	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	AC-NH-SOIB-7-023(041)925	199	1A

The following sheets in Section 199:

ND 23B Truck Reliever Route

Golf Course Table of Contents

Edgewater Country Club
New Town, ND

PROJECT DIRECTORY:

OWNER:
Edgewood Country Club
New Town, ND

GOLF COURSE ARCHITECT:
Herfort Norby Golf Course Architects, LLC
100 East 2nd Street #200
Chaska, MN 55318
Contact:
Kevin Norby, ph: 952-361-0644,
e-mail: knorby@HerfortNorbyGolf.com
Jon Schmenk, ph: 317-616-8289
e-mail: jschmenk@HerfortNorbyGolf.com

IRRIGATION CONSULTANT:
E.C. Design Group, Inc.
400 5th Street
West Des Moines, IA 50265
Contact:
Erik Christiansen, erik@ecdesigngroup.com

SHEET INDEX:

Clubhouse & Parking Lot construction to be completed by others

Maintenance area construction to be completed by others

Future Nursery/Practice Green by Others - Not in Contract

LICENSED LANDSCAPE ARCHITECT KEVIN NORBY 134 DATE: 10.4.2017 STATE OF NORTH DAKOTA

Edgewater Country Club New Town, ND

Sheet: TITLE SHEET

Golf Course Architect:
HERFORT NORBY GOLF COURSE ARCHITECTS
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Engineers:
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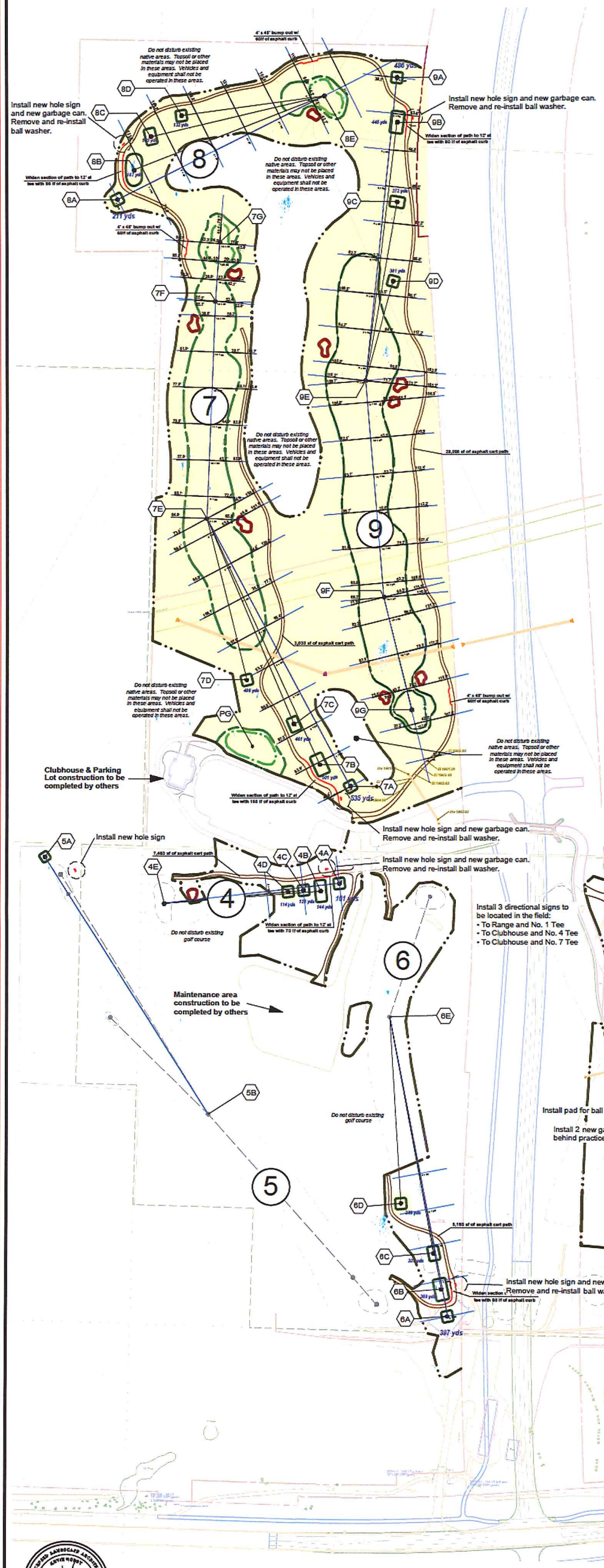
Fargo, ND 58103
(701) 232-5353
web: kljeng.com

October 4, 2017

Revisions:

0 150 300 450 FT

Staking Point Table				
Hole Number	Station Pt. #	Position X	Position Y	Description
04	04A	1477210.18	365701.44	Center of Blue Tee (30' x 30')
04	04B	1477159.41	365680.94	Center of White Tee (30' x 60')
04	04C	1477112.78	365682.89	Center of Gold Tee (30' x 30')
04	04D	1477069.72	365678.80	Center of Red Tee (30' x 30')
04	04E	1476729.44	365645.41	Center of 4 Green
05	05A	1476402.16	365774.00	Center of Blue Tee (25' x 25')
05	05B	1476851.34	365064.18	1st Dogleg Point
06	06A	1477381.64	364819.74	Center of Blue Tee (30' x 30')
06	06B	1477492.70	364583.41	Center of White Tee (60' x 35')
06	06C	1477472.40	364683.45	Center of Gold Tee (40' x 30')
06	06D	1477381.64	364819.74	Center of Red Tee (30' x 30')
06	06E	1477349.42	365333.68	1st Dogleg Point
07	07A	1477240.41	365968.51	Center of Blue Tee (30' x 30')
07	07B	1477155.98	366029.61	Center of White Tee (60'x 35')
07	07C	1477085.11	366141.02	Center of Gold Tee (40' x 30')
07	07D	1476955.20	366264.00	Center of Red Tee (30' x 30')
07	07E	1476845.25	366709.76	1st Dogleg Point
07	07F	1476869.13	367309.28	2ndDogleg Point
07	07G	1476881.70	367472.70	Center of 7 Green
08	08A	1476600.75	367592.13	Center of Blue Tee (30' x 30')
08	08B	1476646.80	367673.40	Center of White Tee (freeform 90' x 40')
08	08C	1476692.15	367765.24	Center of Gold Tee (30' x 45')
08	08D	1476776.69	367821.49	Center of Red Tee (30' x 30')
08	08E	1477169.34	367874.42	Center of 8 Green
09	09A	1477369.92	367924.08	Center of Blue Tee (30' x 30')
09	09B	1477369.98	367800.69	Center of White Tee (60' x 35')
09	09C	1477369.55	367581.39	Center of Gold Tee (30' x 40')
09	09D	1477358.32	367362.39	Center of Red Tee (30' x 30')
09	09E	1477281.60	367088.74	1st Dogleg Point
09	09F	1477332.30	366490.89	2ndDogleg Point
09	09G	1477408.50	366180.50	Center of 9 Green
PG	PG	1476970.60	366080.20	Center of Putting Green
Range	RT1	1478205.03	365172.12	Northwest corner of Range Tee
Range	RT2	1478335.87	365135.00	Northeast corner of Range Tee
Range	RT3	1478296.79	364897.55	Southeast corner of Range Tee
Range	RT4	1478160.96	364904.32	Southwest corner of Range Tee
Range Tee Arc Center Point		1479359.47	364844.59	Back of range tee on 1,200' radius
Range	TG1	1478604.00	364872.59	Center of Target Green 1
Range	TG2	1478758.22	365005.17	Center of Target Green 2
Range	TG3	1478868.62	364862.77	Center of Target Green 3
Range	TG4	1478986.22	364944.37	Center of Target Green 4
	Highlighted areas are Phase 1 construction			



Edgewater Country Club New Town, ND

Sheet:

LAYOUT & PHASING PLAN

Golf Course Architect:
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Engineers:
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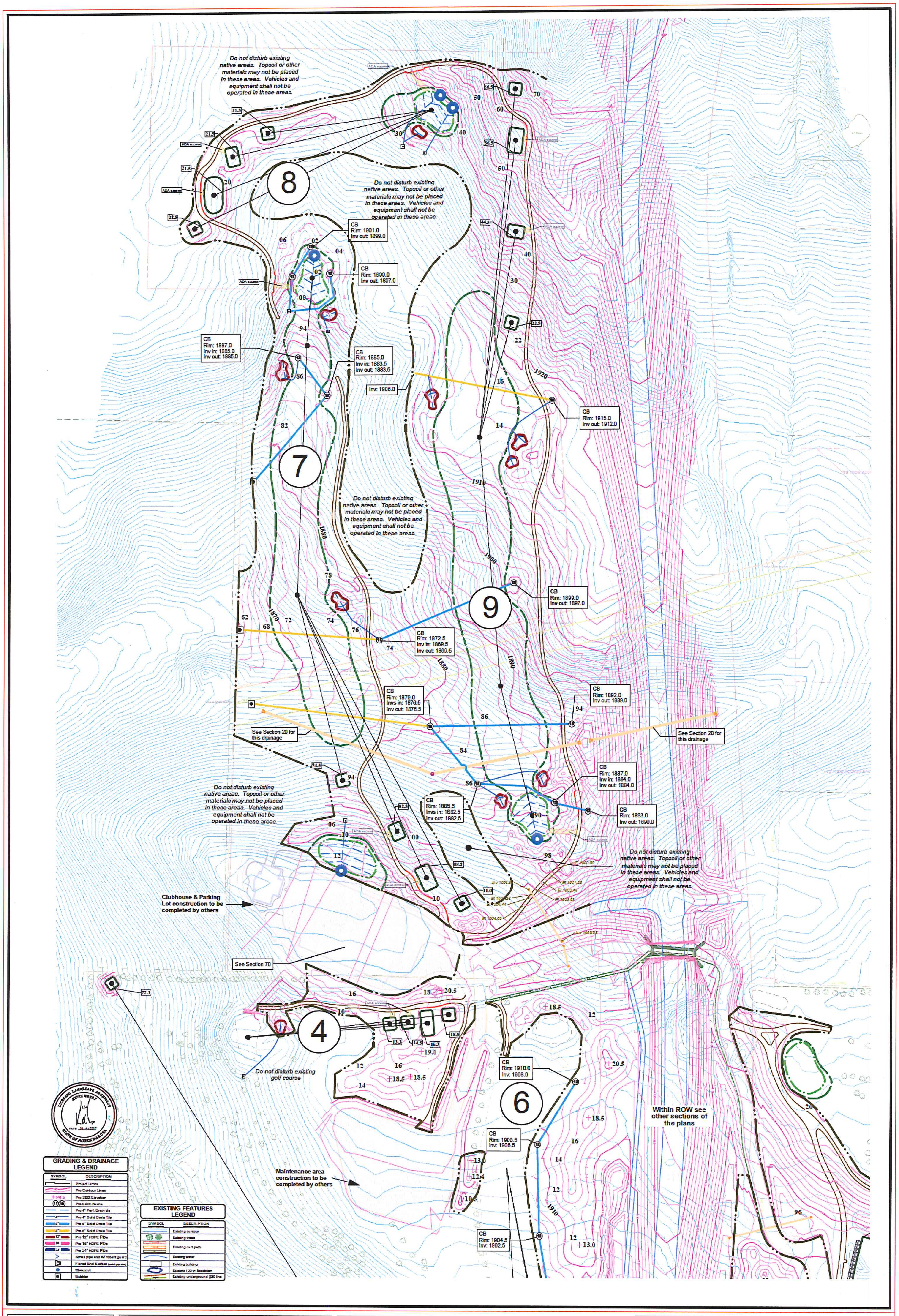
October 4, 2017

Revisions:

0 150 300 450 FT



Edgewater Country Club New Town, ND

Sheet:

GRADING PLAN A

Golf Course Architect:

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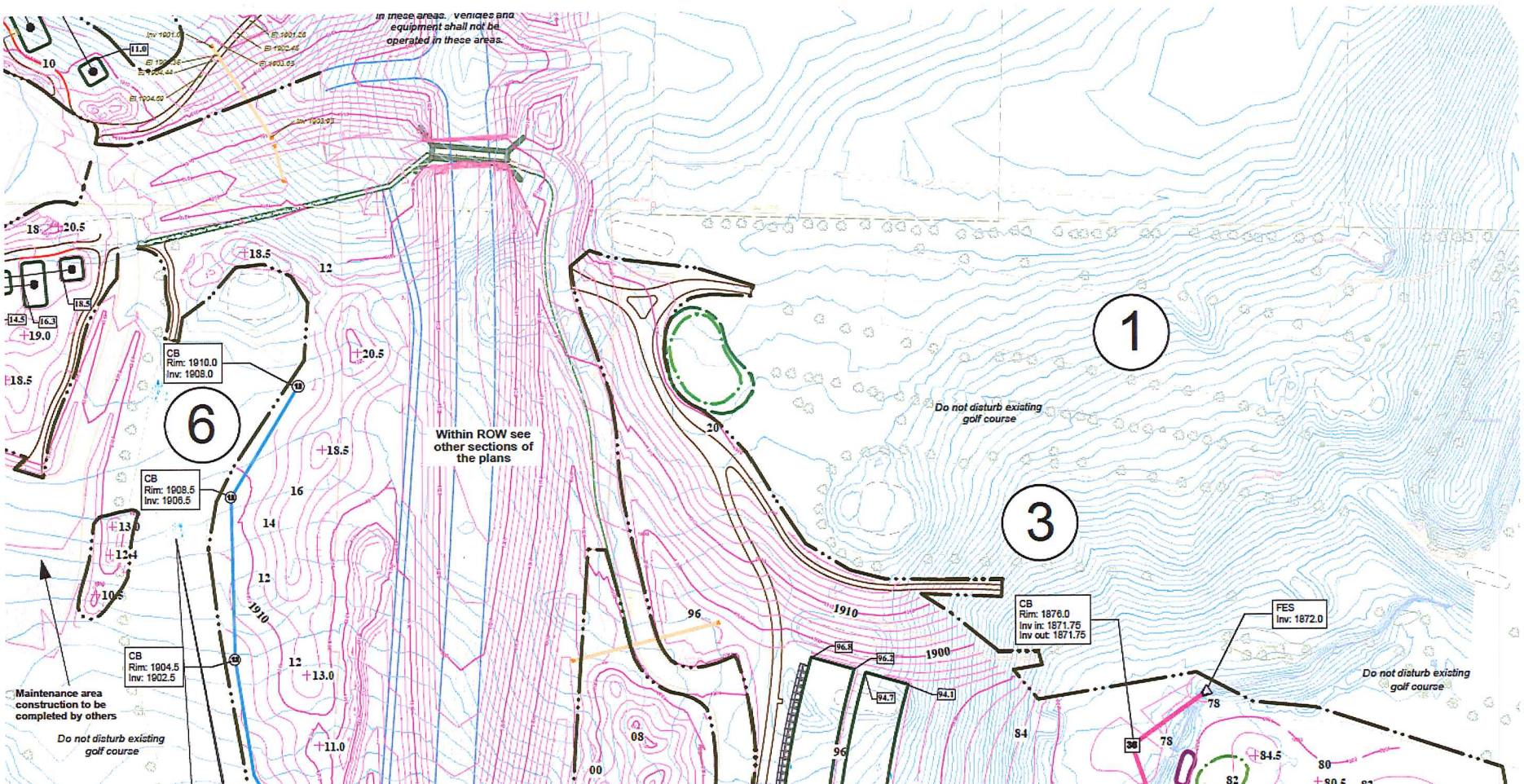
October 4, 2017

Revisions:

0 100 200 300 FT



GRADING & DRAINAGE LEGEND

SYMBOL	DESCRIPTION
	Project Limits
	Pro Contour Lines
	Pro spot Elevation
	Pro Catch Basins
	Pro 4" Perf. Drain tile
	Pro 4" Solid Drain Tile
	Pro 6" Solid Drain Tile
	Pro 8" Solid Drain Tile
	Pro 12" HDPE Pipe
	Pro 18" HDPE Pipe
	Pro 24" HDPE Pipe
	Small pipe end W/ rodent guard
	Flared End Section
	Cleanout
	Rubber

EXISTING FEATURES LEGEND

SYMBOL	DESCRIPTION
	Existing contour
	Existing trees
	Existing cart path
	Existing water
	Existing building
	Existing 100 yr. floodplain
	Existing underground gas line

LICENSED LANDSCAPE ARCHITECT — KEVIN KOBBE — Date 10.4.2017 — STATE OF NORTH DAKOTA

Edgewater Country Club New Town, ND

Sheet:

