CONSTRUCTION PLANS
FOR

WATERMARK PH. 1 & MASTER GRADING PLANS

SECTIONS 1 & 2 TOWNSHIP 21S RANGE 25E
SECTION 35 TOWNSHIP 20S RANGE 25E

TOWN OF HOWEY IN THE HILLS
LAKE COUNTY, FLORIDA
JULY 2025

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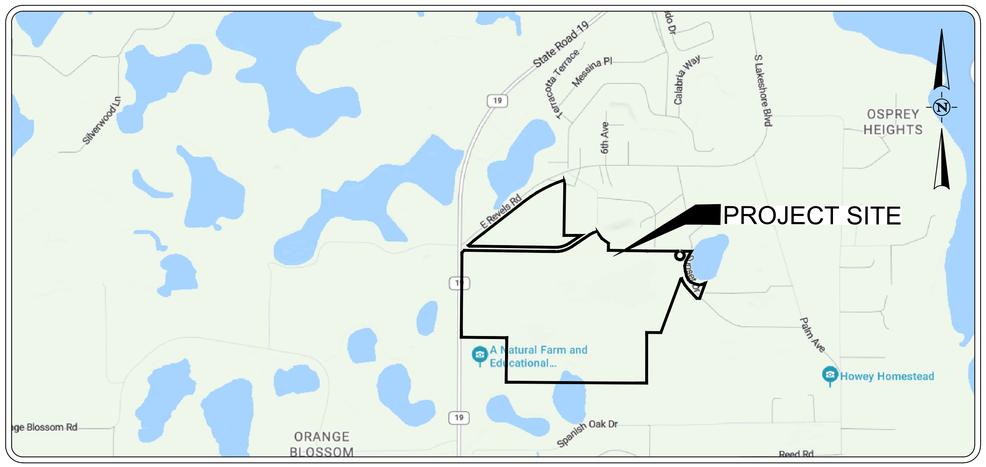
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LEGAL DESCRIPTION:

A PORTION OF LANDS LYING IN SECTIONS 1 & 2, TOWNSHIP 21 SOUTH, RANGE 25 EAST, AND SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
PART "A"
BEGIN AT NORTHWEST CORNER OF SECTION SAID SECTION 1, THENCE ALONG THE NORTH LINE OF THE NORTHWEST 1/4 OF SAID SECTION 1, S89°27'13"E, A DISTANCE OF 453.37 FEET TO A POINT ON A NON-TANGENT CURVE CONCAVE NORTHERLY HAVING A RADIUS OF 60.00 FEET, A CENTRAL ANGLE OF 343°29'58", A CHORD BEARING OF S89°27'13"E AND A CHORD DISTANCE OF 17.22 FEET; THENCE DEPARTING SAID NORTH LINE, RUN EASTERLY ALONG THE ARC OF SAID CURVE, A DISTANCE OF 359.71 FEET TO THE END OF SAID CURVE AND SAID NORTH LINE; THENCE S89°27'13"E, A DISTANCE OF 149.65 FEET TO THE APPROXIMATE EDGE OF WATER OF LAKE BERTHA; THENCE ALONG SAID EDGE OF WATER THE FOLLOWING 12 (TWELVE) COURSES AND DISTANCES, S28°22'26"W, A DISTANCE OF 161.76 FEET; THENCE S14°38'22"W, A DISTANCE OF 64.46 FEET; THENCE S07°13'51"E, A DISTANCE OF 74.26 FEET; THENCE S14°52'31"E, A DISTANCE OF 77.42 FEET; THENCE S26°19'02"E, A DISTANCE OF 52.03 FEET; THENCE S45°24'06"E, A DISTANCE OF 44.29 FEET; THENCE S67°44'07"E, A DISTANCE OF 61.25 FEET; THENCE S73°12'33"E, A DISTANCE OF 61.26 FEET; THENCE N78°24'47"E, A DISTANCE OF 51.82 FEET; THENCE N73°11'21"E, A DISTANCE OF 21.85 FEET; THENCE N48°09'46"E, A DISTANCE OF 14.01 FEET; THENCE N74°03'13"E, A DISTANCE OF 9.02 FEET; THENCE DEPARTING SAID EDGE OF WATER, S20°20'22"W, A DISTANCE OF 229.80 FEET TO THE SOUTHERLY EXTENSION OF LOT 4, 1ST SUBDIVSION OF HOWEY LAKE COUNTY-FLORIDA, AS RECORDED IN PLAT BOOK 5, PAGE 32, OF THE PUBLIC RECORDS OF LAKE COUNTY FLORIDA; THENCE ALONG SAID SOUTHERLY EXTENSION N89°27'06"W, A DISTANCE OF 40.90 FEET TO THE EAST LINE OF THE WESTERLY HALF OF VACATED SUNSET DRIVE, BEING A 60.00 FEET WIDE RIGHT OF WAY, PER AFOREMENTIONED PLAT; THENCE ALONG SAID EAST LINE THE FOLLOWING TWO (2) COURSES AND DISTANCES, N42°17'20"W, A DISTANCE OF 195.20 FEET TO A POINT ON A NON-TANGENT CURVE CONCAVE NORTHEASTERLY HAVING A RADIUS OF 381.97 FEET, A CENTRAL ANGLE OF 25°55'59", A CHORD BEARING OF N29°19'13"W AND A CHORD DISTANCE OF 171.42 FEET; THENCE RUN NORTHWESTERLY ALONG THE ARC OF SAID CURVE, A DISTANCE OF 172.89 FEET TO THE NORTHERLY EXTENSION OF LOT 2, OF SAID PLAT; THENCE DEPARTING SAID EAST LINE, RUN ALONG SAID NORTHERLY EXTENSION AND WEST LINE OF SAID LOT 2, S20°20'22"W, A DISTANCE OF 822.93 FEET TO THE SOUTH LINE OF LOT 1 OF SAID PLAT; THENCE DEPARTING SAID NORTHERLY EXTENSION, RUN ALONG SAID SOUTH LINE N89°20'05"W, A DISTANCE OF 197.81 FEET TO THE EAST LINE OF THE NORTHWEST 1/4 OF SECTION 2, TOWNSHIP 21 SOUTH, RANGE 25 EAST; THENCE ALONG SAID EAST LINE S00°08'47"W, A DISTANCE OF 708.36 FEET TO THE SOUTH LINE OF PARCEL 2 IN THE LANDS DESCRIBED IN OFFICIAL RECORDS BOOK 6350, PAGE 2174 OF THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA; THENCE ALONG SAID SOUTH LINE N89°35'48"W, A DISTANCE OF 1962.30 FEET TO THE WEST LINE OF SAID PARCEL 2; THENCE ALONG SAID WEST LINE N00°47'54"E, A DISTANCE OF 621.45 FEET TO THE SOUTH LINE OF PARCEL 1 IN THE LANDS DESCRIBED IN OFFICIAL RECORDS BOOK 6350, PAGE 2174 OF THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA; THENCE ALONG SAID SOUTH LINE N89°29'04"W, A DISTANCE OF 636.50 FEET TO THE EAST RIGHT OF WAY LINE OF SOUTH PALM AVENUE, BEING A 100.00 FOOT WIDE PUBLIC RIGHT OF WAY, PER FLORIDA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP PROJECT NUMBER 1093; THENCE ALONG SAID EAST RIGHT OF WAY LINE N00°33'28"E, A DISTANCE OF 1183.80 FEET; THENCE DEPARTING SAID EAST RIGHT OF WAY LINE, N42°55'13"E, A DISTANCE OF 42.86 FEET TO THE SOUTH LINE OF A 60.00 FEET WIDE UNIMPROVED PLATTED RIGHT OF WAY, PER AFOREMENTIONED PLAT; THENCE ALONG SAID SOUTH RIGHT OF WAY LINE S89°08'55"E, A DISTANCE OF 1268.87 FEET TO A POINT OF CURVATURE OF A CURVE CONCAVE NORTHERLY HAVING A RADIUS OF 411.97 FEET, A CENTRAL ANGLE OF 34°40'00", A CHORD BEARING OF N73°31'05"E AND A CHORD DISTANCE OF 245.48 FEET; THENCE RUN EASTERLY ALONG THE ARC OF SAID CURVE, A DISTANCE OF 249.26 FEET TO THE END OF SAID CURVE; THENCE N56°11'05"E, A DISTANCE OF 301.36 FEET TO A POINT OF CURVATURE OF A CURVE CONCAVE SOUTHEASTERLY HAVING A RADIUS OF 351.97 FEET, A CENTRAL ANGLE OF 17°46'03", A CHORD BEARING OF N65°04'06"E AND A CHORD DISTANCE OF 108.71 FEET; THENCE RUN NORTHEASTERLY ALONG THE ARC OF SAID CURVE, A DISTANCE OF 109.15 FEET TO THE END OF SAID CURVE; THENCE S35°30'40"E, A DISTANCE OF 122.58 FEET; THENCE S54°30'56"E, A DISTANCE OF 113.57 FEET; THENCE S00°35'13"W, A DISTANCE OF 98.58 FEET TO THE NORTH LINE OF THE NORTHEAST 1/4 OF SECTION 2, TOWNSHIP 21 SOUTH, RANGE 25 EAST; THENCE ALONG SAID NORTH LINE S89°08'55"E, A DISTANCE OF 538.36 FEET TO THE POINT OF BEGINNING.
CONTAINING 4,956,856 SQUARE FEET OR 113.794 ACRES MORE OR LESS.
PART "B"
COMMENCE AT THE NORTHEAST CORNER OF SAID SECTION 2; THENCE RUN N89°08'55"W, A DISTANCE OF 1285.02 FEET; THENCE DEPARTING SAID NORTH LINE, N00°51'05"E, A DISTANCE OF 30.00 FEET TO THE NORTH LINE OF AN UNIMPROVED 60.00 FEET WIDE PLATTED RIGHT OF WAY PER AFOREMENTIONED PLAT ALSO BEING THE POINT OF BEGINNING; THENCE ALONG SAID NORTH RIGHT OF WAY LINE, N89°09'12"W, A DISTANCE OF 1221.80 FEET TO THE SOUTH RIGHT OF WAY LINE OF EAST REVELS ROAD TO A POINT ON A NON-TANGENT CURVE CONCAVE SOUTHEASTERLY HAVING A RADIUS OF 2235.35 FEET, A CENTRAL ANGLE OF 06°37'07", A CHORD BEARING OF N50°28'25"E AND A CHORD DISTANCE OF 258.07 FEET; THENCE RUN ALONG SAID SOUTH RIGHT OF WAY LINE THE FOLLOWING THREE (3) COURSES AND DISTANCES, RUN NORTHEASTERLY ALONG THE ARC OF SAID CURVE, A DISTANCE OF 258.22 FEET TO THE END OF SAID CURVE; THENCE N52°10'51"E, A DISTANCE OF 756.36 FEET TO A POINT ON A NON-TANGENT CURVE CONCAVE SOUTHEASTERLY HAVING A RADIUS OF 1850.43 FEET, A CENTRAL ANGLE OF 19°46'08", A CHORD BEARING OF N62°00'44"E AND A CHORD DISTANCE OF 635.30 FEET; THENCE RUN NORTHEASTERLY ALONG THE ARC OF SAID CURVE, A DISTANCE OF 638.46 FEET TO THE EAST LINE OF LOT 12 OF AFOREMENTIONED PLAT AND THE END OF SAID CURVE; THENCE ALONG SAID EAST LINE, S00°45'05"W, A DISTANCE OF 777.68 FEET; THENCE N89°52'33"E, A DISTANCE OF 236.06 FEET TO THE NORTH LINE OF SAID 60.00 FEET WIDE UNIMPROVED PLATTED RIGHT OF WAY, THENCE ALONG SAID NORTH RIGHT OF WAY LINE THE FOLLOWING TWO (2) COURSES AND DISTANCES, S56°11'05"W, A DISTANCE OF 193.37 FEET TO A POINT OF CURVATURE OF A CURVE CONCAVE NORTHERLY HAVING A RADIUS OF 351.97 FEET, A CENTRAL ANGLE OF 34°40'00", A CHORD BEARING OF S73°31'05"W AND A CHORD DISTANCE OF 209.73 FEET; THENCE RUN WESTERLY ALONG THE ARC OF SAID CURVE, A DISTANCE OF 212.96 FEET TO THE END OF SAID CURVE TO THE POINT OF BEGINNING.
CONTAINING 729,514 SQUARE FEET OR 16.747 ACRES MORE OR LESS.



VICINITY MAP
1" = 1,000'

PREPARED BY:

902 NORTH SINCLAIR AVE.
TAVARES, FL 34788
TEL. 352-343-8481
www.halff.com

SURVEYED DATE:
MARCH 31, 2025

BENCHMARK(S):
#1 DEWBERRY TRAV PT LB8011 (SET IRON ROD AND CAP)
N: 158216.98'
E: 406618.29'
ELEVATION: 127.26'

#2 DEWBERRY TRAV PT LB8011 (SET IRON ROD AND CAP)
N: 1585285.78'
E: 407988.28'
ELEVATION: 101.04'

NOTES
1. INTENDED PLAN SIZE IS 24" x 36"
2. VERTICAL DATUM IS NAVD 88

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
C-100	COVER SHEET
C-101	AERIAL PLAN
C-102	MASTER PLAN
C-103	EXISTING CONDITIONS & EROSION CONTROL PLAN
C-200 - C201	PRELIMINARY PLAT
C-300	MASTER UTILITY PLAN
C-400 - C-405	MASTER GRADING & DRAINAGE PLAN
C-500 - C508	PLAN & PROFILES
C-509	INTERSECTION GRADING PLAN
C-600 - C601	SIGNAGE & STRIPING PLAN
C-700	OFFSITE WM & FM DESIGN
C-800 - C-801	PAVING & DRAINAGE DETAILS
C-900 - C-902	WATER DETAILS
C-1000 - C-1001	SANITARY SEWER DETAILS
C-1100 - C-1102	LIFT STATION PLANS

811 Know what's below. Call before you dig.

THE INFORMATION SHOWN ON THESE DRAWINGS INDICATING SIZE, TYPE AND LOCATION OF UNDERGROUND, SURFACE, AND AERIAL UTILITIES IS NOT GUARANTEED TO BE EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT THE "SUNSHINE 811" SYSTEM AT 1-800-432-4770 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION FOR EXISTING UTILITY LOCATIONS. THE CONTRACTOR SHALL ALSO BE FULLY RESPONSIBLE FOR FIELD VERIFYING LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES AFFECTED BY CONSTRUCTION FOR THIS PROJECT IN ORDER TO AVOID DAMAGING THOSE UTILITIES, AND SHALL IMMEDIATELY ARRANGE FOR REPAIR AND RESTORATION OF CONTRACTOR-DAMAGED UTILITIES TO THE UTILITY COMPANY'S APPROVAL AT THE EXPENSE OF THE CONTRACTOR.

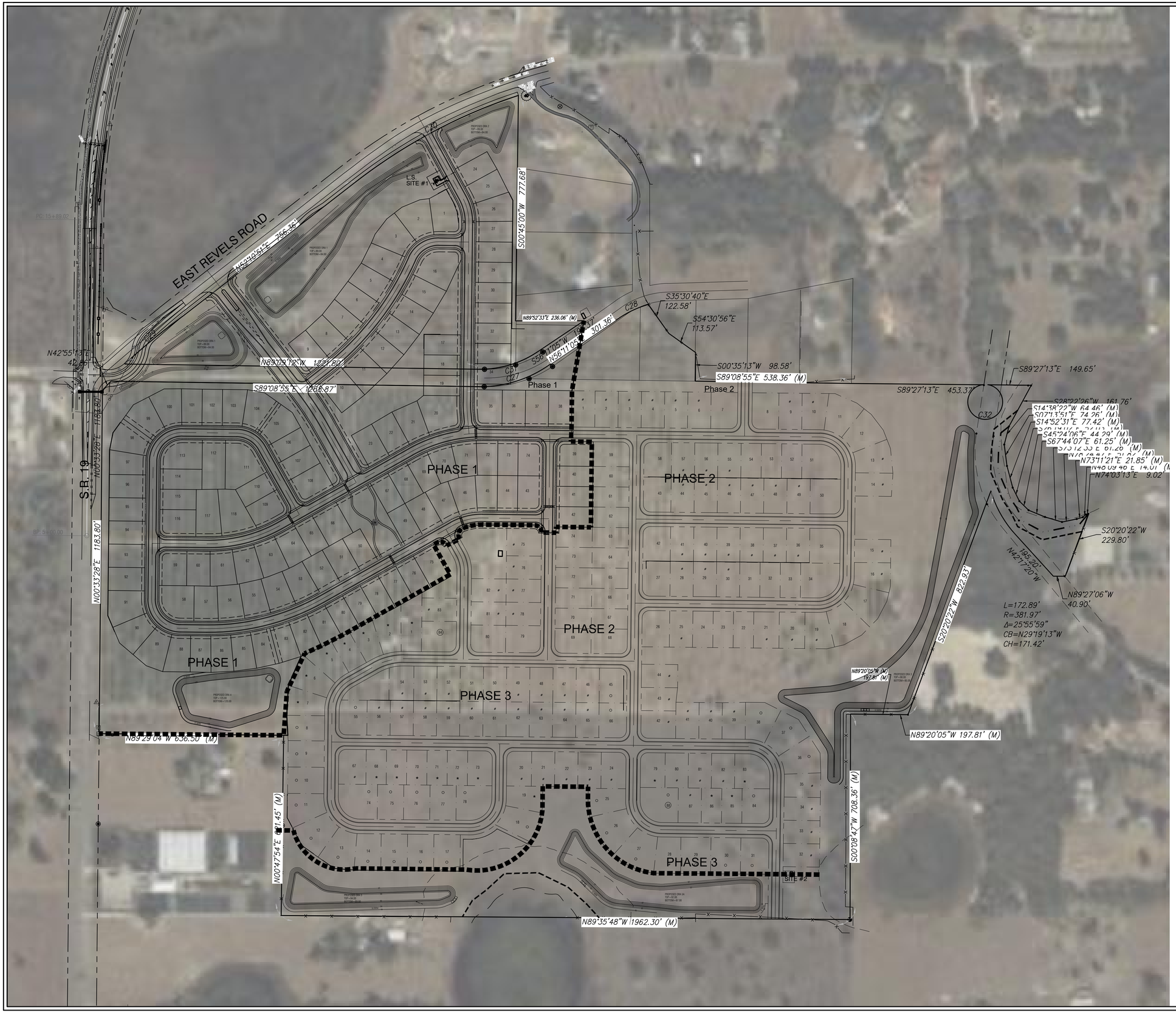
BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER
9/05/25

ORIGINAL DOCUMENT SIZE 24"x36"
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(INCHES)

AVO: 45548.003 DATE: JULY 2025

C-100

FILE NAME: A:\45000s\45548\003\LDC\ADD\C100 WATERMARK COVER SHEET.dwg DATE: September 22, 2025, TIME: 10:05 AM, USER: ah5122



WATERMARK PH.1 & MASTER GRADING PLANS

TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC

210 Hangar Rd.
Kissimmee, FL 34741

halff
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ANAHEIM, CA 92806
TEL: (352) 343-8481
CERTIFICATE OF AUTHORIZATION NUMBER: 33360

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.

9/5/25
DATE

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FIRM OR BUSINESS NO. — STATE

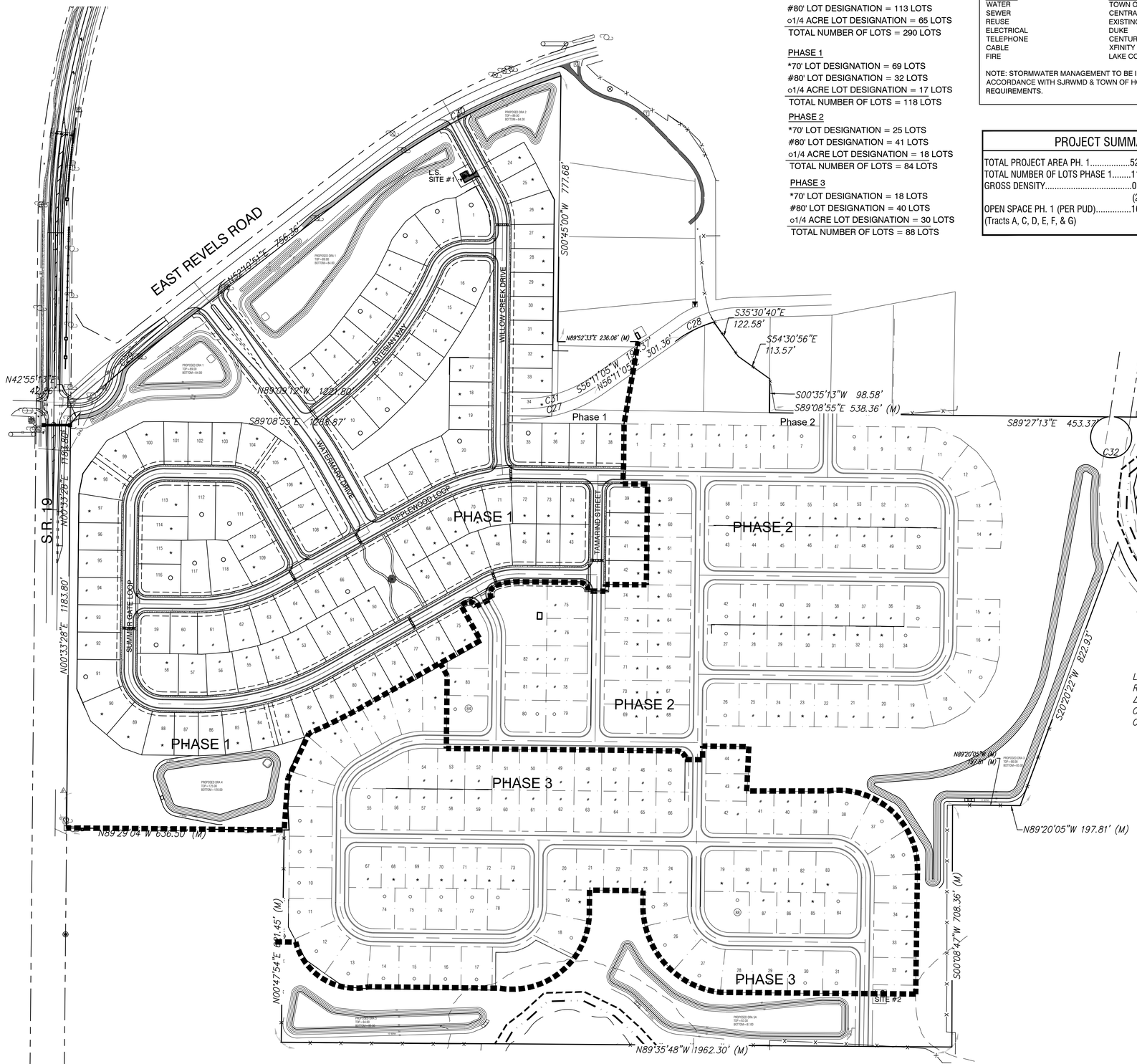
PROJECT NO.:	045548.003
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 150'

SHEET TITLE:

AERIAL PLAN

C-101

FILE NAME: A:\45000s\45548\003\LDI\CAD\DWG\C101 - C600 Watermark Construction Plans.dwg DATE: September 22, 2025, TIME: 8:19 AM, USER: ah5122



LEGEND
*70' LOT DESIGNATION = 112 LOTS
#80' LOT DESIGNATION = 113 LOTS
○1/4 ACRE LOT DESIGNATION = 65 LOTS
TOTAL NUMBER OF LOTS = 290 LOTS

PHASE 1
*70' LOT DESIGNATION = 69 LOTS
#80' LOT DESIGNATION = 32 LOTS
○1/4 ACRE LOT DESIGNATION = 17 LOTS
TOTAL NUMBER OF LOTS = 118 LOTS

PHASE 2
*70' LOT DESIGNATION = 25 LOTS
#80' LOT DESIGNATION = 41 LOTS
○1/4 ACRE LOT DESIGNATION = 18 LOTS
TOTAL NUMBER OF LOTS = 84 LOTS

PHASE 3
*70' LOT DESIGNATION = 18 LOTS
#80' LOT DESIGNATION = 40 LOTS
○1/4 ACRE LOT DESIGNATION = 30 LOTS
TOTAL NUMBER OF LOTS = 88 LOTS

UTILITIES	PROVIDER
WATER	TOWN OF HOWEY
SEWER	CENTRAL LAKE UTILITIES
REUSE	EXISTING WELL
ELECTRICAL	DUKE
TELEPHONE	CENTURY LINK
CABLE	XFINITY
FIRE	LAKE COUNTY

NOTE: STORMWATER MANAGEMENT TO BE IN ACCORDANCE WITH SJRWMD & TOWN OF HOWEY REQUIREMENTS.

PROJECT SUMMARY PHASE 1

TOTAL PROJECT AREA PH. 1	52.84 ± ACRES
TOTAL NUMBER OF LOTS PHASE 1	118
GROSS DENSITY	0.91 Units/Acre (TOTAL AC. 129.39) (2.23 Units/Acre Ph. 1 (52.84 Acres))
OPEN SPACE PH. 1 (PER PUD) (Tracts A, C, D, E, F, & G)	16.48 AC (31.2% PH. 1 (52.84 Acres))

0 70' 150' 150'
SCALE IN FEET

LEGEND:
- MASTER PLAN PHASE LINE
- 100 YEAR FLOOD LINE
- PROPOSED CONCRETE SIDEWALK

PROJECT SUMMARY

EXISTING ZONING	PUD
FUTURE LAND USE	MDR- MEDIUM DENSITY RESIDENTIAL
TOTAL PROJECT AREA	130.54 ± ACRES
TOTAL WETLAND AREA	1.16 ± ACRES
TOTAL UPLAND AREA	129.38 ± ACRES
TOTAL IMPERVIOUS AREA	43.18 ± ACRES (33.37%)
TOTAL PERVIOUS AREA	86.20 ± ACRES (66.63%)
TOTAL NUMBER OF LOTS	290
GROSS DENSITY	2.23 Units/Acre

NOTES:
1. ALL R.O.W. RADIUS ARE 25 FT., UNLESS OTHERWISE NOTED.
2. ALL R.O.W. WIDTHS ARE 50 FT., UNLESS OTHERWISE NOTED.
3. ALL E.O.P. CORNER RADIUS ARE 35 FT., UNLESS OTHERWISE NOTED.
4. ALL CUL-DE-SAC R.O.W. RADIUS ARE 70 FT., UNLESS OTHERWISE NOTED.
5. STORM-WATER MANAGEMENT SYSTEM IS TO BE OWNED AND MAINTAINED BY HOMEOWNER'S ASSOCIATION.
6. ALL STREETS AND RIGHT OF WAYS ARE TO BE DEDICATED TO THE TOWN OF HOWEY AND SHALL BE SHOWN ON THE FINAL PLATS.
7. ALL IMPROVEMENTS SHALL COMPLY WITH THE TOWN OF HOWEY LAND DEVELOPMENT CODE AND SPECIFICATIONS.
8. SIDEWALKS WITHIN COMMON AREA TO BE INSTALLED AT TIME OF SITE CONSTRUCTION.
9. ALL GRADING AND POND DESIGN NO GREATER THAN 4:1 SLOPE.
10. ANY FIELD CHANGES OR DEVIATIONS FROM DESIGN SHALL BE SUBMITTED TO THE TOWN OF HOWEY FOR REVIEW AND APPROVAL BY THE ENGINEER OF RECORD AND THE OWNER/DEVELOPER.
11. HARDSCAPE COMPONENTS THAT SERVE PARTICULAR FUNCTIONS ARE REQUIRED. EACH SITE SHALL INCORPORATE FUNCTIONAL ELEMENTS INCLUDING BUT NOT LIMITED TO THE FOLLOWING: a.)DECORATIVE BENCHES FOR SEATING AREAS. b)ARBORS OR TRELLISES FOR ADDITIONAL SHADE IN PEDESTRIAN OR ENTRANCE AREAS. c)DECORATIVE TRASH RECEPTACLES. d)DECORATIVE LIGHTING FIXTURES. e)DECORATIVE PAVERS TO OUTLINE PEDESTRIAN WALKWAYS. FOR EACH PHASE, HARDSCAPE PLANS SHALL BE SUBMITTED TO THE TOWN OF HOWEY PRIOR TO CERTIFICATE OF COMPLETION OF SITE WORK FOR REVIEW AND APPROVAL. HARDSCAPE COMPONENTS SHALL BE INSTALLED PRIOR TO C.O. OF FIRST HOME WITHIN EACH PHASE OF CONSTRUCTION.

APPARENT ERRORS, DISCREPANCIES, OR OMISSIONS SHALL BE BROUGHT TO THE ENGINEER OF RECORD'S ATTENTION WITHIN A REASONABLE TIME FRAME, LESS THAN 48 HOURS AFTER DISCOVERED. ADVANTAGE WILL NOT BE TAKEN OF APPARENT ERROR OR OMISSION IN THE DRAWINGS OR SPECIFICATIONS, AND THE ENGINEER SHALL BE PERMITTED TO MAKE CORRECTIONS AND INTERPRETATIONS AS MAY BE DEEMED NECESSARY FOR FULFILLMENT OF THE INTENT OF THE DESIGN.

CONTRACTOR SHALL PROVIDE AND PERFORM A 2 WEEK LOOK AHEAD INTO THE UTILITY WORK TO BE PERFORMED. THIS SHALL INCLUDE THE VERIFICATION OF EXISTING UTILITIES, BOTH HORIZONTAL AND VERTICAL POSITIONING, MATCHES WHAT IS SHOWN IN THE CONTRACT DOCUMENTS AND ANY NEW UTILITIES THAT ARE DISCOVERED DURING THIS LOOK AHEAD. INFORMATION OF CONFLICTS OR DISCREPANCIES WITH THE CONTRACT DOCUMENTS SHALL BE PROVIDED TO THE ENGINEER OF RECORD NO LESS THAN 1 WEEK PRIOR TO COMMENCEMENT OF WORK WITHIN SAID CONFLICT AREA. ENGINEER OF RECORD SHALL BE ALLOWED AMPLE TIME TO ADDRESS CONFLICTS/ISSUES AND PROVIDE ADJUSTMENTS TO THE DESIGN TO ADDRESS CONCERNS WITHOUT CONTRACTOR REQUESTING TIME DELAYS.

WATERMARK PH.1 & MASTER GRADING PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

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WWW.HALFF.COM
CERTIFICATE OF AUTHORIZATION NUMBER: 33360

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.
9/5/25
DATE

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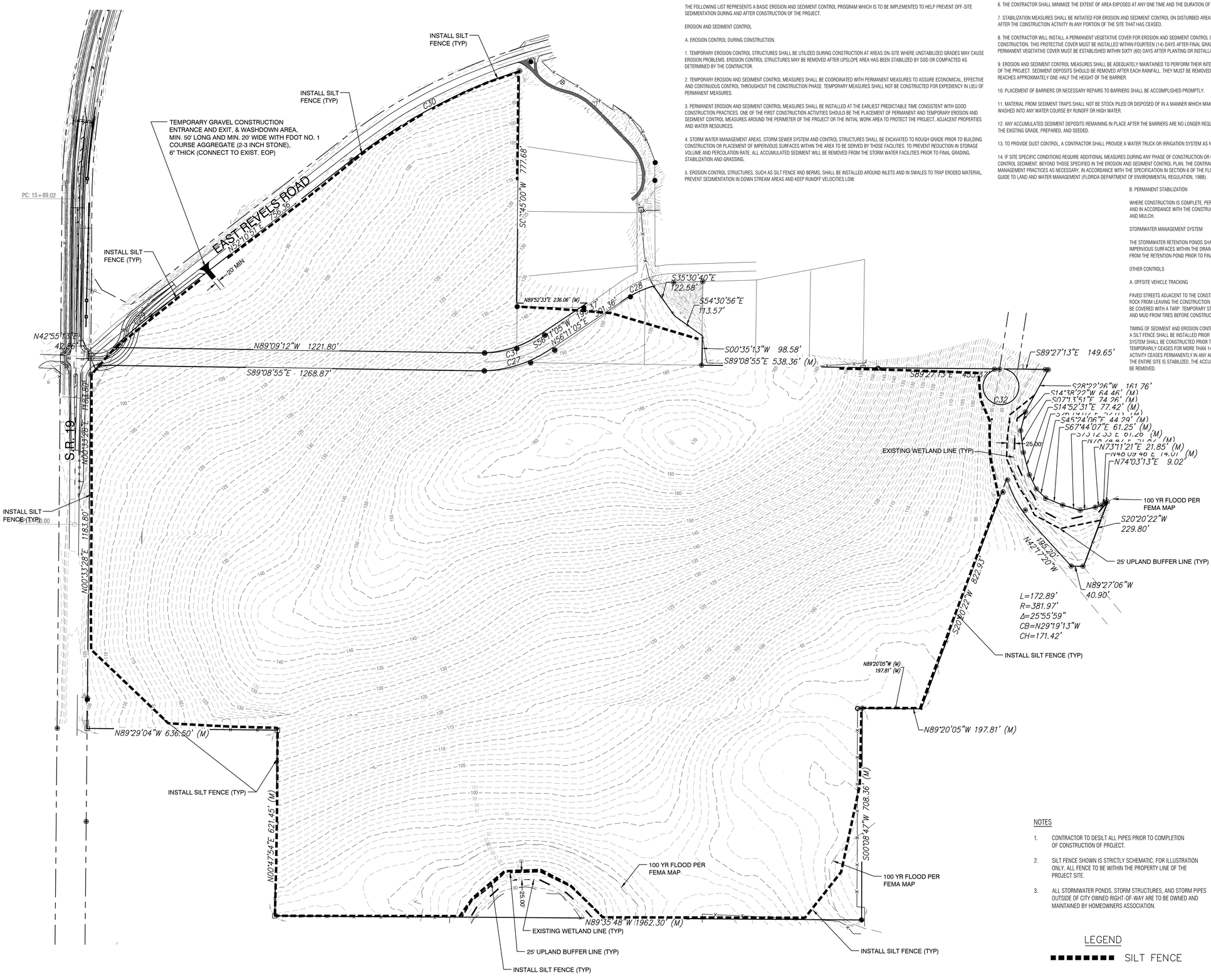
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 150'

SHEET TITLE:
MASTER PLAN

C-102

FILE NAME: A:\45000s\45548\003\LDCADD\C101 - C600 Watermark Construction Plans.dwg DATE: October 28, 2025, TIME: 11:07 AM, USER: ah5122



EROSION AND SEDIMENT CONTROL NOTES:

THE FOLLOWING LIST REPRESENTS A BASIC EROSION AND SEDIMENT CONTROL PROGRAM WHICH IS TO BE IMPLEMENTED TO HELP PREVENT OFF-SITE SEDIMENTATION DURING AND AFTER CONSTRUCTION OF THE PROJECT.

EROSION AND SEDIMENT CONTROL

A. EROSION CONTROL DURING CONSTRUCTION.

1. TEMPORARY EROSION CONTROL STRUCTURES SHALL BE UTILIZED DURING CONSTRUCTION AT AREAS ON-SITE WHERE UNSTABILIZED GRADES MAY CAUSE EROSION PROBLEMS. EROSION CONTROL STRUCTURES MAY BE REMOVED AFTER UPSLOPE AREA HAS BEEN STABILIZED BY SOD OR COMPACTED AS DETERMINED BY THE CONTRACTOR.

2. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS CONTROL THROUGHOUT THE CONSTRUCTION PHASE. TEMPORARY MEASURES SHALL NOT BE CONSTRUCTED FOR EXPEDIENCY IN LIEU OF PERMANENT MEASURES.

3. PERMANENT EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AT THE EARLIEST PREDICTABLE TIME CONSISTENT WITH GOOD CONSTRUCTION PRACTICES. ONE OF THE FIRST CONSTRUCTION ACTIVITIES SHOULD BE THE PLACEMENT OF PERMANENT AND TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AROUND THE PERIMETER OF THE PROJECT OR THE INITIAL WORK AREA TO PROTECT THE PROJECT, ADJACENT PROPERTIES AND WATER RESOURCES.

4. STORM WATER MANAGEMENT AREAS, STORM SEWER SYSTEM AND CONTROL STRUCTURES SHALL BE EXCAVATED TO ROUGH GRADE PRIOR TO BUILDING CONSTRUCTION OR PLACEMENT OF IMPERVIOUS SURFACES WITHIN THE AREA TO BE SERVED BY THOSE FACILITIES. TO PREVENT REDUCTION IN STORAGE VOLUME AND PERCOLATION RATE. ALL ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE STORM WATER FACILITIES PRIOR TO FINAL GRADING, STABILIZATION AND GRASSING.

5. EROSION CONTROL STRUCTURES, SUCH AS SILT FENCE AND BERMS, SHALL BE INSTALLED AROUND INLETS AND IN SWALES TO TRAP ERODED MATERIAL, PREVENT SEDIMENTATION IN DOWN STREAM AREAS AND KEEP RUNOFF VELOCITIES LOW.

6. THE CONTRACTOR SHALL MINIMIZE THE EXTENT OF AREA EXPOSED AT ANY ONE TIME AND THE DURATION OF EXPOSURE.

7. STABILIZATION MEASURES SHALL BE INITIATED FOR EROSION AND SEDIMENT CONTROL ON DISTURBED AREAS NO MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN ANY PORTION OF THE SITE THAT HAS CEASED.

8. THE CONTRACTOR WILL INSTALL A PERMANENT VEGETATIVE COVER FOR EROSION AND SEDIMENT CONTROL ON ALL LAND SURFACES DISTURBED BY CONSTRUCTION. THIS PROTECTIVE COVER MUST BE INSTALLED WITHIN FOURTEEN (14) DAYS AFTER FINAL GRADING OF THE EFFECTED LAND SURFACES. A PERMANENT VEGETATIVE COVER MUST BE ESTABLISHED WITHIN SIXTY (60) DAYS AFTER PLANTING OR INSTALLATION.

9. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE ADEQUATELY MAINTAINED TO PERFORM THEIR INTENDED FUNCTION DURING CONSTRUCTION OF THE PROJECT. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

10. PLACEMENT OF BARRIERS OR NECESSARY REPAIRS TO BARRIERS SHALL BE ACCOMPLISHED PROMPTLY.

11. MATERIAL FROM SEDIMENT TRAPS SHALL NOT BE STOCK PILED OR DISPOSED OF IN A MANNER WHICH MAKES THEM READILY SUSCEPTIBLE TO BEING WASHED INTO ANY WATER COURSE BY RUNOFF OR HIGH WATER.

12. ANY ACCUMULATED SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE BARRIERS ARE NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED, AND SEEDED.

13. TO PROVIDE DUST CONTROL, A CONTRACTOR SHALL PROVIDE A WATER TRUCK OR IRRIGATION SYSTEM AS NEEDED, TO MAINTAIN SOIL MOISTURE.

14. IF SITE SPECIFIC CONDITIONS REQUIRE ADDITIONAL MEASURES DURING ANY PHASE OF CONSTRUCTION OR OPERATION TO PREVENT EROSION OR CONTROL SEDIMENT, BEYOND THOSE SPECIFIED IN THE EROSION AND SEDIMENT CONTROL PLAN, THE CONTRACTOR MUST IMPLEMENT ADDITIONAL BEST MANAGEMENT PRACTICES AS NECESSARY, IN ACCORDANCE WITH THE SPECIFICATION IN SECTION 6 OF THE FLORIDA LAND DEVELOPMENT MANUAL: A GUIDE TO LAND AND WATER MANAGEMENT (FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION, 1988).

B. PERMANENT STABILIZATION

WHERE CONSTRUCTION IS COMPLETE, PERMANENT VEGETATION SHALL BE INSTALLED AS SPECIFIED ON THE CONSTRUCTION PLANS AND IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATION DOCUMENTS. PERMANENT VEGETATION WILL INCLUDE SOD OR SEED AND MULCH.

STORMWATER MANAGEMENT SYSTEM

THE STORMWATER RETENTION PONDS SHALL BE EXCAVATED TO ROUGH GRADE PRIOR TO BUILDING CONSTRUCTION OR PLACEMENT OF IMPERVIOUS SURFACES WITHIN THE DRAINAGE AREA SERVED BY THIS FACILITY. ALL ACCUMULATED SEDIMENT MUST BE REMVOED FROM THE RETENTION POND PRIOR TO FINAL GRADING, STABILIZING AND GRASSING.

OTHER CONTROLS

A. OFFSITE VEHICLE TRACKING

PAVED STREETS ADJACENT TO THE CONSTRUCTION SITE ENTRANCE WILL BE SWEPT AS NEEDED TO PREVENT EXCESS MUD, DIRT OR ROCK FROM LEAVING THE CONSTRUCTION SITE. ALL DUMP TRUCKS HAULING MATERIAL TO AND FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARP. TEMPORARY STABILIZED OR ROCK CONSTRUCTION ENTRANCE MAY BE REQUIRE TO REMOVE EXCESS DIRT AND MUD FROM TIRES BEFORE CONSTRUCTION VEHICLES ENTER ADJACENT PAVED STREETS.

TIMING OF SEDIMENT AND EROSION CONTROL MEASURES:
A SILT FENCE SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITY. A RETENTION POND AND STORM WATER CONVEYANCE SYSTEM SHALL BE CONSTRUCTED PRIOR TO THE PLACEMENT OF ANY IMPERVIOUS AREA. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 14-DAYS SHALL BE STABILIZED WITH TEMPORARY SEED AND MULCH. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN ANY AREA, THAT AREA WILL BE STABILIZED WITH PERMANENT SEED AND MULCH OR SOD. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WITHIN ANY CATCH BASIN, STORM PIPES, OR RETENTION PONDS WILL BE REMOVED.

0 70' 150' 150'
SCALE IN FEET

NOTES

1. CONTRACTOR TO DESILT ALL PIPES PRIOR TO COMPLETION OF CONSTRUCTION OF PROJECT.
2. SILT FENCE SHOWN IS STRICTLY SCHEMATIC, FOR ILLUSTRATION ONLY. ALL FENCE TO BE WITHIN THE PROPERTY LINE OF THE PROJECT SITE.
3. ALL STORMWATER PONDS, STORM STRUCTURES, AND STORM PIPES OUTSIDE OF CITY OWNED RIGHT-OF-WAY ARE TO BE OWNED AND MAINTAINED BY HOMEOWNERS ASSOCIATION.

NOTE : THE CONTRACTOR SHALL APPLY WITH AND OBTAIN NPDES PERMIT FROM THE FLORIDA DEPT. OF ENVIRONMENTAL PROTECTION (FDEP).

TEMPORARY CONSTRUCTION ENTRANCE

1. THE AREA OF THE ENTRANCE SHOULD BE CLEARED OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL. A GEOTEXTILE SHOULD BE LAID DOWN TO IMPROVE STABILITY AND SIMPLIFY MAINTENANCE. THE GRAVEL SHALL THEN BE PLACED OVER THE GEOTEXTILE TO THE SPECIFIED DIMENSIONS.
2. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF MUD ONTO PUBLIC ROADS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2-INCH STONE, AS CONDITIONS DEMAND. ALL MATERIALS SPILLED, DROPPED, OR TRACKED FROM VEHICLES ONTO ROADWAYS MUST BE REMOVED IMMEDIATELY. LOOK FOR SIGNS OF TRUCKS AND TRAILERED EQUIPMENT 'CUTTING CORNERS' WHERE THE GRAVEL MEETS THE ROADWAY. SWEEP THE PAVED ROAD DAILY FOR SEDIMENTS.

LEGEND

SILT FENCE

WATERMARK PH.1 & MASTER GRADING PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE.
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
CERTIFICATE OF AUTHORIZATION NUMBER: 33360

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.

9/5/25
DATE

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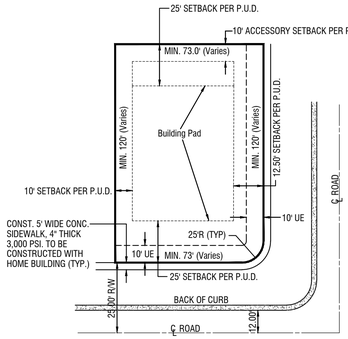
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 150'

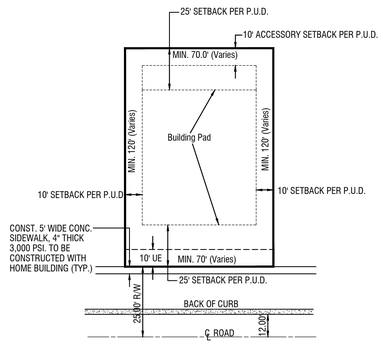
SHEET TITLE:
EX. CONDITIONS & EROSION CONTROL PLAN

C-103

FILE NAME: A:\45000s\45548\003\LD\CADD\C101 - C600 Watermark Construction Plans.dwg DATE: September 19, 2025, TIME: 9:03 AM, USER: ah5122



TYPICAL CORNER LOT SCHEME
NTS



TYPICAL LOT SCHEME
NTS

COMMON AREA TRACTS

TRACT	AREA	PURPOSE
A	308,120 SF. (7.07 AC)	LANDSCAPE/UTILITY/RECREATION/ DRAINAGE/RETAINING WALL/SIGNAGE OWNED & MAINTAINED BY H.O.A.
B	2,500 SF. (0.06 AC)	LIFT STATION- CENTRAL LAKE UTILITIES MAINTANED BY HOA (OUTSIDE OF FENCE)
C	189,839 SF. (4.36 AC)	LANDSCAPE/UTILITY/RECREATION/ DRAINAGE/RETAINING WALL/SIGNAGE OWNED & MAINTAINED BY H.O.A.
D	116,253 SF. (2.67 AC)	
E	65,899 SF. (1.51 AC)	LANDSCAPE/UTILITY/ SIGNAGE & DRAINAGE OWNED & MAINTAINED BY H.O.A.
F	29,350 SF. (0.67 AC)	
G	8,550 SF. (0.20 AC)	PROPOSED RIGHT-OF-WAY TO BE DEDICATED TO TOWN OF HOWEY

LEGEND

PROPOSED SIDEWALK TO BE CONSTRUCTED WITH SITE DEVELOPMENT WITHIN OPEN SPACE AREAS. (SIDEWALK IN FRONT OF LOTS TO BE CONSTRUCTED WITH HOME CONSTRUCTION).

EXISTING POWER POLE TO BE RELOCATED. DEVELOPER TO COORDINATE WITH POWER COMPANY.

CONSTRUCT 12' WIDE ASPHALT TRAIL. SEE DETAIL

EXISTING R/W

EAST REVELS ROAD

PROPOSED DRA 1
TOP=89.00
BOTTOM=84.00

PROPOSED DRA 2
TOP=89.00
BOTTOM=84.00

TRACT A
308,120 sf
7.07 ac

TRACT B
2,500 sf
0.06 ac

TRACT C
189,839 sf
4.36 ac

TRACT D
116,253 sf
2.67 ac

TRACT E
65,899 sf
1.51 ac

TRACT G
8,550 sf
0.20 ac

WATERMARK DRIVE

SUMMER GATE LOOP

ARTESIAN WAY

RIPPLEWOOD LOOP

WILLOW CREEK DRIVE

TAMARIND STREET

S.R. 19

FUTURE DEVELOPMENT

0 30' 60' 90'
SCALE IN FEET

MATCH LINE-SEE SHEET C-201

WATERMARK PH.1 & MASTER GRADING PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
502 NORTH SINCLAIR AVE.
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
WWW.HALFF.COM
CERTIFICATE OF AUTHORIZATION NUMBER: 33360

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

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BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.

9/5/25
DATE

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HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 60'

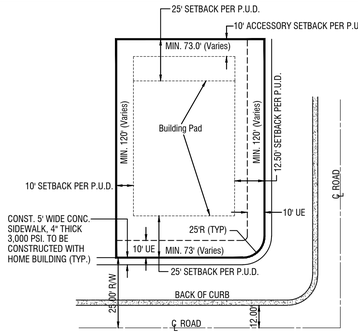
SHEET TITLE:
PRELIMINARY PLAT

C-200

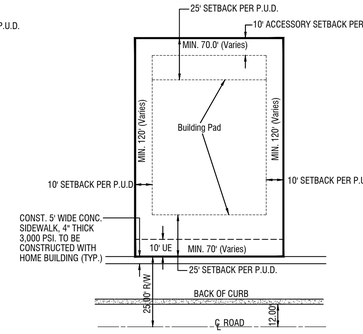
FILE NAME: A:\45000s\45548\003\LDCAD\C101 - C600 Watermark Construction Plans.dwg DATE: October 22, 2025, TIME: 2:14 PM, USER: ah5122

COMMON AREA TRACTS

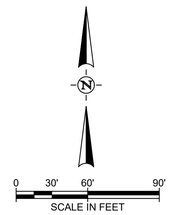
TRACT	AREA	PURPOSE
A	316,670 SF. (7.27 AC)	LANDSCAPE/UTILITY/RECREATION/ DRAINAGE/RETAINING WALL/SIGNAGE OWNED & MAINTAINED BY H.O.A.
B	2,500 SF. (0.06 AC)	LIFT STATION- CENTRAL LAKE UTILITIES MAINTANED BY HOA (OUTSIDE OF FENCE)
C	189,839 SF. (4.36 AC)	LANDSCAPE/UTILITY/RECREATION/ DRAINAGE/RETAINING WALL/SIGNAGE OWNED & MAINTAINED BY H.O.A.
D	116,237 SF. (2.67 AC)	
E	65,899 SF. (1.51 AC)	LANDSCAPE/UTILITY/PARK SIGNAGE & DRAINAGE OWNED & MAINTAINED BY H.O.A.
F	29,350 SF. (0.67 AC)	



TYPICAL CORNER LOT SCHEME
NTS



TYPICAL LOT SCHEME
NTS



LEGEND

PROPOSED SIDEWALK & ALL SIDEWALK RAMPS TO BE CONSTRUCTED WITH SITE DEVELOPMENT WITHIN OPEN SPACE AREAS. (ALL OTHER SIDEWALK IN FRONT OF LOTS TO BE CONSTRUCTED BY HOME BUILDER WITH WITH HOME CONSTRUCTION).



FILE NAME: A:\45000s\45548\003\LD\CADD\C101 - C600 Watermark Construction Plans.dwg DATE: October 22, 2025, TIME: 2:13 PM, USER: ah5122

WATERMARK PH.1 & MASTER GRADING PLANS

TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
502 NORTH SINCLAIR AVE.
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
CERTIFICATE OF AUTHORIZATION NUMBER: 33360

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HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 60'

SHEET TITLE:

PRELIMINARY PLAT

C-201

CONNECT TO EXISTING
WATER MAIN & FORCE MAIN
(HILLSIDE GROVES TO PROVIDE
UTILITY CONNECTIONS)
SEWER PERMIT#:0451819-001-DWC/CM
WATER PERMIT#:0099001-019

DIRECTIONAL BORE
10" FORCE MAIN
UNDER S.R. 19

DIRECTIONAL BORE
8" WATERMAIN
UNDER S.R. 19

CONNECT PR. 8" WM TO
EXISTING 8" G.V. CONTRACTOR
TO COORDINATE WITH TOWN
OF HOWEY

PR. 8" WATER MAIN

DIRECTIONAL BORE
8" WATER MAIN
UNDER E. REVELS ROAD

DIRECTIONAL BORE
6" FORCE MAIN
UNDER E. REVELS ROAD

PR. 6" FORCE MAIN

PROP. 10" FM

PROP. 12" WM

PROP. 8" WM

EAST REVELS ROAD
(66' PAVED R/W PER PLAT OF ROAD)

L.S.
SITE #1

INSTALL 8" G.V. &
2" BLOW-OFF ASSEMBLY

INSTALL 8" PVC W.M.

PR. 8" PVC W.M.

PR. 8" W.M.

PR. 8" W.M.

PR. 8" W.M.

PR. 8" W.M.

PR. 8" W.M.

