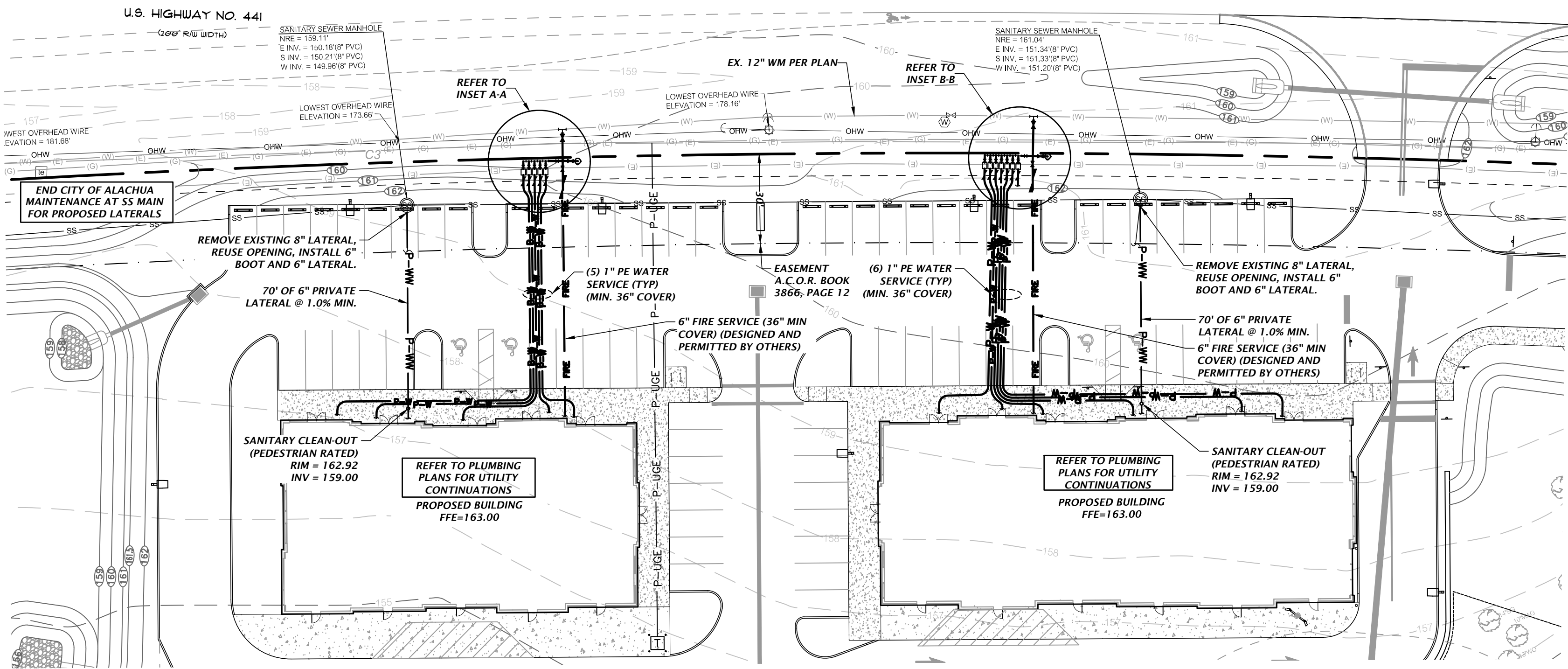
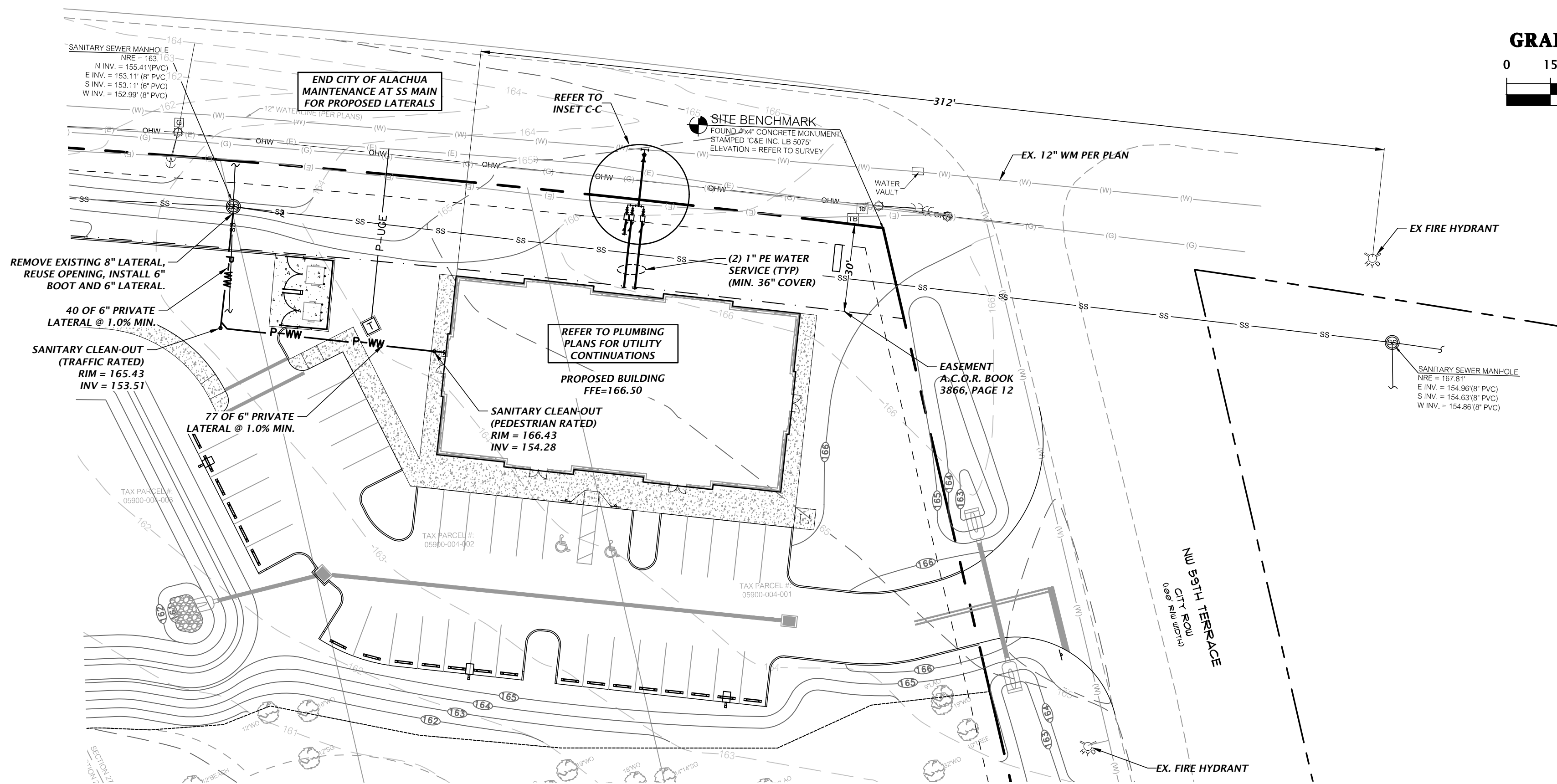
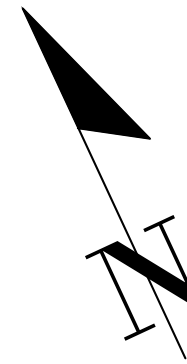
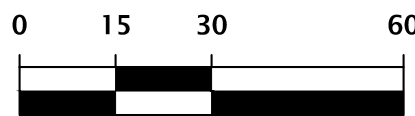