GRADING PLAN B

Golf Course Architect:
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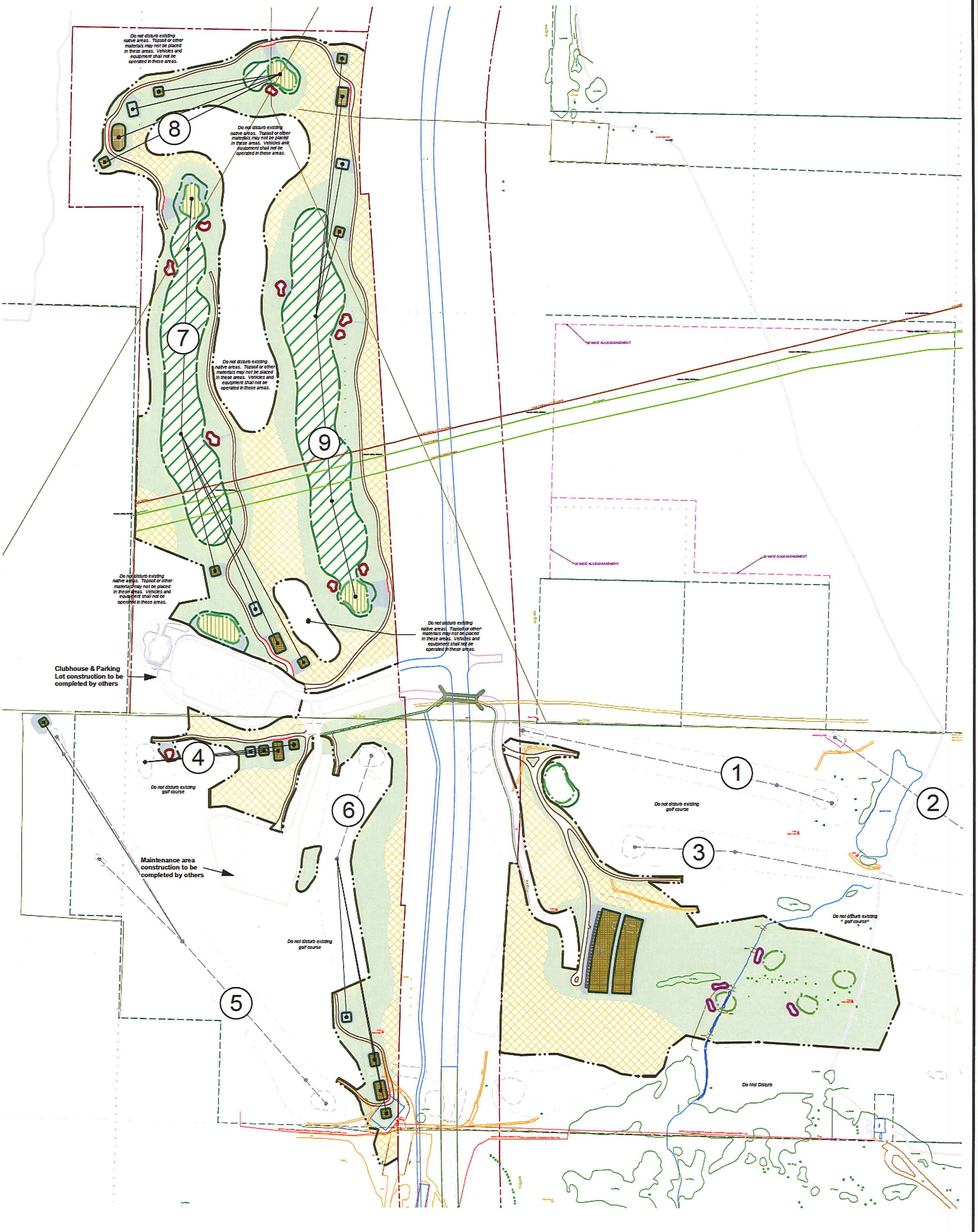
October 4, 2017

Revisions:

0 100 200 300 FT



GRASSING LEGEND

SYMBOL	DESCRIPTION	PHASE 1	PHASE 2
	Fairway Seeding	305,330 sf	0 sf
	Green Seeding	27,503 sf	0 sf
	Tee Seeding	12,879 sf	39,063 sf
	Rough Seeding	451,843 sf	511,023 sf
	Low Maintenance Seeding	305,178 sf	327,846 sf
	Sod	7,561 sy	4,363 sy

LICENSED LANDSCAPE ARCHITECT
KEVIN NORBY
134
DATE: 10.4.2017
STATE OF NORTH DAKOTA

Edgewater Country Club New Town, ND

Sheet:

GRASSING PLAN

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October 4, 2017
Revisions:

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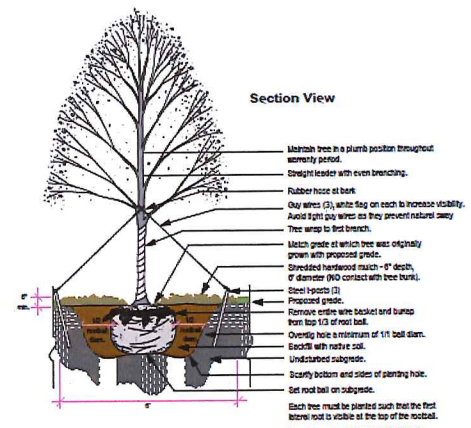
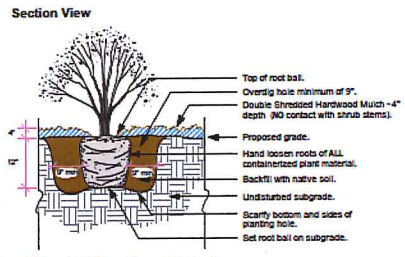


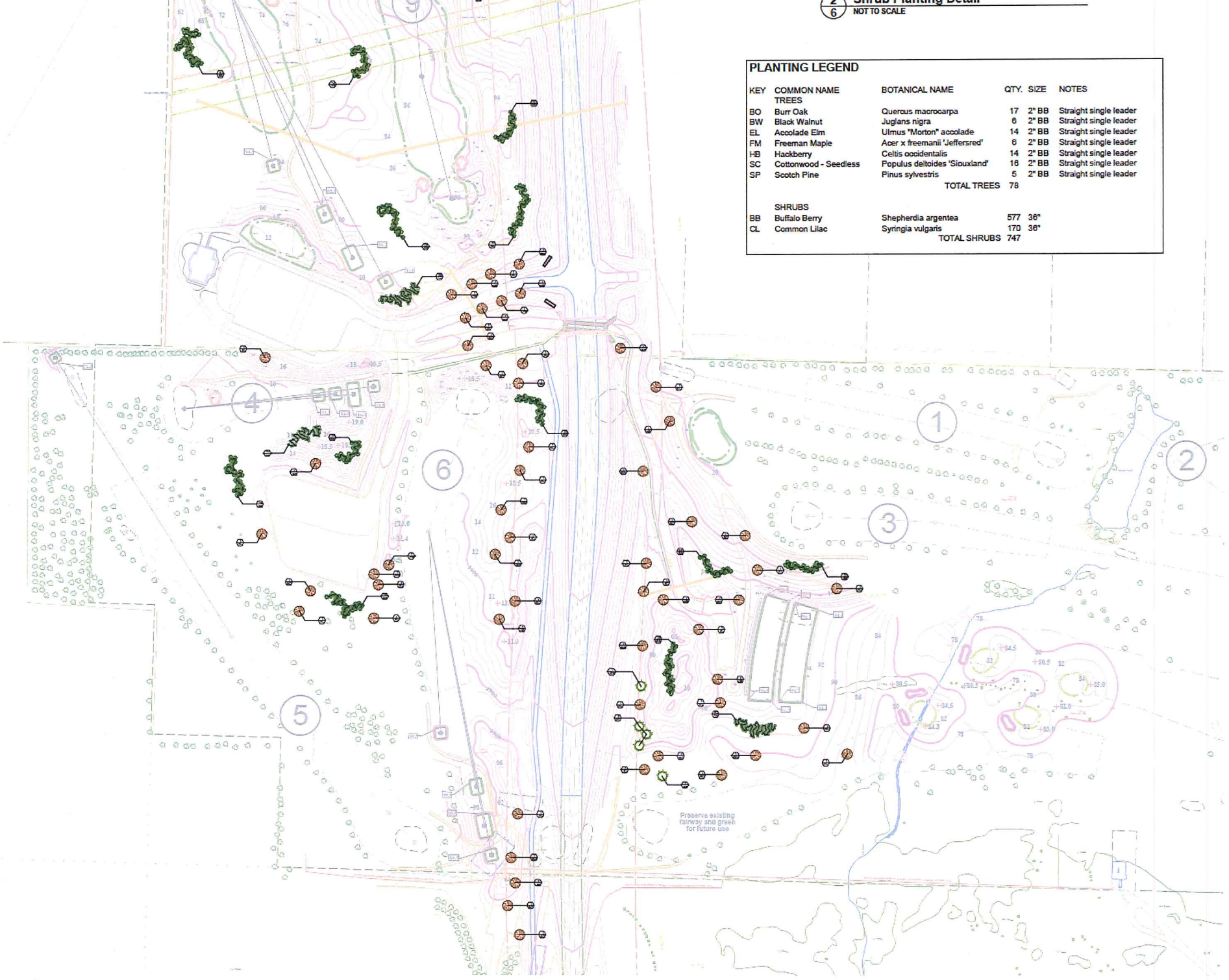
1/6 Tree Planting Detail
NOT TO SCALE



2/6 Shrub Planting Detail
NOT TO SCALE

PLANTING LEGEND

KEY	COMMON NAME	BOTANICAL NAME	QTY.	SIZE	NOTES
	TREES				
BO	Burr Oak	Quercus macrocarpa	17	2" BB	Straight single leader
BW	Black Walnut	Juglans nigra	6	2" BB	Straight single leader
EL	Accolade Elm	Ulmus "Morton" accolade	14	2" BB	Straight single leader
FM	Freeman Maple	Acer x freemanii 'Jeffersred'	6	2" BB	Straight single leader
HB	Hackberry	Celtis occidentalis	14	2" BB	Straight single leader
SC	Cottonwood - Seedless	Populus deltoides 'Siouxland'	16	2" BB	Straight single leader
SP	Scotch Pine	Pinus sylvestris	5	2" BB	Straight single leader
		TOTAL TREES	78		
	SHRUBS				
BB	Buffalo Berry	Shepherdia argentea	577	36"	
CL	Common Lilac	Syringia vulgaris	170	36"	
		TOTAL SHRUBS	747		



Edgewater Country Club
New Town, ND

Sheet:
GOLF COURSE PLANTING PLAN

Golf Course Architect:
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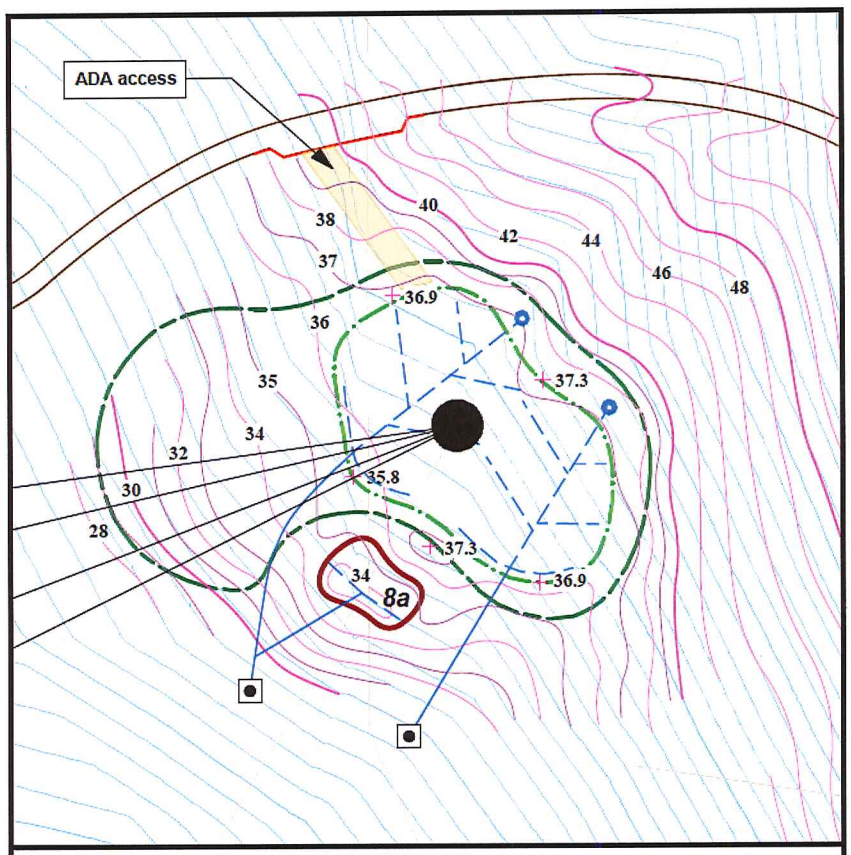
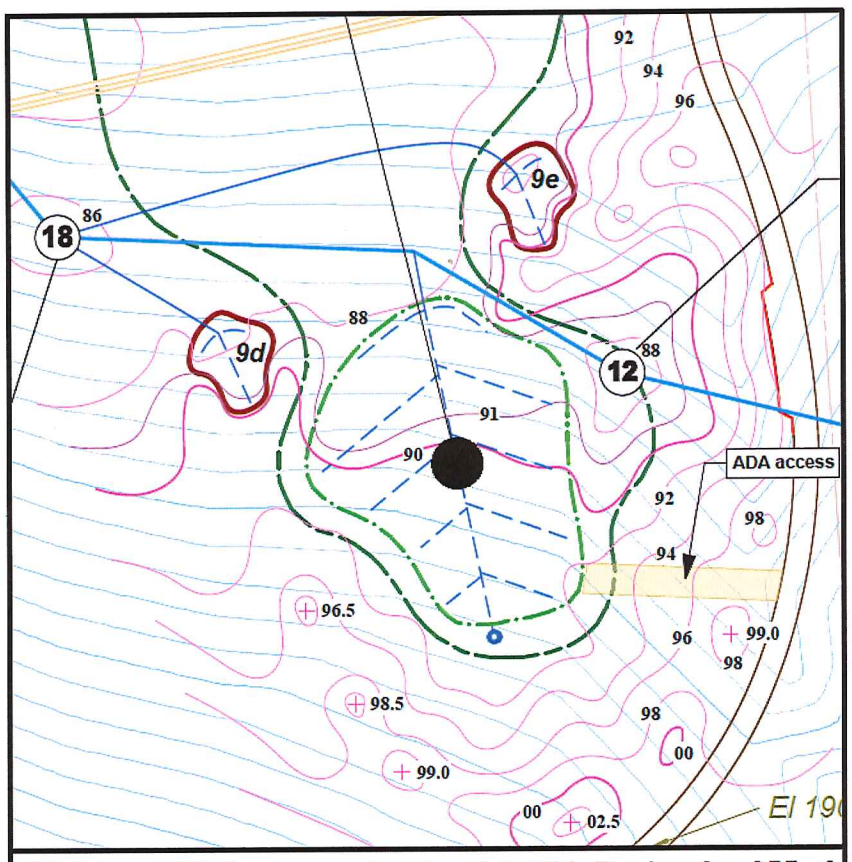
October 4, 2017
Revisions:

0 150 300 450 FT

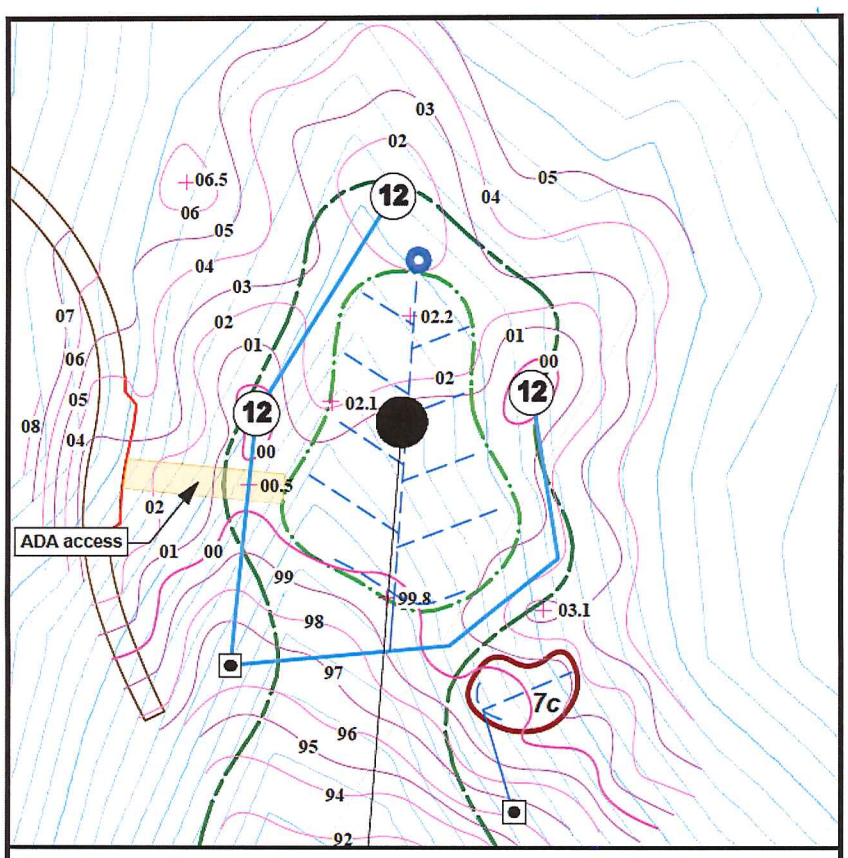
6



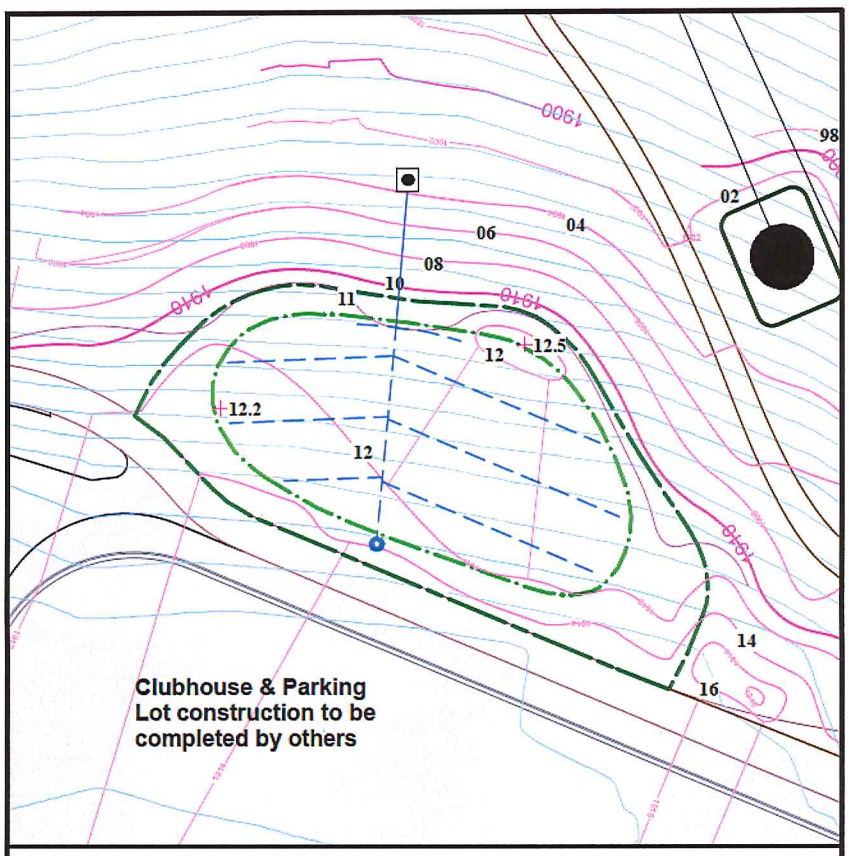
#8 Green: 6,002 sf Bunker 8a: 618 sf



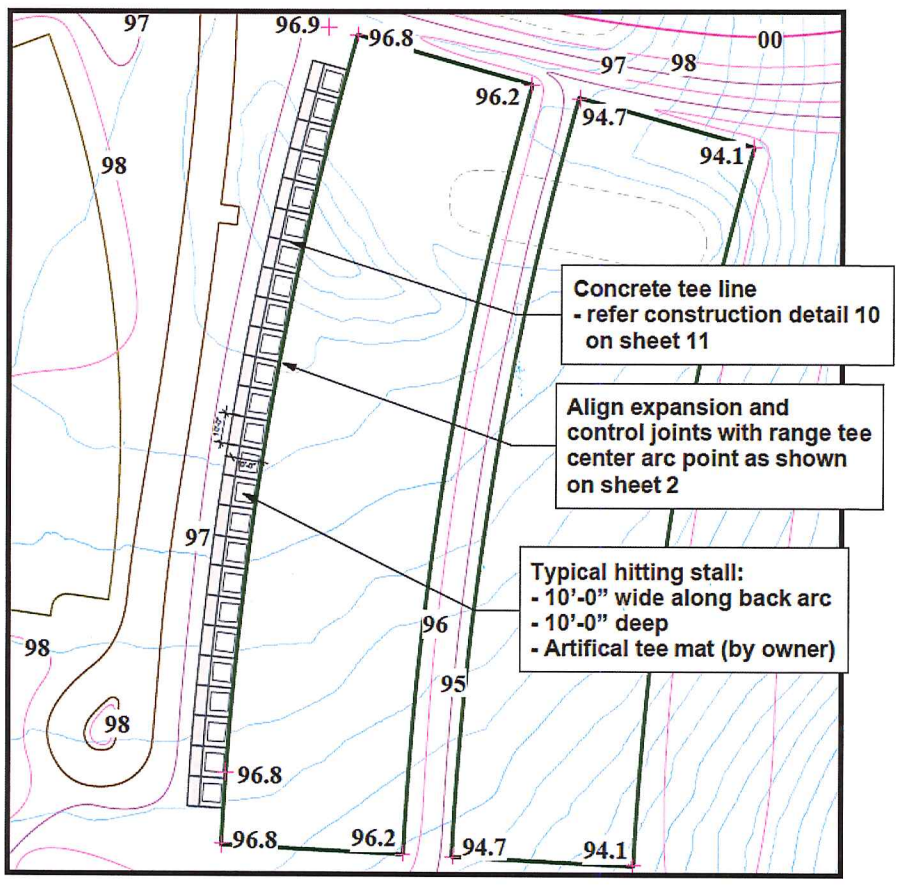
#9 Green: 6874 sf Bunker 9d: 624 Bunker 9e: 655 sf



#7 Green: 5,883 sf Bunker 7c: 716 sf



Putting Green: 8,744 sf



GRADING & DRAINAGE LEGEND

SYMBOL	DESCRIPTION
	Project Limits
	Pro Contour Lines
846.5	Pro spot Elevation
13 19	Pro Catch Basins
	Pro 4" Perf. Drain tile
	Pro 4" Solid Drain Tile
6"	Pro 6" Solid Drain Tile
8"	Pro 8" Solid Drain Tile
12"	Pro 12" HDPE Pipe
18"	Pro 18" HDPE Pipe
24"	Pro 24" HDPE Pipe
	Small pipe end W/ rodent guard
	Flared End Section (water pipe sizes)
	Cleanout
	Bubbler

EXISTING FEATURES LEGEND

SYMBOL	DESCRIPTION
	Existing contour
	Existing trees
	Existing cart path
	Existing water
	Existing building
	Existing 100 yr. floodplain
	Existing underground gas line

Edgewater Country Club
New Town, ND

Sheet:

GREEN DETAILS & TEE LINE DETAIL

Golf Course Architect:
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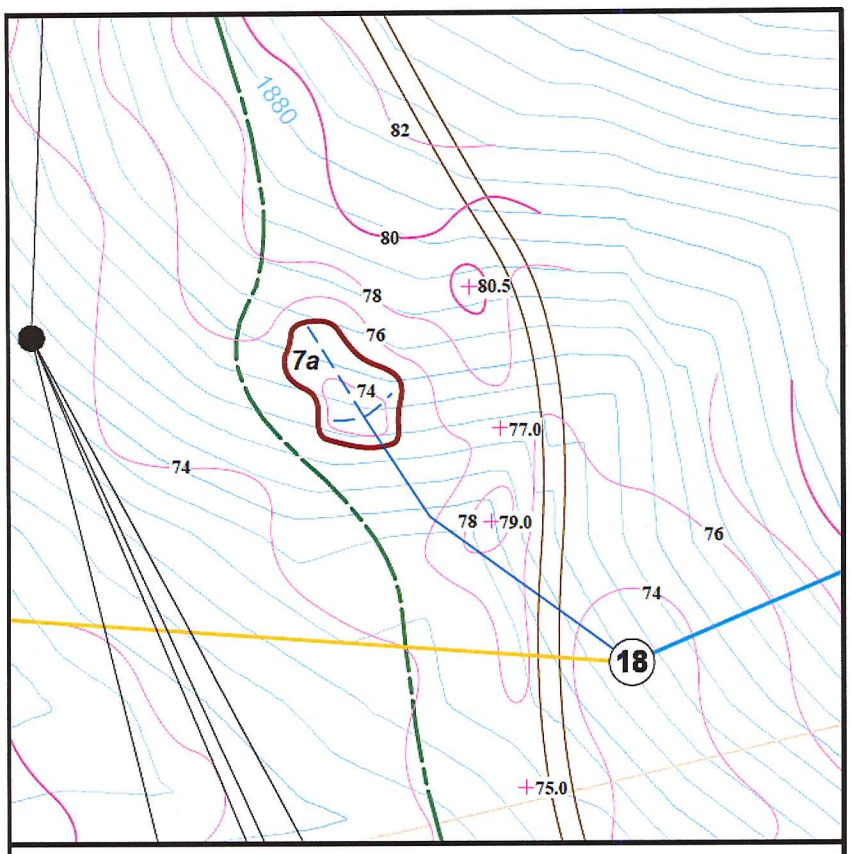
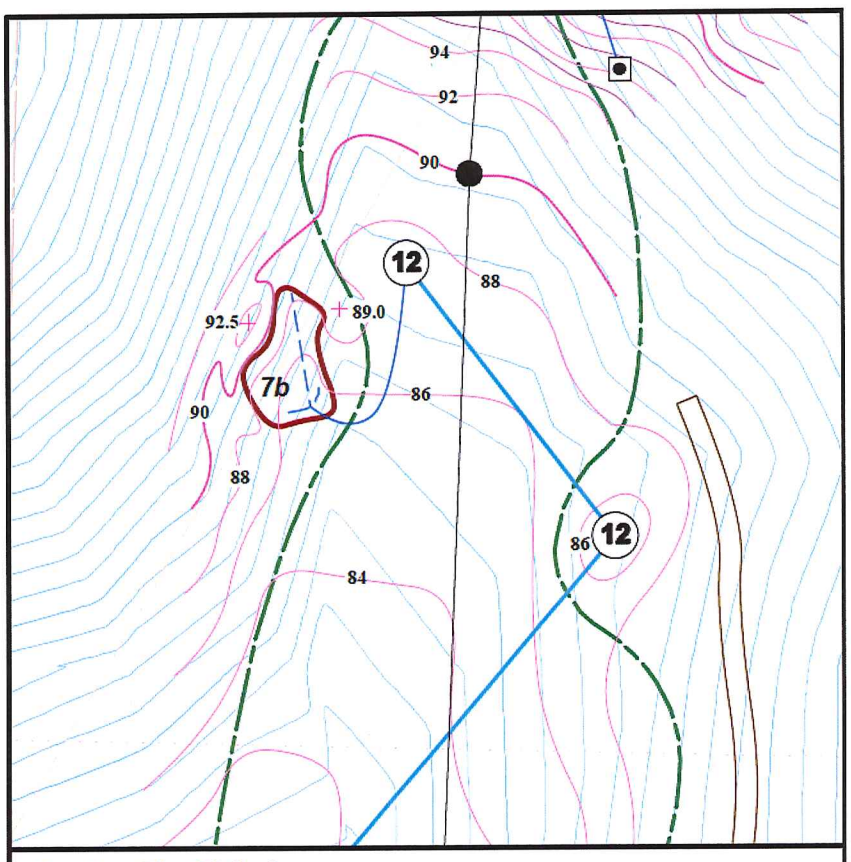
October 4, 2017

Revisions:

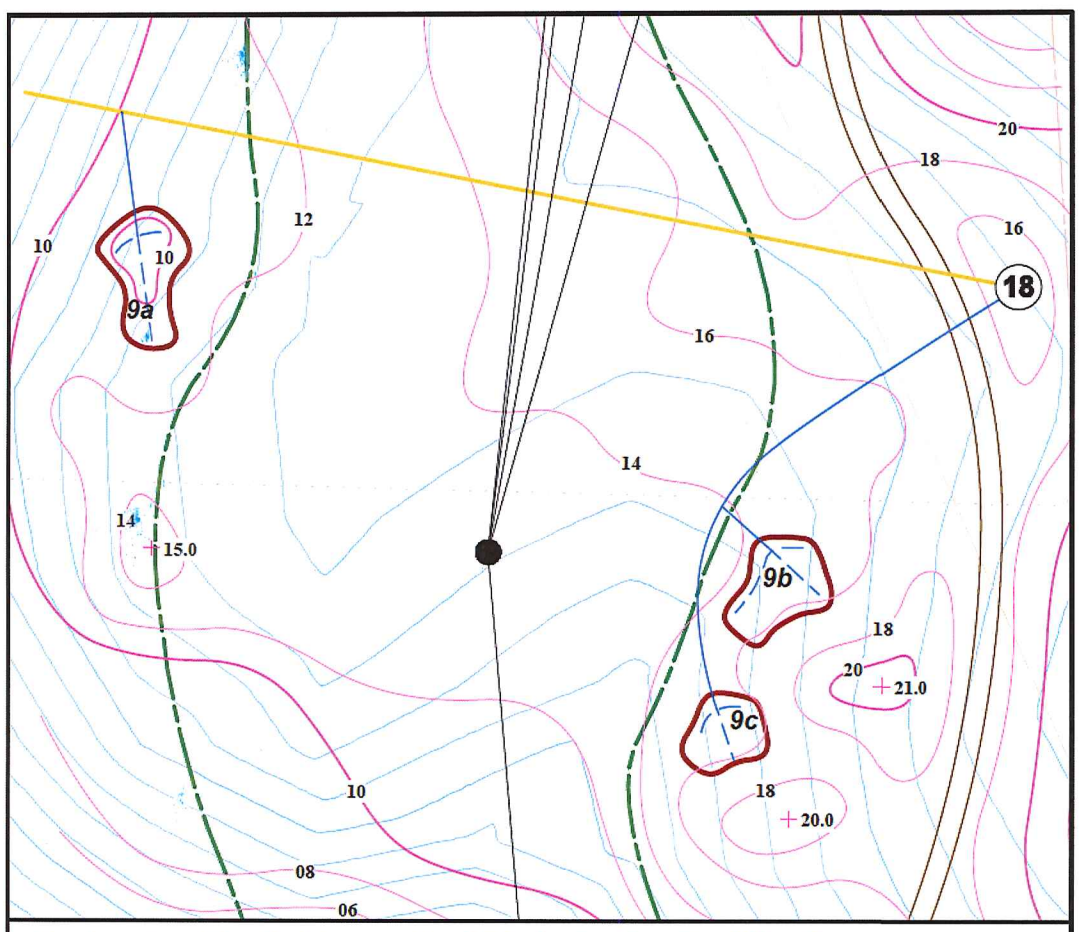
0 30 60 90 FT



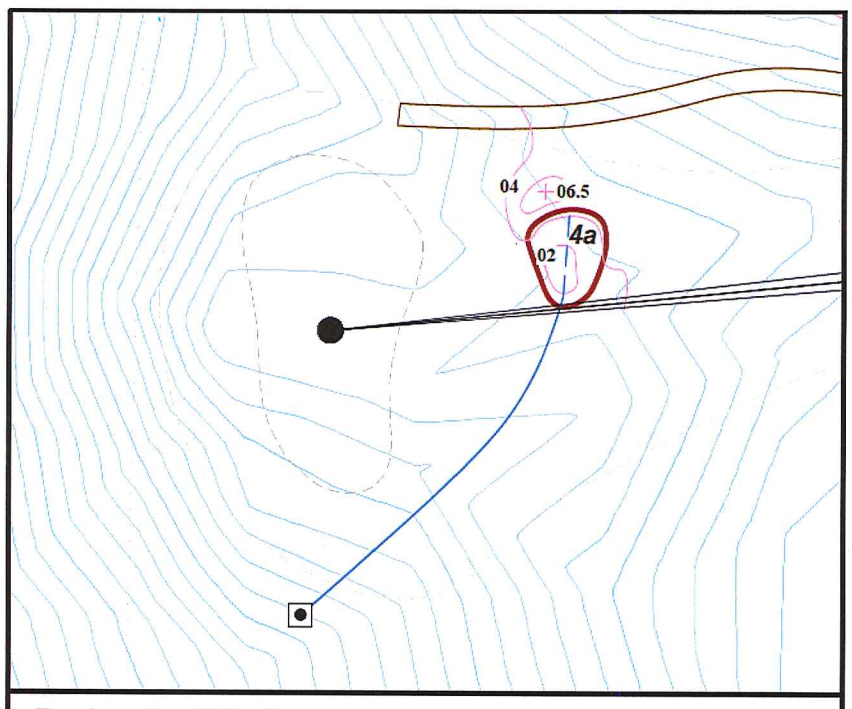
Bunker 7a: 1,045 sf



Bunker 7b: 884 sf



Bunker 9a: 872 sf Bunker 9b: 804 sf Bunker 9c: 550 sf



Bunker 4a: 629 sf

GRADING & DRAINAGE LEGEND

SYMBOL	DESCRIPTION
	Project Limits
	Pro Contour Lines
+948.5	Pro spot Elevation
12 X 18	Pro Catch Basins
	Pro 4" Perf. Drain tile
	Pro 4" Solid Drain Tile
6"	Pro 6" Solid Drain Tile
8"	Pro 8" Solid Drain Tile
12"	Pro 12" HDPE Pipe
18"	Pro 18" HDPE Pipe
24"	Pro 24" HDPE Pipe
	Small pipe end W/ rodent guard
	Flared End Section (match pipe size)
	Cleanout
	Bubbler

EXISTING FEATURES LEGEND

SYMBOL	DESCRIPTION
	Existing contour
	Existing trees
	Existing cart path
	Existing water
	Existing building
	Existing 100 yr. floodplain
	Existing underground gas line

LICENSED LANDSCAPE ARCHITECT — DAVID HERBST — 134 — DATE: 10/4/2017 — STATE OF NORTH DAKOTA

Edgewater Country Club New Town, ND

Sheet:

BUNKER DETAILS

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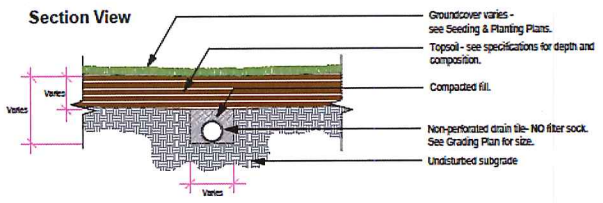
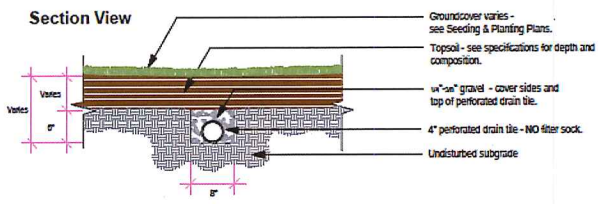
October 4, 2017