PR. 8" W.M.

PR. 8" W.M.

EXISTING WELL
CONNECTION FOR
REUSE/IRRIGATION

BLD1 CLS OFF DROP BOX

PHASE 1

PHASE 2

PHASE 3

Phase 1

Phase 2

L.S.
SITE #2

SHELL LANE

0 70' 150' 150'
SCALE IN FEET

LEGEND

- 10' DRAINAGE / UTILITY EASEMENT
- S-01 — SANITARY STRUCTURE NUMBER
- S0 — SANITARY MANHOLE NUMBER
- Ⓢ — SANITARY SEWER MANHOLE (SYMBOL NOT TO SCALE WITH STRUCTURE SIZE)
- SAN — SANITARY SEWER PIPE
- SINGLE SANITARY SEWER LATERAL
- DOUBLE SANITARY SEWER LATERAL
- FM — FORCE MAIN
- WM — WATER MAIN
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE
- GATE VALVE
- BLOW OFF VALVE
- Ⓐ — AIR RELEASE VALVE
- REDUCER
- LINE STOP
- TEE
- ELBOW
- WYE
- CROSS
- CAP
- FIRE HYDRANT
- (DRY LINE) FIRE HYDRANT
- U.E. — UTILITY EASEMENT
- D-01 — STORM STRUCTURE NUMBER
- Ⓓ — STORM MANHOLE (SYMBOL NOT TO SCALE WITH STRUCTURE SIZE)
- STORM PIPE
- MODIFIED TYPE 6 INLET
- TYPE 'C' INLET (PER FDOT STANDARD PLANS INDEX 425-052)
- FLARED END SECTION (PER FDOT STANDARD PLANS INDEX 430-020)
- FLOW ARROW
- RWM — REUSE WATER MAIN
- SINGLE REUSE SERVICE
- DOUBLE REUSE SERVICE
- Ⓜ — IRRIGATION METER
- BT — BACTERIOLOGICAL SAMPLE POINT

WATERMARK PH.1 & MASTER GRADING PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE.
ANGLETON, TEXAS 77515
TEL: (352) 343-8481
WWW.HALFF.COM
CERTIFICATE OF AUTHORIZATION
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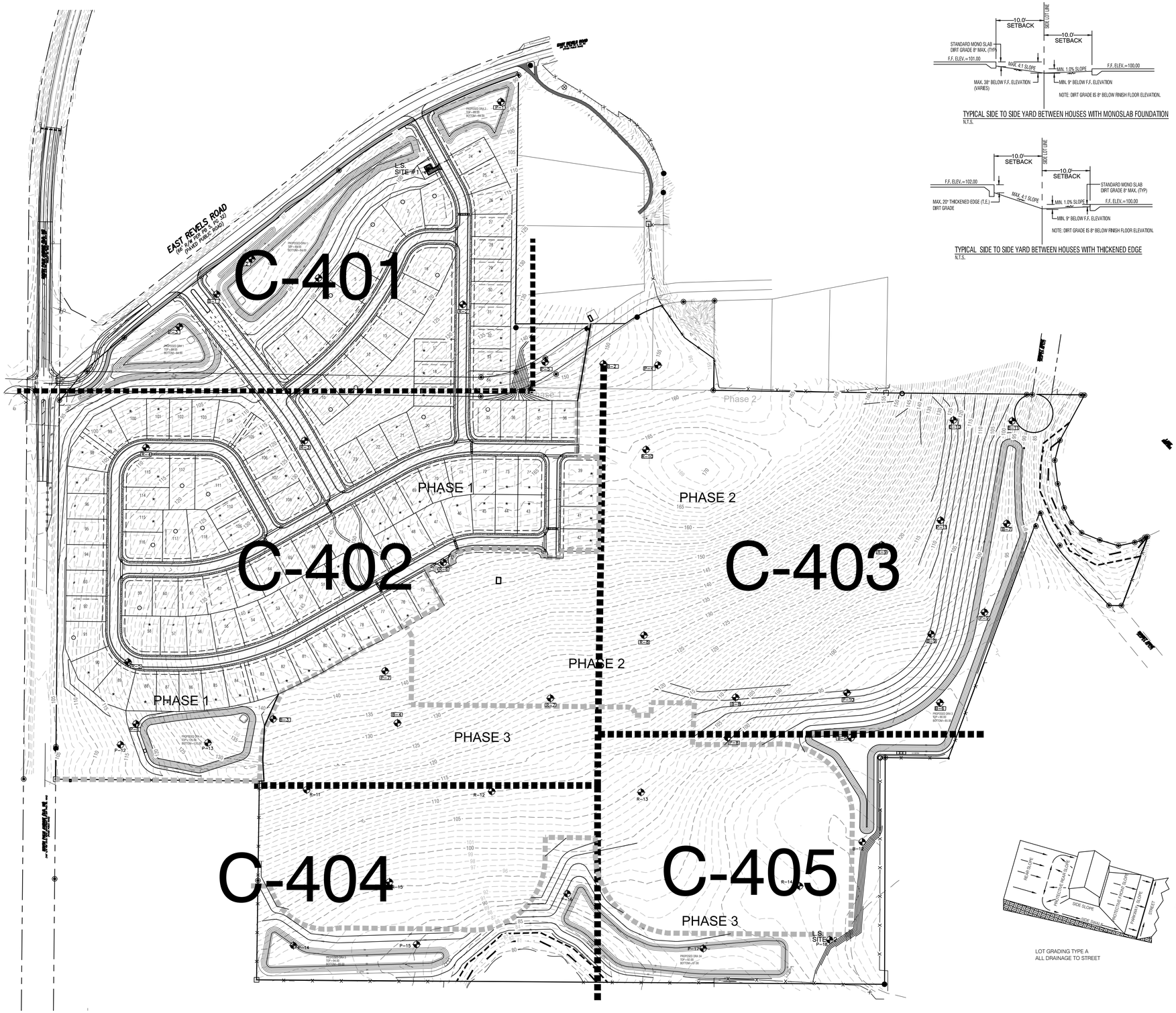
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 150'

SHEET TITLE:
MASTER
UTILITY PLAN

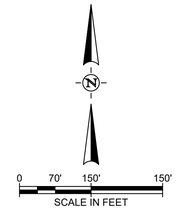
C-300

FILE NAME: A:\45000s\45548\003\LDVCADD\C101 - C600 Watermark Construction Plans.dwg DATE: October 9, 2025, TIME: 10:21 AM, USER: ah512

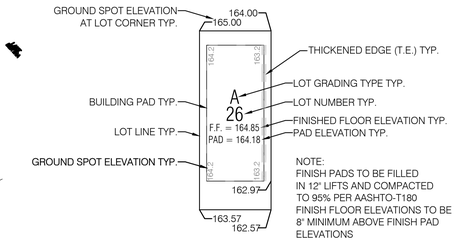


TYPICAL SIDE TO SIDE YARD BETWEEN HOUSES WITH MONOSLAB FOUNDATION
N.T.S.

TYPICAL SIDE TO SIDE YARD BETWEEN HOUSES WITH THICKENED EDGE
N.T.S.

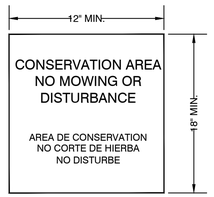


LEGEND	
172.40	PROPOSED SPOT GRADE
150	EXISTING CONTOUR
165	PROPOSED CONTOUR
	RIGHT-OF-WAY LINE
	DRAINAGE/UTILITY EASEMENT
A	LOT GRADING TYPE
32	LOT NUMBER
F.F. = 170.70	FINISHED FLOOR ELEVATION
PAD = 170.03	BUILDING PAD ELEVATION



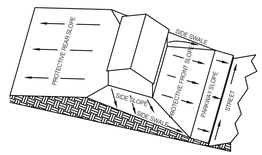
NOTE:
FINISH PADS TO BE FILLED IN 12" LIFTS AND COMPACTED TO 95% PER AASHTO-T180 FINISH FLOOR ELEVATIONS TO BE 8" MINIMUM ABOVE FINISH PAD ELEVATIONS

NOTE:
ALL SWALES TO BE STABILIZED WITH SOD.



CONSERVATION AREA SIGN DETAIL
●-DENOTES CONSERVATION SIGN LOCATION

LOT GRADING TYPE A
ALL DRAINAGE TO STREET



LOT GRADING TYPE B
DRAINAGE TO BOTH FRONT AND BACK LOT LINES

WATERMARK PH.1 & MASTER GRADING PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE.
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
FAX: (407) 647-7275
CERTIFICATION NUMBER: 33360

REVISION NO.	DATE	DESCRIPTION

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LICENSE
No. 69017
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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9/5/25
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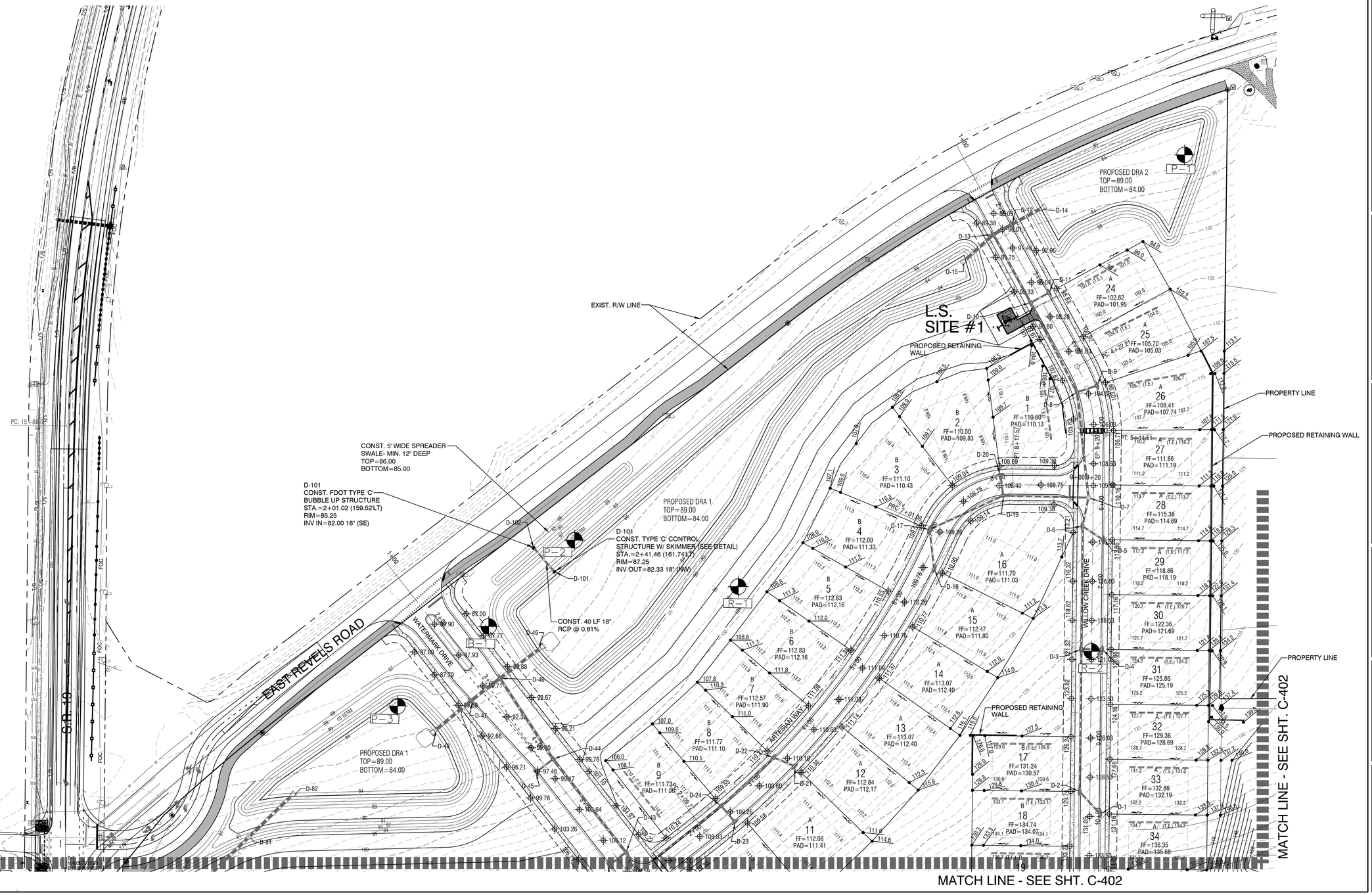
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 150'

SHEET TITLE:
MASTER GRADING PLAN KEY MAP

C-400

FILE NAME: A:\45000s\45548\003\LD\CADD\C101 - C600 Watermark Construction Plans.dwg DATE: September 19, 2025, TIME: 9:04 AM, USER: ah5122



FILE NAME: A:\45000s\45548\003\LD\CADD\C101 - C600 Watermark Construction Plans.dwg DATE: September 19, 2025, TIME: 9:04 AM, USER: ah5122

WATERMARK PH.1 & MASTER GRADING PLANS

TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

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Kissimmee, FL 34741

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PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 60'

SHEET TITLE:

GRADING PLAN

C-401

MATCH LINE - SEE SHT. C-401

MATCH LINE - SEE SHT. C-403

MATCH LINE - SEE SHT. C-404

S.R. 19

EXIST. R/W LINE

PROPOSED RETAINING WALL

WATERMARK DRIVE

WILLOW CREEK DRIVE

RIPPLEWOOD LOOP

SUMMER GATE LOOP

TAMARIND STREET

PHASE 2

PH.1 BOUNDARY LINE

EX. WELL-TO REMAIN

RETAINING WALL

PROPOSED DRA 4
TOP=125.00
BOTTOM=120.00

CONST. 5' WIDE EMERGENCY WEIR
WEIR ELEV. = 124.50 (SEE DETAIL)

PROPERTY LINE

PROPERTY LINE

SCALE IN FEET
0 30' 60' 120'

WATERMARK PH.1 & MASTER GRADING PLANS

TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE.
ANAHEIM, CALIFORNIA 92806
TEL: (352) 343-8481
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SHEET TITLE:

GRADING PLAN

C-402

FILE NAME: A:\45000s\45548\003LD\CADD\C101 - C600 Watermark Construction Plans.dwg DATE: September 19, 2025, TIME: 9:04 AM, USER: ah5122

WATERMARK PH.1 & MASTER GRADING PLANS

TOWN OF HOWEY IN THE HILLS

LAKE COUNTY

REVELS ROAD INVESTORS, LLC

210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE.
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
CERTIFICATE OF AUTHORIZATION NUMBER: 33390

WETLAND W-1 LINE TABLE		
LINE	BEARING	LENGTH
L1	S39°51'29"W	49.26'
L2	S78°23'37"W	125.92'
L3	N61°51'05"W	79.22'
L4	N25°28'13"W	50.30'
L5	N33°50'55"W	47.65'
L6	N23°21'09"W	98.03'
L7	N01°53'59"E	63.59'
L8	N07°03'54"E	66.65'
L9	N51°34'21"E	35.50'

0 30' 60' 120'
SCALE IN FEET

PHASE 2

PROPERTY LINE

INSTALL CONSERVATION EASEMENT SIGN (TYP) SEE SIGN DETAIL.

WETLAND LINE (TYP)

25' UPLAND BUFFER (TYP)

RETAINING WALL

PROPOSED DRA 3
TOP=90.00
BOTTOM=85.00

10' BERM

MATCH LINE - SEE SHT. C-402

MATCH LINE - SEE SHT. C-405

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS
LICENSE
No. 69017
STATE OF FLORIDA
PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.

9/5/25
DATE

THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF:

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FIRM OR BUSINESS NO. — STATE

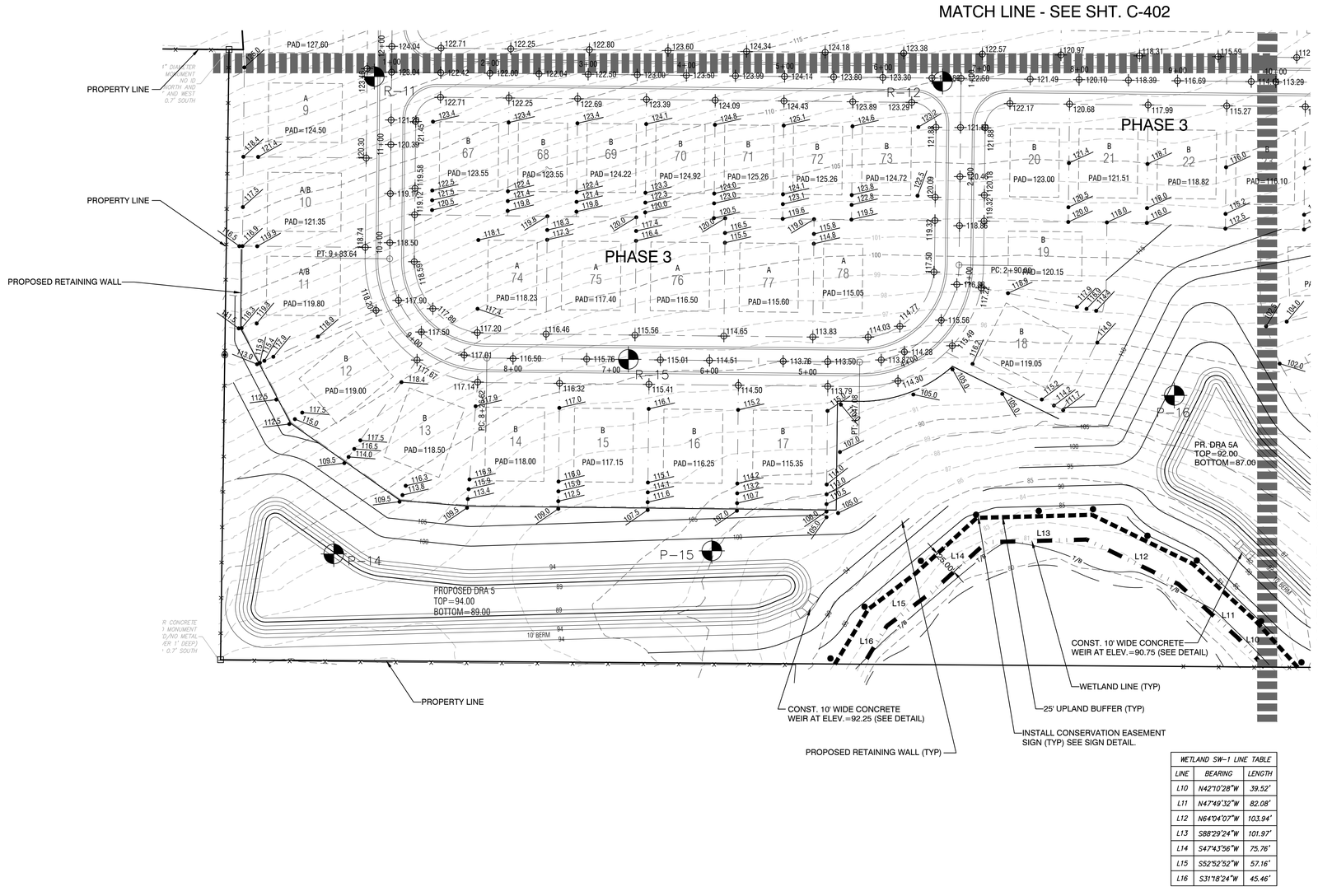
PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 60'

SHEET TITLE:

GRADING PLAN

C-403

FILE NAME: A:\45000s\45548\003\LDI\CADD\C101 - C600 Watermark Construction Plans.dwg DATE: September 19, 2025, TIME: 9:05 AM, USER: ahs5122



WETLAND SW-1 LINE TABLE		
LINE	BEARING	LENGTH
L10	N42°10'28"W	39.52'
L11	N47°49'32"W	82.08'
L12	N64°04'07"W	103.94'
L13	S88°29'24"W	101.97'
L14	S47°43'56"W	75.76'
L15	S52°52'52"W	57.16'
L16	S31°18'24"W	45.46'

0 30' 60' 120'
SCALE IN FEET

WATERMARK PH.1 & MASTER GRADING PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE.
ANAHEIM, CA 92806
TEL: (352) 343-8481
FAX: (407) 647-7322
CERTIFICATE OF AUTHORIZATION
NUMBER: 33390

REVISION NO.	DATE	DESCRIPTION

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LICENSE
No. 69017
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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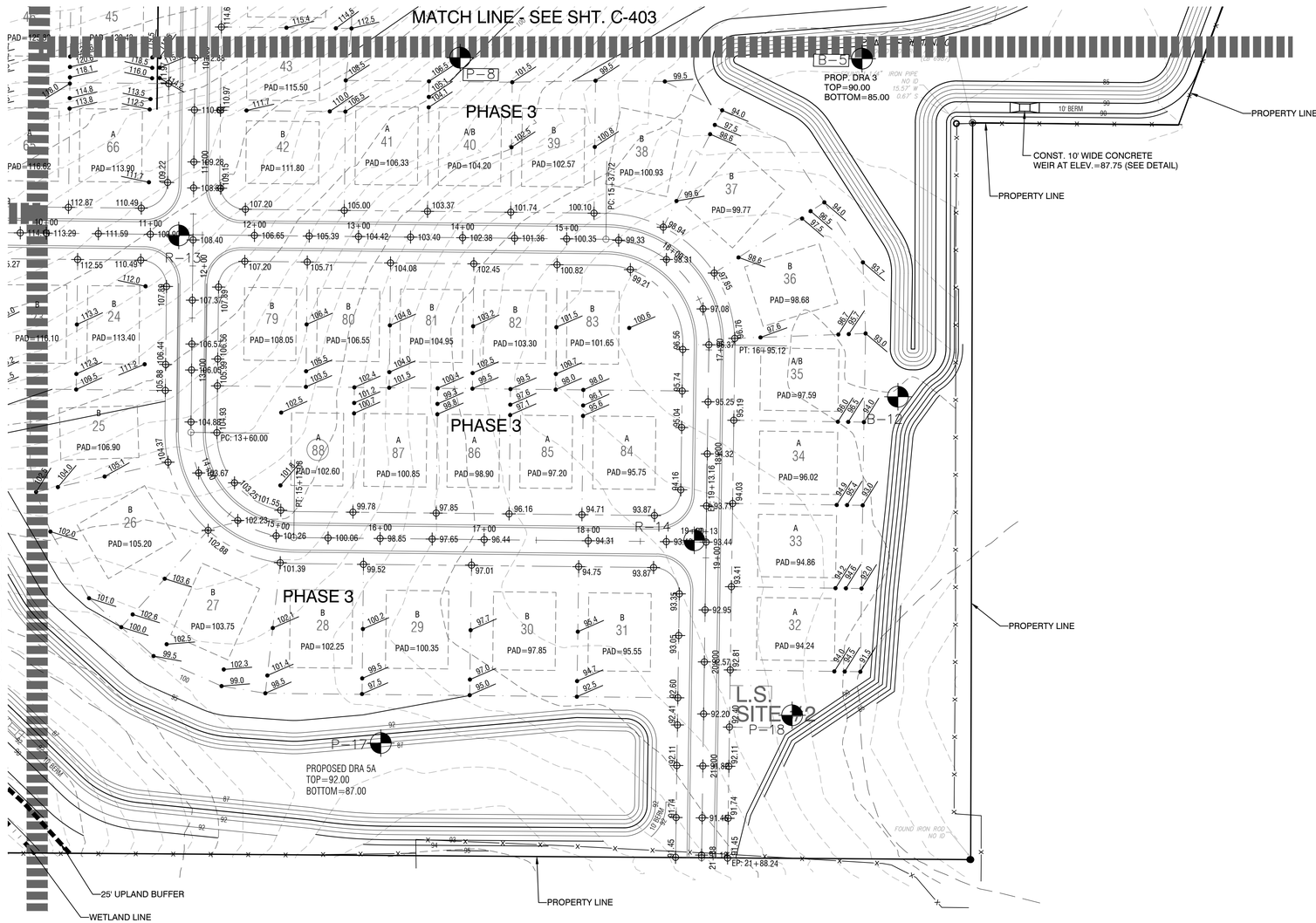
PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 60'

SHEET TITLE:

GRADING PLAN

C-404

FILE NAME: A:\45000s\45548\003\LD\CADD\C101 - C600 Watermark Construction Plans.dwg DATE: September 19, 2025, TIME: 9:05 AM, USER: ah5122



WATERMARK PH.1 & MASTER GRADING PLANS

TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC

210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE.
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
CERTIFICATE OF AUTHORIZATION NUMBER: 33390

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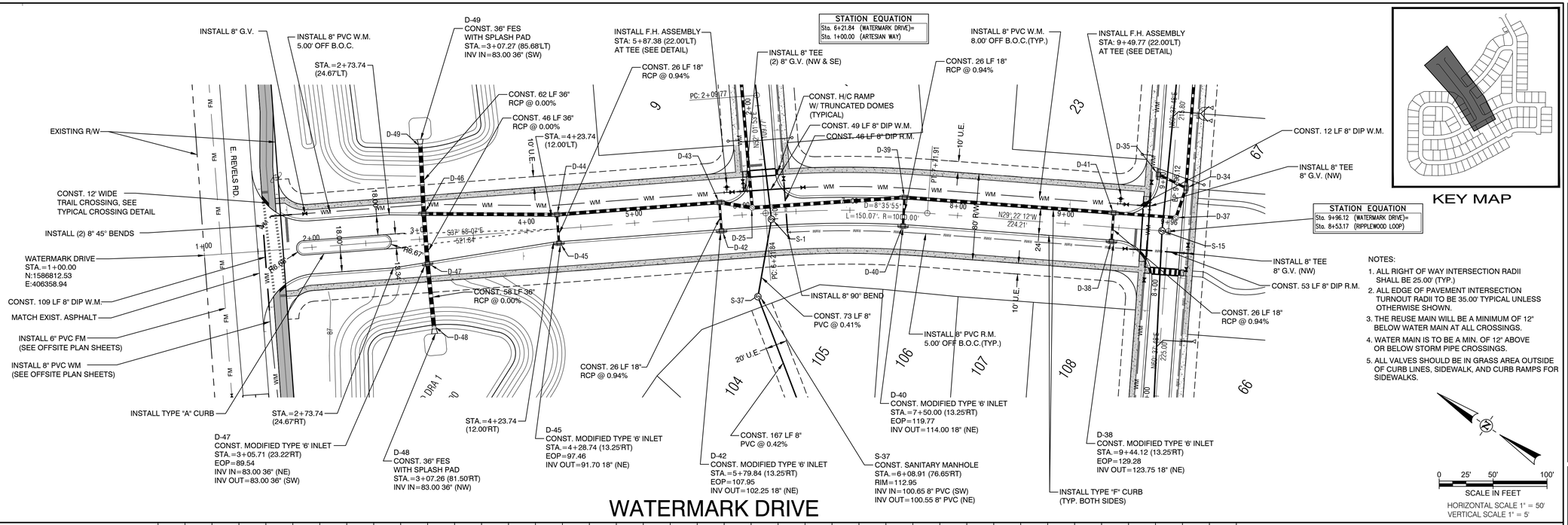
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ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 60'

SHEET TITLE:

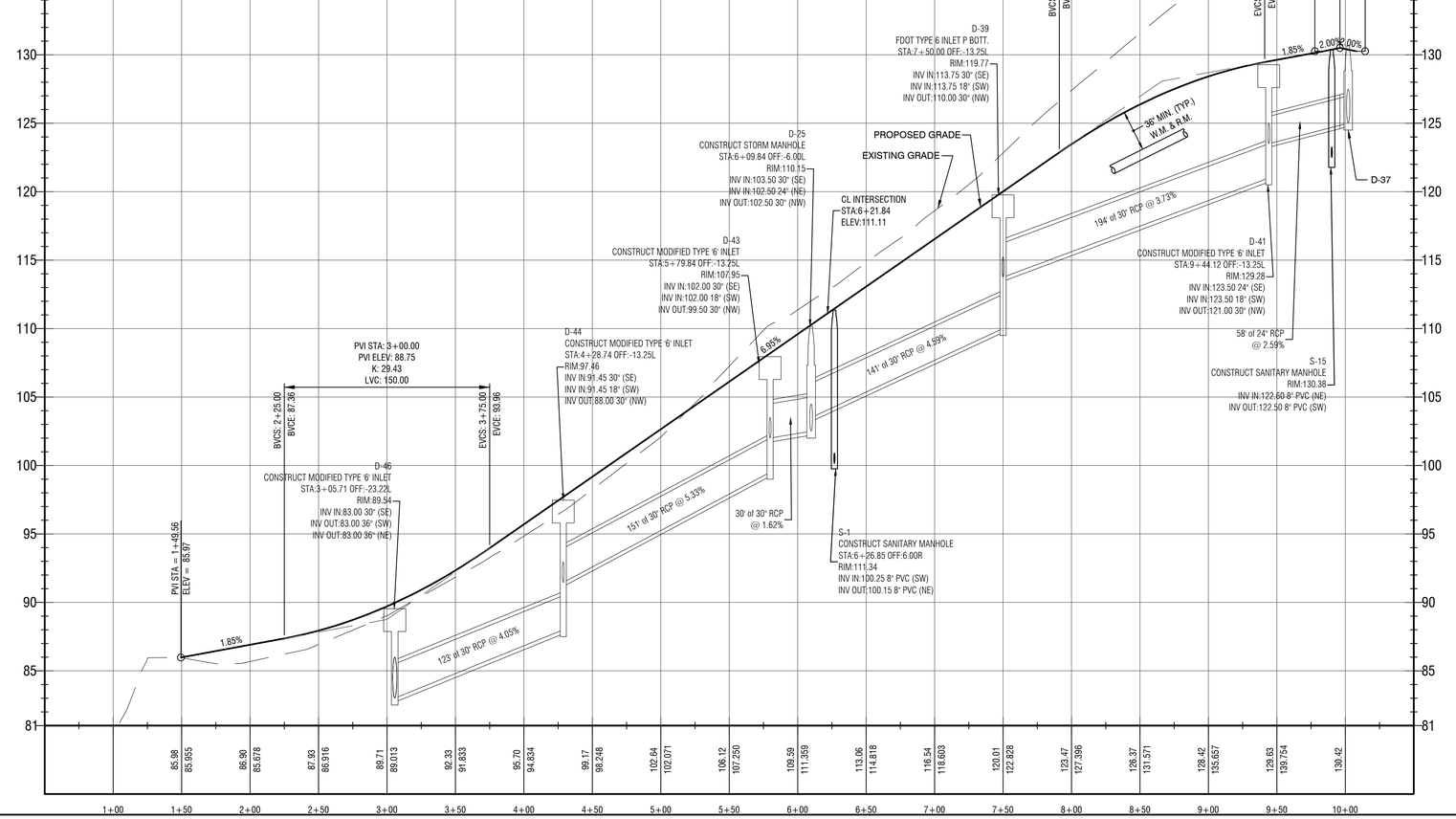
GRADING PLAN

C-405

FILE NAME: A:\45000s\45548\003\LD\CADD\C101 - C600 Watermark Construction Plans.dwg DATE: September 19, 2025, TIME: 9:05 AM, USER: ah5122



WATERMARK DRIVE



halff
502 NORTH SINCLAIR AVE.
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
FAX: (407) 647-7275
CERTIFICATE OF AUTHORIZATION NUMBER: 33360

WATERMARK PH.1 & MASTER GRADING PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

REVISION NO.	DATE	DESCRIPTION

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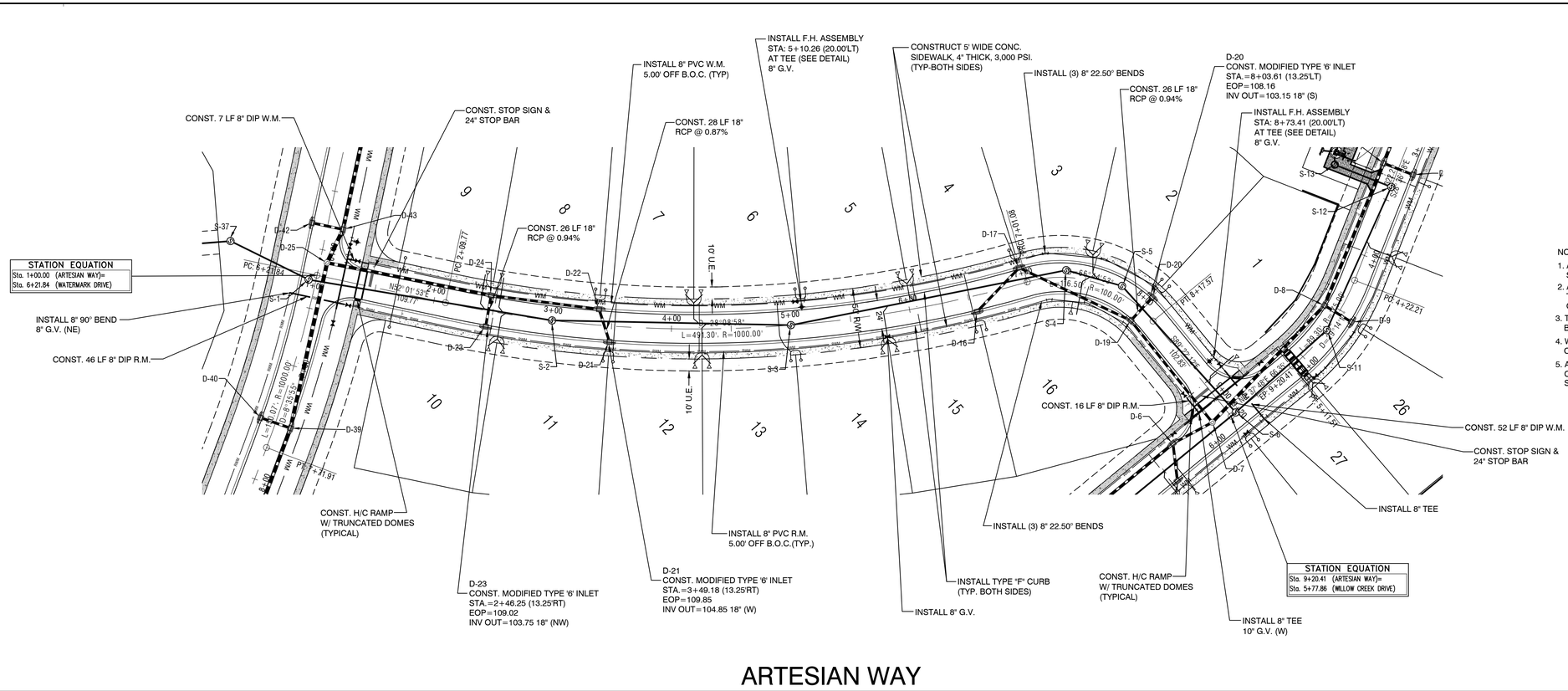
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 50'

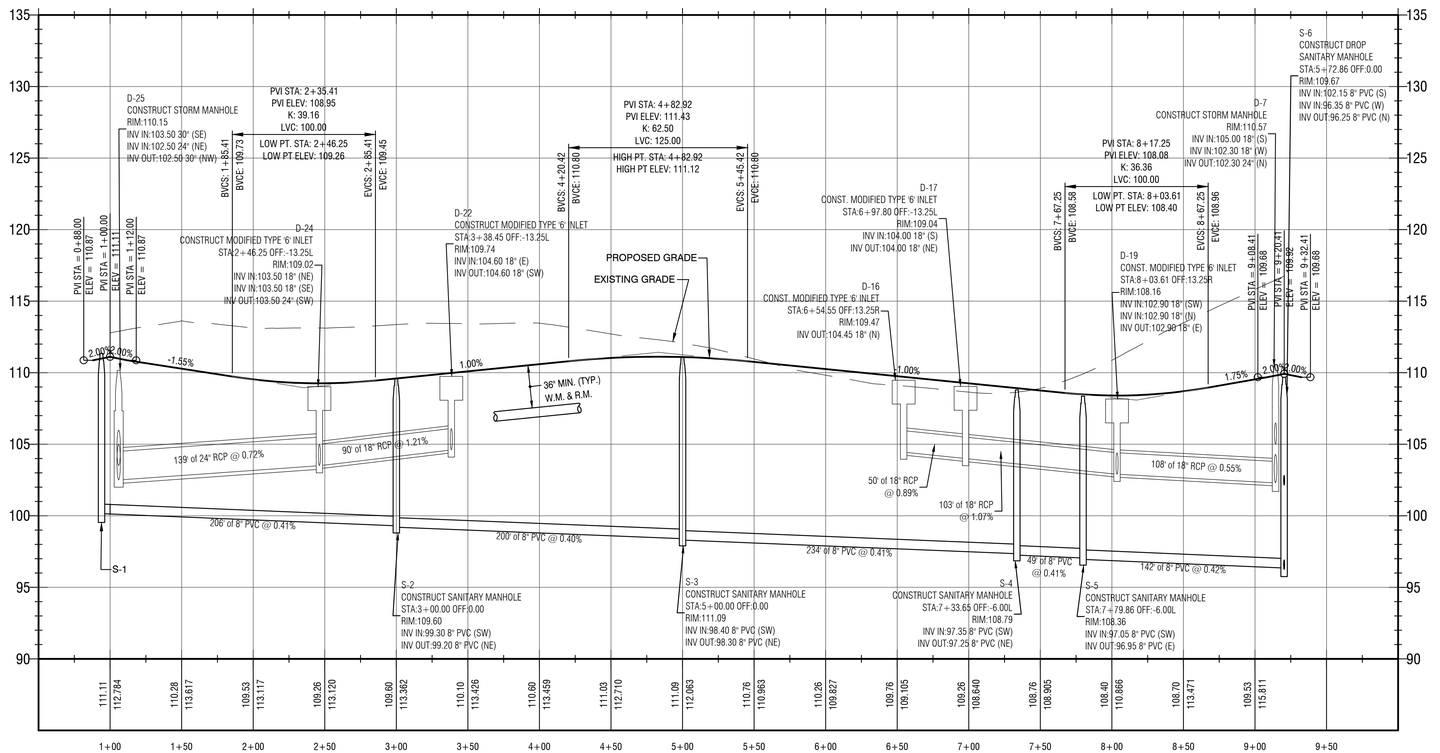
SHEET TITLE:
WATERMARK DRIVE PLAN & PROFILE

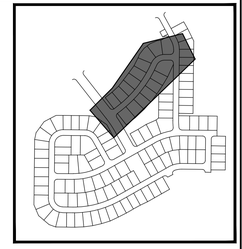
C-500

FILE NAME: A:\45000s\45548\003\LD\CADD\C101 - C600 Watermark Construction Plans.dwg DATE: October 22, 2025, TIME: 2:16 PM, USER: ah5122



ARTESIAN WAY





KEY MAP

NOTES:

1. ALL RIGHT OF WAY INTERSECTION RADII SHALL BE 25.00' (TYP.)
2. ALL EDGE OF PAVEMENT INTERSECTION TURNOUT RADII TO BE 35.00' TYPICAL UNLESS OTHERWISE SHOWN.
3. THE REUSE MAIN WILL BE A MINIMUM OF 12" BELOW WATER MAIN AT ALL CROSSINGS.
4. WATER MAIN IS TO BE A MIN. OF 12" ABOVE OR BELOW STORM PIPE CROSSINGS.
5. ALL VALVES SHOULD BE IN GRASS AREA OUTSIDE OF CURB LINES, SIDEWALK, AND CURB RAMPS FOR SIDEWALKS.

WATERMARK PH.1 & MASTER GRADING PLANS
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halff
902 NORTH SINCLAIR AVE.
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
CERTIFICATE OF AUTHORIZATION NUMBER: 33360

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BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.
9/5/25
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FIRM OR BUSINESS NO. — STATE

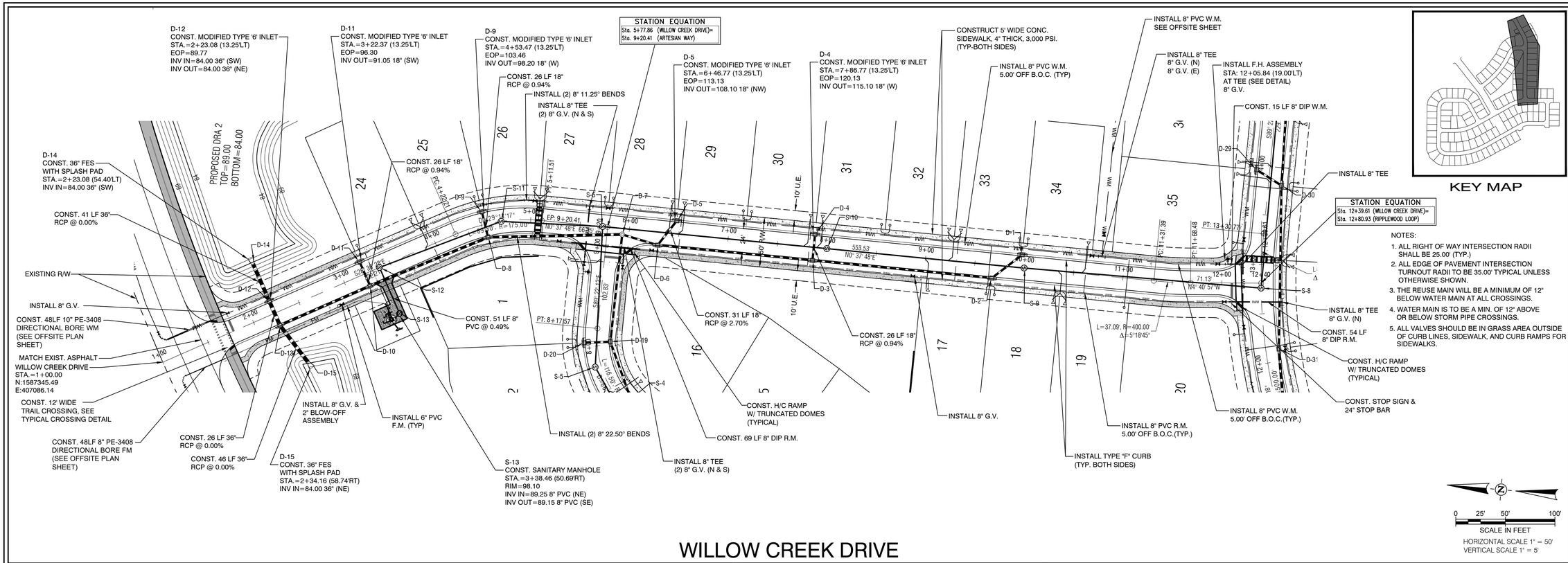
PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 50'

SHEET TITLE:

ARTESIAN WAY
PLAN & PROFILE

C-501

FILE NAME: A:\45000s\45548\003\LDCADD\C101 - C600 Watermark Construction Plans.dwg DATE: October 22, 2025, TIME: 2:22 PM, USER: ah5122



WILLOW CREEK DRIVE

KEY MAP

NOTES:

1. ALL RIGHT OF WAY INTERSECTION RADII SHALL BE 25.00' (TYP.)
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5. ALL VALVES SHOULD BE IN GRASS AREA OUTSIDE OF CURB LINES, SIDEWALK, AND CURB RAMPS FOR SIDEWALKS.

0 25' 50' 100'

SCALE IN FEET

HORIZONTAL SCALE 1" = 50'
VERTICAL SCALE 1" = 5'

WATERMARK PH.1 & MASTER GRADING PLANS
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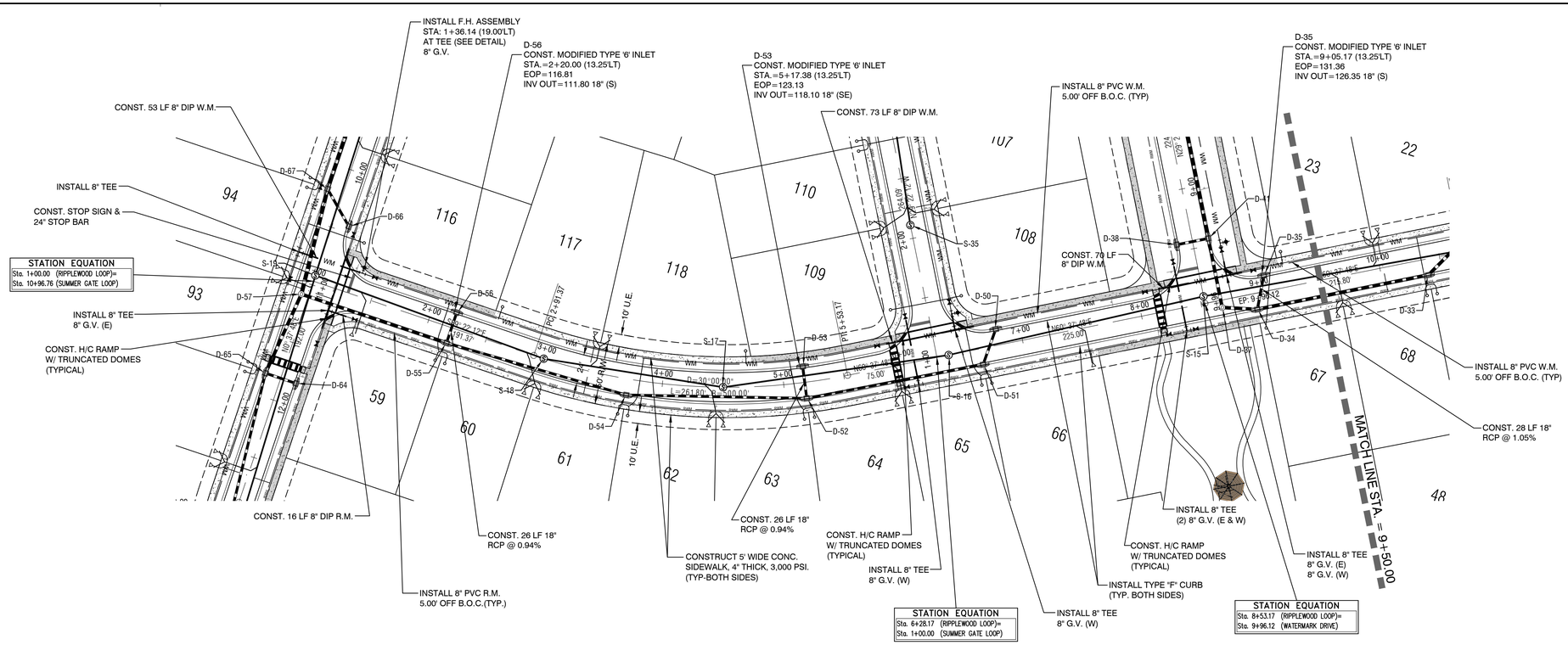
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 50'

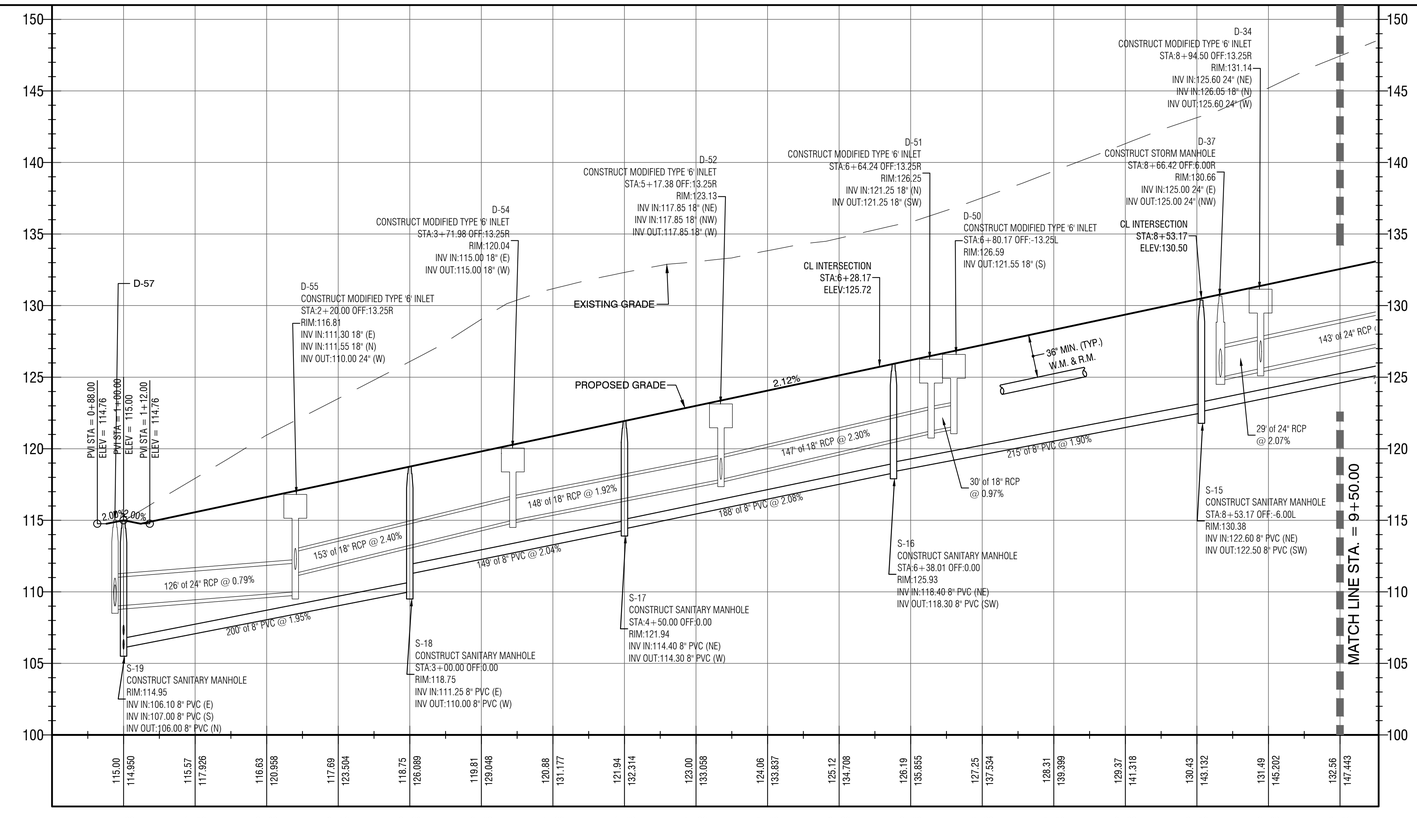
SHEET TITLE:
WILLOW CREEK DRIVE PLAN & PROFILE

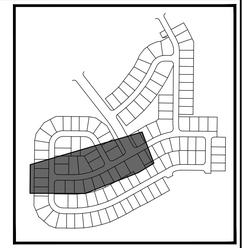
C-502

FILE NAME: A:\45000s\45548\003\LDV\CADD\C101 - C600 Watermark Construction Plans.dwg DATE: October 22, 2025, TIME: 2:24 PM, USER: ah5122



RIPPLEWOOD LOOP





KEY MAP

NOTES:

1. ALL RIGHT OF WAY INTERSECTION RADII SHALL BE 25.00' (TYP.)
2. ALL EDGE OF PAVEMENT INTERSECTION TURNOUT RADII TO BE 35.00' TYPICAL UNLESS OTHERWISE SHOWN.
3. THE REUSE MAIN WILL BE A MINIMUM OF 12" BELOW WATER MAIN AT ALL CROSSINGS.
4. WATER MAIN IS TO BE A MIN. OF 12" ABOVE OR BELOW STORM PIPE CROSSINGS.
5. ALL VALVES SHOULD BE IN GRASS AREA OUTSIDE OF CURB LINES, SIDEWALK, AND CURB RAMPS FOR SIDEWALKS.

