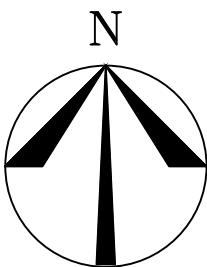
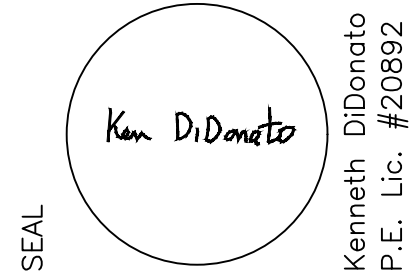


| SHEET INDEX | |
|-------------|------------------------------------|
| IR-0 | COVER SHEET |
| IR-1 | IRRIGATION PLAN |
| IR-2 | IRRIGATION PLAN |
| IR-3 | IRRIGATION PLAN |
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| IR-5 | IRRIGATION PLAN |
| IR-6 | IRRIGATION PLAN |
| IR-7 | IRRIGATION PLAN |
| IR-8 | IRRIGATION PLAN |
| IR-9 | IRRIGATION PLAN |
| IR-10 | IRRIGATION PLAN – TYPICAL BUILDING |
| IR-11 | LEGEND, NOTES, AND DETAILS |
| IR-12 | PUMP STATION SPECS AND DETAIL |



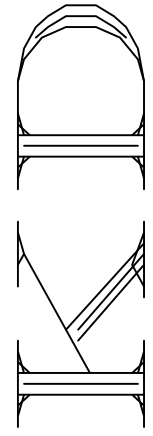
PROJECT TITLE : **SPRINGDALE TOWNHOMES**
MARGATE, FLORIDA
IRRIGATION COVER SHEET

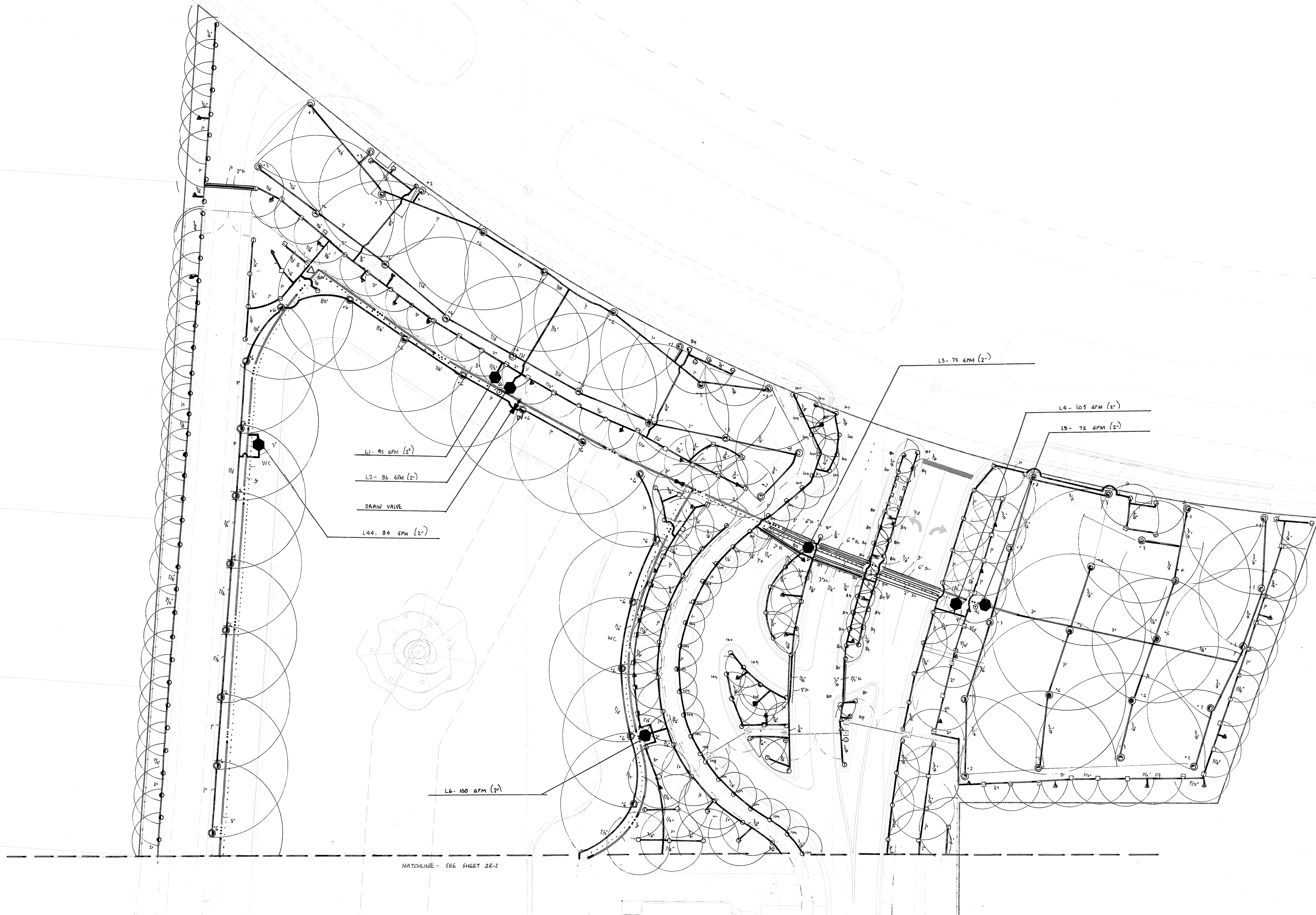


PROJECT NO. 2022-65
DRAWN BY KMD
DESIGNED BY KMD
SCALE: 1"=80'-0"
DATE : NOVEMBER 2022
DWG. NO. **IR-0**
SHT. NO. of
REVISIONS :

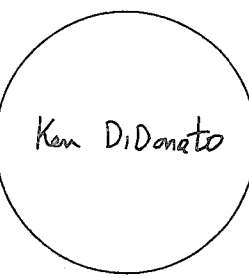
CFILE:

Kenneth DiDonato, P.E.
CONSULTING ENGINEER
GOLF COURSE & COMMERCIAL IRRIGATION DESIGN
2210 HOLLYWOOD BLVD., HOLLYWOOD, FLORIDA 33020
(954) 923-2555





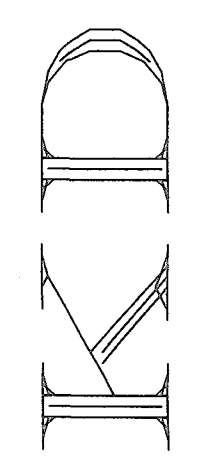
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MARGATE, FLORIDA
IRRIGATION PLAN

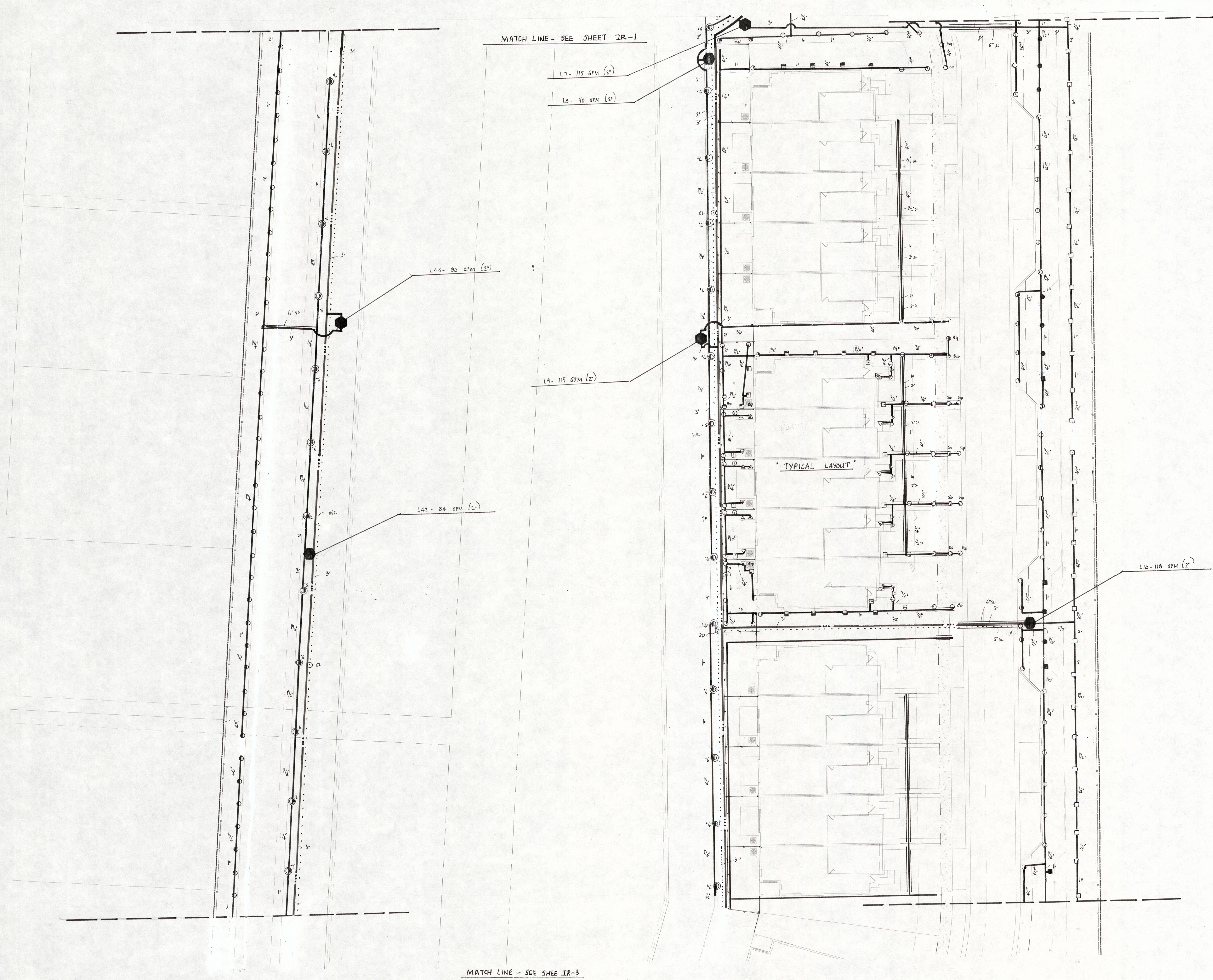
SEAL

Kenneth DiDonato
P.E. Lic. #20892

PROJECT NO. 2022-65
DRAWN BY KMD
DESIGNED BY KMD
SCALE: 1"=20'-0"
DATE : NOVEMBER 2022
DWG. NO. **IR-1**
SHT. NO. ____ of ____
REVISIONS : _____

