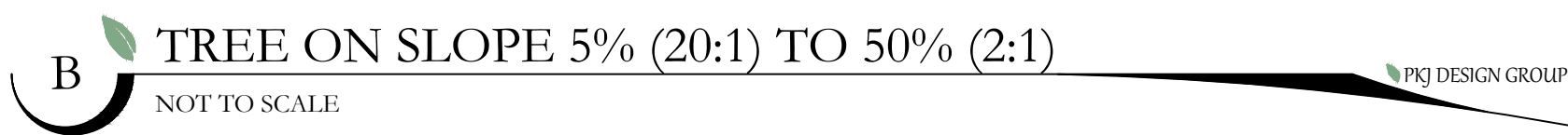
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PLOT DATE:

12/17/2020

LANDSCAPE PLAN

LP-101



LP-501

LAKEFRONT: PH 1G

VINEYARD, UTAH

IRRIGATION PLAN SPECIFICATIONS

IRRIGATION SPECIFICATIONS

PART 1 - GENERAL

1.1 SUMMARY

Work to be done includes all labor, materials, equipment and services required to complete the Project irrigation system as indicated on the Construction Drawings, and as specified herein. Includes but is not limited to: Furnishing and installing underground and above ground sprinkler system complete with any accessories necessary for proper function and operation of the system. All plant material on the Project shall be irrigated. Remove and dispose of any existing sprinkler system components which are disturbed during the construction process and are not to be saved. Restoration of any altered or damaged existing landscape to original state and condition.

1.2 SYSTEM DESCRIPTION

A.Design of Irrigation Components: Locations of irrigation components on Construction Drawings may be approximate. Piping, sleeving and/or other components shown on Construction drawings may be shown schematically for graphic clarity and demonstration of component groupings and separations. All irrigation components shall be placed in landscaped areas, with the exception of pipe and wire in sleeving under landscapes. Actual routing of pipe, wire or other components may be altered due to site conditions not accounted for in the design process.

B.Construction requirements: Actual placement may vary as required to achieve a minimum of 100% coverage without overspray onto landscape, buildings or other features.

C.Layout of Irrigation Components: During layout and staking, consult with Owner Approved Representative (hereafter referred to as OAR) to verify proper placement of irrigation components, and to provide Contractor recommendations for changes where revisions may be advisable. Small or minor adjustments to system layout are permissible to avoid existing field obstructions such as utility boxes or street light poles. Contractor shall place remote control valves in groups as practical to economize on quantity of manifold isolation valves. Quick coupler valves shall be placed with manifold groups and protected by manifold isolation valves. Quick coupler valves are shown on Construction Documents in approximate locations.

1.3 DEFINITIONS

A.Water Supply: Secondary water piping and components, furnished and installed by others to provide irrigation water to this Project, including but not limited to filter, saddles, nipples, spools, shut off valves, corporation stop valves, water meters, pressure regulation valves, and piping upstream of (or prior to) the Point of Connection.

B.Point of Connection: Location where the Contractor shall tie into the water supply. May require filter, saddle, nipples, spools, isolation valves or Stop and Waste valve for landscape irrigation needs and use.

C.Main Line Piping: Pressurized piping downstream of the Point of Connection to provide water to remote control valves and quick couplers. Normally under constant pressure.

D. Lateral Line Piping: Circuit piping downstream of remote control valves to provide water to sprinkler heads, drip systems or bubblers.

1.4 REFERENCES

A.The following standards will apply to the work of this Section:

- a. ASTM-American Society for Testing and Materials
- b. IA - The Irrigation Association: Main BMP Document, Landscape Irrigation Scheduling and Water Management Document.

1.5 SUBMITTALS

A.At least thirty (30) days prior to ordering of any materials, the Contractor shall provide manufacturer catalog cut sheet and current printed specifications for each element or component of the irrigation system. Submittals shall be in three ring binders or other similar bound form. Provide five copies of submittals to OAR for distribution. Place cover or index sheet indicating order in submittal document. No material shall be ordered, delivered or any work proceeded in the field until the required submittals have been reviewed in its entirety and stamped approved. Delivered material shall match the approved samples.

B.Operation and Maintenance Manual:

- a. At least thirty (30) days prior to final inspection, the Contractor shall provide Operation and Maintenance manual to OAR, containing:
 - i. Manufacturer catalog cut sheet and current printed specifications for each element or component of the irrigation system.
 - ii. Parts list for each operating element of the system
 - iii.Manufacturer printed literature on operation and maintenance of operating elements of the system.
 - iv)Section listing instructions for overall system operation and maintenance. Include directions for Spring Start-up and Winterization.
- b. Project Record Copy
 - i. Maintain at project site one copy of all project documents clearly marked "Project Record Copy". Mark any deviation in material installation on Construction drawings. Maintain and update drawing at least weekly. Project Record Copy to be available to OAR on demand.
 - ii. Completed Project As-Built Drawings

1. Prior to final inspection, prepare and submit to OAR accurate as-built drawings
2. Show detail and dimension changes made during installation. Show significant details and dimensions that were not shown in original Contract Documents.
3. Field dimension locations of sleeving, points of connection, main line piping, wiring runs not contained in main line pipe trenches, valves and valve boxes, quick coupler valves.
4. Dimensions are to be taken from permanent construction surfaces, features, or finished edges located at or above finished grade.
5. Controller Map: upon completion of system, place in each controller a color coded copy of the area that controller services: indicating zone number, type of plant material and location on project that zone services. Laminated map with heat shrink clear plastic.

1.6 QUALITY ASSURANCE

- A.Acceptance: Do not install work in this section prior to acceptance by OAR.
- B.Regulatory Requirements: All work and materials shall be according to any and all rules, regulations or codes, whether they are State or Local laws and ordinances. Contract documents, drawings or specifications may not be construed or interpreted to permit work or materials not conforming to the above codes.
- C.Adequate Water Supply: Water supply to this Project exists, installed by others. Connections to these supply lines shall be by this Contractor. Verify that proper connection is available to supply line and is of adequate size. Verify that secondary connection components may be installed if necessary. Perform static pressure test prior to commencement of work. Notify OAR in writing of problems encountered prior to proceeding.

D. Workmanship and Materials:

- a. It is the intent of this specification that all material herein specified and shown on the construction documents shall be of the highest quality available and meeting the requirements specified.
 - b. All work shall be performed in accordance with the best standards of practice relating to the trade.
- E.Contractors Qualifications:
- i. Contractor shall provide document or resume including at least the following items:
 - i. That Contractor has been installing sprinklers on commercial projects for five previous consecutive years.
 - ii. Contractor is licensed to perform Landscape and Irrigation construction in the State of this Project.
 - iii.Contractor is bondable for the work to be performed.
 - iv)References of five projects of similar size and scope completed within the last five years. Three of the projects listed shall be local.
 - v. Listing of suppliers where materials will be obtained for use on this Project.
 - vi.)Project site Foreman or Supervisor has at least five consecutive years of commercial irrigation installation experience.

This person shall be a current Certified Irrigation Contractor in good standing as set forth by the Irrigation Association. This person shall be on Project site at least 75% of each working day.

vi. Evidence that Contractor currently employs workers in sufficient quantities to complete Project within time limits that are established by the Contract.

viii. All General laborers or workers on the Project shall be previously trained and familiar with sprinkler installation and have a minimum of one-year experience. Those workers performing tasks related to PVC pipe shall have certificates designated below.

1.7 DELIVERY-STORAGE-HANDLING

A.During delivery, installation and storage of materials for Project, all materials shall be protected from contamination, damage, vandalism, and prolonged exposure to sunlight. All material stored at Project site shall be neatly organized in a compact arrangement and storage shall not disrupt Project Owner or other trades on Project site. All material to be installed shall be handled by Contractor with care to avoid breakage or damage. Damaged materials attributed to Contractor shall be replaced with new at Contractor's expense.

1.8 SEQUENCING

A.Perform site survey, research utility records, contact utility location services. The Contractor shall familiarize himself with all hazards and utilities prior to work commencement. Install sleeving prior to installation of concrete, paving or other permanent site elements. Irrigation system Point of Connection components, backflow prevention and pressure regulation devices shall be installed and operational prior to all downstream components. All main lines shall be thoroughly flushed of all debris prior to installation of any sprinkler heads.

1.9 WARRANTY

A.Contractor shall provide one year Warranty. Warranty shall cover all materials, workmanship and labor. Warranty shall include filling and/or repairing depressions or replacing turf or other plantings due to settlement of irrigation trenches or irrigation system elements. Valve boxes, sprinklers or other components settled from original finish grade shall be restored to proper grade. Irrigation system shall have been adjusted to provide proper, adequate coverage of irrigated areas.

1.10 OWNER'S INSTRUCTION

A.After system is installed, inspected, and approved, instruct Owner's Representatives in complete operation and maintenance procedures. Coordinate instruction with references to previously submitted Operation and Maintenance Manual.

1.11 MAINTENANCE:

- A.Furnish the following items to Owner's Representative:
- a. Two quick coupler keys with hose swivel.
 - b. One of each type or size of quick coupler valve and remote control valve. Five percent of total quantities used of each sprinkler and sprinkler nozzle.
- B.Provide the following services:
- a. Winterize entire irrigation system installed under this contract. Winterize by "blow-out" method using compressed air. Compressor shall be capable of minimum of 175 CFM. This operation shall occur at the end of first growing season after need for plant irrigation but prior to freezing. Compressor shall be capable of evacuating system of all water pressure regulation devices. Compressor shall be regulated to not more than 60 PSI. Start up system the following spring after danger of freezing has passed. Contractor shall train Owner's Representative in proper start-up and winterization procedure.

PART 2 - PRODUCTS

2.1 GENERAL NOTES

A.Contractor shall provide materials to be used on this Project. Contractor shall not remove any material purchased for this Project from the Project Site, nor mix Project materials with other Contractor owned materials. Owner retains right to purchase and provide project material.

2.2 POINT OF CONNECTION

A.The Contractor shall connect onto existing irrigation or water main line as needed for Point(s) of Connection. Contractor shall install new main line as indicated.

2.3 CONNECTION ASSEMBLY

A.Secondary water shall be used on this Project. Install filter and RPZ as needed.

2.4 CONTROL SYSTEM

- A.Power supply to the irrigation controller shall be provided for by this Contract.
- B.Controller shall be as specified in the drawings. Controller shall be surge protected.
- a. Installation of wall-mount controllers: Irrigation controller shall be responsible for this task. Power configuration for wall-mount controllers shall be 120 VAC unless otherwise noted.
 - b. Locate Controller(s) in general location shown on Construction drawings. Coordinate power supply and breaker allocation with electrical contractor. Contractor shall be responsible for all power connections to Controllers, whether they are wall mount or pedestal mount. Contractor shall coordinate with electrical or other Project trades as needed to facilitate installation of power to controllers.
- C.Wires connecting the remote control valves to the irrigation controller are single conductors, type PE. Wire construction shall incorporate a solid copper conductor and polyethylene (PE) insulation with a minimum thickness of 0.045 inches. The wires shall be UL listed for direct burial in irrigation systems and be rated at a minimum of 30 VAC. Page Electric Co., LP specification number P7079D.
- a. A minimum of 24" of additional wire shall be left at each valve, each splice box and at each controller.
 - b. Common wire shall be white in color, 12 gauge. Control wire shall be red in color, 14 gauge. Spare wire shall be looped within each valve box of the grouping it is to service.
- D. RGV wire splicing connectors shall be 3M brand DBY or DBR. Wire splicing between controller and valves shall be avoided if at all possible. Any wire splices shall be contained within a valve box. Splices within a valve box that contains no control valves shall be stamped "WIRE SPLICE" or "WS" on box lid.

2.5 SLEEVING

A.Contractor shall be responsible to protect existing underground utilities and components. Sleeving minimum size shall be 2". Sleeving 2" through 4" in size shall be S/40 PVC solvent weld. Sleeving 6" and larger shall be CI 200 PVC gasketed. Sleeve diameter shall be at least two times the diameter of the pipe within the sleeve. Sleeves shall be extended 6" minimum beyond walk or edge of pavement. Wire or cable shall not be installed in the same sleeve as piping, but shall be installed in separate sleeves. Sleeve ends on sleeve sizes 4" and larger shall be capped with integral corresponding sized PVC slip cap, pressure fit, until used, to prevent contamination. Sleeves shall be installed at appropriate depths for main line pipe or lateral pipe.

2.6 MAIN LINE PIPE

- A.All main line pipe 4" and larger shall be Class 200 gasketed bell end. All main line pipe 3" in size and smaller shall be Schedule 40 PVC solvent weld bell end.
- a. Maximum flows allowed through main line pipe shall be:

3/4"	8 GPM
1"	12 GPM
1-1/2"	30 GPM
2"	53 GPM
2-1/2"	75 GPM
3"	110 GPM
4"	180 GPM
 - b. Main line pipe shall be buried with 24" cover

2.7 MAIN LINE FITTINGS

A.All main line fittings 3" and larger shall be gasketed ductile iron material. All ductile iron fittings having change of direction shall have proper concrete thrust block installed. All main line fittings smaller than 3" in size shall be Schedule 80 PVC.

2.8 ISOLATION VALVES

A.Isolation valves 3" and larger shall be Waterloo brand model 2500 cast iron gate valve, resilient wedge, push on type, with 2" square operating nut. Place sleeve of 6" or larger pipe over top of valve vertically and then extend to grade. Place 10" round valve box over sleeve at grade.

B.Isolation valves 2-1/2" and smaller shall be Apollo brand 70 series brass ball valves, contained in a Carson Standard size valve box. Valves shall be installed with S/80 PVC TOE Nipples on both sides of the valve. Valve shall be placed so that the handle is vertical toward the top of the valve box in the "off" position.

2.9 MANIFOLDS

A.Action Manifold fittings shall be used to create unions on both sides of each control valve, allowing the valve to be removed from the box without cutting piping. Valves shall be located in boxes with ample space surrounding them to allow access for maintenance and repair. Where practical, group remote control valves in close proximity, and protect each grouping with a manifold isolation valve as shown in details. Manifold Main Line (or Sub-Main Line) and all manifold components and isolation valves shall be at least as large as the largest diameter lateral served by the respective manifold.

2.10 REMOTE CONTROL VALVES

A.Remote control valves shall be as specified on the drawings. Remote control valves shall be located separately and individually in separate control boxes.

2.11 MANUAL CONTROL VALVES

A.Quick coupler valve shall be attached to the manifold sub-main line using a Larson G178212 swing joint assembly with snap-lock outlet and brass stabilizer elbow. Quick coupler valve shall be placed within a Carson 10" round valve box. Top of quick coupler valve cover shall allow for complete installation of valve box lid, but also allow for insertion and operation of key. Base of quick coupler valve and top of quick coupler swing joint shall be encased in 3/4" gravel. Contractor shall not place quick coupler valves further than 200 feet apart, to allow for spot watering or supplemental irrigation of new plant material. Quick coupler valve at POC shall not be eliminated or relocated.

2.12 LATERAL LINE PIPE

A.All lateral piping shall be Schedule 40 PVC, solvent weld, and bell end. Lateral pipe shall be buried with 12-18" of cover typically. Lateral pipe shall be 1/2", 1", 1 1/2", 1 3/4" or 2" in size as indicated on Construction Drawings.

2.13 LATERAL LINE FITTINGS

A.All lateral line fittings shall be S/40 PVC.

2.14 Spray Sprinklers

A.Spray head sprinklers shall be as specified on the drawings. Nozzles shall be as specified on the drawings.

2.15 VALVE BOXES

A.Carson valve boxes shall be used on this project. Sizes are as directed in these Specifications, detail sheets or plan sheets. Valve boxes shall be centered over the control valve or element they cover. Valve box shall be sized large enough to allow ample room for services access, removal or replacement of valve or element. Valve box shall be set to flush to finish grade of topsoil or harked areas. Contractor shall provide extensions or stack additional valve boxes as necessary to bring valve box pit to proper grade.

2.16 IMPORT BACKFILL

A.All main line pipe, lateral line pipe and other irrigation elements shall be bedded and backfilled with clean soil, free of rocks 1" and larger. Contractor shall furnish and install additional backfill material as necessary due to rocky conditions. Trenches and other elements shall be compacted and/or water settled to eliminate settling. Debris from trenching operations unusable for fill shall be removed from project and disposed of properly by Contractor.

2.17 OTHER PRODUCTS

A.Substitution of equivalent products is subject to the OAR's approval and must be designated as accepted in writing.
a. The Contractor shall provide materials to make the system complete and operational.

PART 3 - EXECUTION

3.1 PREPARATION

A.Contractor shall repair or replace work damaged by irrigation system installation. If damaged work is new, repair or replacement shall be provided by the original installer of that work. The existing landscape of this Project shall remain in place. Contractor shall protect and work around existing plant material. Coordination of trench and valve locations shall be laid out for the OAR prior to any excavation occurring. Plant material deemed damaged by the OAR shall be replaced with new plant material at Contractor's expense. Contractor shall not cut existing tree roots larger than 2" to install this Project. Route pipe, wire and irrigation elements around tree canopy drip line to minimize damage to tree than 24 hours at a time.

3.2 TRENCHING AND BACKFILLING

A.Pulling of pipe shall not be permitted on this project. Over excavate trenches both in width and depth. Ensure base of trench is free of debris free to permit pipe and wire. Grade trench line to ensure flat, even support of pipe. Backfill with clean soil or import material. Contractor shall backfill no less than 2" around entire pipe with clean, rock free fill. Main line piping and fittings shall not be backfilled until OAR has inspected and pipe has passed pressure testing. Perform balance of backfill operation to eliminate any settling.

3.3 SLEEVING

A.Sleeve all piping and wiring that pass under paving or landscape features. Wiring shall be placed in separate sleeving from piping. Sleeves shall be positioned relative to structures or obstructions to allow for pipe or wire within to be removed if necessary.

3.4 GRADES AND DRAINAGE

A.Place irrigation pipe and other elements at uniform grades. Winterization shall be by evacuation with compressed air. Automatic drains shall not be installed on this Project. Manual drains shall only be installed at POC where designated on Construction Drawings.

3.5 PVC PIPE

- A.Install pipe to allow for expansion and contraction as recommended by pipe manufacturer.
- B.Install main line pipes with 18" of cover, lateral line pipes with 12" of cover.
- C. Drawings show diagrammatic or conceptual location of piping. Contractor shall install piping to minimize change of direction, avoid placement under large trees or large shrubs, avoid placement under landscape features.
- D. Plastic pipe shall be cut squarely. Burrs shall be removed. Spigot ends of pipes 3" and larger shall be beveled.
- E. Pipe shall not be glued unless ambient temperature is at least 50 degrees F. Pipe shall not be glued in rainy conditions unless properly tented. All solvent weld joints shall be assembled using IPS 711 glue and P99 primer according to manufacturer's specification, no exceptions. All workers performing glue operations shall provide evidence of certification. Glued main line pipe shall cure a minimum of 24 hours prior to being energized. Lateral lines shall cure a minimum of 2 hours prior to being energized and shall not remain under constant pressure unless cured for 24 hours.
- F. Appropriate thrust blocking shall be performed on fittings 3" and larger. All threaded joints shall be wrapped with Teflon tape or paste unless directed by product manufacturer or sealing by o-ring.

3.6 CONTROLLERS

- A.All grounding for pedestal controllers shall be as directed by controller manufacturer and ASIC guidelines, not to exceed a resistance reading of 5 OHMS.
- B. Locate controllers in protected, inconspicuous places, when possible. Coordinate location of pedestal controllers with Landscape Architect to minimize visibility.
- C. Coordinate location of wall mount controllers with building or electrical Contractor to facilitate electrical service and future maintenance needs. Wall mount shall be securely fastened to surface. If exterior mounted, wall mount controllers shall have electrical service wire and field control wire in separate, appropriate sized weatherproof electrical conduit, PVC pipe shall not be used.

D. Wiring under hardscape surfaces shall be placed continuously in conduit. Contractor shall be responsible to coordinate sleeving needs for conduit or sweeps elbows from exterior to interior of building.

E. Pedestal controllers shall be placed upon VTI-Strong Box Quick Pad as per manufacturer's recommendations. Controllers shall be oriented such that Owner's Representative maintenance personnel may access easily and perform field system tests efficiently.

F. Place Standard valve box at base of controller or nearby to allow for three to five feet of slack field control wire to be placed at each controller. This Contractor shall provide conduit access if needed for Electrical Contractor. Electrical supply and installation, as well as hook-up to controller shall be by this Contractor.

3.7 VALVES

- A. Isolation valves, remote control valves, and quick coupler valves shall be installed according to manufacturer recommendation and Contract Specifications and Details.
- B. Valve boxes shall be set over valves so that all parts of the valve can be reached for service.
- C. Valve box and lid shall be set to be flush with finished grade. Only one remote control valve may be installed in a Carson 1419124 box. Place a minimum of 4" of 3/4" washed gravel beneath valve box for drainage. Bottom of remote control valve shall be a minimum of 2" above gravel.

3.8 SPRINKLER HEADS

- A. No sprinkler shall be located closer than 6" to walls, fences, or buildings.
- B. Heads adjacent to walks, curbs, or paths shall be located at grade and 2" away from hardscape.
- C. Control valves shall be opened. Then fully flush lateral line pipe and swing joints prior to installation of sprinklers.
- D. Spray heads shall be installed and flushed again prior to installation of nozzles.
- E. Contractor shall be responsible for adjustment if necessary due to grade changes during landscape construction.

3.9 FIELD QUALITY CONTROL

- A. Main line pipes shall not be backfilled or accepted until the system has been tested for 2 hours at 100 psi.
- B. Main line pressure test shall include all pipe and components from the point of connection to the upstream side of remote control valves. Test shall include all manifold components under constant pressure. Piping may be tested in sections that can be isolated.
- C. Contractor shall provide pressurized water pump to increase or boost pressure where existing static pressure is less than 100 psi.
- D. Schedule testing with OAR 48 hours in advance for approval.
- E. Leaks or defects shall promptly be repaired or rectified at the Contractors expense and retested until able to pass testing.
- F. Grounding resistance at pedestal controller shall also be tested and shall not exceed 5 OHMS.

3.10 ADJUSTMENT

A. Sprinkler heads shall be adjusted to proper height when installed. Changes in grade or adjustment of head height after installation shall be considered a part of the original contract and at Contractor's expense.

B. Adjust all sprinkler heads for arc, radius, proper trim and distribution to cover all landscaped areas that are to be irrigated.

C. Adjust sprinklers so they do not water buildings, structures, or other hardscape features.

D. Adjust run times of station to meet needs of plant material the station services.

3.11 CLEANING

- A. Contractor shall be responsible for cleanliness of jobsite. Work areas shall be swept cleanly and picked up daily.
- B. Open trenches or hazards shall be protected with yellow caution tape.
- C. Contractor is responsible for removal and disposal of offsite trash and debris generated as a result of this Project.
- D. OAR shall perform periodic as well as a final cleanliness inspection.
- E. Contractor shall leave Project in at least a "broom clean" condition.
- END OF SECTION

CONTRACTOR TO PLACE TEMPORARY IRRIGATION SYSTEM ON ALL REVEGETATION SEED AREAS FOR THE FIRST YEAR UNTIL SEED IS ESTABLISHED

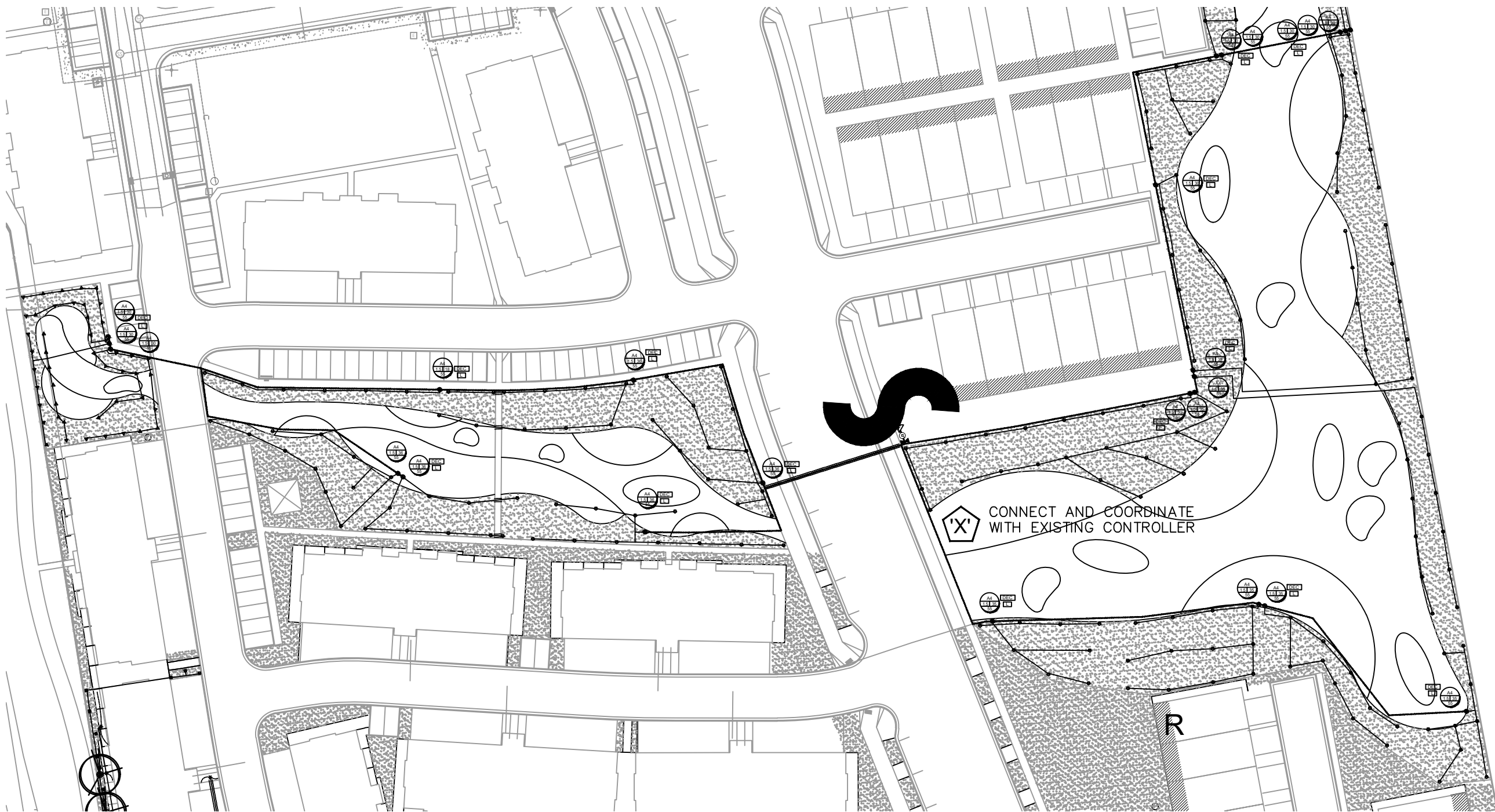
90 Day Establishment Period Irrigation Schedule (April, May, June)									
	Type	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Operating Pressure
Turf		15 min	15 min	15 min	15 min	15 min	15 min	15 min	30 psi
Shrubs	Shrubs	25 min	0	25 min	0	25 min	0	25 min	40 psi

Note: Begin irrigation 4:00 am, only 1 cycle per day.

Regular Irrigation Schedule (see Seasonal Differential Chart)									
	Type	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Operating Pressure
Turf		15 min	15 min	15 min	15 min	15 min	15 min	15 min	30 psi
Shrubs	Shrubs	45 min		45 min		45 min		45 min	40 psi

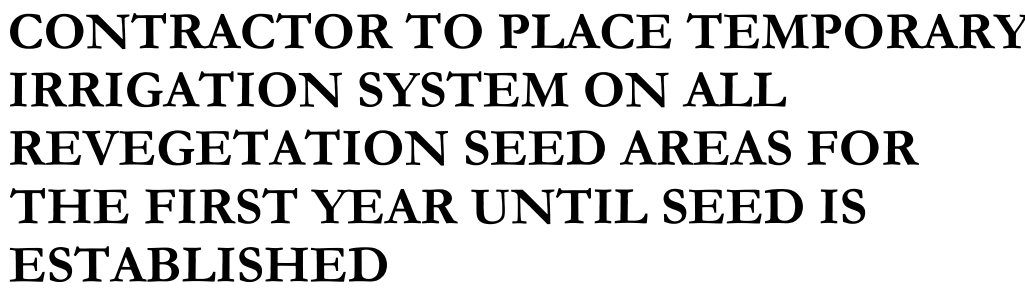
Note: Begin irrigation 4:00 am, only 1 cycle per day.

Seasonal Differential							
	April	May	June	July	August	Sept	October
Turf	10 min	10 min	15 min	15 min	15 min	10 min	10 min
Shrubs	30 min	30 min	45 min	45 min	45 min	30 min	30 min



2" MAINLINE ROUTING ,CONTROLLER AND P.O.C. LOCATION OVERVIEW

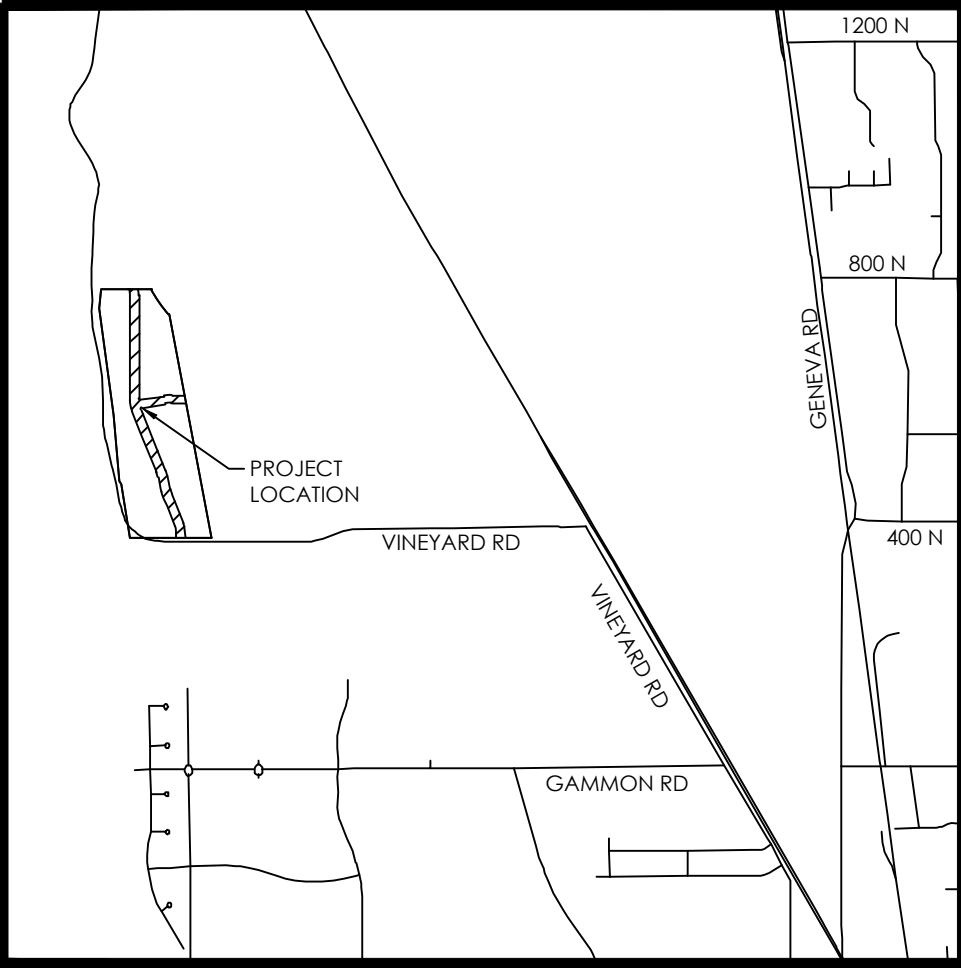
ISSUE DATE			PROJECT NUMBER			PLAN INFORMATION			PROJECT INFORMATION			DEVELOPER / PROPERTY OWNER / CLIENT			LANDSCAPE ARCHITECT / PLANNER			LICENSE STAMP			DRAWING INFO		
12/17/2020			UT18016			811 BLUE STAKES OF UTAH UTILITY NOTIFICATION CENTER, INC. 1-800-662-4111 www.bluestakes.org			LAKEFRONT: PH 1G VINEYARD, UTAH			Developer / Property Owner: EDGE HOMES 13702 S 200 W B12 DRAPER, UT 84020 (801) 494-0150			Client / Engineer: FOCUS ENGINEERING 32 W CENTER ST, MIDVALE, UT 84047 (801) 352-0075			Landscape Architecture / Planning & Visualization 3450 N. TRIUMPH BLVD. SUITE 102 LEHI, UTAH 84043 (801) 960-2698 www.pkjdesigngroup.com			PM: JTA DRAWN: AP CHECKED: KA PLOT DATE: 12/17/2020		
NO. REVISION DATE			1 XXXX XX-XX-XX			GRAPHIC SCALE: 1" = 40'			IR-100			PRELIMINARY PLANS NOT FOR CONSTRUCTION											



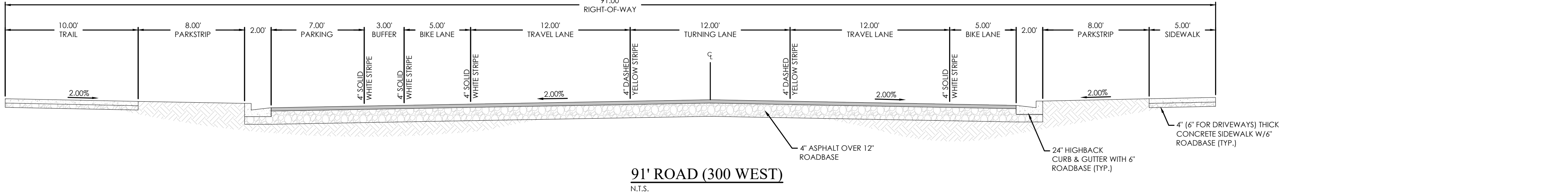
ISSUE DATE			PROJECT NUMBER			PLAN INFORMATION			PROJECT INFORMATION			DEVELOPER / PROPERTY OWNER / CLIENT			LANDSCAPE ARCHITECT / PLANNER			LICENSE STAMP			DRAWING INFO					
12/17/2020			UT18016			 BLUE STAKES OF UTAH UTILITY NOTIFICATION CENTER, INC. 1-800-662-4111 www.bluestakes.org   GRAPHIC SCALE: 1" = 40'			LAKEFRONT: PH 1G VINEYARD, UTAH			Developer / Property Owner:			EDGE HOMES 13702 S 200 W B12 DRAPER, UT 84020 (801) 494-0150			 PKJ DESIGN GROUP Landscape Architecture & Planning & Visualization 3450 N. TRIUMPH BLVD. SUITE 102 LEHI, UTAH 84043 (801) 960-2698 www.pkjdesigngroup.com			 PRELIMINARY PLANS NOT FOR CONSTRUCTION IR-101			DRAWING INFO		
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1			XXXX									XX-XX-XX			12/17/2020											
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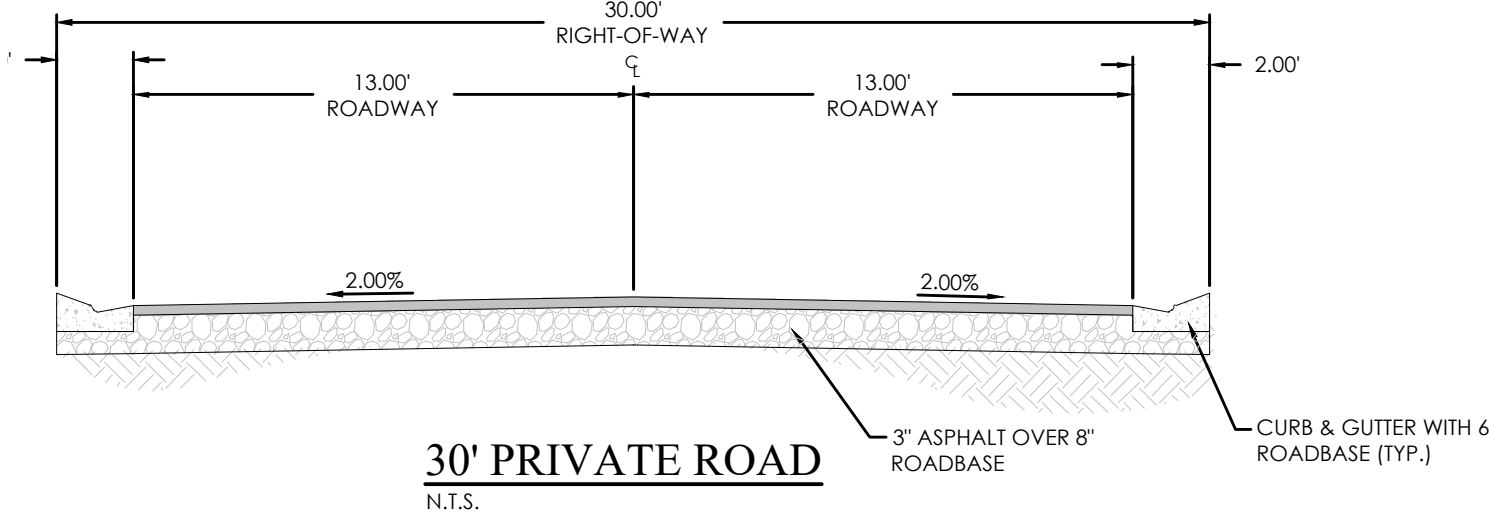
LAKEFRONT: PH 1G
VINEYARD, UTAH



VICINITY MAP
N.T.S.



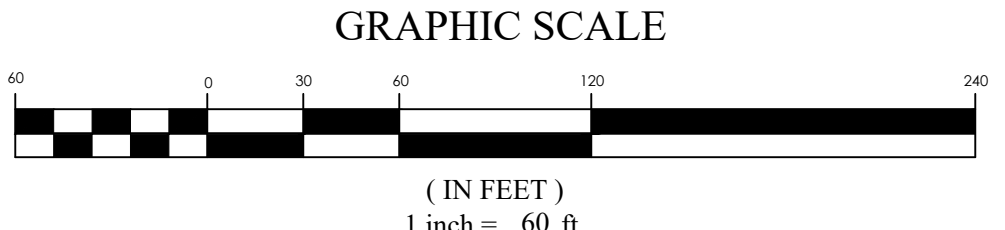
91' ROAD (300 WEST)
N.T.S.



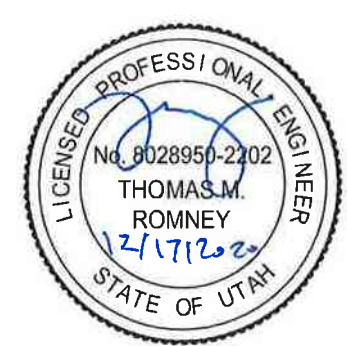
30' PRIVATE ROAD
N.T.S.



- LEGEND**
- BOUNDARY
 - ROW
 - CENTERLINE
 - LOT LINE
 - EASEMENT
 - 15" SD
 - 15" STORM DRAIN
 - 8" SS
 - 8" SANITARY SEWER
 - 8" W
 - 8" CULINARY WATER
 - 8" SW
 - 8" SECONDARY WATER
 - XXXX
 - CONTOUR MAJOR
 - XXXX
 - CONTOUR MINOR
 - Ex SD
 - EXIST. STORM DRAIN
 - Ex SS
 - EXIST. SANITARY SEWER
 - Ex W
 - EXIST. CULINARY WATER
 - X
 - EXIST. FENCE
 - (XXXX)
 - EXIST. CONTOUR MAJOR
 - (XXXX)
 - EXIST. CONTOUR MINOR
 - SIGN
 - STREET LIGHT
 - SD MH, INLET, AND COMBO
 - SEWER MANHOLE
 - VALVE, TEE & BEND
 - WATER BLOW-OFF
 - FIRE HYDRANT
 - STREET MONUMENT (TO BE SET)
 - EXIST. STREET MONUMENT
 - EXIST. SD INLET & MH
 - EXIST. SEWER MH
 - EXIST. VALVE, TEE, & BEND
 - EXIST. FIRE HYDRANT
 - SPOT ELEVATION



(IN FEET)
1 inch = 60 ft.

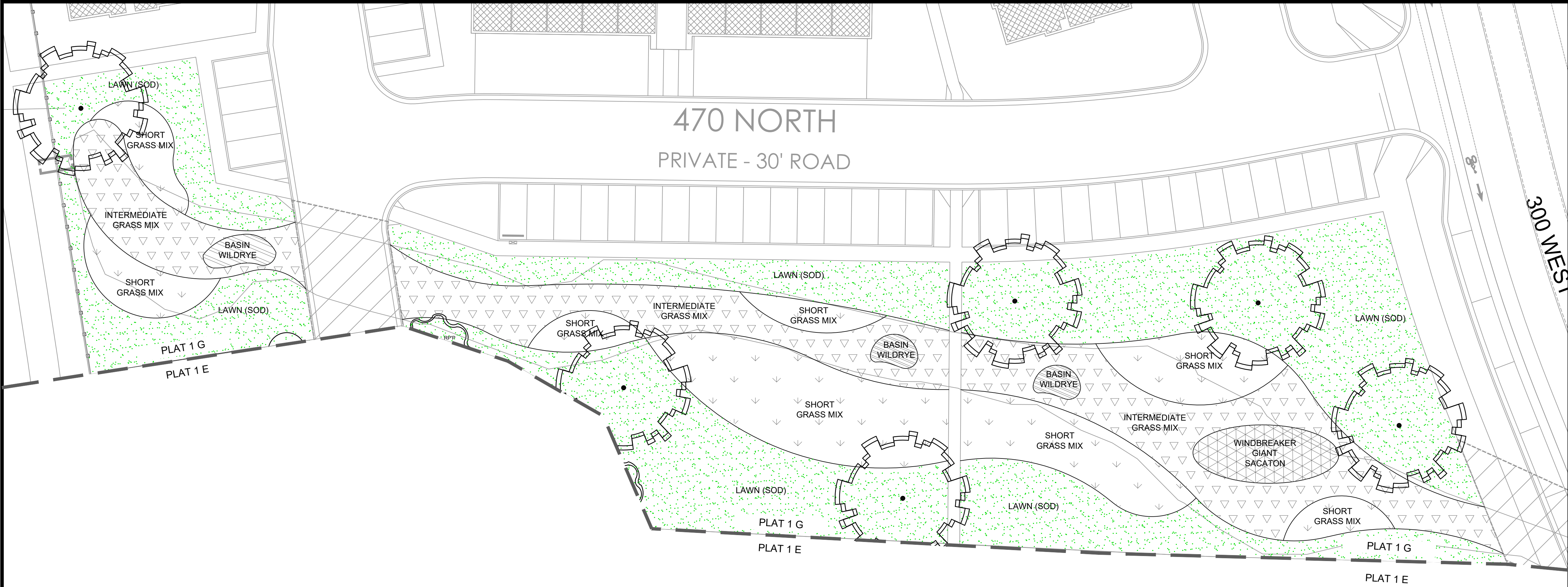


LAKEFRONT AT VINEYARD PHASE 1G
VINEYARD
SITE PLAN

REVISION BLOCK	
#	DESCRIPTION
1	
2	
3	
4	
5	
6	

SITE PLAN	
Scale: 1"=60'	Drawn: SA
Date: 12/17/2020	Job #: 20-0169
Sheet:	C3.0





INTERMEDIATE GRASS BLEND: 43,811 SQ. FT. TALLER GRASSES APPEAR WITHIN THE CENTER AREAS OF THE MATRIX. THEY CAN SURVIVE ON 12-14" OF PRECIPITATION A YEAR. WESTERN WHEATGRASS CAN HANDLE FLOODING AS CAN ALKALI SACATON. THE NATIVE GRASSES WILL NATURALLY COLONIZE IN AREAS MOST SUITED TO THEIR NEEDS CREATING DYNAMIC ECOTYPES ALONG THE LANDSCAPED TRAIL.				
VARIETY	MINIMUM PRECIPITATION	GROWTH CYCLE	HEIGHT	PERCENT IN MIX
SIDEOATS GRAMA	10-12"	WARM	15-30"	10
STREAMBANK WHEATGRASS	8"	COOL	12-36"	10
SNAKE RIVER WHEATGRASS	10-13"	COOL	12-48"	10
NEEDLE 'N' THREAD GRASS	8"	COOL	24-48"	5
WESTERN WHEATGRASS	10"	COOL	24-36"	40
BLUEBUNCH WHEATGRASS	8-14"	COOL	18-48"	20
ALKALI SACATON	10-12"	WARM	18-36"	5

SHORT GRASS BLEND: 24,638 SQ. FT. THE NATIVE SHORT GRASS BLEND WILL EDGE EITHER SIDE OF THE TRAIL. IT CAN SURVIVE ON 8-10" OF PRECIPITATION A YEAR. A VARIETY OF WARM AND COOL SEASON GRASSES WILL CREATE CHANGE WITHIN THE MATRIX. IF A MORE ORNAMENTAL LOOK WOULD BE ENJOYED, THE ADDITION OF PRAIRIE JUNEGRASS WOULD IMPROVE THE COMBINATION. IT HAS BEEN LEFT OUT BECAUSE IT REQUIRES A MINIMUM OF 12-14" OF PRECIPITATION A YEAR.				
VARIETY	MINIMUM PRECIPITATION	GROWTH CYCLE	HEIGHT	PERCENT IN MIX
INDIAN RICEGRASS	6"	COOL	8-30"	40
BLUE GRAMA GRASS	8"	WARM	10-20"	15
INLAND SALTGRASS	8"	WARM	6-12"	5
SHEEP FESCUE	8-10"	COOL	6-12"	25
GALLETA GRASS	6"	WARM	6-12"	15

BASIN WILDRYE TALL GRASS BLEND: 1,965 SQ. FT. THESE TALL GRASSES CAN BE PLANTED AS GALLONS CREATING FOCAL POINTS ALONG THE TRAIL AND MATURING AT DIFFERENT TIMES.			
VARIETY	MINIMUM PRECIPITATION	GROWTH CYCLE	HEIGHT
BASIN WILDRYE	10"	COOL	36-72"

WINDBREAKER TALL GRASS BLEND: 3,700 SQ. FT. THESE TALL GRASSES CAN BE PLANTED AS GALLONS CREATING FOCAL POINTS ALONG THE TRAIL AND MATURING AT DIFFERENT TIMES.			
VARIETY	MINIMUM PRECIPITATION	GROWTH CYCLE	HEIGHT
WINDBREAKER GIANT SACATON GRASS	10"	WARM	96-120"

REVEGETATION NOTES

- LAND PREPARATION BEFORE SEEDING
- REMOVE WEEDS BY MECHANICAL MEANS OR IF NECESSARY SPRAYING WITH AN HERBICIDE AND ADDED SURFACTANT. GLYPHOSATE AND/OR 2,4-D WILL NOT REMAIN IN THE SOIL FOR EXTENDED PERIODS OF TIME. ALWAYS READ LABEL DIRECTIONS OR ENLIST THE SERVICES OF A CERTIFIED PESTICIDE APPLICATOR. SEE LIST OF WEEDS ON PROPERTY BELOW.

- SOIL PREPARATION IF PLANTING IN NATIVE SOIL (SEE SOIL TEST RESULTS)
- SCARIFY 6-8" USING ANY LARGE EQUIPMENT TO RIP OR BREAK UP THE SURFACE
 - SMOOTH OUT AND SET THE ROUGH GRADE FOR POSITIVE DRAINAGE
 - SOIL SHOULD BE SANDY IN NATURE
 - APPLY A BIOTIC SOIL MEDIA (SEE GRANITE SEED [HTTPS://GRANITESEED.COM/PLANTING-AIDS/BIOTIC-SOIL-MEDIA/](https://graniteseed.com/planting-aids/biotic-soil-media/)) AT A DEPTH OF 6" TO HELP REPAIR DAMAGED SOIL AND CREATE AN ACCEPTABLE GROWTH MEDIA FOR GRASSES

- SOIL PREPARATION IF REMOVING COMPACTED SOIL AND IMPORTING NEW TOPSOIL
- REMOVING EXISTING COMPACTED SOIL WILL REMOVE SOME OF THE WEED SEEDS
 - IMPORTED TOPSOIL SHOULD BE A SANDY SOIL TO ALLOW FOR GOOD DRAINAGE AND SUCCESS OF DROUGHT TOLERANT GRASSES
 - IMPORTED TOPSOIL TO A DEPTH OF AT LEAST 6" WILL COVER REMAINING WEED SEED AND GIVE NEW SEED A CHANCE TO GERMINATE AND ESTABLISH WITHOUT COMPETITION
 - SMOOTH OUT AND SET THE ROUGH GRADE FOR POSITIVE DRAINAGE.

- SEEDING
- NATIVE/DROUGHT TOLERANT GRASSES ARE ACCUSTOMED TO GROWING IN LEAN SOIL.
 - USE A HYDROSEED COMPANY TO BROADCAST SEED. THEY WILL USE STRAW OR WOOD MULCH IN THE MIX TO HELP RETAIN MOISTURE AND ALLOW FOR EVEN DISTRIBUTION. THEY MAY ALSO USE A NURSE CROP FOR ESTABLISHMENT.
 - THE OPTIMUM TIME TO PLANT IS IN NOVEMBER, PREFERABLY BEFORE THE FIRST SNOW. DO NOT SOW OVER HEAVY SNOWPACK. THE SEED WILL LAY DORMANT AND BE READY TO GERMINATE ONCE THE GROUND THAWS AND WARMS IN LATE WINTER/EARLY SPRING. IF SEEDING IN LATE FALL IS NOT POSSIBLE, SEED IN LATE WINTER/EARLY SPRING BASED ON MELTED SNOWPACK.

- MAINTENANCE
- GRASSES CAN BE MOWED ONCE A YEAR IN LATE FALL, NOVEMBER IS A GOOD TIME. DO NOT MOW IN SPRING AS THIS WILL REMOVE NEW GROWTH
 - MOW SHORT AND INTERMEDIATE GRASSES TO A HEIGHT OF 6-8". NO SHORTER
 - LARGE GRASSES INCLUDING BASIN WILDRYE AND GIANT SACATON SHOULD BE CUT BY HAND TO ABOUT A 12" HEIGHT
 - MOWING GRASSES TOO SHORT WILL DAMAGE THEIR CROWN CAUSING PREMATURE DEATH
 - SHOULD INADEQUATE PRECIPITATION REQUIRE ADDITIONAL WATER DURING THE FIRST TWO YEARS OF ESTABLISHMENT, 1" OF WATER CAN BE APPLIED BY TRUCK ONCE IN LATE JUNE AND AGAIN IN LATE JULY. THIS CAN BE DONE BY THE HYDROSEEDING COMPANY AT CITY'S DISCRETION. IT IS UNLIKELY AS NATIVE GRASSES ARE ACCUSTOMED TO SUCH DROUGHT, BUT GRASSES WILL STAY GREENER LONGER WITH ADDITIONAL WATER.
 - HYDROSEEDING INFORMATION REGARDING NURSE CROP AND LATE SEASON WATER APPLICATION GATHERED FROM LAWRENCE AT GRASS MASTER HYDROSEEDING (385) 743-1615

TREE LEGEND (TOTAL PLANT COUNT)

SYMBOL	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	HYDROZONE	SPECIAL NOTES
PA	PLATANUS ACERFOLIA	LONDON PLANETREE	17	2" CAL.	MODERATE	

SITE MATERIALS (TOTAL SITE)

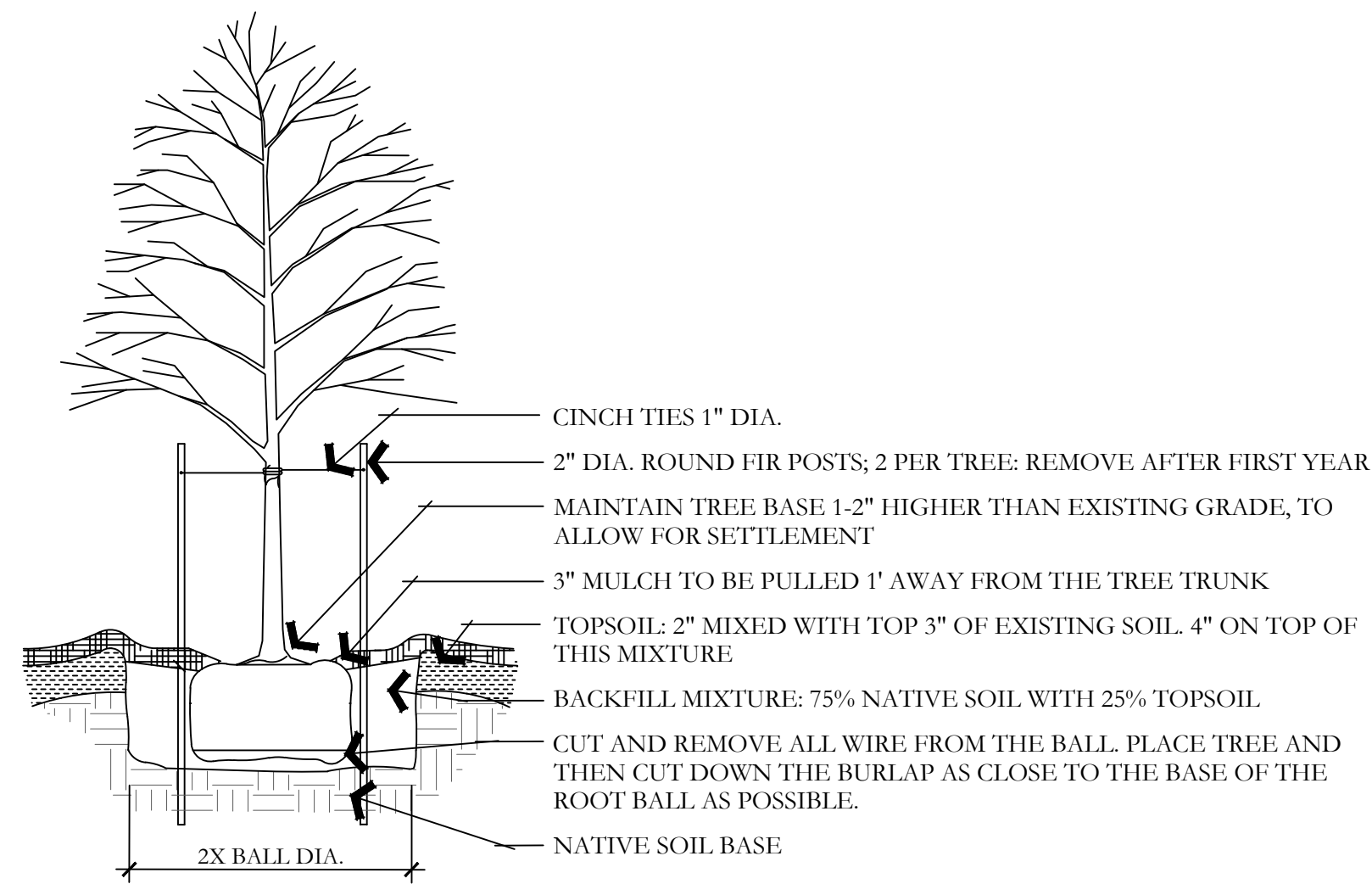
LAWN AREA : 58,811 SQ.FT.