0 25' 50' 100'
SCALE IN FEET
HORIZONTAL SCALE 1" = 50'
VERTICAL SCALE 1" = 5'

WATERMARK PH.1 & MASTER GRADING PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
502 NORTH SINCLAIR AVE
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
CERTIFICATE OF AUTHORIZATION NUMBER: 33360

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

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BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.
9/5/25
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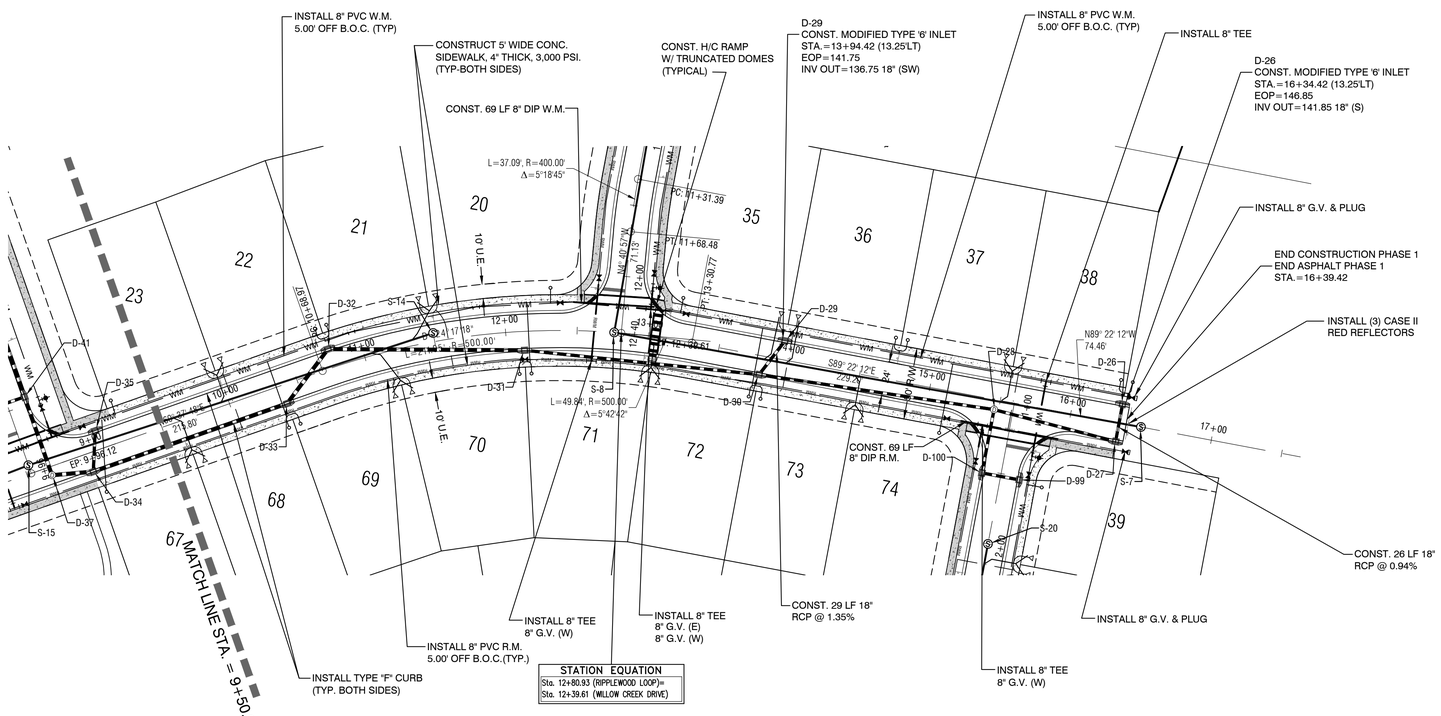
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 50'

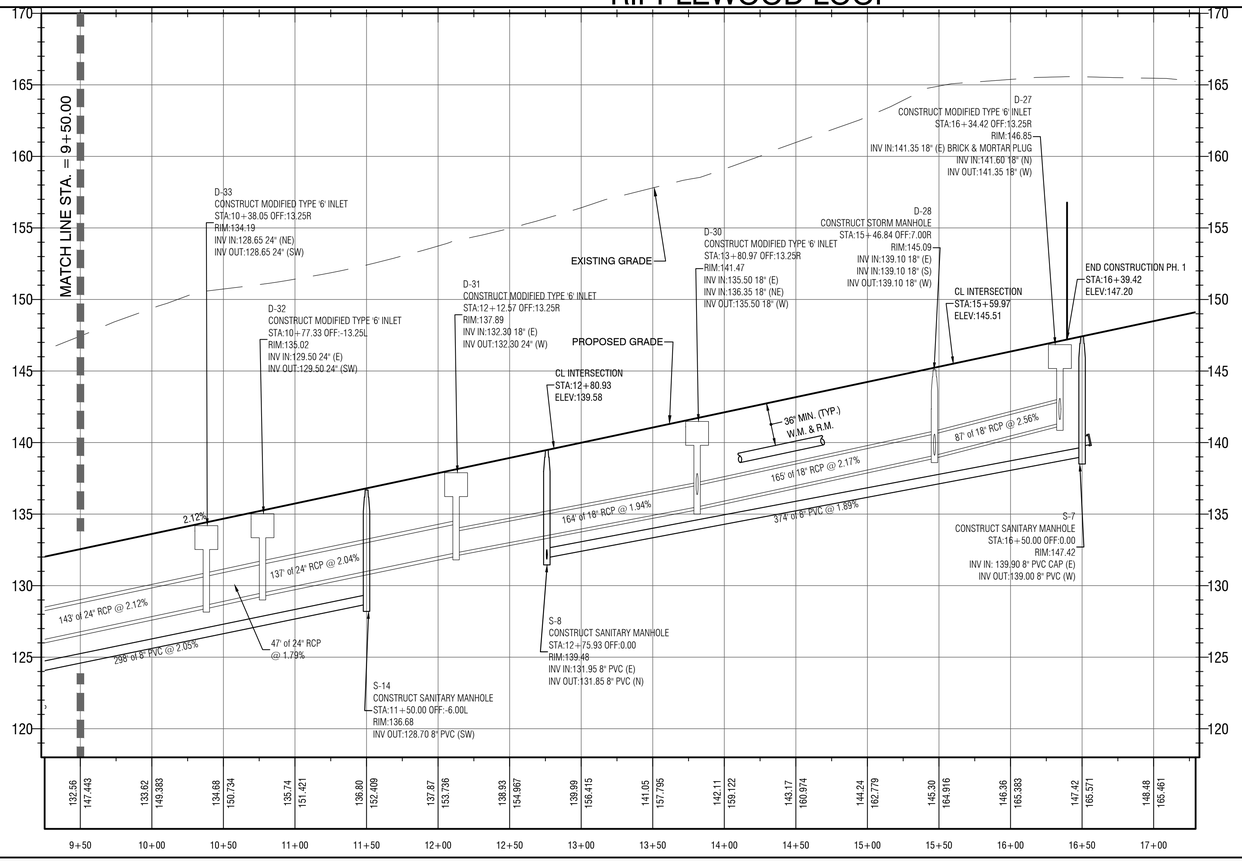
SHEET TITLE:
RIPPLEWOOD LOOP PLAN & PROFILE

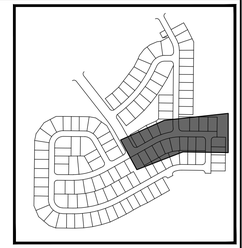
C-503

FILE NAME: A:\45000s\45548\003\LD\CADD\C101 - C600 Watermark Construction Plans.dwg DATE: October 22, 2025, TIME: 2:25 PM, USER: ah5122



RIPPLEWOOD LOOP





KEY MAP

NOTES:

1. ALL RIGHT OF WAY INTERSECTION RADII SHALL BE 25.00' (TYP.)
2. ALL EDGE OF PAVEMENT INTERSECTION TURNOUT RADII TO BE 35.00' TYPICAL UNLESS OTHERWISE SHOWN.
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0 25' 50' 100'
SCALE IN FEET
HORIZONTAL SCALE 1" = 50'
VERTICAL SCALE 1" = 5'

WATERMARK PH.1 & MASTER GRADING PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

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210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE.
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
FAX: (407) 647-7322
CERTIFICATION OF AUTHORIZATION
NUMBER: 33380

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS
LICENSE
No. 69017
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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NAME — PE LICENSE NO.

9/5/25
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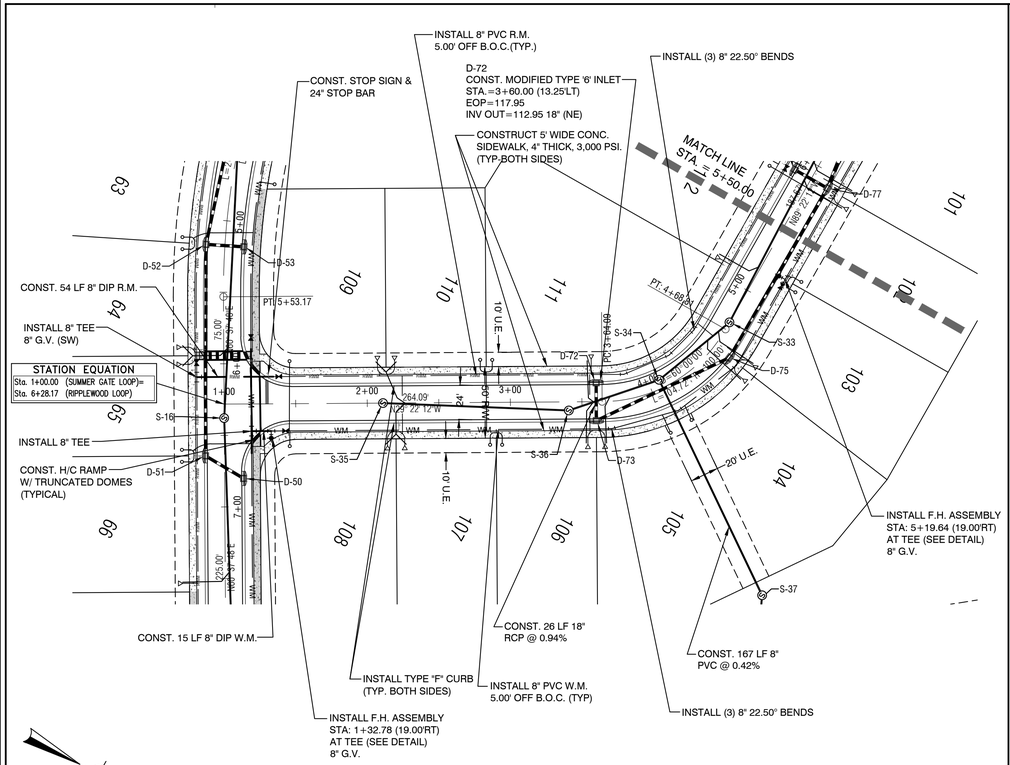
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FIRM OR BUSINESS NO. — STATE

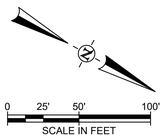
PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 50'

SHEET TITLE:
RIPPLEWOOD LOOP PLAN & PROFILE

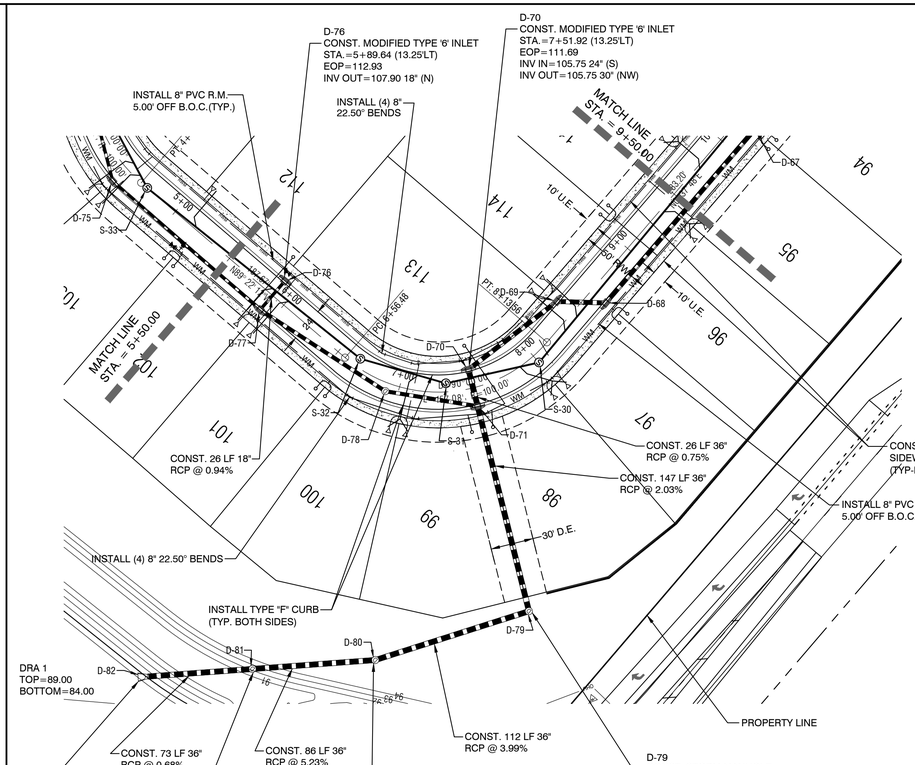
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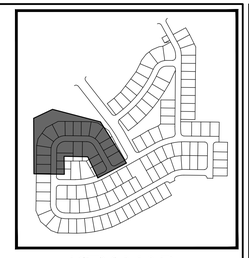
FILE NAME: A:\45000s\45548\003\LDCADD\C101 - C600 Watermark Construction Plans.dwg DATE: October 22, 2025, TIME: 2:27 PM, USER: ah5122





HORIZONTAL SCALE 1" = 50'
VERTICAL SCALE 1" = 5'

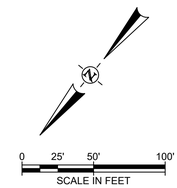




KEY MAP

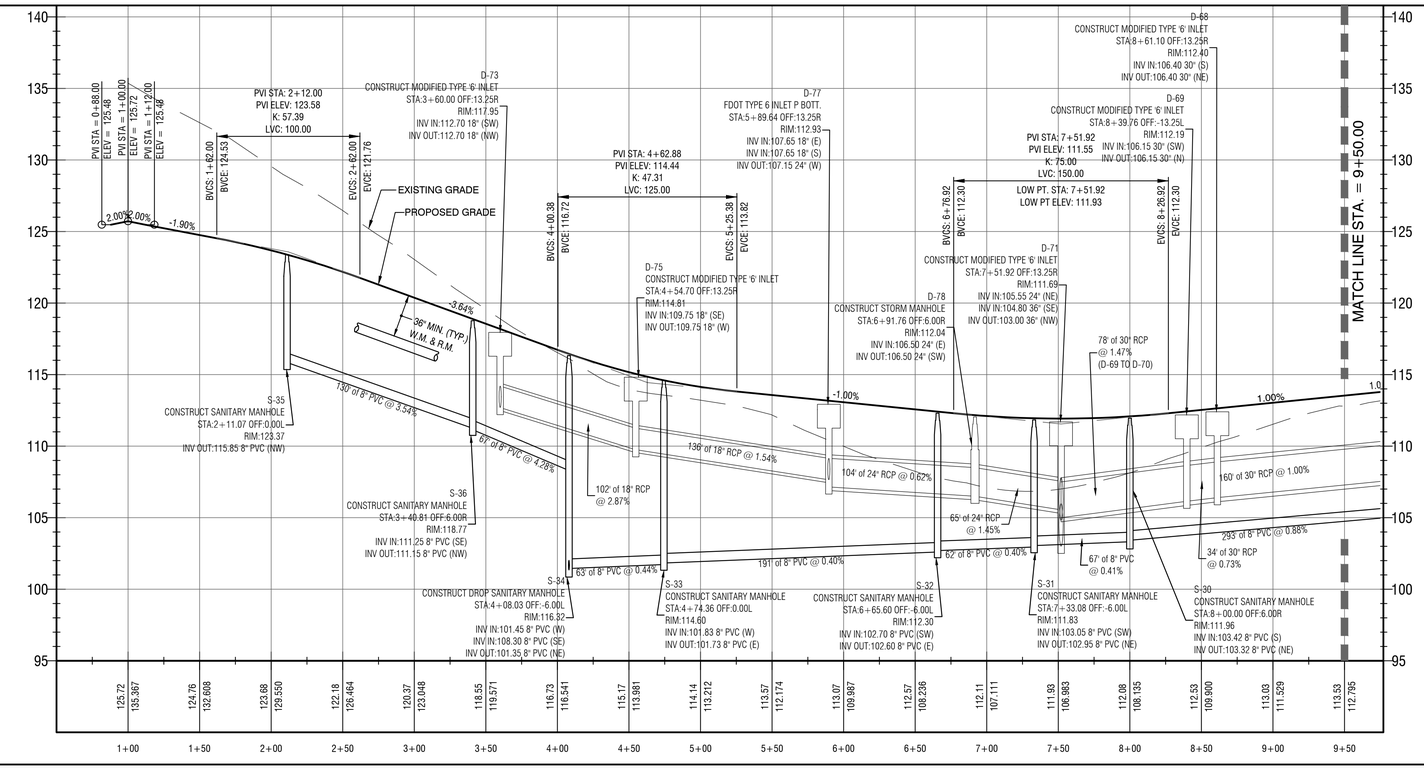
NOTES:

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HORIZONTAL SCALE 1" = 50'
VERTICAL SCALE 1" = 5'

SUMMER GATE LOOP



halff
502 NORTH SINCLAIR AVE
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
CERTIFICATE OF AUTHORIZATION
NUMBER: 33360

WATERMARK PH.1 & MASTER GRADING PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

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210 Hangar Rd.
Kissimmee, FL 34741

REVISION NO.	DATE	DESCRIPTION

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PROFESSIONAL ENGINEER

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NAME — PE LICENSE NO.

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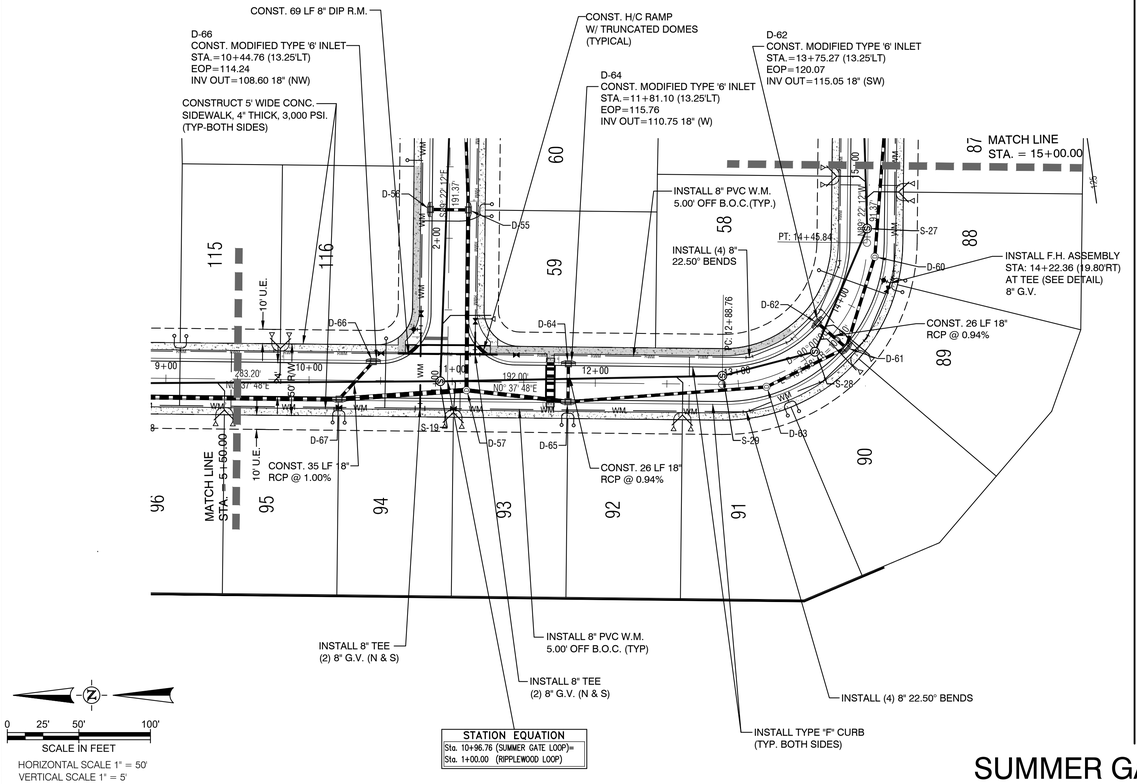
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

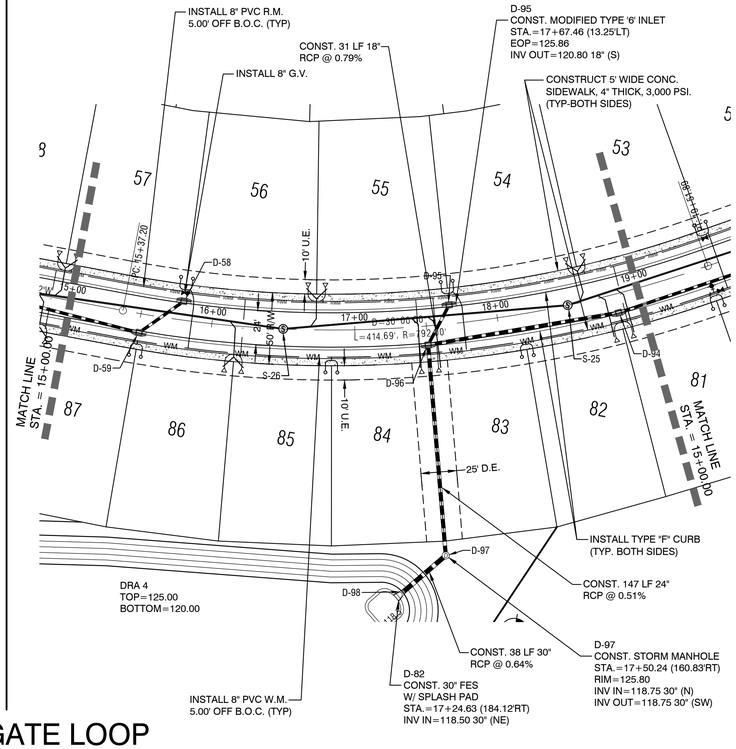
PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 50'

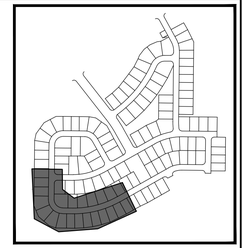
SHEET TITLE:
SUMMER GATE LOOP PLAN & PROFILE

C-505

FILE NAME: A:\45000s\45548\003\LDCADD\C101 - C600 Watermark Construction Plans.dwg DATE: October 22, 2025, TIME: 2:28 PM, USER: ah5122





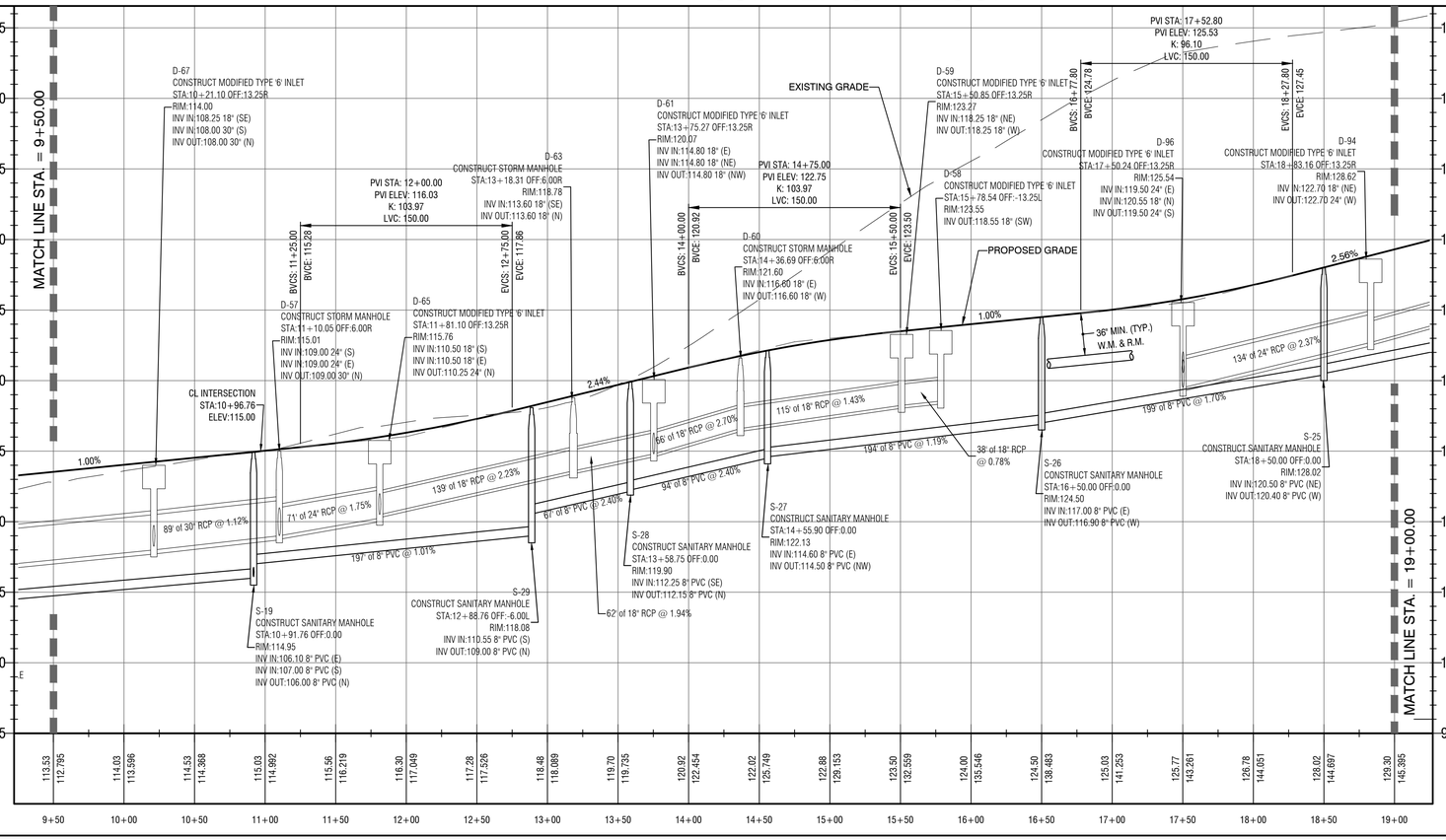


KEY MAP

NOTES:

1. ALL RIGHT OF WAY INTERSECTION RADII SHALL BE 25.00' (TYP.)
2. ALL EDGE OF PAVEMENT INTERSECTION TURNOUT RADII TO BE 35.00' TYPICAL UNLESS OTHERWISE SHOWN.
3. THE REUSE MAIN WILL BE A MINIMUM OF 12" BELOW WATER MAIN AT ALL CROSSINGS.
4. WATER MAIN IS TO BE A MIN. OF 12" ABOVE OR BELOW STORM PIPE CROSSINGS.
5. ALL VALVES SHOULD BE IN GRASS AREA OUTSIDE OF CURB LINES, SIDEWALK, AND CURB RAMPS FOR SIDEWALKS.

SUMMER GATE LOOP



WATERMARK PH.1 & MASTER GRADING PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE
ANGLETON, TEXAS 77515
TEL: (352) 343-8481
WWW.HALFF.COM
CERTIFICATION NUMBER:
NUMBER: 33360

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS
LICENSE
No. 69017
STATE OF FLORIDA
PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.
9/5/25
DATE

THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF:

HALFF ASSOCIATES, INC.

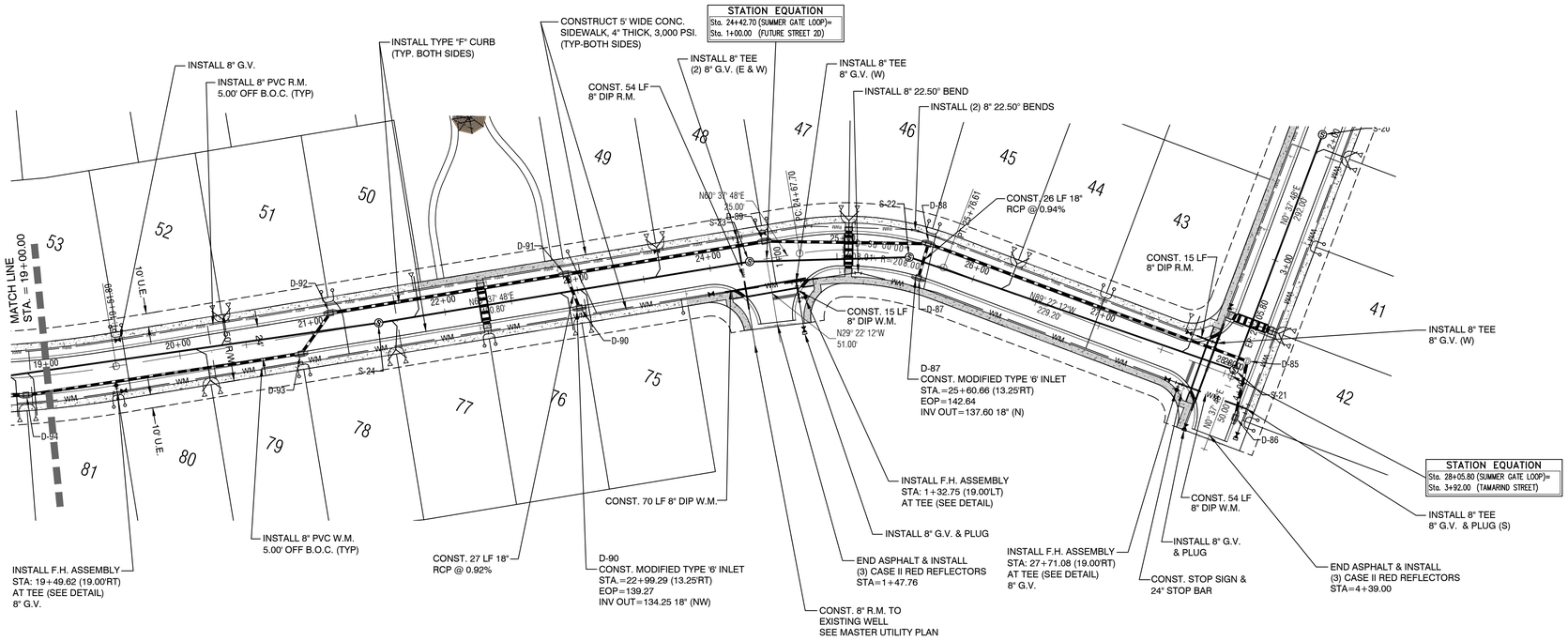
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 50'

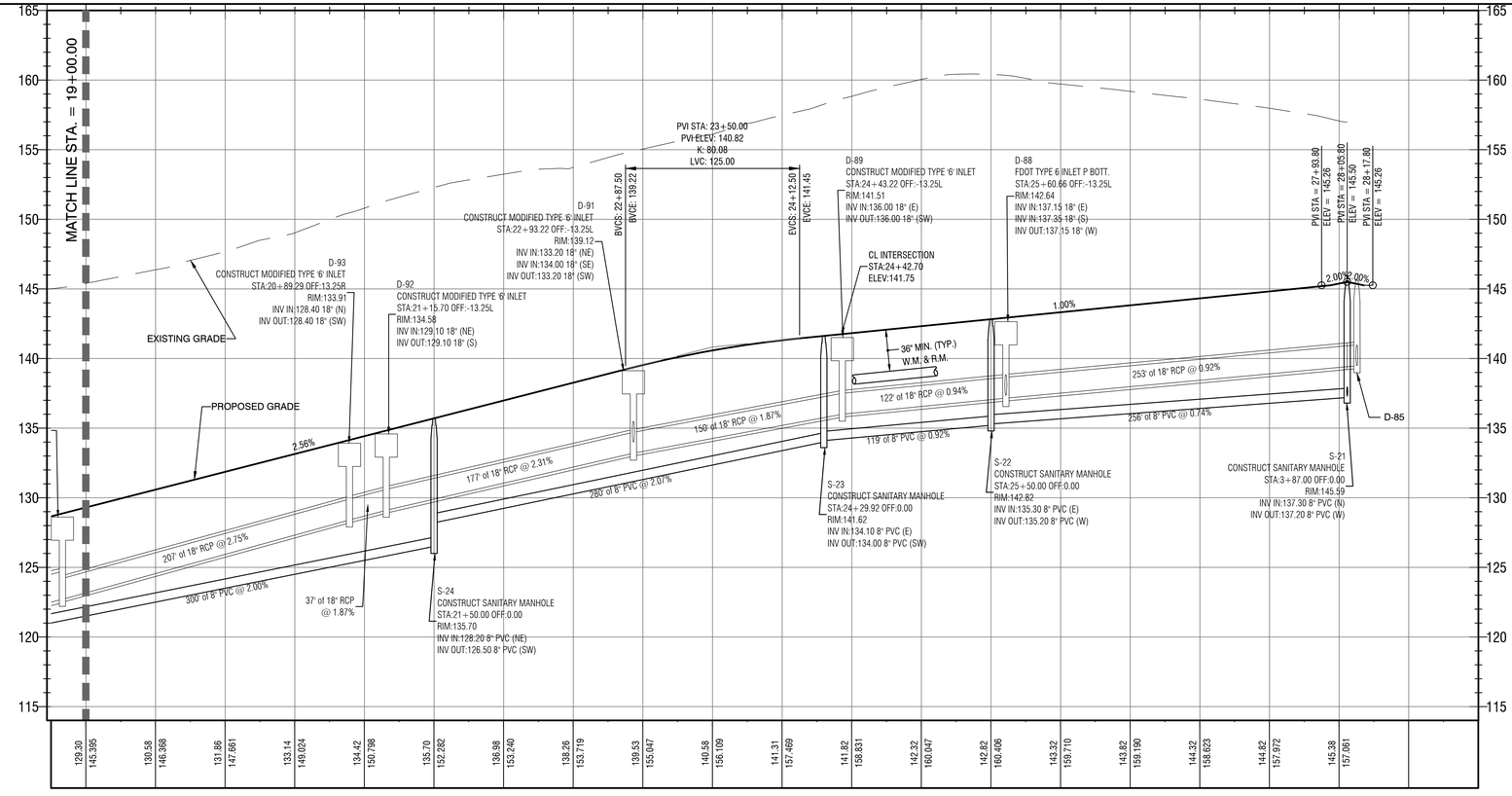
SHEET TITLE:
SUMMER GATE LOOP PLAN & PROFILE

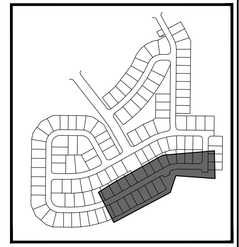
C-506

FILE NAME: A:\45000s\45548\003\LDV\CADD\C101 - C600 Watermark Construction Plans.dwg DATE: October 22, 2025, TIME: 2:30 PM, USER: ah5122



SUMMER GATE LOOP

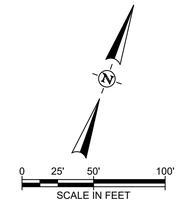




KEY MAP

NOTES:

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4. WATER MAIN IS TO BE A MIN. OF 12" ABOVE OR BELOW STORM PIPE CROSSINGS.
5. ALL VALVES SHOULD BE IN GRASS AREA OUTSIDE OF CURB LINES, SIDEWALK, AND CURB RAMPS FOR SIDEWALKS.



HORIZONTAL SCALE 1" = 50'
VERTICAL SCALE 1" = 5'

WATERMARK PH.1 & MASTER GRADING PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
502 NORTH SINCLAIR AVE
MAILING: PO BOX 490357
TEL: (352) 343-8481
FAX: (352) 343-8501
CERTIFICATION OF AUTHORIZATION
NUMBER: 33380

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS
LICENSE
No. 69017
STATE OF FLORIDA
PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.

9/5/25
DATE

THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF:

HALFF ASSOCIATES, INC.

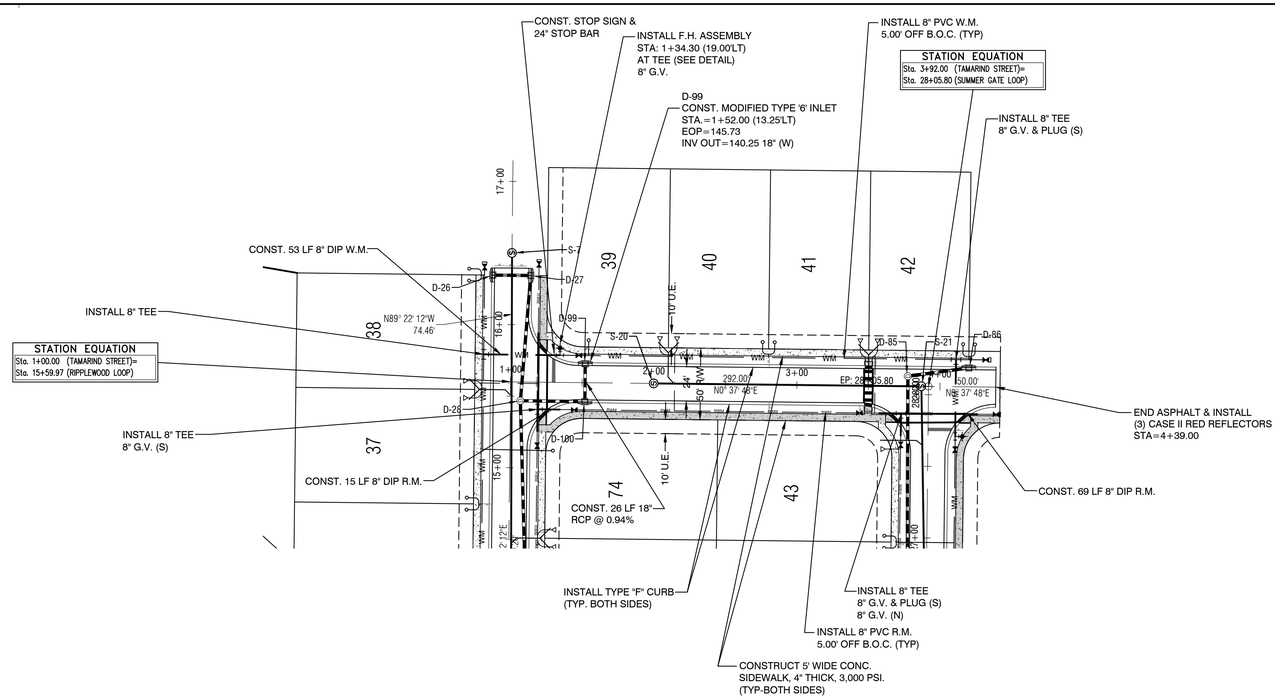
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 50'

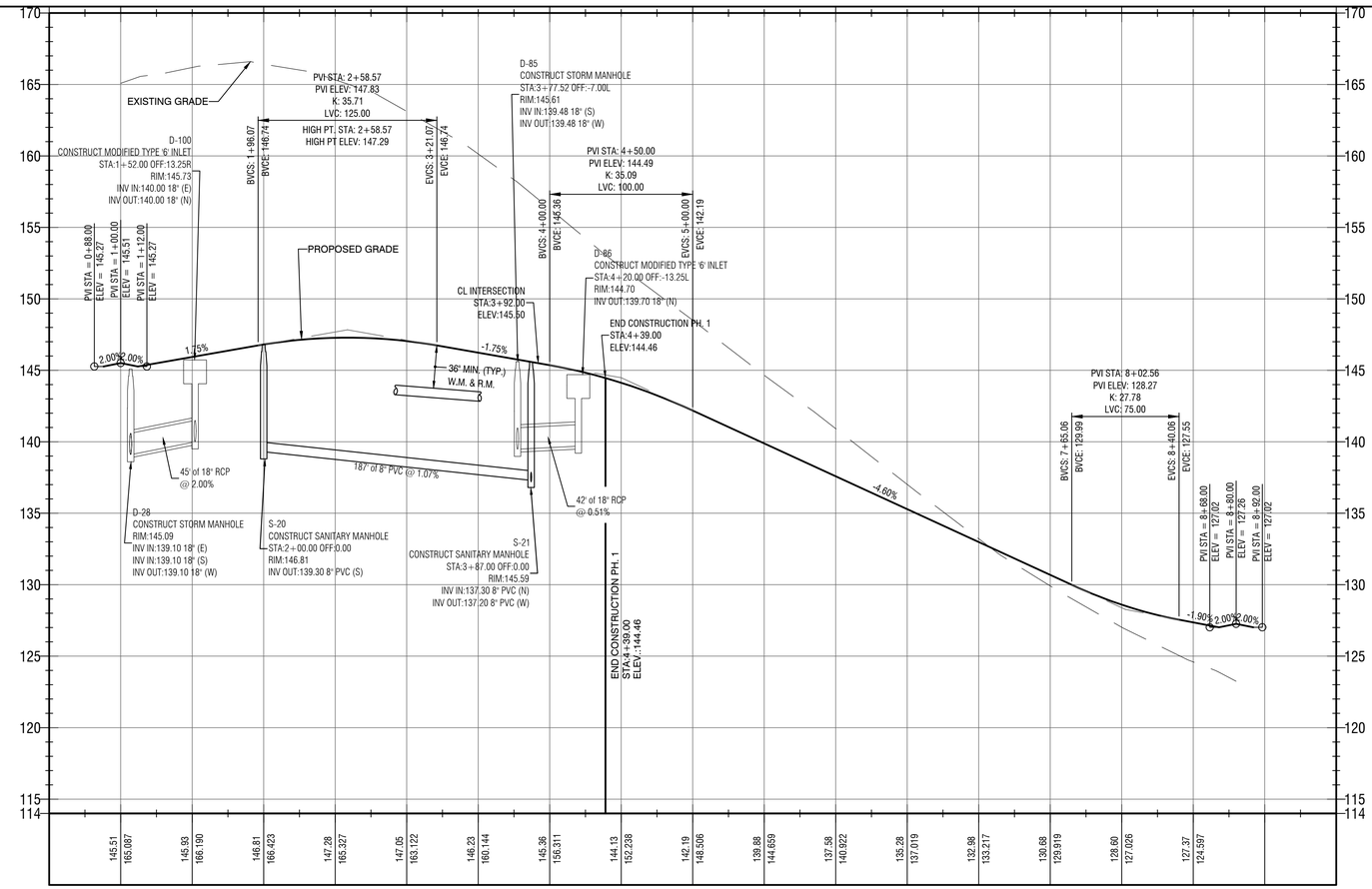
SHEET TITLE:
SUMMER GATE LOOP PLAN & PROFILE

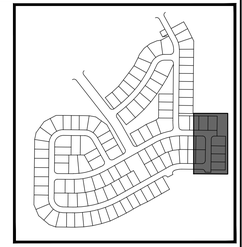
C-507

FILE NAME: A:\45000s\45548\003\LDV\CADD\C101 - C600 Watermark Construction Plans.dwg DATE: October 22, 2025, TIME: 2:31 PM, USER: ah5122



TAMARIND STREET





KEY MAP

NOTES:

1. ALL RIGHT OF WAY INTERSECTION RADII SHALL BE 25.00' (TYP.)
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4. WATER MAIN IS TO BE A MIN. OF 12" ABOVE OR BELOW STORM PIPE CROSSINGS.
5. ALL VALVES SHOULD BE IN GRASS AREA OUTSIDE OF CURB LINES, SIDEWALK, AND CURB RAMPS FOR SIDEWALKS.

0 25' 50' 100'

SCALE IN FEET

HORIZONTAL SCALE 1" = 50'
VERTICAL SCALE 1" = 5'

WATERMARK PH.1 & MASTER GRADING PLANS

TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
502 NORTH SINCLAIR AVE.
MAILING: PO BOX 2270
TEL: (352) 343-8481
CERTIFICATE OF AUTHORIZATION NUMBER: 33380

REVISION		
NO.	DATE	DESCRIPTION

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J TOBIAS — 69017
NAME — PE LICENSE NO.
9/5/25
DATE

THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF:

HALFF ASSOCIATES, INC.

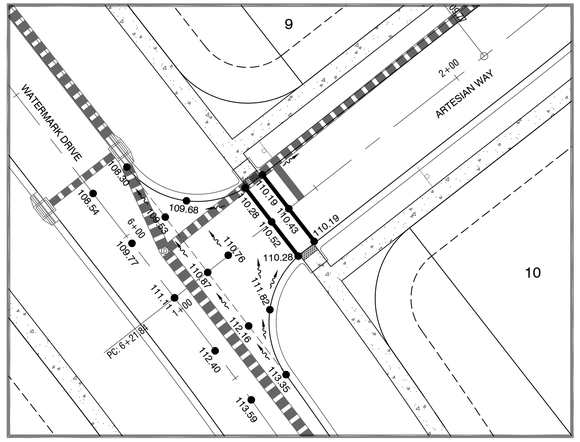
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 50'

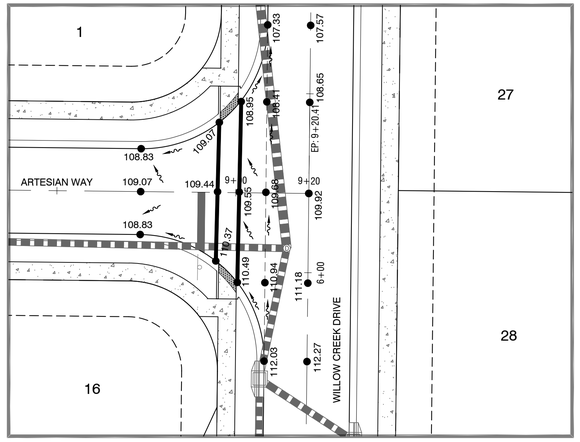
SHEET TITLE:
TAMARIND STREET PLAN & PROFILE

C-508

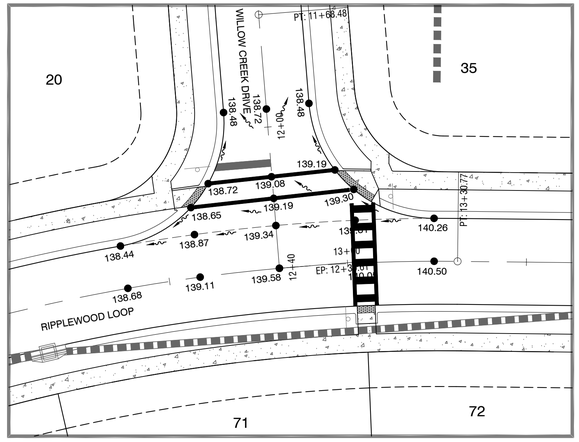
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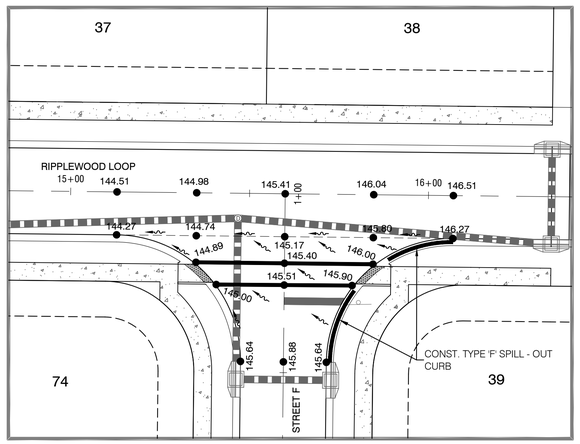
WATERMARK DRIVE & ARTESIAN WAY (PHASE 1)



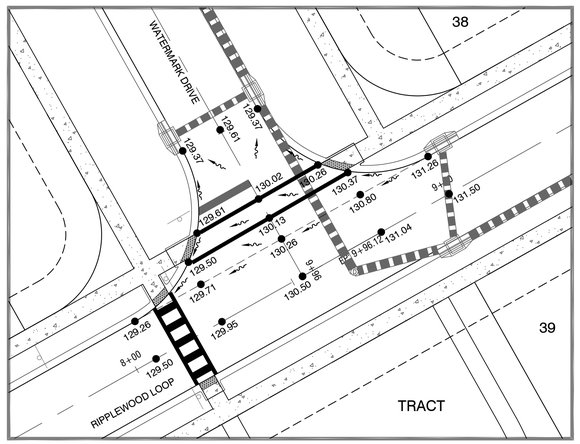
WILLOW CREEK DRIVE & ARTESIAN WAY (PHASE 1)



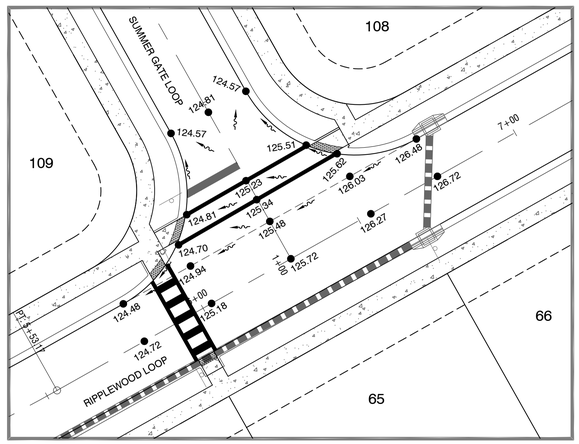
RIPPLEWOOD LOOP & WILLOW CREEK DRIVE (PHASE 1)



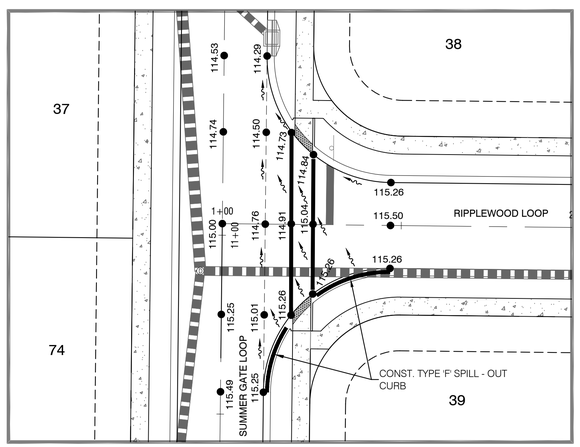
RIPPLEWOOD LOOP & STREET F (PHASE 1)



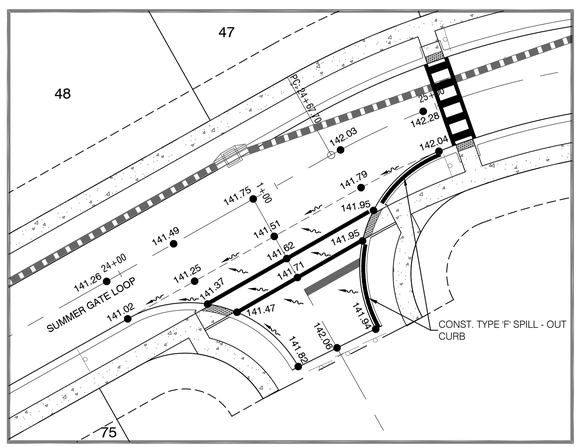
RIPPLEWOOD LOOP & WATERMARK DRIVE (PHASE 1)



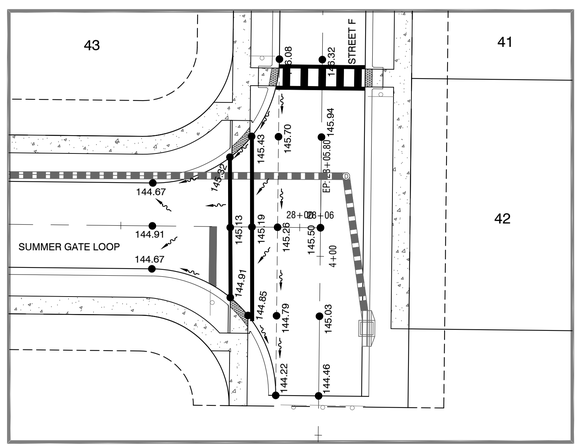
RIPPLEWOOD LOOP & SUMMER GATE LOOP (PHASE 1)



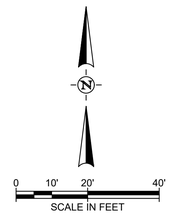
RIPPLEWOOD LOOP & SUMMER GATE LOOP (PHASE 1)



SUMMER GATE LOOP & FUTURE ROAD (PHASE 1)



SUMMER GATE LOOP & STREET F (PHASE 1)



WATERMARK PH.1 & MASTER GRADING PLANS

TOWN OF HOWEY IN THE HILLS

LAKE COUNTY

REVELS ROAD INVESTORS, LLC

210 Hangar Rd.

Kissimmee, FL 34741

halff

902 NORTH SINCLAIR AVE.
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
WWW.HALFF.COM
CERTIFICATE OF AUTHORIZATION
NUMBER: 33360

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.

