

American River Flood Control District
County of Sacramento Regional Parks – Campus Commons Golf Course
Staff Report

Discussion:

The County of Sacramento Regional Parks submitted an encroachment permit application for re-construction of the Campus Commons Golf Course along the American River. As a result of U.S. Army Corps of Engineers bank protection works in 2022, the Golf Course was modified to facilitate construction and grading operations. Now the County proposes a restoration of the Golf Course to the previous condition. The work to reconstruct the golf course requires an amended permit from the Central Valley Flood Protection Board.

The reconstruction will not have an impact on the levee operations and maintenance of the District nor will it have a significant impact on the hydraulic capacity of the American River.

Recommendation:

The General Manager recommends that the Board of Trustees endorse the permit application from Regional Parks.

APPLICATION FOR A CENTRAL VALLEY FLOOD PROTECTION BOARD ENCROACHMENT PERMIT

Application No. _____
(For Office Use Only)

1. Description of proposed work being specific to include all items that will be covered under the issued permit.

The installation of a 9-hole golf course and all associated facilities, including underground irrigation, drainage, turf, small bridge, protective screening along boundary/trail interface. This replace the previous golf course within the same location, which was temporarily closed due to the Federal ARCF'16 Erosion Protection Program, Lower American River contract 2 Erosion Protection Project (Federal Project). Project description continues on attached supplemental information sheet.

2. Project

Location: Sacramento County, in Section _____
(N) (E)
Township: _____ (S), Range: _____ (W), M. D. B. & M.
Latitude: 38°34'11.22"N Longitude: 121°25'18.76"W
Stream: Lower American River, Levee: Right Bank AR, Pt1 Designated Floodway: American River
APN: _____

3. Sacramento County of 10361 Rockingham Drive, Suite 100
Name of Applicant / Land Owner Address

Sacramento CA 95827 916-875-6961
City State Zip Code Telephone Number
parksinfo@saccounty.gov
E-mail

4. Michael Doane of Sacramento County
Name of Applicant's Representative Company

Sacramento CA 95827 916-875-6961
City State Zip Code Telephone Number
doanem@saccounty.gov
E-mail

5. Endorsement of the proposed project from the Local Maintaining Agency (LMA):

We, the Trustees of American River Flood Control District approve this plan, subject to the following conditions:
Name of LMA

Conditions listed on back of this form Conditions Attached No Conditions

Trustee _____ Date _____ Trustee _____ Date _____
Trustee _____ Date _____ Trustee _____ Date _____

APPLICATION FOR A CENTRAL VALLEY FLOOD PROTECTION BOARD ENCROACHMENT PERMIT

6. Names and addresses of adjacent property owners sharing a common boundary with the land upon which the contents of this application apply. If additional space is required, list names and addresses on back of the application form or an attached sheet.

Table with 3 columns: Name, Address, Zip Code. Includes entries for CA, State Lands Commission and County of Sacramento.

7. Has an environmental determination been made of the proposed work under the California Environmental Quality Act of 1970? [X] Yes [] No [] Pending

If yes or pending, give the name and address of the lead agency and State Clearinghouse Number:

Central Valley Flood Protection Board, September 2021

SCH No. 2005072046

8. When is the project scheduled for construction? Fall 2023- Summer 2024

9. Please check exhibits accompanying this application.

- A. [X] Regional and vicinity maps showing the location of the proposed work.
B. [X] Drawings showing plan view(s) of the proposed work to include map scale.
C. [X] Drawings showing the cross section dimensions and elevations (vertical datum?) of levees, berms, stream banks, flood plain,
D. [X] Drawings showing the profile elevations (vertical datum?) of levees, berms, flood plain, low flow, etc.
E. [X] A minimum of four photographs depicting the project site.

Michael Doane 7-11-23
Signature of Applicant Date

Date

Include any additional information:

- Cross sections and profiles of levee are not provided as this work isn't proposed within, on, or at the levee prism; Plan view of the bank protection work adjacent to the golf course are supplied instead.
-No new conditions; prior conditions from previously approved permits apply.

ENVIRONMENTAL ASSESSMENT QUESTIONNAIRE FOR APPLICATIONS FOR CENTRAL VALLEY FLOOD PROTECTION BOARD ENCROACHMENT PERMITS

This environmental assessment questionnaire must be completed for all Central Valley Flood Protection Board applications. Please provide an explanation where requested. Incomplete answers may result in delays in processing permit applications. Failure to complete the questionnaire may result in rejection of the application.

1. Has an environmental assessment or initial study been made or is one being made by a local or State permitting agency in accordance with the California Environmental Quality Act? Yes No

If yes, identify the Lead Agency, type of document prepared or which will be prepared, and the State Clearinghouse Number:

CVFPB is the lead agency, Supplemental Environmental Impact Report, SCH: 2005072046

American River Watershed Common Features Water Resources Development Act of 2016, American River Contract 2, September 2021.

2. Will the project require certification, authorization or issuance of a permit by any local, State or federal environmental control agency? Yes No

List all other governmental permits or approvals necessary for this project or use, including U.S. Army Corps of Engineers' 404 and Section 10 permits, State Water Quality Certification, Department of Fish and Game 1600 agreement, etc. Attach copies of all applicable permits.

As described in SEIS/R referenced above and as on file with CVFPB for the Federal project.

3. Give the name and address of the owner of the property on which the project or use is located. Please submit a copy of your current Title Report (Grant Deed), if your proposed project includes a private residence.

Sacramento County, 10361 Rockingham Drive, Suite 100, Sacramento, CA, 95827

4. Will the project or use require issuance of a variance or conditional use permit by a city or county?

Yes No

Explain:

5. Is the project or use currently operating under an existing use permit issued by a local agency?

Yes No

Explain:

ENVIRONMENTAL ASSESSMENT QUESTIONNAIRE FOR APPLICATIONS
FOR CENTRAL VALLEY FLOOD PROTECTION BOARD ENCROACHMENT PERMITS

6. Describe all types of vegetation growing on the project site, including trees, brush, grass, etc.

Reference SEIS/R per above.

7. Describe what type of wildlife or fish may use the project site or adjoining areas for habitat, food source, nesting sites, source of water, etc.

Reference SEIS/R per above.

8. Has the Department of Fish and Game, U.S. Fish and Wildlife Service, or National Marine Fisheries Service been consulted relative to the existence of, or impacts to, threatened or endangered species on or near the project site?

Yes No

Explain:

Reference SEIS/R per above and associated Biological Opinions referenced therein.

9. Will the project or use significantly change present uses of the project area?

Yes No

Explain:

Prior to the bank protection work in the area, Sacramento County operated the area as a golf course; that golf course is being reconstructed in the remaining area within the Lower American River Parkway, under the existing permit #6156

10. Will the project result in changes to scenic views or existing recreational opportunities?

Yes No

Explain:

11. Will the project result in the discharge of silt or other materials into a body of water?

Yes No

Explain:

ENVIRONMENTAL ASSESSMENT QUESTIONNAIRE FOR APPLICATIONS
FOR CENTRAL VALLEY FLOOD PROTECTION BOARD ENCROACHMENT PERMITS

12. Will the project involve the application, use, or disposal of hazardous materials? Yes No

If yes, list the types of materials, proposed use, and disposal plan. Provide copies of all applicable hazardous material handling plans.

Reference SEIS/R per above

13. Will construction activities or the completed project generate significant amounts of noise?

Yes No

Explain:

Reference SEIS/R per above

14. Will construction activities or the completed project generate significant amounts of dust, ash, smoke, fumes, or odors?

Yes No

Explain:

Reference SEIS/R per above

15. Will the project activities or uses involve the burning of brush, trees, or construction materials, etc?

Yes No

Explain, and identify safety and air pollution control measures:

Reference SEIS/R per above

16. Will the project affect existing agricultural uses or result in the loss of existing agricultural lands?

Yes No

Explain:

Reference SEIS/R per above

ENVIRONMENTAL ASSESSMENT QUESTIONNAIRE FOR APPLICATIONS
FOR CENTRAL VALLEY FLOOD PROTECTION BOARD ENCROACHMENT PERMITS

17. Have any other projects similar to the proposed project been planned or completed in the same general area as the proposed project?

Yes No

Explain and identify any other similar projects:

The golf course existing prior to being destroyed due to the USACE bank protection project and will be reconstructed.

18. Will the project have the potential to encourage, facilitate, or allow additional or new growth or development?

Yes No

Explain:

19. Will materials be excavated from the floodplain? Yes No If yes, please answer the remaining questions.

**THE REMAINING QUESTIONS MUST ONLY BE ANSWERED IF THE ANSWER TO QUESTION
NO. 19 WAS "YES". IF THE ANSWER TO QUESTION NO. 19 WAS "NO", YOU DO NOT
NEED TO COMPLETE THE REMAINING QUESTIONS.**

- A. What is the volume of material to be excavated?

Annually _____ Total TBD

- B. What types of materials will be excavated?

Existing materials at the golf course site will be re-graded. Small amount may be hauled off which is TBD.

- C. Will the project site include processing and stockpiling of material on site?

Yes No

Explain:

Only existing bank materials will be graded throughout the golf course area.

- D. What method and equipment will be used to excavate material?

Dozers

ENVIRONMENTAL ASSESSMENT QUESTIONNAIRE FOR APPLICATIONS
FOR CENTRAL VALLEY FLOOD PROTECTION BOARD ENCROACHMENT PERMITS

E. What is the water source for the project?

Existing water main used for the prior golf course.

F. How will waste materials wash water, debris, and sediment be disposed of?

N/A; onsite material contained; contractor SWPPP

G. What is the proposed end land use for the project site?

Golf course as previously existed.

H. Has a reclamation plan been prepared for this site in accordance with the Surface Mining and Reclamation Act of 1975?

Yes No If yes, please attach a copy.

Campus Commons Golf Course

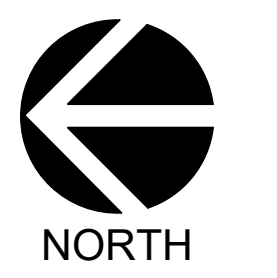
2 Cadillac Dr.
Sacramento
California

American River
Common Features
Project

REMOVAL PLAN

Client Contact:
Sacramento Area Flood
Control Agency (SAFCA)

1325 J St. Suite 1700
Sacramento, CA 95814
916-874-7606



Date: June 11, 2023
Rev: Rev1
Rev: Rev2
Rev: Rev3
Scale: 1"=100'

Sheet: GC-1



Campus Commons Golf Course

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California

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Project

STAKING & LAYOUT PLAN

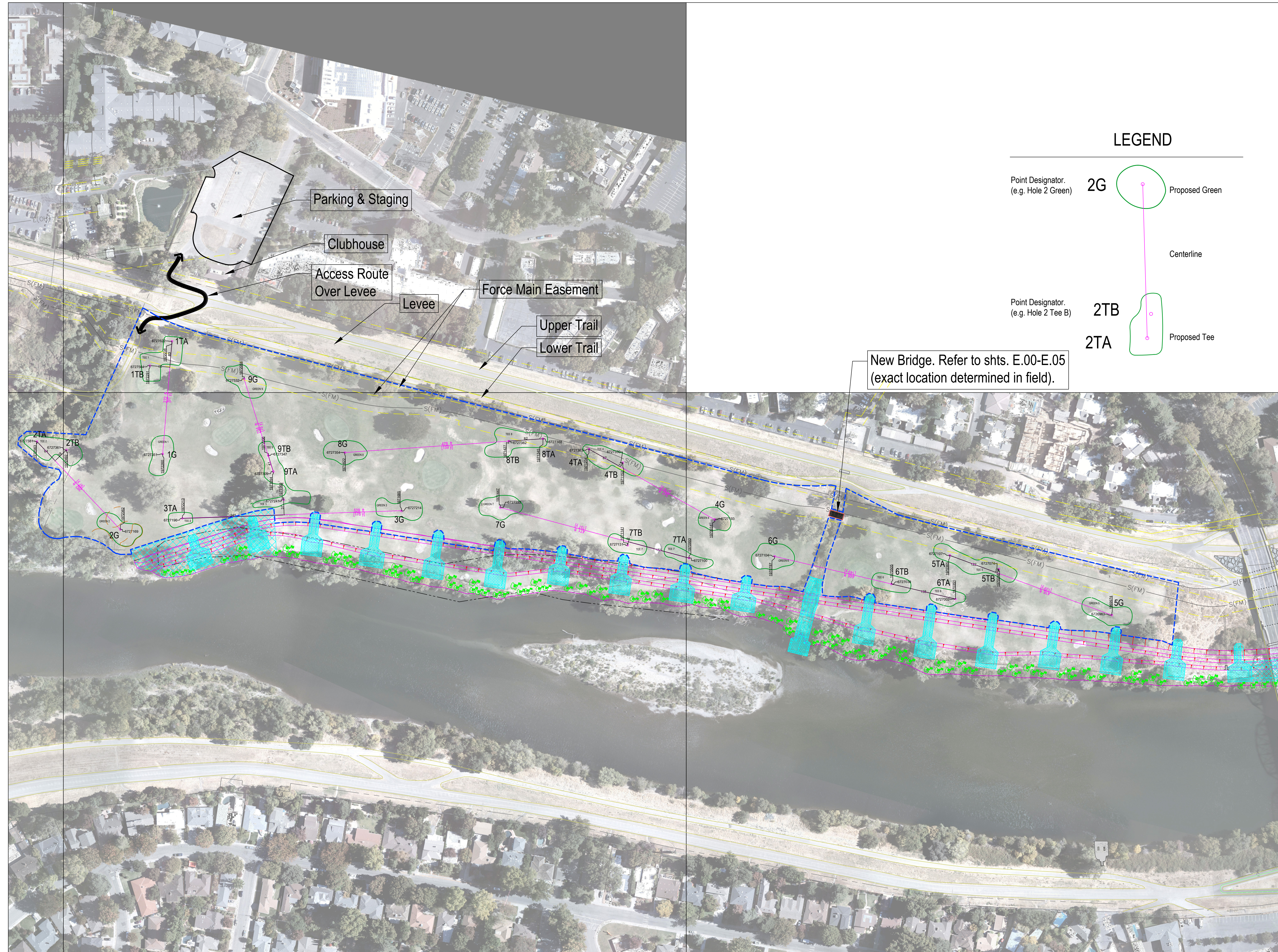
Client Contact:
Sacramento Area Flood
Control Agency (SAFCA)

1325 J St. Suite 1700
Sacramento, CA 95814
916-874-7606



Date: June 11, 2023
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Scale: 1"=100'

Sheet: GC-2



LEGEND

- Point Designator. (e.g. Hole 2 Green) **2G** Proposed Green
- Centerline
- Point Designator. (e.g. Hole 2 Tee B) **2TB** Proposed Tee
- 2TA** Proposed Tee

New Bridge. Refer to shts. E.00-E.05
(exact location determined in field).

Campus Commons Golf Course

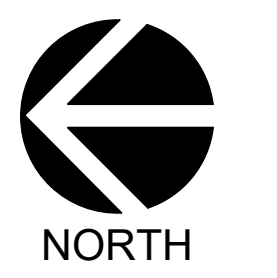
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California

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GRADING & DRAINAGE PLAN

Client Contact:
Sacramento Area Flood
Control Agency (SAFCA)

1325 J St. Suite 1700
Sacramento, CA 95814
916-874-7606



Date: June 11, 2023
Rev: Rev1
Rev: Rev2
Rev: Rev3
Scale: 1"=100'

Sheet: GC-3



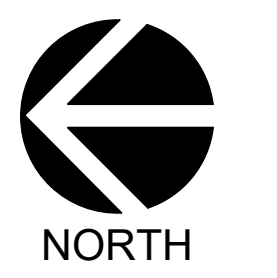
Campus Commons Golf Course

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California

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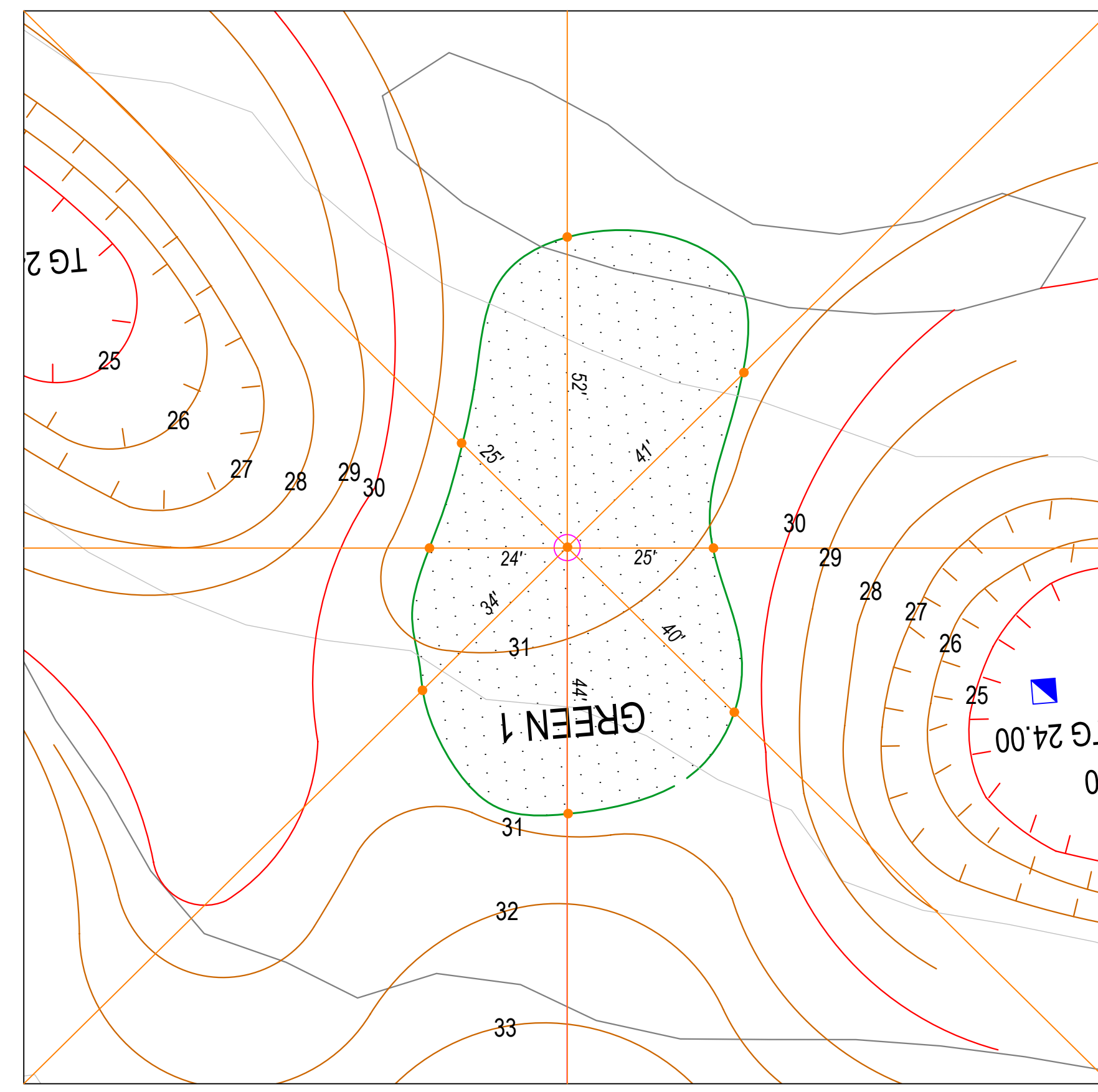
GREEN DETAILS

Client Contact:
Sacramento Area Flood
Control Agency (SAFCA)
1325 J St. Suite 1700
Sacramento, CA 95814
916-874-7606

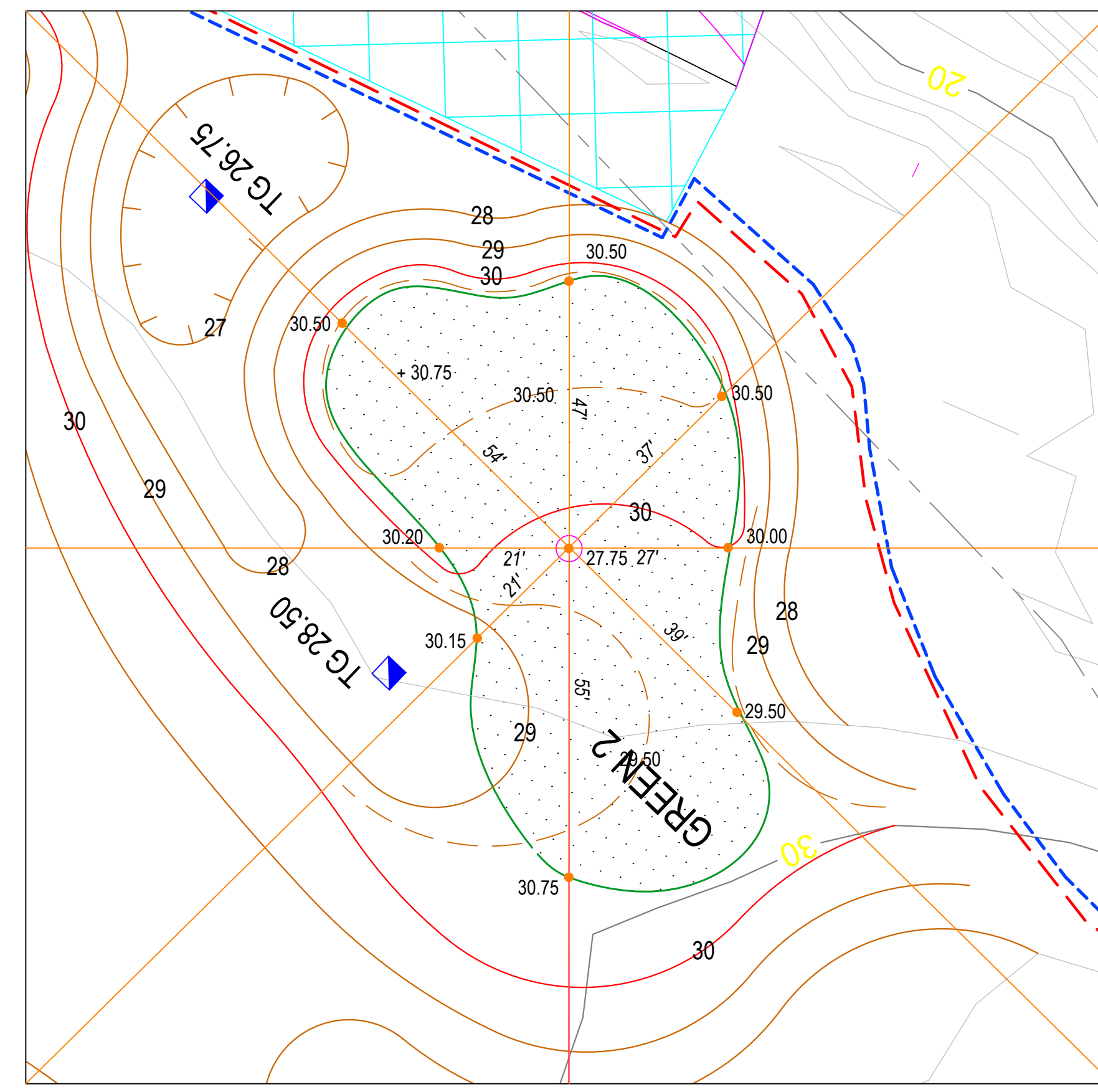


Date: June 11, 2023
Rev: Rev1
Rev: Rev2
Rev: Rev3
Scale: 1"=20'