LAWN AREAS SHALL BE SOD. NEW TURF AREAS TO BE SODDED WITH 18% "BLUESTAR KENTUCKY BLUEGRASS, 19% "MARQUIS" KENTUCKY BLUEGRASS, 17% "NEWPORT" KENTUCKY BLUEGRASS, 17% "TOUCHDOWN" KENTUCKY BLUEGRASS, 16% "MVP" PERENNIAL RYEGRASS, 13% "ACCENT" PERENNIAL RYEGRASS OR APPROVED EQUAL AT A RATE OF 220 LBS. PER ACRE. FINE LEVEL ALL AREAS PRIOR TO LAYING SOD.

ALL LAWN AREAS SHALL BE IRRIGATED WITH 100% COVERAGE BY POP-UP SPRAY HEADS AND GEAR-DRIVEN ROTORS. ALL DECIDUOUS AND CONIFER TREES PLANTED WITHIN SOD AREAS SHALL HAVE A FOUR FOOT(4") DIAMETER TREE RING COVERED WITH CHOCOLATE BROWN BARK MULCH, NO SHREDDED FINES. SUBMIT SAMPLES TO BE APPROVED BY LANDSCAPE ARCHITECT AND OWNER BEFORE INSTALLATION.

***THE LANDSCAPE ARCHITECT PROVIDES QUANTITY AND FOOTAGE INFORMATION AS AN AIDE TO THE BIDDING LANDSCAPER. QUANTITIES, SPECIES, AND SPECIFICATIONS HAVE BEEN SUBMITTED AND APPROVED BY THE MUNICIPALITIES – ALL SUBSTITUTIONS AND LESSER QUANTITIES MUST BE APPROVED BY THE LANDSCAPE ARCHITECT AND EDGE HOMES MANAGEMENT. IT IS ENTIRELY THE RESPONSIBILITY OF THE BIDDERS TO CALCULATE THE MATERIAL BASED ON THE GRADE CONTOURS, INCLUDING ALL LANDSCAPING RETAINING WALLS INDICATED ON THE CIVIL AS WELL AS THE LANDSCAPING DRAWINGS. THESE CIVIL, LANDSCAPING, AND IRRIGATION DRAWING WILL NEED TO BE REVIEWED PRIOR TO SUBMITTING A BID FOR THE PROJECT. ANY SHORTAGES OF MATERIALS WILL NOT BE PAID FOR BY EDGE HOMES OR THE LANDSCAPE ARCHITECT

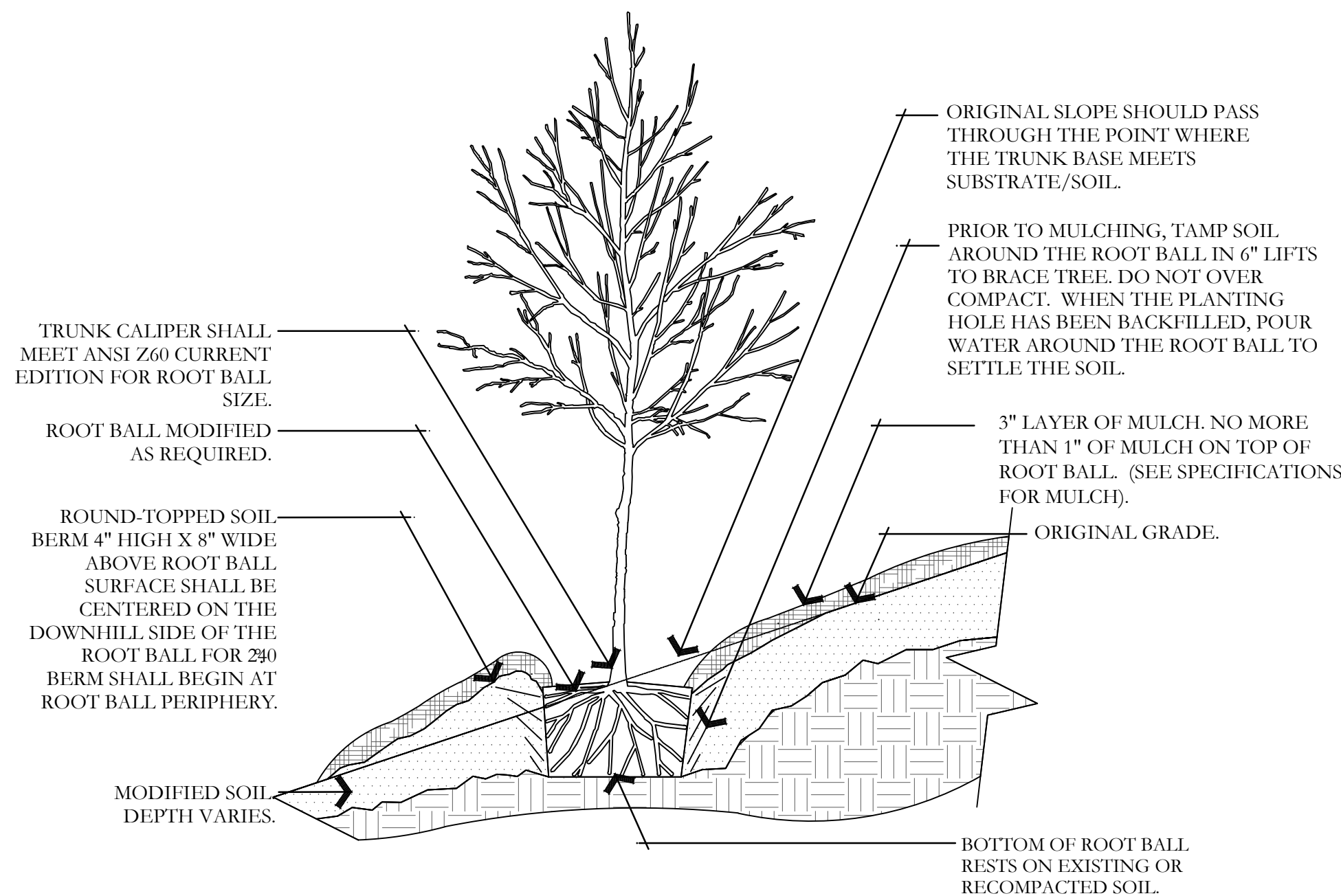
ISSUE DATE		PROJECT NUMBER		PLAN INFORMATION		PROJECT INFORMATION		DEVELOPER / PROPERTY OWNER / CLIENT		LANDSCAPE ARCHITECT / PLANNER		LICENSE STAMP	
12-17-2020		UT18016		811 BLUE STAKES OF UTAH UTILITY NOTIFICATION CENTER, INC 1-800-662-4111 www.bluestakes.org N 0'10'20'40'80' GRAPHIC SCALE: 1" = 20'		LAKEFRONT: PH 1E VINEYARD, UTAH		Developer / Property Owner: EDGE HOMES 13702 S 200 W B12 DRAPER, UT 84020 (801) 494-0150 Client / Engineer: FOCUS ENGINEERING 32 W CENTER ST, MIDVALE, UT 84047 (801) 352-0075		PKJ DESIGN GROUP Landscape Architecture & Planning & Visualization 3450 N. TRIUMPH BLVD. SUITE 102 LEHI, UTAH 84043 (801) 960-2698 www.pkjdesigngroup.com LANDSCAPE ARCHITECT STATE OF UTAH 12/17/2020 LANDSCAPE PLAN LP-101			
NO.	REVISION	DATE										PM: JTA	
1	XXXX	XX-XX-XX										DRAWN: KBA	
2												CHECKED: TM	
3												PLOT DATE: 12/17/2020	
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7													



A DECIDUOUS TREE PLANTING

NOT TO SCALE

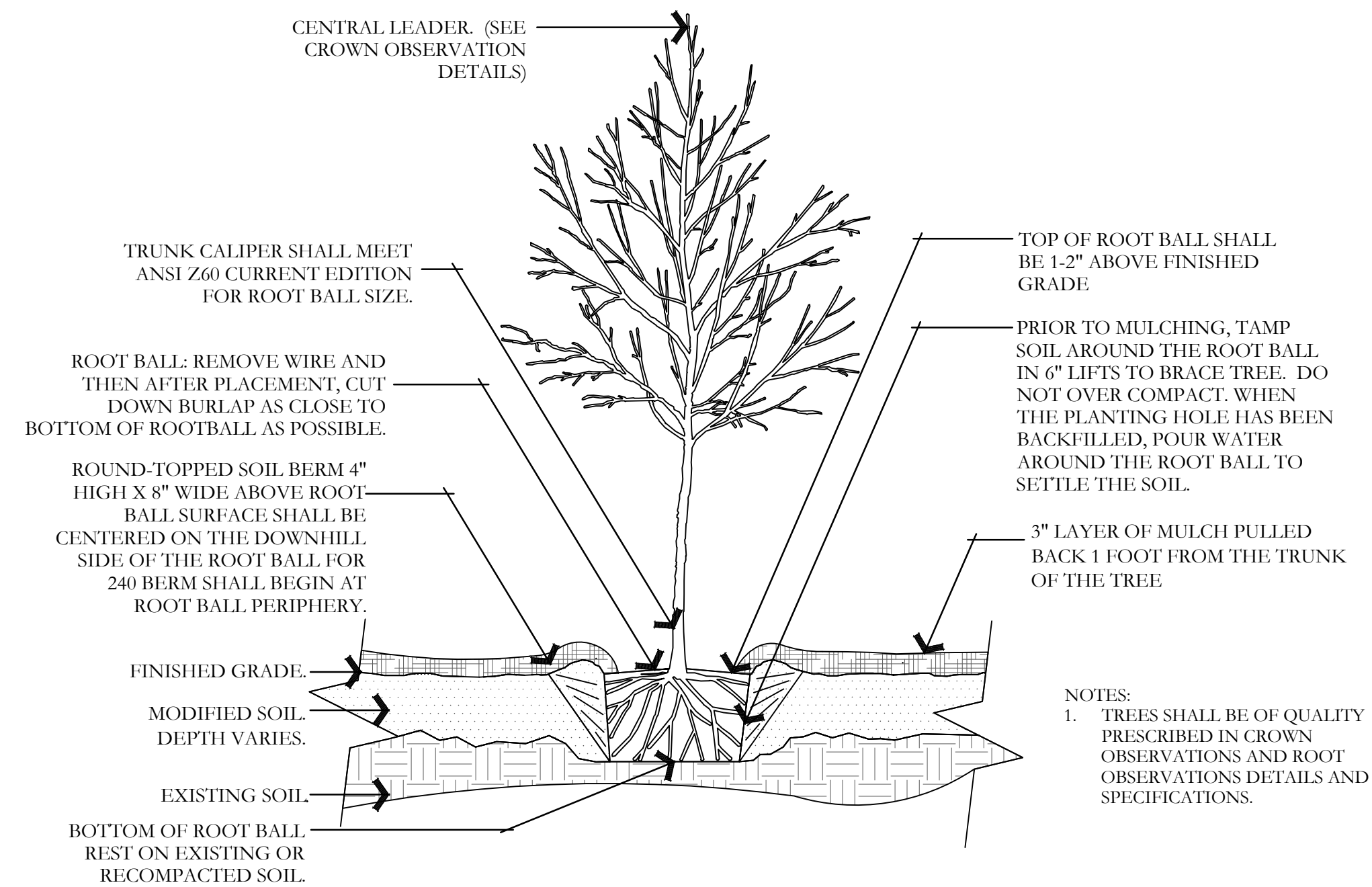
PKJ DESIGN GROUP



B TREE ON SLOPE 5% (20:1) TO 50% (2:1)

NOT TO SCALE

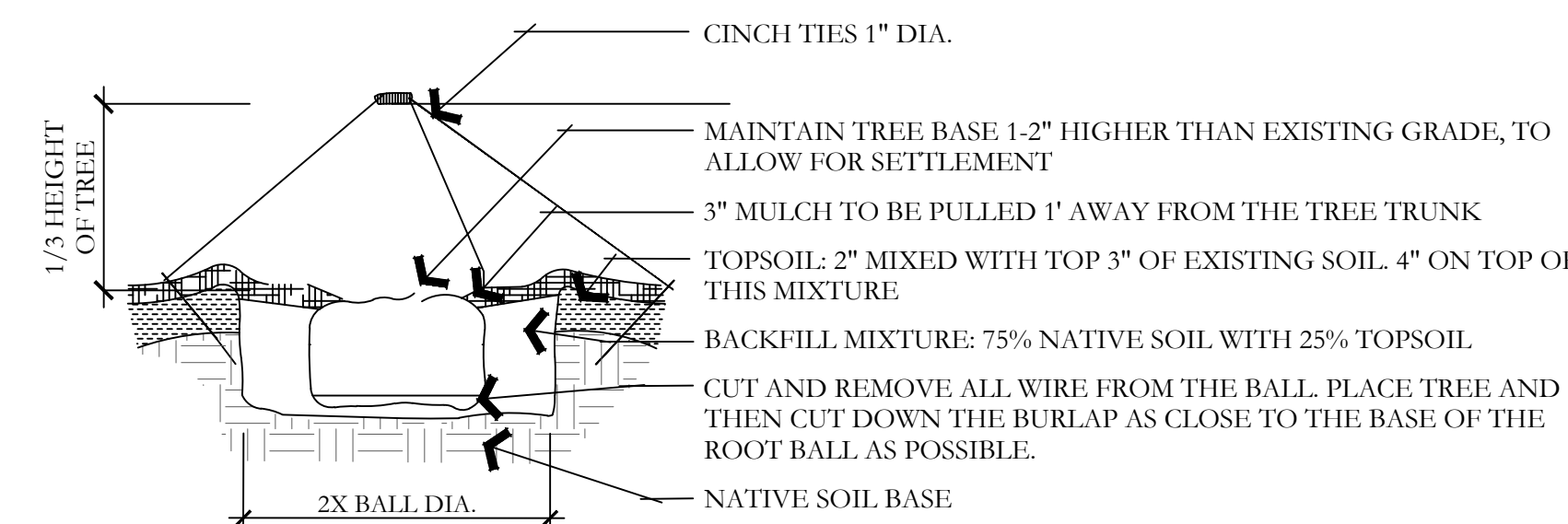
PKJ DESIGN GROUP



C TREE W/ BERM (EXISTING SOIL MODIFIED)

NOT TO SCALE

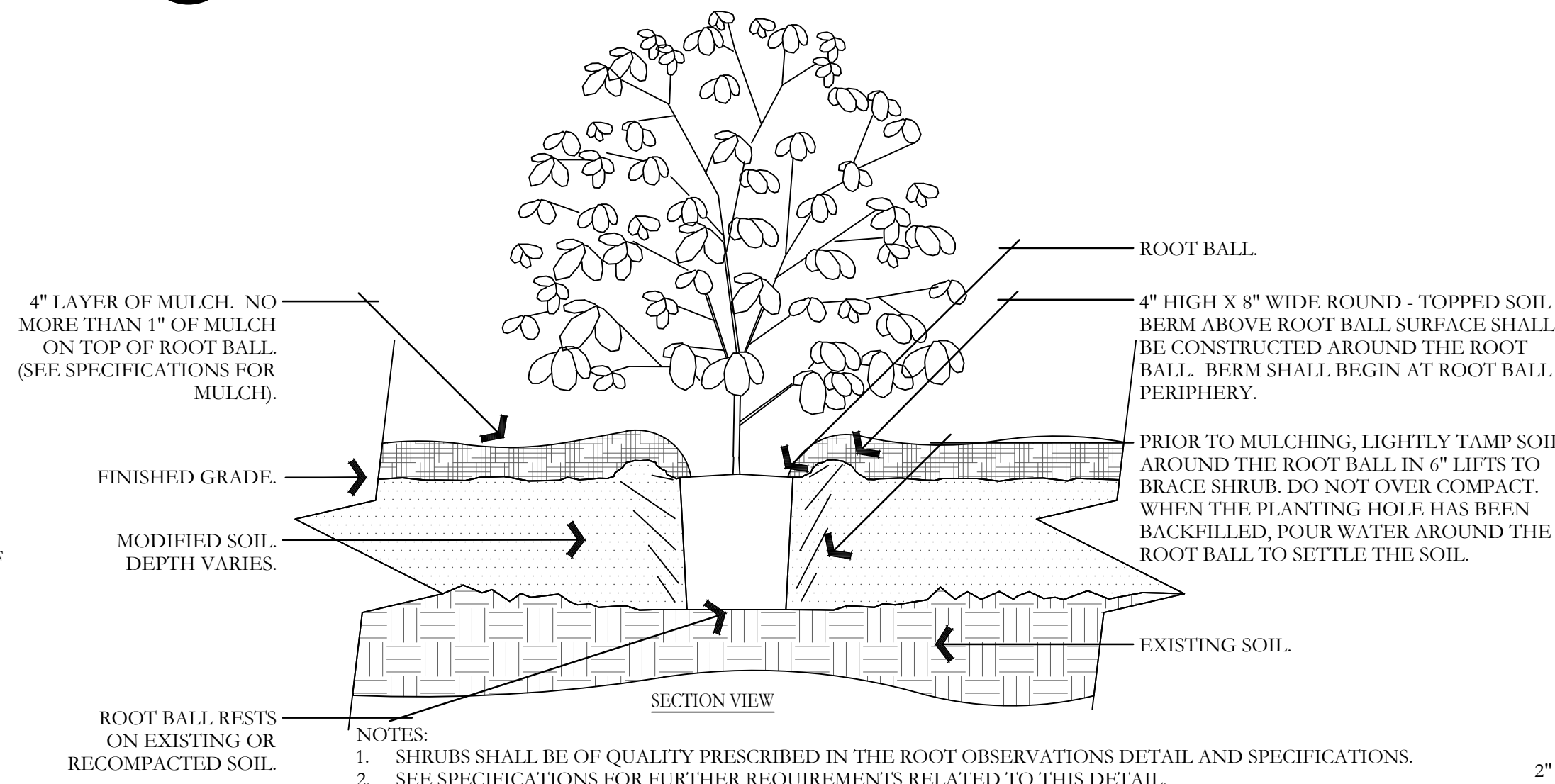
PKJ DESIGN GROUP



D EVERGREEN TREE PLANTING

NOT TO SCALE

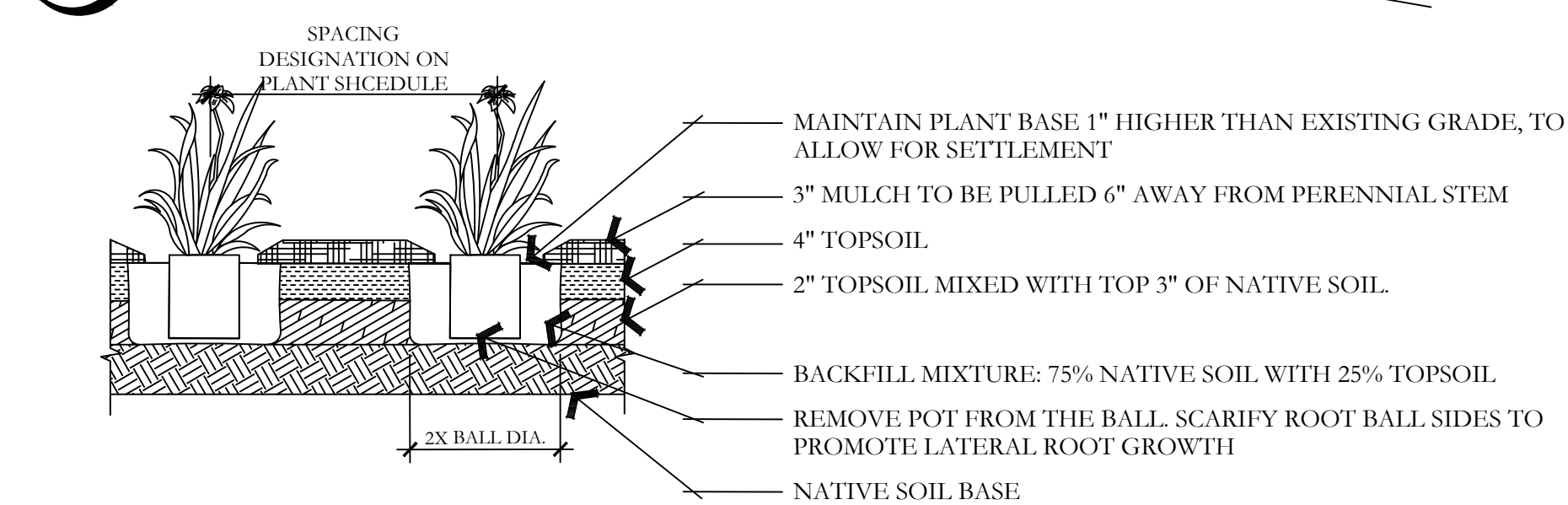
PKJ DESIGN GROUP



E SHRUB - MODIFIED SOIL

NOT TO SCALE

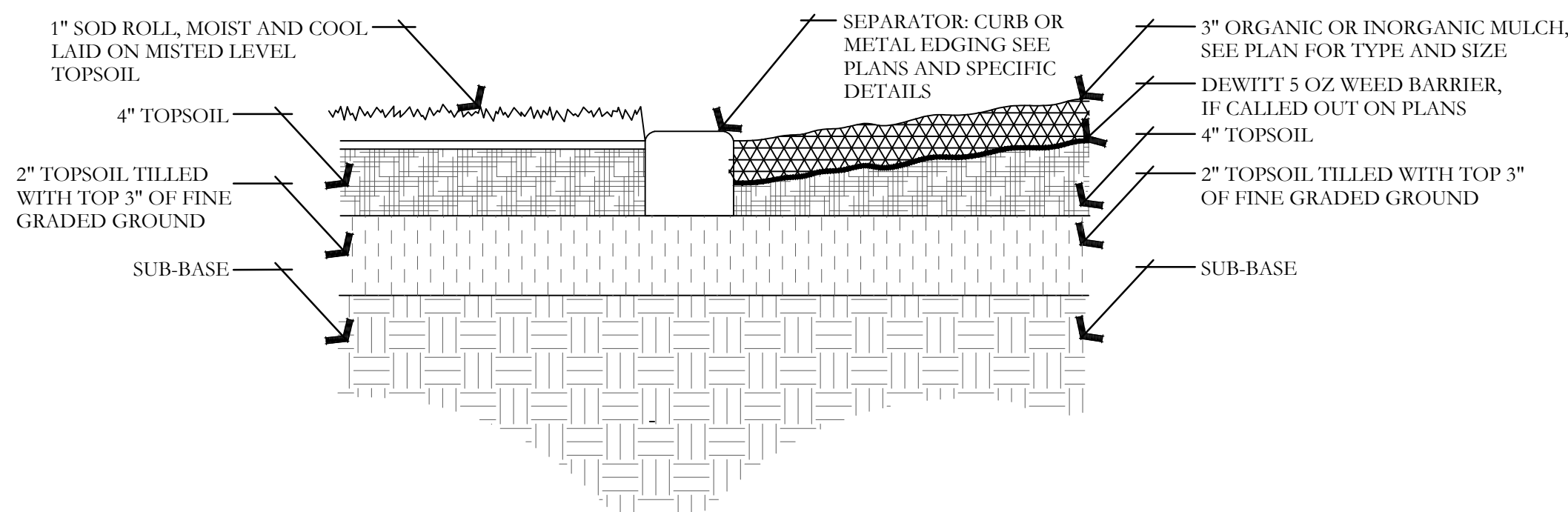
PKJ DESIGN GROUP



F PERENNIAL PLANTING

NOT TO SCALE

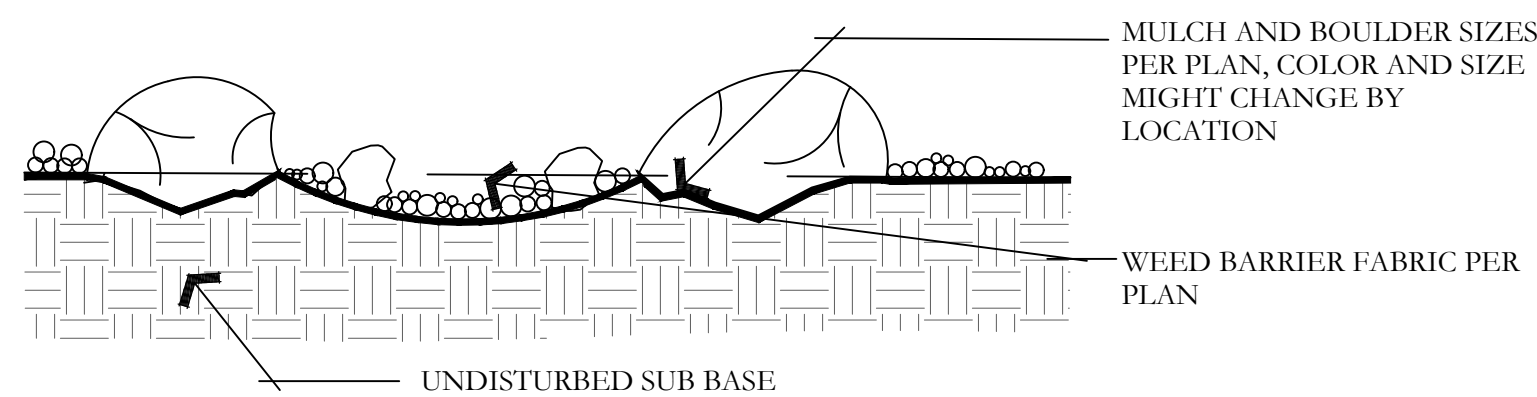
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I SOD LAYING/MULCH DETAIL

NOT TO SCALE

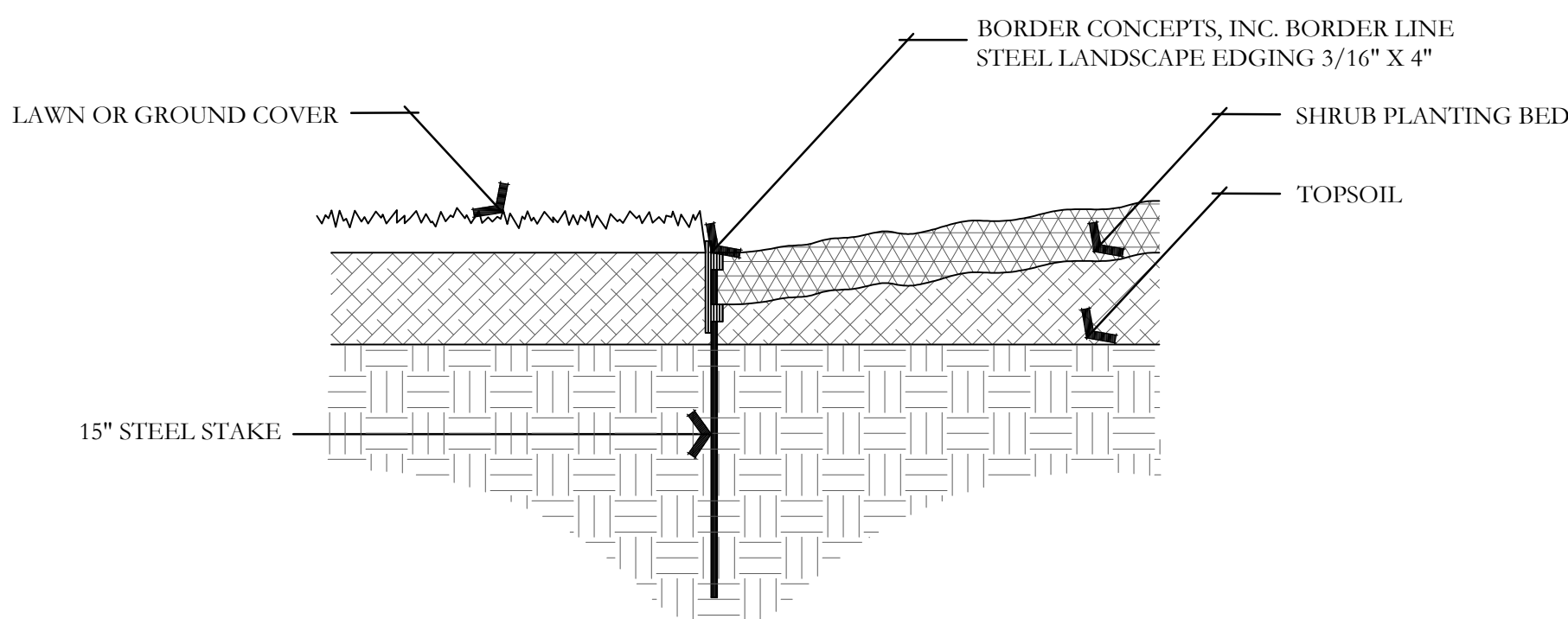
PKJ DESIGN GROUP



J BOULDER AND DRY STREAM BED DETAIL

NOT TO SCALE

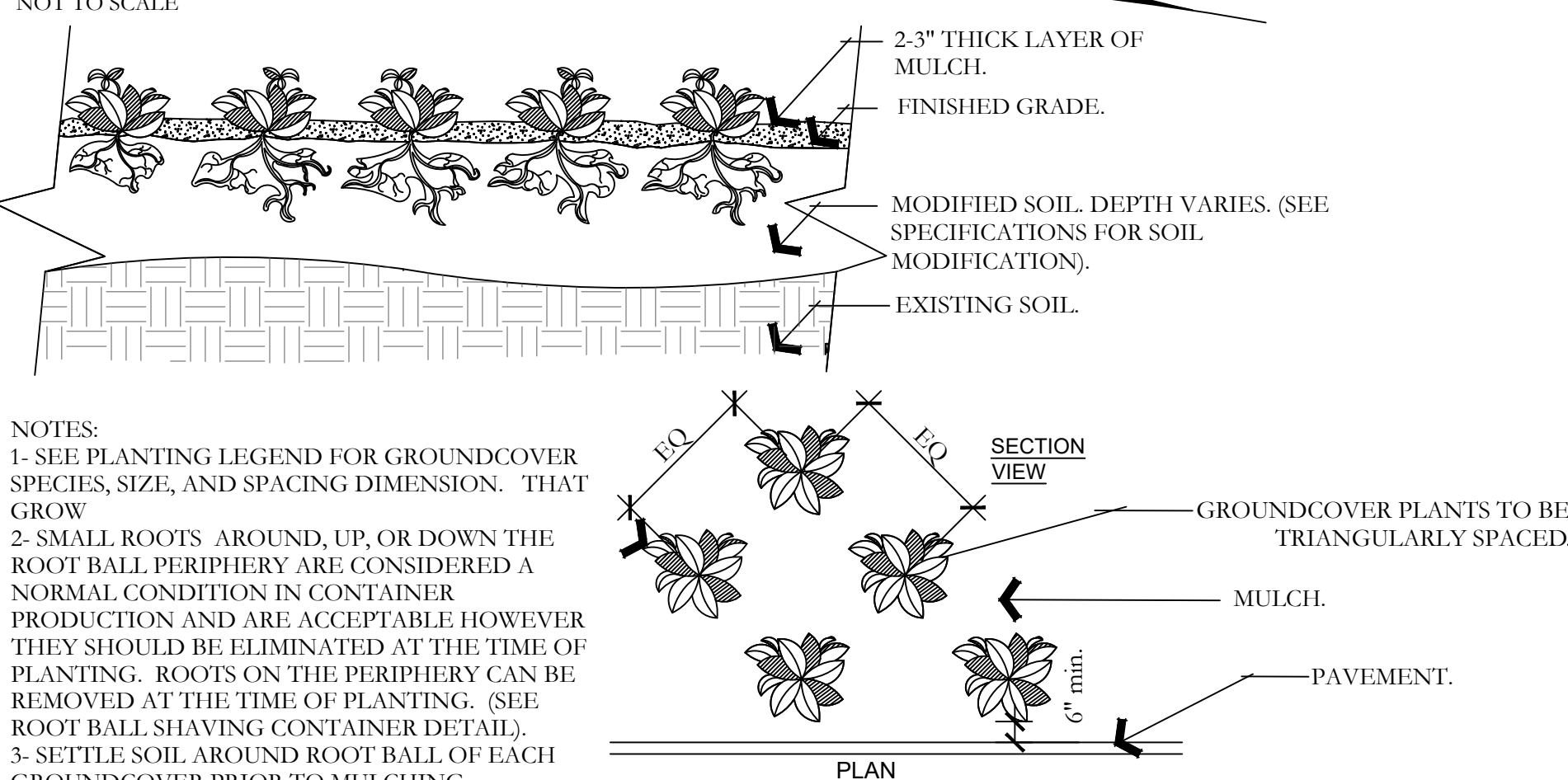
PKJ DESIGN GROUP



G METAL EDGING DETAIL

NOT TO SCALE

PKJ DESIGN GROUP



H PERENNIAL/GROUND COVER PLANTING

NOT TO SCALE

PKJ DESIGN GROUP

ISSUE DATE			PROJECT NUMBER			PLAN INFORMATION			PROJECT INFORMATION			DEVELOPER / PROPERTY OWNER / CLIENT			LANDSCAPE ARCHITECT / PLANNER			LICENSE STAMP		
12-17-2020			UT18016									EDGE HOMES 13702 S 200 W B12 DRAPER, UT 84020 (801) 494-0150			PKJ DESIGN GROUP Landscape Architecture • Planning & Visualization 3450 N. TRIUMPH BLVD, SUITE 102 LEHI, UTAH 84043 (801) 960-2698 www.pkjdesigngroup.com					
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LAKEFRONT: PH 1G

VINEYARD, UTAH

IRRIGATION PLAN SPECIFICATIONS

IRRIGATION SPECIFICATIONS

PART 1 - GENERAL

1.1 SUMMARY

Work to be done includes all labor, materials, equipment and services required to complete the Project irrigation system as indicated on the Construction Drawings, and as specified herein. Includes but is not limited to: Furnishing and installing underground and above ground sprinkler system complete with any accessories necessary for proper function and operation of the system. All plant material on the Project shall be irrigated. Remove and dispose of any existing sprinkler system components which are disturbed during the construction process and are not to be saved. Restoration of any altered or damaged existing landscape to original state and condition.

1.2 SYSTEM DESCRIPTION

A.Design of Irrigation Components: Locations of irrigation components on Construction Drawings may be approximate. Piping, sleeving and/or other components shown on Construction drawings may be shown schematically for graphic clarity and demonstration of component groupings and separations. All irrigation components shall be placed in landscaped areas, with the exception of pipe and wire in sleeving under landscapes. Actual routing of pipe, wire or other components may be altered due to site conditions not accounted for in the design process.

B.Construction requirements: Actual placement may vary as required to achieve a minimum of 100% coverage without overspray onto landscape, buildings or other features.

C.Layout of Irrigation Components: During layout and staking, consult with Owner Approved Representative (hereafter referred to as OAR) to verify proper placement of irrigation components, and to provide Contractor recommendations for changes where revisions may be advisable. Small or minor adjustments to system layout are permissible to avoid existing field obstructions such as utility boxes or street light poles. Contractor shall place remote control valves in groups as practical to economize on quantity of manifold isolation valves. Quick coupler valves shall be placed with manifold groups and protected by manifold isolation valves. Quick coupler valves are shown on Construction Documents in approximate locations.

1.3 DEFINITIONS

A.Water Supply: Secondary water piping and components, furnished and installed by others to provide irrigation water to this Project, including but not limited to filter, saddles, nipples, spools, shut off valves, corporation stop valves, water meters, pressure regulation valves, and piping upstream of (or prior to) the Point of Connection.

B.Point of Connection: Location where the Contractor shall tie into the water supply. May require filter, saddle, nipples, spools, isolation valves or Stop and Waste valve for landscape irrigation needs and use.

C.Main Line Piping: Pressurized piping downstream of the Point of Connection to provide water to remote control valves and quick couplers. Normally under constant pressure.

D. Lateral Line Piping: Circuit piping downstream of remote control valves to provide water to sprinkler heads, drip systems or bubblers.

1.4 REFERENCES

A.The following standards will apply to the work of this Section:

- a. ASTM-American Society for Testing and Materials
- b. IA - The Irrigation Association: Main BMP Document, Landscape Irrigation Scheduling and Water Management Document.

1.5 SUBMITTALS

A.At least thirty (30) days prior to ordering of any materials, the Contractor shall provide manufacturer catalog cut sheet and current printed specifications for each element or component of the irrigation system. Submittals shall be in three ring binders or other similar bound form. Provide five copies of submittals to OAR for distribution. Place cover or index sheet indicating order in submittal document. No material shall be ordered, delivered or any work proceeded in the field until the required submittals have been reviewed in its entirety and stamped approved. Delivered material shall match the approved samples.

B.Operation and Maintenance Manual:

- a. At least thirty (30) days prior to final inspection, the Contractor shall provide Operation and Maintenance manual to OAR, containing:
 - i. Manufacturer catalog cut sheet and current printed specifications for each element or component of the irrigation system.
 - ii. Parts list for each operating element of the system
 - iii.Manufacturer printed literature on operation and maintenance of operating elements of the system.
 - iv)Section listing instructions for overall system operation and maintenance. Include directions for Spring Start-up and Winterization.
- b. Project Record Copy
 - i. Maintain at project site one copy of all project documents clearly marked "Project Record Copy". Mark any deviation in material installation on Construction drawings. Maintain and update drawing at least weekly. Project Record Copy to be available to OAR on demand.
 - ii. Completed Project As-Built Drawings

1. Prior to final inspection, prepare and submit to OAR accurate as-built drawings
2. Show detail and dimension changes made during installation. Show significant details and dimensions that were not shown in original Contract Documents.
3. Field dimension locations of sleeving, points of connection, main line piping, wiring runs not contained in main line pipe trenches, valves and valve boxes, quick coupler valves.
4. Dimensions are to be taken from permanent construction surfaces, features, or finished edges located at or above finished grade.
5. Controller Map: upon completion of system, place in each controller a color coded copy of the area that controller services: indicating zone number, type of plant material and location on project that zone services. Laminated map with heat shrink clear plastic.

1.6 QUALITY ASSURANCE

- A.Acceptance: Do not install work in this section prior to acceptance by OAR.
- B.Regulatory Requirements: All work and materials shall be according to any and all rules, regulations or codes, whether they are State or Local laws and ordinances. Contract documents, drawings or specifications may not be construed or interpreted to permit work or materials not conforming to the above codes.
- C.Adequate Water Supply: Water supply to this Project exists, installed by others. Connections to these supply lines shall be by this Contractor. Verify that proper connection is available to supply line and is of adequate size. Verify that secondary connection components may be installed if necessary. Perform static pressure test prior to commencement of work. Notify OAR in writing of problems encountered prior to proceeding.
- D. Workmanship and Materials:
 - a. It is the intent of this specification that all material herein specified and shown on the construction documents shall be of the highest quality available and meeting the requirements specified.
 - b. All work shall be performed in accordance with the best standards of practice relating to the trade.

- E.Contract Qualifications:
- i. Contractor shall provide document or resume including at least the following items:
 - a. That Contractor has been installing sprinklers on commercial projects for five previous consecutive years.
 - ii. Contractor is licensed to perform Landscape and Irrigation construction in the State of this Project.
 - iii.Contractor is bondable for the work to be performed.
 - iv)References of five projects of similar size and scope completed within the last five years. Three of the projects listed shall be local.
 - v. Listing of suppliers where materials will be obtained for use on this Project.
 - vi.)Project site Foreman or Supervisor has at least five consecutive years of commercial irrigation installation experience.

This person shall be a current Certified Irrigation Contractor in good standing as set forth by the Irrigation Association. This person shall be on Project site at least 75% of each working day.

- iii. Evidence that Contractor currently employs workers in sufficient quantities to complete Project within time limits that are established by the Contract.
- iiii. All General laborers or workers on the Project shall be previously trained and familiar with sprinkler installation and have a minimum of one-year experience. Those workers performing tasks related to PVC pipe shall have certificates designated below.

1.7 DELIVERY-STORAGE-HANDLING

A.During delivery, installation and storage of materials for Project, all materials shall be protected from contamination, damage, vandalism, and prolonged exposure to sunlight. All material stored at Project site shall be neatly organized in a compact arrangement and storage shall not disrupt Project Owner or other trades on Project site. All material to be installed shall be handled by Contractor with care to avoid breakage or damage. Damaged materials attributed to Contractor shall be replaced with new at Contractor's expense.

1.8 SEQUENCING

A.Perform site survey, research utility records, contact utility location services. The Contractor shall familiarize himself with all hazards and utilities prior to work commencement. Install sleeving prior to installation of concrete, paving or other permanent site elements. Irrigation system Point of Connection components, backflow prevention and pressure regulation devices shall be installed and operational prior to all downstream components. All main lines shall be thoroughly flushed of all debris prior to installation of any sprinkler heads.

1.9 WARRANTY

A.Contractors shall provide one year Warranty. Warranty shall cover all materials, workmanship and labor. Warranty shall include filling and/or repairing depressions or replacing turf or other plantings due to settlement of irrigation trenches or irrigation system elements. Valve boxes, sprinklers or other components settled from original finish grade shall be restored to proper grade. Irrigation system shall have been adjusted to provide proper, adequate coverage of irrigated areas.

1.10 OWNER'S INSTRUCTION

A.After system is installed, inspected, and approved, instruct Owner's Representatives in complete operation and maintenance procedures. Coordinate instruction with references to previously submitted Operation and Maintenance Manual.

1.11 MAINTENANCE

- A.Furnish the following items to Owner's Representative:
- a. Two quick coupler keys with hose swivels.
 - b. One of each type or size of quick coupler valve and remote control valve. Five percent of total quantities used of each sprinkler and sprinkler nozzle.
- B.Provide the following services:
- a. Winterize entire irrigation system installed under this contract. Winterize by "blow-out" method using compressed air. Compressor shall be capable of minimum of 175 CFM. This operation shall occur at the end of first growing season after need for plant irrigation but prior to freezing. Compressor shall be capable of evacuating system of all water pressure regulation devices. Compressor shall be regulated to not more than 60 PSI. Start up system the following spring after danger of freezing has passed. Contractor shall train Owner's Representative in proper start-up and winterization procedure.

PART 2 - PRODUCTS

2.1 GENERAL NOTES

A.Contractors shall provide materials to be used on this Project. Contractor shall not remove any material purchased for this Project from the Project Site, nor mix Project materials with other Contractor owned materials. Owner retains right to purchase and provide project material.

2.2 POINT OF CONNECTION

A.The Contractor shall connect onto existing irrigation or water main line as needed for Point(s) of Connection. Contractor shall install new main line as indicated.

2.3 CONNECTION ASSEMBLY

A.Secondary water shall be used on this Project. Install filter and RPZ as needed.

2.4 CONTROL SYSTEM

- A.Power supply to the irrigation controller shall be provided for by this Contract.
- B.Controller shall be as specified in the drawings. Controller shall be surge protected.
- a. Installation of wall-mount controllers: Irrigation controller shall be responsible for this task. Power configuration for wall-mount controllers shall be 120 VAC unless otherwise noted.
 - b. Locate Controller(s) in general location shown on Construction drawings. Coordinate power supply and breaker allocation with electrical contractor. Contractor shall be responsible for all power connections to Controllers, whether they are wall mount or pedestal mount. Contractor shall coordinate with electrical or other Project trades as needed to facilitate installation of power to controllers.
- C.Wires connecting the remote control valves to the irrigation controller are single conductors, type PE. Wire construction shall incorporate a solid copper conductor and polyethylene (PE) insulation with a minimum thickness of 0.045 inches. The wires shall be UL listed for direct burial in irrigation systems and be rated at a minimum of 30 VAC. Page Electric Co., LP specification number P7079D.
- a. A minimum of 24" of additional wire shall be left at each valve, each splice box and at each controller.
 - b. Common wire shall be white in color, 12 gauge. Control wire shall be red in color, 14 gauge. Spare wire shall be looped within each valve box of the grouping it is to service.
- D. RGV wire splicing connectors shall be 3M brand DBY or DBR. Wire splicing between controller and valves shall be avoided if at all possible. Any wire splices shall be contained within a valve box. Splices within a valve box that contains no control valves shall be stamped "WIRE SPLICE" or "WS" on box lid.

2.5 SLEEVING

A.Contractors shall be responsible to protect existing underground utilities and components. Sleeving minimum size shall be 2". Sleeving 2" through 4" in size shall be S/40 PVC solvent weld. Sleeving 6" and larger shall be CI 200 PVC gasketed. Sleeve diameter shall be at least two times the diameter of the pipe within the sleeve. Sleeves shall be extended 6" minimum beyond walk or edge of pavement. Wire or cable shall not be installed in the same sleeve as piping, but shall be installed in separate sleeves. Sleeve ends on sleeve sizes 4" and larger shall be capped with integral corresponding sized PVC slip cap, pressure fit, until used, to prevent contamination. Sleeves shall be installed at appropriate depths for main line pipe or lateral pipe.

2.6 MAIN LINE PIPE

- A.All main line pipe 4" and larger shall be Class 200 gasketed bell end. All main line pipe 3" in size and smaller shall be Schedule 40 PVC solvent weld bell end.
- a. Maximum flows allowed through main line pipe shall be:

3/4"	8 GPM
1"	12 GPM
1-1/2"	30 GPM
2"	53 GPM
2-1/2"	75 GPM
3"	110 GPM
4"	180 GPM
 - b. Main line pipe shall be buried with 24" cover

2.7 MAIN LINE FITTINGS

A.All main line fittings 3" and larger shall be gasketed ductile iron material. All ductile iron fittings having change of direction shall have proper concrete thrust block installed. All main line fittings smaller than 3" in size shall be Schedule 80 PVC.

2.8 ISOLATION VALVES

A.Isolation valves 3" and larger shall be Waterloo brand model 2500 cast iron gate valve, resilient wedge, push on type, with 2" square operating nut. Place sleeve of 6" or larger pipe over top of valve vertically and then extend to grade. Place 10" round valve box over sleeve at grade.

B.Isolation valves 2-1/2" and smaller shall be Apollo brand 70 series brass ball valves, contained in a Carson Standard size valve box. Valves shall be installed with S/80 PVC TOE Nipples on both sides of the valve. Valve shall be placed so that the handle is vertical toward the top of the valve box in the "off" position.

2.9 MANIFOLDS

A.Action Manifold fittings shall be used to create unions on both sides of each control valve, allowing the valve to be removed from the box without cutting piping. Valves shall be located in boxes with ample space surrounding them to allow access for maintenance and repair. Where practical, group remote control valves in close proximity, and protect each grouping with a manifold isolation valve as shown in details. Manifold Main Line (or Sub-Main Line) and all manifold components and isolation valves shall be at least as large as the largest diameter lateral served by the respective manifold.

2.10 REMOTE CONTROL VALVES

A.Remote control valves shall be as specified on the drawings. Remote control valves shall be located separately and individually in separate control boxes.

2.11 MANUAL CONTROL VALVES

A.Quick coupler valve shall be attached to the manifold sub-main line using a Larson G178212 swing joint assembly with snap-lock outlet and brass stabilizer elbow. Quick coupler valve shall be placed within a Carson 10" round valve box. Top of quick coupler valve cover shall allow for complete installation of valve box lid, but also allow for insertion and operation of key. Base of quick coupler valve and top of quick coupler swing joint shall be encased in 3/4" gravel. Contractor shall not place quick coupler valves further than 200 feet apart, to allow for spot watering or supplemental irrigation of new plant material. Quick coupler valve at POC shall not be eliminated or relocated.

2.12 LATERAL LINE PIPE

A.All lateral piping shall be Schedule 40 PVC, solvent weld, and bell end. Lateral pipe shall be buried with 12-18" of cover typically. Lateral pipe shall be 1/2", 1", 1 1/2", 1 3/4" or 2" in size as indicated on Construction Drawings.

2.13 LATERAL LINE FITTINGS

A.All lateral line fittings shall be S/40 PVC.

2.14 Spray Sprinklers

A.Spray head sprinklers shall be as specified on the drawings. Nozzles shall be as specified on the drawings.

2.15 VALVE BOXES

A.Carson valve boxes shall be used on this project. Sizes are as directed in these Specifications, detail sheets or plan sheets. Valve boxes shall be centered over the control valve or element they cover. Valve box shall be sized large enough to allow ample room for services access, removal or replacement of valve or element. Valve box shall be set to flush to finish grade of topsoil or harked areas. Contractor shall provide extensions or stack additional valve boxes as necessary to bring valve box pit to proper grade.

2.16 IMPORT BACKFILL

A.All main line pipe, lateral line pipe and other irrigation elements shall be bedded and backfilled with clean soil, free of rocks 1" and larger. Contractor shall furnish and install additional backfill material as necessary due to rocky conditions. Trenches and other elements shall be compacted and/or water settled to eliminate settling. Debris from trenching operations unusable for fill shall be removed from project and disposed of properly by Contractor.

2.17 OTHER PRODUCTS

A.Substitution of equivalent products is subject to the OAR's approval and must be designated as accepted in writing.
a. The Contractor shall provide materials to make the system complete and operational.

PART 3 - EXECUTION

3.1 PREPARATION

A.Contractors shall repair or replace work damaged by irrigation system installation. If damaged work is new, repair or replacement shall be provided by the original installer of that work. The existing landscape of this Project shall remain in place. Contractor shall protect and work around existing plant material. Coordination of trench and valve locations shall be laid out for the OAR prior to any excavation occurring. Plant material deemed damaged by the OAR shall be replaced with new plant material at Contractor's expense. Contractor shall not cut existing tree roots larger than 2" to install this Project. Route pipe, wire and irrigation elements around tree canopy drip line to minimize damage to tree than 24 hours at a time.

3.2 TRENCHING AND BACKFILLING

A.Pulling of pipe shall not be permitted on this project. Over excavate trenches both in width and depth. Ensure base of trench is free of debris free to permit pipe and wire. Grade trench line to ensure flat, even support of pipe. Backfill with clean soil or import material. Contractor shall backfill no less than 2" around entire pipe with clean, rock free fill. Main line piping and fittings shall not be backfilled until OAR has inspected and pipe has passed pressure testing. Perform balance of backfill operation to eliminate any settling.