9/5/25
DATE

THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF:

HALFF ASSOCIATES, INC.

HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

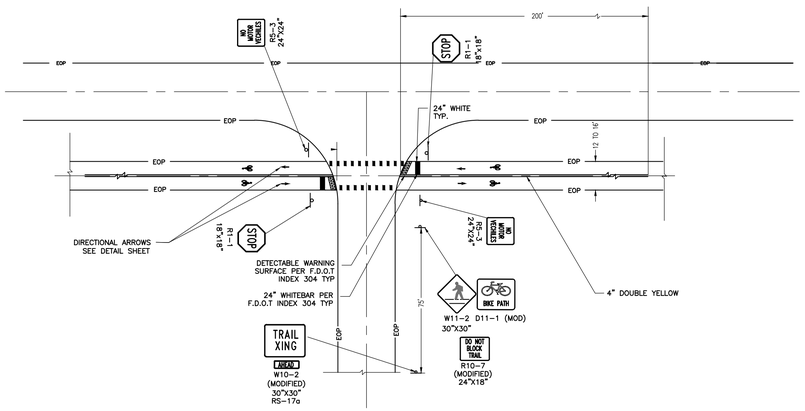
PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 20'

SHEET TITLE:

INTERSECTION GRADING PLAN

C-509

FILE NAME: A:\45000s\45548\003\LD\CADD\C101 - C600 Watermark Construction Plans.dwg DATE: September 19, 2025, TIME: 9:13 AM, USER: ah5122

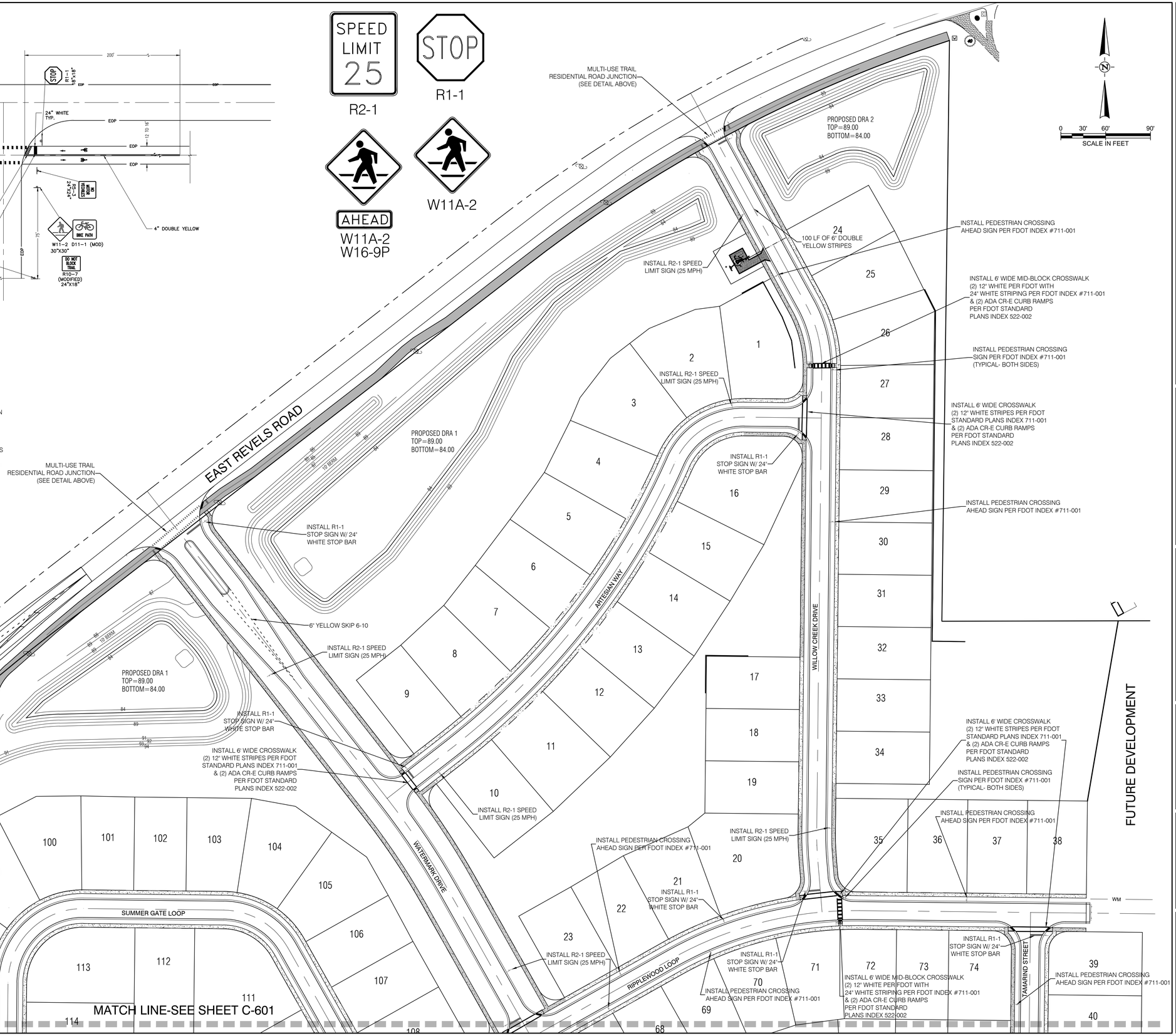


SIGNAGE AND STRIPING NOTES:

1. ALL PAVEMENT MARKING AND TRAFFIC CONTROL SIGNS SHALL BE IN PLACE PRIOR TO FINAL INSPECTION.
2. ALL MATERIALS AND INSTALLATION SHALL CONFORM TO THE SPECIFICATIONS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
3. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC EXCEPT FOR ON BIKE PATHS AND BIKE LANES WHICH SHALL BE STANDARD PAINT FOR PAVEMENT MARKING.
4. ALL REGULATORY SIGNS SHALL HAVE "HIGH INTENSITY" FACINGS OR BETTER.
5. STOP SIGNS ON LOCAL STREETS SHALL BE 30" AND 36" ON ALL OTHERS AND SHALL BE PLACED ON 2" SQUARE METAL POSTS.
6. ROAD NAME SIGNS SHALL BE 9" HIGH WITH A LENGTH OF 24" MINIMUM TO 54" MAXIMUM.

ENTRANCE SIGN NOTE:

1. ENTRANCE SIGN SETBACKS PURSUANT TO LDR, SECTION 11.02.01(A)(1)(b)



WATERMARK PH.1 & MASTER GRADING PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE.
ANGELS, CALIFORNIA 95222
TEL: (352) 343-8481
FAX: (407) 647-7322
CERTIFICATE OF AUTHORIZATION NUMBER: 33360

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017 (NAME — PE LICENSE NO.)
9/5/25 (DATE)

THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF:

HALFF ASSOCIATES, INC.

HALFF ASSOCIATES, INC. — FL (FIRM OR BUSINESS NO. — STATE)

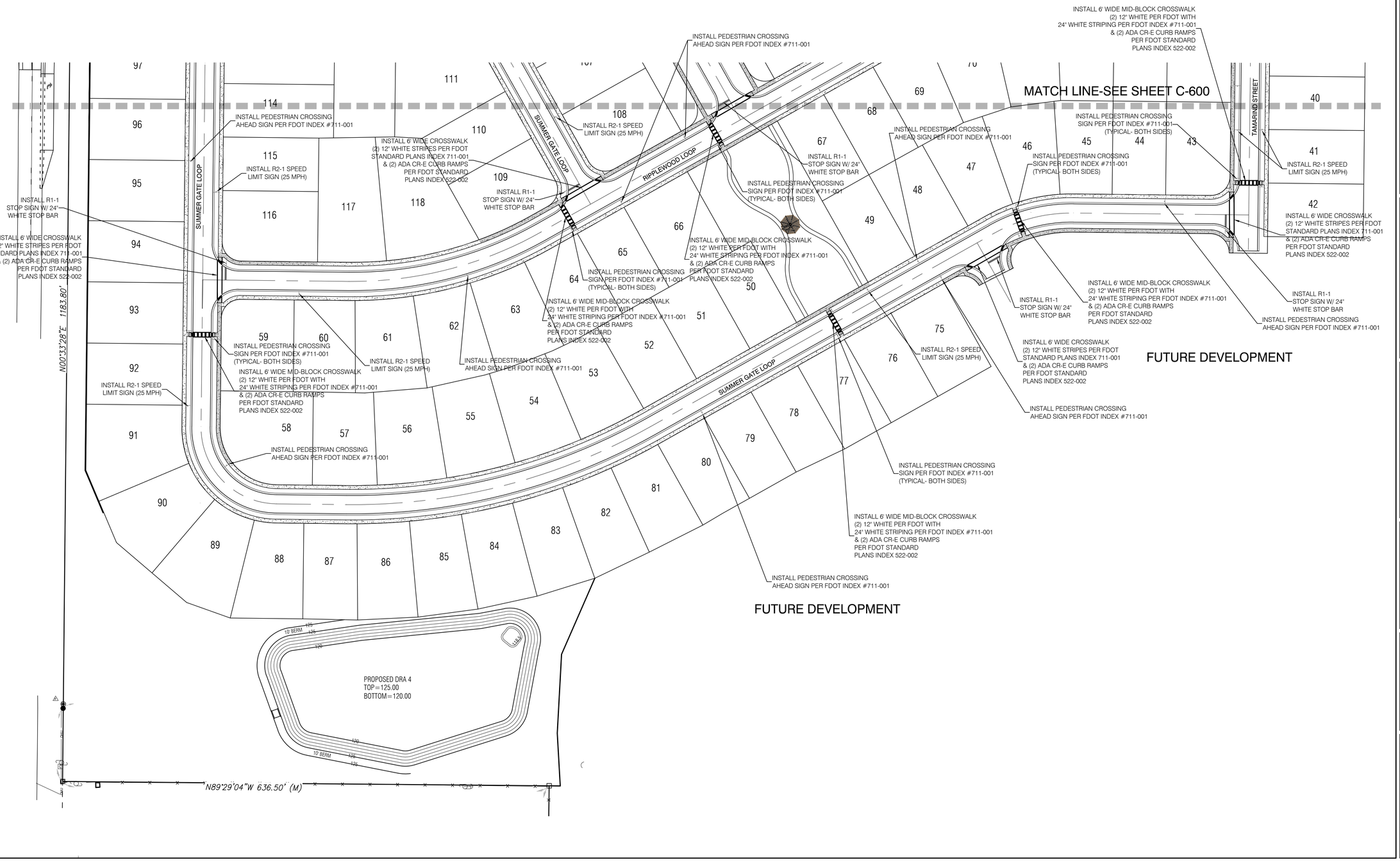
PROJECT NO.:	045548
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 60'

SHEET TITLE:

SIGNAGE & STRIPING PLAN

C-600

FILE NAME: A:\45000s\45548\003\LDVCADD\C101 - C600 Watermark Construction Plans.dwg DATE: October 30, 2025, TIME: 10:09 AM, USER: ah5122



0 30' 60' 90'
SCALE IN FEET

WATERMARK PH.1 & MASTER GRADING PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
CERTIFICATE OF AUTHORIZATION NUMBER: 33390

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.

9/5/25
DATE

THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF:

HALFF ASSOCIATES, INC.

HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

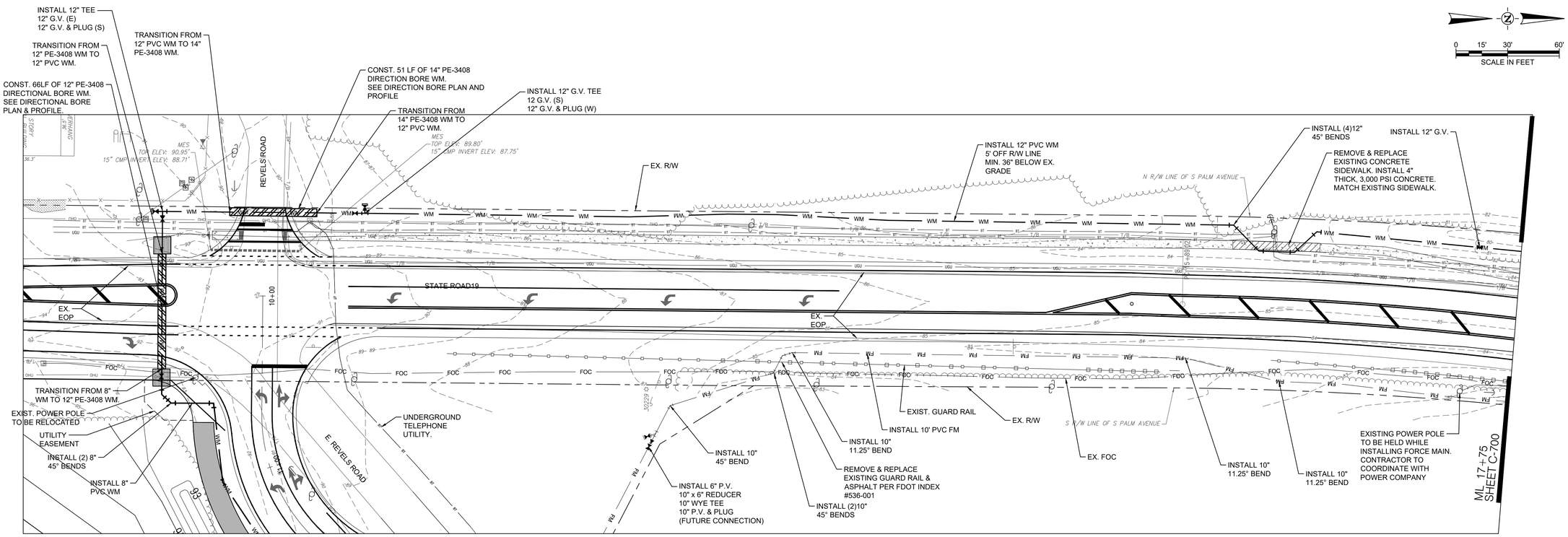
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ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 60'

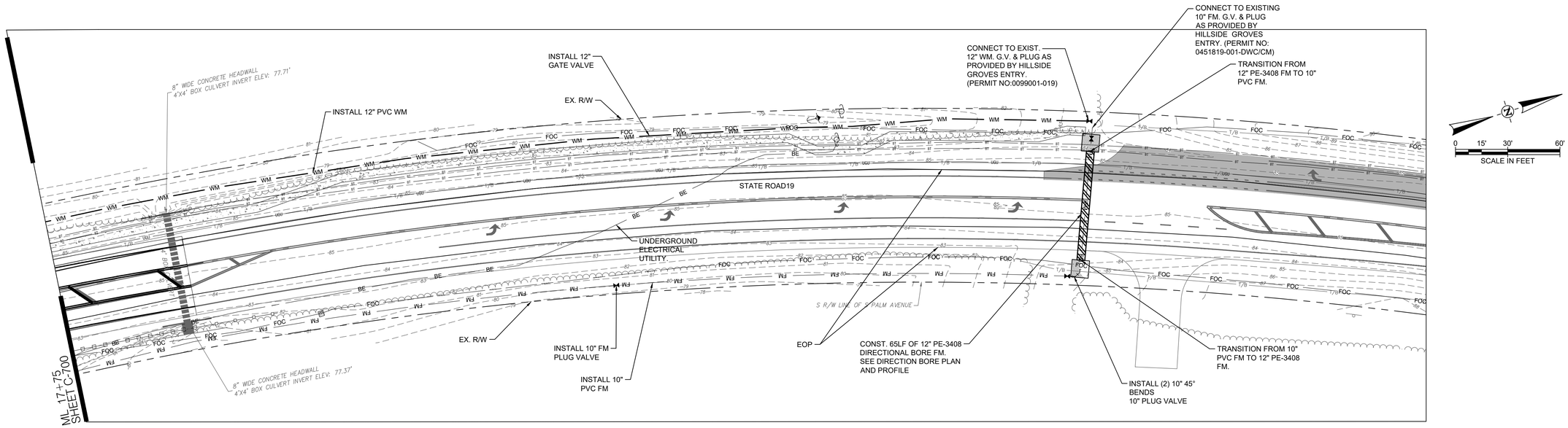
SHEET TITLE:

SIGNAGE & STRIPING PLAN

C-601

FILE NAME: A:\45000s\45548\003\LD\CADD\C101 - C600 Watermark Construction Plans.dwg DATE: October 22, 2025, TIME: 2:34 PM, USER: ah5122





CONTRACTOR SHALL PROVIDE AND PERFORM A 2 WEEK LOOK AHEAD INTO THE UTILITY WORK TO BE PERFORMED. THIS SHALL INCLUDE THE VERIFICATION OF EXISTING UTILITIES, BOTH HORIZONTAL AND VERTICAL POSITIONING, MATCHES WHAT IS SHOWN IN THE CONTRACT DOCUMENTS AND ANY NEW UTILITIES THAT ARE DISCOVERED DURING THIS LOOK AHEAD. INFORMATION OF CONFLICTS OR DISCREPANCIES WITH THE CONTRACT DOCUMENTS SHALL BE PROVIDED TO THE ENGINEER OF RECORD NO LESS THAN 1 WEEK PRIOR TO COMMENCEMENT OF WORK WITHIN SAID CONFLICT AREA. ENGINEER OF RECORD SHALL BE ALLOWED AMPLE TIME TO ADDRESS CONFLICTS/ISSUES AND PROVIDE ADJUSTMENTS TO THE DESIGN TO ADDRESS CONCERNS WITHOUT CONTRACTOR REQUESTING TIME DELAYS.

WATERMARK CONSTRUCTION PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
2601 NORTH BAILEY AVE.
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
WWW.HALFF.COM
CERTIFICATE OF AUTHORIZATION
NUMBER: 33360

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS
LICENSE
No. 69017
STATE OF FLORIDA
PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.

DATE

THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF:

HALFF ASSOCIATES, INC.

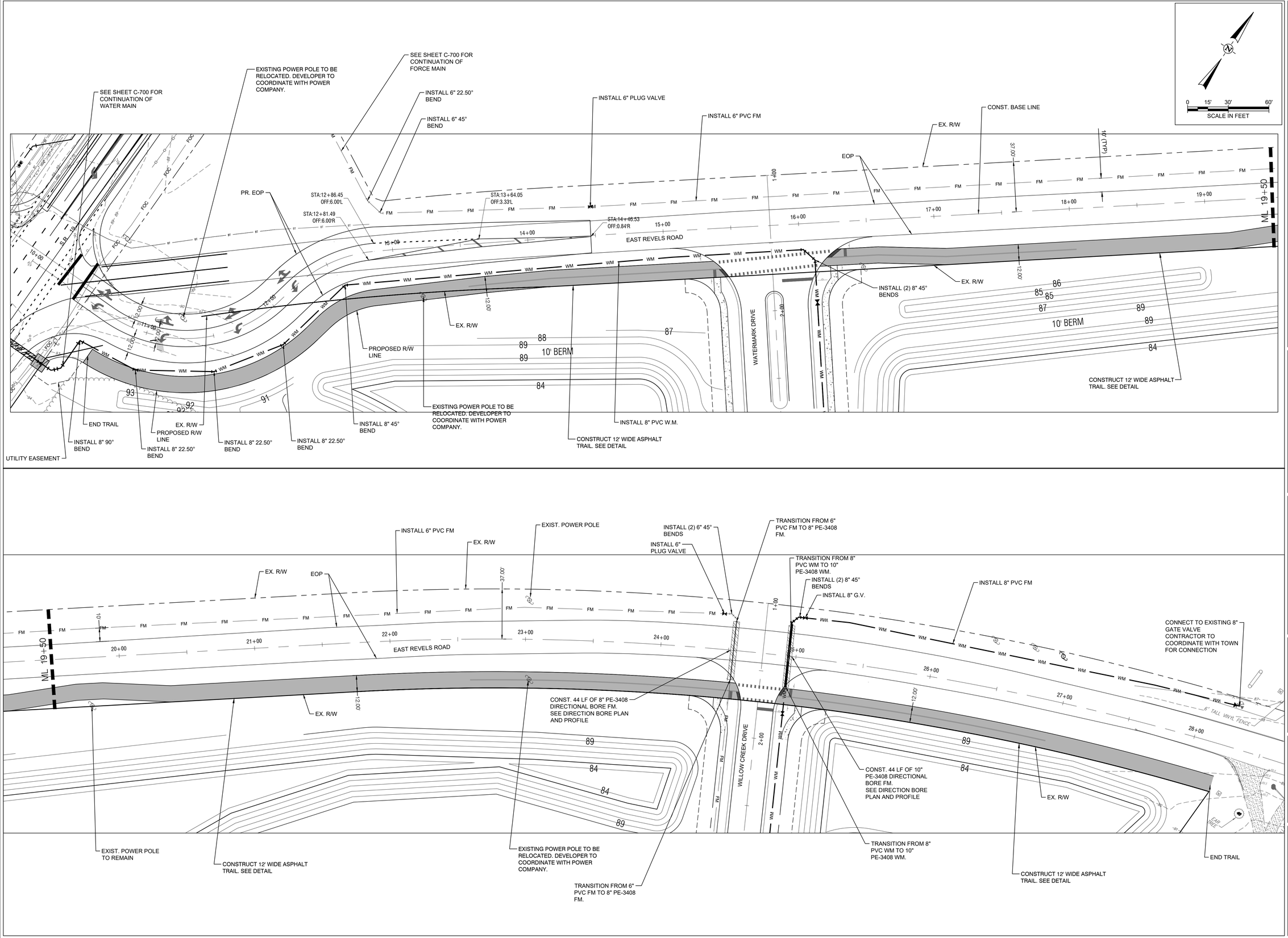
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	045548.003
ISSUED:	JULY 2025
DRAWN BY:	MC
CHECKED BY:	BJT
SCALE:	1" = 30'

SHEET TITLE:
OFFSITE UTILITIES

C-700

FILE NAME: A:\45000s\45548\003\LD\CADD\C-700-C705 Offsite Utilities Plans.dwg DATE: October 30, 2025, TIME: 9:42 AM, USER: ah5122



WATERMARK CONSTRUCTION PLANS

TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC

210 Hangar Rd.
Kissimmee, FL 34741

halff
TEL: (352) 343-8481
FAX: (352) 343-8495
CERTIFICATE OF AUTHORIZATION NUMBER: 33390

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.

DATE

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HALFF ASSOCIATES, INC.

HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

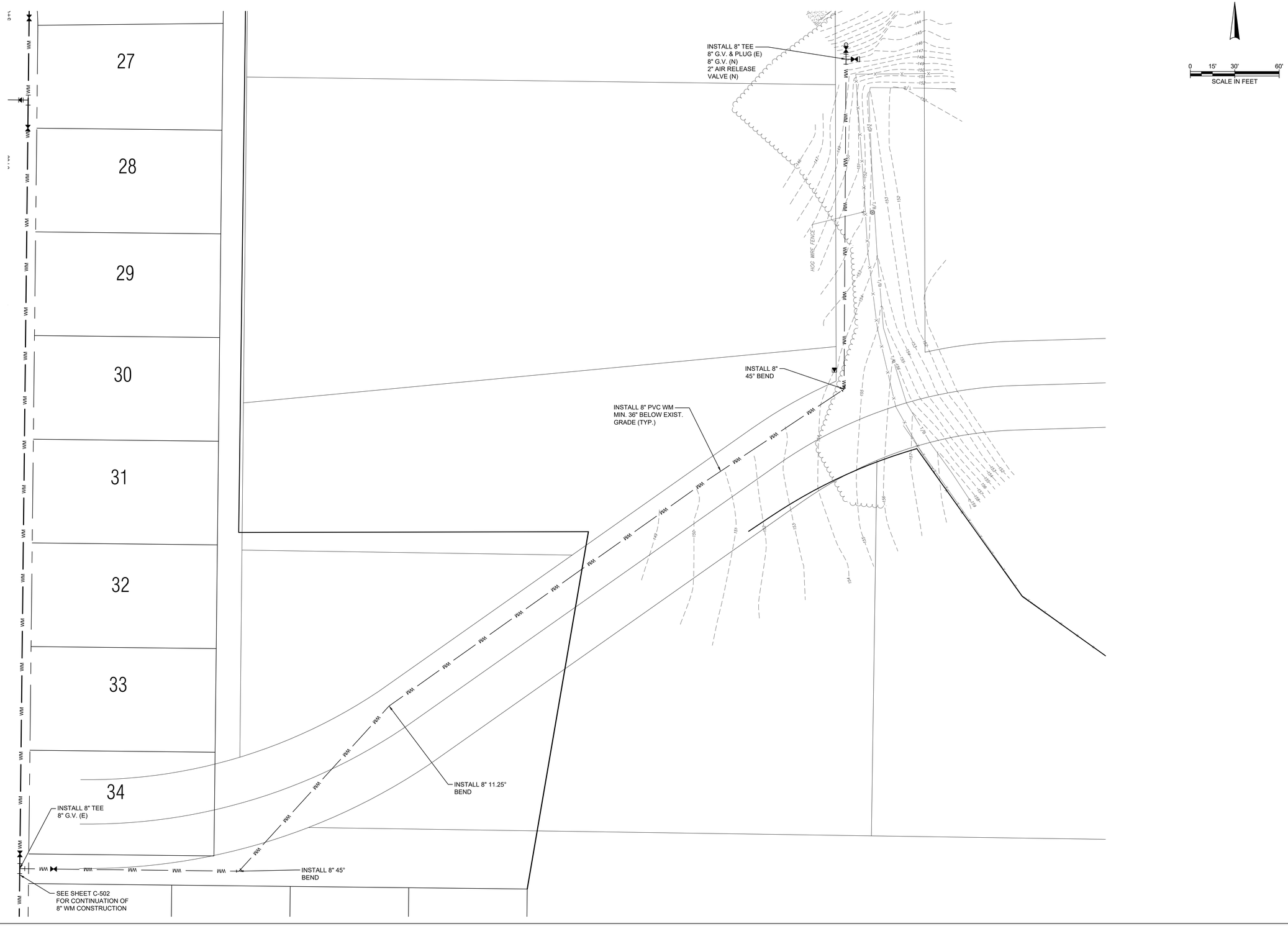
PROJECT NO.:	045548.003
ISSUED:	JULY 2025
DRAWN BY:	MC
CHECKED BY:	BJT
SCALE:	1" = 30'

SHEET TITLE:

OFFSITE UTILITIES

C-701

FILE NAME: A:\45000s\45548\003\LD\CADD\C-700 Offsite Utilities Plans.dwg DATE: October 7, 2025, TIME: 2:46 PM, USER: ah5122



WATERMARK CONSTRUCTION PLANS

TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC

210 Hangar Rd.
Kissimmee, FL 34741

halff
901 NORTH BAY AVENUE, SUITE 5
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
FAX: (352) 343-8487
CERTIFICATE OF AUTHORIZATION
NUMBER: 33380

REVISION		
NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS
LICENSE
No. 69017
STATE OF FLORIDA
PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.

DATE

THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF:

HALFF ASSOCIATES, INC.

HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

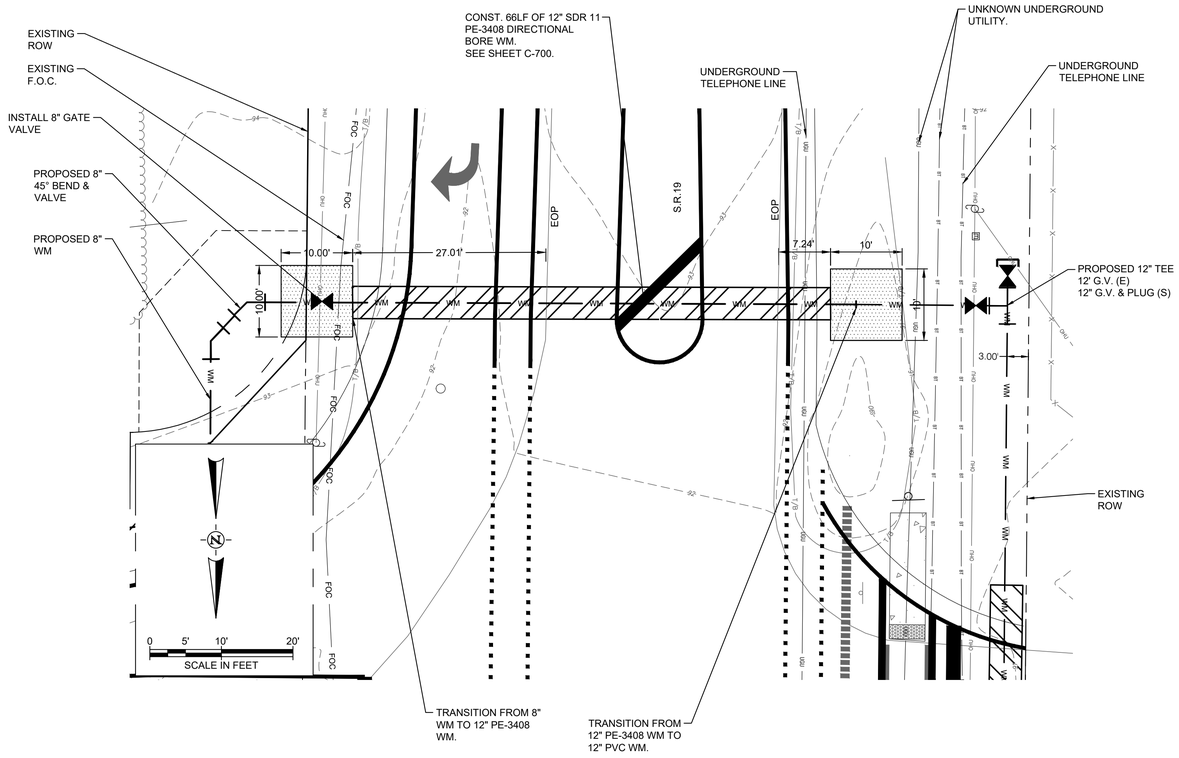
PROJECT NO.:	045548.003
ISSUED:	JULY 2025
DRAWN BY:	MC
CHECKED BY:	BJT
SCALE:	1" = 30'

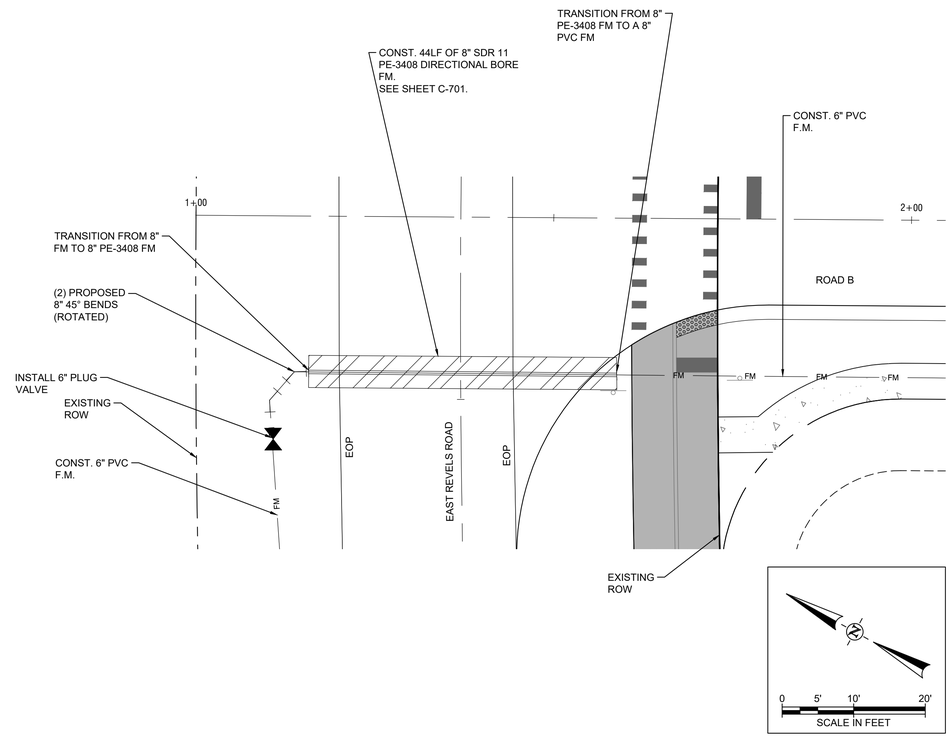
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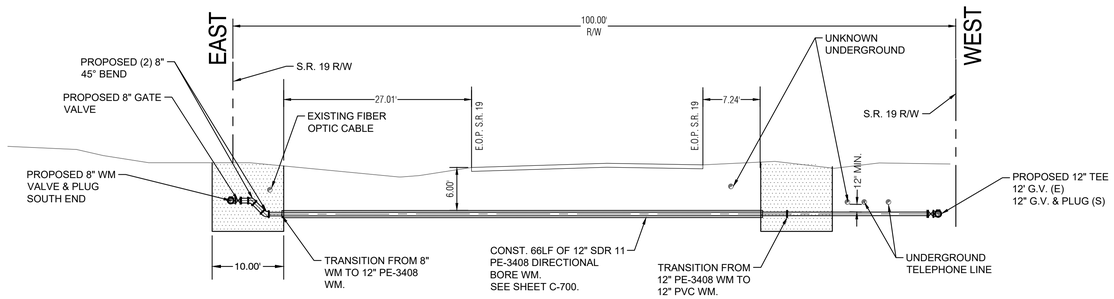
OFFSITE
UTILITIES

C-702

FILE NAME: A:\45000s\45548\003\LD\CADD\C-700-C705 Offsite Utilities Plans.dwg DATE: October 22, 2025, TIME: 2:11 PM, USER: ah5122

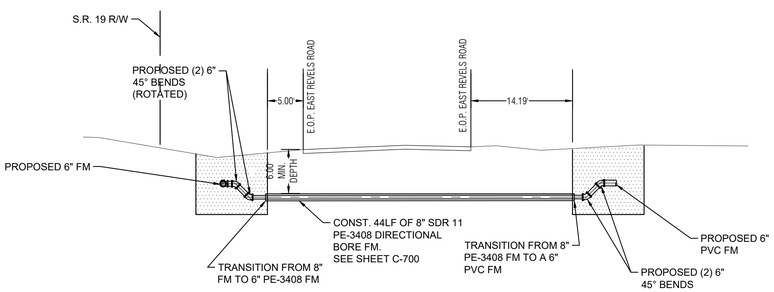






STATE ROAD 19 DIRECTIONAL BORE PROFILE (12" SDR-11 PE-3408 WATER MAIN)

SCALE: 1" = 10'-0"



EAST REVELS ROAD DIRECTIONAL BORE PROFILE (8" SDR-11 PE-3408 FORCE MAIN)

SCALE: 1" = 10'-0"

WATERMARK CONSTRUCTION PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
901 NORTH BAY AVENUE, SUITE 145
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
FAX: (407) 647-7275
CERTIFICATE OF AUTHORIZATION NUMBER: 33380

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.

DATE

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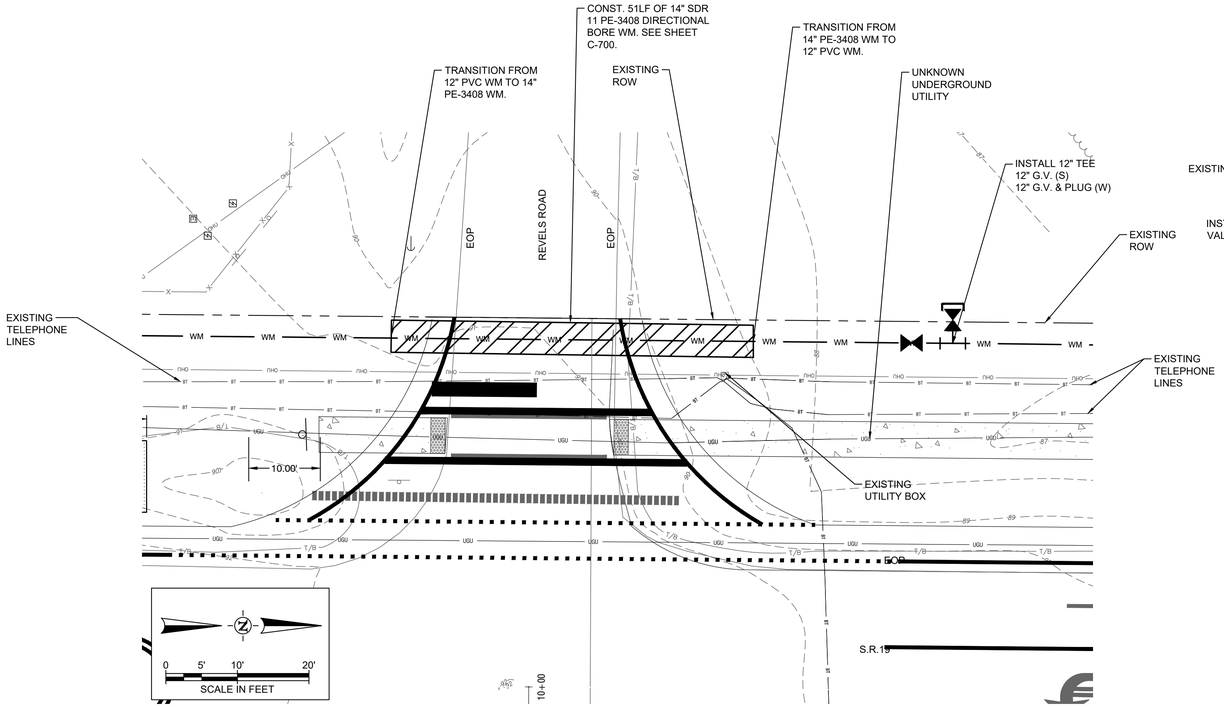
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

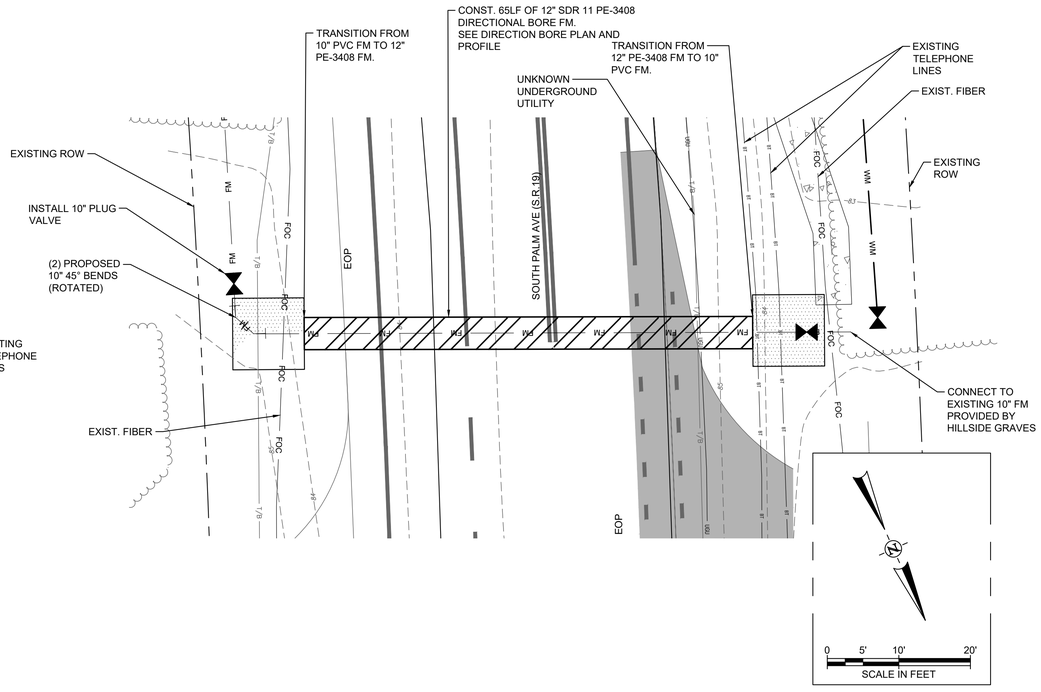
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ISSUED:	JULY 2025
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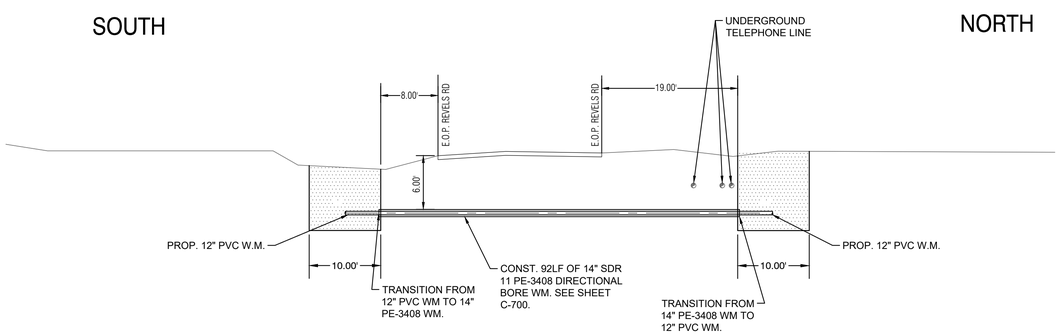
SHEET TITLE:
OFFSITE UTILITIES

C-703

FILE NAME: A:\45000s\45548\003\LD\CADD\C-700-C705 Offsite Utilities Plans.dwg DATE: October 22, 2025, TIME: 2:10 PM, USER: ah5122

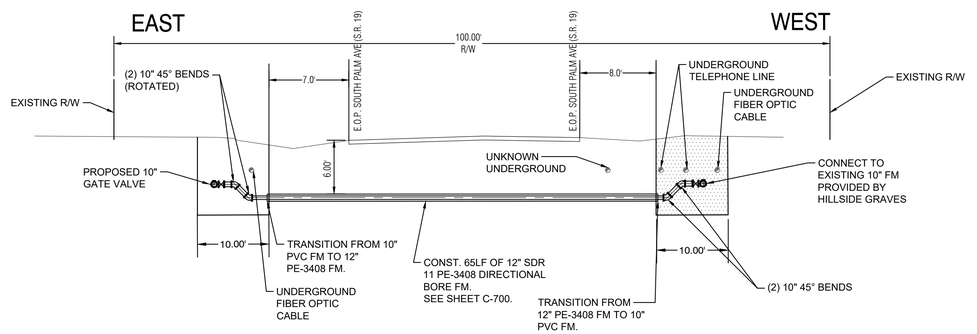






REVELS ROAD DIRECTIONAL BORE PROFILE (14" SDR-11 PE-3408 WATER MAIN)

SCALE: 1" = 10'-0"



SOUTH PALM AVE (S.R. 19) DIRECTIONAL BORE PROFILE (12" SDR-11 PE-3408 FORCE MAIN)

SCALE: 1" = 10'-0"

WATERMARK CONSTRUCTION PLANS

TOWN OF HOWEY IN THE HILLS

LAKE COUNTY

REVELS ROAD INVESTORS, LLC

210 Hangar Rd.

Kissimmee, FL 34741

halff

NORTH BROOKLYN AVE
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
FAX: (352) 343-8487
CERTIFICATE OF AUTHORIZATION NUMBER: 33380

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.

DATE

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HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

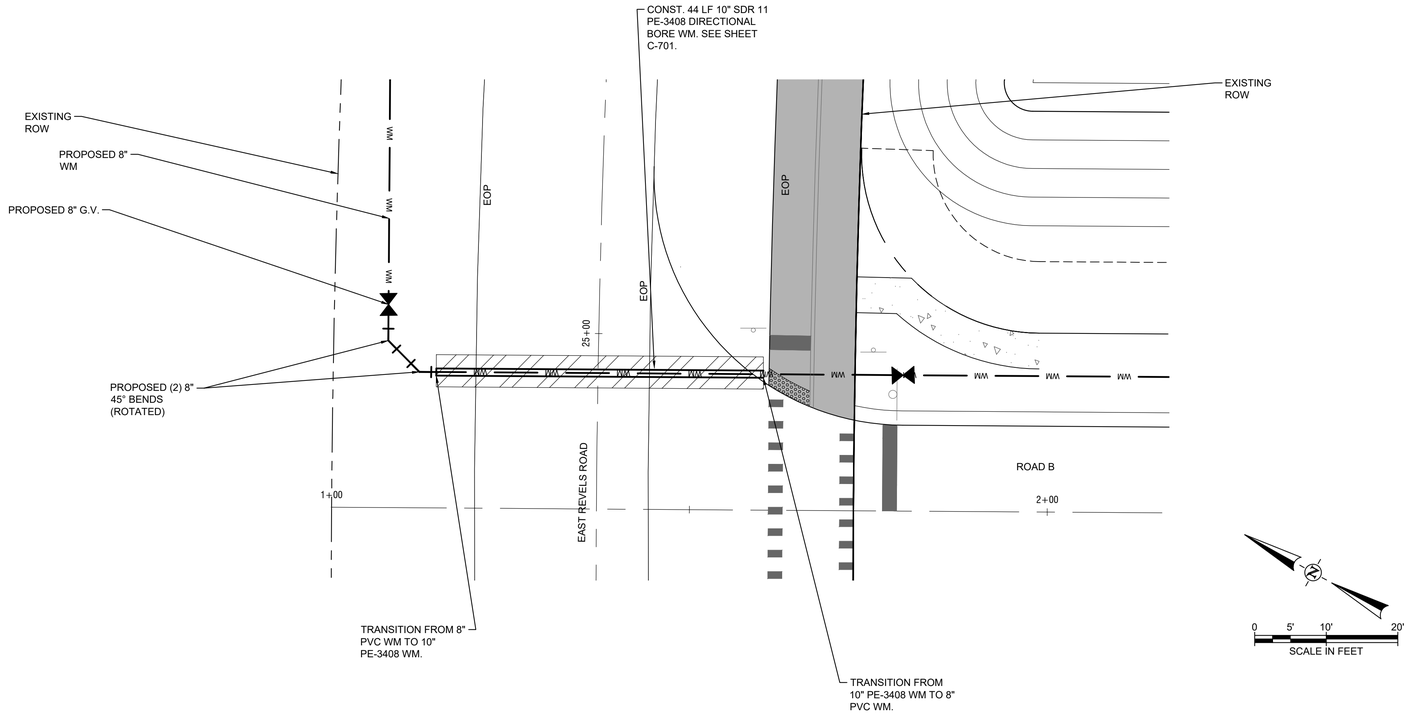
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ISSUED:	JULY 2025
DRAWN BY:	MC
CHECKED BY:	BJT
SCALE:	1" = 10'

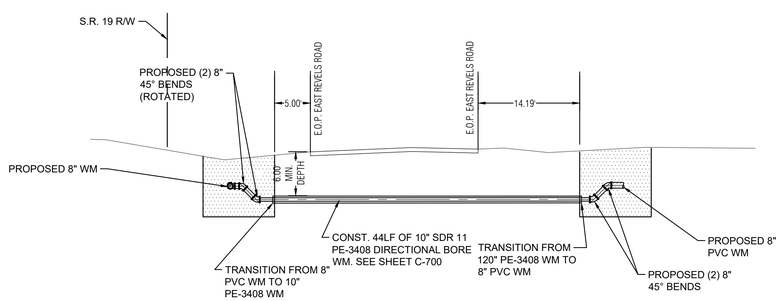
SHEET TITLE:

OFFSITE UTILITIES

C-704

FILE NAME: A:\45000s\45548\003\LD\CADD\C-700-C705 Offsite Utilities Plans.dwg DATE: October 30, 2025, TIME: 10:24 AM, USER: ah5122





EAST REVELS ROAD DIRECTIONAL BORE PROFILE (10" SDR-11 PE-3408 WATER MAIN)

SCALE: 1" = 10'-0"

WATERMARK CONSTRUCTION PLANS

TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC

210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH BLOSSOM LAKE ROAD
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
FAX: (352) 343-8487
CERTIFICATE OF AUTHORIZATION NUMBER: 33380

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

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BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.