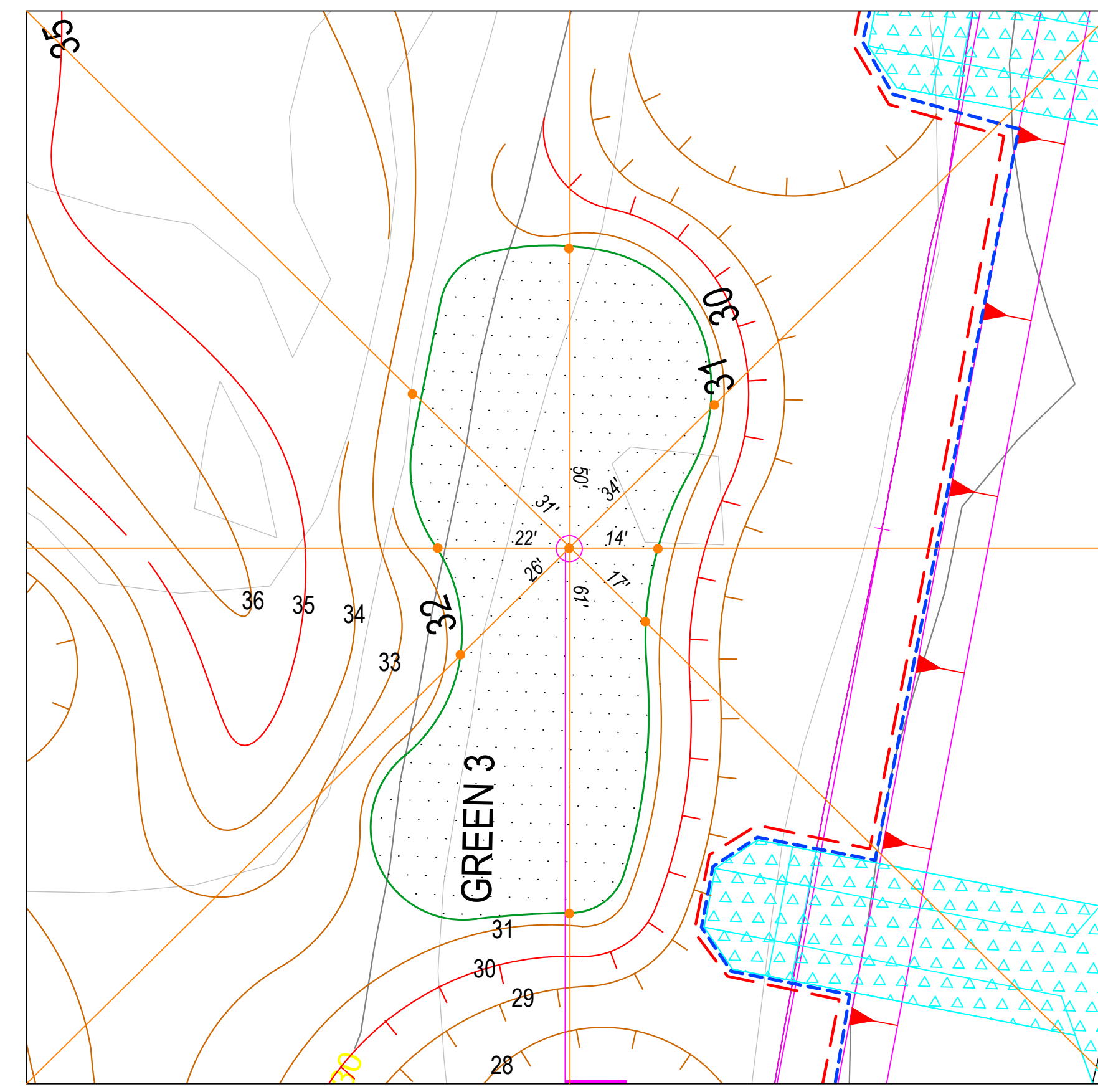
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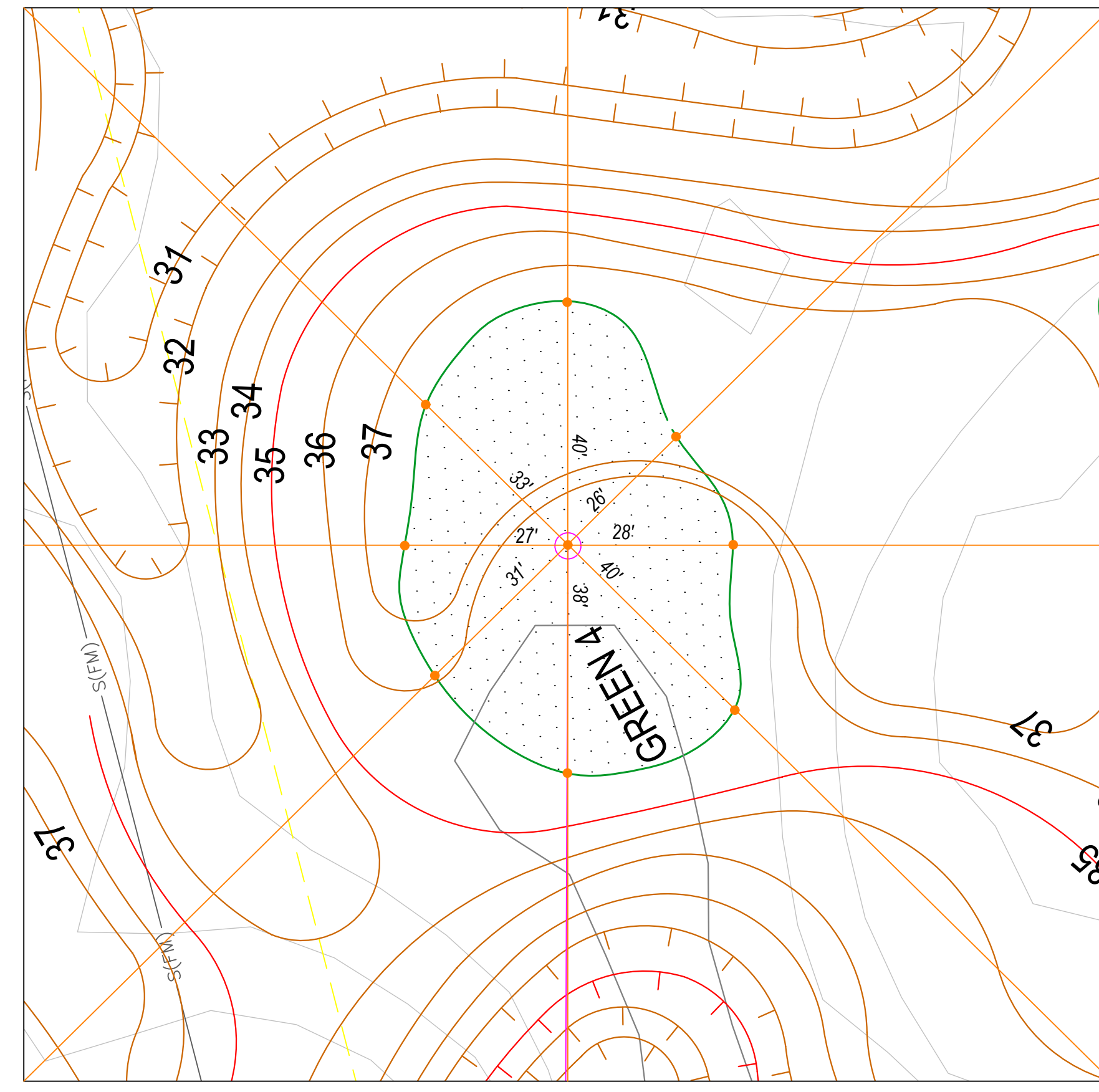
HOLE 1 - 91 yards - 4,323 sf
scale: 1"=20'



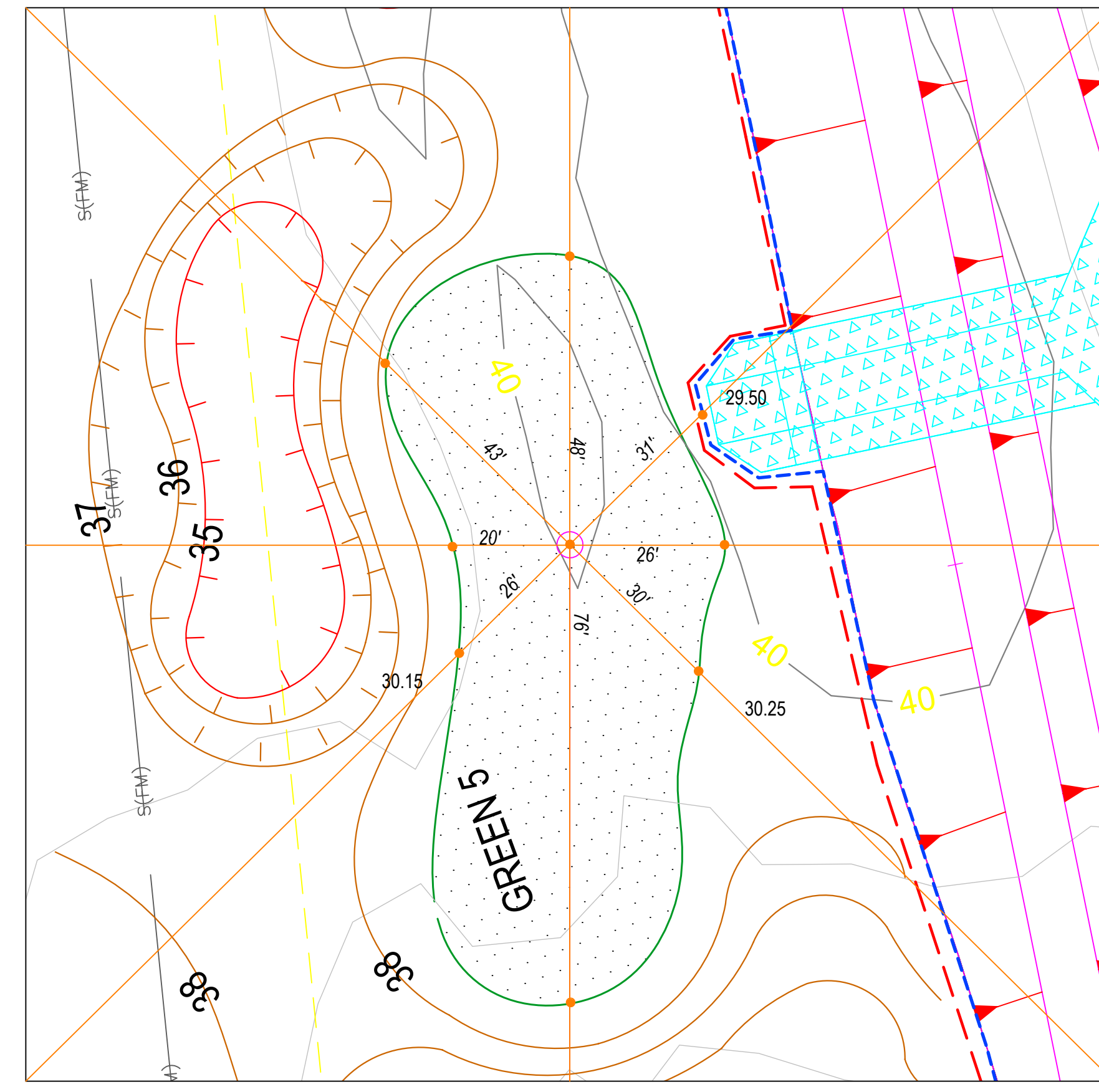
HOLE 2 - 97 yards - 4,970 sf



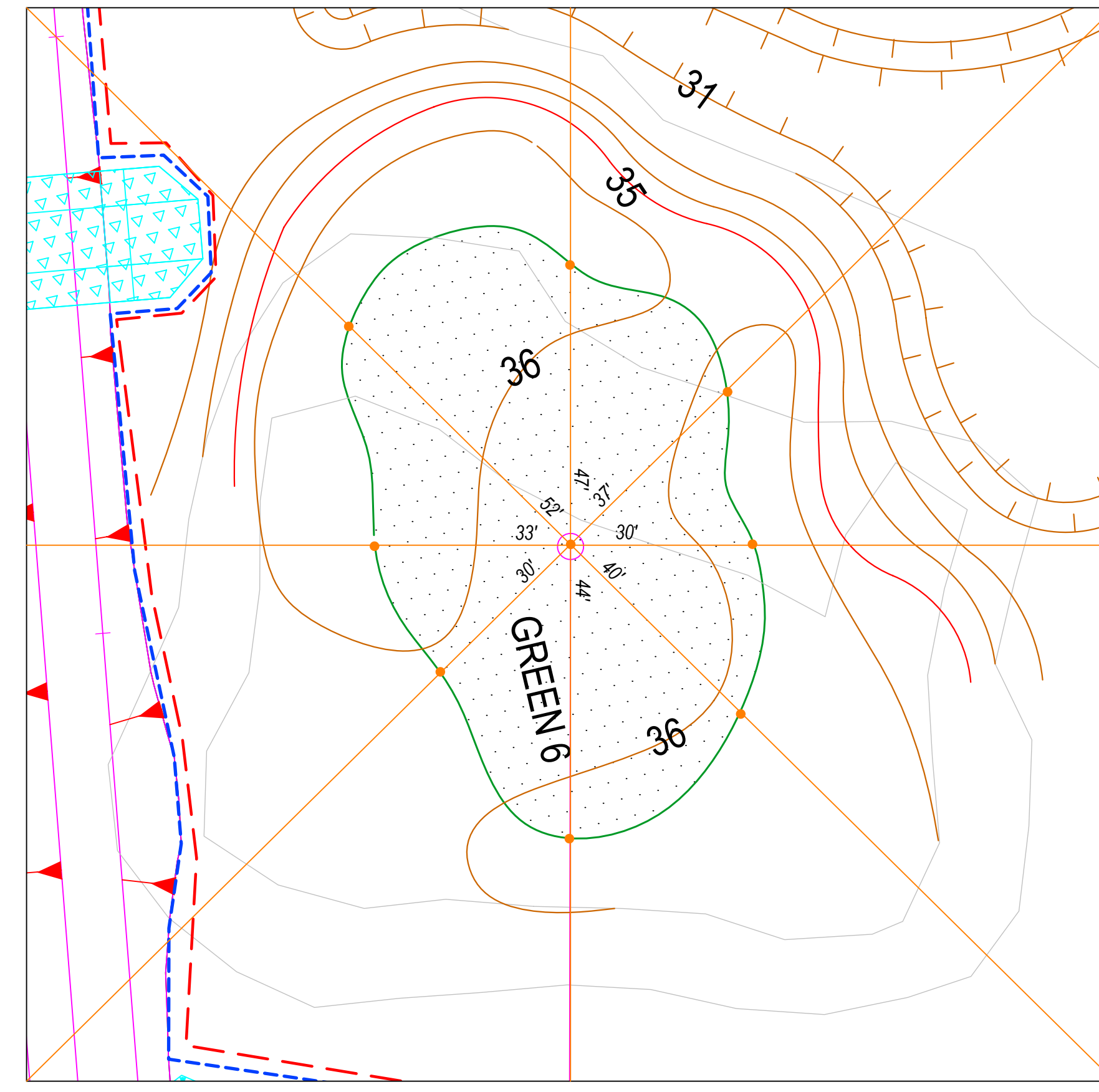
HOLE 3 - 176 yards - 4,430 sf



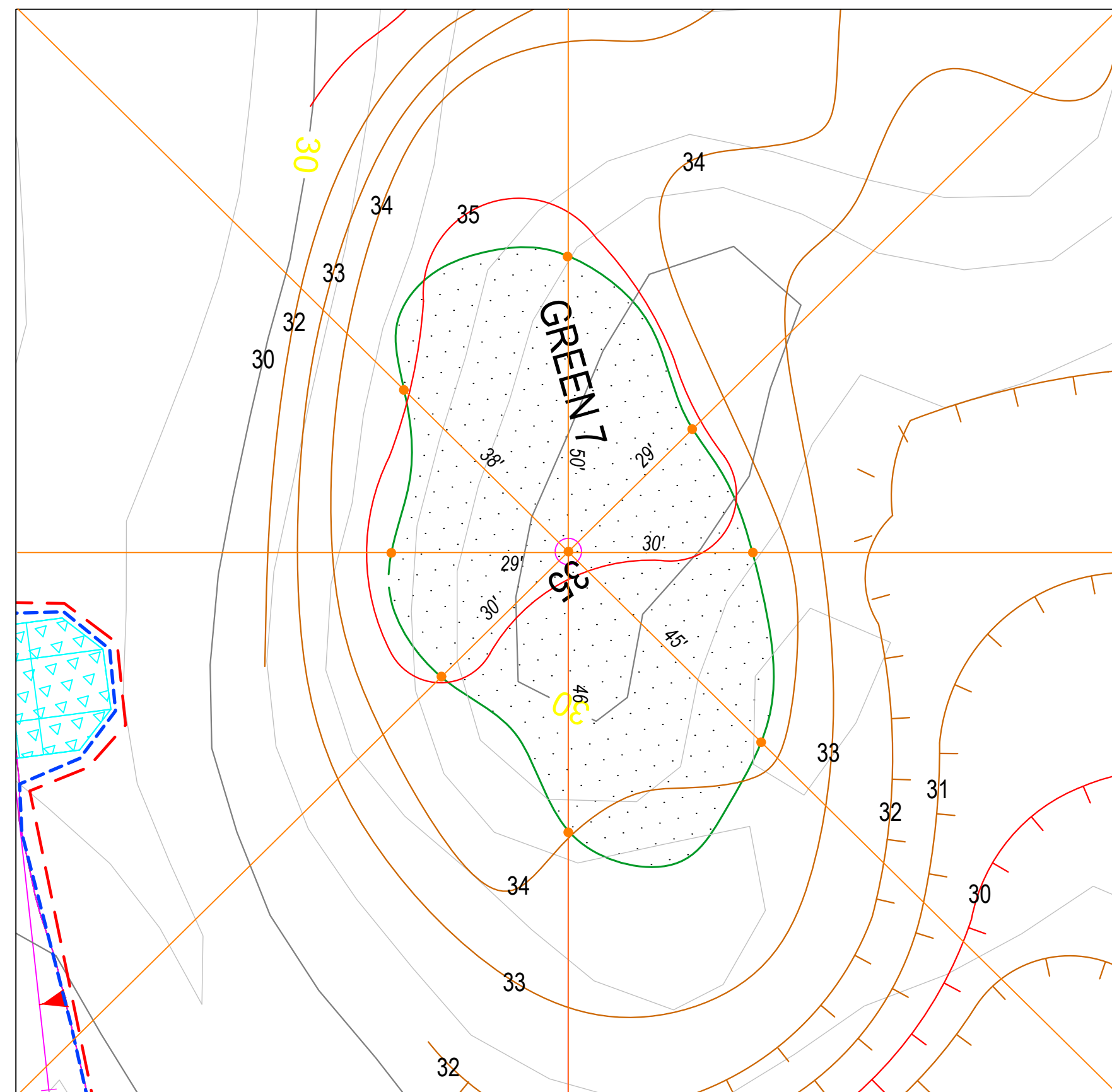
HOLE 4 - 116 yards - 3,440 sf



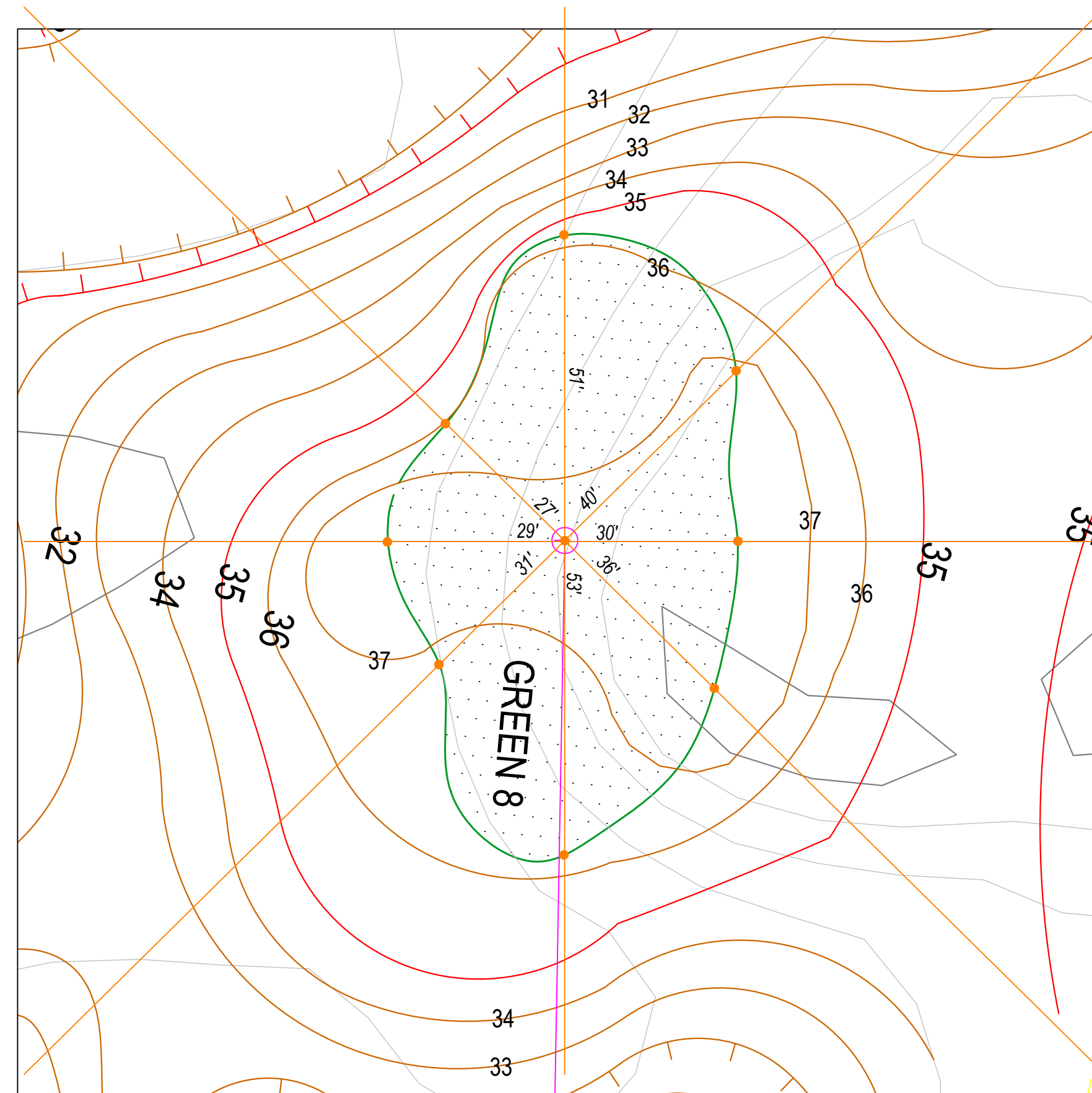
HOLE 5 - 139 yards - 5,165 sf



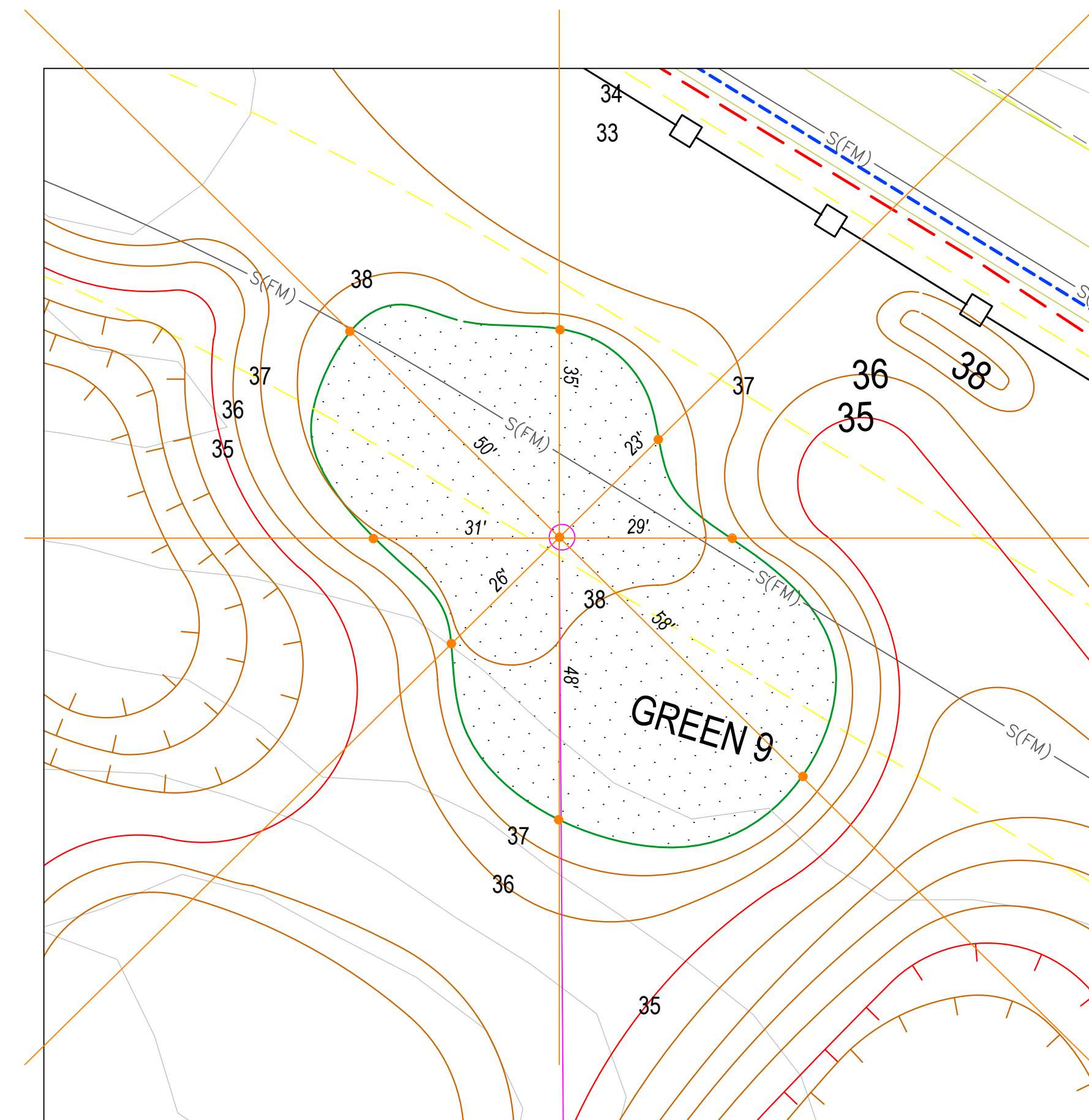
HOLE 6 - 149 yards - 5,180 sf



HOLE 7 - 157 yards - 4,550 sf



HOLE 8 - 159 yards - 4,550 sf



HOLE 9 - 78 yards - 4,990 sf

Campus Commons Golf Course

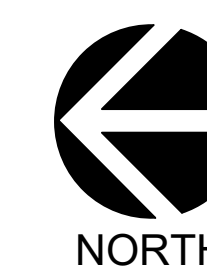
2 Cadillac Dr.
Sacramento
California

American River
Common Features
Project

GREEN DETAILS

Client Contact:
Sacramento Area Flood
Control Agency (SAFCA)

1325 J St. Suite 1700
Sacramento, CA 95814
916-874-7606



Date: June 11, 2023
 Rev: Rev1
 Rev: Rev2
 Rev: Rev3
 Scale: 1"=20'