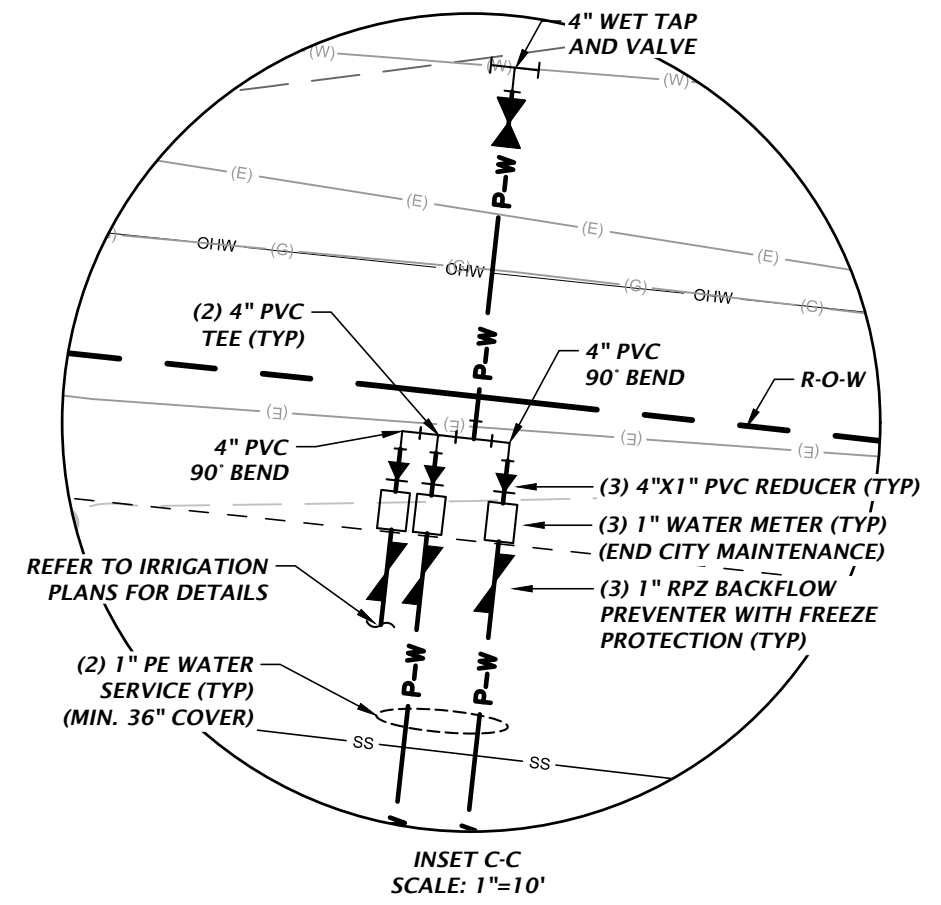
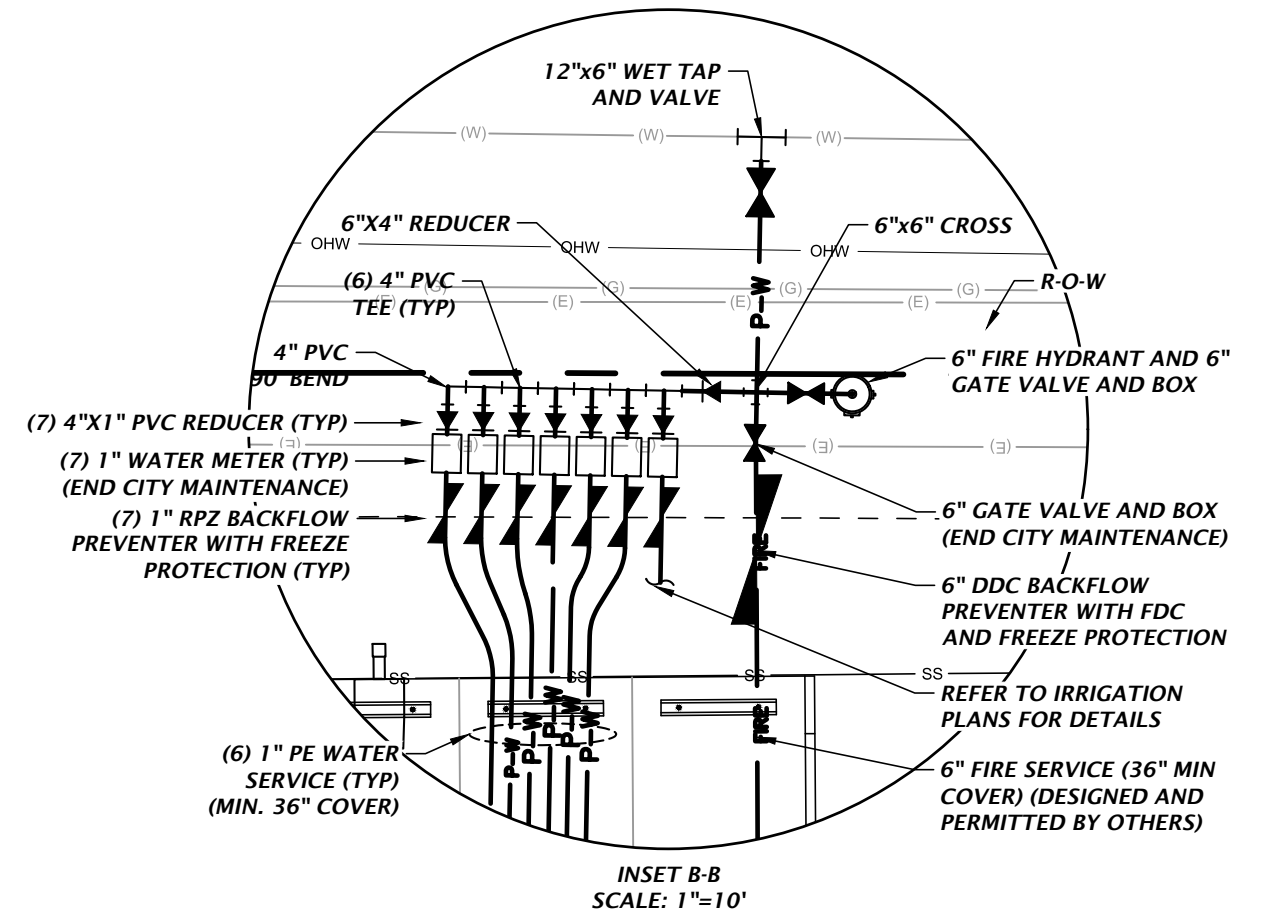
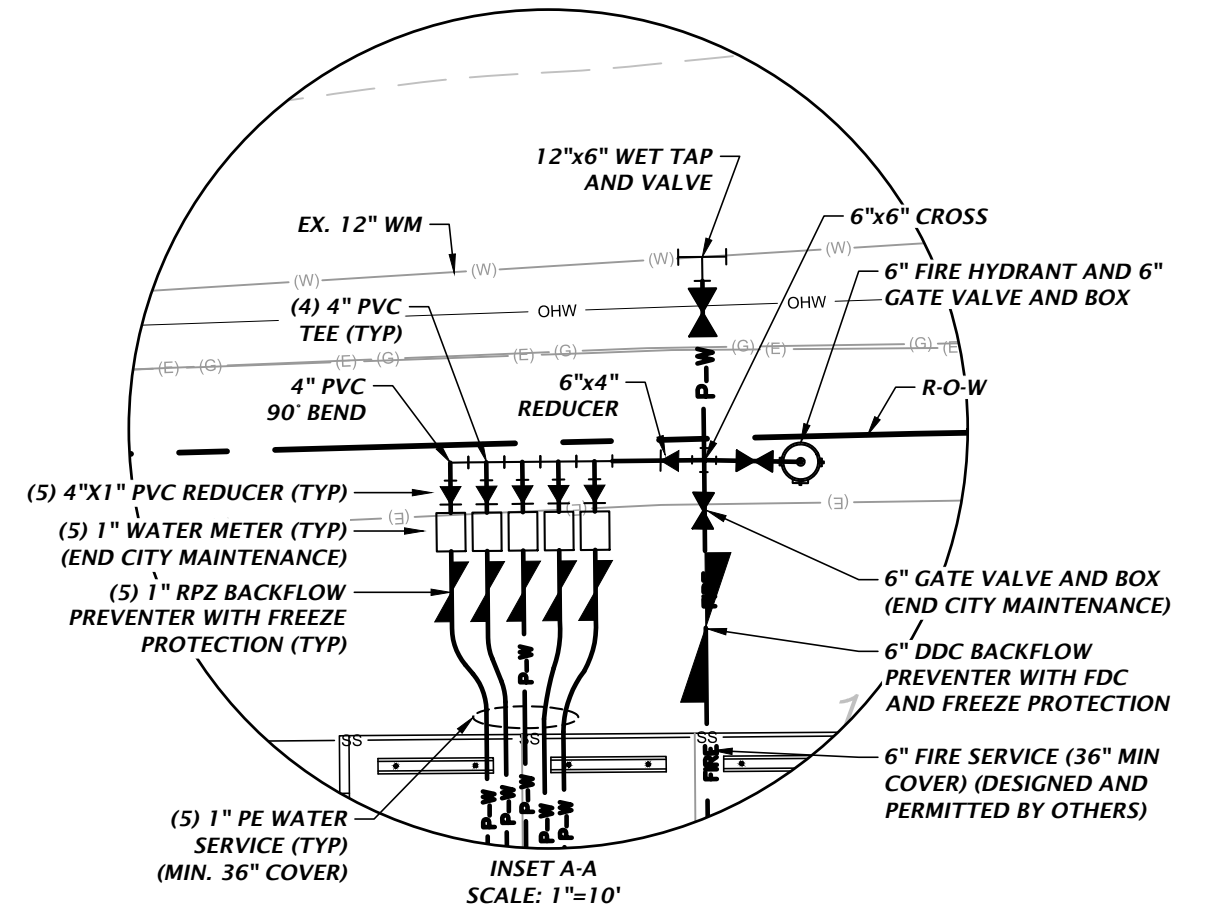
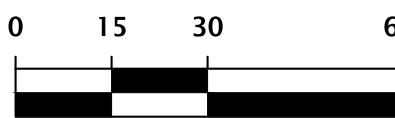
1
2
3
4
A
B
C
D
Title: bryang Plot Date: Nov 21, 2019 11:03am Filename: \\A\2018\18-0431\Engineering\DWG\Production Files\3.10 Detailed Utility Plan.dwg



GRAPHIC SCALE



GRAPHIC SCALE



11801 Research Drive
Alachua, Florida 32615
(352) 331-1976
www.chw-inc.com
est. 1988 FLORIDA
CA-5075

CHW
Professional Consultants

VERTICAL SCALE
BASED ON
ORIGINAL DRAWING
0" = 1' (NOT SHOWN)
THIS SHEET ADJUST
SCALES ACCORDINGLY.

SCALE: 1"=30'

CONSTRUCTION/BD RELEASE

DATE: 06/27/19
06/27/19 - CITY OF ALACHUA, SRWD, & FDOT
08/08/19 - CITY OF ALACHUA, SRWD, & FDOT
10/17/19 - CITY OF ALACHUA, FDOT
11/07/19 - CITY OF ALACHUA RESUBMITTAL
11/21/19 - 100% CONSTRUCTION DOCUMENTS

CLIENT: NATURAL VALLEY HARVEST LTD
PROJECT: THE GOLF PLAZA
SHEET TITLE: DETAILED UTILITY PLAN

DESIGNED BY: B. CULLESPIE
DRAWN BY: D. YOUNG, P.E.
QUALITY CONTROL: R. WALPOLE, P.E.
PROJECT NUMBER: 18-0431

DANIEL H. YOUNG

FL PE No. 70780
SHEET NO.

C3.10

ALL ASPHALT, LIMESTONE, AND CONSTRUCTION DEBRIS SHALL BE REMOVED FROM PLANTING BEDS AND SOD AREAS PRIOR TO LANDSCAPE INSTALLATION. IF ENCOUNTERED DURING CONSTRUCTION OR INSTALLATION, THESE SHALL BE EXCAVATED AND REMOVED FROM THE SITE. PLANTING DEPTH OF SOIL IN SUCH AREAS SHOULD BE AT LEAST 3'. IF FILL MUST BE ADDED, IT MUST BE FLORIDA CLEAN DEEP FILL (FREE OF WEED SEEDS) WITH pH 5.5-6.5.