DATE

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HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

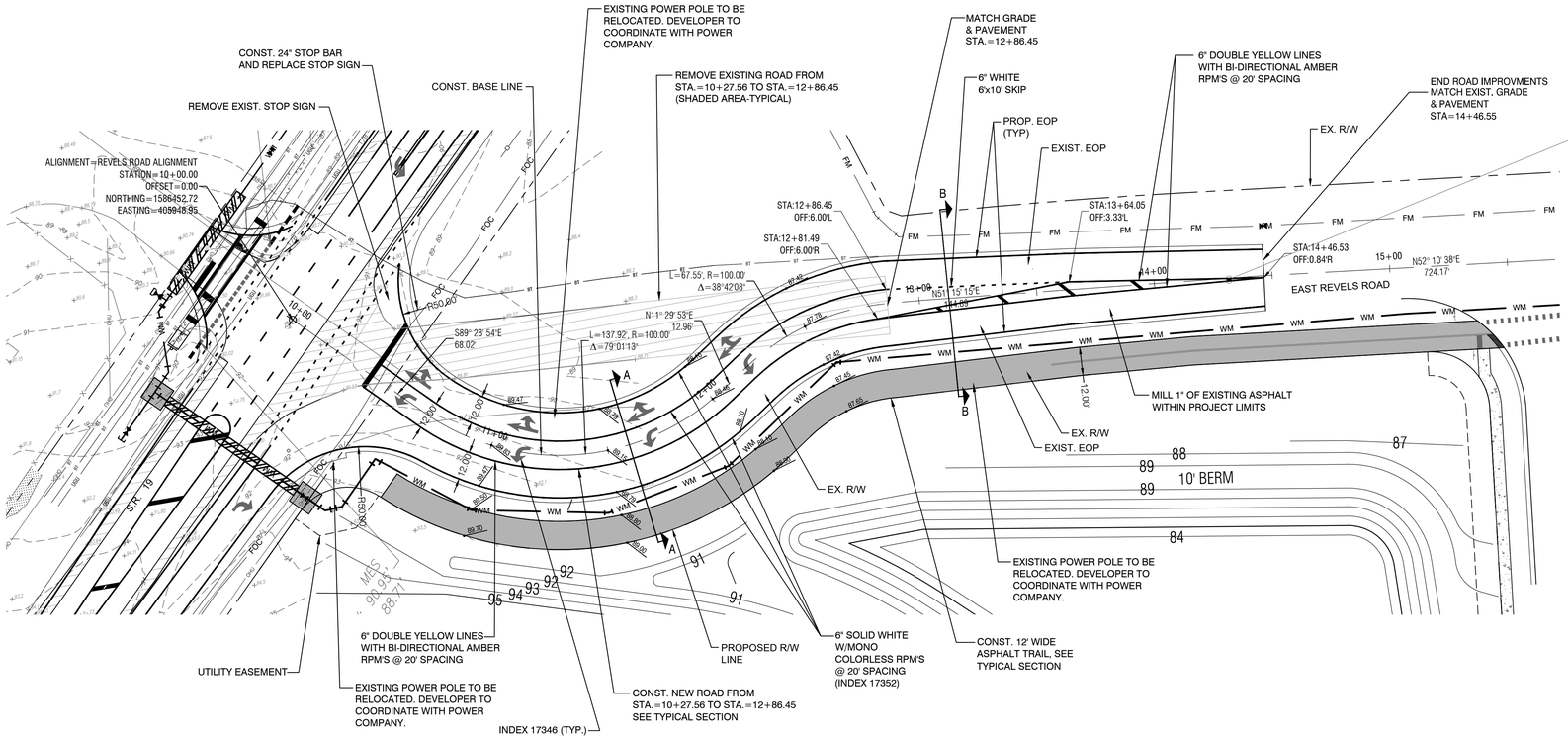
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ISSUED:	JULY 2025
DRAWN BY:	MC
CHECKED BY:	BJT
SCALE:	1" = 30'

SHEET TITLE:

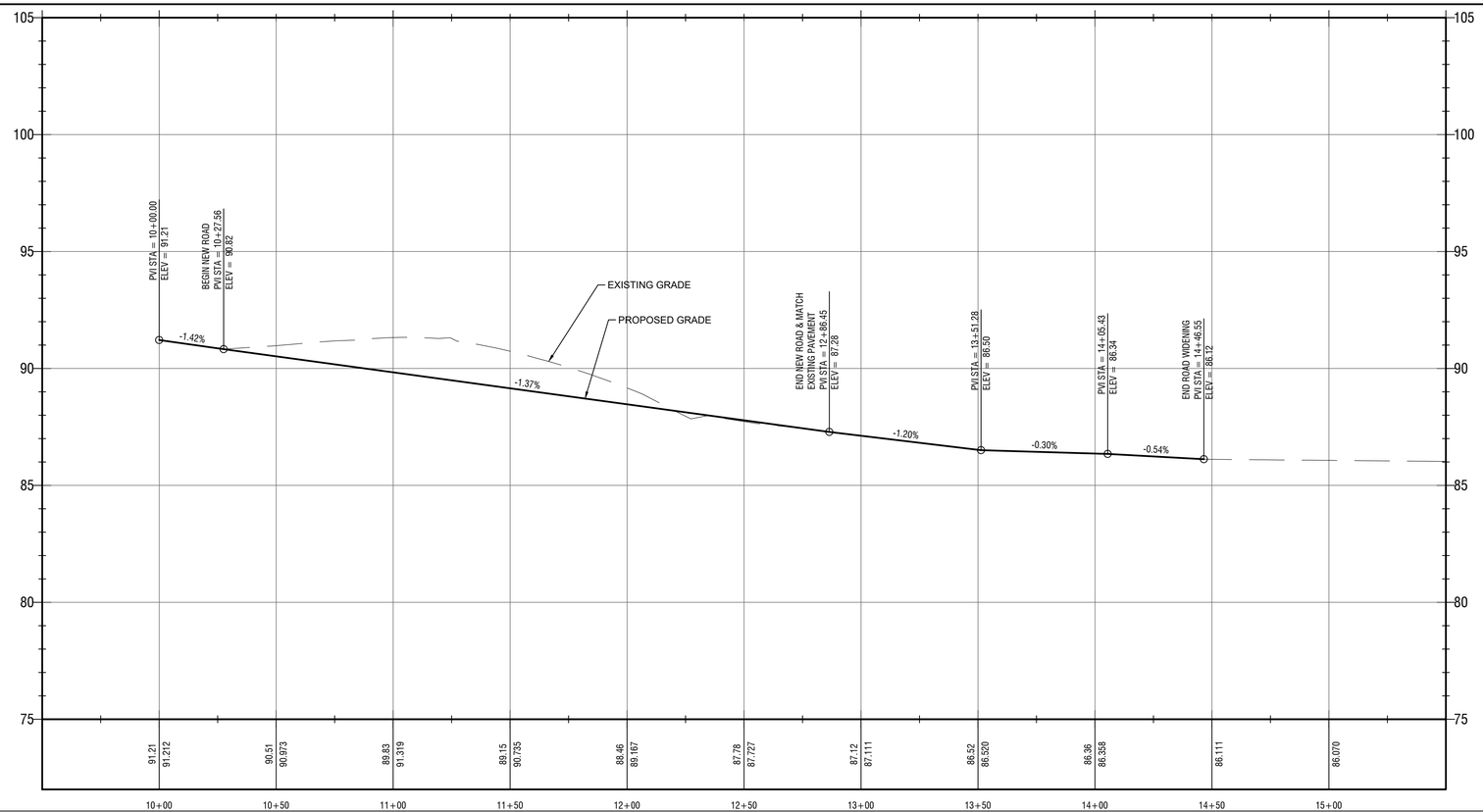
OFFSITE UTILITIES

C-705

FILE NAME: A:\45000s\45548\003\LD\CADD\C-700 Offsite Utilities Plans.dwg DATE: October 7, 2025, TIME: 3:27 PM, USER: ah5122



EAST REVELS ROAD IMPROVEMENTS



NOTES:

1. EXISTING SIGNS CONFLICTING WITH ROADWAY IMPROVEMENTS TO BE RELOCATED BASED ON F.D.O.T. INDEX NO. 17302
2. PLACEMENT OF PROPOSED SIGNS TO BE IN ACCORDANCE WITH F.D.O.T. INDEX NO. 17302
3. ALL STRIPING AND PAVEMENT MARKINGS IN RIGHT-OF-WAY TO BE LEAD AND SOLVENT FREE THERMOPLASTIC, MARKING SIGNAGE SHALL BE IN ACCORDANCE WITH M.U.T.C.D. AS ADOPTED BY F.D.O.T.
4. SOD ALL DISTURBED AREAS IN R/W
5. CONTRACTOR TO MEET ALL REQUIREMENTS FOR TRAFFIC CONTROL, F.D.O.T. STD. INDEX NO. 613
6. ALL CONSTRUCTION TO MEET ALL F.D.O.T. ROADWAY AND DESIGN STANDARDS AND THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2013 EDITION.
7. ALL EROSION CONTROL W/ SILT FENCE TO CONFORM TO F.D.O.T. INDEX NO. 102 WITH FILTER FABRIC IN ACCORDANCE WITH SECTION 985 OF THE F.D.O.T. STANDARD SPECIFICATIONS.
8. LOCATION OF THE EXISTING UTILITIES SHOWN ON PLANS IS STRICTLY SCHEMATIC AND IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY, AND COORDINATE WITH THE VARIOUS UTILITY COMPANIES, THE EXACT LOCATION AND DEPTH OF THE EXISTING UTILITIES INCLUDING UNDERGROUND SIGNALIZATION CABLES WHERE APPLICABLE.
9. MAINTENANCE OF TRAFFIC TO BE IN ACCORDANCE WITH F.D.O.T.
10. SAW CUT 6" INSIDE OF EXISTING PAVEMENT EDGE FOR EVEN MATCH OF NEW PAVEMENT.
11. ALL DISTURBED AREAS ARE TO BE SODDED WITHIN REVELS ROAD RIGHT-OF-WAY.

WATERMARK CONSTRUCTION PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
1201 NORTH ORANGE AVE
SUITE 400
ORLANDO, FLORIDA 32776
TEL: (352) 343-8481
FAX: (407) 622-1507
CERTIFICATE OF AUTHORIZATION NUMBER: 33380

REVISION		
NO.	DATE	DESCRIPTION

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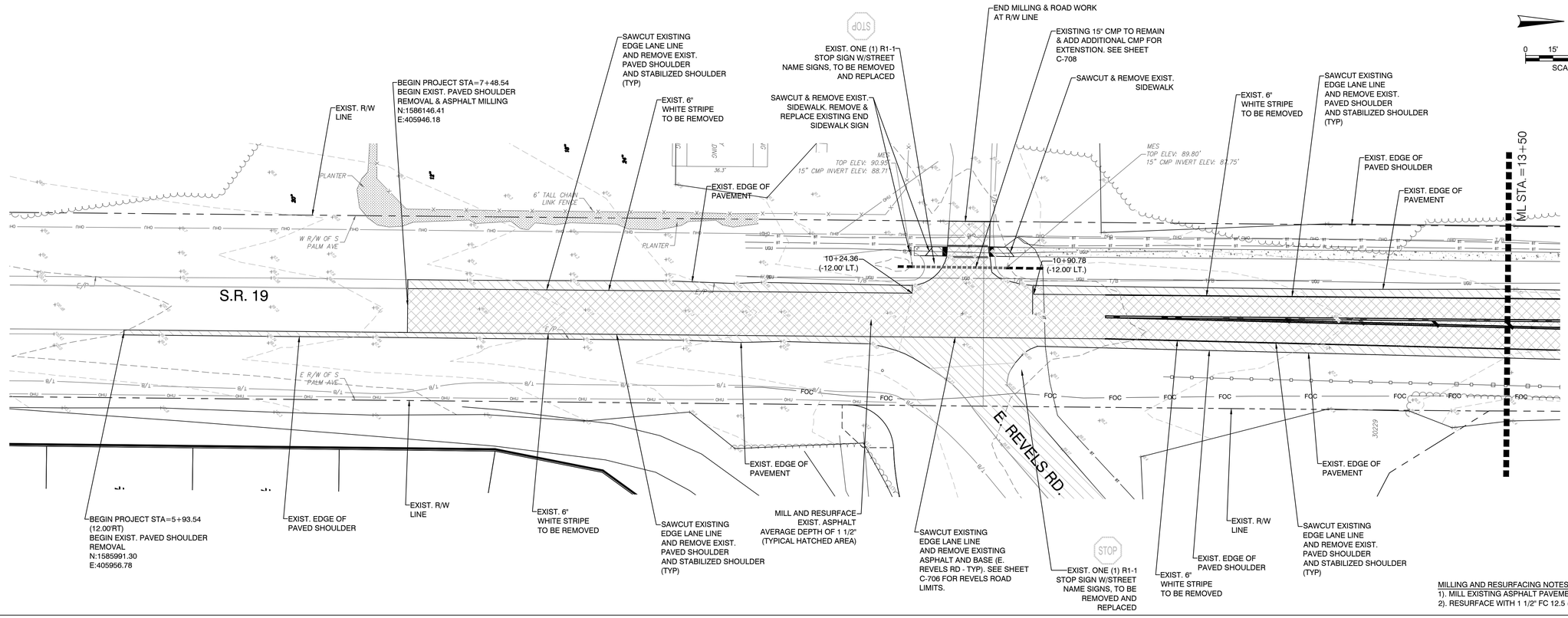
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	045548.003
ISSUED:	JULY 2025
DRAWN BY:	MC
CHECKED BY:	BJT
SCALE:	1" = 30'

SHEET TITLE:
REVELS ROAD IMPROVEMENTS

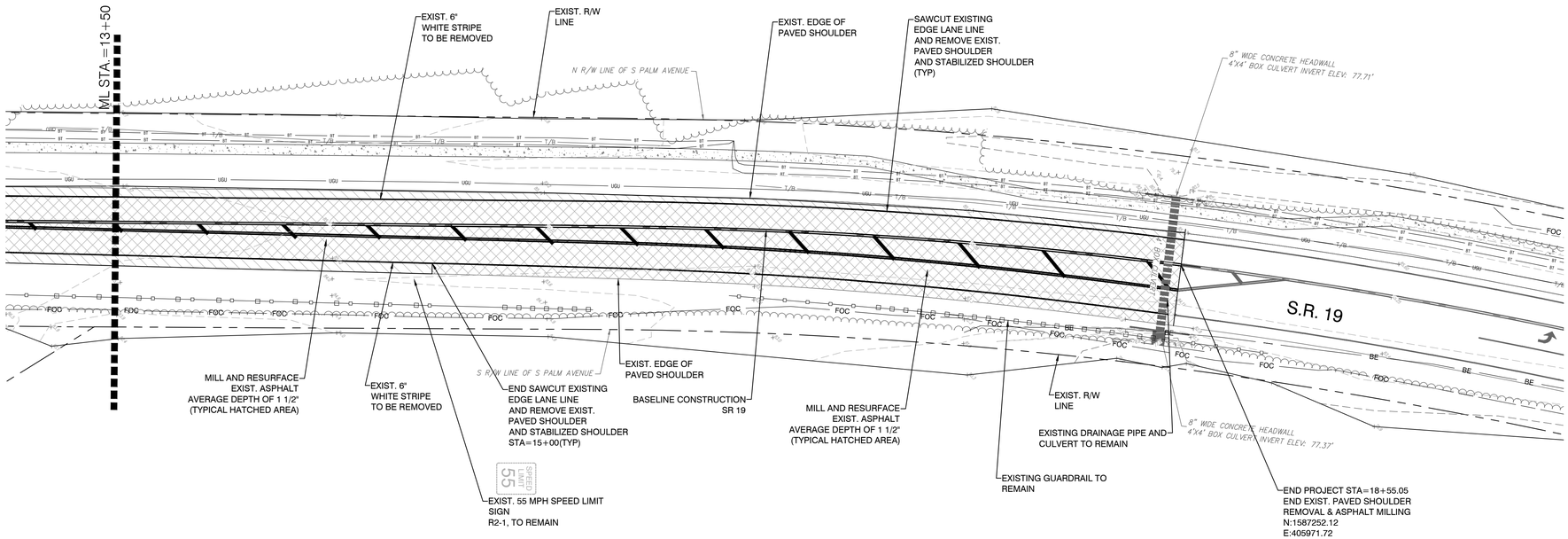
C-706

FILE NAME: A:\45000s\45548\003\LD\CADD\C-1300 Offsite Road Improvements.dwg DATE: September 19, 2025, TIME: 8:33 AM, USER: ah5122



MILLING AND RESURFACING NOTES
1). MILL EXISTING ASPHALT PAVEMENT (1 1/2" AVG. DEPTH).
2). RESURFACE WITH 1 1/2" FC 12.5 (TRAFFIC C).

NOTES
1). A FINAL ACCEPTANCE OF THE DESIGN SHOULD BE GIVEN IN WRITING BEFORE ANY CONSTRUCTION BEGINS. ALL RELOCATION, ALTERATION, OR CLOSURE OF CONNECTIONS TO THE STATE ROAD SYSTEM WILL BE RULED BY F.A.C. (FLORIDA ADMINISTRATIVE CODE) 14-96. THE DEPARTMENT SHALL NOT BE OBLIGATED TO PERMIT OR APPROVE ANY CONNECTION, TRAFFIC CONTROL FEATURE OR DEVICE, OR ANY OTHER SITE RELATED IMPROVEMENT THAT HAS BEEN SPECIFIED IN DEVELOPMENT APPROVAL PROCESS SEPARATE FROM THE OFFICIAL CONNECTION APPROVAL PROCESS DESCRIBED IN F.A.C.
2). ALL STRIPING TO REMAIN UNLESS OTHERWISE NOTED TO BE REMOVED. ANY STRIPING REMOVED DURING CONSTRUCTION TO BE REPLACED AS SHOWN ON SHEET C-708.



NOTES
SITE BENCHMARK (864)
(FALLS OUTSIDE OF TOPOGRAPHIC SURVEY LIMITS)
SET 5/8" IRON ROD AND CAP STAMPED "DEWBERRY LB 8011"
NORTHING: 1585285.78
EASTING: 407988.28
ELEVATION: 101.04'

SITE BENCHMARK (865)
(FALLS OUTSIDE OF TOPOGRAPHIC SURVEY LIMITS)
SET 5/8" IRON ROD AND CAP STAMPED "DEWBERRY LB 8011"
NORTHING: 1584694.78
EASTING: 407541.18
ELEVATION: 81.02'

SITE BENCHMARK (866)
(FALLS OUTSIDE OF TOPOGRAPHIC SURVEY LIMITS)
SET 5/8" IRON ROD AND CAP STAMPED "DEWBERRY LB 8011"
NORTHING: 1585216.98
EASTING: 406618.29
ELEVATION: 127.26'

SEE DEWBERRY TOPOGRAPHIC SURVEY DATED 8-13-2025

WATERMARK CONSTRUCTION PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
1201 NORTH MAGNOLIA AVE
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
FAX: (352) 343-8487
CERTIFICATE OF AUTHORIZATION
NUMBER: 33360

REVISION		
NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS
LICENSE
No. 69017
STATE OF FLORIDA
PROFESSIONAL ENGINEER

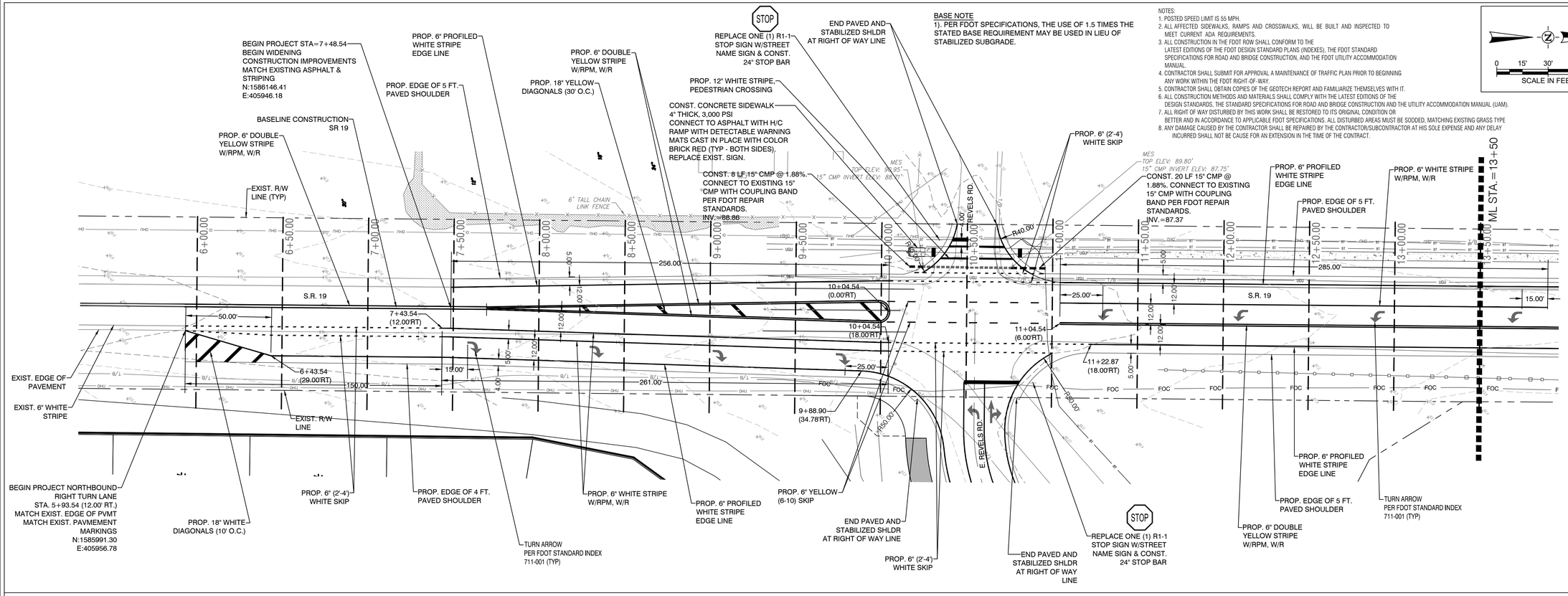
THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:
BRETT J. TOBIAS 69017
NAME PE LICENSE NO.
DATE
THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF:
HALFF ASSOCIATES, INC.
HALFF ASSOCIATES, INC. FL
FIRM OR BUSINESS NO. STATE

PROJECT NO.:	045548.003
ISSUED:	JULY 2025
DRAWN BY:	MC
CHECKED BY:	BJT
SCALE:	1" = 30'

SHEET TITLE:
S.R. 19
DEMOLITION PLAN

C-707

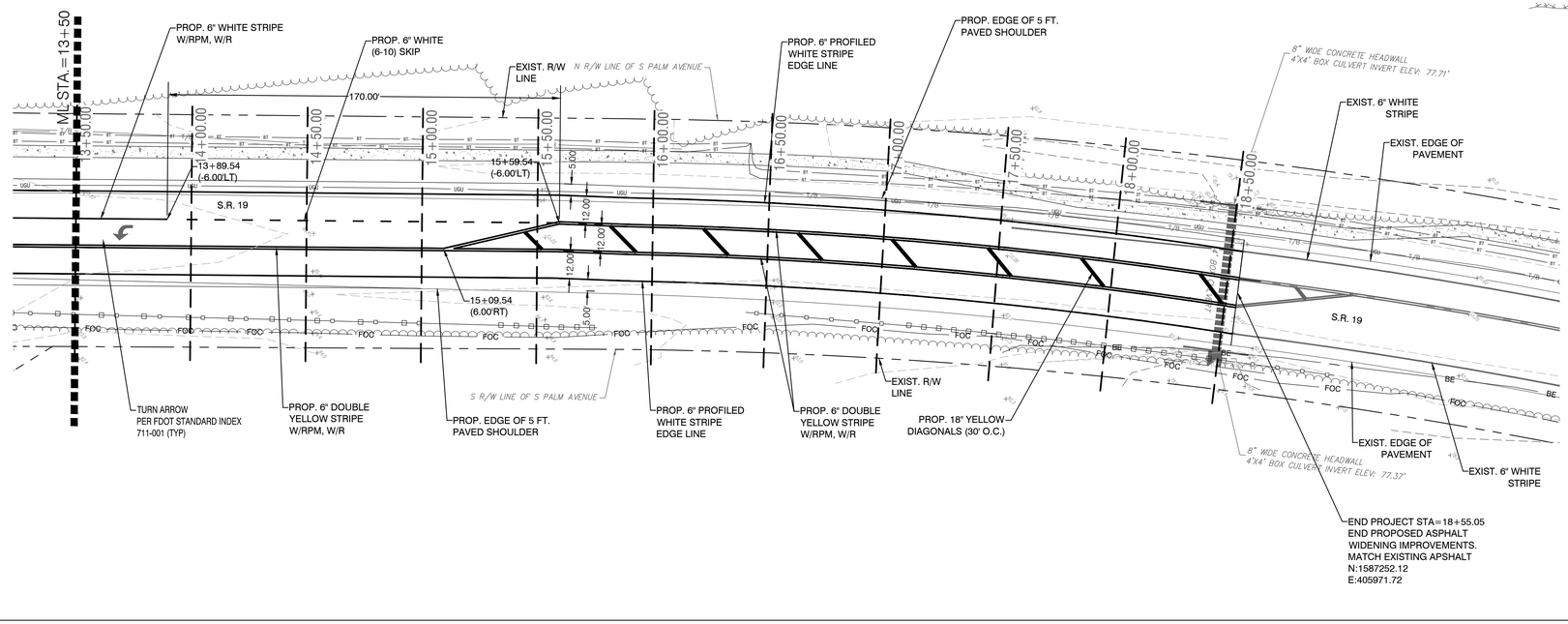
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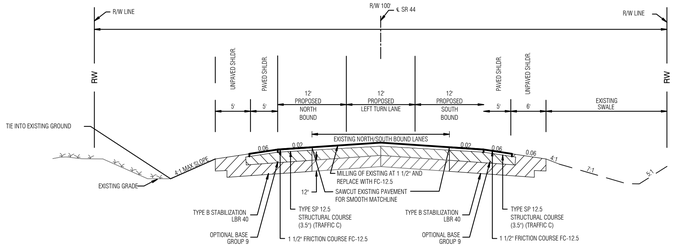


NOTES:
1. POSTED SPEED LIMIT IS 55 MPH.
2. ALL AFFECTED SIDEWALKS, RAMPS AND CROSSWALKS, WILL BE BUILT AND INSPECTED TO MEET CURRENT ADA REQUIREMENTS.
3. ALL CONSTRUCTION IN THE FDOT ROW SHALL CONFORM TO THE LATEST EDITIONS OF THE FDOT DESIGN STANDARD PLANS (INDEXES), THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE FDOT UTILITY ACCOMMODATION MANUAL.
4. CONTRACTOR SHALL SUBMIT FOR APPROVAL A MAINTENANCE OF TRAFFIC PLAN PRIOR TO BEGINNING ANY WORK WITHIN THE FDOT RIGHT-OF-WAY.
5. CONTRACTOR SHALL OBTAIN COPIES OF THE GEOTECH REPORT AND FAMILIARIZE THEMSELVES WITH IT.
6. ALL CONSTRUCTION METHODS AND MATERIALS SHALL COMPLY WITH THE LATEST EDITIONS OF THE DESIGN STANDARDS, THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE UTILITY ACCOMMODATION MANUAL (UAM).
7. ALL RIGHT OF WAY DISTURBED BY THIS WORK SHALL BE RESTORED TO ITS ORIGINAL CONDITION OR BETTER AND IN ACCORDANCE TO APPLICABLE FDOT SPECIFICATIONS. ALL DISTURBED AREAS MUST BE SODDED, MATCHING EXISTING GRASS TYPE
8. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR/SUBCONTRACTOR AT HIS SOLE EXPENSE AND ANY DELAY INCURRED SHALL NOT BE CAUSE FOR AN EXTENSION IN THE TIME OF THE CONTRACT.

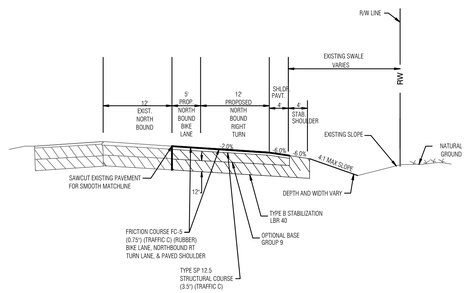
BASE NOTE
1). PER FDOT SPECIFICATIONS, THE USE OF 1.5 TIMES THE STATED BASE REQUIREMENT MAY BE USED IN LIEU OF STABILIZED SUBGRADE.

0 15' 30' 60'
SCALE IN FEET





SR 19
TYPICAL SECTION
N.T.S.



SR 19 NORTHBOUND TYPICAL SECTION
N.T.S.

0 15' 30' 60'
SCALE IN FEET

WATERMARK CONSTRUCTION PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
TEL: (352) 343-8481
FAX: (352) 343-8482
CERTIFICATE OF AUTHORIZATION NUMBER: 33390

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS
LICENSE
No. 69017
STATE OF FLORIDA
PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

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NAME — PE LICENSE NO.

DATE

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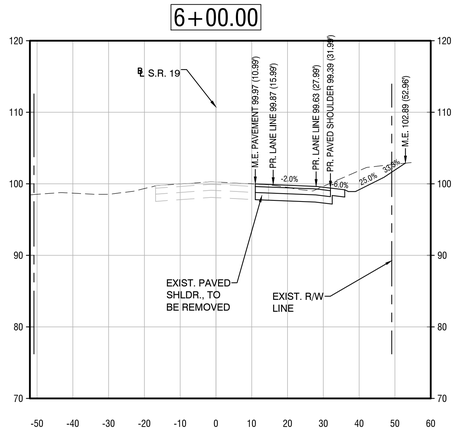
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

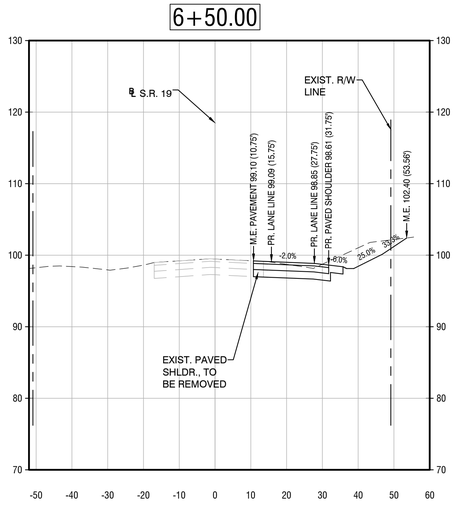
PROJECT NO.:	045548.003
ISSUED:	JULY 2025
DRAWN BY:	MC
CHECKED BY:	BJT
SCALE:	1" = 30'

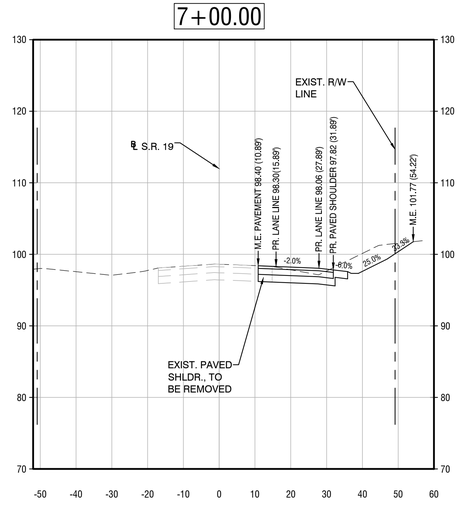
SHEET TITLE:
S.R. 19 TURN LANE IMPROVEMENTS

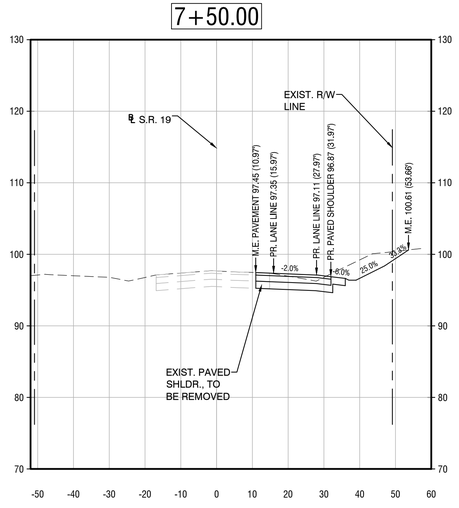
C-708

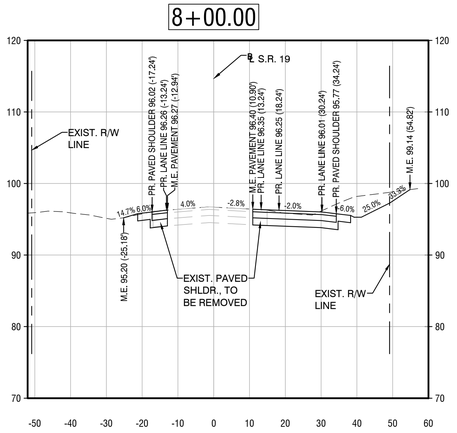
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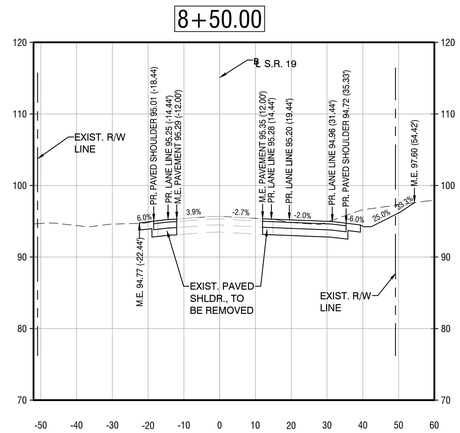


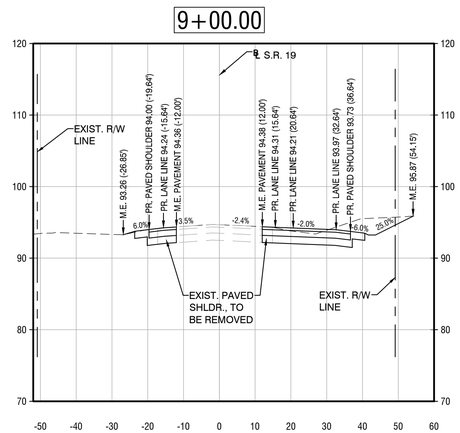


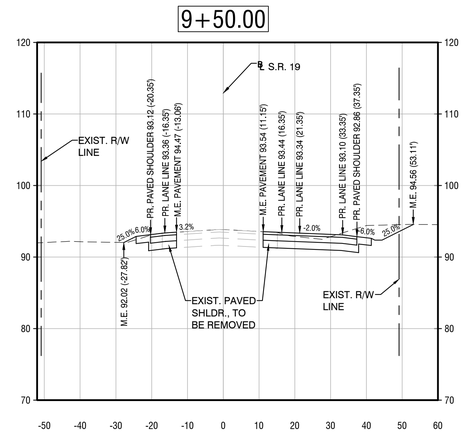


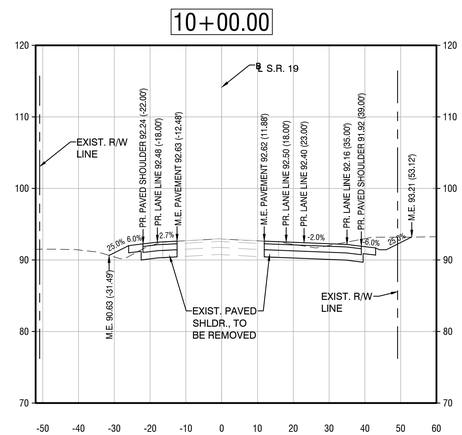


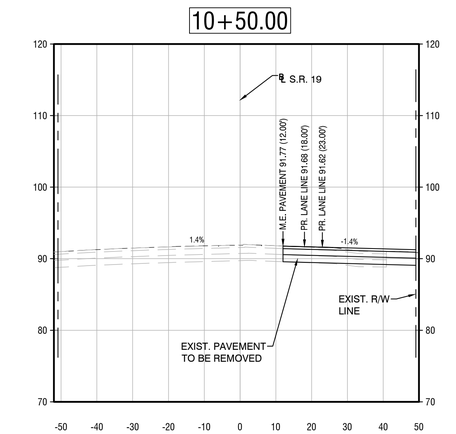


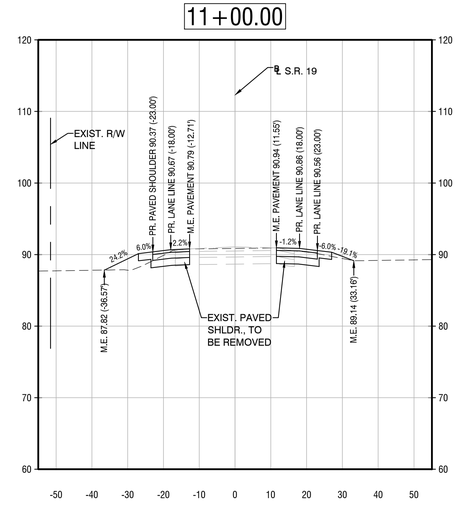


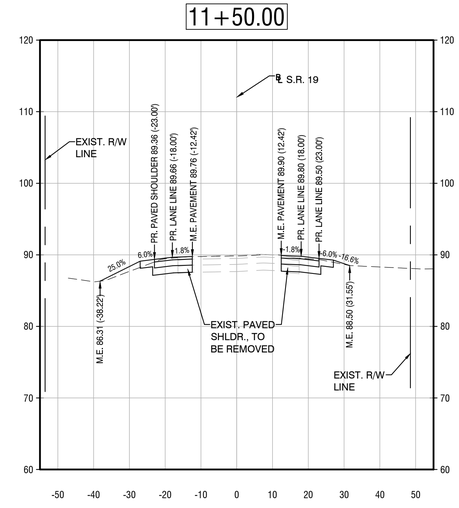












0 10' 20' 40'
SCALE IN FEET

WATERMARK CONSTRUCTION PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
12301 NORTH MALCOLM MCKINLEY
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
FAX: (407) 647-7275
CERTIFICATE OF AUTHORIZATION
NUMBER: 33380

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.

DATE

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HALFF ASSOCIATES, INC.

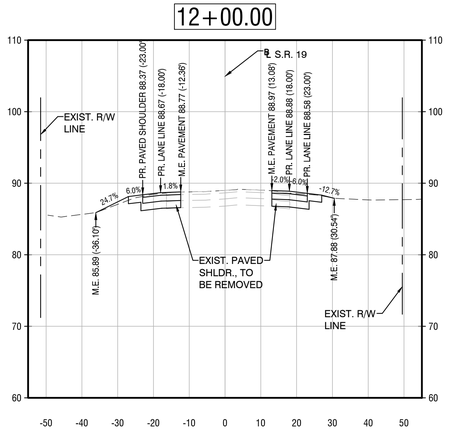
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

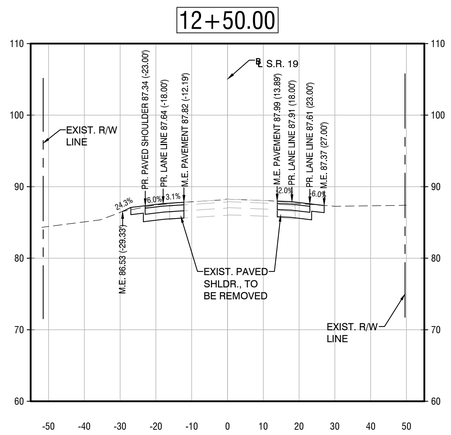
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DRAWN BY:	MC
CHECKED BY:	BJT
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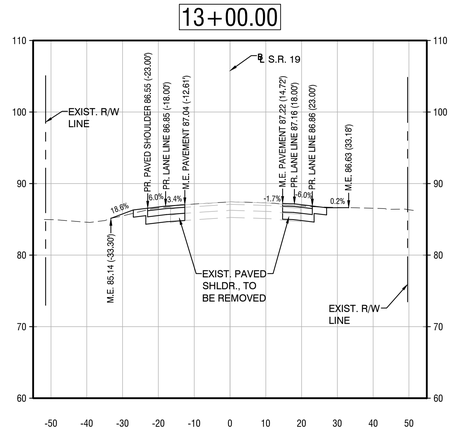
SHEET TITLE:
S.R. 19 CROSS SECTIONS

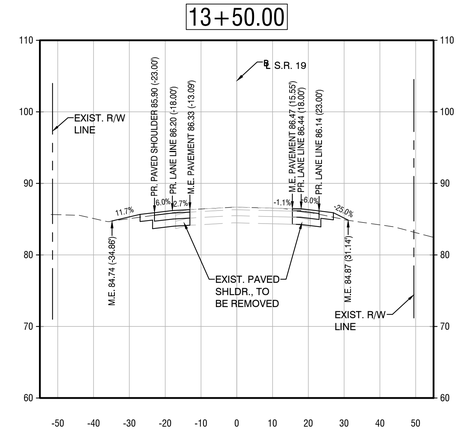
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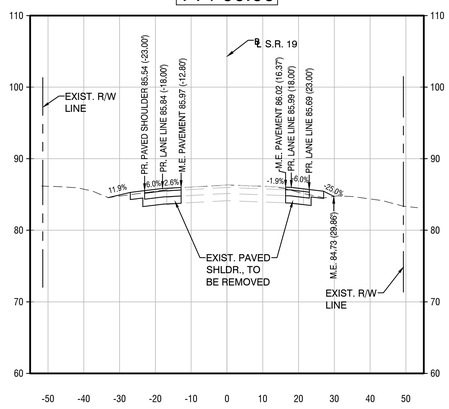
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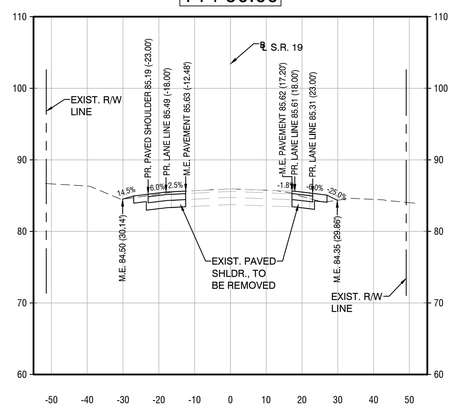


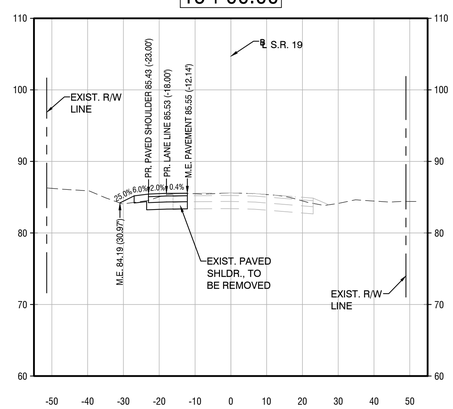


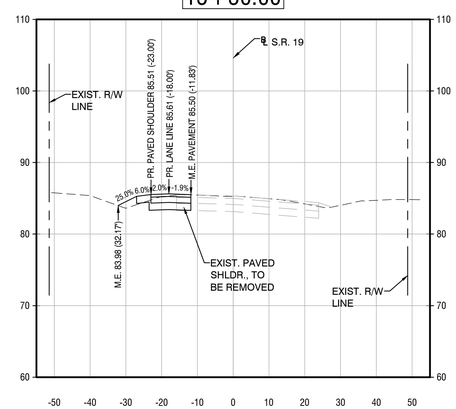


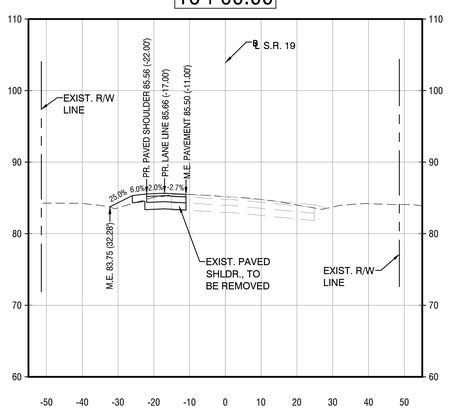


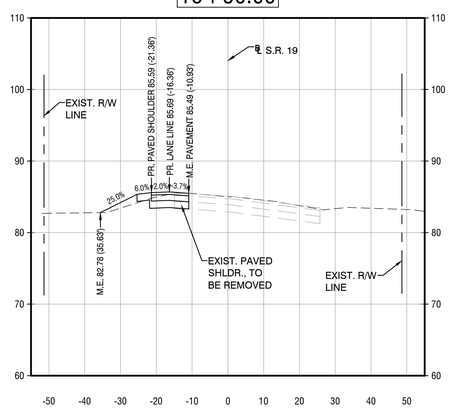


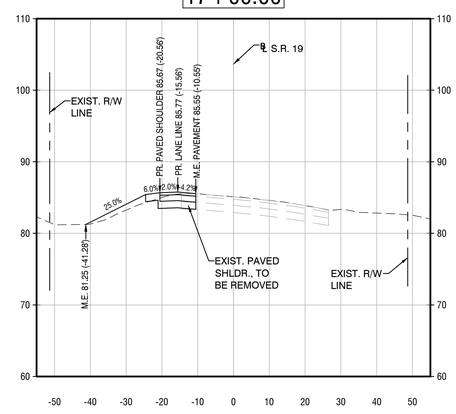


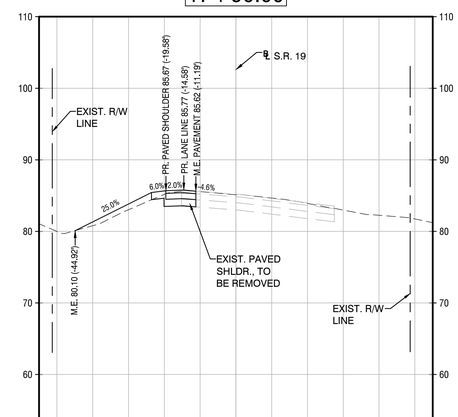












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TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
1201 NORTH ORANGE AVE., SUITE 400
ORLANDO, FL 32801
TEL: (407) 423-8398
CERTIFICATE OF AUTHORIZATION NUMBER: 33390

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.

DATE

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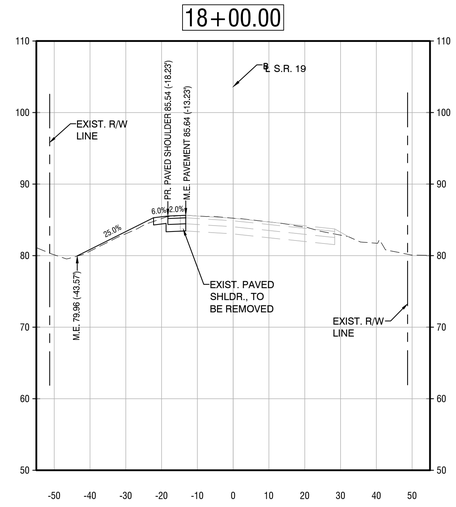
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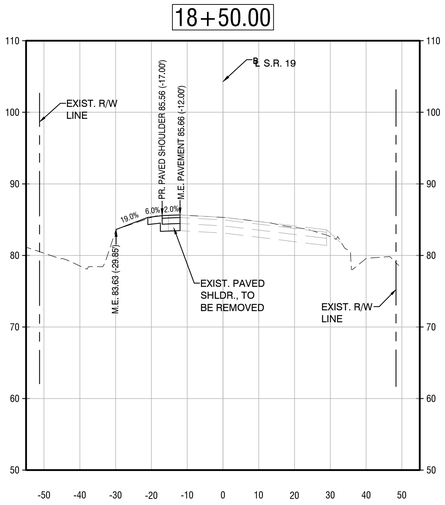
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ISSUED:	JULY 2025
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CHECKED BY:	BJT
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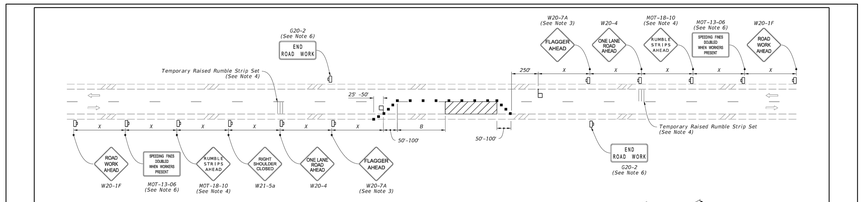
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S.R. 19 CROSS SECTIONS

C-710

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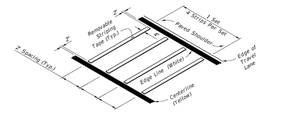


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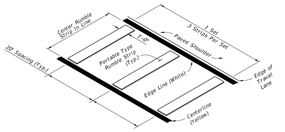
1. This Index applies to Two-Lane, Two-Way Roadways with work within the traveled way.
2. L = Taper Length
   B = Buffer Length
   X = Work Zone Sign Spacing
   See Index 102-600 for "L", "B", "X" and channelizing device spacing values.
3. Optionally, use "Flagger Ahead" sign with symbol (W20-7) instead of "Flagger Ahead" sign with text (W20-7A).
4. Use temporary raised rumble strips when the existing posted speed is 55 mph or greater and the work duration is greater than 60 minutes. If temporary raised rumble strips are not used, omit "Rumble Strips Ahead" signs (M2T-18-10) and associated work zone sign spacing.
5. Additional one-way control may be provided by the following means:
   a. Flag-carrying vehicle
   b. Official vehicle
   c. Pilot vehicles
   d. Traffic signals

   When flaggers are the sole means of one-way control, the flaggers must be in sight of each other or in direct communication at all times.
6. The "Speeding Fines Doubled When Workers Present" signs (M2T-13-06) and "End Road Work" signs (G20-2), along with associated work zone sign spacing, may be omitted when the work operation will be in place for 24 hours or less.
7. Automated Flagger Assistance Devices (AFADs) may be used in accordance with Specification Sections 102, 990 and the APL vendor drawings.
8. Railroad Crossings:
   a. If an active railroad crossing is located closer to the Work Area than the queue length plus 300 feet, extend the Buffer Space as shown on Sheet 2.
   b. If the queuing of vehicles across an active railroad crossing cannot be avoided, provide a uniformed traffic control officer or flagger at the highway-rail grade crossing to prevent vehicles from stopping within the highway-rail grade crossing, even if automatic train warning devices are in place.

SYMBOLS:
- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Flagger
- Lane Identification and Direction of Traffic



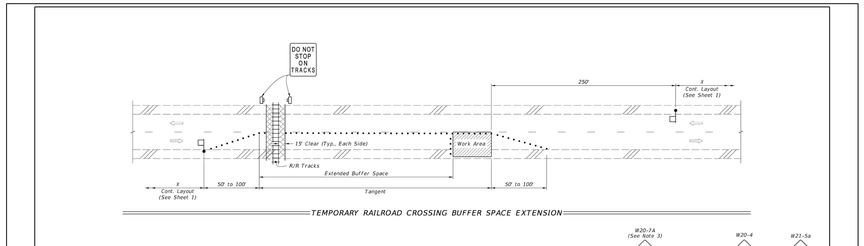
OPTION - 1
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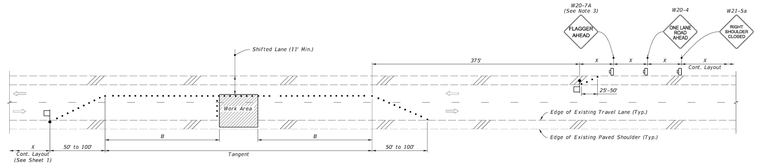
OPTION - 2
PORTABLE TYPE

RUMBLE STRIP SETS

LAST REVISION 11/01/21	DESCRIPTION:	FDOT	FY 2023-24 STANDARD PLANS	TWO-LANE, TWO-WAY WORK WITHIN THE TRAVEL WAY	INDEX 102-603	SHEET 1 of 2



TEMPORARY RAILROAD CROSSING BUFFER SPACE EXTENSION



TEMPORARY LANE SHIFT TO SHOULDER WHEN WORK AREA ENCROACHES ON THE CENTERLINE
(For Work Operations In place 24 Hours or Less)

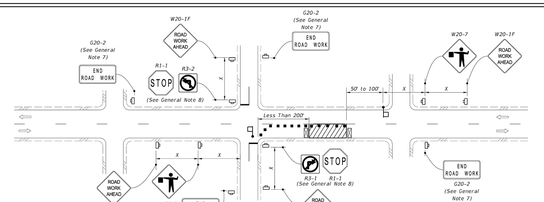
SYMBOLS:
- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Flagger
- Lane Identification and Direction of Traffic

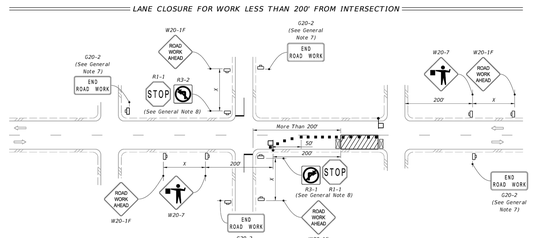
SPECIAL CONDITIONS

LAST REVISION 11/01/21	DESCRIPTION:	FDOT	FY 2023-24 STANDARD PLANS	TWO-LANE, TWO-WAY WORK WITHIN THE TRAVEL WAY	INDEX 102-603	SHEET 2 of 2

GENERAL NOTES:

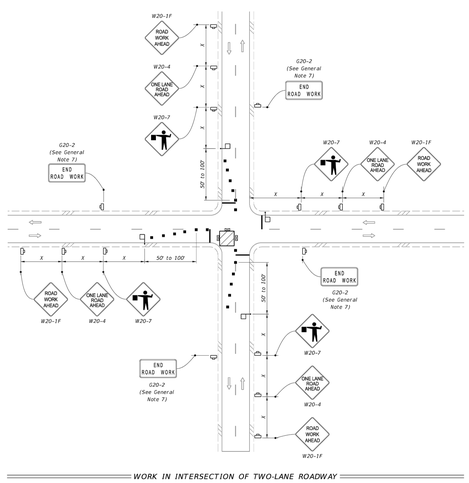
1. This Index applies to two-lane, two-way roadways with work within or near the intersection.
2. X = Work Zone Sign Spacing
   See Index 102-600 for "X" and channelizing device spacing values.
3. Optionally, use "Flagger Ahead" sign with text (W20-7A) instead of "Flagger Ahead" sign with symbol (W20-7).
4. If vehicles in a parking zone block the line of sight to TCZ signs, locate and post mount signs in accordance with Index 700-101.
5. If the work area extends across a crosswalk, close the crosswalk in accordance with Index 102-660.
6. For unsignalized intersections, use Temporary Raised Rumble Strips in accordance with Index 102-603. Placement of Rumble Strips and additional signs should begin at FLAGGER sign location.
7. The "End Road Work" signs (G20-2) along with the associated work zone sign distances may be omitted when the work zone will be in place for 24 hours or less.
8. As an option to the "STOP" sign (R1-1) and Restricted left/Right Turning Movement sign (R3-1 or R3-2), the "SIDE ROAD INTERSECTING THE WORK ZONE" flagging operation from Index 102-600 may be used.