Sheet: GC-5

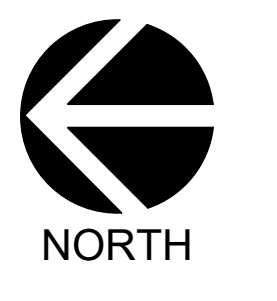
Campus Commons Golf Course

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Common Features
Project

GRASSING & FENCING PLAN

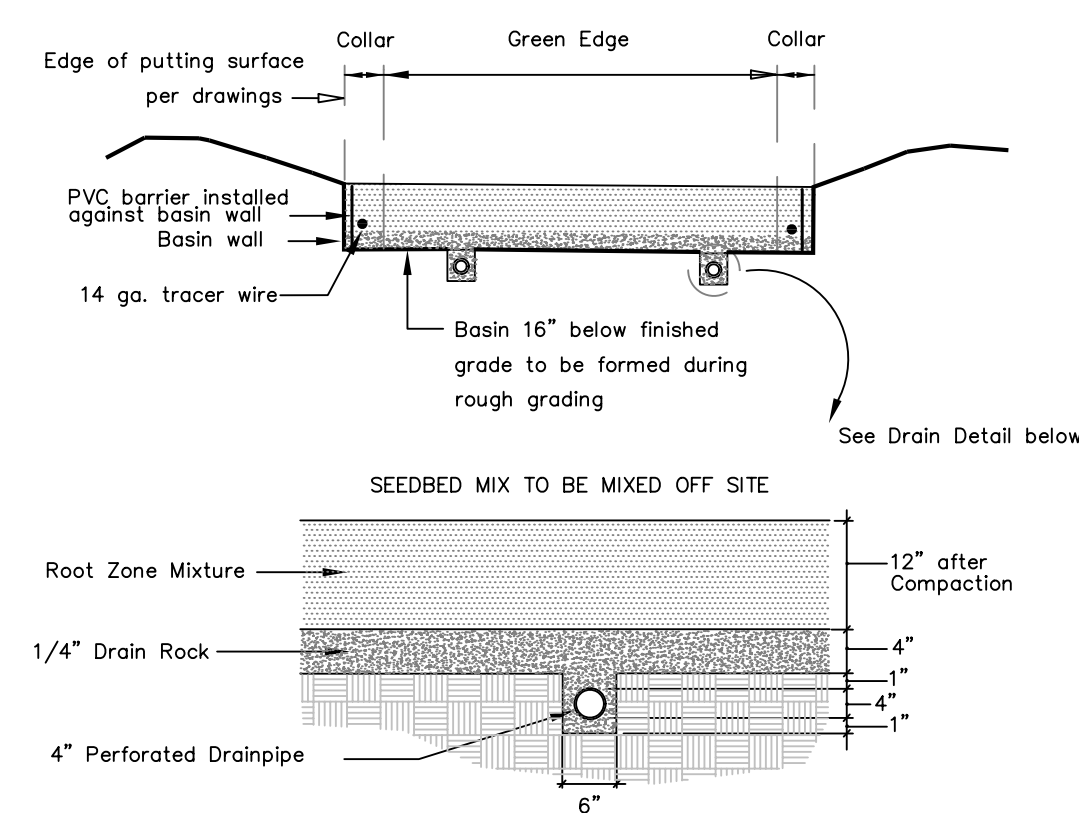
Client Contact:
Sacramento Area Flood
Control Agency (SAFCA)
1325 J St. Suite 1700
Sacramento, CA 95814
916-874-7606



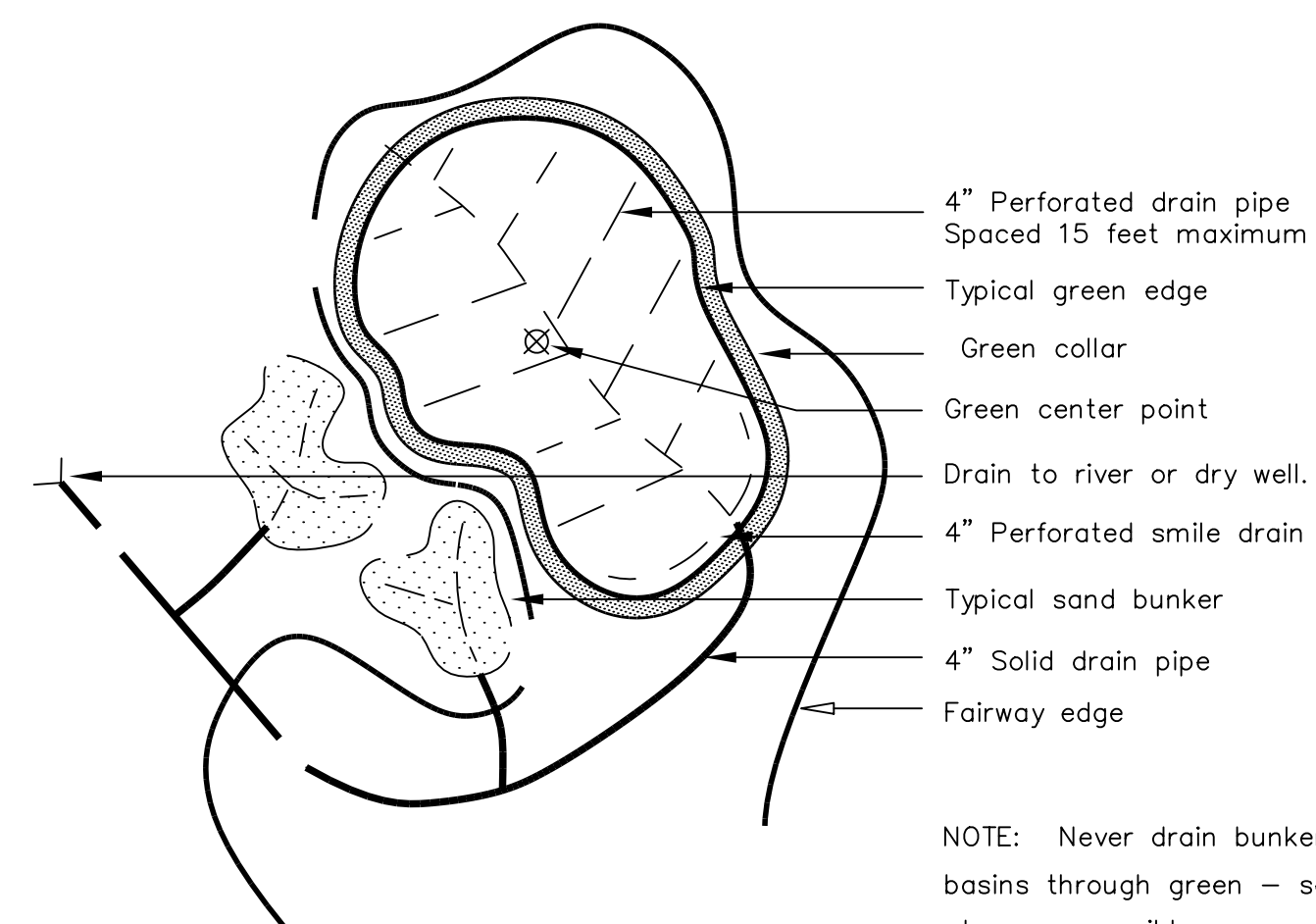
Date: June 11, 2023
Rev: Rev1
Rev: Rev2
Rev: Rev3
Scale: 1"=100'

Sheet: GC-6



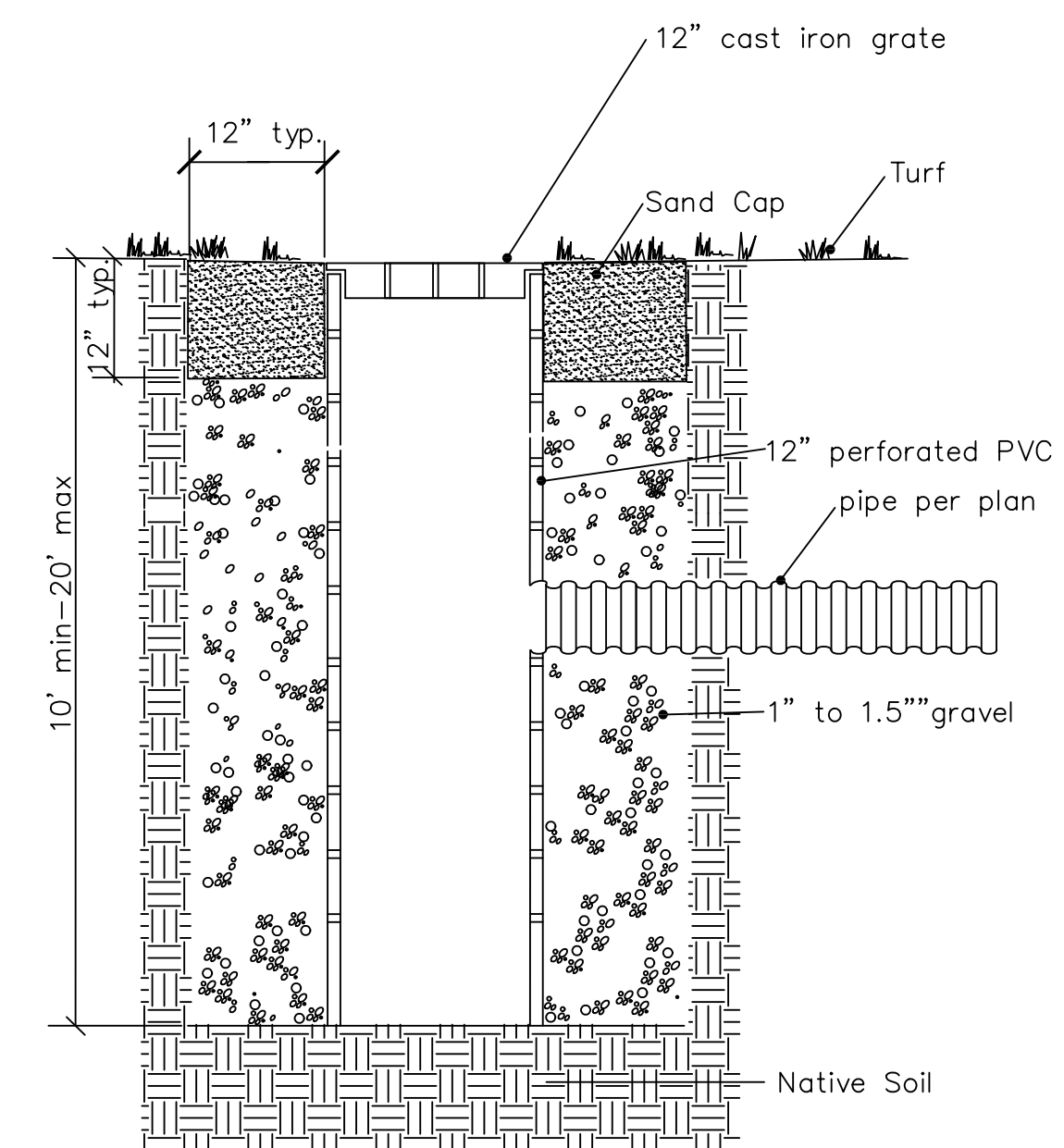


A Typical Green w/ barrier
Not To Scale



NOTE: Never drain bunkers or catch basins through green - separate whenever possible.

B Typical Green Drainage
Not To Scale



C 12" Dry Well
Not To Scale

Campus Commons Golf Course

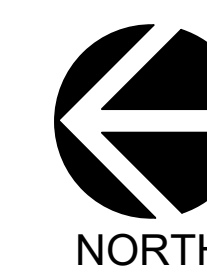
2 Cadillac Dr.
Sacramento
California

American River Common Features Project

DETAILS

Client Contact:
Sacramento Area Flood Control Agency (SAFCA)

1325 J St. Suite 1700
Sacramento, CA 95814
916-874-7606



Date: April 18, 2023
Rev: Rev1
Rev: Rev2
Rev: Rev3
Scale: 1"=20'

Sheet: GC-7

LEGEND - TORO EQUIPMENT OPTION

SPRINKLERS

60" Sprinkler Spacing (VIH)

- o Toro FLX34-34-6-1 (Orange).
Performance: 72' Radius/28.1 GPM @ 65 psi.
Use Toro Swing Joint TSJ-15A-12-3-10A
- d Toro FLX35-34-6-1 (Orange).
Performance: 68' Radius/28.2 GPM @ 65 psi.
Use Toro Swing Joint TSJ-15A-12-3-10A
- cd Toro FLX35-34-6-1 (Orange) w/ Tail Nozzle 102-6884 (Yellow) .
Performance: 66' Radius/22.9 GPM @ 65 psi.
Use Toro Swing Joint TSJ-15A-12-3-10A

30"-45" Sprinkler Spacing (VIH)




- Toro FLX35-31-6-1 @ 15° / w/adjustment screw - Full Circle
Performance: 54' Radius @ 15° / 15.3 GPM @ 50 psi.
Use Toro Swing Joint TSJ-15A-12-3-10A
Use Adjustment Screw to Achieve Optimum Radius.
- Toro FLX35-31-6-1 @ 15° / w/adjustment screw - Part Circle
Performance: 54' Radius @ 15° / 15.3 GPM @ 50 psi.
Use Toro Swing Joint TSJ-15A-12-3-10A
Use Adjustment Screw to Achieve Optimum Radius.

NOTE: Use Lasco #307-251 Service Elbow or #302-251 Service Tee as required for connection from Lateral Piping to Swing Joint.

20'-25' Sprinkler Spacing

- z Toro 590GF-PRN-TA
Performance: 20' to 25' Radius / 1.6 GPM (180°) @ 75 psi
Use Lasco Swing Joint #T522-212.

CONTROL SYSTEM


- 48  Toro #300-48-P-6-M-3 Satellite Controller
- 64  Toro #300-64-P-6-M-3 Satellite Controller.
- 64 R  Toro #300-64-P-6-R-3 Radio Satellite Controller.

- Approximate location for controller installation. All controllers shall be installed at or above elevation 38'.

----- The heavy dash-dot line encompassing portions of the irrigation system indicates each individual satellite controller's area of operation.

 Controller Zone ID. Matches corresponding satellite controller. Indicates number of satellite stations.

CENTRAL COMPUTER

-  Toro LYNX Computer #LX-04-5-07.
Field Interface Unit #FIU-2011R
All peripherals, surge protection, and grounding recommended by the Toro Co. of Riverside, California to make a complete and operational LYNX Central Control System.

VALVES

- Toro #474-44-1" Quick Coupling Valve.
Use Toro Swing Joint TSJ-15A-18-3-10QC. (See detail.)

Furnish Four (4) Quick Coupling Keys and Hose Swivels.
- Toro P220GS-27-04 Pressure Regulating Remote Control Valve with Wilkins 500XL-HRSCG Pressure Reducing Valve factory set at 85 psi. Set P220-27 Regulator for 75 psi for 590GF series sprinklers. (See detail.)

PIPE SIZING CHART - 590G SERIES SPRINKLERS (20'-25' SPACING)

Number of Sprinklers	Pipe Size	Valve Size
1-5	1" Sch. 40 PVC	1"
6-15	1-1/2" Sch. 40 PVC	1"
16-25	2" Sch. 40 PVC	1-1/2"

NOTE: Number of sprinklers is based on half circle sprinklers. Count full circle sprinklers as two sprinklers.

LEGEND - ALLIED EQUIPMENT

SPRINKLER WIRING

Sprinkler wire shall be solid copper with polyethylene (PE) insulation suitable for direct burial applications. Wire shall be supplied by Paige Electric and shall comply with Paige specification P7079D (most current revision). Sprinkler control wire shall be #14 AWG. Common wire shall be #12 AWG. Splices in sprinkler wire shall be made with DBR/Y-6 splice kits.

An individual control wire shall be installed from each VIH sprinkler and RCV within each control zone to the appropriate satellite controller. At each satellite controller, the sprinklers shall be wired to operate in the sequence preferred by the golf course Superintendent. Mark the sequence on the Mechanical Drawing of the As-Built Plan.



- ⊗ Extra Wire: At nearest sprinkler or quick coupling valve as shown on plan (or at turf boundary for landscape use), leave a minimum of one (1) or as otherwise indicated control wires and common wire for future use. Cap and waterproof ends. For Landscape wires, leave in 6" round box. Mark location on as-built plan.

VALVES

- × Lateral Isolation Valve. All Lateral Isolation Valves are 2" w/cross handle. LEEMCO Lateral Valve #LV200 or Harco equal. Furnish Ten (10) T-handle operating keys.
- ⊗ Lateral Isolation Valve for Landscape POC. All Lateral Isolation Valves are 3" w/cross handle. LEEMCO Lateral Valve #LV300 or Harco equal.
- ⚡ Mainline Gate Valve - 6". American Flow Control Series 2500, Clow, Leemco or Muller equal only. Valve shall be of US manufacture, resilient wedge shall be fully encapsulated with EPDM rubber, stem shall be stainless steel or low zinc bronze, all bonnet and gland nuts and bolts shall be stainless steel, valve coating shall be fusion bonded Epoxy inside and out. Furnish four (4) T-handle operating keys.
- ⌵ Flushing/Drain/Lake Fill Valve - 3" Leemco LV33SB
- ⬆ Universal Air/Vacuum Release Valve, Bermad IR-2"-C10-P-S-NM. Install at high point on mainline nearest location shown on plan and at the dead end of mainline runs.

- 3" Landscape irrigation Point of Connection for Greening Contractor. See Details.

WATER SOURCE

-  Booster Pump: 350 gpm at 110 psi discharge. Meter by others. Install 4" Watts/ Febco 880-V (or approved equal) backflow preventer between meter and booster pump. Replace existing booster pump on same slab. Install new wire between disconnect and new booster pump. Contractor to confirm required wire size with pump manufacturer.
- 

PIPING

- Main line Pipe: 6" Rubber Ring Joint - Class 200 PVC. Provide 30" minimum depth of cover for all main line pipe. Mainline Fittings for IPS size piping shall be IPS size ductile iron as manufactured by Harco or Leemco.
- Existing main line through levee. Exact location, material and size is unknown at this time and will be determined in the field. Existing main line to remain intact and is to be reused for the new irrigation system. Connect the new main line to existing pipe on either side of the levee using appropriate methods. Flanged connection is preferred.
- Lateral Pipe: Solvent Weld Joint - Schedule 40 PVC. All pipe is 2" in size except non-pressure lateral piping downstream from remote control valve. (See pipe sizing chart.) Provide 18" minimum depth of cover for all constant pressure lateral pipe. Provide 12" (30 cm) minimum depth of cover for all non-pressure lateral pipe downstream from remote control valve.

Use Lasco 315 psi service fittings with Acme threaded outlet for all VIH sprinklers and QCV swing joint connections. All other lateral fittings shall be Lasco Surge Guard fittings.

Note: Provide 15" (38 cm) minimum depth of cover for all 24-volt wire. All wire to be in a common trench with pipe. All wire installed at bridge or stream crossings and under public or private roadways shall be in conduit. Conduit below grade shall be UL approved Sch. 40 PVC. Conduit above grade shall be UL approved Steel.

GENERAL NOTES - MECHANICAL:

- Bids shall be based only on the materials specified. Proposed substitution of equal products will be considered only after award of a Contract. The product submitted must be equal or superior to the one specified in terms of design and function. Only then will the cost implication be considered.
- Main line piping installed on bridge crossings shall be Class 350 Ductile Iron with joint restraints, and shall be installed with pipe supports at 5' (1.5m) intervals along the bridge crossing. Pipe shall be installed underneath the bridge wherever possible. Contact the Designer and Project Manager or Owner's Representative with a proposed plan for installation before installing pipe at bridge crossings. All pipe installed above ground shall be painted light gray, using rust resistant paint. Use Pantone color 522C for reclaimed water pipe above ground.
- Main line piping installed at stream or other water crossings shall be Class 350 Ductile Iron with joint restraints or HDPE 4710, DR11. Contact the Designer and Project Manager or Owner's Representative with a proposed plan for installation before installing pipe.
- Main line piping installed under public or private roadways shall be Class 350 Ductile Iron or HDPE 4710, DR11 and shall be installed in accordance with local codes and regulations governing road crossings. Ductile Iron pipe installed in sleeves shall be installed with joint restraints. Contact the Designer and Project Manager or Owner's Representative with a proposed plan for installation before installing pipe. The Contractor shall coordinate installations at road crossings with other utilities and with the approval of local agencies and/or Army Corp of Engineers if required. In all cases, the installed depth of cover shall be a minimum of 36 inches.
- Prior to beginning work, coordinate with the Designer to arrange site visits for staking. A minimum of 10 working days notice shall be provided in advance of staking trips.

Campus Commons Golf Course

Sacramento California

Irrigation Plan Notes and Legends

Client Contact:

SAFCA

1007 7th street, 7th Floor
Sacramento, CA 95814
916-874-7606



6407 Dulcat Place
Riverside, CA
92506



Date: June 11, 2023

Rev: _____
Rev: _____
Rev: _____

Scale:

Sheet: IR-1

Campus Commons Golf Course

Sacramento California

Irrigation Plan Mechanical

Client Contact:

SAFCA

1007 7th street, 7th Floor
Sacramento, CA 95814
916-874-7606

BTG BTG GOLF, LLC
IRRIGATION DESIGN & CONSULTING
6407 Dulcet Place
Riverside, CA
92506

PASCUZZO/PATE
GOLF COURSE DESIGN
3170 Collier Foothill Parkway
Coronado Hills, CA 92620
916 941 9992
pasco.pate.com

Date: June 11, 2023

Rev: _____
Rev: _____
Rev: _____

Scale: 1"=50'

Sheet: IR-2



Campus Commons Golf Course

Sacramento California

Irrigation Plan Mechanical

Client Contact:

SAFCA

1007 7th street, 7th Floor
Sacramento, CA 95814
916-874-7606



6407 Dulcet Place
Riverside, CA
92506

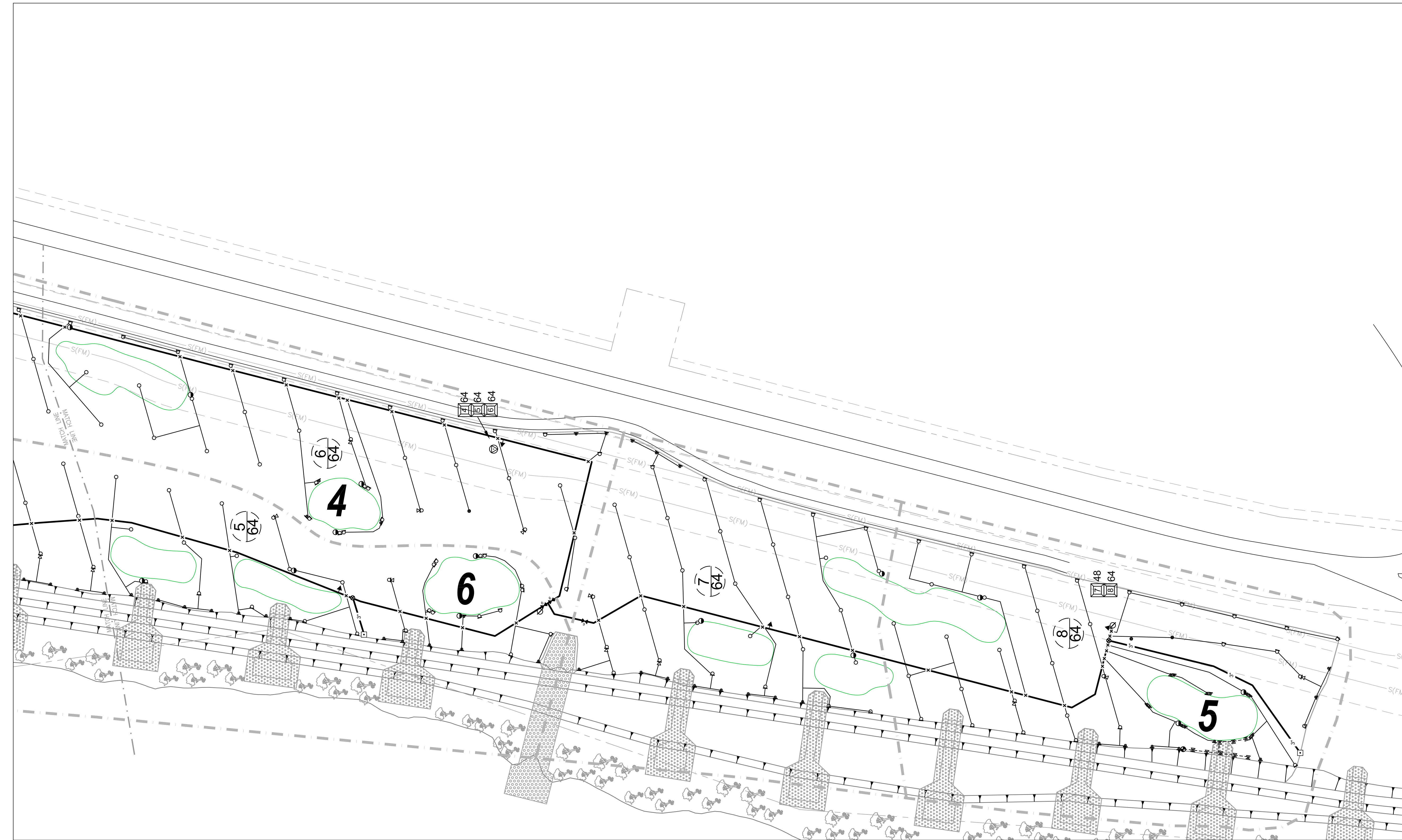


Date: June 11, 2023

Rev: _____
Rev: _____
Rev: _____

Scale: 1"=50'

Sheet: IR-3



Campus Commons Golf Course

Sacramento California

Irrigation Plan Electric

Client Contact:

SAFCA

1007 7th street, 7th Floor
Sacramento, CA 95814
916-874-7606



6407 Dulcet Place
Riverside, CA
92506



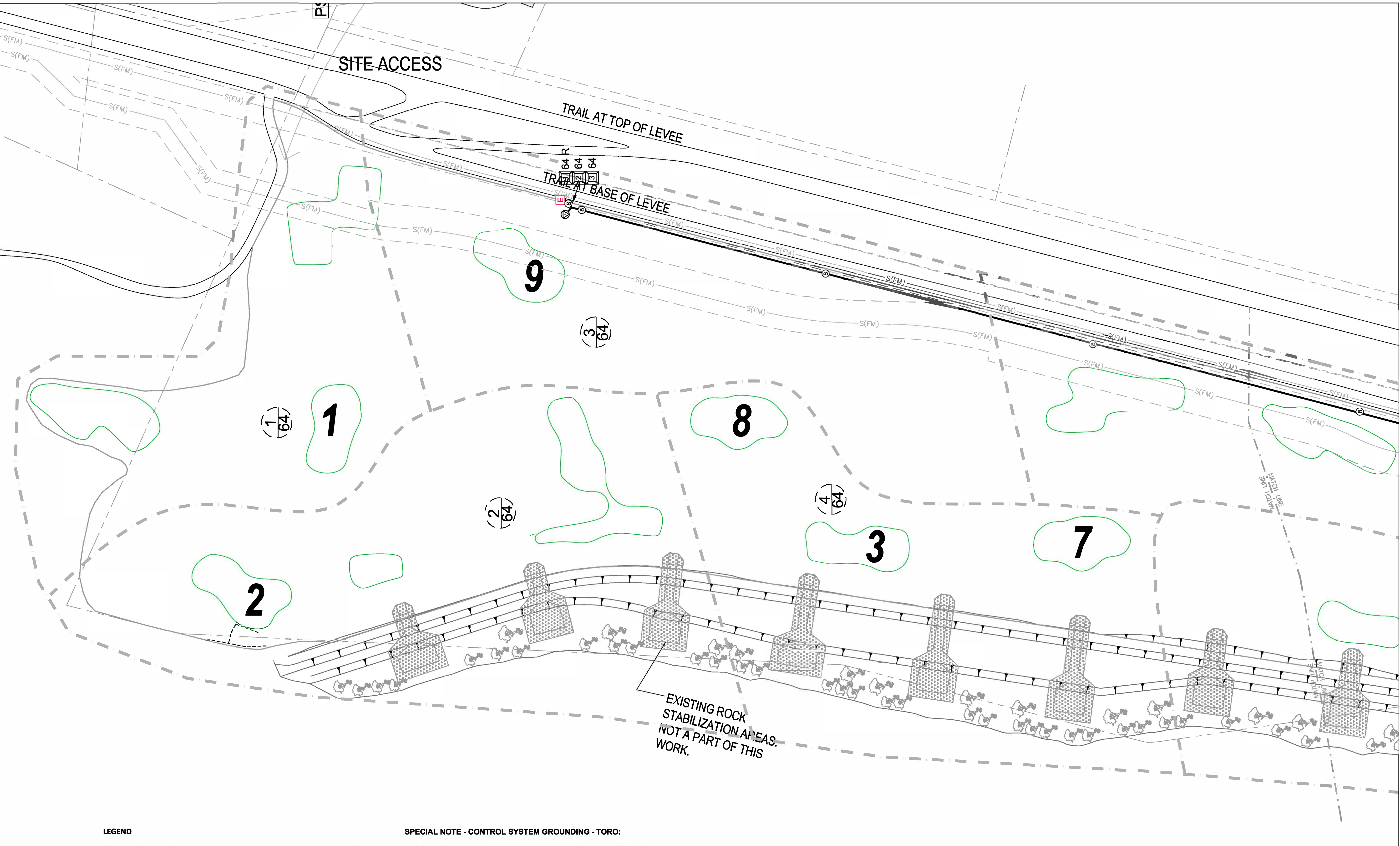
Date: June 11, 2023

Rev: _____

Rev: _____

Scale: 1"=50'

Sheet: IR-4



EXISTING ROCK STABILIZATION AREAS. NOT A PART OF THIS WORK.