NEW TREES OUTSIDE OF MULCHED LANDSCAPED BEDS WILL BE PROTECTED FROM MOWER AND STRING TRIMMER DAMAGE WITH 10" OF PLASTIC DRAIN TUBING.

REFER TO CIVIL PLANS FOR TREE BARRICADE DETAILS AND INFORMATION.

ALL DISTURBED AND UNPAVED AREAS TO BE GRASSED WITH SOD THAT IS FREE OF NOXIOUS WEEDS INCLUDING TROPICAL SODA APPLE OR SHALL BE SEEDED AND MULCHED. SEE CIVIL SITE PLANS FOR ADDITIONAL RELATED INFORMATION.

ALL PLANT MATERIAL TO BE FLORIDA NO.1 OR BETTER, GRADED IN ACCORDANCE WITH THE STATE OF FLORIDA DEPARTMENT OF AGRICULTURE, DIVISION OF PLANT INDUSTRY'S 'GRADES AND STANDARDS FOR NURSERY PLANTS', CURRENT EDITION AT THE TIME PLANS ARE ISSUED. CALL THE LANDSCAPE ARCHITECT PRIOR TO PURCHASING ANY PLANT MATERIAL FOR AN ON SITE INSPECTION AND REVIEW OF LANDSCAPE PLAN.

10% OPEN SPACE REQUIREMENT
AS PER CITY OF ALACHUA LDR SECTION 6.7.3 (A), THE MINIMUM OPEN SPACE SET ASIDE SHALL BE 10% OF THE DEVELOPMENT SITE. REFER TO CIVIL PLANS FOR OPEN SPACE CALCULATIONS.

LANDSCAPE IRRIGATION TO BE PROVIDED BY AUTOMATIC IRRIGATION SYSTEM IN ACCORDANCE WITH CITY OF ALACHUA LDR SECTION 6.2.2(D)(6)(B)(VI).

PER CITY OF ALACHUA COMPREHENSIVE PLAN FUTURE LAND USE
ELEMENT, OBJECTIVE 2.4, POLICY 2.4.A

CATEGORY	MITIGATION CALCULATIONS
INCH-FOR-INCH REPLACEMENT	<u>HERITAGE TREES</u> N/A
1:1 REPLACEMENT	TOTAL TREES TO BE MITIGATED AT 1:1 REPLACEMENT..... 140 TREES TOTAL TREES REQUIRED FOR MITIGATION @ 1:1 REPLACEMENT.....140 TREES TOTAL REPLACEMENT TREES PROVIDED.....140 TREES TOTAL PRESERVATION CREDITSN/A TOTAL MITIGATION DEFICIT/SURPLUS..... 0 TREES

DESCRIPTION	LANDSCAPE PROVIDED	LANDSCAPE PROVIDED
PARKING AREA PERIMETER LANDSCAPE	PARKING PERIMETER = 509 L.F. 4 CANOPY TREES PER 100 L.F. 2 UNDERSTORY/ORNAMENTAL PER 100 L.F. CONTINUOUS ROW OF SHRUBS 21 CANOPY TREES REQUIRED 11 UNDERSTORY TREES REQUIRED CONTINUOUS ROW OF SHRUBS	SEE ALTERNATIVE COMPLIANCE NOTE A* CONTINUOUS ROW OF SHRUBS PROVIDED
INTERIOR PARKING AREA LANDSCAPE: BUILDINGS 1 & 2	PARKING AREA = 22,626 S.F. 1 CANOPY TREE REQUIRED PER 1,800 S.F. 10 SHRUBS REQUIRED PER LANDSCAPE ISLAND 13 CANOPY TREES REQUIRED 130 SHRUBS REQUIRED	13 CANOPY TREES PROVIDED 130 SHRUBS PROVIDED
INTERIOR PARKING AREA LANDSCAPE: BUILDING 3 - SEE NOTE BELOW	PARKING AREA = 11,950 S.F. 1 CANOPY TREE REQUIRED PER 3,600 S.F. 5 SHRUBS REQUIRED PER LANDSCAPE ISLAND 4 CANOPY TREES REQUIRED 40 SHRUBS REQUIRED	4 CANOPY TREES PROVIDED 40 SHRUBS PROVIDED

LOCATION	BUFFER LENGTH & TYPE	LANDSCAPE REQUIRED	LANDSCAPE PROVIDED
441 FRONTAGE	1,112 L.F.	4 CANOPY TREES PER 100 LIN. FT. = 45 CANOPY TREES REQUIRED 3. UNDERSTORY TREES PER 100 LIN. FT. = 34 UNDERSTORY TREES REQUIRED CONTINUOUS ROW OF SHRUBS	SEE ALTERNATIVE COMPLIANCE NOTE C* 34 UNDERSTORY TREES PROVIDED CONTINUOUS ROW OF SHRUBS

DUE TO SITE SPACE CONSTRAINTS AND EXISTING CONDITIONS, THE REQUIRED AMOUNT OF LANDSCAPE CANNOT BE PLANTED ON THE PROJECT SITE. THE PROPOSED LANDSCAPE PLAN MEETS THE INTENT OF THE CITY OF ALACHUA CODE REQUIREMENTS THROUGH ALTERNATIVE METHODS.

(i) A REDUCTION IN THE TOTAL NUMBER OF REQUIRED TREES AND/OR ALTERATION OF THE SPACING REQUIREMENTS BETWEEN TREES WHEN UNDERGROUND CONNECTIONS TO PUBLIC FACILITIES OR PUBLIC UTILITIES, OR PUBLIC EASEMENTS OR RIGHTS-OF-WAY, ARE LOCATED UPON OR IN CLOSE PROXIMITY TO THE PARCEL OR WHENEVER A FEWER NUMBER OF TREES WOULD BE MORE DESIRABLE IN TERMS OF GOOD LANDSCAPE PLANNING PRACTICE.

(ii) A REDUCTION IN THE COUNT, SPACING, OR SPECIES DIVERSITY STANDARDS WHICH WOULD BE MORE DESIRABLE IN TERMS OF GOOD LANDSCAPE PLANNING PRACTICE CONSIDERING THE NATURE OF THE PARCEL AND ADJACENT PARCELS.

(iii) UP TO A 33 PERCENT REDUCTION IN THE TOTAL NUMBER OF REQUIRED TREES PROVIDED THAT THE CUMULATIVE CALIPER SIZE OF ALL TREES TO BE PLANTED MEETS OR EXCEEDS THE TOTAL CALIPER INCHES THAT WOULD HAVE BEEN PROVIDED OTHERWISE.

DUE TO THE SITE SPACE CONSTRAINTS FROM LOT CONFIGURATION AND UTILITY EASEMENTS, ALTERNATE PLANTINGS AND PLANTING LOCATIONS HAVE BEEN PROVIDED TO MEET THE CANOPY TREE REQUIREMENT. AS AN ALTERNATIVE, UNDERSTORY TREES HAVE BEEN PROVIDED AT A RATE OF 2 UNDERSTORY TREE PER 1 CANOPY TREE.

A) **PARKING AREA PERIMETER LANDSCAPE** [SECTION 6.2.2(D)(2)(b)]: EXISTING GAS, ELECTRIC, WATER, AND SANITARY UTILITY LINES ARE LOCATED BETWEEN THE PROJECT SITE AND 441. DUE TO EXISTING UTILITY LINES AND THEIR REQUIRED CLEARANCE FROM TREES, TREES ARE UNABLE TO BE PLANTED ALONG THE NORTHERN PERIMETER OF THE PARKING LOT.

21 CANOPY TREES AND 11 UNDERSTORY TREES ARE REQUIRED PER THE CALCULATIONS. THE PLAN PROVIDES 13 CANOPY TREES AND 16 UNDERSTORY TREES AROUND THE PERIMETER OF THE PARKING LOT ALONG THE SOUTHERN, EASTERN, AND WESTERN SIDES. THEREFORE, A DEFICIT OF 8 CANOPY TREES REMAINS. THE PLAN PROVIDES AN ADDITIONAL 16 UNDERSTORY TREES BEYOND THE REQUIREMENT. CANOPY AND UNDERSTORY TREES HAVE BEEN PROVIDED AROUND THE PERIMETER TO SATISFY THE INTENT OF THE PARKING BUFFER REQUIREMENT AND HAVE BEEN PLANTED WITH ADEQUATE SPACE TO GROW TO MATURE SIZE, ACCORDING TO GOOD LANDSCAPE PLANNING PRACTICE.

B) **BUILDING FACADE PLANTING REQUIREMENTS [SECTION 6.2.2(D)(1)(C)]:** DUE TO THE CONFIGURATION OF THE SITE, THE REQUIRED NUMBER OF CANOPY TREES ALONG THE BUILDING FACADE ARE UNABLE TO BE PROVIDED. ALONG THE BUILDING FACADES, SIDEWALKS ARE PROPOSED IMMEDIATELY ADJACENT TO THE BUILDINGS. MUCH OF THE SITE IS PRESERVED TO PROVIDE A WETLAND BUFFER. SITE HAS BEEN DESIGNED IN ORDER TO PRESERVE THE MAXIMUM AMOUNT OF EXISTING TREES ALONG THE SOUTHERN PORTION OF THE SITE. THEREFORE, ADDITIONAL LANDSCAPE SPACE IS UNABLE TO BE PROVIDED IN FRONT OF THE BUILDINGS.