SYMBOLS:
- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Type III Barricade
- Stop Bar
- Flagger
- Lane Identification and Direction of Traffic

LAST REVISION 11/01/22	DESCRIPTION:	FDOT	FY 2023-24 STANDARD PLANS	TWO-LANE, TWO-WAY, INTERSECTION WORK	INDEX 102-604	SHEET 1 of 2



WORK IN INTERSECTION OF TWO-LANE ROADWAY

SYMBOLS:
- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Type III Barricade
- Stop Bar
- Flagger
- Lane Identification and Direction of Traffic

LAST REVISION 11/01/22	DESCRIPTION:	FDOT	FY 2023-24 STANDARD PLANS	TWO-LANE, TWO-WAY, INTERSECTION WORK	INDEX 102-604	SHEET 2 of 2

WATERMARK CONSTRUCTION PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
TEL: (352) 243-9484
TAVARES, FLORIDA 32778
902 NORTH SINCLAIR AVE
CERTIFICATE OF AUTHORIZATION NUMBER: 33390

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

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NAME — PE LICENSE NO.

DATE

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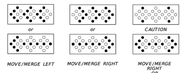
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	045548.003
ISSUED:	JULY 2025
DRAWN BY:	MC
CHECKED BY:	BJT
SCALE:	1" = 20'

SHEET TITLE:
S.R. 19 CROSS SECTIONS

C-711

FILE NAME: A:\45000s\45548\003\LD\CADD\C-1300 Offsite Road Improvements.dwg DATE: October 1, 2025, TIME: 4:02 PM, USER: ah5122



● Minimum Required Lamps
○ Additional Lamps Allowed

MODES

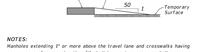
NOTES:
An arrow board in the arrow or chevron mode shall be used only for stationary or moving lane closures on multilane roadways.

For shoulder work, blocking the shoulder, for roadside work near the shoulder, or for temporarily closing one lane on a two-lane, two-way roadway, an arrow board shall be used only in the caution mode.

A single arrow board shall not be used to merge traffic laterally more than one lane. When arrow boards are used to close multiple lanes, a single board shall be used at the merging taper for each closed lane.

When Advance Warning Arrow Boards are used at night, the intensity of the flashers shall be reduced during darkness when lower intensities are desirable.

ADVANCE WARNING ARROW BOARDS

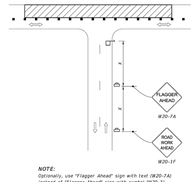


NOTES:
Manholes extending 3" or more above the travel lane and crosswalks having an uneven surface greater than ¾" shall have a temporary asphalt apron constructed as shown above.

All transverse joints that have a difference in elevation of 3" or more shall have a temporary asphalt apron constructed as shown above.

The apron is to be removed prior to constructing the next lift of asphalt. The cost of the temporary asphalt shall be included in the contract unit price for Maintenance of Traffic, LS.

MANHOLES/CROSSWALKS/JOINTS



NOTE:
Optionally, use "Flagger Ahead" sign with text (W20-7A) instead of "Flagger Ahead" sign with symbol (W20-7).

SIDE ROAD INTERSECTING THE WORK ZONE

SIGNALS:
Existing traffic signal operations that require modification in order to carry out work zone traffic control shall be included in the Plans and be approved by the District Traffic Operations Engineer.

Refer to Specification 102-9 for additional information.

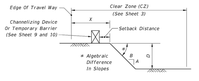
CHANNELIZING DEVICES:
Channelizing devices for work zone traffic control shall be as prescribed in Part VI of the MUTCD, subject to supplemental revisions provided in the contract documents and the 102 Series of Indexes. Lighting Devices must not be used to supplement channelization. Omit tapers and channelizing devices for paved shoulders less than 4' in width.

CHANNELIZING DEVICE CONSISTENCY:
Barricades, vertical panels, cones, tubular markers and drums shall not be intermixed within either the lateral transition or within the tangent alignment.

TRUCK/TRAILER-MOUNTED ATTENUATORS:
Truck/Trailer-mounted attenuators (TMAs) can be used for moving operations and short-term stationary operations. For moving operations, see Index 102-607. For short-term, stationary operations, see Part VI of the MUTCD.

DROP-OFF CONDITION NOTES

1. These conditions and treatments can be applied only in work areas that fall within a properly signed work zone.
2. When drop-offs occur within the clear zone due to construction or maintenance activities, protection devices are required (See Table B). A drop-off is defined as a drop in elevation, parallel to the adjacent travel lanes, greater than 3" with slope (A:B) steeper than 1:4. In superelevated sections, the algebraic difference in slopes should not exceed 0.25 (See Drop-off Condition Detail).
3. Drop-offs may be mitigated by placement of slopes with optimal base material per manufacturer's specs. The slopes shallower slopes will may be required to avoid algebraic difference in slopes greater than 0.25. Include the cost for the placement and removal of the material in Maintenance of Traffic, LS. Use of this treatment in lieu of a temporary barrier is not eligible for CSIP consideration. Conduct daily inspections for deficiencies related to erosion, excessive slopes, rutting or other adverse conditions. Repair any deficiencies immediately.
4. For Setback Distance, refer to the Index or Approved Products List (APL) drawing of the selected barrier.
5. For Conditions 1 and 3 provided in Table B, any drop-off condition that is created and restored within the same work period will not be subject to use of temporary barriers; however, channelizing devices will be required.
6. When permanent curb heights are ≤ 6", no channelizing device will be required. For curb heights < 6", see Table B.

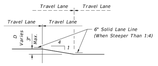


DROP-OFF CONDITION DETAIL

Table B Drop-off Protection Requirements			
Condition	A (ft)	D (in.)	Device Required
1	0-12	> 3	Temporary Barrier
2	> 12-C2	> 3 to ≤ 5	Channelizing Device
3	0-C2	> 5	Temporary Barrier
4	Removal of Bridge or Retaining Wall Barrier		Temporary Barrier
5	Removal of portions of Bridge Deck		Temporary Barrier

TRAVEL LANE TREATMENT FOR MILLING OR RESURFACING NOTES

1. This treatment applies to resurfacing or milling operations between adjacent travel lanes.
2. Whenever there is a difference in elevation between adjacent travel lanes, the W8-11 sign with "UNEVEN LANES" is required at intervals of ½ mile maximum.
3. If D is 1½" or less, no treatment is required.
4. Treatment allowed only when D is 3" or less.
5. If the slope is steeper than 1:4 (not to be steeper than 1:1), the R4-1 and M0T-1-06 signs shall be used as a supplement to the W8-11; this condition should never exceed 3 miles in length.

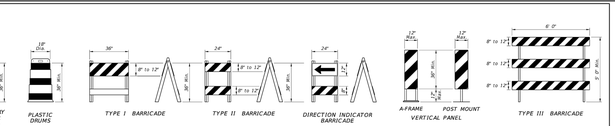


TRAVEL LANE TREATMENT FOR MILLING OR RESURFACING DETAIL

PEDESTRIAN WAY DROP-OFF CONDITION NOTES

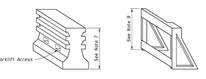
1. A pedestrian way drop-off is defined as:
   a. a drop in elevation greater than 10" that is closer than 2' from the edge of the pedestrian way.
   b. a slope steeper than 1:2 that begins closer than 2' from the edge of the pedestrian way when the total drop-off is greater than 60".
2. Protect any drop-off adjacent to a pedestrian way with pedestrian longitudinal channelizing devices, temporary barrier wall, or approved handrail.

DROP-OFFS IN WORK ZONES



CHANNELIZING DEVICES

CHANNELIZING DEVICE NOTES:
1. The details shown on this sheet are for the following purposes:
   a. For ease of identification and
   b. To provide information that supplements or supersedes that provided by the MUTCD.
2. The Type III Barricade shall have a unit length of 6'-0" only. When barricades of greater lengths are required those lengths shall be in multiples of the 6'-0" unit.
3. No sign panel should be mounted on any channelizing device unless the channelizing device/sign combination was found to be crashworthy and the sign panel is mounted in accordance with the vendor drawing for the channelizing device shown on the Approved Products List (APL).
4. Ballast shall not be placed on top rails or any striped rails or higher than 13" above the driving surface.
5. The direction indicator barricade may be used in tapers and transitions where specific directional guidance to drivers is necessary. If used, direction indicator barricades shall be used in series to direct the driver through the transition and into the intended travel lane.
6. The spacing of sheeting is not permitted on channelizing devices or WZT signs.
7. For rails less than 3'-0" long, 4" stripes shall be used.
8. Cones shall:
   a. Be used only in active work zones where workers are present.
   b. Be reflectorized as per the MUTCD with Department-approved reflective collars when used at night.
9. For pedestrian longitudinal channelizing devices, the device shall have a minimum of 9" continuous detectable edging above the walkway. A gap not exceeding a height of 2" is allowed to facilitate drainage. The top surface of the device shall be a minimum height of 32" and have a ¾" or less difference in any plane at all connection points between the devices to facilitate hand trailing. The bottom and the top surface of the device shall be in the same vertical plane. If pedestrian drop-off protection is required, the device shall have a footprint or offset of at least 2', otherwise the device must be at least 42" in height above the walkway and be anchored or ballasted to withstand a 200 lb lateral point load at the top of the device.

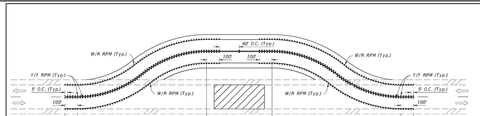


PEDESTRIAN LONGITUDINAL CHANNELIZING DEVICES

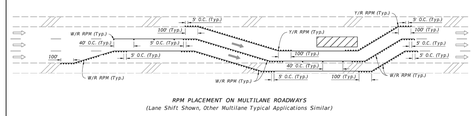
TEMPORARY BARRIER NOTES:
1. Where a barrier is specified, any of the types below may be used in accordance with the applicable Index:

Index	Description
102-100	Temporary Barrier
102-120	Low Profile Barrier
536-001	Guardrail

2. Trailer Mounted Barriers may be used to provide positive protection for workers within the work areas. APL drawings may be used as a guide to develop project specific Temporary Traffic Control Plans that are signed and sealed by the Contractor's Engineer.

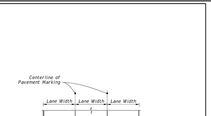


RPM PLACEMENT ON TWO-LANE ROADWAYS



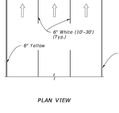
RPM PLACEMENT ON MULTILANE ROADWAYS
(Lane Shift Shown, Other Multilane Typical Applications Similar)

NOTES:
1. Install RPMs as a supplement to:
   a. All lane lines
   b. Edge lines in transitions (e.g., merges, diversions, lane shifts)
   c. Edge lines of gore areas
2. Extend pavement marking and Y RPM spacing by 100' in each direction for all transitions regardless of the line type.
3. Place RPMs in accordance with this detail and Index 706-001.



PLAN VIEW

SYMBOLS:
Work Area
Lane Identification and Direction of Traffic

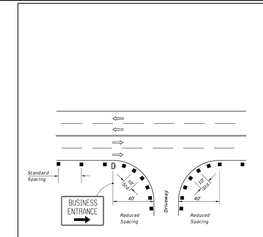


DETAIL "A"

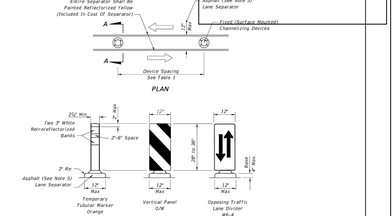
RPM PLACEMENT IN WORK ZONES

PAVEMENT MARKINGS PLACEMENT

WORK ZONE PAVEMENT MARKINGS



PLAN

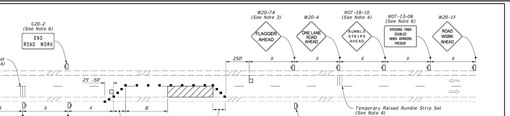


FIXED (SURFACE MOUNTED) CHANNELIZING DEVICES

SECTION A-A

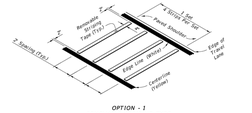
1. Temporary lane separators shall be supplemented with any of the following approved fixed (surface mounted) channelizing devices: temporary tubular markers, vertical panels, or opposing traffic lane divider panels). Opposing traffic lane divider panels shall be used only when the separator is used to separate opposing directions of traffic on a two-lane, two-way operation. Temporary Tubular Markers, Vertical Panels and Opposing Traffic Lane Divider panels shall not be intermixed within the limits where the temporary lane separator is used. The connection between the channelizing device and the temporary lane separator curb shall hold the channelizing device in a vertical position.
2. Reflectorized materials shall have a smooth sealed outer surface which will display the same approximate color day and night. Furnish channelizing devices having retroreflective sheeting meeting the requirements of Section 990.
3. 12" openings for drainage shall be constructed in the asphalt and portable temporary lane separator at a maximum spacing of 25' in areas with grades of 3% or less or 50' in areas with grades over 3% as directed by the Engineer.
4. Tapered ends shall be used at the beginning and end of each run of the temporary lane separator to form a gradual increase in height from the pavement level to the top of the temporary lane separator.
5. The Contractor has the option of using portable temporary lane separators containing fixed channelizing devices in lieu of the temporary asphalt separator and channelizing devices detailed on this sheet. The portable temporary lane separator shall come in portable sections that can be connected to maintain continuous alignment between the separate curb sections. Each temporary lane separator section shall be 36 inches to 48 inches in total length. Portable temporary lane separators shall duplicate the color of the pavement marking. Portable temporary lane separators shall be one of those listed on the Approved Products List.

TEMPORARY LANE SEPARATOR



NOTES:
1. This Index applies to Two-Lane, Two-Way Roadways with work within the traveled way.
2. L = Taper Length:
   B = Buffer Length
   X = Work Zone Sign Spacing
   See Index 102-600 for "L", "B", "X" and channelizing device spacing values.
3. Optionally, use "Flagger Ahead" sign with symbol (W20-7) instead of "Flagger Ahead" sign with text (W20-7A).
4. Use temporary raised rumble strips when the existing posted speed is 55 mph or greater and the work duration is greater than 60 minutes. If temporary raised rumble strips are not used, omit "Rumble Strips Ahead" signs (M0T-1B-10) and associated work zone sign spacing.
5. Additional one-way control may be provided by the following means:
   a. Flag-carrying vehicle
   b. Official vehicle
   c. Pilot vehicles
   d. Traffic signals
   When Flaggers are the sole means of one-way control, the Flaggers must be in sight of each other or in direct communication at all times.
6. The "Speeding Fines Doubled When Workers Present" signs (M0T-13-06) and "End Road Work" signs (G20-2), along with associated work zone sign spacing, may be omitted when the work operation will be in place for 24 hours or less.
7. Automated Flagger Assistance Devices (AFADs) may be used in accordance with Specification Sections 102, 990 and the APL vendor drawings.
8. Railroad Crossings:
   a. If an active railroad crossing is located closer to the Work Area than the queue length plus 300 feet, extend the Buffer Space as shown on Sheet 2.
   b. If the queuing of vehicles across an active railroad crossing cannot be avoided, provide a uniformed traffic control officer or Flagger at the highway-rail grade crossing to prevent vehicles from stopping within the highway-rail grade crossing, even if automatic train warning devices are in place.

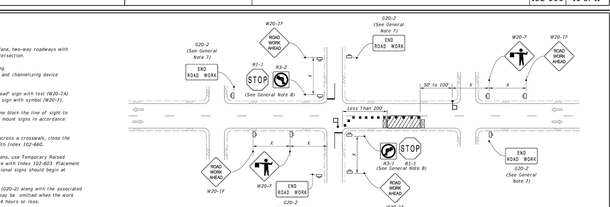
SYMBOLS:
Work Area
Channelizing Device (See Index 102-600)
Work Zone Sign
Type III Barricade
Stop Bar
Flagger
Lane Identification and Direction of Traffic



OPTION - 1
REMOVABLE STRIPING TYPE

OPTION - 2
PORTABLE TYPE

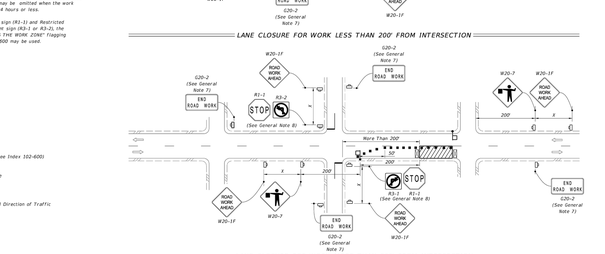
RUMBLE STRIP SETS



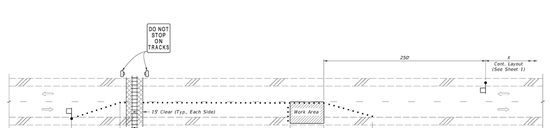
GENERAL NOTES:
1. This Index applies to two-lane, two-way roadways with work within or near the intersection.
2. X = Work Zone Sign Spacing
   See Index 102-600 for "X" and channelizing device spacing values.
3. Optionally, use "Flagger Ahead" sign with text (W20-7A) instead of "Flagger Ahead" sign with symbol (W20-7).
4. If vehicles in a parking zone block the line of sight to TCZ signs, locate and post mount signs in accordance with Index 700-101.
5. If the work area extends across a crosswalk, close the crosswalk in accordance with Index 102-660.
6. For unsignalized intersections, use Temporary Raised Rumble Strips in accordance with Index 102-603. Placement of Rumble Strips and additional signs should begin at FLAGGER sign location.
7. The "End Road Work" signs (G20-2) along with the associated work zone sign distances may be omitted when the work zone will be in place for 24 hours or less.
8. As an option to the "STOP" sign (R1-1) and Restricted Left/Right Turning Movement sign (R3-1 or R3-2), the "SIDE ROAD INTERSECTING THE WORK ZONE" flagging operation from Index 102-600 may be used.

SYMBOLS:
Work Area
Channelizing Device (See Index 102-600)
Work Zone Sign
Type III Barricade
Stop Bar
Flagger
Lane Identification and Direction of Traffic

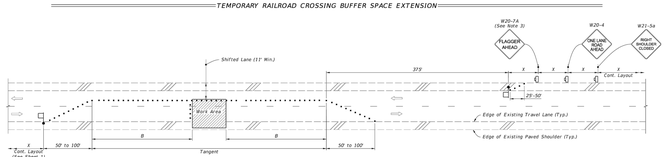
LANE CLOSURE FOR WORK LESS THAN 200' FROM INTERSECTION



LANE CLOSURE FOR WORK MORE THAN 200' FROM INTERSECTION



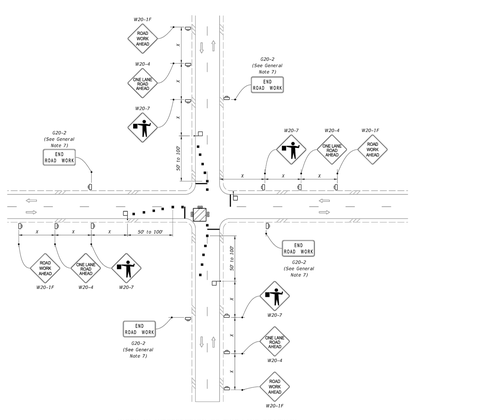
TEMPORARY RAILROAD CROSSING BUFFER SPACE EXTENSION



TEMPORARY LANE SHIFT TO SHOULDER WHEN WORK AREA ENCROACHES ON THE CENTERLINE
(For Work Operations In place 24 Hours or Less)

SYMBOLS:
Work Area
Channelizing Device (See Index 102-600)
Work Zone Sign
Flagger
Lane Identification and Direction of Traffic

SPECIAL CONDITIONS



SYMBOLS:
Work Area
Channelizing Device (See Index 102-600)
Work Zone Sign
Type III Barricade
Stop Bar
Flagger
Lane Identification and Direction of Traffic

WORK IN INTERSECTION OF TWO-LANE ROADWAY

WATERMARK CONSTRUCTION PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
TEAM NORTH BRANCH OFFICE
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
CERTIFICATE OF AUTHORIZATION NUMBER: 33390

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS 69017
NAME PE LICENSE NO.

DATE

THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF:

HALFF ASSOCIATES, INC.

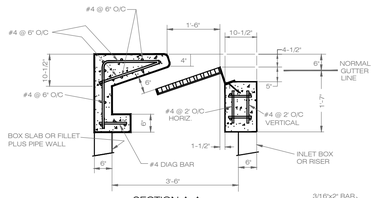
HALFF ASSOCIATES, INC. FL
FIRM OR BUSINESS NO. STATE

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DRAWN BY:	MC
CHECKED BY:	BJT
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SHEET TITLE:	

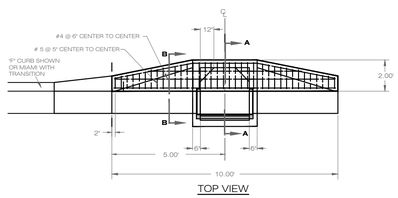
S.R. 19 DETAILS

C-712

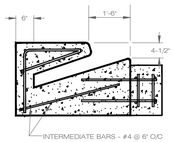
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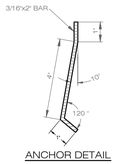
SECTION A-A



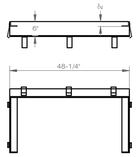
TOP VIEW



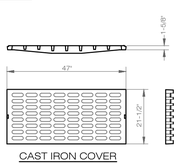
SECTION B-B



ANCHOR DETAIL



STEEL ANGLE FRAME



CAST IRON COVER

F.D.O.T. TYPE "6" (MODIFIED)

ALL STRUCTURAL SPECIFICATIONS SHALL MEET OR EXCEED

GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO FDOT AND THE TOWN OF HOWEY STANDARDS.

2. PROJECT BASELINE STATIONING SHOWN IS APPROXIMATE. THE CONTRACTOR SHALL LOCATE ALL PORTIONS OF THE WORK USING ALL INFORMATION PROVIDED HEREIN AND SHALL MAINTAIN RECORDS OF ALL LOCATIONS PER THE CONTRACT SPECIFICATIONS.

3. STATIONING IS PROVIDED FOR THE REFERENCE IN HORIZONTAL PLANE ONLY, AND DOES NOT REFLECT VERTICAL ALIGNMENT OF PIPE.

4. INFORMATION REGARDING THE LOCATION OF EXISTING UTILITIES HAS BEEN OBTAINED FROM RESPECTIVE UTILITY OWNER USING THE LATEST INFORMATION AVAILABLE. HOWEVER, THESE LOCATIONS, AS SHOWN ON THE PLANS, ARE NOT CONSIDERED TO BE ALL INCLUSIVE. THE ENGINEER HAS ATTEMPTED TO SHOW AS MUCH AS POSSIBLE ALL MAIN ELECTRICAL AND TELEPHONE UNDERGROUND CABLES AND DUCTS. THE ENGINEER HAS NOT SHOWN ELECTRICAL AND TELEPHONE SERVICE CONNECTIONS WHICH MAY EXIST WITHIN THE PRIVATE RIGHTS-OF-WAY WITHIN THIS PROJECT. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL UNDERGROUND FACILITIES WITH A FIELD REPRESENTATIVE OF EACH RESPECTIVE UTILITY.

5. THE CONTRACTOR PRIOR TO EXCAVATING IN THE VICINITY OF A GAS PIPELINE SHALL NOTIFY THE GAS UTILITY OWNER IN ACCORDANCE WITH THE REQUIREMENTS OF FLORIDA STATUTES, PROTECTION OF UNDERGROUND PIPELINES, F.S. 553.851, CH. 77-143.

6. THE CONTRACTOR SHALL INSURE ALL NECESSARY PERMITS ARE IN HAND BEFORE COMMENCEMENT OF CONSTRUCTION.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SATISFYING ALL REQUIREMENTS OF REGULATORY AGENCY PERMITS WITH REGARDS TO CONSTRUCTION ACTIVITIES AND CONDITIONS STATED THEREIN. ALL WORK WITHIN THE TOWN OF HOWEY & F.D.O.T. RIGHT-OF-WAYS SHALL CONFORM WITH ALL REQUIREMENTS AND SPECIAL CONDITIONS OF THE APPROVED TOWN OF HOWEY AND F.D.O.T. UTILITY PERMITS.

8. D.I.P. LOCATED LESS THAN 10 FEET FROM A GAS MAIN SHALL BE WRAPPED IN POLYETHYLENE.

9. ALL PROPOSED MAINS SHALL HAVE A MINIMUM OF 36" COVER OVER TOP OF PIPE. COVER SHALL VARY TO PROVIDE UNIFORM GRADIENT OR SLOPE TO PIPE, UNLESS OTHERWISE NOTED.

10. WHERE A CONNECTION IS TO BE MADE IN THE FIELD TO AN EXISTING PIPE, THE CONTRACTOR WILL EXCAVATE THE AREA TO VERIFY THE TYPE OF PIPE AND THE PIPE SIZE, AND OBTAIN THE OWNER'S APPROVAL OF THE PROPOSED METHOD OF CONNECTION PRIOR TO ORDERING AND INSTALLING MATERIALS.

11. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AT ALL INTERSECTIONS OF PROPOSED WORK AND EXISTING UTILITIES. THE EXPLORATORY EXCAVATIONS SHALL BE MADE 48 HOURS OR 1,000 FEET IN ADVANCE OF THE WORK, WHICHEVER IS GREATER. IF THERE IS A POTENTIAL CONFLICT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. INFORMATION ON THE OBSTRUCTION TO BE FURNISHED BY THE CONTRACTOR SHALL INCLUDE: LOCATION, ELEVATION, UTILITY TYPE, MATERIAL AND SIZE.

12. ALL WATER OR SEWER SERVICE CONNECTIONS, INTERRUPTIONS OR RELOCATION'S SHALL BE COORDINATED IN ADVANCE WITH FIELD REPRESENTATIVES OF THE TOWN OF HOWEY.

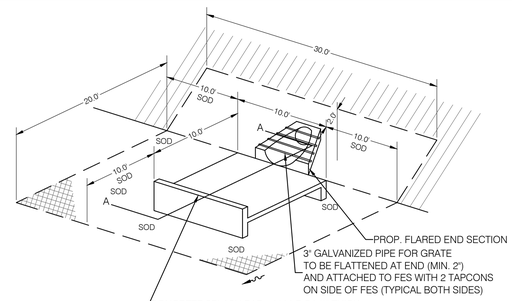
13. ALL BURIED PIPING SPECIFIED TO BE PRESSURE TESTED, EXCEPT FLANGED, WELDED, OR SCREWED PIPING, SHALL BE PROVIDED WITH RESTRAINING DEVICES AT ALL DIRECTION CHANGES, UNLESS OTHERWISE NOTED. SEE THRUST RESTRAINT SPECIFICATION DETAILS AND NOTES.

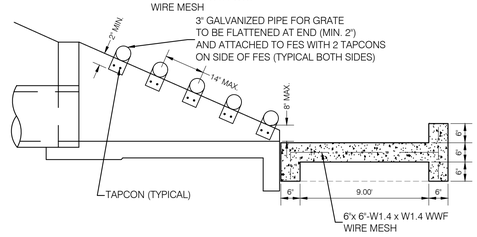
14. ALL AREAS WHERE LANDSCAPING, SOD, OR IRRIGATION HAS BEEN REMOVED OR DISTURBED BY CONTRACTOR'S OPERATIONS SHALL BE RESODDED, LANDSCAPED, OR REPAIRED WITH LIKE KIND.

15. ALL EXISTING PROPERTY, FENCING, DRIVEWAYS, PIPING, SIDEWALKS, SIGNS AND OTHER ITEMS SHALL BE RESTORED TO ORIGINAL LINE AND GRADE UNLESS APPROVED BY THE ENGINEER. ACCESS TO ADJOINING PROPERTY ALONG THE PROPOSED ROUTE SHALL BE MAINTAINED AT ALL TIMES.

16. IN THE EVENT THAT THE POTABLE WATER SYSTEM IS CONTAMINATED (I.E., WATER DOES NOT MEET FEDERAL AND STATE REQUIREMENTS) DUE TO CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL BE RESPONSIBLE, UNDER THE DIRECTION OF THE OWNER, OR STATE AND LOCAL REGULATORY AGENCY FOR CORRECTING ANY SUCH CONTAMINATION PROBLEM INCLUDING DISINFECTION, TESTING AND OTHER CORRECTIVE ACTION.

17. WHEN CONSTRUCTION ACTIVITIES DISTURB AREAS WITHIN 10 FEET OF A TOP OF BANK FOR ANY WATERWAY OR WATER SURFACE, THE CONTRACTOR SHALL PROVIDE CROSSING AND SEDIMENTATION CONTROL MEASURES AS DETAILED, SPECIFIED OR AS REQUIRED BY THE JURISDICTIONAL REGULATORY AGENCIES; WHICHEVER REQUIREMENT IS MORE STRINGENT.





TYPICAL SPLASH PAD DETAIL

NOT TO SCALE

18. THE SHOWN LOCATIONS OF RIGHTS-OF-WAY AND UTILITIES ARE APPROXIMATE. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO EXACTLY LOCATE ALL RIGHTS-OF-WAY AND UTILITY LINES IN THE CONSTRUCTION AREA PRIOR TO EXCAVATION. ANY DAMAGE TO ANY EXISTING UTILITY, STRUCTURE OR SERVICE SHALL BE REPAIRED, AT THE CONTRACTOR'S EXPENSE, IN A MANNER APPROVED BY THE RESPECTIVE UTILITY OWNER.

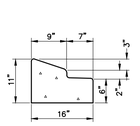
19. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES AS PER FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ROADWAY AND TRAFFIC DESIGN STANDARDS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITIONS.

20. REMOVAL OF TREES GREATER THEN 4-INCH BASAL DIAMETER SHALL BE ONLY AS DIRECTED BY THE OWNER/ENGINEER. CONTRACTOR SHALL LIMIT TO A MINIMUM THE AMOUNT OF TREE REMOVAL, CLEARING AND GRUBBING REQUIRED BY TRIMMING TREES WHEREVER POSSIBLE.

21. CONTRACTOR SHALL NOTIFY AND COORDINATE WITH AFFECTED PROPERTY OWNERS AND OWNER/ENGINEER ONE WEEK IN ADVANCE OF TREE CLEARING AND GRUBBING. ALL DEBRIS FROM TREE CLEARING AND GRUBBING SHALL BE REMOVED. AT THE CONTRACTORS EXPENSE.

22. ALL ELEVATIONS SHOWN ON THESE DRAWINGS REFER TO NATIONAL GEODETIC VERTICAL DATUM (NGVD): 88 DATUM.

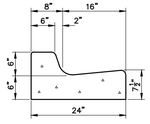
23. THE CONTRACTOR SHALL REPLACE ALL PAVING, SODDING, STABILIZED EARTH, LANDSCAPING, DRIVEWAYS, SIDEWALKS, IRRIGATION SYSTEMS, UNDERGROUND PIPING, ETC., DISTURBED OR DAMAGED BY THE CONSTRUCTION. THE CONTRACTOR SHALL REPLACE WITH EQUAL MATERIAL OR AS DIRECTED BY THE ENGINEER.



TYPE "A" CURB DETAIL

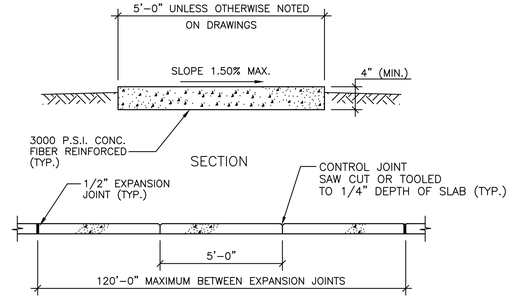
NOT TO SCALE

FOR CORNER RADII ON ALL CURBS SHOWN, SEE FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS, INDEX 300 TO BE CONSTRUCTED WITH 3000 PSI CONCRETE WITH 1/8" TO 1/4" CONTROL JOINTS AT 10.00' CENTERS



TYPE "F" CURB DETAIL

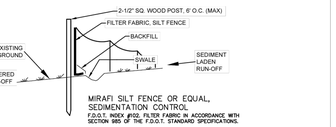
NOT TO SCALE



PROFILE

CONCRETE SIDEWALK DETAIL

NOT TO SCALE



MIRAFI SILT FENCE OR EQUAL, SEDIMENTATION CONTROL.
F.D.O.T. INDEX #102. FILTER FABRIC IN ACCORDANCE WITH SECTION 985 OF THE F.D.O.T. STANDARD SPECIFICATIONS.

NOTES:
1. TEMPORARY EROSION CONTROL STRUCTURE TO BE UTILIZED DURING CONSTRUCTION AT AREAS DESIGNATED BY ENGINEER OR AREAS ON-SITE WHERE UNSTABILIZED GRADES MAY CAUSE EROSION PROBLEMS. EROSION CONTROL STRUCTURE MAY BE REMOVED AFTER UPSLOPE AREA HAS BEEN STABILIZED BY SOD, OR COMPACTED AS DETERMINED BY CONTRACTOR.
2. CONSTRUCT STORMWATER SYSTEMS BEFORE ANY BUILDING OR ROAD CONSTRUCTION IS STARTED.
   a.) PROTECT SYSTEM FROM SILTING AND DEBRIS BY METHODS PROVIDED IN DETAILS.
   b.) PROTECT SWALE BOTTOM FROM SEALING BY EXCAVATING ALL SILT DEPOSITS DURING CONSTRUCTION. THIS SHALL BE DONE BEFORE SOD & SEEDING & MULCHING IS FINISHED

THE FOLLOWING LIST REPRESENTS A BASIC EROSION AND SEDIMENT CONTROL PROGRAM WHICH IS TO BE IMPLEMENTED TO HELP PREVENT OFF-SITE SEDIMENTATION DURING AND AFTER CONSTRUCTION OF THE PROJECT.

PERMANENT EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AT THE EARLIEST PRACTICAL TIME CONSISTENT WITH GOOD CONSTRUCTION PRACTICES. ONE OF THE FIRST CONSTRUCTION ACTIVITIES SHOULD BE THE PLACEMENT OF PERMANENT AND TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AROUND THE PERIMETER OF THE PROJECT OR THE INITIAL WORK AREA TO PROTECT THE PROJECT, ADJACENT PROPERTIES AND WATER RESOURCES.

TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS CONTROL THROUGHOUT THE CONSTRUCTION PHASE. TEMPORARY MEASURES SHALL NOT BE CONSTRUCTED FOR EXPEDIENCY IN LIEU OF PERMANENT MEASURES.

EROSION AND SEDIMENT CONTROL MEASURES SHALL BE ADEQUATELY MAINTAINED TO PERFORM THEIR INTENDED FUNCTION DURING CONSTRUCTION OF THE PROJECT.

NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF BARRIERS SHALL BE ACCOMPLISHED PROMPTLY.

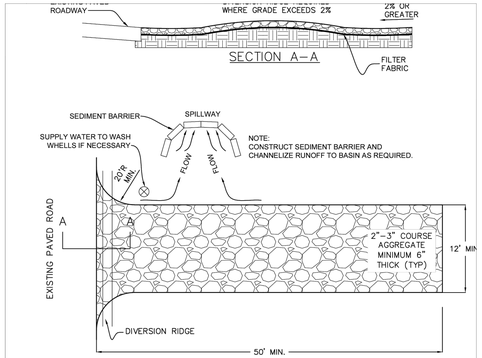
SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

MATERIAL FROM SEDIMENT TRAPS SHALL NOT BE STOCKPILED OR DISPOSED OF IN A MANNER WHICH MAKES THEM READILY SUSCEPTIBLE TO BEING WASHED INTO ANY WATERCOURSE BY RUNOFF OR HIGH WATER.

ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE BARRIERS ARE NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

EROSION & SEDIMENT CONTROL (N.T.S.)

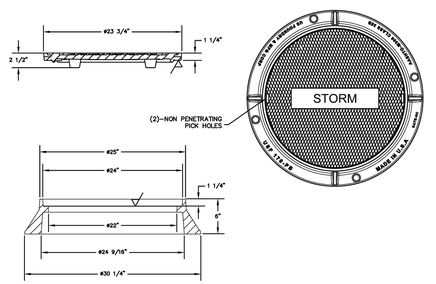
Howey-in-the-Hills	DATE: FEB 2022
Standard Details	DETAIL G-1



NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OR-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. ALL MATERIALS SPILLED, DROPPED, OR TRACKED ONTO PUBLIC ROADS (INCLUDING AGGREGATE AND CONSTRUCTION MUD) SHALL BE REMOVED DAILY, OR MORE FREQUENTLY IF SO DIRECTED.

TEMPORARY CONSTRUCTION ENTRANCE (N.T.S.)

Howey-in-the-Hills	DATE: FEB 2022
Standard Details	DETAIL R-23

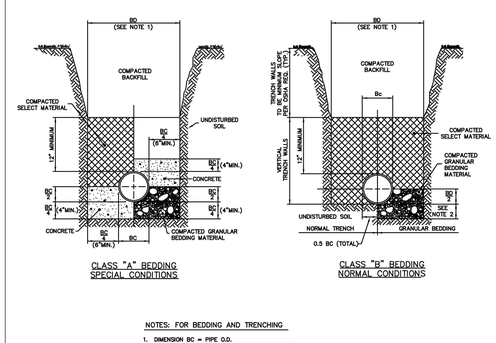


*MODEL USF 170-PB RING AND CE-PB COVER
RING NO. 8021468
COVER NO. 8017533
MATERIAL AASHTO M306 GRAY IRON CLASS35B

STORMWATER MANHOLE COVER

NOT TO SCALE

Howey-in-the-Hills	DATE: FEB 2022
Standard Details	DETAIL SW-1



NOTES: FOR BEDDING AND TRENCHING

1. DIMENSION BC = PIPE O.D.
   DIMENSION BD = TRENCH WIDTH AT TOP OF PIPE
   MAXIMUM BD = BC + 30"
   MINIMUM BD = MAXIMUM DIMENSION OF BELL + 8" (UNSHEETED TRENCH)
2. DEPTH FOR REMOVAL FOR UNSUITABLE MATERIAL SHALL BE AS REQUIRED TO REACH SUITABLE FOUNDATION. FOR ROCK OR OTHER NON-CUSHIONING MATERIAL, DEPTH SHALL BE 6" BELOW BOTTOM OF UTILITY.
3. ALL BACKFILL AND SELECT MATERIAL UNDER ALL ROADWAYS, DRIVES (INCLUDING DIRT DRIVES), AND PARKING AREAS SHALL BE COMPACTED TO 98% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (AASHTO T-180). BACKFILL AND SELECT MATERIAL UNDER ALL OTHER AREAS SHALL BE COMPACTED AS FOLLOWS: FROM BOTTOM OF TRENCH TO 12" ABOVE TOP OF PIPE - 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY (AASHTO T-180). FROM 12" ABOVE TOP OF PIPE TO TOP OF BACKFILL - 90% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY (AASHTO T-180)

TRENCHING AND BEDDING

NOT TO SCALE

Howey-in-the-Hills	DATE: FEB 2022
Standard Details	DETAIL PW-2

WATERMARK PH.1 & MASTER GRADING PLANS

TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE.
ANGLETON, TEXAS 77515
TEL: (352) 343-8481
WWW.HALFF.COM
CERTIFICATE OF AUTHORIZATION NUMBER: 33360

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017 (NAME — PE LICENSE NO.)
7/29/25 (DATE)

THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF:

HALFF ASSOCIATES, INC.

HALFF ASSOCIATES, INC. — FL (FIRM OR BUSINESS NO. — STATE)

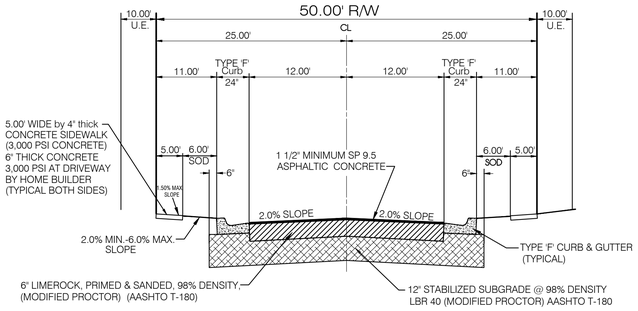
PROJECT NO.:	45548.003
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 1'

SHEET TITLE:

PAVING & DRAINAGE DETAILS

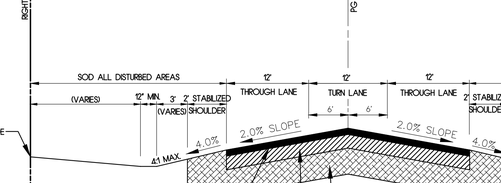
C-800

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TYPICAL ROAD SECTION

N.T.S.



KEY	THICKNESS	SPECIFICATIONS
1	1.5"	STRUCTURAL ASPHALT, SP. 9.5
2	6"	LIMEROCK-98% COMPACTION, AASHTO T-180, PRIME AND SAND
3	12"	TYPE B STABLIZATION, LBR 40, 98% COMPACTION, A.A.S.H.T.O. T-180

NOTES:
1. ALL STRIPES TO BE PAINT U.N.O.
2. SOD ALL DISTURBED AREAS.
3. CONTRACTOR SHALL USE A MINIMUM TRANSITION SLOPE OF 1:100 WHEN ROTATING CROSS SLOPE.

MULTI-USE TRAIL TYPICAL SECTION

N.T.S.

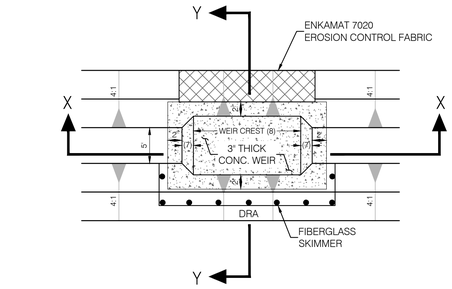
NOTES:
1. ROAD WIDENING TO MATCH EXISTING SLOPE (MIN 1%) TO PROPOSED EDGE OF PAVEMENT.
2. CONTRACTOR TO VERIFY EXISTING ASPHALT DEPTH FOR MILLING OF 1" OF EXISTING ASPHALT & AND PROFILE MILLING.

REVELS ROAD TURN LANE (TYPICAL SECTION B-B)

N.T.S.

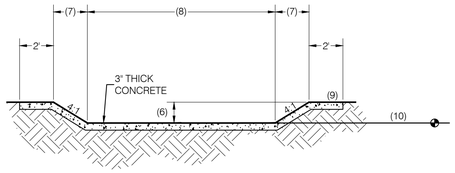
REVELS ROAD (TYPICAL SECTION A-A)

N.T.S.



PLAN VIEW

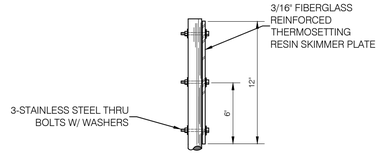
SECTION X-X



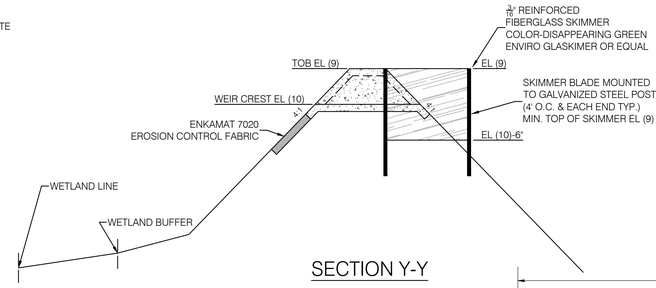
TYPICAL WEIR SECTION

NOT TO SCALE

	WEIR SECTION DATA				
	(6) (F.T.)	(7) (F.T.)	(8) (F.T.)	(9) (ELEV.)	(10) (ELEV.)
DRA 3	2.25	9.00	10.00	90.00	87.75
DRA 5	1.75	7.00	10.00	94.00	92.25
DRA 5A	1.25	5.00	10.00	92.00	90.75



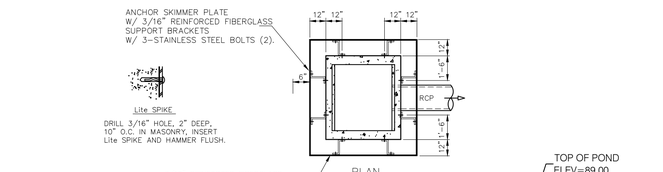
SKIMMER DETAIL



SECTION Y-Y

WEIR DETAIL

NOT TO SCALE

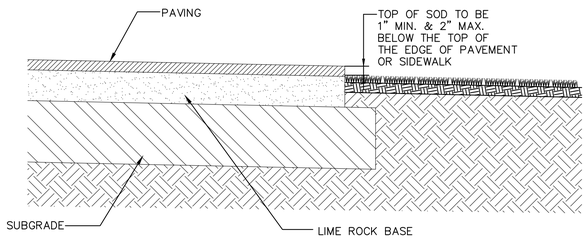


ANCHOR DETAIL

CONTROL STRUCTURE INLET FDOT TYPE C-DBI w/ SKIMMER DETAIL

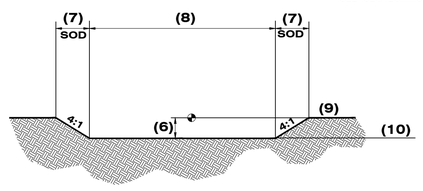
F.D.O.T. INDEX #425-052

POND NO.	INLET TYPE	A	B	C	D	E	F
DS_PB-1	C	87.75	87.25	86.75	82.33	82.00	85.25



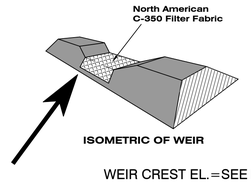
SOD PLANTING

N.T.S.



TYPICAL EMERGENCY GRASS WEIR SECTION

WEIR SECTION DATA					
WRA NUMBER	(6) (ft)	(7) (ft)	(8) (ft)	(9) (elev)	(10) (elev)
WR-PB-4	0.50'	2.00'	5.00'	125.00	124.50



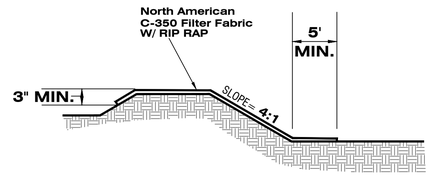
WEIR CREST EL.=SEE PLAN

TYPICAL POND SECTION

POND NO.	TOP OF BERM	BTM. ELEV.	24YR-96HR ELEV.	SLOPE (MAX.)
DRA 1	89.00	84.00	88.17	4:1
DRA 2	89.00	84.00	88.20	4:1
DRA 3	90.00	85.00	88.38	4:1
DRA 4	125.00	120.00	123.47	4:1
DRA 5	94.00	89.00	92.49	4:1
DRA 5A	92.00	87.00	90.85	4:1

NOTES:
1. MAXIMUM SIDE SLOPES NOT TO EXCEED 4:1.
2. OVER-EXCAVATION AND REPLACEMENT OF CLAYEY SOILS WILL BE COMPLETED WITHIN POND PB-4 AREA TO A DEPTH OF 3.0' BELOW POND BOTTOM WHERE ENCOUNTERED. THE OVER-EXCAVATED AREAS WITH CLAYEY SAND SOILS SHOULD BE BACKFILLED WITH CLEAN FINE SAND CONTAINING LESS THAN 5% FINES (PASSING ASTM SIEVE NO. 200), AND A MINIMUM IN-PLACE SATURATED VERTICAL PERMEABILITY RATE OF 15 FT/DAY OR GREATER.
SEE GEOTECHNICAL REPORT DATED APRIL 28, 2023 BY ANDREYEV ENGINEERING, INC.

NOTE:
SOD ALL SIDE SLOPES
SEED AND MULCH BOTTOM



TYPICAL POND SECTION

GRASS WEIR SECTION
NTS

WATERMARK PH.1 & MASTER GRADING PLANS

TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
502 NORTH SINCLAIR AVE.
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
FAX: (352) 343-8501
CERTIFICATE OF AUTHORIZATION NUMBER: 33360

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:
BRETT J. TOBIAS 69017
NAME PE LICENSE NO.
7/28/25
DATE
THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF:
HALFF ASSOCIATES, INC.
HALFF ASSOCIATES, INC. FL
FIRM OR BUSINESS NO. STATE

PROJECT NO.:	45548.003
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 1'

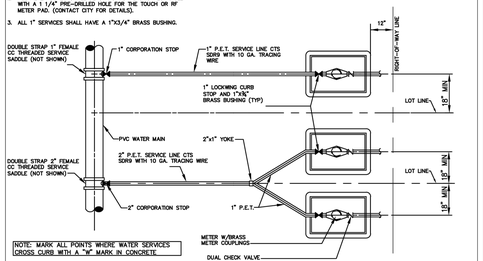
SHEET TITLE:
PAVING & DRAINAGE DETAILS

C-801

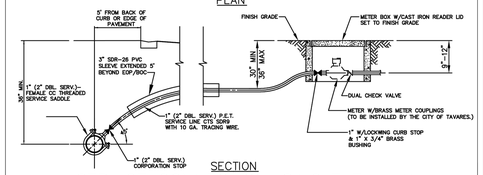
FILE NAME: A:\45000s\45548\003\LD\CADD\C900-1000 Detail Sheets.dwg DATE: September 19, 2025, TIME: 9:43 AM, USER: ahs122

NOTES:

1. METERS TO BE INSTALLED BY THE CITY OF TAVARES.
2. ALL METER BOXES SHALL BE STANDARD PLASTIC RECTANGLE WITH A 1 1/4" PRE-DRILLED HOLE FOR THE TOUCH OR RF METER PAD. (CONTACT CITY FOR DETAILS).
3. ALL 1" SERVICES SHALL HAVE A 1"X3/4" BRASS BUSHING.



PLAN



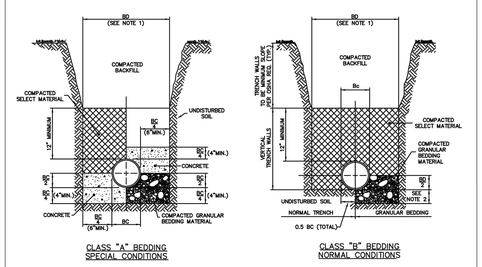
SECTION

SERVICE CONNECTION—SINGLE FAMILY

NOT TO SCALE

(NOTE: METERS TO BE INSTALLED BY CITY OF TAVARES.)

Howey—in—the—Hills	DATE: FEB 2022
Standard Details	DETAIL PW—1



CLASS "A" BEDDING
SPECIAL CONDITIONS

CLASS "B" BEDDING
NORMAL CONDITIONS

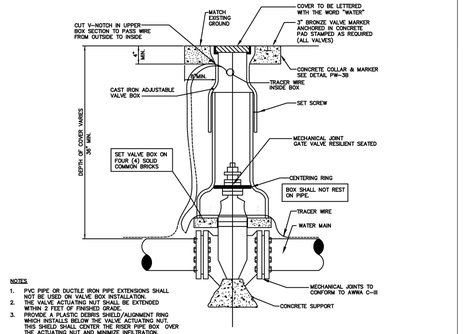
NOTES: FOR BEDDING AND TRENCHING

1. DIMENSION BC = PIPE O.D.
   DIMENSION BD = TRENCH WIDTH AT TOP OF PIPE
   MAXIMUM BD = BC + 30"
   MINIMUM BD = MAXIMUM DIMENSION OF BELL + 8" (UNSHEETED TRENCH)
2. DEPTH FOR REMOVAL FOR UNSUITABLE MATERIAL SHALL BE AS REQUIRED TO REACH SUITABLE BEARING SOIL. IF ROCK OR OTHER NON-CUSHIONING MATERIAL, DEPTH SHALL BE 6" BELOW BOTTOM OF U/TILITY.
3. ALL BACKFILL AND SELECT MATERIAL UNDER ALL ROADWAYS, DRIVES (INCLUDING DIRT DRIVES), AND PARKING AREAS SHALL BE COMPACTED TO 98% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY. (AASHTO T-180). BACKFILL AND SELECT MATERIAL UNDER ALL OTHER AREAS SHALL BE COMPACTED AS FOLLOWS: FROM BOTTOM OF TRENCH TO 12" ABOVE TOP OF PIPE — 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY (AASHTO T-180). FROM 12" ABOVE TOP OF PIPE TO TOP OF BACKFILL — 90% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY (AASHTO T-180)

TRENCHING AND BEDDING

NOT TO SCALE

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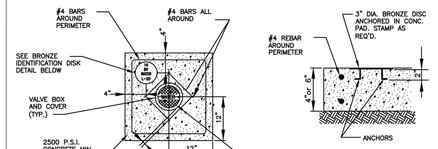
NOTES

1. PVC PIPE OR DUCTILE IRON PIPE EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
2. THE VALVE ACTUATING NUT SHALL BE EXTENDED WITHIN 2 FEET OF FINISHED GRADE.
3. PROVIDE A PLASTIC DEBRIS SHIELD/ALIGNMENT RING WHICH INSTALLS BELOW THE VALVE ACTUATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE VALVE ACTUATING NUT AND PREVENT DEBRIS FROM FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MISRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS.
4. VALVE BOX SHALL BE A TWO PIECE SCREW TYPE.
5.