LEGEND

Route of electrical power service from power source to satellite controllers. Electrical wiring shall be UF copper direct bury wire. Minimum depth of cover for all electrical power wire shall be 24" (60cm).

Ⓞ 220 Volt Circuit
Conductors: 2 - #8 UF
Ground: 1 - #8 UF

Ⓢ 220 Volt Circuit
Conductors: 2 - #10 UF
Ground: 1 - #10 UF

NOTE:
Individual circuit stub outs off the trunk line shall be #10 UF wire unless otherwise noted.

ⓔ 220V, single phase power source (by others). If not present, Irrigation Contractor shall install a circuit breaker panel downstream from the meter. Provide a 20 amp, 2-pole circuit breaker to the field wiring. Panel shall be in a weather proof enclosure.

SPECIAL NOTE - CONTROL SYSTEM GROUNDING - TORO:

Install a minimum of one (1) 5/8" (16 mm) x 8' (2,4 m) copper clad steel ground rod at each individual satellite controller, or at each group of controllers. Install additional grounding rods or grounding plate as is necessary to meet the grounding requirements specified by the controller manufacturer. Run a bare copper wire from the ground terminal lug inside the controller to the ground rod. Drive the ground rod(s) vertically and in one piece into the ground until the top is 6" (15 cm) below grade. The rod shall be a maximum of 12' (3,6 m) from any controller. The ground wire from the grounding lug shall be a minimum of two (2) sizes larger than any wire entering the controller, in any case no smaller than #6 AWG. Connect the wire to the ground rod with Acorn nut connector.

Contact controller manufacturer to test grounds to maximum allowable OHM limit. Contractor shall submit a list of OHM readings at each controller location to the project manager and designer.

FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS FOR GROUNDING OF CENTRAL AND SATELLITE CONTROL SYSTEM EQUIPMENT.

FOR SPECIFICATIONS ON THE TORO EQUIPMENT CONTACT:

THE TORO SALES COMPANY - IRRIGATION DIVISION
5825 JASMINE STREET
RIVERSIDE, CALIFORNIA 92504
TEL: (800) 664-4740 / FAX: (909) 359-1870

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Sacramento California

Irrigation Plan Electric

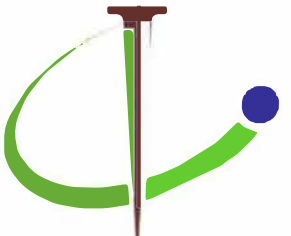
Client Contact:

SAFCA

1007 7th street, 7th Floor
Sacramento, CA 95814
916-874-7606



6407 Dulcet Place
Riverside, CA
92506



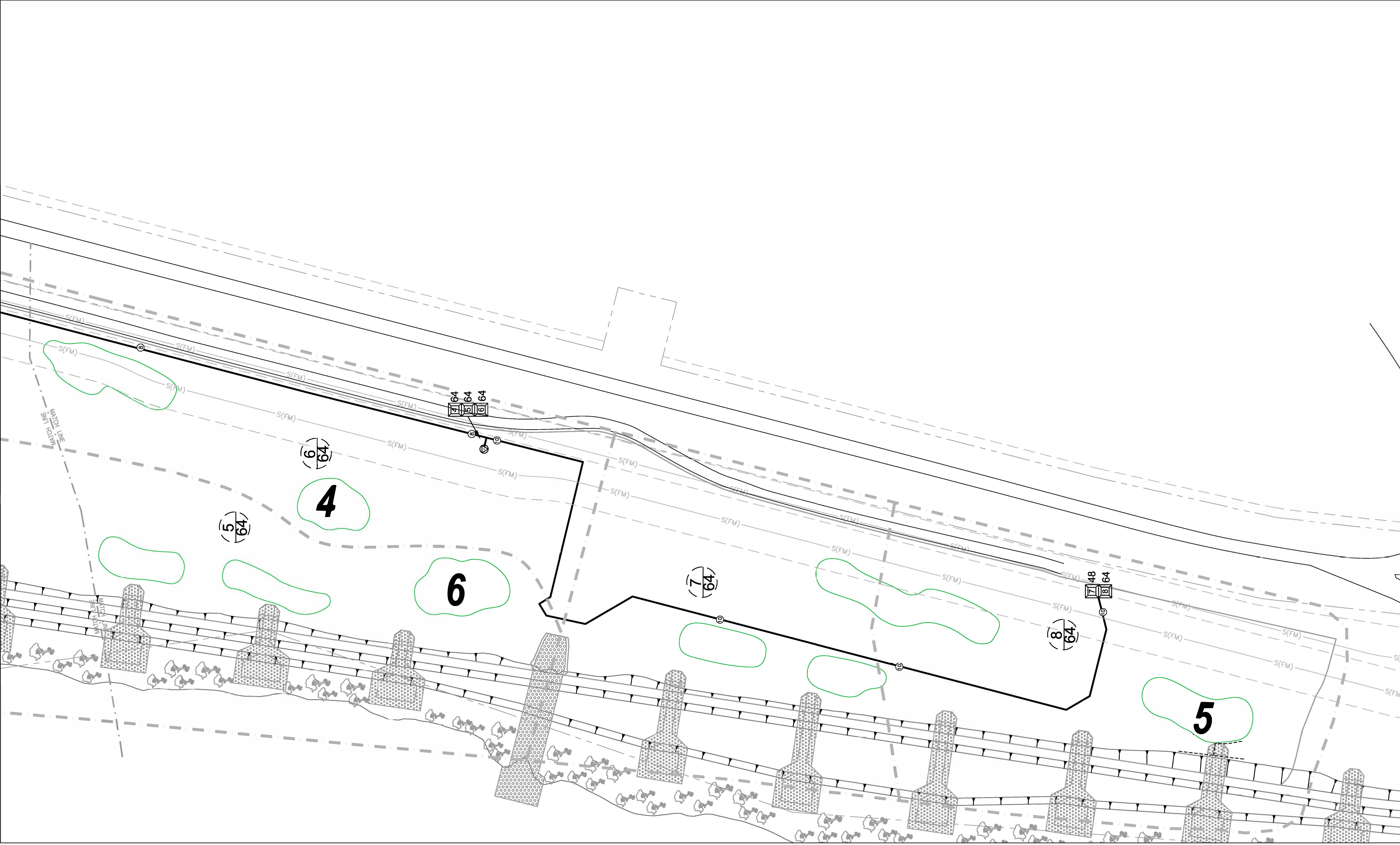
PASCUZZO/PATE
G O L F D E S I G N
3170 Collier Foothill Parkway
Livermore, CA 94551
925 941 0022
www.crpate.com

Date: June 11, 2023

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Scale: 1"=50'

Sheet: IR-5



Campus Commons Golf Course

Sacramento California

Irrigation Plan Communication

Client Contact:

SAFCA

1007 7th street, 7th Floor
Sacramento, CA 95814
916-874-7606



6407 Dulcet Place
Riverside, CA
92506

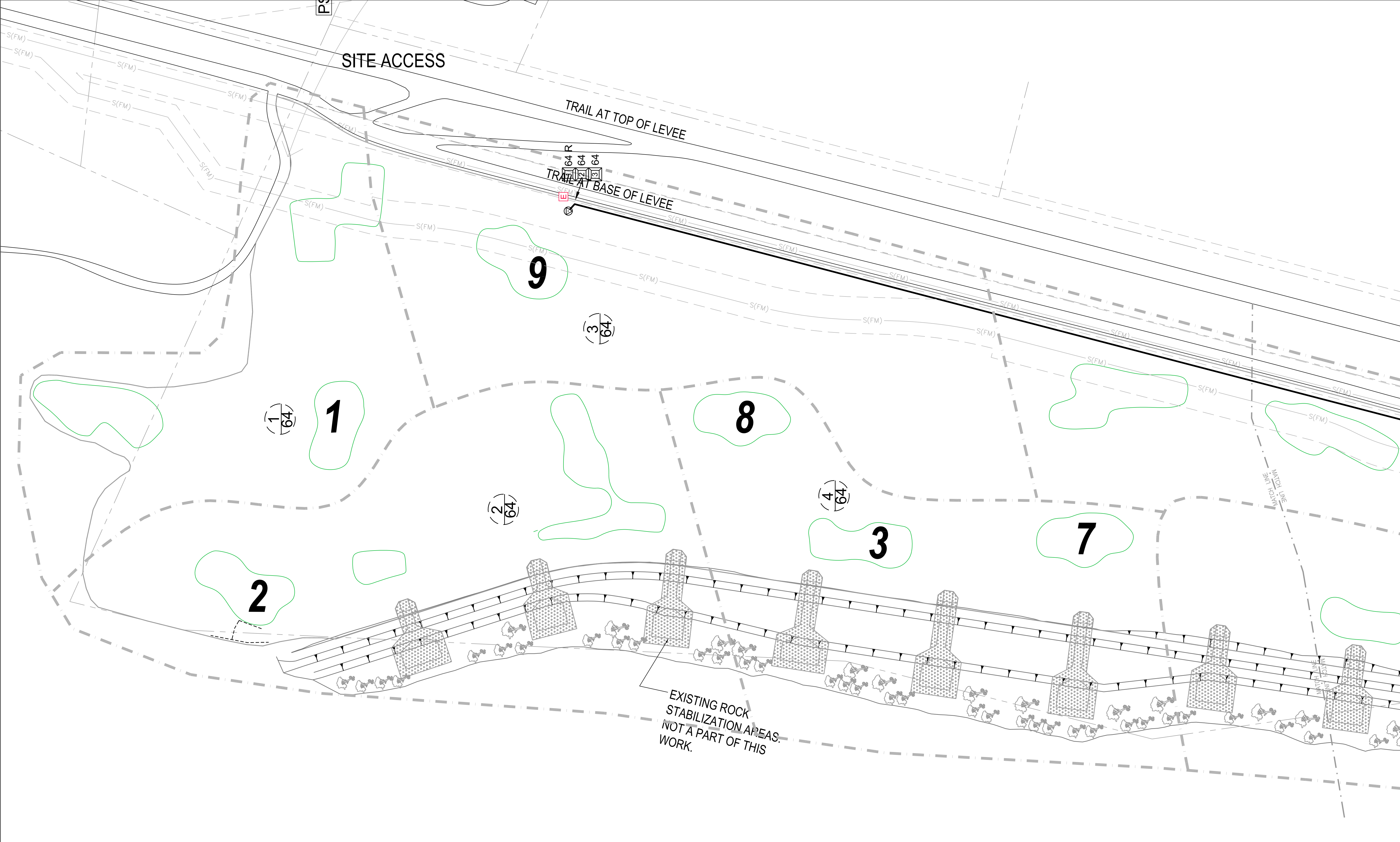


Date: June 11, 2023

Rev: _____
Rev: _____
Rev: _____

Scale: 1"=50'

Sheet: IR-6



LEGEND
 Route of communication cable to satellite controllers.

**GENERAL NOTES - COMMUNICATIONS - TORO SYSTEM:
 LYNX SMART SATELLITE COMMUNICATION CABLE:**

1. Communication cable wiring to satellite controller(s) shall be shielded, multi-conductor cable supplied by Regency Wire and shall comply with Regency specification R7162D (most current revision), for use with the Toro central control systems. Depth of cover for communication cable shall be a minimum of 24" (60 cm).
2. It is strongly recommended that all communication cables end and start at the connection points inside the field controller. In the event that a splice is made between controllers, splices shall be sealed with 3M Scotchcast 82-A1 series resin splice kits. Install a junction box over the splice. Leave enough length in the communication cable to be able to inspect the splice above ground (at least 36").
3. Communications cable installed above grade, or at bridge or road crossings shall be installed in conduit. Conduit below grade shall be UL approved Schedule 40 PVC. Conduit above grade shall be UL approved Steel.
4. The satellite controllers shall be addressed at the completion of installation. Addresses shall be included on the Communications As-Built Plan.
5. The central control system components shall be assembled in the Superintendent's office to make a complete and operational central control system.

 The following shall be furnished and installed:
 (a) MGE/Topaz Pulsar Evolution 1100 - Line Interactive Voltage Stabilizer and Uninterruptible Power Source (UPS) Unit Installed on 120 Volt circuit supplying power to central equipment.
 (b) Plug CPU, and Monitor ONLY into the UPS Unit.
 (c) Multi-outlet power strip. Plug printer into power strip.
 (d) All cables and antennas required for communication to the radio equipped Lynx Smart Satellite (satellite 1)

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Sacramento California

Irrigation Plan Communication

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SAFCA

1007 7th street, 7th Floor
Sacramento, CA 95814
916-874-7606



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Riverside, CA
92506



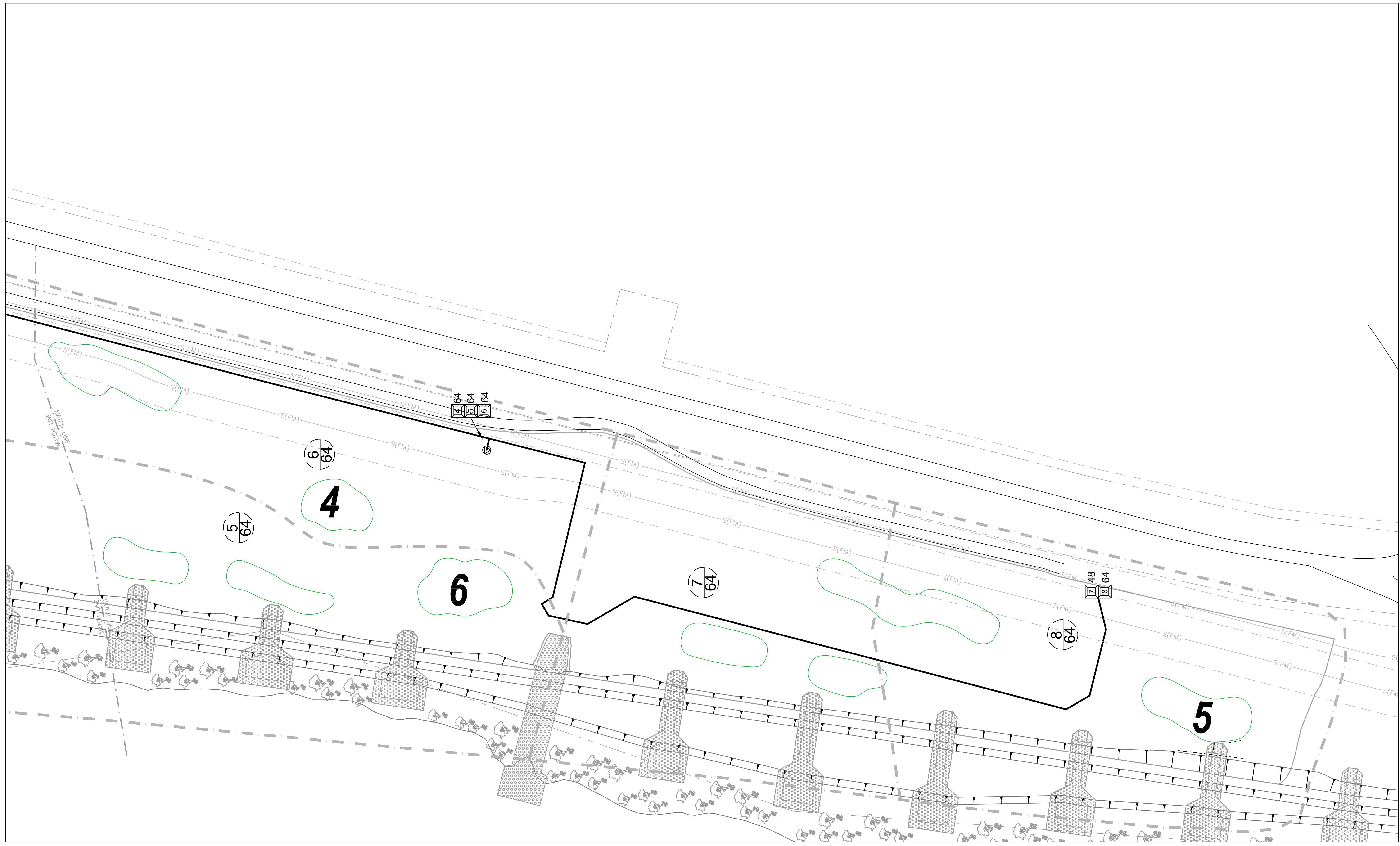
PASCUZZO/PATE
G O L F D E S I G N
1110 Golden Putter Parkway
El Dorado Hills, CA 95762
916 941 8800
pascuzzopate.com

Date: June 11, 2023

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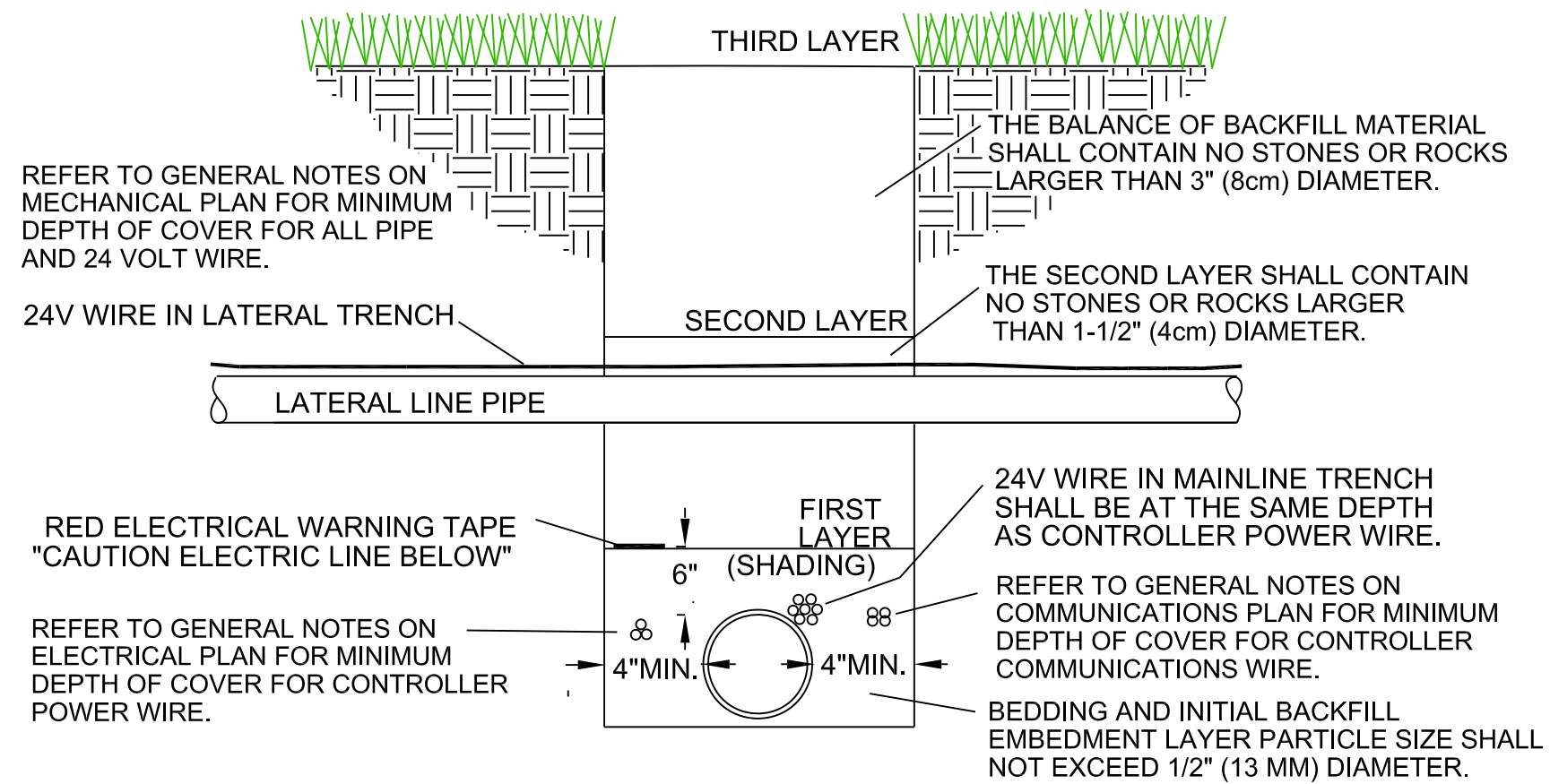
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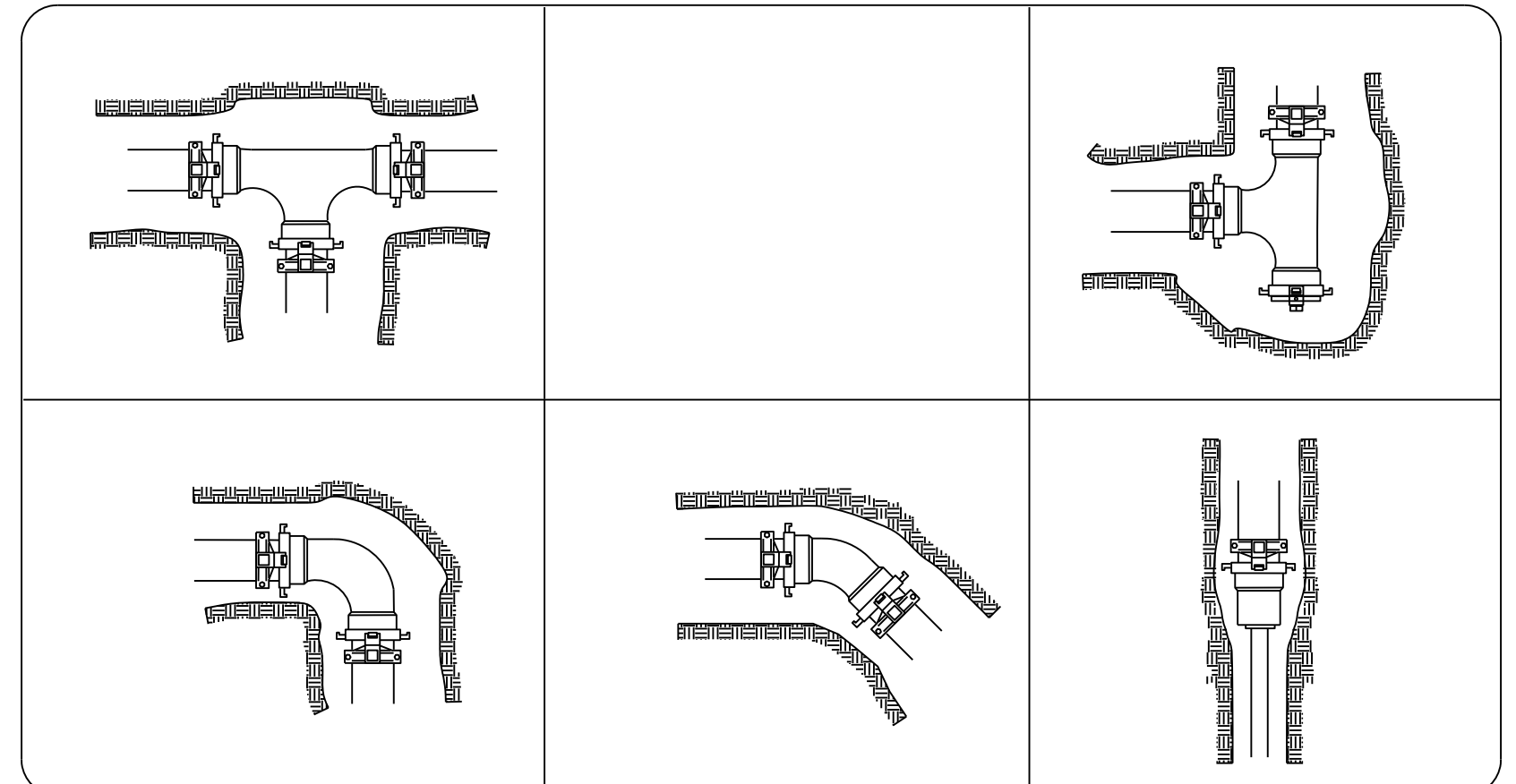
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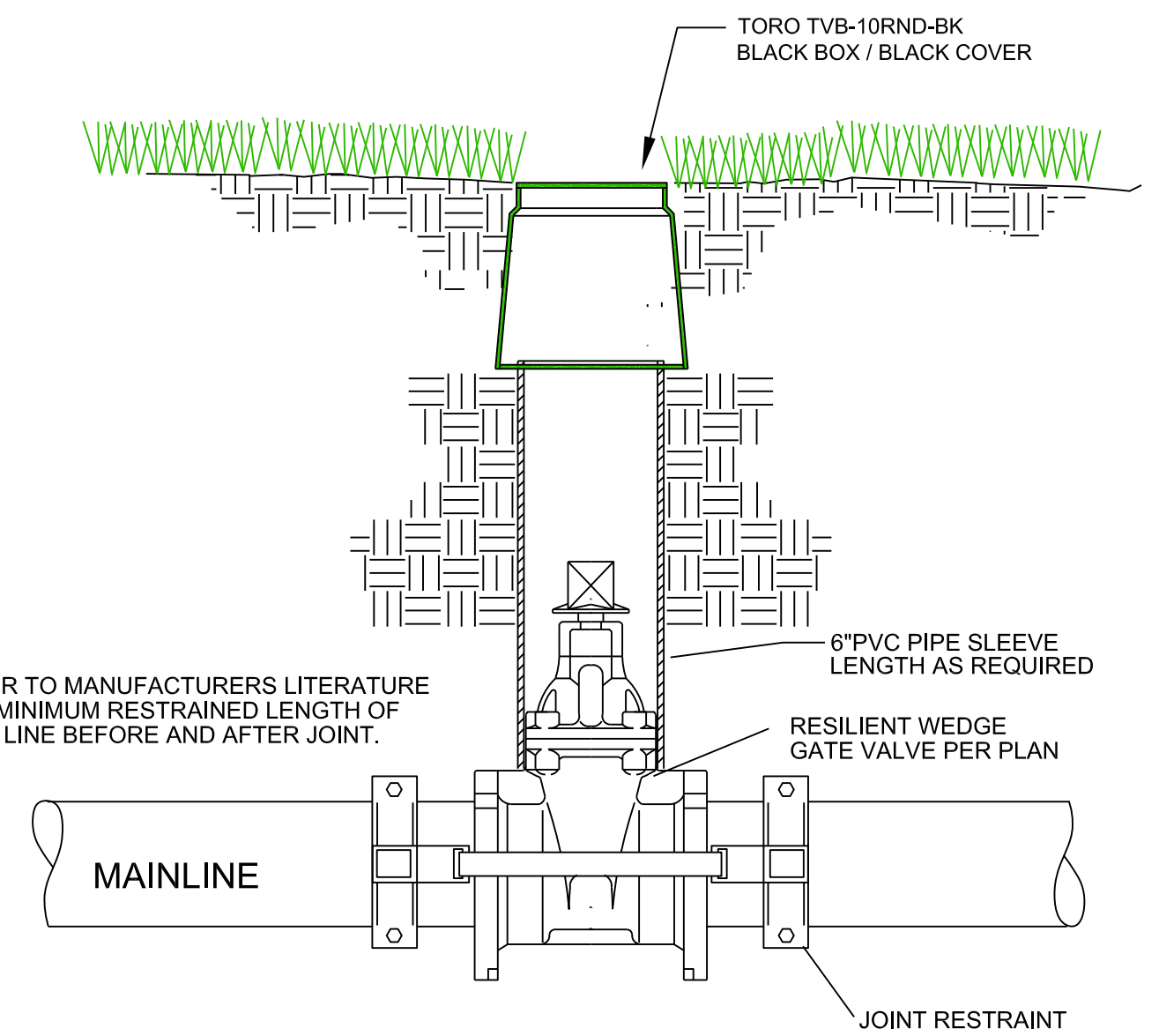
Irrigation Plan Details