16 CANOPY TREES ARE REQUIRED ALONG THE BUILDING FACADE PER THE CALCULATIONS, ALONG THE SIDES OF THE BUILDINGS WHERE LANDSCAPE AREA CAN BE PROVIDED, 6 CANOPY TREES AND 20 UNDERSTORY TREES ARE PROPOSED. THEREFORE, A DEFICIT OF 13 CANOPY TREES REMAINS. THE 7 UNDERSTORY TREES HAVE BEEN PROVIDED TO SATISFY THE INTENT OF THE REQUIREMENT. A DEFICIT OF 6 TREES ALONG THE BUILDING FACADE REMAINS. ADDITIONAL TREES ARE UNABLE TO BE PLANTED DUE TO THE LIMITED AREA. THE TREES ARE LOCATED WITH ADEQUATE SPACE TO GROW TO MATURE SIZE, ACCORDING TO GOOD LANDSCAPE PLANNING PRACTICE

C) ARTERIAL FRONTAGE REQUIREMENT [SECTION 6.2.3(c)(3)]: DUE TO THE EXISTING GAS, ELECTRIC, WATER, AND SANITARY UTILITY LINES LOCATED BETWEEN THE PROJECT SITE AND 441, THE REQUIRED CANOPY AND UNDERSTORY TREES ARE UNABLE TO BE PROVIDED. A CONTINUOUS ROW OF SHRUBS HAS BEEN PROVIDED. THE TREES IN THE PARKING LOT ISLANDS AND ALONG THE CONNECTING DRIVE ARE LIVE OAKS, WHICH WILL PROVIDE CANOPY TREES ALONG THE ARTERIAL FRONTAGE. THE NORTHERN EDGES OF THE BASINS ARE ALSO PLANTED WITH CANOPY AND UNDERSTORY TREES CLOSE TO THE ARTERIAL FRONTAGE.

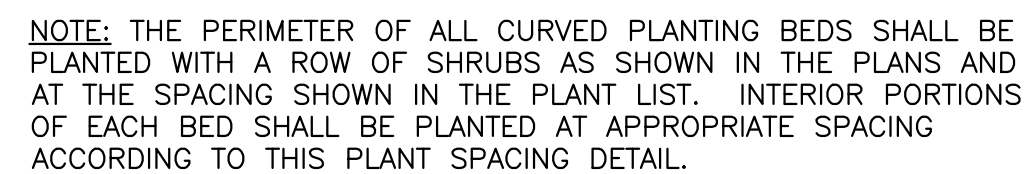
D) PERIMETER BUFFER "D" REQUIREMENT [SECTION 6.2.1(D)(3)]: DUE TO THE EXISTING GAS, ELECTRIC, WATER, AND SANITARY UTILITY LINES LOCATED BETWEEN THE PROJECT SITE AND 441 AS WELL AS BETWEEN THE PROJECT SITE AND THE WESTERN ADJACENT PARCEL, THE PERIMETER BUFFER REQUIREMENT CANNOT BE MET. THE EXISTING DENSE VEGETATION TO REMAIN ON THE SOUTHERN AND EASTERN PERIMETER MEETS THE INTENT TO SCREEN COMMERCIAL USES FROM THE SINGLE-FAMILY RESIDENTIAL PARCELS.

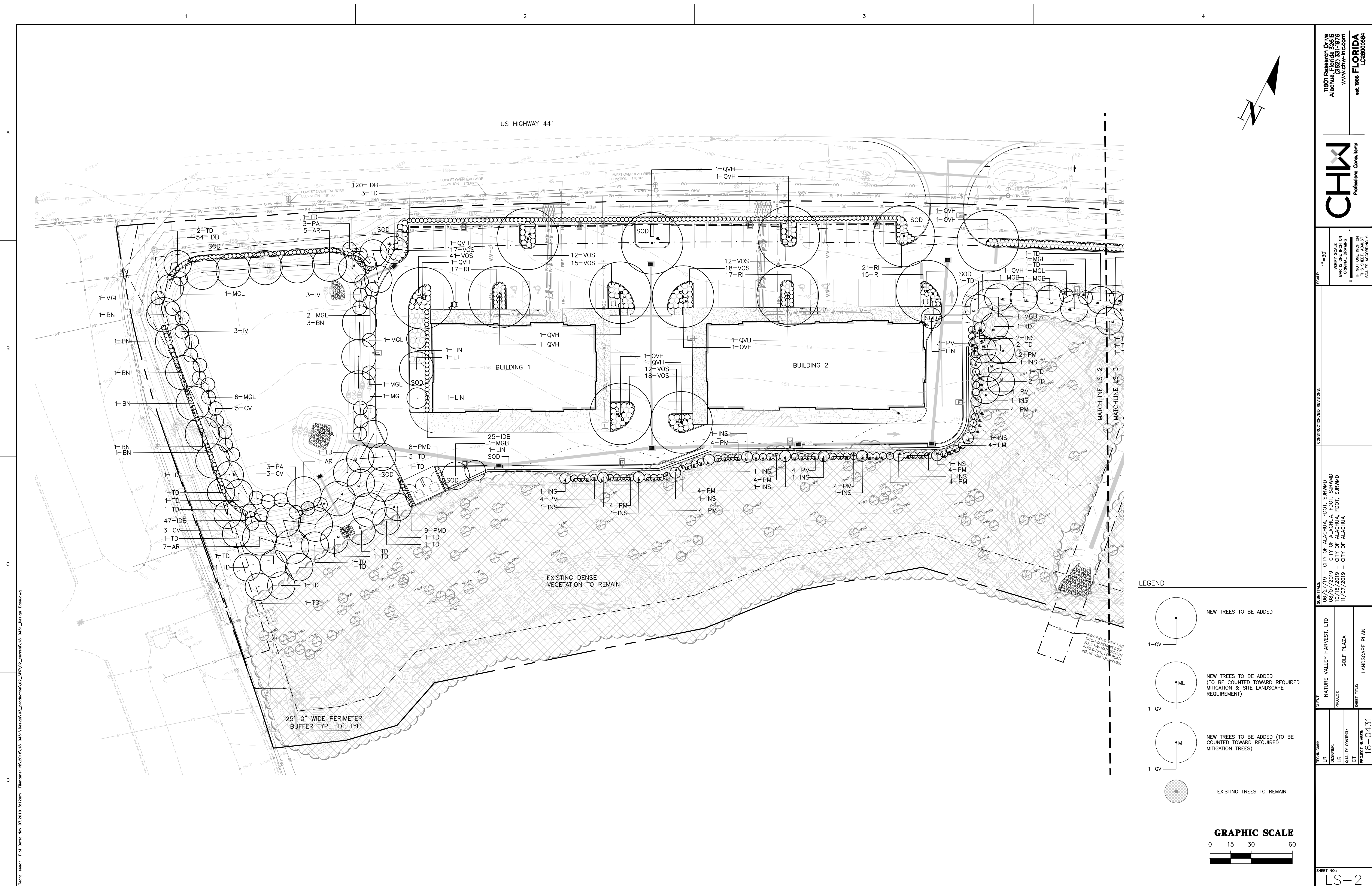
112 CANOPY TREES, 70 UNDERSTORY TREES, AND 1 EVERGREEN HEDGE ARE REQUIRED ALONG THE 2,800 LF PERIMETER AS PER THE CALCULATIONS. IN AREAS WHERE LANDSCAPE CAN BE PROVIDED, 15 CANOPY TREES, 7 UNDERSTORY TREES, AND AN EVERGREEN HEDGE ARE PROPOSED.

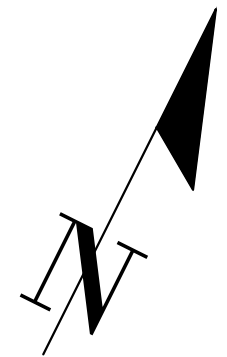
DESCRIPTION	TREE REQUIREMENTS	TREES PROVIDED
PRIMARY SIDE CANOPY TREES (NORTH SIDE)	3 TREES PER ACRE X 8.25 ACRES = 25 CANOPY TREES REQUIRED	50 UNDERSTORY TREES (= 25 CANOPY TREES, SEE ALTERNATIVE COMPLIANCE NOTE) PROVIDED
REAR SIDE CANOPY TREES (SOUTH SIDE)	2 TREES PER ACRE X 8.25 ACRES = 17 TREES REQUIRED	11 CANOPY TREES PROVIDED + EXISTING TREES TO REMAIN
EAST SIDE CANOPY TREES	2 TREES PER ACRE X 8.25 ACRES = 17 TREES REQUIRED	17 CANOPY TREES PROVIDED
WEST SIDE CANOPY TREES	2 TREES PER ACRE X 8.25 ACRES = 17 TREES REQUIRED	34 UNDERSTORY TREES (=17 CANOPY TREES, SEE ALTERNATIVE COMPLIANCE NOTE) PROVIDED
SITE UNDERSTORY TREES	6 UNDERSTORY TREES PER ACRE X 8.25 ACRES = 50 TREES REQUIRED 50% IN FRONT = 25 TREES REQUIRED 25% ON EAST SIDE = 12 TREES REQUIRED 25% ON WEST SIDE = 13 TREES REQUIRED 25 UNDERSTORY TREES REQUIRED	FRONT SIDE 25 UNDERSTORY TREES PROVIDED EAST SIDE 12 UNDERSTORY TREES PROVIDED WEST SIDE 13 UNDERSTORY TREES PROVIDED 50 UNDERSTORY TREES PROVIDED
BUILDING FACADE	398 LINEAR FEET 4 CANOPY TREES PER 100 LIN. FT. REQUIRED = 16 CANOPY TREES REQUIRED + ROW OF SHRUBS	6 CANOPY TREES PROVIDED 20 UNDERSTORY TREES (= 10 CANOPY TREES, SEE ALTERNATIVE COMPLIANCE NOTE) PROVIDED ROW OF SHRUBS PROVIDED

BUFFER TYPE	SCREENING REQUIREMENTS	SCREENING REQUIREMENTS
D) OPAQUE – 25' WIDE (OPTION 1)	1 CANOPY TREE / 25 LF X 2,800 LF = 112 CANOPY TREES REQUIRED 1 UNDERSTORY / 40 LF X 2,800 LF = 70 UNDERSTORY TREES REQUIRED EVERGREEN HEDGE REQUIRED	SEE ALTERNATIVE COMPLIANCE NOTE D* EVERGREEN HEDGE PROVIDED