3.3 SLEEVING

A.Sleeve all piping and wiring that pass under paving or landscape features. Wiring shall be placed in separate sleeving from piping. Sleeves shall be positioned relative to structures or obstructions to allow for pipe or wire within to be removed if necessary.

3.4 GRADES AND DRAINAGE

A.Place irrigation pipe and other elements at uniform grades. Winterization shall be by evacuation with compressed air. Automatic drains shall not be installed on this Project. Manual drains shall only be installed at POC where designated on Construction Drawings.

3.5 PVC PIPE

- A.Install pipe to allow for expansion and contraction as recommended by pipe manufacturer.
- B.Install main line pipes with 18" of cover, lateral line pipes with 12" of cover.
- C. Drawings show diagrammatic or conceptual location of piping. Contractor shall install piping to minimize change of direction, avoid placement under large trees or large shrubs, avoid placement under landscape features.
- D. Plastic pipe shall be cut squarely. Burrs shall be removed. Spigot ends of pipes 3" and larger shall be beveled.
- E. Pipe shall not be glued unless ambient temperature is at least 50 degrees F. Pipe shall not be glued in rainy conditions unless properly tented. All solvent weld joints shall be assembled using IPS 711 glue and P99 primer according to manufacturer's specification, no exceptions. All workers performing glue operations shall provide evidence of certification. Glued main line pipe shall cure a minimum of 24 hours prior to being energized. Lateral lines shall cure a minimum of 2 hours prior to being energized and shall not remain under constant pressure unless cured for 24 hours.
- F. Appropriate thrust blocking shall be performed on fittings 3" and larger. All threaded joints shall be wrapped with Teflon tape or paste unless directed by product manufacturer or sealing by o-ring.

3.6 CONTROLLERS

- A.All grounding for pedestal controllers shall be as directed by controller manufacturer and ASIC guidelines, not to exceed a resistance reading of 5 OHMS.
- B. Locate controllers in protected, inconspicuous places, when possible. Coordinate location of pedestal controllers with Landscape Architect to minimize visibility.
- C. Coordinate location of wall mount controllers with building or electrical Contractor to facilitate electrical service and future maintenance needs. Wall mount shall be securely fastened to surface. If exterior mounted, wall mount controllers shall have electrical service wire and field control wire in separate, appropriate sized weatherproof electrical conduit, PVC pipe shall not be used.

D. Wiring under hardscape surfaces shall be placed continuously in conduit. Contractor shall be responsible to coordinate sleeving needs for conduit or sweeps elbows from exterior to interior of building.

E. Pedestal controllers shall be placed upon VTI-Strong Box Quick Pad as per manufacturer's recommendations. Controllers shall be oriented such that Owner's Representative maintenance personnel may access easily and perform field system tests efficiently.

F. Place Standard valve box at base of controller or nearby to allow for three to five feet of slack field control wire to be placed at each controller. This Contractor shall provide conduit access if needed for Electrical Contractor. Electrical supply and installation, as well as hook-up to controller shall be by this Contractor.

3.7 VALVES

- A. Isolation valves, remote control valves, and quick coupler valves shall be installed according to manufacturer recommendation and Contract Specifications and Details.
- B. Valve boxes shall be set over valves so that all parts of the valve can be reached for service.
- C. Valve box and lid shall be set to be flush with finished grade. Only one remote control valve may be installed in a Carson 1419124 box. Place a minimum of 4" of 3/4" washed gravel beneath valve box for drainage. Bottom of remote control valve shall be a minimum of 2" above gravel.

3.8 SPRINKLER HEADS

- A. No sprinkler shall be located closer than 6" to walls, fences, or buildings.
- B. Heads adjacent to walks, curbs, or paths shall be located at grade and 2" away from hardscape.
- C. Control valves shall be opened. Then fully flush lateral line pipe and swing joints prior to installation of sprinklers.
- D. Spray heads shall be installed and flushed again prior to installation of nozzles.
- E. Contractor shall be responsible for adjustment if necessary due to grade changes during landscape construction.

3.9 FIELD QUALITY CONTROL

- A. Main line pipes shall not be backfilled or accepted until the system has been tested for 2 hours at 100 psi.
- B. Main line pressure test shall include all pipe and components from the point of connection to the upstream side of remote control valves. Test shall include all manifold components under constant pressure. Piping may be tested in sections that can be isolated.
- C. Contractor shall provide pressurized water pump to increase or boost pressure where existing static pressure is less than 100 psi.
- D. Schedule testing with OAR 48 hours in advance for approval.
- E. Leaks or defects shall promptly be repaired or rectified at the Contractors expense and retested until able to pass testing.
- F. Grounding resistance at pedestal controller shall also be tested and shall not exceed 5 OHMS.

3.10 ADJUSTMENT

A. Sprinkler heads shall be adjusted to proper height when installed. Changes in grade or adjustment of head height after installation shall be considered a part of the original contract and at Contractor's expense.

B. Adjust all sprinkler heads for arc, radius, proper trim and distribution to cover all landscaped areas that are to be irrigated.

C. Adjust sprinklers so they do not water buildings, structures, or other hardscape features.

D. Adjust run times of station to meet needs of plant material the station services.

3.11 CLEANING

- A. Contractor shall be responsible for cleanliness of jobsite. Work areas shall be swept cleanly and picked up daily.
- B. Open trenches or hazards shall be protected with yellow caution tape.
- C. Contractor is responsible for removal and disposal of offsite trash and debris generated as a result of this Project.
- D. OAR shall perform periodic as well as a final cleanliness inspection.
- E. Contractor shall leave Project in at least a "broom clean" condition.
- END OF SECTION

CONTRACTOR TO PLACE TEMPORARY IRRIGATION SYSTEM ON ALL REVEGETATION SEED AREAS FOR THE FIRST YEAR UNTIL SEED IS ESTABLISHED

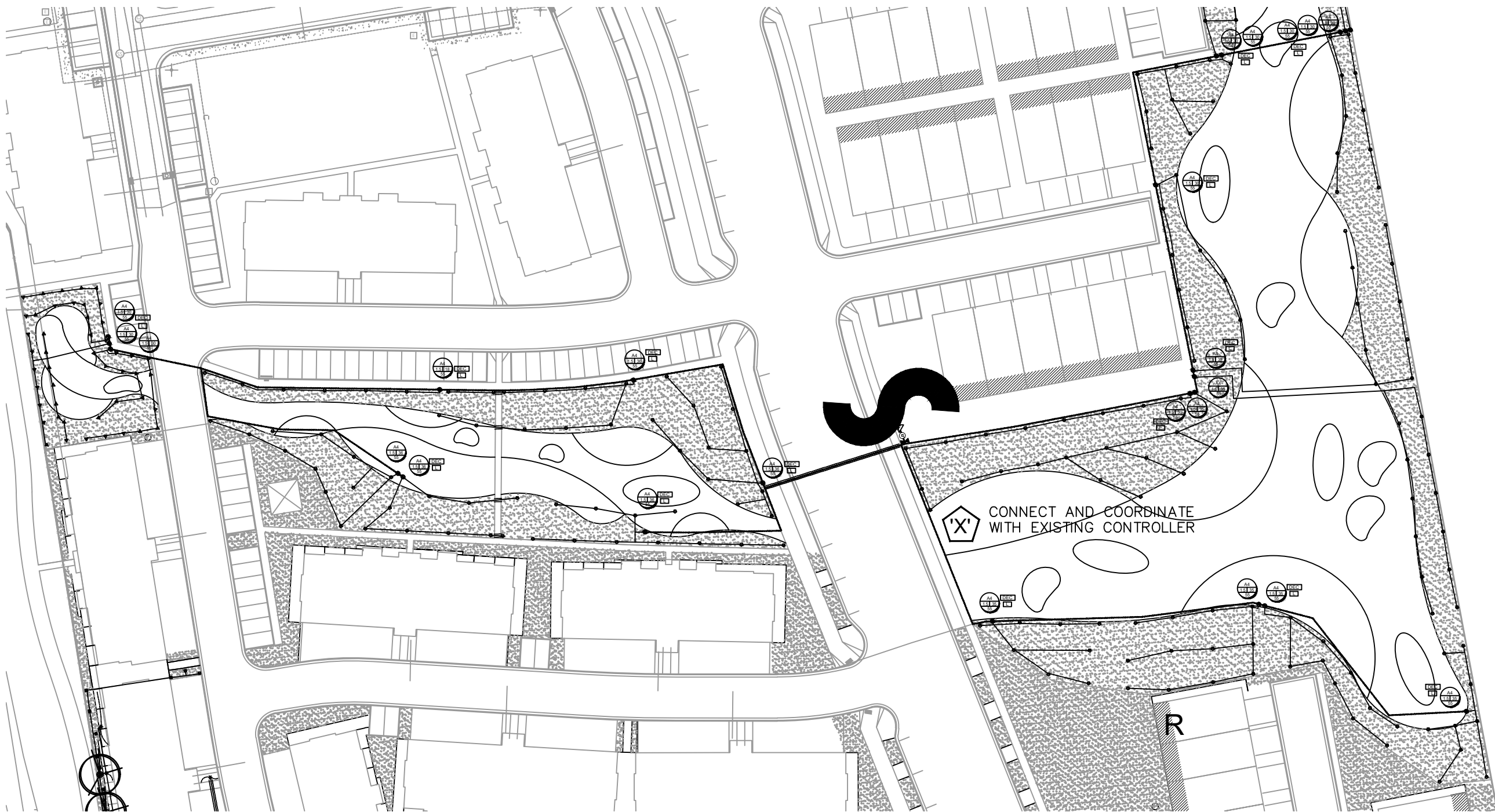
90 Day Establishment Period Irrigation Schedule (April, May, June)									
	Type	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Operating Pressure
Turf		15 min	15 min	15 min	15 min	15 min	15 min	15 min	30 psi
Shrubs	Shrubs	25 min	0	25 min	0	25 min	0	25 min	40 psi

Note: Begin irrigation 4:00 am, only 1 cycle per day.

Regular Irrigation Schedule (see Seasonal Differential Chart)									
	Type	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Operating Pressure
Turf		15 min	15 min	15 min	15 min	15 min	15 min	15 min	30 psi
Shrubs	Shrubs	45 min		45 min		45 min		45 min	40 psi

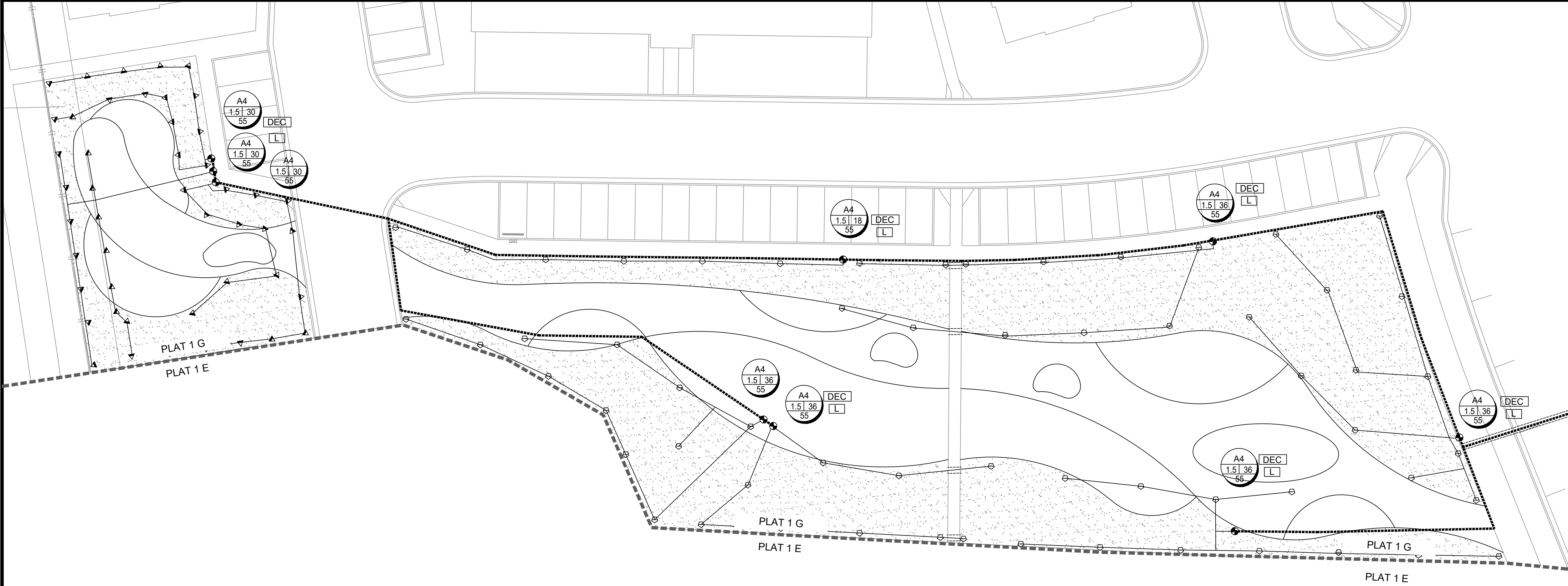
Note: Begin irrigation 4:00 am, only 1 cycle per day.

Seasonal Differential							
	April	May	June	July	August	Sept	October
Turf	10 min	10 min	15 min	15 min	15 min	10 min	10 min
Shrubs	30 min	30 min	45 min	45 min	45 min	30 min	30 min



2" MAINLINE ROUTING ,CONTROLLER AND P.O.C. LOCATION OVERVIEW

ISSUE DATE	PROJECT NUMBER	PLAN INFORMATION	PROJECT INFORMATION	DEVELOPER / PROPERTY OWNER / CLIENT	LANDSCAPE ARCHITECT / PLANNER	LICENSE STAMP	DRAWING INFO
12/17/2020	UT18016	811 BLUE STAKES OF UTAH UTILITY NOTIFICATION CENTER, INC. 1-800-662-4111 www.bluestakes.org N	LAKEFRONT: PH 1G VINEYARD, UTAH	Developer / Property Owner: EDGE HOMES 13702 S 200 W B12 DRAPER, UT 84020 (801) 494-0150	Client / Engineer: FOCUS ENGINEERING 32 W CENTER ST, MIDVALE, UT 84047 (801) 352-0075	PKJ DESIGN GROUP Landscape Architecture • Planning • Visualization 3450 N. TRIUMPH BLVD. SUITE 102 LEHI, UTAH 84043 (801) 960-2698 www.pkjdesigngroup.com	PM: JTA DRAWN: AP CHECKED: KA PLOT DATE: 12/17/2020 IRRIGATION PLAN PRELIMINARY PLANS NOT FOR CONSTRUCTION IR-100



IRRIGATION LEGEND

SYMBOL	MANUFACTURER-MODEL NUMBER
●	RAINBIRD RD04-S-PRS POP UP SPRAY 5 SERIES @ 30 PSI
●	RAINBIRD RD04-S-PRS POP UP SPRAY 8 U-SERIES @ 30 PSI
●	RAINBIRD RD04-S-PRS POP UP SPRAY 10 U-SERIES @ 30 PSI
●	RAINBIRD RD04-S-PRS POP UP SPRAY 12 U-SERIES @ 30 PSI
●	RAINBIRD RD04-S-PRS POP UP SPRAY 15 U-SERIES @ 30 PSI
●	RAINBIRD RD04-S-PRS POP UP SPRAY 15 SST @ 30 PSI
●	RAINBIRD RD04-S-PRS POP UP SPRAY 15 SST @ 30 PSI
●	RAINBIRD 5000 SERIES MPR NOZZLES @ 55 PSI
○	RAINBIRD 8005 SERIES Q#8-6.6 GPM, 1H#14-12.6 GPM, 1#26-24.3 GPM NOZZLES @ 55 PSI
⌵	IRRIGATION POINT OF CONNECTION AND RYZ BACKFLOW PREVENTION - CONNECT TO WATER SERVICE LINE AND METER. (SEE CIVIL PLANS) CONTRACTOR LOCATE AND VERIFY EXACT LOCATION ON SITE.
⌵	CONTROLLER: RAINBIRD FSP-LXD CONTROLLER WITH L1MR REMOTE KIT, CONTRACTOR TO ADJUST LOCATION WITH OWNER PRIOR TO CONSTRUCTION.
⌵	RAINBIRD WR2-RC WIRELESS RAIN SHUT OFF DEVICE
⌵	ISOLATION BALL VALVE - LINE SIZED INSTALL PER MANUFACTURER'S SPEC.
⌵	MASTER VALVE
⌵	FLOW SENSOR
⌵	QUICK COUPLER: RAINBIRD 44LRC INSTALL PER MANUFACTURER'S SPEC.
DEC	VALVE DECODER (AT ALL VALVE GROUPINGS) INSTALL PER MANUFACTURER'S SPEC. LIGHTNING ARRESTOR (AT ALL VALVE GROUPINGS) INSTALL PER MANUFACTURER'S SPEC.
⊕	REMOTE CONTROL VALVE: RAINBIRD PESB-NP-PRS-D AUTOMATIC CONTROL VALVE SIZE PER PLAN- USE JUMBO BOX PURPLE LID
⊕	DRIP CONTROL ZONE KIT: RAINBIRD KCZ-(PER PLAN)-PRBR-COM MED FLOW (SIZE AS NOTED ON PLAN)
-----	MAINLINE: SCHEDULE 40 PVC WITH SCHEDULE 80 FITTINGS, 1.5" DIAMETER 24" MIN. COVER
-----	LATERAL LINE: SCHEDULE 40 PVC WITH SCH. 40 FITTINGS. SEE PIPE SIZING CHART
*	DRIP CONNECTION. PROVIDE DRIP IRRIGATION TO ALL TREES, SHRUBS, AND PERENNIALS IN PLANTER AREAS
-----	DRIP LINE: RAINBIRD XFSP-09-18-100 OR EQUIVALENT
-----	CLASS 200 SLEEVE PER PLAN
NO SYMBOL	WIRE CHASE, SIZE TO BE TWICE THE DIAMETER OF THE WIRE BUNDLE WITHIN. 1.1/4" DIAMETER MINIMUM
NO SYMBOL	14 GAUGE SOLID COPPER SINGLE STRAND CONTROL WIRE. INSTALL PER MANUFACTURER'S SPEC. PROVIDE 2 WIRE LOOP SYSTEM.

DRIP ZONE

TYPE	PART NUMBER	EMITTER FLOW	EMITTER SPACING	ROW SPACING	ROW SPACING
XFS DRIPLINE	XFSP-09-18	.9 GPH	18"	18"	18-21 IN.
TOTAL DRIP ZONE FLOW	20 GPM	TIME TO APPLY 1/4" OF WATER	23		
MAX. LATERAL LENGTH OF TUBING	350 FT	REQUIRED NUMBER OF STAKES	500		
TOTAL LENGTH OF ZONE DRIPLINE	2,000 FT (varies per plan)	NUMBER OF FLUSH POINTS	2		
APPLICATION RATE	.64 IN. / HR	SUGGESTED HEADER & FOOTER PIPE SIZE	CLASS 200 1.25"		

*NUMBERS MAY CHANGE DUE TO SIZE OF DRIP ZONE PER PLAN

IRRIGATION NOTES

- BEFORE WORK IS TO COMMENCE, BLUE STAKES/DIG LINE IS TO BE CALLED AND NOTIFIED. IF ANY DAMAGE TO UTILITIES HAPPEN DURING CONSTRUCTION, THE CONTRACTOR SHALL REPAIR IT AT THEIR EXPENSE WITH NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL APPLY AND PAY FOR ALL NECESSARY PERMITS IN ACCORDANCE WITH CITY AND/OR COUNTY CODES AND COMPLY WITH SPECIFICATIONS AND DRAWINGS.
- INVESTIGATE TO MAKE SURE THAT THE IRRIGATION SYSTEM IS, IN FACT, BEING CONNECTED TO A SECONDARY SYSTEM. IF IT IS NOT CONNECTED TO SECONDARY, CONTACT THE OWNER AND LANDSCAPE ARCHITECT TO COORDINATE A CULINARY SYSTEM AND REQUIRED COMPONENTS. A FUNCTIONING AMMAD FILTER IS TO BE USED AT THE POINT OF CONNECTION.
- VERIFY THAT THE POINT OF CONNECTION IS IN THE CORRECT LOCATION BEFORE INSTALLATION. ALL CONNECTIONS ON THIS PROJECT ARE TO SECONDARY WATER AND SHOULD BE NOTED AS SUCH; THEREFORE, ALL PARTS MUST MEET WATER STANDARDS THAT PERTAIN TO SECONDARY WATER USE. PURPLE VALVE BOXES FOR SECONDARY WATER SYSTEMS.
- ON OCCASION AND FOR GRAPHIC PURPOSES ONLY, THE IRRIGATION SYSTEM MIGHT BE SHOWN IN HARDSCAPE AREAS. THIS IRRIGATION IS TO BE PLACED IN LANDSCAPED AREAS ON THE PROPERTY SITE.
- CONTRACTOR SHALL USE ONLY COMMERCIAL GRADE IRRIGATION PRODUCTS. THIS INCLUDES PIPE TO BE SCHEDULE 40 PVC OR BETTER. NO POLY PIPE IS TO BE USED. FITTINGS UP TO 1-1/2" MUST BE SCHEDULE 40 OR BETTER. FITTINGS LARGER THAN 1-1/2" SHALL BE SCHEDULE 80 OR BETTER. CONTRACTOR IS RESPONSIBLE FOR ENSURING ACCURATE COUNTS AND QUANTITIES OF ALL IRRIGATION MATERIALS FOR BIDDING AND INSTALLATION.
- MAIN LINES SHALL BE A MINIMUM OF 24" DEEP AND LATERAL LINES A MINIMUM OF 12" DEEP. NO ROCK GREATER THAN 1/2" DIAMETER SHALL BE ALLOWED IN TRENCHES. TRENCHING BACKFILL MATERIAL SHALL BE COMPACTED TO PROPER FINISHED GRADE.
- NO IRRIGATION MAIN LINE MAY BE LOCATED WITHIN 5 FEET OF ANY STRUCTURE.
- TO AVOID PIPE DAMAGE, ADJUST LOCATION OF PIPE TO NOT BE DIRECTLY UNDER PLANT MATERIALS. VALVE BOXES ARE PREFERRED TO BE IN PLANTER BEDS INSTEAD OF THE LAWN.
- PLAN INDICATES 100% OR BETTER HEAD TO HEAD COVERAGE. SHOULD CONTRACTOR FIND DISCREPANCIES DUE TO NECESSARY FIELD ADJUSTMENTS, CONTACT LANDSCAPE ARCHITECT FOR IRRIGATION CORRECTION.
- DRIP IRRIGATION TO BE INSTALLED PER DETAILS. CONTRACTOR SHALL MAKE NECESSARY ADJUSTMENTS. TUBING SHOULD REST TOWARD OUTER EDGE OF ROOTBALL AND NOT AGAINST TRUNK OF PLANT.
- A QUICK COUPLER SHALL BE INSTALLED AT POINT OF CONNECTION TO ALLOW BLOW OUT OF SYSTEM BY AIR COMPRESSOR AT END OF EACH SEASON.
- INSTALL SLEEVES FOR ALL PIPES AND WIRE CONDUIT THAT ARE PLACED UNDER PAVEMENT AND SIDEWALKS. SLEEVES SHALL BE 2 SIZES LARGER THAN PIPE BEING PLACED INTERNALLY. WIRE CONDUIT SHALL BE INSTALLED IN CLASS 200 PIPE. AT ANY DIRECTIONAL CHANGE THAT OCCURS, A JUNCTION BOX IS TO BE PLACED.
- CONDUITS CAN NOT BE SHARED BY WATER AND ELECTRICAL LINES. ALL WIRE TO BE PUT IN PVC CONDUIT. ALL WIRE CONNECTIONS TO BE PLACED IN A VALVE BOX. ALL WIRE CONNECTIONS TO USE WATERPROOF WIRE CONNECTORS WITH AT LEAST 3" OF EXTRA WIRE. PROVIDE PLENTY OF EXTRA WIRE AT EVERY DIRECTIONAL CHANGE. INSULATED 14 GAUGE COPPER TO BE USED FOR ALL CONTROL WIRES AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
- CONTRACTOR TO INSTALL LIGHTNING ARRESTOR AND GROUNDING RODS ON SITE PER MANUFACTURER'S RECOMMENDATIONS, SEE DETAILS.
- CONTRACTOR TO SEPARATE SYSTEM (CONTROLLER, VALVES, AND DIFFERENT COLORED WIRE) FROM CITY MAINTAINED PROPERTY AND HOA/OWNER MAINTAINED PROPERTY.
- DUCT TAPE ALL SLEEVES TO PREVENT SOIL OR OTHER DEBRIS ENTERING PIPE. IDENTIFY ALL SLEEVES BY WOOD OR PVC STAKES AND SPRAY PAINT WITH MARKING PAINT. REMOVE STAKES ONCE IRRIGATION SYSTEM IS COMPLETE.
- TO PREVENT EROSION AND LOW POINT DRAINAGE CONTRACTOR SHALL INSTALL CHECK VALVES
- LOCATE SPRAY HEADS NO CLOSER THAN 6" FROM WALLS, FENCES OR BUILDINGS AND 2" AWAY FROM WALKS, PATHS OR CURBS.
- PRESSURE TEST MAINLINE FOR LEAKS PRIOR TO BACKFILLING. CONTACT LANDSCAPE ARCHITECT/OWNER AT THIS TIME FOR COMPLIANCE.
- CONTRACTOR TO CONSULT WITH OWNER ON EXACT LOCATION OF CONTROLLER. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR AND OWNER FOR THE POWER SUPPLY. INSTALL ALL PER MANUFACTURER'S SPECIFICATIONS. CONTRACTOR SHALL INSTALL A RAIN SENSOR WITH THE CONTROLLER UNLESS OTHERWISE DIRECTED BY OWNER OR LANDSCAPE ARCHITECT.
- LATERAL LINES SHALL BE NO SMALLER THAN 3/4". LANDSCAPE CONTRACTOR TO ENSURE THE FOLLOWING PIPE SIZES DO NOT EXCEED THE SUGGESTED GPM LISTED BELOW:

VALVE ID TAG	
A1-1.0 18-55	
VALVE SIZE	PSI AT LAST HEAD IN ZONE
3/4"	8 GPM
1"	12 GPM
1-1/2"	30 GPM
2"	53 GPM
2-1/2"	75 GPM
3"	110 GPM
4"	180 GPM
NOTE: 1. VALVE ID TAGS ARE LOCATED NEAR VALVES IN THE ORDER THE VALVES APPEAR ON THE DRAWING	

CONTRACTOR TO PLACE TEMPORARY IRRIGATION SYSTEM ON ALL REVEGETATION SEED AREAS FOR THE FIRST YEAR UNTIL SEED IS ESTABLISHED

ISSUE DATE

12/17/2020

PROJECT NUMBER

UT18016

PLAN INFORMATION

811

BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC.
1-800-662-4111
www.bluestakes.org

PROJECT INFORMATION

LAKEFRONT: PH 1G

VINEYARD, UTAH

DEVELOPER / PROPERTY OWNER / CLIENT

Developer / Property Owner:

EDGE HOMES
13702 S 200 W B12
DRAPER, UT 84020
(801) 494-0150

LANDSCAPE ARCHITECT / PLANNER

Client / Engineer:

FOCUS ENGINEERING
32 W CENTER ST.
MIDVALE, UT 84047
(801) 352-0075

LICENSE STAMP

DRAWING INFO

PM: JTA
DRAWN: AP
CHECKED: KA
PLOT DATE: 12/17/2020

IRRIGATION PLAN

PRELIMINARY PLANS NOT FOR CONSTRUCTION

IR-101

Landscape Architecture • Planning & Visualization
3450 N. TRIUMPH BLVD. SUITE 102
LEHI, UTAH 84043 (801) 960-2698
www.pkjdesigngroup.com

GRAPHIC SCALE: 1" = 40'



IRRIGATION LEGEND

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●	RAINBIRD RD04-S-PRS POP UP SPRAY 15-SET @ 30 PSI
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APPLICATION RATE	64 IN / HR	SUGGESTED HEADER & FOOTER PIPE SIZE	CI CLASS 200 1.25"		

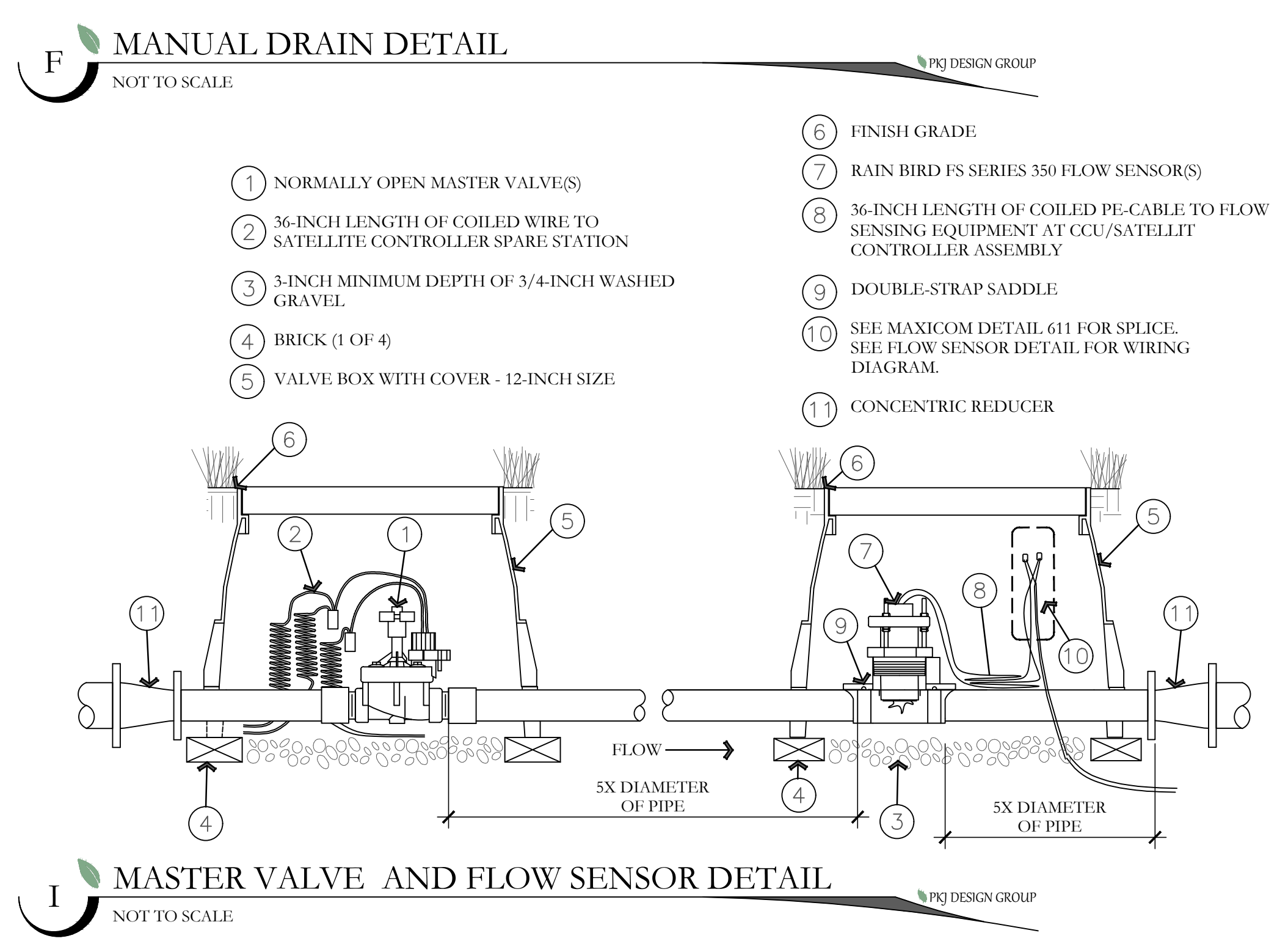
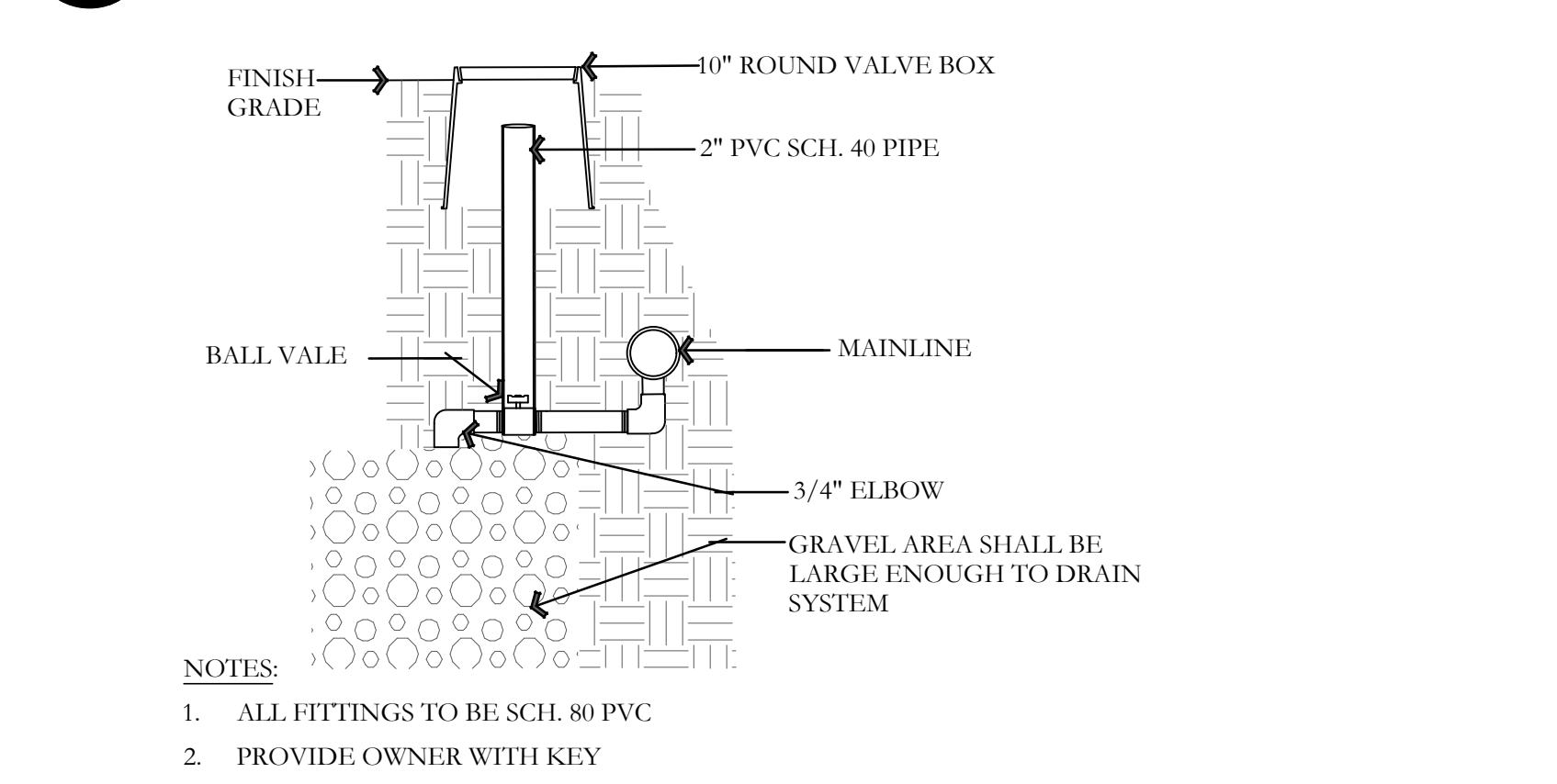
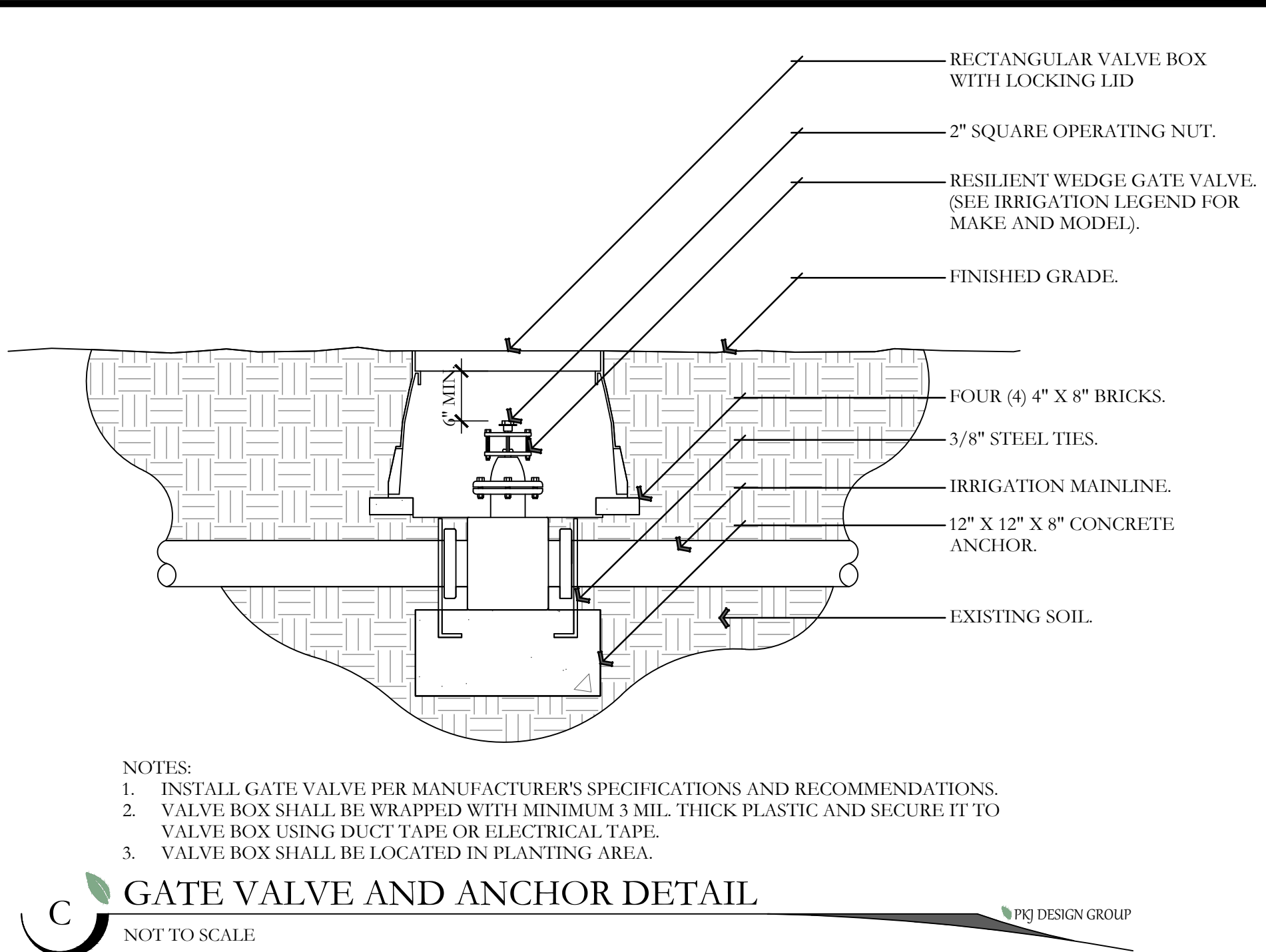
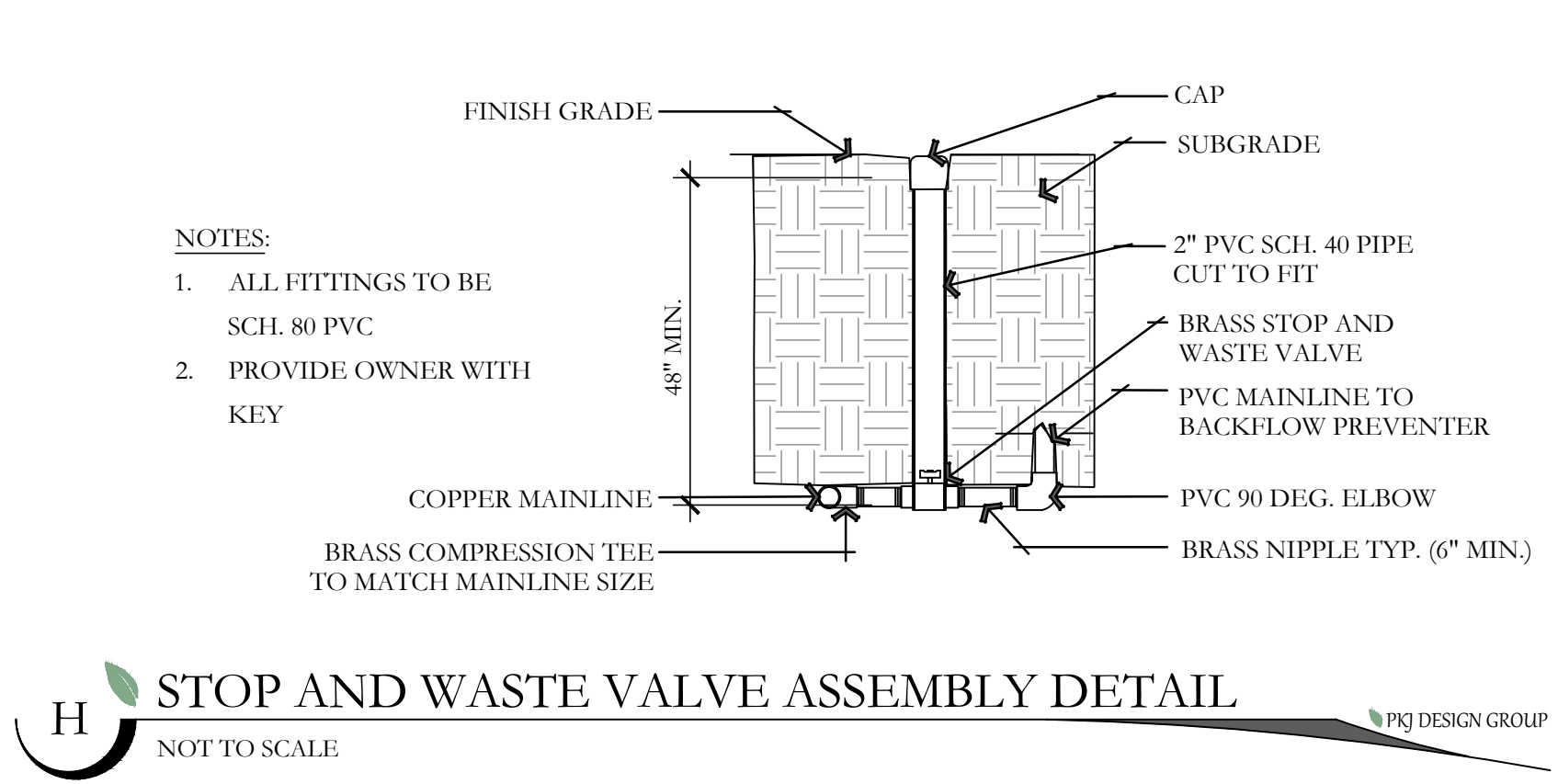
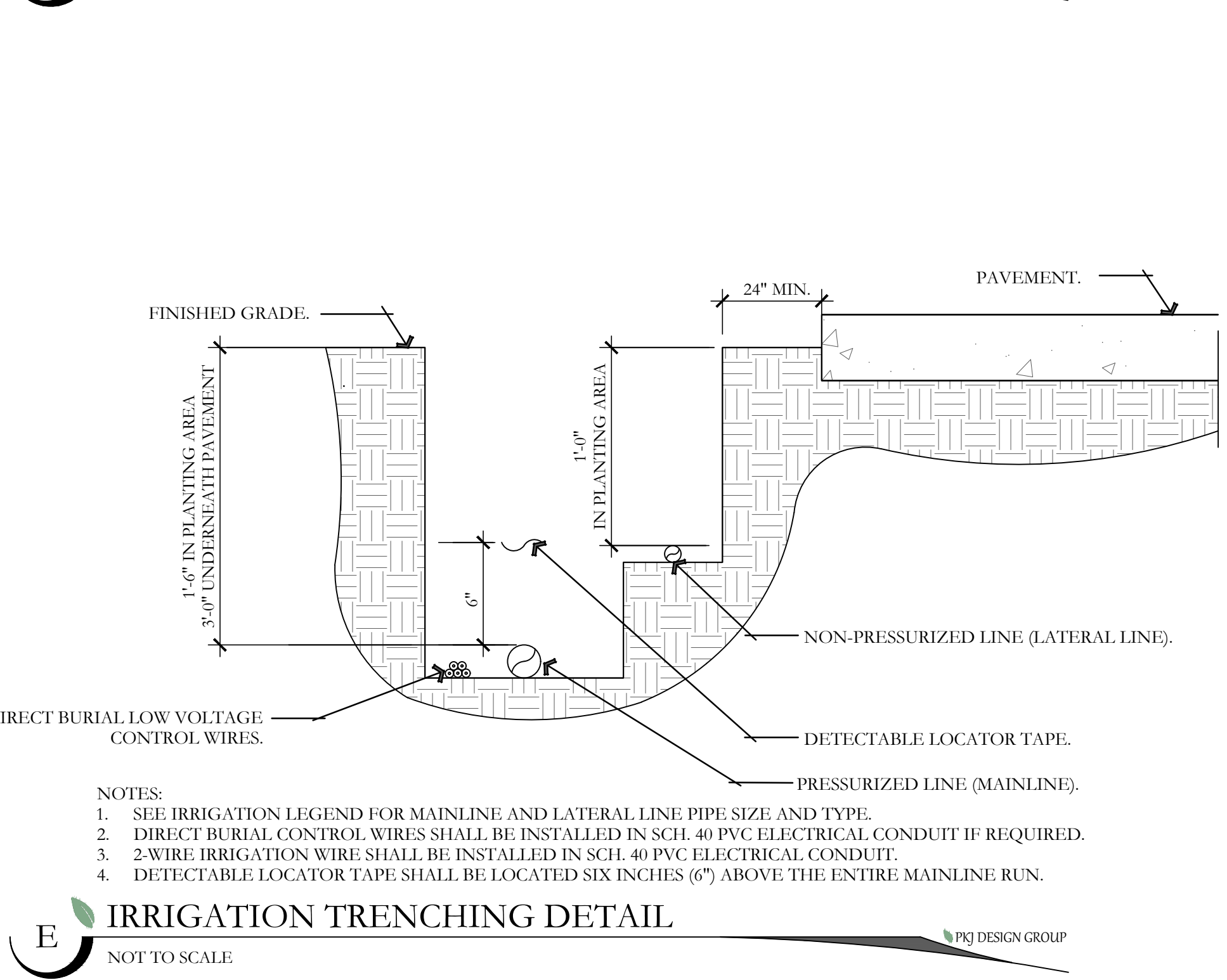
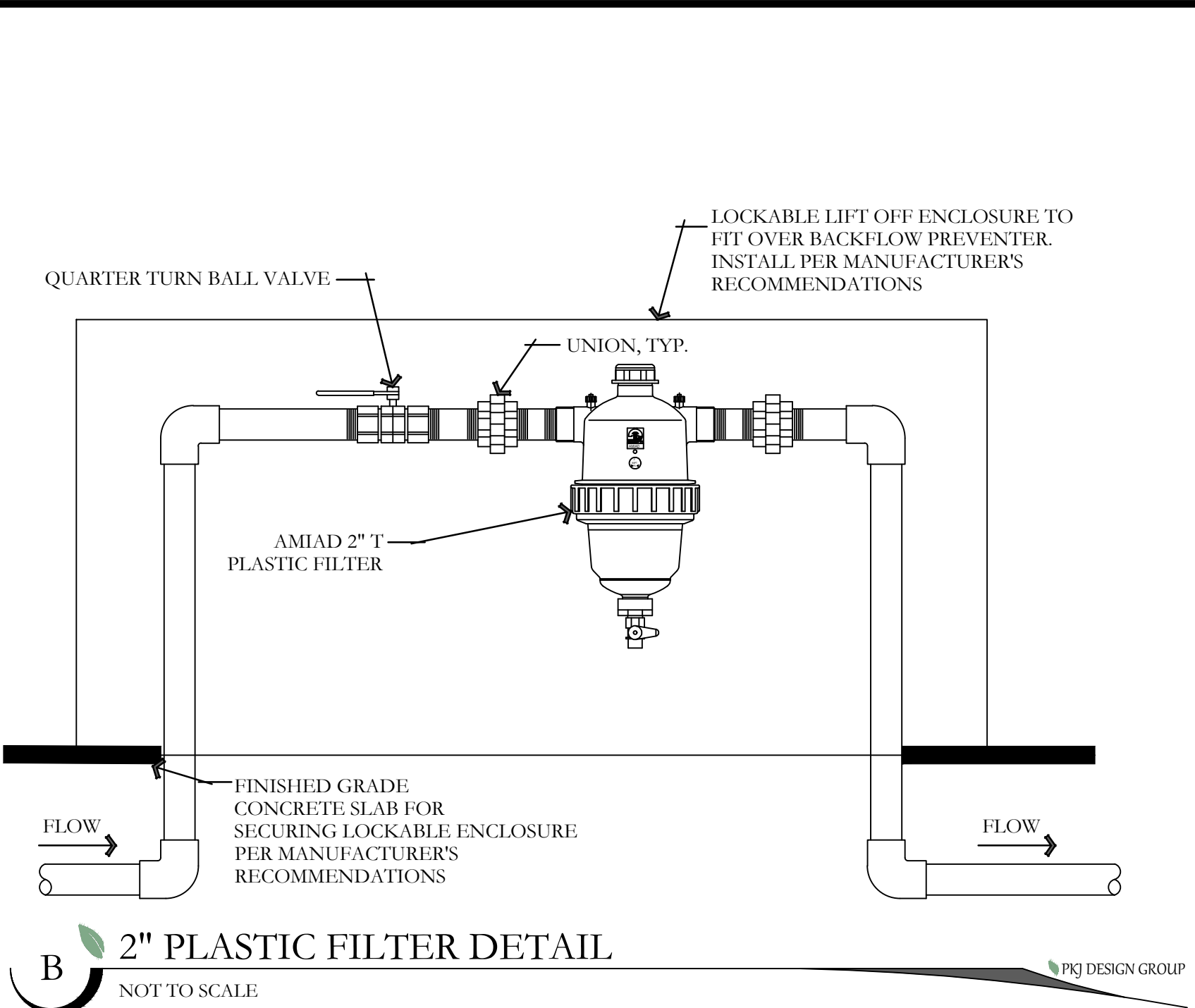
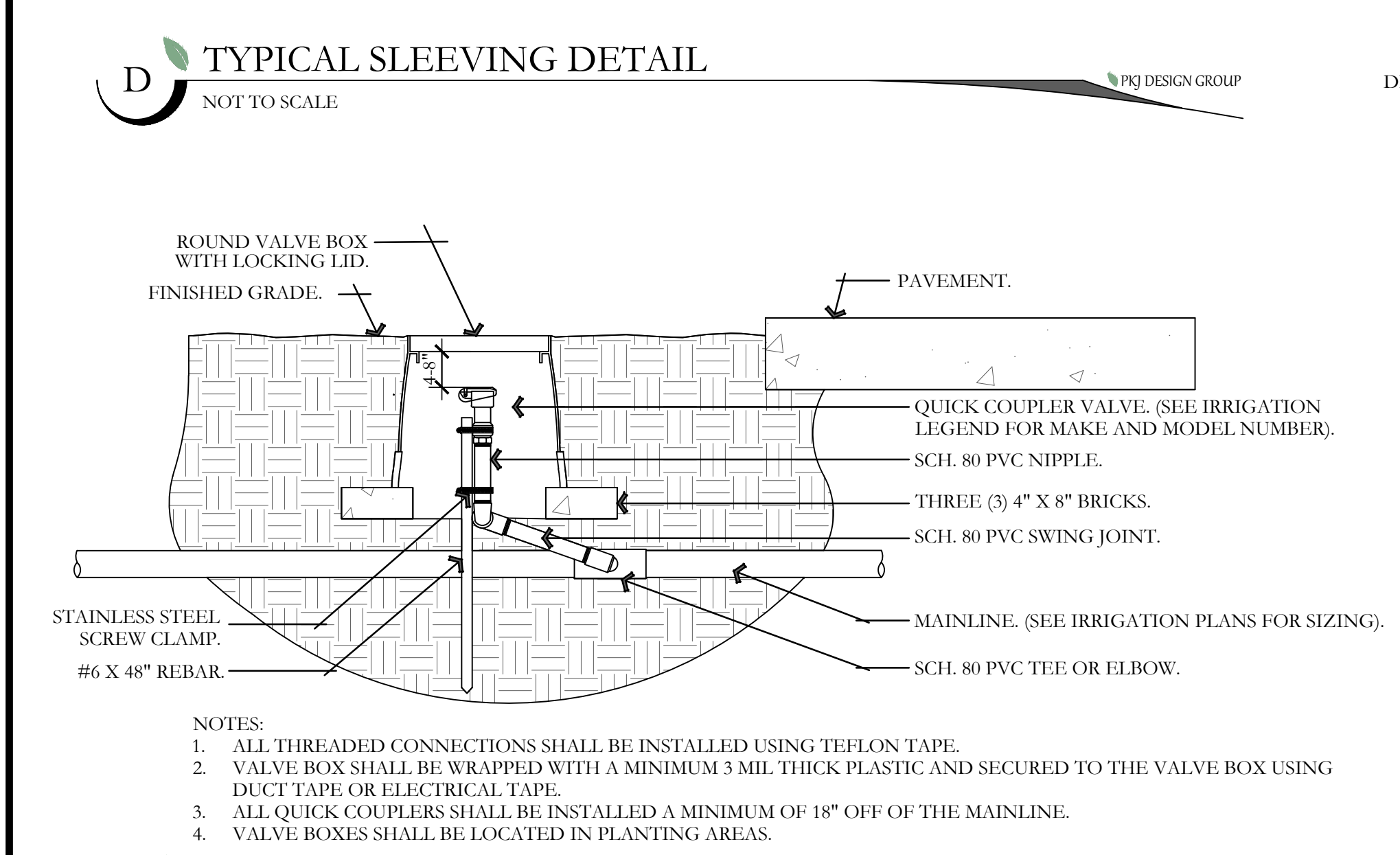
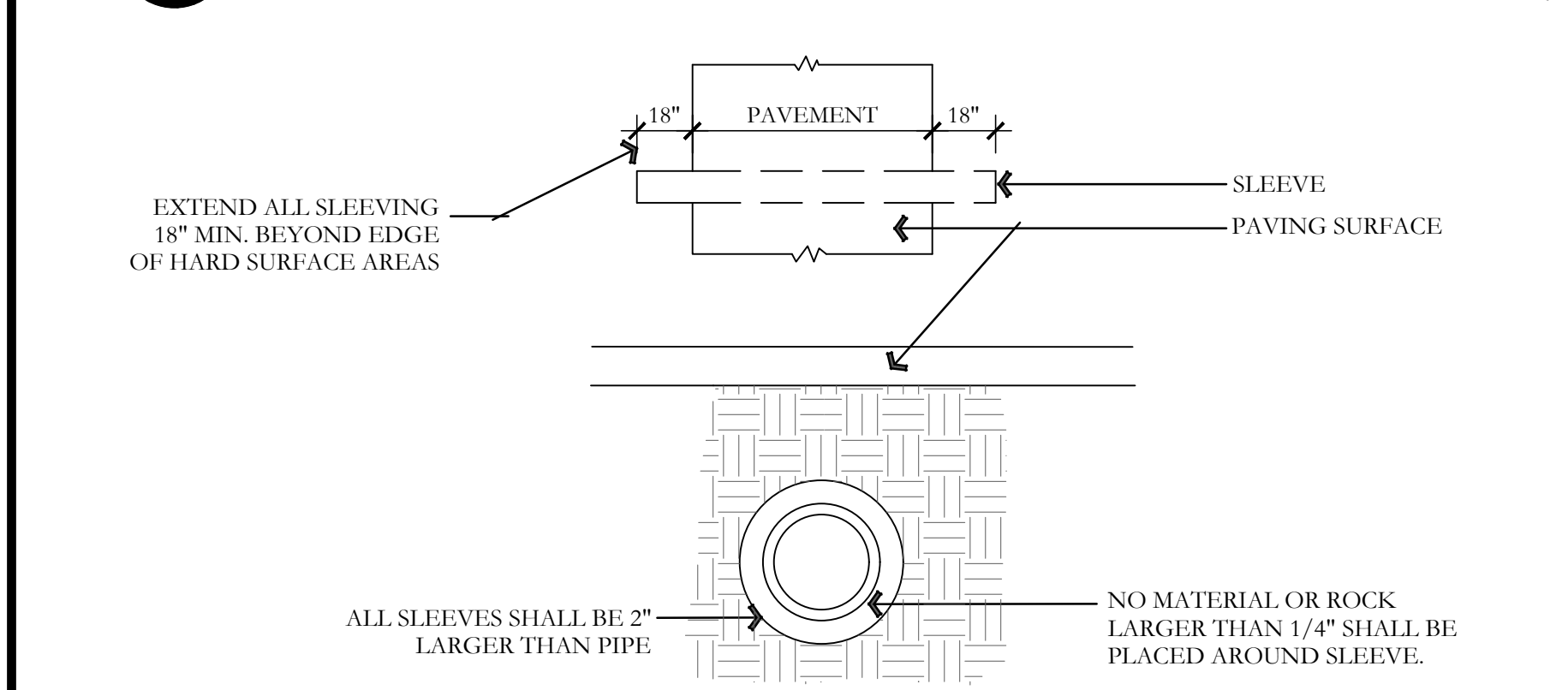
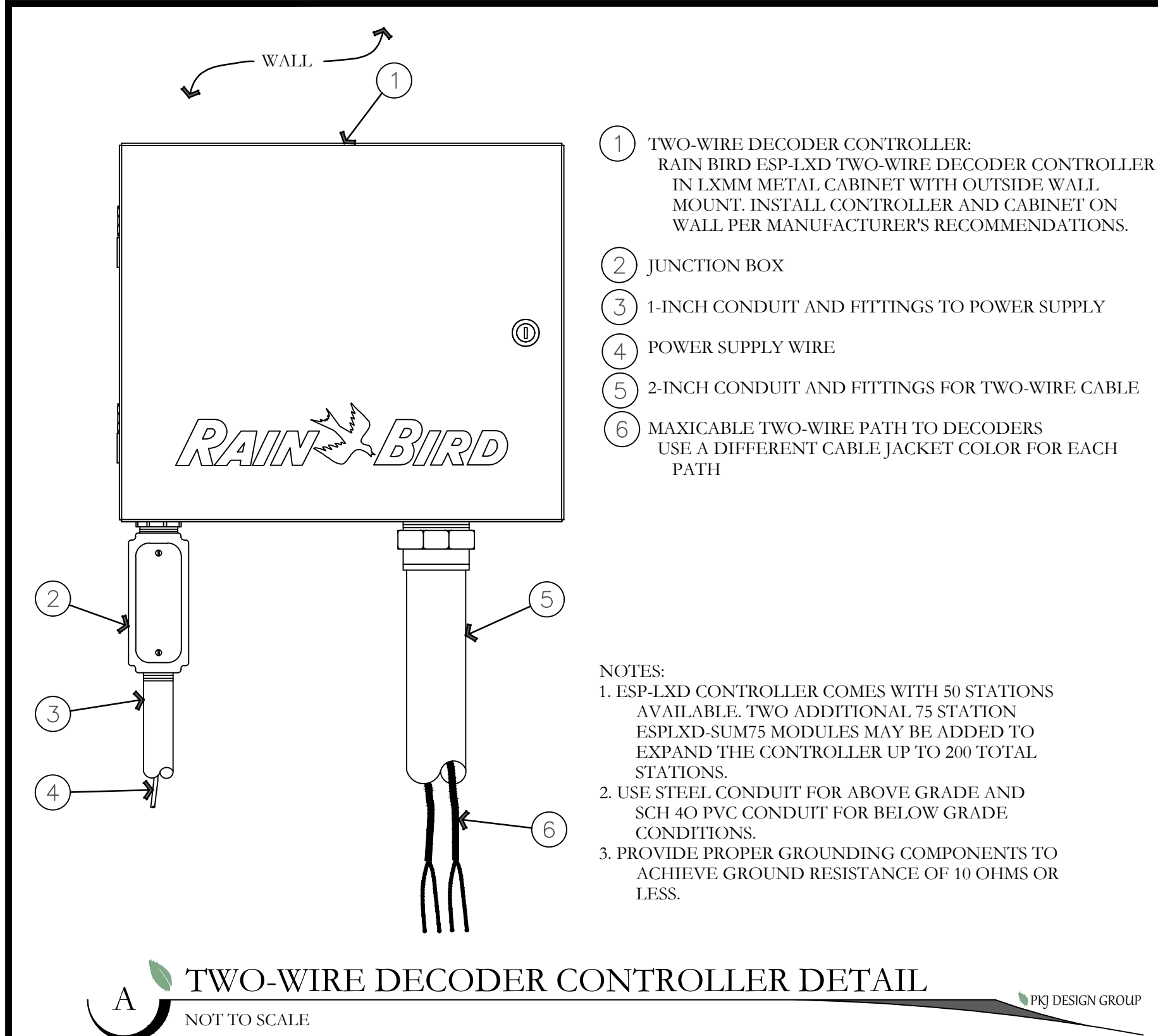
*NUMBERS MAY CHANGE DUE TO SIZE OF DRIP ZONE PER PLAN