GATE VALVE AND BOX

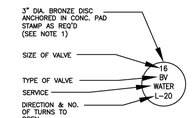
NOT TO SCALE

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NOTE:

1. BRONZE IDENTIFICATION DISC SHALL BE REQUIRED FOR ALL VALVES.
2. 6" THICK CONCRETE PAD IN ROADWAY OR PAVED AREAS, 4" THICK CONCRETE PAD IN OTHER AREAS.

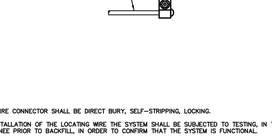


BRONZE IDENTIFICATION DISC DETAIL

VALVE COLLAR

NOT TO SCALE

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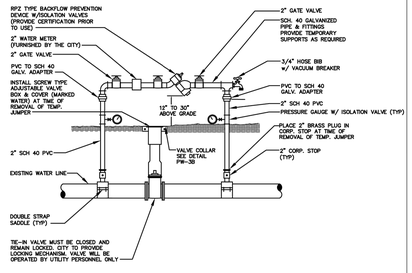
NOTES:

1. TRACER WIRE CONNECTOR SHALL BE DIRECT BURY, SELF-STRIPPING, LOCKING.
2. AFTER INSTALLATION OF THE LOCATING WIRE THE SYSTEM SHALL BE SUBJECTED TO TESTING, IN THE PRESENCE OF CITY UTILITY DIRECTOR OR HIS DESIGNEE PRIOR TO BACKFILL, IN ORDER TO CONFIRM THAT THE SYSTEM IS FUNCTIONAL.

LOCATING WIRE SPLICING

NOT TO SCALE

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TEMPORARY JUMPER CONNECTION

NOT TO SCALE

NOTE: LOCATION TO BE DETERMINED AT TIME OF PRECONSTRUCTION CONFERENCE W/ CITY.

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TEMPORARY JUMPER CONNECTION NOTES

1. A TEMPORARY JUMPER CONNECTION IS REQUIRED AT ALL CONNECTIONS BETWEEN EXISTING ACTIVE WATER MAINS AND PROPOSED NEW WATER MAIN IMPROVEMENTS.
2. THE DETAILS TO BE USED FOR FILLING ANY WATER MAIN OF ANY SIZE FROM EXISTING ACTIVE WATER MAINS AND FOR FLUSHING OF NEW MAINS UP TO 8" DIAMETER (2.5 FPS MINIMUM VELOCITY) AND FOR PULLING BACTEROLOGICAL SAMPLES FROM ANY NEW WATER MAIN OF ANY SIZE. THE JUMPER CONNECTION SHALL BE MAINTAINED UNTIL AFTER FILLING, FLUSHING, TESTING AND DISINFECTION OF THE NEW MAIN HAS BEEN SUCCESSFULLY COMPLETED AND CLEARANCE FOR USE FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) AND OTHER PERTINENT AGENCIES HAS BEEN RECEIVED. THE JUMPER CONNECTION SHALL ALSO BE USED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI IN THE NEW MAINS ALL THE TIME. AFTER DISINFECTION AND UNTIL THE FDEP CLEARANCE LETTER IS OBTAINED. ADEQUATE RESTRAINTS SHALL BE PROVIDED TEMPORARILY, AS REQUIRED. PIPE AND FITTINGS USED FOR CONNECTING THE NEW PIPE TO THE EXISTING PIPE SHALL BE DISINFECTED PRIOR TO INSTALLATION IN ACCORDANCE WITH AWWA C651, LATEST EDITION. THIS TAPPING SLEEVE AND THE EXTERIOR OF THE MAIN TO BE TAPPED SHALL BE DISINFECTED BY SPRAYING OR SWABBING PER SECTION II OF AWWA C561, LATEST EDITION.
3. FLUSHING OF 10" DIAMETER AND LARGE WATER MAINS MAY BE DONE THROUGH THE TIE-IN VALVE, IN THE PRESENCE OF THE UTILITY DIRECTOR OR HIS DESIGNEE. THE UTILITY DEPARTMENT WILL NOTIFIED IN WRITING 48 HOURS PRIOR TO THE FLUSHING OF SAID MAINS.

   THE FOLLOWING PROCEDURES SHALL BE FOLLOWED:

   A. THE TIE-IN VALVES SHALL BE OPERATED AND PRESSURE TESTED IN THE PRESENCE OF THE UTILITY COMPANY AND ENGINEER TO VERIFY WATER TIGHTNESS PRIOR TO THE TIE-IN. VALVES WHICH ARE NOT WATERTIGHT SHALL BE REPLACED OR A NEW VALVE INSTALLED IMMEDIATELY ADJACENT TO THE LEAKING VALVE.

   B. THE TEMPORARY JUMPER CONNECTION SHALL BE CONSTRUCTED AS DETAILED. THE JUMPER CONNECTION SHALL BE USED TO FILL THE NEW WATER MAIN AND FOR PROVIDING WATER FOR BACTERIOLOGICAL SAMPLING OF THE NEW MAIN AS REQUIRED BY THE FDEP PERMIT.

      – FLUSHING SHALL NOT BE ATTEMPTED DURING PEAK DEMAND HOURS OF THE EXISTING WATER MAIN.

      – ALL DOWNSTREAM VALVES IN THE NEW SYSTEM MUST BE OPEN PRIOR TO OPENING THE TIE-IN VALVE.

      – PROVIDE FOR AND MONITOR THE PRESSURE AT THE TIE-IN POINT. THE PRESSURE IN THE EXISTING MAIN MUST NOT DROP BELOW 35 psi.

      – TIE-IN VALVE SHALL BE OPENED A FEW TURNS ONLY, ENSURING A PRESSURE DROP ACROSS THE VALE IS ALWAYS GRATER THAN 10 psi.

   C. THE TIE-IN VALVE SHALL BE LOCKED CLOSED BY THE CITY UNTIL FLUSHING BEGINS.

   D. THE TIE-IN VALVE SHALL BE OPENED ONLY A FEW TURNS FOR FLUSHING OF THE NEW MAIN. THE PROCEDURE SHALL BE DIRECTED BY THE CITY AND OBSERVED BY THE ENGINEER.

   E. AFTER FLUSHING, THE TIE-IN VALVE SHALL BE CLOSED AND LOCKED IN THE CLOSED POSITION BY THE CITY.

4. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION DEMONSTRATING THAT THE RPZ BACKFLOW PREVENTION DEVICE HAS BEEN TESTED WITHIN ONE YEAR AT THE TIME OF INSTALLATION AND IS IN GOOD WORKING ORDER AT THE TIME OF INSTALLATION. THE TEST SHALL BE PERFORMED BY A QUALIFIED BACKFLOW PREVENTION TECHNICIAN.
5. EXCEPT AS REQUIRED TO FLUSH LINES OF GREATER THAN 8" IN DIAMETER, THE TIE-IN VALVE SHALL REMAIN CLOSED AND SHALL BE LOCKED IN THE CLOSED POSITION BY THE CITY. THE TIE-IN VALVE SHALL REMAIN LOCKED CLOSED UNTIL THE NEW SYSTEM HAS BEEN CLEARED FOR USE BY FDEP AND ALL OTHER PERTINENT AGENCIES.
6. UPON RECEIPT OF CLEARANCE FOR USE FROM FDEP AND ALL OTHER PERTINENT AGENCIES, THE CONTRACTOR SHALL REMOVE THE JUMPER CONNECTION. THE CORPORATION STOPS ARE TO BE CLOSED AND PLUGGED WITH 2" BRASS PLUGS.
7. ALL INSTALLATION AND MAINTENANCE OF THE TEMPORARY JUMPER CONNECTION AND ASSOCIATED BACKFLOW PREVENTION DEVICE FITTINGS, VALVE, ETC., SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

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1. ALL RECLAIMED WATER PIPING TO BE OWNED AND MAINTAINED BY THE TOWN SHALL BE A SOLID PANTONE PURPLE COLOR.
2. RECLAIMED WATER MAINS SHALL BE PVC CONFORMING TO AWWA C-900, DR 18 FOR PIPE SIZES 4"–12". PIPES 14" & LARGER SHALL BE AWWA C-905, DR 25. PRESSURE CLASS 350 DIP IS AN ACCEPTABLE ALTERNATE. ALL COUPLINGS, CLEANING COMPOUNDS, SOLVENTS, LUBRICANTS, AND PIPE PREPARATION FOR LAYING SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURERS LATEST RECOMMENDATIONS.
3. DEPTH OF RECLAIMED WATER LINES TO BE 36" MIN. BELOW FINISHED GRADE.
4. RECLAIMED WATER MAINS TO BE LOCATED 5' FROM BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
5. ALL PIPING CLEARANCES SHALL BE IN ACCORDANCE WITH CHAPTER 62–555.314, F.A.C.
6. ALL RECLAIMED WATER MAINS UNDER PAVEMENT SHALL BE DUCTILE IRON PIPE AND SHALL EXTEND 5' BEYOND THE EDGE OF PAVEMENT OR BACK OF CURB, EXCEPT DIRECTIONAL BORES, WHICH SHALL BE SDR–11 HDPE.
7. ALL IRRIGATION SLEEVING UNDER PAVEMENT SHALL EXTEND 5' BEYOND THE EDGE OF PAVEMENT OR BACK OF CURB.
8. ALL OTHER REQUIREMENTS OF THE TOWN WATER SYSTEM SHALL APPLY TO THE RECLAIMED WATER SYSTEM.
9. PROPER SIGNAGE FOR PUBLIC ACCESS IRRIGATION AREAS TO BE SUPPLIED BY THE DEVELOPER / CONTRACTOR, IN ACCORDANCE WITH CHAPTER 62–610.418, F.A.C.

GENERAL RECLAIMED WATER NOTES

Howey—in—the—Hills	DATE: FEB 2022
Standard Details	DETAIL RW—1

WATERMARK PH.1 & MASTER GRADING PLANS

TOWN OF HOWEY IN THE HILLS

LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE.
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
CERTIFICATE OF AUTHORIZATION NUMBER: 33360

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS — LICENSE — No. 69017 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.
7/28/25
DATE

THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF:

HALFF ASSOCIATES, INC.

HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	45548.003
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 1'

SHEET TITLE:

WATER DETAILS

C-900

FILE NAME: A:\45000s\45548003\LD\CADD\C900-1000 Detail Sheets.dwg DATE: September 19, 2025, TIME: 9:43 AM, USER: ah5122

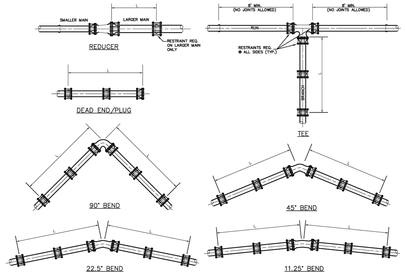


TABLE OF THRUST RESTRAINT LENGTHS

PIPE DIAMETER	90° BEND		45° BEND		22.5° BEND		11.25° BEND		TEES		DEAD END & PLUGS		REDUCER	
	P.V.C. SCH 40	DUCTILE IRON CL 52	P.V.C. SCH 40	DUCTILE IRON CL 52	P.V.C. SCH 40	DUCTILE IRON CL 52	P.V.C. SCH 40	DUCTILE IRON CL 52	P.V.C. SCH 40	DUCTILE IRON CL 52	P.V.C. SCH 40	DUCTILE IRON CL 52	PIPE SIZES	P.V.C. SCH 40	DUCTILE IRON CL 52
4	20'	16'	8'	7'	4'	3'	2'	2'	15'	10'	45'	29'	6"x4"	33'	21'
6	28'	22'	12'	9'	6'	4'	3'	2'	33'	21'	63'	40'	8"x6"	34'	22'
8	36'	29'	15'	12'	7'	5'	4'	3'	52'	33'	82'	52'	10"x8"	33'	21'
10	43'	34'	18'	14'	9'	7'	4'	3'	68'	43'	98'	63'	12"x10"	34'	22'
12	50'	40'	21'	17'	10'	8'	5'	4'	84'	54'	116'	74'	16"x12"	83'	40'
16	63'	51'	26'	21'	13'	10'	6'	5'	116'	74'	148'	94'	18"x16"	33'	21'
18	70'	56'	29'	23'	14'	11'	7'	6'	131'	83'	163'	103'	20"x18"	33'	21'
20	75'	61'	31'	25'	15'	12'	7'	6'	145'	92'	178'	113'	20"x20"	82'	39'
24	86'	70'	36'	29'	17'	14'	9'	7'	173'	110'	207'	132'			

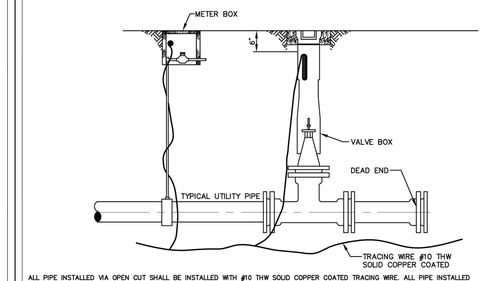
THRUST RESTRAINT DESIGN NOTES

1. RESTRAINT JOINTS, FITTINGS, & VALVE REQUIREMENTS CALCULATED BY THE THRUST RESTRAINT DESIGN PROGRAM PROVIDED BY EBBA IRON SALES, INC.
2. DATA BASED ON MAX. PRESSURE OF 150 p.s.i., THE UNIFIED SOILS CLASSIFICATION SYSTEM (SOIL TYPE SP), THE PIPE BEDDED IN NATIVE SOIL w/ A MINIMUM OF 2.5' COMPACTED FILL OVER THE PIPE, AND USING A SAFETY FACTOR OF 1.5 FOR THE DATA.
3. ALL FITTINGS & VALVES SHALL HAVE RESTRAINED WITH "MEGA-LUG' RESTRAINTS, & ALL BELL & SPIGOT JOINTS TO BE RESTRAINED WITH A RESTRAINING HARNESS WITHIN THE REQUIRED LENGTH OF RESTRAINED PIPE (L).

THRUST RESTRAINT

NOT TO SCALE

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ALL PIPE INSTALLED VIA OPEN CUT SHALL BE INSTALLED WITH #10 THW SOLID COPPER COATED TRACING WIRE. ALL PIPE INSTALLED VIA HDD SHALL BE INSTALLED WITH TWO #10 COPPER CLAD STEEL WIRES.

THE TRACING WIRE MUST BE INSTALLED DIRECTLY BELOW THE PIPE AND BROUGHT TO THE SURFACE AT 500' MINIMUM INTERVALS. WIRE SHALL EXTEND A MINIMUM OF 12" ABOVE GRADE AT EACH INTERVAL AND BE COILED AND PLACED IN A VALVE BOX, METER BOX, MANHOLE, CLEANOUT, LOCATE WIRE BOX, OR OTHER APPLICABLE STRUCTURE.

COLOR CODING:

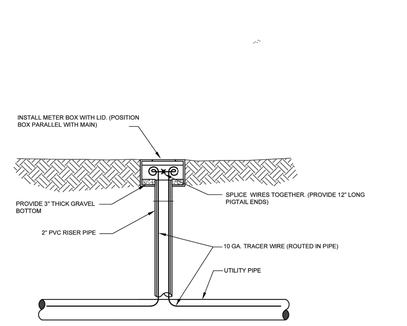
POTABLE WATER SYSTEM: BLUE
REUSE WATER SYSTEM: PANTONE PURPLE
SANITARY SEWER, FORCE MAINS AND LOW PRESSURE SEWER SYSTEMS: GREEN

1. FOR LOW PRESSURE SEWER, POTABLE WATER AND REUSE WATER SYSTEMS: WIRE SHALL BE INSTALLED BELOW ALL MAINS AND SERVICE LINES AND ATTACHED TO VALVES, HYDRANTS AND FITTINGS. WIRE INSTALLED WITH SERVICE LINES SHALL CONNECT TO THE WIRE INSTALLED BELOW THE MAIN AND EXTEND TO THE CURB STOP.
2. FIRE SPRINKLER LINES: WIRE SHALL CONNECT TO THE WIRE INSTALLED BELOW THE MAIN AND EXTEND TO THE RISER CONNECTION.
3. SANITARY SEWER FORCE MAINS: WIRE SHALL BE INSTALLED BELOW THE FORCE MAIN AND ATTACHED TO ALL VALVES AND FITTINGS AND BROUGHT TO THE SURFACE AND PLACED IN A METAL, CITY OF TAVARES APPROVED, VALVE BOX.
4. DEAD END MAINS: WIRE SHALL BE PLACED IN A PROPERLY IDENTIFIED METAL VALVE BOX AT THE END OF THE RUN.
5. WIRE SHALL NOT BE FASTENED OR COILED TO VALVE OPERATING NUT.
6. UTILITY TRACING WIRE SHALL BE IN ACCORDANCE WITH CITY CSM AND PER CITY'S APPROVED MANUFACTURER LIST.

UTILITY PIPE LOCATION MATERIAL – WIRE

NOT TO SCALE

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TRACER WIRE BOX UTILIZING METER BOX

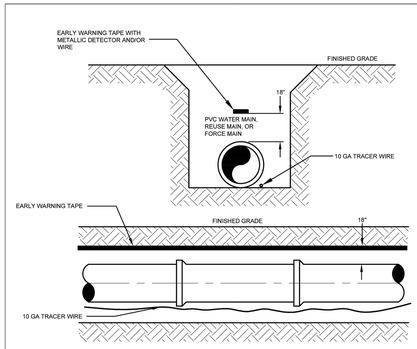
NOTES:

1. TRACER WIRE STATION BOX TO BE INSTALLED WHERE THE WIRE CANNOT BE BROUGHT TO GRADE IN A VALVE BOX WITHIN THE MANDATORY 500 FOOT INTERVAL OR WHERE A SPLICE MUST BE MADE ON THE TRACER WIRING. NO UNDERGROUND SPLICES.
2. BOXES SHALL NOT BE LOCATED IN ROADWAYS OR DRIVEWAYS.
3. BOX AND LID PER DETAIL PW-19.
4. TRAFFIC RATED LID (STANDARD-NON BOLT DOWN)
5. LID COLOR SHALL BE PRE-MANUFACTURED OR PAINTED TO MATCH SERVICE (BLUE= POTABLE WATER, GREEN=WASTEWATER, PANTONE PURPLE=RECLAIMED WATER)

TRACER WIRE BOX

NOT TO SCALE

Howey-in-the-Hills	DATE: FEB 2022
Standard Details	DETAIL PW-9



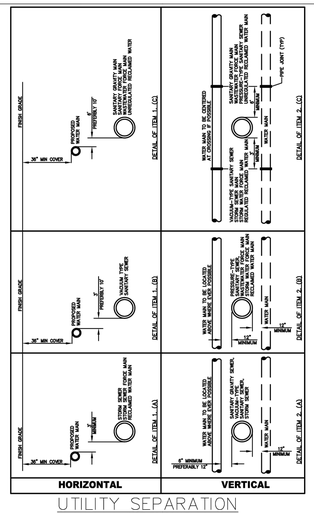
NOTES:

1. ALL MAINS INSTALLED BY OPEN CUT SHALL HAVE AN "EARLY WARNING" PROTECTION TAPE AND WIRE INSTALLED CONTINUOUSLY ALONG THE ALIGNMENT. THE PROTECTION TAPE SHALL BE PER THE CITY'S APPROVED MANUFACTURER LIST. TAPE SHALL BE INSTALLED DURING BACKFILLING 18" ABOVE THE PIPE AND SHALL BE CONTINUOUSLY MARKED FOR THE TYPE OF PIPE (EXAMPLE: CAUTION, WATER MAIN BURIED BELOW"). THE TAPE SHALL HAVE A METALLIC DETECTABLE STRIP INCLUDED AND COLOR CODED AS FOLLOWS:
   BLUE - POTABLE WATER
   GREEN - SANITARY FORCE MAIN, GRAVITY SEWER, LOW PRESSURE MAIN
   PANTONE PURPLE - RECLAIMED WATER
   RED - DEDICATED FIRE LINE
2. ALL PVC MAINS SHALL BE A SOLID COLOR AS DESCRIBED ABOVE.
   ALL DUCTILE IRON MAINS SHALL BE WRAPPED WITH COLOR CODED BAGS.
   ALL POTABLE WATER PIPE SHALL BEAR THE NATIONAL SANITATION FOUNDATION (NSL) SEAL OF APPROVAL.

UTILITY PIPE LOCATION MATERIAL – TAPE

NOT TO SCALE

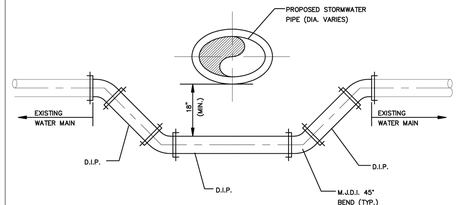
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UTILITY SEPARATION

NOT TO SCALE

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NOTES:

1. ALL PROPOSED JOINTS SHALL BE RESTRAINED.
2. ALL EXISTING JOINTS WITHIN SHALL BE RESTRAINED IN ACCORDANCE WITH GR-6.
3. ALL PIPING CLEARANCES SHALL BE IN ACCORDANCE WITH CHAPTER 62-555.314 F.A.C.

WATER LINE CROSSING

NOT TO SCALE

Howey-in-the-Hills	DATE: FEB 2022
Standard Details	DETAIL PW-11B

GENERAL WATER NOTES

1. WATER SYSTEM COMPONENTS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND REGULATIONS, CLEANED, DISINFECTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE IN ACCORDANCE WITH THE LATEST AWWA STANDARDS AND CHAPTER 62-555 FLORIDA ADMINISTRATIVE CODE.
2. ALL PIPING SHALL BEAR THE "NSF" SEAL FOR POTABLE WATER.
3. WATER MAINS SHALL BE PVC CONFORMING TO AWWA C-900, DR 18 FOR PIPE SIZES 4"-12". PIPES 14" OR LARGER SHALL BE AWWA C-905, DR 18. ALL COUPLINGS, CLEANING COMPOUNDS, SOLVENTS, LUBRICANTS, AND PIPE PREPARATION, FOR LAYING, SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURER'S LATEST RECOMMENDATIONS.
4. DEPTH OF WATER LINES TO BE 36" MINIMUM COVER FROM FINISH GRADE.
5. WATER MAINS TO BE LOCATED 5' FROM BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
6. ALL WATER MAINS UNDER PAVEMENT SHALL BE DUCTILE IRON.
7. ALL CASINGS UNDER PAVEMENT SHALL EXTEND 5' BEYOND THE BACK OF CURB.
8. DISINFECTING: FOLLOWING THE PRESSURE TESTING, THE CONTRACTOR SHALL DISINFECT ALL SECTIONS OF THE NEW WATER DISTRIBUTION SYSTEM. DISINFECTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF AWWA STANDARD C651 "DISINFECTING WATER MAINS", AND ALL APPROPRIATE AGENCY APPROVAL.
9. ALL HYDROSTATIC TESTS SHALL BE IN ACCORDANCE WITH AWWA C600 FOR DUCTILE IRON PIPE AND C605/M23 FOR PVC PIPE
10. ALL WATER MAINS SHALL BE INSTALLED, PRESSURE AND LEAK TESTED IN ACCORDANCE WITH AWWA C600, (62-555.320(21)(B)1 AND 62-555.330, F.A.C. ALL INSTALLATION, TESTING AND FIELD PROCEDURES MUST BE PROVIDED AND MUST CONFORM TO THE APPLICABLE AWWA STANDARDS.
11. ALL PIPING MATERIALS AND SPECIFICATIONS COVERING PIPES, JOINTS AND PACKING MATERIALS, INTERNAL COATING AND LININGS, FITTINGS, SPECIALS AND APPURTENANCES SHALL ALL BE IN ACCORDANCE WITH THE CORRESPONDING AWWA STANDARDS AND BE CONFORMING TO NSF REQUIREMENTS, AS MAY BE APPLICABLE, WITH EXCEPTIONS ALLOWED ONLY IF DOCUMENTATION AND ASSURANCES ARE PROVIDED IN COMPLIANCE WITH PARAGRAPHS 62-555.320(3) (D), 622-555.320 (3) (B), AND 62-555.320 (21) (C), F.A.C. THE LEAD USE PROHIBITION IN RULE 62-555.322, F.A.C. SHALL ALSO APPLY. POLYETHYLENE TUBING SHALL BE PER AWWA C901. UNDERGROUND SERVICE LINES AND VALVES SHALL BE PER AWWA C800.

COLOR CODING

ALL PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT WILL BE COLOR CODED OR MARKED IN ACCORDANCE WITH SUBPARAGRAPH 62-555.320(21)(B)3, F.A.C., USING BLUE AS A PREDOMINANT COLOR. (UNDERGROUND PLASTIC PIPE WILL BE SOLID-WALL BLUE PIPE, WILL HAVE A CO-EXTRUDED BLUE EXTERNAL SKIN, OR WILL BE WHITE OR BLACK PIPE WITH BLUE STRIPES INCORPORATED INTO, OR APPLIED TO, THE PIPE WALL; AND UNDERGROUND METAL OR CONCRETE PIPE WILL HAVE BLUE STRIPES APPLIED TO THE PIPE WALL. PIPE STRIPED DURING MANUFACTURING OF THE PIPE WILL HAVE CONTINUOUS STRIPES THAT RUN PARALLEL TO THE AXIS OF THE PIPE, THAT ARE LOCATED AT NO GREATER THAN 90-DEGREE INTERVALS AROUND THE PIPE, AND THAT WILL REMAIN INTACT DURING AND AFTER INSTALLATION OF THE PIPE. IF TAPE OR PAINT IS USED TO STRIPE PIPE DURING INSTALLATION OF THE PIPE, THE TAPE OR PAINT WILL BE APPLIED IN A CONTINUOUS LINE THAT RUNS PARALLEL TO THE AXIS OF THE PIPE AND THAT IS LOCATED ALONG THE TOP OF THE PIPE; FOR PIPE WITH AN INTERNAL DIAMETER OF 24 INCHES OR GREATER, TAPE OR PAINT WILL BE APPLIED IN CONTINUOUS LINES ALONG EACH SIDE OF THE PIPE AS WELL AS ALONG THE TOP OF THE PIPE. ABOVEGROUND PIPE WILL BE PAINTED BLUE OR WILL BE COLOR CODED OR MARKED LIKE UNDERGROUND PIPE.) [FAC 62CELL 555.320(21)(B)3]

UNLESS DESCRIBED IN THE CITY CSM ELSEWHERE, ALL WATER MAINS SHALL BE INSTALLED IN ACCORDANCE WITH **CHAPTER 62-555.314, F.A.C.,** AND ANY UPDATES TO THE F.A.C., AND IN CONFORMANCE WITH ALL SEPARATION REQUIREMENTS AS FOUND THEREIN.

62-555.314 LOCATION OF PUBLIC WATER SYSTEM MAINS.

FOR THE PURPOSE OF THIS SECTION, THE PHRASE "WATER MAINS" SHALL MEAN MAINS, INCLUDING TREATMENT PLANT PROCESS PIPING, CONVEYING EITHER RAW, PARTIALLY TREATED, OR FINISHED DRINKING WATER; FIRE HYDRANT LEADS; AND SERVICE LINES THAT ARE UNDER THE CONTROL OF A PUBLIC WATER SYSTEM AND THAT HAVE AN INSIDE DIAMETER OF THREE INCHES OR GREATER.

(1) HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C

(B) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.

(C) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

Howey-in-the-Hills	DATE: FEB 2022
Standard Details	DETAIL PW-11C

GENERAL WATER NOTES

(D) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

(2) VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS AND RECLAIMED WATER PIPELINES.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

(3) SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER MANHOLES:

(A) NO WATER MAIN SHALL PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A SANITARY SEWER MANHOLE.

(B) EFFECTIVE AUGUST 28, 2003, WATER MAINS SHALL NOT BE CONSTRUCTED OR ALTERED TO PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A STORM SEWER MANHOLE OR INLET STRUCTURE. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THIS REQUIREMENT (I.E., WHERE THERE IS A CONFLICT IN THE ROUTING OF A WATER MAIN AND A STORM SEWER AND WHERE ALTERNATIVE ROUTING OF THE WATER MAIN OR THE STORM SEWER IS NOT TECHNICALLY FEASIBLE OR IS NOT ECONOMICALLY SENSIBLE), THE DEPARTMENT SHALL ALLOW EXCEPTIONS TO THIS REQUIREMENT (I.E., THE DEPARTMENT SHALL ALLOW CONSTRUCTION OF CONFLICT MANHOLES), BUT SUPPLIERS OF WATER OR PERSONS PROPOSING TO CONSTRUCT CONFLICT MANHOLES MUST FIRST OBTAIN A SPECIFIC PERMIT FROM THE DEPARTMENT AND MUST PROVIDE IN THE PRELIMINARY DESIGN REPORT OR DRAWINGS, SPECIFICATIONS, AND DESIGN DATA ACCOMPANYING THEIR PERMIT APPLICATION THE FOLLOWING INFORMATION:

1. TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH CONFLICT MANHOLE.
2. A STATEMENT IDENTIFYING THE PARTY RESPONSIBLE FOR MAINTAINING EACH CONFLICT MANHOLE.
3. ASSURANCE OF COMPLIANCE WITH THE DESIGN AND CONSTRUCTION REQUIREMENTS IN SUB-PARAGRAPHS A. THROUGH D. BELOW. - 361
   A. EACH WATER MAIN PASSING THROUGH A CONFLICT MANHOLE SHALL HAVE A FLEXIBLE, WATERTIGHT JOINT ON EACH SIDE OF THE MANHOLE TO ACCOMMODATE DIFFERENTIAL SETTLING BETWEEN THE MAIN AND THE MANHOLE.
   B. WITHIN EACH CONFLICT MANHOLE, THE WATER MAIN PASSING THROUGH THE MANHOLE SHALL BE INSTALLED IN A WATERTIGHT CASING PIPE HAVING HIGH IMPACT STRENGTH (I.E., HAVING IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE).
   C. EACH CONFLICT MANHOLE SHALL HAVE AN ACCESS OPENING, AND SHALL BE SIZED, TO ALLOW FOR EASY CLEANING OF THE MANHOLE.
   D. GRATINGS SHALL BE INSTALLED AT ALL STORM SEWER INLETS UPSTREAM OF EACH CONFLICT MANHOLE TO PREVENT LARGE OBJECTS FROM ENTERING THE MANHOLE.

(4) SEPARATION BETWEEN FIRE HYDRANT DRAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

(A) NEW OR RELOCATED FIRE HYDRANTS WITH UNDERGROUND DRAINS SHALL BE LOCATED SO THAT THE DRAINS ARE AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.; AT LEAST THREE FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER, AT LEAST SIX FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.; AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

Howey-in-the-Hills	DATE: FEB 2022
Standard Details	DETAIL PW-11D

WATERMARK PH.1 & MASTER GRADING PLANS

TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE.
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
CERTIFICATE OF AUTHORIZATION NUMBER: 33360

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.
7/28/25
DATE

THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF:

HALFF ASSOCIATES, INC.

HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	45548.003
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 1'
SHEET TITLE:	WATER DETAILS

C-901

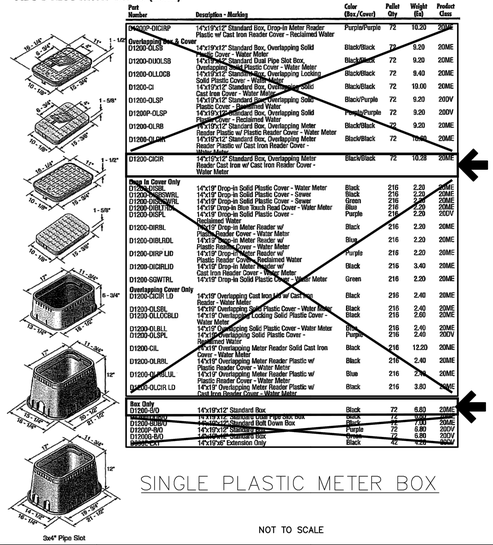
FILE NAME: A:\45000s\45548\003\LD\CADD\C900-1000 Detail Sheets.dwg DATE: September 19, 2025, TIME: 9:44 AM, USER: ah5122

NDS METER BOXES

STANDARD COMMERCIAL GRADE

NDS D1200 Meter Boxes (cont.)

Part Number	Description - Marking	Color (Box/Cover)	Pallet Qty	Weight (lb)	Product Class
D1200P-DICIRP	14"x19"x12" Standard Box, Drop-In Meter Reader Plastic w/ Cast Iron Reader Cover - Reclaimed Water	Purple/Purple	72	10.20	20ME
Overlapping Box & Cover					
D1200-OLSB	14"x19"x12" Standard Box, Overlapping Solid Plastic Cover - Water Meter	Black/Black	72	9.20	20ME
D1200-DUOLSS	14"x19"x12" Standard Duo Pipe Slot Box, Overlapping Solid Plastic Cover - Water Meter	Black/Black	72	9.20	20ME
D1200-OLLOCB	14"x19"x12" Standard Box, Overlapping Locking Solid Plastic Cover - Water Meter	Black/Black	72	9.40	20ME
D1200-CI	14"x19"x12" Standard Box, Overlapping Solid Cast Iron Cover - Water Meter	Black/Black	72	19.00	20ME
D1200-OLSP	14"x19"x12" Standard Box, Overlapping Solid Plastic Cover - Reclaimed Water	Black/Purple	72	9.20	200V
D1200P-OLSP	14"x19"x12" Standard Box, Overlapping Solid Plastic Cover - Reclaimed Water	Purple/Purple	72	9.20	200V
D1200-OLRB	14"x19"x12" Standard Box, Overlapping Meter Reader Plastic w/ Plastic Reader Cover - Water Meter	Black/Black	72	9.20	20ME
D1200-OLDIR	14"x19"x12" Standard Box, Overlapping Meter Reader Plastic w/ Cast Iron Reader Cover - Water Meter	Black/Black	72	10.00	20ME
D1200-CICIR	14"x19"x12" Standard Box, Overlapping Meter Reader Cast Iron w/ Cast Iron Reader Cover - Water Meter	Black/Black	72	10.20	20ME
Drop In Cover Only					
D1200-DISBL	14"x19" Drop-in Solid Plastic Cover - Water Meter	Black	216	2.20	20ME
D1200-DISWL	14"x19" Drop-in Solid Plastic Cover - Sewer	Green	216	2.20	20ME
D1200-DISBLTRC	14"x19" Drop-in Box Teach Read Cover - Water Meter	Blue	216	2.20	20ME
D1200-DISPL	14"x19" Drop-in Solid Plastic Cover - Reclaimed Water	Purple	216	2.20	200V
D1200-DIRBL	14"x19" Drop-in Meter Reader w/ Plastic Reader Cover - Water Meter	Black	216	2.20	20ME
D1200-DIBLRDL	14"x19" Drop-in Meter Reader w/ Plastic Reader Cover - Water Meter	Blue	216	2.20	20ME
D1200-DIRP LID	14"x19" Drop-in Meter Reader w/ Plastic Reader Cover - Reclaimed Water	Purple	216	2.20	20ME
D1200-DICIRLID	14"x19" Drop-in Meter Reader w/ Cast Iron Reader Cover - Water Meter	Black	216	3.40	20ME
D1200-SGWTRL	14"x19" Drop-in Solid Plastic Cover - Water Meter	Green	216	2.20	20ME
Overlapping Cover Only					
D1200-CICIR LD	14"x19" Overlapping Cast Iron Lid w/ Cast Iron Reader - Water Meter	Black	216	2.40	20ME
D1200-OLSBL	14"x19" Overlapping Solid Plastic Cover - Water Meter	Black	216	2.40	20ME
D1200-OLLOCBLD	14"x19" Overlapping Locking Solid Plastic Cover - Water Meter	Black	216	2.60	20ME
D1200-OLSLL	14"x19" Overlapping Solid Plastic Cover - Water Meter	Black	216	2.40	20ME
D1200-OLSPL	14"x19" Overlapping Solid Plastic Cover - Reclaimed Water	Purple	216	2.40	200V
D1200-CIL	14"x19" Overlapping Meter Reader Solid Cast Iron Cover - Water Meter	Black	216	12.00	20ME
D1200-OLRBL	14"x19" Overlapping Meter Reader Plastic w/ Plastic Reader Cover - Water Meter	Black	216	2.40	20ME
D1200-OLRBLBL	14"x19" Overlapping Meter Reader Plastic w/ Plastic Reader Cover - Water Meter	Blue	216	2.40	20ME
D1200-OLCIR LD	14"x19" Overlapping Meter Reader Plastic w/ Cast Iron Reader Cover - Water Meter	Black	216	3.80	20ME
Box Only					
D1200-BXO	14"x19"x12" Standard Box	Black	72	6.80	20ME
D1200-DUBXO	14"x19"x12" Standard Duo Pipe Slot Box	Black	72	7.00	20ME
D1200P-BXO	14"x19"x12" Standard Bolt Down Box	Black	72	7.00	20ME
D1200R-BXO	14"x19"x12" Standard Box	Purple	72	6.80	200V
D1200G-BXO	14"x19"x12" Standard Box	Green	72	6.80	200V
D1200-EXT	14"x19"x6" Extension Only	Black	42	4.20	20ME



SINGLE PLASTIC METER BOX

NOT TO SCALE

Howey-in-the-Hills Standard Details

DATE: FEB 2022

DETAIL PW-19

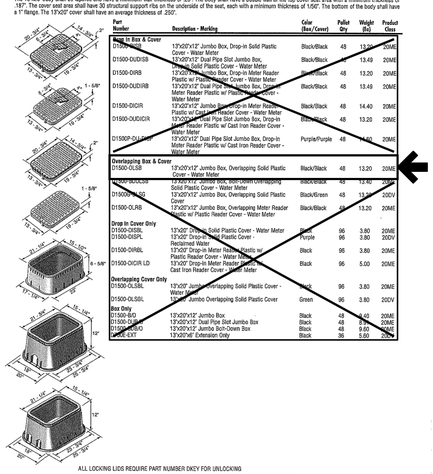
NDS METER BOXES

STANDARD COMMERCIAL GRADE

NDS D1500 Meter Boxes

Specifications: NDS 13"x20" meter boxes and covers are injection molded of structural foam recycled polyolefin material with a melt index between 10-12. Coloring and UV stabilizers are added, along with processing lubricants when needed.
The 13"x20" body shall be tapered and have a minimum wall thickness of .25". The body shall have a double wall at the top cover seat area with a minimum thickness of .18". The cover seat area shall have 30 structural support ribs on the underside of the seat, each with a minimum thickness of 1/50". The bottom of the body shall have a 1" flange. The 13"x20" cover shall have an average thickness of .250".

Part Number	Description - Marking	Color (Box/Cover)	Pallet Qty	Weight (lbs)	Product Class
Deep In Box & Cover					
D1500-DICIR	13"x20"x12" Jumbo Box, Drop-in Solid Plastic Cover - Water Meter	Black/Black	48	13.20	20ME
D1500-DUDISB	13"x20"x12" Dual Pipe Slot Jumbo Box, Overlapping Solid Plastic Cover - Water Meter	Black/Black	48	13.40	20ME
D1500-DIRB	13"x20"x12" Jumbo Box, Drop-in Meter Reader Plastic w/ Plastic Reader Cover - Water Meter	Black/Black	48	13.20	20ME
D1500-DUDIRB	13"x20"x12" Dual Pipe Slot Jumbo Box, Drop-in Meter Reader Plastic w/ Plastic Reader Cover - Water Meter	Black/Black	48	13.40	20ME
D1500-DICIR	13"x20"x12" Jumbo Box, Drop-in Meter Reader Plastic w/ Cast Iron Reader Cover - Water Meter	Black/Black	48	14.40	20ME
D1500-DUDICIR	13"x20"x12" Dual Pipe Slot Jumbo Box, Drop-in Meter Reader Plastic w/ Cast Iron Reader Cover - Water Meter	Black/Black	48	13.20	20ME
D1500P-DUCICIRP	13"x20"x12" Dual Pipe Slot Jumbo Box, Drop-In Meter Reader Plastic w/ Cast Iron Reader Cover - Water Meter	Purple/Purple	48	14.00	20ME
Overlapping Box & Cover					
D1500-OLSB	13"x20"x12" Jumbo Box, Overlapping Solid Plastic Cover - Water Meter	Black/Black	48	13.20	20ME
D1500-DUOLSB	13"x20"x12" Dual Pipe Slot Box, Overlapping Solid Plastic Cover - Water Meter	Black/Black	48	12.40	20ME
D1500P-OLSG	13"x20"x12" Jumbo Box, Overlapping Solid Plastic Cover	Black/Green	48	13.20	200V
D1500-OLRB	13"x20"x12" Jumbo Box, Overlapping Meter Reader Plastic w/ Plastic Reader Cover - Water Meter	Black/Black	48	13.20	20ME
Drop In Cover Only					
D1500-DISBL	13"x20" Drop-in Solid Plastic Cover - Water Meter	Black	96	3.80	20ME
D1500-DISPL	13"x20" Drop-in Solid Plastic Cover - Reclaimed Water	Purple	96	3.80	200V
D1500-DIRBL	13"x20" Drop-in Meter Reader Plastic w/ Plastic Reader Cover - Water Meter	Black	96	3.80	20ME
D1500-DICIR LD	13"x20" Drop-in Meter Reader Cast Iron Reader Cover - Water Meter	Black	96	5.00	20ME
Overlapping Cover Only					
D1500-OLSBL	13"x20" Jumbo Overlapping Solid Plastic Cover - Water Meter	Black	96	3.80	20ME
D1500-OLSGL	13"x20" Jumbo Overlapping Solid Plastic Cover	Green	96	3.80	200V
Box Only					
D1500-BXO	13"x20"x12" Jumbo Box	Black	48	9.40	20ME
D1500-DUBXO	13"x20"x12" Dual Pipe Slot Jumbo Box	Black	48	9.60	20ME
D1500-BXO	13"x20"x12" Jumbo Bolt-Down Box	Black	48	9.60	20ME
D1500-EXT	13"x20"x6" Extension Only	Black	36	5.60	20ME



ALL LOCKING LIDS REQUIRE PART NUMBER ONLY FOR UNLOCKING

Note: All dimensions are nominal. All weights are for shipping purposes only. Availability is subject to change.

For customer service, please send your fax to: 1-800-726-1998 or call 1-800-726-1994.

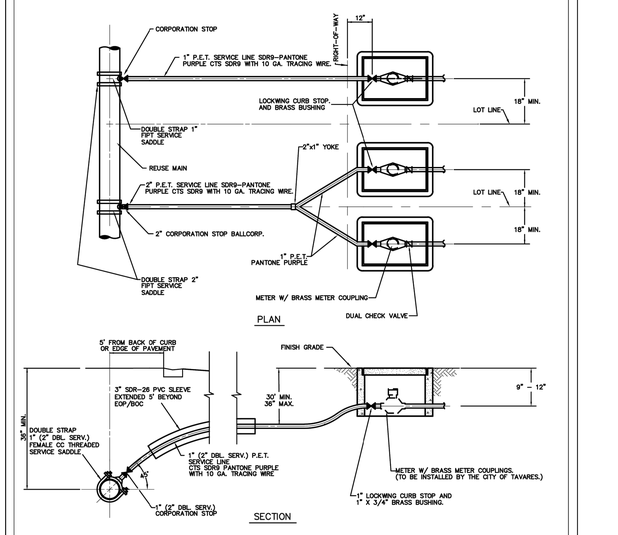
JUMBO PLASTIC METER BOX

NOT TO SCALE

Howey-in-the-Hills Standard Details

DATE: FEB 2022

DETAIL PW-20



RECLAIMED WATER SERVICE CONNECTION

NOT TO SCALE

(NOTE: METERS TO BE INSTALLED BY CITY OF TAVARES.)

Howey-in-the-Hills Standard Details

DATE: FEB 2022

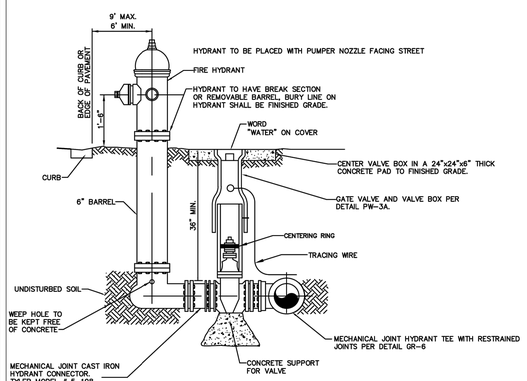
DETAIL RW-3

PAINTING

1. APPLY TWO COATS OF OSHA SAFETY INDUSTRIAL RED PAINT TO HYDRANT BARREL.
2. APPLY TWO COATS OF OSHA SAFETY INDUSTRIAL ENAMEL PAINT TO THE BONNET AND NOZZLE CAPS. THE UTILITY DEPARTMENT INSPECTOR WILL DETERMINE THE COLOR TO PAINT THE HYDRANT BONNET AND NOZZLE CAPS BY FLOW TESTING HYDRANT.
   - BLUE 1500 GPM OR MORE (SHERWIN WILLIAMS #SW4086)
   - GREEN 1000 GPM TO 1499 GPM (SHERWIN WILLIAMS #B54614)
   - ORANGE 500 GPM TO 999 GPM (SHERWIN WILLIAMS #B54E39)
   - RED 499 GPM OR LESS (SHERWIN WILLIAMS #B54R38)
   - RED HYDRANT BARREL (SHERWIN WILLIAMS #B54R38)

SPECIFICATIONS

1. AWWA SPECIFICATIONS C-502
2. TWO 2-1/2" HOSE NOZZLE DISCHARGE
3. ONE 4-1/2" PUMPER NOZZLE DISCHARGE
4. ONE 1-1/2" OPERATING NUT, LEFT
5. ALL HYDRANTS SHALL BE EQUIPPED WITH FITTINGS TO ALLOW FOR ELEVATION ADJUSTMENTS.
6. 5¼" MAIN VALVE OPENING
7. RESTRAINED JOINTS OR ALL THREADED ROD REQUIRED TO SECURE PIPE, RISER AND VALVE IN THE FIRE HYDRANT ASSEMBLY TO THE MAIN



FIRE HYDRANT WITH VALVE

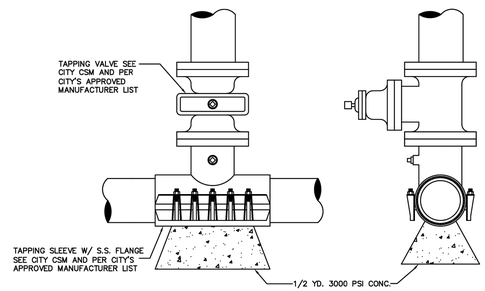
NOT TO SCALE

(STANDARD FIRE HYDRANT ASSEMBLY)

Howey-in-the-Hills Standard Details

DATE: FEB 2022

DETAIL PW-18



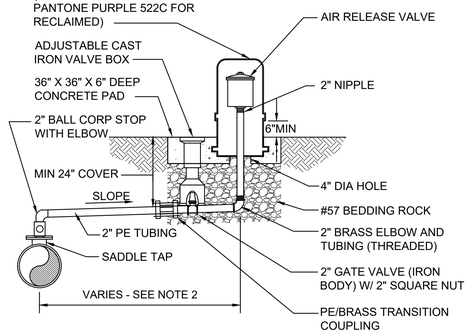
WET TAP SLEEVE AND TAPPING VALVE

NOT TO SCALE

Howey-in-the-Hills Standard Details

DATE: FEB 2022

DETAIL PW-17



NOTES:
1. FOR WATER OR RECLAIMED WATER USE ONLY.
2. OFFSET DISTANCE TO BE FIELD DETERMINED AND AS CLOSE TO THE R/W AS POSSIBLE.
3. ADJUST HORIZONTAL LOCATION OF SIDEWALK, AS REQUIRED TO AVOID ARV ENCLOSURE.
4. LOCATE ARV ENCLOSURE WITHINN 6" OF R/W.

TOWN OF HOWEY-IN-THE-HILLS

CONSTRUCTION STANDARD DETAILS

AIR OR COMBINATION AIR/VACUUM RELEASE WATER AND RECLAIMED WATER

FIGURE A115-1

DATE: 4/15/2007

WATERMARK PH.1 & MASTER GRADING PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE.
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
WWW.HALFF.COM
CERTIFICATION OF AUTHORIZATION NUMBER: 33390

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.

7/28/25
DATE

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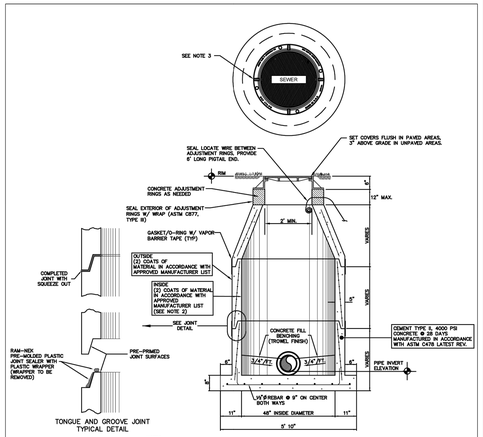
PROJECT NO.:	45548.003
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 1'

SHEET TITLE:

WATER DETAILS

C-902

FILE NAME: A:\45000s\45548\003\LDCADD\C900-1000 Detail Sheets.dwg DATE: September 19, 2025, TIME: 9:44 AM, USER: ah5122



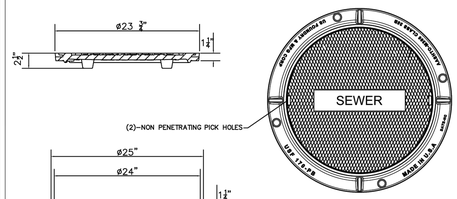
NOTES

1. ALTERNATE–PRECAST MANHOLE TOPS MUST BE APPROVED IN ADVANCE.
2. LINER (150 MILS DFT) SHALL BE USED WHERE SHOWN ON DRAWINGS AND/OR REQUIRED BY THE CITY.
3. MANHOLE LID TO BE CENTERED OVER EFFLUENT PIPE.
4. INSTALL ONE CONTINUOUS PIECE OF RAM–NEK AROUND ENTIRE MATING SURFACE BETWEEN ADJUSTMENT RINGS AND MANHOLE FRAME.