TREES AR	QTY 15	BOTANICAL NAME ACER RUBRUM 'FLORIDA FLAME'	COMMON NAME FLORIDA FLAME RED MAPLE	SIZE 8' MIN HEIGHT, 2" CALIPER MIN
BN	18	BETULA NIGRA 'DURA HEAT'	DURA HEAT RIVER BIRCH	8' MIN HEIGHT, 2" CALIPER MIN
CV	11	CHIONANTHUS VIRGINICUS	WHITE FRINGETREE	1.5" CALIPER, MIN.
INS	16	ILEX X 'NELLIE R. STEVENS'	NELLIE R. STEVENS HOLLY	1.5" CALIPER, MIN.
IV	13	ILEX VOMITORIA	YAUPON HOLLY	1.5" CALIPER, MIN.
LIN	17	LAGERSTROEMIA INDICA 'NATCHEZ'	NATCHEZ CRAPE MYRTLE	1.5" CALIPER, MIN.
LT	3	LIRIODENDRON TULIPIFERA	TULIP TREE	8' MIN HEIGHT, 2" CALIPER MIN
MGB	5	MAGNOLIA GRANDIFLORA 'BRACKEN'S BROWN BEAUTY'	BRACKEN'S BROWN BEAUTY MAGNOLIA	8' MIN HEIGHT, 2" CALIPER MIN
MGL	65	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM MAGNOLIA	1.5" CALIPER, MIN.
PA	15	PRUNUS ANGUSTIFOLIA	CHICKASAW PLUM	1.5" CALIPER, MIN.
PM	57	PODOCARPUS MACROPHYLLUS	PODOCARPUS	1.5" CALIPER, MIN.
QVH	17	QUERCUS VIRGINIANA 'HIGHRISE'	HIGHRISE LIVE OAK	8' MIN HEIGHT, 2" CALIPER MIN
TD	67	TAXODIUM DISTICHUM	BALD CYPRESS	8' MIN HEIGHT, 2" CALIPER MIN
SHRUBS IDB	QTY 698	BOTANICAL NAME ILEX CORNUTA 'DWARF BURFORDII'	COMMON NAME DWARF BURFORD HOLLY	SIZE 3 GAL, FULL
PMD	158	PODOCARPUS MACROPHYLLUS 'DWARF PRINGLES'	DWARF PODOCARPUS	3 GAL, FULL
RI	93	RHAPHIOLEPIS INDICA 'ELEANOR TABER'	ELEANOR TABER INDIAN HAWTHORN	3 GAL, FULL
VOS	202	VIBURNUM OBOVATUM 'MRS. SCHILLER'S DELIGHT'	MRS. SCHILLERS DELIGHT VIBURNUM	3 GAL, FULL
SOD/SEED SOD		BOTANICAL NAME PASPALUM NOTATUM 'ARGENTINE'	COMMON NAME BAHIA GRASS	SIZE WEED FREE AND SAND GROWN SO







SCALE: $1" = 30'$

VERIFY SCALE
BAR IS ONE INCH ON
ORIGINAL DRAWING

0 1

IF NOT ONE INCH ON
THIS SHEET, ADJUST
SCALES ACCORDINGLY.

CONSTRUCTION/BID REVISIONS:

SUBMITTALS:
06/27/19 – CITY OF ALACHUA, FDOT, SURWMD
08/07/2019 – CITY OF ALACHUA, FDOT, SURWMD
10/16/2019 – CITY OF ALACHUA, FDOT, SURWMD
11/07/2019 – CITY OF ALACHUA

CLIENT: NATURE VALLEY HARVEST, LTD

PROJECT:

TECHNICIAN:	R
DESIGNER:	R
QUALITY CONTROL:	TT
PROJECT NUMBER:	18-0431

1

SHEET NO.:
LS-3

A circle with a center point. A vertical line segment connects the center point to the bottom of the circle. This line segment is labeled "1-QV" to its left.

A diagram of a sphere with a center point labeled M . A point on the surface of the sphere is labeled $1-QV$.

GRAPHIC SCALE

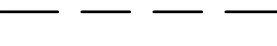
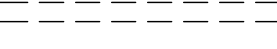
0 15 30 60

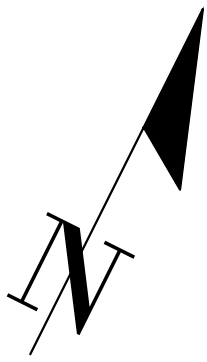
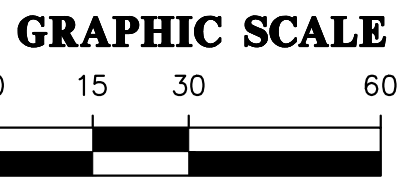
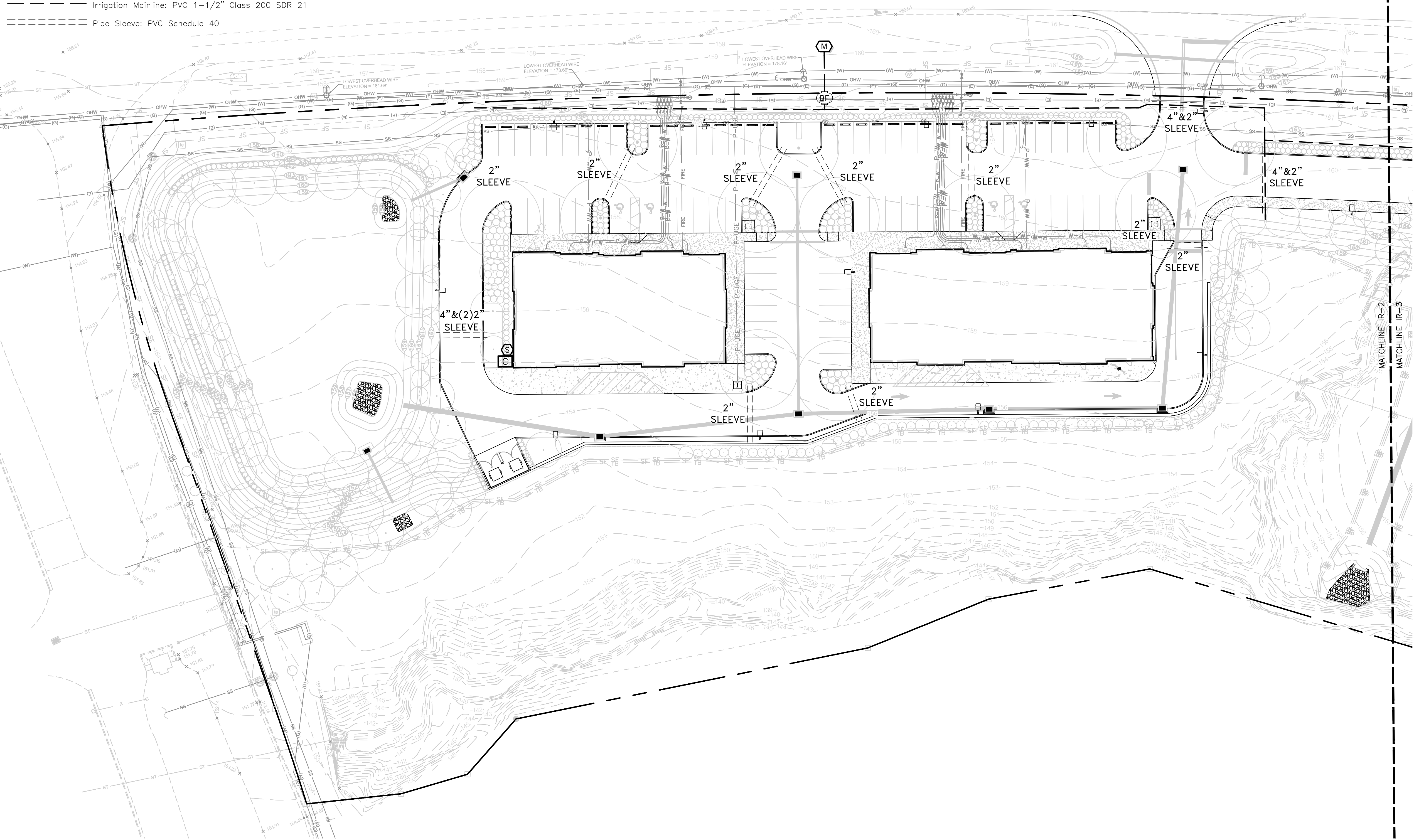


GRAPHIC SCALE

0 15 30 60

IRRIGATION_SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Hunter PC-1000-PL 10 Station Controller
	Hunter Solar-Sync Weather Sensor
	Water Meter 3/4" (Refer to Civil Engineer's Plans)
	Wilkins 975XL 1" Backflow Preventer
	Irrigation Mainline: PVC 1-1/2" Class 200 SDR 21
	Pipe Sleeve: PVC Schedule 40



11801 Research Drive
Alachua, Florida 32615
www.chw-inc.com
est. 1988 FLORIDA
LC28000564

CHW
Professional Consultants

SCALE: 1"=30'
VERTICAL SCALE
BASED ON
ORIGINAL DRAWING
0' 15' 30' 45' 60'
THIS SHEET, ADJUST
SCALES ACCORDINGLY.