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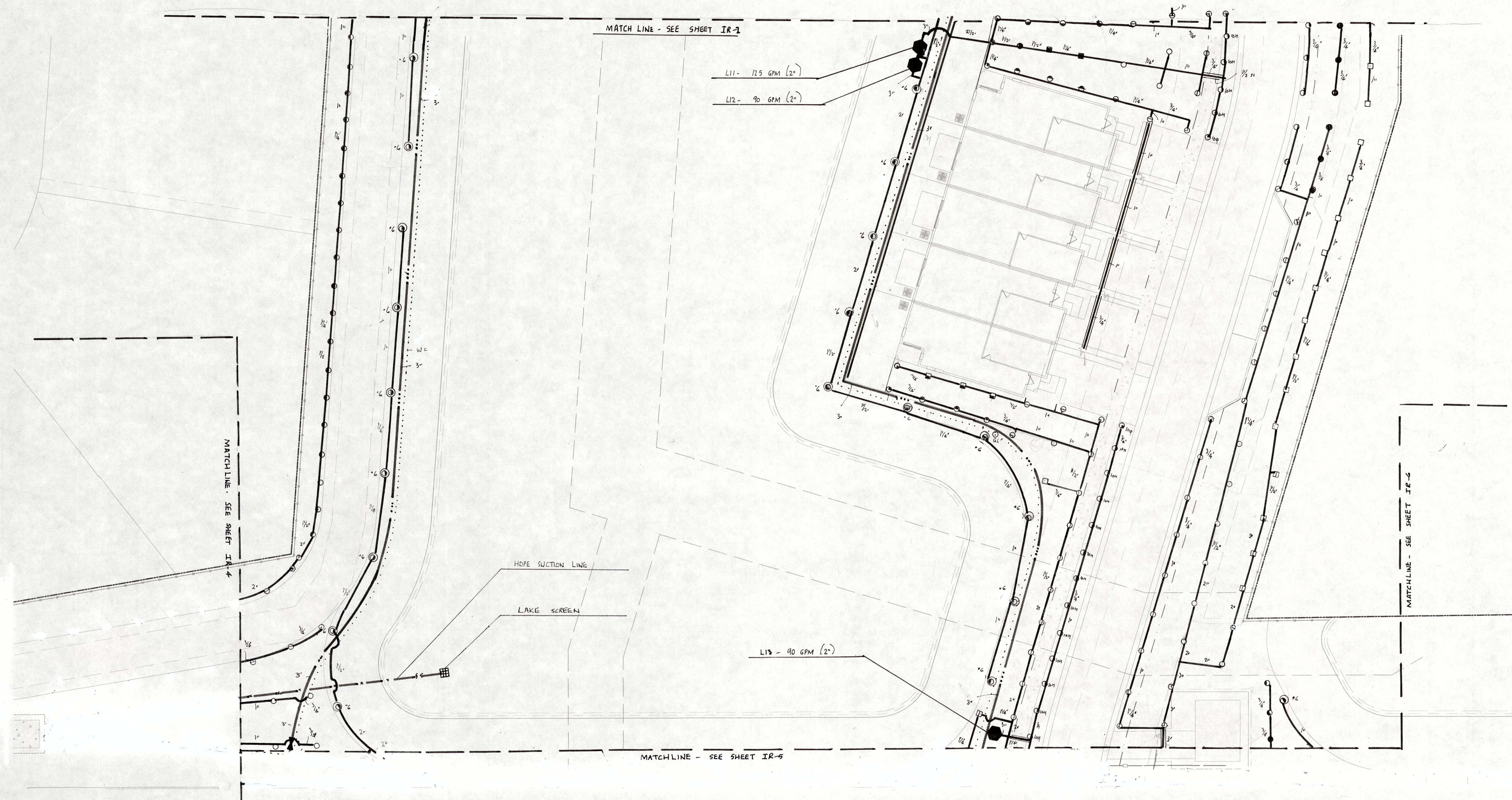
PROJECT TITLE : **SPRINGDALE TOWNHOMES**
MARGATE, FLORIDA
IRRIGATION PLAN

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SEAL
 Ken DiDonato
 Kenneth DiDonato
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PROJECT NO. 2022-65
 DRAWN BY KMD
 DESIGNED BY KMD
 SCALE: 1"=20'-0"
 DATE : NOVEMBER 2022
 DWG. NO. **IR-2**
 SHT. NO. of
 REVISIONS :

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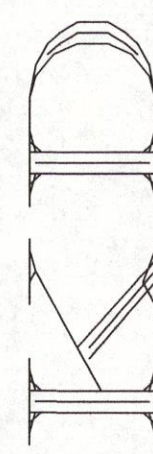
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MARGATE, FLORIDA
IRRIGATION PLAN

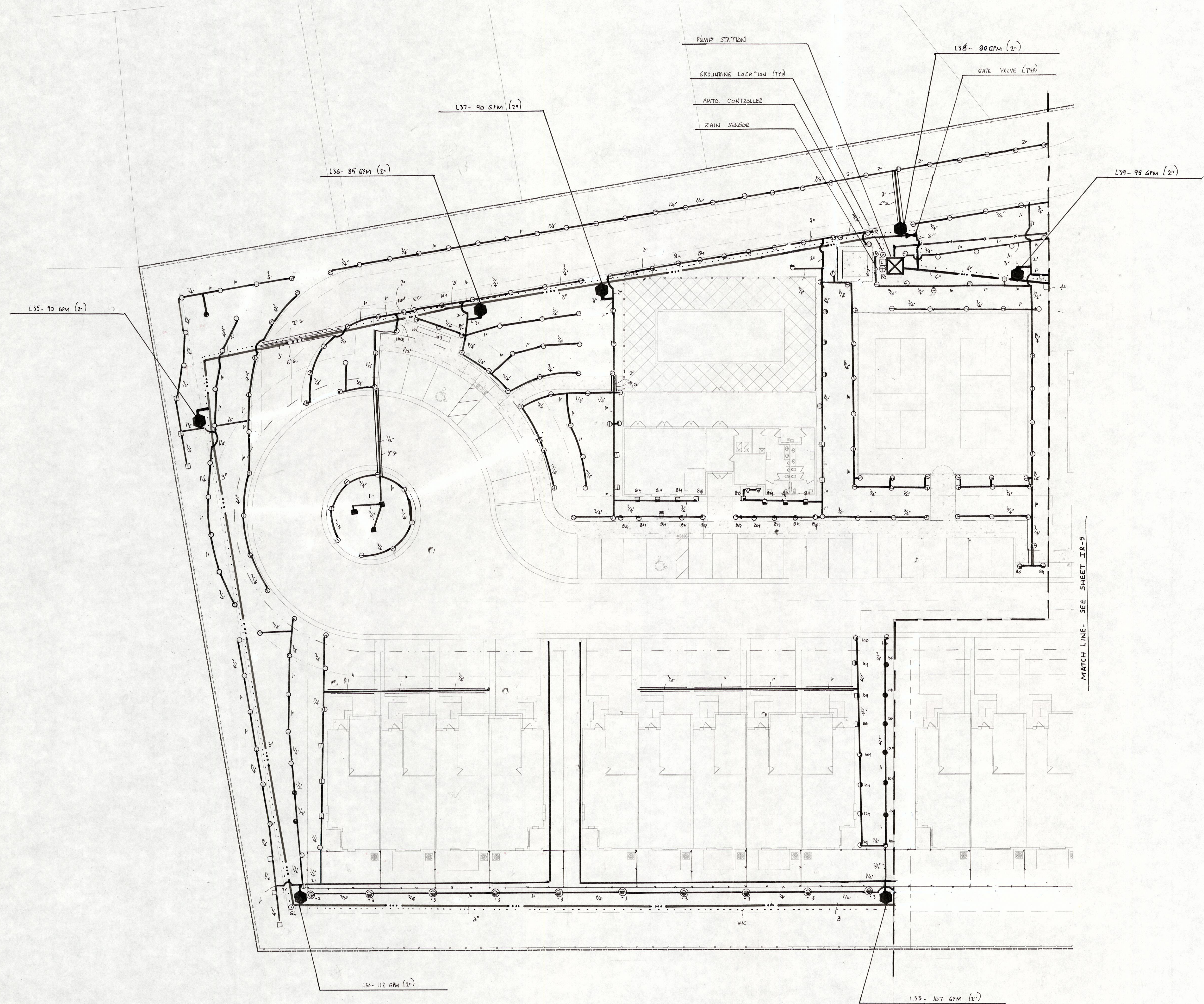
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P.E. Lic. #20892

PROJECT NO. 2022-65
DRAWN BY KMD
DESIGNED BY KMD
SCALE: 1"=20'-0"
DATE : NOVEMBER 2022
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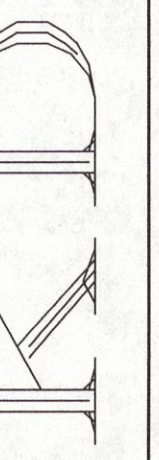
Kenneth DiDonato, P.E.
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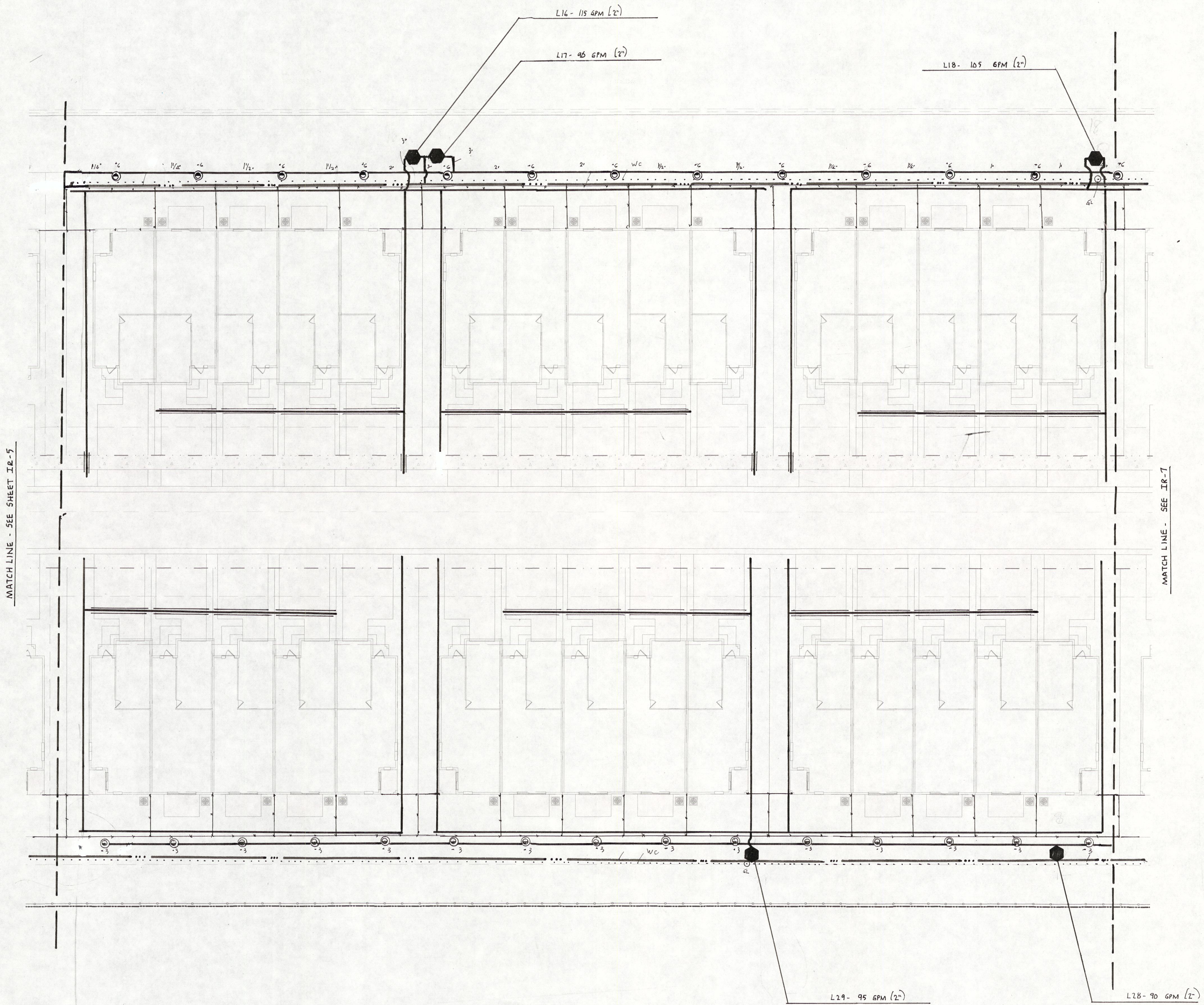
PROJECT TITLE : **SPRINGDALE TOWNHOMES**
MARGATE, FLORIDA