IRRIGATION NOTES

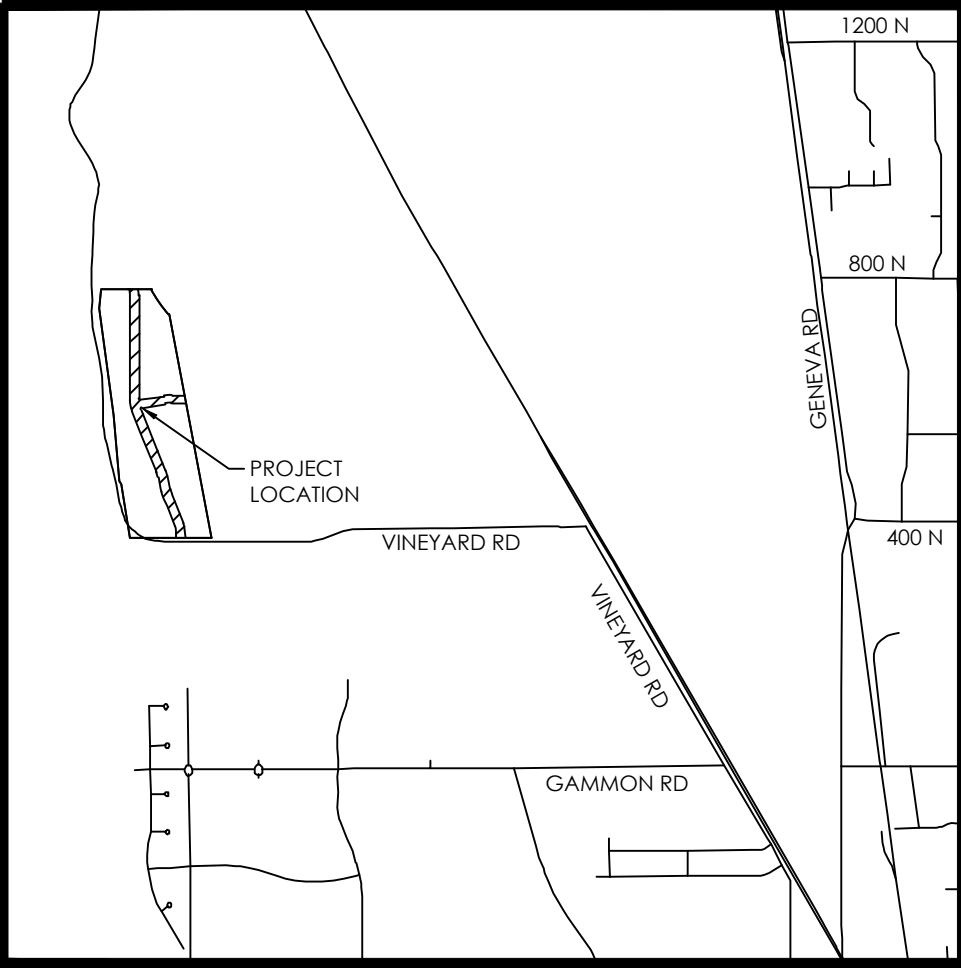
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 - MAIN LINES SHALL BE A MINIMUM OF 24" DEEP AND LATERAL LINES A MINIMUM OF 12" DEEP. NO ROCK GREATER THAN 1/2" DIAMETER SHALL BE ALLOWED IN TRENCHES. TRENCHING BACKFILL MATERIAL SHALL BE COMPACTED TO PROPER FINISHED GRADE.
 - NO IRRIGATION MAIN LINE MAY BE LOCATED WITHIN 5 FEET OF ANY STRUCTURE.
 - TO AVOID PIPE DAMAGE, ADJUST LOCATION OF PIPE TO NOT BE DIRECTLY UNDER PLANT MATERIALS. VALVE BOXES ARE PREFERRED TO BE IN PLANTER BEDS INSTEAD OF THE LAWS.
 - PLAN INDICATES 100% OR BETTER HEAD TO HEAD COVERAGE. SHOULD CONTRACTOR FIND DISCREPANCIES DUE TO NECESSARY FIELD ADJUSTMENTS, CONTACT LANDSCAPE ARCHITECT FOR IRRIGATION CORRECTION.
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 - A QUICK COUPLER SHALL BE INSTALLED AT POINT OF CONNECTION TO ALLOW BLOW OUT OF SYSTEM BY AIR COMPRESSOR AT END OF EACH SEASON.
 - INSTALL SLEEVES FOR ALL PIPES AND CONDUIT THAT ARE PLACED UNDER PAVEMENT AND SIDEWALKS. SLEEVES SHALL BE 2 SIZES LARGER THAN PIPE BEING PLACED INTERNALLY. WIRE CONDUIT SHALL BE INSTALLED IN CLASS 200 PIPE AT ANY DIRECTIONAL CHANGE THAT OCCURS. A JUNCTION BOX IS TO BE USED.
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 - CONTRACTOR TO INSTALL LIGHTNING ARRESTOR AND GROUNDING RODS ON SITE PER MANUFACTURER'S RECOMMENDATIONS, SEE DETAILS.
 - CONTRACTOR TO SEPARATE SYSTEM (CONTROLLER, VALVES, AND DIFFERENT COLORED WIRES) FROM CITY MAINTAINED PROPERTY AND HOA/OWNER MAINTAINED PROPERTY.
 - DUCT TAPE ALL SLEEVES TO PREVENT SOIL OR OTHER DEBRIS ENTERING PIPE. IDENTIFY ALL SLEEVES BY WOOD OR PVC STAKES AND SPRAY PAINT WITH MARKING PAINT. REMOVE STAKES ONCE IRRIGATION SYSTEM IS COMPLETE.
 - TO PREVENT EROSION AND LOW POINT DRAINAGE, CONTRACTOR SHALL INSTALL CHECK VALVES
 - LOCATE SPRAY HEADS NO CLOSER THAN 6" FROM WALLS, FENCES OR BUILDINGS AND 2" AWAY FROM WALKS, PATHS OR CURBS.
 - PRESSURE TEST MAINLINE FOR LEAKS PRIOR TO BACKFILLING. CONTACT LANDSCAPE ARCHITECT/OWNER AT THIS TIME FOR COMPLIANCE.
 - CONTRACTOR TO CONSULT WITH OWNER ON EXACT LOCATION OF CONTROLLER. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR AND OWNER FOR THE POWER SUPPLY. INSTALL ALL PER MANUFACTURER'S SPECIFICATIONS. CONTRACTOR SHALL INSTALL A RAIN SENSOR WITH THE CONTROLLER UNLESS OTHERWISE DIRECTED BY OWNER OR LANDSCAPE ARCHITECT.
 - LATERAL LINES SHALL BE NO SMALLER THAN 3/4". LANDSCAPE CONTRACTOR TO ENSURE THE FOLLOWING PIPE SIZES DO NOT EXCEED THE SUGGESTED GPM LISTED BELOW:
- | | |
|--------|---------|
| 3/4" | 8 GPM |
| 1" | 12 GPM |
| 1-1/2" | 30 GPM |
| 2" | 53 GPM |
| 2-1/2" | 75 GPM |
| 3" | 110 GPM |
| 4" | 180 GPM |
- VALVE ID TAG
- | | |
|-----|--------------------|
| A1 | CONTROLLER NUMBER |
| 1.0 | VALVE NUMBER |
| 18 | GALLONS PER MINUTE |
| 55 | NOTE |
- NOTE: VALVE ID TAGS ARE LOCATED NEAR VALVES IN THE ORDER THE VALVES APPEAR ON THE DRAWING

CONTRACTOR TO PLACE TEMPORARY IRRIGATION SYSTEM ON ALL REVEGETATION SEED AREAS FOR THE FIRST YEAR UNTIL SEED IS ESTABLISHED

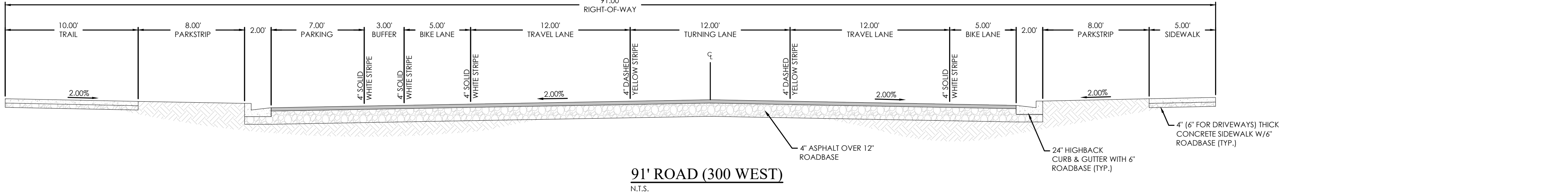
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12/17/2020		UT18016	811 BLUE STAKES OF UTAH UTILITY NOTIFICATION CENTER, INC. 1-800-662-4111 www.bluestakes.org N 0'20'40'80'160' GRAPHIC SCALE: 1" = 40'		LAKEFRONT: PH 1G VINEYARD, UTAH		Developer / Property Owner: EDGE HOMES 13702 S 200 W B12 DRAPER, UT 84020 (801) 494-0150 Client / Engineer: FOCUS ENGINEERING 32 W CENTER ST. MIDVALE, UT 84047 (801) 352-0075		PKJ DESIGN GROUP Landscape Architecture • Planning & Visualization 3450 N. TRIUMPH BLVD. SUITE 102 LEHI, UTAH 84043 (801) 960-2698 www.pkjdesigngroup.com		PROFESSIONAL LANDSCAPE ARCHITECT JESSE M. ANDERSON 02/01/2017 - 02/01/2024 STATE OF UTAH IRRIGATION PLAN PRELIMINARY PLANS NOT FOR CONSTRUCTION IR-101	PM: JTA DRAWN: AP CHECKED: KA PLOT DATE: 12/17/2020	
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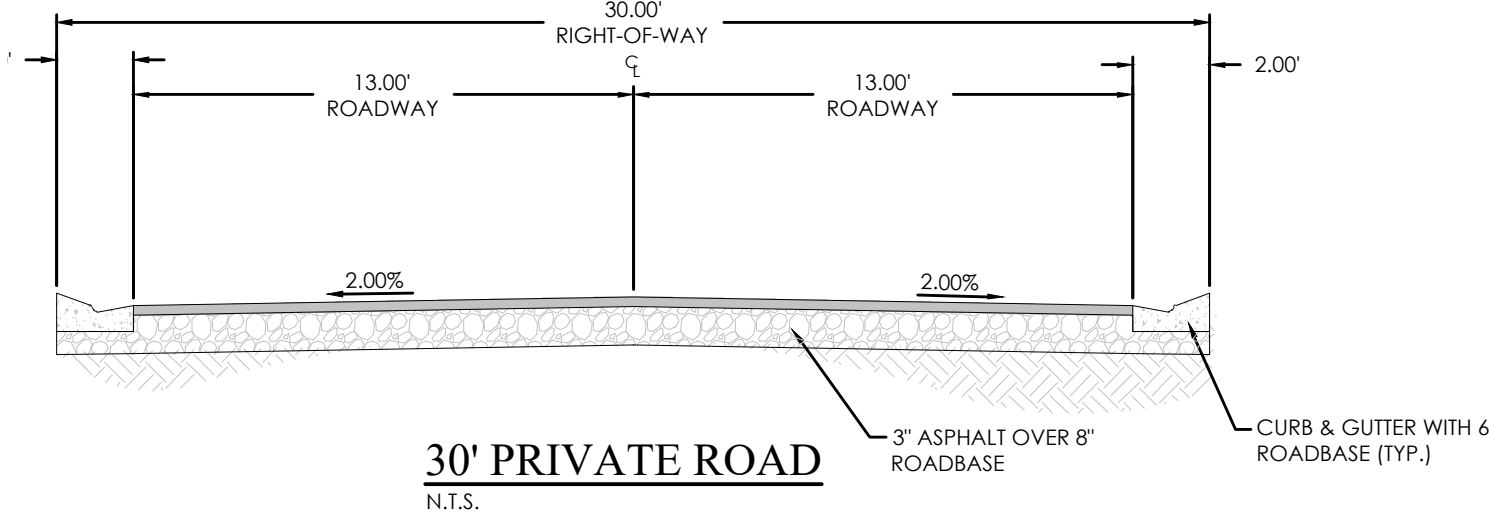
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12/17/2020			UT18016			811 BLUE STAKES OF UTAH UTILITY NOTIFICATION CENTER, INC 1-800-662-4111 www.bluestakes.org			LAKEFRONT: PH 1G VINEYARD, UTAH			Developer / Property Owner:			EDGE HOMES 13702 S 200 W B12 DRAPER, UT 84020 (801) 494-0150			PKJ DESIGN GROUP Landscape Architecture • Planning & Visualization 3450 N. TRIUMPH BLVD. SUITE 102 LEHI, UTAH 84043 (801) 960-2698 www.pkjdesigngroup.com			STATE OF UTAH PROFESSIONAL LANDSCAPE ARCHITECT J. A. TAYLOR 81287-12-3301 02/18/2021-12/31/2021 02/18/2021			PM: JTA		
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IRRIGATION DETAILS																										
PRELIMINARY PLANS NOT FOR CONSTRUCTION																										
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VICINITY MAP
N.T.S.



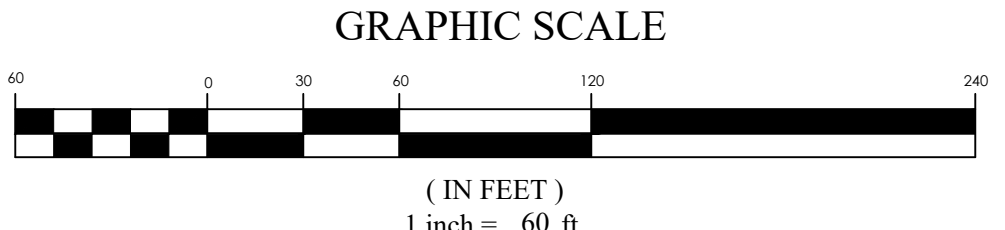
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N.T.S.



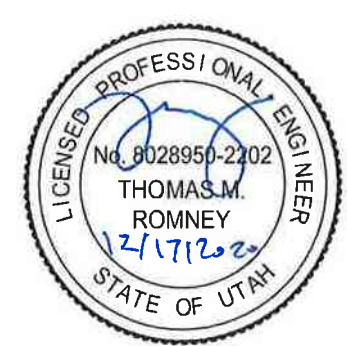
30' PRIVATE ROAD
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- LEGEND**
- BOUNDARY
 - ROW
 - CENTERLINE
 - LOT LINE
 - EASEMENT
 - 15" SD
 - 15" STORM DRAIN
 - 8" SS
 - 8" SANITARY SEWER
 - 8" W
 - 8" CULINARY WATER
 - 8" SW
 - 8" SECONDARY WATER
 - XXXX
 - CONTOUR MAJOR
 - XXXX
 - CONTOUR MINOR
 - Ex SD
 - EXIST. STORM DRAIN
 - Ex SS
 - EXIST. SANITARY SEWER
 - Ex W
 - EXIST. CULINARY WATER
 - X
 - EXIST. FENCE
 - (XXXX)
 - EXIST. CONTOUR MAJOR
 - (XXXX)
 - EXIST. CONTOUR MINOR
 - SIGN
 - STREET LIGHT
 - SD MH, INLET, AND COMBO
 - SEWER MANHOLE
 - VALVE, TEE & BEND
 - WATER BLOW-OFF
 - FIRE HYDRANT
 - STREET MONUMENT (TO BE SET)
 - EXIST. STREET MONUMENT
 - EXIST. SD INLET & MH
 - EXIST. SEWER MH
 - EXIST. VALVE, TEE, & BEND
 - EXIST. FIRE HYDRANT
 - SPOT ELEVATION



(IN FEET)
1 inch = 60 ft.

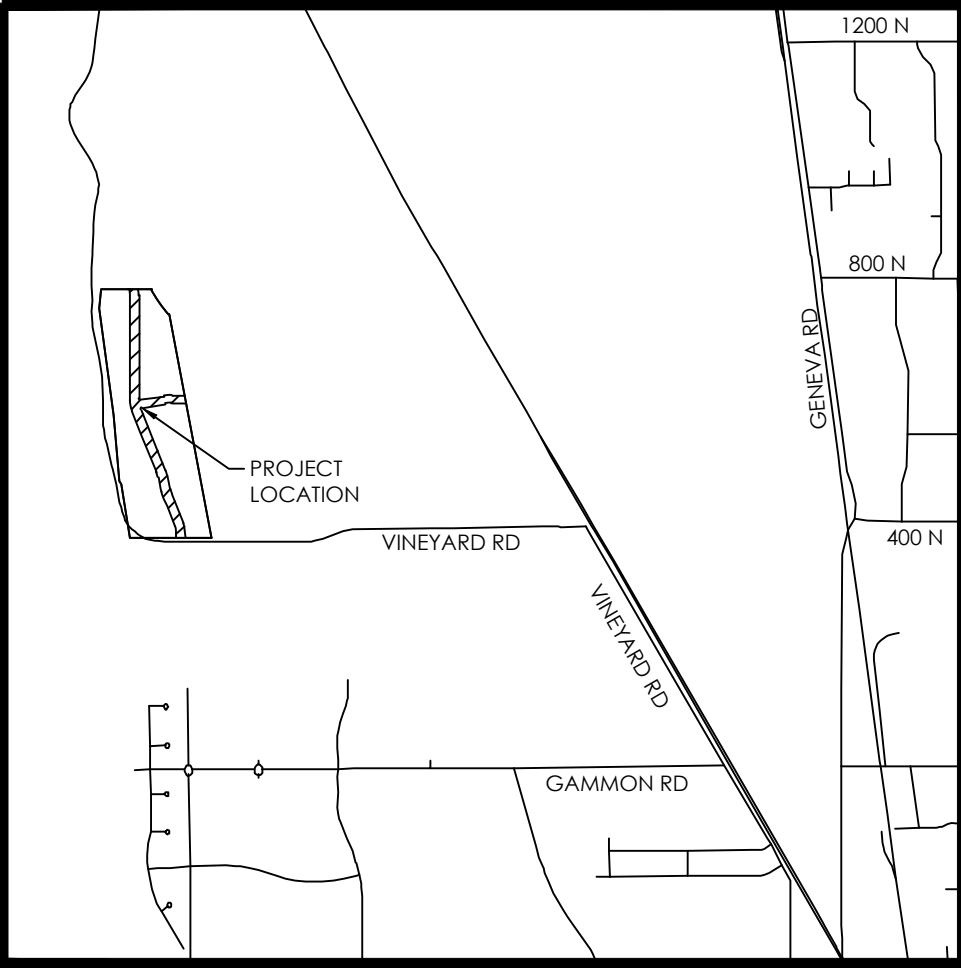


LAKEFRONT AT VINEYARD PHASE 1G
VINEYARD
SITE PLAN

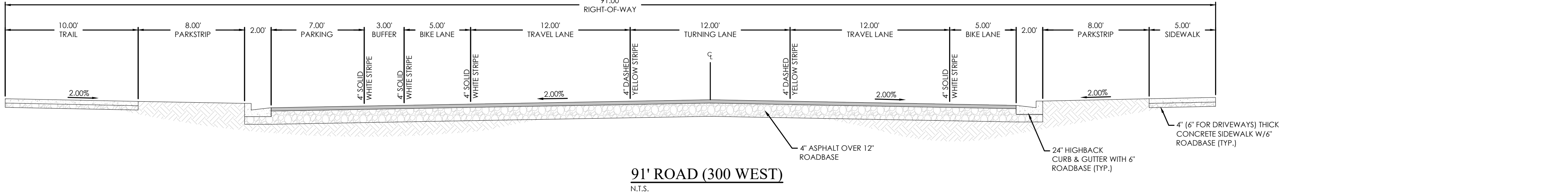
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SITE PLAN	
Scale: 1"=60'	Drawn: SA
Date: 12/17/2020	Job #: 20-0169
Sheet:	C3.0

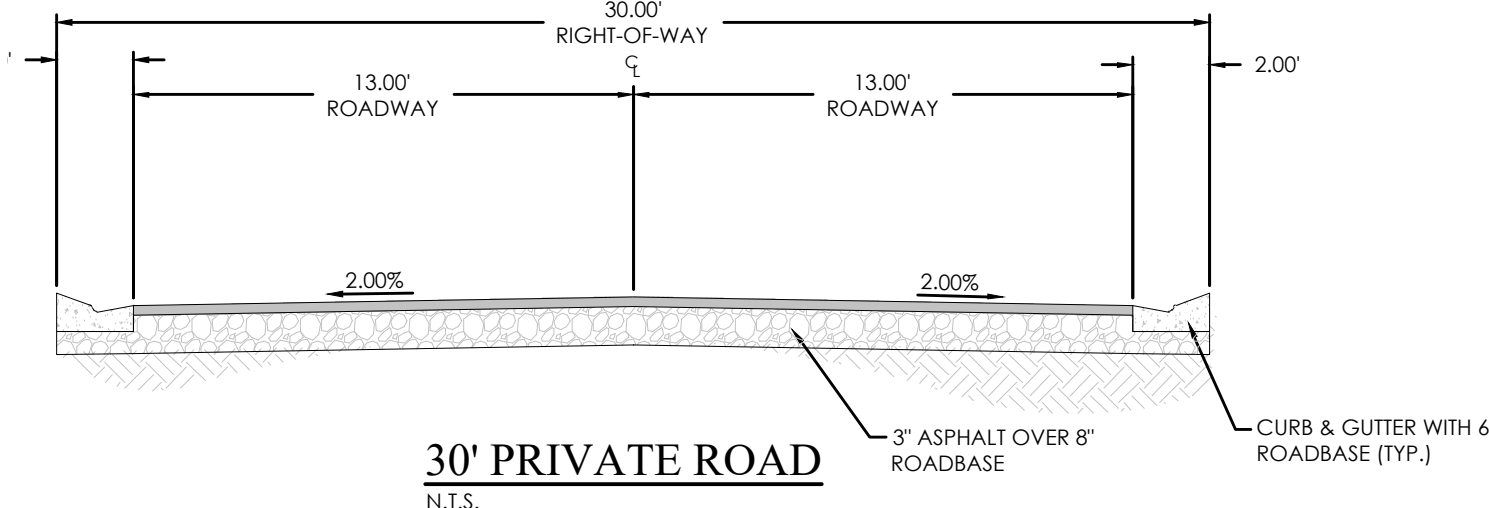




VICINITY MAP
N.T.S.



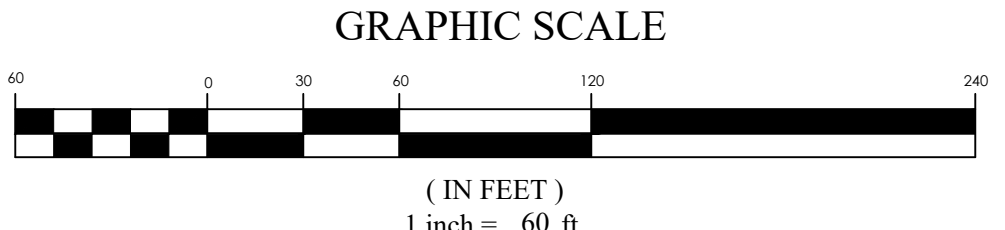
91' ROAD (300 WEST)
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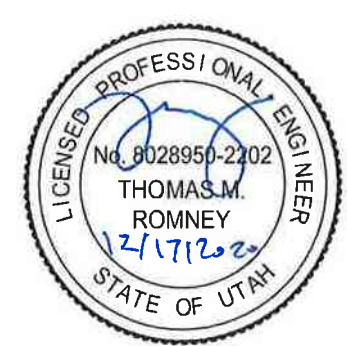
30' PRIVATE ROAD
N.T.S.



- LEGEND**
- BOUNDARY
 - ROW
 - CENTERLINE
 - LOT LINE
 - EASEMENT
 - 15" SD
 - 15" STORM DRAIN
 - 8" SS
 - 8" SANITARY SEWER
 - 8" W
 - 8" CULINARY WATER
 - 8" SW
 - 8" SECONDARY WATER
 - XXXX
 - CONTOUR MAJOR
 - XXXX
 - CONTOUR MINOR
 - Ex SD
 - EXIST. STORM DRAIN
 - Ex SS
 - EXIST. SANITARY SEWER
 - Ex W
 - EXIST. CULINARY WATER
 - X
 - EXIST. FENCE
 - (XXXX)
 - EXIST. CONTOUR MAJOR
 - (XXXX)
 - EXIST. CONTOUR MINOR
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 - STREET LIGHT
 - SD MH, INLET, AND COMBO
 - SEWER MANHOLE
 - VALVE, TEE & BEND
 - WATER BLOW-OFF
 - FIRE HYDRANT
 - STREET MONUMENT (TO BE SET)
 - EXIST. STREET MONUMENT
 - EXIST. SD INLET & MH
 - EXIST. SEWER MH
 - EXIST. VALVE, TEE, & BEND
 - EXIST. FIRE HYDRANT
 - SPOT ELEVATION



(IN FEET)
1 inch = 60 ft.

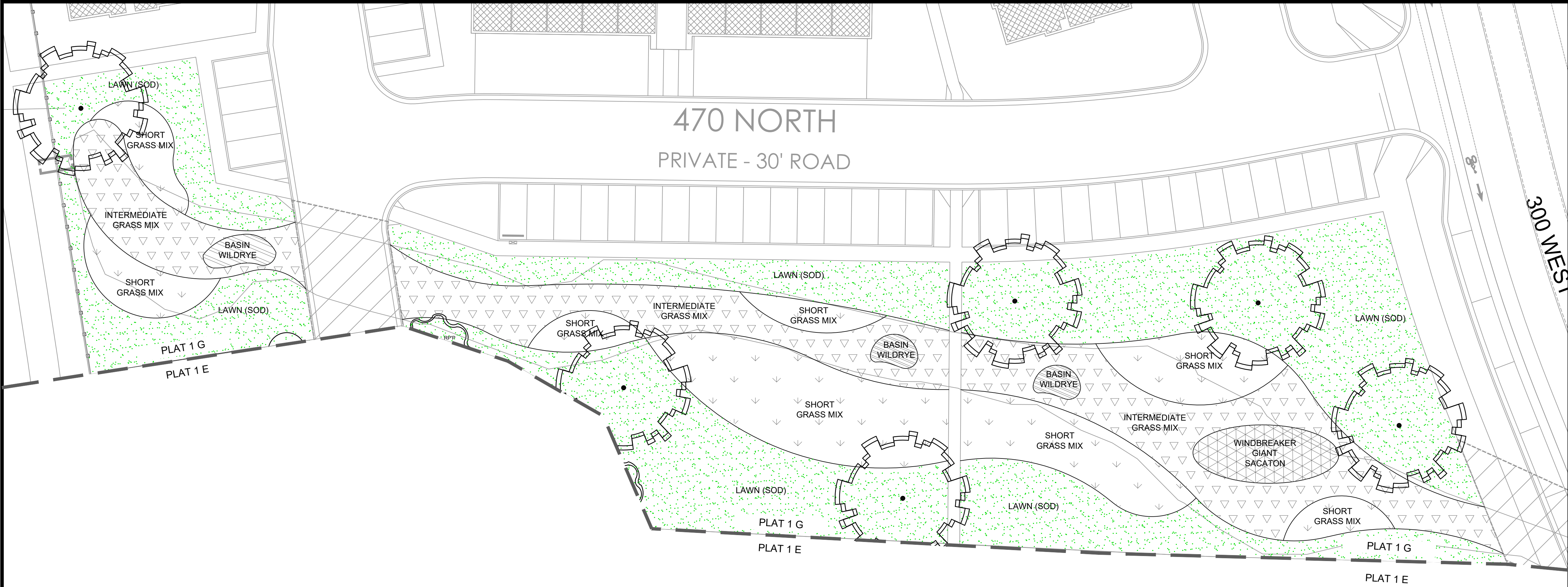


LAKEFRONT AT VINEYARD PHASE 1G
VINEYARD
SITE PLAN

REVISION BLOCK	
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SITE PLAN	
Scale: 1"=60'	Drawn: SA
Date: 12/17/2020	Job #: 20-0169
Sheet:	C3.0





INTERMEDIATE GRASS BLEND: 43,811 SQ. FT. TALLER GRASSES APPEAR WITHIN THE CENTER AREAS OF THE MATRIX. THEY CAN SURVIVE ON 12-14" OF PRECIPITATION A YEAR. WESTERN WHEATGRASS CAN HANDLE FLOODING AS CAN ALKALI SACATON. THE NATIVE GRASSES WILL NATURALLY COLONIZE IN AREAS MOST SUITED TO THEIR NEEDS CREATING DYNAMIC ECOTYPES ALONG THE LANDSCAPED TRAIL.				
VARIETY	MINIMUM PRECIPITATION	GROWTH CYCLE	HEIGHT	PERCENT IN MIX
SIDEOATS GRAMA	10-12"	WARM	15-30"	10
STREAMBANK WHEATGRASS	8"	COOL	12-36"	10
SNAKE RIVER WHEATGRASS	10-13"	COOL	12-48"	10
NEEDLE 'N' THREAD GRASS	8"	COOL	24-48"	5
WESTERN WHEATGRASS	10"	COOL	24-36"	40
BLUEBUNCH WHEATGRASS	8-14"	COOL	18-48"	20
ALKALI SACATON	10-12"	WARM	18-36"	5

SHORT GRASS BLEND: 24,638 SQ. FT. THE NATIVE SHORT GRASS BLEND WILL EDGE EITHER SIDE OF THE TRAIL. IT CAN SURVIVE ON 8-10" OF PRECIPITATION A YEAR. A VARIETY OF WARM AND COOL SEASON GRASSES WILL CREATE CHANGE WITHIN THE MATRIX. IF A MORE ORNAMENTAL LOOK WOULD BE ENJOYED, THE ADDITION OF PRAIRIE JUNEGRASS WOULD IMPROVE THE COMBINATION. IT HAS BEEN LEFT OUT BECAUSE IT REQUIRES A MINIMUM OF 12-14" OF PRECIPITATION A YEAR.				
VARIETY	MINIMUM PRECIPITATION	GROWTH CYCLE	HEIGHT	PERCENT IN MIX
INDIAN RICEGRASS	6"	COOL	8-30"	40
BLUE GRAMA GRASS	8"	WARM	10-20"	15
INLAND SALTGRASS	8"	WARM	6-12"	5
SHEEP FESCUE	8-10"	COOL	6-12"	25
GALLETA GRASS	6"	WARM	6-12"	15

TALL GRASS BLEND: 1,965 SQ. FT. THESE TALL GRASSES CAN BE PLANTED AS GALLONS CREATING FOCAL POINTS ALONG THE TRAIL AND MATURING AT DIFFERENT TIMES.			
VARIETY	MINIMUM PRECIPITATION	GROWTH CYCLE	HEIGHT
BASIN WILDRYE	10"	COOL	36-72"

TALL GRASS BLEND: 3,700 SQ. FT. THESE TALL GRASSES CAN BE PLANTED AS GALLONS CREATING FOCAL POINTS ALONG THE TRAIL AND MATURING AT DIFFERENT TIMES.			
VARIETY	MINIMUM PRECIPITATION	GROWTH CYCLE	HEIGHT
WINDBREAKER GIANT SACATON GRASS	10"	WARM	96-120"

REVEGETATION NOTES

- LAND PREPARATION BEFORE SEEDING
- REMOVE WEEDS BY MECHANICAL MEANS OR IF NECESSARY SPRAYING WITH AN HERBICIDE AND ADDED SURFACTANT. GLYPHOSATE AND/OR 2,4-D WILL NOT REMAIN IN THE SOIL FOR EXTENDED PERIODS OF TIME. ALWAYS READ LABEL DIRECTIONS OR ENLIST THE SERVICES OF A CERTIFIED PESTICIDE APPLICATOR. SEE LIST OF WEEDS ON PROPERTY BELOW.

- SOIL PREPARATION IF PLANTING IN NATIVE SOIL (SEE SOIL TEST RESULTS)
- SCARIFY 6-8" USING ANY LARGE EQUIPMENT TO RIP OR BREAK UP THE SURFACE
 - SMOOTH OUT AND SET THE ROUGH GRADE FOR POSITIVE DRAINAGE
 - SOIL SHOULD BE SANDY IN NATURE
 - APPLY A BIOTIC SOIL MEDIA (SEE GRANITE SEED [HTTPS://GRANITESEED.COM/PLANTING-AIDS/BIOTIC-SOIL-MEDIA/](https://graniteseed.com/planting-aids/biotic-soil-media/)) AT A DEPTH OF 6" TO HELP REPAIR DAMAGED SOIL AND CREATE AN ACCEPTABLE GROWTH MEDIA FOR GRASSES

- SOIL PREPARATION IF REMOVING COMPACTED SOIL AND IMPORTING NEW TOPSOIL
- REMOVING EXISTING COMPACTED SOIL WILL REMOVE SOME OF THE WEED SEEDS
 - IMPORTED TOPSOIL SHOULD BE A SANDY SOIL TO ALLOW FOR GOOD DRAINAGE AND SUCCESS OF DROUGHT TOLERANT GRASSES
 - IMPORTED TOPSOIL TO A DEPTH OF AT LEAST 6" WILL COVER REMAINING WEED SEED AND GIVE NEW SEED A CHANCE TO GERMINATE AND ESTABLISH WITHOUT COMPETITION
 - SMOOTH OUT AND SET THE ROUGH GRADE FOR POSITIVE DRAINAGE.

- SEEDING
- NATIVE/DROUGHT TOLERANT GRASSES ARE ACCUSTOMED TO GROWING IN LEAN SOIL.
 - USE A HYDROSEED COMPANY TO BROADCAST SEED. THEY WILL USE STRAW OR WOOD MULCH IN THE MIX TO HELP RETAIN MOISTURE AND ALLOW FOR EVEN DISTRIBUTION. THEY MAY ALSO USE A NURSE CROP FOR ESTABLISHMENT.
 - THE OPTIMUM TIME TO PLANT IS IN NOVEMBER, PREFERABLY BEFORE THE FIRST SNOW. DO NOT SOW OVER HEAVY SNOWPACK. THE SEED WILL LAY DORMANT AND BE READY TO GERMINATE ONCE THE GROUND THAWS AND WARMS IN LATE WINTER/EARLY SPRING. IF SEEDING IN LATE FALL IS NOT POSSIBLE, SEED IN LATE WINTER/EARLY SPRING BASED ON MELTED SNOWPACK.

- MAINTENANCE
- GRASSES CAN BE MOWED ONCE A YEAR IN LATE FALL, NOVEMBER IS A GOOD TIME. DO NOT MOW IN SPRING AS THIS WILL REMOVE NEW GROWTH
 - MOW SHORT AND INTERMEDIATE GRASSES TO A HEIGHT OF 6-8". NO SHORTER
 - LARGE GRASSES INCLUDING BASIN WILDRYE AND GIANT SACATON SHOULD BE CUT BY HAND TO ABOUT A 12" HEIGHT
 - MOWING GRASSES TOO SHORT WILL DAMAGE THEIR CROWN CAUSING PREMATURE DEATH
 - SHOULD INADEQUATE PRECIPITATION REQUIRE ADDITIONAL WATER DURING THE FIRST TWO YEARS OF ESTABLISHMENT, 1" OF WATER CAN BE APPLIED BY TRUCK ONCE IN LATE JUNE AND AGAIN IN LATE JULY. THIS CAN BE DONE BY THE HYDROSEEDING COMPANY AT CITY'S DISCRETION. IT IS UNLIKELY AS NATIVE GRASSES ARE ACCUSTOMED TO SUCH DROUGHT, BUT GRASSES WILL STAY GREENER LONGER WITH ADDITIONAL WATER.
 - HYDROSEEDING INFORMATION REGARDING NURSE CROP AND LATE SEASON WATER APPLICATION GATHERED FROM LAWRENCE AT GRASS MASTER HYDROSEEDING (385) 743-1615

TREE LEGEND (TOTAL PLANT COUNT)

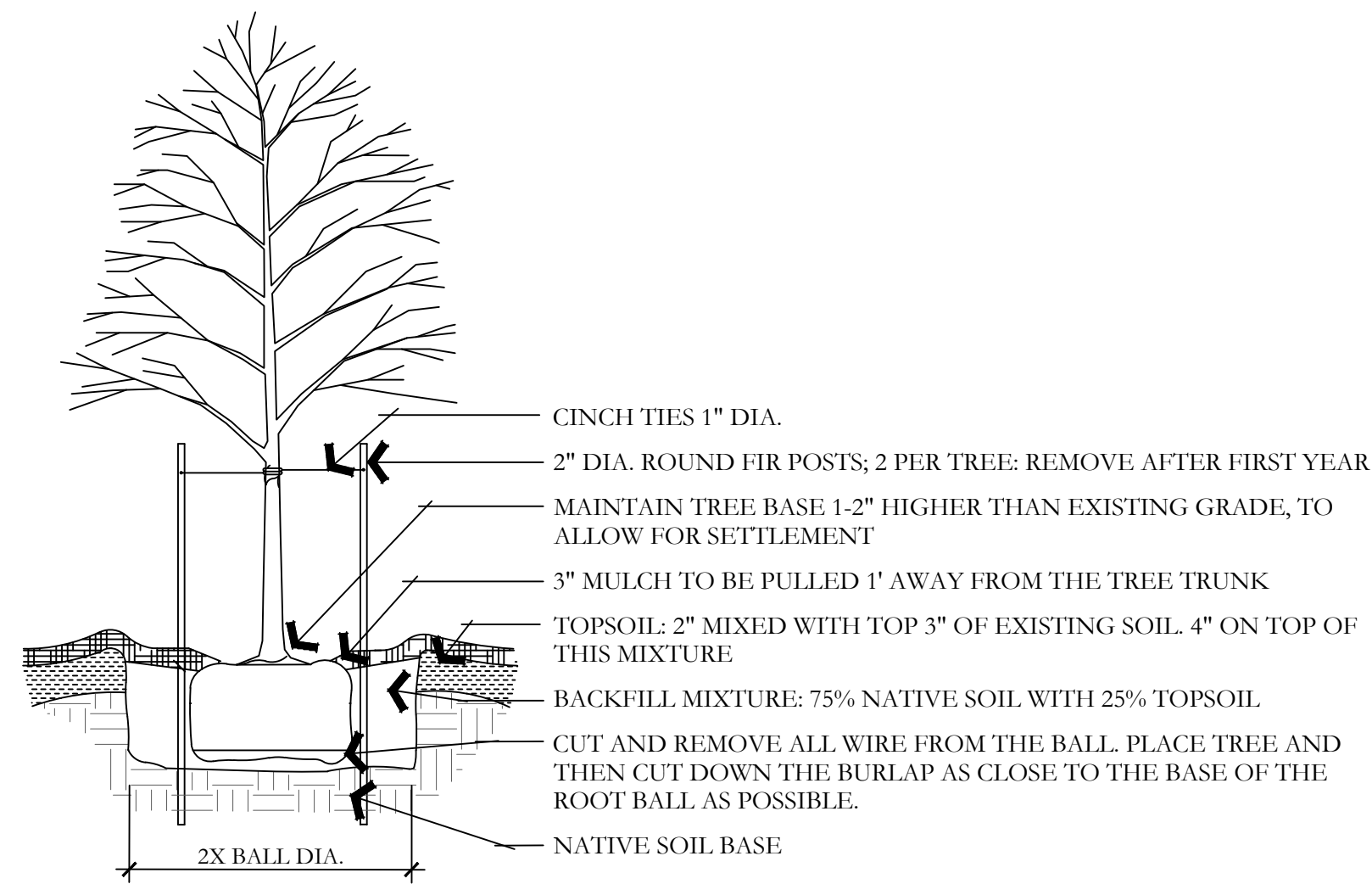
SYMBOL	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	HYDROZONE	SPECIAL NOTES
PA	PLATANUS ACERFOLIA	LONDON PLANETREE	17	2" CAL.	MODERATE	

SITE MATERIALS (TOTAL SITE)

- LAWN AREA : 58,811 SQ.FT.
- LAWN AREAS SHALL BE SOD. NEW TURF AREAS TO BE SODDED WITH 18% "BLUESTAR KENTUCKY BLUEGRASS, 19% "MARQUIS" KENTUCKY BLUEGRASS, 17% "NEWPORT" KENTUCKY BLUEGRASS, 17% "TOUCHDOWN" KENTUCKY BLUEGRASS, 16% "MVP" PERENNIAL RYEGRASS, 13% "ACCENT" PERENNIAL RYEGRASS OR APPROVED EQUAL AT A RATE OF 220 LBS. PER ACRE. FINE LEVEL ALL AREAS PRIOR TO LAYING SOD.
- ALL LAWN AREAS SHALL BE IRRIGATED WITH 100% COVERAGE BY POP-UP SPRAY HEADS AND GEAR-DRIVEN ROTORS. ALL DECIDUOUS AND CONIFER TREES PLANTED WITHIN SOD AREAS SHALL HAVE A FOUR FOOT(4") DIAMETER TREE RING COVERED WITH CHOCOLATE BROWN BARK MULCH, NO SHREDDED FINES. SUBMIT SAMPLES TO BE APPROVED BY LANDSCAPE ARCHITECT AND OWNER BEFORE INSTALLATION.