Revisions:

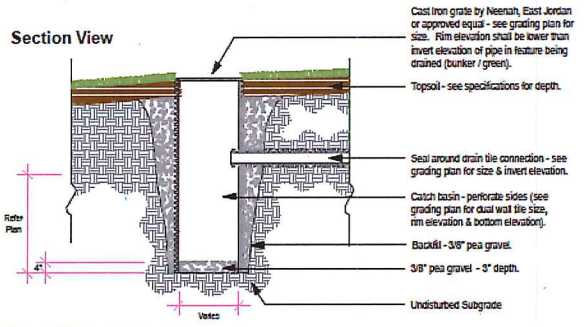
0 30 60 90 FT



1 Typical Non-Perforated Drain Tile Detail
NOT TO SCALE



2 Typical Perforated Drain Tile Detail
NOT TO SCALE



3 Bubbler Detail
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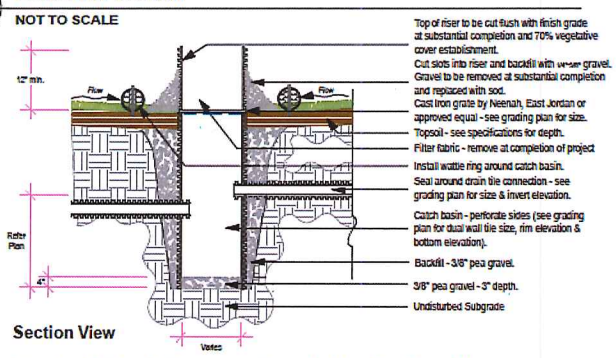
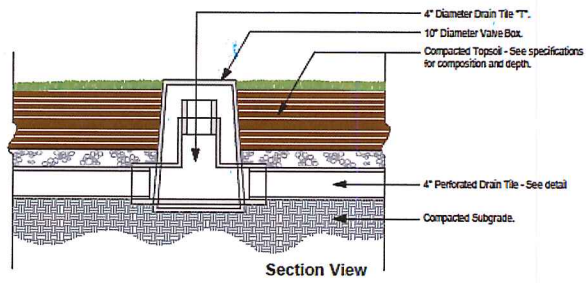
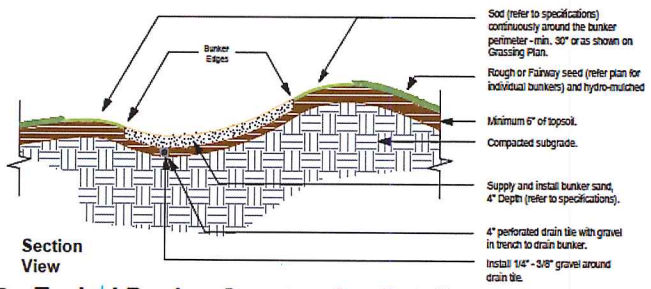


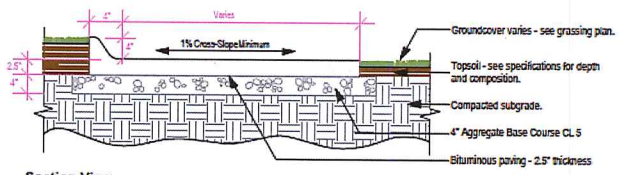
4 Typical Golf Course Catch Basin Detail
NOT TO SCALE



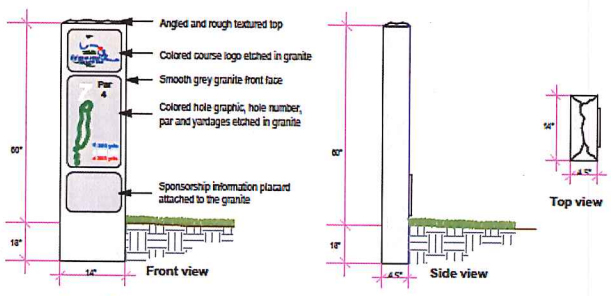
5 Typical Cleanout
NOT TO SCALE



6 Typical Bunker Construction Detail
NOT TO SCALE



7 Bituminous Path w/ Base
NOT TO SCALE



8 Granite Hole Signs
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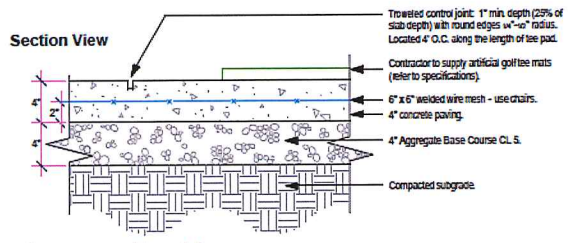

9 Concrete Tee Line
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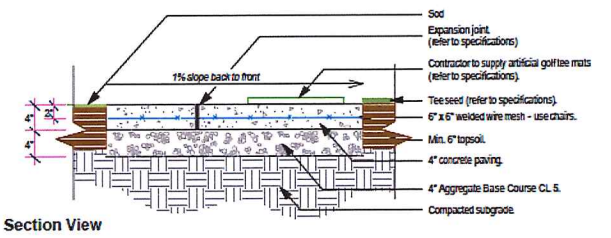

10 Concrete Tee Line
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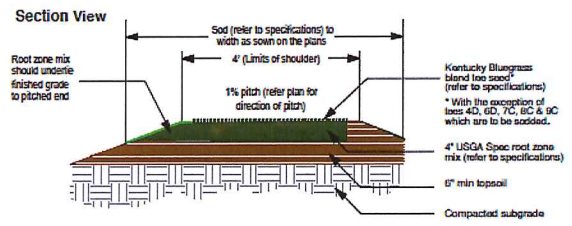
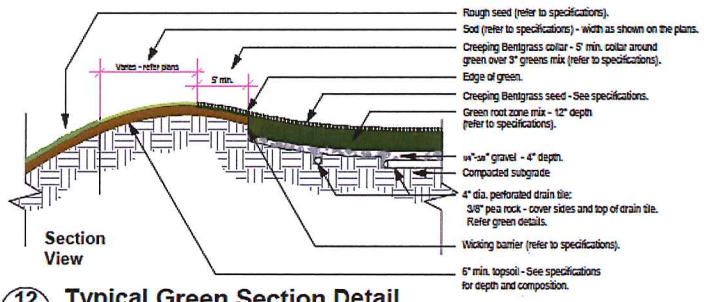


11 Typical Tee Detail
NOT TO SCALE



12 Typical Green Section Detail
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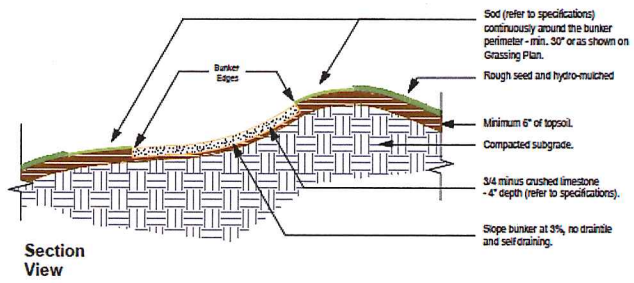
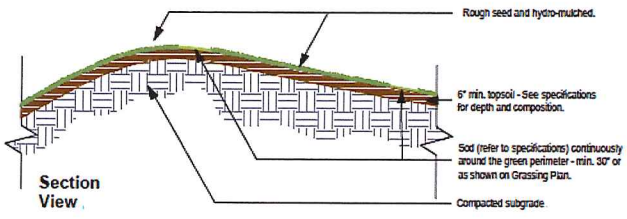
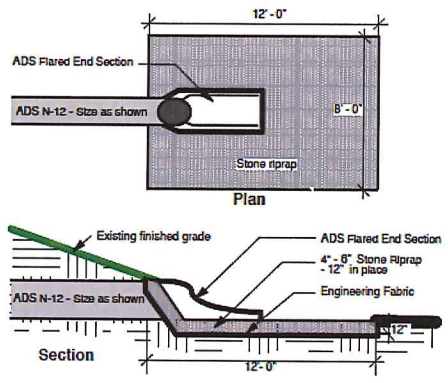


13 Typical Target Bunker Construction Detail
NOT TO SCALE



14 Typical Target Green Section Detail
NOT TO SCALE



15 Pipe Inlet with Flared End Section
NOT TO SCALE

LICENSED LANDSCAPE ARCHITECT KEVIN PORBY 134 Date 10.4.2017 STATE OF NORTH DAKOTA

Edgewater Country Club New Town, ND

Sheet:
CONSTRUCTION DETAILS

Golf Course Architect:
HERFORT NORBY GOLF COURSE ARCHITECTS
100 East Second Street, Suite 200
Chaska, MN 55318
(952) 381-0644
email: golfnorby@earthlink.net
web: herfortnorby.com

Engineers:
KLJ
3203 32nd Ave. S., Suite 201
Fargo, ND 58103
(701) 232-5353
web: kljeng.com

October 4, 2017

Revisions:


Do not disturb existing native areas. Topsoil or other materials may not be placed in these areas. Vehicles and equipment shall not be operated in these areas.
8
Do not disturb existing native areas. Topsoil or other materials may not be placed in these areas. Vehicles and equipment shall not be operated in these areas.
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Do not disturb existing native areas. Topsoil or other materials may not be placed in these areas. Vehicles and equipment shall not be operated in these areas.
Clubhouse & Parking Lot construction to be completed by others
4
Do not disturb existing golf course
6
Maintenance area construction to be completed by others
Do not disturb existing golf course
5
1
2
3
Future Nursery/Practice Green by Others - Not in Contract
Do not disturb existing golf course
Do not disturb existing golf course
Do Not Disturb

EROSION CONTROL LEGEND

SYMBOL	DESCRIPTION
(arrow)	Areas of concentrated flow
(red circle)	Inlet protection
(orange arc)	Straw wattles

Erosion control Note:
All tees surfaces, all fairways, all rough and all low maintenance seed areas shall be stabilized with hydro-mulch (refer specifications) with tackifier at a rate of 3,000 pounds per acre. Putting green surfaces shall not be mulched/stabilized.

Edgewater Country Club New Town, ND

Sheet:

EROSION CONTROL PLAN

Golf Course Architect:
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email: golfnorby@earthlink.net; web: herfortnorby.com

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KLJ
3203 32nd Ave. S., Suite 201
Fargo, ND 58103
(701) 232-5353
web: kljeng.com

October 4, 2017

Revisions:

0 150 300 450 FT

10

LEGEND

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY*
	Toro FLX35-358-1 Adjustable from 40 to 330 degrees, and 360 full circle. 1" inlet, ACME body threads, electric valve type w/ Standard Solenoid, pressure regulation at 80psi – F.C. Nozzles and spacing subject to change as per staking.	20
	Toro FLX34-348-1 Full-circle golf sprinkler, body inlet 1", ACME body threads, electric valve type, pressure regulation at 80psi – F.C. Nozzles and spacing subject to change as per staking.	107
	Toro FLX55-578-1 Adjustable from 40 to 330 degrees, and 360 full circle. 1-1/2" inlet, ACME body threads, electric valve type w/ Standard Solenoid, pressure regulation at 80psi – F.C. Nozzles and spacing subject to change as per staking.	4
	Toro FLX54-578-1 Full-circle golf sprinkler, body inlet 1-1/2", ACME body threads, electric valve type, pressure regulation at 80psi – F.C. Nozzles and spacing subject to change as per staking.	132

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY*
	Nibco RT/RW 3" to 6" cast iron manual control valve, same size as mainline pipe where located. Resilient wedge non-rising stem flow control with IPS push-on ends.	11
	Toro 474-00 One-Piece, 1" Single Lug Quick Coupler Valve with Standard Metal Cover.	5
	Harco Lateral Valve (Size To Line)	21
A	Bermad C30 2" Air Relief Valve	4
D	High Pressure Dump Valve 2"	2
	CLA-VAL 92-01 Pressure Reducing & Sustaining Valve 3" Combination Pressure Reducing and Pressure Sustaining Valve. It maintaines a constant downstream pressure regardless of fluctuating demand and sustains the upstream presssure to a pre-determined minimum.	2
X XX	Toro 201-XX-P6A4 Network VP Satellite with a green plastic cabinet, 24 VAC electric output. Stand-alone. With large-capacity terminal block and additional surge and switches – See Plan For Approximate Station Counts	5
BP	Watertronics Booster Pump	1
	Irrigation Lateral Line: PVC Class 200 SDR 21 (2"-3")	
	Irrigation Mainline: PVC Class 200 SDR 21 (4"-6")	
	Pipe Sleeve: PVC C900 DR 18 Class 235 – Power Carried In Separate Sleeve As Per NEC Requirements (See Detail For Actual Sizing)	
	Irrigation 120 VAC Power Wire – As Per Code	
	Existing Lateral Line: PVC Class 200 SDR 21 – See Appendix	
	Existing Mainline: PVC C900 DR 18 Class 235 – See Appendix	
3 40	Existing Toro 201-XX-P6A4 Field Satallite	

*Note: All Quantities Are For Reference Only. Contractor Responsible For Actual Bid Counts

DESIGN NOTES

1. ALL PRODUCT APPLICATIONS AND INSTALLATIONS MUST MEET MANUFACTURER'S REQUIREMENTS.

2. FLOW RATES THROUGH PVC PIPING NOT TO EXCEED MANUFACTURER'S RECOMMENDATIONS.

3. PIPING AS SHOWN IS DIAGRAMMATIC IN NATURE. ALL PIPING TO BE LOCATED WITHIN OWNER'S PROPERTY LINES.

4. CONTRACTOR IS RESPONSIBLE FOR PROPER OPERATION OF IRRIGATION SYSTEM. SYSTEM SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATIONS AND SHALL WATER ALL LANDSCAPED AREAS NOTED. IRRIGATION PLAN IS INTENDED TO INCLUDE EVERYTHING NECESSARY TO THE PROPER OPERATION OF SAID IRRIGATION SYSTEM. IF ADJUSTMENTS ARE REQUIRED, CONTRACTOR SHALL MAKE ADJUSTMENTS FOR SAME.

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7. IT IS THE INTENT OF THE IRRIGATION DESIGN TO ACHIEVE HEAD TO HEAD COVERAGE IN ALL LANDSCAPED AREAS AS WELL AS ADJUST DRIP ZONES TO MATCH PLANT MATERIAL WATERING NEEDS. IT WILL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ADJUST FOR SAME.

8. IRRIGATION CONTRACTOR SHALL PROVIDE OWNERS REPRESENTATIVE WITH ALL SHOP DRAWINGS AND SUBMITTALS OF PROPOSED IRRIGATION SYSTEM BEFORE INSTALLATION.

9. CONTRACTOR TO REVIEW ALL OWNER UTILITY PLANS FOR EXISTING EQUIPMENT AND UTILITY LOCATIONS.

PLUMBING NOTES

1. ALL MAIN LINE PIPING FITTINGS SHALL BE THRUST BLOCKED AT ALL CHANGES OF DIRECTION – SEE DETAILS AND THRUST BLOCK/JOINT RESTRAINT NOTES.

2. ALL PIPE SHALL BE CARRIED IN SEPARATE TRENCH.

PROGRAMMING NOTES

1. ALL VALVES SHALL HAVE SINGLE #14 HOT WIRE RUNNING BACK TO RESPECTIVE SATELLITE. NO #12 COMMON WIRES SHALL BE MIXED WITH OTHER SATELLITES. CONTRACTOR SHALL SUPPLY IRRIGATION DESIGN CONSULTANT WITH AS-STAKED DRAWINGS AND ILLUSTRATE ALL 120 V.A.C. AND 24 V.A.C. WIRE ROUTING AS INSTALLED.

ELECTRICAL NOTES

1. ALL 120 V.A.C. POWER SPLICES AT FIELD SATELLITES.

2. ALL POWER WIRE TAPS AND CONNECTIONS SHALL CONFORM TO WITH LOCAL AND STATE CODES AND PERFORMED BY LICENSED ELECTRICIAN.

3. 24" LOOP OF WIRE LOCATED BELOW EACH HEAD.

4. ALL 24 V.A.C. SECONDARY WIRING SHALL BE (RED) #14 HOT AND (WHITE) #12 COMMON. (ONE HOT WIRE PER HEAD)

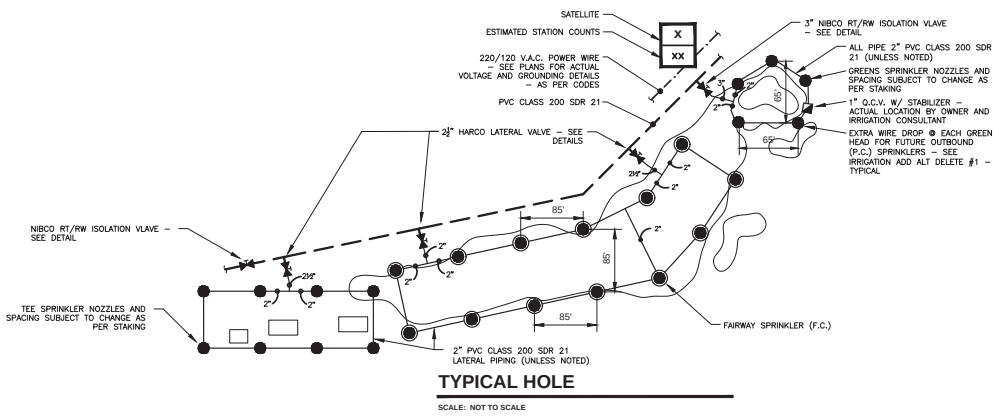
5. ALL WIRE SHALL HAVE ENOUGH SLACK AS TO ACCOMMODATE FOR EXPANSION AND/OR CONTRACTION.