IRRIGATION PLAN

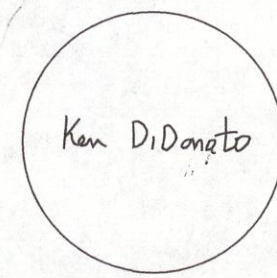


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DRAWN BY KMD
DESIGNED BY KMD
SCALE: 1"=20'-0"
DATE : NOVEMBER 2022
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SHT. NO. of
REVISIONS :

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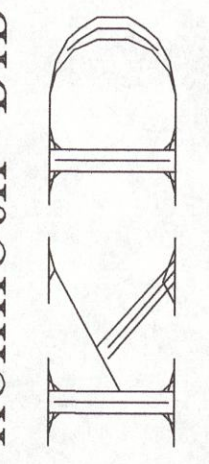
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MARGATE, FLORIDA
IRRIGATION PLAN

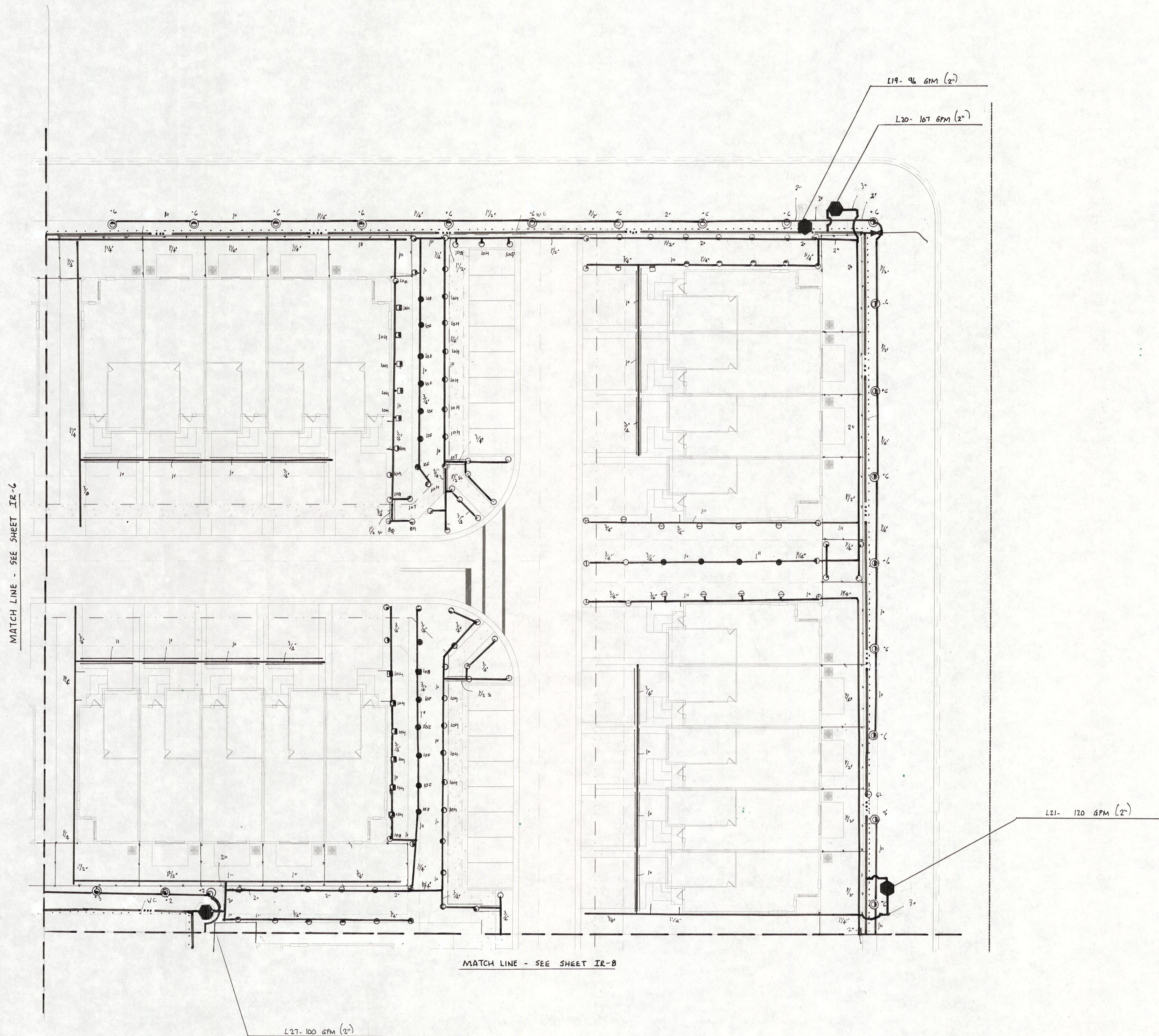
SEAL

Kenneth DiDonato
P.E. Lic. #20892

PROJECT NO. 2022-65
DRAWN BY KMD
DESIGNED BY KMD
SCALE: 1"=20'-0"
DATE : NOVEMBER 2022
DWG. NO. **IR-6**
SHT. NO. of
REVISIONS :


CFILE:

Kenneth DiDonato, P.E.
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GOLF COURSE & COMMERCIAL IRRIGATION DESIGN
2210 HOLLYWOOD BLVD., HOLLYWOOD, FLORIDA 33020
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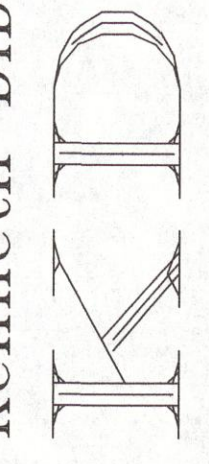
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MARGATE, FLORIDA
IRRIGATION PLAN

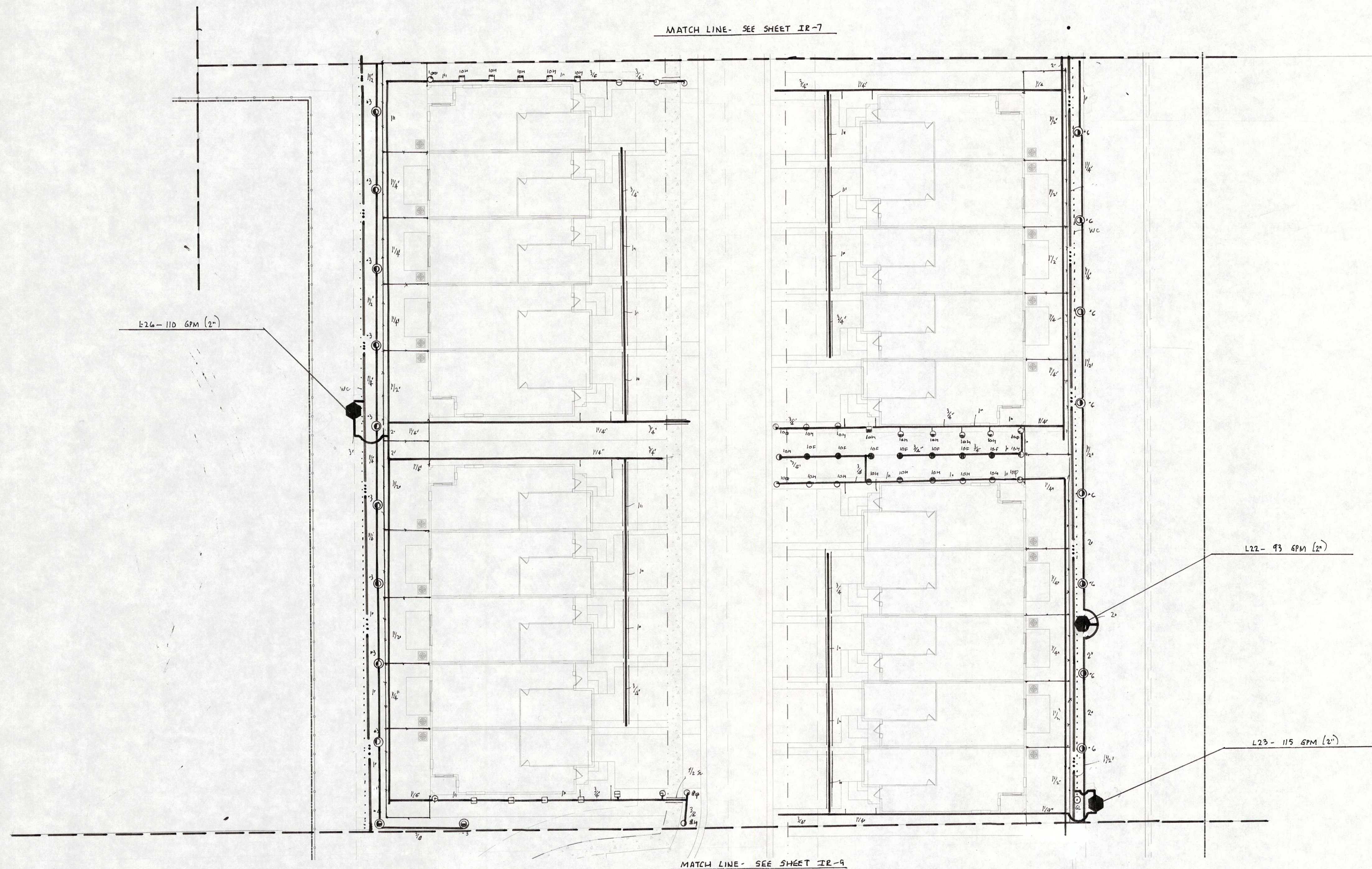
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Kenneth DiDonato
P.E. Lic. #20892