***THE LANDSCAPE ARCHITECT PROVIDES QUANTITY AND FOOTAGE INFORMATION AS AN AIDE TO THE BIDDING LANDSCAPER. QUANTITIES, SPECIES, AND SPECIFICATIONS HAVE BEEN SUBMITTED AND APPROVED BY THE MUNICIPALITIES – ALL SUBSTITUTIONS AND LESSER QUANTITIES MUST BE APPROVED BY THE LANDSCAPE ARCHITECT AND EDGE HOMES MANAGEMENT. IT IS ENTIRELY THE RESPONSIBILITY OF THE BIDDERS TO CALCULATE THE MATERIAL BASED ON THE GRADE CONTOURS, INCLUDING ALL LANDSCAPING RETAINING WALLS INDICATED ON THE CIVIL AS WELL AS THE LANDSCAPING DRAWINGS. THESE CIVIL, LANDSCAPING, AND IRRIGATION DRAWING WILL NEED TO BE REVIEWED PRIOR TO SUBMITTING A BID FOR THE PROJECT. ANY SHORTAGES OF MATERIALS WILL NOT BE PAID FOR BY EDGE HOMES OR THE LANDSCAPE ARCHITECT

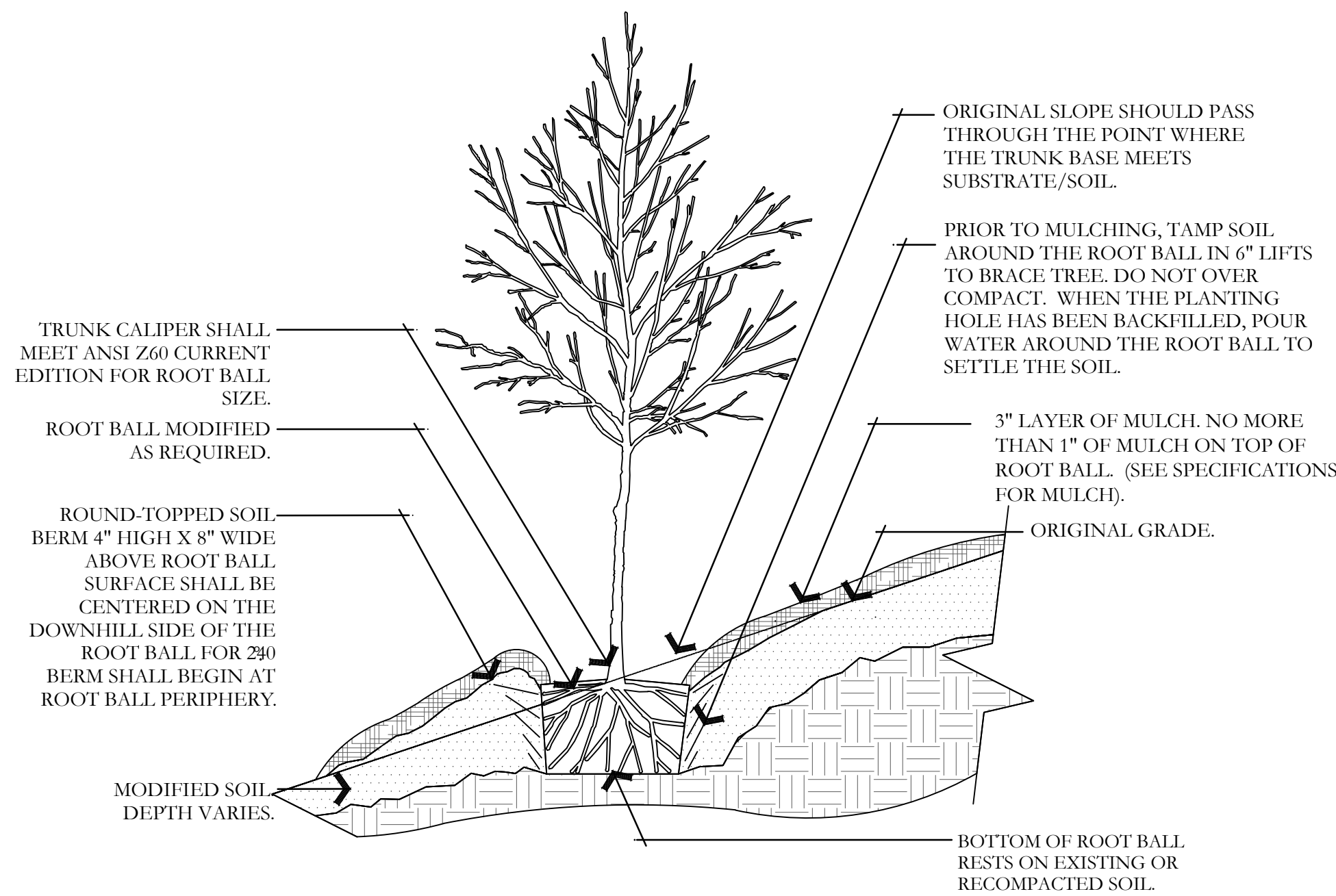
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12-17-2020		UT18016		811 BLUE STAKES OF UTAH UTILITY NOTIFICATION CENTER, INC 1-800-662-4111 www.bluestakes.org N 0'10'20'40'80' GRAPHIC SCALE: 1" = 20'		LAKEFRONT: PH 1E VINEYARD, UTAH		Developer / Property Owner: EDGE HOMES 13702 S 200 W B12 DRAPER, UT 84020 (801) 494-0150		Client / Engineer: FOCUS ENGINEERING 32 W CENTER ST, MIDVALE, UT 84047 (801) 352-0075		PKJ DESIGN GROUP Landscape Architecture & Planning & Visualization 3450 N. TRIUMPH BLVD, SUITE 102 LEHI, UTAH 84043 (801) 960-2698 www.pkjdesigngroup.com LANDSCAPE PLAN		PM: JTA DRAWN: KBA CHECKED: TM PLOT DATE: 12/17/2020	
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A DECIDUOUS TREE PLANTING

NOT TO SCALE

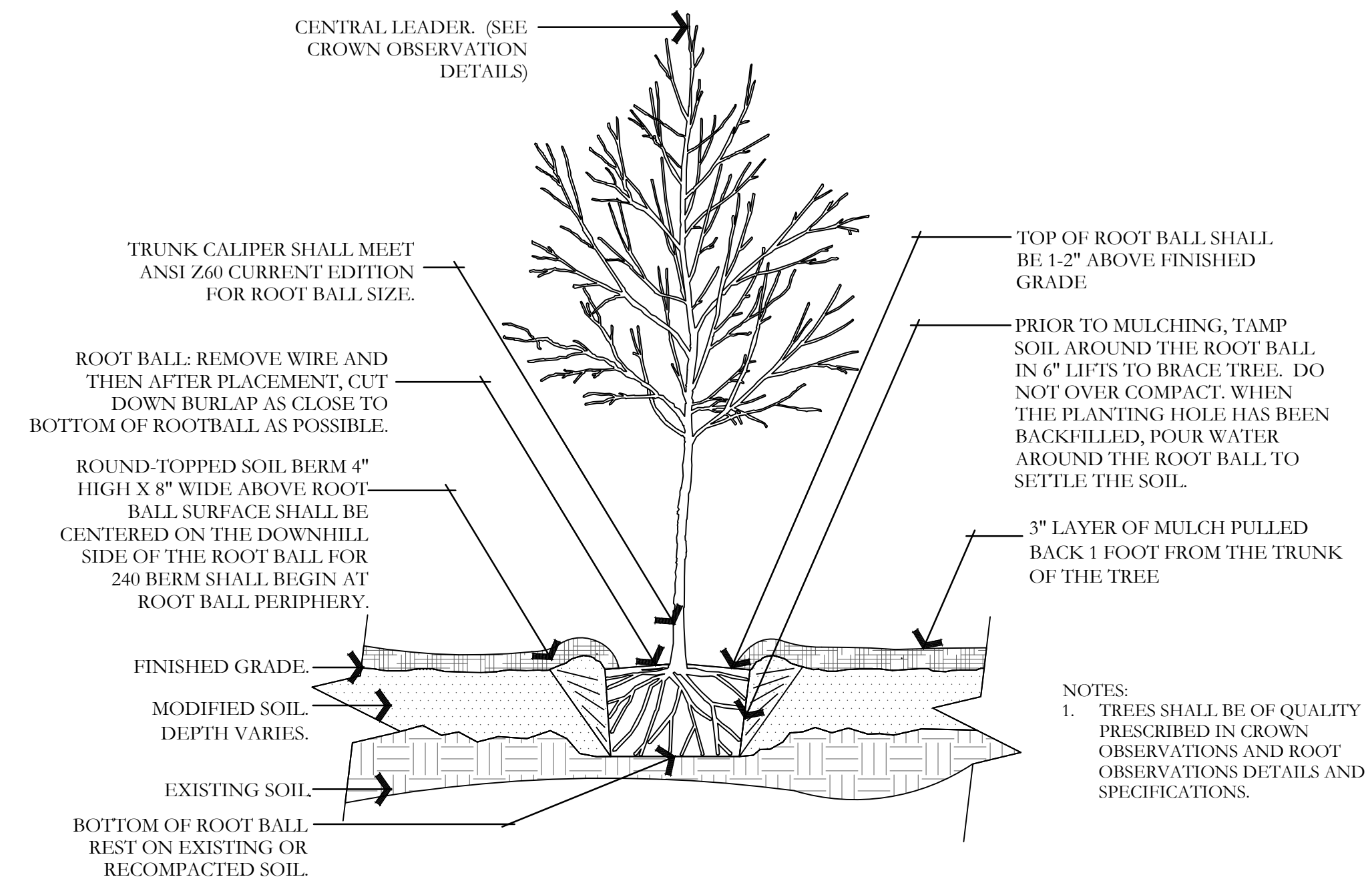
PKJ DESIGN GROUP



B TREE ON SLOPE 5% (20:1) TO 50% (2:1)

NOT TO SCALE

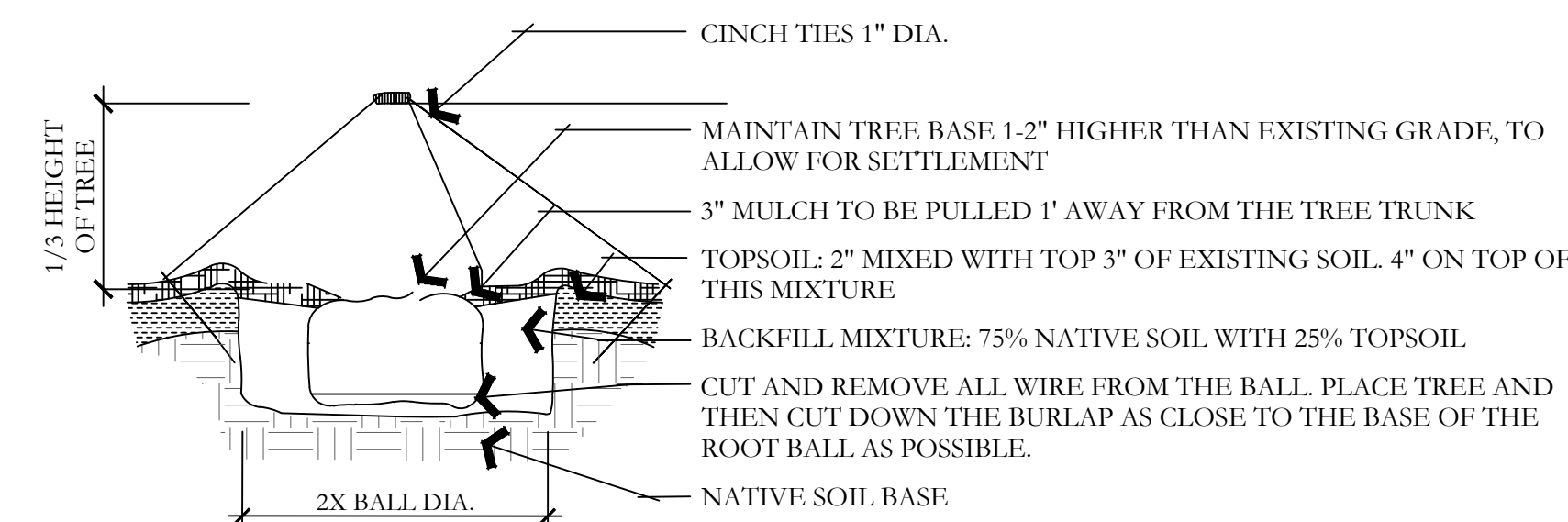
PKJ DESIGN GROUP



C TREE W/ BERM (EXISTING SOIL MODIFIED)

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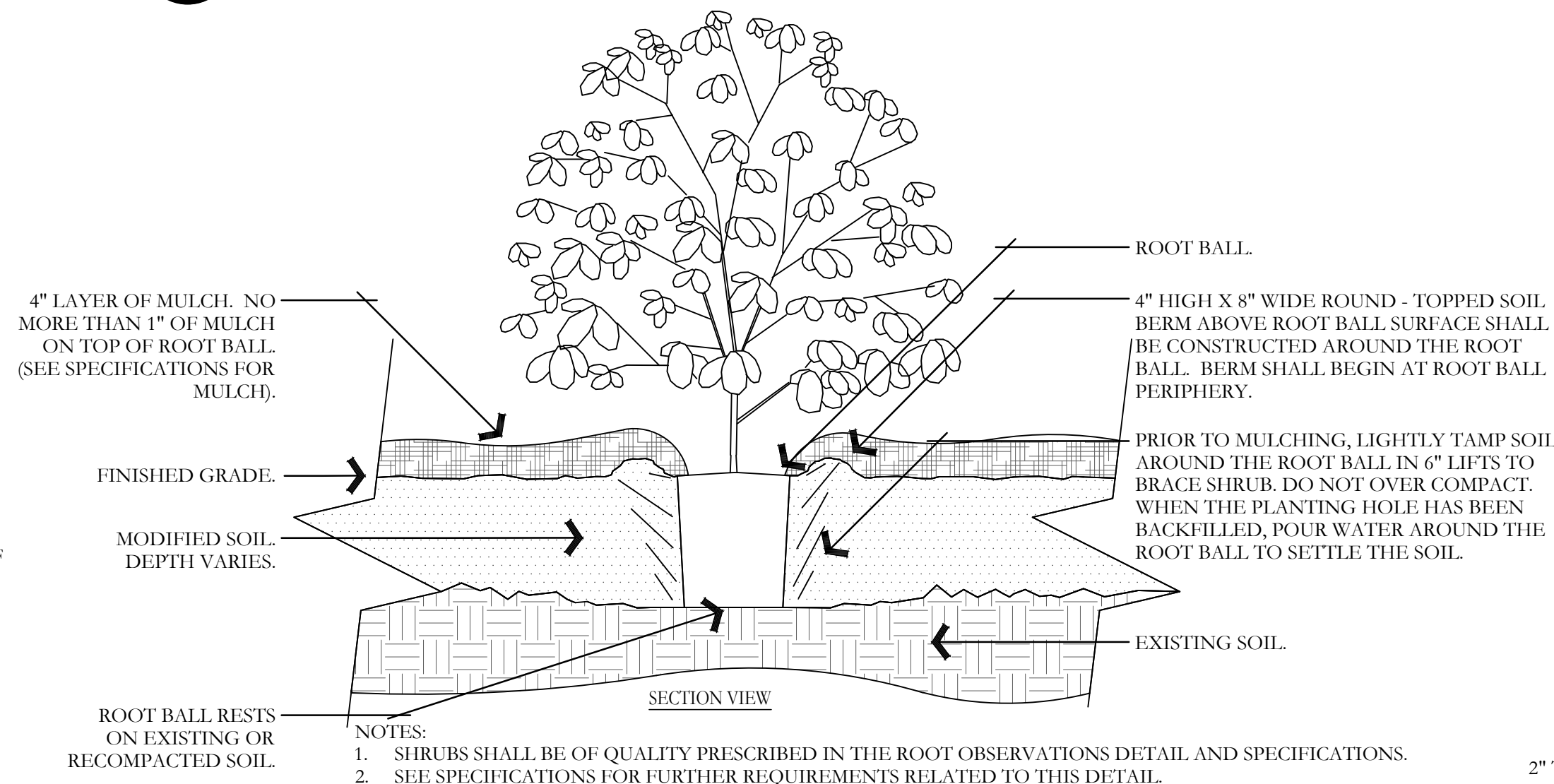
PKJ DESIGN GROUP



D EVERGREEN TREE PLANTING

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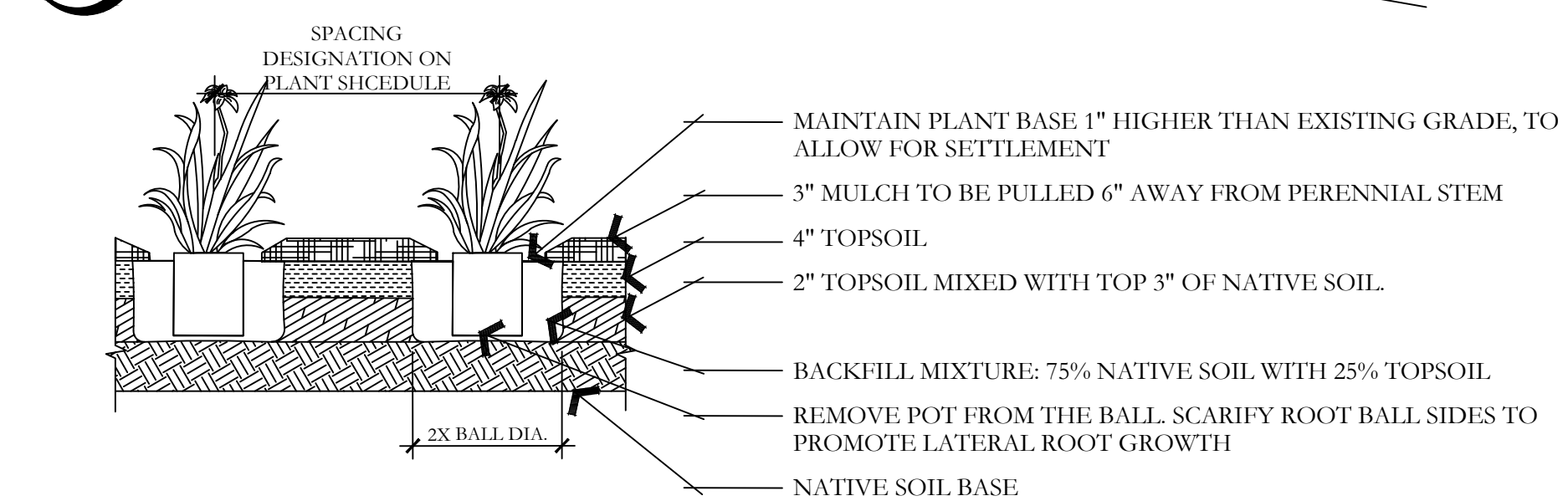
PKJ DESIGN GROUP



E SHRUB - MODIFIED SOIL

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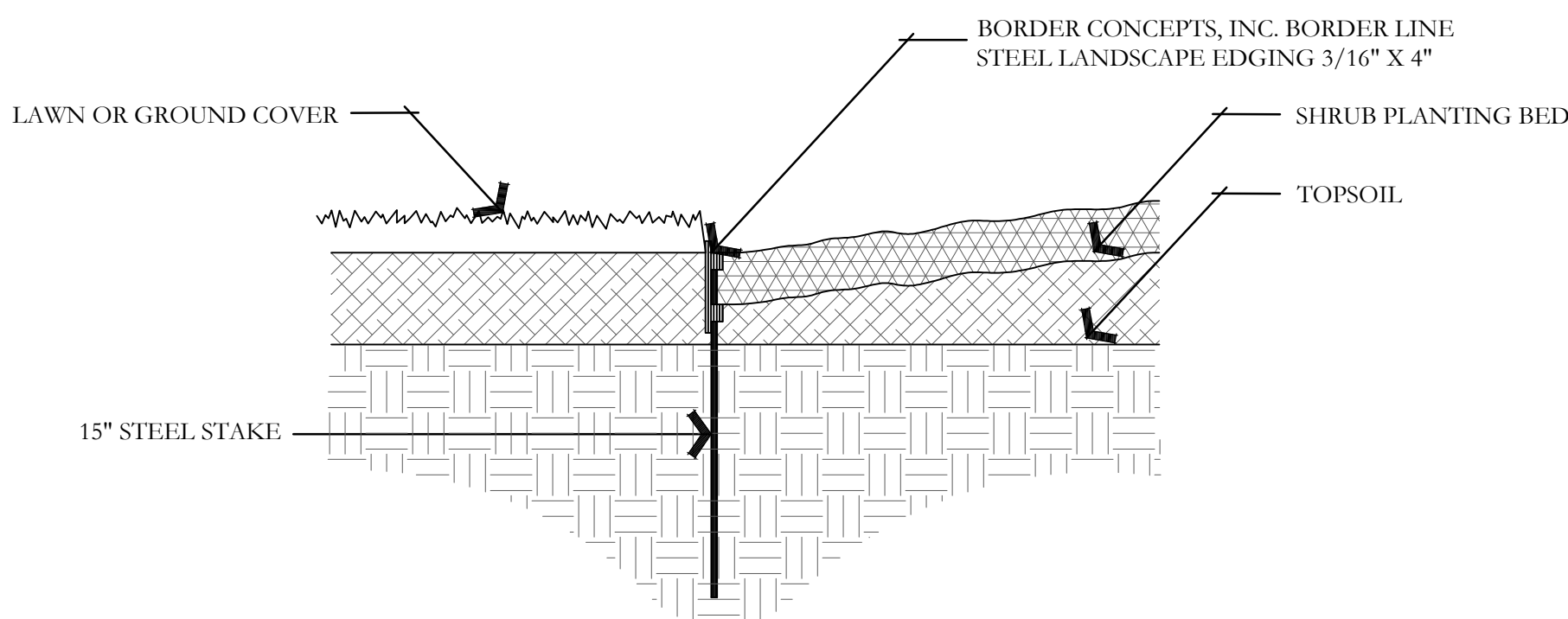
PKJ DESIGN GROUP



F PERENNIAL PLANTING

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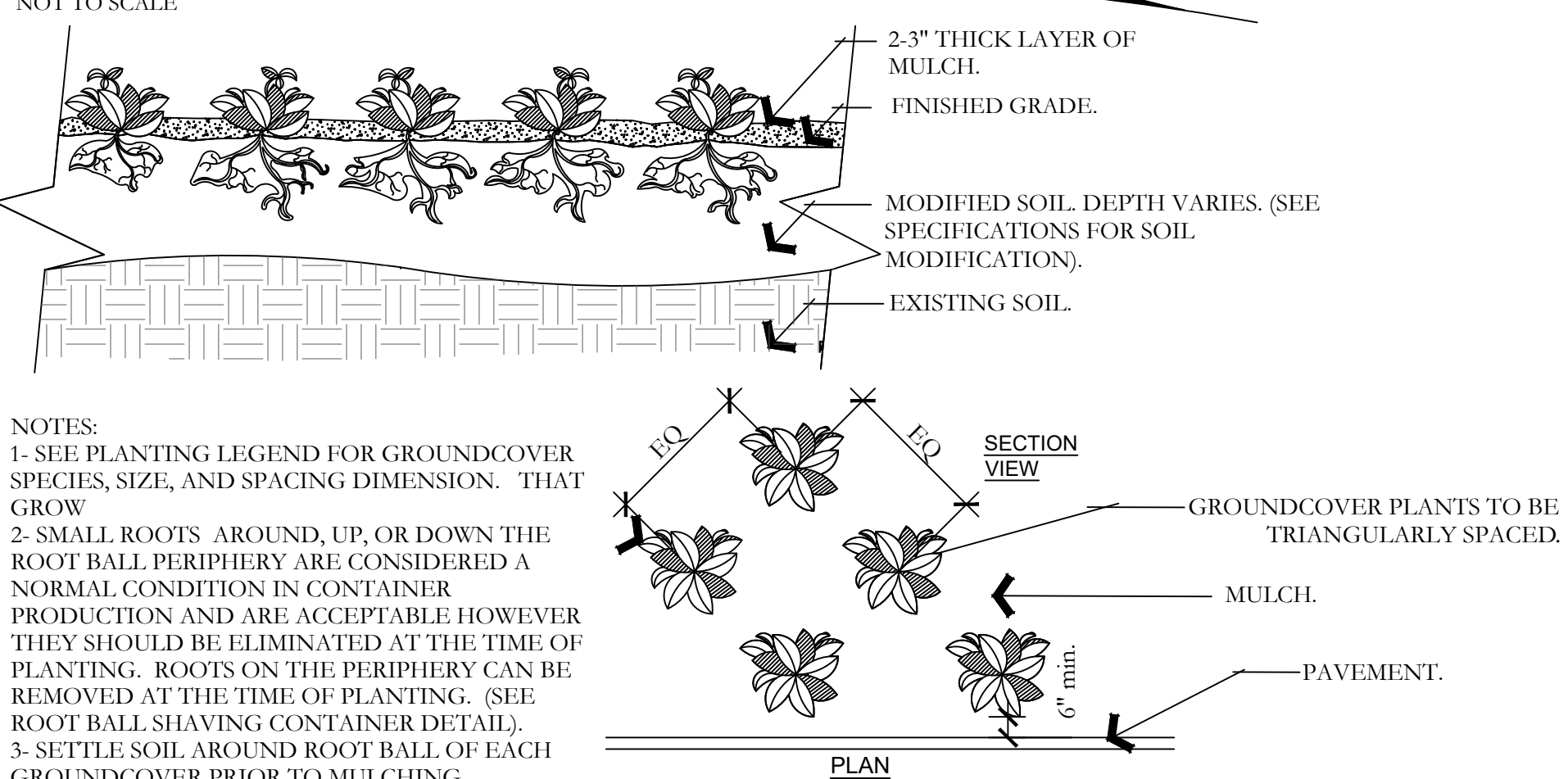
PKJ DESIGN GROUP



G METAL EDGING DETAIL

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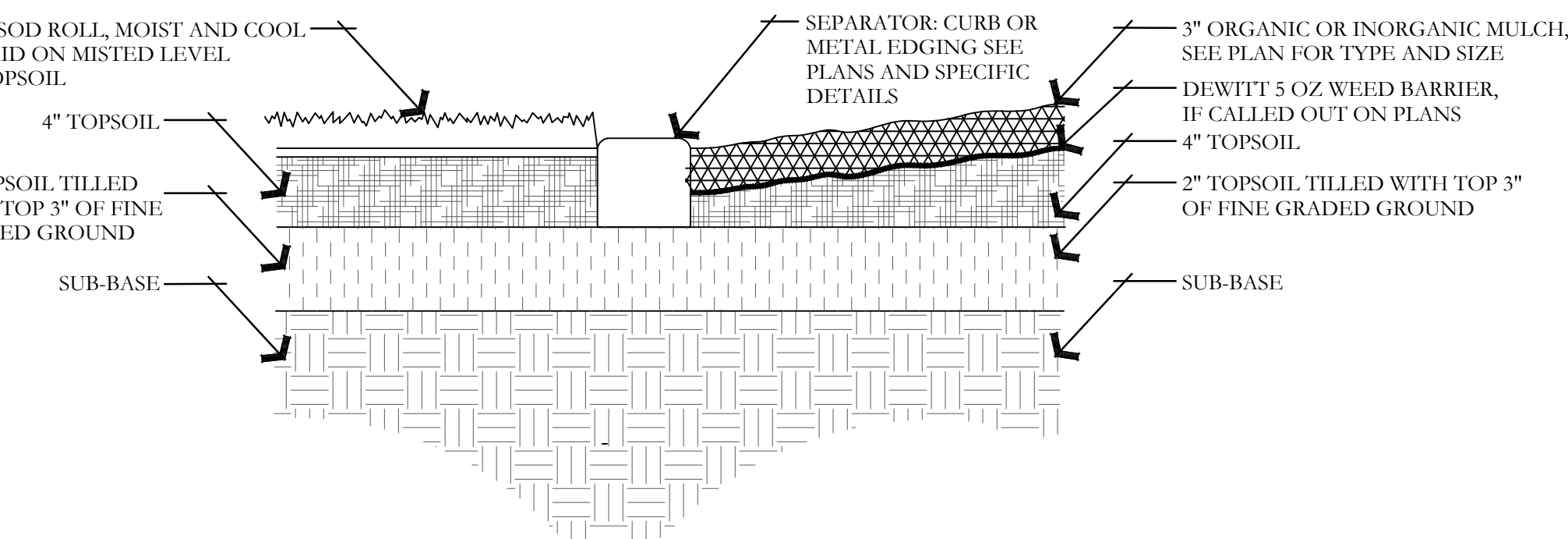
PKJ DESIGN GROUP



H PERENNIAL/GROUND COVER PLANTING

NOT TO SCALE

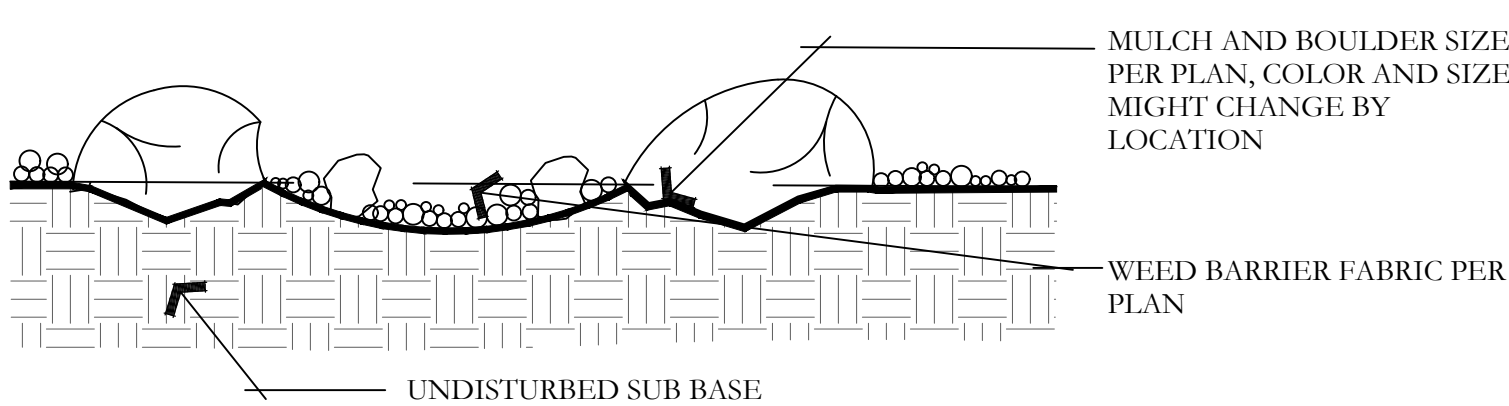
PKJ DESIGN GROUP



I SOD LAYING/MULCH DETAIL

NOT TO SCALE

PKJ DESIGN GROUP



J BOULDER AND DRY STREAM BED DETAIL

NOT TO SCALE

PKJ DESIGN GROUP

ISSUE DATE			PROJECT NUMBER			PLAN INFORMATION			PROJECT INFORMATION			DEVELOPER / PROPERTY OWNER / CLIENT			LANDSCAPE ARCHITECT / PLANNER			LICENSE STAMP			PM:		
12-17-2020			UT18016									EDGE HOMES 13702 S 200 W B12 DRAPER, UT 84020 (801) 494-0150			PKJ DESIGN GROUP Landscape Architecture • Planning & Visualization 3450 N. TRIUMPH BLVD, SUITE 102 LEHI, UTAH 84043 (801) 960-2698 www.pkjdesigngroup.com						JTA		
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LAKEFRONT: PH 1G

VINEYARD, UTAH

IRRIGATION PLAN SPECIFICATIONS

IRRIGATION SPECIFICATIONS

PART 1 - GENERAL

1.1 SUMMARY

Work to be done includes all labor, materials, equipment and services required to complete the Project irrigation system as indicated on the Construction Drawings, and as specified herein. Includes but is not limited to: Furnishing and installing underground and above ground sprinkler system complete with any accessories necessary for proper function and operation of the system. All plant material on the Project shall be irrigated. Remove and dispose of any existing sprinkler system components which are disturbed during the construction process and are not to be saved. Restoration of any altered or damaged existing landscape to original state and condition.

1.2 SYSTEM DESCRIPTION

A.Design of Irrigation Components: Locations of irrigation components on Construction Drawings may be approximate. Piping, sleeving and/or other components shown on Construction drawings may be shown schematically for graphic clarity and demonstration of component groupings and separations. All irrigation components shall be placed in landscaped areas, with the exception of pipe and wire in sleeving under landscapes. Actual routing of pipe, wire or other components may be altered due to site conditions not accounted for in the design process.

B.Construction requirements: Actual placement may vary as required to achieve a minimum of 100% coverage without overspray onto landscape, buildings or other features.

C.Layout of Irrigation Components: During layout and staking, consult with Owner Approved Representative (hereafter referred to as OAR) to verify proper placement of irrigation components, and to provide Contractor recommendations for changes where revisions may be advisable. Small or minor adjustments to system layout are permissible to avoid existing field obstructions such as utility boxes or street light poles. Contractor shall place remote control valves in groups as practical to economize on quantity of manifold isolation valves. Quick coupler valves shall be placed with manifold groups and protected by manifold isolation valves. Quick coupler valves are shown on Construction Documents in approximate locations.

1.3 DEFINITIONS

A.Water Supply: Secondary water piping and components, furnished and installed by others to provide irrigation water to this Project, including but not limited to filter, saddles, nipples, spools, shut off valves, corporation stop valves, water meters, pressure regulation valves, and piping upstream of (or prior to) the Point of Connection.

B.Point of Connection: Location where the Contractor shall tie into the water supply. May require filter, saddle, nipples, spools, isolation valves or Stop and Waste valve for landscape irrigation needs and use.

C.Main Line Piping: Pressurized piping downstream of the Point of Connection to provide water to remote control valves and quick couplers. Normally under constant pressure.

D. Lateral Line Piping: Circuit piping downstream of remote control valves to provide water to sprinkler heads, drip systems or bubblers.

1.4 REFERENCES

A.The following standards will apply to the work of this Section:

- a. ASTM -American Society for Testing and Materials
- b. IA - The Irrigation Association: Main BMP Document, Landscape Irrigation Scheduling and Water Management Document.

1.5 SUBMITTALS

A.At least thirty (30) days prior to ordering of any materials, the Contractor shall provide manufacturer catalog cut sheet and current printed specifications for each element or component of the irrigation system. Submittals shall be in three ring binders or other similar bound form. Provide five copies of submittals to OAR for distribution. Place cover or index sheet indicating order in submittal document. No material shall be ordered, delivered or any work proceeded in the field until the required submittals have been reviewed in its entirety and stamped approved. Delivered material shall match the approved samples.

B.Operation and Maintenance Manual:

- a. At least thirty (30) days prior to final inspection, the Contractor shall provide Operation and Maintenance manual to OAR, containing:
 - i. Manufacturer catalog cut sheet and current printed specifications for each element or component of the irrigation system.
 - ii. Parts list for each operating element of the system
 - iii.Manufacturer printed literature on operation and maintenance of operating elements of the system.
 - iv)Section listing instructions for overall system operation and maintenance. Include directions for Spring Start-up and Winterization.
- b. Project Record Copy
 - i. Maintain at project site one copy of all project documents clearly marked "Project Record Copy". Mark any deviation in material installation on Construction drawings. Maintain and update drawing at least weekly. Project Record Copy to be available to OAR on demand.
 - ii. Completed Project As-Built Drawings

1. Prior to final inspection, prepare and submit to OAR accurate as-built drawings
2. Show detail and dimension changes made during installation. Show significant details and dimensions that were not shown in original Contract Documents.
3. Field dimension locations of sleeving, points of connection, main line piping, wiring runs not contained in main line pipe trenches, valves and valve boxes, quick coupler valves.
4. Dimensions are to be taken from permanent construction surfaces, features, or finished edges located at or above finished grade.
5. Controller Map: upon completion of system, place in each controller a color coded copy of the area that controller services: indicating zone number, type of plant material and location on project that zone services. Laminiate map with heat shrink clear plastic.

1.6 QUALITY ASSURANCE

- A.Acceptance: Do not install work in this section prior to acceptance by OAR.
- B.Regulatory Requirements: All work and materials shall be according to any and all rules, regulations or codes, whether they are State or Local laws and ordinances. Contract documents, drawings or specifications may not be construed or interpreted to permit work or materials not conforming to the above codes.
- C.Adequate Water Supply: Water supply to this Project exists, installed by others. Connections to these supply lines shall be by this Contractor. Verify that proper connection is available to supply line and is of adequate size. Verify that secondary connection components may be installed if necessary. Perform static pressure test prior to commencement of work. Notify OAR in writing of problems encountered prior to proceeding.

D. Workmanship and Materials:

- a. It is the intent of this specification that all material herein specified and shown on the construction documents shall be of the highest quality available and meeting the requirements specified.
 - b. All work shall be performed in accordance with the best standards of practice relating to the trade.
- E.Contractors Qualifications:
- i. Contractor shall provide document or resume including at least the following items:
 - i. That Contractor has been installing sprinklers on commercial projects for five previous consecutive years.
 - ii. Contractor is licensed to perform Landscape and Irrigation construction in the State of this Project.
 - iii.Contractor is bondable for the work to be performed.
 - iv)References of five projects of similar size and scope completed within the last five years. Three of the projects listed shall be local.
 - v. Listing of suppliers where materials will be obtained for use on this Project.
 - vi.)Project site Foreman or Supervisor has at least five consecutive years of commercial irrigation installation experience.

This person shall be a current Certified Irrigation Contractor in good standing as set forth by the Irrigation Association. This person shall be on Project site at least 75% of each working day.

vi. Evidence that Contractor currently employs workers in sufficient quantities to complete Project within time limits that are established by the Contract.

viii. All General laborers or workers on the Project shall be previously trained and familiar with sprinkler installation and have a minimum of one-year experience. Those workers performing tasks related to PVC pipe shall have certificates designated below.

1.7 DELIVERY-STORAGE-HANDLING

A.During delivery, installation and storage of materials for Project, all materials shall be protected from contamination, damage, vandalism, and prolonged exposure to sunlight. All material stored at Project site shall be neatly organized in a compact arrangement and storage shall not disrupt Project Owner or other trades on Project site. All material to be installed shall be handled by Contractor with care to avoid breakage or damage. Damaged materials attributed to Contractor shall be replaced with new at Contractor's expense.

1.8 SEQUENCING

A.Perform site survey, research utility records, contact utility location services. The Contractor shall familiarize himself with all hazards and utilities prior to work commencement. Install sleeving prior to installation of concrete, paving or other permanent site elements. Irrigation system Point of Connection components, backflow prevention and pressure regulation devices shall be installed and operational prior to all downstream components. All main lines shall be thoroughly flushed of all debris prior to installation of any sprinkler heads.

1.9 WARRANTY

A.Contractor shall provide one year Warranty. Warranty shall cover all materials, workmanship and labor. Warranty shall include filling and/or repairing depressions or replacing turf or other plantings due to settlement of irrigation trenches or irrigation system elements. Valve boxes, sprinklers or other components settled from original finish grade shall be restored to proper grade. Irrigation system shall have been adjusted to provide proper, adequate coverage of irrigated areas.

1.10 OWNER'S INSTRUCTION

A.After system is installed, inspected, and approved, instruct Owner's Representatives in complete operation and maintenance procedures. Coordinate instruction with references to previously submitted Operation and Maintenance Manual.

1.11 MAINTENANCE:

- A.Furnish the following items to Owner's Representative:
- a. Two quick coupler keys with hose swivel.
 - b. One of each type or size of quick coupler valve and remote control valve. Five percent of total quantities used of each sprinkler and sprinkler nozzle.
- B.Provide the following services:
- a. Winterize entire irrigation system installed under this contract. Winterize by "blow-out" method using compressed air. Compressor shall be capable of minimum of 175 CFM. This operation shall occur at the end of first growing season after need for plant irrigation but prior to freezing. Compressor shall be capable of evacuating system of all water pressure regulation devices. Compressor shall be regulated to not more than 60 PSI. Start up system the following spring after danger of freezing has passed. Contractor shall train Owner's Representative in proper start-up and winterization procedure.

PART 2 - PRODUCTS

2.1 GENERAL NOTES

A.Contractor shall provide materials to be used on this Project. Contractor shall not remove any material purchased for this Project from the Project Site, nor mix Project materials with other Contractor owned materials. Owner retains right to purchase and provide project material.

2.2 POINT OF CONNECTION

A.The Contractor shall connect onto existing irrigation or water main line as needed for Point(s) of Connection. Contractor shall install new main line as indicated.

2.3 CONNECTION ASSEMBLY

A.Secondary water shall be used on this Project. Install filter and RPZ as needed.

2.4 CONTROL SYSTEM

- A.Power supply to the irrigation controller shall be provided for by this Contract.
- B.Controller shall be as specified in the drawings. Controller shall be surge protected.
- a. Installation of wall-mount controllers: Irrigation controller shall be responsible for this task. Power configuration for wall-mount controllers shall be 120 VAC unless otherwise noted.
 - b. Locate Controller(s) in general location shown on Construction drawings. Coordinate power supply and breaker allocation with electrical contractor. Contractor shall be responsible for all power connections to Controllers, whether they are wall mount or pedestal mount. Contractor shall coordinate with electrical or other Project trades as needed to facilitate installation of power to controllers.

C.Wires connecting the remote control valves to the irrigation controller are single conductors, type PE. Wire construction shall incorporate a solid copper conductor and polyethylene (PE) insulation with a minimum thickness of 0.045 inches. The wires shall be UL listed for direct burial in irrigation systems and be rated at a minimum of 30 VAC. Page Electric Co., LP specification number P7079D.

- a. A minimum of 24" of additional wire shall be left at each valve, each splice box and at each controller.
 - b. Common wire shall be white in color, 12 gauge. Control wire shall be red in color, 14 gauge. Spare wire shall be looped within each valve box of the grouping it is to service.
- D. RCV wire splicing connectors shall be 3M brand DBY or DBR. Wire splicing between controller and valves shall be avoided if at all possible. Any wire splices shall be contained within a valve box. Splices within a valve box that contains no control valves shall be stamped "WIRE SPLICE" or "WS" on box lid.

2.5 SLEEVING

A.Contractor shall be responsible to protect existing underground utilities and components. Sleeving minimum size shall be 2". Sleeving 2" through 4" in size shall be S/40 PVC solvent weld. Sleeving 6" and larger shall be CI 200 PVC gasketed. Sleeve diameter shall be at least two times the diameter of the pipe within the sleeve. Sleeves shall be extended 6" minimum beyond walk or edge of pavement. Wire or cable shall not be installed in the same sleeve as piping, but shall be installed in separate sleeves. Sleeve ends on sleeve sizes 4" and larger shall be capped with integral corresponding sized PVC slip cap, pressure fit, until used, to prevent contamination. Sleeves shall be installed at appropriate depths for main line pipe or lateral pipe.

2.6 MAIN LINE PIPE

- A.All main line pipe 4" and larger shall be Class 200 gasketed bell end. All main line pipe 3" in size and smaller shall be Schedule 40 PVC solvent weld bell end.
- a. Maximum flows allowed through main line pipe shall be:

3/4"	8 GPM
1"	12 GPM
1-1/2"	30 GPM
2"	53 GPM
2-1/2"	75 GPM
3"	110 GPM
4"	180 GPM
 - b. Main line pipe shall be buried with 24" cover

2.7 MAIN LINE FITTINGS

A.All main line fittings 3" and larger shall be gasketed ductile iron material. All ductile iron fittings having change of direction shall have proper concrete thrust block installed. All main line fittings smaller than 3" in size shall be Schedule 80 PVC.

2.8 ISOLATION VALVES

A.Isolation valves 3" and larger shall be Waterloo brand model 2500 cast iron gate valve, resilient wedge, push on type, with 2" square operating nut. Place sleeve of 6" or larger pipe over top of valve vertically and then extend to grade. Place 10" round valve box over sleeve at grade.

B.Isolation valves 2-1/2" and smaller shall be Apollo brand 70 series brass ball valves, contained in a Carson Standard size valve box. Valves shall be installed with S/80 PVC TOE Nipples on both sides of the valve. Valve shall be placed so that the handle is vertical toward the top of the valve box in the "off" position.

2.9 MANIFOLDS

A.Action Manifold fittings shall be used to create unions on both sides of each control valve, allowing the valve to be removed from the box without cutting piping. Valves shall be located in boxes with ample space surrounding them to allow access for maintenance and repair. Where practical, group remote control valves in close proximity, and protect each grouping with a manifold isolation valve as shown in details. Manifold Main Line (or Sub-Main Line) and all manifold components and isolation valves shall be at least as large as the largest diameter lateral served by the respective manifold.

2.10 REMOTE CONTROL VALVES

A.Remote control valves shall be as specified on the drawings. Remote control valves shall be located separately and individually in separate control boxes.

2.11 MANUAL CONTROL VALVES

A.Quick coupler valve shall be attached to the manifold sub-main line using a Larson G178212 swing joint assembly with snap-lock outlet and brass stabilizer elbow. Quick coupler valve shall be placed within a Carson 10" round valve box. Top of quick coupler valve cover shall allow for complete installation of valve box lid, but also allow for insertion and operation of key. Base of quick coupler valve and top of quick coupler swing joint shall be encased in 3/4" gravel. Contractor shall not place quick coupler valves further than 200 feet apart, to allow for spot watering or supplemental irrigation of new plant material. Quick coupler valve at POC shall not be eliminated or relocated.

2.12 LATERAL LINE PIPE

A.All lateral piping shall be Schedule 40 PVC, solvent weld, and bell end. Lateral pipe shall be buried with 12-18" of cover typically. Lateral pipe shall be 1/2", 1", 1 1/2", 1 3/4" or 2" in size as indicated on Construction Drawings.

2.13 LATERAL LINE FITTINGS

A.All lateral line fittings shall be S/40 PVC.

2.14 Spray Sprinklers

A.Spray head sprinklers shall be as specified on the drawings. Nozzles shall be as specified on the drawings.

2.15 VALVE BOXES

A.Carson valve boxes shall be used on this project. Sizes are as directed in these Specifications, detail sheets or plan sheets. Valve boxes shall be centered over the control valve or element they cover. Valve box shall be sized large enough to allow ample room for services access, removal or replacement of valve or element. Valve box shall be set to flush to finish grade of topsoil or harked areas. Contractor shall provide extensions or stack additional valve boxes as necessary to bring valve box pit to proper grade.

2.16 IMPORT BACKFILL

A.All main line pipe, lateral line pipe and other irrigation elements shall be bedded and backfilled with clean soil, free of rocks 1" and larger. Contractor shall furnish and install additional backfill material as necessary due to rocky conditions. Trenches and other elements shall be compacted and/or water settled to eliminate settling. Debris from trenching operations unusable for fill shall be removed from project and disposed of properly by Contractor.

2.17 OTHER PRODUCTS

A.Substitution of equivalent products is subject to the OAR's approval and must be designated as accepted in writing.

B. The Contractor shall provide materials to make the system complete and operational.

PART 3 - EXECUTION

3.1 PREPARATION

A.Contractor shall repair or replace work damaged by irrigation system installation. If damaged work is new, repair or replacement shall be provided by the original installer of that work. The existing landscape of this Project shall remain in place. Contractor shall protect and work around existing plant material. Coordination of trench and valve locations shall be laid out for the OAR prior to any excavation occurring. Plant material deemed damaged by the OAR shall be replaced with new plant material at Contractor's expense. Contractor shall not cut existing tree roots larger than 2" to install this Project. Route pipe, wire and irrigation elements around tree canopy drip line to minimize damage to tree than 24 hours at a time.

3.2 TRENCHING AND BACKFILLING

A.Pulling of pipe shall not be permitted on this project. Over excavate trenches both in width and depth. Ensure base of trench is free of debris free to permit pipe and wire. Grade trench line to ensure flat, even support of pipe. Backfill with clean soil or import material. Contractor shall backfill no less than 2" around entire pipe with clean, rock free fill. Main line piping and fittings shall not be backfilled until OAR has inspected and pipe has passed pressure testing. Perform balance of backfill operation to eliminate any settling.

3.3 SLEEVING

A.Sleeve all piping and wiring that pass under paving or landscape features. Wiring shall be placed in separate sleeving from piping. Sleeves shall be positioned relative to structures or obstructions to allow for pipe or wire within to be removed if necessary.

3.4 GRADES AND DRAINAGE

A.Place irrigation pipe and other elements at uniform grades. Winterization shall be by evacuation with compressed air. Automatic drains shall not be installed on this Project. Manual drains shall only be installed at POC where designated on Construction Drawings.

3.5 PVC PIPE

- A.Install pipe to allow for expansion and contraction as recommended by pipe manufacturer.
- B. Install main line pipes with 18" of cover, lateral line pipes with 12" of cover.
- C. Drawings show diagrammatic or conceptual location of piping. Contractor shall install piping to minimize change of direction, avoid placement under large trees or large shrubs, avoid placement under landscape features.
- D. Plastic pipe shall be cut squarely. Burrs shall be removed. Spigot ends of pipes 3" and larger shall be beveled.
- E. Pipe shall not be glued unless ambient temperature is at least 50 degrees F. Pipe shall not be glued in rainy conditions unless properly tented. All solvent weld joints shall be assembled using IPS 711 glue and P99 primer according to manufacturer's specification, no exceptions. All workers performing glue operations shall provide evidence of certification. Glued main line pipe shall cure a minimum of 24 hours prior to being energized. Lateral lines shall cure a minimum of 2 hours prior to being energized and shall not remain under constant pressure unless cured for 24 hours.
- F. Appropriate thrust blocking shall be performed on fittings 3" and larger. All threaded joints shall be wrapped with Teflon tape or paste unless directed by product manufacturer or sealing by o-ring.

3.6 CONTROLLERS

- A.All grounding for pedestal controllers shall be as directed by controller manufacturer and ASIC guidelines, not to exceed a resistance reading of 5 OHMS.
- B. Locate controllers in protected, inconspicuous places, when possible. Coordinate location of pedestal controllers with Landscape Architect to minimize visibility.
- C. Coordinate location of wall mount controllers with building or electrical Contractor to facilitate electrical service and future maintenance needs. Wall mount shall be securely fastened to surface. If exterior mounted, wall mount controllers shall have electrical service wire and field control wire in separate, appropriate sized weatherproof electrical conduit, PVC pipe shall not be used.

D. Wiring under hardscape surfaces shall be placed continuously in conduit. Contractor shall be responsible to coordinate sleeving needs for conduit or sweeps elbows from exterior to interior of building.

E. Pedestal controllers shall be placed upon VTI-Strong Box Quick Pad as per manufacturer's recommendations. Controllers shall be oriented such that Owner's Representative maintenance personnel may access easily and perform field system tests efficiently.

F. Place Standard valve box at base of controller or nearby to allow for three to five feet of slack field control wire to be placed at each controller. This Contractor shall provide conduit access if needed for Electrical Contractor. Electrical supply and installation, as well as hook-up to controller shall be by this Contractor.

3.7 VALVES

- A.Isolation valves, remote control valves, and quick coupler valves shall be installed according to manufacturer recommendation and Contract Specifications and Details.
- B. Valve boxes shall be set over valves so that all parts of the valve can be reached for service.
- C. Valve box and lid shall be set to be flush with finished grade. Only one remote control valve may be installed in a Carson 1419124 box. Place a minimum of 4" of 3/4" washed gravel beneath valve box for drainage. Bottom of remote control valve shall be a minimum of 2" above gravel.

3.8 SPRINKLER HEADS

- A.No sprinkler shall be located closer than 6" to walls, fences, or buildings.
- B. Heads adjacent to walks, curbs, or paths shall be located at grade and 2" away from hardscape.
- C. Control valves shall be opened. Then fully flush lateral line pipe and swing joints prior to installation of sprinklers.
- D. Spray heads shall be installed and flushed again prior to installation of nozzles.
- E. Contractor shall be responsible for adjustment if necessary due to grade changes during landscape construction.

3.9 FIELD QUALITY CONTROL

- A.Main line pipes shall not be backfilled or accepted until the system has been tested for 2 hours at 100 psi.
- B. Main line pressure test shall include all pipe and components from the point of connection to the upstream side of remote control valves. Test shall include all manifold components under constant pressure. Piping may be tested in sections that can be isolated.
- C. Contractor shall provide pressurized water pump to increase or boost pressure where existing static pressure is less than 100 psi.
- D. Schedule testing with OAR 48 hours in advance for approval.
- E. Leaks or defects shall promptly be repaired or rectified at the Contractors expense and retested until able to pass testing.
- F. Grounding resistance at pedestal controller shall also be tested and shall not exceed 5 OHMS.

3.10 ADJUSTMENT

A. Sprinkler heads shall be adjusted to proper height when installed. Changes in grade or adjustment of head height after installation shall be considered a part of the original contract and at Contractor's expense.

B. Adjust all sprinkler heads for arc, radius, proper trim and distribution to cover all landscaped areas that are to be irrigated.