6. ALL WIRE TO BE UL APPROVED FOR DIRECT BURIAL.

7. ALL 120 V.A.C. PRIMARY, AND 24 V.A.C. SECONDARY POWER TO BE INSTALLED AS PER STATE AND LOCAL CODES. SIZED AS PER PLAN WITH GROUND WIRE; MEETING N.E.C. REQUIREMENTS.

CONTROLLER NOTES

1. ALL SATELLITE LOCATIONS ON PLAN ARE DIAGRAMMATIC IN NATURE AND FINAL LOCATION WILL BE COORDINATED WITH OWNERS REPRESENTATIVE AND GENERAL CONTRACTOR FOR ACTUAL ELECTRICAL 120 V.A.C. LOCATIONS. ALL CONTROLLER EQUIPMENT SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS FOR THE PROPER OPERATION OF SAID CONTROL SYSTEM WHETHER MENTIONED OR NOT AT NO ADDITIONAL COST TO OWNER.



TYPICAL HOLE

SCALE: NOT TO SCALE

REVIEW AND PROGRESS PRINT
NOT FOR CONSTRUCTION

0 20 50 100 200
SCALE: 1" = 100'

NORTH

SHEET #	DATE:	DRAWING TITLE:	REVISIONS:	
LI-1	08/15/17	IMPACT COVERAGE PLAN SCALE: 1" = 100'-0"		EDGEWATER COUNTRY CLUB NEW TOWN, ND

ERIK CHRISTIANSEN DESIGN GROUP, LTD.

LEGEND

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY*
○	Toro FLX35–358–1 Adjustable from 40 to 330 degrees, and 360 full circle. 1" inlet, ACME body threads, electric valve type w/ Standard Solenoid, pressure regulation at 80psi – F.C. Nozzles and spacing subject to change as per staking.	20
●	Toro FLX34–348–1 Full–circle golf sprinkler, body inlet 1", ACME body threads, electric valve type, pressure regulation at 80psi – F.C. Nozzles and spacing subject to change as per staking.	107
◐	Toro FLX55–578–1 Adjustable from 40 to 330 degrees, and 360 full circle. 1–1/2" inlet, ACME body threads, electric valve type w/ Standard Solenoid, pressure regulation at 80psi – F.C. Nozzles and spacing subject to change as per staking.	4
◉	Toro FLX54–578–1 Full–circle golf sprinkler, body inlet 1–1/2", ACME body threads, electric valve type, pressure regulation at 80psi – F.C. Nozzles and spacing subject to change as per staking.	132

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY*
⊗	Nibco RT/RW 3" to 6" cast iron manual control valve, same size as mainline pipe where located. Resilient wedge non–rising stem flow control with IPS push–on ends.	11
◪	Toro 474–00 One–Piece, 1" Single Lug Quick Coupler Valve with Standard Metal Cover.	5
⧗	Harco Lateral Valve (Size To Line)	21
Ⓐ	Bermad C30 2" Air Relief Valve	4
Ⓓ	High Pressure Dump Valve 2"	2
⚠	CLA–VAL 92–01 Pressure Reducing & Sustaining Valve 3" Combination Pressure Reducing and Pressure Sustaining Valve. It maintaines a constant downstream pressure regardless of fluctuating demand and sustains the upstream presssure to a pre–determined minimum.	2
X / XX	Toro 201–XX–P6A4 Network VP Satellite with a green plastic cabinet, 24 VAC electric output. Stand–alone. With large–capacity terminal block and additional surge and switches – See Plan For Approximate Station Counts	5
BP	Watertronics Booster Pump	1
———	Irrigation Lateral Line: PVC Class 200 SDR 21 (2"–3")	
– – – –	Irrigation Mainline: PVC Class 200 SDR 21 (4"–6")	
▬▬▬	Pipe Sleeve: PVC C900 DR 18 Class 235 – Power Carried In Separate Sleeve As Per NEC Requirements (See Detail For Actual Sizing)	
—·—·—	Irrigation 120 VAC Power Wire – As Per Code	
———	Existing Lateral Line: PVC Class 200 SDR 21 – See Appendix	
– – – –	Existing Mainline: PVC C900 DR 18 Class 235 – See Appendix	
3 / 40	Existing Toro 201–XX–P6A4 Field Satallite	

*Note: All Quantities Are For Reference Only. Contractor Responsible For Actual Bid Counts

DESIGN NOTES

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1. ALL MAIN LINE PIPING FITTINGS SHALL BE THRUST BLOCKED AT ALL CHANGES OF DIRECTION – SEE DETAILS AND THRUST BLOCK/JOINT RESTRAINT NOTES.

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2. ALL POWER WIRE TAPS AND CONNECTIONS SHALL CONFORM TO WITH LOCAL AND STATE CODES AND PERFORMED BY LICENSED ELECTRICIAN.

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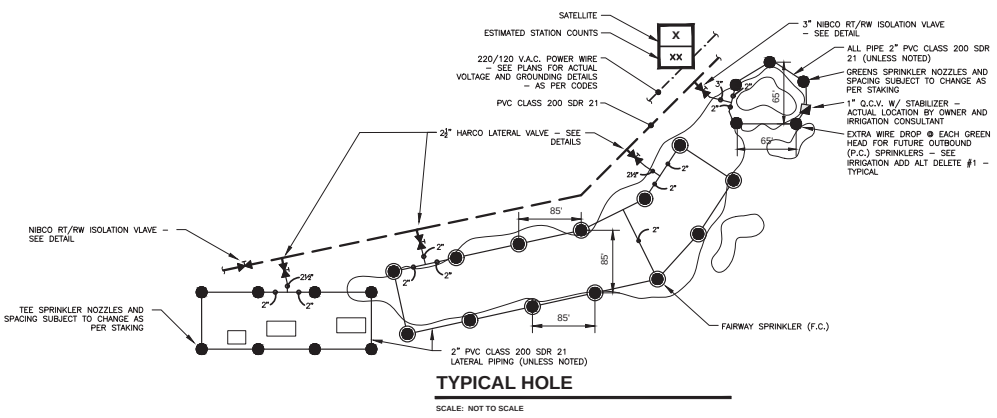


TYPICAL HOLE

SCALE: NOT TO SCALE

REVIEW AND PROGRESS PRINT
NOT FOR CONSTRUCTION

0 20 50 100 200
SCALE: 1" = 100'

NORTH

SHEET #: LI-2

DATE: 08/15/17

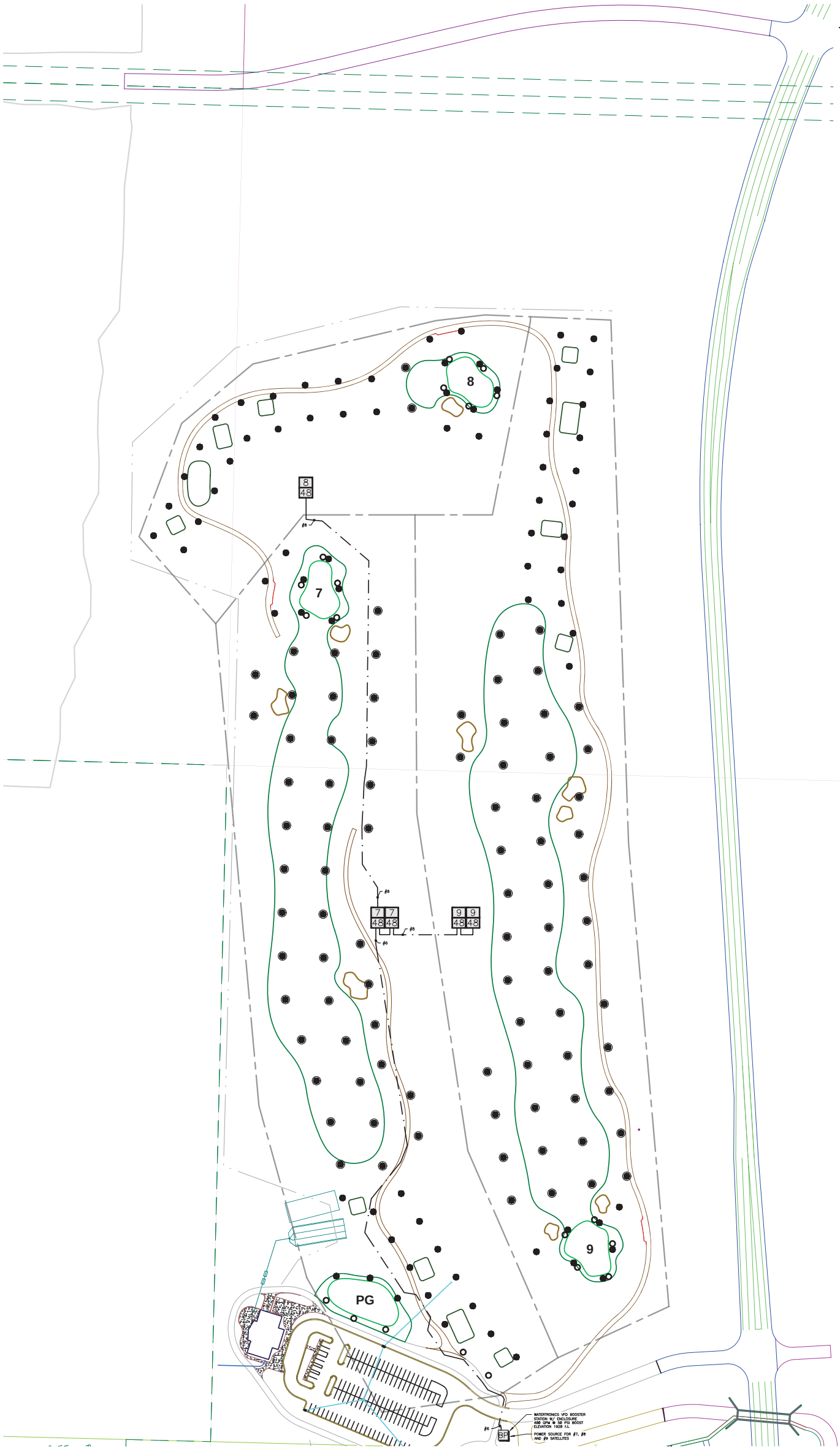
DRAWING TITLE: SITE IRRIGATION PLAN

SCALE: 1" = 100'–0"

REVISIONS:

EDGEWATER COUNTRY CLUB
NEW TOWN, ND

ERIC CHRISTIANSEN DESIGN GROUP, LTD.



LEGEND

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY*
	Toro FLX35-358-1 Adjustable from 40 to 330 degrees, and 360 full circle. 1" inlet, ACME body threads, electric valve type w/ Standard Solenoid, pressure regulation at 80psi – F.C. Nozzles and spacing subject to change as per staking.	20
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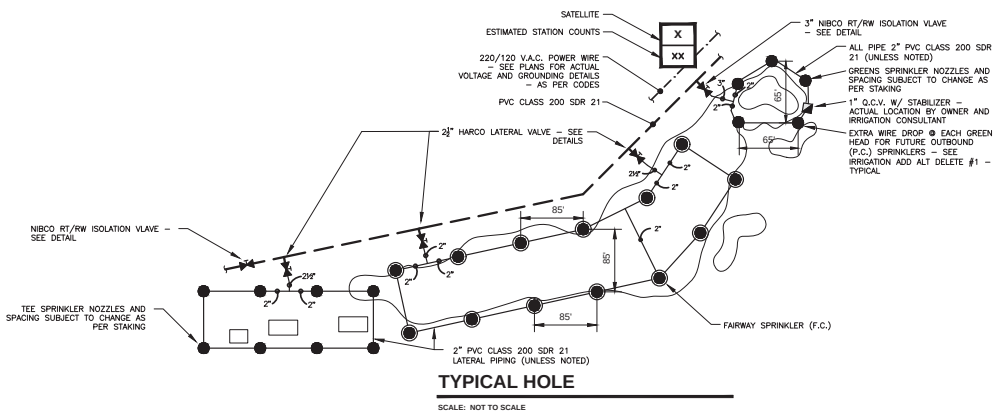


TYPICAL HOLE

SCALE: NOT TO SCALE

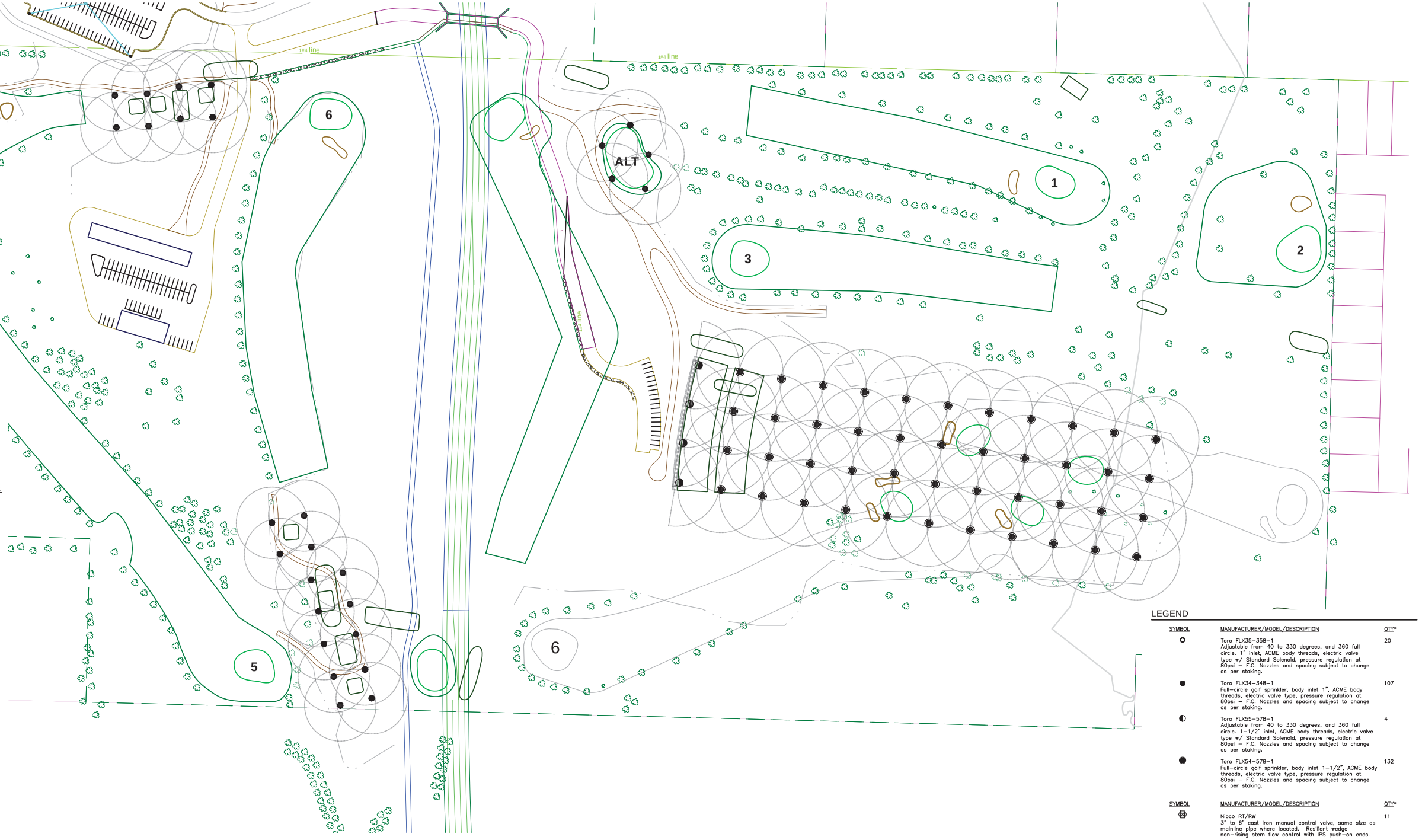
REVIEW AND PROGRESS PRINT
NOT FOR CONSTRUCTION

0 20 50 100 200
SCALE: 1" = 100'

NORTH

SHEET #	DATE:	DRAWING TITLE:	REVISIONS:	
LI-3	08/15/17	ELECTRICAL PLAN SCALE: 1" = 100'-0"		EDGEWATER COUNTRY CLUB NEW TOWN, ND

EIK CHRISTIANSEN DESIGN GROUP, LTD.



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3. PIPING AS SHOWN IS DIAGRAMMATIC IN NATURE. ALL PIPING TO BE LOCATED WITHIN OWNER'S PROPERTY LINES.

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5. IRRIGATION PLANS SHALL HAVE PRECEDENCE OVER IRRIGATION SPECIFICATIONS. ANY DISCREPANCIES BETWEEN THESE TWO DOCUMENTS MUST BE BROUGHT TO THE ATTENTION OF THE OWNERS REPRESENTATIVE BEFORE BID DUE DATE.

6. IT IS THE INTENT TO KEEP IRRIGATION WATER OFF OF ALL BUILDINGS, SIDEWALKS AND PARKING AREAS. IT WILL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FIELD TUNE EACH SPRINKLER AND DRIP ZONE AS TO KEEPING IRRIGATION ADJUSTED TO LANDSCAPED AREAS ONLY. IT WILL ALSO BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO SUPPLY THE OWNER WITH AN OPERATING SCHEDULE THAT WORKS WITH EXISTING PLANS AND ANY FIELD ADJUSTMENTS.