SANITARY PRECAST MANHOLE

NOT TO SCALE

Howey–in–the–Hills Standard Details	DATE: FEB 2022	DETAIL WW–1

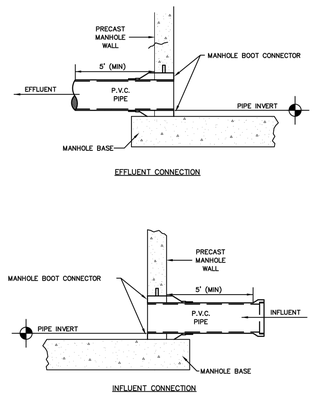


*MODEL USF 170–PB RING AND CE–PB COVER
RING NO. 8021468
COVER NO. 8017774
MATERIAL AASHTO M306 GRAY CAST IRON CLASS 35B

SANITARY MANHOLE COVER

NOT TO SCALE

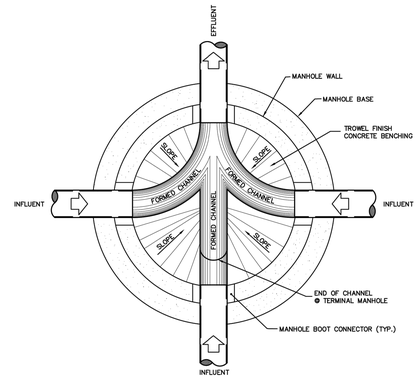
Howey–in–the–Hills Standard Details	DATE: FEB 2022	DETAIL WW–2



PIPE CONNECTION TO PRECAST SANITARY MANHOLE

NOT TO SCALE

Howey–in–the–Hills Standard Details	DATE: FEB 2022	DETAIL WW–3



FLOW PATTERNS FOR INVERT CHANNELS

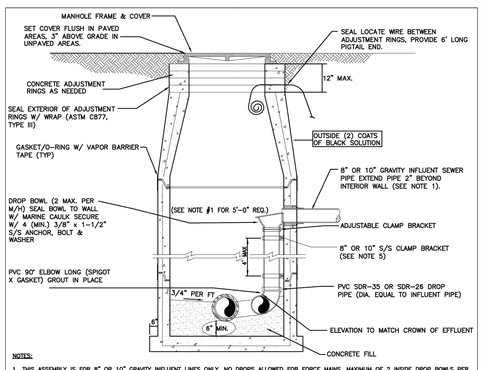
NOTES:

1. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS, HALF PIPE INVERT CHANNELS.
2. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOWS.
3. CHANNELS FOR FUTURE CONNECTIONS (STUBS) SHALL BE CONSTRUCTED, FILLED WITH SAND AND COVERED WITH 1" OF MORTAR.

TYPICAL MANHOLE PLAN

NOT TO SCALE

Howey–in–the–Hills Standard Details	DATE: FEB 2022	DETAIL WW–4



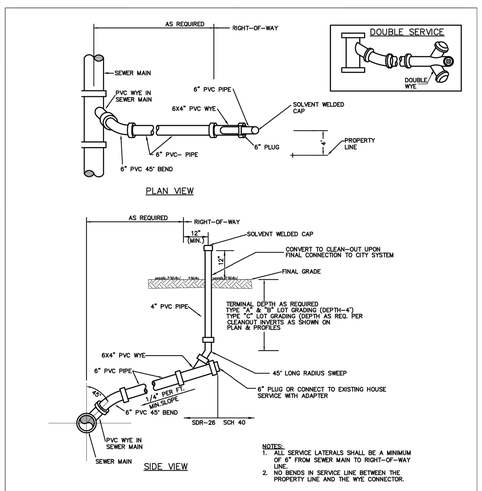
NOTES:

1. THIS ASSEMBLY IS FOR 8" OR 10" GRAVITY INFLUENT LINES ONLY. NO DROPS ALLOWED FOR FORCE MAINS. MAXIMUM OF 2 INSIDE DROP BOWLS PER MANHOLE. A 5'–0" DIA. MANHOLE (6" THICK WALLS) IS REQUIRED. THE INSIDE DROP FOR 8" HIGH–LINE SHALL BE CONSTRUCTED SIMILAR TO ABOVE.
2. PRECAST MANHOLE SECTIONS TO BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF A.S.T.M. C–478 WITH 4000 LB. CONC., TYPE II CEMENT. ALL LIFTING HOLES AND OUTSIDE INSERTS SHALL BE FILLED WITH NON–SHRINK GROUT AND COATED WITH BITUMINOUS WATERPROOFING MATERIAL.
3. THE INTERIOR OF MANHOLE AND THE INTERIOR OF ADJUSTMENT RINGS SHALL BE LINED (150 MILS DFT) AS INDICATED ON THE DRAWINGS AND/OR REQUIRED BY THE CITY.
4. THE DROP BOWL ASSEMBLY SHALL BE INSTALLED PRIOR TO APPLICATION OF SPECIALTY LINING MATERIAL.
5. ADJUSTABLE CLAMPING BRACKET (MIN. 2 PER DROP BOWL ASSY). 1–1/2" WIDE, 11 GA. W/ 3/8" DIA. 18–8 PINCH BOLTS AND NUTS. SECURE TO M/H WALL WITH (2) 3/8" x 1" BOLT, ANCHOR & WASHER PER BRACKET ASSY. ALL 316 STAINLESS STEEL MATERIALS.
6. INSTALL ONE CONTINUOUS PIECE OF RAM–NEK AROUND ENTIRE MATING SURFACE BETWEEN ADJUSTMENT RINGS AND MANHOLE FRAME.
7. MANHOLE LID SHALL BE CENTERED OVER DROP BOWL.

INSIDE DROP STANDARD PRECAST MANHOLE

NOT TO SCALE

Howey–in–the–Hills Standard Details	DATE: FEB 2022	DETAIL WW–5



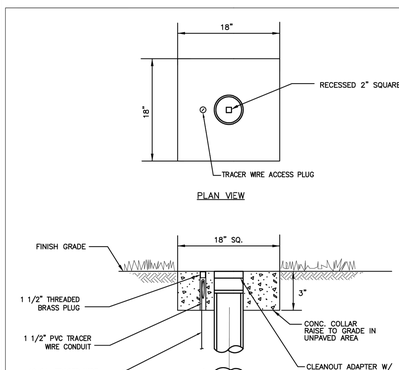
NOTES:

1. ALL SERVICE LATERALS SHALL BE A MINIMUM OF 6' FROM SEWER MAIN TO RIGHT–OF–WAY LINE.
2. NO BENDS IN SERVICE LINE BETWEEN THE PROPERTY LINE AND THE WYE CONNECTOR.

SANITARY SEWER SERVICE

PVC SEWER SERVICE – NOT TO SCALE

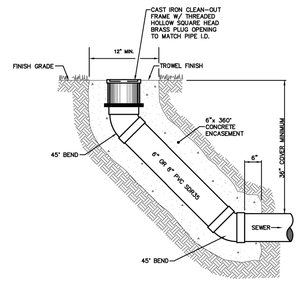
Howey–in–the–Hills Standard Details	DATE: FEB 2022	DETAIL WW–6



SERVICE CLEANOUT

NOT TO SCALE

Howey–in–the–Hills Standard Details	DATE: FEB 2022	DETAIL WW–7



TRUNK LINE CLEAN–OUT

NOT TO SCALE

Howey–in–the–Hills Standard Details	DATE: FEB 2022	DETAIL WW–8

WATERMARK PH.1 & MASTER GRADING PLANS

TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE.
MAILING & SHIPPING
TEL: (352) 343-8481
CERTIFICATE OF AUTHORIZATION
NUMBER: 33360

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS — LICENSE — No. 69017 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.
7/28/25
DATE

THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF:

HALFF ASSOCIATES, INC.

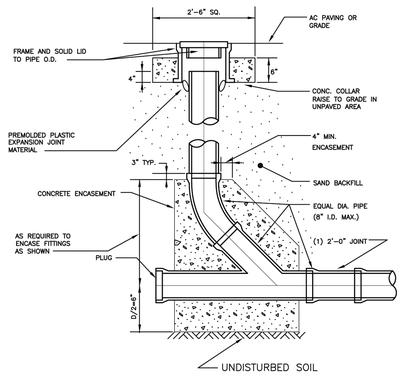
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	45548.003
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 1'

SHEET TITLE:
SANITARY SEWER DETAILS

C-1000

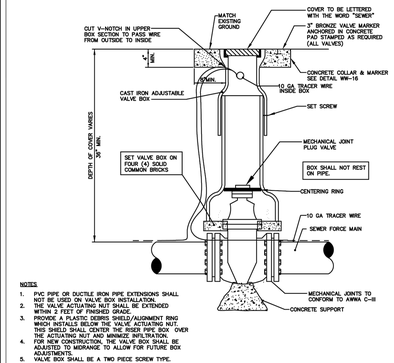
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GRAVITY CLEAN–OUT

NOT TO SCALE

Howey–in–the–Hills	Standard Details	DATE: FEB 2022 DETAIL WW–9



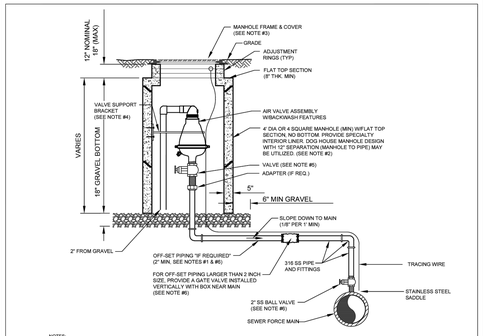
NOTES

1. PVC PIPE OR DUCTILE IRON PIPE EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
2. THE VALVE ACTUATING NUT SHALL BE EXTENDED WITHIN 2 FEET OF FINISHED GRADE.
3. PROVIDE PLUG VALVE BOX SHIELD ALIGNMENT RING AND SHIELD TO ALLOW FOR THE ACTUATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE ACTUATING NUT AND MINIMIZE INFILTRATION. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MEGRANCE TO ALLOW FOR FUTURE BOX ADJUSTMENTS.
4. VALVE BOX SHALL BE A TWO PIECE SCREW TYPE.

PLUG VALVE AND BOX

NOT TO SCALE

Howey–in–the–Hills	Standard Details	DATE: FEB 2022 DETAIL WW–13



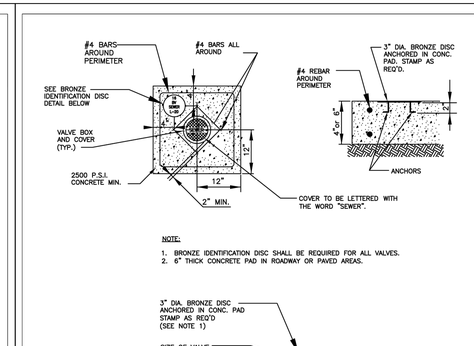
NOTES:

1. THE AIR ASSEMBLY MANHOLE SHALL BE LOCATED OUTSIDE OF THE ROADWAY PAVEMENT AREA. IF OFF-SET PIPING IS REQUIRED, THE PIPING SHALL BE 2 INCH MINIMUM, (SAME SIZE AS AIR VALVE INLET). FOR PIPE SIZES 3 INCH AND SMALLER, PIPING SHALL BE 316 STAINLESS STEEL, SCH. 40, ASTM A-312, 316 STAINLESS STEEL, SCH. 10 (MIN), WELDED.
2. THE CONCRETE MANHOLE SHALL INCLUDE A LINER TO BE INSTALLED ON THE INTERIOR SURFACES INCLUDING THE RISER SECTION TOP AND THE ADJUSTMENT RINGS. A BITUMINOUS WATERPROOFING MATERIAL SHALL BE PROVIDED ON THE OUTSIDE SURFACES OF THE MANHOLE.
3. FRAME AND COVER SHALL BE CITY STANDARD. THE COVER SHALL HAVE NO GASKET TO ALLOW AIR TO EXIT VAULT. (REMOVE GASKET IF NECESSARY FROM THE UNDERSIDE OF STANDARD COVER). THE COVER GRATE SLIPPED OPEN MUST CLEAR THE AIR VALVE ASSEMBLY AT ALL TIMES OR A SQUARE TOP WITH ALUMINUM DOOR SHALL BE PROVIDED (NON-TRAFFIC LOCATIONS ONLY).
4. A VALVE SUPPORT BRACKET IS ONLY REQUIRED FOR ASSEMBLIES WHICH INCLUDE OFF-SET PIPING. THE BRACKET SHALL BE WELDED AND FABRICATED FROM ALL 316 STAINLESS STEEL MATERIALS AND INCLUDE 8" x 6" x 3/ THICK END PLATES (CONTOURED TO MATCH ATTACHING SURFACES), 3" ANGLE IRON FOR SUPPORT ARM AND TWO U-BOLTS 3/ DIA TO ATTACH AROUND AIR VALVE. SECURE TO CONCRETE MANHOLE WITH FOUR 3/ DIA X 2' LONG S/S ANCHOR (MIN). MODIFY THE ABOVE AS REQUIRED TO FIT SPECIFIC AIR VALVE AND TO ASSURE A SOLID SUPPORT BRACKET.
5. FOR PIPE SIZES 3 INCH AND SMALLER, PROVIDE A STAINLESS STEEL BALL VALVE (2" MIN). FOR PIPE SIZES 4 INCH AND LARGER, PROVIDE A FLANGED PLUG VALVE. (LEVER ARM OPERATOR) SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
6. FOR A 2" AIR VALVE, PROVIDE 2" STAINLESS STEEL BALL VALVE AT THE MAIN. FOR AIR VALVES LARGER THAN 2" SIZE, PROVIDE A TAPPING SLEEVE OR DUCTILE IRON TEE FITTING ALSO. FOR OFF-SET PIPING LARGER THAN 2 INCH SIZE, PROVIDE A GATE VALVE (INSTALLED VERTICALLY NEAR MAIN WITH A GEAR ACTUATOR). SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

AIR VALVE ASSEMBLY INSIDE MANHOLE

NOT TO SCALE

Howey–in–the–Hills	Standard Details	DATE: FEB 2022 DETAIL WW–14



NOTE:

1. BRONZE IDENTIFICATION DISC SHALL BE REQUIRED FOR ALL VALVES.
2. 6" THICK CONCRETE PAD IN ROADWAY OR PAVED AREAS.

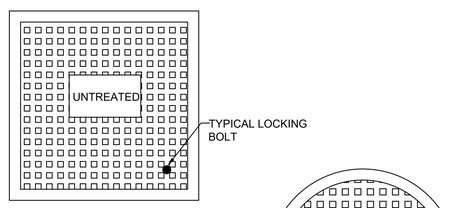


BRONZE IDENTIFICATION DISC DETAIL

VALVE COLLAR

NOT TO SCALE

Howey–in–the–Hills	Standard Details	DATE: FEB 2022 DETAIL WW–15



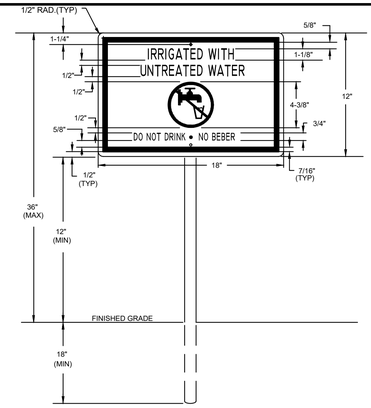
NOTE:
1. LOCKING LIDS ARE REQUIRED ON ALL VALVE BOXES.

TOWN OF HOWEY–IN–THE–HILLS	CONSTRUCTION STANDARD DETAILS	TYPICAL VALVE BOX COVER FIGURE A110

GENERAL NOTES:

1. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN EXCAVATING IN PROXIMITY OF WATER MAINS, WASTEWATER FORCE MAINS, GRAVITY MAINS AND RECLAIMED WATER MAINS. MAIN LOCATIONS SHOWN ON PLANS ARE NOT EXACT OR GUARANTEED. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING EXISTING UTILITY LOCATIONS.
2. THE UTILITIES DISPATCH OPERATOR (407-836-2777) SHALL BE NOTIFIED BY THE CONTRACTOR FOR PIPE EMERGENCIES.
3. UTILITIES ENGINEERING AND CONSTRUCTION DIVISION: 407-254-9900.
4. ALL EXISTING WATER, FORCE, GRAVITY AND RECLAIMED WATER MAINS AND OTHER FACILITIES WITHIN THE LIMITS OF THE PROJECT SHALL BE SUPPORTED AND PROTECTED AGAINST DAMAGE DURING CONSTRUCTION.
5. CONTRACTOR SHALL ADJUST VALVE BOXES, AIR RELEASE VALVES, FIRE HYDRANTS, MANHOLE COVERS, ETC IN CONFLICT WITH ROADWAY.
6. THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, SHALL IMMEDIATELY REPAIR ALL DAMAGES TO UTILITIES' MAINS AND FACILITIES. IF THE REPAIR IS NOT MADE IN A TIMELY MANNER, AS DETERMINED BY UTILITIES, UTILITIES MAY PERFORM REQUIRED REPAIRS AND CLEANUP. THE CONTRACTOR WILL BE CHARGED FOR ALL EXPENSES ASSOCIATED WITH THE REPAIR.
7. UTILITIES CONSTRUCTION DIVISION SHALL BE NOTIFIED AT LEAST SEVEN (7) DAYS PRIOR TO ANY CONSTRUCTION ACTIVIT YWITHIN PROXIMITY OF ANY UTILITIES.
8. ONLY UTILITIES SHALL OPERATE WATER, WASTEWATER, AND RECLAIMED WATER VALVES. COORDINATE VALVE OPERATION WITH APPROPRIATE UTILITIES INSPECTOR.
9. THE CONTRACTOR SHALL COORDINATE ALL PUMP STATION OPERATION AND SHUT DOWN CONTROL WITH A UTILITIES INSPECTOR. THE CONTRACTOR SHALL PROVIDE FOR BYPASSING AND/OR HAULING OF WASTEWATER DURING THE INTERRUPTION OF FLOWS AND CONNECTIONS WITH EXISTING WASTEWATER SYSTEMS.
10. ALL NEW VALVES BEING INSTALLED SHALL REMAIN CLOSED DURING CONSTRUCTION. KEEP VALVES ON ALL WET TAPS CLOSED UNTIL CLEARED BY FDEP. DO NOT CONNECT ANY PROPOSED WATER MAIN TO ANY EXISTING WATER MAIN UNLESS CLEARED BY FDEP AND UTILITIES.

TOWN OF HOWEY–IN–THE–HILLS	CONSTRUCTION STANDARD DETAILS	GENERAL NOTES FIGURE A122–1



NOTES:

1. HEIGHT OF SIGN WILL DEPEND ON LOCATION AND SURROUNDING LANDSCAPE PLANT TYPES. IN ALL CASES, THE SIGN SHALL BE VISIBLE TO THE PUBLIC.
2. BACKGROUND SHALL BE WHITE, LETTERS SHALL BE BLACK (HELVETICA, SWISS 721 COREL OR ACCEPTABLE EQUAL) AND BORDER SHALL BE PANTONE PURPLE 522C.
3. ENGINEERING GRADE REFLECTIVE MATERIALS SHALL BE USED.
4. SIGN MATERIAL SHALL BE OF 0.040 GAUGE METAL.
5. POST SHALL BE 2-3/8" OD ALUMINUM PIPE, HOT DIP GALVANIZED PER ASTM A-123. POST TO BE PROVIDED BY CUSTOMER.
6. MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
7. SIGNS SHALL BE PLACED BY THE CONTRACTOR IN ACCORDANCE WITH CHAPTER 62-610 "ACCESS CONTROL AND ADVISORY SIGNS", FAC, THE COUNTY APPROVED ENGINEERING PLANS AND/OR AS APPROVED BY THE UTILITIES.

TOWN OF HOWEY–IN–THE–HILLS	CONSTRUCTION STANDARD DETAILS	IRRIGATION WATER SIGNAGE "DO NOT DRINK WATER" FIGURE A501

WATERMARK PH.1 & MASTER GRADING PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE.
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
CERTIFICATE OF AUTHORIZATION NUMBER: 33360

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.
7/28/25
DATE

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HALFF ASSOCIATES, INC.

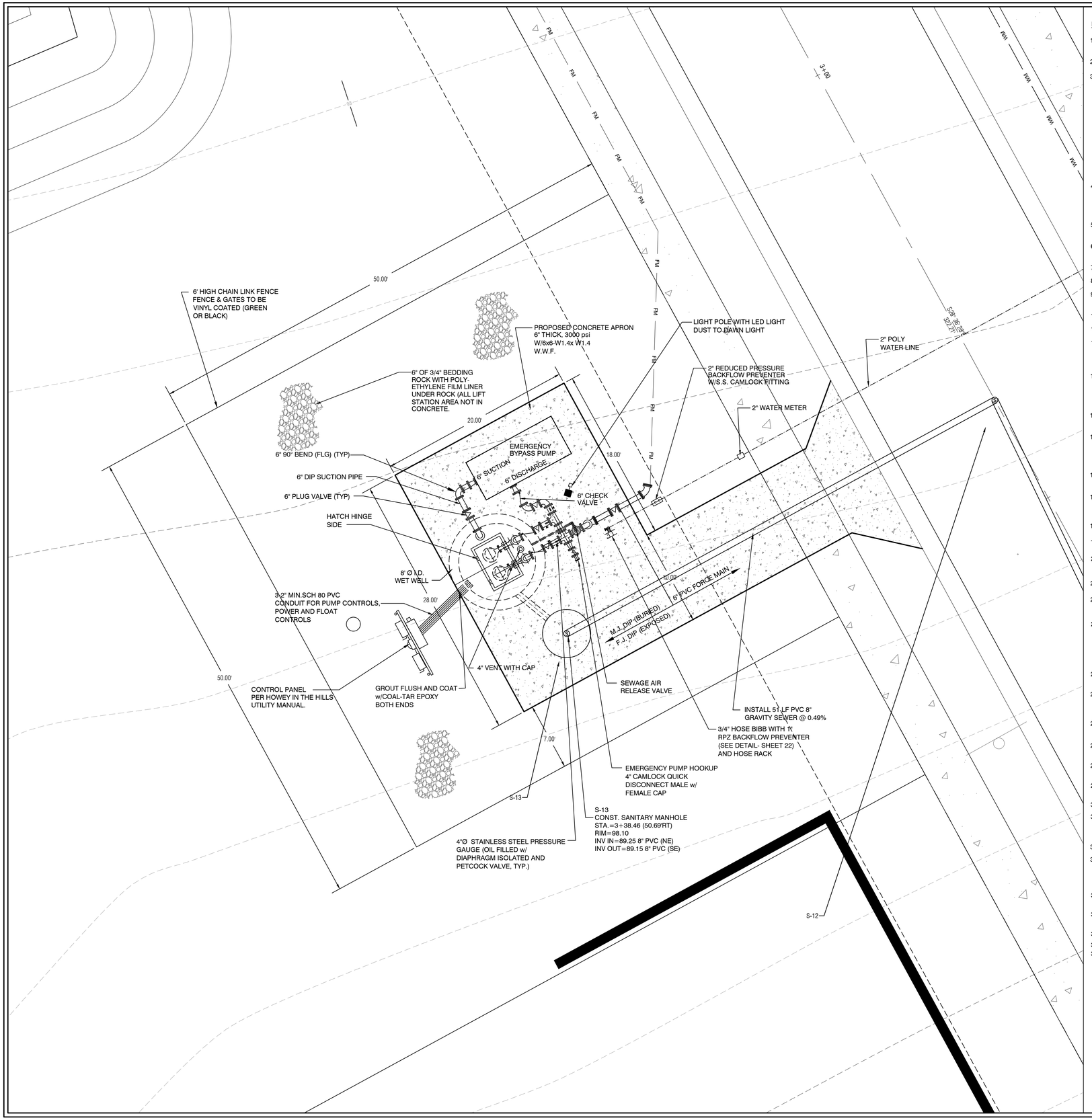
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	45548.003
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 1'

SHEET TITLE:
SANITARY SEWER DETAILS

C-1001

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PUMP STATION NOTES:

1. PUMPS: SHALL BE HYDROMATIC SUBMERSIBLE PUMPS.PUMPS SHALL HAVE 4" STAINLESS STEEL GUIDE RAILS PER PUMP AND A BPI FRONT DUPLEX SYSTEM.
2. LEVEL CONTROLS: SHALL BE IN ACCORDANCE WITH HOWEY IN THE HILL'S UTILITY MANUAL.
3. WET WELL ACCESS COVER: SHALL HAVE CLEAR OPENING OF 36"x60" AS MANUFAURED BY U.S.F.FABRICATION INC. PRODUCTS OR APPROVED EQUAL. ACCESS FRAME AND COVER SHALL HAVE A 1/4" THICK ONE-PIECE, MILL FINISH, EXTRUDED ALUMINUM FRAME, INCORPORATING A CONTINUOUS CONCRETE ANCHOR. DOOR PANEL(S) SHALL BE 1/4" ALUMINUM DIAMOND PLATE, REINFORCED TO WITHSTAND A LIVE LOAD OF 300 psf. DOOR(S) SHALL OPEN TO 90° AND AUTOMATICALLY LOCK WITH STAINLESS STEEL HOLD OPEN ARMS WITH ALUMINUM RELEASE HANDLES. DOOR(S) SHALL CLOSE FLUSH WITH THE FRAME. UNIT SHALL LOCK WITH A NONCORROSIVE LOCKING BAR. FRAME SHALL SUPPORT GUIDE RAILS AND CABLE HOLDER FOR ELECTRICAL WIRING. ALL ACCESS FRAME, COVER, AND HARDWARE SHALL BE CONSTRUCTED OF STAINLESS STEEL. ALL SURFACES IN CONTACT WITH CONCRETE SHALL HAVE A SHOP COAT OF ZINC CHROMATIC PRIMER APPROVED ALKALI RESISTANT PAINT OR APPROVED PROTECTIVE COATING. DOUBLE DOOR ACCESS COVERS SHALL HAVE REMOVABLE CENTER BAR SUPPORT. COVER MUST BE COMPATIBLE WITH PUMP. PROVIDE WET WELL HATCH OPENING WITH PROTECTIVE GRATING PANEL.
4. ELECTRICAL SERVICE ENTRANCE: PROVIDE METER SOCKET AND MAIN DISCONNECT MEETING APPLICABLE ELECTRIC CODES AND REQUIREMENTS OF POWER COMPANY. LIGHTNING AND VOLTAGE SURGE PROTECTION TO BE PROVIDED.**COST FOR THE ELECTRICAL SERVICE AND COORDINATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. STEEL PLACED IN BOTTOM SLAB IS TO BE IDENTICAL TO THE TOP SLAB EXCEPT THAT DIAGONAL BARS AND OPENINGS ARE ELIMINATED, STEEL IS CONTINUOUS AND SLAB IS SOLID.
6. CONTRACTOR TO CONFIRM SERVICE ARRANGEMENTS WITH POWER COMPANY BEFORE COMMENCING WORK. CONTRACTOR TO RUN UNDERGROUND WIRING TO NEAREST TRANSFORMER OR HAND HOLE.
7. ALL FASTENERS ON FLANGES AND ETC. INSIDE WET WELL WILL BE 316 STAINLESS STEEL
8. DIMENSIONS BETWEEN CENTERLINE OF PIPES ARE STANDARD FOR PIPE SIZES SPECIFIED.
9. SHOP DRAWINGS OF ENTIRE INSTALLATION MUST BE APPROVED BY ENGINEER & CITY PRIOR TO PLACEMENT OF ORDER.
10. ALL EXPOSED AND EMBEDDED CONDUITS TO BE SCHEDULE 80 PVC.
11. ALL EXPOSED METAL SHALL BE PAINTED WITH TWO (2) COATS OF EXTERIOR BLACK ENAMEL PAINT.
12. ALL EXTERNAL PIPING SHALL BE DUCTILE IRON CLASS 50 (FLANGED JOINT FOR EXPOSED PIPE & MECHANICAL JOINT FOR BURIED PIPE). ALL INTERNAL WET WELL PIPING FROM THE PUMP DISCHARGE ELBOW TO THE H.D.P.E. TO D.I.P. COUPLING SHALL BE MINIMUM SDR-11 HDPE.
13. PLUG VALVES SHALL BE SERIES 100, AS MANUFAURED BY DEZURIK CORP., CLOW OR APPROVED EQUAL. VALVES SHALL BE CONSTRUCTED WITH RESILIENT FACED PLUGS. VALVES SHALL HAVE A 2" OPERATION NUT. ONE(1) 5' LONG VALVE WRENCH SHALL BE PROVIDED TO HOWEY IN THE HILLS.
14. CHECK VALVES SHALL BE MUELLER#2600-6-02, AMERICAN-DARLING #52SC, OR KENNEDY OR M&H EQUIVALENTS WITH OUTSIDE LEVER AND WEIGHT.
15. PRESSURE GAUGES SHALL BE STAINLESS STEEL WITH STAINLESS STEEL DIAPHRAM, LIQUID FILLED, 4 1/2" DIAMETER DIAL WITH 0-100 psi RANGE. GAUGES SHALL BE AS MANUFAURED BY WKA, LOWER MOUNT, TYPE 233.30 AND DIAPHRAGMS SHALL BE AS MANUFACTURED BY HYETT, MODEL 43MCR-01 OR APPROVED EQUALS.
16. PADLOCKS FOR ACCESS COVERS AND CONTROL PANEL SHALL BE MASTER NO. 4 BRASS PADLOCK, KEYED ALIKE, FURNISH TWO(2) KEYS PER LOCK. BOLTS IN LOCKING DEVICE SHALL BE ST. STEEL.
17. WET WELL TO BE H.D.P.E. LINED WITH AN AGRU SURE GRIP LINER OR APPROVED EQUAL, WITH A MINIMUM THICKNESS OF 2 MM, MECHANICALLY ANCHORED TO THE CONCRETE.ALL JOINTS SHALL BE EXTRUSION WELDED BY CERTIFIED WELDERS.
18. SOD ALL AREAS DISTURBED BY CONSTRUCTION.
19. BACKFILL AROUND WETWELL IN 12" LIFTS COMPACTING TO A MINIMUM OF 95%.
20. ALL LOCATIONS WHERE PIPES ENTER OF LEAVE THE WETWELL SHALL BE MADE WATERTIGHT WITH LINK SEAL CLOSURES SEALED FOR THE PROPER SEALING RANGE.
21. INSTALL PUMP BASE ELBOWS, GUIDE RAILS AND DISCHARGE PIPING PLUMB, LEVEL AND SQUARE.
22. INSTALL BENCH FOR PUMP BASE ELL IF NECESSARY, PER MANUFACTURER'S APPROVED SHOP DRAWINGS.
23. COAT ALL METALS THAT ARE NOT STAINLESS STEEL AND ARE LOCATED IN THE WETWELL WITH 10 MILS (DRY FILM THICKNESS) OF BLACK, HIGH GLOSS EPOXY, (TNEMEC SERIES 69 HI-BUILD EPOXYLINE II OR AN EQUIVALENT PRODUCT), COATING SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION AND SHALL NOT BE IMMERSED UNTIL FULL CURE IS ACHIEVED.
24. COAT ALL ALUMINUM SURFACE IN CONTACT WITH CONCRETE WITH BITUMINOUS COATING PRIOR TO INSTALLATION.
25. PUMP BASE ELBOWS, PUMP ANCHOR BOLTS, UPPER AND INTERMEDIATE GUIDE RAIL BRACKETS, GUIDE RAILS, CABLE HANGER, PUMP LIFING CABLES, CONTROL PANEL AND FLOAT SWITCHES TO BE APPROVED BY PUMP SUPPLIER.
26. INSTALL INTERMEDIATE GUIDE RAIL BRACKETS AS REQUIRED BY PUMP MANUFACTURER OR, AT MINIMUM, WHEN GUIDE RAIL RAILS EXCEED 20'-0" IN LENGTH.
27. DUCTILE IRON PIPE SHALL COMPLY WITH AWWA C115 AND SHALL HAVE A PROTEO 401 INTERIOR LINING.
28. DUCTILE IRON FITTINGS SHALL COMPLY WITH AWWA C110 OR C153 WITH AN AWWA C116 OR PROTEO 401 INTERIOR LINING.
29. ORIENTATION OF PUMPS AND ACCESS HATCH SHALL BE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS FOR PUMPS FURNISHED.
30. BASE AND FIRST RISER UNIT OF WETWELL TO BE CAST MONOLITHIC.
31. PAINT EXTERIOR PIPE, VALVES AND FITTINGS WITH AN ALIPHATIC, ACRYLIC POLYURETHANE SYSTEM, COLOR SAFETY GREEN, TNEMEC SERIES 74 OR AN EQUIVALENT PRODUCT. COMPLY WITH ALL MANUFACTURER'S RECOMMENDATIONS.
32. PROVIDE 1-INCH WATER SERVICE, REDUCED PRESSURE BACKFLOW PREVENTER AND HOSE BIBB.
33. FIELD TESTING: THE CONTRACTOR SHALL FURNISH THE SERVICES OF THE SYSTEM SUPPLIER'S SERVICEMAN, ALL SPECIAL TOOLS, CALIBRATION EQUIPMENT, AND LABOR TO PERFORM THE TESTS. CERTIFIED COPIES OF THE TESTS SHALL BE FURNISHED IN DUPLICATE TO THE CITY ENGINEER PRIOR TO FINAL APPROVAL.
34. CONTRACTOR AND/OR MANUFACTURER TO PROVIDE ELECTRICAL SCHEMATIC AND SHOP DRAWINGS TO HOWEY IN THE HILLS FOR APPROVAL PRIOR TO PLACEMENT OF ORDER.
35. CONTROL PANEL WITH AUTO TRANSFER SWITCH, SCADA SYSTEM, BYPASS PUMP, & LIFT STATION SHOP DRAWINGS TO BE SUBMITTED TO HOWEY IN THE HILLS FOR APPROVAL PRIOR TO PLACEMENT OF ORDER.
36. CONTRACTOR TO COORDINATE BYPASS PUMP SIZE & TYPE AND SUBMIT TO CITY PRIOR TO PLACEMENT OF ORDER.
37. EXPLOSION PROOF SEAL OFF BETWEEN TERMINAL CABINET & CONTROL TO BE CROUSE-HINDS EYSR OR APPROVED EQUAL.
38. THE CONTROL PANEL SHALL BE EQUIPPED WITH TIME LAPSE METER FOR EACH PUMP.

EMERGENCY DIESEL ENGINE PUMP DATA

GODWIN NC100S DRI-PRIME PUMP
SUCTION SIZE: 6 INCH
DISCHARGE SIZE: 6 INCH
FUEL TANK : 75 GAL
CONTACT: JOSH GRANGRUTH
(M)863-701-5285
XYLEM AMERICA SERVICES TEAM

NOTE: ACTUAL LOCATION OF CONTROL PANEL SHALL BE FIELD VERIFIED BY HOWEY IN THE HILLS UTILITY SUPERVISOR PRIOR TO CONSTRUCTION

PUMP DATA

WETWELL INSIDE DIA.	8'
	HYDROMATIC SUBMERSIBLE PUMPS
MODEL NUMBER	H4H
IMPELLER 8.75"	R.P.M. 1750
PUMP SIZE —	HORSE POWER 10
G.P.M. 330	T.D.H. 55'
ELECTRICAL REQUIREMENTS	460 Volts
3 PHASE *	

*NOTE: ELECTRICAL REQUIREMENT TO BE VERIFIED BY CONTRACTOR.

WATERMARK PH.1 & MASTER GRADING PLANS
TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
WWW.HALFF.COM
CERTIFICATE OF AUTHORIZATION NUMBER: 33360

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

THE SEAL ORIGINALLY APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:

BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.
7/28/25
DATE

THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF:

HALFF ASSOCIATES, INC.

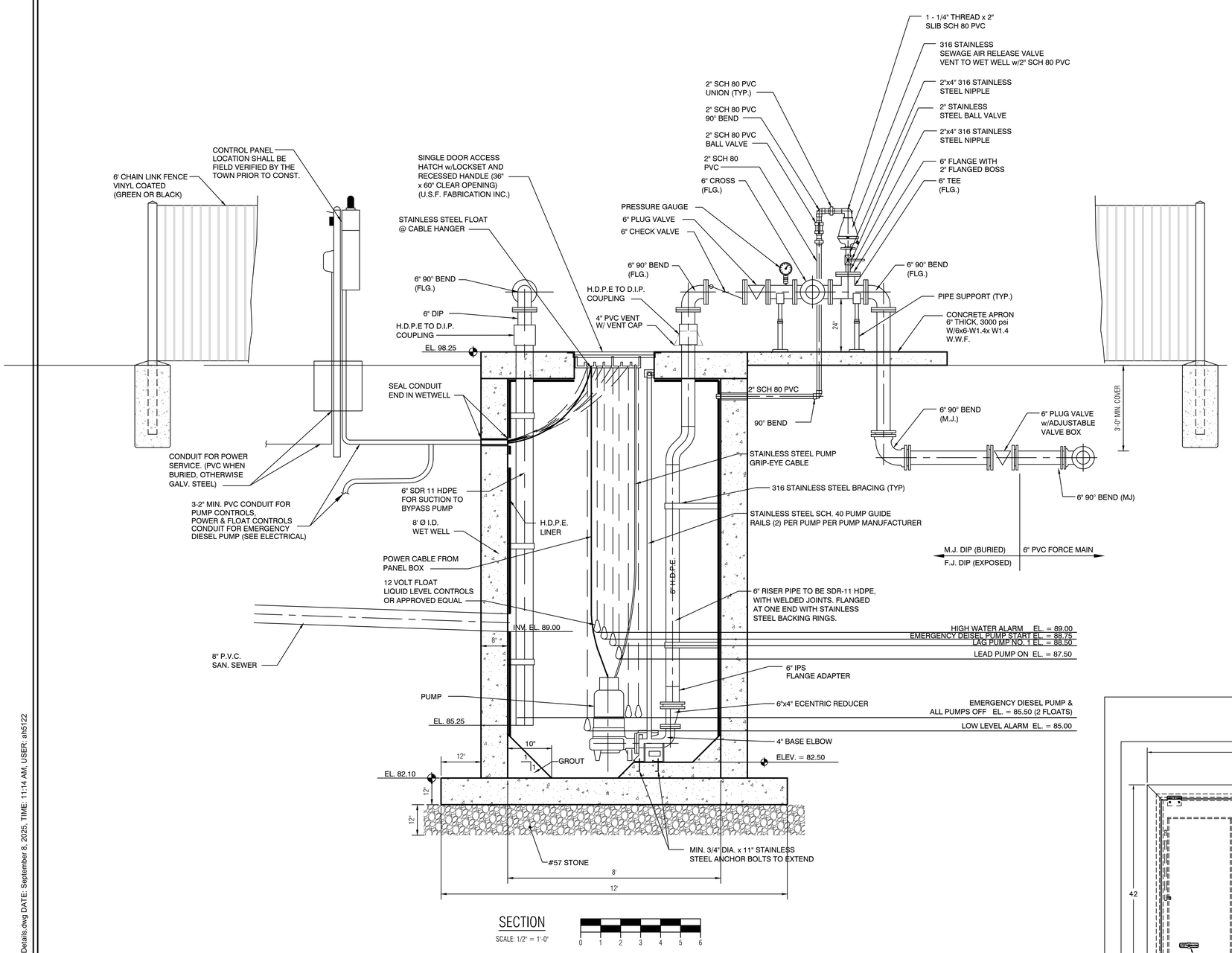
HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	045548.003
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 10'

SHEET TITLE:
LIFT STATION
SITE PLAN

C-1100

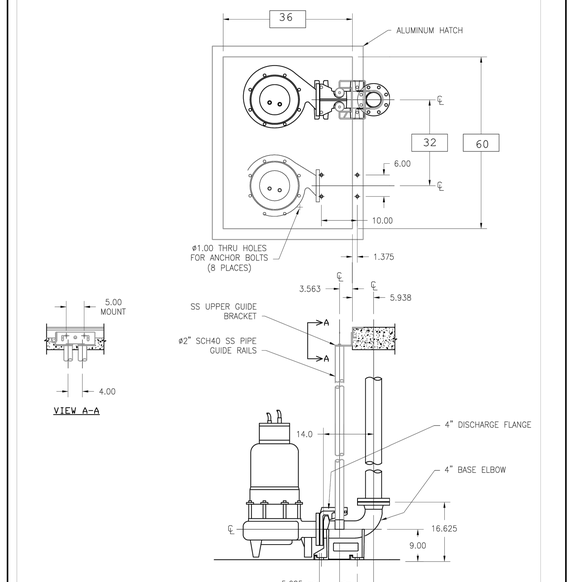
FILE NAME: A:\45000s\45548\003\LD\CADD\C1100 Lift Station Details.dwg DATE: October 9, 2025, TIME: 11:35 AM, USER: ah5122



SECTION

SCALE: 1/2" = 1'-0"

0 1 2 3 4 5 6



NOTE(S):
1. ALL DIMENSIONS ARE IN INCHES.

QUANTITY: 1

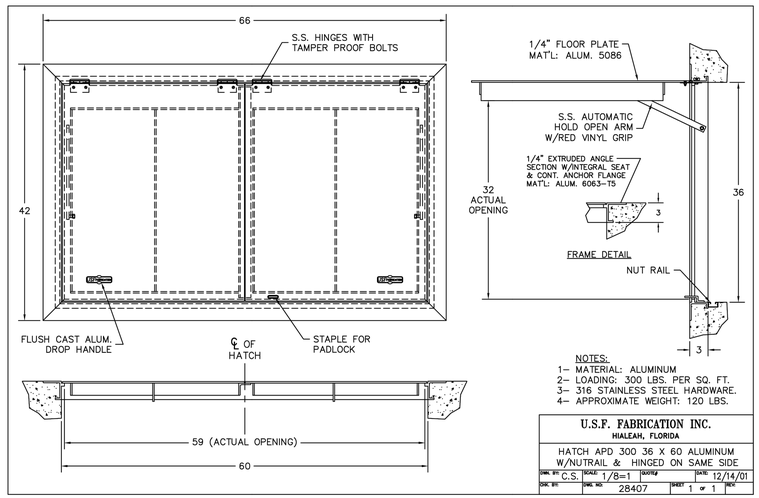
REV.	REVISION DESCRIPTION	DATE
1	-	-

DRAWING NOT RELEASED UNTIL APPROVED & DATED

ENGINEER SIGNATURE/DATE:

BARNEY'S PUMPS, INC.
PO BOX 3029, LAKELAND, FL 33802
PHONE: (863) 665-8500 FAX: (863) 666-3858

CUSTOMER: -
ENGINEER: -
JOB NAME: -
SALESPERSON: -
PHASE: SUBMITTAL
DRAWN BY: S. TOWLES
JOB TITLE: 4" DUPLEX RAIL SYSTEM
REV. A
SCALE: 1:20
DATE: 09/06/2001
JOB No: SO:- PRD:-
DWG. No. A-1024
PAGE: 1 OF 1



NOTES:
1- MATERIAL: ALUMINUM
2- LOADING: 300 LBS. PER SQ. FT.
3- 316 STAINLESS STEEL HARDWARE.
4- APPROXIMATE WEIGHT: 120 LBS.

U.S.F. FABRICATION INC.
HIALEAH, FLORIDA

HATCH APD 300 36 X 60 ALUMINUM W/NUTRAIL & HINGED ON SAME SIDE

DWN. BY: C.S. | SCALE: 1/8=1 | SIZE/REV: | DATE: 12/14/01
CHK. BY: | DWG. NO.: 28407 | SHEET: 1 OF 1 | REV.:

WATERMARK PH.1 & MASTER GRADING PLANS

TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
902 NORTH SINCLAIR AVE.
TAVARES, FLORIDA 32778
TEL: (352) 343-8481
CERTIFICATE OF AUTHORIZATION NUMBER: 33390

REVISION NO.	DATE	DESCRIPTION

BRETT JAY TOBIAS
LICENSE
No. 69017
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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HALFF ASSOCIATES, INC. — FL
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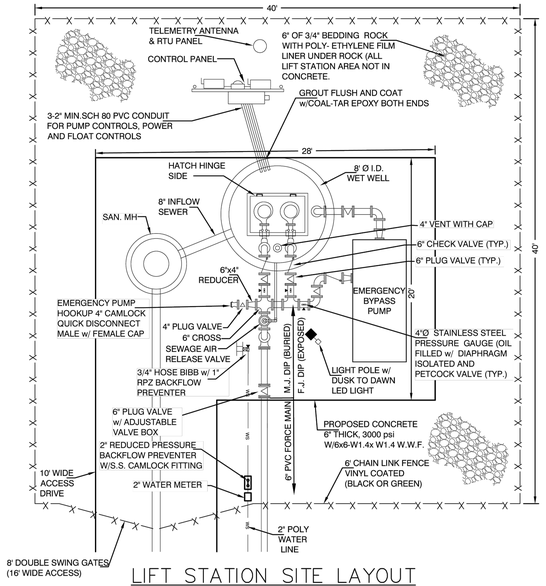
PROJECT NO.:	45548.003
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 1'

SHEET TITLE:

LIFT STATION SECTION

C-1101

FILE NAME: A:\45500s\45548\003\LDI\CADD\C1100 Lift Station Details.dwg DATE: September 8, 2025, TIME: 11:14 AM, USER: ah5122



LIFT STATION SITE LAYOUT

NOT TO SCALE

Howey-in-the-Hills

Standard Details

DATE: AUG 2025

DETAIL WW-10

1. ALL PUMP STATIONS SHALL BE PROVIDED WITH A SUITABLY-SIZED, ENGINE-DRIVEN STANDBY EMERGENCY BYPASS PUMP ASSEMBLY, TO BE SIZED BY THE PROJECT ENGINEER. THE BYPASS PUMP SHALL BE A HORIZONTAL END SUCTION SOLIDS HANDLING CENTRIFUGAL PUMP CAPABLE OF HANDLING THE DESIGN FLOW OF THE PUMP STATION AND BE SELF-PRIMING FROM DRY CONDITIONS.
2. THE BYPASS PUMP SHALL BE FULLY AUTOMATIC, UTILIZING AUTO-START CONTROLS INTEGRATED INTO THE MAIN CONTROL PANEL THAT RESPOND TO VARYING LIQUID LEVELS VIA FLOAT SWITCHES. AUTOMATION SHALL ALLOW FOR PUMP STATION OPERATION IN THE EVENT OF A POWER OUTAGE OR SUBMERSIBLE PUMP FAILURE. THE CONTROLLER SHALL BE EQUIPPED WITH AUTOMATIC AND MANUAL OPERATION MODES.
3. THE SUB-BASE DUAL WALL FUEL TANK SHALL BE THE MANUFACTURER'S STANDARD UNIT, SIZED TO PROVIDE A MINIMUM OF 24-HOURS OF FUEL TO OPERATE THE BYPASS PUMP. HOWEVER, THE FUEL TANK SHALL BE LESS THAN 500 GALLONS IN SIZE.
4. THE MAXIMUM SOUND LEVEL WITH THE COMPLETE BYPASS PUMP ASSEMBLY OPERATING SHALL NOT EXCEED 72 DBA AT 23 FEET. EXHAUST SYSTEM SHALL BE IN COMPLIANCE WITH EPA TIER 2 EXHAUST EMISSION REQUIREMENTS.
5. THE UNIT SHALL BE PROVIDED WITH AN APPROPRIATE BLOCK HEATER FOR COLD STARTS. THE TRANSFORMER FOR PROVIDING POWER TO THE BLOCK HEATER SHALL BE PLACED SEPARATELY FROM THE CONTROL PANEL AND THE BYPASS PUMP UNIT.
6. BYPASS PUMP ASSEMBLY INCLUDING BASE AND VIBRATION ISOLATORS SHALL BE ANCHORED TO A SUITABLY-SIZED CONCRETE PAD IN NEARBY PROXIMITY TO THE PUMP STATION.
7. THE BYPASS PUMP UNIT SHALL BE A GODWIN DRI-PRIME CD SERIES OR APPROVED EQUAL.
8. THE BYPASS PUMP SET SHALL BE SHOP PRIMED AND FINISH COATED IN ACCORDANCE WITH THE MANUFACTURER'S STANDARD PRACTICE. AN ADEQUATE SUPPLY OF TOUCH-UP PAINT SHALL BE PROVIDED.
9. A REPRESENTATIVE OF HOWEY-IN-THE-HILLS SHALL BE PRESENT FOR THE INITIAL START-UP OF THE BYPASS PUMP ASSEMBLY. SPECIAL TOOLS AND SPARE PARTS AS REQUIRED SHALL BE PROVIDED TO THE TOWN.
10. THE FOLLOWING TABLE SHALL BE COMPLETED AND SHOWN ON THE PLANS.

XYLEM / GODWIN PUMP MODEL NO.: _____

MUFFLERS RESIDENTIAL GRADE, BATTERY CHARGER

DUAL WALL SUBBASE FUEL STORAGE TANK _____ GALLONS

SOUND ATTENUATED OUTDOOR ENCLOSURE

RAINHOODS: _____ YES _____ NO

DISTRIBUTION PANEL: _____ FACTORY MOUNTED _____ ADJACENT TO GENERATOR ASSEMBLY

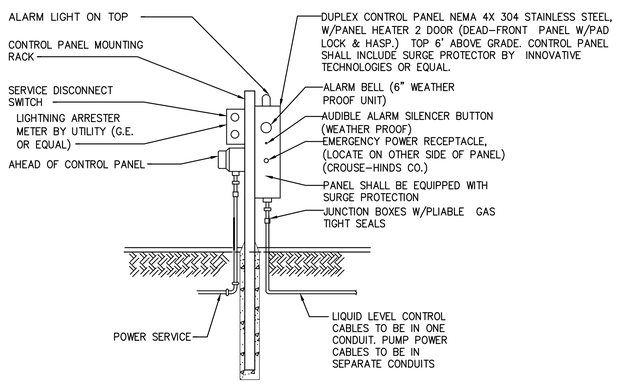
LS BYPASS PUMP NOTES

Howey-in-the-Hills

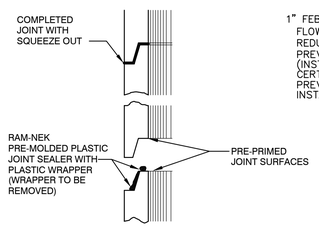
Standard Details

DATE: AUG 2025

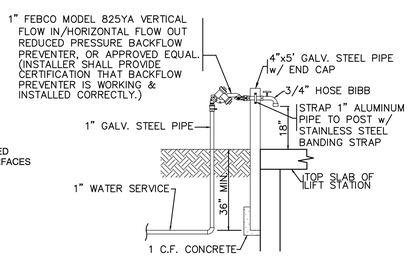
DETAIL WW-11



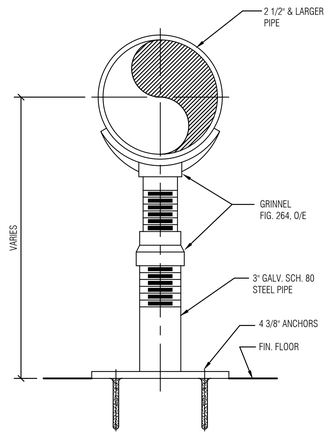
CONTROL PANEL DETAIL



TONGUE AND GROOVE JOINT TYPICAL DETAIL



HOSE BIBB



BASE TYPE PIPE SUPPORT

WATERMARK PH.1 & MASTER GRADING PLANS

TOWN OF HOWEY IN THE HILLS
LAKE COUNTY

REVELS ROAD INVESTORS, LLC
210 Hangar Rd.
Kissimmee, FL 34741

halff
502 NORTH SINCLAIR AVE.
ANGELS, CALIFORNIA 95222
TEL: (352) 343-8481
FAX: (407) 423-0030
CERTIFICATION OF AUTHORIZATION NUMBER: 33380

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BRETT JAY TOBIAS LICENSE No. 69017 STATE OF FLORIDA PROFESSIONAL ENGINEER

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BRETT J. TOBIAS — 69017
NAME — PE LICENSE NO.

7/29/25
DATE

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HALFF ASSOCIATES, INC. — FL
FIRM OR BUSINESS NO. — STATE

PROJECT NO.:	45548.003
ISSUED:	JULY 2025
DRAWN BY:	SPH
CHECKED BY:	BJT
SCALE:	1" = 1'

SHEET TITLE:

LIFT STATION DETAILS

C-1102