MINIMUM DEPTH OF SHADING OVER TOP OF PIPE SHALL BE 6" (15cm) OR AS OTHERWISE RECOMMENDED BY SELECTED PIPE MANUFACTURER. IN ALL CASES, MINIMUM DEPTH OF COVER FOR PIPE AND ELECTRICAL WIRING AS CALLED OUT IN THE PLAN LEGEND SHALL BE ADHERED TO.



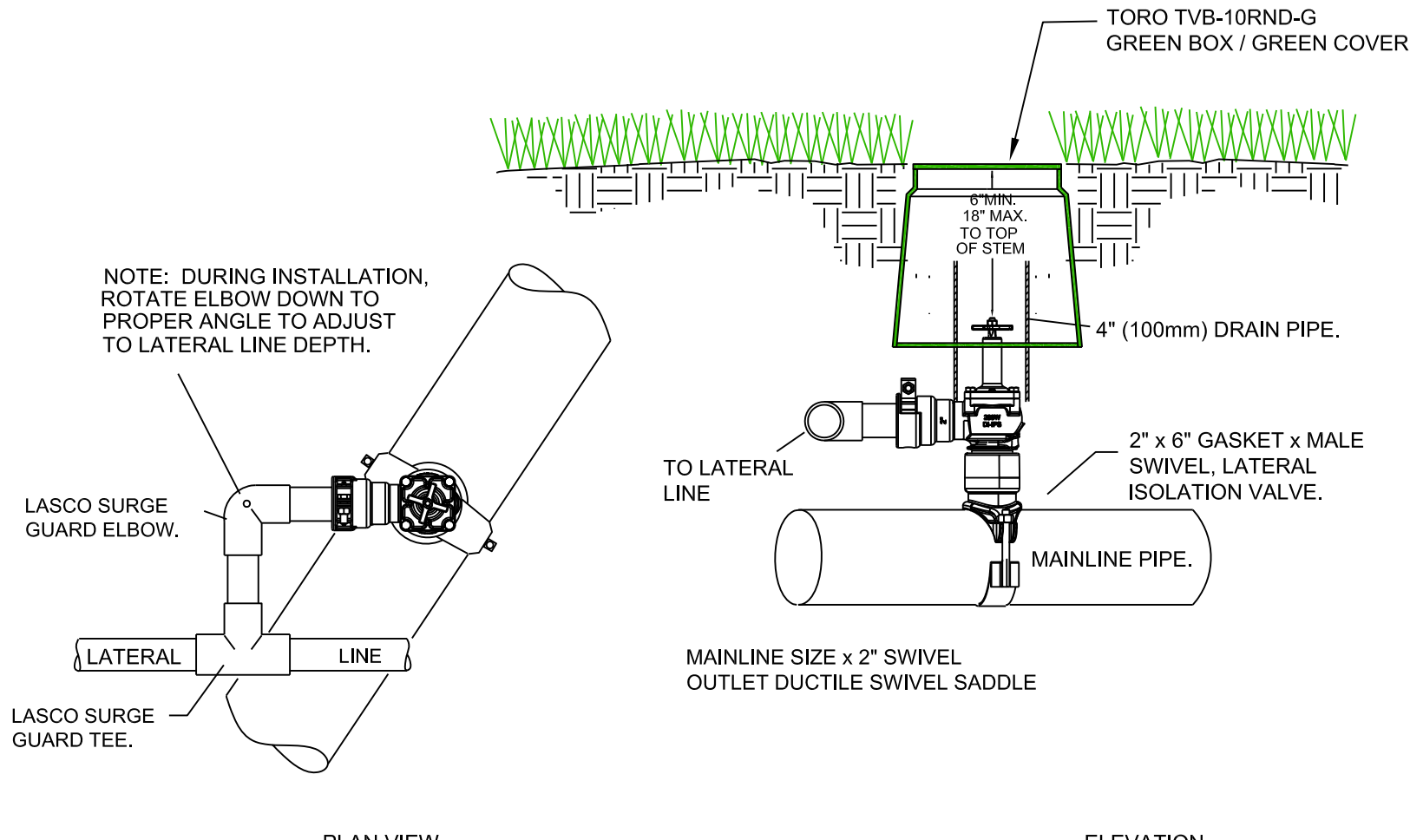
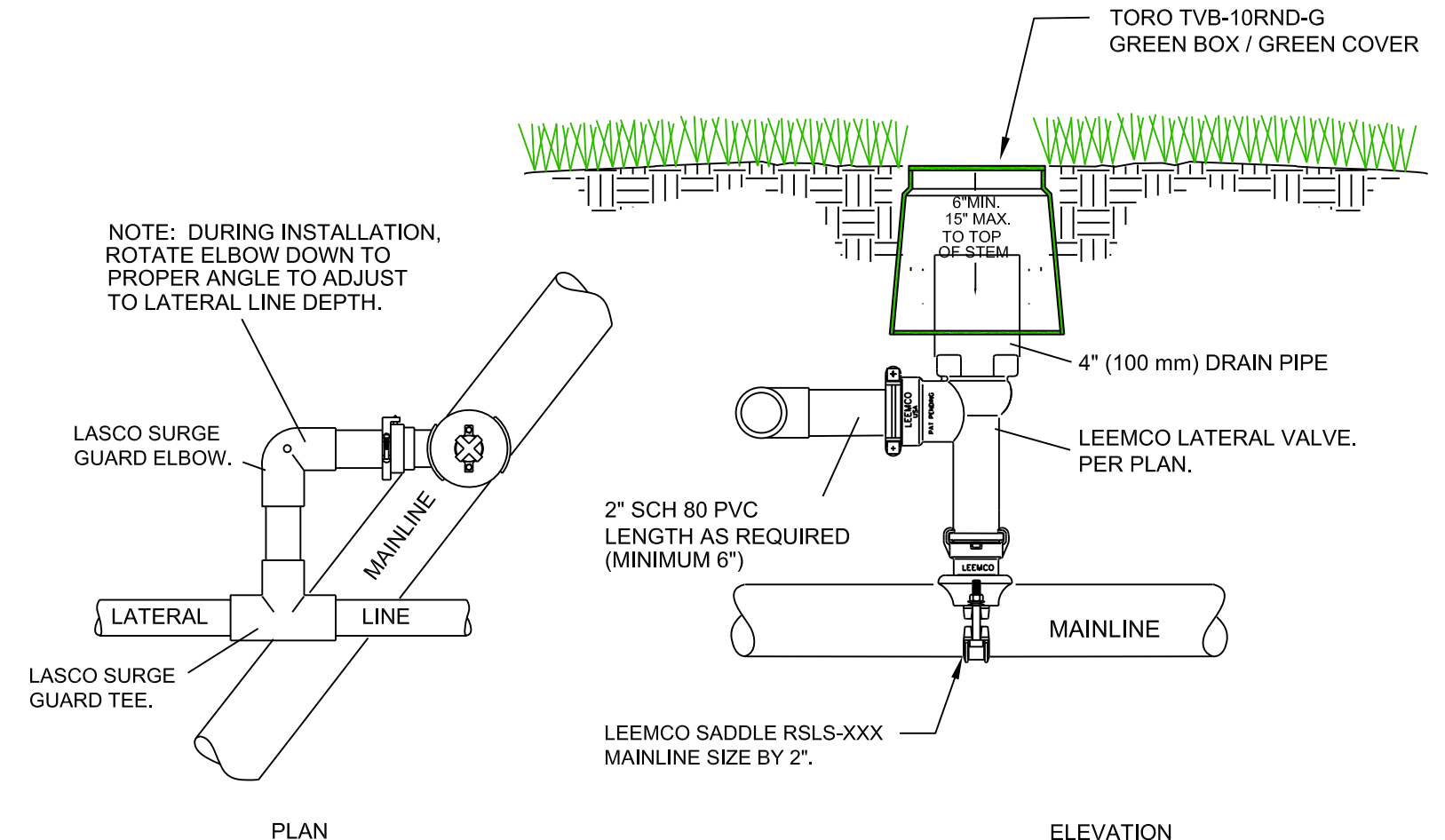
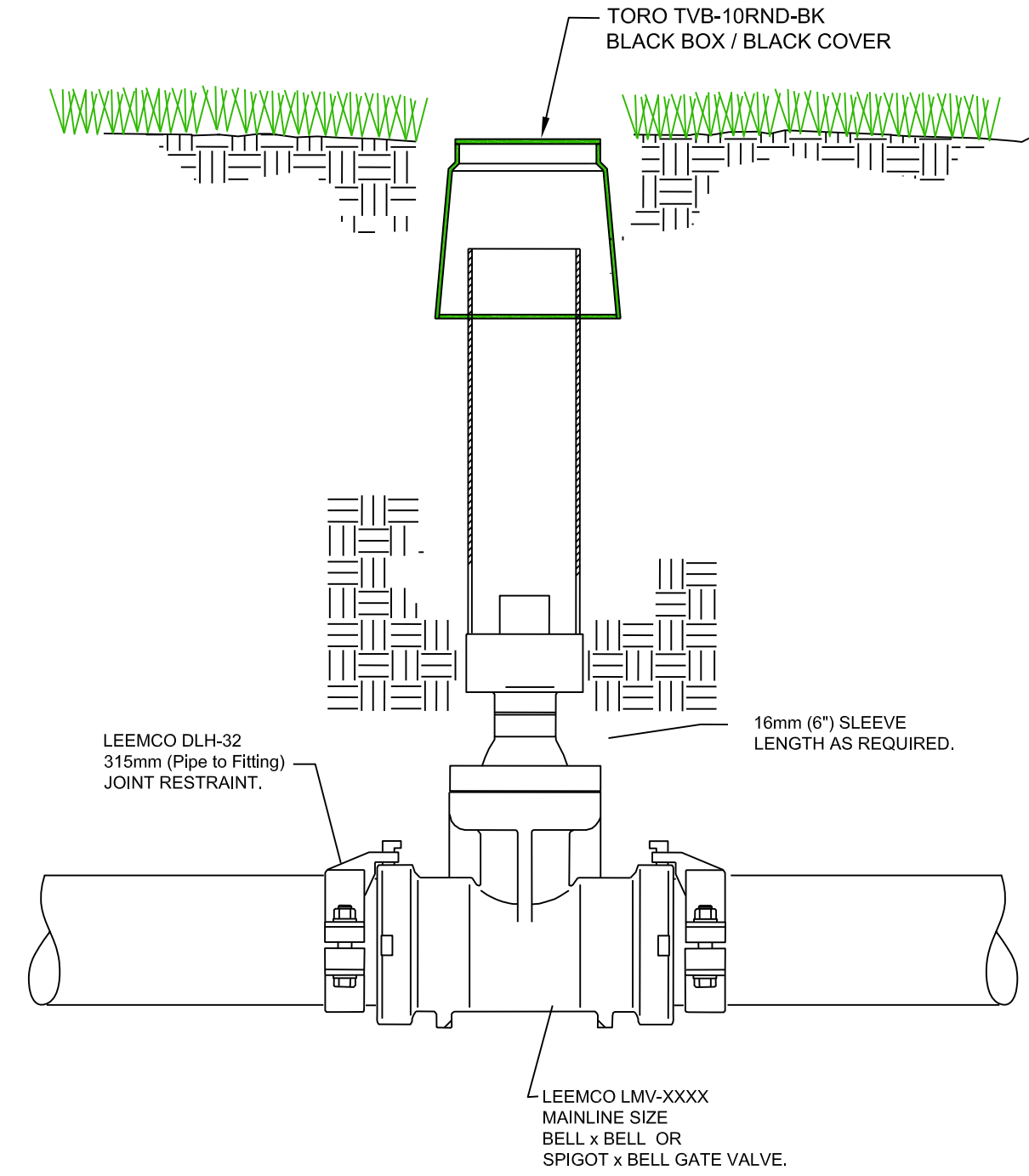
NOTE: JOINT RESTRAINTS TO BE USED FOR ALL MAIN LINE CHANGES OF DIRECTION WHERE FITTINGS ARE REQUIRED. REFER TO MANUFACTURER'S RECOMMENDATIONS ON THE NUMBER OF JOINTS NEEDING RESTRAINT BEFORE AND AFTER FITTINGS. ALL DUCTILE IRON FITTINGS TO BE WRAPPED IN POLYETHYLENE.



MAINLINE GATE VALVE (AMERICAN/CLOW/MUELLER)

MAINLINE AND COMMON TRENCHES

JOINT RESTRAINTS



MAINLINE GATE VALVE (LEEMCO)

LATERAL ISOLATION VALVE - LEEMCO

LATERAL ISOLATION VALVE - HARCO

Client Contact:

SAFCA

1007 7th street, 7th Floor
Sacramento, CA 95814
916-874-7606



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Rev: _____

Rev: _____

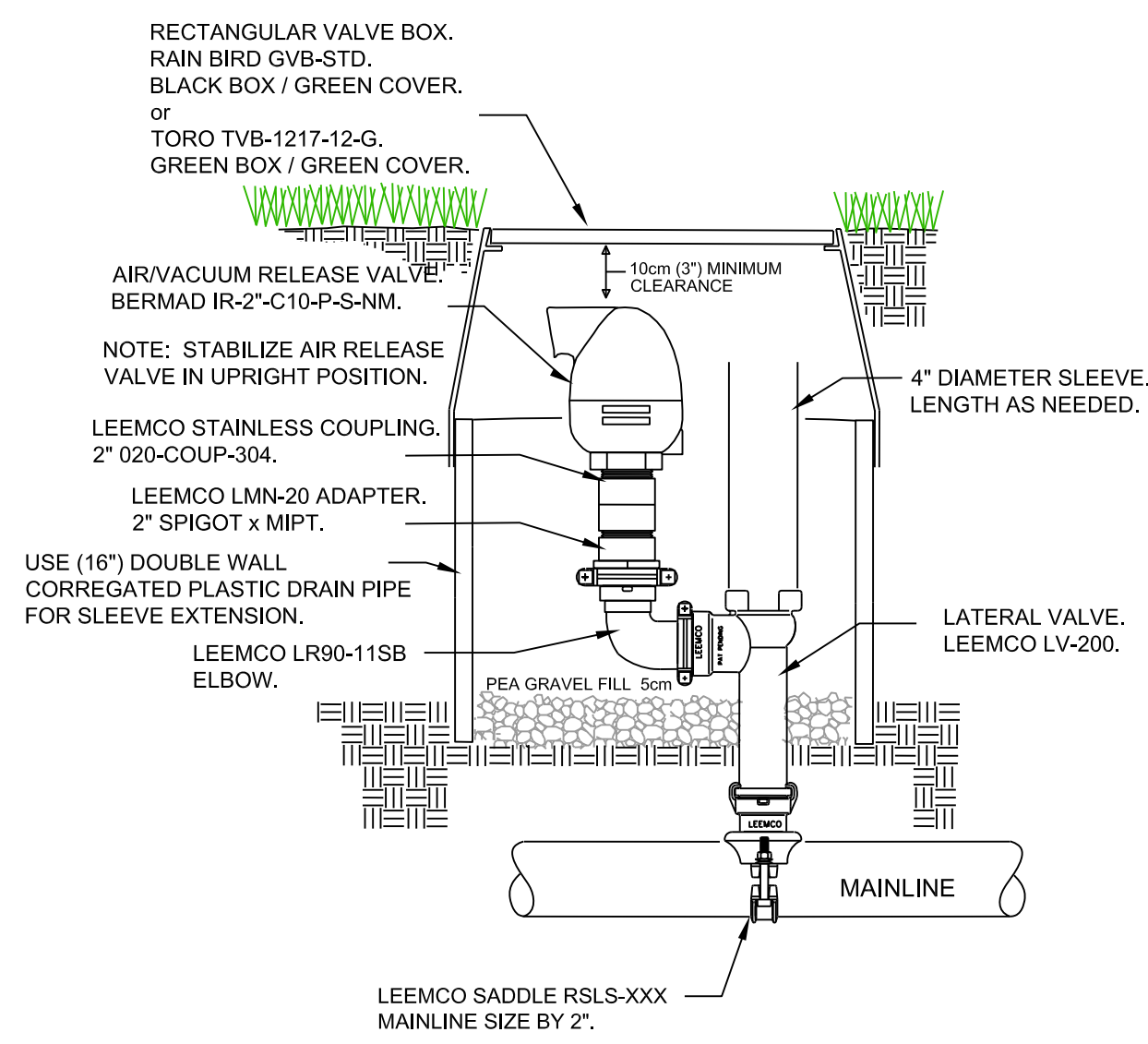
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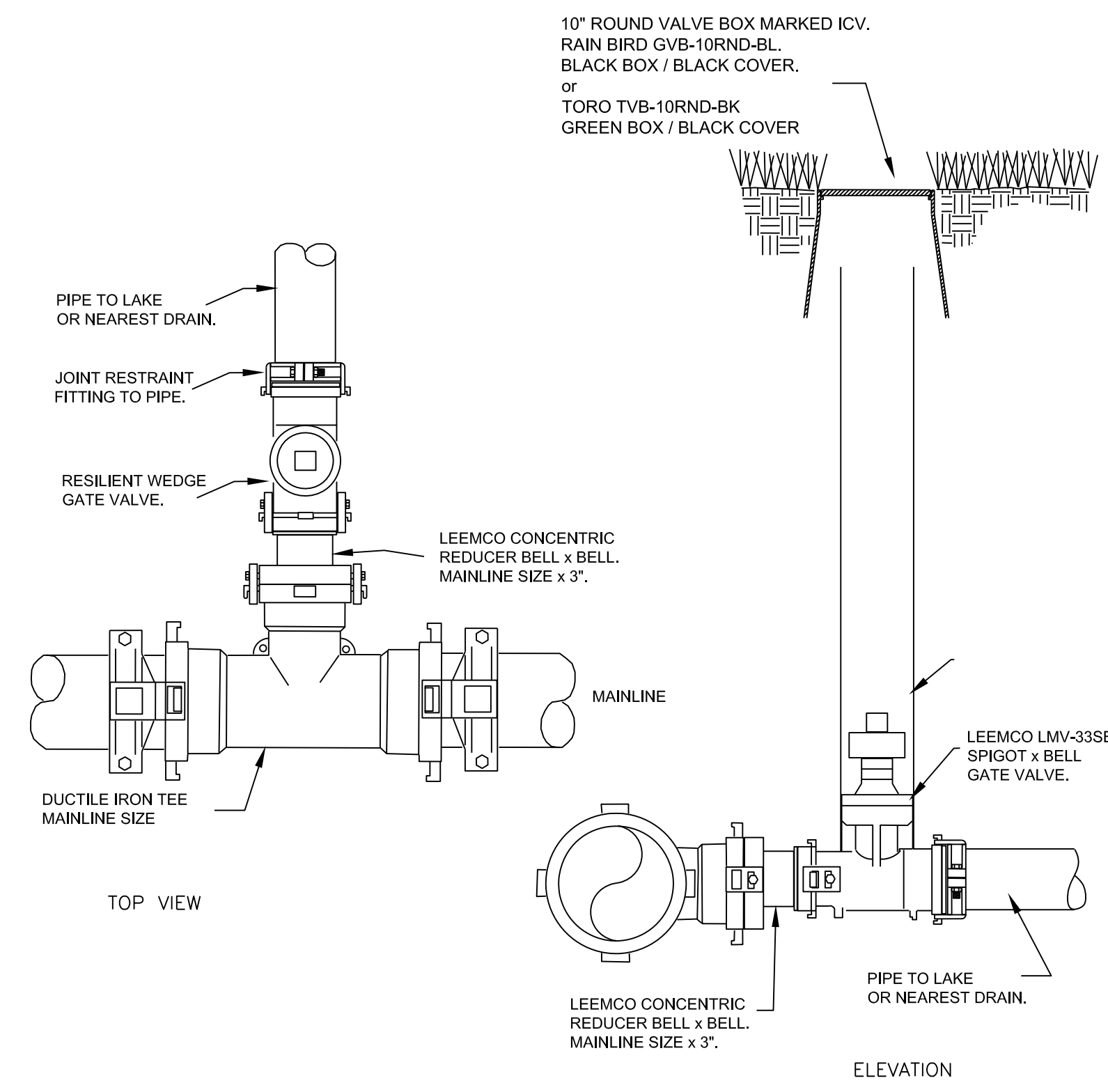
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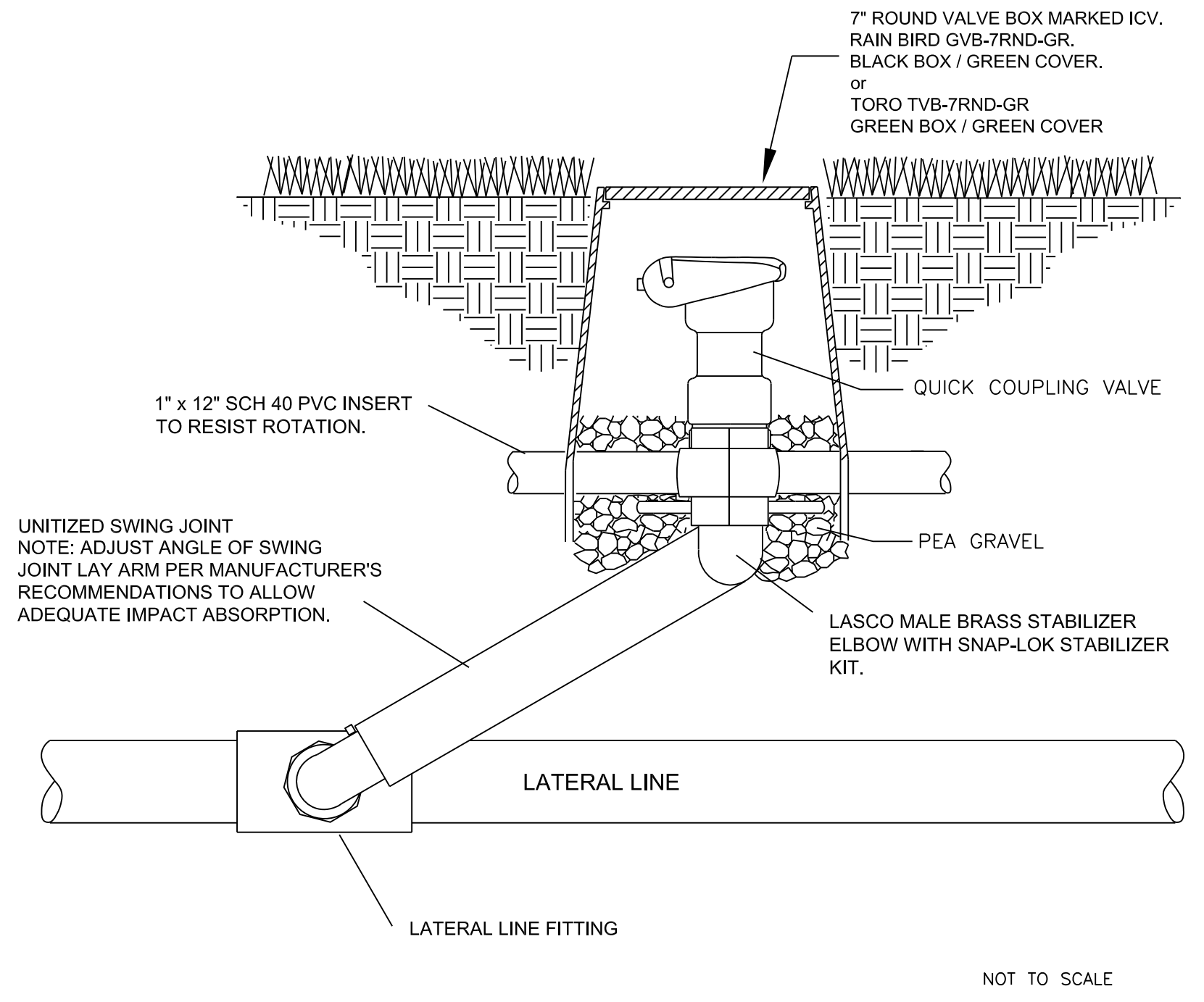
Irrigation Plan Details