PROJECT NO. 2022-65
DRAWN BY KMD
DESIGNED BY KMD
SCALE: 1"=20'-0"
DATE : NOVEMBER 2022
DWG. NO. **IR-7**
SHT. NO. ____ of ____
REVISIONS : ____

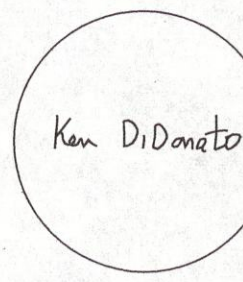
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2210 HOLLYWOOD BLVD., HOLLYWOOD, FLORIDA 33020
(954) 923-2555





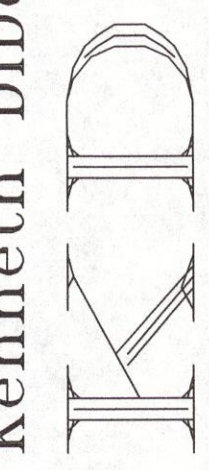
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MARGATE, FLORIDA
IRRIGATION PLAN

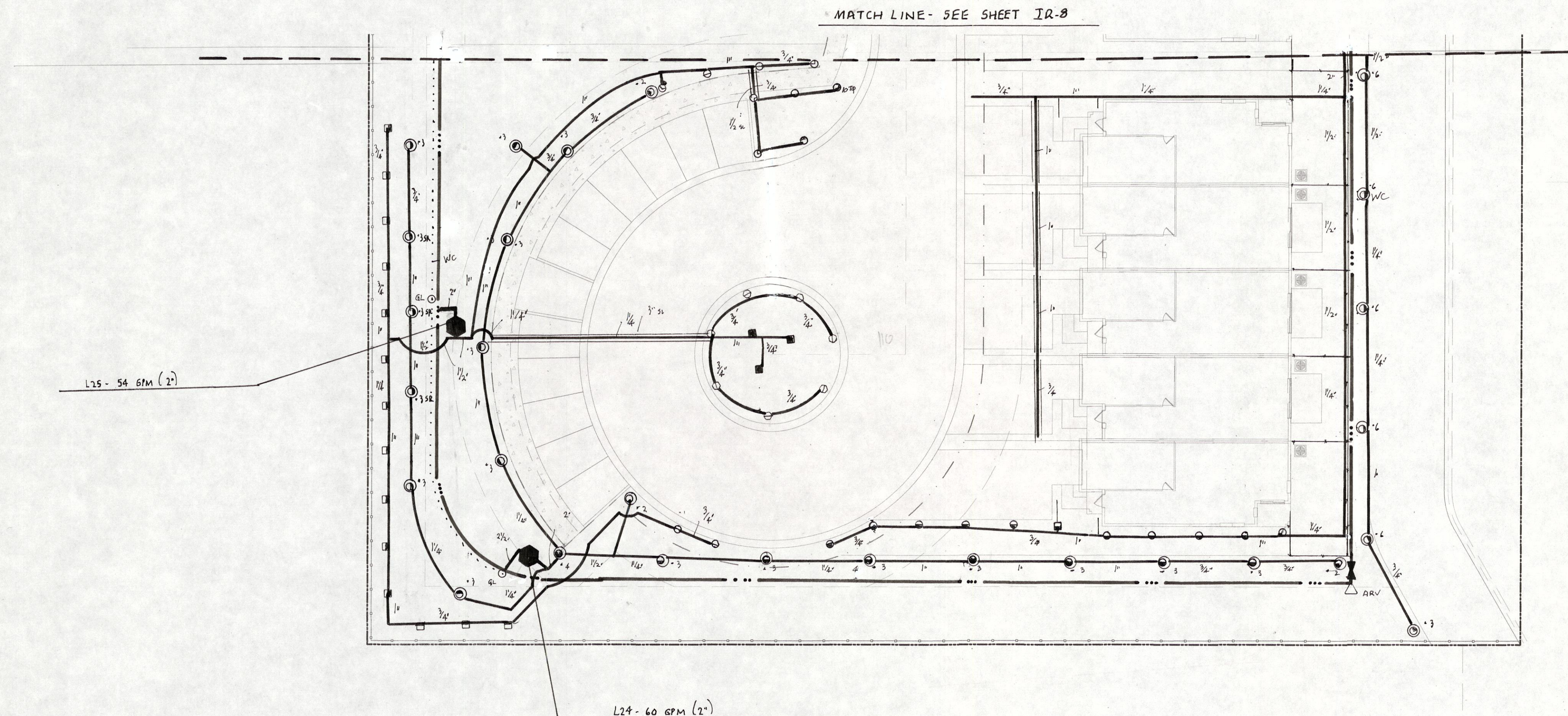
SEAL

Kenneth DiDonato
P.E. Lic. #20882

PROJECT NO. 2022-65
DRAWN BY KMD
DESIGNED BY KMD
SCALE: 1"=20'-0"
DATE : NOVEMBER 2022
DWG. NO. IR-8
SHT. NO. of
REVISIONS :

CFILE:

Kenneth DiDonato, P.E.
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GOLF COURSE & COMMERCIAL IRRIGATION DESIGN
2210 HOLLYWOOD BLVD., HOLLYWOOD, FLORIDA 33020
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PROJECT TITLE : **SPRINGDALE TOWNHOMES**
MARGATE, FLORIDA
IRRIGATION PLAN

Kenneth DiDonato, P.E.
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 KMD
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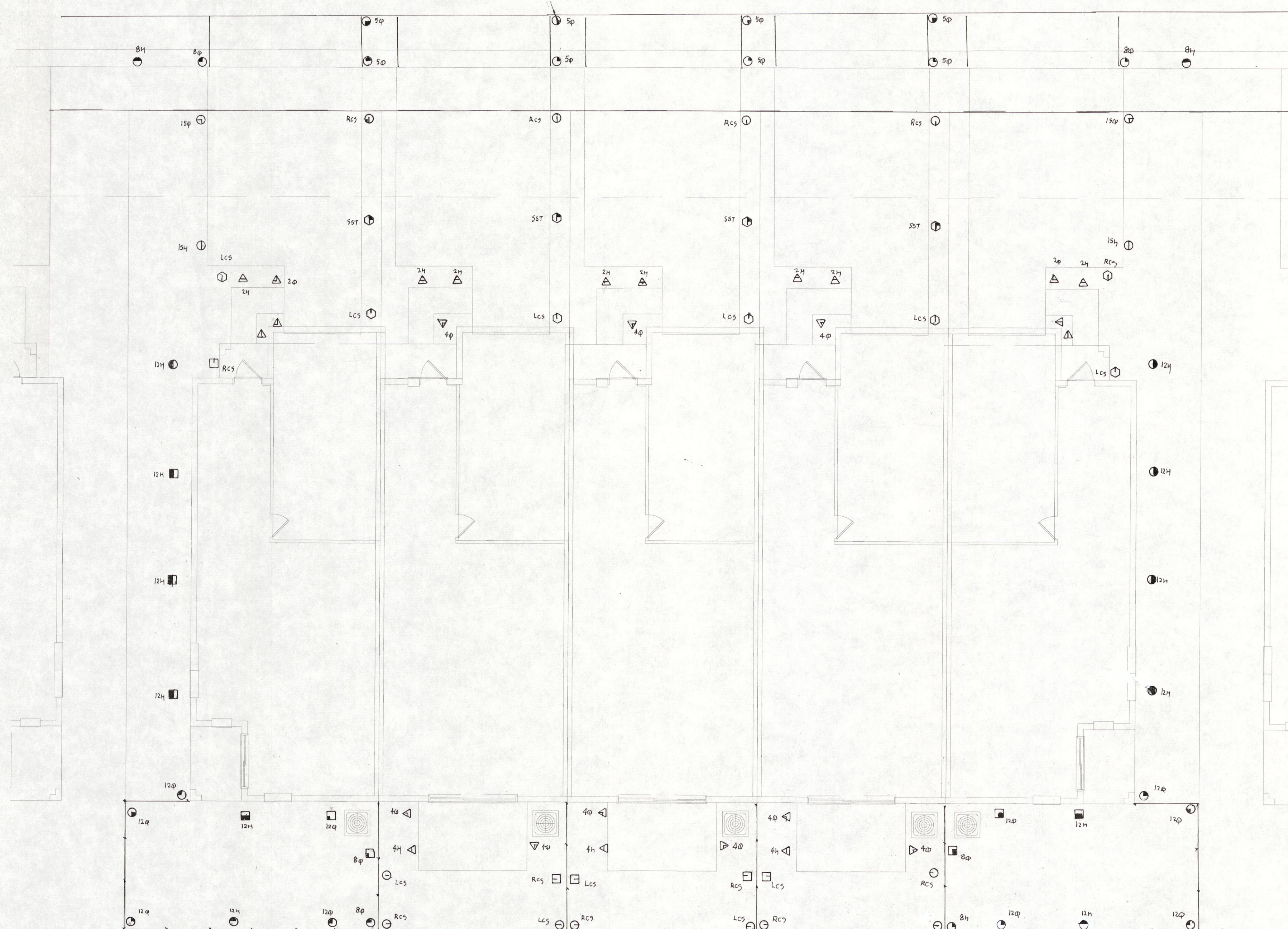
SEAL
 Ken DiDonato
 Kenneth DiDonato
 P.E. Lic. #20892

PROJECT NO. 2022-65
 DRAWN BY KMD
 DESIGNED BY KMD
 SCALE: 1"=20'-0"
 DATE : NOVEMBER 2022
 DWG. NO. **IR-9**
 SHT. NO. ____ of ____
 REVISIONS :

CFILE:

LEGEND

| SYMBOL | MODEL NO. | DESCRIPTION | * EST. QUANTITY |
|--------|-----------------------|-------------------------|-----------------|
| △ 20 | PROS-00-PRS30-SCST-B | HUNTER STREAM BUBBLER | 03 |
| △ 20 | PROS-00-PRS30-20 | HUNTER SPRAY BUBBLER | 03 |
| △ 2H | PROS-00-PRS30-2H | HUNTER SPRAY BUBBLER | 07 |
| △ 40 | PROS-00-PRS30-40 | HUNTER SPRAY BUBBLER | 09 |
| △ 4H | PROS-00-PRS30-4H | HUNTER SPRAY BUBBLER | 03 |
| ■ 8Q | PROS-00-PRS30-8Q | HUNTER SHRUB SPRAY | 02 |
| ■ 12Q | PROS-00-PRS30-12Q | HUNTER SHRUB SPRAY | 02 |
| ■ 12H | PROS-00-PRS30-12H | HUNTER SHRUB SPRAY | 05 |
| ■ RCS | PROS-00-PRS30-RCS515 | HUNTER SHRUB SPRAY | 03 |
| ■ LCS | PROS-00-PRS30-LCS515 | HUNTER SHRUB SPRAY | 02 |
| ○ 5Q | PROS-06-PRS30-5Q | HUNTER 6" POP-UP SPRAY | 08 |
| ○ 8Q | PROS-06-PRS30-8Q | HUNTER 6" POP-UP SPRAY | 04 |
| ○ 8H | PROS-06-PRS30-8H | HUNTER 6" POP-UP SPRAY | 02 |
| ○ 12Q | PROS-06-PRS30-12Q | HUNTER 6" POP-UP SPRAY | 08 |
| ○ 12H | PROS-06-PRS30-12H | HUNTER 6" POP-UP SPRAY | 07 |
| ○ RCS | PROS-06-PRS30-RCS515 | HUNTER 6" POP-UP SPRAY | 08 |
| ○ LCS | PROS-06-PRS30-LCS515 | HUNTER 6" POP-UP SPRAY | 04 |
| ○ 15Q | PROS-06-PRS30-15Q | HUNTER 6" POP-UP SPRAY | 02 |
| ○ 15H | PROS-06-PRS30-15H | HUNTER 6" POP-UP SPRAY | 02 |
| ○ RCS | PROS-012-PRS30-RCS515 | HUNTER 12" POP-UP SPRAY | 01 |
| ○ LCS | PROS-012-PRS30-LCS515 | HUNTER 12" POP-UP SPRAY | 06 |
| △ SST | PROS-012-PRS30-SS530 | HUNTER 12" POP-UP SPRAY | 04 |