7. IT IS THE INTENT OF THE IRRIGATION DESIGN TO ACHIEVE HEAD TO HEAD COVERAGE IN ALL LANDSCAPED AREAS AS WELL AS ADJUST DRIP ZONES TO MATCH PLANT MATERIAL WATERING NEEDS. IT WILL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ADJUST FOR SAME.

8. IRRIGATION CONTRACTOR SHALL PROVIDE OWNERS REPRESENTATIVE WITH ALL SHOP DRAWINGS AND SUBMITTALS OF PROPOSED IRRIGATION SYSTEM BEFORE INSTALLATION.

9. CONTRACTOR TO REVIEW ALL OWNER UTILITY PLANS FOR EXISTING EQUIPMENT AND UTILITY LOCATIONS.

PLUMBING NOTES

1. ALL MAIN LINE PIPING FITTINGS SHALL BE THRUST BLOCKED AT ALL CHANGES OF DIRECTION – SEE DETAILS AND THRUST BLOCK/JOINT RESTRAINT NOTES.

2. ALL PIPE SHALL BE CARRIED IN SEPARATE TRENCH.

PROGRAMMING NOTES

1. ALL VALVES SHALL HAVE SINGLE #14 HOT WIRE RUNNING BACK TO RESPECTIVE SATELLITE. NO #12 COMMON WIRES SHALL BE MIXED WITH OTHER SATELLITES. CONTRACTOR SHALL SUPPLY IRRIGATION DESIGN CONSULTANT WITH AS–STAKED DRAWINGS AND ILLUSTRATE ALL 120 V.A.C. AND 24 V.A.C. WIRE ROUTING AS INSTALLED.

ELECTRICAL NOTES

1. ALL 120 V.A.C. POWER SPLICES AT FIELD SATELLITES.

2. ALL POWER WIRE TAPS AND CONNECTIONS SHALL CONFORM TO WITH LOCAL AND STATE CODES AND PERFORMED BY LICENSED ELECTRICIAN.

3. 24" LOOP OF WIRE LOCATED BELOW EACH HEAD.

4. ALL 24 V.A.C. SECONDARY WIRING SHALL BE (RED) #14 HOT AND (WHITE) #12 COMMON. (ONE HOT WIRE PER HEAD)

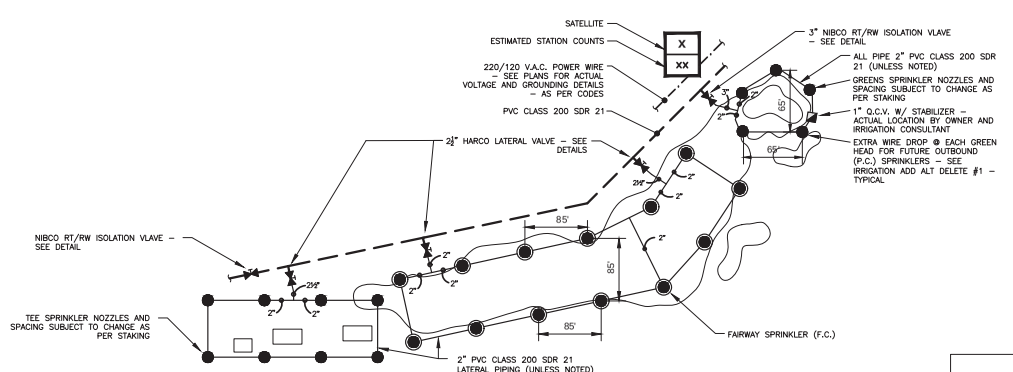
5. ALL WIRE SHALL HAVE ENOUGH SLACK AS TO ACCOMMODATE FOR EXPANSION AND/OR CONTRACTION.

6. ALL WIRE TO BE UL APPROVED FOR DIRECT BURIAL.

7. ALL 120 V.A.C. PRIMARY, AND 24 V.A.C. SECONDARY POWER TO BE INSTALLED AS PER STATE AND LOCAL CODES. SIZED AS PER PLAN WITH GROUND WIRE; MEETING N.E.C. REQUIREMENTS.

CONTROLLER NOTES

1. ALL SATELLITE LOCATIONS ON PLAN ARE DIAGRAMMATIC IN NATURE AND FINAL LOCATION WILL BE COORDINATED WITH OWNERS REPRESENTATIVE AND GENERAL CONTRACTOR FOR ACTUAL ELECTRICAL 120 V.A.C. LOCATIONS. ALL CONTROLLER EQUIPMENT SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS FOR THE PROPER OPERATION OF SAID CONTROL SYSTEM WHETHER MENTIONED OR NOT AT NO ADDITIONAL COST TO OWNER.



TYPICAL HOLE

SCALE: NOT TO SCALE

REVIEW AND PROGRESS PRINT

NOT FOR CONSTRUCTION

0 20 50 100 200

SCALE: 1" = 100'

NORTH

LEGEND

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY*
	Toro FLX35–358–1 Adjustable from 40 to 330 degrees, and 360 full circle. 1" inlet, ACME body threads, electric valve type w/ Standard Solenoid, pressure regulation at 80psi – F.C. Nozzles and spacing subject to change as per staking.	20
	Toro FLX34–348–1 Full–circle golf sprinkler, body inlet 1", ACME body threads, electric valve type, pressure regulation at 80psi – F.C. Nozzles and spacing subject to change as per staking.	107
	Toro FLX55–578–1 Adjustable from 40 to 330 degrees, and 360 full circle. 1–1/2" inlet, ACME body threads, electric valve type w/ Standard Solenoid, pressure regulation at 80psi – F.C. Nozzles and spacing subject to change as per staking.	4
	Toro FLX54–578–1 Full–circle golf sprinkler, body inlet 1–1/2", ACME body threads, electric valve type, pressure regulation at 80psi – F.C. Nozzles and spacing subject to change as per staking.	132

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY*
	Nibco RT/RW 3" to 6" cast iron manual control valve, same size as mainline pipe where located. Resilient wedge non–rising stem flow control with IPS push–on ends.	11
	Toro 474–00 One–Piece, 1" Single Lug Quick Coupler Valve with Standard Metal Cover.	5
	Harco Lateral Valve (Size To Line)	21
	Bermad C30 2" Air Relief Valve	4
	High Pressure Dump Valve 2"	2
	CLA–VAL 92–01 Pressure Reducing & Sustaining Valve 3" Combination Pressure Reducing and Pressure Sustaining Valve. It maintaines a constant downstream pressure regardless of fluctuating demand and sustains the upstream presssure to a pre–determined minimum.	2
X XX	Toro 201–XX–P6A4 Network VP Satellite with a green plastic cabinet, 24 VAC electric output. Stand–alone. With large–capacity terminal block and additional surge and switches – See Plan For Approximate Station Counts	5
BP	Watertronics Booster Pump	1
	Irrigation Lateral Line: PVC Class 200 SDR 21 (2"–3")	
	Irrigation Mainline: PVC Class 200 SDR 21 (4"–6")	
	Pipe Sleeve: PVC C900 DR 18 Class 235 – Power Carried In Separate Sleeve As Per NEC Requirements (See Detail For Actual Sizing)	
	Irrigation 120 VAC Power Wire – As Per Code	
	Existing Lateral Line: PVC Class 200 SDR 21 – See Appendix	
	Existing Mainline: PVC C900 DR 18 Class 235 – See Appendix	
3 4in	Existing Toro 201–XX–P6A4 Field Satellite	

*Note: All Quantities Are For Reference Only. Contractor Responsible For Actual Bid Counts

EDGE DESIGN
EDGE CONSTRUCTION + DESIGN GROUP, LTD.

EDGEWATER COUNTRY CLUB
NEW TOWN, ND

REVISIONS:
1
2
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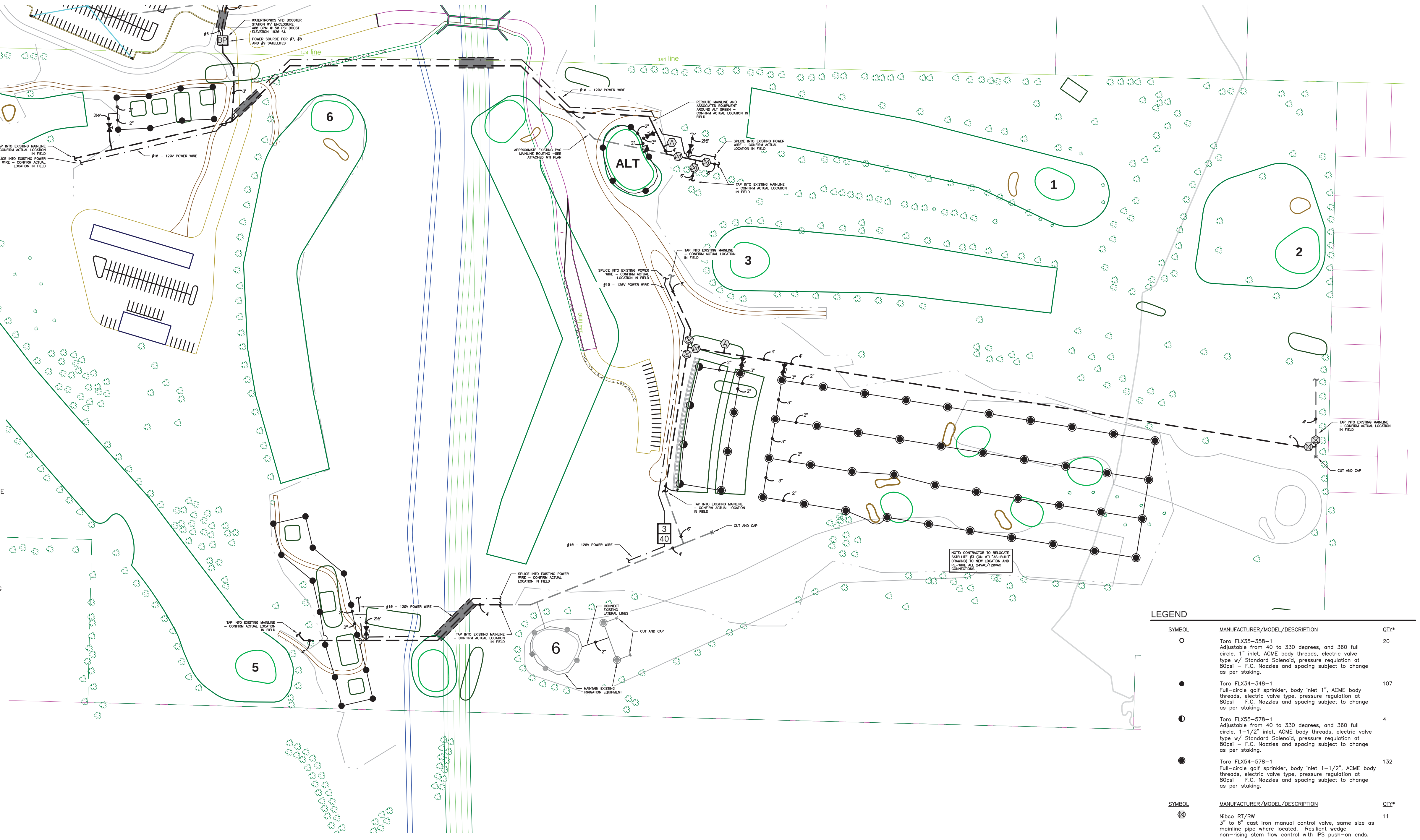
DRAWING TITLE:
IMPACT COVERAGE PLAN

SCALE: 1" = 100'–0"

DATE:
08/15/17

SHEET #:
LI-4



DESIGN NOTES

1. ALL PRODUCT APPLICATIONS AND INSTALLATIONS MUST MEET MANUFACTURER'S REQUIREMENTS.

2. FLOW RATES THROUGH PVC PIPING NOT TO EXCEED MANUFACTURER'S RECOMMENDATIONS.

3. PIPING AS SHOWN IS DIAGRAMMATIC IN NATURE. ALL PIPING TO BE LOCATED WITHIN OWNER'S PROPERTY LINES.

4. CONTRACTOR IS RESPONSIBLE FOR PROPER OPERATION OF IRRIGATION SYSTEM. SYSTEM SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATIONS AND SHALL WATER ALL LANDSCAPED AREAS NOTED. IRRIGATION PLAN IS INTENDED TO INCLUDE EVERYTHING NECESSARY TO THE PROPER OPERATION OF SAID IRRIGATION SYSTEM. IF ADJUSTMENTS ARE REQUIRED, CONTRACTOR SHALL MAKE ADJUSTMENTS FOR SAME.

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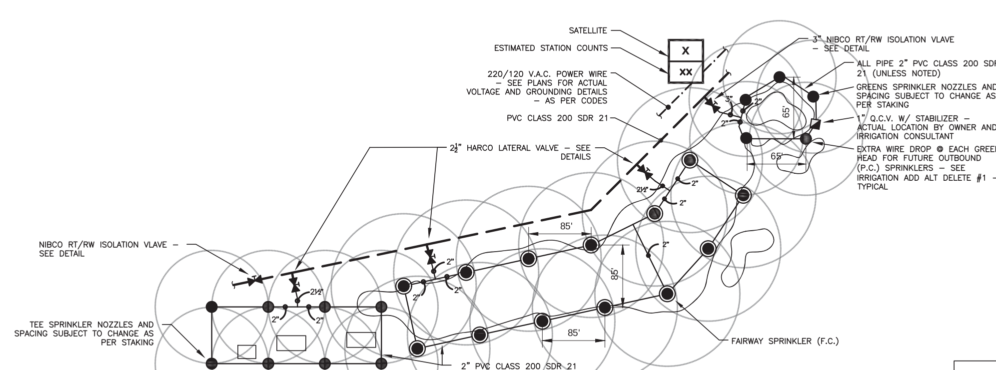


TYPICAL HOLE

SCALE: NOT TO SCALE

REVIEW AND PROGRESS PRINT

NOT FOR CONSTRUCTION

0 20 50 100 200

SCALE: 1" = 100'

NORTH

LEGEND

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY*
○	Toro FLX35–358–1 Adjustable from 40 to 330 degrees, and 360 full circle. 1" inlet, ACME body threads, electric valve type w/ Standard Solenoid, pressure regulation at 80psi – F.C. Nozzles and spacing subject to change as per staking.	20
●	Toro FLX34–348–1 Full–circle golf sprinkler, body inlet 1", ACME body threads, electric valve type, pressure regulation at 80psi – F.C. Nozzles and spacing subject to change as per staking.	107
◐	Toro FLX55–578–1 Adjustable from 40 to 330 degrees, and 360 full circle. 1–1/2" inlet, ACME body threads, electric valve type w/ Standard Solenoid, pressure regulation at 80psi – F.C. Nozzles and spacing subject to change as per staking.	4
◉	Toro FLX54–578–1 Full–circle golf sprinkler, body inlet 1–1/2", ACME body threads, electric valve type, pressure regulation at 80psi – F.C. Nozzles and spacing subject to change as per staking.	132

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY*
⊠	Nibco RT/RW 3" to 6" cast iron manual control valve, same size as mainline pipe where located. Resilient wedge non–rising stem flow control with IPS push–on ends.	11
◪	Toro 474–00 One–Piece, 1" Single Lug Quick Coupler Valve with Standard Metal Cover.	5
⧗	Harco Lateral Valve (Size To Line)	21
Ⓐ	Bermad C30 2" Air Relief Valve	4
Ⓓ	High Pressure Dump Valve 2"	2
△	CLA–VAL 92–01 Pressure Reducing & Sustaining Valve 3" Combination Pressure Reducing and Pressure Sustaining Valve. It maintaines a constant downstream pressure regardless of fluctuating demand and sustains the upstream presssure to a pre–determined minimum.	2
X / XX	Toro 201–XX–P6A4 Network VP Satellite with a green plastic cabinet, 24 VAC electric output. Stand–alone. With large–capacity terminal block and additional surge and switches – See Plan For Approximate Station Counts	5
BP	Watertronics Booster Pump	1
———	Irrigation Lateral Line: PVC Class 200 SDR 21 (2"–3")	
— — —	Irrigation Mainline: PVC Class 200 SDR 21 (4"–6")	
▬▬▬	Pipe Sleeve: PVC C900 DR 18 Class 235 – Power Carried In Separate Sleeve As Per NEC Requirements (See Detail For Actual Sizing)	
— · — · —	Irrigation 120 VAC Power Wire – As Per Code	
——— (grey)	Existing Lateral Line: PVC Class 200 SDR 21 – See Appendix	
— — — (grey)	Existing Mainline: PVC C900 DR 18 Class 235 – See Appendix	
3 / 40	Existing Toro 201–XX–P6A4 Field Satallite	

*Note: All Quantities Are For Reference Only. Contractor Responsible For Actual Bid Counts

ERIK CHRISTIANSEN DESIGN GROUP, LTD.