C. Adjust sprinklers so they do not water buildings, structures, or other hardscape features.

D. Adjust run times of station to meet needs of plant material the station services.

3.11 CLEANING

- A. Contractor shall be responsible for cleanliness of jobsite. Work areas shall be swept cleanly and picked up daily.
 - B. Open trenches or hazards shall be protected with yellow caution tape.
 - C. Contractor is responsible for removal and disposal of offsite trash and debris generated as a result of this Project.
 - D. OAR shall perform periodic as well as a final cleanliness inspection.
 - E. Contractor shall leave Project in at least a "broom clean" condition.
- END OF SECTION

CONTRACTOR TO PLACE TEMPORARY IRRIGATION SYSTEM ON ALL REVEGETATION SEED AREAS FOR THE FIRST YEAR UNTIL SEED IS ESTABLISHED

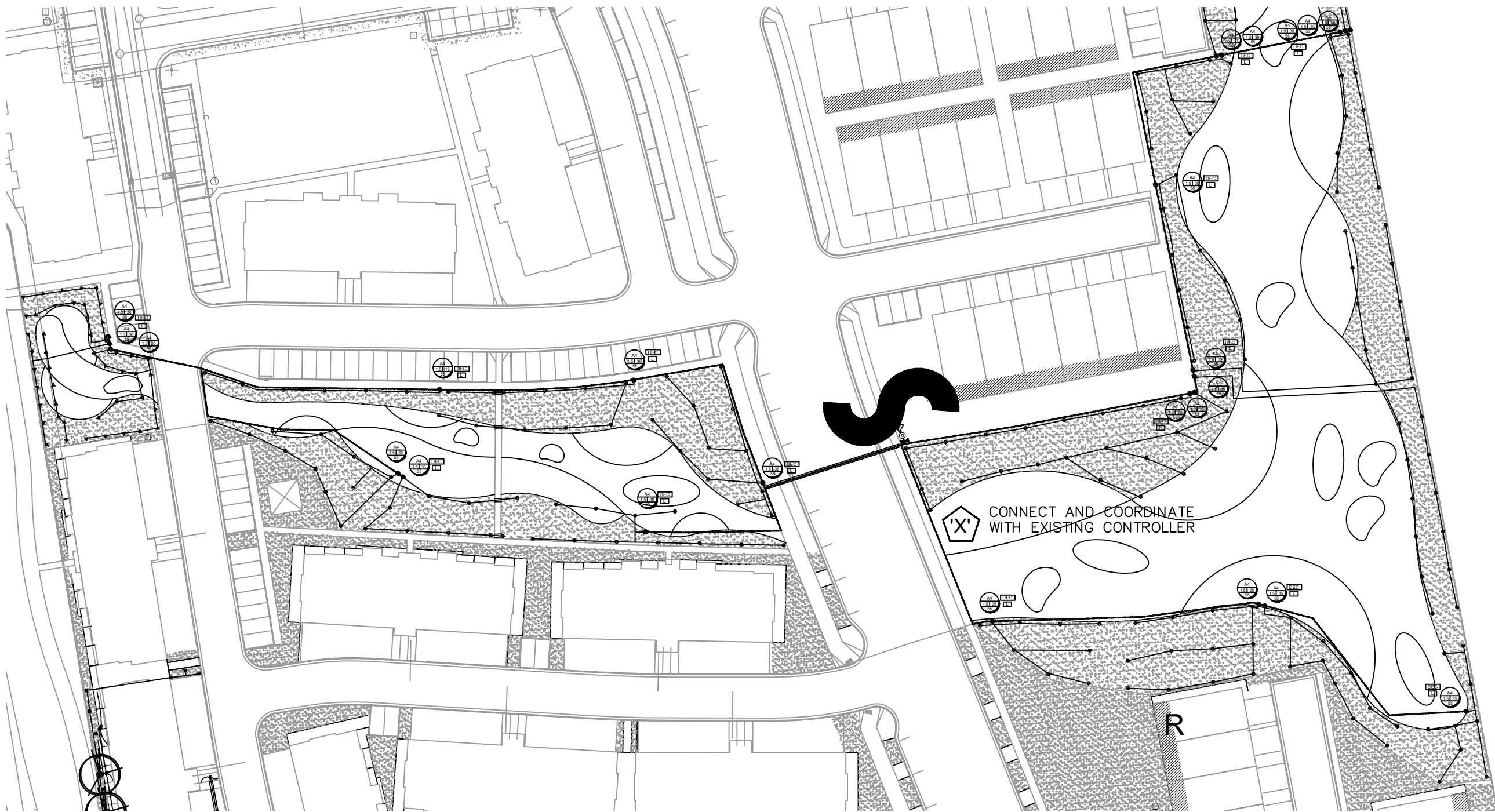
90 Day Establishment Period Irrigation Schedule (April, May, June)									
	Type	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Operating Pressure
Turf		15 min	15 min	15 min	15 min	15 min	15 min	15 min	30 psi
Shrubs	Shrubs	25 min	0	25 min	0	25 min	0	25 min	40 psi

Note: Begin irrigation 4:00 am, only 1 cycle per day.

Regular Irrigation Schedule (see Seasonal Differential Chart)									
	Type	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Operating Pressure
Turf		15 min	15 min	15 min	15 min	15 min	15 min	15 min	30 psi
Shrubs	Shrubs	45 min		45 min		45 min		45 min	40 psi

Note: Begin irrigation 4:00 am, only 1 cycle per day.

Seasonal Differential							
	April	May	June	July	August	Sept	October
Turf	10 min	10 min	15 min	15 min	15 min	10 min	10 min
Shrubs	30 min	30 min	45 min	45 min	45 min	30 min	30 min



2" MAINLINE ROUTING ,CONTROLLER AND P.O.C. LOCATION OVERVIEW

ISSUE DATE			PROJECT NUMBER			PLAN INFORMATION			PROJECT INFORMATION			DEVELOPER / PROPERTY OWNER / CLIENT			LANDSCAPE ARCHITECT / PLANNER			LICENSE STAMP			DRAWING INFO		
12/17/2020			UT18016			811 BLUE STAKES OF UTAH UTILITY NOTIFICATION CENTER, INC. 1-800-662-4111 www.bluestakes.org			LAKEFRONT: PH 1G VINEYARD, UTAH			Developer / Property Owner: EDGE HOMES 13702 S 200 W B12 DRAPER, UT 84020 (801) 494-0150			Client / Engineer: FOCUS ENGINEERING 32 W CENTER ST, MIDVALE, UT 84047 (801) 352-0075			Landscape Architecture / Planning & Visualization 3450 N. TRIUMPH BLVD. SUITE 102 LEHI, UTAH 84043 (801) 960-2698 www.pkjdesigngroup.com			PM: JTA DRAWN: AP CHECKED: KA PLOT DATE: 12/17/2020		
NO. REVISION DATE			1 XXXX XX-XX-XX			GRAPHIC SCALE: 1" = 40'			IR-100			PRELIMINARY PLANS NOT FOR CONSTRUCTION											



	REMOTE CONTROL VALVE: RAINBIRD PESH-NP-PPS-D AUTOMATIC CONTROL VALVE SIZE PER PLAN- USE JUMBO BOX-PURPLE LID DRIP CONTROL ZONE: KTT: RAINBIRD XCT-(PER PLAN)-PRBR-COM MED FLOW (SIZE AS NOTED ON PLAN) MAINLINE: SCHEDULE 40 PVC WITH SCHEDULE 80 FITTINGS, 1.5" DIAMETER 24" MIN. COVER LATERAL LINE: SCHEDULE 40 PVC WITH SCH. 40 FITTINGS. SEE PIPE SIZING CHART DRIP CONNECTION: PROVIDE: DRIP IRRIGATION TO ALL TREES, SHRUBS, AND PERENNIALS IN PLANTER AREAS DRIP LINE: RAINBIRD XISP-09-18-100 OR EQUIVALENT CLASS 200 SLEEVE PER PLAN
NO SYMBOL	WIRE CHASE, SIZE TO BE TWICE THE DIAMETER OF THE WIRE BUNDLE WITHIN. 1.1/4" DIAMETER MINIMUM
NO SYMBOL	14 GAUGE SOLID COPPER SINGLE STRAND CONTROL WIRE. INSTALL PER MANUFACTURER'S SPEC. PROVIDE 2 WIRE LOOP SYSTEM.

	TYPE	PART NUMBER	EMITTER FLOW	EMITTER SPACING	ROW SPACING	ROW SPACING
	XFS DRIPLINE	XFS09-018	9 GPH	18"	18"	18-21 IN.
	TOTAL DRIP ZONE FLOW	20 GPM		TIME TO APPLY 1/4" OF WATER		23
	MAX. LATERAL LENGTH OF TUBING	350 FT		REQUIRED NUMBER OF STAKES		500
	TOTAL LENGTH OF ZONE DRIPLINE	2,000 FT (varies per plan)		NUMBER OF FLUSH POINTS		2
	APPLICATION RATE	64 IN. / HR		SUGGESTED HEADER & FOOTER PIPE SIZE		CLASS 200 1.25"

IRRIGATION NOTES

-
- VALVE ID TAG**
- CONTROLLER NUMBER, VALVE NUMBER
- VALVE SIZE
- GALLONS PER MINUTE
- PSI AT LAST HEAD IN ZONE
- NOTE:**
1. VALVE ID TAGS ARE LOCATED NEAR VALVES IN THE ORDER THE VALVES APPEAR ON THE DRAWING

**CONTRACTOR TO PLACE TEMPORARY
IRRIGATION SYSTEM ON ALL
REVEGETATION SEED AREAS FOR
THE FIRST YEAR UNTIL SEED IS
ESTABLISHED**



PKJ
DESIGN GROUP
Landscape Architecture • Planning & Visualization

3450 N. TRIUMPH BLVD. SUITE 102
LEHI, UTAH 84043 (801) 960-2698
www.pkjdesigngroup.com

PM:	JTA
DRAWN:	AP
CHECKED:	KA
PLOT DATE:	12/17/2020

IRRIGATION PLAN

**PRELIMINARY PLANS NOT
FOR CONSTRUCTION**

IR-101



IRRIGATION LEGEND

SYMBOL	MANUFACTURER-MODEL NUMBER
●	RAINBIRD RD04-S-PRS POP UP SPRAY 5-SERIES @ 30 PSI
●	RAINBIRD RD04-S-PRS POP UP SPRAY 8-U-SERIES @ 30 PSI
●	RAINBIRD RD04-S-PRS POP UP SPRAY 10-U-SERIES @ 30 PSI
●	RAINBIRD RD04-S-PRS POP UP SPRAY 12-U-SERIES @ 30 PSI
●	RAINBIRD RD04-S-PRS POP UP SPRAY 15-U-SERIES @ 30 PSI
●	RAINBIRD RD04-S-PRS POP UP SPRAY 15-SET @ 30 PSI
●	RAINBIRD RD04-S-PRS POP UP SPRAY 15-EST @ 30 PSI
●	RAINBIRD 5000 SERIES MPR NOZZLES @ 55 PSI
●	RAINBIRD 8005 SERIES Q#8-6.6 GPM, H#14-12.6 GPM, F#26-24.3 GPM NOZZLES @ 55 PSI
⊕	IRRIGATION POINT OF CONNECTION AND RPZ BACKFLOW PREVENTION - CONNECT TO WATER SERVICE LINE AND METER. (SEE CIVIL PLANS) CONTRACTOR LOCATE AND VERIFY EXACT LOCATION ON SITE.
⊗	CONTROLLER: RAINBIRD ESP-LXD CONTROLLER WITH LIMR REMOTE KIT, CONTRACTOR TO ADJUST LOCATION WITH OWNER PRIOR TO CONSTRUCTION.
⊗	RAINBIRD WR2-RC WIRELESS RAIN SHUT OFF DEVICE
⊗	ISOLATION BALL VALVE - LINE SIZED INSTALL PER MANUFACTURER'S SPEC.
⊗	MASTER VALVE
⊗	FLOW SENSOR
⊗	QUICK COUPLER: RAINBIRD 44LRC INSTALL PER MANUFACTURER'S SPEC.
⊗	VALVE DECODER (AT ALL VALVE GROUPINGS) INSTALL PER MANUFACTURER'S SPEC. LIGHTNING ARRESTER (AT ALL VALVE GROUPINGS) INSTALL PER MANUFACTURER'S SPEC.
⊗	REMOTE CONTROL VALVE: RAINBIRD PESB-NP-PRS-D AUTOMATIC CONTROL VALVE SIZE PER PLAN- USE JUMBO BOX-PURPLE LID
⊗	DRIP CONTROL ZONE KIT: RAINBIRD XGZ-(PER PLAN)-PRBR-COM MED FLOW (SIZE AS NOTED ON PLAN)
⊗	MAINLINE: SCHEDULE 40 PVC WITH SCHEDULE 80 FITTINGS, 1.5" DIAMETER 24" MIN. COVER
⊗	LATERAL LINE: SCHEDULE 40 PVC WITH SCH. 40 FITTINGS. SEE PIPE SIZING CHART
⊗	DRIP CONNECTION: PROVIDE DRIP IRRIGATION TO ALL TREES, SHRUBS AND PERENNIALS IN PLANTER AREAS
⊗	DRIP LINE: RAINBIRD XFSP-09-18-100 OR EQUIVALENT
⊗	CLASS 200 SLEEVE PER PLAN
NO SYMBOL	WIRE CHASE, SIZE TO BE TWICE THE DIAMETER OF THE WIRE BUNDLE WITHIN. 1 1/4" DIAMETER MINIMUM
NO SYMBOL	14 GAUGE SOLID COPPER SINGLE STRAND CONTROL WIRE. INSTALL PER MANUFACTURER'S SPEC. PROVIDE 2 WIRE LOOP SYSTEM.

DRIP ZONE

TYPE	PART NUMBER	EMITTER FLOW	EMITTER SPACING	ROW SPACING	ROW SPACING
XIS DRIFLINE	XFSP-09-18	9 GPH	18"	18"	18-21 IN.
TOTAL DRIP ZONE FLOW	20 GPM	TIME TO APPLY 1/4" OF WATER	23		
MAX. LATERAL LENGTH OF TUBING	350 FT	REQUIRED NUMBER OF STAKES	500		
TOTAL LENGTH OF ZONE DRIFLINE	2,000 FT (varies per plan)	NUMBER OF FLUSH POINTS	2		
APPLICATION RATE	64 IN / HR	SUGGESTED HEADER & FOOTER PIPE SIZE	CI CLASS 200 1.25"		

*NUMBERS MAY CHANGE DUE TO SIZE OF DRIP ZONE PER PLAN

IRRIGATION NOTES

- BEFORE WORK IS TO COMMENCE, BLUE STAKES/DIG LINE IS TO BE CALLED AND NOTIFIED. IF ANY DAMAGE TO UTILITIES HAPPEN DURING CONSTRUCTION, THE CONTRACTOR SHALL REPAIR IT AT THEIR EXPENSE WITH NO ADDITIONAL COST TO THE OWNER.
 - CONTRACTOR SHALL APPLY AND PAY FOR ALL NECESSARY PERMITS IN ACCORDANCE WITH CITY AND/OR COUNTY CODES AND COMPLY WITH SPECIFICATIONS AND DRAWINGS.
 - INVESTIGATE TO MAKE SURE THAT THE IRRIGATION SYSTEM IS, IN FACT, BEING CONNECTED TO A SECONDARY SYSTEM. IF IT IS NOT CONNECTED TO SECONDARY, CONTACT THE OWNER AND LANDSCAPE ARCHITECT TO COORDINATE A CULINARY SYSTEM AND REQUIRED COMPONENTS. A FUNCTIONING AMIAD FILTER IS TO BE USED AT THE POINT OF CONNECTION.
 - VERIFY THAT THE POINT OF CONNECTION IS IN THE CORRECT LOCATION BEFORE INSTALLATION. ALL CONNECTIONS ON THIS PROJECT ARE TO SECONDARY WATER AND SHOULD BE NOTED AS SUCH; THEREFORE, ALL PARTS MUST MEET WATER STANDARDS THAT PERTAIN TO SECONDARY WATER. USE PURPLE VALVE BOXES FOR SECONDARY WATER SYSTEMS.
 - ON OCCASION AND FOR GRAPHIC PURPOSES ONLY, THE IRRIGATION SYSTEM MIGHT BE SHOWN IN HARDSCAPE AREAS. THIS IRRIGATION IS TO BE PLACED IN LANDSCAPED AREAS ON THE PROPERTY SITE.
 - CONTRACTOR SHALL USE ONLY COMMERCIAL GRADE IRRIGATION PRODUCTS. THIS INCLUDES PIPE TO BE SCHEDULE 40 PVC OR BETTER. NO POLY PIPE IS TO BE USED. FITTINGS UP TO 1-1/2" MUST BE SCHEDULE 40 OR BETTER. FITTINGS LARGER THAN 1-1/2" SHALL BE SCHEDULE 80 OR BETTER. CONTRACTOR IS RESPONSIBLE FOR ENSURING ACCURATE COUNTS AND QUANTITIES OF ALL IRRIGATION MATERIALS FOR BIDDING AND INSTALLATION.
 - MAIN LINES SHALL BE A MINIMUM OF 24" DEEP AND LATERAL LINES A MINIMUM OF 12" DEEP. NO ROCK GREATER THAN 1/2" DIAMETER SHALL BE ALLOWED IN TRENCHES. TRENCHING BACKFILL MATERIAL SHALL BE COMPACTED TO PROPER FINISHED GRADE.
 - NO IRRIGATION MAIN LINE MAY BE LOCATED WITHIN 5 FEET OF ANY STRUCTURE.
 - TO AVOID PIPE DAMAGE, ADJUST LOCATION OF PIPE TO NOT BE DIRECTLY UNDER PLANT MATERIALS. VALVE BOXES ARE PREFERRED TO BE IN PLANTER BEDS INSTEAD OF THE LAWN.
 - PLAN INDICATES 100% OR BETTER HEAD TO HEAD COVERAGE. SHOULD CONTRACTOR FIND DISCREPANCIES DUE TO NECESSARY FIELD ADJUSTMENTS, CONTACT LANDSCAPE ARCHITECT FOR IRRIGATION CORRECTION.
 - DRIP IRRIGATION TO BE INSTALLED PER DETAILS. CONTRACTOR SHALL MAKE NECESSARY ADJUSTMENTS. TUBING SHOULD REST TOWARD OUTER EDGE OF ROOTBALL AND NOT AGAINST TRUNK OF PLANT.
 - A QUICK COUPLER SHALL BE INSTALLED AT POINT OF CONNECTION TO ALLOW BLOW OUT OF SYSTEM BY AIR COMPRESSOR AT END OF EACH SEASON.
 - INSTALL SLEEVES FOR ALL PIPES AND CONDUIT THAT ARE PLACED UNDER PAVEMENT AND SIDEWALKS. SLEEVES SHALL BE 2 SIZES LARGER THAN PIPE BEING PLACED INTERNALLY. WIRE CONDUIT SHALL BE INSTALLED IN CLASS 200 PIPE AT ANY DIRECTIONAL CHANGE THAT OCCURS. A JUNCTION BOX IS TO BE USED.
 - CONDUITS CAN NOT BE SHARED BY WATER AND ELECTRICAL LINES. ALL WIRE TO BE PUT IN PVC CONDUIT. ALL WIRE CONNECTIONS TO BE PLACED IN A VALVE BOX. ALL WIRE CONNECTIONS TO USE WATERPROOF WIRE CONNECTORS WITH AT LEAST 3' OF EXTRA WIRE. PROVIDE PLENTY OF EXTRA WIRE AT EVERY DIRECTIONAL CHANGE. INSULATED 14 GAUGE COPPER TO BE USED FOR ALL CONTROL WIRES AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
 - CONTRACTOR TO INSTALL LIGHTNING ARRESTOR AND GROUNDING RODS ON SITE PER MANUFACTURER'S RECOMMENDATIONS, SEE DETAILS.
 - CONTRACTOR TO SEPARATE SYSTEM (CONTROLLER, VALVES, AND DIFFERENT COLORED WIRES) FROM CITY MAINTAINED PROPERTY AND HOA/OWNER MAINTAINED PROPERTY.
 - DUCT TAPE ALL SLEEVES TO PREVENT SOIL OR OTHER DEBRIS ENTERING PIPE. IDENTIFY ALL SLEEVES BY WOOD OR PVC STAKES AND SPRAY PAINT WITH MARKING PAINT. REMOVE STAKES ONCE IRRIGATION SYSTEM IS COMPLETE.
 - TO PREVENT EROSION AND LOW POINT DRAINAGE, CONTRACTOR SHALL INSTALL CHECK VALVES
 - LOCATE SPRAY HEADS NO CLOSER THAN 6" FROM WALLS, FENCES OR BUILDINGS AND 2" AWAY FROM WALKS, PATHS OR CURBS.
 - PRESSURE TEST MAINLINE FOR LEAKS PRIOR TO BACKFILLING. CONTACT LANDSCAPE ARCHITECT/OWNER AT THIS TIME FOR COMPLIANCE.
 - CONTRACTOR TO CONSULT WITH OWNER ON EXACT LOCATION OF CONTROLLER. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR AND OWNER FOR THE POWER SUPPLY. INSTALL ALL PER MANUFACTURER'S SPECIFICATIONS. CONTRACTOR SHALL INSTALL A RAIN SENSOR WITH THE CONTROLLER UNLESS OTHERWISE DIRECTED BY OWNER OR LANDSCAPE ARCHITECT.
 - LATERAL LINES SHALL BE NO SMALLER THAN 3/4". LANDSCAPE CONTRACTOR TO ENSURE THE FOLLOWING PIPE SIZES DO NOT EXCEED THE SUGGESTED GPM LISTED BELOW:
- | | |
|--------|---------|
| 3/4" | 8 GPM |
| 1" | 12 GPM |
| 1-1/2" | 30 GPM |
| 2" | 53 GPM |
| 2-1/2" | 75 GPM |
| 3" | 110 GPM |
| 4" | 180 GPM |
- VALVE ID TAG
- | | |
|-----|--------------------|
| A1 | CONTROLLER NUMBER |
| 1.0 | VALVE NUMBER |
| 18 | GALLONS PER MINUTE |
| 55 | NOTE |
- NOTE: VALVE ID TAGS ARE LOCATED NEAR VALVES IN THE ORDER THE VALVES APPEAR ON THE DRAWING

CONTRACTOR TO PLACE TEMPORARY IRRIGATION SYSTEM ON ALL REVEGETATION SEED AREAS FOR THE FIRST YEAR UNTIL SEED IS ESTABLISHED

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Diagram illustrating the components and installation details of a lightning protection system:

- Lightning Arrestor:** A rectangular box connected to the ground rod.
- 5/8" X 6' COPPER CLAD GROUND ROD:** A vertical rod connected to the ground.
- Grounding System:** A network of rods and wires connected to a central grounding point, including a large metal box (likely a surge protector or grounding terminal).
- Strip Wire:** A horizontal wire with a 4" section and a 1" section, labeled "STRIP WIRE".
- Tw-Splice Water-Tight Connection:** A detailed view of a connection point where a wire is spliced to a vertical rod, labeled "TW-SPLICE WATER-TIGHT CONNECTION".

1" PVC ELECTRICAL CONDUIT AND SWEEP FOR EARTH GROUND.

8'-0" TO 12'-0"

6 AWG BARE COPPER WIRE.

GROUNDING ROD CLAMP.

5/8 " X 8' - 0" COPPER GROUNDING ROD.

FINISHED GRADE.

PAVEMENT.

24" MIN WIRE DEPTH.

84"

THREE (3) 4" X 8" BRICKS.

NOTES:

- NOTES:
1. ALL GROUNDING REQUIREMENTS FOR CONTROLLERS SHALL CONFORM TO LOCAL ELECTRIC CODES.
 2. GROUNDING ROD SHALL NOT BE LOCATED IN THE SAME TRENCH AS THE IRRIGATION MAINLINES OR LATERAL LINES.
 3. VALVE BOX SHALL BE WRAPPED WITH A MINIMUM 5 MIL. THICK PLASTIC AND SECURED TO THE VALVE BOX USING DUCT TAPE OR ELECTRICAL TAPE.
 4. INSTALL GROUNDING ROD PER THE CONTROLLER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

The diagram illustrates a mechanical testing apparatus. A concrete specimen is positioned on a base of gravel. A vertical load is applied to the top of the specimen. The diagram is labeled with numbers 1 through 7 and a '20 kN' force indicator.

- ① FINISH GRADE/TOP OF MULCH
- ② VALVE BOX WITH COVER:
RAIN BIRD VB-6RND
- ③ PVC SCH 40 TEE
- ④ PVC LATERAL PIPE
- ⑤ FILTERED DRAIN VALVE:
RAIN BIRD 16A-FDV-075
- ⑥ BRICK (1 OF 2)
- ⑦ 6-INCH MINIMUM DEPTH OF
3/4" WASHED GRAVEL

The diagram illustrates the components and installation of a Rain Bird PDS-D system. It shows a cross-section of the system installed in a trench. The components are numbered 1 through 16, corresponding to the legend. The system includes a mainline pipe (11) with a Tee (13) and a Nipple (12) leading to a Valve Box (5) with a cover (4). The Valve Box contains a Remote Control Valve (8) and a Rain Bird PDS-D with NP-HAN (7). The system is connected to a Waterproof Connection Rain Bird Splice-1 (2) and a 30-inch linear length of wire (1). The system is installed in a trench with a 3-inch minimum depth (16) and is covered with a finish grade/top of mulch (6). The system is surrounded by 3/4 inch washed gravel (15). The system is installed in a trench with a 3-inch minimum depth (16) and is covered with a finish grade/top of mulch (6). The system is surrounded by 3/4 inch washed gravel (15).

1	30-INCH LINEAR LENGTH OF WIRE, COILED.	8	PVC SCH 40 ELL.
2	WATERPROOF CONNECTION RAIN BIRD SPLICE-1 (1 OF 2)	9	PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
3	ID TAG: RAIN BIRD VID SERIES	10	BRICK (1 OF 4)
4	REMOTE CONTROL VALVE: RAIN BIRD PESB-PRS-D WITH NP-HAN	11	PVC MAINLINE PIPE
5	VALVE BOX WITH COVER: RAIN BIRD VB-SID	12	SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND SCH 40 ELL.
6	FINISH GRADE/TOP OF MULCH	13	PVC SCH 40 TEE OR ELL.
7	PVC SCH 80 NIPPLE (CLOSE)	14	PVC SCH 40 MALE ADAPTER
		15	PVC LATERAL PIPE
		16	3.0-INCH MINIMUM DEPTH OF 3/4" WASHED GRAVEL

POP-UP ROTOR TO BE SET AT FINISH GRADE. (SEE IRRIGATION LEGEND FOR MAKE AND MODEL).

FINISH GRADE

POP-UP ROTOR TO BE SET AT FINISH GRADE. (SEE IRRIGATION LEGEND FOR MAKE AND MODEL).

SCH. 80 PVC NIPPLE (OPTIONAL).

SWING JOINT. SEE DETAIL.

SCH. 40 PVC TEE OR ELBOW.

PVC LATERAL IRRIGATION PIPE. (SEE IRRIGATION PLANS FOR PIPE SIZE AND TYPE).

- NOTES:
1. ALL THREADED CONNECTION POINTS BETWEEN SCH. 40 PVC AND SCH. 80 PVC FITTING SHALL BE INSTALLED USING TEFLON TAPE.
 2. CONTRACTOR SHALL COMPACT SOIL AROUND ROTOR AND RISER PRIOR TO PLANTING, PLUGGING, SEEDING, OR LAYING OF SOD.

Diagram illustrating the components of a pop up bubbler assembly:

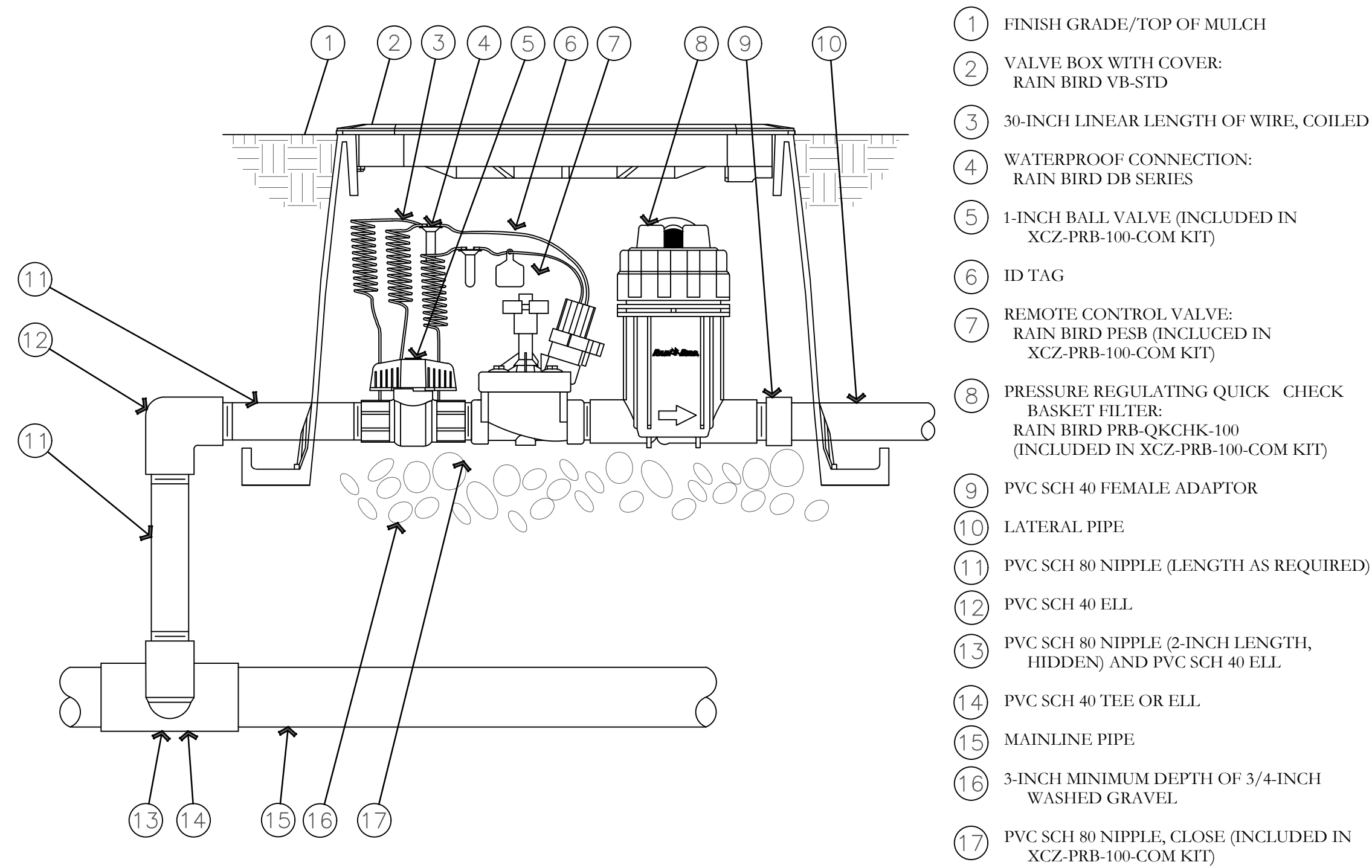
- SPRAY NOZZLE OR BUBBLER. (SEE IRRIGATION LEGEND FOR MAKE AND MODEL).
- TOP OF POP UP SET AT FINISH GRADE.
- POP UP SPRAY HEAD. (SEE IRRIGATION LEGEND FOR MAKE AND MODEL).
- FINISH GRADE.
- SWING JOINT. (SEE DETAIL).
- SCH. 40 PVC TEE OR ELBOW.
- LATERAL IRRIGATION LINE. (SEE IRRIGATION PLANS FOR SIZE AND TYPE).

- NOTE:
1. 6" POP UPS SHALL BE USED IN TURF AREAS.
 2. CONTRACTOR SHALL SETTLE SOIL AROUND THE POP UP AFTER INSTALLATION.
 3. ALL POP UP SPRAY HEADS SHALL HAVE CHECK VALVES.
 4. ALL SCH. 40 PVC TO SCH. 80 PVC CONNECTIONS SHALL BE MADE USING TEFLON TAPE.

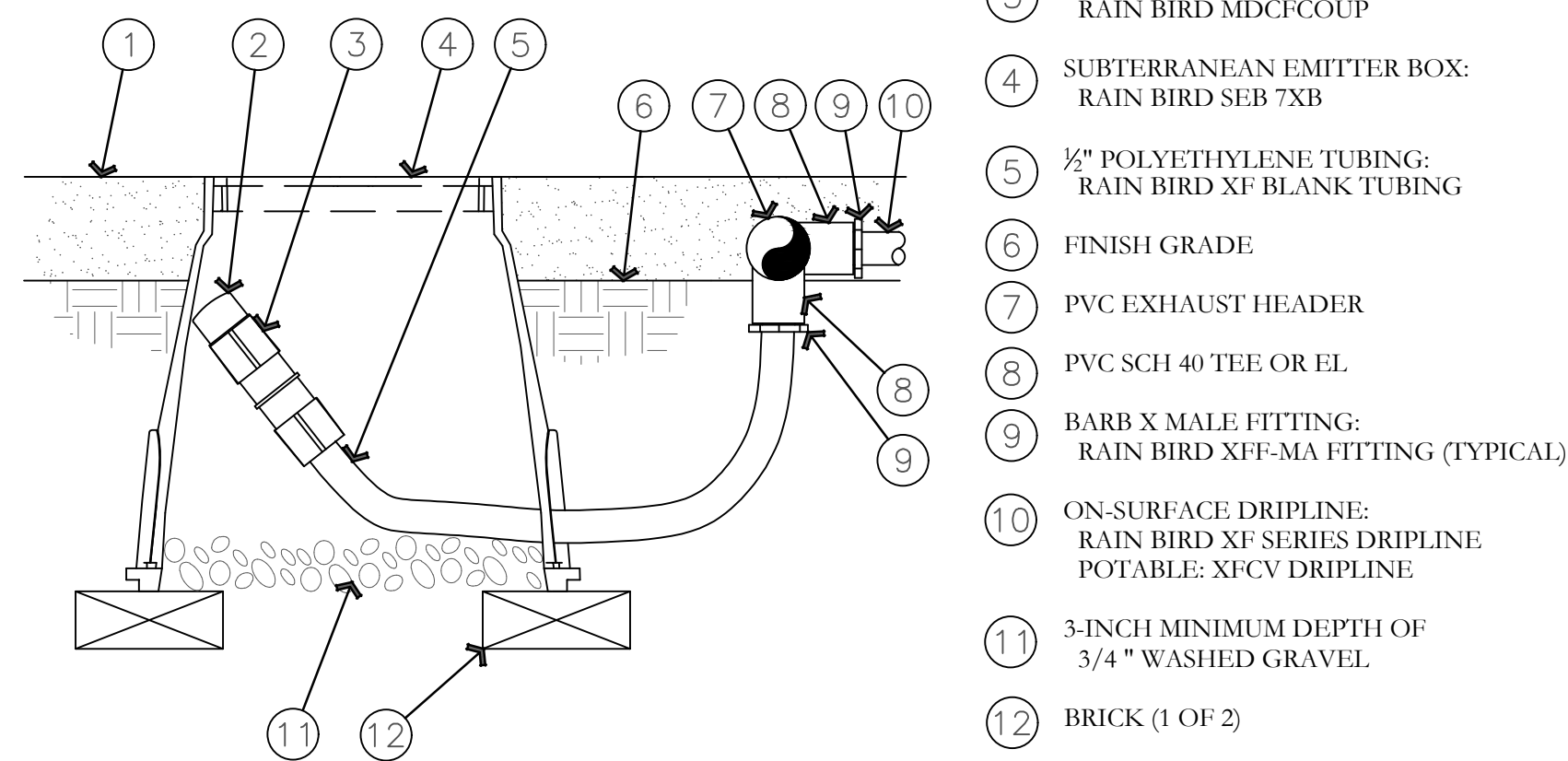


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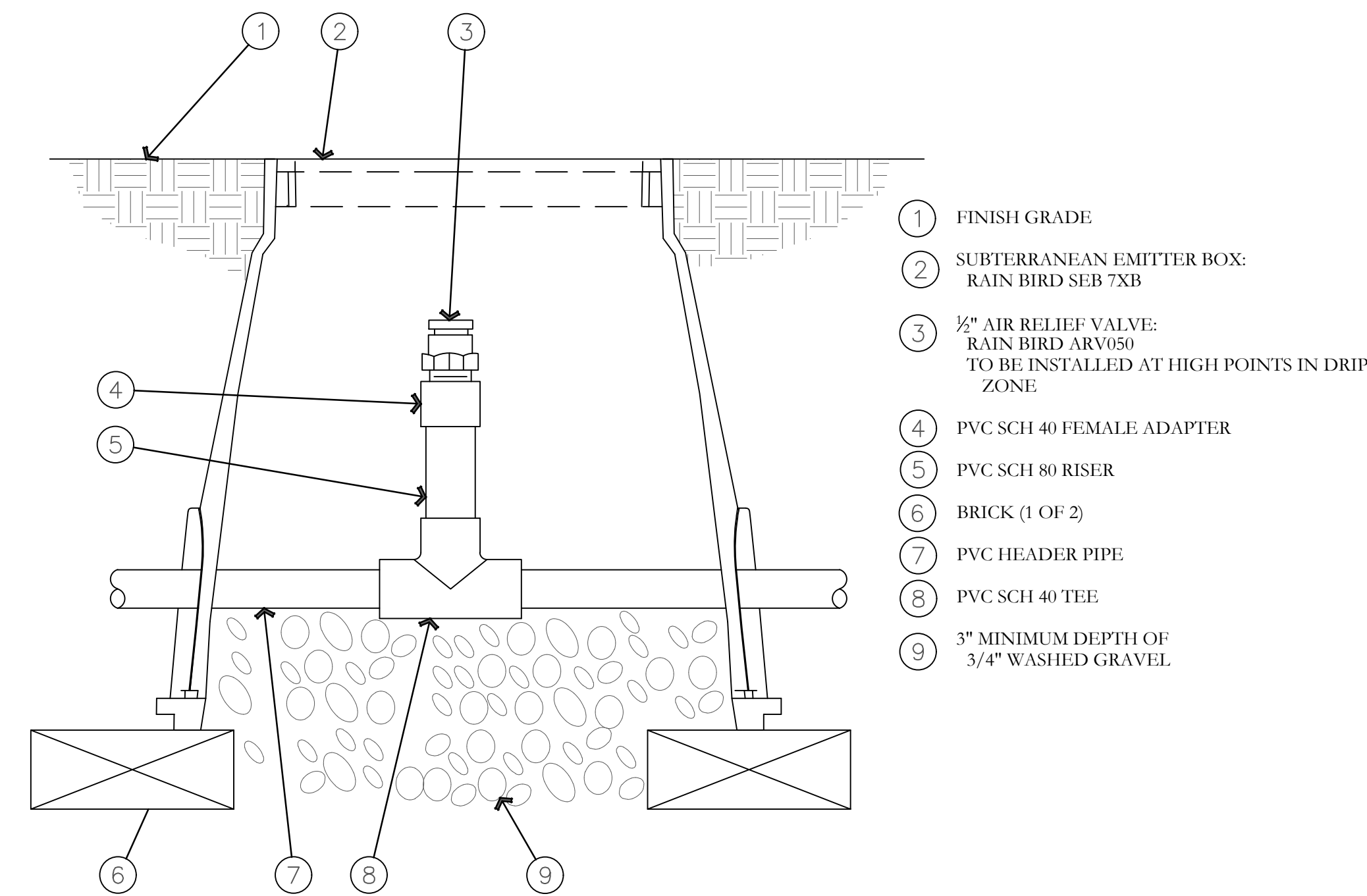


D RIP CONTROL ZONE KIT DETAIL
NOT TO SCALE

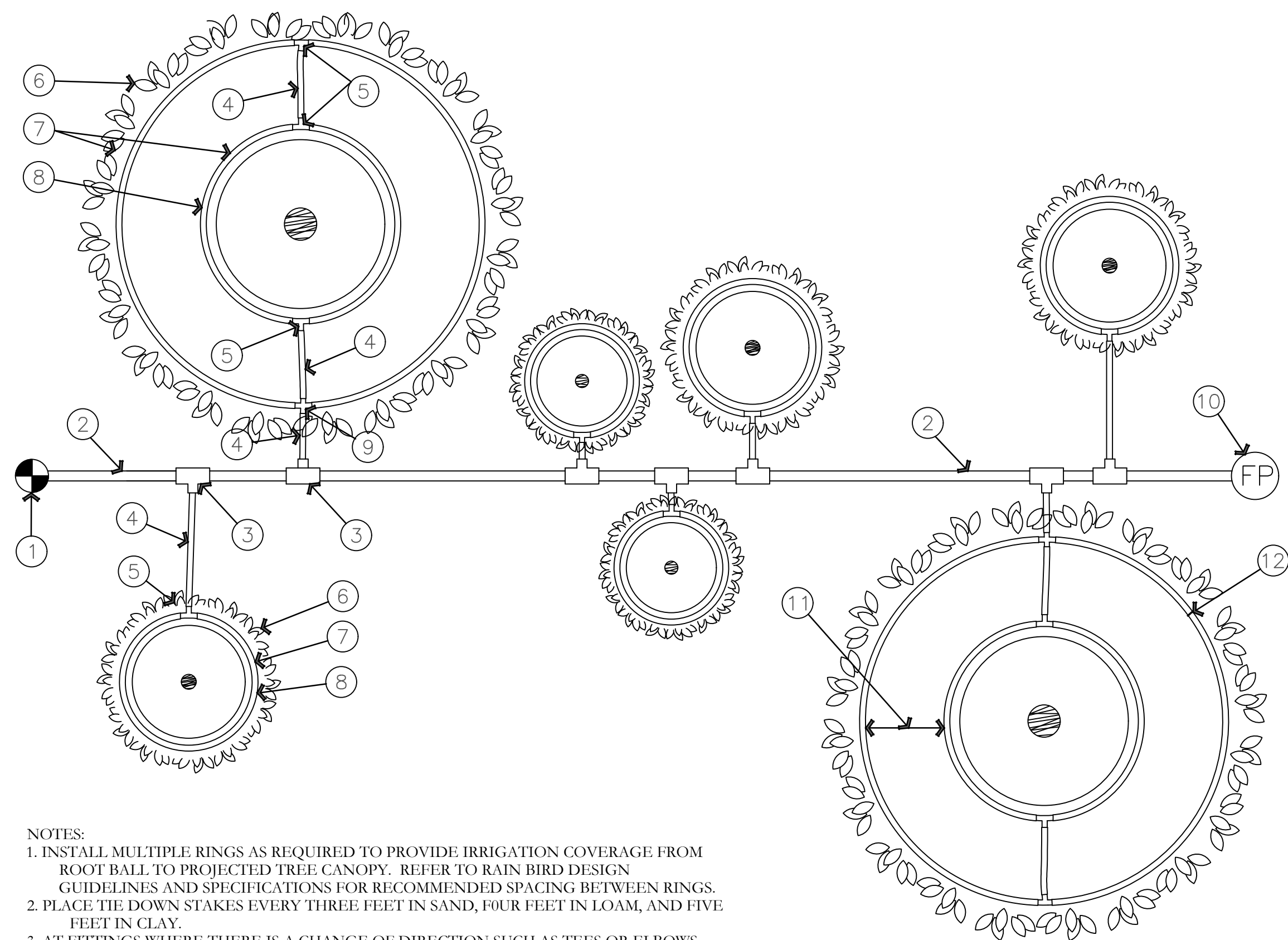


NOTE:
1. ALLOW A MINIMUM OF 6-INCHES OF DRIPLINE TUBING IN VALVE BOX IN ORDER TO DIRECT FLUSHED WATER OUTSIDE VALVE BOX.

R ON-SURFACE DRIPLINE FLUSH POINT DETAIL
NOT TO SCALE



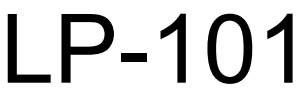
S AIR RELIEF VALVE DETAIL
NOT TO SCALE



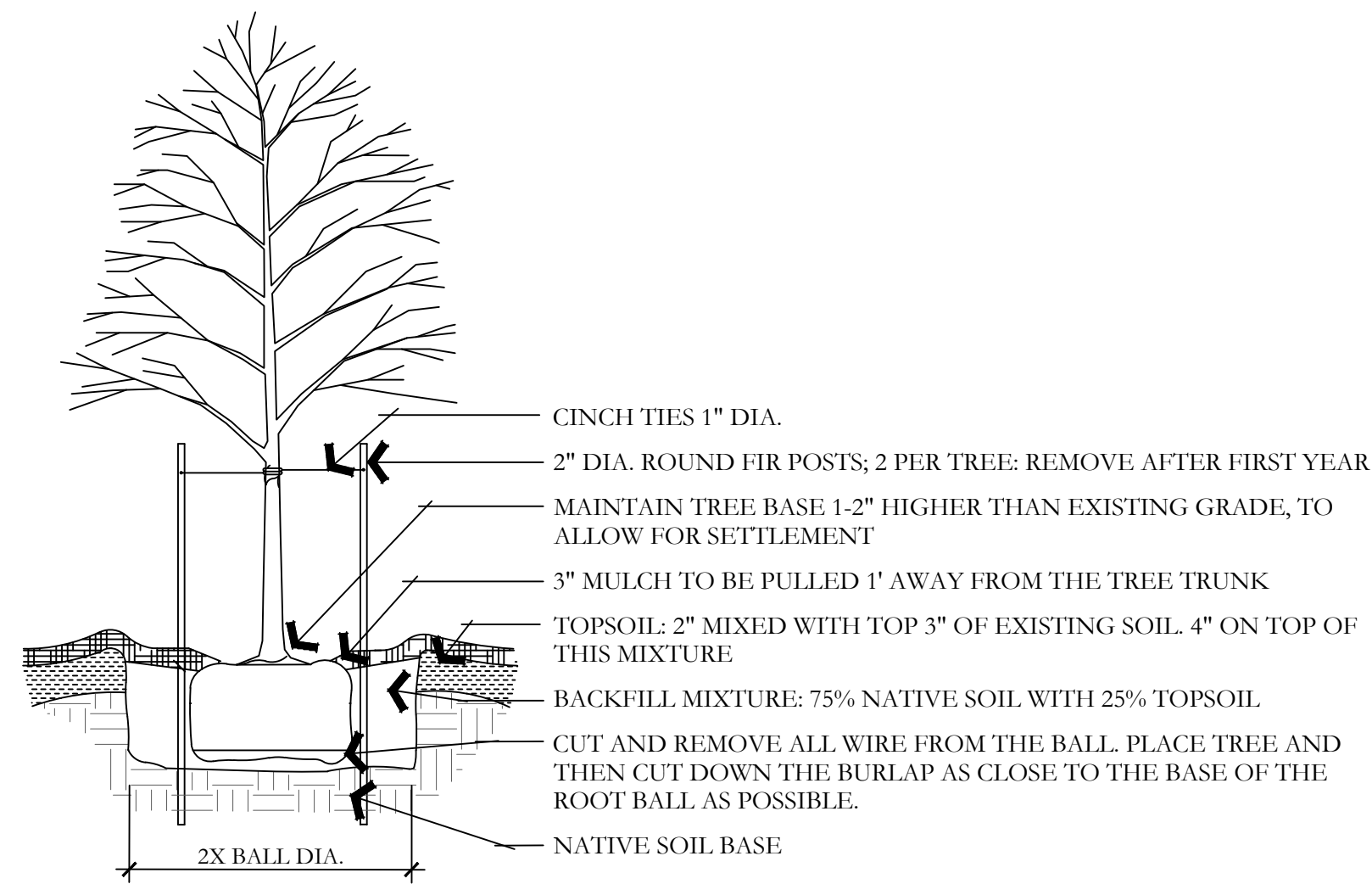
NOTES:
1. INSTALL MULTIPLE RINGS AS REQUIRED TO PROVIDE IRRIGATION COVERAGE FROM ROOT BALL TO PROJECTED TREE CANOPY. REFER TO RAIN BIRD DESIGN GUIDELINES AND SPECIFICATIONS FOR RECOMMENDED SPACING BETWEEN RINGS.
2. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR FEET IN LOAM, AND FIVE FEET IN CLAY.
3. AT FITTINGS WHERE THERE IS A CHANGE OF DIRECTION SUCH AS TEES OR ELBOWS, USE TIE-DOWN STAKES ON EACH LEG OF THE CHANGE OF DIRECTION.