CONSTRUCTION/REV. RELEASE

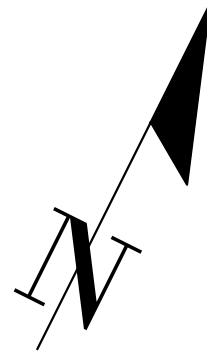
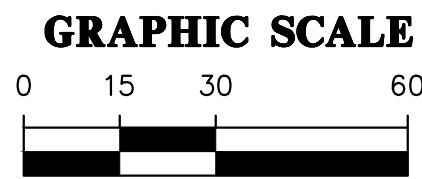
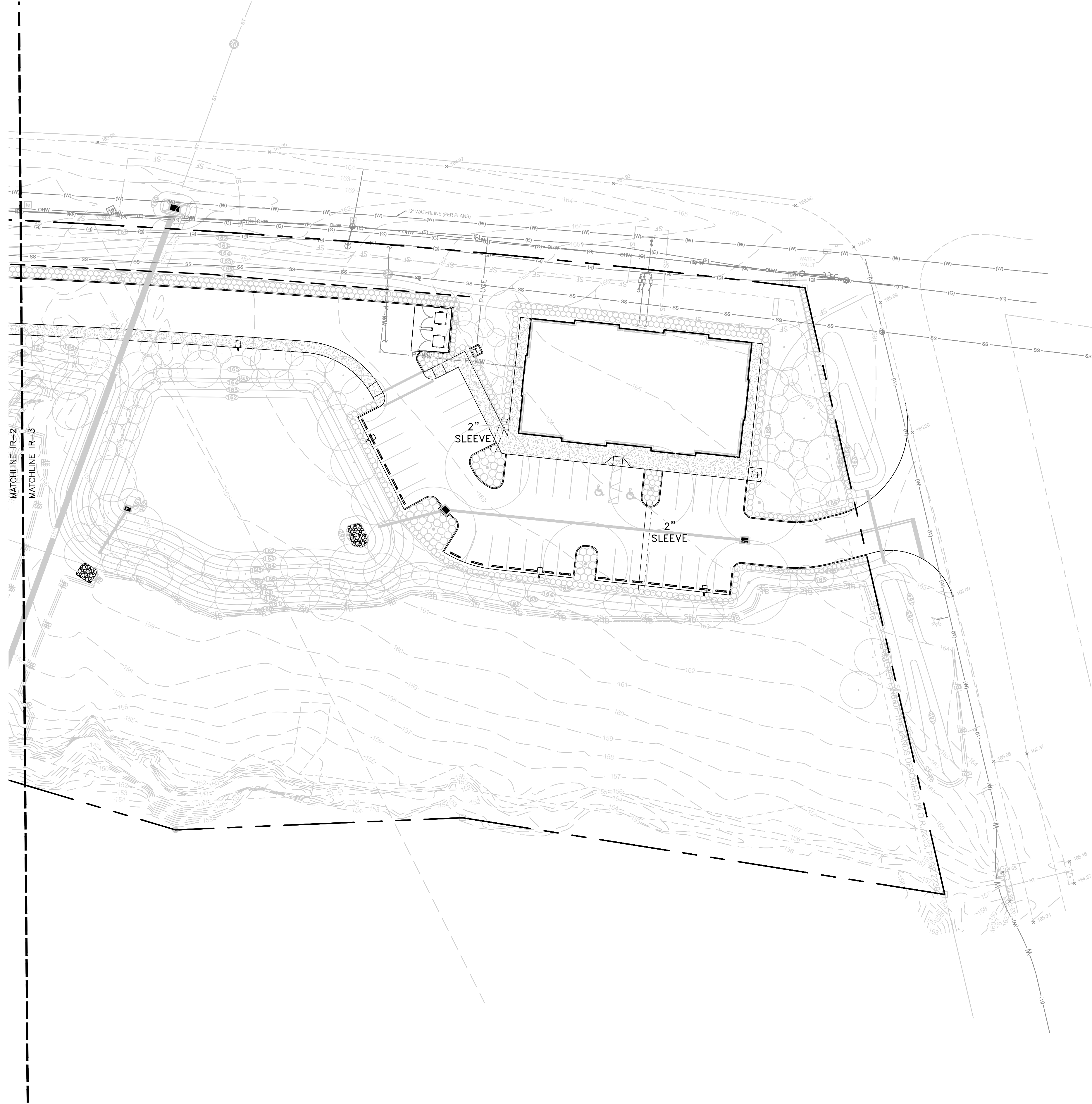
REVISIONS
08/07/19 - CITY OF ALACHUA, FOOT, SURVAD
09/07/2019 - CITY OF ALACHUA, FOOT, SURVAD
10/16/2019 - CITY OF ALACHUA, FOOT, SURVAD
11/07/2019 - CITY OF ALACHUA

CLIENT: NATURE VALLEY HARVEST, LTD
PROJECT: GOLF PLAZA
SHEET TITLE: IRRIGATION DIAGRAM
PROJECT NUMBER: 18-0431

DESIGNER: LR
CHECKER: LR
QUALITY CONTROL: CT
SHEET NO.: IR-1

A
B
C
D

\\chv\proj\18-0431\Design\02_SRF\02_current\18-0431_Design-Base - IR.dwg
Tech: hencr Plt Date: Nov 07/2019 8:12am



SHEET NO:
IR-2

REVISION:
LR
DESIGNER:
LR
QUALITY CONTROL:
CT
PROJECT NUMBER:
18-0431

CLIENT: NATURE VALLEY HARVEST, LTD
PROJECT: GOLF PLAZA
SHEET TITLE: IRRIGATION DIAGRAM

DATE: 08/27/19 - CITY OF ALACHUA, FOOT, SURMID
09/07/2019 - CITY OF ALACHUA, FOOT, SURMID
10/16/2019 - CITY OF ALACHUA, FOOT, SURMID
11/07/2019 - CITY OF ALACHUA

CONSTRUCTION/REV RELEASE

SCALE: 1"=30'

FOR SCALE
ON
ORIGINAL DRAWING
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000

CHV
Professional Consultants

11801 Research Drive
Alachua, Florida 32615
(352) 351-1976
www.chv-inc.com
est. 1988 FLORIDA
LC28000564

Test: bryong Plot Date: Aug 08,2019 4:13pm Filename: N:\2018\18-0431\Engineering\DWG\Production Files\1-1-18-0431.dwg

CONSTRUCTION NOTES:

1. SCOPE OF PROJECT - AT NO COST TO THE CITY, THE WORK SHALL INCLUDE (BUT NOT BE LIMITED TO) THE FOLLOWING COMPLETE (AND OPERATING) SYSTEMS AND AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN. CONTRACTOR SHALL FURNISH THE FOLLOWING PRODUCTS: ALL PRIMARY CABLES, ALL UTILITY SECONDARY CABLES, ALL TRANSFORMERS AND MAKE UP MATERIALS. THE CITY OF ALACHUA WILL ORDER THESE PRODUCTS, WHICH SHALL BE PAID BY THE CONTRACTOR. ONCE ON SITE, THESE PRODUCTS WILL BE INSTALLED BY THE CITY OF ALACHUA. ALL PRIMARY MAKE UP, UTILITY SECONDARY MAKE UP, CONNECTIONS AND TESTING WILL BE BACK CHARGED TO THE CONTRACTOR. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL OTHER MATERIALS, INCLUDING, BUT NOT LIMITED TO ALL CONDUIT, ENCLOSURES, TRANSFORMER PADS, SWITCHGEAR BASES, ALL MATERIALS NECESSARY FOR SITE PRIVATE LIGHTING SYSTEM AND ALL CONDUITS NEEDED FOR FUTURE SERVICE LATERALS.

1.1. THE CONTRACTOR SHALL SCHEDULE AN ELECTRICAL COORDINATION MEETING AT THE START OF THE PROJECT. REQUIRED ATTENDEES INCLUDE THE CONTRACTOR, THE ELECTRICAL SUB CONTRACTOR, THE ENGINEER OF RECORD, THE CITY OF ALACHUA PROJECT MANAGER AND CITY OF ALACHUA ELECTRICAL STAFF.

1.2. PROVIDE A COMPLETE PRIVATE STREET LIGHTING SYSTEM WITH PANELS, METER SOCKETS, TIMERS, ETC..

1.3. PROVIDE 4" CONDUITS FOR FUTURE SERVICES TO THE BUILDINGS. VERIFY LOCATION AND QUANTITY WITH OWNER.

1.4. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS FOR THIS TYPE FACILITY AND MEET CITY OF ALACHUA UTILITIES POLICIES AND PRACTICES.

1.5. ALL SPECIFICATIONS AND PLANS SHALL BE APPROVED BY THE ELECTRIC DEPARTMENT PRIOR TO BIDDING.

1.6. "PROVIDE" SHALL MEAN FURNISH, INSTALL, CONNECT, ADJUST, AND TEST EXCEPT WHERE NOTED.

2. MATERIALS AND EQUIPMENT SHALL BE NEW AND SUITABLE FOR THE PURPOSE INTENDED. CUT SHEETS SHALL BE SUBMITTED TO THE ELECTRIC DEPARTMENT PRIOR TO ORDERING FOR APPROVAL.

2.1. UNDERGROUND 15 KV 1/0 AWG AL, 19 STRAND, JACKETED PRIMARY CABLE SHALL HAVE STRAND FILLED CENTRAL CONDUCTOR, SEMI-CONDUCTING CONDUCTOR SHIELD, 175 MIL VIRGIN TREE RETARDANT CROSS-LINKED POLYETHYLENE INSULATION, BLACK CROSS-LINKED POLYETHYLENE SHIELD, FULL CONCENTRIC CU NEUTRAL, WITH INSULATING, BLACK LINEAR LOW DENSITY POLYETHYLENE JACKET EXTRUDED OVER THE NEUTRAL. APPROVED MANUFACTURERS ARE HENDRIX, PIRELLI, PRYSMIAN AND SOUTHWIRE.

2.2. UNDERGROUND SECONDARY STREET LIGHT CABLES SHALL BE COPPER WITH THWN-2 INSULATION WITH PHASES, NEUTRAL, AND GROUNDS IDENTIFIED AS PER THE NEC.

2.3. THE LOAD BREAK ELBOWS SHALL HAVE EPDM RUBBER INSULATION. VERIFY CABLE DIMENSIONS FOR APPLICABILITY. APPROVED MANUFACTURERS ARE ELASTIMOLD, COOPER POWER SYSTEMS, AND RTE.