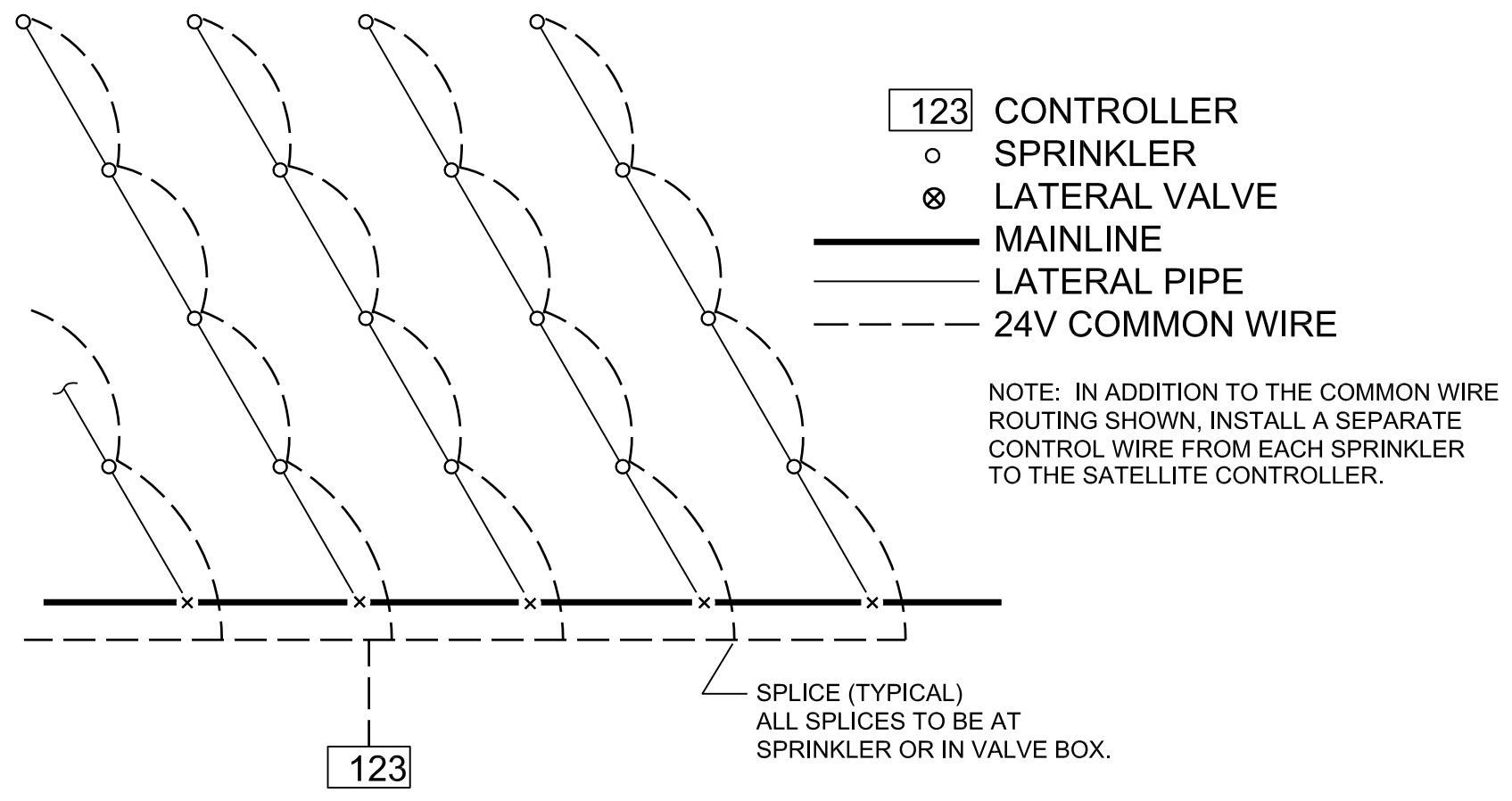
AIR RELIEF VALVE



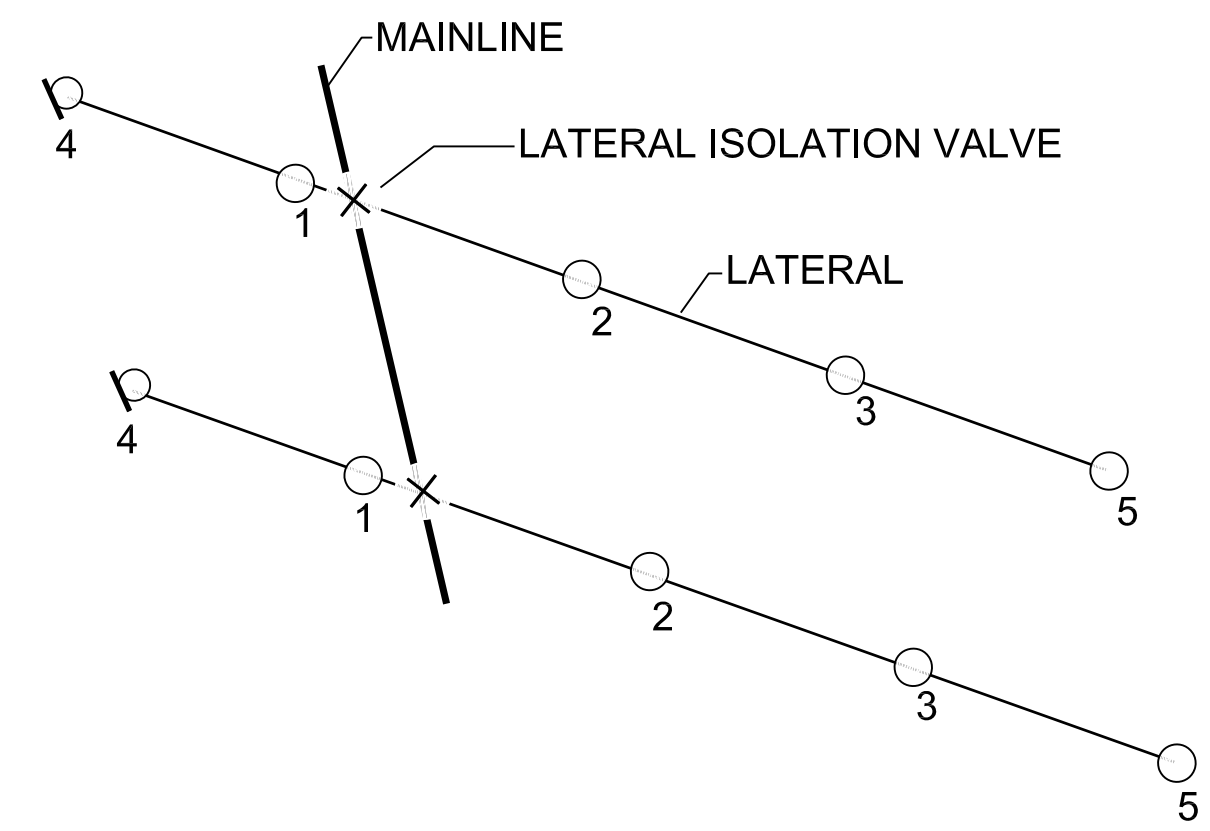
FLUSH/DRAIN VALVE



QUICK COUPLING VALVE



24V COMMON WIRE ROUTING (TYPICAL)

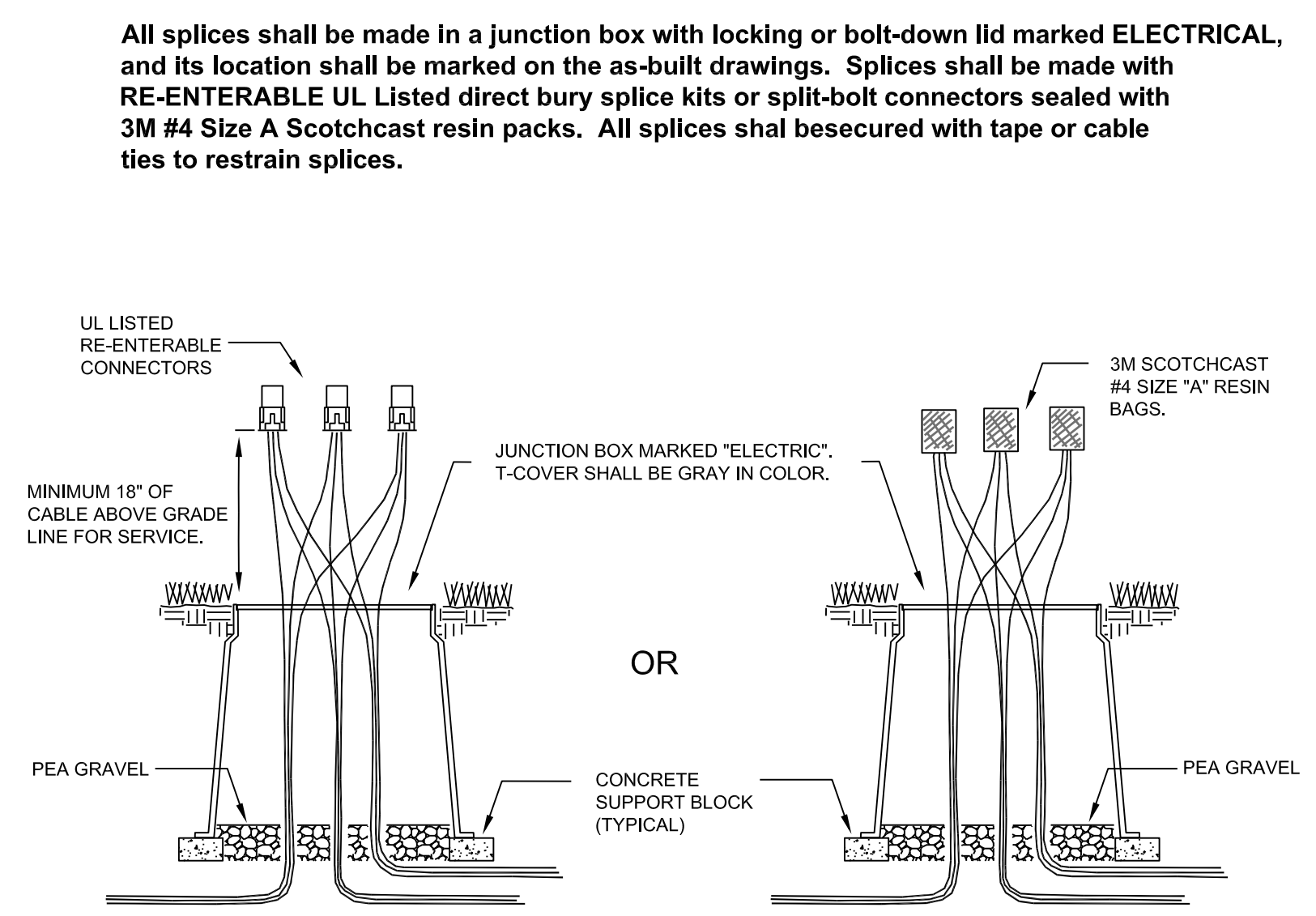


All mainline pipe shall be flushed as it is being installed. Mainline shall be flushed and pressurized between mainline gate valves as the installation progresses.

Lateral piping shall be flushed before installation of sprinklers. Flushing shall proceed from the isolation valve out to the end of dead end laterals or to the mid point of any looped laterals. Sprinklers shall be installed on swing joints in order as flushing continues with the first sprinkler being installed closest to to the lateral isolation valve and the last sprinkler installed farthest from the isolation valve.

Sprinklers shall only be installed after clear water is discharged from each swing joint. Contractor is responsible for ensuring that all piping and all sprinklers remain free of debris until final acceptance of the project by the Owner.

SPRINKLER INSTALLATION SEQUENCE WHILE FLUSHING LATERAL LINES - TYPICAL



ELECTRIC JUNCTION BOX

Client Contact:
 Sacramento Area Flood Control Agency (SAFCA)
 1325 J St. Suite 1700
 Sacramento, CA 9514
 916-874-7606

BTG BTG GOLF, LLC
 IRRIGATION DESIGN & CONSULTING
 6407 Dulcet Place
 Riverside, CA
 92506

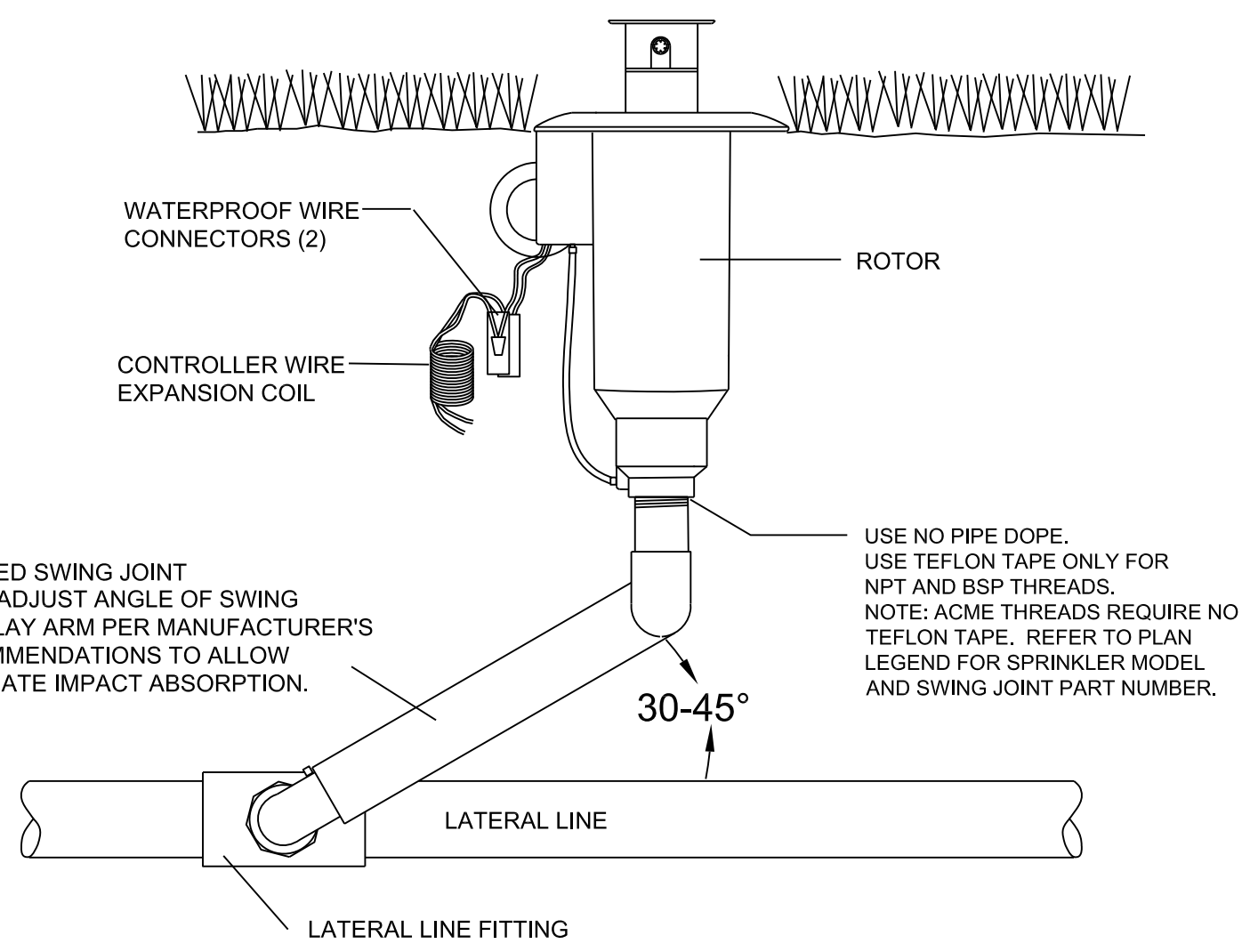
PASCUZZO/PATE
 G O L F D E S I G N
 1170 Golden Foothill Parkway
 El Dorado Hills, CA 95762
 916-941-8800
 pascu.pate.com

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 Sheet: IR-9

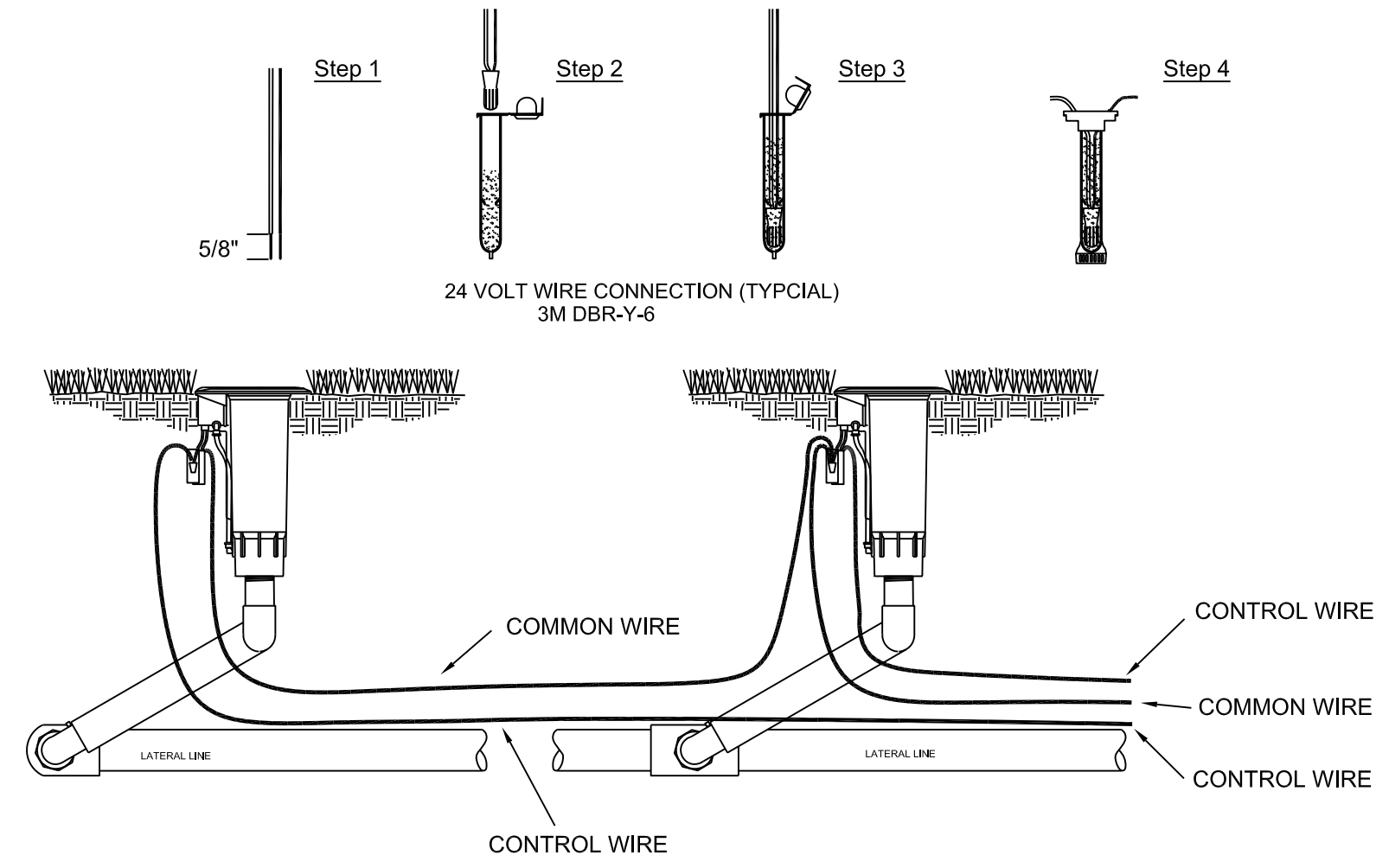
Campus Commons Golf Course

Sacramento California

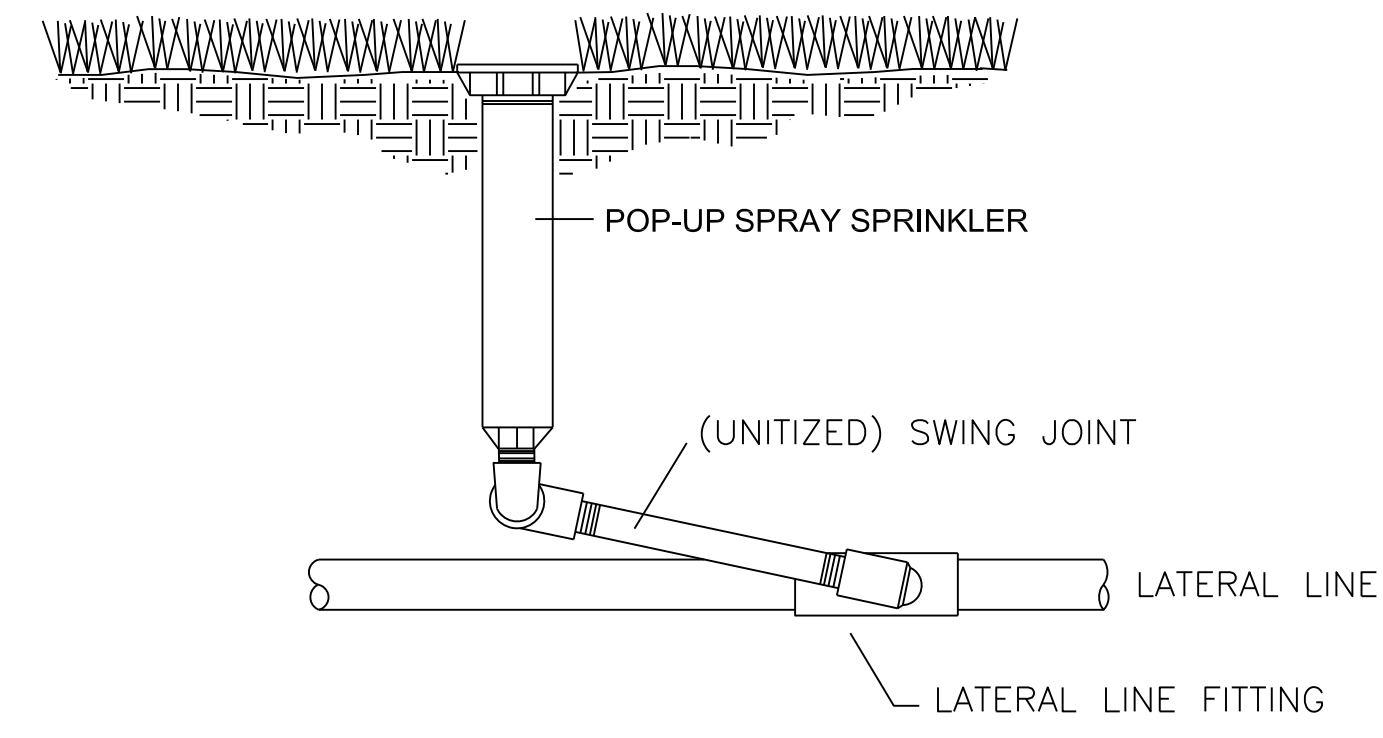
Irrigation Plan Details



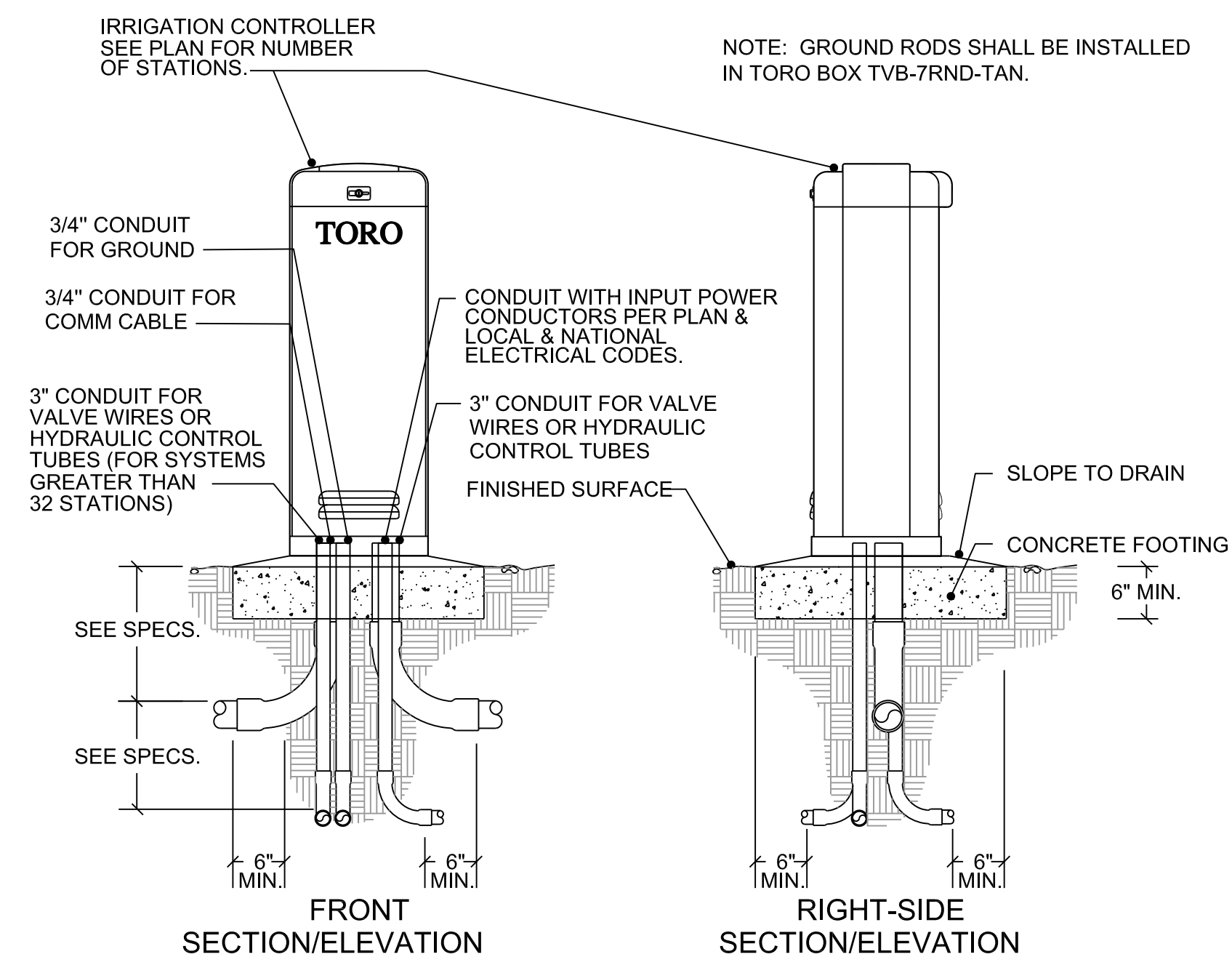
LARGE AREA ROTOR (TORO)