T ON-SURFACE DRIPLINE TREE/SHRUB DETAIL
NOT TO SCALE

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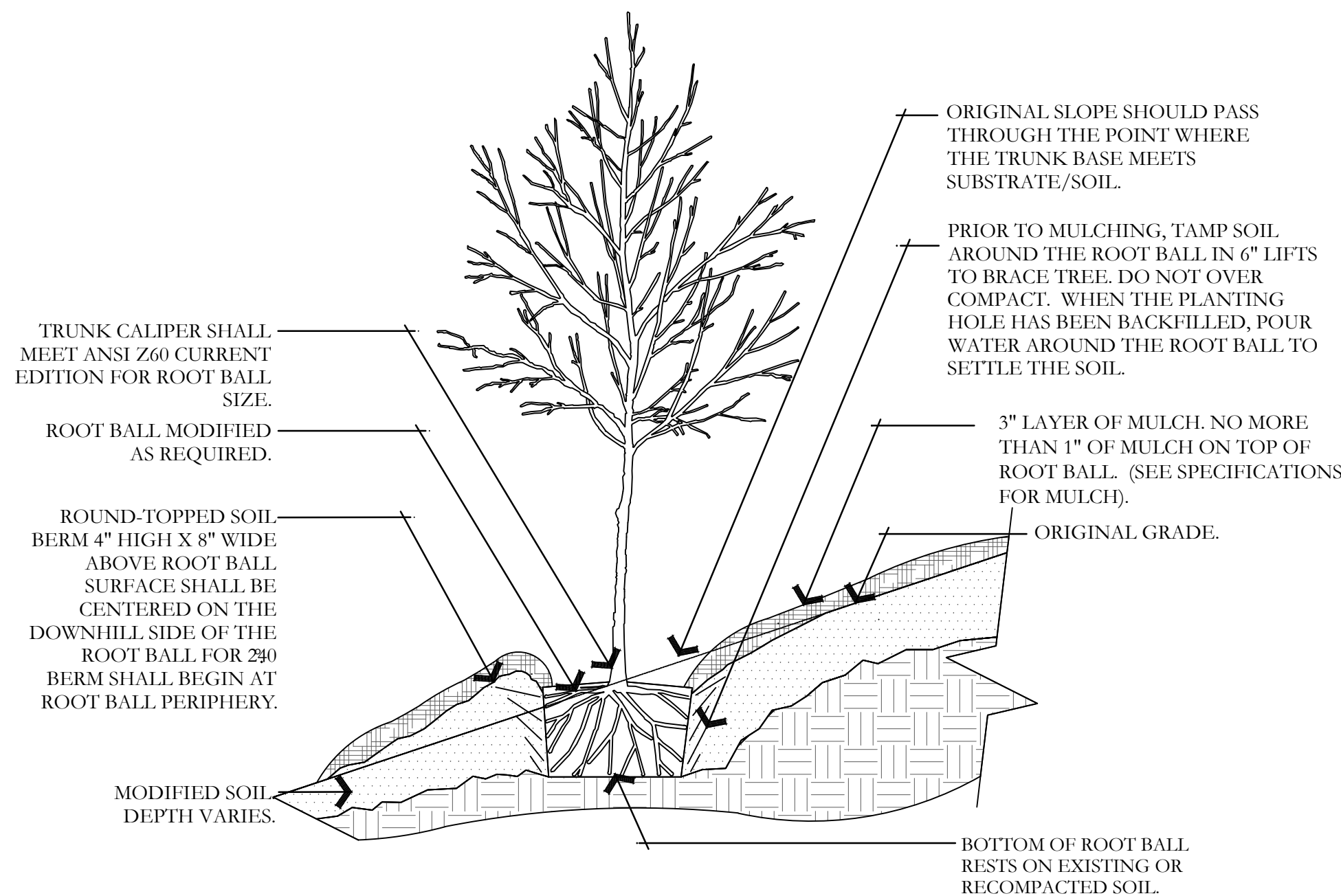
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A DECIDUOUS TREE PLANTING

NOT TO SCALE

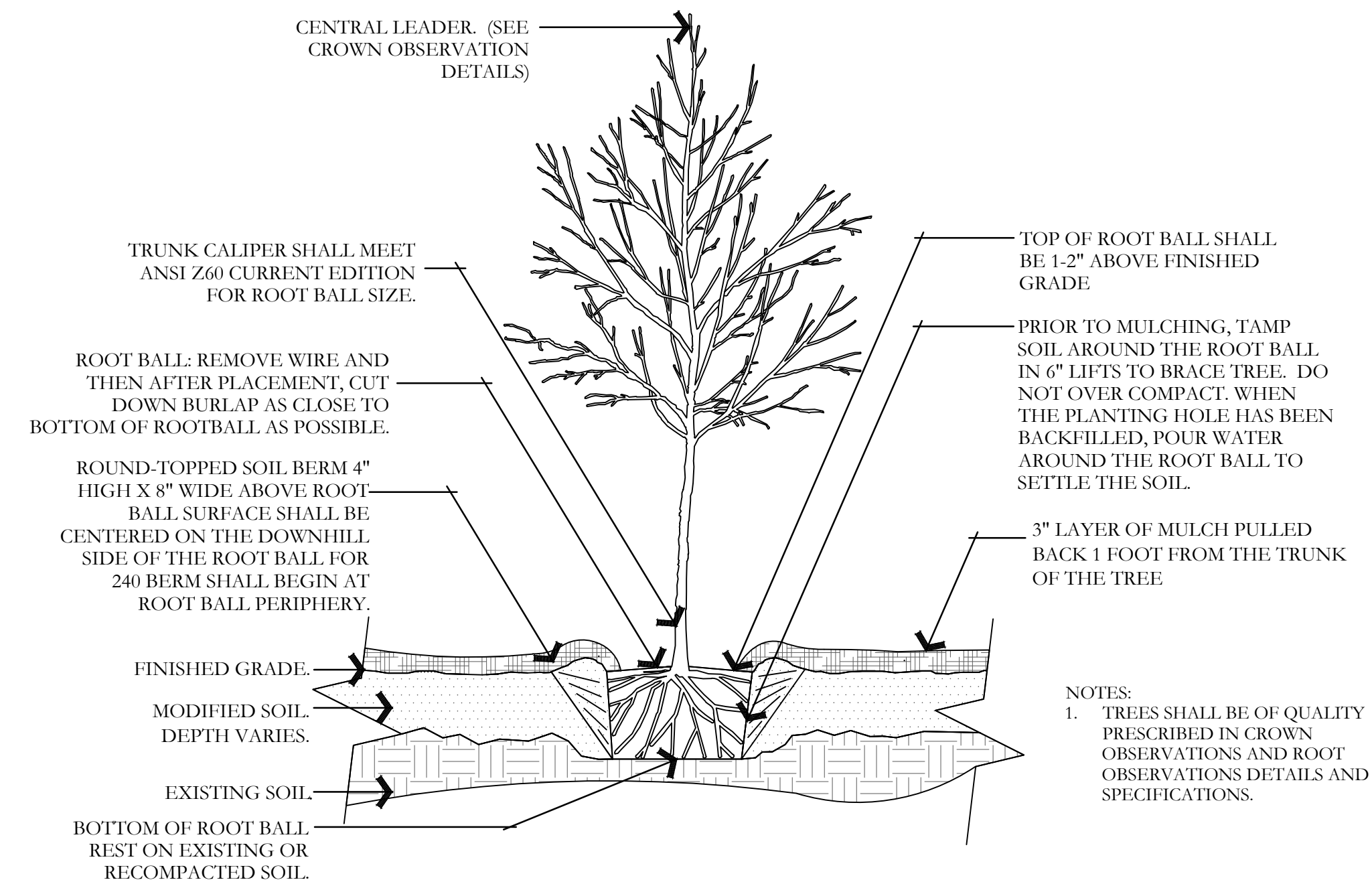
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B TREE ON SLOPE 5% (20:1) TO 50% (2:1)

NOT TO SCALE

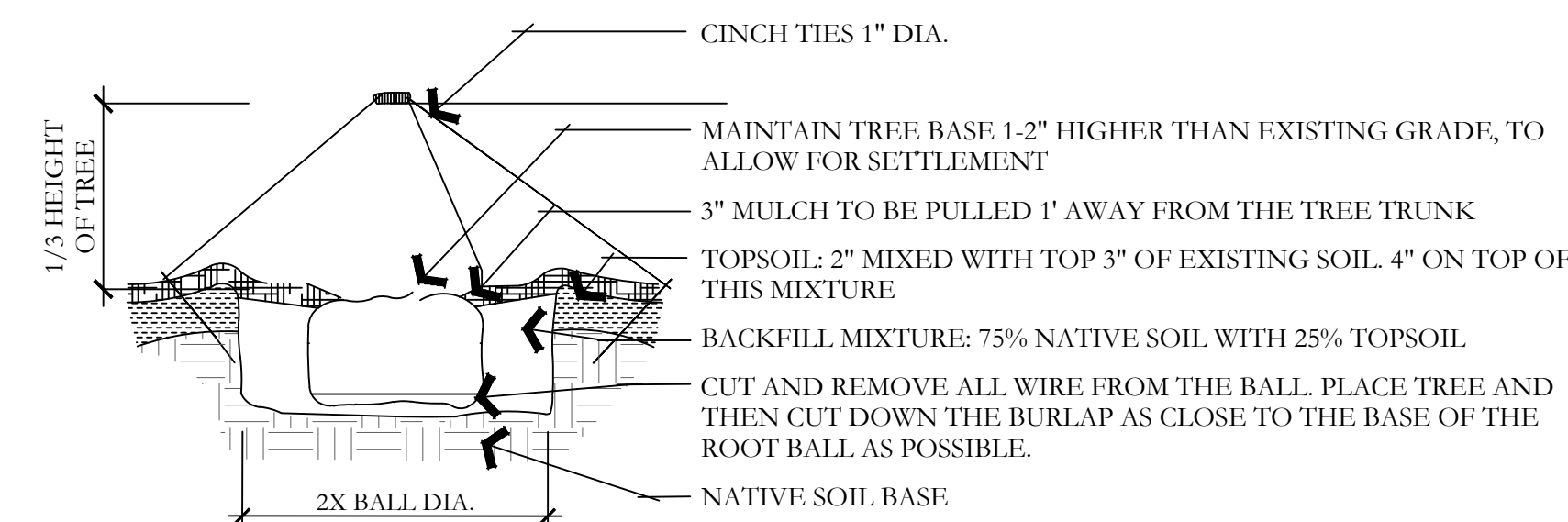
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C TREE W/ BERM (EXISTING SOIL MODIFIED)

NOT TO SCALE

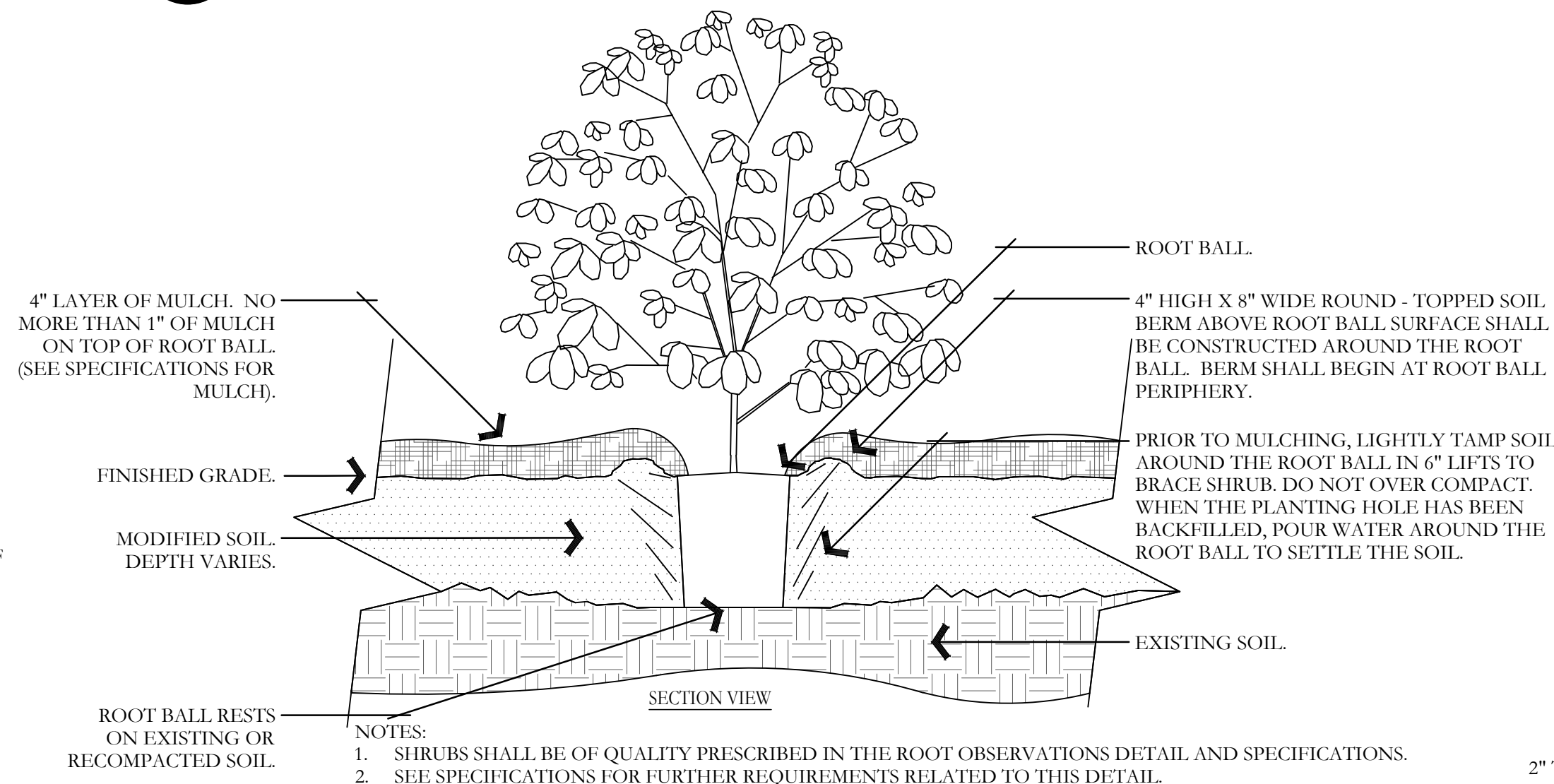
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D EVERGREEN TREE PLANTING

NOT TO SCALE

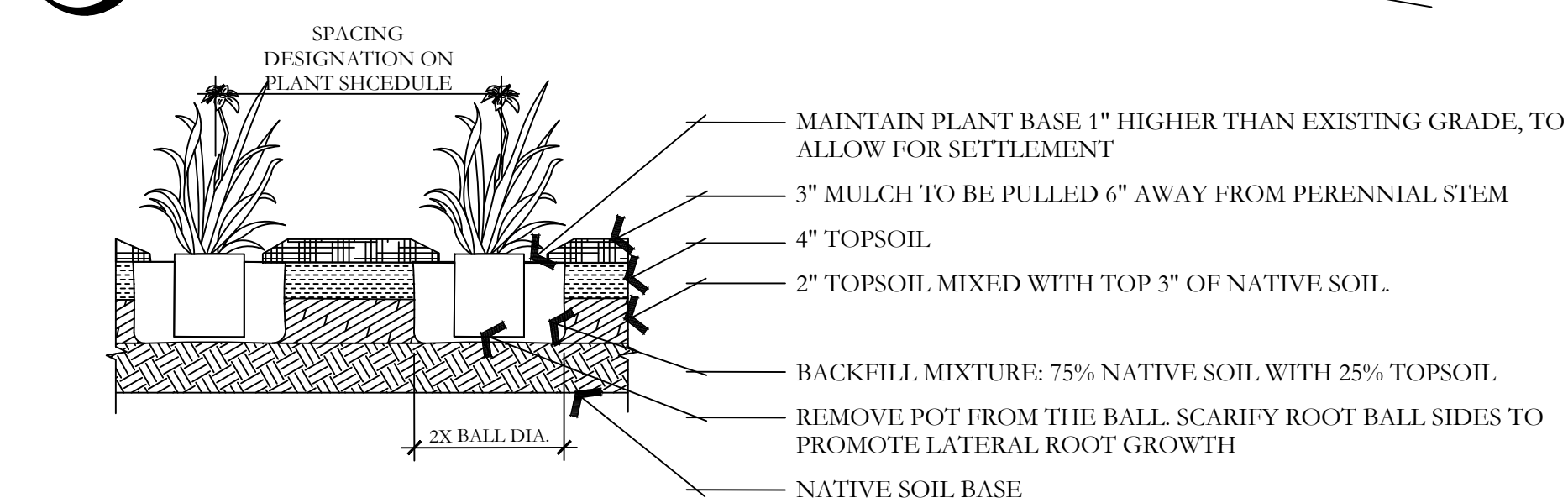
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E SHRUB - MODIFIED SOIL

NOT TO SCALE

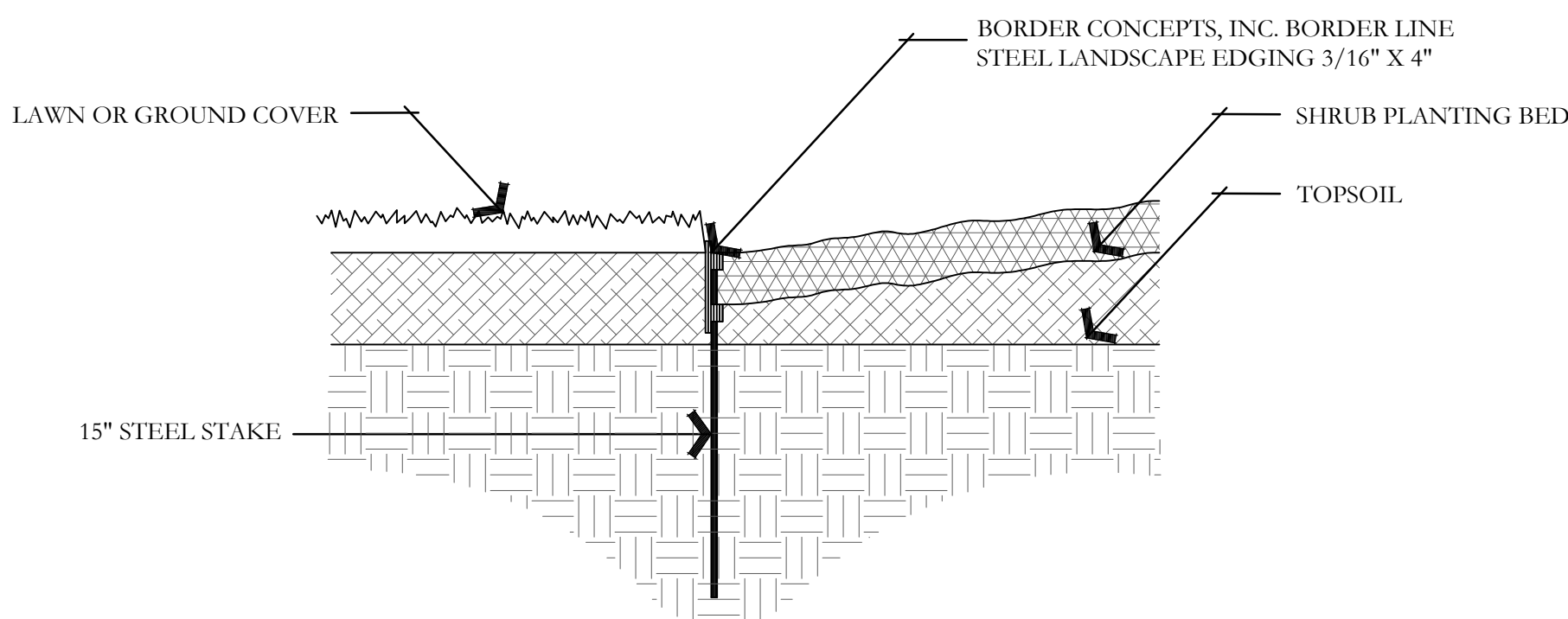
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F PERENNIAL PLANTING

NOT TO SCALE

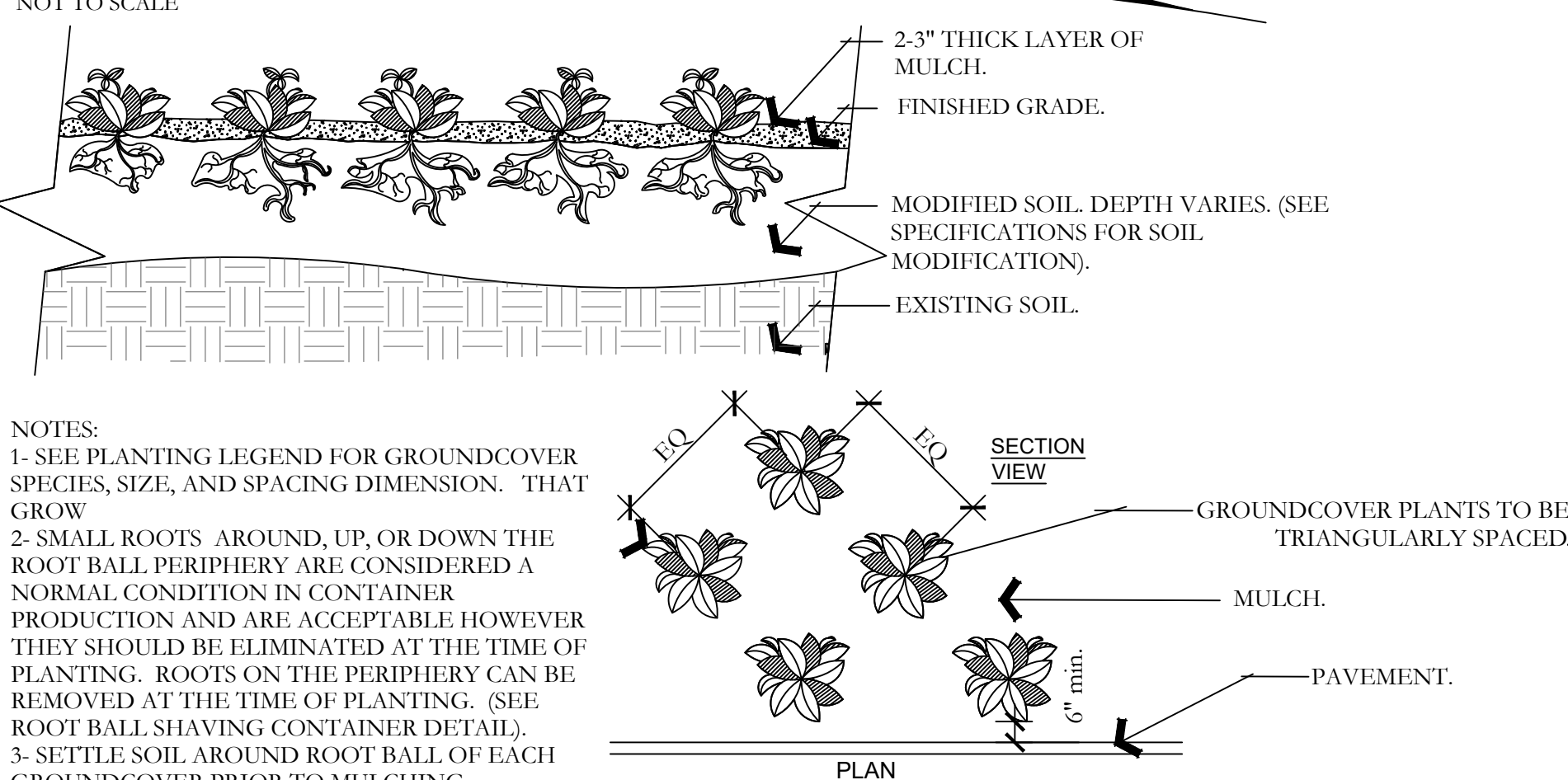
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G METAL EDGING DETAIL

NOT TO SCALE

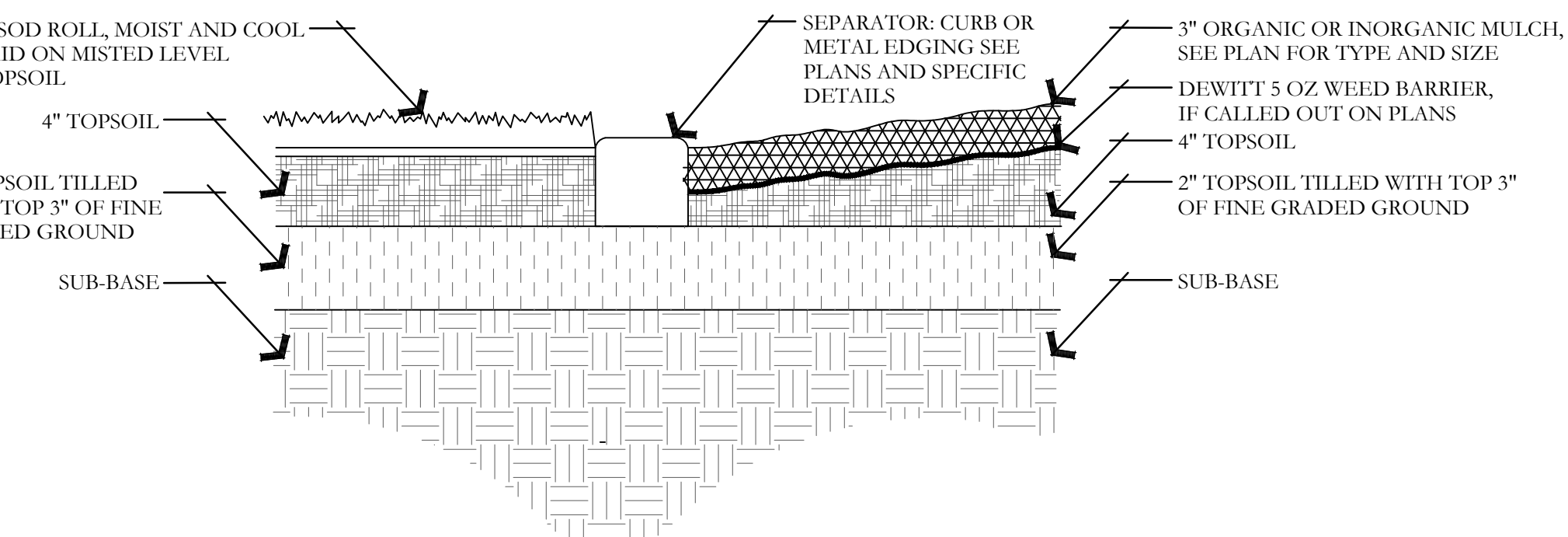
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H PERENNIAL/GROUND COVER PLANTING

NOT TO SCALE

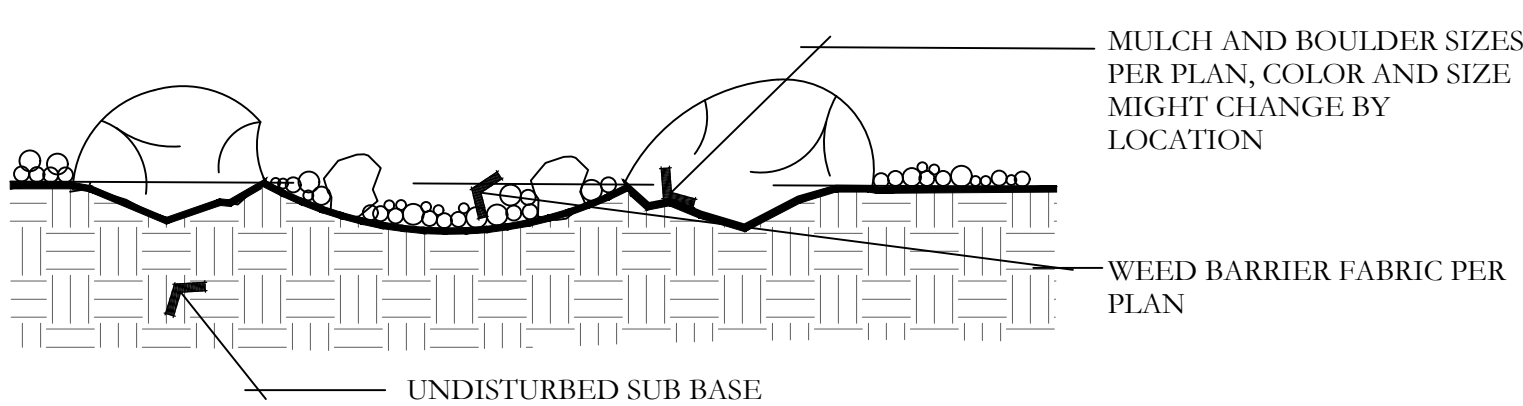
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I SOD LAYING/MULCH DETAIL

NOT TO SCALE

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J BOULDER AND DRY STREAM BED DETAIL

NOT TO SCALE

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LANDSCAPE PLAN

LP-501

LAKEFRONT: PH 1G

VINEYARD, UTAH

IRRIGATION PLAN SPECIFICATIONS

IRRIGATION SPECIFICATIONS

PART 1 - GENERAL

1.1 SUMMARY

Work to be done includes all labor, materials, equipment and services required to complete the Project irrigation system as indicated on the Construction Drawings, and as specified herein. Includes but is not limited to: Furnishing and installing underground and above ground sprinkler system complete with any accessories necessary for proper function and operation of the system. All plant material on the Project shall be irrigated. Remove and dispose of any existing sprinkler system components which are disturbed during the construction process and are not to be saved. Restoration of any altered or damaged existing landscape to original state and condition.

1.2 SYSTEM DESCRIPTION

A.Design of Irrigation Components: Locations of irrigation components on Construction Drawings may be approximate. Piping, sleeving and/or other components shown on Construction drawings may be shown schematically for graphic clarity and demonstration of component groupings and separations. All irrigation components shall be placed in landscaped areas, with the exception of pipe and wire in sleeving under landscapes. Actual routing of pipe, wire or other components may be altered due to site conditions not accounted for in the design process.

B.Construction requirements: Actual placement may vary as required to achieve a minimum of 100% coverage without overspray onto landscape, buildings or other features.

C.Layout of Irrigation Components: During layout and staking, consult with Owner Approved Representative (hereafter referred to as OAR) to verify proper placement of irrigation components, and to provide Contractor recommendations for changes where revisions may be advisable. Small or minor adjustments to system layout are permissible to avoid existing field obstructions such as utility boxes or street light poles. Contractor shall place remote control valves in groups as practical to economize on quantity of manifold isolation valves. Quick coupler valves shall be placed with manifold groups and protected by manifold isolation valves. Quick coupler valves are shown on Construction Documents in approximate locations.

1.3 DEFINITIONS

A.Water Supply: Secondary water piping and components, furnished and installed by others to provide irrigation water to this Project, including but not limited to filter, saddles, nipples, spools, shut off valves, corporation stop valves, water meters, pressure regulation valves, and piping upstream of (or prior to) the Point of Connection.

B.Point of Connection: Location where the Contractor shall tie into the water supply. May require filter, saddle, nipples, spools, isolation valves or Stop and Waste valve for landscape irrigation needs and use.

C.Main Line Piping: Pressurized piping downstream of the Point of Connection to provide water to remote control valves and quick couplers. Normally under constant pressure.

D. Lateral Line Piping: Circuit piping downstream of remote control valves to provide water to sprinkler heads, drip systems or bubblers.

1.4 REFERENCES

A.The following standards will apply to the work of this Section:

- a. ASTM-American Society for Testing and Materials
- b. IA - The Irrigation Association: Main BMP Document, Landscape Irrigation Scheduling and Water Management Document.

1.5 SUBMITTALS

A.At least thirty (30) days prior to ordering of any materials, the Contractor shall provide manufacturer catalog cut sheet and current printed specifications for each element or component of the irrigation system. Submittals shall be in three ring binders or other similar bound form. Provide five copies of submittals to OAR for distribution. Place cover or index sheet indicating order in submittal document. No material shall be ordered, delivered or any work proceeded in the field until the required submittals have been reviewed in its entirety and stamped approved. Delivered material shall match the approved samples.

B.Operation and Maintenance Manual:

- a. At least thirty (30) days prior to final inspection, the Contractor shall provide Operation and Maintenance manual to OAR, containing:
 - i. Manufacturer catalog cut sheet and current printed specifications for each element or component of the irrigation system.
 - ii. Parts list for each operating element of the system
 - iii.Manufacturer printed literature on operation and maintenance of operating elements of the system.
 - iv)Section listing instructions for overall system operation and maintenance. Include directions for Spring Start-up and Winterization.
- b. Project Record Copy
 - i. Maintain at project site one copy of all project documents clearly marked "Project Record Copy". Mark any deviation in material installation on Construction drawings. Maintain and update drawing at least weekly. Project Record Copy to be available to OAR on demand.
 - ii. Completed Project As-Built Drawings

1. Prior to final inspection, prepare and submit to OAR accurate as-built drawings
2. Show detail and dimension changes made during installation. Show significant details and dimensions that were not shown in original Contract Documents.
3. Field dimension locations of sleeving, points of connection, main line piping, wiring runs not contained in main line pipe trenches, valves and valve boxes, quick coupler valves.
4. Dimensions are to be taken from permanent construction surfaces, features, or finished edges located at or above finished grade.
5. Controller Map: upon completion of system, place in each controller a color coded copy of the area that controller services: indicating zone number, type of plant material and location on project that zone services. Laminated map with heat shrink clear plastic.

1.6 QUALITY ASSURANCE

- A.Acceptance: Do not install work in this section prior to acceptance by OAR.
- B.Regulatory Requirements: All work and materials shall be according to any and all rules, regulations or codes, whether they are State or Local laws and ordinances. Contract documents, drawings or specifications may not be construed or interpreted to permit work or materials not conforming to the above codes.
- C.Adequate Water Supply: Water supply to this Project exists, installed by others. Connections to these supply lines shall be by this Contractor. Verify that proper connection is available to supply line and is of adequate size. Verify that secondary connection components may be installed if necessary. Perform static pressure test prior to commencement of work. Notify OAR in writing of problems encountered prior to proceeding.
- D. Workmanship and Materials:
 - a. It is the intent of this specification that all material herein specified and shown on the construction documents shall be of the highest quality available and meeting the requirements specified.
 - b. All work shall be performed in accordance with the best standards of practice relating to the trade.

- E.Contract Qualifications:
- i. Contractor shall provide document or resume including at least the following items:
 - a. That Contractor has been installing sprinklers on commercial projects for five previous consecutive years.
 - ii. Contractor is licensed to perform Landscape and Irrigation construction in the State of this Project.
 - iii.Contractor is bondable for the work to be performed.
 - iv)References of five projects of similar size and scope completed within the last five years. Three of the projects listed shall be local.
 - v. Listing of suppliers where materials will be obtained for use on this Project.
 - vi.Project site Foreman or Supervisor has at least five consecutive years of commercial irrigation installation experience.

This person shall be a current Certified Irrigation Contractor in good standing as set forth by the Irrigation Association. This person shall be on Project site at least 75% of each working day.

- iii. Evidence that Contractor currently employs workers in sufficient quantities to complete Project within time limits that are established by the Contract.

- iii. All General laborers or workers on the Project shall be previously trained and familiar with sprinkler installation and have a minimum of one-year experience. Those workers performing tasks related to PVC pipe shall have certificates designated below.

1.7 DELIVERY-STORAGE-HANDLING

A.During delivery, installation and storage of materials for Project, all materials shall be protected from contamination, damage, vandalism, and prolonged exposure to sunlight. All material stored at Project site shall be neatly organized in a compact arrangement and storage shall not disrupt Project Owner or other trades on Project site. All material to be installed shall be handled by Contractor with care to avoid breakage or damage. Damaged materials attributed to Contractor shall be replaced with new at Contractor's expense.

1.8 SEQUENCING

A.Perform site survey, research utility records, contact utility location services. The Contractor shall familiarize himself with all hazards and utilities prior to work commencement. Install sleeving prior to installation of concrete, paving or other permanent site elements. Irrigation system Point of Connection components, backflow prevention and pressure regulation devices shall be installed and operational prior to all downstream components. All main lines shall be thoroughly flushed of all debris prior to installation of any sprinkler heads.

1.9 WARRANTY

A.Contractor shall provide one year Warranty. Warranty shall cover all materials, workmanship and labor. Warranty shall include filling and/or repairing depressions or replacing turf or other plantings due to settlement of irrigation trenches or irrigation system elements. Valve boxes, sprinklers or other components settled from original finish grade shall be restored to proper grade. Irrigation system shall have been adjusted to provide proper, adequate coverage of irrigated areas.

1.10 OWNER'S INSTRUCTION

A.After system is installed, inspected, and approved, instruct Owner's Representatives in complete operation and maintenance procedures. Coordinate instruction with references to previously submitted Operation and Maintenance Manual.

1.11 MAINTENANCE

- A.Furnish the following items to Owner's Representative:
- a. Two quick coupler keys with hose swivel.
 - b. One of each type or size of quick coupler valve and remote control valve. Five percent of total quantities used of each sprinkler and sprinkler nozzle.
- B.Provide the following services:
- a. Winterize entire irrigation system installed under this contract. Winterize by "blow-out" method using compressed air. Compressor shall be capable of minimum of 175 CFM. This operation shall occur at the end of first growing season after need for plant irrigation but prior to freezing. Compressor shall be capable of evacuating system of all water pressure regulation devices. Compressor shall be regulated to not more than 60 PSI. Start up system the following spring after danger of freezing has passed. Contractor shall train Owner's Representative in proper start-up and winterization procedure.

PART 2 - PRODUCTS

2.1 GENERAL NOTES

A.Contractor shall provide materials to be used on this Project. Contractor shall not remove any material purchased for this Project from the Project Site, nor mix Project materials with other Contractor owned materials. Owner retains right to purchase and provide project material.

2.2 POINT OF CONNECTION

A.The Contractor shall connect onto existing irrigation or water main line as needed for Point(s) of Connection. Contractor shall install new main line as indicated.

2.3 CONNECTION ASSEMBLY

A.Secondary water shall be used on this Project. Install filter and RPZ as needed.

2.4 CONTROL SYSTEM

- A.Power supply to the irrigation controller shall be provided for by this Contract.
- B.Controller shall be as specified in the drawings. Controller shall be surge protected.
- a. Installation of wall-mount controllers: Irrigation controller shall be responsible for this task. Power configuration for wall-mount controllers shall be 120 VAC unless otherwise noted.
 - b. Locate Controller(s) in general location shown on Construction drawings. Coordinate power supply and breaker allocation with electrical contractor. Contractor shall be responsible for all power connections to Controllers, whether they are wall mount or pedestal mount. Contractor shall coordinate with electrical or other Project trades as needed to facilitate installation of power to controllers.
- C.Wires connecting the remote control valves to the irrigation controller are single conductors, type PE. Wire construction shall incorporate a solid copper conductor and polyethylene (PE) insulation with a minimum thickness of 0.045 inches. The wires shall be UL listed for direct burial in irrigation systems and be rated at a minimum of 30 VAC. Page Electric Co., LP specification number P7079D.
- a. A minimum of 24" of additional wire shall be left at each valve, each splice box and at each controller.
 - b. Common wire shall be white in color, 12 gauge. Control wire shall be red in color, 14 gauge. Spare wire shall be looped within each valve box of the grouping it is to service.
- D. RCV wire splicing connectors shall be 3M brand DBY or DBR. Wire splicing between controller and valves shall be avoided if at all possible. Any wire splices shall be contained within a valve box. Splices within a valve box that contains no control valves shall be stamped "WIRE SPLICE" or "WS" on box lid.

2.5 SLEEVING

A.Contractor shall be responsible to protect existing underground utilities and components. Sleeving minimum size shall be 2". Sleeving 2" through 4" in size shall be S/40 PVC solvent weld. Sleeving 6" and larger shall be CI 200 PVC gasketed. Sleeve diameter shall be at least two times the diameter of the pipe within the sleeve. Sleeves shall be extended 6" minimum beyond wall or edge of pavement. Wire or cable shall not be installed in the same sleeve as piping, but shall be installed in separate sleeves. Sleeve ends on sleeve sizes 4" and larger shall be capped with integral corresponding sized PVC slip cap, pressure fit, until used, to prevent contamination. Sleeves shall be installed at appropriate depths for main line pipe or lateral pipe.

2.6 MAIN LINE PIPE

- A.All main line pipe 4" and larger shall be Class 200 gasketed bell end. All main line pipe 3" in size and smaller shall be Schedule 40 PVC solvent weld bell end.
- a. Maximum flows allowed through main line pipe shall be:

3/4"	8 GPM
1"	12 GPM
1-1/2"	30 GPM
2"	53 GPM
2-1/2"	75 GPM
3"	110 GPM
4"	180 GPM
 - b. Main line pipe shall be buried with 24" cover

2.7 MAIN LINE FITTINGS

A.All main line fittings 3" and larger shall be gasketed ductile iron material. All ductile iron fittings having change of direction shall have proper concrete thrust block installed. All main line fittings smaller than 3" in size shall be Schedule 80 PVC.

2.8 ISOLATION VALVES

A.Isolation valves 3" and larger shall be Waterloo brand model 2500 cast iron gate valve, resilient wedge, push on type, with 2" square operating nut. Place sleeve of 6" or larger pipe over top of valve vertically and then extend to grade. Place 10" round valve box over sleeve at grade.

B.Isolation valves 2-1/2" and smaller shall be Apollo brand 70 series brass ball valves, contained in a Carson Standard size valve box. Valves shall be installed with S/80 PVC TOE Nipples on both sides of the valve. Valve shall be placed so that the handle is vertical toward the top of the valve box in the "off" position.

2.9 MANIFOLDS

A.Action Manifold fittings shall be used to create unions on both sides of each control valve, allowing the valve to be removed from the box without cutting piping. Valves shall be located in boxes with ample space surrounding them to allow access for maintenance and repair. Where practical, group remote control valves in close proximity, and protect each grouping with a manifold isolation valve as shown in details. Manifold Main Line (or Sub-Main Line) and all manifold components and isolation valves shall be at least as large as the largest diameter lateral served by the respective manifold.

2.10 REMOTE CONTROL VALVES

A.Remote control valves shall be as specified on the drawings. Remote control valves shall be located separately and individually in separate control boxes.

2.11 MANUAL CONTROL VALVES

A.Quick coupler valve shall be attached to the manifold sub-main line using a Larson G178212 swing joint assembly with snap-lock outlet and brass stabilizer elbow. Quick coupler valve shall be placed within a Carson 10" round valve box. Top of quick coupler valve cover shall allow for complete installation of valve box lid, but also allow for insertion and operation of key. Base of quick coupler valve and top of quick coupler swing joint shall be encased in 3/4" gravel. Contractor shall not place quick coupler valves further than 200 feet apart, to allow for spot watering or supplemental irrigation of new plant material. Quick coupler valve at POC shall not be eliminated or relocated.

2.12 LATERAL LINE PIPE

A.All lateral piping shall be Schedule 40 PVC, solvent weld, and bell end. Lateral pipe shall be buried with 12-18" of cover typically. Lateral pipe shall be 1/2", 1", 1 1/2", 1 3/4" or 2" in size as indicated on Construction Drawings.

2.13 LATERAL LINE FITTINGS

A.All lateral line fittings shall be S/40 PVC.

2.14 Spray Sprinklers

A.Spray head sprinklers shall be as specified on the drawings. Nozzles shall be as specified on the drawings.

2.15 VALVE BOXES

A.Carson valve boxes shall be used on this project. Sizes are as directed in these Specifications, detail sheets or plan sheets. Valve boxes shall be centered over the control valve or element they cover. Valve box shall be sized large enough to allow ample room for services access, removal or replacement of valve or element. Valve box shall be set to flush to finish grade of topsoil or harked areas. Contractor shall provide extensions or stack additional valve boxes as necessary to bring valve box pit to proper grade.

2.16 IMPORT BACKFILL

A.All main line pipe, lateral line pipe and other irrigation elements shall be bedded and backfilled with clean soil, free of rocks 1" and larger. Contractor shall furnish and install additional backfill material as necessary due to rocky conditions. Trenches and other elements shall be compacted and/or water settled to eliminate settling. Debris from trenching operations unusable for fill shall be removed from project and disposed of properly by Contractor.

2.17 OTHER PRODUCTS

A.Substitution of equivalent products is subject to the OAR's approval and must be designated as accepted in writing.
a. The Contractor shall provide materials to make the system complete and operational.

PART 3 - EXECUTION

3.1 PREPARATION

A.Contractor shall repair or replace work damaged by irrigation system installation. If damaged work is new, repair or replacement shall be provided by the original installer of that work. The existing landscape of this Project shall remain in place. Contractor shall protect and work around existing plant material. Coordination of trench and valve locations shall be laid out for the OAR prior to any excavation occurring. Plant material deemed damaged by the OAR shall be replaced with new plant material at Contractor's expense. Contractor shall not cut existing tree roots larger than 2" to install this Project. Route pipe, wire and irrigation elements around tree canopy drip line to minimize damage to tree than 24 hours at a time.

3.2 TRENCHING AND BACKFILLING

A.Pulling of pipe shall not be permitted on this project. Over excavate trenches both in width and depth. Ensure base of trench is free of debris free to permit pipe and wire. Grade trench line to ensure flat, even support of pipe. Backfill with clean soil or import material. Contractor shall backfill no less than 2" around entire pipe with clean, rock free fill. Main line piping and fittings shall not be backfilled until OAR has inspected and pipe has passed pressure testing. Perform balance of backfill operation to eliminate any settling.

3.3 SLEEVING

A.Sleeve all piping and wiring that pass under paving or landscape features. Wiring shall be placed in separate sleeving from piping. Sleeves shall be positioned relative to structures or obstructions to allow for pipe or wire within to be removed if necessary.

3.4 GRADES AND DRAINAGE

A.Place irrigation pipe and other elements at uniform grades. Winterization shall be by evacuation with compressed air. Automatic drains shall not be installed on this Project. Manual drains shall only be installed at POC where designated on Construction Drawings.

3.5 PVC PIPE

- A.Install pipe to allow for expansion and contraction as recommended by pipe manufacturer.
- B.Install main line pipes with 18" of cover, lateral line pipes with 12" of cover.
- C. Drawings show diagrammatic or conceptual location of piping. Contractor shall install piping to minimize change of direction, avoid placement under large trees or large shrubs, avoid placement under landscape features.
- D. Plastic pipe shall be cut squarely. Burrs shall be removed. Spigot ends of pipes 3" and larger shall be beveled.
- E. Pipe shall not be glued unless ambient temperature is at least 50 degrees F. Pipe shall not be glued in rainy conditions unless properly tented. All solvent weld joints shall be assembled using IPS 711 glue and P70 primer according to manufacturer's specification, no exceptions. All workers performing glue operations shall provide evidence of certification. Glued main line pipe shall cure a minimum of 24 hours prior to being energized. Lateral lines shall cure a minimum of 2 hours prior to being energized and shall not remain under constant pressure unless cured for 24 hours.
- F. Appropriate thrust blocking shall be performed on fittings 3" and larger. All threaded joints shall be wrapped with Teflon tape or paste unless directed by product manufacturer or sealing by o-ring.

3.6 CONTROLLERS

- A.All grounding for pedestal controllers shall be as directed by controller manufacturer and ASIC guidelines, not to exceed a resistance reading of 5 OHMS.
- B. Locate controllers in protected, inconspicuous places, when possible. Coordinate location of pedestal controllers with Landscape Architect to minimize visibility.
- C. Coordinate location of wall mount controllers with building or electrical Contractor to facilitate electrical service and future maintenance needs. Wall mount shall be securely fastened to surface. If exterior mounted, wall mount controllers shall have electrical service wire and field control wire in separate, appropriate sized weatherproof electrical conduit, PVC pipe shall not be used.

D. Wiring under hardscape surfaces shall be placed continuously in conduit. Contractor shall be responsible to coordinate sleeving needs for conduit or sweeps elbows from exterior to interior of building.

E. Pedestal controllers shall be placed upon VTI-Strong Box Quick Pad as per manufacturer's recommendations. Controllers shall be oriented such that Owner's Representative maintenance personnel may access easily and perform field system tests efficiently.

F. Place Standard valve box at base of controller or nearby to allow for three to five feet of slack field control wire to be placed at each controller. This Contractor shall provide conduit access if needed for Electrical Contractor. Electrical supply and installation, as well as hook-up to controller shall be by this Contractor.

3.7 VALVES

- A.Isolation valves, remote control valves, and quick coupler valves shall be installed according to manufacturer recommendation and Contract Specifications and Details.
- B. Valve boxes shall be set over valves so that all parts of the valve can be reached for service.
- C. Valve box and lid shall be set to be flush with finished grade. Only one remote control valve may be installed in a Carson 1419124 box. Place a minimum of 4" of 3/4" washed gravel beneath valve box for drainage. Bottom of remote control valve shall be a minimum of 2" above gravel.

3.8 SPRINKLER HEADS

- A.No sprinkler shall be located closer than 6" to walls, fences, or buildings.
- B. Heads adjacent to walks, curbs, or paths shall be located at grade and 2" away from hardscape.
- C. Control valves shall be opened. Then fully flush lateral line pipe and swing joints prior to installation of sprinklers.
- D. Spray heads shall be installed and flushed again prior to installation of nozzles.
- E. Contractor shall be responsible for adjustment if necessary due to grade changes during landscape construction.

3.9 FIELD QUALITY CONTROL

- A. Main line pipes shall not be backfilled or accepted until the system has been tested for 2 hours at 100 psi.
- B. Main line pressure test shall include all pipe and components from the point of connection to the upstream side of remote control valves. Test shall include all manifold components under constant pressure. Piping may be tested in sections that can be isolated.
- C. Contractor shall provide pressurized water pump to increase or boost pressure where existing static pressure is less than 100 psi.
- D. Schedule testing with OAR 48 hours in advance for approval.
- E. Leaks or defects shall promptly be repaired or rectified at the Contractors expense and retested until able to pass testing.
- F. Grounding resistance at pedestal controller shall also be tested and shall not exceed 5 OHMS.

3.10 ADJUSTMENT

A. Sprinkler heads shall be adjusted to proper height when installed. Changes in grade or adjustment of head height after installation shall be considered a part of the original contract and at Contractor's expense.

B. Adjust all sprinkler heads for arc, radius, proper trim and distribution to cover all landscaped areas that are to be irrigated.

C. Adjust sprinklers so they do not water buildings, structures, or other hardscape features.

D. Adjust run times of station to meet needs of plant material the station services.

3.11 CLEANING

- A. Contractor shall be responsible for cleanliness of jobsite. Work areas shall be swept cleanly and picked up daily.
 - B. Open trenches or hazards shall be protected with yellow caution tape.
 - C. Contractor is responsible for removal and disposal of offsite trash and debris generated as a result of this Project.
 - D. OAR shall perform periodic as well as a final cleanliness inspection.
 - E. Contractor shall leave Project in at least a "broom clean" condition.
- END OF SECTION

CONTRACTOR TO PLACE TEMPORARY IRRIGATION SYSTEM ON ALL REVEGETATION SEED AREAS FOR THE FIRST YEAR UNTIL SEED IS ESTABLISHED

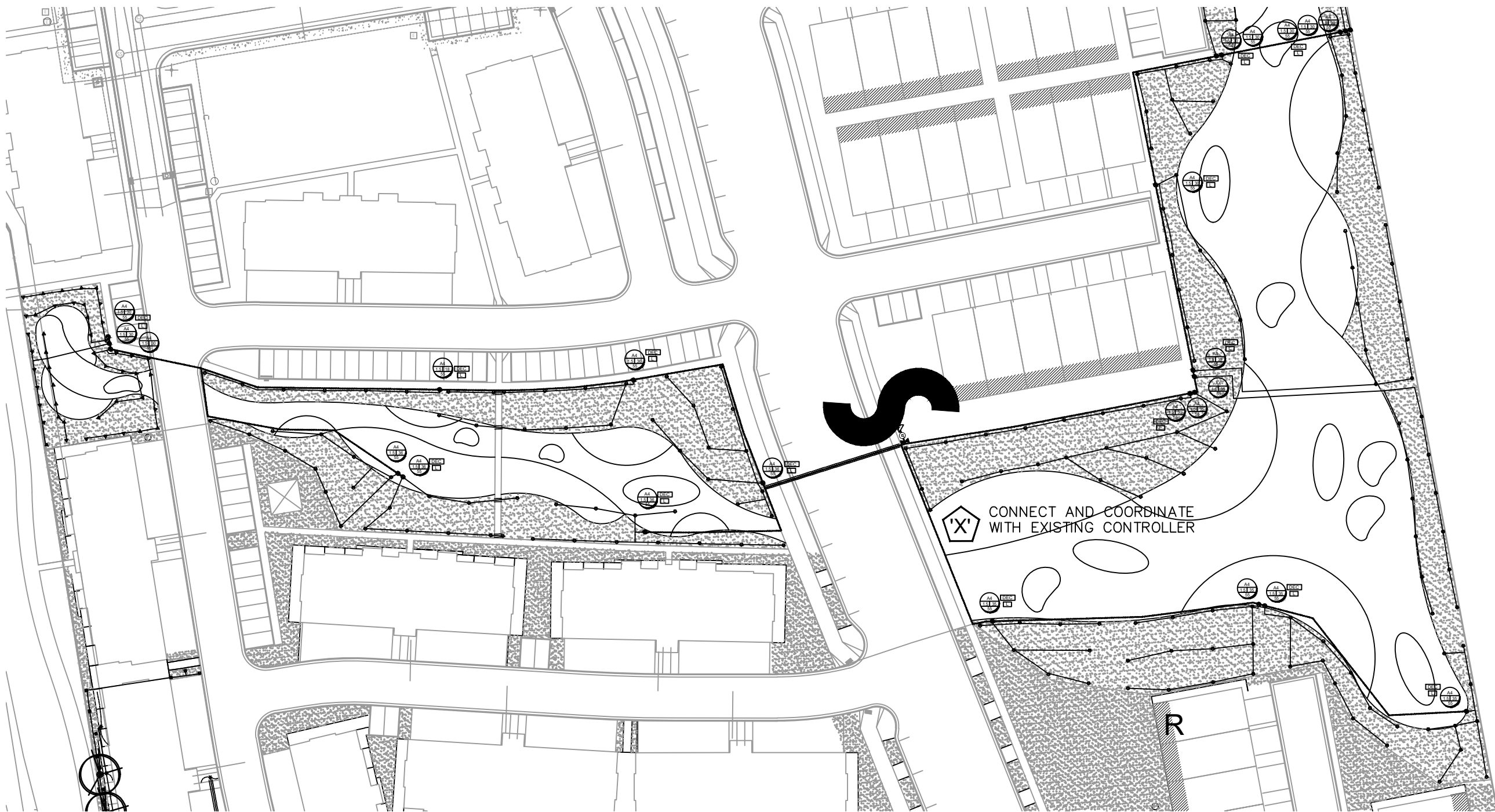
90 Day Establishment Period Irrigation Schedule (April, May, June)									
	Type	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Operating Pressure
Turf		15 min	15 min	15 min	15 min	15 min	15 min	15 min	30 psi
Shrubs	Shrubs	25 min	0	25 min	0	25 min	0	25 min	40 psi

Note: Begin irrigation 4:00 am, only 1 cycle per day.

Regular Irrigation Schedule (see Seasonal Differential Chart)									
	Type	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Operating Pressure
Turf		15 min	15 min	15 min	15 min	15 min	15 min	15 min	30 psi
Shrubs	Shrubs	45 min		45 min		45 min		45 min	40 psi

Note: Begin irrigation 4:00 am, only 1 cycle per day.

Seasonal Differential							
	April	May	June	July	August	Sept	October
Turf	10 min	10 min	15 min	15 min	15 min	10 min	10 min
Shrubs	30 min	30 min	45 min	45 min	45 min	30 min	30 min



2" MAINLINE ROUTING ,CONTROLLER AND P.O.C. LOCATION OVERVIEW

ISSUE DATE			PROJECT NUMBER			PLAN INFORMATION			PROJECT INFORMATION			DEVELOPER / PROPERTY OWNER / CLIENT			LANDSCAPE ARCHITECT / PLANNER			LICENSE STAMP			DRAWING INFO		
12/17/2020			UT18016			811 BLUE STAKES OF UTAH UTILITY NOTIFICATION CENTER, INC. 1-800-662-4111 www.bluestakes.org N 0'20'40'80'160' GRAPHIC SCALE: 1" = 40'			LAKEFRONT: PH 1G VINEYARD, UTAH			Developer / Property Owner: EDGE HOMES 13702 S 200 W B12 DRAPER, UT 84020 (801) 494-0150 Client / Engineer: FOCUS ENGINEERING 32 W CENTER ST, MIDVALE, UT 84047 (801) 352-0075			PKJ DESIGN GROUP Landscape Architecture • Planning & Visualization 3450 N. TRIUMPH BLVD. SUITE 102 LEHI, UTAH 84043 (801) 960-2698 www.pkjdesigngroup.com			UTAH LANDSCAPE ARCHITECT EXAM NO. 8128-21-5301 02/18/2020 STATE OF UTAH IRRIGATION PLAN PRELIMINARY PLANS NOT FOR CONSTRUCTION IR-100			PM: JTA DRAWN: AP CHECKED: KA PLOT DATE: 12/17/2020		
NO.	REVISION	DATE																					
1	XXXX	XX-XX-XX																					
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4																							
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DRIP ZONE

*NUMBERS MAY CHANGE DUE TO SIZE OF DRIP ZONE PER PLAN

IRRIGATION NOTES

-
- VALVE ID TAG**
- CONTROLLER NUMBER, VALVE NUMBER
- VALVE SIZE
- GALLONS PER MINUTE
- PSI AT LAST HEAD IN ZONE
- NOTE:**
1. VALVE ID TAGS ARE LOCATED NEAR VALVES IN THE ORDER THE VALVES APPEAR ON THE DRAWING

VALVE ID TAG

— CONTROLLER NUMBER
VALVE NUMBER.