2.4. THREE PHASE PAD MOUNTED TRANSFORMERS SHALL BE DEAD FRONT, LOOP FEED CAPABILITY, HIGH VOLTAGE 12470 GRD Y 7200 VOLTS, LOW VOLTAGE 208 GRD Y/120 VOLT, 95 KV BIL, COMPARTMENTAL TYPE, RATINGS BASED ON 65 DEGREE C WINDING RISE, HIGH GRADE, COLD REDUCED, GRAIN ORIENTED SILICON STEEL CORE, 8.3/14.4 KV CLASS BUSHING WELLS AND LOAD BREAK INSERTS, LOW VOLTAGE TERMINALS SHALL BE STUD TYPE, TANK SHALL BE SEALED AND FURNISHED COMPLETE WITH PCB FREE DIELECTRIC OIL, AND DOORS SHALL BE PAD LOCKABLE. TRANSFORMERS SHALL BE PROTECTED WITH A BAYONET FUSE. HIGH AND LOW VOLTAGE SEGMENTS SHALL BE SEPERATED WITH A RIGID STEEL PARTITION. EQUIPPED WITH 2 1/2% ABOVE AND BELOW TAP CHANGER, OIL TEMPERATURE AND LEVEL GAUGES, AND PRESSURE RELIEF DEVICE. TRANSFORMERS WILL BE MOUNTED ON A WINDOWED, PRECAST PAD SUITABLE FOR THE TRANSFORMER. APPROVED PRE-CAST PAD MANUFACTURER IS TRENWA (TEC 2001317) OR APPROVED EQUAL. APPROVED TRANSFORMER MANUFACTURERS ARE COOPER SYSTEMS, HOWARD, GENERAL ELECTRIC AND ABB.

2.5. SECONDARY CABLES SHALL BE TERMINATED WITHIN THE TRANSFORMERS ON SPADE TYPE TRANSFORMER TERMINALS WITHIN THREE PHASE TRANSFORMERS. APPROVED MANUFACTURERS UTILCO, CMC, ESP AND PREFORMED LINE PRODUCTS.

2.6. BURIED WIRE ENCLOSURE" (SBWE), SECONDARY JUNCTION BOX SHALL BE MADE OF HIGH DENSITY POLYETHYLENE AND TOP. APPROXIMATE DIMENSTIONS 10" TOP DIAMETER, 19" DEPTH. BASIS OF DESIGN PENCELL PLASTICS PE-10HDH EITH ELECTRIC ID.

2.7. SECONDARY CONNECTIONS MADE WITHIN ENCLOSURES SHALL BE DIRECT BURIAL, BOLTED TYPE. APPROVED MANUFACTURERS ARE UTILCO, CMC, AND ESP.

2.8. PVC CONDUIT SHALL BE SCHEDULE 40, HEAVY WALL, RATED FOR 90C, CABLE, UL LISTED IN 10 OR 20 FOOT LENGTHS WITH INTEGRAL BELLS. ALL 6" ELBOWS SHALL BE PVC SCHEDULE 80 WITH 48" RADIUS. VERTICAL 6" ELBOWS SHALL BE ANCHORED WITH TWO BAGS OF CEMENT. ALL OTHER ELBOWS SHALL BE PVC SCHEDULE 40 WITH LONG RADIUS SWEEPS.

2.9 PROVIDE PARKING STAND ARRESTORS TO BE INSTALLED AT EACH OPEN POINT AND ELBOW ARRESTORS AT END POINT. APPROVED MANUFACTURER IS ELASTIMOLD.

2.10. ALL SECTIONALIZING CABINETS SHALL HAVE SCHWEITZER ENGINEERING LABORATORIES (SEL) 3 PHASE FAULT INDICATORS INSTALLED ON B SIDE OF JUNCTION BAR, - SHALL BE SEL 3BCRB0200IR.

2.11. SECTIONALIZING CABINET (S.C.) SHALL BE A FIBERGLASS ENCLOSURE WITH A FIBERGLASS BASE MADE BY NORDIC FIBERGLASS CATALOG # ND552454-MG-101-X-X-215J4U OR APPROVED EQUAL.

2.12. TYPE 3 LED LUMINAIRE: LUMINAIRE SHALL BE LED, FULL CUTOFF, UNIVERSAL VOLTAGE, TYPE 3 DISTRIBUTION, BLACK FINISH, TENON MOUNTED, 56 WATT, 6715 INITIAL LUMENS, 4000K CCT, DOUBLE FUSED. APPROVED LUMINAIRE GARDCO ECOFORM SMALL AREA LIGHT, MODEL NUMBER IS ECF-S-32L-530-NW-G2-SF-3-UNV-F2-BK, PROVIDE TENON MOUNTING HARDWARE. STOCK NUMBER PTF2-ECF-S/L-1-90-(F).

2.13. LUMINAIRE SHALL BE WIRED 208V AND DOUBLE FUSED WITH THE FUSES INSTALLED IN THE POLE AT THE HANDHOLE LOCATION.

2.14. LIGHT POLES: POLE SHALL BE PRE-STRESSED CONCRETE, TYPE II, SHAFT LENGTH 20', DIRECT BURIED 5', 2 3/8" O.D. X 6" TENON, MINIMUM EPA FOR 140 MPH WIND SHALL BE 8 SQUARE FEET, HOLLOW SHAFT WIREWAY, HANDHOLES AT 36" AND 66" FROM BOTTOM. POLE SHALL BE BLACK. APPROVED MANUFACTURER IS SEMINOLE POLE, MODEL NUMBER SP2015TII OR APPROVED EQUAL.

2.15. SITE LIGHTING SHALL BE CONTROLLED BY AN ASTRONOMIC TIME CLOCK WITH 4 SPST CIRCUIT CAPABILITY. BASIS OF DESIGN IS INTERMATIC 2815CR.

GENERAL NOTES:

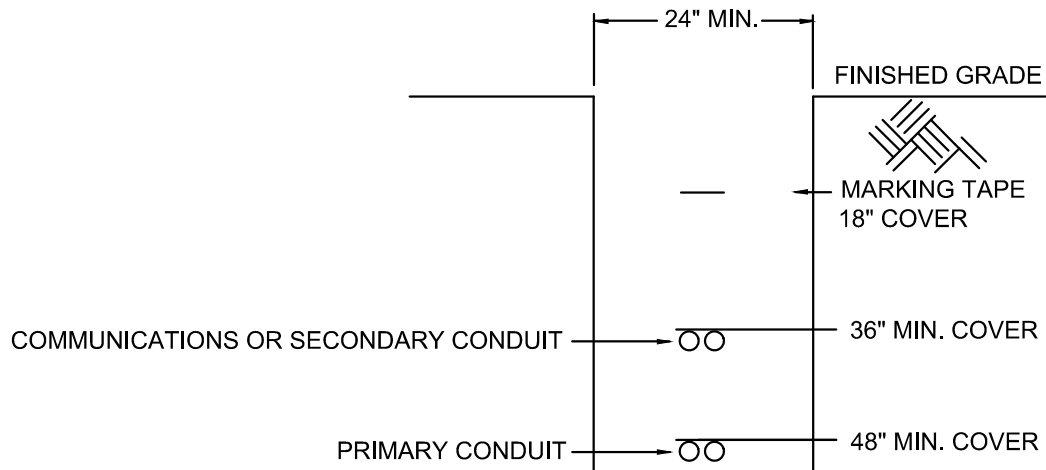
THE DRAWINGS ARE IN PART DIAGRAMMATIC AND ARE INTENDED TO CONVEY THE SCOPE OF THE WORK, INDICATE THE GENERAL LOCATION AND ARRANGEMENT OF CONDUIT AND PADS OR BASES, AND THE LIKE. IT IS NOT INTENDED TO SHOW IN MINUTE DETAIL EVERY AND ALL ACCESSORIES REQUIRED AT EACH LOCATION FOR THE EXECUTION OF THE WORK, BUT IT IS INTENDED THAT ALL ACCESSORIES REQUIRED FOR A COMPLETE SYSTEM BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

EXAMINE ALL DRAWINGS FOR COORDINATION AND ALLOCATION OF SPACE AND AVOID INTERFERENCE WITH SURROUNDS. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS PRACTICAL IN PERFORMING THE WORK. DISCREPANCIES BETWEEN THE ELECTRICAL CONDUIT SYSTEM AND WORK OF OTHER TRADES SHALL BE COORDINATED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER AND AS REQUIRED BY FIELD CONDITIONS.

DISCREPANCIES DISCOVERED DURING THE BID PROCESS SHALL BE REFERRED TO THE ENGINEER PRIOR TO SUBMITTING A BID. THE ENGINEER WILL ISSUE INSTRUCTIONS BY ADDENDUM WHEN NECESSARY. INTERPRETATION OF THE DRAWINGS WILL BE BY THE ENGINEER.