EDGEWATER COUNTRY CLUB

NEW TOWN, ND

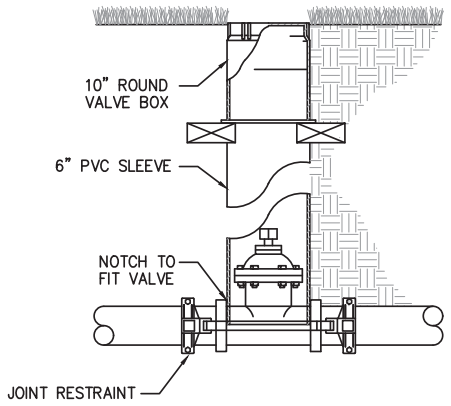
REVISIONS: 1 2 3 4 5 6

DRAWING TITLE: SITE IRRIGATION PLAN

SCALE: 1" = 100'–0"

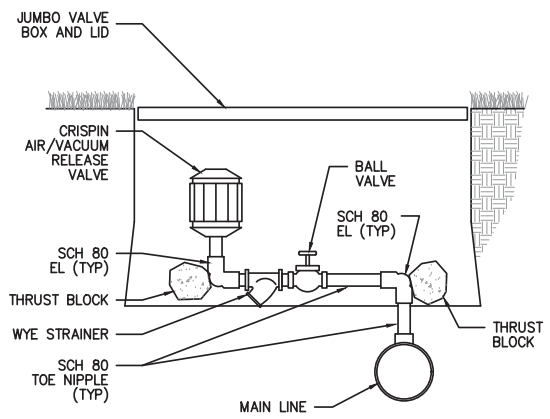
DATE: 08/15/17

SHEET #: LI-5



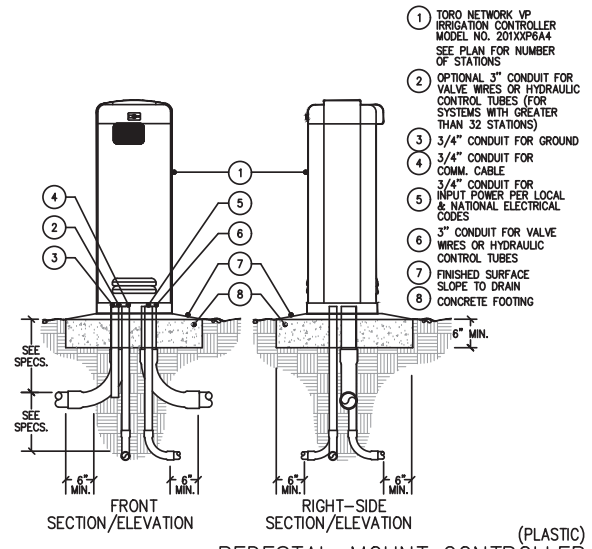
CAST IRON VALVE DETAIL (3" OR LARGER) FOR MAINS/GREENS

SCALE: NOT TO SCALE



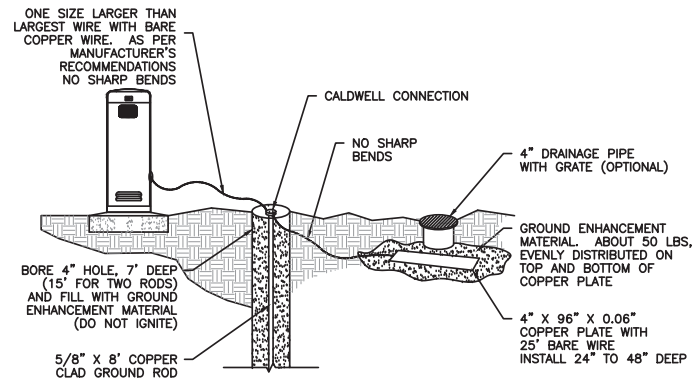
AIR/VACUUM RELEASE VALVE ASSEMBLY

SCALE: NOT TO SCALE



(PLASTIC)
PEDESTAL-MOUNT CONTROLLER TORO NETWORK VP

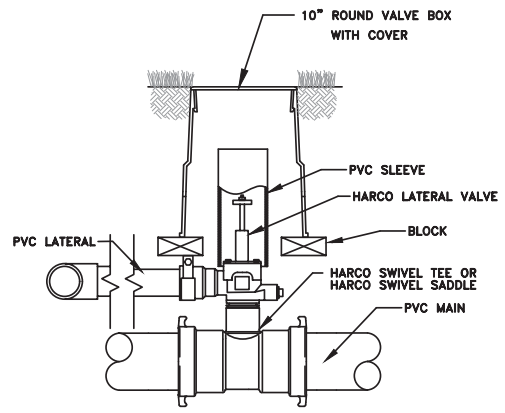
NOT TO SCALE



NOTE:
THIS INFORMATION IS PROVIDED TO FACILITATE THE PROCUREMENT OF COMPONENTS NEEDED FOR GROUNDING IRRIGATION CONTROLLERS. PLEASE INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE NATIONAL ELECTRICAL CODE. GROUNDING EQUIPMENT SHALL PROVIDE 5 OHMS OR LESS OF GROUNDING PROTECTION. OWNER SHALL BE RESPONSIBLE FOR ADDITIONAL COSTS ACCRUED ABOVE THE SHOWN EQUIPMENT TO MEET GROUNDING REQUIREMENTS.

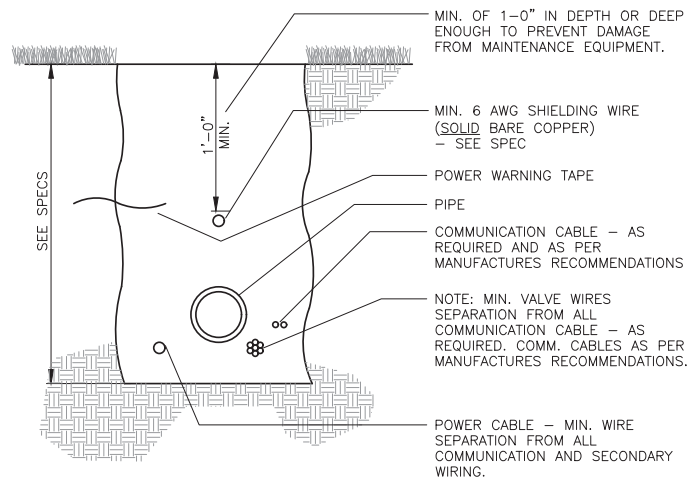
GROUND ROD AND PLATE DETAIL

SCALE: NOT TO SCALE



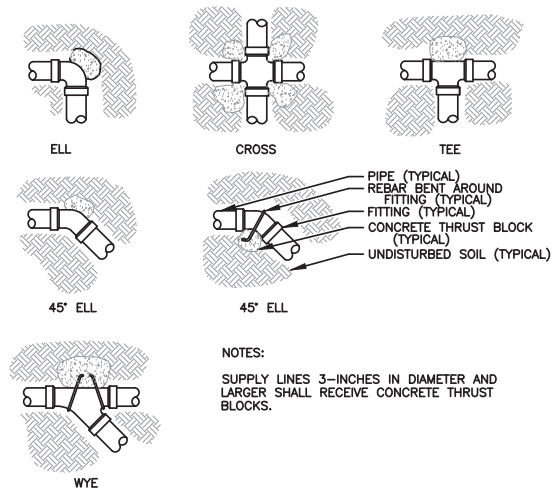
LATERAL VALVE CONNECTION

SCALE: NOT TO SCALE



TRENCH CROSS SECTION

SCALE: NOT TO SCALE



NOTES:

SUPPLY LINES 3-INCHES IN DIAMETER AND LARGER SHALL RECEIVE CONCRETE THRUST BLOCKS.

THRUST BLOCK

SCALE: NOT TO SCALE

THRUST BLOCKING

STEP 1. MULTIPLY THE PRESSURE LEVEL DESIRED FOR TESTING BY THE APPROPRIATE VALUE SHOWN IN THE FOLLOWING TABLE:

PIPE SIZE	DEAD END OR TEE	90° ELBOW	45° ELBOW	22.5° ELBOW
1.5"	2.94	4.16	2.25	1.15
2"	4.56	6.45	3.50	1.78
2.5"	6.65	9.40	5.10	2.60
3"	9.80	13.9	7.51	3.82
3.5"	12.8	18.1	9.81	4.99
4"	16.2	23.0	12.4	6.31
5"	24.7	35.0	18.9	9.63
6"	34.8	49.2	26.7	13.6

BASED ON POUNDS PER PSI WORKING PRESSURE.

STEP 2. DETERMINE THE BEARING STRENGTH OF THE SOIL FROM THE TABLE BELOW:

BEARING STRENGTH OF SOILS SOILS AND SAFE BEARING LOADS LBS. SQ. FT.	
SOUND SHALE	10,000
CEMENTED GRAVEL AND SAND-DIFFICULT TO PICK	4,000
COARSE AND FINE COMPACT SAND	3,000
MEDIUM CLAY - CAN BE SPADED	2,000
SOFT CLAY	1,000
MUCK	0

STEP 3. DIVIDE THE TOTAL THRUST OBTAINED IN STEP 1 BY THE BEARING STRENGTH OF THE SOIL: THIS GIVES THE SQUARE FEET OF AREA NEEDED.

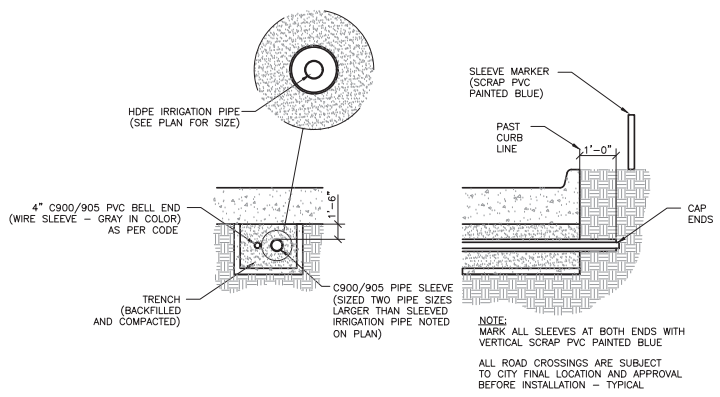
SIDE THRUST ON CURVES

AN OUTWARD PRESSURE EXISTS ON ALL DEFLECTIONS FROM A STRAIGHT LINE. GOOD SOIL, PROPERLY TAMPED, IS SUFFICIENT TO HOLD SIDE THRUST - UNLESS SOIL CONDITIONS ARE UNSTABLE. IN THAT CASE, TO ANCHOR AGAINST THIS SIDE THRUST, THE BLOCKING SHOULD BE PLACED AGAINST THE PIPE ON EACH SIDE OF THE COUPLING. DO NOT THRUST BLOCK THE COUPLING ITSELF.

PIPE SIZE INCHES	SIDE THRUST POUNDS PER DEGREE
1.5"	5.1
2"	7.9
2.5"	11.6
3"	17.1
3.5"	22.4
4"	28.3
5"	43.1
6"	60.8

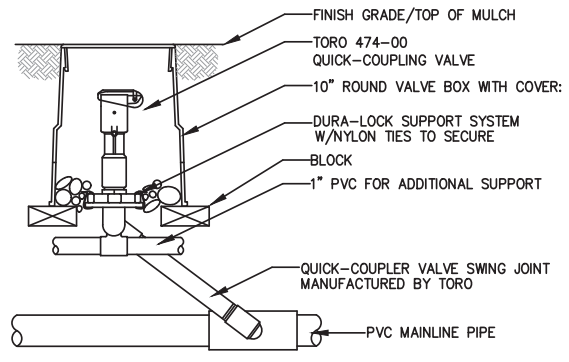
BASED ON SIDE THRUST PER 100 LBS/SQUARE INCH PRESSURE PER DEGREE OF DEFLECTION

NOTE: MULTIPLY SIDE THRUST POUNDS BY DEGREES OF DEFLECTION TIMES POUNDS OF PRESSURE DIVIDED BY 100 TO OBTAIN TOTAL SIDE THRUST IN POUNDS.



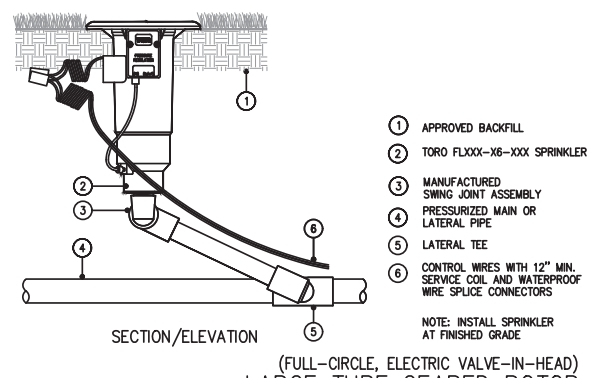
SLEEVING DETAIL

SCALE: NOT TO SCALE



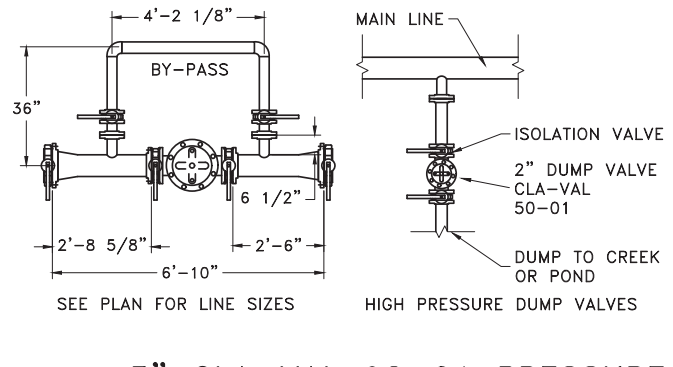
1" QUICK-COUPLING VALVE TORO 474-00

SCALE: NOT TO SCALE



(FULL-CIRCLE, ELECTRIC VALVE-IN-HEAD)
LARGE TURF GEARED ROTOR TORO DT SERIES

NOT TO SCALE



3" CLA-VAL 92-01 PRESSURE REDUCING AND SUSTAINING VALVE

SCALE: NOT TO SCALE

REVIEW AND PROGRESS PRINT
NOT FOR CONSTRUCTION

ENGINEERING DESIGN GROUP, LTD.