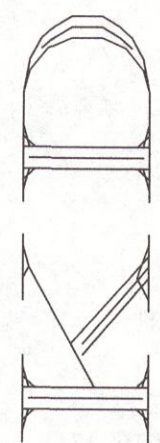
PROJECT TITLE : SPRINGDALE TOWNHOMES MARGATE, FLORIDA IRRIGATION PLAN TYPICAL BUILDING

SEAL
Ken DiDonato
Kenneth DiDonato
P.E. Lic. #20892

PROJECT NO. 2022-65
DRAWN BY KMD
DESIGNED BY KMD
SCALE: 1"=20'-0"
DATE : NOVEMBER 2022
DWG. NO. IR-10
SHT. NO. of
REVISIONS :

Kenneth DiDonato, P.E.

CONSULTING ENGINEER
GOLF COURSE & COMMERCIAL IRRIGATION DESIGN
2210 HOLLYWOOD BLVD., HOLLYWOOD, FLORIDA 33020
(954) 933-2555



LEGEND

| SYMBOL | MODEL NO. | DESCRIPTION | * EST. QUANTITY |
|--------|---------------------------|--------------------------------|-----------------|
| ▲ | PCN10 | HUNTER FLOOD BUBBLER | 37 |
| ▲ 20 | PRDS-00-PR330-5CST-B | HUNTER STREAM BUBBLER | 67 |
| ▲ 20 | PRDS-00-PR330-20 | HUNTER SPRAY BUBBLER | 86 |
| ▲ 20 | PRDS-00-PR330-2H | HUNTER SPRAY BUBBLER | 206 |
| ▲ 40 | PRDS-00-PR330-40 | HUNTER SPRAY BUBBLER | 229 |
| ▲ 4H | PRDS-00-PR330-4H | HUNTER SPRAY BUBBLER | 65 |
| ■ | PRDS-00-PR330-8Q | HUNTER SHRUB SPRAY | 51 |
| ■ 8H | PRDS-00-PR330-8H | HUNTER SHRUB SPRAY | 08 |
| ■ 10H | PRDS-00-PR330-10H | HUNTER SHRUB SPRAY | 01 |
| ■ 10F | PRDS-00-PR330-10F | HUNTER SHRUB SPRAY | 13 |
| ■ | PRDS-00-PR330-120 | HUNTER SHRUB SPRAY | 53 |
| ■ | PRDS-00-PR330-12H | HUNTER SHRUB SPRAY | 126 |
| ■ | PRDS-00-PR330-12F | HUNTER SHRUB SPRAY | 76 |
| ■ | PRDS-00-PR330-RCSS15 | HUNTER SHRUB SPRAY | 53 |
| ■ | PRDS-00-PR330-LCSS15 | HUNTER SHRUB SPRAY | 56 |
| ■ | PRDS-00-PR330-15H | HUNTER SHRUB SPRAY | 01 |
| ■ | PRDS-00-PR330-15TQ | HUNTER SHRUB SPRAY | 01 |
| ■ | PRDS-00-PR330-15F | HUNTER SHRUB SPRAY | 62 |
| ■ | PRDS-06-PR330-5Q | HUNTER 6" POP-UP SPRAY | 104 |
| ■ 8V | PRDS-06-PR330-8V | HUNTER 6" POP-UP SPRAY | 03 |
| ■ 8H | PRDS-06-PR330-8Q | HUNTER 6" POP-UP SPRAY | 93 |
| ■ 8F | PRDS-06-PR330-8H | HUNTER 6" POP-UP SPRAY | 62 |
| ■ 10V | PRDS-06-PR330-10V | HUNTER 6" POP-UP SPRAY | 04 |
| ■ 10H | PRDS-06-PR330-10H | HUNTER 6" POP-UP SPRAY | 23 |
| ■ 10F | PRDS-06-PR330-10F | HUNTER 6" POP-UP SPRAY | 04 |
| ■ 10T | PRDS-06-PR330-10T | HUNTER 6" POP-UP SPRAY | 111 |
| ■ 10T | PRDS-06-PR330-10TT | HUNTER 6" POP-UP SPRAY | 02 |
| ■ 10T | PRDS-06-PR330-10TD | HUNTER 6" POP-UP SPRAY | 01 |
| ■ 10T | PRDS-06-PR330-10F | HUNTER 6" POP-UP SPRAY | 35 |
| ■ 10T | PRDS-06-PR330-12V | HUNTER 6" POP-UP SPRAY | 02 |
| ■ 10T | PRDS-06-PR330-12H | HUNTER 6" POP-UP SPRAY | 221 |
| ■ 10T | PRDS-06-PR330-12T | HUNTER 6" POP-UP SPRAY | 02 |
| ■ 10T | PRDS-06-PR330-12H | HUNTER 6" POP-UP SPRAY | 306 |
| ■ 10T | PRDS-06-PR330-12TQ | HUNTER 6" POP-UP SPRAY | 04 |
| ■ 10T | PRDS-06-PR330-12F | HUNTER 6" POP-UP SPRAY | 28 |
| ■ 10T | PRDS-06-PR330-12H | HUNTER 6" POP-UP SPRAY | 215 |
| ■ 10T | PRDS-06-PR330-LCSS15 | HUNTER 6" POP-UP SPRAY | 113 |
| ■ 10T | PRDS-06-PR330-SS530 | HUNTER 6" POP-UP SPRAY | 09 |
| ■ 10T | PRDS-06-PR330-15H | HUNTER 6" POP-UP SPRAY | 04 |
| ■ 10T | PRDS-06-PR330-15Q | HUNTER 6" POP-UP SPRAY | 78 |
| ■ 10T | PRDS-06-PR330-15T | HUNTER 6" POP-UP SPRAY | 05 |
| ■ 10T | PRDS-06-PR330-15H | HUNTER 6" POP-UP SPRAY | 255 |
| ■ 10T | PRDS-06-PR330-15TT | HUNTER 6" POP-UP SPRAY | 03 |
| ■ 10T | PRDS-06-PR330-15TQ | HUNTER 6" POP-UP SPRAY | 09 |
| ■ 10T | PRDS-06-PR330-15F | HUNTER 6" POP-UP SPRAY | 73 |
| ■ 8V | PRDS-012-PR330-8V | HUNTER 12" POP-UP SPRAY | 01 |
| ■ 8H | PRDS-012-PR330-8Q | HUNTER 12" POP-UP SPRAY | 10 |
| ■ 8H | PRDS-012-PR330-8T | HUNTER 12" POP-UP SPRAY | 01 |
| ■ 8H | PRDS-012-PR330-8H | HUNTER 12" POP-UP SPRAY | 18 |
| ■ 10V | PRDS-012-PR330-10V | HUNTER 12" POP-UP SPRAY | 01 |
| ■ 10H | PRDS-012-PR330-10H | HUNTER 12" POP-UP SPRAY | 02 |
| ■ 10H | PRDS-012-PR330-10T | HUNTER 12" POP-UP SPRAY | 03 |
| ■ 10H | PRDS-012-PR330-12T | HUNTER 12" POP-UP SPRAY | 06 |
| ■ 10H | PRDS-012-PR330-12H | HUNTER 12" POP-UP SPRAY | 26 |
| ■ 10H | PRDS-012-PR330-RCSS15 | HUNTER 12" POP-UP SPRAY | 141 |
| ■ 10H | PRDS-012-PR330-LCSS15 | HUNTER 12" POP-UP SPRAY | 97 |
| ■ 10H | PRDS-012-PR330-SS530 | HUNTER 12" POP-UP SPRAY | 01 |
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| ■ 10H | PRDS-012-PR330-15H | HUNTER 12" POP-UP SPRAY | 04 |
| ■ 10H | PRDS-012-PR330-15T | HUNTER 12" POP-UP SPRAY | 08 |
| ■ 10H | PRDS-012-PR330-15H | HUNTER 12" POP-UP SPRAY | 08 |
| ■ 10H | PRDS-012-PR330-15TQ | HUNTER 12" POP-UP SPRAY | 06 |
| ■ 10H | PRDS-012-PR330-15TT | HUNTER 12" POP-UP SPRAY | 06 |
| ● | PGP-04-2 | HUNTER 4" POP-UP ROTDR | 08 |
| ● | PGP-04-3 | HUNTER 4" POP-UP ROTDR | 74 |
| ● | PGP-04-4 | HUNTER 4" POP-UP ROTDR | 04 |
| ● | PGP-04-6 | HUNTER 4" POP-UP ROTDR | 101 |
| ● | PGP-04-6 | HUNTER 4" POP-UP ROTDR | 04 |
| ● | 1CV-2010-FS | HUNTER 2" SOLENOID VALVE | 44 |
| □ | A2C-75D-M | HUNTER AUTO. CONTROLLER | 01 |
| ■ | MINI-CLIK | HUNTER RAIN SENSOR | 01 |
| ■ | ROAMXL-KIT | HUNTER ROAM XL REMOTE | 01 |
| ■ | HUNTER ICD DECODER | | |
| ■ | 1 STATION | | 27 |
| ■ | 2 STATION | | 08 |
| ■ | ICD-HP | HUNTER PROGRAMMER | 01 |
| ■ | IDIGRY | HUNTER DECODER CABLE | 6300 LF |
| ■ | 270DCFD | PAIGE DECODER SWITCHING DEVICE | 03 |
| ■ | GROUNDING LOCATION | | 17 |
| ■ | DUCTILE IRON | AS REQUIRED | |
| ■ | MAIN LINE FITTINGS | AS REQUIRED | |
| ■ | SCH 40 PVC | AS REQUIRED | |
| ■ | SLEEVES | AS REQUIRED | |
| ■ | PVC FITTINGS | AS REQUIRED | |
| ■ | SPRINKLER RISERS | AS REQUIRED | |
| ■ | WIRE CONDUIT | 6300 LF | |
| ■ | HDPPE | AS REQUIRED | |
| ■ | SUCTION LINE | AS REQUIRED | |
| ■ | TYPE 1120 PVC | AS REQUIRED | |
| ■ | 4" MAIN LINE | 640 LF | |
| ■ | 3" MAIN LINE | 6200 LF | |
| ■ | 3/4" LATERALS | AS REQUIRED | |
| ■ | SDR 26, CLASS 160 PVC | AS REQUIRED | |
| ■ | LATERALS (1" LARGER) | AS REQUIRED | |
| ■ | GATE VALVE (TO LINE SIZE) | | |
| ■ | 4" | 01 | |
| ■ | 3" | 10 | |
| ■ | AIR RELIEF VALVE | 02 | |
| ■ | VALVE BOX | 57 | |
| ■ | LAKE SCREEN | 01 | |
| ■ | PUMP STATION | 01 | |

NOTE: ABOVE QUANTITIES ARE FOR COMPARISON ONLY. CONTRACTOR SHALL VERIFY PRIOR TO SUBMITTING BID.