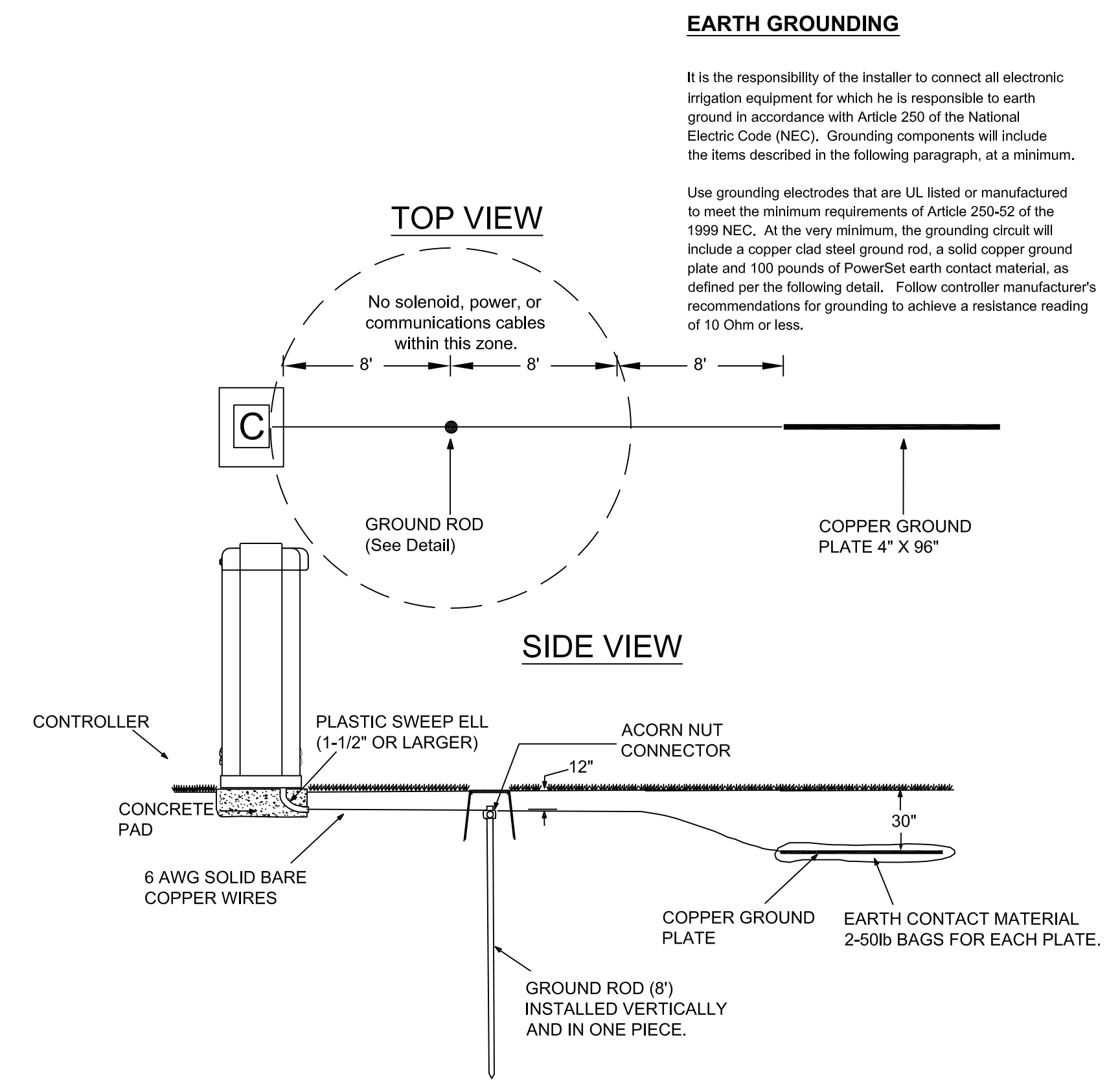
CONTROL WIRE ROUTING (TYPICAL)



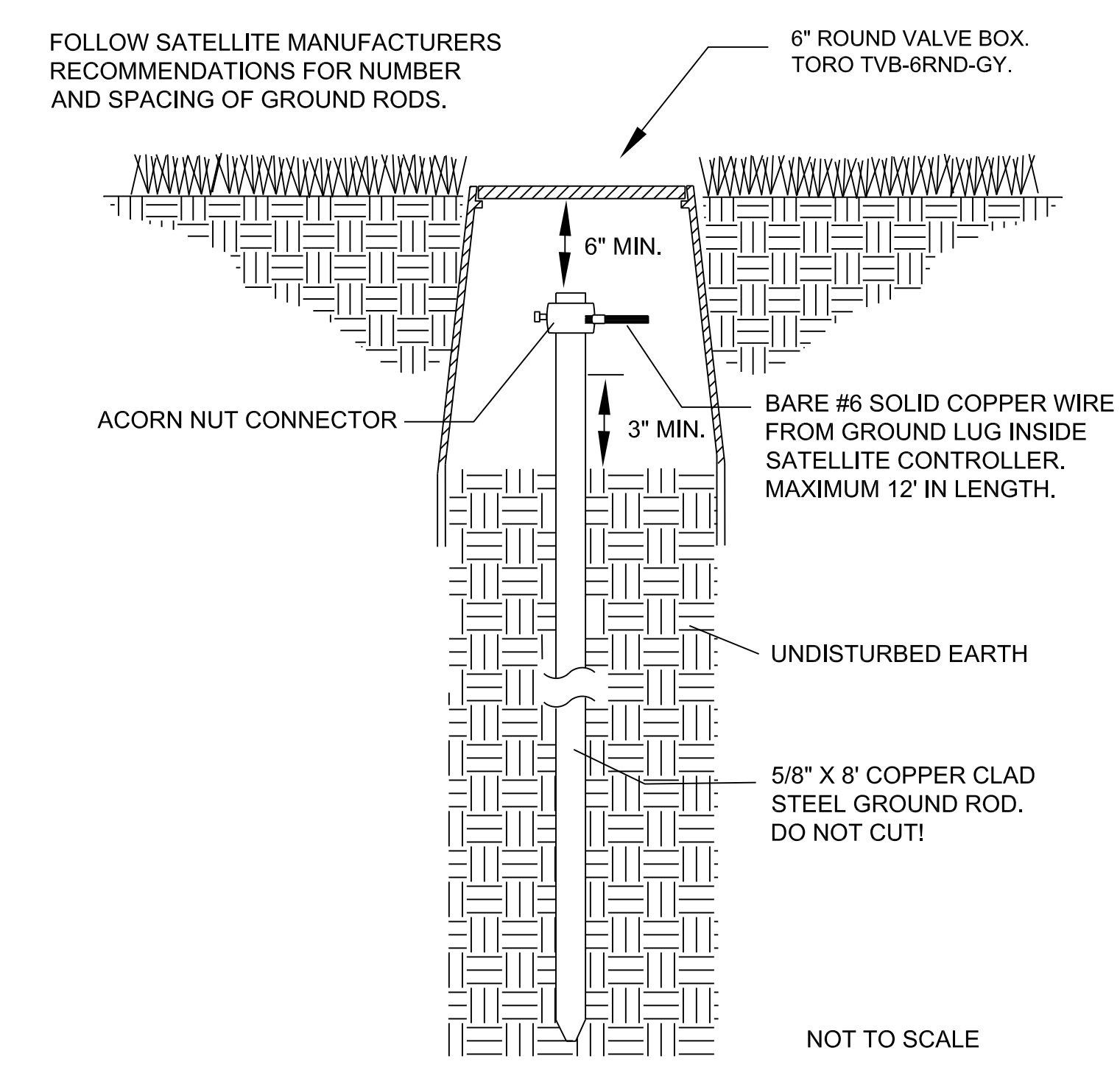
POP-UP SPRAY SPRINKLER



TORO CONTROLLER BASE



TORO RECOMMENDED GROUNDING



GROUNDING ROD

EARTH GROUNDING

It is the responsibility of the installer to connect all electronic irrigation equipment for which he is responsible to earth ground in accordance with Article 250 of the National Electric Code (NEC). Grounding components will include the items described in the following paragraph, at a minimum.

Use grounding electrodes that are UL listed or manufactured to meet the minimum requirements of Article 250-52 of the 1999 NEC. At the very minimum, the grounding circuit will include a copper clad steel ground rod, a solid copper ground plate and 100 pounds of PowerSet earth contact material, as defined per the following detail. Follow controller manufacturer's recommendations for grounding to achieve a resistance reading of 10 Ohm or less.

Client Contact:

Sacramento Area Flood Control Agency (SAFCA)
 1325 J St. Suite 1700
 Sacramento, CA 9514
 916-874-7606

BTG BTG GOLF, LLC
 IRRIGATION DESIGN & CONSULTING

6407 Dulcet Place
 Riverside, CA
 92506

PASCUZZO/PATE
 G O L F D E S I G N

1110 Golden Foothill Parkway
 El Dorado Hills, CA 95762
 916 941 8800
 pasuzzo@pate.com

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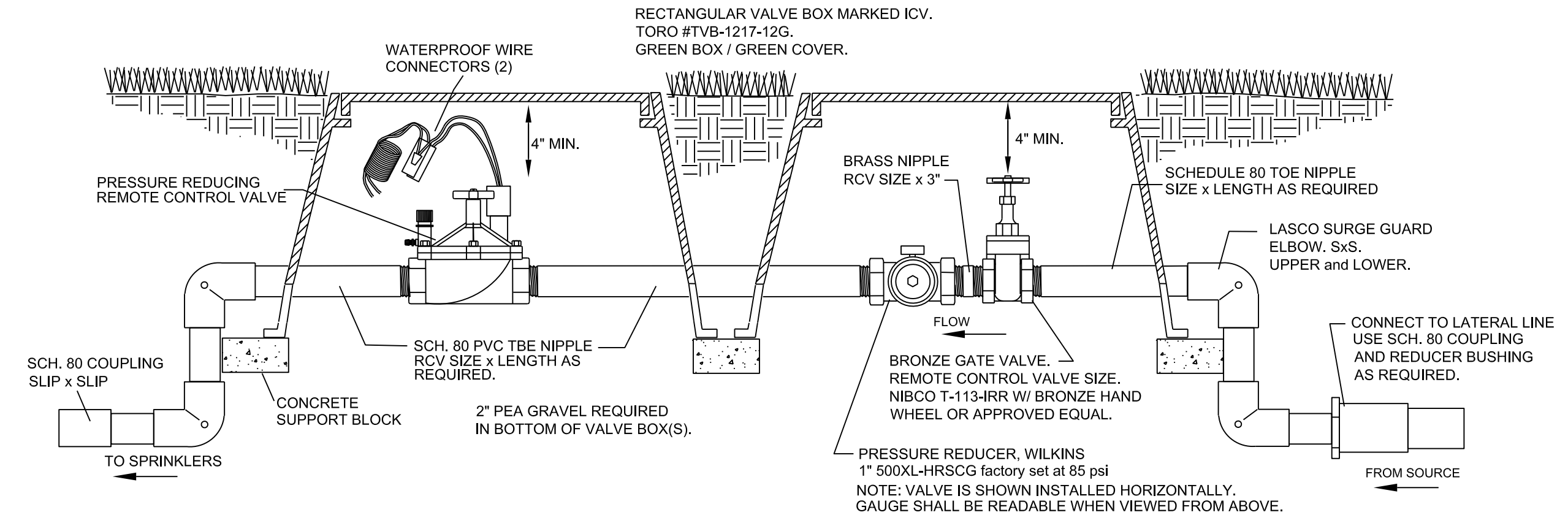
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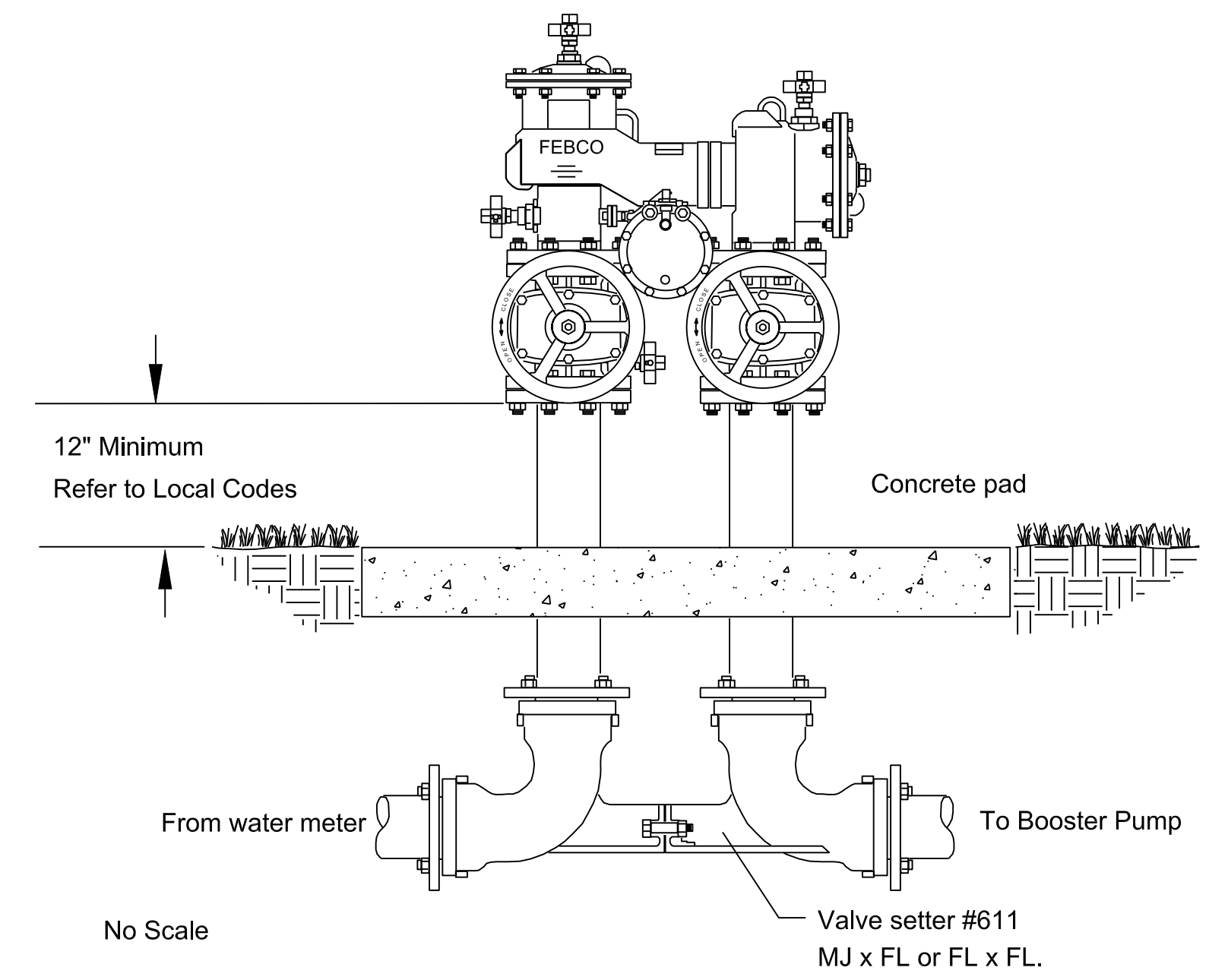
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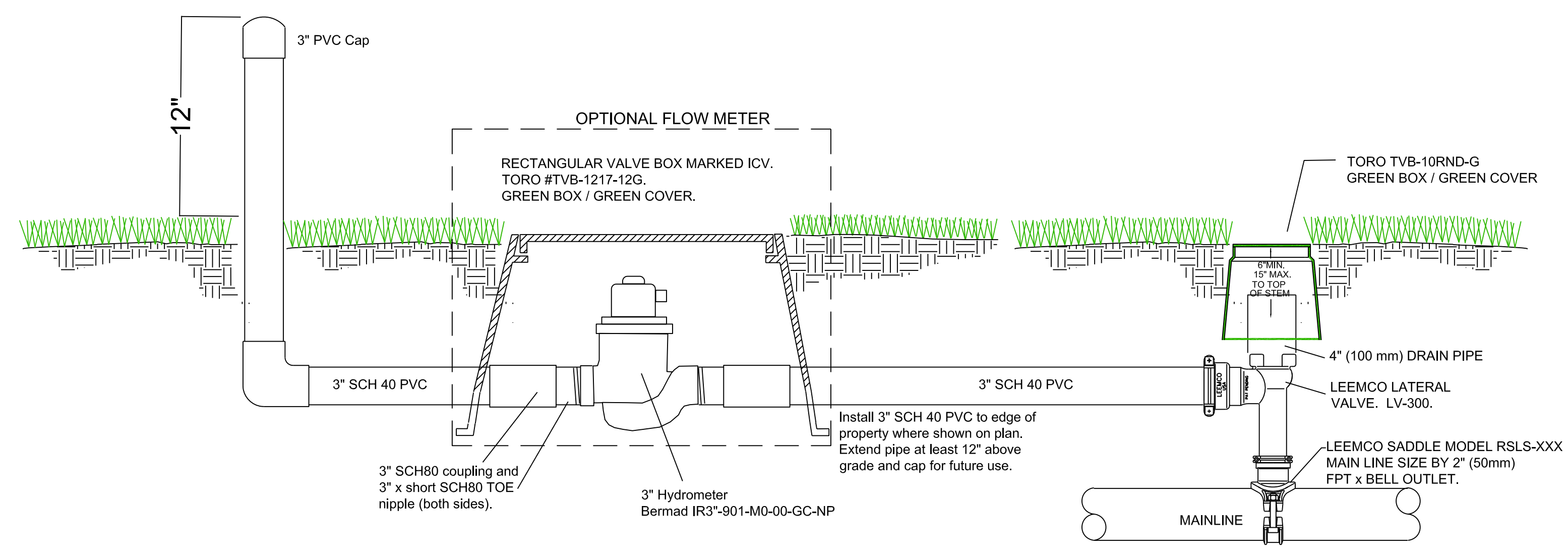
Sacramento California



PRESSURE REDUCING REMOTE CONTROL VALVE WITH PRESSURE REGULATOR



TYPICAL BACKFLOW PREVENTER



LATERAL ISOLATION W/PRESSURE REGULATOR

GREENING CONTRACTOR 3\"/>

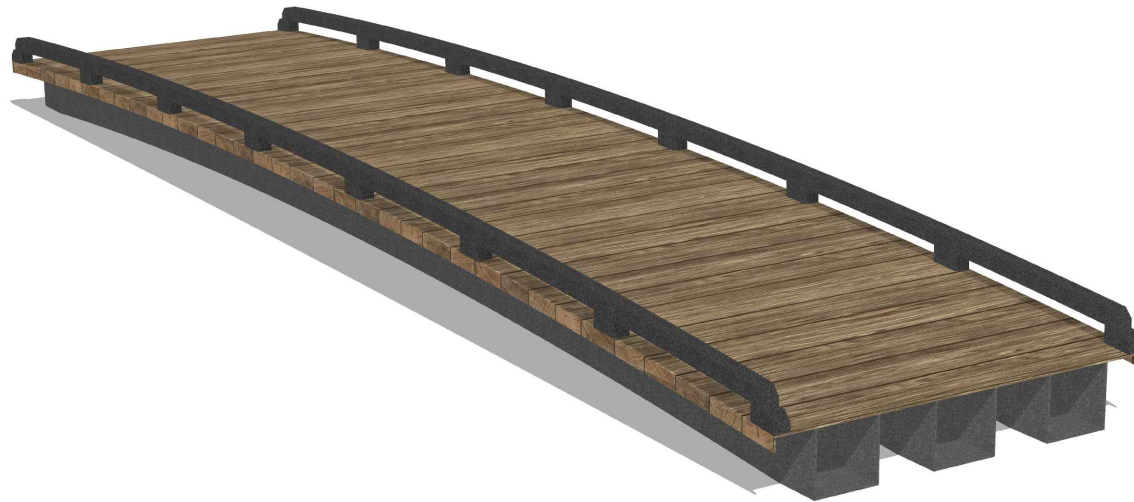
Irrigation Plan Details

Client Contact:
 Sacramento Area Flood Control Agency (SAFCA)
 1325 J St. Suite 1700
 Sacramento, CA 9514
 916-874-7606

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 G O L F D E S I G N
 1170 Golden Foothill Parkway
 El Dorado Hills, CA 95762
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 Scale: _____
 Sheet: IR-11



THE WOODY

CAMPUS COMMONS GOLF COURSE - CA

CONTENTS

- E.01 ENGINEERING: BRIDGE DETAILS - 01
- E.02 ENGINEERING: BRIDGE DETAILS - 02
- E.03 ENGINEERING: BRIDGE DETAILS - 03
- E.04 ENGINEERING: BEAM COVER DETAILS
- E.05 ENGINEERING: SAMPLE FOUNDATION OPTIONS
- ~~F.01 FACTORY DETAILS: BRIDGE~~
- ~~F.02 FACTORY DETAILS: CURB~~
- R.01 BRIDGE RENDERING