GALLONS PER MINUTE

NOTE:
1. VALUE ID TAGS ARE

1. VALVE ID TAGS ARE
NEAR VALVES IN THE
VALVE CORRIDOR

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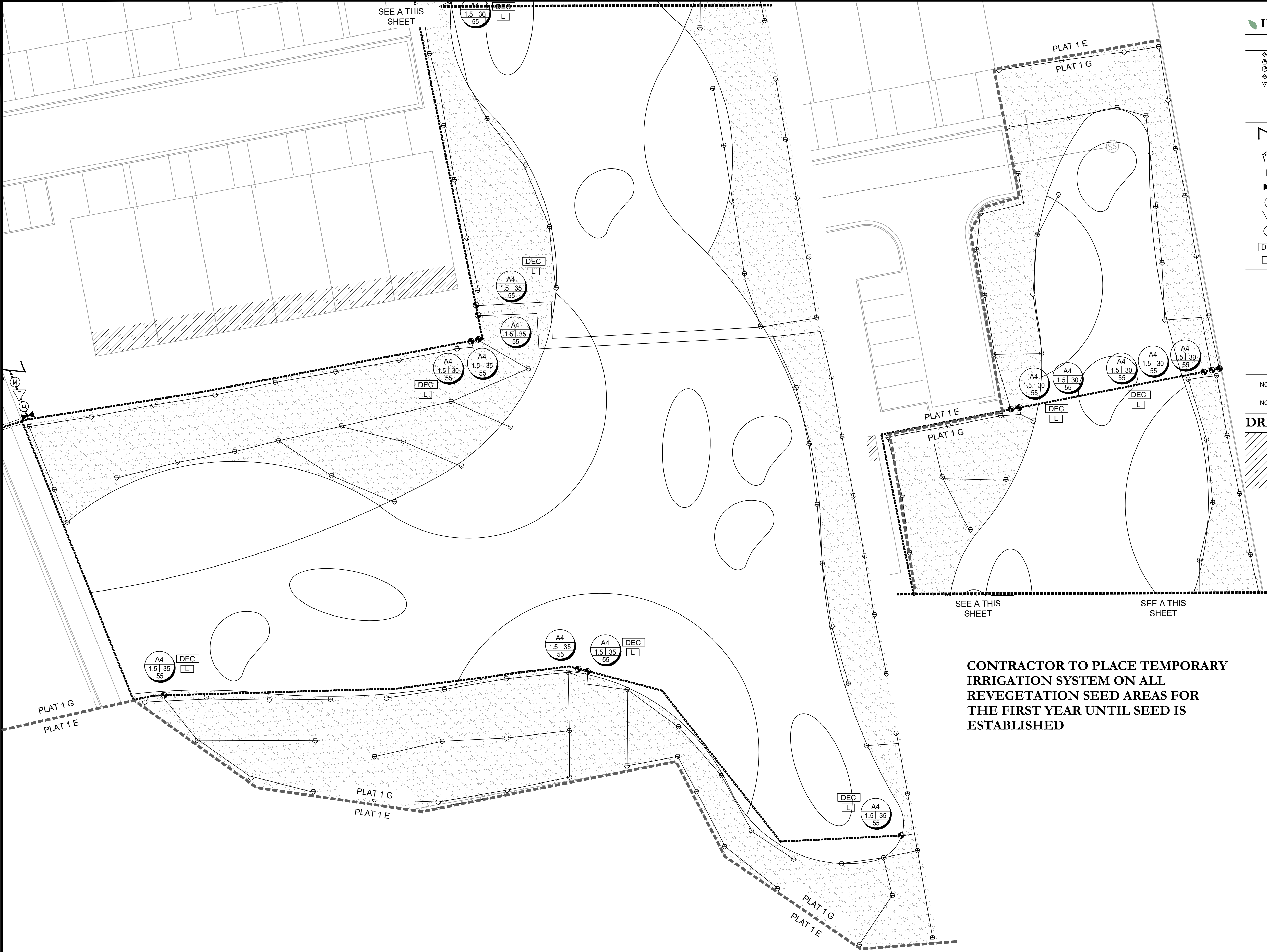
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**CONTRACTOR TO PLACE TEMPORARY
IRRIGATION SYSTEM ON ALL
REVEGETATION SEED AREAS FOR
THE FIRST YEAR UNTIL SEED IS
ESTABLISHED**

ISSUE DATE			PROJECT NUMBER			PLAN INFORMATION			PROJECT INFORMATION			DEVELOPER / PROPERTY OWNER / CLIENT			LANDSCAPE ARCHITECT / PLANNER			LICENSE STAMP			DRAWING INFO					
12/17/2020			UT18016			811 BLUE STAKES OF UTAH UTILITY NOTIFICATION CENTER, INC. 1-800-662-4111 www.bluestakes.org			N			LAKEFRONT: PH 1G VINEYARD, UTAH			Developer / Property Owner: EDGE HOMES 13702 S 200 W B12 DRAPER, UT 84020 (801) 494-0150			PKJ DESIGN GROUP Landscape Architecture // Planning & Visualization 3450 N. TRIUMPH BLVD. SUITE 102 LEHI, UTAH 84043 (801) 960-2698 www.pkjdesigngroup.com			PROFESSIONAL LANDSCAPE ARCHITECT J. TAYLOR ANDERSON 91297-0001 12/17/2020 STATE OF UTAH IRRIGATION PLAN PRELIMINARY PLANS NOT FOR CONSTRUCTION IR-101			PM: JTA DRAWN: AP CHECKED: KA PLOT DATE: 12/17/2020		
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0'20'40'80'160'

GRAPHIC SCALE: 1" = 40'



IRRIGATION LEGEND

SYMBOL	MANUFACTURER-MODEL NUMBER
●	RAINBIRD RD04-S-PRS POP UP SPRAY 5-SERIES @ 30 PSI
●	RAINBIRD RD04-S-PRS POP UP SPRAY 8-U-SERIES @ 30 PSI
●	RAINBIRD RD04-S-PRS POP UP SPRAY 10-U-SERIES @ 30 PSI
●	RAINBIRD RD04-S-PRS POP UP SPRAY 12-U-SERIES @ 30 PSI
●	RAINBIRD RD04-S-PRS POP UP SPRAY 15-U-SERIES @ 30 PSI
●	RAINBIRD RD04-S-PRS POP UP SPRAY 15-SET @ 30 PSI
●	RAINBIRD RD04-S-PRS POP UP SPRAY 15-EST @ 30 PSI
●	RAINBIRD 5000 SERIES MPR NOZZLES @ 55 PSI
●	RAINBIRD 8005 SERIES Q#8-6.6 GPM, H#14-12.6 GPM, F#26-24.3 GPM NOZZLES @ 55 PSI
⊕	IRRIGATION POINT OF CONNECTION AND RPZ BACKFLOW PREVENTION - CONNECT TO WATER SERVICE LINE AND METER. (SEE CIVIL PLANS) CONTRACTOR LOCATE AND VERIFY EXACT LOCATION ON SITE.
⊗	CONTROLLER: RAINBIRD ESP-1XD CONTROLLER WITH LIMR REMOTE KIT, CONTRACTOR TO ADJUST LOCATION WITH OWNER PRIOR TO CONSTRUCTION.
⊗	RAINBIRD WR2-RC WIRELESS RAIN SHUT OFF DEVICE
⊗	ISOLATION BALL VALVE - LINE SIZED INSTALL PER MANUFACTURER'S SPEC.
⊗	MASTER VALVE
⊗	FLOW SENSOR
⊗	QUICK COUPLER: RAINBIRD 44LRC INSTALL PER MANUFACTURER'S SPEC.
⊗	VALVE DECODER (AT ALL VALVE GROUPINGS) INSTALL PER MANUFACTURER'S SPEC. LIGHTNING ARRESTER (AT ALL VALVE GROUPINGS) INSTALL PER MANUFACTURER'S SPEC.
⊗	REMOTE CONTROL VALVE: RAINBIRD PESB-NP-PRS-D AUTOMATIC CONTROL VALVE SIZE PER PLAN- USE JUMBO BOX-PURPLE LID
⊗	DRIP CONTROL ZONE KIT: RAINBIRD XGZ-(PER PLAN)-PRBR-COM MED FLOW (SIZE AS NOTED ON PLAN)
⊗	MAINLINE: SCHEDULE 40 PVC WITH SCHEDULE 80 FITTINGS, 1.5" DIAMETER 24" MIN. COVER
⊗	LATERAL LINE: SCHEDULE 40 PVC WITH SCH. 40 FITTINGS. SEE PIPE SIZING CHART
⊗	DRIP CONNECTION: PROVIDE DRIP IRRIGATION TO ALL TREES, SHRUBS AND PERENNIALS IN PLANTER AREAS
⊗	DRIP LINE: RAINBIRD XFSP-09-18-100 OR EQUIVALENT
⊗	CLASS 200 SLEEVE PER PLAN
NO SYMBOL	WIRE CHASE, SIZE TO BE TWICE THE DIAMETER OF THE WIRE BUNDLE WITHIN. 1 1/4" DIAMETER MINIMUM
NO SYMBOL	14 GAUGE SOLID COPPER SINGLE STRAND CONTROL WIRE. INSTALL PER MANUFACTURER'S SPEC. PROVIDE 2 WIRE LOOP SYSTEM.

DRIP ZONE

TYPE	PART NUMBER	EMITTER FLOW	EMITTER SPACING	ROW SPACING	ROW SPACING
XFS DRIFLINE	XFSP-09-18	9 GPH	18"	18"	18-21 IN.
TOTAL DRIP ZONE FLOW	20 GPM	TIME TO APPLY 1/4" OF WATER	23		
MAX. LATERAL LENGTH OF TUBING	350 FT	REQUIRED NUMBER OF STAKES	500		
TOTAL LENGTH OF ZONE DRIFLINE	2,000 FT (varies per plan)	NUMBER OF FLUSH POINTS	2		
APPLICATION RATE	64 IN / HR	SUGGESTED HEADER & FOOTER PIPE SIZE	CI CLASS 200 1.25"		

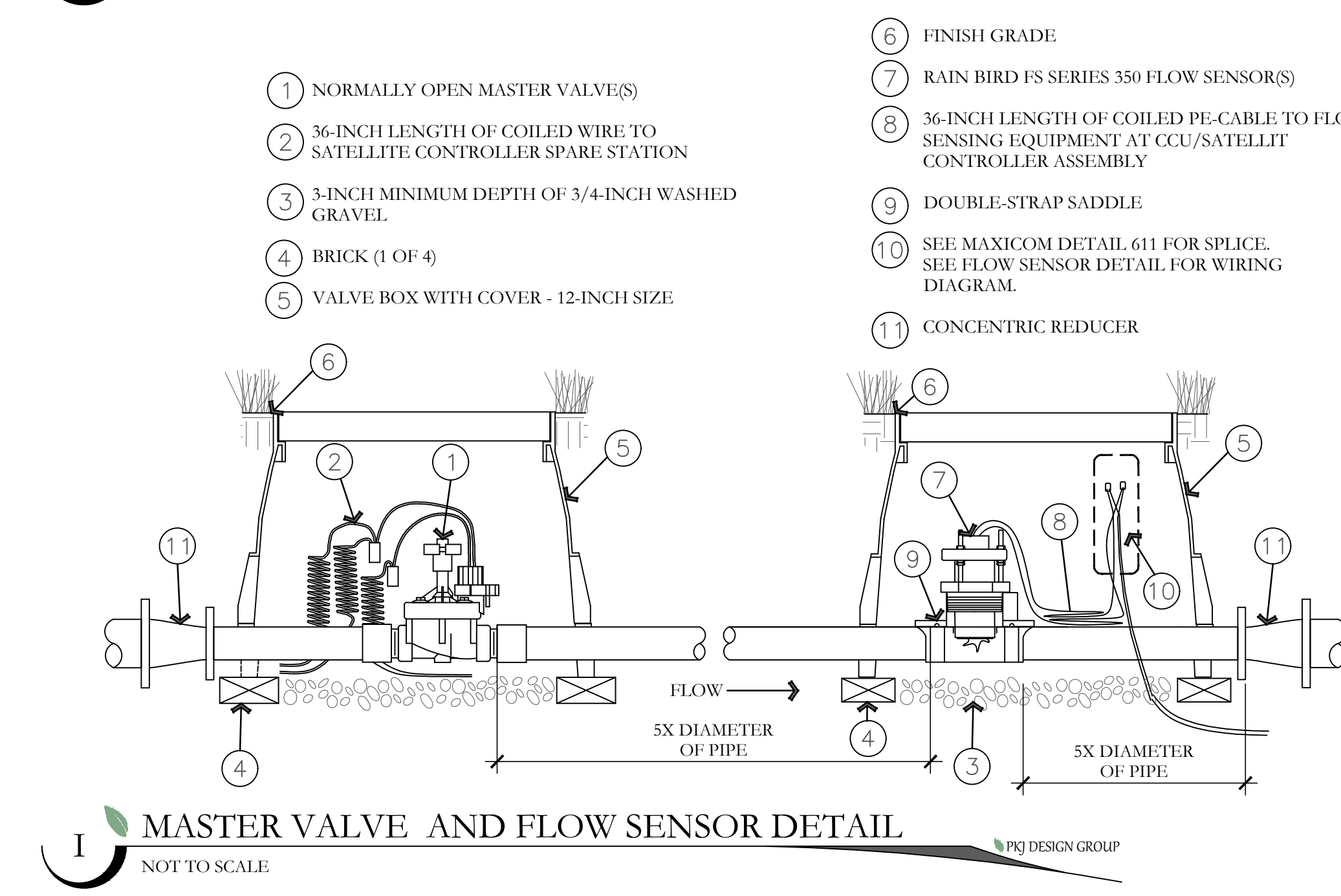
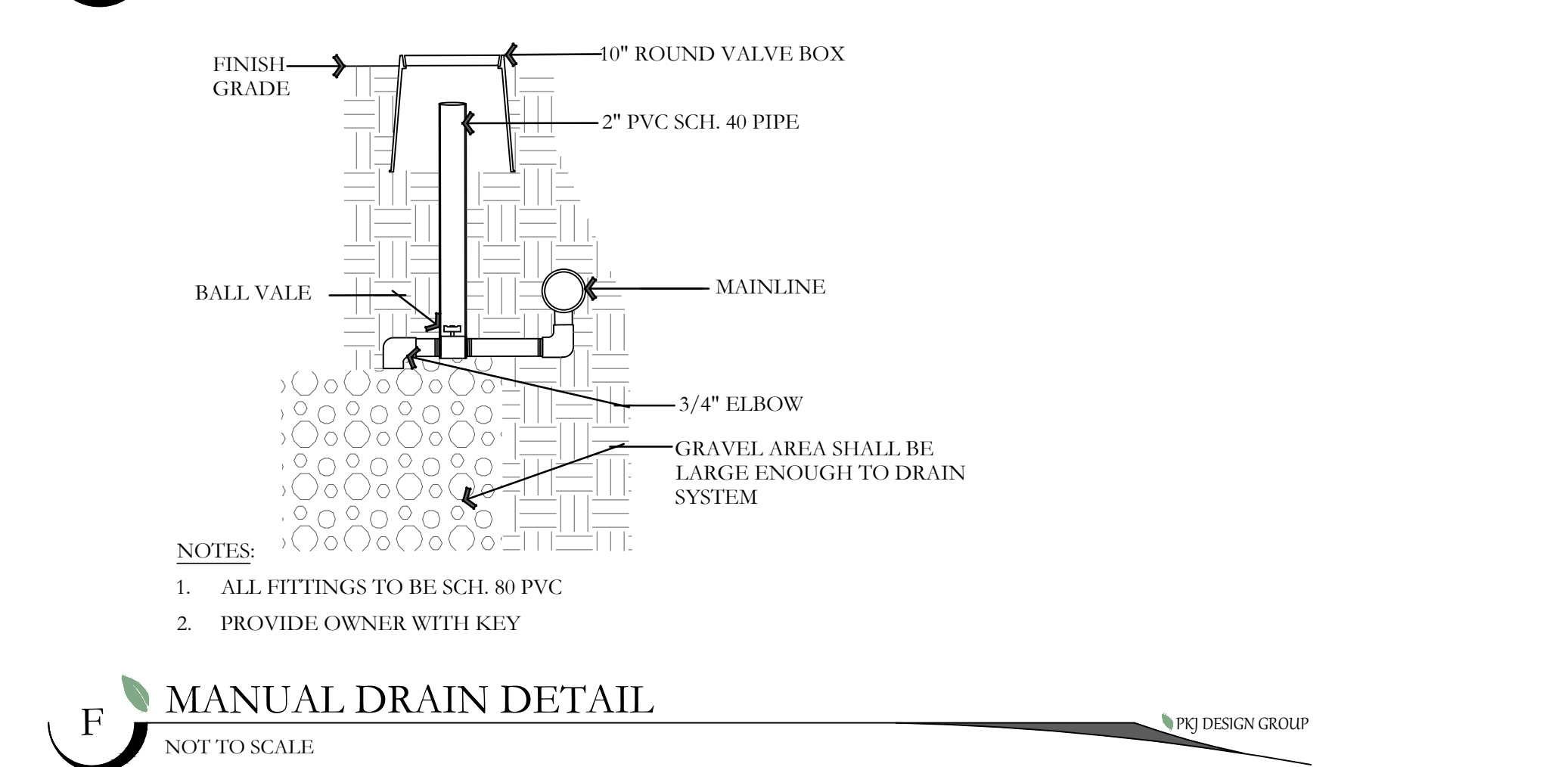
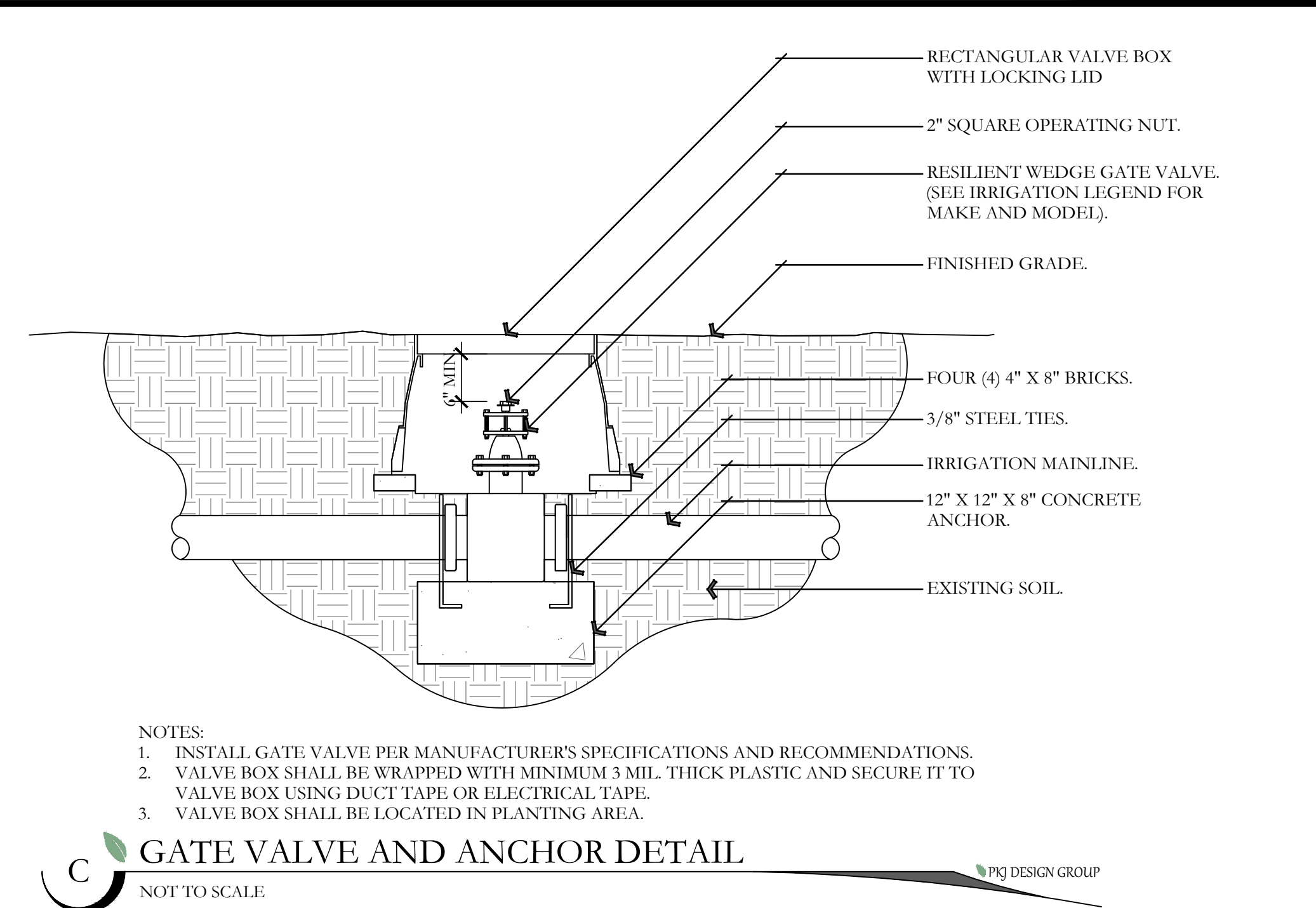
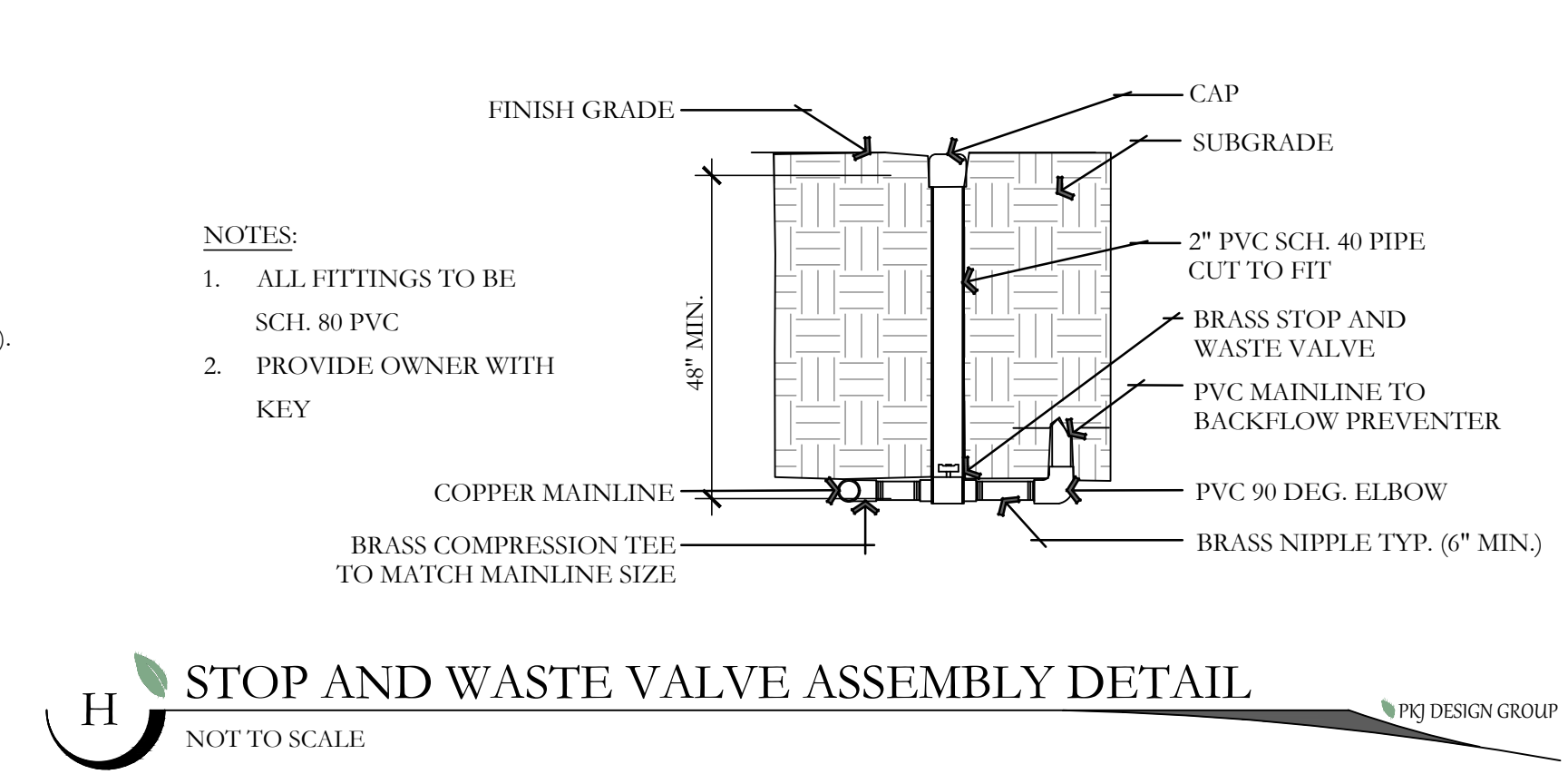
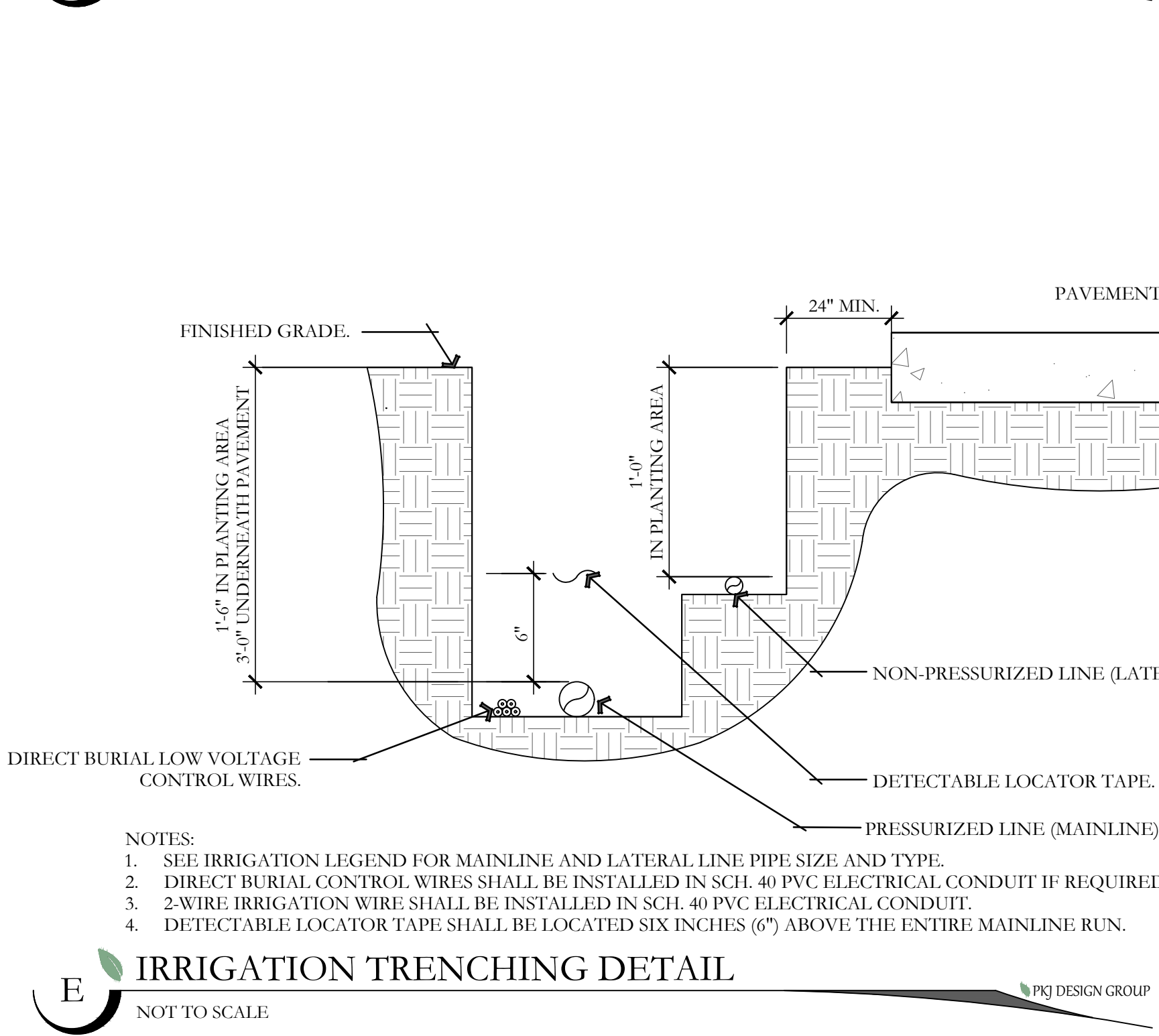
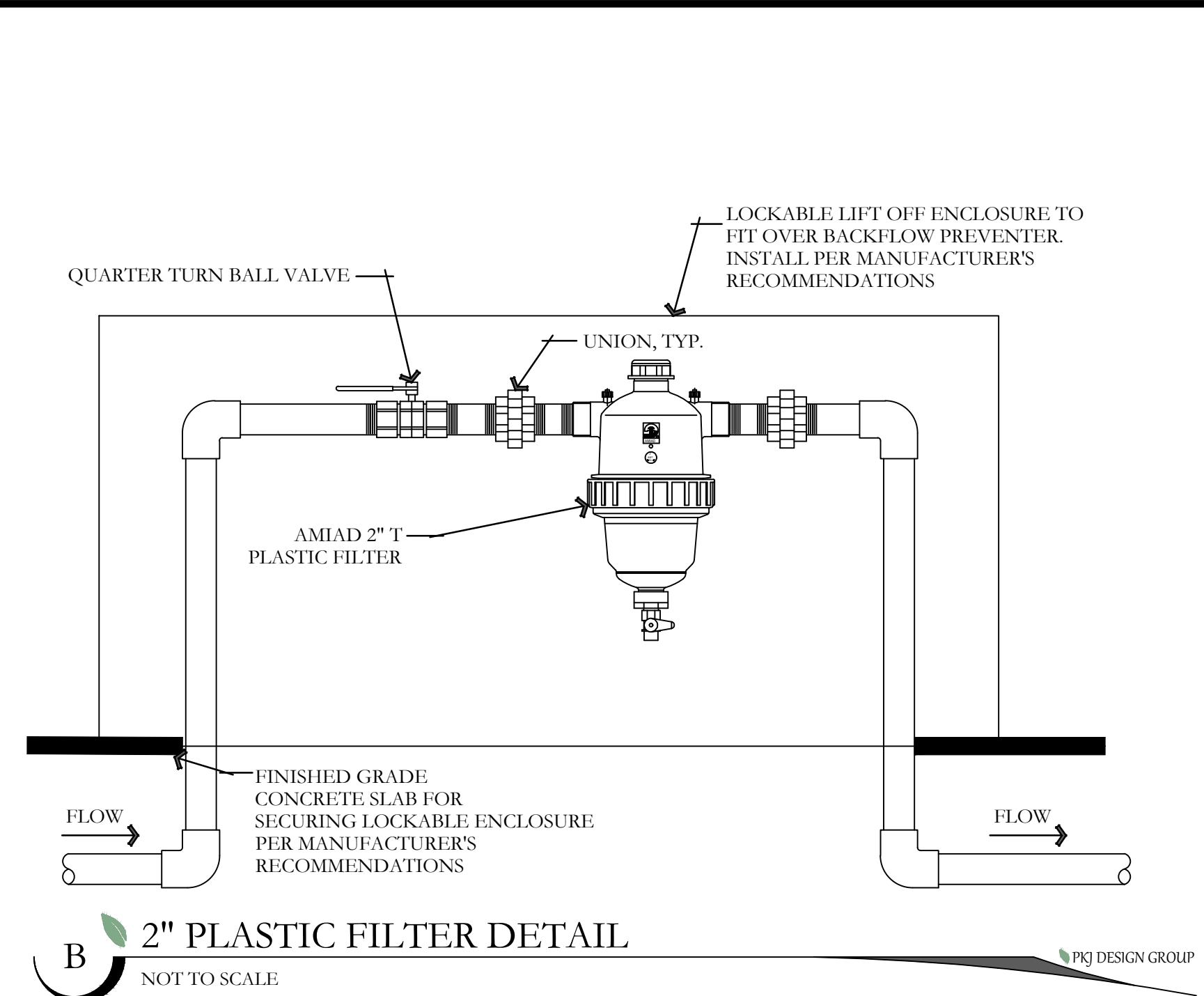
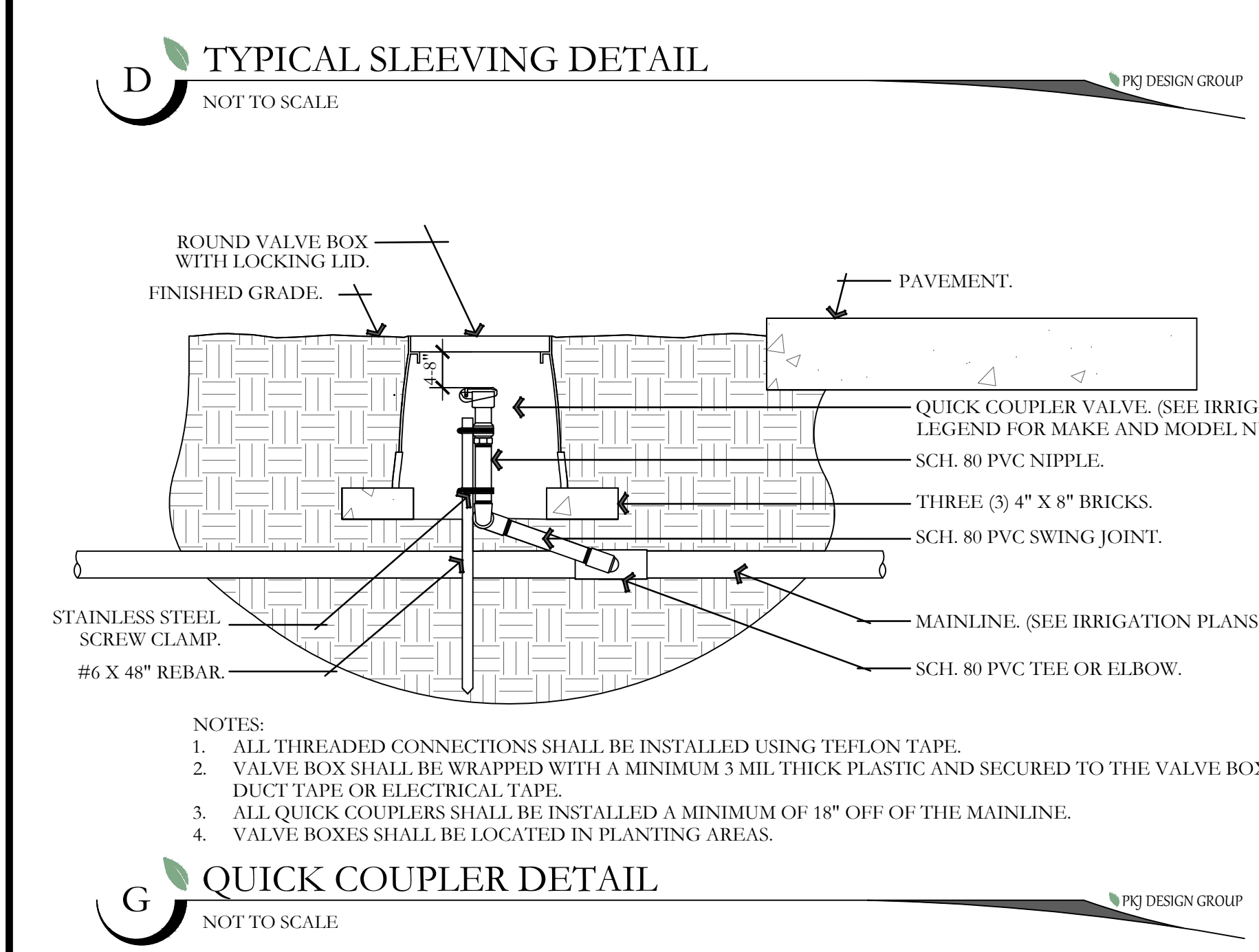
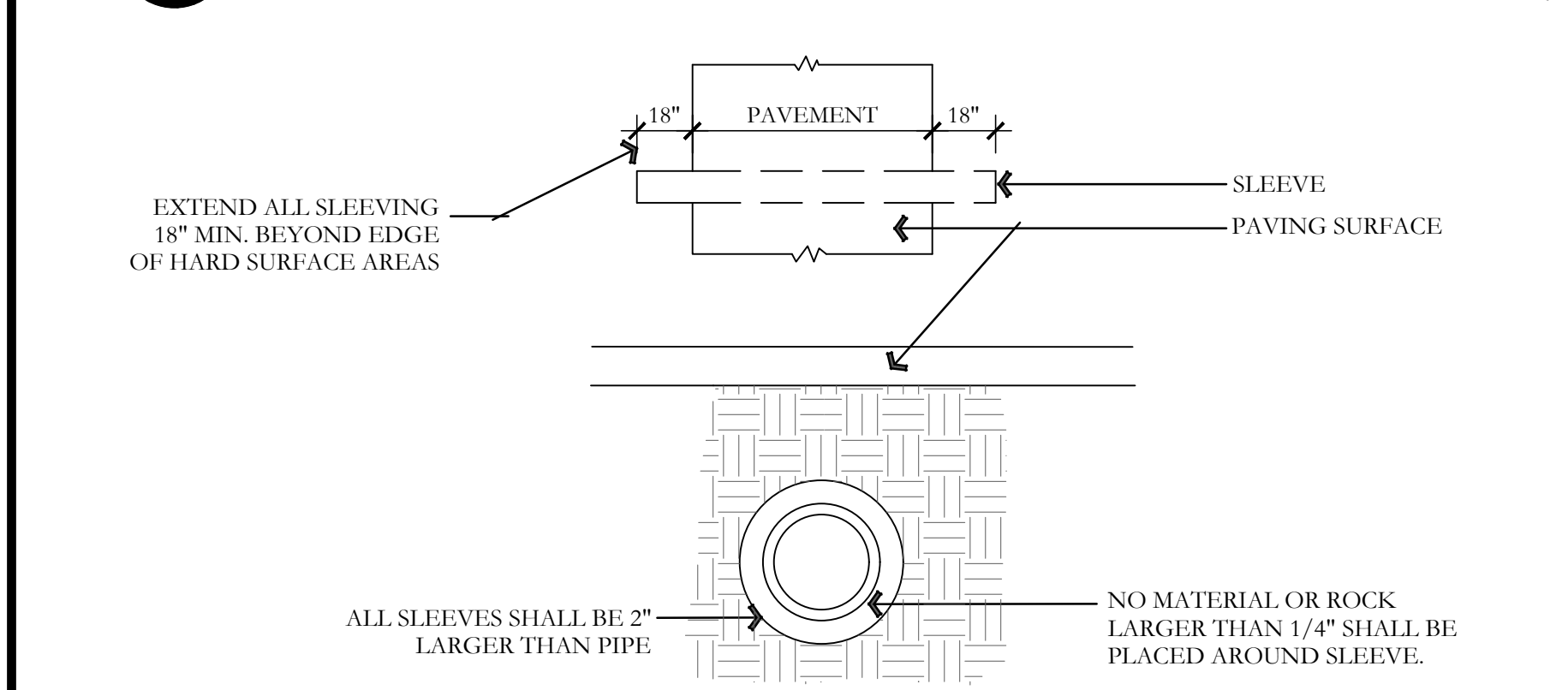
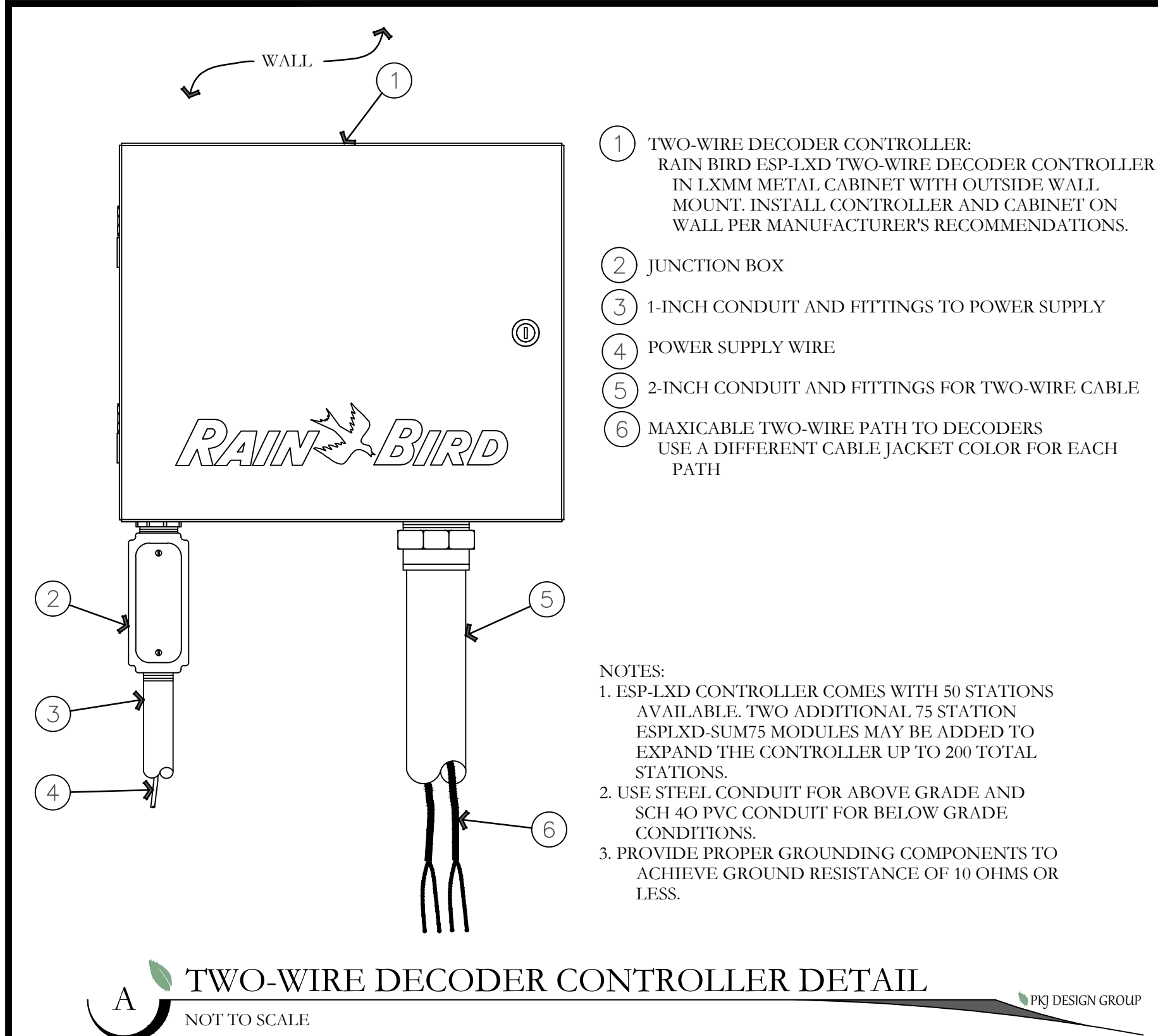
*NUMBERS MAY CHANGE DUE TO SIZE OF DRIP ZONE PER PLAN

IRRIGATION NOTES

- BEFORE WORK IS TO COMMENCE, BLUE STAKES/DIG LINE IS TO BE CALLED AND NOTIFIED. IF ANY DAMAGE TO UTILITIES HAPPEN DURING CONSTRUCTION, THE CONTRACTOR SHALL REPAIR IT AT THEIR EXPENSE WITH NO ADDITIONAL COST TO THE OWNER.
 - CONTRACTOR SHALL APPLY AND PAY FOR ALL NECESSARY PERMITS IN ACCORDANCE WITH CITY AND/OR COUNTY CODES AND COMPLY WITH SPECIFICATIONS AND DRAWINGS.
 - INVESTIGATE TO MAKE SURE THAT THE IRRIGATION SYSTEM IS, IN FACT, BEING CONNECTED TO A SECONDARY SYSTEM. IF IT IS NOT CONNECTED TO SECONDARY, CONTACT THE OWNER AND LANDSCAPE ARCHITECT TO COORDINATE A CULINARY SYSTEM AND REQUIRED COMPONENTS. A FUNCTIONING AMIAD FILTER IS TO BE USED AT THE POINT OF CONNECTION.
 - VERIFY THAT THE POINT OF CONNECTION IS IN THE CORRECT LOCATION BEFORE INSTALLATION. ALL CONNECTIONS ON THIS PROJECT ARE TO SECONDARY WATER AND SHOULD BE NOTED AS SUCH; THEREFORE, ALL PARTS MUST MEET WATER STANDARDS THAT PERTAIN TO SECONDARY WATER. USE PURPLE VALVE BOXES FOR SECONDARY WATER SYSTEMS.
 - ON OCCASION AND FOR GRAPHIC PURPOSES ONLY, THE IRRIGATION SYSTEM MIGHT BE SHOWN IN HARDSCAPE AREAS. THIS IRRIGATION IS TO BE PLACED IN LANDSCAPED AREAS ON THE PROPERTY SITE.
 - CONTRACTOR SHALL USE ONLY COMMERCIAL GRADE IRRIGATION PRODUCTS. THIS INCLUDES PIPE TO BE SCHEDULE 40 PVC OR BETTER. NO POLY PIPE IS TO BE USED. FITTINGS UP TO 1-1/2" MUST BE SCHEDULE 40 OR BETTER. FITTINGS LARGER THAN 1-1/2" SHALL BE SCHEDULE 80 OR BETTER. CONTRACTOR IS RESPONSIBLE FOR ENSURING ACCURATE COUNTS AND QUANTITIES OF ALL IRRIGATION MATERIALS FOR BIDDING AND INSTALLATION.
 - MAIN LINES SHALL BE A MINIMUM OF 24" DEEP AND LATERAL LINES A MINIMUM OF 12" DEEP. NO ROCK GREATER THAN 1/2" DIAMETER SHALL BE ALLOWED IN TRENCHES. TRENCHING BACKFILL MATERIAL SHALL BE COMPACTED TO PROPER FINISHED GRADE.
 - NO IRRIGATION MAIN LINE MAY BE LOCATED WITHIN 5 FEET OF ANY STRUCTURE.
 - TO AVOID PIPE DAMAGE, ADJUST LOCATION OF PIPE TO NOT BE DIRECTLY UNDER PLANT MATERIALS. VALVE BOXES ARE PREFERRED TO BE IN PLANTER BEDS INSTEAD OF THE LAWN.
 - PLAN INDICATES 100% OR BETTER HEAD TO HEAD COVERAGE. SHOULD CONTRACTOR FIND DISCREPANCIES DUE TO NECESSARY FIELD ADJUSTMENTS, CONTACT LANDSCAPE ARCHITECT FOR IRRIGATION CORRECTION.
 - DRIP IRRIGATION TO BE INSTALLED PER DETAILS. CONTRACTOR SHALL MAKE NECESSARY ADJUSTMENTS. TUBING SHOULD REST TOWARD OUTER EDGE OF ROOTBALL AND NOT AGAINST TRUNK OF PLANT.
 - A QUICK COUPLER SHALL BE INSTALLED AT POINT OF CONNECTION TO ALLOW BLOW OUT OF SYSTEM BY AIR COMPRESSOR AT END OF EACH SEASON.
 - INSTALL SLEEVES FOR ALL PIPES AND CONDUIT THAT ARE PLACED UNDER PAVEMENT AND SIDEWALKS. SLEEVES SHALL BE 2 SIZES LARGER THAN PIPE BEING PLACED INTERNALLY. WIRE CONDUIT SHALL BE INSTALLED IN CLASS 200 PIPE AT ANY DIRECTIONAL CHANGE THAT OCCURS. A JUNCTION BOX IS TO BE USED.
 - CONDUITS CAN NOT BE SHARED BY WATER AND ELECTRICAL LINES. ALL WIRE TO BE PUT IN PVC CONDUIT. ALL WIRE CONNECTIONS TO BE PLACED IN A VALVE BOX. ALL WIRE CONNECTIONS TO USE WATERPROOF WIRE CONNECTORS WITH AT LEAST 3' OF EXTRA WIRE. PROVIDE PLENTY OF EXTRA WIRE AT EVERY DIRECTIONAL CHANGE. INSULATED 14 GAUGE COPPER TO BE USED FOR ALL CONTROL WIRES AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
 - CONTRACTOR TO INSTALL LIGHTNING ARRESTOR AND GROUNDING RODS ON SITE PER MANUFACTURER'S RECOMMENDATIONS, SEE DETAILS.
 - CONTRACTOR TO SEPARATE SYSTEM (CONTROLLER, VALVES, AND DIFFERENT COLORED WIRES) FROM CITY MAINTAINED PROPERTY AND HOA/OWNER MAINTAINED PROPERTY.
 - DUCT TAPE ALL SLEEVES TO PREVENT SOIL OR OTHER DEBRIS ENTERING PIPE. IDENTIFY ALL SLEEVES BY WOOD OR PVC STAKES AND SPRAY PAINT WITH MARKING PAINT. REMOVE STAKES ONCE IRRIGATION SYSTEM IS COMPLETE.
 - TO PREVENT EROSION AND LOW POINT DRAINAGE, CONTRACTOR SHALL INSTALL CHECK VALVES
 - LOCATE SPRAY HEADS NO CLOSER THAN 6" FROM WALLS, FENCES OR BUILDINGS AND 2" AWAY FROM WALKS, PATHS OR CURBS.
 - PRESSURE TEST MAINLINE FOR LEAKS PRIOR TO BACKFILLING. CONTACT LANDSCAPE ARCHITECT/OWNER AT THIS TIME FOR COMPLIANCE.
 - CONTRACTOR TO CONSULT WITH OWNER ON EXACT LOCATION OF CONTROLLER. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR AND OWNER FOR THE POWER SUPPLY. INSTALL ALL PER MANUFACTURER'S SPECIFICATIONS. CONTRACTOR SHALL INSTALL A RAIN SENSOR WITH THE CONTROLLER UNLESS OTHERWISE DIRECTED BY OWNER OR LANDSCAPE ARCHITECT.
 - LATERAL LINES SHALL BE NO SMALLER THAN 3/4". LANDSCAPE CONTRACTOR TO ENSURE THE FOLLOWING PIPE SIZES DO NOT EXCEED THE SUGGESTED GPM LISTED BELOW:
- | | |
|--------|---------|
| 3/4" | 8 GPM |
| 1" | 12 GPM |
| 1-1/2" | 30 GPM |
| 2" | 53 GPM |
| 2-1/2" | 75 GPM |
| 3" | 110 GPM |
| 4" | 180 GPM |
- VALVE ID TAG
- | | |
|-----|--------------------|
| A1 | CONTROLLER NUMBER |
| 1.0 | VALVE NUMBER |
| 18 | GALLONS PER MINUTE |
| 55 | NOTE |
- NOTE: VALVE ID TAGS ARE LOCATED NEAR VALVES IN THE ORDER THE VALVES APPEAR ON THE DRAWING

CONTRACTOR TO PLACE TEMPORARY IRRIGATION SYSTEM ON ALL REVEGETATION SEED AREAS FOR THE FIRST YEAR UNTIL SEED IS ESTABLISHED

ISSUE DATE			PROJECT NUMBER			PLAN INFORMATION			PROJECT INFORMATION			DEVELOPER / PROPERTY OWNER / CLIENT			LANDSCAPE ARCHITECT / PLANNER			LICENSE STAMP			DRAWING INFO		
12/17/2020			UT18016			BLUE STAKES OF UTAH UTILITY NOTIFICATION CENTER, INC. 1-800-662-4111 www.bluestakes.org			N			EDGE HOMES 13702 S 200 W B12 DRAPER, UT 84020 (801) 494-0150			PKJ DESIGN GROUP Landscape Architecture • Planning & Visualization			STATE OF UTAH PROFESSIONAL ENGINEER 8128-21-5301 02/10/2020 JTA			PM: JTA DRAWN: AP CHECKED: KA PLOT DATE: 12/17/2020		
NO. REVISION DATE			1 XXXX XX-XX-XX			0' 20' 40' 80' 160'			GRAPHIC SCALE: 1" = 40'			Client / Engineer: FOCUS ENGINEERING 32 W CENTER ST. MIDVALE, UT 84047 (801) 352-0075			3450 N. TRIUMPH BLVD. SUITE 102 LEHI, UTAH 84043 (801) 960-2698 www.pkjdesigngroup.com			IRRIGATION PLAN PRELIMINARY PLANS NOT FOR CONSTRUCTION			IR-101		



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12/17/2020		UT18016	811 BLUE STAKES OF UTAH UTILITY NOTIFICATION CENTER, INC. 1-800-662-4111 www.bluestakes.org	LAKEFRONT: PH 1G VINEYARD, UTAH	Developer / Property Owner: EDGE HOMES 13702 S 200 W B12 DRAPER, UT 84020 (801) 494-0150	 DESIGN GROUP Landscape Architecture & Planning & Visualization 3450 N. TRIUMPH BLVD. SUITE 102 LEHI, UTAH 84043 (801) 960-2698 www.pkjdesigngroup.com	 IRRIGATION DETAILS PRELIMINARY PLANS FOR CONSTRUCTION IR-501	PM: DRAWN: CHECKED: PLOT DATE: 1
NO.	REVISION	DATE			Client / Engineer: FOCUS ENGINEERING 32 W CENTER ST. MIDVALE, UT 84047 (801) 352-0075			
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