ZONE SUMMARY CHART

| VALVE NUMBER | LOCATION | SPRINKLER TYPE | VALVE SIZE | WATER DEMAND* | RUN TIME* | WEEKLY USAGE |
|--------------|----------------|----------------|------------|---------------|------------|----------------|
| L1 | PARK | SPRAY | 2" | 75 GPM | 40 MIN/WK | 3,000 GAL/WK |
| L2 | PARK | ROTOR | 2" | 86 GPM | 120 MIN/WK | 10,320 GAL/WK |
| L3 | ENTRANCE | SPRAY | 2" | 75 GPM | 40 MIN/WK | 3,000 GAL/WK |
| L4 | PARK | SPRAY | 2" | 105 GPM | 40 MIN/WK | 4,200 GAL/WK |
| L5 | PARK | ROTOR | 2" | 72 GPM | 120 MIN/WK | 8,640 GAL/WK |
| L6 | ENTRANCE | SPRAY | 2" | 100 GPM | 40 MIN/WK | 4,000 GAL/WK |
| L7 | EAST BUFFER | SPRAY | 2" | 105 GPM | 40 MIN/WK | 4,200 GAL/WK |
| L8 | LAKE BANK | ROTOR | 2" | 90 GPM | 120 MIN/WK | 10,800 GAL/WK |
| L9 | TOWNHOMES | SPRAY | 2" | 115 GPM | 40 MIN/WK | 4,600 GAL/WK |
| L10 | EAST BUFFER | SPRAY | 2" | 118 GPM | 40 MIN/WK | 4,720 GAL/WK |
| L11 | TOWNHOMES | SPRAY | 2" | 125 GPM | 40 MIN/WK | 5,000 GAL/WK |
| L12 | LAKE BANK | ROTOR | 2" | 96 GPM | 120 MIN/WK | 11,520 GAL/WK |
| L13 | COMMON AREA | SPRAY | 2" | 90 GPM | 40 MIN/WK | 3,600 GAL/WK |
| L14 | TOWNHOMES | SPRAY | 2" | 120 GPM | 40 MIN/WK | 4,800 GAL/WK |
| L15 | EAST BUFFER | SPRAY | 2" | 90 GPM | 40 MIN/WK | 3,600 GAL/WK |
| L16 | TOWNHOMES | SPRAY | 2" | 115 GPM | 40 MIN/WK | 4,600 GAL/WK |
| L17 | LAKE BANK | ROTOR | 2" | 96 GPM | 120 MIN/WK | 11,520 GAL/WK |
| L18 | TOWNHOMES | SPRAY | 2" | 103 GPM | 40 MIN/WK | 4,120 GAL/WK |
| L19 | LAKE BANK | ROTOR | 2" | 96 GPM | 120 MIN/WK | 11,520 GAL/WK |
| L20 | TOWNHOMES | SPRAY | 2" | 107 GPM | 40 MIN/WK | 4,280 GAL/WK |
| L21 | TOWNHOMES | SPRAY | 2" | 120 GPM | 40 MIN/WK | 4,800 GAL/WK |
| L22 | LAKE BANK | ROTOR | 2" | 93 GPM | 120 MIN/WK | 11,160 GAL/WK |
| L23 | TOWNHOMES | SPRAY | 2" | 115 GPM | 40 MIN/WK | 4,600 GAL/WK |
| L24 | COMMON AREA | ROTOR | 2" | 60 GPM | 120 MIN/WK | 7,200 GAL/WK |
| L25 | COMMON AREA | SPRAY | 2" | 54 GPM | 120 MIN/WK | 2,160 GAL/WK |
| L26 | TOWNHOMES | SPRAY | 2" | 105 GPM | 40 MIN/WK | 4,200 GAL/WK |
| L27 | TOWNHOMES | SPRAY | 2" | 100 GPM | 40 MIN/WK | 4,000 GAL/WK |
| L28 | SOUTH BUFFER | ROTOR | 2" | 90 GPM | 120 MIN/WK | 10,800 GAL/WK |
| L29 | TOWNHOMES | SPRAY | 2" | 95 GPM | 40 MIN/WK | 3,800 GAL/WK |
| L30 | TOWNHOMES | SPRAY | 2" | 95 GPM | 40 MIN/WK | 3,800 GAL/WK |
| L31 | TOWNHOMES | SPRAY | 2" | 95 GPM | 40 MIN/WK | 3,800 GAL/WK |
| L32 | SOUTH BUFFER | ROTOR | 2" | 84 GPM | 120 MIN/WK | 10,080 GAL/WK |
| L33 | TOWNHOMES | SPRAY | 2" | 107 GPM | 40 MIN/WK | 4,280 GAL/WK |
| L34 | TOWNHOMES | SPRAY | 2" | 112 GPM | 40 MIN/WK | 4,480 GAL/WK |
| L35 | COMMON AREA | SPRAY | 2" | 90 GPM | 40 MIN/WK | 3,600 GAL/WK |
| L36 | COMMON AREA | SPRAY | 2" | 85 GPM | 40 MIN/WK | 3,400 GAL/WK |
| L37 | COMMON AREA | SPRAY | 2" | 90 GPM | 40 MIN/WK | 3,600 GAL/WK |
| L38 | ROADWAY BUFFER | SPRAY | 2" | 80 GPM | 40 MIN/WK | 3,200 GAL/WK |
| L39 | COMMON AREA | SPRAY | 2" | 95 GPM | 40 MIN/WK | 3,800 GAL/WK |
| L40 | LAKE BANK | ROTOR | 2" | 90 GPM | 120 MIN/WK | 10,800 GAL/WK |
| L41 | TOWNHOMES | SPRAY | 2" | 113 GPM | 40 MIN/WK | 4,520 GAL/WK |
| L42 | LAKE BANK | ROTOR | 2" | 84 GPM | 120 MIN/WK | 10,080 GAL/WK |
| L43 | WEST BUFFER | SPRAY | 2" | 80 GPM | 40 MIN/WK | 3,200 GAL/WK |
| L44 | LAKE BANK | ROTOR | 2" | 84 GPM | 120 MIN/WK | 10,080 GAL/WK |
| L45-75 | SPARE | | | | | 257,480 GAL/WK |

*APPROXIMATELY RUN TIME TO APPLY 1.0 IN/WK.

SITE SHALL BE MONITOR AND RUN TIMES ADJUSTED TO ENSURE PROPER IRRIGATION.

IRRIGATION NOTES & SPECIFICATIONS

AUTOMATIC IRRIGATION SYSTEM
WATER DEMAND / ZONE
WATER SOURCE
PRESSURE REQUIRED
PUMPING CAPACITY

GENERAL

IRRIGATION SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODES, CONTRACT DRAWINGS, CONTRACT SPECIFICATIONS, AND APPENDIX "F" OF THE FLORIDA BUILDING CODE.

IRRIGATION DESIGN BASED ON PETERSON DESIGN "LANDSCAPE PLANS" DATED NOVEMBER 2002. CONTRACTOR SHALL REFER TO THESE PLANS TO COORDINATE SPRINKLER LOCATIONS AND PIPE ROUTING WITH NEW AND EXISTING PLANT LOCATIONS.

THIS IRRIGATION PLAN SHALL BE USED AS A GUIDE ONLY. CONTRACTOR SHALL INSTALL IRRIGATION TO MATCH ON SITE CONDITIONS AND TO OVERCOME THE INHERENT INACCURACIES THAT RESULT WHEN DESIGNING FROM BASE PLANS SCALED AT 1" = 20'-0".

THE SOURCE FOR IRRIGATION SHALL BE A PRE-FABRICATED PUMP STATION DRAWING WATER FROM LAKE.

THIS IRRIGATION HAS BEEN DESIGNED AS A TYPICAL BLOCK VALVE TYPE USING HUNTER BUBBLER, SPRAY AND ROTOR SPRINKLERS, IN-LINE VALVES, AND DECODER CONTROL SYSTEM. WATER CONSERVATION EQUIPMENT SHALL BE INSTALLED.

IRRIGATION SHALL BE INSTALLED AND MAINTAINED TO MINIMIZE UNDESIRABLE OVERTHROW ONTO PAVEMENT, SIDEWALKS, AND BUILDINGS.

CONTRACTOR IS ADVISED TO STUDY THE PLANS FOR ADDITIONAL INFORMATION AND TO VISIT THE SITE TO BECOME FAMILIAR WITH EXISTING CONDITIONS.

TO ENSURE PROPER OPERATION, PUMP STATION CAPACITY, PROGRAMMING, VALVE SIZES, ZONE CAPACITIES, SPRINKLER SPACING, PIPE AND WIRE SIZES, AND INSTALLATION NOTES AND DETAILS SHALL BE FOLLOWED AS SHOWN.

PIPING

PIPE ROUTING IS SCHEMATIC ONLY AND SHALL BE ADJUSTED FOR ON SITE CONDITIONS.

PIPE SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODES AND PIPE MANUFACTURER'S INSTRUCTIONS.

PIPE ROUTED UNDER HARDSCAPED AREAS SHALL BE SLEEVED IN SCH 40 PVC. EACH SLEEVE SHALL BE (1) BURIED TO A MINIMUM DEPTH OF 24", (2) TWO PIPE SIZES LARGER THAN CARRIER PIPE, AND (3) EXTENDED 3' BEYOND HARDSCAPED AREA ON EACH END. CONTRACTOR SHALL VERIFY THE SIZE, DEPTH, AND LOCATION OF ALL EXISTING SLEEVES.

PIPE INSTALLED ABOVE GRADE AT THE PUMP STATION SHALL BE SCH 40 GALVANIZED STEEL. SUCTION LINE SHALL BE HDPE. ALL OTHER PIPING SHALL BE TYPE 1120 PVC MAIN LINE AND LATERALS SIZED 3/4" SHALL BE SDR 21, CLASS 200. LATERALS SIZED 1" AND LARGER BE SDR 26, CLASS 160. MAIN LINE SHALL BE GASKET TYPE AND LATERALS SHALL BE SOLVENT WELD TYPE.

MAIN LINE DIRECTIONAL FITTINGS SHALL BE DUCTILE IRON MANUFACTURED BY HARCO OR APPROVED EQUAL. LATERAL PIPE FITTINGS SHALL BE SCH 40 PVC.