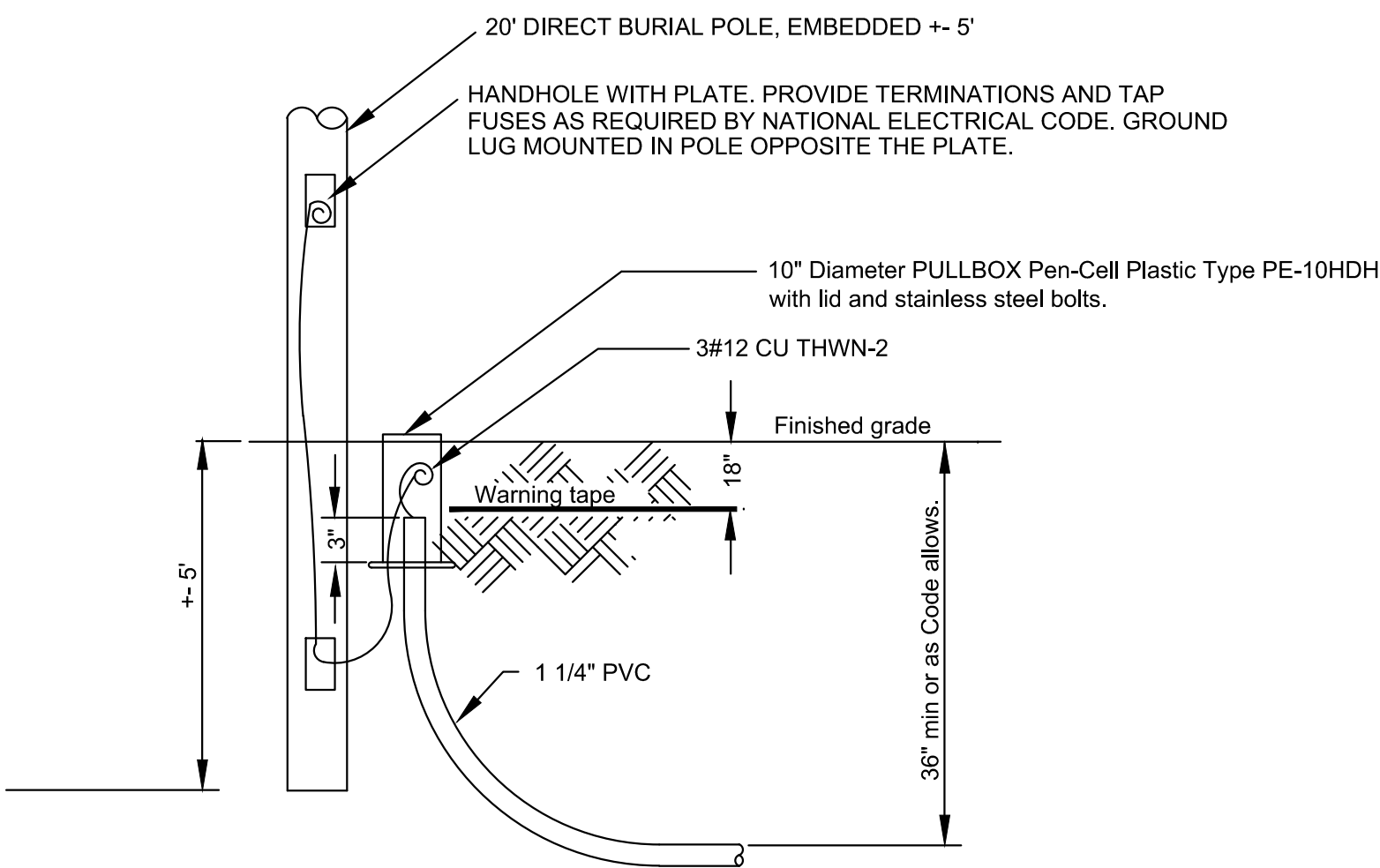
CHANGES FROM THE DRAWINGS THAT ARE NECESSARY TO MAKE WORK CONFORM TO FIELD CONDITIONS, TO FIT WORK OF OTHER TRADES, OR TO RULES OF BODIES HAVING JURISDICTION, WILL BE MADE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. IN CASE OF DISPUTE, THE ENGINEER WILL RENDER A DECISION ON HOW TO PRECEED.

WARNING TAPE SHALL BE RED WITH CONTINUOUS BLACK MARKINGS
"CAUTION CAUTION - CITY OF ALACHUA - ELECTRIC LINE BURIED BELOW
SHALL BE ALLENSYSTEM "MARKLINE" OR EQUAL REEFINDUSTRIES OR THORENTERPRISES.



TYPICAL CONDUIT TRENCH DETAIL

NOT TO SCALE



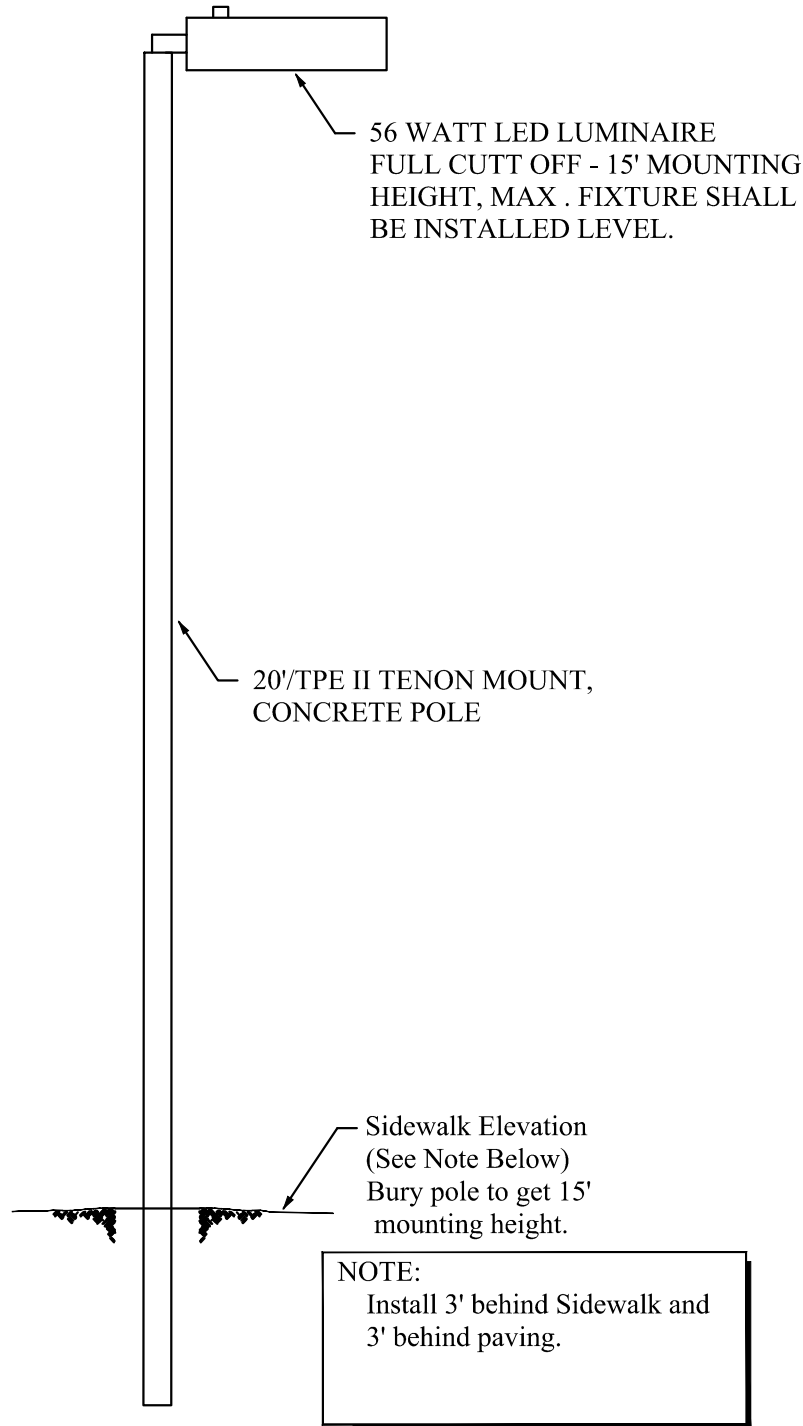
NOTE:
CONTRACTOR SHALL FURNISH AND INSTALL ALL POLE MOUNTED LIGHT FIXTURES, POLES, AND 10" DIAM. SECONDARY ENCLOSURES AS SHOWN ON THE DRAWINGS.

STREETLIGHT DETAIL (TYP.)

NOT TO SCALE

ELECTRICAL UTILITIES LEGEND

	NEW TRANSFORMER ON CONCRETE PAD, 75 KVA THREE PHASE, 120/208 VOLT FOR BUILDING SERVICES AND SIL FEED.
	NEW 3-1/0 AL PRIMARY CABLE IN 4" PVC AT 48" MIN. COVER
	NEW SECONDARY CONDUCTORS AT 36" MIN. CONDUCTOR SIZE AND QUANTITY AS MARKED. FOR PRIVATE LIGHTING SYSTEM REFER TO PANEL SCHEDULES FOR QUANTITY AND SIZE OF CONDUCTORS. CONDUIT FOR 4/0 IS 2 1/2", #2 IS 2", #8 IS 1 1/4", AND #10 IS 1 1/4" PVC.
	EXISTING 4" PRIMARY CONDUIT AND 3-4/0 PRIMARY. VERIFY LOCATION FOR S.C.
	NEW PRIMARY SECTIONALIZING CABINET ON FIBERGLASS BASE - FOR 1/0 PRIMARY TAPS - WILL BE SOURCE FOR COMMERCIAL LOT TRANSFORMERS.
	NEW 56 WATT LED, FULL CUTOFF LIGHT ON 20' CONCRETE POLE, WHICH IS DIRECT BURIED WITH 15' MOUNTING HEIGHT. EACH SHALL HAVE 10" ROUND BURIED WIRE ENCLOSURE. LIGHT HAS A TYPE 3 DISTRIBUTION.
	P2 INDICATES WHAT PANEL THE LIGHT IS SOURCED FROM. 3.5 INDICATES WHAT CIRCUITS ARE USED.



(PROVIDE)
56 WATT LED LUMINAIRE ON 20' POLE

NOT TO SCALE

WILLIAM T. STORMANT PE
ELECTRICAL ENGINEER
5304 NW 173 STREET
ALACHUA, FLORIDA 32615
STORMANTWT@COX.NET
(352) 665-1426

SCALE
VERIFY SCALE
BASED ON THE
ORIGINAL DRAWING
0 INCHES = 1 FOOT
1" = 10 FEET
THIS SHEET, ADJUST
SCALES ACCORDINGLY.

CONSTRUCTION/REV. REVISIONS

DATE/TITLE: 06/27/19 CITY OF ALACHUA, SKIMMID, & FOOT

CLIENT: NATURAL VALLEY HARVEST LTD
PROJECT: THE GOLF PLAZA
SHEET TITLE: ELECTRIC DETAILS

DESIGNED BY: E. CULLESPIE
DRAWN BY: W. STORMANT
QUALITY CONTROL: W. STORMANT
PROJECT NUMBER: 18-0431

WILLIAM T. STORMANT

FL PE No. 44156
SHEET NO:

E1

E2