EDGEWATER COUNTRY CLUB
NEW TOWN, ND

REVISIONS:
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DRAWING TITLE: IRRIGATION DETAILS
SCALE: NONE

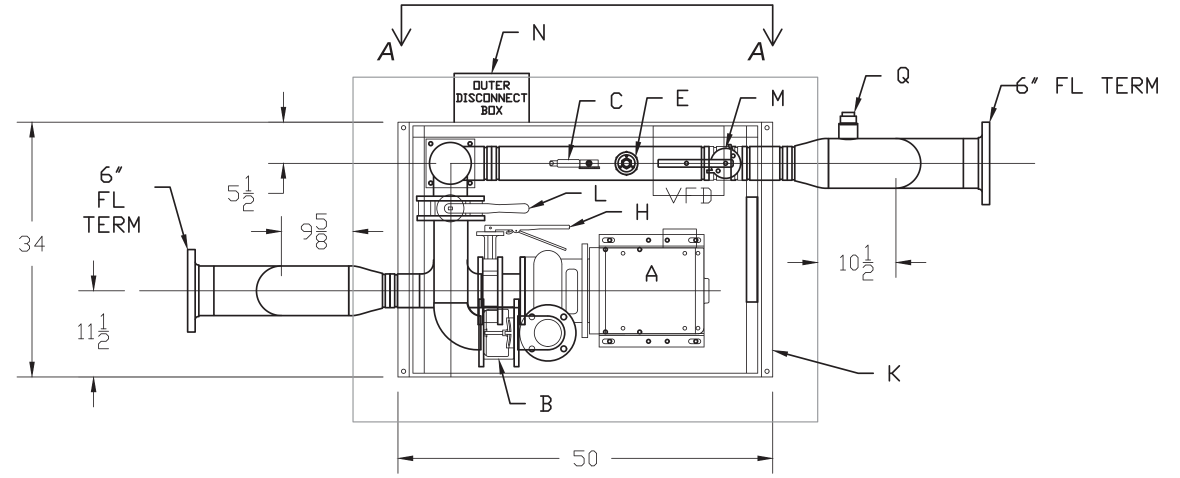
DATE: 08/15/17

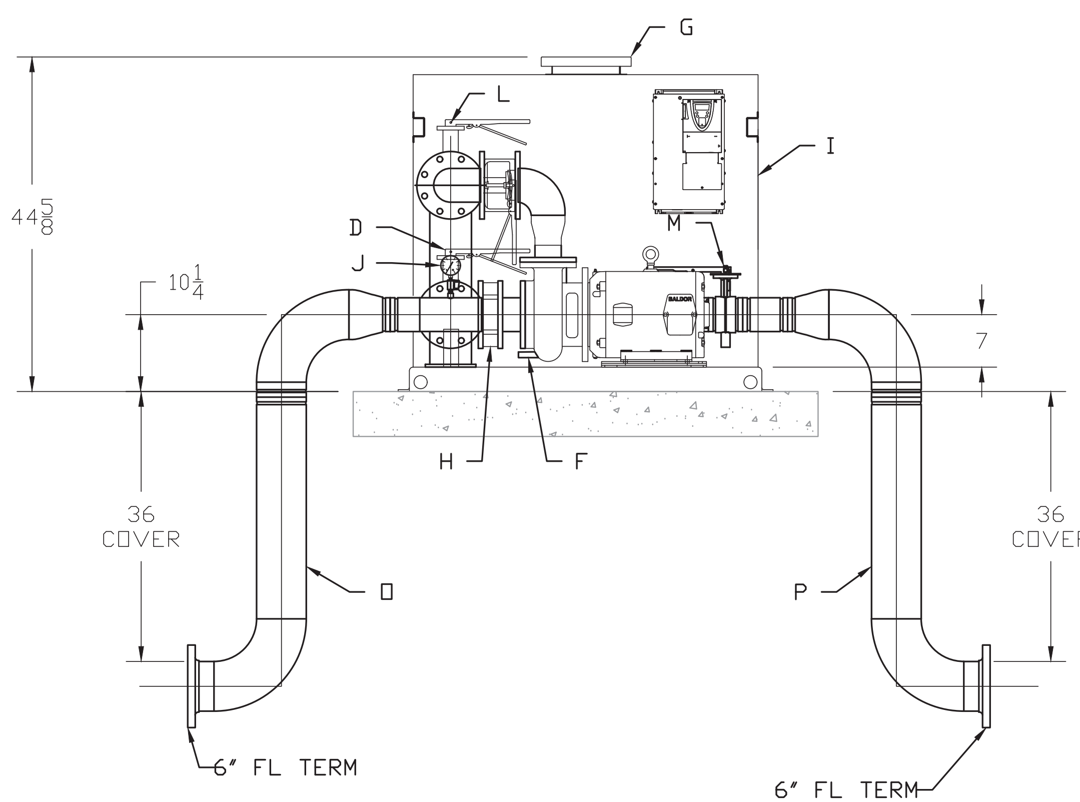
SHEET #: LI-6

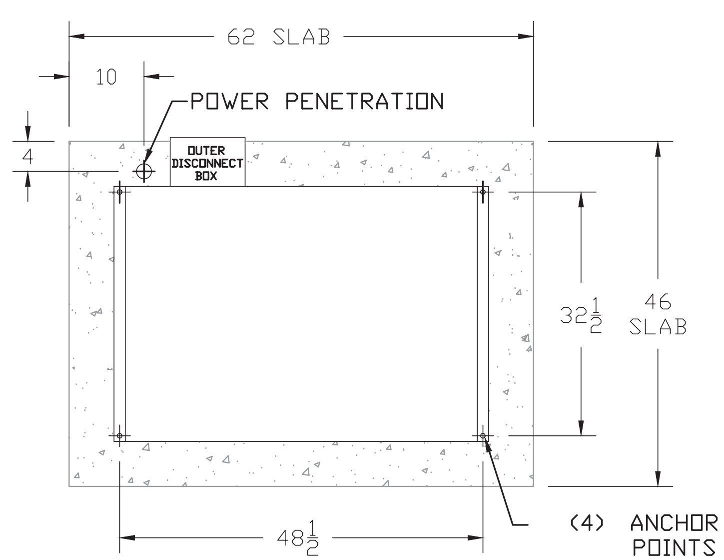
PUMP STATION SPECIFICATIONS:
NAME: *EDGEWATER COUNTRY CLUB - BOOSTER*
STATION MODEL: *WMBV-5000-2-20-230-1-400-100*
STATION TOTAL PERFORMANCE: *400 GPM @ 50 PSI BOOST*
REGULATE PRESSURE: 100 PSI
DYNAMIC INLET PRESSURE: 50 PSI
PRESSURE START
PUMP HORSEPOWER:
PUMP NO.1: *20 HP (3600 RPM)*
CHECK VALVE SIZES:
PUMP NO.1: *4"*
ISOLATION VALVE SIZES:
DISCHARGE ISOLATION VALVE SIZE: *4"*
DISCHARGE MANIFOLD SIZE: *4"*
EXHAUST FAN REQUIREMENTS: *340 CFM*

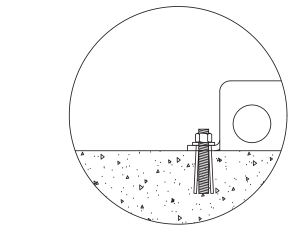
POWER REQUIREMENTS: *230V, 60 HZ, 1 PHZ, 35 FULL LOAD AMPS*

STATION COMPONENTS:
A PUMP AND MOTOR
B CHECK VALVE
C PRESSURE TRANSDUCER WITH GAUGE
D BYPASS VALVE
E FLOW SENSOR
F TEMP SENSOR
G STATION FAN HOOD MOUNTED
H PUMP INTAKE ISOLATION VALVE
I PAINTED STEEL ENCLOSURE (GREEN)
J PSI/VAC GAUGE LIQUID FILLED
K PAINTED STEEL BASE (GREEN)
L PUMP DISCHARGE ISOLATION VALVE
M STATION DISCHARGE ISOLATION VALVE
N EXTERNAL DISCONNECT PANEL
O INTAKE DROP PIPE
P DISCHARGE DROP PIPE
Q 2" BLOWOUT PORT

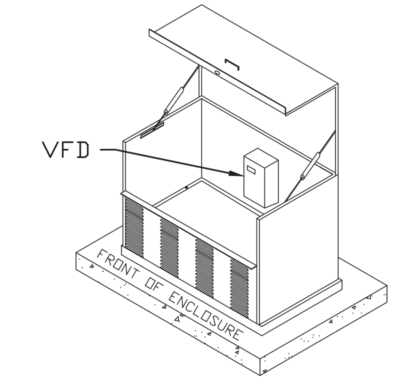


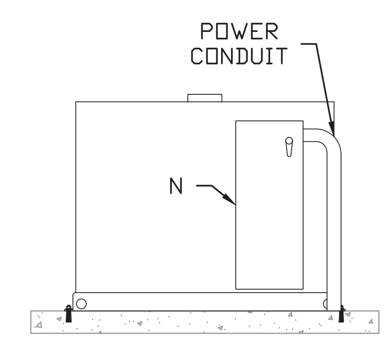






DETAIL A
CONCRETE ANCHOR BOLTS (x4) LOCATIONS





VIEW A-A

REVIEW AND PROGRESS PRINT
NOT FOR CONSTRUCTION

[15468]

NO.	DATE	BY	DESCRIPTION	CHK DATE	CHK BY
7					
6					
5					
4					
3					
2					
1	--/--/--	---	REVISION-NOTE:	---	---

DRAWN BY: RWE DATE: 07/26/17
CHECKED BY: DJR DATE: 07/26/2017

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TITLE:
EDGEWATER COUNTRY CLUB
WMBV-5000-2-20-230-1-400-100

WATERTRONICS
A LINDSAY COMPANY

SCALE: NTS
SHEET 1 OF 1 SHEETS
JOB NO.: ---
DRAWING NO.PRST13343

ERIK CHRISTIANSEN DESIGN GROUP, LTD.

EDGEWATER COUNTRY CLUB
NEW TOWN, ND

REVISIONS: 1 2 3 4 5 6

DRAWING TITLE: BOOSTER PUMP DETAILS
SCALE: NONE
DATE: 08/15/17
SHEET #: LI-7

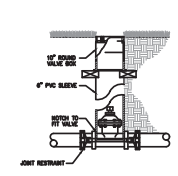
IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	GPM	RADIUS
	Toro DT55-4G-578 Valve-In-Head Rotor, 1.5" inlet, 360 and Adj 40 to 330 degrees	5	80	43.6	89'
	Toro DT34-4G-338 1" inlet, full circle radius, 80 psi regulation, 3 opposing nozzles, rotating stream pattern, 15° or 25° trajectory	67	80	26.9	72'
	Toro DT35-4G-338 1" inlet, full circle radius, 80 psi regulation, 3 opposing nozzles, rotating stream pattern, 15° or 25° trajectory	18	80	27.1	67'
	Toro DT54-4G-578 1.5" inlet, full circle radius, 80 psi regulation, 3 opposing nozzles, rotating stream pattern, 15° or 25° trajectory,	205	80	44.9	87'

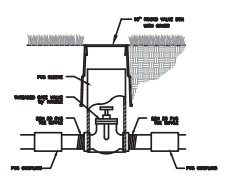
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Toro 474-00 1" Quick-Coupler Valve, standard cover	11
	Nibco P-619-RW 3" to 12" cast iron gate valve, same size as mainline pipe where located. Resilient wedge non-rising stem flow control with IPS push-on ends.	11
	Hunter Lateral Valve (size to line)	44
	Bermad 1" Air Relief	4
	Toro 201XIPGA4 Network VP Satellite with a green plastic cabinet, 24 VAC electric output. Stand-alone. With large-capacity Terminal block with additional surge and switches.	5
P	Pump Station, 500 GPM @ 110 PSI	1
	Irrigation Lateral Line: PVC Class 200 SDR 21 PVC Class 200 irrigation pipe. Only lateral transition pipe sizes 2-1/2" and above are indicated on the plan, with all others being 2" in size.	27,143 l.f.
	Irrigation Mainline: PVC Class 200 SDR 21 PVC Class 200 irrigation pipe.	7,299 l.f.

POWER WIRE

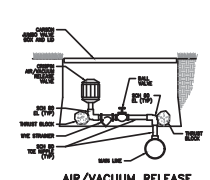
SYMBOL	DESCRIPTION	QTY
	#6-2 w/Ground, 120V power wire for satellite controllers.	920 lf
	#8-2 w/Ground, 120V power wire for satellite controllers.	402 lf
	#10-2 w/Ground, 120V power wire for satellite controllers.	3,566 lf



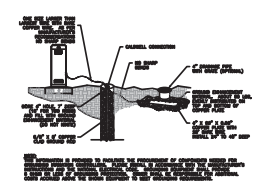
CAST IRON VALVE DETAIL (3" OR LARGER)
SCALE: NOT TO SCALE



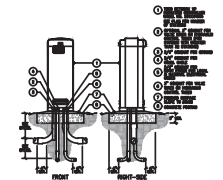
BRONZE VALVE DETAIL 2½" AND SMALLER
SCALE: NOT TO SCALE



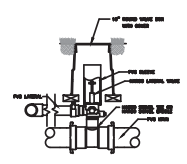
AIR/VACUUM RELEASE VALVE ASSEMBLY
SCALE: NOT TO SCALE



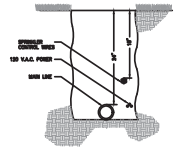
GROUND ROD AND PLATE DETAIL
SCALE: NOT TO SCALE



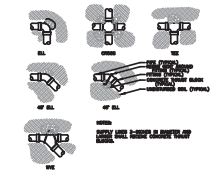
PEDESTAL-MOUNT CONTROLLER TORO NETWORK VP
SCALE: NOT TO SCALE



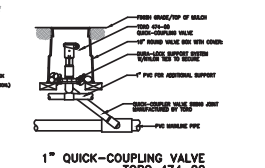
LATERAL VALVE CONNECTION
SCALE: NOT TO SCALE



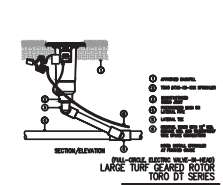
TRENCH CROSS SECTION
SCALE: NOT TO SCALE



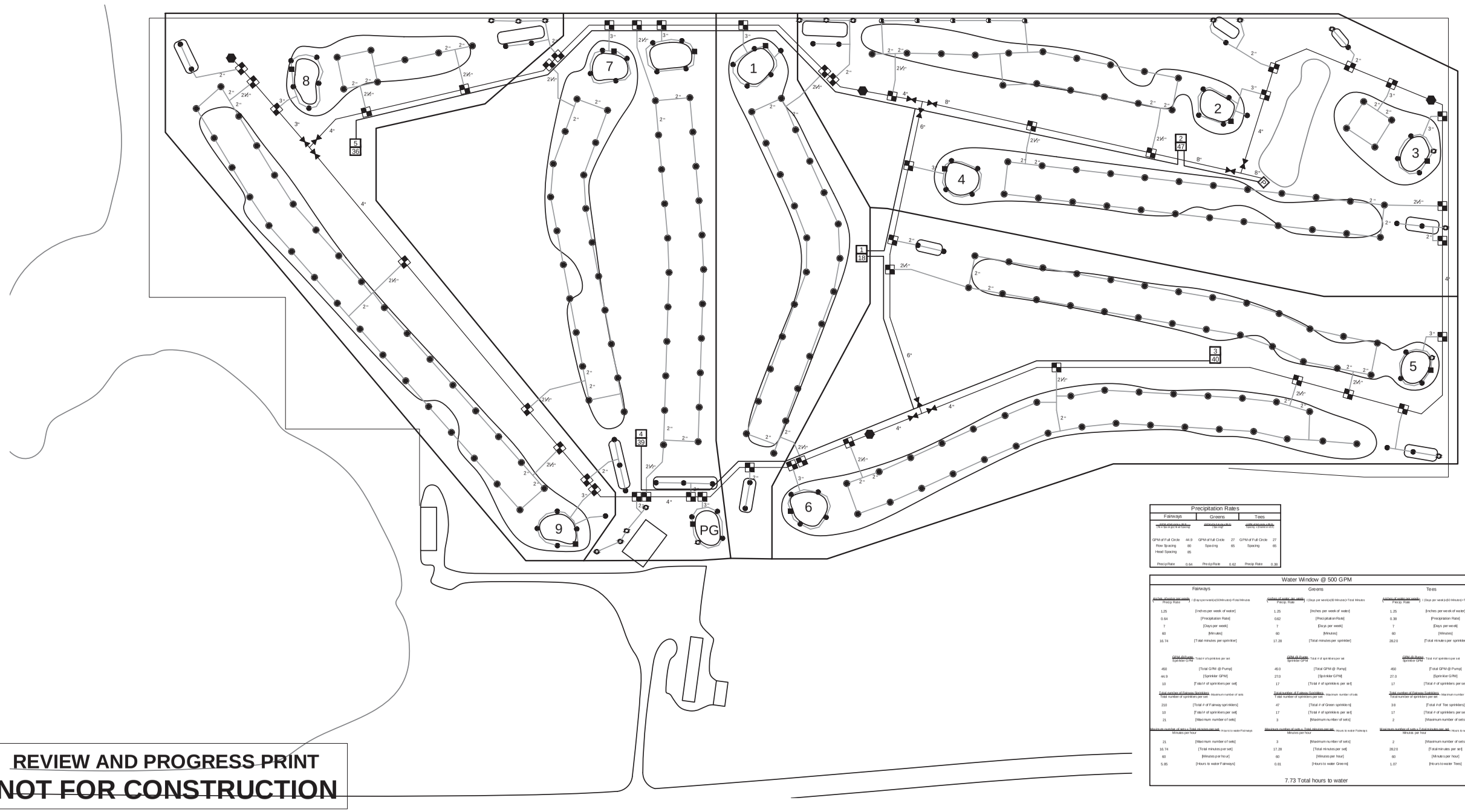
THRUST BLOCK
SCALE: NOT TO SCALE



1" QUICK-COUPLING VALVE TORO 474-00
SCALE: NOT TO SCALE



LARGE TURF GEARED ROTOR TORO DT SERIES
SCALE: NOT TO SCALE



Precipitation Rates					
Fairways		Greens		Tees	
GPM of Full Circle	44.9	GPM of Full Circle	27	GPM of Full Circle	27
Row Spacing	80	Spacing	65	Spacing	65
Head Spacing	85				
Precip Rate	0.64	Precip Rate	0.62	Precip Rate	0.38

Water Window @ 500 GPM

Fairways		Greens		Tees	
Precip Rate	[Inches per week of water]	Precip Rate	[Inches per week of water]	Precip Rate	[Inches per week of water]
1.25	[Inches per week of water]	1.25	[Inches per week of water]	1.25	[Inches per week of water]
0.64	[Precipitation Rate]	0.62	[Precipitation Rate]	0.38	[Precipitation Rate]
7	[Days per week]	7	[Days per week]	7	[Days per week]
60	[Minutes]	60	[Minutes]	60	[Minutes]
16.74	[Total minutes per sprinkler]	17.28	[Total minutes per sprinkler]	28.20	[Total minutes per sprinkler]
GPM @ 500 PSI	Total # of sprinklers per set	GPM @ 500 PSI	Total # of sprinklers per set	GPM @ 500 PSI	Total # of sprinklers per set
450	[Total GPM @ Pump]	450	[Total GPM @ Pump]	450	[Total GPM @ Pump]
44.9	[Sprinkler GPM]	27.0	[Sprinkler GPM]	27.0	[Sprinkler GPM]
10	[Total # of sprinklers per set]	17	[Total # of sprinklers per set]	17	[Total # of sprinklers per set]
Total number of Fairway Sprinklers	Maximum number of sets	Total number of Green Sprinklers	Maximum number of sets	Total number of Tee Sprinklers	Maximum number of sets
Total number of sprinklers per set		Total number of sprinklers per set		Total number of sprinklers per set	
210	[Total # of Fairway sprinklers]	67	[Total # of Green sprinklers]	39	[Total # of Tee sprinklers]
10	[Total # of sprinklers per set]	17	[Total # of sprinklers per set]	17	[Total # of sprinklers per set]
21	[Maximum number of sets]	3	[Maximum number of sets]	2	[Maximum number of sets]
Maximum number of sets x Total minutes per set	Hours to water Fairways	Maximum number of sets x Total minutes per set	Hours to water Fairways	Maximum number of sets x Total minutes per set	Hours to water Fairways
Minutes per hour		Minutes per hour		Minutes per hour	
21	[Maximum number of sets]	3	[Maximum number of sets]	2	[Maximum number of sets]
16.74	[Total minutes per set]	17.28	[Total minutes per set]	28.20	[Total minutes per set]
60	[Minutes per hour]	60	[Minutes per hour]	60	[Minutes per hour]
5.95	[Hours to water Fairways]	0.81	[Hours to water Greens]	1.07	[Hours to water Tees]

7.73 Total hours to water

REVIEW AND PROGRESS PRINT
NOT FOR CONSTRUCTION

EDGE DESIGN
EDGE CONSTRUCTION / DESIGN GROUP, LTD.
ADDRESS
CITY, STATE ZIP CODE
PHONE NUMBER

EDGEWATER COUNTRY CLUB
NEW TOWN, ND

REVISIONS:
1
2
3
4
5
6

DRAWING TITLE:
APPENDIX
PREVIOUS 2013 DESIGN

SCALE: NONE

DATE:
08/15/17

SHEET #:
LI-8