ALL MAIN DIRECTIONAL FITTINGS SHALL BE RESTRAINED WITH MEG-A-LUG JOINT RESTRAINTS.

PIPE SIZED TO LIMIT FLOW VELOCITIES TO 5 FEET/SECOND AND TO LIMIT FRICTION LOSS IN THE PIPING NETWORK.

PIPE SHALL BE INSTALLED AT SUFFICIENT DEPTH BELOW GROUND TO PROTECT IT FROM HAZARD SUCH AS VEHICULAR TRAFFIC OR ROUTINE OCCURRENCES WHICH OCCUR IN THE NORMAL USE AND MAINTENANCE OF THE PROPERTY. DEPTHS OF COVER SHALL MEET OR EXCEED SCS CODE 430-DD. REFER TO THE APPLICABLE DETAIL FOR ADDITIONAL INFORMATION.

BACKFILL SHALL BE OF SUITABLE MATERIAL, FREE OF ROCKS, STONES, AND OTHER DEBRIS THAT WOULD DAMAGE IRRIGATION SYSTEM COMPONENTS.

GATE VALVES SHALL BE INSTALLED FOR ISOLATION. EACH GATE VALVE SHALL BE TO LINE SIZE AND INSTALLED IN A COLOR CODED VALVE BOX. POROUS MATERIAL SHALL BE INSTALLED PER BOX TO PROMOTE DRAINAGE.

AIR RELIEF VALVES SHALL BE INSTALLED IN THE SYSTEM TO PROTECT THE PIPING NETWORK FROM EXCESSIVE PRESSURES THAT DEVELOP WHEN COMPRESSING ENTRAPPED AIR. EACH UNIT SHALL BE INSTALLED IN A VALVE BOX.

SPRINKLERS

SPRINKLER LOCATIONS ARE SCHEMATIC ONLY AND SHALL BE ADJUSTED FOR LANDSCAPING, SITE LIGHTING, PREVAILING WIND, MEUNDING, ETC., TO ENSURE PROPER COVERAGE WITH MINIMAL UNDESIRABLE OVERTHROW. A PRIME OBJECTIVE SHALL BE TO ELIMINATE OVERTHROW ONTO PAVEMENT, SIDEWALKS, AND BUILDINGS.

SPRAY HEADS SHALL BE HUNTER PRO SERIES. SIX INCH POP-UP TYPE SHALL BE INSTALLED IN AREAS LANDSCAPED WITH SOD AND MULCH. TWELVE INCH POP-UP TYPE SHALL BE INSTALLED IN AREAS LANDSCAPED WITH GROUND COVER AND LOW SHRUBS. SHRUB HEADS SHALL BE INSTALLED IN AREAS LANDSCAPED WITH TALL SHRUBS. AND BUBBLERS SHALL BE INSTALLED AT SELECTED PALMS AND TREES AND IN NARROW LANDSCAPED AREAS.

POP-UP TYPE LOCATED IN SOD, MULCH, AND GROUND COVERS SHALL BE INSTALLED ON FLEXIBLE SWING JOINTS CONSISTING OF THICKWALLED POLY PIPE AND INSERT ELBOWS.

PVC RISERS TO A HEIGHT SO SPRINKLERS ARE CONCEALED FROM VIEW EXCEPT DURING USE.

SHRUB TYPE AND BUBBLERS SHALL BE INSTALLED ON 1/2" SCH 40 PVC RISERS. SHRUB HEADS SHALL BE INSTALLED A STANDARD HEIGHT OF 6' ABOVE PLANTS AND SHALL BE INSTALLED WITHIN PLANTS TO BE CONCEALED FROM VIEW. BUBBLERS SHALL BE INSTALLED AT THE BASE OF STREET TREES AND ROYAL PALMS FOR LOW LEVEL WATERING. RISERS SHALL BE PAINTED FLAT BLACK TO BE LESS VISIBLE.

EACH SPRAY HEAD SHALL BE EQUIPPED WITH THE APPROPRIATE MPR SPRAY NOZZLE AND SHALL BE PRESSURE REGULATED TO 30 PSI.

POP-UP ROTARY HEADS SHALL BE HUNTER PGP SERIES WHICH SHALL BE INSTALLED ON PVC SWING JOINTS CONSISTING OF SCH 80 NIPPLES AND MARLEY STREET ELBOWS. POP-UP ROTORS INSTALLED IN SHRUB MASSES SHALL BE INSTALLED ON PVC SCH 40 RISERS WHICH SHALL BE STAKED TO STABILIZE.

ADJUSTMENT FEATURES OF SPRINKLERS SPECIFIED SHALL BE UTILIZED TO ENSURE PROPER COVERAGE WITH MINIMAL UNDESIRABLE OVERTHROW. LOW ANGLE, FLAT SPRAY, AND ADJUSTABLE ARC NOZZLES SHALL BE USED TO MINIMIZE OVERTHROW.

SPRINKLERS LOCATED ADJACENT TO HARDSCAPED AREAS SHALL BE INSTALLED AWAY FROM HARDSCAPED AREAS TO MINIMIZE OVERTHROW AND THE CHANCE OF DAMAGE BY VEHICLES, PEDESTRIANS, AND LAWN MAINTENANCE PERSONNEL. AS A GENERAL RULE, 6" POP-UP SPRAY HEADS SHALL BE INSTALLED IN 4', SHRUB HEADS AND 12" POP-UP SPRAY HEADS SHALL BE INSTALLED IN 12', AND ROTOR HEADS SHALL BE INSTALLED IN 6'.

CONTROL SYSTEM

CONTROL SYSTEM SHALL BE A HUNTER ACC2 TWO WIRE DECODER TYPE. ONE 75 STATION CONTROLLER SHALL ACTIVATE 44 IN-LINE VALVES. A RAIN SENSOR SHALL BE INSTALLED TO CONSERVE WATER.

CONTROLLER LOCATION SHALL BE APPROVED BY THE PROJECT SUPERVISOR. A 117 VAC POWER SOURCE IS REQUIRED. CONTROLLERS SHALL BE LOCATED ADJACENT TO THE PUMP STATION.

CONTROLLER AND DECODERS SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODES AND MANUFACTURER'S INSTRUCTIONS. PROPER GROUNDING SHALL BE ESTABLISHED.

THE TWO WIRE PATH FROM CONTROLLER TO VALVES/DECODERS SHALL BE HUNTER STANDARD DECODER CABLE.

IN-LINE AND END-LINE SURGE PROTECTORS AND GROUND RODS AND PLATES SHALL BE INSTALLED AS INSTRUCTED BY HUNTER AND PAIGE ELECTRIC TO ENSURE PROPER GROUNDING.

PAIGE SWITCHES DEVICES SHALL BE INSTALLED ON EACH 2-WIRE PATH AT LOCATIONS WHERE WIRE CHANGES DIRECTION AND IS SPLICED.

THE INTEGRITY OF ALL WIRE SPLICES IS CRITICAL TO THE OPERATION OF THE SYSTEM. ALL SPLICES SHALL BE MADE WATERPROOF USING APPROVED METHODS.

AUTOMATIC VALVE LOCATIONS ARE SCHEMATIC ONLY AND SHALL BE ADJUSTED FOR ON SITE CONDITIONS. EACH VALVE SHALL BE INSTALLED IN A VALVE BOX. A MINIMUM OF ONE CUBIC FOOT OF GRAVEL SHALL BE PROVIDED PER BOX TO PROMOTE DRAINAGE.

PUMP STATION

LOCATION OF PUMP STATION SHALL BE VERIFIED ON SITE.

PUMP STATION SHALL BE A PRE-FABRICATED TYPE WITH A CAPACITY OF 250 GPM @ 162 FT.HD. BASIC COMPONENTS SHALL INCLUDE:

- (1) AN END SUCTION CENTRIFUGAL PUMP WITH THE CAPACITY NOTED
- (2) A 15 HP MOTOR SELECTED TO MATCH ON SITE ELECTRIC
- (4) VARIABLE FREQUENCY DRIVE WITH INDUSTRIAL AIR CONDITIONER FOR A NEMA 4 CONTROL PANEL.
- (5) FLOW METER
- (6) PRESSURE TANK
- (7) WELDED ALUMINUM SKID
- (8) FIBERGLASS ENCLOSURE
- (9) GATE AND CHECK VALVES
- (10) 120 VOLT INDEPENDENT POWER SUPPLY FOR THE CONTROLLER

STATION SHALL BE MANUFACTURED BY SULLIVAN ELECTRIC OR APPROVED EQUAL. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL.

STATION SHALL BE MOUNTED ON A 6" THICK CONCRETE SLAB SIZED TO ACCOMMODATE STATION AND ASSOCIATE EQUIPMENT.

SUCTION LINES SHALL BE INSTALLED IN ACCORDANCE WITH PUMP STATION MANUFACTURER'S INSTRUCTIONS, AND SHALL BE PROPERLY SCREENED TO PREVENT THE INTAKE OF HARMFUL MATERIAL INTO THE SYSTEM.

PROGRAMMING

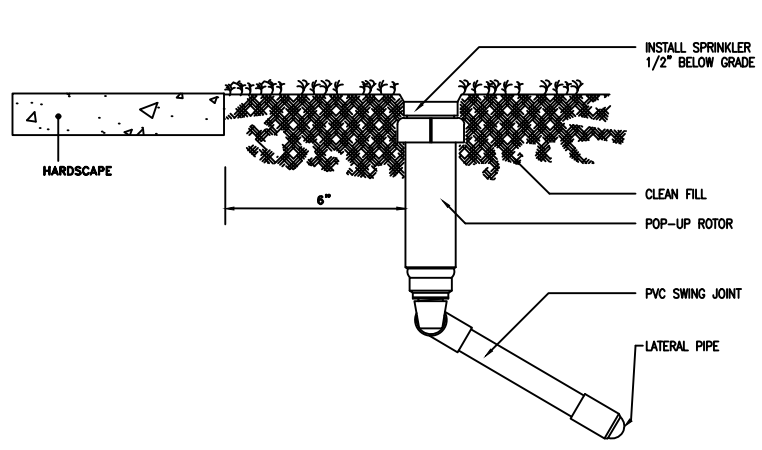
SYSTEM SHALL BE PROGRAMMED TO ENSURE THE CAPACITIES OF THE PIPING NETWORK AND PUMP STATION ARE NOT EXCEEDED. THE MAXIMUM TOTAL WATER USAGE SHALL NOT EXCEED 250 GPM.

VALVES SHALL BE PROGRAMMED SO WATER IS EVENLY DISTRIBUTED THROUGHOUT THE SITE.

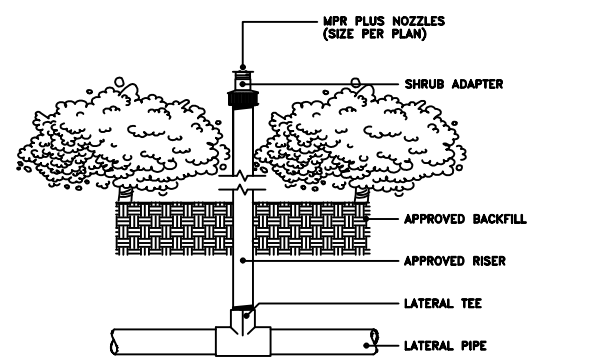
IRRIGATION SHALL ALSO BE PROGRAMMED TO OPERATE UNDER THE WATER RESTRICTION GUIDELINES ESTABLISHED BY LOCAL AUTHORITIES.