Item 7



CLIENT

**CAMPUS COMMONS
GOLF COURSE**

SITE

2 Cadillac Dr,
Sacramento, CA 95825

LOCATION ON SITE

SPECIFICATION

TYPE	WOODY
SIZE	8' X 35'
FINISH	WEATHERED WOOD
GUARD RAIL	CURB
ULL	--
VLL	10,000 LBS

ISSUE #

01 PRELIMINARY ENGINEERING

DRAWING

TITLE PAGE

DATE	21 APR. 2023	SHEET #	
SCALE	N/A	E.00	
DRAWN BY	CLC		
FILE #	23-073-TP1-8X35WC		

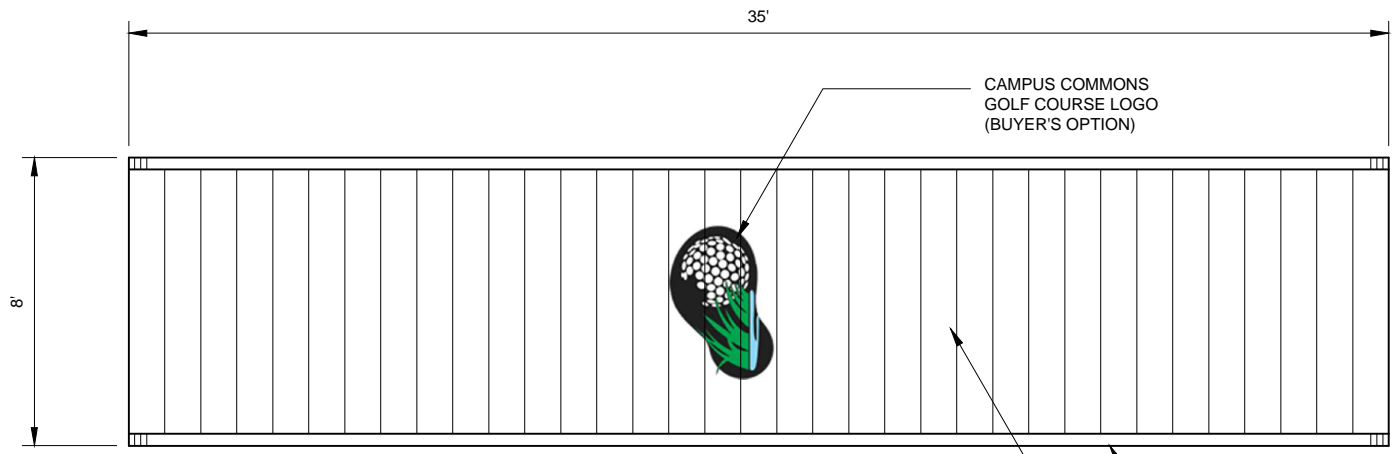


1 SE OCEAN BLVD., STUART, FL 34994 USA

PO BOX 235, 11-300 EARL GREY DRIVE,
KANATA, ON K2T 1C1

Page 27

PHONE: 781-444-0277
EMAIL: INFO@LINKSBRIDGES.COM
WWW.LINKSBRIDGES.COM



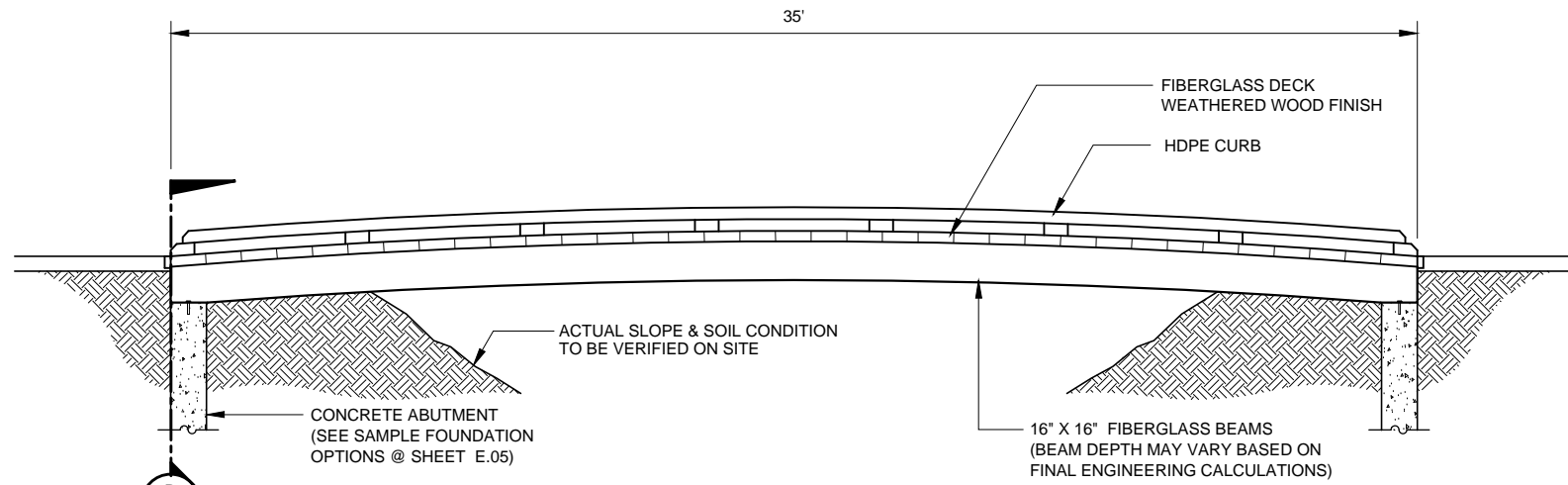
CAMPUS COMMONS
GOLF COURSE LOGO
(BUYER'S OPTION)

B
E.01

A PLAN
SCALE: 1' - 3 / 16"

HDPE CURB

FIBERGLASS DECK
WEATHERED WOOD FINISH



ACTUAL SLOPE & SOIL CONDITION
TO BE VERIFIED ON SITE

CONCRETE ABUTMENT
(SEE SAMPLE FOUNDATION
OPTIONS @ SHEET E.05)

16" X 16" FIBERGLASS BEAMS
(BEAM DEPTH MAY VARY BASED ON
FINAL ENGINEERING CALCULATIONS)

B
E.02

B SIDE ELEVATION
SCALE: 1' - 3 / 16"

Item 7



CLIENT
**CAMPUS COMMONS
GOLF COURSE**

SITE
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LOCATION ON SITE

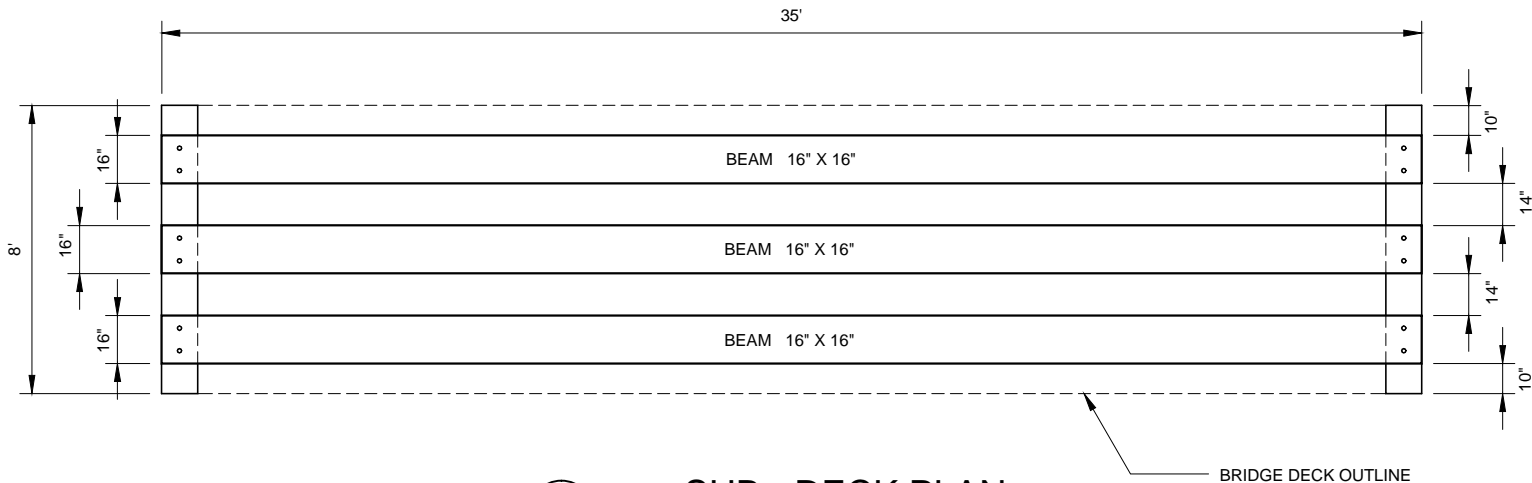
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SIZE	8' X 35'
FINISH	WEATHERED WOOD
GUARD RAIL	CURB
ULL	--
VLL	10,000 LBS

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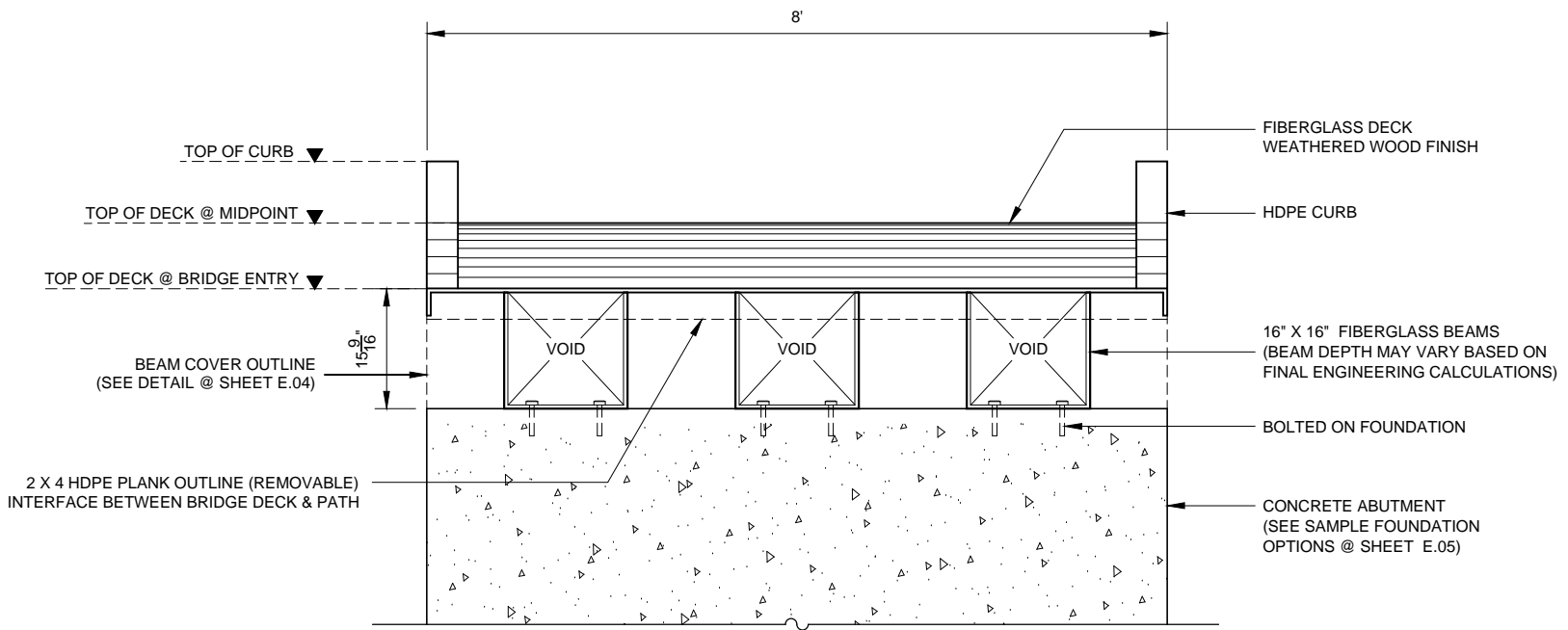
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BRIDGE DETAILS - 01**

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A SUB - DECK PLAN
SCALE: 1' - 3/16"



B SECTION
SCALE: 1' - 1/2"

Item 7



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CAMPUS COMMONS GOLF COURSE

SITE
2 Cadillac Dr,
Sacramento, CA 95825

LOCATION ON SITE

SPECIFICATION	
TYPE	WOODY
SIZE	8' X 35'
FINISH	WEATHERED WOOD
GUARD RAIL	CURB
ULL	--
VLL	10,000 LBS

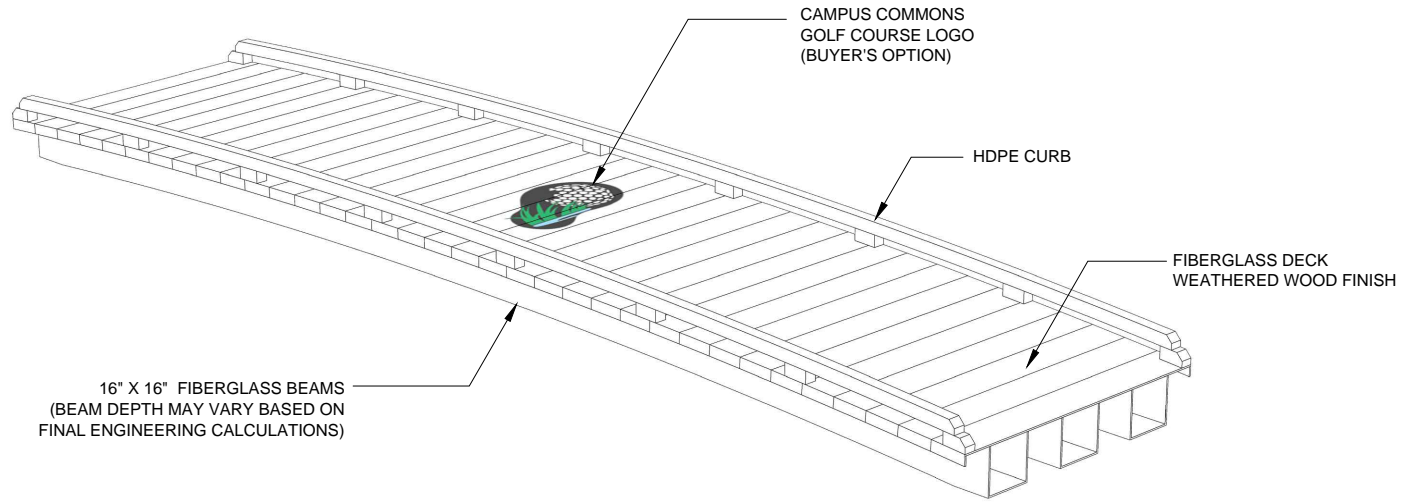
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A ISOMETRIC VIEW
SCALE: NTS



B MATERIAL FINISH (DECK)
SCALE: NTS

Item 7



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**CAMPUS COMMONS
GOLF COURSE**

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2 Cadillac Dr,
Sacramento, CA 95825

LOCATION ON SITE

SPECIFICATION	
TYPE	WOODY
SIZE	8' X 35'
FINISH	WEATHERED WOOD
GUARD RAIL	CURB
ULL	--
VLL	10,000 LBS

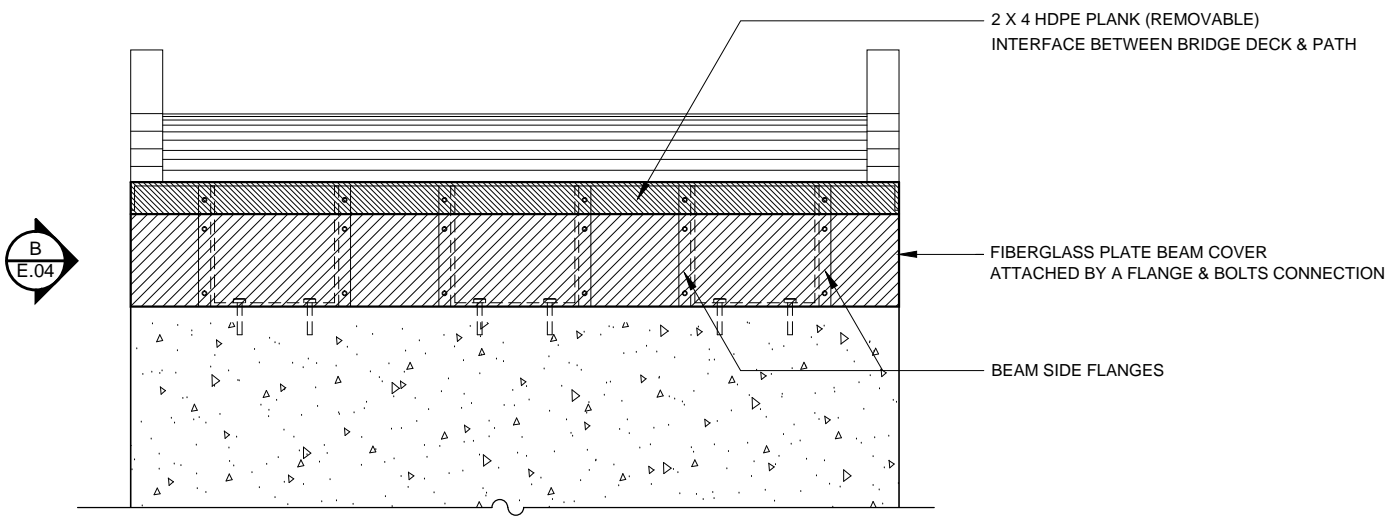
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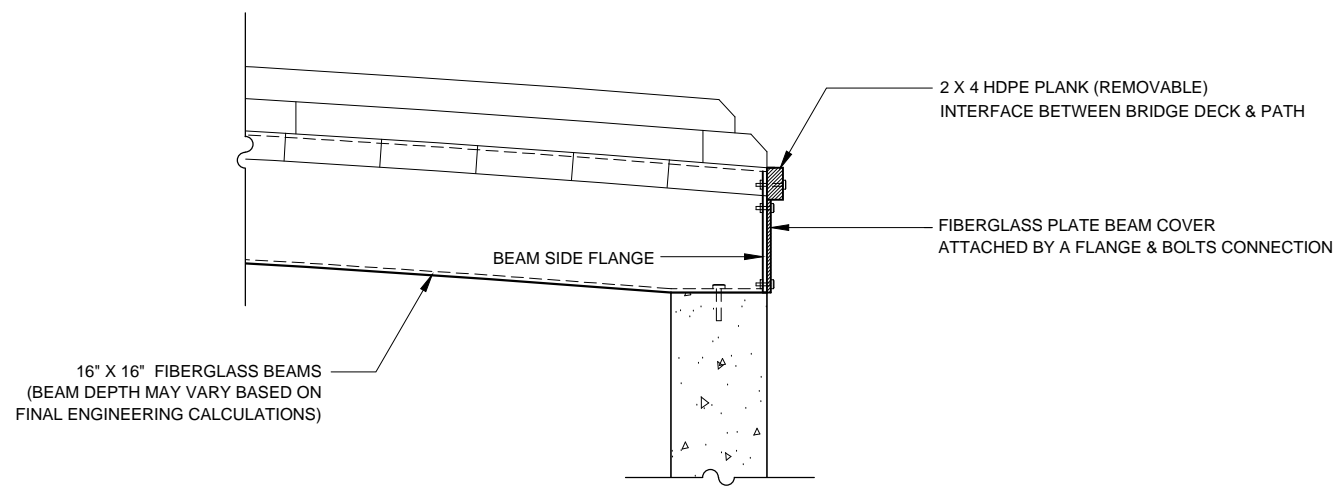
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A REAR ELEVATION
SCALE: 1' - 1/2"



B SIDE ELEVATION
SCALE: 1' - 1/2"

***NOTES:**
FIBERGLASS PLATE BEAM COVERS ARE ATTACHED TO BEAMS AFTER BEAMS ARE COMPLETELY SECURED TO THE FOUNDATIONS.



CLIENT
CAMPUS COMMONS GOLF COURSE

SITE
2 Cadillac Dr,
Sacramento, CA 95825

LOCATION ON SITE

SPECIFICATION	
TYPE	WOODY
SIZE	8' X 35'
FINISH	WEATHERED WOOD
GUARD RAIL	CURB
ULL	--
VLL	10,000 LBS

ISSUE #	01	PRELIMINARY ENGINEERING
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DRAWING
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BEAM COVER DETAIL**

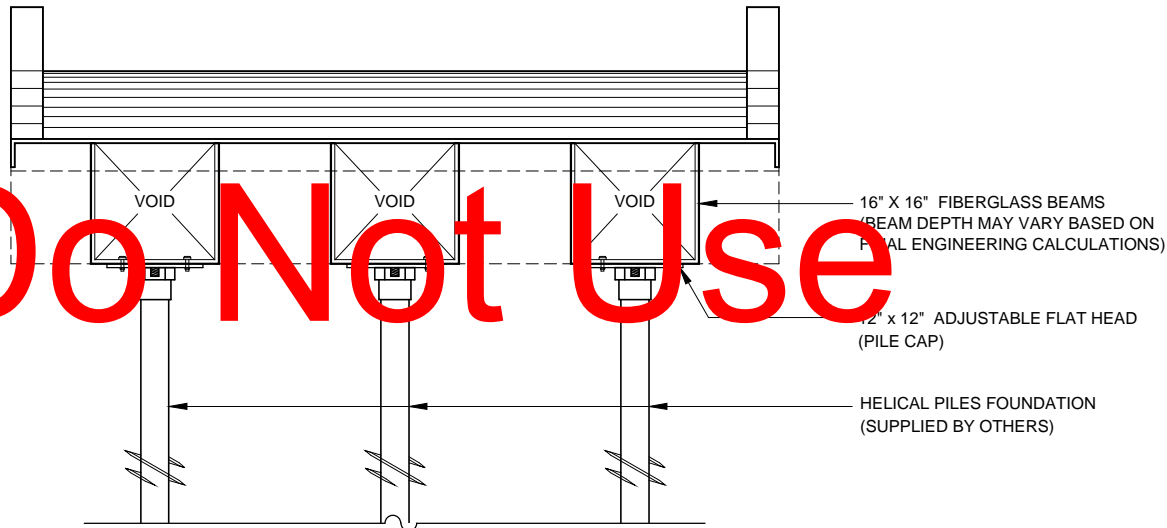
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FILE #	23-073-TP1-8X35WC	

1 SE OCEAN BLVD., STUART, FL 34994 USA
PO BOX 235, 11-300 EARL GREY DRIVE,
KANATA, ON K2T 1C1
PHONE: 1-888-444-0277
EMAIL: INFO@LINKSBRIDGES.COM
WWW.LINKSBRIDGES.COM

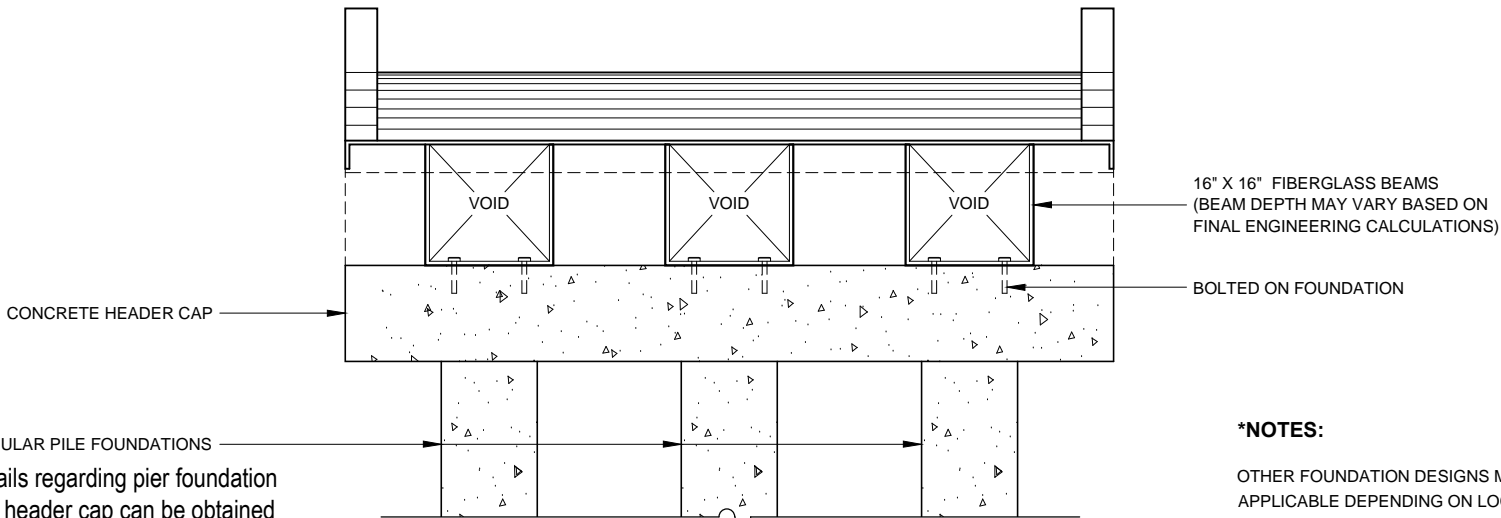
Page 31



Do Not Use



A FOUNDATION DETAIL (W/ HELICAL PILES)
SCALE: 1' - 1/2"



CIRCULAR PILE FOUNDATIONS
Details regarding pier foundation and header cap can be obtained from Links Bridges.

B FOUNDATION DETAIL (W/ PIERS)
SCALE: 1' - 1/2"

***NOTES:**
OTHER FOUNDATION DESIGNS MAY BE APPLICABLE DEPENDING ON LOCAL GEOTECHNICAL (SOILS) CONDITIONS AND BRIDGE LOADING REQUIREMENTS.

LINKS BRIDGES WILL WORK WITH YOU TO FIND MOST COST-EFFECTIVE ALTERNATIVE TO HELP MINIMIZE PROJECT COSTS.

CLIENT
CAMPUS COMMONS GOLF COURSE

SITE
2 Cadillac Dr,
Sacramento, CA 95825

LOCATION ON SITE

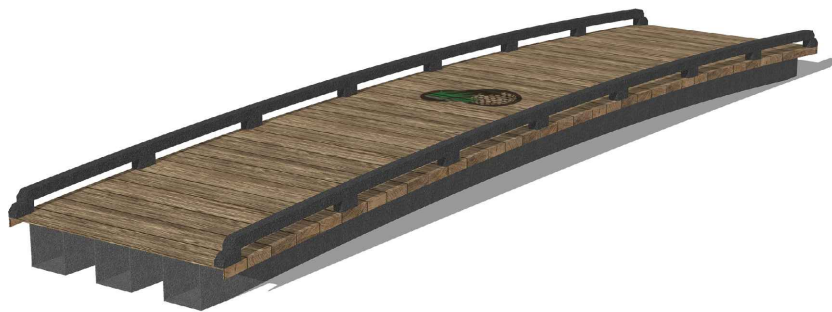
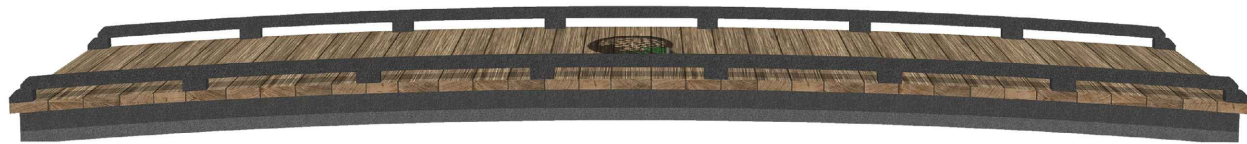
SPECIFICATION	
TYPE	WOODY
SIZE	8' X 35'
FINISH	WEATHERED WOOD
GUARD RAIL	CURB
ULL	--
VLL	10,000 LBS

ISSUE #	01 PRELIMINARY ENGINEERING
---------	----------------------------

DRAWING
**ENGINEERING:
SAMPLE FOUNDATION
OPTIONS**

DATE	21 APR. 2023	SHEET #	
SCALE	1'-0" - 1/2"	E.05	
DRAWN BY	CLC		
FILE #	23-073-TP1-8X35WC		

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A BRIDGE RENDERING

SCALE: NTS

***NOTE:**

BUYER'S OPTION FOR LOGO ON BRIDGE DECK

Item 7



CLIENT
CAMPUS COMMONS GOLF COURSE

SITE
2 Cadillac Dr,
Sacramento, CA 95825

LOCATION ON SITE

SPECIFICATION	
TYPE	WOODY
SIZE	8' X 35'
FINISH	WEATHERED WOOD
GUARD RAIL	CURB
ULL	--
VLL	10,000 LBS

ISSUE #	01 PRELIMINARY ENGINEERING
---------	----------------------------

DRAWING
BRIDGE RENDERING

DATE	21 APR. 2023	SHEET #	
SCALE	NTS	R.01	
DRAWN BY	CLC		
FILE #	23-073-TP1-8X35WC		

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