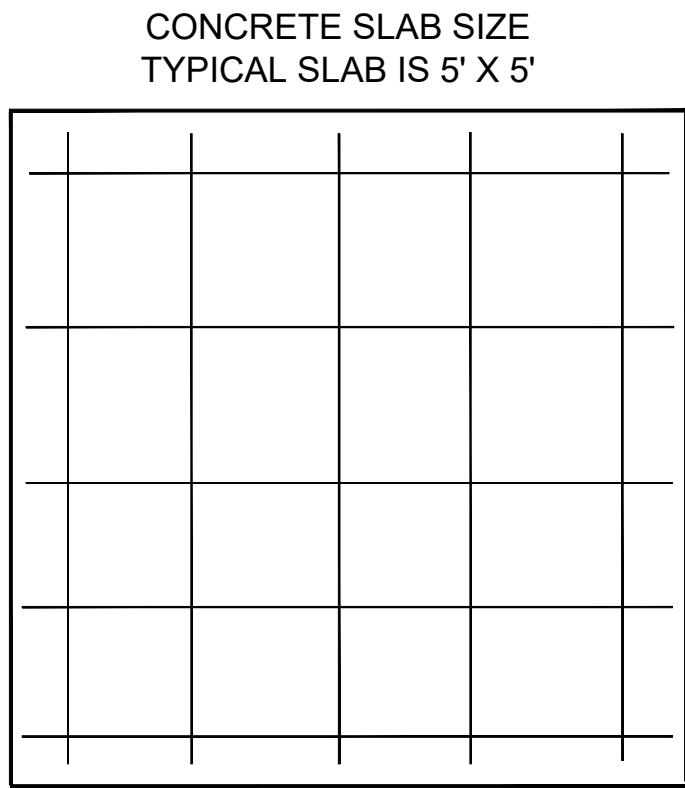
TIMING AND PRECIPITATION

TIMING OF EACH STATION SHALL BE SET IN THE FIELD TO MATCH LOCAL REQUIREMENTS. REFER TO ZONE SUMMARY CHART FOR RECOMMENDED RUN TIMES TO APPLY 1.0 INCHES/WEK.

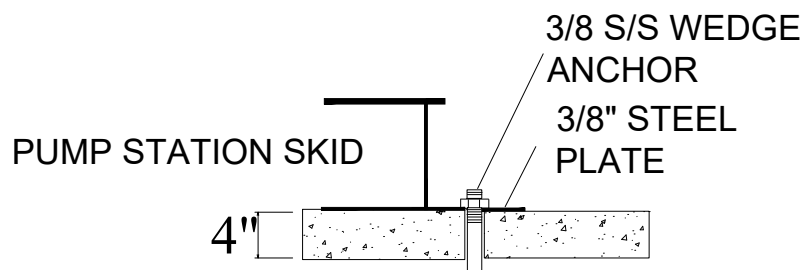


SPRINKLER DETAIL (NTS)
POP-UP ROTOR ON PVC SWING
JOINT LOCATED IN SOD OR MULCH

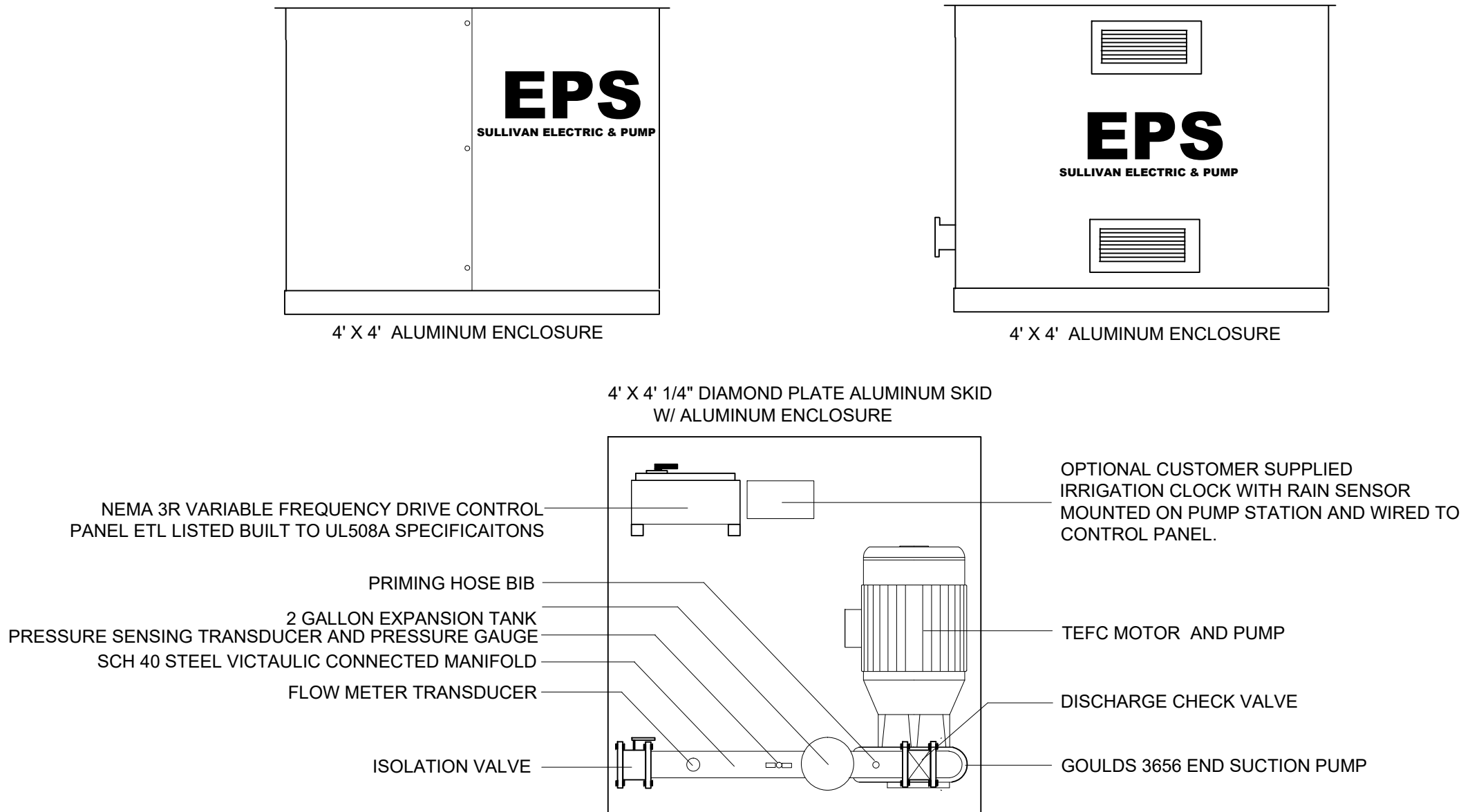




3000 PSI CONCETE
TROWEL FINNISH LEVEL
IN BOTH DIRECTIONS
1 - #5 BAR @ 12" O.C.
BOTH DIRECTIONS CENTERD IN SLAB



PUMP STATION CONCRETE PAD DETAIL



EFFICIENT PUMP SYSTEM AS MANUFACTURED
BY SULLIVAN ELECTRIC AND PUMP , INC.
PHONE (800) 991-2770

MODEL # EPS-IC-15-230-3-VFDP-250-165
GPM: 250
TDH: 165
APPROXIMATE OPERATING PRESSURE : 60
HP: 15
VOLTAGE: 230/120 30 AMP NEUTRAL MUST BE PULL TO CONTROL PANEL
PHASE: 3 PHASE OPEN DELTA.
MINIMUM CIRCUIT AMPERAGE : 90 AMP
WATER SOURCE: SURFACE WATER LAKE.
SUCTION PIPE: 6" STEEL ABOVE GRADE TO DR17 HDPE BELOW GRADE..
SUCTION CHECK VALVE: 6" VIC SWING TYPE AT LAKE BANK.
SUCTION SCREEN: STAINLESS STEEL SCREENED SULLIVAN EPS SS.
PUMP: 4 BF GOULDS END SUCTION 6 7/8" IMPELLER.
MOTOR: 15HP TEFC HIGH EFFICIENCY.
DISCHARGE CHECK VALVE: 3" FLG TO FLG SILENT TYPE.
STATION DISCHARGE MANIFOLD: 3" SCH 40 STEEL W/ PRESSURE TRANSDUCER,
LIQUID FILLED PRESSURE GAUGE AND HOSE BIB.
DISCHARGE PNEUMATIC TANK: 2 GALLON EXPANSION TANK.
DISCHARGE FLOW METER: 220B TRANSDUCER INTO VFD WITH OPTICAL ISOLATOR FOR
CONNECT TO BASELINE CONTROLLER.
DISCHARGE ISOLATION VALVE: 3" VICTUALIC.
DISCHARGE: 3" STEEL TO BELOW GRADE CONNECTION BY OTHERS.
PUMP STATION SKID: 4" X 4" X 4" TREAD PLATE ALUMINUM.
PUMP STATION ENCLOSURE: 4' X 4' X 5' ALUMINUM HINGED DOOR ACCESS.
CONCRETE PAD: 5' X 5' X 4" STEEL REENFORCED CONCRETE PAD.
CONTROL PANEL: POLLY NEMA 3R ENCLOSURE WITH MAIN DISCONNECT,
SURGE PROTECTIVE DEVICE, CLASS J FUSE PROTECTION, IQ PUMP VFD,
FLOW, PRESSURE AND VOLUTE TEMP SENSOR PROTECTION. ETL LISTED
BUILT TO UL 508A SPECIFICATIONS.



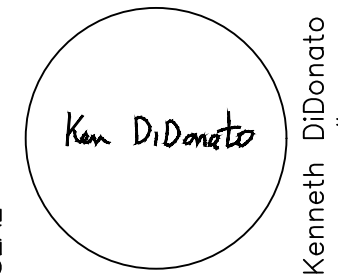
Industrial
Control
Panel

PROJECT TITLE : SPRINGDALE TOWNHOMES

MARGATE, FLORIDA

IRRIGATION PUMP STATION

SEAL



Kenneth DiDonato
P.E. Lic. #20892

PROJECT NO. 2022-65

DRAWN BY KMD

DESIGNED BY KMD

SCALE: N.T.S

DATE : NOVEMBER 2022

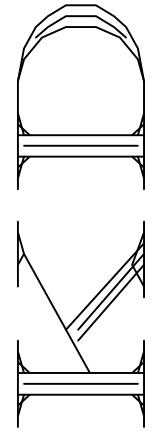
DWG. NO. IR-12

SHT. NO. of

REVISIONS :

CFILE:

Kenneth DiDonato, P.E.



CONSULTING ENGINEER
GOLF COURSE & COMMERCIAL IRRIGATION DESIGN
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